

**PUBLIC VERSION**

design choices. (*Id.* (citing RX-927 at 77-79; JXM-3 at 5:8-10; RX-0118 at 1; Tr. at 2264-66 (Stark)).)

*(e) Dependent claims 12 and 16*

Apple notes that claims 12 and 16 add the limitation “wherein the UE-ID specific CRC is generated by modulo-2 operating a 16-bit CRC with a 16-bit UE-ID.” (*Id.*) Apple claims that R1-041520 taught that precisely. (*Id.* (citing RX-927 at 78, § 4.10.2 (“*mod 2*”); Tr. at 2266 (Stark)).)

*(f) R1-041520 and Lobinger*

Apple further contends that the asserted claims of the '644 patent are obvious over R1-041520 in view of U.S. Patent 7,346,835 (“Lobinger”). (*Id.* (citing Tr. (Stark) at 2273; RX-450).) Apple maintains that R1-041520 teaches everything in the asserted claims except the specific positions for the rate-matching pattern, which were obvious as previously discussed, and Lobinger teaches, or makes obvious, the claimed '644 rate-matching pattern by disclosing Siemens's finding rule. (*Id.* (citing RX-0450; Tr. (Stark) at 2273).) Lobinger identifies the same problem with “conventional” patterns as the '644, which is that “the bits to be punctured are distributed equidistantly over the coded data block,” resulting in the “bit error rate (BER) at the edge of a corresponding coded data block decreases during the convolutional coding process.” (*Id.* at 121-122 (citing RX-0450 at 1:34-39, 1:41-43; Tr. (Stark) at 2268).) Apple says that Lobinger identifies the same solution: a rate matching pattern where “the bits at the start and the end of the respective data block...are punctured to a greater extent” resulting in “the individual bits having an error rate which is more uniformly distributed over the punctured data block and, furthermore, results in a reduced overall error probability.” (*Id.* at 122 (citing RX-0450 (the Lobinger patent) at 2:5-10, 2:26-29; JXM-3 at 6:8-17; Tr. (Stark) at 2268-69).) Apple says that

PUBLIC VERSION

Lobinger taught to begin from a pattern that punctured more intensely near the start and end of the coded bits, and to then iteratively apply the criterion of minimizing the variation in BER at each bit position across the rate-matched block in order to optimize the pattern. (*Id.* (citing RX-0450 at 2:26-29; Tr. (Stark) at 2273).)

According to Apple, Lobinger's finding rule teaches to search for patterns that uniformly distribute BER, and consequently, a reduced overall error probability, by puncturing more at the beginning and end of the data block. (*Id.* (citing RX-0450 at 2:26-26; Tr. (Stark) at 2269).) The obviousness of the '644 rate matching in view of Lobinger's approach is not merely theoretical, argues Apple, because Lobinger states the same finding rule that Mr. Kim used to derive his '644 rate-matching pattern. (*Id.* (citing Tr. (Stark) at 2269-70, (Kim) at 366; RX-850C at 6).)

Comparing Lobinger's Figure 24 against Mr. Kim's { } (RPX-31C) further demonstrates the obviousness of the '644 pattern, shown here: {

}

(*Id.* at 122-123.) Apple says that Figure 3A, on the left, shows the BER distribution from equidistant rate matching as curve "a" and the more uniform BER distribution achieved by Lobinger's inventive pattern as curve "b." (*Id.* at 123.) Apple contends that Figure 3A shows that following the finding rule of minimizing the change of BER at each bit position of the block

**PUBLIC VERSION**

produces a more uniform, or homogeneous, BER distribution across the block. (*Id.*) Apple points out that Mr. Kim's {

}).) Apple claims that not only was Mr. Kim's resulting pattern obvious but it was also the predictable result of adhering to Lobinger's finding rule. (*Id.*)

Therefore, reasons Apple, it would have been obvious to apply Lobinger's finding rule to puncture 30 bits from a block of 90 coded bits to arrive at the claimed '644 rate-matching pattern. (*Id.* (citing Tr. (Stark) at 2273).) For that reason, R1-041520 and Lobinger render the asserted claims of the '644 patent obvious, including the dependent claims, for these various reasons, argues Apple. (*Id.* at 123-124.)

*(g) R1-41520, R1-041326, and Lobinger*

Apple contends that the asserted claims of the '644 patent are obvious over R1-041520 in view of R1-041326 and Lobinger, and should any dependent claim element be found to be lacking, it would have been obvious from R1-041326. (*Id.* at 124.) According to Apple, Motorola published R1-041326 at RAN 1 #39 on or about November 19, 2004 (RX-0118) and therefore it is prior art under at least 35 U.S.C. § 102(a). (*Id.*) Because it was addressing the same problem and being advocated to a group of which the named inventors were a part of, Apple says the motivation to combine would have been overwhelming. (*Id.*)

**PUBLIC VERSION**

*(h) Dependent claims 10 and 14*

Apple notes that claims 10 and 14 add the limitation “wherein the control information comprises an indication of an allowed maximum data rate for transmission of uplink packet data” and it would have been obvious from the teachings of R1-041326 that “[t]he absolute grant (AG) is sent on the absolute grant channel E-AGCH and is used by the Node-B scheduler to assign UE a maximum uplink resource” for a specific HARQ<sup>70</sup> channel ID. (*Id.*) According to Apple, R1-041326 therefore teaches the limitation of these claims. (*Id.*)

*(i) Dependent claims 11 and 15*

Claims 11 and 15 add the limitation “wherein the control information comprises a 5-bit power offset...and a 1-bit validity process indicator[.]” Apple contends that this teaching was obvious from R1-041326, which discloses a 6-bit power offset and a 1-bit validity process indicator. (*Id.* (citing Tr. (Stark) at 2265-66).) Apple says that R1-041326 teaches the use of a power offset by stating that, for the E-AGCH “[it] is currently undecided whether the maximum uplink resource is a power ratio (maximum UE power to DPCCH power ratio) or E-TFC[.]” and “[o]ur preference is for a power ratio.” (*Id.* (citing RX-0118 at APL794-A000002883).) Apple says that although R1-041326 discloses a 6-bit power offset, the alternatives of a 5-bit or 6-bit power offset are a standard engineering choice, devoid of any inventive step, rendering this element obvious. (*Id.* (citing RX-0118 at 2; Tr. (Stark) at 2265-66).) Apple argues that R1-041326 also directly teaches a 1-bit “validity indicator,” rendering this element obvious. (*Id.* (citing RX-0118 at 2; Tr. (Stark) at 2265-66).)

