The Smartphone Patent Wars: A U.S. perspective
Fred I. Williams and Rehan M. Safiullah

Fred Williams is a partner with Akin, Gump, Strauss, Hauer and Feld, LLP in Austin, TX. His practice focuses on complex litigation and counseling, with emphasis on intellectual property, antitrust, class action and white collar disputes. The majority of his practice is devoted to representing industry-leading companies in cases involving patent infringement, copyright, trade secret, competition, trade regulation and consumer protection claims.

Rehan Safiullah is an attorney with Akin, Gump, Strauss, Hauer and Feld, LLP in Houston, TX. His practice involves all aspects of intellectual property litigation and prosecution, with a focus on patent litigation matters. Mr. Safiullah has been involved with matters in a variety of industries, including telecommunications, technology, energy and academia and has also handled patent prosecutions relating to physics, electronics, oil and gas-related inventions.

Introduction

On February 8, 2012, Gibson, Dunn & Crutcher and Morrison & Foerster filed a complaint in the Northern District of California on behalf of their client, Apple. The complaint accused smartphone rival Samsung of infringing eight Apple patents. The case represents one of the most recent actions in the global patent war over smartphones. Over the last few years, an all-out patent war has unfolded, with companies committing enormous resources in litigation against and investigations of their smartphone rivals, and billions of dollars are at stake.

The aforementioned Apple California lawsuit represents just one front in the company’s ongoing battles over smartphones with competitors including Samsung, HTC, Motorola Mobility, and Nokia. Competition in the marketplace is equally fierce, as the players fight for market share and consumer mindshare. The major smartphone players have significant patent portfolios and a willingness to use them to preserve or improve their competitive position. As competitors start to take market share, companies have been asserting them all across the globe.

And the field is not limited to competitors. Filings by non-practicing entities (NPEs)—or the more pejorative term sometimes used for them, “patent trolls”—make up the bulk of smartphone patent infringement cases pending in United States courts. The Economist reported that in 2010, there were 84 pending cases where a handset maker stood accused of infringing by providing a handset product. A year later, 77 additional cases had been filed. The number of lawsuits filed by NPEs and the major players continues to rise. The recent outcome of these cases could have a significant impact on the future of innovation in the wireless market.

We focus here on the American theater of the smartphone patent wars, particularly on lawsuits filed by and against the major competitors, although certain important NPE cases are also addressed. The case law is summarized from a broad perspective, and we identify the major issues. We begin with a brief overview of the technology at issue, the major combatants, and a description of the key U.S. courts before addressing the case law.

The Technology

“Smartphones” are cell phones that have many features of a desktop or laptop computer, including connectivity to the internet. Some have described them as “a personal computer with a mobile phone function.” In addition to allowing people to make calls and check e-mail, smartphones can run program applications or “apps” designed by third-party developers.

Smartphones were first developed and made available to the public in the early part of this century. The Kyocera 6035, which has been described as the first widely available smartphone to the public, debuted in 2001; it was marketed as an all-in-one device, with features of a personal digital assistant (PDA) and limited web browsing. In 2002, RIM introduced the BlackBerry 5810, which combined BlackBerry’s e-mail capabilities with wireless voice functionality. In 2005, Nokia launched its N series of phones, which combined a web browser, video, music and pictures. A major upheaval in smartphone technology occurred with the launch of the iPhone by Apple in 2007. The features of the iPhone are what many today identify as “smartphone” features—email, text messaging, web browsing, contacts, a calendar, a notepad, a built-in camera and a voice recorder. The iPhone also allowed users to download data at relatively high speeds.
With so many features in a single device, smartphone lawsuits vary widely as parties sue on any technology that touches on smartphones. Technologies that are the subject of pending lawsuits (or that may become so) include wireless communication protocols (including CDMA, GSM, 3G, 4G, WiFi, WiMax, Bluetooth, LTE), semiconductor categories for wireless applications (baseband processors, mobile multimedia processors, GPS receivers, mobile WiFi chips), design features (touchscreens, user interfaces, etc.), and smartphone applications (location-based services, social networking, etc.).

The players

To navigate through the smartphone patent wars, one has to know who the players are, and more importantly, what the players do. There are at least four categories of companies involved with smartphones: the operating system (OS) designers, the smartphone manufacturers, the wireless carriers, and the app developers—these categories are not mutually exclusive.

The major OS players today include (1) Apple, with its iOS; (2) RIM with the Blackberry operating system; (3) Google’s Android system, which launched in 2008; (4) Microsoft’s Windows Mobile; and (5) Nokia has Symbian. Android differs from Apple’s iOS in that it is open source software supported by Google. Thus, companies who want to invest and bring Android devices to market have full access to the OS. Apple, on the other hand, is closed source and proprietary and prevents any unlicensed use by third parties. Figure 1 shows the U.S. market share of smartphones by type of operating system as of March 2012.

