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UKSC/2025/0144 and UKSC/2025/0145

IN THE SUPREME COURT OF THE UNITED KINGDOM
ON APPEAL FROM THE COURT OF APPEAL (CIVIL DIVISION)

B E T W E E N:

(1) OPTIS CELLULAR TECHNOLOGY LLC
(2) OPTIS WIRELESS TECHNOLOGY LLC
(3) UNWIRED PLANET INTERNATIONAL LIMITED

Claimants / Respondents

- and -

(1) APPLE RETAIL UK LIMITED
(2) APPLE DISTRIBUTION INTERNATIONAL LIMITED
(3) APPLE INC.

Defendants / Appellants

RESPONDENTS' WRITTEN CASE [redacted]

ADRIAN SPECK KC
JAMES ABRAHAMS KC
JOSEPHINE DAVIES KC
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CONTENTS

KEY CASES

In this written case, the cases below are frequently referred to and so we use the following shorthand:

- ***Hollington*** : Hollington v Hewthorn [1943] KB 587
- ***Cimetidine*** : Smith Kline & French Laboratories Ltd Patent (No.2) [1990] R.P.C. 203
- ***Huawei*** : Huawei v ZTE (C-170/13) [2015] Bus L.R. 1261
- ***UP HC*** : Unwired Planet v Huawei [2017] R.P.C. 19
- ***UP CA*** : Unwired Planet v Huawei [2018] R.P.C. 20
- ***UP SC*** : Unwired Planet v Huawei [2021] All E.R. 1141
- ***Optis F HC*** : Optis v Apple (Trial F) [2021] EWHC 2564 (Pat)
- ***Optis F CA*** : Optis v Apple (Trial F) [2023] R.P.C. 1
- ***IDG HC*** : InterDigital v Lenovo [2023] R.P.C. 13
- ***IDG CA*** : InterDigital v Lenovo [2024] R.P.C. 24
- ***Samsung*** : Samsung v ZTE [2026] EWHC 999 (Pat)

The High Court and Court of Appeal judgments below are referred to as "**HCJ**" and "**CAJ**" respectively. The High Court consequentials judgment is referred to as "**CJ**".

OVERVIEW

1. Formally, there are five separate grounds of appeal in this case, some comprising several limbs. But there is a single point at the heart of almost everything: how to deal with real life non-FRAND behaviour in the marketplace when settling a FRAND licence.

2. A central premise of Apple's case is that FRAND is what a willing licensor and licensee would agree and that can be equated to all market behaviour. Specifically, Apple's contention is that its own real life market agreements must be FRAND. FRAND is indeed what a willing licensor and licensee would agree. But the error is to treat that as to be equated to 'market' behaviour, in particular Apple's own behaviour and the agreements it concluded.

3. In this case, Apple's negotiating behaviour was held by the CA to involve hold-out, depressing all its licences to varying extents – explaining the wide spread of royalties Apple had achieved. This conclusion was reached applying the correct approach.

4. Another key theme of Apple is the need for consistency and predictability in FRAND determinations. This is a surprising point for it to make, because the Judge rejected the entirety of both parties' expert evidence and approaches, and presented a judgment with an unheralded novel method, replete with errors. Conversely, having concluded the Judge erred, the CA carried out its own evaluation, using conventional approaches – comparable licences and top-down reasoning.

5. Apple's need for a FRAND licence dates back to the launch of its 4G iPhone in 2012. Apple was approached to take a licence to the Unwired Planet part of the portfolio in 2013, and then was approached again in late 2016. After unsuccessful negotiations Optis commenced this case in February 2019, i.e. over 7 years ago. There have been six separate trials and several appeals. In addition to the FRAND trial (E) from which this is an appeal, there were four different technical trials (A to D), devoted to determining whether one or more of the SEPs in the portfolio was valid and essential. The reason for the technical trials was that Apple did not agree to this (or any) court determining the terms of the FRAND licence. This is not a case where parties disagree as to forum. The only way for Optis to force the point was to establish a right to an injunction first. This caused substantial costs, took up considerable court resources and delayed the FRAND trial.

6. Apple's stance in this litigation was to take the same line that it has in its own policy documents and which were reflected in its intervention in this Court in ***Unwired***. In this case its stance went so far as to refuse to accept that it would take the FRAND licence, even after its infringement of one of the SEPs had been established. It reserved its position to decline the court's FRAND

licence – stating it might prefer to exit the UK market instead. But at the same time, it enforced Optis's FRAND undertaking against it to avoid the injunction that would otherwise have followed Optis's success as to infringement of its rights. In short, before the FRAND terms were settled it sought to enforce the ETSI FRAND undertaking against Optis, whilst not accepting its burden.

7. That stance gave rise to the need for a further trial (F) interposed in the ordering – to determine whether Apple could take these inconsistent positions at the same time. Apple lost Trial F (and appeal). Arnold LJ queried whether its conduct in these proceedings amounted to hold-out (***Optis F CA*** [115]) and the trial judge (Meade J) also made key findings as to the disproportionate damage that delays to concluding FRAND licences cause patentees (***Optis F HC*** [244]). As a result of losing Trial F, Apple gave an undertaking to take the court determined licence. So, the threat to leave the UK market did not materialise. But Apple appealed the point further to this Court which it secured permission to do, and indicated that – were it to succeed on appeal – it would apply to be released from the undertaking. Earlier, it had also indicated an intention to reargue the principles established in ***UP SC*** on any appeal from the FRAND determination in this case.

8. Apple's steadfast avoidance of a court determined FRAND licence was also the cause of parallel US proceedings which proceeded all the way to judgment before Apple changed its stance. That has given rise to an unusual and fact specific problem of how those proceedings and judgment would be accommodated by willing parties in the licence.

9. Apple had a sudden change of heart about the FRAND licence when it received the HCJ. It withdrew the Trial F Supreme Court appeal, undertook in these proceedings not to challenge the ***UP SC*** decision that a global licence could be determined – although it publicly maintains the position that patent-by-patent licensing (which is necessarily also country-by-country) is something that an implementer is legally entitled to insist on. Apple also sought to persuade the Judge to require his FRAND licence to be executed immediately before any appeal could occur - perhaps even signed by the Judge himself if Optis would not.

10. Apple's conduct reflects the approach it takes in all negotiations. The Judge made key findings of primary fact as to how it generally negotiated, which Apple made a big (and unsuccessful) effort to have changed prior to the judgment being formally handed down.

11. We emphasise that Apple's conduct in this regard is lawful – as it is for other implementers. We disclaim any argument that involves any moral judgement on this conduct. As the Judge noted, Apple is a profit maximising entity; HCJ [211(iii)]. It is inevitable that those directing it will be driven to behave in negotiations (and litigation) to maximise its profits.

12. Birss LJ recognised that FRAND is an idealised standard where licensors and licensees do not engage in hold-up or hold-out to any degree, but that in real life negotiators negotiate as hard as they can (CAJ [119]). He also recognised that the question of lawfulness of conduct is not the same as whether a party had engaged in hold-out behaviour (see CAJ [118]-[120]). Conduct can be lawful but a long way from the idealised willing licensor and licensee. This is important because despite making the findings of primary fact that he did, the Judge considered there were two types of hold-out – legitimate and illegitimate. And he viewed Apple's conduct as the legitimate side of the line, seemingly because it was not unlawful. This was the point that underlies the difference between the CA and the Judge on Apple's conduct and whether its licences were depressed by hold-out.

13. So, a key point in this appeal is that, in real life, negotiators negotiate as hard as they lawfully can. For the powerful, that can – indeed typically does – include not being willing licensees or licensors as that is lawful. Meade J also recognised this real life point recently (***Samsung*** [92]). It was no doubt an appreciation of this point in ***UP CA*** that led Lord Kitchin to note the importance of implementers submitting to an appropriate FRAND determination (***UP CA*** [54]). That recognises that, without that submission, implementers can avoid taking a FRAND licence by avoiding its determination – wholly, or in large part, by adopting the position that a licence would be taken only patent-by-patent, when patents were established as valid and infringed. Real life implementers typically do not do that which Lord Kitchin identified as important, but negotiate as hard as they lawfully can instead. That is what Apple did, including avoiding any FRAND determination.

What is Apple Asking this Court to Do?

14. Apple's appeal is a moving feast. Its written case has expanded beyond those grounds on which permission was granted. As is apparent from its title, Ground 1 was intended to be an attack on the CA's own approach to determining FRAND. It comprised three limbs (those now called Grounds 1(a), (c) and (d)). But it is now much broader. Most notably, Ground 1 of Apple's Case now has a whole section, shoehorned in before Ground 1(a), arguing for restoration of the Judge's decision, seemingly subject only to removing the Optis-Google licence from his calculations (fn. 2 of Apple's Case). Additionally, three limbs have been expanded to four (Ground 1(b) is added challenging the CA's hold-out conclusion). Apple has realised it cannot succeed without challenging the CA's conclusions that the Judge's evaluation was flawed. It has also realised that it must challenge the conclusion that its own licences were affected by its non-FRAND behaviour.

15. Most troubling is the fact that it is still not at all clear what Apple is asking this Court to do. It says it wants restoration of the Judge's fundamental approach – but precisely what that includes is never

clearly articulated. Apple seeks to dismiss criticism of the Judge's "*detailed implementation*" saying it is misplaced, as the Judge was adopting "*legitimate simplifications*"; yet the Judge did not adopt his methodology for that reason. It is illegitimate to seek to justify errors with reasoning which formed no part of the Judge's reasoning. As Birss LJ noted at CAJ [112], the problem was with his logic.

16. In any event Apple says detailed points "*may*" need to be remitted. But precisely how many of the many points advanced in the CA is completely opaque – both those which the appeal succeeded on and others that did not need to be decided by the CA but are reserved by Optis's Notice of Intention to Participate. All we can really ascertain from Apple's Case is that it wants some form of averaging of its licences (we presume absent its Qualcomm licence). This is the central goal because that inevitably gives a result significantly lower than the highest of the Apple licences – licences that, as a group, were all negotiated pursuant to its non-FRAND behaviour. That is why Apple has realised it must reverse the conclusion that its licences were depressed by hold-out.

SOME BASIC CONCEPTS

The Nature and Purpose of the FRAND Obligation

17. The FRAND obligation is a contractual modification to property rights under a patentee's national patents. It's nature and scope has been extensively considered by UK courts recently. The three key cases are ***Unwired***, ***InterDigital*** and ***Trial F*** in these proceedings.

18. The starting point for understanding the ETSI obligation is the patent bargain (***UP SC*** [2]-[3]; ***Optis F HC*** at [74]). The obligation is a contractual derogation from the *prima facie* right of a patentee to exclusive patent rights. It applies to SEPs which must be infringed to comply with one of ETSI's international standards (***UP SC*** [61]; ***Optis F HC*** [76] and [84]). The obligation on a SEP owner is to make an offer which is FRAND and can be accepted (***Nokia v OnePlus*** [2024] R.P.C. 1 [258]). Thus, if more than one set of terms is FRAND, a patentee meets its obligation if it offers one of them (***Optis F CA*** [70]; ***UP CA*** [125]). I.e. a patentee can choose which FRAND terms to offer to meet its ETSI obligation (***IDG CA*** [33]), although Apple now argues to the contrary. Further, the fulfilment of the ETSI obligation can (if the parties cannot agree a licence) involve a court determination (or arbitration). The patentee then offers the implementer the resulting terms, which is what has been done in the present case.

19. The purpose and function of the FRAND obligation were authoritatively described at ***UP SC*** [7]. First, to reduce the risk that technology used in a standard is not available to implementers through assertions of SEPs. This is achieved by requiring the SEP owner to give the undertaking that they

are prepared to license on FRAND terms. Second, to enable SEP owners to be fairly rewarded for the use of their SEPs in the standards. This is achieved by the fact that, absent acceptance of the FRAND licence offered by the patentee, the implementer will be subject to the normal injunctive relief for infringement of any valid SEP. A fair balance between implementer and patentee interests is a central aim of the ETSI contractual arrangement and in the public interest; it encourages innovation in the standard and encourages implementers to use them (***UP SC*** [7]; ***IDG CA*** [7]).

20. This has been described as the "*twin purposes of the ETSI IPR Policy in addressing hold-up and hold-out*" (***Optis F HC*** [76]; see also ***Optis F CA*** [73]). Thus understood, hold-up and hold-out necessarily constitute non-FRAND conduct and/or lead to non-FRAND outcomes (***UP SC*** [10]; ***IDG CA*** [8]). To meet these objectives of the ETSI Policy, a FRAND licence must be that which would be agreed between the notional willing licensor (i.e. not intent on hold-up) and willing licensee (i.e. not intent on hold-out) (***IDG CA*** [40]). The court's role in the assessment has been described in a way that reflects the obligation's purpose and function (***UP CA*** [28]; ***UP HC*** [156] and [170]).

21. Previous cases have considered examples of hold-out. Notably, patent-by-patent licensing (where the implementer requires the patentee to prove infringement and validity of each individual patent before taking a licence to that patent) and country-by-country licensing (where the implementer requires the SEP holder to negotiate or litigate in each country before agreeing to take a licence in that country) have been described as a "*blue print for hold-out*" (***UP CA*** [88] and [111]; see also ***UP SC*** [168]). Delay in a licence being concluded has been recognised as asymmetrically harming the patentee (compared to the implementer) and can lead to sub-FRAND remuneration (***UP SC*** [10]; ***Optis F HC*** [182] and [240]; ***IDG CA*** [194]). Another example is reduced payments for past sales which is a significant and highly tangible result of delay (***Optis F HC*** [240(iv)]). These discounts are inconsistent with the principle that a patentee receives fair remuneration (***IDG HC*** [540]).

22. Further, FRAND is a unitary concept that requires that the terms on offer should be such as are generally available as a fair market price for any market participant to reflect the true value of the SEPs to be licensed, and without adjustment depending on the individual characteristics of a particular market participant (***UP SC*** [114]).

23. In light of the interplay between the ETSI framework and the patentee's right to relief for patent infringement, and the way in which the court's jurisdiction to declare global FRAND terms arises for patentee-led claims, the court's role in declaring FRAND is to determine if the patentee's proposed terms are FRAND. If so, then the patentee discharges its ETSI obligation by offering those terms. If the implementer does not accept them then the patentee is entitled to an injunction

for infringement of its SEPs (***UP SC*** [61] and [90]). If the patentee's offer is not FRAND, then the court's role is to establish FRAND terms that a patentee is required to offer.

