



Qualcomm Incorporated's Supplemental Response to the European Union's
Public Questionnaire for the 2019 Evaluation of the Research & Development and Specialisation Block
Exemption Regulations

February 20, 2020

Qualcomm Incorporated submits this Supplemental Response pursuant to Q.9.2 of the European Commission's (EC's) Public Questionnaire for the 2019 Evaluation of the Research & Development and Specialisation Block Exemption Regulations (Questionnaire). Qualcomm commends the Commission for engaging in this reflection and seeking stakeholder input. This Response is based upon Qualcomm's considerable experience in developing and licensing foundational wireless communications technology over the last 30-plus years; its lengthy and extensive participation in wireless communications standards-development organizations (SDOs), including the European Telecommunications Standards Institute (ETSI); and its expertise in antitrust law and economics.

By way of background, Qualcomm is both a research and development (R&D) and a product-development company. It is an innovator and leading developer of end-to-end design of wireless communications systems, having pioneered foundational aspects of 2G, 3G and 4G wireless systems and technologies. It is now leading the way in the design and development of 5G. Since its inception in 1985, Qualcomm has spent over \$60 billion on R&D, and on average has reinvested over 20 percent of its annual revenue in foundational R&D for enabling the entire wireless ecosystem.

Qualcomm has made considerable contributions to cellular standards, including via ETSI and the Third Generation Partnership Project (3GPP). In particular, a large number of foundational technologies used in ETSI/3GPP standards have been developed based on Qualcomm's proposals and Qualcomm has contributed to numerous technical standards papers. Qualcomm's worldwide patent portfolio consists of over 130,000 patents and patent applications of which almost 36,000 are disclosed cellular standard-essential patents and patent applications (SEPs).

This Response focuses on the Questionnaire's inquiries with respect to standardization and the level of licensing within an industry's value chain (Q.4.17, 4.18, 6.12, and 6.13).

As a foundational matter, in contemplating whether to radically change the longstanding industry practice of end-device licensing without any known exception,¹ it is important to keep in mind that the 5G and IoT value chain is a complex, multilateral, value chain. This chain consists of complementary layers of technology including: the foundational wireless communication systems design and standards (e.g. 5G technology standards)— form the fundamental foundation of the entire supply chain, over which other product pillars are

¹ See, e.g., Marvin Blecker, Tom Sanchez & Eric Stasik. *An Experience-Based Look At The Licensing Practices That Drive The Cellular Communications Industry: Whole Portfolio/Whole Device Licensing*, LI (4) LES NOUVELLES 221 (2016).



supported, such as component and chips, mobile devices, infrastructure, network operators, and increasingly, other industries that will utilize 5G technologies.²

Given that the layers are complementary, there are strong interdependencies among them such that the value generated by the entire IoT chain depends on the success of each individual layer. The conditions for success are therefore clear. First, all layers must invest, they must find it optimal to invest; they must have the ability and incentive to invest. Secondly, at each layer the most efficient technologies need to be selected. In addition, the overall price, or total cost of ownership, needs to be sufficiently modest that there is high market penetration.³

Of critical importance is the fact that initiatives to shift rents from one layer to another may have far reaching implications beyond merely distributional effects; indeed, they may have significant value effects resulting in a shrunken pie for all.⁴

Lastly, it is important to keep in mind that licensing revenue in this industry is a miniscule part of the overall market. In 2018, licensing revenue from the top licensors of cellular technologies totaled approximately \$7 billion, or 0.18% of the \$3.9 trillion in GDP generated by the mobile industry in 2018.⁵

Responses to Specific Questions

***4.17 & 4.18 In your view, have the HGL provided sufficient legal certainty on standardisation agreements in the sense of Section 7 of the HGL?**

At the time of its adoption the EC's Guidelines on Horizontal Cooperation Agreements (HGL), notably Section 7 on standardization (see in particular paragraphs 278, 279, and 285), the HGL recognized the diversity within Standard Development Organizations ("SDOs") while providing guidelines on how to conduct self-assessment for the purpose of ensuring compliance with European antitrust rules. As the HGL stated "there exist different models for standard-setting and that competition within and between those models is a positive aspect of a market economy. Therefore, standard-setting organisations remain entirely free to put in place rules and procedures that do not violate competition rules."⁶

The issue of "licensing to all" illustrates this point. The HGL provides that SDO policies that require SEP holders to make "irrevocable commitment[s] . . . to license their essential [intellectual property rights] IPR **to all** third parties on fair, reasonable and non-discriminatory [FRAND] terms"⁷ "would **normally fall outside** the scope of [EU

² Presentation by Dr. Jorge Padilla, International IP and Antitrust Policies for Innovation and the Race to 5G, LeadershipIP (2018), at 6:25-15:50, <http://www.ipleadership.org/videos/international-ip-and-antitrust-policies-innovation-and-race-5g>.

