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12 UNITED STATES DISTRICT COURT
 13 NORTHERN DISTRICT OF CALIFORNIA
 14 SAN FRANCISCO DIVISION

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 16 ELAN MICROELECTRONICS
 CORPORATION,
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 Plaintiff and Counterdefendant,
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 v.
 19 APPLE, INC.,
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 Defendant and Counterplaintiff.

Case No. 5:09-cv-01531 RS (PSG)
**ELAN MICROELECTRONICS
 CORPORATION'S NOTICE OF
 MOTION AND MOTION FOR
 PARTIAL SUMMARY JUDGMENT OF
 INFRINGEMENT OF U.S. PATENT
 5,875,352**

[PUBLIC VERSION]

21
 22 AND RELATED COUNTERCLAIMS
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Date: June 9, 2011
 Time: 1:30 p.m.
 Courtroom 3
 Hon. Richard Seeborg

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3. Performing Two-Finger Gestures on the

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(ii) The Accused Products Include a “means for providing an indication of the simultaneous presence of two fingers in response to the identification of said first and second maxima”21

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1 **NOTICE OF MOTION AND MOTION**

2 TO DEFENDANT AND ITS ATTORNEYS OF RECORD:

3 PLEASE TAKE NOTICE that on June 9, 2011 at 1:30 p.m. or as soon thereafter as the
4 matter may be heard, in Courtroom 3, located at 450 Golden Gate Avenue, 17th Floor, San
5 Francisco, California, Plaintiff Elan Microelectronics Corporation (“Elan”) will and hereby does
6 move this Court for partial summary judgment, pursuant to Rule 56 of the Federal Rules of Civil
7 Procedure, that certain models of iBook G4, PowerBook G4, MacBook, and MacBook Pro laptop
8 computers sold by Defendant Apple, Inc. (“Apple”) literally infringe Claims 1, 7, 16, 18, 21 and
9 30 of Elan’s United States Patent No. 5,825,352 (“the ’352 patent”) and that Apple has induced
10 the infringement of claims 1, 7, and 16.¹

11 This motion is based upon this Notice of Motion, Memorandum of Points and Authorities,
12 the Declaration of Robert Dezmelyk (“Dezmelyk Decl.”) and the Declaration of Jennifer Liu (“Liu
13 Decl.”) both concurrently lodged for filing under seal, and all of the other papers and pleadings on
14 file in this matter and on such other argument and evidence as may be presented to the Court at or
15 prior to the hearing on this motion.

16 As its basis for this motion, as more fully set forth in the following Memorandum of Points
17 and Authorities, Elan states each and every limitation of Claims apparatus claims 18, 21 and 30 of
18 the ’352 patent is literally present in the following accused Apple products, that Apple’s own use
19 of those products practice every element of method claims 1, 7, and 16 and that Apple has induced
20 its customers to practice every element of method claims 1, 7, and 16. Accordingly, Elan
21 respectfully requests that the Court enter judgment that Apple’s use and sale of its iBook G4 with

22 [REDACTED]
23 [REDACTED]
24 [REDACTED]
25 [REDACTED]
26 [REDACTED]

27 ¹ Elan has asserted infringement of additional claims of the ’352 patent against Apple in this
28 matter. By limiting this Motion to certain of the asserted claims, Elan does not waive its right to
later seek judgment that Apple has infringed those additional claims.

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[REDACTED]

[REDACTED] (the “Accused Products”) literally infringes Claims 18, 21 and 30, that Apple’s own use of these laptops directly infringes claims 1, 7, and 16, and that Apple has induced its customers to infringe claims 1, 7, and 16 of the ’352 patent.

1 **MEMORANDUM OF POINTS AND AUTHORITIES**

2 **I. INTRODUCTION**

3 Elan Microelectronics Corp. (“Elan”) is the owner of U.S. Patent No. 5,825,352 (“the ’352
4 patent”). The claimed invention of the ’352 patent allows multiple fingers to be simultaneously
5 detected when they come into contact with a touch pad or touch screen. As the 352 patent teaches,
6 by detecting the number of fingers, as well as their movement, the distance between them, or other
7 factors, a wide variety of user control gestures are possible. For example, by determining changes
8 in the distance between two fingers gestures such as a “pinch” to zoom in or out on a display can
9 be enabled. Two fingers moving together allows for a user to scroll through a display. Two
10 fingers tapping down can initiate a mouse button click. All of these functions can be performed
11 without the use of a mechanical button, and without the need for the user’s fingers to leave the
12 touch sensor.

13 In this Motion for Partial Summary Judgment, Elan addresses literal infringement of
14 claims 1, 7, 16, 18, 21 and 30 of the ’352 patent by certain of Apple’s accused products, namely
15 the iBook G4, PowerBook G4, MacBook, and MacBook Pro laptops that included trackpads
16 Apple refers to as the [REDACTED] or [REDACTED] models (“Accused Products”). The independent claims
17 at issue are claims 1 and 18. Claim 1 covers a method of operating a touch sensor to detect the
18 presence of two fingers, while claim 18 is an apparatus claim covering such a touchpad. There are
19 no triable issues of fact regarding Apple’s infringement as to these products. Based on Apple’s
20 interrogatory responses and the documents it has produced showing the structure and operation of
21 these products, there is no question that they practice the asserted claims. As explained in detail
22 below, the typical use of the Accused Products will result in those products performing every step
23 of the claimed methods. As to claims 1, 7 and 16, the Apple touchpads are expressly designed to
24 practice each and every limitation of these claims. There can be no question that these products
25 were, in fact, used for the purpose for which they were designed, both by Apple’s own employees
26 and by its customers. As such, Apple is liable for direct and induced infringement of these method
27 claims as well.

