5G, FRAND LICENSING, AND EU COMPETITION LAW: ANALYTICAL RIGOR AND PERSISTENT MYTHS

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I. INTRODUCTION

It is now undisputed that 5G and the Internet of things ("IoT") will revolutionize many industries, from energy to healthcare, manufacturing and mobility. The dissemination of 5G cellular technology, connecting devices to the Internet on the basis of technical interoperability and performance standards, will generate very significant consumer benefits.[2] However, as 5G technology is designed for many different uses, and parties situated at multiple and different levels in the production chain may request manufacturing licenses from standard-essential patent ("SEP") holders, the question arises whether antitrust law sets any limits to SEP holders' discretion to offer fair, reasonable, and non-discriminatory ("FRAND") licenses to interested parties.

Not surprisingly, parties seeking to incorporate 5G technology into their product offerings sometimes claim that there is an antitrust "duty to deal" to offer licenses to all such interested parties.[3] This contribution briefly discusses a number of necessary conditions that must be met to conclude that such an affirmative duty exists in any given situation. Along the way, it seeks to dispel a few popular antitrust myths in the area of SEP licensing.

The overall conclusion is that prospective licensees seeking formal licenses under SEPs face a number of significant challenges to substantiating a robust theory of harm. Not only do they need to overcome the general presumption that differential licensing terms are welfare-enhancing, but they should also ensure that each of the necessary condition of a specific antitrust violation is met.

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2 As the European Commission ("EC") has observed itself, the digitalization of the economy creates great opportunities for the EU industry. According to the EC, the estimated economic potential of IoT applications in devices for humans, home, offices, factories, worksites, retail environments, cities, vehicles and the outdoors will be up to EUR 9 trillion per year by 2025 in developed countries. The digitalization of products and services can add more than EUR 110 billion in revenue to the European economy per year over the next five years. Without interoperability, enabled by standards, 40 percent of the potential benefits of IoT systems would not be reaped. See Communication from the Commission, Setting out the EU approach to Standard Essential Patents, available at https://ec.europa.eu/docsroom/documents/26583.

3 MLex, March, 20, 2020, *Daimler files EU complaint against Nokia over communications patents*, available at https://www.mlex.com/GlobalAntitrust/DetailView.aspx?cid=1075681&siteid=190&rdir=1.

II. SIGNPOSTS AT THE IP AND ANTITRUST INTERFACE

Before exploring in which circumstances and under which conditions competition law sets limits to SEP holders' discretion to license their intellectual property ("IP") to the category of potential licensees of their choice, it is useful to briefly recall a number of well-established first principles that govern the interface between IP rights and competition law, as well as the main implications of the 2015 *Huawei/ZTE* judgment of the EU Court of Justice.

First, IP rights exist by virtue of specific IP legislation, in particular patent law. It is important to realize that the role of IP law is to assign property rights, taking into account the trade-offs between the incentives to innovate of both initial and follow-on innovators, static welfare losses from higher product prices and the diffusion of knowledge. In contrast, the role of competition policy is to regulate the abuse of IP-based market power when IP rights give rise to such market power.

Because IP law already strikes a balance between reward, static efficiency and diffusion of knowledge, there is *a priori* only limited scope for competition enforcement agencies to modulate the application of IPRs across different sectors, or to address any perceived failures of the IP system. This is despite a trend of heightened antitrust scrutiny and interventions in cases where competition agencies appear to have doubts whether the IP system generates the "appropriate" outcome, as well as attempts to strengthen competition law mechanisms to address and correct perceived failures of the IP system.[4]

Second, licensing of IP enables innovators to seek compensation for successful research and development projects that in turn maintain investment incentives, balancing these successes against investments in failed projects. In many industries the licensing of IP is essential for businesses. It helps disseminate innovation, lowers barriers to entry and allows companies to integrate and use complementary technologies to which they would otherwise not have access to. It is therefore not surprising that most license agreements are deemed not to restrict competition and, instead, create pro-competitive efficiencies. In fact, it is only in exceptional circumstances that licensing (or licensing-related) conduct may produce anti-competitive effects. This principle is also reflected in the EU Courts' case law setting out the conditions under which a refusal to license IP rights constitutes an abuse of a dominant position under Article 102 TFEU. As will be discussed below, this may only be the case in narrowly defined circumstances.

