PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of **CERTAIN PORTABLE ELECTRONIC DEVICES AND RELATED SOFTWARE**	**Inv. No. 337-TA-797**

ORDER NO. 57: CONSTRUING THE TERMS OF THE ASSERTED CLAIMS OF THE PATENTS AT ISSUE

(June 26, 2012)

The following abbreviations may be used in this Markman Order:

JXM	Joint Exhibit
CXM	Complainant's Markman exhibit
CDXM	Complainant's demonstrative Markman exhibit
CMBr.	Complainant's initial Markman brief
CRMBr.	Complainant's reply Markman brief
RXM	Respondents' Markman exhibit
RDXM	Respondents' demonstrative Markman exhibit
RMBr.	Respondents' initial Markman brief
RRMBr.	Respondents' reply Markman brief
SMBr.	Staff's initial Markman brief
SRMBr.	Staff's reply Markman brief
Tr.	Markman hearing transcript
Stip.	Technology Stipulation

I. INTRODUCTION.

The Commission instituted this Investigation pursuant to subsection (b) of Section 337 of the Tariff Act of 1930, as amended, to determine:

> whether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain portable electronic devices and related software that infringe one or more of claims 1-5, 7-12, 14-19, and 21 of the '915 patent; claims 1-20 of the '381 patent; claims 14-20, 25, and 28 of the '859 patent; claims 1-3, 5-12, 14-19, 21, 22, and 24-28 of the '129 patent; and claims 28 and 36 of the '564 patent, and whether an industry in the United States exists as required by subsection (a)(2) of section 337[.]

76 F.R. 50253 (August 12, 2011). The Notice of Investigation names Apple Inc., f/k/a Apple Computer, Inc. ("Apple"), of Cupertino, California as complainant and HTC Corp. of Taoyuan, Taiwan, HTC America, Inc. of Bellevue, Washington, and Exedea, Inc. of Houston, Texas (collectively, "HTC") as respondents. *Id.* The Commission Investigative Staff ("Staff") of the Office of Unfair Import Investigations is also a party in this Investigation. *Id.*

On December 2, 2011, it was the initial determination of the Administrative Law Judge to grant Apple's unopposed motion to amend the Complaint and Notice of Investigation to reflect that U.S. Patent No. 6,956,564 ("the '564 patent") had been reissued as U.S. Patent No. RE42,738 ("the '738 patent") and to add two new asserted claims from the reissued patent such that claims 4, 28, 36, and 37 of the '738 patent are asserted in this Investigation.

On February 7 and 8, 2012, the Administrative Law Judge held a Markman hearing in order to permit the parties to present their positions with respect to the interpretation of certain disputed claim language in the asserted patents. Apple, HTC, and Staff attended the Markman hearing.

On May 15, 2012, it was the initial determination of the Administrative Law Judge that the Investigation be partially terminated with respect to claims 9-15 and 21 of U.S. Patent No.

7,844,915 ("the '915 patent"). (Order No. 52 (unreviewed on May 29, 2012).) On June 22, 2012, the Commission a Corrected Notice of Commission Determination Not to Review an Initial Determination Terminating The Investigation As to Certain Asserted Patent Claims, which corrected the terminated claims to include only claims 15-19 and 21 of the '915 patent.

Claims 1-5, 7-12, and 14, and 16-19 of the '915 patent; claims 1-20 of U.S. Patent No. 7,469,381 ("the '381 patent"); claims 14-20, 25, and 28 of U.S. Patent No. 7,084,859 ("the '859 patent"); claims 1-3, 5-12, 14-19, 21, 22, and 24-28 of U.S. Patent No. 7,920,129 ("the '129 patent"); and claims 4, 28, 36, and 37 of the '738 patent remain at issue in this Investigation.

After reviewing the parties' Markman briefs, presentations, and evidence, the Administrative Law Judge finds as follows.

The claim terms construed in this Order are done so for the purposes of this Section 337 Investigation. The Federal Circuit has held that only claim terms in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vanderlande Indus. Nederland BV v. Int'l Trade Comm.*, 366 F.3d 1311, 1323 (Fed. Cir. 2004); *Vivid Tech., Inc. v. American Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). However, the Commission recently indicated that where the parties agree regarding the construction of a claim term, the Administrative Law Judge is nonetheless required to independently construe that term despite such an agreement.[1] *Certain Reduced Ignition Proclivity Cigarette Wrappers and Products Containing Same,* Inv. No. 337-TA-756, Comm'n Op. at 43-44 (June 15, 2012) ("*Cigarette Wrappers*").

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[1] This requirement appears to be in conflict with the Federal Circuit precedent cited above. However, the Administrative Law Judge has determined to follow the Commission's guidance and has made an independent analysis with respect to the construction of claim terms on which the parties agree in this Investigation, as noted below.

Hereafter, discovery and briefing in this Investigation shall be governed by this construction of the claim terms. All other claim terms shall be deemed undisputed and shall be interpreted by the Administrative Law Judge in accordance with their ordinary meaning as viewed by a person of ordinary skill in the art.

II. RELEVANT LAW.

Any finding of infringement requires a two-step analysis. First, the asserted patent claims must be construed as a matter of law to determine their proper scope. Second, a factual determination must be made whether the properly construed claims read on the accused devices. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996).

Claim construction begins with the language of the claims themselves. Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). In some cases, the ordinary meaning of claim language is readily apparent and claim construction will involve little more than "the application of the widely accepted meaning of commonly understood words." *Id.* at 1314. In other cases, claim terms have a specialized meaning and it is necessary to determine what a person of ordinary skill in the art would have understood disputed claim language to mean by analyzing "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, as well as the meaning of technical terms, and the state of the art." *Id.* (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

The claims themselves provide substantial guidance as to the meaning of disputed claim language. *Id.* at 1314. "[T]he context in which a term is used in the asserted claim can be highly instructive." *Id.* Likewise, other claims of the patent at issue, regardless of whether they have been asserted against respondents, may show the scope and meaning of disputed claim language. *Id.*

With respect to claim preambles, a preamble may limit a claimed invention if it (i) recites essential structure or steps, or (ii) is "necessary to give life, meaning, and vitality" to the claim. *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003) (citations omitted). The Federal Circuit has explained that a "claim preamble has the import that the claim as a whole suggests for it. In other words, when the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects." *Id.* (quoting *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995)). When used in a patent preamble, the term "comprising" is well understood to mean "including but not limited to," and thus, the claim is open-ended. *CIAS, Inc. v. Alliance Gaming Corp.*, 504 F.3d 1356, 1360 (Fed. Cir. 2007). The patent term "comprising" permits the inclusion of other unrecited steps, elements, or materials in addition to those elements or components specified in the claims. *Id.*

In cases where the meaning of a disputed claim term in the context of the patent's claims remains uncertain, the specification is the "single best guide to the meaning of a disputed term." *Phillips,* 415 F.3d at 1321. Moreover, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316. As a general rule, however, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Id.* at 1323.

The prosecution history may also explain the meaning of claim language, although "it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.* at 1317. The prosecution history consists of the complete record of the patent examination proceedings before the U.S. Patent and Trademark Office, including cited prior art. *Id.* It may reveal "how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

If the intrinsic evidence is insufficient to establish the clear meaning of a claim, a court may resort[2] to an examination of the extrinsic evidence. *Zodiac Pool Care, Inc. v. Hoffinger Industries, Inc.*, 206 F.3d 1408, 1414 (Fed. Cir. 2000). Extrinsic evidence may shed light on the relevant art, and consists of all evidence external to the patent and the prosecution history, "including expert and inventor testimony, dictionaries, and learned treatises." *Phillips,* 415 F.3d at 1317. In evaluating expert testimony, a court should disregard any expert testimony that is conclusory or "clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent." *Id.* at 1318. Furthermore, expert testimony is only of assistance if, with respect to the disputed claim language, it identifies what the accepted meaning in the field would be to one skilled in the art. *Symantec Corp. v. Computer Associates International, Inc.*, 522 F.3d 1279, 1290-91 (Fed. Cir. 2008). Testimony that recites how each expert would construe the term should be accorded little or no weight. *Id.* Extrinsic evidence is inherently "less reliable" than intrinsic evidence, and "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Phillips*, 415 F.3d at 1318-19.

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[2] "In those cases where the public record unambiguously describes the scope of the patented invention, reliance on any

Means-Plus-Function Claims.

Some patent claim limitations are drafted in means-plus-function format and are governed by 35 U.S.C. § 112 ¶ 6.

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112 ¶ 6. According to the Federal Circuit, "[t]he first step in construing a means-plus-function limitation is to identify the function explicitly recited in the claim." *Asyst Technologies, Inc. v. Empak, Inc.*, 268 F.3d 1364, 1369-70 (Fed. Cir. 2001). The function may only include the limitations contained in the claim language: it is improper to narrow or broaden "the scope of the function beyond the claim language." *Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002)

The next step in the analysis of a means-plus-function claim limitation "is to identify the corresponding structure set forth in the written description that performs the particular function set forth in the claim." *Asyst*, 268 F.3d at 1369-70. Corresponding structure "must not only perform the claimed function, but the specification must clearly associate the structure with performance of the function." *Cardiac Pacemakers*, 296 F.3d at 1113.

> Section 112 paragraph 6 does not 'permit incorporation of structure from the written description beyond that necessary to perform the claimed function.' Structural features that do not actually perform the recited function do not constitute corresponding structure and thus do not serve as claim limitations.

Asyst, 268 F.3d at 1369-70 (citations omitted). For example, features that enable the pertinent structure to operate as intended are not the same as corresponding structures that actually perform

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extrinsic evidence is improper." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

the stated function. *Id.* at 1371. Different embodiments disclosed in the specification may disclose different corresponding structure. *Cardiac Pacemakers*, 296 F.3d at 1113.

A means-plus-function analysis is "undertaken from the perspective of a person of ordinary skill in the art." *Id.* While the focal point for determining the corresponding structure is the patent specification, other intrinsic evidence remains relevant. The other claims in a patent "may provide guidance and context for interpreting a disputed means-plus-function limitation, especially if they recite additional functions." *Wenger Manufacturing, Inc. v. Coating Machinery Systems, Inc.*, 239 F.3d 1225, 1233-34 (Fed. Cir. 2001). If another claim in the patent recites a separate and distinct function, "the doctrine of claim differentiation indicates that these claims are presumptively different in scope." *Id.*[3] The prosecution history of the patent may also be useful in interpreting a claim written in means-plus-function form. *Cybor Corp. v. FAS Technologies, Inc.*, 138 F.3d 1448, 1457 (Fed. Cir. 1998). "[P]ositions taken before the PTO may bar an inconsistent position on claim construction under § 112 ¶6" if a "competitor would reasonably believe that the applicant had surrendered the relevant subject matter" as a result of "clear assertions made in support of patentability." *Id.* Further, the Federal Circuit requires that "[i]n cases involving a

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[3] The Federal Circuit has explained that claim differentiation may not be used to circumvent the requirements of Section 112 ¶6 but may still play a role during claim construction:

> Although the judicially created doctrine of claim differentiation cannot override the statutory requirements of § 112, ¶ 6, it does not necessarily follow that means-plus-function limitations must be interpreted without regard to other claims. Claim differentiation . . . is clearly applicable when there is a dispute over whether a limitation found in a dependent claim should be read into an independent claim, and that limitation is the only meaningful difference between the two claims.
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> * * *
>
> We explained that "[a] means-plus-function limitation is not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure." Thus, *Laitram* held that the stringencies of a means-plus-function limitation are not to be avoided by the mere addition of a dependent claim that recites the corresponding structure disclosed in the specification. However, *Laitram* does not stand for the broader proposition suggested by CMS, viz., that a means-plus-function limitation must be interpreted without regard to other claims.

computer-implemented invention in which the inventor has invoked means-plus-function claiming," the corresponding structure disclosed must be more than a general purpose computer or microprocessor. *Aristocrat Techs. Ltd. v. International Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008). Thus, the corresponding structure may include hardware and must include a sufficient algorithm for performing the computer-implemented function. *See id.* at 1337; *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1249 (Fed. Cir. 2005).

III. U.S. PATENT NO. 7,844,915

A. Overview

This investigation concerns U.S. Patent 7,844,915, "Application Programming Interface for Scrolling Operations," which resulted from U.S. Patent Application No. 11/620,717 filed on January 7, 2007. (JXM-10 at 797APPLE-00000002.) The '915 patent issued on November 30, 2010, naming Andrew Platzer and Scott Herz as inventors and Apple, Inc. as assignee. (*Id.*) The patent discloses application programming interfaces that provide scrolling operations. (*Id.* at 1:7-8.) Claims 1-5, 7-12 and 14 of the '915 patent remain asserted in this Investigation.

B. Level of Ordinary Skill in the Art

The parties agree that a person of ordinary skill in the art relevant to the '915 patent at the time of the invention had at least a bachelor's degree in computer science or electrical engineering, and approximately 2 years of software design and implementation experience, including experience with graphical user interface design and with touch-sensing technologies, or would have equivalent educational and work experience. (SRBr. at 1.) The Administrative Law Judge

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Id. (internal citations omitted).

concludes based on the invention claimed in the patent, that a person of ordinary skill in the art at the time of the invention would have had to satisfy the criteria proposed by the parties as just described.

C. Construction of Claim Terms

1. Claims 1, 8, 10, and 11—*"view"*

According to Apple and Staff, all parties agree that this term means "a portion of a display region that can display content." (CMBr. at 15; SMBr. at 11.) Claims 1, 8, 10, 11 read as follows:

> 1. A machine implemented method for scrolling on a touch-sensitive display of a device comprising:
>
> receiving a user input, the user input is one or more input points applied to the touch-sensitive display that is integrated with the device;
>
> creating an event object in response to the user input;
>
> determining whether the event object invokes a scroll or gesture operation by distinguishing between a single input point applied to the touch-sensitive display that is interpreted as the scroll operation and two or more input points applied to the touch-sensitive display that are interpreted as the gesture operation;
>
> issuing at least one scroll or gesture call based on invoking the scroll or gesture operation;
>
> responding to at least one scroll call, if issued, by scrolling the view associated with the event object based on receiving the two or more input points in the form of the user input.

(JXM-4 at 23:16-40.)

> 8. A machine readable storage medium storing executable program instructions which when executed cause a date processing system to perform a method comprising:
>
> receiving a user input, the user input is one or more input points applied to a touch-sensitive display that is integrated with the data processing system;

creating an event object in response to the user input;

determining whether the event object invokes a scroll or gesture operation by distinguishing between a single input point applied to the touch-sensitive display that is interpreted as the scroll operation and two or more input points applied to the touch-sensitive display that are interpreted as the gesture operation;

issuing at least one scroll or gesture call based on invoking the scroll or gesture operation;

responding to at least one scroll call, if issued, by scrolling a window having a view associated with the event object;

responding to at least one gesture call, if issued, by scaling the view associated with the event object based on receiving the two or more input points in the form of the user input.

(*Id.* at 23:65-24:21.)

10. The medium as in claim 8, further comprising:

attaching scroll indicators to a content edge of the view.

(*Id.* at 24:27-28.)

11. The medium as in claim 8, further comprising:

attaching scroll indicators to a window edge of the view.

(*Id.* at 24:30-31.)

The term "view" as it appears in the foregoing claims does not purport that a unique or special meaning of this word was intended by the inventors. The word "view" is generally defined as the extent or range of vision" (Merriam-Webster's Collegiate Dictionary, 11th ed.) or "[a] scene or vista" (The American Heritage Dictionary, 5th ed.). In a similar manner, the specification of the '915 patent associates the word "view" with the word "window." (JXM-10 at 12:43.) The patent specification states the following:

> The display region is a form of a window. A window is a display region which may not have a border and may be the entire display region or area of a

> display. In some embodiments, a display region may have at least one window and/or at least one view (e.g., web, text, or image content). A window may have at least one view. The methods, systems, and apparatuses disclosed can be implemented with display regions, windows, and/or views.

(JXM-10 at 5:25-32.) This language, especially the portion that says "a display region may have at least one window and/or at least one view (e.g., web, text, or image content)," is indicative of the fact that a view is a portion of a display region that can exhibit content, such as web or text.

The Administrative Law Judge concludes that the construction agreed upon by the parties is in accordance with the use of the term as it appears in the asserted claims and, therefore, construes the term "view" to mean "a portion of a display region that can display content."

2. Claims 2 and 9--*"rubberbanding"*

According to Apple and Staff, all parties agree that this term means "moving content on a display in a manner that appears elastic when the content reaches an edge, e.g., like a rubber band, so that at the end of a scroll the content slides back making the region outside of the content no longer visible on the display." (CMBr. at 15; SMBr. at 11.) Claims 2 and 9 read as follows:

> 2. The method as in claim 1, further comprising:
>
> rubberbanding a scrolling region displayed within the window by a predetermined maximum displacement when the scrolling region exceeds a window edge based on the scroll.

(JXM-4 at 23:42-46.)

> 9. The medium in claim 8, further comprising:
>
> rubberbanding a scrolling region displayed within the window by a predetermined maximum displacement when the scrolled region exceeds a window edge based on the scroll.

(*Id.* at 24:22-24.)

The term rubberbanding is a verbalization of rubber band, as is evident from the patent

specification, JXM-10 at 2:13-21. As described in the specification, the rubberband call involves limiting the maximum amount of a scroll outside the content by retrieving, or causing the content to slide back making the region outside of the content no longer visible on the display. (JXM-10 at 7:59-67.) The metaphorical expression "rubberbanding" can be readily understood and appreciated by a person of ordinary skill in the art in terms of the elastic characteristics of a rubber band analogized to the scrolling operation in the display. Thus, the construction agreed upon by the parities for the term "rubberbanding" is supported by the asserted claims in which it appears and the specification. Therefore, the Administrative Law Judge concludes that the term "rubberbanding" means "moving content on a display in a manner that appears elastic when the content reaches an edge, e.g., like a rubber band, so that at the end of a scroll the content slides back making the region outside of the content no longer visible on the display."

3. Claims 1 and 8—*"event object"*

According to Apple and Staff, all parties agree that this term means "an encapsulation of event data." (CMBr. at 15; SMBr. at 12.) The claims wherein this term appears, 1 and 8, are recited above. The parties do not provide an explanation for their agreed construction; however, the Administrative Law Judge is required to independently construe claim terms despite the parties' agreement. *Cigarette Wrappers*, Comm'n Op. at 43-44 (citing *Exxon Chemical Patents v. Lubrizol Corp*, 64 F.3d 1553, 1555 ("In the exercise of that duty, the trial judge has an independent obligation to determine the meaning of the claims, notwithstanding the views asserted by the adversary parties.")). In *Exxon*, the trial judge candidly admitted difficulty in understanding the chemistry and the law involved in the case and treated the issue of claim interpretation as a matter of deciding which of the two opposing parties offered the correct meaning of the claims. (*Exxon* at 1555.) The Federal Circuit then stated what is cited above. Here, in contrast, the parties agree

on the claim construction, but so did the parties in the *Cigarette Wrappers* investigation, and therefore an independent construction is still required.

Figure 1 of the patent is a flow chart of a method for responding to a user input of a data processing device. (JXM-10 at 2:48-49.) A user input, which can be in the form of an input key, button, wheel, touch, or other means for interacting with the device, is shown in block **102** of that figure. (*Id.* at 6:32-34.) This creates an "event object" in block **104** of the figure, and the method of the invention includes determining whether the event object is a scroll or a gesture operation at block **106**. (*Id.* at 6:37-39.) Therefore, the word "event" as used in the patent is an occurrence or a happening and, thus, is employed by the inventors according to its plain and ordinary meaning. Since the invention applies to application programing interfaces for scrolling operations, and software for doing so, it naturally follows that data is utilized in the course of registering and processing user inputs. Thus there is data associated with the event. The method then creates from that data an event object in block **104.** An object, generally speaking, is something to which an action is directed, as is the case with the invention, as shown by block **106**, determining whether the event object invokes a scroll or gesture operation. (*Id.* at Fig. 1 and 6:37-39.) Therefore, the Administrative Law Judge concludes that the parties' agreed proposed construction is supported by the language of the asserted claims, the wording of the specification, and the information contained in the flow diagram shown in Figure 1. The word "encapsulate" is consistent with what is described in the patent: the event data is enclosed in the event object represented in block **104**. Accordingly, "event object" is found to mean "an encapsulation of event data."

4. Claims 1-4, 8-9, and 11--*"window"*

According to Apple and Staff, all parties agree that this term means "a display region which may not have a border and may be the entire display region or area of a display." (CMBr. at 15; SMBr. at 12.) Claims 1, 2, 8, 9, and 11 are recited above. Claims 3 and 4 read as follows:

3. The method as in claim 1, further comprising:

attaching scroll indicators to a content edge of the window.

(JXM-10 at 23:48-49.)

4. The method as in claim 1, further comprising:

attaching scroll indicators to the window edge.

(JXM-10 at 23:50-51.)

The term "window" is described in the specification as "a display region which may not have a border and may be the entire display region or area of a display." (*Id.* at 5:25-27.) Thus the term is specifically defined by the inventors in the specification, and the construction agreed upon by the parties is identical therewith. Accordingly, the Administrative Law Judge concludes that the term "window" is to be defined as set forth by the inventors, and adopted by the parties, as quoted above.

IV. U.S. PATENT NO. 7,469,381

A. Overview

This investigation concerns U.S. Patent 7,469,381, "List Scrolling and Document Translation, Scaling, and Rotation on a Touch-Screen Display," which resulted from U.S. Patent Application No. 11/956,969 filed on December 14, 2007. (JXM-4 at 797Apple00000057.) The '381 patent issued on December 23, 2008, naming Bas Ording as inventor and Apple Inc. as

assignee. (*Id.*) The patent claims priority to U.S. Provisional Patent Application Nos. 60/937,993, filed June 29, 2007; 60/946,971, filed June 28, 2007; 60/945,858, filed June 22, 2007; 60/879,469, filed June 8, 2007; 60/883,801, filed January 7, 2007; and 60/872,253, filed January 7, 2007. (*Id.* at 797APPLE00000059,-97.)

The patent discloses a computer-implemented method for use in conjunction with a touch-screen display for detecting movement on or near the display. (*Id.* at 797 APPLE00000057 (Abstract).) The '381 patent consists of 20 claims, all being asserted in this investigation.

B. Level of Ordinary Skill in the Art

The parties agree that a person of ordinary skill in the art pertaining to the '381 patent at the time of the invention would have had a least a bachelor's degree in computer science or electrical engineering and two years' experience in software design and implementation, inclusive of graphical user interface design and touch-sensing technologies, or the equivalent in education or experience, or both. (RRBr. at 56-57.) The Administrative Law Judge concludes based on the invention claimed in the patent, that a person of ordinary skill in the art at the time of the invention would have had to satisfy the criteria proposed by the parties as just described.

C. Construction of Claim Terms

1. Claims 1, 2, 19, and 20—*"portion"*

According to Apple and Staff, all parties agree that this term means "area." (CMBr. at 54, SMBr. at 41.) The term as it appears in the context of claims 1, 2, 19, and 20, does refer to an area; therefore, the Administrative Law Judge concludes that the term "portion" means "area."

2. Claims 1, 2, 6-9, 17-20--*"electronic document"*

Apple and Staff propose that this term be understood according to its plain and ordinary meaning (CMBr. at 54, SMBr. at 41[4]), while HTC proposes this construction: "electronic data that can be stored and displayed." (RMBr. at 43.) HTC says this term has multiple meanings within the art, depending on the context in which it is used, and that because it was given specialized meaning by the patentee, should be construed as HTC proposes. (*Id.* at 44.) HTC says the '381 patent specification uses the term "electronic document" to describe a wide range of electronic data types, noting that the term can include a Web page having a variety of graphics and text. (*Id.* (citing JXM-4 (the '381 patent) at 28:62-64.) HTC says a photograph or other image can also be an electronic document. (*Id.* (citing JXM-4 at Figs. 13A-13C, 32:47-49).) Even a list of items can be an electronic document, according to HTC. (*Id.* (citing JXM-4 at Figs. 6A-6D, 25:18-22, 25:25-26).)

HTC notes that the specification mentions that an electronic document can include a web page, a digital image, and word processing, spreadsheet, email, or presentation documents. (*Id.*) HTC says that while these kinds of data are all very different from one another, they have two common characteristics—they are displayed and they are stored. (*Id.*) Thus, argues HTC, a person of ordinary skill in the art would understand, upon reading the patent, that it encompasses a wide range of so called "electronic documents" and that the patentee uses this term in a specialized manner to cover the same broad range of embodiments. (*Id.* at 45.) HTC says its proposed construction reflects the breadth of the term, rather than simply providing a limited definition, and

[4] Initially, Staff agreed with HTC's proposed construction, but after considering the private parties' briefs, concluded that no special construction of the term is warranted. (SMBr. at 41.)

that each of the disclosed embodiments of "electronic documents" falls within the ambit of HTC's proposed construction. (*Id.* at 44-45.)

HTC contends that the prosecution history also lends support to its proposed construction, noting the applicant's identification of two United States patents, one to John Zimmerman and Jacquelyn Martino ("Zimmerman"), that describes an electronic document as the "displayed area," and the other to Matt Polakoff ("Polakoff"). (*Id.* at 45-46 (citing RXM-9 (Zimmerman) at 3:52-61; RXM-2C (Bederson Rep.) at ¶ 142).) HTC says that Polakoff is similar to Zimmerman in that it equates "displayed content" with an "electronic document," quoting a passage from the specification that describes scrolling displayed content. (*Id.* at 47 (citing RXM-10 at 14, ¶ [0120].) Therefore, according to HTC, the statements made by the applicant for the '381 patent during prosecution match the specification and asserted claims exactly, and Zimmerman, Polakoff, and the '381 patent all envision a definition of "electronic document" to encompass electronic data that can be stored and displayed without unduly restricting the type of data. (*Id.*) HTC says that all of the intrinsic and extrinsic evidence supports HTC's construction. (*Id.* at 47-48.)

HTC points to deposition testimony that was given by Apple's expert Dr. Balakrishnan in a different case, where he said: {

} (*Id.* at 48 (citing RXM-11C at 27:13-28.18).) HTC also says that the sole inventor of the '381 patent, Bas Ording, gave similar testimony in another case involving the same patent where, in response to a question asking what the term "electronic document" means, he made the following statements: {

} (*Id.* at 49 (citing RXM-12C at 20:18-21:10; RXM-2C (Bederson Rep.) at ¶¶ 147-149).)

According to HTC, apart from the '381 patent, the term "electronic document" can have different meanings to persons of ordinary skill in the art, depending on the context in which it appears. (*Id.* at 49 (citing RXM-2C (Bederson Rep.) at ¶ 137).) HTC says that, as an example, a database system analyst might consider an electronic document to be a record in a database, but a programmer of word processing applications might, instead, consider an electronic document to be a text file. (*Id.*) Because of these differences, in order to fully understand this term a person of ordinary skill in the art would adopt a meaning that is the most consonant with both the intrinsic and extrinsic evidence, which is "electronic data that can be stored and displayed." (*Id.*at 49-50 (citing RXM-2C at ¶ 151).)

Apple argues that "electronic document" is a simple phrase that uses common, rather than technical, words. (CMBr. at 54 (citing CXM-2 (Balakrishnan Rep.) at ¶ 5.3.5).) Apple says there is no support in the intrinsic evidence that the '381 patent inventor defined or used the term in any manner other than according to its plain and ordinary meaning. (*Id.*) Apple notes that the patent specification particularly identifies several common types of electronic documents familiar to any computer user, such as web pages and digital images, and word processing, spreadsheet, email, and presentation documents. (*Id.* (citing JXM-4 ('381 patent) at 27:7-12).) Apple says dependent claims 6 through 8 also expressly identify common types of documents, such as a web page (claim 6), a digital image (claim 7); and word processing, spreadsheet, email, and presentation documents (claim 8). (*Id.* at 54-55 (citing JXM-4 at 36:4-10).) Therefore, in Apple's view, no construction is necessary. (*Id.* at 55.)

Apple says HTC's construction is wrong because it is inconsistent with the plain meaning of the term, is unsupported by the intrinsic record, and is so broad as to read the word "document" out of the claim. (*Id.*) Apple says that anything that can be displayed on a touch screen display

would meet HTC's proposed construction, whether or not the data constitutes a "document." (*Id.*) For example, a web page document is "electronic data that can be stored and displayed," but so are each of the individual images and words that collectively constitute the web page document. (*Id.*) Similarly, HTC's construction encompasses each individual word and letter in a word processing document. (*Id.*) Thus, maintains Apple, HTC's proposed construction encompasses not only a document itself but also designates its components as documents. (*Id.*) Apple says a person of ordinary skill in the art would not consider a single word or image in a web page to be a document, or a single word or letter in a word processing document to be "electronic document[s]." (*Id.*) While an electronic document may include data that can be stored and displayed, not all such data are electronic documents, argues Apple. (*Id.* at 55-56.)

