APPLE vs. SAMSUNG: SMARTPHONE PATENT WAR, PRACTICAL IMPLICATIONS AND REPERCUSSIONS OF SAMSUNG VERDICT WITHIN THE SMARTPHONE INDUSTRY

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I. INTRODUCTION

The smartphone industry today is characterized by a thicket of patents and an ongoing business battle by every major smartphone manufacturer in which patents are used as leverage against competitors to secure or increase their respective market shares while slowing competitors’ progress.² The conflict is part of the larger “patent wars” between technology and software multinational corporations based in the United States, Canada, Europe, Japan, Korea, Taiwan and China. The companies involved include Apple, HTC, Microsoft, Motorola Mobility, Nokia, Research in Motion (RIM), and Samsung.

The current smartphone wars started in the late 2000s in part because of a long-running feud between Apple, the world’s largest technology company by market capitalization, and Google regarding Google’s competing Android mobile operating system (OS) and Android phones when Google jumped into the smartphone market while former Google CEO Eric Schmidt was on Apple’s Board of Director from 2006-2009, and in part because of the success of Google Android as the dominant operating system (OS) in the global smartphone market relative to Apple’s own operating system (iOS).³ The late Steve Jobs, co-founder and former

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³ Apple had an early advantage in the smartphone market because of lead-time and network effects. Apple encouraged independent software developers to produce “apps” that could run on Apple’s iOS system. The availability of these apps became a major feature driving consumers to purchase Apple’s iPhones. None of the competing smartphone manufacturers had sufficient market penetration to attract similar app development, until Google introduced the Android operating system. Google widely licensed the Android software to a number of smartphone manufacturers, including Samsung (for free). The emergence of Android enabled other manufacturers to compete with Apple’s iPhones. By mid-2011, Android phones were outselling iPhones more than 2-to-1. See IDC, Android and iOS Surge to New Smartphone OS Record in Second Quarter (Aug. 8, 2012), http://www.idc.com/getdoc.jsp?containerID=prUS23638712 (last visited Oct. 21, 2012) (reporting Q2 2011 shipments of 50.8 million Android phones and 20.4 million iOS phones). By the middle of 2012, however, the gap has widened; four Android phones were being sold for each iPhone. See id. (reporting
chairman and CEO of Apple, referred to Google’s Android phone concept as a “stolen product.” In the Steven Jobs\(^4\) biography by Walter Issacson, Jobs promised “thermonuclear war” against what he saw as Android’s systematic copying of Apple features.

However, Apple has not attacked Google head on;\(^5\) rather, Apple fired off a series of lawsuits against Google-Android partners and smartphone manufacturers in part because these smartphone manufacturers actually generate revenue and profit from those Android phones whereas Google gives the Android operating system (OS) away for free and generates revenue only indirectly through mobile advertising. For example, in March 2010, Apple first sued Google-Android partner HTC for patent infringement of iPhone’s features including iOS user interface, underlying architecture and hardware in the U.S. District Court for the District of Delaware and the International Trade Commission (ITC).\(^6\) The conflict with HTC mushroomed into 10 different lawsuits in various jurisdictions in the United States, United Kingdom and Germany, and eventually settled in November 2012.\(^7\) Similarly, in October 2010, Apple also filed lawsuits against Motorola Mobility over six multi-touch OS patents that make up much of the signature touch-screen inventions of the iPhones.\(^8\)

In April 2011, Apple then sued Google leading Android partner, Samsung for patent infringement of user interface and design features of iPhones and iPads in the U.S. District Court for the Northern District of California.\(^9\) However, unlike HTC, Samsung is the world’s largest

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4 “Steve Jobs” is the authorized biography of Steve Jobs, written by Walter Issacson. The book was released on October 24, 2011 by Simon & Schuster in the United States.

5 In its ongoing effort to build up its patent portfolio and defend Android operating system (OS) against patent infringement lawsuits, Google purchased Motorola Mobility on August 15, 2011 for $12.5 billion, primarily for its 17,000 patent portfolio. According to Google CEO Larry Page, the “acquisition of Motorola will increase competition by strengthening Google’s patent portfolio, which will enable [Google] to better protect Android from anti-competitive threats from Microsoft, Apple and other companies...” In addition to Motorola Mobility, Google has also stockpiled patents from IBM and other companies in late 2011.


technology company by revenues from 2009 to 2012, and also the world’s largest maker of smartphones supporting Google Android as the primary operating system (OS). Samsung is also no stranger to patent lawsuits and innovation, having one of the largest patent portfolios in the United States and the World. The legal battle between Apple and Samsung is particularly intriguing because Apple and Samsung have worked closely together for many years. Samsung has been one of Apple’s largest suppliers of components such as memory chips and components for all Apple’s products including iPhones and iPads, and Apple one of Samsung’s biggest customers. Nevertheless, this symbiotic relationship between Apple and Samsung has not deterred either company from competing head-on in the smartphone market, together winning ½ of the global market share and 90% of the profit for smartphones and tablets, and now using patents as weapons to gain market share and draw product differentiations. The legal dispute between Apple and Samsung has mushroomed into 50 different lawsuits in 10 different countries, including four in the U.S., 12 in Germany, one in the UK, two each in France, Italy, the Netherlands, South Korea, and Australia, and three in Spain.

On August 24, 2012, Apple won a $1.049 billion patent-infringement verdict in a jury trial against Samsung in the United States District Court for the Northern District of California. The jury found that Samsung had infringed on all three Apple’s user interface patents (U.S. Patent No. 7,469,481, known as “Bounce-Back-Effect” patent; U.S. Patent No. 7,844,915, known as “On-Screen Navigation” patent; U.S. Patent No. 7,864,163, known as “Tap-To-Zoom” patent), and three out of four design patents that Apple had asserted. The jury rejected Samsung’s defense that these patents were invalid. In addition, the jury found that Samsung willful infringed five of these patents. The jury also denied all of Samsung’s infringement counterclaims.

