

**EXHIBIT 13**  
**FILED UNDER SEAL**

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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN JOSE DIVISION

APPLE INC., a California corporation,  
  
Plaintiff,  
  
v.  
  
SAMSUNG ELECTRONICS CO., LTD., A  
Korean business entity; SAMSUNG  
ELECTRONICS AMERICA, INC., a New York  
corporation; SAMSUNG  
TELECOMMUNICATIONS AMERICA, LLC, a  
Delaware limited liability company,  
  
Defendants.

Case No. 11-cv-01846-LHK  
  
**EXPERT REPORT OF KARAN  
SINGH, PH.D. REGARDING  
INFRINGEMENT OF U.S.  
PATENTS NOS. 7,864,163,  
7,844,915 AND 7,853,891**

**\*\*CONFIDENTIAL – CONTAINS MATERIAL DESIGNATED AS HIGHLY  
CONFIDENTIAL – ATTORNEYS’ EYES ONLY PURSUANT  
TO A PROTECTIVE ORDER\*\***

1           316. For example, the Galaxy Tab 10.1 receives user a user input with one input point  
2 (one finger) applied to the touch-sensitive display as illustrated above. I also note that the touch-  
3 sensitive display is integrated into the Galaxy Tab 10.1.

4           317. For example, the Galaxy S II receives a user input with one input point (one  
5 finger) applied to the touch-sensitive display as shown above. The touch-sensitive display is  
6 integrated into the Galaxy S II.

7           318. Based on my observations of the Accused Products, as well as my analysis of the  
8 source code for each major release of Android running on the Accused Products (Android 2.1,  
9 2.2, 2.3, and 3.1), I have determined that each Accused Product receives a user input, where the  
10 user input is one or more input points applied to the touch-sensitive display that is integrated with  
11 the device. The claim chart in Exhibit 17 identifies analogous code that satisfies this element in  
12 Android 2.1, 2.2, and 2.3.

13           319. To the extent that this limitation is not met literally, in my opinion it is met under  
14 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
15 different from machines receiving a user input, the user input is one or more input points applied  
16 to the touch-sensitive display that is integrated with the device, and accomplishes the same  
17 function in the same way to achieve the same result.

18           320. **Claim 1 – Element [b] “creating an event object in response to the user**  
19 **input.”** In my opinion, each of the Accused Products performs this step of claim 1.

20           321. Each of the Accused Products, via the Android platform on which they operate,  
21 creates an event object in response to the user input.

22           322. Under the public Android platform, a MotionEvent object is created in response to  
23 a touch on the touch screen. ([http://developer.android.com/reference/android/view/](http://developer.android.com/reference/android/view/MotionEvent.html)  
24 [MotionEvent.html.](http://developer.android.com/reference/android/view/MotionEvent.html))

25           323. I have confirmed the public Android code also appears in the Accused Products.  
26 For example, in the Galaxy Tab 10.1 tablet, which runs a version of Android 3.1, the user input is  
27 processed by the device driver, which passes the input into user space and parses it into an event  
28 object referred to as the “MotionEvent” object. This object is an event object created by the

1 method InputConsumer::populateMotionEvent(). (See  
2 frameworks/base/libs/ui/inputTransport.cpp:683-712 [SAMNDCA-C000002822]; see also  
3 frameworks/base/libs/ui/input.cpp:351-382 [SAMNDCA-C000002830 to -C000002831]  
4 (MotionEvent::initialize() method)).

5 324. Based on my observations of the Accused Products, as well as my analysis of the  
6 source code for each major release of Android running on the Accused Products (Android 2.1,  
7 2.2, 2.3, and 3.1), I have determined that each Accused Product practices includes similar  
8 computer code that creates an event object in response to user input. The claim chart in Exhibit  
9 17 identifies analogous code that satisfies this element in Android 2.1, 2.2, and 2.3.

10 325. Furthermore, Ioi Lam confirmed at his 30(b)(6) deposition that the Android  
11 Platform has “event objects.” See Ioi Lam Depo. Tr., Mar. 8, 2012 (75:17-76:23).

12 326. To the extent that this limitation is not met literally, in my opinion it is met under  
13 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
14 different from creating an event object in response to the user input, and accomplishes the same  
15 function in the same way to achieve the same result.

