No. 14-35393

IN THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

MICROSOFT CORPORATION,
Plaintiff-Appellee,

v.

MOTOROLA, INC., MOTOROLA MOBILITY, INC., AND GENERAL INSTRUMENT CORPORATION,
Defendants-Appellants.

Appeal from the United States District Court
for the Western District of Washington
Case No. 2:10-cv-01823-JLR, Judge James L. Robart

BRIEF OF APPLE INC. AS *AMICUS CURIAE* IN SUPPORT OF MICROSOFT

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Pursuant to Federal Rule of Appellate Procedure 29(c)(5), *Amicus Curiae Apple Inc.* states that no counsel for any party authored this brief in whole or in part; no party or counsel for any party contributed money that was intended to fund preparing or submitting this brief; and no person other than the *amicus curiae*, its members, and its counsel contributed money that was intended to fund preparing or submitting the brief.

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STATEMENT OF INTEREST OF THE *AMICUS CURIAE*[1]

Amicus Curiae Apple Inc. ("Apple") submits this brief to describe real-world dynamics that may help inform the Court's resolution of the important questions presented. Apple is an innovator that depends on access to industry standards, but Apple also is frequently forced to defend against assertions premised on meritless claims of industry-standard invention.[2] As both a significant beneficiary of industry standards and a favorite target of those who seek to misuse those standards, Apple has a deep interest in the issues central to this appeal.

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[1] The parties have consented to the filing of this brief.

[2] *See, e.g.*, *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286 (Fed. Cir. 2014); *Golden Bridge Tech., Inc. v. Apple Inc.*, No. 12-cv-4014 (C.D. Cal.); *GPNE Corp. v. Apple Inc.*, No. 12-cv-2885 (N.D. Cal.); *Apple Inc. v. Samsung Elecs.Co.*, No. 11-cv-1846 (N.D. Cal.); *Apple Inc. v. Motorola, Inc.*, No. 11-cv-8540 (N.D. Ill.); *Multimedia Patent Trust v. Apple Inc.*, No. 10-cv-2618 (S.D. Cal.); *Apple Inc. v. Motorola Mobility, Inc.*, No. 11-cv-178 (W.D. Wis.); *Nokia Corp. v. Apple Inc.*, No. 09-791 (D. Del.); *Wi-LAN, Inc. v. Apple Inc.*, No. 14-cv-1507 (S.D. Cal.); *Wi-LAN Inc. v. HTC Corp.*, No. 11-cv-68 (E.D. Tex.); *Apple Inc. v. Wi-LAN, Inc.*, No. 14-cv-2838 (N.D. Cal.); *In the Matter of Certain Elec. Devices, Including Wireless Commc'n Devices, Portable Music and Data Processing Devices, and Tablet Computers*, Inv. No. 337-TA-794 (U.S. Int'l Trade Comm'n 2011); *In re Motorola Mobility LLC and Google Inc.*, Dkt. No. C-4410 (U.S. Fed. Trade Comm'n 2013); Press Release, European Commission, Antitrust: Commission Sends Statement of Objections to Motorola Mobility on Potential Misuse of Mobile Phone Standard-Essential Patents (May 6, 2013), *available at* http://tinyurl.com/ECMotorolaObjections; Press Release, European Commission, Antitrust: Commission Accepts Legally Binding Commitments by Samsung Electronics on Standard Essential Patent Injunctions (Apr. 29, 2014), http://tinyurl.com/ECSamsungCommitments.

"Standards provide many benefits for technology consumers." *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872, 876 (9th Cir. 2012). Industry standards are vital to the technology marketplace because they enable different companies' products to work together seamlessly. Companies can add their own innovations to distinguish their respective products in the minds of consumers. Apple's remarkable record of successful innovation illustrates the pay-off for devoting extraordinary resources to building upon, but going far beyond, industry standard technologies.

For example, while Apple's iPhone line of smartphones implements a host of cellular, WiFi, and other technical standards developed by industry standard-setting organizations ("SSOs"), generation after generation of the devices has also brought consumers larger and better screens, more powerful processors, a higher resolution camera, better software, and a host of other features reflecting Apple's unique contributions. Apple, like others that implement standardized technologies, routinely agrees to pay licensing fees to those inventors that actually contribute to an industry standard. But with the iPhone and other products, it is Apple's own

inventive contributions that have earned it both critical acclaim and commercial success.

Innovators like Apple depend on safeguards that prevent owners of standard-essential patents ("SEPs") from using SEPs to capture or stifle the benefits of their contributions. In particular, the commitment to license standard-essential technology on fair, reasonable, and non-discriminatory ("FRAND") terms is foundational to the widespread adoption of industry standards. High-tech standards generally include patented technologies, often thousands of them. From an antitrust perspective, such patents could be dangerous—a SEP holder bent on obstructing competition could use its patent rights to prevent others from adopting the standard. *See Allied Tube & Conduit Corp. v. Indian Head, Inc.*, 486 U.S. 492, 500 (1988) (standardization carries "serious potential for anticompetitive harm," because it is "implicitly an agreement not to manufacture, distribute, or purchase certain types of products").

