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RICHARD W. WIEKING
CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

ELANTECH DEVICES CORP., a
corporation existing under the laws of
Taiwan, R.O.C.,

Plaintiff,

v.

SYNAPTICS, INC., a Delaware corporation;
and AVERATEC, INC., a California
corporation,

Defendants.

No. C 06-01839 CRB

**MEMORANDUM AND ORDER RE:
SUMMARY JUDGMENT MOTIONS**

FILED UNDER SEAL

Elantech Devices Corp. ("Elantech") filed suit against Synaptics, Inc. ("Synaptics") for infringement of U.S. Patent No. 5,825,352 ("the '352 patent"). Synaptics counterclaimed for infringement of U.S. Patents No. 5,880,411 ("the '411 patent"), No. 5,943,052 ("the '052 patent"), No. 5,543,592 ("the '592 patent"), and No. 6,380,931 ("the '931 patent"). The court issued a Claim Construction Order on April 6, 2007.

Now pending before the Court is Synaptics' motion for summary judgment of noninfringement of the '352 patent. Also before the Court is Elantech's cross motion for summary judgment of infringement of the '352 patent. The patent discloses a method for recognizing the presence of multiple fingers on a computer touchpad and emulating various mouse functions.

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1 **I. BACKGROUND**

2 **A. Procedural History**

3 The Court construed eight terms from the asserted patents as selected by the parties,
4 including one term from Synaptics' '411 patent, three terms from Synaptics' '931 patent, and
5 four terms from Elantech's '352 patent. See generally Claim Construction Order. Elantech
6 properly filed its Final Infringement Contentions 30 days after the Claim Construction Order
7 pursuant to Northern District Patent Local Rules 3-6(a). See Declaration of Sean P.
8 DeBruine ("DeBruine Decl."), filed May 11, 2007, Ex. E (Elantech's Final Infringement
9 Contentions) ("Final Infringement Contentions"). Fourteen days after the Claim
10 Construction Order issued, Synaptics moved for summary judgment of noninfringement of
11 the '352 patent.¹ Elantech subsequently cross-moved for summary judgment of
12 infringement. The Court heard oral argument from both parties in support of their motions
13 for summary judgment on October 5, 2007.

14 **B. The '352 Patent**

15 The '352 patent, entitled "Multiple Fingers Contact Sensing Method for Emulating
16 Mouse Buttons and Mouse Operation on a Touch Sensor Pad," discloses a method for
17 recognizing the presence of multiple fingers on a touchpad and emulating various mouse
18 functions. The patent also discloses a touchpad with such capabilities. The patent was
19 issued October 20, 1998, and by assignment, Elantech is the owner of the entire right, title,
20 and interest of the '352 patent.

21 The '352 patent has two independent claims: 1 and 18. Claim 1 discloses a method to
22 detect multiple fingers in contact with a touch sensor. Claim 18 discloses a touch sensor that
23 carries out the method of claim 1. Both claims require "scanning the touch sensor to (a)
24 identify a first maxima in a signal corresponding to a first finger, (b) identify a minima
25 following the first maxima, (c) identify a second maxima in a signal corresponding to a
26

27 ¹Elantech amended its complaint on July 20, 2006, naming Averatec, Inc. ("Averatec")
28 and Prostar Computer, Inc. ("Prostar") as additional defendants. Elantech and Prostar
subsequently settled. *See* Stipulated Consent Judgment, filed on November 1, 2006. Averatec
has joined in Synaptics' instant motion and opposition.

1 second finger following said minima” and “providing an indication of the simultaneous
2 presence of two finger in response to identification of said first and second maxima.”

3 In the Claim Construction Order, the Court construed “scanning the touch sensor” to
4 mean “measuring the values generated by a touch sensor to detect operative coupling and
5 determining the corresponding positions at which measurements are made.” Claim
6 Construction Order at 12:22-24. The Court construed the sub-limitations (a)-(c) to mean (a)
7 “identify a first peak value in a finger profile obtained from scanning the touch sensor,” (b)
8 “identify the lowest value in the finger profile that occurs after the first peak value, and
9 before another peak value is identified,” and (c) “after identifying the lowest value in the
10 finger profile, identify a second peak value in the finger profile.” *Id.* at 15:1-7.

