

Nos. 2012-1548, 2012-1549

**IN THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

**APPLE INC. AND NEXT SOFTWARE, INC.
(formerly known as NeXT Computer, Inc.)**

Plaintiffs-Appellants,

v.

**MOTOROLA, INC. (now known as Motorola Solutions, Inc.) AND
MOTOROLA MOBILITY, INC.,**

Defendants-Cross-Appellants.

Appeal from the United States District Court for the Northern District of
Illinois in Case No. 11-CV-8540, Judge Richard A. Posner.

**BRIEF OF AMICUS CURIAE LAW PROFESSORS THOMAS F. COTTER,
SHUBHA GHOSH, A. CRISTAL SHEPPARD, & KATHERINE J.
STRANDBURG IN SUPPORT OF APPLE INC. AND
AFFIRMANCE IN MOTOROLA, INC.'S CROSS-APPEAL**

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STATEMENT OF INTEREST OF AMICI CURIAE¹

Amici curiae are professors of law who have studied patent and competition policy for years, and in many cases decades. Collectively, amici have published more than one hundred scholarly articles, casebooks, treatises, and book chapters on the subjects of standards, competition policy, patent remedies, patent licensing, and intellectual property policy. Amici provide these views as teachers and scholars of antitrust, intellectual property, and remedies, and as former Chief Counsel on Patents and Trademarks for the United States House of Representatives Committee on the Judiciary. Amici submit this brief in support of the district court's correct conclusions regarding the impact of a commitment to license a standard-essential patent on reasonable and non-discriminatory terms on the availability of injunctive relief and the proper measure of damages.

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¹ Pursuant to Federal Rule of Appellate Procedure 29(c)(5), counsel for amici curiae represent that no party's counsel authored the brief in whole or in part and that no person or entity, other than amici or their counsel, contributed money to the preparation or submission of this brief. Pursuant to Federal Rule of Appellate Procedure 29(a) and Federal Circuit Rule 29(c), all parties have consented to the filing of this amicus brief.

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² This brief has been joined by an individual affiliated with New York University School of Law, but does not purport to present the school's institutional views, if any.

SUMMARY OF ARGUMENT

Standards create value by facilitating interoperability and enabling competition in complementary products, but standards also increase the vulnerability of implementers to exploitative demands for licenses and royalties. Patent holders may attempt to take advantage of specific investments and switching costs to demand royalties greater than could have been obtained before the adoption of their technologies and the implementation of the standard. As amici have found, such conduct is particularly onerous where a patent is but a small part of a multi-component standard or device. This phenomenon, known as patent holdup, threatens to undermine valuable standard-setting efforts and fracture the relationship between the value of a patented invention and the royalty it commands. To combat patent holdup, standard-setting organizations generally require that participating owners of patented technology provide an ex ante commitment to license that technology to all comers on reasonable and non-discriminatory (“RAND”) terms.

That commitment must affect the scope of appropriate infringement remedies. In particular, under ordinary principles of injunctive relief, RAND-encumbered patents often should be denied injunctive relief.

Moreover, amici’s research shows that reasonable royalties for RAND-encumbered patents should be limited to the incremental value of the patented

technology over its next best alternative. That assessment should be calculated based on the patent's value *before* incorporation in a standard, and it should be apportioned based on the smallest salable unit, or less. Any other result rewards patent holdup and disaggregates a patent's value from its damages remedy for infringement.

ARGUMENT

PATENT HOLDUP IS A SERIOUS AND SIGNIFICANT RISK TO BENEFICIAL STANDARD-SETTING EFFORTS, AND RAND COMMITMENTS ON STANDARD-ESSENTIAL PATENTS SHAPE APPROPRIATE INFRINGEMENT REMEDIES

Amici, as scholars of intellectual property and competition law, have extensively examined the effect of patent infringement actions, as well as the threat of such actions, in the standard-setting context. This brief outlines amici's research, analysis, and conclusions on this issue, which are directly applicable to the case before this Court.