This paper will focus on the lawsuits between Apple and Samsung both in the U.S. and around the world, and explore the practical implications and repercussions of the Apple vs. Samsung case relative to Google and other smartphone competitors within the smartphone industry, patents and innovation, and the general public.

11 Samsung Electronics Co., is ranked 2nd in the United States for seven (7) consecutive years, from 2006-2012 (see www.uspto.gov) and has over 100,000 patents in the fields of flash memory, system LSI, mobile phones and other major products (see Samsung Patent Report 2012).
II. THE APPLE vs. SAMSUNG CASE

**Lawsuits in the U.S.**

On April 15, 2011, Apple filed a complaint in the United States District Court for the Northern District of California alleging that several of Samsung Android phones and tablets infringed on Apple’s patents and trademarks. Specifically, these products included Nexus S, Epic 4G, Galaxy S 4G, and Samsung Galaxy Tab. In addition to patent infringement claims, Apple’s complaint also included false designation of origin, unfair competition, and trademark infringement under federal laws, as well as unfair competition, common law trademark infringement, and unjust enrichment under state laws. In its complaint, Apple alleged that “instead of pursuing independent product development, Samsung had chosen to slavishly copy Apple’s innovative technology, distinctive user interfaces, and elegant and distinctive product and packaging design, in violation of Apple’s valuable intellectual property rights.” Apple also claimed that as of March 2011, 108 million iPhones and 19 million iPads had been sold. In addition, Apple spent more than $2 billion in advertising its products between fiscal years 2007 to 2010. Apple calculated that financial damages incurred by Apple and profits wrongly gained by Samsung total to $2.5 billion which Apple claimed that Samsung ought to pay.

In response, on April 28, 2011, Samsung filed counterclaims in the Northern District of California alleging ten counts of patent infringement against Apple (after filing lawsuits in South Korea, Japan, and Germany against Apple on April 21, 2011). These ten counts did not include a reply to Apple’s lawsuit, and thus, setting the tone that Samsung was prepared to strike back instead of just defending itself against Apple’s complaint. In the complaint, Samsung stated that from 2005 to 2010, it spent $35 billion on research and development, and obtained 28,700 US patent, 5,933 of which are related to telecommunications, implying that they had many more than just ten claims against Apple, and that Samsung was equally if not more inventive than Apple in making and designing their own products. Samsung’s counter-attacks included

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allegation that Apple infringed its 3G wireless patents and that Apple ought to royalties of 2.4% of all sales of devices using Samsung’s iOS technology.\(^{20}\)

**First U.S. Trial**

From the time this lawsuit started on April 15, 2011 to April 2012, Apple and Samsung continued to hurl a series of claims and counter-claims regarding infringement allegations. However, because Judge Lucy H. Koh\(^{21}\) restricted that both sides are allotted 25 hours to present their respective cases, the issues at trial were greatly reduced.\(^{22}\) Specifically, Apple alleged Samsung of infringing on three of its utility patents (U.S. Patent Nos. 7,469,481; 7,844,915; and 7,864,163) and four design patents (U.S. Patent Nos. D504,889; D593,087; D618,677; and D604,305). Apple also alleged that Samsung had diluted its trade dresses relating to Apple iPhone. In response, Samsung accused Apple of infringing on five of its utility patent (U.S. Patent Nos. 7,675,941; 7,447,516; 7,698,711; 7,577,460; and 7,456,893) and one design patent (U.S. Patent No. D504,899), of which the design patent was at the heart of Samsung’s argument. Samsung also accused Apple of violating antitrust law by monopolizing markets related to Universal Mobile Telecommunication System (UMTS) standard.\(^{23}\)

However, even with reduced claims and restricted time allotted, the first trial lasted more than three weeks and involved many complex technical issues and massive amount of evidence. The jurors had a daunting task of working through hundreds of pages of technical information to determine which devices infringed or not infringed on which claims, especially when Apple accused about two dozens of Samsung products infringing on their patents.\(^{24}\)

**Apple’s Case**

Throughout trial, Apple kept its story simple. Apple told just one story, which was essentially the same from the beginning of the lawsuit: Apple invested greatly in developing and marketing iPhones and iPads, and as the result, Apple products and designs became the


\(^{21}\) Judge Lucy H. Koh is the first Asian American United States District Court Judge in the Northern District of California, and the first District Court of Korean descent in the United States. Judge Koh was nominated by President Barack Obama on January 20, 2010, confirmed by the Senate on June 7, 2010, and received her commission on June 9, 2010. Previously, she served as an Assistant United States Attorney and then as litigation partner at McDermott Will & Emery representing technology companies in patent cases.

\(^{22}\) *Id.*


benchmark for competitors and consumers. Instead of fairly competing, Samsung copied Apple patented products and designs. Apple asked for a $2.525 billion award for financial damages in its trial brief. Apple claimed that it incurred lost profits of $500 million due to sales of Samsung products that infringed on Apple’s patents, and a $2 billion Samsung’s wrongful profits associated with infringement on Apple’s patents.

Apple also chose to reduce its complaint to utility and design patents that are relatively straightforward and fairly easy to understand. Specifically, the claims of U.S. Patent No. 7,469,481 are directed to Apple’s famous iOS “Scrollback” or “Bounce-Back-Effect” patent, where a background texture is displayed when a user scrolls beyond the edge of a document or webpage. As for Apple’s “On-Screen Navigation” patent, U.S. Patent No. 7,844,915, its claims are directed to determining when a user is using one finger to scroll versus two or more fingers to zoom. The claims of Apple’s “Tap-To-Zoom” patent, U.S. Patent No. 7,864,163, are directed to tapping to zoom a screen on an area with multiple content areas displayed. As for Apple’s design patents, they are also very simple. Two of them are directed to an iPhone, one on an iPad, and one on general iOS icon layout on a screen. However, trying to prove that about two dozens of Samsung products, including Galaxy S, SII, Epic 4G, Captivate, Vibrant, Infuse 4G, Droid Charge, and Galaxy Tab 10.1, infringed these utility and design patents during trial were not as simple. Apple was required to demonstrate that each of Samsung’s accused products contain elements that infringed at least one claim in Apple’s patents. This was definitely a simpler task.