Apple also says that HTC's construction is not supported by the intrinsic evidence. (*Id.* at 56.) Instead, according to Apple, the patent specification uses the phrase "electronic document" according to its plain and ordinary meaning, as demonstrated in Figure 8a of the patent, displaying a web page as an electronic document. (*Id.*) As mentioned in the specification, a displayed web page document includes several blocks of content, which can include either text or graphics. Each of these blocks could be considered "electronic data that may be stored and displayed" and thus meet HTC's proposed construction; but nowhere does the specification describe these blocks, or any other component of the web page, as electronic documents, reasons Apple. The portion of the specification Apple here alludes to reads as follows:

> FIGS. 8A-8D illustrate the translation of an electronic document to an edge of the document, at which point an area beyond the edge is displayed and the document is then translated in a second direction until the area beyond the edge of the document is no longer displayed, in accordance with some embodiments. While FIGS. 8A-8D illustrate this translation in the context of a portable multifunction device **100**, this translation is not limited to portable multifunction devices. In the example of FIGS. 8A-8D, the document is a web page **3912**: FIGS. 8A-8D illustrate an

exemplary user interface for a browser in accordance with some embodiments. An analogous user interface may be used to display other types of electronic documents, such as word processing, spreadsheet, email, presentation documents, or digital images.

(JXM-4 at 28:34-37.) Figure 8A is reproduced below.

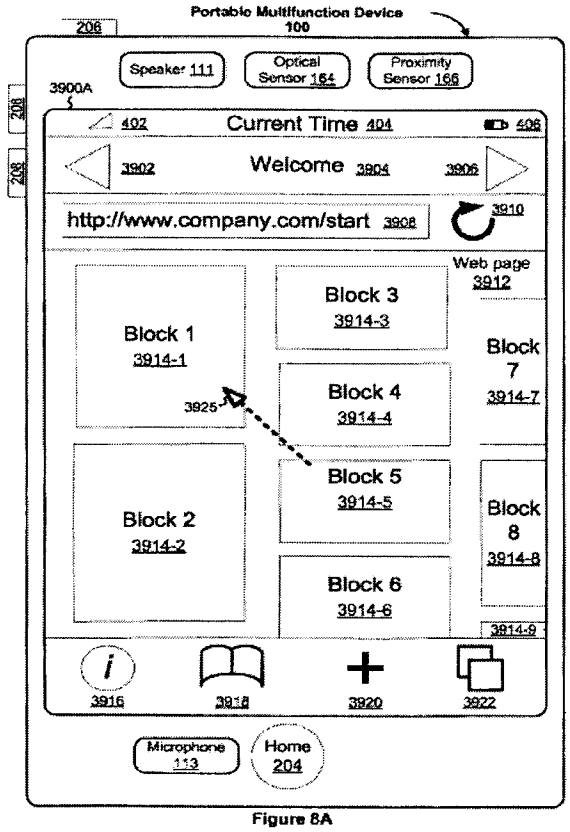


Figure 8A

Apple also says that Figure 8a displays a number of user interface elements, such as a web page name **3904**, a URL entry box **3908**, and icons **3902** and **3906**, that are not described as "electronic documents," or even as parts of electronic documents. (*Id.* at 57 (citing JXM-4 at 28:52-29:9).) Nevertheless, argues Apple, each of these user interface elements falls squarely within the scope of HTC's proposed construction. (*Id.*) Apple complains that HTC's proposed construction would, in effect, read on a single pixel displayed on the screen; and Apple contends that such a broad reading of "electronic document" is not supported by the specification. (*Id.*)

Apple argues that HTC seeks a definition that is broad enough to cover not just electronic documents but also their constituents, such that any internal boundaries between parts of an electronic document could arguably be claimed an "edge of the electronic document," an interpretation that Apple says has no support in either the claims, the specification, or the prosecution history. (*Id.*) Apple says that each of the independent claims of the '381 patent requires displaying an area beyond the "edge" of the electronic document after the edge is reached. (*Id.* (citing JXM-4 at 35:48-48 (claim 1), 37:8-15 (claim 19), and 38:9-15 (claim 19)).) Apple says that one example of an edge of an electronic document, according to the '381 patent, is shown by the black area outside the edge of the web page, as depicted in Figure 8C below.

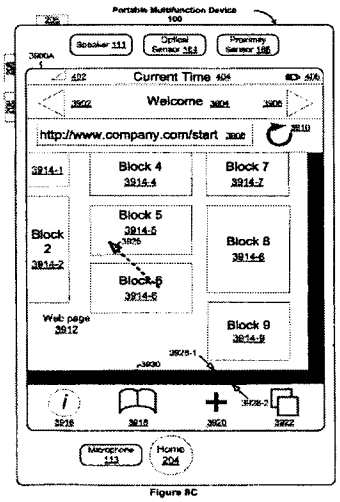
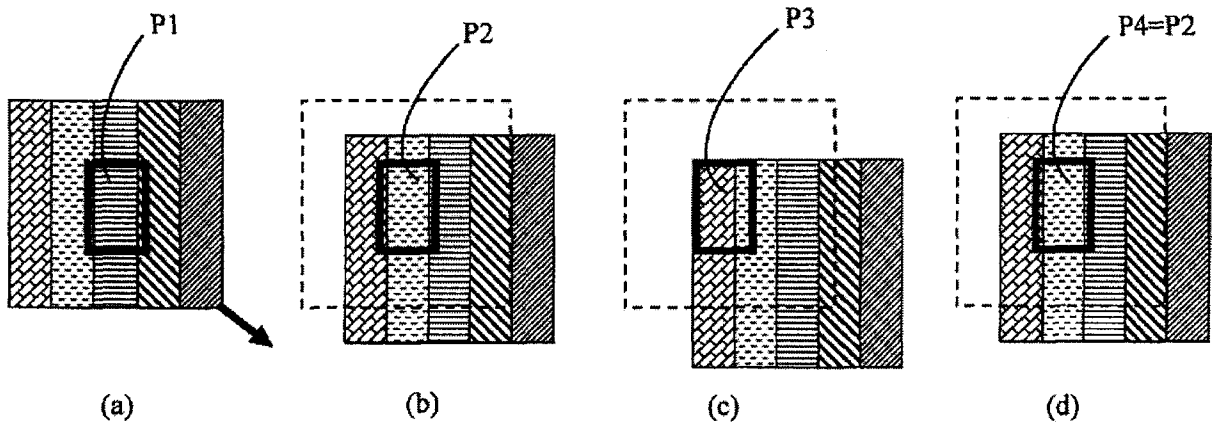


Figure 8C

(JXM-4 at Figure 8C.) Because each of the content blocks **3914** would fall within the scope of HTC's proposed construction, essentially any internal boundary that demarcates each block or any other content could arguably be the claimed "edge" of the electronic document, reasons Apple. (*Id.* at 58.)

Apple argues that the prosecution history counsels against HTC's interpretation because, during reexamination, the patent examiner considered several prior references, including an article describing the "Glimpse" system, which included the sequence of diagrams depicted below.



(*Id.* at 59.) Apple says the reexamination request included the following description of these diagrams:

> In the diagrams, the small black rectangle represents the screen of a touch screen device, held stationary by the user. The diagrams show the striped document in its entirety, although only a portion is visible on the screen. When the user drags her finger across the screen, the document "sticks" to the finger and moves in the same direction relative to the screen. The dashed box marks the initial position of the document.

(*Id.* (citing JXM-5 ('381 patent reexamination history) at 797APPLE00016658).) Apple says these figures show that an electronic document includes five vertical sections, each with a distinctly striped pattern, and because each of the vertical patterns is an "electronic document" under HTC's proposed construction, each of the internal boundaries between the vertical sections would be "edges" of an electronic document. (*Id.*) As the document is scrolled, starting with Figure (a), the internal edge between the first and second vertical sections is reached then crossed, and an "area beyond the edge of the document," shown in Figure (b), is displayed. (*Id.*) Therefore, argues

Apple, under HTC's interpretation, this series of figures illustrates displaying an area beyond the edge of the document after the edge is reached. (*Id.*) Apple says the patent examiner did not share this interpretation and found that the Glimpse system did not teach "displaying an area beyond the edge of the document and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion." (*Id.* at 60 (citing JXM-5 at 797APPLE00016882).) Apple says the examiner emphasized that "Glimpse does not discuss the edge of the electronic document and is not concerned with the area beyond the edge of the document." (*Id.* at 60.) According to Apple, "Glimpse appears only to be concerned with the return to a previous state, not with translating a document so that the area beyond the edge of the document is not visible." (*Id.* (citing JXM-5 at 797APPLE00016883).)

Lastly, Apple argues that HTC's proposed substitution of the term "document" for the term "data" should be rejected because it violates the fundamental principle that all words in a claim should be accorded meaning. (*Id.* (citing *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006).) Apple says that inasmuch as HTC's construction encompasses any "data" that is displayable, whether or not the data constitutes a "document," that construction effectively reads the limitation expressed by the term "document" out of the claim, thereby improperly rendering this explicit claim term superfluous. (*Id.*)

HTC responds that its proposed construction does not, and was not intended to, imply inclusion of such illogical cases as a single pixel. (RRMBr. at 57.) HTC does not object to a clarification of its proposed construction which would make explicit that an electronic document has a defined set of boundaries. (*Id.*) HTC says that when the parties dispute the meaning of a claim term, as they do in this instance, the law requires that the term be construed. (*Id.* at 58.) HTC

says that Apple has disagreed with HTC's proposed construction for multiple reasons and therefore construction is necessitated by law. (*Id.*) HTC argues that the record reveals additional, compelling reasons why "electronic document" should be construed, such as the fact that it is far from "plain and ordinary" that a web page or list of items is considered an "electronic document." (*Id.* at 58-59.) Thus, posits HTC, Apple's position effectively holds that an entire list of one's personal contacts from A to Z is one "electronic document." (*Id.* at 59.) Further, HTC says Apple's position is far from clear, based on the ordinary use of the term "document," when divorced from the '381 patent and the statements in its prosecution history. (*Id.*) HTC says that Apple's statement that the "constituent components of such documents [cannot be] themselves documents" demonstrates the need for a definition that addresses exactly which constituent components of "electronic documents" are electronic documents within the meaning of the '381 patent. (*Id.*)

HTC says that Apple, according to its opening brief, appears not to dispute that an "electronic document" is "electronic data that can be stored and displayed." (*Id.* at 60.) Rather, argues HTC, Apple's principal argument appears to be that HTC's proposed construction would go too far and permit too many items to be designated electronic documents, such as pixels or individual words. (*Id.*) HTC notes that Apple's expert Dr. Balakrishnan testified {

} (*Id.* 60-61 (citing RXM-11C (Balakrishnan Dep.) at 27-28, and RXM-2C (Bederson Rep.) at ¶¶ 144-146).) According to HTC, Dr. Balakrishnan's testimony defines an electronic document as something with a "defined set of boundaries"; and this eliminates Apple's concern about pixels, which is an acceptable construction for HTC. (*Id.* at 61.) According to HTC, what

Dr. Balakrishnan said at his deposition is already inherent, if not explicit, in HTC's proposed claim construction. (*Id.*) HTC argues that no sound reason exists for any objection to HTC's proposed construction, once an implicit requirement of a defined set of boundaries is included. (*Id.*).

HTC says that, in many cases, the prosecution history can be consulted to aid in claim construction; however, there is no claim by Apple that anything in the original prosecution history provides any context or meaning for the term "electronic document." According to HTC, Apple's only reference to the prosecution history is to one reference that was presented during the reexamination; however, the examiner made no statement about the meaning of the term and concluded only that "[Glimpse] is not concerned with the area beyond the edge of the document." (*Id.* (citing JXM-5 at 797APPLE00016882).) HTC notes that the examiner said that "Glimpse appears only to be concerned with the return to a previous state, not with translating a document so that the area beyond the edge of the document is not visible." (*Id.*) HTC argues that nothing commented by the examiner addresses the meaning of the term "electronic document," or indicates what is its "plain and ordinary meaning" or implies that HTC's proposed construction is incorrect. (*Id.* at 62.)

As for Apple's argument that HTC's proposed construction "would also make the constituent components of such documents themselves documents[,]" HTC agrees, so long as a component is a defined set of boundaries. (*Id.* at 63.) HTC says the '381 patent explicitly contemplates constituent components of documents themselves being documents. (*Id.* (citing RXM-55C (Bederson Reb. Rep. at ¶¶ 20-21)).) According to HTC, the claims say an electronic document can be a web page or a digital image and the specification explains that a web page or other structured document is made of blocks **3914** of text content and other graphics (e.g. images)

and accompanying text. (*Id.* (citing JXM-4 at Figures 8A-8D, 28:62-64).) Thus, says HTC, the patent recognizes that an image is itself an electronic document and a web page, including images, is an electronic document that includes other electronic documents. (*Id.*). Likewise, argues HTC, the claims state that an electronic document can be "a word processing, spreadsheet, email, or presentation document" as well as "a list of items." (*Id.* (citing JXM-4 at claims 8 and 9).) This "list of items"—itself an electronic document—can include a series of "email messages," each of which is also an electronic document, says HTC. (*Id.* (citing JXM-4 at claims 8 and 9).) HTC says that during prosecution the inventor explicitly pointed to the list of emails in Figures 6A-6D as electronic documents that described and enabled claims 1 and 9, as required by 35 U.S.C. § 112, ¶ 1. (*Id.*) Thus, argues HTC, an email is an electronic document and a list of emails is itself an electronic document containing other electronic documents. (*Id.* (citing RXM-55C (Bederson Rep.) at ¶ 21).)

HTC says that Apple's brief disingenuously omits claim 9 and the critical "list of items" from "documents" covered by the '381 claims, despite the claims themselves, the prosecution history, and Apple's own complaint in this investigation, and this illustrates why a construction of "electronic document" is necessary. (*Id.* at 64.)

Staff says that, although initially adopting HTC's construction, it now believes that no special construction of this term is needed. (SRMBr. at 41.) Staff says that while it still agrees with HTC that electronic documents are capable of being stored and displayed, concludes that the common lay understanding of electronic document, which the specification does not alter, is that an electronic document is self-contained, whereas, "electronic data that can be stored and displayed" has no boundaries, as pointed out by Apple. (*Id.* at 41-42.) Staff says that the

specification confirms the lay meaning by referring to an electronic document as having a definable length and width and an "edge." (*Id.* at 42 (citing JXM-4 at 6:1-4, Fig. 7 (at block 724), Fig. 8C).) In the end, Staff says that even though the distinction between the parties' positions may not be significant, Staff believes that the potential ambiguities pointed out by Apple, and the common lay understanding of the term, suggest that no special construction of this term is necessary. (*Id.*)

The term "electronic document" as it appears in the context of the asserted claims carries no unusual meaning. Claim 1, for example, recites a computer-implemented method comprising a device that has a touch screen that displays one portion of an electronic document and, in response to detection of movement of an object on or near the screen, translates the electronic document in one direction in order to display a different, second portion of the document. (JXM-4 at 35:33-43.) Continuing, the claim says that when the edge of the document is reached an area beyond the edge is displayed, and a smaller, third portion of the document is displayed. (*Id.* at 35:43-51.) Concluding, the claim says that when the object is no longer detected on or near the touch screen, the electronic document is translated in a second direction until the area beyond the edge of the document is no longer displayed and a fourth portion of the document, which is different from the first portion, is displayed. (*Id.* at 35:52-58.)

No special meaning for the term "electronic document" is expressly or implicitly revealed in this claim. All of the other claims of the '381 patent, asserted or not, are similarly conventional in employing the term "electronic document." Thus, the claims themselves do not suggest something unique, different, or out of the ordinary about the term. HTC's argument that its

proposed construction implies a visual representation on the screen that has a defined set of boundaries creates questions about what defines the set of boundaries and how this is to be done.

The specification frequently mentions "electronic document" but does not provide a specific definition for it and does not employ the word in a manner that suggests that the inventor intended something unique or different by it. For example, the Abstract recites, in part:

> ....In the method, a movement of an object on or near the touch screen display is detected. In response to detecting the movement, an electronic document displayed on the touch screen display is translated in a first direction. If an edge of the document is reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display, an area beyond the edge of the document is displayed. After the object is no longer detected on or near the touch screen display, the document is translated in a second direction until the area beyond the edge of the document is no longer displayed.

(JXM-4 at Abstract (797APPLE00000057).) This is consistent with the language of claim 1, as well as the language of the other claims of the patent, and does not suggest that the inventor was using "electronic document" in some unique or special way.

The words "electronic" and "document" are generally understood by laypersons as well as persons skilled in the art of computer science and electrical engineering. For example, one general purpose dictionary includes this definition of "document": "a computer file containing information input by a computer user and usu[ally] created with an application (as a word processor).[5]" HTC's proposed construction, "electronic data that can be stored and displayed," is too vague and broad, to the point that "document" loses its character as the sum of its parts, and becomes, instead, merely a portion of them.

[5] Merriam-Webster's Collegiate Dictionary (11th Ed., 2009).

The Administrative Law Judge concludes, for the reasons argued by Apple and Staff, mentioned above, that a person of ordinary skill at the time of the invention would have understood the term "electronic document" according to the plain and ordinary meanings of the words "electronic" and "document" when considered in combination and that no construction of this term is required or helpful.

3. Claim 19—*"instructions for..."*

This term appears five times in claim 19:

> 19. A device, comprising:
> a touch screen display;
> one or more processors:
> memory; and
> one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the programs including:
> instructions for displaying a first portion of an electronic document;
> instructions for detecting a movement of an object on or near the touch screen display;
> instructions for translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement;
> instructions for displaying an area beyond an edge of the electronic document and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion, in response to the edge of the electronic document being reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display; and
> instructions for translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion is different from the first portion, in response to detecting that the object is no longer on or near the touch screen display.

(JXM-4 at 36:59-37:22.) Apple proposes the following constructions for the elements in the order in which the term appears in the claim:

- "instructions for displaying a first portion of an electronic document"
- "instructions for detecting a movement of an object on or near the touch screen display"
- "instructions for translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement"
- "instructions for displaying an area beyond an edge of the electronic document and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion, in response to the edge of the electronic document being reached while translating the electronic document in the first direction while the object is steill detected on or near the touch screen display"
- "instructions for translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion, in response to detecting that the object is no longer on or near the touch screen display"

(CMBr. at 64-65.) These are quotations from claim 19 where the "instructions for" term appears.

HTC says that these terms must be construed according to 35 U.S.C. § 112,¶ 6 because each of the "instructions for" limitations is defined in claim 19 in terms of function, not structure. (RMBr. at 51.) According to HTC, in each instance where this term appears in claim 19 it is followed by functional descriptions, such as displaying, detecting, and transmitting, and none of the limitations includes descriptions of a corresponding structure or algorithm. (*Id.* at 51-52.) HTC says Apple cannot rely on the term "instructions" to provide the requisite structure, in order to avoid application of 35 U.S.C. § 112, ¶ 6, because "instructions" has no well understood structural meaning in the relevant art. (*Id.* at 52 (citing RXM-2C (Bederson Rep.) at ¶¶ 154-155).) HTC says that, according to the Microsoft Computer Dictionary from 2002, which was published a few years before the priority date of the '381 patent, "instruction" is defined as follows: "An

action statement in any computer language, most often in machine or assembly language. Most programs consist of two types of statements: declarations and instructions." (*Id.* (citing RXM-13 at 276).) HTC says that according to this widely accepted reference, "instruction" is merely a generic reference to computer code without any meaning (*id.* (citing RXM-2C (Bederson Rep.) at ¶¶ 154-155)), and the term has no connotation of structure to a person of ordinary skill in the art. (*Id.* (citing RXM-2C at ¶¶ 156, 168, 174, 180, and 186).) HTC argues that, as a consequence of the limitations being defined solely in functional terms, and "instructions" having no well-understood structural connotation, Apple cannot benefit from any presumption under 35 U.S.C. § 112, ¶ 6. (*Id.*)

HTC says the patent itself establishes that the disputed limitations of claim 19 are properly understood as means-plus-function language, only differing with respect to the choice of words—the substitution of "instructions" for "means." (*Id.*) For example, argues HTC, element [19f] claims "instructions for detecting a movement of an object on or near the touch screen display[,]" and HTC says that "without providing any additional detail, the specification also discusses 'means for detecting a movement of an object on or near the touch screen display.'" (*Id.* at 52-53.) HTC argues that the other elements of claim 19 that include the "instructions for" term have identical language mirrored in the specification, with the same substitution of "instructions for" in place of "means for" and with the same lack of any additional detail or structure. (*Id.*) HTC argues that the mirrored "means for" portions of the specification not only establish that Apple has provided no corresponding structure, but also run afoul of Federal Circuit precedent preventing attempts to circumvent the disclosure requirements of 35 U.S.C. § 112, ¶ 6. (*Id.* (citing *Massachusetts Institute of Technology v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006)

(noting that 35 U.S.C. § 112, ¶ 6 applies to claims using language synonymous with the "means for" term)).)

HTC says that once the elements of claim 19 in which the term "instructions for" appears are properly understood to be means-plus-function limitations, it follows that the claim is indefinite according to 35 U.S.C. § 112, ¶ 6. (*Id.* at 55.) HTC says the language of the preamble, which identifies "one or more processors; memory, and one or more programs," does not suffice to supply the needed information because these items are only general purpose structures. (*Id.*) HTC says that the corresponding structure of a means-plus-function limitation cannot be simply a recitation of a general purpose "processor" along with the required function and nothing more. (*Id.* (citing *Encyclopedia Britannica v. Alpine Elecs., Inc.,* 355 Fed. App'x 389, 394-395 (Fed. Cir. Dec. 4, 2009)).) HTC concludes that the patent specification does not provide a sufficient algorithm to describe recording, and therefore, this means-plus-function terms lack a corresponding structure. (*Id.*)

HTC argues that Apple tacitly admits the complete lack of requisite disclosure and does not identify any portion of the specification as supporting the "instructions for" limitations of claim 19. (*Id.* at 56.) HTC says the patent's inventor admitted that {

}. (*Id.* (citing RXM-14C (Bas Ording Dep.) at 164-168).) HTC says that the inventor, Mr. Ording, admitted that {

} (*Id.* at 56-57 (quoting *Aristocrat*, 521 F.3d at 1331).)

HTC says that claim 19 is indefinite because there is no corresponding structure for the functions recited in the "instructions for" limitations and that the '381 patent specification neither describes the algorithm necessary to perform each of the recited functions nor provides exemplar source code for the "one or more programs" that perform the claimed functions. (*Id.* at 57.) Nothing in the specification provides a step-by-step explanation about how a function is performed, says HTC; instead, the '381 patent contains only descriptions of what functions are performed or the results of such functions. (*Id.*)

HTC says this conclusion is inescapable under any party's proposed construction, starting with Apple's "plain and ordinary meaning," which is devoid of any citation to the specification or to any algorithmic disclosure. (*Id.*) HTC argues that neither Staff's nor HTC's own proposal provides an algorithm for the recited functions. HTC says that its alternative proposals cite the same disclosures as Staff, because these are the only disclosures even arguably related to the recited functions. But, argues HTC, these are only functional disclosures, not algorithms, and merely describe the outcome of the functions, or describe additional functions, rather than how to perform the functions that are enunciated in the claims. (*Id.* at 57-58.)

Staff agrees with HTC insofar as maintaining that the limitations in the asserted claims of the '381 patent that mention "instructions for" doing something are governed by 35 U.S.C. § 112, ¶ 6 and are "step-plus-function" limitations. (SMBr. at 42.) However, Staff disagrees with HTC's

contention that there is no corresponding structure disclosed in the '381 patent specification. (*Id.*)

According to Staff, the Federal Circuit has held that "when a claim term lacks the word 'means,' the presumption [against 35 U.S.C. § 112, ¶ 6] can be overcome if the challenger demonstrates that the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" (*Id.* at 42-43 (citing *Inventio AG v. Thyssenkrupp Elevator Americas Corp.*, 649 F.3d 1350, 1356 (Fed. Cir. 2011)).) Staff, as does HTC, says that the "instructions for" limitations of claim 19 appear in the specification virtually word-for-word, except that the term "means for" stands in place of the term "instructions for." (*Id.*) Staff cites the following passages from the patent where this correlation appears:

Col. 3, ll 23-25

"The one or more programs include instructions for detecting a movement of an object on or near the touch screen display and instructions for translating....

Col. 3, ll 25-28

"...and instructions for translating an electronic document displayed on the touch screen display in a first direction, in response to detecting the movement."

Col. 3, ll 28-33

"The one or more programs also include instructions for displaying an area beyond an edge of the electronic document if the edge of the electronic document is reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display."

Col. 3, ll 33-37

"The one or more programs further include instruction for translating the document

Col. 3, ll 57-59

"The device comprises means for detecting movement of an object on or near the touch screen display and means for translating...

Col. 3, ll 59-61

"...and means for translating an electronic document displayed on the touch screen display in a first direction, in response to detecting the movement."

Col. 3, ll 61-66

"The device also comprises means for displaying an area beyond an edge of the electronic document if the edge of the electronic document is reached while translating the electronic document if the first direction while the object is still detected on or near the touch screen display."

Col. 3, ll 66-Col. 4, ll 1-3

"The device further comprises means for translating the document in a second

in a second direction until the area beyond the edge of the document is no longer displayed, after the object is no longer detected on or near the touch screen display."

direction until the area beyond the edge of the document is no longer displayed after the object is no longer detected on or near the touch screen display."

(*Id.* at 43.)

Staff says that, in the context of the computer-implemented invention of the '381 patent, "instructions for" is generally synonymous with the steps in an algorithm. (*Id.* (citing *Typhoon Touch Techs, Inc. v. Dell, Inc.*, 659 F.3d 1376, 1834 (Fed. Cir. 1993)).) Staff points out that synonyms for the term "means for" have been held to be governed by 35 U.S.C. § 112, ¶ 6. (*Id.* (citing *Massachusetts Institute of Technology,* 462 F.3d at 1354).) Staff says that each of the "instructions for" limitations in claim 19 is defined in terms of function, not structure, and is followed by a functional description such as *"displaying," "detecting,"* and *"translating."* (*Id.* (citing JXM-4 at 36:66-37-22).) None of the limitations includes a description of corresponding structure or algorithm, argues Staff, and therefore each of the "instructions for" limitations is governed by 35 U.S.C. § 112, ¶ 6. (*Id.* at 43-44.)

As for the functions and corresponding structures associated with the "instructions for" limitations recited in claim 19, HTC and Staff propose the following, while Apple, instead, proposes the claim constructions recited above.

First, as for the limitation "instructions for displaying a first portion of an electronic document," HTC and Staff say the function is "displaying a first portion of an electronic document." (RMBr. at 58; SMBr. at 44.) HTC contends that there is no corresponding structure disclosed in the specification and, alternatively, proposes that "Figs. 6A or 8A as described in col. 26:2-5, col. 27:5-7, or col. 29:15-20" are structures related to the recited function. (RMBr. at 58.)

Staff proposes that the corresponding structure is "a processor configured to execute the software algorithm to display a first portion of an electronic document as described in 26:2-5; 27:5-7, Figs. 6A and 8A; col. 29:15-20." (SMBr. at 44.)

HTC notes that Apple does not mention structure beyond "instructions," and although Staff suggests corresponding structure for each "instructions for" limitation, HTC rejoins that in every instance Staff's proposed corresponding structure is only a function or a result and does not disclose the requisites prescribed in *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). (RRMBr. at 71-72.) HTC says the '381 patent specification does not provide a hardware structure, an algorithm, or any exemplary source code for implementing the function of rendering an electronic document for display. (RMBr. at 58 (citing RXM-2C (Bederson Rep.) at ¶ 156).) HTC argues that displaying an electronic document requires an algorithm to process the data to be displayed and to render that data for display. (*Id.*) According to HTC, rendering data for display is not a simple task because there are many different algorithms for processing and rendering data for display, and selecting the appropriate algorithm often involves trade-offs between speed and resolution of the display. (*Id.*) Algorithms processing data for display may offer faster performance, but less resolution, than algorithms that process data with higher display resolution. (*Id.* at 58-59.) According to HTC, a person of ordinary skill in the art would have known of more than one possible implementation to perform "displaying a first portion of an electronic document" and the inventor of the '381 patent agreed that there are other ways to perform the "displaying a first portion of an electronic document" function. (*Id.* at 59 (citing RXM-2C (Bederson Rep.) at ¶ 156.) HTC argues that, after reading the '381 patent, a person of

ordinary skill in the art would not know which of the possible implementations was claimed and, therefore, the claim is indefinite. (*Id.* (citing RXM-2C at ¶ 161).)

