No. 19-16122

IN THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

FEDERAL TRADE COMMISSION,

Plaintiff-Appellee,

v.

QUALCOMM INCORPORATED,

Defendant-Appellant.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
THE HONORABLE LUCY H. KOH, DISTRICT JUDGE
CASE NO. 5:17-CV-00220-LHK

BRIEF OF *AMICI CURIAE* LAW AND ECONOMICS SCHOLARS IN SUPPORT OF APPELLEE AND AFFIRMANCE

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TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES.....III

IDENTITY AND INTEREST OF *AMICI CURIAE* VI

INTRODUCTION..... 1

ARGUMENT 4

I. Qualcomm's No License, No Chips Policy Is Unlawful. 4

A. Qualcomm's NLNC policy is anticompetitive because it raises the costs of competitors' chipsets and erects barriers to entry into the chipset markets. 5

B. The NLNC policy harms competitors and competition and enables Qualcomm to maintain its chipset monopoly power..... 15

II. Qualcomm's Refusal to License Rival Chipmakers Also Violates the Antitrust Laws..... 21

A. Qualcomm's refusal to license rival chipmakers is anticompetitive..... 22

B. Qualcomm's refusal to license chipmakers harms competition. 30

CONCLUSION 31

TABLE OF AUTHORITIES

Page(s)

Cases

Am. Tobacco Co. v. United States,
328 U.S. 781 (1946) 23

Aspen Skiing Co. v. Aspen Highlands Skiing Corp.,
472 U.S. 585 (1985) 22, 25, 27

Broadcom Corp. v. Qualcomm Inc.,
501 F.3d 297 (3d Cir. 2007) 27, 29

Caldera, Inc. v. Microsoft Corp.,
87 F. Supp. 2d 1244 (D. Utah 1999) 11, 16

Conwood Co., L.P. v. U.S. Tobacco Co.,
290 F.3d 768 (6th Cir. 2002) 15, 16

Forsyth v. Humana, Inc.,
114 F.3d 1467 (9th Cir. 1997) 16

Image Tech. Servs., Inc. v. Eastman Kodak Co.,
125 F.3d 1195 (9th Cir. 1997) 24

Impression Prods., Inc. v. Lexmark Int'l, Inc.,
137 S. Ct. 1523 (2017) 23

In re Indep. Serv. Orgs. Antitrust Litig.,
203 F.3d 1322 (Fed. Cir. 2000) 1

MetroNet Servs. Corp. v. Qwest Corp.,
383 F.3d 1124 (9th Cir. 2004) 24

Microsoft Corp. v. Motorola, Inc.,
696 F.3d 872 (9th Cir. 2012) 24, 25, 27

Pac. Bell Tel. v. linkLine Commc'ns, Inc.,
555 U.S. 438 (2009) 13, 14

TABLE OF AUTHORITIES
(continued)

Page(s)

Standard Oil of N.J. v. United States,
221 U.S. 1 (1911) 4

United States v. Am. Tel. & Tel. Co.,
552 F. Supp. 131 (D.D.C. 1982) 4

United States v. Dentsply Int'l, Inc.,
399 F. 3d 181 (3d Cir. 2005) 10, 17

United States v. Microsoft Corp.,
253 F.3d 34 (D.C. Cir. 2001) ..... passim

Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP,
540 U.S. 398 (2004) ..... passim

Vernon v. S. Cal. Edison Co.,
955 F.2d 1361 (9th Cir. 1992) 28

ZF Meritor v. Eaton,
696 F.3d 254 (3d Cir. 2012) 10

Statutes

35 U.S.C. § 283 6

Regulations

Proposed Final Judgment and Competitive Impact Statement,
United States v. Microsoft Corp., Civ. No. 94-1564 (SS) (D.D.C. July 27, 1994), 59 Fed. Reg. 42845, 42849 (Aug. 19, 1994) 11

Other Authorities

3 PHILIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 651c (1996) 19, 30

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127 YALE L.J. 2110 (2018) 30

TABLE OF AUTHORITIES
(continued)

Page(s)

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Carl Shapiro & Hal R. Varian, *Information Rules: A Strategic Guide to the Network Economy* (1999) 30

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Erik Hovenkamp, *Tying, Exclusivity, and Standard-Essential Patents*, 19 COL. SCI. & TECH. L. REV. 79 (2017) 11

Herbert Hovenkamp, *FRAND and Antitrust*, 105 CORNELL L. REV. (forthcoming 2020), *available at* https://tinyurl.com/tx28q6f 27

Janusz A. Ordover, Garth Saloner, & Steven C. Salop, *Equilibrium Vertical Foreclosure*, 80 AM. ECON. REV. 127 (Mar. 1990) 16

Mark A. Lemley & Timothy Simcoe, *How Essential Are Standard-Essential Patents?*, 104 CORNELL L. REV. 607 (2019) 6

Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs To Achieve Power over Price*, 96 YALE L.J. 209 (1986) 15

IDENTITY AND INTEREST OF *AMICI CURIAE*

Amici curiae are 40 law and economics professors with expertise at the intersection of antitrust law, intellectual property law, and industrial organization economics.[1] *Amici* have no personal interest in the outcome of this appeal, but they share a professional interest in seeing that this case—which has provoked heavy lobbying and resulting controversy—is decided in accordance with well-established legal principles and sound legal and economic analysis.[2] *Amici* draw on decades of experience, both in academia and in practice, studying exclusionary conduct and identifying the circumstances in which conduct might be anticompetitive and violate the antitrust laws.

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[1] Appendix A includes a list of the *amici*.

[2] All parties have consented to the filing of this brief. *Amici* certify that no party or party's counsel authored this brief in whole or in part, no party or party's counsel contributed money that was intended to fund the preparation or submission of this brief, and no person or entity—other than *amici* or their counsel—authored the brief or made a monetary contribution to its preparation or submission.

INTRODUCTION

The central issue in this case, and the focus of this brief, is Qualcomm's so-called "no license, no chips" ("NLNC") policy. *Amici* believe that the district court correctly determined that the NLNC policy violates Section 2 of the Sherman Act, 15 U.S.C. § 2.

We begin with two fundamental principles. *First*, while intellectual property rights provide incentives for invention, and while patents are different in some ways from other types of property, patents and patented products are subject to ordinary, sound, and well-established antitrust principles.[3] *Second*, antitrust law should be applied to protect the competitive process and thereby benefit consumers.

The district court found that Qualcomm has monopoly power in two markets (3G CDMA and 4G LTE) for modem chipsets used in mobile handsets. Qualcomm sells those chipsets to firms (original equipment manufacturers or "OEMs") that manufacture handsets. The district court found that even the most powerful OEMs require

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[3] *See, e.g., United States v. Microsoft Corp.*, 253 F.3d 34, 63 (D.C. Cir. 2001) (en banc) ("[Microsoft] claims an absolute and unfettered right to use its intellectual property as it wishes . . . . That is no more correct than the proposition that use of one's personal property, such as a baseball bat, cannot give rise to tort liability."); *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322, 1325 (Fed. Cir. 2000) ("Intellectual property rights do not confer a privilege to violate the antitrust laws.").

Qualcomm's chipsets—even those that use other manufacturers' chipsets for some handsets still need Qualcomm's chipsets for the remainder. 1ER0027-1ER0028, 1ER0033-1ER0034.[4]

Qualcomm obtained its chipset monopolies lawfully and is entitled to charge high prices for its chipsets. But Qualcomm does not use its monopoly power solely in that way. It also uses its power to harm rivals and raise entry barriers to the chipset markets. That aspect of Qualcomm's conduct—which maintains and enhances its chipset monopolies—is unlawful.

Qualcomm also developed and patented important wireless technologies. It was entitled by patent law to keep those technologies for its own use or to license others to use them on terms that reflected their value. Qualcomm chose to license its patented technologies throughout the wireless industry.

Firms in the wireless industry manufacture products in compliance with industry-wide standards, so that handsets and other wireless products can interconnect. Had these standards incorpo-

[4] Citations to "ER_" are to the excerpts of the record that Qualcomm filed on August 23, 2019. *Fed. Trade Comm'n v. Qualcomm Inc.*, No. 19-16122 (9th Cir. Aug. 23, 2019), Dkt. Nos. 75-1 and 75-3. Citations to "SER_" are to the supplemental excerpts of the record that the Federal Trade Commission filed on November 22, 2019. Dkt. No. 139-1. Citations to "Qualcomm Br. at _" are to Qualcomm's Opening Brief in this appeal. Dkt. No. 77-2.

rated alternatives to Qualcomm's technologies, Qualcomm's patents would have little if any value. It was, therefore, very important to Qualcomm to induce industry-leading standard-setting organizations ("SSOs") to include its proprietary technologies in wireless standards. To achieve this goal, Qualcomm promised those SSOs that it would license its patents to "all applicants" on "fair, reasonable, and non-discriminatory" ("FRAND") terms. SSOs require FRAND commitments to prevent holders of standard-essential patents ("SEPs") from opportunistically "holding up" licensees, or keeping the technologies for themselves or a limited number of licensees and thereby creating monopoly power in standard-compliant products, after the industry irreversibly coalesces around a standard. But for Qualcomm's FRAND promise, SSOs would not have adopted its proprietary technologies into the standards.

In reliance on Qualcomm's FRAND promises, key SSOs incorporated its technologies into wireless standards. Qualcomm takes the position that its patented technologies are essential to those standards and, therefore, that any firm making or selling a standard-compliant product infringes its patents. As a result, the SSOs' incorporation of Qualcomm's patented technologies into wireless standards created a huge market for licenses to Qualcomm's SEPs.

The district court held that Qualcomm used its chipset monopolies, not only to extract the high chipset prices to which it was entitled, but also to perpetuate those monopolies by disadvantaging rival chipmakers and raising entry barriers. As a matter of law and economics, that holding is sound. At its core, this is yet another in a long line of cases dating back to the Supreme Court's decision in *Standard Oil of New Jersey v. United States*, 221 U.S. 1 (1911), and more recently in *United States v Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (en banc), and *United States v. American Telephone & Telegraph Co.*, 552 F. Supp. 131 (D.D.C. 1982), in which a monopolist violates the antitrust laws by using its market power to exclude rivals and entrench its monopoly.

We address Qualcomm's exclusionary conduct in two Parts. Part I explains why Qualcomm's NLNC policy is unlawful under well-established antitrust principles. Part II discusses Qualcomm's refusal to license chipset rivals, which reinforces the NLNC policy and violates the antitrust laws.

ARGUMENT

I. Qualcomm's No License, No Chips Policy Is Unlawful.

While the record in this case is complex in places, the legal and economic analysis is straightforward: Qualcomm uses the NLNC policy to make it more expensive for OEMs to purchase competitors' chipsets, and thereby disadvantages rivals and creates artificial

barriers to entry and competition in the chipset markets. NLNC means that, if an OEM does not agree to Qualcomm's preferred licensing terms and royalty ("no license"), Qualcomm will not sell the OEM any chipsets ("no chips"). The district court correctly concluded that the NLNC policy is unlawful exclusionary conduct.

A. Qualcomm's NLNC policy is anticompetitive because it raises the costs of competitors' chipsets and erects barriers to entry into the chipset markets.

Qualcomm sells two things relevant to this case: chipsets and rights to practice its patents. The abuse of monopoly power at issue is based on Qualcomm's monopoly power and conduct in the chipset markets.

