White Paper Report
United States Patent Invalidity Study 2012

1. Introduction

The U.S. patent laws are predicated on the constitutional goal to "promote the progress of science and useful arts, by securing for limited times to … inventors the exclusive right to their respective… inventions". *U.S. Constitution,* Art. I, Sec. 8, Cl. 8. An important aspect of this protection is the assurance that only patent applications meeting the statutory requirements become U.S. Patents. The statutory provisions are set forth in the United States Code, primarily in 35 U.S.C. § 100-105, and describe what subject matter may be patentable and the conditions for patentability. In addition to rigorous prosecution of patent applications in the U.S. Patent & Trademark Office, the U.S. system also provides multiple avenues for a party to challenge the validity of an issued U.S. patent.

One avenue to challenge patent validity is through the Federal Courts in the United States. Another avenue utilizes *ex parte* or an *inter partes* reexamination procedures in the U.S. Patent & Trademark Office ("U.S.P.T.O."). As the name implies, the *ex parte* reexamination is conducted between the applicant and the U.S.P.T.O, while the *inter partes* reexamination includes limited involvement of a third party. In the coming months, additional options for challenging patent validity will become available as the recently enacted America Invents Act is being implemented by the U.S.P.T.O; *i.e.*, a post-grant review and an *inter partie*s review. These new procedures are designed to be quick, less costly and use more technically-trained adjudicators than the U.S. Federal court system. These procedures may provide welcome relief to litigants facing protracted litigation and sky-rocketing discovery expenses. However, potential estoppel issues in the new law may be a deterrent to the use of these new procedures for some litigants. Thus, it remains to be seen whether a significant amount of patent litigation will shift away from the Federal Courts as a result of the new laws.

The U.S. Federal Courts are currently the primary means to invalidate a U.S. Patent. Any district court having personal jurisdiction over the defendant may be used by a plaintiff. A centralized appeal system then shuttles all patent cases to the Federal Circuit Court of Appeals. Increasingly, decisions of the Federal Circuit are being reviewed by the U.S. Supreme Court. This article analyzes how the various Federal courts have decided patent cases as it relates to patent invalidity as well as the statistics on the use of patent reexaminations in the U.S.P.T.O.

Another forum for enforcing IP rights is in the U.S. International Trade Commission (USITC), under Section 337 of the Tariff Act of 1930, as amended (19 U.S.C.A. §1337). Under Section 337, owners of U.S. patents, trademarks and copyrights can request the USITC investigate allegations of unfair methods of competition and unfair acts involving the importation and sale of certain articles in the U.S. that are considered unlawful under Section 337.

2. Summary of findings from Federal District Courts

Methodology for District Court Data

Data for this article was compiled by searching for all patent cases on Westlaw and LexisNexis from 2007 to 2011 that were filed in a federal district court where a disposition on the validity of a patent was decided. Two-hundred and eighty-three cases were identified from 2007 to 2011 where the validity of a claim in a patent was challenged. District Court cases were only included in the analysis if a disposition on the validity of the claims was made by the Court.

a. Invalidity Rates in Federal District Courts

Two-hundred and eighty-three (283) cases were identified where patent validity was determined by a Federal District Court between 2007 and 2011. Of the 283 District Court cases identified, only 39 cases were identified where the claims which were challenged in the patent were determined to be valid and enforceable. The table below is a summary of this data by year.

Patent Cases in District Courts involving validity by Year						
	2007	2008	2009	2010	2011	Total
Cases where claims in patent held invalid	46	49	54	49	45	243
Cases where claims in patent held valid	12	8	11	5	3	39
Percent where claims in patent held valid	20%	14%	17%	9%	6%	14%
Total	58	57	65	54	48	283

From the above table it is clear that while the number of cases challenged in District Court where validity of the claims in the patent was at issue remained the same year over year, the outcome did not. Specifically, there appears to be a decreasing percentage in the past two years of cases in District Courts

where the claims which were challenged were held to be valid and enforceable. While this may relate more to a propensity not to pursue patent litigation in instances where validity is the primary issue, it may also indicate a trend of the District Courts to side with the infringer and not the patent holder.