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<sup>70</sup> Hybrid Automatic Repeat request. (JXM-2 at 1:34-35.)



**PUBLIC VERSION**

(j) *Siemens's R1-041520 in view of R1-041326*

Apple says the asserted claims of the '644 patent are obvious over R1-041520 in view of R1-041326, and to the extent that R1-041520 by itself is found to lack any dependent claim element, obviousness would have manifested from its combination with R1-041326. (*Id.*)

(k) *Secondary Considerations*

Apple says that there are no secondary considerations opposing obviousness. First, there is no commercial success tied to the '644 asserted claims. (*Id.* (citing Tr. (Stark) at 2275).)

Apple maintains that Samsung's reliance on TS 25.212 § 4.10 is misplaced because that defines only transmitters in distinction to receivers, which the asserted claims are directed to. (*Id.* (citing RX-0072 at 72; JXM-3, claims 9 and 13).) Apple argues that Samsung's documents show that {

} (*Id.* (citing RX-50C at 6; Tr. (Kim) at 373-374).) Therefore, TS 25.212 is not evidence of commercial success. (*Id.*)

Second, according to Apple, there was no "long-felt but unresolved need." (*Id.* (citing Tr. (Stark) at 2275).) Siemens's proposed R1-041520 instructed that E-AGCH should use the same rate-matching approach as HS-SCCH, and the '644 inventors merely followed that instruction. (*Id.*) Their '644 pattern was but one of an obvious and limited number of design choices. (*Id.* (citing Tr. (Stark) at 2263, 2226-27, 2273).)

Third, there was no "failure of others," according to Apple. (*Id.* (citing Tr. (Stark) at 2275).) On the contrary, Siemens successfully developed an E-AGCH rate-matching pattern and proposed using rate ½ convolutional coding for the E-AGCH. (*Id.* (citing Tr. (Stark) at 2275, (Min) at 3082; RX-137 at 77-78).) Apple argues that the '644 inventors at Samsung knew that {

## PUBLIC VERSION

} . (*Id.* at 125-126 (citing Tr. (Min) at 3084-87; RX-0127C; RX-0416C).) Furthermore, argues Apple, TS 25.212 § 4.10.2 could have used any of the eight patterns listed in column 7 of the '644 patent, including the seven dedicated to the public. (*Id.* at 126.) Two of them (candidate 2 at 7:14-15 and candidate 3 at 7:10-11) are direct copies of HS-SCCH, as previously discussed, and both have the same performance as the claimed '644 pattern. (*Id.* (citing RX-0054 at 2, 4; Tr. (Kim) at 373-374).)

Fourth, there was no “skepticism of experts,” because RAN 1 #39 agreed with Siemens’s instruction to “us[e] the same approach as for HS-SCCH,” which had been known since 2002 and had been long accepted by 3GPP, while Samsung { }. (*Id.* (citing RX-0392C at 20; Tr. (Stark) at 2245-47; RX-129C at 5; RX-0054; RX-927 at 69).) The { }. (*Id.* (citing Tr. at 2263-64 (Stark)).)

Fifth, there is not “licensing” or “acclaim” evidence tied to the '644 asserted claims. (*Id.* (citing Tr. at 2275 (Stark)).) Dr. Min had never heard of the '644 patent or its inventors before he was retained in this Investigation. (*Id.* (citing Tr. at 852 (Min)).) And, lastly, Apple claims that there was development by others, as related above. (*Id.*)

### (2) *Samsung’s response to Apple’s contentions*

#### (a) *Siemens’s E-DCH proposal (RX-927) does not disclose the '644 invention*

Samsung responds that Apple has produced no evidence that supports its contention that a 6-bit AG was considered before the Samsung inventors considered it. (CRBr. at 68.) According to Samsung, even Siemens admits that the 6-bit AG was unknown in RX-927. (*Id.* (citing RX-0136 (3GPP TS 25.212) at 79 (the page where Figure 24 appears)).) Although Dr. Stark called a 6-bit AG an “obvious compromise,” a position that Samsung says was not

**PUBLIC VERSION**

included in either his report or in Apple's pre-hearing brief, Dr. Min explained that even a 1-bit difference would cause significant differences in the channel characteristics and therefore simply selecting a value near the middle range is not an obvious choice. (*Id.* at 69 (citing Tr. at 3023-25 (Min))). Samsung points to the fact that TS 25.212 leaves the control information as a variable,  $w$ , which is significantly different from a fixed value of 6. (*Id.*)

*(b) Siemens did not communicate the '644 invention to Samsung*

Samsung says that Siemens did not even know the '644 invention at the time Apple claims that Siemens communicated the invention to Samsung. (*Id.* (citing RX-0136 at 79).)<sup>71</sup> Samsung asserts that the '644 inventors did consider the Siemens HS-SCCH proposal as a baseline, as mentioned above, but found that it did not work. (*Id.* (citing Tr. at 312, 375 (Kim))). The vast majority of documents that Apple cites actually corroborate the fact {

}.)

Samsung notes that although Apple points to many documents and uses attorney argument that claim that what Siemens had come up with was communicated to the '644 inventors, Apple fails to point to anything that shows a correlation between the Siemens HS-

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<sup>71</sup> Samsung, in footnote 18, at page 69 of its reply brief, complains that Apple's pre-hearing brief does not contain several arguments that were raised for the first time in Apple's post-hearing brief.