16 327. **Claim 1 – Element [c]: “determining whether the event object invokes a scroll**  
17 **or gesture operation by distinguishing between a single input point applied to the touch-**  
18 **sensitive display that is interpreted as the scroll operation and two or more input points**  
19 **applied to the touch-sensitive display that are interpreted as the gesture operation”** In my  
20 opinion, each of the Accused Products performs this step of claim 1.

21 328. The Accused Products determine whether an event object invokes a scroll or  
22 gesture operation by distinguishing between a single input point (one finger) applied to the touch-  
23 sensitive display that is interpreted as the scroll operation and two or more input points (more  
24 than one finger) applied to the touch-sensitive display that are interpreted as the gesture operation.

25 329. For example, the Galaxy Tab 10.1 tablet distinguishes between a scroll operation  
26 when one finger is applied to the touch-sensitive display and a gesture operation when two or  
27 more fingers are applied to the touch-sensitive display.

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(Scroll operation when one input point is applied.)



(Gesture operation when two or more input points are applied.)

330. For example, the Galaxy S II phone distinguishes between a scroll operation when one finger is applied to the touch-sensitive display and a gesture operation when two or more fingers are applied to the touch-sensitive display, as illustrated below:

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(Scroll operation when one input point is applied.)



(Gesture operation when two or more input points are applied.)

331. For example, in the Galaxy Tab 10.1 tablet, which runs Android 3.1, the WebView class’s handleQueuedMotionEvent() method interprets the input points associated with the MotionEvent object it processes. The handleQueueMotionEvent() method distinguishes between a single input point (ev.getPointerCount == 1) and two or more input points (ev.getPointerCount > 1). (See WebView.java:10281-10314 [SAMDNCA-C000002857].) If one input point is

1 detected, the contact is interpreted as a scroll operation in `handleTouchEventCommon()`. (*See*  
2 `WebView.java:10312` [SAMNDCA-C000002857].) If two or more input points are detected, the  
3 contact is interpreted as a gesture operation via a call to `handleMultiTouchInWebView()`. (*See*  
4 `WebView.java:10302` [SAMNDCA-C000002857]; `WebView.java:7887-7944` [SAMNDCA-  
5 C000002858].)

6 332. Based on my inspection of Samsung source code for each major release of  
7 Android running on the Accused Products (Android 2.1, 2.2, 2.3, and 3.1), I have determined that  
8 each Accused Product includes similar computer code that distinguishes between a single input  
9 point (one finger) applied to the touch-sensitive display that is interpreted as the scroll operation  
10 and two or more input points (more than one finger) applied to the touch-sensitive display that are  
11 interpreted as the gesture operation. The claim chart in Exhibit 17 identifies analogous code that  
12 satisfies this element in Android 2.1, 2.2, and 2.3.

13 333. To the extent that this limitation is not met literally, in my opinion it is met under  
14 the doctrine of equivalents because each of the Accused Products perform steps insubstantially  
15 different from determining whether the event object invokes a scroll or gesture operation by  
16 distinguishing between a single input point applied to the touch-sensitive display that is  
17 interpreted as the scroll operation and two or more input points applied to the touch-sensitive  
18 display that are interpreted as the gesture operation, and accomplishes the same function in the  
19 same way to achieve the same result.

20 334. **Claim 1 – Element [d]: “issuing at least one scroll or gesture call based on**  
21 **invoking the scroll or gesture operation.”** Each of the Accused Products issues a scroll call or  
22 a gesture call based on invoking the scroll or gesture operation.

23 335. For example, as illustrated below, the Galaxy 10.1 tablet issues a scroll call when  
24 the scroll operation is invoked. Alternatively, the tablet issues a gesture call when the gesture  
25 operation is invoked.

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(Scroll call when scroll operation is invoked.)



(Gesture call (scaling) when gesture operation is invoked.)