Market Behaviour is Imperfect Evidence of FRAND

24. Apple's Case repeatedly equates that which occurs in real life in a market with a willing licensor and licensee, and therefore with what is FRAND. We agree with the link between willing licensor/licensee and FRAND. However, the link that equates real life market behaviours to those of willing parties is the error. This was identified at CAJ [119]: "*Willing licensees do not engage in hold out to any degree and willing licensors do not engage in hold up to any degree either. Neither party needs to be protected from the behaviour of the other. By contrast real parties negotiate as hard as they can.*"

25. Birss LJ went on to explain that a finding that a degree of hold-up or hold-out was involved in a real negotiation is not a finding that either party has acted unlawfully. It is simply a finding that that outcome cannot be taken as FRAND. This is a crucial distinction. It was recognised by Meade J in ***Samsung***, where he preferred to use the label "*non-FRAND behaviour*" emphasising that the point is not freighted with moral judgement.

26. The point can also be seen in ***UP CA*** [54]. Lord Kitchin's statement that it is important for implementers to submit to an appropriate FRAND determination recognises that refusing to do so is not what parties acting in accordance with FRAND would do, and that such a failure is apt to significantly distort a negotiation. Likewise, ***UP SC*** [10] (dealing with the mischief of hold-out) recognised that dragging out negotiations, thus putting the patentee to additional cost, would effectively force it to accept a lower rate. This recognises that there may be conclusion of a licence, but it will just be at a lower rate. This is important as Apple suggests that its conduct with its licensors did not involve non-FRAND hold-out conduct because it did in fact conclude global licences.

27. Apple's fallacy is to resort to the suggestion that if things happen in real life they must be FRAND. Most specifically, ***UP SC*** [62] is repeatedly relied upon, where this Court referred to established commercial practice in the market as an obvious practical yardstick which parties can use in negotiations. But this Court plainly was not saying that everything that real-life negotiators do or agree is FRAND. The recognition that implementers may use their economic strength to force a lower rate in ***UP SC*** [10] makes this plain.

28. This is not to say that what happens in real life commercial transactions cannot be relevant to what is FRAND. ***Unwired*** was a case where it was being argued that a global licence could not be

FRAND because of the national nature of patents and national courts' jurisdiction over them. Despite that, parties did enter into global licences. Crucially, nobody suggested that there was a non-FRAND reason for the commercial practice of global licensing. One does not simply look to see what is happening in industry practice, one also has regard to the reasons that things occur, and whether those reasons are FRAND or not.

Comparables and Top-Down Valuation Approaches and Commonly Argued Adjustments

The Comparable Licence Approach to Valuation

29. The first of two common methods of valuation uses comparable licences. This involves looking at existing real-life licences – typically to the same portfolio (or part thereof) and looking to their circumstances to assess how comparable they are to the licence being determined. The Judge in each of the three other UK FRAND valuation judgments to date (*Unwired*, *InterDigital* and *Samsung*) adopted this approach, and in fact determined there was a single licence that was the best comparable upon which to base the valuation.

30. There are two main parts to the exercise. First, to assess how comparable, if at all, the other licences are to the transaction being valued by considering the circumstances of the other deals, how the parties were placed in the market, and other circumstances that may have had an effect on the deal. 'Comparability' is how comparable a licence is to the agreement being valued. Second, to determine how reliable is the information that can be extracted from a licence. This can be an issue, as many licences have complexities such that a price per unit cannot simply be read off the agreement. Examples are (i) parties often agree a payment structure in some form of lump sum (or series of instalments); or (ii) a cross-licence with a single balancing payment.

31. The way in which the lump sum complication can be dealt with is to assume that the parties had in mind a level of projected sales to be covered and thereafter negotiated an overall price that reflects a royalty per unit 'packed up' into a lump sum payment structure. For this reason, it is ordinarily common ground (as was the case here) to look for what might be considered the best measure for what the parties had in mind as likely projected sales at the time they were negotiating the deal. One does not look to see what sales were in due course actually made during the term of the licence. The key point is that the object of the exercise is to extract what the negotiating parties were valuing in terms of a price for each unit projected to be sold during the licence term.

32. Cross-licensing is conceptually dealt with by considering the agreement as two separate licences, each with a value, and each covering a different number of projected sales. There are two unit

prices in play (one in either direction) and the actual consideration paid is a balancing payment. Working out what each unit price is can be done by using a measure of relative strengths of the patent portfolios under cross-licence and assuming that the ratio of the unit prices is equal to the ratio of the strength of the portfolios. This enables the unit price of interest to be calculated.

33. A further point going to reliability is the issue as to how negotiators dealt with past sales. It is well-recognised that in real life patentees often had to accept either no, or substantially discounted, payment for them. This has been recognised by the courts as non-FRAND. This was so prevalent and had such a significant effect in Apple's licences, that Apple's expert only unpacked the licence assuming that no value was given to any past sales released (§6.51(i) Gutteridge 1). Indeed, Apple's initial pleaded case relied upon its ability to pay nothing on past sales and suggested that was FRAND in this case (Apple's FRAND Defence §§21(3), 39-41, Annex 5). In the context of a comparables valuation, the exercise is to seek to extract information as to price when this effect in fact did occur. Therefore, one has to decide how to account for the point when analysing licences.

34. The reason that the points going to reliability may matter, is that where there is no unit price that can be read off the face of the agreement, they require assessments to be made as to these factors. The extent to which those assessments are accurate may affect the reliability of the information extracted. At CAJ [90]-[91] Birss LJ recognised the distinction between the comparability of a licence and points that went to the reliability of the price information extracted from them. Of course, both may have an impact on the utility of a licence in the comparables approach.

The Top-Down Approach to Valuation

35. The other common method of valuation is a top-down case. This involves looking at the overall royalty that might be payable for access to the relevant technology as a whole. Broadly one is looking at both the size of the pie, and how big a particular patentee's slice of that pie is. The slice size (as a fraction) is the proportion of all the SEPs owned by the patentee. How that fraction is calculated can vary significantly. In the past different sources of patent data have been identified. But it is not simply the source of the data that may differ. The particular rationale being adopted may also differ. In ***UP HC*** the approach adopted sought to ascertain the fraction of 'truly essential' patents. Another approach is simply to count patents declared as essential. The former approach seeks to take account of what is referred to as the 'over declaration problem'. Not every patent declared as essential is in fact essential. More particularly, the fact that there is variation between patentees as to the extent to which their patents may be over declared.

36. The top-down approach has been deployed as a cross-check as in ***UP HC***. This does not require the value of the aggregate royalty (the pie) to be independently worked out as an input. Instead, one takes a unit price arrived at by another method, e.g. a comparables analysis, and scales it to see what the total royalty would be for the whole pie. The figure for all the SEPs is assessed for whether it seems fair and reasonable. By contrast, using top-down reasoning as a stand-alone method requires some way of arriving at a value for the overall aggregate royalty.

37. The top-down approach has been recognised to require some care. In ***UP HC*** ([263] *et seq*) the issues with independently deriving a value for the total stack were explained. The implementer in that case (Huawei) had relied upon public statements made by SEP holders and contended that 8% was a reasonable royalty stack for 4G. The difficulty was that such statements might be self-serving. Using the comparable licences themselves to infer a total royalty burden is no better, as it is relying upon the same information unpacked from the comparables so, as Birss J identified, does not add anything to the comparables approach.

38. Whatever kind of top-down reasoning is deployed, there will be uncertainties in the accuracy of the measure of the stack share used. Some measure has to be used, and a judge will do the best they can, but that does not mean the inherent uncertainties in the accuracy of the number can be ignored. Approaches to assessing stack share vary. Very widely differing numbers can be considered to represent the overall size of the stack (i.e. the denominator in the stack share fraction). This was recognised in ***IDG HC*** and was why Mellor J rejected the top-down cross-check. It did not tally with his conclusion from his comparables analysis [881]. Meade J also rejected the top-down cross-check in ***Samsung*** [529]**.** HCJ [468] recognises that these uncertainties are exacerbated with small stack shares.

39. None of this is to say that top-down reasoning is not useful if deployed knowing its limitations. It is most useful when used to give an indication that a particular royalty being considered is not FRAND – because it suggests an overall stack that is too high or too low. That is why it is favoured as a cross check.

Commonly Argued Adjustments

40. Previous cases (***Unwired***, ***InterDigital*** and ***Samsung***) have involved arguments over adjustments that may be made to price to account for characteristics of an implementer's business. These have included the extent to which sales are: (a) in developing markets (i.e. lower prices); (b) with differing capabilities (e.g. 3G without 4G); and (c) in territories with lower degrees of patent protection. The arguments are typically deployed by implementers to justify a lower price than

might otherwise be thought appropriate having regard to a particular comparable licence. They point to differences in one or more of these regards between themselves and the comparable licensee, and say it justifies a lower royalty. In ***IDG HC***, it was recognised that these factors may overlap and in that case an adjustment was made to reflect just one of them (a. above). Similarly, in ***Samsung***, an adjustment was made (again, as regards a. above). In this case, Apple did not argue for any such adjustment. Its business focus is high-end devices in highly developed markets.

Cimetidine

41. Given the way Apple puts its appeal we summarise the ***Cimetidine*** case. It is a case about settling a licence of right under s.41 of Patents Act 1949. Lloyd LJ explained that where close comparables exist they provide by far the best and surest approach: see p.236 ln.47-50. The parallels with the exercise in the settling of a FRAND licence are obvious. As in the case of a FRAND licence, the remuneration under the 1949 Act was to be reasonable. Further it is clear that what Lloyd LJ had in mind were willing parties. See for example the consideration as to whether GUK was under "*some sort of pressure*" (p.238 ln.3) when entering into one of the licences under consideration (referred to as the atenolol licence) and the reference to the question of whether another licence under consideration involving Rhone Poulenc was entered into by willing parties (p.238 ln.30).

42. The reasoning in ***Cimetidine*** that is key in this appeal is that, once one has identified the best comparable(s), one does not dilute that evidence by the inclusion of more licences. As Lloyd LJ explained (p.239 ln. 26-30):

> 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. The judge described it as "fettering his discretion". That is not the phrase I would myself have used in this context. But the criticism of the hearing officer is justified. Reading the judge's decision, it is quite obvious why he left the going rate out of account. It was because he regarded the atenolol licence and the Rhone Poulenc agreement as providing so close a parallel that the rest were nowhere.

43. That essential reasoning is also applicable to FRAND cases. This logic applies in cases where the best comparable licence(s) is(are) very close to the circumstance of a willing licensor and licensee. But it also applies in cases where the best comparable(s) are further away from the idealised circumstances. In both cases, the "best" comparables give the best guidance, and matters are made worse, not better, by adding in less useful licences.

44. The applicability of ***Cimetidine*** was recognised in the UK's very first FRAND valuation: ***UP HC*** at [172]-[174], where Birss J quoted ***Cimetidine*** and went on to explain that the approach does not require the court to elevate a small subset above others if there is a group of comparables at least potentially as relevant as each other. He also said that if "*apparently good comparables, when properly understood, contain different rates that is also relevant*".

Dollar Per Unit Rates, Ad Valorem Rates and Lump Sum Payments

45. The two different ways in which a price can be expressed – both in negotiations and a valuation exercise – and how they relate to each other is important. Moreover, they are not the same as a lump sum payment structure that may be adopted in a final agreement. The Judge got into a real muddle over these distinctions and failed to grasp even the basics of Apple's case in this regard.

46. *Ad valorem* ("AV") and dollar per unit ("DPU") are two alternative ways of expressing a unit price when carrying out the valuation. One can say an implementer pays x percent of the average sale price of a handset (AV); or one can say they pay y dollars per handset (DPU). Either approach can be adopted. In ***Unwired*** the exercise was carried out in AV terms. In ***InterDigital*** and ***Samsung*** it was DPU. For a <u>given</u> manufacturer, moving between the two using the average selling price of that manufacturer's devices is easy and uncontroversial.

47. It is important to note that parties who negotiate thinking of a price per unit, may for convenience nonetheless prefer to agree an overall <u>lump sum payment</u> – representing the unit price and the anticipated sales to be made (typically adjusted for advanced receipt). This is common and simpler to administer (it avoids the need for regular, varying payments and the associated recordkeeping and auditing). It is not the valuation itself and can be adopted after either an AV or DPU valuation.

48. The difference between working in AV and DPU for the valuation itself can often be of some significance. As recognised at CAJ [17] it matters at the point when deciding to take a price worked out in the context of one implementer and using it for a <u>different</u> implementer. An illustration helps: implementer A sells handsets with an average selling price of $400. Implementer B with an average selling price of $200. If implementer A is paying a royalty of 1% – that is 4 dollars per handset – what price does one offer implementer B if one wants to offer the same deal – 1% or $4? $4 is obviously 2% of implementer B's average selling price – but it is the same absolute amount. Should you take the AV number and apply it to the other implementer or a DPU?

49. There are arguments either way. Typically, the proponents of DPU pricing are the makers of higher value handsets. They say that the functionality that comes with the ability to use e.g. 4G

mobile technology is the same for all handsets (irrespective of price). The contention is that, putting in component parts that provide the 4G functionality should be treated like putting in a resistor or a capacitor, and so should come at a fixed price. It is often argued with a contention that the royalty should only apply to a component part – e.g. a baseband chipset. The other side of the debate argue that using the 4G connectivity – specifically access to high data rates – is the raison d'être of the device. They say that improved features of higher value handsets allow more value to be extracted from the connection to the network. For example, large, high-definition screens on higher price handsets allow 4G to be used to stream and watch HD movies on the go.

50. In this respect there is a further sophistication that one often sees referred to – caps and floors. These recognise that both perspectives may be true at different points in the price range. A cap is applied to an AV price of a handset. This reflects varying degrees of value of the technology with increasing device specification – and therefore increasing value. But only so far: up to the cap after which there is no further increase. At that point the regime is no different to a DPU as a percentage of a fixed cap is itself a fixed amount in dollars. A floor is the same kind of thing, but applied at the bottom end as a minimum to be paid for the connectivity technology in the lowest value devices. What schemes like this seek to do is balance the two sides of the argument, and recognise a region of pricing where varying handset value means the royalty per unit varies with value, to reflect increasing value extracted from the standard. But they also accommodate the contention that there is a limit to the extent to which royalties should increase with handset price.

51. The reason that implementers with higher end handsets contend for DPU analysis is obvious: to achieve paying a smaller fraction of the overall amount of money that will be paid for the standard. If all implementers paid in AV terms, implementers of higher value handsets would pay a higher share. If all implementers paid in DPU terms it can be considered that the lower end manufacturers are subsidising the higher end ones. Of course, those on the other side of the argument will think the opposite. Ultimately the argument is over whether the manufacturers of lower value handsets should pay a lower or higher proportion of the overall amount paid to patentees compared to those with higher value devices. However, practically the debate is played out in negotiations between patentees and individual manufacturers. So, both sides of the coin are deployed separately against patentees, such that both sides argue for lower royalties for their respective camp.