## PUBLIC VERSION

SCCH proposal and the claimed rate-matching pattern. (*Id.* at 70 (citing RX-129C).) Nowhere else is there any disclosure of the rate-matching pattern described by the '644 inventors, other than in their patent. (*Id.*) Samsung says that Apple fails to show any correlation between the claimed rate-matching pattern and the HS-SCCH proposal. (*Id.*) The inventors {

} (*Id.* (citing RPX-31C).) What they did not do is develop the patterns using any sort of brute-force method. (*Id.* (citing Tr. (Kim) at 288-292).) This would have been impossible, even if the inventors were able to narrow the range of potential patterns slightly. (*Id.* (citing Tr. (Min) at 3031-33).) But Apple never shows the claimed rate-matching pattern next to the HS-SCCH pattern, because when this is done, the number of differences and the inventiveness in the pattern becomes clear, as shown below: {

**PUBLIC VERSION**

} (*Id.* at 70-71 (citing RDX-2-6 {  
})).) And below is RPX-31C, displaying the claimed rate-  
matching pattern, which is shown {

} (*Id.* at 71-72.) Samsung says that it can be seen, even by the untrained eye, that Apple  
selectively pointed to several {  
}, it is evident  
why Apple did not compare the HS-SCCH pattern to the claimed rate-matching pattern: the  
differences are extensive. (*Id.* at 72 (citing RPX-31C).)

(c) *Obviousness in view of R1-041520*

Samsung says that Apple's allegations that the asserted claims were obvious in view of  
R1-041520 is pure assumption based on hindsight bias, particularly inasmuch as this reference  
does not disclose the size of the control information. (*Id.*) Samsung notes that Dr. Stark  
admitted that R1-041520 does not disclose the rate-matching pattern. (*Id.* (citing Tr. (Stark) at

## PUBLIC VERSION

2324).) Samsung notes that Siemens also admitted that its other proposals do not disclose the size of the control information or the rate-matching pattern. (*Id.* (citing RX-0136 at 79).)

### (d) *Obviousness in view of R1-041520 in combination with Lobinger*

Samsung argues that Apple's attempt to combine R1-041520 with Lobinger does not cure the fatalities of R1-041520, because Lobinger presents the same problems that the inventors encountered with the HS-SCCH. (*Id.* (citing Tr. (Min) at 3029-32, 3039-40).) Samsung argues that Lobinger does not include any of the elements of the claims and certainly does not disclose the claimed rate-matching pattern. (*Id.* at 72-73.) Samsung argues that a person of ordinary skill in the art would not have been motivated to combine Lobinger and R1-041520 because they address completely different channels. (*Id.* (citing Tr. (Min) at 3029-32, 3039-40, (Stark) at 2332).) In fact, when the '644 inventors attempted to use the teachings from the HS-SCCH for the E-AGCH, it did not work. (*Id.* (citing Tr. (Kim) at 312, 325).)

### (e) *Secondary considerations*

Samsung argues that Apple provides no evidence other than conclusory statements for its contentions that there are no secondary considerations of non-obviousness. (*Id.* at 73.) Despite the fact that Apple admits that base stations comply with the 3GPP TS 25.212 standard, Apple ignores the fact that every device on an HSUPA network must receive those signals, argues Samsung. (*Id.*) In order to receive those signals, the devices must practice the patent, as evidenced by the Accused Domestic Industry Products, according to Samsung. (*Id.*) Apple ignores the fact that Siemens admitted that it did not know a rate-matching pattern and thereby showed attempted invention by others and a long-felt need. (*Id.* (citing Tr. (Min) at 3038-39; RX-0136 at 79).) Instead, Apple points to just a conclusory statement from Dr. Stark who did not point to any evidence to support his conclusion. (*Id.*) In fact, argues Samsung, Dr. Stark

## PUBLIC VERSION

admitted that he had no evidence that disclosed the rate-matching pattern claimed in the '644 patent. (*Id.* (citing Tr. (Stark) at 2324, 2327).) Samsung says that Apple has not carried its burden of demonstrating that Siemens was first to possess the '644 invention. (*Id.*) And lastly, Samsung says that Apple ignores the evidence showing that there were alternative proposals, extensive discussions and eventual adopting by the 3GPP of the technology in the '644 patent. (*Id.* at 74 (citing Tr. (Kim) at 288-292).)

### (3) *Staff's position*

Staff is of a like mind with Samsung and concludes that the evidence relied upon by Apple does not demonstrate the key element of the specific puncturing rate claimed in the '644 patent and therefore the combination of prior art referred to by Apple does not render the '644 patent invalid for obviousness. (SBr. at 85-86.)

### (4) *The findings of the Administrative Law Judge*

The Administrative Law Judge concludes that the evidence does not demonstrate clearly and convincingly that any of the asserted claims of the '644 patent is invalid for obviousness, based on the prior art references relied on by Apple, either separately or combined. They all lack disclosure of the specific rate-matching pattern espoused by the patent, and the bridge between what is disclosed in the entire prior art mentioned by Apple and what is claimed in the '644 patent with respect to the rate-matching pattern has not been established by Apple. While the evidence does show that the '644 inventors made use of the Siemens proposal, there is no getting around the fact that the suitability of that proposal for purposes of the of the objectives of the '644 invention was short of the mark and the inventors had to {

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PUBLIC VERSION

3. '980 Patent.

a) IBM's Simon, anticipation, claim 5

Apple argues that IBM's Simon is anticipatory prior art that invalidates claim 5. (RBr. at 187.) The undisputed evidence shows that the Simon smart phone was released by IBM in 1994 and sold in the United States by 1995. (*Id.*; RX-0437; RX-480 at 1:23-26; RX-115C at APL794-N0000012320; SBr. at 104.) Thus it is prior art to the '980 patent, which on its face has a priority date of December 2, 1999. (JXM-5 at Samsung-AppleITC000068.)

*(1) A method for dialing a phone number in a smart phone having random access memory (RAM) and both personal digital assistant (PDA) and mobile phone functions during operation of a PDA function*

The evidence shows that the Simon is a cellular phone “with personal organization and communication features[,]” including phone, “Fax and Mail”, and Note Pad functions. (*See e.g.*, RX-437 at 16, 18, 23, 43, 63 (Simon user manual); RX-115C at APL794-N0000012320 (Jung Kyu Moon article).) Dr. Ingers further testified that the Simon is a smart phone that has RAM. (Tr. at 2847-49. *See also* RX-115C at APL794-N0000012320 (“The very first mass-produced smart phone was the Simon. . . .”)) According to Dr. Ingers, the Simon undisputedly meets all the elements of the preamble. (Tr. at 2848-49. *See also* SBr. at 104.) The Administrative Law Judge finds that the clear and convincing evidence shows that Simon is a smart phone with RAM that is able to dial a phone number and that has both PDA and mobile phone functions during operation of a PDA function such that the preamble of claim 5 is met.

*(2) loading an operating system (OS) program for said PDA function*

Dr. Ingers testified that it is undisputed that the Simon loads an operating system on power up. (Tr. at 2850-51.) He said that, among other things, he consulted with Frank Canova,



## PUBLIC VERSION

lead architect of the IBM Simon team, to learn about the Simon OS. (*Id.* at 2851-52.) He explained:

The Simon has a compressed version of DOS sitting in ROM. When you power up the Simon, that gets decompressed, copied over into RAM, and starts executing. The Simon executes an application at a time, so if you are in a PDA function, notes, and you move over to the phone application, it will close down notes and bring up the phone to continue the call.

(*Id.* See also Tr. at 2946; SBr. at 104 and the evidence cited therein.)

Even though Dr. Ingers testified that the loading element was undisputed, Mr. Cole testified that “the Simon specifically does not load an operating system.” (Tr. at 3162; CBr. at 177.) Apple objected at the hearing that Mr. Cole’s testimony was not disclosed in Samsung’s Pre-Hearing Brief, but in the interests of time the Administrative Law Judge told the parties to address it in the Post-Hearing Briefs. (Tr. at 3162-63.) In the briefing, Apple argues that Mr. Cole’s testimony should be disregarded because he “did not dispute this limitation for the Simon in his rebuttal report, and because Samsung did not dispute that the Simon teaches this limitation in its pre-hearing brief.” (RBr. at 188.) Apple also argues that Mr. Cole relied on the deposition testimony of Mr. Allard even though this testimony was contradicted by multiple sources. (*Id.* at 189.) While Samsung argues this element on the merits, Samsung failed to address the issue of whether Mr. Cole presented new opinions at the hearing or whether it disputed this element in its Pre-Hearing Brief. (CBr. at 177-79; CRBr. at 122-23.) A review of Samsung’s Pre-Hearing Brief shows that Samsung never disputed that the Simon meets the OS element of claim 5. (Samsung Pre-Hearing Brief at 92-96.) The Administrative Law Judge finds that Apple’s hearing objection is sustained, and further finds that by failing to preserve the issue in its Pre-Hearing Brief<sup>72</sup> Samsung has abandoned or withdrawn its ability to dispute that the Simon meets

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<sup>72</sup> The pre-hearing brief, *inter alia*, serves the critical function of notifying all involved of what issues remain

## PUBLIC VERSION

the first element (loading an operating system (OS) program for said PDA function) of claim 5. See Ground Rule 7.2 (requiring parties to disclose their contentions with particularity and warning that “[a]ny contentions not set forth in detail as required herein shall be deemed abandoned or withdrawn, except for contentions of which a party is not aware and could not be aware in the exercise of reasonable diligence. . .”).

The Administrative Law Judge notes that while there was mention of contradictory deposition testimony by Mr. Allard (Tr. at 2938), Dr. Ingers was able to credibly respond to and reconcile this contradiction. (*Id.* at 2936, 2946.) The Administrative Law Judge concludes that the clear and convincing evidence shows that the Simon is able to meet this element of claim 5.

*(3) loading a phone program for editing and dialing a phone number along with displaying a phone editor and dialing icon if said PDA function is requested by a user*

Apple argues that “the Simon teaches a phone program that is capable of editing and dialing a phone number along with displaying a phone editor and dialing icon, and that is loaded if said PDA function is requested by a user.” (RBr. at 189 (internal formatting omitted).)

Samsung disputes that the Simon loads a phone program or discloses a phone editor that allows a user to edit a selected phone number before dialing. (CBr. at 173, 179.) Staff disputes that the Simon has a phone editor. (SBr. at 105.)

A review of the evidence shows that the Simon has a feature that allows users to select, or “mark,” phone numbers for dialing:

### **Mark to Dial**

You can mark telephone numbers in notes and forms by touching the screen, sliding your stylus to adjust the cursor position, pausing a moment (until you hear a short beep), then sliding your stylus again. As you slide your stylus, the number highlights. When you’ve marked the number you want, lift your stylus from the screen. A pop-up menu appears. To dial, select Dial from the menu. The In-call

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disputed so that they may prepare for the hearing accordingly.

## PUBLIC VERSION

screen will appear as the Phone feature places the call. For example, this can be useful if someone sends you a phone number in an electronic mail message. Just mark it and dial.

(RX-437 at 26; RPX-6.) Dr. Ingers confirmed that a Simon user may select a phone number in the note pad application, highlight it, press the dial button, and place a phone call. (Tr. at 2848.)

Dr. Ingers also testified that the phone program on the Simon loads at startup and therefore it does not teach “loading a phone program” if the claimed PDA function is requested by a user. (*Id.* at 2855:6-12. *See also* RBr. at 192.<sup>73</sup>) The Administrative Law Judge finds that the clear and convincing evidence<sup>74</sup> shows that the “loading a phone program” limitation of claim 5 is therefore not met by the Simon.

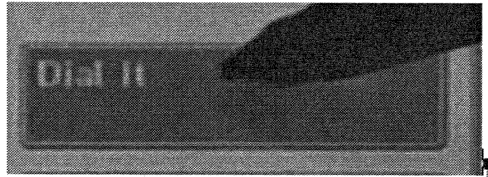
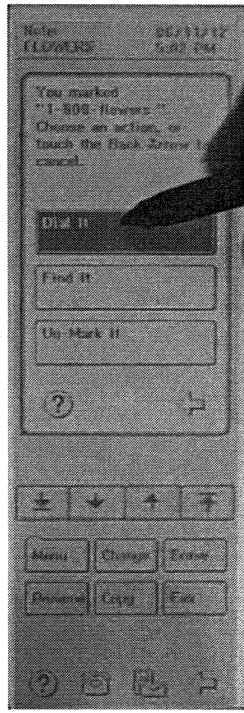
The Administrative Law Judge further finds that the Simon does not display a dialing icon when the user is in the “mark to dial” mode. Dr. Ingers testified that the Simon displays a dialing icon in the mark to dial mode. (Tr. at 2855-56.) The pop-up menu displays a “dial it” button, which does not contain pictorial elements. (RBr. at 189-90; RPX-6.)

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<sup>73</sup> Apple curiously argues that Dr. Ingers testified that if a user turned off the Simon phone application, then if the user later used the “mark to dial” feature from a PDA application, “the Simon would load and start executing the phone application.” (RBr. at 192 (citing Tr. at 2861:15-2862:2; RDX-14-115; RDX-14-29).) It is noted that the only substantive evidence Apple relies on is Dr. Ingers’s testimony. He stated unequivocally on the record that the “loading a phone program” limitation is not met by the Simon (Tr. at 2855) and only testified in the passage Apple relies on that the phone program would be “turned on” and would “meet the executing limitation.” (Tr. at 2861:15-2862:5.) He did not say anything about the phone program loading or that the “loading a phone program limitation” of claim 5 would be met. (*Id.*) Thus Apple’s argument lacks evidentiary support and is rejected.

<sup>74</sup> Mr. Cole testified that Mr. Allard said “we tried to limit” software loading on power up, however, it is not clear what software was or was not limited. (Tr. at 3165.) Thus, Mr. Cole’s testimony does not shed much light on this issue. Mr. Cole also said he believed the Simon is not able to meet this limitation on the basis that he thought the phone program may have run out of the ROM, although again, he doesn’t appear to base this opinion on evidence specific to the phone program. (*Id.*) What is worth noting, however, is that Mr. Cole does not dispute that this limitation is not met.

PUBLIC VERSION



(RDX-14-21 (details); Tr. at 2855:21-2856:7; RPX-6.) Indeed, Dr. Ingers himself said an icon needs a pictorial element. (Tr. at 2824:23-24.) The Administrative Law Judge finds for the reasons discussed with respect to the “dialing icon” limitation in the infringement section above that Apple has failed to show by clear and convincing evidence that the Simon discloses the claimed “dialing icon” of claim 5 of the ‘980 patent. (*See* Section IV.D.1.a)(5) above.)

With respect to the phone editor limitation, Dr. Ingers testified that a Simon user could edit a phone number in the Simon fax function as follows:

The user wants to send a fax, so he selects the fax number he wants to send. Here he selects the number. And then he realizes this was wrong, so he unmarks it, goes into change mode, edits the number, adding an area code.

(Tr. at 2856:17-21.<sup>75</sup>) Dr. Ingers then elaborated:

<sup>75</sup> Samsung moved to strike this testimony on the basis that it “goes beyond the scope of Dr. Ingers’[s] expert report. . . .” (*Id.* at 2857.) The Administrative Law Judge found that the matter should be reserved for the Post-Hearing Briefs. (*Id.*) The Administrative Law Judge finds that Samsung’s motion to strike (Tr. at 2857) should be denied. Apple disclosed this contention in its Pre-Hearing Brief on p. 86. Furthermore, Samsung admits that Dr. Ingers disclosed it in his report. (CBr. at 176.)

## PUBLIC VERSION

You enter note pad, a PDA function. You select one of the notes you have stored. Here you have a phone number or you want to send this, so you press “fax,” this note. You select from the address book. That’s where you select from where you want to send it. You find the number you want to send it to, and here you can edit the number before you actually send it. And the user edits the number, presses done, and now it prepares and then proceeds to dial and send the fax.

(Tr. at 2857-58.) Apple also argues that the Simon teaches a “phone editor” by permitting users to select and edit a phone number in the address book program before dialing it. (RBr. at 191; Tr. at 2858.)

Samsung responds that the features identified by Apple do not show that a Simon user may select a phone number from a PDA function and edit it prior to dialing. (CBr. at 173-75.) Because a user cannot edit the number prior to dialing in the “mark to dial” feature, there is no disclosure of the claimed phone editor. (*Id.*; Tr. at 3169 (Cole).) Staff agrees. (SBr. at 105.)

The Administrative Law Judge concludes, for the reasons and evidence cited by Samsung and Staff and further based on an examination of the Simon (RPX-6), that the Simon “mark to dial” feature does not teach or disclose the claimed “phone editor” limitation of claim 5. Claim 5 specifies that if the user selects the claimed PDA function, the claimed smart phone loads the phone program along with displaying a phone editor (a user interface that allows the user to edit the phone number prior to dialing) and dialing icon. (JXM-5 at 4:42:44; Markman Order at 73, 78.) The user’s only choice for the Simon when the alleged dialing icon is displayed is to “dial,” “find,” or “unmark.” (RDX-14-21; RPX-6; RX-437 at 26.) Editing a number prior to dialing is not an option. (*Id.*) The Administrative Law Judge also notes that the fact that the “mark to dial” feature does not permit editing further serves to support the above finding that the Simon does not meet the claimed “phone program for editing and dialing a phone number” limitation of claim 5.

## PUBLIC VERSION

With respect to Apple's argument that the fax feature discloses a "phone editor," Samsung responds that the fax feature does not permit a user to send a fax to a number displayed in a PDA function. (CBr. at 174.) The Administrative Law Judge agrees. (RPX-6.) It is noted as well that because Dr. Ingers's testimony related to the fax function, not the phone, the Administrative Law Judge finds that it is of questionable relevance in terms of teaching or disclosing the "displaying a phone editor" limitation of claim 5. The display of the "phone editor" is not divorced from the "phone program" (which Apple alleges is the "mark to dial" feature (RBr. at 193)); this is because of the words "along with" in the claim. (JXM-5 at 4:42-44.) Thus, it is not enough that a "phone editor" is displayed in isolation (allegedly in the fax function) if the Simon does not teach or disclose the other temporally connected limitations in the claimed step. As noted above, Dr. Ingers specifically stated that the Simon does not meet the "loading a phone program" limitation, which occurs "along with" displaying a phone editor in the claim element.

With respect to Apple's argument that the Simon address book is a phone editor, the Administrative Law Judge has reviewed the underlying testimony by Dr. Ingers and finds that it consists of no more than a conclusory statement that fails to explain how the Simon meets the claimed limitation. (Tr. at 2858.) The Administrative Law Judge finds that Apple has not shown by clear and convincing evidence that the Simon address book discloses or teaches the claimed phone editor limitation.

The Administrative Law Judge concludes that Apple has not shown by clear and convincing evidence that the Simon anticipates the element "loading a phone program for editing and dialing a phone number along with displaying a phone editor and dialing icon if said PDA function is requested by a user" of claim 5.

## PUBLIC VERSION

*(4) executing said phone program if said user selects a phone number during operation of said PDA function*

Apple argues that if the user selects a phone number while using a PDA function, the Simon executes the phone program. (RBr. at 193.) Samsung does not appear to dispute this limitation. (CBr. at 173-180.) Staff is equally silent on this issue. (SBr. at 104-5.)

According to Dr. Ingers, the phone program on the Simon could be turned off by the user. (Tr. at 2862-63.) In that event, if the user is in a PDA function, highlights a number using the “mark to dial” feature, and presses “dial it,” then the phone program will turn on. (*Id.*; RPX-6.) Dr. Ingers testified that if that occurs, this would meet the “executing said phone program” limitation because the phone program would not have been already executing. (Tr. at 2862-63.)

The Administrative Law Judge concludes that the clear and convincing evidence shows that in certain circumstances, the Simon is able to execute the claimed phone program if the user selects a phone number during operation of the claimed PDA function.

*(5) storing an identifying name designated for the selected phone number into a phone book*

Apple argues that the Simon address book application is able to store an identifying name for the selected phone number into a phone book. (RBr. at 194.) Samsung argues that Apple has not pointed to any Simon feature that stores an identifying name associated with the selected number. (CBr. at 176-77.) Staff notes that the Simon user could not store the selected number to an address book without exiting the phone program and returning to the PDA function. (SBr. at 105.)

Dr. Ingers testified that a user may store an “entry” in the Simon address book. (Tr. at 2860 (referring to RDX-14-31).)

## PUBLIC VERSION

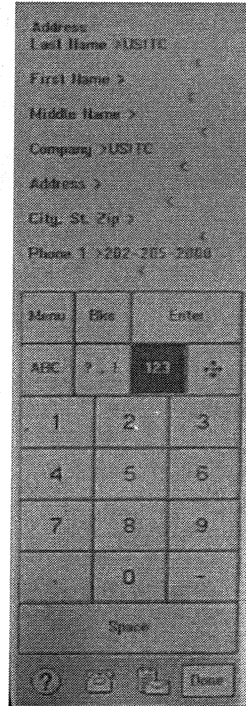
5. A method for dialing a phone number in a smart phone having random access memory (RAM) and both personal digital assistant (PDA) and mobile phone functions during operation of a PDA function, comprising the steps of:

- loading an operating system (OS) program for said PDA function;
- loading a phone program for editing and dialing a phone number along with displaying a phone editor and dialing icon if said PDA function is requested by a user;
- executing said phone program if said user selects a phone number during operation of said PDA function;
- storing an identifying name designated for the selected phone number into a phone book; and
- dialing the selected phone number.

*JXM-5 ('980 Patent) Claim 5*

"The Administrative Law Judge finds that a person of ordinary skill in the art would understand that 'identifying name' as it is used in claims 5 and 10 of the '980 patent means 'a name associated with the selected number.'"

*Order No. 63 at 85*



(RDX-14-31.) However, this scant testimony does not explain how the Simon is able to perform the step of storing an identifying name designated for the phone number the user selected during operation of a PDA function into a phone book. For the reasons articulated by Samsung and Staff and the evidence cited by them, as well as an examination of RPX-6, the Administrative Law Judge concludes that Apple has not shown by clear and convincing evidence that the Simon anticipates this element of claim 5.

### *(6) dialing the selected phone number*

As noted above, the undisputed evidence shows that when a user uses the Simon "mark to dial" feature, the Simon will dial the selected phone number. (RX-437 at 26; RPX-6; Tr. at 2848.) The Administrative Law Judge concludes that the clear and convincing evidence shows that the Simon discloses the final limitation of claim 5.



## PUBLIC VERSION

Because the Simon does not disclose certain limitations of claim 5 of the '980 patent, the Administrative Law Judge concludes that the Simon does not anticipate this claim.