Third, it is sometimes overlooked that the much discussed judgment of the EU Court of Justice in *Huawei v. ZTE* applies only to a very narrow and well-defined set of factual circumstances, namely a scenario where: (i) an SEP holder has voluntarily agreed to licensing on FRAND terms; (ii) the licensee can properly be considered a "willing licensee"; and (iii) the SEP holder seeks an injunction against that party.[5] And in this narrow scenario, the judgment considers whether the infringer can raise a competition law defense.[6] Crucially, the judgment does not set out any obligation to license as such: it only sets out when the seeking of an injunction against an infringing party who is a "willing licensee" may potentially be in violation of Article 102 TFEU.[7] To be fair, in *Huawei v. ZTE* the court did mention that a refusal to license may constitute an abuse of dominance because the SEP holder's FRAND commitment "creates legitimate expectations on the part of third parties" that such a license should be given.[8] However, while it is understandable for the court to discuss the role of legitimate expectations in the context of bilateral licensing negotiations with a prospective licensee that the SEP holder has elected to license, it is quite a stretch – to say the least – to conclude that this reference implies that a SEP owner would be obliged to offer licenses to any party who wishes to take a license¸ including categories of implementers or component suppliers it has never licensed in the past"[9]

4 In particular, and especially in Europe, the EC appears to be concerned about potentially invalid IP being licensed. As a result, in 2014 it has amended the safe harbor block exemption for technology transfer agreements by no longer exempting contractual rights to terminate a license agreement in the event of a challenge of the licensed IP. This change permits licensees to more easily challenge the validity of licensed IP without the risk of the license being terminated.

5 EU Court of Justice, judgment of July 16, 2015, *Huawei Technologies Co. v. ZTE*, Case C-170/13, ECLI:EU:C:2015:477.

6 See Dina Kallay, The ECJ Huawei – ZTE Decision: En Route to Ending Hold-Out? CPI Antitrust Chronicle, October 2015 (2) https://www.competitionpolicyinternational.com/the-ecj-huaweizte-decision-en-route-to-ending-hold-out/.

7 *Ibid.* paras. 53-55, 60-61 and 71, as well as operative part of the judgment.

8 *Ibid.* para 53.

9 This is confirmed by the court's statement in para 54 of the judgment that "*[h]owever, under Article 102 TFEU, the proprietor of the patent is obliged only to grant a license on FRAND terms.*"

III. THEORIES OF HARM AND NECESSARY CONDITIONS

Let's now turn to the scenario whereby a party who manufactures a product or component according to the 5G standard wishes to obtain a patent license under a particular SEP owner's SEPs and where the SEP owner has committed to licensing its SEPs on FRAND terms, but has elected to only license a specific class of implementers, for instance those located at a particular level of the production chain (e.g. the end device level). Let's assume further that the licensor's licensing policy is in line with the FRAND commitments of the relevant standard development organization. The question then arises whether the refusal to license a particular implementer at another level of the production chain may constitute an antitrust violation[10], despite the fact that such refusal would not infringe the licensor's contractual FRAND obligations.[11]

While each matter presents its own specific facts, EU antitrust law offers a number of general potential avenues that may be explored by implementers (or the parties they supply) to establish an antitrust violation in this scenario.
First, the refusal of the SEP holder may be framed as an anti-competitive refusal to deal under Article 102(b) TFEU. The intuition underlying this theory of harm is that the refusal to license an indispensable input would prevent new products coming to the market and excludes any effective competition on a particular market.

Second, an alternative line of argument would be to characterize the refusal to deal as anti-competitive discrimination under Article 102(c) TFEU. This argument would assume that the non-discrimination principle embodied in Article 102(c) TFEU mandates that SEP holders must offer any party requesting a FRAND license such a license on substantially similar licensing terms as the SEP holder has offered to other implementers (that are active at another level of the production chain).

Third, the case at hand may present facts that would support the notion that not extending a licensing offer to the implementer, or doing so at terms that the implementer would believe are prohibitive, constitutes excessive pricing under Article 102(a) TFEU. While this claim may not directly result in a finding that there is an antitrust duty to offer a license, it may support a more comprehensive antitrust strategy. As excessive pricing claims as such (without necessarily an exclusionary component) are not cognizable under U.S. law, this avenue might only have some promise in the EU and jurisdictions with similar competition regimes.

It is important to realize that each of these theories of harm is built on a number of necessary conditions that must each be met for the antitrust violation to exist. These conditions and the hurdles that they present will be briefly discussed below.

However, to prevail on any of the three claims mentioned above, one additional condition must be met: the SEP owner must have a dominant position on a properly defined relevant market. Indeed, if the implementer fails to establish that the SEP owner holds a dominant position within the meaning of Article 102 TFEU, none of its claims under that provision will be successful.

