November 30, 2022

Assistant Attorney General Jonathan Kanter
Department of Justice Antitrust Division
950 Pennsylvania Avenue, NW
Washington, DC 20530-0001

Dear Assistant Attorney General Kanter,

As former judges and government officials, legal academics and economists who are experts in antitrust and intellectual property law, we write to express our support for the Avanci business review letter issued by the Antitrust Division of the U.S. Department of Justice on July 28, 2020 (the "2020 business review letter"). The 2020 business review letter represented a legally sound and evidence-based approach in applying antitrust law to innovative commercial institutions like the Avanci patent pool that facilitate the efficient commercialization of new standardized technologies in the fast-growing mobile telecommunications sector to the benefit of innovators, implementers, and consumers alike.

We disagree with the letter recently submitted to you on October 17, 2022 by lawyers, policy activists, and professors who requested that you reconsider the 2020 business review letter. Unfortunately, the October 17 letter perpetuates long-standing misunderstandings by some academics, policy activists, and companies, who continue to assert that one-sided "patent holdup" is endemic in high-tech industries generally and the mobile telecommunications sector specifically. The signatories of the October 17 letter rely on decades-old theories and models that falsely predicted stymied innovation, higher prices, and consumer harm in the mobile telecommunications resulting from alleged "patent holdup." Those theories and models have proven inconsistent with both the robust performance of patent-intensive consumer electronics markets over several decades and empirical evidence on the licensing of standard essential patents (SEPs) in wireless communications.

The October 17 letter also invokes the "patent troll" epithet (mentioned 12 times in the letter) to disparage virtually all entities that engage in patent licensing and related monetization transactions. Its claims are based, not on evidence, but primarily on assertions of the "troll" moniker in blogs and news reports. At the same time, the letter mischaracterizes numerous court decisions in multiple European jurisdictions that have found implementers to be engaging in patent holdout and thus approved or issued injunctions to SEP owners facing unwilling licensees. Finally, the letter overlooks numerous decisions by Chinese courts that have relied on patent holdup theory to deny injunctions to SEP owners and to set purportedly global royalty rates at artificially low levels.

Theory and Evidence: Patent Holdup and Royalty Stacking

The October 17 letter asserts that SEPs pose a threat to innovation and competition in wireless communications and other industries on the ground that SEP owners inherently exert market power and can use such power to "hold up" implementers by "imposing" one-sided terms that advantage licensors over licensees, resulting in a "royalty stack" that translates into inflated prices for consumers. Tellingly, the only basis for these claims in the letter are a 2011 report by the Federal

Trade Commission and a 2007 report by the Department of Justice and the Federal Trade Commission (FTC)—that is, sources that are more than a decade old. These reports, like the October 17 letter, relied on theoretical models that no longer reflect the current evidence-based understanding of SEP licensing practices in the wireless communications markets.

Since those reports were released, empirical researchers have sought to ascertain the extent to which the patent holdup and royalty stacking theories describe real-world wireless communications markets. The result is an extensive body of empirical research that casts great doubt on the factual reliability of these theories. These studies, using a variety of statistical methodologies, have consistently failed to find evidence for the holdup and stacking theories. While those theories predicted that device manufacturers (and therefore consumers) would be burdened by high double-digit royalty rates, empirical studies have consistently estimated that manufacturers have paid an aggregate royalty in the single digits.[1] Additionally, quality-adjusted prices for devices and other products in SEP-intensive markets not only have fallen but have fallen at a faster rate as compared to other sectors of the innovation economy.[2] These favorable pricing trends explain why smartphone technology has been rapidly adopted across such a broad range of income segments, which has facilitated the launch of innovative business models that have transformed everyday life in a variety of fields and industries.

We attach an Appendix of the published research identifying the numerous substantive and methodological flaws in the patent holdup and royalty stacking theories, including empirical studies that all directly contradict these theories' predictions.

SEP Owners and the Market Power Assumption

Given the empirical failure of the patent holdup and royalty stacking theories, it is important to reconsider the theoretical assumptions in the October 17 letter that SEP owners or SEP patent pools exert market power and can therefore dictate royalty rates and other terms to licensees. Closer scrutiny of the real-world characteristics of the innovation and commercialization process in wireless communications shows that this assumption is unlikely to be satisfied.