A. Patent Holdup Undermines Pro-Competitive Standard-Setting Efforts

Standard-setting organizations work to ensure that products and devices work efficiently in tandem. *See* Daniel G. Swanson & William J. Baumol, *Reasonable and Nondiscriminatory (RAND) Royalties, Standards Selection, and Control of Market Power*, 73 *Antitrust L.J.* 1, 3 (2005). Standards vary greatly in their complexity. Standard-setting is particularly common, and particularly

(N.D. Ill. 2012). But Motorola's patent is not the only patent that has been declared essential to this standard. In fact, patent owners have declared more than 1600 unique patent families essential to this standard. See K. Blind et al., *Study on the Interplay Between Standards and Intellectual Property Rights (IPRs)* 36 (2011). Similarly, Motorola declared that its U.S. Patent No. 6,359,898 is essential to the General Packet Radio Service project, which is a part of the GSM standard. See *id.* at 129. But more than 750 unique patent families also have been declared essential to the GSM standard. See *id.* at 36. Notably, while Motorola (like many patent holders) has declared its patents to be standard-essential, that does not make it so. *Apple*, 869 F. Supp. 2d at 912 (“The European Telecommunications Standards Institute collects declarations by companies that claim to own patents essential to compliance with the UMTS standard, but the Institute does not determine whether they really are essential.”).

Amici have found that having a declared-essential patent can be of tremendous value to a patent holder. Broadly-adopted standards, like the cellular standards to which Motorola's patents belong, will be implemented in thousands of products and sold to hundreds of millions of consumers. See *Wireless Quick Facts*, CTIA, http://www.ctia.org/consumer_info/index.cfm/AID/10323 (last visited Mar. 18, 2013) (reporting 321.7 million “Wireless Subscriber Connections” as of June 2012). Thus, incorporation in the standard can yield large royalty streams.

Conversely, failure to be included in a standard can relegate a competing technology to irrelevance.

Patent holders are well aware of the value that can flow from incorporation of their patented technology in a standard, and the risk of obsolescence if their patent is not. “Before the standard is chosen, patent holders may compete to have a technology that their patents cover chosen as the standard.” Antitrust Modernization Comm’n, *Report and Recommendations* 119 (2007). Indeed, academic literature demonstrates through empirical research that there is a strong correlation between intellectual property ownership and participation in standard-setting meetings. See Neil Gandall et al., *Intellectual Property and Standardization Committee Participation in the US Modem Industry*, in *Standards and Public Policy* 208, 224-227 (Shane Greenstein & Victor Stango eds., 2007).⁴ At a minimum, this suggests that patent holders, through their participation, steer standard-setting organizations to adopt technologies covered by their patents or patent applications.

Once a standard has been chosen, academic research shows that owners of patents with claims covering technology incorporated in the standard often attempt

⁴ See also Rudi Bekkers & Joel West, *The Limits to IPR Standardization Policies as Evidenced by Strategic Patenting in UMTS*, 33 *Telecomm. Pol’y* 80, 83-91 (2009) (using multiple empirical measures to demonstrate strategic patenting with respect to UMTS 3G mobile telephone standard).

to exercise their newfound market power—and seek to extract rents from those that implement the standard in the form of higher royalties. This is possible because standard setting brings about a “fundamental transformation” in the patents that are incorporated in a standard. Joseph Farrell et al., *Standard Setting, Patents, and Hold-Up*, 74 *Antitrust L.J.* 603, 607 (2007) (quoting Oliver Williamson, *The Economic Institutions of Capitalism* 61-63 (1985)). “Ex ante, before an industry standard is chosen, there are various attractive technologies, but ex post, after industry participants choose a standard and take steps to implement it, alternative technologies become less attractive.” Farrell et al., *supra*, at 607. In other words, after implementers have taken steps to produce standard-compliant products, patent holders are able to take advantage of specific investments and switching costs to demand royalties higher than could have been obtained prior to adoption of the particular technology and implementation of the standard. *See, e.g.*, Farrell et al., *supra*, at 619-621; Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 *Tex. L. Rev.* 1991, 1995-2008 (2007); Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 *J. Corp. L.* 1151, 1153-1154 (2009) (defining patent holdup).