**Samsung’s Case**

At trial, Samsung claimed that it spent billions on research and development and had entered the mobile market decades before Apple. Samsung also claimed that it owned thousands of patents, some of which cover standardized technologies, such as 3G cellular networking which Apple products infringed on. In contrast, Apple was a relatively new player in the mobile market and used Samsung’s research without paying for it. Samsung also claimed that Apple enter the mobile market via industry-standard cross-licensing agreements instead of starting from scratch. Samsung accused Apple of being anticompetitive for using patents to block Samsung products instead of fairly competing in the market. Samsung also argued that these patents are not valid because their claims are too vague and broad. Samsung also asked for $421 million in its countersuit that Apple products infringed on their patents. However, Samsung was faced to

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27 Id.


29 Id.

30 Id.
rebut Apple’s defense under the legal doctrine of patent exhaustion which states that you only get one bite at the apple. In other words, Apple’s defense was simply that Samsung was trying to double dip on licensing fees at Apple's expense. Apple argued that the wireless baseband chips in iPads and iPhones were purchased from companies like Qualcomm and Intel. Thus, Apple was expected to argue that Samsung already got payment from Qualcomm and Intel for licensing the patents that Samsung was accusing that Apple infringed on. Samsung cannot turn around and demand payment from Apple for those same chips that Apple bought from Qualcomm and Intel. In sum, Apple’s defense was that Samsung’s enforceable patent rights relative to those components are now “exhausted” and used up. Samsung was faced with a difficult task of rebutting this argument.

**Verdict of First Trial**

A nine-person-jury awarded Apple $1,049,393,540 in damages on August 24, 2012. The jury found Samsung infringed on most of Apple patents infringement claims. The jury also found willful infringement on five of six patents. In addition, the jury found Samsung diluted Apple’s registered iPhone, iPhone 3, and “combination iPhone” trade dress on some products. Although the jury found Samsung did not violate antitrust law by monopolizing markets related to UMTS standard, it found no Apple infringement of Samsung utility patents, and thus did not award Samsung any damages. Specifically, the jury found Samsung infringed on Apple’s utility patents that cover iPhone’s user interfaces including “Bounce-Back-Effect” as claimed in U.S. Patent No. 7,469,481, “On-screen Navigation” U.S. Patent No. 7,844,915, and “Tap-To-Zoom” U.S. Patent No. 7,864,163. The jury also found Samsung infringed on Apple’s design patents that cover iPhone’s features the “home button, rounded corners and tapered edges” as recited in the claims of U.S. D593087, and “On-Screen Icons” as recited in the claims of U.S. D604305.

**Damaging Information Revealed During First Trial**

As often occurred in public trials, highly confidential information of both Apple and Samsung were revealed. Evidence was introduced to show that Apple was secretly planning to develop mini iPads. Apple’s highly detailed financial records were revealed far beyond what

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31 Quanta Comp. v. LG Electronics, 553 U.S. 617 (2008), the U.S. Supreme Court unanimously reaffirmed the validity of the so-called “patent exhaustion” (or 1st sale) doctrine, holding that patentees have little or no power to restrict what a purchaser does with a product after the first sale. The Court also noted that a patentee’s rights are exhausted against a buyer when the patentee sells a patented product to the buyer, and more importantly, against parties who later buy the product from that buyer, provided that the buyer is authorized to sell the product.


companies typically make available to the public. As for Samsung, damaging internal documents were uncovered revealing that Samsung conducted research on Apple devices while designing its software icons as well as general features. The most damaging evidence was internal reports containing side-by-side comparison of Galaxy smartphones and Apple iPhones, and proposals of how to make the Galaxy devices even more similar to Apple devices.  

**Injunction of US Sales during First Trial**

Even before the trial started, Samsung was faced with Apple’s motion seeking preliminary injunction in the U.S. on July 1, 2012 to block sales of Samsung smartphones, such as Infuse 4G and Droid Charge. Apple claimed that sales of Samsung smartphones caused irreparable harm to Apple. However, on December 2, 2011, Judge Lucy H. Koh denied Apple’s motion for preliminary injunction stating that although Apple had established a likelihood of success at trial on the merits of Apple’s alleged infringement claims, Apple had not established that it could overcome Samsung’s arguments that the Apple’s alleged patents are valid.

Apple appealed Judge Koh’s ruling, and won. On May 4, 2012, the U.S. Court of Appeals for the Federal Circuit reversed the ruling and ordered Judge Koh to issue an injunction. Thus, on June 12, 2012, a preliminary injunction was granted and Samsung was prevented from making, using, offering to sell, selling, or importing into the U.S Samsung Galaxy Nexus and any of its technology making use of the disputed patents. At the same time, the court ordered Apple to post a bond in the amount of $95.6 million in the event that Samsung prevailed at trial, which Samsung did with regard to the Galaxy Nexus devices. Galaxy Nexus was found not infringing on Apple’s patents as a result of the trial.

On October 11, 2012 the Federal Circuit granted Samsung’s motion to remove the preliminary injunction after the first trial.

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Verdict Delivered but Trial Not Over

Apple Continues to Fight

Based on the jury verdict, Apple filed a motion for permanent injunction on August 31, 2012 seeking to ban all sales of the Samsung products cited as infringed on Apple’s patents. However, this motion was denied by Judge Koh on December 17, 2012 ruling that Apple had not proven irreparable harm. In order to be eligible for injunctive relief, the prevailing party (Apple) must show that it will suffer irreparable harm in absence of an injunction. Under the irreparable harm doctrine, proof of the nexus between the infringement and the irreparable harm must be established, i.e., infringement of the particular features or designs by Samsung protected by Apple patents must have caused the loss of Apple’s market share. Unlike infringement and damages, issues relating to injunctive relief are viewed as equitable issues, and thus are decided by a judge instead of a jury.