There are two reasons. First, at any point prior to market adoption of a standard, SEP owners have strong incentives to offer rates that encourage adoption by implementers who often can select competing standards. Absent adoption, the billions of dollars invested by an innovator in developing a new standard will yield no returns. Second, at any point after market adoption of a standard, SEP owners that are repeat players in the wireless communications market have incentives to accrue goodwill by maintaining reasonable royalties throughout the life of any particular standard. This goodwill can then be deployed to induce adoption of the next wireless technology standard, into which the largest SEP owners are typically concurrently investing substantial capital and personnel to develop. This iterative structure both conforms to the multi-

[1] *See* Alexander Galetovic, Stephen H. Haber and Lew Zaretski, *An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results*, 42 TELECOMM. POLICY 263 (2018); Gregory Sidak, *What Aggregate Royalty Do Manufacturers of Mobile Phones Pay to License Standard-Essential Patents?*, 1 CRITERION J. INNOVATION 701 (2016).

[2] *See* Alexander Galetovic, Stephen H. Haber & Ross Levine, *An Empirical Examination of Patent Holdup*, 11 J. COMP. L. & ECON. 549, 564-69 (2015), https://papers.ssrn.com/abstract=2588169.

generational history of wireless communications markets (2G, 3G, 4G/LTE, and now 5G) and explains why SEP royalty rates have generally been constant throughout the life of the industry.[3]

The FRAND Principle and Injunctive Relief

The thriving ecosystem in wireless technologies relies on balancing the interests of innovators and implementers through good-faith negotiations of licensing terms based on fair, reasonable, and non-discriminatory (FRAND) royalty rates. Innovators require assurance that they will be able to enforce and license the SEPs that protect their technological innovations and, in the case of infringement, will be able to seek legal recourse without undue delay. Implementers require assurance that SEP owners will not demand exorbitant rates once implementers have made investments in adopting SEP-protected technologies (although we believe that is a low-probability risk for the reasons stated above). Since the inception of the industry, the FRAND principle, as reflected in the terms negotiated by sophisticated licensors and licensees through repeat-play market interactions and, in some cases, as interpreted by courts as a matter of contract law, has mediated between these two concerns.

The October 17 letter claims, or at least strongly implies, that a FRAND commitment by an SEP owner with a standard development organization (SDO) precludes the SEP owner from obtaining injunctive relief. This is incorrect. The U.S. Court of Appeals for the Federal Circuit has rejected this view, holding that "an injunction [for a SEP owner] may be justified where an infringer unilaterally refuses a FRAND royalty or unreasonably delays negotiations to the same effect."[4] In other words, when an implementer engages in what has been identified as "holdout" by delaying negotiations or refusing outright a license agreement, an injunction may issue for the continuing infringement of the SEP owner's patent rights by the implementer as an unwilling licensee.

Since a landmark decision in 2015 by the European Court of Justice,[5] courts in multiple jurisdictions in Europe have similarly rejected the argument advanced in the October 17 letter that SEP owners are precluded from requesting or receiving injunctive relief when faced with infringement of their patents. European courts have issued injunctions against SEP infringers on numerous occasions in which infringers were deemed to have engaged in holdout tactics and therefore qualified as "unwilling licensees."

The October 17 letter broadly mischaracterizes these European court decisions as allegedly reflecting the result of holdup tactics by so-called "patent trolls." The reality is precisely the opposite. These courts issued injunctive relief on findings that implementers were unwilling licensees engaging in holdout, wrongly delaying negotiations or outright refusing to enter into licenses that would authorize their past and continuing use of the SEP owner's valid patents.

[3] Alexander Galetovic, Stephen Haber, and Lew Zaretski, *An Estimate of the Average Cumulative Royalty Yield in the World Mobile Phone Industry: Theory, Measurement and Results* 42 TELECOMMUNICATIONS POLICY 263, 266 (2018).

[4] Apple Inc. v. Motorola Inc., 757 F.3d 1286, 1332 (Fed. Cir. 2014).

[5] Huawei Technologies Co. Ltd. v. ZTE Corp., C-170/13 ECJ (2015).