52. At trial there was a dispute between the parties as to which of AV or DPU was more appropriate, although the Judge completely misunderstood the debate (CAJ [41]). He mistakenly thought that lump sum was a valuation method and, moreover, that it was the valuation case advanced by Apple. In the CA, Optis was content to approach the comparable licences that remained in the case in

DPU terms. It was a helpful simplifying concession and made little difference as regards the comparable licences still live in the case then. The distinction is still important to have in mind, however. This is because, when properly analysed, one of Apple's points about overall aggregate stack price boils down to an argument that all implementers, however cheap or expensive their handsets, should pay the same absolute (or DPU) amount for the entire SEP stack. This is just another way of taking a price for one implementer and applying it to another with a very different price point. So, the different effect of doing this with an AV or DPU rate is crucial to grasp.

Apple's Non-FRAND Conduct

53. It is convenient to describe the evidence before the Judge (which was also shown to the CA) and the Judge's findings of primary fact. At HC [204], the Judge quoted extensively from Apple's "Statement on FRAND Licensing of SEPs" (which remains on its website to this day), in which it set out its approach to negotiating its licences. Key features of this stance are as follows:

    a. Licensees have the ability to pick and choose which SEPs in a portfolio to license.

    b. The royalty should be considered as applied to "*at most the baseband chip*". This is Apple's version of the SSPPU approach which is based on a fraction of the value of a baseband chip, itself a small fraction of the value of the handset ($25 (HCJ [216])).

    c. Any methodology that has regard to the handset selling price of the licensee or their use of the technology are "*a backdoor for SEP licensors to discriminate between licensees*".

    d. Monetary damages are a sufficient remedy for SEP infringement. The essence of this point is a contention that damages are an adequate remedy for SEP infringement, and that the injunction threat on even a single SEP is hold-up. More specifically the contention is that injunctions should only be available when a SEP licensee fails to comply with a final judgment from a court of competent jurisdiction, is bankrupt or beyond the jurisdiction.

    The overall effect is Apple's contention that a patent owner should only be entitled to patent-by-patent monetary damages and, for as long as the implementer paid damages on that individual patent (i.e. complied with the judgment), no injunction would ever be available.

54. Apple's stance is a long standing one. It argued for it in written intervener submissions in ***UP SC***. Moreover, it is a stance that Apple has followed in negotiations. Apple continues to do this despite knowing that it is contrary to the conclusions expressed by this Court in ***UP SC*** – Apple's primary fact witness, Ms Mewes', response when XX'd on the point was to the effect that the decision in

Unwired was just the opinion of one national court, saying Apple respects the jurisdiction "*but it is also one jurisdiction*" [Day 5/718-719]. She confirmed that this remained Apple's policy. Apple knows that this framework would provide no way of dealing with a situation where parties are unable to agree what FRAND is, other than patent-by-patent litigation and damages – Ms Mewes accepted that the resolution would have to be patent-by-patent as a legal matter [Day 5/701].

55. Other important internal documents record Apple's strategy. For example, a Feb 2014 slide deck relates to Apple's strategy of "*Reshaping FRAND*", a key strand of which is labelled "*Devalue SEPs*". This includes the strategy of building *"favourable arms-length "comp" licences*", referred to later in the slide deck as "*License Opportunistically*". Apple identified establishing itself as a *"Willing Licensee*" as a benefit of this strategy, together with it establishing rates for use in policy setting and negotiations and in litigation. This strategy most definitely is not "*Broadly License with Willing Entities*" which is identified as different and significantly removed from it and which, tellingly, in XX Apple's witness sought to argue would be Apple paying over what was FRAND [Day 5/752-753]. It was never explained how broadly licensing with willing entities would be supra-FRAND.

56. Similar sentiments are seen in a presentation made internally to Apple's Chief Financial Officer. This deck includes a section named "*Creating Evidence & Savings*" within which is a slide headed "*Deal-flow Pipeline – Using Liabilities as Assets*" which identifies that Apple "*selectively filter this pipeline to identify the most desirable deals*". The heading "*Creating Evidence*" is apt: Apple's aim is (i) to establish itself as a willing licensee; and (ii) to establish low rates that can be fed back for later use. This ties in with a point that Apple positively pleaded at §60 of its Position Statement. One of the things that was said tended to support a lower SEP royalty, was if the SEP owner had a downturn in economic fortunes leading to a "*preparedness*" to accept less. Apple said it was applicable to one licensor in particular ([redacted]). But of course the point is, when 'licensing opportunistically', identifying a party with this "*preparedness*" is to identify the opportunity to take.

57. The Judge and the CA also had evidence, adduced in XX of Apple's witnesses, pertaining to Apple's strategy of enforcing the ETSI undertaking against patentees (to avoid an injunction) whilst at the same time avoiding being committed to the resolution of a dispute over FRAND, or at least from having to accept the outcome. As we explain above, that is particularly relevant in the context of these proceedings because it was what Apple did, necessitating Trial F. That was a point that Apple's witness was simply unable to explain [Day 5/647-650]. Indeed, Apple's witness specifically rejected the suggestion that it was important for implementers to submit to an appropriate FRAND determination to avoid hold-out [Day 5/745]. What was being suggested to Apple's witness was precisely what Lord Kitchin had said was important in ***UP CA*** at [54].

58. The Judge and the CA also had evidence which illustrated the detail of how Apple behaved pursuant to its strategy in actual negotiations with third parties. For example, Apple consistently sought, and was provided with, hundreds of claim charts explaining the significance of individual patents, again and again. Every single patent which is raised with Apple receives the same response: that a licence is not needed, as the patent is either not essential or invalid. As we have already mentioned, it is key to understand that Apple does this in the context of also saying that they can and will force any licensor to litigate patent-by-patent and will simply take a licence to only those patents on which the patentee prevails. It is the blue print for hold-out identified in ***UP CA*** [88].

59. Apple's answer to all of this at trial was that, despite all of these factors, in the end Apple has in fact concluded licences of worldwide scope. This is to miss the point. The licences that Apple has concluded will have been significantly affected by the way in which it has negotiated; see ***UP SC*** [10]. Put another way, Apple has not developed these policies and expended this effort for nought.

60. The Judge found that the patent-by-patent aspect of Apple's approach was an important part of Apple's negotiating approach (HCJ [206]). Indeed, he held that it was fanciful to suggest that this was not Apple's negotiating practice (see HCJ fn. 25, which was inserted as a result of a significant attempt by Apple to get the Judge to change this aspect of his judgment). The Judge also made a finding that it is generally the case that Apple told counterparties that no licence is needed, and that every single SEP for which a claim chart has been provided is not essential or invalid (HCJ [207]). As to this the Judge made three points of context, but these fail to grapple with the fact that Apple contends that no licence at all is necessary. It is by rejecting the portfolio approach and requiring patent-by-patent litigation and licensing that Apple can assert that no licence is required. The Judge referred to Apple taking a hardnosed approach in HCJ [208], and gave as a typical example a negotiation with Innovius. At HCJ [209] the Judge set out a significant part of Apple's letter in response to the tranche of 28 claim charts provided by Innovius. Apple contended that each of the claims that had been identified in the asserted patents was not essential and/or invalid.

61. HCJ [211(iii)] contains a further important finding that Apple would behave in negotiations, first and foremost, as a profit maximising entity. This is important because everything we have been referring to is directed to that objective. HCJ [211(iii)(c)] continues to state that Apple would not allow altruism to override profit-maximisation. In this respect the Judge made several further findings. First, Apple would not seek out licensors and offer to license rights they needed. Apple waited until they were approached. Second Apple would not refrain from threatening patent-by-patent, territory-by-territory litigation in order to soften up their negotiation counterparty. The Judge noted that Apple would be well aware that if it carried this out it would be unlikely to be

cost effective. However, he found that it was a negotiating ploy and one that Apple deployed in pretty much every case he had seen in this litigation. He further explained that where the gap in negotiation was too wide, Apple would insist on essentiality and validity being established on a case-by-case basis. Third, in this regard, he also referred to the fact that Apple's witness could advance no justification for why Apple had required Optis to go through four technical trials.

62. The CA was also referred, by way of example, to the detailed specifics of Apple's negotiation with Ericsson. Even with an entity like Ericsson, the picture that emerges is the same. For example, Apple's stance in correspondence was to assert that "*there has been no determination or proof that Apple's products practice even a single Ericsson patent*" (letter from Apple to Ericsson dated 23 October 2014). The significance of taking this stance is that it enables Apple to avoid agreeing to submit to a FRAND determination (whether in a court or an arbitration). Accepting that it is inevitable that some patents in a substantial SEP portfolio (such as Ericsson's) will be valid and essential, does not require an admission to be made in respect of an individual patent. But it would require Apple to agree to a FRAND determination of the licence required or to put Apple in an untenable position of refusing one while accepting that one is needed. That is the point of repeatedly taking the stance that no licence is needed because every patent considered is not essential or invalid. The Judge held that neither Apple nor Ericsson could possibly have believed that if each and every SEP was litigated to trial either Apple or Ericsson would win on 100% of them (HCJ [245(iii); p.143] – this was another area where he missed the significance of the point, expressing the view that there is no impropriety in it).

63. The Judge also noted that the correspondence between Apple and Ericsson included many references to Ericsson being upset or disappointed with Apple at various points in time (HCJ [245]). In fact, as the Judge referred to, the language often included suggestions of bad faith or an absence of good faith and that such language featured in other negotiations too. The Judge did not think that he could take such comments as probative of anything in negotiations spanning months if not years. He did however characterise them as hard-fought negotiations. What the Judge's remarks do make plain, however, is that Apple upsets everybody like this.

64. In its written case, Apple suggests that perhaps Ericsson was engaging in hold-up, and points to the existence of many pieces of litigation between itself and Ericsson. This is surprising given that Apple's witness explained Apple's position that the outcome of that licence was FRAND (Apple's Closing §523). We make two further points. First, the existence of multiple proceedings in different countries is precisely what Apple was insisting upon (saying patentees should do this when faced with an implementer who will not commit to the outcome of a FRAND determination; ***Optis F***

HC [243]). [redacted] So, the existence of many pieces of litigation between Ericsson and Apple, instead of a single proceeding to settle the FRAND rate, was an element of Apple's strategy.

65. We address the difference between the Judge and the CA as to hold-out at §105 *et seq* below.

THE REASONS THAT THE FIRST INSTANCE JUDGMENT COULD NOT STAND

66. In order to understand why no part of the Judge's approach could stand, it is necessary to understand the parties' cases at trial, including important aspects which were common ground. The parties' cases at trial are summarised at CAJ [11]-[21], however given the suggestion in Apple's written case that the CA's summary is not accurate (see §§34-36 and §93) we summarise the relevant parts of the parties' cases below by references to the underlying materials.

The Key Aspects of the Parties' Cases at Trial

67. Although there were divergencies between the parties' cases on valuation, there were substantial areas of common ground. In particular, both parties advanced, amongst other methodologies, a case based on comparable licences and a top-down case.

68. In relation to comparables, both parties relied upon Birss J's analysis of the relevance of comparable licences to the valuation exercise in ***UP HC*** at [170] (Apple's Position Statement §25; Optis's Closing §486). As to the comparables relied upon by each party:

    a. Optis's comparables case relied on nine licences for the Optis Portfolio (or parts thereof). The Google licence was the only lump sum licence. A per unit rate could be read from all the others and in all cases save one (Optis-ZTE) they were in AV terms. Although Optis also relied on these running royalty licences, contrary to Apple's Case §93, Optis placed significant weight on the Google licence at trial, stating that "*it is one of the most useful data points to which the court can have regard*" on the basis that it "*benefits from the very major advantage that it is to nearly exactly the portfolio to be licenced to Apple. It is a lump sum, but it is a relatively simple one (for example not involving a cross-licence, or any non-monetary consideration)*" (Optis's Closing §610). Apple clearly appreciated as much, as it spent more time in XX and in written submissions on Google than on any other Optis licence (20 pages of XX transcript as compared with between 1 and 16 on each other licence, and 10 paragraphs on Google in closing as compared with 2-8 on each other licence).

b. Apple's comparables case relied on a sub-set of its disclosed licences (excluding Qualcomm, Gran Mesa, ETRI 2017, Orange and KPN– see Apple's Position Statement §§12, 25-27 and 41). All the comparables relied upon by Apple were lump sum licences, and half were cross-licences. Of the subset relied upon, Apple placed particular emphasis on four of the licences which were said to "*exhibit certain additional characteristics consistent with those of the licence that the Court is asked to determine in these proceedings*" (Apple's Position Statement §46).

69. In other words, contrary to Apple's Case §34, both parties' comparables approach applied the principle in ***Cimetidine*** – as Birss LJ rightly recognised at CAJ [11]. Both parties advanced a case which included an approach of selecting the best comparable(s) from the available licences (which is also recognised at HCJ [290]). Apple's trial closing showed that it understood perfectly that the Judge would select which licences to rely upon, in light of factors such as the similarity of the portfolios in question and the reliability of the data that can be unpacked from the licences etc (see Apple's Closing §§376-378(e)).

70. As to the relevant factors in assessing which comparables the Court should select, it was common ground that if there had been non-FRAND conduct involved in agreeing the licence that would make the licence less reflective of what a willing licensor and licensee would agree and that therefore either no weight, or less weight, should be given to the licence (Optis's Closing §§634-635; Apple's Closing §378(c) – Apple describe this in terms of 'illegitimate' conduct, which characterisation we explain above is not apt; but it is clear that what Apple was referring to there was non-FRAND conduct.). As to the application of that principle:

a. Optis's position was that, in light of Apple's non-FRAND conduct in negotiations (in particular its patent-by-patent stance discussed above), the Apple comparables were not indicative of what a willing licensor and licensee would agree as the rates would have been depressed (Optis's Reply Position Statement §§15(b)-(c)).

b. Apple's position was that the Optis licences were affected by the uneven bargaining power between Optis and the small implementers, and that the royalty paid in all of the Optis licences reflected the fact that the implementers wanted to avoid costly litigation (Apple's Reply Position Statement §39).

71. As to the lump sum comparables, both sides' experts unpacked the lump sums to reach a <u>per unit rate</u> for each, and then scaled that per unit rate by reference to the relative size of the portfolio the subject of the licence and the size of the Optis Portfolio. There were differences between the parties' experts as to the best way to reach an unpacked per unit rate (c.f. the flow chart showing

the experts' unpacking methodologies which Apple's expert Ms Gutteridge confirmed as being a fair summary of her methodology (Optis's Closing §516 and references therein)) primarily relating to (a) apportionment of the payment as between the past and future sales, and (b) the detail of how to account for the cross-licence where applicable. Optis's expert preferred to use AV and Apple's expert preferred to use DPU, although both expressed their per unit rates in both DPU and AV terms. Importantly, both parties adopted the same broad approach of unpacking the lump sums to a per unit rate and then scaling that rate to a rate for the Optis Portfolio.