As for the major phone manufacturers, companies like Apple, RIM, and Nokia use their own OS, but HTC, Motorola, and Samsung supply Android-based phones. Figure 2 shows the U.S. supply market share of handset sales as of March 2012. Knowing whether a company makes an OS versus simply manufacturing handsets is important to understanding the technology that is being asserted, and thus, what impact a patent ruling could have on consumers. Many believe the ultimate battle is not between handset makers but between operating systems.

Outlined below are major or otherwise influential participants in the smartphone industry:

- **Apple**—products include the iPhone, iPad, iPod, and a range of Macintosh computers. Apple handsets use the iOS platform.
- **Google**—technology includes Internet search and the Android mobile operating system.
- **HTC (formerly High Tech. Computer Corp.)**—develops and manufactures Android handsets and panel computers.
- **Huwaei**—produces telecommunications equipment, consumer electronics, and handsets.
- **Kodak**—products include digital cameras, printers and online imaging services. Kodak has a number of digital imaging patents relevant to handsets.
- **LG Electronics**—manufactures products for mobile communication and home entertainment.
- **Microsoft**—products include operating systems (Windows), productivity applications and video games.
- **Motorola Mobility**—produces smartphone handsets on the Android platform. Owned by Google.
- **Nokia**—provides mobile products, GPS and network infrastructure.
- **Oracle**—software company best known for its database management systems. Purchased Sun Microsystems and along with it, the java platform.
- **Pantech**—South Korean company specializing in manufacturing mobile phones.
- **Qualcomm**—creates digital wireless telecommunications products and services.
- **RIM (Research in Motion)**—best known for its BlackBerry handsets.
- **Samsung**—sells digital media products, semiconductors and LCD products. Its smartphones run on the Android platform.
- **Sharp Corp.**—manufactures a variety of consumer electronic products, including LCD televisions, mobile phones, microwave ovens, audio systems, air purification systems, fax machines, and calculators.
- **Sony and Sony Ericsson**—products include handsets, televisions, PCs and cameras. Also provide infrastructure, software, and mobile telecommunications equipment.
- **ZTE**—provides handsets and wireless communications systems.

For the largest smartphone participants, Figure 3 shows the IP portfolios by total number of patents and applications.

In addition to the companies involved in the smartphone industry, non-practicing entities (NPEs) are not competitors but are definitely involved in the litigation war. NPE patent suits are primarily pursued to drive licensing revenue.

### The U.S. Court System

In the United States, a party can bring a patent infringement suit in federal district court, which is the general trial court of the federal court system. Parties can obtain damages or injunctions against an infringer. Parties can also file suit in the International Trade Commission (ITC), an agency that determines the impact of imports on U.S. industries and directs actions against certain unfair trade practices, such as patent infringement. The ITC is increasingly an attractive forum because of liberal discovery, expert judges, decisive remedies, and speed. Investigations are typically completed in fifteen months, whereas district court litigation often takes more than two to three years. Unlike district court lawsuits, damage awards are not available in ITC investigations, only injunctive relief. All appeals go to the United States Court of Appeals for the Federal Circuit, which has exclusive jurisdiction over, *inter alia*, ITC decisions and district court actions involving patents.

### The Case Law

The following discussion highlights patent infringement cases filed by or between major players over smartphone technology in the United States. The cases are generally listed chronologically, based on the first complaint filed between competitors. Figures 4 and 5 graphically depict the number of competitor cases relating to smartphones filed between 2005 and July 1, 2012 (the numbers do not include non-practicing entity cases).

**Nokia v. Kyocera (E. D. Tex. 2004)**

A good place to start when discussing the smartphone patent wars is *Nokia v. Kyocera*, filed in February 2004.9

---

**Figure 3—Number of Patents by Company as of March 2011**

<table>
<thead>
<tr>
<th>Company</th>
<th>Number of Patents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>&gt;3,800 patents + &gt;6,000 Nortel patents/apps</td>
</tr>
<tr>
<td>Google</td>
<td>760 US patents + &gt;1,000 IBM patents</td>
</tr>
<tr>
<td>HTC</td>
<td>127 US patents + 82 patents from ADC + 253 S3 Graphics</td>
</tr>
<tr>
<td>Kodak</td>
<td>~10,000 patents in total portfolio &gt;1,100 digital imaging patents</td>
</tr>
<tr>
<td>LG Electronics</td>
<td>&gt;9,600 patents</td>
</tr>
<tr>
<td>Microsoft</td>
<td>&gt;18,000 US patents + &gt;6,000 Nortel patents/apps</td>
</tr>
<tr>
<td>Motorola Mobility</td>
<td>17,500 patents + 7,500 apps</td>
</tr>
<tr>
<td>Nokia</td>
<td>&gt;10,000 patent families</td>
</tr>
<tr>
<td>Oracle</td>
<td>&gt;10,000 US patents</td>
</tr>
<tr>
<td>RIM</td>
<td>~10,000-15,000 patents + &gt;6,000 Nortel patents</td>
</tr>
<tr>
<td>Samsung</td>
<td>&gt;36,000 patents</td>
</tr>
<tr>
<td>Sony Ericsson</td>
<td>&gt;27,000 US patents + &gt;6,000 Nortel patents/apps</td>
</tr>
</tbody>
</table>
Nokia asserted two patents relating to data transmission for mobile phones and accused Kyocera phones, including Kyocera Model 2325. While some may argue that the accused products were not true smartphones, they did have features such as GPS positioning, 3G high-speed data, and voice data. This early dispute between the two major telecommunications giants of that time ended with a patent licensing agreement that resolved all pending litigation between the companies.