One such SEP owner accused of being a "patent troll" in the October 17 letter is Conversant. In *Conversant v Daimler*, the German Regional Court in Munich held that tactics engaged in by Daimler were a "particularly clear case of missing willingness."[6] The court identified Daimler's counteroffer to Conversant as merely an "alibi" in its attempt to conceal its unwillingness to enter into a license for the authorized use of Conversant's SEPs.[7]

In *Saint Lawrence v. Vodafone*, the German Regional Court of Dusseldorf found the implementer was unwilling to enter into a license with the SEP owner and that its holdout tactics justified injunctive relief.[8] In *Saint Lawrence*, the court held that injunctive relief was justified even when the SEP owner's offer of a FRAND license was made during the course of ongoing litigation between the parties. Given the number of FRAND licenses the SEP owner had already entered into before the dispute with Vodafone, the court ruled that this created a strong presumption that the terms of the license offered to the implementer were FRAND and thus the implementer had a greater obligation to respond more diligently in responding to the license offer and enter into a license.

In *TQ Delta v ZyXel Communications*, the UK High Court of Justice held that ZyXeL engaged in "patent holdout" by delaying negotiations and refusing to accede to a license on FRAND terms for the use of SEPs owned by TQ Delta.[9] Given ZyXel's explicit holdout practices, the UK Court of High Justice granted an injunction against ZyXel for its infringement of TZ Delta's SEPs. The UK High Court of Justice stated that it would be "unjust" not to issue an injunction because this "would enable ZyXeL to benefit from their strategy of hold-out."[10] The court further denied ZyXel's request to reverse its injunction order or at least stay the injunction during the appeal process. The court stated that, given ZyXel's explicit holdout tactics, this "would amount to a compulsory licence of the patentee's exclusive rights and deprive it of meaningful protection in circumstances where the Defendants have elected not to enforce the [F]RAND undertaking."

In *Philips v Asus*,[11] the Court of Appeal of the Hague in the Netherlands identified that Asus was engaging in holdout by raising negotiation issues merely as a stalling tactic to create the superficial appearance of negotiating a license. Despite the superficial appearance of negotiating, the court found that Asus was engaging in the "behaviour also referred to as 'hold-out.'"[12] Thus, when Philips ultimately filed lawsuits for patent infringement against Asus in courts in the UK, Germany, France, and the Netherlands, the Court of Appeal of the Hague held that Philips was

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[6] Conversant v Daimler, Regional Court (Landgericht) of Munich I, dated 30 October 2020, Case No. 21 O 11384/19, ¶ 309.

[7] *Id.* ¶ 357.

[8] Saint Lawrence v. Vodafone, Regional Court (Landgericht) of Düsseldorf, 31 March 2016 - Case No. 4a O 73/14.

[9] TQ Delta v Zyxel Communications, UK High Court of Justice - HP-2017-000045 - [2019] EWHC 745 (Pat), dated 18 March 2019, at ¶ 12.

[10] *Id.*, at ¶ 13.

[11] Koninklijke Philips N.V. v. Asustek Computers INC, Court of Appeal of The Hague, judgment 7 May 2019, Case No. 200.221.250/01.

[12] *Id.* at ¶ 4.179.

justified in seeking an injunction against Asus as an infringing implementer engaging in holdout tactics.

Another SEP owner labeled by the October 17 letter as a "patent troll" is Optis Wireless, an SEP owner currently engaged in litigation in numerous jurisdictions around the globe with Apple, an implementer using its patents covering the digital wireless telecommunications technologies in its iPhones and iPads. In a recent decision by the UK High Court of Justice on October 27, 2022, Lord Justice Arnold stated that "Apple's behaviour in declining to commit to take a Court-Determined Licence once they had been found to infringe . . . and their pursuit of their appeal, could well be argued to constitute a form of hold out . . . ."[13] Relatedly, in the *Optis v. Apple* trial in the U.S. District Court for the Eastern District of Texas, the court was informed about an internal Apple strategy document that the company would only "license as adjudicated" the SEPs it required for producing and selling its products.[14] This is precisely the type of holdout behavior that European courts have consistently recognized as grounds for an SEP owner to request and receive an injunction against the ongoing infringement of its SEPs by an implementer.