72. Further, both parties' experts unpacked the licences by treating the royalty payment as being for (only) cellular-SEPs; i.e. both experts scaled the per unit rates between different licences by reference to the relevant licensor's share of the cellular SEP stack. This simplifying assumption was supported by Optis's expert evidence at trial that in general "*[2G-5G] patents are usually the primary value driver*" (Stasik 2 §100(i)), which evidence was positively relied upon by Apple in its Closing (Apple's Closing §715). Finally, when the experts used the same assumption about how to apportion the lump sum between past and future sales, in general their unpacked unit rates were very similar (Apple's Opening §175). This is reflected in the CAJ at [16] and at Annex B (which shows both experts' rates unpacked on the 'free release' assumption, i.e. the assumption that the lump sum payment all related to future sales). The only licence for which there was a material difference between the experts' per unit rates is the Ericsson licence, due to a difference in how to treat the first instalment payment in the licence (which we address at §110.a below).

73. As to the parties' top-down cases:

    a. Optis advanced a top-down cross check case on the basis of evidence that an AV value for the aggregate royalty stack of 8-15% would be FRAND (Optis's Position Statement §46A; Optis's Closing §§282-295). Optis made it clear at trial that, when considering an aggregate royalty burden, it was more appropriate to consider it in AV terms given the variations in the average handset selling price (Optis Closing §282).

    b. Apple advanced a top-down case with various possible ways to estimate the total aggregate royalty rate: (i) a DPU aggregate royalty of just under [redacted], calculated by adding up the unpacked DPU rates from the Apple licences it relied upon (excluding Qualcomm), which it said represented the rate for 42% of the stack, and then scaling that to reflect a notional DPU for 100% of the stack; (ii) a DPU of $5, or $1.18-1.77 based on two different smallest saleable unit royalty base arguments (referred to as 'SSPPU' in the HCJ); and (iii) a DPU of $2.21-6.17 based on a method of estimating the profits available on a basic level smartphone.

The Judge's Methodology and the Errors in It

74. The Judge's approach in the HCJ was different and involved a plethora of fundamental errors of principle and logic. In this section we identify the steps in the Judge's methodology, and for each step we identify the error(s) involved; we also identify which Ground of Appeal in the CA that each error relates to ("CA Ground"). The CA upheld all Optis's key contentions (we give references to the CAJ below). Having done so, the CA considered it unnecessary to resolve certain other CA Grounds; but since those additional errors are nonetheless part and parcel of the Judge's method, they are maintained in this Court pursuant to Optis's Notice of Intention to Participate.

75. The Judge's first step was (rather than adjudicate on the issues in dispute between the parties) to reject both sides' valuation cases and all the accountancy expert evidence, including the common ground aspects of their respective comparables valuation methods (including on unpacking). This involved a number of errors:

a. Error 1: he wrongly rejected the common ground application of the ***Cimetidine*** approach and failed to select the comparables that were most useful to derive a rate for the Optis portfolio (HCJ [290]-[291]). This was an error of principle (CA Ground 2; upheld at CAJ [115]).

b. Error 2: his rejection of the comparables approach was also based on a misunderstanding of the relationship between comparability and reliability (CA Ground 1e; upheld at CAJ [114]).

c. Error 3: he rejected the <u>entirety</u> of the evidence of both accountancy experts – all of which he held that he "*derived no benefit from*" (HCJ [311]-[317]). The Judge was wrong and procedurally unfair to do this and adopt his own unforeshadowed methodology which was inconsistent with the common ground between the parties (CA Ground 4; addressed at CAJ [86]-[97]). The key reasons why this was an error were, first, his point that the experts had strayed outside their expertise and had provided no "*independent judgment*" was not put to either witness and was "*unfair and unjustified*" (CAJ [88]). Second, his analysis muddled up the question of how comparable a licence was to the licence to be set by the court (which was a matter for the Judge to determine) and how reliable the data was that could be extracted from licences (which is a matter that the experts could fairly comment on) (CAJ [90]-[92]). Third, the Judge thought the process of unpacking involved "*insurmountable difficulties*" caused by having to grapple with different 'rate' types, cross-licences and past releases. But he failed to understand that *any* method would inevitably require grappling with these issues, and indeed the novel method that he came up with did exactly that (albeit in ways that were novel and misguided) (CAJ [96]).

76. The Judge's second step was to come up with his own approach by calculating an annual lump sum fee for each licence, as opposed to considering any per unit rates or unpacked rates. This decision was not a "simplifying assumption". It involved serious errors:

a. Error 4: he fundamentally misunderstood the relationship between per unit rates (AV or DPU) and lump sums (CA Ground 1b; upheld at CAJ [98]-[115]). This misunderstanding about the relationship between unit-based considerations and lump sum payments was a serious problem in logic (see CAJ [110] and [112]). This error caused him to misunderstand Optis's and Apple's case at HCJ [61(ii)] and [55(ii)(b)]. The parties addressed this when the draft judgment was circulated – but he rejected the explanation; see e.g. HCJ fn.59.

b. Error 5: he did not take any account of the significant variation in sales volumes covered by the lump sums paid under Apple licences or the fact that Google's sales volumes are "*entirely different*" from Apple's sales volumes (CA Ground 8; upheld at CAJ [98]-[115] – referencing figures at Appendix 6.2a of Gutteridge 1).

c. Further, those errors led the Judge to take an "*over-simplistic*" approach to the value of the cross-licence (CAJ [104]), which led to results in relation to the Blackberry licence which even the Judge recognised was "*irrational*" (HCJ [483(i)(b)-(c)] and [483(iii)]).

77. The third step in the Judge's method was to include all the Apple licences in the annual fee analysis, even those that neither party relied on. This was despite him holding that it would be procedurally unfair to include Optis licences which neither party relied on (HCJ fn. 421). This is error 6 (CA Ground 5; not resolved by the CA).

78. The fourth step in the Judge's method was to make a wholly unprincipled adjustment to the notional annual fee he derived from the Qualcomm licence. This is error 7 (CA Ground 6). In particular, having come to the conclusion that the Qualcomm licence was not a good comparable due to hold-up, instead of either rejecting reliance on the Qualcomm licence or coming to his own view about the figure which would reflect the true value of the licence, the Judge replaced the annual fee for Qualcomm with the simple average of all the notional annual fees inferred by the Apple licences and the Google licence (HCJ [483(vii)(c)]). The Judge himself recognised that his approach "*would probably make a statistician blush*". Although not formally deciding this Ground, Birss LJ made it clear at [105] that the Judge's approach "*cannot be justified*". In fact, the reason this was done was the Judge had committed to use Qualcomm in his draft judgment, but his own working contained catastrophic arithmetical errors. When this was pointed out, he made changes to his judgment to arrive at a similar result by different means. This was one of several conclusions

which were tainted by cognitive bias (or 'anchoring') to the figures in his draft judgment (see CA Ground 25 (not resolved by the CA) and Optis CA Appeal Skeleton §§261-264). This was error 8.

79. The Judge's fifth step was to reach a notional annual fee for use of 1% of the total SEP stack by taking a simple average across all the notional annual fee payments from each licence. This involved two errors:

    a. Error 9: the error of averaging itself (CA Ground 7; upheld at CAJ [106]-[109]). Birss LJ rightly held that this "*had no precedent or basis in the evidence before him nor can it be justified in principle*" ([106]). In adopting this approach, the Judge gave equal weight to each licence, despite the fact that the significant spread of the data pointed to the obvious conclusion that "*either this approach does not work or that these licences cannot all be useful comparables*" (CAJ [108]).

    b. Error 10: The Judge's decision was based on his decision to "*simply place all of Apple's behaviour on the "legitimate" side of the line*" because of his erroneous distinction between "*legitimate and illegitimate*" hold-out (CAJ [120]). The error in relation to hold-out was CA Grounds 1a and 3 and was upheld at CAJ [116]-[123], where Birss LJ rightly held that the Judge had confused non-FRAND conduct with that which is unlawful.

80. Sixth, having calculated the annual lump sum fee for 1% of the stack from each comparable assuming the payments were only for the future terms of the licence (HCJ [482(ii)]), he applied a uniform 50:50 allocation of his average annual fee to account for the fact that the comparables contained past releases (HCJ [484]-[486]). This is error 11 (CA Ground 9; not resolved by the CA). This step was unprincipled and wrong, and not based on any evidence or argument from either side. Moreover, it ignored the common ground between the parties that the comparable licences (a) had different lengths of past release and/or volumes of past sales (including some renewals with no material past release), and (b) were agreed in an industry where significant discounts were given for past sales (HCJ fn. 618). His initial rationale for assigning 50% of the annual fee as a payment for past sales in the draft judgment was based on his mathematical errors when analysing the licences (draft judgment [485]). When the mathematics was corrected, his new rationale for adopting the approach was that "*one would expect that a past release ought to be priced at the same rate as a future licence and a 50%-50% split would be appropriate*" and should not be "*undervalued*" (HCJ [485]). This reasoning again demonstrates a failure to appreciate the difference between what was agreed between parties to the licences and what willing parties would do absent non-FRAND factors.

81. The seventh step taken by the Judge was to apportion the annual lump sum for the stack to Optis using as the numerator the number of declared SEPs in the Optis Portfolio, and using as the

denominator (i.e. the total number of declared SEPs) a figure of 22,000 which the Judge derived from the Innography data. Using this data gave Optis a stack share of 0.38%.

Apple's Attempt to Extract an Error-Free "Basic Method"

82. Apple suggests that one can extract from the Judge's valuation methodology, a "*basic method*" (referred to as the "*averaging approach*") that is untainted by errors (which Apple claims only relate to the "*implementation*" of that "*basic method*" (see e.g. Apple's Case §20, §28; Apple's Grounds §14)). This simply cannot be done. As set out above, the Judge's methodology is fundamentally flawed, both substantively and procedurally. Each and every step in his approach was linked to or affected by one or more fundamental errors.

83. One way Apple characterise this "*basic method*" is as follows: (i) identifying a price of the stack for Apple, (ii) adopting an "*inclusive*" approach to the licences to use in that process, (iii) estimating an average stack price from the licences and (iv) apportioning a percentage of that average stack price to Optis (Apple's Case §10). Taking each of these points in turn:

84. The Judge's decision to identify the price of the stack "*to Apple*" was linked to his failure to understand the significance of Apple's patent-by-patent hold-out and its impact on the Apple comparables – see HCJ [293].

85. Taking an "*inclusive*" approach, was an error in and of itself because it was a rejection of the parties' common ground that the Court should identify which were the most useful comparables, and this decision was also linked to other errors:

    a. The Judge's erroneous conclusion that, because of the "*subjectivities*" involved in unpacking, he should reject both parties' expert evidence entirely – see HCJ [290] and the reasons expanded upon at [295]-[317].

    b. The Judge's erroneous distinction between legitimate and illegitimate hold-out, as that led him wrongly to treat all the Apple comparables as being FRAND (CAJ [120]).

86. As to the licences used in his "*inclusive*" approach, the choice of licences was based on the Judge's mistaken view that, because Apple entered into lump sum licences, he should include the lump sum licences: i.e. all the Apple licences and the Google licence (CAJ [112]). This was grounded in his confusion about the relationship between lump sums and per unit rates.

87. Further, the "*inclusive approach*" included licences that both parties had rejected and purportedly included the Qualcomm licence but only in such a way that "*could not be justified*" (CAJ [105]).

88. In relation to taking an average stack price from the licences, this too was because of his misunderstanding as to the relationship between hold-out and legitimate/illegitimate conduct, as that led him to treat all the Apple comparables as being "*legitimate*" (CAJ [120]).

89. There is no "*basic method*" of "*averaging*" that can be excised from the Judge's approach. Put simply, the Judge did not make a decision at the level of generality Apple now seeks to extract separate from and untainted by his other conclusions as to his approach. Birss LJ was therefore entitled, and indeed right, to conclude that the Judge's method as a whole could not stand.

HOW THE COURT OF APPEAL DECIDED THE FRAND RATE

90. After considering whether to remit for a retrial (CAJ [126]-[127], addressed at §§156-161 below), Birss LJ determined the FRAND rate at CAJ [128]-[148]. The key point about this determination is that it was entirely founded on the common ground at trial and on appeal, and four findings of primary fact by the Judge (findings which are not adversely affected by the Judge's fundamental errors in his valuation methodology).

91. The key findings of primary fact by the Judge were: first, that Apple had engaged in hard-nosed patent-by-patent behaviour when negotiating its licences (references at §§53-64 above). The legal consequence of that finding (which the Judge missed) was that the Apple comparables were the result of non-FRAND behaviour and the outcomes were therefore sub-FRAND (see §105 *et seq* below). Second, that Google was "*able to look after itself*" (HCJ [470(iii)]); that the Optis-Google licence was <u>not</u> "*so minor a matter that Google would not be inclined to pay much attention to it*" and was not something to be dismissed, without more, as unrepresentative (ibid); and that the Optis-Google licence was a useable comparable (HCJ [270]; particularly rejecting Apple's submission that it was not useful due to the relationship between the royalties paid and potential transaction costs, including litigation costs. Third, that stack shares should be calculated using Innography data (HCJ [135]). Fourth, that a total stack price of 15% would be too high (HCJ [400]-[401]).

92. The key common ground was recorded by Birss LJ at CAJ [99], who observed at [100] that they meant that the valuation task was greatly simplified. In particular, it meant that the Court could work in DPUs (Apple's preferred approach), which in turn meant that there were minimal differences between the parties on the unpacked rates from the relevant comparables (see §72 above). It also meant that the Judge's figure for Optis's stack share (0.38%) was uncontroversial.

93. With all that in mind, Birss LJ started at [128] by observing that the CA was in a position to reach a just conclusion on the FRAND rate, starting from the position of identifying the potential

comparables in issue and analysing them by putting them on a common scale of some kind by reference to the stack share under licence in each case, as determined by the Innography data. As he stated: "*this is the core of the judge's approach below and to that extent it is not now criticised by either party*". The difference from the Judge's approach was to use the experts' DPU data, which Apple had argued for at trial and Optis had accepted in the CA, but which the Judge had wrongly rejected.

94. Having examined the experts' DPU data, Birss LJ recognised that the experts largely agreed on the numbers and that the same pattern emerged from both (CAJ [134]). He then decided to use the DPU figures unpacked on the 'simple' basis (i.e. the basis assuming that the parties agreed past and future sales should be paid for at the same rate, which is an assumption in Apple's favour as it results in lower DPU rates) for which there was only one set of data. This also meant that the one material dispute between the experts on the way to unpack the Ericsson licence did not arise.

95. Birss LJ's determination of the FRAND rate starts at CAJ [137] where he considered four Apple licences. These are the licences which give the highest rates. The use of these licences had been justified at CAJ [122] and [131]. The principal reason was that all the Apple licences were depressed by its non-FRAND behaviour, so they were all too low – i.e. the highest were closest to being FRAND. This was firmly rooted in the Judge's factual finding as we explain at §105 *et seq* below.

