

NOTE

**AN EMPIRICAL ANALYSIS OF PATENT
VALIDITY IN *INTER PARTES* REVIEWS
THROUGH THE LENS OF KSR**

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I. INTRODUCTION

The Supreme Court's landmark 2007 decision in *KSR International Co. v. Teleflex, Inc.*¹ expanded the obviousness inquiry established in 35 U.S.C. § 103,² as interpreted by another landmark Supreme Court case, *Graham v. John Deere*.³ *KSR* was a major milestone in patent law because it had a significant impact on the obviousness inquiry.⁴ But are there measurable differences between the validity of patents examined before *KSR* and patents examined after *KSR*?⁵ Several studies have used case law from the U.S. Court of Appeals for the Federal Circuit as a metric to help answer this question,⁶ but studies looking at the popular *inter partes* review (IPR)⁷ created in 2011 by the America Invents Act (AIA)⁸ are noticeably absent from the literature.⁹

In IPRs, patents examined before *KSR* should survive obviousness challenges less often than patents examined after *KSR* due to the broader interpretation of obviousness laid out in the Supreme Court's decision.¹⁰ This Note tests this hypothesis by analyzing IPR institution decisions and final written

¹ 550 U.S. 398 (2007).

² 35 U.S.C. § 103 (2012).

³ 383 U.S. 1 (1966). *See infra* Part II.A.

⁴ *See* 383 U.S. 1 (1966).

⁵ *See infra* Part III.

⁶ *See, e.g.,* Ali Mojibi, *An Empirical Study of the Effect of KSR v. Teleflex on the Federal Circuit's Patent Validity Jurisprudence*, 20 ALB. L.J. SCI. & TECH. 559 (2010).

⁷ *See* USPTO, TRIAL STATISTICS IPR, PGR, CBM 3 (Nov. 2017), available at https://www.uspto.gov/sites/default/files/documents/trial_statistics_nov2017.pdf [<https://perma.cc/4JFJ-RD5L>] (noting that 7182 IPR petitions were filed through November 30, 2017).

⁸ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) [hereinafter America Invents Act] (codified as amended at 35 U.S.C. §§ 1-390 (2012))

⁹ Brendan Seth O'Brien O'Shea, Note, *What is Obvious: Empirical Assessment of KSR's Impact*, 45 AIPLA Q.J. 517, 532 (2017) ("Because hundreds of thousands of patent applications are submitted to the USPTO every year and hundreds of patents are litigated in the district courts, it is difficult to perform an empirical analysis of any data set of patent law decisions other than those arising from the Federal Circuit.").

¹⁰ *See infra* Part III.

decisions involving over 600 unique patents challenged under § 103.¹¹ The outcomes of these decisions are then correlated with whether the challenged patents were originally examined before or after *KSR*.¹²

On the one hand, the data compiled from institution decisions supports the hypothesis.¹³ On the other hand, the data compiled from final written decisions simply confirms predictable IPR patterns regarding the high likelihood of invalidation after a petition is granted.¹⁴ Both of these data sets provide valuable information for parties in IPRs.¹⁵ At the institution stage, where IPRs are won or lost,¹⁶ petitioners can be more confident in challenging pre-*KSR* patents than post-*KSR* patents.¹⁷ Additionally, both sides in an IPR dispute can rely on this study to more efficiently allocate legal resources and weigh various strategies.¹⁸ Finally, this study provides empirical evidence supporting the conclusion that *KSR* had a significant impact on patent validity rates.¹⁹

Part II lays the foundation for the hypothesis by providing a brief history of obviousness law, an overview of the important judicial decisions interpreting § 103, and a brief overview of IPR proceedings. Part III states the hypothesis. Part IV explains the data gathering process and the methodology chosen to analyze the data. Part V lays out the gathered data. Part VI tests the hypothesis by analyzing the data. Finally, Part VII concludes by tying the data analysis to both the study's practical value and to the debate surrounding *KSR*'s impact.

¹¹ See *infra* Parts IV–VII.

¹² See *infra* Part IV.

¹³ See *infra* Part VI.

¹⁴ See *id.*

¹⁵ See *infra* Part VII.A.

¹⁶ Amy Simpson & Hwa Lee, *PTAB Kill Rates: How IPRs Are Affecting Patents*, LAW360 (Sept. 15, 2015), <http://www.law360.com/articles/699860/ptab-kill-rates-how-iprs-are-affecting-patents> [<https://perma.cc/FD2G-BEWX>] (“The war is won and lost at the institution stage.”).

¹⁷ See *infra* Part VII.A.

¹⁸ See *id.*

¹⁹ See *infra* Part VII.B.

II. BACKGROUND

Before 1952, there were only two statutory requirements for patentability: novelty and utility.²⁰ In other words, an invention had to be “new and useful” in order to be awarded a patent.²¹ But the Supreme Court, and even America’s founders, long articulated ideas for an additional standard for patentability: nonobviousness.²² They envisioned this requirement to exclude from patent protection those inventions drawn to “obvious improvements” of existing technology.²³ The Patent Act of 1952 codified this nonobviousness standard in § 103(a).²⁴ It stated:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art²⁵ are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.²⁶

²⁰ See Patent Act of 1793, ch. 11, [§ 1], 1 Stat. 318 (1793) (repealed 1836); *Graham v. John Deere Co.*, 383 U.S. 1, 3 (1966).

²¹ Patent Act of 1793 § 1.

²² See *Graham*, 383 U.S. at 9–12; *Hotchkiss v. Greenwood*, 52 U.S. 248, 267 (1850).

²³ *Graham*, 383 U.S. at 9 (referring to Thomas Jefferson’s vision, who was the “first administrator of our patent system”).

²⁴ Patent Act of 1952, ch. 950, § 103, 66 Stat. 798 (1952) (codified at 35 U.S.C. § 103 (1970)).

²⁵ What constitutes “prior art” was articulated in § 102 of the 1952 Act as that which was known, used, published, or patented before the invention. See Patent Act of 1952 § 102.

²⁶ *Id.* The modern statute reads: “A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103 (2012).

In the landmark *Graham* decision, the Supreme Court interpreted this provision for the first time and articulated the standard for determining whether an invention is obvious.²⁷

A. THE BASIC OBVIOUSNESS ANALYSIS UNDER GRAHAM AND ITS PROGENY

There were two issues before the Court in *Graham*: (1) what effect the 1952 Act had on traditional patentability tests and (2) what the traditional tests should look like going forward.²⁸ Because nonobviousness was a new statutory concept, the circuits were not reaching uniform conclusions when applying the new provision;²⁹ so the Supreme Court granted certiorari to resolve the circuit split.³⁰ According to the Court in *Graham*, an obviousness determination is a question of law based on the following underlying factual inquiries: (1) determining the scope and content of the prior art, (2) ascertaining the differences between the claimed invention³¹ and the prior art, (3) resolving the level of ordinary skill in the pertinent art, and (4) analyzing objective indicia of nonobviousness such as “commercial success, long felt but unsolved needs, failure of others, etc.”³² During patent examination, patent examiners are the factfinders who answer these inquiries, interpreting the meaning of claim language using the “broadest

²⁷ See *Graham*, 383 U.S. at 17–18.

²⁸ *Id.* at 3.

²⁹ See *id.* at 4. Such lack of circuit uniformity in patent law ultimately led to the creation of the U.S. Court of Appeals for the Federal Circuit. See Emmette F. Hale, III, *The “Arising Under” Jurisdiction of the Federal Circuit: An Opportunity for Uniformity in Patent Law*, 14 FLA. ST. U. L. REV. 229, 229 (1986).

³⁰ See *Graham*, 383 U.S. at 4–5.

³¹ The phrase “claimed invention” refers to “the subject matter defined by a claim in a patent or an application for a patent.” 35 U.S.C. § 100(j). The claims “define the metes and bounds of the patent owner’s exclusive rights during the life of the patent.” ROBERT J. GOLDMAN, *SCHWARTZ’S PATENT LAW AND PRACTICE* 14 (8th ed. 2015).

³² *Graham*, 383 U.S. at 17–18; Manual of Patent Examining Procedure § 2141 (9th ed. Rev. 7, Nov. 2015) [hereinafter MPEP].

reasonable interpretation.”³³ Indeed, “the primary responsibility for sifting out unpatentable material lies in the Patent Office.”³⁴

As the law developed after *Graham*, courts added an additional inquiry to this analysis: the teaching, suggestion, or motivation (TSM) test.³⁵ According to the TSM test, an invention is obvious if there exists “some motivation or suggestion to combine the prior art teachings” from the perspective of a person having ordinary skill in the art.³⁶ This motivation or suggestion can come from “the [prior art] references themselves, but may also be inferred from the nature of the problem or occasionally from the knowledge of those of ordinary skill in the art.”³⁷ Regardless of the source from which the reason is drawn, the factfinder “must provide some rationale, articulation, or reasoned basis” for combining prior art teachings.³⁸

1. KSR Broadened the Graham Analysis

In 2006, for the first time since *Graham*, the Supreme Court granted certiorari in a case that opened the door for the Court to once again address the obviousness standard.³⁹ In *KSR*, the Supreme Court reaffirmed the usefulness of the TSM test.⁴⁰ But the Court went further and stated that, in addition to the TSM test, factfinders can rely on any one of a number of rationales when concluding

³³ See, e.g., *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005); *MPEP*, *supra* note 32, § 2111 (citing *In re Cortright*, 165 F.3d 1353, 1359 (Fed. Cir. 1999) (defining the broadest reasonable interpretation of a term as that which is consistent with the ordinary and customary meaning, consistent with the use of the term in the specification and drawings, and consistent with the interpretation that those skilled in the art would reach).

³⁴ *Graham*, 383 U.S. at 18.

³⁵ See, e.g., *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1323–24 (Fed. Cir. 1999) (citing *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)); *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472 (Fed. Cir. 1997).

³⁶ *Al-Site*, 174 F.3d at 1323–24.

³⁷ *Id.* at 1324.

³⁸ *In re Kahn*, 441 F.3d 977, 987 (Fed. Cir. 2006).

³⁹ E.g., Joanne Kwan, *A Nail in the Coffin for Gene Patents*, 25 BERKELEY TECH. L.J. 9, 9 (2010).

⁴⁰ See *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007).

that an invention is obvious.⁴¹ The U.S. Patent and Trademark Office (PTO) consolidated the rationales set forth in *KSR* into an unexhaustive list:

- (1) Combining prior art elements according to known methods to yield predictable results;
- (2) Simple substitution of one known element for another to obtain predictable results;
- (3) Use of [a] known technique to improve similar devices (methods, or products) in the same way;
- (4) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- (5) “Obvious to try” – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- (6) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art.⁴²

In *KSR*, the Court stated that the obviousness inquiry was not limited to rigid and formulaic rules; rather, the inquiry called for “an expansive and flexible approach.”⁴³ An inflexible approach would be, according to the Court, “inconsistent with [35 U.S.C.] § 103 and our precedents.”⁴⁴ More importantly, the Court’s overall aim in *KSR* was to reaffirm the *breadth* of the *Graham* analysis.⁴⁵

This flexible approach is most evident by the Court’s discussion of the lower court’s⁴⁶ obviousness analysis of the patent at issue.⁴⁷ In rejecting the Federal Circuit’s obviousness analysis, the Supreme Court stated that not only should courts and examiners look to the problem the patentee was trying to solve, but

⁴¹ See *KSR*, 550 U.S. at 415–21.

⁴² MPEP, *supra* note 32, § 2141.

⁴³ *KSR*, 550 U.S. at 421.

⁴⁴ *Id.* at 428.

⁴⁵ *Id.* at 415 (“*Graham* set forth a broad inquiry[.]”).

⁴⁶ *Teleflex, Inc. v. KSR Int’l Co.*, 119 F. App’x 282 (Fed. Cir. 2005).

⁴⁷ See *KSR*, 550 U.S. at 419–22 (2007).

also to *any other problem* addressed by the patent's subject matter.⁴⁸ The Supreme Court reasoned that in the process of innovating, there are often design needs or market pressures that lead inventors to exhaust all known options for solving a particular problem.⁴⁹ Therefore, a combination of prior art teachings may be obvious because the combination was "obvious to try."⁵⁰ Expansive language like this evidenced the Court's intention to broaden the obviousness inquiry.⁵¹

2. *The Debate Over KSR's Impact*

After *KSR*, the PTO has recognized the breadth of the *KSR* decision in its Manual for Patent Examining Procedure (MPEP).⁵² The substance of examination guidelines after *KSR* first appeared in the MPEP in September 2007.⁵³ A Federal Register Notice was then published on October 10, 2007, providing examiners with additional guidance consistent with the decision.⁵⁴ Examiners then received

⁴⁸ *Id.* at 420.

⁴⁹ *Id.* at 421.

⁵⁰ *Id.*

⁵¹ See, e.g., Andrew V. Trask, Note, "Obvious to Try": A Proper Patentability Standard in the Pharmaceutical Arts?, 76 FORDHAM L. REV. 2625, 2634–36 (2008).

⁵² See MPEP, *supra* note 32, § 2141 ("The *KSR* decision reinforced earlier decisions that validated a more flexible approach to providing reasons for obviousness.").

⁵³ See MPEP, *supra* note 32, § 2141 (8th ed. Rev. 6, Sept. 2007).

⁵⁴ See Guidelines for Determining Obviousness Under 35 U.S.C. § 103, 72 Fed. Reg. 57,526 (Oct. 10, 2007).

extensive KSR-related training.⁵⁵ As late as May 8, 2008, examiners were still receiving such training.⁵⁶

In its guidance, the PTO cited with approval the following language from the KSR decision: "There must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."⁵⁷ Some commentators speculated that this language placed a higher burden on patent examiners because it meant examiners must *explicitly* state their reason(s) for obviousness.⁵⁸ Others believed that such language expanded the obviousness inquiry and gave factfinders more options in finding inventions obvious.⁵⁹

The author belongs to the latter school of thought. Rather than being confined solely to the TSM test, all the factfinder is required to do under KSR is provide "some articulated reasoning with some rational underpinning"⁶⁰ and explicitly state this reasoning.⁶¹ But this reasoning must merely be accompanied by "some rational underpinning."⁶² On its face, this is a low threshold. Further,

⁵⁵ See e.g., USPTO, TC 3700 GUIDANCE IN APPLYING KSR: EXAMPLES (Oct. 2007), available at https://www.uspto.gov/sites/default/files/web/offices/pac/dapp/opla/ksr/ksr_3700_slideset.pdf [https://perma.cc/MV23-ERZL]; USPTO, TRAINING UPDATE FOR DETERMINING OBVIOUSNESS UNDER 35 U.S.C. § 103 AFTER THE SUPREME COURT DECISION IN *KSR INTERNATIONAL CO. v. TELEFLEX INC.*, 550 U.S., 82 USPQ2D 1385 (2007), available at https://www.uspto.gov/sites/default/files/web/offices/pac/dapp/opla/ksr/ksr_103_training_corps.ppt [https://perma.cc/X3NN-N8RF].

⁵⁶ See USPTO, KSR FOLLOW-UP TRAINING (May 8, 2008), available at https://www.uspto.gov/sites/default/files/web/offices/pac/dapp/opla/ksr/ksr_2100_slideset.pdf [https://perma.cc/VA4T-KL9K].

⁵⁷ MPEP, *supra* note 32, § 2141 (quoting *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006))).

⁵⁸ See, e.g., D. Christopher Ohly et al., *It is Not So Obvious: The Impact of KSR on Patent Prosecution, Licensing, and Litigation*, 36 AIPLA Q.J. 267, 284 (2008).

⁵⁹ See, e.g., Charles R. Macedo et al., *KSR v. Teleflex: Redefining the Obvious*, LAW360 (May 3, 2007, 12:00 AM), <https://www.law360.com/articles/24032/ksr-v-teleflex-redefining-the-obvious> [https://perma.cc/P5CA-EZGA].

⁶⁰ MPEP, *supra* note 32, § 2141 (emphasis added) (quoting *KSR*, 550 U.S. at 418).

⁶¹ See Ohly et al., *supra* note 58, at 284.

⁶² MPEP, *supra* note 32, § 2141 (quoting *KSR*, 550 U.S. at 418).

KSR did not change the Administrative Procedure Act (APA)⁶³ requirements governing patent examiners. Because patent prosecution is an adjudication as defined by the APA,⁶⁴ agency factfinders such as patent examiners must provide substantial evidence on the record to support the decisions they make.⁶⁵

After KSR, a debate quickly emerged about the case's impact on patent validity rates.⁶⁶ One group of commentators speculated that little would change.⁶⁷ They argued that KSR was limited to the facts of the case.⁶⁸ Additionally, they reasoned that the Supreme Court's reaffirmation of the TSM test would lead to the test continuing to be applied without resorting to the additional obviousness rationales articulated in the decision.⁶⁹ A different group of commentators predicted that the breadth of the decision would lead to higher rates of patents

⁶³ Administrative Procedure Act, Pub. L. No. 79-404, 60 Stat. 237 (1946).

⁶⁴ KRISTEN E. HICKMAN & RICHARD J. PIERCE, JR., *FEDERAL ADMINISTRATIVE LAW CASES AND MATERIALS* 277 (2d ed. 2014).

⁶⁵ See 5 U.S.C. § 706(2)(E) (2012) ("The reviewing court shall . . . hold unlawful and set aside agency action, findings, and conclusions found to be . . . unsupported by substantial evidence[.]"); *Citizens to Pres. Overton Park, Inc. v. Volpe*, 401 U.S. 402, 419–20 (1971) *abrogated by* *Califano v. Sanders*, 430 U.S. 99 (1977) (requiring on-the-record agency adjudications); *Ass'n of Data Processing Serv. Orgs., Inc. v. Bd. of Governors of the Fed. Reserve Sys.*, 745 F.2d 677, 683 (D.C. Cir. 1984) (Scalia, J.) (finding APA's arbitrary and capricious standard in 5 U.S.C. § 706(2)(A) to be a catch-all standard encompassing the standards in §§ 706(2)(B)–(E)); see also *In re Kahn*, 441 F.3d 977, 987 (Fed. Cir. 2006) (noting that the factfinder "must provide some rationale, articulation, or reasoned basis" for combining prior art teachings).

⁶⁶ See, e.g., Diane Christine Renbarger, *Putting the Brakes on Drugs: The Impact of KSR v. Teleflex on Pharmaceutical Patenting Strategies*, 42 GA. L. REV. 905, 918–20 (2008).

⁶⁷ *Id.* at 918.

⁶⁸ See *id.* (citing *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 422 (2007)).

⁶⁹ See *id.* (citing Parker H. Bagley & Chris L. Holm, *Obviousness in the Wake of 'KSR v. Teleflex'*, N.Y.L.J. (May 9, 2007) (ONLINE), (on file with Journal)).

being invalidated as obvious.⁷⁰ This latter line of reasoning has prevailed because it is supported by compelling empirical evidence outside of the instant study.⁷¹

B. INTER PARTES REVIEW

In 2011, the America Invents Act (AIA) created various proceedings for challenging patent validity before the Patent Trial and Appeal Board (PTAB),⁷² a body simultaneously created under the AIA⁷³ comprising Administrative Patent Judges (APJs).⁷⁴ One such proceeding, the *inter partes* review (IPR),⁷⁵ became effective on September 16, 2012,⁷⁶ and has become very popular for patent

⁷⁰ See, e.g., Renbarger, *supra* note 66, at 919–20; John Markoff, *Two Views of Innovation, Colliding in Washington*, N.Y. Times (Jan. 13, 2008), <https://www.nytimes.com/2008/01/13/business/13stream.html> [<https://perma.cc/29UD-3QNQ>]; Gina Passarella, *Recent Patent Rulings Raise Concerns*, Nat'l L.J. (Oct. 8, 2007, 12:00 AM), <https://www.law.com/nationallawjournal/almID/900005492876/recent-patent-rulings-raise-concerns/> [<https://perma.cc/5DSJ-W6GY>]; Macedo et al., *supra* note 59.

⁷¹ See, e.g., Mojibi, *supra* note 6, at 596 (“This article provided statistical evidence that demonstrates *KSR* has had a significant impact on the law of obviousness. District courts . . . are over seven times more likely to find patents obvious as a result of *KSR*. The Federal Circuit is also more likely (from 40% to 57%) to find a patent obvious on review.”); Steve Tiller & Greg Stone, *Invalidity Challenges After KSR and Bilski*, ASS’N OF CORP. COUNSEL 8 (Feb. 24, 2010), https://www.acc.com/chapters/balt/upload/Whiteford_ksr_and_bilski.pdf [<https://perma.cc/A98U-6PMC>] (“[After *KSR*, there was an] [i]ncreased number of rejections from [e]xaminers based on obviousness, and increased affirmance of those rejections by the PTO Board of Appeals (affirmance of final rejections post-*KSR* [jumped] from 56% to 69%)[.]”).

⁷² See 35 U.S.C. §§ 311–329 (2012) (creating *inter partes* review and post-grant review proceedings); Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 18, 125 Stat. 284 (2011) (codified as amended at 35 U.S.C. §§ 1–390) (creating covered business method review proceedings).

⁷³ See 35 U.S.C. § 6(a).

⁷⁴ *Id.*

⁷⁵ See *id.* § 311.

⁷⁶ USPTO, AMERICA INVENTS ACT: EFFECTIVE DATES 1 (Oct. 5, 2011), available at https://www.uspto.gov/sites/default/files/aia_implementation/aia-effective-dates.pdf [<https://perma.cc/RYG4-3A3V>].

challengers.⁷⁷ IPRs provide a cheaper and quicker alternative to district court for challenging patent validity,⁷⁸ and result in high rates of patent invalidation.⁷⁹

In an IPR, the patent challenger (i.e., the “petitioner”) can challenge a patent under 35 U.S.C. § 102 as anticipated and/or § 103 as obvious, relying on

⁷⁷ See TRIAL STATISTICS, *supra* note 7, at 3 (noting that 7182 IPR petitions were filed through November 30, 2017). The reason the IPR is more popular than the other review mechanisms created by the AIA largely lies with estoppel, which bars a patent challenger from relying on grounds in a separate proceeding that the patent challenger raised or reasonably could have raised during the proceeding at the PTAB. See 35 U.S.C. §§ 315(e), 325(e); America Invents Act § 18(a)(1)(D). Each of the three review proceedings implicate distinct levels of estoppel due to the different grounds that can be raised in the respective proceedings, IPRs having the least implications. Compare 35 U.S.C. § 311(b) (“A petitioner in an [IPR] may request to cancel as unpatentable . . . only on a ground that could be raised under section 102 or 103[.]”), with 35 U.S.C. § 321(b) (“A petitioner in a post-grant review may request to cancel as unpatentable . . . on any ground[.]”), and America Invents Act § 18(a)(1) (noting that the transitional covered business method review proceeding is a form of post-grant review).

⁷⁸ See 35 U.S.C. § 316(a)(11) (requiring PTO Director to prescribe regulations requiring IPR final decision within one year after institution); 37 C.F.R. § 42.100(c) (2016) (“An [IPR] . . . shall be administered such that pendency . . . after institution is normally no more than one year.”); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,758 (Aug. 14, 2012) (codified at 37 C.F.R. pt. 42) (“The rules [of post-grant trial practice] are to be construed so as to ensure the just, speedy, and inexpensive resolution of a proceeding and, where appropriate, the rules may be modified to accomplish these goals.”); Scott A. McKeown, *CEO’s Guide to Avoiding Patent Litigation Costs*, PATENTS POST-GRANT (Jan. 9, 2013), <http://www.patentspostgrant.com/ceos-guide-to-reducing-patent-litigation-costs> [<https://perma.cc/9DGA-9RNS>] (“As a rule of thumb, . . . IPR should prove to be about ten times cheaper, twice as effective and predictable, and one and a half times faster than litigating validity in district court.”). Not only have IPRs been alternatives to litigation, but district courts have also found validity findings in IPRs highly persuasive due to the expertise of the PTAB judges. See *Clearlamp, LLC v. LKQ Corp.*, No. 12 C 2533, 2016 WL 4734389, at *9 (N.D. Ill. Mar. 18, 2016); *TAS Energy, Inc. v. San Diego Gas & Elec.*, No. 12cv2777-GPC(BGS), 2014 WL 794215, at *2, *4 (S.D. Cal. Feb. 26, 2014).

⁷⁹ See, e.g., TRIAL STATISTICS, *supra* note 7, at 11 (noting that through November 30, 2017, 81% of final written decisions resulted in at least one claim being found unpatentable).

patents or printed publications as prior art.⁸⁰ Like examiners in *ex parte* examinations, APJs apply the obviousness standards outlined in *Graham* and *KSR*.⁸¹ Also like in *ex parte* examination, as of this writing, APJs interpret claim language consistent with the broadest reasonable interpretation standard.⁸²

Procedurally, the petitioner first files a petition at the PTAB.⁸³ After the patent owner has an opportunity to respond,⁸⁴ the PTAB decides whether to institute an IPR.⁸⁵ The petition may be granted, thus instituting the IPR, if the petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least [one] of the claims challenged in the petition.”⁸⁶ The PTAB’s decision whether to institute is final, unappealable,⁸⁷ and must be published.⁸⁸

⁸⁰ 35 U.S.C. §§ 311(a)–(b).

⁸¹ See, e.g., *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016); *Nike, Inc. v. Adidas A.G.*, 812 F.3d 1326, 1334 (Fed. Cir. 2016). See generally *supra* Part II. Recall also from *Graham* that “the primary responsibility for sifting out unpatentable material lies in the Patent Office.” *Graham v. John Deere Co.*, 383 U.S. 1, 18 (1966).

⁸² 37 C.F.R. § 42.100(b) (2016); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016). But see *Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 21,221, 21,221 (May 09, 2018). The broadest reasonable interpretation standard is distinguished from the standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), which is used in district court trials. See, e.g., *PPC Broadband v. Corning Optical Commc’ns RF*, 815 F.3d 734, 742 (Fed. Cir. 2016). The broadest reasonable interpretation standard arguably results in a broader claim construction than the so-called *Phillips* standard, which could explain the high likelihood of invalidation at the PTAB. See, e.g., *Clearlamp, LLC v. LKQ Corp.*, No. 12 C 2533, 2016 WL 4734389, at *25 (N.D. Ill. Mar. 18, 2016).

⁸³ 35 U.S.C. § 311(a).

⁸⁴ *Id.* § 313.

⁸⁵ *Id.* § 314(a).

⁸⁶ *Id.*

⁸⁷ *Id.* § 314(d); *Cuozzo*, 136 S. Ct. at 2139.

⁸⁸ 35 U.S.C. § 314(c).

If the petition is granted, then a “trial” is instituted and the petitioner has the burden of proving⁸⁹ the unpatentability of the challenged claim(s) by a preponderance of the evidence.⁹⁰ In other words, the petitioner prevails with respect to the challenged claim(s) if “more than 50% of the evidence points to” the invalidity of the claim(s).⁹¹ Once a trial is instituted, the parties may settle and terminate the proceeding,⁹² a route that the PTAB prefers.⁹³ If the proceeding is not terminated, then the “discovery” stage begins and lasts approximately seven months.⁹⁴ In addition to “routine discovery,”⁹⁵ the parties exchange motions and replies until an oral hearing is set.⁹⁶ After the oral hearing, the PTAB makes an ultimate decision on the validity of the instituted claim(s) in a “final written decision,”⁹⁷ which may be published.⁹⁸

III. HYPOTHESIS: IN IPRs, PRE-KSR PATENTS SHOULD SURVIVE LESS OFTEN THAN POST-KSR PATENTS UNDER § 103

In the four decades between *Graham* and *KSR*, the TSM test was the only rationale patent examiners could rely on in making obviousness determinations.⁹⁹ *KSR* and its subsequent integration into the examination process significantly

⁸⁹ Unlike in patent prosecution, in an IPR, the burden of proof never shifts back to the other party. See *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1375 (Fed. Cir. 2016) (citing *Dynamic Drinkware v. Nat'l Graphics*, 800 F.3d 1375, 1378 (Fed. Cir. 2015)).

⁹⁰ 35 U.S.C. § 316(e). This standard is lower than the clear and convincing standard used in district court trials for proving invalidity. See *Microsoft Corp. v. i4i Ltd. P'ship*, 131 S. Ct. 2238, 2243 (2011).

⁹¹ *Preponderance of the Evidence*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/preponderance_of_the_evidence (last visited July 14, 2018) [<https://perma.cc/H62R-YYLH>].

⁹² See 35 U.S.C. § 317(a); 37 C.F.R. § 42.74 (2012); Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,768.

⁹³ Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,768.

⁹⁴ See *id.* at 48,757.

⁹⁵ *Id.* at 48,761.

⁹⁶ *Id.* at 48,757.

⁹⁷ 35 U.S.C. § 318(a); Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,757.

⁹⁸ 37 C.F.R. § 42.412 (2013).

⁹⁹ See *supra* Part II.A.

broadened the obviousness inquiry.¹⁰⁰ Both the Court in *KSR* and the PTO's interpretation of the decision expressly rejected a rigid and inflexible approach to obviousness.¹⁰¹ After *KSR*, commentators predicted there would be a sea change in obviousness law, and there is strong empirical evidence supporting such a prediction.¹⁰² For these reasons, patents originally examined before *KSR* should survive obviousness challenges less often than patents originally examined after *KSR*.

The decision to institute an IPR petition is a final and unappealable determination of whether the petition establishes a reasonable likelihood that at least one of the challenged patent claims is invalid.¹⁰³ An IPR's final written decision is a determination of whether the petitioner has established by a preponderance of the evidence the invalidity of the challenged claim(s).¹⁰⁴ And since § 103 is one of the grounds for challenging patent validity in an IPR,¹⁰⁵ both institution decisions and final written decisions grounded in § 103 are obviousness determinations. Therefore, both sets of decisions are valid metrics for testing the hypothesis that pre-*KSR* patents should survive obviousness challenges less often than post-*KSR* patents.

IV. METHODOLOGY

This study began by gathering data from the PTAB Bulk Data site. This site was searched for IPR institution decisions¹⁰⁶ and final written decisions.¹⁰⁷ In

¹⁰⁰ See *supra* Part II.A.1.

¹⁰¹ See *id.*

¹⁰² See *supra* Part II.A.2.

¹⁰³ See *supra* Part II.B.

¹⁰⁴ See *id.*

¹⁰⁵ See *supra* Part II.B.

¹⁰⁶ Institution decisions must be made available to the public. See 35 U.S.C. § 314(c) (2012).

¹⁰⁷ Final written decisions may be made available to the public. See 37 C.F.R. § 42.412 (2013). The other review proceedings created by the America Invents Act, i.e., post-grant reviews and covered business method reviews, are not included in this study because the patents challenged in those proceedings generally must be post-*KSR* patents because post-grant review "generally applies to patents issuing from applications subject to first-inventor-to-file provisions of the AIA." 37 C.F.R. § 42.200 (2016). See generally Transitional Program for Covered Business Method Patents, Pub. L. No. 112-29, § 18, 125 Stat. 329 (2011), amended by Pub. L. No. 112-274, § 1(b), 126

an IPR, if a patent was challenged under § 103 and the PTAB made an institution decision or final patentability decision under § 103, then the patent was recorded as a data point and the decision's outcome was logged. Then, the public Patent Application Information Retrieval (PAIR) system¹⁰⁸ was searched to determine when the patent's application was examined. If the application was allowed by the examiner (i.e., a Notice of Allowance was mailed) before October 10, 2007,¹⁰⁹ then the patent was recorded as a pre-KSR patent. If the patent's application was allowed after October 10, 2007, then the patent was recorded as a post-KSR patent.¹¹⁰

A. INSTITUTION DECISIONS

Using this methodology, 216 unique patents were collected as data points by examining institution decisions in which the petitioner challenged patentability under § 103.¹¹¹ These decisions were published over a three-month span from the beginning of October 2017 to the end of December 2017. The number of patents and this period were not chosen for predetermined reasons; the author started from the end of December 2017 working backward in time and stopped due to time constraints.¹¹² There are more patents that can be added to this data set in

Stat. 2456 (2013) (noting that the transitional covered business method review proceeding is a form of post-grant review); MPEP *supra* note 32, § 2159 (9th ed. Rev. 7, Nov. 2015) (“[T]he changes . . . in the AIA apply only to [patent] applications [effectively] filed on or after March 16, 2013[.]”).

¹⁰⁸ Patent Application Information Retrieval, USPTO, <http://portal.uspto.gov/pair/PublicPair> (last visited July 7, 2018).

¹⁰⁹ Recall that this is the publication date of the following Federal Register notice: Guidelines for Determining Obviousness Under 35 U.S.C. § 103, 72 Fed. Reg. 57,526 (Oct. 10, 2007). *See supra* Part II.A.2.

¹¹⁰ This is admittedly a brute force approach. But the author is unaware of capabilities in tools such as Docket Navigator that can efficiently determine the desired information. *See generally* O’Shea, *supra* note 9, at 532 (“Because hundreds of thousands of patent applications are submitted to the USPTO every year and hundreds of patents are litigated in the district courts, it is difficult to perform an empirical analysis of any data set of patent law decisions other than those arising from the Federal Circuit.”).

¹¹¹ *See infra* Appendix A.

¹¹² This contrasts with the final written decision data collected in Part V.B. The reason more final written decisions were collected in Part V.B is that the author’s research began by testing the hypothesis using exclusively final

future studies (i.e., those challenged before and after this period). After collecting the data points, the patents were separated into the two pre-*KSR* and post-*KSR* groups and the outcomes of the IPR decisions made under obviousness grounds were correlated with whether the patents were examined before or after *KSR*.

There were various categories of institution decisions that were not collected as data points. First, inconsistent institution decisions in separate IPRs involving the same patent (i.e., separate petitions that were respectively denied and granted for the same patent) were not collected because such decisions would cancel each other out as data points. Similarly, consistent institution decisions in separate IPRs involving the same patent (i.e., two separate petitions that were both denied or granted for the same patent) were not collected more than once for the same patent. Finally, institution decisions in which 35 U.S.C. § 102 was the only ground for challenging validity were not collected because the anticipation analysis under § 102 is a different validity inquiry than obviousness and not germane to this study's objective.¹¹³ Conversely, institution decisions where patents were challenged under both §§ 102 and 103 were collected.

B. FINAL WRITTEN DECISIONS

Using the data collection method of mining the PTAB Bulk Data site, 428 unique patents, all of which are distinct from the patents collected in the institution decision data set,¹¹⁴ were challenged in IPRs where final written decisions were issued in a 34-month span from January 2014 through October 2016.¹¹⁵ Like in the institution decision data set, patents challenged outside this period can be added in future studies.¹¹⁶ Also like in the institution decision data set, the patents here were separated as pre-*KSR* and post-*KSR* patents.¹¹⁷ And the final decisions made

written decisions. The institution decision data was added after the final written decision data collection was completed in October 2016.

¹¹³ Unlike obviousness, anticipation asks whether “each and every element as set forth in the [patent] claim is found, either expressly or inherently described, in a single prior art reference.” See MPEP, *supra* note 32, § 2131 (quoting *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987)).

¹¹⁴ See *supra* Part IV.A.

¹¹⁵ See *infra* Appendix B.

¹¹⁶ See *supra* Part IV.A.

¹¹⁷ See *id.*

under § 103 were correlated with the patents' respective statuses as pre-KSR or post-KSR patents.¹¹⁸

Unlike the institution decision data set,¹¹⁹ where inconsistent final written decisions were made, the patents at issue were not excluded because final written decisions are final validity determinations.¹²⁰ Such finality sufficiently establishes that the given patent did not survive scrutiny in *inter partes* review, irrespective of other final decisions involving the same patent.¹²¹ Thus, in these situations, the IPR decisions collected were those where at least one of the challenged claims was invalidated under § 103.

C. POTENTIAL ARGUMENTS UNDERMINING THIS METHODOLOGY

There are various potential criticisms of this methodology that are worth addressing. First, one could argue that the total number of patents collected is too low to pass statistical muster. Notwithstanding the questionable validity of fundamental statistical concepts,¹²² there is a noticeable lack of evidence on how many patents have been subjected to IPRs. The PTO, for example, consistently releases statistics regarding the amount of patent *claims* found unpatentable, but not the number of patents.¹²³ This makes it difficult to determine how many total patents have been challenged, which complicates any analysis of whether the sizes of the data sets in this study are large enough. Furthermore, if more patents are added to the institution decision data set, then these patents will eventually be counted again in the final written decision data set,¹²⁴ thus undermining the study's goal of capturing a distinct patent at each data point.

¹¹⁸ *See id.*

¹¹⁹ *See id.*

¹²⁰ *See* 35 U.S.C. § 318(b) (2012) ("If the [PTAB] issues a final written decision . . . and the time for appeal has expired or any appeal has terminated, the Director shall issue and publish a certificate canceling any claim of the patent finally determined to be unpatentable[.]").

¹²¹ *See id.*

¹²² *See, e.g.,* David Trafimow, *Editorial*, 36 *BASIC & APPLIED SOC. PSYCHOL.*, 1, 1 (2014) ("The null hypothesis [statistical] significance testing procedure has been shown to be logically invalid and to provide little information about the actual likelihood of either the null or experimental hypothesis.").

¹²³ TRIAL STATISTICS, *supra* note 7, at 11.

¹²⁴ *See generally* 35 U.S.C. § 316(a) (11) (requiring PTO Director to prescribe regulations requiring IPR final decision within one year after institution); 37

Second, this methodology does not account for potential double-counting in separate IPRs where “related” patents are involved—i.e., patents arising out of continuation, continuation-in-part, and divisional applications.¹²⁵ But there are numerous examples where related patents in the same pre-KSR or post-KSR category are not double-counted in this manner because the respective IPR decisions came to opposite conclusions.¹²⁶ Moreover, some related patents could fall into the separate pre-KSR and post-KSR categories, thus avoiding double-counting within a single category.¹²⁷

V. DATA SUMMARY

Figures 1 and 2 collectively depict 216 unique patents challenged under § 103 in IPR institution decisions from October through December 2017.¹²⁸ Figure 1 shows the patents originally examined before KSR, and Figure 2 shows those originally examined after KSR. As seen in these charts, 26.7% of the pre-KSR patents were challenged in petitions that were denied under § 103 and 37.8% of the post-KSR patents were challenged in petitions that were denied under § 103.

C.F.R. § 42.100(c) (2016) (“An [IPR] . . . shall be administered such that pendency . . . after institution is normally no more than one year.”).

¹²⁵ See generally MPEP, *supra* note 32, §§ 201.06–201.08.

¹²⁶ Compare Decision Institution of *Inter Partes* Review at 1, Becton, Dickinson & Co. v. B. Braun Melsungen A.G., No. IPR2017-01586 (P.T.A.B. Dec. 15, 2017) (No. 8) (granting institution of U.S. Patent No. 8,328,762 patented from parent application), with Decision Denying Institution of *Inter Partes* Review at 1, Becton, Dickinson & Co. v. B. Braun Melsungen A.G., No. IPR2017-01585 (P.T.A.B. Dec. 15, 2017) (No. 8) (denying institution of U.S. Patent No. 8,337,463 patented from child application).

¹²⁷ Compare Decision Instituting *Inter Partes* Review at 1, C&D Zodiac, Inc. v. B/E Aerospace, Inc., No. IPR2017-01275 (P.T.A.B. Oct. 31, 2017) (No. 12) (IPR included in the institution decision data involving U.S. Patent No. 9,073,641 patented from child application), with Final Written Decision at 1, C&D Zodiac, Inc. v. B/E Aerospace, Inc., No. IPR2014-00727 (P.T.A.B. Oct. 26, 2015) (No. 65) (IPR included in the final written decision data involving U.S. Patent No. 8,590,838 patented from parent application).

¹²⁸ See generally *supra* Part IV.A.



Figure 1. Pre-KSR Patents Challenged Under 103, Institution Decisions, Oct. through Dec. 2017



Figure 2. Post-KSR Patents Challenged Under 103, Institution Decisions, Oct. through Dec. 2017

Figures 3 and 4 collectively depict 428 unique patents (distinct from those depicted in Charts 1 and 2) challenged under § 103 in final written decisions from January 2014 through October 2016.¹²⁹ Figure 3 shows the pre-KSR patents and

¹²⁹ See generally *supra* Part IV.B.

Figure 4 shows the post-KSR patents. As shown, 85.2% of the pre-KSR patents had at least one claim found unpatentable under § 103 and 84.1% of the post-KSR patents had at least one claim found unpatentable under § 103.

- Patents w/ Unpatentable Claims Under 103
- Patents w/ No Unpatentable Claims Under 103

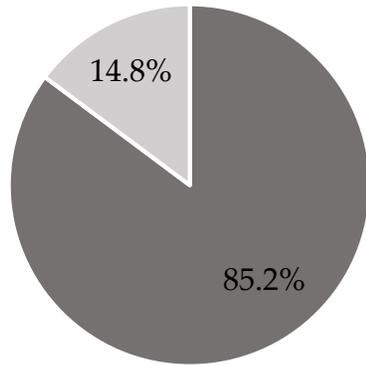


Figure 3. Pre-KSR Patents Challenged Under 103, Final Written Decisions, Jan. 2014 through Oct. 2016

- Patents w/ Unpatentable Claims Under 103
- Patents w/ No Unpatentable Claims Under 103

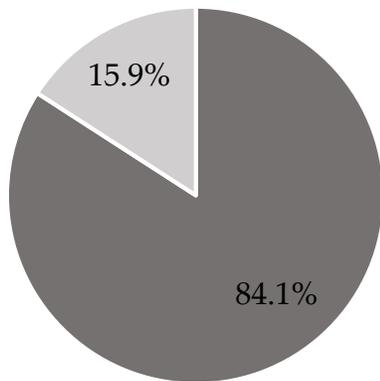


Figure 4. Post-KSR Patents Challenged Under 103, Final Written Decisions, Jan. 2014 through Oct. 2016

VI. DATA ANALYSIS: THE DATA SUPPORTS THE HYPOTHESIS AND CONFIRMS PREDICTABLE IPR PATTERNS

In the institution decision data set, 26.7% of the pre-KSR patents survived obviousness scrutiny at the institution stage, while 37.8% of the post-KSR patents survived such scrutiny.¹³⁰ This supports the hypothesis that pre-KSR patents should survive obviousness challenges less often than post-KSR patents.¹³¹ Regarding the final written decision data, although a higher percentage of post-KSR patents survived IPR obviousness challenges, the difference between these percentages is low: 1.1% (85.2% minus 84.1%).¹³² This low percentage difference contrasts with the much higher percentage difference seen in the institution decision data: 11.1% (73.3% minus 62.2%).¹³³ The insignificant difference between the validity percentages for pre-KSR and post-KSR patents after institution is predictable because the institution decision is a patentability determination.¹³⁴ In other words, after institution and long before a final decision is made, the PTAB has already made a determination that the challenged patent is likely invalid.¹³⁵ Therefore, the final outcome of an IPR is highly predictable after institution, regardless of what obviousness law (i.e., pre-KSR or post-KSR) was applied during original examination.¹³⁶

VII. CONCLUSIONS

Important conclusions can be drawn from this data. First, there are useful practical lessons for both parties to an IPR that can be used to take advantage of the patterns found in this study. Second, the data provides insight into how KSR

¹³⁰ See *supra* Part V.A.

¹³¹ See *supra* Part III.

¹³² See *supra* Part V.B.

¹³³ See *supra* Part V.A.

¹³⁴ See *supra* Part III.

¹³⁵ See *id.*

¹³⁶ This is not a novel conclusion. See, e.g., Simpson & Lee, *supra* note 16.

continues to impact the patent law landscape more than a decade after the decision.

A. IMPORTANT TAKEAWAYS FOR BOTH PETITIONERS AND PATENT OWNERS

The institution decision data provides valuable information for both parties in an IPR. Since a higher percentage of pre-KSR patents are granted institution,¹³⁷ petitioners can be more confident in challenging pre-KSR patents under obviousness grounds. Patent owners, on the other hand, should be generally aware of this difference between pre-KSR and post-KSR patents at the institution stage, because such knowledge can be used to justify saving legal resources in response to validity attacks against pre-KSR patents. One common situation where this could arise is where a patent owner first asserts both pre-KSR and post-KSR patents against an alleged infringer in district court and the alleged infringer challenges the validity of those patents in IPRs.¹³⁸ When the alleged infringer (now petitioner) files its IPR petitions, the patent owner can assume that its post-KSR patents face a higher chance of escaping institution.¹³⁹ The patent owner can then, for example, consider investing more legal resources in perfecting its district court infringement theories involving its post-KSR patents.

Parties in IPRs can also gather valuable information from the final written decision data. Namely, and consistent with other studies,¹⁴⁰ patent owners face very low chances of success after institution, regardless of the obviousness law applied to the challenged patents during original examination.¹⁴¹ This illustrates the importance of the institution stage.¹⁴² Counsel on both sides of an IPR should inform their clients about this high likelihood of invalidation after institution. On the one hand, petitioners can use this information as leverage in settlement

¹³⁷ See *supra* Part VI.

¹³⁸ See, e.g., *Evolutionary Intelligence, LLC v. Facebook, Inc.*, No. C 13-4202 SI, 2014 WL 261837, at *1 (N.D. Cal. Jan. 23, 2014).

¹³⁹ See *supra* Part VI.

¹⁴⁰ See, e.g., TRIAL STATISTICS, *supra* note 7, at 11 (noting that through November 30, 2017, 81% of final written decisions resulted in at least one claim being found unpatentable); Simpson & Lee, *supra* note 16. *But see* Gene Quinn, *Patent Owners Faring Better in PTAB Proceedings*, IPWATCHDOG (Dec. 11, 2017), <http://www.ipwatchdog.com/2017/12/11/patent-owners-faring-better-ptab-proceedings/id=90971> [<https://perma.cc/YAG9-5G44>].

¹⁴¹ See *supra* Part VI.

¹⁴² See, e.g., Simpson & Lee, *supra* note 16.

discussions.¹⁴³ On the other hand, patent owners can rely on this data in deciding whether to continue moving toward the inevitable invalidation of their patents. If the parties do not settle, then the patent owner could spend the time between institution and the final written decision¹⁴⁴ contemplating appellate options,¹⁴⁵ because the likelihood of the patent owner losing is high.¹⁴⁶

B. KSR'S LASTING IMPACT ON PATENT VALIDITY

This study speaks volumes about *KSR*'s impact. After this important case was decided, two camps emerged in the debate over how the decision would impact obviousness law.¹⁴⁷ The institution decision data in this study supports those who predicted the case resulted in a stricter obviousness standard,¹⁴⁸ because it shows that a significantly higher percentage of post-*KSR* patents survive obviousness challenges at the institution stage.¹⁴⁹ The conclusion that post-*KSR* patents are more immune from obviousness attacks is further bolstered by: (1)

¹⁴³ See generally 35 U.S.C. § 317(a) (2012); 37 C.F.R. § 42.74 (2012); Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,758.

¹⁴⁴ This time normally will not exceed one year. See 35 U.S.C. § 316(a)(11); 37 C.F.R. § 42.100(c) (2016).

¹⁴⁵ Although the institution decision is not appealable, the final written decision is appealable. Compare 35 U.S.C. § 314(d) ("The determination by the Director whether to institute an [IPR] under this section shall be final and nonappealable."), and *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2139 (2016) (upholding finality of PTAB's institution decision), with 35 U.S.C. § 319 ("A party dissatisfied with the final written decision of the [PTAB] . . . may appeal the decision . . .").

¹⁴⁶ See *supra* Part VI. However, the patent owner should be cautious because the likelihood that the Federal Circuit overrules the PTAB's IPR decision is not in the patent owner's favor. See Kerry S. Taylor & Daniel A. Kamkar, *IPR Appeals: Pendency and Success Rates at Fed. Circ.*, LAW360 (Feb. 8, 2017), <https://www.law360.com/articles/884916/ipr-appeals-pendency-and-success-rates-at-fed-circ> [<https://perma.cc/VX29-GBQR>] (noting that in 2016, 75% of all IPR appeals were affirmed at the Federal Circuit); cf. Cristina Violante, *Law360's Federal Circuit Snapshot: By the Numbers*, LAW360 (Mar. 1, 2017), <https://www.law360.com/articles/894751/law360-s-federal-circuit-snapshot-by-the-numbers> [<https://perma.cc/FW2X-JUEX>].

¹⁴⁷ See *supra* Part II.A.2.

¹⁴⁸ See Macedo et al., *supra* note 59; Markoff, *supra* note 70; Passarella, *supra* note 70; Renbarger, *supra* note 66, at 919–20.

¹⁴⁹ See *supra* Part VI.

KSR's broadening effect on the obviousness inquiry¹⁵⁰ and (2) additional empirical evidence showing that *KSR* led to higher obviousness invalidity rates in forums other than IPRs.¹⁵¹ However, this study's final written decision results do not reveal much about *KSR*'s legacy.¹⁵² Although the insignificant difference between pre-*KSR* and post-*KSR* patents arguably supports the prediction that there would be little change in the obviousness landscape, the stronger argument is that this portion of the study simply confirms patterns that should logically flow from the IPR scheme.¹⁵³

C. CLOSING REMARKS

Over a decade after *KSR*, this Note provides additional empirical evidence showing that the case had a measurable impact on patent validity.¹⁵⁴ This study uses the IPR, a relatively new method of contesting validity that was not available when *KSR* was decided¹⁵⁵ and one of the hottest issues in patent law,¹⁵⁶ as the means for supporting this conclusion.¹⁵⁷ But this study has value far beyond analyzing *KSR*'s impact.¹⁵⁸ This Note provides compelling statistics¹⁵⁹ that IPR

¹⁵⁰ See *supra* Parts II.A.1–2.

¹⁵¹ See, e.g., Mojibi, *supra* note 6, at 574 (“This article provided statistical evidence that demonstrates *KSR* has had a significant impact on the law of obviousness. District courts . . . are over seven times more likely to find patents obvious as a result of *KSR*. The Federal Circuit is also more likely (from 40% to 57%) to find a patent obvious on review.”); Tiller & Stone, *supra* note 71, at 8 (“[After *KSR*, there was an] [i]ncreased number of rejections from [e]xaminers based on obviousness, and increased affirmance of those rejections by the PTO Board of Appeals (affirmance of final rejections post-*KSR* [jumped] from 56% to 69%)[.]”).

¹⁵² See *supra* Part V.

¹⁵³ See *supra* Part VI.

¹⁵⁴ See *supra* Part VII.B.

¹⁵⁵ See generally 35 U.S.C. §§ 311–319 (2012).

¹⁵⁶ See Lawrence E. Ashery, *The Hottest Patent Law Issues of 2016*, LAW360 (Dec. 30, 2016), <https://www.law360.com/articles/874206/the-hottest-patent-law-issues-of-2016> [<https://perma.cc/2M43-FNSC>].

¹⁵⁷ See *supra* Part VII.B.

¹⁵⁸ See *supra* Part VII.A.

¹⁵⁹ See *supra* Parts V–VI.

practitioners can use when advising clients about the new and evolving post-grant landscape at the PTO ushered in by the America Invents Act.

**VIII. APPENDIX A: IPRs WITH INSTITUTION DECISIONS GROUNDED IN § 103,
OCTOBER THROUGH DECEMBER 2017**

Aurobindo Pharma U.S.A., Inc. v. Andrx Corp., No. IPR2017-01648 (P.T.A.B. Dec. 29, 2017); Aurobindo Pharma U.S.A., Inc. v. Andrx Labs, L.L.C., No. IPR2017-01673 (P.T.A.B. Dec. 29, 2017); Microsoft Corp. v. Improved Search, L.L.C., No. IPR2017-01613 (P.T.A.B. Dec. 26, 2017); Google, L.L.C. v. Blackberry Ltd., No. IPR2017-01619 (P.T.A.B. Dec. 22, 2017); Microsoft Corp. v. Improved Search, L.L.C., No. IPR2017-01614 (P.T.A.B. Dec. 22, 2017); Toshiba Corp. v. Macronix Int'l Co., No. IPR2017-01632 (P.T.A.B. Dec. 21, 2017); Unified Patents, Inc. v. Red Rock Analytics, L.L.C., No. IPR2017-01490 (P.T.A.B. Dec. 20, 2017); Halliburton Energy Servs. v. Schlumberger Tech., No. IPR2017-01575 (P.T.A.B. Dec. 19, 2017); Micron Tech. v. Lonestar Silicon Innovations, L.L.C., No. IPR2017-01562 (P.T.A.B. Dec. 18, 2017); Micron Tech. v. Lonestar Silicon Innovations, L.L.C., No. IPR2017-01563 (P.T.A.B. Dec. 18, 2017); Ooma, Inc. v. Deep Green Wireless, L.L.C., No. IPR2017-01541 (P.T.A.B. Dec. 18, 2017); Becton, Dickinson & Co. v. B. Braun Melsungen A.G., No. IPR2017-01585 (P.T.A.B. Dec. 15, 2017); Becton, Dickinson & Co. v. B. Braun Melsungen A.G., No. IPR2017-01586 (P.T.A.B. Dec. 15, 2017); Becton, Dickinson & Co. v. B. Braun Melsungen A.G., No. IPR2017-01587 (P.T.A.B. Dec. 15, 2017); Cavium, Inc. v. Alacritech, Inc., No. IPR2017-01707 (P.T.A.B. Dec. 15, 2017); Halliburton Energy Servs. v. Schlumberger Tech., No. IPR2017-01571 (P.T.A.B. Dec. 15, 2017); Micron Tech. v. Lone Star Silicon Innovations, L.L.C., No. IPR2017-01561 (P.T.A.B. Dec. 15, 2017); Veritas Techs. v. Realtime Data, L.L.C., No. IPR2017-01690 (P.T.A.B. Dec. 15, 2017); Donghee Am., Inc. v. Plastic Omnium Advanced Innovation & Research, No. IPR2017-01602 (P.T.A.B. Dec. 14, 2017); Donghee Am., Inc. v. Plastic Omnium Advanced Innovation & Research, No. IPR2017-01605 (P.T.A.B. Dec. 14, 2017); Aisin Seiki Co. v. Intellectual Ventures II, L.L.C., No. IPR2017-01536 (P.T.A.B. Dec. 13, 2017); Aisin Seiki Co. v. Intellectual Ventures II, L.L.C., No. IPR2017-01538 (P.T.A.B. Dec. 13, 2017); Aisin Seiki Co. v. Intellectual Ventures II, L.L.C., No. IPR2017-01539 (P.T.A.B. Dec. 13, 2017); BMW of N. Am., L.L.C. v. Intellectual Ventures II, L.L.C., No. IPR2017-01558 (P.T.A.B. Dec. 13, 2017); FanDuel, Inc. v. Interactive Games, L.L.C., No. IPR2017-01532 (P.T.A.B. Dec. 13, 2017); Halliburton Energy Servs. v. Schlumberger Tech., No. IPR2017-01569 (P.T.A.B. Dec. 13, 2017); Mylan Pharms., Inc. v. Sanofi-Aventis Deutschland G.M.B.H., No. IPR2017-01526 (P.T.A.B. Dec. 13, 2017); Mylan Pharms., Inc. v. Sanofi-Aventis Deutschland G.M.B.H., No. IPR2017-01528 (P.T.A.B. Dec. 13, 2017); RPX Corp. v. Iridescent Networks, Inc., No. IPR2017-01662 (P.T.A.B. Dec. 13, 2017); Halliburton Energy Servs. v. Schlumberger Tech., No. IPR2017-01564 (P.T.A.B.

Dec. 12, 2017); Samsung Elecs. v. Huawei Techs., No. IPR2017-01474 (P.T.A.B. Dec. 12, 2017); Equistar Chems., L.P. v. ExxonMobil Chem. Patents, Inc., No. IPR2017-01534 (P.T.A.B. Dec. 11, 2017); Nvidia Corp. v. Polaris Innovations Ltd., No. IPR2017-01500 (P.T.A.B. Dec. 11, 2017); Samsung Elecs. v. Huawei Techs., No. IPR2017-01472 (P.T.A.B. Dec. 11, 2017); Samsung Elecs. v. Huawei Techs., No. IPR2017-01487 (P.T.A.B. Dec. 11, 2017); Unified Patents, Inc. v. Silver State Intellectual Techs., No. IPR2017-01531 (P.T.A.B. Dec. 11, 2017); BMW of N. Am., L.L.C. v. Stragent, L.L.C., No. IPR2017-01522 (P.T.A.B. Dec. 8, 2017); CPI Card Grp. v. Gemalto S.A., No. IPR2017-01320 (P.T.A.B. Dec. 8, 2017); Daimler N. Am., L.L.C. v. Stragent, L.L.C., No. IPR2017-01504 (P.T.A.B. Dec. 8, 2017); Fujifilm Corp. v. Sony Corp., No. IPR2017-01389 (P.T.A.B. Dec. 8, 2017); Fujifilm Corp. v. Sony Corp., No. IPR2017-01390 (P.T.A.B. Dec. 8, 2017); Micron Tech. v. President & Fellows of Harvard Coll., No. IPR2017-01493 (P.T.A.B. Dec. 8, 2017); Samsung Elecs. v. Huawei Techs., No. IPR2017-01471 (P.T.A.B. Dec. 8, 2017); Westinghouse Air Brake Techs. v. Siemens Indus., No. IPR2017-01454 (P.T.A.B. Dec. 8, 2017); Cavium, Inc. v. Alacritech, Inc., No. IPR2017-01711 (P.T.A.B. Dec. 6, 2017); Samsung Elecs. v. Huawei Techs., No. IPR2017-01473 (P.T.A.B. Dec. 6, 2017); Samsung Elecs. v. Huawei Techs., No. IPR2017-01475 (P.T.A.B. Dec. 6, 2017); Shenzhen Kean Silicone Prod. Co. v. PKOH N.Y.C., L.L.C., No. IPR2017-01327 (P.T.A.B. Dec. 6, 2017); Fuel Automation Station, Inc. v. Frac Shack, Inc., No. IPR2017-01349 (P.T.A.B. Dec. 5, 2017); Int'l Bus. Machs. v. Groupon, Inc., No. IPR2017-01451 (P.T.A.B. Dec. 5, 2017); LG Elecs. v. Broadcom Corp., No. IPR2017-01544 (P.T.A.B. Dec. 5, 2017); STMicroelectronics, Inc. v. Semcon IP, Inc., No. IPR2017-01431 (P.T.A.B. Dec. 5, 2017); Unified Patents, Inc. v. Glob. Equity Mgmt. (S.A.), No. IPR2017-01467 (P.T.A.B. Dec. 5, 2017); Bestway (U.S.A.), Inc. v. Intex Marketing Ltd., No. IPR2017-01397 (P.T.A.B. Dec. 4, 2017); Broadcom Corp. v. Tessera Advanced Techs., No. IPR2017-01486 (P.T.A.B. Dec. 4, 2017); Broadcom Corp. v. Tessera, Inc., No. IPR2017-01470 (P.T.A.B. Dec. 4, 2017); Facebook, Inc. v. Uniloc U.S.A., Inc., No. IPR2017-01257 (P.T.A.B. Dec. 4, 2017); Global Tel*Link Corp. v. Securus Techs., No. IPR2017-01437 (P.T.A.B. Dec. 4, 2017); Hendrickson U.S.A., L.L.C. v. Trans Techs., No. IPR2017-01510 (P.T.A.B. Dec. 4, 2017); Nautilus, Inc. v. Icon Health & Fitness, Inc., No. IPR2017-01363 (P.T.A.B. Dec. 4, 2017); STMicroelectronics, Inc. v. Semcon IP, Inc., No. IPR2017-01432 (P.T.A.B. Dec. 4, 2017); Bestway (U.S.A.), Inc. v. Intex Marketing Ltd., No. IPR2017-01396 (P.T.A.B. Dec. 1, 2017); Celltrion, Inc. v. Genentech, Inc., No. IPR2017-01374 (P.T.A.B. Dec. 1, 2017); Enforcement Video, L.L.C. v. Dig. Ally, Inc., No. IPR2017-01401 (P.T.A.B. Dec. 1, 2017); Fitbit, Inc. v. Valencell, Inc., No. IPR2017-01552 (P.T.A.B. Dec. 1, 2017); Fitbit, Inc. v. Valencell, Inc., No. IPR2017-01553 (P.T.A.B. Dec. 1, 2017); Fitbit, Inc. v. Valencell, Inc., No. IPR2017-01554 (P.T.A.B. Dec. 1, 2017); Fitbit, Inc. v. Valencell, Inc., No. IPR2017-01556 (P.T.A.B. Dec. 1, 2017); Microsoft Corp. v. Mira

Advanced Tech., No. IPR2017-01411 (P.T.A.B. Dec. 1, 2017); Pfizer, Inc. v. Chugai Pharm. Co., No. IPR2017-01357 (P.T.A.B. Dec. 1, 2017); Pfizer, Inc. v. Chugai Pharm. Co., No. IPR2017-01358 (P.T.A.B. Dec. 1, 2017); Samsung Bioepis Co. v. Genentech, Inc., No. IPR2017-01960 (P.T.A.B. Dec. 1, 2017); Unified Patents, Inc. v. Blackbird Tech, L.L.C., No. IPR2017-01525 (P.T.A.B. Dec. 1, 2017); Intel Corp. v. Alacritech, Inc., No. IPR2017-01392 (P.T.A.B. Nov. 30, 2017); Intel Corp. v. Alacritech, Inc., No. IPR2017-01393 (P.T.A.B. Nov. 30, 2017); Lenovo (U.S.), Inc. v. Blackbird Tech, L.L.C., No. IPR2017-01381 (P.T.A.B. Nov. 30, 2017); Roquette Freres, S.A. v. Tate & Lyle Ingredients Ams., L.L.C., No. IPR2017-01506 (P.T.A.B. Nov. 30, 2017); Roquette Freres, S.A. v. Tate & Lyle Ingredients Ams., L.L.C., No. IPR2017-01507 (P.T.A.B. Nov. 30, 2017); Samsung Elecs. v. Promos Techs., No. IPR2017-01416 (P.T.A.B. Nov. 30, 2017); Ultratec, Inc. v. Sorenson IP Holdings, No. IPR2017-01394 (P.T.A.B. Nov. 30, 2017); Becton, Dickinson & Co. v. B. Braun Melsungen A.G., No. IPR2017-01583 (P.T.A.B. Nov. 29, 2017); Becton, Dickinson & Co. v. B. Braun Melsungen A.G., No. IPR2017-01584 (P.T.A.B. Nov. 29, 2017); Micro Labs Ltd. v. Santen Pharm. Co., No. IPR2017-01434 (P.T.A.B. Nov. 29, 2017); Microsoft Corp. v. Koninklijke Philips N.V., No. IPR2017-01754 (P.T.A.B. Nov. 29, 2017); Samsung Elecs. v. Promos Techs., No. IPR2017-01418 (P.T.A.B. Nov. 29, 2017); Cavium, Inc. v. Alacritech, Inc., No. IPR2017-01391 (P.T.A.B. Nov. 28, 2017); Guardant Health, Inc. v. Foundation Med., Inc., No. IPR2017-01448 (P.T.A.B. Nov. 28, 2017); Intel Corp. v. Alacritech, Inc., No. IPR2017-01406 (P.T.A.B. Nov. 28, 2017); Nvidia Corp. v. Polaris Innovations Ltd., No. IPR2017-01346 (P.T.A.B. Nov. 28, 2017); Taro Pharms. U.S.A., Inc. v. Apotex, Techs., No. IPR2017-01446 (P.T.A.B. Nov. 28, 2017); HTC Corp. v. Cellular Comms. Equip., No. IPR2017-01508 (P.T.A.B. Nov. 27, 2017); HTC Corp. v. Cellular Comms. Equip., No. IPR2017-01509 (P.T.A.B. Nov. 27, 2017); FanDuel, Inc. v. Interactive Games, L.L.C., No. IPR2017-01491 (P.T.A.B. Nov. 22, 2017); Intel Corp. v. Alacritech, Inc., No. IPR2017-01395 (P.T.A.B. Nov. 22, 2017); Apple, Inc. v. Immersion Corp., No. IPR2017-01369 (P.T.A.B. Nov. 21, 2017); Apple, Inc. v. Immersion Corp., No. IPR2017-01371 (P.T.A.B. Nov. 21, 2017); Intel Corp. v. Alacritech, Inc., No. IPR2017-01410 (P.T.A.B. Nov. 21, 2017); Miniature Precision Components, Inc. v. Eagle Indus., No. IPR2017-01403 (P.T.A.B. Nov. 21, 2017); Parrot S.A. v. QFO Labs, Inc., No. IPR2017-01400 (P.T.A.B. Nov. 21, 2017); Unified Patents, Inc. v. Bridge & Post, Inc., No. IPR2017-01423 (P.T.A.B. Nov. 21, 2017); Veritas Techs. v. Realtime Data, L.L.C., No. IPR2017-01688 (P.T.A.B. Nov. 21, 2017); Apple, Inc. v. Voip-Pal.com, Inc., No. IPR2017-01399 (P.T.A.B. Nov. 20, 2017); AT&T Servs., Inc. v. Voip-Pal.com, Inc., No. IPR2017-01384 (P.T.A.B. Nov. 20, 2017); Samsung Elecs. v. Promos Techs., No. IPR2017-01417 (P.T.A.B. Nov. 20, 2017); Samsung Elecs. v. Promos Techs., No. IPR2017-01415 (P.T.A.B. Nov. 17, 2017); Visionsense Corp. v. Novadaq Techs., No. IPR2017-01426 (P.T.A.B. Nov. 16, 2017); Zscaler, Inc. v. Symantec Corp., No.

IPR2017-01342 (P.T.A.B. Nov. 16, 2017); Opus KSD, Inc. v. Incisive Surgical, Inc., No. IPR2017-01438 (P.T.A.B. Nov. 15, 2017); Freebit A.S. v. Bose Corp., No. IPR2017-01307 (P.T.A.B. Nov. 14, 2017); Unified Patents, Inc. v. Plectrum, L.L.C., No. IPR2017-01430 (P.T.A.B. Nov. 14, 2017); Argentum Pharms. v. Kakem Pharm., No. IPR2017-01429 (P.T.A.B. Nov. 13, 2017); Cisco Sys. v. Egenera, Inc., No. IPR2017-01341 (P.T.A.B. Nov. 13, 2017); FanDuel, Inc. v. Interactive Games, L.L.C., No. IPR2017-01333 (P.T.A.B. Nov. 13, 2017); RPX Corp. v. Collision Aviodance Techs., No. IPR2017-01337 (P.T.A.B. Nov. 13, 2017); Halliburton Energy Servs. v. Schlumberger Tech., No. IPR2017-01572 (P.T.A.B. Nov. 9, 2017); Zscaler, Inc. v. Symantec Corp., No. IPR2017-01345 (P.T.A.B. Nov. 9, 2017); Freebit A.S. v. Bose Corp., No. IPR2017-01308 (P.T.A.B. Nov. 8, 2017); Freebit A.S. v. Bose Corp., No. IPR2017-01309 (P.T.A.B. Nov. 8, 2017); Panduit Corp. v. CCS Tech., No. IPR2017-01323 (P.T.A.B. Nov. 8, 2017); Panduit Corp. v. CCS Tech., No. IPR2017-01375 (P.T.A.B. Nov. 8, 2017); Power Integrations, Inc. v. Semiconductor Components Indus., L.L.C., No. IPR2017-01330 (P.T.A.B. Nov. 8, 2017); R.J. Reynolds Vapor Co. v. Fontem Holdings 1 B.V., No. IPR2017-01319 (P.T.A.B. Nov. 8, 2017); Apple, Inc. v. Immersion Corp., No. IPR2017-01368 (P.T.A.B. Nov. 7, 2017); Bayer CropScience L.P. v. Syngenta Ltd., No. IPR2017-01332 (P.T.A.B. Nov. 6, 2017); Edwards Lifesciences Corp. v. Boston Sci. Scimed, Inc., No. IPR2017-01281 (P.T.A.B. Nov. 3, 2017); Securus Techs. v. Global Tel*Link Corp., No. IPR2017-01279 (P.T.A.B. Nov. 3, 2017); Apple, Inc. v. Immersion Corp., No. IPR2017-01310 (P.T.A.B. Nov. 2, 2017); C&D Zodiac, Inc. v. B/E Aerospace, Inc., No. IPR2017-01273 (P.T.A.B. Oct. 31, 2017); C&D Zodiac, Inc. v. B/E Aerospace, Inc., No. IPR2017-01274 (P.T.A.B. Oct. 31, 2017); C&D Zodiac, Inc. v. B/E Aerospace, Inc., No. IPR2017-01275 (P.T.A.B. Oct. 31, 2017); C&D Zodiac, Inc. v. B/E Aerospace, Inc., No. IPR2017-01276 (P.T.A.B. Oct. 31, 2017); Cisco Sys. v. Egenera, Inc., No. IPR2017-01340 (P.T.A.B. Oct. 31, 2017); SPTS Techs. v. Plasma-Therm, L.L.C., No. IPR2017-01314 (P.T.A.B. Oct. 31, 2017); Yahoo!, Inc. v. Intent IQ, Inc., No. IPR2017-01299 (P.T.A.B. Oct. 31, 2017); Facebook, Inc. v. ZKey Invs., No. IPR2017-01278 (P.T.A.B. Oct. 30, 2017); Formlabs, Inc. v. VisionTEC, Inc., No. IPR2017-01258 (P.T.A.B. Oct. 30, 2017); Afton Chem. Corp. v. Infineum Int'l Ltd., No. IPR2017-01321 (P.T.A.B. Oct. 27, 2017); Akamai Techs. v. Limelight Networks, No. IPR2017-01306 (P.T.A.B. Oct. 27, 2017); Akamai Techs. v. Limelight Networks, No. IPR2017-01322 (P.T.A.B. Oct. 27, 2017); Stingray Digital Grp. v. Musical Choice, No. IPR2017-01450 (P.T.A.B. Oct. 27, 2017); Cree, Inc. v. Optolum, Inc., No. IPR2017-01260 (P.T.A.B. Oct. 26, 2017); Cree, Inc. v. Optolum, Inc., No. IPR2017-01261 (P.T.A.B. Oct. 26, 2017); Edwards Lifesciences Corp. v. Boston Sci. Scimed, Inc., No. IPR2017-01297 (P.T.A.B. Oct. 25, 2017); Edwards Lifesciences Corp. v. Boston Sci. Scimed, Inc., No. IPR2017-01298 (P.T.A.B. Oct. 25, 2017); Fujifilm Corp. v. Sony Corp., No. IPR2017-01277 (P.T.A.B. Oct. 25, 2017); Samsung Elecs. v. Promos Techs., No.

IPR2017-01412 (P.T.A.B. Oct. 25, 2017); Westinghouse Air Brake Techs. v. Siemens Indus., No. IPR2017-01263 (P.T.A.B. Oct. 25, 2017); Asphalt Prods. Unlimited, Inc. v. Blacklidge Emulsions, Inc., No. IPR2017-01242 (P.T.A.B. Oct. 24, 2017); Abiomed, Inc. v. Maquet Cardiovascular, L.L.C., No. IPR2017-01204 (P.T.A.B. Oct. 23, 2017); Aragen Bioscience, Inc. v. Kyowa Hakko Kirin Co., No. IPR2017-01252 (P.T.A.B. Oct. 23, 2017); Aragen Bioscience, Inc. v. Kyowa Hakko Kirin Co., No. IPR2017-01254 (P.T.A.B. Oct. 23, 2017); Aragen Bioscience, Inc. v. Kyowa Hakko Kirin Co., No. IPR2017-01262 (P.T.A.B. Oct. 23, 2017); Celltrion, L.L.C. v. Biogen, Inc., No. IPR2017-01229 (P.T.A.B. Oct. 23, 2017); Abiomed, Inc. v. Maquet Cardiovascular, L.L.C., No. IPR2017-01201 (P.T.A.B. Oct. 23, 2017); Merck Sharp & Dohme Corp. v. Wyeth, L.L.C., No. IPR2017-01194 (P.T.A.B. Oct. 20, 2017); Merck Sharp & Dohme Corp. v. Wyeth, L.L.C., No. IPR2017-01215 (P.T.A.B. Oct. 20, 2017); Abiomed, Inc. v. Maquet Cardiovascular, L.L.C., No. IPR2017-01207 (P.T.A.B. Oct. 18, 2017); Comcast Cable Comms. v. Rovi Techs., No. IPR2017-01050 (P.T.A.B. Oct. 18, 2017); Comcast Cable Comms. v. Rovi Techs., No. IPR2017-01143 (P.T.A.B. Oct. 18, 2017); FanDuel, Inc. v. CG Tech. Dev., No. IPR2017-00902 (P.T.A.B. Oct. 18, 2017); Marker Volkl U.S.A., Inc. v. Kneebinding, Inc., No. IPR2017-01265 (P.T.A.B. Oct. 18, 2017); Samsung Elecs. v. Elm 3D Innovations, L.L.C., No. IPR2017-01305 (P.T.A.B. Oct. 17, 2017); Uber Techs. v. X One, Inc., No. IPR2017-01255 (P.T.A.B. Oct. 16, 2017); Comcast Cable Comms. v. Rovi Techs., No. IPR2017-00993 (P.T.A.B. Oct. 16, 2017); Duo Sec., Inc. v. StrikeForce Techs., No. IPR2017-01041 (P.T.A.B. Oct. 16, 2017); Int'l Bus. Machs. v. EnvisionIT, L.L.C., No. IPR2017-01247 (P.T.A.B. Oct. 16, 2017); Int'l Bus. Machs. v. EnvisionIT, L.L.C., No. IPR2017-01248 (P.T.A.B. Oct. 16, 2017); Int'l Bus. Machs. v. EnvisionIT, L.L.C., No. IPR2017-01250 (P.T.A.B. Oct. 16, 2017); Int'l Bus. Machs. v. EnvisionIT, L.L.C., No. IPR2017-01251 (P.T.A.B. Oct. 16, 2017); One World Techs. v. The Chamberlain Grp., No. IPR2017-01137 (P.T.A.B. Oct. 16, 2017); Uber Techs. v. X One, Inc., No. IPR2017-01264 (P.T.A.B. Oct. 16, 2017); Comcast Cable Comms. v. Rovi Techs., No. IPR2017-00993 (P.T.A.B. Oct. 13, 2017); Edwards Lifesciences Corp. v. Boston Sci. Scimed, Inc., No. IPR2017-01293 (P.T.A.B. Oct. 13, 2017); Edwards Lifesciences Corp. v. Boston Sci. Scimed, Inc., No. IPR2017-1301 (P.T.A.B. Oct. 13, 2017); NetApp, Inc. v. Realtime Data, L.L.C., No. IPR2017-01196 (P.T.A.B. Oct. 13, 2017); Stingray Dig. Grp. v. Musical Choice, No. IPR2017-01191 (P.T.A.B. Oct. 13, 2017); Actavis, Inc. v. Abraxis Bioscience, L.L.C., No. IPR2017-01100 (P.T.A.B. Oct. 12, 2017); Celltrion, Inc. v. Biogen, Inc., No. IPR2017-01230 (P.T.A.B. Oct. 12, 2017); Hutchinson Tech. v. Nitto Denko Corp., No. IPR2017-01421 (P.T.A.B. Oct. 12, 2017); Hutchinson Tech. v. Nitto Denko Corp., No. IPR2017-01422 (P.T.A.B. Oct. 12, 2017); Itron, Inc. v. Smart Meter Techs., No. IPR2017-01199 (P.T.A.B. Oct. 11, 2017); Samsung Elecs. v. Prisua Eng'g Corp., No. IPR2017-01188 (P.T.A.B. Oct. 11, 2017); Samsung Elecs. v. Prisua Eng'g Corp., No. IPR2017-01188 (P.T.A.B. Oct. 11, 2017); Unified Patents, Inc. v.

Kamatani Cloud, L.L.C., No. IPR2017-01370 (P.T.A.B. Oct. 11, 2017); Actavis, Inc. v. Abraxis Bioscience, L.L.C., No. IPR2017-01101 (P.T.A.B. Oct. 10, 2017); Actavis, Inc. v. Abraxis Bioscience, L.L.C., No. IPR2017-01103 (P.T.A.B. Oct. 10, 2017); Actavis, Inc. v. Abraxis Bioscience, L.L.C., No. IPR2017-01104 (P.T.A.B. Oct. 10, 2017); Marvell Semiconductor, Inc. v. Spectra Licensing Grp., No. IPR2017-01240 (P.T.A.B. Oct. 10, 2017); Celltrion, Inc. v. Biogen, Inc., No. IPR2017-01095 (P.T.A.B. Oct. 6, 2017); T-Mobile U.S., Inc. v. Barkan Wireless Access Techs., No. IPR2017-01098 (P.T.A.B. Oct. 6, 2017); T-Mobile U.S., Inc. v. Barkan Wireless Access Techs., No. IPR2017-01099 (P.T.A.B. Oct. 6, 2017); Duodecad IT Servs. Luxembourg S.A.R.L. v. WAG Acquisition, L.L.C., No. IPR2017-01179 (P.T.A.B. Oct. 5, 2017); 1964 Ears, L.L.C. v. Jerry Harvey Audio Holding, L.L.C., No. IPR2017-01084 (P.T.A.B. Oct. 4, 2017); Celltrion, Inc. v. Genentech, Inc., No. IPR2017-01121 (P.T.A.B. Oct. 4, 2017); Celltrion, Inc. v. Genentech, Inc., No. IPR2017-01139 (P.T.A.B. Oct. 4, 2017); Celltrion, Inc. v. Genentech, Inc., No. IPR2017-01140 (P.T.A.B. Oct. 4, 2017); Microsoft Corp. v. Kaufman, No. IPR2017-01141 (P.T.A.B. Oct. 4, 2017); Olympus Corp. v. Papst Licensing G.M.B.H., No. IPR2017-01808 (P.T.A.B. Oct. 4, 2017); Telular Corp. v. PerDiemCo, L.L.C., No. IPR2017-01007 (P.T.A.B. Oct. 4, 2017); ZTE Corp. v. Cellular Comms. Equip., No. IPR2017-01079 (P.T.A.B. Oct. 4, 2017); 1964 Ears, L.L.C. v. Jerry Harvey Audio Holding, L.L.C., No. IPR2017-01091 (P.T.A.B. Oct. 3, 2017); Celltrion, Inc. v. Biogen, Inc., No. IPR2017-01094 (P.T.A.B. Oct. 3, 2017); Facebook, Inc. v. Uniloc Luxembourg S.A., No. IPR2017-01634 (P.T.A.B. Oct. 3, 2017); General Elec. v. United Techs., No. IPR2017-01097 (P.T.A.B. Oct. 3, 2017); MLB Advanced Media, L.P. v. Front Row Techs., No. IPR2017-01127 (P.T.A.B. Oct. 3, 2017); R.J. Reynolds Vapor Co. v. Fontem Holdings 1 B.V., No. IPR2017-01117 (P.T.A.B. Oct. 3, 2017); Samsung Elecs. v. Image Processing Techs., No. IPR2017-01190 (P.T.A.B. Oct. 3, 2017); Samsung Elecs. v. Image Processing Techs., No. IPR2017-01218 (P.T.A.B. Oct. 3, 2017); Samsung Elecs. v. Kaist IP U.S., L.L.C., No. IPR2017-01047 (P.T.A.B. Oct. 3, 2017); Gridco, Inc. v. Varentec, Inc., No. IPR2017-01134 (P.T.A.B. Oct. 2, 2017); Groupon, Inc. v. Int'l Bus. Machs., No. IPR2017-01158 (P.T.A.B. Oct. 2, 2017); Panduit Corp. v. Corning Optical Comms., No. IPR2017-01074 (P.T.A.B. Oct. 2, 2017); Sun Pharm. Indus. v. Novartis A.G., No. IPR2017-01929 (P.T.A.B. Oct. 2, 2017); Twitter, Inc. v. Youtoo Techs., No. IPR2017-01131 (P.T.A.B. Oct. 2, 2017); Twitter, Inc. v. Youtoo Techs., No. IPR2017-01133 (P.T.A.B. Oct. 2, 2017); Unified Patents, Inc. v. Autoloxer, L.L.C., No. IPR2017-01271 (P.T.A.B. Oct. 2, 2017).

IX. APPENDIX B: IPRs WITH FINAL WRITTEN DECISIONS GROUNDED IN § 103, JANUARY 2014 THROUGH OCTOBER 2016

Am. Megatrends, Inc. v. Kinglite Holdings, No. IPR2015-01079 (P.T.A.B. Oct. 27, 2016); Flotek Indus. v. Nat'l Oilwell DHT, L.P., No. IPR2015-01239 (P.T.A.B. Oct.

26, 2016); Ford Motor Co. v. Paice, L.L.C., No. IPR2015-00792 (P.T.A.B. Oct. 25, 2016); Ricoh Ams. Corp. v. MPHIL Tech. Invs., No. IPR2015-01178 (P.T.A.B. Oct. 25, 2016); Coal. for Affordable Drugs II v. Cosmo Techs., No. IPR2015-00988 (P.T.A.B. Oct. 5, 2016); Apple, Inc. v. Virnetx, Inc., No. IPR2015-00868 (P.T.A.B. Sept. 28, 2016); SanDisk Corp. v. Netlist, Inc., No. IPR2015-01021 (P.T.A.B. Sept. 28, 2016); Ford Motor Co. v. Paice, L.L.C., No. IPR2015-00722 (P.T.A.B. Sept. 26, 2016); Accord Healthcare v. Daiichi Sankyo Co., No. IPR2015-00864 (P.T.A.B. Sept. 12, 2016); Accord Healthcare, U.S. v. Daiichi Sankyo Co., No. IPR2015-00865 (P.T.A.B. Sept. 12, 2016); Lupin, Ltd. v. Senju Pharm., No. IPR2015-01097 (P.T.A.B. Sept. 12, 2016); Lupin, Ltd. v. Senju Pharm., No. IPR2015-01099 (P.T.A.B. Sept. 12, 2016); Lupin, Ltd. v. Senju Pharm., No. IPR2015-01100 (P.T.A.B. Sept. 12, 2016); Lupin, Ltd. v. Senju Pharm., No. IPR2015-01105 (P.T.A.B. Sept. 12, 2016); MotivePower, Inc. v. Cutsforth, Inc., No. IPR2013-00274 (P.T.A.B. Sept. 9, 2016); Captioncall, L.L.C. v. Ultratec, Inc., No. IPR2015-00637 (P.T.A.B. Sept. 7, 2016); LifeWave, Inc. v. Blendermann, No. IPR2016-00571 (P.T.A.B. Sept. 7, 2016); Qualcomm, Inc. v. Bandspeed, Inc., No. IPR2015-00314 (P.T.A.B. Sept. 7, 2016); Samsung Elecs. v. Surpass Tech. Innovation, No. IPR2015-00887 (P.T.A.B. Sept. 6, 2016); Geosys-Intl, Inc. v. Farmers Edge Precision Consulting, No. IPR2015-00708 (P.T.A.B. Aug. 17, 2016); Geosys-Intl, Inc. v. Farmers Edge Precision Consulting, No. IPR2015-00709 (P.T.A.B. Aug. 17, 2016); Maxlinear, Inc. v. Cresta Tech., No. IPR2015-00594 (P.T.A.B. Aug. 15, 2016); Google, Inc. v. At Home Bondholders' Liquidating Tr., No. IPR2015-00657 (P.T.A.B. Aug. 10, 2016); Mako Surgical Corp. v. Blue Belt Techs., No. IPR2015-00630 (P.T.A.B. Aug. 1, 2016); Arris Grp. v. C-Cation Techs., No. IPR2015-00635 (P.T.A.B. July 28, 2016); Innopharam Licensing v. Senju Pharm., No. IPR2015-00903 (P.T.A.B. July 28, 2016); Mitek Sys. v. Rothschild Mobile Imaging Innovations, No. IPR2015-00622 (P.T.A.B. July 20, 2016); Sony Comput. Entm't Am. v. Aplix IP Holdings, No. IPR2015-00533 (P.T.A.B. July 20, 2016); Sony Entm't Am. v. Aplix IP Holdings, No. IPR2015-00729 (P.T.A.B. July 20, 2016); Mitek Sys. v. Rothschild Mobile Imaging Innovations, No. IPR2015-00621 (P.T.A.B. July 15, 2016); CeramTec GmbH v. CeraMedic, L.L.C., No. IPR2015-00398 (P.T.A.B. July 1, 2016); LG Elecs. v. ATI Techs., No. IPR2015-00330 (P.T.A.B. July 1, 2016); Symantec Corp. v. Trustees of Columbia Univ., No. IPR2015-00375 (P.T.A.B. June 30, 2016); Symantec Corp. v. Trustees of Columbia Univ., No. IPR2015-00377 (P.T.A.B. June 30, 2016); Caterpillar, Inc. v. Miller U.K., Ltd., No. IPR2015-00433 (P.T.A.B. June 29, 2016); Sony Comput. Entm't Am. v. Aplix IP Holdings, No. IPR2015-00730 (P.T.A.B. June 29, 2016); LG Elecs. v. ATI Techs., No. IPR2015-00326 (P.T.A.B. June 28, 2016); Baby Trend, Inc. v. Wonderland Nurserygoods Co., No. IPR2015-00842 (P.T.A.B. June 27, 2016); J Squared, Inc. v. Sauder Mfg., No. IPR2014-00774 (P.T.A.B. June 27, 2016); Terumo BCT, Inc. v. Noble House Grp., No. IPR2015-00379 (P.T.A.B. June 24, 2016); Daicel Corp. v. Celanese Int'l Corp.,