HTC says that, to the extent the '381 specification provides any discussion related to the function of the first limitation of claim 19 ("instructions for displaying a first portion of an electronic document"), none of the disclosures is anything other than a recitation or restatement of the function of the limitation. (RMBr. at 59 (citing RXM-2C (Bederson Rep.) at ¶ 156).) Figures 6A and 8A are simply depictions of a user interface for one embodiment, says HTC, and the text accompanying them is devoid of any structural or algorithmic disclosures. (*Id.* (citing JXM-4 at 26:2-5, 29:15-20).) The remainder of the specification, argues HTC, is even less helpful with its rote repetition of the claimed function, and even Mr. Ording, the inventor, admitted that {

} (*Id.* at 60 (citing RXM-2C (Bederson Rep.) at ¶¶ 162-164; RXM-14C (Bas Ording Dep.) at 164-166).) None of the specification restatements of the function is an algorithm showing how to implement the function, says HTC. (*Id.* (citing *Encyclopedia Britannica,* 355 Fed. Appx. 389, 349-395 (Fed. Cir. Dec. 4, 2009); *Minerva Indus., Inc. v. Motorola, Inc.,* No. 2:07-CV-229-CE, 2010 WL 446502 (E.D. Tex. Feb. 3, 2010)).)

According to HTC, because the limitation is defined in purely functional terms, it should be construed as a means-plus-function limitation under 35 U.S.C. § 112, ¶ 6 and, as such, requires disclosure of a corresponding structure or algorithm. (*Id.* (citing *Aristocrat*, 521 F.3d at 1333).) HTC argues that allowing avoidance of 35 U.S.C. § 112, ¶ 6 would permit Apple to claim that this limitation covers every possible way to perform the claimed function of "displaying a first portion

of an electronic document," a result the Federal Circuit disfavors. (*Id.* (citing *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1214 (Fed. Cir. 1998)).)

HTC says the '381 patent specification does not provide a hardware structure or an algorithm or an exemplary source code for the implementation of the claimed functionality of detecting movement of an object on or near the touch screen display—the second of the "instructions for" limitations of claim 19. (*Id.*) HTC notes that Mr. Ordingacknowledged that

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} (*Id.* at 61-62 (citing RXM-14C (Bas Ording Dep.) at 144; RXM-2C (Bederson Rep.) at ¶ 169).) HTC argues that, after reading the '381 patent, a person of ordinary skill in the art would not know which of the possible implementations was claimed. (*Id.* at 62.)

HTC says that it and Staff cite to identical parts of the specification as relating to the function of detecting a movement of an object, but these sections of the specification suffer from the same flaws as the previously discussed limitation—instructions for displaying a first portion of an electronic document—in that they merely repeat or recite the claimed function without disclosing any structure, algorithm, or exemplary code for the function's implementation. (*Id.* (citing RXM-2C at ¶ 159).) HTC says the flow chart depicted in Figure 7 of the '381 patent provides an example because the first box, denominated "702," recites: "Detect a movement of an object (e.g., a finger) on or near a touch screen display." (*Id.* (citing JXM-4 (the '381 patent) at Figure 7).) According to HTC, the limitation is "instructions for detecting a movement of any object on or near the touch screen display," and Block 702 provides "[d]etect a movement of an object (*e.g.*, a finger) on or near a touch screen display of a device[]"; but Mr. Ording admitted that

{ } (*Id.* at 62-63 (citing RXM-2C at ¶¶ 158-160; RXM-14C at 164-166).) HTC says the text accompanying Figure 7 is no more than a restatement of the claimed function: "Movement of an object is detected on or near a touch screen display of a device (**702**). In some embodiments, the object is a finger. In some embodiments, the device is a portable multifunctional device." (*Id.* at 63 (citing JXM-4 at 27:1-5).) HTC argues that these restatements of the claimed function are not disclosures of algorithms for performing that function and that the specification sometimes recites the functions of the subject limitation with the description of other functions but without any disclosure of structure, algorithm, or exemplary code. (*Id.* (citing JXM-4 at 15:6-28, by way of example).)

HTC argues that the '381 specification's lack of disclosure of an algorithm used to detect movement is all the more notable given that the limitation claims broadly the function of detecting movement either on or near a touch screen and the number of methods for detecting and processing touch input data is large. (*Id.* at 64 (citing RXM-2C at ¶¶ 158-160, 169).) HTC says that even if Apple offered evidence that a person of ordinary skill in the art could devise a means for implementing the function, the limitation would still be invalid for indefiniteness. (*Id.* (citing *Blackboard, Inc. v. Desire2Learn, Inc.,* 574 F.3d 1371, 1384 (Fed. Cir. 2009)).) HTC argues that for computer-implemented inventions such as the '381 patent the specification must disclose the specific algorithm that is used to perform the claimed invention. (*Id.* (citing *Aristocrat,* 521 F.3d at 1335).)

Regarding the third element of claim 19, where the term "instructions for" appears, HTC says that this, too, is properly construed as a means-plus-function limitation under 35 U.S.C. § 112, ¶ 6, because it is defined by the function of "translating the electronic document displayed on the

touch screen display in a first direction to display a second portion of the electronic document." (*Id.* at 65 (citing *Micro Chem., Inc. v. Great Plains Chem. Co.,* 194 F.3d 1250, 1257 (Fed. Cir. 1999).) This limitation cannot avoid indefiniteness with the addition of "instructions for," says HTC, because the terms have no well-understood structural meaning in the art. (*Id.* at 65-66 (citing RXM-2C at ¶ 174).) HTC argues that the '381 patent specification does not provide a hardware structure, an algorithm, or exemplary source code to perform the claimed functionality—how to translate an electronic document. (*Id.* at 66.) According to HTC, the '381 patent inventor admitted { } (*Id.* (citing RXM-2C at ¶¶ 158-160; RXM-14C at 144).) HTC says a person of ordinary skill in the art in 2007 would have known of more than one possible implementation, and without any specific disclosure in the '381 specification, such a person of skill would not have known which of a plurality of algorithms was covered by this means-plus-function limitation. (*Id.* (citing RXM-2C (Bederson Rep.) at ¶¶ 175-176).) HTC argues that a person of ordinary skill would have to look to the specification for identification of a hardware structure, algorithm, or exemplary source code that discloses how the function is to be implemented. (*Id.*) But the specification, according to HTC, provides no disclosure of structure or algorithm for implementing the claimed function of translation. (*Id.* (citing RXM-2C at ¶ 175).) HTC says the portions of the specification related to the [19g] limitation are mere recitations and/or restatements of the function claimed that do not explain how to implement the claimed function of translating the electronic document. (*Id.* at 66-67 (citing *Encyclopedia Britannica*, 355 Fed. Appx. at 394-395 etc.).) HTC argues tha,t under 35 U.S.C. § 112, ¶ 6, where a claimed function is unsupported by a structural disclosure, the claim is indefinite. (*Id.* at 67 (citing *Aristocrat,* 521 F.3d at 1331).)

According to HTC, Figures 6A through 6B and 8A through 8B exemplify lack of structural disclosures in the '381 specification because they merely depict embodiments of the user interface and do not disclose structure to implement the function of "translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document." (*Id.* at 67.) HTC says the text accompanying the figures merely recites the function as claimed in the limitation and that Mr. Ording, the inventor, admitted that {

} (*Id.* at 67-68 (citing JXM-4 at Fig. 7 and Fig. 5, block 504).) HTC argues that the text accompanying Figure 7 sheds no light on what algorithm or structure may be used for translating the document in the first direction. (*Id.* at 68 (citing RXM-2C at ¶ 175).) None of these disclosures, maintains HTC, provides any guidance for how to implement translation of the electronic document. (*Id.* (again citing RXM-2C at ¶ 175).)

According to HTC, the [19g] limitation suffers the same fatal flaws as the [19e] and [19f] limitations: lack of disclosure of structure or algorithm. (*Id.*) HTC argues that Apple chose to craft this claim in terms of function and therefore was required to disclose the structure to implement the function and without such a disclosure, the claim is unbounded and could cover every conceivable way to perform the function. (*Id.* at 69.) HTC argues that the Federal Circuit prohibits such an outcome, having said in *Mas-Hamilton*, 156 F.3d at 1214, that a claim "cannot be construed so broadly to cover every conceivable way or means to perform the function of moving a lever, and there is no structure recited in the limitation that would save it from application of § 112 ¶ 6[.]" (*Id.*)

As regards the [19h] limitation, which states, in part, "instructions for displaying an area beyond an edge of the electronic document and displaying a third portion of the electronic document[,]" HTC maintains that the relevant language cannot avoid 35 U.S.C. § 112, ¶ 6, because the term "instructions for" has no well-understood structural meaning in the art. (*Id.* at 70-71 (citing RXM-2C at ¶ 180; *Mass. Inst. Tech.*, 462 F.3d at 1354; *Mas-Hamilton*, 156 F.3d at 1213-14).) HTC argues that, for this reason, the specification has to identify a hardware structure, an algorithm, or exemplary source code that discloses how the function is to be implemented, but the '381 patent specification does no do that. (*Id.* at 71 (citing RXM-2C at ¶ 181).) HTC says the patent's inventor admitted that there is more than one way to perform the claimed function. (*Id.* (citing RXM-2C at ¶ 158-160; RXM-14C at 144).) HTC points out that there are numerous design choices a designer has to make in order to make an "overscroll" feature, such as determining when does the translating in the first direction operation end and the translating in the second direction operation begin and which parameters to use, such as time, or scrolled distance position of the touch, in making such a determination. (*Id.* (citing RXM-2C at ¶ 181).) HTC says a person of ordinary skill in the art would have been aware of these design choices, but because the specification does not disclose any structure or algorithm for how to implement the claimed function, such a person would not know which of these possible implementations was claimed. (*Id.* (citing RXM-2C at ¶¶ 181-182).) HTC contends that a claim is indefinite if a structure corresponding to a claimed function is not disclosed in the specification. (*Id.* (citing *Aristocrat*, 521 F.3d at 1331).)

HTC says the '381 specification contains mere recitations and restatements of the claimed function, not the requisite disclosures of structure or algorithm for implementation. (*Id.* at 71-72

(citing RXM-2C at ¶ 181).) According to HTC, Figures 6C and 8C are simply pictorial representations of an exemplary user interface for some embodiments but do not disclose structure to implement the function of "displaying an area beyond an edge of the electronic document and displaying a third portion of the electronic document." (*Id.* at 72.) HTC says the text accompanying those figures recites the function as it is claimed in the limitation and does not explain how the function is performed and does not provide corresponding structure. (*Id.*) HTC says that Mr. Ording, the inventor, admitted that {

} (*Id.* (citing RXM-2C at ¶¶ 162-164; RXM-14C at 164-168).)

Pointing to block 714 of Figure 7, HTC argues that it simply recites what the function is: "Display an area beyond the edge of the document." (*Id.* at 72-73 (citing JXM-4 at Fig. 7, blocks 710 and 714.) The specification, says HTC, has no disclosure of an algorithm for rendering the third portion of the document and the area beyond the edge. (*Id.* (citing RXM-2C at ¶ 181).) HTC notes that the text accompanying Figure 7 reads as follows:

> If an edge of the electronic document is reached (e.g., upon reaching the edge of the document) while translating the electronic document in the first direction while the object is still detected on or near the touch screen display, an area beyond the edge of the electronic document is displayed (**710**-Yes, **714**).

(*Id.* (citing JXM-4 at 27:25-30, Fig. 5, blocks 510 and 514, 24:19-32).) Under 35 U.S.C. § 112, ¶ 6, says HTC, in exchange for the claimed functionality, the applicant is required to disclose the structure or algorithm for performing the functionality. (*Id.* (citing *Micro Chem.*, 194 F.3d at 1257).) HTC argues that Apple cannot point to the requisite disclosure, because there is none. (*Id.* (citing RXM-2C at ¶ 181).) HTC says that because the patentee elected to define the limitation in

purely functional terms, the limitation is properly construed as a means-plus-function limitation under 35 U.S.C. § 112, ¶ 6 and therefore must make a requisite disclosure, which he has not done. (*Id.* at 73-74.)

Turning to the last of the "instructions for" limitations, which is followed by the words "translating the electronic document in a second direction" etc., which HTC refers to as the [19i] limitation, HTC says that this, too, recites solely functional terms having no well-understood structural meaning in the art and therefore this limitation is also subject to 35 U.S.C. § 112, ¶ 6. (*Id.* at 74-75 (citing RXM-2C at ¶ 186).) HTC argues that the '381 patent specification contains no structure for performing the claimed function of translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document. (*Id.* (citing RXM-2C at ¶ 187).) HTC says there are numerous design choices a designer would have to make an "overscroll" feature, such as determining when does the translating in the first direction operation end and the translating in the second direction operation begin, and using which parameters, such as time, scrolled distance, or position of touch, to make such a determination. (*Id.*) HTC says the '381 patent inventor admitted that there is more than one way to perform the claimed function. (*Id.* (citing RXM-2C at ¶¶ 158-160; RXM-14C at 144).) HTC argues that a person of ordinary skill would have known of more than one possible implementation to perform "translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document." (*Id.* (citing RXM-2C at ¶ 187).) According to HTC, without disclosure of structure or algorithm, a person of ordinary skill in the art would not

know which of the possible implementations was claimed. (*Id.* at 75-76 (citing RXM-2C at ¶¶ 187-188).)

HTC says that just as with limitations [19e] through [19h], to the extent that the '381 patent specification provides any discussions related to the function of the [19h] limitation, these disclosures merely recite or restate the claimed function rather than provide the requisite structure. (*Id.* (citing RXM-2C at ¶ 187).) HTC argues that Figures 6D and 8D are simply pictorial representations of an embodiment's user interface and the text accompanying those figures has no structural or algorithmic disclosures. (*Id.* (citing JXM-4 at Fig. 6D, Fig. 8D, 26:37-45—"Once vertically downward gesture **3514** is complete, such that a corresponding object is no longer detected on or near the touch screen display, the list is scrolled in an opposite direction until the area **3536** is no longer displayed. FIG. 6D illustrates the result of this scrolling the opposite direction, which corresponds to operation **520** or process **500** (FIG. 5)...").)

Nor, argues HTC, can the disclosure of structure or algorithm to support the [19i] limitation be found in the flow charts of Figures 5 and 7. (*Id.* (citing RXM-2C at ¶ 187).) HTC reports that Mr. Ording observed generally of Figure 7 that the flow chart is composed of restatements of function, not algorithms. (*Id.* (citing RXM-2C at ¶¶ 162-164; RXM-14C at 164-166).) For example, argues HTC, Block 720 of Figure 7 merely restates the function of the [19i] limitation unaccompanied by any disclosure of structure or algorithm: "After the object is no longer detected on or near the touch screen display, translate the document in a second direction (e.g., opposite the first direction), until the area beyond the edge of the document is no longer displayed." (*Id.* at 76-77 (citing JXM-4, Fig. 7, block 720).)

HTC says the accompanying text sheds no light on what algorithms or structures are used for translating the document in the second direction and rendering the document for display. (*Id.* at 77 (citing RXM-2C at ¶ 187; JXM-4 at 27:40-43—"After the object is no longer detected on or near the touch screen display, the electronic document is translated in a second direction until the area beyond the edge is no longer displayed (**720**).").) HTC argues that the [19i] limitation suffers the same fatal deficiencies as the [19e] through [19h] limitations, which are mere restatements and recitations of the claimed function rather than disclosures of algorithms or corresponding structures. (*Id.*)

The Federal Circuit in *Inventio AG*, 649 F.3d at 1356 said this:

> The framework under which we determine if a claim limitation invokes § 112, ¶ 6 is straightforward. The use of the term "means" triggers a rebuttable presumption that § 112, ¶ 6 governs the construction of a claim term. *TriMed, Inc. v. Stryker Corp.*, 514 F.3d 1256, 1259 (Fed. Cir. 2008). Conversely, where, as here, the claim language does not recite the term "means," we presume that the limitation does not invoke § 112, ¶ 6. *Personalized Media*, 161 F.3d at 703—04. When a claim term lacks the word "means," the presumption can be overcome if the challenger demonstrates that "the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.' " *CCS Fitness v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002) (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000).)

The court elsewhere said that "the presumption flowing from the absence of the term 'means' is a strong one that is not readily overcome." Lighting World, Inc. v. Birchwood Lighting, Inc., 382 F.3d 1354, 1358 (Fed.Cir.2004). Claim 1 does not mention the word means and therefore it follows that there is a strong presumption that 35 U.S.C. § 112, ¶ 6, as proposed by HTC and Staff, does not apply.

Claim 19 discloses a device comprising a touch screen display, one or more processors, memory, and one or more programs executed by those processors for providing instructions for detecting movement of an object near the touch screen display, displaying an electronic document, and translating the electronic document. The device, then, includes a touch screen display, at least one processor, memory, and programs to be executed by one or more processors. Is this sufficient structure? The Abstract states that "[i]n accordance with some embodiments, a computer-implemented method for use in conjunction with a device with a touch screen display is disclosed." (JXM-4 at 797APPLE-57.) In *Iventio AG*, one of the questions at issue was whether the claim term "modernizing device" was defined only in terms of the functions the device performed and not its structure (649 F.3d at 1357) and whether the claim term "computing unit" lacks sufficiently definite structure to avoid § 112, ¶ 6 (*id.* at 1359).

In the case of the first term, the court held that "modernizing device" presumptively connotes sufficiently definite structure to those skilled in the art, a strong presumption that is not readily overcome, which had not been overcome because "modernizing device" functions as an electrical circuit that receives signals, processes signals, and outputs signals to other components in the patented system. (*Inventio AG* at 1356.) The court said that the written descriptions depict the "modernizing device" and its internal components, namely, the processor, signal generator, converter, memory, and signal receiver elements. (*Id.* at 1358.) The court said that the written descriptions also described how the modernizing device, in the process of employing these components, receives a destination signal from the computing unit, converts the signal into a call report, and issues the call report to the elevator control; and how the input device has an input signal receiver that detects a signal from the elevator control and processes the signal with a time travel profile to control the elevator system. (*Id.* at 1358-59.) This, said the court, was enough to

support the presumption that the "modernizing device" is not a means-plus-function limitation. (*Id.* at 1359.)

With respect to the "computing unit" limitation, the court said the term connoted sufficiently definite structure to those of skill in the art because the claims recite that the computing unit is connected to the modernizing device and generates a destination signal for transmission to the modernizing device. (*Id.*) The court said that the written descriptions also indicated that the "computing unit" connotes structure to persons of skill in the art because they refer to the term as a computer in which one of its functions is to store and execute a computer program product that includes at least one processor and at least one data memory. (*Id.*) The court said that the written descriptions explain the steps that the computer program product performs and the interaction between the computing unit and modernizing device and between the computing unit and the floor terminals. (*Id.*)

Similarly, the Federal Circuit, in *LG Electronics, Inc. v. Bizcom Electronics, Inc.*, 453 F.3d 1364, 1372 (Fed. Cir. 2006), held that the claim term, "a control unit for controlling the communication unit, wherein the control unit comprises a [central processing unit ('CPU')] and a partitioned memory system," provides sufficient structure, namely "a CPU and a partitioned memory system," for performing the stated function, "controlling the communication unit." Further, the same court, in *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1359-60 (Fed.Cir.2004), said this: "In considering whether a claim term recites sufficient structure to avoid application of section 112 ¶ 6, we have not required the claim term to denote a specific structure. Instead, we have held that it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function." Complainant's expert,

Ravin Balakrishnan, Ph.D, states that "[o]ne of ordinary skill in the art would understand that a "program" is a sequence of coded instructions that can be understood and executed by a processor to perform operations."[6] (CXM-2, ¶ 5.3.31.) Also, the '381 patent specification states: "The one or more processors **120** run or execute various software programs and/or sets of instructions stored in memory **102** to perform various functions for the device **100** and to process data." (JXM-4 at 11:1-6.) Figure 1 of the patent illustrates the interrelations between program modules stored in memory and the processors for executing them, along with other structural components of one embodiment of the device. (*Id.* at 797APPLE-59.)

The Administrative Law Judge concludes that the arguments put forth by HTC and Staff do not overcome the strong presumption against construing the "instructions for" limitations of claim 19 under 35 U.S.C. § 112, ¶ 6 and that there is sufficient structure set forth in claim 19, when read in light of the specification, as cited above and at pages 50-52 of Apple's reply Markman brief. Further, the Administrative Law Judge concludes that the term "instructions for" itself can and should be construed according to the plain and ordinary meaning of the phrase and requires no further construction by reason of its recitation in each of the several limitations of claim 19 where it appears.

V. U.S. PATENT NO. 7,084,859

A. Overview

This Investigation concerns U.S. Patent No. 7,084,859 entitled "Programmable Tactile Touch Screen Displays and Man-Machine Interfaces for Improved Vehicle Instrumentation and Telematics" ("the '859 patent"), which issued on August 1, 2006 and resulted from U.S. Patent

[6] Webster's New World College Dictionary (4th ed.) is in accord: "a series of operations which may be used to control

Application No. 09/789,538 filed on February 22, 2001. (JXM-7 at 1.) The '859 patent is a continuation-in-part of U.S. Patent Application No. 09/435,854 filed on November 8, 1999, which is a continuation-in-part of U.S. Patent Application No. 08/290,516 filed on August 15, 1994 and now U.S. Patent No. 6,008,000, which is a continuation of U.S. Patent Application No. 07,946,588 filed on September 18, 1992 and abandoned, which is a continuation of U.S. Patent Application No. 07/496,908 filed on September 18, 1992 and now U.S. Patent No. 5,982,352. (*Id.*) The '859 patent also lists as related applications U.S. Provisional Application No. 60/142,777 filed on February 22, 2000 and U.S. Provisional Application No. 60/183,807 filed on September 26, 2000. (*Id.*)

The '859 patent names Timothy R. Pryor as the inventor. (*Id.*) The '859 patent discloses methods and systems for interaction with touch screens including the use of touch screens for fine manipulation of data and using multiple fingers to perform actions on a touch screen. (*Id.* at Abstract, 10:31-33, 12:32-39.) The asserted claims of the '859 patent read as follows:

> 14. Method for controlling a computer system, the method comprising:
> displaying visually observable data on a capacitive touch sensitive display screen that is effectively responsive to touch at a plurality of positions at once,
> touching the capacitive touch sensitive display screen with at least two fingers, and
> using the action of the fingers while in contact with the capacitive touch sensitive display screen, causing a desired control action of the computer system, and wherein two fingers of the at least two fingers simultaneously being used to pinch or bracket displayed data on the screen.
>
> 15. A method according to claim 14 wherein one of the fingers is a thumb.
>
> 16. A method according to claim 14 wherein the capacitive touch sensitive screen is controlled by the computer system.

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the functions of an electronic device."

17. A method according to claim 14 wherein the finger touch is in relation to an initial display condition.

18. A method according to claim 14 wherein a subsequent display condition is in relation to an initial finger touch.

19. A method according to claim 14 further including the step of generating a signal to indicate to the touch that a [sic] action has been taken.

20. A method according to claim 14 further including the step of generating a signal to indicate the value of an action entered by the touching.

25. Method for controlling a computer system, the method comprising:

displaying visually observable data on a capacitive touch sensitive display screen that is responsive to touch at a plurality of positions at once,

touching the capacitive touch sensitive display screen with at least two fingers simultaneously, and

using the action of the fingers, causing a desired control action of the computer system, wherein the desired action is to indicate a value desired of a variable by the spacing of one finger with respect to another finger while in contact with the capacitive touch sensitive display screen.

28. Method for controlling a computer system, the method comprising:

displaying visually observable data on a capacitive touch sensitive display screen that is responsive to touch at a plurality of positions at once,

touching the capacitive touch sensitive display screen with at least two fingers simultaneously, and

using the action of the fingers, causing a desired control action of the computer system, wherein the desired action is to indicate a value desired of a variable by the movement of one finger with respect to another finger while in contact with the capacitive touch sensitive display screen.

(*Id.* at 60:45-51, Ex Parte Reexamination Certificate 2:30-51, 3:15-30, 3:59-4:6.)

B. Level of Ordinary Skill in the Art

Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art. *Phillips*, 415 F.3d at 1312-13. The parties agree that a person of ordinary skill in the art relevant to the '859 patent at the time of the invention had at least a

bachelor's degree in computer science or electrical engineering, and approximately two years of experience working with touch sensitive computer interfaces, including experience with graphical user interface design and with touch-sensing technologies, or would have equivalent educational and work experience. (*See* SRMBr. at 2; RRMBr. at 3.) The Administrative Law Judge concludes that agreed upon definition of a person of ordinary skill in the art relevant to the '859 patent is appropriate.

C. Construction of Claim Terms

1. Claims 14, 25, and 28—*"a desired control action"*

According to Apple and Staff, all parties agree that this term means "a selected control function." (CMBr. at 75; SMBr. at 61.)

The phrase "a desired control action" is only found in the claims and as it appears in the claims does not purport that a unique or special meaning to the words was intended by the inventors. Further, the Administrative Law Judge finds that one of ordinary skill in the art would understand from the descriptions in the specification that the use of this phrase in the claims refers to a user's ability to select a particular function on a screen. For example, the specification describes:

> More recently, numerous manufacturers have done the same, for the purpose of navigation, using instant GPS data and stored maps. However, none of these displays is easy to use by the driver, being small, difficult to interact with physically, and out of the general line of sight of the driver. This is a problem as *one has to see the screen to touch the box corresponding to the input function desired.* And to see the screen, you have to take your eyes off the road for a significant time. There is no physical sensation associated with the function which would allow you to actuate the function "by feel". Indeed because of this, many of the GPS systems being sold, are just displays, with function selection and the like achieved with the standard assortment of buttons, switches, dials, etc. And where touch boxes on screens are used, they by necessity have limited functions.
>
> ***

> Contributing even more to safety, the tactile feel of the knob, or other tactile physical selection or adjustment means, can itself be programmable, for example using programmable acoustic wave pulses or other means, giving many added benefits. Note that *such a programmable tactile response can be programmed to change with function selected*, and/or variable affected [a]nd can operate statically too, to give the driver a chance to tell the setting of the knob by feel alone. In addition, conventional cues to the driver such as the displayed values or computer generated speech can be used as well or instead.
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> ***
>
> For example, the finger can now be moved vertically up or down (or side to side), to indicate more or less heat depending on the finger position or movement. (*heat having been the function selected with the touch screen*).

(JXM-7 at 5:21-35, 15:63-16:6, 30:54-57 (emphasis added).)

The Administrative Law Judge concludes that the construction agreed upon by the parties is in accordance with the use of the term as it appears in the asserted claims and specification. Thus, the Administrative Law Judge finds that the term "a desired control action" should be construed to mean "a selected control function."

2. Claim 20--*"a signal to indicate the value of an action"*

According to Apple and Staff, all parties agree that this term means "a visual, auditory, or tactile feedback that indicates the value of an action." (CMBr. at 75; SMBr. at 61.)

The term "signal" as it appears in the claims is not given any particular specialized meaning beyond what would have been understood by a person of ordinary skill in the art. The Administrative Law Judge finds that one of ordinary skill in the art would readily understand from the claim language that the signal referred to in this claim is a signal in response to the user's selection of an action, which the specification describes as feedback. (*See e.g.*, JXM-7 at 12:1-7 ("FIG. 14 illustrates a novel screen design for distortion based touch screens. Also illustrated is an Optical touch screen equipped with a force feedback signal which is acoustically generated by a

piezo electric or other transducer providing an acoustic wave force pulse back to the user to signal that one is close to the point desired or has reached it for example.") However, while the specification describes various types of signals that may be used to provide feedback to a user (*see e.g.*, JXM-7 at 9:59-67, 17:9-12, 18:4-10, 40:23-29), there is no express indication in the claims or specification that the inventor intended to limit the type of signal that can be used for feedback to the user.

Thus, while the proposed construction of this term by the parties is consistent with the specification, the Administrative Law Judge finds that it is too limiting because it requires a particular type of feedback. The Administrative Law Judge concludes that the term "a signal to indicate the value of an action" should be construed to mean "feedback that indicates the value of an action."