This phenomenon, known as patent holdup, has become increasingly pervasive. *See* Farrell et al., *supra*, at 603-604; Lemley & Shapiro, *supra*, at 1991. “In recent years, influential scholars, practicing lawyers, government officials,

government commissions, enforcement agencies, and courts have all identified the phenomenon of ‘patent holdup’ as a serious problem that may require various reforms to both patent and antitrust law.” Cotter, *supra*, at 1151-1152 (footnotes omitted).⁵

Moreover, implementers cannot, by definition, design around standard-essential patents without sacrificing compliance with the standard. Disabling even a single feature to avoid infringement may greatly detract from the value of a product by making it inoperable for its intended purpose. *See* Colleen V. Chien & Mark A. Lemley, *Patent Holdup, The ITC, and the Public Interest*, 98 Cornell L. Rev. 1, 6 & n.24 (2012) (describing a suit against a variety of companies on patents directed to Wi-Fi standards and observing that “[i]f a wireless router doesn’t comply with this standard, it can’t provide wireless services”); Robert P. Merges & Jeffrey M. Kuhn, *An Estoppel Doctrine for Patented Standards*, 97 Calif. L. Rev. 1, 6 (2009) (“If everyone else uses a particular standard, unilaterally

⁵ *See also* Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. Rev. 63, 80 (2004) (discussing holdup in the context of “submarine” patents—patents whose issuance have been delayed purposefully, and which thereby “permit patentees to hold-up [implementers] who have made investments in plant capacity, and upset the settled expectations of manufacturers in a variety of industries”).

switching becomes cost prohibitive.”).⁶ These concerns, which have been the subject of substantial academic research, directly apply to the present case. As the district court observed, Motorola asserts a patent “that it contends Apple *must* use if it wants to make a cell phone with UMTS telecommunications capability—without which it would not be a cell *phone*.” *Apple*, 869 F. Supp. 2d at 914.

This feature makes standard-essential patents fundamentally different from non-standard-essential patents. For non-standard-essential patents, if a patent covers only a minor feature of a complex device, an implementer often can design around it without sacrificing key functionality. Designing around a patent thus enables exit from unfavorable licensing negotiations. But for standard-essential patents, a design around is a largely unavailable option, as non-compliance with a standard may render a device inoperable. Although the ability to design around a patent outside the standard-essential context may not entirely eliminate the threat of patent holdup, it provides a valuable check on the bargaining power wielded by a patent holder seeking injunctive relief or exorbitant royalties. This check is

⁶ With regard to the impact of network effects on switching costs, *see, e.g.*, Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, J. Econ. Persp., Spring 1994, at 93; Joseph Farrell & Garth Saloner, *Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation*, 76 Am. Econ. Rev. 940 (1986); Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 Am. Econ. Rev. 424 (1985); Joseph Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. Econ. 70 (1985).

much weaker—or non-existent—when the asserted patents are standard-essential. Farrell et al., *supra*, at 607-608.

The costs of patent holdup to competition and consumer welfare are exacerbated where, as here, the holder of an asserted standard-essential patent seeks injunctive relief and the patents at issue claim but small components of a multi-feature product. *See, e.g.*, Chien & Lemley, *supra*, at 24-25; Farrell et al., *supra*, at 638; Lemley & Shapiro, *supra*, at 1992-1993; Carl Shapiro, *Injunctions, Hold-Up, and Patent Royalties*, 12 Am. L. & Econ. Rev. 280, 286-297 (2010) (demonstrating mathematically that holdup is greater in these circumstances); Swanson & Baumol, *supra*, at 4-5. “Eliminating a big product from the market because of a small patent harms consumers, and blocking a large number of lawful components and features from the market along with the infringing one distorts competition.” Chien & Lemley, *supra*, at 6.

As set forth above, modern standards often incorporate hundreds or thousands of patented inventions, many of which are standard-essential. This situation—a so-called “patent thicket”—gives owners of standard-essential patents undue bargaining leverage, as each patent “can be used to attempt to block others from providing products that meet the adopted standard.” Swanson & Baumol,

Mindful of the significant holdup risk that patentees may acquire through standard selection, standard-setting organizations often require intellectual property holders to disclose their patent rights and to commit in advance to license their standard-essential patents to all comers on RAND terms. These commitments recognize that open, reasonable, and non-discriminatory licensing is a necessary quid pro quo for the inclusion of patented technology in a standard, as a standard cannot be widely implemented if the necessary technology is inaccessible. One study found that, of 36 standard-setting organizations with intellectual property policies, 29 required licensing on RAND terms, 6 required outright assignment or royalty-free licensing, and 3 requested but did not require RAND licensing. Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 Calif. L. Rev. 1889, 1906 (2002). Moreover, 24 of these organizations also required, expressly or impliedly, that “members disclose IP rights of which they are aware,” although precisely what must be searched and disclosed varied widely by organization. *Id.* at 1904. Consistent with these policies, the patents Motorola asserts in this suit are ones that Motorola has declared to be standard-essential—and ones that Motorola has committed to license on RAND terms.

B. Injunctions Ordinarily Should Not Be Available To Holders Of RAND-Encumbered Standard-Essential Patents

The negative effects of patent holdup have significant impact on the nature and range of appropriate remedies where RAND-encumbered standard-essential

patents are infringed. Most prominently, injunctive relief is often inappropriate where a patentee holds standard-essential patents subject to RAND commitments. *Apple*, 869 F. Supp. 2d at 914.

In amici's view, the threat of injunctive relief for RAND-encumbered patents generally undermines the viability of valuable standard-setting activity. Indeed, Motorola's appeal in this case underscores the tenuous force of a patent holder's RAND commitments. Here, Motorola has continued to press for injunctive relief in this litigation, despite agreeing with the Federal Trade Commission to suspend its pursuit of such relief with respect to its declared-essential patents. *See* Press Release, Fed. Trade Comm'n, *Google Agrees To Change Its Business Practices To Resolve FTC Competition Concerns In the Markets for Devices Like Smart Phones, Games and Tablets, and in Online Search* (Jan. 3, 2013), <http://ftc.gov/opa/2013/01/google.shtm>.

It is no answer to say, as Motorola has, that without the threat of an injunction, "it will not be able to extract a reasonable royalty from Apple." *Apple*, 869 F. Supp. 2d at 915. Patent owners may have legitimate concerns that, absent the threat of an injunction, infringers will reject reasonable licensing offers. But in addition to injunctive relief, courts have other, more measured tools with which to address inappropriate recalcitrance on the part of alleged infringers, including attorneys' fee sanctions or enhanced damages under certain circumstances. *See*

Joseph Scott Miller, *Standard Setting, Patents, and Access Lock-In: RAND Licensing and the Theory of the Firm*, 40 Ind. L. Rev. 351, 390 (2007) (observing that a court “could readily use” the Patent Act’s fee-shifting provision, 35 U.S.C. § 285, “to shift fees in a patentee’s favor in cases where the reasonable license terms the court sets are not materially different from those the patentee had been willing to accept before the litigation”); Michael G. Cowie & Joseph P. Lavelle, *Patents Covering Industry Standards: The Risks to Enforceability Due to Conduct Before Standard-Setting Organizations*, 30 AIPLA Q.J. 95, 149 (2002) (“A court could find that ... the defendant who refuses to accept a reasonable offer and forces the patentee to litigate is liable for the patent holder’s attorneys’ fees under Section 285.”).

This is not to say that injunctive relief is never appropriate—but the circumstances where it will be are few. For example, injunctive relief could be appropriate if damages relief is unavailable for jurisdictional or other reasons. *See, e.g., Michel, supra*, at 909. Injunctive relief also could be appropriate in certain egregious circumstances, such as where a putative licensee has flatly refused to negotiate terms. In such instances, the putative licensee, not the patentee, acts to extract rents to which it is not fairly entitled. This approach—generally disallowing injunctive relief where RAND-encumbered declared-essential patents are at issue, while acknowledging that certain extraordinary circumstances may

compel a different result—is consistent with that advocated by the U.S. Department of Justice and the U.S. Patent and Trademark Office. *See* U.S. Dep’t of Justice & U.S. Patent & Trademark Office, *Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments*, at 7-8 (Jan. 8, 2013).

A straightforward application of the ordinary standard for injunctive relief makes plain that injunctive relief is inappropriate in most instances for RAND-encumbered declared-essential patents. As *eBay* explained, injunctions in patent suits are to be judged by the same standards that apply in other contexts. *eBay*, 547 U.S. at 391. Thus, a patent-holder must demonstrate: “(1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.” *Id.* Each of these factors often weighs against injunctive relief where RAND-encumbered standard-essential patents are at issue.

First, amici believe that a patentee who has committed to license its patent *to all comers* cannot, absent egregious conduct by the putative licensee, demonstrate that it has suffered an irreparable injury or one for which money damages would be inadequate. The promise to license to all comers on reasonable

and non-discriminatory terms, by its very nature, assures that a reasonable royalty is sufficient to remedy any injury occasioned by infringement. As the district court observed, Motorola's commitment to license its patent on RAND terms "implicitly acknowledged that a royalty is adequate compensation for a license to use that patent." *Apple*, 869 F. Supp. 2d at 914. The Federal Trade Commission similarly has concluded that "[a] prior RAND commitment can provide strong evidence that denial of the injunction ... will not irreparably harm the patentee." Fed. Trade Comm'n, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition* 235 (2011) [hereinafter 2011 FTC Report] (footnotes omitted). And this Court has held that a practice of licensing weighs against a finding of irreparable harm. *See, e.g., ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.*, 694 F. 3d 1312, 1339 (Fed. Cir. 2012) ("In light of the record evidence including ActiveVideo's past licensing of this technology and its pursuit of Verizon as a licensee, no fact finder could reasonably conclude that ActiveVideo would be irreparably harmed by the payment of a royalty (a licensing fee)."); *Acumed LLC v. Stryker Corp.*, 551 F.3d 1323, 1328 (Fed. Cir. 2008) (observing that "the fact that a patentee has previously chosen to license the patent may indicate that a reasonable royalty does compensate for an infringement").

Second, the balance of hardships between a patentee and a standards-implementer ordinarily tips decidedly in favor of the implementer where a RAND-

encumbered standard-essential patent is at issue. As set forth above, companies implementing standards count on the availability of standard-essential technology to make significant investments. These companies typically become “locked in” to the standard, meaning that a significant portion of their investments would be rendered uneconomic if they were blocked from producing standard-complaint products. Moreover, where the asserted patent is essential to compliance with the standard, switching to an alternative technology or designing around a patented invention renders a product non-compliant, which drastically undermines the product’s usefulness to consumers. *See* Farrell et al., *supra*, at 616. These costs far outweigh the hardship imposed on a patent-holder whose commitment to license its standard-essential patent on RAND terms is enforced through imposition of a reasonable royalty, rather than through an injunction.

Third, the public interest usually weighs strongly against awarding injunctive relief against infringement of RAND-encumbered standard-essential patents. Amici have found that standards, and the investments they spur, promote competition and consumer welfare. Standards facilitate network effects—the more devices that implement a standard, the more valuable each such device becomes because the network of which it is a part grows larger. Moreover, open standards enable greater competition in interoperable products and services. Without functioning standards, conversely, the Internet would not work, phones would be

injunction may be “employed simply for undue leverage in negotiations”); Farrell et al., *supra*, at 638. Allowing holders of standard-essential patents routinely to obtain injunctions would give a RAND licensing commitment an implicit “unless we don’t feel like it” clause that would undermine that commitment.

Holding a patentee to its RAND commitment is no injustice.

C. Reasonable Royalties Should Be Calculated On The Incremental Value Of The Patented Technology Over The Next Best Alternative Before Its Incorporation In A Standard

Amici also have found that holdup risks and RAND commitments shape the appropriate measure of damages in setting reasonable royalties. Specifically, amici’s research supports the district court’s analysis pegging a reasonable royalty to “the value of the patent qua patent” or “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.