In its motion for permanent injunction, Apple alleged three irreparable injuries: (1) loss of market share; (2) loss of downstream and future sales; and (3) injury to Apple’s ecosystem. In denying Apple’s motion, Judge Koh stated that although Apple had proven injuries, it failed to prove the causal nexus between specific infringement and the irreparable harm. In fact, Apple’s proof was “simply too general” and did not present any analysis of alleged harm on a claim-by-claim or even a patent-by-patent analysis. Thus, Judge Koh denied injunctive relief. Although this is a major victory for Samsung, Apple had the right to appeal this decision to the Federal Circuit, and then to the Supreme Court even as the district court continues to decide additional post-verdict motions.

In addition to seeking permanent injunction, on September 21 and 22, 2012, Apple filed a motion seeking an additional $707 million, alleging that was an interest amount of Apple’s

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41 Id.

42 On appeal, the Federal Circuit endorsed Koh’s articulation and application of a nexus requirement. See Apple, Inc. v. Samsung Elecs. Co., 678 F.3d 1314, 1324 (Fed. Cir. 2012) (we hold that the district court was correct to require a showing of some causal nexus between Samsung’s infringement and the alleged harm to Apple as part of the showing of irreparable harm. To show irreparable harm, it is necessary to show that the infringement caused harm in the first place. Sales lost to an infringing product cannot irreparably harm a patentee if consumers buy that product for reasons other than the patented feature. If the patented feature does not drive the demand for the product, sales would be lost even if the offending feature were absent from the accused product. Thus, a likelihood of irreparable harm cannot be shown if sales would be lost regardless of the infringing conduct.)

damages. Apple met with Judge Koh for a hearing on December 6, 2012 on this post-trial motion together with Samsung who filed a separate motion seeking for a new trial.44

Samsung also Continues to Fight

In addition, to show that it is still in the fight, Samsung issued a statement after the verdict which states:

“Today’s verdict should not be viewed as a win for Apple, but as a loss for the American consumer. It will lead to fewer choices, less innovation, and potentially higher price. It is unfortunate that patent law can be manipulated to give one company a monopoly over rectangles with rounded corners, or technology that is being improved every day by Samsung and other companies. Consumers have the right to choices, and they know what they are buying when they purchase Samsung products. This is not the final word in this case or in battles being waged in courts and tribunals around the world, some of which have already rejected many of Apple’s claims. Samsung will continue to innovate and offer choices for the consumer.” 45

Samsung then filed a motion for a new trial on September 21, 2012 in San Jose, California. Samsung argued that the verdict was not supported by evidence or testimony. Samsung also argued that the judge imposed limits on testimony time and the number of witnesses prevented Samsung from receiving a fair trial. Finally, Samsung argued the jury verdict was unreasonable.46 A hearing was held with Judge Koh on December 6, 2012 on this motion, in which Apple also attended due to a separate motion filed on September 21 and 22, 2012 requesting an additional $707 million in interest.47

On October 2, 2012, Samsung requested the San Jose district court to overturn the August 24, 2012 jury verdict and grant Samsung a new trial. Samsung claimed that the jury foreman, Velvin Hogan, was biased and deceitful during voir dire. This appeal was filed based primarily

on interviews given by the jury foreman, Velvin Hogan, after the verdict. Samsung claimed that during the jury deliberation process, the jury foreman improperly introduced incorrect and erroneous standards. Samsung also claimed that bias should be presumed in this case because the jury foreman deliberately concealed his lawsuit with Seagate Technology during voir dire when he gave an incomplete answer regarding prior lawsuits. Seagate was the jury foreman’s former employer and had strategic relationship with Samsung. The jury foreman was forced to file bankruptcy as a result of being sued by Seagate. Samsung alleges that the juror foreman lied because he wanted to secure a seat on the jury. However, Samsung’s request was denied.

On December 17, 2012 by Judge Koh denied Samsung’s request stating that “the integrity of the jury system and the Federal Rules of Evidence demand that the Court not consider Mr. Hogan’s post-verdict statements concerning the jury’s decision-making process.” Thus, Judge Koh concluded that since the district court cannot consider inadmissible statements when considering whether or not to hold an evidentiary hearing, the court cannot grant Samsung a hearing because Samsung had not provided proper evidence.

Reexamination of Apple’s “Software” Patents

One unexpected outcome after the trial was that on October 15, 2012, the U.S. Patent and Trademark Office (USPTO) tentatively invalidated all the claims of Apple’s bounce back patent, U.S. Patent No. 7,469,381 in a non-final office action during a reexamination proceeding. Several weeks later, on December 3 and 19, 2012, the USPTO also rejected all the claims of Apple’s “On-Screen Navigation” patent, U.S. Patent No. 7,844,915 and Apple’s “Tap-To-Zoom” patent, U.S. Patent No. 7,864,163. However, Apple has been given opportunities to

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50 Id.
51 See USPTO non-final Office Action issued on October 15, 2012 on Apple’s “bounce back” patent, U.S. Patent No. 7,469,381 (Application No. 90/012,304 filed on May 23, 2012) in which all claims were rejected in view of new prior art. Specifically, claims 1-16, 8-12, 16, 19 and 20 were rejected under 35 U.S.C. §102(b) as being anticipated by Lira, PCT Publication No. WO 03/081458; claims 7 and 13-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lira; and claims 1-5, 7-13, and 15-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ordering, U.S. Patent No. 7,786,975.
52 See USPTO non-final Office Action issued on December 3, 2012 on Apple’s “On-Screen Navigation” patent, U.S. Patent No. 7,479,949 (Application No. 90/012,308 filed on May 24, 2012) in which all claims were rejected in view of new prior art. Specifically, claims 1, 2, 4-8, 11, 14-17, 19, and 20 of the ’949 patent were rejected under 35 U.S.C. §102(b) as being anticipated by Wakai, U.S. Publication No. 2002/0036618; claim 3 was rejected under 35 U.S.C. §103(a) as being unpatentable over Wakai in view of Geaghan, U.S. Publication No. 2003/0063073; and claims 9, 10, 12, 13 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Wakai in view of Pallakoff, U.S. Publication No. 2005/0012723.
explain to the USPTO Examiner why the claims should be patentable (valid) in view of newly cited prior art. According to the USPTO statistics, Apple will have about 11% chance that all the claims will be confirmed, 42% chance that all the claims will be canceled and invalided, and 47% chance that all the claims will survive the re-examination with new claims changes.\(^{54}\) Generally, the USPTO determinations of unpatentability in reexamination, if affirmed by the Federal Circuit, would “trump” district court rulings of no invalidity. Thus, the USPTO could find Apple’s patents invalid, even after the District Court for the Northern District of California has upheld their validity.\(^{55}\) As such, the USPTO reexamination decision could negatively impact the ruling of this trial.