IV. DOMINANCE: THE CASE OF SEPS

One may be tempted to take the position that SEPs necessarily imply a dominant position within the meaning of Article 102 TFEU. After all, the manufacture of a standard-compliant product necessarily infringes the SEPs that read on that standard. Assuming that the relevant market is the market for licenses under the SEPs, the SEP owner has a 100 percent market share. However, establishing a dominant position on the basis of IP rights, even in a SEP-setting, may present some significant evidentiary hurdles.

First, it is now common wisdom that IP rights, including SEPs, do not necessarily confer monopoly power. Instead, establishing dominance or monopoly power requires a fact-specific, case-by-case analysis, which generally requires consideration of what constitutes a well-defined relevant market, whether there are potential substitutes to the patented technologies (including workarounds), and other factors. With respect to SEPs, an additional question is whether the ability to exercise any monopoly (or market) power is constrained by a patent holder's voluntary FRAND commitments and countervailing power that implementers may have.[12]

10 For example, component makers in the EU who supply car manufacturers in the EU have argued that there is an obligation for SEP holders under Article 102 TFEU to offer a FRAND license to any third party requesting a license, irrespective of their level in the supply chain. See, for example, Mlex, Connected-cars patent fight to explore legal gray area for licensing, 29 April 2019.

11 Note that under the *Huawei/ZTE* standard SEP owners would be unable to secure an injunction without first extending a FRAND offer to a particular implementer and thus could not deny access to that implementer.

12 See for instance European Commission, decision of 29 April 2014, Case AT.39985 – *Motorola – Enforcement of GPRS Standard Essential Patents*, para. 223

In the U.S., in 2006, the U.S. Supreme Court adopted the approach taken by the U.S. agencies in their 1995 Antitrust Guidelines for the Licensing of Intellectual Property, holding that patents do not necessarily confer market power.[13] With respect to SEPs, one U.S. court has explicitly held that owning an SEP does not necessarily confer market power.[14] This position is also confirmed by the head of the U.S. Department of Justice's Antitrust Division ("DOJ").[15] A former Deputy Assistant Attorney General has however pointed out that when a standard incorporating patented technology becomes established, that technology may gain market power.[16] In the EU, it is a well-established principle that the mere ownership of IP rights does not in itself confer a dominant position.[17] This principle also applies to SEPs.[18]

The UK High Court judgment in the *Unwired Planet v. Huawei* case illustrates that establishing a dominant position in the SEP context is far from straightforward.[19] Indeed, in that case, the UK court only arrived at the conclusion that Unwired Planet was in a dominant position in the market for licenses under the relevant SEPs after a careful consideration of the impact of its FRAND obligations, as well as and the countervailing buyer power held by potential licensees.[20]

V. ABUSIVE REFUSAL TO DEAL

A party wishing to obtain a license under SEPs to ensure that the manufactured products are formally licensed, is likely to argue that it requires a SEP license. However, the question is whether this would be sufficient to establish that the SEP licensor's refusal to grant such a license amounts to an antitrust violation. The answer is that this is not in and of itself the case. What would the prospective licensee have to prove to establish an abusive refusal to license under Article 102(b) TFEU?

It is widely accepted that, as far as competition law is concerned, IP owners should generally be free to refuse to license their IP to other firms, and to limit exploitation of the innovation either to themselves or to its selected licensee(s).[21] Under EU competition law, a refusal to license may under exceptional circumstances constitute a violation of Article 102 TFEU where the IP owner holds a dominant position and where the refusal to license eliminates competition and prevents the developments of new products for which there is potential demand.[22]

13 *Ill. Tool Works Inc., v. Indep. Ink* (2006); U.S. IP Licensing Guidelines, , section 2.2.

14 *ChriMar Sys. v. Cisco Sys.*, 72 F Supp. 3d 1012 (N.D. Cal. 2014).

15 Delrahim, New Madison Approach, March 16, 2018, in particular pages 3 and 8, available at https://www.justice.gov/opa/speech/file/1044316/download.

16 Hesse, Six Small Proposals, October 10, 2012.

17 See, for example, EU Court of Justice, judgment of 6 April 1995, *Raidió Teilifís Éireann (RTÉ) and Independent Television Publications Ltd (ITP) v. Commission*, Joined cases C-241/91 P and C-242/91 P, ECLI:EU:C:1995:98, para 46. See also EC, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements, OJ C 11, 14.1.2011, p. 1–72, para. 269. See also EC, decision of 29 April 2014, Case AT.39985 – *Motorola – Enforcement of GPRS Standard Essential Patents*, para. 223.

18 EU Horizontal Guidelines, para. 269 (*"… However, even if the establishment of a standard can create or increase the market power of IPR holders possessing IPR essential to the standard, there is no presumption that holding or exercising IPR essential to a standard equates to the possession or exercise of market power. The question of market power can only be assessed on a case by case basis."*),

19 *Unwired Planet International Ltd v Huawei Technologies Co. Ltd & Anor* [2017] EWHC 711 (Pat) (05 April 2017), paras. 630-671.