3. Claims 25 and 28—*"wherein the desired control action is to indicate the value desired of a variable"*

According to Apple and Staff, all parties agree that this term means "wherein the selected control function is to set the value of a variable." (CMBr. at 76; SMBr. at 61.) The parties' proposed construction equates the phrase "indicate the value desired" to "set the value." The Administrative Law Judge finds that one of ordinary skill in the art would understand the use of the term "indicate the value desired" in the context of these claims, which relate to a "[m]ethod for controlling a computer system," refers to a user setting the value of a control function. Accordingly, the Administrative Law Judge concludes that the term "wherein the desired control action is to indicate the value desired of a variable" means "wherein the selected control function is to set the value of a variable."

4. Claim 14— *"pinch or bracket displayed data"*

Apple proposes that the following construction for the term "pinch or bracket displayed data" in claim 14: "move two fingers toward each other in a pinching motion, or bracket data, to interact with data displayed on a screen." (CMBr. at 76.) HTC and Staff agree on the following proposed construction for the term: "squeeze or bracket to identify displayed data." (RMBr. at 6; SMBr. at 61.)

Apple asserts that the critical distinction between the parties' respective constructions of this term is that HTC's and Staff's proposed construction is limited to identifying data while Apple's construction encompasses other known types of interacting with data. (CMBr. at 76.) According to Apple, the specification includes numerous descriptions of pinching acts, some of which include identifying data and others that do not. (*Id.*) Apple says the specification provides numerous pinching acts where the user interacts with data on a screen, including cutting data, moving data, pasting data, interacting with displayed images, graphically compressing data, rotating data, and changing the size, shape, and location of data. (*Id.* at 76-77 (citing JXM-7 at 12:36-39, 25:47-60, 52:2-16, 52:48-50, Fig. 25; CXM-3; CXM-20).) Apple says that the patentee does not expressly or implicitly express a desire to limit pinching to identifying data to the exclusion of the other forms of interaction enumerated in the patent. (*Id.* at 77 (citing CXM-3).) Apple argues that limiting the term to only the identification of data would limit the claim to one embodiment to the exclusion of at least seven other embodiments, violating the judicial mandate that particular embodiments will not limit claim language that has broader effect. (*Id.* at 79.)

Apple also argues that its construction is supported by the claim language and the doctrine of claim differentiation. (*Id.*) Apple asserts that the language of claim 14 does not specify the type of pinching or bracketing action being performed and thus there is no basis for limiting the scope

of the claim to only the identification of data. (*Id.* at 79-80.) Regarding claim differentiation, Apple says claims 9 and 11 expressly require a touching interaction for "designating displayed data," which Apple equates to identifying displayed data, and because claim 14 does not include such limiting language it should not be construed to include such language. (*Id.* at 80-81 (citing JXM-7 at Ex Parte Reexamination Certificate 1:41-56, 1:58-2:7, 2:30-43).)

HTC argues that the intrinsic evidence only includes references to pinching used to select or identify data. (RMBr. at 7.) HTC asserts that the '859 patent includes three embodiments in which two fingers are used to pinch or bracket a particular object displayed on a screen, and in each of those embodiments, the pinch or bracket gesture is used to identify displayed data for subsequent interaction. (*Id.* at 8.) HTC says the first embodiment teaches a pinch gesture used only to identify or designate a virtual knob. (*Id.* at 9 (citing JXM-7 at 25:47-60, Figs. 3b-3c).) HTC says that after the knob has been identified by the pinch gesture, the manipulation of the knob requires a second gesture to rotate the virtual knob. (*Id.* at 9-10.) HTC contends that the other embodiments in which a pinching or bracketing gesture is used also require first a gesture that only identifies data and then a subsequent gesture to manipulate the data. (*Id.* at 10-12 (citing JXM-7 at 51:42-51, 51:64-52:9, 52:11-16, Figs. 24b and 25).) According to HTC, its construction is supported by the motivation for the claimed invention, which relates to enhanced safety and the ability the user to use the virtual dashboard by feel, because the specification teaches the safety benefits of a two-step approach. (*Id.* at 14-15.) Because Apple's construction does not contemplate a two-step approach to the manipulation of data, HTC argues that Apple's proposed construction is not supported by the intrinsic evidence. (*Id.* at 14.)

According to HTC, in addition to the intrinsic evidence, it is necessary to review extrinsic evidence to understand how the pinching gesture is used in the '859 patent because there was no

consensus as to what the pinching gesture would do on a virtual object displayed on a touch screen when the '859 patent was filed in 2001. (*Id.* at 8.) HTC contends that its construction of the term is consistent with the testimony of the patent's sole inventor. (*Id.* at 13-14 (citing RXM-5C at 128-130).) HTC asserts that the inventor's testimony confirms that the claimed pinch or bracket gesture identifies the displayed data and a subsequent gesture is required to interact with that data. (*Id.* at 14.)

Staff asserts that the different constructions of this term turns on two concepts. (SMBr. at 61.) First, Staff says the parties dispute the meaning of the word pinch. (*Id.*) According to Staff, the word pinch should be construed to mean squeeze, which aligns with the ordinary lay meaning of the term. (*Id.*) Staff argues that the specification of the '859 patent is consistent with the use of the word squeeze, which evokes the concept of a physical pinch in which contact is made by the pincher with the thing being pinched. (*Id.* at 62.) Staff asserts that the descriptions provided in the specification analogize the claimed pinch to a physical pinch, are consistent with the disclosure of bracketing in the specification, and requires that the pinch results in the object desired being contacted by the pinching fingers. (*Id.* at 62-64 (citing JXM-7 at 25:47-54, 51:42-51, 52:2-16, 52:48-50, Figs. 3b, 3c, 24b, and 25).) Second, Staff asserts that the parties dispute the purpose of the pinch or bracket, which the Staff argues is to identify displayed data. (*Id.* at 64.) Staff argues that the specification only uses a pinch or bracket to identify data. (*Id.* at 64-65 (citing JXM-7 at 51:43-50, 52:11-16).)

In its response, Apple alleges that HTC has selectively ignored the parts of the specification that support Apple's construction and relies only on portions of the specification that supports HTC's construction. (CRMBr. at 72-73.) Apple also asserts that the portions of the specification relied upon by HTC actually support Apple's construction because they include instances where

pinching is used to interact with data. (*Id.* at 73-74 (citing JXM-7 at 25:47-60, Figs. 3a, 3b, 3c).) Apple argues that HTC ignores the fact that in its cited examples the pinching operation continues to occur even after the data is identified. (*Id.*) For example, with respect to rotating a knob, Apple says that HTC ignores the fact that the same pinching used to identify the knob is continuing to occur while the knob is being "rotated." (*Id.*) With respect to the embodiment described in relation to Figure 25 of the '859 patent, Apple argues that contrary to HTC's assertions, this embodiment supports Apple's construction because the specification describes that "[t]he pinching action, for example can be programmed to cause the Excel program, to 'cut' the data in the cell, for 'pasting' elsewhere." (*Id.* at 74 (citing JXM-7 at 52:1-8).) According to Apple, this language discloses a pinching action that is used to cut data from a cell and not merely used to identify data. (*Id.* at 75 (citing CXM-25 at ¶ 5.1.5).) Apple also faults HTC for its assertion that the '859 patent requires a "two-step approach" consisting of a pinch followed by a separate additional gesture. (*Id.* at 75-76 (citing RMBr. at 14-15).) Apple asserts that the specification does not discuss a two-step approach and in each of the embodiments relied on by HTC, "the pinching is part and parcel of operation by which data is manipulated, and not just identified." (*Id.* at 76.)

Apple also responds that HTC has failed to address the use of the term pinch in U.S. Patent Application No. 09/138,339 ("the '339 application"), which is incorporated by reference into the '859 patent. (*Id.*) Apple asserts that the use of the term "pinch" in the '339 application provides examples of interacting with displayed data by pinching the data that is not solely equated with identifying the displayed data. (*Id.* at 77 (citing CXM-20 at ¶¶ 331, 334, 337, 339, 498, 503; CXM-25 at ¶ 5.1.11).)

Regarding the extrinsic evidence relied upon by HTC, Apple first argues that the deposition testimony does not preclude Apple's construction because the quoted testimony does not state that

the pinching is limited only to identifying data. (*Id.* at 80.) Apple also asserts that the inventor testimony should be afforded little weight in this analysis. (*Id.* (citing *Howmedica Osteonics Corp. v. Wright Medical Tech., Inc.*, 540 F.3d 1337, 1346-47 (Fed. Cir. 2008).)

In its response, HTC asserts that Apple has misinterpreted the intrinsic evidence and has not provided any explanation for its argument that a pinch refers to a variety of ways of interacting with displayed data. (RRMBr. at 4.) HTC reiterates its argument that contrary to Apple's arguments, the embodiments of the specification require a first step in which the data is identified by a pinch gesture and a second step in which the data is manipulated with another separate gesture. (*Id.* at 4-6 (citing JXM-7 at 25:47-60, 51:64-52:16, 52:48-50).) HTC also faults Apple for its reliance on the '339 application. (*Id.* at 6.) According to HTC, the '339 application is not part of the intrinsic record because it was not properly incorporated by reference into the '859 patent. (*Id.* at 6-7.) HTC asserts that the '859 patent's citation to the '339 application fails the Federal Circuit requirement that the host document identify what is being incorporated and where that material is found in the document being incorporated. (*Id.* at 7.) HTC says that the '859 patent merely generally mentions the '339 application without identifying with particularity what specific material is incorporated and where that material is found. (*Id.* at 7-8 (citing *Zenon Envtl., Inc. v. U.S. Filter Corp.*, 506 F.3d 1370, 1378 (Fed. Cir. 2007)).) Even if the '339 application was properly incorporated by reference, HTC asserts that Apple has not established why any disclosure in the '339 application is relevant to the construction of the claim term at issue here. (*Id.* at 8.)

HTC also faults Apple's reliance on the claim language and the doctrine of claim differentiation in support of Apple's construction. (*Id.* at 10-12.) Regarding the claim language, HTC argues that the claim neither excludes nor includes any particular operations for a pinch, and because the claim itself does not shed any light on what is meant by "pinch" or "bracket," other

evidence must be analyzed. (*Id.* at 10-11.) Regarding claim differentiation, HTC argues that claim differentiation does not apply because claims 9, 11, and 14 of the '859 patent each have different scope. (*Id.* at 11 (citing *Curtiss-Wright Flow Control Corp. v Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir. 2006).)

As an initial matter, the Administrative Law Judge does not agree with Staff that there is a distinction between the meaning of the word "pinch" in the two proposed constructions of this term. Apple defines the word "pinch" to mean "move two fingers toward each other in a pinching motion," and HTC and Staff define the word to mean "squeeze." The private parties do not discuss any difference in this portion of their respective constructions, and the Administrative Law Judge does not find any meaningful difference in these definitions. Further, the Administrative Law Judge finds that the specification of the '859 patent makes clear that the word pinch was not intended to be given any specialized technical meaning in the patent, but was intended to convey the lay meaning of the word. (*See e.g.* JXM-7 at 52:11-13 ("This move is totally natural, just as one would pinch any small object and move it to somewhere else and deposit it.").)

The crux of the dispute between the parties regarding this term is whether the pinching action is limited to the mere identification of displayed data (HTC's and Staff's proposed construction) or more broadly encompasses interaction with displayed data (Apple's construction). The Administrative Law Judge finds that HTC and Staff are improperly injecting a limitation that is not expressed in the asserted claims or otherwise disclosed in the intrinsic evidence. Neither claim 14 nor its dependent claims restrict this claim phrase in the manner proposed by HTC and Staff. Claim 14 states, in part, "the at least two fingers simultaneously being used to pinch or bracket displayed data on the screen" (JXM-7 at Ex Parte Reexamination Certification 2:41-43) without adding any qualification or restriction regarding what is meant by the phrase "pinch or

bracket displayed data." Likewise, the specification does not include any language that limits this term to mere identification of data. In fact, each of the embodiments cited by HTC support the opposite conclusion, *i.e.* the term is not limited to identifying data. HTC first cites to the embodiment of Figures 3b and 3c (RMBr. at 9), shown below.

FIG. 3b

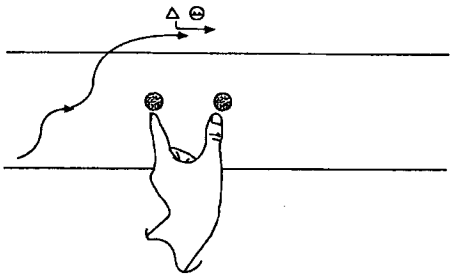
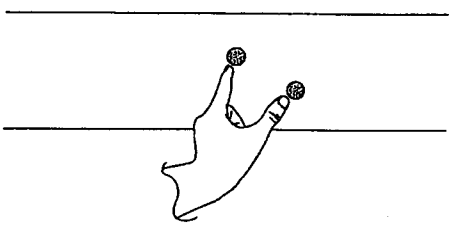


FIG. 3c



With respect to these figures, the specification states:

> For example consider finger **320** and thumb **321** of person 305 who desires to "rotate" a virtual knob **365** (dotted lines in FIG. 3c) depicted on touch screen **301** (for example created by display computer **315**). The person can do so by pressing in on the screen **301**, and registering to the computer that a finger **320** and thumb **321** are touching in close proximity, just as one would pinch a small knob on a dash of today. This is illustrated in FIG. 3b. Then in a sequential motion, the screen sensing system senses that this knob is being turned an amount m, in direction theta, so to speak, as the fingers rotate their points of contact indication, FIG. 3c--effectively like a twisting motion. This amount of rotation is communicated to the car control system, and the heater output let us say, raised accordingly.

(JXM-7 at 25:47-60.) This description indicates that one would rotate a virtual knob in the same manner as a real knob, which requires a user to pinch a knob and then rotate while pinching. Similarly, the specification describes the use of pinching with respect to Figure 25 depicted below.

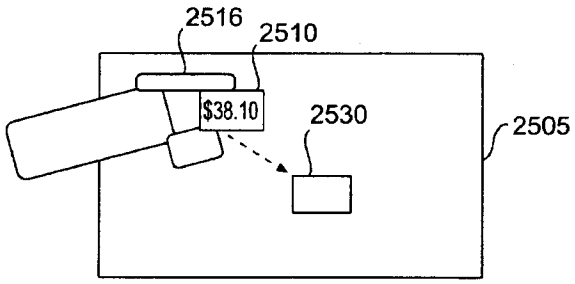


FIG. 25

With respect to this figure, the specification states:

> A user, with a quick move can go right to the cell of interest and with his thumb **2515** and forefinger **2516**, "pinch" the data in the cell **2510**, in this case the dollar amount $38.10. The pinching action, for example can be programmed to cause the Excel program, to "cut" the data in the cell, for "pasting" elsewhere. The user can then move it, by sliding it on the screen while pinching it, to empty cell **2530**. When movement stops and the fingers un-pinch the program in this case would paste the data there. This move is totally natural, just as one would pinch any small object and move it to somewhere else and deposit it.

(JXM-7 at 52:2-13.) This description indicates that a pinching action is not used to identify data, but is instead used to first "cut" data and then move it to another area of the screen for "pasting." The specification also states, "[f]or a slider, you just touch and move the lever, with your finger – or better pinch it and pull it back and forth as desired in a virtual motion." (JXM-7 at 52:48-50.) This language indicates that the pinching action is used for identification and then manipulation of a virtual lever, which is contrary to HTC's and Staff's construction that limits the pinching action to identification. The Administrative Law Judge finds that Apple's construction more appropriately conveys that the pinching action is used in the specification of the '859 patent for more than identification of data and generally relates to an action that allows a user to interact with displayed data.

The Administrative Law Judge finds that the doctrine of claim differentiation counsels against adoption of HTC's and Staff's construction. The Administrative Law Judge agrees with Apple that the language "designating displayed data" in claim 11 of the '859 patent (JXM-7 at Ex Parte Reexamination Certificate 2:8-9) is equivalent to the identification of displayed data. Thus, this language in claim 11 would be rendered superfluous if the "pinching motion" of claim 11 (*id.* at 2:20-21) was limited exclusively to the identification of data and nothing more. *See Curtiss-Wright*, 438 F.3d at 1381 ("claim differentiation takes on relevance in the context of a claim construction that would render additional, or different, language in another independent claim superfluous").

The Administrative Law Judge also rejects HTC's reliance on extrinsic evidence in the form of inventor testimony. Regardless of whether inventor testimony should be afforded any weight in the claim construction analysis generally, the Administrative Law Judge finds that no ambiguity exists in the intrinsic record with respect to the construction of this term, and thus, consideration of extrinsic evidence would be improper. *See Vitronics*, 90 F.3d at 1583.

Based on the foregoing, the Administrative Law Judge concludes that the term "pinch or bracket displayed data" means "move two fingers toward each other in a pinching motion, or bracket data, to interact with displayed data."

VI. U.S. PATENT NO. RE 42,738

A. Overview

This Investigation concerns U.S. Patent No. RE 42,738 ("the '738 patent"), entitled "Portable Computers," which issued on September 27, 2011 and resulted from U.S. Patent Application No. 11/907,832. (JXM-13 at 1.) The '738 patent is a reissue of U.S. Patent No.

6,956,564 ("the '564 patent"), which issued on October 18, 2005 from an application filed on October 29, 1998. (*Id.*) The '738 patent also lists foreign application priority data including United Kingdom Patent Application No. 9722766 filed on October 28, 1997. (*Id.*)

The '738 patent names Hilary L. Williams as the inventor. (*Id.*) The '738 patent discloses a portable computer containing accelerometers capable of detecting movement of the computer and a microcontroller selecting a viewing mode based on movement of the computer. (*Id.* at Abstract.) The asserted claims of the '738 patent read as follows:

> 4. A portable computer comprising:
>
> at least one acceleration detection means responsive to movement of the computer to produce an electrical output signal representative of such movement;
>
> processing means responsive to the output of said at least one acceleration detection means to determine detected movement data defining a user's intention;
>
> the processing means using said data to provide a mode response selected from a multiplicity of stored possible modes; and
>
> wherein the processing means is responsive to detected movement data to determine a most likely orientation of a computer display means, the processing means causing the displayed information to be oriented accordingly.
>
> 28. A portable computer comprising:
>
> movement detection means responsive to movement of the computer to produce an electrical output signal representative of such movement;
>
> a storage medium for storing data defining a multiplicity of displayable pages each comprising of a plurality of lines;
>
> a display having a corresponding plurality of lines to enable one of the multiplicity of pages to be displayed; and
>
> processing means responsive to the output of said movement detection means to determine detected movement data defining a user's intention; in which a relative lateral tilting movement causes the display of information stored as to one or other side of currently displayed information.
>
> 36. A portable computer comprising:
>
> movement detection means responsive to movement of the computer to produce an electrical output signal representative of such movement;

a storage medium for storing data defining a multiplicity of displayable pages each comprising of a plurality of lines;

a display having a corresponding plurality of lines to enable one of the multiplicity of pages to be displayed; and

processing means responsive to the output of said movement detection means to determine detected movement data defining a user's intention;

wherein the processing means is responsive to detected movement data to determine a most likely orientation of the display, the processing means causing the displayed information to be oriented accordingly.

37. The portable computer of claim 4, wherein the at least one acceleration detection means comprises a plurality of acceleration detection means.

(*Id.* at 14:7-24, 17:24-40, 18:6-40.)

B. Level of Ordinary Skill in the Art

Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art. *Phillips*, 415 F.3d at 1312-13. Apple, through its expert Blake Hannaford, Ph.D., proposes that a person of ordinary skill in the relevant art of the '738 patent at the time of invention would have had a bachelor's degree or higher in electrical engineering, computer engineering, or the equivalent, and at least two years of experience in designing or implementing systems integrating hardware and software which responds to inputs from hardware sensors. (CXM-4 at ¶ 19.) HTC asserts that a person of ordinary skill in the art relevant to the '738 patent at the time of the invention had at least a bachelor's degree in computer science, electrical engineering, or a related field and two to three years of experience with the use of sensors and related user interface functionality. (RMBr. at 78 (citing RXM-16 at ¶ 31).) Staff says that the descriptions of the level of ordinary skill in the art of the '738 patent at the time of invention provided by the private parties are nearly identical and selection of either will not affect claim construction for this patent. (SMBr. at 81.)

The Administrative Law Judge concludes that a person of ordinary skill in the art with respect to the '738 patent would have a bachelor's degree in computer science, electrical engineering, or a related field and at least two years of experience with designing or implementing systems integrating hardware and software which responds to inputs from hardware sensors.

C. Construction of Disputed Claim Terms

1. **Claim 4**— *"acceleration detection means responsive to movement of the computer to produce an electrical output signal representative of such movement"*; **and Claims 28 and 36**— *"movement detection means responsive to movement of the computer to produce an electrical output signal representative of such movement"*

The parties agree that these terms are means-plus-function terms subject to 35 U.S.C. § 112, ¶ 6. (*See* CMBr. at 87, 105; RMBr. at 82; SMBr. at 66-67.) The parties also agree that the claimed function for both of these terms is "responsive to movement of the computer to produce an electrical output signal representative of such movement." (*Id.*) With respect to the term "acceleration detection means..." in claim 4, Apple asserts the corresponding structure is the following:

> at least one sensor (e.g., Analog Devices Limited ADXL05) including a small beam arrangement deflectable with respect to earth's gravitational field to represent the tilt angle of a hand-held computer in an output signal. ['738 patent, col. 2:4-10; col. 4:33-35; col. 5:8-22; col. 5:61-64; col. 12:26-27; Fig. 3, items 31 & 32; Fig. 4a, items labeled SENSOR1; Fig. 17, items 31 & 32.]

(CMBr. at 87.) Respondent and Staff assert that the corresponding structure is "at least one tilt or acceleration sensor arrangement as described in col. 2:4-11; col. 4:33-35; col. 5:61-64; col. 6:59-66; col. 12:26-28; and Figs. 3, 4A and 17." (RMBr. at 82; SMBr. at 66.) With respect to the term "movement detection means..." in claims 28 and 36, Apple asserts the following as corresponding structure:

> a sensor (e.g., Analog Devices Limited ADXL05) including a small beam arrangement deflectable with respect to earth's gravitational field to represent the tilt angle of a hand-held computer in an output signal. ['738 patent, col. 2:4-10; col. 4:33-35; col. 5:8-22; col. 5:61-64; col. 12:26-27; Fig. 3, items 31 & 32; Fig. 4a, items labeled SENSOR1; Fig. 17, items 31 & 32.]

(CMBr. at 105-106.) Respondent and Staff assert that the corresponding structure is "tilt and/or acceleration sensor arrangement as described in col. 2:4-11; col. 4:33-35; col. 5:61-64; col. 6:59-66; col. 12:26-28; and Figs. 3, 4A and 17." (RMBr. at 82; SMBr. at 67.) Thus, the corresponding structure cited by each of the parties is essentially the same, and the parties rely on the same arguments for each of these terms in support of their respective constructions. (*See* CMBr. at 87-92, 105-107; RMBr. at 82-91; SMBr. at 66-71.) Accordingly, the Administrative Law Judge has determined to address these terms together.

Apple asserts that its identified structure reflects the functional requirement that the output signal reflect movement data and argues that HTC's proposal does not. (CMBr. at 88 (citing CXM-4 at ¶ 34).) Apple says that the specification and relevant prosecution histories make clear that the core feature of the claimed function is to detect motion and to produce an output signal representative of the detected motion. (*Id.* (citing CXM-4 at ¶ 33).) According to Apple, the only sensors described in the specification produce an output that is representative of movement of the portable computer. (*Id.* (citing JXM-13 at Abstract, 1:62-65, 2:4-11; CXM-4 at ¶ 33).) Apple also asserts that the original prosecution history confirms that the sensors are limited to devices that output a signal representative of movement and not simply measuring position or displacement. (*Id.* at 89 (citing *Cross Med. Prods., Inv. V. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1308-1309 (Fed Cir. 2005); JXM-11 Nov. 21, 2002 Response at 4, June 23, 2003 Amendment/Response at 4, Mar. 29, 2004 Amendment/Response at 13; CXM-4 at ¶ 36).) Apple also asserts that the identified example accelerometer ADXL05 supports its proposed structure

because it uses a small beam having an associated mass that moves and generates an output signal in response to an applied acceleration. (*Id.* at 91 (citing JXM-13 at 4:33-35; CXM-4 at ¶ 32).) Apple says that the prosecution history for the reissue application provides further support for its proposed structure because the applicant amended claim 4 to recite "at least one acceleration detection means" rather than "movement detection means" in order to confirm the failure of the prior art to disclose a sensor that provided data representative of the tilt of the hardware relative to a reference plane. (*Id.* (citing JXM-12 Feb. 28, 2011 Amendment at 3, 16, Oct. 27, 2012 Office Action at 3, 9-10; CXM-22 at 5:26-28; CXM-4 at ¶ 36).) Thus, argues Apple, the corresponding structure must use acceleration to represent sensed movement, which, according to Apple, is captured in the phrase "including a small beam arrangement deflectable with respect to earth's gravitational field to represent the tilt angle of a hand-held computer in an output signal." (*Id.* at 89 (citing CXM-4 at ¶ 36).)

Apple faults the structure proposed by HTC and Staff for including a tilt sensor and states that a tilt sensor does not produce an output representative of movement without the addition of further recited structure. (*Id.*) Apple says that the tilt sensor must include a reference to at least a "small beam arrangement." (*Id.* (citing CXM-4 at ¶¶ 35, 37).) Apple argues that because the measurement of tilt can exist without producing an output representative of movement, a tilt sensor as used in the alternative in HTC's and Staff's proposed structure is not sufficiently tied to the specification and the inclusion of the phrase "small beam arrangement" is required. (*Id.* at 90 (citing CXM-4 at ¶¶ 34, 35; JXM-13 at 12:26-27).) Apple also faults HTC's and Staff's proposed structure to the extent it requires an arrangement of two sensors instead of one sensor. (*Id.* at 92.)

HTC asserts that the specification clearly describes at least two structures for performing the claimed function, a tilt detector and an acceleration detector, which are identified in the

Summary of the Invention. (RMBr. at 84-85 (citing JXm-13 at 2:4-11).) HTC says that this identification of alternative structures is consistent with the position Apple is taking with respect to U.S. Patent Application No. 12/255,557 ("the '557 application"), a divisional reissue application of the '564 patent. (*Id.* at 85-86 (citing RXM-17 at 797HTC-00763027, 299-306, 323-324).) According to HTC, the specification discloses multiple embodiments of the "movement detection means" and "acceleration detection means" and a person of ordinary skill in the art reading the description "the movement detection means includes at least one acceleration or tilt detection means" would understand that at least two structures are disclosed. (*Id.* at 86-87 (citing JXM-13 at 2:4-11, 4:33-35, 11:34-37; RXM-16 at ¶ 36; *Atmel corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1379 (Fed. Cir. 1999)).)

HTC faults Apple's proposed structure for importing extraneous elements and improperly limiting the structure to the preferred embodiment. (*Id.* at 87.) According to HTC, Apple's limitation of the corresponding structure to "including a small beam arrangement deflectable with respect to earth's gravitational field" contradicts the understanding of the '738 patent's specification by one of ordinary skill in the art. (*Id.* at 88 (citing RXM-16 at ¶ 38).) HTC says that many different types of accelerometers and tilt sensors were known at the time of the invention that were capable of performing the claimed function and do not rely on a small beam arrangement to operate. (*Id.* at 88-89 (citing RXM-16 at ¶¶ 37-38, 40-41).) HTC asserts that Apple incorrectly relies on the description of an exemplary embodiment including a sensor with a small beam arrangement at the expense of the alternative structures disclosed in the Summary of the Invention. (*Id.* at 89 (citing JXM-13 at 2:4-11, 12:26-27).) HTC also asserts that the description relied upon by Apple does not identify that the "small beam arrangement" is necessary for performing the function and only explains that a small beam arrangement is capable of measuring "tilt with respect

to earth's gravity." (*Id.*) HTC says this argument is supported by the next sentence in the specification that states that other position sensors may be included. (*Id.* at 90 (citing JXM-13 at 12:28).) Finally, HTC asserts that Apple's proposed structure improperly includes an additional function not present in the claim language, namely that the sensor is required "to represent the tilt angle of a hand-held computer in an output signal." (*Id.*)

Staff asserts that Apple's proposed structure is limited to one type of sensor and that while the '738 patent discloses this type of sensor, accelerometers and tilt sensors are generally disclosed as suitable for the invention. (SMBr. at 71 (citing RMBr. at 88-90). Staff also asserts that Apple's reliance on the '738 patent at 5:8-22, which states in part "which uses position outputs from the accelerometers 31, 32 to determine from the orientation of the computer whether the hand-held computer is in the left hand or right hand of the user," is improper because it describes a further use of the outputs of the acceleration or movement detection means rather than performing the claimed function. (*Id.*)

In its responsive brief, Apple faults HTC's reliance on the Summary of the Invention section of the '738 patent specification, saying that that section does not support HTC's proposed structure because it recites "acceleration or tilt detection *means*" and not actual structure. (CRMBr. at 83 (citing RMBr. at 85, 87; JXM-13 at 2:4-11) (emphasis added by Apple).) Apple also faults HTC's proposed structure for requiring a sensor "arrangement." (*Id.*) Apple also says that HTC's reliance on the prosecution history of the '557 application is inappropriate because statements made during prosecution of a patent family member are not relevant to construction of terms in the claims of another family member patent where the claims do not contain the same language. (*Id.* at 84 (citing *Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.*, 473 F.3d 1173, 1181 (Fed. Cir. 2006); *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1349-1350 (Fed. Cir. 2004)).) Next,

Apple reasserts that the corresponding structure must include a small beam arrangement, and Apple says that HTC's arguments to the contrary cannot be reconciled with the fact that HTC's proposed construction cites to the "small beam arrangement" definition of tilt sensor. (*Id.* at 84-85.) Apple also says that HTC's listing of sensor structures that are not in the specification of the '738 patent are not applicable to handheld, battery operated devices like the claimed portable computer of the '738 patent. (*Id.* at 85 (citing CXM-26 at ¶ 18).) Finally, Apple asserts that HTC has misinterpreted the specification's disclosure regarding "[o]ther position sensors" because one of ordinary skill in the art would understand that these other sensors may be included in addition to the tilt sensor and not as an alternative. (*Id.* at 85-86 (citing RMBr. at 90; JXM-13 at 12:26-30; CXM-26 at ¶ 19).)