The impact of a jury verdict in a District Court trial was also assessed in the below table which shows the percentage of cases in which a jury was utilized. There appears to be no clear trend based on this data as the percentage of juries which found claims in a patent to be valid or invalid did not appear to significantly differ.

	2007	2008	2009	2010	2011
% cases with jury trial where claims in patent held invalid	13%	20%	18%	23%	11%
% cases with jury trial where claims in patent held valid	33%	12%	18%	20%	33%

b. Industry Specific Observations

The chart below provides additional insight into the number of patent-related decisions by industry from 1995 through 2010. Decisions involving patents were mapped to a particular industry and data is segmented into three time periods to identify trends in decisions by industry. Even when separating the data over the different time periods, the consumer products industry is first in the percentage of decisions in each time segments. This demonstrates that throughout the period, patent cases involving consumer products technology has dominated other industries (see Berry et al. PWC 2011 Patent Litigation Study).

	Industry	1995 to 2000		2001 to 2005		2006 to 2010		Total
		Cases	Rank	Cases	Rank	Cases	Rank	
1	Consumer Products	82	1	80	1	121	1	283
2	Biotechnology/Pharma	40	4	71	2	89	3	200
3	Industrial/Construction	66	2	57	3	70	4	193
4	Medical Devices	42	3	45	4	67	5	154
5	Computer Hardware/Electronics	24	6	32	6	92	2	148
6	Business/Consumer Services	19	8	33	5	58	6	110

	Industry	1995 to 2000		2001 to 2005		2006 to 2010		Total
		Cases	Rank	Cases	Rank	Cases	Rank	
7	Software	15	9	23	8	52	7	90
8	Chemicals/Synthetic Materials	31	5	16	10	32	9	79
9	Automotive/Transportation	24	7	25	7	29	10	78
10	Telecommunications	14	11	22	9	38	8	74
11	Food/Beverages/Tobacco	15	10	9	12	14	12	38
12	Clothing/Textiles	11	13	8	13	12	14	31
13	Metals/Mining	12	12	10	11	8	16	30
14	Energy	7	14	7	15	9	15	23
15	Agriculture	5	15	8	14	8	17	21
16	Financial Institutions/Investment Management/Insurance	1	18	3	17	14	13	18
17	Internet/Online Services	0	20	0	20	17	11	17
18	Media	5	16	4	16	4	19	13
19	Environment/Waste Management	1	19	2	18	6	18	9
20	Aerospace/Defense	3	17	2	19	3	20	8
	Totals	**417**		**457**		**743**		**1617**

3. Summary of findings from Federal Appeals Court

Methodology for Appeals Court Data

Data for this section was compiled by searching for all patent cases on Westlaw and LexisNexis from 2002 to May 25, 2012 that were appealed to the Federal Circuit. 1,800 cases were reviewed and sorted based on whether the case was decided on patent invalidity. The charts do not include cases where the Federal Circuit determined that the lower court's finding of patent validity was incorrect but remanded the case.

A master case chart was prepared which include sections for case name, holding, disposition of the court, and grounds upon which the court invalidated the patent. Once the data was collected the graphs below were created based on the information in the case chart.

Patent Invalidity in the Federal Circuit

The following graphs reflect the data that was compiled from the Federal Circuit's cases. We analyzed the over 1800 cases that were decided by the Federal Circuit between 2002 and 2012.

Chart 1 shows the total number of patent cases appealed to the Federal Circuit between 2002 and 2012 as compared to the number of patent cases where the Federal Circuit invalidated the subject patent. This table provides an overview of the total number of cases appealed to the Federal Circuit on a yearly basis (shown as blue bars). Over the years, the number of cases appealed to the Federal circuit has remained substantially steady averaging 180 cases per year, rising slightly in 2008 and 2010.

