**<u>Public, non-confidential version of the decision in Optis v. Apple</u>**

This is a redacted version of a Judgment handed down by Mr Justice Marcus Smith into a confidentiality ring on 10 May 2023 under NCN [2023] EWHC 1095 Ch. The redactions have been suggested by the parties (the Claimants' are in yellow and the Defendants' in green) and adopted by the Judge (without challenge) on the basis that they are necessary to ensure that any third party, concerned about confidentiality, can be heard <u>before</u> the redactions are lifted. The parties have, at the direction of the Judge, also written separately to these parties.

Readers of the Judgment - including third parties alleging confidentiality - should appreciate that it is the Judge's intention to ensure that a more readable version of the Judgment is published and that issues regarding confidentiality will be dealt with in short order to enable this. The redactions are - on any view, including that of the parties - too extensive in the long run, and have been made in order to preserve third parties' room for argument in the short term. The Judge's provisional view - expressed in the Judgment - is that none of the redactions are defensible in anything other than the short term; but, clearly, parties with an interest in confidentiality will need to be heard.

Mr Justice Marcus Smith

29 May 2023

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Case No: HP-2019-000006

Neutral Citation Number: [2023] EWHC 1095 (Ch)

**IN THE HIGH COURT OF JUSTICE**
**BUSINESS AND PROPERTY COURTS OF ENGLAND AND WALES**
**INTELLECTUAL PROPERTY LIST (ChD)**
**PATENTS COURT**

7 Rolls Building, Fetter Lane
London, EC4A 1NL

Date: 10 May 2023

**Before**:
**THE HONOURABLE MR JUSTICE MARCUS SMITH**

**Between:**

**(1) OPTIS CELLULAR TECHNOLOGY LLC**
**(A company incorporated under the laws of the State of Delaware)**
**(2) OPTIS WIRELESS TECHNOLOGY LLC**
**(A company incorporated under the laws of the State of Delaware)**
**(3) UNWIRED PLANET INTERNATIONAL LIMITED**
**(A company incorporated under the laws of the Republic of Ireland)** Claimants
**- and –**

**(1) APPLE RETAIL UK LIMITED**
**(2) APPLE DISTRIBUTION INTERNATIONAL**
**(A company incorporated under the laws of**
**the Republic of Ireland)**
**(3) APPLE INC.**
**(A company incorporated under the laws of the State of California)** **Defendants**

Mr Adrian Speck KC,[1] Mr Tom Moody-Stuart KC, Ms Sarah Ford KC, Ms Isabel Jamal, Mr Thomas Jones, Ms Emily MacKenzie and Ms Jennifer Dixon (instructed by **EIP Europe LLP** and **Osborne Clarke LLP**) for the **Claimants**

Mr Michael Bloch KC, Mr Jon Turner KC, Ms Kassie Smith, KC, Mr Brian Nicholson KC, Ms Sarah Love, Ms Ligia Osepciu, Mr David Ivison and Mr Warren Fitt (instructed by **Wilmer Cutler Pickering Hale and Dorr LLP**) for the **Defendants**

Hearing dates: 13 to 16, 20 to 24, 27 to 30 June 2022, and 1, 6 to 8 July 2022 with written closing submissions on 15 July 2022 (Claimants), 23 July 2022 (Defendants) and 3 October 2022 (Claimants and Defendants) and substantive comments on the judgment circulated in draft in April 2023

# Approved Judgment

This judgment was circulated in draft on 9 March 2023; a revised version, subject to typographical correction and confidentiality review was handed down into a confidentiality club on 10 May 2023; this version, corrected for typographical errors, remains confidential and is similarly disclosed into a confidentiality club.

[1] The trial took place before the death of Her Majesty The Queen, but this Judgment has been handed down after Her death. I have decided to refer to counsel using the designation they had at the time of hand-down rather than at the time of the hearing.

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**Mr Justice Marcus Smith:**

## Part I: "FRAND" and the relevant legal principles

### A. INTRODUCTION

1. Before descending into any kind of specificity as regards the proceedings that this Judgment determines, it is necessary to state (in an uncontroversial way) a number of important underlying principles regarding "FRAND". **FRAND**[2] is an acronym for Fair, Reasonable and Non-Discriminatory.

2. This is the Judgment given after a "FRAND" trial that took place before me between the owner of a portfolio of patents (the claimants, which I shall generally refer to as **Optis**) and the defendants, collectively **Apple**, prospective licensees of this portfolio.

3. As I say, the purpose of this Part – before articulating the points in issue between the parties or coming to any determination on the facts – is to set out the relevant and uncontroversial legal principles.

### B. THE "PATENT BARGAIN" AND THE SCOPE OF RIGHTS GRANTED

4. The "patent bargain" is this: an inventor receives the reward of a time-limited monopoly of the industrial use of its invention, in return for disclosing the invention and dedicating it to the public for use after the monopoly has expired.[3]

5. The patents conferring such monopoly rights are national in scope and are usually conferred by national governments. Legal questions as to their validity and their infringement are determined by the national courts of the state which has conferred the patent right or, in the case of a European patent, in a designated state. The inventor has to protect their invention by applying for a patent to the national authorities of each of those states in which they seek to obtain a monopoly (unless they obtain a patent from the European Patent Office under the European Patent Convention, which creates a nationally enforceable patent within each designated state). It is not unusual for a national patent for an invention to be upheld by the courts of one state and another national patent, for what in substance is the same invention, to be invalidated by the courts of another state. Within Europe, the same European patent can on occasion be upheld by the courts in one signatory state but be invalidated in another.[4]

### C. REMEDIES

6. Under English law, once a patent owner has established that a patent is valid and has been infringed, they are *prima facie* entitled to prevent further infringement of their

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[2] Annex 1 to this Judgment contains a list of the terms and abbreviations (**bolded**) used in this Judgment, together with the reference in the Judgment where those terms/abbreviations are first used. Documents frequently referenced in this Judgment are underlined throughout. A list of these documents is at Annex 2. I have corrected obvious errors in quotations, without square brackets. Substantive changes or omissions are marked. Footnotes from quotations are generally omitted.

[3] *Unwired Planet International Ltd v. Huawei Technologies Ltd*, [2020] UKSC 37 (***Unwired Planet* (SC)**) at [2]. The ***Unwired Planet* litigation** will be referred to a great deal in this Judgment, in particular the judgment at first instance of Birss J: ***Unwired Planet* (First Instance)**, [2017] EWHC 2988 (Pat).

[4] *Unwired Planet* (SC) at [2].

property rights by injunction.[5] This sort of remedy – there are, of course, procedural differences – will generally exist in other jurisdictions, provided that the inventor has, according to the law of those jurisdictions, established that the patent granted by that jurisdiction is valid and infringed.

## D. THE NEED FOR STANDARDS

7. To promote the development of global markets for telecommunications products, including mobile phones, the infrastructure, equipment and devices produced by competing manufacturers need to communicate and inter-operate with one another; and the phones need to be available for use internationally by consumers who travel with their phones from one jurisdiction to another.[6]

8. Such inter-communication and inter-operation involves the agreement of complex technical standards, whereby the multiple and complex interfaces between the equipment concerned and the hardware and software that it contains can work. I shall refer to the protocols that establish these complex technical standards as the **Standards**.

9. The technology described in the Standards will often use and need to use inventions that are protected by patents. Patents can inhibit the development of global markets and services in telecommunications through the use of Standards in two ways:

    i) First, the *prima facie* entitlement of the owner of a patent to prohibit by injunction the use of its invention within a national jurisdiction has the potential to disrupt a global market for equipment and services using that invention.[7] This ability (and it takes many forms) by the owner of the patent to hold up and disrupt technical development is often referred to as just that, **Hold Up**. Hold Up is undesirable:[8] it gives the owners of patents included in an agreed Standard excessive power to disrupt an otherwise global market to the prejudice of manufacturers and developers using the Standard (**Implementers**) by exacting excessive royalties for the use of their inventions by threatening (and even obtaining) injunctions against the use of this technology in one or more jurisdictions.[9]

    ii) Secondly, the national nature of patent monopolies, which forces the patent owner seeking to protect its monopoly to raise proceedings in individual national courts, makes it very difficult, if not wholly impracticable, for a patent owner to protect an invention which is used in equipment manufactured in another country, sold in many countries and used by consumers globally.[10] The

[5] *Unwired Planet* (SC) at [3].

[6] *Unwired Planet* (SC) at [4].

[7] *Unwired Planet* (SC) at [4].

[8] I am intentionally using Hold Up as a term of art or defined term, because that is the way it was used during the course of the hearing before me. However, it will be necessary, later on in this Judgment, to gain some appreciation of the distinction between what might be called "legitimate" Hold Up and "illegitimate" Hold Up. The fact is that patents confer on their owners certain rights, which they are able to assert or vindicate. This will involve Hold Up, which is not always or necessarily a bad thing.

[9] *Unwired Planet* (SC) at [4]. The language here being used is somewhat "loaded": the phrases "excessive power" and "exacting excessive royalties" both imply illegitimate Hold Up and therefore beg the question as to where the line between legitimate and illegitimate Hold Up in fact lies.

[10] *Unwired Planet* (SC) at [4].

Implementer can oblige the owner of patents for the same invention in multiple jurisdictions to litigate in each such jurisdiction, thereby causing what is in reality (if not in law) a single right (the monopoly over the invention) to fragment. Even if consistent outcomes are obtained in the various national courts, this would be a costly and inconvenient process: but, of course, outcomes differ. This ability (and again it takes many forms) of an infringer of a patent to avoid seeking a licence is often referred to as **Hold Out**. Hold Out is undesirable:[11] it may enable Implementers to avoid paying an inventor a proper price for the use of its invention internationally or at least to delay the point in time that the licence to the patent (together with the inevitable obligation to pay) comes into play.

10. Standards, without more, certainly increase the problem of Hold Up. By definition, Standards are intended to be widely used across the industry. If a patent is essential to the implementation of a Standard (a so-called **Standard Essential Patent** or **SEP**), an Implementer seeking to develop a product compliant with the Standard may be faced by a threat of an injunction in one or more jurisdictions which prevents the development of that product, and may be unable to avoid that threat (because the right being asserted arises out of a Standard Essential Patent) save by agreeing to a licence at too high a rate. (I should stress now, that the notion of a rate that is "too high" is a difficult one, to which I will be returning.) I shall refer to the owner of the Standard Essential Patent (or Patents – many such patents are held in portfolios) as the **SEP Owner**.

## E. STANDARD SETTING ORGANISATIONS

11. Organisations involved in the telecommunications industry have sought to address the dual evils of Hold Up and Hold Out by establishing **Standard Setting Organisations**, which not only seek to agree and promote Standards, but also put in place contractual arrangements intended to address Hold Up and Hold Out.[12]

12. Telecommunications Standard Setting Organisations have been established in China, Europe, India, Japan (two), South Korea and the United States. The first Standard Setting Organisation was the European Telecommunications Standards Institute (**ETSI**), which is a French association formed in 1988 and which has adopted an intellectual property rights policy and contractual framework governed by French law. ETSI has over 800 members from 66 countries across five continents.[13] ETSI is the Standard Setting Organisation to which I will primarily refer in this Judgment. I will be referring, in greater detail, to some of the Standards promulgated by ETSI later on in this Judgment.

13. For present purposes, it is necessary to consider, in broad terms, how ETSI deals with Standard Essential Patents in the context of the Standards that it prepares and promulgates. Owners of patented inventions which might be used in a telecommunications industry Standard under preparation declare their patents to ETSI (a **Declared Patent**). When considering whether to include a technology in a standard,

[11] Precisely the same distinction arises (as with Hold Up) between "legitimate" and "illegitimate" Hold Out. The term "desirable" or "undesirable" is similarly question begging. I am again defining the term without, at this stage, seeking to articulate where the line between "legitimate" and "illegitimate" Hold Out falls.

[12] *Unwired Planet* (SC) at [4].

[13] *Unwired Planet* (SC) at [5].

ETSI requires the patent owner to enter into an irrevocable undertaking or contract with it to allow Implementers of the Standard to obtain a licence to use the relevant patented technology on FRAND terms. If the declared patented invention is included in a Standard and it is not possible to make, sell, use, operate, etc equipment or methods which comply with the Standard without infringing the Declared Patent, the FRAND obligation is triggered, and the Implementer is entitled to a licence to the Declared Patent on FRAND terms.[14] These obligations are governed by French law.[15] Although this Judgment refers freely to a licence on "FRAND terms", it cannot be stressed enough that there is no such thing as a "standard" FRAND licence or a "standard" rate payable for a FRAND licence.

14. In this way, the issues of Hold Up and Hold Out are sought to be addressed. As the Supreme Court put it in *Unwired Planet* (SC), "the contractual modifications to the general law of patents are designed to achieve a fair balance between the interests of SEP [O]wners and [I]mplementers, by giving [I]mplementers access to the technology protected by SEPs and by giving the SEP owners fair rewards through the licence for the use of their monopoly rights". Moreover, "the SEP [O]wner's undertaking, which the [I]mplementer can enforce, to grant a licence to an [Implementer] on FRAND terms is a contractual derogation from an SEP [O]wner's right under the general law to obtain an injunction to prevent infringement of its patent".[16]

15. However, there are four, related, problems with this regime:

i) First, is the sheer volume of Declared Patents in relation to any given Standard. The number of Declared Patents measures in the thousands. What is more, it is even difficult to get an uncontroversial understanding of how many patents have been declared to a particular Standard.

ii) Secondly, ETSI does not check whether a Declared Patent is in fact a Standard Essential Patent. It is quite possible for patents to be declared to the Standard which are – on inspection – not in fact essential. It is also important to appreciate that answering the question of essentiality is neither straightforward nor easy. The Standards are complex, as are the patents declared to be Standard Essential Patents. Given the volume of Declared Patents, determining the essentiality of each Declared Patent to a given Standard is, practically speaking, impossible.[17]

iii) Thirdly, ETSI does not check whether a Declared Patent is valid. This is a question that falls for determination by the relevant national jurisdiction,[18] and – even in the case of a single Declared Patent – may give rise to questions of complexity that will take time to resolve. Again, given the volume of Declared Patents, determining the validity of each Declared Patent is, practically speaking, impossible.[19] What is more, even if such determinations were practically possible, the only authoritative determinations (capable of binding

[14] *Unwired Planet* (SC) at [6]. This implies that it is possible easily and uncontroversially to determine whether a Declared Patent is both valid and essential. In fact – as will become clear – that is not the case.

[15] *Unwired Planet* (SC) at [8].

[16] *Unwired Planet* (SC) at [14].

[17] *Unwired Planet* (SC) at [6].

[18] See [5] above.

[19] *Unwired Planet* (SC) at [6].

an unwilling Implementer or an unwilling SEP Owner) come from a court with jurisdiction to determine the matter.

iv) Fourthly, as I have already noted, there is no particular guidance as to what constitute FRAND terms, and certainly no form of "standard terms", to inform Implementer and SEP Owner alike. The prospects of those terms being agreed, given the values at risk, in commercial negotiations, might be said to be not guaranteed.[20] However, an Implementer can avoid the risk of an injunction, notwithstanding the fact that FRAND terms have not been agreed, by enforcing the SEP Owner's FRAND obligation and requesting a licence on FRAND terms, whatever those may be.[21] Thus, it might be said (and Optis placed a lot of emphasis on this) that the ETSI regime, as I have described it, solves the problem of Hold Up whilst exacerbating the problem of Hold Out. That is an important point, to which I will be returning.

16. A recurrent theme during the course of these proceedings was the "value" to be attached to Declared Patents forming part of a portfolio of such patents. The value of any given Standard Essential Patent might be assessed (I make no finding one way or the other at this stage) by reference to three criteria:

i) *Validity.* Is, according to the relevant applicable law, the patent in question valid or invalid? In ordinary patent litigation, this is a binary question that is resolved by the relevant court or tribunal. Where, however, the patent in question forms part of a larger portfolio, the question of validity inevitably assumes a less hard-edged aspect in the sense that the validity or invalidity of each and every patent in the portfolio cannot economically be determined.

ii) *Essentiality.* Does the patent in question "read on" to the relevant Standard? In other words, considering the teaching of the patent in question, and the relation of that teaching to the Standard or Standards in question, can it be said that the patent is essential to the Standard. Again, viewed individually, this is a binary question: a patent is either essential to a Standard or it is not. But, because the patent in question will typically form part of a larger portfolio, the question of essentiality (like that of validity) inevitably assumes a less hard-edged aspect.

iii) *Importance.* This was a criterion mainly relied upon by Apple, and it is to be differentiated from essentiality. Apple's contention was that – assuming a portfolio of patents that were both <u>valid</u> and <u>essential</u> – some of these patents could be said to be more "important" (in that they enabled more or their invention was economically more significant) than others. It will immediately be clear that even in the case of a single patent, "importance" has a qualitative aspect, and is not a binary attribute. Even Apple were not saying that there was a class of "unimportant" patents and a (distinguishable) class of "important" patents, with a bright-line separating the two. Importance is a matter of fact and degree. The point is best illustrated by reference to an exchange occurring during opening submissions:[22]

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[20] That is, perhaps, to put the problem somewhat optimistically.

[21] *Unwired Planet* (SC) at [14].

[22] Transcript Day 1/pp.141 to 142.

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| **Q (Marcus Smith J)** | Why ought I to have regard to your third criterion, "importance"? Let me make clear why I ask that. If you assume that the declared patent is essential, in other words the system is doing exactly what it should be doing, then surely importance is subsumed into that assessment? Because you can expect a rational set of standards to try to keep, as it were, the…stack[23] as low as it possibly can be, whilst delivering the functionality that you want; and that is incorporated in the standard. So, if that is the approach of the Standard Setting Organisation, if you have what is an SEP, surely it follows from that that it is important? Why does one need to differentiate or grade importance within that? |
| **A (Mr Turner, KC)** | I am very glad you have raised that, my Lord. It is important because, although you may have technology, a patent, which reads on to the standard, so that you cannot operate the standard without essentially using that technology, there is nonetheless a very great range of technological innovations which go into the standard. You will see and hear, including from the experts, if not the factual witnesses, that they are not all alike, that there are some inventions which are really very clever and very important, and which contribute to a significant improvement, let us say, in 4G over the previous generation, and others which are far more minor, and which may have been chosen for reasons of convenience over alternatives considered by the standard-setting committee at the time, rather than there was not much in it. However, there may be cases where the technology which is chosen is a real, important, piece of technology.<br>In Apple's approach…it is important, as well as legitimate, to consider whether you are looking at technology…which really did make a contribution to the 4G standard or which, on the other hand, is a minor feature which made very little contribution. Because to seek to recoup revenue for the latter, on the same basis as the former, would not be a way of providing the correct economic rewards or incentives. |

Of course, where a portfolio of patents is under consideration, such that the individual technical merits of each patent may be difficult to discern, importance (like validity and essentiality, only more so) becomes an attenuated value.

[23] A point that will be considered in detail below. The "stack" is the total number of patents declared to a particular Standard as SEPs.

17. In this Judgment, I shall refer to the value of a portfolio, and the patents within it, by reference to these three qualities: **validity**, **essentiality**, and **importance**, using those terms as I have defined them in [16] above. I shall seek to avoid references to infringement, as an unnecessary distraction. Where an Implementer is implementing a Standard, a patent that is both valid and essential will be infringed. Where the patent is invalid, *ex hypothesi* it will not be infringed. Where the patent is not essential it may – depending on what the Implementer has done – nevertheless be infringed, but not necessarily so. The notion of infringement thus replicates and imperfectly captures two qualities already under consideration – namely, validity and essentiality.

## F. INDUSTRY PRACTICE IN NEGOTIATING LICENSING AGREEMENTS

18. This is an area on which I heard a great deal of evidence regarding the negotiating approach of both parties,[24] and I should make clear that nothing in this section is intended to anticipate this evidence. Nevertheless, there is one point of which I must take judicial notice, because it informs the approach that I must take as a matter of law and not as a matter of fact.

19. In a context where Standards are prevalent, and which are international in nature, no rational business SEP Owner would seek to license products country-by-country or patent-by-patent, if this could be avoided. There are many reasons for this, and they are set out in *Unwired Planet* (SC) at [15].

20. On the other hand, an Implementer, like Apple, might very well take a country-by-country or patent-by-patent approach instead of agreeing a general (portfolio-wide and multi-territory, if not worldwide) licence. Indeed, as will be seen, this was Apple's practice, and it is one that Apple sought to defend during the course of the proceedings.[25] Optis, on the other hand, sought to characterise this conduct as one of (illegitimate) Hold Out. The questions that arise – and which in due course I will have to address – are these:

    i) To the extent that an Implementer raises the question of country-by-country and patent-by-patent licensing is that – without more – a case of Hold Out?

    ii) Assuming that it is, is such Hold Out "legitimate" or "illegitimate"?[26]

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[24] Thus, Part IV: Section G below considers Optis' approach in general terms; and Part IV: Section H below considers Apple's approach in general terms. The specifics of the (ultimately unsuccessful) negotiations between Optis and Apple regarding Optis' portfolio are considered in Part IV: Section L below.

[25] Apple does not accept this characterisation of their conduct, as became clear from comments made in relation to the draft judgment that was circulated by me. Apple's approach to negotiating licences is set out in Section H below. A consistent feature of Apple's approach was an insistence on a "patent-by-patent" approach, which (of course) necessarily implies a "country-by-country" approach. I accept that Apple generally concluded world-wide portfolio licences, and that Apple's "patent-by-patent" approach might be characterised as a particularly cynical form of Hold Out, since licences on a "patent-by-patent" basis were not concluded. As will be seen, this is not my view of Apple's conduct; but it is fanciful to suggest that this was not Apple's negotiating practice (even if the negotiated outcomes were different).

[26] See footnote 11 above.

21. There may exist circumstances where a more limited FRAND licence, that is to say, not a worldwide one, could be appropriate.[27] However:[28]

> "…ascertaining the validity, essentiality, and infringement of national patents within a portfolio by legal proceedings in several different jurisdictions involves the expenditure of a prodigious amount of money and effort by both claimants and defendants…It is not disputed that it would be impracticable for the parties to litigate these matters in each of the countries which the portfolio covers. It also appears to be clear and it is not disputed that within a substantial portfolio of patents there may be many patents which (if subject to examination in proceedings) would be found to be invalid in whole or in part or not infringed by the technology used in the standard…"

22. That does not mean that sales are such that certain jurisdictions are not more important than others. How worldwide sales are achieved, and so the "value" of particular territories, is undoubtedly fact specific.[29]

## G. REMEDIATION IN THE CONTEXT OF PROCEEDINGS IN ENGLAND AND WALES

23. So far I have described the manner in which Standard Setting Organisations like ETSI seek to ameliorate the dual problems of Hold Up and Hold Out. But rules like those I have described are only as good as the enforcement regime backing them, and it is necessary to consider how enforcement works. It must be noted that much will depend on where enforcement action is taken, for the business of Implementers and of SEP Owners is international.

24. The question of enforcement will only arise where the SEP Owner and the Implementer cannot agree a licence. That will be for one of three reasons:

    i) The SEP Owner disregards its FRAND obligations and simply sues for infringement of the SEP it owns, seeking an injunction. The response of an English court is straightforward in this scenario. The SEP Owner will not get even an interim injunction provided the Implementer is willing to take a FRAND licence. That is so even if the terms of the licence are not agreed.

    ii) The Implementer refuses to take a licence on FRAND terms. Again, the response is straightforward. The SEP Owner will be entitled to seek the usual form of relief (an injunction) and will obtain an injunction (on a final as well as on an interlocutory basis).

    iii) Both of the foregoing scenarios lie at the extremes, one an extreme case of Hold Up, the other an extreme case of Hold Out.[30] There is no effort at the negotiation of a FRAND licence in either case. In the first case (where the SEP Owner

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[27] *Unwired Planet* (SC) at [29].

[28] *Unwired Planet* (SC) at [36].

[29] *Unwired Planet* (SC) at [37].

[30] Some of the limits of Hold Out and Hold Up were considered by Meade J in a trial concerning Optis and Apple forming part of a series of trials and judgments, of which this is one. That trial is referred to – both generally and herein – as **Trial F (First Instance)**. Judgment was handed down by Meade J on 27 September 2021: [2021] EWHC 2564 (Pat). This judgment was appealed to the Court of Appeal (Asplin, Arnold and Laing LJJ) and judgment was handed down (affirming Meade J) on 27 October 2022: [2022] EWCA Civ 1411 (**Trial F (CA)**).

disregards its FRAND obligations) and in the second case (where the Implementer refuses a licence), the law's response is in essence the same: to attach such adverse consequences to the refusal to negotiate so as to render it commercially impossible to ignore the FRAND regime. In the first case, the SEP Owner does not get an injunction, and the Implementer gets to use the technology the subject of the SEP without a licence. In the second case, the SEP Owner does get the injunction, and the Implementer will be enjoined from using technology that is essential to the Standard, and so too the production of the Implementer's products. In short, the FRAND regime deters more extreme forms of Hold Up and Hold Out, and forces both the SEP Owner and the Implementer to the negotiating table, to seek to agree a FRAND licence. Of course, they may not be able to agree, for these licences are complex and in no way in a standard form. In this third case, provided the SEP Owner can show infringement of a (valid) SEP, then the court can – as part of the remediation process – determine the terms of a FRAND licence and impose those terms on the SEP Owner and on the Implementer. In short, the English courts have jurisdiction and may properly exercise a power without the agreement of either the SEP Owner or the Implementer: *(i)* to grant an injunction restraining the infringement of a UK SEP unless the Implementer enters into a global licence on FRAND terms of a multinational patent portfolio; and *(ii)* to determine royalty rates and other disputed items for a settled global licence and to declare that such terms are FRAND.[31] The basis for this jurisdiction is as follows:

a) The ability to do so arises out of a combination of the jurisdiction (exclusive to the granting state) of determining the validity and infringement of a national patent[32] and the contractual promise to offer a FRAND licence.[33]

b) The FRAND undertaking does not limit the court to imposing terms only in relation to patents which are established as valid and infringed.[34] Granted, the SEP Owner must show infringement (and so validity) as well as essentiality in relation to a UK SEP in order to trigger the jurisdiction, but once the jurisdiction has been triggered, the freedom to impose terms regarding the licensing of entirely untested and worldwide intellectual property rights exists.[35] There is good reason for this:[36]

> "…Operators in the telecommunications industry or their assignees may hold portfolios of hundreds or thousands of patents which may be relevant to a standard. The parties accept that SEP owners and implementers cannot feasibly test the validity and infringement of all of the patents involved in a standard which are in a sizeable portfolio. An implementer has an interest in taking its product to the market as soon as reasonably possible after a standard has been established and to do so needs authorisation to use all patented technology which is comprised in the standard. The implementer does not know which

[31] *Unwired Planet* (SC) at [50]*ff*.

[32] *Unwired Planet* (SC) at [58(a)].

[33] *Unwired Planet* (SC) at [58(b)].

[34] *Unwired Planet* (SC) at [61].

[35] *Unwired Planet* (SC) at [61].

[36] *Unwired Planet* (SC) at [60].

patents are valid and infringed by using the standard but needs authority from the outset to use the technology covered by such patents. Similarly, the owner who declares an SEP or SEPs does not know at this time which, if any, of its alleged SEPs are valid and are or will be infringed by use pursuant to the developing standard. The practical solution, therefore, is for the SEP owner to offer to license its portfolio of declared SEPs. That is why it is common practice in the telecommunications industry for operators to agree global licences of a portfolio of patents, without knowing precisely how many of the licensed patents are valid or infringed. It is a sensible way of dealing with unavoidable uncertainty. It ought to be possible for operators in an industry to make allowance for the likelihood that any of the licensed patents are either valid or not infringed, at least in calculating the total aggregate royalty burden in the "top down" method."

## Part II: Parties, issues and structure of the Judgment

### A. THE PARTIES

### (1) Optis

25. Optis own a portfolio of patents that have been declared essential to various Standards. I shall refer to this portfolio as the **Portfolio**. Optis is thus an SEP Owner, as I have defined that term. They hold themselves out as being ready and willing to grant a licence to the Portfolio on FRAND terms, and have always done so.

26. It is helpful to say a little more about the construction of the Portfolio. I say "construction" because the Portfolio was acquired from third parties pursuant to two master sale agreements made in 2013. Inevitably, the patents (or rather, patent "families"[37]) that were acquired were the subject of a negotiated process between the transferor and the transferee. When describing patents, I will where possible refer to **Patent Families** rather than individual patents, for reasons I will come to.

27. The Portfolio was acquired from Ericsson, LG, Panasonic and Samsung pursuant (as I say) to two **Master Sale Agreements** involving Optis and what might be called (although the parties did not describe it in these terms) a "portfolio transfer" to Optis.[38] The Master Sale Agreements involving Optis were between:

i) Ericsson, LG and Optis Cellular Technology LLC (**OCT**, which term I shall, so far as possible, avoid, referring instead to "Optis", of which OCT is a part);

ii) Ericsson, Panasonic and Optis Wireless Technology LLC (**OWT**: again, I shall refer to "Optis" where possible);[39]

Because it will – from time to time – be necessary to differentiate between certain portfolios, I shall refer to the Patent Families acquired by OCT as the **OCT Portfolio** and the Patent Families acquired by OWT as the **OWT Portfolio**.

[37] As to which, see further below at [80]*ff*.

[38] Born 1/[6]

[39] Born 1/[10] and Blasius 2/[19].

28. I have not seen very much material concerning these Master Sale Agreements, in particular how they were negotiated and how the patents transferred to Optis were selected. In short, I know very little about the "construction" of the OCT Portfolio or the OWT Portfolio. For the present, it is worth noting the following:

    i) There was a selection process for identifying patents that were to be transferred, but (for reasons which I shall come to) that is in substance all I can say on the basis of the evidence before me.

    ii) Some of the terms in the agreements are obviously material to this Judgment. [redacted]

29. In addition to the OCT Portfolio and the OWT Portfolio, there is a third portfolio, which I shall refer to as the **UP Portfolio**.[41] This was acquired by way of the "portfolio transfer" described in paragraph 27 above. The patents or Patent Families comprising the UP Portfolio were acquired by Optis from or through entities I shall refer to as **Unwired Planet**. The precise entities involved within either the "Optis" or the "Unwired Planet" groups of companies do not matter. A number of the Patent Families comprising the UP Portfolio (although by no means all) were before Birss J in the *Unwired Planet* litigation.

30. There are, thus, three portfolios in play – the OCT Portfolio, the OWT Portfolio and the UP Portfolio. Subject to an issue that relates to [redacted] the Patent Families that Optis is offering a licence to (provided it is on FRAND terms) are set out in the diagram below:[43]

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[40] Born 1/[12].

[41] Blasius 2/[19(c)]

[42] That issue is considered further below.

[43] Helpfully provided to me by Apple's team and appearing at Apple's Closing (Round 1)/[290]. Optis has – [redacted] – helpfully confirmed its accuracy.

[redacted]

Figure/Table 1: Composition of the Optis Portfolio

31. [redacted]. [redacted]

32. Optis was restructured, and (in 2019) was sold to certain investment funds managed by Brevet Capital (**Brevet**).[44] Although the details do not matter, Brevet finances Optis' operations, [redacted]

## (2) Apple

33. Apple acknowledge that they need a licence to the Portfolio. Apple say that they are ready and willing to take a licence on FRAND terms, just as Optis say they are ready and willing to give a licence on FRAND terms.

[44] Born 1/[9]; Blasius 2/[12] to [15].

34. In one sense, Apple need no further introduction: the company and its products are well-known. Nevertheless, it is appropriate to say something about Apple's products and the market in which Apple operate:

i) The Portfolio contains Patent Families that read onto, or are said to read onto, Standards concerned with the connection of mobile handsets to a cellular network, which I shall (very loosely) refer to as **Cellular Connectivity**.

ii) Although Cellular Connectivity was initially concerned with voice communication rather than data transfer, as technology has evolved, so too has the use to which Cellular Connectivity is put. Thus, although all handsets offer voice communication, more recently developed handsets provide a far greater functionality in terms of applications that involve data transfer: examples include email and other forms of communication (e.g., WhatsApp), social media, music, video-streaming, maps, the internet generally and so on. Quite how a handset is used by its user is remarkably subjective. Some users may rely largely or exclusively on the voice communication function; and others may be the precise converse. The fact is that – however an individual uses the handset – handset manufacturers (i.e., Implementers making handsets) make devices that are "multi-functional" in that they provide (in a combination of hardware and software) a functionality that seeks to cater for a wide, rather than a narrow, range of users. It is in this sense that I use the term **Handset**, i.e. a multi-function device.[45]

iii) Apple are a major presence in the market for Handsets. What is unusual about Apple is that Apple is a manufacturer and seller of <u>high-price</u> Handsets that sell at <u>high-volumes</u>. This is unusual: generally speaking, a demand schedule or demand curve for a product slopes downwards left-to-right, such that as price for the product increases, so demand falls away. Apple seem to be able to sell Apple Handsets at a price greater than that of its rivals and yet at volumes that are <u>also</u> greater than those of its rivals. High-volume/high-price sales can be an indicator of monopoly, dominant position or significant market power (call it what you will) such that the supplier can raise prices without so risking market share as to make the price increase unprofitable. I want to make absolutely clear that there was no suggestion of any kind of monopoly/dominant position/significant market power on the part of Apple in the Handset market, and I proceed on the basis that the Handset market is a competitive one.[46] Apple's ability to sell at high volumes <u>and</u> at high prices must, therefore, be otherwise explained. This is a point going directly to the question of consumer "value", considered further below.[47] An important point to appreciate is that the difference between Apple Handsets and the Handsets of other manufacturers, which typically sell at lower prices and at lower volumes, cannot lie in Cellular Connectivity. The whole point of the Standards enabling Cellular Connectivity is that Handsets by different Implementers, operating in different territories, via

[45] Of course, I recognise that "old" devices are still in use, and that there is a trend towards "retro" devices that have a functionality more limited and more focussed on voice communication. In terms of the market for mobile handsets, the volume of such devices is tiny, and I disregard it. Both parties would recognise and agree with the term "Handset" as I have defined it.

[46] Indeed, there are a number of clear indicators that this is indeed the case.

[47] As to the specific features that make Apple Handsets attractive, see <u>Venkatesan 1</u>.

different network providers, all connect one to the other. The consequence is that connectivity is not a differentiator between an Apple Handset and the Handset of some other Implementer.

## B. THE DISAGREEMENT AS TO WHAT CONSTITUTE FRAND TERMS: THE "FRAND QUESTION"

35. Although Optis says they are ready and willing to give a FRAND licence over the Portfolio, and Apple says they are ready and willing to take such a licence, it will come as no surprise to the reader that Optis and Apple have been unable to reach agreement as to the terms of the actual FRAND licence that would resolve the licensing issues arising out of Optis' ownership of the Portfolio. It was common ground – at least before me[48] – that the function of this trial was to state the terms of a FRAND licence in respect of the Portfolio. That issue is simply stated, but – as will be seen – gives rise to a multiplicity of subordinate questions. I shall refer to the fundamental issue of the terms of the FRAND licence to be imposed as the **FRAND Question**.

36. Each of Optis and Apple advanced arguments as to how the Portfolio could and should be valued for purposes of resolving the FRAND Question. Those arguments were, initially, set out in position papers, but evolved over the course of the period up to trial and indeed during the trial itself.

37. There is no point in setting out the various different arguments articulated by Optis and Apple for the resolution of the FRAND Question. Before those arguments can properly be understood, and certainly before they can be evaluated, a series of connected (their connection being their relevance to the resolution of the FRAND Question) themes or areas of fact need to be set out and the factual controversies they give rise to resolved or at least put into context.

## C. THE STRUCTURE OF THIS JUDGMENT

38. Part I of this Judgment has set out the uncontroversial context which frames the FRAND Question. That question, as I have described, concerns (put broadly) the terms of a court-imposed FRAND licence to be imposed on Optis and Apple pursuant to the jurisdiction described in Part I.

39. It is relatively rare for courts to involve themselves in what is, after all, a matter that should be a matter for the commercial agreement between the parties. Save in certain specific contexts, which I will not enumerate, Courts do not, typically, involve themselves in setting commercial terms or terms that are "FRAND" because they are unsuited to do so. Courts are not markets, where such matters are best resolved. However, the parties have not been able to agree terms and in order to remediate the infringement of an SEP that has been found[49] the terms of a FRAND licence between Optis and Apple need to be stated.

[48] Both parties reserved their positions as to what the law might be at a higher instance. The outcome of Trial F (subject to any attempt to involve the Supreme Court) puts such reservations to rest.

[49] I set out the outcome of the various "technical trials" at Part IV: Section F. For present purposes, it is sufficient to note that in "Trial B", the Court of Appeal found a patent within the Portfolio to be both valid and essential. That is enough to trigger the jurisdiction described in Part I of this Judgment.

40. In order to do so, I adopt a two-stage process:

    i) First, a series of connected factors, issues and areas relevant to the FRAND Question need to be traversed. Those factors are considered in Part IV below. Part IV goes through each factor, issue and area, defining them and making specific findings as appropriate in relation to each such factor, issue and area. Although I have attempted to set these issues out in a logical order, Part IV is really laying the foundation for the discussion in Part V.

    ii) Secondly, Part V – which draws substantially on the findings in Part IV – sets out the parties' arguments in relation to the FRAND Question and my conclusions both in relation to those arguments and, most importantly, as to what the FRAND licence in this case should say and what its terms should be. In short, Part V resolves the FRAND Question, but it does so on the shoulders of Part IV.

41. Before I proceed to the first of these two stages, it is necessary to say something about the manner in which these proceedings came before me (in particular, the form of "pleadings" that I directed) and the evidence that was before me. This I do in Part III.

42. Finally, Part VI states how the FRAND Question is to be disposed of.

## Part III: The proceedings and the evidence before the Court

### A. THE "PLEADINGS"

43. Of the various trials arising out of these proceedings ("proceedings" stated broadly), this is **Trial E**. Trial F – which preceded Trial E – has already been described.[50] Trials A to D – so-called "technical trials" concerned with questions of (in)validity and/or (in)essentiality in respect of certain patents, in order to ascertain whether there was jurisdiction in the court to determine the terms of a FRAND licence – are considered further in Part IV: Section F below.

44. These proceedings were docketed to me in mid-2021. By my order of 1 July 2021, I directed that instead of (or in addition to[51]) conventional pleadings, the parties exchange positive cases on the FRAND Question by way of "position statements" together with *(i)* the disclosure, *(ii)* factual evidence and *(iii)* expert evidence relied upon in support of those position statements. The purpose of this process was to ensure a "cards on table" articulation of each side's case regarding the FRAND Question, limited not merely to pleadings but setting out the evidence (documentary, witness and expert) that would be relied upon at trial in order to support that pleaded case.[52]

45. Pursuant to this order, position statements were exchanged, as well as the material in support. Position statements were exchanged on 17 January 2022, albeit that Optis' position statement was later amended in circumstances that I will have to return to. I

[50] See footnote 29 above.

[51] To the extent pleadings had already been served.

[52] The problem was that the pleadings pleaded not facts but methodologies by way of which the FRAND Question could be resolved. On such issues, at least in this case, pleadings are a remarkably bad tool for enabling the court to control its processes.

shall refer only to Optis's amended position statement, and I shall refer to these position statements as the Optis Position Statement and the Apple Position Statement respectively.

46. There then followed a period of some months to enable the parties to explore each other's position. Provision was made for further disclosure requests so as to enable each party to understand – and, as necessary, resist and attack – the position of the other.

47. After this stage in the process, each party was to file responsive position statements – again, together with all supporting materials. Pursuant to this direction, Optis' Responsive Position Statement and Apple's Responsive Position Statement were filed in May 2022.

48. The objective – as was clear to the parties from the moment this regime was directed – was to ensure that *(i)* each party understood the other's case, *(ii)* each party had ample opportunity to adduce the evidence necessary to challenge the other's case and *(iii)* there would be no unaddressed controversies at trial, so that the court would have before it all the material it needed to determine the FRAND Question.

49. It is a matter of some regret that this process failed to work as intended. Particularly as regards the accounting evidence adduced by both parties in relation to "comparable" licences, both parties were so keen to force the court down their preferred method of analysis that they left unaddressed key aspects of the other side's case. The thinking appears to have been that if the court was provided with data or evidence from one side which was unaddressed by the other, the court could be forced to decide the case in a particular way. This unattractive gaming of the process established by my order of 1 July 2021 is something that I will have to return to from time-to-time in this Judgment, but I should say at once that it is one factor (and there are others) that has rendered the opinion evidence adduced by both parties in relation to "comparable" licences of little, if any, probative value. I am referring to the evidence of Mr Bezant (for Optis) and Ms Gutteridge (for Apple). I should make clear that this is not a criticism of either expert.

## B. FACTUAL WITNESSES

### (1) Optis' witnesses

50. I heard evidence from the following witnesses called on behalf of Optis:

   i) *Mr Brian Blasius.* Mr Blasius joined Optis in August 2018. In 2019, when Optis was sold to certain investment funds managed by Brevet, although it was initially intended that he continue his role under the new owners, Mr Blasius in fact elected to leave the Group and form his own consultancy. Mr Blasius gave a number of statements in these proceedings, only four of which are material to the substance of this dispute: Blasius 1, Blasius 2, Blasius 5, and Blasius 7. Mr Blasius gave evidence on Days 2 and 3 of the trial (13 and 14 June 2022). Although I have no doubts about his honesty, and consider that he was doing his best to assist the court, Mr Blasius was a cagey, unimpressive and tendentious witness. With a couple of exceptions I shall mention, all of the factual witnesses had an unsurprising – and, in the context of this case, understandable – tendency to defend the entrenched positions of the party calling them. Even so, Mr Blasius was something of an extreme example. He would not venture an answer to questions he perceived as unhelpful to Optis unless forced to do so, and even then his answers tended not to be frank. The fact that there was an absence of documentation recording dealings between Optis and Apple regarding their (ultimately inconclusive) attempts to reach agreement on the terms of a FRAND licence meant that a number of Optis' allegations depended upon the oral evidence of its witnesses, unsupported by documentary evidence. Although, I repeat, I have no doubts as to his honesty, I do not place very much reliance on Mr Blasius' recollection on these points. Recollection is, in any event, a frail thing: but, here, I consider that Mr Blasius' recollection was coloured – I am sure innocently – by what he wanted to be the case.

ii) *Mr Raymond Warren.* Mr Warren was Director of Licensing at Optis between October 2016 and July 2019. He retired from that position, and now acts as a consultant. He gave two statements in these proceedings, Warren 1 and Warren 2. He gave evidence on Day 3 and Day 4 (15 and 16 June 2022). He was a candid and clear witness, and I am in no doubt that he was telling me the truth as he saw it. I equally have no doubt that his views of Apple's conduct were coloured by Optis' commercial desires and objectives, which were not achieved. This, I stress, is not a criticism, and I will be making exactly the same point about Ms Mewes, the lead factual witness for Apple.

iii) *Mr Mark Born.* Mr Born is a lawyer/patent specialist, who advises Optis. He gave two witness statements, Born 1 and Born 2, and gave evidence on Day 4 (16 June 2022). He was a careful and straightforward and transparently honest witness. However, he was placed in an invidious position by his own legal team. As I shall come to describe, Mr Born made statements regarding the "quality" of Optis' Portfolio which could only be probed and substantiated by reference to documents over which Optis had asserted, and was continuing to assert, privilege. Inevitably, this meant that Mr Born could not defend these statements without waiving a privilege that was not his to waive and, by the same measure, Apple could not probe them. The upshot is that Mr Born's evidence on this point – and this was the central point of his evidence – was without value. It will be necessary to go into this point in more detail at the relevant time: for present purposes, I am simply seeking to explain why Mr Born's evidence has not assisted me.

## (2) Apple's witnesses

51. Apple called the following witnesses:

i) *Ms Heather Mewes*. Ms Mewes was Principal Counsel and Senior Manager in the Hardware Law team of the Products & Software Law Group at Apple until May 2022. She had held this position since October 2019: prior to this, she held other positions within Apple. In May 2022, she took over as Director of the IP Transactions team of the Intellectual Property Law Group. She gave five witness statements: Mewes 1, Mewes 2, Mewes 3, Mewes 4 and Mewes 5. She gave evidence on Days 4, 5 and 6 (16, 20 and 21 June 2022). As regards her evidence:

a) She bore the brunt of Optis' attack on Apple's conduct in negotiating licences both with third parties, and with Optis. She was a straightforward and resilient witness, defending Apple's position appropriately in response to some extremely serious allegations (bad faith, lying in negotiations and engaging in blatant, deliberate and illegitimate Hold Out). Inevitably, the tenor of the questions she was asked obliged her to defend Apple's conduct, and I consider that she did so honestly and as well as she was able. She was not – as I think she would be the first to accept – an objective witness. She defended the Apple framework for negotiating FRAND licences (a framework which I shall come to consider in greater detail) as the corporate representative that she was. The fact that I have concluded that Apple's framework was not, in a number of material respects, FRAND is not to be taken as a criticism of Ms Mewes, for my conclusions are based upon the law of this jurisdiction, and Ms Mewes was taking a worldwide view (unsurprisingly, given the international nature of Apple's business).

b) As regards some of the "comparables" relied upon by Apple, Ms Mewes was obliged to adopt evidence initially put forward on Apple's behalf by a Ms Jayna Whitt. Ms Whitt, who during trial remained employed by Apple, but was on leave, was not called by Apple to give evidence in support of the witness statements adduced by Apple. Apple instead submitted Civil Evidence Act notices in order to get her evidence before the court, but also deployed Ms Mewes to give that evidence.[53] Inevitably, because Ms Whitt was not called by Apple, there are limits to the extent on which I can rely on her evidence, it not having been tested in cross-examination. Equally, Ms Mewes' adoption or re-statement of Ms Whitt's evidence cannot have very much weight. But I should note that Ms Mewes was, in her evidence, extremely careful to identify the limits of her actual knowledge, differentiating this from when she was merely commentating on matters not within her direct knowledge.

c) Ms Mewes was a witness of fact, and was not (indeed, could not be) called as an expert witness. When he began his cross-examination of Ms Mewes, Mr Speck, KC entirely correctly made clear that he was proceeding on the basis that Ms Mewes was being called as a witness of fact, and not as an expert,[54] and so was essentially confined to questions of fact rather than matters of opinion. However, and this is no criticism of Mr Speck, KC, many of his questions (e.g., whether Apple has acted in an "unFRANDly" manner and/or engaged in Hold Out) were not really factual questions at all. I make no criticism of Ms Mewes in seeking to respond substantively to these questions, even if her answers were in essence opinion.

d) Another criticism that was made of Ms Mewes – and other witnesses called by Apple – was that her evidence was not compliant with CPR Practice Direction 57AC on trial witness statements in the Business and Property Courts. There is something in this point, but not very much: Ms Mewes, and the other Apple witnesses speaking to Apple's

[53] The details do not matter, but it is clear that (for reasons extraneous to this case) Ms Whitt became hostile to Apple, and so was not called by Apple: Day 5/pp.786 to 788 (cross-examination of Ms Mewes).

[54] Day 4/p.581 (cross-examination of Ms Mewes).

"comparable" licences, were providing evidence in respect of a corporate effort, in which many people will have been involved. I do not consider that Apple can seriously be criticised for adducing such evidence, although I have every sympathy for Mr Speck, KC, when he made clear[55] that this limited his ability effectively to cross-examine. I have taken this fact fully into account when considering the weight to be attached to Ms Mewes (and Apple's other witnesses) in this regard.

ii) *Mr Brian Ankenbrandt.* Mr Ankenbrandt is a corporate attorney manager at Apple, and his responsibilities included negotiating (on Apple's behalf) licences to SEPs with various counterparties. He gave three witness statements, Ankenbrandt 1, Ankenbrandt 2 and Ankenbrandt 3. He gave evidence on Day 7 (22 June 2022). He was a clear and articulate witness and – subject to the fact that he was, inevitably, in Apple's camp – he gave helpful and reliable evidence.

iii) *Mr David Rockower.* Mr Rockower is principal counsel in the IP Transactions group in Apple, reporting to Ms Mewes. He gave one statement, Rockower 1 and gave evidence on Day 7 (22 June 2022). He was a straightforward and honest witness.

iv) *Mr Anush Venkatesan.* Mr Venkatesan is a director, Partner Product Marketing in the Worldwide Product Marketing Group at Apple. He gave two statements, Venkatesan 1 and Venkatesan 2. He gave evidence on Day 8 (23 June 2022), and was also a straightforward and honest witness.

### (3) General evaluation of the factual evidence

52. This is not a case where "traditional" factual evidence was heard or given, with specific events being recounted by various witnesses speaking to those events. Whilst there were some narrow factual controversies, these were few and far between. Rather, the factual evidence went much more to the general negotiating styles and approaches of Optis and Apple, both with third parties, and *inter se*. Entirely unsurprisingly, Optis' witnesses defended Optis' approach and Apple's witnesses the approach of Apple. To this extent, they were undoubtedly *partis pris*; and it would be surprising, were they not. Of course, to the extent that the negotiating history between Optis and its counterparties and Apple and its counterparties actually mattered, one would only hear one side of the history: the counterparties did not give evidence. So far as the negotiations between Optis and Apple are concerned, I heard both sides, and I believe both sides. But, as is often the case with negotiations, each side saw the issues and the conduct of the other very differently.

## C. THE EXPERT EVIDENCE

### (1) The experts I heard from

53. I heard from a number of experts, who gave opinion evidence in relation to various disciplines. Without exception, I found them careful and expert, doing their best to

[55] Most clearly in respect of his cross-examination of Mr Rockower.

assist the court. I list them below in the order in which they were called, setting out their disciplines and other relevant details:

| Name | Discipline | Party calling Evidence | Day called |
|---|---|---|---|
| Professor Joachim Henkel | Technology and innovation management | **Apple**<br>Henkel 1<br>Henkel 2<br>Henkel 3 | Day 7 (22 June 2022) |
| Mr Hakan Eriksson | Engineering and technology | **Optis**<br>Eriksson 1 | Days 7 and 8 (22 and 23 June 2022) |
| Dr Gunnar Niels | Economics | **Optis**<br>Niels 3<br>Niels 4[56] | Days 8 and 9 (23 and 24 June 2022) |
| Professor Carl Shapiro | Economics | **Apple**<br>Shapiro 1<br>Shapiro 2<br>Shapiro 3 | Day 9 (24 June 2022) |
| Ms Alexandra Pu Yang | Chinese IP and competition law | **Apple**<br>Yang 1<br>Yang 2 | Day 9 (24 June 2022) |
| Mr Eric Stasik | Licensing | **Optis**<br>Stasik 1<br>Stasik 2 | Day 10 (27 June 2022) |
| Dr Joakim Ingers | Components of Handsets | **Apple**<br>Ingers 1<br>Ingers 2<br>Ingers 3 | Day 10 (27 June 2022) |
| Mr Mark Bezant | Accounting | **Optis**<br>Bezant 1<br>Bezant 2<br>Bezant 3<br>Bezant 5[57] | Days 11 and 12 (28 and 29 June 2022) |
| Ms Elizabeth Gutteridge | Accounting | **Apple**<br>Gutteridge 1<br>Gutteridge 2<br>Gutteridge 3 | Days 13 and 14 (30 June and 1 July 2022) |

Figure/Table 2: Experts giving evidence before the court

I will make specific reference to this evidence as appropriate. Such references are fewer than might be expected for two reasons. First, a great deal of what the experts told me was extremely helpful in understanding the general background to the technology and licensing practices in this area. Secondly, having heard and considered some of the evidence – notably the evidence going to the technological aspects – I have found this

[56] Dr Niels' first two expert reports were given earlier on in these proceeding, and not in relation to Trial E. They are immaterial for present purposes.

[57] There is no material fourth report.

evidence less relevant to answering the FRAND Question, for reasons I will come to. I only want to make the point that – notwithstanding the numerical number of the references to the expert evidence – much of what they said underlies the general parts of this Judgment. I am indebted to them all.

## (2) The expert accountants and "comparable" licences

### *(a) "Unpacking"*

54. In a dispute where price is at issue (for instance, in the valuation of shares in an unquoted company), recourse is often had to transactions that are said to be "comparable". Where a comparable transaction can be found, the price at which the transaction was concluded can be sound evidence from which to infer the price for the transaction in issue.

55. Both Optis and Apple, as a part of their positive cases, drew on licences that they said had been agreed in circumstances sufficiently similar to the present case so as to enable me to derive the royalty rate that should be paid by Apple to Optis pursuant to a FRAND licence (the **FRAND Royalty**). The evidence of Mr Bezant (for Optis) and Ms Gutteridge (for Apple) was directed towards "unpacking" the licences put forward as comparables by each party. The licences needed to be "unpacked" because – absent "unpacking" – they could <u>not</u> be said to be comparable to the present case. The reason why "unpacking" was necessary (and I accept that it was) is considered further below, but for the present the following points need to be made:

    i) The fact that "unpacking" was needed to render on the face of it not comparable licences comparable rather undermines the value of the exercise. If – as was the case here – substantial expert analysis is required in order to render a licence "comparable", the likelihood is that the inferences to be drawn from such "comparables" will be slight, and will certainly have to be treated with caution.

    ii) Relatedly, and as will again become clear, "unpacking" involves a degree of subjectivity or judgement. Both experts exercised such judgement, but they did so following direction from their clients, rather than using their own judgment. As to this:

        a) Optis contended that the FRAND Royalty should be calculated on an *ad valorem* rate. In other words, Apple should (according to Optis) pay a FRAND Royalty calculated by reference to a percentage of the average sale price or **ASP** of each unit of relevant product (in essence, an iPhone[58]).

        b) Apple, on the other hand, contended that the FRAND Royalty should be a lump sum. To be clear, Apple was <u>not</u> saying that the FRAND Royalty payable at an *ad valorem* rate should be calculated (by reference to past and anticipated future sales) and simply converted into a lump sum at a net present value. That could be achieved by ascertaining the *ad valorem*

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[58] Although other products sold by Apple have Cellular Connectivity (e.g. some iPads), the iPhone was really the product that would drive the royalties paid by Apple.

rate and then converting a lump sum value. Nor was Apple suggesting a similar approach utilising a per unit rate.[59]

c) I will, later on in this Judgment, have to reach a concluded view as to how the FRAND Royalty is to be calculated, including as to whether it is an *ad valorem* or lump sum or some other rate. The fact is that the comparable licences adduced by the parties contained royalty rates that were not homogeneous and which, in many cases, were driven by factors which, whilst no doubt known to the parties to the licence, were not evident to an outsider.

d) Unpacking thus involved considerable exercise of judgement. By way of example, *A* might have concluded a licence with *B* involving a lump sum payment of US$*X* which covered (without differentiation) both past and future sales. At the same time, *C* might have concluded with *D* a licence providing for a discounted lump sum payment of US$*Y* in respect of past sales and an *ad valorem* rate of *Z*% in respect of future sales. "Unpacking" these two (hypothetical) licences so as to make them comparable is (self-evidently) extremely difficult. The process involves making a number of factual assumptions (which may not be evident from the face of the licence) regarding, for instance, the ASP of products sold or the past/future sales volumes of such products.

### *(b) Difficulties in the approach of the experts*

56. The comparables in this case were not comparable in exactly this way. I will, in due course, expand upon these difficulties. For the present, their existence needs to be noted and recognised. Given these difficulties, the approach of both experts was unhelpful to the court in a number of respects:[60]

i) Whilst I can entirely appreciate that each expert might have different views as to how "comparable" licences might be unpacked, each expert unpacked the licences in accordance with the direction and case of the party instructing them. Thus, Mr Bezant converted all of the comparables (including those involving lump sum payments) into a variety of differently computed *ad valorem* rates. Mr Bezant did not try to convert licences into lump sum rates (which, as I shall describe, was Ms Gutteridge's preferred approach). In other words, Mr Bezant did not convert "running royalty" rates (the term Optis tended to use for *ad valorem* rates) into lump sum "equivalent" rates. If Mr Bezant, as an expert seeking to comply with his duties as an expert, had concluded that conversion

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[59] In their substantive comments on the draft judgment circulated by me, Apple suggested that Apple's approach was to take a "per unit" royalty and then use predicted sales volumes over the term of the licence to arrive at a lump sum payment. Whilst I have no doubt that predicted sales volumes would feature as an important metric in negotiations, and that Apple were keen to avoid an *ad valorem* approach, it is inconsistent with the evidence I heard to say either that this was Apple's approach (Apple's approach was based on the "Apple Framework", which I will come to describe) or that this was an accurate description of negotiated outcomes (Apple could not, after all, dictate outcomes). To suggest, as Apple did in their comments, that "[t]he uncontested evidence was that Apple's approach is to calculate a per-unit royalty, and then to use predicted sales volumes over the term of the licence to arrive at a lump sum payment" is not a description of the evidence that I recognise.

[60] Given that the experts were instructed as to how they should approach matters, this is not a criticism of the experts.

to a lump sum was inappropriate (for reasons within his expert opinion) then that would be helpful information to have. But that would nevertheless not excuse Mr Bezant from confirming at least the arithmetic of Ms Gutteridge's approach (even if he asserted it was the wrong approach). As it was, Mr Bezant simply assumed as axiomatic a fundamental difference between the parties, namely that the FRAND Royalty was to be calculated on an *ad volorem* basis. Thus, in Bezant 1, Mr Bezant says:

"2.15 I am instructed to only apply the comparables approach for the purposes of this report. I understand from Optis' solicitors that Optis is also relying on the top-down approach in its submissions.

2.16 I consider that the comparables approach is the best approach to use in principle because it captures what licensors and licensees have agreed in commercial negotiations. In this case, I have 19 licences available to me,[61] covering some or all of Optis' cellular SEPs, of which I consider 14 of these licences (eight of which are running royalty licences[62] and six of which are lump sum licences).

2.17 Some of the Optis Licences are running royalty licences, which are straightforward to interpret. Others have payments in the form of a lump sum, which require unpacking to identify the royalty rate implied by the lump sum payment. Royalty rates derived from lump sum licences are inherently less valuable than running royalty licences as a result."

This paragraph should either have made clear that it was Mr Bezant's expert opinion that non-comparable licences should be unpacked so as to render them comparable on an *ad valorem* basis or that Mr Bezant had been instructed to unpack on that basis, so as to enable Optis' legal team to make submissions in regard to the FRAND Royalty or to support the evidence of other witnesses being called by Optis. Whatever the case, there was no excuse for failing to provide alternative "unpackings" – particularly when Apple, through Ms Gutteridge, was relying on such alternative approaches.

ii) I do not want to suggest that this criticism is to be directed exclusively at Mr Bezant, for Ms Gutteridge similarly unpacked on a selective basis. As I have noted, Apple's preferred approach was to render non-comparable licences comparable on a lump-sum basis. To do this, Ms Gutteridge chiefly relied on the "comparable" licences produced by Apple, which were licences between Apple and various SEP Owners holding and offering for licence a variety of different portfolios. As part of her process in rendering the licences comparable, Ms Gutteridge had to "scale" the lump sum payable by reference to the size of the portfolio being licenced. Thus, to take a crude (and hypothetical) example, if *A* and *B* conclude a licence for a portfolio of *X* patents at a rate of £*Z*, a portfolio of 2*X* patents should have a rate of £2*Z*. "Scaling" was one of the areas that was controversial between the parties, and I entirely understand why Optis would not accept without more Apple's approach. But, as I have already noted, it is perfectly possible to agree the granular figures, whilst maintaining a contention that the approach underlying the figures is wrong or misconceived.

[61] These are only the comparables produced by Optis. Quite rightly and understandably, given the process for the exchange of position statements, Mr Bezant did not consider Apple's comparables until a later date.

[62] I.e. *ad valorem*.

To be fair to Ms Gutteridge, she did not "unpack" solely on a lump sum basis, but her *ad valorem* unpacking was not done in exactly the same way as Mr Bezant.

### *(c) Common figures, absent a common approach?*

57. It became apparent, during my pre-reading, that there was a problem in terms of the extent to which Mr Bezant's reports and Ms Gutteridge's reports engaged with each other. A few days before the trial began, by a letter dated 6 June 2022, I wrote to the parties (via my clerk) in the following terms:

"The Judge has commenced his reading in, but is only in the "foothills" of what he must read and consider. Nevertheless, he has some points which he feels he should raise with the parties now, even if it proves that they are points already dealt with by the parties in the documents filed with the Court. He does so because, if they have not been considered, it is appropriate that the parties have as much advance notice as possible of points that they may wish to address in the hearing or at least bear in mind. If they are already dealt with, the Judge apologises in advance for wasting the parties' time.

(1) **A comparison between the parties' rival proposals.** The Judge is keen to have, from the outset, a "like-for-like" basis for evaluating the rival FRAND proposals advanced by Optis and Apple on a single page. The Judge appreciates that such a table is liable to miss nuance and lack (appropriate) qualification, but provisionally considers that such a snapshot would assist him in evaluating not merely the parties' contentions, but also the comparable licences (as to which see further below).

The Judge has in mind the completion of a table, by each of Optis and Apple, setting out the parameters of their respective proposals, including an "unpacking" of metrics or parameters that are (because of the nature of each proposal) to be inferred. The metrics or parameters the Judge presently considers he would be assisted by are as follows:

| | | |
|---|---|---|
| A | **The scope of the proposed licence in terms of patents and technology licensed** | Ideally, this metric would contain the number of patents (not patent families, unless both parties agree that families is an easier metric) to which the licence would extend. |
| B | **The relevant standards** | The standards to which the patents set out in A are said to be essential |
| C | **The maximal number of patents declared to be essential to the standards identified in B** | The Judge appreciates that there will be an "over-declaration" issue. Over-declaration should be ignored for these purposes. |
| D | **The future term of the proposed licence** | The parties should assume a licence date on 1 January 2023. Any royalties falling due on or after 1 January 2023 are **future royalties**. Any royalties that fell or would fall die before 1 January 2023 are **past royalties**.<br>The metric in D should specify the future term that is proposed. Where that term is for the duration of the |

| | | |
|---|---|---|
| | | patents set out in A, then an average of the life of those patents should be taken as the term. |
| E | **"Retrospective" or "backward looking" scope of the proposed licence** | The parties should specify, with precision, the matters covered by their proposed licence. No distinction should be drawn between waiver, comprise of claims or payments of past royalties. The metric in E is concerned to identify have far back the proposed licence is going to extend. |
| F | **Territorial scope of the proposed licence, and any distinctions drawn between territories** | The Judge's understanding is that both proposals (at least, subject to any appeal) involve worldwide licences. He assumes that neither party is drawing a distinction between territories for other purposes, but if any party is, this needs to be stated. |
| G | **The relevant "unit" or device** | Some calculations of royalty rates depend upon the unit or device sold by Apple. This needs to be specified. The Judge is conscious that:<br>(a) The parties may be advancing very different units in their respective proposals. Thus, the unit may be the device or it may be a part of the device as *per* Apple's SSPPU. Each different unit that is relevant should be specified.<br>(b) As regards the future term of the licence, the parties should be clear to what extent their proposed licence embraces potential future developments. E.g. were Apple to develop a radically different device, arguably requiring a licence (hypothetically, an Apple car selling at £50,000/unit), how would the licence treat this? |
| H | **Manner of calculation of royalty rate proposed** | There appear to be three methods in play:<br>(a) Lump sum<br>(b) *Ad valorem* i.e. a percentage of the unit at G<br>(c) Flat rate i.e. a fixed sum per unit sold |

| | | |
|---|---|---|
| I | **Implied or actual lump sum payable on 1 January 2023** | Both parties accept that their different proposals can be "converted" from one manner of calculation in H to another. Thus, Apple proposed a lump sum (i.e. H(a)), whereas Optis proposed an *ad valorem* rate (i.e. H(b))<br>The actual figure on offer – or the figure that emerges from the calculations below – should be set out.<br>The lump sum in I should <u>not</u> be adjusted to take account of accelerated or delayed receipt. |
| J | **Number of units sold** | The number of units sold or expected to be sold should be specified, differentiating between sales informing future royalties and sales informing past royalties.<br>Where a minimum or a maximum limit is proposed as a term of the licence, this should be set out. |
| K | **Average value of units sold** | The average value of units sold or expected to be sold should be specified, differentiating between average value informing future royalties and average value informing past royalties.<br>Where a (minimum) floor or (maximum) cap is proposed as a term of the licence, this should be set out. |
| L | **Implied or actual flat rate** | Where an actual flat rate is proposed, this should be specified. Otherwise, the implied flat rate should be stated.<br>Such a rate will clearly imply periodic payments, including potentially payments in the past. No adjustment should be made in rates to reflect non-payment in the past. |
| M | **Implied or actual *ad valorem* rate** | Where an actual *ad valorem* rate is proposed, this should be specified. Otherwise, the implied *ad valorem* rate should be stated.<br>Such a rate will clearly imply periodic payments, including potentially payments in the past. No adjustment should be made in rates to reflect non-payment in the past. |

| | | |
|---|---|---|
| N | **Interest payable on past payments and discount for accelerated receipt** | No adjustment to the above metrics is required, but the parties should specify how such matters would be dealt with. |

(2) **Comparables.** The Judge has yet to get to grips with the expert evidence on "unpacking" comparables. It may be that this work has already, substantially, been done, but it would be helpful for each expert to complete a table along the lines of that set out above for each comparable. The Judge, of course, appreciates that discerning implied rates (e.g. where there is a lump sum) may be very difficult. However, the Judge's present thinking is that the more comparables he has assessed on a "like-for-like" basis – even if some have to be jettisoned as not probative of anything – the better."

58. The parties provided their responses during the course of the trial. Ms Gutteridge provided a substantially responsive series of tables, providing the information sought in my letter on a comparable by comparable basis.[63] The basis upon which Apple was responding was made clear in a footnote to each table. Although the precise wording of the footnotes vary, the quotation below is reflective of the gist:

"These tables have been prepared in order to provide the data and metrics requested by the Judge in his letter of 6 June 2022. They do not necessarily reproduce or accord with my approach to the unpacking and scaling of the licence agreements, which is as set out in my reports. Further, I am instructed that the above figures do not necessarily reflect Apple's case."

59. This is a fair point. I entirely appreciate that I was seeking, in my letter, data in a form that neither party was putting forward, to enable me better to understand the facts and the issues I had to decide. The need for this was further articulated in an exchange that took place at the end of the parties oral opening submissions:[64]

| | |
|---|---|
| **Marcus Smith J (to Mr Turner, KC)** | …In terms of the point about comparables, and you made the point that one needs to treat, as it were, *lacunae* or difficulties of comparing them on an apple-for-apples basis as going to weight, and I think that is probably right. I do not see any issue, I did not with Mr Speck, about seeking to standardise the parameters of the various licences in issue, so that one gets figures which are precisely comparable and then leaves the attack on their weight – in other words, whether they are representative/unrepresentative, and if they are unrepresentative, why – over to submission.<br>In other words, one extracts the work that the experts have done in…ascertaining what they call the true position, one extracts that, one gets the raw position, and then one gets from the experts an articulation of why a particular instance is of weight or is not. |

[63] These were contained in a file labelled **Q2.A**, i.e. Apple's response to question 2 in my letter of 6 June 2022. Optis' response, to which I will come, was contained in a file labelled **Q2.O**.

[redacted]

So take your [redacted] case,[65] which is something unsurprisingly Optis rely on, and you say not, one gets the various metrics to compare it with all the other licences, if that is available. One would then see a very high rate, and we would then have the explanation as to why that is a high rate, and therefore not helpful for me, from Apple and the precise converse from [Optis].

I do not see any pushback on that, but I thought I had better articulate it, so that you could push back if you wanted to.

**Mr Turner, KC**

My Lord, I am very grateful. We agree with it and we understand why your Lordship wants to approach it that way. The first is handle with care, for the reason that you have given. The second is that it may not be as you were canvassing with Mr Speck, merely a question of expert evaluation of the facts.

…

It may be that when you see a particular number that – well, there are two layers. First, the facts do suggest that, actually, a large portion of this should be attributed to the future or the past or something else, or there is something else going on as a matter of fact, rather than as a matter of appraisal, and that this is going to cloud matters somewhat.

Subject to that general and that specific point, I fully understand your Lordship's approach.

**Marcus Smith J**

To take, for instance, the past versus the future, let us suppose one has significant periods of both and there was a discount applied to the past, for whatever reason, with the result that because one cannot work out exactly what the split was in the lump sum, all one can do is average the lump sum across the units past and future, probably on an even basis. What you are going to get, therefore, is a lower rate across the board, past and future, than otherwise would be the case. Obviously, I would want to know the extent to which there was a discount for past rates, how far that is a legitimate discount and whether it is a proper, negotiated, discount or…whether it is FRANDly or not.

Taking all that in the round, I would take the view that if the discount was an illegitimate one, then the whole price certainly needs to move up. If, on the other hand, the discount is a legitimate one, then the past rate would be unrepresentatively high in this example and the future rate unrepresentatively low.

That is a calculation, or an assessment, that I can perfectly easily reach, but I need a starting point, which is, as it were, enabling me to unpack it. Whereas if I have

[65] This was a licence agreed between [redacted] and Apple, and produced by Apple, but not one that Apple relied upon as a comparable. For reasons that I will come to, Apple contended that the sums paid by Apple to [redacted] under the licence were unrepresentatively high and that this licence was not a true comparable.

two sets of figures on the same licence, one of which has been unpacked on one basis, one of which has been unpacked on the other basis, I will not get anywhere.

**Mr Speck, KC** Can I say something, and it kind of relates to both of us, but I hope I am not going to say anything uncontroversial, or controversial. In the case already, it would be highly undesirable to have a new set of numbers. In the case already there are Ms Gutteridge's equivalent of free release, Mr Bezant has done three versions and what your Lordship I think is asking for is the smoothing out across everything, which is his free release – simple, sorry.

**Marcus Smith J** Simple. I think that is right.

**Mr Speck, KC** Ms Gutteridge has not done that, but it is in the case and I suspect it is uncontroversial, because you are taking the consideration and dividing it by an amount of units which there might be a quibble about the source from which you take the predictions, but the actual unpacking, not getting into any scaling here, but the actual unpacking, probably what your Lordship is asking for is Mr Bezant's simple unpacking.

**Marcus Smith J** That was certainly the effect of the exchange that we had this morning and of the three options you gave me, simple was the one I was keen on. Hopefully, we are talking the same language with Apple.

**Mr Speck, KC** They have not done it, my Lord, and that is the problem.

**Marcus Smith J** I would hope they can. If they cannot, then I will deal with that.

**Mr Turner, KC** We will speak to Ms Gutteridge, yes.

**Marcus Smith J** The point is, I have no idea what weight I am going to attribute to comparables, because that is a matter for me to determine at the end. All I can say is that if I do not have the sort of apples-for-apples comparison with the experts' critique after that has been produced as to why it is unreliable, the chances are I am going to attach rather less weight to all of the comparables than either side would like in relation to their individuals, because I am simply not going to have the wherewithal to make a proper assessment, because I will just be picking around different figures produced on different bases, without the experts saying: "Look, we are happy to agree the mechanics of these figures. We are violently in disagreement about their significance", and it is the violent disagreement about significance that I want to unpack. But I can only do that if one has an agreed set of figures and each side saying: "Look, this does not work for me. You are placing, if you rely on this, an undue reliance for the following reasons."