28 Similarly, there is no dispute as to the structure of the Accused Products. They consist of a

1 capacitive touchpad with x and y traces, connected to a controller IC that includes capacitive
2 measuring circuits, digital to analog converters and a microcontroller. These are the identical
3 elements disclosed in the '352 patent. Apple has produced the firmware codes that govern the
4 operation of those products. These codes demonstrate that the Accused Products use the same
5 touchpad structures to perform the same function claimed in the patent: identifying two maxima
6 with an intervening minima, and using the identification of the two maxima to detect the presence
7 of two fingers. As such infringement of claims 18, 21 and 30 is clear.

8 The most relevant claim construction issues have been agreed to by the parties or resolved
9 by the Court in its November 1, 2010 Claim Construction Order. Dkt. No. 183 at 11. There are
10 two claim construction disputes relevant to this motion. The first relates to the scope of the
11 second means plus function element in claim 18, namely a means for “providing an indication of
12 the simultaneous presence of two fingers in response to identification of said first and second
13 maxima.” The second relates to the structure corresponding to the “means for calculating first and
14 second centroids ...” in claim 30. Claim construction dispute is a question of law for the Court to
15 decide, and as the Court has recognized, resolution of such issues in connection with a motion on
16 infringement often provides necessary context to fully frame such issues. Moreover, even under
17 Apple’s incorrect proposed constructions, the Accused Products meet these claim limitations. As
18 such, this dispute does not raise any issue of fact, and summary judgment is appropriate.

19 There is no dispute that Apple knew of the '352 patent when it designed and sold these
20 Accused Products and when encouraging its users to use them to perform the claimed methods.
21 Despite this awareness, Apple adopted and continued to use touchpads that plainly infringe
22 the '352 patent. Elan therefore files this motion as the first step in recovering its damages from
23 Apple’s blatant and willful infringement.

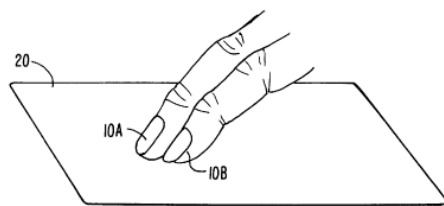
24 II. STATEMENT OF MATERIAL FACTS

25 A. The '352 Patent

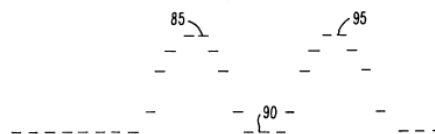
26 Touchpad devices, also known as touch sensing devices, sense the presence of an object or
27 finger and generate signals reflective, for instance, of the location and movement of that object,
28 which may be used to operate devices such as computers. Declaration of Jennifer Liu filed

1 herewith (“Liu Decl.”), Ex. 1 (’352 patent) at 2:17-20, 38-41. The inventors at Logitech, Inc.,
2 Elan’s predecessor, were pioneers the touchpad field and invented methods to directly detect the
3 touch or presence of two or more fingers. That method accurately differentiates between the
4 presence of two or more fingers and a single touch. The inventors’ efforts yielded the ’352 patent,
5 disclosing and claiming a significant advance in touchpad devices: the ability to accurately detect
6 the presence of two or more fingers or objects. *Id.* at 2:17-20, 38-41.

7 As illustrated in Figure 1 of the ’352 patent reproduced below, touching two fingers to a
8 touch sensor may be used to operate the touch sensor. The information received from the touch
9 sensor may be examined to detect whether two fingers are simultaneously present. For various
10 touchpad devices, the touch or presence of fingers causes changes in the signals that reflect the
11 presence of two or more objects. As shown in Figure 3, the capacitance measurements for each
12 trace can be plotted, with greater capacitance corresponding to the amount of contact by each
13 finger. The values at each trace is compared to that of its neighbors, so that a first maximum or
14 peak 85, a minima 90 following the peak 85, and a second maximum or peak 95 following the
15 minima are identified. In other words, the two-finger presence may be accurately identified by
16 identifying two peak values and one low point between the two peak values. *Id.* at 6:26-38.



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22 **FIG. 1.**



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27 **FIG. 3.**

28 The innovation embodied in the ’352 patent is now widely implemented in Elan’s devices
and in the infringing devices sold by Apple. Consequently, Elan filed suit against Apple for
infringement based of Apple’s Accused Products.

B. The Accused Products

In January 2005 Apple began shipping versions of its flagship PowerBook laptop

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]:

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

1 Each of those products includes a capacitive touch sensor. Dezmelyk Decl., ¶¶ 3-5 & 47-
2 49. [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED].