The dispute between Qualcomm and Nokia arose out of a bitter disagreement over a cross-licensing deal for patents. Qualcomm began the patent battle with Nokia in November 2005, suing on GSM-related patents. The suit accused Nokia’s GSM phones of infringing 12 Qualcomm patents. Qualcomm escalated the fight in June 2006, filing a complaint with the ITC over six patents also related to GSM technology. The administrative law judge (ALJ) determined that Nokia did not infringe, a decision that a three-judge ITC panel affirmed in February 2008.

Qualcomm filed three more cases in 2007: (1) in the Eastern District of Texas asserting three patents relating to downloading digital content over a GPRS/EDGE network; (2) in the Western District of Wisconsin involving two patents relating to voice encoders; and (3) in the Southern District of California. Nokia also filed at the ITC in August 2007.

In July 2008, a few months after the ITC’s final decision, Nokia and Qualcomm agreed to settle all litigation between the two companies. The parties entered into a 15-year agreement giving Nokia the right to use Qualcomm’s patents for a variety of mobile communications technologies. Qualcomm, in turn, is allowed to use Nokia’s patents relating to chipset technology. Although the specific financial details of the settlement were not disclosed, it is public knowledge that Nokia was required to pay Qualcomm an immediate lump sum and ongoing royalties for the patents.

Ericsson v. Samsung (E.D. Tex. and ITC 2006)

The short dispute between Ericsson and Samsung began in February 2006 with Ericsson filing suit in four countries. The litigation stemmed from the two companies’ inability to reach an agreement over expired royalty
payments on a number of Ericsson patents that Samsung had licensed. Ericsson filed suit in the Eastern District of Texas alleging that Samsung was infringing 15 of its patents relating to GSM, EDGE, and GPRS technologies.\(^\text{15}\) Samsung countersued, asserting 22 patents, including breach of contract and equitable estoppel claims, and added an ITC suit in June 2006.\(^\text{16}\)

A month later, Ericsson again sued Samsung in the Eastern District of Texas and at the ITC—this time asserting 11 of its patents.\(^\text{17}\) As before, Samsung countersued. The patents at issue included technology relating to digital radio frequency compensation, cellular phone interface, a method for mobile phone terminals, and a method for reducing power consumption for battery-powered devices. A year later, however, the two companies reached a global cross-licensing deal to settle all pending patent litigation between them.\(^\text{18}\)

**Sharp v. Samsung (E.D. Tex., D. Del., and ITC 2007)**

Litigation between Sharp and Samsung erupted in August 2007.\(^\text{19}\) The crux of the battle was over LCD technology, which only marginally touched on mobile phones. The companies faced off in the district of Delaware later that year and were embroiled in four ITC actions—two filed by Samsung and two by Sharp.\(^\text{20}\) In February 2010, the parties signed a settlement agreement to end their ongoing patent infringement disputes.

**Motorola v. RIM (E.D. Tex. and D. Del. 2008; ITC 2010)**

Motorola and RIM’s patent disputes began after negotiations over a 2003 cross-licensing agreement for several types of cell phone technologies fell apart. Motorola filed two suits in February 2008 against RIM in Texas and Delaware.\(^\text{21}\) Motorola’s Texas lawsuit accused RIM of infringing seven Motorola patents relating to programs for call-back numbers and call receiving functions. The accused devices were RIM’s Blackberry Curve, 8800 Series, and Pearl devices. The Delaware suit sought a declaratory judgment that Motorola had not infringed five of RIM’s patents. On the same day, RIM filed its own complaint, alleging that Motorola infringed nine of RIM’s patents. RIM also sought judicial declarations that several of Motorola’s patents were invalid and not infringed. The above cases were consolidated into one action in the Northern District of Texas on
January 2009, which was stayed in June 2009 pending reexamination of ten of Motorola’s patents. Despite the stay, the battle between Motorola and RIM continued. Motorola filed a complaint with the ITC on January 22, 2010, accusing RIM of infringing five of its patents. The patents related to Wi-Fi access, application and power management, and user interface. Motorola cited RIM’s continued unlicensed use of Motorola’s patents and RIMs delay tactics in district court as reasons for filing at the ITC. Six months later, in June 2010, Motorola and RIM finally agreed to end their bitter, long-running feud with a settlement that ended all outstanding worldwide litigation between the companies. The parties cross-licensed various patents, including rights to certain industry standards and certain technology such as 2G, 3G, 4G, 802.11, and wireless e-mail. For RIM, this meant an upfront payment and ongoing royalties to Motorola.