Maybe the [redacted] example is the best example, because I quite understand why Optis are saying "This is a great example for us", and it is quite easy to understand

> what Apple are saying in response, because it is a situation where Apple met a counterparty with a significant market force, on Apple's case…I want to be able to understand the arguments that the experts or the factual witnesses have about the significance of the figures, apart from the figures themselves."

60. At the time of this exchange, on 13 June 2022, the position was, I thought, clear:

i) The parties had both been equally culpable in failing properly to use the process ordered to ensure that disagreements between the parties were clearly delimited: see [48] above.

ii) My letter of 6 June 2022 was intended to cure the deficiencies in the parties' responsive position statements (and the evidence served with those statements) by obliging <u>each</u> expert to state, for <u>each</u> comparable, the "unpacked" lump sum, *ad valorem* or per unit royalty rate.

iii) My exchange with Mr Speck, KC, in the quotation in paragraph 59 above was (so I thought) to clarify that when unpacking on an *ad valorem* basis, of Mr Bezant's three methods "simple" unpacking was best.[66] It was not intended to suggest that Mr Bezant should continue to fail to provide (as he had so far) implied lump sum royalty rates; and I believe I was absolutely clear that Ms Gutteridge should provide – to the extent she had not done so – "simple" *ad valorem* rates.

iv) Of course, nothing in this provision of data was intended to commit the experts to <u>anything</u> other than the positions they were putting forward in their reports. The aim (as I made clear) was to provide me with data to explore the respective positions of the parties.

61. Matters then took several – to me surprising – turns:

i) As I have described,[67] Ms Gutteridge provided full responses to the questions in my letter. She made clear that her responses did not reflect Apple's case, but that she was providing the information I had asked for.

ii) Mr Bezant's "response" was non-responsive. Mr Bezant declined to provide any response that went beyond what was already stated in his reports. Thus, for example, Mr Bezant declined to provide any calculation of "unpacked" lump sum royalties. I appreciate, of course, that Optis contends a lump sum royalty to be inappropriate – and that is an issue I will have to determine. Mr Bezant could, like Ms Gutteridge, have made clear that his responses did not reflect Optis' case – although that would have been a redundant warning: I understand (and understood) Optis' case very well.

iii) <u>Optis Closing (Round 1)</u> states:

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[66] I describe the three different approaches of Mr Bezant below. The differences do not matter for present purposes.

[67] See [58] above.

"551. …Ms Gutteridge has not performed a simple unpacking anywhere in her evidence. However, WilmerHale have sought to answer the Court's second question of 6 June 2022 by performing a new simple unpacking, the same was provided mid-trial on 28 June 2022 with no attempt made to ask Ms Gutteridge to swear to the analysis underlying the answers provided or to provide any evidence to explain the analysis. Indeed, no explanation has been provided as to how that analysis has been performed or by whom or based on what data. Optis is left unable to understand where the numbers provided have come from and unable to challenge their calculation with any witness (in stark contrast to the simple unpacking performed by Mr Bezant in his evidence).

552. Accordingly, this late attempt to introduce an Apple version of a rival simple unpacking is inadmissible and the Court should have no regard to it."

iv) On 13 October 2022, shortly after receiving the parties' second round of written closing submissions (<u>Optis Closing (Round 2)</u> and <u>Apple Closing (Round 2)</u>), I wrote to the parties through my clerk referring to the parties' responses (which were contained in files designated Q2.O and Q2.A) and stating:

"The parties very helpfully provided responses to the Judge's letter, contained in files Q2.O and Q2.A. The Judge appreciates that these responses are responses to <u>his</u> questions, and do not represent how the parties' experts are presenting their case, a point made expressly by Apple in a footnote to every page of its response. Apple's point is, of course, something of a truism: if the responses were in line with what the parties presented in their evidence, the questions would hardly be necessary.

In these circumstances, the Judge is somewhat troubled by paragraphs 551 to 552 of Optis' written closing submissions (<u>Optis Closing (Round 1)</u>). This is not a case (as suggested) of Apple introducing an inadmissible rival version of data but Apple responding to a request from the Court, which response does "not necessarily reflect Apple's case" (to quote from Apple's warning footnote).

The Judge is not prepared to countenance without justification the originating of new evidence – but the Judge does not understand Q2.O or Q2.A to constitute new evidence, but rather a re-working of material of old evidence according to the Judge's request.

If the content of Q2.A was not understood, then it would have been helpful to raise this at the trial. But the parties also envisaged the Judge originating queries after the hearing had closed in order to assist in framing his judgment. In that spirit, recognising that the answers in Q2.O and Q2.A do not reflect the parties' cases, but are a response to the Judge's letter of 6 June 2022, the Judge would be grateful (this is the Court's <u>Request (4)</u>) if the parties could liaise so that:

(a) The parties are satisfied that the content of Q2.O and Q2.A constitutes a "re-slicing" of old evidence and not the introduction of "new" evidence (which raises entirely different questions).

(b) Each party is satisfied that it understands where the answers to the Judge's queries have come from. (The Judge suspects that each expert will have a very good idea of this – but if and to the extent there is a problem, it needs to be identified.)

The Judge wants to be very clear that in undertaking this process, neither party will be seen as compromising the case it is advancing. For instance, Apple's answer to question C (maximal number of patents in the stack) is obviously controversial, in that Optis contend that the PA Consulting data[68] on "actual essential" rather than "declared essential"[69] is to be preferred. That is well-understood by the Judge, and he will have to reach a view on this question: but that is entirely independent of the derivation of the figure that Apple has included in its bundle…"

v) In a letter dated 31 October 2022, Optis maintained its substantive objections to the content of file Q2.A. It is unnecessary to set out in any detail the content of this letter, justifying Optis' stance, because it is clear to me that I cannot, in light of these objections (whether they are well-founded or not), refer to or in any way consider the material in file Q2.A without re-opening the hearing.

vi) In a second letter (also dated 31 October 2022), Optis explained why Mr Bezant's responses in Q2.O were what I have termed "non-responsive" – in particular, as regards calculating implied lump sums:

> "…it would be possible for Mr Bezant to calculate **implied** lump sums for the remaining running royalty licences. However, this would constitute new evidence which, for the reasons explained in our Restricted Confidential first letter of today's date, would necessitate Mr Bezant making assumptions which would have to be explained and might require new data inputs that are not already in the case…For the reasons stated in our letter, Optis do not consider that this is an appropriate exercise at this stage of the proceedings."

62. I have given careful consideration as to whether I have enough material in the record to decide the FRAND Question, without re-opening the evidential part of the hearing. I have concluded that I do have enough material and that I can determine the FRAND Question without re-opening the trial, hearing submissions on the admissibility of Q2.O and Q2.A and (if necessary) requiring further evidence to be adduced and heard. My reason for setting out the history regarding the expert accounting evidence is that – as I pointed out in the exchanges quoted above – the limits to the expert evidence that is "in the record" have affected the weight that I attach to <u>all</u> of the comparables in the case and to the assessment of those comparables by <u>both</u> Mr Bezant and Ms Gutteridge. However, those concerns do not preclude me from deciding the case on the merits without reliance on Q2.O and Q2.A. I will – when I come to consider the comparables – make clear in far greater detail my concerns with this evidence. But it is appropriate that I state early on in this Judgment that I attempted – before the trial began[70] – to give both parties an opportunity to address them.

## D. EVIDENTIAL DIFFICULTIES IN REGARD TO DECLARED PATENTS AND PATENT PORTFOLIOS

### (1) Introduction

63. Given that the essence of the FRAND Question before me is the "value" to be attached to the patents comprising the Portfolio, the evidential deficiencies in relation to the number of Declared Patents to the Standards, their validity, essentiality and importance was surprising. As I have noted, ETSI itself does not test for or check whether a Declared Patent is either valid or essential. Indeed, as I describe further below, even

[68] The issues regarding "stack" and PA Consulting will be considered later on in this Judgment.

[69] Again, considered later on in this Judgment.

[70] Admittedly, <u>shortly</u> before the trial began.

working out the number of patents declared to a particular standard promulgated by ETSI is a tall order.

64. These difficulties – which go directly to the FRAND Question I need to determine – will be explored in greater detail later on in this judgment. However, because I am describing the evidence that was before the Court – including as to its quality – it is necessary to make a number of points about the way in which the parties addressed these difficulties in order to make good their cases. As with the accounting experts, neither party went out of its way to assist the Court in grappling with what are exceedingly difficult factual questions.

**(2) Impossibility of patent-by-patent assessment**

65. Although some witnesses suggested the contrary, it is not possible to make any reliable patent-by-patent assessment of the quality of patents or Patent Families in any given portfolio. Any assessment needs to operate at a high level of abstraction or generalisation, and so gives rise to considerable uncertainty.

66. Even if I am wrong about this, neither party sought to adduce the evidence to <u>enable</u> a reliable patent-by-patent assessment of the quality of the Portfolio. The fact that this would have required of the order of about 83 technical trials [redacted] simply to establish the position in this jurisdiction alone only serves to underline the impossibility of the job. But, impossible or not, neither party gave me the tools to undertake it; and I must decide the case on the evidence before me.

**(3) Generalising in relation to portfolios**

67. Even seeking to make generalisations in regard to a particular portfolio or portfolios is difficult. As I have noted, and as I will describe in greater detail, ETSI does not test the declarations of patents to it for either validity, essentiality or importance. Indeed, it is not possible even to ascertain the <u>number</u> of declared patents from ETSI's data. This was one of the (rare) areas of common ground between the parties. Both parties therefore had to adduce evidence from other sources to establish:

i) The number of Declared Patents to a particular Standard or Standards.

ii) The "quality" of those patents in terms of validity, essentiality and importance.

68. Given the process put in place for the articulation of the parties' respective positions, there were a surprising number of changes in or alternative positions to the parties' cases as regards evidencing the number of declared patents and the "quality" of the Portfolio. Thus:

i) Apple primarily relied upon data derived from a firm known as Innography, but in the alternative relied upon data from another provider, PA Consulting.

ii) Optis initially relied on an assessment of its Portfolio done by a Ms Dwyer, who was to be called as a witness on behalf of Optis. In circumstances that it will be necessary to describe further, Optis abandoned Ms Dwyer's evidence and instead relied upon data from PA Consulting.

69. There was, therefore, a change of position on the part of the parties as regards the data from PA Consulting and Innography. Apple was initially a PA Consulting "proponent" (at least in the alternative) and Optis a PA Consulting "sceptic". When Optis moved to PA Consulting, Apple was far less concerned to protect its alternative case, and became quite critical of the PA Consulting data. Optis, additionally, was (and this was a consistent position) critical of the Innography data.

70. All this is unsurprising, given the geometry of the litigation in general and Trial E in particular. However, what was of some concern was the extent to which I could not test the criticisms each party made of the other's data. No-one from either PA Consulting or Innography was called to give evidence, and at best opportunistic attacks were made by each party on the other's data. The evidence that I had on the quality of the PA Consulting and Innography data was patchy and very much second-hand.

### (4) Ms Dwyer's evidence

71. Optis submitted in evidence a report of Ms Johanna Dwyer – Dwyer 6 – which (amongst other things) addressed "[t]he essentiality of 49 patents owned by Optis based on 49 claim charts that were provided to me by EIP (the Optis Patents). I have been told that these claim charts represent all of those families Optis claims to be "Essential SEPs" other than those which are the subject of technical trials in these proceedings".[71]

72. Ms Dwyer concluded that the vast majority of these 49 Patents were, indeed, "essential" SEPs. Her report did not disclose how she had reached her conclusions. Indeed, her statements as to essentiality were purely conclusory.

73. Apple sought to have her evidence struck out and made an application to this effect, which was resisted by Optis. I refused to strike out the evidence, but instead ordered that Ms Dwyer's evidence be tested through cross-examination on the basis of a sample of the claim charts examined by Ms Dwyer.[72]

74. The Court's thinking is recorded in the transcript of the strike-out hearing, where I put the following proposal to Mr Bloch, KC, representing Apple:[73]

> "It is not the case that there is no material for Apple to cross-examine Ms Dwyer on. I initially thought when I was looking at the report that the bare statement that [the Optis patents were][74]

[71] Paragraph 4 of Dwyer 6.

[72] See my order sealed 28 April 2022. The second recital of this order records:

"AND UPON the Court making, at the hearing of the Evidence Strike Out Application on 25 February 2022, a proposal as to the manner in which the Challenged Evidence could be tested at trial, the parties agreeing to the said proposal, and the Court giving directions implementing the same (but no consequential Minute of Order having been sealed)"

No order was sealed because – as the third recital of the order notes – Optis notified Apple and the Court that it would not rely on Dwyer 6 at the trial.

[73] See the transcript for the hearing on 25 February 2022 at p.181.

[74] Something seems to have gone wrong with the transcription, which records "the bare statement that the Apple standard essential patents" and which makes no sense. I am reasonably confident that this is not what I said and totally confident that if I said this, I misspoke. The words in square brackets contain my meaning, which I am confident all parties understood.

standard essential patents was something which was so bereft of detail that you could not actually meaningfully cross-examine.

But you could, if you use the claim charts on which those opinions are formed, I think. You can correct me if I am wrong. It seems to me that, given the process that I articulated last July, the notion of further rounds of evidence is something I am not particularly inclined to contemplate given that each party has had their shot. I am very happy to consider reply evidence but not anything more, again subject to what Optis have to say.

Why cannot Apple do this: they obviously have experts engaged in the case, they can pick any three examples from the examples considered by Ms Dwyer and they can cross-examine on them? Whether there is notice to Ms Dwyer about which three or not is something we could debate, but she has stated in a formal report that these are SEPs. Well, have a go. You will obviously pick the best three or five, however many it is. You will obviously pick the best, but I do not see any particular unfairness in that because of the un-nuanced nature of Ms Dwyer's evidence, and it seems to me if you succeed in showing that those three are not standard essential, I can draw some sort of inference from those three to the rest, because again of the un-nuanced nature of Ms Dwyer's statement.

If she had said, "Well, this is a hard question, I am reasonably confident that these are standard essential, but the following issues trouble me", well, that is one thing. But she has not, she has said 48 big tick, no reasons.

I do not think that she or Optis are entitled to flesh out the reasoning any more, but I do not see how that precludes Apple from having a go, given the existence of the claim charts. That way, one will test the point that you have made at the outset: namely, that Ms Dwyer has been presented with material that is not her own work, but comes from Optis, and she has not on the face of it at least appeared to test the confirmation bias that you say arises given the origin of this material. That seems to me altogether a more manageable task. It means that Optis retain their evidence in the case but – and this is where of course I need your help – it does seem to me to give a fair shot at Apple challenging this evidence and ensures that the fullest range of material is before the court rather than excluding it.

As I said yesterday – I know you were not present yesterday – one of the points that I said I liked was I liked the notion of more material rather than less because it operates as a cross-check."

75. That proposal – with sensible refinements proposed by both parties – was adopted, and an order to this effect would have been drawn, but for Optis' decision to abandon all of Ms Dwyer's evidence even before it had permission to amend its position statement and pleadings to rely upon PA Consulting.[75]

76. The question arises as to what I am to make of the submission and subsequent withdrawal of Ms Dwyer's report:

i) CPR 35.11 provides that "[w]here a party has disclosed an expert's report, any party may use that expert's report as evidence at the trial". Apple relied upon <u>parts</u> of Ms Dwyer's report (which I will come to, but not the parts averring that the Optis patents were "essential"), relying upon this provision.[76] I hold that Apple is entitled to do so, but that the weight that I can attach to the views

[75] Permission to amend was given in my order of 28 April 2022, which records that Ms Dwyer's evidence had been withdrawn.

[76] See, for example, <u>Apple Closing (Round 1)</u>/[254].

expressed by Ms Dwyer in Dwyer 6 must be minimal, partly because Ms Dwyer did not give evidence and partly because Apple's reliance on Dwyer 6 was selective.

ii) More difficult is the question of what I am to make of the withdrawal of Dwyer 6 by Optis. Dwyer 6 was an important part of Optis' pleaded case, and abandoning Dwyer 6 was both a conscious and important voluntary decision on the part of Optis. There are two aspects to this question. First, to what extent can Optis place any reliance on Ms Dwyer's evidence; and, secondly, to what extent can Apple draw inferences from the withdrawal by Optis of Ms Dwyer's evidence. I deal with these two separate, albeit related, questions below:

a) In their evidence to the Court, Mr Blasius and Mr Born sought to downplay the significance of this decision, and appeared to suggest that such evidence was still "in play" before the court. At the conclusion of Mr Blasius' cross-examination, I made the following point:[77]

"Before you rise, Ms Ford,[78] just a couple of points. That will give Mr Turner the opportunity to come back[79] and then you can do so in reply. The first point is something I want to flag while the witness is in the box, but it is really a matter for the legal teams. In cross-examination, Mr Turner has referred on, I think, about four occasions to the withdrawal of Ms Dwyer's evidence in this case. Mr Blasius has responded fairly uniformly – and the example I am reading from is today at 2:34pm…What Mr Blasius said was, "I continue to contend, as I stated before, that we hold the truly essential patents as we had represented to the companies, but for this case we are adopting a different methodology to be able to proceed with the trial". Mr Turner quite properly did not explore any further why Ms Dwyer was removed from the case and a new case made. He rightly did not do so because that would move into areas which would undoubtedly be privileged.

I just want to make it clear that whilst I absolutely accept the evidence of Mr Blasius, that he regards these patents as essential, I regard myself as being free to reach whatever view I wish given that Ms Dwyer will not be tested in the witness box, and there is no independent report, therefore, which Apple can test of the Optis essentiality.

It seemed to me important that I make that point clear, because Mr Blasius has given his views, and I do not want anyone to be under any illusions as to how I am going to regard the evidence, absolutely straightforwardly put, but by a non-technical witness, rather than the expert who was originally going to be called. I want to make that clear, just so both sides know where I am coming from.

I do not expect a response unless either of you wish to make it."

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[77] Day 3/pp.418 to 419 (cross-examination of Mr Blasius).

[78] Ms Ford, KC was about to re-examine Mr Blasius.

[79] Mr Turner, KC had been cross-examining Mr Blasius.

It seems to me that Optis having withdrawn Ms Dwyer's evidence, Optis can place no reliance on it; and the fact that Mr Blasius obviously still regarded that evidence as sound is nothing to the point.

b) Apple went further than this. Apple contended that I was entitled to draw inferences from the withdrawal of Ms Dwyer's evidence. Apple Closing (Round 1) contends:

> "355. The only possible inference is that Optis was aware that if Apple could choose three of the patents Optis was asserting to be Claim Essential, Optis would fail in those assertions. Optis recognised that its broad assertions of Claim Essentiality were untenable – a position confirmed by the substantial reduction in the number of Claim Essential patents it was able to assert when it was forced to rely upon the (itself over-generous) PA Consulting Report.
>
> 356. Clearly, Optis' original assertions of essentiality were overstated and Optis was well-aware that they would not stand up."

I consider that I am entitled to draw inferences from the failure to adduce the evidence of Ms Dwyer. Precisely what inferences I do draw – they are along the lines of those contended for by Apple – I set out at the relevant parts of this Judgment, for the reasons I there give.

### (5) Evidence regarding the "construction" of the Portfolio

77. As I have noted, the Portfolio was acquired from third parties.[80] The manner in which it was put together would clearly assist in understanding its quality. Optis' witnesses of fact made many generalised assertions in their witness statements as to the "quality" of the Portfolio.

78. These witnesses did not disclose any detail as to how the Portfolio had been constructed, ostensibly because the detail was contained in documents that were protected by legal privilege. I consider these questions further below, including the extent to which I may permissibly draw inferences regarding the non-production of these documents. For the present, I simply identify another evidential *lacuna* in this case.

## Part IV: Findings on specific issues and topics

### A. INTRODUCTION

79. Part IV is concerned to set out my findings in respect of a large number of questions, issues and disputes that are related to the FRAND Question, and necessary to consider in order to determine that question. This Part considers the following topics in the following order.

i) A description of the **Stack**, being the patents declared to the Standards relevant for Cellular Connectivity.[81]

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[80] See [26] to [30] above.

[81] Part IV: Section B below.

ii) A description of the rules and process by which declarations of SEPs are made to ETSI.[82]

iii) Data regarding the Stack.[83]

iv) The nature, structure and quality of the Optis Portfolio.[84]

v) The outcome of the technical trials and Optis' success rate in litigation generally.[85]

vi) Optis' general approach to negotiating licences.[86]

vii) Apple's general approach to negotiating licences.[87]

viii) The Smallest Saleable Patent Practising Unit or "SSPPU".[88]

ix) Whether value to be attributed to the Standard should be excluded when determining the FRAND Question.[89]

x) The comparable licences.[90]

xi) The unconcluded negotiations between Optis and Apple.[91]

xii) The judgment in *Unwired Planet* (First Instance).[92]

xiii) Was there Hold Up, Hold Out and/or an abuse of dominance?[93]

## B. THE "STACK" OR THE UNIVERSE OF RELEVANT PATENT FAMILIES: GENERAL PRINCIPLES

### (1) Patent Families

80. Patents can be counted either individually or in "families". The essence of a single family is that it collects together all the patents which cover the same basic invention, across all territories (i.e., where derived from the same international patent application)

[82] Part IV: Section C below.
[83] Part IV: Section D below.
[84] Part IV: Section E below.
[85] Part IV: Section F below.
[86] Part IV: Section G below.
[87] Part IV: Section H below.
[88] Part IV: Section I below.
[89] Part IV: Section J below.
[90] Part IV: Section K below.
[91] Part IV: Section L below.
[92] Part IV: Section M below.
[93] Part IV: Section N below.

and/or including "divisional" patents (i.e., patents which are all derived from the same "parent" application, which may itself be derived from the international application).[94]

81. As I have said, I shall – where possible – refer to "Patent Families".[95]

82. Organisation of patents into Patent Families involves a degree of subjectivity or judgement. Two schemas exist to organise patents into families – INPADOC and ETSI. INPADOC has the more general usage, and is utilised generally by patent professionals and patent offices for all fields of patents. ETSI is a schema settled upon by ETSI itself.[96]

83. The differences between the INPADOC and ETSI schemes do not necessarily matter, provided one schema is <u>consistently</u> used. Problems arise – unsurprisingly – where one single analytical process uses both schemas at different stages. For the present, I need only note the differences that exist between these two schemas; and I shall seek to avoid relying upon two different schemas in the same process.

**(2) What should be counted?**

84. Because what matters is less the number of individual patents, and more the validity and essentiality of the invention that is the subject of multiple patents, it makes more sense to focus on Patent Families, rather than individual patents. Moreover, that is the "unit of account" generally adopted.

85. Both Optis and Apple referred to Patent Families, rather than individual patents, and that is the approach I propose to adopt, where I can, in this Judgment.

**(3) "Stack share"**

86. Both sides agreed that some measure of "Stack share" could be a factor in driving the prices in the FRAND licence that I am seeking to derive and in answering the FRAND Question. For present purposes, I go no further than accepting that this <u>may</u> be the case, and that (for this reason) the question needs to be considered, so that my findings can, as necessary, be deployed later in the course of this Judgment.

87. Put simply, a "Stack share" is a fraction in which:

i) The numerator (the "top" figure in the fraction) is the number of SEPs under consideration. Here, that is principally the Optis Portfolio, but the SEPs that are relevant to comprise the numerator will depend on context. If I am considering someone else's portfolio, not Optis', the numerator will comprise that SEP Owner's portfolio; and

ii) The denominator (the "bottom" figure in the faction) is the total number of SEPs – the "universe" – comprising the Stack, of which the "numerator" SEPs form a part.

[94] See, uncontroversially, <u>Apple Opening</u>/[85] and [86].

[95] See [26] above.

[96] <u>Apple Opening</u>/[87].

88. This description ducks a number of important questions, which it is necessary to lay out, for they were highly contentious, and will have to be resolved:

i) *To what, exactly, does the denominator refer?* Apple contended that the denominator should comprise all Patent Families <u>declared essential</u> to a particular standard, irrespective of any assessment (apart from declaration) of validity and/or essentiality and/or importance. Optis, by contrast, contended for a much smaller or more narrowly defined denominator which implied a qualitative assessment of the Patent Families that had been declared essential, by reference to validity and/or essentiality (but not, or not to any great extent, importance). The difference between these two measures depends upon the extent to which Patent Families have been declared to a given standard when they are either not valid and/or not essential.

ii) *To what, exactly, does the numerator refer?* Precisely the same question arises in relation to the numerator. Does the numerator comprise those Patent Families declared to a particular standard by a particular SEP Owner, without any consideration of questions of "true" validity and/or essentiality? Clearly, a purely numerical, approach involves fewer value judgements in relation to a given portfolio. The alternative approach involves some kind of assessment of these matters, so as to differentiate between patents declared as SEP that <u>are</u> valid and essential, and those that are not.

iii) *Correlation between the calculation of the numerator and the calculation of the denominator.* Although it seems instinctively right that the numerator and the denominator should be calculated in the same way (i.e., by reference either to "declaration" irrespective of validity/essentiality or by the application of some sort of qualitative standard to declarations made), <u>provided</u> an approach is clear and consistent about different values being used to calculate numerator and denominator, little harm will be done if different values are in fact used. It would, for instance, be quite possible to use declared Patent Families for the denominator together with "qualitatively assessed" numerators. <u>Provided</u> the same denominator was used consistently, and the qualitative assessment of the numerator was consistent across the portfolios under consideration, the resulting stack share would be meaningful because arrived at by way of a consistent methodology. It would simply have to be recognised that percentage stack shares would (in the case of this example) be of a numerically high class of "declared" patents.

89. It is not, therefore, axiomatic that the numerator or denominator need be calculated using the same methodology or approach; but it is the case that when comparing different portfolios, the same methodology or approach ought to be used when calculating the numerator and (separately) when calculating the denominator. The approach will, inevitably, be informed by the facts.

90. It is, therefore, necessary to consider: how patents are declared to ETSI; and what measures exist to inform the calculation of denominators and numerators, so as to reach a calculation of Stack share. Accordingly, I next consider the manner in which declarations of SEPs are made to ETSI.

## C. DECLARATIONS TO ETSI

### (1) The terms of the ETSI IPR Policy

91. The ETSI IPR Policy articulates (in clause 3) several policy objectives. The first is to "reduce the risk to ETSI, MEMBERS and others applying ETSI STANDARDS and TECHNICAL SPECIFICATIONS, that investment in the preparation, adoption and application of STANDARDS could be wasted as a result of an ESSENTIAL IPR for a STANDARD or TECHNICAL SPECIFICATION being unavailable".[97]

92. The second is to achieve an appropriate "balance between the needs of standardisation for public use in the field of telecommunications and the rights of owners of IPRs"[98] and the need to ensure that "IPR holders, whether members of ETSI and their AFFILIATES or third parties, should be adequately and fairly rewarded for the use of their IPRs in the implementation of STANDARDS and TECHNICAL SPECIFICATIONS".[99]

93. The capitalised terms are terms defined in the ETSI IPR Policy as follows:

i) "IPR" means "any intellectual property right conferred by statute law including applications therefor other than trademarks. For the avoidance of doubt, rights relating to get-up, confidential information, trade secrets or the like are excluded from the definition of IPR".[100]

ii) "ESSENTIAL as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardisation, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR. For the avoidance of doubt in exceptional cases where a STANDARD can only be implemented by technical solutions, all of which are infringements of IPRs, all such IPRs shall be considered ESSENTIAL".[101]

iii) "STANDARD" means "any standard adopted by ETSI including options therein or amended versions and shall include European Standards (ENs), ETSI Standards (ESs), Common Technical Regulations (CTRs) which are taken from ENs and including drafts of any of the foregoing, and documents made under the previous nomenclature, including ETSs, I-ETSs, parts of NETs and TBRs, the technical specifications of which are available to all MEMBERS, but not including any standards, or parts thereof, not made by ETSI".[102]

iv) "TECHNICAL SPECIFICATION" means "any Technical Specification (TS) adopted by ETSI including options therein or amended version including drafts,

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[97] ETSI IPR Policy at clause 3.1.

[98] ETSI IPR Policy at clause 3.1.

[99] ETSI IPR Policy at clause 3.2.

[100] ETSI IPR Policy at clause 15.7.

[101] ETSI IPR Policy at clause 15.6.

[102] ETSI IPR Policy at clause 15.11.

the Technical Specifications of which are available to all MEMBERS, but not including any technical specifications, or parts thereof, not made by ETSI."[103]

## (2) The relevant Standards

94. In the present case – without listing them specifically[104] – the three Standards in play are:

i) **2G GSM**, which denotes second generation cellular network ("2G") in a global system for mobile communications ("GSM").

ii) **3G UMTS**, which denotes third generation cellular network ("3G") in a universal mobile telecommunication system ("UMTS").

iii) **4G LTE**, which denotes fourth generation cellular network ("4G") in a long term evolution project ("LTE").

95. Not only are the standards actually far more complex than these short descriptions, but also even these descriptions over-simplify. As Birss J noted in *Unwired Planet* (First Instance):[105]

> "Sometimes in this case the terms 2G, 3G and 4G are used to refer to different standards and sometimes GSM, UMTS (or WCDMA[106]) and LTE respectively. They are not the same but the distinction rarely matters. In this judgment I have tried to use the terms which reflect the way the argument and evidence went in any given context but it is impossible to be consistent. A complication is multimode handsets. A 4G/LTE handset will usually be able to work on earlier standards (2G/GSM and 3G/UMTS). It is, therefore, "multimode". There can be exceptions and so calling a handset 4G or LTE can be ambiguous since it probably refers to a multimode device but might not. Again, it is impossible to be consistent."

96. Wherever possible, I intend to refer to these three sets of standards collectively as the **Cellular Standards**, and I shall seek to avoid differentiating between standards relating to 2G GSM, 3G UMTS and 4G LTE. Although Optis at times sought to differentiate between Standards for valuation purposes (and to apply a form of "generational weighting"), as time progressed this argument receded in importance. It seems to me that seeking to differentiate between three different standards for the purposes of assessing the terms of a FRAND licence is unlikely to be illuminating, for precisely the reason articulated by Birss J. Most devices are multimode, in that they can operate in a 4G, 3G or 2G environment,[107] but will default to the higher standard (because that

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[103] ETSI IPR Policy at clause 15.12.

[104] During the course of the proceedings, I sought to get a sense of what these Standards looked like. Counsel for both sides very helpfully sought to assist, but production of all of the Standards is not practicable and extracts not particularly helpful. The fact is that these standards are *(i)* vast in size, *(ii)* highly technical in nature, *(iii)* in multiple documents and *(iv)* subject to a process of iterative development and evolution. I am therefore not even going to begin the impossible task of listing the relevant documentation: but this does provide some insight into the difficulty of tracking and numerating SEPs declared to a Standard. That is an issue to which I will be reverting.

[105] At [6].

[106] "Wideband Code Division Multiple Access", for those who want to know.

[107] The same is true of 5G, but that is a technology that was only marginally addressed before me.

provides higher functionality) and only use a lower standard where there is no higher standard available because of coverage. As Apple put it:[108]

> "…Early generations of cellular technology offered things which simply were not available before: 2G brought mobile telephony to the masses for the first time; while small amounts of data could be transferred over a 2G cellular connection, it was not until the advent of 3G that mobile devices were able to exchange substantial quantities of data at useable rates such that certain features of the iPhone could be made available over the cellular network. Later cellular generations have replaced earlier cellular technologies and offered new efficiencies."

97. Apple further accepts – and I did not understand Optis to dispute this – that Apple require a licence to any valid and claim essential 2G and 3G SEP that it is using in respect of its 4G "multimode" devices.[109] In short, Apple Handsets will require a licence in respect of SEPs declared to any of these Cellular Standards.

98. The question of **5G** – the fifth generation cellular network that is increasingly prevalent – did not arise very much for discussion in the course of the trial. This was for the reasons given by Mr Blasius:[110]

> "50. Optis' solicitors have asked me to comment on how rates for 5G have been addressed in my negotiations on the [Portfolio]. By way of background, the [Portfolio] contains 27 SEP families that read on to 4G and 5G. The [Portfolio] does not have any SEP families that read solely on to 5G. Certainly, implementers want to ensure that any licence they agree covers 5G. So, for example, [redacted] and [redacted] wanted to pay a lump sum and wanted patent peace. They therefore asked to have a clause giving them a licence to any of the [Portfolio] patents that read on to 5G. [redacted] for example, did not want to agree a deal only for Optis to go and purchase some 5G SEPs and then have to negotiate a second licence with Optis. [redacted] took a similar position regarding 5G in their negotiations with us. In Optis' running royalty licences modelled on the Settled Licence,[111] the licensees are required to pay 4G multimode rates on any 4G devices (whether or not these devices are also capable of operating on 5G). In other words, the licence does not include a separate rate applicable to 5G multimode devices.
>
> 51. In terms of the value attributed to 5G, some implementers have claimed that Optis should change the 70:20:10 weighting used in the Birss Judgment[112] when calculating the 4G multimode device rate in Optis' offers. If this gets raised in a negotiation, I will say to the implementer that I do not agree for the following reasons. First, 5G is at a very early stage. LTE is the predominant standard, and 5G does not work without LTE. Some areas may have 5G coverage, but it is only in certain settings. Second, my understanding is that 5G is built on top of LTE. LTE was the fundamental step-change in innovation, and 5G is just small improvements on top. Third, I say that if their devices have at least 4G, they need to pay the 4G multimode rates. Implementers use 5G for positioning early on in negotiations but they move off it pretty quickly. They can see that Optis' value is in

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[108] Apple Opening/[102].

[109] Apple Closing (Round 1)/[280].

[110] Blasius 2.

[111] Optis developed various "shorthand" terms for the licences it was prepared to offer in negotiations. I will, in due course, explain exactly what Optis means when referring to "Settled Licences", the "One Third Rate" and the "True Birss Rate".

[112] I.e., Birss J's decision in *Unwired Planet* (First Instance). This division by reference to standard was not, ultimately, pursued before me. It is described later on in the Judgment, but is of marginal significance.

its LTE patents, which they need a licence to for their 5G multimode devices. To my knowledge, Apple [have] never raised 5G at all with Optis."

99. As I have said, 5G did not feature very much in the evidence before me, and I make no specific findings at all in relation to 5G in this Judgment. However, I also want to be clear that it may be appropriate, in order to ensure that future litigation is avoided, for the 5G question to be addressed in the terms of the court-imposed licence I am being asked to determine.

### (3) The obligation to declare

100. Clause 4 of the ETSI IPR Policy provides:

"4.1 Subject to clause 4.2 below, each MEMBER shall use its reasonable endeavours, in particular during the development of a STANDARD or TECHNICAL SPECIFICATION where it participates, to inform ETSI of ESSENTIAL IPRs in a timely fashion. In particular, a MEMBER submitting a technical proposal for a STANDARD or TECHNICAL SPECIFICATION shall, on a bona fide basis, draw attention of ETSI to any of that MEMBER's IPR which might be ESSENTIAL if that proposal is adopted.

4.2 The obligations pursuant to clause 4.1 above do however not imply any obligation on MEMBERS to conduct IPR searches.

4.3 The obligations pursuant to clause 4.1 above are deemed to be fulfilled in respect of all existing and future members of a PATENT FAMILY if ETSI has been informed of a member of this PATENT FAMILY in a timely fashion. Information on other members of this PATENT FAMILY, if any, may be voluntarily provided."

A "patent family", for these purposes, means "all documents having at least one priority in common, including the priority document(s) themselves. For the avoidance of doubt, "documents" refers to patents, utility models, and applications therefor."[113]

101. Where an "ESSENTIAL IPR" is brought to the attention of ETSI, then clause 6 of the ETSI IPR Policy applies:

"6.1 When an ESSENTIAL IPR relating to a particular STANDARD or TECHNICAL SPECIFICATION is brought to the attention of ETSI, the Director-General of ETSI shall immediately request the owner to give within three months an irrevocable undertaking in writing that it is prepared to grant irrevocable licences on fair, reasonable and non-discriminatory ("FRAND") terms and conditions under such IPR to at least the following extent:

- MANUFACTURE, including the right to make or have made customized components and sub-systems to the licensee's own design for use in MANUFACTURE;
- Sell, lease or otherwise dispose of EQUIPMENT so MANUFACTURED;
- Repair, use or operate EQUIPMENT; and
- Use METHODs

[113] ETSI IPR Policy at clause 15.13.

6.1bis **Transfer of ownership of ESSENTIAL IPR**

FRAND licensing undertakings made pursuant to clause 6 shall be interpreted as encumbrances that bind all successors-in-interest. Recognising that this interpretation may not apply in all legal jurisdictions, and Declarant which has submitted a FRAND undertaking according to the POLICY who transfers ownership of ESSENTIAL IPR that is subject to such undertaking shall include appropriate provisions in the relevant transfer documents to ensure that the undertaking is binding on the transferee and that the transferee will similarly include appropriate provisions in the event of future transfers with the goal of binding all successors-in-interest. The undertaking shall be interpreted as binding on successors-in-interest regardless of whether such provisions are included in the relevant transfer documents.

6.2 An undertaking pursuant to clause 6.2 with regard to a specified member of a PATENT FAMILY shall apply to all existing and future ESSENTIAL IPRs of that PATENT FAMILY unless there is an explicit written exclusion of specified IPRs at the time the undertaking is made. The extent of any such exclusion shall be limited to those explicitly specified IPRs.

6.3 As long as the requested undertaking of the IPR owner is not granted, the COMMITTEE Chairmen should, if appropriate, in consultation with the ETSI Secretariat, use their judgment as to whether or not the COMMITTEE should suspend work on the relevant parts of the STANDARD or TECHNICAL SPECIFICATION until the matter has been resolved and/or submit for approval any relevant STANDARD or TECHNICAL SPECIFICATION.

6.4 …"

102. The ETSI IPR Policy obliges ETSI members to use *pro forma* IPR Licensing Declaration forms. I was helpfully provided with three examples of these. These examples contained extremely wide declarations, whereby the member provided the clause 6.1 declaration "with reference to all ETSI STANDARDS AND TECHNICAL SPECIFICATIONS" and with reference to "any IPRs". The declaration states:

"…the Declarant hereby irrevocably declares that (1) it and its AFFILIATES are prepared to grant irrevocable licenses under its/their IPR(s) on terms and conditions which are in accordance with clause 6.1 of the ETSI IPR Policy, in respect of the STANDARD(S), TECHNICAL SPECIFICATION(S), or the ETSI Project(s), as identified above, to the extent that the IPR(s) are or become and remain ESSENTIAL to practice that/those STANDARD(S) or TECHNICAL SPECIFICATION(S) or, as applicable, any STANDARD or TECHNICAL SPECIFICATION resulting from proposals or Work Items within the current scope of the above identified ETSI Project(s), for the field of use of practice of such STANDARD or TECHNICAL SPECIFICATION; and (2) it will comply with clause 6.1 *bis* of the ETSI Policy with respect to such ESSENTIAL IPR(s)."

103. Although it is possible to limit the declaration by reference to specific Standards or projects and/or by reference to specific intellectual property rights (the form provides a series of option boxes), the fact is that a declaration can perfectly properly be made by reference to all Standards and in relation to all of that member's intellectual property

rights. That (in fact) is how the three examples that I have referred to were completed.[114] Obviously, this is a "blunderbuss" rather than "stiletto" approach to declaration.

104. Declarations are recorded in a database maintained by ETSI. This was described by Apple in the following terms in closing:[115]

> "194. For the purposes of this case, the ultimate source of all information used in SEP counting… – and the only source of such information – is ETSI's IPR declaration database (the **ETSI database**).
>
> 195. The ETSI database is a record of the declarations of essential IPR which have been made to ETSI – i.e., it is a collection of data submitted by proprietors of IPR in various ways to ETSI. Only information which IPR proprietors have chosen to submit is included in the database: ETSI does not, for example, make any attempt to scrutinise whether patents which are declared are valid, or whether they are [standard essential]."

### (4) The problem of over-declaration

105. Even without any "gaming" of this system, it is evident that the risk of over-declaration of patents is enormous and largely uncontrolled by ETSI. It is worth articulating what contributes to this trend towards over-declaration:

i) There is no scrutiny by ETSI of the patents declared as being essential to the standards promulgated by ETSI, whether of validity or essentiality.

ii) The standards themselves are complex and long: ascertaining whether a patent maps onto the standard and is essential is not straightforward, and the obligation is only to declare patents which might be essential.

iii) Equally, questions of validity can be difficult to take a view on and – again – the obligation is to declare patents which might be essential.

iv) The *pro forma* declaration forms reflect these uncertainties, and certainly facilitate – and I think actually encourage – over-declaration.

v) ETSI has no system for the "de-declaration" of patents – for instance, because they have expired or have ceased to be essential (or arguably essential) because the standard has changed.

106. Over-declaration is an attribute inherent to the system even assuming a membership that is playing by the rules and not "gaming" the system. Of course, "gaming" exacerbates matters, and cannot be excluded as a possibility. By "gaming", I mean consciously declaring patents that are not considered by the declarer to be potentially essential and/or valid. It is unnecessary for me to reach any views about "gaming". The attributes of the system that I have described are liable to result in significant over-declaration even if everyone is conscientiously playing by the rules. It was common

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[114] Meade J considered ETSI declarations in one of the earlier "technical trials" (Trial B) at [2021] EWHC 1739 (Pat) at [437] to [441]. I have drawn on this description, as well as the ETSI rules described. The various "technical trials" that preceded this Trial E are described further below. See, also, Apple Closing (Round 1)/[193].

[115] Apple Closing (Round 1).

ground that there was an over-declaration problem, although it is not possible to state with any particular reliability the extent of that problem.[116]

107. I am not suggesting that there are ways in which ETSI could, proportionately, tighten up the system to prevent over-declaration of SEPs. The fact is that the FRAND declarations that the ETSI system procures are of enormous economic benefit, and an aggressive filter intended to procure that only valid and essential patents were declared would very likely be counter-productive.

## D. DATA REGARDING THE STACK

### (1) Introduction

108. Optis placed a great deal of stress on the importance of not accepting Apple's denominator when considering Stack shares.[117] Apple's denominator – as we shall come to see – was a big number, and Optis' contention was that it was <u>too</u> big, and unfairly prejudiced those SEP Owners that had <u>above average</u> quality portfolios. The point is easy to understand:

i) Suppose a Standard that has declared to it 1,000 Standard Essential Patents, but that it suffers from chronic problems of over-declaration, such that 90% (or 900) of these so-called Standard Essential Patents are invalid, not essential, or both.

ii) Suppose two holders of portfolios of these 1,000 patents (*A* and *B*), each portfolio comprising 100 patents (or 10%). If each portfolio was "average", then the 90% over-declaration would broadly be the same in each: of *A*'s 100 patents, only 10 would <u>actually</u> be standard essential, but the same would be true of *B*'s portfolio. Thus, if the "value" of the stack was £1,000, then prorating that value by declaration (so that *A* and *B* each received £100) would not be unreasonable or unfair.

iii) A problem would arise if *A* had a far higher quality portfolio than *B*. Suppose – to take an extreme example – *A*'s portfolio comprised entirely standard essential and valid SEPs. In other words, *B*, and all the other portfolio holders, were over-declaring in the case of each and every patent in their portfolios. Giving *B* £100 – and *A* the same – would (according to Optis) be grossly unjust – and one can see the force of the point.

109. So, I accept the point in principle, and would only observe that its relevance turns upon the premiss that the SEP Owner seeking a FRAND Royalty (here: Optis) has a better than average quality portfolio. If that is not the case, or if that cannot be demonstrated, then the point loses a great deal of its force.

110. It is for precisely this reason that it is necessary to seek to understand how much information can reliably be gleaned regarding the Stack and the various "portfolios" of patents that have been declared to the Stack.

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116 <u>Stasik 1</u>/[127]; <u>Day 5</u>/pp.638 to 640 (cross-examination of Ms Mewes).

117 See [86]*ff* above on the abstract calculation of Stack share. See <u>Day 1</u>/pp.75*ff* for Mr Speck, KC's oral submissions in this regard.

## (2) The source of metrics

111. Neither party sought to contend that reliable data regarding the stack could be obtained directly from ETSI. It was common ground that the raw ETSI data was not useable.[118]

112. Both Apple and Optis relied upon data that had been, in some way, filtered or processed by a third party, of whom there are many.[119] Two that are of particular relevance for the purposes of this Judgment are **Innography** (relied on by Apple) and **PA Consulting** (relied on by Optis and, at times, but with diminishing enthusiasm, by Apple).

113. The reliance of each party on these data sources changed over time. Putting it broadly, Apple's enthusiasm for PA Consulting's data waned as its enthusiasm for Innography increased. By contrast, Optis (whose initial stance was that they did not need to rely on PA Consulting and saw little value in their work, preferring to rely on the expert evidence of Ms Dwyer) became increasingly reliant on data from PA Consulting, and correspondingly enthusiastic in defence of PA Consulting's data. The data on which Apple relied – from Innography – was the subject of attack by Optis.

114. The problem that I have is that whilst materials from both PA Consulting and Innography were adduced as hearsay evidence, generally under Civil Evidence Act Notices, I was presented with no-one from either PA Consulting or Innography to speak to this data. Of course, I will admit into evidence and take account of the data each side sought to rely upon. But in terms of attaching weight to this evidence, I consider that I must tread extremely carefully, for I am reliant, in understanding what this data signifies, not on the actual producers of the data (PA Consulting and Innography) but on what parties with a definite axe to grind (namely, Optis and Apple) had to say about it.

115. The other problem is that there was a significant amount of evidence suggesting that no third party study was going to be of any particular help. Mr Stasik said this:[120]

> "56. There are various third party studies available, which claim to analyse the relevant databases of 3G and 4G declared essential patents and identifying those declared patents which are "truly essential". I understand that these studies are going to be addressed in more detail by Optis' Technical Expert[121] and accordingly I will not deal with these in detail. What I would say is that from the point of licensing negotiations, as a general matter, I would not rely on them myself, and if I am negotiating on behalf of a party and my opposite number seeks to rely on them, I invariably dismiss them as not being reliable. There are three difficulties with these studies in my view.
>
> 57. First, they all give substantially different results and they do not agree with each other on the statistics. Secondly, they are either produced or sponsored by interested parties, so there is a question-mark over their independence. Thirdly, in many instances, the methodology used is not robust on its face. An exception to this, and something which I have heard discussed at SEP conferences in favourable terms, is David Cooper's paper entitled "*Evaluating Standards Essential Patents in Mobile Cellular*", which on its face

118 Apple Closing (Round 1)/[196].

119 Some – and I have no doubt there are others – are described in Apple Closing (Round 1)/[201] and [202].

120 Stasik 1.

121 This was Ms Dwyer, who was not called by Optis and whose evidence was abandoned by Optis in the circumstances described in [71]*ff* above.

seems to have involved a robust methodology with significant amounts of time per patent (11 hours on average) being devoted to the analysis, although I do note that this was sponsored by Ericsson."

116. With these general health warnings, I propose to consider first the evidence regarding PA Consulting and then the evidence regarding Innography.

**(3) PA Consulting**

117. It was Mr Blasius's evidence that data from PA Consulting was, at best, peripherally used in negotiating licences to the Portfolio.[122] That, as it seems to me, is nothing to the point: what matters (for present purposes at least) is not the extent to which this data was drawn upon in negotiations between SEP Owners and Implementers, but rather the reliability or otherwise of the data.

118. I had the benefit of two statements (one adduced by Optis and one by Apple, Ancha 1 and Ancha 2[123]) from a Ms Sireesha Ancha, a managing consultant at PA Consulting. This material was adduced as hearsay evidence, and Ms Ancha did not appear before me, so I could not ask her questions. Nevertheless, she provided extremely helpful evidence, as follows:

i) PA Consulting is a large technology, innovation and transformation consulting firm, part of whose business involves providing to the industry (for payment by way of subscription) patent essentiality reports. PA Consulting's employees are already familiar with ETSI's standards through their other work, and so producing reports based on that work is something of a natural evolution.

ii) Over time, PA Consulting has produced a series of reports on Cellular Standards, as follows:[124]

| Report | First Release Date | Latest Release Date |
|---|---|---|
| PA Consulting 2G Report | June 2003 | January 2009 |
| PA Consulting 3G Report | October 2002 | May 2015 |
| PA Consulting Cdma 2000 Report | April 2003 | February 2015 |
| PA Consulting LTE Report | September 2009 | September 2018 |
| PA Consulting LTE Addendum Report | July 2017 | September 2018 |
| PA Consulting 5G Report | November 2019 | December 2021 |

Figure/Table 3: List of PA Consulting reports

iii) According to a methodology that is set out in each report, a pool of engineers at PA Consulting at first seek to isolate all declarations to a particular standard.[125]

[122] Blasius 2/[49].

[123] Unlike most statements adduced in these proceedings, Ancha 2 did not follow on from Ancha 1. They are separate statements produced independently and without reference to each other. Nevertheless, I have elected to use the terms "Ancha 1" and "Ancha 2" rather than some alternative shorthand.

[124] Ancha 1/[13] and Ancha 2/[20] I omit reports referencing non-Cellular Standards.

[125] Ancha 1/[29].

This pool of patents is then reviewed, reviewers spending 1 to 2 hours per patent, and seeking to match it or read it onto the standard in question.[126] Patents are reviewed on a "portfolio blind" basis (my term).[127] The outcome in relation to a given patent determines the status of other members of that Patent Family.[128] Only English language patents are considered.[129] There are limits in terms of the universe of declared patents reviewed.[130] PA Consulting reviews only for essentiality and <u>not</u> validity.[131]

119. Ms Dwyer had a great deal to say about PA Consulting's work in <u>Dwyer 6</u>. She described PA Consulting processes in some detail, and made the following criticisms:

i) She considered the initial process of "patent counting" to be flawed,[132] going so far as to say that PA Consulting's process in regard to [redacted] was "an imbalanced and inequitable approach for a report that sets out to compare between companies the share each company has of all the patent families that PA Consulting Group have assessed as being essential".[133]

ii) She considered PA Consulting's use of the ETSI definition of Patent Family to be problematic.[134]

iii) She considered there to be flaws in PA Consulting's process for de-duplication, which "could lead to an increase in the estimated essentiality rate".[135]

iv) She pointed out that PA Consulting had only analysed around [redacted] of the declared patents.[136] Unreviewed patents were excluded from the analysis, thus effectively "reduc[ing] the [redacted] of the essentiality rate calculation performed by PA Consulting".[137]

v) She considered that PA Consulting's definition of essentiality was "potentially less stringent. The consequence of this requirement for essentiality is likely to be a higher rate of essentiality and more patents being assessed as essential."[138]

vi) She considered that PA Consulting's processes left certain Patent Families out of consideration.[139]

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[126] <u>Ancha 1</u>/[30] to [31].

[127] <u>Ancha 1</u>/[33].

[128] <u>Ancha 1</u>/[36].

[129] <u>Ancha 1</u>/[35].

[130] <u>Ancha 1</u>/[39].

[131] <u>Ancha 2</u>/[28].

[132] <u>Dwyer 6/[125] to [127]</u>.

[133] <u>Dwyer 6</u>/[127].

[134] <u>Dwyer 6</u>/[128].

[135] <u>Dwyer 6</u>/[132] and [133]. The quotation is from [133].

[136] <u>Dwyer 6</u>/[139].

[137] <u>Dwyer 6</u>/[140].

[138] <u>Dwyer 6</u>/[144]. See also <u>Dwyer 6</u>/[145], where she points out that PA Consulting in cases of doubt err on the side of caution, and in cases of doubt will label a patent as essential.

[139] <u>Dwyer 6</u>/[148]*ff*.

120. Ms Dwyer's conclusion was that the "essentiality rate estimated in the PA Consulting Reports is too high".[140]

121. I must be careful in attributing too much weight to Ms Dwyer's criticisms. She was not called as a witness, her evidence was effectively disavowed by the party originally intending to call her (Optis) and Apple treated her evidence like the curate's egg, good in parts. To the extent that Ms Dwyer suggested that PA Consulting's processes were not competent or robust, I reject those suggestions. It seems to me that Ms Ancha's evidence – and the fact that PA Consulting's work is paid for in the market – shows that the reports have value and are dealing with an intractable set of data in a reasonable way.[141]

122. But that, in a sense, is precisely the problem. Trying to reach a reliable conclusion on essentiality, given the mass of Patent Families in play, and given the difficulty of the exercise, means that PA Consulting's outcomes – which in my judgement were carefully done and in accordance with high standards – are likely to be enormously unreliable. They may very well be of value between parties to commercial negotiations (e.g., when buying a portfolio or seeking a licence)[142], but that will be in circumstances where the parties are factoring into a consensual process one fragment of information that will – to a degree they decide – be informative. That is very different from using the PA Consulting reports as actually determinative or partially determinative of an outcome in circumstances where one party (here: Apple) is disputing the value of the data and contending that there is a better way of doing things.

123. Such problems are magnified, not minimised, when one moves away from the Stack as a whole, and turns to a consideration of the quality of a sub-set of the Stack, namely the Portfolio. Granted that an assessment of the "quality" of the Stack – defining "quality" as a reference to essentiality only, and leaving out of account both validity and importance – is an intrinsically uncertain thing, because essentiality is not straightforward to determine. As the sample under consideration diminishes in size, so the inherent uncertainty increases. That is only in relation to essentiality, and leaves out of account both questions of validity and questions of importance. As to these:

i) It is unsatisfactory to leave questions of validity out of account.[143] The fact is that an SEP as an individual chose in action is only valuable if it is both valid and essential.[144] A qualitative approach to the Stack and to portions within the Stack only makes sense if both essentiality and validity are factored in. PA Consulting only considers the former.

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[140] Dwyer 6/[156].

[141] Apple weighed in with a series of criticisms of their own: see, for example, Apple Closing (Round 1)/[225]*ff*. The problem with these criticisms – just as with Ms Dwyer's "evidence" – is that they were never really tested in court, and constitute much more assertion than evidence.

[142] Although, as I have said, the evidence in support of the use of PA Consulting's data in the course of licensing negotiations was slight. Nevertheless, PA Consulting will not have gone to the lengths of producing its reports unless there was a market – and an obvious market is the provision of information regarding the "stack" to the market.

[143] As to this, see further Apple's submissions at Apple Closing (Round 1)/[256]*ff*.

[144] Indeed, it might well be said that validity is more important than essentiality. A non-essential, but valid, patent may still be infringed by any given Implementer. But an essential but invalid patent cannot be infringed.

ii) Questions of importance raise different questions. I can see a good case for regarding technical merit as an irrelevant factor, given that SEPs are important not because they are individually important, but because they further ETSI's promulgation of Standards, to which each and every SEP contributes.[145]

## (4) Innography

124. Innography's data did form a part of Apple's negotiating processes.[146] Ms Mewes described this in the following terms:[147]

"Apple initially draws data on the number of Declared Essential Patents that comprise both the prospective licensor's portfolio and the SEP Stack from information in declarations that is made publicly available through the ETSI website. Since 2018, Apple has accessed this data through a database provided by a company called Innography. The Innography database used by members of the Apple IP & Licensing Group is derived from the ETSI data of declared cellular SEPs…"

125. Ms Mewes further described the Innography data, and Apple's use of it, in the following terms:[148]

"47. …Apple calculates a prospective licensor's share of the SEP Stack from a database service from Innography that uses data from the ETSI website. For 4G, this calculation of the SEP Stack includes all patents (or patent families) that have been declared essential to 2G, 3G or 4G since the cellular chipsets in Apple iPhones support all three generations of standards. Apple began using the Innography database around 2018. A similar database was in use prior to 2018 but the Innography database offers greater data integrity and access to assignment histories for most major patent jurisdictions.

48. I note here that Innography is an online database that is "live", in the sense that its content is continually refreshed and upgraded. As such, static, point-in-time copies of the database are not accessible. However, on 25 February 2019 (the date these proceedings were initiated), Apple downloaded a copy of the Innography database…

49. I understand from having spoken and worked with Innography that Innography compiles data extracted from the ETSI database as to individual patents or patent applications (both of which are referred to as "assets" in the Apple licensing team) and/or families that are declared to a cellular standard or standards. The raw information in the ETSI database is not user-friendly: for example, taking a list of patent assets declared essential to a standard, any one of those patent assets might have also been declared essential to a different standard or section in a separate declaration; or both an issued patent and its corresponding application(s) might be declared in different declaration forms. It is difficult, therefore, to extract accurate counts of declared cellular SEP assets or families from the data as formatted in the ETSI database. It is my understanding that Innography obtains more accurate counts of entities' declared cellular SEPs by processing the ETSI data further, for example, by de-duplicating multiple records identifying the same asset (e.g. from different declarations of a patent and its corresponding application(s) or

[145] I appreciate that this is a conclusion to which Apple's expert, Professor Shapiro, would take exception to. I will come, in due course, to my reasons for rejecting Professor Shapiro's views on this point.

[146] Apple was at pains to assert that it was open to approaches of their negotiating counterparties, and would not insist on the "Apple" approach. The fact remains, however, that it is not possible to reach any conclusions as to how such counterparties negotiated, because they did not give evidence before me.

[147] Mewes 1/[30].

[148] Mewes 1.

different declarations of the same asset to different standards), and cross-checking the patent data from the ETSI database with that in public patent databases available from organisations such as the European Patent Office (EPO) to identify individual patents within such families, their owners and their status, such as whether they are applications or granted patents or whether they are still in force or have been abandoned or have expired.

50. There are different approaches to assigning individual patents to a patent family. I understand that Innography allocates patents as per the EPO's INPADOC extended patent families designation. Assets within an INPADOC extended patent family cover similar, though not necessarily the exact same, technical content and have at least one priority document (directly or indirectly) in common with at least one other member of the family.

51. Apple uses a version of the Innography database that it commissions to enable a further filtering of the declared cellular SEPs by reference to the relevant standard, as well as the technical specification, to which they are declared to be relevant (irrespective of whether they are actually essential)."

126. Whereas Innography's work is generally available to those who pay, the specific version commissioned by Apple (referred to above in paragraph 51 of Mewes 1 and highlighted by me) is not generally available and is bespoke to Apple and for Apple's own use. This, bespoke, version is referred to as the **Apple Look-Up Table**. (There was a dispute between the parties as to precisely how the (proprietary) Apple Look-Up Table related to the Innography data generally available to the paying public. That is a dispute that is immaterial to the points in issue in these proceedings – in particular for the reason given in paragraph 127(ii) below – and I decline to engage further in this point.)

127. Throughout the case, Optis attacked the Innography data as a "black box", a "secret…tool to count declarations".[149] I do not consider this description of the Innography data to be right:

i) In the first place, only the Apple Look-Up Table was proprietary to Apple, and otherwise Innography – like PA Consulting – sold its services to the market, and not just to Apple.

ii) Secondly, just as with the PA Consulting data, what matters is not the extent to which Innography was or was not used in negotiations, but the extent to which it discloses reliable data for use by me in resolving the FRAND Question.

128. I will come to Optis' attack on the reliability of the Innography data shortly. Before I do so, I note that the Innography data – or at least, the Innography data relied upon by Apple – is far less ambitious in terms of what Innography were trying to achieve than the PA Consulting data relied upon by Optis. The Innography data simply attempts to identify the number of declarations to a particular Standard, without stating any view as to essentiality or validity (or, for that matter, importance). The record discloses a number of figures, which I set out in the table below:

[149] Day 1/p.7.

| Date the data was obtained | Description of the stack being measured | Number of declared SEP families |
|---|---|---|
| April 2018 | Number of active and inactive declared SEPs to the Cellular Standards recorded by Innography | 26,600[150] |
| February 2019 | Number of active and inactive declared SEPs to the Cellular Standards recorded by Innography | [redacted][151] |
| February 2019 | Number of active SEPs declared to the 4G Cellular Standards recorded by Innography | [redacted][152] |

Figure/Table 4: Stack size according to Innography

It is important to be clear that none of these figures is to be preferred over any of the others. However, when carrying out calculations – for instance of "Stack share" – it was not possible (and would have been very confusing) for multiple figures to be used in calculations. Thus, Ms Gutteridge used the third of these figures [redacted] in her "Stack share" calculations. There is no particular "magic" in any particular figure: but it is important to appreciate which figure is being used in the calculations.

129. Optis made a series of *ad hoc* challenges to this data. By *ad hoc*, I mean that Optis led no evidence seeking to challenge the Innography data, but instead, opportunistically, cross-examined Ms Mewes and Professor Henkel on the reliability of the Innography data.[153]

130. Entirely unsurprisingly, Ms Mewes and Professor Henkel accepted the errors that were put to them in cross-examination by Mr Moody-Stuart, KC. But no-one on Apple's side was asserting that Innography was a perfect, error-free, database. Asked about Apple's use of data, Ms Mewes said this:[154]

| | |
|---|---|
| **Q (Mr Moody-Stuart, KC)** | I am going to ask you about Apple's use of the Innography database. That is used in negotiations as the foundation of the Apple methodology, is it not? |
| **A (Ms Mewes)** | It is the tool we use to look at declaration share. There are other tools. We would certainly consider other data points, but it is sort of what we use to formulate share. |
| **Q (Mr Moody-Stuart, KC)** | It is the source of the declared essential data that Apple uses to calculate its RRP?[155] |
| **A (Ms Mewes)** | Generally, yes. |

[150] Apple Closing (Round 1)/[207].

[151] Apple Closing (Round 1)/[207].

[152] Apple Closing (Round 1)/[207].

[153] See Day 6/pp.1042*ff* (cross-examination of Ms Mewes); also, to similar effect, the cross-examination of Professor Henkel.

[154] Day 6/p.1042 to 1043 (cross-examination of Ms Mewes).

[155] "RRP" stands for "Royalty Reference Point". It is explained further when we come to Apple's framework for calculating royalties payable to SEP Owners.

| | |
|---|---|
| **Q (Mr Moody-Stuart, KC)** | If a licensor tells you the number of declared essential patents they claim, do you rely on that, or do you check using Innography? |
| **A (Ms Mewes)** | We would probably look at both. I think we see in this case that their number was higher that what Innography was showing, so we took their number. |
| **Q (Mr Moody-Stuart, KC)** | But in looking at the denominator of the stack, the accuracy of Innography data is absolutely fundamental to Apple's approach in calculating the RRP? |
| **A (Ms Mewes)** | Yes and no. It is obviously the tool we use to get share. We acknowledge that there are limitations to this data. It is a point that is discussed quite extensively in negotiations. People come to us with different data. I think we saw one example earlier, PA Consulting. We see people come to us with IPLytics. We see Cyber Creative. There are all kinds of studies. They have different issues and shortcomings. This just happens to be the tool we used, but we are absolutely open to discussing that point and acknowledging the limitations of the data that is there. |

And, again in re-examination:[156]

| | |
|---|---|
| **Q (Mr Nicholson, KC)** | Ms Mewes, you were discussing with my learned friend Mr Moody-Stuart the consequences of any errors in the Innography database and I want you to consider the situation where you were negotiating with a counterparty and the counterparty says that it has 2% of the stack and your Innography database says it has 1% of the stack. What would the parties do in those sort of circumstances? |
| **A (Ms Mewes)** | They would tell us most likely that they believed that their share was under-representative of their contribution. |
| **Q (Mr Nicholson, KC)** | And what steps would Apple take? |
| **A (Ms Mewes)** | We would look at whatever evidence they wanted to provide – so, sometimes, that is alternative data, so that could be similar to Innography, something like IPLytics; it could be studies like a PA Consulting Study, that has happened on occasion. It could be articles, things like that, and we would take that into consideration in applying the adjustment factors. |

131. I have stated that I consider that the cross-examination of Ms Mewes and Professor Henkel in relation to specific and granular errors in the Innography database by Optis to have been "opportunistic". The ostensible reason for this cross-examination was that these were the only witnesses that Optis could cross-examine on the point. I reject that suggestion as entirely disregarding the process that I put in place to enable each party

[156] Day 6/p.1090 (re-examination of Ms Mewes).

to test – before trial – the positive case put forward by the other side and to identify the witnesses they wanted called. The size of the denominator, as determined by Innography data, is an aspect of Stack valuation that has consistently been deployed by Apple, and Optis has – for no doubt its own reasons – failed to engage save by way of surprise attack.

132. I consider that there is considerable force in Apple's criticism of Optis' approach, as stated in Apple Closing (Round 1):

> "210. …Optis' approach to challenging the denominator figures relied upon by Apple, and the reliability of the Innography data, is puzzling and inappropriate. Having elected to lead no evidence to challenge the accuracy of the denominator figures or the reliability of the Innography database, Optis instead:
>
> a) Had wide access to the Innography Database Extract (in relation to which it made most of its criticisms) to comb for errors for over six months, and then had access to the live data base since the beginning of April (initially for ten members, then all legal representatives, amounting to 20+ lawyers) and put numerous database extracts into the cross-examination bundles of Ms Mewes and Professor Joachim Henkel: the witnesses ability to provide useful assistance to the Court was hampered because they were given no real advance notice of the issues which they would be asked about in relation to those extracts; and
>
> b) Put forward a new case in closing based upon a range of hitherto unexplored materials in the bundles, which had been deployed for other purposes, asserting that they show that the correct denominator for Declared Essential Patents in the 4G stack is lower than that indicated by the Innography database.
>
> 211. Optis had every opportunity to adduce expert evidence:
>
> a) to provide a properly reasoned and testable basis for an assertion that the 26,000/[redacted] figures were too high.
>
> b) to identify errors in the Innography database and explain whether they were material; or
>
> c) to put forward alternative sources of data – IPLytics was frequently referred to and used by Mr Stasik and Optis had several members of staff of Patently ready to provide expert evidence – regarding the size of the Declared Essential denominator;
>
> but did none of these things.
>
> 212. Taking stock, if the Court considers that a Declared Essential approach to stack share is appropriate, it must make a factual finding as to what that stack share is. Apple has asserted a figure based on the Innography database, and Optis has challenged this material only in a very limited way despite having the opportunity to do so. The Court should afford little if any weight to Optis' criticisms when they are lacking in evidential support, and where Optis has not taken the opportunity to lead expert evidence to provide such support."

133. I conclude that the Innography figures are broadly speaking reliable.[157] Of course I accept – as Optis' cross-examination shows – that there are errors in the Innography database. As Apple note,[158] "it is hardly surprising that a provider who sets out to "clean up" vast quantities of such data is not entirely successful in that endeavour. The mere identification of some errors in the data is not a good reason to discount the Innography database…". I agree. No evidence has been adduced of any structural unreliability of the Innography database, and the question addressed by the database is – inevitably – more straightforward, and so less prone to error, than the more sophisticated PA Consulting approach, which seeks to identify declared <u>and</u> essential patents.

134. Accordingly, provided some caution is used, I consider that Innography can constitute a proper source to be used to calculate a FRAND Royalty and to answer the FRAND Question. The devil, of course, is in the detail, and such use must be qualified and careful because of the likelihood of error and the possibility of material error.

### (5) PA Consulting versus Innography and other ways of "carving up" the data

#### *(a) PA Consulting versus Innography*

135. I have concluded that <u>if</u> the FRAND Question is to be resolved by reference to data concerning Stack proportions (a question that I address in Part V), then Innography data is to be used in preference to PA Consulting data. It is appropriate that I set out my reasons for reaching this conclusion now.

136. The reason is <u>not</u> because I consider Innography data to be "better" than PA Consulting data. I have concluded that both providers are reliable and are doing their best to provide a useful commercial service. Rather, for reasons I have given, PA Consulting seeks to produce data that is altogether more ambitious – and intrinsically more unreliable – than the data being produced by Innography:

i) The number of SEPs <u>declared</u> to a particular standard – without reference to validity or essentiality – is bound to be more reliable than more qualitative assessments which seek to exclude from the Stack (and so from the denominator figure) declared SEPs that are invalid or not essential. That is trite, simply because the process that seeks to exclude the invalid and the not essential involves a second, qualitative, assessment (i.e., are declared SEPs valid and essential?) <u>on top of</u> a primary quantitative stage (i.e., how many SEPs have been declared, <u>irrespective</u> of validity and essentiality?).

ii) Of the declared patent data sources, Innography is the more reliable. Innography is, for example, more up to date; and its very lack of ambition (in contrast to PA Consulting) is, in this case at least, a real virtue. That is not to say Innography is absolutely reliable. It is not;[159] and that is a matter I will bear in mind as appropriate.

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[157] That, unsurprisingly, was Apple's contention: <u>Apple Closing (Round 1)</u>/[214]*ff*.

[158] <u>Apple Closing (Round 1)</u>/[215].

[159] There is some additional comfort to be drawn from the point made by Apple that Innography's results in terms of number of declarations to standards are in line with the outputs of other data sources: see <u>Apple Closing (Round 1)</u>/[241]*ff*.

iii) PA Consulting imports a subjectivity or judgemental element to the assessment of SEPs that renders outcomes less reliable. This is not a criticism of PA Consulting, but merely a consequence of what PA Consulting are trying to achieve. Thus:

*Validity*

a) PA Consulting does not even attempt to filter out invalid patents.[160] Of course, it can be said that where a patent has been granted, a presumption of validity can arise. But that ignores patent applications (which can be declared to a Standard as SEPs) where no such presumption can pertain. Even as regards granted patents any presumption can only be a weak presumption. Intellectual property lawyers the world round know that validity challenges to granted patents are an everyday occurrence; and that such challenges often succeed. So there is a fragility here.[161]

b) So, making judgements about levels of validity in the stack is an extremely unsafe thing to do – which is presumably why PA Consulting do not do it. Suggesting, on this basis, that the Optis Portfolio is in some way "better than average" in terms of validity is a point that cannot sensibly be made. Optis, clearly recognising this, did not press very hard the suggestion that the Portfolio was "better than average" in this regard, although the suggestion was made. For the reasons given, I regard the point as entirely untenable: and, as shall be seen, there are other, separate, reasons why the point is a bad one.

*Essentiality*

c) Filtering for essentiality was an exercise undertaken by PA Consulting, but it is quintessentially a judgemental exercise, where ultimately it is the courts of relevant jurisdiction that have the last word.[162] In short, assessed essential (where judgment is applied to say whether a declared patent is essential) is altogether different from declared essential (where all that is being ascertained is what has been declared)[163]

d) So, as with validity – but for different reasons – making a judgement about levels of essentiality in the stack is unreliable and unsafe. Seeking to make a comparative judgement – that a portfolio comprising a part of the stack is better or worse than "average" is even more so.

137. My conclusion is that – accepting entirely that PA Consulting seeks to do a careful job – for the purposes of a judicial determination of what is fact, the PA Consulting/Optis approach to determining Stack size (or the figure for the denominator) is not to be relied upon. PA Consulting's focus, away from what has been declared (a quantitative

[160] See [123(i)] above.

[161] See, further, Apple Closing (Round 1)/[256]*ff*

[162] Apple Closing (Round 1)/[250] calls this a "wholly subjective exercise". That overstates matters: the question of essentiality is not wholly subjective. Rather, there is the possibility, in many cases, for there to be a difference in judgement, where skilled technical persons can reasonably disagree on the question of essentiality.