The only exception to the increasing number of cases in which injunctions have been granted to SEP owners is the People's Republic of China. Courts in China have never granted an injunction to a SEP owner in infringement litigation, except for two cases in which the SEP owner was a Chinese entity.[15] Moreover, Chinese courts have issued on multiple occasions "anti-suit" injunctions that bar SEP owners (typically, foreign companies) from pursuing pending litigation against allegedly infringing device manufacturers (typically, Chinese entities) in foreign courts (including courts in the United States).[16] Use of the anti-suit injunction consolidates litigation at the Chinese court, which, even if infringement is ultimately found, typically declines to grant injunctive relief and proceeds to determine a royalty rate that purports to apply on a global basis and is often dramatically lower than the royalty rates typically awarded by courts in other jurisdictions.[17] Chinese courts' use of anti-suit injunctions in this context led to a complaint filed

[13] Optis Cellullar Tech. LLC, Optis Wireless Tech. LLC & Unwired Planet Int'l Ltd. v Apple Inc., UK High Court of Justice - CA-2021-003153 - [2022] EWHC 2564 (Pat), dated 27 October 2022, at ¶ 300.

[14] Trial Transcript, *Optis v. Apple*, Case No. 19-cv-00066, Dkt. 490, (E.D. Tex. Aug. 12, 2020) ("This is another element of Apple's strategy. This is, once again, from an internal Apple document. Apple talks about a range of approaches, and one of the approaches it likes to use is called license as adjudicated. This is the plans of Apple's lawyers. And why do they want to say license as adjudicated? Well, that's a funny word for, let someone sue us. Now, why in the world would you want to wait for someone to sue you for patent infringement? Well, we actually know the answer to that, because it's in their internal documents. The reason for it is because they want to delay payments. They want to avoid having paid the money for as long as possible.").

[15] Jill Ge, *Iwncomm v. Sony: first SEP-based injunction granted in China*, ALLEN & OVERY, Apr. 10, 2017, https://www.allenovery.com/en-gb/global/news-and-insights/publications/iwncomm-v-sony-first-sep-based-injunction-granted-in-china; Jacob Schindler, *Full judgment in Huawei v. Samsung details why Shenzhen court hit Korean company with SEP injunction*, IAM, Apr. 3, 2018, https://www.iam-media.com/article/full-judgment-in-huawei-v-samsung-details-why-shenzen-court-hit-korean-company-sep-injunction/.

[16] Mark Cohen, *China's Practice of Anti-Suit Injunctions in SEP Litigation: Transplant or False Friend?*, *in* 5G AND BEYOND: INTELLECTUAL PROPERTY AND COMPETITION POLICY IN THE INTERNET OF THINGS (eds. Jonathan Barnett and Sean O'Connor, forthcoming 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4124618.

[17] Andrei Iancu, *The Solution to Chinese Courts' Increasingly Aggressive Overreach*, CENTER FOR

by the European Union in 2022 against China at the World Trade Organization, which the United States subsequently requested to join.[18]

This near uniformity of judicial opinion (outside China) is commonsensical as a matter of both law and economics. If SEP owners are precluded from seeking injunctions, then infringers have little reason ever to agree to, or negotiate in good faith, a license with a SEP owner. A well-resourced infringer would rationally reject any license offer and compel the SEP owner to enter into litigation that typically requires millions of dollars in legal expenses and years of judicial proceedings in multiple venues around the world. After imposing these massive costs on the SEP owner, the worst-case scenario for the infringer is a court order to pay monetary damages that merely mimics the royalty rate it would have paid in a negotiated licensing transaction.

The infringer's upper hand in litigation under a no-injunction regime translates into bargaining leverage over innovators in *all* SEP licensing negotiations, devaluing existing patent-protected technologies across-the-board and disincentivizing firms from developing new technologies. Absent any realistic prospect of an injunction, the implementer would enjoy access to the innovator's technology, deriving revenues from the products and services that embody that technology, while, during negotiations and litigation, the innovator would earn nothing from the same technology that it developed at great cost and risk.