11 Elantech alleges that Synaptics and its customer Averatec infringe claims 1 and 18 of
12 the '352 patent. Specifically, Elantech alleges infringement by Synaptics' TM41 series of
13 touchpad devices, and by Averatec products that incorporate those devices (collectively,
14 “Accused Touchpads”). See generally Final Infringement Contentions.

15 II. LEGAL OVERVIEW

16 A. Summary Judgment

17 Summary judgment is appropriate when there is no genuine issue as to any material
18 fact and the moving party is entitled to judgment as a matter of law. Summary judgment is
19 improper “if the evidence is such that a reasonable jury could return a verdict for the
20 nonmoving party.” Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986); Vanmoor v.
21 Wal-Mart Stores, Inc., 201 F.3d 1363, 1365 (Fed. Cir. 2000). An issue is “genuine” only if
22 there is sufficient evidence for a reasonable fact finder to find for the non-moving party. See
23 Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248-49 (1986). A fact is “material” if the
24 fact may affect the outcome of the case. See id. at 248. “On summary judgment, the
25 evidence must be viewed in the light most favorable to the party opposing the motion, with
26 doubts resolved in favor of the nonmovant.” Crown Operations Int'l, Ltd. v. Solutia Inc., 289
27 F.3d 1367, 1375 (Fed. Cir. 2002) (citations omitted).

28

1 **B. Literal Infringement**

2 To determine infringement, the asserted claim must be compared to the allegedly
3 infringing method or device. Markman v. Westview Instruments, Inc., 52 F.3d 967, 976
4 (Fed. Cir. 1995). To establish literal infringement, every claim limitation, or claim element,
5 must be found in the accused subject matter. Warner-Jenkinson Co. v. Hilton Davis
6 Chemical Co., 520 U.S. 17, 29, 40 (1997). Thus, establishing that the accused method or
7 device does not satisfy one claim limitation would support a finding of noninfringement. Id.
8 The patentee must prove infringement by a preponderance of the evidence. Bayer AG v.
9 Elan Pharm. Research Corp., 212 F.3d 1241, 1247 (Fed. Cir. 2000).

10 **C. Doctrine of Equivalents**

11 Under the doctrine of equivalents, a product that does not literally infringe a patent
12 claim may still infringe if each and every limitation of the claim is literally or equivalently
13 present in the accused device. See Warner-Jenkinson, 520 U.S. at 40 (“In our view, the
14 particular linguistic framework used is less important than whether the test is probative of the
15 essential inquiry: Does the accused product or process contain elements identical or
16 equivalent to each claimed element of the patented invention?”).

17 Whether an element of an accused product infringes under the doctrine of equivalents
18 depends in part on whether that component performs substantially the same function as the
19 claimed limitation in substantially the same way to achieve substantially the same result. See
20 Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 149 F.3d 1309, 1315 (Fed. Cir.
21 1998); Pennwalt Corp. v. Durand-Wayland, Inc., 833 F.2d 931, 934-35 (Fed. Cir. 1987) (en
22 banc) (“Under the doctrine of equivalents, infringement may be found (but not necessarily) if
23 an accused device performs substantially the same overall function or work, in substantially
24 the same way, to obtain substantially the same overall result as the claimed invention.”). If
25 the differences between a claim and an accused device are “insubstantial” to one with
26 ordinary skill in the art, the product may infringe under the doctrine of equivalents. See
27 Ethicon, 149 F.3d at 1315; Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1423 (Fed.
28 Cir. 1997). The doctrine prevents an accused infringer from avoiding infringement by

1 changing minor details of a claimed invention while retaining its essential functionality. See
2 Sage, 126 F.3d at 1424.

3 **III. DISPUTED CLAIM TERMS**

4 Elantech and Synaptics dispute the meaning of certain claim terms in their respective
5 motions for summary judgment. Because the meaning of these terms are material to the
6 pending motions, the Court first considers these terms.

7 **A. “peak value” and “lowest value”**

8 In the Claim Construction Order, the Court construed sub-limitations (a)-(c) of claims
9 1 and 18 according to the construction proposed by the patent holder Elantech. See Claim
10 Construction Order at 13-15. In relevant part, the Court construed “identify a...maxima” to
11 mean “identify a...peak value” and “identify a minima” to mean “identify the lowest value.”
12 See id. Elantech argues that the construed sub-limitations (a)-(c) are met by identification of
13 the traces with the peak (maximum) and lowest (minimum) values. Synaptics counters that
14 the construed claims require identification of “specific” or “particular” measured capacitance
15 values. Accordingly, methodology that does not somehow identify “particular measured
16 values” cannot infringe.

17 At oral argument on October 5, 2007, Synaptics supported its reading of the terms by
18 noting that the example method described in the '352 patent specification explicitly records
19 the maxima and minimum measure capacitance values in a number of variables. See '352
20 patent at p. 22, col. 8 l. 52 - p. 23, col. 9 l. 14. However, standing alone, an embodiment
21 disclosed in the specification does not limit the claims. Liebel-Flarsheim Co. v. Medrad,
22 Inc., 358 F.3d 898, 906 (Fed. Cir. 2004). Even when the specification describes only a single
23 embodiment, the claims of the patent are not to be construed as restricted to that embodiment
24 unless the patentee demonstrates a clear intention to limit the claim scope using “words or
25 expressions of manifest exclusion or restriction.” Teleflex, Inc. v. Ficosa N. Am. Corp., 299
26 F.3d 1313, 1327 (Fed. Cir. 2002). Absent clear statements of scope, courts must follow the
27 language of the claims and not that of the written description provided by the specification.
28 Id. at 1328.

1 The '352 patent specification states that the example embodiment is not meant to limit
2 the invention. See '352 patent, p. 26, col. 16 ll. 6-12. Therefore, the example itself does not
3 support Synaptics' view that the claim scope is limited to only cover methods that explicitly
4 identify particular measured values corresponding to maxima and minima. See Teleflex, 299
5 F.3d at 1327.

6 In addition, Synaptics' reading of the construed claims would inappropriately limit
7 their scope. The plain language of the claims reads on identifying maxima and minima. The
8 claims neither mention nor require any sort of operation to be performed on capacitance
9 values. Taken literally, Synaptics reading of the claims would allow a party to escape literal
10 infringement by transforming the measured capacitance values (e.g. trivially multiplying the
11 finger profile values by two) before identifying minima and maxima, because the
12 identification steps would not use the literally measured capacitance values. There is no
13 support for such a limited reading of the claims in the patent specification or intrinsic
14 evidence.

15 The construed claims require identification of peak and lowest values, corresponding
16 to maxima and minima, respectively. This step is satisfied by methodology that scans the
17 finger profile to identify traces that contain the peak and lowest values.

18 **B. "providing an indication"**

19 Claims 1 and 18 of the '352 patent also require "providing an indication of the
20 simultaneous presence of two fingers in response to identification of said first and second
21 maxima." This limitation was amended during prosecution to distinguish prior art that
22 inherently produced a finger profile with two maxima separated by a minimum when two
23 fingers were placed on the touchpad. Applicants explained the amendment stating that "[t]he
24 present invention uniquely utilizes the detection of two maxima to determine if two fingers
25 are present on the touchpad. Nowhere does [the prior art] suggest analyzing profile
26 information to obtain this result, or to use the result to provide an indication of two fingers."
27 Declaration of Karl J. Kramer in Support of Synaptics' Motion for Summary Judgment of
28 Noninfringement of the Asserted Claims of the '352 patent ("Kramer SJ Decl."), Ex. 5, April

1 6, 1998 Amendment at 4. The Court did not construe the meaning of the “providing an
2 indication” limitation in the Claim Construction Order.

3 Synaptics alleges that the parties agreed that “providing an indication” is “[t]he
4 function of detecting the simultaneous presence of two fingers and reporting that presence to
5 the host.” Synaptics’ MSJ Brief at 11:18-20 (emphasis supplied). Elantech disputes that the
6 claim requires an indication of multiple fingers returned to the host; instead, Elantech argues
7 that any form of indication is sufficient to satisfy the claim limitation. For example, Elantech
8 argues that the “providing an indication” step is met by Synaptics’ PrimaryFingerTracking
9 code module. This module processes the finger profile to determine the location of the user’s
10 primary finger on the touchpad. PrimaryFingerTracking creates a temporary data structure
11 which implicitly identifies multiple fingers in contact with the touchpad, although the code
12 never attempts to “provide” such indication outside of the code module itself. Elantech
13 alleges creating this data structure alone is sufficient to meet the “providing an indication”
14 limitation.