FRAND (aka RAND) is what prevents anticompetitive behavior. Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 Antitrust L.J. 1, 5 (2005). The FRAND commitment

prevents SEP holders from leveraging "lock in"—the condition in which all industry participants have no choice but to practice a particular standard—for "hold-up"—a "take it or leave it" royalty demand (often accompanied by the threat of an injunction) that creates barriers to market entry. *Microsoft*, 696 F.3d at 876.

At issue here is Microsoft's allegation that Motorola breached its FRAND obligations. *See* Microsoft Br. at 15-17, ECF No. 51. To determine whether this allegation has merit, the question becomes what—and how much—is FRAND? These issues are what Judge Robart confronted in this case. As detailed below, his opinions applied several important principles inherent in the FRAND commitment, and thus critical for resolving FRAND disputes. *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 WL 2111217 (W.D. Wash. Apr. 25, 2013); *Microsoft Corp. v. Motorola, Inc.*, No. C10-1823JLR, 2013 WL 5373179 (W.D. Wash. Sept. 24, 2013). They are based in the widely recognized precept that "a RAND commitment should be interpreted to limit a patent holder to a reasonable royalty on the economic value of its patented technology itself, apart from the value associated with incorporation of the patented technology into the

standard"—that is, apart from hold-up value.[3] *Microsoft*, 2013 WL 2111217, at *12. Judge Robart's decisions properly applied this bedrock understanding of the FRAND commitment, and this Court should affirm.

ARGUMENT

I. A THICKET OF SEPS THREATENS TO UNDERMINE THE BENEFITS OF INDUSTRY STANDARDS

Today's high-tech standard is not a single technology, but an extraordinarily complex combination of technologies. To build a product that complies with standards like those at issue in this case, a would-be implementer must necessarily practice each of these technologies. Many of them may be patented. The path to implementation is thus beset by a daunting obstacle: "Complex industry standards like the H.264 and 802.11

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[3] "[M]ost who have analyzed the RAND promise's meaning expressly describe it as a mechanism that should prevent a participant-patentee from using an injunction threat to hold up the adopter community for disproportionate royalty payments." Joseph Scott Miller, *Standard Setting, Patents, and Access Lock-In: RAND Licensing and the Theory of the Firm*, 40 Ind. L. Rev. 351, 363 (2007); *see Microsoft*, 696 F.3d at 876 ("Many SSOs try to mitigate the threat of patent holdup by requiring [SEP holders] to agree to license … on terms that are … 'RAND.'"); *Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 310 (3d Cir. 2007) ("To guard against anticompetitive patent hold-up, most [SSOs] require … licensing … on FRAND terms."); *Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 913 (N.D. Ill. 2012) ("The purpose of the FRAND requirement[] … is to confine the patentee's royalty demand to the value conferred by the patent itself as distinct from the additional value—the hold-up value—conferred by the patent's being designated as standard-essential.").

Standards can require the use of hundreds or thousands of SEPs held by dozens of patent holders." *Microsoft*, 2013 WL 2111217, at *11; *see id.* at *6. As it surveys the landscape, an innovator is confronted with a thicket of SEPs, all of which purport to read on standard-essential technologies.

An intractable SEP thicket is disastrous for innovation. *See generally* Carl Shapiro, *Navigating the Patent Thicket*, *in* Innovation Policy and the Economy (Adam B. Jaffe, Josh Lerner, & Scott Stern eds., 2001). It keeps would-be innovators from implementing a standard, squandering the benefits of standardization and threatening "serious … anticompetitive harm," *Allied Tube*, 486 U.S. at 500. Unfortunately, the SEP thicket appears alive and thriving. *See* IPlytics GmbH, Standard Essential Patent Database 1 (2014), *available at* http://tinyurl.com/IPlyticsDatabase (containing over 300,000 claimed SEPs); RPX Corp., Standard Essential Patents: How Do They Fare? 1 n.1 (2014), *available at* http://tinyurl.com/RPXStudy [hereinafter RPX Study] (evaluating 11,000 SEP patents).

A. The SEP Thicket Includes Many Patents That In Fact Do Not Meaningfully Contribute To Any Industry Standard

The fact that a patent is declared standard-essential says next to nothing—nothing about the true value of the underlying technology,

nothing about whether the patent is truly standard-essential, and nothing about whether the patent is actually a valid patent at all.

To begin with, technologies are often included in standards for reasons other than technical merit. A particularly influential company might use its position or alliances to get certain technologies included. Aija E. Leiponen, *Competing Through Cooperation: The Organization of Standard Setting in Wireless Telecommunications*, 54 Management Science 1904 (2008). Another might engage in horse trading to guarantee its piece of the action. Byeongwoo Kang & Rudi Bekkers, *Just-in-Time Inventions and the Development of Standards* 6 (Eindhoven Ctr. for Innovation Studies, Working Paper No. 13.01, 2013), *available at* http://tinyurl.com/KangBekkers.