European courts have explicitly recognized this fundamental asymmetry favoring implementers over innovators in the cases in which they have granted requests for injunctive relief by SEP owners. In *Sisvel v. Haier*, for example, the German Federal Court of Justice ruled that the implementer was engaging in a deliberate campaign of "patent hold-out" in exploiting what the court identified as the "structural disadvantage" for SEP owners attempting to enforce their patent rights given that they are not able to sue implementers or seek an injunction in court until after a FRAND offer is made and the implementer has had an opportunity to respond.[19] The implementer (Haier) argued that it was required to enter into a license with the SEP owner (Sisvel) only after courts in all jurisdictions worldwide had adjudicated to final judgment that Sisvel's SEPs are valid and infringed by Haier. This would require Sisvel to engage in years, if not decades, of futile licensing efforts and lawsuits in innumerable countries before it could even request an injunction for ongoing infringement by Haier. Since Haier was an implementer engaging in holdout and Sisvel provided notice to Haier of its infringement and had made a FRAND offer, the Federal Court of Justice concluded that Sisvel could seek injunctive relief against Haier's continuing infringement of Sisvel's patents.

If implementers are permitted to exploit the asymmetry in the licensing negotiations of SEPs, as

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STRATEGIC & INTERNATIONAL STUDIES, Apr. 6, 2022, https://www.csis.org/analysis/solution-chinese-courts-increasingly-aggressive-overreach; Mark Cohen, *Unwired Planet and the Role of Chinese Courts: A Perspective from Shenzhen*, CHINAIPR, Jan. 18, 2020, https://www.chinaipr.com/2021/01/18/unwired-planet-and-the-role-of-chinese-courts-a-perspective-from-shenzhen/.

[18] World Trade Organization, DS611: China—Enforcement of intellectual property rights, May 9, 2022, https://www.wto.org/english/tratop_e/disp_e/cases_e/ds611_e.htm.

[19] Sisvel v Haier, Federal Court of Justice (Bundesgerichtshof), 24 November 2020 - Case No. KZR 35/17, at ¶ 61.

recognized by European courts, this is likely to lead to settlement amounts or, absent litigation, negotiated royalties that undervalue the innovator's technology. This effectively transfers wealth from firms that specialize in developing wireless technologies to firms (including some of the world's most valuable companies) that specialize in using and integrating those technologies in branded devices sold to consumers. That is not a recipe for a robust innovation ecosystem.

The FRAND Principle and the "Level of Licensing"

The October 17 letter further argues that the FRAND principle prohibits SEP licensing at the device level, and instead that SEP owners must accept requests to license from component suppliers further up the supply chain. In support of this claim, the letter cites an article arguing that the FRAND principle requires that SEP licensing take place at the level of the "smallest saleable practicing patent unit" (or "SSPPU"). This misstates both the meaning of the FRAND commitment made by SEP owners to SDOs and the consistent interpretation of this commitment by courts in the U.S. and Europe.

Throughout the life of the wireless communications industry reaching back many decades, SEP owners have generally licensed to device manufacturers that are situated at the end of the technology supply chain. The FRAND commitment has almost never been understood to mandate a departure from this industry convention. Leading SDOs in the wireless communication industry have generally resisted call to mandate licensing at any specific level of the supply chain.

In 2012, for example, the European Telecommunications Standards Institute (ETSI) rejected proposals by implementers to revise its FRAND policy to mandate a specific royalty base, in which implementers argued the "more apt royalty base is the broadband chip (i.e. 'smallest saleable patent-practicing unit' or 'smallest priceable component,' respectively)" as opposed to the industry practice of licensing at the "communication device" level.[20] When the IEEE, a leading SDO in wireless communications, decided in 2015 to mandate the SSPPU standard and to restrict access to injunctions for SEP owners, the Director of Legal Affairs of ETSI stated that the IEEE's policy is "incompatible with the ETSI IPR policy as commercial discussions between members . . . take place outside ETSI and [there is] no provision in the [ETSI] IPR policy rules on the use of injunction[s]."[21] Apparently the IEEE now agrees: in September 2022, it withdrew this policy.[22] As a result, both major SDOs in wireless communications have now rejected any per se rules or mandates of specific licensing terms, leaving SEP owners and implementers free to determine the specific commercial terms for their FRAND licenses.

In interpreting the contractual FRAND commitment by SEP owners with SDOs, courts have

[20] Dirk Weiler, IPR SC Chairman, *Status of discussions: overview of the possible scenarios, associated historical information and wording proposals where appropriate*, ETSI IPR (12)12_002r2, at 2-3 (Sep. 26, 2012).