No. IPR2015-00170 (P.T.A.B. June 23, 2016); E-TRADE Fin. v. Droplets, Inc., No. IPR2015-00470 (P.T.A.B. June 23, 2016); Apple, Inc. v. Memory Integrity, L.L.C., No. IPR2015-00159 (P.T.A.B. June 21, 2016); Google, Inc. v. Network-1 Techs., No. IPR2015-00343 (P.T.A.B. June 20, 2016); Google, Inc. v. Network-1 Techs., No. IPR2015-00345 (P.T.A.B. June 20, 2016); Google, Inc. v. Network-1 Techs., No. IPR2015-00347 (P.T.A.B. June 20, 2016); Google, Inc. v. Network-1 Techs., No. IPR2015-00348 (P.T.A.B. June 20, 2016); Apple, Inc. v. DSS Tech. Mgmt., No. IPR2015-00373 (P.T.A.B. June 17, 2016); Black & Decker, Inc. v. Christy, Inc., No. IPR2015-00472 (P.T.A.B. June 17, 2016); Mitek Sys. v. Rothschild Mobile Imaging Innovations, No. IPR2015-00623 (P.T.A.B. June 17, 2016); Shimano, Inc. v. Globberide, Inc., No. IPR2015-00273 (P.T.A.B. June 16, 2016); Dish Network v. Dragon Intellectual Prop., No. IPR2015-00499 (P.T.A.B. June 15, 2016); Caterpillar, Inc. v. Miller Int'l, Ltd., No. IPR2015-00416 (P.T.A.B. June 14, 2016); Caterpillar, Inc. v. Miller Int'l, Ltd., No. IPR2015-00435 (P.T.A.B. June 14, 2016); Samsung Elecs. v. Home Semiconductor, No. IPR2015-00467 (P.T.A.B. June 13, 2016); Camelbak Prods. v. Ignite U.S., L.L.C., No. IPR2015-01034 (P.T.A.B. June 7, 2016); Crayola, L.L.C. v. Univ. of Cincinnati, No. IPR2015-00393 (P.T.A.B. June 6, 2016); Kofax, Inc. v. Uniloc U.S., Inc., No. IPR2015-01207 (P.T.A.B. June 2, 2016); Dish Network v. CRFD Research, No. IPR2015-00627 (P.T.A.B. June 1, 2016); Int'l Bus. Machs. Corp. v. Intellectual Ventures I, No. IPR2015-00305 (P.T.A.B. May 27, 2016); LG Elecs. v. Advanced Micro Devices, No. IPR2015-00324 (P.T.A.B. May 23, 2016); Sipnet EU S.R.O. v. Straight Path IP Grp., No. IPR2013-00246 (P.T.A.B. May 23, 2016); Sony Comput. Entm't Am., L.L.C. v. Aplix IP Holdings, No. IPR2015-00229 (P.T.A.B. May 23, 2016); Actifio, Inc. v. Delphix Corp., No. IPR2015-00100 (P.T.A.B. May 11, 2016); Enovate Med., L.L.C. v. Intermetro Indus., No. IPR2015-00301 (P.T.A.B. May 11, 2016); Kingston Tech. v. CATR Co., No. IPR2015-00559 (P.T.A.B. May 10, 2016); Sony Comput. Entm't Am. v. Aplix IP Holdings, No. IPR2015-00230 (P.T.A.B. May 10, 2016); LG Elecs. v. Straight Path IP Grp., No. IPR2015-00196 (P.T.A.B. May 9, 2016); LG Elecs. v. Straight Path IP Grp., No. IPR2015-00198 (P.T.A.B. May 9, 2016); Apple, Inc. v. e-Watch, Inc., No. IPR2015-00412 (P.T.A.B. May 6, 2016); Wright Med. Tech. v. BioMedical Enters., No. IPR2015-00786 (P.T.A.B. May 4, 2016); Daifuku Co. v. Murata Mach., No. IPR2015-00083 (P.T.A.B. May 3, 2016); Daifuku Co. v. Murata Mach., No. IPR2015-00085 (P.T.A.B. May 3, 2016); Daifuku Co. v. Murata Mach., No. IPR2015-00088 (P.T.A.B. May 3, 2016); AVX Corp. v. Wilson Greatbatch, Ltd., No. IPR2015-00101 (P.T.A.B. May 2, 2016); Mobotix Corp. v. Comcam Int'l, Inc., No. IPR2015-00093 (P.T.A.B. Apr. 28, 2016); Nintendo of Am., Inc. v. iLife Techs., No. IPR2015-00109 (P.T.A.B. Apr. 28, 2016); Republic Tobacco v. Bao, No. IPR2015-00072 (P.T.A.B. Apr. 27, 2016); Sandisk Corp. v. Netlist, Inc., No. IPR2014-00971 (P.T.A.B. Apr. 27, 2016); Actifio, Inc. v. Delphix Corp., No. IPR2015-00034 (P.T.A.B. Apr. 26, 2016); Int'l Bus. Machs. v. Intellectual

Ventures II, No. IPR2015-00092 (P.T.A.B. Apr. 25, 2016); Bio-Rad Labs. v. Cal. Inst. of Tech., No. IPR2015-00009 (P.T.A.B. Apr. 21, 2016); Bio-Rad Labs., Inc. v. Cal. Inst. of Tech., No. IPR2015-00010 (P.T.A.B. Apr. 21, 2016); MasterImage 3D, Inc. v. RealD, Inc., No. IPR2015-00035 (P.T.A.B. Apr. 20, 2016); Nissan N. Am., Inc. v. Diamond Coating Techs., No. IPR2014-01548 (P.T.A.B. Apr. 20, 2016); Asustek Comput. v. Exotablet, Ltd., No. IPR2015-00046 (P.T.A.B. Apr. 18, 2016); Xilinx, Inc. v. PLL Techs., No. IPR2015-00148 (P.T.A.B. Apr. 18, 2016); ABS Glob., Inc. v. XY, L.L.C., No. IPR2014-01550 (P.T.A.B. Apr. 15, 2016); LG Elecs. v. ATI Techs., No. IPR2015-00325 (P.T.A.B. Apr. 14, 2016); MasterImage 3D, Inc. v. RealD, Inc., No. IPR2015-00040 (P.T.A.B. Apr. 14, 2016); Samsung Elecs. v. Home Semiconductor, No. IPR2015-00459 (P.T.A.B. Apr. 14, 2016); Prod. Miniature, Inc. v. Pop Displays U.S., No. IPR2015-00266 (P.T.A.B. Apr. 13, 2016); Tiffany & Co. v. Lazare Kaplan Int'l, Inc., No. IPR2015-00024 (P.T.A.B. Apr. 13, 2016); Actifio, Inc. v. Delphix Corp., No. IPR2015-00025 (P.T.A.B. Apr. 12, 2016); Microsoft Corp. v. IpLearn-Focus, L.L.C., No. IPR2015-00095 (P.T.A.B. Apr. 11, 2016); Securus Techs. v. Glob. Tel*Link, No. IPR2015-00155 (P.T.A.B. Apr. 7, 2016); Askeladden, L.L.C. v. McGhie, No. IPR2015-00137 (P.T.A.B. Apr. 6, 2016); Amazon.com, Inc. v. Personalized Media Commc'ns, No. IPR2014-01531 (P.T.A.B. Apr. 1, 2016); Actifio, Inc. v. Delphix Corp., No. IPR2015-00052 (P.T.A.B. Mar. 31, 2016); Apple, Inc. v. Aylus Networks, No. IPR2014-01565 (P.T.A.B. Mar. 31, 2016); Amazon.com, Inc. v. Personalized Media Commc'ns, No. IPR2014-01532 (P.T.A.B. Mar. 29, 2016); Blackberry Corp. v. Zipit Wireless, No. IPR2014-01506 (P.T.A.B. Mar. 29, 2016); Blackberry Corp. v. Zipit Wireless, No. IPR2014-01507 (P.T.A.B. Mar. 29, 2016); Blackberry Corp. v. Zipit Wireless, No. IPR2014-01509 (P.T.A.B. Mar. 29, 2016); Edmit Indus. v. Smartdoor Holdings, No. IPR2015-00013 (P.T.A.B. Mar. 29, 2016); Amazon.com, Inc. v. Personalized Media Commc'ns, No. IPR2014-01530 (P.T.A.B. Mar. 24, 2016); Biodelivery Scis. Int'l v. Monosol RX, L.L.C., No. IPR2015-00168 (P.T.A.B. Mar. 24, 2016); Microsoft Corp. v. IpLearn-Focus, L.L.C., No. IPR2015-00097 (P.T.A.B. Mar. 23, 2016); B/E Aerospace v. MAG Aerospace Indus., No. IPR2014-01510 (P.T.A.B. Mar. 18, 2016); B/E Aerospace v. MAG Aerospace Indus., No. IPR2014-01511 (P.T.A.B. Mar. 18, 2016); B/E Aerospace v. MAG Aerospace Indus., No. IPR2014-01513 (P.T.A.B. Mar. 18, 2016); Askeladden, L.L.C. v. McGhie, No. IPR2015-00122 (P.T.A.B. Mar. 17, 2016); Ericsson, Inc. v. Intellectual Ventures I, No. IPR2015-01077 (P.T.A.B. Mar. 17, 2016); Microsoft Corp. v. Biscotti, Inc., No. IPR2014-01457 (P.T.A.B. Mar. 17, 2016); Cisco Sys. v. Crossroads Sys., No. IPR2014-01463 (P.T.A.B. Mar. 16, 2016); Petroleum Geo-Services v. WesternGeco, L.L.C., No. IPR2014-01478 (P.T.A.B. Mar. 16, 2016); Petroleum Geo-Servs. v. WesternGeco, L.L.C., No. IPR2014-01475 (P.T.A.B. Mar. 16, 2016); Petroleum Geo-Servs. v. WesternGeco, L.L.C., No. IPR2014-01477 (P.T.A.B. Mar. 16, 2016); Askeladden, L.L.C. v. McGhie, No. IPR2015-00124 (P.T.A.B. Mar. 11, 2016); Toshiba Corp. v.

Optical Devices, No. IPR2014-01445 (P.T.A.B. Mar. 9, 2016); Toshiba Corp. v. Optical Devices, No. IPR2014-01446 (P.T.A.B. Mar. 9, 2016); Toshiba Corp. v. Optical Devices, No. IPR2014-01447 (P.T.A.B. Mar. 9, 2016); Oxford Nanopores Techs. v. Univ. of Wash., No. IPR2014-00513 (P.T.A.B. Feb. 26, 2016); Hamilton Beach Brands v. Courtesy Prods., No. IPR2014-01257 (P.T.A.B. Feb. 24, 2016); Hamilton Beach Brands v. Courtesy Prods., No. IPR2014-01258 (P.T.A.B. Feb. 24, 2016); Stryker Corp. v. Orthophoenix, L.L.C., No. IPR2014-01519 (P.T.A.B. Feb. 24, 2016); Stryker Corp. v. Orthophoenix, L.L.C., No. IPR2014-01535 (P.T.A.B. Feb. 24, 2016); Saint-Gobain Abrasives v. 3M Innovative Prods., No. IPR2014-01281 (P.T.A.B. Feb. 23, 2016); Google, Inc. v. Visual Real Estate, No. IPR2014-01338 (P.T.A.B. Feb. 22, 2016); Sure-Fire Elec. v. Yin, No. IPR2014-01448 (P.T.A.B. Feb. 22, 2016); Ericsson, Inc. v. Intellectual Ventures II, No. IPR2014-01330 (P.T.A.B. Feb. 19, 2016); Google, Inc. v. Visual Real Estate, No. IPR2014-01341 (P.T.A.B. Feb. 19, 2016); Glob. Tel*Link v. Securus Techs., No. IPR2014-01283 (P.T.A.B. Feb. 18, 2016); Cisco Sys. v. Capella Photonics, No. IPR2014-01276 (P.T.A.B. Feb. 17, 2016); Chums, Inc. v. Cablz, Inc., No. IPR2014-01240 (P.T.A.B. Feb. 8, 2016); LG Display Co. v. Innovative Display Techs., No. IPR2014-01362 (P.T.A.B. Feb. 8, 2016); Stryker Corp. v. Orthophoenix, L.L.C., No. IPR2014-01433 (P.T.A.B. Feb. 5, 2015); Stryker Corp. v. Orthophoenix, L.L.C., No. IPR2014-01434 (P.T.A.B. Feb. 5, 2016); Arctic Cat, Inc. v. Polaris, Inc., No. IPR2014-01428 (P.T.A.B. Feb. 4, 2016); Fike Corp. v. Donadon Safety Discs & Devices, No. IPR2015-00341 (P.T.A.B. Feb. 4, 2016); Seagate Tech. Holdings v. Enova Tech., No. IPR2014-01297 (P.T.A.B. Feb. 4, 2016); HTC Corp. v. NFC Tech., No. IPR2014-01198 (P.T.A.B. Feb. 3, 2016); HTC Corp. v. NFC Tech., No. IPR2014-01199 (P.T.A.B. Feb. 3, 2016); Gordon * Howard Assocs. v. Lunareye, Inc., No. IPR2014-01213 (P.T.A.B. Feb. 2, 2016); NHK Seating of Am., Inc. v. Lear Corp., No. IPR2014-01200 (P.T.A.B. Feb. 2, 2016); NHK Seating of Am., Inc. v. Lear Corp., No. IPR2014-01202 (P.T.A.B. Feb. 2, 2016); Cisco Sys. v. Crossroads Sys., No. IPR2014-01226 (P.T.A.B. Jan. 29, 2016); EMC Corp. v. Clouding Corp., No. IPR2014-01309 (P.T.A.B. Jan. 29, 2016); Ericsson, Inc. v. Intellectual Ventures II, No. IPR2014-01195 (P.T.A.B. Jan. 29, 2016); Mindgeek S.A.R.L. v. Skky, Inc., No. IPR2014-01236 (P.T.A.B. Jan. 29, 2016); Cisco Sys. v. Capella Photonics, No. IPR2014-01166 (P.T.A.B. Jan. 28, 2016); Tietex Int'l, Ltd. v. Precision Fabrics Grp., No. IPR2014-01248 (P.T.A.B. Jan. 27, 2016); Valeo N. Am., Inc. v. Magna Elecs., No. IPR2014-01203 (P.T.A.B. Jan. 25, 2016); Valeo N. Am., Inc. v. Magna Elecs., No. IPR2014-01204 (P.T.A.B. Jan. 25, 2016); HTC Corp. v. Advanced Audio Devices, No. IPR2014-01157 (P.T.A.B. Jan. 22, 2016); Glob.*Tel Link v. Securus Techs., No. IPR2014-01282 (P.T.A.B. Jan. 21, 2016); BMC Med. v. ResMed, Ltd., No. IPR2014-01363 (P.T.A.B. Jan. 20, 2016); ATopTech, Inc. v. Synopsys, Inc., No. IPR2014-01150 (P.T.A.B. Jan. 19, 2016); Int'l Bus. Machs. v. Intellectual Ventures I, No. IPR2014-01385 (P.T.A.B. Jan. 15, 2016); ABS Glob., Inc.

v. XY, L.L.C., No. IPR2014-01161 (P.T.A.B. Jan. 11, 2016); VMware, Inc. v. Clouding Corp., No. IPR2014-01304 (P.T.A.B. Jan. 7, 2016); VMware, Inc. v. Clouding Corp., No. IPR2014-01305 (P.T.A.B. Jan. 7, 2016); GlobalFoundries U.S., Inc. v. Zond, L.L.C., No. IPR2014-01089 (P.T.A.B. Jan. 5, 2016); AVX Corp. v. Greatbatch, Ltd., No. IPR2014-01361 (P.T.A.B. Dec. 30, 2015); HTC Corp. v. Advanced Audio Devices, No. IPR2014-01154 (P.T.A.B. Dec. 29, 2015); HTC Corp. v. Advanced Audio Devices, No. IPR2014-01155 (P.T.A.B. Dec. 29, 2015); HTC Corp. v. Advanced Audio Devices, No. IPR2014-01156 (P.T.A.B. Dec. 29, 2015); Coleman Cable, L.L.C. v. Richmond, No. IPR2014-00935 (P.T.A.B. Dec. 21, 2015); Valeo N. Am., Inc. v. Magna Elecs., No. IPR2014-01208 (P.T.A.B. Dec. 21, 2015); Geox S.P.A. v. Outdry Techs., No. IPR2014-01244 (P.T.A.B. Dec. 18, 2015); Factual, Inc. v. Locata LBS, L.L.C., No. IPR2015-00224 (P.T.A.B. Dec. 17, 2015); NHK Seating of Am. v. Lear Corp., No. IPR2014-00925 (P.T.A.B. Dec. 15, 2015); First Quality Baby Prods. v. Kimberly-Clark Worldwide, Inc., No. IPR2014-01024 (P.T.A.B. Dec. 14, 2015); Ford Motor Co. v. Paice, L.L.C., No. IPR2014-00884 (P.T.A.B. Dec. 10, 2015); Ericsson, Inc. v. Intellectual Ventures I, No. IPR2014-01149 (P.T.A.B. Dec. 9, 2015); Ericsson, Inc. v. Intellectual Ventures II, No. IPR2014-00915 (P.T.A.B. Dec. 7, 2015); Google, Inc. v. Intellectual Ventures II, No. IPR2014-01031 (P.T.A.B. Dec. 7, 2015); Glob. Tel*Link Corp. v. Securus Techs., No. IPR2014-00824 (P.T.A.B. Dec. 2, 2015); Glob. Tel*Link v. Securus Techs., No. IPR2014-00825 (P.T.A.B. Dec. 2, 2015); CaptionCall, L.L.C. v. Ultratec, Inc., No. IPR2014-00780 (P.T.A.B. Dec. 1, 2015); Marvell Semiconductor v. Intellectual Ventures I, No. IPR2014-00548 (P.T.A.B. Nov. 30, 2015); Marvell Semiconductor v. Intellectual Ventures I, No. IPR2014-00553 (P.T.A.B. Nov. 30, 2015); Taiwan Semiconductor Mfg. v. DSS Tech. Mgmt., No. IPR2014-01030 (P.T.A.B. Nov. 30, 2015); Eastman Kodak Co. v. CTP Innovations, No. IPR2014-00788 (P.T.A.B. Nov. 25, 2015); Ford Motor v. Paice, L.L.C., No. IPR2014-00875 (P.T.A.B. Nov. 23, 2015); L-3 Commc'n Holdings v. Power Survey, No. IPR2014-00834 (P.T.A.B. Nov. 23, 2015); L-3 Commc'n Holdings v. Power Survey, No. IPR2014-00839 (P.T.A.B. Nov. 23, 2015); L-3 Commc'ns Holdings v. Power Survey, No. IPR2014-00836 (P.T.A.B. Nov. 23, 2015); TRW Auto. U.S. v. Magna Elecs., No. IPR2014-01351 (P.T.A.B. Nov. 16, 2015); Compass Bank v. Intellectual Ventures II, No. IPR2014-00724 (P.T.A.B. Nov. 15, 2015); Hart Commc'n Found. v. Sipco, L.L.C., No. IPR2014-00751 (P.T.A.B. Nov. 13, 2015); Kinik Co. v. Sung, No. IPR2014-01523 (P.T.A.B. Nov. 4, 2015); TC Heartland, L.L.C. v. Kraft Foods Grp. Brands, No. IPR2015-01131 (P.T.A.B. Nov. 4, 2015); TC Heartland, L.L.C. v. Kraft Foods Grp. Brands, No. IPR2015-01128 (P.T.A.B. Nov. 4, 2015); Phigenix, Inc. v. Immunogen, Inc., No. IPR2014-00676 (P.T.A.B. Oct. 27, 2015); C&D Zodiac, Inc. v. B/E Aerospace, No. IPR2014-00727 (P.T.A.B. Oct. 26, 2015); Eli Lilly & Co. v. L.A. BioMedical Research Inst. at Harbor-UCLA Med. Ctr., No. IPR2014-00693 (P.T.A.B. Oct. 22, 2015); EMC Corp. v.

Clouding Corp., No. IPR2014-01216 (P.T.A.B. Jan. 26, 2015); Ericsson, Inc. v. Intellectual Ventures I, No. IPR2014-00963 (P.T.A.B. Oct. 22, 2015); FCA U.S., L.L.C. v. Signal IP, Inc., No. IPR2015-01118 (P.T.A.B. Oct. 21, 2015); Homeland Housewares v. Whirlpool Corp., No. IPR2014-00877 (P.T.A.B. Oct. 21, 2015); IGB Auto. v. Gentherm, GmbH, No. IPR2014-00668 (P.T.A.B. Oct. 21, 2015); Samsung Elecs. v. LG Elecs., No. IPR2014-00735 (P.T.A.B. Oct. 21, 2015); Parrot S.A. v. Drone Techs., No. IPR2014-00730 (P.T.A.B. Oct. 20, 2015); Parrot S.A. v. Drone Techs., No. IPR2014-00732 (P.T.A.B. Oct. 20, 2015); Samsung Elecs. v. Black Hills Media, No. IPR2014-00717 (P.T.A.B. Oct. 20, 2015); Kinetic Techs. v. Skyworks Sols., No. IPR2014-00690 (P.T.A.B. Oct. 19, 2015); Webasto Roof Sys. v. UUSI, L.L.C., No. IPR2014-00648 (P.T.A.B. Oct. 13, 2015); Webasto Roof Sys. v. UUSI, L.L.C., No. IPR2014-00649 (P.T.A.B. Oct. 13, 2015); Webasto Roof Sys. v. UUSI, L.L.C., No. IPR2014-00650 (P.T.A.B. Oct. 13, 2015); Churchill Drilling Tools U.S. v. Schoeller-Bleckmann Oilfield Equip., No. IPR2014-00814 (P.T.A.B. Oct. 9, 2015); LG Chem, L.L.C. v. Celgard, L.L.C., No. IPR2014-00692 (P.T.A.B. Oct. 5, 2015); Gillette Co. v. Zond, L.L.C., No. IPR2014-00726 (P.T.A.B. Sept. 29, 2015); IGB Auto. v. Gentherm GmbH, No. IPR2014-00661 (P.T.A.B. Sept. 29, 2015); Noven Pharms. v. Novartis A.G., No. IPR2014-00549 (P.T.A.B. Sept. 28, 2015); Noven Pharms. v. Novartis A.G., No. IPR2014-00550 (P.T.A.B. Sept. 28, 2015); GlobalFoundries U.S., Inc. v. Zond, L.L.C., No. IPR2014-01098 (P.T.A.B. Sept. 25, 2015); Nelson Prods. v. BAL Seal Eng'g, No. IPR2014-00572 (P.T.A.B. Sept. 24, 2015); Samsung Elecs. v. Rembrandt Wireless Techs., No. IPR2014-00893 (P.T.A.B. Sept. 24, 2015); Torrent Pharms. v. Novartis A.G., No. IPR2014-00784 (P.T.A.B. Sept. 24, 2015); Fujitsu Semiconductor v. Zond, L.L.C., No. IPR2014-00807 (P.T.A.B. Sept. 23, 2015); Edmund Optics v. Semrock, Inc., No. IPR2014-00559 (P.T.A.B. Sept. 16, 2015); U.S. Endoscopy Grp. v. CDX Diagnostics, No. IPR2014-00639 (P.T.A.B. Sept. 14, 2015); Osran Sylvania, Inc. v. Jam Strait, Inc., No. IPR2014-00703 (P.T.A.B. Sept. 8, 2015); Stellar Energy Ams. v. TAS Energy, No. IPR2015-00882 (P.T.A.B. Sept. 8, 2015); Flir Sys. v. Leak Surveys, No. IPR2014-00434 (P.T.A.B. Sept. 3, 2015); Seagate Tech. Holdings v. Enova Tech., No. IPR2014-00683 (P.T.A.B. Sept. 2, 2015); MasterCard Int'l, Inc. v. D'Agostino, No. IPR2014-00543 (P.T.A.B. Aug. 31, 2015); MasterCard Int'l, Inc. v. D'Agostino, No. IPR2014-00544 (P.T.A.B. Aug. 31, 2015); Nissan N. Am., Inc. v. Norman IP Holdings, No. IPR2014-00564 (P.T.A.B. Aug. 26, 2015); Apple, Inc. v. VirnetX, Inc., No. IPR2014-00482 (P.T.A.B. Aug. 24, 2015); Canon, Inc. v. Intellectual Ventures II, No. IPR2014-00631 (P.T.A.B. Aug. 19, 2015); SAP Am., Inc. v. Arunachalam, No. IPR2014-00413 (P.T.A.B. Aug. 17, 2015); CustomPlay, L.L.C. v. ClearPlay, Inc., No. IPR2014-00430 (P.T.A.B. Aug. 14, 2015); Toshiba Corp. v. Intellectual Ventures II, No. IPR2014-00418 (P.T.A.B. Aug. 7, 2015); Butamax Advanced Biofuels v. Gevo, Inc., No. IPR2014-00402 (P.T.A.B. Aug. 5, 2015); A.C. Dispensing Equip. v. Prince Castle, L.L.C., No. IPR2014-00511 (P.T.A.B. Aug. 4,

2015); Apple, Inc. v. Far Stone Tech., No. IPR2015-00599 (P.T.A.B. July 30, 2015); Qualtrics v. OpinionLab, Inc., No. IPR2014-00366 (P.T.A.B. July 30, 2015); Qualtrics v. OpinionLab, Inc., No. IPR2014-00420 (P.T.A.B. July 24, 2015); Amneal Pharms. v. Endo Pharms., No. IPR2014-00360 (P.T.A.B. July 22, 2015); Customplay, L.L.C. v. Clearplay, Inc., No. IPR2014-00339 (P.T.A.B. July 21, 2015); Customplay, L.L.C. v. Clearplay, Inc., No. IPR2014-00383 (P.T.A.B. July 21, 2015); Eizo Corp. v. Barco N.V., No. IPR2014-00358 (P.T.A.B. July 14, 2015); Finjan, Inc. v. Fireeye, Inc., No. IPR2014-00344 (P.T.A.B. July 10, 2015); Finjan, Inc. v. Fireeye, Inc., No. IPR2014-00492 (P.T.A.B. July 10, 2015); Euro-Pro Operating v. Acorne Enters., No. IPR2014-00351 (P.T.A.B. July 9, 2015); Euro-Pro Operating v. Acorne Enters., No. IPR2014-00352 (P.T.A.B. July 9, 2015); Toyota Motor N. Am. v. Cruise Control Techs., No. IPR2014-00289 (P.T.A.B. June 29, 2015); TRW Auto. U.S. v. Magna Elecs., No. IPR2014-00251 (P.T.A.B. June 25, 2015); TRW Auto. U.S. v. Magna Elecs., No. IPR2014-00256 (P.T.A.B. June 25, 2015); TRW Auto. U.S. v. Magna Elecs., No. IPR2014-00261 (P.T.A.B. June 25, 2015); TRW Auto. U.S. v. Magna Elecs., No. IPR2014-00262 (P.T.A.B. June 25, 2015); Facebook, Inc. v. Rembrandt Soc. Media, No. IPR2014-00415 (P.T.A.B. June 22, 2015); Ford Motor Co. v. TLC Fuel Injection Sys., No. IPR2014-00272 (P.T.A.B. June 22, 2015); Johnson Controls v. Wildcat Licensing WI, No. IPR2014-00304 (P.T.A.B. June 22, 2015); Johnson Controls v. Wildcat Licensing WI, No. IPR2014-00305 (P.T.A.B. June 22, 2015); Norman Int'l, Inc. v. Andrew J. Testamentary Tr., No. IPR2014-00283 (P.T.A.B. June 18, 2015); Continental Auto. Sys. v. Wasica Fin., No. IPR2014-00295 (P.T.A.B. June 17, 2015); Mentor Graphics Corp. v. Synopsys, Inc., No. IPR2014-00287 (P.T.A.B. June 11, 2015); SDI Techs. v. Bose Corp., No. IPR2014-00343 (P.T.A.B. June 11, 2015); SDI Techs. v. Bose Corp., No. IPR2014-00346 (P.T.A.B. June 11, 2015); Apple, Inc. v. THC, Ltd., No. IPR2014-00235 (P.T.A.B. June 9, 2015); Olympus Am., Inc. v. Perfect Surgical Techniques, Inc., No. IPR2014-00233 (P.T.A.B. June 8, 2015); Olympus Am., Inc. v. Perfect Surgical Techniques, No. IPR2014-00241 (P.T.A.B. June 8, 2015); WesternGeco, L.L.C. v. PGS Geophysical A.S., No. IPR2015-00309 (P.T.A.B. June 8, 2015); Johnson Health Tech v. Icon Health & Fitness, No. IPR2014-00184 (P.T.A.B. June 5, 2015); REG Synthetic Fuels v. Neste Oil, No. IPR2014-00192 (P.T.A.B. June 5, 2015); AL-KO Kober, L.L.C. v. Lippert Components Mfg., No. IPR2014-00313 (P.T.A.B. June 3, 2015); First Quality Baby Prods. v. Kimberly-Clark Worldwide, Inc., No. IPR2014-00169 (P.T.A.B. May 28, 2015); Headbox, L.L.C. v. Infinite Imagineering, No. IPR2014-00365 (P.T.A.B. May 22, 2015); Butamax Advanced Biofuels v. Gevo, Inc., No. IPR2014-00142 (P.T.A.B. May 21, 2015); Butamax Advanced Biofuels v. Gevo, Inc., No. IPR2014-00143 (P.T.A.B. May 21, 2015); Cisco Sys. v. AIP Acquisition, L.L.C., No. IPR2014-00247 (P.T.A.B. May 20, 2015); Ericsson, Inc. v. Intellectual Ventures I, No. IPR2014-00527 (P.T.A.B. May 18, 2015); Zimmer Holdings v. Bonutti Skeletal Innovations, No. IPR2014-00321 (P.T.A.B.