The nature of SSOs and the standard-setting process also permits other game playing. One common strategy is to amend existing patents to add claims on technologies already included in a standard. Mark A. Lemley, *Ten Things to Do About Patent Holdup of Standards (and One Not to)*, 48 B.C. L. Rev. 149, 163 (2007). Another is the practice known as "just-in-time patenting," practitioners of which engage in a flurry of anticipatory patent filings just before standard-setting sessions in the hope of getting a

snippet or two of technology included at next week's meeting. *See* Kang & Bekkers, *supra*, at 10-11. Little wonder that these SEPs—born not of the spark of invention, but of bare profit seeking—turn out to be trivial or lacking in technical merit. *Id.*

The same phenomenon extends to the SEP disclosure and declaration process too. Private parties that believe a standard includes technologies over which they hold a patent simply declare it before the SSO. *See, e.g.*, IEEE Standards Ass'n, *IEEE-SA Standards Board Operations Manual* § 6.3.1-5 (2013), *available at* http://tinyurl.com/IEEEOperations. Ordinarily, the patent's essentiality and validity is not verified. Indeed, "[m]any SSOs explicitly disclaim any effort to interpret the patent or to determine whether or not a patent reads on a proposed standard." David J. Teece & Edward F. Sherry, *Standards Setting and Antitrust*, 87 Minn. L. Rev. 1913, 1949 (2003). That is because "SSOs themselves are generally not comprised of patent lawyers and rendering opinions would increase the SSO's potential liability exposure should the SSO get it wrong." *Id.*

At best, "[i]f an [SSO] is aware that a technology proposed for inclusion in a standard is or may be covered by an essential patent, the [SSO] may request or indeed require that the patent-holder provide

assurance as to its licensing intentions." Brief of *Amicus Curiae* IEEE, Inc. in Support of No Party at 19, Apple Inc. v. Motorola, Inc., 757 F.3d 1286 (Fed. Cir. 2007) (No. 12-1548), ECF No. 109. That is why most SSOs have rules requiring timely disclosure. Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 Calif. L. Rev. 1899, 1904 (2002). But these rules do nothing to prevent overreach by those eager to amass SEPs, so they cannot guarantee the quality of the patent or establish the value of the underlying technology.

The complete absence of any gatekeeping by SSOs yields a predictable result: over-declaration. SEP status confers value, so parties have every incentive to rack up SEPs. They can then package them in large portfolios and attempt to license them to would-be implementers. *See* Mark A. Lemley & Carl Shapiro, *A Simple Approach to Setting Reasonable Royalties for Standard-Essential Patents*, 28 Berkeley Tech. L.J. 1135, 1154 (2013) (noting patentee incentives to "pad its portfolio" with SEPs); Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. Pa. L. Rev. 1, 69-70 (2005) (discussing "high-volume, low-quality" patent portfolio strategy).

Several studies have confirmed that many—indeed, a substantial majority—of SEPs are not in fact genuine. One such study examined each family of patents declared essential to two third generation, or "3G," wireless standards. David J. Goodman & Robert A. Myers, *3G Cellular Standards and Patents*, Fairfield Resources Int'l (2003), *available at* http://tinyurl.com/3GCellStandards. (Generally speaking, a patent family is a set of patents from different jurisdictions—the U.S., Europe, and China, say—that cover one invention. *Id.*) For one of the standards, the study found, only 157 of the 732 declared essential patent families, or 21.4%, actually contained a SEP. *Id.* at 5. The numbers were roughly the same on the other standard—only 108 of 527 of families, or 20.5%, contained a patent that was essential in fact. *Id.*

Litigation results confirm these numbers. One analysis tracked the success rates of the three most active SEP plaintiffs—InterDigital, Motorola, and Samsung—in litigation between 2009 and 2013. It found that "only 1 of every 8 SEPs tested in court has, in fact, been valid and technically essential to practice the standard." John ("Jay") Jurata, Jr. & David B. Smith, *Turning the Page: The Next Chapter of Disputes Involving Standard-Essential Patents*, CPI Antitrust Chronicle, Oct. 2013, at 5. A

recent study reflects the same. SEPs' win rate in federal court is just 12% while a typical patent owner wins 38% of the time. RPX Study, *supra*, at 9 tbl.1.2. A similar metric reveals that 81% of declared SEPs that are asserted at least once in federal court are deemed invalid or are shown not to be infringed by the standard-compliant product against which the SEP holder asserted the patent. *Id.* at 9 tbl.1.1. In other words, at least three quarters of all SEPs asserted in court have been found not to be truly standard-essential, not to be valid patents, or both. In Apple's own experience—having defended against dozens of assertions of purported SEPs—the failure rate has been even higher, with approximately 90% of the claims failing.

In short, the lack of oversight by SSOs has led to a SEP thicket that is predictably overgrown.

B. The SEP Thicket Is Treacherous Due To Hold-Up Attempts By SEP Holders

It is well-understood that a patent's inclusion in a standard confers value. As Judge Robart found, "[w]hen the standard becomes widely used, the holders of SEPs obtain substantial leverage to demand more than the value of their specific patented technology." *Microsoft*, 2013 WL 2111217, at *10; *see Broadcom Corp. v. Qualcomm Inc.*, 501 F.3d 297, 310 (3d Cir.

2007). Attempts to do so are called "hold-up"—hold-up tactics seek to leverage inclusion in a standard to "capture part of the fruits of another's investment." Joseph Farrell et al., *Standard Setting, Patents, and Hold-Up*, 74 Antitrust L.J. 603, 603 (2007).