**Second U.S. Trial**

On February 9, 2012, Apple requested a preliminary injunction against the Samsung Galaxy Nexus for infringing four of Apple’s newly acquired patents as well as filed a suit against Samsung.\(^{56}\) Simultaneously, Apple filed a complaint against Samsung asserting that 17 more of Samsung products infringe on eight of Apple’s patents.\(^{57}\)

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\(^{54}\) In re Baxter, Int’l Inc., 678 F.3d 1357, 1366 (Fed. Cir. 2012), the Court of Appeals for the Federal Circuit held that the USPTO can invalidate a patent during reexamination that had been upheld during litigation. Specifically, Baxter International won a patent infringement suit against rival Fresenius USA in early 2007, convinced the Federal Circuit to uphold the validity of claims in Fresenius USA, Inc. v. Baxter Int’l, Inc., 582 F.3d 1288 (Fed. Cir. 2009) and on March 16, 2009 obtained a final judgment for more than $23.5 million dollars. Between 2006 and 2010, the USPTO reexamined Baxter’s patent. The Board of Appeals at the USPTO, even after consideration of the Federal Circuit decision, found Baxter’s invention obvious and invalidated its patent. Nevertheless, the Federal Circuit affirmed the Board decision that the same claims previously affirmed are invalid as obvious. Different result is based on a different evidentiary standard used in reexamination proceedings and patent infringement actions. In an infringement action, the standard of proof for invalidity is “clear and convincing” evidence. In contrast, in USPTO reexamination, the standard of proof is substantially lower at “a preponderance of the evidence” and there is no presumption of validity.


Global Battle

The Apple-Samsung global war is extraordinarily huge. This global battle started on April 15, 2011 when Apple filed lawsuit in U.S., and Samsung filed countersuits in Seoul, Tokyo, and Mannheim, Germany on April 22, 2011. By the summer of 2011, Samsung also filed suits in Britain High Court of Justice, in the US District Court for the District of Delaware, and with the ITC all in June. By August 2011, 19 litigations in 9 countries were filed by both Apple and Samsung. By October 2011 this battle expanded to ten countries. By July 2012, 50 lawsuits around the globe with billions of dollars in damages claimed between them. While Apple won in US, Samsung won in South Korea, Japan and UK.

South Korean Battle

The South Korean lawsuit began in April 22, 2011 when Samsung filed a complaint against Apple in the Seoul Central District Court a week after Apple sued Samsung in the U.S. court. Samsung alleged that Apple infringed on five of Samsung utility patents. Samsung claimed that Apple infringed on Samsung’s wireless technology that connects mobile phones to personal computers for wireless data transfer. On the same day that Samsung filed a complaint in Korea, it also filed a complaint in Tokyo and Germany on June 22, 2011.

On August 23, 2012, Samsung scored a victory in South Korea. The Seoul Central District Court ruled that Samsung did not copy Apple iPhone design. The judge stated that because both Apple and Samsung have their respective logos on the back of each iPhone and each Galaxy, it would be difficult to argue that consumers would confuse the iPhone with the Galaxy.

With regard to the utilities patents, the South Korean Court ruled that Apple infringed on two of Samsung’s wireless patents, and that Samsung violated Apple’s bounce-back patent. The Court ordered Apple to pay Samsung 40 million won ($35,400), and Samsung to pay Apple 25 million won. These fines were small because the compensation sought by both parties was small due to the small market in South Korea. The judge also banned sales of four of Apple products, including the iPhone 4 and iPad 2, and ten of Samsung products which included the Galaxy S II. This, however, did not affect the latest-generation of Apple’s iPhone 4S or Samsung’s Galaxy

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In addition, this victory was short lived because the very next day Samsung got struck down in the U.S. court with a $1 billion fine.

**Japan Battle**

On April 22, 2011, Samsung filed a complaint against Apple in Tokyo Court, accusing Apple of infringing on two of its patents after Apple initiated a lawsuit against Samsung on April 15, 2011 in the U.S. In response, Apple filed a series of lawsuits against Apple alleging that Samsung infringed on its patents.

On August 31, 2012, the Tokyo District Court ruled in favor of Samsung. The Court ruled that Samsung’s Galaxy smartphones did not infringe on an Apple patent relating to synchronizing music and video data with servers. The presiding Tokyo judge also ordered Apple to pay Samsung’s legal fees. At the same time, the Tokyo judge denied Apple’s request to ban eight models of Samsung’s Galaxy products in Japan. This was a major win for Samsung after losing the U.S. lawsuit earlier that month, in which Apple won a $1.05 billion verdict. Right after this ruling, Samsung shares rose as much as 1.6 percent after this decision, reversing earlier losses after the U.S. verdict a week earlier.

**German Battle**

When the lawsuits filed in Germany on April 22, 2011, Samsung did not expect that so many of its own products to be banned in Germany before beating Apple in the German Court. Because Germany is the largest economy in Europe, a series of lawsuits and countersuits were filed in Germany by both Samsung and Apple, as well as other giant smartphone players, such as Motorola. In April 8, 2012, New York Times ran an article calling German courts the epicenter of patent battles.