96. At CAJ [137] Birss LJ concluded that a rate lower than the rates implied by those four Apple licences would be too low. Specifically, the Judge's conclusion which implied a DPU FRAND royalty (of the order of $0.01 or $0.02) cannot be justified when those four companies are able to license Apple at an appreciably higher rate. That was a conclusion based on undisputed facts.

97. Birss LJ's second conclusion is at [138]: the Google comparable shows that deriving a rate from the Apple licences on their own, whether as a whole or based only on the four he had identified, would produce a rate that is too low. Again, this was based firmly on the Judge's finding that the Optis-Google licence was a useful comparable (it also followed from the Judge's findings of fact about Apple's behaviour). Birss LJ noted that that this is true whether one is looking at free release or simple basis unpacking – so that debate does not matter, nor does the debate about the impact of the other terms, such as NEPs being included. In other words, there was sufficient common ground between the experts that resolving the disagreements was simply unnecessary.

98. At [139] Birss LJ identified his third conclusion, which was the converse of his second, namely that using the Google rate unmodified would be too high.

99. So what those paragraphs do is identify the best licences (using the Judge's findings of fact), and conclude from the Judge's findings that Google is too high and the four Apple licences are too low. That is why [139] says "*in other words the FRAND answer is between the two, but where?*".

100. At [140]-[142] Birss LJ carried out his first top-down cross-check. This again applied a finding of the Judge. At [140] Birss LJ recorded that the Judge held that a 15% AV aggregate stack price would be too high (HCJ [400]-[401]). At [141] Birss LJ applied that finding to the Google licence (using the uncontroversial stack share figure of 0.38%) – and noted that it demonstrated that using the rate implied by the Google licence would be too high. Then at [142] Birss LJ explained that the Judge's finding meant that $0.27 per unit or higher would also be too high.

101. To summarise CAJ [137]-[142]: by working in DPUs (in accordance with the common ground) and simply applying the Judge's findings of fact, Birss LJ identified that the FRAND rate was higher than the rate implied by the four Apple licences, but lower than $0.27 per unit. Thus, as he said at [143]: "*The question is therefore where to go down from $0.27 DPU*".

102. At [143] Birss LJ identified two considerations. The first is that the patentee is entitled to the top of the FRAND range if and to the extent there is one. That is a point of law we address at §136 below. The second is "*that the nature of the evidence here does not justify fine distinctions*". This is simply the application of the 'broad axe', which it is common ground is appropriate. Using a broad axe there are only three "*realistic options*", namely DPUs of $0.20, $0.15 and $0.10. Birss LJ then rejected $0.10 for essentially the reasons which we have addressed at §105 *et seq* below – i.e. the proper application of the Judge's finding of fact about Apple's non-FRAND behaviour.

103. At [144]-[145] Birss LJ decided between the remaining options: $0.15 or $0.20. He said he wondered about $0.20, but in the end he settled on $0.15. Apple can hardly complain about that. In fact, Birss LJ checked his choice using a conventional top-down cross check on each option, incorporating the Innography data preferred by the Judge and the Judge's 0.38% stack share figure for the Optis Portfolio. Finally at [147]-[148], Birss LJ converted the rate of $0.15 per unit into a lump sum. We do not understand that there is anything controversial about how he did this.

GROUND 1

104. Apple's Ground 1 now comprises an attack on the CA's rejection of the Judge's approach and an attack on the approach that the CA itself went on to adopt. The former is an argument that the Judge did not err, at least such that aspects of his approach ought to be retained. We have addressed that issue above, including why it is impossible to sever some part of his approach from

the whole. As to the latter, which is a very different point, this is now put as involving four limbs. Ground 1(b) is new and, as articulated, it is central to the other limbs of Ground 1 and indeed other Grounds. Accordingly, we take Ground 1(b) first.

Ground 1(b) – Apple's Hold-Out

105. This Ground relates to Apple's non-FRAND behaviour, often referred to as 'hold-out'. More specifically, whether the Apple licences were affected by hold-out. As explained above, real life parties negotiate as hard as they can, utilising every lawful strategy available. The Judge's error was to consider both "*legitimate*" and "*illegitimate*" hold-out, and hold that Apple was on the legitimate side of that distinction because it was lawful. This error is identified at CAJ [120]; it vitiated the Judge's approach to the question of Apple's licences having been reached by non-FRAND behaviour because his conclusion was that there was none. But the Judge's findings of primary fact as to how Apple in fact did negotiate, are clear.

106. The CA concluded that the Apple comparables were affected by its non-FRAND behaviour (i.e. the fee in each licence was too low). Its key reasons are in CAJ [122]: first, that Apple's non-FRAND behaviour coupled with its significant negotiating strength led some parties to agree lower rates than would be agreed between a willing licensor/licensee. Second, this is the explanation for the spread of royalty rates derived from the Apple licences as a whole. The CA also noted that the Optis-Google licence provides evidence that the Apple licences are sub-FRAND (CAJ [138]).

107. Apple does not in its case defend the Judge's "*legitimate*"/ "*illegitimate*" approach nor criticise that part of the CAJ (culminating in [120]) concluding it was an error. Instead, Apple criticises the evaluation that the CA itself carried out, focussing on CAJ [122]. Having concluded that the Judge erred, the CA was entitled to carry out its own evaluation. Apple says CAJ [122] contains a number of errors. It also says that the "*sweeping inference of 'hold out' by Apple across the entire international market was flawed and unreasonable, and contrary to the Judge's findings*". On the contrary, the CA's evaluation was entirely consistent with the Judge's findings of primary fact as to how Apple universally behaved. Most notably it insisted upon a patent-by-patent approach and avoided any FRAND determination by saying no patents were valid and infringed. The CA's conclusion was correct: Apple's non-FRAND negotiating behaviour obviously affected the final agreements reached. Apple purports to identify three errors in CAJ [122]. We address each in turn.

The First 'Error' in CAJ [122] – the Spread of Values (§§47-48 of Apple's Case)

108. The CA referred to the spread of the values obtained from the Apple licences, as supporting the conclusion that they were materially affected by hold-out. Apple says the explanation for the spread is at §38 of its Case which refers to uncertainty about scope of coverage under the Apple licences, itself identified in §24 of Apple's Case. At §24 three points are made. They do not provide an explanation for the spread. In any event, Apple ignores the fact that CAJ [122] does not rely upon the spread of values in isolation, but rather, and crucially, puts the spread together with the Judge's findings as to Apple's negotiating conduct. At the same point in CAJ [122] the reasonable point is made that Apple's patent-by-patent approach "*manifestly would involve a degree of hold out*".

109. Apple's point in §24(a), is that some licences include additional patents (i.e. non-essential or SEPs to other standards). The suggestion is that the price was higher because of the inclusion of additional rights to differing degrees. However, this is an unreal explanation for the kind of spread seen. As explained at §72 above the primary driver of value was not the inclusion in a licence of rights of this nature, which tallies with Apple being content for its own expert to unpack licences without seeking to adjust for this effect. Ms Gutteridge simply drew attention to the inclusion of additional patents and identified the direction of its impact. If the actual impact might have been anything like the size now suggested it is inconceivable that Apple would have proceeded on this basis. Moreover, CAJ [121] rightly says that the Judge's approach is to ignore this effect, and he was entitled to do so. The Judge's decision to average had nothing to do with this point. Apple says that it is somehow a justification for the averaging approach, but it is not. The argument is that this matter causes the spread, which logically means they are all too high, albeit to varying degrees. So it would be a justification to go for the lowest values.

110. In §24(b) Apple refers to the allocation of a lump sum between different elements in a SEP licence. §24(b) refers to (i) different approaches to computing rates (i.e. AV or DPU); (ii) cross-licences; and (iii) different payments for future and past. The reality is that none of this is a significant factor.

    a. As to (i): assumptions need to be made about projected volumes to be sold and their prices. This has caused no difficulty in other cases. It did not cause the experts difficulty in this case. By the conclusion of the trial, each side's expert had worked in the others "*currency*" (as noted CAJ [16]) and Apple emphasised that its output was generally pretty close. Apple points to "*a concrete example*" of a difference between the experts on the free release unpacking of the Ericsson licence at §24(b). That was in fact the only example of any material difference between the experts' unpackings (Apple's Opening §175). And that difference was based on

Apple's extraordinary case that, because the lump sum was paid in instalments, the first payment must only be for past sales (Whitt 1 §31; Mewes 5 §§37-38), which meant that Apple agreed to pay a higher per unit rate for past sales than future sales (as Arnold LJ pointed out [Day 2/206-207]). But in any event, this specific difference in the free release unpacking of the Ericsson licence had no impact on the CA's assessment, as Birss LJ used 'simple' unpacked rates where the issue did not arise. The point cannot explain anything like the spread observed.

b. As to (ii): the value of the cross-licence needs to be accounted for. Again, this has never caused a problem in this or any other case. In this case the issue is as insignificant as it is possible to be because Apple's sales dwarf any cross-licensee.

c. As to (iii) (past/future split): this also cannot begin to explain the spread of more than an order of magnitude either.

111. At §24(c) the point is 'deliberate sculpting'. This is a red herring. Apple muddles this point with the fact that licences may in the future be comparables. Deliberate sculpting is a suggestion that alternative terms are inserted into a licence in addition to those that will in fact govern the relationship between the parties. The fact that licences can serve as useful comparables is why it may be done, but it is much more. The specific point Apple suggest was that a running royalty be included as an alternative to the lump sum when the reality is that the lump sum will be paid. This has got nothing to do with the spread. It is only suggested for one licence, and the licence was unpacked on the basis of the lump sum. So, the running royalty alternative is not part of the spread.

112. Further, Apple suggests that it is "*also very plausible that many of these large licensors may have successfully exerted "hold-up"*" (§48). This is simply to seek to re-argue the CA's own evaluation. It is not remotely plausible, let alone plausible as an explanation for the spread. The multiplicity of litigation is what Apple was insisting upon, and it is fanciful to suggest that Apple feared an injunction prior to any FRAND determination. It was Apple avoiding the determination of FRAND terms.

113. Most importantly, whereas CA [122] is based firmly on the primary facts as found by the Judge (i.e. the spread of rates in Apple's licences and Apple's conduct), Apple's answers in its written case are mere assertions that have no foundation in the findings of fact at trial.

The Second 'Error' in CAJ [122] – No Weight to the Judge's Findings (§49 of Apple's Case)

114. Apple says the CA's evaluation accorded no weight to, indeed in effect overruled, a clear finding by the Judge. It refers to HCJ [417(iii)] where the Judge said that counterparties were large enough to be able to look after themselves. It is noteworthy that one of those included by the Judge in this

[redacted] was [redacted]; the entity that Apple specifically pleaded as having had a downturn in fortunes such that it had the "*preparedness*" to accept less. The Judge also said that he had "*not seen any evidence of the rates that Apple achieve being unduly low through the exercise of Hold Out*". Both points obviously depend upon the Judge's erroneous view that if Apple's conduct was lawful, it was not hold-out. As we have said, the Judge's primary findings of fact are what matter.

115. Apple says that these findings hinged on witness evidence and detailed XX at trial of three of its main negotiators, said to have extended to several days. Three examples are given, but they relate to just two negotiators. The first two examples are Jayna Whitt. There was a witness statement from her, but by trial she had fallen out with Apple and did not attend (HCJ [51(i)(b)]). The third example is Mr Ankenbrandt who was XX'd for about an hour. But he was not actually the person who had conducted the relevant negotiation (Ankenbrandt 1 §§31, 34 and 37, evidence merely based on a review of the correspondence after the event; [Day 7/1241-1245]). In any event, the three quotes in §49 are all focused on the fact that at the time of each of the three licences referred to there were multiple legal proceedings extant between Apple and the counterparties. The point is the same as is made at the end of §48 of Apple's Case. As we explain above, the claim that there was a countervailing hold-up effect from this is wrong – the existence of multiple litigations is evidence of Apple's hold-out, in particular its strategy of insisting on patent-by-patent licensing.

The Third 'Error' in CAJ [122] – Reliance on the Apple Framework (§50 of Apple's Case)

116. Apple makes three points to suggest it was an error to rely on the Apple framework and the fact that it included indefensible elements such as insistence on patent-by-patent licensing: (i) Apple frequently took global licences; (ii) the approach was understandable where neither side wanted to make concessions before a deal; and (iii) the net result of negotiations might have included hold-up, and therefore an opposite (and presumably equal) thrust on the price.

117. The first two points can be taken together. The simple answer is two-fold. First, there is no need to make a concession about any particular patent, to accept that a licence is needed because some part of a portfolio will be valid and infringed. The reason Apple did not accept even that goes hand in hand with its insistence on patent-by-patent litigation. It avoids having to agree to an appropriate FRAND determination. Second, pointing to global licences eventually being agreed misses the point. Hold-out delaying conduct will enable agreements to be struck at rates lower than are fair (recognised at ***UP SC*** [10]). The third point is the same suggestion that Apple was held up by its licensors, which we have already addressed.

Apple's Contended Conclusion

118. Contrary to §52 of Apple's Case, the CA had ample basis to make the finding that it did. It was not reversing the Judge's findings in the way suggested. Specifically, the CA relied upon the Judge's primary findings of fact, and was shown the underlying materials that the Judge saw. The idea that Apple's negotiating strategy had no effect on price is unreal.

119. Apple also suggests that Birss LJ was disadvantaged and unable to review the full expert evidence. It was incumbent on Apple at least to point the CA to the kind of additional material it needed to consider to carry out its own evaluation fairly. In this Court, the best that Apple can do is §53 of its case (not advanced in the CA). It suggests Mr Bezant accepted that his unpacking for LG and Panasonic showed them at too high a level. This is unfair because it is being suggested that it was too high compared to FRAND. However, this evidence is nothing to do with whether Apple's non-FRAND behaviour depressed the rate. It is addressing the inclusion of additional patents and all he was saying is that may mean the price extracted may be higher compared to what it would be if those rights were not included. This is emphasised by '(all else equal)' in the evidence quoted.

Ground 1(a) – The Cimetidine Approach

120. §33 of Apple's Case says that each limb of Ground 1 is directed to criticising the approach which the CA carried out itself, i.e. it is directed to an argument that the CA's own evaluation was wrong. In its Grounds, Apple appeared to make a distinction because ***Cimetidine*** is not a FRAND case, however §39 Apple's Case expressly accepts that it is a legitimate approach in FRAND cases. Now the argument is that the ***Cimetidine*** approach is not mandatory when seeking to infer the FRAND licence from a body of comparable licences, and so that the CA was wrong to hold that the Judge made an error of law by not adopting it (see the conclusion at §44). It is one thing to say the CA should not have interfered. It is quite another to say that the way in which it has exercised its own evaluation is wrong. At this stage in the argument the analysis must be the latter, and to criticise the approach that the CA itself carried out, Apple would have to show that it was an error of principle for the CA to adopt this conventional approach in its own evaluation. However, it does not advance such a case. Subject to this caveat that they are not directed to the right target we address the reasons that Apple gives under Ground 1(a) in turn.