To be sure, many SEP holders eschew hold-up, undertaking the customary commitment to license their SEPs on FRAND terms and honoring that commitment in good faith. But some do not.[4] The hold-up tactics of these few can pose grave risks, particularly when an injunction is threatened. And "because a prospective licensee has no alternative to licensing the patent[,] he is at the patentee's mercy." *Apple,* 869 F. Supp. 2d at 913. This "could allow a patentee to obtain unreasonable licensing terms … resulting [in] imbalance between the value of patented technology and the rewards for innovation." *In re Certain Wireless Commc'ns Devices*, Inv. No. 337-TA-745, 2012 WL 7681646, at *2 (Fed.

[4] Motorola's *amici* suggest that SEP hold-up may not even be real, apparently because "new implementers have entered the telecommunications equipment market on several occasions in relatively recent years." Nokia Brief, ECF 38, at 8; *see* Qualcomm Brief, ECF No. 32, at 24-26. This is like saying price-fixing does not exist because "new" consumers have nevertheless purchased a product "in relatively recent years." No one disputes that inclusion in a standard confers hold-up value. And the notion that SEP holders *never* attempt to capture that value strains credulity—and ignores the evidence of what Motorola demanded in this case. Microsoft Brief, ECF No. 51, at 10-18.

Trade Comm'n June 6, 2012). On its way through the SEP thicket, an innovator is almost certain to encounter SEP assertions that seek to capture value far beyond the SEP's technical contribution.

Attempts to capture hold-up value can take different forms. One form of hold-up, of course, is any royalty demand on the sort of low-value or no-value SEP discussed above. Needless to say, SEPs that are not in fact essential, or that are not valid and enforceable patents are worthless when it comes to implementing a standard. And yet, SEP holders often demand royalties for them anyway, frequently demanding a portfolio rate that assumes essentiality, infringement, and validity. The litigation statistics discussed above reveal just how frequently SEP holders assert declared SEPs that prove not to be legitimate.

Of course, genuine SEPs can be weapons for hold-up too. A SEP holder entitled to a fair return on a bona fide SEP may nevertheless insist on a royalty that is out of proportion with the technical contribution of the underlying invention. Perhaps the most common form of overreach is to demand a royalty tied to a rate base—most often the average sale price of the end product—that has nothing to do with the standardized functionality. *See, e.g.*, *Microsoft*, 2013 WL 2111217, at *2 ("Motorola

offered to license its patents at what it considered the RAND rate of 2.25% of the price of the end product."); Microsoft Brief at 12-13. Lurking as leverage is the threat of injunctive relief, and when that hold-up tactic is deployed it effectively holds the product hostage for a ransom of undeserved profits. *See* Microsoft Brief at 11-18, ECF No. 51 (describing Microsoft's "injunction strategy"); *infra* Part III.

Makers of complex products are particularly vulnerable to this tactic. Different products obviously offer very different functionality—when a consumer buys a video game console, bundled into the price she pays is a very different set of features than is bundled in the price of the wireless headphones she buys to use with it. A host of other factors peculiar to a product—the quality of the user experience, for example, or the nature of the market—also drive the product's retail value. Many of these factors have nothing at all to do with the sliver of WiFi functionality, for example, or the video compression format. So it makes little sense to demand a royalty seeking not just 2.25% of the profits owing to standardized capabilities, but also 2.25% of the profits for the graphics engine, controller, software, library of games, and so forth. Unless, of course, a SEP holder is

seeking to capture the value of the implementer's investment in these other features.

Hold-up is costly. Resources spent responding to hold-up attempts or litigating them in court are resources that cannot be devoted to research and development. A recent study concludes that cases "involving SEPs tended to proceed further" than other patent cases, with SEP cases approximately twice as likely to reach summary judgment and trial. RPX Study, *supra*, at 5, 14 tbl.4.1. By raising the risks and costs of entering the SEP thicket, the tactics discussed above threaten the benefits standardization promises.

C. The SEP Thicket Raises Serious Royalty Stacking Concerns

Another obstacle standing in the way of widespread implementation is the risk of royalty stacking. "Royalty stacking" refers to the reality that to practice a particular standard, an implementer will need to secure licenses from a multiplicity of parties. *See* Shapiro, *supra*, at 119. To decide whether it makes economic sense to bring a product to the market, the implementer must consider the whole stack of royalties it would have to pay. So, to proceed through the SEP thicket, a would-be implementer needs assurances that it will have something left on the other side.

Consider again the smartphone. A viable smartphone must incorporate standards that provide for both WiFi and cellular connectivity. One recent study sought to calculate the royalties that the producer of a $400 smartphone might be asked to pay to implement these standards. Ann Armstrong, Joseph J. Mueller & Timothy D. Syrett, *The Smartphone Royalty Stack* (May 29, 2014) (Working Paper), *available at* http://tinyurl.com/SmartphoneRoyaltyStack. Tallying the publicly available royalty demands announced by twelve SEP holders, the study calculated that the royalty stack for implementation of the dominant LTE cellular standard would be $54 per smartphone.