15 **C. Pertinent Procedural History**

16 Elan filed suit on April 9, 2009. Dkt. No. 1 (Complaint). On October 22, 2009 Elan
17 served its Disclosure of Asserted Claims and Infringement Contentions, listing claims 1, 2, 4, 6, 7,
18 10, 12, 14, 16, 18, 21, 24, 26, and 30. Liu Decl., Ex. 46. On February 5, 2010, the parties
19 submitted their Joint Claim Construction Statement seeking the construction of certain terms,
20 including those contained in Claims 1 and 18 of the '352 patent. Dkt. No. 60. On May 7, 2010,
21 the parties submitted a First Amended Joint Claim Construction Statement. Dkt No. 84. The
22 parties agreed to the construction of the terms “scanning the touch sensor” as “measuring the
23 values generated by a touch sensor to detect operative coupling and determining the corresponding
24 the positions at which measurements are made” and the “means for scanning the touch sensor” as
25 performing this function with a corresponding structure of “an analog multiplexor, a circuit to
26 measure changes in capacitance of sensor conductors, an analog to digital converter, a
27 microcontroller, and equivalents thereof.” *Id.*, Ex. A. The parties agreed on ten claim terms from
28 among the four patents in suit as more important for the Court to consider. *Id.* at 2-3.

1 After briefing, a tutorial and a hearing, on November 1, 2010 the Court issued its Claims
2 Construction Order. Dkt. No. 183. The Court construed the terms “identify a first maxima in a
3 signal corresponding to a first finger, identify a minima following the first maxima, and identify a
4 second maxima in a signal corresponding to a second finger following said maxima.” *Id.* at 7:20-
5 10:8. Specifically, the Court construed the phrase “identify a first maxima . . . identify a minima
6 following the first maxima, and identify a second maxima . . .” to mean “identify a first peak value
7 in a finger profile taken on a line obtained from scanning the touch sensor, identify the lowest
8 value in the finger profile taken on said line that occurs after the first peak value and before
9 another peak value is identified, and after identifying the lowest value in the finger profile taken
10 on said line, identify a second peak value in the finger profile taken on said line.” *Id.* at 10:1-8.
11 The Court declined to construe the term “identify” beyond its plain meaning, and deferred the
12 parties’ dispute regarding the term “in response to” pending further evidence or argument from the
13 parties. *Id.* at 10-13.

14 The parties did not argue, and the Court therefore did not address, the parties’ differing
15 construction of the terms “means for providing an indication of the simultaneous presence of two
16 fingers in response to the identification of said first and second maxima” in claim 18 or “means for
17 calculating first and second centroids corresponding to said first and second fingers” in claim 30.

18 **III. ARGUMENT**

19 **A. Legal Standard for Partial Summary Judgment**

20 Pursuant to Federal Rule of Civil Procedure 56, summary judgment may be granted if there
21 is no genuine issue of material fact for trial and the moving party is entitled to judgment as a
22 matter of law. *See* Fed. R. Civ. P. 56(c); *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 251-52
23 (1986) (holding that a court must determine whether evidence presents a sufficient disagreement
24 to require submission to a jury or whether it is so one-sided that one party must prevail as a matter
25 of law). The movant has the burden of coming forward with sufficient evidence to demonstrate
26 that there is no material issue of fact that would preclude summary judgment, and that it is entitled
27 to judgment as a matter of law. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 806-07
28 (Fed. Cir. 1999); *Cont’l Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1265 (Fed. Cir. 1991).

1 Determining infringement (or non-infringement) involves a two-step process. *Markman v.*
2 *Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370
3 (1996). The first step requires the Court to construe the claims to ascertain their meaning and
4 scope. *Id.* The second step requires a comparison of the construed claims to the Accused
5 Products to determine whether the elements in the asserted claims are found in that product. *Id.*

6 While infringement, either literal or under the doctrine of equivalents, is a question of fact,
7 summary judgment may nevertheless be granted “when no reasonable jury could find that every
8 limitation recited in the properly construed claim either is or is not found in the accused device.”
9 *Bai v. L & L Wings*, 160 F.3d 1350, 1353 (Fed. Cir. 1998). That is true even were there are
10 incidental claim construction issues not yet resolved. Claim construction is a question of law for
11 the Court to decide, and as the Court has recognized, resolution of such issues in connection with a
12 motion on infringement often provides necessary context to fully frame such issues. *Rheox, Inc. v.*
13 *Entact, Inc.*, 276 F.3d 1319, 1324 (Fed. Cir. 2002). As discussed below, Apple’s own
14 interrogatory responses and documents demonstrate that there is no material issue of fact that
15 Apple’s Accused Products perform every step of method claims 1, 7 and 16 and include every
16 element of apparatus claims 18, 21 and 30 of the ’352 patent. Accordingly, summary judgment of
17 infringement of the Asserted Claims should be entered.