1. U.S. antitrust law allows Qualcomm to charge a monopoly price for its chipsets. Temporary high prices and healthy profits until competition occurs reward firms that create innovative products that benefit consumers. *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004). The possibility of high prices and profits from lawfully obtained market power can also spur competition by encouraging rivals to enter the monopolized markets.

U.S. patent law allows Qualcomm to charge royalties to others who wish to practice its patents. Various aspects of patent law and, in this case, contract law constrain these royalties. When a patent

holder like Qualcomm seeks to license its technologies, the negotiations and resulting royalties reflect the value of the patented technologies discounted by the risk that a court would hold the patents to be invalid or not infringed if the parties do not agree on a royalty and the matter is resolved by litigation. These risks are often substantial: a recent study found that, when tested in litigation, a significant majority of declared SEPs were found to be invalid or not infringed.[5] The patent holder is not entitled to any royalties if the patent is invalid or not infringed.

The parties' assessment of the infringement damages that a court would award also constrains the royalties that a patent holder can charge. 35 U.S.C. § 283. In this case, Qualcomm's voluntary FRAND commitments further constrain the negotiations, and limit the royalties that Qualcomm may collect for its patented technologies.

2. The crux of this case is that Qualcomm uses its monopoly power in chipset markets to evade these constraints and extract royalties higher than those to which it is entitled and could otherwise obtain. The increased royalties raise barriers to entry and exclude competition in chipset markets, thereby unlawfully maintaining Qualcomm's chipset monopoly.

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[5] Mark A. Lemley & Timothy Simcoe, *How Essential Are Standard-Essential Patents?*, 104 CORNELL L. REV. 607, 624 (2019).

Qualcomm uses its NLNC policy to evade constraints on its patent royalties by threatening OEMs with chipset supply disruptions if they do not agree to Qualcomm's preferred licensing terms.[6] Because Qualcomm has monopoly power in the chipset markets and access to its chipsets is "critical" for a significant fraction of OEMs, OEMs have no choice but to acquiesce to Qualcomm's licensing terms. 1ER0026; *see also* 1ER0030-1ER0031. As the district court found, Qualcomm extracts higher royalties from OEMs than it would otherwise obtain but for its abuse of its monopoly power in the chipset markets through the NLNC policy. 1ER0046, 1ER0184-1ER0187 (describing this as a "surcharge"). As we explain below, the surcharge resulting from the NLNC policy raises rivals' costs, erects entry barriers, and unlawfully inflates consumer prices.

A hypothetical example illustrates how that happens. Suppose that the royalty Qualcomm would charge OEMs, if it licensed its SEPs separately from its chipsets, is $2 (taking into account the risk that the patents are invalid or not infringed, Qualcomm's FRAND commitments, and the likelihood a court imposes a reasonable royalty remedy in the event the parties resort to litigation). Suppose further that the monopoly price of Qualcomm's chipset

[6] The district court detailed these threats against nearly every significant OEM in the industry. 1ER0045-1ER0115.

plus royalty—the "all-in" price—is $20, meaning that the monopoly chipset price is $18.[7] Suppose also that a new chipmaker entrant can manufacture chipsets of comparable quality at a cost of $11 each. In that case, the rival chipmaker entrant could sell its chipsets to OEMs for slightly more than $11. An OEM's all-in cost of buying from the new entrant would be slightly above $13 (i.e., a license royalty of $2 plus the entrant's chipset price of slightly more than $11). This entry into the chipset market would induce price competition for chipsets. Qualcomm would still be entitled to its patent royalty of $2, but it could no longer charge the monopoly all-in price of $20. The entry and resulting price competition would force Qualcomm to reduce its chipset prices from $18 to somewhere closer to $11 so that its all-in price would be closer to that charged by the rival: $13. OEMs therefore would benefit from the competition by paying less for chipsets, and would pass along those savings to consumers.

[7] As a practical matter, Qualcomm would probably charge a single all-in price of $20 for the chipset and the license. It would charge a separate $2 license fee only when the OEM used a competitor's chip. The economic effect is the same, regardless of whether Qualcomm charges a single all-in price of $20 or $18 for the chipset and $2 for the license.

Qualcomm's NLNC policy prevents this competition. To illustrate, suppose instead that Qualcomm implements the NLNC policy and charges a patent royalty of $10. Because the all-in monopoly price is $20, the chipset price would be $10. The all-in cost to an OEM that buys Qualcomm chipsets remains at the monopoly level of $20.[8] But the OEM's all-in cost of using the rival entrant's chipsets will now be at least $21 (i.e., the price for the entrant's chipset slightly higher than $11 *plus* the $10 royalty that the OEM must pay to Qualcomm). Because the cost of using the entrant's chipsets now exceeds Qualcomm's all-in monopoly price of $20, Qualcomm faces no competitive pressure to cut prices or compete on quality or innovation.[9]

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[8] Because Qualcomm is using some of its monopoly power in chipsets to extract the surcharge on its patent royalties, its chipset price would be less than the standalone profit-maximizing price of $18. In fact, the district court found that Qualcomm, on a number of occasions, explicitly reduced its chipset prices in order to induce higher patent royalties. 1ER0187, 1ER0189-1ER0191. Doing so did not reduce Qualcomm's overall revenues, however, because it meant in effect that Qualcomm allocated some of the consideration for the chipsets to a higher price for the patent license.