³ *Id.*

⁴ *Id.*

⁵ SEC filings (Form 10-K) and Annual Reports – Licensing Revenues (2018); GSM Association. The Mobile Economy 2019. (2019)

⁶ European Commission, *Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal cooperation agreements*, 2011/C 11/01, 14/01/2011, OJ 11/1 (HGL), para. 279.

⁷ *Id.*, para. 285 (emphasis added).



competition law] Article 101(1)."⁸ But at the same time, the HGL goes on to say that "non-fulfilment" of the license to all principle "will not lead to any presumption of a restriction of competition" but rather would "necessitate a self-assessment to establish whether the agreement" violates EU law.⁹

This meant that SDOs were free to define the scope of their licensing commitment, for example by limiting it to complete devices.¹⁰ This is consistent with the approach taken by other mainstream competition enforcers. To the best of our knowledge, in the last decade the EC has not initiated an investigation challenging SDO's self-assessment on this point.¹¹

Recently, however, certain industry members¹² have spread fear (and legal uncertainty) by misinterpreting this section of the HGLs as a strict requirement on SDOs with regards to "license to all". These purposeful misinterpretations are creating unnecessary friction in patent licensing markets. Accordingly, the EC should clarify the Guidelines to make such a misinterpretation impossible.

The central question from the point of view of competition law is whether competition in the markets for products implementing the standard, including the markets for inputs into those products is restricted. Accordingly, any patent licensing commitment that ensures access to the standard for any implementer seeking to enter those markets is sufficient in ordinary circumstances to alleviate concerns of anticompetitive effects related to licensing resulting from standardization agreements. Such access does not require a patent holder to be compelled to grant a license on demand to anyone in the value chain. To the contrary, many SDOs provide such access in other ways, such as providing for device-level licensing (ETSI) or by providing that the licensing

⁸ *Id.*, para. 278 (emphasis added).

⁹ *Id.*, para. 279.

¹⁰ *Id.*, para. 279, 285. Paragraph 279 says SDOs are "free to put in place rules and procedures that do not violate competition rules whilst being different to those described in paragraphs 280 to 286," and paragraph 285 specifies licensing to "all third parties."

¹¹ For example, the U.S. Department of Justice has explained that, "[a]s enforcers, we have only limited insight into the patent policies of various standard-setting organizations, and we do not seek to impose a top-down mandate to skew the playing field clearly in the direction of innovators or implementers." See Makan Delrahim, Assistant Attorney Gen., U.S. Dep't of Justice, Antitrust Div., The "New Madison" Approach to Antitrust and Intellectual Property Law, Remarks Before the University of Pennsylvania Law School 11 (Mar. 16, 2018), <https://www.justice.gov/opa/speech/file/1044316/download>.

Similarly, U.S. Federal Trade Commission Chairman Joseph Simons and former Bureau of Competition Director Bruce Hoffman previously wrote, "[s]tandard-setting bodies can adopt any of an almost unlimited set of rules. No particular rule is necessarily output-enhancing or output-limiting, and selecting the applicable rules involves complex tradeoffs that antitrust agencies are poorly situated to second-guess." See D. Bruce Hoffman & Joseph J. Simons, *Known Unknowns: Uncertainty and Its Implication For Antitrust Policy and Enforcement in the Standard-Setting Context*, 57 ANTITRUST BULL. 89, 101 (2012).

¹² Comments of ACT – The App Association to the European Commission's Directorate-General for Competition on its Roadmap, Evaluation of the two Block Exemption Regulations for horizontal co-operation agreements, Appendix 2 *Core Principles and Approaches for Licensing of Standard Essential Patents* (Oct. 3, 2019). Available at: https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2019-4715393/feedback/F473574_en?p_id=5763121.



commitment applies only to companies against whom the patent holder “asserts . . . or seeks licensing fees for” essential patents (Telecom Infra Project)¹³.

