



**YOU’VE GOT A FRAND IN ME: RETHINKING FRAND AGREEMENTS & THE ROLE OF ANTITRUST IN LIGHT OF *FTC v. QUALCOMM***

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ABSTRACT

*Something smells rotten in the telecommunications industry. The Ninth Circuit’s recent decision in *FTC v. Qualcomm* has rejected the role of antitrust law within standard setting markets. The Ninth Circuit’s decision is a crucial misunderstanding of antitrust doctrine and needs to be corrected before the fifth generation (“5G”) of cellular networks is fully implemented. Legal scholars and former enforcement officials have stressed the importance of antitrust law to enforce FRAND agreements and prevent patent holdup. However, in light of *FTC v. Qualcomm*, the current debate concerning antitrust law’s role in standard setting markets is in a state of flux. First, this Note expands upon the current enforcement debate between the FTC and the DOJ. Second, the Note analyzes Qualcomm’s “no license, no chips” policy and argues that it is a nuanced form of patent holdup. Third, the Note will evaluate the Ninth Circuit’s decision. Lastly, the Note affords some creative solutions that could be adopted by SSOs if antitrust law is no longer a viable enforcement tool. This Note intends to supplement the argument for antitrust enforcement as well as provide a new perspective to the debate in the aftermath of *FTC v. Qualcomm*.*

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## I. INTRODUCTION

The telecommunications industry is heavily dependent on standard setting to enable various devices to be compatible and communicate with one another.<sup>1</sup> Standards Setting Organizations (“SSOs”) determine which technologies become incorporated into a particular standard by granting certain patents with Standard Essential Patent (“SEP”) status.<sup>2</sup> Before a patentholder’s patent can be afforded SEP status, the patentholder must agree to licensing their SEPs on fair, reasonable, and nondiscriminatory terms, otherwise known as FRAND agreements.<sup>3</sup> However, recent developments concerning which bodies of law should be

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\* J.D. Candidate, Rutgers Law School, May 2022; Publication Editor, *Rutgers University Law Review*. I would like to thank my family and friends for their loving and consistent support. I would also like to thank my faculty advisors, Michael Carrier and Sabrina Safrin, for their insight and guidance. Lastly, I would like to dedicate this Note to my grandfather—Mario Grillo.

1. Daniel F. Spulber, *Standard Setting Organizations and Standard Essential Patents: Voting and Markets* 2–3 (Northwestern L. & Econ. Rsch., Working Paper No. 16-21, 2017).

2. Daryl Lim, *Standard Essential Patents, Trolls, and the Smartphone Wars: Triangulating the End Game*, 119 PENN. ST. L. REV. 1, 3–4 (2014). Also, for a brief discussion about the history of SSOs, see Wang Ping, *A Brief History of Standards and Standardization Organizations: A Chinese Perspective* 1 (East-West Ctr., Working Paper No. 117, 2011).

3. Dan O'Connor, *Standard-Essential Patents in Context: Just a Small Piece of the Smartphone War Puzzle*, PAT. PROGRESS (Mar. 5, 2013), <https://www.patentprogress.org/2013/03/05/standard-essential-patents-in-context-just-a-small-piece-of-the-smartphone-war-puzzle/>.

applied to enforce these FRAND agreements have left the telecommunications industry vulnerable to anticompetitive tactics.

Most recently, the Ninth Circuit's decision in *FTC v. Qualcomm* has enabled Qualcomm to essentially evade their FRAND agreements by tying their SEP licenses to their chipset monopoly.<sup>4</sup> The Ninth Circuit reversed the U.S. District Court for the Northern District of California's ruling that Qualcomm's business practices violated antitrust law.<sup>5</sup> The Ninth Circuit believed that FRAND enforcement is only a matter of contract and patent law, rather than antitrust.<sup>6</sup> Unfortunately, this decision will exacerbate the well-established problem of patent holdup,<sup>7</sup> especially in the telecommunications industry, which is known to be highly susceptible to holdup issues.<sup>8</sup> If more technology companies start to adopt this new business practice—which we have already started to see—it could potentially render FRAND meaningless within the telecommunications space.<sup>9</sup> It seems highly unlikely that *FTC v. Qualcomm* will be overturned in light of the Ninth Circuit's denial of rehearing en banc.<sup>10</sup>

Nevertheless, academics and telecommunication industry experts must not lose hope. They must continue in their efforts to advocate that antitrust law has a role to play in upholding FRAND agreements and start to consider alternative legal solutions to save the FRAND model if all else fails.

This Note argues that, in spite of *FTC v. Qualcomm*, Qualcomm's "no license, no chips" policy is a unique form of patent holdup that currently requires antitrust law to prevent prospective harm within the telecommunications industry. First, this Note will provide background information about the telecommunications industry and how standard setting plays such a pivotal role. Second, this Note will analyze both sides

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4. See generally *Fed. Trade Comm'n v. Qualcomm Inc. (Qualcomm II)*, 969 F.3d 974 (9th Cir. 2020).

5. *Id.*

6. *Id.* at 997.

7. Thomas F. Cotter, Erik Hovenkamp & Norman Siebrasse, *Demystifying Patent Holdup*, 76 WASH. & LEE L. REV. 1501, 1501 (2020) ("Patent holdup can arise when circumstances enable a patent owner to extract a larger royalty ex post than it could have obtained in an arm's length transaction ex ante."); see also Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 1991, 2010, 2016 (2007) (highlighting how the problem of patent holdup is exacerbated when existing in conjunction with royalty stacking, which occurs "when multiple patents read on a single product").

8. Jorge L. Contreras, *Much Ado About Hold-Up*, 19 U. ILL. L. REV. 875, 881–83 (2019).

9. *Fed. Trade Comm'n v. Qualcomm Inc. (Qualcomm I)*, 411 F. Supp. 3d 658, 754–56 (N.D. Cal. 2019).

10. Kristen Errick, *Ninth Circuit Denies Rehearing En Banc in FTC v. Qualcomm Antitrust Suit*, L. ST. MEDIA (Oct. 29, 2020), <https://lawstreetmedia.com/tech/ninth-circuit-denies-rehearing-en-banc-in-ftc-v-qualcomm-antitrust-suit/>.

of the ongoing patent holdup debate and why antitrust law is necessary on some occasions to remedy FRAND agreement breaches to preserve competition. Third, this Note will illustrate how Qualcomm's "no license, no chips" policy is a form of patent holdup and critique some aspects of the Ninth Circuit's decision. Fourth, this Note will highlight the decision's future ramifications within the telecommunications industry and consider some substitute legal outlets that may mitigate the damage to the industry if antitrust law is no longer a viable option to enforce its FRAND agreements. This Note hopes to supplement the ongoing debate about patent holdup regarding antitrust law's role in accordance with industry standardization and FRAND commitments.

## II. THE TELECOMMUNICATIONS INDUSTRY & STANDARDIZATION

As mentioned prior, the telecommunications industry deeply relies on standard setting to maintain consistency, compatibility, and communication between various technologies.<sup>11</sup> For instance, the telecommunications industry has adopted standards, such as USB, to ensure that our ports can connect with our plugs, and WiFi, to allow our various mobile devices to wirelessly link up with our home routers to receive internet connection.<sup>12</sup> Standard setting is also the reason that iPhone users can make calls to Android users<sup>13</sup> and that new generations of telephone networks such as third generation ("3G"), fourth generation ("4G"), etc. are developed.<sup>14</sup> Without standard setting, we would most likely be at the mercy of one monopolist tech company that would control all of our telecommunication devices.<sup>15</sup> Although standardization has

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11. Spulber, *supra* note 1, at 2–3.

12. *See id.* For a more in-depth analysis of the evolution of the USB standard, see *The Evolution of USB: What the New USB-IF Specifications Mean for Users*, KENSINGTON (Oct. 20, 2020), <https://www.kensington.com/news/docking-connectivity-blog/the-evolution-of-usb-what-the-new-usb-if-specifications-mean-for-users/>. For a more in-depth evolution of the WiFi standard, see Gavin Phillips, *The Most Common Wi-Fi Standards and Types, Explained*, MAKEUSEOF (Jan. 18, 2021), <https://www.makeuseof.com/tag/understanding-common-wifi-standards-technology-explained/>.

13. Thomas Warren, *What Are Cellular Radio Technologies? How Do They Work?*, SURECALL (Dec. 6, 2018), <https://blog.surecall.com/what-are-cellular-radio-technologies/>.

14. *See* Mudit Ratana Bhalla & Anand Vardhan Bhalla, *Generations of Mobile Wireless Technology: A Survey*, 5 INT'L J. COMPUT. APPLICATIONS 26 (2010) (comparing the differences between each generation of wireless technology).

15. Without standard setting, one firm may dominate the entire cellular space or a single firm may dominate one part of the supply chain because there would be no compatibility between products. *See* Spulber, *supra* note 1, at 3. Standard setting enables various firms to develop technology and acquire licenses from one another. *Id.* Standard setting also increases efficiency and variety and permits multiple industry participants to compete. *See id.*

many benefits,<sup>16</sup> the telecommunication industry's substantial reliance on standardization is the primary reason that it is so susceptible to the holdup problem.<sup>17</sup>

The standards that the telecommunications industry chooses to adopt are first approved by SSOs.<sup>18</sup> SSOs are global entities that consist of industry participants who set the particular standard for the entire industry.<sup>19</sup> Some notable SSOs within the telecommunications industry include the Institute of Electrical and Electronics Engineers ("IEEE"), Telecommunications Industry Association ("TIA"), and Alliance for Telecommunications Industry Solutions ("ATIS").<sup>20</sup> These SSOs play the pivotal role of determining which patents they want to incorporate into a particular cellular standard by declaring the patents as standard essential.<sup>21</sup>

Nevertheless, SEP declarations "do not declare that patents [are] essential to the standard, but declare whether and on what terms a patent owner is willing to license identified patents [if] those patents turn out to be essential to the standard . . . ."<sup>22</sup> SSOs and patent owners do not generally afford true SEP status to declared SEPs until later on in the standard setting process due to future changes within the standard, pending patent applications, and patent disputes.<sup>23</sup> Therefore, a SEP declaration is simply a *promise* between the SSO and the patent owner that says if the patent is later deemed necessary to practice the standard

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16. *Id.* at 2–3; see also Mary Strain, *The Advantages of Telecommunications Standards*, CHRON, <https://smallbusiness.chron.com/advantages-telecommunication-standards-35713.html> (last visited Dec. 20, 2021).

17. Carl Shapiro & Mark A. Lemley, *The Role of Antitrust in Preventing Patent Holdup*, 168 U. PA. L. REV. 2019, 2037, 2050 (2020); see also Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119 (Adam B. Jaffe et al. eds., 2001) [hereinafter Shapiro, *Navigating the Patent Thicket*].

18. Lim, *supra* note 2, at 3–4.

19. See *id.* at 3–4 & n.3, 31.

20. For a table of case studies regarding the listed SSOs and more, see Jorge L. Contreras, *Technical Standards, Standards-Setting Organizations and Intellectual Property: A Survey of the Literature (with an Emphasis on Empirical Approaches)*, in 2 RESEARCH HANDBOOK ON THE ECONOMICS OF INTELLECTUAL PROPERTY LAW 1, 6–7 (Peter S. Menell & David L. Schwartz eds., 2019); see also Fed. Trade Comm'n v. Qualcomm Inc. (*Qualcomm II*), 969 F.3d 974, 986 (9th Cir. 2020).

21. George S. Cary et al., *The Case for Antitrust Law to Police the Patent Holdup Problem in Standard Setting*, 77 ANTITRUST L.J. 913, 914 (2011).

22. David Long, *Lenovo, Motorola File Antitrust Claims Against InterDigital's Standards Setting Participation and Patent Licensing Practice (Lenovo v. InterDigital)*, ESSENTIAL PAT. BLOG (Apr. 28, 2020), <https://www.essentialpatentblog.com/2020/04/lenovo-motorola-file-antitrust-claims-against-interdigitals-standards-setting-participation-and-patent-licensing-practice-lenovo-v-interdigital/>.

