UNITED STATES PATENT NO. 5,710,987

SUPPLEMENTAL INFRINGEMENT CONTENTIONS¹

Accused Apple Product²: Apple iPhone 4, Apple iPhone 4S.

'987 Patent Claim	Apple iPhone 4 ³
including a user interface	Upon information and belief, Apple imports, manufactures, sells, offers to sell, and uses the Apple iPhone 4, which includes a receiver and several user interfaces, including a touch-screen display, volume control buttons, and speaker.
comprising:	See, e.g., iPhone 4 Technical Specifications, (http://www.apple.com/iphone/specs.html), accessed on May 12, 2011, MOTO-APPLE-0006037953_126659:

Motorola Mobility's investigation is ongoing and discovery and claim construction are not yet complete. Apple has, thus far, produced neither all documents relevant to the accused methods and products, nor the requested Rule 30(b)(6) witnesses. Mobility reserves the right to supplement or amend these contentions with contentions arising under the doctrine of equivalents in response to any proposed or ordered claim construction, subsequent discovery response or production, or subsequent disclosure made pursuant to FRCP 26.

Motorola reserves the right to supplement this list of Accused Apple Products.

This chart provides Motorola's infringement analysis for the Accused Apple Products. Upon information and belief, the analysis set forth in this chart for the Apple iPhone 4 applies equally to the Apple iPhone 4S.

Apple iPhone 4³ '987 Patent Claim Cellular and wireless GSM model: UMTS/HSDPA/HSUPA (850, 900, 1900, 2100 MHz); GSM/EDGE (850, 900, 1800, 1900 MHz) ■ CDMA model: CDMA EV-DO Rev. A (800, 1900 MHz) ■ 802.11b/g/n Wi-Fi (802.11n 2.4GHz only) ■ Bluetooth 2.1 + EDR wireless technology See also iPhone Design, (http://www.apple.com/iphone/design/), accessed on May 12, 2011, MOTO-APPLE-0006037953_126949-50: Stainless Steel Band Created from our own alloy, then forged to be five times stronger than standard steel, the CNC-machined band is the mounting point for all the components of iPhone 4. The band provides impressive structural rigidity and allows for its incredibly thin, refined design. It also functions as both iPhone 4 antennas.

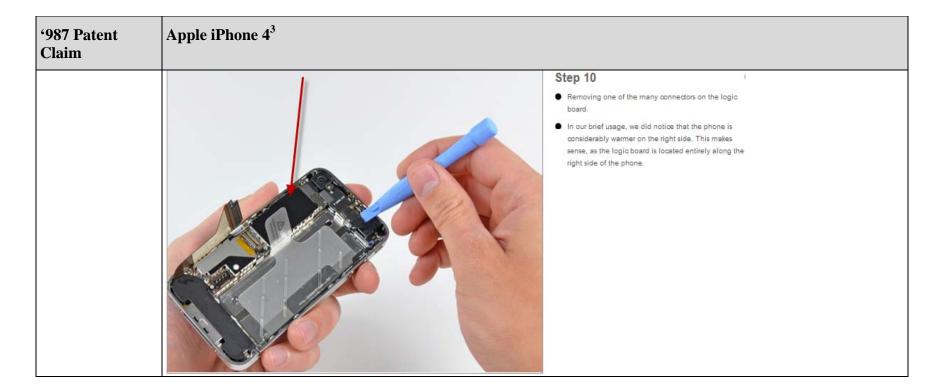
'987 Patent Claim	Apple iPhone 4 ³
	Mic + Speaker While most phones have only one microphone, iPhone 4 has two. The main mic, located on the bottom next to the dock connector, is for phone calls, voice commands, and memos. The second mic, built into the top near the headphone jack, is for FaceTime calls and for making your phone calls better. It works with the main mic to suppress unwanted and distracting background sounds, such as music and loud conversations. This dual-mic noise suppression helps make every conversation a quiet one.
a housing;	Upon information and belief, the Apple iPhone 4 contains a housing . See e.g., iPhone Teardown, (http://www.ifixit.com/Teardown/iPhone-4-Teardown/3130/2), accessed on May 13, 2011, MOTO-APPLE-0006037953_127193 (arrows and labels added):