Company	Announced LTE Rate	Royalty ($400 device)
Qualcomm	3.25% of device[31]	$13.00
Motorola	2.25% of device	$9.00
Alcatel-Lucent	Up to 2% of device	$8.00
Huawei	1.5% of device	$6.00
Ericsson	1.5% of device	$6.00
Nokia	1.5% of device	$6.00
Nortel[32]	1% of device	$4.00
ZTE	*1% of device*	*$4.00*[33]
Siemens	0.8% of device	$3.20
Via Licensing	Per Unit Sliding-Scale Fee Based on Volume[34]	$2.10 per unit (sales over 10M units)
Sisvel Patent Pool	0.99 Euros per device[35]	$1.36
Vodafone	Free[36]	$0.00
Total		**$54.30**

Id. at 13-14. And that number accounts for only 50-60% of SEPs essential to the LTE standard, omitting, for example, holders of three of the ten largest portfolios of LTE SEPs, who do not make their rates publicly available. *Id.* at 14. Although these demands are plainly excessive—and may have been (properly) rejected by many targets—they vividly illustrate the magnitude of royalty requests sought by SEP holders in the cellular industry.

Add in the stack for the 802.11 WiFi standard at issue here—calculated based on a combination of demanded and court-awarded rates—and implementers could face another $50 in royalty demands. *Id.* at 24-26. That is $104 on royalty demands alone for just two of the standards a smartphone producer must implement, before any of the R&D costs, materials, manufacturing, marketing, and sales that go into a product.[5]

There is nothing inherently wrong with a royalty stack, of course—each patent-holder is entitled to a fair return on its technology, no matter how many technologies a company chooses to implement. But a

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[5] Again Motorola's *amici* suggest that the well-understood dynamic of royalty stacking is "purely theoretical." Qualcomm Brief, ECF No. 32, at 19; Nokia Brief, ECF No. 38, at 9. But "[t]he data show that royalty stacking is not merely a theoretical concern." *See* Ann Armstrong et al., *supra*, at 2.

prohibitively high royalty stack for the implementation of a standard raises serious concerns. Such a royalty stack is a daunting obstacle facing new entrants to the market. And because an impassible thicket means that the standard cannot be adopted feasibly by all, it undermines the very purpose of the standard. Inclusion in a standard must include the collective obligation of affordable implementation.

* * *

Industry standards can be a boon to competition and progress, but the SEP thicket threatens that promise. Over-declaration, hold-up attempts, and royalty stacking are all daunting obstacles in the way of implementation.

II. JUDGE ROBART'S METHODOLOGY TAMES THE SEP THICKET BY BASING THE FRAND RATE SOLELY ON THE VALUE OF THE TECHNOLOGY DISCLOSED IN THE PATENT

The FRAND commitment, if properly enforced, can prevent the problems of the SEP thicket. By limiting itself to a fair, reasonable, and non-discriminatory royalty, a SEP holder agrees not to take advantage of the practical limitations of the standard-setting process or the undue leverage that so often comes with standardization. The FRAND commitment thus invites an implementer staring down the daunting

thicket of SEPs to proceed. But the invitation is empty unless courts and regulatory bodies enforce FRAND true to the concerns that caused SSOs to adopt the FRAND requirement in the first place. Motorola Br. 19-20, 41, 51-52.

In large part, Judge Robart succeeded in doing so. He recognized that a SEP's inclusion in a standard can confer to the patent leverage that is beyond its inherent value. *Microsoft*, 2013 WL 2111217, at *6. And he recognized that the FRAND commitment is in essence a promise not to seek that value. *Id.* He concluded, accordingly, that "a RAND commitment should be interpreted to limit a patent holder to a reasonable royalty on the economic value of its patented technology itself, apart from the value associated with incorporation of the patented technology into the standard." *Microsoft*, 2013 WL 2111217, at *12. Judge Robart's decision enforced this principle in a number of important ways. Each of them helps mitigate the concerns identified in Part I.

A. Focusing On A Hypothetical Licensing Negotiation That Occurs Before Standardization Mitigates The Problems Flowing From Declaration Of Patents That In Fact Have Not Meaningfully Contributed To Any Industry Standard

"The purpose of the FRAND requirement[] … is to confine the patentee's royalty demand to the value conferred by the patent itself as distinct from the additional value—the hold-up value—conferred by the patent's being designated as standard-essential." *Apple*, 869 F. Supp. 2d at 913. A hypothetical party, honoring its FRAND obligations, would confine its royalty demand in this way. One way to approach the hypothetical negotiation, then, is to view the world before the patent gained value by virtue of its being standard-essential. In other words, the trick is to situate the hypothetical negotiation *ex ante* standardization.

