Apple Inc.

Response to DG Grow Consultation on Roadmap for Standard Essential Patents for European digitalised economy

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As a stakeholder that provides significant investments in the European economy and other major markets worldwide, Apple writes to provide input to the Commission for its Initiative to issue guidance on SEP licensing in a potential October 2017 Commission Communication ("SEP Communication").[1] The SEP Communication has the potential to alter norms and influence laws and regulations worldwide. The stakes are high. The guidelines adopted by the Commission could promote or hinder the growth and success of businesses in Europe, including investment in the development of autonomous vehicles, medical devices, smart appliances, and other existing and future connected services.

As the Commission has correctly recognized, a balanced approach must be taken when it comes to standardization and SEP licensing. Consistency and predictability are critical to voluntary FRAND licensing, and Apple appreciates the Commission's careful consideration of its submission.

Apple's Contribution to the European Economy and Investment in Standardization

Apple has a deep interest in the health and growth of the European economy. Our technology ecosystem empowers and contributes to European businesses. Apple is responsible for the creation of over 1.4 million jobs in Europe, including 1.2 million jobs attributable to the iOS and App Store ecosystem, 241,000 European jobs created at other companies as a result of Apple's spend and growth, and 22,000 Apple employees in Europe. Apple supports 4,700 Europe-based suppliers across 23 countries, providing parts, materials or equipment for Apple products. Developers in Europe have earned €10.2 billion from Apple App Store sales worldwide. European suppliers, European customers, and a wide network of European service and app providers rely on, contribute to, and benefit from Apple's Europe-wide (and worldwide) technology ecosystem.

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[1] Response submitted by Apple Inc. ("Apple"), a corporation with its principal executive offices at 1 Infinite Loop, Cupertino, California 95014, United States. The reference person for this response is BJ Watrous, VP and Chief IP Counsel, e-mail: bjwatrous@apple.com. Apple manufactures and sells mobile communication devices, media devices, portable digital music players and personal computers. It also sells a variety of related software, services, peripherals, networking solutions, and third-party digital content and applications. Apple does not qualify as a "small and medium sized enterprise" according to the EU definition. Apple is registered in the EU Transparency Register with ID 588327811384-96. Apple approves of the publication of its response. This response does not include confidential information.

Apple's ecosystem of hardware, software and services delivers to users a unique experience. Though best known for our differentiating products and features, standardized technology plays a role, and Apple makes significant investments in the research and development of standardized technology. Participating in over 500 standards activities, Apple frequently contributes its enabling technology to standards organizations in Europe and throughout the world and has committed to license well over a thousand declared standards essential patents on FRAND terms. Unlike many companies who participate in standards development, Apple does not own standards essential patents for the purpose of licensing. Even so, Apple's declared essential patents (and patent applications) make up roughly 5% of Apple's utility patent portfolio.

SEPs in a Future Connected World

Wireless communications standards such as UMTS, LTE and Wi-Fi are subject to tens of thousands of declared SEPs. This patent thicket is only growing. With the race for 5G, advanced Wi-Fi and networking standards for the IoT underway, the standards community is faced with the challenge of balancing the interests of a diverse set of stakeholders. This includes patent holders who seek compensation for their patented contributions, as well as implementers who seek access to necessary patents and the freedom to operate at a fair, reasonable and non-discriminatory fee.

Apple can speak from a unique position about this balance. Apple is both a licensor and licensee of standards essential patents. And less than 10 years ago, as a new implementer of cellular standards with launch of the iPhone, Apple faced excessive licensing demands and injunction threats that led to years of Apple's overpayment for SEP licenses.

Apple learned that new entrants face great uncertainty as it relates to the implementation of SEPs – including excessive royalty demands and the threat of injunctions. Apple also learned (the hard way), that new entrants are at a distinct information disadvantage. Because SEP licenses are confidential, new entrants must navigate the complex field of SEP licensing in the dark. Although SEP implementers are entitled to license on FRAND terms, there is no royalty rate card for what is FRAND. SEP licensors take advantage of this information asymmetry – particularly with new entrants – and it can be years before a new entrant will have entered into enough of its own license agreements to reveal disparities. This may be impossible for an SME. In fact, it took years and significant resources for Apple to unravel and publicly challenge the unfair licensing practices that have plagued cellular SEP licensing, in particular.

As the Commission considers what constitutes FRAND royalties and FRAND licensing terms generally, special care should be taken to maintain a delicate balance. Under-compensation to standardization contributors risks slowing development of improved standards. Over-compensation or the potential for over-compensation, risks freezing-out new implementers and hampering broad adoption of a standard. Uncertainty can lead to both.