Chart 1: Patent Cases Appealed to the Federal Circuit

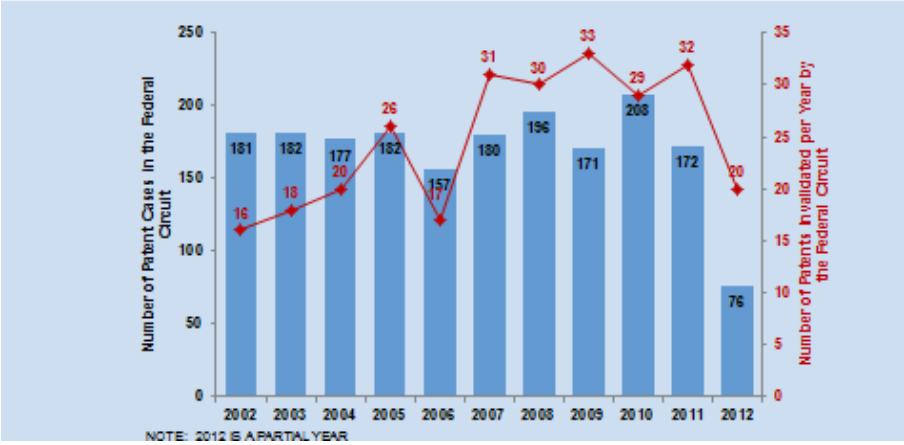


Chart 1 also graphs the number of patents invalidated each year by the Federal Circuit. This data includes Federal Circuit affirmances of a lower court's determination of invalidity during summary judgment or a trial. Interestingly, this number has increased over the 10 years charted (see Chart 1 above, data in red). Particularly, since 2007, the number of patents invalidated by the Federal Circuit has remained consistently higher than in the years prior. Further, in the first six months of 2012, more patents have been invalidated than in any of 2002, 2003 or 2004, suggesting that 2012 will produce an

even higher number of invalid patents. As discussed in more detailed below, this new trend by the Federal Circuit may be due to the increased scrutiny of the U.S. Supreme Court into the outcome of patent cases.

Chart 2: Percent of Patents Invalidated Per Year by the Federal Circuit

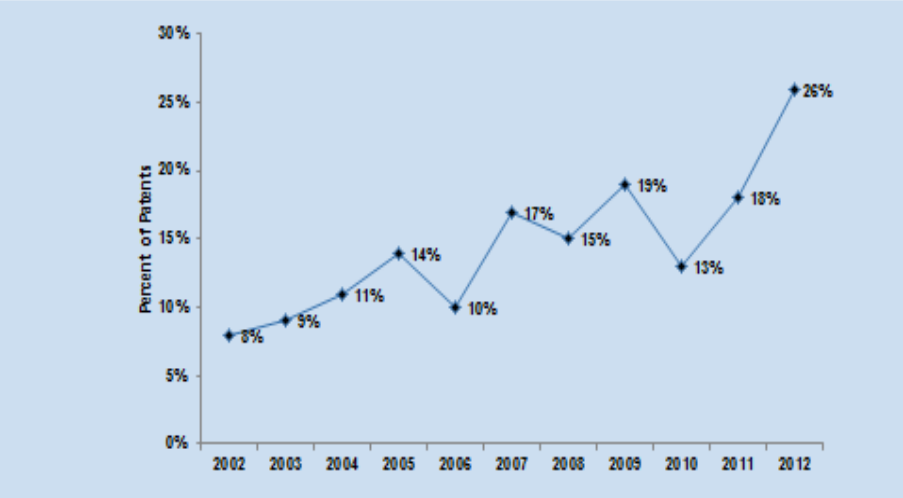


Chart 2 illustrates this data as a yearly percentage, showing the rate patents have been invalidated by the Federal Circuit between 2002 and 2012. Here it becomes even more clear a trend is forming, toward patent invalidation by the Federal Circuit.

Chart 3 compares the total number of cases reviewed by the Federal Circuit to number of cases where the challenged patent was held valid by the Federal Circuit or was remanded for further review. The data illustrates most patents are maintained despite the increasing trend seen in charts 1 and 2.