[21] Bertram Huber, *Why the ETSI IPR Policy Does Not and Has Never Required Compulsory "License to All": A Rebuttal to Karl Heinz Rosenbrock* 6 (2017), https://papers.ssrn.com/abstract=3038447 (quoting statement by Christian Loyau, ETSI Director of Legal Affairs, in the Draft Minutes from the meeting of the ETSI General Assembly, ETSI/GA(15)65_030r2, at 11 (March 17-18, 2015)).

[22] Ryan Davis, *IEEE To Remove Injunction Limits in Essential Patent Policy*, LAW360 (Sept. 30, 2022), https://www.law360.com/articles/1535980/ieee-to-remove-injunction-limits-in-essential-patent-policy.

consistently rejected arguments by implementers and component manufacturers that they must use the SSPPU standard in assessing a FRAND royalty rate.[23] In *HTC v. Ericsson*, the district court concluded that "the FRAND commitment embodied in the ETSI IPR policy does not require a FRAND license to be based on the SSPPU."[24]

The October 17 letter also argues that SEP owners are legally obligated to license to any manufacturer in the supply chain—a policy known as "license to all." This does not reflect applicable U.S. and European court decisions.

In *Federal Trade Commission v. Qualcomm*, for example, the Ninth Circuit held that SEP owners do not have a duty to provide "SEP licenses" to chip manufacturers and recognized that "OEM-level licensing" is "reasonable and consistent with current industry practice."[25] Accordingly, the Ninth Circuit held that the district court had misapplied Supreme Court precedent (*Aspen Skiing Co. v. Aspen Highlands Skiing Corp*[26]) that had only recognized any such "duty to deal" in narrow circumstances that were inapplicable to the licensing practices of Qualcomm in this case.[27]

In *Sharp v. Daimler*, the German District Court of Munich also rejected Daimler's argument that the ETSI FRAND policy mandated a "license to all" requirement for SEP owners.[28] The *Sharp* court found that there was no basis in the ETSI FRAND policy to impose a "license to all" mandate on SEP owners who had committed to license their patents on FRAND terms.[29]

As scholars have recognized, it is "untenable" to claim as a "legal matter" that a FRAND commitment mandates a license-to-all policy.[30] The reason is simple: patent exhaustion doctrine

[23] *See, e.g.*, Federal Trade Commission v. Qualcomm Inc., 969 F.3d 974, 998 (9th Cir. 2020) ("No court has held that the SSPPU concept is a per se rule for 'reasonable royalty' calculations[.]"); Commonwealth Sci. & Indus. Research Org. v. Cisco Sys., Inc., 809 F.3d 1295, 1303 (Fed. Cir. 2015) ("The rule Cisco advances—which would require all damages models to begin with the smallest salable patent-practicing unit—is untenable. It conflicts with our prior approvals of a methodology that values the asserted patent based on comparable licenses."); Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1226 (Fed. Cir. 2014) (stating that the SSPPU standard is not mandated for all cases).

[24] HTC Corp. v. Telefonaktiebolaget LM Ericsson, No. 6:18-CV-00243-JRG, 2019 WL 126980, at *6 (E.D. Tex. Jan. 7, 2019). In the Court of Appeals for the Fifth Circuit's decision affirming the district court's final judgment in this case, Judge Stephen Higginbotham observed that "SSPPU may not be the appropriate royalty base and should not be mandated to the jury" merely because an infringed patent is an SEP. HTC Corp. v. Telefonaktiebolaget LM Ericsson, 12 F.4th 476, 494 n.6 (5th Cir. 2021) (Higginbotham, J., concurring).

[25] *Qualcomm*, 969 F.3d at 996.

[26] 472 U.S. 585 (1985).

[27] *Qualcomm*, 969 F.3d at 994-95.

[28] Sharp v. Daimler, District Court (Landgericht) of Munich, 10 Sep. 2020 - Case-No. 7 O 8818/19, at ¶¶ 169, 175.

[29] *Id.*, at ¶ 177.