In its Roadmap entitled "Standard Essential Patents for a European digitalised economy," the Commission states that its initiative is focusing on: (1) transparency ("[o]paque information about SEP exposure"); (2) valuation ("[u]nclear valuation of the patented technologies"); and (3) enforcement ("[r]isks of uncertainty in enforcement"). Apple has previously provided the Commission with its views on SEP licensing policy matters. *See* Apple Inc., *Response to DG Enterprise and Industry Consultation on Patents and Standards* (14 February 2015), *available at* http://ec.europa.eu/growth/_toolbox/intellectual-property/patents-standards/reg-org-ae.zip ("Apple 2015 Submission"). In this supplemental submission, we focus on the three topics highlighted by the Commission in its Roadmap.

Transparency

The convergence of technologies in IoT and the deployment of numerous IoT standards will only increase the need for greater transparency around SEPs and FRAND licensing.

During the development of a standard, it is important for implementers and licensors to both understand which SEPs and corresponding FRAND commitments apply to which contributions. This will help ensure that both contributors/licensors and implementers/licensees are aware – in advance -- of the patents that may apply to each standard and the licensing commitment, if any, attached to such patents. This helps all members participating in development of a standard to make better informed decisions when incorporating a member's contribution.

Even where standards participants do not collectively discuss or evaluate patent related information within the standards setting organization, participants should be required to disclose patents that they believe are or are likely to become SEPs for that standard. This should be required even if the participant has given a general declaration or is otherwise under an obligation to license on FRAND terms. The patent holder also should be required to identify the relevant section(s) in the standard to promote informed decision-making. This type of early transparency helps potential adopters assess the potential risk/cost of supporting a particular standard. It also helps licensors gain comfort that fellow licensors are abiding by FRAND, and that no one licensor is disadvantaging other licensors with excessive patenting or declarations relating to their contributions to the standard (unjust enrichment).

Pre-adoption transparency is only one part of the equation. After standardization, transparency regarding SEPs is critically important for licensing negotiations. SEP licensors should be required to provide implementers with sufficient information regarding the merits of the patents to assess the allegations and value of a license. At a minimum, SEP holders should identify the specific patents at issue and provide an infringement analysis for those patents. Simply providing a list of those patents declared to a standard serves only to confuse. SEP holders should be required to explain how its patents are actually essential to a standard and implemented in the products at issue. One means to promote an equal playing

field is to have SEP licensors make such information available to any interested parties post-adoption of a standard or retract the declaration of essentiality if the SEP holder no longer believes the patent to be essential. This secondary disclosure should not negate prior FRAND commitments.

The following safeguards should be required if, as part of improving transparency, the Commission suggests the formation of a "gatekeeper" function, e.g. wherein a trusted, impartial and independent third party who is an expert in the relevant standard and associated technology could be tasked with vetting the alleged essentiality of any patent that a patentee may wish to license as a SEP. *First*, any vetting process should be transparent, open to third-party comment and contribution, and should not result in any burden shifting or presumptive implications in the event that the parties later resort to litigation or other dispute resolution mechanism. The latter is also true for essentiality assessments or statements made by a SEP holder. *Second*, the process should ensure the independent third party remains impartial, e.g., there must not be any incentives for the independent third party to determine that a declared SEP is or is not essential. For any gatekeeper function to be effective, it must be transparent, impartial, and not result in any presumption or admission by a potential licensee or patent holder, that a SEP is or is not actually essential.

FRAND Valuation

A purpose of requiring FRAND commitments *during* the standardization process is to avoid lock-in that occurs after a standard is adopted. Although most SSOs require disclosure of potential SEPs and commitments to license them on FRAND terms *during* standardization, they do not necessarily require patent holders to identify the terms that will be offered or the methodology that will be used in future licensing. Absent such a disclosure, the only way to ensure that royalties sought post-adoption are reasonable is to use a methodology for valuing SEP licenses that necessarily provides consistency and predictability. Apple adheres to the FRAND principles set forth in the Apple 2015 Submission as both a SEP licensor and licensee. Over the past several years, Apple voluntarily has entered into a number of licenses with large SEP holders and compensates such licensors with billions of dollars in reasonable royalties using the valuation methodology described therein.

The commitment to license on FRAND terms does not serve its purpose if there are no clear rules or boundaries on what constitutes FRAND royalties. A number of principles that Apple believes are important to comply with FRAND licensing obligations and are necessary to put SEP holders and standards implementers on equal footing in negotiations are set forth below in this section and in the enforcement section.