23. *Id.*

by the SSO, the patent owner will license it based on FRAND conditions.<sup>24</sup> These FRAND conditions are meant to be the backstop against any patent holdup issues.<sup>25</sup>

The ambiguous terms “fair,” “reasonable,” and “non-discriminatory” used in FRAND agreements serve a dual purpose: (1) limit patent owners from potentially taking advantage of implementers who may require their SEPs to practice a particular standard and (2) reserve some wiggle room for good-faith, competitive negotiations.<sup>26</sup> Without FRAND agreements, the SEP owner may exploit its dominant monopoly position and charge unreasonable royalty rates to implementers once a SEP becomes necessary to practice a particular standard.<sup>27</sup> Furthermore, the SEP owner can refuse to license its SEPs to implementers and holdup the entire industry since implementers may have already developed their infrastructure in reliance on the patentholder’s FRAND promise.<sup>28</sup> The very reason that FRAND exists is to prevent such a stalemate from occurring within an industry.<sup>29</sup> It is purely based on facilitating competition within the industry.<sup>30</sup> As mentioned earlier, even FRAND’s ambiguous terms serve an important purpose—to permit competitive negotiation between firms.<sup>31</sup> Nevertheless, where the courts draw the line concerning whether a patentholder has breached its FRAND

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24. *See id.*

25. Joseph Kattan & Chris Wood, Standard-Essential Patents and the Problem of Hold-Up 3 (Dec. 19, 2013) (unpublished manuscript), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2370113](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2370113); Shapiro & Lemley, *supra* note 17, at 2044–45.

26. *See* J. Gregory Sidak, *Negotiating FRAND Licenses in Good Faith*, 5 CRITERION J. INNOVATION 1, 14–16 (2020).

27. Kattan & Wood, *supra* note 25; *see also* Shapiro & Lemley, *supra* note 17, at 2020–21. It is well established that having a patent does not necessarily guarantee a demonstration of market power. *Jefferson Par. Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 37 n.7 (1984) (O’Connor, J., concurring). Some patented products may be substituted for other products. *Id.* Additionally, depending on the particular standard, some SEPs can be substituted for others or technological adjustments can be made to render them obsolete. Spulber, *supra* note 1, at 23. Nevertheless, the reality is that when a patent is granted SEP status, an implementer is less likely to find a viable substitute if they already made significant “investments that cannot easily be redeployed to non-infringing products.” Shapiro & Lemley, *supra* note 17, at 2020–21.

28. Shapiro & Lemley, *supra* note 17, at 2020–21.

29. *Id.* at 2044–45.

30. Herbert Hovenkamp, *FRAND and Antitrust*, 105 CORNELL L. REV. 101, 108 (2020).

31. O’Connor, *supra* note 3.

commitments,<sup>32</sup> and whether competition has contemporaneously been hindered because of this breach,<sup>33</sup> is the tricky part.

### III. PATENT HOLDUP & THE CURRENT DEBATE

#### A. Patent Holdup

The patent holdup problem has plagued a number of industries that rely on standard setting to enable products to be compatible.<sup>34</sup> It appears “when a patent-owner seeks to extract excessive value from its SEPs after the implementer is ‘locked-in’ to using the standard.”<sup>35</sup> As noted earlier, SSOs have incorporated FRAND agreements to prevent this sort of anticompetitive conduct.<sup>36</sup>

The study of transaction cost economics provides us with two terms known as “ex ante” and “ex post,” which illustrate how firms make relationship-specific investments that cause them to be locked-in if they depend on FRAND promises.<sup>37</sup> Essentially, innovators will negotiate with SSOs for ex ante royalties in exchange for SEP declarations.<sup>38</sup> These ex ante royalties materialize in the form of FRAND agreements and they represent the value of the patent *before* other firms within the industry make relationship-specific investments to practice the particular SEP technology.<sup>39</sup> Nevertheless, after a patent obtains true SEP status, the patentholder may realize that implementers have made significant investments to practice their specific SEP, enabling them to commit ex post holdup.<sup>40</sup> Ex post holdup empowers SEP owners to exploit their

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32. See Srividhya Ragavan et al., *FRAND v. Compulsory Licensing: The Lesser of the Two Evils*, 14 DUKE L. & TECH. REV. 83, 97 (2015).

33. Christopher R. Leslie, *The DOJ's Defense of Deception: Antitrust Law's Role in Protecting the Standard-Setting Process*, 98 OR. L. REV. 379, 400 (2020) (explaining how a breach of a FRAND commitment “retroactively distorts the competitive process”).

34. See Shapiro, *supra* note 17, at 119. In industries such as “semiconductors, biotechnology, computer software, and the Internet, our patent system is creating a *patent thicket*: an overlapping set of patent rights requiring that those seeking to commercialize new technology obtain licenses from multiple patentees.” *Id.* When combining the patent thicket issue with patent holdup, which “is especially pronounced in industries such as telecommunications and computing in which formal standard setting is a core part of bringing new technologies to market[,]” this can be a huge problem. *Id.*

35. TCL Commc'n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson, 943 F.3d 1360, 1368 (Fed. Cir. 2019).

36. See Hovenkamp, *supra* note 30, at 148.

37. See Shapiro & Lemley, *supra* note 17, at 2025–26.

38. See Kattan & Wood, *supra* note 25, at 3.

39. *Id.*

40. See Cotter et al., *supra* note 7, at 1529.

monopoly position by charging implementers unreasonable royalty rates in exchange for licenses to use their patent.<sup>41</sup>

FRAND agreements are meant to preserve the competitive ex ante value and prevent patent holdup, but only if they are enforced, of course.<sup>42</sup> So, the question is—how far does the law permit FRAND enforcement to go? Currently, there is great debate in the legal field about where that line is drawn, particularly whether or not antitrust law has a role to play.<sup>43</sup>

### B. *The Current Enforcement Debate*

There was a reason why the DOJ submitted an amicus brief in favor of Qualcomm, rather than the FTC, on appeal of the district court's decision.<sup>44</sup> The FTC and the DOJ have been at odds regarding the patent holdup debate.<sup>45</sup> At one point, both federal agencies seemed to be on the same page with their philosophy that antitrust is *sometimes* necessary to prevent legitimate threats to competition due to patent holdup.<sup>46</sup> However, after the Trump administration appointed Makan Delrahim as Assistant Attorney General for the DOJ Antitrust Division in 2017, the DOJ's thinking began to shift.<sup>47</sup>

Former AAG Delrahim's philosophy is premised upon his "New Madison Approach."<sup>48</sup> The four key tenets of this approach are that: (1)

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41. A. Douglas Melamed & Carl Shapiro, *How Antitrust Law Can Make FRAND Commitments More Effective*, 127 YALE L.J. 2110, 2117 (2018).

42. See Hovenkamp, *supra* note 30; see also *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014) ("[T]he ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product.").

43. Michael A. Carrier, *Rescuing Antitrust's Role in Patent Holdup*, 168 U. PA. L. REV. ONLINE 238, 250–52 (2021), [https://www.pennlawreview.com/wp-content/uploads/2021/02/Carrier\\_Final-To-Post-1-1.pdf](https://www.pennlawreview.com/wp-content/uploads/2021/02/Carrier_Final-To-Post-1-1.pdf).

44. David Long, *Public Invitation to the Competition Brawl* (FTC v. Qualcomm), ESSENTIAL PAT. BLOG (Aug. 12, 2019), <https://www.essentialpatentblog.com/2019/08/public-invitation-to-the-competition-brawl-ftc-v-qualcomm/>.

45. See *id.*

46. Shapiro & Lemley, *supra* note 17, at 2052–53.

47. *Id.* at 2052.

48. Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Just., The "New Madison" Approach to Antitrust and Intellectual Property Law, Remarks as Prepared for Delivery at University of Pennsylvania Law School 5 (Mar. 16, 2018), <https://www.justice.gov/opa/speech/file/1044316/download>. AAG Delrahim argued that although Thomas Jefferson is ubiquitously considered to be the father of the U.S. patent law system, James Madison is actually the true father. *Id.* at 1. Delrahim references Madison's advocacy of intellectual property rights displayed in *The Federalist Papers* as well as his crucial exchanges with Jefferson, who was initially skeptical about granting monopoly rights, about establishing a patent law system. *Id.* at 2–3. Furthermore, "Madison's view ultimately prevailed in the text of the Constitution, tying the right to a patent to innovation, or 'the progress of science and useful arts.'" *Id.* at 3 (citing U.S. CONST.



holdup is not an antitrust injury, but only a contract or fraud injury when proven; (2) SSOs should not act as vehicles for concerted action to favor implementers above patent owners; (3) patent owners have an absolute right to exclude and courts should not hesitate to afford injunctive relief; and (4) a patent owner's unilateral decisions not to license their patents should be per se legal under antitrust law.<sup>49</sup> In addition, AAG Delrahim believes that patent holdout is either just as lethal or even more lethal than patent holdup.<sup>50</sup> Patent holdout occurs "when implementers threaten to under-invest in the implementation of a standard, or threaten not to take a license at all, until their royalty demands are met."<sup>51</sup> In light of the DOJ ramping up its amicus program efforts, we are starting to see AAG Delrahim's New Madison Approach become so pervasive that it finally made its way to the courts.<sup>52</sup>

Nevertheless, other former FTC Commissioners, distinguished scholars, and even legislators have been trying to "hold the line" and push back against the DOJ's New Madison Approach.<sup>53</sup> Proponents of antitrust

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art. I, § 8). Therefore, Delrahim attributes his approach that advocates for even stronger patent protections to Madison for his "dogged perseverance in favor of strong patent protections—a view that stood at odds with much of the received wisdom and practice of [his] day." *Id.* at 4. Delrahim hopes that his new approach will combat what he calls the "retro-Jefferson" view that patents sometimes can confer too much power within certain markets, requiring antitrust law or the establishment of new patent policies in favor of implementers as potential remedies. *Id.*

49. *Id.* at 5 (arguing that these basic premises will ensure that "patent holders have adequate incentives to innovate and create exciting new technologies, and that licensees have appropriate incentives to implement those technologies").

50. Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Just., Take it to the Limit: Respecting Innovation Incentives in the Application of Antitrust Law, Remarks as Prepared for Delivery at USC Gould School of Law - Application of Competition Policy to Technology and IP Licensing 5 (Nov. 10, 2017), <https://www.justice.gov/opa/speech/file/1010746/download>. Delrahim worries that "enforcers have strayed too far in the direction of accommodating the concerns of technology *implementers* who participate in standard setting bodies, and perhaps risk undermining incentives for IP *creators*, who are entitled to an appropriate reward for developing breakthrough technologies." *Id.* at 3. Moreover, patent hold-out, a more serious threat than hold-up, substantially harms IP creators by disincentivizing creators to invest in innovative technology since implementers will just threaten to either under-invest or not seek a patent license at all (also known as holdout). *Id.* at 5.

51. *Id.* For a more in-depth study of the issue of patent holdout, see Bowman Heiden & Nicolas Petit, *Patent "Trespass" and the Royalty Gap: Exploring the Nature and Impact of Patent Holdout*, 34 SANTA CLARA HIGH TECH. L.J. 179 (2018).

52. Bryan Koenig, *DOJ Antitrust Head Touts Pushback on 'Radical' IP Theory*, LAW360 (Sept. 10, 2020, 8:03 PM), <https://www.law360.com/articles/1307302/doj-antitrust-head-touts-pushback-on-radical-ip-theory>.