[9] An OEM cannot respond to Qualcomm's NLNC policy by purchasing chipsets only from a rival chipset manufacturer and obtaining a license at the reasonable royalty level (i.e., $2 in the example) after Qualcomm brings an infringement action. That strategy would be infeasible because of Qualcomm's chipset monopoly. As the district court found, OEMs needed to procure at least some 3G CDMA and 4G LTE chipsets from Qualcomm. 1ER0026, 1ER0030-

3. This royalty surcharge injures competition in the chipset markets because it disadvantages existing rivals and raises barriers to entry for new competitors. OEMs deciding whether to purchase Qualcomm's or a competitor's chipset compare the all-in cost of purchasing either chipset. When Qualcomm uses its monopoly power in the chipset markets to increase what an OEM pays for the license—rather than charging a higher chipset price—it imposes artificial costs on rivals' products that would not otherwise exist.[10] OEMs will either buy fewer chipsets from Qualcomm's rivals or insist that the rivals reduce chipset prices. In this way, the NLNC policy injures rivals by reducing their revenues and sales volume, and the record shows that it forced some rivals out of the market altogether. 1ER0207-1ER0208.[11]

1ER0031. Monopolists that threaten to refuse to sell inputs to customers who prefer to source some, but not all, of those inputs from rival suppliers have been found to violate Section 2 of the Sherman Act in other cases. *E.g.*, *ZF Meritor v. Eaton*, 696 F.3d 254 (3d Cir. 2012); *United States v. Dentsply Int'l, Inc.*, 399 F. 3d 181 (3d Cir. 2005).

[10] The competitive harm is a result of the royalty being higher than it would be absent the NLNC policy. It does not depend on whether the royalty exceeds the ceiling imposed by Qualcomm's FRAND commitments.

[11] As an economic matter, Qualcomm's NLNC policy is analogous to the use of a tying arrangement to maintain monopoly power in the market for the tying product (here, chipsets). *See* Dennis W. Carlton & Michael Waldman, *The Strategic Use Of Tying To Preserve and*

The surcharge burdens rivals, leads to anticompetitive effects in the chipset markets, deters entry, and impedes follow-on innovation. As a result, Qualcomm maintains its monopoly power, and both OEMs and consumers lose the benefits of chipset competition and innovation.

4. The NLNC policy is strikingly similar to the conduct condemned in the "per processor" royalty cases that Microsoft settled with the Department of Justice ("DOJ") and private plaintiffs in the 1990s.[12] At issue in those cases was Microsoft's practice of imposing a charge on *every unit* of a particular computer model (i.e., "processor") sold by computer OEMs, regardless of whether that unit included Microsoft's MS-DOS operating system ("OS"), so long as the OEM sold *any* computers of that model with MS-DOS. In effect, Microsoft extracted part of the consideration for its OS in the form of

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Create Market Power in Evolving Industries, 33 RAND J. ECON. 194, 205 (2002); *Microsoft*, 253 F.3d at 64-67 (technologically integrating Internet Explorer browser into the Windows operating system raised barriers to entry into the monopolized OS market in violation of Section 2); *cf.* Erik Hovenkamp, *Tying, Exclusivity, and Standard-Essential Patents*, 19 COL. SCI. & TECH. L. REV. 79, 106 (2017) (explaining how a monopolist provider of an input could tie SEP licenses to that input as a means of maintaining its power in the input market).

[12] *See* Proposed Final Judgment and Competitive Impact Statement, *United States v. Microsoft Corp.*, Civ. No. 94-1564 (SS) (D.D.C. July 27, 1994), 59 Fed. Reg. 42845, 42849 (Aug. 19, 1994); *Caldera, Inc. v. Microsoft Corp.*, 87 F. Supp. 2d 1244 (D. Utah 1999).

a surcharge on computers that used a rival's OS. This practice raised the OEMs' cost of selling a computer with a rival's OS—for those machines, the OEMs had to pay to use the rival's OS *and* pay a fee to Microsoft. This raised the all-in cost to OEMs of selling a computer with a rival's OS in the same way that Qualcomm's conduct makes it more expensive for an OEM to sell a handset that includes a non-Qualcomm chipset. *See* 3ER0668-3ER0669 (testimony of FTC's economist discussing the "per processor" case).

5. Qualcomm offers three justifications for the NLNC policy. None is correct.

First, Qualcomm argues that NLNC cannot injure competition because it charges the same royalty regardless of whose chipset an OEM uses. Qualcomm Br. at 63. But as in the per-processor cases, the royalties disparately impact OEMs' chipset costs. As illustrated by the hypothetical example above, the surcharge raises an OEM's all-in cost of rival chipsets even when it does not affect the all-in cost of Qualcomm chipsets. The NLNC policy in effect allocates some of the consideration for Qualcomm chipsets to the nominal patent royalty. In exchange for paying the higher nominal royalty, OEMs get a reduced nominal price on Qualcomm chipsets. But Qualcomm does not provide any such offset when the OEM buys chipsets from rivals. By allocating a larger portion of the all-in cost

to the royalty, Qualcomm in substance charges OEMs more if they use a competitor's chipsets.

Second, Qualcomm argues that the per-processor cases are distinguishable. It says that Microsoft's policy—requiring OEMs to pay for MS-DOS even for computers configured with a rival's OS—is fundamentally different from the conduct at issue here, where OEMs allegedly practice Qualcomm's SEPs even when they use a rival's chipsets. Qualcomm Br. at 66-67. But Qualcomm misses the point of the per-processor cases: Microsoft violated the antitrust laws because it used its monopoly power to impose artificial costs on the use of a rival's product. There is no substantive difference between imposing an artificial cost and describing it as part of the price for the OS used in different machines, as in the per processor cases, and imposing the same artificial cost (a surcharge) and describing it part of the price for a different product (patent license) sold to the customer.

Third, Qualcomm argues that its NLNC policy is a lawful "price squeeze" under the Supreme Court's decision in *Pacific Bell Telephone v. linkLine Communications, Inc.,* 555 U.S. 438 (2009). Qualcomm Br. at 38-39. By setting a high price for an essential input over which it has monopoly power and a low price for a finished product that incorporates that input, a vertically integrated firm can "squeeze" the margins of unintegrated producers of the finished

product, such that those producers cannot viably compete against the integrated monopolist.