15 Neither party’s argument is persuasive. Nothing in the claim language or prosecution
16 history supports Synaptics’ argument that an indication of multiple fingers must be returned
17 to the host in order to infringe. On the other hand, Elantech’s position reads the limitation
18 out of the claims. Elantech argues that implicit identification of multiple fingers is all that is
19 required to meet the claim limitation. But simply recognizing a finger profile with two
20 maxima separated by a minima also implicitly identifies the presence of multiple fingers, and
21 the “providing an indication” limitation was added to the claims of the ’352 patent during
22 prosecution for the express purpose of overcoming prior art that produced such a finger
23 profile. See Kramer SJ Decl., Ex. 5, April 6, 1998 Amendment at 4. Thus, Elantech’s
24 argument that implicit identification of multiple fingers is all that the claim requires
25 eviscerates the claim limitation and cannot stand.

26 The “providing an indication” limitation does not require that the “indication” of two
27 fingers be returned to the host. However, the limitation does require that infringing
28 methodology perform some affirmative step to provide an indication of multiple fingers.

1 **IV. SUMMARY JUDGMENT OF NONINFRINGEMENT**

2 Synaptics now moves for summary judgment of noninfringement of the '352 patent,
3 or, in the alternative, partial summary judgment of noninfringement. Synaptics is entitled to
4 summary judgment of noninfringement only if the facts and inferences, when viewed in the
5 light most favorable to Elantech, could not persuade a reasonable jury to return a verdict in
6 favor of Elantech, the non-moving party. See Anderson, 477 U.S. at 255.

7 The Accused Touchpads use one of two software algorithms with multiple-finger
8 detection capabilities. The first, "Type 1 Code," uses a threshold method to determine the
9 position of fingers contacting the touchpad. See, e.g., Declaration of Dr. Andrew Wolfe in
10 Support of Synaptics' Motion for Summary Judgment on Non-Infringement of the Asserted
11 Claims of the '352 patent ("Wolfe SJ Decl."), ¶ 21. The second, "Type 2 Code," uses a "bit
12 vector," or "bit pattern," algorithm to identify peaks in the finger profile. See id., ¶ 25.
13 Because the Accused Touchpads implement either Type 1 or Type 2 Code, but not both, the
14 two algorithms and devices using them must be considered separately to determine whether
15 summary judgment is appropriate.

16 **A. Partial summary judgment of noninfringement for touchpads that do not**
17 **enable multiple-finger detection functions**

18 Synaptics moves for partial summary judgment of noninfringement as to accused
19 touchpads that do not enable multiple-finger detection functions.

20 Synaptics argues that "many implementations of the Accused Touchpad devices
21 [have] no multiple-finger detection function enabled" and therefore these devices are
22 incapable of "providing an indication of the simultaneous presence of two fingers in response
23 to identification of said first and second maxima," as required by asserted claims 1 and 18.
24 Synaptics' Notice of Motion and Motion for Summary Judgment of Noninfringement of
25 the Asserted Claims of the '352 patent ("Synaptics' MSJ Brief"), filed April 20, 2007.
26 Specifically, Synaptics argues that its "'current' version of code does not use a finger
27 counting algorithm and or provide any indication of the presence of multiple fingers on the
28 touch sensor." Synaptics' Reply Brief in Support of Motion for Summary Judgment of
Noninfringement of the Asserted Claims of the '352 patent ("Synaptics' Reply Brief") at

1 4:20-21. To support its argument, Synaptics' expert Dr. Wolfe testifies that the "current"
2 code is specifically designed so that the firmware and driver software cannot be set to enable
3 finger-counting functions. See Wolfe SJ Decl., ¶ 19-20. Because Synaptics' "current" code
4 uses the Type 2 Code algorithm, Synaptics requests that the Court enter partial summary
5 judgment of non-infringement as to devices implementing the "current" version of Type 2
6 Code.