**Kodak v. Samsung; LG Electronics (W.D.N.Y. and ITC 2008)**

Kodak began a plethora of patent infringement suits in November 2008 by suing Samsung and LG Electronics over camera patents in three lawsuits—two in district court and a third at the ITC. The two patents-in-suit related to technology used for image capture, compression, data storage, and previewing images. Kodak accused LG and Samsung’s camera phones. Samsung fired back at Kodak three months later with its own complaint at the ITC, accusing Kodak cameras of infringing two patents relating to technology used in cameras, ultra-portable computers, and digital music players. Samsung specifically accused more than a dozen Kodak camera models.

With respect to Kodak’s ITC suit, LG Electronics reached a settlement agreement on November 30, 2009. With Samsung as the only remaining party, the ITC on December 17, determined that Samsung infringed both patents-in-suit. After the decision, Samsung settled the case with Kodak in January 2010, which resolved all litigation between the two companies. The settlement involved a payment from Samsung to Kodak with a technology cross-license that was royalty-bearing to Kodak.

**Kodak v. RIM and Apple (N.D. Tex. 2008; ITC 2010)**

Kodaks dispute with RIM began when RIM filed a declaratory judgment action of non-infringement against four of Kodak’s patents in November 2008. Although Kodak and RIM met numerous times regarding licensing, they were unable to reach an agreement. RIM filed its complaint in November 2008, claiming that its products did not infringe Kodak’s patents. RIM further accused Kodak of demanding exorbitant royalties. Kodak’s patents covered digital imaging technology used in camera phones, and software designed to integrate data and application programs.

On January 14, 2010, Kodak responded by filing complaints against both Apple and RIM at the ITC and against only Apple in the district court. The ITC complaint accused Apple’s iPhone and RIM’s camera-enabled Blackberry devices of infringement of one Kodak patent relating to image capture and color previews on digital cameras. In January 2011, the ALJ issued an initial determination that Kodak’s patent was invalid due to obviousness, but in June, the ITC panel revised the interpretation of certain claim terms and remanded for reconsideration. Although the ITC finally determined that Apple and RIM had infringed some of the claims, the ALJ found that Kodak’s patent was invalid, giving Apple and RIM a win. The decision now rests with the ITC panel, which should issue an opinion by September 2012. Kodak has claimed that a decision in its favor could help it garner more than $1 billion in royalties from the RIM and Apple.

**Nokia v. Apple (D. Del., ITC 2009; W.D. Wis. and ITC 2010; ITC 2011)**

Apple’s disputes with Nokia began in October 2009, with Nokia accusing Apple’s iPhone of infringing ten patents covering wireless data, speech coding, and security encryption. Nokia asserted that each of the patents was essential to the GSM standard and accused all iPhone models shipped since the product was first introduced in 2007. Nokia also accused Apple of attempting a free ride on Nokia’s innovations and refusing to agree to appropriate terms for Nokia’s intellectual property. Apple countered on December 11, claiming that Nokia infringed 13 of Apple’s patents. Nokia then filed two more complaints in December 2009—in Delaware and at the ITC. In both actions, Nokia asserted seven patents, which it described as non-essential patents relating to battery life, antenna size and other portable technology device applications.

The Nokia-Apple war continued into 2010, with Apple filing its own complaint with the ITC on January 15. Apple accused Nokia’s various models of PDAs, computers and cell phones as infringing nine Apple patents that covered software, graphics, and hardware technologies. Four of the nine patents at the ITC had already been asserted by Apple in the earlier district court case. Continuing the pattern, Nokia took the fight to Wisconsin in May 2010, alleging that the iPhone, iPad 3G, and other products infringed five of Nokia’s patents.

Things went downhill for Apple in August 2010 when the ITC, in Apple’s offensive case, invalidated an asserted claim as indefinite. More bad news followed in November 2010, when the ITC issued a pretrial briefing finding that Nokia likely committed no infringement with respect to any of Apple’s patents. Apple did, however, escape Nokia’s ITC suit on March 25, 2011, when the ITC issued its decision stating that Apple did not infringe
Nokia’s asserted patents. The ITC also found that for three of Nokia’s patents, no domestic industry existed.

Although vindicated in Nokia’s ITC case, Apple faced a new Nokia ITC lawsuit only four days after it received the noninfringement decision. The complaint cited seven patents that Nokia claimed involved multi-tasking OSs, data synchronization, positioning, call quality, and the use of Blue Tooth accessories. The accused devices were Apple’s smartphones, music players, and computers. Just as it seemed that Apple might be gearing up for another offensive filing, both companies agreed to resolve their patent disputes in June 2011. Apple agreed to a one-time lump sum payment, along with ongoing royalties to license numerous Nokia patents. There was no public indication that Nokia agreed to pay for a license to any of Apple’s patents. It seems that in the Nokia-Apple war, Nokia was the clear winner.