HTC, in its response, asserts that Apple is improperly attempting to limit the claimed function by requiring a response to some type of movement other than tilt. (RRMBr. at 92.) HTC says that the intrinsic evidence does not support Apple's position because the claims themselves recite a "tilting movement" and the portions of the prosecution history that refer to the claimed function contradict Apple's argument. (*Id.* at 92-93 (citing JXM-13 at 17:38-40; RXM-17 at 797HTC-00763318, 322).) HTC also says that Apple's position conflicts with a "commonsense understanding of the claimed invention" and the understanding of one of ordinary skill in the art. (*Id.* at 93-94 (citing RXM-56 at ¶¶ 7-8).) HTC also asserts that the technical datasheet for the ADXL05 accelerometer listed in the '738 patent describes common applications for the sensor including the measurement of tilt and orientation and contradicts Apple's arguments. (*Id.* at 94-95 (citing RXM-51 at 797HTC-00726186; RXM-56 at ¶¶ 9-11).) HTC also states that it does not intend to limit the disclosed structure to two sensors as suggested by Apple and that, accordingly, Apple's arguments on this point are moot. (*Id.* at 98-99 (citing CMBr. at 92).)

In its response, Staff asserts that the statements made by Apple during the prosecution of the '557 application, as referenced by HTC in its opening brief, are relevant to the construction of these terms. (SRMBr. at 4-5 (citing *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1293 (Fed. Cir. 2005); *Laitram Corp. v. Morehouse Indus., Inc.*, 143 F.3d 1456, 1460 & n. 2 (Fed. Cir. 1998)).) Staff asserts that these statements, which indicate that the movement detector could be either an acceleration detector or a tilt detector, undermine Apple's arguments that a tilt sensor is not corresponding structure. (*Id.* at 5.)

Construction of a means-plus-function limitation is to include the limitations contained in the claim language, and only those limitations. *Lockheed Martin Corp. v. Space Sys/Loral, Inc.*, 249 F.3d 1314, 1324 (Fed. Cir. 2001). It is improper to narrow the scope of the function beyond the claim language. *Id.* It is equally improper to broaden the scope of the claimed function by ignoring clear limitations in the claim language. *Id.* The claim function as recited above requires the output of an electrical signal in response to and representative of movement. The Administrative Law Judge finds that Apple's proposed construction improperly narrows the scope of the function beyond the claim language by limiting the structure to one type of sensor that limits the type of movement that is detected.

The '738 patent specification includes as structure sensors 31 and 32 which are used to output information representative of movement of the device. Thus, the specification states regarding sensors 31 and 32, *inter alia*:

> the microcontroller **30** includes a program which uses position outputs from the accelerometers **31, 32** to determine from the orientation of the computer whether the hand-held computer is in the left hand or right hand of the user. It is here noted that accelerometer output may depend upon the tilt angle of the included accelerometers to the earth's gravitational field.
>
> ***

> the microcontroller **30** may use the output from the accelerometers **31**, **32** to determine a user's requirement for a different view to be displayed on the screen 5. Thus a virtual hinge is created such that if the user moves the stylus whilst it is in viewing position the screen information may be changed to respond to a natural reaction for looking up or down or to the left or right... Thus the action of tilting the stylus to the left or right is analogous to the natural inclination to look through a window towards the right or left to obtain additional information from a scene.
>
> ***
>
> that the tilt sensor arrangement **31**, **32** allows the microcontroller **30** to determine the most likely viewing angle and to adjust pixel mapping to the screen accordingly so that if a user holds the stylus in the left hand the display is inverted to that shown in FIG. 1 so that the bottom right corner, as viewed by a right handed user, becomes the top left corner as viewed by a left handed user. It should be noted that the microcontroller does not require an input from the user to determine whether the stylus is being held in the left or right hand and, if a user changes hands during the course of viewing the screen output will be inverted accordingly.

(JXM-13 at 5:8-14, 6:26-32, 6:41-44, 6:60-66.) Contrary to the arguments made by Apple, the Administrative Law Judge finds that, with respect to sensors 31 and 32, the specification does not highlight a distinction between movement and position or tilt that is allegedly lacking in HTC's and Staff's proposed structure. Rather, as shown in the excerpts above, the '738 patent specification describes "accelerometers 31, 32" that provide "position outputs" and "a tilt sensor arrangement 31, 32." The specification also states, "[n]ote that the tilt sensors included herein measure tilt with respect to earth's gravity by use of a small beam arrangement. Other position sensors may be included. Global positioning by satellite is also a possible method of detecting a change in the position of the portable computer." (Id. at 12:26-27.) The Administrative Law Judge finds that the specification uses the terms acceleration, position, and tilt interchangeably to indicate movement of the device and while the specification indicates that the tilt sensors used have a "small beam arrangement" the specification explicitly does not limit the sensors used to those types of sensors. Thus, the specification contemplates using any appropriate sensor that may

produce a signal that represents movement of the device. Finally, regarding Apple's argument with respect to the prosecution history (*see* CMBr. at 91), the Administrative Law Judge does not find the reasons for the amendment of the claims to recite "at least one acceleration detection means" to be as clear as Apple asserts. Apple asserts that "[t]he applicant remarked that this amendment was made to confirm the failure of the alleged prior art to disclose a sensor that provided data representative of the tilt of the hardware relative to a reference plane." (CMBr. at 91 (citing JXM-12, February 28, 2011, Amendment and Record of Personal Interview at 797APPLE90016659).) However, the Administrative Law Judge has not found any statements in the prosecution history that support this assertion. Rather, regarding that amendment, the patentee stated that it was "indicated by the examiner and his supervisor to be allowable during the interview noted above (subject to an updated search)." (*See* JXM-12 at 797APPLE90016659.) No other explanation appears to have been provided by the applicant, and none of the parties has pointed to, and the Administrative Law Judge has not found, any other indication in the intrinsic record that the claimed "acceleration detection means" and "movement detection means" have different corresponding structures.

The Administrative Law Judge concludes that a person of ordinary skill in the art would understand the corresponding structure for the "acceleration detection means" in claim 4 and "movement detection means" in claims 28 and 36 to be as follows: one or more sensors (31, 32) as shown in Figures 3, 4a, and 17 capable of detecting movement or a change in position and providing a corresponding electrical output.

2. Claim 4— *"processing means responsive to the output of said at least one acceleration detection means to determine detected movement data defining a user's intention"*; **and Claims 28 and 36**— *"processing means responsive to the output of said at least one movement detection means to determine detected movement data defining a user's intention"*

The parties agree that these terms are means-plus-function terms subject to 35 U.S.C. § 112, ¶ 6. (*See* CMBr. at 93, 107-108; RMBr. at XX; SMBr. at XX.) The parties also agree that the claimed functions for these terms are "responsive to the output of said at least one acceleration detection means to determine detected movement data defining a user's intention" and "responsive to the output of said at least one movement detection means to determine detected movement data defining a user's intention," respectively. (*Id.*) Apple asserts the following as corresponding structure for these terms: "a microcontroller or processor with software to read and compare sensor values. ['738 patent, col. 5:61-6:20; col. 7:38-47; Fig. 6; Fig. 8.]" (CMBr. at 93.) Staff and HTC propose the following as corresponding structure: microcontroller or processor configured to operate as described in col. 5:61-64; col. 6:2-20 and Figs. 6 and 18. (*See* RMBr. at 92; SMBr. at 72;CRMBr. at 87, n. 17.) Because the corresponding structure cited by each of the parties is the same, the Administrative Law Judge has determined to address these terms together.

Apple asserts that the determination of the detected movement data is an intermediate operation in the '738 patent that supports two disclosed features. (CMBr. at 94 (citing JXM-13 at 2:17-20, 2:26-28, 6:6-9; 7:38-40).) Apple argues that this function does not require incorporation of the features of the invention that actually use that detected movement data. (*Id.* (citing CXM-4 at ¶¶ 40-46).) Rather, according to Apple, determining the detected movement data is a first step and using the data is a separate step. (*Id.*) Apple says that the '738 patent discloses two alternative structures for determining detected movement data. (*Id.* (citing CXM-4 at ¶ 40).) The first structure, according to Apple, relates to the calculation of an index value that is later used to scroll

through pages. (*Id.* (citing JXM-13 at 6:6-8).) Apple asserts that this calculation is shown in Figure 6 at item 110, which states "Read Accelerometers a,b Calc Index I=a+b*16." (*Id.* (citing JXM-13 at Fig. 6; CXM-4 at ¶ 31).) Apple asserts that the second structure for determining detected movement data occurs where the '738 patent teaches comparing accelerometer values to a constant to orient the display. (*Id.* (citing JXM-13 at 7:38-46; CXM-4 at ¶ 40).) Apple says this comparison is illustrated in Figure 8 at items 200 and 205, which state "Read Accelerometer X" and "Is Value>m?" respectively, and output a Yes or No value. (*Id.* at 95 (citing JXM-13 at Fig. 8; CXM-4 at ¶ 40).) Apple asserts that each of these structures is clearly linked to the recited function and is properly included in the corresponding structure. (*Id.* (citing CXM-4 at ¶¶ 40-41).)

Apple faults HTC's and Staff's proposed structure as being overly narrow for failing to include the structure illustrated in Figure 8. (*Id.* (citing *Micro Chem.*, 194 F.3d at 1259).) Apple also faults HTC's and Staff's proposed structure for including the actual use of the movement detection data, which, according to Apple, does not correspond to the recited function. (*Id.*) Apple also says that HTC and Staff have articulated a structure that is vague and overly restrictive because they only provide citations to the specification without identifying the precise aspect of the specification that corresponds to the function. (*Id.* at 96 (citing *WMS Gaming*, 184 F.3d at 1349; *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1304-1305 (Fed. Cir. 2011)).) Apple asserts that if HTC and Staff intend for every word of the cited portions of the specification to be included in their proposed structure, that construction of the term is too narrow. (*Id.* at 96-98.)

HTC argues that Apple's proposed structure is overly vague and does not perform the recited function because it requires only a processor with "software to read and compare sensor values." (RMBr. at 94.) HTC says that Apple's proposal improperly adds an additional function by requiring the associated software to read and compare sensor values, which, according to HTC,

is generally disclosed in the specification but not with respect to the recited function at issue here. (*Id.* at 94-95 (citing JXM-13 at 8:34-38, 9:54-65).) HTC also says that this language in Apple's proposal would render the claim indefinite for failing to disclose an algorithm for accomplishing the function. (*Id.*)

HTC also argues that Apple's proposed corresponding structure does not perform the recited function in the claims. (*Id.* at 96.) According to HTC, Apple inclusion of references to Figure 8 and column 7:38-47 of the '738 patent in its construction is improper because Figure 8 does not perform the claimed function. (*Id.*) HTC asserts that the flow chart in Figure 8 does not detect movement data defining a user's intention because, with respect to Figure 8, the '738 specification states that "the microcontroller does not require an input from the user." (*Id.* at 97-98 (citing JXM-13 at 6:66-7:3).) HTC contrasts this language with language related to Figure 6 of the '738 patent that allows for a screen "to be scrolled in accordance with the user's requirements." (*Id.* at 98 (citing JXM-13 at 6:21-22, 26-28).) HTC also faults Apple's inclusion of Figure 8 because, according to HTC, the flowchart describes another function that is already present in asserted claims 4 and 36, as in the claim phrase "wherein the processing means is responsive to detected movement data to determine a most likely orientation of a computer display means." (*Id.* at 98-99 (citing JXM-13 at claim 4).) HTC argues that the use of the phrase "detected movement data" refers to a different set of data than the "detected movement data defining a user's intention" of the term at issue here. (*Id.*) However, HTC argues that the use of the term "said data" in the claim phrase "said data to provide a mode response selected from a multiplicity of stored possible modes" is clearly linked to a user's intention to perform some operation and thus, refers to back to the "detected movement data defining a user's intention." (*Id.*)

In its brief, Staff indicates that the only differences between the parties' proposed structures is Staff's and HTC's inclusion of Figure 18, versus Apple's inclusion of Figure 8 and the accompanying description for that figure in the '738 patent. (SMBr. at 73-75.) Regarding Figure 18, Staff says that this figure shows how the view of the portable computer is switched when the device is tilted by the user and that this is structure that performs the recited function at issue. (*Id.* at 74.) Regarding Figure 8, Staff asserts that this figure relates to an orientation of the display that is determined without input from the user and thus, this does not relate to the recited function. (*Id.* at 75 (citing JXM-13 at 6:66-7:3, 7:38-47).)

In its response, Apple reiterates that HTC's and Staff's proposed structure includes material that reflects a later function that uses the data after it has been determined. (CRMBr.at 88.) Regarding Figure 18, Apple asserts that HTC and Staff disregard the portion of the specification relating to Figure 18 and, according to Apple, this portion of the specification makes clear that Figure 18 has nothing to do with the determination of data and instead pertains to a response to that movement data. (*Id.* at 89 (citing JXM-13 at 3:25-27; CXM-4 at ¶ 45; CXM-26 at ¶ 26).) Regarding HTC's and Staff's criticism of Apple's inclusion of Figure 8 in its proposed structure, Apple asserts that the specification is clear that a user may cause the screen to alternate by changing hands, which a person of ordinary skill would recognize as indicative of the choice of the user. (*Id.* at 89-90 (citing JXM-13 at 6:59-66; CXM-26 at ¶¶ 27-28).)

HTC, in its response regarding Apple's inclusion of Figure 8, asserts that the named inventor recently confirmed in a deposition that the selection of a right-hand or left-hand display occurred without respect to a user's intention. (RRMBr. at 102 (citing RXM-38C at 69:12-70:7, 174:6-13).) Regarding Figure 18, HTC asserts that contrary to Apple's arguments, HTC does not contend that the corresponding structure includes everything in this figure. (*Id.* at 105-106.)

Rather, HTC says that this figure is required to the extent the index value calculated in step 110 of Figure 6 is applied to the lookup table in step 115. (*Id.* at 105 (citing JXM-13 at 6:15-18).) According to HTC, this interpretation is consistent with a plain reading of Figure 6 and with the testimony of the inventor. (*Id.* at 106 (citing RXM-38C at 186:8-20).)

As found *supra*, the "acceleration detection means" and "movement detection means" have corresponding structure including one or more sensors (31, 32) as shown in Figures 3, 4a, and 17. Thus, the Administrative Law Judge finds that the structure performing the function of the processing means in the terms at issue here must take the output from the one or more sensors 31 and 32 and determine movement data defining a user's intention. The Administrative Law Judge also finds that the "processing means" is computer-implemented and thus, the corresponding structure must include a sufficient algorithm for accomplishing the reciting function. *See Aristocrat*, 521 F.3d at 1337; *Harris*, 417 F.3d at 1249.

The Administrative Law Judge agrees with Apple that HTC's and Staff's proposed structure is too narrow in that it includes not only the algorithms that create the data defining a user's intention but also the use of the data, which is not a recited function of the processing means in these limitations. Further, the Administrative Law Judge agrees with Apple that the algorithm in Figure 8 is properly included in the corresponding structure for the processing means. HTC and Staff argue that this embodiment should be excluded because the specification states that "the microcontroller does not require an input from the user" in this embodiment to determine if the stylus is being held in the left or right hand so that the screen output will be appropriately oriented. (JXM-13 at 6:66-7:3.) However, HTC and Staff appear to be either reading an unnecessary requirement into the claim – that the "data defining a user's intention" requires an input from the user – or conflating the terms "intention" and "input." While the specification does not consider

the act of placing the computer in one's left or right hand as "input from the user," laypersons as well as those of ordinary skill in the art would understand that by placing the computer in one's left or right hand the user's intention is to have the screen output appropriately oriented, *i.e.* the data displayed on the screen will be displayed upright regardless of which hand is holding the device.

The Administrative Law Judge concludes that a person of ordinary skill in the art would understand, with respect to the limitation "processing means responsive to the output of said at least one acceleration detection means to determine detected movement data defining a user's intention" in claim 4 and the limitation "processing means responsive to the output of said at least one movement detection means to determine detected movement data defining a user's intention" in claims 28 and 36, the corresponding structure for the "processing means" to be as follows: microcontroller or processor (30) with software for performing the algorithms depicted in element 110 of Figure 6 as described in the '738 patent specification at col. 6:6-9 and elements 200 and 205 of Figure 8 as described in the specification at col. 7:38-40.

3. Claim 4— *"the processing means using said data to provide a mode response selected from a multiplicity of stored possible modes"*

The parties agree that this limitation is recited in means-plus-function format, but they disagree regarding both the scope of the claimed function and the corresponding structure for this limitation. (CMBr. at 98; RMBr. at 100; SMBr. at 76.) Apple asserts the following for the function and corresponding structure:

> Function: using said data to provide a mode response selected from a multiplicity of stored possible modes
>
> Structure: a microcontroller or processor with software to select a viewing mode from two or more viewing modes based on values from a sensor, where the viewing mode provides an arrangement of display information. ['738 patent, Abstract, col. 5:8-22; col. 6:59-7:8; col. 7:38-47; Fig. 8.]

(CMBr. at 98.) HTC and Staff agree that the function and structure should be:

> Function: using said data to provide a mode response selected from a multiplicity of stored possible modes, wherein said mode response does not include "different display modes" such as "portrait mode," "landscape mode" and "rotated mode," and requires that the page being displayed does not remain the same.
>
> Structure: microcontroller configured to operate as described in col. 2:17-25; col. 6:26-51 and Fig. 18.

(RMBr.at 100; SMBr. at 76.)

Apple asserts that the claimed function is easily identifiable and clear to a person of ordinary skill in the art such that it does not require construction. (CMBr. at 99 (citing CXM-4 at ¶ 49).) Apple says that HTC's and Staff's proposed construction includes two requirements beyond the functional language in the claim that are inconsistent with the intrinsic record and require more than is actually claimed. (*Id.* (citing *Applied Medical Resources Corp. v. U.S. Surgical Corp.*, 44 F.3d 1324, 1334 (Fed. Cir. 2006); *JVW Enterprises, Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1331 (Fed. Cir. 2005)).) Apple asserts that the specification confirms that the claimed function should be given its plain and ordinary meaning because the specification links the structure for selecting orientation modes, including a portrait mode, right hand display orientation, and left hand display orientation, to the recited "mode response" in the claim. (*Id.* at 100 (citing JXM-13 at Abstract, 2:26-31, 5:8-22, 6:59-7:8, 7:38-47, Fig. 8; CXM-4 at ¶ 51).)

Apple argues that the additional limitations required by HTC's and Staff's proposed function are not supported by the intrinsic evidence. (*Id.* at 100.) Regarding the requirement that the page being displayed does not remain the same, Apple asserts that this limitation limits the claim element to a single exemplary embodiment that describes only one particular mode and does not describe the use of data to select a mode. (*Id.* at 100-101 (citing CXM-4 at ¶¶ 53-54; JXM-13

at 2:17-25, 3:25-27, 6:21-22, 14:17-18).) Apple also asserts that this proposed limitation is ambiguous because it is open to multiple interpretations and creates further disputes over the meaning of the claim. (*Id.* at 101 (citing CXM-4 at ¶ 55).)

Regarding the requirement in HTC's and Staff's proposed construction that the mode response does not include different display modes, Apple argues that the specification and prosecution history do not support the importation of this negative limitation into the functional language. (*Id.* (citing CXM-4 at ¶ 57).) Apple says that the prosecution history does not contain clear and unambiguous statements that amount to the disavowal of claim scope represented by the inclusion of this limitation. (*Id.* at 102 (citing CXM-4 at ¶ 57).) Rather, according to Apple, the statements regarding U.S. Patent No. 6,137,468 ("Martinez") made during prosecution do not disavow or disclaim coverage of viewing or display modes universally. (*Id.* (citing CXM-4 at ¶¶ 58-59).) Apple asserts that the applicant only disavowed claim scope to the extent it was stated that "adjusting the displayed information so that the information is level, including what the reference identifies as the 'portrait mode,' 'landscape mode,' and 'rotated mode,' does not disclose the 'processing means using said data to provide a mode response selected from a multiplicity of stored modes.'" (*Id.* (citing JXM-12, Nov. 20, 2009 Amendment and Remarks at 7).) Apple says that a person of ordinary skill in the art knows the difference between the "mode response selected from a multiplicity of stored modes" in the '738 patent and the proportional leveling of the display at any degree of rotation disclosed in Martinez. (*Id.* at 102-103 (citing CXM-4 at ¶ 59).)

Regarding its proposed structure, Apple argues that the '738 patent clearly ties this claim element to the specification's description of software "to select a viewing mode from two or more viewing modes based on values from a sensor, where the viewing mode provides an arrangement of display information." (*Id.* at 103 (citing JXM-13 at Abstract, 5:8-22, 6:59-7:8, 7:38-47, Fig. 8;

CXM-4 at ¶ 61).) Apple argues that the language in the '738 patent's Abstract closely tracks the generalized language of the recited function such that a person of ordinary skill in the art would recognize that the "multiplicity of stored possible modes" corresponds to "a number of viewing modes." (*Id.* (citing CXM-4 at ¶ 61, JXM-13 at Abstract).) Apple also says that the specification explicitly identifies the portrait mode as a viewing mode and that the specification confirms to one of ordinary skill in the art that there are three viewing modes, portrait mode, right hand mode, and left hand mode, corresponding to "the multiplicity of stored possible modes." (*Id.* at 103-104 (citing JXM-13 at 6:59-7:8, 7:38-47; CXM-4 at ¶ 63).)

Regarding HTC's and Staff's proposed structure, Apple argues that one of ordinary skill would not associate the description identified by HTC and Staff with the recited function because the description describe one particular mode of operation and not a mode response selected from a multiplicity of stored modes. (*Id.* at 104 (citing JXM-13 at 2:17-25, 3:25-27, 14:17-19; CXM-4 at ¶ 64).) Apple goes on to argue that HTC's and Staff's proposed structure is vague and overly restrictive because it only provides citations to portions of the specification without explanation. (*Id.* at 104-105 (citing CXM-4 at ¶ 50-51, 54, 60-63).)

HTC argues that its proposed function is consistent with the repeated and emphatic disclaimer contained in the reissue prosecution history. (RMBr. at 101.) According to HTC, during the reissue prosecution, the patentee was faced with broad disclosure in the prior art of automatically rotating the display in response to movement of the computer and the examiner repeatedly rejected Claim 4 as anticipated by Martinez based on this disclosure. (*Id.*) HTC asserts that the examiner found that the display orientation functionality in Martinez disclosed the claim limitation at issue here. (*Id.* (citing JXM-12 at 797APPLE90016537).) In response, according to HTC, the patentee repeatedly and unequivocally disclaimed any interpretation of this claim

element that includes display orientation functionality including a portrait mode, landscape mode, or rotated mode. (*Id.* at 102-103 (citing JXM-12 at 797APPLe90016569-71).) HTC says Apple's proposed construction should be rejected because it ignores the arguments in the prosecution history used to distinguish the prior art by including structure related to the same display orientation functionality that the patentee distinguished from this claim limitation during prosecution. (*Id.* at 104 (citing JXM-12 at 797APPLE90016571).)

HTC also argues that Apple's proposal regarding the corresponding structure should be rejected because it includes language that is not found in the specification by "cherry-picking" the term "viewing mode" from the Abstract and rewriting the claim limitation to say "select a mode" rather than "provide a mode response." (*Id.* at 104-105 (citing JXM-13 at Abstract).) Finally, HTC argues that Apple's proposed construction should be rejected because it is inconsistent with the intrinsic evidence insofar as claims 67-69 describe different potential mode responses, which would be excluded by Apple's proposed corresponding structure. (*Id.* at 105-106.)

Staff asserts that HTC's and Staff's proposed function reflects the applicant's disclaimer made during prosecution in light of Martinez. (SMBr. at 76 (citing RMBr. at 100-105).) In light of this proposed function, Staff asserts that the corresponding structure is a microcontroller configured to operate as described in the '738 patent at column 2:17-25. (*Id.* at 77.) Staff also says corresponding structure is found in Figure 18 and its accompanying description in the specification. (*Id.* (citing JXM-13 at 6:26-51).) Regarding Apple's proposed structure, Staff says that while portions of the Abstract are relevant under Apple's proposed construction, those portion pertain to the disclaimed subject matter. (*Id.* at 78.) Staff also argues that Apple's proposed structure inappropriately includes the description of a program for determining whether the device is in the

user's right hand or left hand because this is done without data defining a user's intention as required by the claim. (*Id.*)

In its response, Apple disputes HTC's interpretation of the prosecution history of the '738 patent with respect to the alleged disavowal of claim scope. (*See* CRMBr. at 91-99.) According to Apple, the statements made in the prosecution history differentiate this claim limitation from the Martinez reference's display that was always level regardless of the device's rotation. (*Id.* at 98.) Apple says these statements do not support the broader disclaimer of alternative modes for displaying information as asserted by HTC. (*Id.*) Apple asserts that its proposed structure is consistent with the functional language recited in the claim and with the statements made during prosecution because the structure proposed explicitly requires that the viewing mode is selected and not simply continuous. (*Id.* at 99 (citing CXM-26 at ¶¶ 38-39).) Apple also asserts that even under HTC's proposed function, the modes depicted in Figure 8 of the '738 patent would be linked to this function and would provide alternative structures to those proposed by HTC and Staff. (*Id.* at 100-101 (citing CXM-26 at ¶ 40).) Further, Apple refutes Staff's argument that Figure 8 should not be included because it does not require an input from the user and says that this argument does not take into account the surrounding description that makes clear that the user selects the mode using either buttons or movement input. (*Id.* at 101 (citing JXM-13 at 10:47-49; CXM-26 at ¶ 28).) Apple also refutes HTC's argument that Apple's proposed structure does not find verbatim support in the specification and asserts that relevant precedent does not require verbatim quotations from the specification for corresponding structure. (*Id.* (citing *WMS Gaming*, 184 F.3d at 1349; *Uniloc USA*, 632 F.3d at 1304-1305).) Apple also asserts that there is direct support in the specification for viewing modes in Apple's construction. (*Id.* (citing JXM-13 at 5:20-22, 6:59-60).) Finally, Apple refutes HTC's argument regarding claims 67-69, asserting that these claims

describe moving between pages, which is a particular mode of operation and not selecting among different mode responses. (*Id.* at 102 (citing CXM-26 at ¶ 41; CXM-4 at ¶ 65; JXM-13 at 2:17-25, 3:25-27).) Apple says the specification of the '738 patent does not describe selecting between the scrolling mode and some other mode. (*Id.* (citing CXM-26 at ¶ 41).)

In its response, HTC argues that Apple is improperly contending that the claimed function is associated with selecting an orientation mode rather than providing a mode response. (RRMBr. at 108.) HTC refutes Apple's assertion that the Abstract delineates the scope of the terms mode and response because, according to HTC, the Abstract does not describe these terms in detail and the Abstract uses the term "viewing modes" which is not used again in the specification. (*Id.*) HTC also says that Apple's citations to the specification are inapposite to the recited function because they do not associate or clearly link the claimed "mode response" function to the display orientation functionality. (*Id.* at 109.) HTC says that Apple also ignores the distinction between the "mode response" limitation and the "orientation" limitation of claim 4 of the '738 patent. (*Id.* at 109-110.) Regarding Apple's criticism of the proposed language "requires that the page being displayed does not remain the same," HTC argues that this language is necessary to reflect the disavowal of claim scope in the prosecution history that states that in the "claimed method, the first view (e.g., a logo in 'portrait view') is not the same logo but in a 'landscape view'" (*Id.* at 112 (citing JXM-12 at 797APPLE0016570).)