18 **B. The Apple Infringes The Asserted Method Claims 1, 2, 6, 7 and 16**

19 **1. Apple’s Accused Products infringe Claim 1 of the 352 patent**

20 The Asserted Claims of the ’352 patent are directed to a “touch sensor for detecting the
21 operative coupling of multiple fingers.” The first independent claim at issue, Claim 1, is a method
22 claim and reads as follows:

- 23 1. A method for detecting the operative coupling of multiple fingers to a touch
24 sensor involving the steps of
- 25 scanning the touch sensor to (a) identify a first maxima in a
26 signal corresponding to a first finger, (b) identify a minima following
27 the first maxima, (c) identify a second maxima in a signal
28 corresponding to a second finger following said minima, and
 - providing an indication of the simultaneous presence of two fingers in
response to identification of said first and second maxima.

1 Liu Decl., Ex. 1 ('352 patent) at 16:13-23.

2 The Court construed the following claim terms:

Claim Term	Construction by Court
identify a first maxima in a signal corresponding to a first finger	Identify a first peak value in a finger profile taken on a line obtained from scanning the touch sensor.
identify a minima following the first maxima	Identify the lowest value in the finger profile taken on said line that occurs after the first peak value and before another peak value is identified.
identify a second maxima in a signal corresponding to the second finger following said minima”	After identifying the lowest value in the finger profile taken on said line, identify a second peak value in the finger profile taken on said line.

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10 (i) The Accused Apple Products “scan the touch sensor”

11 Claim 1 first requires the step of “scanning the touch sensor.” The parties have agreed that
12 “scanning the touch sensor” means “measuring the values generated by a touch sensor to detect
13 operative coupling and determining the corresponding positions at which measurements are
14 made.” Dkt. No. 84-1 (Amended Joint Claim Construction Statement, Ex. A) at 1. Each of the

15 [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

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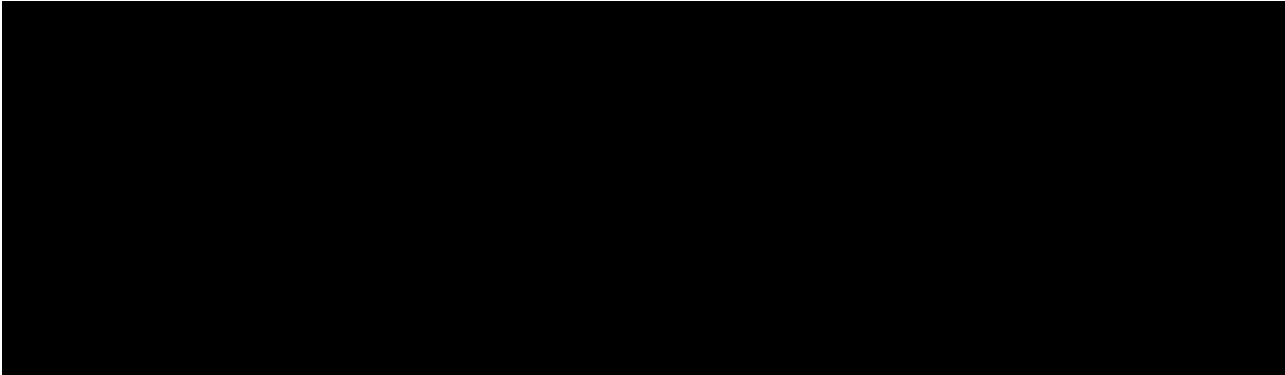
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measure the values generated by a touchsensor to detect coupling and determine the location at which those measurements are made, the Accused Products literally meet the “scanning the touchsensor” limitation of claim 1.

(ii) The Accused Products Literally Meets the “Identify a first maxima in a signal corresponding to a first finger” Element

Once the capacitive values are scanned and measured, the next step of claim 1 is to “identify a first maxima in a signal corresponding to a first finger.” The term “identify a first maxima in a signal corresponding to a first finger” has been construed by the Court to mean “identify a first peak value in a finger profile taken on a line obtained from scanning the touch sensor.” Dkt. No. 183 (Claim Construction Order) at 10:1-8. Apple has argued that the term “identify” should be defined as to “recognize a value to be.” However, the Court correctly declined to further construe the term “identify” beyond its plain meaning. *Id.* at 11. There is no need to further construe that claim element here, as the Accused Products clearly identify a first maxima under the plain and ordinary meaning of that word.



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As such, in operation the Accused Products identify a first peak value in a finger profile taken on a line obtained from scanning the touch sensor. Dezmelyk Decl., ¶ 35.

(iii) The Accused Products Literally Meets the “Identify a minima following the first maxima” element

Claim 1 next recites the step “identify a minima following the first maxima.” Liu Decl., Ex. 1 (’352 patent) at 16:13-23. This phrase has been construed by the Court to mean “identify the lowest value in the finger profile taken on a line that occurs after the first peak value and before another peak value is identified.” Claim Construction Order at 10:1-8. After the first

[REDACTED]

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Therefore, in operation, all of the Accused Products perform the claimed step of “identify a minima following the first maxima” as that term has been construed.