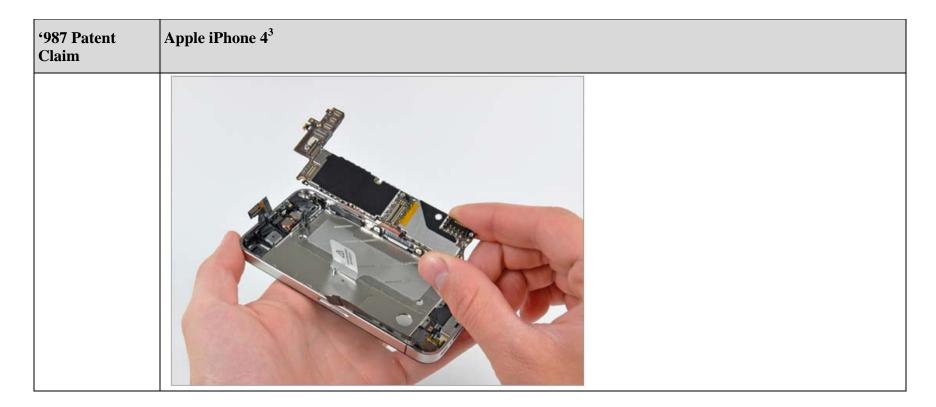


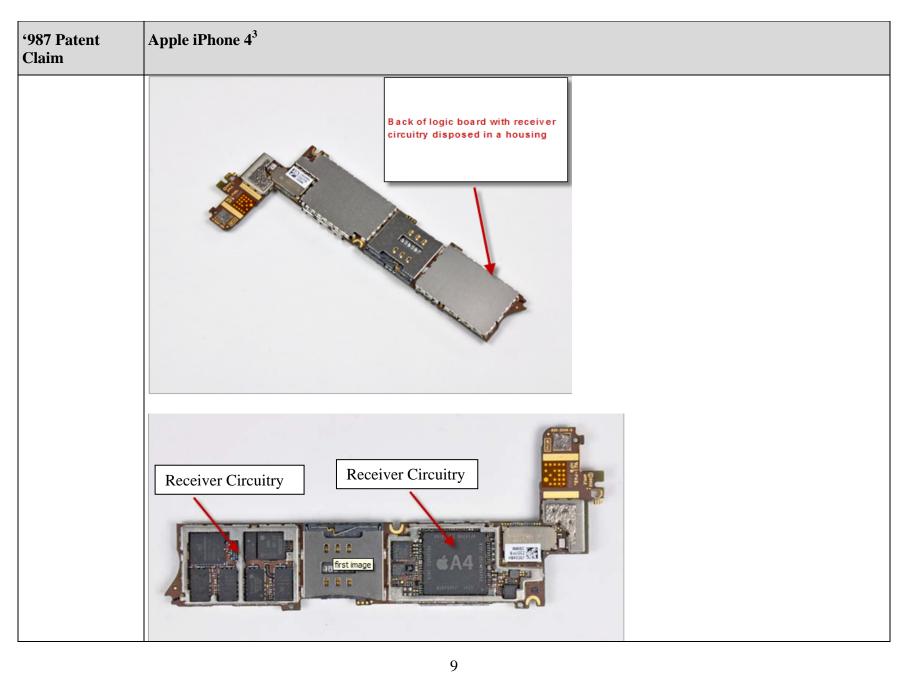


Exhibit A

'987 Patent Claim	Apple iPhone 4 ³
	P333
receiver circuitry disposed in the	Upon information and belief, the Apple iPhone 4 has receiver circuitry disposed in the housing.
housing; and	See, e.g., iPhone Teardown, (http://www.ifixit.com/Teardown/iPhone-4-Teardown/3130/2), accessed on May 13, 2011, MOTO-APPLE-0006037953_127192-94 (arrows and labels added):