7 The Federal Circuit has held that "an accused device may be found to infringe if it is
8 reasonably capable of satisfying the claim limitations, even though it may also be capable of
9 non-infringing modes of operation." Hilgraeve Corp. v. Symantec Corp., 265 F.3d 1336,
10 1343 (Fed. Cir. 2001). Nevertheless, "a device does not infringe simply because it is
11 possible to alter it in a way that would satisfy all the limitations of a patent claim." High
12 Tech Med. Instrumentation, Inc. v. New Image Indus., Inc., 49 F.3d 1551, 1555 (Fed. Cir.
13 1995). To determine infringement, the Court must consider whether the accused party
14 "intended or anticipated" the device being modified for use in an infringing manner. High
15 Tech Med., 49 F.3d at 1555. "If a device is designed to be altered or assembled before
16 operation, the manufacturer may be held liable for infringement if the device, as altered or
17 assembled, infringes a valid patent." Id. at 1556.

18 The Accused Products contain driver and firmware software. Software programs
19 directly infringe a patent if they present users with options to enable infringing functionality,
20 regardless of whether the users ever activate or utilize those functions. Fantasy Sports
21 Properties, Inc. v. Sportsline.com, Inc., 287 F.3d 1108, 1118 (Fed. Cir. 2002). But programs
22 built from source code containing infringing functions do not infringe if users cannot access
23 the accused functionality. Southwest Software, Inc. v. Harlequin Inc., 226 F.3d 1280, 1291
24 (Fed. Cir. 2000) (affirming a jury verdict of noninfringement where the accused software
25 program contained source code to carry out infringing functions but the functions made
26 unavailable to the end user); Telemac Cellular Corp. v. Topp Telecom, Inc., 247 F.3d 1316,
27 1330 (Fed. Cir. 2001) (affirming summary judgment of noninfringement when the source
28 code for a device contained code to carry out infringing functions, but the source code also

1 contained code that prevented users of the device from accessing those functions).

2 Accordingly, one way for the Accused Touchpads to carry out the “providing an
3 indication” step is to provide purchasers (e.g. computer manufacturers) with options that can
4 enable finger counting functions, regardless of whether the purchasers are shown to have
5 used those functions. See Fantasy Sports, 287 F.3d at 1118. But the Accused Products do
6 not infringe if they are incapable of practicing the “providing an indication” step, even if
7 their driver and firmware software are built from source code containing modules that could
8 carry out that step. See Southwest Software, 226 F.3d at 1291; Telemac, 247 F.3d at 1330.

9 Elantech presents convincing evidence that some Accused Touchpad devices
10 containing Type 2 Code are “reasonably capable” of “providing an indication of the
11 simultaneous presence of two fingers,” that users are able to access this functionality, and
12 that Synaptics “intended or anticipated” such usage. Type 2 Code can generate a data packet
13 labeled “W” that provides the host computer with an indication of the presence of multiple-
14 fingers. See Wolfe SJ Decl., ¶¶ 17, 30. Synaptics’ own customer guide, the Synaptics’
15 Touchpad Interfacing Guide, instructs computer vendors how to interface with Synaptics
16 touchpads, including instructions for enabling the “W” multiple-finger detection option. See,
17 e.g., Wolfe SJ Decl., Ex. 4, Synaptics’ Touchpad Interfacing Guide (“Synaptics’ Guide”)
18 § 2.3.4. Thus, Synaptics “intended or anticipated” multiple-finger detection for at least some
19 touchpads containing Type 2 Code. See High Tech Med., 49 F.3d at 1555. By following the
20 instructions provided in the Synaptics’ Guide, Elantech engineers were able to direct
21 computers purchased at retail which contain Synaptics’ touchpads and driver software to
22 report “W” values. See Declaration of Jeng-Yin Wu in Support of Elantech’s Reply Brief in
23 Support of Motion for Summary Judgment of Infringement (“Wu Decl.”), ¶¶ 3-5. The values
24 returned when one, two or three fingers were held down corresponded to those reported in
25 the Synaptics’ Guide. Id., ¶ 5. Like the software product found to infringe in Fantasy Sports,
26 Elantech was able to enable the multiple-finger detection functions without modifying the
27 underlying code. See 287 F.3d at 1118. These Accused Touchpads meet the “providing an
28 indication” limitation of claims 1 and 18 as a matter of law.