May 18, 2015); Nintendo of Am., Inc. v. Motion Games, No. IPR2014-00164 (P.T.A.B. May 15, 2015); Reloaded Games v. Parallel Networks, No. IPR2014-00136 (P.T.A.B. May 14, 2015); Reloaded Games v. Parallel Networks, No. IPR2014-00139 (P.T.A.B. May 14, 2015); Apple, Inc. v. VirnetX, Inc., No. IPR2014-00238 (P.T.A.B. May 11, 2015); Harmonix Music Sys. v. Princeton Dig. Image Corp., No. IPR2014-00155 (P.T.A.B. May 6, 2015); QSC Audio Prods. v. Crest Audio, No. IPR2014-00131 (P.T.A.B. May 1, 2015); QSC Audio Prods. v. Crest Audio, No. IPR2014-00127 (P.T.A.B. Apr. 29, 2015); QSC Audio Prods. v. Crest Audio, No. IPR2014-00129 (P.T.A.B. Apr. 29, 2015); Yahoo!, Inc. v. Createads, L.L.C., No. IPR2014-00200 (P.T.A.B. Apr. 29, 2015); Medtronic, Inc. v. Norred, No. IPR2014-00110 (P.T.A.B. Apr. 23, 2015); Oracle Corp. v. Thought, Inc., No. IPR2014-00117 (P.T.A.B. Apr. 23, 2015); Oracle Corp. v. Thought, Inc., No. IPR2014-00118 (P.T.A.B. Apr. 23, 2015); Oracle Corp. v. Thought, Inc., No. IPR2014-00119 (P.T.A.B. Apr. 23, 2015); Veeam Software v. Symantec Corp., No. IPR2014-00090 (P.T.A.B. Apr. 23, 2015); Medtronic, Inc. v. Lifeport Scis., No. IPR2014-00288 (P.T.A.B. Apr. 21, 2015); Acco Brands Corp. v. Fellowes, Inc., No. IPR2013-00566 (P.T.A.B. Feb. 12, 2015); GSI Tech. v. Cypress Semiconductor Corp., No. IPR2014-00202 (P.T.A.B. Apr. 9, 2015); GSI Tech. v. Cypress Semiconductor, No. IPR2014-00121 (P.T.A.B. Apr. 9, 2015); Google, Inc. v. Unwired Planet, L.L.C., No. IPR2014-00027 (P.T.A.B. Apr. 6, 2015); Microsoft Corp. v. B.E. Tech., No. IPR2014-00040 (P.T.A.B. Apr. 6, 2015); Medtronic, Inc. v. NuVasive, Inc., No. IPR2014-00075 (P.T.A.B. Apr. 5, 2015); Medtronic, Inc. v. NuVasive, Inc., No. IPR2014-00034 (P.T.A.B. Apr. 3, 2015); Medtronic, Inc. v. NuVasive, Inc., No. IPR2014-00073 (P.T.A.B. Apr. 3, 2015); Medtronic, Inc. v. NuVasive, Inc., No. IPR2014-00087 (P.T.A.B. Apr. 3, 2015); Honeywell Int'l, Inc. v. Int'l Controls & Measurements Corp., No. IPR2014-00219 (P.T.A.B. Apr. 1, 2015); Toshiba Samsung Storage Tech. Kor. v. LG Elecs., No. IPR2014-00205 (P.T.A.B. Apr. 1, 2015); Toshiba Samsung Storage Tech. Kor. v. LG Elecs., No. IPR2014-00204 (P.T.A.B. Mar. 31, 2015); Apple, Inc. v. PersonalWeb Techs., No. IPR2013-00596 (P.T.A.B. Mar. 25, 2015); Aker Biomarine v. Neptune Techs. & Bioresources, No. IPR2014-00003 (P.T.A.B. Mar. 23, 2015); Unified Patents, Inc. v. Clouding IP, L.L.C., No. IPR2013-00586 (P.T.A.B. Mar. 19, 2015); CaptionCall, L.L.C. v. Ultratec, Inc., No. IPR2013-00540 (P.T.A.B. Mar. 3, 2015); CaptionCall, L.L.C. v. Ultratec, Inc., No. IPR2013-00541 (P.T.A.B. Mar. 3, 2015); CaptionCall, L.L.C. v. Ultratec, Inc., No. IPR2013-00542 (P.T.A.B. Mar. 3, 2015); CaptionCall, L.L.C. v. Ultratec, Inc., No. IPR2013-00544 (P.T.A.B. Mar. 3, 2015); CaptionCall, L.L.C. v. Ultratec, Inc., No. IPR2013-00545 (P.T.A.B. Mar. 3, 2015); Microsoft Corp. v. Enfish, L.L.C., No. IPR2013-00562 (P.T.A.B. Mar. 3, 2015); Toyota Motor v. Hagenbuch, No. IPR2014-00123 (P.T.A.B. Mar. 3, 2015); Mexichem Amanco Holdings v. Honeywell Int'l, Inc., No. IPR2013-00576 (P.T.A.B. Feb. 26, 2015); Biomarin Pharm. v. Duke Univ., No. IPR2013-00535 (P.T.A.B. Feb. 23, 2015);

Biomarin Pharm. v. Genzyme Therapeutic Prods., No. IPR2013-00537 (P.T.A.B. Feb. 23, 2015); Delaval Int'l A.B. v. Lely Patent N.V., No. IPR2013-00575 (P.T.A.B. Feb. 20, 2015); Tandus Flooring v. Interface, Inc., No. IPR2013-00527 (P.T.A.B. Feb. 12, 2015); Intelligent Bio-Systems v. Illumina Cambridge, Ltd., No. IPR2013-00517 (P.T.A.B. Feb. 11, 2015); Medtronic, Inc. v. NuVasive, Inc., No. IPR2013-00506 (P.T.A.B. Feb. 11, 2015); Medtronic, Inc. v. NuVasive, Inc., No. IPR2013-00507 (P.T.A.B. Feb. 11, 2015); Conopco, Inc. v. Proctor & Gamble Co., No. IPR2013-00505 (P.T.A.B. Feb. 10, 2015); Conopco, Inc. v. Proctor & Gamble Co., No. IPR2013-00509 (P.T.A.B. Feb. 10, 2015); Sensio, Inc. v. Select Brands, No. IPR2013-00500 (P.T.A.B. Feb. 9, 2015); Sensio, Inc. v. Select Brands, No. IPR2013-00501 (P.T.A.B. Feb. 9, 2015); Sensio, Inc. v. Select Brands, No. IPR2013-00580 (P.T.A.B. Feb. 9, 2015); PNY Techs. v. Phison Elecs., No. IPR2013-00472 (P.T.A.B. Feb. 4, 2015); Facebook, Inc. v. Software Rights Archive, L.L.C., No. IPR2013-00478 (P.T.A.B. Feb. 2, 2015); Facebook, Inc. v. Software Rights Archive, L.L.C., No. IPR2013-00479 (P.T.A.B. Feb. 2, 2015); Toyota Motor v. Hagenbuch, No. IPR2013-00638 (P.T.A.B. Jan. 30, 2015); Cardiocom, L.L.C. v. Robert Bosch Healthcare Sys., No. IPR2013-00468 (P.T.A.B. Jan. 27, 2015); Autoquip, Inc. v. Graco Minn., Inc., No. IPR2013-00452 (P.T.A.B. Jan. 14, 2015); NHK Seating of Am. v. Lear Corp., No. IPR2014-01079 (P.T.A.B. Jan. 13, 2015); Toyota Motor v. Am. Vehicular Scis., No. IPR2013-00419 (P.T.A.B. Jan. 12, 2015); Toyota Motor v. Am. Vehicular Scis., No. IPR2013-00424 (P.T.A.B. Jan. 12, 2015); NHK Seating of Am. v. Lear Corp., No. IPR2014-01026 (P.T.A.B. Dec. 31, 2014); Kaiser Aluminum v. Constellium Rolled Prods. Ravenswood, No. IPR2014-01002 (P.T.A.B. Dec. 29, 2014); Dell, Inc. v. Acceleron, L.L.C., No. IPR2013-00440 (P.T.A.B. Dec. 22, 2014); Kamada, Ltd. v. Grifols Therapeutics, No. IPR2014-00899 (P.T.A.B. Dec. 18, 2014); Cyanotech Corp. v. Trustees of the Univ. of Ill., No. IPR2013-00401 (P.T.A.B. Dec. 12, 2014); Amneal Pharms. v. Supernus Pharms., No. IPR2013-00368 (P.T.A.B. Dec. 9, 2014); Amneal Pharms. v. Supernus Pharms., No. IPR2013-00371 (P.T.A.B. Dec. 9, 2014); Amneal Pharms. v. Supernus Pharms., No. IPR2013-00372 (P.T.A.B. Dec. 9, 2014); St. Jude Med., Inc. v. Atlas IP, L.L.C., No. IPR2014-00916 (P.T.A.B. Dec. 8, 2014); Toyota Motor v. Am. Vehicular Scis., No. IPR2013-00416 (P.T.A.B. Dec. 5, 2014); Trivascular, Inc. v. Samuels, No. IPR2013-00493 (P.T.A.B. Dec. 3, 2014); Ariosa Diagnostics v. Trustees of Leland Stanford Junior Univ., No. IPR2013-00308 (P.T.A.B. Nov. 19, 2014); Hayward Indus. v. Pentair Water Pool & Spa, No. IPR2013-00285 (P.T.A.B. Nov. 19, 2014); Hayward Indus. v. Pentair Water Pool & Spa, No. IPR2013-00287 (P.T.A.B. Nov. 19, 2014); L-3 Commc'n Holdings v. Power Survey, No. IPR2014-00832 (P.T.A.B. Nov. 14, 2014); Toyota Motor v. Am. Vehicular Scis., No. IPR2013-00415 (P.T.A.B. Nov. 12, 2014); Game Show Network v. Stephenson, No. IPR2013-00289 (P.T.A.B. Nov. 7, 2014); Customplay, L.L.C. v. Clearplay, Inc., No. IPR2013-00484 (P.T.A.B. Nov. 5, 2014); Polaris Wireless v.

TruePosition, Inc., No. IPR2013-00323 (P.T.A.B. Nov. 3, 2014); Oracle Corp. v. Click-to-Call Techs., No. IPR2013-00312 (P.T.A.B. Oct. 28, 2014); Ariosa Diagnostics v. Verinata Health, No. IPR2013-00277 (P.T.A.B. Oct. 23, 2014); Microsoft Corp. v. Surfcast, Inc., No. IPR2013-00292 (P.T.A.B. Oct. 14, 2014); Amkor Tech. v. Tessera, Inc., No. IPR2013-00242 (P.T.A.B. Oct. 10, 2014); Moore Rod & Pipe v. Wagon Trail Ventures, No. IPR2013-00418 (P.T.A.B. Oct. 2, 2014); Becton, Dickinson & Co. v. One Stockduq Holdings, No. IPR2013-00235 (P.T.A.B. Sept. 25, 2014); Handi Quilter, Inc. v. Bernina Int'l A.G., No. IPR2013-00364 (P.T.A.B. Sept. 25, 2014); Butamax Advanced Biofuels v. Gevo, Inc., No. IPR2013-00214 (P.T.A.B. Sept. 23, 2014); Rackspace Hosting v. Rotatable Techs., No. IPR2013-00248 (P.T.A.B. Sept. 19, 2014); Intel Corp. v. Zond, L.L.C., No. IPR2014-00468 (P.T.A.B. Sept. 15, 2014); ZTE Corp. v. IPR Licensing, No. IPR2014-00525 (P.T.A.B. Sept. 14, 2014); PCT Int'l, Inc. v. Amphenol Corp., No. IPR2013-00229 (P.T.A.B. Sept. 11, 2014); Ariosa Diagnostics v. ISIS Innovation, No. IPR2012-00022 (P.T.A.B. Sept. 2, 2014); SCHOTT Gemtron Corp. v. SSW Holding, No. IPR2013-00358 (P.T.A.B. Aug. 20, 2014); Google, Inc. v. Jongerious Panoramic Techs., No. IPR2013-00191 (P.T.A.B. Aug. 12, 2014); Hewlett-Packard Co. v. MCM Portfolio, L.L.C., No. IPR2013-00217 (P.T.A.B. Aug. 6, 2014); Pharmatech Sols. v. Lifescan Scot., Ltd., No. IPR2013-00247 (P.T.A.B. Aug. 6, 2014); SAS Inst., Inc. v. ComplementSoft, L.L.C., No. IPR2013-00226 (P.T.A.B. Aug. 6, 2014); Qualtrics, L.L.C. v. OpinionLab, Inc., No. IPR2014-00406 (P.T.A.B. July 31, 2014); Veeam Software v. Symantec Corp., No. IPR2013-00150 (P.T.A.B. July 29, 2014); Athena Automation v. Husky Injection Moldings Sys., No. IPR2013-00167 (P.T.A.B. July 23, 2014); Athena Automation v. Husky Injection Moldings Sys., No. IPR2013-00169 (P.T.A.B. July 23, 2014); NuVasive, Inc. v. Warsaw Orthopedic, Inc., No. IPR2013-00208 (P.T.A.B. July 10, 2014); Scientair Techs. v. Prolitec, Inc., No. IPR2013-00179 (P.T.A.B. June 26, 2014); Ecowater Sys. v. Culligan Int'l Co., No. IPR2013-00155 (P.T.A.B. June 24, 2014); Gnosis S.p.A. v. Merck & CIE, No. IPR2013-00117 (P.T.A.B. June 20, 2014); Gnosis S.P.A. v. S. Ala. Med. Sci. Found., No. IPR2013-00116 (P.T.A.B. June 20, 2014); Gnosis S.P.A. v. S. Ala. Med. Sci. Found., No. IPR2013-00118 (P.T.A.B. June 20, 2014); BAE Sys. Info. v. Cheetah Omni, L.L.C., No. IPR2013-00175 (P.T.A.B. June 19, 2014); Covidien, L.P. v. Ethicon Endo-Surgery, No. IPR2013-00209 (P.T.A.B. June 9, 2014); Smith & Nephew, Inc. v. Convatec Techs., No. IPR2013-00097 (P.T.A.B. May 29, 2014); Smith & Nephew, Inc. v. Convatec Techs., No. IPR2013-00102 (P.T.A.B. May 29, 2014); Avaya, Inc. v. Network-1 Sec. Sols., No. IPR2013-00071 (P.T.A.B. May 22, 2014); ABB, Inc. v. ROY-G-BIV Corp., No. IPR2013-00063 (P.T.A.B. May 16, 2014); EMC Corp. v. PersonalWeb Techs., No. IPR2013-00082 (P.T.A.B. May 15, 2014); EMC Corp. v. PersonalWeb Techs., No. IPR2013-00083 (P.T.A.B. May 15, 2014); EMC Corp. v. PersonalWeb Techs., No. IPR2013-00084 (P.T.A.B. May 15, 2014); EMC Corp. v.

PersonalWeb Techs., No. IPR2013-00085 (P.T.A.B. May 15, 2014); EMC Corp. v. PersonalWeb Techs., No. IPR2013-00086 (P.T.A.B. May 15, 2014); EMC Corp. v. PersonalWeb Techs., No. IPR2013-00087 (P.T.A.B. May 15, 2014); Corning, Inc. v. DSM IP Assets, No. IPR2013-00045 (P.T.A.B. May 9, 2014); Corning, Inc. v. DSM IP Assets, No. IPR2013-00048 (P.T.A.B. May 9, 2014); St. Jude Med., Cardiology Div., Inc. v. Regents of the Univ. of Mich., No. IPR2013-00041 (P.T.A.B. May 1, 2014); Berk-Tek, L.L.C. v. Belden Techs., No. IPR2013-00058 (P.T.A.B. Apr. 28, 2014); Berk-Tek, L.L.C. v. Belden Techs., No. IPR2013-00059 (P.T.A.B. Apr. 28, 2014); Berk-Tek, L.L.C. v. Belden Techs., No. IPR2013-00069 (P.T.A.B. Apr. 28, 2014); Motorola Sols. v. Mobile Scanning Techs., No. IPR2013-00093 (P.T.A.B. Apr. 24, 2014); Munchkin, Inc. v. Luv N' Care, Ltd., No. IPR2013-00072 (P.T.A.B. Apr. 21, 2014); ABB, Inc. v. ROY-G-BIV Corp., No. IPR2013-00062 (P.T.A.B. Apr. 11, 2014); ABB, Inc. v. ROY-G-BIV Corp., No. IPR2013-00074 (P.T.A.B. Apr. 11, 2014); Elec. Frontier Found. v. Personal Audio, No. IPR2014-00070 (P.T.A.B. Apr. 10, 2014); Google, Inc. v. Unwired Planet, L.L.C., No. IPR2014-00036 (P.T.A.B. Apr. 8, 2014); Kyocera Corp. v. Softview, L.L.C., No. IPR2013-00004 (P.T.A.B. Mar. 27, 2014); Kyocera Corp. v. Softview, L.L.C., No. IPR2013-00007 (P.T.A.B. Mar. 27, 2014); Amazon.com, Inc. v. Personalized Media Commc'ns, No. IPR2014-01527 (P.T.A.B. Mar. 23, 2014); Butamax Advanced Biofuels v. Gevo, Inc., No. IPR2013-00215 (P.T.A.B. Sept. 23, 2014); Berk-Tek, L.L.C. v. Belden Techs., No. IPR2013-00057 (P.T.A.B. Mar. 18, 2014); Micron Tech. v. Trustees of the Univ. of Ill., No. IPR2013-00006 (P.T.A.B. Mar. 10, 2014); Micron Tech. v. Trustees of the Univ. of Ill., No. IPR2013-00008 (P.T.A.B. Mar. 10, 2014); Xilinx, Inc. v. Intellectual Ventures I, No. IPR2013-00029 (P.T.A.B. Mar. 10, 2014); Illumina, Inc. v. Trustees of Columbia Univ., No. IPR2012-00006 (P.T.A.B. Mar. 6, 2014); Illumina, Inc. v. Trustees of Columbia Univ., No. IPR2012-00007 (P.T.A.B. Mar. 6, 2014); Illumina, Inc. v. Trustees of Columbia Univ., No. IPR2013-00011 (P.T.A.B. Mar. 6, 2014); CBS Interactive v. Helferich Patent Licensing, No. IPR2013-00033 (P.T.A.B. Mar. 3, 2014); Microsoft Corp. v. Proxyconn, Inc., No. IPR2012-00026 (P.T.A.B. Feb. 19, 2014); Intellectual Ventures Mgmt. v. Xilinx, Inc., No. IPR2012-00020 (P.T.A.B. Feb. 11, 2014); Intellectual Ventures Mgmt. v. Xilinx, Inc., No. IPR2012-00023 (P.T.A.B. Feb. 11, 2014); Nichia Corp. v. Emcore Corp., No. IPR2012-00005 (P.T.A.B. Feb. 11, 2014); Intellectual Ventures Mgmt. v. Xilinx, Inc., No. IPR2012-00019 (P.T.A.B. Feb. 10, 2014); HTC Corp. v. Advanced Audio Devices, No. IPR2014-01158 (P.T.A.B. Jan. 23, 2014); Idle Free Sys. v. Bergstron, Inc., No. IPR2012-00027 (P.T.A.B. Jan. 7, 2014); Librestream Techs. v. Thomason, No. IPR2014-00368 (P.T.A.B. Jan. 5, 2014); Librestream Techs. v. Thomason, No. IPR2014-00369 (P.T.A.B. Jan. 5, 2014).