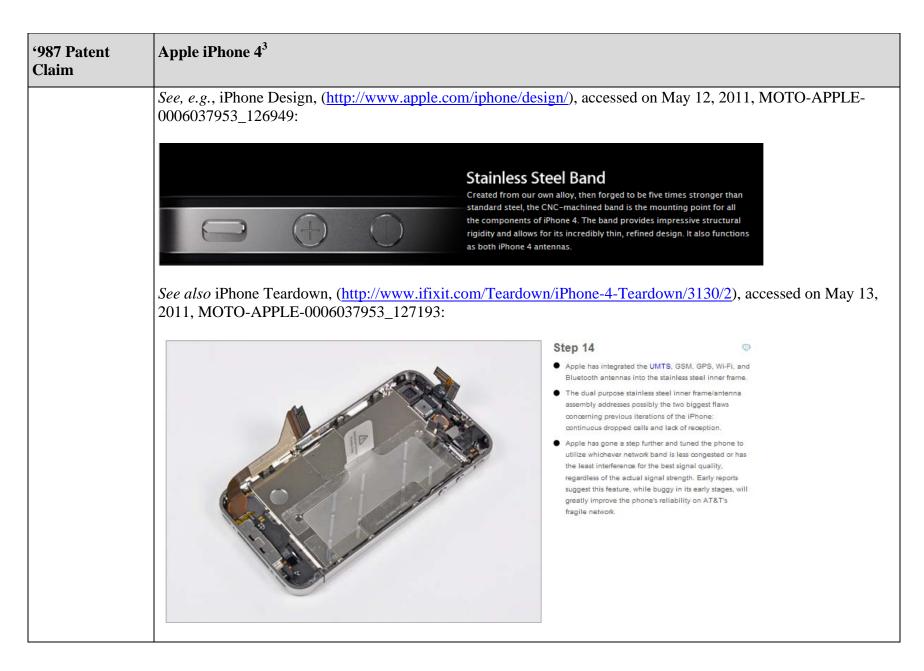




'987 Patent Claim	Apple iPhone 4 ³
	On the top of logic board: Skywords SKY77542 75-Rx IPAC™ FEM for Dual-Band (SMIGRER, 880-915 MHz and 1710-1785 MHz bands.) Skywords SKY77541 OSM/GRPS Pront End Module STAlicro STANDAD 3-axis accelerometer

Exhibit A

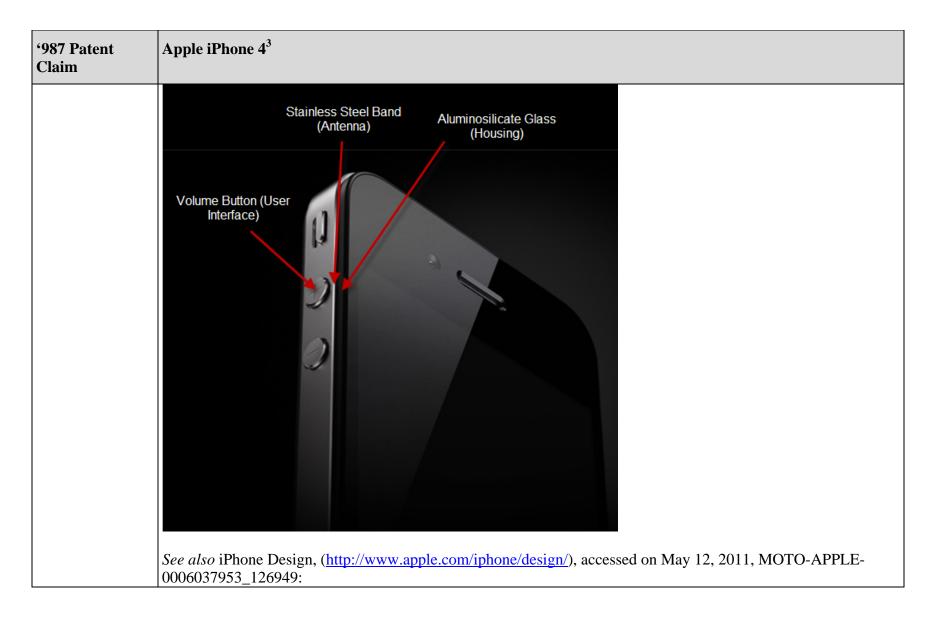
'987 Patent Claim	Apple iPhone 4 ³
	See also iPhone Teardown, (http://www.ifixit.com/Teardown/iPhone-4-Teardown/3130/1), accessed on May 13, 2011, MOTO-APPLE-0006037953_127208 (arrows and labels added):
	View huge Image metadata Non-conductive Aluminosilicate Glass
	Housing first image Receiver Circuitry
	AFEXTG.
an antenna coupled to the receiver circuitry	Upon information and belief, the Apple iPhone 4 contains a cellular antenna and a Wi-Fi and Bluetooth antenna, each of which is coupled to the receiver circuitry. The stainless steel band on the outside of the iPhone 4 is coupled to and is part of both of the iPhone 4 antennas.



'987 Patent Claim	Apple iPhone 4 ³
	See also Image of iPhone 4 Antenna, (http://fortunebrainstormtech.files.wordpress.com/2010/06/iphone-4-antennas.jpg), accessed on May 13, 2011, MOTO-APPLE-0006037953_127191: Bluetooth Wi-Fi GPS GSM Image: Apple Inc.
wherein the antenna forms a loop surrounding	Upon information and belief, the antenna in the iPhone 4 forms a loop that surrounds a portion of the user interface. and is disposed between an outside surface of the housing and the at least a portion of the user interface.
at least a portion of the user interface and is	Specifically, the iPhone 4 stainless steel band (the antenna) forms a loop surrounding the volume buttons, the speaker, and the touch-screen interface (each of which is a user interface).
disposed between an outside surface of the housing and the at least a	See, e.g., Image of iPhone 4 Antenna, (http://fortunebrainstormtech.files.wordpress.com/2010/06/iphone-4-antennas.jpg), accessed on May 13, 2011, MOTO-APPLE-0006037953_127191:

Apple iPhone 4³ '987 Patent Claim portion of the user interface. Bluetooth UMTS Wi-Fi **GPS GSM** Image: Apple Inc. In addition, the stainless steel band is disposed between the outside surface of the aluminosilicate glass screen (part of the housing that contains the receiver circuitry) and (1) the volume buttons and (2) the speakers (user interfaces). See also iPhone Design, (http://www.apple.com/iphone/design/), accessed on May 12, 2011, MOTO-APPLE-0006037953_126951 (arrows and labels added):

Exhibit A



'987 Patent Claim	Apple iPhone 4 ³
	Stainless Steel Band Created from our own alloy, then forged to be five times stronger than standard steel, the CNC-machined band is the mounting point for all the components of iPhone 4. The band provides impressive structural rigidity and allows for its incredibly thin, refined design. It also functions as both iPhone 4 antennas. See also (at 745-Apple11543563): "The iPhone 4 antenna is an exterior antenna which doesn't use internal space so we can add more battery in the phone and give it a longer battery life and there's some other advantages as well."
14. A receiver according to claim 13 wherein the user interface further comprises at least one of the following: an acoustic, a visual and tactile interface.	Upon information and belief, the iPhone 4 receiver has visual (a touch-screen display), acoustic (speakers), and tactile (volume control buttons)user interfaces. See, e.g., iPhone 4 Technical Specifications, (http://www.apple.com/iphone/specs.html), accessed on May 12, 2011, MOTO-APPLE-0006037953_126659:

'987 Patent Claim	Apple iPhone 4 ³
	See also iPhone Design, (http://www.apple.com/iphone/design/), accessed on May 12, 2011, MOTO-APPLE-0006037953_126949-50:
	Stainless Steel Band Created from our own alloy, then forged to be five times stronger than standard steel, the CNC-machined band is the mounting point for all the components of iPhone 4. The band provides impressive structural rigidity and allows for its incredibly thin, refined design. It also functions as both iPhone 4 antennas.
	Mic + Speaker While most phones have only one microphone, ilhone 4 has two. The main mic, located on the bottom next to the dock connector, is for phone calls, voice commands, and memos. The second mic, built into the top near the headphone jack, is for faceTime calls and for making your phone calls better. It works with the main mic to suppress unwanted and distracting background sounds, such as music and loud conversations. This dual-mic noise suppression helps make every conversation a quiet one.
17. A receiver comprising:	Upon information and belief, Apple imports, manufactures, sells, offers to sell, and uses the Apple iPhone 4, which includes a receiver. For example, the iPhone 4 receives, among other things, telephone calls and text messages.
	In addition, through its design of the Apple iPhone 4, Apple also induced users of the Apple iPhone 4 to infringe the '987 patent. Apple and Motorola have been in talks since 2007 regarding the licensing of Motorola's patent

'987 Patent Claim	Apple iPhone 4 ³
	portfolio, and, on information and belief, in accordance with those negotiations, Apple has reviewed said portfolio, including Motorola's '987 Patent. Thus, at least as early as 2007, Apple knew or should have known its actions would induce actual infringement and possessed specific intent to encourage its customers' direct infringement through the design of the Apple iPhone 4. In addition, Apple instructs the users of the Apple iPhone 4 to use it in an infringing manner, including but not limited to by describing infringing uses in its advertisements, promotional materials, labels, and user manuals. See, e.g., Apple iPhone Bumper – Pink, (http://store.apple.com/us/product/APPLE_IPHONE_BUMPERS-104238/mco=MTM3NjUONTk), accessed on May 9, 2011, MOTO-APPLE-0006037953_127202: "Fits all iPhone 4 models for both AT&T and Verizon." See also id.: Apple iPhone 4 Bumper - Pink

'987 Patent Claim	Apple iPhone 4 ³
	Moreover, through its design of the Apple iPhone 4, Apple also contributes to the infringement of the '987 patent by users of the device. As indicated above, at least as early as 2007, Apple knew that offering to sell or selling the Apple iPhone 4 and the Apple iPhone 4 bumper would contribute to direct infringement of the '987 Patent. Apple knew that the iPhone 4 bumper, a component with no substantial non-infringing use, could be combined with the Apple iPhone 4, and that this combination, for which the two components were especially made, was both patented and infringing. Moreover, Apple iPhone 4 users have, in fact, combined these components into an infringing device. Apple further contributes to the direct infringement of the users of the Apple iPhone 4, including but not limited to by describing infringing combinations in its advertisements, promotional materials, and user manuals. See, e.g., Apple iPhone Bumper – Pink, (http://store.apple.com/us/product/APPLE_IPHONE_BUMPERS_104238?mco=MTM3NjU0NTk), accessed on May 9, 2011, MOTO-APPLE-0006037953_127202: "Fits all iPhone 4 models for both AT&T and Verizon." See also id.:

Exhibit A

'987 Patent Claim	Apple iPhone 4 ³
	Apple iPhone 4 Bumper - Pink
receiver circuitry;	Upon information and belief, the Apple iPhone 4 has receiver circuitry. For instance, the iPhone contains a logic board containing, among other things:

'987 Patent Claim	Apple iPhone 4 ³
	On the top of logic board:
	 Skyworks SKY77542 Tx-Rx iPAC™ FEM for Dual- Band GSM/GPRS: 880-915 MHz and 1710-1785 MHz bands.
	 Skyworks SKY77541 GSM/GRPS Front End Module
	STMicro STM33DH 3-axis accelerometer
	● TriQuint TQM676091
	● 338S0626
	See iPhone Teardown, (http://www.ifixit.com/Teardown/iPhone-4-Teardown/3130/2), accessed on May 13, 2011, MOTO-APPLE-0006037953_127192-94 9 (arrows and labels added):

Exhibit A

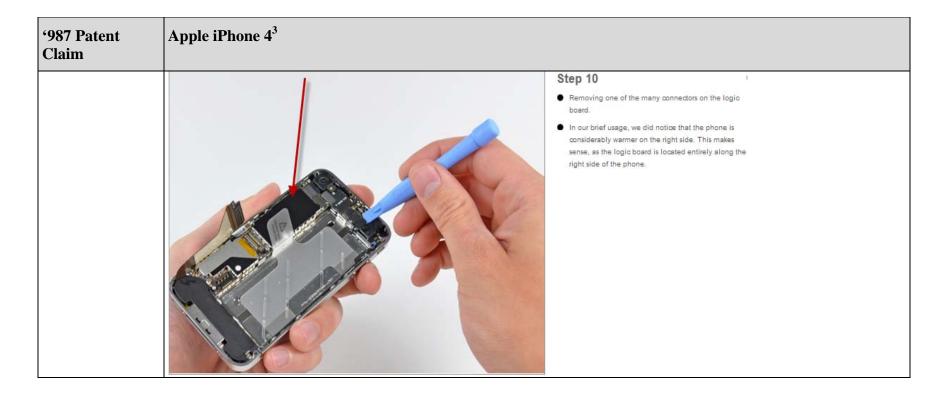
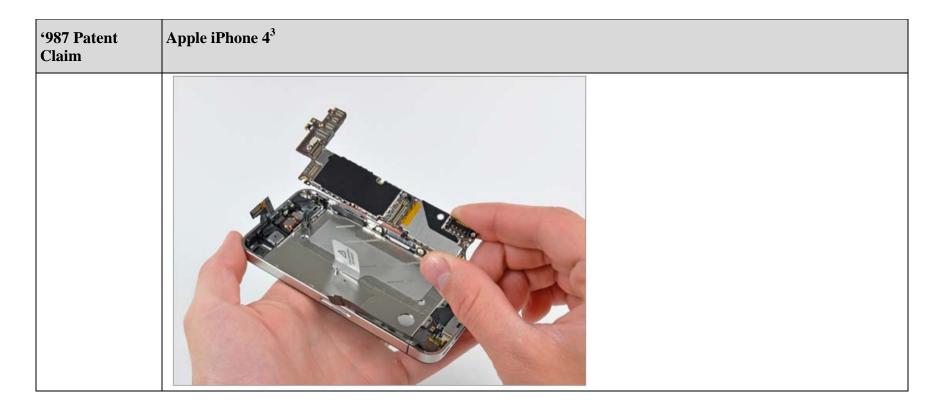
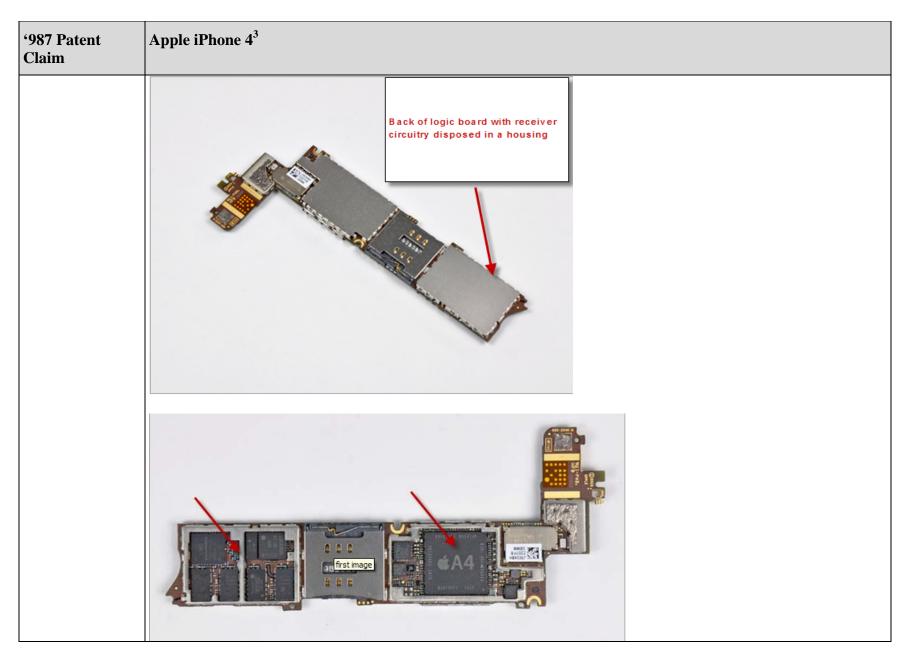