The *ex ante* perspective goes a long way toward addressing the problems associated with over-declaration. *Supra* I.A-B. That is because it strips the holders of low-value or no-value SEPs of the ability to leverage the fact of standardization for undeserved royalties. If the technical value before the SEP holder gamed the standard-setting process or falsely declared its patent essential was nil, so is the royalty. Judge Robart recognized this. When considering the technology's technical contributions,

for example—a topic taken up *infra* II.B-C—he acknowledged the importance of an "*ex ante* examination of the incremental contribution of the patented technology to the standard." *Microsoft*, 2013 WL 2111217, at *13. And he noted that the so-called *Georgia-Pacific* test—the factors many courts use to guide a hypothetical licensing negotiation in patent cases, *Georgia-Pacific Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116, 1119-20 (S.D.N.Y. 1970)—is designed "to recreate the *ex ante* licensing negotiation scenario and to describe the resulting agreement." *Microsoft*, 2013 WL 2111217, at *17.

This approach is well-supported. "The 'true' or underlying value of the licensor's intellectual property … is normally best measured by adopters' willingness to pay for it when they know their alternatives and have not yet made investments specific to that technology." Joseph Farrell & Carl Shapiro, *Intellectual Property, Competition, and Information Technology*, *in* Economics of Information Technology 49, 81 (Hal R. Varian, ed., 2004). "[C]ourts should interpret the fair and reasonable prong of FRAND as the royalties that would have been voluntarily negotiated before users became committed to using the patented technology." Farrell, *supra*, at 637. Judge Robart properly understood that the *ex ante* perspective is

the appropriate vantage point for assessing a royalty uninflated by hold-up value.

B. Focusing On A SEP's Relative Contribution To An Industry Standard Prevents SEP Holders From Capturing Hold-Up Value

Assuming a validly patented invention makes *some* contribution to an industry standard, the next step of a rate-setting methodology is an understanding of each technology's contribution to the standard—how important was the given technology to the standard's functionality as a whole? This analysis is critical, because it thwarts entities that game the standard-setting process to acquire low-value patents. *Supra* I.A-B. Evaluating a SEP's relative contribution to the standard prevents those that manipulate the standardization process from capturing disproportionate royalties on these low-value technologies.

A technological standard is a puzzle with many pieces. Some of these pieces will provide the standard's core functionality, while many will be ancillary, optional, mundane, or arbitrary. If a given technology's contribution to the standard is merely ancillary—say, because it provides video compression functionality for a video format that is no longer commonly used in the real world—the SEP holder's inventive contribution

is minimal and its return should reflect that. Similarly, if its contribution is arbitrary in the sense that several equally or nearly as good alternatives could have been included at the standard-setting stage, we can expect that prior to standardization, market forces would have driven down its price. *Microsoft*, 2013 WL 2111217, at *14-15.

This case contains a perfect illustration, and again Judge Robart used the proper mode of analysis. The central pieces of the "large and complex" H.264 video compressing standard at issue here are unpatented. *Id.* at *26. But the standard also contains technologies covered by at least 2,500 SEPs. *Id.* Of these, sixteen are held by Motorola. *Id.* at *27. Motorola, of course, should not be entitled to royalties on the thousands of standard-essential features it had nothing to do with. Nor should it enjoy an even share of the return on the standard's whole functionality if its contributions were minor. Judge Robart properly declined to include that value in his FRAND calculation. *Id.* at *26-42.

C. Adopting The Proper Rate Base Properly Limits Royalties To A SEP's Technical Contributions

Just as a court must analyze the SEP's contribution to the standard, a court conducting a FRAND analysis must also consider the technology's contribution to the implementer's product. This is called

"apportionment"—it is a black-letter requirement of patent damages law. 1-20 Donald S. Chisum, Chisum on Patents § 20.07[2][g]-[i] (2014). A meticulous apportionment analysis addresses unfair or unreasonable royalty demands by ensuring that an implementer is not required to pay royalties for unimportant aspects of the standard or for parts of its product that have nothing to do with the standard at all. Established apportionment techniques also address the problem of unduly broad rate bases and their discriminatory effects, *supra* I.B, by zeroing in on the true contribution a SEP makes to a particular product.

Again, this case illustrates. Motorola, as explained above, initially offered a license pegged to the average sales price of Microsoft's products. *Microsoft*, 2013 WL 2111217, at *2. But Motorola's wireless or video compression patents, of course, offer only a discrete sliver of functionality within the multicomponent product that retails as an Xbox. And some of Motorola's H.264 SEPs, Judge Robart found, pertained only to a particular type of input video so antiquated that Microsoft's customers rarely encounter it. *Id.* at *43. In a negotiation conducted *ex ante* standardization, Microsoft would have paid next to nothing for the right to use such technology—after all, as Judge Robart explained, "an

implementer would see little to no value in licensing a SEP if that patent did not cover a portion of the standard utilized by the implementer." *Id.* at *42. To award Motorola substantial royalties for these SEPs would permit it to capture value based purely on the fact of the standard-essential technology's inclusion in the standard. Judge Robart correctly recognized that FRAND bars this result.

Apportionment principles also provide useful guidelines for selecting the appropriate rate base. In particular, a court seeking the appropriate rate base might rely on the Federal Circuit's so-called "Entire Market Value Rule," or EMVR. *VirnetX, Inc. v. Cisco Systems, Inc.*, 767 F.3d 1308, 1327 (Fed. Cir. 2014). The EMVR is a rule that helps courts identify the proper "royalty base"—the number a fraction of which will be apportioned to the patentee—to multiply against the royalty rate. The EMVR states that "[f]or the entire market value rule to apply [as the rate base], the patentee must prove that the patent-related feature is the basis for customer demand." *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1336 (Fed. Cir. 2009) (internal quotation marks omitted). Otherwise, the analysis zooms in on the smallest salable unit that incorporates the

invention—i.e., on the component level—and apportions the patent holder's return from that base.