Dealing with Spread in the Apple Licences

121. Apple says that it did not adopt a conventional comparables approach. This is wrong (for references see §§67-72 above). In any event, the point does not support the Judge, because he (and

the CA) plainly understood that both parties were focusing on fewer, better comparables as opposed to more, less good comparables. See HCJ [290] and CAJ [11]. Apple refers to HCJ [405] where the Judge says an aspect of the Apple Framework was sound. But all that he identifies is the use of an aggregate stack price. That is no more than is always present in top-down reasoning. Save in this very general sense, Apple's Framework is nothing like the Judge's methodology.

122. Apple's real argument begins at §37, which attacks CAJ [101] and [108], assuming Apple is correct about hold-up and hold-out, so that the Court has no idea what caused the spread in the Apple licences. Most particularly it assumes that the Court has no idea which are better comparables within the group. Apple fails to distinguish between two related points in its argument. The first is the conclusion that licences with such an enormous spread are not all equally good comparables, or put another way, not all FRAND. The second is the ability to identify those which are the better comparables within the group. Although Apple criticises CAJ [109] and the conclusion that all of the licences are not equally good or not FRAND, the argument does not actually grapple with why that conclusion is wrong. Rather, the argument is that the Judge preferred an "*inclusive 'averaging' approach*" because he did not find himself able to conclude that any of the licences could serve as a close parallel. The justification advanced is the uncertainly over the scope and coverage of the individual licences: the same three points in §24 of Apple's Case that we have already addressed.

123. Further, these points do not logically support averaging as an alternative approach. For example, we have already explained why some of the licences including additional value from other patents would be a reason to look to the lower end, not to average across licences. The Judge's approach is made worse when one understands (as Birss LJ did (see CAJ [101])) that what the Judge was doing was using each licence in isolation to infer a total stack price (subject to the additional errors we have identified) and thereafter averaging the stack prices thus obtained. This is to use each licence to derive a stack price – itself something that has been identified as not adding to the conventional use of information from the comparables – and then to take that wide range of stack prices to average them, and thereby dilute the better information with that which is less good.

124. The other §24 points also do no support taking an averaging of stack prices in the alternative to evaluating which licences are better. The §24(b) points (the need to deal with future volumes and prices; the value of the cross-licence; and the issue of past sales), all have to be dealt with whatever one does, as we explain above. The §24(c) point (deal sculpting) has absolutely nothing to do with a decision to average the terms which were the commercial deal, not the 'sculpted' addition. Apple also repeats its suggestion that the spread of the aggregate price stacks implied from the agreements is explained by these §24 factors. That is wrong for the reasons we have given above.

125. Ultimately, Apple says that ***Cimetidine*** could not be applied rigidly, suggesting that in essence the Judge had no option because he could not follow it, and that the averaging was a pragmatic response. Plainly identifying the best comparables does not require just one to be identified. Moreover, it is not an exact science but an overall evaluative exercise. It may be that in some cases it is easier than in others. However, it cannot be right for a Judge not to do their best to resolve the dispute between the parties as to which are the more useful. Still less can it be right to adopt an approach of deliberately including a broad class of licences when it is plain that some are less useful as indicators of FRAND than others. The position is even worse when the justification for doing so is said to be a group of points that are either irrelevant to averaging, or are in fact dealt with by the Judge in his averaging approach in a way that is entirely unsatisfactory compared with how they are typically dealt with in such cases and was common ground between the experts here.

126. Apple further says CAJ [121] is wrong in saying that the Judge's taking of lump sums at face value necessarily rejected Apple's case relying upon the inclusion of other patents in licences. Apple is wrong about that: the fact that the Judge took the lump sums at face value means that he <u>was</u> satisfied they were the best representation of the price for the SEPs in each agreement. This is not surprising given the driver of value that we mention above. More importantly, the presence of other patents in the Apple licences cannot be a justification for the Judge's averaging approach.

127. Apple also suggests (e.g. §25 of its case) that averaging is a good idea by reference to HCJ [462] where the Judge suggested that taking multiple data sources means that outliers or unrepresentative cases can be averaged leading to a safer, more reliable overall figure. However, this assumes that the set of data that are being averaged has spread of values both above and below the right answer, and moreover that the number which are above is broadly the number below, and that they vary in either direction from the right answer in broadly similar amounts. None of this has any basis, particularly in the data of this case. Nor can it be suggested that it is preferable to identifying the outliers and removing them. Accordingly, Apple's points do not support the Judge's approach. Still less do they provide any reason to suggest that the CA erred in principle by adopting the ***Cimetidine*** approach in its own evaluation.

<u>Support From Mr Bezant</u>

128. Apple further suggest that the Judge's decision to use an "*inclusive approach*" was supported by the oral evidence of Optis's expert. The quote at §42 of Apple's Case comes nowhere near supporting the use of an average. If Mr Bezant had been saying anything of the kind, the Judge would not have rejected his (and Ms Gutteridge's) evidence out of hand. Rather, the passage quoted reflects

Mr Bezant's view that one has regard to all the information available, to guide the analysis both as to which are likely to be the best comparables, but also as to what adjustments, if any, might be appropriate. Both may be informed by the overall picture. But that was not to suggest treating all the comparables as of equal weight in an average.

129. Apple also refers to 7 pages of transcript which record the Judge's questioning of Mr. Bezant. Apple quotes one answer with no indication as to what that answer is responding to. The full passage should be read, because two points emerge. First, in the immediately previous answer Mr Bezant makes his view clear, that all licences are not equal and having more of them does not mean that they are equal such that averaging them does a better job. Second, the debate includes consideration of taking averages in order to work out which licences may be well off the average. The point is that this may help identify those licences to be excluded, or to identify some adjustment that needs making. This is not Mr Bezant agreeing to the kind of averaging the Judge did, still less for the purpose he used it for. Indeed Apple's counsel positively put to Mr Bezant that it would be preferable to rely on fewer more useful and comparable licences than more licences with varying degrees of comparability, with which Mr Bezant agreed ([Day 11/2103-2105]). Nothing comes close to showing an error in principle by adopting a *Cimetidine* approach.

Ground 1(c) – Treating Apple's Licences as Too Low and Using the Google Licence

130. Apple starts with its argument on hold-out (already addressed) and goes on to criticise the use of the Google licence. As we have explained above, that licence was held by the Judge to be one that could not be disregarded on account of its consideration reflecting the nuisance value of any claim that Optis might have made against Google and the Judge relied upon it.

131. Apple says that use of a non-FRAND data point in order to arrive at a FRAND rate is not capable of arriving at a sound outcome and is antithetical to the need for predictability and consistency. This is surprising given that Apple seeks to support the Judge averaging Apple's (non-FRAND) licences. At §58 Apple portrays the CA as concluding that the Google licence was a "*close parallel*". There is no such conclusion in CAJ. The Google licence is identified as one of the better licences, and therefore to be used. It is to the very same portfolio. Unlike the Judge, who used it (along with others) to mathematically generate his price, the CA used it differently and perfectly legitimately.

132. First, the CA compared it to a group of Apple licences, to reinforce the CA's conclusion from Apple's hold-out conduct – that the rate could not be generated solely from the Apple licences (CAJ [138]). Second, it was used to identify the initial upper bound of the window within which FRAND would be found (before that window was narrowed further) (CAJ [139]). Neither of these

uses can be faulted. This is to apply ***Cimetidine***. Where the best comparables only enable a window to be identified, one is still taking the best comparables in the sense of those that are most useful, and not diluting them with less useful comparables.

133. Finally, Apple challenges reliance on the Google licence at all. At §61(b) it introduces another point not raised below, pointing to the relative size of Google's sales compared to its and claiming this gives substantial scope for error. There is no basis for this and it is not the point addressed in the quoted passage from HCJ (that was about small stack shares). The essence of Apple's position is simply rearguing that the Google licence should be discounted because of the size of the sales covered and its value being, according to Apple, such that it is not useful to the exercise. This is to challenge not only whether the CA was entitled to rely upon it, but also the Judge's conclusion, relied on by the CA, that this licence was not to be discounted for this reason.

Ground 1(d) – Alleged Subjective and Arbitrary Judgments

134. Apple says the way in which Birss LJ carried out his FRAND evaluation was an error of principle. How this was done is explained in detail above. It combines the best evidence from the comparables together with top-down reasoning applied at different points. It is not fair to suggest that this was done without argument or evidence, just because the precise group of licences Birss LJ identified was neither sides' preferred position or because his reliance on top-down reasoning came in at different stages, not only as a final cross check. The nature of a FRAND evaluation is that the decision maker will often conclude that aspects each parties' cases should be adopted. But that is still well within adjudicating on the cases and the evidence before the court.

135. Apple also criticises the narrowing of the window by calculating what DPU would equate to a 15% royalty stack. There is nothing illogical or arbitrary about that. It was simply applying the Judge's finding at HCJ [400]-[401]. Nor was it illogical to use the price of a Google handset to adjust the upper bound of the window downwards, because the upper bound was a Google licence. The essence of narrowing the window this way is a step wise exclusion of rates that are not FRAND.

136. Apple also criticises the CA referring to the fact that if there be a range of FRAND rates, then the patentee is entitled to the top of that range. That proposition had in fact been accepted in Apple's Grounds, where it sought to make a different point. Now Apple says it is wrong, and can only be intended to mean that the patentee is given the benefit of the doubt if there is uncertainty. The unspoken premise of Apple's argument is a point that was rejected by ***UP CA***, namely that there is only one set of FRAND terms. In that case, the CA concluded that FRAND was not so precise: there may be a range of things which are FRAND. If that is so, one needs to have a rationale for

imposing one thing that is FRAND over another. That is dealt with by recognising that the contractual obligation is on the patentees to offer FRAND. If what they offer is FRAND they discharge the obligation, therefore they are entitled to identify that which they consider more favourable. That is not to say a FRAND rate is likely a very broad range. But the principle is sound. This is not about giving any party the benefit of the doubt. It is about recognising that FRAND may not be a single precise number and, if it is not, the patentee is entitled to the top of the range.

137. Apple also says that Birss LJ's statement that the nature of the evidence does not justify fine distinctions, and his identification as realistic options being $0.20, $0.15 or $0.10 was flawed. This is criticised as "*three huge step-changes*", and "*little more than arbitrary*". Apple's final criticism is that the choice between those three rates was "*unbounded by principle*". Birss LJ well understood that the exercise he was carrying out involved a broad axe: see CAJ [128]. We add that the Judge also recognised the same point (e.g. HCJ [455]) and Apple has emphasised the same too (see e.g. Apple's Appeal Skeleton §6 and §109).

138. The substance of Apple's criticism at §66 is that the options identified by Birss LJ are arbitrary and the gaps between them too large. As to the latter, Apple says that the difference in the overall amount payable between the rates amount to $167m in real terms. This is a consequence of the huge volume of handsets that Apple has sold over very many years without a licence and will sell during the term. That does not mean any error in the assessment that the nature of the evidence did not justify fine distinctions as to the unit price. Whether the nature of the evidence justified fine distinctions would be the same whether Apple is the licensee or some small new entrant to the market. It was perfectly reasonable, and open to the CA to identify for consideration rates separated in increments of $0.05 and it is notable that Apple has not suggested how any other degree of precision would be justified on the evidence in this case.

139. Moreover, it is absolutely clear from Birss LJ's rapid dismissal of $0.10 that $0.15 and $0.20 were the more realistic rates. The reason that Birss LJ gave for rejecting $0.10 is plainly sensible and was open to him. As for the choice between $0.15 and $0.20, Birss LJ wondered about $0.20, but in the end, he settled on $0.15. What that shows is that, if anything, the identification of prices at $0.05 increments has operated to Apple's great benefit. If Birss LJ proceeded as if greater precision were possible and set out rates, say, separated by $0.02 increments, the likely outcome would be a rate between $0.15 and $0.20. Accordingly, there is nothing in Apple's criticism as to the selection of the three options nor the intervals between them. But in any event, it is clear that this aspect of what was done has not led to a rate which is too high, if anything it's the opposite.

GROUND 2

140. Ground 2 is a complaint that the CA did not have adequate regard to the aggregate stack price. It is surprising because the CA decision places more weight on top-down reasoning than any previous UK decision. As we have foreshadowed above, references to aggregate stack price and top-down reasoning requires some caution. Ground 2 has two limbs that we address in turn.

Limb 1 – Aggregate Stack Price and Cheap Handsets

141. The essence of this point is an unspoken assumption. It is that the aggregate stack price to consider is one that must be expressed as a flat rate DPU and must be the same for all handset implementers, regardless of the price point at which they are operating. This is implicit in §§69-72 of Apple's Case. It is also implicit in Apple's reliance on ***UP SC*** [114], where Apple assumes that this paragraph is talking about a single price expressed as a DPU. That is not justified, not least because in ***Unwired*** the "price" was an AV price. Apple seeks to deploy the existence of low specification devices, sold at much lower prices, to contend that whatever is reasonable for manufactures of those handsets to pay in dollar terms is what Apple should pay too. As an alternative, at §72 of its Case, Apple seeks to rely upon its own licences as indicating a prima facie aggregate stack. This alternative adds nothing significant as Apple's licences are depressed by hold-out.

142. When carrying out a top-down cross-check, one naturally considers what is reasonable by thinking about the relative proportion of the aggregate as compared with the price of the phones. One is driven to think in AV terms when thinking about reasonableness. Indeed, typically it is expressed as the percentage (as Birss J did in ***UP HC*** and Mellor J did in ***IDG HC***, in the latter case, even though the Judge had calculated royalty rates in DPU terms). Similarly, Meade J explained that the top-down cross check involves looking at the AV price in ***Samsung*** [508]. Even if one avoids expressly identifying the percentage, the point of comparing the $40 stack with Apple's example of a low specification $125 dollar phone is to think in those AV terms (using prices which generally have been arrived at in the market where much of the stack has not been paid for at all).

143. Apple's contention is that an aggregate stack price (i) must be expressed in terms of a flat DPU rate; (ii) must be evaluated as reasonable for the very lowest price phones; and thereafter (iii) must be applied to Apple at the same flat dollar per unit rate. The key feature of this *sub silentio* chain of reasoning is that a price is assessed as reasonable or not, as against a very low-priced handset, and then applied without question to Apple's high-priced handset. And by insisting that one does this in DPU terms, rather than AV terms, one is driven to conclude that a reasonable price for the stack (in terms of dollars) is that which one concludes is reasonable in respect of the very low

priced, low specification handsets. If this exercise was undertaken in AV terms, one can move from the context of very low-priced handsets to more expensive handsets without worry. In that sense, the high-priced manufacturer and very low-priced manufacturer pay the same price, and both pay a price which it is reasonable for them to pay. As we have explained, this is just another example where the difference between expressing a royalty or price in AV terms or DPU terms really matters when one moves from the context of one implementer to the context of another, if the value of their respective handsets differ significantly (as the CA recognised at CAJ [17]).