Exhibit A





'987 Patent Claim	Apple iPhone 4 ³
a housing substantially enclosing the	On the top of logic board: Skyworks SKY777642 Tx-Rx iPAC™ FEM for Dual-Band GSM/GPRS: 880-915 MHz and 1710-1785 MHz bands. Skyworks SKY77541 GSM/GRPS Front End Module STM/dro STM390H 3-axis accelerometer TriQuint TQM676091 33850026 Upon information and belief, the Apple iPhone 4 has a housing, comprised of at least the frame to the inside of the stainless steel band surrounding the iPhone and the non-conductive portion of the aluminosilicate glass screen, substantially enclosing the receiver circuitry.
receiver circuitry;	See, e.g., iPhone Teardown, (http://www.ifixit.com/Teardown/iPhone-4-Teardown/3130/1), accessed on May 13, 2011, MOTO-APPLE-0006037953_127208-10 (arrows and labels added):

Exhibit A

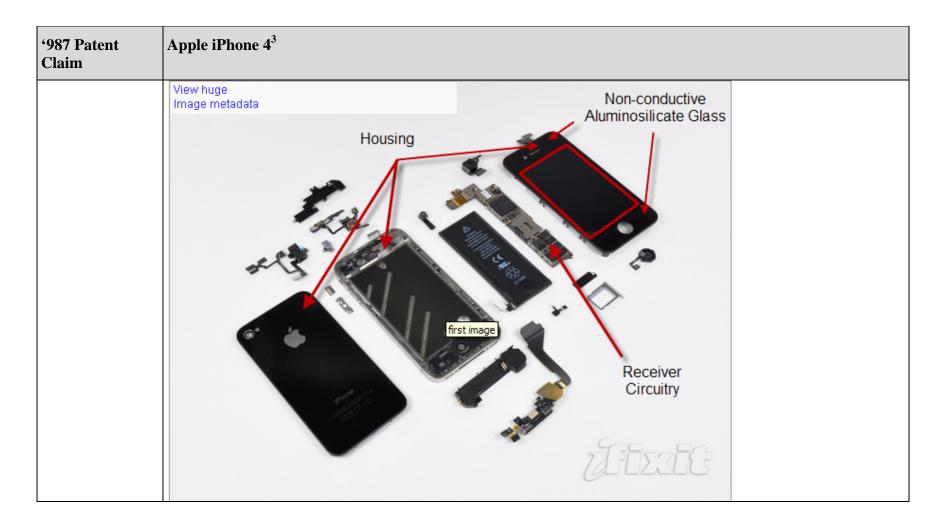
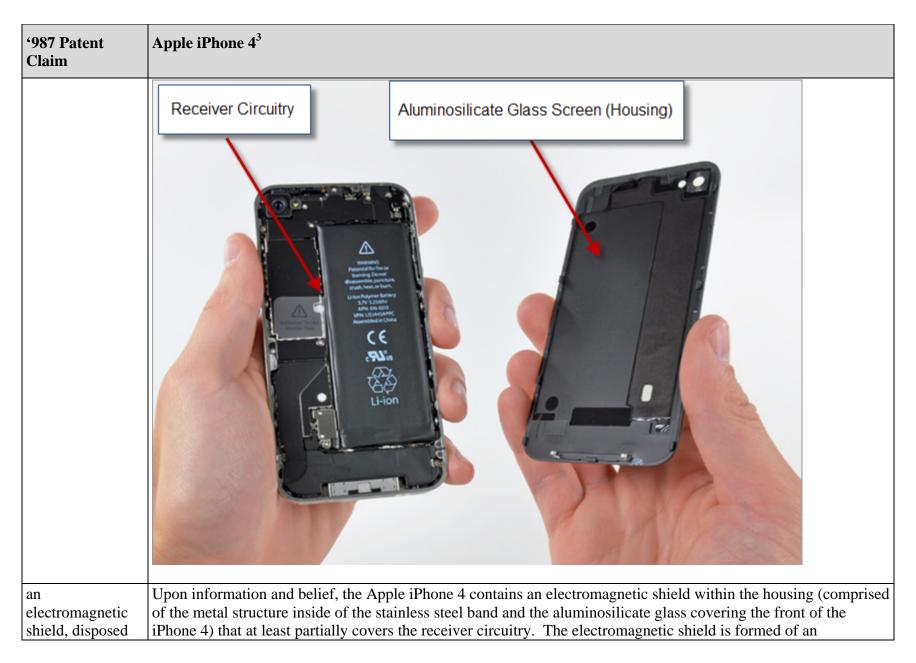
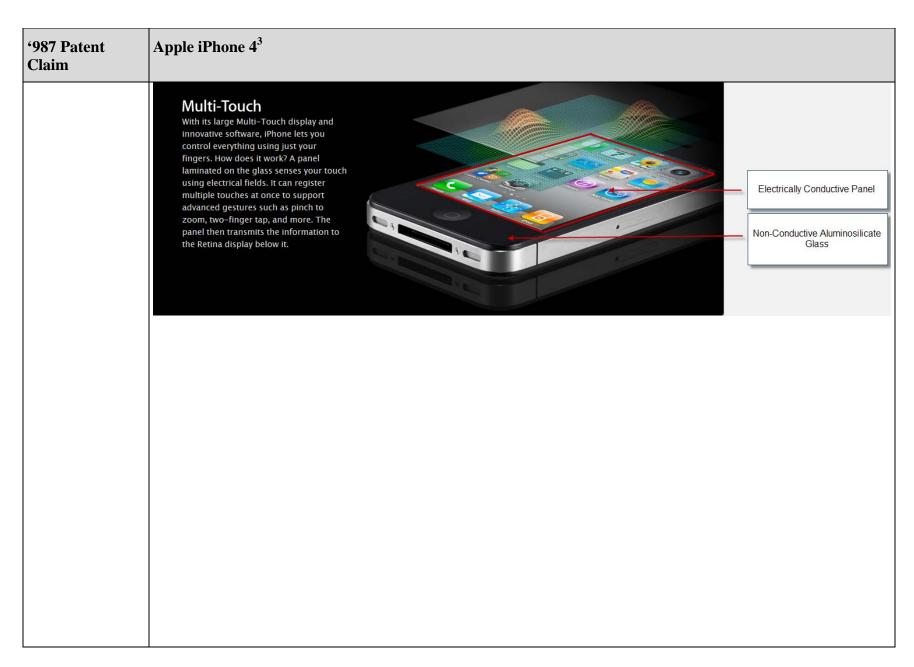