Chart 3: Patents that Were Challenged and Held Valid by the Federal Circuit (or Decision Vacated and Remanded)

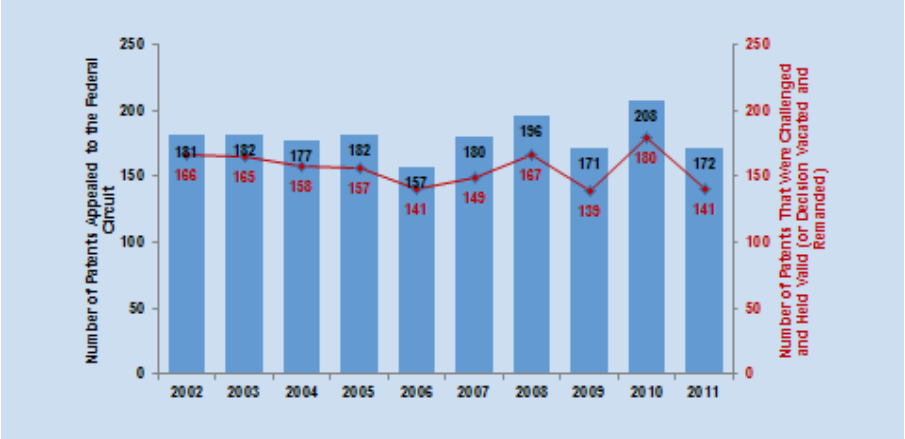
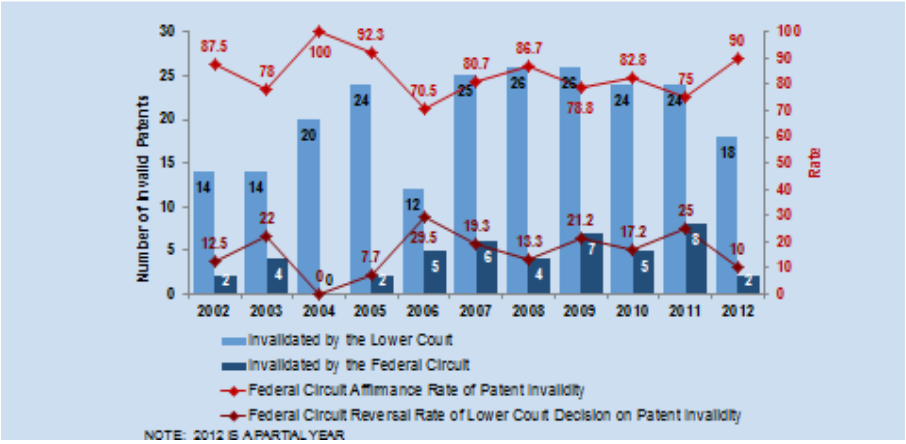


Chart 4 illustrates the rate at which the district court invalidates patents as compared to the rate at which the Federal Circuit affirms that lower court's holding of invalidity. The light blue bars illustrate the total yearly number of cases where a lower court held a patent invalid, whereas the dark blue bars represent the cases where the Federal Circuit, upon review, reversed a lower court's decision. As expected only a fraction of cases decided by the district court are considered by the Federal Circuit (compare light blue bars with dark blue bars). The red line graphs compare the rates at which a district court invalidates a patent (light red line) to the affirmance rate by the Federal Circuit where patent validity was the basis for the holding (dark red line). When the Federal Circuit considered a case decided

Chart 4: Percent and Number of Patents Invalidated by the Lower Courts and the Federal Circuit



by the district court, it was more likely to affirm the lower court's decision than reverse it. These line graphs show that when the lower court invalidated a patent, the Federal Circuit affirmed that decision more than 70% of the time over the years examined.

Chart 5 analyzes the statutory basis for invalidity by the Federal Circuit over the 10 years from 2002 through 2012. This chart illustrates that obviousness is most frequently the basis for invalidity by the Federal Circuit, followed by anticipation.