144. Although by the time this matter reached appeal Optis was content to use DPU prices extracted from the agreements in the comparables analysis (because all the agreements left were for higher value handsets) it was never accepted that a flat rate DPU should be applicable as between all implementers in the industry. As explained above, Birss LJ was very alive to this point. The Judge also appreciated that price to be paid ought to depend upon the average selling price ("ASP") of an implementer's handset. Even though the Judge muddled up lump sum royalties and DPU rates as explained above, he expressly said that the ASP was relevant, and indeed was a key factor (HCJ fn. 300). Apple's case is flat contrary to the Judge's conclusion expressed in that footnote.

145. Birss LJ made a comparison between the DPU aggregate stack price and three different handset ASPs: (i) the current Apple ASP; (ii) the historic Apple ASP; and (iii) the Google handset ASP. This was everything that could be relevant. The current and historic Apple ASPs were relevant to the licence being settled (historic ASPs because past sales are covered by the licence). The historic Apple ASP was also relevant for the four Apple licences that Birss LJ relied upon and from which he adjusted upwards. The Google ASP was relevant for the Google licence that Birss LJ relied upon and from which he adjusted downwards. Birss LJ made no error here. Indeed, the exercise he carried out was comprehensive: he looked across every ASP that might have been relevant.

Limb 2 – Aggregate Stack Price and InterDigital v Lenovo

146. Here Apple say the CA failed to take account of a comparison that Apple had not even thought of and did not ask the CA to consider (c.f. ***Allen v Bloomsbury Publishing*** [2011] EWCA Civ 943 [17]-[18] and ***Samsung v LG Display*** [2023] 1 All E.R. 227, [5] and [43]). The comparison is between what Apple suggests is an implied aggregate stack price to be seen in ***InterDigital*** with the aggregate stack price that the CA did use for the top-down reasoning in this case. Again, this is undertaken assuming that the correct expression of price is a flat-rate DPU, which is unsound as we have explained. In fact, it is worse because the ***InterDigital*** case was one where Lenovo sold in markets where adjustments to lower prices was a significant part of the debate – see §40

above. Accordingly taking Lenovo's stack price (particularly expressed as DPU) and comparing it with Apple's (for different markets to Lenovo) cannot sensibly be performed.

147. We draw attention to just how opportunistic this argument is. First, there were two UK decisions previous to this case. In the first, ***Unwired***, Birss J carried out a top-down cross check and concluded that an aggregate stack price of 8.8% was reasonable. Apple do not want a comparison with that to be made. In the second, ***InterDigital***, Mellor J rejected a top-down cross check because it gave a figure too low when applied to the licences in that case. He preferred to stick with his conclusion based on the best comparable. So ***InterDigital*** itself was a case where a satisfactory top-down cross check could not be performed. Although Apple did not advance this point in the CA, it had the ***InterDigital*** decision well in mind – it sought to make a different point as its Grounds recognise, but which is not pursued in its case.

148. Apple's Grounds identified $6 as the aggregate stack in ***InterDigital***. But that figure is nowhere to be seen in the judgments in that case (or any other). No judge has ever concluded that $6 is a reasonable aggregate stack price (for any implementer). Before receipt of Apple's case, it was a puzzle as to precisely how $6 was calculated, causing Optis's representatives considerable difficulty. The mathematics are now made plain at §74. Apple mixes and matches conclusions or findings in the two cases. It uses the DPU rate for the licence to Lenovo in ***IDG CA*** [284] ($0.225) and the Judge's determination of InterDigital's stack share from this case at e.g. table 9 [465] or table 11 [482] (3.74%). Dividing the DPU by the share gives an aggregate stack price of $6.02. Apple has also had another thought between preparing its Grounds and its Case. For the first time it now suggests the aggregate stack from ***InterDigital*** matches the Judge's aggregate stack.

149. Apple is alive to the problem with this kind of mixing and matching of figures and seeks pre-emptively to defend it. But that defence is no more than assertion that it is legitimate. The fact that it has to do this exercise shows not only how unreasonable the point is, but also that (i) it cannot be relying upon the ***InterDigital*** decision for any conclusion about what a reasonable aggregate stack is (not least because one of the numbers used to derive it was not available at the time of the ***InterDigital*** judgments); and (ii) what is really going on is an attempt to transpose the Judge's conclusion as to InterDigital's stack share in this case backwards into the ***InterDigital*** judgment itself. Findings of fact as to stack share specific to the evidence and methodology argued in another case cannot be used fairly in this way. Accordingly, limb 2 of ground 2 is bad quite apart from any considerations as to ***Hollington*** and comity.

150. §§78-83 of Apple's Case says that the CA did not make the comparison because of an alleged distinction relying on ***Hollington***. This is toned down from Apple's Grounds (§25) which allege that the CA "*refused*" to look at the ***InterDigital*** comparison because of the alleged distinction. As this point was no part of any argument (written or oral) before the CA this criticism is unfair on Birss LJ, as is the suggestion at §83 that Optis could have contested the weight to be afforded to it.

151. Apple refers to CAJ [44]-[45]. At [44] Birss LJ explained how the Judge dealt with the case scaling from the royalty in ***Unwired***. Birss LJ notes that case fell foul of the rule in ***Hollington*** which was not challenged, and expressed his agreement. CAJ [45] identifies a different consideration when the court is exercising its jurisdiction setting rates in a global context. In that regard, questions of comity mean that the court may very well take judicial notice of conclusions of other courts around the world. The example given is aggregate rates in cases in Japan and the USA and he makes it clear that this is not to use those cases as a source of admissible evidence, but that it is nonetheless helpful to see what is happening. Birss LJ is not turning his mind to the question whether the same would apply to cases that happen to have been decided in the UK courts. He is simply not addressing that point and is certainly not drawing the distinction Apple suggest.

152. Apple appreciates the point Birss LJ is making between use as admissible evidence and judicial notice. §79 of Apple's Case, correctly identifies precisely the point: that the court will not want to reach an inconsistent conclusion without being aware that it is doing so. In this regard, we agree with Apple's understanding of Birss LJ's point.

153. What is important is the <u>kind</u> of conclusion that Birss LJ is referring to, exemplified by the aggregate rates. Where another judge can be clearly understood to be expressing an opinion as to the reasonableness of a particular aggregate royalty, knowing that may be helpful to a judge because they will not want to reach an inconsistent conclusion without being aware of doing so. In the context of the FRAND jurisdiction setting global rates questions of comity arise. These are not just as to the possibility of deciding the same or related issues differently to foreign courts, but also the fact that the decision has an effect internationally. As regards foreign courts, both types of point may arise, but the point as to decisions having international effect arises whether the other court is foreign or domestic. Accordingly, questions of comity may arise domestically too although they are more significant when one is considering the potential for difference with a foreign court.

154. However, the circumstances where this consideration arises are limited. It can only be engaged where the other court has expressed an opinion or come to a conclusion on an issue which has an

obvious relevance to how valuations across the FRAND regime as a whole operate. For example, in addition to a conclusion that a particular aggregate royalty is reasonable, regard might be had to conclusions other courts have reached as to the utility or draw backs of particular methodologies. What this kind of consideration is not about is specific conclusions as to rates to be derived from particular agreements, conclusions as to which are better representations as to FRAND for specific portfolios, conclusions on the evidence before the court as to stack shares of particular parties and matters of that kind. Still less can it apply to calculations carried out by parties ex post, based upon conclusions of this nature and combining them to suggest an earlier decision was impliedly endorsing or reaching different conclusions. That does fall foul of the rule in ***Hollington***.

155. Accordingly, the exercise is not permissible, even if Apple had sought to persuade the CA to consider it, which it was incumbent upon it to do for the point to be open in this Court.

GROUND 3

156. Ground 3 is directed to the situation where this Court accepts that the CA was entitled to overturn the Judge's approach. In those circumstances, the CA was entitled and correct to determine the FRAND rate itself and did not need to remit back to the High Court. Birss LJ correctly identified the legal principle at CAJ [126], namely that a retrial must be regarded as a last resort, to be ordered if it is the only just course (***Simetra v Ikon Finance*** [2019] 4 W.L.R. 112, [8] and [187]). Apple does not dispute that this is the correct principle. It follows that when it decided not to order a retrial, the CA asked itself the correct question, and engaged in an evaluative exercise. That exercise was for the CA, and not this Court, to carry out. This Court would not be justified in interfering with the CA's conclusion on the question, in the absence of an error of principle.

157. At §87 Apple cites four authorities to the effect that an appellate court should not lightly interfere with an evaluative judgment of the court below. We agree and rely on this principle in support of the point above. But this principle has no application in relation to Apple's Ground 3, because Ground 3 assumes that the CA was justified in overturning the Judge's assessment. Those authorities say nothing about what the appellate court must do once it has determined that the Judge's judgment cannot stand. Nor does ***Iconix v Dream Pairs*** [2025] 4 All ER 711 cited at §94.

158. At §88 Apple cites three authorities for the principle that the appellate court cannot make its own assessment without the necessary findings of fact by the Judge. We agree, with two qualifications: (i) what is "*necessary*" for this purpose is a matter for evaluation by the appellate court; and (ii) the Judge's findings of fact are to be supplemented by the common ground. The question for the appellate court (i.e. the CA in this case) is always whether it has sufficient primary facts, from the

common ground and the findings of the Judge, to be able to carry out the necessary assessment, or whether the only just course is to remit the case for further facts to be found.

159. In this case Birss LJ took great care to identify both the common ground and the Judge's findings of fact which were needed for him to carry out the assessment (see CAJ [127] *et seq*). We have summarised his analysis at §§90-103 above, demonstrating that every step in the process was firmly based in the common ground or the Judge's findings of fact. Apple says this was based upon materials that "*happened to be before the Court*" as if it was materially incomplete and happenstance; but it was obliged at least to point to examples of evidence that also needed to be considered.

160. Apple's Case §90 contains five specific complaints, which are all misconceived:

a. "*(i) adopted a new approach and decision as to which comparables were relevant and how they should be analysed*": the decision as to which comparables to use was made by the Judge. What Birss LJ did was explain why the Apple licences implied a rate which was too low, and the Google-Optis licence implied a rate which was too high. As to how they should be analysed, Birss LJ explained at [128] how he was adopting the "*core of the judge's approach*", namely putting them on a common scale, by reference to stack share calculated in accordance with Apple's Innography data. Doing this using DPU was adopting Apple's preferred approach, in accordance with Optis's concession.

b. "*(ii) considered a new case opened up by Optis on appeal, involving reliance on a single comparable*" (a point developed by Apple at §93): it was the Judge who decided that the Google-Optis licence, but not any of Optis's other licences, was a useful comparable. At trial both parties presented detailed arguments about the reliability of the various comparables, and it was always a possibility that the Judge would select one or only a few of them to rely on. Optis did not "*open up a new case*": it simply accepted (as it had to) that the findings by the Judge meant that of the Optis licences only the Google-Optis could be used in the FRAND determination. The CA simply followed the Judge in that regard. Furthermore, whatever Optis submitted to the CA, Birss LJ did not use that single comparable – he also took into account the Apple comparables. Birss LJ rejected this point below (CAJ [127]) and was right to do so.

c. "*(iii) created columns of data and comparisons for itself, by way of original analysis*": this was data produced by the experts (which Birss LJ did not need to pick between – he used the data at a level of generality as was common ground), scaled using the Judge's finding that the Optis stack share to be licensed was 0.38%.

d. "*(iv) picked numbers rounded to the nearest $0.05, a variation making a difference of $167 million dollars for each increment, as the only "realistic options" even though there was and is no basis for such an approach and such had not been suggested by any expert or other witness*": this was simply the application of the "broad axe" which was common ground. We have addressed this point at §§138-139 above, noting that if Birss LJ had proceeded as if greater precision were possible, such as $0.02 increments, the likely outcome would be a higher rate between $0.15 and $0.20.

e. "*(v) conducted a cursory and flawed cross-check analysis*": we do not understand this. Birss LJ conducted a conventional top-down cross-check using the 0.38% stack share determined by the Judge. It was not cursory or flawed.

161. It is also useful to consider what a retrial would involve. It would consider licences that were both too low [redacted] and too high (Optis-Google). Moreover, the Judge's finding of fact that a reasonable price for the stack is below 15% means that the upper bound that comes from the Google licence should be less than $0.27. Both ends of that window were calculated using the Judge's finding that Optis's stack share is 0.38%. It follows that the retrial judge would have to choose between $0.15 or $0.20 per unit, just as Birss LJ did at CA [144]-[145]. It was plainly not necessary to remit that question to the High Court, when the CA was perfectly able to make a decision, which it did by using a cross-check with the Judge's figure of 0.38% for Optis's stack share. Accordingly, the CA was right and entitled to form the view that a retrial was <u>not</u> the <u>only</u> just course.

GROUND 4

162. This ground concerns past sales. It is not about the drafting of a term in the licence, but rather concerns the underlying methodology used to reach the overall lump sum. As explained above, the general approach in FRAND cases is to identify a price per unit (whether working in AV or DPU) and then to calculate the total sum due by reference to the number of sales to be paid for. Additionally, one generally provides for interest payable in respect of sales made in the past. Net present valuing may reduce the money for accelerated receipt on sales to be made in the future.

163. Apple's Case (at §9(c), §§130-131 and §134), asks this Court to hold (i) that it is generally FRAND to take full account of the periods of limitation for the jurisdictions where the substantial proportion of the portfolio was filed (normally 6 years prior to commencement of infringement proceedings), but that (ii) on the basis of alleged "*additional considerations*" on the specific facts of this case, royalties for past sales should only be paid from first contact (Apple's Case §134).

164. As regards point (i), the practical effect of this argument is to exclude royalty payments for about 7 weeks of sales, from 1 Jan 2013 (the date Optis sought to license from) to 25 February 2013 (6 years before the claim was issued).

165. Point (ii) is not open to Apple. It was not pleaded in its position statement and it was not run at trial. Apple's case at trial was for a 6-year limitation period to exclude any sales made more than 6 years prior to the commencement of these proceedings. That was advanced by reference to the period applicable under UK law for patent infringement: see Apple's Position Statement §39(I)-(I)(a); its answers to the Judge's questions (11 June 2022) at row E and its Closing §§668-670.

166. As evidence in support of point (ii) Apple relies upon §§131-134 of its case. However, the Judge did not decide to exclude sales made before the date of first contact because of any specific "*considerations*" as between Optis and Apple. He decided it based on (i) the general point that patentees (including Optis) in practice seek out implementers, and (ii) an assertion (without reference to any evidence or reasoning) that it would be "*unrealistic and overly burdensome*" for implementers to seek out SEP owners (HCJ [499]; and CJ [101(v)], addressed in substance below in the context of ***IDG CA***).