Qualcomm's NLNC policy is not like the margin squeeze at issue in *linkLine* in either form or substance. As to form, the input here is the license to Qualcomm's SEPs, and the non-integrated competitors are the rival chipset manufacturers. Because Qualcomm refuses to license chipset manufacturers, it is not squeezing them with a higher license fee. Similarly, Qualcomm does not sell handsets, so it cannot squeeze the OEMs with its handset prices. Moreover, the issue in *linkLine* was the abuse of power in the input market in which the alleged overcharge occurred. 555 U.S. at 450 ("[T]he plaintiffs allege[] that the defendants (upstream monopolists) abused their power in the wholesale market to prevent rival firms from competing effectively in the retail market."). Here, by contrast, Qualcomm abused its monopoly power in the chipset markets, and extracted the resulting surcharge in the separate markets in which it licenses its SEPs to OEMs. Qualcomm is arguing that *linkLine* should be extended to a very different factual context.

As to substance, the rationale of *linkLine* is that a defendant could not cause more harm by selling an input at a high price than by exercising its lawful right to refuse to deal in that market. *Id.* That rationale does not apply here. The NLNC policy results in an excessive input price for patent licenses sold to OEMs. Unlike the

monopolist in *linkLine*, Qualcomm could not inflict the same or worse harm by refusing to license its patents to OEMs because Qualcomm promised to license its SEPs on reasonable (FRAND) terms. If Qualcomm refuses to license its patents to OEMs, it would be entitled to no more than a FRAND-compliant royalty in litigation and would run the risk that a court will find its SEPs invalid or not infringed. The OEMs, and thus chipset rivals and new entrants, would obtain the benefit of the lower royalty and be better off than they are under the NLNC policy.

B. The NLNC policy harms competitors and competition and enables Qualcomm to maintain its chipset monopoly power.

Qualcomm's principal defense of the NLNC policy is that, even though it increases competitors' costs and harms individual competitors, the record does not demonstrate the magnitude of the cost increase or how it harmed competition in chipset markets overall. Qualcomm Br. at 56-102. But a dominant firm that perpetuates its monopoly by artificially raising its rivals' costs and erecting barriers to entry injures the competitive process and violates the antitrust laws.[13] The conduct violates the antitrust laws even if the

[13] *E.g.*, *Microsoft*, 253 F.3d at 61, 64; *Forsyth v. Humana, Inc.*, 114 F.3d 1467, 1478 (9th Cir. 1997), *aff'd*, 525 U.S. 299 (1999); *Conwood Co., L.P. v. United States Tobacco Co.*, 290 F.3d 768, 788 (6th Cir. 2002); *see generally* Thomas G. Krattenmaker & Steven C. Salop,

plaintiff does not demonstrate exactly how competition would have unfolded but for the anticompetitive conduct. This is true whether the monopolist targets its cost-raising conduct directly at rivals, as in *Forsyth v. Humana, Inc.*, 114 F.3d 1467, 1478 (9th Cir. 1997), or achieves the same result indirectly through conduct aimed at common potential customers, as in *Microsoft* or *Conwood*.[14]

In any event, the district court found ample evidence of harm to competition. Qualcomm artificially increased the OEMs' cost of rival chipsets for reasons unrelated to innovation, product development, or any other efficiency. As the district court explained, the NLNC policy enables Qualcomm to impose "an artificial and anticompetitive surcharge on the price of [its] rivals' modem chips."

Anticompetitive Exclusion: Raising Rivals' Costs To Achieve Power over Price, 96 YALE L.J. 209 (1986); Janusz A. Ordover, Garth Saloner, & Steven C. Salop, *Equilibrium Vertical Foreclosure*, 80 AM. ECON. REV. 127 (Mar. 1990).

[14] Qualcomm argues that the NLNC policy is not anticompetitive because the cost is not levied directly on the competing chipset makers. Qualcomm Br. at 58. But as demonstrated by the Microsoft "per processor" royalty cases, there is no requirement that a monopolist impose costs directly on its competitor. *See Caldera*, 87 F. Supp. 2d at 1250; *see also Microsoft*, 253 F.3d at 61 (explaining how licensing restrictions that raised computer OEMs' costs to pre-install a competitor's browser excluded potential rivals and unlawfully maintained Microsoft's OS monopoly). What is significant is that the monopolist imposes a charge on the transaction involving the competitor.

1ER0046. The court found that the surcharge excludes some competitors outright, injures those that remain, harms OEMs and consumers by raising costs, and erects barriers to future competition. 1ER0046, 1ER0184, 1ER0203; *see* 1SER0103 (testimony of FTC's economist describing anticompetitive effects). The surcharge suppresses sales of competing products "below the critical level necessary for any rival to pose a real threat" to Qualcomm, thereby insulating its chipset monopolies from competition. 1ER0185 (quoting *Dentsply Int'l*, 399 F.3d at 191).

Qualcomm argues that the harm to competition is based on "inference" rather than demonstrated harm, and that the inference is based on an implausible, indirect, multistep chain of causation. Qualcomm Br. at 69, 76-82. Whatever purchase this argument might have in a damages case, or even a case alleging the unlawful acquisition of monopoly power, it has no application to this case, in which the defendant is already a monopolist.

The D.C. Circuit's decision in *Microsoft*—in which the court addressed Microsoft's unlawful maintenance of its desktop OS monopoly (Windows)—demonstrates why the district court here was correct in finding the requisite harm to competition. The government's theory, and the holding of the court, was that Microsoft engaged in anticompetitive conduct that increased OEMs' costs of using rival

browsers, thereby reducing the likelihood that any rival's browser would attract a large share of computer users.