### **b) IBM's Simon and knowledge of persons of skill in the art, obviousness, claim 5**

Apple also argues that claim 5 of the '980 patent would have been obvious in view of the IBM Simon when combined with the knowledge of a person of ordinary skill in the art. (RBr. at 187.) Specifically, Apple argues, based on Dr. Ingers's testimony, that the "loading an operating system" limitation, "loading a phone program" limitation, "dialing icon" limitation, "phone editor" limitation, "executing said phone program" limitation, and "storing an identifying name" limitation would have been obvious to one of skill in the art. (*Id.* at 188, 190-93.)

Samsung responds that the combination of functionalities in the asserted '980 patent claims is novel and that Apple has not shown any evidence of why one of ordinary skill in the art "would find that the Simon rendered the asserted claims obvious, or a teaching, suggestion, or motivation to supply the missing limitations." (CBr. at 180; CRBr. at 119-20, 125.) Samsung also points out that Apple failed to set forth a full obviousness analysis. (*Id.* at 180-81; CRBr. at 121. *See also* Ground Rule 10.1 ("[A]n analysis relating to a 35 U.S.C. § 103 obviousness defense should encompass a discussion of the scope and content of the prior art, the level of ordinary skill in the art, a comparison of the claimed invention and the prior art, and any secondary considerations of non-obviousness—not just a comparison of the claimed invention and the prior art.")) Samsung also argues that Apple was specifically barred from making certain obviousness combinations and therefore requests that any attempts to circumvent the

## PUBLIC VERSION

Administrative Law Judge's Order No. 83<sup>76</sup> through Apple's analysis of the Miller reference with the Simon phone should be disregarded. (CRBr. at 124.)

Staff argues that the evidence introduced at the hearing was insufficient to meet the clear and convincing standard for establishing obviousness. (SBr. at 108.)

The Administrative Law Judge finds, based on a consideration of the totality of the evidence, that Apple has not clearly and convincingly demonstrated that the Simon in combination with the knowledge of a person of skill in the art rendered claim 5 of the '980 patent obvious—particularly for the reasons articulated by Samsung and Staff. The Administrative Law Judge finds that a review of Dr. Ingers's testimony shows that while various limitations of the claimed invention may have been known in the art in isolation, he failed to explain how, in light of the Simon, one of skill would have had an apparent reason to combine the known elements in the fashion claimed by claim 5 of the '980 patent. (Tr. at 2842-2844:1, 2849-50, 2853-55, 2878-85 (Etalpera, Beatty, Miller for purposes of showing the knowledge of one of skill only<sup>77</sup>); *KSR*, 550 US. at 418.) The evidence does not clearly and convincingly show that this is an instance where a few variations on the Simon would have resulted in the claimed invention. Nor does it clearly and convincingly show that one of skill in the art, a person with a

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<sup>76</sup> Order No. 83 provides in pertinent part that

The Administrative Law Judge finds, however, that Respondent's expert should be limited to what he has disclosed in his report(s) and deposition and not be permitted to newly elaborate on specific combinations. (See Ground Rules 5, 9.5.6.) Even in his deposition, Dr. Ingers did little more than cite a few groupings of references for the '843 patent without analyzing them and said "I haven't thought about it prior to today." (Mot., Ex. 7 at 120-123, 143:17-19.) However, to the extent that Dr. Ingers set forth the ingredients for the obviousness combinations in his reports or deposition, testimony limited to these prior disclosures will be allowed. In other words, Dr. Ingers set forth his analysis in a particular manner, which was echoed in Respondent's pre-hearing brief, and he and Respondent may continue in this manner. Specifically, Respondent is advised that similar limitations will apply to the post-hearing briefing: to the extent that Respondent chose not to provide a combination by combination analysis in the pre-hearing brief, instead setting forth the ingredients for the obviousness combinations, Respondent may not change its system in the post-hearing briefing. (See Ground Rule 10.2.)

(Order No. 83 at 3.)

<sup>77</sup> (See Order No. 83.)

## PUBLIC VERSION

bachelor's degree in something like computer science or electrical engineering and a couple years' of experience in computer software development, could just toss a known phone and known PDA together to get the claimed smart phone. Instead, quite a few of the claim 5 limitations were not disclosed in the Simon, and furthermore, these missing limitations would have required interaction with other limitations (e.g., the "loading a phone program for editing and dialing a phone number" and "displaying a phone editor and dialing icon" aspects of the second element) such that more than a simple substitution of disparate, known limitations would have been needed to render claim 5 obvious. The Administrative Law Judge notes that the Examiner recognized that even though certain elements were known in the art<sup>78</sup>, that applicant had submitted an allowable combination in application claim 5:

The closest of reference Nguyen (U.S. Patent No. 5,797,089), Bergins (U.S. Patent No. 5,826,198), with the cited references and the record of prior art fails to teach or suggest, the mobile phone functions during operation of a PDA function, comprising the loading a phone program for editing and dialing a phone number along with displaying a phone editor and dialing icon if the PDA function is requested by the user; executing the phone program if the user selects a phone number during operation of the PDA function; storing an identifying name designated for the selected phone number into a phone book; and dialing the selected phone number, as cited in claim 5. (Claims 6-9 are dependent claim).

(JXM-6 at Samsung-AppleITC003618-20 (first office action).) Indeed, claim 5 was allowable without any need for debate or defense by applicant, and when claim 10 was amended to align it more with claim 5, it too was allowed. (*Id.* at 3712, 3717-18.) Thus the Administrative Law Judge finds that clear and convincing evidence of a reason to combine is necessary under the circumstances, and concludes that it is lacking here.

With respect to secondary considerations of nonobviousness, the Administrative Law Judge has considered the parties' arguments and finds that they did not adduce evidence here that

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<sup>78</sup> See Examiner's discussion of related claim 10.