Regarding the claimed function for this means-plus-function element, the parties mainly dispute the extent that the patentee disavowed claim scope during prosecution. In general, statement made during prosecution will not limit the claims scope "[a]bsent a clear disavowal or contrary definition." *August Tech. Corp. v. Camtek, Ltd*, 655 F.3d 1278, 1286 (Fed. Cir. 2011) (quoting *Home Diagnostics, Inc. v. Lifescan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004)). During

the course of the reissue prosecution, claim 4 was rejected in multiple office actions based on Martinez. First, the claim was rejected as being anticipated by Martinez, but the office action did not provide a detailed explanation of how Martinez anticipated the claim element at issue here. This portion of the office action is shown below:

> 4. Claim 4 is rejected under 35 U.S.C. 102(e) as being anticipated by Martinez et al (U.S. Letters Patent No. 6,137,468), which is hereinafter referred to as "Martinez".
>
> Martinez teaches a portable computer 300 comprising: movement detection means 702 (the sensor block 702) responsive to movement of the computer to produce an electrical output signal representative of such movement; processing means 700 and 704, (the tilt determination block 700 and the display alteration block 704) responsive to the output of said movement detection means to determine detected movement data defining a user's intention; the processing means using said data to provide a mode response selected from a multiplicity of stored possible modes; and wherein the processing means is responsive to detected movement data to determine a most likely orientation of a computer display means (706), the processing means causing the displayed information to be oriented accordingly, see Figs. 3-7, col. 4, line 28 to col. 5, line 38.

(JXM-12, May 27, 2009 Office Action at 3 (797APPLE90016494).) The applicant responded by seeking reconsideration of the rejection and arguing *inter alia*:

> Martinez et al only disclose "orientation of the display" of a computer when the computer is rotated. As best illustrated by Martinez et al in Figs. 6A to 6C, a display e.g., the letters XYZ in a logo, are caused to remain horizontal as the computer, in which the display is mounted, is rotated. However, as can readily be discerned, the material being displayed (the XYZ in a logo) remains the same material throughout the movement, whereas in the claimed invention the displayed material is selected from a multiplicity of stored possible modes, e.g., the next (or preceding page) of a book. Such a concept is nowhere taught, or even hinted at in Martinez et al.

(JXM-12, August 27, 2009 Amendment and Remarks (797APPLE900164511).) Thus, the applicant distinguished Martinez by arguing that Martinez did not describe displaying material selected from a multiplicity of stored modes but rather describes simply keeping the material the same throughout the movement of the device. As examples of the "stored possible modes," the applicant refers to the next or preceding page of a book. (*Id.*)

However, the Examiner maintained the rejection based on Martinez, stating with respect to this limitation:

> Lastly, Applicant argued that Martinez et al do not disclose the claimed limitation: "a mode response selected from a multiplicity of stored possible modes". The Examiner respectfully disagrees because Martinez does teach said claimed limitation. Particularly, Martinez does teach a mode response, e.g., a portrait mode, wherein displayed information such as visual components comprising windows 500 and 502, and icons 504-508 on the display 301, is selected from a multiplicity of stored different display modes, such as: landscape mode, portrait mode, rotated mode, see Figs. 5A-C and 6A-C, and col. 4, line 50 to col. 5, line 6.

(JXM-12, October 20, 2009 Office Action (797APPLE90016537).) The Examiner cited portions of Martinez describing keeping the displayed elements level as the device is rotated:

Turning now to FIGS. **5A–5C**, diagrams of different displays are illustrated according to the present invention. With reference to FIG. **5A**, laptop computer **300** contains windows **500** and **502** and icons **504–508**. In FIG. **5B**, laptop **300** has been rotated 90° and display **301** is now in a portrait mode. Laptop **300** has been rotated 90° in the other direction from the attitude in FIG. **5A** also resulting in display **301** presenting windows **500** and **502** and icons **504–508** in a portrait mode.

Turning now to FIGS. **6A–6C**, illustrations of a process for maintaining window objects level through changes in attitude is depicted according to the present invention. In FIG. **6A**, laptop **300** has a "level" attitude within display **301** window **600** contains object **602**, which includes the letters "X", "Y", and "Z" in a level attitude with respect to laptop computer **300**'s initial attitude. In FIG. **6B**, laptop computer **300** has been rotated 45°. As can be seen in FIG. **6B**, object **602** in window **600** remains level even though laptop computer **300** has been rotated 45°. With a further rotation to 75° from the attitude in FIG. **6A**, laptop computer **300** in FIG. **6C** shows object **602** remaining level although display **301** and window **600** have changed orientation. This process may be applied to other objects, such as window **600** or icons.

(JXM-16 at 4:50-5:6.) Subsequent to this Office Action, an interview was held at which the applicant appears to have maintained the argument that the disclosure of Martinez does not teach this limitation:

> *Atty. Pavelko argued that:*
> *(i) Martinez fails to show the claimed limitation: "stored possible modes" recited in claim 4; and*
> *(ii) Jamhbekar in view of IBM TDB fails to teach the claimed limitation: "a proximity detector that detects proximity of a user to the screen of the cellular telephone" recited in claims 75-102.*
>
> *SPE Eisen and/or PE Tran specifically pointed out that:*
> *(i) the language of claim 4 requires no memory, and Martinez does teach a portable computer 300 comprising movement detection means 702 for detecting movement data for providing a display mode response selected from a multiplicity of possible modes including landscape mode, portrait mode, and rotated mode, see Figs. 6A-6C; and*

(JXM-12, November 16, 2009 Interview Summary (797APPLE90016563).) The applicant again reiterated this argument in a further response, stating:

Even though applicant appreciates the indication of allowable subject matter in claims 104 and 105, **exemplifying** two of these embodiments, the difference of the claims under rejection are not the specific example, but rather that processing means, in response to the output of the movement detection means, **selects from a multiplicity of stored possible modes,** a mode response. There is nothing in Martinez alone, or combined with either of Kang et al or Kuga, to permit the selection of a mode response from a plurality of stored possible modes.

***

mounted, is rotated. However, as can readily be discerned, the material being displayed (the XYZ in a logo) remains the same, i.e., **level** throughout the movement, whereas in the claimed invention the displayed material is selected from a **multiplicity of stored possible modes**. Such a concept is nowhere taught, or even hinted at in Martinez et al in Figs 5A-5C, nor 6A-6C. The

***

As noted in the introduction above, the examiner is focused only on the last step of Claim 4, ("the orientation of the displayed information") but completely ignores the fact that nowhere in the reference does Martinez et al. state that there is any mode response selected from a multiplicity of stored possible modes,that is combined with the "orientation display." The examiner's allusion to "portrait mode, "landscape mode", "rotated mode" (Page 3, lines 14-18), as anticipating the claims, is simply misplaced as these are, in the examiner's own words "different display modes" and while possibly relevant to the last clause of the claim ("oriented accordingly"), the examiner makes no specific citation to where Martinez et al discloses the preceding clause of claim 4, i.e., "the processing means using said data to provide a mode response selected from a multiplicity of stored possible modes." Because "anticipation" requires "identity", not mere similarity, the absence of any claimed feature from the reference negates anticipation. See MPEP 2131. Absent the teaching for anticipation, Martinez et al with Kang et al, or alternatively with Kuga, also fails to establish a *prima facie* case of obviousness because the examiner only relies on Martinez et al for teaching the claimed limitation, which, as shown above, is not found in Martinez et al.

(JXM-12, November 20, 2009 Amendment and Remarks (797APPLE90016565-16576).)

Despite these arguments, the Examiner maintained the rejection in a subsequent office action, stating:

> Finally, Martinez does teach a mode response, e.g., a portrait mode, wherein displayed information such as visual components comprising windows 500 and 502, and icons 504-508 on the display 301, is selected from a multiplicity of stored different display modes, such as: landscape mode, portrait mode, rotated mode, see Figs. 5A-C and 6A-C, and col. 4, line 50 to col. 5, line 6.

(JXM-12, October 27, 2010 Office Action at p. 4 (797APPLE90016623).) Following this Office Action, the applicant merely amended the claim to include "at least one acceleration detection means" and the claim was allowed without further remarks regarding the element at issue here. (*See* JXM-12, February 28, 2011 Amendment and Remarks (797APPLE90016644-660), March 17, 2011 Allowance (797APPLE90016695-703).)

The Administrative Law Judge agrees with Apple that the statements made during the prosecution of the '738 patent with respect to Martinez would only exclude from the scope of claim 4 devices that maintain a level view of displayed content as the device is rotated. (*See* CRMBr. at 91-99.) The applicant consistently argued that Martinez simply did not disclose a mode response selected from a multiplicity of stored possible modes, and the Administrative Law Judge finds no indication in the prosecution history that the applicant intended to exclude "different displayed modes" from the limitation at issue here, as argued by HTC and Staff. The Administrative Law Judge also finds that the intrinsic record does not support HTC's and Staff's requirement for the function that the "page being displayed does not remain the same."

Accordingly the Administrative Law Judge finds that the function for this means-plus-function element is "using said data to provide a mode response selected from a multiplicity of stored possible modes."

Regarding the corresponding structure for this element, the parties appear to agree that the microcontroller or processor 30 is corresponding hardware in the patent for executing this

function. The parties also appear to agree that this microprocessor is insufficient structure by itself and must be coupled with appropriate software to execute the recited function. However, the parties disagree regarding which portions of the specification describe the appropriate algorithms for executing this function in the hardware. The Administrative Law Judge finds that both of the parties are improperly limiting their proposed structures in this instance. HTC's and Staff's structure excludes the orientation modes included in Apple's proposed structure and Apple's proposed structure excludes the page changing/scrolling mode included in HTC's and Staff's proposed structure. None of the parties present compelling arguments for the exclusions from their proposed structures.

As described above, the microcontroller 30 is first used with either element 110 of Figure 6 or elements 200 and 205 of Figure 8 to "determine detected movement data defining a user's intention." The specification then explains that this movement data may be used "to determine a user's requirement for a different view to be displayed on the screen" (JXM-12 at 6:27-28) or "to determine the most likely viewing angle and to adjust pixel mapping to the screen accordingly so that if a user hold the stylus in the left hand the display is inverted to that shown in Fig. 1 so that the bottom right corner, as viewed by a right handed user, becomes the top left corner as viewed by a left handed user. (*Id.* at 6:61-66.) Accordingly, the Administrative Law Judge finds that the "stored possible modes" refer to not only the page scrolling modes identified by HTC and Staff but also the orientation viewing mode identified by Apple.

The Administrative Law Judge concludes that a person of ordinary skill in the art would understand the corresponding structure for this means-plus-function element to be the following: microcontroller or processor 30 with software for performing the algorithms depicted in element 115 of Figure 6 as described in the '738 patent specification at col. 6:26-44 and Figure 18 and elements 210 and 215 and the "Yes" or "No" output of element 205 of Figure 8 as described in the specification at col. 7:40-45.

4. Claims 28— *"in which a relative lateral tilting movement causes the display of information as to one or other side of currently displayed information"*

The parties disagree regarding whether this claim term is subject to 35 U.S.C. § 112 ¶ 6. Apple asserts that this term is not written in means-plus-function format and should be given its plain and ordinary meaning. (CMBr. at 108.) HTC and Staff assert that this term is subject to 35 U.S.C. § 112 ¶ 6. (RMBr. at 106, SMBr. at 79.) HTC and Staff propose that the function for this element is "in which a relative lateral tilting movement causes the display of information stored as to one or other side of currently displayed information" with a corresponding structure including "microcontroller configured to operate as described in col. 6:26-51, and Figure 18." (*Id.*)

Apple argues that this claim language explicitly recites movement of the portable computer, manipulation of the display, and reference to the storage medium by displaying data that is stored there. (CMBr. at 109.) Apple says that HTC and Staff cannot rebut the presumption that because it does not include the word "means" this limitation is not written in means-plus-function format. (*Id.* (citing *CCS Fitness, Inv. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002)).) Apple also says this presumption is strengthened because the claim language itself provides concrete structure. (*Id.* (citing CXM-4 at ¶ 71; *Personalized Media Communications, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 703-704 (Fed. Cir. 1998)).) More specifically Apple argues that this presumption cannot be overcome for two reasons. First, Apple says that a person of ordinary skill in the art would readily recognize that the "relative lateral tilting movement" refers to the movement of the portable computer, which is previously recited in the claim. (*Id.* at 109-110 (citing CXM-4 at ¶ 72).) Second, Apple says that the claims and the specification provide additional significant structural descriptions of the portable computer that "confirms the structural context of the recited claim limitation." (*Id.* at 110.) Apple says that claim 28 itself imposes four

additional structural constraints on the claim element at issue, namely the sensor corresponding to the movement detection means, a storage medium, a display, and a microcontroller or processor. (*Id.* (citing JX-13, claim 28).) Apple also asserts that the specification provides additional descriptions of the portable computer, which "confirms to a person of ordinary skill in the art reviewing the recited element that it is referring to a particular physical apparatus described in the specification." (*Id.* at 111 (citing JXM-13 at 3:34-61, 4:27-33, 4:65-5:2, 5:64-6:2, Fig. 1, Fig. 2, Fig. 3, Fig. 4A; CXM-4 at ¶ 74; *Inventio AG*, 649 F.3d at 1356-1357).)

HTC asserts that there is no dispute that the processing means in claim 28 is a means-plus-function element, and HTC argues that the claim term at issue here defines a further functional limitation of the claimed processing means. (RMBr. at 107.) HTC asserts that it is common practice to draft a single "means" for performing more than one function and that this practice has been authorized under Federal Circuit precedent. (*Id.* at 108 (citing *Cardiac Pacemakers*, 296 F.3d at 1115).) HTC also notes that the "processing means" element and the element at issue here both come after the word "and" in the claim. (*Id.* at n. 8.) HTC says the specification of the '738 patent unmistakably associates the processing means with the function in this claim element where the Summary of Invention describes that "the processing means may be responsive to relative lateral tilting movement to cause the display of information stored as to one or other side of currently displayed information." (*Id.* (citing JXM-13 at 2:20-23).) HTC also says that the microcontroller in the '738 patent specification performs both functions of the processing means. (*Id.* (citing JXM-13 at 5:61-64, 6:2-20, Fig. 6).) HTC asserts that its proposed corresponding structure for the function in this claim element is a direct continuation of the corresponding structure for the first function of the processing means. (*Id.* at 109 (citing JXM-13 at 6:6-51).) Finally, HTC asserts that the '738 patent specification's association of the processing

means with this claimed function is consistent with statements made by Apple during prosecution of the '557 application. (*Id.* at 109-110 (citing RXM-17 at 797HTC-00763053, 797HTC-00763372; JXM-13 at 6:28-44).)

Staff argues that this element should be governed by § 112, ¶ 6 because it is written as a subpart of the "processing means" limitation that directly precedes it. (SMBr. at 79.) Staff asserts that this limitation does not disclose a function that is wholly distinct from the function described in the preceding processing means function. (*Id.*) Rather, according to Staff, the function disclosed in this element describe the effect of a "relative lateral tilting movement" as an example of how "detected movement data defining a user's intention" is processed by the processing means and Figure 18 discloses corresponding structure for this. (*Id.* at 79-80 (citing JXM-13 at 6:26-51, Fig. 18).)

Apple, in its responsive brief, also argues that HTC and Staff ignore the fact that this claim element is separated by the processing means element by a semicolon, appears in its own paragraph, and does not include any language specifically linking the two separate claim elements, which according to Apple, is further evidence that this element is not governed by § 112 ¶ 6. (CRMBr. at 104 (citing CXM-26 at ¶ 42).) Apple also argues that the prosecution history supports its conclusion because the origin of claim 28 confirms the remoteness of the "in which a lateral tilting movement" element from the processing means element. (*Id.* at 105 (citing CXM-26 ¶ 42).) According to Apple, the term at issue here was originally recited alone in a dependent claim but was later amended to add all elements of now issued claim 2 at the same time that a claim 82 was added, which later issued as claim 28. (*Id.* (citing JXM-11 at PH003764, 3768, 3779).) With respect to added claim 82, Apple notes that the applicant stated, "[l]ike allowable claim 10, new independent claim 82 requires, *inter alia*, in which a relative lateral tilting movement causes the

display of information stored as to one or other side of currently displayed information." (*Id.*) Apple asserts that this statement confirms that the "in which a relative lateral tilting movement" element is separate and apart from the processing means. (*Id.* (citing CXM-26 at ¶ 42).) Apple also argues that where the applicant intended that the processing means has this functionality, the claims included language indicating this intent. (*Id.* at 106 (citing JXM-13 at claims 1-4, 15, 36).)

Apple refutes HTC's argument regarding the placement of the word "and" in claim 28, asserting that other claims of the '738 patent show the inconsistency in HTC's position. (*Id.* at 106-107 (citing JXM-13 at claim 16, Fig. 1).) Apple also refutes HTC's argument regarding descriptions of the processing means and microcontroller in the specification as an attempt to read portions of the specification into the claims. (*Id.* at 107-108 (citing *Phillips*, 415 F.3d at 1312, 1323; *Ventana Med. Sys.*, 473 F.3d at 1181).) Furthermore, Apple says, HTC's arguments regarding the description of processing means in the specification are misplaced because the specification may describe numerous embodiments of the invention with various structures and features and the claim drafter may choose to draft claims incorporating various features in non-means-plus function format and without reference to the processing means. (*Id.* at 108.)

In its response, HTC argues that there is actually a presumption that this element is governed by § 112 ¶ 6 because it is part of the function of the claimed processing means and thus, according to HTC, Apple's arguments regarding the contrary presumption are irrelevant. (RRMBr. at 115.) Next, HTC asserts that recent testimony of the named inventor confirms HTC's and Staff's view of the claim because the inventor testified:

> Q. In claim 28, the two elements I just read to you, would your understanding be that it is a processing means that causes the display of information stored as to one or the other side of currently displayed information to be displayed on the display?
>
> A. Yeah, the processor does that.

(*Id.* at 115-116 (citing RXM-38C at 201:6-15).) HTC also asserts that Apple's position is inconsistent across the asserted claims because for certain claims Apple agrees that the processing means includes multiple functions while Apple takes the opposite approach with respect to claim 28. (*Id.* at 116.) HTC also says that Apple has failed to identify any structure in this limitation and Apple only points to the claim preamble even though no party has asserted that the preamble is limiting. (*Id.* at 117). Regarding the other structural constraints relied upon by Apple, HTC says that Apple does not explain how these elements provide structure for the term at issue. (*Id.* at 117-118.) Finally, HTC faults Apple for not putting forth any evidence regarding the plain and ordinary meaning of this term. (*Id.* at 118.)

The Administrative Law Judge finds that this term does not include the word "means" and is thus presumptively not governed by 35 U.S.C. § 112, ¶ 6. *See Personalized Media Communications v. U.S. Int'l Trade Comm'n*, 161 F.3d 696, 703-704 (Fed. Cir. 1999). The Administrative Law Judge rejects HTC's assertion that this element does include the word "means" because it is part of the claimed processing means. (*See* RRMBr. at 115.) As Apple correctly points out, this element appears in its own paragraph and is separated from the "processing means" element by a semicolon. (*See* JXM-13 at claim 28.) Regarding the use of the word "and," the Administrative Law Judge does not agree with HTC's conclusion that the placement of this word necessarily links the "processing means" element with the element at issue here. (*See* RRMBr. at 108, n. 8.) The Administrative Law Judge finds that it is more likely that the "and" indicates the end of the list of structural elements for the device and the "in which" paragraph at issue here refers back to the entire structure of the apparatus. Language used by the patentee in a number of other claims indicates that if it was the patentee's intent to link these two elements of claim 28, a more specific and clear indication would have been used. For example,

asserted claim 36 includes a "processing means" limitation followed by a "wherein the processing means" limitation. (*See* JXM-13 at 18:17-23.) Similar language linking a "processing means" element with other limitations to denote a second function for the "processing means" occurs in claims 2, 3, 4, and 15. (JXM-13 at 13:38-47, 13:61-14:3, 14:12-19, 15:44-53.) For the same reason, the Administrative Law Judge finds that had the patentee intended to claim the element at issue here as a means-plus-function element, she would have included a specific reference back to the "processing means" of the previous element in the claim.

The Administrative Law Judge also finds that because the element at issue here refers back to all of the previously recited elements in the claim, sufficient structure is included such that the presumption that this element is not governed by 35 U.S.C. § 112, ¶ 6 has not been rebutted by HTC or Staff. *See Personalized Media*, 161 F.3d at 704 ("In deciding whether either presumption has been rebutted, the focus remains on whether the claim as properly construed recites sufficiently definite structure to avoid the ambit of § 112, ¶ 6."); *see also Sage Prods. v. Devon Indus., Inc.*, 126 F.3d 1420, 1427-1428 (Fed. Cir. 1997). Accordingly, the Administrative Law Judge finds that this element is not governed by 35 U.S.C. § 112, ¶ 6 and should be given its plain and ordinary meaning as understood by a person of ordinary skill in the art.

VII. U.S. PATENT NO. 7,920,129

A. Overview

This Investigation concerns U.S. Patent No. 7,920,129, entitled "Double-Sided Touch-Sensitive Panel with Shield and Drive Combined Layer" ("the '129 patent"), which issued on April 5, 2011 and resulted from U.S. Patent Application No. 11/650,182 filed on January 3, 2007. (JXM-2 at 1.) The '129 patent names Steve Porter Hotelling and Brian Richards Land as the

inventors. (*Id.*) The '129 patent discloses multi-touch capacitive touch sensor panels created using a substrate with row and column traces formed on opposite sides of the substrate where the width of row traces are widened to shield column traces from the effects of capacitive coupling. (*Id.* at Abstract.) The asserted claims of the '129 patent read as follows:

> 1. A capacitive touch sensor panel, comprising:
>
> a first set of traces of conductive material arranged along a first dimension of a two-dimensional coordinate system, the first set of traces having one or more widths including a maximum width; and
>
> a second set of traces of the conductive material spatially separated from the first set of traces by a dielectric and arranged along a second dimension of the two-dimensional coordinate system, the second set of traces having one or more widths including a minimum width;
>
> wherein the minimum width of the second set of traces is substantially greater than the maximum width of the first set of traces at least at an intersection of the first and second sets of traces to provide shielding for the first set of traces; and
>
> wherein sensors are formed at locations at which the first set of traces intersects with the second set of traces while separated by the dielectric.
>
> 2. The capacitive touch sensor panel of claim 1, further comprising a liquid crystal display (LCD) adjacent to the touch sensor panel, the LCD emitting a modulated Vcom signal, and the second set of traces configured for shielding the first set of traces from the modulated Vcom signal.
>
> 3. The capacitive touch sensor panel of claim 1, wherein the second set of traces are widened to substantially electrically isolate the first set of traces from a liquid crystal display (LCD).
>
> 5. The capacitive touch sensor panel of claim 1, further comprising a computing system that incorporates the sensor panel.
>
> 6. The capacitive touch sensor panel of claim 5, further comprising a mobile telephone that incorporates the computing system.
>
> 7. The capacitive touch sensor panel of claim 5, further comprising a digital audio player that incorporates the computing system.
>
> 8. A mobile telephone having a capacitive touch sensor panel, the touch sensor panel comprising:

a first set of traces of conductive material arranged along a first dimension of a two-dimensional coordinate system, the first set of traces having one or more widths including a maximum width; and

a second set of traces of the conductive material spatially separated from the first set of traces by a dielectric and arranged along a second dimension of the two-dimensional coordinate system, the second set of traces having one or more widths including a minimum width;

wherein the minimum width of the second set of traces is substantially greater than the maximum width of the first set of traces at least at an intersection of the first and second sets of traces to provide shielding for the first set of traces; and

wherein sensors are formed at locations at which the first set of traces intersects with the second set of traces while separated by the dielectric.

9. A digital audio player having a capacitive touch sensor panel, the touch sensor panel comprising:

a first set of traces of conductive material arranged along a first dimension of a two-dimensional coordinate system, the first set of traces having one or more widths including a maximum width; and

a second set of traces of the conductive material spatially separated from the first set of traces by a dielectric and arranged along a second dimension of the two-dimensional coordinate system, the second set of traces having one or more widths including a minimum width;

wherein the minimum width of the second set of traces is substantially greater than the maximum width of the first set of traces at least at an intersection of the first and second sets of traces to provide shielding for the first set of traces; and

wherein sensors are formed at locations at which the first set of traces intersects with the second set of traces while separated by the dielectric.

10. A capacitive touch sensor panel, comprising:

sense traces having one or more widths including a maximum width; and

drive traces spatially separated from the sense traces by a dielectric, the drive traces having one or more widths including a minimum width, the minimum width of the drive traces being substantially greater than the maximum width of the sense traces at least at an intersection of the sense and drive traces to provide shielding for the sense traces;

wherein sensors are formed at locations at which the sense traces intersect with the drive traces while separated by the dielectric.

11. The capacitive touch sensor panel of claim 10, further comprising a liquid crystal display (LCD) adjacent to the touch sensor panel, the LCD emitting a

modulated Vcom signal, and the drive traces configured for shielding the sense traces from the modulated Vcom signal.

12. The capacitive touch sensor panel of claim 10, wherein the drive traces are widened to substantially electrically isolate the sense traces from a liquid crystal display (LCD).

14. The capacitive touch sensor panel of claim 10, further comprising a computing system that incorporates the sensor panel.

15. The capacitive touch sensor panel of claim 14, further comprising a mobile telephone that incorporates the computing system.

16. The capacitive touch sensor panel of claim 14, further comprising a digital audio player that incorporates the computing system.

17. A method for shielding a capacitive touch sensor panel from capacitive coupling of modulated signals, comprising:

forming a first set of sense traces having one or more widths including a maximum width;

orienting the sense traces along a first dimension of a two-dimensional coordinate system;

forming a second set of drive traces spatially separated from the first set of sense traces by a dielectric, the second set of drive traces having one or more widths including a minimum width, the minimum width of the drive traces being substantially greater than the maximum width of the sense traces at least at an intersection of the first and second sets of traces to provide shielding for the sense traces; and

orienting the drive traces along a second dimension of the two-dimensional coordinate system to form sensors at locations at which the sense traces intersect with the drive traces while separated by the dielectric.

18. The method of claim 17, further comprising affixing a liquid crystal display (LCD) adjacent to a side of the touch sensor panel closest to the drive traces, the LCD capable of emitting a modulated Vcom signal.

19. The method of claim 17, further comprising widening the drive traces to substantially electrically isolate the sense traces from a liquid crystal display (LCD).

21. A method for shielding a capacitive touch sensor panel from a source of capacitive coupling, comprising:

forming a first set of traces further from the source of capacitive coupling than a second set of traces, the first set of traces configured for sensing changes in mutual capacitance, the first set of traces having one or more widths including a maximum width;

orienting the first set of traces along a first dimension of a two-dimensional coordinate system;

forming the second set of traces closer to the source of capacitive coupling than the first set of traces and spatially separated from the first set of traces by a dielectric, the second set of traces having one or more widths including a minimum width, the minimum width of the second set of traces being substantially greater than the maximum width of the first set of traces at least at an intersection of the first and second sets of traces to provide shielding for the first set of traces, the second set of traces configured for being driven by low impedance driver outputs; and

orienting the second set of traces along a second dimension of the two-dimensional coordinate system to form sensors at locations at which the first set of traces intersects with the second set of traces while separated by the dielectric.

22. The method of claim 21, further comprising widening the drive traces to substantially electrically isolate the sense traces from a liquid crystal display (LCD).

24. A capacitive touch sensor panel, comprising:

sense traces formed on a first layer and arranged along a first dimension of a two-dimensional coordinate system; and

drive traces formed on a second layer spatially separated from the first layer by a dielectric, the drive traces arranged along a second dimension of the two-dimensional coordinate system;

wherein the drive traces are widened as compared to the sense traces to substantially cover the second layer except for a gap between adjacent drive traces so as to substantially electrically isolate the sense traces from a liquid crystal display (LCD);

wherein sensors are formed at locations at which the sense traces intersect with the drive traces while separated by the dielectric; and

wherein each of the drive traces is of a substantially constant width.