1 However, Synaptics moves for partial summary judgment of noninfringement for
2 Accused Touchpads using the “current” version of the Type 2 Code. Synaptics contends that
3 the computers Elantech purchased and enabled to set the “W” multiple-finger detection
4 option do not contain this “current” code version. Synaptics’ expert Dr. Wolfe testifies that
5 the “current” Type 2 Code cannot be set by the customers to enable finger counting
6 functionality. Wolfe SJ Decl. ¶¶ 19-20. He states that the “OptionalMultiFinger” flag must
7 be set for the multiple finger detection code to be executed in the firmware software, but that
8 in the “current” version of Type 2 Code this flag is disabled by default, and the Synaptics’
9 driver software never sends a message to enable multiple-finger detection. *Id.* Dr. Wolfe
10 explains that when “OptionalMultiFinger” is not set, the “W” value that would return
11 multiple finger count to the host does not report finger count values. *Id.* ¶ 30.

12 But Dr. Wolfe also testifies that the oneAxis routine in the Type 2 Code firmware
13 counts fingers. *Id.* at ¶ 27. Because this routine is capable of providing an indication of the
14 simultaneous presence of two fingers, its execution satisfies the “providing an indication”
15 claim limitation. As explained above, the limitation is met whether or not the indication is
16 provided to the host, for example, via the “W” flag. Although Synaptics contends that
17 oneAxis is not enabled or activated in the “current” version of Type 2 Code (*see, e.g.,*
18 Synaptics’ Brief in Opposition to Elantech’s Motion for Summary Judgment of Infringement
19 (“Synaptics’ Opp. Brief”) at 12:17-18, 12:23-26), Dr. Wolfe’s testimony never states that
20 oneAxis is not executed in the “current” Type 2 Code. *See id.* at ¶¶ 18-20. Rather, he
21 testifies that the “W” value never indicates finger count if “OptionalMultiFinger” is not set.
22 *Id.* at ¶ 30. Because Synaptics has not presented evidence that the oneAxis routine is not
23 executed in the “current” version of Type 2 Code, it has failed to meet its burden of showing
24 that the code does not practice the “providing an indication” limitation of claims 1 and 18.²

25 Accordingly, the Court denies Synaptics’ motion for partial summary judgment of
26

27 ²In addition, Elantech has presented evidence that oneAxis is included in all Synaptics
28 products containing Type 2 Code, and that it is either executed in those products or can be
enabled. Declaration of Ian Scott MacKenzie, Ph.D. in Support of Elantech’s Motion for
Summary Judgment of Claim 18 of the ’352 Patent (“MacKenzie Decl.”), ¶ 22.

1 noninfringement as to Accused Touchpads that do not enable multiple-finger detection
2 functions. Synaptics has not proved that any of the Accused Touchpads do not enable
3 multiple-finger detection.

4 **B. Partial summary judgment of noninfringement for touchpads containing**
5 **Type 1 Code**

6 Next, Synaptics moves for partial summary judgment of noninfringement as to
7 accused touchpads containing Synaptics' Type 1 Code.

8 Type 1 Code uses a threshold method to detect the number of fingers in contact with
9 the touchpad. See Wolfe SJ Decl., ¶ 21-24. The code creates a data array by assigning 1's or
10 0's for each trace value depending on whether the trace value is above or below a certain
11 threshold. A group of contiguous 1's in the data array indicates the presence of a finger. If
12 two fingers are present, the data array will contain two contiguous groups of 1's separated by
13 a group of 0's. For example, the data array might consist of the following bits when two
14 fingers are present, wherein each group of 1's represents a finger: 001110001110000. See
15 id., Figure at ¶ 22 ("Type 1 Code Figure").