[30] Anne Layne-Farrar & Richard J. Stark, *License to All or Access to All? A Law and Economics Assessment of Standard Development Organizations' Licensing Rules*, 88 GEO. WASH. L. REV. 1307, 1331 (2020) ("The ETSI IPR Policy does not state any obligation to license each and every entity along the entire production chain. . . . The ETSI IPR Policy does not state how many licenses the patent owner should grant, or to whom it should grant them. . . . [N]o specific commercial terms for licenses are set forth in the ETSI IPR Policy.").

automatically precludes post-sale restrictions on the sale of patented inventions.[31] As a result of this legal limitation on the patent owner's right to exclude, "once a patentee sells an item," the "law furnishes 'no basis for restraining the use and enjoyment of the thing sold.'"[32] If an SEP owner was mandated by a FRAND commitment to license its patents to any upstream supplier in the value chain insisting on a license, the transfer of the patented technology from that supplier to downstream suppliers or OEMs would lie outside the bounds of the SEP owner's patent rights. As a result, the SEP owner would be legally precluded from entering into licenses with other downstream suppliers or OEMs. This would effectively mean that SEP owners would be required, under the FRAND commitment, to license only to upstream suppliers and abandon the device-level licensing practices that have been almost uniformly followed for decades in markets governed by the FRAND policies of numerous SDOs. There is no historical or legal basis to support this implausible interpretation of the FRAND commitment.

The Critical Function of Patent Pools in Consumer Electronics

The 2020 business review letter issued in connection with the Avanci patent pool is one of a sequence of business review letters that the Antitrust Division has issued to provide guidance to entities that have constructed similar transactional structures in various sectors of the information technology ecosystem. Starting with the business review letter issued by the Antitrust Division in 1997 in connection with the MPEG-2 patent pool,[33] these letters (including letters issued in 1998, 1999, 2002, 2006, 2007, and 2008[34]) have provided a carefully crafted legal template that seeks to

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[31] *See* Impression Products, Inc. v. Lexmark Int'l, Inc., 137 S. Ct. 1523, 1531 (2017) ("For over 160 years, the doctrine of patent exhaustion has imposed a limit on that right to exclude. The limit functions automatically: When a patentee chooses to sell an item that product 'is no longer within the limits of the monopoly' and instead becomes the 'private, individual property' of the purchaser, with the rights and benefits that come along with ownership." (quoting Bloomer v. McQuewan, 14 How. 539, 549-50 (1853)); Quanta Computer, Inc. v. LG Elecs., Inc., 553 U.S. 617, 625 (2008) ("The longstanding doctrine of patent exhaustion provides that the initial authorized sale of a patented item terminates all patent rights to that item.").

[32] Impression Products Inc. v. Lexmark Int'l Inc., 137 S. Ct. 1523, 1532 (2017) (quoting United States v. Univis Lens Co., 316 U.S. 241, 251 (1942)).

[33] Joel I. Klein, Asst. Att'y Gen., Antitrust Div., Dep't of Just., to Gerrard R. Beeney, Esq., Sullivan & Cromwell 1, 16 (June 26, 1997) (indicating no intention to initiate antitrust enforcement against proposed patent licensing arrangement), http://www.justice.gov/atr/public/busreview/215742.htm [http://perma.cc/9ELS-N48K].

[34] Letter from Joel I. Klein, Acting Assistant Att'y Gen., Antitrust Div., Dep't of Just., to Garrard R. Beeney, Esq. (Dec. 16, 1998), http://www.justice.gov/sites/default/files/atr/legacy/2006/04/27/2121.pdf [http://perma.cc/YL53-VKK8]; Letter from Joel I. Klein, Acting Assistant Attorney Gen., Antitrust Div., Dep't of Justice, to Carey R. Ramos, Esq., (June 10, 1999), *available at* http://www.justice.gov/atr/public/busreview/2485.pdf; Letter from Charles A. James, Assistant Att'y Gen., Antitrust Div., Dep't of Justice, to Ky P. Ewing, Esq. (Nov. 12, 2002), http://www.usdoj.gov/atr/public/busreview/200455.pdf [http://perma.cc/9TBA-AQPK]; Letter from Thomas O. Barnett, Assistant Attorney Gen., Dep't of Justice, to Robert A. Skitol, Esq., Drinker, Biddle & Reath, LLP, on behalf of VMEbus International Trade Association (VITA) (Oct. 30, 2006), *available at* http://www.justice.gov/atr/public/busreview/219380.pdf; Letter from Thomas O. Barnett, Acting Assistant Att'y Gen., Antitrust Div., Dep't of Justice, to Michael A. Lindsay, Esq. (April 30, 2007), http://www.justice.gov/sites/default/files/atr/legacy/2007/04/30/222978.pdf [http://perma.cc/B8WY-5U34]; Letter from Thomas O. Barnett, Acting Assistant Att'y Gen., Antitrust Div., Dep't of Just., to William F. Dolan and Geoffrey Oliver (Oct. 21, 2008), http://www.justice.gov/sites/default/files/atr/legacy/2008/10/21/238429.pdf [http://perma.cc/3ZYT-E29U].