25. A method for shielding a capacitive touch sensor panel from coupling of modulated signals, comprising:

forming a first set of sense traces on a first layer;

orienting the sense traces along a first dimension of a two-dimensional coordinate system;

forming a second set of widened drive traces on a second layer spatially separated from the first layer, the drive traces widened as compared to the sense traces to substantially cover the second layer except for a gap between adjacent drive traces so as to substantially electrically isolate the first set of sense traces from a liquid crystal display (LCD); and

orienting the drive traces along a second dimension of the two-dimensional coordinate system to form sensors at locations at which the sense traces intersect with the drive traces;

wherein each of the drive traces is of a substantially constant width.

26. A touch sensitive computing system, comprising:

a touch processor;

a display;

a touch sensor panel adjacent to the display and coupled to the touch processor, the touch sensor panel including

sense traces formed on a first layer, and

drive traces formed on a second layer spatially separated from the first layer, the drive traces widened as compared to the sense traces to substantially cover the second layer except for a gap between adjacent drive traces so as to substantially electrically isolate the sense traces from a liquid crystal display (LCD),

wherein sensors are formed at locations at which the sense traces intersect with the drive traces; and

wherein each of the drive traces is of a substantially constant width.

27. The touch sensitive computing system of claim 26, wherein the computing system is incorporated into a mobile telephone.

28. The touch sensitive computing system of claim 26, wherein the computing system is incorporated into a media player.

(JXM-2 at 11:58-12:17, 12:21-13:21, 13:25-14:21, 14:24-16:3.)

B. Level of Ordinary Skill in the Art

Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art. *Phillips*, 415 F.3d at 1312-13. Apple, through its expert Darran Robert Cairns, Ph.D., proposes that a person of ordinary skill in the relevant art of the '129 patent at the

time of invention would have had a bachelor's degree or higher in electrical engineering, physics, or a related discipline with at least two years of experience in the design, analysis, and implementation of sensors or related technology. (CXM-27C at ¶ 6.) HTC asserts that a person of ordinary skill in the art relevant to the '129 patent at the time of the invention had a bachelor's degree in computer science, electrical engineering, or a related field and three years of experience with touch input devices. (RMBr. at 113 (citing RXM-24 at ¶ 31).) Staff says that the descriptions of the level of ordinary skill in the art of the '129 patent at the time of invention provided by the private parties are nearly identical and selection of either will not affect claim construction for this patent. (SMBr. at 81.)

The Administrative Law Judge concludes that a person of ordinary skill in the art with respect to the '129 patent would have a bachelor's degree in computer science, electrical engineering, physics or a related field and at least two years of experience with touch input devices including experience with the sensors used therein.

C. Construction of Claim Terms

1. Claims 1, 8-10, 17, 21, 24-26—*"intersect(s)"*

According to Apple and Staff, all parties agree that this term means "cross while passing above and below each other." (CMBr. at 132; SMBr. at 81.) The term as it appears in the context of these claims does refer to the crossing of the two sets of traces and does not refer to a physical touching at the crossing because the claims clearly require that the two sets of traces are separated by a dielectric material. Accordingly, the Administrative Law Judge agrees with the construction proposed by the parties and concludes that the term "intersect" means "cross while passing above and below each other."

2. Claims 1-3, 5-12, 14-17, 21, 24-25— *"capacitive touch sensor panel"*

The parties dispute whether the phrase "capacitive touch sensor panel" found in the preamble of asserted claims 1-3, 5-12, 14-17, 21, and 24-25 of the '129 patent is limiting. Apple asserts that the preamble is limiting and this phrase should be given its plain and ordinary meaning. (CMBr. at 130.) HTC asserts that the preamble is not limiting, but if found to be limiting, HTC asserts that this phrase should be given its plain and ordinary meaning. (RMBr. at 121.) Staff asserts that the preamble is not limiting, but if found to be limiting, Staff asserts that this phrase does not require construction. (SMBr. at 87.)

Apple argues that the preamble is limiting because it gives life and meaning to the body of the claims. (CMBr. at 131.) Apple asserts that one of ordinary skill in the art would rely on the phrase "capacitive touch sensor" to give meaning to the claim terms "sense traces," "drive traces," and "sensors." (*Id.* (citing CXM-5 at ¶ 52).) For example, according to Apple, one of ordinary skill in the art would interpret the claimed "sensors… formed at locations at which the sense traces interestect with the drive traces" to be capacitive sensors that detect touch. (*Id.*) Similarly, Apple asserts that one of ordinary skill would rely on that phrase to ascertain that the claimed drive traces and sense traces inter-operate through mutual capacitance to form the claimed sensors. (*Id.*) Apple also argues that the phrase "capacitive touch sensor panel" recites essential structure because it limits the claims to a panel that contains capacitive touch sensors. (*Id.*) Apple also asserts that the preamble is limiting because it provides antecedent basis for claim terms found in dependent claims. (*Id.* at 132.) Specifically, Apple states that the only antecedent basis for "the touch sensor panel" in claims 2, 11, 18 (JXM-2 at 12:10-11, 13:14-18, 13:53-54) is in the preamble of their respective parent claims 1, 10, and 17 (*id.* at 1:58, 13:1, 13:34). (CMBr. at 132.) Similarly, Apple asserts that the antecedent basis for the phrase "the sensor panel" in claims 5 and 14 (JXM-2 at

12:22-23, 13:26-27) is only found in their respective parent claims 1 and 10 (*id.* at 1:58, 13:1). (CMBr. at 132.)

HTC argues that the preamble is not limiting because the claims define a structurally complete invention and the preamble does not recite essential structure or steps necessary to give life or meaning to the claims. (RMBr. at 122.) For example, HTC asserts that the body of claim 1 includes a structurally complete invention by including two sets of conductive traces, their relative size, and the spatial and functional relationships between them. (*Id.* (citing RXM-24 at ¶ ¶ 47-51).) According to HTC, a person of skill in the art would read claim 1 in light of the specification and understand the invention to relate to the sizes and relationship of the traces and not to the particular application in which the traces are used. (*Id.*) HTC says that the purported novelty of the invention of the '129 patent relates to the design and operation of the traces and not the touch panels. (*Id.* at 123 (citing JXM-2 at 5:67-6:38, 9:55-11:8).) HTC asserts that the preamble merely gives a descriptive name to the limitations in the body of the claim and was not amended during prosecution to distinguish the prior art. (*Id.* (citing *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1434-35 (Fed. Cir. 2000); *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 809 (Fed. Cir. 2002)).)

Staff argues that the phrase "capacitive touch sensor panel" does not limit the claim because it does not provide any further structure than is set forth in the body of the claim. (SBr. at 87.) According to Staff, a person of ordinary skill in the art would recognize that the two sets of traces and sensors formed at locations where the traces intersect in the body of claim 1 of the '129 patent provides a description of a capacitive touch sensor system. (*Id.* (citing RXM-24 at ¶¶ 48-49).) Staff asserts that capacitive touch panels were known in the art and the novelty of the '129 patent's inventions is the dimensions and layout of the traces. (*Id.* at 87-88.) Staff says that Apple

has not suggested that any other types of systems would fall within the scope of the claims. (*Id.* at 88 (citing CMBr. at 131; CMX-5 at ¶¶ 51-52).) Staff also says that the word "panel" in the preamble does not give meaning to the claim because it does not identify additional structure beyond the configuration of layers of traces and dielectric described in the claim's body. (*Id.*)

In its response, Apple asserts that the claimed design and operation of the traces is in the context of a capacitive touch sensor panel and not just any generic set of traces separated by a dielectric. (CRMBr. at 128.) According to Apple, the core of the claimed invention as understood by a person of ordinary skill in the art is the design and operation of the traces in a capacitive touch sensor panel. (*Id.* (citing CXM-27C at ¶ 45).) Apple asserts that the patentee chose to use both the preamble and the body of the claim to define the subject matter of the claimed invention. (*Id.* at 129 (citing *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995); *Catalina Mktg.*, 289 F.3d at 808).) Apple faults HTC's arguments as part of HTC's alleged attempt to include non-capacitive touch sensor technology including surface acoustic wave and resistive touch sensor technology within the scope of the claims. (*Id.* at 129.)

In its responsive brief, HTC argues that Apple's proposed constructions for other terms show that the claims already provide sufficient structure because they include the concept of a capacitive touch sensor. (RRMBr. at 149.) HTC also asserts that Apple is misreading the claims to find an antecedent basis in the preamble for certain claim terms. (*Id.* at 150.) For example, HTC argues that terms "the touch sensor panel," "the sensor panel," and "capacitive touch sensor panel" in claims 5 and 11 are not the same terms and do not have the same meaning. (*Id.* (citing *Karlin Tech. Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971-972 (Fed. Cir. 1999)).)

The Administrative Law Judge concludes that the preamble is limiting because it is necessary to give life, meaning, and vitality to the claim. *Eaton Corp. v. Rockwell Int'l Corp.*, 323

F.3d at 1339. The Administrative Law Judge disagrees with HTC's and Staff's assertion that the body of claim 1 defines a complete invention and the preamble does not include any necessary structure. The Administrative Law Judge finds that the term "panel" provides structure to the invention that is necessary in order to understand the layout and arrangement of the other structural elements found in the body of the claim. The Administrative Law Judge also agrees with Apple that the phrase "capacitive touch sensor" provides necessary context required for a person of ordinary skill in the art to define terms in the body of the claims, *e.g.* the phrase enables a person of ordinary skill in the art to know that the claimed "sensors" are capacitive sensors that detect touch. Further, while HTC and Staff rely on the fact that the purported novelty of the invention of the '129 patent relates to the design and operation of the traces, neither HTC nor Staff has cited to any precedent that indicates a preamble is not limiting because the novelty of the invention is contained in the body of the claim. HTC and Staff also rely on the fact that capacitive touch sensor panels were known prior art without citation to supporting precedent. The Administrative Law Judge also finds that the language in the preamble provides the antecedent basis for terms in the body of the claims, such as "the touch sensor panel" in claim 2. *See Eaton*, 323 F.3d at 1339; *Electro Sci. Indus. v. Dynamic Details, Inc.*, 307 F.3d 1343, 1348 (Fed. Cir. 2002); *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1306 (Fed. Cir. 1999).

As the parties appear to agree that the phrase "capacitive touch sensor panel" does not require construction, the Administrative Law Judge concludes that this phrase is limiting and shall be given its plain and ordinary meaning as understood by a person of ordinary skill in the art.

3. Claims 1, 8-10, 17, 21, 24-26— *"sensor[s]"*

Apple proposes the following construction for the term "sensor" in claims 1, 8-10, 17, 21, and 24-26: "[a] capacitive sensing node or pixel consisting of two electrodes." (CMBr. at 128.) HTC and Staff agree on the following construction: "measuring or detecting elements." (RMBr. at 114; SMBr. at 81.)

Apple asserts that the plain language of the claim calls for sensors to be formed at locations where two sets of traces intersect, and thus, each sensor has an electrode on the sense trace substantially at the point of intersection and one on the drive trace at the point of intersection. (CMBr. at 128 (citing CXM-5 at ¶ 46).) Apple says that the term must also be considered in the context of the claim preamble, which recites a "capacitive touch sensor panel" and tells one of ordinary skill in the art that the sensors operate "capacitively." (*Id.*) Apple argues that both of these aspects of the claimed "sensors" are captured in its proposed construction. (*Id.* at 128-129.) According to Apple, the specification provides "direct support" for its construction because the language "sensors formed at locations at which the first set of traces intersects with the second set of traces" maps to a description in the specification for a capacitive sensing node or pixel consisting of two electrodes. (*Id.* at 129 (citing JXM-2 at 6:13-19).) Apple asserts that this is a description of the claimed sensors, and not just a preferred embodiment. (*Id.* (citing CXM-5 at ¶ 48).) Apple finds further support for its construction through repeated references in the specification to the "pixel" that consists of "two electrodes." (*Id.* (citing JXM-2 at 1:45-48, 2:15-16, 6:41-42, 6:54-58, 7:55-56).) Apple faults HTC's proposed construction as being derived solely from extrinsic evidence and as ignoring how a person of ordinary skill in the art would understand the claim term in the context of the entire patent. (*Id.* at 130.)

HTC says that its proposed construction is the plain and ordinary meaning of the term "sensor" to one of skill in the art. (RMBr. at 114 (citing RXM-24 at ¶¶ 32-41.) HTC argues that the term sensor is not used in a specialized fashion in the '129 patent or expressly defined in the specification and one of ordinary skill in the art would understand it to refer to measuring or detecting elements that apply to a wide range of touch sensor technologies where some physical stimulus is measured and some resulting signal is transmitted. (*Id.* at 115 (citing RXM-24 at ¶¶ 32-41).) HTC also asserts that this meaning is consistent with the '129 patent specification, which does not limit the sensors to a particular design and applies the term to a large category of devices beyond just capacitive multi-touch sensor panels. (*Id.* (citing RXM-24 at ¶¶ 35-36; JXM-2 at 1:7-10).)

According to HTC, Apple's construction improperly limits the claim to a preferred embodiment, *i.e.* sensors used in mutual capacitance touch sensor panels, which is only one embodiment of many disclosed in the specification. (*Id.* (citing JXM-2 at 6:13-20; RXM-24 at ¶¶ 32-41).) HTC says the specification makes clear that the term sensor applies to touch sensor panels generally, most uses of the term in the specification are not referring to sensors as in Apple's proposed construction, and Apples construction contradicts the plain and ordinary meaning of the term. (*Id.* at 116 (citing RXM-24 at ¶¶ 32-41; JXM-2 at 1:7-32).) HTC also asserts that Apple's construction further ignores the use of the term "sensor" in U.S. Patent Application No. 2006/0097991 ("the '991 application"), which is incorporated by reference into the '129 specification. (*Id.*) HTC says that the '991 application includes descriptions of sensors that do not comport with Apple's construction of the term "sensor." (*Id.* at 117 (citing RXM-24 at ¶ 37; RXM-32 at ¶ 7).) HTC argues that its proposed construction is consistent with the sensors described in the '991 application and the '129 patent specification. (*Id.*)

Staff asserts that the construction "measuring and detecting elements" for the term "sensor" is based upon the plain meaning of the word in the context of the claims. (SMBr. at 81 (citing RXM-24 at ¶¶ 38, 39, 41).) Staff faults Apple's proposed construction as redundant of the rest of the claim because the claim already requires that the sensors are formed by the intersection of two traces, which are electrodes. (*Id.*) Staff asserts that such a system is already recognized to be a capacitive system. (*Id.* at 81-82 (citing JXM-2 at 1:44-53).) Staff also asserts that while the portions of the specification cited by Apple do not support Apple's proposed construction, they do support a reading of the claims as a whole to be directed toward a mutual capacitance system. (*Id.* at 82 (citing CMBr. at 129; JXM-2 at 1:45-48, 2:15-16, 6:13-19, 6:41-42, 6:54-58, 7:55-56).)

Regarding HTC's characterization of Apple's proposed construction, Staff does not agree with HTC that Apple's proposed construction reads a preferred embodiment into the claim. (*Id.* (citing RMBr. at 115-116).) Staff also does not agree with HTC's position that its construction allows for non-mutual capacitance systems to come within the literal scope of the claims. (*Id.*) Staff says that discussions regarding non-mutual capacitance touch sensor systems in the '129 specification describe the state of the art in general and not the scope of the invention. (*Id.* 82-83 (citing RXM-24 at ¶¶ 35-36; JXM-2 at 1:7-10, 1:30-32).) Staff also faults HTC's reliance on the '991 application. (*Id.* at 83-84.) Staff says that the '129 patent incorporates the entirety of the '991 application without reference to any specific passage and only to the extent it contains examples of multi-touch panels, which does not convert the '991 application's disclosure of non-mutual capacitance sensors into the invention of the '129 patent. (*Id.* (citing *Advanced Display Sys. v. Kent State University*, 212 F.3d 1272, 1283 (Fed. Cir. 2000); *Modine Mfg. Co. v. U.S. Int'l Trade Comm'n*, 75 F.3d 1545, 1553 (Fed. Cir. 1996); *Fifth Generation Computer Corp. v. International Business Machines Corp.*, 416 Fed. Appx. 74, 80 (Fed. Cir. 2011)).)

In its responsive brief, Apple faults HTC's arguments as ignoring the surrounding claim language and teachings in the specification. (CRMBr. at 110.) Specifically, Apple asserts that the claim language mandates the sensors be capacitive and have a particular structure, contrary to HTC's conclusion that the sensors can include "a wide range of sensor technologies." (*Id.* at 11 (citing RMBr. at 115).) Regarding HTC's argument that Apple's proposed construction limits the claims to a preferred embodiment, Apple asserts that no alternative description of sensors formed at the trace intersections is disclosed in the patent. (*Id.* at 112.) Apple also faults HTC's reliance on the '991 application. (*Id.* at 113.) Apple says that the '991 application was incorporated into the '129 patent only to the extent it shows examples of multi-touch panels. (*Id.* at 114 (citing JXM-2 at 1:38-43; CXM-27C at ¶ 13).) According to Apple, HTC relies upon embodiments in the '991 application that are not multi-touch panels. (*Id.*) Apple also asserts that one of ordinary skill in the art would not find the examples cited by HTC relevant to the claimed invention of the '129 patent. (*Id.* at 114-115.)

HTC responds that Apple's construction is inconsistent with Apple's position that the phrase "capacitive touch sensor" in the claim preamble should be given its plain and ordinary meaning. (RRMBr. at 144 (citing CMBr. at 130).) HTC also asserts that Apple has provided no alternative evidence as to what the ordinary meaning of the term "sensor" is even though Apple criticizes the meaning put forth by HTC and Staff. (*Id.* at 145.) HTC also faults Apple for relying on portions of the specification that do not use the term "sensor," for proposing a construction that renders other claim language superfluous, and for proposing a construction that adds more uncertainty to the claim. (*Id.* at 146.)

The Administrative Law Judge finds that HTC's and Staff's construction is too broad and does not contemplate the context of the claim in defining the term. As found *supra*, the claim

preamble is limiting and provides necessary context required for a person of ordinary skill in the art to define terms in the body of the claims. Thus, the preamble phrase "capacitive touch sensor," informs a person of ordinary skill in the art that the sensors in the body of the claim are capable of measuring capacitance and detecting touch. However, HTC's and Staff's construction refers to a generic measuring or detecting element without limitation. The Administrative Law Judge also rejects HTC's argument that the '991 application supports its broad construction. The '129 specification indicates that the '991 application is only incorporated to the extent it provides "[e]xamples of multi-touch panels," and not examples of the present invention. (*See* JXM-2 at 1:38-43.) The asserted claims of the '129 patent are unambiguously directed toward capacitive touch sensor panels, and the incorporation by reference does not convert the disclosure of sensors in multi-touch panels incorporating surface wave technologies (*see* RMBr. at 117) in the '991 application into the invention of the '129 patent. *See Modine Mfg.*, 75 F.3d at 1553; *Fifth Generation Computer*, 416 Fed. Appx. at 80 ("we do not agree... that every concept of the prior inventions is necessarily imported into every claim of the later patent."). Further, the Administrative Law Judge agrees with Staff that one of ordinary skill in the art would understand the claims to be directed to a mutual capacitance system. However, one of ordinary skill would also recognize that the sensors are the portion of this system that is configured to measure mutual capacitance. While the "sensors" in the relevant claims do not derive antecedent basis from the "capacitive touch sensor panel" in the preamble, one of ordinary skill in the art would recognize that the "sensors" are capacitive touch sensors because those are the only type of sensors described or contemplated in the '129 patent specification for the capacitive touch sensor panels of the invention.

Regarding Apple's construction, the Administrative Law Judge agrees with Staff insofar as Apple's construction unnecessarily and redundantly requires that the sensors include two electrodes. One of ordinary skill in the art would understand from the '129 patent specification that the patentee clearly equates the terms traces and electrodes. (*See e.g.*, JXM-2 at 1:48, 6:13-66.) Thus, because the sensors in the claims are formed at the intersection of the first and second sets of traces, one of ordinary skill would understand that the sensors necessarily include two electrodes.

Based on the foregoing, the Administrative Law Judge concludes that the term "sensors" should be construed to mean "elements for measuring or detecting capacitance."

4. Claims 3, 12, 19, 22, 24-26— *"substantially electrically isolate"*

Apple asserts that the term "substantially electrically isolate" found in claims 3, 12, 19, 22, and 24-26 should be given its plain and ordinary meaning. (CMBr. at 116.) HTC asserts that this term is indefinite. (RMBr. at 118.) Staff asserts that this term does not require construction. (SMBr. at 85.)

Apple asserts that the word "substantially" does not need to be construed because it has a plain and well-understood English meaning, which is "considerably" or "largely but not wholly." (CMBr. at 116.) Apple argues that HTC cannot establish that this term is insolubly ambiguous and not amenable to construction in order to meet its burden of proving indefiniteness by clear and convincing evidence. (*Id.* (citing *Novo Indust. L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1358 (Fed. Cir. 2003)).) According to Apple, the Federal Circuit routinely rejects arguments that expressions of degree or approximation, including the term "substantially" are indefinite. (*Id.* at 117 (citing *Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116 (Fed. Cir. 2002); *Andrew Corp. v.*

Gabriel Elecs. Inc., 847 F.2d 819 (Fed. Cir. 1988); *Ecolab Inc. v. Envirochem, Inc.*, 264 F.3d 1358 (Fed. Cir. 2001)).) Apple also asserts that ITC precedent has consistently held that the term "substantially" is not indefinite. (*Id.* (citing *Certain Mems Devices And Products Containing Same*, USITC Inv. No. 337-TA-700, Initial Determination at *33, 49-50, 2010 WL 5646142 (Dec. 23, 2010); *Certain Semiconductor Memory Devices And Products Containing Same*, USITC Inv. No. 337-TA-414, Initial Determination at *49-50, 1999 WL 1076722 (Nov. 29, 1999); *Certain Insect Traps*, USITC Inv. No. 337-TA-498, Initial Determination at *27, 2004 WL 2183865 (Sept. 10, 2004)).)

Apple argues that Federal Circuit precedent requires that the term "substantially" cannot be evaluated divorced from the claim language and the operation of the claimed invention as described in the specification. (*Id.* at 118 (citing *Medrad, Inc. v. MRI Devs. Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005)).) Apple argues that the '129 patent does not assign anything other than the plain meaning to the term "substantially," which is used to avoid a strict numerical boundary. (*Id.* (citing CXM-5 at ¶ 24; *Ecolab*, 264 F.3d at 1366-67).) Apple says the intrinsic record illuminates why this term is understood and not indefinite. (*Id.*) Specifically, Apple says the specification states that one of the primary reasons for widening the drive traces is to shield electromagnetic noise from certain types of LCD displays that causes capacitive coupling and interferes with the ability to sense touch events, and widening the drive traces avoids the need for a separate shield layer. (*Id.* at 118-119 (citing JXM-2 at 2:37-40, 10:48-51, 10:61-65, 10:67-11:8; CXM-5 at ¶¶ 25-27).) According to Apple, it is well understood that noise from capacitive coupling cannot be prevented in its entirety, which leads to the use of the term "substantially" in the claims to avoid a strict numerical boundary. (*Id.* at 119-120 (citing CXM-5 at ¶ 28; *Ecolab*, 264 F.3d at 1366).) Apple asserts that read in the context of the claim, the term "substantially" requires considerable

electrical shielding such that other shielding measures, such as a separate shield layer, are minimized or not required, and thus, the term is used in accordance with its plain and ordinary meaning to mean "considerable in extent" or "largely but not wholly that which is specified." (*Id.* at 120 (citing CXM-5 at ¶ 28).) Apple also asserts that this meaning is consistent with dictionary definitions of the term at the time of invention, which include the definitions "considerable in quantity" and "largely but not wholly that which is specified." (*Id.* (citing CXM-5 at ¶ 29; CXM-21 at 1176).)

HTC argues that the claims, specification, and prosecution history of the '129 patent fail to provide any objective standards by which to delineate the scope of this term, and thus any claim in which this term appears is invalid as indefinite under 35 U.S.C. § 112, ¶ 2. (RMBr. at 118.) In support of this argument, HTC says that the term "substantially electrically isolate" is inherently imprecise and a person of ordinary skill in the art would be unable to determine what level of electrical isolation is sufficient to be substantial within the scope of the claims. (*Id.* at 119.) HTC asserts that the term "substantially electrically isolate" does not have a plain and ordinary meaning to one of ordinary skill in the art and the '129 patent specification and prosecution history do not supply a meaning for the phrase. (*Id.* (citing RXM-24 at ¶ 43).) Further, HTC argues that the '129 patent must provide objective criteria for determining what level of electrical isolation is substantial. (*Id.* at 119-120 (citing *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005)).) HTC asserts that the '129 patent does not provide any quantitative metric or testing method demonstrating the magnitude of electrical isolation that is sufficient to be within the scope of the claims. (*Id.* at 120 (citing RXM-24 at ¶ 45).) However, HTC admits that one of ordinary skill would understand that measurement of electrical isolation on the columns of a touch panel is well known in the art, *e.g.* one would have known that one could measure the signal to

noise ratio of the columns to gain a quantitative measure of the degree of electrical isolation. (*Id.*) HTC asserts that this knowledge in the art does not provide a boundary for defining what amount of electrical isolation falls within the claims, and under similar circumstance, HTC states that other courts have found this lack of an objective standard renders the term indefinite. (*Id.* (citing *Ex Parte Lazzara*, No. 2007-0192, 2007 WL 5063473 (Bd. Pat. App. & Interf. Nov. 13, 2007); *KLA-Tencor Corp. v. Xitronix Corp.*, No. A-08-CA-723-SS, 2011 WL 318123 (W.D. Tex. Jan. 31, 2011)).)

According to Staff, this term is self-defining and for two items to be substantially electrically isolated, they must be significantly, but not necessarily completely, electrically isolated. (SMBr. at 85-86.) Staff asserts that the explanation of electrical isolation in the '129 patent specification is consistent with the plain language of the claim term, which comports with the ordinary meaning of the term. (*Id.* at 86 (citing JXM-2 at 3:33-35, 10:61-65).) Staff further asserts that the addition of the term "substantially" to "electrically isolated" does not make the term ambiguous. (*Id.* (citing *Ecolab*, 264 F.3d at 1366; *Verve*, 311 F.3d at 1120; CXM-5 at ¶¶ 25-29, CXM-21).)

In its response, Apple asserts that one of ordinary skill in the art would be able to determine whether a capacitive touch panel practices the '129 patent claims as the meaning of the phrase "substantially electrically isolate" is clear in the context of the language in the claims and the specification. (CRMBr. at 131 (citing CXM-27C at ¶ 50).) Specifically, Apple cites portions of the specification to allegedly show that one of ordinary skill in the art would understand the claim language to require the prevention of capacitive coupling from an LCD display to the sense traces. (*Id.* (citing JXM-2 at 2:37-40, 10:61-65; CXM-27C at ¶ 49).) Apple asserts that Federal Circuit precedent shows that the numerical precision demanded by HTC's arguments is not required for

the term to be definite. (*Id.* at 132 (citing *Haemonetics Corp. v Baxter Healthcare Corp.*, 607 F.3d 776, 783 (Fed. Cir. 2010); *Ecolab*, 264 F.3d at 1366-67).) Apple also asserts that the specification of the '129 patent includes a numerical example of a width of traces that would accomplish the goal of preventing capacitive coupling with the LCD and compares the invention with the prior art in which a separate shielding layer was needed. (*Id.* at 133 (citing JXM-2 at 10:56-65, 11:5-8).) Thus, according to Apple, the '129 patent tells one of ordinary skill that the column traces are substantially electrically isolated from the LCD with a given noise output when the row traces are much wider such that a separate shield layer is not required, and one could adopt the claimed design to substantially electrically isolate the column traces from the capacitively coupled noise such that a separate shield layer is not needed. (*Id.* at 133-135 (citing CXM-27C at ¶¶ 52-53, 57; JXM-2 at 10:67-11:1, Absract).) Apple further asserts that the knowledge and common industry techniques available to one of ordinary skill in the art undermine HTC's arguments because industry techniques are available to measure capacitively coupled noise and touch panel design is generally concerned with how a touch sensor panel will feel to the user, which is affected by LCD noise. (*Id.* at 134-135 (citing CXM-27C at ¶¶ 54, 56, 57; JXM-2 at 2:37-40).) Apple concludes that HTC has failed to meet its burden of proving indefiniteness by clear and convincing evidence because the '129 patent provides ample guidance as to the reasonable meaning of "substantially." (*Id.* at 135 (citing *Haemonetics*, 607 F.3d at 783; *Hearing Components, Inc. v. Shure, Inc.*, 600 F.3d 1357, 1366 (Fed. Cir. 2010)).)