53. Terrell McSweeney, Former Comm'r, Fed. Trade Comm'n, Holding the Line on Patent Holdup: Why Antitrust Enforcement Matters 6 (Mar. 21, 2018) [hereinafter McSweeney Letter], <https://www.ftc.gov/public-statements/2018/03/holding-line-patent-holdup-why-antitrust-enforcement-matters>; Letter from Professor Michael A. Carrier,

law's role in preventing patent holdup focus on the very basic tenet of the Sherman Act—consumer welfare.<sup>54</sup> Although antitrust law has a role to play, proponents believe that it should only be applied to supplement contract and patent law as a backstop when consumers are indirectly harmed.<sup>55</sup> Proponents also focus on the utilitarian justification behind patent law and that it is the public's interest that is paramount, not that of patent holders.<sup>56</sup>

Additionally, proponents argue that there is an asymmetry of ramifications between patent holdup and patent holdout.<sup>57</sup> They believe that patent holdup is more dangerous because the patent owner “has the law on its side and can therefore shut down the defendant's conduct unless the defendant pays a surcharge.”<sup>58</sup> Yet, with patent holdout, the party engaging in holdout does not have the same legal right.<sup>59</sup> Patent law also protects patent owners from holdout by permitting infringement suits against firms that are “holding out” from paying reasonable royalties, which include remedies such as injunctions, punitive damages, and compensation for attorneys' fees.<sup>60</sup> Yet, when considering the potential of patent holdup on the other side of the transaction, there is no equivalent legal claim nor remedy available.<sup>61</sup>

### C. *Prior Patent Holdup Caselaw*

A few recent examples of patent holdup caselaw include *Microsoft Corp. v. Motorola*<sup>62</sup> and *Realtek Semiconductor Corp. v. LSI Corp.*<sup>63</sup> In *Microsoft Corp.*, Microsoft had practiced Motorola's SEPs in its Windows

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Rutgers L. Sch. & Professor Timothy J. Muris, Antonin Scalia L. Sch. & Former Chairman, Fed. Trade Comm'n, to Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Just. 2 (May 17, 2018) [hereinafter Letter to AAG Delrahim], <https://law.rutgers.edu/f/mc-05-18-2018.pdf>.

54. Cary et al., *supra* note 21, at 941.

55. Shapiro & Lemley, *supra* note 17, at 2023–24.

56. Letter to AAG Delrahim, *supra* note 53, at 4. It is clear that the utilitarian justification for patent law has been recognized to be paramount. *See, e.g.*, *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 9 (1966) (“Only inventions and discoveries which furthered human knowledge, and were new and useful, justified the special inducement of a limited private monopoly.”).

57. Shapiro & Lemley, *supra* note 17, at 2048–49; Letter to AAG Delrahim, *supra* note 53, at 2.

58. Shapiro & Lemley, *supra* note 17, at 2048–49.

59. *Id.*

60. *Id.*

61. *See id.* at 2047–50.

62. *Microsoft Corp. v. Motorola*, No. C10-1823, 2013 WL 2111217 (W.D. Wash. Apr. 25, 2013).

63. *Realtek Semiconductor Corp. v. LSI Corp.*, No. C-12-3451, 2014 WL 2738226 (N.D. Cal. June 16, 2014).

and Xbox products.<sup>64</sup> After Microsoft refused to pay Motorola for its unreasonable royalty rates, Motorola sought to exclude Microsoft from selling its consoles in the United States.<sup>65</sup> However, the court denied the exclusion order and determined that Motorola had been charging Microsoft *one-hundred and fifty* times the appropriate cumulative RAND royalty rate.<sup>66</sup> In *Realtek Semiconductor Corp. v. LSI Corp.*, LSI filed a complaint with the U.S. International Trade Commission (“ITC”) seeking to preclude Realtek from infringing on its patents and demanding that Realtek pay unreasonable royalty rates.<sup>67</sup> Realtek’s products practiced the IEEE standard that included LSI’s SEPs.<sup>68</sup> Nevertheless, the court reversed the ITC’s exclusion order and found that LSI demanded

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64. See *Microsoft*, 2013 WL 2111217, at \*2, \*46–49; McSweeney Letter, *supra* note 53, at 4. Microsoft argued “that the MPEG LA H.264 patent pool [was] the best indicator of a RAND royalty rate for Motorola’s H.264 SEPs.” *Microsoft*, 2013 WL 2111217, at \*79. As the court noted, patent pools “are created by two or more SEP owners or by an administrator of a prospective patent pool who collects SEP owners to act as licensors with the purpose of licensing SEPs to third-party licensees, and usually to the other licensors, in a single licensing package.” *Id.* at \*74. For a more in-depth discussion about the use of patent pools, see Erik Hovenkamp & Herbert J. Hovenkamp, *Patent Pools and Related Technology Sharing*, in *CAMBRIDGE HANDBOOK OF ANTITRUST, INTELLECTUAL PROPERTY, AND HIGH TECH* 358 (Roger D. Blair & D. Daniel Sokol eds., 2017).

65. McSweeney Letter, *supra* note 53, at 4.

66. *Id.*; see also *Microsoft*, 2013 WL 2111217, at \*101. First, the court reasoned that Motorola’s H.264 SEP portfolio RAND royalty rate should be based on the comparable MPEG LA H.264 patent pool and testimony from Microsoft’s evaluation and value expert, Dr. Matthew Lynde. *Microsoft*, 2013 WL 2111217, at \*83. Dr. Lynde provided the court with royalty rate estimates that Microsoft would have to pay under three scenarios. *Id.* The court concluded that “scenario (b)—if Motorola received royalties equivalent to what it would have received if it and the other holders of other readily identifiable H.264 SEPs were all added to the pool with the current pool rate structure—most closely resemble[d] the desired RAND licensing situation.” *Id.* at \*84. However, the total RAND royalty rate would also incorporate “the value in access to the intellectual property in the MPEG LA H.264 patent pool[,]” which the court found to be two times the royalties suggested by Dr. Lynde. *Id.* at \*85. Thus, the final RAND rate for Motorola’s H.264 SEP portfolio came to be 0.555 cents per unit. *Id.* Second, the court reasoned that Motorola’s 802.11 SEP portfolio RAND royalty rate would consider the “Via Licensing 802.11 patent pool, Marvell Wi-Fi chip, and the InteCap evaluation as indicators . . .” *Id.* at \*98. Furthermore, that averaging the three indicators, a common business practice, would be a reasonable method to calculate a reasonable royalty rate. *Id.* at \*99. Therefore, the court concluded that Motorola’s 802.11 SEP portfolio RAND royalty rate was 3.471 cents per unit. *Id.* at \*99–100.

Also, note that RAND stands for “reasonable and nondiscriminatory” and is generally interchangeable with FRAND. Additionally, the acronym is sometimes denoted as F/RAND.

67. *Realtek Semiconductor*, 2014 WL 2738226, at \*1; see also McSweeney Letter, *supra* note 53, at 4.

68. *Realtek Semiconductor*, 2014 WL 2738226, at \*1; see also McSweeney Letter, *supra* note 53, at 4. For more information concerning the role and responsibilities of the ITC, see *About the USITC*, U.S. INT’L TRADE COMM’N [https://www.usitc.gov/press\\_room/about\\_usitc.htm](https://www.usitc.gov/press_room/about_usitc.htm) (last visited Dec. 20, 2021).

*five-hundred* times the cumulative F/RAND royalty rate that was considered appropriate.<sup>69</sup>

Both examples illustrate the type of holdup strategy that patent holders may employ to exploit their unique SEP-granted monopoly position and demand excessive royalty rates.<sup>70</sup> Although Motorola and LSI were reprimanded for exploiting their ex post monopoly, many SEP holders committing similar acts may never see a day in court.<sup>71</sup> Firms may make the calculus that it is easier to just pay an excessive royalty and charge higher prices downstream rather than await adjudication,<sup>72</sup> which can severely stifle innovation and harm consumers in the end.<sup>73</sup>

As mentioned earlier, the most recent development of the patent holdup debate unfolded in *FTC v. Qualcomm*.<sup>74</sup> In the decision, the influence of the DOJ's amicus program was remarkably apparent as the Ninth Circuit regurgitated arguments that fell squarely in line with AAG Delrahim's New Madison Approach.<sup>75</sup>

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69. McSweeney Letter, *supra* note 53, at 4; see also *Realtek Semiconductor*, 2014 WL 2738226, at \*6. The court applied the hypothetical negotiation framework as well as damage calculation methodology drawn from patent infringement caselaw to determine the reasonable RAND royalty rates for LSI's '958 and '867 patents. *Realtek Semiconductor*, 2014 WL 2738226, at \*6 (citing *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1324 (Fed. Cir. 2009)) ("The hypothetical negotiation framework 'attempts to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began.'"). Thus, the court concluded that 0.12% and 0.07% of Realtek's total product sales for the use of LSI's '958 and '867 patents, respectively, were reasonable RAND royalty rates. *Id.*

70. Kattan & Wood, *supra* note 25, at 1–2.

71. Gregor Langus et al., *Standard Essential Patents: Who is Really Holding Up (and When)?*, 9 J. COMPETITION L. & ECON. 253, 264–69 (2013) (explaining how a SEP licensee may choose the optimal take-it-or-leave-it offer and whether or not it's worth pursuing litigation); see also *Fed. Trade Comm'n v. Qualcomm Inc. (Qualcomm I)*, 411 F. Supp. 3d 658, 786–90 (N.D. Cal. 2019) (explaining how Qualcomm's royalty rates were never litigated in court).

72. Melamed & Shapiro, *supra* note 41, at 2116.

73. *Id.*

74. *Fed. Trade Comm'n v. Qualcomm Inc. (Qualcomm II)*, 969 F.3d 974, 974 (9th Cir. 2020).

75. *Id.* at 997 ("[W]e note the persuasive policy arguments of several academics and practitioners with significant experience in SSOs, FRAND, and antitrust enforcement, who have expressed caution about using the antitrust laws to remedy what are essentially contractual disputes between private parties engaged in the pursuit of technological innovation."); Koenig, *supra* note 52.

## IV. QUALCOMM'S "NO LICENSE, NO CHIPS" POLICY

A. *Qualcomm's Business Model & Patent Exhaustion Justification*

Qualcomm is one of the global leaders in cellular technology.<sup>76</sup> Qualcomm has made noteworthy contributions to the technological advancements within modern cellular systems, which include 3G CDMA and 4G premium LTE cellular standards.<sup>77</sup> Qualcomm's business structure is set up between two operating segments.<sup>78</sup> The first operating segment is Qualcomm CDMA Technologies ("QCT"), which relates to its chip and software sales.<sup>79</sup> According to most industry Original Equipment Managers ("OEMs")<sup>80</sup> and even Qualcomm, QCT was a chip monopoly because its CDMA and premium LTE chips were necessary components for OEMs to produce viable products that practiced the CDMA and premium LTE standards.<sup>81</sup> Considering the SEP technology within the chips, if an OEM or a rival chip supplier was unable to obtain either the chips themselves or the patent licenses, then it simply could not compete.<sup>82</sup> The second operating segment is Qualcomm Technology Licensing ("QTL"), and it relates to patent licensing practices.<sup>83</sup> Although Qualcomm's business structure is split between two operating segments, the two actually work in tandem.<sup>84</sup> The relationship between QCT and

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76. *Qualcomm II*, 969 F.3d at 982.

77. *Id.* (noting that "most modern cellphones and 'smartphones'" practice the 3G CDMA and 4G premium LTE standards). For a discussion about the differences between CDMA, LTE, and other coverage technology, see Vince Font, *How to Buy a Smartphone: Understanding LTE, VoLTE, GSM, & CDMA*, NOTEBOOK REV. (Feb. 15, 2016), <http://www.notebookreview.com/howto/buy-smartphone-understanding-lte-volte-gsm-cdma/>.

78. Fed. Trade Comm'n v. Qualcomm Inc. (*Qualcomm I*), 411 F. Supp. 3d 658, 669–70 (N.D. Cal. 2019).

79. *Id.*

80. OEMs include companies such as Apple and Samsung that develop the industry's end-products, "usually cellphones, but also smart cars and other products with cellular applications . . ." *Qualcomm II*, 969 F.3d at 982. These products may "practice one or more of Qualcomm's patented technologies." *Id.*

81. *Qualcomm I*, 411 F. Supp. 3d at 688, 694–95 (concluding that Qualcomm had monopoly power within the premium LTE chip market because "Qualcomm ha[d] owned a dominant share of the premium LTE modem chip market, there [were] significant barriers to entry, and competitors ha[d] lacked the ability to discipline Qualcomm's prices").

82. *See id.* at 694–95 (explaining that Lenovo's Vice President of Intellectual Property testified "that without Qualcomm's premium LTE modem chips, Lenovo's phones would not be viable 'at least with respect to the high end of the market.'").

83. *Id.* at 670, 688, 694–95.

84. *Id.* at 677, 698, 702 ("Amon [then QCT's Co-President] not only approved the plan for QCT to cut off chip supply to Chinese OEMs who refuse to pay patent royalties to QTL, but Amon agreed to start communicating this plan to customers.").