The EMVR's logic applies in the SEP context: A SEP can never form the basis for customer demand of a particular product, so the appropriate royalty base in every SEP case is (at most) the smallest saleable unit. The whole point of standardization is convergence among all market participants around a particular standard. What drives the market demand of a standard-compliant product is what the producer builds on top. Including the producer's contributions risks "skewing the damages horizon [by] using a base that misleadingly suggests an inappropriate range." *VirnetX*, 767 F.3d at 1327.

This approach is all the more important for complex products, for which apportionment becomes particularly difficult. "Where small elements of multi-component products are accused of infringement, calculating a royalty on the entire product carries a considerable risk that the patentee will be improperly compensated for non-infringing components of that product." *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 67 (Fed. Cir. 2012). In the SEP context, the risk of error is most severe. Determining a rate that properly reflects a handful of

SEPs' contribution to a WiFi standard is hard enough; determining a multiplier that reflects the SEPs' contribution to the standard as implemented in an iPhone is an exercise in futility. A more "error-prone task" is hard to imagine. *See id.* at 66.

Ultimately, Judge Robart did not apply the EMVR. He applied a flat royalty to each Microsoft product—for example, .555 cents per Microsoft Windows unit. *See Microsoft*, 2013 WL 2111217, at *4. His thorough opinion reflects an extraordinarily diligent effort to apportion the value of Motorola's patents within Microsoft's products. But another way to enforce the FRAND requirement is to follow the well-established EMVR when setting a FRAND rate. One court has already done so in a FRAND opinion. Relying on much the same reasoning outlined above, the district court in *In re Innovatio IP Ventures, LLC*, No. 11 C 9308, 2013 WL 5593609, at *13 (N.D. Ill. Oct. 3, 2013), declined to base a royalty on the entire market value of the product. Instead, the court used as the royalty base the value of a WiFi chip, which it had determined was the "smallest salable patent-practicing unit." *Id.* This approach is likely to yield accurate results.

D. Recognition Of Royalty Stacking Concerns Preserves Implementers' Access To Standards

Finally, any FRAND rate-setting methodology must be cognizant of royalty stacking. As Judge Robart explained, "a proper methodology for determining a RAND royalty should address the risk of royalty stacking by considering the aggregate royalties that would apply if other SEP holders made royalty demands of the implementer." *Microsoft*, 2013 WL 2111217, at *12. Mitigating the risk of royalty stacking, Judge Robart reasoned, was essential to promoting the "widespread adoption of the standard." *Id.* at *20. By the same token, recognition of royalty stacking concerns prevents SEP holders from demanding royalty rates that effectively block access to the market. *Supra* I.C.

Serious royalty stacking concerns are a telltale sign that a license is not consistent with FRAND principles. For a court conducting a FRAND analysis, this insight is extraordinarily valuable. In any FRAND rate-setting case, the SEP holder is likely to bring before the court a host of purportedly comparable licensing agreements, asking that the court adopt that royalty as the FRAND rate. If the rate disclosed in those agreements would raise intractable stacking issues in the context of the standard at issue, that rate is not FRAND, plain and simple, and constitutes a

sufficient reason to reject that license. *Microsoft*, 2013 WL 2111217, at *72-74.

Here, Judge Robart found that the IEEE 802.11 standard likely embraces thousands of SEPs owned by scores of different companies. *Id.* at *52. The math is simple. For many companies, 2.25% of the retail price of the end product could very well mean the difference between profit and loss. Paying that percentage to dozens of different companies just for the right to implement cellular and WiFi standards is simply not a feasible business model. *See* Armstrong et al., *supra*, 12-16, 24-26. That is why Judge Robart was right to reject that rate out of hand.

"A real-world negotiation would not consider in a vacuum one party's standard-essential patent portfolio, or even the standard-essential patents associated with one of many standards being implemented in a given product." Lemley & Shapiro, *supra*, at 1149. Rather, implementers would consider "the other royalty payments they will be asked to make to bring their product to market." *Id.* Judge Robart properly applied this common sense principle.

* * *

The core objective of any FRAND rate-setting inquiry is to determine the value of "the patented technology itself." *Microsoft*, 2013 WL 2111217, at *13. To do so, Judge Robart properly focused on the *ex ante* hypothetical licensing negotiation, evaluated the relative value of the technology to the standard, engaged in a thorough apportionment analysis, and took into account royalty stacking concerns. This assured that Motorola's FRAND rate would be commensurate with the value of its technology and would not incorporate any hold-up value from the mere fact of inclusion in an industry standard. This Court's affirmance of these approaches would provide much-needed clarity in the context of FRAND negotiations.