Microsoft's worry was that a rival browser would achieve a critical mass of users so that computer applications developers would design applications to interoperate with the rival browser, and thereby permit users to access those applications through that browser regardless of which OS they were using. If applications interoperated with the browser rather than with Windows, it would be easier for OS competitors to erode Microsoft's OS monopoly because users would no longer need Windows to access the applications. The court held that Microsoft's licensing agreements with OEMs harmed rivals in the browser market and thereby injured competition in the OS market by raising a barrier to, and reducing the likelihood of, future OS competition. The court concluded that the licensing agreements unlawfully maintained and perpetuated Microsoft's OS monopoly in violation of Section 2.

All of this harm to competition from the anticompetitive conduct was inference, and Microsoft—like Qualcomm here—argued that inference was not enough. The D.C. Circuit, sitting en banc, unanimously rejected that argument, explaining in part that "[t]o require that § 2 liability turn on a plaintiff's ability or inability to reconstruct the hypothetical marketplace absent a defendant's anticompetitive conduct would only encourage monopolists to take

more and earlier anticompetitive action" to protect their monopolies. *Microsoft*, 253 F.3d at 79.

Instead, the court held, it was sufficient that Microsoft engaged in conduct that "decreas[ed] competition against" Microsoft's browser, "ha[d] a substantial effect in protecting [its] market power, and d[id] so through a means other than competition on the merits." *Id.* at 62. Even though there was only a potential, multi-step connection between the harm to competing browsers and the maintenance of Microsoft's OS monopoly, that connection was sufficient because Microsoft's anticompetitive conduct "reasonably appear[ed] capable of making a significant contribution to . . . maintaining [its] monopoly power." *Id.* at 79 (quoting 3 PHILIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 651c (1996)). "We may infer causation," the court said, "when exclusionary conduct is aimed at producers of nascent competitive technologies as well as when it is aimed at producers of established substitutes." *Id.*[15]

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[15] Qualcomm relies on language in *Microsoft* to the effect that the anticompetitive conduct must have "contributed significantly" to maintenance of the monopoly. Qualcomm Br. at 70 (quoting 253 F.3d at 79). But Qualcomm misreads the case. The D.C. Circuit noted that Microsoft relied on that language from a treatise but went on to say *in the very next sentence* that it was inapplicable in a case seeking injunctive relief. *Microsoft*, 253 F.3d at 79 ("But, with respect to actions seeking injunctive relief, the authors of that treatise also recognize the need for courts to infer 'causation' from the

The harm to competition here is even more direct, more certain, and more clear from the record than was the harm in *Microsoft*. The NLNC policy raises the costs for OEMs that wish to purchase from rival chipmakers, 1SER0103; 1ER0106-1ER0107, harming those rivals by limiting their current sales and revenues and depriving them of experience needed for R&D and future product improvement, 1ER0197. In some cases, rivals exited the market altogether. 1ER0207-1ER0208.

In *Microsoft,* the browser path was only one possible avenue for potential OS competition, and browsers had never been used that way. By contrast, rival chipmakers already sell in certain market segments and can compete against Qualcomm only if their access to OEMs is unimpeded. It does not require the type of inferential leap that the court made in *Microsoft* to conclude that raising OEMs' costs when they use rivals' chipsets would act as a barrier to entry of new chipset competitors, reduce the likelihood of future competition, unlawfully maintain Qualcomm's monopoly, and deprive consumers of the lower prices and increased innovation attendant to competition.

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fact that a defendant has engaged in anticompetitive conduct that 'reasonably appear[s] capable . . . .'").

Indeed, unlike *Microsoft*—where the court never found it necessary to reach the issue of customer or consumer harm—the district court in this case catalogued various ways in which the anticompetitive effects of the NLNC policy rippled through the chain of distribution and injured OEMs, end-purchasers of handsets, and rivals. *See, e.g.*, 1ER0072, 1ER0184, 1ER0186.

This is a monopoly maintenance case in which the FTC seeks forward-looking injunctive relief. It is enough that Qualcomm engaged in anticompetitive conduct that "reasonably appear[s] capable of making a significant contribution to . . . maintaining [its] monopoly power." *Microsoft*, 253 F.3d at 79.

II. Qualcomm's Refusal to License Rival Chipmakers Also Violates the Antitrust Laws.

Qualcomm's NLNC policy is itself unlawful. Qualcomm's refusal to license chipmakers is also unlawful, in part because it bolsters the NLNC policy.[16] In addition, Qualcomm's refusal to license chipmakers increases the costs of using rival chipsets, excludes rivals, and raises barriers to entry even if NLNC is not itself illegal.

[16] Given space limitations, *amici* are unable to address other issues in this case. No inference should be drawn about *amici*'s views of issues not addressed in this brief.

A. Qualcomm's refusal to license rival chipmakers is anticompetitive.

While patent holders ordinarily are free to refuse to license their technology or to license it narrowly, this case is different. Qualcomm employs a business strategy of widespread licensing—dedicating an entire business unit to the practice—and voluntarily promised two industry-wide SSOs that it would license its SEPs to "all applicants" on FRAND terms. And for a time, Qualcomm did just that, licensing all comers no matter where they appeared in the distribution chain. Yet Qualcomm subsequently changed course and now refuses to license rival chipmakers. That refusal is a separate form of anticompetitive conduct.[17]

Qualcomm argues that its refusal to license is lawful because it did not violate the standards set out in *Trinko* or *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985). Qualcomm Br. at 46-51. But those cases involved simple, standalone refusals to deal. Even then, *Aspen Skiing* held that the defendant's refusal to deal was unlawful, and the Court in *Trinko* reaffirmed

[17] Qualcomm has appealed from the district court's ruling that its FRAND commitments obligate it to license all applicants, including rival chipmakers. Qualcomm Br. at 130-39. To the extent that the argument in this Part is based on Qualcomm's FRAND commitments, it is based on the assumption that Qualcomm was required by contract law and those commitments to license all-comers.