The first strike against Samsung in Germany was from the Landgericht Court in Dusseldorf on August 9, 2011. This court granted Apple’s request for an EU-wide preliminary injunction banning the sale of Galaxy Tab 10.1 throughout European Union, with the exception of the Netherlands. The German Court claimed that Samsung infringed on two of Apple’s patents.

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62 Id.  
63 Id.  
interface patent. Although this was a temporary ban, it took immediate effect in Germany.\textsuperscript{67} This was a major win for Apple and a huge setback for Samsung.

Samsung immediately requested a hearing accusing Apple of tampering with the evidence. Samsung managed to compel the German Court to rescind the EU-wide injunction. Thus, the ban was only applicable in Germany and lifted throughout Europe outside Germany on August 11, 2011.\textsuperscript{68}

Samsung faced another setback when it was forced to remove its Galaxy Tab 7.7 tablet on a display from a booth fair during an IFA electronic fair in Berlin on September 2, 2011 shortly after Apple received an injunction against the tablet on September 9, 2011.\textsuperscript{69} Less than a week later, the German Court ruled that Samsung Galaxy Tab 10.1 infringed on Apple’s patents and upheld ban barring Samsung local unit from selling Galaxy Tab 10.1 in Germany. However, retailers in Germany would still be able to sell the tablets by selling off existing stock or get new supplies directly from South Korea. Thus, this sale ban had no real consequences. Samsung remained strong in this fight and appealed this ruling.\textsuperscript{70}

On January 17, 2012, Apple sued Samsung in Germany claiming that Galaxy 2 infringes on Apple’s patents.\textsuperscript{71} On March 2, 2012, the Mannheim Court dismissed both Samsung and Apple suits involving the slide-to-unlock technology on their smartphones.\textsuperscript{72} On March 16, 2012, the Mannheim Court suspended a separate lawsuit in which Apple accused Samsung of infringing on its slide-to-unlock patents.\textsuperscript{73} Germany then gave a ruling on July 24, 2012,

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  \item \textsuperscript{70} Macari, Matt (January 17, 2012). “Apple files new patent case against Samsung in Germany” (\textsuperscript{70}). The Verge. Retrieved on January 2, 2013.
  \item \textsuperscript{71} “A German court on Friday dismissed two cases brought by Apple Inc. and Samsung Electronics against each other as part of a global battle for dominance in the market for smartphones and tablet devices” (http://www.reuters.com/article/2012/03/02/us-apple-samsung-idUSTRE8210JN20120302) Reuters (March 2, 2012). Retrieved on January 2, 2013.
  \item \textsuperscript{72} Id.
  \item \textsuperscript{73} “Update 1- German court delays Apple’s slide-to-unlock lawsuit” (http://www.reuters.com/article/2012/03/16/samsung-apple-idUSL5E8EG18920120316) Reuters (March 16, 2012). Retrieved on January 2, 2013.
\end{itemize}
granting Apple a ban on Samsung Galaxy Tab 7.7, a 7-inch tablet. This ruling came from the Duesseldorf Higher court. Samsung appealed this ruling.

Samsung finally received a victory in the Mannheim Regional Court on September 21, 2012. This court ruled that Samsung did not infringe on Apple’s touch-screen patent. Coincidently, this court also ruled against Apple on a different case against Motorola on the same patent, thus giving Samsung a double taste of winning after a series of losses.

On December 18, 2012, a day after Samsung received a victory ruling by a U.S. court rejecting Apple’s request for a ban on sales of Samsung’s smartphones in the U.S., Samsung announced that it would drop attempts banning sales of Apple iPhones and iPads in Europe, including Germany as well as France and Italy, Great Britain, and the Netherlands. However, Samsung was silent as to whether or not it will continue to seek compensation for damages.

**French and Italian Battles**

After a German court ruled that Samsung could not directly sale its Galaxy Tab 10.1 tablet in Germany in September 9, 2011, Samsung official declared that it will aggressively seek preliminary injunction against it rival, Apple, in two large European markets, i.e., France and Italy, blocking sales of its new iPhone 4.

However, by December 18, 2012, Samsung publicly announced that it was dropping attempt to ban sales of Apple’s iPhones and iPads in Europe, including France and Italy, as well as Germany, Great Britain, and the Netherlands. This announcement came a day after Samsung received a victory ruling by a U.S. court rejecting Apple’s request for a ban on sales of Samsung’s smartphones in the U.S. However, Samsung was silent as to whether or not it will continue to seek compensation for damages.


**Dutch Battle**

When the German court granted Apple’s request for an EU-wide preliminary injunction banning the sale of Galaxy Tab 10.1 throughout European Union in August 24, 2011, a court in Hague followed suit and banned three of Samsung smartphones in the Netherlands. Samsung immediately declared that it would appeal, especially since it received a losing ruling without given an opportunity to fight.80 In addition, on September 26, 2011, Samsung asked the German court for an injunction on sale of Apple’s iPhones and iPads on the ground that Apple did not have licenses to use Samsung’s 3G mobile technologies. Samsung’s request was denied on October 14, 2011 on the ground that 3G was an industry standard, and that Samsung was obligated to offer Apple licenses under “fair, reasonable and nondiscriminatory” or FRAND terms. The Netherlands court added that Samsung could file a separate injunction request if no agreement could be reached after Samsung made Apple a reasonable offer for a license fee.81 However, Samsung officially announced that it would drop attempts banning sales of Apple’s iPhones and iPads in Europe, and Netherlands on December 18, 2012, a day after Samsung received a victory ruling by a U.S. court rejecting Apple’s request for a ban on sales of Samsung’s smartphones in the U.S.82

**Australian Battle**

On July 26, 2011, Apple filed a lawsuit against Samsung in Australia 3 days after it got hold of the US version of Galaxy Tab 10.1 tablet on July 22, 2011. Apple claimed that due to the imminent release of Samsung Galaxy Tab 10.1 in Australia, it requested the Australian court to make a speedy ruling, banning Samsung from promoting, taking pre-orders, shipping to sales channels or even generating interest in the new Galaxy tablet until the infringement suit was resolved. After a hearing shortly after, the Australian court suggested that Samsung would be penalized heavily if its tablets were deemed infringing on Apple’s design patents. This hearing resulted in an agreement which states that Samsung would restrict the sales of its Galaxy tablet in Australia and would also give Apple sample devices and source code of devices.83 As a result, Samsung Galaxy Tab 10.1 sales were halted in Australia on August 2, 2011.84