QTL is what allowed Qualcomm to “successfully” implement its “no license, no chips” policy, and is the reason the company received a complaint from the FTC in 2017 for harming competition.<sup>85</sup>

Qualcomm created a clever scheme to implement its “no license, no chips” policy. First, Qualcomm tied its SEP portfolio licenses to its chip monopoly, hence the policy name.<sup>86</sup> Qualcomm would agree to sell QCT’s modem chips to OEMs,<sup>87</sup> but the OEMs must first agree to purchase a license from QTL’s patent portfolio, which includes cellular SEPs, non-cellular SEPs, and non-SEPs.<sup>88</sup> Second, Qualcomm would not license its patent portfolio to its rival chip suppliers, but instead struck a crafty deal with them.<sup>89</sup> Qualcomm promised not to sue its rivals for infringing on its SEPs in exchange for a promise from its rivals not to sell chips to unlicensed OEMs and to submit reporting requirements regarding the amount of chips that licensed OEMs purchase from them.<sup>90</sup> The Ninth Circuit later characterized these agreements between Qualcomm and its rival chip suppliers as “patent-infringement indemnifications.”<sup>91</sup>

Qualcomm claimed that it began its unique “no license, no chips” policy to avoid patent exhaustion<sup>92</sup> and to obtain the maximum value of its patents by exclusively licensing them to OEMs.<sup>93</sup> The Supreme Court recently redefined the doctrine of patent exhaustion, “hold[ing] that once a patent owner has sold a patented product for the first time, they no longer have control over it . . . .”<sup>94</sup> Patent exhaustion gives consumers the convenience of not signing separate licenses or paying royalties to all patent holders when they purchase a product that practices their

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85. Press Release, Fed. Trade Comm’n, FTC Charges Qualcomm with Monopolizing Key Semiconductor Device Used in Cell Phones (Jan. 17, 2017), <https://www.ftc.gov/news-events/press-releases/2017/01/ftc-charges-qualcomm-monopolizing-key-semiconductor-device-used>.

86. Erik Hovenkamp & Timothy Simcoe, *Tying and Exclusion in FRAND Licensing: Evaluating Qualcomm 5* (B.U. Questrom Sch. of Bus., Research Paper No. 3523797, 2020).

87. Fed. Trade Comm’n v. Qualcomm Inc. (*Qualcomm II*), 969 F.3d 974, 982, 985 (9th Cir. 2020).

88. *Qualcomm I*, 411 F. Supp. 3d at 672 (explaining that bundling all three categories within its patent portfolio allows Qualcomm to obtain higher licensing revenues and only “occasionally offers separate licenses to its SEPs”).

89. *Qualcomm II*, 969 F.3d at 984.

90. *Id.* at 984–85.

91. *Id.* (“These agreements, which essentially function as patent-infringement indemnifications, include reporting requirements . . . . But they also allow Qualcomm’s competitors to practice Qualcomm’s SEPs royalty-free.”).

92. *Qualcomm I*, 411 F. Supp. 3d at 697–98.

93. *Id.* at 698.

94. Emma Barraclough, *U.S. Supreme Court Rewrites the Rules on Patent Exhaustion*, WIPO MAG. (Aug. 2017), [https://www.wipo.int/wipo\\_magazine/en/2017/04/article\\_0008.html](https://www.wipo.int/wipo_magazine/en/2017/04/article_0008.html); *Impression Prods., Inc. v. Lexmark Int’l, Inc.*, 137 S. Ct. 1523, 1538 (2017).

respective patents.<sup>95</sup> For instance, an iPhone purchaser only has to pay Apple an upfront cost rather than deal with every patent holder whose patents are practiced within their new iPhone.<sup>96</sup> In terms of maximizing revenue, Qualcomm was able to charge a higher royalty rate price by licensing exclusively to OEMs because doing so allowed Qualcomm to base its rate off of the OEM's higher price end-product, the cellular handset,<sup>97</sup> rather than the rival chip suppliers' lower price end-product, the chip.<sup>98</sup> Normally, chip suppliers would just acquire a license from a patent holder and incorporate the licensing fee into the overall chip price;<sup>99</sup> however, that would prevent Qualcomm from capitalizing on both its dominant chipset and SEP positions.<sup>100</sup>

Essentially, Qualcomm was aware of its monopoly positions in both chipsets and SEPs,<sup>101</sup> so it set the rules of the game before its rival chip suppliers could acquire its SEP technology to develop comparable chips that could compete.<sup>102</sup> So, even if OEMs could someday acquire comparable modem chips elsewhere, they would still be required to purchase a license from Qualcomm.<sup>103</sup> This business model would almost be perfectly uncontroversial, except when you consider Qualcomm's prior FRAND commitments and the telecommunication industry's standard setting market structure.<sup>104</sup>

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95. See *Impression Prods.*, 137 S. Ct at 1534–35; see also *Qualcomm I*, 411 F. Supp. 3d at 698 (“[P]atent exhaustion provides that when a consumer purchases a television, the consumer does not have to separately sign a license and pay royalties for any patents practiced by the television.”).

96. See *Qualcomm I*, 411 F. Supp. 3d at 698.

97. Handset is another term for cellphone. For an in-depth summary of the cellular handset industry, see SHANNON GAFFNEY & MONICA REED, U.S. INT’L TRADE COMM’N, WIRELESS HANDSETS INDUSTRY & TRADE SUMMARY (2010).

98. See *Qualcomm I*, 411 F. Supp. 3d at 672–73.

99. Florian Mueller, *FTC’s “No License-No Chips” Theory in Qualcomm Case May Have Been Too Aggressive to Be Affirmed*, FOSS PATS. (Mar. 8, 2020, 8:17 PM), <http://www.fosspatents.com/2020/03/ftcs-no-license-no-chips-theory-in.html>.

100. *Qualcomm I*, 411 F. Supp. 3d at 803 (“Because Qualcomm’s practices all reduce rivals’ ability to become and remain viable competitors, the Court concludes that the practices ‘reasonably appear[ ] capable’ of maintaining Qualcomm’s monopoly power.”).

101. *Id.* at 773.

102. Qualcomm sets the rules by first driving a hard bargain in the short run between OEMs when it holds a monopoly position in chipsets to extract unreasonable royalties and then afterwards when it negotiates with chip supplier rivals to exclude future chip selling to unlicensed OEMs. *Id.* at 773–74. Qualcomm was “first to market with every transition of LTE[,]” which affords a crucial advantage in the modem chip space. *Id.* at 694, 800.

103. *Id.* at 698.

104. See *id.* at 671–72.

*B. The Policy is a Form of Patent Holdup*

To demonstrate whether Qualcomm's "no license, no chips" is a form of patent holdup, we must determine if Qualcomm requested unreasonably higher royalty rates after the CDMA and premium LTE standards were adopted.<sup>105</sup> Further, since FRAND commitments are meant to protect against anticompetitive patent holdup,<sup>106</sup> we can determine if the policy is a form of patent holdup if it had breached not only the reasonableness component, but the non-discriminatory component as well.<sup>107</sup> Yet, it is important to note that although patent holdup usually occurs where patent holders threaten to assert their SEPs against implementers who refuse to pay their unreasonable royalty rates,<sup>108</sup> Qualcomm's form of holdup was a bit more nuanced. Instead, Qualcomm had found a way to breach its FRAND agreements and thus hold up the industry in a more subtle fashion. Rather than use its privileged SEP position as its primary weapon of choice, Qualcomm used a more silent but deadly weapon, its chip monopoly.<sup>109</sup>

By tying its monopoly chip supply to its patent portfolio,<sup>110</sup> Qualcomm had found a way to continuously breach its FRAND agreements and hold up the entire telecommunications industry, without facing scrutiny.<sup>111</sup> This Note will first address how Qualcomm breached its FRAND agreements and then explain how Qualcomm evaded scrutiny, permitting its business practices to perpetually hold up the telecommunications industry. Qualcomm's "no license, no chips" policy breached its FRAND agreements because it enabled Qualcomm to: (1) charge OEMs unreasonable royalty rates to license its SEPs and (2) offer different licensing terms that discriminate between similarly situated chip suppliers.

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105. See, e.g., *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1234 (Fed. Cir. 2014) ("If D-Link had provided evidence that Ericsson started requesting higher royalty rates after the adoption of the 802.11(n) standard, the court could have addressed it by instructing the jury on patent hold-up . . .").

106. *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 313 (3d Cir. 2007); Shapiro & Lemley, *supra* note 17, at 2044–45.

107. See Shapiro & Lemley, *supra* note 17, at 2044.

108. See Benjamin Hendricks & Brian P. Quinn, *The Hold-up Tug-of-War—Paradigm Shifts in the Application of Antitrust to Industry Standards*, 28 NO. 1 COMPETITION: J. ANTITRUST, UCL & PRIV. SEC. CAL. LAWS. ASSOC. 35, 36 (2018).

109. See *Qualcomm I*, 411 F. Supp. 3d at 773.

110. *No License, No Chips? No Dice: Dissecting Judge Koh's Opinion in FTC v. Qualcomm*, FORBES (June 10, 2019), <https://www.forbes.com/sites/washingtonbytes/2019/06/10/no-license-no-chips-no-dice-dissecting-judge-kohs-opinion-in-ftc-v-qualcomm/?sh=2f7a1bfc2906> (including Doug Melamed's commentary about Qualcomm's tying practices).

111. See *Qualcomm I*, 411 F. Supp. 3d at 786–95.



First, Qualcomm held up the industry by charging unreasonable royalty rates to OEMs.<sup>112</sup> Although there is a great deal of debate in patent law about how a court determines a reasonable royalty rate from an evidentiary standpoint,<sup>113</sup> which is discussed later in the Note,<sup>114</sup> if we simply look at how Qualcomm set its royalty rates, we can clearly see that they were unreasonable. The patentholder's SEP "royalty must be premised on the value of the patented feature, not any value added by the standard's adoption of the patented technology."<sup>115</sup> Yet, Qualcomm's royalties were not set by the value of its patents, but instead by its monopoly chip market share.<sup>116</sup> Principally, Qualcomm's monopoly chip market share included the "value added by the standard's adoption of the patented technology" because the chips themselves practice Qualcomm's SEP technology that the SSOs—TIA and ATIS—adopted.<sup>117</sup> This is evidenced by Qualcomm's fear of patent exhaustion.<sup>118</sup> If OEMs could have simply acquired Qualcomm's or any other comparable chips, then there would be no need for a license.<sup>119</sup> Normally, if OEMs did not want to deal with Qualcomm, they could purchase chips from another chip supplier.<sup>120</sup> However, Qualcomm held a monopoly in CDMA and premium LTE chipsets, so OEMs initially had no other choice but to pay its unreasonable licensing demands.<sup>121</sup>

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112. *Id.* at 773–90 ("Qualcomm's royalty rates are unreasonably high[.]").

113. *See* *Ericsson v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014).

114. *See infra* Section V.A (discussing the court's use of SSPPUs to determine reasonable royalty rates).

115. *Ericsson*, 773 F.3d at 1232.

116. *Qualcomm I*, 411 F. Supp. 3d at 773. The district court highlights a substantial amount of evidence to support this claim. *See id.* Unlike other patent holders, Qualcomm refuses to provide even rudimentary information about its patents, such as patent lists and claim charts, during licensing negotiations. *Id.* at 698. Furthermore, even though comparable SEP contributors, such as Ericsson and Nokia, contributed more to past standards than Qualcomm, their licensing revenues were only a fraction of Qualcomm's. *Id.* at 779. Even despite Qualcomm's declining SEP share between standards, Qualcomm's royalty rates have remained constant and disproportionately higher than other contributors. *Id.* at 785.

117. *Ericsson*, 773 F.3d at 1232; *Qualcomm I*, 411 F. Supp. 3d at 807 (discussing Qualcomm's methods to avoid patent exhaustion).

118. *See Qualcomm I*, 411 F. Supp. 3d at 807; *Fed. Trade Comm'n v. Qualcomm Inc. (Qualcomm II)*, 969 F.3d 974, 985 (9th Cir. 2020).

119. *See Qualcomm II*, 969 F.3d at 985.

120. *See Qualcomm I*, 411 F. Supp. 3d at 708 ("Samsung has been practically unable to purchase chips from other chipset suppliers, and had no choice but to enter into a license agreement with Qualcomm despite the unreasonable terms in order to engage in its mobile phone business.").