[163] Apple Closing (Round 1)/[252(b)] and [254]*ff*.

assessment), on to the quality of the patents in a Stack (a qualitative or judgemental question) imports into the assessment enormous uncertainties which are liable to render any analysis based on this data unreliable.

138. I therefore do not consider Apple's figure for the denominator to be too high. Of course, I appreciate that it includes only declared patents, without any qualitative assessment; and I accept that were a reliable qualitative assessment to be possible, that might well be preferable. But an unreliable qualitative assessment – especially where even the magnitude of the error is unknown – is not (in my judgement) an acceptable metric to use when seeking to answer the FRAND Question. It will be necessary to bear in mind the limitations of the Innography data – as well as questions of its own reliability – when seeking to answer the FRAND Question. At this stage, all I am deciding is that I cannot use the PA Consulting data as a metric in answering the FRAND Question.

***(b) Other ways of carving up the data***

139. During the course of closing submissions, the court was presented by Optis with a fresh approach to analysing the PA Consulting data,[164] which was not a part of Optis' pleaded case. I can deal with these submissions very quickly. In the first place, I have exactly the same concerns about data reliability that I have described in relation to data that Optis sought to deploy in support of its pleaded case.

140. In the second place, the parties have been given ample opportunity to set out their answers to the FRAND Question in the pleadings.[165] Neither party can be allowed to advance a new case in the course of closing submissions. Here, the party seeking to make a new case was Optis.[166] To permit Optis to do so would be unfair both to Apple and to this court, which needs to determine the difficult questions before it after a due process. Absent amendment, the parties are stuck with the cases pleaded in their position statements.

141. I should, however, make clear that I do not regard myself as obliged simply to pick one of the various different answers to the FRAND Question articulated by one or other of the parties. As I have made clear to the parties throughout the proceedings, I consider it to be open to me to "cherry-pick" from the various data and arguments presented to me by the parties and triangulate between them, so as to reach an outcome which, although based only on the evidence before me, represents an outcome none of the parties actually contended for.[167] Of course, I recognise that such triangulation must be undertaken carefully, and with reason. I shall, throughout the course of this Judgment articulate why I am rejecting certain contentions, and why I question the weight of certain evidence.

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[164] Optis also relied on other materials (e.g., an EC Landscape Study, in fact introduced into the record by Apple). I have already noted that there was insufficient material to enable me properly to assess either the PA Consulting data or the Innography data, with the result that I will have to tread carefully when considering Innography (having rejected the utility of PA Consulting data for the purposes of this Judgment). The reliability question is all the more difficult when additional material – not foreshadowed in the pleadings – is simply thrown at the court.

[165] I refer again to the process described in Part III: Section A above.

[166] See Apple Closing (Round 1)/[244]*ff*. I agree with the submissions here advanced.

[167] As to this, see *2 Travel Group plc v. Cardiff City Transport Services Limited*, [2012] CAT 19 at [395]*ff*.

## E. NATURE, STRUCTURE AND QUALITY OF THE PORTFOLIO

### (1) Mr Blasius' description

142. I have described the Portfolio already, but given the importance of the question, it is as well to set out how Mr Blasius himself described the makeup of the Portfolio:[168]

> "The portfolio is made up of:
>
> a) SEPs owned by Optis Cellular LLC comprising patents originating from LG and Ericsson, and acquired under a Master Sale Agreement…with OCT concluded in 2014.
>
> b) SEPs owned by Optis Wireless Technology LLC comprising patents originating from Panasonic and Ericsson and acquired under [a Master Sale Agreement] with OWT concluded in 2013.
>
> I refer to these collectively as the "**Optis Portfolio**".
>
> c) SEPs owned by Unwired Planet ("**UP Portfolio**"): comprising patents originating from: (i) Openwave, a predecessor company to Unwired Planet, (ii) Ericsson, which were acquired under a [Master Sale Agreement] between Ericsson and Unwired Planet concluded in 2013, and (ii) Samsung, which were transferred to Unwired Planet in 2016 as part of a settlement of UK litigation against Samsung. Unwired Planet is made up of Unwired Planet LLC and Unwired Planet International Limited, and the ownership of the UP Portfolio is split between these companies."

143. Mr Blasius referred to all of these SEPs as the **PO Portfolio** ("PO" standing for "PanOptis"). I am, for the purposes of this Judgment, going to use the terms I have defined earlier[169] in preference to Mr Blasius' terms. My "Portfolio" is synonymous with Mr Blasius' "PO Portfolio". However, Mr Blasius' terms do crop up in his evidence and elsewhere, and where they do, I use them as Mr Blasius has defined them.

144. Generally speaking, it will be appropriate for me to refer to the Portfolio (or PO Portfolio) without differentiating between the SEPs within that Portfolio. However, there will be times when it will be necessary to draw distinctions, and it is as well to explain these now:

   i) The UP Portfolio and the terms of a FRAND licence to Huawei were before Birss J in the *Unwired Planet* litigation. Although, of course, the identity of the implementer is different (Apple instead of Huawei) and the PO Portfolio wider than the UP Portfolio (comprising additionally the Optis Portfolio), the fact that part of the Portfolio before me had already been considered in previous litigation before this court is significant, in two respects:

      a) First, the judgment in *Unwired Planet* (First Instance) informed Optis' negotiating approach. It will be necessary to consider this in detail below, but a flavour can be gained from <u>Blasius 2</u>:

      > "39. In 2017, a few months after the UK *Unwired Planet* judgment was given, Optis amended its rate structure to be generally in line with the Birss

[168] <u>Blasius 2</u>/[19].

[169] See [25] above.

framework. In this explanation, I only deal with the Major Market(s)[170] rates for the [Long Term Evolution ("LTE") or "4G"] SEPs in the PO Portfolio, but the same methodologies were applied to the rates for Other Markets[171] where the rates are lower in accordance with the Birss Judgment. The rates for 3G and 2G were calculated using the same methodology and scaling technique.

40. Optis started from the position that [Birss J] had found 6 of Unwired Planet's 19 LTE declared SEPs to be truly essential,[172] which Optis equated to roughly a third of the UP Portfolio. Optis applied this "one-third essentiality" finding to the remainder of the PO Portfolio (i.e. the Optis Portfolio and the Samsung-derived patents in the UP Portfolio[173]) of 87 declared LTE SEP families. Using that one-third essentiality rate, the whole PO Portfolio would have around 29 truly essential LTE patents…Scaling [Birss J's] 0.052% LTE rate for the "truly essential" patents to this, Optis came up with a royalty rate of approximately 0.3% for LTE for the whole of the PO Portfolio. Optis also applied the same 4G:3G:2G weighting of 70:20:10 for multimode devices as in [220] of the Birss Judgment. It made sense to me because it appeared to be a good approximation of the relative importance of the Standards at the time.

41. This royalty rate, which Optis terms the "**Birss One-Third Rate**"[174] was offered to everyone Optis were negotiating with at that time, including Apple. Ray Warren and Tom Miller, Optis' then Head of Licensing, went on a "roadshow" to present this extrapolation to implementers and offer the Birss One-Third Rate. I was not directly involved in the initial modelling of the Birss One-Third Rate but I understand the methodology behind it because at later dates I worked with Ray Warren to give these presentations. Whenever we presented the Birss One-Third Rate, we made it clear that due to the patent selection process, the Optis Portfolio had a higher essentiality rate than the one-third calculation and reserved our right to increase the offer, if necessary."

b) It was suggested (in particular by Optis[175]) that the decisions of Birss J in *Unwired Planet* (First Instance) might properly inform my own determination of the FRAND Question. I will, of course, consider in detail this methodology articulated by Optis, but it is appropriate that I sound at once a note of caution, which I expand upon in due course.[176] Apple was not party to the *Unwired Planet* litigation, and many of the arguments advanced before me in this trial were never articulated before Birss J. Furthermore, the evidence I have heard was not the evidence heard by Birss J. Even if there were a close similarity in argument and

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[170] As Mr Blasius explains, this is a term used in *Unwired Planet* (First Instance) at [587].

[171] Another term used in *Unwired Planet*: see [587].

[172] The specific finding relied upon by Mr Blasius is [207] of the *Unwired Planet* judgment: see footnote 12 of Blasius 2.

[173] As Mr Blasius explained (Blasius 2, footnote 13), "[t]hese are the 10 declared LTE SEP families acquired from Samsung by Unwired Planet as part of the settlement and which were not part of the litigation against Huawei or the resulting Settled Licence finalised by [Birss J]".

[174] Which term I adopt: without, of course, in any way making any finding as to essentiality in the portfolio.

[175] See Optis' "Methodology 1 – Scaling from Unwired Planet" as set out in the Optis Position Statement/[14]*ff*.

[176] See Part IV: Section M below.

evidence between these proceedings and the matters heard and determined by Birss J, Birss J's decision is <u>not</u> one of <u>law</u> (which would, of course, be highly persuasive, but not binding), but one of <u>fact</u> giving rise to no estoppel binding on Apple.

ii) The [redacted] in the Optis Portfolio constitute a "special case" in the context of these proceedings because (as Mr Blasius explains[177]) [redacted]. More specifically, Mr Blasius' evidence was as follows:[178]

[redacted]

Again, this is significant in two respects:

a) First, as Mr Blasius noted in his evidence, this affected Optis' negotiations with Apple.

b) Secondly, and as I will come to describe more fully, [redacted] are relevant to the FRAND exercise I am conducting in this Judgment. The question is whether [redacted] should fall within the licence the terms of which I am being asked to determine. [redacted] and that is again a matter I will be returning to.

## (2) The "quality" of the Portfolio

### *(a) Introduction*

145. If a qualitative assessment were to be made in relation to Stack share, this would have a bearing on the usefulness of the Innography data. Optis' position was that the Portfolio was of a superior quality to other portfolios, and so was better than average. To revert to the hypothetical example used at [108] above, Optis' contention was that the Portfolio would be entitled to higher royalties because it was of better quality. Accordingly, it was wrong to take a purely quantitative approach to Stack share. If that is right, then whilst it <u>may</u> be necessary to reach a view about the quality of the <u>overall</u> stack, it is <u>certainly</u> necessary to reach a view about the quality of the Portfolio. I have already set out my reasons for preferring the quantitative metrics of Innography over the qualitative metrics of PA Consulting,[179] but it may be that this argument renders the Innography data peripheral in relevance. Before considering how far the data before me permits a "qualitative" approach, the question arises as to whether Optis' argument –

[redacted]

[redacted]

[179] See Part IV: Section D(5)(a) above.

that the Portfolio is above-average in quality – is sustainable. It is this question that I seek to resolve in these paragraphs.

146. Both sides accepted – as is obvious – that a patent-by-patent review of the Portfolio (let alone the Stack of which the Portfolio forms a part) is impossible. It may be that a "sampling" approach – assessing in detail specific patents provides the answer, and I consider below the significance (or otherwise) of the four "technical trials" that preceded this trial.[180] It also may be the case that litigation outcomes in other jurisdictions assist, and some evidence on this was adduced before me, which again I consider below.[181]

147. This section of my Judgment is concerned with whether the manner in which the Portfolio was constructed and its other characteristics assist in either "upgrading" or "downgrading" the Portfolio in terms of its quality. In other words, in comparison with the universe of SEPs declared to the Stack, can it be said that the Portfolio is of higher or lower quality? Apple contended that the Portfolio was "below average" and should, in qualitative terms, be <u>downgraded</u>. Optis unsurprisingly disagreed and contended that the Portfolio was qualitatively better than average.[182] The evidence in this regard developed considerably over time, and I propose to set it out in that way in the following paragraphs. I shall begin with the evidence in Optis' witness statements.

### *(b) Evidence from Optis' witnesses*

#### *(i) Mr Blasius*

148. Mr Blasius used the "high quality" of the Portfolio as a "key point I make in all my negotiations with licensees".[183] In <u>Blasius 2</u>, he said this:

> "21. I was not working for PanOptis when the OWT and OCT MSAs were negotiated and agreed. It was my understanding that a rigorous selection process had taken place to choose the patents transferred under these MSAs. I cannot remember if I was told about this selection process when I first joined Marconi in 2016. However, when I became Head of Licensing for PanOptis in 2018, I certainly knew about the selection process for these patents. [redacted] I also had more detailed discussions on the selection process with Leslie Ware and Mark Born in March/April 2020 as part of my preparation to give evidence in the EDTX case.

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[180] See Part IV: Section F below.

[181] See Part IV: Section F below.

[182] In relation to some parts of Optis' evidence, notably that of Mr Born, Optis suggested that his evidence was being used as a "shield" against Apple's arguments (i.e. in opposition to the contention that the Portfolio was of below average quality) and not as a "sword" (i.e. in support of the contention that the Portfolio was of above average quality). That is not a tenable distinction. As will be seen, Mr Born made assertions about quality which cannot sensibly be categorised in this way. However, Apple did make the point (<u>Apple Closing (Round 1)</u>/[286]) that Optis had never advanced a positive case for an upwards adjustment on the basis of quality. I am pretty reluctant to allow pleading points to prevail unless unfairness results, and will consider what the evidence shows, before deciding what is and is not open to either party to contend.

[183] <u>Blasius 2</u>/[23].

22. I had always assumed that the Samsung-derived patents had also gone through some kind of selection process too. However, it was only when I spoke to Mark Born as mentioned above that I came to know just how stringent that process had been. I am told by Optis' solicitors that Mark Born will give evidence on the selection process between Optis, Ericsson, LG, Panasonic and Samsung.

23. The selection processes are a key point I make in all of my negotiations with licensees to emphasise why Optis believe that the [Portfolio] encompasses SEPs of high quality, and it is one reason I am so confident about the quality of the [Portfolio]."

149. In addition to the selection or construction of the Portfolio (a point to which I will be returning), [redacted][184] Mr Blasius also relied upon litigation outcomes,[185] an aspect considered further below.[186]

150. In cross-examination, Mr Blasius's evidence about the selection process the Optis Portfolio underwent was unimpressive:

i) He actually had no first-hand knowledge of the process at all:[187]

"I do not know what the selection process was. I am not aware of the selection process that occurred in Unwired Planet. What I know is that there was a rigid selection process within the Optis Portfolios that was intended to find high-quality patents and in context with that key point we have also been to claim chart those patents and prove up those patents in other litigation or other licencing discussions that we have had."

ii) He was asked exactly what he meant in paragraphs 22 and 23 of Blasius 2, quoted above, when he described the portfolio as "high quality".[188] The following exchange is worth setting out in full:[189]

| | |
|---|---|
| **Q (Mr Turner, KC)** | …by "high quality", there in paragraph 23, do you mean "high quality" in the sense of essential and valid, so that they will stand up in court? Is that the implication that you are giving to counterparties – valid and essential? |
| **A (Mr Blasius)** | High quality, I think, encompasses just quality around the patent. Whether it could be claim charted to the actual standard. I think there are validity concerns and from a litigation perspective whether they, when you say, "stand up in court". |
| **Q (Mr Turner, KC)** | Validity you say is a dimension as well? |

[184] See, for example, Blasius 5/[28].

[185] Blasius 5/[30].

[186] See Part IV: Section F below.

[187] Day 2/pp.221-222 (cross-examination of Mr Blasius).

[188] Day 2/pp.226*ff* (cross-examination of Mr Blasius).

[189] Day 2/pp.231*ff* (cross-examination of Mr Blasius).

| | |
|---|---|
| **A (Mr Blasius)** | Validity? Do they check validity? I do not know what was in the process on validity. |
| **Q (Mr Turner, KC)** | But not knowing… |
| **A (Mr Blasius)** | …High quality is just encompassing were they quality patents that we were receiving. |
| **Q (Marcus Smith J)** | Mr Blasius, this is actually quite important…What do you understand by “high quality”? What to you is a high quality patent as opposed to a low quality patent? |
| **A (Mr Blasius)** | From my understanding of a high quality patent, from a standard essential patent, does it read on the standard? Does it, in the review process – I am not a technologist, my Lord. So from my perspective I look at it from an essential standpoint of is it essential to the standard, and in the context of licensing negotiations it is about your portfolio of patents. |
| **Q (Marcus Smith J)** | Right. I think I have found the bit in Mr Born’s statement…you will see there paragraph 17, and please read it to yourself. Do not read it out, because it is blue and confidential.[190] |
| | [A pause to read Born 1, paragraph 17, which is set out below at 155 below.] |
| **A (Mr Blasius)** | Okay. |
| **Q (Marcus Smith J)** | You see in the unconfidential bit at the end Mr Born says: “I believe that the quality of the Samsung patents which we ended up with overall was very high”. So he is using the same language that you are using about “high quality”. |
| **A Mr Blasius)** | Yes. |
| **Q (Marcus Smith J)** | I do not want you to speak for Mr Born. I want you to speak for yourself. But when you use the phrase “high quality” of a patent, what actually do you mean? |
| **A (Mr Blasius)** | From a standard essential patent, whether or not it maps to the standard. |
| **Q (Marcus Smith J)** | So are you saying that you would say a high quality patent is one that maps on to the standard, but actually, it is as plain as a pikestaff to any patent lawyer that it is invalid? That is a “high quality” patent, is it? |
| **A (Mr Blasius)** | What was the last part of the question, my Lord? |

[190] Blasius 2/[22] indicated that Mr Blasius was relying on Mr Born to give more detailed evidence on the quality of the portfolio, but Mr Blasius was himself making positive assertions about the selection process. It was in this context that it was necessary to understand precisely what evidence Mr Blasius was able to give independently on this point, and what his understanding of what Mr Born was saying actually was.

| | |
|---|---|
| **Q (Marcus Smith J)** | My question is, when you are assessing quality, are you only looking at the extent to which it maps to the standard, i.e. is quality only referable to standard essentiality or is part of your quality assessment the validity of the patent? In other words, can an invalid patent that maps perfectly on to the standard be high quality? |
| **A (Mr Blasius)** | If it is an invalid patent, can it be high quality? |
| **Q (Marcus Smith J)** | It is your words….I do not want to put words into your mouth. |
| **A (Mr Blasius)** | No, I do not want to sit here and represent if it is an invalid patent, is that of high quality? If it is invalid, it is invalid. |
| **Q (Marcus Smith J)** | So it is not of "high quality"? |
| **A (Mr Blasius)** | I would have to say that if it is invalid, it is invalid, and it ends up not being a high quality patent. |
| **Q (Marcus Smith J)** | Mr Blasius, the trouble with this is that we are anticipating, in the assessment of our patents, what the outcome in court will be. What is absolutely clear from Trials A-D, if nothing else, is that predicting the outcome, both in terms of validity and essentiality, is not that easy? |
| **A (Mr Blasius)** | Correct. |
| **Q (Marcus Smith J)** | What I am trying to get a grip on is what you mean when you say something is of "high quality", a patent. What I am really trying to get a grip on is what factors go into your saying "This is high quality as opposed to low quality". If it is the case that you factor in validity into your quality assessment, then please do say so. It seems to me that is what you are saying, but I need to be clear about this? |
| **A (Mr Blasius)** | Are you talking about in a general context, or in the context of what would happen here? |
| **Q (Marcus Smith J)** | I am talking about the evidence you are giving. If we just take the paragraphs that you are being crossed on now, you are talking about a selection process and you are talking about the quality of the patents in the pool that you have looked at. You are saying that the quality is high, as opposed to low. |
| **A (Mr Blasius)** | Right. |
| **Q (Marcus Smith J)** | What I am trying to understand is what makes you say the quality is high, rather than low? What factors are you trying to assess? |
| **A (Mr Blasius)** | So from my point, and being a non-technologist, whether or not it maps to the standard. If the |

| | |
|---|---|
| | patent was granted, it is presumed valid until proven otherwise. I cannot recall right here what the extent is on the review process, but I believe that they were looking at essentiality. Ultimately, what happened in the Samsung example, we acquired 10 patents from Samsung that were claimed to be declared truly essential. All 10 of those are what our technologists were able to map to the standards. So, when I look at it in the context from a licensing discussion, it is does it map to the standard from that standpoint? |
| **Q (Marcus Smith J)** | That is very helpful, Mr Blasius. Can I try and frame what I think you are saying, so that you can correct me if I have it wrong?<br><br>You are obviously not going to put forward as a high quality patent something that has been found to be invalid by a court? |
| **A (Mr Blasius)** | Correct. |
| **Q (Marcus Smith J)** | I understand that. However, given we are talking about a pool of patents that have not been subject to court scrutiny, when you are assessing the quality, the primary factor that you are looking at is not the validity/invalidity divide, it is the essentiality question, how far it maps on to the relevant standard, and that is what you are looking at when you are determining whether the patent is or is not of high quality? |
| **A (Mr Blasius)** | Yes, and from my perspective, I look at the essentiality and I believe – I do not want to misquote Birss J. I believe it was Birss J. When he set up the framework, he even said in his ruling, there are licences that are executed to invalid patents all the time, which is why he set up the framework in which he did. It was to be able to allow the counterparty to challenge patents. |
| **Q (Marcus Smith J)** | Mr Blasius, I will obviously pay a great deal of attention to what Birss J has said, but I, to be clear, want your understanding of what quality means, not anyone else's. |
| **A (Mr Blasius)** | Right, and I understand that, my Lord. From my perspective, I believe quality is "Does it map to the standard?", and I would assume validity until proven otherwise. |

iii) Clearly, Mr Blasius had little or no direct knowledge of the quality of the Portfolio. To the extent that his evidence was meaningful, it seemed to me that Optis' assessment of quality focussed more on essentiality than on validity. Optis would not put forward as "high quality" a patent obviously not valid – but I gained no insight into how validity/invalidity was assessed so as to feed into quality, and I do not consider (based upon Mr Blasius' evidence) that any such assessment really occurred. Quality, to Mr Blasius, turned on understanding how patents, or patent applications, mapped onto standards. Validity or invalidity was not really considered.

*(ii) Mr Born*

151. Mr Born became head of Optis' patent assertions in 2014, which involved "deciding which patents to assert in which jurisdictions, supervising external lawyers in the conduct of the litigations, reporting to management and similar such tasks".[191] This role implies a good understanding of SEP validity and essentiality.

152. Prior to that, Mr Born's role was "primarily a technical one, namely reviewing the patents which were intended to form the portfolio to decide whether or not we would do that acquisition".[192]

153. Mr Born described the negotiations for parts of the portfolio between Ericsson and Optis in the following terms:[193]

"11. [redacted]

[redacted]

[redacted] [redacted]

[191] Born 1/[7].

[192] Born 1/[6].

[193] Born 1.

[redacted] Although this would indicate that we accepted a lot of what we were originally presented with, as I have said we were very pleased with the quality of those originally presented.

14. I carried out the majority of the analysis work on the patents, but I was also assisted by several external technical experts; there was also technical support from Ericsson and other attorneys at the Ware Firm. Following the back and forth over the period of negotiations the final list of patents was assigned to the PanOptis entities.

15. After purchasing the portfolio, we set about preparing claim charts that we considered to be of the quality and level of detail which would be required if we were required to assert one or more of the patents for infringement in a US Court. We instructed an outside law firm, McKool Smith, to assist with this analysis. This confirmed our view as to the quality of the assets which PanOptis had acquired."

154. Mr Born asserted that "it was the generally held view of PanOptis and its senior managers within that the patents owned by [Optis] were of a high quality. Certainly, the portfolio contained a higher proportion of "litigation grade" patents than I had been accustomed to see when I had reviewed other portfolios".[194]

155. As regards the acquisition from Samsung, Mr Born said that:[195]

"…[t]he process of analysis was similar to that for the patents acquired from Ericsson, LG and Panasonic. In the first round, Samsung sent us patents to review. As previously, we would consider claim charts, patent specification and technical standards and review the patents from the point of view of both validity and infringement. The first round of patents that Samsung provided were not of the same high quality as those which had originally been presented by Ericsson in the context of the Optis Portfolio. This led to a considerable amount of back and forth with Samsung as we sought to swap out many of the patents originally put forward. My recollection is that a lot of the originally tendered patents were swapped out and were substituted by ones which did meet our quality criteria. Again, I believe that the quality of the Samsung patents which we ended up with overall was very high, and once again this was a view which I expressed to my colleagues…"

156. Mr Born's evidence was thus similar to, albeit more detailed than, that of Mr Blasius. Mr Born also made the point that the transferors were keeping an eye on each other's contributions to the Portfolio, so as to ensure that no-one was "under-contributing".

157. In Born 2, Mr Born responded to certain comments, made by Apple's witnesses, that Optis would have received from its transferors patents of lower, not higher, quality, with the assignors "hanging on" to the better patents. Mr Born sought to refute this, in the following terms:[196]

"8. It was my understanding (and that of PanOptis) that the main drivers for Ericsson, LG and Panasonic in entering into these transactions in the first place were that they were not achieving fair returns from their SEPs and they considered that an entity such as PanOptis would be in a better position to monetise those patents and share with them the

[194] Born 1/[16].

[195] Paragraph 17 of Born 1.

[196] In Born 2.

proceeds of those efforts. In the case of Ericsson, I am aware that at this time, although they were generally considered to have implemented a successful licensing program, Ericsson nevertheless felt that the size of their portfolio meant that above a certain number each additional patent yielded increasingly diminishing returns in the sense that once the portfolio had reached a certain size, implementers were not willing to pay more for the additional SEPs in the portfolio. As regards LG and Panasonic, my understanding was that they felt that in contrast to the relative success which Ericsson had achieved in licensing its portfolio they had not been able to achieve significant returns in respect of their own portfolios and so were looking for the opportunity to partner with Ericsson in order to see whether they could share in that success. Furthermore, I understood that they appreciated that the monetisation of patent portfolios, with the attendant issues of licensing and enforcement, required considerable technical and legal expertise as well as significant resources, particularly personnel, which they did not have. PanOptis was also better situated as a US company to operate a licensing program within the US, the UK and Europe, in particular because of our experience in litigation.

9. The arrangements which PanOptis entered into in 2013 with Ericsson, Panasonic and LG [redacted] with Ericsson, Panasonic and LG [redacted] And they appreciated that those licensing efforts might well include having to institute legal proceedings. It therefore follows that there was no incentive and no benefit to Ericsson, Panasonic and LG in transferring to PanOptis patents which are of "lesser" quality because in that instance they would simply be setting the receiving company up to fail. In this context, it needs to be borne in mind that by 2014 there had already been a significant amount of litigation in the SEP space, and some of the difficulties which licensors faced in securing licences were becoming clear. It was also clear that the larger implementers, which would obviously be the biggest infringers in terms of products sold, were strenuously resisting the efforts of the patent holders/licensors to require them to take licenses: this included vigorously contesting claims in court proceedings and taking countermeasures such as bringing counter-proceedings in other jurisdictions, contesting jurisdiction, implementing competition complaints and so on. Those larger implementers included the likes of Apple, Samsung, Huawei, HTC and ZTE, companies with very deep pockets and very knowledgeable and skilful attorneys and lawyers, both internally and externally and all of whom, based on my general knowledge of this area at the time, had been involved in patent litigation to a significant degree.

10. I believe it was appreciated by all parties that in some instances we could well be in for a tough fight in which the patents would be subject to very close and detailed scrutiny and that drove our thinking at the time. Accordingly, Ericsson, LG and Panasonic were sympathetic to the objectives of PanOptis to secure a quality portfolio with which to back its licensing efforts, not least because the arrangement [redacted] Otherwise they would be wasting the tremendous effort that went into creating the PanOptis business structure, a structure that involved achieving agreement between four separate companies [redacted]

…

15. [redacted]

158. In cross-examination, Mr Nicholson, KC explored in some detail with Mr Born the general and the specific issues that arose out of patent portfolio building:

i) Mr Born accepted that if money were no object (an unrealistic assumption, as both counsel and the witness appreciated) a patent portfolio would comprise "litigation grade" patents with "very strong validity, very strong essentiality, and a very significant technical contribution".[197]

ii) However, given that the cost of assembling a portfolio <u>was</u> a material consideration, a "strategic" approach to the building of a portfolio would be required. Subject to entering a reservation as to what "strategic" meant, Mr Born accepted this.[198]

iii) In terms of what a "strategic" approach would entail, a portfolio would require "some" patents "on which you would have a good chance of winning on both validity and essentiality if you had to go to trial".[199] It would also require a "good number" of patents that "could be charted as being essential and presented in negotiations in claim charts to justify a high licence value".[200] Subject to the borderlines between these classes or categories being in essence vague – the description "blend" of patents was regarded as Mr Born as apposite[201] – Mr Born accepted that these would be elements of the strategically constructed portfolio.

iv) Mr Born was less willing to accept Mr Nicholson, KC's description of the "rump end" of the strategic portfolio. As to this:[202]

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| **Q (Mr Nicholson, KC)** | …Third – and, again, I am calling it a category but I accept the fact that it is a bit of a blend – you would appreciate that having a number of further SEPs that have been declared as essential, regardless of whether they could be convincingly charted, and regardless of whether they would stand up to a validity challenge, would also help swell the licence rate that you could ask for in negotiations, would it not? |
| **A (Mr Born)** | I think I would quibble with that a bit, because I do not think – in general, I have not seen many companies want to pay for patents that they know there is no threat from. So if there is some obvious non-infringement position, the claim is |

[197] <u>Day 4</u>/p.533 (cross-examination of Mr Born).

[198] <u>Day 4</u>/p.534 (cross-examination of Mr Born).

[199] <u>Day 4</u>/pp.534-535 (cross-examination of Mr Born).

[200] <u>Day 4</u>/p.535 (cross-examination of Mr Born).

[201] <u>Day 4</u>/pp.535-536 (cross-examination of Mr Born).

[202] <u>Day 4</u>/pp.535*ff* (cross-examination of Mr Born).

| | |
|---|---|
| | obviously too broad. If there is a defect of that kind, I do not think that will drive your licencing rate, and I would not price that into my analysis on the valuation of what I was willing to pay for that portfolio. |
| **Q (Mr Nicholson, KC)** | It is right, is it not, that the back-end of the portfolio, if I may call it that, is probably never going to be looked at by licensees with any real rigour, even in negotiations? |
| **A (Mr Born)** | I mean, I think that if you put forward a claim chart in negotiations, most companies will look at it. |
| **Q (Mr Nicholson, KC)** | So sorry, to be absolutely clear, these are patents in my third category, which have been declared to be essential. |
| **A (Mr Born)** | Mmm-hmm |
| **Q (Mr Nicholson, KC)** | They are part of my declared pile, but they are not ones I am planning to chart, even for negotiations, they are just there at the back of the portfolio. They are not bad to have, are they? |
| **A (Mr Born)** | I mean, from my perspective, they are not that useful, they are not that great. They will pay[203] maintenance fees, ongoing prosecution. They are a net cost, without a tremendous upside. |
| **Q (Mr Nicholson)** | I am grateful. Taking such an approach, what you end up with is a large portfolio that could strategically be asserted for licensing, and it is made up of a lot of declared patents overall? |
| **A (Mr Born)** | Yes. |
| **Q (Mr Nicholson)** | A lot of patents that could be charted as essential? |
| **A (Mr Born)** | Yes, on this hypothetical. |
| **Q (Mr Nicholson, KC)** | With some solid patents that are able to go to trial, or convincingly threaten to go to trial on, if someone is unwilling to pay? |
| **A (Mr Born)** | Yes, with the caveat that in that context I would say there is a very high probability of winning on that type of patent. |
| **Q (Mr Nicholson, KC)** | I am grateful. But which would offer a much better return on investment than, say, buying a smaller portfolio full of only the very strongest validity and strongest essentiality patents, yes? |
| **A (Mr Born)** | I do not know if I would agree with that. I am personally not a big believer in excess, in sort of fluff, but I am a litigator, I come from a litigation background. |

[203] By this, Mr Born meant that this was a cost of keeping the patent in the Portfolio.

It is important to stress that this exchange was in the context of "strategic" portfolios generally, and not as regards the Optis Portfolio. Nevertheless, there can be little doubt that Mr Born was allowing his views of the Optis Portfolio (namely that it was, in terms of individual patents comprising it, a "strong" portfolio) to influence his views as to how a portfolio might most profitably be constructed. [redacted]

The reason such a structure makes sense is because it is not possible to test in the crucible of litigation anything more than a few patents, and (generally speaking) it is the portfolio holder who gets to choose which patents are litigated. Because there is no effective way of testing the essentiality, validity and importance of each and every patent in a portfolio, this approach makes logical sense. To the extent Mr Born did not accept it as a business model – and, at the moment, I am saying nothing about Optis' Portfolio – I do not accept his evidence.

v) The next question explored in cross-examination was the extent to which Optis did not, when constructing the Portfolio, follow this approach. Certainly, it was the tenor of Mr Born's witness evidence, set out above, that this approach was not followed, and that the Portfolio was of high quality or, at least, above-average quality.[204]

vi) The problem was that when Mr Nicholson, KC came to probe Mr Born's assertions, Mr Born, Mr Nicholson, KC and the court became constrained by Optis' assertion of privilege over the very documents that would confirm or gainsay Mr Born's general assertions as to portfolio quality:[205]

| | |
|---|---|
| **Q (Mr Nicholson, KC)** | Presumably, from your role in this litigation, you are aware that PanOptis has asserted privilege in most of the documents that cover the discussions between PanOptis, Ericsson, LG, Panasonic and Samsung, concerning the assembly of the [Portfolio]? |
| **A (Mr Born)** | Yes, I was made aware of that in preparation for this. |
| **Q (Mr Nicholson, KC)** | Were you likewise made aware that PanOptis has also asserted privilege in most of the internal documents relating to the same subject? |
| **A (Mr Born)** | Yes, I was made aware of that also. |

[204] This was explored in cross-examination of Mr Born at Day 4/pp.539*ff*.

[205] Day 4/p.542 (cross-examination of Mr Born).

| | |
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| **Q (Mr Nicholson, KC)** | I assume, therefore, that you also know that most of the documents that we have been provided with as to how the [Portfolio] was constructed has been heavily redacted, again, as we understand it, on the basis of privilege? |
| **A (Mr Born)** | I am not certain that most, but at least the ones that I have been shown had redactions in them. |

Optis produced minimal documentation going to the process of portfolio selection, and to a large extent such documentation as was produced was redacted. As Mr Nicholson, KC, put it in cross-examination:[206]

"What I am struggling to reconcile is how you did all this validity and essentiality and technical merit analysis work, not only by yourself, but assisted by technical experts and people from Ericsson on something like 100 patent families over a duration of a year, without producing meaningful documents?"

vii) Mr Born suggested that the volume of documentation was not that vast, but that the end-product of that work would in any event be privileged.[207] After the Portfolio had been acquired, Optis instructed a third party to draw claim charts, even though claim charts would have been provided (at least in some cases) during the course of assessing what patents should be acquired.[208]

viii) As Mr Nicholson KC put it in cross-examination, but as Mr Born did not accept, there appeared to be a concerning lack of frankness and possibly a withholding of material evidence on the part of Optis:[209]

| | |
|---|---|
| **Q (Mr Nicholson, KC)** | Listening to your evidence, and having read what you put in writing, you are asserting that you did a great deal of detailed analysis work yourself and with the assistance of experts, before purchasing the portfolio. |
| **A (Mr Born)** | And my colleagues, too. |
| **Q (Mr Nicholson, KC)** | And your colleagues, and did not write any of it down in any meaningful way.[210] You then purchased the Portfolio with the partners of the firm relying, largely, on the say-so, without any notes, without any detailed document trail explaining the basis for your advice and opinions, and then having spent a huge sum of |

[206] Day 4/p.546.

[207] Day 4/p.547 (cross-examination of Mr Born): "We certainly would have had some personal notes that, as a matter of course, we would not keep. If we did an analysis on a patent and we would write down all the notes and we would rate it, eventually you wound end up with a chart that would have some ranking of it, in terms of infringement, validity, damages, and that would be sort of your end product, which would be a privileged document." The reviews would come at some time cost: the fastest a patent was reviewed by Optis was in about half-a-day: Day 4/p.557.

[208] Day 4/pp.559-560.

[209] Day 4/pp.561-563.

[210] By this, Mr Nicholson, KC meant that such matters were either not written down at all or hidden behind an assertion of privilege. I do not know – and I doubt if Apple do – which is the case.

money on the patent, [Optis] immediately brought in external lawyers to re-do the core bit of the analysis and write up what amounts to only a small proportion of the work you say you had already done, and on which [Optis] relied to spend a great deal of money.

**A (Mr Born)** I simply do not agree with that characterisation, for the reasons I have given.

**Q (Mr Nicholson, KC)** I put it to you that the only thing that makes sense of your evidence is, first, your evidence that no meaningful documents were ever created; second, that the Ware firm [which conducted the pre-purchase review] simply did not work on the basis of detailed written documents; third, the evidence that McKool Smith were instructed and paid to analyse and produce claim charts only after the Portfolio was purchased; and, fourth, that there was some claim charts provided to you by the donors, I suggest the only thing that makes any sense is that whatever pre-purchase analysis you did undertake was nowhere near as careful and as detailed as you now seek to suggest in paragraph 11 of your witness statement?

**A (Mr Born)** I mean, I do not think I can disagree more strongly with most of what you said.

ix) The essence of Mr Nicholson, KC's cross-examination was that Optis carried out no detailed analysis of portfolio quality prior to acquisition of the Portfolio and that, for this reason, Mr Born's witness statements were wrong. Mr Born denied this in terms, and (to that extent) I accept his evidence. I would be very surprised if a firm as commercially oriented as Optis would permit itself to acquire a portfolio on this basis. I do not think that Mr Born was misremembering when he described the considerable amount of work Optis did pre-acquisition.

x) But that leads to the inevitable next question: what happened to all this documentation, and why was it not produced to Apple, in the course of these proceedings, so that a full picture could be placed before the court? The answer appears to be Optis' assertion of privilege over these documents. Some documents were conceded by Optis <u>not</u> to be privileged. But this was in relation to very few documents, and the concession was made very late in the day. To the extent these documents assist, they are considered below. For present purposes, I am simply going to describe how Optis' assertion of privilege derailed any ability in Apple to probe Mr Born's evidence:[211]

[redacted] [redacted]

[211] <u>Day 4</u> (private)/pp.7*ff* (cross-examination of Mr Born).

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[212] It is a moot point whether the application would have been heard by me. Doubtless, consideration would have been given to having a judge other than the trial judge hearing this application and looking at what (on this basis) would have been arguably privileged documents.

[213] See Day 4 (private)/p.8.

[redacted]

[redacted]

[redacted]

[redacted]

159. The question of privilege has not been resolved and – although I find the existence of any privilege to be surprising, and the suggestion that that privilege has not been waived by Optis relying upon the evidence of Mr Blasius and Mr Born even more surprising – Apple has not pressed the point, and Optis maintains the privilege it has asserted. In these circumstances, I consider that I must proceed on the basis that these documents <u>are</u> privileged and that no criticism is to be made of Optis or inference drawn against Optis in this regard.

160. The question, then, is what am I to make of Mr Born's assertions of quality of the Optis Portfolio – and Mr Blasius' somewhat parasitic assertions, based on Mr Born's evidence? In their closing submissions,[216] Apple said this:

> "307. Optis has confirmed in correspondence that it would be [redacted] It therefore appears to be common ground that Optis knowingly acquired at least some patents which were not "litigation grade". The question is "how many" – as to which Optis has provided no evidence of any substance. The evidence summarised above is self-serving, couched in vague and general terms, and bereft of documentary support; it ought, therefore, to be afforded no significant weight.
>
> 308. It is not necessary for the court to find Mr Born's evidence is untruthful. However, when the court reads Mr Born's evidence in detail, it will appreciate that the words used in his statements have been chosen carefully. For example:

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[214] See <u>Day 4</u> (private)/pp.8*ff*.

[215] See, in particular, my direction to Mr Born at <u>Day 4</u> (private)/p.17.

[216] <u>Apple Closing (Round 1)</u>.

a) Mr Born's assertion that his objective was to [redacted] this is entirely consistent with Optis not getting very many "litigation grade" patents.

b) Mr Born's assertion that [redacted] Mr Born does not say in his written evidence what he considered to be [redacted] and he agreed in cross-examination that even to go after an entity like Apple [redacted]

c) Mr Born's assertion that "the Optis Wireless and the Optis Cellular portfolios contained a higher proportion of "litigation grade" patents that I had been accustomed to see in other portfolios". Mr Born gives no details of the "other portfolios" to which he refers and no figures. These "other portfolios" may have been even weaker than the PO Portfolio, but that does not mean the PO Portfolio is even of average strength when compared with the overall SEP stack.

309. In short, reading Mr Born's evidence – particularly in the light of the statement at paragraph 41 of Optis' Responsive Position Statement that "Optis…did not purchase weaker patents from [Ericsson, Panasonic and LG]" and that it relied upon Mr Born's evidence in support of that assertion – the clear impression it conveys is that when assembling the PO Portfolio, Optis was simply striving to get the best quality patents which could possibly be obtained; perhaps it did not achieve this lofty objective on every occasion – but that was what it was aiming for."

*(iii) Conclusions as regards Mr Blasius' and Mr Born's evidence in this regard*

161. In my judgement, Apple's submission that Mr Born's evidence should be afforded "no significant weight"[217] is overly generous to Optis. Given that Optis has adduced evidence that quite clearly purports to summarise more granular information over which Optis asserts privilege, such that the general assertions of Mr Born cannot be tested in cross-examination, fairness requires that a line be put through all of Mr Born's assertions in relation to the quality of the Portfolio.

162. I stress that I am not drawing negative inferences: I am simply taking the position that (based on the evidence so far considered – there is other evidence that I have yet to consider) there is no material to justify me in concluding that Optis' Portfolio was anything other than "average", sharing the typical characteristics of over-declaration of invalid and inessential patents that is typical of the entire Stack.[218] I am not, at the moment, suggesting that Optis' Portfolio was <u>below average</u>. I do not consider that my choice to disregard the evidence of Mr Born on this point enables me to draw any such conclusion. In short, what I am saying is that I gain nothing from Mr Born's evidence in this regard.

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[217] See [307] of the quotation in [160] above.

[218] In <u>Optis Closing (Round 1)</u>/[474] Optis submitted that "Optis has asserted privilege in the documents in issue…In the light of such asserted privilege it would be absolutely wrong for the court to draw any inference at all from the disclosure situation." I accept that submission and have drawn no such inference. I should, however, note that the evidence from Mr Born and Mr Blasius, purporting to draw conclusions regarding the Portfolio that could only come from such privileged documents, should never have been adduced. Had Apple chosen to contend that these statements constituted a waiver of privilege, then I would certainly have heard such an application. I anticipate that Apple made no such application by the time the issue surfaced at trial because any further disclosure would have been disruptive of the trial process.

163. Since Mr Blasius' evidence was essentially parasitic upon that of Mr Born, the same goes for Mr Blasius' evidence on the question of quality.

164. More specifically, I should note that one thing I do derive from the evidence of Mr Blasius and Mr Born is that such focus as there was on patents was in relation to their perceived essentiality, and not in relation to their perceived validity. Optis clearly did do some work in relation to essentiality, in their mapping of claims to standards, via claim charts. However, the question of validity appears to have been substantially ignored, the line being that if a patent application was approved,[219] then that was good enough to assume validity of that patent, provided the provenance of the patent (i.e., the party from whom Optis acquired it) was sound.[220]

### *(c) Withdrawn evidence of Ms Dwyer*

165. Ms Dwyer did not give evidence to the court. Nevertheless, as I have described,[221] until relatively late on in the proceedings, Optis was relying on Ms Dwyer's evidence. That reliance persisted until Optis (having survived a strike-out application by Apple) itself decided to withdraw Ms Dwyer's evidence and rely instead on hearsay evidence from PA Consulting.

166. For the reasons given in [76] above, I consider that I can draw limited inferences from Optis' failure to adduce evidence from Ms Dwyer. She stated, in unequivocal terms, that the Portfolio contained a significant number of <u>essential</u> patents. To this extent, she supported – as an expert – the contentions of Mr Blasius and Mr Born.

167. The fact that her evidence was withdrawn after I directed that her conclusions should be tested by reference to a sample of her work selected by Apple leads, as Apple contended, to an inference that her evidence would not have withstood examination in the witness box. Although I consider that I should be careful in the weight that I attach to the non-evidence of Ms Dwyer and the failure to call her, an inference that is above the immaterial is appropriate to be drawn.

168. That, of course, has an immediate effect on Mr Blasius' evidence on essentiality and Optis' negotiating practices. The rates Optis put forward in negotiations were based upon certain assertions, by Optis, as to the level of essentiality of its Portfolio:[222]

| | |
|---|---|
| **Q (Marcus Smith J)** | …I understand your evidence to be that the royalty rate of 0.47% is something that you calculated or assessed, but the essentiality rate of 70% - 80%, that was not your work, that was done by your team? |
| **A (Mr Blasius)** | It was done by my technical team. |
| **Q (Mr Turner, KC)** | I understand. How was it done? |
| **A (Mr Blasius)** | Through review of developing claim charts that actually mapped to the standard. They went through a lengthy |

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[219] Of course, this cannot be said of patent applications, where no scrutiny is received: <u>Day 2</u>/p.240 (cross-examination of Mr Blasius).

[220] <u>Day 4</u>/pp.552*ff* (cross-examination of Mr Born).

[221] See [71]*ff* above.

[222] <u>Day 2</u>/pp.276*ff* (cross-examination of Mr Blasius).

process of developing the – whatever claim charts we could develop that would map to the standard that would be included in that pool of patents. So, from that perspective, my Lord, I would just take that number, and I would use it in the calculation.

**Q (Mr Turner, KC)** I understand. It is not, I think, a matter for you, but I think I should raise it, because the question I have is how far is that calculation of essentiality rate similar to the exercise undertaken by Ms Dwyer in her evidence, now no longer relied upon by Optis?

**A (Mr Blasius)** It should be. If not the same, it is very close to, the very similar number of patents we held out to be truly essential. That we still hold out, but for this trial, and to be able to manage through that, right, we have adopted a different methodology.

**Q (Mr Turner, KC)** Sure, that is very helpful, Mr Blasius. What you are saying is that if I were to be wanting to test the robustness of an essentiality rate of 70% to 80%, the person that I would really be wanting to direct my questions to would be Ms Dwyer, because she has done that exercise in her evidence? I appreciate that you are not putting it forward now, but that would be the way to test it?

**A (Mr Blasius)** Correct.

169. The problem is obvious: Mr Blasius put forward in negotiations certain rates based upon certain calculations which included assessments of essentiality. Mr Blasius, himself, could not justify those assessments because he was not technically equipped to do so, and as a matter of fact did not do the work himself. Ms Dwyer was the proxy for Mr Blasius' "technical team",[223] but her evidence was withdrawn. It follows that I can have no assurance that the essentiality rates put forward by Optis <u>both at trial and in licensing negotiations</u> were defensible. Indeed, I consider that I ought to have significant doubts as to whether Optis would have been able to defend them if pressed by a capable counterparty in negotiations or in cross-examination before this court. That is an indicator, to my mind, that Optis' Portfolio, in terms of essentiality, was (if anything) below average.

### *(d) Evidence of quality from PA Consulting*

170. I have considered the data from PA Consulting at length.[224] I have explained why I do not consider the qualitative evidence from PA Consulting to be sufficiently reliable to incorporate into any methodology to be used in answering the FRAND Question. Unless one can <u>reliably</u> say that a given portfolio (here: Optis' Portfolio) is, by reference to the data from PA Consulting, of better quality than the stack as a whole, the purpose behind the qualitative assessment falls away, as it does here. It is far better to rely upon quantitative assessments (accepting, of course, that even these have not been tested by the court and may well also be unreliable).

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[223] See Mr Blasius' answer to the examination recorded in [168] above.

[224] See Part IV: Section D above.

171. Additional evidence regarding the quality of Optis' Portfolio, derived from sources other than PA Consulting, is (for the reasons I have given) not helpful to the inquiry before me. If anything, this evidence points in the direction of Optis' Portfolio being average in terms of validity and below average in terms of essentiality.

*(e) **Documents regarding Portfolio selection***

172. Apple could, of course, adduce no evidence as to the specific way in which the Portfolio had been compiled. It is, unsurprising, therefore, that Apple's contention that the Portfolio was of below average quality operated at the level of theory and generality. (I say this not as a criticism, merely as a description of the points Apple advanced.)

173. Apple made two points. The first I have already considered, which is that the examination of SEPs by Optis focussed more on their essentiality (or otherwise) and less on their validity (or otherwise).[225] But that fact says nothing about whether the Portfolio is above or below average in terms of quality. All it says is that assessing the quality of SEPs – including by reference to validity – is extraordinarily difficult given the volume of patents that need to be reviewed. That, rather trite, point I entirely accept.

174. Apple's second point was that there was a difference between a portfolio that had grown "organically" (i.e., consisted of patents that had not been acquired as an "assertion portfolio") and a portfolio acquired from third parties as an assertion portfolio. On this second point, Professor Shapiro said this:[226]

> "78. I have not reviewed the patents in Optis' portfolio. I have been asked by WilmerHale [Apple's solicitors] to consider the economic incentives for assembling an SEP portfolio.
>
> 79. When an entity acquires SEPs with the intention of monetising its portfolio, including through litigation as necessary, it has an incentive to procure a sufficient number of patents with a high enough probability of being found valid and infringed to put forward in litigation. This is because royalties are negotiated in the shadow of litigation, even in cases that do not end up in court. This bargaining principle aligns with Mr Born's goal of obtaining what he calls "litigation grade" patents.
>
> 80. However, with respect to the remainder of the portfolio, the economic incentives may instead be to fill out the portfolio with lower quality SEPs. If the entity accumulating patents expects that royalties will be correlated with the number of declared SEPs in its portfolio – because, for example, there will not be an evaluation of each individual patent's quality (in terms of validity, essentiality and significance) – then there is an economic incentive to increase the portfolio size by including lower quality SEPs. Patents that have been declared essential to a standard are often found not to be valid or essential upon evaluation, and the large number of declared SEPs often makes it impractical to evaluate each individual patent. Mr Stasik explains that during licensing negotiations, assessments of validity are limited, smaller licensees may review only high-level technical information, and even when larger licensees engage in more in-depth technical evaluations, claim charts are typically only provided for a selection of the patents in large portfolios. So while there may be an incentive to accumulate some high quality patents that are likely to be essential for licensing negotiations, the remainder of the portfolio could be comprised of lower quality declared SEPs."

225 Apple Closing (Round 1)/[265(b)].

226 Shapiro 2.

175. To this, Professor Shapiro could have added that the trend of "bad patents driving out good" is further made possible by the fact that it is, generally speaking, the owner of the patent portfolio who decides which patents are asserted in litigation and which are not. Certainly, that was the case here, in the technical trials that I will come to describe. It would be altogether surprising if Optis, when deciding which patents to litigate, would consciously select the weaker patents (in terms of both validity and essentiality) in its Portfolio rather than the stronger. That would be irrational and uncommercial – and Optis are certainly neither of these things.

176. Nevertheless, Professor Shapiro's point operates at the level of theory, and says nothing particularly about the Portfolio here. However, I consider that his theoretical point is confirmed by two distinct factors:

i) First, Optis' withdrawal of the evidence of Ms Dwyer. I have indicated what I make of this above, and I do not repeat my conclusions here – save to point out that this does provide some confirmation of Professor Shapiro's point.

ii) Secondly, a limited number of documents – produced by Optis on disclosure – shed light on the process whereby the Portfolio was put together. These paragraphs consider these documents.

177. During the course of the trial, two documents – over which Optis had initially claimed privilege – were drawn to my attention and put to Optis' witnesses. Simply looking at these documents on their face, it seems clear from the terms they use that the Portfolio was assembled in much the way Professor Shapiro hypothesised and in much the way Mr Nicholson, KC, put to Mr Born. The patents that were placed in the portfolio comprised some "litigation grade" patents, intended to make good any claim in the courts (whether on validity or essentiality); some to read onto specifications, to enrich the quality or apparent quality of the pool; and some "makeweights".

178. [redacted]

[redacted]

179. Apple said this about these documents:[227]

"Two crucial documents (the [redacted]) emerged in disclosure which showed the impression produced by the high-level nature of [Optis'] witness evidence to have been misleading.[228] Their relevance is that they refer to the [Portfolio] as having been constructed with a [redacted] in mind – implying a sophisticated approach to patent acquisition that had not previously been hinted at, which is consistent with Apples' position outlined above [see the evidence of Professor Shapiro, quoted above], and inconsistent with the simplistic "as many litigation grade patents as possible" picture painted by Optis' evidence. However, the key parts of these documents only saw the light of day after a protracted battle over privilege which culminated in Optis accepting at trial that neither the parts of the

[227] Apple Closing (Round 1)/[302].

[228] This is a reference to the evidence tendered by Mr Blasius and Mr Born, set out above.

documents in question nor the existence of a [redacted] were properly protected by any privilege…"

I accept this submission. [redacted] I do not accept that submission:

i) In the first place, Mr Born and Mr Blasius were – in terms of the tenor of their evidence – trying to suggest that the Portfolio was of a <u>generally</u> high quality. I take Apple's point that – if read as a statute – their witness statements contain enough "wiggle-room" to enable both of them – were they to be cross-examined in relation to the documentary record – to resile from this impression without actually being accused of lying. But witness statements are not supposed to be read in this way: they are supposed to be frank statements of "the truth, the whole truth and nothing but the truth". It is because Apple was unable effectively to challenge these tendentious statements that I have discounted their evidence.

ii) [redacted]

180. Additional documents were later disclosed by Optis on 25 June 2022, following a further review of documents over which privilege had been asserted. The documents are more specific in terms of the topics they go to, and (absent further disclosure and evidence from the relevant witnesses) I do not consider that they add (or subtract) anything from what I have said in the preceding paragraphs.[232]

### (3) Conclusion

181. [redacted]

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[229] <u>Optis Closing (Round 1)</u> at paragraphs 471 to 472.

[230] See [227]*ff* above.

[231] See [174] above.

[232] The documents are described in <u>Apple Closing (Round 1)</u>/[327]*ff*.

182. There is no basis for any conclusion that the Portfolio was "above average" in strength, either as regards essentiality or validity. I reject Optis's assertions to this effect as entirely unsupported by any credible evidence. I am prepared – for the present – to proceed on the basis that Optis' portfolio was "average". That, however, is an assumption not especially supported by any evidence; and gainsaid by Optis' failure to call Ms Dwyer.

183. It follows that there is no point to a qualitative assessment of the Portfolio as part of the Stack. Such an argument is only pointful if it can be said – as Optis did seek to assert – that the Portfolio is "better" than the Stack average, and so deserves a higher valuation. For the reasons I have given, I regard that argument as unsustainable; and so the "qualitative" approach falls by the wayside.

184. It follows from this that the Innography data – which goes to quantity of declared patents, and not their quality – is not to be relegated to the peripheral, at least for that reason.

## F. THE OUTCOME OF THE TECHNICAL TRIALS AND OPTIS' SUCCESS RATE IN LITIGATION GENERALLY

185. This is a Judgment given after a FRAND trial. The trial was also known as Trial E, and it is one of six proceedings that have been brought in this jurisdiction between Optis and Apple. **Trials A to D**, also known as the "technical trials", concerned questions of validity and essentiality of certain patent families within the Optis Portfolio. Trial F – which I have already described and which, contrary to its lettering, preceded Trial E – concerned other aspects of the FRAND regime, which I reference as necessary in this Judgment.

186. It is appropriate to say something about the technical trials, Trials A to D:

i) *Trial A*.[233] Trial A involved EP (UK) 1,230,818 entitled "Method for improving handovers between mobile communications systems". This patent was a member of Optis' UE666 family and formed part of the UP Portfolio. It has been acquired by UP from Ericsson.[234] More specifically:

a) The patent was declared as being essential to 2G (GSM).[235]

b) The patent was asserted in the Unwired Planet litigation and (in those proceedings) found by Birss J to have been valid and essential.[236] As to

[233] Trial A was tried before Birss J in October 2020, and judgment was handed down on 16 October 2020: [2020] EWHC 2746 (Pat) (**Trial A (First Instance)**). This judgment was appealed to the Court of Appeal (Newey, Arnold and Warby LJJ), and judgment was handed down on 10 November 2021: [2021] EWCA Civ 1619 (**Trial A (CA)**).

[234] Apple Closing (Round 1)/[342(a)(i)].

[235] Apple Closing (Round 1)/[342(a)(iii)].

[236] Apple Closing (Round 1)/[343(a)(iv)].

the findings made in the Unwired Planet litigation and in Trial A, Apple stated in closing and I accept:[237]

> "Although the technique described in the patent was found in [the Unwired Planet litigation] to have been applied in respect of both measurements of signal <u>strength</u> and signal <u>quality</u> according to the GSM standards in issue, in Trial A Optis abandoned the latter contention because, during trial, Apple established that the measurements of signal <u>quality</u> used in UMTS (3G) were identical in both value and format to those used in GSM.[238] Accordingly, although the patent was held at first instance in Trial A to be essential to the GSM standards, in closing submissions it was only asserted to be so against Apple on a narrower basis than that found in Unwired Planet."

At Trial A (First Instance) Optis succeeded on both validity and essentiality, albeit on the narrower basis as described.[239]

c) On appeal – Trial A (CA) – the Court of Appeal found that the patent was not essential.[240]

ii) *Trial B*. Trial B involved EP (UK) 2,229,744. This was a member of Optis' UE237 family and formed part of the UP Portfolio. It had been acquired by UP from Ericsson.[241] The patent was found to be valid and essential by Meade J.[242] Apple was refused permission to appeal against this decision. At first instance, Meade J noted[243] that although there had been prior litigation in respect of this patent (before Birss J), the matter had to be considered afresh by Meade J: that very much reflects the approach that I will take in respect of the *Unwired Planet* (First Instance) decision, for reasons I expand upon.

iii) *Trial C*. Trial C involved EP (UK) 2,093,953, EP (UK) 2,464,065 and EP (UK) 2,592,779. All three patents were members of Optis' ML7 family, and were acquired by OCT from LG.[244] Essentiality was conceded by Apple. At first instance, the patents were held to be invalid for obviousness, but that decision was overturned on appeal.[245]

iv) *Trial D*. Trial D involved EP (UK) 2,187,549 and EP (UK) 2,690,810. Both were members of Optis' HP65 family, acquired by OWT from Panasonic.[246]

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[237] <u>Apple Closing (Round 1)</u>/[343(a)(v)].

[238] See Trial A (First Instance) at [110].

[239] <u>Apple Closing (Round 1)</u>/[343(a)(vi)].

[240] <u>Apple Closing (Round 1)</u>/[343(a)(vii)]; Trial A (CA) at [101].

[241] <u>Apple Closing (Round 1)</u>/[343(b)(i)].

[242] Trial B was tried before Meade J in April 2021, and judgment was handed down on 25 June 2021: [2021] EWHC 1739 (Pat) (**Trial B (First Instance)**).

[243] Trial B (First Instance) at [10] to [13].

[244] <u>Apple Closing (Round 1)</u>/[343(c)(i)].

[245] Trial C was tried before Meade J in October 2021, and judgment was handed down on 25 November 2021: [2021] EWHC 3121 (Pat) (**Trial C (First Instance)**). This judgment was appealed to the Court of Appeal (Arnold, Nugee and Birss LJJ) (**Trial C (CA)**), where the first instance decision on obviousness was overturned: [2023] EWCA Civ 438.

[246] <u>Apple Closing (Round 1)</u>/[343(d)(i)].

Trial D, where both validity and essentiality were in issue, determined that these patents were valid and essential to 4G standards.[247]

187. To summarise the position:

| | Valid | Essential |
|---|---|---|
| Trial A (First Instance) | Valid | Essential |
| Trial A (CA) | Valid | Not essential |
| Trial B (First Instance) | Valid | Essential |
| Trial B (CA) | Permission to appeal refused. Decision at first instance stands. | Permission to appeal refused. Decision at first instance stands. |
| Trial C (First Instance) | Invalid | Essential (conceded) |
| Trial C (CA) | Valid | Essentiality not in issue |
| Trial D (First Instance) | Valid | Essential |
| Trial D (CA) | Appeal pending | Appeal pending |

Figure/Table 5: Outcomes of the technical trials

188. The sample is too small to enable me to draw any conclusions as to the quality of Optis' Portfolio. The outcomes of the technical trials split broadly 50/50,[248] but nothing regarding portfolio strength can or should be read into this. Indeed, the only thing that can be said with any confidence is that given the extent to which technical trials are appealed, and the decisions of very experienced first instance judges varied on appeal, the outcomes of questions of essentiality and validity are both nuanced and extremely difficult to predict.

189. The same is true of "success rates" in other jurisdictions. Optis placed some emphasis on this,[249] but again the sample size is too small to be any kind of reliable indicator. Volumes were greater in the case of China, but (as the evidence of Ms Yang showed), even here trends are hard to discern and outcomes equivocal.[250]

## G. GENERAL APPROACH TO NEGOTIATING LICENCES: OPTIS

### (1) Mr Blasius' general description

190. Mr Blasius described Optis' general approach in the following terms:[251]

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[247] Trial D was tried before Meade J in January 2022, and judgment was handed down on 15 March 2022: [2022] EWHC 561 (Pat) (**Trial D (First Instance)**).

[248] See Optis Closing (Round 1)/[463(b)]. See also Apple Closing (Round 1)/[342]*ff*.

[249] See Optis Closing (Round 1)/[463].

[250] That is all the more so in the case foreign legal systems, which do things differently. I am making no value judgement at all, but I am taking fully into account that the more I heard from Ms Yang – who was a most impressive witness – the less confident I was that I have a good grip on Chinese processes. It is possible to bandy about all kinds of statistics, but they either point in different directions or are equivocal. Thus, Optis relied upon the fact that of SEPs whose validity had been challenged, 54.2% had been held to be fully or partially valid (Optis Closing (Round 1)/[463(e)]. That is a figure that can, plausibly, be deployed by both Optis and Apple in support of their respective cases. I prefer to conclude that this material is probatively useless for the purpose of answering the FRAND Question.

[251] Blasius 2/[24].

"When negotiating with licensees, Optis offers the entirety of the PO Portfolio. Usually, the negotiations that follow result in a license to the whole portfolio, however there are some exceptions to this which I mention below…Other than these, the [Portfolio] is licensed in one single transaction. If it is as a running royalty, two separate agreements are signed: one for the Optis Portfolio and one for the UP Portfolio. This allows for easier reporting to the original patent holders. If it is a lump sum, one single agreement is signed covering the entire [Portfolio]. In my experience of negotiating with potential licensees, they usually do not want a license to only part of the [Portfolio] – they are engaging with Optis to secure a license to all of the SEPs in the [Portfolio] and in effect resolve all outstanding issues. They do not want to pay money out be leave themselves exposed to Optis coming back and asking for more and/or suing for patent infringement."

I accept this. But it is necessary to be clear that it is not simply because potential licensees want a licence to the whole Portfolio that Optis offers it. It is, I find, an intrinsic part of Optis' approach to offer, without the ability to select, a portfolio comprising a large number of patents which are so structured as to prevent a potential licensee from engaging in a "pick and choose" approach. I have little doubt that if a potential licensee could reliably obtain information about strengths and weaknesses in the Portfolio, that would be useful information and – as will be seen – that is not how Optis did business. Optis' own approach was on a "take it or leave it (and we will sue for infringement)" basis.

### (2) Valuation methodology before *Unwired Planet* (First Instance)

191. Prior to the judgment of Birss J in *Unwired Planet*, Optis had no methodology for ascertaining a price for its Portfolio beyond seeking to find out what others were charging and paying:[252]

"32. Optis' solicitors asked me to explain my view on the appropriate basis for devising a FRAND offer, and how that has changed over time for Optis.

33. Before the UK *Unwired Planet* first instance judgment, my experience was that licensors based their offer rates on the information they could gain from general industry practice. The headline rates being offered by some of the large SEP holder companies, including Ericsson, Qualcomm and Nokia, were publicly known and ranged between 1.5 – 3.25% for LTE. However, these were headline rates. Ascertaining what were the actual rates at which deals were being done was extremely difficult because all companies maintained their actual licenses as strictly confidential as the basis for those rates contained proprietary information.

34. As time went on, some members of the industry raised concerns regarding the issue of royalty stacking. The "royalty stacking issue" was that if one took at face value all the headline rates demanded by all cellular SEP owners, the total of all the license fees payable on a handset would be too high – 20-30% of the ASP. I recall these concerns being particularly prominent following a 2010 statement from Next Generation Mobile Network which called for all SEP licensors to state what their respective rates were going to be. However, I have always treated the royalty stacking issue with skepticism. For one thing, at the time these concerns were voiced, only a few companies were successfully licensing their SEP portfolios and the stack price assumes that implementers are paying royalties for all SEPs. In my experience, I knew that was not happening in the real world. A large portion of the declared patents were owned by companies who did not have the experience, knowledge or relationships to obtain FRAND licences. By way of example,

[252] Blasius 2.

> LG and Panasonic struggled to licence their SEP portfolios because they had commercial relationships with some implementers relating to the supply of components for smartphones (e.g. batteries, displays, etc) which harmed their ability to licence their SEPs at fair value. Secondly, the rates that had been published which were said to result in royalty stacking were opening offers, and not the negotiated outcomes. From my experience at Motorola, I knew the actual average rates being paid were likely to be lower than the headline rates being publicised because discounts would have been given.
>
> 35. During this pre-*Unwired Planet* time period, when Kirk Dailey, Ray Warren and I joined PanOptis, we analysed the Optis Portfolio to determine if the FRAND rate being offered for the Optis Portfolio was appropriate based on the underlying facts and our expertise in licensing SEP portfolios. We did not assess rates for the UP Portfolio because that was under litigation in the UK. In assessing the Optis Portfolio, we considered the known headline rates of other SEP holders, previous licenses granted by Optis to Kyocera, ZTE and HTC, and our many years of experience of licensing in the industry, including our experiences at Motorola and Google. My recollection is that we also [redacted] and [redacted]
>
> Taking all of these into account, **we came to the view that around [redacted] for the Optis Portfolio was FRAND**. However, like all SEP holders, I knew that Optis would be open to offering discounts in the course of negotiations."

Mr Blasius' cross-examination elucidated no further detail as to how Optis set its *ad valorem* rate. The point Mr Blasius made was simply that the portfolio was "high quality",[254] a point I have not accepted for reasons that I have given.

192. Pausing there, the absence of any kind of rational pricing is plain:

i) [redacted]

[redacted]

253 These are also described, to similar effect, in Warren 1/[18].

254 See, e.g., Day 2/p.254, pp. 258-259 (cross-examination of Mr Blasius).

255 See the passage in **bold** in the quotation at [191] above.

256 [redacted]

257 See above at [30].

258 [redacted]

[redacted]

[redacted] [redacted]

iv) I am not persuaded that the fact that not all SEP Holders were pressing for licences to their portfolios or were in no position to press for licences takes matters any further. I accept that the failure of all SEP Holders to press for a licence means that Implementers may pay less, in total, than they should for the intellectual property rights that they may be infringing. That may give a degree of negotiating flexibility to both Implementer and SEP Holder when negotiating a licence. In other words, an Implementer may pay more to an SEP Owner who is claiming because a certain number of SEP Owners are <u>not</u> claiming. But, when seeking to answer the FRAND Question, it cannot be that the FRAND rate should enable the SEP Holder who <u>claims</u> to obtain royalties that ought to accrue to the SEP Holder who does <u>not</u> claim.

193. In cross-examination, certain "headline" rates were put to Mr Blasius:[259]

| Company | Number of Declared Essential Patents | Published Handset Royalty Rate |
|---|---|---|
| Alcatel/Lucent | 9 | 2.00% |
| Ericsson | 146 | 1.5% |
| Huawei | 182 | 1.5% |
| Nokia Corporation | 142 | 1.5% |
| Nokia Siemens Network | 32 | 0.8% |
| Nortel | 46 | 1.00% |
| Qualcomm | 350 | 3.25% |
| ZTE | No known | 1.00% |

<u>Figure/Table 6: Published Handset royalty rates</u>

This gives a total royalty burden of 14.8%, but these are "headline" rates. They would be negotiated down. Even so, these companies – all having portfolios far larger than the Portfolio[260] – it is clear that Optis' rate of [redacted] is, to put it kindly, optimistic:[261]

**Q (Mr Turner, KC)** …Mr Blasius, on that basis, or your basis, the percentage of the selling price of the final device, which you were saying then was fair to charge for the Optis Portfolio,

[259] Referenced in <u>Blasius 2</u>/[33] (set out above). The headline rates set out below are from around September 2010 for various companies declaring patents to ETSI.

[260] The reference to number of patents declared must be a reference to Patent Families, although the paper does not make this clear.

[261] <u>Day 2</u>/pp.259*ff* (cross-examination of Mr Blasius).

around 0.9% or 0.8%, was not far shy of the overall headline rates of at least one of the very biggest players in the industry. Now, if we add in the Unwired Planet portfolio as well to 0.8% or 0.9%, you are beginning to find the rate for the combined portfolio approaching 1%, are you not?

**A (Mr Blasius)** By way of your math, you are getting close to that, yes.

**Q (Mr Turner, KC)** If you add them, as a matter of math, you are approaching 1%. Now, can we look, please, at paragraph 33 of [Blasius 2]…?[262] It is there that you tell us about the public rates, the announced headline rates, being offered by some of the large SEP holder companies, including Ericsson, Qualcomm and Nokia. They are publicly known and they range between 1.5% and 3.25%. Then you emphasise in the final line, "However, these were the headline rates." Do you see that?

**A (Mr Blasius)** Yes.

**Q (Mr Turner, KC)** So, Mr Blasius, Ericsson and Qualcomm and Nokia all have far more extensive patent portfolios than Optis does, have they not?

**A (Mr Blasius)** Yes, they have larger portfolios.

**Q (Mr Turner, KC)** [Turning to the article cited above, with the headline rates set out above.] …this is an article by your expert, Mr Stasik, September 2010, and on the second page he has a big table, summarising the announced royalty rates for LTE and these players. Have you had a chance to look at this with your team before today?

**A (Mr Blasius)** Yes, I have.

**Q (Mr Turner, KC)** We see at the foot of the page, ZTE, 1%. Towards the top of the page, you have, in the fourth row, Ericsson announced at 1.5%. Do you see that?

**A (Mr Blasius)** Yes.

**Q (Mr Turner, KC)** And Nokia Corporation, lower down, 1.5%.

Mr Blasius, given your professional role at the time, presumably I can take it that you were aware of these announced royalty rates in the market?

**A (Mr Blasius)** Yes. I was aware of this process that was requested by MGMN, who was the entity that requested it.[263]

**Q (Mr Turner, KC)** My question was whether you were aware of these announced royalty rates in your position at the time?

**A (Mr Blasius)** Yes.

**Q (Mr Turner, KC)** The companies concerned are Nokia, Ericsson and ZTE. They could not be charging higher rates in practice than the headline announced rates, could they?

[262] See above.