**Kodak v. Apple (W.D.N.Y. and ITC 2010)**

Kodak filed two complaints in January 2010 in the Western District of New York, charging Apple with infringement of five patents. The first case alleged infringement of two patents that covered image preview technology and the processing of images of different resolutions, targeting Apple’s iPhone 3GS. In the second case, the three patents related to a method by which a computer program could ask for help from any other application to carry out certain computer-oriented functions. The second complaint accused Apple products such as the Mac Mini, the iMac, the Mac Pro, the iPhone 3GS, and the iPod Touch.

Apple struck back on April 15, 2010, filing a complaint at the ITC. The suit asserted two Apple patents relating to devices for capturing multiple image bursts. The case did not touch on smartphone devices but focused on Kodak cameras. On May 12, 2011, the ALJ found that Kodak did not infringe Apple’s patents. The judge also determined that the relevant claims asserted by one of the patents—the 911 patent—were invalid. On July 18, 2011, the ITC affirmed the ALJ’s finding. The district court cases are still pending.

**Microsoft v. Motorola Mobility (W.D. Wash., W.D. Wis. and ITC 2010)**

Microsoft began its war against Motorola Mobility (“Motorola”) in October 2010 by simultaneously filing two cases in district court and the ITC. The filings claimed infringement of nine patents relating to numerous smartphone functions, such as synchronizing e-mail, calendars and contacts, scheduling meetings, and notification of signal strength and power. The accused products were Motorola’s Android-based devices, such as the Droid 2, the Droid X, the Backflip, the Devour, and the Charm. Microsoft additionally filed a breach of contract case on November 9, 2010, alleging that Motorola failed to adhere to agreements brokered by industry standard groups to charge reasonable rates for licenses related to wireless local network and video coding technology patents. Microsoft claimed that Motorola had demanded $4 billion in licensing fees.

Motorola responded a day later with two of its own patent infringement cases in district court. Together, the two cases asserted nine patents relating to digital video coding and wireless networking. The accused products, however, were not smartphones, but Microsoft’s Windows 7 OS, its X-Box franchise, and certain wireless networking adapters. Both suits were transferred back to the Western District of Washington in February 2011—Microsoft’s home turf.

Microsoft’s ITC case was the first to reach a decision. The ITC judge on December 20, 2011, issued a ruling that Motorola’s Android-based mobile devices infringed one of Microsoft’s patents, but not the other six. Motorola was quick to claim that it was pleased with the majority of the rulings, as the infringement decision would help Motorola avoid infringement in the U.S. market. On May 18, 2012, the ITC affirmed the ALJ’s decision and issued an import ban on certain Motorola smartphones. For now, Microsoft appears to be winning the war.

**Apple v. HTC (D. Del. and ITC 2010; D. Del. and ITC 2011)**

Steve Jobs announced Apple’s filings against HTC in early 2010: “We can sit by and watch competitors steal our patented inventions, or we can do something about it. We’ve decided to do something about it.” Apple sued HTC on March 2, 2010, filing two cases in the District of Delaware and one at the ITC. The suits alleged infringement of a combined 20 Apple patents relating to touch screen and user interface technology, as well as the underlying software, architecture, and hardware. The asserted patents also allegedly include the technology that allows the smartphone to run several applications at once.

In response, HTC filed its own ITC lawsuit on May 12, 2010, on five patents. Three of the patents related to implementing telephone directories within cell phone systems, and the other two related to power management methods. A little more than a month later, on June 21, Apple again sued HTC over four patents relating to conserving a phone’s battery and the other three covering a slide and lock screen system and real time changes on a display panel.

On the surface, things appeared calm until July 8, 2011, when Apple filed yet another case at the ITC, accusing HTC of infringing five patents and kicking off a new series of lawsuits. All but one of the patents-in-suit had been previously asserted in district courts by Apple. Apple accused a number of HTC products, including the Droid Incredible, T-Mobiles myTouch, the Evo, the Aria, the Desire, the Hero, the Merge, the Inspire, the Thunderbolt,
Wildfire phones, as well as the Flyer Tablet. Three days later, Apple filed another case in the District of Delaware. HTC fired back with a case in Delaware on August 15 and one at the ITC on August 16. HTC claimed that three of its wireless technology patents were infringed by Apple products including Apple's Mac desktop computers and Macbook laptops, the iPhone, the iPod and the iPad. The last of the suits was filed by HTC on September 7, 2011 in the District of Delaware, asserting nine patents that HTC acquired from Google on September 1 and previously owned by Motorola, Inc. That case targeted a host of Apple's products and services including the Macbook laptop, the iPhone, the iPod, the iPad and iTunes.