16 **1. Literal infringement**

17 Synaptics first argues that Type 1 Code does not literally infringe claims 1 and 18
18 because it does not detect the presence of multiple fingers by looking for a 'minima' between
19 two 'maxima' and thus does not perform the steps required by sub-limitations (a)-(c).
20 Synaptics notes that Type 1 Code never identifies particular maximum or minimum scan
21 lines, but only determines whether or not the capacitance value at each scan line exceeds the
22 threshold value.

23 Elantech counters that Type 1 Code does carry out sub-limitations (a)-(c) because a
24 pattern such as "001110001110000" identifies a plateau maximum (the first group of 1's),
25 followed by a minimum (the group of 0's between the group of 1's), followed by a second
26 maximum (the second group of 1's).

27 Elantech's arguments fail to demonstrate that sub-limitations (a)-(c) are met by the
28 Type 1 Code algorithm. The Court adopted the construction of the sub-limitations proposed
by Elantech, which requires identification of two peak values and an intervening lowest

1 value. See Claim Construction Order at 13:1-15:7. However, Type 1 Code never identifies
2 peak and lowest values, or the scan lines containing those values, but only determines
3 whether each scan line capacitance value exceeds the threshold value. Elantech's assertion
4 that Type 1 Code identifies plateau maxima (groups of 1's) and plateau minima (groups of
5 0's) does not rescue their infringement argument. In the Claim Construction Order, the Court
6 noted that a plateau maximum occurs where "the maximum capacitance value appears over a
7 range of X axis values and/or Y axis values." Id. at 14:20-23. Type 1 Code does not identify
8 plateau maxima or minima, as alleged by Elantech, because nothing in the algorithm
9 identifies a range of maximum or minimum capacitance values.

10 Because Type 1 Code does not literally carry out sub-limitations (a)-(c) of claims 1
11 and 18 of the '352 patent, Type 1 Code does not literally infringe those claims. See Warner-
12 Jenkinson, 520 U.S. at 29, 40.

13 2. Doctrine of equivalents

14 Elantech asserts that even if Type 1 Code does not literally infringe the '352 patent, it
15 nevertheless infringes under the doctrine of equivalents.

16 Elantech's expert Dr. MacKenzie opines that the Type 1 Code algorithm presents "at
17 most only an insubstantial variation" from sub-limitations (a)-(c) of claims 1 and 18 because
18 the two methods perform substantially the same function ("determine the presence of a . . .
19 finger"), in substantially the same way ("examining the values on each trace"), to achieve
20 substantially the same result ("identification of a value that accurately represents the
21 presence of a finger"). MacKenzie Decl., ¶ 28. However, the '352 patent's claimed "way"
22 to determine whether multiple fingers are in contact with the touchpad is not merely by
23 "examining the values on each trace;" rather, claims 1 and 18 determine the presence of two
24 fingers by identifying two peak values (maxima) separated by a lowest value (minimum).
25 Indeed, identification of the two maxima corresponding to two fingers lies at the heart of
26 Elantech's claimed invention. Therefore, the claims cannot be stretched under the doctrine
27 of equivalents to cover methods that do not identify maxima and minima. And Type 1 Code
28 does not identify maxima and minima in the finger profile, but only determines whether each

1 trace value exceeds a given threshold. Thus, Dr. MacKenzie's brief recitation of a function,
2 way, result analysis is insufficient to support infringement under the doctrine of equivalents.

3 Accordingly, the Court grants Synaptics' motion for partial summary judgment of
4 noninfringement as to accused touchpads that implement Type 1 Code.

5 **C. Partial summary judgment of noninfringement for touchpads containing**
6 **Type 2 Code**

7 Finally, Synaptics seeks partial summary judgment of noninfringement as to accused
8 touchpads containing Synaptics' Type 2 Code.

9 Type 2 Code uses a "bitpattern" or "bit vector" algorithm to identify maxima in the
10 finger profile. The algorithm first creates a vector containing a 0 or 1 corresponding to each
11 scan line, depending on whether the capacitance value of the next scan line is higher or
12 lower, respectively. See MacKenzie Decl., Figure at ¶ 30 ("Type 2 Code Figure"). As a
13 result, a "01" pattern in this vector identifies the presence of a maximum and a "10" pattern
14 identifies the presence of a minimum. See *id.*, line A. After further processing steps, the
15 code produces a bit vector containing all 0's except that 1's are found for each scan-line
16 identified as containing a maximum, or peak value. See *id.*, line D. If multiple-finger
17 counting code is enabled, the 1's in the bit array are counted to determine the number of
18 fingers in contact with the touchpad, and the count is available to the host computer. See
19 Wolfe SJ Decl., ¶¶ 27, 30.