20 *Ibid*. paras. 630-649.

21 OECD, Licensing of IP Rights and Competition Law, Background Note, 6 June 2019 page 31, available at https://one.oecd.org/document/DAF/COMP(2019)3/en/pdf,

22 See, in particular, EU General Court, judgment of 17 September 2007, Case T-201/04, *Microsoft v. Commission*, ECLI:EU:T:2007:289, para. 332; and EU Court of Justice, judgment of 29 April 2004, Case C-418/01, *IMS Health v. NDC Health*, ECLI:EU:C:2004:257, para. 38.

The position under EU competition law is consistent with U.S. antitrust law which does not generally impose upon parties, including owners of IPs, a duty to deal or to otherwise aid competitors.[23] With respect to IPs in particular, the U.S. antitrust agencies have stated that "antitrust liability for mere unilateral, unconditional refusals to license patents will not play a meaningful part" in their enforcement efforts.[24]

In sum, it appears that under the applicable EU antitrust standard, a prospective licensee faces a number of formidable hurdles. It would first have to demonstrate that the SEP license meets the indispensability standard, something that may in particular meet skepticism if the prospective licensee has already been active on the relevant market for a period of time and has, for example, benefitted from have-made rights under licenses concluded with its customers. Similarly, prospective licenses would be well-advised to carefully substantiate their arguments that the SEP licensor's refusal eliminates competition on the affected relevant market(s).

Finally, parties claiming an abusive refusal to deal, may want to consider developing arguments that distinguish SEP licensing from "ordinary" IP licensing and that support the notion that SEPs are subject to less stringent requirements. However, the current jurisprudence of the Court of Justice does not seem to offer meaningful indicators, if any.[25]

VI. ABUSIVE DISCRIMINATION

A second line of attack would be the proposition that, by refusing to offer licenses at particular classes of implementers, the SEP holder would engage in abusive discrimination within the meaning of Article 102(c) FEU.

To our knowledge, to date, there is no judicial guidance confirming that breaching the "ND" prong of FRAND alone amounts to an antitrust violence. As a consequence, it is even more difficult to imagine that differential SEP licensing terms that are FRAND would qualify as abusive within the meaning of Article 102(c) TFEU.

A credible anti-competitive SEP pricing claim would have to overcome two significant hurdles. First, the claim would have to be based on a robust narrative that overcomes the prevailing economic insights that posit that price discrimination and, as a corollary, differential licensing terms, only exceptionally give rise to anti-competitive effects and generally produce positive welfare effects. Second, the claim would have to meet the conditions for abusive discriminatory pricing as laid down in the jurisprudence of the Court of Justice. This line of case law makes clear that there is a need to show a "competitive disadvantage." Whether such a showing could be made where the SEP holder is consistent with its licensing strategy with respect to the level of the production chain it chooses to license on FRAND terms appears dubious."

There is an impressive body of empirical and theoretical economic studies that makes clear that the economic effects of price discrimination are at most ambiguous and in many circumstances have positive welfare effects.[26] Those general economic insights apply *mutatis mutandis* to the pricing of IP. In addition, however, the pricing of IP displays a number of specificities that should be factored into the analysis of differential pricing of IP. For instance, differential pricing in the form of lower royalties for early adaptors, or royalties that take account of the nature of the licensee's business may serve pro-competitive ends. It may also reflect differential stages of technological development, implementation, or outside competitive conditions. The notion that price differentiation – including concentrating licensing efforts on specific categories of implementers of the technology – likely leads to the broadest possible use of standardized technology and may be desirable to sustain development of the next generation of technology, implies that a credible discriminatory SEP pricing claim should at minimum substantiate why a particular differential treatment would result in negative welfare effects. This is not an easy task.

23 *Verizon v. Trinko* 540 U.S. 398 (2004).

24 2007 DOJ/FTC Report, U.S. IP 2017 IP Guidelines, at 3. There are no court decisions in the U.S. ruling on an alleged refusal to license a FRAND-committed SEP. In 2017, the FTC filed a complaint alleging that Qualcomm engaged in unlawful monopolization by seeking to unlawfully maintain its alleged monopoly in baseband processors (chipsets) through a variety of conduct, including refusal to license its FRAND- committed SEPs to component manufacturers such as chipset makers. The allegation is that a vertically integrated SEP-holder (i.e. one that both licenses patents in the upstream market and sells chipsets in the downstream market) refused to license competing chipset makers, resulting in substantial foreclosure in that downstream market. The first instance judgment is currently under appeal. See FTC v. Qualcomm, Case 5:17 -cv-00220-LHK (N.D. Cal. 2019).