167. Apple's points §§131-134 are bad in any event. First, the Samsung patents only make up a small part of the Optis Portfolio (c. 7%). Second, there was no evidence to suggest that Samsung's statements were the reason why Apple did not seek a licence from Samsung. To the contrary, it was Apple's policy to wait to be chased by patentees for licences (e.g. [Day 4/627-630]). [redacted] Apple had been in discussions with Unwired [redacted] Planet (before it was purchased by Optis), [redacted] and with Ericsson in 2014 [redacted]. In any event, the fact that Optis did not contact Apple immediately after it had acquired the patents is no basis for denying Optis payment for Apple's past sales.

168. It is also not open to Apple to try to rely on principles of US law, as it seeks to do in fn.40. US law was not pleaded and there was no evidence of US law on limitation.

169. On the substantive issues on point (i), at §117 Apple accepts no limitation period actually applies to the claim before the court. This is because a FRAND determination does not arise as a claim to damages for patent infringement; it arises in the context of patent infringement proceedings. This was the fundamental reasoning in ***UP SC***. The question is what is FRAND between the parties. In other words, as a general rule how would a willing licensor and licensee value past sales

in a FRAND licence? This question should be addressed on the assumption that willingness of the licensor and licensee has existed throughout. Most specifically, that they have been willing both before and during the period since they first entered into dialogue and negotiations. Regard must be had to the fact that there will be a period that a patentee is expected not to enforce its rights by injunction in the expectation that licence terms will be negotiated and agreed: ***UP SC*** [10].

170. The issues that arise are therefore logically as follows: (i) does Apple's 'limitation' contention form any part of the approach of the hypothetical willing licensor / licensee? If it does not, that is the end of the matter; (ii) if it does, what is (a) the period of past sales that are included; and (b) the date from which the period extends back? As to these questions we make two preliminary points.

171. First, a key plank of Apple's argument assumes that, if limitation periods of typically 6 years are applied in real life licences – specifically its own licences – then it would necessarily play a part in the negotiation between a willing licensor and licensee (see e.g. Apple's Case §§105; 108; 110; 111; 125; 127). This is the fallacy we have explained at §§24-27 above. Further, as to the industry practice of implementers not paying royalties on past sales, it has been held in these proceedings (Trial F) that "*frequently when a licence agreement is made the SEP owner has to discount the royalties/damages for past acts…this is a significant and tangible result of delay*", and that "*In general having to discount is a real problem of delay*" (***Optis F HC*** [240(iv)]). This is all of a piece with ***UP SC*** [10] which also refers to SEP holders having to accept a lower rate than is fair because of the damaging effect of delay. In other words, the reasons for the industry practice of not paying for past sales are non-FRAND reasons. Apple seeks to go behind these findings as to the reasons for the industry practice at §128 by reference to Apple's own conduct. But Apple's conduct is very far from that of a willing licensee as we have explained at §§53-64 above.

172. Second, the logic of Apple's point about it being industry practice *in negotiations* to factor in limitation does not fit with the suggestion that the cut-off date for royalty payments should be 6 years from the date of the claim form. The date of the claim form would be unknown and typically long after negotiations start. When one considers the relevant question, namely what willing licensors and licensees would agree in relation to payment for past sales, it is immediately apparent that they would at least agree that the time spent negotiating to reach agreement (often a considerable period) would not prejudice either side from that point in time. Indeed, that was one of the conclusions reached by Arnold LJ in ***IDG CA*** [187]. If he was right about that, the argument based on limitation would have no effect in this case (even if limitation may play a role in some cases). The 6-year period would extend back from the date of first contact (which in this case covers all the past sales covered by the licence).

173. In any event as to whether limitation would affect what willing licensors and licensees would agree should be paid for in the first place, Arnold LJ was correct in ***IDG CA*** for the reasons he gave. We address those reasons below, and pick up Apple's criticisms in turn.

174. **First,** an implementer requires a licence from the first day it implements the standard and a willing licensee would not sit back and wait for demands from SEP owners. Arnold LJ rightly held that willing licensees would pro-actively contact SEP owners (***IDG CA*** [187]). On this point, it is clear that ETSI intended implementers to do so. Arnold LJ referred at [187] to the FAQs on the 2014 ETSI website which indicated that it was the implementer's responsibility to contact the patentee. Apple's quibble that the website no longer contains that page (its case at §103) is nothing to the point. The FAQs provide a relevant indication of ETSI's understanding as to what willing implementers would and should do. This is no doubt why Meade J in these proceedings also referred to the FAQs in ***Optis F HC*** at [228]. Further and in any event, the ETSI Guide §3.1.2 and the ETSI database itself (which remains on the ETSI website) reiterates the same point as that made in the FAQs.

175. Furthermore, the proper interpretation of the class of beneficiaries of the ETSI IPR Policy is those who want a licence to work the standards and which intend to work the standard under a licence (so held in these proceedings in ***Optis F HC*** at [285]; upheld on appeal). It follows that a beneficiary would seek out a licence. Indeed, clause 6.1 of the ETSI policy itself describes the beneficiaries as "*those who seek licences*" (***Optis F HC*** [255]-[257]; ***Optis F CA*** [68]).

176. At §98 and §§102-104 Apple suggests that the identities of patentees could not be readily ascertained from the ETSI database and that it is not commercially realistic for implementers to do so. But the Judge did not hold that it was not possible to find out who the patentees are, either from the ETSI database alone, or more generally. HCJ [111] (and the parties' joint response to the Court on the ETSI database, referred to in Apple's Case at §104) was about the utility of the ETSI database alone to ascertain the total declared SEP stack; it was not addressing how it can be used to ascertain who the patentees are.

177. As to HCJ [499], the Judge said that it was unrealistic for implementers to contact patentees without reference to any evidence or analysis. Moreover, when he came to that view he had forgotten all about Optis's case advanced by reference to the ETSI materials which had been addressed orally and in writing, and been explored with Apple's witness in XX, which he later recognised would clearly have a bearing on the issue (consequentials [Day 1/37-38 and 44-46]).

178. **Second**, Arnold LJ explained that ETSI envisaged that willing licensees would put money aside for the payment of royalties from the start, as §4.5 of the ETSI Guide makes clear. Indeed, as is noted in ***IDG HC*** [203] and ***IDG CA*** [36] a willing licensee might well make payments on account to demonstrate its willingness. Put another way, these indicators in the ETSI Guide point to the fact that a willing licensee would not wait to be discovered and approached for a licence – they would seek out the licence from the get go – and if there was any delay they would be putting money aside.

179. Apple claims that this is not supported by industry practice and not practical (§§108-109). As to industry practice, we have explained why that is not an answer. On practicalities, this was addressed in these proceedings in Trial F. Apple's witness was XX'd on it and she did not disagree that there were steps that could be taken to make provision for potential licence fees (she only suggested that there may be specific approaches that would not be suitable in light of US accounting practices) ***Optis F HC*** [226]. Importantly, Meade J held in that judgment in these proceedings at [227] (affirmed ***Optis F CA*** [71]) that "*The evidence also established, in my view, that implementers are able, with information from research organisations, the ETSI database, and SEP holders themselves in the course of negotiations, to estimate what a FRAND rate is likely to be*". Apple's complaint at §112 and §118 as to uncertainty as to how much implementers may have to pay is contrary to this finding. Willing licensees could and should have sought out licences and at the very least made provision so that they can pay for using the standard. Doing so would positively protect implementers from those sorts of alleged uncertainties. Moreover, if an implementer having negotiated with a SEP holder cannot agree satisfactory terms, implementers are able to bring the matter to a head, either by agreeing to a suitable arbitration or by court proceedings.

180. **Third**, at ***IDG CA*** [188]-[189] Arnold LJ pointed out that FRAND terms reflect the value of the SEPs. That value should not be different as between market participants dependent upon when the licence is entered into. That would be to discriminate against conscientious licensees and in favour of those who sit back waiting to be approached and then delay taking a licence. An implementer should not be rewarded for delay and there should be no difference in valuation in cases where there is delay, whether the delay is the fault of the implementer or not. Apple claims that factoring in limitation does not unfairly discriminate between licences agreed promptly and those which are not as it is due to "*objective market circumstances*". But the circumstances of how quickly a licence is concluded is not an objective feature of the market; it is based in significant part on the behaviour of the particular implementer – typically not identifying itself and/or dragging out negotiations.

181. This is not to say that no aspect of the calculation can ever have regard to the actual conduct of parties, including the patentee. Arnold LJ drew attention to the fact that there are other matters – for example the treatment of interest in the calculation – which may fairly reflect special factors in any particular case. However, the basic value of the SEPs to the implementer's use i.e. the value of the SEPs for each unit and the number of units covered will not generally change as between cases where there has been a very promptly concluded licence and one where there has been a considerable period of unlicenced past sales. That is the substance of Arnold LJ's reasoning. It is to treat the parties as if they were in fact willing licensors and licensees throughout (which is the correct approach) and leads to the conclusion that it is generally not FRAND for past sales to be excluded from the calculation. As to interest, Apple's suggestion at §135 that Optis got a windfall interest rate is wrong: it was common ground that Optis's cost of debt would be higher than the 6% awarded by the Court (Bezant 1 §7.24; Gutteridge 2 §§6.10-6.11).

182. **Fourth**, as to the incentives that might apply if royalty bearing past sales were limited, Arnold LJ recognised that not limiting them does not create an incentive for SEP owners to make excessive demands. By contrast, applying an approach which excludes sales older than say 6 years, creates an incentive for implementers to delay. See ***IDG CA*** [192]-[193]. Further, at [193] he explained that placing an onus on a SEP owner to start proceedings is inconsistent with FRAND, as FRAND terms should be agreed by the parties without any need to go to court (***UP SC*** [62]). The effect of Apple's case would require SEP owners to issue claims rapidly. Apple suggests now that this is no bad thing (§121). But as Arnold LJ pointed out, SEP owners are often criticised for bringing proceedings precipitously. Indeed, Apple itself argued as part of its jurisdiction challenge that Optis had brought litigation precipitously and in doing so had breached competition law; (***Optis v Apple*** [2019] EWHC 3538 (Pat) [34]). This point is reinforced when one also considers the requirements of ***Huawei*** at [61]-[69] to the effect that a SEP owner should engage in negotiations before issuing proceedings – at least to have the benefit of that case and avoid any allegation of improper conduct in starting proceedings.

183. Apple also claims that the decision in ***IDG CA*** would disincentivise SEP holders to assert their rights promptly, referring to the risk of SEP holders "*sleeping on their rights*" (see §115 and §120). However this is again flat contrary to the conclusion and the findings made in these proceedings in Trial F, that the effect of delay is significantly asymmetrically damaging to patentees, and that discounting for past sales is in general a "*real problem of delay*" (***Optis F HC*** at [182], [240] and [245]). These points were also clearly identified by this Court in ***UP SC*** at [10] when addressing the key internal context of the ETSI IPR Policy, as Meade J recognised (***Optis F HC*** [245]-[246]).

See also ***Optis F CA*** [36] and [67]; ***IDG CA*** [194]. Apple's Case §122 asserts that ***UP SC*** [10] was not addressing as a general industry feature that delay is asymmetrically damaging to SEP holders. We do not understand the basis for this submission. Moreover, it fails entirely to engage with the explicit findings of such a general industry feature made in these proceedings in Trial F.

GROUND 5

184. This ground requires consideration of the position concerning the US and English proceedings as things stood before the Judge and the CA. Apple says Ground 5 may be relevant for future cases. Optis's case on Ground 5 is: (a) that no general principle is raised, rather the point relates to a bespoke solution to a very particular set of circumstances that arose in this case; (b) contrary to Apple's Case §143, this is not about achieving supra-FRAND as the US jury expressly determined a FRAND royalty for the 5 US patents in issue in those proceedings; and (c) that the CA was right for the reasons given at CAJ [168]-[259].

185. The issue remains live after the recent US trial because Optis considers it is flawed (just as Apple considered two previous decisions flawed) and Apple has made clear that it wishes to keep open the possibility of relying upon the US outcome on individual patents in these proceedings.

186. CAJ [252]-[256] identifies four errors in the Judge's analysis. We add that he did not consider the correct question, namely what would a willing licensee and licensor agree to do with the EDTX proceedings? Apple does <u>not</u> challenge the CA on the first three of those errors. Only the fourth (comity) is criticised, although a provision that compels a regularly obtained judgment from a competent court manifestly raises questions of comity.

187. Having concluded that the Judge erred, Arnold LJ focussed on the correct question: what would a willing licensee and willing licensor agree? He concluded that <u>in the particular circumstances of this case</u>, they would agree to treat the result of the EDTX proceedings as a floor for the royalties payable under the Court Determined Licence. In summary:

    a. The reason that the two sets of proceedings went all the way to final judgment (subject to appeals) was Apple's refusal to accept that <u>any</u> court could or should determine FRAND terms (CA [223]-[233]). This was the decisive factor in the analysis (CA [257]).

    b. A willing licensee in Apple's position would therefore recognise that it would not be fair or reasonable for the Court Determined Licence to require the EDTX judgment (or any judgment on appeal) being set aside. Still less for it to require Optis to do so without even being reimbursed for the costs of the US proceedings (CAJ [257]).

c. In principle, the right answer would be for the English courts' valuation to be adjusted to take account of the EDTX judgment, but the valuation methodologies adopted by the parties made that impractical (CAJ [244], [257]).

d. In those circumstances, the least-worst solution to the problem which Apple had caused was for the final EDTX judgment to be treated as a floor (CAJ [257]).

188. Arnold LJ also explained that his preferred solution was supported by reasons of comity (CAJ [258]). But that was not the route by which he reached his conclusion.

189. Apple argues that no account should be had as to its conduct, relying on dicta directed to the price not changing if the licensee had been unwilling. However, that is completely impractical and would suggest the FRAND licence simply ignores the US proceedings. Also it was not actually Apple's position. It never argued for ignoring this state of affairs that has arisen as a result of its conduct. On the contrary, it argued that the licence should deal with the US proceedings by providing for 'patent peace' (this would have been problematic as licensees should not usually be prevented from challenging patents and nor is that likely compatible with ***Huawei***) and it jumped on the Judge saying he would order Optis to set aside the US judgment and discontinue the proceedings (which was procedurally unfair – see CAJ [234]-[237]) and had always contended that the licence needed to address the US proceedings so as to avoid double recovery (something Optis accepts).

CONCLUSION – REASONS RELIED UPON

190. In summary, the appeal should be dismissed for the following reasons:

a. The Judge's assessment of the FRAND terms was flawed, involving numerous errors of principle; such that the CA was obliged and right to set it aside.

b. In the circumstances, the CA was entitled and right to determine the FRAND terms itself, rather than remit the case for retrial.

c. The CA's assessment of FRAND terms was an evaluation, which it carried out correctly and without any error of principle; such that there is no basis for this Court to interfere with it.

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