HTC responds that Apple's arguments are flawed because Apple attempts to define the word "substantially" with the word "considerable," which is equally unmeasurable; Apple cannot overcome the precedent requiring an objective standard in the specification; and inventor testimony shows that the inventors knew of objective criteria for measuring whether electrical

isolation was substantial but chose not to disclose it. (RRMBr. at 121.) HTC asserts that Apple's use of the term "considerable" instead of "substantial" does not support Apple's conclusion because that term also provides a degree for which the '129 patent provides no standard for measuring that degree. (*Id.* at 122 (citing *Seattle Box Co. v. Indus. Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984)).) HTC also faults Apple's discussion of the plain and ordinary meaning of substantially for failing to provide any citations to the patent specification. (*Id.* (citing CMBr. at 120).) HTC also faults Apple for referencing electrical shielding rather than electrical isolation even though the '129 patent does not equate shielding with isolation. (*Id.* at 122-123 (citing JXM-2 at Claims 10, 12.) HTC next faults Apple for indicating that electrical isolation is substantial when shielding measures such as a separate shield layer are minimized or not required because this fails to provide guidance to one of ordinary skill in the art. (*Id.* at 123-124.) HTC also asserts that inventor testimony obtained after the initial claim construction briefs were filed shows that the inventors had objective criteria that were not disclosed in the '129 patent. (*Id.* at 125-128 (citing RXM-36C; RXM-37C.)

The Administrative Law Judge finds that the claim phrase "substantially electrically isolate" is not insolubly ambiguous, and the usage of this term and descriptions related thereto in the '129 patent comport with the plain and ordinary meaning of the term as would be readily understood by one of ordinary skill in the art. Significantly, HTC admits that the "measurement of electrical isolation on the columns of a touch panel is well known in the art," and that one of ordinary skill in the art would know to "measure the signal to noise ratio of the columns to gain a quantitative measure of the degree of electrical isolation." (RMBr. at 120.) Thus, HTC's point of contention is not with the phrase "electrically isolate," but rather it is with the addition of the word "substantially," which according to HTC, requires some objective standard of measurement that

HTC claims is not found in the intrinsic record. The Administrative Law Judge agrees with Apple and Staff that the addition of this word does not make the term ambiguous. The '129 patent specification teaches that an LCD display attached to a capacitive touch sensor panel can cause electromagnetic noise to appear on the panel. (*See* JXM-2 at 2:37-40 ("when a transparent capacitive touch sensor panel is bonded to a liquid crystal display..., a modulated Vcom layer in the LCD can couple onto the columns of the sensor panel, causing noise to appear on the columns").) The specification goes on to explain that this noise can be reduced by widening the drive traces on the panel: "[b]ecause these wider rows **936** are not isolated but are instead either held at a DC voltage or stimulated with a stimulation voltage, these wider rows **936** act as a shield, preventing a modulated Vcom layer from capacitively coupling onto columns **938**." (JXM-2 at 10:61-65.) Thus, one of ordinary skill in the art would understand that substantial electrical isolation refers to shielding or prevention of capacitive coupling from an LCD display to the sense traces.

Further, contrary to the assertions of HTC, the specification does provide objective standards by which electrical isolation can be accomplished. First, the specification provides a specific numerical example for the width of rows with which one of ordinary skill in the art would recognize that electrical isolation can be accomplished:

> FIG. 9 is a perspective view of an exemplary DITO substrate 900 (with its thickness greatly exaggerated for purposes of illustration only) **illustrating the widening of rows 936 for shielding purposes** and for providing a uniform appearance according to embodiments of this invention. **To prevent the capacitive coupling** of a modulated Vcom layer onto columns 938, rows 936 may be widened as shown in FIG. 9. The **number of rows 936 does not change, but they are now much wider (e.g. about 4.97 mm)**, leaving only about 30 microns of space between them.

(JXM-2 at 10:52-61 (emphasis added).) One of ordinary skill in the art would also recognize that the specification also discloses that the elimination of the need for a separate shielding layer is another standard by which substantial electrical isolation may be measured. (*See* JXM-2 at 11:5-8 ("An alternative to these wide rows is to add another layer of ITO as a shield between the LCD and DITO, but this would represent extra cost, extra thickness, light loss, and unwanted color shift").) Further, the use of the word "substantially" reflects the fact that one of ordinary skill in the art would understand that the complete cancellation of noise is not possible and thus a perfect isolating shield cannot be achieved. (*See* CXM-5 at ¶ 27; CMBr. at 119-120.)

Based on the foregoing, the Administrative Law Judge finds that this term would be readily understood by one of ordinary skill in the art, and thus, it does not render the claim indefinite and does not require construction.

5. Claims 10-12, 17-19, 22, 24-26— *"drive traces"*

Apple and Staff propose that the term "drive traces" should be construed to mean "traces that receive a stimulus signal for injecting charge into intersecting sense traces at the intersecting locations."[7] (CRMBr. at 116; SMBr. at 88.) HTC proposes that the term should be construed to mean "traces that are driven by an electrical signal." (RMBr. at 124.)

Apple asserts that the claim language and the functions for the two types of traces ties the drive traces and sense traces together such that the terms should be construed together. (CMBr. at 121-122.) Apple faults HTC's proposed construction for failing to take into account the

[7] In its opening brief Apple listed the following as its construction for this term: "traces that receive a stimulus signal for injecting charge into intersecting sense traces through mutual capacitance at the intersecting locations." (CMBr. at 121.) However, in its responsive brief, Apple indicates that it had come to an agreement to adopt Staff's proposed construction of the term, but the agreement came too late to alter its brief to reflect the agreement. (CRMBr. at 116.) The removal of the phrase "through mutual capacitance" from Apple's proposed construction does not appear to affect

inter-related operation of the sense and drive traces. (*Id.* at 122 (citing CXM-5 at ¶ 30).) Apple says that the claim languages teaches that the drive traces are widened to shield the sense traces at the intersections and the drive and sense traces form sensors at the intersections, which is relevant to one of ordinary skill's understanding of the terms because it teaches that the pairs of drive and sense traces act together. (*Id.* (citing CXM-5 at ¶ 32).) According to Apple, this relationship is further informed by the preamble, which shows the sensors formed at the intersections are capacitive and are used to detect touch. (*Id.*) Apple asserts that after being informed by the language of the claim, one of ordinary skill would look to the specification to further flesh out the meaning of the terms because they had no customary meaning in the art at the time of the invention. (*Id.* (citing Honeywell Int'l Inc. v. Universal Avionics Sys. Corp., 488 F.3d 982, 991 (Fed. Cir. 2007)).) According to Apple, upon review of the specification one of ordinary skill in the art would recognize that portions of the specification describing the operation of the row and column traces in a capacitive touch panel would recognize that the claims reciting drive and sense traces are directed at these embodiments in the specification. (*Id.* at 123 (citing JXM-2 at 5:57-60, 6:1-67; CXM-5 at ¶ 34).) Apple argues that the specification's description of drive trace operation is not just a description of a preferred embodiment, but rather, defines what a drive trace is in the context of the claims' recitation that "sensors are formed at locations at which the sense traces intersect with the drive traces." (*Id.* at 124 (citing CXM-5 at ¶ 37).)

Apple faults HTC's construction as being completely divorced from the language of the claims and specification. (*Id.* at 124.) Apple asserts that HTC's construction of "traces that are driven by an electrical signal" would apply to any traces that carry an electrical signal including the

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the arguments raised by Apple in its opening brief.

metal traces in the specification used for connecting off-panel driver circuitry to the drive traces. (*Id.* AT 124-125 (citing JM-2 at Fig. 5; CXM-5 at para 38).) Apple also states that HTC's construction would read on the sense traces as well, which, according to Apple, is a nonsensical result. (*Id.* at 125 (citing JXM-2 at 6:46-53; CXM-5 at para 39).) Apple also argues that HTC's construction "flips the concept of drive traces on its head" because the drive traces are so named for driving, by injecting charge, into the intersecting sense traces and not named for being driven by an electrical signal. (*Id.* (citing JXM-2 at 6:46-51; CXM-5 at ¶ 39).)

HTC argues that the term "drive traces" should have its plain and ordinary meaning, which is consistent with HTC's construction of "traces that are driven by electrical signal." (RMBr. at 124.) HTC says that the term "drive traces" is used broadly in the touch sensor technology field to refer to a variety of touch technologies and predates capacitive touch sensor panels. (*Id.* at 125 (citing RXM-24 at ¶¶ 51-64).) According to HTC, the term refers to traces driven or stimulated by an electrical signal and is used to distinguish them from other types of traces. (*Id.*) Thus, HTC says, "drive traces" is a term of art with a well-defined meaning across a broad range of touch sensor technologies other than in mutual capacitance touch sensor panels, and HTC says that in those other technologies drive traces do not inject charge into intersecting sense traces. (*Id.* at 125-126.) HTC also says the '129 patent uses the term consistent with this broad, plain and ordinary meaning by using the term "trace" to refer to a line or row of conductive material and stating that "[e]ach panel row input 122 can drive one or more rows in panel 124." (*Id.* at 125 (citing JXM-2 at 5:57-67, 5:28-29).)

HTC faults Apple's and Staff's construction for using the term "traces" as part of their construction because "their construction constitutes taking the one word adjective 'drive' and transforming it into a 16 word modifier." (*Id.*) HTC also says Apple is attempting to improperly

import features from the preferred embodiment into the claims because the preferred embodiment describes the functional relationship, *i.e.* mutual capacitance, between the separate drive and sense trace components. (*Id.* (citing JXM-2 at 6:46-50).) According to HTC, Apple attempts to import the whole embodiment, *i.e.* the separate drive and sense trace component and their mutual capacitance relationship, "by pushing it all into one term without support," which is not the way drive traces are defined in the specification. (*Id.* at 126.) HTC also faults Apple's and Staff's construction for including the phrase "intersecting sense traces" because it would vitiate other language in the claims. (*Id.* at 127 (citing *Elekta Instrument v. OUR Scientific Int'l Inc.*, 214 F.3d 1302, 1307 (Fed. Cir. 2000); *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1562 (Fed. Cir. 1991)).)

Staff agrees with Apple that the terms "drive traces" and "sense traces" should be construed together. (SMBr. at 88.) Staff says that the specification's teaching that operation of the claimed drive traces as connected to the operation of the claimed sense traces would have been recognized by one of ordinary skill in the art as defining what a "drive trace" is in the claims. (*Id.* at 88-89 (citing JXM-2 at 6:13-18, Fig. 2a; CXM-5 at ¶ 37).) Staff says the specification teaches that the drive traces inject charge into intersecting sense traces through mutual capacitance, thus driving the sense traces and allowing for a touch event to be detected by measuring the signal on the intersecting sense traces. (*Id.* at 89 (citing JXM-2 at 6:26-29, 6:46-7:16; CXM-5 at ¶ 36).) Staff also agrees with Apple that the drive traces must be defined in terms of their effect on the sense traces because the '129 patent discloses other traces that use an electrical signal that are not the claimed drive traces. (*Id.* (citing CMBr. at 124-125).) Staff asserts that the term did not have an ordinary meaning to one of skill in the art at the time of invention and that HTC's interpretation of the term does not aid in understanding the term. (*Id.* at 90 (citing CXM-5 at ¶ 33; RXM-24 at ¶ 52).)

Staff also faults HTC's construction for indicating that the drive traces are driven by an electrical signal rather than indicating that they drive using an electrical signal. (*Id.* (citing CMBr. at 125; JXM-2 at 6:46-51; CXM-5 at ¶ 39.)

In its responsive brief, Apple asserts that HTC's construction disregards the context in which the term appears in the claims. (CRMBr. at 116 (citing *Phillips*, 415 F.3d at 1314).) Apple says that the context of the claim tells one ordinary skill in the art that the intersection of traces form sensors and this shared function determines the particular meaning of the terms "drive traces" and "sense traces." (*Id.* at 117 (citing *Phillips*, 415 F.3d at 1314; CXM-27C at ¶ 20).) Apple says its construction properly relates to this shared function of the traces while HTC's construction relates to what the term means in different unclaimed technology. (*Id.* (citing RMBr. at 126).) Apple acknowledges that the term "drive traces" was used in the art before the invention of the '129 patent, but Apple asserts that the meaning of the term differs depending on its context. (*Id.* (citing CXM-27C at ¶ 21).) Apple says that in other touch sensor applications, the drive traces do not inject charge into the intersecting sense traces, making it impossible for those intersections to form sensors or a capacitive touch sensor panel as required by the claims. (*Id.* at 118 (citing RMBr. at 126; CXM-27C at ¶¶ 22-23).) Apple also asserts that its construction does not import a preferred embodiment into the claims because, according to Apple, the claims themselves require Apple's construction, the specification uniformly describes the drive traces according to Apple's construction, and no other meaning of the word "drive" is consistent with a capacitive touch sensor panel having the sensors required by the claims. (*Id.* at 121 (citing RMBr. at 126; CXM-27C at ¶ 30).) Apple also asserts that no claim language would be read out of the claim by adopting its construction. (*Id.* at 122.)

In its response, HTC refutes Apple's argument that HTC's construction is overbroad and says that Apple's argument overlooks the remainder of the claim language, which serves to narrow the range of possibilities for a device that practices the claims. (RRMBr. at 130 (citing CMBr. at 124).) HTC says that whether drive traces have corresponding sense traces is not inherent in the meaning of the phrase, and to the extent that the claims require a drive trace to have a corresponding sense trace, that requirement exists in other parts of the claim and is a function of the claim as a whole. (*Id.* at 130-131.) HTC also asserts that Apple's and Staff's construction excludes every drive trace described in the preferred embodiment with the exception of one example. (*Id.* at 132.) According to HTC, the specification discloses that only one drive trace at a time receives a stimulus signal but Apple's and Staff's construction requires that multiple drive traces receive a stimulus signal. (*Id.* at 132-135 (citing (JXM-2 at 1:63-64, 2:6-14, Fig. 2a).)

The Administrative Law Judge finds that nothing in the claim language at issue requires a specialized meaning for the term "drive traces" beyond the plain and ordinary meaning as understood by one of ordinary skill in the art at the time of invention. Rather, the Administrative Law Judge agrees with HTC that one of ordinary skill in the art would not infer from the mere use of the term "drive traces" that the term requires corresponding sense traces or a definition in terms of the "sense traces" recited elsewhere in the claim. The Administrative Law Judge finds that the relationship between the "drive traces" and the "sense traces" in the claims is described in other elements of the claims and is a function of the claims as a whole. For example, claim 10 describes the relative widths and separation of the "drive traces" and "sense traces" and also that sensors are formed at trace intersections. (JXM-2 at 13:2-13.) As described previously, one of ordinary skill in the art would understand that the sensors formed at the trace intersections measure mutual capacitance, and it is to elucidate the relationship between the drive and sense traces that Apple and

Staff propose to include in the construction of "drive traces" and "sense traces." Thus, the Administrative Law Judge finds that Apple's and Staff's construction includes an unnecessary tie between the "drive traces" and "sense traces" that is inherent in the type of sensors formed.

Further, the Administrative Law Judge finds that although the term "drive traces" is not present in the specification, outside of the claims, one of ordinary skill in the art would understand that the '129 patent specification clearly equates drive traces or driving lines with the row traces referred to throughout the specification. (*See* JXM-2 at 5:58-60 ("... plurality or row traces or driving lines...").) With respect to row traces, the specification repeatedly describes these traces as being stimulated by an electrical signal:

> To scan a sensor panel, *a stimulus can be applied to one row* with all other rows held at DC voltage levels. When a row is stimulated, a modulated output signal can be capacitively coupled onto the columns of the sensor panel.
>
> ***
>
> In addition, channel scan logic **110** can control the driver logic and *stimulation signals being selectively applied to rows* of multi-touch panel **124**.
>
> ***
>
> Each panel row input **122** can *drive one or more rows* in panel **124**.
>
> ***
>
> The capacitance between row and column electrodes appears as a stray capacitance on all columns when the given row is held at DC and as a mutual capacitance Csig *when the given row is stimulated with an AC signal.*
>
> ***
>
> In the example of FIG. 2a, *AC stimulus Vstim **214** is being applied to one row*, with all other rows connected to DC.
>
> ***

> Referring again to FIG. 2a, as mentioned above, *Vstim signal **214** can be applied to a row* in multi-touch panel **200** so that a change in signal capacitance can be detected when a finger, palm or other object is present. Vstim signal **214** can be generated as one or more pulse trains **216** at a particular frequency, with each pulse train including a number of pulses. Although pulse trains **216** are shown as square waves, other waveshapes such as sine waves can also be employed. A plurality of pulse trains **216** at different frequencies can be transmitted for noise reduction purposes to detect and avoid noisy frequencies. *Vstim signal **214** essentially injects a charge into the row*, and can be applied to one row of multi-touch panel **200** at a time while all other rows are held at a DC level. However, in other embodiments, the multi-touch panel can be divided into two or more sections, with *Vstim signal **214** being simultaneously applied to one row* in each section and all other rows in that region section held at a DC voltage.

(JXM-2 at 1:63-64, 5:10-12, 5:28-29, 6:26-29, 6:46-48, 7:23-39 (emphasis added).) The Administrative Law Judge finds that these examples are essentially in accord with the definition of drive traces proposed by HTC.

Based on the foregoing, the Administrative Law Judge concludes that the term "drive traces" should be construed to mean "traces that receive an electrical stimulus signal."

6. Claims 10-12, 17, 19, 24-26— *"sense traces"*

Apple and Staff propose that the term "sense traces" should be construed to mean "traces that receive a charge from the intersecting drive trace at the intersecting locations and are used in detecting a touch event."[8] (CRMBr. at 116; SMBr. at 90.) HTC proposes that the term should be construed to mean "traces used for sensing electromagnetic events." (RMBr. at 127.)

Apple asserts that the specification provides a precise description of what the claimed "sense traces" are. (CMBr. at 125-127 (citing JXM-2 at 6:46-7:15, Fig. 2b, Fig. 2c; CXM-5 ¶ 40).)

[8] In its opening brief Apple listed the following as its construction for this term: "traces that receive a charge from the intersecting drive trace through mutual capacitance at the intersecting locations and are used in detecting a user touch event through a change in mutual capacitance in sensors formed at the intersecting locations." (CMBr. at 121.) As above with respect to the term "drive traces" (*see supra* at n. XXXX), the removal of phrases from Apple's originally proposed construction does not appear to affect the arguments raised by Apple in its opening brief.

Apple says that one of ordinary skill would understand from the specification that in order for sensors to be formed at the trace intersections, the sense traces must receive a charge from the drive trace through mutual capacitance and be used in detecting a touch event through a change in mutual capacitance in the sensors formed at the intersections. (*Id.* at 127 (citing CXM-5 at ¶ 42).) As with HTC's construction of drive traces, Apple faults HTC's construction of sense traces for ignoring the surrounding claim language, because there is nothing in HTC's construction that would allow such a trace to form a sensor at the trace intersections. (*Id.* (citing CXM-5 at ¶ 43).) Apple also asserts that the "electromagnetic event" in HTC's construction ignores that the sensors formed at the trace intersections are present in a capacitive touch sensor panel sensing changes in mutual capacitance and not in some other form of sensing device. (*Id.* at 127-128 (citing JXM-2 at claims 1, 8-10, 17, 21, 24-25; CXM-5 at ¶ 44).)

HTC asserts that its construction is consistent with the plain and ordinary meaning of the term, which has been used in the touch sensing field for decades. (RMBr. at 128 (citing RXM-24 at ¶¶ 65-76).) HTC says that the term "sense traces" is used broadly in a variety of touch sensing technologies to refer to any situation where a trace is used to sense an electric or electromagnetic event. (*Id.*) HTC also says that nothing in the intrinsic record suggests that "sense traces" should be defined in a way different from this plain and ordinary meaning. (*Id.* at 129.) As with "drive traces," HTC argues that Apple's and Staff's construction improperly limits the claims to one embodiment. (*Id.* at 129-130 (citing JXM-2 at 6:46-50; RXM-24 at ¶¶ 65-75).) HTC also says that contrary to Apple's and Staff's construction, the sense trace does not receive a charge from an intersecting drive trace and instead the drive trace creates an electric field which causes the sense trace to receive a charge from an electronic circuit connected to the sense trace. (*Id.* at 130.) HTC also argues that Apple's and Staff's construction contradicts the intrinsic evidence disclosing both

mutual capacitance and self-capacitance touch screens with sense traces in the '991 application. (*Id.* at 130-133 (citing RXM-32 at ¶¶ 60-61, Fig. 6A; RXM-24 at ¶ 53; JXM-2 at Fig. 7).) Finally, HTC states that Apple's and Staff's construction renders other limitations in the claims surplusage by including the phrase "intersecting drive trace." (*Id.* at 133 (citing JXM-2 at claim 24).)

Staff asserts that while the term "sense traces" only appears in the claims and the abstract, the specification of the '129 patent describes the operation of the sense traces in detail. (SMBr. at 91 (citing CMBr. at 125-126; JXM-2 at 6:46-58; CXM-5 at ¶ 40).) Staff agrees with the conclusion of Apple regarding the understanding of one of ordinary skill in the art in light of the teachings in the specification. (*Id.* at 92 (citing CMBr. at 127; CXM-5 at ¶ 42).) Staff also agrees that Apple has shown that the term "sense traces" did not have an ordinary meaning to a person of skill in the art at the time of the invention. (*Id.* (citing CXM-5 at ¶ 33).) Regarding HTC's construction, Staff asserts that it does not aid in understanding the term and is incorrect because it allows for the sense traces themselves to be used for sensing rather than the claimed sensors formed at the intersection of drive and sense traces. (*Id.* at 93 (citing CXM-5 at ¶ 43).)

In response, Apple asserts that, as with HTC's arguments regarding "drive traces," HTC's arguments with respect to "sense traces" ignore the context of the surrounding claim language. (CRMBr. at 122.) Apple says the surrounding claim language gives the phrase a specific meaning, which is reflected in Apple's construction. (*Id.* at 123.) Apple also faults HTC for its expert's analysis regarding the usage of the term in sensing technology different from that which is claimed in the '129 patent and HTC's reliance on the '991 application's disclosure of a self-capacitance touch panel. (*Id.* (citing RMBr. at 130-131; RXM-32, Fig. 6).) Apple says self-capacitance panels are inapplicable to the '129 patent claims because the claims require drive and sense traces to form capacitive sensors while in self-capacitance systems the sensing occurs between each electrode and

the ground and not between two electrodes. (*Id.* at 123-125 (citing CXM-27C at ¶¶ 34, 36; RXM-24 at ¶¶ 61-62, Fig. 6A, Fig. 6B; RXM-32 at ¶ 60).) Apple also disputes HTC's argument that Apple's construction is "incorrect from a technical standpoint," and asserts that the description of the technology described by HTC (*see* RMBr. at 130) is simply a description of mutual capacitance coupling. (*Id.* at 126-127 (citing CXM-27C at ¶ 40; JXM-2 at 6:26-29, 6:46-50).) Apple asserts that its construction is consistent with the mutual capacitive coupling mechanism disclosed in the specification. (*Id.*) Apple also refutes HTC's argument that Apple's construction renders other claim terms surplusage. (*Id.*)

In its response, HTC faults Apple's construction and Apple's criticism of HTC's construction because, according to HTC, Apple is requiring that the term "sense traces" encompass the entirety of the claimed invention. (CRMBr. at 139.) HTC also refutes Apple's argument that HTC's construction ignores the fact that the sensors at trace intersections are located in a capacitive touch sensor panel. (*Id.* (citing CMBr. at 127-128.).) HTC asserts that its construction, which includes an "electromagnetic event," does not conflict with the fact that sensors are formed at trace intersections and the fact that the phrase "capacitive touch sensor panel" appears in the claim preamble. (*Id.*) HTC next argues that Apple's construction contradicts the specification because it does not take into account the descriptions of sense traces in the '991 application, which is incorporated by reference into the '129 patent. (*Id.* at 140.) In support, HTC asserts that a recent deposition of a named inventor on both the '129 patent and the '991 applications shows that the term "sense traces" has a meaning beyond mutual capacitive systems. (*Id.* at 141 (citing RXM-37C at 178-179).)

As discussed with respect to the term "drive traces," the language in the relevant claims does not include any express indication that the term "sense traces" must be defined in terms of

corresponding "drive traces" and one of ordinary skill in the art would understand that the relationship between the "drive traces" and the "sense traces" is inherent in the type of sensors formed at the trace intersections. Thus, as with the "drive traces," the Administrative Law Judge finds that Apple's and Staff's construction includes an unnecessary tie between the "drive traces" and the "sense traces."

However, in contrast to the description of drive traces or row traces in the '129 patent specification, the use of sense traces in the specification does not support the generic meaning of "sense traces" proposed by HTC. Similar to "drive traces," the '129 patent specification clearly equates sense traces to the column traces referred to throughout the specification. (*See* JXM-2 at Abstract ("To shield the column (sense) traces…"), 5:60 ("… column traces or sensing lines…").) With respect to the column traces, the specification consistently describes these traces as receiving a charge through capacitive coupling either from row traces or through noise from other sources:

> When a row is stimulated, a modulated output signal can be capacitively coupled onto the columns of the sensor panel.
>
> ***
>
> For every row that is stimulated, each analog channel connected to a column generates an output value representative of an amount of change in the modulated output signal due to a touch or hover event occurring at the sensor located at the intersection of the stimulated row and the connected column.
>
> ***
>
> Furthermore, when a transparent capacitive touch sensor panel is bonded to a liquid crystal display (LCD), a modulated Vcom layer in the LCD can couple onto the columns of the sensor panel, causing noise to appear on the columns.
>
> ***
>
> The capacitance between row and column electrodes appears as a stray capacitance on all columns when the given row is held at DC and as a mutual capacitance Csig when the given row is stimulated with an AC signal.

***

> The stimulus causes a charge to be injected into the column electrodes through mutual capacitance at the intersecting points.

***

> However, columns 838 are designed to sense small changes in the AC capacitance of the touch panel, so the capacitive coupling from modulated Vcom layer 822 can easily be seen as noise at the analog channels receiving the columns.

***

> Because these wider rows 936 are not isolated but are instead either held at a DC voltage or stimulated with a stimulation voltage, these wider rows 936 act as a shield, preventing a modulated Vcom layer from capacitively coupling onto columns 938.

(JXM-2 at 5:64-66, 2:1-6, 2:37-40, 6:26-29, 6:48-50, 10:48-51, 10:61-65.) The Administrative Law Judge finds that HTC's proposed construction is too broad because it refers to generic "electromagnetic events," which is at odds with the consistent reference to the more limited injection of charge through capacitance referred to throughout the specification.

Based on the foregoing, the Administrative Law Judge concludes that the term "sense traces" should be construed to mean "traces that receive a charge through capacitive coupling."

VIII. Expert Reports

Each party may file one supplemental expert report of no more than 25 pages by July 6, 2012 that addresses those final claim constructions, if any, discussed above in this Markman Order that substantively differ from the constructions proposed by any party. No other issues may be discussed. Each party may submit a rebuttal expert report of no more than 25 pages responding to only those issues raised in the opposing party's supplemental expert report, if any, by July 18, 2012. No additional discovery will be permitted. The Administrative Law Judge will not consider any

requests to change the dates of the hearing based on the issuance of this Markman Order or any supplemental or rebuttal expert reports relating thereto.

IX. SETTLEMENT.

The Administrative Law Judge recommends, but does not order, that Apple and HTC engage in renewed settlement talks in light of this order in order to resolve all or portions of this Investigation.

Within seven days of the date of this document, each party shall submit to the Office of the Administrative Law Judges a statement as to whether or not[9] it seeks to have any portion of this document deleted from the public version. Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office a copy of this document with red brackets clearly indicating any portion asserted to contain confidential business information.

The parties' submissions may be made by facsimile and/or hard copy by the aforementioned date. In addition, an electronic courtesy copy is required pursuant to Ground Rule 1.3.2. The parties' submissions concerning the public version of this document need not be filed with the Commission Secretary.

SO ORDERED.

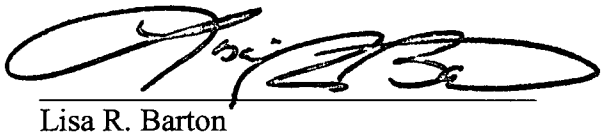
E. James Gildea
Administrative Law Judge

[9] This means that parties that do not seek to have any portion redacted are still required to submit a statement to this effect.

CERTAIN PORTABLE ELECTRONIC DEVICES AND RELATED SOFTWARE **337-TA-797**

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served by hand upon the Commission Investigative Attorney, **Lisa M. Kattan, Esq.**, and the following parties as indicated on July 23 , **2012.**



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