(iv) The Accused Products Literally Meets “Identify a second maxima ...” Element

After the minima is identified, the method of claim 1 must “identify a second maxima in a signal corresponding to a second finger following said minima.” Liu Decl., Ex. 1 (’352 patent). The term “identify a second maxima in a signal corresponding to the second finger following said minima” has been construed to mean “after identifying the lowest value in the finger profile taken on said line, identify a second peak value in the finger profile taken on said line.” Claim Construction Order at 10:1-8. After a minima is identified as described above, the code in the

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[REDACTED]

[REDACTED]

Therefore, the Accused Products “identify a second maxima in a signal corresponding to a second finger following said minima” as that claim requirement has been construed by the Court.

(v) The Accused Products Literally Meets “providing an indication of the simultaneous presence of two fingers...” Element

The next element of claim 1 is “providing an indication of the simultaneous presence of two fingers in response to identification of said first and second maxima.” Liu Decl., Ex. 1 (’352 patent) at 16:13-23. As noted above, the Court declined to provide any further construction of the term “in response to.” As with the term “identify,” there is no need to provide any further construction of this term now. The Accused Products satisfy this limitation because they clearly provide an indication of the simultaneous presence of two fingers in response to the identification of the first and second maxima. Dezmelyk Decl., ¶¶ 31-32 & 40-43. In particular, after assigning

[REDACTED]

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[REDACTED]

It is therefore beyond dispute that the Accused Apple products provide an indication of the simultaneous presence of two fingers in response to the identification of said first and second maxima.

The Accused products operate to perform all of the steps of method claim 1 as that claim has been construed.

2. Performing Two-Finger Gestures on the Accused Products Directly Infringes Claim 7

Claim 7 depends from Claim 6, which in turn depends from claim 1. Dependent claim 6 reads “[t]he method of claim 1 wherein said touch sensor includes a plurality of lines, said maxima being a largest local variation in a signal value on one of said lines due to capacitive coupling of a finger. Liu Decl., Ex. 1 (’352 patent) at 16:36-39. Claim 7 depends from claim 6 and requires that the “maxima are peaks.” *Id.* at 16:40.

[REDACTED]

claim 7.

3. Performing Two-Finger Gestures on the Accused Products Directly Infringes Claim 16

Claim 16 depends from claim 1 and requires the additional step of “calculating first and second centroids corresponding to said first and second fingers” Liu Decl., Ex. 1 (’352 patent) at 17:21-2. [REDACTED]

1 [REDACTED]
2 [REDACTED]
3 [REDACTED] *Id.* Thus, the Accused Products perform the
4 step of calculating first and second centroids corresponding to said first and second fingers as
5 required by dependent claim 16 and infringe that claim as well. *Id.*

6 **4. Apple Customers and Employees Perform Multi-Finger Gestures**
7 **on the Accused Apple Products**

8 **(i) Legal Requirement**

9 To literally infringe a method claim, a person must have practiced all the steps of the
10 claimed method. *Lucent Techs. Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1317 (Fed. Cir. 2009).
11 Apple is liable for direct infringement since its employees cause the accused devices to perform
12 the steps of the claimed methods. *Id.* Furthermore, a finding of infringement may rest on as little
13 as one instance of the method being performed. *Id.* Moreover, Elan is not required to provide
14 direct evidence of infringement. *Id.* at 1318 (citing *Moleculon Research Corp. v. CBS, Inc.*, 793
15 F.2d 1261, 172 (Fed. Cir. 1986)). In fact, “[c]ircumstantial evidence is not only sufficient, but
16 may also be more certain, satisfying and persuasive than direct evidence” on this question. *Id.* In
17 *Moleculon*, the circumstantial evidence of the direct infringement of a method to solve the Rubik’s
18 Cube puzzle consisted of puzzle sales, and instruction sheet and brochures. *Id.* Similarly, in
19 *Lucent*, the circumstantial evidence consisted of extensive sales, instruction manuals and expert
20 testimony. *Id.* Under this standard, there is sufficient evidence to show that users of the Accused
21 Apple Products, including Apple’s own employees, perform the steps of the claimed methods as
22 described above, by placing two fingers on the touchpad of those products to perform scrolling or
23 other gestures.

24 **(ii) Apple Employees’ Direct Infringement**

25 Each of the Accused Apple Products is designed to be used with two fingers in contact
26 with the touch sensor. Apple’s 30(b)(6) witness, Wayne Westerman, testified that Apple’s
27 employees use the Accused Products in connection with their employment, including testing in the
28 United States on production and prototype models.

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Q: Do you have a computer that Apple has provided to you?
A: Yes.
Q: What kind of computer is that?
A: MacBook Pro.
Q: And do you use multi-finger gestures on the trackpad of the MacBook Pro?
A: Yes.
Q: You have colleagues who also have MacBook Pro laptops?
A: Yup.
Q: Those colleagues use multi-finger gestures?
A: As far as I know, yeah. . . .

Liu Decl., Ex. 47 (Westerman Dep.) at 144: 18-145:19.

Thus, Apple employees in the United States perform multi-finger gestures on the Accused Products that practice claim 1. Therefore, Apple directly infringes claim 1.