Exhibit A

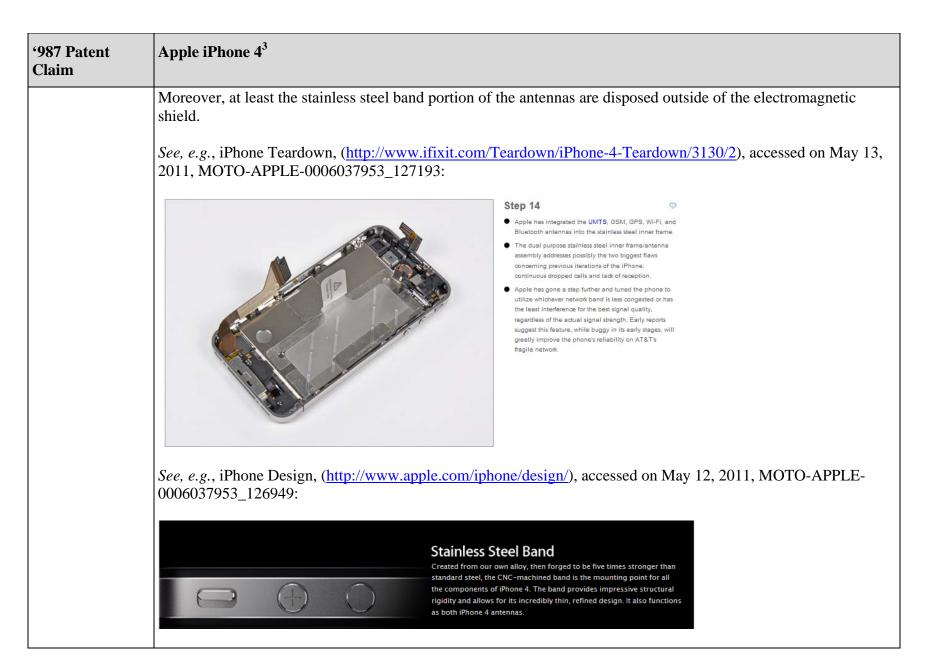


Apple iPhone 4³ '987 Patent Claim in the housing and electrically conductive, electromagnetic wave-absorbing material for absorbing electromagnetic energy radiated by at least partially or towards the receiver circuitry. covering the receiver circuitry, See, e.g., iPhone Teardown, (http://www.ifixit.com/Teardown/iPhone-4-Teardown/3130/2), accessed on May 13, 2011, MOTO-APPLE-0006037953 127193-94 (arrows, labels, and highlighting added): formed of an electrically conductive, electromagnetic wave-absorbing Back of logic board with receiver material for circuitry absorbing electromagnetic energy radiated by or towards the receiver circuitry;

'987 Patent Claim	Apple iPhone 4 ³
	Step 15 With the EMI shields off, we can get a look at what makes this beast roar. Lurking deep within the phone, the A4 processor, manufactured by Samsung, is the centralized unit that provides the IPhone 4 with the much needed computing power. Replacing the Samsung SSPC100 ARM A8 600 MHz CPU used in the 3GS, the new IPhone uses the ARM COrtex A8 core, much like its bigger sibling, the IPad. The iPad's A4 is closed at 1 Ghz. The new Samsung Wave S800 smartphone uses the ARM Cortex A8 core! Just to the left of the A4 package, the AGD1 is the new 3 axis gyroscope that we believe is designed and manufactured by ST Micro for Apple. The package make on this device do not appear to be the currently available commercial version of this gyroscope is yet to be released — Apple got first dibs on it.
an antenna coupled to the receiver circuitry, carried on an outside, nonconductive surface of the housing and disposed outside the electromagnetic shield; and	Upon information and belief, both Apple iPhone 4 antennas are coupled to the receiver circuitry, and the stainless steel band portion of the antennas is carried on an outside, nonconductive surface of the housing, including at least the non-conductive portion of the aluminosilicate glass screen See e.g., iPhone Design, (http://www.apple.com/iphone/design/), accessed on May 12, 2011, MOTO-APPLE-0006037953_126953 (arrows and labels added):







'987 Patent Claim	Apple iPhone 4 ³
	See, e.g., Image of iPhone 4 Antenna, (http://fortunebrainstormtech.files.wordpress.com/2010/06/iphone-4-antennas.jpg), accessed on May 13, 2011, MOTO-APPLE-0006037953_127191:
a substantially planar and detachable cover, attached to the outside,	Upon information and belief, Apple manufactures, imports, sells, offers to sell, and uses the iPhone 4 "bumper." The iPhone 4 bumper is a substantially planar and detachable cover. The iPhone 4 bumper is designed to be attached to the outside, non-conductive portion of the aluminosilicate glass screen (part of the housing) that covers the front of the iPhone 4.
nonconductive	The iPhone 4 bumper conceals the stainless steel band portion of the antennas between the bumper and the outside,

'987 Patent Claim	Apple iPhone 4 ³
surface of the housing, for concealing the	nonconductive surface of the housing (the non-conductive portion of the aluminosilicate glass display) such that the antenna is unnoticeable to a user of the receiver.
antenna between the cover and the outside, nonconductive	Apple instructs its customers to attach the iPhone 4 bumper to the outside, nonconductive portion of the aluminosilicate glass display, for concealing the antennas between the bumper and the outside, nonconductive portion of the aluminosilicate glass display.
surface of the housing such that the antenna is unnoticeable to a	See, e.g., Apple iPhone Bumper – Pink, (http://store.apple.com/us/product/APPLE_IPHONE_BUMPERS-104238?mco=MTM3NjU0NTk), accessed on May 9, 2011, MOTO-APPLE-0006037953_127202: "Fits all iPhone 4 models for both AT&T and Verizon." See also id.:
user of the receiver.	Apple iPhone 4 Bumper - Pink

'987 Patent Claim	Apple iPhone 4 ³
	The iPhone 4 bumper is designed specifically for the iPhone 4 and will not fit any other phone. <i>See, e.g., id.</i> "Important note: iPhone 4 Bumpers are compatible only with iPhone 4. They will not work with any other iPhone model." There is no substantial non-infringing use for the iPhone 4 bumper.
	See also Antennagate Article, (http://www.msnbc.msn.com/id/38263228/ns/technology and science-wireless/t/apple-gives-free-bumpers-all-iphone-owners/), accessed on May 12, 2011, MOTO-APPLE-0006037953_126955:

