Introduction

The High Tech Inventors Alliance (HTIA) welcomes this opportunity to comment on the draft policy statement on remedies for infringement of standards-essential patents that was jointly issued by the United States Patent and Trademark Office (USPTO), the U.S. Department of Justice, Antitrust Division, and the National Institute of Standards and Technology on December 6, 2021.

HTIA represents leading technology providers and includes some of the most innovative companies in the world. HTIA member companies are global leaders in software, ecommerce, cloud computing, artificial intelligence, quantum computing, digital advertising and marketing, streaming, networking and telecommunications hardware, computers, smartphones, and semiconductors. HTIA includes four of the top six software companies in the world, two of the top ten providers of 5G network infrastructure, three of the ten largest tech hardware companies, and three of the ten largest semiconductor companies in the world.

HTIA exists to promote innovation and American jobs through equitable patent policies and a more efficient, effective, and inclusive patent system. HTIA’s member companies are some of the world’s largest funders of research and development, collectively investing more than $146 billion in these activities annually. They are also some of the world’s largest patent owners and have collectively been granted nearly 350,000 patents.
The importance of standards

As the December 6, 2021 statement notes, “interoperability standards allow products designed and manufactured by many different firms, including small and medium sized entities, to function together and can fuel the creation and utilization of new and innovative technologies that benefit consumers.”1

It is because of the adoption of such standards that cellular telephones can roam between towers owned by different companies and computers made by different manufacturers can communicate with each other and implement programs developed by others. Absent interoperability standards, technology would become balkanized among its proprietary sources and consumers would be dependent on their original supplier for new features and upgrades.

The use of universal technical standards is thus highly efficient and enhances competition among manufactures, providing enormous benefits to the American economy and consumers. Protecting the ability of domestic industry to develop and use technical standards will be critical to our nation’s ability to compete in key technologies such as fifth generation wireless broadband, artificial intelligence, semiconductors, and quantum computing.

Summary of HTIA’s views

HTIA supports the December 6, 2021 policy statement. The statement restores much-needed balance to United States policy regarding the licensing and enforcement of standard-essential patents. It appropriately acknowledges that antitrust law plays an important role in ensuring that standards are not used to exclude competitors or unreasonably restrain trade and increase prices. And the statement notes that injunctive relief may be available to a standard-essential patent owner only after the parties have had a full and fair opportunity to resolve reasonable disputes about the patent’s validity and infringement and the value of its contribution to the standard. These ground rules are critical to ensuring that industry technical standards can operate as intended to the benefit of consumers.

HTIA also notes a few areas where adherence to the statement’s principles will require adjustments to other aspects of Administration policy. Overall, however, HTIA supports the draft statement and believes that it provides a strong foundation for continued American leadership in important technologies.

HTIA’s comments are particularly directed to questions 2, 3, 5, and 6 that accompany the publication of the Dec. 6, 2021 policy statement in the Federal Register.

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1 Draft revised statement at p. 3.
Answers to Questions 2 and 3: whether the draft statement appropriately addresses standard setting and the role of competition law in preventing abuses of market power.

Antitrust law plays a critical role in policing standard setting

As the December 6, 2021 policy statement acknowledges, “opportunistic conduct by SEP holders to obtain, through the threat of exclusion, higher compensation for SEPs than they would have been able to negotiate prior to standardization, can deter investment in and delay introduction of standardized products, raise prices, and ultimately harm consumers and small businesses.”

The need for antitrust enforcement to prevent anticompetitive abuse of industry standard setting is sufficiently obvious and well established that it is surprising that anyone disputes the point.

As the U.S. Supreme Court noted in *Allied Tube & Conduit Corp. v. Indian Head, Inc.*, because standard-setting organizations “include members having horizontal and vertical business relations” who have “economic incentives to restrain competition,” standard setting has “a serious potential for anticompetitive harm,” and standard-setting organizations “have traditionally been objects of antitrust scrutiny.”

The potential for antitrust injury in standard setting and enforcement is particularly acute when the industry participants who develop a standard also own patents that are essential to the practice of the standard. If such a standard becomes widely adopted, “alternative” technologies often will no longer be commercially viable—consumers will insist on products that are interoperable with those being used by others. Thus if the incumbent standard-setting companies were to enforce their patents by enjoining companies outside their group from implementing the standard, they could effectively eliminate competition from the marketplace.

Indeed, it was precisely to prevent such anticompetitive abuses that courts began requiring that standard-essential patents be licensed on fair, reasonable, and non-discriminatory terms. In addition, the Justice Department—under both Democratic and Republican Administrations—has long recognized that standard setting can “result in exclusionary and collusive practices that . . .

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2 Draft revised statement at p. 4.
5 *Allied Tube*, 486 U.S. at 500.
harm competition and violate the antitrust laws,”7 and that standard setters’ “patent pools can restrict competition” by “disadvantag[ing] competitors in downstream product markets.”8

It is firmly established that antitrust principles play a key role in policing standard setting organizations and their patent licensing practices. It is antitrust law itself that makes it necessary to require that these organizations' standard-essential patents be licensed on reasonable terms.

Answers to questions 5 and 6: what information is relevant to an appropriate remedy for infringement of a standard-essential patent.

Antitrust law and FRAND principles limit resort to injunctive relief

As the December 6, 2021 statement indicates, an injunction should not issue against an implementer of a standard who is willing to take a FRAND license—and “a potential licensee should not be deemed unwilling to take a F/RAND license if it agrees to be bound by an adjudicated rate determined by a neutral decision maker; if it reserves the right to challenge the validity, enforceability, or essentiality of the standards-essential patent in the context of an arbitration or F/RAND determination; or if it reserves the right to challenge the validity or essentiality of a patent after agreeing to a license.”9

HTIA agrees. A patent owner cannot be permitted to obtain an injunction to enforce a patent that reads on a collectively developed technical standard before the parties to the licensing negotiation have an opportunity to resolve reasonable disputes about the patent’s validity, essentiality, and value. Injunctions should be reserved for cases in which the infringer refuses to pay the adjudicated FRAND rate for their infringement. No principle is more fundamental to FRAND licensing and the prevention of anticompetitive harm to consumers.

The purpose of developing a technical standard is to allow products made by different manufacturers to be interoperable and compatible with each other. The entire standard-setting enterprise is thus predicated on the notion that different market competitors will be able to use the standard once it is developed.10 If the participants in the process intended to maintain exclusive rights to their respective technologies, there would be no point in engaging in standard setting in the first place.

Indeed, if the participants in standard setting were allowed to enforce exclusive rights to different essential elements of the standard, that standard could not be used by anyone—each

9 Draft revised statement at p. 9.
10 Herbert Hovenkamp, FRAND and Antitrust, 105 Cornell L. Rev. 1683, 1724-25 (2020) (“The purpose of standard setting is to design a standard so that goods can be produced competitively within a shared technology.” A failure to license to competitors on reasonable terms would thus “undermine the entire competitive purpose of the joint venture.”).
participant would be blocked from using it by another patent owner’s injunction. In such a scenario, the standard could not be broadly implemented, and consumers would not be able to enjoy the use of products that are interoperable under the standard. Over the longer term, this would inevitably discourage participation in standard setting and forestall its benefits to the economy and consumers.

In addition, if patent owners could obtain injunctions before disputes about validity and essentiality are resolved, they would effectively be able to compel the payment of royalties for patents that are invalid or that are not infringed by the standard—a clear source of potential antitrust injury to consumers.11

Finally, the threat of an injunction provides a patent owner with enormous coercive negotiating power. It allows the patent owner to leverage a manufacturers’ sunk costs, the elevated cost of switching technologies after a standard has already been implemented, and the disruption to operations and production that the switch would entail12—all of which are unrelated to the patent’s technological contribution to the standard. In the case of a multi-component product, an injunction also allows the patent owner to leverage the thousands of other innovations that may be included in the product, all of which, again, may have nothing to do with the patent. To allow an injunction to issue before reasonable disputes about the patent can be adjudicated would allow patent owners to command licensing fees that are grossly disproportionate to the value of their claimed technology, erasing much of the benefit of standardization to consumers.

A review of the facts surrounding the standard-essential patents that have been declared and asserted in recent years brings these points into relief.

A majority of declared standard-essential patents are not essential or are not valid

Several recent studies have surveyed patents that are declared by their owners to be essential to technical standards. These studies have all reached the same conclusion: a large portion of these patents are not essential to the standard.

In 2019, Professors Lemley and Simcoe published a study that reviewed over 6,000 patents that have been declared essential to standards developed by the main standard-setting organizations.13 The study focused on the subset of the patents that had been litigated to a judgment, and sorted the data between patents that were asserted by non-practicing entities and those asserted by operating companies.14 The result: only 42% of the patents asserted by operating

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11 See MPEG 2 Letter, supra n. 8, at p. 9 (“A starting point for an antitrust analysis of any patent pool is an inquiry into the validity of the patents and their relationship to each other. A licensing scheme premised on invalid or expired intellectual property rights will not withstand antitrust scrutiny.”); 3GPP Letter, supra n. 8, at pp. 9-10 (“Inclusion of invalid, unenforceable or expired patents in the Platform would of course be inappropriate.”).
14 See id. at 617.
companies were ultimately deemed to be standard essential—and only 21% of those asserted by non-practicing entities were standard essential.\textsuperscript{15}

The problem of patent owners over-declaring their patents to be standard-essential appears only to be growing worse, particularly for the most valuable and important technologies. A recent analysis by former Patent Commissioner Bob Stoll, for example, concluded that only 8% of the patents declared to be essential to 5G cellular communications are, in fact, essential to that standard.\textsuperscript{16}

With regard to patent validity, a large portion of all the patents that are asserted in litigation do not satisfy the conditions of patentability. Studies have found that approximately 40% to 45% of patents that are challenged in the Federal courts are ultimately determined to be invalid—even despite the presumption of validity that applies in civil litigation.\textsuperscript{17}

These studies’ conclusions about the invalidity and non-essentiality of asserted patents are consistent with the outcomes of recent court cases: “litigation involving [standard-essential patents] confirms that an overwhelming majority of declared ‘SEPs’ are neither valid nor infringed by products practicing the standard.”\textsuperscript{18} Indeed, the Lemley-Simcoe study found that when non-practicing entities litigate a declared standard-essential patent to a merits judgment, such entities prevail on the merits a mere 6% of the time.\textsuperscript{19}

It is well-established that if a patent owner has market power, the enforcement of a patent that is invalid creates a serious potential for antitrust harm.\textsuperscript{20} And once a technical standard has been widely adopted in an industry, any patent that is essential to the practice of that standard is

\textsuperscript{15} See id. at 627. The Lemley-Simcoe results are consistent with those of other recent studies. See id. at 629 n. 72.
\textsuperscript{16} See Robert L. Stoll, 5G SEP leadership in 2021 (Oct. 3, 2021); see also id. (noting the “increasing commercial, geo-political, and legal incentives for companies to declare as many patents as possible”).
\textsuperscript{17} See John R. Allison, Mark A. Lemley & David L. Schwartz, Our Divided Patent System, 82 U. Chi. L. Rev. 1073, 1099 (2015) (noting that of all patent infringement lawsuits that were filed in 2008 and 2009, “roughly 43.0 percent of patents that went to a final judgment on validity were invalidated”); Mark A. Lemley, Ignoring Patents, 2008 Mich. St. L. Rev. 19, 27 n. 32 (2008) (noting that “[f]orty-six percent of patents litigated to judgment are invalid”) (citing John R. Allison & Mark A. Lemley, Empirical Evidence of the Validity of Litigated Patents, 26 IPLA Q.J. 185, 205 (1998)); Cotter, supra n. 12, at p. 1549 n. 151. These data are consistent with historical trends. See Thomas W. Cole, Why Most Patents Are Invalid, 34 Orthotics and Prosthetics 36 (1980) (noting that “about 60 percent of all the patents sued upon in the federal courts are held invalid, and hence unenforceable”).
\textsuperscript{18} Matthew G. Rose, Jay Jurata & Emily Luken, “The UK High Court of Justice Issues an Injunction Prohibiting an Undertaking from Selling Wireless Telecommunications Products in Britain Due to its Failure to Enter into a Worldwide Patent License (Unwired Planet / Huawei),” Concurrences, No. 84684 (Aug. 2017).
\textsuperscript{19} Lemley, supra n. 13, at 625.
\textsuperscript{20} See Zenith Radio Corp. v.
reasonably likely to confer market power\footnote{See Hovenkamp, \textit{supra} n.10, at 1706 (“Most large SSOs that employ SEPs and dominate their industries have significant power. In [such cases], a properly identified SEP can be presumed to have market power as well.”); see also id. at 1721-22 (“The market shapes itself around the technologies contemplated by SEPs. Indeed, that is the entire point of the SSO.”).}—there typically will be little to no demand for products that are not compatible with the standard.

Allowing enforcement of declared standard-essential patents that are invalid would be virtually guaranteed to result in antitrust harm, and forcing payment for patents that are not actually infringed would unreasonably overcharge consumers. Proper application of the competition and patent laws requires that owners of standard-essential patents be prohibited from obtaining injunctive relief while reasonable disputes over the patents’ validity and infringement remain unresolved.

**Owners of standard-essential patents often demand grossly excessive royalties**

In the cases where standard-essential patents’ value has been litigated to a judgment, patent owners have regularly made initial licensing demands that greatly exceed what is ultimately determined to be a reasonable royalty—sometimes by an order of magnitude.

For example, during the last decade:

- In the \textit{TCL v. Ericsson} case, involving standard-essential patents asserted against the use of 4G wireless communications technology in handsets and tablets, the patent owner initially demanded a 3% royalty rate. The court determined that the FRAND rate was actually 0.45\%.\footnote{See \textit{TCL Commc’n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson}, No. SACV 14–341 JVS (DFMx), 2017 WL 6611635, at *3, *57 (C.D. Cal. Dec. 21, 2017), amended and superseded by \textit{TCL Commc’n Tech. Holdings, Ltd. v. Telefonaktiebolaget LM Ericsson}, 2018 WL 4488286 (C.D. Cal. Sep. 14, 2018), reversed in part and vacated in part by \textit{TCL Commc’n Tech. Holdings Limited v. Telefonaktiebolaget LM Ericsson}, 943 F.3d 1360 (Fed. Cir. 2019).} In other words, the patent owner’s demand was 667\% of the FRAND rate.

- In the \textit{Microsoft v. Motorola} litigation, involving standard-essential patents asserted against the use of video compression and Wi-Fi technology in the Xbox videogame console, the patent owner initially demanded a royalty of $8.50 per unit. The adjudicated FRAND rate was $0.03972 per unit.\footnote{See \textit{Microsoft Corp. v. Motorola, Inc.}, No. C10–1823JLR, 2013 WL 2111217, at *4, *86, *100 (W.D. Wash. Apr. 25, 2013); David J. Teece & Edward F. Sherry, \textit{A Public Policy Evaluation of RAND Decisions in the U.S. Courts}, 1 \textit{Criterion J. on Innovation} 113, 119 n.42 (2016).} The patent owner’s licensing offer thus amounted to a markup of 21,400\%.

- \textit{In re Innovatio} case, involving standard-essential patents claiming the use of Wi-Fi by inventory-control equipment such as bar code scanners, the patent owner demanded a royalty rate of $36.90 per unit. The court determined that the patents made only a minor
contribution to the standard and awarded a rate of $0.0956 per unit. The patent owner’s markup was 38,600% of the FRAND rate.

These examples simply confirm the obvious: patent owners seeking licensing fees will not always be a fair judge of the value of their patents. There is no reason to assume that the pretitigation licensing rates offered by the owners of standard-essential patents will be reasonable.

Yet allowing patent owners to make initial resort to injunctive relief would do just that. It would allow a patent owner to leverage the coercive power of an injunction to compel accession to licensing demands that greatly exceed the value of the patent’s contribution to the standard. In some cases this would undermine the commercial viability of the standard, and in all cases it would unreasonably threaten to increase prices and limit output for consumers.

**A standard’s value nearly always comes from standardization itself, not the patented features**

Even when patents are valid and claim essential parts of a standard, their teachings in many cases are not the principal source of the value of the standard.

A standard-development group often has multiple options to choose from when it is creating a standard, none of which offers any substantial advantage over other options. The principal value of the standard derives from the fact that a standard was selected and that different products are now interoperable, not from the particular options that were chosen for the standard.

Consider the case of grounded electrical outlets. The United States uses the familiar type B plug, which has two parallel flat prongs and one round prong. France and the Czech Republic, however, have adopted the type E standard, in which two round prongs protrude from the plug and a third round prong protrudes from the outlet; Australia and China go with type I plug, which has three flat prongs that are at different angles to each other; and Italy uses the type L plug, which features three round prongs in a line.

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Each of these standards is a reliable and effective means for supplying alternating current to home appliances; none provides a compelling, market-determinative technical advantage over the others. Yet each standard also provides tremendous efficiency and convenience to consumers, who need not maintain different types of outlets in their homes or worry that a newly purchased television, computer, or vacuum cleaner will have the “wrong” plug. The principal value of each of these standards to consumers is standardization itself, not the technical advantages of any particular configuration over its alternatives.

This is true also of many other types of technical standards. Although a standard-setting organization will try to select the most effective and efficient options for a standard, the comparative advantages of the selected options often pale in comparison to the value of simply having a common standard.

Thus even patents that are valid and actually essential to a standard cannot be presumed to be the source of the standard’s value. The features that those patents claim often provide little to no technical benefit to consumers compared to alternatives that could have been adopted when the standard was developed.26

And in some fields, whenever a new standard is promulgated, a swarm of patents will claim every minor feature and step of that standard. The 5G cellular communications standard, for example, is estimated to be subject to over 100,000 declared standard-essential patents and pending applications.27

5G allows much faster and more efficient data transmission than previous standards do, and some of these declared patents make valuable contributions to the new standard. But many of these patents do not. And if every smart phone, automobile, or consumer appliance that uses 5G were required to pay even one penny for every one of these patents, patent licensing fees for each of these devices just for this telecom connectivity (not to mention all the other patented standards that read on the product) would be approximately $1,000 per unit—a figure that is orders of magnitude greater than the value of the underlying technology.

26 There is broad consensus that the proper value of a patent is “the incremental value that the patented invention adds to the product, not any value added by the standardization of that technology,” Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1232 (Fed. Cir. 2014), and that the incremental value must take into account “the quality of the technology and the available alternatives.” Microsoft Corp. v. Motorola, Inc., 795 F.3d 1024, 1040 (Fed. Cir. 2015) (affirming district court instruction); see also Hovenkamp, supra n. 10, at 1692 (“The relevant question is what was the value of the patent’s contribution to the standard at a time when competitive alternatives may have been available, as opposed to a later time when other firms have dedicated themselves to the standard?”); Cotter, supra n. 12, at 1519 & n. 70 (noting “widespread consensus among innovation economists and lawyers . . . that the economic value of a patented technology to an implementer is the (actual or expected) profit or cost saving the implementer derives from the use of the patented technology over the next-best available noninfringing alternative”).

Other areas where reform is needed

Although the December 6, 2021 policy statement provides a sound analysis and conclusions, adherence to its principles requires other changes.

The December 19, 2019 statement should be withdrawn

The joint statement on standard-essential patents that was issued on December 19, 2019 must be withdrawn. Its suggestion that a patent owner’s commitment to license on FRAND terms is merely one factor among many to consider when deciding whether an injunction is appropriate is contrary to judicial precedent, long-standing Justice Department policy, and economic common sense. Justice Department policy should seek to prevent antitrust violations, not enable them.

Owners of standard-essential patents should not be allowed to obtain ITC exclusion orders

An order from the International Trade Commission to exclude patent-infringing goods from entry into the United States is similar in its coercive effect to a district-court injunction. An order to exclude a component that is incorporated into a domestic manufacturer’s product allows the patent owner to leverage the manufacturer’s sunk costs, its elevated switching costs, and disruptions to its operations and production. Just like an injunction, an ITC exclusion order can compel the manufacturer to accede to licensing demands that are far in excess of the value of the claimed technology.

If a patent is standard-essential and has been committed to be licensed on FRAND terms, the patent owner should be prohibited from obtaining an ITC exclusion order for the patent. Such an order is likely to allow the patent owner to abuse its market power and impose anticompetitive costs on consumers.

The appropriate remedy in such cases is for the patent owner to seek a reasonable royalty in district court. Such a royalty can be sought from either the overseas manufacturer or the importer of the infringing goods.

The December 6, 2021 statement properly recognizes that antitrust policy requires clear limits on the use of coercive relief to enforce standard-essential patents. It would be anomalous to address this problem with respect to district courts but to ignore the role of the ITC—particularly given that, unlike in the case of the Article III courts, the President has express statutory authority to curtail ITC exclusion orders for “policy reasons.”

There is no excuse for allowing ITC exclusion orders to inflict anticompetitive harm on American consumers.

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29 See supra n. 12.
31 Id. § 1337(j)(2).
The United States should encourage its trading partners to limit the use of injunctions

The most important technical standards that have been developed by industry groups in recent years are being implemented internationally and globally. Cellular communications protocols such as 5G, local area network standards such as Wi-Fi, and computer connectivity formats such as USB are used by all of the United States’ major trading partners.

American manufacturers export products that implement these standards to these countries, and Americans purchase standards-implementing products and components from them. And unfortunately, some of our major trading partners have begun to retreat from the principles of FRAND licensing. German courts, for example, recently have held that the owner of a standard-essential patent may obtain an injunction against a potential licensee who reserves the right to contest the patent’s validity or whether it is infringed.32

For the same reasons that the United States should bar the use of injunctions when questions about patent validity, essentiality, or value remain unresolved, the United States should encourage foreign nations to restrict the use of injunctive relief. When our trading partners allow patent owners to leverage coercive relief to enforce invalid or noninfringed patents or to obtain excessive royalties, consumers in all parts of the world are injured.

The December 6, 2021 policy statement’s guidelines for the use of injunctive relief should be a cornerstone of the United States’ position in its international trade negotiations.

**Conclusion**

The Dec. 6, 2021 statement adopts the correct approach to the use of injunctions to enforce standard-essential patents. Its recognition that injunctions can cause anticompetitive harm should also inform other aspects of United States policy, including the Administration’s approach to ITC exclusion orders and international trade agreements.

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32 See *Sisvel v. Haier*, no. KZR 36/17, ¶ 96, German Federal Court of Justice (May 5, 2020).