25 See Section I.

26 For an overview, see for example the OECD Competition Committee Background Note on Price Discrimination, available at https://www.oecd.org/daf/competition/price-discrimination.htm See also Ullberg, Economic efficiency and field-of-use pricing of SEP licenses under FRAND terms, Queen Mary Journal of Intellectual Property, Volume 9, 2019.

In line with these economic insights, it is equally well-established that price discrimination does not in itself raise antitrust concerns. This is particularly well illustrated by the EU Court of Justice's judgment in *MEO*,[27] which dispelled any myth or suggestion that price discrimination might *per se* infringe Article 102(c) TFEU. It was already clear that this provision only applies to pricing that can be regarded as "discriminatory," i.e. pricing policies that involve the application of dissimilar conditions to equivalent transactions.[28] Such differential pricing may be pro-competitive and may reflect, for example, the fact that an implementer is an early adaptor, the specific nature of the licensee's business, or differential stages of technological development, implementation or outside competitive conditions.

Moreover, applying the ruling in *MEO* to the context of SEP licensing, it follows that even where differential SEP licensing terms are effectively "discriminatory," an infringement of Article 102(c) TFEU only arises where the price differential places the licensee that was charged comparatively higher or more unfavorable royalties at a competitive disadvantage by distorting the competitive relationship between competing licensees. Such distortion of competition cannot be inferred from the mere presence of a disadvantage due to the fact that one licensee is charged more than another. In fact, the ruling suggests that where the effect of a price differentiation on the profitability and profits of a given licensee is not significant, it may be inferred that there is no distortion of competition as required by Article 102(c) TFEU.[29]

In conclusion, while discriminatory pricing claims in the SEP-context cannot be excluded, they raise a number of intricate evidentiary hurdles.

VII. EXCESSIVE PRICING

Finally, let's briefly address the scope for excessive pricing claims within the meaning of Article 102(a) TFEU. As alluded to above, the doctrine of excessive pricing may particularly come into play as an ancillary theory of harm, or even as a primary argument in cases where the SEP licensor has offered a license, but where the prospective licensee considers that the licensing terms are excessively high or otherwise unfair. Successful excessive pricing claims under EU competition law are rare, mainly as a result of the intricacies involved in applying the *United Brands* standard.[30] The *United Brands* standard is centered around a comparison between the economic value of a product and the price charged. A price which significantly exceeds the value will be prima facie excessive.

However, determining whether royalty rates bear a clear relationship to the economic value of the patented technology raises a number of complex practical and conceptual issues, not least because there may be differences of opinion about the value that the technology adds t]o the licensed product, the fact that pricing in the SEP context is by its nature often well above marginal costs and because SEPs are differentiated products, which makes reliable price comparisons particularly difficult.

It is difficult to imagine how FRAND royalties can be found abusive under Article 102(a) TFEU. In fact, the UK High Court in Unwired Planet put it even more clearly: "[i]f the rate imposed is FRAND then it cannot be abusive. But a rate can be higher than the FRAND rate without being abusive too."[31]

27 EU Court of Justice, judgment of April 19, 2018, Case C-525/16, *MEO*, ECLI:EU:C:2018:270.

28 EU Court of Justice, judgment of 19 April 2018, Case C-525/16, *MEO*, ECLI:EU:C:2018:270, paras. 23 and 25. Often, SEP licensing agreements may not qualify as "equivalent transactions."

29 EU Court of Justice, judgment of April 19, 2018, Case C-525/16, *MEO*, ECLI:EU:C:2018:270, paras. 26-35.

30 EU Court of Justice, judgment of February 14, 1978, Case 27/76, *United Brands*, ECLI:EU:C:1978:22.

31 Note 19 above, para 757.

VIII. CONCLUDING OBSERVATIONS

5G technology is specifically designed for multiple uses. As a consequence, the dissemination of 5G technology may possibly result in a significant number of FRAND disputes, many of which may involve antitrust arguments. In addition, existing and new categories of implementers may be tempted to criticize licensors' licensing models and explore ways to establish that licensing practices involve abusive refusals to deal, discriminatory pricing or excessive pricing within the meaning of Article 102 TFEU. These claims will be highly fact-specific. However, to be credible and potentially successful, they would in any event need to meet a number of necessary conditions. This article provides a general *tour d'horizon* of the types of topics that are likely to come to the fore in that respect. The overall conclusion is however that antitrust law may in many cases prove to be a dead-end street.