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that "[u]nder certain circumstances, a refusal to cooperate with rivals can constitute anticompetitive conduct and violate § 2." *Trinko*, 540 U.S. at 408. This case—in which Qualcomm made and later repudiated a promise to license all-comers—is one of those "circumstances."

1. Unlike the refusal to deal in *Trinko* and *Aspen Skiing*, Qualcomm's refusal to license competitors does not stand alone, independent of other anticompetitive conduct. Here, the refusal to license facilitates Qualcomm's anticompetitive NLNC policy. Had Qualcomm continued to license rival chipmakers, downstream OEMs would have received pass-through rights to practice Qualcomm's SEPs through the principle of patent exhaustion. *Impression Prods., Inc. v. Lexmark Int'l, Inc.*, 137 S. Ct. 1523, 1531 (2017). Under those circumstances, Qualcomm would have had no basis to insist that OEMs take a separate license to its SEPs, undermining the NLNC policy and frustrating its efforts to raise the costs of rivals' chipsets.

To be sure, patent holders generally may decide whom to license. Qualcomm Br. at 55. But when a patent holder exercises that right in furtherance of unlawful, anticompetitive conduct—as Qualcomm does here in support of its NLNC policy—the otherwise lawful behavior can violate the antitrust laws. *Am. Tobacco Co. v. United States*, 328 U.S. 781, 809 (1946); *Image Tech. Servs., Inc. v.*

Eastman Kodak Co., 125 F.3d 1195, 1207 (9th Cir. 1997) (holding that "routine and legal . . . . actions, when taken by a monopolist, may give rise to liability if anticompetitive").

2. The policy concerns that drove the Supreme Court's reluctance to hold refusals to deal unlawful do not apply here. The Court explained in *Trinko* that it was concerned that finding a duty to deal under the antitrust laws would (1) create adverse incentives for rivals, like free riding; (2) force courts to determine terms of trade; (3) create increased risks of collusion; and (4) force monopolists to share the rewards of their innovation, reducing their incentives to invest. 540 U.S. at 407-08; *see also MetroNet Servs. Corp. v. Qwest Corp.*, 383 F.3d 1124, 1132-33 (9th Cir. 2004). None of those concerns applies here.

First, this case involves SEPs, which means that normal concerns about free-riding do not apply. Industry standards like those at issue here are intended to be available to all firms—competitors and non-competitors alike—to spur widespread adoption of, and facilitate competition in the development and sale of products implementing, the standards. Accordingly, SSOs require that owners of patented technologies *essential to implementation of the standards* license those technologies to all comers. *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872, 876, 884 (9th Cir. 2012). Denying firms access to SEPs will exclude them from the market and prevent them from

using the patented technologies to compete on price or follow-on innovation and product improvements.

Second, requiring Qualcomm to honor its FRAND commitments does not force any court to act as a "central planner." A court need only order licensing on FRAND terms, leaving Qualcomm and its competitors to negotiate rates in the shadow of the law. The court is merely a backstop if the parties fail to agree on those terms, just as courts are always a backstop when technology implementers and patent holders fail to agree on licensing terms and the patent holder initiates an infringement action for damages under the patent laws. And because the FRAND obligation is a binding contractual commitment, *Id.* at 884-85, any dispute about the proper FRAND royalty would be resolved by the courts in any event.

Third, requiring Qualcomm to honor its FRAND commitments presents no undue risk of collusion. The parties need only discuss the royalty. Unlike *Aspen Skiing* (in which the refusal to deal was nonetheless found to be unlawful), the resulting interactions here would not require joint marketing or sale of consumer-facing products, *see* 472 U.S. at 589-90, nor would they require coordination regarding the introduction of a new competitor-facing service, *see Trinko*, 540 U.S. at 410-11, or any discussion of output levels or chipset design. SEP licensing negotiations are commonplace and straightforward.

Finally, requiring Qualcomm to honor its FRAND commitments will not compromise its incentives to innovate. It will continue to earn royalties and chipset profits in return for its investments in developing patented technology, and it will benefit from first-mover advantages and the opportunity to license firms in the vast markets opened to it by the incorporation of its patented technologies into industry standards—an inclusion made possible by, and in reliance upon, its FRAND commitments. Condemning a refusal to deal in this context merely holds Qualcomm to a bargain that it willingly struck in exchange for SSOs' adoption of its technology into industry standards, and in no way diminishes its right to obtain a reasonable royalty for others' use of its SEPs.

3. Qualcomm's refusal to deal cannot be assessed independently of that bargain, which was meant to protect the worldwide wireless ecosystem from opportunistic hold up after it became locked into standardized technology. In refusing to license competitors, Qualcomm undermined that protection and harmed competition.

Qualcomm changed a voluntary course of conduct upon which an entire industry relied. The market shaped itself around Qualcomm's and others' SEPs—designing products and technology with the understanding that Qualcomm's patents would be available on

FRAND terms and with the expectation that there would be competition at every level of the distribution chain. When Qualcomm abandoned its FRAND commitments by refusing to license rival chipmakers, it undermined the "entire competitive purpose of the [standard-setting] joint venture"—"to design a standard so that goods can be produced competitively within a shared technology"—at a point when the industry had proceeded irreversibly down a path of technological development. *See* Herbert Hovenkamp, *FRAND and Antitrust*, 105 CORNELL L. REV. (forthcoming 2020), *available at* https://tinyurl.com/tx28q6f.