Chart 5: Cases Invalidated by the Federal Circuit by Basis for Invalidity

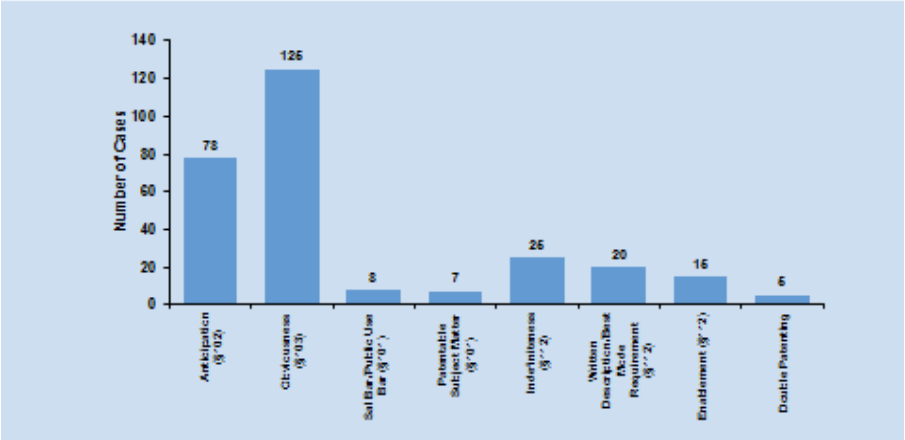


Chart 6 analyzes the trends in the bases for patent invalidity by the Federal Circuit over the years. Consistent with the results seen in Chart 5, obviousness (the white portion of each year's bar) represents the largest portion of invalidity decisions during each of the years analyzed. Indeed, there appears to be an increasing trend in the past several years for the Federal Circuit to base its invalidity decision on obviousness. Chart 6 also reveals that in recent years an increasing number of patents have been invalidated under 35 U.S.C.§101 as not directed to patentable subject matter. These cases include several that have reached the U.S. Supreme Court, such as *Bilski v. Kappos*, 130 S. Ct. 3218, 561 U.S. __ (2010), and *Mayo Collaborative Serv. v. Prometheus Lab., Inc.,* 130 S. Ct. 3543 (2010).

Chart 6: Basis for Invalidity in the Federal Circuit

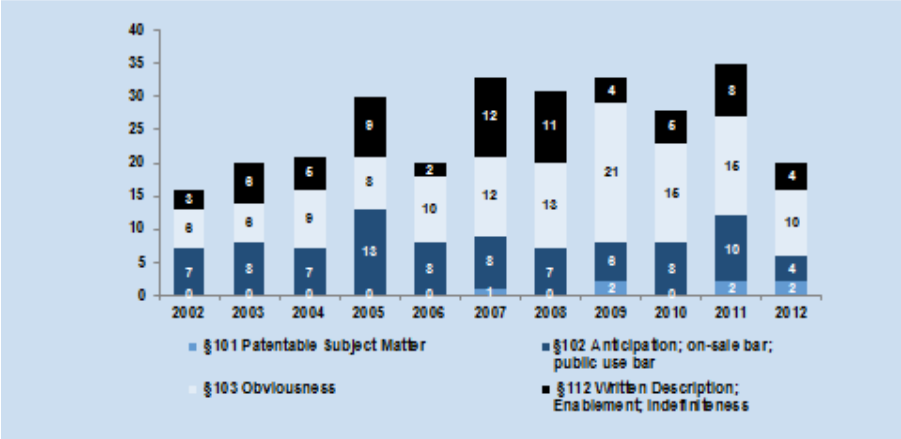
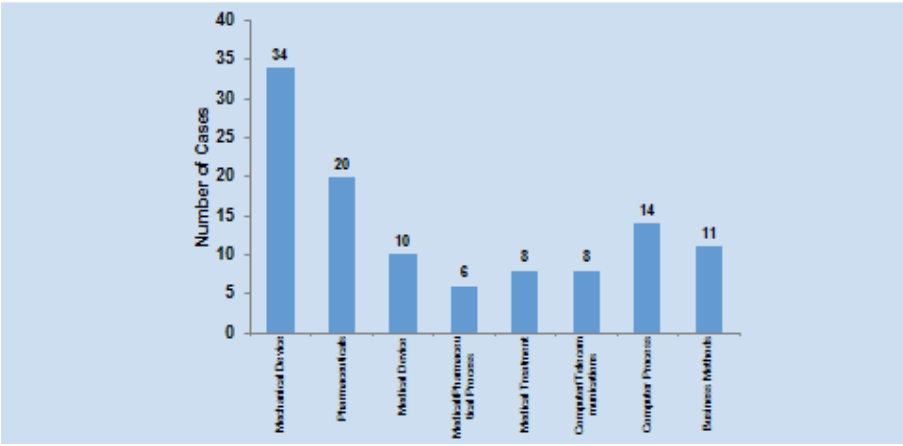