20 Synaptics first argues that the Type 2 Code does not infringe because it never
21 identifies the lowest value in the finger profile that appears after the first peak value. But it
22 admits that a "10" pattern in the first step of the algorithm "would 'indicate' a 'minima' if
23 analyzed." See Synaptics' Reply Brief at 7:23-8:4. However, the asserted claims do not
24 require an "analysis" or "indication" of the minima or lowest value; the claims only require
25 that the minima or lowest value is "identified," and Type 2 Code identifies a minimum or
26 lowest value at the "10" transitions. See line A, Type 2 Code Figure. Synaptics attempts to
27 bolster its argument by noting that the bit pattern in line A is "immediately deleted" and
28 information about the minimum or lowest value is unavailable by the time the finger count is
calculated. Such immediate deletion is irrelevant, however, because the claims do not rule

1 out intermediate processing steps between the steps of identifying maxima and minima and
2 providing an indication of finger count. Moreover, the “providing an indication” step only
3 requires that the finger count is provided in response to detection of the maxima or peak
4 values. Thus, Synaptics’ contention that Type 2 Code does not identify a minimum or lowest
5 value does not support a ruling of summary judgment of noninfringement.

6 Synaptics further argues that Type 2 Code does not infringe because the code does not
7 identify particular capacitance values as maximum or peak values. It argues that any finger
8 count provided to the host “is based only upon a ‘1’ bit defining a scan line with a ‘peak’ and
9 not a finger-profile capacitance value.” *Id.* at 9:5-7. This argument is unpersuasive,
10 however, because as is explained *supra*, the Type 2 Code identifies maxima or peak values
11 by a “01” pattern in the first step of the algorithm. *See* line A, Type 2 Code Figure. Thus,
12 these contentions also fail to support summary judgment of noninfringement.

13 Accordingly, the Court denies Synaptics’ motion for partial summary judgment of
14 noninfringement as to accused touchpads that implement Type 2 Code

15 **V. SUMMARY JUDGMENT OF INFRINGEMENT**

16 The Court now turns to Elantech’s cross motion for summary judgment of
17 infringement. Elantech requests that the Court enter judgment that all of the Accused
18 Touchpads literally infringe claim 18 of the ’352 patent.

19 For the reasoning set forth above, the Court denies Elantech’s motion for summary
20 judgment of infringement for all Accused Touchpads. In particular, Accused Touchpads
21 implementing Type 1 Code do not infringe claim 18. The Court would grant summary
22 judgment of infringement for Accused Touchpads implementing Type 2 Code and having
23 enabled finger counting functionality, but Elantech did not move for partial summary
24 judgment; instead, its motion seeks judgment on all Accused Touchpads without distinction.

25 **VI. CONCLUSION**

26 Synaptics’ motion for partial summary judgment of noninfringement for those devices
27 implementing Type 1 Code is GRANTED. A reasonable trier of fact could not find that
28 these devices infringe claims 1 or 18 of the ’352 patent. Synaptics’ motion for partial

1 summary judgment of noninfringement on the ground that the "current" Type 2 Code does
2 not enable multiple finger detection capabilities is DENIED. Synaptics has not proved as a
3 matter of law that Accused Touchpads using the "current" version of Type 2 Code do not
4 carry out the "providing an indication" limitation. Synaptics' motion for partial summary
5 judgment of noninfringement for those devices implementing Type 2 Code on the grounds
6 that the code does not identify peak and/or lowest values is also DENIED. Elantech's
7 motion for summary judgment of infringement is DENIED.

8 The parties are directed to appear for a further case management conference on
9 December 7, 2007 at 8:30 a.m.

10 **IT IS SO ORDERED.**

11
12
13 Dated: October 26, 2007



14 **CHARLES R. BREYER**
15 **UNITED STATES DISTRICT JUDGE**