In July 2011, Apple received good news from its original ITC action against HTC, when the ALJ found that HTC infringed two of Apple's ten asserted patents. However, on December 19, the ITC partially reversed the ALJ's decision, holding that only one of the two patents—the narrower patent—was infringed by HTC. Unfortunately for Apple, the coverage of the infringed patent was narrow and related to technology for identifying certain types of data such as phone numbers. The second (non-infringed) patent was broader and would have read directly on the structure of the Android software. Although this case was widely followed by other smartphone makers using Google's Android OS, the decision was narrow in scope and did not provide Apple the strong infringement opinion that it likely desired. Commentators have noted that the ruling is likely to have a minimal impact on the ongoing smartphone patent cases, other than to give companies the motivation to keep fighting. Nonetheless, the ruling is important because it was one of the first decisions by the ITC, amongst many involving smartphones, that found infringement.

In HTC's offensive ITC case against Apple, the ITC initially held on October 17, 2011, that Apple had committed no act of infringement, but did uphold the validity of HTC's patents. The ITC judge also noted that of the five asserted patents, a domestic industry existed in the U.S. for only two. On February 17, 2012, the ITC upheld the decision that Apple had not infringed HTC's patents and closed the investigation.

So far, the results of the Apple-HTC war have included a limited victory for Apple. Apple still has four offensive cases pending in the District of Delaware and one at the ITC, while HTC still has two offensive cases pending in the District of Delaware and one at the ITC.

The Motorola-Apple's saga has spanned the entire country and so far comprises twelve lawsuits in the district courts and at the ITC. Motorola began the war by filing four lawsuits against Apple on the same daytwo in the Northern District of Illinois, one in the Southern District of Florida, and one at the ITC. The cases involved a combined 18 Motorola patents covering technologies for wireless e-mail, proximity sensing, software application management, location-based services, and multi-device synchronization. The accused products included Apple's iPhone, iPad, Macbook and Apple TV. Two days later, Motorola again filed suit—this time, seeking a declaratory judgment in the District of Delaware that 11 of Apple's patents were not infringed and invalid.

Apple returned fire later that month with three cases of its own. Two were filed in the district court and one at the ITC. The district court cases each asserted three patents relating to touch screen interface technology. Apple accused Motorola's signature smartphones, including the Droid, Cliq, Backflip and Devour devices. These cases were eventually consolidated into one lawsuit.

In 2012, as rulings from the cases began to issue, the fallout was fairly even. On January 17, 2012, the Northern District of Illinois held that Apple did not infringe two of Motorola's patents, but found that one of the Apple patents was invalid. Later that same month, the court found that Motorola did not infringe two of Apple's patents. In Apples ITC case, the judge initially held that Motorola did not infringe three of Apple's patents, a ruling that was affirmed on March 16, 2012.

In June 2012, Judge Posner of the Seventh Circuit, sitting by designation in the Northern District of Illinois, dismissed one of the cases. The court ruled that neither Apple nor Motorola could prove entitlement to damages or an injunction. With no relief available, the court dismissed the case with prejudice. The decision is an important one as it highlights the standards for proving damages and may limit a patent holder's ability to obtain an injunction on standard-essential patents.

Although Motorola Mobility was purchased by Google in mid-2011, that has not stopped Motorola from escalating the patent war. So far this year, Motorola has filed a new patent infringement suit, accusing Apple of infringing six patents relating to wireless and smartphone technologies and targeting Apple's iPhone 4S and iCloud software. Apple retaliated less than a month later with its own declaratory judgment action, alleging that Motorola's patent claims against its iPhone 4S, which are currently in litigation in Germany, breached a licensing agreement struck between Motorola and Qualcomm.

Oracle v. Google (N.D. Cal. 2010)
The Oracle-Google patent battle has perhaps been the most followed in the smartphone world. The failed negotiations between Sun Microsystems and Google preceded this major dispute. Sun and Google began
negotiations in 2005 over the possibility of a Java license for use in Android, and while talks went on for several months, the two were unable to reach a deal. Oracle subsequently bought Sun in January 2010 and renamed it Oracle America, obtaining Sun’s intellectual property. The Oracle-Google dispute consists of only one lawsuit filed in August 2010 by Oracle. The dispute covered seven patents relating to Oracle’s Java platform and certain copyrights. Oracle alleged that Android OS consists of Java applications running on a Java-based object oriented application framework. Damages were initially estimated by Oracle at $1.16 billion.

A notable discovery dispute concerned an internal Google email that Oracle sought to produce. The draft email (by a Google employee) stated that Google’s technical alternatives to using Java for Android “all suck” and stated that we need to negotiate a license for Java under the terms we need. In October 2011, the court ordered Google to turn over the email and all associated drafts to Oracle. On February 6, 2012, the Federal Circuit denied Google’s petition for a writ of mandamus on the issue.

The Oracle—Google trial began on April 16, 2012, and lasted for six weeks. On May 23, after more than a week of deliberations, the jury returned a unanimous verdict of no infringement for Google. As to the copyright issues, the jury found that Google had infringed Oracle’s copyrights, but was deadlocked on whether the infringement was fair use. The court held on May 31 that Oracle’s APIs were not entitled to copyright protection. Both the patent and copyright results were a resounding victory for Google and its Android OS.