Common Royalty Base

Use of a common royalty base for a given standard is non-discriminatory and can be approximated prior to lock-in, thereby protecting future adopters from excessive and unpredictable royalty demands. A common royalty base guards against an excessive royalty

stack for a given standard.[2] The common royalty base should be a portion of the component or other smallest saleable unit that practices all or substantially all of the patented invention for a SEP for a given standard (e.g., the available profit of a chip further divided amongst the standards and other functionality implemented on the chip) to give access to all classes of parties, including component suppliers and any other party interested in a license for particular products. The overall royalties for the standard should be compared with the cost or profit of the smallest saleable unit that implements the standard as well as the other standards and non-standardized technology implemented in the component. In many cases the smallest salable unit will need to be further apportioned to arrive at a royalty base that best corresponds to the particular standard and then for the claimed invention.

FRAND royalties should be determined based on circumstances prior to adoption of the standard – not future end products that use the standard. Any methodology for valuing a SEP license that is based on developments taking place *after* adoption of a standard improperly taxes features that are not incorporated in the standard. Such methodology carries a high risk of abuse from excessive royalty demands and should be rejected because such risk increases the barrier of entry for new products that use the standard.

Examples of these types of methodologies that should be rejected include application of a royalty rate to the sales price of multi-function consumer product, or a rate based on the usage of end-product functions or features, the development of which was distinct from and unrelated to the standardized technology. Additionally, methodologies dependent on future use do not allow interested parties to estimate the royalty burden (much less the reasonableness of the burden) for a contemplated standard *prior to* adoption and lock in, making investments in the development of new products that use the standard risky and less likely.

"Use-based" licensing seeks to reward to patent holders, at least in part, for added value created by implementers' different uses of the same standardized technology. For example, a car manufacturer that uses an embedded LTE-chip may be charged more than other manufacturers that embed the same LTE-chip in less expensive devices. It is not reasonable to charge more for use of the very same component in a Mercedes versus a Hyundai, or a car versus car a bicycle. This is discriminatory based on price of the end product, both within and outside of a particular product category.

Some SEP holders claim that application of this end product usage of a standard gives an approximate "measure" for FRAND licensing. This is flawed. *First*, it is reflective of the value of the entire standard and of standardization itself, not the patented contributions to the standard. *Second*, it allows SEP owners to confiscate value that is created by downstream product manufacturers using the standard.

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[2] See also Apple 2015 Submission, pages 5, 21 – 28.

A royalty based on ASP or NSP of an end product or the use of an end product is also much more likely to lead to unreasonable, unfair and discriminatory because it too measures value based on product features and functions that bear no connection to the standardized technology allegedly covered by the SEP. This decreases incentives for product suppliers to innovate around use of the standard. The royalty for a declared SEP should reflect its innovation value determined using a common royalty base based on a portion of the smallest saleable unit, as described above.

The royalty for a FRAND-encumbered SEP should also not be calculated in order to guarantee a return on investment ("ROI") with regard to that SEP. The royalty should be based on the value of the patented invention and not the amount spent to develop it. A company who spends a lot to develop something of little value would receive higher compensation than a company that spends less to develop something of high value. This rewards inefficiency and would clearly disadvantage SMEs. With royalty stacking where there are a number of licensors vying for their portion of the total industry royalties for a particular standard – if a company were to collect a higher royalty based on ROI than it would have based on the value of its patented invention, then that company would be taking away compensation from others who actually developed patented technology of higher value.

Appropriate Royalty Rate

The royalty rate for a SEP should reflect the value of the specific patented contribution, excluding the value of all other features in the standard and the value of inclusion in the standard or adoption of the standard itself.[3] A reasonable starting point for valuing a SEP portfolio license can be calculated by applying a royalty rate representing the SEP holder's *pro rata* share of the SEPs on a particular standard to the appropriate common base. Use of a *pro rata* percentage as the starting royalty rate provides an objective means to treat all SEP holders fairly. The objective reference royalty for a SEP portfolio license may be adjusted for all additional relevant factors, such as the quality and value of individual patents in the portfolio, the licensing history of the parties for SEPs on the standard at issue, etc. However, in the context of SEPs, in order for licensing histories and comparable royalty rates to be used as reference, such rates should comply with FRAND terms.