Antitrust law condemns refusals to deal when a monopolist "make[s] an important change in the character of the market" by abandoning a prior course of conduct. *Aspen Skiing*, 472 U.S. at 604; *see Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 314 (3d Cir. 2007). And because Qualcomm "freely . . . exercise[d its] independent discretion" when agreeing to license all comers on FRAND terms, holding it to its own promise is not tantamount to "forced sharing." *Trinko*, 540 U.S. at 408; *see* Qualcomm Br. at 47.

FRAND commitments safeguard against opportunistic conduct resulting from other participants becoming locked-in to the standardized technology. They ensure that the holders of SEPs cannot extract unreasonably high royalties or otherwise hold up entire industries. *Microsoft*, 696 F.3d at 876; *Broadcom*, 501 F.3d at 314. By

refusing to license all comers, Qualcomm subverts those restraints in order to collect higher royalties from OEMs when they use rivals' chipsets. That, in turn, harms rival chipmakers and raises barriers to chipset competition.

The fact that Qualcomm's FRAND commitments were contractual does not immunize its conduct from antitrust liability. *See* Qualcomm Br. at 52 & n.6. This Court has rejected the notion "that antitrust liability may not be predicated on conduct which also happens to create a contract dispute." *Vernon v. S. Cal. Edison Co.*, 955 F.2d 1361, 1368 (9th Cir. 1992).[18] The issue "is not simply" whether Qualcomm "breached its contract," but rather whether—"by preventing the purchase of" a product covered by that contract—Qualcomm "acted anticompetitively." *See id.* Qualcomm's breach of its commitments, in the face of the industry-wide reliance they induced, was anticompetitive.

4. Invoking *Aspen Skiing*, *Trinko*, and subsequent lower court cases, Qualcomm argues that its refusal to license chipmakers does

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[18] *Vernon* specifically distinguished a breach of contract "standing alone," which does not give rise to antitrust liability (the language Qualcomm quotes in its brief), from anticompetitive conduct that also involves a breach of contract. 955 F.2d at 1368. Qualcomm's breach of its contract to license all applicants is not simply a private dispute between rivals. Its FRAND breach also harms consumers and the competitive process by raising entry barriers into the chipset market.

not violate the antitrust laws because it did not sacrifice short-term profits when it abandoned its FRAND commitments. Qualcomm Br. at 48-50. As explained above, however, those cases are inapposite: Qualcomm's breach of its commitments was anticompetitive regardless of profit sacrifice, because of the industry-wide reliance that it induced and then exploited.

Moreover, the royalties Qualcomm charges OEMs are inflated in large part because of its unlawful NLNC policy. Nothing in *Aspen Skiing* or *Trinko* suggests that a firm can avoid liability for a refusal to deal on the ground that it found a more profitable way to violate the antitrust laws.

Last but not least, Qualcomm's argument ignores its FRAND commitments.[19] The Court in *Trinko* held that the refusal to deal at issue was not unlawful because there was no allegation that the defendant "would ever have [dealt with its rivals] absent statutory compulsion." 540 U.S. at 409. Here, by contrast, Qualcomm voluntarily promised to license on FRAND terms.[20]

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[19] As here, the duty to deal in *Aspen Skiing* "was rooted in specific prior [contractual obligation], reliance and path dependence, and subsequent repudiation." Hovenkamp, *FRAND and Antitrust*, at 30.

[20] If Qualcomm made the promise without intending to comply, and the SSOs had relied on that promise, Qualcomm would have unlawfully acquired monopoly power in the technology markets that encompass its SEPs. *See Broadcom*, 501 F.3d at 314.

If Qualcomm had *not* promised to license all comers on FRAND terms, its patented technology would have been excluded from industry standards, rendering the patents nearly valueless when the industry coalesced around standards that incorporated different technologies—an outcome the district court found possible here. 1ER0195-1ER0196. Refusing to be bound by FRAND in that way would entail a huge profit sacrifice for Qualcomm, in comparison to making and honoring a promise to license all applicants in exchange for a reasonable royalty.[21]

B. Qualcomm's refusal to license chipmakers harms competition.

Qualcomm's refusal to license injures competition by increasing the costs to OEMs of buying competitors' chipsets and exacerbating the anticompetitive effects of the NLNC policy. Like NLNC, it is anticompetitive conduct that "reasonably appear[ed] capable of making a significant contribution to . . . maintaining [Qualcomm's] monopoly power" in the chipset markets. *See Microsoft*, 253 F.3d at 79 (quoting AREEDA & HOVENKAMP ¶ 651c). Qualcomm's refusal to license chipmakers therefore violated the antitrust laws, both as an

[21] *See* A. Douglas Melamed & Carl Shapiro, *How Antitrust Law Can Make FRAND Commitments More Effective*, 127 YALE L.J. 2110, 2118 (2018); Carl Shapiro & Hal R. Varian, *Information Rules: A Strategic Guide to the Network Economy* 228 (1999).

integral part of its unlawful NLNC policy and, even if NLNC was not illegal, because it impaired the opportunities of rivals.[22]

CONCLUSION

For the foregoing reasons, the Court should affirm the district court's judgment that Qualcomm's NLNC policy and its refusal to license rival chipmakers violate Section 2 of the Sherman Act.

[22] "In a monopolization case conduct must always be analyzed 'as a whole.' A monopolist bent on preserving its dominant position is likely to engage in repeated and varied exclusionary practices. Each one viewed in isolation might be viewed as de minimis or an error in judgment, but the pattern gives increased plausibility to the claim." AREEDA & HOVENKAMP, ANTITRUST LAW ¶ 310c7 (4th ed. 2013-2018).

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Respectfully submitted,

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^ No involvement in this litigation between Federal Trade Commission and Qualcomm, but a partner at Bates White, LLC. Bates White staff supported Dr. Carl Shapiro, who served as an expert for the Federal Trade Commission in the litigation below. Participation as amicus in this case reflects professional views and not necessarily the views of any current or former client.

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