Experts have offered a variety of opinions on what the decision means in a wider context. What is clear is that there are no sure victories in the patent litigation world. Even with a strong IP portfolio and a willingness to go to trial, a patent infringement win is not guaranteed, as Oracle has learned.

**Apple v. Samsung (N.D. Cal., D. Del., and ITC 2011; N.D. Cal. 2012)**

The two companies with the largest smartphone sales around the globe—Apple and Samsung—began their war with Apple filing its complaint in April 2011, accusing Samsung’s Galaxy series of touch screen products of infringement. Samsung followed up 12 days later with a lawsuit accusing Apple of infringing ten Samsung patents. Samsung struck again in June 2011, filing in the ITC on June 28 and in district court the next day. At the ITC, Samsung asserted five patents relating to communications and data transfer over networks and accused Apple’s iPhone, iPod Touch, and iPad products. Six days later, it was Apple’s turn to file at the ITC. Apple asserted seven patents against Samsung and targeted Samsung’s smartphones and tablet computers, including the Galaxy line.

In February of this year, Apple filed suit against Samsung on eight patents relating to data management, interface systems, and other wireless device functionality. It accused the newest of Samsung’s 17 portable devices that debuted between August and December 2011, which include the Galaxy Tab 7.0 Plus and the Galaxy Tab 8.9 tablets, as well as 13 other products. Samsung retaliated on April 18, 2012, with eight of its own patents relating to multimedia synchronization, touch screen keyboards and other technology.

In Apple’s 2011 case, Apple sought an injunction to bar Samsung from marketing its Galaxy S and Infuse lines of phones and the Galaxy Tab. T-Mobile and Verizon both submitted briefs on Apple’s motion for injunction, siding with Samsung. On December 2, 2011, the court initially denied Apple’s motion for preliminary injunction, but Apple appealed to the Federal Circuit, which partially reversed and remanded, giving Apple a second chance at the injunction. On June 26, 2012, Judge Koh issued a preliminary injunction against Samsung’s Galaxy Tab, stating that it is virtually “indistinguishable” from Apple’s iPad. Trial is set for July 30, 2012.

In Apple’s February 2012 case, Apple again moved for a preliminary injunction on Samsung’s products. Only three days after the June 26 ruling, Judge Koh again enjoined Samsung—this time, over the Galaxy Nexus smartphones. Samsung has appealed both preliminary injunctions. The Apple and Samsung war is far from over, but Apple struck first.

**Kodak v. Apple and HTC (W.D.N.Y. and ITC 2012)**

On January 10, 2012, just nine days before its bankruptcy filing, Kodak sued both Apple and HTC over smartphones and tablet cameras at the ITC. Five patents were asserted—four cover technology allowing users to share images with others directly from their digital cameras, and the remaining covers color previews of images available on digital cameras. That same day, Kodak also filed separate cases against Apple and HTC in the Western District of New York over the same four patents. Kodak generally accused camera-equipped smartphones and tablets. On February 8, 2012, Apple responded to Kodak’s complaint, criticizing Kodak for not seeking legitimate protection of a domestic industry and for seeking to maximize the value of Kodak’s patent portfolio to sell to the highest bidder. The cases are still pending.

Earlier this year, on February 14, 2012, Apple asked a New York bankruptcy judge for permission to file patent infringement complaints against Kodak at the ITC and in the Western District of New York. Smartphones were again not implicated. The U.S. Bankruptcy judge denied Apple’s motion.
Nokia v. HTC (D. Del. and ITC 2012)
The most recent filings in the smartphone patent wars have been by Nokia against HTC in May 2012, alleging infringement of six patents covering a range of mobile handset technologies in the District of Delaware and at the ITC. Nokia stated: “We have already licensed our standards essential patents to more than 40 companies. Though we’d prefer to avoid litigation, Nokia had to file these actions to end the unauthorized use of our proprietary innovations and technologies, which have not been widely licensed.” The lawsuits represent a return to patent litigation for Nokia, which settled its dispute with Apple in June 2011.

Selected Non-Practicing Entity Cases

Visto Corp.
Visto began its assault on RIM in April 2006, filing a patent infringement suit in the Eastern District of Texas on the heels of RIM’s $613 million settlement with patent-holding company NTP Inc. Visto filed suit again in August 2007. RIM filed its own declaratory judgment suits in the Northern Districts of Texas and California asking federal judges to find Visto’s patents invalid. RIM finally settled with Visto in July 2009 for $267.5 million, resolving all pending patent litigation between the two companies.