336. For example, the Galaxy S 2 phone issues a scroll call when the scroll operation is invoked.

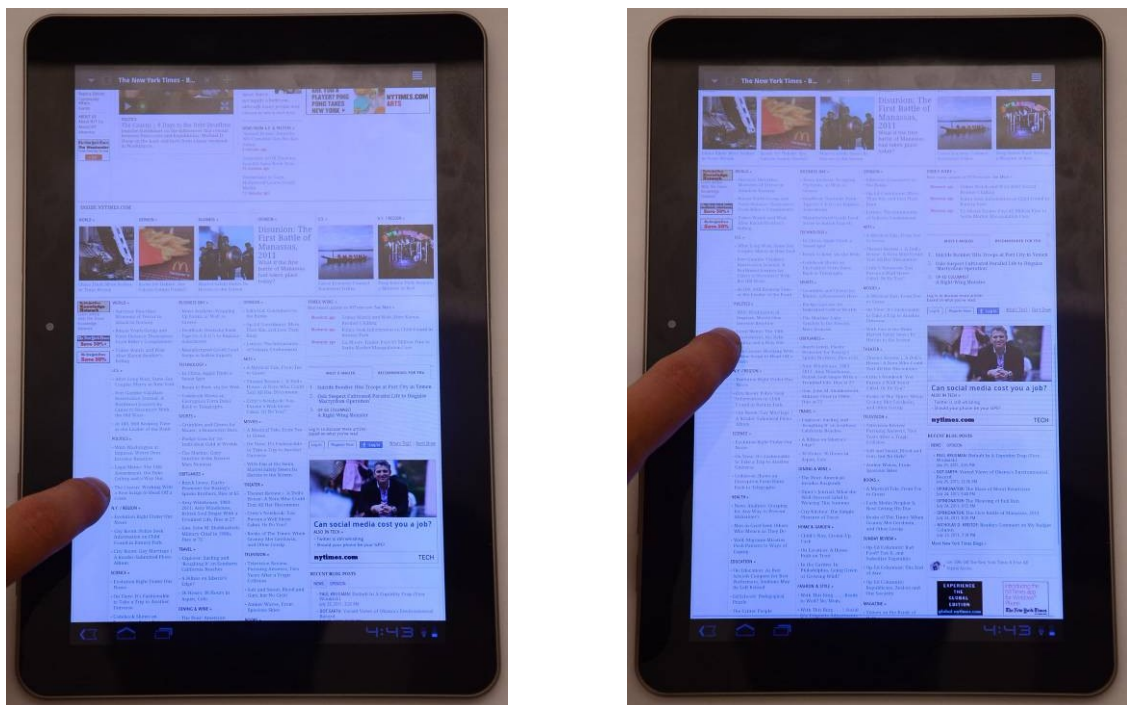


1 executed cause a data processing system to issue at least one scroll or gesture call based on  
2 invoking the scroll or gesture operation, for the same reasons as explained with respect to claim 1.

3       390.   **Claim 8 – Element [e] “responding to at least one scroll call, if issued, by**  
4 **scrolling a window having a view associated with the event object.”** In my opinion, each of  
5 the Accused Products includes a machine readable storage medium storing executable program  
6 instructions which when executed cause a data processing system to respond to at least one scroll  
7 call, if issued, by scrolling a window having a view associated with the event object.

8       391.   Each of the Accused Products responds to a scroll call, if issued, by scrolling a  
9 window having a view associated with the event object based on an amount of a scroll with the  
10 scroll stopped at a predetermined position in relation to the user input.

11       392.   For example, the Galaxy 10.1 tablet will respond to at least one scroll call by  
12 scrolling a window having a view associated with the MotionEvent object, as illustrated below.



25  
26 (Screenshot of the Samsung Galaxy Tab 10.1 scrolling an image.)

1 equivalent to the corresponding structures described in the '891 patent for performing the  
2 functions in claim 74. Accordingly, these three Samsung Accused Products infringe claim 74.

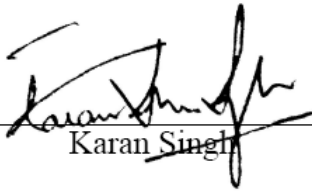
3 **VIII. CONCLUSION**

4 593. My opinions are subject to change based on additional opinions that Samsung's  
5 experts may present and information I may receive in the future or additional work I may  
6 perform. I reserve the right to supplement this Report with new information and/or documents  
7 that may be discovered or produced in this case, or to address any new claim constructions  
8 offered by Samsung or ordered by the court. With this in mind, based on the analysis I have  
9 conducted and for the reasons set forth above, I have preliminarily reached the conclusions and  
10 opinions in this Report.

11 594. In connection with my anticipated testimony in this action, I may use as exhibits  
12 various documents produced in this Action that refer or relate to the matters discussed in this  
13 Report. I have not yet selected the particular exhibits that might be used. In addition, I may  
14 create or assist in the creation of certain demonstrative exhibits to assist in the presentation of my  
15 testimony and opinions as described herein or to summarize the same or information cited in this  
16 Report. Again, those exhibits have not yet been created.

17  
18 Dated: March 22, 2012

/s/

  
Karan Singh