121. *Id.* at 810 ("Qualcomm has admitted that its monopoly chip share sustains Qualcomm's ability to receive that unreasonably high royalty rate.").

Even once rival chip suppliers were finally able to develop an alternative competitive chip, OEMs were still at the mercy of Qualcomm<sup>122</sup> because rivals had already agreed to only sell to licensed OEMs.<sup>123</sup> This essentially permitted Qualcomm to entrench its chip monopoly power before competition began to even creep in.<sup>124</sup> This put OEMs in the same exact position even after alternative chips were available because if they did not agree to pay Qualcomm's unreasonable licensing fees, then they could not acquire chips, even from rivals.<sup>125</sup> Thus, the licensing fees were still premised upon Qualcomm's chip monopoly even after substitutes became available. Essentially, Qualcomm's chip market power "combined with its 'no license, no chips' [policy afforded Qualcomm] a de facto injunction that [was] used to extract unreasonably high royalties."<sup>126</sup>

Second, Qualcomm breached the non-discriminatory component of its FRAND agreement in two ways: (1) by charging different royalty rates between OEMs that purchased chips from QCT and OEMs that purchased chips from rivals;<sup>127</sup> and (2) by setting different licensing terms between QCT and other rival chip suppliers.<sup>128</sup> To determine whether Qualcomm had breached the non-discriminatory component of its FRAND agreements, we must first determine if Qualcomm offered similar royalty rates and licensing terms to similarly situated firms.<sup>129</sup> When addressing the first breach, it is clear that we could categorize OEM handset makers, such as Apple and Samsung, to be "similarly

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122. *Qualcomm II*, 969 F.3d at 984 (discussing Intel and MediaTek's entry into the chipset market).

123. *Id.* at 984–85; see *Qualcomm I*, 411 F. Supp. 3d at 744–45 (describing the effect of Qualcomm's onerous licensing terms on one of Qualcomm's rival chip suppliers, MediaTek).

124. Qualcomm entrenched its monopoly chip position by cutting off future chip supply to unlicensed OEMs with its prior negotiations with rival chip suppliers. *Qualcomm I*, 411 F. Supp. 3d at 774.

125. See *id.*

126. Hovenkamp & Simcoe, *supra* note 86, at 8.

127. *Qualcomm I*, 411 F. Supp. 3d at 792, 795, 798 (discussing royalty rebates for purchasing from QTC).

128. *Id.* at 745, 747 (describing reporting requirements).

129. *TCL Commc'n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson*, No. SACV 14-341, 2018 WL 4488286, at \*29 (C.D. Cal. Sept. 14, 2018), *vacated*, 943 F.3d 1360 (Fed. Cir. 2019) (adopting both party's interpretation that non-discriminatory means, "like, or close to, like rates must be offered to firms which are similarly situated"); see also Hovenkamp & Simcoe, *supra* note 86, at 9 (explaining that although there is little economic and legal scholarly work concerning the non-discriminatory component, "at a minimum, it requires SEP holders to offer similar terms and conditions to similarly situated (i.e., competing) licensees").

situated” firms.<sup>130</sup> However, Qualcomm did not treat similarly situated OEMs equally when negotiating its SEP royalty requests because Qualcomm offered “royalty rebates” that were contingent upon OEMs purchasing chipsets from QCT rather than its rivals.<sup>131</sup> This was a blatant form of price discrimination against similarly situated OEMs. Furthermore, this Note will later address how the label of “royalty rebate” should not afford Qualcomm protection from its discriminatory practices,<sup>132</sup> which the Ninth Circuit also inappropriately accepted.

Additionally, the non-discriminatory component not only prevents discrimination based on royalty rates, but also prevents discrimination based on licensing terms.<sup>133</sup> At first glance it may seem like Qualcomm provided the same licensing terms to similarly situated firms, being *all* chip suppliers, yet that was not the case. Although Qualcomm afforded “royalty-free” licenses to chip suppliers, the chip suppliers still had to suffer the burden that came with submitting reporting requirements and restricting sales to non-licensed OEMs.<sup>134</sup> However, one chip supplier, QCT, did not have to suffer the same burden as its rivals,<sup>135</sup> which highlights the discriminatory nature of Qualcomm’s licensing terms.

It can be argued that QCT is not similarly situated with Qualcomm’s rival chip suppliers since, unlike its rival chip suppliers, QCT is an entity of Qualcomm itself.<sup>136</sup> Nevertheless, courts have shed light on factors to consider whether a firm is similarly situated within a global SSO market.<sup>137</sup> The factors include a firm’s geographic scope, required licenses, and reasonable sales volumes.<sup>138</sup> Here, QCT is similar to its rival chip suppliers considering all chip suppliers participate in the global market for telecommunications and have reasonable sales volumes.<sup>139</sup> Yet, the only controversial factor may be whether QCT required a license to practice QTL’s SEPs, like the rest of Qualcomm’s

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130. Jason Rantanen, *Guest Post by Prof. Jorge Contreras: TCL v. Ericsson: The First Major U.S. Top-Down FRAND Royalty Decision*, PATENTLYO (Dec. 27, 2017), <https://patentlyo.com/patent/2017/12/contreras-ericsson-decision.html>.

131. *Qualcomm I*, 411 F. Supp. 3d at 789.

132. *See infra* Section V.B (discussing overall bundle price).

133. Garry A. Gabison, *A Two-Dimensional Approach to Non-Discriminatory Licensing Agreements*, 24 B.U. J. SCI. & TECH. L. 100, 106 (2018) (discussing a literal reading of non-discriminatory terms); *Qualcomm I*, 411 F. Supp. 3d at 671–72.

134. *See* Fed. Trade Comm’n v. *Qualcomm Inc. (Qualcomm II)*, 969 F.3d 974, 984–85 (9th Cir. 2020).

135. *See Qualcomm I*, 411 F. Supp. 3d at 721.

136. *See id.* at 674.

137. *TCL Commc’n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson*, No. SACV 14-341, 2018 WL 4488286, at \*31 (C.D. Cal. Sept. 14, 2018), *vacated*, 943 F.3d 1360 (Fed. Cir. 2019).

138. *Id.*

139. *See Qualcomm II*, 969 F.3d at 982–83.

rivals, because QCT is an entity of Qualcomm, which already owns the SEPs anyway.<sup>140</sup> But since Qualcomm's policy excluded rival chip suppliers from obtaining a license, allowing them to infringe on its SEPs, it is arguable that rival chip suppliers did not necessarily "require" a license either.<sup>141</sup> Hence, Qualcomm had clearly breached its FRAND agreement by discriminating between QCT and other chip suppliers.

Lastly, how did Qualcomm continuously breach its FRAND agreements, yet not face any type of scrutiny? The answer is that: (1) Qualcomm used its chip monopoly position as leverage against OEMs<sup>142</sup> and (2) rival chip suppliers were most likely content that they could access Qualcomm's SEP licenses "royalty free."<sup>143</sup> Many OEMs have voiced concerns that without Qualcomm's modem chips, they simply could not compete within the CDMA or premium LTE standard markets.<sup>144</sup> Qualcomm was fully aware of this fact, which allowed it to leverage its chip supply agreements via QCT to obtain unreasonable royalty rates through its patent licensing arm, QTL.<sup>145</sup> Without its chip monopoly leverage, Qualcomm would most likely have faced litigation from OEMs over the unreasonable royalty rates.<sup>146</sup> At the time, however, OEMs simply could not risk being cut off from Qualcomm's monopoly chip supply.<sup>147</sup> Because of this risk, Qualcomm's unreasonable royalty rates have never been tested in court, along with other patent-related issues, such as whether its patents are even valid.<sup>148</sup>

Further, Qualcomm also knew that it had to provide rival chip suppliers with access to its SEPs on account of its FRAND agreements.<sup>149</sup> So, Qualcomm struck a deal with its rival chip suppliers, allowing them to "freely" infringe upon its SEPs.<sup>150</sup> At the time, this gave Qualcomm's rival chip suppliers no reason to express any concerns regarding breaches of FRAND because they were able to access Qualcomm's SEPs without

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140. See *TCL Commc'n Tech. Holdings*, 2018 WL 4488286, at \*34; see also *id.* at \*54 (expanding upon the role of licenses).

141. See *Qualcomm II*, 969 F.3d at 985.

142. See *Qualcomm I*, 411 F. Supp. 3d at 698.

143. See *Qualcomm II*, 969 F.3d at 984–85.

144. *Id.* at 985–86.

145. See *Qualcomm I*, 411 F. Supp. 3d at 795–97, 800–03.

146. *Id.* at 786 ("Qualcomm's unreasonably high royalty rates have not been tested by litigation because Qualcomm's chip supply leverage insulates Qualcomm from legal challenges. Qualcomm's own documents recognize how Qualcomm's monopoly modem chip share prevents litigation, which sustains Qualcomm's unreasonably high royalty rates.").

147. *Id.* at 786–88.

148. *Id.* at 787.

149. *Id.* at 672.

150. Fed. Trade Comm'n v. Qualcomm Inc. (*Qualcomm II*), 969 F.3d 974, 984–85 (9th Cir. 2020).

having to pay for any royalties.<sup>151</sup> Although Qualcomm later stole business from its rivals by offering “royalty rebates” to OEMs that agreed to purchase chips exclusively from QCT, there are several possible explanations for why rivals may have tolerated this.<sup>152</sup> For instance, rival chip suppliers may have made a calculus that short-term savings on licensing fees outweighed any potential long-term losses of business.<sup>153</sup> Additionally, rivals may not have even been aware of the private negotiations between OEMs and Qualcomm or they could have felt that the cost of litigation by one rival would not be worth the potential shared benefits of a victory.<sup>154</sup> Another possibility could have been that rivals did actually sue, but they may have kept the matter private and settled.<sup>155</sup>

These “patent-infringement indemnification” agreements between Qualcomm and its rivals have enabled Qualcomm to continue to sustain its unreasonable royalty rates.<sup>156</sup> Even if an OEM had the option to seek competitive chipsets elsewhere, it still had to deal with Qualcomm in the form of royalty payments for a SEP license.<sup>157</sup> Based on the reporting requirements, Qualcomm ensured that it could still collect its unreasonable royalty rates based on the number of chips the rivals sell.<sup>158</sup> So, regardless of whether an OEM’s handset used a Qualcomm chip or a rival’s chip, Qualcomm would still be able to collect a royalty on it.<sup>159</sup>

Consequently, Qualcomm’s policy allowed it to extract the maximum value from its SEP royalty rates all while in “compliance” with its FRAND agreements because: (1) it ensured that OEMs could not acquire the necessary SEP technology within the chips without a license from Qualcomm and (2) it enabled Qualcomm to “meet” its FRAND obligations by permitting rival chip suppliers with SEP access.

Overall, Qualcomm’s business practices harmed consumers and severely stifled innovation because OEMs had to either raise prices downstream or spend more money to pay Qualcomm instead of investing

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151. *Id.* at 985; *see also* Hovenkamp & Simcoe, *supra* note 86, at 12.

152. *See* Hovenkamp & Simcoe, *supra* note 86, at 12.

153. *See* Langus et al., *supra* note 71, at 264–69.

154. Hovenkamp & Simcoe, *supra* note 86, at 12.

155. *Id.*

156. *See* *Qualcomm II*, 969 F.3d at 984–85.

157. Fed. Trade Comm’n v. Qualcomm Inc. (*Qualcomm I*), 411 F. Supp. 3d 658, 701 (N.D. Cal. 2019) (“LGE paid Qualcomm a 5% running royalty on handsets containing Qualcomm modem chips and a 5.75% running royalty on handsets containing non-Qualcomm modem chips.”).

158. *Id.*

159. *Id.*

in research and development.<sup>160</sup> FRAND agreements are essentially the apparatus in place to combat these ex post holdup issues, but only if the agreements are actually enforced.<sup>161</sup> The FRAND model is supposed to preserve the ex ante royalty value of the patent before it obtains SEP status,<sup>162</sup> but since Qualcomm tied its chip monopoly to its SEPs, it can cleverly get around its prior commitments.