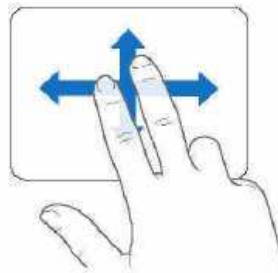
5. Apple Induces Individual Customer Users’ Infringement of the Method Claims of the 352 Patent By Advertising Infringing Uses of the Accused Products

Apple is also liable for inducing its customers to use the accused devices in an infringing manner. Under 35 U.S.C. § 271(b), “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” Inducement is proved by showing that the alleged inducer knew of the patent, knowingly induced the infringing acts and possessed the specific intent to encourage another’s infringement of the patent. *DSU Med. Corp. v JMS Co., Ltd.*, 471 F.3d 1293, 1304 (Fed. Cir. 2006) (*en banc* in relevant part). Inducement can be instructing, directing or advertising to a third party on how to perform direct infringement. *Id.*; *see also Vesture Corp. v. Thermal Solutions, Inc.*, 284 F. Supp. 2d 290, 317 (M.D.N.C. Sept. 16, 2003) (accused infringer provided “user manuals that specifically instruct the user how to perform the infringing methods . . . “). The specific intent for induced infringement can be shown or inferred from circumstantial evidence. *See Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 699 (Fed. Cir. 2008).

Here, Apple’s Wayne Westerman, current head of Apple’s multi finger touch sensor development team, knew of the ’352 patent as early as 1999. He discussed the patent in his Ph.D. thesis and brought that knowledge to Apple when he joined in February 2005. Liu Decl, Ex. 47 (Westerman Depo.) at 13:1-16:4. [REDACTED]

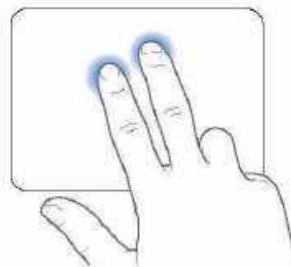
1 [REDACTED] [REDACTED]
2 [REDACTED] [REDACTED] Thus, the requisite knowledge element is
3 satisfied as Apple knew of the '352 patent in designing the infringing algorithm and encouraging
4 its users to perform the claimed methods.

5 Apple provided Users Guides with the Accused Products that instruct its customers to
6 place two fingers on the touchpad simultaneously. In all of the Accused Products, moving two
7 fingers vertically on the touchpad engages a scrolling function. Liu Decl., Exs. 8-22. For instance,
8 the User Guide that accompanied the accused PowerBook models released in January 2005, Apple
9 instructs its customers that “you have the option to scroll vertically and horizontally in a window
10 that has scroll bars by moving two adjoining fingers on the trackpad.” *Id.*, Ex. 9 (PowerBook G4
11 User Guide (early 2005 Edition)) at ELN000650. Certain of the User Guides also provide an
12 illustration of that function showing two fingers on the touchpad:



18
19 *See, e.g., id.*, Ex. 16 (MacBook User Guide (late 2008 Edition)) at ELN1041152. Beginning with
20 the MacBook models introduced in late 2007, Apple also advised customers to use two fingers on
21 the touchpad to perform a “right click” or “secondary click” operation. Liu Decl., Exs. 14-18.

22 The following picture accompanied that instruction:



28 *Id.*, Ex. 16 (MacBook User Guide (late 2008 Edition)) at ELN1041153. Moreover, later models

1 added even more two- and three-finger gestures. As illustrated in the User Guide for the
2 MacBook released in late 2008, Apple instructed their customers for these products to place two
3 fingers on the touchpad to scroll, pinch and expand and rotate objects in the user interface:
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10 *Id.* at ELN1041130. Thus, Apple’s user guides clearly induce direct infringement by Apple’s
11 customers. *See Applied Biosys. Inc. v. Cruachem, Ltd.*, 772 F. Supp. 1458, 1466-67 (D. Del.
12 1991). Taken together, Apple is liable for induced infringement because Apple knowingly and
13 with specific intent induced customers to use the Accused Products with multiple fingers on the
14 touch screen to directly infringe.

15
16 **C. Apple’s Accused Products Infringe the Asserted Apparatus Claims 18, 21 and 30 of the ’352 Patent**

17 The Accused Products also literally infringe Claims 18, 21 and 30. Literal infringement of
18 a means-plus function claim element may be established if the accused product performs the same
19 function, using the same or equivalent corresponding structure as that disclosed in the patent. *See*
20 35 U.S.C. § 112 (means-plus-function claim literally covers “the corresponding structure, material,
21 or acts described in the specification *and equivalents thereof*”) (emphasis added); *Odetics, Inc. v.*
22 *Storage Tech. Corp.*, 185 F.3d 1259, 1267 (Fed. Cir. 1999) (“Literal infringement of a § 112, ¶6
23 limitation requires that the relevant structure in the accused device perform the identical function
24 recited in the claim and be identical or equivalent to the corresponding structure in the
25 specification.”). Here, the Accused Products literally infringe claims 18, 21 and 30 because they
26 contain the same claimed functions for the two means-plus-function elements of claim 18, *i.e.*,
27 “means for scanning . . .” and “means for providing an indication . . .,” as well as the functions
28 recited in dependent claims 21 and 30, and contain the same or equivalent corresponding

1 structures.

2 **1. The Accused Products Infringe Claim 18**

3 Claim 18 is the second independent claim of the '352 patent. It is an apparatus claim in
4 means-plus-function form that closely tracks the requirements of claim 1. In particular, claim 1
5 requires the means for performing the method steps recited in claim 1:

6 means for scanning the touch sensor to (a) identify a first
7 maxima in a signal corresponding to a first finger, (b) identify a
8 minima following the first maxima, (c) identify a second maxima in a
9 signal corresponding to a second finger following said minima, and

10 means providing an indication of the simultaneous presence of two fingers in
11 response to identification of said first and second maxima.

12 Liu Decl., Ex. 1 ('352 patent) at 17:29-37.

13 **(i) The Accused Products Include a “means for scanning the
14 touch sensor”**

15 A claim expressed as a means for performing a particular function is literally infringed if
16 the accused device performs the identical required function and has the identical or equivalent
17 structure disclosed in the specification for performing that function. *AllVoice Computing PLC v.*
18 *Nuance Commc 'ns, Inc.*, 504 F.3d 1236, 1248 (Fed. Cir. 2007). Here, the parties agree that the
19 “means for scanning” limitation requires the same “scanning” function as defined with respect to
20 claim 1, namely “measuring the values generated by a touch sensor to detect operative coupling
21 and determining the corresponding positions at which measurements are made.” Dkt. No. 84-1
22 (Amended Joint Claim Construction Statement, Ex. A) at 1. The parties further agree that the
23 corresponding structure is “an analog multiplexer, a circuit to measure changes in capacitance of
24 sensor conductors, an analog to digital converter, a microcontroller, and equivalents thereof.” *Id.*

25 As established in the discussion of claim 1 in section III. B. 1. *supra* all of the Accused
26 Products perform the function of “scanning the touch sensor” under the parties’ agreed-upon
27 construction. In addition, all of the Accused Products have the same or identical structures for
28 performing those functions. Dezmelyk Decl., ¶¶ 55-81. [REDACTED]

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[REDACTED]

The remainder of the first clause in claim 18 states that the purpose of scanning the touch sensor is to “(a) identify a first maxima . . . (b) identify a minima . . . and (c) identify a second maxima.” As discussed with regard to claim 1 in Section III. C. 1. *supra*, all of the Accused Products include code that makes the required identifications as those limitations have been construed. There can be no dispute that the Accused Products literally meet the first “means for scanning the touch sensor” limitation.

(ii) The Accused Products Include a “means for providing an indication of the simultaneous presence of two fingers in response to the identification of said first and second maxima”

The next claim limitation requires “a means for providing an indication of the simultaneous presence of two fingers in response to the identification of said first and second maxima.” The parties dispute the proper scope of the corresponding structure for this claim element. Apple contends that the corresponding structure is “the algorithm found in Fig. 8-1, which sets a Finger value equal to two after determining if a scan in either the X direction or the Y direction has detected two fingers.” Dkt. No. 84-1 (Joint Claim Construction Statement, Ex. A) at 7-8. Elan has contended that the corresponding structure includes the structure used to scan the touch sensor along with firmware, hardware or software that performs the recited function. *Id.*

1 Elan recognizes that the Court has found such a construction to be overly broad, and that the
2 corresponding structure must reflect the algorithms disclosed in the patent for performing this
3 function. *Id.* By the same token, however, Apple’s proposed construction is overly narrow.
4 Apple would limit the structure to step 860 shown in Fig. 8-1. That algorithm compares the
5 outcome of the analysis of the X and the Y traces for the number of fingers and, if either reflects
6 two fingers, sets a variable “Finger” equal to “2”. Liu Decl., Ex. 1 (’352 patent) at 14:7-17.

7 However, Apple ignores the algorithm in Fig. 5, which the patent describes as “analogous”
8 to Fig. 8. *Id.* at 3:65-67; Dezmelyk Decl., ¶¶ 83-85. In fact they are very similar, with identical
9 steps sharing the same numeric designation. One difference is that in Fig. 5 the indication of the
10 simultaneous presence of two fingers is reported by the “Button” variable being equal to “Down.”
11 Liu Decl., Ex. 1 at Fig. 5, steps 450-465; Dezmelyk Decl., ¶¶ 83-85. (Note that the initial
12 detection of two fingers will report the button down state to the host. That state will be maintained
13 until a subsequent scan indicates only one finger, where up the UP value of the BUTTON variable
14 will be reported. *Id.*) Because a BUTTON=DOWN state will only occur when there are two
15 fingers simultaneously on the touchpad, it is clearly an indication of that fact. Dezmelyk Decl., ¶¶
16 83-85. In addition, the Xcompute and Ycompute modules include algorithms that respond to the
17 identification of two maxima to change a variable value to indicate the simultaneous presence of
18 two fingers. Liu Decl., Ex. 1 at Fig. 6-2, step 310 (setting XButton = Down in response to the
19 identification of two maxima; Fig. 9-2, step 980 setting the value of Xfinger = 2 in response to the
20 identification of two maxima. Therefore, the structure disclosed in the ’352 patent that performs
21 the function of providing an indication of the simultaneous presence of two fingers in response to
22 identification of said first and second maxima is software, hardware or firmware that sets a
23 variable or data structure to a condition that indicates two fingers in response to the identification
24 of two maxima, including step 465 in Fig. 5, step 310 in Fig. 6-2, step 860 in Fig. 8-1 and step 980
25 in Fig. 9-2, or their equivalents. Dezmelyk Decl., ¶ 85.