The Patent Act provides that a patentee is entitled to “damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer.” 35 U.S.C. § 284. Such damages must be calculated based on a patent’s value prior to incorporation in a standard in order to capture the value of the patented technology itself, rather than its post-standard holdup value. Moreover, in assessing a patent’s ex ante value, it is critical that the royalty base be apportioned based on the smallest salable unit—or even a

subset of that value in the case of a multi-component unit. This Court has recognized as much, and it should adhere to that apportionment rule in this instance.

1. Damages Should Be Calculated Based On A Patent's Value Prior To Incorporation In A Standard

Even absent the threat of an injunction, a patentee may exploit the fact of high switching costs or the impossibility of designing a non-infringing standard-compliant product to extract more surplus than its fair share.

The widely held view is that this fair share—a reasonable and non-discriminatory royalty rate—“must be defined and implemented by reference to ex ante competition, i.e., competition in advance of standard selection.” Swanson & Baumol, *supra*, at 10-11. As amici explained fifteen years ago, “Reasonable *should* mean the royalties that the patent holder could obtain in open, up-front competition with other technologies, not the royalties that the patent holder can extract once other participants are effectively locked in to use technology covered by the patent.” Carl Shapiro & Hal R. Varian, *Information Rules: A Strategic Guide to the Network Economy* 241 (1999); *see also* Mark R. Patterson, *Inventions, Industry Standards, and Intellectual Property*, 17 Berkeley Tech. L.J. 1043, 1048-1049 (2002). Economists have broadly embraced this view. *See, e.g.*, Swanson & Baumol, *supra*, at 11 (“Economists have readily embraced this approach.”); Farrell et al., *supra*, at 659 (describing as “the consensus view among economists that

FRAND should be based on ex ante technology competition”). So too have antitrust scholars. *See, e.g.,* Cotter, *supra*, at 1182 (a reasonable royalty “replicates the result the parties themselves would have negotiated ex ante in a world without holdup risk”); Farrell et al., *supra*, at 642 (“[T]he fair and reasonable prong of FRAND captures the royalties that the patent holder(s) could have negotiated ex ante given the alternatives available to the [standard-setting organization].”); Michel, *supra*, at 896 (“[A] compensatory damage award that puts the patentee in the position it would have been but for the infringement will be based on the amount a licensee would have paid ex ante, when designing its product.”). And the government shares this view as well. *See* 2011 FTC Report, *supra*, at 194 (“Courts should cap the royalty at the incremental value of the patented technology over alternatives available at the time the standard was defined.”).⁸

The principle that damages must be calculated based on ex ante comparison with the next best alternative accords with common sense. Prior to inclusion in a standard, the maximum price that a licensee will pay to use a particular patented

⁸ *See also* Jorge L. Contreras, *Rethinking RAND: SDO-Based Approaches to Patent Licensing Commitments*, ITU Patent Roundtable 10 (2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2159749 (“One of the leading theories posits that the “reasonable” rate is the one that the vendor and the patent holder would have negotiated in an arm’s length negotiation prior to adoption of the standard (i.e., before the patent holder gained additional leverage due to the hold-up potential of the patent).”).

Co., this Court explained that the “economic relationship between the patented method and non-infringing alternative methods, of necessity, would limit” the reasonable royalty. *Riles v. Shell Exploration & Prod. Co.*, 298 F.3d 1302, 1312 (Fed. Cir. 2002). Similarly, in *Grain Processing Corp. v. American Maize-Products*, this Court stated that the difference in production costs between infringing and non-infringing products “effectively capped the reasonable royalty award.” *Grain Processing Corp. v. American Maize-Products Co.*, 185 F.3d 1341, 1347 (Fed. Cir. 1999).

In sum, a patentee like Motorola who has committed to licensing its patents on RAND terms may not extract royalties at a rate greater than the ex ante value of its patents over their next best alternatives. Patentees who provide RAND commitments undertake that promise in order to secure inclusion in a standard. It is illogical to suggest that a RAND-compliant royalty rate should then reflect the patent holdup premium with which a patent is endowed once it is standard-essential. Royalty rates reflecting such premiums award patentees much more than “compensat[ion] for the infringement,” 35 U.S.C. § 284, and they do so to the detriment of innovation, standards-implementation, and competition.