Nonetheless, there is hope, even if OEMs or rival chip suppliers are reluctant to fully enforce their FRAND agreements in court themselves, government enforcement agencies could potentially resolve the issue itself on antitrust grounds.<sup>163</sup> As mentioned and will be discussed later in further detail, antitrust is still necessary on some occasions to prevent patent holdup.<sup>164</sup> The fact that Qualcomm's scheme involved tying its SEP licenses to its monopoly chip supply, violating its prior competitive FRAND arrangements, and using its monopoly power to sustain its dominant position, all at the expense of its consumers and competition, is certainly grounds for an antitrust violation that the law should remedy.<sup>165</sup> Yet, the Ninth Circuit unfortunately held otherwise.<sup>166</sup> This Note will evaluate some of the key arguments in *FTC v. Qualcomm* and argue that the court passed on a valuable opportunity to save the telecommunications industry from future harmful patent holdup conduct.

#### V. EVALUATING *FTC v. QUALCOMM* & WHY ANTITRUST IS NECESSARY

The Ninth Circuit missed the mark on a number of issues in *FTC v. Qualcomm*. This Note focuses on the court's faulty reasoning behind its ruling that Qualcomm's royalty rates did not violate its FRAND agreements and its mischaracterization of the purpose of antitrust law. This Note also focuses on the court's barefaced acceptance of the enumerated arguments set forth under the New Madison Approach,

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160. Shapiro & Lemley, *supra* note 17, at 2020–21, 2031; *Qualcomm I*, 411 F. Supp. 3d at 798–801 (highlighting the importance of R&D within the telecommunications industry, which exacerbates how Qualcomm harms its rivals).

161. Herbert Hovenkamp, *Justice Department's New Position on Patents, Standard Setting, and Injunctions*, REGUL. REV. (Jan. 6, 2020), <https://www.theregreview.org/2020/01/06/hovenkamp-justice-department-new-position-patents-standard-setting-injunctions/>.

162. Shapiro & Lemley, *supra* note 17, at 2037–38.

163. George S. Cary, Larry C. Work-Dembowski & Paul S. Hayes, *Antitrust Implications of Abuse of Standard-Setting*, 15 GEO. MASON L. REV. 1241, 1263 (2008).

164. Shapiro & Lemley, *supra* note 17, at 2023–24; *see also infra* Section VI.C.

165. Cary et al., *supra* note 163, at 1262–63.

166. *See* Fed. Trade Comm'n v. Qualcomm Inc. (*Qualcomm II*), 969 F.3d 974, 1005 (9th Cir. 2020).

which espouses that antitrust law does not have any role to play when preventing patent holdup.<sup>167</sup> It is also worth noting that the Ninth Circuit did not dispute any of the factual findings set forth in the district court's lengthy two-hundred-page decision that meticulously outlines Qualcomm's harmful conduct.<sup>168</sup>

A. *Unreasonable Royalty Rates & Discriminatory Licensing Terms*

First, this Note critiques the Ninth Circuit's arguments concerning the reasonableness of Qualcomm's royalty rates that were charged to OEMs. Second, the Note addresses the Ninth Circuit's misguided arguments regarding Qualcomm's discriminatory licensing negotiations against OEMs and rival chip suppliers.

The Ninth Circuit argued that Qualcomm's royalty rates were not necessarily unreasonable.<sup>169</sup> The Ninth Circuit primarily focused on debunking only a select few of the arguments set forth in the two-hundred-page district court decision.<sup>170</sup> For example, the Ninth Circuit chose to focus on the district court's argument that, under current federal law, royalties are required to be premised upon the smallest salable patent-practicing unit ("SSPPU"), rather than the end-product.<sup>171</sup> Furthermore, the district court noted prior cases within the same district holding that the modem chip is the appropriate SSPPU concerning cellular handsets.<sup>172</sup> Thus, since Qualcomm claimed it had been using the entire end-product to calculate its royalty stake, the district court found that its rates were unreasonable.<sup>173</sup> Although the Ninth Circuit put forward reasonable arguments to debunk the district court's SSPPU analysis,<sup>174</sup> the court failed to address the more important factual finding—that Qualcomm's licensing royalties were premised on its

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167. Delrahim, *supra* note 48, at 5.

168. Brief for Petitioner-Appellee at 2, Fed. Trade. Comm'n v. Qualcomm Inc., 969 F.3d 974 (9th Cir. 2020) (No. 5:17-cv-00220-LHK) [hereinafter Brief for the Petitioner] ("The panel did not overturn any of Judge Koh's factual findings."); see also *Qualcomm II*, 969 F.3d at 993.

169. *Qualcomm II*, 969 F.3d at 998–1003.

170. See *id.* at 1005.

171. Fed. Trade Comm'n v. Qualcomm Inc. (*Qualcomm I*), 411 F. Supp. 3d 658, 783 (N.D. Cal. 2019).

172. *Id.*

173. *Id.* The district court also noted that handset value is not driven by modem chips, but rather by better user experience. *Id.* at 780–81. Non-communication related features such as "color TFT LCD panel, mega-pixel DSC module, user storage memory, decoration, and mechanical parts . . . contribute 60-70% of the phone value[,] which makes up the majority." *Id.* at 781.

174. *Qualcomm II*, 969 F.3d at 998–99.

monopoly chip market share.<sup>175</sup> The Ninth Circuit acknowledged this factual finding, but did not provide any further commentary about how Qualcomm's chip monopoly affected the reasonableness of its royalty rates.<sup>176</sup>

In addition, the Ninth Circuit overlooked the fact that Qualcomm discriminated against (1) OEMs that purchased chips from its rivals rather than QCT and (2) rival chip suppliers generally. Ironically, Qualcomm had already faced litigation concerning this exact issue in *Broadcom v. Qualcomm*.<sup>177</sup> However, the Ninth Circuit claimed that, unlike in *Broadcom*, the district court did not find that (1) Qualcomm charged discriminatorily higher royalty rates to OEMs that purchased non-Qualcomm chips, (2) excluded rivals from licensing its SEPs, or (3) intentionally deceived SSOs.<sup>178</sup> Yet, this distinction is severely misguided. In fact, the district court's findings were analogous to the findings in *Broadcom*.<sup>179</sup> Similarly, the district court found that Qualcomm offered substantial royalty "rebates" to OEMs that purchased chips exclusively from QCT.<sup>180</sup> Regardless of the innocuous label of "rebate,"<sup>181</sup> which is discussed further below,<sup>182</sup> this was still a discriminatory practice against certain OEMs that do not purchase chips from QCT.

Furthermore, Qualcomm violated its FRAND agreements among rival chip suppliers because Qualcomm explicitly guaranteed to *license* its SEPs to rival chip suppliers on FRAND terms,<sup>183</sup> but blatantly refused to do so.<sup>184</sup> Although the Ninth Circuit believed Qualcomm's clear breach is reasonable because rivals still had access to Qualcomm's SEPs "royalty free," which this Note will debunk later on,<sup>185</sup> this does not render the breach nonexistent. Qualcomm deceived the SSOs by failing to adhere to its explicit promise to *license* its SEPs on FRAND terms to

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175. *Qualcomm I*, 411 F. Supp. 3d at 773.

176. *Qualcomm II*, 969 F.3d at 998–1003.

177. *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 305–06 (3d Cir. 2007).

178. *Qualcomm II*, 969 F.3d at 996–97.

179. *Broadcom*, 501 F.3d at 318 (citing *Lepage's Inc. v. 3M*, 324 F.3d 141, 152–57 (3d Cir. 2003)) (finding Qualcomm's discriminatory and unreasonable licensing practices, addressed in the plaintiff's complaint, to be "sufficiently specific to satisfy the first element of an attempted monopolization claim").

180. *See Qualcomm I*, 411 F. Supp. 3d at 720–22 (explaining how Qualcomm subjected Blackberry, an OEM, to its harmful business practices).

181. Brief for the Petitioner, *supra* note 168, at 12–16.

182. *See infra* Section V.B.

183. *Qualcomm I*, 411 F. Supp. 3d at 751–52.

184. *Id.* at 753–54.

185. *See infra* Section V.B (critiquing the Ninth Circuit's "royalty free" analysis).



its rival chip suppliers.<sup>186</sup> Qualcomm's failure to license to its rivals and charging unreasonable royalty rates to OEMs demonstrates that Qualcomm intentionally deceived SSOs by breaching its prior FRAND commitments.<sup>187</sup> Qualcomm's conduct here resembles the behavior alleged in *Broadcom*, where the Third Circuit also heard claims concerning Qualcomm's intentional deception of SSOs.<sup>188</sup> Thus, the Ninth Circuit's distinction of *Broadcom* was flawed and failed to acknowledge Qualcomm's discriminatory practices.

Finally, the Ninth Circuit attempted to insure itself by arguing that even if Qualcomm's royalty rates were unreasonable, charging unreasonable royalties does not include a presumption of "anticompetitive harm."<sup>189</sup> Yet, as this Note explains in the next section, the court's presumption is patently contrary to antitrust precedent.<sup>190</sup>

### B. *Aspen Skiing Should Still Apply*

Antitrust law does not restrict private businesses from choosing to freely "exercise [their] own independent discretion as to parties with whom [they] will deal."<sup>191</sup> Yet, the *Aspen Skiing* exception applies where a company makes a voluntary competitive commitment to deal and proceeds to unilaterally terminate its commitment without any other reasonable justification except to harm its rivals.<sup>192</sup> Also, antitrust law assesses markets as they are; that includes standard setting markets that have been set in place within particular industries.<sup>193</sup> Yet, the Ninth Circuit failed to properly apply the *Aspen Skiing* exception concerning FRAND agreements among the relevant markets of CDMA and premium LTE modem chips.<sup>194</sup> This is because the Ninth Circuit (1) misguidedly believed that it did not have to address whether Qualcomm was

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186. *Qualcomm I*, 411 F. Supp. 3d at 751–52.

187. *Id.* at 773–86.

188. *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 322 (3d Cir. 2007).

189. *Fed. Trade Comm'n v. Qualcomm Inc. (Qualcomm II)*, 969 F.3d 974, 998 (9th Cir. 2020).

190. *See infra* Section V.B; *Aspen Skiing Co. v. Aspen Highlands Skiing Corp. (Aspen Skiing)*, 472 U.S. 585 (1985).

191. *Verizon Commc'ns Inc. v. Law Offs. of Curtis V. Trinko, LLP (Trinko)*, 540 U.S. 398, 408 (2004) (quoting *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919)).

192. *Aspen Skiing*, 472 U.S. at 610–11; *see also* *Fed. Trade Comm'n v. Qualcomm Inc. (Qualcomm I)*, 411 F. Supp. 3d 658, 759 (N.D. Cal. 2019) (citing *Trinko*, 540 U.S. at 406, 409).

193. Hovenkamp, *supra* note 30, at 102.

194. *Qualcomm II*, 969 F.3d at 993–97.

contractually obligated to abide by its FRAND agreements<sup>195</sup> and (2) falsely assumed that rival chip suppliers would be unharmed anyway.<sup>196</sup>

First, the Ninth Circuit believed that it did not have to determine whether Qualcomm was contractually obligated to license its SEPs to its rivals because “the complaint itself only alleged antitrust violations.”<sup>197</sup> However, whether Qualcomm voluntarily agreed to a prior competitive contractual arrangement is directly relevant to antitrust law based on *Aspen Skiing*.<sup>198</sup> In *Aspen Skiing*, the Court specifically found that the prior contractual arrangement between the plaintiff and defendant was material when determining if the defendant violated section 2 of the Sherman Act.<sup>199</sup> Had there been no agreement between the two, the plaintiff would have been free to exercise its “independent discretion.”<sup>200</sup> Similar to the facts in *FTC v. Qualcomm*, if Qualcomm had not made prior contractual FRAND agreements, it would have been free to refuse to license its patents to whomever it did not wish to do business with.<sup>201</sup>

Second, the Ninth Circuit presumed that even if Qualcomm was contractually obligated to license to its rivals, rivals’ opportunities to sell chips to OEMs would still not necessarily be impaired if Qualcomm chose not to abide.<sup>202</sup> This is because the Ninth Circuit believed that Qualcomm’s licensing practices were “chip supplier neutral” considering that all OEMs had to pay for a licensing royalty to Qualcomm regardless of where they sourced their chips from.<sup>203</sup> However, Qualcomm’s licensing practices could only be “chip-supplier neutral” if Qualcomm charged exactly the same royalty rate to all OEMs, which it failed to do.<sup>204</sup> The district court found that Qualcomm afforded “rebates” to OEMs that purchased chipsets exclusively from QCT.<sup>205</sup> Certainly, Qualcomm still could have caused indirect harm to its rivals by lowering the overall price of the bundle (license + chip) if it afforded a licensing “rebate” to an OEM that exclusively bought its chips from QCT.<sup>206</sup> As noted by the district

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195. *Id.* at 997.