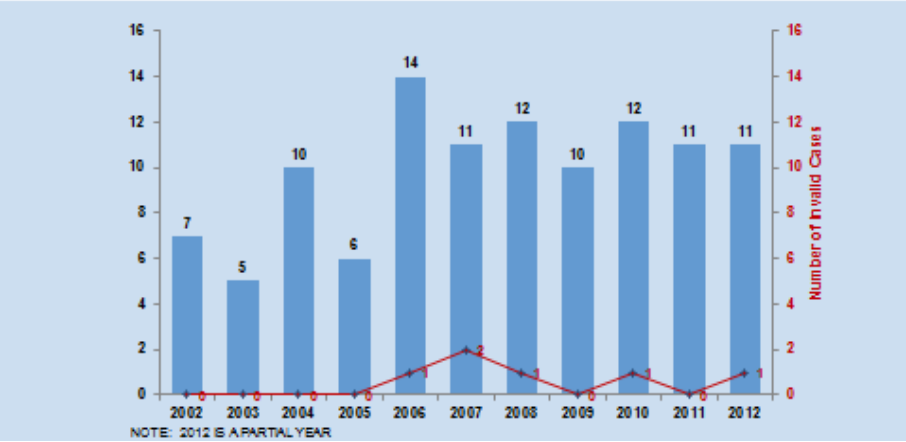
Chart 7 looks at the subject matter in the cases where the patent invalidity was determined by the Federal Circuit. Patents directed to mechanical devices and pharmaceutical drugs were most susceptible to patent invalidity. Cases categorized as mechanical devices were directed to patents describing devices such as twist drill bits, trampoline safety devices and pre-cast concrete blocks. Cases categorized as pharmaceutical included patents directed to traditional drugs as well as chemical molecules and food supplements. One may speculate that these categories of subject matter are more well-understood areas of technology, therefore leading to their closer scrutiny (and more crowded prior

Chart 7: Invalidated Cases by the Federal Circuit by Subject Matter



art). However, the table also illustrates that the validity of patents directed to computer processes and business methods are increasingly being challenged. Cases in these categories include patents directed to computer-driven methods of detecting fraud in a credit card transaction, systems for performing money transfers, and computer-aided design of custom orthodontic appliances. These technologies are highly technical and therefore less understood, yet their patentability is also subject to increased scrutiny. In recent years, patents in these categories have been increasingly being challenged as unpatentable under 35 U.S.C. §101.

Chart 8: All Patent Cases Appealed to the Supreme Court



4. Patent Invalidity in the Supreme Court

Chart 8 shows the number of patent cases granted certiorari to the Supreme Court between 2002 and 2012. The number of patent cases granted certiorari has risen over the years, leading many to speculate that the Supreme Court is becoming more involved in areas of the law generally governed by Federal Circuit. However, as the line graph below shows, the Supreme Court has not become more proactive in invalidating patents per se. The rate of patents being invalidated based on subject matter is much lower than the rate patents are invalidated based on procedural issues. In most cases, the Supreme Court remanded the case to the lower courts to be decided according to the guidelines they provide.

5. Patent Invalidity in the International Trade Commission

As the USITC is not an Article III court, its determinations on issues such as patent validity and infringement are not binding on district courts or the Federal Circuit. Nonetheless, the USITC has been the forum of choice for many patent disputes between big corporations.

A recent article by Bryant Lee provides insightful statistics on how often a patent was determined to be invalid on summary determination in the USITC.[1] The Lee article analyzes the USITC Section 337 investigations from January 1, 1990 to June 30, 2011.[2] In that time period, 71 motions for summary determination alleging patent invalidity based upon anticipation were decided.[3] Of the 71 motions, the Administrative Law Judge (ALJ) granted summary determination 14 times or found 19.7% challenged patents invalid.[4] Of those 14 determinations, the Commission upheld the ALJ's decision nine times.[5] Thus, in approximately 12.7% of summary determination challenges, the USITC found the asserted patent(s) to be invalid based upon anticipation.[6] Lee similarly evaluates the number of occurrences where a patent was held invalid based upon obviousness grounds.[7] The study found that of the 28 motions for summary determination, zero were granted by the ALJ, and zero were found by the Commission.[8]

As mentioned *supra*, USITC decisions are not binding on district courts and, arguably, not even persuasive. The Federal District Court decisions in Texas Instruments Inc. v. Cypress Semiconductor Corp[9] and Texas Instruments Inc. v. USITC[10] illustrate this issue. Initially, Texas Instruments filed a

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[1] *See* Bryant Lee, *The Odds of Winning Summary Determination of Invalidity at the International Trade Commission*, 337 REPORTER: THE PAUL J. LUCKERN SUMMER ASSOCIATE EDITION, Volume XXXIV, 104-117 (Summer 2011).