[263] I.e., the process by which the data was published.

| | |
|---|---|
| **A (Mr Blasius)** | These were the rates that they announced, so I would assume those would be the rates that they were charging – that they were affirming to the market that they were going to charge for LTE. |
| **Q (Mr Turner, KC)** | You say that, Mr Blasius. Go back to your statement, paragraph 33, and look at the bottom line of the page, and what you say there:<br>"However, these were the headline rates. Ascertaining what were the actual rates at which deals were being done was extremely difficult because[it is confidential]."<br>So, in fact, in your written statement you were distinguishing the headline rates announced from the negotiated, actual, rates? That is what you said there. Do you hold to that? |
| **A (Mr Blasius)** | Yes. |
| **Q (Mr Turner, KC)** | If anything, the negotiated rates can be expected to be below the announced rate. Would you agree with that? |
| **A (Mr Blasius)** | Yes, I would agree with that, depending on the case circumstances – it can be. Negotiated rates can be below headline rates. |
| **Q (Mr Turner, KC)** | They are not going to be higher? |
| **A (Mr Blasius)** | To the headline rates for a particular technology, they should not be, in my opinion. |
| **Q (Mr Turner, KC)** | So, by those rights, the royalty rate figure for the Optis portfolio, which was being contended for by you and Mr Warren, that is the combined portfolio, approaching 1%, could not be credible, could it?<br>…<br>You had a far smaller portfolio than they did? |
| **A (Mr Blasius)** | Just because it is a smaller portfolio, does not mean that it is [not] credible from a rate comparison |

194. Mr Blasius was not, therefore, prepared to concede that Optis' rates were out of line with the rates being charged by others in the market. The basis for this appears to be that Optis' Portfolio was of a higher quality. That I do not accept – for reasons I have given; and I conclude that Optis' rates during this period were excessive.

### (3) The effect of *Unwired Planet* (First Instance) on Optis' approach

195. The decision of Birss J in *Unwired Planet* (First Instance) provided – according to Optis – "some light on what the appropriate industry aggregate rate was and how it could be calculated".[264] Optis clearly regarded the decision as an industry-wide framework, and I will consider separately how far that is properly the case.[265] Mr Blasius said this:[266]

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[264] Blasius 2/[36].

[265] See Part IV: Section M below.

[266] Blasius 2/[37].

"Many of us working in the industry viewed the *Unwired Planet* decision as finally setting up a proper framework for licensors to be compensated across the board and to give a level of predictability for the licensees (the **Birss framework**). The Birss framework covered more than just rates. It looked at regional variations in rates, the number of patents per technology, the allocation across a multimode device, the total stack price, interaction with comparables and how the calculation for rates should be done…"

196. As I have said, the extent to which the Birss framework is a framework binding on me when determining the FRAND Question is something I will come to. For the present, I will focus on the use Optis made, in its negotiations, of the Birss framework. In this regard, it is worth noting that – come Trial E – Optis itself jettisoned large parts of the Birss framework, and ceased to rely on it.

197. What Optis really did with the decision in *Unwired Planet* (First Instance) was leverage the findings in the decision in order to negotiate higher royalty rates (or the royalty rates that they wanted) with their counterparties. By way of example:[267]

| | |
|---|---|
| **Q (Mr Turner, KC)** | So you are saying that your review of, among other things, the patent selection process, led to confidence in an essentiality rate of 70% to 80%, around 70% to 80%, yes? |
| **A (Mr Blasius)** | Yes, and that was based off the representations that we made in the earlier one-third rate offer that we believed we had a higher essentiality rate, and that was proven with the claim charts that we had. We were able to claim chart those patents to the pool of declared patents that we held. |
| **Q (Mr Turner, KC)** | I will come to your claim charts and their potency in due course, but I want to focus not on the relativity itself, but on the number, 70% to 80%. So that is saying that of the declared essential patents, your assumption is that 70% to 80% are actually essential, yes? |
| **A (Mr Blasius)** | Yes. |
| **Q (Mr Turner, KC)** | That is a very high number? |
| **A (Mr Blasius)** | When I went through, when I recall this percent at the time, I did not have the exact numbers in front of me. It is very close to 70%, at least what we held to be truly essential. |
| **Q (Mr Turner, KC)** | You say here 70% to 80%? |
| **A (Mr Blasius)** | Right. |
| **Q (Mr Turner, KC)** | That, Mr Blasius, implies a belief in uniform litigation grade patents, by which I mean that they would withstand being tested in court on validity and essentiality grounds and being subject to very limited litigation risk, does it not? That is a very high degree of confidence. |

[267] Day 2/pp273*ff*.

| | |
|---|---|
| **A (Mr Blasius)** | It was our understanding of the patents that we could claim chart to -the number of families we could claim chart to our list of declared standard essential patents. |
| **Q (Mr Turner, KC)** | The number of patents you could claim chart, and that is how you arrived at this? |
| **A (Mr Blasius)** | Yes…The number that we hold to be truly essential. Let me clarify. |
| **Q (Mr Turner, KC)** | Mr Blasius, it presupposes, then, as basic math, that the essentiality rate of your patents, the Optis portfolios, is over twice as high as what Birss J had determined for the Ericsson patents in *Unwired Planet*, the one-third rate. |
| **A (Mr Blasius)** | By way of math, that is approximate, yes. |
| **Q (Mr Turner, KC)** | It was on that footing that you get to your royalty rate now for the combined Optis portfolio of 0.6%? |
| **A (Mr Blasius)** | Yes. |
| **Q (Mr Turner, KC)** | So it was your exercise of judgement? |
| **A (Mr Blasius)** | It was our team's exercise of judgement, based off of what we believe to be held out as truly essential, and I just chose the truly essential patents to be the numerator in that calculation. |

In other words, Optis' rate derived from a combination of Mr Blasius' assertions as to quality (i.e., how "essential" the patents in the Portfolio where) and the rates used in *Unwired Planet* (First Instance).

198. Optis extrapolated a number of rates that it deployed in its negotiations from the *Unwired Planet* (First Instance) judgment. These crop up throughout Optis' description of its negotiations of certain licences, and it is as well to describe these extrapolations now. Thus:

i) *The Birss One-Third Rate.* Mr Blasius described this rate in the following terms:[268]

> "40. Optis started from the position that [Birss J] had found 6 of Unwired Planet's 19 LTE declared SEPs to be truly essential,[269] which Optis equated to roughly a third of the UP Portfolio. Optis applied this "one-third essentiality" finding to the remainder of the PO Portfolio (i.e. the Optis Portfolio and the Samsung-derived patents in the UP Portfolio) of 87 declared LTE SEP families. Using that one-third essentiality rate, the whole PO Portfolio would have around 29 truly essential LTE patents…Scaling [Birss J's] 0.052% LTE rate for the "truly

[268] Blasius 2. See also Warren 1 at paragraphs 21 to 22.

[269] *Unwired Planet* (First Instance) at [207] (which is the reference to the judgment provided in Blasius 2, footnote 12). I accept that this is what Birss J found, but his finding is, in fact, a one-sentence acceptance of the expert evidence before him in the case. I have not considered the substance of the expert reports referred to by Birss J. But I accept that the judgment says this at the end of [207]:

"Accordingly, ignoring validity, I find that for the purpose of assessing a FRAND licence Unwired Planet have 6 LTE Handset patent families and 7 LTE infrastructure patent families which are essential to mandatory aspects of the LTE standards used in the MNPA". It is important to note that Birss J was considering only essentiality, and not validity.

essential" patents to this, Optis came up with a royalty rate of approximately 0.3% for LTE for the whole PO Portfolio. Optis also applied the same 4G:3G:2G weighting of 70:20:10 for multimode devices as in [220] of the Birss Judgment. It made sense to me because it appeared to be a good approximation of the relative importance of the Standards at the time.

41. This royalty rate, which Optis termed the **Birss One-Third Rate**, was offered to everyone Optis were negotiating with at that time, including Apple. Ray Warren and Tom Miller, Optis' then Head of Licensing, went on a "roadshow" to present this extrapolation to implementers and offer the Birss One-Third Rate.[270] I was not directly involved in the initial modelling of the Birss One-Third Rate, but I understand the methodology behind it because at later dates I worked with Ray Warren to give these presentations. Whenever we presented the Birss One-Third Rate, we made it clear that due to the patent selection process, the Optis Portfolio had a higher essentiality rate than the one third calculation and reserved our right to increase the offer, if necessary."

Mr Warren considered the Birss One-Third Rate to be low, because the Optis Portfolio had a higher essentiality rate.[271]

ii) *The True Birss Rate.* Optis then increased the rate – again, drawing on the apparent imprimatur of Birss J. Thus:[272]

"…Optis were confident that the PO Portfolio (excluding that which had already been assessed by [Birss J] had a higher essentiality rate of around 70 – 80% rather than one-third. Applying this essentiality rate of 70 – 80%, I came up with a royalty rate of 0.47% for the Optis Portfolio and 0.13% for the UP Portfolio (which is [Birss J's] 0.052% LTE rate plus 0.078% for the Samsung-derived patents). This gave a combined royalty rate of 0.6% for the PO Portfolio. I call this the **True Birss Rate**. I offered the True Birss Rate to licensees from about January 2019 onwards."

This is the rate on which Mr Blasius was cross-examined, as set out in [197] above. What it really means is Birss J's rate was adjusted upwards according to what Optis generally, and Mr Blasius in particular, considered to reflect the true quality of the Portfolio.

iii) *The Negotiated Rate.* This was a yet further rate developed by Optis:[273]

[270] See also Warren 1/[27].

[271] Warren 1 at paragraph 25. Mr Warren again emphasises the "quality" of the Portfolio:

"…At some point, though I cannot recall exactly when, I became aware that the patents had been chosen through a careful process of review and evaluation by the original patent owners and by Marconi. I also recall speaking to Eric Tautfest about it in early 2018 and from this I became aware that some patents had been exchanged in favour of other patents, so that the ultimate portfolio would be stronger for Optis' licensing efforts. Mr Tautfest had been at Marconi at the time the process to select the patents had occurred."

See also Warren 1 at 29, to similar effect:

"I thought that since this offer was based on a court opinion of a FRAND licence, licensees should and would agree to it in negotiations rather than stalling the negotiations and/or not taking a licence at all. This assumption turned out to be wrong as some companies, including Apple, not only refused those terms but refused even to discuss those terms."

[272] Blasius 2/[43]; also Warren 1/[33].

[273] Blasius 2/[46].

> "In around February 2020, I devised a **Negotiated Rate**, which was a discount on the True Birss Rate. The purpose of the Negotiated Rate(s) is to incentivise implementers to negotiate in a constructive manner and conclude a licence without the need to escalate to litigation. I recognised that the True Birss Rate is based on Optis' view of what the PO Portfolio would be worth if reviewed by a Court as part of litigation. Some implementers would force us to litigate, in which case we would seek the True Birss Rate. However, I wanted to build into the framework of the Negotiated Rate an incentive to negotiate constructively and get a deal done so that Optis did not have to use enforcement measures against implementers. [redacted] Another objective [redacted] When offering the Negotiated Rate to licensees, I always make clear that Optis' belief is that the True Birss Rate (which I would sometimes call the "Court Adjudicated Rate") is FRAND. [redacted]

### (4) Hallmarks of Optis' approach to royalty negotiation

199. Optis' approach demonstrated an unwavering commitment to *ad valorem* rates, from which it only departed reluctantly. I will consider the role of rates – *ad valorem*, per unit and lump sum – in due course, but it is appropriate to record that Optis tended to insist on rates calculated on an *ad valorem* or (as Mr Blasius put it, "running royalty" basis), and would only depart from rates so calculated with extreme reluctance.

200. In addition to this point, Optis' negotiations had the following characteristics:

i) A tendency not to record discussions and to conduct business orally and without documentation.[274] I do not draw anything sinister from this – it is simply the way that Optis did business. Optis' approach stands in stark contrast to Apple's more documented approach, which I shall describe in greater detail below. I am not going to be drawn on which process is the better – it seems to me that is a matter of subjective choice – but the <u>difference</u> in approach meant that when Optis did negotiate with Apple, the negotiations did not involve a meeting of minds, even in terms of process. There were a number of misunderstandings that could have been avoided if each party had attempted to accommodate the other more.

ii) Considerable reliance – after hand-down of the judgment in *Unwired Planet* (First Instance) – on various rates tied to, and seeking to leverage, the judgment of a (highly respected) High Court judge and jurisdiction. Birss J's judgment in *Unwired Planet* (First Instance) was used much more than simply a "reference point" by Optis but rather as the "court approved" rate which informed Optis' start point in negotiations. Indeed, Optis referred to Birss J's findings and the

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[274] See, for example, the discussion of Mr Blasius' general practices at <u>Day 2</u>/pp.199-200 (cross-examination of Mr Blasius).

rates it put forward as the "court-adjudicated rate",[275] which (whatever its accuracy) was clearly an attempt to leverage the decision to Optis' advantage.

iii) The Birss rate was further leveraged by favourable comparisons between the quality of the portfolio before Birss J and the quality of the Optis Portfolio. Thus, in cross-examination, Mr Blasius said this:[276]

| | |
|---|---|
| **Q (Mr Turner, KC)** | Mr Blasius, what you are doing here, in the passage we just read, is using as leverage in your negotiations with counterparties an assertion which is that the Optis Portfolio was significantly stronger than Unwired Planet's? |
| **A (Mr Blasius)** | I would not characterise it as leverage. It was a fact that we would disclose to the parties for them to be able to learn more about our portfolio. |
| **Q (Mr Turner, KC)** | Would you not describe it as leverage when you said you reserved the right to increase the offer if necessary? |
| **A (Mr Blasius)** | Again, that is a fact as to what we would represent to companies. |
| **Q (Mr Turner, KC)** | It is, indeed. Presumably, because you say "Whenever…" at the start of the sentence, you used this tactic more than once? You say: "Whenever we presented the Birss One-Third Rate, we made it clear…"? |
| **A (Mr Blasius)** | Yes, I believe there was a representation in the presentations at times, as well. |
| **Q (Mr Turner, KC)** | And that was because you perceived it worked, this approach with your counterparties, this tactic? |
| **A (Mr Blasius)** | Well, again, I would not characterise it as a tactic. We were trying to inform the other party that, in the context of the Birss decision, one-third of those patents ended up being truly essential. We believed we had a much stronger portfolio of truly essential patents, but in the context of the one-third representations we were going to make a concession in those negotiations that one-third of our patents would also be truly essential on the Optis portfolios. We believed that their essentiality rating was much higher, but we made this concession with companies in the negotiations and made that in our offer in the one third rate. |

[275] See, for example, Day 2/pp.279-280 (cross-examination of Mr Blasius). In some cases, Optis even went so far as to use or duplicate the template for Birss J's judgment in their own documents: Day 2/p.282 (cross-examination of Mr Blasius).

[276] Day 2/pp.224*ff*.

| | |
|---|---|
| **Q (Mr Turner)** | And you have explained that you believed it was much higher without having done the comparison of the selection processes? |
| **A (Mr Blasius)** | Well, we referenced the selection process as one factor, along with our efforts of actually knowing that we were developing the claim charts and we were learning about – we had the successes in certain litigations in those portfolios and licences that were entered into for those portfolios, and that was proving to be right. |

iv) I have already considered the quality of the assertions made by Optis regarding the quality of its portfolio.[277] I have concluded that there is no basis for the assertions as to quality that Optis undoubtedly made to its counterparties. That said, whatever its merits or accuracy, the point was undoubtedly made by Optis in negotiations with its counterparties. The question is what <u>effect</u> the assertion might have had. I conclude that the assertion would have had very limited effect on a sophisticated counterparty with "skin in the game",[278] but would have served as a useful pressure point against a smaller counterparty with less to lose, because less to pay.[279]

v) Mr Blasius was entirely unable to plausibly defend the assertions Optis made as to the "quality" of the Optis portfolio:[280]

a) In other proceedings, Mr Blasius made the assertion that the price agreed for a portfolio of patents would, very significantly, be affected by or even derived from a single – clearly essential, valid and enforceable – patent. He is recorded as saying, in these proceedings, that "in his experience a single patent or a small number of patents within Motorola's standards-essential portfolio would command "at least 50 percent" of the portfolio rate".[281]

b) Mr Blasius very much rowed back from this assertion in his evidence before me, and stated that it no longer represented his view.[282] His view, rather, was that such a patent could constitute a "reference point":[283]

[277] See Part IV: Section E above.

[278] I.e., any well-resourced counterparty being expected to spend significant amounts of money on a licence to a portfolio.

[279] At the same time, a poorly-resourced counterparty would find an *ad valorem* rate attractive: low sales means less to pay than a lump sum payment, differently calculated. I consider later on in this Judgment the extent to which Optis was keen to promulgate *ad valorem* rates, not because they would generate more revenue in the instant case, but because the licences agreed on this basis would have useful precedent value.

[280] I have already found that these assertions were not true and so, for the most basic reason, indefensible. However, the point I am here addressing is somewhat different, namely the extent to which such assertions would have traction in negotiations with counterparties.

[281] See the brief of Motorola in United States proceedings between Apple and Motorola, put to Mr Blasius in cross-examination (<u>Day 2</u>/pp.203 to 204).

[282] <u>Day 2</u>/pp.203 to 206 (cross-examination of Mr Blasius).

[283] <u>Day 2</u>/pp.205 to 206 (cross-examination of Mr Blasius).

| | |
|---|---|
| **Q (Mr Turner, KC)** | …Just focusing on the content of what you said, your practical business experience was that a small core of – let us call them, "litigation grade patents" – which you can successfully assert, gives you the leverage in portfolio negotiations, yes? |
| **A (Mr Blasius)** | It gives you a reference point of comparison to your portfolio at what you are asking for your portfolio versus what happens in a litigation. It is a reference point. |
| **Q (Mr Turner, KC)** | Well, according to you, it commands at least 50% of the portfolio rate. It is a disproportionate effect, is it not? In other words, Mr Blasius, a licensor like Optis, according to you, does not need to have a large portfolio with high quality patents from top to bottom to have formidable negotiating clout? |
| **A (Mr Blasius)** | No, I would not agree with that statement. What was meant here was Motorola – excuse me, Motorola had a very large portfolio of patents. In this context, in a single litigation, where we were with Apple, and oftentimes with other companies, you would establish the value of your portfolio on a small number of patents. That did not mean the rest of your portfolio did not have value. |

c) By "reference point", I took Mr Blasius to mean that it was possible to infer something about a portfolio as a whole from a single patent. Accordingly, I pressed Mr Blasius on this and on what, exactly, he meant by "reference point".[284] Entirely unsurprisingly, Mr Blasius was unable to explain how it was possible to infer very much about a portfolio of patents from a single patent (or Patent Family) in that portfolio. That is in no way a criticism of Mr Blasius: Patent Families are unrelated to each other, and whilst I have no doubt inferences can be drawn about the strength or otherwise of individual patents in a single Patent Family, I see no basis for any wider inference. Mr Blasius provided none.

d) That, as it seems to me, demonstrates that assertions about individual "quality" patents justifying an inference about overall portfolio quality might impress the small implementer paying little more and looking for a licence fast, but would in no way impress the larger implementer being demanded fees of a material size in absolute as opposed to percentage terms. In other words, this is a "cheap" point that might have traction

[284] See the exchange at Day 2/pp.206 to 209.

against someone forking out US$500,000, but with no serious traction against someone being expected to pay (say) several million US dollars.

## H. GENERAL APPROACH TO NEGOTIATING LICENCES: APPLE

### (1) Ms Mewes' general explanation

201. Apple claimed to follow a "FRAND Framework", which I shall refer to as the **Apple Framework**.[285] This Apple Framework was described by Ms Mewes in the following terms:[286]

> "17. Apple is transparent about its approach to FRAND licensing. It has published a detailed statement explaining its methodology and other relevant documents on its website. Of course, other companies and particularly licensors have different approaches to FRAND licensing, but that is not to say that two different approaches cannot achieve the same outcome. Here I describe how Apple approaches its side of FRAND negotiations.
>
> 18. I understand from WilmerHale that the licenses Apple has agreed with cellular SEP owners that have been disclosed in this case post-date 2013. I refer here to the approach to FRAND licensing negotiations that I understand was conceived around 2011, and that Apple adopted for negotiations from at least 2013, and continues to use today, as the FRAND Framework.
>
> 19. In 2011, Apple acquired a significant cellular SEP portfolio. At this time, in accordance with its ETSI obligations as a cellular SEP holder, Apple disclosed general principles that govern its valuation of SEP licences publicly in a letter to the ETSI Director-General. During my tenure as Senior Corporate Counsel in the IP Transaction Team (2012-2015), I was aware of how those general principles set out in Apple's letter to the ETSI Director-General were and are applied in the context of the FRAND Framework. I note here that Apple follows the FRAND Framework both when it is acting as licensor providing cross-licences to its own cellular SEP portfolio and when it is a licensee. In other words, Apple applies the FRAND Framework equally to its own cellular declared SEPs, and to others', as set out below."

Pausing there, whilst I accept this evidence, Apple were a net taker of licences rather than a net provider of licences. On balance, therefore, Apple were best characterised as an Implementer rather than an SEP Owner, if only one label were to be applied. Thus, it would be in Apple's interests to have a framework that favoured licensees (Implementers) rather than licensors (SEP Owners). Continuing with Ms Mewes' evidence:

> "20. The FRAND Framework is a framework that Apple follows in FRAND royalty negotiations between Apple and third-parties for cellular SEP licences…It is applied when a negotiation commences, and is always discussed with prospective licensees and licensors, at least verbally and often in written correspondence. In the cellular SEP license negotiations I was part of, Apple applied the FRAND Framework as the basis for its positions with counterparties.
>
> 21. The FRAND Framework has an overarching goal to engage in SEP licensing consistently, fairly and in a non-discriminatory way in cellular SEP licensing negotiations, irrespective of the cellular SEP portfolio in issue. This is important for us

[285] Mewes 1/[11].

[286] Mewes 1.

because Apple is involved in numerous licensing negotiations at any given time, and following the process of this kind seeks to avoid royalty stacking whereby the cumulative royalty across the stack of cellular declared SEPs exceeds a fair value for the technology in issue.

22. The FRAND Framework is based on the following two starting premises, which seek to determine a reasonable aggregate royalty burden for the relevant cellular standard or standards:

i) The smallest saleable patent practising unit (**SSPPU**) for cellular SEPs is the baseband chipset, where the functioning of the cellular standards is substantially practiced or embodied; and

ii) The proportion of the overall cellular declared SEP royalty profits that is allocated to the cellular SEP holders is determined to be no more than the profits of the baseband chipset.

23. The first premise in the FRAND Framework approach is that the aggregate royalty burden is calculated by reference to the SSPPU. In the context of cellular standards, I understand from speaking to various Apple engineers over time that the unit or product responsible for adherence to cellular standards in a cellular device is the baseband chipset. Use of the baseband chipset as the SSPPU takes account of, and creates a boundary around, the actual value that is added by the cellular technology that is the subject of cellular SEPs (i.e. the patented technology), rather than features that are independent of cellular functionality. This is an important step of apportionment: separating out value attributable to non-patented features, other standardisation that is not ETSI's cellular standards, and other unrelated technologies and innovations…For example, GPS technology is typically embedded in the baseband chipset, and clearly has value distinct from the value of the cellular technology. Further still, standardisation itself has value and that value should be separated to properly isolate the value of the cellular SEPs…

24. Using the baseband chipset as the SSPPU, Apple then estimates the aggregate royalty burden, that is the total value contributed to the cellular device by all cellular SEPs. This figure is the total amount of royalties that may be apportioned amongst cellular SEP holders. This is the second premise mentioned above and, for this purpose, Apple estimates the total royalty base to be the profits available on the sale of a baseband chipset.

25. The basis for using the profit margin on the sale of a chip as the total royalty base was confirmed in US District Judge James Holderman's well-known 2013 decision in *Re Innovatio IP Ventures*, concerning WiFi patents, for which WiFi chips were the SSPPU. The rationale for doing so is that the average profit margin represents the maximum potential aggregate royalty amount, because it is the amount available from the sale of the chip to the chipmaker to pay royalties on the intellectual property. This, therefore, accounts for, among other concerns, royalty stacking."

Again, pausing at this point, I can understand the intellectual need to attach an absolute (as opposed to an *ad valorem*) price (<u>not</u> value) to the overall stack. I will be returning to this question. However, it is important that I flag now that whilst I sympathise with the need, the manner in which Apple has gone about the assessment seems to be to economically and rationally indefensible. I explain why below.[287] Continuing:

"26. In its application of these premises, Apple first approximates the costs of the baseband chipset to be US$20. Apple takes the US$20 approximation as the high end of the average price of a baseband chipset.. (I have seen that over time, the price that Apple pays for 4G multimode baseband chipsets is in the range of $10 - $20.) Second, Apple derives the total royalty burden by taking a 25% profit margin estimate as applied to the approximated costs of the chipset. The profit figures are based on public data. In particular, Qualcomm, who has been a supplier of 4G multimode baseband chipsets to Apple, and is currently a supplier, publicly discloses its profit margins both for its chipset business and for its company overall. I appreciate margins can vary year to year, but in my experience these margins average around 20 to 25%. As a result, Apple estimates the maximum total aggregate royalty burden in a 4G multimode baseband chipset to be US$5, i.e. 25% of $20.

27. From this royalty base, the FRAND Framework then seeks to arrive at the appropriate licence rate for any give portfolio. This involves two steps:

i) An initial calculation is made of the proportion of the cellular declared SEP Stack which the portfolio at issue comprises. This is applied to the $5 profit margin, which as explained above is the maximum aggregate royalty base, to arrive at the **Royalty Reference Point** or **RRP**. For this calculation, all patents are assumed to be valid, essential, infringed and enforceable.

ii) The RRP may then be adjusted when formulating a FRAND offer on a particular portfolio based on a number of factors, including, for example, an assessment of, among other things, the validity and essentiality of the SEPs at issue (**Adjustment Factors**).

28. The total number of cellular declared SEPs that are essential to a cellular standard is referred to as the "SEP Stack", which can be used individually or collectively, for example the "LTE Stack" to refer to all LTE SEPs or the "4G Stack" to refer to all 2G, 3G and 4G SEPs. The way we determine the proportion of the SEP Stack which the portfolio at issue comprises is to take the total number of families of patents in the portfolio declared essential to the 4G Stack ("Declared Essential Patents") divided by the total number of families of Declared Essential Patents in the 4G Stack. The reason for using the 4G Stack (i.e. including 3G and 2G) is that a 4G capable mobile device, such as those sold by Apple, supports these other standards as well. To be clear, this step relies on the counts of *declared* patents and Apple does not engage in any essentiality or validity or other assessment at this stage.

29. As well as examining share by families of patent, we will also look at a licensor's share of the SEP Stack by asset (i.e. individual country-designation of patents) and sometimes by standard. Using the 4G Stack, family data, and Declared Essential Patent share is Apple's preferred method of evaluation, but looking at different classes of data and different sources of data (including any sources relied upon by the patent owner) can be informative to Apple's overall assessment in a given scenario, in that they provide additional data points.

30. Apple initially draws data on the number of Declared Essential Patents that comprise both the prospective licensor's portfolio and the SEP Stack from information in declarations that is made publicly available through the ETSI website. Since 2018, Apple

[287] See Part IV: Section I below.

has accessed this data through a database provided by a company called Innography. The Innography database used by members of the Apple IP & Licensing Group is derived from the ETSI data of declared essential SEPs…

31. The final step of the FRAND Framework uses the RRP as a guide or anchor, but allows for adjustment during negotiations. Adjustments may be made based on technical merit, essentiality, validity and various other factors…"

## (2) Apple's methodology as reflected in the documentary evidence

202. In a letter by Apple to ETSI dated 11 November 2011, Apple made the point that "our industry suffers from a lack of consistent adherence to FRAND principles in the cellular standards arena. Apple believes the industry would benefit from a more consistent and transparent application of FRAND, especially related to the licensing framework for cellular standards essential patents. To this end, Apple is committed to a FRAND licensing framework for cellular standards essential patents based on three basic elements – appropriate royalty rate, common royalty base and no injunction. Apple is committed to this framework, provided that other parties reciprocate". Apple expanded on this point as follows:

"Appropriate Royalty Rate: A party who made a FRAND commitment to license its cellular standards essential patents or otherwise acquired assets/rights from a party who made the FRAND commitment must license those patents at an appropriate rate. An appropriate rate is one that is reflective of the party's portfolio of cellular standards essential patents and patent applications as compared to the total, industry-wide pool of such patents and applications. This commitment should guide each party's initial offer, as well as the final terms of any license.

Common royalty base: A party who made a FRAND commitment to license its cellular standards essential patents or otherwise acquired assets/rights from a party who made the FRAND commitment must apply its appropriate rate to a common base. This common base, as between two negotiating parties, should be no higher than the industry average sales price for a basic communications device that is capable of both voice and data communication.

No injunction: A party who made a FRAND commitment to license its cellular standards essential patents or otherwise acquired assets/rights from a party who made the FRAND commitment must not seek injunctive relief on such patents. Seeking an injunction would be a violation of the party's commitment to FRAND licensing."

203. Optis characterised Apple's approach to an appropriate rate being one "reflective of the party's portfolio of cellular standard essential patents" (see the words in the quotation above) as constituting "patent-by-patent licensing".[288] This is not an unfair description of Apple's approach.

204. Apple's Statement on FRAND Licensing of SEPs[289] expressed Apple's respect for others' innovation and the importance of industry standards, particularly in allowing interoperability of products around the world. The statement enunciated certain core principles that "have guided and will continue to guide Apple's approach to FRAND licensing of standardized technologies as both a SEP licensor and licensee":

[288] Optis Closing (Round 1)/[192].

[289] Which was exhibited to Mewes 1 as Exhibit HM-1.

"**Negotiations in FRAND Licensing**

***Both SEP licensors and licensees should negotiate transparently and willingly based on an exchange of relevant information***

- Owners of SEPs should make licenses available on FRAND terms to any and all interested parties that request a license

- SEP owners should not discriminate in the licensing of those SEPs – including by category, industry, or location in the supply chain

- SEP owners should include, with license offers to SEPs, an explanation with factual and legal support sufficient for potential SEP licensees to assess for each SEP whether (i) a license is needed, and (ii) the offer is FRAND

- After a SEP owner satisfies its disclosure obligations, SEP licensees should provide substantive responses to any *bona fide* offer, including an explanation and factual and legal support as to why the licensee believes the offer does not comply with the owner's FRAND obligations, if applicable

- Parties have a fundamental right of access to national courts and a willing licensee does not become unwilling if it refuses arbitration, challenges the merits, or resorts to litigation because the SEP owner does not offer FRAND terms

**Merits Based Evaluation of SEPs**

***Traditional patent law and burdens of proof should be applied to test the merits of SEPs and owners' royalty demands, just as they are for all patents***

- SEP owners should not avoid or shift traditional burdens of proof during a FRAND negotiation, alternative dispute resolution, or litigation

- SEP owners should identify each SEP to be licensed, and should prove with specificity why each SEP is actually essential, infringed, and not otherwise invalid, exhausted, licensed, or unenforceable

- SEP owners should prove the value of each alleged invention and establish that a licensing offer to each and all such patents complies with FRAND requirements

**Portfolio Licensing & Bundling or Tying of SEPs**

***No licensor of any type of patent, including SEPs, has a special legal right to collect royalties for only a portfolio-wide license; SEP licensees should not be forced to take bundled or portfolio licences***

- SEP licensees should have the ability to choose whether to license individual, select groups of, or entire portfolios of SEPs

- SEP licensors should not condition SEP licenses on the licensing of their non-standard-essential patents or on access to licensee's non-standard-essential patents

- SEP licensors should not demand that a SEP licensee take a portfolio or bundled patent license – whether all included patents are declared SEPs, or are a combination of SEPs and non-standard essential patents

**FRAND Royalty Base**

***There should be a common FRAND royalty base that applies equally to all SEP licensors and SEP licensees***

- The common royalty base for SEPs should be no more than the smallest saleable unit where all or substantially all of the inventive aspects of the SEP are practised

- This base should be further apportioned to locate the SEP value, separate and apart from prior art, non-patented features, other patented technologies, standardisation itself, and contributions and innovations of others (i.e., materials, manufacturing, marketing, etc)

- For cellular standards, the smallest saleable unit should be at most the baseband chip

**FRAND Royalty Rate**

***A FRAND royalty rate should be proportional among SEP licensors and comparable among SEP licensees***

- A SEP licensor's *pro rata* share of declared SEPs is an objective reference point in a FRAND negotiation

- An objective, reasonable, royalty rate protects against SEP licensors being unjustly enriched through excessive royalties (royalty stacking) to the detriment of both SEP licensees and other SEP licensors and contributors, as well as consumers

- An objective reasonable royalty rate applied to a common royalty base protects SEP licensees from cumulative, excessive, royalties

- ASP or use-based methodologies for determining FRAND royalties are a back-door for SEP licensors to discriminate between licensees, to charge different royalties for the same SEPs, and to capture value attributable to licensee innovations

**Injunctive Relief with Respect to SEPs**

***SEP licensors should not seek injunctions to increase their negotiating leverage, except in very rare circumstances***

- The threat of injunction on even a single SEP creates "hold-up" and distorts arms-length FRAND negotiations

- Monetary damages provide a sufficient remedy for SEP infringement

- Injunctions should be available only when a SEP licensee (i) fails to comply with a final judgment from a court of competent jurisdiction, (ii) is bankrupt, or (iii) is beyond the jurisdiction of a court

- Injunctions on non-standard-essential patents should be viewed with suspicion when circumstances suggest they are being sought to gain leverage in SEP negotiations"

205. This Statement on FRAND Licensing is a statement which Apple defended and continues to defend. It forms an important part of the Apple Framework which Apple

relied upon in this case. Optis, for its part, contended that this was no more than an articulation of Apple's "hold-out" stance.[290]

206. In particular, Apple defended, throughout the trial, the importance of the right of any licensee to insist upon a patent-by-patent review of any patent in an SEP portfolio if that was what the prospective licensee wanted. In other words, no licensee could be compelled to take a portfolio license, if it did not wish to do so.[291] This aspect of Apple's approach features less prominently in Ms Mewes' description of the Apple Framework,[292] but it was an important part of Apple's negotiating approach.

207. The fact is that this insistence on at least the potential for a patent-by-patent review was generally present in Apple's approach to negotiation. As Optis put it, "Apple consistently tells every single counterparty that no licence is needed [by Apple], and that every single SEP for which a claim chart has been provided is either not essential or invalid".[293] I find that to be generally the case, but it is important to see this approach in context:

i) Where Implementers are faced with demands to license a portfolio of SEPs, a negotiating response (perhaps the only viable response) is to demand to be persuaded as to the quality of the portfolio on "offer".[294] It is very difficult to see how that can be assessed, save by way of a patent-by-patent examination.

ii) Apple frequently takes licences without conducting an examination of each and every patent in the portfolio being licensed. In other words, licences are frequently concluded on the basis of (far) less than perfect knowledge. Clearly, therefore, the "we must review every patent" approach is not fixed, but a negotiating ploy.

iii) Yet still further, one can understand why, in open correspondence, an implementer like Apple would be no more likely to admit the validity or essentiality of a single patent than the SEP owner would be to accept its invalidity or inessentiality. Such concessions are quite simply not pointful, given that what is at issue is not a licence to a single patent, but a licence to a portfolio comprising multiple patents. Were an SEP Owner to offer (as Optis did not) a "pick-and-choose your patents" approach, matters would be very different: but that, for reasons that are obvious and understandable, is not a course that would commend itself to an SEP Owner, and certainly did not commend itself to Optis.

208. Apple took a hard-nosed approach in its negotiations with SEP Owners. Purely by way of example – but it was, in my judgement, typical – I will refer to Apple's negotiations

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[290] See, for example, Optis Closing (Round 1)/[193].

[291] See, for instance, the evidence of Ms Mewes (Day 5/pp698-699, quoted in Optis Closing (Round 1)/[195(a)]; Day 5/pp700-701, quoted in Optis Closing (Round 1)/[195(b)]). Although this point was put extensively in cross-examination by Mr Speck, KC, it must be stressed that Apple was entirely clear – throughout – that this was its approach.

[292] Set out at [201] above.

[293] Optis Closing (Round 1)/[212], and the examples at [213].

[294] It is not really an offer capable of refusal: the whole point is that the Implementer is likely to be infringing something.

with Innovius.[295] In June 2017, Innovius sent to Apple 28 claim charts.[296] There was a meeting, on 12 July 2017, to discuss them,[297] which "provided an opportunity for us to ask questions and understand the claim charts further".[298]

209. The response to these claim charts was as follows. In a letter dated 2 October 2017, Ms Mewes set out Apple's position:

"As you know, Apple respects the valid intellectual property rights of third parties. Apple is also willing to license on fair, reasonable and non-discriminatory terms any valid and enforceable standard essential patents ("SEPs") that Apple is actually using.

Innovius is seeking to sub-license certain rights to Apple relating to the patents of others, [redacted] PanOptis/Unwired Planet, [redacted]. Innovius has provided certain claim charts regarding patents in these portfolios and we met on June 30 and July 12 to discuss some of the claim charts from [redacted] PanOptis/Unwired Planet portfolios. Apple also requested a further meeting to discuss the [redacted] claim charts.

While our analysis is still on-going (and we await further information per our prior requests), we wanted to supplement our initial feedback to Innovius regarding [redacted] portfolio and provide our initial feedback on the PanOptis/Unwired Planet [redacted] portfolios. We have reviewed the claim charts Innovius provided regarding these portfolios, and have considered the additional information presented during our meetings on June 30 and July 12, 2017. For the reasons summarised in Attachments 1, 2 and 3 hereto, we conclude that each of the asserted patent claims is not standards-essential and or invalid. Please note that while the analysis set forth below and in my prior letter of August 31, 2017 is merely exemplary and not exhaustive, it demonstrates why the claim charts fall short of showing that Apple infringes any valid and enforceable patent [redacted] and/or PanOptis/Unwired Planet.

As noted previously, we do believe it would be helpful to discuss in person the asserted [redacted] so that we can better understand the assertions and claims being made. We can also be prepared to discuss any questions you may have regarding Apple's analysis of each of the asserted portfolios at such a meeting or separately. As there are a large number of patents and claim charts at issue, please let us know if there are any we have overlooked – at this point, we believe we have provided our written analysis with respect to all asserted patents and claim charts.

210. Optis suggested that this letter, and the approach it evidenced, demonstrated Hold Out. I will consider Hold Out generally later on in the Judgment. It is worth pointing out, however, that the assertions Apple made in the letter were supported by other work assessing the portfolio in question done by Apple's technical teams. The attachments justifying Apple's position (Attachments 1, 2 and 3 to the letter here under consideration) are detailed and evidence a good deal of hard work on the part of Apple. It may be that the points taken are wrong or misconceived. I am in no position to judge: there was no examination of the attachments at trial. But it cannot – or cannot seriously

[295] Innovius had authority to discuss licensing of various portfolios of SEP holders, including Optis: Day 6/p.983 (cross-examination of Ms Mewes). Mr Blasius was involved. However, I consider that there was nothing special or specific to Apple's negotiations with Innovius, and this serves as a good general example.

[296] Optis Closing (Round 1)/[783].

[297] Optis Closing (Round 1)/[783].

[298] Day 6/p.983 (cross-examination of Ms Mewes).

– be suggested that Apple was failing to engage or failing to take the request for a licence seriously.

## (3) More specific points concerning Apple's approach to negotiations

211. The following more specific points I find to be the case:

i) Just as Optis was insistent on an *ad valorem* rate in its negotiations, so too was Apple insistent on a lump sum payment. The following exchange between Mr Speck, KC and Ms Mewes sets out Apple's position:[299]

| | |
|---|---|
| **Q (Mr Speck, KC)** | Apple's FRAND approach is to assess value exclusively as a dollar and cents per unit basis, not an *ad valorem* assessment, yes? |
| **A (Ms Mewes)** | That is correct. |
| **Q (Mr Speck, KC)** | Apple disagrees as a point of principle with an *ad valorem* approach to valuation. That is with any variation in money paid per unit with either the price of the unit or the profit of the unit? |
| **A (Ms Mewes)** | In terms of valuation, yes, agreed. We disagree as a matter of principle that it is apportioning correctly the value of the cellular technology. |
| **Q (Mr Speck, KC)** | You disagree with any approach to valuation that has any variation in the money paid per unit – yes? |
| **A (Ms Mewes)** | Yes, our view of a standard is essentially – think of it as a plug. There are lots of things that could be attached to the plug. It is very simple. Of course, these standards are very complex, but you are essentially plugging into a cellular network and you are capturing the value of the entire device, value and innovation that is from Apple, from many, many other suppliers of Apple, when you tax the end user at the *ad valorem* rates and the end user price. |
| **Q (Mr Speck, KC)** | I understand the argument. I just want to establish that it is correct that you disagree, as a matter of principle, with any variation in the money paid per unit. That is right, is it not? |
| **A (Ms Mewes)** | I think there are variations, and we certainly have talked to similar situated parties paying similar rates. So in terms of does this have to be exactly the same number? I am not sure we would say that, but certainly, we think, in principle, it should be similar, and that people |

[299] Day 4/pp.594*ff* (cross-examination of Ms Mewes).

using the same patents should pay the same price.

Apple was most intensely opposed to *ad valorem* rates, which was because of the high ASP for Apple Handsets, compared to the ASP of other manufacturers. But Apple tended, in its negotiations, to reach lump sum rates in its licences. I consider that Apple was not only opposed to *ad valorem* rates, but was also disinclined (albeit with rather less force) to agree per unit rates in its licences.[300]

ii) Apple also considered that the owner of an SEP should only be rewarded for the technical merit of the patent in question and not for the contribution it made to the Standard, from which (Apple accepted) Apple derived benefit. This is a point that was advocated by Professor Shapiro, and is something that I will return to. But Ms Mewes also sought to defend this stance, and it clearly formed a part of Apple's negotiating approach.[301] Again, to anticipate, I consider there to be no merit in this point when seeking to resolve the FRAND Question, both as a matter of principle and on grounds of practicality.[302]

iii) The Apple Framework was an approach that Apple was upfront about. Ms Mewes articulated it clearly; and it was – as has been seen – set out in documentation published by Apple. However, Ms Mewes suggested that Apple would not be dogmatic in its insistence on the Apple Framework, and would not seek to use it to obtain as low a price for an SEP portfolio as it possibly could.[303] According to Ms Mewes, Apple "have incentives, obviously, to pay less. But our goal is that there be fair compensation for SEPs".[304] Whilst I am sure that Apple would be conscious of their buyer-power, and would not wish to present as a corporate behemoth, steamrollering opposition whenever it presented itself, I do consider that Apple would behave, in negotiations, first and foremost as a profit-maximising entity. Thus:

a) I consider that, whilst Apple would be open to alternative methodologies or frameworks for structuring licensing negotiations, Apple's receptiveness to such methodologies or frameworks would correlate very closely to the outcome that Apple would expect to reach using its own Apple Framework. In short, provided Apple got to the end-point it wanted to reach, they would be pretty indifferent as to how, in terms of methodology, that end point was reached.

b) Apple were very much aware of their strong position in the market, but also that counterparties would – conscious of Apple's profitability – seek

[300] I am not, of course, saying that ASP and volumes of sales would be irrelevant in negotiating a lump sum rate. That would be to disregard two key factors. But I am also not saying that a lump sum would merely be the conversion of estimates of volumes sold and ASPs into a present value. What I am saying is that a lump sum would be a negotiated rate, taking account of volumes sold and ASPs, as well as other factors. It is the nature of those other factors that will require further consideration.

[301] Day 5/pp.706*ff* (cross-examination of Ms Mewes).

[302] See, further, Part IV: Section J below.

[303] This was a recurrent theme in Mr Speck, KC's cross-examination of Ms Mewes. See, for example, Day 4/pp.603*ff*.

[304] Day 4/p.604.

to obtain a higher rate than they might seek as against a less well-off company.

c) Apple would not allow altruism to override profit-maximisation. Thus, Apple would not seek out licensors and offer to license rights they needed. Apple would wait until they were approached. Equally, Apple would not refrain from threatening patent-by-patent, territory-by-territory, litigation in order to "soften-up" their negotiating counterparties. Of course, Apple would be well-aware that such an approach – if carried out – was unlikely to be cost-effective either for Apple or for its counterparty. It was a negotiating ploy, but one that Apple deployed in pretty much every case that I have seen in this litigation. It is quite clear that if the gap in negotiations was too wide – as it proved to be here – Apple would insist on essentiality and validity being established on a case-by-case basis. Ms Mewes was pressed on why Apple had required Optis to go through the technical trials, Trials A to D in these proceedings.[305] Apart from suggesting that this was Apple's right (a point that is true but irrelevant for present purposes) and suggesting that litigating essentiality and validity in the case of one patent would cast light on the quality of the portfolio as a whole (point that I do not accept[306]), Ms Mewes could advance no justification for Apple's conduct in this regard. As I have noted, Optis contended that this was a blueprint for Hold Out.[307]

## I. THE SMALLEST SALEABLE PATENT PRACTISING UNIT OR "SSPPU"

### (1) Why this matters?

212. Apple's methodology necessarily involves attributing a price to the overall Stack. Only if that is done, can the proportion of the Stack be valued. I do not – at this stage – go so far as to say that this is the only or even the most viable way of resolving the FRAND Question. Rather, this Section is concerned with one of the ways in which Apple sought to attribute – independent of the use of comparables – an absolute value to the Stack, so that a price for portions of the Stack could be derived, at least on a prorating basis.

213. Apple's approach to price was based on the **SSPPU** – the smallest saleable patent practising unit. Ms Mewes described how the SSPPU fits into the Apple Framework, and I have set out her description at [201] above. The purpose of this Section is to explain why the SSPPU approach is, in my judgement, indefensible.

[305] Day 4/pp620*ff* (cross-examination of Ms Mewes).

[306] I pressed Ms Mewes on this (Day 4/pp.622*ff*) and although Ms Mewes attempted to justify Apple's forcing of the issue in Trials A, B, C and D (and the consequential appeals), I was not persuaded. On the other hand, I do accept that this jurisdiction is triggered only by a finding, of a court, that a given patent is both essential and infringed, and that a court must be very careful before suggesting that a defendant's "rights of defence" are to be set at naught. To be clear, I consider that any party is entitled to move arguable points before a court in this jurisdiction.

[307] E.g. – amongst many times this was put – Day 5/p.703 (cross-examination of Ms Mewes).

### (2) A critique of Apple's methodology

214. Apple's methodology involves finding an absolute value to the Stack. Apple's route to finding such an absolute value turned on the baseband chipset, which Apple contended was the SSPPU. I heard a great deal of evidence as to whether the essential functionality of the Standards fell within the baseband chipset. On balance, I have concluded that Apple, on this point, have rather the better of the argument, and that the functionality of the Standards did indeed fall within this tiny component.[308] On this point, therefore, I prefer the evidence adduced by Apple.[309] However, I do not propose to expand very much on this technical point because – although I have concluded that the SSPPU is indeed the baseband chipset – this conclusion does not assist Apple at all in establishing an absolute value to the Stack.

215. Apple's argument goes like this. The baseband chipset contains the cellular functionality of the Standards. I have concluded – although I have not set out my reasoning at any length – that the baseband chipset does contain the relevant technology.

216. Apple contend that this should frame the debate as to value or price. So, if the baseband chipset is valued at US$25 (a figure Optis did not seriously dispute), and the cost of production is US$20 (again, a figure Optis was prepared to accept, for the sake of argument), the manufacturer's profit is US$5 (as a matter of simple arithmetic). The product is, however, unlicensed. The manufacturers of baseband chipsets do not (typically) seek or obtain licences to the SEPs comprising the Stack.[310]

217. Apple contended that the baseband chipset manufacturer should pay for the licence out of the US$5 profit, and that this therefore constituted the absolute limit that ought to be paid by anyone. Although I do not understand this to be a necessary part of the argument, only a supporting prop, Apple also contended that were the baseband chipset manufacturer to obtain a licence to the Stack, that licence would exhaust the intellectual property rights of the patent owner, such that manufacturers incorporating the baseband chipset into their product (say, a handset) would not themselves need a licence at all. Exhaustion of rights is a complex area of law, even in this jurisdiction; and its effects vary from jurisdiction to jurisdiction. For the sake of argument, I am prepared to assume that Apple are right, and that licensing of the baseband chipset manufacturer on a worldwide basis would exhaust the rights of SEP Owners in respect of any "downstream" products.

218. I am prepared to make this – and other – assumptions because the basic premiss of Apple's argument is wrong in its essence. There is no reason why the baseband chipset manufacturer would have to fund the licence fee to the stack out of the US$5 profit that

[308] I was, very helpfully, provided with a baseband chipset. Although it did nothing more than enable me to appreciate the mass of technology that is incorporated in a component the size of a small fingernail, this was a helpful lesson in appreciating the important technology that I am here concerned with.

[309] I heard a great deal of evidence on the point, from Professor Henkel, Mr Eriksson and Mr Ingers not least.

[310] There was a dispute as to whether the manufacturer of a baseband chipset would require a licence. It seems to me that nothing turns on this point. It was not a necessary part of Apple's argument, although my understanding is that Apple contended that a licence would generally be required, and that Optis disputed this. The dispute is complex, and almost certainly jurisdiction dependent. It is also not relevant to the argument: the point Apple was making was that since the baseband chipset contained the essential technology, it should constitute the framework of reference for working out the absolute value or price of the stack. I deal with the argument in these terms.

is being hypothesised. Indeed, it is quite absurd to presuppose that the manufacturer of a baseband chipset would forego any part of their profit unless absolutely compelled to do so. It is much more likely that baseband chipset manufacturers would increase the price of their product to reflect the added value to purchasers of that product of having a licence to the SEPs comprising the stack. Absent extremely clear market evidence, the assumption that the baseband chipset manufacturer would absorb the costs of the licence and not pass them on is almost certainly both unsafe and wrong. Certainly, it cannot be assumed. I explored this point with Ms Gutteridge:[311]

| | |
|---|---|
| **Q (Marcus Smith J)** | Ms Gutteridge, this all turns on your assumption that the chipset manufacturer will absorb the cost of the licence? |
| **A (Ms Gutteridge)** | That is correct, yes, my Lord. |
| **Q (Marcus Smith J)** | Why not apply a different method, and say – if I assume that it is the chipset manufacturer that must have the licence – what would be agreed by way of charge between the patent holder and the licensee (the chipset manufacturer in this case) disregarding the assumption that the cost of the licence would be absorbed, because it might equally be passed on?<br>You might find that the price that the chipset manufacturer charges to the purchaser of the chipset – say, the mobile phone handset manufacturer – that the price goes up for US$25 to, well, whatever? |
| **A (Ms Gutteridge)** | I had not made that assumption. |
| **Q (Marcus Smith J)** | You had not made the assumption? |
| **A (Ms Gutteridge)** | I did not model that assumption. |
| **Q (Marcus Smith J)** | But is it not quite fundamental to the pot or the pie?[312] I am afraid I am losing my analogies here. Pie, I think it is. Is that not central to the size of the pie? You have essentially limited it to maximally US$5, and you take 33% of that, That only operates as a constraint on the pie. I quite take your point that the chipset manufacturer is not going to go on manufacturing chipsets if all its profit is taken away by the cost of the licence? |
| **A (Ms Gutteridge)** | Yes. |
| **Q (Marcus Smith J)** | But that only holds good if your assumption about absorption holds good. Remove that, and say that the cost is passed on to the next purchaser down the chain, which is what an economist would tell you usually happens. Then the world is your oyster, is it not – you can say the licence is, well, could be much more than the profit? |
| **A (Ms Gutteridge)** | I accept that. I have not modelled that. I am not sure how I would model that. Instead, I went to that next step in the chain and assumed that that was another interesting |

[311] Day 13/pp.2452*ff* (cross-examination of Ms Gutteridge).

[312] I.e., the fund out of which the licence could be paid by the chipset manufacturer, assumed by Apple and Ms Gutteridge to be maximally US$5, but potentially rather less than this, because the chipset manufacturer would require some return. This is where the 33% comes from.

> point to look at. I had understood some licensing to take place at that level and, hence, the modelling I did do was, again, limited by the price cap and, again, using the 33% assumption, just look at the different outcomes you could get at that point. But I absolutely accept my Lord's point.

219. If the licence to the Stack constitutes a valuable benefit to the baseband chipset manufacturers – either because the manufacturers need the licence to avoid infringement themselves; or because this is a valuable benefit to pass on to purchasers of the chipset; or if both justifications for obtaining a licence pertain – the US$5 limit to the purchase price for the licence is arbitrary. The real question is what would the market enable the chipset manufacturers to recover from their purchasers to reflect this additional cost/benefit. The answer will depend on all the circumstances, but the one thing that is almost certainly not going to be the case is that the price of the licence will be absorbed by the chipset manufacturer to any significant degree. The analysis breaks down at the stage where one seeks to ask: what would a FRAND rate be for the chipset manufacturer? As to this:

i) If the licence to the chipset manufacturer did not involve any exhaustion of rights (i.e., the handset manufacturer would also need a licence) then the FRAND rate is likely to be low, because the value of the licence to the chipset manufacturer is going to be correspondingly low.

ii) If, on the other hand, licensing the chipset manufacturer exhausts the rights of the SEP Owners, then the licence is of real value to a seller of chipsets to handset manufacturers. The FRAND price ought to be exactly the same as that which would be paid by the handset manufacturer.

220. Whatever the position, there is no reason why the pot of money out of which a licence is to be purchased to the entirety of the Stack should be limited to US$5 per unit. The US$5 has an entirely specious validity and precision. Apple's SSPPU approach is to be rejected for this reason alone; but, much more fundamentally, focusing on the SSPPU in no way assists in deriving a price for the technology licence here in issue. What matters is the price that can be charged in the market; not an artificial attempt to localise the technology in issue to a particular component. Nor does the SSPPU assist on the question of "anchoring" – to which I come next – save in the very limited manner of providing a new, and different, anchor-point.

### (3) "Anchoring"

221. Anchoring is a term used by Professor Shapiro to refer to the considerable extent by which judgements as to numeric values can be influenced in unobjective ways:[313]

> "46 …research in the fields of behavioural economics and psychology shows that judgements about numeric values are greatly influenced by previously encountered reference points or "anchors". For instance, an observation that reasonable royalties are generally a low, single-digit percentage of revenue will produce a strong tendency to find a reasonable royalty in that range. This is true even if prior reference points do not involve products comprised of multiple components and therefore do not raise the kinds of concerns about royalty stacking that arise with complex electronic products such as cellular phones and

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[313] Shapiro 1.

tablets. The research shows that this anchoring effect is especially pronounced in tasks that involve approximation and uncertainty. Any calculation of reasonable royalties necessarily involves an element of approximation and uncertainty because it requires an estimation of what would have occurred in a hypothetical, *ex ante* negotiation. In the presence of this uncertainty, salient numbers like the royalty base can have a significant effect on a court determined royalty.

47 One famous early experiment illustrates the effects of anchoring. In this experiment, subjects were first asked whether the percentage of African nations that are members of the UN was greater or less than a number (either 65% or 10%) that they were told had been generated by spinning a "wheel of fortune". They were then asked for their best estimate of the percentage of African nations that are members of the UN. The median response to this second question from the subjects that had been given the 65% figure from the "wheel of fortune" was 45%, while the median response from the subjects that had been given 10% was 25%.

48 Subsequent research has shown that insufficient adjustment from an initial anchor value is pervasive and that this conclusion is robust across a wide variety of settings. It has been observed in settings involving negotiations, economic valuations, and legal proceedings. It is present for both inexperienced and expert decision makers; it persists even when decision-makers are aware of the effect or are told not to rely on the anchor; and it remains powerful even when random or implausibly extreme values are provided as the anchor. While most studies report results from experiments, significant anchoring effects have also been observed in real-world decisions.

49 Multiple studies have shown that anchoring can also affect judicial decisions. For example, experiments using German trial judges with an average of more than 15 years of experience demonstrated that sentencing decisions were influenced by sentencing demands and the magnitude of the anchoring effect in the judges' decisions was similar to that of law students. The results held even when the sentencing demands came from an unreliable source, when the judges were informed that the demands were randomly generated, and when the judges themselves randomly determined the demands by rolling dice.

50 In the context of royalty awards, patent-infringement cases focus on the patents-in-suit, which may cause the patented technologies to be overvalued relative to other product features, such as other technologies, materials and innovations contributed by the manufacturer. Evidence from US litigation suggests that royalty rates are not adjusted sufficiently to account for the royalty base. In US cases litigated to trial, the average royalty rate for patents that read on an entire product, expressed as a percentage of that product's price, was about 1.5 times as large as the average royalty rate for patents reading primarily on a component of a larger integrated product, expressed as a percentage of the integrated product's price. This ratio suggests that there are on average less than 1.5 components in a multi-component product, which is not consistent with electronic products like smartphones that contain far more than 1.5 components.

51 The anchoring research supports a conclusion that the royalty base will affect the magnitude of reasonable royalty awards. When a patented technology is substantially embodied in one of many components of a complex product, using that end product as the royalty base may result in a royalty award above the FRAND rate. For example, when royalties for cellular SEPs are calculated in reference to handsets rather than baseband chipsets, the larger price and profit figures associated with the handsets are likely to "anchor" royalties at a higher per-unit level even if the cellular SEPs are substantially embodied in only one of many handset components. This effect will be larger for high-end handsets because their higher prices will provide a higher anchor."

222. As an abstract proposition, I find Professor Shapiro's identification of this issue important and helpful. However, it is necessary to make the following additional points:

i) The phenomenon is best demonstrated to exist where there is an objective answer. So, in the case of the African nations who are members of the UN, that question has a definite, right or wrong, answer. One can see the effect of the "wheel of fortune" on the answers (or, rather, educated guesses) given by persons asked the question. The problem here is that the FRAND Question does not have a known answer against which any biases that I might have due to anchoring can be measured. As Professor Shapiro notes, even an awareness of the anchoring problem does not resolve it in the minds of those affected.

ii) The problem, in this case, is really that the price or value to be attributed to either the Portfolio or to the stack is not known. It is to be derived in this Judgment. That is clear from a variety of indicators:

a) It can be seen from the fact that the percentage values pitched for by Optis, both at trial and in the various negotiations put in evidence for the purposes of this trial, have no rational underpinning. They are simply the prices that Optis wanted (and sometimes got).

b) But the same is true of Apple's approach: measuring royalties to an SEP Owner by reference to their ownership of an ascertainable percentage of the Stack that that portfolio comprises works very well, subject to issues of "quality" which I have resolved, but only where the value or price attributable to the Stack itself can be derived. Professor Shapiro can, of course, say that the total price of the Stack (derived, say, by adding the headline rates for the portfolios described above, and a bit more to take account of those not publishing headline rates) is "too high". But that is as subjective as saying that it is "just right" or "not high enough". Apple's own method of valuing the stack – the notional profit of the manufacturer of the baseband chipset – is just as much susceptible of anchoring error as anything else. The fact that the price of the chipset is as low as US$25 skews our thinking, so that (unless we really force ourselves) we cannot imagine a chipset manufacturer charging US$50 or US$500 or US$5,000 for a chipset <u>with a licence to all SEPs comprising the Stack</u>. Ms Gutteridge was, in my judgement, as much a victim of anchoring as anyone else.[314]

c) The same, of course, can be said of the deployment of the price of the "basic" Handset as a control on royalties payable by Apple. As I have described, Apple was opposed to royalties calculated on an *ad valorem* basis, for the obvious reason that Apple Handsets retail at a far higher ASP than most other Handsets of other Implementers. Apple's point was that the additional "value" causing consumers to pay for Apple handsets did not derive from the technology providing mobile connectivity, because this was common to all Handsets. Apple's position was, therefore, that <u>if</u> I was minded to calculate rates on an *ad valorem* basis,

[314] I want to stress that I found Ms Gutteridge's evidence illuminating and helpful, as a foil for considering these very difficult questions.

the royalties payable should be capped at a given percentage of the ASP of a "basic" Handset. Thus, suppose my view was that the rate for the Stack was 10% of ASP, and that the ASP of Apple Handsets was US$1,000, whereas for the basic Handset it was US$100. Royalties payable by Apple should be (according to Apple) US$10 and not US$100. It is, I would suggest, extremely difficult to work out what is the more appropriate payment for Apple to make, and part of the problem (although, in this instance, there are a number of other factors that come into play) is anchoring. The idea that Apple should pay in royalties the ASP of an entire "basic" Handset seems – intuitively, but for no good reason – too high. Again, the problem is one of anchoring, and it seems to me that instinctive reactions that a price is "too high" or "too low" or "just right" are impossible to defend rationally.

223. Anchoring, clearly, is a problem. I can only say that I will proceed recognising the problem. I will seek to deal with it by looking, so far as possible, for objective answers to the FRAND Question that are not affected by the subjective and the irrational.

## J. WHETHER VALUE ATTRIBUTABLE TO THE STANDARD SHOULD BE EXCLUDED?

### (1) The point explained

224. Professor Shapiro's opinion was that an SEP's value (in terms of what an Implementer should pay to obtain a licence for it) should be calculated by reference to the usefulness of the SEP – its importance, as I have defined that term[315] – to the Implementer, disregarding the value of the Standard itself to the Implementer.

225. It was common ground between the parties, and I accept, that Standards add value to the consumer. To take the present case, facilitating cellular connectivity between different types of Handset (made by different Implementers) across multiple jurisdictions is an obvious benefit to the user of the Handset. The benefits of standardisation are wider than this:[316]

i) If consumers can buy Handsets from any Implementer, confident that cellular connectivity is a given whoever the manufacturer is, the market for Handsets is expanded. If, in a world without Cellular Standards, an Apple Handset would connect only to other Apple Handsets, and a Samsung Handset only to Samsung Handsets (to take an entirely hypothetical and probably not very realistic example) the market for Handsets would be fragmented. Although there would be competition between Standards,[317] the loss of Implementer neutral end-to-end connectivity would be disbeneficial.

[315] See [17] above.

[316] I should stress that this is an analysis that arises out of the market evidence that was led before me. I am in no way carrying out a full exercise in market definition, as a competition lawyer would understand that process. It is unnecessary for me to do so. I am simply concerned to articulate the uncontroversial benefits of standardised Cellular Connectivity. These benefits, generally expressed as I have expressed them, were not controversial.

[317] Probably not beneficial, although standards in themselves do raise anti-trust or competition issues.

ii) In a market of Implementer-neutral end-to-end connectivity, Implementers would compete in a wider Handset market. Instead of selling to a limited market (say, the market for the "Samsung" network, to carry on with my example of a fragmented market), Samsung would be able to compete not on connectivity but on other Handset attributes and – of course – on price. The efficient competitor would benefit.

iii) So too would the consumer. Instead of a fragmented Handset market, with market power concentrated in the Implementers powerful in specific network "fragments", a single Handset market where Implementers compete, gives consumers choice and agency.[318]

226. Concentrating, for the moment, on the benefit of a wider market to Implementers, Professor Shapiro asserted that allowing SEP Holders to price taking into account the Standards of which the SEPs formed a part was both economically inefficient and wrong in principle. To quote from his report:[319]

> "30 In the standard-setting context, the FRAND rate can be conceived of as the rate that would result from *technology competition* to be included in the standard. The rate resulting from such *ex ante* technology competition would be free of patent holdup. Royalties based on a hypothetical negotiation during this period of *ex ante* technology competition support and promote competition on the merits and provide a reward to innovation that is appropriately aligned with the economic contribution of the innovation. Royalties above this level would encourage companies to make inefficient investments into patenting technologies that do not provide significant improvements over alternatives, and they would distort innovation by making it less profitable for companies to develop new products that depend on the standard.
>
> …
>
> 32 These economic principles establish that the FRAND royalty is the rate that would be negotiated between the SEP holder and potential licensees prior to the establishment of the standard. At that point in time, the industry is not yet locked into any particular technology. If a patent owner tried to charge an excessive royalty, then potential licensees could choose an alternative path, such as using other existing technologies, whether patented or in the public domain, designing a new method for achieving the feature enabled by the patent, or foregoing that feature altogether. In particular, potential licensees would not agree to pay any more than the incremental value that the patented technology generates relative to these alternatives. Economics thus establishes an upper bound on the FRAND rate: the *ex ante* incremental value of the technology covered by the SEP compared with the next-best alternative that was available prior to standardisation."

227. In this way, according to Professor Shapiro, an upper bound to the FRAND rate was achieved, although this would not be a determination of what the FRAND rate would actually be (save that the FRAND rate would be lower than the upper bound so

[318] There are also, self-evidently, anti-trust or competition concerns arising out of Standards. See Shapiro 1/[26], where these concerns are mentioned. Again, these disbenefits are – in general terms – well understood and not controversial for the limited purposes of this Judgment.

[319] Shapiro 1.

determined). Since it was the upper bound that mattered for the purposes of this case, I will concern myself with that aspect alone.

### (2) Analysis

228. I reject the existence of Professor Shapiro's "upper bound" to the FRAND rate for the following reasons:

i) *Practical impossibility.* The upper limit to FRAND involves a patent-by-patent consideration of the importance of each SEP in issue. Whatever the technical merits of the approach, given the number of patent families in issue, an assessment of their merits (in addition to questions of validity and essentiality, that would no doubt also arise) renders the approach a non-starter, as Professor Shapiro accepted.[320] More to the point, it seems to me that if a theoretical approach to resolving a practical question before a court is advanced, it is incumbent upon the party adducing that evidence to ensure that there is before the court all of the material necessary for the court to make a final adjudication. It would be inappropriate – particularly given the process put in place[321] – to in effect adjourn this trial so that a patent-by-patent assessment of the importance of Optis' Portfolio could be carried out. The fact that Apple could only advance a theoretical approach – impossible to apply given the evidence before this court – only underlines the peripheral nature of this evidence[322] and the fact that it would have been impossible, within the confines to the trial and the process leading up to it, actually to produce any kind of evidence along these lines.

ii) *Unnecessary.* The fact is that the decision in *Unwired Planet* (SC) resolves the problem of Hold Up. As I have described, the SEP Owner does not have a right to an injunction where *(i)* the owner has declared the patent to the Standard and *(ii)* where the implementer in question has expressed a willingness to abide by a court-determined FRAND licence. It follows that – whatever may have been the case in the past – the notion that rates will go up because of Hold Up or that rates will be computed to include a Hold Up "weighting" are not axiomatically right. Indeed, the whole point of the process is to answer the FRAND Question in a way that accords value <u>neither</u> to Hold Up <u>nor</u> to Hold Out.

iii) *Wrong in principle.* One of the consequences of Professor Shapiro's approach is that the benefits of the Standard accrue <u>away from</u> the SEP Owner. The Apple Framework sought to exclude the value of the Standard itself from payments to SEP Owners. Ms Mewes was cross-examined on this:[323]

| | |
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| **Q (Mr Speck, KC)** | It is recognising a value created from the actual process of creating the standard, yes? |

[320] <u>Day 9</u>/p.1753 (cross-examination of Professor Shapiro).

[321] See Part III: Section A above.

[322] Nothing I say should reflect on the fact that Professor Shapiro gave his evidence clearly and cogently, and with every desire to assist the court. I mean absolutely no criticism of him. Professor Shapiro advanced the SSPPU as a proxy for this approach: <u>Day 9</u>/pp.1753 to 1754 (cross-examination of Professor Shapiro). But I doubt whether it is a proxy; and I have rejected the SSPPU approach in any event, for reasons I have given.

[323] <u>Day 5</u>/pp.705*ff* (cross-examination of Ms Mewes).

| | |
|---|---|
| **A (Ms Mewes)** | Yes, once a patented technology is part of the standard, it is going to have value simply because it is part of the standard and separate and apart from its actual value. |
| **Q (Mr Speck, KC)** | I am not talking about the individual patent. I am talking more broadly. This is recognising a value created from the actual process of creating the standard? |
| **A (Ms Mewes)** | Oh, yes. |
| | … |
| **Q (Mr Speck, KC)** | To put it quite bluntly, this is a document saying those that created the standard must not capture any of that value in the licence. That is all to be apportioned and left to the implementer to appropriate entirely, yes? |
| **A (Ms Mewes)** | Well, that is not exactly right, no. |
| **Q (Mr Speck, KC)** | Tell his Lordship why that is not right? |
| **A (Ms Mewes)** | The process of standardisation is a lot of parties coming together. Some of them come with patented technology, which has contributed to the standard in exchange for the FRAND commitment. A lot of people come to the process because they recognise the value of standardisation to their business. They contribute technology that may, in fact, be public domain. It may be royalty-free. Commitment may be committed as royalty-free.[324] Not everything in the standard is patents. So when you are looking at the value of the patents, you have to consider, of course, I think as noted in the ETSI policy, the value of the contributions that have been made, and that is the patents. But to say that the patent owner should appropriate all the value of the standard to me is not right. |
| **Q (Mr Speck, KC)** | I am suggesting all. What you are saying is none? |
| **A (Ms Mewes)** | No. I think that is very consistent with what the European Commission has said…[325] |

Although a little equivocal, Ms Mewes was agreeing with the line taken by Professor Shapiro, namely that the SEP Owner should be rewarded for the technology inherent in the SEP and not for any contribution the SEP made to

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[324] Sic. I am not sure what Ms Mewes actually said or intended to say, but her meaning is broadly clear (and certainly was at the time she gave her evidence).

[325] Which is that standards should not form part of the price paid: see the European Commission's November 2017 Communication "*Setting out the EU approach to Standard Essential Patents*" at p.6, later put to Dr Niels in cross-examination.

the Standard itself. I find this a proposition that is difficult to defend, even if it were practicable. The fact is that the SEPs are part of what makes the Standard. I agree with Ms Mewes that there are other contributions, but simply considering the position of the SEP Owner, the SEP Owner *(i)* declares the SEP to the Standard, but *(ii)* as a direct consequence enters into the FRAND undertaking not to seek an injunction. This is a contribution going <u>beyond</u> the value of the SEP itself. It may be that the SEP Owner is rewarded through the higher <u>volume</u> sales achieved in having the SEP part of a standard, rather than a higher royalty payment for <u>each sale</u>. But that is a matter for negotiation of rates (whether volume justifies a lower per unit or *ad valorem* rate or not) between SEP Owner and Implementer and I can see no justification for excluding altogether from the SEP Owner's reward the contribution made by SEPs to the Standard itself.