It is therefore be inappropriate, and disproportionate, for the Guidelines, which specify safe harbours to enhance legal certainty, to suggest that the *only* way SDOs may comply with Competition Law is to adopt a “licensing to all” policy. Indeed, Qualcomm respectfully submits that this approach would effectively substitute the views of private SDOs and their members, based on the incentives they need to create for successful participation, with a central planner’s view on how to license patents contributed to a standard, and disrupt the carefully-balanced decisions of SDOs by putting a thumb on the scale in favour of implementers over innovators. It would also be contrary to the decisions of various SDOs that have explicitly considered and rejected such an approach (such as two major European ones, CEN and CENELEC¹⁴), as well as to what is required under SDO policies such as ETSI’s.¹⁵ EC’s 2017 communications document clearly maintained distance from interfering with rules of SDOs and recognized that no one-size-fits-all policy can work across various SDOs that know best about their members and their incentive structures

In addition, a compulsory “licensing to all” policy would result in a shift from efficient single-point licensing to inefficient multi-level licensing including component-level licensing. Such a shift would, for the reasons set forth below, harm consumer welfare and inhibit the goal of enhancing access to standards.

First, economic modelling has shown that, as compared to the longstanding industry practice of end-device licensing, compulsory component-level licensing would result in higher prices for end-consumers and likely reduced innovation.¹⁶

¹³ Telecom Infra Project Intellectual Property Rights Policy (May 27, 2016). Available at: <https://telecominfraproject.com/wp-content/uploads/IPR-Policy-Adopted-May-27-2016.pdf>.

¹⁴ In fact, CEN and CENELEC have taken the position that they are not “appropriately positioned to provide *ex ante* guidance on licensing terms to SEP owners and implementers, including on . . . **the level at which SEPs shall be licenced** . . . SEPs licensing is an issue that shall be governed by private negotiations between the parties outside of SDOs and SSOs, in light of ‘recognized commercial practices,’ and with the possible assistance of *ex post* judicial and quasi-judicial remedies.” CEN & CENELEC, CEN and CENELEC Position on: Standard Essential Patents and Fair, Reasonable And Non- Discriminatory (FRAND) Commitments 13-14 (Sept. 2016), https://www.cencenelec.eu/News/Policy_Opinions/PolicyOpinions/EssentialPatents.pdf (emphasis added; internal citations omitted). See also Scott Bradner & Jorge Contreras, *Intellectual Property Rights in IETF Technology* (IETF Network Working Group, Working Paper, 2012) https://datatracker.ietf.org/doc/draft-bradner-rfc3979bis/00/?include_text=1 (noting that the Internet Engineering Task Force considered and abandoned a proposal to adopt language that would require component- or multi-level licensing (“license is available to all implementers”)).

¹⁵ ETSI Intellectual Property Rights Policy §§ 6.1, 15.4, 15.8 (Apr. 9, 2019) <http://www.etsi.org/images/files/ipr/etsi-ipr-policy.pdf> (emphasis added). See also Jorge Padilla & Koren W. Wong-Ervin, *Portfolio Licensing to Makers of Downstream End-User Devices: Analyzing Refusals to License FRAND-Assured Standard-Essential Patents at the Component Level*, 62(3) ANTITRUST BULL. 494, 500 (2017) (explaining what ETSI’s policy requires in terms of level of licensing).

¹⁶ Gerard Llobet & Jorge Padilla, *The Optimal Scope of the Royalty Base in Patent Licensing*, 59 J.L. & ECON. 45, 47 (2016) [hereinafter “Llobet & Padilla”]. Conservative estimates show that for Qualcomm alone, compulsory component-level licensing would result in \$2.54 billion a year in worldwide higher prices to



Second, multi-level licensing would materially increase transaction costs in at least three ways: (1) the complexity of negotiating each license agreement, (2) the number and frequency of license negotiations and agreements that will be needed, and (3) the difficulty of monitoring compliance with license agreements. These elements would negatively impact the entire industry, adding costs to both licensors and licensees at both the device and component level. These increased costs strongly militate against requiring multi-level licensing, as an alternative that is decidedly less efficient than the current and longstanding industry practice.