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Samsung countersued on September 17, 2011 claiming that Apple infringed on seven of Samsung’s patents. On October 12, 2011, an Australian court issued a preliminary injunction against Samsung Galaxy Tab 10.1 in Australia, and thus preventing Samsung from the 2011 holiday sale. Samsung appealed and in November 2011, the Australian appeals court overturned Apple’s injunction of Samsung Galaxy Tab 10.1 tablet. However, the court ordered that the ruling be stayed until Apple had the opportunity to appeal this ruling. On December 8, 2011, the ban on the Galaxy Tab 10.1 tablet was lifted in Australia.

The Australian battle continued when Samsung counter-sued Apple in Australia after having to delay the Galaxy Tab 10.1 launch. Samsung complaint was filed with a Federal Court of Australia in New South Wales, claiming that Apple infringed seven of its patents related to 3G networking on Apple’s 3rd and 4th generation iPhones and iPad 2 devices. Samsung also attempted to block the sales of Apple’s iPhone 4S in Australia. On February, 3, 2012, Apple retaliated by adding 278 claims in 22 of its Australian patent to its complaint which originally covered only 3 patents. At the beginning of the trial in July 2012, the Australian court declared that the patent dispute between Apple and Samsung is “ridiculous” and might be best settle in mediation. However, it is unlikely that Apple and Samsung will enter mediation discussions, especially since they had already gone down that path during the U.S. trial with no success. The outcome of this case is expected early this year.

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The British Battle

Samsung sued Apple on June 29, 2011 in the High Court of Justice, Chancery Division in the United Kingdom (UK) for a declaration that its Galaxy tablets were not too similar to Apple’s products. Apple filed a countersuit against Samsung in the UK court on September 14, 2011.93

On July 9, 2012, British Judge Colin Birss ruled that Samsung’s Galaxy Tab 10.1, Tab 8.9 and Tab 7.7 do not infringe Apple’s design patent, after making a backhanded comment that Samsung’s Galaxy tablets were not “cool” enough to be confused with Apple’s iPad.94 This ruling has effect throughout European Union. Apple appealed but the Court of Appeal of England and Wales upheld the lower court judgment on October 18, 2012.95 This was a big victory for Samsung because the German court gave the opposite ruling on the same patent.

One other outcome of this case was that, on July 18, 2012, the British court ordered Apple to publish an announcement on their website a disclaimer stating that Samsung did not copy the iPad. Apple appealed; however, the British Court of Appeals upheld the lower court ruling.96

III. PRACTICAL IMPLICATIONS & REPERCUSSIONS OF THE APPLE vs. SAMSUNG CASE

The practical implications and repercussions of the Apple v. Samsung case are enormous both short term and long term, not only for the smartphone industry but also the patent law and innovation in the United States.

The obvious is that market shares of Apple stocks rose almost 2% and Samsung stumble almost 8% the day after Samsung verdict on August 24, 2012.97 One other short term implication is that innovative phone startups will likely have a difficult time raising funding because investors are concerned of being sued.

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96 Id.
For Apple, the $1.05 billion in damages the jury awarded Apple and the prospects of triple damages for willful infringement are relatively insignificant compared to Apple’s nearly $120 billion in cash and investments. However, the verdict is an endorsement of Apple's legal strategy which focuses on Apple’s distinctive industrial design, software platforms, and user interfaces, also known as “Apple’s unique user experience intellectual property” that which makes Apple brand identity and keeps Apple in the marketplace. Equally important is Apple’s “playbook for success” which consists of four main features: (1) a top down understanding of the importance of design in the consumer’s purchasing decision; (2) a top-tier industrial design team to create appealing designs that drive product demand and, in turn, create an insatiable desire to copy and emulate its products; (3) a sophisticated design patent acquisition program; and (4) the desire to invest significant effort and resources to enforce and defend product design. While the verdict is being appealed, the ruling still marks an important symbolic victory for Apple against Google’s Android. Competitors will think twice about embracing the Android ecosystem, and will be forced to alter their software (i.e., user interfaces) and hardware to ensure unique designs relative to Apple products which could lead to lengthen product cycles and higher development cost. As a result, Apple’s pricing umbrella could be sustained longer and Apple’s products could be sold more over time. However, Apple would need to promote the view that Apple was just protecting its innovation and IP and work to reinforce its image as an innovator; otherwise, there could be a backlash from consumers and the public.

For Samsung, the verdict will not create any meaningful interruption. Apple’s user interface patents (U.S. Patent No. 7,469,481, known as “Bounce-Back-Effect” patent; U.S. Patent No. 7,844,915, known as “On-Screen Navigation” patent; U.S. Patent No. 7,864,163, known as “Tap-To-Zoom” patent), and design patents are relatively easy to “design around.” Samsung has already made software modifications to design around Apple’s patented software features. Samsung already employs an accomplished industrial design team that has received many design accolades, including at the prestigious 2012 International Design Excellence Awards from the Industrial Designers Society of America. Samsung is also a prolific user of the U.S. design patent system. For example, Samsung is on pace for 500 U.S. design patents this year. With such talents and resources, Samsung could create products that are unique in their own rights and are distinctively different in visual appearance from Apple. Ultimately, however, Samsung is more likely to begin constructive patent cross-licensing negotiations with Apple. Nevertheless, Samsung has already explored ways to reduce its reliance on Google’s Android after Google acquired handset maker, Motorola Mobility, including developing an alternative Linux-based operating system for smartphones.