## K. THE COMPARABLE LICENCES

### (1) The value of "comparables"

229. As will become increasingly clear in this Judgment, comparables – by which I mean transactions sufficiently similar to the licence between Optis and Apple that I must value – can be of enormous value in answering the FRAND Question. A comparable that was fairly negotiated, between a willing buyer and a willing seller, and was genuinely similar to the present case, would have significant evidential value. The value of comparables, which should be considered and which discarded, and how they should be assessed, was considered by Birss J in *Unwired Planet* (First Instance):

> "172. In relation to comparables generally Huawei submit that the approach to be followed is that set out by Lloyd LJ in *Smith Kline & French Laboratories Ltd's (Cimetidine) Patents*, [1990] RPC 203 as follows:
>
> > "The object of the comparability exercise, in this as in any other branch of the law, is to find the closest possible parallel. If there is an exact parallel, there is no point in looking any further. If there are slight differences, an allowance may be made. But once you have found your comparables, whether one or more, which enable you to arrive at the appropriate figure, it would surely be erroneous to modify that figure by reference to other cases which are not truly comparable at all, so as to bring the case into line with a predetermined range. This was, with great respect, the mistake which the hearing officer made."
>
> 173. Huawei argue that Mr Lasinski's approach (which was to select the two or three "best" comparables and rely on those) accords with these principles. On the other hand, Huawei criticise Mr Bezant's approach[326] of including many more licences. I do not accept that criticism. In my judgment, if a group of comparables are at least potentially as relevant as each other and are not the same, it is not right to elevate a small subset above the others. That is also not what Lloyd LJ in *Cimetidine* said one must do; instead, he said that, assuming there is no exact parallel, once true comparables have been determined one should be careful not to dilute them by reference to other cases which are not truly comparable at all. Mr Bezant's general approach does not do this.

[326] This was the same Mr Bezant who gave evidence before me.

174. If a group of good comparables corroborate one another then no doubt that is a factor to take into account but equally if apparently good comparables, when properly understood, contain different rates, that is also relevant too.

175. Huawei also submit that the comparables selected should include some, or ideally all, of three criteria: (a) the licensor is Unwired Planet or Ericsson; (b) the licensee is Huawei, or a similarly situated company such as Samsung; and (c) the licence is recent. I agree with (a) and subject to what "recent" means I agree with (c). However, I am not convinced that (b), the identity of the licensee, should be a strong factor in determining what comparables are useful for determining the FRAND rate aside from the hard-edged non-discrimination point addressed below. FRAND is supposed to eliminate hold up as well as hold out. Different licensees will have differing levels of bargaining power. That is another way of saying their ability to resist hold up and their ability to hold out will vary. It would be unfair (and discriminatory) to assess what is and is not FRAND by reference to this and other characteristics of specific licences. In my view, it would not be FRAND, for example, for a small new entrant to the market to have to pay a higher royalty rate than an established large entity. Limiting comparable licences to those where Huawei or a similar company like Samsung is the licensee is therefore unjustified. In my judgment, the FRAND rate ought to be generally non-discriminatory in that it is determined primarily by reference to the value of the patents being licensed and has the result that all licensees who need the same kind of licence will be charged the same kind of rate.

176. In argument, the rates on which both sides' submissions were based were derived from global rates for the whole SEP portfolio albeit that Huawei's case is that the licence should be a UK licence. This worked because both sides agreed that the correct way to arrive at a UK portfolio rate was by starting from a global rate in effect as a benchmark and then adjusting upwards. Conceptually, the approach was common ground although the level of the correct adjustment was in dispute. This approach, in which a rate is determined as a benchmark and then adjustments made as appropriate, is a useful way of determining what a FRAND rate or rates should be. Arriving at a benchmark FRAND rate is a neutral way of making appropriate findings. In this case it caters for the parties' rival cases about what the territorial scope of the licence should be."

As to this:

i) In the present case, there was no common ground between the parties as to how the FRAND Question should be resolved – contrary to the common ground identified by Birss J at [176] of *Unwired Planet* (First Instance). Not only were the parties at variance in terms of <u>where</u> comparables fitted in the process of answering the FRAND Question (both Optis and Apple articulated approaches that were not comparables based), the way in which Optis and Apple contended comparables should be used (if they were to be used) also differed markedly.

ii) Unlike in the case of *Unwired Planet* (First Instance), there was even a dispute, which I will have to resolve, as to whether the appropriate FRAND rate was an *ad valorem* rate. This <u>appears</u> not to have been a matter debated before Birss J, and his points about non-discrimination (at [175] of *Unwired Planet* (First Instance)) need to be read in that light.

iii) With these two qualifications as to the utility, in this case, of this passage, [172] to [174] of the judgment contain helpful guidance as to the use of comparables both generally, and in this case. It is, clearly, unhelpful and liable to lead to error to be too dogmatic as to how comparables are to be treated before considering their nature. Obviously, if one has a group of precisely comparable licences, with the remaining comparables of no probative value, it is a nonsense to pollute the helpful comparables with the unhelpful. Equally, where there is an exact parallel, that comparable is liable to have – and ought to have – greater weight. But this is to anticipate. What I take from this passage – and particularly [174] – is that the use of comparables needs to be evidence and fact led; and to say any more at this point would be an error.[327]

## (2) The comparables put forward by the parties

### *(a) Annex 3 to this Judgment: information about the comparables*

230. Both Optis and Apple relied upon what they termed "comparable" licences in support of their cases. Annex 3 hereto contains a summary of the essential terms of the various licences that will be further considered in the course of this Judgment. An overview, in the form of Annex 3, is necessary because the various licences are very different from each other, and it is not possible simply to identify a key number of metrics or attributes and set them out. Much more work needs to be done, in order to render the comparables helpful, and Annex 3 represents an initial effort at distilling the nature of the licences.

231. The table at Annex 3 captures the following information:

i) Column (1) states the date on which the licence was executed. The comparables are listed in chronological order according to this date. Because it may be significant in terms of its effect on licences concluded after it was handed down, the date of hand-down of *Unwired Planet* (First Instance) is included in the chronology.

ii) Column (2) gives each comparable a short-form name, which will be used to reference that comparable in this Judgment. The names are also listed in Annex 2. Underneath each name, appears a list of what are termed the "key characteristics" of each licence. There are a number of such characteristics:

a) *Basis for calculating royalties.* Essentially, there are three options, namely *(i) ad valorem*, *(ii)* per unit and/or[328] *(iii)* lump sum.

b) *Past release, future licence or both.* Licences, in their strict sense, concern a permission to do, in the future, that which the licensor (or SEP Owner) could otherwise enjoin. A licence reflects the licensor's power to prevent, preclude or exclude. Most, if not all, of the comparables are licences in this sense. However, a number also contain releases for past infringement, where a past infringement is retrospectively validated or permitted by the owner of the right (the SEP Owner). As will be seen, most of the comparables that are both forward and backward looking do

[327] The difficult, and fact-sensitive nature of these questions is well-illustrated by the discussion in the Privy Council in *Raja Vyricherla Narayana Gajapatiraju v. The Revenue Divisional Officer, Vizagapatam*, [1939] 1 AC 302 at 312 to 316. See, also, *EE v. Islington* [2019] UKUT 53 (LC) at [83]*ff*, where a general discussion of valuation principles is provided. At the end of the day – as stated by Hoffmann J in *Land Securities plc v. Westminster City Council*, [1993] 1 WLR 286, this is ultimately a fact-driven exercise. See, further, [365] below.

[328] Some licences use multiple measures for calculating royalties payable.

not distinguish between payments that are attributable to releases for past infringements or a future licence.

c) *Geographical range.* Most of the comparables are worldwide in extent: this is noted, and where this is not the case, the ambit of the comparable stated.

d) *Inclusion of a cross-licence.* This is only relevant to the Apple comparables, for Optis (as a purely licensing entity) has no need to buy the intellectual property rights of others. Optis is a seller only. Apple, on the other hand, although a net licensee, does have a portfolio of SEPs that it can license to its counterparty. This is the case with a number of the comparables put forward by Apple. The problem – not for commercial purposes, but for the use of such licences as comparators – is that the payments that would go both ways are typically netted off in the agreements, and it is not possible to say how Apple's portfolio is valued as against the portfolio it was seeking to license.

The significance of these characteristics is expanded upon later on in this Judgment.

iii) Column (3) identifies the party – Optis or Apple – adducing the comparable. Where appropriate in the text of this Judgment, I identify the adducing party by setting out that party's name following the name of the licence: e.g. [redacted]

iv) Column (4) sets out a brief description of the licence terms.

### *(b) The Optis comparables*

232. Optis pleaded that it had entered into 19 licences covering all, or a sub-set of, Optis' Portfolio since 2015.[329] According to Optis' pleaded case, "Optis' valuation expert does not consider or unpack five of the 19 licences that cover all, or a subset, of Optis' cellular SEPs due to specific circumstances applicable to each licence".[330] As regards the remaining 14 licences, Optis's pleaded case was as follows:[331]

> "28. Of the remaining 14 licences, Optis' valuation expert has analysed each of those licences. However, in relation to five of those agreements (namely, [redacted], Optis' case is that they are not reliable or useful comparables…
>
> 29 Optis will say that the remaining nine of the licences, namely [redacted], constitute suitably reliable and useful data points…These licences are referred to as the "Optis Comparables"."

233. Thus, the 19 Optis comparables fall into three classes.

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[329] Optis Position Statement/[26].

[330] Optis Position Statement/[27].

[331] Optis Position Statement.

i) Five licences that Optis' valuation expert did not consider at all, leaving 14.

ii) Nine licences on which Optis relied, namely:[332]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

I shall refer to these nine licences as the **Optis Comparables**, which is a term consistent with that used in Optis' pleading.

iii) Five licences on which (according to its pleadings[333]) Optis explicitly did not rely, namely:[334]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

234. This last group of five licences – the ones not material according to Optis' pleading – proved to be controversial. In order to understand this controversy, it is necessary first to consider Apple's response to Optis' pleaded case. Apple's response is set out in Apple's Responsive Position Statement/[38]:

"As to §§23-28, it is noted that Optis does not seek to rely on 10 of the 19 Optis licences that have been disclosed in these proceedings. Apple does not seek to rely on those 10 licences either and does not address them further in the Responsive Position Statement."

[332] Optis Written Opening/[182].

[333] I.e., paragraph 28 of the pleading set out in [232] above.

[334] Optis Written Opening/[184].

That was Apple's consistent position from the date of Apple's Responsive Position Statement onwards. Although Apple – with the assistance of its experts – considered the nine Optis Comparables, it did not consider the others.

235. When Optis decided to jettison the evidence of Ms Dwyer and rely instead on the PA Consulting Report,[335] Optis' position regarding the licences they had previously disavowed changed, and they sought to rely on them, notwithstanding a clear direction from me that this was an "impermissible expansion of Optis' case".[336] Optis persistently sought to introduce this material, stating (for example) in the <u>Optis Written Opening</u> that "[n]otwithstanding that these licences do not form part of Optis' positive case, they are addressed extensively in the fact and expert evidence".[337]

236. For reasons that I do not understand, it is true that Optis' expert (Mr Bezant) was at no time informed of Optis' pleaded case and gave his evidence referring to Optis comparable licences <u>going beyond</u> the Optis Comparables.[338] This placed Mr Bezant, Apple and the court in a difficult position.[339] Apple have been absolutely clear that they have not considered the non-Optis Comparables, and that they were in no position to do so at short notice. I understand and respect that. On the other hand, Mr Bezant, understandably, gave general opinions on the basis of <u>all</u> the Optis comparables he had reviewed, and understandably had some difficulty in separating the pleaded sheep from the unpleaded goats. I permitted Mr Bezant to give evidence on this basis (there was no alternative),[340] but I must recognise two points:

i) First, that Apple will not have been able to cross-examine in relation to licences which Optis expressly stated it was not relying on; and

ii) Secondly, that I must ensure that to the extent I can I exclude from consideration the comparables that Optis have said they are not relying on. That is simply because, if I were to take this material into account, I would be hearing only one half of the story – Optis'.

237. Mr Blasius and Mr Warren also went out of their way, in their witness statements, to give evidence about comparables that were not in issue. It has been far easier to disregard this evidence (which is what I have done) because Mr Blasius and Mr Warren

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335 As to which, see above.

336 See my ruling in these proceedings at [2022] EWHC 1433 (Ch), in particular at [22].

337 <u>Optis Written Opening</u>/[185] and [195], which lists (under the heading "Optis Comparables") the five agreements that emphatically <u>cannot</u> be so labelled.

338 Bezant 1, for instance, spends a great deal of time "unpacking" licences which Optis <u>expressly</u> did not rely on and which Apple <u>expressly</u> did not consider. For instance, Mr Bezant spends some time unpacking [redacted] (<u>Bezant 1</u>/[6.25] to [6.44]) and [redacted] (<u>Bezant 1</u>/[6.53] to [6.64]). I am not sure whether Optis was deliberately trying to put Apple and the Court in a difficult position, but that was certainly the effect. Although it is elementary, it bears repeating that there needs to be some dovetailing between a pleaded case and the evidence adduced to support it. I make no criticism of Mr Bezant looking at all the materials. But it is Optis' pleading that governs the scope of Optis' case. The attempt to bring in these instances – well after Apple could consider them – gave rise to considerable risks of unfairness, which I have striven to mitigate as best I can.

339 Not one that Optis appeared to recognise, even when making written closing submissions: see <u>Optis Closing (Round 1)</u>/[507] and [508].

340 See <u>Day 11</u>/pp.2106*ff* (cross-examination of Mr Bezant), and in particular pp.2117*ff* and pp.2124 to 2125.

simply sought to describe the facts, and not to draw general conclusions from those facts.

### (c) *The Apple comparables*

238. Just as Optis did, Apple produced 19 licences.[341] Apple relied on 14 of these, and set out why they did not rely on the remaining five.[342] Of course, this in no way precluded Optis from making points in relation to these licences.

239. The 14 Apple Comparables (the **Apple Comparables**) relied upon by Apple are:[343]

i) [redacted]

ii) [redacted]

iii) [redacted]

iv) [redacted]

v) [redacted]

vi) [redacted]

vii) [redacted]

viii) [redacted]

ix) [redacted]

x) [redacted]

xi) [redacted]

xii) [redacted]

xiii) [redacted]

xiv) [redacted]

240. The remaining five are:[344]

i) [redacted]

ii) [redacted]

iii) [redacted]

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[341] Apple Position Statement/[41].

[342] Apple Position Statement/[41].

[343] See Mewes 3/[7].

[344] Listed in Apple Position Statement/[41(1)] to [41(4)].

iv) [redacted]

v) [redacted]

### (d) More information about the comparables

#### (i) The material evidence

241. The following paragraphs consider – in relation to each comparable – <u>additional</u> points that may be relevant to my consideration. All of the comparables are listed in the following paragraphs, but in respect of some of them there is nothing more to say at this stage than what appears in Annex 3. Where that is the case, that fact is simply noted.

242. Optis tended to have more relevant information to give in relation to the Optis Comparables than Apple did in relation to the Apple Comparables:

i) Optis are a far smaller company than Apple, and unsurprisingly Mr Blasius and Mr Warren could add information arising from their personal knowledge that went beyond the documents in the case. For this reason, they were cross-examined in respect of most of the Optis Comparables.

ii) Apple, on the other hand, are a large company and their comparables were (generally speaking) with large counterparties. The personal element in negotiations was largely missing. The witnesses that Apple called – mainly Ms Mewes, but also Mr Rockower and Mr Ankenbrandt – actually could say very little about the Apple Comparables, beyond what appeared on the face of the documents.[345] Ms Mewes, additionally, had to bear the burden of being cross-examined in relation to licences about which Ms Whitt (who was not called[346]) had principally given evidence.[347]

iii) For this reason, Optis were selective in relation to the Apple Comparables they cross-examined on, understandably preferring to focus on "themes" (mainly, Apple's Hold Out), rather than "details" about which the witnesses could say little or nothing useful. Mr Speck, KC did criticise Apple for this, but – in this case at least – it is difficult to see what else Apple could have done. Optis were entitled to have someone to cross-examine in relation to the Apple Comparables, and I am satisfied that Apple called the people best able to give evidence in relation to the Apple Comparables. That they could add little – if anything – to the documentary record is not a matter that I am going to criticise Apple for. However, the consequence is that the parties are both stuck with the documentary record so far as the Apple Comparables are concerned.

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[345] In the case of Mr Rockower, Mr Speck, KC cut his cross-examination short: <u>Day 7</u>/p.1268 (establishing Mr Rockower's involvement) and p.1280 (indicating that Mr Rockower would not be cross-examined in any detail for this reason).

[346] See the explanation at [51(i)(b)] above.

[347] Of course, I did not see Ms Whitt in the witness box, and I would discount her evidence to the extent it went beyond the documentary. But, in fact, it did not, and I am satisfied that her presence in the witness box would have made little or no difference, either positively or negatively, to the evidence in the case.

*(ii)* [redacted]

243. There is no further information that it is necessary to set out at this stage.

*(iii)* [redacted]

244. As regards [redacted], Ms Mewes suggested that this licence was not worth consideration as a comparable:[348]

[redacted]

*(iv)* [redacted]

245. This licence was the subject of extensive cross-examination by Mr Speck, KC.[349] The licence was between two "big beasts" of the telecommunications world, and was of commercial significance to both. Mr Speck used his cross-examination to bring out a number of themes that Optis pressed during the course of the trial:

i) The terms of the transaction were "sculpted" in order to meet the commercial needs of both parties:[350]

[redacted]

[348] <u>Mewes 3</u>/[9].

[349] [redacted] Of course, Ms Whitt was not called to give evidence, and so the burden of giving evidence fell on Ms Mewes.

[350] [redacted]

[351] [redacted]

[352] [redacted]

[redacted]

As I have indicated in the footnotes annotating this exchange, I reject any suggestion that there was conduct between [redacted] and Apple that fell below what was commercially proper between two respected, large and sophisticated companies. I have no doubt that [redacted]. More to the point, Apple saw no commercial harm to themselves in agreeing to this term, and [redacted] wanted it in. It is speculation – because [redacted] were not before the court – but the overall evidence before me is clear, namely that licences performed <u>two</u> functions in this market:

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[redacted]

It seems to me that [redacted]

a) First, and most obviously, they set the terms of the licensing relationship between the parties to the agreement.

b) But secondly, and less obviously, the licenses were seen as precedents to be deployed (as advised) in negotiations with others.

The manner in which licenses were negotiated, and the terms those negotiations resulted in, was informed by both functions. I regard the latter function as in no way improper, and certainly not amounting to anything like [redacted] Negotiations between parties involve communication – not merely between the negotiants but also on occasion with the wider market. That, as will be seen, was also true of a number of the Optis Comparables.

ii) [redacted] provided for [redacted]

| | |
|---|---|
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |

353 [redacted]

[redacted]

I am quite prepared to accept that this was Apple's (and indeed, Ms Mewes') subjective understanding of [redacted] Whether [redacted] would have agreed (I had no evidence on this), [redacted] what I find, is that sophisticated consideration was given – not just in relation to this licence, but generally – to presentation as well as to legal effect. [redacted] Very likely, the question will never arise, and I certainly am not going to resolve it now. The point is that whatever Apple's and [redacted] subjective beliefs or wishes, these are irrelevant to the objective construction of the contract, which is opaque on this point. Since it is the objective construction of the contract – what was agreed, not what the parties (with divergent intentions) say was agreed – that matters when considering comparables, what I derive from this exchange is that these ambiguities or opacities significantly degrade the value that I can derive from these agreements as comparables. I say that without intending any criticism of the parties to these contracts: the fact is an agreement can often only be reached through compromise, and one way of achieving compromise is to say less rather than more in terms of what is promised. [redacted]

iii) Ms Mewes was cross-examined about Apple's failure to concede that some of the SEPs being asserted against Apple were in fact valid, essential and infringed:[355]

[redacted]

354 [redacted]

355 [redacted]

| | |
|---|---|
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted]. |

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356 The document under cross-examination was a letter from [redacted]. The relevant parts state:

> [redacted]

[redacted]

[357] So that this part of Mr Speck, KC's cross-examination can be followed, the preceding footnote sets out the relevant parts of the document being referred to, together with the page references.

[358] Throughout cross-examination, the names of the licence counterparties were not referenced, on grounds of confidentiality, on the basis that this could be reviewed in the Judgment. This was the common stance of the parties, reflecting the (general) views of the third parties involved that their "confidential" information be protected. It is clear that there is no proper confidence worth protecting in the counterparties' names, nor in the general terms of the licences in evidence before me. There is, self-evidently, a clear interest in open justice in having these matters referred to. For instance, it makes a considerable difference in understanding the negotiations that they were between two "big beasts", namely [redacted]. I will discuss more generally questions of confidentiality, and the extent to which these questions added substantially to the cost and straightforward conduct of these proceedings, at the end of this Judgment. This instance is a case in point: counsel generally navigated the

[redacted]

Mr Speck, KC was putting Optis' case that Apple was behaving in bad faith in its negotiations, not just with Optis, but generally. That case never came close to being achieved, as this exchange shows. What is here demonstrated are hard-fought negotiations (and – to be clear – competitive markets rely on hard-fought, but not unfair, negotiations) between two large corporations, who can quite easily look after themselves. [redacted] quite understandably from their perspective, were seeking [redacted] and Apple was seeking [redacted]. In negotiating for such an outcome, Apple was perfectly entitled: *(i)* to point out that there were high invalidity and inessentiality rates in SEPs; *(ii)* to note that Apple had not been found to infringe any SEP; and *(iii)* that if [redacted] chose to litigate, Apple would defend itself.[359] None of this amounts to any kind of impropriety. Neither

constraints of confidentiality with skill. In the case of slips, the livestream ran 15 seconds in arrears, so that slips (like this one) would not be transmitted. Hence the "[redacted]" (which is a reference to [redacted] and the "Sorry", although Mr Speck, KC had nothing to apologise for.

[359] Prior to *Unwired Planet* (SC) – and as is still the position in many jurisdictions – it was open to an Implementer to oblige an SEP Owner to litigate every patent in every jurisdiction. That is not a particularly efficient course of

[redacted] nor Apple could possibly have believed that if each and every one of [redacted] SEPs was litigated to trial, [redacted] would win on 100% or Apple would win on 100%. But to expect either party to concede, *ex ante* and in negotiations for a licence relating to these very intellectual property rights, that a given patent or a proportion of a portfolio was (in)valid and/or (in)essential would be ill-advised commercially. The fact is that the parties were testing their respective positions, and they reached an agreement, pursuant to which (as is clear from Annex 3) some [redacted] was paid by Apple to [redacted] That sum will, no doubt, have represented some form of discount for invalid and inessential SEPs, but it is impossible to say how great that discount was. What it <u>is</u> possible to say is that the suggestion that Apple "honestly" believed that not a single patent in [redacted] portfolio was being infringed by Apple verges on the ludicrous. Apple never believed that, and never suggested it. <u>Had</u> Apple believed it, they would no doubt have shown [redacted] the door (or offered a token payment to make them go away) and invited litigation. That did not happen because the parties very sensibly – after hard-fought negotiation – agreed a licence.

The point that Apple was behaving oppressively was put by Mr Speck to Ms Mewes on a number of occasions:[360]

[redacted]

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conduct and can, depending on the circumstances, amount to oppressive conduct. But taking such a course – or threatening it – is, in the first instance, something an implementer is entitled to do. This was Ms Mewes' belief – see [redacted]

[360] [redacted]

[redacted]

[redacted]

| | |
|---|---|
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |

361 [redacted]

[redacted]

Optis contended that Apple's approach was a "blueprint for holdout".[363] I will – in light of the totality of the material before me – revert to this question.

iv) In the correspondence between [redacted] and Apple – to which I was taken in the course of cross-examination of Ms Mewes – there were many references to [redacted] given its (Apple's) stance at various points in time.[364] Such language featured in other negotiations also. At times, suggestions of bad faith or an absence of good faith were made by the negotiants. I cannot regard such assertions, taken out of their context in negotiations spanning months, if not years, as probative of anything. These were hard-fought negotiations between opposed parties – culminating, in the case of the comparables, in an agreement.

*(v)* [redacted]

246. There is no further information that it is necessary to set out at this stage.

*(vi)* [redacted]

247. There is no further information that it is necessary to set out at this stage.

*(vii)* [redacted]

248. There is no further information that it is necessary to set out at this stage.

*(viii)* [redacted]

249. Ms Mewes was cross-examined on this licence.[365] The ground traversed by Mr Speck, KC was similar to that in relation to [redacted] Apple's counterparty

[362] The exchange continued, but the substance is clear from what I have set out.

[363] As put to Ms Mewes [redacted]

[364] See, for example, [redacted]

[365] [redacted]

recorded disappointment at Apple's slow progress in concluding a deal;[366] Apple's negotiating stance again used the "patent-by-patent" review;[367] and there was criticism of late points being raised by Apple, and changes of stance.[368] The thrust of the cross-examination was that Apple was, here and generally, guilty of Hold Out.

*(ix)* [redacted]

250. Apple suggested that this licence – and [redacted] listed below – was not a particularly appropriate comparator:[369]

[redacted]

*(x)* [redacted]

251. There is no further information that it is necessary to set out at this stage.

*(xi)* *Hand down of the first instance decision in Unwired Planet (First Instance)*

252. It is at this point in the chronology that Birss J handed down his judgment in *Unwired Planet* (First Instance).

*(xii)* [redacted]

253. There is no further information that it is necessary to set out at this stage.

*(xiii)* [redacted]

254. There is no further information that it is necessary to set out at this stage.

*(xiv)* [redacted]

255. There is no further information that it is necessary to set out at this stage.

*(xv)* [redacted]

256. There is no further information that it is necessary to set out at this stage.

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366 [redacted]

367 [redacted]

368 [redacted]

[redacted]

*(xvi)* [redacted]

[redacted]

*(xvii)* [redacted]

258. There is no further information that it is necessary to set out at this stage.

*(xviii)* [redacted]

[redacted]

261. In cross-examination, Mr Warren was asked whether the counterparty that Optis was negotiating with would be entitled to know – or at least entitled to ask – the terms on

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[370] Warren 1/[75].

[371] Warren 1/[76]

[372] Warren 1/[78].

[373] Warren 1/[80].

[374] Warren 1.

[375] Day 4/p.482 (cross-examination of Mr Warren).

[376] Day 4/pp.483-484 (cross-examination of Mr Warren). The documents referred to in the exchange, and the exchange itself, show that in negotiations being "big" – [redacted] can have advantages, but being so small as not to be worth suing is itself an advantage in negotiations.

which Optis has concluded other licences with other parties.[377] Mr Warren's answer was as follows:[378]

| | |
|---|---|
| **Q (Mr Turner, KC)** | Not that they need to know the terms of all existing licence agreements, but that they are entitled to ask, or to get some assurance, that where licence agreements with others are relied on, the rates that they are being asked to pay are commensurate? |
| **A (Mr Warren)** | Again, you are focusing on, I believe, just one term in a licence agreement, when you say the rates. Licence agreements are complicated documents that have a variety of terms that have different value to different companies. I think I address this in my witness statement. If not – I have done agreements where we have done a licence, but as part of that settled other commercial litigations that were on-going. So there are other considerations that come in sometimes that are not even in the document. |
| **Q (Mr Turner, KC)** | This is very important. Please go on. |
| **A (Mr Warren)** | So what you try to do is, overall, keep these consistent. Another example is our company, the company I was with at one time, wanted to be able to audit the other party to make sure that the reported sales figures and the reported royalty were under the contract. The discussion that I had internally with them is: "That is something they do not want to do. What are you willing to give up? What are you willing to discount the rate to to be able to get that information?" So we had these kind of conversations where different clauses have different values for different companies. |
| **Q (Mr Turner, KC)** | That is extremely helpful, thank you. |
| **A (Mr Warren)** | So when you ask me a question, "Are they entitled to know the price is equivalent or the same" – I cannot remember your exact term… |
| **Q (Mr Turner, KC)** | Commensurate. |
| **A (Mr Warren)** | Commensurate. It is not a simple thing like that. It is not just saying: "Here was the one clause and we are going to make sure that this is the same in all of them." We are looking at the overall agreement and trying to come up with agreements that are overall close to the same – not the same, but equivalent value… |
| | … |
| **Q (Mr Turner, KC)** | To summarise what I think you have told us, the rates in the licence agreement should not be viewed in isolation. It is necessary to look at all the circumstances of a |

[377] Day 4/p.477 (cross-examination of Mr Warren). The context was that [redacted] asked to see such "comparables" and – because of the confidentiality terms in these licences, Optis said "No". That, Mr Warren stated, was perfectly normal in this market (Day 4/pp.481-482), and I accept this.

[378] Day 4/pp.477*ff* (cross-examination of Mr Warren).

particular agreement and the other terms to see whether, overall, there is non-discrimination?

**A (Mr Warren)** Yes, you need to look at the whole agreement in the context of the negotiations. In this case, Birss J's opinion came out, and we wanted to try to follow that opinion, at least the process that he went through in valuing the portfolio. So we made certain adjustments as to how we were making offers at that time. So it is not a simple you look at all the historical agreements without any other influences that you pay attention to. In our case, it is legal decisions that come out with regard to the portfolio that we are involved with.

262. This exchange occurred whilst Mr Warren was being asked about a particular licence (which is why I have set out the exchange here). But it is obvious that Mr Warren was making a general point of considerable importance (which I shall return to). Mr Warren's point was that adopting a comparables approach (where, for instance, one simply compared the rate in one licence with the rate in another) was almost certainly distortive and over-simplistic, given the complexity of the issues actually being resolved in the licence agreement. In this there was a marked difference between the evidence of Mr Blasius (who took the view that licences could constitute reference points) and Mr Warren (who adopted the rather more nuanced approach that I have set out).

*(xix)* [redacted]

263. Apple's position was that this was not a helpful comparable, and that (whilst Apple had produced it) Apple did not rely on it. Ms Mewes said this:[379]

[redacted]

264. For exactly the same reasons – namely, that [redacted] was the only company powerful enough to resist Apple's Hold Out – Optis contended that [redacted] was a powerful and important comparator to take into account.

265. Ms Mewes was cross-examined quite extensively on this licence,[381] but it is unnecessary to set much of this cross-examination out. There is no dispute – it is

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379 [redacted]

380 In other words, [redacted]

381 [redacted]

obvious [redacted]. There was a great deal of argument as to whether [redacted] had itself behaved anti-competitively, and whether Apple could (and, inferentially, should) have protected itself in the courts. Such issues are quite obviously ancillary to the FRAND Question that is before me: I cannot resolve them, but I can (and will) bear them in mind (just as I will other factors) when considering the weight to accord the [redacted] licence when determining the FRAND Question.

*(xx)* [redacted]

266. There is no further information that it is necessary to set out at this stage.

*(xxi)* [redacted]

267. For the same reasons as were given in relation to [redacted][382] Apple contended that this was not a helpful comparable.

*(xxii)* [redacted]

[redacted]

[redacted]

[redacted]

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382 Above, [250].

383 Blasius 2/[177].

384 Blasius 2/[178].

385 Blasius 2/[179].

386 Blasius 2/[180]*ff*.

387 Blasius 2/[186]*ff*.

388 [redacted]

[redacted]

*(xxiii)* [redacted]

271. Although Mr Rockower was called in relation to this licence,[389] Ms Mewes was mainly cross-examined in relation to it.[390] It was put that Apple's approach was over-rigid and inflexible,[391] that Apple failed to allow a "level-playing field" by failing to permit proper access to Innography,[392] that Apple advanced a similar argument as that taken up with [redacted] namely that no infringement of a valid SEP had been shown,[393] and that Apple was insisting on a patent-by-patent approach in terms of licensing.[394] The essence of the cross-examination was that Apple were not merely playing commercial hard-ball, but that they were engaged in Hold Out.

*(xxiv)* [redacted]

272. Mr Ankenbrandt gave evidence in relation to this licence.[395] He, too, was asked about Apple's "patent-by-patent" approach, and gave the following answer:[396]

| | |
|---|---|
| **Q (Mr Speck, KC)** | Mr Ankenbrandt, what I have to suggest to you is that Apple always finding some reason to say that you believed that the patents put forward on the other side of the negotiation is either not essential or invalid is a very good stance to take in negotiations because you are putting the patent owner in a position of having to face the prospect of seeking to sue Apple patent-by-patent or drop its ask. You are well aware of that, are you not? |
| **A (Mr Ankenbrandt)** | I would not draw a direct line between those two. I think sophisticated negotiators understand that a negotiation – and, by the way, most people we negotiate with are sophisticated. They understand that a negotiation is about hybrid adversarial and collaborative process. We are collaborating to try to reach an agreement but at the same time we recognise the possibility that litigation may ensue. So, unfortunately, sometimes you will see, they are accurate, right, these communications are absolutely accurate, you can see by the back-up that we had a basis to allege that every single one of these patents was not essential or invalid. But it is in the face-to-face |

[389] And gave a witness statement: [redacted]

[redacted]

communication that the really helpful information is often exchanged.

**Q (Mr Speck, KC)** Do you not see the difference between looking for a basis to say that you might win on an individual patent is very different from saying that you are going to win on all of them?

**A (Mr Ankenbrandt)** This does not say we are going to win on all of them. This says you have not proven to us that any of them are both valid and essential…you look at these communications in context with the fact, for instance, that we are actually giving them an offer. Nobody would take those two things together to suggest that we do not think there is a risk that there is some essentiality in their portfolio.

**Q (Mr Speck, KC)** The whole point, as I have suggested to you, is you put them in a position of either having to drop their ask, accept a low offer from you, or face the prospect of seeking to sue Apple patent-by-patent. That is the point of saying that they are going to fail on every single patent in every single negotiation. That is true, is it not?

**A (Mr Ankenbrandt)** I think I tried to answer that in saying that is not what we are saying, no. I do agree that Apple had a policy consistent with prevailing law that if you end up litigating you are going to have to prove that these patents are essential and not invalid and, by the way, practised as well. So that is in my view consistent with Ms Mewes' statement of the state of the law at the time. I think now we have proceedings like these, so it has changed a bit.

273. There was some discussion as to the relative virtues of *ad valorem* versus lump sum: Mr Ankenbrandt considered that lump sum royalties were far easier to administer; that simplicity in licences was desirable; and that it was better to have broad terms of agreement, to achieve "patent peace" than isolated disputes being picked off.[397]

*(xxv)* [redacted]

274. There is no further information that it is necessary to set out at this stage.

*(xxvi)* [redacted]

275. There is no further information that it is necessary to set out at this stage.

*(xxvii)* [redacted]

[redacted]

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[redacted]

398 Blasius 2/[192].

[redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted]

[redacted]

| | |
|---|---|
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |

[399] Blasius 2/[195] to [197].

[400] Day 3 (private)/p.59 (cross-examination of Mr Blasius).

[401] Day 3 (private)/p.62 (cross-examination of Mr Blasius).

[402] Day 3 (private)/pp.62*ff* (cross-examination of Mr Blasius).

[403] Blasius 2/[198].

[404] Blasius 2/[201].

[405] Blasius 2/[205].

[406] Day 3 (private)/pp.67*ff* (cross-examination of Mr Blasius).

| | |
|---|---|
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |
| [redacted] | [redacted] |

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

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[407] [redacted]

[408] Blasius 2/[153].

[409] Blasius 2/[154].

[410] Although, as Annex 3 notes, there is some controversy about this.

[411] Day 3 (private)/pp.25*ff*.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

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[412] These are comparables not forming part of the Optis Comparables.

[redacted]

284. In this context, it is worth pointing out that *ad valorem* licences are intrinsically more favourable to small companies, who sell less product. I will come to this, but a rational pricing structure would be to have a "sandwich", this means an *ad valorem* rate confined by floors and ceilings computed on a lump sum basis. Certainly, a "floor" – a minimum price – would make much more sense in the case of a small company than an *ad valorem* rate, and it is remarkably odd that Optis did not pursue such a pricing structure.

*(xxx)* [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

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413 Blasius 2/[229].

414 Blasius 2/[232].

415 Day 3 (private)/pp.12-13 (cross-examination of Mr Blasius).

416 [redacted]

[redacted]

## (3) Why the comparables are to be treated with caution

### *(a) The problem stated*

288. Comparables can be of great assistance when seeking to derive a market price. But that is only when they are in fact comparable. In the present case, there are a number of reasons why the licences adduced by both parties – and the approaches they advocated in relation to those comparables – need to be treated with extreme caution.

289. I appreciate that this is something that can be said of all comparables: that they are only valuable insofar as they are, in fact, comparable. In that light, the problem can be re-stated in the following way. The concerns that I articulate are such that I consider that the comparables here are so not comparable that their inclusion at all in any answer to the FRAND Question will need the most careful handling.

### *(b) Both parties wrongly adopted an "exclusionary" approach*

290. The mind-set of both parties was that focus on fewer, better, comparables was to be preferred to a focus on more, less good, comparables. In other words, a focussed approach was to be preferred over an inclusive approach. That, it is fair to say, is the approach favoured by Lloyd LJ in *Cimetidine*,[419] but use of comparables is inevitably a fact-driven exercise that requires careful consideration of the nature of the comparables in question. Here, I am confident, for reasons that I will expand upon, that such a focussed approach would be the wrong approach in the case of the Optis and the Apple Comparables.

291. In my judgement, in this case at least, the comparables only have value if an inclusive approach is taken. I appreciate that even when an inclusive approach is taken, there will be some comparables that cannot be included, because they distort rather than elucidate. I will explain and justify in due course the licences that I leave out of account when I come – in Part V – to my resolution of the FRAND Question.[420] But my starting point is that it is better to include, rather than exclude, the Optis Comparables and the Apple Comparables, and that exclusion must be explained.[421]

### *(c) The licences adduced by Optis and by Apple are categorically different*

292. The Optis Comparables are all licences where a royalty is being paid for a licence to the Optis Portfolio (or a portion of it). In other words, the Optis Comparables produce a series of values for one thing – the Portfolio. That is an advantage, in the sense that it is the Portfolio that I am seeking to value in answer to the FRAND Question. It is a disadvantage in two respects:

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[419] See [229] above.

[420] There is obviously a tension between the point made in [289] – that inclusion of comparables generally in answer to the FRAND Question need to be justified – and the inclusive approach to individual comparables here being identified. The tension is more apparent than real: the fragility of the comparator approach in this case points strongly towards the exclusion of comparables altogether, a point that I will return to. But once it has been decided that comparables are helpful in answering the FRAND Question (albeit only when used with caution), then an inclusive approach is better than an exclusionary approach when considering individual comparables.

[421] I obviously cannot include, for reasons of basic fairness that I have explained, the comparables adduced by Optis, which Optis did not rely upon, and which Apple chose not to examine itself.

i) First, because the only insight I get is as to the value of the Portfolio. I gain no sense of the value of the Stack, of which the Portfolio forms a part, from the Optis Comparables.

ii) Secondly, given the nature of Optis' counterparties to the Optis Comparables – generally small players in the market, with low or at least not massive sales volumes – there is a question whether these licences properly reflect a FRAND rate for a counterparty like Apple. I appreciate that this takes me directly into the issue of Non-Discrimination – the "ND" of FRAND – which Birss J commented on in *Unwired Planet* (First Instance).[422] That is a matter to which I will be reverting.

293. The Apple Comparables are all licences where the common factor is Apple. Apple sought and obtained licences to different portfolios with different counterparties. This means there is no direct comparable with the portfolio in issue before me (which is a factor pointing away from the usefulness of the Apple Comparables), but some insight is gained into the value of the Stack as a whole, and the value attributed (at least so far as a company the size of Apple is concerned) to different portfolios held by different counterparties. The size and commercial "clout" of the licensee may be (I do not say is) a relevant factor in terms of royalties in any event. If so, then that is a pointer towards greater value being attached to the Apple Comparables; that is a point related to the "ND" point in [292(ii)] above, to which I will come.

294. Now is not the time to debate the relative virtues of the Comparables adduced by Optis and by Apple: the point I am making is that it is not right to see the Optis Comparables and the Apple Comparables as forming a part of a single "pool" of comparables. They are, in fact, two different pools. This is not a case where I have been presented with a range of market examples that are more or less the same, save as to the extent that they approach in comparability to the transaction in question. They are categorically different.

### *(d) The Comparables require "unpacking"*

#### *(i) Why is "unpacking" necessary?*

295. As I have noted, comparables generally form a pool of transactions that are both similar to and different from the transaction that needs to be valued. Those similarities and differences generally relate to specific and identifiable objective factors. If, for example, I am valuing a domestic property, comparable transactions will be more, or less, valuable according as to:

i) Property type (e.g. flat, terraced house, semi-detached, detached).

ii) Tenure (freehold or leasehold, with length of lease being a relevant subsidiary factor).

iii) Location ("location, location, location").

[422] See [229] above.

iv) Size and facilities (number of bedrooms, room size, garden, etc).

v) Price and the date of the transaction (for prices will vary over time, according to economic circumstance).

I do not, in any way, seek to diminish the skill of valuers – particularly those appearing in court to provide expert evidence – when I say that this represents a more straightforward evaluative process than the one that presents here. That is because – whilst the evaluation of the various factors set out above is a matter of skill and judgement – at least the factors themselves are based upon objective fact.

296. For reasons that I will give, that is not the case here. The comparables before me cannot simply be used in an evaluative and comparative exercise by the experts. Each comparable required "unpacking" by the experts instructed on each side in order to glean something from the licence in question.

297. "Unpacking" is a description of a process that is intended to try to make <u>incomparable</u> licences comparable. I accept the necessity – but it is important to appreciate, as I have already emphasised, that unpacking is a regrettably subjective process. In this case, matters were made no easier by the fact that the experts declined to unpack licences in the same way, thereby rendering already dubious evidence even more doubtful in terms of its probative value. The process of "unpacking" had to be undertaken <u>before</u> any kind of comparative judgement could be rendered as to the value of the Portfolio, and it skewed the entire process. The "unpacking" – which was, and had to be, carried out by each expert (Mr Bezant for Optis and Ms Gutteridge for Apple) – involved a high degree of subjective input from the experts, which (as I say) skewed their analysis.

298. Both experts "unpacked" in accordance with their respective client's instructions, and failed to produce agreed common workings of their unpacking. I have referred to this unhelpful approach by both parties above[423] and, as I have described, my efforts to rectify the problem came to nothing.[424]

299. Whilst I have no doubt that the technical side of the "unpacking" was done with the skill and objectivity that these courts expect of expert witnesses, the fact that the parties set the "direction of travel" for their respective experts has rendered their work unreliable and liable to mislead. The absence of commonly worked or agreed calculations – whilst it would not have solved the problem of the "party directed approach" – certainly made it worse.

300. In order to appreciate the magnitude of the problem, I list and describe the main "subjectivities" that unpacking entails in the following paragraphs.

*(ii) The subjectivities*

<u>Overview</u>

301. The subjectivities that unpacking exposed concerned:

[423] See Part III: Section C(2) above.

[424] See Part III: Section C(2) above.

i) The different rates at which the royalties payable were computed in the various licences.

ii) Cross-licences.

iii) Future royalties and past releases.

302. All three of these factors make the objective unpacking of licences difficult, if not impossible, without importing simplifying assumptions which render the outcomes <u>not</u> comparable.

<u>Different rates</u>

303. There are, broadly speaking, three different generic rates by which royalties payable under a licence can be computed: *ad valorem*, per unit or lump sum. In order to calculate the rates payable under any given licence, different data will be required. More specifically:

i) *Lump sum licences.* Lump sum licences are the most straightforward: a lump sum is payable for a licence of a particular period, and there is no need for any reporting of sales volumes or ASP. Of course, the parties will doubtless have well in mind the volumes likely to be sold, and the prices at which they will be sold, but this data will not be available from the face of the licence. Converting or unpacking a lump sum licence into either *ad valorem* or per unit rates thus will typically involve making assumptions about volumes sold and/or ASP. This data will not always be readily to hand, and it is quite possible that the parties to the licence, whilst *ex hypothesi* in agreement as to the lump sum, are very much <u>not</u> in agreement as to how it is calculated.[425]

ii) *Ad valorem licences.* The rate – a percentage of the units sold – will of course be evident from the face of the licence if royalties are payable on an *ad valorem* basis. What the licence is actually worth – in terms of money transferring from licensee (Implementer) to licensor (SEP Owner) – can only be computed if the volumes sold and their ASP is known. Converting or unpacking an *ad valorem licence* into either a lump sum or a per unit rate will thus typically involve making assumptions about volumes sold and/or ASP. This data will not always readily be to hand or reliable.

iii) *Per unit rate*. This is a rate that is an absolute rate per unit sold (e.g. US$4/unit). ASP does not signify, although volumes sold do. However, what the licence is actually worth – in terms of money actually payable – can only be computed if the volumes sold are known. Converting or unpacking a lump sum rate into either an *ad valorem* or a per unit rate will thus typically involve making assumptions about ASP. This data will not always readily be to hand or reliable.

304. In fact, as can be seen from Annex 3, licences rarely follow even this relatively straightforward classification. Sometimes a combination of rates is selected

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[425] See, for example, [redacted]

Cross-licences

305. This does not arise in the case of the Optis Comparables. Optis did not require a cross-licence from its counterparties, not being an Implementer. The Apple Comparables, on the other hand, often involve Implementers who are also SEP Holders on both sides (Apple being both), where cross-licences to portfolios are exchanged.[426]

306. Such licences produce a net rate to be paid, and the licences typically do not attribute a specific value to the Apple portfolio. The price that has been attributed to each portfolio is not stated, and it may very well be that the parties did not agree on these specific values. All there is, in the Apple Comparables involving a cross-licence, is an agreed and contractually stipulated net payment from Apple to its counterpart.

Future royalties and past releases

307. Licences are often a combination of a licence in respect of future sales and a release in respect of past sales that have infringed or potentially infringed an SEP Owner's intellectual property rights. Generally, such licences do not differentiate between the past and the future, providing for a single rate.

*(iii) Dealing with the subjectivities; and issues with the accounting experts*

The approach of the experts

308. Optis make the following criticism of Ms Gutteridge's work:[427]

> "Turning to the generality of Ms Gutteridge's analysis, the Court will have appreciated that in overview Ms Gutteridge has only performed a "free release" analysis of the Apple licences. She has performed no *de novo* analysis of the Optis licences at all. For the Optis licences, Ms Gutteridge simply takes Mr Bezant's analysis but performs an "alternative" assessment of them based on a down-rating to match Apple's view as to Optis' stack share."

309. Mr Bezant "unpacked" on three bases, one of which was the "free release basis" mentioned in the preceding paragraph.[428] As to these three bases, they were as follows:

i) *Simple unpacking.* On this approach, Mr Bezant spread the consideration payable over a past period (where prior royalty attracting sales were paid for) and over the future term of the licence. This was an approach that Mr Bezant originally applied to lump sum licences.[429] Whilst the future term of the licence would be expressly articulated in the licence agreement, any past release would generally be shrouded in uncertainty, requiring Mr Bezant to make assumptions. Generally Mr Bezant assumed a past release for the five years preceding the effective date of the licence (i.e., the point in time from which future sales were licenced). In this way, Mr Bezant would derive an "implied" *ad valorem* royalty rate, which is the type of rate that Optis (but not Apple) was advocating for.

[426] The instances are identified in Annex 3.

[427] Optis Closing (Round 1)/[510].

[428] Summarised in Optis Closing (Round 1)/[504].

[429] Bezant 1/[2.17(1)].

ii) *Free release unpacking*. On this approach, Mr Bezant assumed that all consideration paid by the licensee was for a prospective term, and that any past release was granted for free. This was an approach that Mr Bezant originally applied to lump sum licenses.[430] As Mr Bezant recognised, loading all of the revenues onto the future term of the licence would result in a higher *ad valorem* rate than would be the case under simple unpacking.

iii) *Adjusted unpacking*. This was a form of unpacking which "adopts the specific assumptions that Optis used, which are set out in Mr Blasius' witness statement, when negotiating the lump sum payments for some of the licences".[431]

310. As Optis noted, in her reports, Ms Gutteridge unpacked licences only on a "free release" basis, accepting Mr Bezant's work in relation to the Optis licences.[432] On this basis, she provided a dollar per unit rate (which Mr Bezant tended not to provide) and an *ad valorem* rate.[433] Ms Gutteridge also – because this was a common feature of the Apple Comparables – had to derive some sort of value for the Apple SEPs cross-licensed to Apple's counterparties. This also introduced additional subjectivities.[434]

Reasons for rejecting the approach of both valuation experts

311. I have derived no benefit from the work of either valuation expert and I reject their evidence as unhelpful in resolving the FRAND Question. Because both parties relied extensively on the evidence of these experts, it is necessary that I explain precisely why I am dismissing their evidence.

312. The fundamental reason is that the nature of the comparables in this case has taken both experts far outside the zone of their proper expertise. Both experts, I am confident, would have approached a "typical" valuation exercise – of the sort described at [295] above – with competence and skill. In that case, they would have applied their judgement in extrapolating from the objective data in the comparables, and derived a value for the Portfolio. Perhaps they would have disagreed, but only in relation to the exercise of judgement as regards a common and commonly understood set of comparators.

313. In this case, the Optis Comparables and the Apple Comparables were categorically different (as I have described). That is something that could have been handled by the experts, in that they could (although they did not) have sought to understand the differences underlying these different categories, and what these differences taught. This, then, was a surmountable difficulty, but it is one that neither party's expert made any effort to surmount.

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430 See Bezant 1/[2.17(2)].

431 See Bezant 1/[2.17(3)]. Mr Bezant also framed and used some assumptions that were not derived from Mr Blasius, but which appeared (in Mr Bezant's judgement) to have been used by other parties to licensing negotiations.

432 See Optis Closing (Round 1)/[514].

433 See Optis Closing (Round 1)/[516].

434 Inevitably, it is appropriate to "unpack" and value the licence to the Apple portfolio in the same way as all the other comparables are "unpacked". The problem is that because the valuation of the Apple cross-licence forms an integral part of the overall valuation process, a "feedback" loop is created, whereby that which is in dispute (the process of valuation) is itself affected by the process by which the disputed variable is resolved.

314. What was, in my judgement, an insurmountable difficulty was how what I have termed the three subjectivities (at [301]*ff*) were to be resolved. Inevitably, they would have to have been resolved by the exercise of judgement and had the valuation experts attempted to do so, no doubt they could have been accused of seeking to give the court the "final answer" to the FRAND Question, something experts are rightly told to avoid. Instead of doing so, the experts "unpacked" in accordance with the instructions of their clients:

i) Thus, Mr Bezant was instructed as to the way he should approach valuation. In the first place, he was instructed to consider a comparables approach only, and not any other approach.[435] Secondly, he was instructed as to the licences to consider.[436] Thirdly, he "unpacked" lump sum royalties into *ad valorem* royalties, without doing the reverse (i.e., converting *ad valorem* royalties into lump sum royalties). Although Mr Bezant does not say in his report that he was instructed to approach the question of unpacking in this way,[437] that must have been the case, for (as I have mentioned, and as I will come to describe further) this is a key factor in determining the answer to the FRAND Question. I do not believe that an expert of Mr Bezant's manifest integrity would have left unstated the significance of the basis upon which he "unpacked" unless he had simply been instructed as to process. The *ad valorem* approach – as opposed to the lump sum approach – is of course Optis' case as to how the FRAND rates are to be found. But that approach must be justified and not simply assumed or followed without question.[438]

ii) Ms Gutteridge was similarly instructed as to her approach, which was to take as the foundation for her approach the lump sums in the Apple Comparables. In her case, this was specifically broached in cross-examination.[439] In exchange with Mr Speck, KC:[440]

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| **Q (Mr Speck, KC)** | We are seeking to assess or replicate what a willing licensor and licensee would agree in the transaction we are postulating, in this case a licence under the Optis Portfolio, yes? |
| **A (Ms Gutteridge)** | My instructions are to consider the transaction between Apple and PanOptis. |
| **Q (Mr Speck, KC)** | That is not a yes to the question I asked, is it? |
| **A (Ms Gutteridge)** | Perhaps I can just turn to my instruction. |

[435] Bezant 1/[2.14] to [2.15], and in particular [2.15]: "I am instructed only to apply the comparables approach for the purpose of this report". To be fair to Mr Bezant, he does say that he considers this to be "the best approach to use": [2.16].

[436] Bezant 1/[[2.1]: "…I am instructed to consider what royalty rates can be derived for the PO-Apple Portfolio by considering the Optis Licences, and how those might be used to determine a rate or range of rates for the proposed licence to Apple for the PO-Apple Portfolio." Although, as I have noted, there was a mismatch between the comparables considered by Mr Bezant and the Optis Comparables.

[437] Bezant 1/[2.17].

[438] The converse is also true: one cannot assume, without more, that a lump sum approach (as advocated for by Apple) was the right way of approaching the FRAND Question.

[439] The relevant passages, and Optis' submissions in relation to them, are at Optis Closing (Round)//[511].

[440] Day 13/pp.2325*ff* (cross-examination of Ms Gutteridge).

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| **Q (Mr Speck, KC)** | You are qualifying it and saying it is a special transaction as regards Apple, is that right? |
| **A (Ms Gutteridge)** | I am saying the construct that you have just articulated was not precisely my instruction. |
| **Q (Mr Speck, KC)** | But that matters. The way you have addressed this will differ because you have been instructed to focus on Apple being the licensee, is that right? |
| **A (Ms Gutteridge)** | Not necessarily. I was just, sorry, as the first question, being super-clear what you were asking me. |
| **Q (Mr Speck, KC)** | I will try again, because there may be nothing between us. We are seeking to assess or replicate what a willing licensor and licensee would agree for a transaction that we are postulating, in this case a licence under the Optis Portfolio. |
| **A (Ms Gutteridge)** | Okay. I understand Apple and PanOptis to be willing and my instruction is to consider that licence. So I am assuming they are both willing licensors and willing licensees. |
| **Q (Mr Speck, KC)** | You have assumed they are, ok. But one thing that we I think will agree is that we are seeking to assess what the transaction would look like absent the effect of hold up or hold out, yes? |
| **A (Ms Guttridge)** | Yes. |
| **Q (Mr Speck)** | From what you have just said, it may be that you have not approached this on the basis that the rate should not depend upon the individual licensee, is that right?[441] |
| **A (Ms Guttridge)** | I have considered the specific parties here, not an industry standard licence. |
| **Q (Mr Speck, KC)** | Right. So you have not approached it on the basis that the rate should be available to all? |
| **A (Ms Gutteridge)** | I have given specific consideration to the licensee and the licensor, yes. |
| **Q (Mr Speck, KC)** | So the answer is you have not approached it on the basis that the rate should be available to all? |
| **A (Ms Guttridge)** | I have not asked the question of myself. I have not been asked that question. I have considered a rate for Apple and PanOptis for this portfolio. |

[441] It will be necessary to return to this. If the rate is an *ad valorem* one, the point may be defensible. But for a lump sum licence, the point would be far harder to defend. *Prima facie*, one would expect a company with high volume/high value sales like Apple to pay a higher lump sum than a smaller company with tiny sales of low value.

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| **Q (Mr Speck, KC)** | So the fact Apple is a licensee is important in the exercise you have carried out? |
| **A (Ms Guttridge)** | Yes. |
| **Q (Marcus Smith J)** | Ms Gutteridge, does that mean you have not taken into account the Non-Discriminatory element of a FRAND rate? |
| **A (Ms Gutteridge)** | Well, perhaps I should check, or explain what I have taken Non-Discriminatory to mean… |
| **Q (Marcus Smith J)** | Yes, of course. |
| **A (Ms Gutteridge)** | …which was that there was no right to refuse a licence and that there was a willingness on both sides to transact and so the willing licensor/willing licensee construct that I am familiar with was appropriate here. So that is the extent, I have not sought to set a rate for the industry. I have sought to consider the rates for the parties and having not been made aware of any discriminatory conduct, I have assumed that the transactions I have seen were on that basis, and therefore it is appropriate to extrapolate to the parties that I have considered. |
| | … |
| **Q (Mr Speck, KC)** | [Quoting from Birss J in *Unwired Planet* (First Instance):<br>"…it would not be FRAND, for example, for a new small entrant to the market to have to pay a higher royalty rate than an established large entity. Limiting comparable licences to those where Huawei or a similar company like Samsung is the licensee is therefore unjustifI..."<br>And he goes on:<br>"In my judgement, the FRAND rate ought to be generally non-discriminatory, in that it is determined primarily by reference to the value of the patents being licensed and has the result that all licensees who need the same kind of licence will be charged the same kind of rate."<br>So what he is saying, is it is quite wrong to be seeking to adopt or prefer as comparables, because the licensee, for example, is Apple, do you agree? |
| **A (Ms Gutteridge)** | I can take that from that sentence submitting comparable licences. |
| **Q (Mr Speck, KC)** | The idea is for those operating the same kind of licence, so (for instance) all smartphone |

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| | manufacturers for example, the same kind of rate? Do you see that at the end? |
| | … |
| **A (Ms Gutteridge)** | Yes, I see that now, I see that. |
| | … |
| **Q (Mr Speck, KC)** | You see, it sounds as if you have not had these principles in mind when you have been focussing on what specifically Apple should pay. Am I right about that? |
| **A (Ms Gutteridge)** | I have been interpreting the market data to understand what other willing licensors and willing licensees have been paying. And in trying to express those on a common footing, coming back to what that might mean for the transaction, the licence we are considering here, I observed there was not a single royalty price available for all. There is not one price set within each of those licences. There is quite a range. So, understanding the drivers for those ranges is important. And then trying to work out how Apple might sit relative to those rates from the wider population of licences and in my economic benefits analysis relative to the market in which the technology is being deployed in devices and sold to consumers, I have not observed a single royalty price being available to all and trying to unentangle why not and to take the insight from that to arrive at what I think is appropriate here, I have not applied my mind to whether that would be the same for others and all. |

315. The fact is that both experts were tasked to articulate the ramifications of the cases that their respective clients were contending for. They provided no independent judgement – or, at least, insufficient independent judgement for me to be able to rely upon it – as to the merits or demerits of those cases. Neither expert approached the problem from a stance they had independently evolved. Their direction of travel was set down by the parties who instructed them, and all they did was (conscientiously and carefully) follow that direction of travel and "unpack" in accordance with their principal's respective stances.

316. This sounds critical of both experts. It is not intended to be. The parties were instructed – by the court, as I have described[442] – to set out their respective positions in relation to the FRAND Question and each did so. I will come to exactly what these positions were, in due course. Both parties – to an extent – relied upon comparables, and it was their positions that Mr Bezant and Ms Gutteridge respectively were called upon to flesh out. It would have been better if both experts had dovetailed their reports more closely with the position papers, so that there could be no misunderstanding as to what they were

[442] See Part III: Section A above.

actually doing. But when the position papers and the expert reports are considered in their totality, the position is entirely clear. These were not expert reports in the form traditionally understood.

317. What is more puzzling is the fact that neither Optis nor Apple sought particularly to justify their preference for *ad valorem* (in the case of Optis) or lump sum (in the case of Apple) royalties in any principled way.[443] That is a matter to which I will be returning in Part IV.

### *(e) The comparables require analysis in light of the totality of the evidence*

318. Given the nature of the comparables that have been produced by the parties, they cannot, without significant work ("unpacking"), be deployed in order to value the Portfolio. I have considered a number of the areas of work already, and I will not repeat them in this section.[444] What is more, the work done by the experts (Mr Bezant and Ms Gutteridge) to render these "not comparable" comparables comparable is insufficient.

319. Over-and-above the issues identified in the preceding paragraph, the following points need to be noted regarding the comparables and their assessment. At this stage, I do no more than identify them: they will have to be considered, as resolved, when answering the FRAND Question:

i) *Optis' contention that the Apple Comparables are not helpful because they were obtained by Hold Out.* As I have described, this was a major theme in Optis' cross-examination of Apple's witnesses. Optis contends that Hold Out by Apple renders the Apple Comparables unreliable, because (as a result of the Hold Out) the rates concluded were not FRAND.

ii) *Apple's contention that the Optis Comparables are structured or manufactured to confirm Optis' ad valorem rates.* This was a major theme in Apple's cross-examination of Optis' witnesses. The point was that Optis' priority in concluding its comparables was in achieving an agreement that headlined Optis' *ad valorem* rates as opposed to maximising the commercial return to Optis. Equally, and for the same reason, it was this desire to have many instances of royalties at Optis' *ad valorem* rates that informed Optis' choice of negotiating counterparties.[445] In short, Apple's position was that the Optis Comparables were not "genuine" comparables at all.

iii) *Market inter-play between licences.* Agreed licences were – subject of course to questions of confidentiality – deployed in later negotiations in order to support the rates contended for in those negotiations. They were, to use Mr Blasius' term, used as "reference points":[446]

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[443] There were some half-hearted contentions from time-to-time: for instance, Optis contended that *ad valorem* was "Non-Discriminatory", and that Ms Gutteridge's approach was explicitly too much Apple-oriented: see Day 13/pp.2325 to 2334 (cross-examination of Ms Gutteridge), and Optis Closing (Round 1)/[511].

[444] They are the three "unpacking" difficulties described in [301]*ff* above; and the fact that the Optis and Apple Comparables subsist in different categories (see [292]*ff* above).

[445] Apple called these counterparties "too small", as noted in Optis' oral opening submissions: Day 1/p.79.

[446] Day 2/pp.197 to 198 (cross-examination of Mr Blasius).

| | |
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| **Q (Mr Turner, KC)** | I want to touch upon one important indirect benefit of Optis securing a worldwide FRAND licence with Apple at rates you consider to be favourable. This is that you can hope to use the fact of the Apple licence as a lever to get subsequent agreements with other parties across the industry – it makes it easier? |
| **A: Mr Blasius** | Does it make it easier? It is another reference point. |
| **Q: Mr Turner, KC** | It is another reference point, but an important one, because if you can say you have an agreement with Apple, that is of some weight in negotiations with other parties in the industry, is it not? |
| **A: Mr Blasius** | Sure. |
| **Q: Mr Turner, KC** | You presumably want to treat the rates in the Apple agreement as a court-settled comparable in much the same way that you have treated the rates emerging from Birss J's judgment in *Unwired Planet* as a court-settled comparable in all of your recent deals, is that right? |
| **A: Mr Blasius** | It would be another reference point into our overall licensing programme. |
| **Q: Mr Turner, KC** | Which you would use? |
| **A: Mr Blasius** | Yes. |

This was true, not merely in relation to negotiated outcomes, but also in relation to court-settled licences. Of course, the extent to which any reference point would be used would very much depend on whether the party in question regarded the outcome as good or bad. In this case, Optis relied heavily on the *Unwired Planet* (First Instance) decision in the course of its negotiations with other parties. One question that I will have to resolve is the extent to which reference points are appropriate to include as informing the negotiations that lead to outcomes in the comparable licences adduced before me.

## L. THE (UNCONCLUDED) NEGOTIATIONS BETWEEN OPTIS AND APPLE

### (1) Approach

320. Obviously, the negotiations between Optis and Apple did not conclude successfully. Had they done, these proceedings would not have taken place. The question therefore arises as to why the detail of the negotiations – and why they failed – matters at all. The reason lies in Apple's case that Optis abused a dominant position; and in Optis' case that Apple was guilty of Hold Out, which Optis advanced both in response to Apple's competition claim and in support of their general contention that Apple's comparables were lower than the FRAND rate because Apple successfully Held Out in negotiations and so induced counterparties to accept rates lower than FRAND rates.

321. The allegations made by each side as regards the conduct of the negotiations were thus serious ones. However, although I heard some oral evidence in relation to these negotiations – particularly from Mr Blasius and Mr Warren – inevitably the documentary evidence was of primary importance,[447] combined with the fact that it was not possible for the entire history of the negotiations to be canvassed with the witnesses. That is no criticism of either party, but it does affect my ability to make fine decisions about the detail of the negotiating history.

322. I propose to consider the issue of Optis' alleged abuse of a dominant position and Apple's alleged Hold Out separately, after setting out those facts that I consider I am able to find.

### (2) The period between 2013 and 2017

323. Unwired Planet owned a portfolio which Optis has since acquired. They invited Apple to take a licence to this portfolio. Optis suggested that the evidence was that "Unwired Planet was having to chase Apple repeatedly to engage".[448] This, of course, was not accepted by Apple.

324. During this period, a limited settlement was agreed between Apple and Unwired Planet.[449] The precise terms of this agreement do not matter, but reference was made to this settlement in later discussions, and what was agreed and why it was agreed became a bone of contention.

### (3) Introductory meetings between Optis and Apple

325. Introductory meetings took place between Optis and Apple in 2016 and early 2017, commencing with the (in these cases, inevitable) non-disclosure agreement.[450] Optis was seeking to license the entire PO Portfolio at this time.[451]

### (4) The March 2017 meeting

326. According to Mr Blasius, "[t]he initial full PO Portfolio offer to Apple was made by Tom Miller and Ray Warren in March 2017. The offer was for 0.6% of the ASP (capped at $250), coming to $1.50 a unit. I assume that rate was for a 4G multimode device given that Optis' portfolio contains predominantly 4G SEPs and that 4G was in widespread use in 2017".[452]

327. The fact that Optis cannot point to any document conveying their offer to Apple is a hallmark of Optis' working practices.[453] Apple's approach was the precise opposite,

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[447] I have in mind the learning in cases like *Gestmin SGPS SA v. Credit Suisse (UK) Ltd*, [2013] EWHC 3560 (Comm). The principles are too well-known to require any further articulation here.

[448] Optis Closing (Round 1)/[773] to [774].

[449] Mewes 2/[12] and [15]; Day 6/pp.975*ff* (cross-examination of Ms Mewes).

[450] Optis Closing (Round 1)/[775].

[451] Optis Closing (Round 1)/[775].

[452] Blasius 2/[102]. This is described in Optis Closing (Round 1)/[776]*ff* as the "March 2017 Offer", and there is an attempt to tie the "offer" in to other documents. For the reasons I give it is not possible to go so far as to call this an "offer" in any meaningful sense of the word.

[453] The best Optis could do was to point to an Apple email written by Ms Whitt.

which was to attempt to document everything. There are, undeniably, difficulties that arise out of Optis' approach:

i) Optis itself cannot be confident as to the terms of its own offer. As can be seen from Mr Blasius' statement (quoted in paragraph 326 above) he had to make assumptions about the terms of Optis' offer. Mr Warren – who actually made the offer – confirms that it was made "at a meeting with Apple"[454] and that "[t]his offer was at a rate of 0.6% per unit, with an ASP cap of $250, resulting in a per unit royalty of US$1.50".[455]

ii) Apple did not appear to understand that they had been made an offer. It is not mentioned in Ms Mewes' written evidence[456] and in cross-examination Ms Mewes' evidence was as follows:[457]

| | |
|---|---|
| **Q (Ms Ford, KC)** | It is right, is it not, that you have not mentioned this opening offer in your account of the Optis-Apple negotiations in your second witness statement? |
| **A (Ms Mewes)** | Yes, I did not remember it being a formal proposal, our offer. I remember there was discussion. I do remember talking about caps and things like that. I do not remember this particular interaction. |

I accept Ms Mewes' evidence: whilst I am prepared to accept that there might have been discussions about licence terms, and that a rate might have been floated by Optis, I reject the suggestion made by Optis that this amounted to an "offer".

iii) Reconstructing events at a hearing and in a judgment is difficult and – for reasons clearly articulated in the case-law, and which I have adverted to above – courts place greater reliance on the documentary record rather than the intrinsically less reliable recollections or reconstructions of witnesses. That will be my approach when considering the negotiations, but I will bear in mind the asymmetry in the record (in that Optis engaged orally, and Apple engaged in writing); and Optis' contention that Apple was saying one thing in meetings and another in letters. In other words, I am going to approach matters on the basis that Optis – for operational reasons, because that was the way Optis did things – did not write things down, and that I am going to have to allow for a degree of latitude in this regard when considering events.

iv) In this case, re-constructing events is even more difficult because Optis negotiated with Apple wearing two hats, with Mr Blasius wearing both. Thus, Optis sought to license its own portfolio to Apple but also – through Innovius[458]

[454] Warren 1/[54].

[455] Warren 1/[54].

[456] Optis Closing (Round 1) at paragraph 777; Mewes 2 at paragraph 54 (which, like the dog that failed to bark in the night, in notable for the failure to mention this offer).

[457] Day 6/p.980 (cross-examination of Ms Mewes).

[458] See [208] above.

– sought to negotiate a wider deal (comprising Optis patents and those of others) with Apple. These two negotiating streams are not easily separated, and represent a further difficulty in disentangling the facts. Unless it is absolutely essential for the narrative – which generally it is not – I do not propose to separate these two negotiating streams.

### (5) Hand-down of the decision in Unwired Planet (First Instance)

328. On 5 April 2017, Birss J handed down the decision in *Unwired Planet* (First Instance). As I have described, this decision significantly affected the way in which Optis approached its licensing negotiations generally. The negotiations with Apple were no exception.

### (6) Optis' 3 May 2017 letter

329. On 3 May 2017, Mr Miller (Optis' head of licencing) wrote to Ms Whitt in the following terms:

> "Thanks for your efforts in reaching a settlement to the litigation between Unwired Planet and Apple. As discussed, that litigation was inherited by PanOptis and my goal is to resolve matters – not litigate.
>
> I know there was some posturing by the litigators during the time of our discussions, but I would like to move on from that and continue the broader discussion on the PanOptis SEP portfolios (Unwired Planet, Optis Wireless and Optis Cellular).
>
> In your email of April 12,[459] you mention that the current offer for the Unwired Planet portfolio was much higher than previously offered to Apple before the acquisition by PanOptis. I have studied the letter exchange and my understanding is that Apple has not responded to the request from outside counsel for any information on pre-acquisition offers from Unwired Planet. It would be helpful if you could provide any communications on that prior offer you referenced.
>
> We have continually demonstrated that we are willing to license SEPs on fair, reasonable and non-discriminatory terms in accordance with applicable FRAND obligations, and are willing to consider any FRAND proposals from Apple as we have not received any offers back yet. We are also willing to engage further in technical discussions, and provide justification for our SEP rates as we discussed in our previous meetings."

330. Clearly, there were some discussions about licence terms, but the record is so incomplete that I am unable to say anything more. The email exchanges from this period evidence hard negotiating to reach settlement on the litigation referenced by Mr Miller, but little else. I am not prepared to accept that there was any particular effort to progress licensing on Optis' part, nor any failure on Apple's part.[460]

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[459] This email was not put to any witness, and I have looked for it in the record. Although there are a number of email communications between Optis and Apple – including Mr Miller and Ms Whitt – I have been unable to locate material that casts very much light on this communication.

[460] I say this considering Optis Closing (Round 1)/[778]: "Apple did not respond with a counteroffer". The implication, of course, is one of culpability on the part of Apple. I reject that implication.

331. In my judgment, it is likely that this May communication was prompted by the *Unwired Planet* (First Instance) judgment and Optis' "reboot" of its prices in light of that judgment.

### (7) Provision of claim charts (June/July 2017)

332. In June 2017, Innovius[461] sent to Apple 28 claim charts for patents in the PO Portfolio and a meeting was held to discuss them on 12 July 2017.[462] The Apple response to these claim charts – and to later claim charts which were similarly provided by Optis to Apple – was as I have described in other cases.[463] As regards the claim charts sent in June and discussed in July, Apple responded on 31 August 2017 in the following terms:

"Innovius is seeking to sub-license certain rights to Apple relating to the patents of others, including alleged cellular SEPs [redacted] PanOptis/Unwired Planet [redacted]. Innovius has provided certain claim charts regarding patents in these portfolios and we met on June 30 and July 12 to discuss some of the claim charts from the [redacted] PanOptis/Unwired Planet portfolios. Apple also requested a further meeting to discuss [redacted] claim charts.