preserve the transaction-cost savings from collective licensing while incorporating safeguards against the risk of collusion or other anticompetitive practices. On the basis of the guidance set forth in these letters, market participants have constructed patent pools and related licensing arrangements involving tens of licensors and hundreds of licensees covering ubiquitous technology standards for digital storage devices, videoconferencing, Bluetooth, audio date compression, audio and video compression and streaming, DVDs and BluRay formats, and Ethernet networking.[35] This patent-dependent contractual infrastructure has promoted standards adoption and, as a result, supported the interoperability that enhances competitive conditions in consumer electronics markets.

In evaluating the carefully crafted Avanci pool structure, the 2020 business review letter appropriately concluded that the pool's design conformed to the well-established, fact-intensive inquiry concerning actual market practices and efficiencies set forth in previous business review letters. Any reconsideration of the 2020 business review letter, as proposed in the October 17 letter, would give rise to significant uncertainty concerning the Antitrust Division's commitment to the aforementioned sequence of business review letters that have been issued concerning other patent pools in the information technology industry, as well as the larger group of patent pools that did not specifically seek guidance through the business review letter process but relied on the legal template that had been set forth in those previously issued letters.

This is a point of great consequence. Pooling arrangements in the information technology industry have provided an efficient market-driven solution to the transaction costs that are inherent to patent-intensive industries and, when structured appropriately in light of agency guidance and applicable case law, do not raise undue antitrust concerns. Thanks to pooling and related collective licensing arrangements, the innovations embodied in tens of thousands of patents have been made available to hundreds of device producers and other intermediate users, while innovators have been able to earn a commensurate return on the costs and risks that they undertook to develop new technologies that have transformed entire fields and industries to the benefit of consumers.

Conclusion

In the Statement on the America COMPETES Act, released on January 25, 2022, President Biden recognized the importance of making "transformational investments in our industrial base and research and development that helped power the United States to lead the global economy . . .".[36] A key element of America's innovation engine is providing innovators with secure intellectual property rights to earn returns on the immense investment of time, capital, and personnel that are required to achieve technological breakthroughs. A reliable legal environment for patent licensing and enforcement is a necessary precondition to maintain the incentives of private markets to continue making the infrastructural investments that were necessary to support innovation and commercialization in the wireless communications markets and the broader range of industries

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[35] Jonathan M. Barnett, *From Patent Thickets to Patent Networks: The Legal Infrastructure of the Digital Economy*, 55 JURIMETRICS 1, 16-20 (2014); Jonathan M. Barnett, *The Anti-Commons Revisited*, 29 HARV. J. L. & TECH. 127, 161-63, 194-203 (2015).

[36] White House, Statement by President Biden on the America COMPETES Act, January 25, 2022, https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/25/statement-by-president-biden-on-the-america-competes-act-of-2022/.

that will be transformed by 5G wireless technology.

Through the business review letter process, the antitrust agencies have played a critical part in this success story by providing guidance to entrepreneurs who sought to facilitate the deployment of wireless technology through pooling arrangements that dramatically lower licensing costs, while taking the necessary precautions to preempt potential antitrust risks. The nuanced assessment of the Avanci pool set forth in the 2020 business review letter is fully aligned with this approach and will play an important role in guiding market participants in designing the most efficient mechanisms to launch and deploy the transformative wireless technologies being developed by America's innovation community.

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APPENDIX

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