III. THE FRAND COMMITMENT IMPOSES SPECIAL RESTRICTIONS ON SEP HOLDERS' ROYALTY DEMANDS

FRAND is more than just a number, and enforcing it is about more than just rate setting. By undertaking a FRAND commitment, a SEP holder also agrees to relinquish some of the arrows a royalty-seeking patent holder ordinarily has in its quiver.[6] Two warrant mention here.

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[6] To be clear, many aspects of FRAND rate setting are the same in a normal royalty setting process. For example, identifying the proper royalty base and being cognizant of royalty-stacking problems are equally required by black-letter patent damages principles. But there are some differences between FRAND patents and non-FRAND patents—e.g., with respect to injunctions, as discussed in this Part.

First, the FRAND requirement requires a SEP holder to forswear the drumbeat of injunctive relief. The threat of a court-imposed barrier to the market, often accomplished through cryptic license-or-else demand letters, has no place in FRAND negotiations. It is by now the near-consensus view that injunctive relief is inconsistent with the FRAND commitment. The FRAND commitment "grant[s] the adopter community an irrevocable right to use its patented technology to comply with the standard in exchange for a reasonable royalty and other reasonable terms, the details of which are negotiated later without any possibility of a court injunction." Miller, *supra*, at 358. FRAND "remov[es] the threat of injunction from the patentee's arsenal." *Id.* at 377.

This is why the Federal Trade Commission has recognized that "a royalty negotiation that occurs under threat of an exclusion order may be weighted heavily in favor of the patentee in a way that is in tension with the RAND commitment." *In re Certain Wireless Commc'ns Devices*, 2012 WL 7681646, at *2. It is why the Federal Circuit recently recognized that "[a] patentee subject to FRAND commitments may have difficulty establishing irreparable harm," and can likely only do so where an "infringer unilaterally refuses a FRAND royalty or unreasonably delays

negotiations." *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1332 (Fed. Cir. 2014). And it is why this Court should reaffirm what it said the first time this case was before it: "Implicit in [Motorola's] sweeping promise is … a guarantee that the patent-holder will not take steps to keep would-be users from using the patented material, such as seeking an injunction, but will instead proffer licenses consistent with the commitment made." *Microsoft*, 696 F.3d at 884.

Similarly implicit in the FRAND commitment is the requirement that a SEP holder proffer an initial license offer within the FRAND range, or at least reasonably calculated to fall within that range.[7] In other words, a SEP holder must offer a "rack price"—a number or rate-setting method available to all-comers—that honors the FRAND commitment. This makes sense, because "[a] royalty demand which is so high as to preclude acceptance of a license offer is, after all, not appreciably different from a refusal to license upon any terms." *W. L. Gore & Assocs., Inc. v. Carlisle*

[7] Although Judge Robart ruled early on in this case that a SEP holder does not breach its FRAND obligations simply because its initial offer does not fall within the eventual FRAND royalty range, he also made clear that "the owner of [SEPs] subject to RAND licensing agreements … may [not] make blatantly unreasonable offers to implementers." *Microsoft Corp. v. Motorola, Inc.*, 864 F. Supp. 2d 1023, 1038 (W.D. Wash. 2012). Apple respectfully submits that the FRAND commitment requires more of SEP holders than simply ascending above blatant unreasonableness.

Corp., 529 F.2d 614, 623 (3d Cir. 1976). And a refusal to license is, of course, flatly inconsistent with the FRAND commitment.

As explained above (at I.B), SEP holders often enter negotiations with a take-it-or-leave-it attitude. The "offer" at issue in this case—"2.25% of your ASP," or "average sale price"—is the unfortunate paradigm. This sort of offer could virtually never be FRAND. It is almost never calculated based on apportionment within a particular product, so it has little chance of being reasonable. And it also uses the total sales price of the product as the rack rate base, so it will almost certainly be discriminatory.

A rule permitting initial offers that are non-FRAND squanders the very certainty the FRAND commitment is meant to provide. Would-be implementers must divert more and more resources towards negotiating strategy. Research and development stalls as the possibility of bringing the product to market is called into question. And always looming is the threat of litigation and its attendant costs. On the flip side, the requirement of an initial FRAND-consistent offer imposes little burden or risk on SEP holders. A sophisticated SEP holder almost certainly has a wealth of data and expertise to guide its offer. Requiring a SEP holder to make an initial

offer that is true to the FRAND commitment is part and parcel of the FRAND commitment's prohibition on hold-up.

* * *

Standardization promises huge benefits, but it carries considerable risk as well. Left untended, the standardization process yields a thicket of SEPs that raises the costs and risks of implementing the standard, threatening to squander the very benefits industry standards are meant to confer. The FRAND commitment is designed to tame the thicket. But like any contractual promise, it is effective only if the courts enforce it. By focusing on the FRAND commitment's bedrock concern—confining SEP holders to the value of their technology, as distinguished from the value conferred by inclusion in the standard—Judge Robart properly held Motorola to its agreement. Courts must continue to apply this principle to eliminate hold-up in all forms.

CONCLUSION

This Court should endorse the above guidelines for use in cases concerning the FRAND commitment.

Dated: November 21, 2014

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I hereby certify that I electronically filed the foregoing with the Clerk of the Court of the United States Court of Appeals for the Ninth Circuit using the appellate CM/ECF system on November 21, 2014.

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