While our analysis is still on-going (as we await further information per our request), we did want to go ahead and provide initial feedback to Innovius regarding two of the four asserted portfolios: [redacted].[464] We have reviewed the claim charts Innovius provided regarding these portfolios, and have considered the additional information presented during our meeting on June 30, 2017. For the reasons summarized in Attachments 1 and 2 hereto, we conclude that each of the asserted patent claims is non-standards essential and/or invalid. Please note that while the analysis set forth below is merely exemplary and not exhaustive, it demonstrates why the claim charts fall short of showing that Apple infringes any valid and enforceable patent of [redacted].

We continue to review other materials and claim charts provided by Innovius and expect to provide further feedback in due course…"

As the letter makes clear, Apple's analysis was supported by more detailed reasoning contained in the attachments to this letter. The points made in these attachments were not examined before me, and I can reach no view as to the validity or otherwise of the points made. I would only say that the points will have at least been "arguable", otherwise Apple will have exposed itself to a negotiating "own-goal". But this letter, and others like it, certainly evidence Apple's "patent-by-patent" approach, that is documented in the negotiations with other parties that I have described. Mr Warren

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[461] I am, from hereon in, not going to separate Innovius from Optis. The distinction is, at times, very hard to draw. Optis describe the negotiations as going on "in parallel" (<u>Optis Closing (Round 1)</u>/[782]. Whilst that is accurate, having considered the documentation in the round, I consider the different negotiating parties (Optis and Innovius) to amount to a distinction without any material difference, at least for the purposes of describing these negotiations. I will, therefore, simply refer to Optis, even though I appreciate that this is not factually accurate.

[462] <u>Optis Closing (Round 1)</u>/[782] to [783].

[463] See the description of Apple's negotiating practices in Part IV: Section H above.

[464] I appreciate that these are not Optis patents. But this is the first – and characteristic – response from Apple in these negotiations, and that is why I quote from this letter. Later letters – to similar effect, but regarding different patents – are dated 2 October 2017 and 10 April 2018. I will not specifically reference these further.

regarded this approach as unconstructive and atypical of other counterparties Optis dealt with.[465]

## (8) Other discussions in the meantime; the "August 2017" offer

333. Discussions did not cease whilst the claims charts were being reviewed by Apple. Thus, there was an email (Miller/Whitt) on 29 July 2017 seeking to re-boot "our bilateral discussions" and attaching a draft licence agreement for the PO Portfolio only.[466] There were meetings on 16 August 2017 and 5 September, where Apple made clear that they were not in a position to make any kind of proposal. Ms Mewes' email of 3 September 2017 states:

> "As specifically discussed at our meeting August 16, we will not have a proposal next week as we are continuing to review the claim charts we received from Innovius relating to the UP/PanOptis portfolios. However, as promised, we do have some initial feedback on the analysis, and can provide a better idea of where we stand."

334. This is typical of how Optis and Apple conducted business. There were face-to-face meetings, which neither party documented, and various communications in writing, where Apple were much more detailed and specific, whereas Optis were vague.[467]

335. One of the few letters to provide any flesh on the bones is an email from Mr Miller to Ms Whitt and Ms Mewes on 19 September 2017:

> "I wanted to reach out since our last meeting. As discussed, I thought it would be helpful to set forth the basis for our current offer to Apple, in the hopes that this will help Apple understand better how we formulated the offer and advance our further negotiations. We are open to other solutions as well.
>
> As explained at our meeting, our \$0.86 offer[468] was based on the determination in the *Unwired Planet v. Huawei* opinion. As you are aware, the court found that the rate for 4G was 0.052% for major markets, and 0.026% for other markets and China for the Unwired Planet patent portfolio. Our offer to Apple was based on these rates as applied to the remainder of our cellular SEP portfolio.
>
> In applying the neutral adjudication of the *Unwired Planet v. Huawei* court, we took into consideration the points you have raised in our negotiations. Specifically, we have taken into consideration that:

[465] Optis Closing (Round 1)/[786].

[466] Optis Closing (Round 1)/[ 792].

[467] See, for example, Mr Miller's email to Ms Whitt and Ms Mewes on 3 September 2017:

"Hope you have a good holiday weekend. Ray and I look forward to meeting you on Tuesday.

During our last meeting with Heather, we outlined a new proposal from PanOptis. I was checking to verify if Apple will have a counter-proposal for the PanOptis portfolios. I was hoping to make further progress on Tuesday. Let me know."

[468] There is a lack of clarity about this offer which I do not propose to resolve. Mr Warren suggested that the offer was in fact an *ad valorem* rate of 0.323% (Warren 1/[23]), and Mr Blasius was cross-examined about this (Day 3/pp.386*ff* (cross-examination of Mr Blasius). Given that the point of an offer is to enable the offeree to understand what is on the table, there is really no point in trying to work out what Optis thought they were offering, because what matters is what Apple thought they were being offered. My conclusion is that Apple would have considered that Optis were giving indications as to their position on rates, but in a loose and very informal sense. To call this an "offer" is a misdescription.

- Apple already has license rights to some of the SEPs owned by PanOptis either through a direct license or indirectly through pool or pass through (i.e., exhaustion), including [redacted]

- Not all patents declared essential are "true essentials" (referring to the Judge Birss opinion);

- Apple has significant sales outside of the United States and Europe; and

- The license is a global portfolio license.

To be more transparent, when we apply Judge Birss decision to our other portfolios, the rate is 0.323% in major markets and 0.13% in other markets for 4G cellular-enabled devices sold. As you indicated, our proposal and Apple's calculation of $0.015/unit are quite far apart. I want you to know that we are willing to discuss how we determine an appropriate rate for the license given the facts above. We are open to discussing discounts for annual payments or applying caps to the rates in the discussion or other forms of reasonable compensation.

I am confident that we can find a way to make this work over the next few months. I suggest that we extend our standstill arrangement through the end of 2017 to further these discussions.

Please let me have your thoughts on extending this arrangement and I will send the necessary paperwork. I can also talk by phone if that works."

336. Optis contend that a clear offer on these terms was made on 16 August 2017, which was "confirmed" in this letter. Optis Closing (Round 1) states:[469]

"Optis made an offer to Apple on 16 August 2017, where it presented an offer of $0.86 per unit."

I do not accept this bald assertion. As the footnote to this paragraph shows (footnote 534), the evidential basis is the recollection of Mr Warren, Mr Blasius and Ms Mewes, and it is quite clear from Ms Mewes' evidence that the "offer", such as it was, was as vague and unformed as the March 2017 offer that I have described. Optis seek – in their written closing submissions – to turn this offer into something far more specific.[470] There is a careful attempt to reconstruct what may or may not have been on the parties' minds at the time. If I were determining whether a contract had been concluded, orally, at this time, I would of course have to review this material with great care, in order to work out what was offered and what was accepted, if anything. But no-one is suggesting that the parties even came close to agreement. What Optis are trying to do is, after the event, suggest that Optis went out of its way to present a detailed offer to Apple, which Apple then (unreasonably) either failed to consider or refused.[471] The evidence does not bear out this interpretation. Optis were far vaguer in terms of what they said they wanted than they now seek to suggest, and Apple were not unreasonably rejecting formed offers, but exploring (in what Apple thought were negotiations) what Optis' position in fact was. Thus, whilst I am quite prepared to accept that a figure of US$0.86 was

[469] At [794].

[470] Optis Closing (Round 1)/[795]*ff*.

[471] See for instance Optis Closing (Round 1)/[803] and [811], where attempts are made to impose after-the-event certainty on what were actually very unformed discussions.

mentioned, the idea that it formed part of an "offer" is not one that I am prepared to accept.

## (9) The November 2017 exchanges

337. In November 2017, the following exchanges took place. Apple responded – in somewhat stern terms – to Optis' description of what had gone before:

"…

Your characterization of our meeting on September 5 is not correct. During the meeting, we reminded you that Apple made an offer to Unwired Planet ("UP") of $25m in December 2015 for a fully-paid up license. This offer covered all technically and commercially essential patents owned or controlled by UP that had a priority date on or before 5 years from the effective date of the proposed licence (anticipating the UP may acquire further patents). In addition, we noted that in April 2017, we had reached a settlement agreement with PanOptis (which had since acquired UP) for $10m that gave Apple a license to UP's commercially essential patents as well as other non-essential patents that at the time of our offer UP indicated had little additional value. Accordingly, at the meeting on September 5, we discussed whether it was possible to reach a deal at $15m. This was not a valuation of the "UP" portfolio – if anything it was a valuation of the entire PanOptis portfolio as our original offer contemplated further patent acquisitions. Regardless, we recognised that there was a very substantial gap in valuation between the parties and discussed at the meeting whether there was a creative solution that would allow for a partial resolution with a license on some portfolios and a standstill on others at $15m. You agreed you would consider this further and come back to us with a proposal which you have not yet done.

In the meantime, we are still evaluating what the appropriate rate would be for PanOptis' overall portfolio. As we have discussed, Apple's FRAND Framework follows two steps. *First*, Apple calculates a "royalty reference point" by multiplying (a) the licensor's *pro rata* ownership of relevant SEPs by (b) a portion of the smallest saleable unit where all or substantially all of the inventive aspects of the patented standard technology is practiced (in the case of cellular standards this is the baseband chip). *Second*, Apple adjusts the royalty reference point – up and down through negotiation with the patentee – to accommodate other comparative factors, including the patent merits, licensor's contributions to the standard, litigation history, comparable licenses, exhaustion, etc. As you have recognised, there are a number of complicating factors in this analysis, including the fact that Apple already has existing rights in many of the patents in PanOptis' portfolio through direct license and/or exhaustion and the fact that there is ongoing litigation involving PanOptis' portfolio.

As we have dug in further, we had identified some further questions that we hope you can assist us in providing an answer to. First, in reviewing the UK Judgement in the Huawei case, it appears from the publicly available information that Samsung paid no more than $0.05 per unit for a license to Pan Optis' portfolio and likely much less (see, e.g. [494], noting that the discrepancy between the court's benchmark rate of 0.062% and the Samsung effective rate was "much larger" than three-fold, e.g. at most Samsung was paying 0.021%). While the court does not say much about the scope of this agreement, it appears to include rights not just to the UP portfolio but also PanOptis' other portfolios. You previously stated in our discussions that you would be willing to agree to an MFN with respect to the Samsung agreement. Along with an alternative offer with modified terms from PanOptis, are you prepared to provide us with information about the past licenses that have been granted on any of PanOptis' patents, including Samsung's, so that we can better understand how PanOptis' offer to Apple would comply with such a warranty?

To date you have provided very limited information regarding the licenses that PanOptis and/or UP have entered into (essentially, only the names of the parties). To assess FRAND compliance in addition to understanding the impact of an MFN, we request that PanOptis provide further a description of the key terms and royalty rate of each license, including the number of units licensed per agreement and the royalties received for such, an explanation of the methodology used by PanOptis and/or UP to calculate the royalty, and an assurance that no product, product category, company, technology sector or country is being treated discriminatorily. As you know, we have already entered into an NDA which protects the confidentiality of this information. In addition, the information can be presented anonymously to further protect confidentiality and we are also willing to agree to a restricted distribution to select individuals if requested. Please let us know when you can provide this information as it is very important to our analysis."

338. This email itself received a dusty response:

"…We received you email dated November 2nd and write to address some issues that you raised. I also want to write to tell you that I will be leaving PanOptis to return to Chicago with family. Rich Misiag (copied here) will be your main contact going forward.

As you are aware, we have now been negotiating a license to our SEPs on our Unwired Planet ("UP") patent portfolio for over a year and the Optis Wireless and Optis Cellular portfolios for close to a year. We've held several face-to-face meetings and have had a number of conference calls with Apple to discuss a license, and we have been clear we have been willing to license the SEPs in the PanOptis portfolios at a FRAND rate. We've provided Apple with patent lists and 30+ exemplary claim charts, presenting 28 of the claim charts through Apple's discussions with Innovius. We've made several offers, the last offer based on the FRAND adjudication by Judge Birss (a neutral arbiter) of the UP portfolio. We applied Judge Birss' decision to the SEPs in the Optis Wireless and Optis Cellular portfolios and the remainder of the UP portfolio, taking into account [redacted] You have had several months to consider our patents and our offer, and we have not yet to receive a substantive response from Apple.

We take our FRAND obligations seriously and remain willing to license our portfolios on FRAND terms and conditions. We believe that it is important to move forward in a meaningful way with these negotiations. FRAND licensing is a two-way street. We would like a clear response to our offer to license Apple our SEP patents in the UP, Optis Wireless and Optis Cellular portfolio.

In addition, there are several items in your email that I need to correct and which I believe are important to address, for the sake of clarity.

- First, Apple made it very clear that the $25 million offer Apple made in 2015 was for a license [to] UP's SEPs only, understood that Apple's position being that the UP non-SEPs were "worth zero". Subsequently, Apple and UP entered into the April 2017 license agreement for $10m for UP's non-SEP patents only. Your suggestion that the $10 million that Apple paid under that agreement should somehow apply as a discount to the SEPs is disingenuous.

- Second, while we appreciate your explanation of Apple's framework for determining a FRAND rate, Apple's methodology has never been approved or adopted by a court of law. As we have explained, our offer applies the methodology adopted by Judge Birss in his public judgment.

- Third, although Apple has often requested a MFN clause, PanOptis has never offered a MFN clause to Apple nor agreed that such a clause would be included in terms of a final license with Apple, in written correspondence or during our discussions.

- Finally, regarding your questions regarding the UK judgment, Apple's position is directly opposite to the UK court's findings. Specifically, the court decided that the UP-Samsung license was concluded under special circumstances and that other value flowed to UP as a result of the transaction, such that the Samsung license did not constitute a proper comparator for the purposes of FRAND. Moreover, Huawei litigated this point extensively and failed. In fact, the public judgment explicitly stated that the Samsung agreement did not represent the market value of the UP patent portfolio. In addition, as the public judgment makes clear, the UP-Samsung license discussed relates solely to the UP portfolio and has no bearing on the remaining PanOptis portfolios.

I want to reinforce PanOptis' commitment to negotiating a license to our SEP patents under FRAND terms and conditions.

All we are asking at this point is that Apple make a counteroffer at this point so that we can further the discussions."

339. What this exchange shows is that far from there being an established Optis offering, the parties were in the throes of negotiating, and were really at the stage of testing each other's limits in terms of what they were prepared to do and agree.

**(10) December 2017**

340. As noted,[472] Mr Misiag took over on the Optis side in late 2017. In an email dated 4 December 2017, Optis wrote to Apple in the following terms:

"As you are aware, PanOptis is committed to negotiating a license to our SEP patents under FRAND terms and conditions. Although we have not received a counteroffer, as requested in our November 28, 2017 email to Apple from Mr Thomas Miller, we'd like to present to you license offers which include the FRAND rate adjudicated by Judge Birss for the Unwired Planet portfolio (less Samsung patents) and a FRAND rate for the combined Optis Wireless, Optis Cellular and Samsung patents which is consistent with Judge Birss' royalty rate calculation methodology set out in his May 4, 2017 decision.

The royalty rate for the Unwired Planet license and the royalty rate for the combined Optis Wireless, Optis Cellular, and Samsung patents license are clearly outlined in Section 4 of the respective attached agreements. PanOptis has already reduced the royalty rate in the combined Optis Wireless, Optis Cellular, Samsung patents draft license agreement to account for [redacted] We stand ready to discuss appropriate adjustments to the rates based on any additional evidence Apple produces which proves existing licenses to patents in any of these portfolios.

Please review the attached agreements and let me know if you have any comments on our agreement language in general. Bear in mind the language in the two attached draft agreements found their genesis as an appendix to the UK courts judgement. The appended agreement was deemed by the UK courts as the appropriate framework for FRAND license agreements. Also, please note that in addition to handset royalty rates the draft agreements have royalty rates for

[472] At [338] above, in the letter there quoted.

infrastructure equipment. I don't believe Apple produces any infrastructure equipment so that can be edited out of the agreement later.

We'd ask Apple again, in the spirit of amicable license negotiations, to make a formal and documented FRAND offer for license to the unlicensed PanOptis patents.

Additionally, I'd be happy to meet with you both in Cupertino to discuss how we might tailor the framework of our FRAND license agreement to the unique needs of Apple, we can be creative. Please suggest a date convenient to the both of you so I can visit to discuss how we might move forward with a license agreement.

Lastly, our standstill is set to expire on 12/31/2017. Let me know if Apple is interested in extending the standstill another 90 days."

Optis stated in closing that this offer was 0.192% as a running royalty, equating to US$1.15 per unit (based on an average sale price of $600).[473] This was on the face of the documents an unexplained increase, although (according to Mr Warren) the thinking behind the increase was explained to Apple in a meeting or meetings.[474]

341. There was a further meeting on 7 December 2017.[475] This was with Innovius, and resulted in an email a week later:

"Thank you for meeting with Brian and me on Thursday to discuss the current status of the negotiations for a license to Apple under the [redacted] Panoptis and Unwired Planet portfolios.

To recap our discussions to date, we have provided Apple with an aggregated solution that we believe provides value to Apple as well as Panoptis, Unwired Planet, [redacted] (Licensors). Innovius assembled an aggregated portfolio of almost 7,000 cellular standard essential patents for Apple, which includes over 400 individual patent families. We have provided Apple with 155 claim charted families. This is a substantial portfolio that has a licensing history.

From a technical standpoint, we have held technical discussion on the [redacted] Panoptis and Unwired Planet portfolios. Apple has provided their feedback on those, as well as the [redacted] portfolio, which Apple has reviewed previously. For the [redacted] and further Panoptis discussions, we can confirm [redacted] for Jan 25th/26th and Panoptis for Jan 29th/30th at your offices in Sunnyvale. We would suggest a start time of 9AM PT.

In parallel, we have held our business discussions, and appear to be very far apart. Innovius has offered an aggregated solution to the above portfolios at a rate of [redacted]. We are able to offer this rate because of the efficiencies in providing an aggregated solution designed to avoid litigation. Although Apple has discussed a hypothetical offer of $40M for 5 years, we would like a formal FRAND offer so we can determine how best to narrow the gap. I understand Apple may desire us to separate the [redacted] portfolios for an alternative solution, but it would be beneficial to understand Apple's official counterproposal to our initial offer and why disaggregating the portfolios would lead to a more efficient solution.

As we discussed last week, we are searching for other mechanisms to help narrow the gap. Apple has asked for comparables, and as we mentioned, Innovius has recently helped conclude

[473] Optis Closing (Round 1)/[815].

[474] Optis Closing (Round 1)/[818] and [819].

[475] An email dated Thursday 14 December 2017 refers to a meeting "on Thursday".

a license for a segment of the overall portfolio to another consumer electronics company. Furthermore, when looking at other comparables, such as Judge Birss' Unwired Planet decision factors, the portfolio would command values that are much greater than what we have offered to Apple.

We would like to conclude this license for Apple as we believe aggregation provides an efficient mechanism to provide a solution for both Apple and the licensors. We believe in the aggregation model, and would like to conclude the license before any further disaggregation occurs. Although you stated Apple may prefer disaggregation as a way to test the patents, you have been evaluating the portfolios separately in our current discussions which would seem to provide Apple with the same result. As always, you are free to negotiate with each of the entities directly and independently of Innovius.

Lastly, as we agreed, attached are drafts to extend the NDAs for all parties to March 31, 2018…"

342. Ms Mewes responded on 18 December 2017:

"Nice to e-meet you – we look forward to meeting you in person soon to continue our licensing discussions with PanOptis. I wanted to start first by summarizing where we are in those discussions, particularly as we disagree with several of the points set out below in Tom's email.

As we have told PanOptis before, Apple is willing to take a license on FRAND terms to any standard essential patents it uses. Indeed, Apple already made a substantial \$25m offer in Dec 2015 to Unwired Planet (acquired by PanOptis last year) for any SEPs controlled by UP. It also has been negotiating in good faith with PanOptis regarding all of its alleged SEPs, and we were able to reach a license agreement in March/April 2017 with PanOptis for UP's non-SEPs, and paid \$10m for that license. Tom's email appears to attempt to re-characterize Apple's prior offer to UP and its agreement with PanOptis, but the record speaks for itself.

Apple's FRAND Framework methodology is founded in principles recognized by courts and regulators in the US and worldwide, including the principles of apportionment and royalty stacking…

We too have read the first instance decision from the UK court in the *Unwired Planet vs Huawei* case, which recognizes these same concerns. That decision, however, is more limited than suggested by PanOptis. It is apparent throughout that the decision was driven by the facts and evidence presented to the court – indeed, the court titles its decision "*FRAND on the facts of this case*". Critically, the parties made strategic choices about the arguments and evidence that would be presented and decided by the court. As an example, there is nothing in the decision to indicate that Huawei ever challenged UP's use of ASP/use-based licensing, and the court never decided whether such an approach may be contrary to FRAND, particularly as applied to multi-function products such as those sold by Apple. The court is also clear that Huawei made a choice in its case not to present a detailed economic analysis of the competitive impacts of charging similarly situated parties vastly different prices for a license to exactly the same set of standard essential patents. There is also no indication that the court ever considered the contemporary license Apple entered into with Ericsson in 2015 (or other contemporary licenses that Apple has entered into consistent with its FRAND Framework). The decision is also replete with examples where the court simply decided between the two positions presented on the limited evidence before it. In short, even without considering whether the decision was rightly decided, simply applying by rote the findings in that case to different facts and evidence is not supportable. On top of that, PanOptis simply ignores the many other contrary decisions by other courts recognizing the importance of using the smallest saleable patent practising unit when valuing technology in multi-function devices.

The licenses offered by PanOptis are tied to the device ASP for Apple's products. This is not FRAND. Taxing the end user device as a percentage of ASP is contrary to law and to Apple's own contemporary experiences in licensing cellular SEPs. This approach seeks (improperly) to capture extra value associated with the technologies, innovations and components of other parties – extra value unrelated to the cellular SEPs PanOptis is offering to license. Consider the following example – PanOptis is asking for a substantially greater royalty for a 128GB iPhone than for a 64GB iPhone, even though these devices have exactly the same cellular functionality. Apple's cellular enabled products – such as the iPhone – command a higher ASP in the market because Apple offers unique functionality, design and user experience that differentiates Apple products from other smart phones and tablets that *incorporate the same standard essential cellular technology*.

PanOptis' offers also defy logic and economics. PanOptis demands 0.140% of end user device NSP in major markets in one offer and 0.052% of NSP in the other. This combined demand of 0.192% of NSP, assuming an ASP of $695 and NSP of $667, translates to a per unit royalty of $1.28. Assuming 250m units per year and that ~1/3 of those units are taxed at half the rate, that still amounts to **over $266m per year** or **over $1.3 billion for a 5 year license**. Applying PanOptis' $1.28/unit demand to the entire stack also suggests a **total royalty stack of over $365/unit**. That is more than 18x the price of the cellular chipset that practices all or substantially all of the cellular standardized technology (among other things). Clearly, that is not FRAND.

In August, we also specifically discussed with Tom an MFN, and we believe that PanOptis offered to provide such an MFN as part of an agreement with Apple. It appears that Samsung paid no more than $0.05/unit (and perhaps even substantially less) for its license. Now PanOptis appears to be demanding many multiples of that from Apple (whether only considering the 0.052% demand for UP or PanOptis' overall demand) – and without an MFN. This is discriminatory and in violation of FRAND.

Finally, we do believe it would be helpful for us to meet and we would be willing to agree to extend the standstill as you have proposed. As noted in my last email, we continue to have questions regarding PanOptis' offers and licensing history. In addition, we have the following questions:

- The form of the prior and current offers is confusing as PanOptis has broken up and reassembled its portfolios in ways that are unclear to someone unfamiliar with the structure of PanOptis' various entities and which entities hold which patents. Please identify specifically the patents covered by each offer.

- PanOptis' demands also seem to have changed – these latest offers appear to be asking for $1.28/unit, but PanOptis extended an offer of $0.86/unit only a few months ago (and that was already many multiples over what we believe would be FRAND). Please explain this change.

- Please identify the patents and/or families that PanOptis believes should be counted in its calculation of a royalty rate. Clearly, not all UP patent families were counted when the UK court calculated its rate (and the license draft only identifies 5 European Patents as licensed). It also appears that the court rate was adjusted in some manner that is not explained – please provide this explanation.

- With respect to [redacted] what does it mean that you are offering a "consistent" rate? What patents or families are included? Are you counting all asserted Optis Wireless and Cellular families? All the Samsung families? And, if not, which ones are you counting?

[redacted]

Absent an answer to its questions, disclosure that would address the information asymmetry, and a specific description of the methodology PanOptis is applying to support its demand to Apple, it is unreasonable for PanOptis to demand a formal counter-offer from Apple. Nonetheless, what we have done is provide PanOptis a disclosure of Apple's FRAND framework and the factors relevant to our decision – and we have also made clear that, based on the information provided to date, PanOptis' demands fall far outside this framework and Apple's recent history of licensing cellular standard essential patents.

…"

343. Optis sent a holding response to this on 27 December 2017, suggesting a face-to-face discussion rather than exchange of emails.

## (11) Meeting in January 2018

344. There was a further face-to-face meeting in January 2018, where 28 claim charts provided by Optis were substantively discussed.[476]

## (12) Apple's offer

345. On 11 April 2018, Apple made a lump sum offer to Optis of US$35 million. The terms of the offer were as follows:

"I write to extend to PanOptis an offer to license all patents that Pan Optis contends are essential to cellular standards ("cellular SEPs"). This written offer complements the offer Apple already made on December 22, 2015 to Unwired Planet ("UP", now part of PanOptis), and the valuation provided by Apple to PanOptis in our previous meetings.

Apple stands by its prior offer to UP and remains willing to license the UP portfolio separately on the terms set forth in Apple's 2015 offer. However, in the interests of pursuing a global resolution with PanOptis, Apple makes this further offer covering all cellular SEPs now held by PanOptis or its affiliates, i.e. including at least UP, Optis Wireless and Optis Cular.

**I. Apple's Cellular License Offer**

Apple is willing to license PanOptis' cellular SEPs on fair, reasonable and non-discriminatory ("FRAND") terms.

Apple proposes to pay PanOptis a lump-sum royalty of $35 million for a cellular SEP license and release that includes at least the following key terms:

- **Parties**: Apple Inc and its affiliates ("Apple") and PanOptis Patent Management LLC and its affiliates, including at least Optis Wireless Technology LLC, Optis Cellular Technology LLC, Unwired Planet LLC and Unwired Planet Int'l Ltd (collectively "PanOptis").

[476] Optis Closing (Round 1)/[790].

- **Licensed Patents**: All patents and patent applications owned, controlled or otherwise licensable by PanOptis or its affiliates during the Term that (1) have a priority date on or before 5 years from after the effective date and (2) are either technically essential or have been declared or otherwise held out as essential to one or more of the Licensed Standards, specifically including all patents identified by PanOptis to Apple as allegedly essential.

- **Licensed Standards**: All cellular telecommunications standards.

- **Licensed Products**: All Apple products/services (including components).

- **Territory**: Worldwide.

- **Term**: Life of Licensed Patents.

- **Release**: Past sales within the scope of the license are released.

- **Payment**: $35m lump sum payment from Apple to PanOptis (unless UP accepts Apple's 12/22/15 offer for $25m, in which case, the payment shall be reduced to $10m).

A proposed license agreement setting out the complete terms of Apple's offer is enclosed for your consideration. This agreement has been fully executed by Apple, and only requires your signature.

Apple makes this significant offer in the interest of resolving our licensing dispute about cellular SEPs and avoiding potential litigation. We make this offer without any admission as to the merits of the actual patents PanOptis seeks to licence and subject to various defences and counterclaims Apple might raise in the litigation, including but not limited to non-infringement, validity, prior licences and exhaustion. Apple's offer is premised on PanOptis' representation that its portfolios consist of at least 138 declared cellular SEP families as follows: Unwired Planet (50 families), Optis Wireless (60 families) and Optis Cellular (28 families).

**II. Apple's FRAND Framework**

As discussed previously, Apple has adopted a framework for the licensing and valuation of cellular SEPs that is based on sound economic principles and logic that we believe leads to a fair, reasonable, and non-discriminatory outcome. Others agree, as Apple has successfully negotiated many cellular SEP licences consistent with this framework. Recent case law, including those cases cited below, further supports the reasonableness of Apple's approach and offer to PanOptis.

**a. Royalty base**

Royalties must not capture value unrelated to the patented technology. Courts have instructed that the way to do this with a multi-component device is to use the smallest saleable patent practising unit ("SSPPU") as the royalty base, rather than the entire product. The SSPPU doctrine reduces the risk that a "patentee will be improperly compensated for non-infringing components". For cellular standards, the SSPPU is (at most) the cellular baseband chipset where all or substantially all of the standardised technology is implemented or substantially practiced. Importantly, the baseband chipset is only a starting point for determining the appropriate common royalty base. In order to guard against unjust enrichment, the baseband chipset should be further apportioned in an effort to remove some of the value that is unrelated to the type of technology at issue. For cellular SEPs, the profit margin of a cellular baseband chip is the maximum aggregate amount any implementer of the various cellular standards should rationally be expected to pay to all intellectual property licensors. Use of the profit margin removes unrelated costs that are reflected in the price of the chip (e.g., materials, manufacturing, marketing, etc). Further apportioning the profit margin ensures patent holders are not improperly compensated for other value of the chip attributable to (i) non-patented features, (ii) standardisation itself and (iii) unrelated technology.

**b. Appropriate Rate**

When selecting the appropriate rate to apply to the common base in a SEP FRAND royalty calculation, that rate should reflect the licensor's holdings of cellular SEPs as compared to others. A pro rata approach is a helpful starting point that respects both licensors and licensees because the resulting rate is objective, it is proportional among licensors, and it is comparable amongst licensees. It also protects against royalty stacking that would lead to economically irrational results. Comparing one licensor's share to the total number of such SEPs takes into account the impact that any one royalty demand has on the overall royalty burden on implementers such as Apple for the specific standard(s) at issue. This is often referred to as the total "royalty stack".

**c. Merits-based Analysis**

Having established a "royalty reference point" by applying the pro-rata share to the common base, Apple next analyses the merits of the specific alleged SEPs to be infringed, which may lead to an increase or decrease from the reference point. Patent merits matter. SEP licensors bear the burden of establishing (i) that the specific patents it seeks to licence are actually infringed, and not otherwise invalid or unenforceable; and (ii) the value of a patented invention and improved performance resulting therefrom that is separate and apart from other features, excludes the value of standardisation itself, and takes into account non-infringing alternatives available ex ante. Many licensors cite their SEP-declared portfolios as evidence of significant innovation and support of high royalty demands. But size is not a proxy for substance. Merits cannot be assumed, and individual patent merits testing cannot be Ignored.

**d. Licensed Units**

Finally, once the parties have calculated a common base and appropriate rate for the specific SEPs to be licensed, they must identify licensable, royalty bearing units. This step is important to ensure that the licensee does not double-pay, and the licensor does not receive double-recovery (or any other form of unjust enrichment). This inquiry is especially important in this case as Apple has significant pre-existing licence and pass-through rights impacting almost all the patents held by PanOptis.

**III. Apple's Offer is FRAND**

Apple's offer to PanOptis is consistent with Apple's FRAND methodology as outlined above. Indeed, many of the assumptions that underlie Apple's offer are quite favourable to PanOptis. For example, Apple has applied a US$20 baseband chipset price and a 25% profit margin, yielding a total aggregate royalty base of US$5. Baseband chipsets are available for far less than US$20 and few companies achieve 25% margins, meaning that the actual royalty base is likely lower. We have also not applied any further apportionment to this base for the non-cellular SEP innovation embodied in the baseband chipset – another generous assumption that favours PanOptis. PanOptis claims to hold 138 families of declared cellular SEPs from Ericsson, Samsung, Panasonic and LGE. There are more than 26,600 patent families declared to cellular standards, meaning that at best PanOptis has only a 0.5% pro rate share. This leads to a royalty reference point of US$0.026 per cellular device for PanOptis' entire cellular portfolio, assuming all identified families are in fact essential, infringed, valid and enforceable (a proposition that is highly suspect…)

…

In sum, Apple's offer to PanOptis, which is US$35 million in value, is FRAND. We look forward to meeting with you on April 26, and answering any questions that PanOptis may have regarding Apple's proposal, as well as furthering our goal of resolving this dispute."

346. There is much that is familiar in this from Apple's negotiations with others.[477] That is entirely unsurprising, given Apple's attempts at a consistent – and to it, agreeable – framework. The following points can be noted:

i) Apple put forward their SSPPU theory for valuing the stack. I have set out my reasons for not accepting this as a rational way of achieving a FRAND rate earlier in this Judgment.[478]

ii) Apple suggested that the value of the standard itself should be left out of account. Again, I have explained my reasons for rejecting such an approach in answering the FRAND Question earlier in this Judgment.[479]

iii) Apple put forward its desire for a patent-by-patent consideration; however, as I have observed, it is difficult to see how such an approach can be accommodated where a portfolio of patents is being licensed.

347. Optis responded on 27 April 2018. Unsurprisingly, Apple's offer was unacceptable to Optis. Optis' letter:

i) Expressed disappointment at the length of time it had taken Apple to make an offer.

ii) Expressed disappointment at the level of the offer.

iii) Suggested that Apple were negotiating in bad faith ("…it is difficult to believe Apple is negotiating in good faith…").

iv) Made a number of criticisms of Apple's methodology, which I will not set out.

v) Complained about a lack of transparency.

vi) Emphasised that Optis remained "available and willing to engage in good faith, productive, patent licensing discussions with Apple, but Apple must also be willing to approach discussions in a similar manner".

[477] See the Apple Framework, and the description of Apple's approach in Part IV: Section H above.

[478] Section IV: Part I above.

[479] Part IV: Section J above.

## (13) Optis' offer of arbitration

348. Just over a fortnight later, in a letter dated 14 May 2018, Optis made a suggestion that the parties arbitrate:

"For several years, Apple and PanOptis have engaged in discussions regarding the terms under which Apple will take a global patent license to our portfolio of standard essential patents for cellular communication. Apple has not disputed that we own a number of standard essential patents for which Apple's products, which are sold all over the world, require a license.

We have not, however, agreed on fair, reasonable and non-discriminatory (FRAND) terms, and this has caused our discussions to stall. We based our offers to Apple on the royalty rates that have been neutrally adjudicated by a court in the UK. Apple has not accepted that offer, however, and has only offered to accept licensing terms that are much more favourable to Apple.

It is clear that, given the amount of time we have both spent seeking a licensing arrangement and the differences that remain, the time has come for a different approach to resolving these issues. Accordingly, PanOptis proposes that the parties engage in binding arbitration before three neutrals to determine the appropriate royalty rate for a global FRAND patent licence to our portfolio of declared standard essential patents for cellular communication. PanOptis proposes the parties agree to proceed before the American Arbitration Association pursuant to their Commercial Arbitration Rules for Large, Complex Disputes. PanOptis further suggests that the arbitration take place in a neutral location.

…"

## (14) Apple's response to Optis' communications

349. Apple responded on 13 June 2018. It is unnecessary to set out the detail of this response, save to note that it was or purported to be substantive, and defended Apple's approach and the Apple Framework. On the question of arbitration, Apple stated:

"In your May 14, 2018 letter, PanOptis proposes "binding arbitration before three neutrals to determine the appropriate royalty rate for a global FRAND patent license to our portfolio of declared standard essential patents for cellular communications", and references AAA Commercial arbitration rules. Arbitration can be a useful tool in resolving patent licensing disputes but the arbitration must be fair and consistent with the law. As it stands, PanOptis has not provided any meaningfully detailed arbitration proposal for Apple's consideration. Indeed, PanOptis does not appear even to contemplate addressing the patent merits, and the arbitration rules referenced by PanOptis are designed for commercial disputes, where the parties already have an existing contract. Accordingly, we request that if PanOptis is truly interested in arbitration that it make a detailed proposal that is fair, consistent with the law, and that addresses the merits of the patents that PanOptis contends Apple should license. We would be happy to discuss this issue further as an alternative path to resolution."

350. Optis' response – describing Apple's "latest letter" as "disappointing" – came four months later on 23 October 2018. This gap is, no doubt, at least in part explained by the fact that Mr Blasius took over from Mr Misiag in August 2018.[480] A face-to-face meeting (Blasius/Mewes) was sought, and eventually took place in December 2018.

[480] Optis Written Closing (First Round)/[838].

That discussion appears to have been not-unproductive (to put it no higher than that) for Mr Blasius emailed Ms Mewes on 3 January 2019 in the following terms:

"Given our recent discussion in December, I propose that we extend the current NDA and standstill, which expires next week, for another 45 days. Please let me know if you agree and we will circulate documents for signature."

Shortly thereafter, however, Optis commenced litigation in this jurisdiction against Apple.

**(15) The commencement of litigation, and Optis' February 2019 offer**

351. On 27 February 2019, Mr Blasius emailed Ms Mewes as follows:

"As you are likely aware by now, PanOptis has filed litigation against Apple. Unfortunately, after almost three years of discussions, it has become apparent that the only way to resolve our differences is to have a neutral third party confirm that PanOptis' offer to Apple is FRAND.

Please understand that we do not intend to close off our business discussions. We remain open to continue our negotiation during the litigation and hope we can find a way to resolve this amicably. We filed the litigation as a way to bring a resolution by a date certain if we cannot work things out on our own outside of court.

As discussed, I'm sending you the presentation we reviewed in our last meeting. We are happy to discuss next steps and address any questions. Please let me know your availability over the coming weeks if you think this would be helpful."

352. Proceedings had in fact been commenced the day before this email, on 26 February 2019.[481] It is difficult to see how this could improve the negotiating environment – but, at the same time, Optis were clearly engaging an avenue that would bring matters to a close. Nevertheless, a further "offer" was made, as part of Optis' pleadings.[482] The "offer" is in the form of a draft licence agreement, and the relevant provision (in terms of rate) provides as follows:

"4.2 For End User Devices:

4.2.1 0.064% of the Net Selling Price for each End User Device compliant with 2G only that is Sold in Major Markets and 0.016% of the Net Selling Price for each End User Device compliant with 2G only that is Sold in Other Markets or China;

4.2.2 0.032% of the Net Selling Price for each End User Device compliant with at least 3G but not 4G that is Sold in Major Markets and 0.016% of the Net Selling Price for each End User Device compliant with at least 3G but not 4G that is Sold in Other Markets or China;

4.2.3 0.410% of the Net Selling Price for each End User Device compliant with at least 4G that is Sold in Major Markets and 0.161% of the Net Selling Price for each End User Device compliant with at least 4G that is Sold in Other Markets or China."

Given the way the case progressed and the parties' respective cases, the important rate for present purposes is the 4G rate for Major Markets: 0.410%. Optis did not press a geographically segmented rate nor a rate that differentiated between Standards. Given

[481] Optis Closing (Round 1)/[843].

[482] Annex 2 to Optis' statement of case on FRAND contains a draft licence agreement.

that Apple would only have been interested in a 4G multi-standard licence, the 2G and 3G rates would have been irrelevant even at the time this "offer" was made.

## (16) Summary of the offers made over the course of the negotiations; and some conclusions

### *(a) An overview of the "offers" made*

353. To summarise, the series of "offers" (using the term loosely) made were as follows:

| Date | Offer description | Rate offered | Cross-reference in Judgment |
|---|---|---|---|
| Mar 2017 | Oral offer made by Optis to Apple, receipt of which is denied by Apple | 0.6% of ASP (capped at US$250) | [326] to [327] |
| Aug/Sep 2017 | Oral offer made by Optis, confirmed or re-made in writing in September | US$0.86 per unit | [335] to [336] |
| Dec 2017 | Written offer by Optis | 0.192% per unit (capped at US$600), US$1.15/unit equivalent) | [340] |
| Apr 2018 | Written offer by Apple | Lump sum of US$35m | [345] |
| Feb 2019 | Offer made in the documents issuing proceedings. | 0.410% | [353] |

Figure/Table 7: Offers made during the Optis/Apple negotiations

The table is impressionistic in a number of ways. Rates could be and were calculated either *ad valorem* or per unit; and caps would make *ad valorem* rates worth less than the headline percentage would suggest. But Optis did not deny that the trend of Optis' offers was upward:[483]

**Q (Mr Turner, KC)** …To pause, Mr Blasius, Optis' ask at this stage has now risen from US$0.86 per unit in August 2017, to US$1.28 or, possibly, US$1.15 in December 2017, and now to over US$2.40 per unit two weeks before the litigation starts in February 2019. Do I have that right?

**A (Mr Blasius)** Yes, and it increased as we had explained, for the removal of the encumbrances in the ASP caps.

The offer made at the outset of proceedings was higher still:[484]

**Q (Mr Turner, KC)** …Here we can see, at the time of this litigation being started, two weeks after what we have just seen, the royalty rate claimed has risen again, from its previous

483 Day 3/p.405 (cross-examination of Mr Blasius).

484 Day 3/pp.408 to 409 (cross-examination of Mr Blasius).

level of 0.349%, two weeks earlier, and is now 0.410. Do you see that at the top right?

**A (Mr Blasius)** Yes, I see that.

**Q (Mr Turner, KC)** So we are now approaching US$2.85 for every handset with an ASP of about US$690. If you use the more up to date ASP of US$745, this translates, now, at the time of beginning this litigation, to you asking for more than US$3 on every handset. That is correct, is it not?

**A (Mr Blasius)** At this point in time, assuming your math is correct, at the 0.410%, yes.

**Q (Mr Turner)** So, to sum up, we have walked through, this morning, the successive increases in your demands, from August 2017 to December 2017 to February 2019, and finally the initial litigation ask. Mr Blasius, I put it to you that at each stage, looked at on its own terms, your demands have not been properly explained, they have been based on the wrong premise that Apple misled you about existing licences and, Mr Blasius, I put it to you that these are more consistent, this pattern, with playing hardball and going to litigation, than with reaching a deal in a constructive negotiation?

**A (Mr Blasius)** I disagree with that.

### *(b) My conclusions regarding Optis' approach to the negotiations*

354. Optis' approach to negotiation was inept. It is difficult to escape the sense that Optis' "offers" were no more than a series of demands for money, not underpinned by any particular effort at persuading the purchaser that the price represented proper value. Optis' approach was not conducive to achieving a negotiated outcome. I am not sure how far Optis were playing "hardball", and how far they were simply bad negotiators. My conclusion is that the latter is the case, simply because a "hardball" negotiator is a party who sets out their stall very clearly, and ensures that both sides actually understand, very clearly, what is on the table. That Optis conspicuously failed to do:

i) Optis did not have any kind of rational underpinning for the prices they put forward. When *Unwired Planet* (First Instance) was handed down, the judgment of Birss J was certainly drawn upon, but not in any logical or rigorous way. Basically, it was used as a prop for Optis' ask.

ii) I accept that setting out a framework for articulating a FRAND rate is extraordinarily difficult. Apple, which did attempt a framework, adopted as a framework the Apple Framework, that I consider materially defective, and not FRAND, for a number of reasons.[485] However, where there is no common framework, and where there is no market, for the establishment of price, negotiations for a commercially significant contract need to be carried forward sensitively[486] and intelligently. Optis showed neither of these attributes in their

[485] Which I have described. The implications will be considered further below.

[486] By which I mean deploying a skill all good negotiators ought to have, namely a sense of the counterparty's concerns, and how to meet them without giving too much away.

negotiations with Apple, and I regard the failure to achieve an outcome as in material part down to this.

iii) I recognise that the gap between Optis and Apple (both in terms of rate type – *ad valorem* versus lump sum – and in absolute amounts, irrespective of rate calculation) was vast; and probably could not have been bridged even if Optis had conducted negotiations sensitively and intelligently. But whatever chance of a deal that existed was, in my judgement, scotched by Optis' approach.

iv) In addition to not having a clearly articulated approach to price *vis a vis* Apple, Optis' "offers" were no such thing. Given the amount of after-the-event reconstruction that was needed in Optis Closing (Round 1) to provide a coherent narrative and to explain what "offers" were made, which narrative bears little relation to what the evidence actually disclosed, I doubt very much whether even Optis knew what its thinking was, and precisely what it was communicating to Apple. More to the point, however, Apple was in no position to understand where Optis were coming from. There was too high a level of incoherence and lack of granularity.

v) To the extent Optis' "offers" could be understood, they were all over the place. There are a number of examples of this. Thus, one thing that was clear was that Optis' prices had tightened – i.e., gone up – in the period between August/September 2017 and December 2017. Optis failed to explain their thinking to Apple, and (as I have noted) I do not consider that there was any thinking on Optis' part:[487]

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| **Q (Mr Turner, KC)** | Mr Blasius, I shall not debate with you now the justifiability of what you have just explained, but what I will do is put to you that the explanation that you have just articulated has never been given prior to your case in court in reply, has it? |
| **A (Mr Blasius)** | In reply? |
| **Q (Mr Turner, KC)** | In your second wave of evidence? This has never been something that you mentioned to Apple at the time, at any stage, nor indeed in your own witness statement, which we looked at, where you referred to the FRAND rate of Birss J of 0.052%. This is a new development of yours in this litigation, is it not? |
| **A (Mr Blasius)** | I disagree. I believe, I recall, that it is in all of our presentations at the 0.062%, including the presentation we made to Apple in February. |
| **Q (Mr Turner, KC)** | What your explanation was to them in September referred to the 0.052% figure, did it not? |
| **A (Mr Blasius)** | The September email? |

[487] Day 3/pp.388*ff* (cross-examination of Mr Blasius).

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| **Q (Mr Turner, KC)** | The one that we were looking at? |
| **A (Mr Blasius)** | So, in the second paragraph the court found that the rate for 4G was 0.052% for Major Markets.[488] |
| **Q (Mr Turner, KC)** | And this is your explanation of what you have done to Apple, is it not? |
| **A (Mr Blasius)** | This is the explanation that we provided to Apple in September. |
| **Q (Mr Turner, KC)** | Now, having looked at how we unpack the August 2017 offer, going back to the later one in December, we have seen that Apple was not given an explanation at all as to why that December offer was so much higher, was it? |
| **A (Mr Blasius)** | Why the December offer was higher? |
| **Q (Mr Turner, KC)** | Yes, because that was the August offer, but then the one you offer in December is either 33% or 50% higher than the earlier one? |
| **A (Mr Blasius)** | Well, I think… |
| **Q (Mr Turner, KC)** | And we went yesterday to Ms Mewes' unanswered statement in correspondence about this. Do you remember that, in June 2018, many months later, she complained that she had never been given a reason for the increase? We said that, towards the end of the afternoon, when everyone was tired. Do you remember that? |
| **A (Mr Blasius)** | I remember our discussion, yes. |
| **Q (Mr Turner, KC)** | Do you remember that specifically, that point? |
| **A (Mr Blasius)** | I remember her claiming that they had never been given a reason, but I believe the December offer, taken together with the September offer, and the descriptions, provides clear examples of what encumbrances were removed in order to justify that offer. |
| **Q (Mr Turner, KC)** | Let us look at Ms Mewes' immediate reaction to your December offer, too, because I am not sure we have looked at that as well on this point. In tab 23 of your cross-examination bundle, we had her response:[489] |

[488] See, further, Day 3/pp.399 to 401 (cross-examination of Mr Blasius), where Mr Blasius explains the derivation of a 0.062%, but not a 0.052%, from the *Unwired Planet* (First Instance) decision. Mr Blasius was shown *Unwired Planet* (First Instance) at [586], which shows a multimode 4G rate of 0.062%.

[489] This was an email from Ms Mewes to Mr Misiag dated 18 December 2017, stating:

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| | "PanOptis' demands also seem to have changed – these latest offers appear to be asking for US$1.28/unit, but PanOptis extended an offer of US$0.86/unit only a few months ago (and that was already many multiples over what we believe would be FRAND). Please explain this change."<br>Do you see that? You never did provide that explanation anywhere, Mr Blasius, did you? |
| **A (Mr Blasius)** | I was not involved in the discussions to the extent they had talked about that offer. I think the documents speak for themselves, and throughout the course of the negotiations we continued to explain how those rates were extrapolated. |
| **Q (Mr Turner, KC)** | Mr Blasius, the documents do speak for themselves. If you put together this, together with Ms Mewes' statement in her letter of June, which was tab 31 of the cross-examination bundle we went to yesterday, the documents tell us plainly that you never gave an explanation, although one was asked for. You would agree with that? |
| **A (Mr Blasius)** | I believe there were continued discussions, and further letters, that talk about how we derived our rates. |

vi) Ms Mewes' email asked another question about Optis' offer:

"It also appears that the court rate was adjusted in some manner that is not explained - please provide this explanation."

The "court-rate" was an *Unwired Planet* (First Instance) derived rate, which Apple plainly could not follow. Mr Blasius's attitude was that this was Apple's problem, not Optis', when asked about this :[490]

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| **A (Mr Blasius)** | Well, I do not know what exactly that reference is made to. Is she trying to understand the difference between our claim of the 0.052% and the 0.062% reference that is in the Birss decision? |
| **Q (Mr Turner, KC)** | That is the natural understanding of it, is it not, Mr Blasius. |
| **A (Mr Blasius)** | But the interpretation of the Birss decision, is that what you are asking? I do not know what |

"PanOptis' demands also seem to have changed – these latest offers appear to be asking for US$1.28/unit, but PanOptis extended an offer of US$0.86/unit only a few months ago (and that was already many multiples over what we believe would be FRAND). Please explain this change."

[490] Day 3/p.392.

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| | was in her mind, whether she was asking us – when you say "adjusted in some manner". |
| **Q (Mr Turner, KC)** | No, it is what she says, not me. |
| **A (Mr Blasius)** | Excuse me. She says:<br>"It also appears that the court rate was adjusted in some manner that is not explained. Please provide this explanation."<br>I do not know if they talked about any of that. I do not know if this is in reference to her trying to understand the actual court decision. |
| **Q (Mr Turner, KC)** | It is a reference to the court rate, which you had referred to in the previous email, 0.052%? |
| **A (Mr Blasius)** | I think the decision explains itself. |
| **Q (Mr Turner, KC)** | Thank you. Let us move on. |
| **Q (Marcus Smith J)** | No, let us unpack a little bit more. It is obviously a query, is it not, Mr Blasius? She is asking something? |
| **A (Mr Blasius)** | Sure. |
| **Q (Marcus Smith J)** | Now, you may not understand what she is asking, or you may think it is blindingly obvious what the answer is, but as a matter of general practice in a negotiation, if someone asks a question saying that they do not understand something or want an explanation, would you agree that the best practice would be to respond? |
| **A (Mr Blasius)** | Yes, my Lord, I understand that. The explanation about the 0.052% was the court-determined rate. I do not know what happened between written or verbal communications between the parties. I do not see an explanation on the written response here, but a response in a discussion to try to explain, it was ultimately explained by myself in that February presentation. I cannot speak to what was done here. I explained it in February." |

vii) Mr Warren expressed the view that Apple's approach was to say one thing in writing and another thing orally. His view – as was also Mr Blasius' – was that Apple was "gaming" the negotiations, and never really serious about reaching a deal.[491] I do not accept this. Whilst I entirely accept that the mismatch in what each side regarded as a proper FRAND rate was vast and very likely unbridgeable in negotiation, Apple did not, on the evidence I have seen, seek to "game" the system or put pressure on Optis through negotiating "gamesmanship". My conclusion, as regards the Optis/Apple negotiations, is

[491] Day 4/pp.484*ff* (cross-examination of Mr Warren).

that they (Optis) failed to conduct the negotiations competently (contrary to their own interests) with the result that Apple simply did not know where Optis were coming from. That is evident from the exchanges quoted in the previous paragraphs. But it is worth also referencing Mr Warren's evidence on the same communication from Apple that was put to Mr Blasius, where Ms Mewes said she did not understand Optis' offer:[492]

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| **Q (Marcus Smith J)** | I will obviously be looking at the entire run of communications, but just reading bullet point 2, what one gets from the language is that Apple are saying they do not understand why your offer has changed. Now, your evidence to me is that that is – well, disingenuous. Are you saying that this is simply a disingenuous statement, where they are saying "we do not understand", when actually, they should understand? |
| **A (Mr Warren)** | I am saying that this provoked a level of frustration on our side, because this was not an isolated incident, where we would have sat down, had a discussion with them, and then after that discussion, received a letter, a correspondence, with the question we thought we had addressed with them. And that these are complicated things, and rather than having a series of a dozen emails back and forth, trying to work it out, we were trying to sit down, answer that question and any follow on questions that they may have had. |
| **Q (Marcus Smith J)** | Mr Warren, I do understand that, and I can see why you are articulating the frustration on Optis' part, but what I want to understand from you is what you, as Apple's counterparty, are reading into this communication. Because this is saying, in terms, "We do not understand why the rate has changed". That is what it is saying? |
| **A (Mr Warren)** | Yes. |
| **Q (Marcus Smith J)** | You were saying to me they should have understood. So what are you saying Apple are doing here? Are they stupid? Or are they being disingenuous? Are they actually lying? What are you saying about this communication? |
| **A (Mr Warren)** | In what I have seen going on for the trial here, I believe that what they were saying was "if it is not written down, then it did not happen". |
| **Q (Marcus Smith J)** | Right. |

[492] Day 4/pp.502*ff* (cross-examination of Mr Warren).

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| **A (Mr Warren)** | I guess, until I got here to see what was going on, I did not appreciate that that is what they were trying to do, is say, "If you want us to consider or if you want us to understand this, do not come meet with us, write it down and send it to us". |
| **Q (Marcus Smith J)** | Does it boil down to this? That we really just have a difference in corporate culture, that Optis' approach is to do things more informally, and Apple's approach is to lock it down in writing? Is that really what it comes down to? |
| **A (Mr Warren)** | I really do not know. I wish I did, so that we could identify what the reasoning behind this was, but they seemed to be fine holding meetings with us, letting us explain what we were doing, answering the questions they had raised, but then coming back with something like this, where they ask a question about something that we believed we had discussed with them and explained. In this particular point, there were follow-up correspondence, there is one with a term sheet that showed we were including the [redacted] still, because we had no issues with that, but that we had withdrawn the other discount until they were able to show us that they had some reason for that. |
| **Q (Marcus Smith J)** | Indeed. But if I were in Optis' shoes, and I received a statement like bullet point 2, where Apple are asking for an explanation of something, which you think has already been explained, why is not your response to say: "This is something we have discussed. The explanation is as per our meeting or communication of such and such a date. Why are you asking these stupid questions?" Why is that not Optis' response to this sort of point? |
| **A (Mr Warren)** | We were still trying to negotiate a licence agreement, trying to resolve that, and we were not wanting to antagonise anybody, we were not wanting to make any kind of accusations. We were just trying to get through the negotiations and, hopefully, be able to resolve it with a licence. |
| **Q (Marcus Smith J)** | Okay. I completely take your point. A response along the lines of "you are very stupid" is probably not a constructive response in negotiations. I entirely take your point. |

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|---|---|
| | But then why do you not have a more detailed, extremely polite, response, unpacking why it is that you have moved from US$0.86 to US$1.28? So you have an email, which is dated 18 December, why do we not have a January email saying: "We see that you do not understand the change. As we discussed in our meeting in whenever we explained the reason for this change is such-and-such"? Because if you take this communication at face value, clearly Apple do not understand. So the way to take the negotiations forward is to address the lack of understanding head-on. So why do I not see a communication spelling out, in polite but unequivocal terms, why the change has occurred? |
| **A (Mr Warren)** | I believe, and the timing of these I would have to go back and look at, but I believe, subsequent to that, we did send them an email with a term sheet, that in both the covering email and in the term sheet indicated that we were not including that discount that we had given them to address those other encumbrances that they had referenced. |
| **Q (Marcus Smith J)** | Mr Warren, on your evidence, we have – basically, Apple are saying that your position is changing without reason. That is what bullet point 2 is saying. It is saying "PanOptis' demands also seem to have changed"; and they are saying they have changed for no reason. That is obviously a big problem in terms of negotiations. If one side does not understand where the other side is coming from then you have an immediate roadblock to reaching agreement. Do you agree with that? |
| **A (Mr Warren)** | It could be. |
| **Q (Marcus Smith J)** | Why do you not remove the roadblock? So that at least your understanding, both sides are understanding where the other side is coming from? I quite understand that you might factor in your thinking into a term sheet, but why do you not come back and say: "You should know this, because we discussed it, but here it is, in black-and-white, because you appear to be a process driven organisation, here is why"? |

355. I have set out these exchanges at some length, because Optis made a number of serious allegations against Apple's approach in negotiations between them and Optis, which I consider to be unfounded in the evidence. Optis' position was that Apple behaved in

bad faith.[493] Mr Blasius, when asked about this, did not really have much of a point against Apple:[494]

> "To summarise everything, when you think about hold out, which is what this section is involved with, hold out, as I said earlier, has multiple faces, if you will. There could be delay in the negotiations where companies do not respond. That was not the case here. There could be delay in technical discussions. Although Apple's responses were here, we did not believe that they really met the burden of what we described in our response letter. Throughout the whole course of the discussions, the parties were not getting anywhere closer to a deal. Although Apple appears to have gone through the motions to be able to check boxes on certain things, at least we feel that they went through the motions, some have been long responses, some have been fairly detailed. At the end of the day, in a meeting which I had with Ms Mewes, it was represented to me without litigation it is very difficult to get the attention of Apple's management.[495] From a hold out perspective, that is our concern after we go through years of those negotiations, to be said that is what it would take to get the attention of Apple's management."

The fact is that this is no more than a complaint that Apple did not move to meet Optis' royalty demands. Mr Blasius could not say with any plausibility that Apple did not engage, for Apple did. On the face of it, this was in no way a case of Hold Out, but a case where the parties to negotiations were insufficiently close to reach a deal. That, per se, is nobody's fault. This could only be a case of illegitimate Hold Out, if Apple were pretending to negotiate. In the passage I have quoted, Mr Blasius hinted at this. To his credit, he was prepared to make the accusation in terms, namely that Apple was acting in bad faith.[496] But I reject that allegation.

356. It is a curious feature of both side's cases in this litigation, that I am required to reach conclusions about each side's conduct in negotiations that ultimately foundered. Aside from expressing my conclusion that Apple did engage with Optis and negotiated in good faith, I will say no more about Apple at this stage, but will set out my views later on in this part. As regards Optis, their approach to the negotiations was badly organised, verging on the incoherent, and simply sought to try to get agreement on a figure satisfactory to Optis without rational discussion. Optis were, quite clearly, unmoveable on *ad valorem* rates. I do not accept that their position was fully set out in oral discussions. I accept that there were discussions, but I do not believe that Optis' stance was made clear in those discussions, and I am sure that there was no attempt to

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[493] See, e.g., Day 4/pp.522 to 523 (cross-examination of Mr Warren); Optis Closing (Round 1)/[219]*ff*; and Mr Blasius' evidence, considered next.

[494] Day 2/p.308 (cross-examination of Mr Blasius).

[495] This, of course, is a conversation that is undocumented. Ms Mewes denied the substances (as described by Mr Turner, KC, on Day 3/p.360, and as stated in Mewes 4//[79]. Whilst I am prepared to accept that Mr Blasius believed what he told the court, I am in no doubt that this is either a false memory or that Mr Blasius is simply reading too much into something that was said by Apple. His later evidence to Mr Turner in cross-examination (Day 3/p.361) strongly suggests the latter:

"…It was a conversation in that December meeting, when we were talking in the context, as I referenced in my witness statement, about how Apple was entrenched in its litigation with Qualcomm. Huawei was – excuse me, Unwired Planet was entrenched in its litigation with Huawei. It was very difficult for the companies to move off their positions. As I said, my interpretation of that was that they were locked into SSPPU methodology, and then the follow on discussions she had mentioned, that without litigation it is difficult to get the attention of management."

Whatever the explanation, I find this conversation did not take place.

[496] Day 2/pp.321 to 322.

understand where Apple was coming from. In short, this was an approach that might work with a small counterparty whose exposure in money terms was small, and who might actually find an *ad valorem* rate advantageous to them. Such an approach would not work with any major company, rightly concerned about a major cost. It certainly would not work with companies like Apple, which were very much process driven.

### *(c) My conclusions regarding Apple's approach to the negotiations*

357. As regards Apple, some of my conclusions arise out of what I have already said in relation to Optis. I do not consider that Apple failed to engage; and I do not consider Apple operated in bad faith or (which was Optis' preferred way of putting it) behaved with an absence of good faith. My conclusion is that Optis' case against Apple, in regard to the Apple/Optis negotiations, was overblown and wrong. Optis' witnesses were overtly looking for points to score, rather than provide any kind of objective view of what they were faced with. Optis were also singularly disinclined to accept that they had simply not conducted difficult negotiations very well. But that, as I find, was the case.

358. Mr Blasius gave a detailed explanation of the pressures of FRAND negotiations on an entity like Optis in Blasius 2/[57]*ff*. Essentially, it was a list of "Hold Out" tactics that he had identified, but he accepted that not all of these had been practised by Apple.[497] Mr Blasius's criticisms were, as it seems to me, both overblown and unfounded. He was inclined to give no credit at all for Apple's responsiveness, preferring to evade rather than concede:

| | |
|---|---|
| **Q (Mr Turner, KC)** | You will presumably admit that this was a very fast response? |
| **A (Mr Blasius)** | It happened in two months. It was a response. Whether fast or not, it was a response. |
| **Q (Marcus Smith J)** | Let us answer the question. Was it a response that was so slow that you would say it was susceptible of criticism by Optis or do you think it is a reasonable time? |
| **A (Mr Blasius)** | On the time of the response? No, it was not a criticism on the timing of the response. The criticism I believe we have made is that although it is long, that the technologists claimed that it lacked – repeated a lot of the same arguments for patents and such, so it was more in the substance of the response. |

In short, Mr Blasius was looking for points to score.

359. That said, Apple were a process-driven company. They had a framework for negotiating FRAND rates that they had promulgated (the Apple Framework), and tended to adhere to. They would have departed from that Framework only very reluctantly. Aspects of that Framework included:

[497] Day 2/p.286.

i) An insistence on a lump sum rate – perhaps computed by reference to a per unit amount, but then reluctantly – and a firm opposition to an *ad valorem* royalty rate.

ii) An insistence – at least during negotiations – on a patent-by-patent assessment of a portfolio.

iii) An insistence on taking the merits of the technology into account.

iv) An insistence that the Stack could be calculated by reference to the profits of the manufacturer of the SSPPU, and that a stack share could be assessed using the Innography data.

v) An insistence that the value of the Standard should not go to the SEP Owner.

360. I have indicated that at least some of these elements of the Apple Framework are, in my judgement, indefensible. That is the case as regards benefitting from the standard and the SSPPU. Other aspects were clearly not pragmatically possible when seeking to agree terms in relation to a portfolio of any size. Trying to consider the technical merits of the individual SEPs; and trying to deal with patents in a portfolio on a patent-by-patent basis were neither pragmatically possible and – as negotiating ploys – tended to favour Apple.

361. I consider the extent to which Apple's conduct amounted to Hold Out below.

## M. THE JUDGMENT IN *UNWIRED PLANET* (FIRST INSTANCE)

362. It was suggested (in particular by Optis[498]) that the decisions of Birss J in *Unwired Planet* (First Instance) might properly inform my own determination of what is a FRAND rate.

363. Although I have yet to consider the methodology articulated by Optis, it is necessary that I deal now with the "*Hollington v. Hewthorn*" point.[499] In *Land Securities plc v. Westminster City Council*,[500] Hoffmann J considered whether an arbitrator's award determining the market rent of property was admissible evidence in an arbitration rent-review between different parties. The Judge held that "[i]n principle the judgment, verdict or award of another tribunal is not admissible evidence to prove a fact in issue or a fact relevant to the issue in other proceedings between different parties. The leading authority for that proposition is *Hollington v. F Hewthorn & Co Ltd*, [1943] KB 587, in which a criminal conviction for careless driving was held inadmissible as evidence of negligence in a subsequent civil action…".

364. So far as the findings and determinations in the *Unwired Planet* litigation are concerned, the position is as follows:

i) Propositions of law stated by the Court of Appeal and the Supreme Court are binding on me, and to the extent not overruled or approved by the Court of

[498] See Optis' "Methodology 1 – Scaling from Unwired Planet" as set out in Optis Position Statement/[14]*ff*.

[499] I.e. the legal propositions derivable from *Hollington v. F Hewthorn & Co Ltd*, [1943] KB 587. The point was articulated in Apple Closing (Round 1)/[62]*ff*.

[500] [1993] 1 WLR 286 at 288.

Appeal and/or the Supreme Court, the legal holdings of Birss J in *Unwired Planet* (First Instance) are highly persuasive, and I should depart from them only for good reason. I am not, here, going to list these propositions. I have set them out where they arise, in particular in Part I of this Judgment. I should be clear that I have nowhere perceived any divergence in law between my approach in this Judgment and that of Birss J in *Unwired Planet* (First Instance).

ii) To the extent – and it was considerable – Optis relied upon the decision of Birss J in *Unwired Planet* (First Instance) in negotiating licences with third parties – including Apple – Optis' reliance is a factual matter, which I must (and do) take fully into account. If a particular rate agreed was a "Birss rate" or the *Unwired Planet* (First Instance) decision was deployed by Optis to effect in negotiations, then this is evidence relevant to (for instance) my assessment of the comparables. Such issues are pure questions of fact arising out of evidence that was adduced before me in these proceedings. They fall outside the principle in *Hollington v. Hewthorn*. The judgment of Birss J in *Unwired Planet* (First Instance) has become a "litigation fact"; and what I am doing is ascertaining the extent that fact was influential in – for example – Optis' licensing negotiations. What matters is not what Birss J decided, but rather how Optis deployed the decision and what they and their counterparties made of it in their negotiations.

iii) Quite different is the question of the bindingness of factual findings of Birss J in *Unwired Planet* (First Instance) on me. In such cases, I am in no doubt that the rule in *Hollington v. Hewthorn* bites. It would be impermissible for me simply to adopt as in any way binding on me a finding of fact made by Birss J in *Unwired Planet* (First Instance). Apple was not party to the *Unwired Planet* litigation, and many of the arguments advanced before me at this trial were never articulated before Birss J (and *vice versa*). Furthermore, and obviously, the evidence I have heard was not the evidence heard by Birss J. Even if there were a close similarity in argument and evidence between these proceedings, and those heard and determined by Birss J, Birss J's decision is not one of law (which would, as I have said, be highly persuasive, but not binding on me), but one of fact giving rise to no estoppel over Apple. Suppose, to test the point, a licence between *A* and *B* considered by Birss J and also before me, where Birss J decided that the "unpacked" rate for that licence was £*x*. I do not consider that it would be open to me simply to say "Birss J has decided the "unpacked" rate, and I will follow him". That would be an abdication of judicial responsibility on my part, and would mean that all of Apple's arguments in respect of this point would be falling on judicially deaf ears. I consider variants on this theme – e.g. that I should follow Birss J unless convinced he was wholly wrong on a point of fact – to be similarly objectionable, although the more attenuated the "bindingness", the less forceful the objection. No-one was saying that that I should not consider *Unwired Planet* (First Instance) and use it to inform this Judgment. To be clear, that is exactly what I have done, but for a reason that I will come to next.

iv) The present case has significant differences from the "vanilla" case of simply importing a finding from one case into another case between different parties. In particular, I am conscious of that fact that a FRAND rate is specifically said to be "Non-Discriminatory" (the "N" and the "D" in FRAND). I consider that it is important that this Judgment lift its eyes from the narrow facts and the outcome predicated by those facts, and scan the wider horizon so that – consistently with the facts – this Judgment sits as well as it can in the range of decisions that have been articulated by other courts, including *Unwired Planet* (First Instance), but also the decisions of courts of other jurisdictions. This is as much a question of comity as it is of non-discrimination. The fact is that these are international issues, where the same or similar points are going to crop up before many different courts. I should say that those who expect a lengthy recitation of the international case law (or, indeed, the reasoning in *Unwired Planet* (First Instance)) are going to be disappointed. This Judgment is quite long enough without an arid citation of what other courts have decided (in a non-binding fashion on me) in other, factually different cases. However, the parties have been astute to deploy before me the methodologies of other courts in other cases – notably the SSPPU considered in *Re Innovatio IP Ventures*.[501] When considering such methodologies, I have (and will continue to) bear in mind the extent to which such methodologies have been considered by other courts, both as a means of maintaining comity and as a means of paying due and proper regard to the "N" and the "D" in FRAND.

## N. WAS THERE HOLD UP, HOLD OUT AND/OR AN ABUSE OF DOMINANCE?

### (1) Hold Up and Hold Out

365. Hold Up and Hold Out were defined at [9] above. To reiterate, Hold Up involves an SEP Owner holding up an Implementer's business by threatening an injunction for patent infringement or actually obtaining such an injunction. Hold Out is the converse situation, namely the case where an Implementer delays obtaining a licence from an SEP Owner whilst infringing or allegedly infringing, relying upon the fact that it is actually quite difficult (even without the obligation to license on FRAND terms) to enforce even valid and essential patents.

366. Hold Out and Hold Up will be intrinsic to any hard commercial negotiation for a licence. Unless an SEP Owner instantly offers a licence on terms acceptable to an Implementer, the SEP Owner could be accused of Hold Up. Unless an Implementer instantly offers a licence on terms acceptable to the SEP Owner, the Implementer could be accused of Hold Out.

367. Licence terms have to be negotiated, and these negotiations will be complex and hard fought. A certain degree of Hold Up and Hold Out is to be expected as inevitable.

368. One of Optis' points was that the effect of the decision in *Unwired Planet* (SC) was to remove the threat of Hold Up altogether. Mr Speck, KC made two points in this regard:

i) First, that the contractually enforceable obligation against an SEP Owner, obliging them to offer to license Implementers on FRAND terms and precluding an injunction where an Implementer (as here) undertakes to take a licence on FRAND terms – whatever those might be – eliminated Hold Up in negotiations between SEP Owners and Implementers. As Trial F demonstrated, Optis did its best to keep the threat of Hold Up alive in certain cases, but it is right to say that

[501] Referenced by Ms Mewes in her description of the Apple Framework: [201] above.

the decisions of Meade J and the Court of Appeal in Trial F have substantially cut back – if not eliminated – the ability of an SEP Owner plausibly to threaten Hold Up in licensing negotiations. I accept this point, subject to two qualifications:

a) As Trial F itself demonstrates, it is dangerous to underestimate the ingenuity of parties in seeking to leverage their legal rights in commercial negotiations. I should make clear that parties should in no way be discouraged from doing this. That is one of the points of rights – to deploy them to one's advantage.

b) Mr Speck, KC's point is very much a forward-looking or prospective one. The law in this area is only now becoming settled; and I do not consider that the risk of Hold Up being threatened effectively could be discounted in the period up to the commencement of these proceedings.[502]

ii) Secondly, that the elimination of Hold Up created an asymmetry in the negotiating positions of SEP Owner and Implementer, to the advantage of the Implementer. Briefly put, the point was that losing the threat of Hold Up removed a significant control over the Implementer's ability to Hold Out. This submission I do not accept. As I have noted, the threat of Hold Up remained in the period up to the commencement of these proceedings. Secondly, I doubt very much whether there is this kind of correlation between Hold Up and Hold Out. They are both simply ploys used by parties to licence negotiations to get a better deal.