196. *Id.* at 985.

197. *Id.* at 987 n.13.

198. *See Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 610–11 (1985).

199. *Id.* at 587.

200. *Id.* at 601; *Verizon Commc’ns Inc. v. Law Offs. of Curtis V. Trinko, LLP (Trinko)*, 540 U.S. 398, 408 (2004) (citing *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919)).

201. *Fed. Trade Comm’n v. Qualcomm Inc. (Qualcomm I)*, 411 F. Supp. 3d 658, 751–52 (N.D. Cal. 2019).

202. *Qualcomm II*, 969 F.3d at 995–96.

203. *Id.* at 985.

204. *Qualcomm I*, 411 F. Supp. 3d at 702.

205. *Id.*

206. Brief for the Petitioner, *supra* note 168, at 12–16; *see also* Timothy B. Lee, *How Qualcomm Shook Down the Cell Phone Industry for Almost 20 Years*, ARS TECHNICA (May

court, this is the exact tactic that Qualcomm used to steal business from its rivals and maintain its dominant chipset monopoly position.<sup>207</sup>

Additionally, the Ninth Circuit supposed that rivals were never harmed by Qualcomm's refusal to offer SEP licenses to them since rivals still had access to Qualcomm's SEPs "royalty free."<sup>208</sup> However, although rival chip suppliers do not have to pay a usual royalty in the form of cash, the bargain still came with a price attached.<sup>209</sup> The rivals had to provide Qualcomm with valuable business information in the form of reporting requirements and promise not to sell chips to OEMs without a license.<sup>210</sup> Based on Qualcomm's contractual FRAND commitments, if the licensing terms were unreasonable, an issue that the Ninth Circuit did not address, they would certainly cause harm to rivals.<sup>211</sup> Also, as noted above, Qualcomm's failure to *license* its SEPs alone should satisfy the requirement of harm to its rivals by breaching its FRAND promise to license its SEPs to all.<sup>212</sup>

Qualcomm's primary procompetitive justification for its refusal to license its SEPs to rivals is that the policy enabled it to maximize revenues and avoid patent exhaustion.<sup>213</sup> Although the Ninth Circuit accepted this justification,<sup>214</sup> profit maximization has never been acknowledged as proper procompetitive justification nor one that would outweigh any anticompetitive harm to consumers.<sup>215</sup> Further, the Ninth

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30, 2019, 4:00 PM), <https://arstechnica.com/tech-policy/2019/05/how-qualcomm-shook-down-the-cell-phone-industry-for-almost-20-years/> ("If another chipmaker tried to undercut Qualcomm's chips on price, Qualcomm could easily afford to cut the price of its own chips, knowing that the customer would still be paying Qualcomm a hefty patent licensing fee on every phone.").

207. *Qualcomm I*, 411 F. Supp. 3d at 698–702 (discussing Qualcomm's Chip Incentive Funds with one OEM, LGE).

208. *Qualcomm II*, 969 F.3d at 984–85.

209. *Id.* at 985.

210. *Id.*

211. The Ninth Circuit only considered whether the terms were monetarily reasonable, not whether they were reasonable as a whole. *Id.* at 998–99. Reporting requirements and sales agreements, which Qualcomm imposed as a cost to allow rivals to infringe, could be unreasonable more generally. *See id.* at 984–85.

212. *See Qualcomm I*, 411 F. Supp. 3d at 751 (explaining that Qualcomm's FRAND agreements committed it to license its SEPs to rival chip suppliers, and that Qualcomm expressed understanding of this requirement outside of litigation).

213. *Qualcomm II*, 969 F.3d at 984–85, 1003.

214. *Id.*

215. John M. Newman, *Procompetitive Justifications in Antitrust Law*, 94 IND. L.J. 501, 516 (2019). When making a determination as to whether conduct constitutes an unreasonable restraint of trade, the plaintiff has the initial burden of alleging an anticompetitive effect due to the defendant's conduct. Michael A. Carrier, *The Four-Step Rule of Reason*, 33 ANTITRUST 50, 54 (2019) (citing *U.S. v. Microsoft Corp.*, 253 F.3d 34, 59 (D.C. Cir. 2001)). Next, the burden shifts to the defendant to put forward a reasonable

Circuit accepted the conduct to be reasonable because “multi-level licensing” would lead to less profit and inefficiencies.<sup>216</sup> Nevertheless, the purpose of antitrust law is to protect competition and consumers,<sup>217</sup> which this Note will discuss in further detail,<sup>218</sup> rather than to help firms maximize revenues and develop efficiencies, as the Ninth Circuit sees it.<sup>219</sup>

Therefore, similarly to *Aspen Skiing*, Qualcomm voluntarily committed to a prior competitive arrangement (licensing its SEPs on FRAND terms), but unilaterally reneged on its promise specifically to harm its rivals and other industry players in order to maintain its monopoly position.<sup>220</sup> Qualcomm also did not afford any reasonable procompetitive justification except to harm rival chip suppliers.<sup>221</sup> Finally, this Note will argue that the Ninth Circuit failed to adequately address other clear aspects of anticompetitive harm caused by Qualcomm’s “no license, no chips” policy.

### C. Antitrust Law’s Role in Protecting Consumer Welfare

While the Ninth Circuit acknowledged Qualcomm’s harm to consumers, it still thought that they were not entitled to antitrust protection.<sup>222</sup> The Ninth Circuit believed that even if any harm was found, it would be to Qualcomm’s *customers* (OEMs), not its *competitors*, and any harm to consumers downstream would not be within the relevant market.<sup>223</sup> This is a blatant misunderstanding of antitrust law’s purpose to protect consumer welfare.<sup>224</sup> The Supreme Court in *Apple v.*

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procompetitive justification for its conduct. *Id.* If the defendant meets its burden, the burden shifts back to the plaintiff to demonstrate that the anticompetitive effect outweighs any procompetitive benefit. *Id.*

216. *Qualcomm II*, 969 F.3d at 996.

217. *E.g.*, *NCAA v. Bd. of Regents*, 468 U.S. 85, 107 (1984) (quoting *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979)).

218. *See infra* Sections V.C, VI.C.

219. *Qualcomm II*, 969 F.3d at 984–85.

220. *See Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 610–11 (1985); *see also* 15 U.S.C. § 2.

221. Qualcomm only put forth a justification to maximize revenue and avoid patent exhaustion, which has never been considered a proper procompetitive justification. *See Newman, supra* note 215, at 516.

222. Hovenkamp, *supra* note 30, at 104; Brief for the Petitioner, *supra* note 168, at 16–18; *Qualcomm II*, 969 F.3d at 992.

223. *Qualcomm II*, 969 F.3d at 992–93.

224. Brief for the Petitioner, *supra* note 168, at 16.

*Pepper* reiterated the Sherman Act's purpose that "protecting consumers from monopoly prices' has been 'the central concern of antitrust.'"<sup>225</sup>

In addition, the Ninth Circuit's application of *Brunswick Corp. v. Pueblo Bowl-O-Mat*<sup>226</sup> was also misguided.<sup>227</sup> As noted in the FTC's en banc brief, "it is harm to competitors *unaccompanied by consumer harm* that seldom presents antitrust concern."<sup>228</sup> It is clear that Qualcomm not only harmed its competitors and rival chip suppliers, but harmed competition as a whole by breaching its prior commitments to license its SEPs on FRAND terms.<sup>229</sup> Consumers would also be harmed by these measures by paying higher costs that are shifted to them downstream.<sup>230</sup>

#### D. Qualcomm's Tying Practices

Even though the Ninth Circuit and, surprisingly, the district court were silent on the issue of tying, Qualcomm's "no license, no chips" policy should have also been categorized as a classic tying case under antitrust law.<sup>231</sup> Tying arrangements are no longer a per se offense; however, they are illegal if the seller has market power in the tying product and there is an "identifiable anticompetitive effect in the tied product market . . . ."<sup>232</sup> Courts apply a four-part tying test to determine if a tie is considered a per se violation: "(1) the tying and tied goods are two separate products; (2) the defendant has market power in the tying product market; (3) the defendant affords consumers no choice but to purchase the tied product from it; and (4) the tying arrangement forecloses a substantial volume of commerce."<sup>233</sup>

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225. *Apple, Inc. v. Pepper*, 139 S. Ct. 1514, 1525 (2019); Hovenkamp, *supra* note 30, at 105.

226. *Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*, 429 U.S. 477 (1977). The Court's decision in *Brunswick* famously affirmed the clear distinction that "[t]he antitrust laws, however, were enacted for 'the protection of competition, not competitors . . . .'" *Id.* at 488 (citing *Brown Shoe Co. v. United States*, 370 U.S. 294, 320 (1962)).

227. *Qualcomm II*, 969 F.3d at 993.

228. Brief for the Petitioner, *supra* note 168, at 16–17 (citing *Brunswick*, 429 U.S. at 488).

229. *Fed. Trade Comm'n v. Qualcomm Inc. (Qualcomm I)*, 411 F. Supp. 3d 658, 791 (N.D. Cal. 2019).

230. Shapiro & Lemley, *supra* note 17, at 2020–21.

231. See Hovenkamp & Simcoe, *supra* note 86, at 14.

232. Lee Simowitz, *Are Tying Arrangements Illegal Per Se?*, ANTITRUSTCONNECT (July 6, 2010), <http://antitrustconnect.com/2010/07/06/are-tying-arrangements-illegal-per-se/>; see also *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 2 (1984).

233. *United States v. Microsoft Corp.*, 253 F.3d 34, 85 (D.C. Cir. 2001) (citing *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 461–62 (1992)).

Here, Qualcomm offered two products: its SEP licenses and chipsets.<sup>234</sup> Although it is difficult to distinguish which product is the tied product or the tying product, it is unnecessary because Qualcomm had monopoly power in both product markets.<sup>235</sup> The district court found that Qualcomm had monopoly power in its CDMA and premium LTE chipset markets.<sup>236</sup> Also, Qualcomm clearly had monopoly power in the market for its patent licenses because they were afforded SEP status.<sup>237</sup> It is clear that Qualcomm also conditioned the sale of both products based on its “no license, no chips” policy.<sup>238</sup> Lastly, Qualcomm’s monopoly position in both product markets is evidence that a substantial volume of commerce was foreclosed.<sup>239</sup> Therefore, regardless of whether the product is defined as tied or tying,<sup>240</sup> Qualcomm’s conduct clearly satisfies the elements of a classic tying case and should have faced antitrust scrutiny.<sup>241</sup>

## VI. OTHER POTENTIAL SOLUTIONS & FUTURE RAMIFICATIONS

### A. *Potential Contract & Patent Law Solutions*

Without antitrust enforcement, the telecommunications industry will have to combat future instances of patent holdup with one hand tied behind its back. If the FRAND model is limited to contract and patent law,<sup>242</sup> SSOs can incorporate certain doctrines that antitrust law is meant to prevent into their FRAND agreement terms. For instance, SSOs can prevent firms from tying SEPs with other products by incorporating a non-tying term into their acronym FRAND. This can be

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234. Fed. Trade Comm’n v. Qualcomm Inc. (*Qualcomm II*), 969 F.3d 974, 983 (9th Cir. 2020) (finding that “Qualcomm is no one-trick pony” on account of its patent licensing business and that it sells modem chips).

235. Steve Bellovin, *Standard-Essential Patents*, FED. TRADE COMM’N: TECH@FTC (Jan. 9, 2013, 11:30 AM), <https://www.ftc.gov/news-events/blogs/techftc/2013/01/standard-essential-patents> (describing how standardization can create beneficial monopolies); Fed. Trade Comm’n v. Qualcomm Inc. (*Qualcomm I*), 411 F. Supp. 3d 658, 685–95 (N.D. Cal. 2019) (describing Qualcomm’s chipset monopolies); Hovenkamp & Simcoe, *supra* note 86, at 5.