Proving Merits - No Forced Portfolio Licensing

SEP holders should not be permitted to force portfolio SEP licensing. No licensee should be forced to accept a license to SEPs it does not need to license. For example, a component supplier should be able to license selected patents practiced by its component, while choosing not to license or attribute value to patents that would not be exhausted by the sale of its component. The royalties demanded by a SEP licensee should be based only on the SEPs that are applicable to the specific licensed products. Aggregation of SEPs for

[3] Id.

licensing should not be used to avoid consideration of the merits (*i.e.*, essentiality, validity, enforceability) or value of individual patents, and traditional burdens of patent law must continue to apply to SEPs.[4] If the parties voluntarily negotiate a SEP portfolio license, the foregoing principles should continue to apply, and the merits and value of the contribution of at least a representative number of SEPs should be assessed.

No License Level Discrimination

Licenses to FRAND-encumbered SEPs should be available to *all* interested parties, from component supplier to end user. Refusal to license any party, in order to seek higher royalties from a different party, is discriminatory and should not be permitted.[5] Additionally, it would be inappropriate to provide an exception that would allow a FRAND-encumbered SEP holder to refuse to license applicants because the downstream use could not be tracked or monitored. Since it would be difficult, perhaps impossible, for component manufacturers to track such downstream uses, such an exception would in effect mean that component manufacturers would not be able to obtain a license. This is contrary to the FRAND commitment and is counter to the licensing practices in many industries that would be involved in IoT.

Component-level licensing makes the most sense because these are the products that actually embody all or substantially all of the standards. Creating an exception that would permit FRAND-encumbered SEP holders to refuse to license component manufacturers would be especially burdensome on SMEs who may not even have the capacity or resources to analyze the third party technology.

Moreover, creating a new exception to the FRAND licensing obligation also would threaten Apple and other businesses' ability to obtain licensed components for use in Europe (unlike in other jurisdictions). If companies outside of Europe are able – under the laws of their own jurisdictions – to obtain licenses to supply licensed components, downstream businesses will have incentives to prefer foreign suppliers over those based in Europe.

Enforcement

Requests for injunctions against implementers making good faith efforts to license the asserted SEPs should be prohibited and implementers should not be forced to engage in

[4] SEP licensing policy should not incentivize licensors to secure large numbers of SEPs to benefit from the inability of licensors and decision-makers to meaningfully evaluate the quality and value of individual patents. It is inefficient and detrimental because it wastes resources that otherwise may be used to develop additional technology instead of securing patents, drives up cost of adoption, and harms implementers and consumers, but does not improve the quality of the standards adopted.

[5] See also Apple 2015 Submission, pages 4 – 5, 18 – 21.

arbitration to avoid a threat of injunction. Absent exceptional circumstances, it should be presumed that damages and future royalties are sufficient to make the SEP licensor whole and injunctions on SEPs may not be sought.[6]

When a licensee has a bona fide, reasonable basis for asserting that the demanded royalties are not FRAND, an injunction request should not be available as a means for the SEP holder to force a licensee to accept its demanded rates. A potential licensee should not face a penalty for refusing to take a license at the SEP holders demanded rate if a SEP holder has kept the potential licensee at an information disadvantage, for example, by refusing to provide sufficient information regarding actual past licenses for the SEP(s) at issue to evaluate FRAND compliance, failing to provide adequate disclosure of the basis for the SEP assertion, or refusing to describe the methodology used to calculate the requested royalty.

If a potential licensee is willing to pay a FRAND royalty for a license to a SEP asserted in litigation, the potential licensee should not face the risk of an injunction on that SEP, which materially and unfairly advantages the SEP holder over the implementer, allowing a single patent to be leveraged to force a portfolio license. The mere *threat* of an injunction against a willing licensee offering FRAND royalty payments provides a SEP holder with undue leverage, and the potential licensee should have a means to seek early dismissals of injunction requests by showing it had a rational basis for refusing to pay the demanded royalty.

For the same reasons an implementer should not be forced to take a portfolio SEP license, arbitration that requires valuation of, and results in a license to, an entire portfolio of SEPs likewise should not be mandatory to avoid the risk of an injunction. A willing licensee should not be required to take a series of specific steps in order to avoid the threat of an injunction on a SEP, and asserters of SEPs should not be entitled to any special rights or advantages over asserters of any other type of patents. Alternative dispute resolution processes (e.g. arbitration, mediation) should be voluntary and conducted in accordance with FRAND principles. A SEP holder should not be able to insist on an arbitration process that favors its position, for example, a process that evaluates the size of its portfolio and not the quality or merits of its SEPs. A potential licensee should not face downside risk or be disadvantaged for wanting the protection of due process in courts instead of arbitration.

We thank the Commission in advance for its consideration of our concerns and remain available to discuss our concerns and views at the Commission's convenience.

[6] See also Apple 2015 Submission, pages 4, 6, 12 – 15, 31 – 33.