In a world of multi-level licensing, both the portfolio and the royalties would have to be split among the makers of each licensed component and the maker of the complete licensed device. At a minimum, and even making the simplifying assumption that the only licensed components would be modem chips, this would require negotiations over which portion of the royalties should come from the baseband chipset supplier and which portion should come from the original equipment manufacturer (OEM). Both the baseband chipset supplier and the OEM would have a strong incentive to shift royalty burdens onto each other, and to argue that more of the value from SEP holders' innovations is reflected in the other's product. To support their respective positions, each would argue that more of the tens of thousands of cellular SEPs (and the even greater number of patent claims in those SEPs) were practiced by the other's product. And to further increase the complexity, the negotiations with the baseband chipset supplier and the OEM would likely happen independently from one another.

Even if all parties were operating in the utmost good faith to reach the "correct" allocation of value between a given modem chip maker and device maker with respect to particular products, this process would still be far more complicated and costly than current negotiations at the end-device level only. But it is unrealistic to assume that all licensees would in all instances work cooperatively to reach the "correct" result. Instead, multi-level licensing would lead to endless disputes over these issues. These disputes would likely involve detailed technical discussions about the scope of tens of thousands of SEPs and at which level they are practiced, which can be a matter of substantial uncertainty and debate. These disputes would also involve purely commercial arguments about the level at which the value resides, as well as the exercise of bargaining leverage derived from other factors. Ultimately, and even more troublingly, chipset suppliers and device makers would have ample incentive and ability to engage in holdout to delay or avoid paying any royalties until these disputes (even if pretextual or in bad faith) are resolved—either through negotiation or, more likely, through some form of costly and time-consuming dispute-resolution process.

With respect to increased monitoring costs, under the current industry practice of end-device licensing, SEP holders receive royalties only from end-device makers, and those royalties do not vary depending on which firm supplied the baseband chipset in the device. SEP holders therefore do not need to know the identity of the chipset supplier. But in a world of multi-level licensing, SEP holders would likely need to have their device maker licensees report which baseband chipset is in each device sold, so that they could ensure they were paid in full on each device (both the royalty from the device maker and the royalty from the baseband supplier). Royalties due from the device maker could vary depending on which components are in the device, whether they are licensed and, if so, what royalties are due. Monitoring compliance, even if all parties act in good faith, would be extremely complicated and costly. And in the real world in which licensees actively seek to reduce their royalty payments through non-compliance, monitoring costs would go up even higher.

consumers due to greater double-marginalization and increased incentives for pass-through. For a detailed explanation of the welfare effects, see Note by Koren W. Wong-Ervin, OECD Competition Committee, Roundtable on "Licensing of IP Rights and Competition Law" 3-4 (June 6, 2019), available at http://www.oecd.org/daf/competition/Wong-Ervin%20OECD%20Paper_5-13-19.pdf.



Third, multi-level licensing would lead to material disruption and transition. The equilibrium developed in the industry decades ago, and the pricing of various inputs, including baseband chipsets, is based on this stable structure. Mandating a change would cause massive disruption. No baseband chipset supplier would want to be the first to take a license because the license would cause an increase in its costs relative to its competitors. On the other hand, existing device maker licensees would likely seek to renegotiate their agreements to reduce their royalties in light of the expectation that baseband chipset suppliers would begin bearing some portion of the royalty expense. There would be immense opportunities for cheating and gamesmanship during the transition from the current structure to multi-level licensing.

To conclude, there is simply no evidence, and to the best of our knowledge, the EC has not conducted any investigation in the last decade that would support the contention that those SDOs that simply require access to all reduce consumer welfare. While the current HGL strike a good balance of block exempting licensing to all while allowing self-assessment for those SDOs that require simply access to all, there is a genuine concern that fear spread by some industry members may cause SDOs to amend their internal rules. For the sake of legal certainty, the EC should enhance clarity and expressly recognize that SDOs that simply require access to all are not in breach of European antitrust rules.

****6.12 & 6.13 Section 7 of the HGL on standardisation agreements is (1) still relevant, (2) no longer relevant, or (3) do not know.***

For the reasons set forth in Q.4.17, above, Qualcomm submits that Section 7 of the HGL on standardization agreements is still relevant and should be maintained. However, the phrase "to all third parties" from the first sentence of paragraph 285 should be removed to make it clear that the HGLs are not endorsing a specific licensing model and indicating that other models like access to all are in breach of the anti-trust rules.