**(2) Hold Up and Hold Out are *prima facie* legitimate**

369. In my definitions of Hold Up and Hold Out ([9] above) I was careful to avoid any stigmatisation of either phenomenon. It is certainly true that the Supreme Court in *Unwired Planet* (SC) made it clear that both were undesirable aspects of the licensing process being considered by that court, described in Part I of this Judgment. But the Supreme Court did not find that either Hold Up or Hold Out were unlawful. Indeed, it is difficult to see how any such general conclusion could be reached, given that both Hold Up and Hold Out are manifestations of rights that are vested respectively in SEP Owners and Implementers. The SEP Owner is entitled, absent the FRAND undertaking, to seek an injunction (Hold Up); and the Implementer is entitled to demand that the SEP Owner establish that their intellectual property rights have been infringed.

370. The point is not that Hold Up and Hold Out are illegitimate or unlawful, but that they are undesirable. The cleverness of the solution of Birss J and the Supreme Court in the *Unwired Planet* litigation is that both undesirable manifestations of the negotiating process are substantially eliminated. The problem of Hold Up is substantially eliminated by the decisions in the *Unwired Planet* litigation. The problem of Hold Out will be eliminated by cases like this. Cases like this are the direct consequence of the *Unwired Planet* litigation. If judges in such cases do their jobs, licence terms will be

[502] By which I mean this trial, Trial E.

imposed that will ensure that Implementers are disincentivised from Holding Out when negotiating outcomes to FRAND disputes.

371. I do not go so far as to say that Hold Up or Hold Out can never be illegitimate. I anticipate that they can be. But, in the ordinary case, Hold Up and Hold Out – and particularly the latter – are the normal manifestations of parties seeking to negotiate an outcome that serves their own interests. There is nothing wrong with this. They are manifestations of a competitive market.

372. The absence of Hold Up and (particularly) Hold Out in any given case is likely to be an indicator of improper market power on one side or the other: no-one enters into a licence involving significant and valuable rights without a degree of consideration of the terms on which they are doing so, unless they are the subject of improper pressure.

373. This background gives rise to the difficult to define concepts of <u>improper Hold Up</u> and <u>improper Hold Out</u>. Each party before me accused the other of such impropriety. Apple contended that Optis had abused a dominant position by delaying negotiations and refusing to conclude a licence with Apple on FRAND terms. Optis contended that Apple had acted in bad faith in Holding Out in negotiations and in refusing Optis' offers of a licence on what it – Optis – said were FRAND terms. Neither Optis nor Apple were clear where the borderline between legitimate and illegitimate Hold Up/Hold Out lay.

374. I propose to approach these questions in the following way:

i) <u>First</u>, I consider that there is a short answer to both the allegations of Hold Up and Hold Out, which is that – given the regime that applies in these courts – the allegations are in fact entirely irrelevant and both Optis and Apple are to be criticised for raising them and wasting valuable time and money in litigating them. I set out this short answer in Section M(3) below, but it is, in essence, a distillation of what I have said in [365]*ff* above.

ii) <u>Secondly</u>, however, since these points were argued and valuable time and money was spent in litigating them, it is appropriate to resolve them and to provide a longer answer to the parties' contentions. Accordingly, I consider the question of Optis' alleged abuse of a dominant position in Section M(4) below; and the converse question of whether Apple was guilty of illegitimate Hold Out in Section M(5) below.

**(3) The short answer**

375. The short answer is that this jurisdiction has articulated a legal regime which resolves problems of Hold Up and Hold Out. I described that regime in Part I above, and do not propose to repeat that description here.

376. In these circumstances, the amount of evidence led in respect of Hold Up and/or Hold Out as regards the dealings between Optis and Apple[503] was – fundamentally – nothing to the point. Both parties were, in large measure, fighting the last war, rather than

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[503] I should make clear that I am <u>not</u> considering the wider question of the effect of Hold Up/Hold Out on the Optis and/or the Apple Comparables. That is a different, albeit related, point considered in Part V below.

considering the legal landscape post the Supreme Court's decision in *Unwired Planet* (SC).

377. The combination of the FRAND promise on the part of an SEP Owner – which Optis accepts it is bound by – and these courts' reluctance to impose an injunction for infringing an SEP in circumstances where an Implementer expresses their willingness to enter into a licence on FRAND terms (whatever those terms might be) removes any serious prospect of Hold Up, legitimate or illegitimate. The SEP Owner has a remedy – which Optis is using here – to establish infringement of an SEP and to seek an order declaring the terms of an appropriately wide FRAND licence to the Portfolio.

378. Optis contended that this elimination of Hold Up by the regime articulated by Birss J and the Supreme Court handed illegitimate Hold Out power to Implementers like Apple who, *pace* Optis, could now Hold Out more or less indefinitely provided only they pretended a willingness to take a licence on FRAND terms.

379. Optis' contention is misconceived and wrong. The answer to Hold Out lies in these proceedings, and (as I have said) it is part of my job – and any judge in my position – to ensure that the FRAND licence whose terms I set does not incentivise Hold Out but rather encourages proper but swift negotiation. That can be achieved by ensuring that past infringements are fully paid for, and that interest on the payments that should have been made accrues. In that way, an SEP Owner is properly rewarded for the rights they have; and delay to the outcome is paid for by adding interest to the payments that should have been made in respect of past infringements.

380. I appreciate that there was – at the beginning of this trial – a degree of uncertainty in the operation of the regime in this jurisdiction, which was resolved by the outcome of Trial F. Both Optis and Apple sought to exploit uncertainties in the regime to their advantage. Thus, Optis contended that Apple had, through its conduct, lost the right to a licence on FRAND terms, and Apple contended that it was not obliged to commit to taking a worldwide licence to the Optis Portfolio on FRAND terms before those terms had been deterrmined. These arguments were rejected before Meade J and in the Court of Appeal. But the fact that they were live before the Court of Appeal's affirmation of the decision of Meade J does go some way to explaining why both Optis and Apple persisted in their Hold Up and Hold Out contentions. In future cases, even that justification for these points has gone.

## (4) Has Optis abused a dominant position?

### *(a) Teaching from Unwired Planet (First Instance)*

381. In *Unwired Planet* (First Instance), Birss J considered the relationship between excessive pricing as an abuse of the Chapter II prohibition and a FRAND rate.[504] He noted:

> "756. There is no mathematical benchmark which defines unfair or excessive pricing. It is a value judgment based on all the facts. I will take the words used by Mummery LJ in *Attheraces Ltd v. BHB Ltd* in the Court of Appeal as a summary of the difference between a fair price and an unfair or excessive price. He said:

[504] I.e. abuse of a dominant position within the meaning of section 18 of the Competition Act 1998.

> "…a fair price is one which represents or reflects the economic value of the product supplied. A price which significantly exceeds that will be prima facie excessive and unfair…" [204]

> 757. It was common ground between the economists but I hold as a matter of law that the boundary of what is and is not a FRAND rate is different from the boundary of what is and is not an unfair price contrary to [the Chapter II prohibition]. If the rate imposed is FRAND then it cannot be abusive. But a rate can be higher than the FRAND rate without being abusive too."

382. I will return to the relationship between a FRAND rate and an abuse of a dominant position breaching the Chapter I prohibition in due course. I only note that Birss J was considering a case that does not arise here: the question of when and how a price for a portfolio of SEPs ceases to be FRAND and becomes abusive.

***(b) Abuse***

383. It is trite that before there can be an abuse of a dominant position, dominance must be established. I begin, however, with the question of the <u>abuse</u> (assuming, for the sake of argument, that dominance exists) because the oddity of Apple's case is that there is no price that Apple can point to that could be labelled abusive. There is no price at all. The fact is that Optis and Apple failed to reach an agreement; but that failure has not in any way inhibited Apple in selling Handsets, because Apple has not been injuncted.

384. This appears to be a case of a cause of action looking for some kind of actionable damage to which it can attach.[505] I accept that a price can be abusive under the Chapter I prohibition; and that if Apple had been forced to agree such a price then a claim for damages for abuse of a dominant position might lie. Equally, if Apple had, in some way, been excluded from a market or inhibited in its commercial activities by the abusive conduct of a hypothetically dominant Optis, then again a claim might lie. But Apple has neither been excluded from a market nor inhibited in its commercial activities.

385. When pressed on this, Apple stated that its loss was the costs of the litigation, which had been brought about by (so it was said) the fact that "the approach to negotiation by Optis has not been a constructive one".[506] So, the claim appears to be that Optis' conduct, in the negotiations, was such as to prevent meaningful negotiations.[507] This claim is hopeless for the following reasons:

i) I have considered in some detail the negotiations between Optis and Apple, and I certainly have made a number of criticisms of how Optis conducted itself during the negotiations they had with Apple.[508] But these criticisms do not even come close to the abusive. Apple's contention was – albeit disguised – an attack on a party's freedom to negotiate price. For competition law to be used as a control over parties' negotiations, when such negotiations are fundamental to the operation of a market economy, is a novel and remarkably dangerous

[505] Actionable damage must be alleged for the cause of action to be complete: *BritNed Development Ltd v. ABB AB*, [2018] EWHC 2616 (Ch) (affirmed on this point by the Court of Appeal) at [10]*ff*.

[506] See the summary of the various exchanges at <u>Optis Closing (Round 1)</u>/[848].

[507] See <u>Optis Closing (Round 1)</u>/[849].

[508] Part IV: Section L above.

contention. Apple have not come close to making their contention good. In the negotiations I have described, each side was – entirely properly – pressing for a bargain that worked for it. Optis and Apple were in opposition, and were seeking to negotiate the best bargain they could. Both parties made missteps (Optis in failing in communication; Apple in advancing the Apple Framework that was, in certain respects, not defensible). To characterise these missteps as an abuse of dominance (or – as I will come to – "illegitimate Hold Out") is simply wrong.

ii) Even assuming – contrary to what I have said – some kind of abuse by Optis, I fail to see what loss Apple has suffered. Clearly, Apple has expended enormous amounts of money in fighting the technical trials (Trials A to D) and Trial F. But the courts trying these cases have a jurisdiction in relation to costs that ought not to be second guessed by an independently roving claim for damages comprising (presumably) those costs that Apple was ordered to pay to Optis and/or those costs that Apple incurred but failed to recover from Optis because (even when a favourable costs order is made) there was a shortfall between the costs Optis was ordered to pay and the costs Apple incurred.

The costs of these proceedings – Trial E – are at large. I do not consider that any costs order I make at the conclusion of these proceedings can properly be second-guessed by an independent claim for damages made in those same proceedings. The point is, ultimately, circular.

### *(c) Dominance*

386. In light of my conclusion on abuse, I propose to deal with the question of dominance relatively quickly. Dominance arises where there is significant market power, and the nature of that power needs to be articulated and understood before any finding of dominance can be made. In particular, market power needs to be understood in context. Here, Optis's market power derives from the standards regime that I have described. By virtue of that regime, Optis can declare SEPs to a Standard. Optis' market power derives from a <u>combination</u> of its intellectual property rights (such as they may be) in the individual SEPs <u>and</u> the fact that the Standard to which those SEPs are declared is overtly intended to be ubiquitous.

387. But that is not the whole story. The price that Optis pays for engaging with and participating in ETSI's standards regime is the obligation, legally enforceable against it, to offer to license its Portfolio on FRAND terms to anyone who seeks such a licence. That obligation cannot be disregarded when considering Optis' so-called dominance. The fact is that Optis cannot, by virtue of its promise, obtain an injunction in respect of any SEP declared to the Standard where the counterparty who might be injuncted has itself expressed a willingness to obtain a licence on FRAND terms.

388. For these reasons, Optis is not a dominant undertaking and Apple's contentions fail for this reason also.

### **(5) Hold Out by Apple**

389. I have found that Hold Out is intrinsic to any negotiation properly so called. It is simply a reflection of the fact that reaching a common position, that is beneficial to both sides

and results in a bargain, takes time and involves each side putting forward points that they consider important. Those points may be misconceived.

390. I have considered in some detail the negotiations between Optis and Apple, and I have made a number of criticisms of the points Apple took during the negotiations they had with Optis.[509] Whilst I am prepared to attach the label of Hold Out to the stance of both parties in these negotiations, this takes the argument no further. Hold Out going beyond the "proper" or "legitimate" – terms which themselves beg a number of questions – is obviously undesirable. But the law – at least post-*Unwired Planet* (SC) – provides an answer.

391. It seems to me that any argument about Hold Out that goes beyond the terms of the FRAND licence that I am coming to consider needs in the first instance to assert that the Hold Out crossed the line from "legitimate" Hold Out to "illegitimate" Hold Out. Optis never articulated such a distinction, and so never actually contended that Apple were guilty of illegitimate Hold Out. For my part, I am very doubtful that such a distinction actually exists as a matter of law. That is in part because – for the reason given in [383(i)] above – courts should not, without good reason, be drawn into policing the negotiations between entities in a market. But, secondly, the distinction does not exist because I know of no cause of action that is constituted by an allegation of illegitimate Hold Out. The closest analogy is an allegation of an abuse, on Apple's part, of its dominant position. But that is a claim that Optis never advanced, and I say nothing more about it. Were such a claim to be advanced, the question of "improper" or "illegitimate" Hold Out would be subsumed into the question of abuse.

392. Accordingly, I conclude that Optis' contentions regarding Apple's Hold Out in the negotiations between Optis and Apple are both unfounded and legally irrelevant to anything other than the terms of the FRAND licence that I must consider and will now turn to. I should say that nothing in the foregoing is to suggest that licences actually concluded – I am referring to the Optis Comparables and to the Apple Comparables – were concluded at a market rate and were not affected by Hold Up and/or Hold Out. That is a separate question, to which I will come.

## Part V: Answering the FRAND Question

### A. STRUCTURE OF THIS PART

393. This Part determines the FRAND Question. It is based upon the matters considered and determined in Part IV, and is structured in the following way:

i) Section B sets out and considers Optis' contentions in relation to the FRAND Question.

ii) Section C sets out and considers Apple's contentions in relation to the FRAND Question.

iii) Section D considers the meaning of "FRAND".

[509] Part IV: Section L above.

iv) Section E articulates, in broad terms, the approach taken in the Judgment to answering the FRAND Question, which is (in essence) to value the Stack, and then to value Optis' share of the Stack. That approach, although straightforward to articulate, is not without its complexities, including in particular whether the "price" of the Stack should be calculated in *ad valorem* or monetary terms. Both approaches are considered: an *ad valorem* approach is considered in Section F and a lump sum approach in Sections G and H.

v) In light of these assessments, it is then possible to answer the FRAND Question, and to settle the essential terms of the resultant FRAND licence, which is done in Section I.

## B. OPTIS' CONTENTIONS

### (1) Summary

394. Optis' case, as stated in the Optis Position Statement, was as follows:

i) Optis contended for a FRAND licence for the Portfolio as a whole, that was worldwide and which licensed Apple products using the 2G, 3G and/or 4G Standards.[510] This was not contentious.

ii) Optis contended for separate royalty rates for devices compliant with 2G only, 3G at least but not 4G and 4G compliant devices.[511] Optis also contended for separate rates in different markets, differentiating between "Major Markets", "Other Markets" and China.[512]

iii) Although the Optis Position Statement initially asserted royalty rates that were in accordance with "Optis' offer of 26 February 2019 as set out in Annex 2 of Optis' Statement of Case on FRAND,[513] in fact the amendments to the Optis Position Paper that occurred as a result of the withdrawal of Ms Dwyer's evidence, which I have described, resulted in new rates being put forward.[514] Those rates were calculated as *ad valorem* rates applied to each product's ASP,[515] but with an ASP "cap" that should be no lower than US$470.[516] Optis asserted that "[a] running royalty rate [i.e. an *ad valorem* rate] is FRAND", the

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[510] Optis Position Statement/[5].

[511] Optis Position Statement/[6(a)]. In fact, this contention was not really proceeded with. Optis Position Statement/[16] states:

"…For the purposes of this analysis, Optis will assume that its relevant percentage for 2G and 3G is 0.00% and will rely on the PA Data as to essential 4G families as an estimate of the number of 4G families used to calculate Optis' percentage of the Relevant Families for LTE."

This change – made by amendment – was as a result of the withdrawal of Ms Dwyer's evidence.

[512] Optis Position Statement/[6(b)].

[513] Optis Position Statement /[6(b)]. The offer is described in the course of the history of the Optis/Apple negotiations set out in Part IV/Section L above.

[514] These are set out in tabular form at Optis Position Statement/[7] to [10]. I do not propose to set them out in this Judgment.

[515] Optis Position Statement/[6(c)].

[516] Optis Position Statement/[6(d)].

implication being that rates differently calculated were not FRAND.[517] Optis contended that there should be no discounted release payments for past possible infringements of the Portfolio by Apple,[518] and that interest on any past royalties should be at 8%.[519]

iv) The Optis Position Statement identifies three methodologies in support of the rates contended for:[520]

> "a. The first methodology (**Scaling from Unwired Planet**) scales the FRAND benchmark royalties set out in *Unwired Planet v. Huawei* to the PO Portfolio. This shows the Optis Rates to be FRAND.
>
> b. The second methodology (**Optis Comparables**) involves identifying licences entered into by Optis which cover the PO Portfolio in full or in part, calculating implied royalty rates based on those licences (by "unpacking" the licences) and scaling the unpacked licence rates to the PO Portfolio. This shows the Optis Rates to be FRAND.
>
> c. The third methodology (**Top Down Cross Check Analysis**) compares the size of the PO Portfolio to publicly available information as to the approximate total royalty burden to benchmark whether a royalty rate is FRAND. This shows the Optis Rates to be FRAND."

I consider these methodologies in turn in the following paragraphs.

## (2) Scaling from *Unwired Planet*

395. In greater detail, Optis' methodology was as follows:

i) Using data from PA Consulting, Optis identified [redacted] 4G SEP Patent Families.[521] This, as it were, comprised the "numerator" for the purposes of Optis' analysis. The denominator derived from the decision in *Unwired Planet* and was appropriately called by Optis the "Birss denominator". That figure is 800.[522] This gives a percentage share of a stack of [redacted].[523]

ii) Applying the weighting for different standards set out at [220] of the *Unwired Planet* decision gives a share of [redacted].[524] There is no magic in this: [redacted] (actually [redacted] is 70% of [redacted] The reduction is purely mathematical.

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[517] Optis Position Statement/[6(g)].

[518] Optis Position Statement/[6(e)].

[519] Optis Position Statement/[6(f)].

[520] Optis Position Statement/[11].

[521] This figure in fact derives from table 2-3 in Bezant 2, but Mr Bezant must have got this from data from PA Consulting. I was not taken to the precise route by way of which Mr Bezant derived these figures; nor was I presented with any precise route as to how PA Consulting had itself reached this conclusion.

[522] I will come, in due course, to consider the extent to which I can rely on this figure. What is troubling, at this stage, is that table 2-3 in Bezant 2 uses a denominator (presumably derived from PA Consulting) of [redacted] This is a figure that is not used in the Optis Position Statement.

[523] Optis Position Statement/[16].

[524] Optis Position Statement/[17].

iii) So, the <u>relevant</u> figure for share of stack is [redacted] for the Portfolio. The relevant figure in *Unwired Planet* for 4G patents was 0.70%.[525] The Portfolio is [redacted] times the size of the *Unwired Planet* portfolio. Optis refers to this as a "scaling factor", but it is really just a multiplier intended to reflect the difference in size of the two portfolios.[526]

iv) Ignoring for the moment other adjustments made, Birss J gave a royalty rate of 0.062% to the UP Portfolio. Optis' contended for rate was [redacted] which is simply 0.062% times [redacted]

396. I am in no doubt that this approach is an utterly unreliable approach to deriving a FRAND rate for the Optis Portfolio, and I have no hesitation in rejecting it completely. My reasons for doing so are as follow:

i) I leave on one side the failure, on Optis' part, to justify the use of an *ad valorem* rate for calculating royalties. I accept, of course, that such an approach is one that <u>might</u> be adopted, but I do not accept without more that an *ad valorem* rate is, in all and any circumstances, FRAND. Indeed, I note that that point is impliedly conceded by Optis itself, in its acceptance that a cap might be applied to an *ad valorem* rate.[527] I will return to the difficult question of selection between <u>types of royalty rate</u>.

ii) The [redacted] 4G Patent Families comprising the "numerator" are derived from PA Consulting. I have some doubts about the point of limiting the relevant families to 4G SEPs only, but that is a restriction imported by Optis because of its amendments; and although I have misgivings, they are not material. What <u>is</u> material is my concern regarding the reliability of PA Consulting's data. These concerns have nothing to do with the quality of the work undertaken by PA Consulting. As I have stated, it seems to me that PA Consulting provides an important and valuable service to the market. But it is important to appreciate that even when done carefully – as I accept – the results produced are *(i)* liable to error and *(ii)* have been compiled in a manner that is not auditable by me.[528] The smaller the group of Patent Families under consideration, the greater the error rate. When considering large numbers, trends at least are liable to be discernable. When considering a small number – and [redacted] is a small number – the laws of large numbers are not going to come to the rescue; and I am unable in any way to test the figure so as to reach a view on reliability.[529]

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[525] <u>Optis Position Statement</u>/[18].

[526] <u>Optis Position Statement</u>/[19].

[527] Optis has strong views as to the level of any cap, which I am not going to go into. The important point is that the introduction of a cap fundamentally alters the operation of an *ad valorem* rate. Accepting that a cap can be appropriate undermines any contention that a FRAND rate can only be calculated by reference to an *ad valorem* rate.

[528] I have set out my reasons for not relying on the PA Consulting data at Part IV: Section D above.

[529] <u>Apple's Responsive Position Statement</u>/[35(a)] and [35(b)], contends that the figure of [redacted] is clearly wrong, even on PA Consulting's own data, and that the "true" PA Consulting figure is [redacted] not [redacted] This simply underlines the difficulties I am faced with. No evidence was lead for me to even decide whether [redacted] is a "better" figure than [redacted] but even if it is, the underlying concerns that I have regarding PA Consulting's data stand.

iii) The denominator derives not from PA Consulting, but from the *Unwired Planet* decision. This is questionable on a number of levels:

a) The approach, as adopted by Optis, takes an "apple and oranges" approach, in that the numerator is derived from PA Consulting and denominator derives from Birss J. This mixing of data sources requires justification (which has not been undertaken), particularly when the data is available from PA Consulting, is set out in Bezant 2,[530] and is unhelpful to Optis in that it is much larger ([redacted] as opposed to 800). In short, I have some difficulty, for this reason alone, in accepting that Optis' unadjusted stack share is [redacted] It seems to me it should be [redacted] Of course, these figures coming from PA Consulting, they are subject to all the qualifications as to reliability that I have described. I am merely suggesting that consistent use of quantitative data is better; and that Optis' approach is very difficult to understand and defend.[531]

b) I have already concluded that I cannot translate or read across into this Judgment factual findings made by Birss J in *Unwired Planet*.[532] I do not consider that I can import into this Judgment Birss J's figure of 800. Considering the detailed findings of Birss J, and where the denominator – the "Birss denominator" – of 800 come from, shows very clearly why the rule in *Hollington v. Hewthorn* is important. The Optis Position Statement does not state its source for the 800, but (from a perusal of the judgment in *Unwired Planet* (First Instance)) it is clear that the critical paragraphs are [372] to [378] and in particular [377], from which I now quote:

"The significant overstatement in the HPA is the number produced for the total pool of Relevant SEPs. The number for 4G handsets is 1,812 and is much too high. The corresponding number in the Revised MNPA is 355, but that number is much too low if it is to represent all relevant SEPs. I think both values are out by about a factor of two. Half of 1,812 is 906, while twice 355 is 710. Splitting the difference takes one to 800. Standing back, about 800 is fair and in my judgment an appropriate figure for the pool of 4G/LTE patents…"

It is very clear from this that Birss J was applying his judgement (having heard a great deal of evidence) to reach a conclusion on a question of fact. It was his duty to reach a conclusion on the evidence before him. In this case, that is my duty, and I must do so on the basis of the evidence before me. I cannot sub-contract that duty and simply import into this judgment a material finding of fact without having heard the evidence going to it, and without enabling the party not present before Birss J, but present before me (Apple) to have its say and adduce its own evidence on the point. In short, I cannot, without much more material, simply

[530] In the very same table – table 2-3 – that is relied upon to support the numerator of [redacted]

[531] When commenting on the draft judgment that I circulated, Optis suggested that the justification for the approach used by Mr Bezant appeared from evidence that was uncontroversially before the court (in the sense that Apple did not cross-examine on it), namely the evidence of Mr James Farrow. Whilst, of course, I accept the working of Mr Farrow, his evidence does not answer the criticism I make here of Optis' approach and the evidence in support of that approach.

[532] See Part IV/Section M above.

adopt Birss J's finding of fact on this point, and I say that having enormous respect for the judgment in *Unwired Planet* and for the judge himself. Even if I were to proceed on the basis that I am confident I would have reached the same figure of 800 had I been the trial judge in *Unwired Planet* (First Instance) and not Birss J, I would be similarly uncomfortable as to the propriety of adopting and using this figure in the present case.

iv) The same concerns arise in relation to *(i)* the weighting for different standards and *(ii)* the "scaling factor". They apply in spades to the royalty rate of 0.062% that Birss J accorded the UP Portfolio. The justification for that rate unsurprisingly emerges from the *Unwired Planet* judgment, but the relevant passages are too long to set out, and there is no point in doing so. Birss J was doing his job of hearing the evidence before him, evaluating it, and reaching a factual conclusion. If I can simply import and rely upon his work for present purposes why – I ask rhetorically – bother with a 17 day trial before me? The short answer is that it would be a dereliction of duty on my part and grossly unjust to Apple to take this approach. It seems to me, certainly on the facts of this case, that it would be wrong to attach any weight to conclusions of fact reached by another judge on the basis of evidence that I have not heard, where questions of issue estoppel or *res judicata* on no view arise.

v) I have taken a "granular" approach to Optis' scaling methodology so that my reasons for rejecting it out of hand are clear. But at the end of the day, this unpacking of Optis' methodology does no more than affirm the correctness of the approach in *Hollington v. Hewthorn*, which applies to judgments in relation to valuations as it does elsewhere.

### (3) Optis Comparables

397. Optis' approach was as follows:

i) Optis identified a universe of licences that covered all, or a sub-set of Optis' cellular SEPs.[533] In this case, Optis initially identified 19 such licences.[534] Optis's approach was to look to comparables that related to – and so provided a value for – the Portfolio. By definition, this would exclude the Apple Comparables, because these would relate to portfolios other than the Portfolio.

ii) Within this universe of 19 comparables, Optis identified licences that were "relevant comparables".[535] These were the Optis Comparables,[536] which I have already described.[537]

iii) To the extent needed, these Optis Comparables would be "unpacked".[538] In fact, because of the *ad valorem* rate generally used by Optis in the Optis

[533] Optis Position Statement/[24(a)].
[534] Optis Position Statement/[26].
[535] Optis Position Statement/[24(b)].
[536] Optis Position Statement/[27] to [29].
[537] Part IV: Section K above.
[538] Optis Position Statement/[24(c)] and [30].

Comparables, and because Optis was contending for an *ad valorem* rate, the amount of unpacking needed would be minimal.[539]

iv) These unpacked licences would then be "scaled", so as to reach a figure that would apply in respect of the Portfolio.[540] The approach taken by Optis is described in the Optis Position Statement as follows:[541]

"Optis' valuation expert's updated method of scaling the unpacked rates of each Optis Comparable to the number of patents in the PO Portfolio is based upon the PA Data and is set out in his second report and involves the following steps:

a. Calculating a share for 2G, 3G and 4G in both the patent families covered by the comparable licence and the patent families in the PO Portfolio. For the purposes of this analysis, Optis will assume that its shares of 2G and 3G are 0.00%, and will rely on the PA Data in respect of the relevant share for 4G.

b. Using multimode weightings of 70:20:10 for 4G:3G:2G to calculate the share of the overall universe of relevant SEPs for 4GMM devices, covered by the relevant comparable licence and the PO Portfolio respectively.

c. Calculating a scaling factor by dividing the 4GMM share covered by the PO Portfolio by the 4GMM share covered by the relevant comparable licence.

d. Applying the scaling factor to the unpacked royalty rates calculated for the relevant comparable licence."

v) The rates so derived are then "blended" to produce an average rate.[542]

398. I am again in no doubt that this approach is an entirely unreliable approach to deriving a FRAND rate for the Optis Portfolio, and I have no hesitation in rejecting it. My reasons for doing so are as follow:

i) The approach taken by Optis is to seek to value the Portfolio without reference to the value that might be attributed to other portfolios comprising different SEPs declared essential to the same Standards. In other words, no attempt is made to relate the value or price of the Optis Portfolio to the value or price of the Stack. I do not say that such an approach is in principle wrong. But the approach does place enormous weight on the licences concluded by Optis with its counterparties being reliable comparables, and some form of cross-check to the value or price of the Stack is required in order to render the outcome of this process reliable. Such a cross-check is not possible using only the Optis Comparables.

ii) The same point can be put differently: the Apple Comparables are disregarded. In my judgement, such abandonment of data needs to be justified, and should

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[539] Avoidance of unpacking is a real advantage. But the advantage is obtained at the price of *(i)* excluding the Apple Comparables and *(ii)* committing to an *ad valorem* rate for the computation of royalties.

[540] Optis Position Statement/[24(d)].

[541] At [31].

[542] Optis did not contend for a pure average, because some of the comparables it used were based on Optis' lower Negotiated Rate, which Optis said was not open to Apple, because Apple failed to agree a licence with Optis and obliged Optis to litigate. See Optis Position Statement/[33] to [36].

not arise simply as a side effect of the methodology chosen. Comparables – whether the Optis Comparables or the Apple Comparables – ought to be jettisoned for a reason, and not merely because they do not fit into the methodology chosen.

iii) The weight placed on the Optis Comparables is too great to render this in any way a reliable approach. This basic issue of reliability itself unpacks into a number of (related) matters, in addition to the two already identified:

a) As I have already described, because the Optis Comparables are for the most part based on *ad valorem* royalties, the FRAND rate that is derived is an *ad valorem* rate. A royalty rate calculated on this basis may be justifiable but needs to be justified.[543]

b) I do not consider that it can be presumed that the Optis Comparables are reliable comparables. As will be seen, when considered, the Optis Comparables actually unpack in a manner that creates a price for the overall Stack that is indefensible. In Section F below I seek to use the Optis Comparables (amongst others) to create a value or price for the Stack. Without wishing to anticipate, this exercise demonstrates that the *ad valorem* rates contended for by Optis are overstated to a remarkable degree. Their reliability, therefore, cannot be presumed. There are a number of reasons why, in my judgement, the rates in the Optis Comparables are overstated when they are used to extrapolate a price for the entire Stack:

i) As I have noted in Part IV: Section K (where I consider the comparables adduced by both Optis and Apple), most of Optis' counterparties in the Optis Comparables were small companies, in particular as regards the later, post *Unwired Planet* (First Instance) comparables.[544]

ii) There would have been some inequality of bargaining power between these companies and Optis, and it is clear that Optis used the *Unwired Planet* (First Instance) decision to get the sort of bargain it wanted. There was a lack of scrutiny from these smaller counterparties.

iii) That is not to say that these were bargains contrary to these counterparties' interests. As I have noted, an *ad valorem* rate will likely favour a small company, selling limited volumes of product (even if the ASP is normal). That is because – for reasons that I will expand upon – the transaction costs of negotiating a licence are likely to suggest a "floor" price in the case of small Implementers.

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[543] See [396(i)] above.

[544] Notably [redacted] These represent six of the nine Optis Comparables.

iv) The question is why Optis would bother with small counterparties like these. The revenue to Optis was trifling, and in some cases may even have been dwarfed by the transaction costs to Optis.[545] Although Mr Blasius denied it when it was put to him,[546] it is difficult to avoid the conclusion that Optis was not dealing with these small counterparties for the revenue streams they would bring in, but because the licences they agreed would produce comparables that would assist Optis in this litigation.

## (4) Top Down Cross Check Analysis

399. I turn to the Top Down Cross Check Analysis. As to this, Optis' contentions were as follow:[547]

> "46A Optis also relies on a top-down cross-check methodology to support its case that the Optis Rates are FRAND. This top-down cross check methodology imputes FRAND royalties by multiplying Optis' share based on the PA Data by a 15% aggregate royalty which is a reasonable aggregate royalty (see Stasik 1 at paragraph 64).
>
> 46B Using Optis 4GMM share from the PA Data implies a royalty rate of [redacted] Using Optis' 4G share from the PA Data implies a royalty rate of [redacted] The Optis 4GMM Device Major Market Rate is between these two figures."

400. I begin with the value attributed by Optis to the entire stack. That is an *ad valorem* rate of 15%. As to this:

i) Once again, this is an *ad valorem* and not an absolute rate. I am not suggesting that an *ad valorem* rate may not be appropriate: I am, however, firmly of the view that the use of such a rate must be justified, and not presumed.

ii) An overall royalty rate of 15% is one that Apple would say was too high. But, as will be seen, it is modest when compared to the price for the Stack implied by the Optis Comparables.[548] As to the overall royalty rate, Mr Stasik says this:[549]

> "60. I have been asked by Optis' solicitors to give my view as to whether it would be reasonable, assessed as of today, for implementers to be expected to bear a theoretical notional aggregate royalty burden for 4G multimode handsets in the range of around 8% to 15% (i.e. a total royalty burden in respect of all relevant (i.e. handset) SEPs in the 2G, 3G and 4G "universe".
>
> 61. In practice, implementers do not pay the theoretical total aggregate royalty burden for a 4GMM handset because implementers in my experience are never fully licensed under all SEPs in the 4G, 3G and 2G universe. This can occur because of hold-out, as well as the fact that many SEP holders hold their patents for defensive purposes only and do not seek to license them. Further,

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[545] A table summarising royalty payments to Optis from the Optis Comparables was put to Mr Blasius. This was tab 34 in Mr Blasius's documents for cross-examination.

[546] Day 3 (private)/pp.3*ff* (cross-examination of Mr Blasius).

[547] Optis Position Statement.

[548] As to which, see Section F below.

[549] In Stasik 1.

implementers may leverage their own SEPs by way of a cross-license to offset the royalties they are paying to another SEP holder. This means that in practice different implementers may end up paying different royalty stacks on their products. However, leaving such factors on one side, I consider that in the (hypothetical) scenario where implementers do all behave as willing licensees and all in fact therefore pay truly "FRAND rates" for the whole stack, a range of 8% to 15% is appropriate.

62. That this is the case can be seen by considering what the total aggregate would be if one added up all the publicly available headline rates, and then made a sensible adjustment down to reflect the fact that those headline rates are starting points for negotiation. It is well understood that SEP holders will negotiate down from these headline rates and that in many (or most) instances the royalties that are agreed after negotiation will be lower than the headline rate.

63. In my 2010 paper on LTE royalty rates, I stated that:

- "In 1998, ITSUG (an obscure organisation representing some operators and manufacturers) filed a complaint with the European Commission claiming that "when GSM mobile handsets first appeared on the market place cumulative royalties amounted to as much as 35 per cent to 40 per cent of ex-works selling price."

- "In 2007, Lemley and Shapiro commentated that they had "seen estimates for [W-CDMA] as high as 30 per cent of the total price of each phone…based on summing royalty demands before any cross-licensing negotiations began."

64. In that same paper, I added up the announced headline rates from nine out of approximately 38 (then) known SEP holders. On the basis of the data then available that nine between them held roughly 48% of the 4G SEP stack – see Table 1 "Summary of ETSI Declarations and Announced Royalty Rates for LTE". (It should be noted that a number of the then major holders were not included in that nine, including Interdigital, NTT, DoCoMo, Panasonic, LG and Samsung.) The announced royalty rates of those nine SEP holders yielded royalty stack of 14.8%. Scaled up to the whole 4G stack would therefore result in a total royalty burden of around 30%. (It should be noted that all of those were announced on the basis of reciprocity; the implication being that without reciprocity the rates would be even higher, but I ignore that for present purposes.) That number would, however, need to be adjusted down to reflect the fact that that aggregate royalty is based on headline rates and not the final licence terms agreed between the licensors and their licensees. At the same time, it would also need to be adjusted up slightly since those headline rates were for 4G only so [for] a 4G multi-mode handset the rates would be slightly higher. On that basis, I think that in 2010 a figure of 8-15% would have been a realistic theoretical aggregate royalty.

65. However, there has been a significant change in the 4G patent landscape since I wrote that paper in 2010 and the commencement of this litigation in 2019, in particular the number of declared 4G SEPS families increasing significantly over that time. In this respect it should be noted that in 2010 I had counted just under 2,000 SEP families, whereas I understand from David Cooper's article (referred to at paragraph 57) that by July 2018 the number of SEP families declared as essential to LTE has grown to 15,000. As indicated in paragraph 54 above, there would not be a linear relationship between that growth and the headline rates

(and evidently if there were it would be totally proportionate), nevertheless I would anticipate some additional value arising as a result of the very significant expansion in the number of SEPs for 4G and the enhancements which they bring and thus some increase in the overall royalty stack would be merited."

iii) I am sceptical of any rate that is derived from "headline" rates, which (as Mr Stasik fairly accepts) can only be the starting point for negotiations. I do not accept that there is going to be any necessary correlation between a headline rate and *(i)* the manner in which the negotiated rate is calculated and *(ii)* what that rate is.

iv) Thus, there may well be a move away from *ad valorem*, depending on the SEP Owner/Implementer dynamic. There may be negotiation of amount paid, depending upon volumes sold and price. An *ad valorem* rate may simply not be appropriate. More to the point, given the inconsistency between the Stack price implied by the Optis Comparables and Mr Stasik's rate of 15%, it is quite clear that Optis' other methodologies fail the Top Down Cross Check Analysis.

401. I reject Optis' pleaded case as articulated in the Optis Position Statement as untenable. There were variants of that case articulated during the course of the hearing. I do not consider these further, because they were not pleaded; Apple did not have an opportunity to test them; and I did not have an opportunity to consider them in the context of a fair hearing, with all the evidence before me.

## C. APPLE'S CONTENTIONS

### (1) Summary

402. Apple contended that the Court should use three approaches in determining the appropriate FRAND royalty rate for a licence to the Portfolio,[550] which Apple contended was a lump sum royalty.[551] These approaches were as follows:

i) An approach based upon the Apple Comparables. The Apple Position Statement states:[552]

"…an appropriate set of comparables is the Apple 3G/4G Licences (see paragraph 12 above). These are based on Apple applying a principled approach, designed to mitigate the problem of a licensor being unfairly rewarded for value in Apple's end products that is not attributable to the licensor's invention. This evidence of relevant market comparables is highly probative of what a willing licensor and willing licensee are prepared to agree on."

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[550] Apple Position Statement/[24].

[551] Apple Position Statement/[14]. This paragraph articulates Apple's offer to Optis in this case in relation to the Portfolio. However, it is very clear from the overall tenor of Apple's case, that not only was it contending for a royalty on a lump sum basis, it was contending that this was the proper way to calculate royalties (at least in this case). Both Optis and Apple accepted that a royalty calculated on an *ad valorem* or per unit basis could be "unpacked" or converted into a lump sum – effectively, capitalising income. But Apple went further than this and contended that the initial calculation of the royalty rate should be lump sum.

[552] At [27].

More specifically, the Apple Position Statement provides:[553]

"For the period from 2013 to 2020, Apple has provided 19 agreements for inspection by Optis in these proceedings (the "Apple 3G/4G Licences"). Excluding four obvious outliers, and taking two connected agreements together, there are 14 deals which represent market comparables, negotiated between sophisticated undertakings. When appropriately "unpacked", they shed light on the market value of cellular SEP technology. The result of the unpacking exercise makes it apparent that the cellular SEP-related royalties payable by Apple in all these cases are orders of magnitude lower than those now demanded by Optis."

ii) An approach based upon the Apple Framework.[554] That framework was described in Part IV: Section H above.

iii) An approach based upon a basic 4G cellular product or what I have termed the "basic Handset". The Apple Position Statement says this:

"34. There is an alternative way (beyond a comparables analysis) to compensate SEP holders while endeavouring to reduce the over-compensation for value that cannot fairly be attributed to them. This is to derive the royalty base from the observed profits on a cellular device but to use a device the minimises the features, innovations, etc, that are unrelated to cellular functionality; in other words, to minimise the risk of using an observed profits figure for a cellular device that reflects contributions which bear no relationship to the licensed (standardised) technology.

35. This risk is particularly acute for cellular devices such as Apple's, which are (as noted above) premium products that integrate an array of hardware, software and services beyond mobile telephony. These premium non-cellular features, Apple's FaceID technology or advanced 3-lens camera, for example, are the product of innovative research and engineering by Apple and others. None of them can fairly be said to be a function of the cellular technology covered by the 2G, 3G and 4G standards….

36. As is explained in Apple's expert evidence…, if one takes as representative of a "basic level" 4G cellular device an averagely priced handset sitting in the lower half of all worldwide sales prices during 2013-2020 (the high-end basic-level smartphone), that is still less than ¼ of the average selling price (ASP) of Apple's devices during the same period (US$745 v US$160). While even a basic-level device still contains a vast amount of non-cellular technology (such as Wi-Fi, Bluetooth, touchscreen, GPS, operating system, and so on), the range of functionalities and features is significantly less than with premium products such as Apple's devices and the risk of over-compensation is therefore reduced."

### (2) Critique

403. It was possible to consider each of Optis' methods separately, because they comprise genuinely alternative methods for getting to a result. The same cannot be said for Apple's approach, where there is a much closer nexus between the three "methods".[555]

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[553] At [12].

[554] Apple Position Statement/[28]*ff*.

[555] I accept that they were put as alternatives by Apple, but (as I describe below, in greater detail) they are in my judgement interconnected.

I therefore adopt a more thematic approach in considering Apple's submissions, and propose to consider those submissions under the following heads:

i) The significance of Apple's reliance on a FRAND licence being based upon lump sum royalties.

ii) The Apple Framework and the problems with it.

iii) The basic Handset.

iv) The Apple Comparables.

**(3) Apple's reliance on lump sum royalties**

404. Just as Optis pressed the *ad valorem* approach to royalty calculation for the FRAND licence, so Apple pressed the lump sum approach. Like Optis, Apple did not actually explain <u>why</u> this basis for the calculation of royalties was to be preferred over others. As in the case of Optis' submissions, I propose to note that the point is by no means axiomatic, but that it will be considered (with Optis' position) in due course.

**(4) The Apple Framework**

***(a) A basic soundness of approach***

405. Although there were several strands to Apple's contentions, the essence of Apple's case, and what served to unite it, was its framework – the Apple Framework. I consider a framework is an inherently attractive way of resolving the FRAND Question – because it is both transparent and capable of being consistently applied. I also consider the essence of the Apple Framework – namely the calculation of a Stack price, with that price then being prorated according to the proportion of the portfolio under consideration simply by reference to size – to be in essence sound.

***(b) Problems***

406. Once one ventures beyond the essence, the Apple Framework becomes problematic in a number of respects.

*(i) Patent-by-patent examination*

407. For reasons that I have explored, patent-by-patent examinations of portfolios are simply unfeasible, and Apple's insistence on this – to the extent that it was not a negotiating ploy – cannot form part of any FRAND valuation. I have described the significant extent to which Apple – in its negotiations with Optis and others – relied upon the need for a patent-by-patent examination.[556]

408. The parties have – at considerable expense – been able to litigate to judgment questions concerning the validity and essentiality of a limited number of Patent Families in Trials A to D. There is no serious prospect of extending that process to more Patent Families. The point of technical trials like these is <u>not</u> to get a sense of portfolio quality,[557] but to

[556] See, generally, Part IV/Section H.

[557] That does not work: see Part IV: Section F above.

establish the courts' jurisdiction to impose a FRAND licence on the SEP Owner and the Implementer who have been unable to come to terms.

409. Nor is it possible to make any kind of more generalised assessment of portfolio quality, at a higher level than a patent-by-patent assessment. I have considered whether it can be said that the Optis Portfolio is of "above average" quality, as Optis contended it was. I have concluded that that contention is unsustainable, and that if anything, the Portfolio was below average in terms of quality, because of the way in which it seems to have been structured.[558] But, stepping back, it seems to me that even the conclusion that the Portfolio was of below average quality is one that I should be wary of drawing. Although I have been able to consider the Optis Portfolio in some (albeit still superficial) detail, I have no material before me to reach any particular conclusion about the portfolios of SEPs comprising the rest of the Stack. I have no way of knowing whether – set against the Optis Portfolio – these collections of SEPs are better or worse (in terms of validity, essentiality and importance) than those comprising the Portfolio. It therefore seems to me that I should regard the SEPs comprising the Stack as essentially homogeneous when grouped together in a portfolio of any substance.[559] It follows from this that Apple's Adjustment Factors to the Royalty Reference Point[560] are no more than a meaningless – or, worse, arbitrary – exercise.

410. Apple's Adjustment Factors represent the last phase of the Apple Framework. They can (and in my judgement should) be jettisoned without actually affecting the essence of the framework. However, there are other, more fundamental, concerns with the Apple Framework to which I now turn.

*(ii) Deriving Stack value or price by way of the SSPPU*

411. The first, fundamental, concern relates to the manner in which Apple derives the total price or value for the Stack. That approach – the SSPPU – is one that I reject, for the reasons given in Part IV: Section I above. The SSPPU approach in a quite fundamental way misstates what it is that is being valued, which is the value to Apple (or any Implementer) of the ability lawfully to use the Standards, lawfulness requiring a licence to the SEPs comprising the Stack. The point is that Apple (and other Handset Implementers) are not making chipsets, they are making Handsets. My rejection of the SSPPU as the source for the price or value of the Stack undermines a key part of the Apple Framework, without which the framework (at least as articulated by Apple) cannot work.

*(ii) What is being valued?*

412. The second concern – less fundamental than the first, but nevertheless highly significant – concerns Apple's insistence in not permitting the SEP Owner to benefit from the value provided by the Standard. Again, for reasons articulated already (Part IV: Section J above), I consider this approach to be misconceived, in that it is both impractical and

[558] Section IV: Part E above.

[559] Clearly, the position regarding a single SEP would be different. There it would be possible (and probably necessary) to reach firm conclusions on validity and essentiality, and a qualitative view on importance. But that is not the case here. The Optis Portfolio – compared to the portfolios the subject of the Apple Comparables – was small. Yet even in the case of the Optis Portfolio, it is not possible to make a patent-by-patent assessment.

[560] See the description of the Apple Framework provided by Ms Mewes at [201] above.

wrong in principle. The FRAND licensing of SEPs should be considered in the context of the Standard that they support. On this basis, even inessential and invalid patents are important, because there is no easy bright line to draw between the essential and the valid and the inessential and the invalid.

413. Not only is it not possible individually to review the content and contribution of each SEP within a portfolio, this is an inappropriate approach. In my judgement, what is being valued or priced is access to the Standard or the right to use it without infringing. It is the SEP Owner's contribution to this access or right of use that an Implementer is paying for. The benefits of access to the Standard have already been sufficiently rehearsed, and are obvious: they enable an Implementer to offer inter-Handset connectivity. Where an SEP Holder owns a part of the Stack that enables use of the Standard, then a part of the total Stack price should be payable to the SEP Owner – irrespective of the validity, essentiality or importance of the patents owned, because the ETSI process for the creation of a Standard works by reference to declaration. What is being bought and sold is not a bundle of intellectual property rights, but an ability to use the Standard.

### (5) The "basic level" Handset

414. The "basic level" Handset was Apple's tool for controlling *ad valorem* rates, should the royalties in respect of the FRAND licence be calculated on this basis. The ASP for Apple Handsets is high, and an *ad valorem* rate is therefore peculiarly disadvantageous to Apple. The "basic level" Handset operates as a device to cap the *ad valorem* rate at the level of the price of such a Handset.

415. The "basic level" Handset is thus in no way intrinsic to the Apple Framework. Rather, it is a control that Apple would wish to introduce if Optis were successful in persuading the court to decide for a FRAND licence with *ad valorem* royalties.

416. I will not, therefore, consider this point any further at this stage. The role of "floors" and "caps" as controls in relation to *ad valorem* pricing is something that I will return to.

### (6) The Apple Comparables

417. I have concluded that I have considerable reservations as to the probative value of the Optis Comparables.[561] I turn to consider the probative value of the Apple Comparables:

i) In just the same way as the Optis Comparables were skewed towards the Portfolio, without reference to other parts of the Stack, so too were Apple's Comparables skewed to those licences where Apple was a counterparty. Thus, the Apple Comparables concerned portfolios <u>other than the Optis Portfolio</u> (where, of course, no licence has been concluded) where Apple had successfully negotiated a licence.

[561] See [398(iii)] above, and Section F below.

ii) Equally, as I have noted, the Apple Comparables were generally on a lump sum basis. The extent to which this is the appropriate method for computing royalties under a FRAND licence is something I will turn to in due course.

iii) A number of the Apple Comparables were with counterparties who were large enough to be able to look after themselves: [redacted] were all SEP Owners with whom Apple dealt. Even the smaller counterparty SEP Owners with whom Apple deal were larger than most of Optis' counterparties. Although I entirely accept that Apple was a large corporation, capable of negotiating hard, I have not seen any evidence of the rates that Apple achieve being unduly low through the exercise of Hold Out. I appreciate, of course, that this is an almost impossible question to answer, because an "unduly low rate" is something that can only be ascertained where there is a "market rate", which is precisely the evidence I do not have. For present purposes, I will stress the following points:

a) I do not regard Apple's negotiations with Optis as having been in any way improper or in bad faith. To the contrary, I consider that Apple negotiated in a "hard but fair" way, in accordance with their process driven methodology.[562] It is, to my mind, important to note that Optis did not – despite being a company smaller than Apple by many orders of magnitude – buckle under the strain of negotiation. Optis did not get the deal they wanted, so they litigated. It seems to me that this is a clear indicator that there are limits even to Apple's negotiating strength.

b) Under some of the licences forming part of the Apple Comparables, Apple paid amounts that are (in absolute terms) quite significant. Given this fact, and given the counterparties involved, it is impossible to say that these outcomes were not the outcome of a proper and competitive negotiating process. In one case – to which I will come [redacted] – Apple contended that it had actually been the victim of improper market pressure.

c) I accept, as a basic truism, that where there is a mismatch in corporate size, so there is an opportunity for the exercise of improper market pressure. I can only say that I have seen no evidence of this, but I will be astute, when considering what I gain from the various comparables, to bear this point in mind.

418. In my judgement, the Apple Comparables are more reliable than the Optis Comparables. It remains the case – because of the problems with the comparables that I have described[563] – that I must tread warily in relation to all of the comparables. But, for the reasons I have given, I consider that whilst the cautious handling of the Apple Comparables may bear fruit, I consider the Optis Comparables to be intrinsically so unreliable that even cautious handling does not render them capable of being deployed in any reliable process that seeks to determine the FRAND Question. That is a point I will be returning to when I describe the methodology I adopt in answering this question.

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[562] See [357]*ff* above.

[563] Part IV: Section K, in particular K(1) and K(3).

## D. THE MEANING OF "FRAND"

### (1) Price as distinguished from value

419. Oscar Wilde defined a cynic as someone who knew the price of everything and the value of nothing, thus implying, amongst other things, a clear distinction between "price" on the one hand, and "value" on the other. So far, in this Judgment, the terms "price" and "value" have been used interchangeably. It is now necessary to define the distinction between these two concepts as it will be applied in this Judgment.

420. The market is cynical in the Wildean sense in that it allows the values of participants in the market to drive the price that is the outcome of their interactions. In a market economy, a **consumer** (someone who acquires to use personally, and not on-sell for profit) will only pay up to the value that they place on a given product, assuming the ability to pay that amount. Thus, if *A* values a product at £10, but the market price is £6, *A* is the gainer to the tune of £4. That is *A*'s **consumer surplus**. The reason *A*'s consumer surplus lies so far above price is because there are a significant number of other consumers, apart from *A*, who – for their own reasons – value the product at less than £10. In this example, whilst there may be consumers who value the product at a monetary value lower than £6, the reason the price is £6 is because sellers in the market (for their own reasons, which I will come to) are not prepared to sell at below £6. Thus, it is worth the sellers in the market to sell at £6/unit of product. Any consumer willing to pay more than £6 has a consumer surplus, which is the difference between what a consumer would be prepared to pay (**value**) and what a consumer does in fact pay (**price**).

421. Of course, all consumers would be prepared – indeed, generally speaking, extremely willing[564] – to pay less than £6, thereby maximising their consumer surplus. But there will be reasons on the supply side as to why suppliers are not prepared to sell for less than £6.

422. Purchases of products by **non-consumers** – persons who buy for their business – are easier to understand. A non-consumer will buy if that purchase enables them to sell whatever they are producing for more than the cost of that purchase. Thus, if a purchase of the product for £6 enables a producer to sell all their widgets (the only thing they produce) for £7 more in total, that will be a rational purchase. At the end of the day, non-consumer buyers will be informed, in their decisions, by the value that consumers place on the products they themselves sell. Thus, the motive to make a profit is the driver of non-consumer value. It is far less subjective than consumer value, where the value *A* places on the widget may vary dramatically from that of fellow consumers *B*, *C* and *D*.

423. A **seller** of product (and, generally speaking, sellers will include what I have termed non-consumers, who buy as well as sell) will seek to sell for much as they can get – thereby maximising what is referred to as **producer surplus**. In a competitive market, however, the producer will be constrained by the competition they face: the producer will not be able to charge what they like, but will have to compete. In the case of perfect

[564] Exceptions are some luxury goods, where a high price is part of the attraction.

competition,[565] competition will drive price down to just above cost – cost to include a proper return on monies invested; in a world of "imperfect" competition, the trend will be similar, but prices will not necessarily fall to the "just above cost" level.

**(2) What is "FRAND"?**

424. "FRAND" is a price, but not a market price. Because there is no market from which the prices of SEPs declared to a given Standard can be derived, the price of an SEP portfolio must be derived or imposed judicially by reference to factors that proxy a market price, but in circumstances where no such price is actually stated by the market.[566] Prices centrally fixed are inconsistent with a market economy, and for a court to see to set a price that is independent of the market, is rare and on the fringes of a court's general function to determine disputes. That is why abuses of dominant position through excessive pricing are relatively rare.

425. Where it does become the function of a court to determine price, a court will typically do so by looking at comparable transactions. The present case is difficult for two reasons (which are related):

i) First, the Optis and Apple Comparables, as I have described, do not, without more, provide a reliable guide to a market rate. They have, as I have described, got to be "unpacked" in a manner that imports as many subjectivities as it eliminates.

ii) Secondly, this is a case where the SEP Owner is a monopolist. What is more, the monopoly is an important one, because the SEP Owner tends to own multiple patents in a portfolio, and only needs to show validity and essentiality on <u>one</u> to trigger the court's jurisdiction under *Unwired Planet* (SC). Of course, the SEP Owner, although a monopolist, is not dominant – for the reason given above.[567] The court can force a rate. But the existence of the monopoly drives out the market, forcing the court to impose a price without the benefit of "true" comparators, arising out of a "free" market. That is true of all SEP Owners – including Optis and Apple's counterparties. What it means is that the court cannot simply – as it could in other cases – ask what other sellers of the same product as Optis were selling for. There are no such other sellers. The Portfolio is unique to Optis.

426. FRAND is, therefore, a price that obtains in very particular, monopolistic, conditions. It is a price that is informed by the values "Fair", "Reasonable" and "Non-Discriminatory". Although these values are indirectly informed by what is going on in the market more generally, which is why comparables matter, the FRAND Question

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[565] A theoretical construct that bears limited relation to the real world, but which serves as a helpful model to understand competitive processes.

[566] On a listed exchange for shares, because shares are fungible and openly traded, a market price for a given share will exist. In the present case – like the housing market – although SEPs, like houses, are bought and sold, unless the parties can agree a price, there is no objective price discernible in the market. Comparables may inform, but they cannot resolve.

[567] Part IV: Section N above.

involves ascertaining a FRAND rate to this Portfolio. It is therefore necessary to understand what FRAND actually means.

## (3) Non-Discriminatory

### *(a) The law in Unwired Planet (First Instance)*

427. This is the first of the two elements that comprise FRAND that I am going to consider. The "ND" stands for "Non-Discriminatory". In *Unwired Planet* (First Instance), Birss J stated:

> "170 There was no real dispute of principle about how to work out what is and is not FRAND. The question is what would be fair, reasonable and non-discriminatory. Asking what a willing licensor and a willing licensee in the relevant circumstances acting without holding out or holding up would agree upon is likely to help decide that question. The evidence of the parties themselves will be relevant, including evidence of how negotiations work in practice in the industry. To the extent they are available other licences may be deployed as comparables. Just as comparables may be useful in a damages enquiry when considering a reasonable royalty and may be useful in determining the terms of a licence of right or in a Copyright Tribunal, so comparables may be useful in deciding what is FRAND. As always judgments will have to be made about how closely comparable any given licence is to the relevant circumstances in issue. The relevance of comparables is that they are evidence of what real parties in real negotiations have agreed upon. But like any real situation many factors may have been in play which make the licence less relevant. The negotiations may have involved a greater or lesser degree of hold up or hold out and it may be impossible to know that from the evidence available.
>
> 171 The decisions of other courts, assuming they are not binding authorities, may be useful as persuasive precedents. A point arises in this case about a licence which was the product of an arbitration. A licence agreement settled in an arbitration is more like terms set by a court than it is like a licence produced by negotiation and agreement. Huawei submitted that such a licence would be evidence of what a party was actually paying and as such was relevant. Aside from certain aspects of non-discrimination which I will address separately, I do not accept that evidence of what a party is paying as a result of a binding arbitration will carry much weight. If the licence is the product of an arbitration then the paying party has no choice. A further difficulty with the particular licence in question is that the arbitral award has not been produced. So although we know what the licence terms are, we do not know what the reasoning was which led to them. As a persuasive authority an arbitrated licence without the arbitral award is not much use. There were a few references in the evidence to the way the arbitrators decided the case but without seeing the award itself I will not place weight on that."

428. In [172] to [176], which I have quoted in [229] above, Birss J carried this analysis forward. In particular, at [175], he said this:

> "…I am not convinced that (b), the identity of the licensee, should be a strong factor in determining what comparables are useful for determining the FRAND rate aside from the hard-edged non-discrimination point addressed below. FRAND is supposed to eliminate hold up as well as hold out. Different licensees will have differing levels of bargaining power. That is another way of saying their ability to resist hold up and their ability to hold out will vary. It would be unfair (and discriminatory) to assess what is and is not FRAND by reference to this and other characteristics of specific licencees. In my view, it would not be FRAND, for

example, for a small new entrant to the market to have to pay a higher royalty rate than an established large entity…"

429. This is clearly right: a non-discriminatory rate is one that does not differentiate in a discriminatory way between SEP Owners on the one hand and Implementers on the other. But that does not mean that the same rate will always be a non-discriminatory rate. Implementers ought to pay the same respecting all material differences; and SEP Owners ought to be paid the same respecting all material differences. It is necessary to consider this aspect in greater detail, for the point was not before Birss J in *Unwired Planet* (First Instance). There the parties were (broadly – albeit not in relation to the detail) *ad idem* as to the correct way to arrive at an *ad valorem* rate.[568] Here, there is a fundamental difference between the approaches of Optis and Apple.

### *(b) Non-discrimination and the price paid by Implementers*

430. I will begin with the considerations that might inform the price paid by Implementers for the purchase of a portfolio of SEPs from a single SEP Owner. Accepting that each Implementer ought to pay a Non-Discriminatory rate:

i) If the rate to be paid is an *ad valorem* rate, one can see an argument for suggesting that such a rate ought to apply identically across all Implementers wanting to purchase this portfolio. That would mean that Implementers producing high-priced Handsets would pay more – in monetary terms – for the same portfolio as Implementers producing low-price handsets. That, on the face of it, does not axiomatically seem to be non-discriminatory: an Implementer making high-priced products pays more in monetary terms for the same thing (the licence to the portfolio) as the Implementer making low-priced products. Of course, a case can be made that the SEP Owner is entitled to participate in the "value" created by the Implementer. The consumer pays a higher price, and so must value the higher priced product more. But it does not follow from this that the SEP Owner is entitled to participate in this higher value by taking a slice out of the higher price charged by the Implementer even if (which is not a foregone conclusion) the higher price is attributable to the Standard. In short, charging the same *ad valorem* rate across all Implementers is not required on the grounds that it is non-discriminatory, because it is neither necessarily nor self-evidently discriminatory. Nor did I understand Optis to go so far: Optis, after all, proposed a number of caps to *ad valorem* rates, which immediately elides an *ad valorem* rate into a per unit rate.

ii) Taking a per unit rate, again one can see an argument in favour of the same rate applying across the board. The problem of high priced products does not arise, because the same unit price is paid by each Implementer to the same SEP Owner. But it might be asked whether it is right that the low-volume Implementer pay the same unit rate as the high-volume Implementer? Suppose Implementer *A* sells products in the volumes of the 10s, and Implementer *B* sells products in the volumes of the 10s of millions, and suppose a unit royalty of £1/unit. Is it right that Implementer *A* pay only £10 for the licence, and Implementer *B* pay £10,000,000? Of course, some degree of scalability is right. *B* is selling more units, and (one would infer) making more money and (certainly) "using" the

[568] See *Unwired Planet* (First Instance), [176], set out at [229] above.

licence more. But why should the SEP Owner incur the transaction costs of negotiating with *A*, and not be compensated for that cost in the price paid by *A*? Those transaction costs, of course, will be dwarfed by the revenues derived from Implementer *B*. It is worth bearing in mind that, in terms of <u>cost</u> to the SEP Owner, the SEP Owner will incur no additional marginal cost in relation to each additional sale by either Implementer.

iii) A lump sum rate is more overtly discriminatory unless it reflects proper differences between Implementers. So, assume a price of £5 per licence, irrespective of how many products are sold under the licence, and irrespective of their ASP. It would be odd for Implementer *B* to get away with paying "only" £5, when that is the same as is paid by Implementer *A*.

The question of what is a non-discriminatory price as between Implementers is thus more nuanced than might at first appear. A non-discriminatory price may (counter-intuitively) involve a more flexible approach to pricing than a one-size-fits all approach.

***(c) Variably calculated rates***

431. Two important (but by no means the only) factors in licensing intellectual property rights are <u>value of the unit being sold</u> and <u>volume of sales</u>. An *ad valorem* rate has the advantage of explicitly taking into account these two factors in producing a monetary return to the SEP Owner. But, at the extremes, an *ad valorem* rate runs the risk of producing a price that might be perceived as being either too high (in the case of the high-volume/high ASP Implementer) or too low (in the case of the low-volume/low ASP Implementer).

432. There is a case to be made for differential pricing, with "floors" and "ceilings" calculated at non-*ad valorem* rates bookending the *ad valorem* rate that applies in the middle ground. One example of such a regime, floated by me during the course of the trial, were the rates charged by taxis for fares:

i) *The "floor"*. Taxis tend to charge a minimum rate, even if the journey is very short. Thus, if I elect to travel a few hundred yards in a taxi, the rate that I pay will be higher (in terms of time spent/distance travelled) than if my journey were longer.

ii) *The "ad valorem" middle-ground or "filling"*. Above the floor, and below the ceiling, taxis tend to charge an *ad valorem* rate that varies according to time spent in the taxi and distance travelled. Thus, the passenger pays more according to distance travelled, but the taxi-driver is protected from slow-moving traffic by a time-based element in the charge, which causes the price to rise, even if the taxi is not moving.

iii) *The ceiling*. In the case of very long journeys, a flat rate tends to be agreed, where for a lump sum or flat rate the taxi driver agrees to undertake the journey. A long journey has the attraction to the taxi-driver of providing a long, remunerated journey, with no "down-time" where no remuneration is earned. On the other hand, the passenger has the certainty of a fixed rate, and the driver takes the risk of the journey taking longer than expected (as well as the benefit if the journey is unexpectedly quick).

Although the passenger, in each of these three cases, pays according to a different regime for calculating price, and the driver is similarly remunerated in different ways according to journey type, these differences cannot plausibly be labelled discriminatory. In fact, the more the point is unpacked, the clearer it becomes that a non-discriminatory price is very closely related to a fair and reasonable price (the other requirements of a FRAND rate).

### *(d) Non-discrimination and the price paid to SEP Owners*

433. So far, only the question of pricing to Implementers has been considered. The question of non-discrimination also arises as between SEP Owners:

i) The portfolios of SEP Owners will vary according as to size (the percentage of the Stack that they hold) and what might loosely be called "quality" – the extent to which the patents in the portfolio are essential, valid and important.

ii) Dealing with the latter question first – "quality" – for reasons that I have given it seems to me that although quality ought generally to be the driver of price, in this instance a strong case can be made for not differentiating on questions of quality: quality is impossible to assess in the present case; and the Implementer is paying not for valid, essential and important SEPs, but for access to the Standard.

iii) The key differentiator is the proportion of the Stack owned by different SEP Owners. It is plainly discriminatory for the price charged by SEP Owners not to vary as to the proportion of the Stack owned by each SEP Owner. This, of course, is the essence of the Apple Framework, and it seems self-evident. SEP Owner *A*, owning 1% of the Stack, ought to receive one tenth of what SEP Owner *B*, owning 10% of the Stack receives. And the 1% of *A* and the 10% of *B* ought to be in proportion, not merely with each other, but with the overall Stack (i.e. 100%).

iv) Provided the issue of rateability or proportionality is heeded, there does not appear to be any particular prejudice – so far as the SEP Owner is concerned – as to how the rates are calculated. In other words, provided each Implementer pays each SEP Owner on the same basis (*ad valorem*, per unit or lump sum), it does not matter if different Implementers pay on different bases. There will be an issue of discrimination if the same Implementer pays different SEP Owners according to different bases, although I am certainly not going so far as to say that such issues cannot be resolved.[569]

## (5) "Fair, Reasonable"

### *(a) An analogy: unfair pricing in abuse of dominance cases*

434. The terms "Fair" and "Reasonable" (the "F" and the "R" of FRAND) are words of ordinary usage where it is not helpful to seek to define them further. However, some

[569] Were Implementer *A* to pay SEP Owner *#1* at *ad valorem* rates, SEP Owner *#2* at per unit rates and SEP Owner *#3* at lump sum rates, then the monetary amounts these SEP Owners would receive might very well not be in proportion to their Stack shares.

assistance in terms of meaning may be obtained, if only by way of analogy, from the law regarding unfair pricing in an abuse of dominance case.

435. I consider – in very broadbrush terms – the relevant law; and then what insights, if any, this law provides.

### *(b) The relevant law*

436. The starting point is the decision of the European Court of Justice in *United Brands v. Commission*, Case No 27/76:[570]

> "248. The imposition by an undertaking in a dominant position directly or indirectly of unfair purchase or selling prices is an abuse to which exception can be taken under article 86 of the Treaty.
>
> 249. It is advisable therefore to ascertain whether the dominant undertaking has made use of the opportunities arising out of its dominant position in such a way as to reap trading benefits which it would not have reaped if there had been normal and sufficiently effective competition.
>
> 250. In this case, charging a price which is excessive because it had no reasonable relation to the economic value of the product supplied would be such an abuse.
>
> 251. This excess could, *inter alia*, be determined objectively if it were possible for it to be calculated by making a comparison between the selling price of the product in question and its cost of production, which would disclose the amount of the profit margin; however, the Commission has not done this since it has not analysed UBC's costs structure.
>
> 252. The questions, therefore, to be determined are whether the difference between the costs actually incurred and the price actually charged is excessive, and, if the answer to this question is in the affirmative, whether a price has been imposed which is either unfair in itself or when compared to competing products.
>
> 253. Other ways may be devised – and economic theorists have not failed to think up several – of selecting the rules for determining whether the price of a product is unfair."

437. Later case law has expanded and explained this decision, in the following respects:

i) The *United Brands* test is not intended as a "brightline" test for determining excessive prices or an abuse of dominance by excessive pricing. There is no fixed, definitive methodology, and it would be wrong to read *United Brands* in this way.[571]

ii) But the decision does constitute a helpful articulation of general principle. The basic test for abusive pricing is <u>fairness</u>.[572] In *Flynn Pharma*, Green LJ unpacked

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[570] [1978] ECR 207.

[571] *Competition and Markets Authority v. Flynn Pharma Ltd*, [2020] EWCA Civ 339 (***Flynn Pharma***), [63] to [67].

[572] *United Brands*, [248]; *Flynn Pharma*, [60].

this concept in the following way, referring to the paragraphs in *United Brands* set out above:[573]

> "Then (in [249] and [250]) the court describes two central economic features of an abuse of unfairness. These are (i) that the undertaking has reaped "trading benefits" which could not have been obtained in "normal and sufficient competitive" conditions; and (ii) that a selling price that is "excessive" in that it bears no reasonable relation to the economic value of the product or service in question is an example of an abuse…"

iii) There is no single method for ascertaining whether a price is unlawful in terms of its excess or not, and any given method will have some inherent weaknesses.[574] In particular, an appropriate method is likely to be informed by that which is being valued: identifying costs and linking them to a particular product is a problem in almost every case, but particularly so where intangible property is concerned. The following methods or approaches are discernible:

a) Comparators are of particular importance, even where they may not be clear or compelling.

b) The inter-relationship between price and cost is obviously significant. Bearing in mind always that cost can be extraordinarily difficult to relate to a product's price, if (nevertheless) cost can reliably be derived, a price well in excess of cost will be an indicator of unfairness.[575]

c) Excessive prices are not *ipso facto* unfair and it is important to emphasise the fact specific nature of the exercise. Excessive prices in the short run may be defensible. In *Napp Pharmaceutical Holdings Limited v. Director General of Fair Trading*,[576] the Tribunal cited with approval the following statement regarding what is or might be an excessive price:

> "…if it is above that which would exist in a competitive market and where it is clear that high profits will not stimulate new entry within a reasonable period. Therefore, to show that prices are excessive, it must be demonstrated that (i) prices are higher than would be expected in a competitive market, and (ii) there is no effective competitive pressure to bring them down to competitive levels, nor is there likely to be."

d) In *Napp* itself, the Tribunal identified as "among the approaches that may reasonably be used to establish excessive prices": *(i)* comparing price charged with cost incurred; *(ii)* comparing price charged with the costs of the next most profitable competitor; *(iii)* comparing the prices charged by the undertaking in question with those of its competitors; and *(iv)* comparing the prices charged by the undertaking across different markets.[577] As the Tribunal noted, other methods will also no doubt exist,

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[573] At [61].

[574] *Autortiesibu un komunicesanas konsultaciju agentura / Latvijas Autoru apvieniba*, Case C-177/16, EU:C:2017:286 at [36] to [48]; *Flynn Pfizer*, [63].

[575] *Flynn Pharma*, [62].

[576] [2002] CAT 1 at [390].