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99 Id.
100 Id.
101 Roger Cheng (December 31, 2012) “Samsung to sell first Tizen smartphone next year: Tizen is an alternative Linux-based operating system seen as a more open platform that will rival Google’s Android and Apple’s iOS” (http://news.cnet.com/8301-1035_3-57561316-94/samsung-to-sell-first-tizen-smartphone-next-year-report-says/). Cnet.
For Google, the claims involved between Apple and Samsung relate to only user interfaces and designs, and “don’t relate to the core Android operating system.” Nevertheless, competition between Apple and Google has grown fierce, ranging from competing online mapping services and mobile ad platforms to media stores and cloud storage. However, having acquired Motorola Mobility – which was meant to give it a big patents war chest, Google is fully prepared to combat Apple’s infringement claims; ironically at the same time, however, Google is also inviting Apple for further scrutiny, especially in view of media reports circulated within the smartphone industry that Google and Motorola Mobility are working on a top-secret “X Phone” designed to compete with Apple as well as Samsung.102 Regardless, Google will have to increase software spending to update Android and help its partners to steer clear of Apple’s patent claims. Other reports have also surfaced that Google has been making overtures to Apple for peace.103 The new Apple CEO Tim Cook, who is not emotionally involved with Google, would likely welcome peace gesture from Google and settle the dispute with Google over the Android operating system for smartphones.

For other competitors such as Apple’s old rival Microsoft and Microsoft’s key partner, Nokia, the $1.05 billion jury verdict and any subsequent settlement could result in public relations and investment victory. Microsoft Windows Phone operating system has not gained traction in the marketplace since late 2010.104 The problem has been simple: There are too few Windows Phone users to make it an attractive platform for developers, and without developer interest, users shy away from a platform that is lacking in quality apps.105 In order to reach critical mass, Microsoft needs some group of stakeholders to turn away from Android as their go-to alternative to the iPhone. Legal trouble for Android might be just the turning point for Microsoft and Nokia. Similarly, Blackberry maker Research in Motion (RIM) will also likely to benefit from the Samsung verdict for these same grounds.

As for the long term implications, skeptics believe that the Samsung verdict will hurt and stifle innovation, and thus result in fewer product choices and higher prices in the U.S. and the world. Many skeptics are even critical of the U.S. patent system, especially, software patents which has been severely attacked from multiple stakeholders within the IT industry. Nevertheless, the patentability of software has now been firmly established in the U.S.106

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105 Id.
106 Software was not recognized as a patentable “process” until the Federal Circuit’s en banc decisions in Arrhythmia Research Technology Inc. v. Corazonix Corp., 958 F.3d 1053 (Fed. Cir. 1992)
Others believe that the verdict should be viewed as a victory for consumers, engineers and designers, patent rights, and the U.S. patent system as a whole. The verdict of this case will force as well as challenge designers and engineers to be creative and come up with newer designs while steering away from Apple’s design. This can be viewed as a great opportunity for designers and consumers alike because the so desirable Apple’s design of today will be old in the future. As for other smartphone makers, this can also be viewed as an opportunity to be creative with licenses, as well being creative and innovative in making new products. Design patents will be strengthened and will have a more prominent role in a patent portfolio of every smartphone manufacturer in order to protect the design elements in conjunction with the functional elements of new products.

Many observers are confident that the U.S. patent system will sort things out properly, pointing to the re-examination proceedings that are available at the U.S. Patent & Trademark Office (USPTO) to challenge the validity of software patents, such as Apple’s user interface patents (U.S. Patent No. 7,469,481, known as “Bounce-Back-Effect” patent; U.S. Patent No. 7,844,915, known as “On-Screen Navigation” patent; U.S. Patent No. 7,864,163, known as “Tap-To-Zoom” patent).

In a keynote address delivered at the Center for American Progress on November 20, 2012, David Kappos, Under Secretary of Commerce for IP & Director of the USPTO, offered a strong defense of software patents and the so-called smartphone “patent wars,” noting that patent protection for software-implemented innovations is well-deserved and the volume of patent litigation in the smartphone industry was a sign that the patent system was working as intended. Addressing those who claim the U.S. patent system is broken and software patents stifle innovation, Mr. Kappos said, “Give it a rest already.” Mr. Kappos also touted several new provisions of the America Invents Act (AIA) enacted into law on September 16, 2011, including post-grant review and transitional program for covered business method patents that

and In re Alappat, 33 F.3d 1526 (Fed. Cir. 1994). Similarly, business methods were not recognized as patentable “processes” until the Federal Circuit’s en banc decision in State Street Bank & Trust Co. v. Signature Financial Group, 149 F.3d 1368 (Fed. Cir. 1998). Since then, both the U.S. Supreme Court and the Federal Circuit have tightened the standard for granting software patents. For example, in In re Nujiten, 500 F.3d 1346 (Fed. Cir. 2007), the Federal Circuit held that signal claims are no longer statutory. In Bilski v. Kappos, 130 S. Ct. 3218 (2010), the Supreme Court held that the “machine or transformation” (otherwise, known as “MoT”) test is not the exclusive test for determining an eligible process under 35 U.S.C. §101. Nevertheless, the “MoT” test remains the safe harbor test for determining an eligible process under 35 U.S.C. §101.

In contrast to utility patents, design patents protect only the appearance or ornamental aspects of a useful article of manufacture, not its functional aspect; see 35 U.S.C. §171. A design patent covers, for example, the shape or body features of Apple’s iPhone, iPod, or iPad. Design patents last for fourteen (14) years after issuance; see 35 U.S.C. §174.

See “An Examination of Software Patents” by David Kappos on November 20, 2012 (see www.uspto.gov/news/speeches/2012/kappos_CAP.jsp).

allow the USPTO to weed out low-quality software and business method patents. Even more recently, on January 3, 2013, the USPTO announced that it was seeking to form a partnership with the software community to enhance the quality of software-related patents.\footnote{See “Request for Comments and Notice of Roundtable Events for Partnership for Enhancement of Quality of Software-Related Patents.” Federal Register Vol. 78, No. 2, January 3, 2013.} Hopefully, these efforts will enhance the quality of software-related patents, and the future of competition in the smartphone industry will be more vibrant and will promote even more innovations.