Minerva Industries Inc.
On June 6, 2007, Minerva filed two cases in the Eastern District of Texas that accused the big players in the cellular industry of infringing its patent for a “mobile entertainment and communication device.” The list of defendants included phone manufacturers such as Samsung, Nokia, Motorola, LG, HTC, Kyocera, Sony Ericsson, and RIM, and cellular service providers including AT&T, Verizon Wireless, Sprint Nextel, and T-Mobile USA. Minerva filed three more lawsuits in January 2008, accusing Apple and other cell phone manufacturers and carriers of infringement. Minerva took a hit in February 2010 when the district court found that claims in one of its oft-litigated mobile media technology patents were invalid for indefiniteness. All asserted claims of the remaining patent-in-suit were finally rejected by the USPTO and are subject to an action closing prosecution.

Flashpoint Technology, Inc.
In March 2008, Flashpoint filed a patent infringement suit against AT&T Mobility, Kyocera, Nokia and several other cell phone companies over patents relating to digital camera technology in the District of Delaware. In June 2010, Flashpoint sued Nokia, RIM and LG Electronics at the ITC. By July 2011, Nokia and LG had a patent license and settlement agreement with Flashpoint and were out of the ITC proceeding. In September 2011, the ITC ruled that FlashPoint was unable to demonstrate that HTC’s devices infringed the two patents-in-suit.

Mirror Worlds LLC
In March 2008, Mirror Worlds brought a patent infringement suit against Apple in the Eastern District of Texas. On October 4, 2010, the jury found against Apple, awarding $625.5 Million in damages. In April 2011, however, Chief Judge Davis vacated the verdict of infringement, finding that Mirror Worlds failed to present an adequate case for patent infringement during trial. The court entered a final judgment that the plaintiff take nothing against Apple. Unsurprisingly, Mirror Worlds appealed to the Federal Circuit with oral argument held on March 8, 2012. The dispute centered around Apple’s Spotlight and Time Machine aspects of its OS X operating system, as well as Apple’s “CoverFlow,” a 3D graphical interface used in iTunes and the iPhone. A Federal Court decision has yet to issue.

SmartPhone Technologies LLC
Beginning on March 3, 2010, SmartPhone Technologies accused about a dozen major cell phone manufacturers including RIM, Samsung, Apple, and Motorola, of infringing several communications and Bluetooth patents through their smartphone devices in the Eastern District of Texas. In October 2010, the company struck again, suing even more cell phone manufacturers including HTC, Nokia, Sony Ericsson, and Kyocera of infringement. So far, RIM and Pantech have settled, while Sanyo and Insight have been dropped from the litigation. SmartPhone Technologies, for its part, filed two more cases in the Eastern District of Texas in October and November 2011 accusing AT&T, Apple, and HTC of patent infringement.

Digitude Innovations LLC
On December 2, 2011, Digitude sued most of the mobile world in simultaneous lawsuits in the District of Delaware and at the ITC. The accused products included Amazon’s Kindle Fire tablet, HTC’s EVO Design 4G smartphone, RIM’s BlackBerry Bold 9930 and Curve 8530 smartphones, Motorola’s Droid Razr and Droid 3 smartphones and Samsung’s Focus and Galaxy S II Epic 4G Touch. Also sued were LG Electronics, Nokia, Sony Ericsson, and Pantech Wireless. Google has intervened in most of these suits. An interesting note about Digitude is its possible relationship with Apple. In fact, a simple search on Google for “Digitude” reveals that 5 of the first 10 results discuss
an Apple-Digitude alliance against the major smartphone companies. One article is even titled, “Apple Made a Deal with the Devil (No, Worse: A Patent Troll).” The exact relationship, if any, between Apple and Digitude is open to speculation.

**Conclusion**

The battle over smartphone technology continues. So far, there is no clear winner and we will have to wait for some time before the field becomes clear. Will companies, after winning some cases and losing others, settle their disputes and cross-license each other’s IP? Or will a clear victor emerge that can bar an entire operating system or smartphone model from the industry? Predicting the future with regard to smartphone technology is difficult. The smartphone market is subject to rapid change and innovation. A company dominant today may be on the way out tomorrow, and so helpful predictions in such a dynamic environment are not easily made. Nonetheless, the rise and dominance of the iPhone, along with other technologies (such as in the computer notebook and television world), predict a world where mobile devices do not just get smaller but also adapt to whatever technology can best accommodate an all-in-one solution. People need everything at their fingertips—whether it’s a map of the city, email access, or watching a live Major League Baseball game featuring the two-time defending American League Champion Texas Rangers (Go Rangers!), the features and performance of future devices will assuredly be mobile, be large enough to do everything we want, and still be small enough to go everywhere we want. The direction of smartphone technology may well transform into smaller tablet technology, but one thing is for certain: the basic feature of a telephone—that is, to easily make a call will remain—at least until humans decide to communicate only by instant message.

On August 25, 2010, Apple filed suit on a breach of confidentiality claim in the Superior Court of California and sought $1 billion in damages from Kodak.


In early June 2012, Apple filed a new complaint at the ITC, asking the court for emergency enforcement of an immediate ban on all HTC Android products.


Motorola Mobility, Inc. v. Apple Inc., No. 5:12-cv-000630 (N.D. Cal. filed Feb. 8, 2012).