26 [REDACTED]
27 [REDACTED]
28 [REDACTED]

1 [REDACTED]
2 [REDACTED]
3 [REDACTED] This is the same algorithm as Apple has
4 identified, namely step 860 in Fig. 8-1. *Id.* The Accused Products therefore literally meet this
5 claim limitation.

6 Apple's Accused Products incorporate a touch sensor and a means for scanning the touch
7 sensor to make the required identifications and to provide the indication of two fingers. As such,
8 Apple's importation, use and sale of those products constitutes literal infringement.

9 **2. The Accused Products Infringe Claim 21**

10 Claim 21 depends from claim 18 and reads: "The touch sensor of claim 18 wherein said
11 maxima are peaks." This language directly tracks the claim 7. As discussed above, the Accused
12 Products identify peaks as maxima, so that this additional limitation of claim 21 is literally present
13 in the Accused Products. Dezmelyk Decl., ¶¶ 86-87.

14 **3. The Accused Products Infringe Claim 30**

15 Claim 30 depends on claim 18 and further requires "means for calculating first and second
16 centroids corresponding to said first and second fingers." Liu Decl., Ex. 1 ('352 patent) at 9:44-
17 46. The parties agree that the recited function is "calculating first and second centroids
18 corresponding to said first and second fingers." Dkt. No. 84-1 (Joint Claim Construction
19 Statement, Ex. A) at 11. As established above for dependent claim 16, the Accused Products
20 calculate the first and second centroids that correspond to the first and second fingers and
21 therefore perform this identical function. Dezmelyk Decl., ¶¶ 88-93.

22 Apple claims that this claim is indefinite "[b]ecause the specification does not disclose a
23 corresponding structure." Dkt. No. 84-1 (Joint Claim Construction Statement, Ex. A) at 11-12.
24 Apple appears to take this position because the flowcharts in the patent illustrate the calculation of
25 a single centroid for both fingers. Apple is incorrect. The corresponding structure for means
26 implemented as a computer program is the algorithm or algorithms disclosed in the patent.
27 *Aristocrat Techs. Austral. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1337 (Fed. Cir. 2008). The
28 correct inquiry whether there is sufficient disclosure of an algorithm to avoid indefiniteness is "to

1 look at the disclosure of the patent and determine if one of skill in the art would have understood
2 that disclosure to encompass software for [the claimed function] and been able to implement such
3 a program.” *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1385 (Fed. Cir. 2009)
4 (quoting *Medical Instrumentation & Diagnostic Corp. v. Elekta AB*, 344 F.3d 1205, 1212 (Fed.
5 Cir. 2003)) (emphasis in original). The disclosure of an algorithm need not be in a flowchart, but
6 may be “text of other means that would enable one of ordinary skill in the art to envision
7 structures capable of carrying out the corresponding function.” *Tech. Patents LLC v. Deutsche*
8 *Telekom AG*, Slip. Op. 2010 WL 3385397 at *20 (D. Md. Aug. 25, 2010).

9 The patent expressly discloses “a second implementation, a centroid value may be
10 calculated for each maxima, yielding multiple centroid values when multiple fingers interact with
11 the pad. For purposes of clarity, the following description will be limited to the first
12 implementation.” Liu Decl., Ex. 1 (’352 patent) at 10:35-45 (emphasis added); Dezmelyk Decl., ¶
13 90. Those of ordinary skill in the art knew that the centroid function is commonly used in physics
14 and engineering to calculate a single point which represents the center of an object or set of
15 measurements. Dezmelyk Decl., ¶ 91. The centroid function is often called the center of mass, or
16 center of gravity, since it is used to calculate the coordinates of the point that is at the center of the
17 mass of a physical object. *Id.* For capacitive sensors the centroid of the curve of capacitance
18 values is a way to calculate the coordinates of a point which represents the location of the center
19 of the finger contact. *Id.* The centroid for an axis is calculated by adding up the products of the
20 change in capacitance at each sensor location, multiplied by the coordinate of the sensor, and then
21 dividing that total by the total of the changes in capacitance. Centroid calculation to provide a
22 precise location of finger contact was used in the art well before the ’352 patent. *Id.*

23 The ’352 patent discloses a means for calculating the centroid of finger contact, providing
24 the equation $X_{weightSum} = x_{weightSum} + X * X(N) / X_{sum}$. *Id.* at 92. Where N is the entire range
25 of measured values in the X direction, one centroid would be calculated for all of the fingers in
26 proximity to the sensor. *Id.* As explained above, while the flowchart in Fig. 6-1 and 6-2
27 illustrates calculating a single centroid for both fingers, the ’352 patent expressly teaches that
28 centroids may also be calculated separately for each maxima, giving separate locations for each