[2] *Id.* at paragraph bridging pp 105-106.

[3] *Id.* at p 107.

[4] *Id.* at p 107-108.

[5] *Id.* at p 107.

[6] *Id.* at p 108.

[7] *Id.* at p 107.

[8] *Id.*

[9] *See* 90 F.3d 1558 (Fed. Cir. 1996).

[10] *See* 988 F.2d 1165 (Fed. Cir. 1993).

lawsuit in the U.S. District Court for the Northern District of Texas and simultaneously sought enforcement of its patents under Section 337 at the USITC against several respondents, including Cypress. As is common, the USITC investigation proceeded first. In that investigation, the USITC held at least some of the claims infringed and issued a limited exclusion order.[11] The USITC's determination was affirmed by the Federal Circuit.[12] Subsequently, the district court case resumed wherein, the judge granted judgment as a matter of law of non-infringement of the very same patents. Once again, the Federal Circuit affirmed the court's decision.[13] The Federal Circuit acknowledged the contradiction but stated "Congress did not intend decisions of the ITC on patent issues to have preclusive effect."[14] Despite the non-preclusive effect on patent issues, the ITC is unquestionably an important forum for patent owners to utilize in enforcing their IP portfolio.

6. Invalidity Rates from Reexamination Proceedings at U.S. Patent & Trademark Office

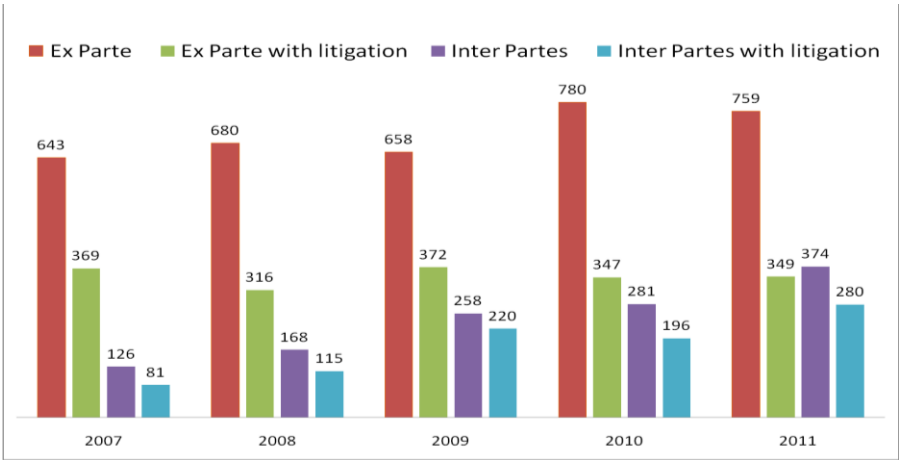
There are two types of reexamination of issued U.S. patents before the U.S. Patent and Trademark Office: (a) ex parte reexamination, and (b) inter partes reexamination. The chart below displays the number of reexam proceedings held since 2007 along with those that were filed in conjunction with a corresponding patent litigation in a Federal Court. The data disclosed and discussed in this section is based upon a review of the reexam proceedings from 2007 to 2011 which are summarized in the chart below.

[11] *See In re Certain Plastic Encapsulated Integrated Circuits*, ITC Inv. No. 337-TA-315, USITC Pub. No. 2574 (Nov. 1992), affirmed by *Texas Instruments Inc. v. USITC*, 988 F.2d 1165 (Fed. Cir. 1993).

[12] *See Texas Instruments Inc. v. USITC*, 988 F.2d 1165 (Fed. Cir. 1993).

[13] *See* 90 F.3d 1558.

[14] *See id.* at 1569.



a. Inter Parties Reexamination

Inter partes reexaminations can be requested by third parties in relation to a patent which issued from an original application that was filed on or after November 29, 1999. Unlike ex parte proceedings, third party requestors can participate in the inter partes reexamination process after a request is submitted by filing a reply to each response filed by the patentee. The identity of a third party requestor cannot be kept secret. The Office initially determines if "a substantial new question of patentability" is presented. A third party requestor or the patentee can appeal the result of an inter partes reexamination to the BPAI and subsequently to the CAFC.

Much of the outcome of inter parties reexam depends upon whether the patent owner participates in the reexam proceedings. The average pendency of such proceedings was 42 months. Two hundred and fifty Inter Parties reexam proceedings were identified where the patent owner actively participated in the proceeding and the results are summarized below:

Where Patent Owner participated (250):
40% (101/250): all claims cancelled or disclaimed
21% (52/250): no claims confirmed; at least one claim amended; other claims cancelled or disclaimed
26% (64/250): at least one claim confirmed; other claims amended, cancelled, or disclaimed
13% (33/250): all claims confirmed.

This data can also be compared to Inter Parties reexam proceedings where the patent owner participated in the proceedings and there was also concurrent patent litigation ongoing between the parties involving the same patent. The average pendency of such proceedings was 41 months and did

not appear to significantly differ from those where no concurrent litigation was ongoing. The data is summarized below and is based upon analysis of one-hundred and forty-four proceedings.

Where Patent Owner participated and concurrent litigation (144):
38% (54/144): all claims cancelled or disclaimed
21% (30/144): no claims confirmed; at least one claim amended; other claims cancelled or disclaimed
28% (40/144): at least one claim confirmed; other claims amended, cancelled, or disclaimed
14% (20/144): all claims confirmed.

The recently enacted America Invents Act ("AIA") changed the threshold standard for initiating inter partes reexamination. The new standard requires a requester to demonstrate that:

> [T]he information presented in the request shows that there is a reasonable likelihood that the requester would prevail with respect to at least 1 of the claims challenged in the request.

America Invents Act - Sec. 6(c)(3)(A)(i)-(ii). Despite the change, early data suggests that the U.S.P.T.O. continues to be granting reexaminations at about the same rate under the new standard as it was under the old "substantial new question" standard. In 2011, the Office granted 342 inter partes reexamination requests out of 366 total decisions. That accounts for a 93% grant rate under the old standard. Of the 42 orders issued under the new standard, 38 have been granted (at least in part), putting the current grant rate under the new standard at about 90%.[15] The U.S.P.T.O. appears to be granting reexamination requests at about the same rate under the new standard as it had been under the old standard.

b. Ex Parte Reexamination

Ex parte reexaminations can be requested by the patentee, a third party or the U.S. Patent and Trademark Office. However, once a request is submitted, other than replying to a preliminary statement or a preliminary amendment if filed by the patentee, a third party requestor does not participate in the ex parte reexamination proceedings. Additionally, third party requestors can make submissions anonymously. The request for reexamination must show a substantial new question of patentability. An Examiner decides whether to grant the request for reexamination within three months of filing the request. If a request is not granted, a petition can be made to the Director of the U.S. Patent and

[15] Data as of February 2012.

Trademark Office. A decision by the Director is final and non-appealable. If a reexamination is ordered, the findings of the examiner can be appealed to the Board of Patent Appeals and Interferences (BPAI) only by the patentee. Decisions reviewed by the BPAI can be appealed to the Court of Appeals for the Federal Circuit (CAFC).

The table below summarizes the results of ex parte reexam proceedings from 1981 to 2011. The average pendency of the ex parte reexam proceeding was 26 months. All claims confirmed indicates that no amendments to the claims were made during the proceeding while all claims cancelled indicates that no reexamination certificate was issued from the proceeding the patent was withdrawn. Claims amended indicates that amended claims were issued in the reexamination certificate.

	Owner Requested	Third Party Requested	USPTO Initiated	Overall
All claims confirmed	21%	24%	11%	**23%**
All claims cancelled	9%	12%	23%	**11%**
Claims amended	70%	64%	66%	**66%**

As can be seen from the above data, there was a marked difference in positive outcomes for the patent owner when comparing inter parties reexam (40% all claims confirmed) when comparing ex parte reexam (23% all claims confirmed).