2. *Damages Should Be Apportioned Based On The Smallest Salable Unit, Or Less*

There is a second crucial aspect in determining a reasonable royalty: selecting the appropriate royalty base. “Damage awards give correct incentives for

R&D if they correspond to the incremental value added by innovations that result from R&D effort.” Richard J. Gilbert, *Ties That Bind: Policies To Promote (Good) Patent Pools*, 77 Antitrust L.J. 1, 40 (2010). Where, as here, the asserted patents are simply small parts of a complex and multi-component system, damages cannot be based on the entire market value of the product at issue. Rather, the royalty must be apportioned “to account for the value contributed by” the patents at issue. *Id.*; see also Mark A. Lemley, *Ten Things To Do About Patent Holdup of Standards (and One Not To)*, 48 B.C. L. Rev. 149, 152-153 (2007) (observing that royalty rates often are, but should not be, “substantially greater than the actual inventive contribution of the particular patent”).⁹

Calculating a royalty based on the value of an entire device containing a patented component risks substantially overcompensating a patentee because the value added by the patented component is but a small part of the total value of the device. Indeed, damages based on the entire market value of a device violates RAND’s requirement that royalties be “non-discriminatory.” A device’s market price often reflects not only the value of the standards it incorporates, but also the

⁹ Cf. Thomas F. Cotter, *Four Principles for Calculating Reasonable Royalties in Patent Infringement Litigation*, 27 Santa Clara Computer & High Tech. L.J. 725, 751-752 (2011) (arguing that, unless the evidence is clear that the parties themselves would have used the entire market value as the royalty base, courts should not use that value in calculating a reasonable royalty).

device's innovations above and beyond those standards to create a better product or user experience. Such innovative products are likely to command high market prices—which under an entire market value rubric would require innovative implementers to pay higher royalties than bargain-basement implementers, even though that higher price is in no way related to a standard-essential patent. *See* Mark R. Patterson, *When is Property Intellectual?: The Leveraging Problem*, 73 S. Cal. L. Rev. 1133, 1135 (2000) (critiquing discrimination in patent licensing).

Conversely, calculating a royalty based on the value of the infringing component alone better captures the precise value added by the inclusion of the patented invention in the standard or device. Apportionment, focusing on the smallest salable unit enables calculation of a royalty based on an invention's value, rather than the value of components for which an inventor can take no credit. Indeed, further apportionment beyond the smallest salable unit may be necessary, where that unit includes functions and features beyond the patented invention. In such instances, a royalty fixed to the smallest salable unit still might yield overcompensation for the standard-essential patent at issue. *See* Brian J. Love, *Patentee Overcompensation and the Entire Market Value Rule*, 60 Stan. L. Rev. 264 (2007) (criticizing the entire market value rubric and recommending apportionment).

Apportionment of this sort is not a new concept, and it is one this Court already has adopted. In *LaserDynamics, Inc. v. Quanta Computer, Inc.*, this Court explained that, “[w]here 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). “Thus, it is generally required that royalties be based not on the entire product, but instead on the ‘smallest salable patent-practicing unit.’” *Id.* (quoting *Cornell Univ. v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279, 283 (N.D.N.Y. 2009)). Indeed, this Court has flatly rejected the use of the entire market value of accused products where the patent-in-suit is but a minor component: “The Supreme Court and this court’s precedents do not allow consideration of the entire market value of accused products for minor patent improvements simply by asserting a low enough royalty rate.” *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1320 (Fed. Cir. 2011).

Assessing a reasonable royalty based on the smallest salable unit—or a portion thereof where even that unit is compound or multi-patented—ensures that whatever damages are awarded comport with the value of the patented invention. This Court’s precedent thus helps to assure that a patent’s legitimate value, and not its capacity for holdup, drives the royalty equation. That is correct.

CONCLUSION

For the foregoing reasons, amici urge this Court to reject a patent holder's attempt—here, Motorola's—to obtain injunctive relief or rents based on the value of the standard now that the patents have been incorporated in that standard. The Court should affirm the judgment of the district court with respect to Motorola's appeal.

Respectfully submitted,

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