236. *Qualcomm I*, 411 F. Supp. 3d at 690–91, 695.

237. Bellovin, *supra* note 235.

238. *Qualcomm I*, 411 F. Supp. 3d at 719–21 (discussing Qualcomm’s supply agreement with Blackberry).

239. *Id.* at 690–91; 672–74 (noting Qualcomm’s monopoly position in chipsets as well as describing how Qualcomm was granted and exploits its SEP position).

240. Hovenkamp & Simcoe, *supra* note 86, at 4.

241. *Id.* at 3–6.

242. Fed. Trade Comm’n v. Qualcomm Inc. (*Qualcomm II*), 969 F.3d 974, 997 (9th Cir. 2020).

accomplished by expanding the nondiscriminatory component to include discrimination against firms that do not wish to buy other products tied to their SEPs. This non-tying arrangement should also extend to other tactics, such as bundling patent licenses into one patent portfolio.<sup>243</sup> An implementer should not be forced to acquire a license for an entire patent portfolio that includes non-SEPs if the implementer is only interested in licensing one SEP. Patent holders should have to commit to licensing their SEPs unencumbered by other products.

Additionally, SSOs should adopt clearer licensing standards and preemptively classify certain negotiating tactics as unreasonable.<sup>244</sup> For instance, SSOs can ban certain tactics such as patent-infringement indemnification agreements that protect firms from challenging the validity of SEPs.<sup>245</sup> They can ban negotiations that force licensees to agree to unreasonable demands such as reporting requirements or that dictate whom they can sell downstream products to.<sup>246</sup> Also, courts or Congress can help the cause by expanding the definition of patent misuse to include certain kinds of unreasonable licensing tactics.<sup>247</sup> This would afford a stronger, clearer defense<sup>248</sup> for industry participants that refuse to comply with unreasonable terms, as well as incentivize patent holders to think twice before deciding to exploit their dominant ex post position.

Finally, if antitrust law is not viable, SSOs can clearly define that OEMs and other industry participants are third-party beneficiaries

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243. *Id.* at 982 (noting that Qualcomm also ties its SEPs, non-cellular SEPs, and non-SEPs together by offering a patent portfolio).

244. *See* Shapiro & Lemley, *supra* note 17, at 2023 (discussing a private contracts remedy).

245. *See* Fed. Trade Comm'n v. Actavis Inc., 570 U.S. 136, 150 (2013).

246. *See* Lim, *supra* note 2, at 76–77.

247. *See id.* at 86–87 (describing a case where a court decided not to expand the definition of patent misuse and the issues resulting therefrom); *see also* Princo Corp. v. Int'l Trade Comm'n, 616 F.3d 1318, 1329–31 (2010) (discussing a statute where Congress cabined, rather than expanded, the doctrine of patent misuse). Although the doctrine is narrow in its scope, it can still be expanded to include certain conduct. *Id.* Additionally, although Congress has constrained the doctrine by setting forth five types of conduct that would not constitute a finding of patent misuse, Qualcomm's conduct may arguably not be excluded. *See* 35 U.S.C. § 271(d). Under section 271(d)(5), it is not a basis for patent misuse defense if the patent owner is "condition[ing] the license of any rights to the patent . . . or purchase of a separate product, *unless*, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned." 35 U.S.C. § 271(d)(5) (emphasis added). Considering that Qualcomm does have market power in the market for its SEP technology, this might be grounds for a defense of patent misuse if licensees are left with no choice but to infringe to gain access to the standard setting market. *See id.*

248. For a more robust discussion concerning the history of the defense of patent misuse, see Joe Potenza et al., *Patent Misuse—The Critical Balance, A Patent Lawyer's View*, 15 FED. CIR. BAR J. 69 (2005).

within the FRAND contract agreement.<sup>249</sup> This could permit any industry participants to assert a claim if a patentholder breaches their FRAND agreements with any other participant. For instance, in the case of *FTC v. Qualcomm*, this would permit OEMs (third-parties) to sue on behalf of rival chip suppliers if Qualcomm refused to license its SEPs to its rivals even if the rivals had no incentive to sue on their own behalf. This would afford some agency to downstream producers since they would no longer be at the mercy of upstream players that may choose to collude by not enforcing their own FRAND agreements.

These are just a few creative solutions premised upon contract law and patent law rather than antitrust law. Telecommunication SSOs may have to take matters into their own hands by incorporating some of these solutions into their rules of the market if they wish to preserve a competitive industry, without the help of the courts to enforce antitrust law.

#### B. *Why Antitrust Law is Still Necessary*

Nevertheless, even if SSOs consider implementing some of these solutions, they will only *mitigate* the repercussions from failing to apply antitrust doctrine to standard setting markets, rather than act as a worthy substitute. Each branch of law has “different aims and normative underpinnings, and may balance the interests of different sets of stakeholders[.]”<sup>250</sup> Patent and contract law are not specifically configured to replace antitrust law doctrine.<sup>251</sup>

For instance, even if SSOs incorporated clearer licensing standards, outlawed tying, or expanded the definition of patent misuse within their FRAND contracts as suggested, SSOs most likely would not be able to anticipate more nuanced anticompetitive tactics that market participants may develop over time. Patent holders may develop new ways to harm competition as the market begins to take shape, leaving SSOs powerless after FRAND agreements are already set into place. It is also worth noting that narrowing FRAND terms may actually backfire

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249. For a more in-depth discussion about third party beneficiary contracts, see David M. Summers, *Third Party Beneficiaries and the Restatement (Second) of Contracts*, 67 CORNELL L. REV. 880 (1982).

250. Michael N. Tennison & Amanda C. Pustilnik, “And if Your Friends Jumped Off a Bridge, Would You Do It Too?: How Developmental Neuroscience Can Inform Legal Regimes Governing Adolescents”, 12 IND. HEALTH L. REV. 533, 535 (2015).

251. See Shapiro & Lemley, *supra* note 17, at 2023 (“Antitrust Enforcement: as a backstop, competition authorities can promote innovation and protect consumers by taking appropriate enforcement actions against firms that abuse the market power associated with SEPs and/or breach their FRAND commitments to avoid those patent and contract law limits.”).



and hinder competition considering that FRAND's ambiguous terms are meant to facilitate competitive negotiation.<sup>252</sup> Narrowing these terms would leave less room for firms to negotiate and could incentivize patent holders to become more risk averse, which can stifle industry competition.<sup>253</sup>

Additionally, even if SSOs afforded third-party beneficiary status to all industry participants, the market would still depend on industry players to enforce the rules of the game themselves, which may actually incentivize collusion, rather than government enforcement agencies.<sup>254</sup> Middlemen or downstream producers may still make the calculus that purchasing overpriced licenses and passing down the cost to consumers is more profitable in the short term rather than pursuing lengthy and costly litigation.<sup>255</sup> So, even with these solutions in place, Qualcomm or other patent holders could still potentially find ways to collude with downstream players who may continue to pass the added costs downstream at the expense of consumers who purchase the end-product.<sup>256</sup>

Overall, these solutions will not be able to fill the void that only antitrust law can. Without antitrust law, patent holders could still form collusive or exclusionary contracts at the expense of competition and consumers.<sup>257</sup> Market participants could still employ tactics that rig the market in their favor.<sup>258</sup> Simply put, if contract and patent law were configured to deal with these types of issues, Congress would not have been so compelled to pass the Sherman Act in the first place.<sup>259</sup>

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252. O'Connor, *supra* note 3.

253. *See id.*

254. Shapiro & Lemley, *supra* note 17, at 2023–24, 2058 (citing Joseph Farrell et al., *Standard Setting, Patents, and Hold-Up*, 74 ANTITRUST L.J. 603, 608–09 (2007)) (“In the standard-setting context, if a SEP owner breaches its FRAND commitment and is thereby able to charge unreasonably high royalties to device manufacturers, those royalties are likely to be passed through in large part to final consumers. Antitrust enforcement can protect consumers from these overcharges.”).

255. *See* Hovenkamp & Simcoe, *supra* note 86, at 12 (discussing rivals' incentive not to sue); *see also* Langus et al., *supra* note 71, at 264–69; Fed. Trade Comm'n v. Qualcomm Inc. (*Qualcomm I*), 411 F. Supp. 3d 658, 786–90 (N.D. Cal. 2019) (discussing OEMs' incentive not to sue).

256. *See* Shapiro & Lemley, *supra* note 17, at 2058.

257. *See id.*

258. *See id.* at 2023–24 (stating that even with effective FRAND policies in place, “antitrust would still be necessary in some circumstances to prevent companies from undermining or evading their FRAND commitments”).

259. For a brief history of the Sherman Act, see *Sherman Antitrust Act*, ENCYC. BRITANNICA, <https://www.britannica.com/event/Sherman-Antitrust-Act> (last visited Dec. 20, 2021).

*C. Standard Setting in Crisis & the Imminency of 5G*

The telecommunications industry is in jeopardy if the court refrains from using antitrust law as a backstop to prevent more nuanced forms of patent holdup. The next generation of cellular technology, 5G, is on the horizon<sup>260</sup> and Judge Koh already found that Qualcomm is establishing its monopoly position within that market.<sup>261</sup> Other firms with similar business structures, such as Nokia and Ericsson, have already been inclined to emulate Qualcomm's business model and may even formulate newer methods to circumvent FRAND agreements.<sup>262</sup> Consequently, if all other SEP holders that also sell chipsets decided to emulate Qualcomm's "no license, no chips" policy, instead of requiring monopoly power like Qualcomm did, they could just collude amongst themselves in order to sow future harm to downstream implementers and consumers throughout the telecommunications industry.

Again, if the Ninth Circuit's decision in *FTC v. Qualcomm* is not reversed, preventing antitrust law from achieving its purpose of promoting consumer welfare,<sup>263</sup> SSOs will have to get creative. SSOs should incorporate similar elements of antitrust law, along with more transparent licensing terms within their FRAND commitment contracts, in order to prevent the industry from becoming much less innovative and competitive.<sup>264</sup> As noted above, these solutions will not be a proper substitute for antitrust law within standard setting markets, however they could mitigate future industry damage.

## VII. CONCLUSION

Overall, patent holdup will continue to plague the telecommunications industry if *FTC v. Qualcomm* is not reversed. The telecommunications industry's heavy reliance on standard setting makes it highly susceptible to patent holdup.<sup>265</sup> Patent holdup may come in different forms and harm industries in different ways, which cannot be

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260. Bobby Hellard, *What is 5G and How Far Are We from Rollout?*, ITPRO (Feb. 10, 2021), <https://www.itpro.com/mobile/28081/what-is-5g>.

261. Fed. Trade Comm'n v. Qualcomm Inc. (*Qualcomm I*), 411 F. Supp. 3d 658, 822 (N.D. Cal. 2019).

262. Fed. Trade Comm'n v. Qualcomm Inc. (*Qualcomm II*), 969 F.3d 974, 984 (9th Cir. 2020).

263. *E.g.*, *NCAA v. Bd. of Regents*, 468 U.S. 85, 107 (1984) (citing *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979)).

264. Shapiro & Lemley, *supra* note 17, at 2023 (discussing private contracts & patent law remedy); *see also supra* Section VI.A.

265. Spulber, *supra* note 1, at 2–3.

remedied under only contract and patent law.<sup>266</sup> For instance, where competition or consumers have been harmed, only antitrust law may be able deal with the issues.<sup>267</sup> Thus, antitrust doctrine can be applied in order to preserve the competitive nature of the telecommunications industry or other standard setting markets even if patent holders must be afforded monopoly power in the form of SEPs.<sup>268</sup> Nevertheless, if the decision is not reversed, SSOs may need to get craftier with their FRAND agreements. Although the potential solutions listed in this Note will only *mitigate* the harms, without antitrust law, it may be the only way to prevent harm to consumers, competition, and innovation.<sup>269</sup> The future of the telecommunications industry, which controls the means in which we communicate with one another, certainly depends on it.

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266. Shapiro & Lemley, *supra* note 17, at 2023.

267. Hovenkamp, *supra* note 161.

268. *See* Carrier, *supra* note 43, at 245–46 (noting how standard setting promotes competition, but that academics should articulate a clearer antitrust framework for courts to employ in order to prevent holdup from occurring).

269. *See supra* Section VI.A.