[577] At [392].

in particular analyses of price changes over time, where there is no corresponding change in the operation of the market itself.

e) The regulatory context is also significant. In *Humber Oil Terminals Trustee Limited v. Associated British Ports*,[578] the Court of Appeal upheld the strike out at first instance of a claim that the defendant landlord had abused its dominant position by demanding excessive rents in return for the grant of a new lease. Although the landlord was dominant, demanding an excessive price in the course of negotiation was not an abuse, at least where the court had jurisdiction to fix the rent pursuant to a statutory procedure. At [38], Etherton LJ noted:

> "…if it is established that [*Humber Oil*] is entitled under the 1954 Act to new leases and the parties cannot agree the rent, the rent will be determined by the court pursuant to section 34 of the 1954 Act. The statutory measure to be determined by the court is the rent at which the holding might reasonably be expected to be let in the open market by a willing lessor to a willing lessee. That measure excludes any ransom element. It is unclear to me in those circumstances what concern [*Humber Oil*] could legitimately have that the court will fix a rent that is abusive in competition terms. It may be argued that, in ignoring any ransom element, established competition principles would be helpful to the court in fixing the open market rent pursuant to section 34 of the 1954 Act in the case of a monopolist landlord or one in a dominant position in the relevant market…That, however, certainly does not require any pleaded reference to past, unsuccessful, negotiations. I do not consider that the Chancellor has ruled out such assistance of competition law principles as a matter of law, although I confess I am highly sceptical about it. If it remains an issue, the relevance of those principles will be determined in due course as part of the process of the fixing of rent by the court."

438. The question of "economic value" is one that crops up. It was considered by Green LJ in *Flynn Pharma* at [153]*ff*. Green LJ equated <u>willingness to pay</u> with <u>economic value</u> ("[i]n broad terms the economic value of a good or service is what a consumer is willing to pay for it"[579]), but as was recognised, "this cannot serve as an adequate definition in an abuse case since otherwise true value would be defined as anything that an exploitative and abusive dominant undertaking could get away with. It would equate proper value with an unfair price."[580] As Green LJ noted, "a proxy might be what consumers are prepared to pay for the good or service in an effectively competitive market".[581]

### *(c) Lessons and analysis*

#### *(i) Common terminology*

439. What is striking is the extent to which the language of excessive pricing in abuse cases uses the language of FRAND. The touchstones are fairness and reasonableness. Although in *Unwired Planet* (First Instance) Birss J stated that there must be "clear

[578] [2012] EWCA Civ 36 at [22], [37] and [38].

[579] *Flynn Pharma* at [154].

[580] *Flynn Pharma* at [154].

[581] *Flynn Pharma* at [155].

water" between a price that was in excess of FRAND and a price that was an abusive price under the Chapter II prohibition,[582] that is because of the inherent vagueness in terms like "fairness", "reasonableness" and "excessive". It would be wrong for a dominant undertaking to slip seamlessly from mistakenly pricing at above FRAND into an infringement of the Chapter II prohibition. Because of the vagueness of the tests in both areas, it is right that there be a neutral zone where a price can at the same time not be FRAND and not infringe the Chapter II prohibition. But, absent the vagueness surrounding the tests in both areas, I consider that there is a very close alignment between a price that exceeds FRAND and a price that infringes the Chapter II prohibition.

*(ii)* *Relevant evidence*

440. The case law on excessive pricing provides a helpful list of relevant factors or evidence – cost, comparables, prices charged by other undertakings (to the extent these are not also comparables) – that will assist in relation to determining whether there is an infringement of the Chapter II prohibition. Such factors or evidence are as likely to be helpful when considering the FRAND Question.

441. In this case, cost does not (as a simple matter of practicality) help. I have no helpful evidence as to what the Portfolio cost Optis (not least because the manner in which it was put together is wholly untransparent, for reasons I have given), and a costs based analysis would, in any event, be extremely difficult to undertake:

i) [redacted]

ii) Secondly, there is the "marginal cost" problem that arises in particular in relation to intellectual property rights. Having acquired the Portfolio, Optis' costs in monetising it will be trivial and are likely to be limited to the transaction costs of concluding a licence in any given case. Cost in intellectual property cases is always difficult – and, even without the "feedback" loop, I would be treating cost as a guide to excessive price with some caution.

442. On the other hand, I do have the evidence of the Optis Comparables and the Apple Comparables, which I have already considered at length. The case law makes clear that, even if remote, comparables are one of the best sources for determining excessive prices. I consider the comparables in this case to be one of the best sources for determining the FRAND Question, notwithstanding the concerns I have articulated

[582] At [756] to [757], quoted in [381] above. In particular, at [757] of *Unwired Planet* (First Instance):

"I hold as a matter of law that the boundary of what is and is not a FRAND rate is different from the boundary of what is and is not an unfair price contrary to [the Chapter II prohibition]. If the rate imposed is FRAND then it cannot be abusive. But a rate can be higher than the FRAND rate without being abusive too."

[583] See [28(ii)] above.

regarding these comparables in the course of this Judgment. Whilst I undoubtedly must tread carefully, the comparables are in fact the only real evidence that I have to determine the FRAND Question. I have, for reasons given, rejected the parties' other approaches.

*(iii) The nature of excessive prices*

443. As I have described,[584] in *Flynn Pharma*, Green LJ equated willingness to pay with economic value ("[i]n broad terms the economic value of a good or service is what a consumer is willing to pay for it"[585]). Willingness to pay – or value – is not, however, to be equated with price, whether in a competitive market or otherwise. Value will only equal price where the value each consumer attaches to a product is the same: but that is unlikely to be the case. Value and consumer surplus are not fixed, and vary according to consumer.[586] Unless, therefore, the seller of the product only wants to target for a sale the consumer with the highest consumer surplus, value will not – taking all consumers into account – equate to price. The chances are that even the dominant seller will want to maximise revenue, and that maximising revenue will involve considerations not merely of price, but of quantity sold; the dominant seller is most unlikely to want a market of one consumer. If that is right, and consumers have different values in relation to the same product, it follows that even an abusive price will involve some consumers gaining some consumer surplus. It is just that if the abusive price is abusive because it is excessive, consumer surplus in the aggregate will be less than it would be in a competitive market.

444. Having broken the link between value and price (even where the price is abusively high), there is something to be said for trying to define further what is an excessive price by reference to the position of the consumer. Confining the inquiry, for the moment, to the Chapter II prohibition, the law's purpose where excessive prices exist because of an abuse of dominance is to remove the pernicious effect of dominance on prices. It is clear from *Flynn Pharma* that an excessive price is a price that is materially above the price that would obtain in a competitive market. The question, therefore, is what price would obtain in a competitive market? And the problem – in Chapter II prohibition cases – is that there is no competitive market in existence by which a market price can be ascertained.

445. The FRAND Question is in essence identical. What price would obtain in a competitive market? And the problem, whilst not exactly the same as in a Chapter II prohibition case, is very similar: the market in which the Portfolio is being sold is not capable – without court intervention – of producing a price.

446. The concepts of "consumer surplus" and "producer surplus" were encountered in [420] and [423] above. More precise definitions of both concepts are as follows:

i) Consumer surplus is an economic measurement of consumer benefits resulting from market competition. A consumer surplus arises when the price that consumers pay for a product is less than the price they are willing to pay. It is,

[584] At [438] above.

[585] *Flynn Pharma* at [154].

[586] See [420] above.

in short, a measure of the additional benefit that consumers receive because they are paying less for something than what they were willing to pay.

ii) Producer surplus is the difference between how much a seller would be willing to accept for a product versus how much they can receive by selling the product at the market price. The difference or surplus amount is the benefit the seller receives for selling the good in the market.

447. Consumer surplus and producer surplus will vary (respectively) from consumer to consumer and seller to seller. Thus, a given consumer may value a product more than another consumer, in the sense that they may be prepared to pay more.

448. Producer surplus varies not according to value but according to seller efficiency. The more efficient the seller, the greater the surplus. (Of course, competition may drive out the least efficient seller, but – absent perfect competition – there will be significant fluctuations in producer surplus.)

449. In a competitive market, the general effect of the inter-relationship between supply and demand is to maximise consumer surplus, so that price will fall to a level somewhere around the average producer surplus. I am presuming a state of imperfect competition. In perfect competition, the price of the product would fall to the level of the most efficient seller. Less efficient sellers would leave the market. Here less efficient sellers will not necessarily be eliminated (although insolvency is always a possible outcome), but will survive, albeit earning less producer surplus than more efficient sellers. Hence the reference to an "average producer surplus", rather than the producer surplus of the most efficient competitor. Even so, competition between producers will generally result in prices of a given product falling to this level. The consequence is that consumer surplus trends to the maximum, subject to an average producer surplus, below which prices should not fall.

450. On this basis, an excessive price is one that is materially higher than the price that would be informed by the average producer surplus that would exist in a competitive, but not perfectly competitive market.

*(iv) Excessive prices and SEP Owner participation in consumer surplus*

451. For present purposes, since I have no means of understanding Optis' costs or the costs of other SEP Owners, the conclusion regarding analysis of excessive price is of little direct relevance in answering the FRAND Question. But, indirectly, it is important, for it shows that one of the justifications advanced by Optis in favour of calculating royalties at an *ad valorem* rate is unsustainable.

452. Dr Niels – Optis' expert economist – suggested that an *ad valorem* rate was to be preferred (in contradistinction with per unit or lump sum rates) precisely because it enabled SEP Owners, like Optis, to participate in the "value" generated by the Standard. It is important, in the first instance, to be clear on terms:

i) I have concluded that the FRAND price payable by an Implementer to an SEP Owner ought to take account of the value of the Standard to the Implementer.[587]

[587] See Part IV: Section J above.

The FRAND price involves valuing the access to the Standard, because that is what (in a *pro rata* or rateable way) the Implementer is paying for. It is a fair use of language that what is being valued is the value of the Standard to the Implementer. Dr Niels agreed that this value should be taken into account when answering the FRAND Question.[588]

ii) However, the value of the Standard to the Implementer can be reflected in a price based on *ad valorem*, per unit or lump sum rates. Dr Niels was going further, and suggesting that this value could only be properly reflected if an *ad valorem* rate was adopted:[589]

| | |
|---|---|
| **Q (Marcus Smith J)** | …I think I understand your answer to be…as a matter of principle…that there ought to be some part of the value of the standard passed to the pool of the SEP? |
| **A (Dr Niels)** | Yes, correct. And because, in my view at least, the SEP, that technology, contributes to the standard, it is an inherent part. That is why it is standard essential, and therefore it has to be… |
| **Q (Marcus Smith J)** | I am sure you will be asked a lot more questions on this, but let me articulate one point that I think arises out of this. The whole point about standards is that one achieves interconnectivity across the world, and across all kinds of devices. So, if you have a standard, and you are lucky enough to have a patent that is an SEP, you are going to be achieving a volume of sales that will be vastly in excess of a situation where you just have Apple setting up its own Handset and its own network, and communicating on a very small basis. I mean, you could do it that way, it is just not very beneficial. You avoid the monopoly problems. So do you not automatically get a benefit, in terms of just sheer volume, by having a SEP? |
| **A (Dr Niels)** | Yes, so the standard creates a value, as my Lord you rightly say. It creates value for…end users, for implementers and also then for those who have technology in that standard. So it creates value all round. And there is a question about, you know, who should get which share of that value. A lot of these discussions are in essence about division of the pie in that, and we can comment on whether it is economically efficient, et cetera. This additional value – - and that goes to the question of what is |

[588] Day 8/p.1543 (cross-examination of Dr Niels).

[589] Day 8/pp.1545*ff* (cross-examination of Dr Niels).

> economic value – yes, for sure, it has a volume component, like you have more sales – but in essence an economic way of looking at value, it is ultimately we tend to quantify things in monetary terms, so the value in monetary terms. So yes, if you happen to be lucky – or, not luck, but you have actively contributed as part of this whole process of developing and setting the standard, then you do benefit, of course, because your standard is used more often, so there is a volume effect, certainly, but that still does not fully capture the value, necessarily, if the value also has a monetary effect. This goes to the discussion on *ad valorem* versus per unit.

iii) I do not accept Dr Niels' assessment that an *ad valorem* rate is needed to appropriately reward the SEP Owner. The essential reason is that I do not consider that the price that a hypothetical purchaser of (say) an iPhone pays is a "pie" to be divided up amongst the various sellers of the components (hard and soft) that comprise the iPhone. Let us suppose the iPhone is bought for US$1,000. That says very little about how the consumer values their purchase, save that they value it at more than US$1,000. We do not, however, know the extent of the consumer's surplus. An *ad valorem* rate does not capture the value that the consumer receives from the purchase of the iPhone. It captures a proportion of the price that this particular consumer was prepared to pay.

iv) The effect of a competitive market is to ensure that competition between sellers – and I am including non-consumer buyers under this rubric – pushes prices down, so as to maximise aggregate consumer surplus. The whole point of the process is <u>not</u> to allow sellers to share in the value to the consumer.

v) As Dr Niels said, it is best to consider costs and price in monetary terms, not percentage terms. That is in part because the consumer typically pays a money not a percentage price; in part because cost is generally reckoned in monetary terms; and in part because competition is most effectively furthered when it is possible to compare costs and price like-for-like, which is most easily done in monetary terms. That is not to say that rates cannot be based on an *ad valorem* calculation: it is simply that, as Dr Niels said, "we tend to quantify things in monetary terms".

vi) What is being quantified is the <u>value</u> to the Implementer of the SEP portfolio as part of the Standard. Clearly, the profit that the Implementer can make, using this technology, will form an important element in calculating price; but the competitive constraints on the Implementer (here: the other Implementers selling Handsets) will control the amount of profit that can be made. The one thing that will <u>not</u> feature in the negotiations as to price is the value to the consumer of Cellular Connectivity. A considerable amount of time was spent in debating the "value" that Cellular Connectivity added to a Handset. The point is impossible to answer, because Cellular Connectivity underlies so much of a Handset's operation: voice communication; data connectivity; and – latterly and related to data connectivity – the enormous number of applications that can only operate properly where a Handset has Cellular Connectivity. It is impossible to say what value a consumer places on this functionality, just as it is very hard to say how much our hypothetical consumer values the iPhone they have just purchased.

vii) Not only is this question impossible to answer, it is also an irrelevant one. The FRAND Question, as I have said, concerns <u>value to Implementer</u>, not value to consumer. The value to the Implementer turns on a hard-nosed assessment of how many Handsets at a given ASP the Implementer can sell when deploying Cellular Connectivity within the Handset. That value can be computed in *ad valorem* terms, but it is better assessed in absolute, monetary, terms.

viii) That is because not only is there going to be competition between the sellers of Handsets, but also there will be competition between the sellers of components that go into Handsets – one of which is Cellular Connectivity. Although, as I have noted, there is no market enabling a price for Cellular Connectivity to be generated – such that the court must intervene – at the end of the day a monetary price is what a market will generally produce.

## E. AN ARTICULATION OF AN APPROACH

### (1) Methodology

453. My objective is to articulate the appropriate price that an Implementer should pay to an SEP Owner holding a proportion of the Stack of SEPs that have been declared to the Standard that enables Cellular Connectivity. That price must be a FRAND price in that it is fair, reasonable and non-discriminatory both as between the SEP Owners who "co-own" the Stack and the Implementers who wish to purchase access to the Standard.

454. More specifically, I am pricing the value to Apple of the Portfolio.

455. Substantially, the only material that I have to ascertain this price are the Optis Comparables and the Apple Comparables. I have expressed my concerns about the comparables in this case, but this is the best evidence that I have, and I must do the best I can. Although I appreciate this is not an exercise in quantification, I propose to adopt a mind-set similar to that required for a quantification exercise. I shall not allow the exercise to fail for want of data; I shall apply assumptions, where necessary; and I will use the broad brush or broad axe as appropriate.[590]

456. The best approach, as it seems to me, to resolving this articulation of the FRAND Question is to seek to price the value of the entire Stack to Apple, and then to apportion that price *pro rata* amongst the co-owners of the Stack in proportion with their holding, as calculated by Innography. In calculating the price, I am not making any assessment of the value of the individual patents. I am pricing the Stack and what Implementers (and, specifically, Apple) should pay for it.

457. This approach in broad terms follows parts of the Apple Framework, although I have jettisoned key elements of the framework as unhelpful and wrong. The general

[590] On the question of quantification in competition cases, see *BritNed Development Ltd v. ABB AB*, [2018] EWHC 2616 (Ch); [2019] EWCA Civ 1840.

approach – seeking to price the Stack – is, I would suggest, something of an obvious course, and not particularly controversial. It formed a part of Optis' Top Down Cross Check Analysis; and I have no doubt would have occurred to me in any event.

458. The use of the Innography data is controversial. I have set out my reasons for using it in preference to other data – including in particular that of PA Consulting – in Part IV: Sections D and E above.

**(2) The Stack and identification of shares in the Stack**

459. As I have noted at [128] above, Innography has published various statements as to the size of the Stack. The figure most commonly used – although not by Ms Gutteridge – is figure of 26,600.[591] That is the figure that *prima facie* constitutes the number of SEPs comprising the Stack, my "100% of Stack". The percentages owned by various SEP Owners will be percentages of this total (as adjusted for the reason given below).

460. The proportion of the Stack held by the various parties concerned is as follows:

i) 0.31% in the case of Optis, taking [redacted].[592] Taking [redacted] gives a Stack share of 0.51%.[593] The latter figure will be the applicable stack share in relation to each of the Optis Comparables. I appreciate that there are cases where the portfolio licenced by Optis was a sub-set of the Portfolio; but I do not propose to vary the Optis stack share to render it <u>less</u> than 0.51%.

ii) [redacted]% in the case of Apple.[594]

iii) The table below for the <u>Apple</u> counterparties in the Apple comparable licences (numbered from (1) to (19) for ease of identification). I do not need to do the same for Optis' counterparties: I will use the single figure for Optis' share set out above,[595] recognising that this is generous to Optis.

| (1) Date of licence | (2) Name | (3) Party Adducing | (4) Share of stack |
|---|---|---|---|
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |

[591] See for example, Apple's offer letter set out at [345]. Obviously, the figure varies over time, and will – for reasons I have already considered – not be entirely accurate. No Innography figure was accepted by Optis. The figure of 26,600 is the figure I adopt as a reliable denominator for these purposes, although (as will be seen) I adjust it downwards for reasons that I will come to explain.

[592] I.e. 83 divided by 26,600.

[593] I.e. 135 divided by 26,600.

[594] This is the figure consistently used by Ms Gutteridge when assessing the Apple portfolio where it was cross-licenced in the Apple Comparables.

[595] See [460(i)] above.

| | | | |
|---|---|---|---|
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
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| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] |
| **Total** | | | [redacted] |

Figure/Table 8: Stack Share for each of the Apple Comparables

These licences therefore provide a source for rates for a good proportion of the Stack. The [redacted] total is deliberately vague, and not even a rounded total of the figures above it. It should be regarded as impressionistic only, for these licences incept over 6 years, and there is double-counting. There are, for instance, [redacted].[596]

iv) Some further words of warning on reliability – which I bear in mind:

a) The percentage of Stack share used by Ms Gutteridge, and from whose report my figures derive, was (as I have noted: [128] above) the lower figure of [redacted]. That figure is most unlikely to have been correct at all times and for all purposes, simply because the size of the Stack varied (increased) over time. The same, of course, is true of the figure of 26,600 that I have decided upon. That figure is dated April 2018, and [redacted] pre-date this and would have been calculated on a lower numerator, it being recognised that the numerical size of the Stack grows over time.

b) I therefore consider it appropriate to revise the denominator used to calculate Stack share (calculated, in the case of Optis, by reference to the 26,600 figure) to a lower figure of 22,000 so as to reflect that the absolute Stack size was increasing over time. I recognise that this is an application

[596] Originally, I included a precise total in Figure/Table 8, whilst describing it as “impressionistic”. Despite that description, Optis and Apple could not agree the total, because of differences in rounding. I have therefore abandoned any attempt here at meaningless precision, when this created more disagreement rather than less. The inability of the parties to agree figures has meant that generally in this Judgment I have used my own calculations, correcting them where the parties’ review of my calculations has shown a material error on my part. I have no doubt that there will be minor issues in the figures in this Judgment (rounding being a particular problem), and to an extent I regret that. But these issues do not materially affect the bottom line, and the perfect is (at this point) very much the enemy of the good.

of the broad brush, but I do not have any data on this point, save that the stack size did increase over time. That reduction has the happy consequence of bringing my figure closer to the figure used by Ms Gutteridge, although I would stress that this is a coincidence only.[597]

c) Accordingly, it is necessary to re-calculate Optis' Stack share as either:

i) 83 divided by 22,000, to give a share of 0.38% [redacted] or

ii) 135 divided by 22,000, to give a share of 0.61% [redacted]

I will generally use the figure of 0.61%, because generally speaking [redacted] that is the proportion of the Stack that Optis could offer to license to Implementers.

461. I have considered, and rejected, Optis' concerns about the denominator being out of proportion with the numerator. In the first place, for the reasons I have given, I accept the Innography figures, albeit not as gospel. Because I am applying the same measure across all of the comparables, inaccuracies will apply to all, and so cancel out. Secondly, and I return to this further below, the shares in the table do not appear overtly wrong when considered in light of the totality of the evidence. Optis were very small beer in comparison with almost all SEP Owners.

**(3) Approach to getting a value for the Stack**

462. To obtain a FRAND rate, it seems to me better to seek to value the Stack first, and the individual Optis part of the Stack second. I cannot actually value the entire Stack, because I do not have data regarding every component element of the Stack. What I can do is consider as many components of the Stack as I can, rendering them comparable or equivalent, and using those equivalent values to derive a 100% value, which is the value I attribute to the Stack. Use of multiple data sources means that outliers or unrepresentative cases can be averaged out, and a safer, more reliable, <u>overall</u> figure obtained.

463. Given the data to hand, the Stack can be valued either at a total *ad valorem* rate or at a total lump sum rate. That reflects the comparables that are available to me. Some comparables will be better for one purpose than for another. I propose to carry out both exercises (i.e. *ad valorem* and lump sum). Assessing the *ad valorem* price for the Stack (i.e. the percentage of ASP per Handset that the Implementer must pay) can be done using both the Optis Comparables (which can be used without unpacking) and the Apple Comparables (which have to be unpacked, which introduces subjectivities, as I have described).

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[597] I was not even incidentally influenced by Ms Gutteridge's use of the lower figure of [redacted] Until my misapprehension was corrected by the parties, I erroneously considered that Ms Gutteridge had used the figure of 26,600. My reduction to 22,000 was <u>only</u> for the reason here stated.

464. Assessing the lump sum price for the Stack (i.e. the total price payable for use of the Cellular Standard, irrespective of ASP and volume sold by Apple[598]) is mainly achieved through the use of the Apple Comparables. The Optis Comparables cannot be used because unpacking introduces too many subjectivities; and in any event, for the reasons given, a lump sum must be calculated by reference to the Implementer seeking to license the portfolio in question, which the Optis Comparables do not (by definition) do.[599]

## F. AN *AD VALOREM* PRICE FOR THE STACK

### (1) The starting position

465. The table below sets out the *ad valorem* rates as calculated by Mr Bezant on both his simple and free release basis.[600] Thus, Table 9 below sets out:

i) In Column (1), the date of the comparable licence in question.

ii) In Column (2), the name of the comparable.

iii) In Column (3), the party adducing the comparable. I have numbered each Optis Comparable and each Apple Comparable sequentially (i.e., Optis (1) through (8) and Apple (1) through (19)).

These columns are uncontentious.

iv) Column (4) sets out the unpacked *ad valorem* rates calculated by Mr Bezant on a simple (S) and free release (FR) basis.[601] These figures are not agreed by Apple, but I do not understand the mechanics of their calculation to be contentious.

v) Column (5) sets out the Stack share in the case of each comparable. These are derived from [460] above. For the avoidance of doubt – but it is clear from the figures – I am presently using the figure of 0.61% for Optis' Stack share, on the basis that Optis' licensees will have obtained a licence for the entire Portfolio, [redacted]. [redacted]

[598] Although the *ad valorem* price can plausibly be charged unchanged to all Implementers, a lump sum rate must obviously vary according as to Implementer. Although the lump sum may not explicitly be calculated by reference to ASP and volumes sold, those factors will obviously have a bearing on the value of the licence to the portfolio to the Implementer. Calculation of the lump sum price <u>must</u> therefore be specific to Apple, and the Apple Comparables are, therefore, of the most significance to this part of the exercise.

[599] See the preceding footnote. [redacted]

[600] The various ways in which Mr Bezant unpacked the licences are described at [309] above.

[601] The rates all appear in <u>Bezant 1</u> (in the case of the Optis rates) and <u>Bezant 3</u> (in the case of the Apple rates). The figures appear at various places in these reports, and I am grateful to Optis for pulling them together into a single table, with individual references. This table, for the record, was attached to Optis' solicitor's letter of 21 October 2022.

| (1) Date of licence | (2) Name | (3) Party Adducing | (4) Bezant figures (%) Simple (S) Free release (FR) | | (5) Share of stack (%) |
|---|---|---|---|---|---|
| | | | S | FR | |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

Figure/Table 9: *Ad valorem* rates for all comparables on a simple and on a free release basis

The following should be noted:

vi) I have used Mr Bezant's figures in preference to Ms Gutteridge's. That is because Mr Bezant's figures were more comprehensive, and less controversial – in that a number of Ms Gutteridge's figures were provided after the event, and objected to by Optis for that reason. It is a matter of some regret that these figures could not be agreed, but I am satisfied that Mr Bezant did reliable work, and I am content to use his figures.

vii) I have set out Mr Bezant's simple unpacking (S) and his free release (FR) unpacking. These processes have already been described. It is clear that whereas *ad valorem* licences are the same whether the unpacking is simple or free release – because there is no need to distribute lump sum payments to produce an *ad valorem* rate – lump sum licences produce different outcomes according as to whether the simple or free release approach is adopted. Free release – as its name implies – attaches zero value to any past release, and loads all of the lump sum onto the future. Simple release applies part of the royalty to the past release. The effect is that lump sum licences produce an *ad valorem* rate on simple unpacking that is about half the rate of the free release rate. Given that most licences have a five-year term and either a five-year release period or an assumed period of this duration, that is scarcely surprising.

## (2) Creating a degree of equivalence

466. The next step towards valuing the Stack is to make the percentage royalties equivalent. That can be done either by scaling them up to produce a 100% value (i.e. the rate if the SEP Holder held 100% of the stack) or turning each rate into a rate for a 1% holding. I have chosen the latter course – but the only difference between the two approaches is two orders of magnitude. Re-working the Table 9 on this basis:

| **(1)**<br>**Date of licence** | **(2)**<br>**Name** | **(3)**<br>**Party Adducing** | **(4)**<br>**Bezant *ad valorem* figures prorated to 1% stack share**<br>Simple (S)<br>Free Release (FR)<br>**Prorated to 1% stack share** | | **(5)**<br>**Share of stack** |
|---|---|---|---|---|---|
| | | | **S** | **FR** | |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| **Number of comparables** | | | 28 (26)[602] | 28 (26) | |
| **Optis Comparables** | | | 9 | 9 | |
| **Apple Comparables** | | | 19 (17) | 19 (17) | |
| **Total rate (all Comparables)** | | | [redacted] | [redacted] | |
| **Total rate (Optis Comparables)** | | | [redacted] | [redacted] | |
| **Total rate (Apple Comparables)** | | | [redacted] | [redacted] | |
| **Optis average *ad valorem* rate for a 1% Stack share** | | | [redacted] | [redacted] | |
| **Apple average *ad valorem* rate for a 1% Stack share** | | | [redacted] | [redacted] | |
| **Average *ad valorem* rate for a 1% Stack** | | | [redacted] | [redacted] | |

[602] I do not have data for two of the Apple Comparables. I will take the total as excluding these. There are therefore 26 comparables in total, and 17 (not 19) Apple Comparables for these purposes.

| | | | | | |
|---|---|---|---|---|---|
| share across all comparables | | | | | |

Figure/Table 10: *Ad valorem* rates for all comparables on a simple and on a free release basis scaled to 1% of the Stack

**(3) A stark contrast and some conclusions**

467. The difference between the rates disclosed by the Optis Comparables and the rates disclosed by the Apple Comparables are very clear:

i) Taking the *ad valorem* rate for an equivalent 1% of the Stack, Optis' average rate on a Simple (S) unpacking is  than Apple's rate (of %).

ii) The difference is less on a Free Release (FR) basis, because the Apple Comparables generally contain a release in respect of any past infringements, whereas the Optis Comparables are not unpacked in this way. Nevertheless – even with such a release being paid for in the case of the Apple Comparables, Optis' rates remain several times higher  as against %).

iii) Of course, in the case of both the Optis and the Apple average *ad valorem* rates, the percentage figures seem small. But these figures are only for a 1% Stack share. Multiplying by 100, one gets:

a) For the Optis Comparables,  (FR). That means that a large portion of the price of a Handset would be paid to the SEP Owners of this particular Stack, leaving  for <u>all other costs and profit</u>.

b) For the Apple Comparables,  (S) or  (FR).

iv) No Implementer could stay in business paying Optis' rates. The rates for Apple are at least consistent with a sensible business model, although I have no idea if they are actually sustainable. I have no general information about the costs of Handset Implementers.

468. It must be asked (as I have) why the rates I derive from the Optis Comparables are so much higher than the rates I derive from the Apple Comparables. One possible reason is, of course, error. Optis has a very small share of the Stack – less than 1% - which means that when pro-rating <u>up</u> to produce a 1% rate, a small overstatement in Optis's Stack share will make a considerable difference in the 1% rate. What is more, there is no safety in the law of averages, since the Optis Stack share is the <u>same</u> in the case of each of the Optis Comparables (a self-evident point, but one nevertheless worth stressing). If, for example, one were to calculate Optis' rates  i.e. using a Stack share of 0.38%, not 0.61%), then Optis' rate would be even higher and even more unreasonable. The converse is also true.

469. In short, it must be recognised that a relatively small error in Stack share, in the case of Optis' tiny share of the Stack, can produce significant differences in the *ad valorem* rate derived. Whilst I recognise the risk of error, I consider that the figures I have used are as reliable as I can make them:

i) I have concluded that the Innography data is reliable, for reasons that I have given.

ii) Optis' stack share (at 135 out of 26,600, adjusted down to 22,000,[603] giving a share of 0.61%) is broadly in line with the other SEP Owners. Thus:

a) [redacted] involves [redacted] patent families, giving a share of [redacted].[604]

b) [redacted] involves [redacted] patent families, giving a share of [redacted].[605]

In short, viewing the Stack share figures from a distance, in light of all that is known, the Stack share figures seem in essence <u>right</u> and not wrong.

470. In short, I conclude that Optis' rates are remarkably high, and that this is not due to error. There are two reasons why Optis has managed to charge a higher rate:

i) First, charging more for less is commonplace.

a) The discussion so far has proceeded on the assumption that there is a directly proportional link between *ad valorem* rate and Stack share. In other words, the relationship is entirely linear.

b) Although I am confident that the correlation between proportion of Stack owned and rate payable will be positive and, in general, linear, I doubt very much whether that proportionality will hold good at the margins, particularly where the share of the Stack is small, as is the case with all the Optis Comparables.

c) In my judgement, this linear relationship is likely to break down at the margins, both in the case of <u>very small</u> Stack shares and <u>very large</u> Stack shares. In the case of the former, there is likely to be a minimum price below which no SEP Owner will go, rather like the floor in the case of my hypothetical taxi fare.[606] In other words, the price for 0.61% of the Stack may not be very different from the price for 1% of the Stack.

ii) A second reason for the figures being so out of kilter lies in Optis' choice of counterparty. [redacted] This is significant:

a) These are rates that are not distorted by unpacking. They are not "translated" from a lump sum. [redacted]

b) The relationship between Optis and these counterparties was such that Optis was able to exert significant pressure to get the deal it wanted.

[603] For reasons given in [460(iv)(b)] above.

[604] I.e. [redacted]

[605] I.e. [redacted]

[606] See [432] above.

These were not deals between equals. I consider that these deals were entered into by Optis not because of their economic significance, but because they provided Optis with comparables (or rates in comparables) that Optis wanted to deploy.[607]

c) More to the point, the *ad valorem* deal offered to these counterparties is likely to have been attractive to them, as well as forensically advantageous to Optis. An *ad valorem* rate would translate into a relatively low lump sum equivalent payable by these counterparties, and that (the monetary amount) is what they will have cared about.

In my judgement – and I make a finding to this effect – the Optis Comparables produce outcomes that are commercial and defensible <u>on their own terms</u>, but which cannot be used to draw any wider conclusions as regards FRAND rates.

iii) [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[607] See my findings above.

[redacted]

[redacted]

[redacted] [redacted]

471. In conclusion, I do not consider – on the evidence before me – that it is possible to obtain a defensible answer to the FRAND Question by attempting to derive an *ad valorem* price for the Stack. That is because – in a nutshell – the Optis Comparables are worse than useless at deriving a rate for Apple to pay; and because the process of "unpacking" renders comparables, where the payment mechanism was lump sum (and which might without unpacking be reliable), unreliable.

## G. A PREFERENCE FOR LUMP SUM RATES

472. For reasons given in Section D above, my provisional view was that it was better to price the Stack in monetary rather than *ad valorem* terms. Nevertheless, because this was a conclusion driven by economic theory, it was clearly appropriate to consider the comparables and to see whether a reliable *ad valorem* rate could be identified.

473. For the reasons given in Section F above, I have concluded that no such reliable *ad valorem* rate can be identified. The *ad valorem* rate generated as the price for the entire Stack extrapolating from the Optis Comparables results in a price that is certainly not FRAND and, indeed, is entirely not to be relied upon. That is not, I consider, because the method is intrinsically bad, but because the Optis Comparables are, in *ad valorem* terms, grossly excessive. They are, in short, to be discounted.

474. The Apple Comparables do result in an outcome that <u>might</u> be FRAND, but because they have been unpacked, I am not persuaded as to their true reliability.

475. I am therefore driven to the alternative approach of assessing the price for the Stack on a lump sum basis. As will be seen, that involves using the Apple Comparables [redacted]

476. In addition to these two reasons for preferring a lump sum approach, I have the following further reasons:

i) If I am seeking a patchwork of rates for different tranches of the Stack, which I can then render comparable and extrapolate from, the Optis Comparables are unfit for purpose, for it is the same portfolio – the Optis Portfolio – that is being used in each case. Essentially, one is extrapolating nine times from the same

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[redacted]

data point. By contrast, the Apple Comparables all concern different parts of the Stack and represent a negotiated outcome between Apple and various different SEP Owners.

ii) It might be said – as Optis did – that it is wrong (and discriminatory) for the price of the Stack to be tailored to the person wishing to purchase it. Such a criticism would be mistaken. Whilst it is possible to defend a "one size fits all" approach in the case of an *ad valorem* rate,[609] having the same lump sum rate payable by each different Implementer is self-evidently discriminatory. Why should Implementer *A*, selling Handsets in low volumes at low ASPs, pay the same in royalties as Implementer *B*, selling Handsets in high volumes at high ASPs? Considering only the per unit rate that such a lump sum price would imply shows a discriminatory effect. Clearly, the lump sum price for the Stack needs to be appropriate for the business of the Implementer; and if that Stack price is prorated amongst all involved SEP Owners according to their Stack share, it will also be non-discriminatory.

477. At the end of the day, whatever pricing method is adopted as between SEP Owner and Implementer, both will be looking at the bottom line in determining what terms are or are not acceptable. The bottom line is a monetary bottom line – what is going to be received in money or money's worth. Although Mr Blasius cavilled about this, in the end he had to accept that – fairly fundamental, and fairly obvious – truth:[610]

[redacted]

[609] That appears to have been the conclusion in *Unwired Planet* (First Instance). Birss J appears to have concluded that any variation from the "standard" *ad valorem* rate as between Implementers would be discriminatory. Since I do not need to consider the matter, I do not express any final view. But if pricing structures can, legitimately, take into account volume and nevertheless be non-discriminatory, this conclusion must be wrong.

[610] Day 3 (private)/pp.33*ff* (cross-examination of Mr Blasius).

[redacted]

478. The point is a trite but very important one. The price is the monetary amount, and it is <u>that</u> which needs to be FRAND. How that monetary amount is calculated to reach a FRAND rate depends on all the circumstances – whether the rate should be *ad valorem*, per unit or lump sum. The same components – importance of the product, volumes sold, price – inform what it is fair to pay. But dogmatically to suggest that one rate fits all is simply wrong.

479. With these general comments regarding lump sum pricing, I turn to the manner in which such a price can be calculated.

## H. A LUMP SUM PRICE FOR THE STACK

### (1) Use of lump sum comparables

480. I have explained why I regard the *ad valorem* comparables as unhelpful, indeed, misleading. I have also explained why I prefer a lump sum approach, both for practical reasons and reasons of principle. So, if I can, I propose to value the Stack using lump sum comparables.

481. But I can only do so if I am of the view that these comparables are sufficiently reliable to justify their use. Although I have touched upon it already in the course of this Judgment, my reasons for considering these comparables reliable bear some repetition:

i) Optis devoted substantial amounts of its time cross-examining Apple's witnesses about Hold Out, and the substance of Optis' case was that the Apple Comparables could not be relied upon because the rates were unduly low because of Apple's Hold Out.

ii) I have not accepted this contention, for a number of reasons. In the first place, I do not consider that Optis came close to differentiating between legitimate bargaining and illegitimate bargaining. Every effort by Apple to fight its own corner – an essential part of any market economy – was labelled Hold Out. I do not consider that to be a sound approach. Very early in this Judgment I expressed the view that it would be necessary to consider the difference between legitimate and illegitimate Hold Out. It seems to me that only the latter – to the extent it actually depresses rates – can be considered. Optis have not coherently articulated any difference between legitimate and illegitimate Hold Out, and I find this aspect of Optis' case insufficiently made out. My conclusion is that Apple negotiated properly.

iii) There are a number of aspects in which I have criticised Apple's approach to calculating FRAND rates. These are (in a nutshell): an insistence on patent-by-patent negotiation; a related insistence on assessing the technical merits of the patents in the portfolio the subject of the negotiation; the use of the SSPPU to limit the total price for the Stack; and the exclusion of the value to the Implementer of the Standard. Although I consider all of these points to be bad – and I reject them for purposes of answering the FRAND Question for reasons that I have given – I do not consider them (at least at the time they were made) to be badges of illegitimate Hold Out. I consider that Apple was perfectly entitled to advance all of these points at the time. Whether, for the future, given the decision of the Supreme Court in *Unwired Planet* (SC), such points continue to be capable of being properly advanced is not a matter I need consider. I would only say that SEP Owners and Implementers ignore the regime established by the Supreme Court at their peril.

iv) That leaves, to my mind, the most important consideration, which is bargaining power. When considering comparables, the relative bargaining positions of the parties to the negotiation are critical in terms of ascertaining whether the bargain ultimately reached is one that reflects economic realities and so is not abusive, but fair. On the whole, I consider that Apple's counterparties were "big beasts" in the world of Cellular Connectivity (and generally), and well able to look after themselves. Where I have some doubts, and consider that Apple may have been able to deploy – to adverse effect – its undoubted commercial clout and market power, I will try to factor this into my assessment.

## (2) Process of valuing the Stack

### *(a) A first cut*

482. The table (Figure/Table 11) below sets out the comparables that I am using. Most of the content is self-explanatory. It is the last column (Column (5), "Metrics") that is critical, and that requires explanation. As to this:

i) Eight different measures (*(a)* through *(h)*) are set out under the column.

ii) The first measure *(a)* describes the lump sum royalty payment identified in the licence. No adjustment is made – or will be made at this stage – for past or future payments. In other words, no discount for early receipt or interest for late payment will be applied. More to the point, the payment is treated as entirely forward looking. In other words, at this stage, I am applying Mr Bezant's "free release" technique, and ignoring the past release that most of these licences also provide for.

iii) The second measure *(b)* describes the forward-looking term of the licence. Consistently with what I have said in the previous paragraph, I am disregarding (for the present) past release.

iv) The third measure *(c)* divides the royalty by the forward looking term of the licence (i.e. *(a)* divided by *(b)*), to produce an annual rate for a licence. Consistent with the measures *(a)* and *(b)*, past-release is disregarded.

v) The fourth measure *(d)* is simply the Stack share for the SEP Owner providing the licence.[611]

vi) The fifth measure *(e)* sets out Apple's share of the Stack, which is a constant [redacted].[612] Apple's share of the Stack matters because – in the case of some comparables – Apple provided a cross-licence. An important question is how this cross-licence affected the lump sum royalty described in measure *(a)*. The comparables themselves provide no indication of how the cross-licence to Apple's SEPs was valued, but it would be irrational to suggest <u>no value</u>. On the other hand, Apple was a net licensee, and (during the course of the proceedings) Apple certainly did not make very much of the value of the cross-licence it provided.

vii) The sixth measure *(f)* provides a figure of the net share of the Stack being licensed, this being *(d)* minus *(e)*. The extent to which this figure for a net share is helpful is something to which I will come.

[611] As stated in Figure/Table 8 above.

[612] [redacted]

viii) Finally, *(g)* provides a figure for the price to Apple of an annual licence (ignoring past release) to the entire Stack. The figure – which has been calculated both by reference to the gross stack share *(d)* and the net stack share *(f)* – is the outcome that I will be working further with in order to derive an answer to the FRAND Question.

The table, expounding these metrics, is below.

| **(1) Date** | **(2) Name** | **(3) Party Adducing** | **(4) Metrics** | |
|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*) | <br>[redacted] |

[613] I do not consider this comparable to be helpful, on grounds that it is both atypical and so small that its inclusion is likely to skew averages.

| | | | | |
|---|---|---|---|---|
| | | | • Net (based on *(f)*) | [redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |

| | | | | |
|---|---|---|---|---|
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |

| | | | | |
|---|---|---|---|---|
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |

| | | | | |
|---|---|---|---|---|
| | | | [redacted] | [redacted] |
| | | | [redacted] | [redacted] |
| | | | [redacted] | [redacted] |
| | | | [redacted] | [redacted] |
| | | | [redacted] | [redacted] |
| | | | [redacted] | [redacted] |
| | | | [redacted]<br>• [redacted]<br>• [redacted] | [redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | [redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | [redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | [redacted]<br>[redacted] |
| [redacted] | [redacted] | [redacted] | | |

| | | | | |
|---|---|---|---|---|
| | | | *(a)* Royalty Payment | [redacted] |
| | | | *(b)* Length of Term | [redacted] |
| | | | *(c)* Annualised Payment (*(a)* / *(b)*) | [redacted] |
| | | | *(d)* % of Stack | [redacted] |
| | | | *(e)* % of Cross-Licensed Stack | [redacted] |
| | | | *(f)* Net Stack (*(d)* - *(e)*) | [redacted] |
| | | | *(g)* 100% Stack Value/Year<br>• Gross (based on *(d)*)<br>• Net (based on *(f)*) | <br>[redacted]<br>[redacted] |

Figure/Table 11: The lump sum comparables

### *(b) Analysis of the data in Figure/Table 11*

483. The data in Figure/Table 11 teaches a number of things:

i) Even though the comparables are Apple Comparables (i.e. it is Apple negotiating with different SEP Owners, [redacted] the range of values for the entire Stack implied by these comparables is considerable. There is no convergence to a single price. That does undermine confidence in the figures, and it is worth looking at a few of the outliers, to see if some sort of explanation can be derived:

a) Although I do not want to err on the side of exclusion, some licences are just not comparables. Of the set above, I exclude from consideration [redacted] The rates are very low, mainly because the licence did not cover 4G. Apple suggested this licence was not a true comparable,[614] and I agree. Optis did not cross-examine on this licence, but its exclusion operates in Optis' favour, because the rate is so low. Even though I am using an averaging process, this comparable ought to be excluded.

b) The introduction of a cross-licence (where Apple offered one) results in the Stack value being higher than it otherwise would be. My inclination is to use the net Stack value, because the Apple SEPs have a value, and it is important to take this into account. That said, there are times when the effect of netting off is such that the Stack share is reduced so much that an artificially high value is obtained for the Stack. [redacted] is an excellent example of this.

c) Small stack shares are problematic generally. The reason I consider a very low Stack share to be distortive is because I doubt (for reasons that I have given) whether the pricing of a Stack share is linear or proportional in the case of the very low share. Also, a small (unknowable) error in Stack share can make a big difference. To reflect the fact that there is a minimum price, below which no bargain would be reached, I adopt a Stack share of 1% in all cases where the actual share

[redacted] [redacted].

is less than this. That involves reworking the following licences to assume a minimum of 1% Stack share:

| | |
|---|---|
| [redacted] 100% stack based on 1% share | [redacted] |
| [redacted] 100% stack based on 1% share | [redacted] |
| [redacted] 100% stack based on 1% share | [redacted] |
| [redacted] 100% stack based on 1% share | [redacted] |
| [redacted] 100% stack based on 1% share | [redacted] |
| [redacted] 100% stack based on 1% share | [redacted] |
| [redacted] | [redacted] |
| [redacted] 100% stack based on 1% share | [redacted] |
| [redacted] 100% stack based on 1% share | [redacted] |

<u>Figure/Table 12: Adjusted lump sum comparables, based on 1% minimum Stack share</u>

This process serves the purpose of removing the difference between "gross" and "net" values, since I am applying a 1% minimum stack share, even if there is an Apple cross-licence.

d) The inclusion of [redacted] is controversial. Although this is an Apple Comparable, Apple contended that it should be disregarded, because the price paid by Apple was excessive. Certainly, in comparison with the other licences I have looked at, the price is very high. Of course, it is for exactly these reasons that Optis contended that [redacted] was an evidentially important licence.

615 Based on [redacted]

ii) The data is arranged differently in Figure/Table 13 below:

a) The table lists the 19 licences I am using as comparables in descending order according as to the Stack price that they imply as stated in Figure/Table 11. I have omitted [redacted] for reasons that I have explained. The Figure/Table 11 value appears in Column (2) under the heading "Av 1" – being the first of five differently calculated average values contained in the table.

b) Column (3) – "Av 2" – adjusts these values to reflect the values in Figure/Table 12. In some cases, these adjustments make obvious sense, in that they adjust for tiny portfolios that are clearly outliers. However, no doubt because these adjustments were already made in negotiations, I consider the adjusted rates in Figure/Table 12 to be <u>inappropriate</u> in most cases.

c) I have shaded grey the values in Columns (2) and (3) that I prefer, and inserted these values (also coloured grey) into Column 4 to provide a further average, "Av 3".

d) Finally, "Av 4" (in Column (5)) and "Av 5" (in Column (6)) list the data in Av 1, but exclude for the purposes of calculating the average the outliers. In the case of Av 4, the top and bottom five comparables are excluded from the average; and in the case of Av 5, the top and bottom three are excluded.

Figure/Table 13 thus presents as follows:

| | (1)<br>**Licence** | (2)<br>**Av 1**<br>Net unadjusted rate | (3)<br>**Av 2**<br>Net adjusted min 1% rate plus other unadjusted rates | (4)<br>**Av 3**<br>Preferred rate | (5)<br>**Av 4**<br>Excluding outliers (top and bottom 5) | (6)<br>**Av 5**<br>Excluding outliers (top and bottom 3) |
|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

| | | | | | | |
|---|---|---|---|---|---|---|
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| 16 | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |
| | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] | [redacted] |

Figure/Table 13: Averaged prices for the Stack

iii) Figure/Table 13 thus contains five averages, differently computed. I do not consider that Av 1 is reliable to use. It contains outliers that are obviously distortive, including (in particular) [redacted] gives rise to rates that are irrational when looked at in the round, and produces a result that is so skewed as to be unusable.

iv) Av 2, which uses adjusted rates, is, for this reason, more acceptable. But I do not consider that the downward effect on the majority of the "small" transactions to be representative. So I prefer the mixed rate of Av 3, giving a price for the overall stack of US[redacted]

v) Av 4 and Av 5 eliminate outliers, and provide an average of the remaining comparables. The effect of both Av 4 and Av 5 is to exclude the most valuable licences. Whilst, of course, the least valuable licences are also excluded, the effect on the average is significantly downwards. Av 4 and Av 5 are significantly lower than Av 2 and Av 3.

vi) The reason for this distortion is [redacted], which is (excluding the obviously unreliable [redacted] The royalties payable by Apple to [redacted] comprise around [redacted] of the total. Taking the figures in the Av 3 column (Column (4), excluding [redacted] gives an average of [redacted], instead of [redacted]. This one licence thus makes an enormous difference and supports Apple's contention that [redacted] ought to be excluded as unrepresentative because of [redacted] market power as against Apple.

vii) I have thought long about excluding [redacted] from the average. I conclude that whilst a compelling case for the exclusion of this comparable can be made, it is better to make an adjustment, rather than exclude the comparable entirely:

a) Generally speaking, my approach has been to include as many reliable outliers as possible in my calculations. The number of comparables that I have at my disposal is very limited, and I should beware of excluding evidence unless the justification is clear.

b) Inclusion of a licence where Apple has been "taken to the cleaners" by a counterparty with more market power than them is a helpful corrective for those cases where Apple may have exerted their own market pressure on smaller counterparties. That being said, inclusion of [redacted] is so obviously distortive of the figures that an unnuanced inclusion would be an error. I can see considerable justification in excluding [redacted] but that loses the upward effect on royalties of those cases where Apple was in a position of (relative) market weakness in the face of (legitimate) market power.

c) I am therefore going to use the figures in Column (4) (i.e. Av 3) with one change. I am going to delete the [redacted] figure and substitute for it the Av 1 average of [redacted], which includes the very high [redacted] and [redacted] rates. That gives a rate of [redacted], which is (I consider) a figure that sufficiently represents a case of a mismatch in market power to Apple's disadvantage that is not improper in itself. (I say nothing about the [redacted] rate beyond noting that it is, clearly, an outlier.)

d) [redacted]

viii) I appreciate that my approach is one that would probably make a statistician blush. But, then again, the number of comparables at my disposal does not render statistical analysis possible. Throughout this exercise in resolving the FRAND Question I have been driven to exercising my judgement in light of the totality of the evidence that I have heard. I am satisfied that the value I have derived represents a fair, reasonable and non-discriminatory rate for the Stack as a whole, and I so find.

### *(c) Value on a "free release" basis*

484. I therefore value, <u>on a free release basis</u>, 100% of the Stack for a year's licence at [redacted]. That ignores the fact that this price is based upon a series of comparables, the vast majority of which involved past releases. All of the values I have used – because I have disregarded (so far) the question of past release – will be too high.

---

[redacted]

[617] It might be asked why I have rounded [redacted] to [redacted]. In the course of their review of typographical errors, Apple helpfully identified a number of minor errors, which changed the average [redacted] from [redacted] [redacted]. I considered it appropriate to correct for these errors, since otherwise someone seeking to follow my maths would be left not able to follow my calculations and/or concluding (correctly) that the Judge could not add up. But I do not consider that it is appropriate, having handed down a judgment subject only to <u>typographical corrections</u> (in which I <u>include</u> numeric slips), to change the bottom line to Optis' [redacted] The difference between [redacted] and [redacted] is on one view substantial [redacted] and on another view insubstantial [redacted] I regard the latter as the true case. I consider rounding [redacted] in this way, whilst mathematically indefensible, provides a valuable reminder to me and any reader of the spurious accuracy of detailed calculations in a case such as this. My tables <u>are</u> detailed, but at the end of the day they support a broad-brush assessment of what a FRAND licence rate, in this case, should be. Accordingly, I stand by, retain and use the figure of [redacted]

Proceeding on this "free release" basis assumes that the past release has no value, and that all of the lump sum paid is attributable to the forward looking licence.

485. Clearly, some form of adjustment needs to be made to reflect the fact that these licences involved a backward element also. It is not possible – for reasons I have given – to undertake any kind of reliable comparable-by-comparable unpacking of this issue. The comparables do not themselves differentiate between past release and forward licencing. As a matter of principle, and ignoring the time-value of money, one would expect that a past release ought to be priced at the same rate as a future licence, and that a 50% - 50% split would be appropriate. The evidence set out in Figure/Table 10 above suggests a [redacted] split, using the averages for the Apple Comparables.[618] This split is very far from the 50% - 50% split that suggests itself. Having considered all the evidence, and in particular the point that past releases should not be undervalued, I am not prepared to move from a 50% - 50% split between past release and forward licencing – which is clearly defensible – to an unprincipled and evidentially very dubious [redacted] split. A 50% - 50% split is called for and (as I will come to) this best dis-incentivised Hold Out. Most of the licences here in issue involved releases, and these releases are best regarded as co-extensive with, and as valuable as, the forward-looking licence.

486. I have no hesitation in finding that the annual rate for the entire Stack – whether as a backward looking release or a forward looking licence – is [redacted] divided by two, i.e. [redacted]

### (3) Price for Optis' share of the Stack (payable by Apple)

487. Optis' share of this total is 0.61%,[619] which is US$8.235 million. I stress that this is the price that I conclude should be paid by Apple to Optis for a year's licence or a year's release from infringing the Portfolio including [redacted]. It will be necessary to consider whether – in light of the fact that Apple [redacted] – the Optis Stack share should not in fact be 0.38%, being [redacted].[620] The rate I am computing is specific to Apple: I have used the Apple Comparables for precisely this reason. If an Implementer had materially fewer sales or sales at a lower ASP, the price for the Portfolio would be lower.

## I. SETTLING THE TERMS OF A FRAND LICENCE IN THIS CASE

### (1) Doing only the necessary

488. The purpose of this Judgment is to resolve the FRAND Question: no more and no less. The terms I settle will therefore be confined to the minimum needed to resolve this

[618] The Optis Comparables are useless for this purpose. The Apple average *ad valorem* rate is [redacted] (S) and [redacted] (FR), giving a [redacted] split. I am very cautious about placing much reliance on these figures, because unpacking is a very subjective process (for reasons I have given) and there was a great deal of evidence before me suggesting that past releases were valued differently from and lower than future licences.

[619] See [460(iv)(c)(ii)] above.

[620] See [460(iv)(c)(i)] above.

question, but with the intention of ensuring that this particular question – the value of the Portfolio on a FRAND basis – does not trouble the courts again.

489. This informs my approach in relation to a number of issues:

i) *I am considering only a licence to the Portfolio.* There was some discussion as to whether I should range further – for example to consider the question of later acquired patents by Optis or non-essential patents. I decline to do so. This would import variables that are not necessarily covered by the FRAND regime and which are, in any event, unknown to me.

ii) *Innovation by Apple.* On the other hand, I am firmly of the view that the products sold by Apple that are within the licence I am drawing should be as widely drawn as possible. During the course of the trial, reference was made to a hypothetical Apple car, retailing at a hypothetical US$100,000 and using the Standard for Cellular Connectivity. Whether in the realms of the fanciful or not, this sort of product should be covered by the licence I am drawing.

iii) *Forwards and backwards looking.* The licence must deal with past release, and in a manner that incentivises, without being punitive, the swift conclusion of FRAND licences in the future, and is discouraging of Hold Out. The future term must be such as to ensure that this dispute does not resurface.

iv) *Other proceedings and other licences by Apple.* Throughout the course of these proceedings, reference was made to proceedings in other jurisdictions concerning the Portfolio. All other proceedings involving the Portfolio will have to be compromised as one of the terms of the licence, and Apple may take and Optis will have to give credit for any payments made. To the extent there has been over-payment, this should be recoverable by Apple. If necessary, I will consider (subject to argument) granting an injunction to ensure that any proceedings undermining the licence I am drawing stop.

490. Precisely how the licence is to be drawn is a matter that will have to be debated in light of this Judgment and in the light of a draft licence that I am going to invite the parties to draw up for my attention. What follows should be taken as a binding guide as to how the licence is to be drawn. But, I accept, that there will be details that will need to be fleshed out and further articulated.

## (2) Broadbrush articulation of the terms of the FRAND licence

***(a)*** [redacted]

491. [redacted] the parties debated amongst themselves, keeping the court informed, the potential effect of [redacted]; and that the rate payable by Apple to Optis should be reduced accordingly.

492. After careful consideration, it seems to me that Apple are clearly right on this point. [redacted]

493. [redacted]. I can see that this point may be of considerable relevance where there are two jurisdictions (e.g. the England and Wales and Ruritania), both of which are capable of resolving the FRAND Question, and both of which are engaged by the parties in dispute. That is not a matter I need consider, but it may be that in such cases an Implementer ought to have a measure of choice. [redacted]

494. In this case, Apple need a licence <u>not</u> to the totality of the Optis Portfolio, but to the Portfolio <u>less</u> [redacted]. The Optis Portfolio less [redacted] implies a Stack share not of 0.61%, but 0.38%. This translates into a royalty rate not of US$8.235 million but US$5.13 million.

***(b) A worldwide, 4G multi-standard licence***

495. The licence will be worldwide. It will not differentiate between different Standards. If SEPs going to any 5G Standard is going to be a problem in terms of fuelling future disputes between Optis and Apple, then I will expect the parties to raise this with me, so that I can consider the point. My provisional view is that any need, on the part of Apple, to obtain a further licence from Optis for 5G connectivity should be dealt with now.

***(c) All products***

496. As I have indicated, I want to achieve "patent peace", and Apple will have a licence for any and all future products that might infringe the patents in Optis' Portfolio. I have, in framing the FRAND rate, erred on the side of generosity to the SEP Holder precisely because I was contemplating a widely drawn licence in this way.

***(d) Future term***

497. I have found an annual licence rate to the Portfolio that is FRAND in the amount of US$5.13m. The future term of the licence should run to the expiry of all of the patents in the Portfolio [redacted] and the licence should make that clear. I am minded not to place a term limit on the licence, but for it to state that it will run to the expiry of the longest-living of all of Optis' patents within the Portfolio, [redacted]

498. I consider that 5 years' annual rate is the appropriate price for Apple to pay for that length of licence. I conclude, therefore, that Apple should pay, up front, and with no discount for accelerated payment, the sum of US$25.65m to Optis.

### *(e) Past infringement and release*

499. Although it is sometimes said that the Implementer should seek out the SEP Owner and ask for a licence, that is unrealistic and overly burdensome, even to an Implementer like Apple. The evidence before me showed that this did not occur, and for obvious reason. It should be for the person asserting rights as an SEP Owner to come forward and assert them.

500. However, once that has happened, the Implementer must respond with alacrity and all swiftness, whilst of course protecting and advocating its commercial position. A FRAND licence should therefore provide not only for a payment in respect of (potential) past infringements, but also ensure that Hold Out does not pay. In short, there ought to be equality of value as between the past and the future.

501. Apple will require a release from any past infringements. The release should be general, but calculated by reference to when Optis first asserted themselves, which I will take to be the beginning of 2017. A release for six years will therefore be required (beginning 2017 to end 2022, the forward licence commencing 1 January 2023). The principal sum that Apple must pay to obtain a release from past infringements will therefore be six times US$5.13m, that is US$30.78m.[621]

502. On top of this, interest should be paid. I consider that:

   i) The fee of US$5.13m should have been deemed payable on the first of each of the years in question, i.e. 1 January 2017 and annually thereafter, the last such payment being on 1 January 2022.

   ii) Interest should be payable at a rate 5% per annum (which is high, but not unreasonably so, and well-below what Optis were seeking).

   iii) The rate should be compound, and not simple, the compounding to occur with half-yearly rests.

   I have heard only limited submissions on interest, and the above represents a firm but provisional view.

### *(f) Other proceedings*

503. This is a worldwide licence, covering the entirety of the Portfolio, and is closing out any claims against Apple, whether for past or future infringement. It follows that any proceedings anywhere in the world by Optis against Apple in respect of the Portfolio should cease, and (to the extent necessary) injunctive relief can be applied for by Apple.

504. Equally, any payments due by Apple, and not made, should be abrogated. That can, as necessary, be a term of the licence.

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621 [redacted]

505. Insofar as any payments have been made, these should be credited against the sums due from Apple under this licence, and any overpayments repaid. Again, provision should be made for this in the licence.

## Part VI: Disposition

506. It would add to the length of this Judgment, without assisting comprehensibility, to seek to summarise the outcome. The matter will have to return to me to consider:

i) The precise terms of the FRAND licence, drawn in accordance with my findings above.

ii) Those matters on which I have indicated that I have reached a provisional view, notably the question of interest (see [503] above) and a licence to any 5G Standard (see [496]).

iii) Costs.

I will rely on the parties to consider what consequential matters arise, and to ensure that they keep both each other, and the court, informed. I intend – through my clerk – to list a consequentials hearing as soon as is practicable; and I do not want there to be any surprises at this hearing.

507. That leaves questions of third-party confidentiality. As to this:

i) I should make clear that I have written this Judgment with the question of confidentiality well in mind. I have sought to avoid reference to any truly confidential material, and (to the extent that I have referred to such material) any references to confidential material are likely to be necessary to render this Judgment comprehensible.

ii) I do not know how much the confidentiality regime in these proceedings cost. On any view it was over-extensive. I make no criticism of the parties, because they were in large part reflecting the concerns of third parties, who had the benefit of contractual provisions in their licences protecting their terms from disclosure.

iii) In order to resolve questions of third-party confidentiality, it seems to me that:

a) Instead of handing down the Judgment openly, I should release it to the same persons who saw the Judgment circulated in draft some weeks ago.

b) Optis and Apple should together identify a list of persons to whom the unredacted Judgment or confidential parts of it can be disclosed, so as to enable third parties with an interest to address the court. If the parties have any queries in this regard – and I anticipate that this is likely – they should approach me through my clerk.

c) Third parties should consider carefully the extent to which points of confidentiality can properly be made. As I say, I have sought to keep reference to confidential material to the minimum necessary to render this Judgment comprehensible. What is more, it is quite clear that a certain level of information exchange between SEP Owners and Implementers is necessary in order to derive FRAND rates; and that controlling information as to stack size and rates so that a market price <u>cannot</u> be discerned runs the risk, in and of itself, of infringing competition law.

508. I should like to record my gratitude to the parties' legal teams for their very considerable efforts during the course of this case.

# ANNEX 1
# TERMS AND ABBREVIATIONS USED IN THE JUDGMENT

(paragraph 1 (footnote 2) of the Judgment)

| Term/abbreviation | First use in the Judgment (paragraph) |
|---|---|
| Adjustment Factors | [201] (in quotation) |
| Apple | [2] |
| Apple Comparables | [239] |
| Apple Framework | [201] |
| Apple Look-Up Table | [126] |
| ASP | [55(i)(a)] |
| Birss framework | [195] (in quotation) |
| Birss One-Third Rate | [144] (in quotation)<br>[198(i)] (in quotation) |
| Brevet | [32] |
| Cellular Connectivity | [34(i)] |
| Cellular Standards | [96] |
| Consumer | [420] |
| Consumer surplus | [420] |
| Declared Patent | [13] |
| Essentiality | [17] |
| ETSI | [12] |
| ETSI database | [104] (in quotation) |
| *Flynn Pharma* | [437(i)] (footnote) |
| FRAND | [1] |
| FRAND Question | [35] |
| FRAND Royalty | [55] |
| Handset | [34(ii)] |
| Hold Out | [9(ii)] |
| Hold Up | [9(i)] |
| Implementers | [9(i)] |
| Importance | [17] |
| Innography | [112] |

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|---|---|
| Master Sale Agreements | [27] |
| Negotiated Rate | [198(iii)] (in quotation) |
| Non-consumers | [422] |
| OCT | [27(i)] |
| OCT Portfolio | [27] |
| Optis | [2] |
| Optis Comparables | [233(ii)]<br>[394(iv)] (in quotation) |
| Optis Portfolio | [142] (in quotation) |
| OWT | [27(ii)] |
| OWT Portfolio | [27] |
| PA Consulting | [112] |
| Patent Families | [26] |
| PO Portfolio | [143] |
| Portfolio | [25] |
| Price | [420] |
| Producer surplus | [423] |
| [redacted] | [redacted] |
| Q2.A | [58] (footnote) |
| Q2.O | [58] (footnote) |
| Royalty Reference Point | [201] (in quotation) |
| RRP | [201] (in quotation) |
| Scaling from Unwired Planet | [394(iv)] (in quotation) |
| Seller | [423] |
| SEP | [10] |
| SEP Owner | [10] |
| SSPPU | [201] (in quotation)<br>[213] |
| Stack | [79(i)] |
| Standard Essential Patent | [10] |
| Standard Setting Organisations | [11] |
| Standards | [8] |
| Top Down Cross Check Analysis | [394(iv)] (in quotation) |
| Trials A, B C and D | [185] |

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|---|---|
| Trial A (First Instance) | [186(i)] (footnote) |
| Trial A (CA) | [186(i)] (footnote) |
| Trial B (First Instance) | [186(ii)] (footnote) |
| Trial C (First Instance) | [186(iii)] (footnote) |
| Trial C (CA) | [186(iii)] (footnote) |
| Trial D (First Instance) | [186(iv)] (footnote) |
| Trial E | [43], [185] |
| Trial F (First Instance) | [24(iii)] (footnote) |
| Trial F (CA) | [24(iii)] (footnote) |
| True Birss Rate | [198(ii)] (in quotation) |
| Unwired Planet | [29] |
| *Unwired Planet* litigation | [4] (footnote) |
| *Unwired Planet* (First Instance) | [4] (footnote) |
| *Unwired Planet* (SC) | [4] (footnote) |
| UP Portfolio | [29], [142] (in quotation) |
| Validity | [17] |
| Value | [420] |
| 2G GSM | [94(i)] |
| 3G UMTS | [94(ii)] |
| 4G LTE | [94(iii)] |
| 5G | [98] |

## ANNEX 2
## DOCUMENTS REFERRED TO IN THE JUDGMENT

(paragraph 1 footnote 2 of the Judgment)

| REFERENCE | DESCRIPTION |
|---|---|
| **Pleadings** | |
| Optis Position Statement | Optis' Amended Position Statement setting out their positive case in respect of the issues to be determined at Trial E. |
| Apple Position Statement | Trial E: Apple's Position Statement. |
| Optis' Responsive Position Statement | Optis' restricted confidential responsive position statement. |
| Apple's Responsive Position Statement | Apple's statement in response to the Optis Position Statement. |
| **Written submissions** | |
| Optis Written Opening | Optis' written opening submissions |
| Apple Written Opening | Apple's written opening submissions |
| Optis Closing (Round 1) | Optis' written closing submissions |
| Apple Closing (Round 1) | Apple's written closing submissions |
| Optis Closing (Round 2) | Optis' written reply closing submissions |
| Apple Closing (Round 2) | Apples' written reply closing submissions |
| **Factual evidence** | |
| Ancha 1 | Witness statement of Ms Ancha dated 19 July 2021 given in the *Interdigital v. Lenovo* proceedings, produced by Optis. |
| Ancha 2 | Witness statement of Ms Ancha dated 14 January 2022 produced for Apple. |
| Ankenbrandt 1 | First witness statement of Mr Ankenbrandt dated 13 January 2022. |
| Ankenbrandt 2 | Second witness statement of Mr Ankenbrandt dated 15 May 2022. |
| Ankenbrandt 3 | Third witness statement of Mr Ankenbrandt dated 30 May 2022. |
| Blasius 1 | First witness statement of Mr Blasius dated 26 July 2020. |
| Blasius 2 | Second witness statement of Mr Blasius dated 14 January 2022. |

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| Blasius 5 | Fifth witness statement of Mr Blasius dated 22 April 2022. |
| Blasius 7 | Seventh witness statement of Mr Blasius dated 2 June 2022. |
| Born 1 | First witness statement of Mr Born dated 10 January 2022. |
| Born 2 | Second witness statement of Mr Born dated 22 April 2022. |
| Mewes 1 | First witness statement of Ms Mewes dated 13 January 2022. |
| Mewes 2 | Second witness statement of Ms Mewes dated 13 January 2022. |
| Mewes 3 | Third witness statement of Ms Mewes dated 13 January 2022. |
| Mewes 4 | Fourth witness statement of Ms Mewes dated 16 May 2022. |
| Mewes 5 | Fifth witness statement of Ms Mewes dated 30 May 2022. |
| Rockower 1 | First witness statement of Mr Rockower dated 13 January 2022. |
| Venkatesan 1 | First witness statement of Mr Venkatesan dated 12 January 2022. |
| Venkatesan 2 | Second witness statement of Mr Venkatesan dated 30 May 2022. |
| Warren 1 | First witness statement of Mr Warren dated 12 January 2022. |
| Warren 2 | Second witness statement of Mr Warren dated 22 April 2022. |
| **Expert evidence** | |
| Bezant 1 | First expert report of Mr Bezant dated 17 January 2022. |
| Bezant 2 | Second expert report of Mr Bezant dated 21 March 2022. |
| Bezant 3 | Third expert report of Mr Bezant dated 29 April 2022. |
| Bezant 5 | Fifth expert report of Mr Bezant dated 27 May 2022. |
| Dwyer 6 | Sixth expert report of Ms Dwyer dated 14 January 2022. |

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| Eriksson 1 | First expert report of Mr Eriksson dated 29 April 2022. |
| Gutteridge 1 | First expert report of Ms Gutteridge dated 14 January 2022. |
| Gutteridge 2 | Second expert report of Ms Gutteridge dated 16 May 2022. |
| Gutteridge 3 | Third expert report of Ms Gutteridge dated 30 May 2022. |
| Henkel 1 | First expert report of Professor Henkel dated 14 January 2022. |
| Henkel 2 | Second expert report of Professor Henkel dated 16 May 2022. |
| Henkel 3 | Third expert report of Professor Henkel dated 30 May 2022. |
| Ingers 1 | First expert report of Dr Ingers dated 14 January 2022. |
| Ingers 2 | Second expert report of Dr Ingers dated 16 May 2022. |
| Ingers 3 | Third expert report of Dr Ingers dated 30 May 2022. |
| Niels 3 | Third expert report of Dr Niels dated 17 January 2022. |
| Niels 4 | Fourth expert report of Dr Niels dated 29 April 2022. |
| Shapiro 1 | First expert report of Professor Shapiro dated 14 January 2022. |
| Shapiro 2 | Second expert report of Professor Shapiro dated 16 May 2022. |
| Shapiro 3 | Third expert report of Professor Shapiro dated 30 May 2022. |
| Stasik 1 | First expert report of Mr Stasik dated 17 January 2022 |
| Stasik 2 | Second expert report of Mr Stasik dated 29 April 2022 |
| Stasik 3 | Third expert report of Mr Stasik dated 2 June 2022 |
| Yang 1 | First expert report of Ms Yang dated 14 January 2022. |
| Yang 2 | Second expert report of Ms Yang dated 20 June 2022. |
| **Comparable licences** | (set out in chronological not alphabetical order) |

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## ANNEX 3

## THE COMPARABLE LICENCES: SUMMARY OF ESSENTIAL TERMS

(paragraph 230 of the Judgment)

| **(1)**<br>**Date of licence** | **(2)**<br>**Name**<br>Key characteristics | **(3)**<br>**Party adducing the comparable** | **(4)**<br>**Description** |
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| 5 Apr 2017 | | | Birss J hands down the decision in *Unwired Planet* (First Instance) |
| [redacted] | [redacted] | [redacted] | [redacted] |
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