## PUBLIC VERSION

would affect the above findings. First, Samsung argues that “the ‘980 patent enjoyed considerable commercial success, was frequently licensed, solved a long felt but unresolved need, and succeeded where other individuals had failed further demonstrating that the ‘980 patent is non-obvious.” (CBr. at 180 (relying solely on RX-204C).) The sole piece of evidence Samsung relies on is a single patent license. (RX-204C.) Samsung did not provide a page cite or provide any explanation as to how the document supports its broad claim regarding “considerable commercial success” or frequent licensing. A cursory review of this exhibit shows that it appears to be a license of all patents, not one specific to the ‘980 patent. The Administrative Law Judge finds that this evidence is not supportive of Samsung’s broad statement.

Turning to Apple’s evidence, Apple argues that “Mr. Cole admitted that he was not aware of anyone who had licensed the ‘980 patent, Mr. Moon conceded that the patent had never received any award or acclaim, and Dr. Ingers explained that there was no long-felt but unresolved need and that the very problem identified in the ‘980 patent had been solved six years earlier.” (RBr. at 203 (citing (Tr. at 1475:10-1476:3 (Moon), 2473:5-12, 2473:16-19 (Cole), 2810:3-7, 2885:2-23 (Ingers); JX-0024C at 124:18-21, 126:23-127:4, 127:6-9 (Moon)).) The Administrative Law Judge finds that these statements, for the most part, are of stunted relevance.

First, Mr. Cole’s lack of knowledge regarding Samsung’s licensing is irrelevant, as he was not a factual witness called to testify on such matters. Second, Mr. Moon’s testimony is somewhat unclear. While Apple obtained sound bites that Mr. Moon’s invention was never mentioned in any publication or book, Apple also vigorously sought to get Mr. Moon to admit his invention was mentioned in a specific publication: his own. (*Compare* Tr. at 1475-76 with 1480-82.) Mr. Moon was not asked if this other publication received any recognition or mention.

## PUBLIC VERSION

(*Id.*) It is also noted that Mr. Moon was not asked if his Korean patent (KR 1999-54380), from which the '980 patent claims priority, received any recognition or mention. (*Id.*) Finally, with respect to Dr. Ingers, the first cite Apple relies on does not support Apple's statement: Dr. Ingers merely states that he had not previously heard of the patent. (Tr. at 2810:3-7.) As for the second cite, as noted above, the '980 patent is a combination patent, and thus the Administrative Law Judge finds it irrelevant that the "problem" identified in the '980 patent was allegedly solved in another manner six years earlier. Even if it were relevant here, Dr. Ingers did not specifically state how he believed this problem was solved six years ago (Tr. at 2885:18-20) and if he was referring to the Simon phone, the Administrative Law Judge already found above that the Simon does not anticipate claim 5 of the '980 patent. While the Administrative Law Judge finds that Apple has made the point that the '980 patent does not appear to be famous in the United States, this does not impact the Administrative Law Judge's finding above that Apple has not shown by clear and convincing evidence that claim 5 of the '980 patent would have been obvious to one of skill in the art.

**c) IBM's Simon, anticipation, claim 9:** *"The method as defined in claim 5, wherein said phone number is selected by one of pressing a touch screen and dragging a mouse."*

For the reasons explained above, the Administrative Law Judge has found that the Simon phone does not disclose various limitations of independent claim 5, and therefore the Simon does not infringe dependent claim 9. However, it is undisputed that the Simon discloses the additional limitation of selecting a phone number by pressing a touch screen. (Tr. at 2862 (Ingers); RPX-6; SBr. at 104; CBr. at 173-181; CRBr. at 126; RBr. at 197.)

**PUBLIC VERSION**

**d) IBM's Simon, anticipation, claim 10.**

*(1) A method for dialing a phone number in a smart phone having both personal digital assistant (PDA) and mobile phone functions; storing an identifying name designated for the selected phone number into a phone book; and dialing the selected phone number.*

The preamble of claim 10 contains many of the same limitations as the preamble of claim 5, and the storing and dialing elements are identical. The evidence shows that the Simon is a cellular phone “with personal organization and communication features[,]” including phone, “Fax and Mail”, and Note Pad functions. (See e.g., RX-437 at 16, 18, 23, 43, 63 (Simon user manual); RX-115C at APL794-N0000012320 (Jung Kyu Moon article).) Dr. Ingers further testified that the Simon is a smart phone. (Tr. at 2847-49. See also RX-115C at APL794-N0000012320 (“The very first mass-produced smart phone was the Simon. . .”).) According to Dr. Ingers, the Simon meets all the elements of the preamble. (Tr. at 2863. See also SBr. at 104.) The Administrative Law Judge finds that the clear and convincing evidence shows that Simon is a smart phone able to dial a phone number and having both PDA and mobile phone functions such that the preamble of claim 10 is met. For the reasons discussed above with claim 5, the Administrative Law Judge finds Apple has not shown by clear and convincing evidence that the Simon anticipates the “storing an identifying name” element of claim 10. For the reasons discussed above with claim 5, the Administrative Law Judge concludes that the clear and convincing evidence shows that the Simon discloses the final “dialing” element of claim 10.

## PUBLIC VERSION

*(2) executing a dialing program for editing and dialing a phone number and displaying a phone editor and a dialing icon when a PDA function is utilized in said smart phone;*

The Administrative Law Judge finds Apple has not shown by clear and convincing evidence that this element of claim 10 is anticipated by the Simon. For the reasons discussed with respect to claim 5, the Administrative Law Judge finds that the Simon does not meet the claimed limitation “a dialing program for editing and dialing a phone number.” (*See also* Section IV.D.1.b)(2) above with respect to the similarities and differences between a “phone” and “dialing” program and regarding Apple’s misinterpretation of the Markman Order.) In addition, for the reasons discussed with respect to claim 5 above, the Administrative Law Judge finds that the Simon does not disclose the “displaying. . . a dialing icon” limitation of claim 10. Likewise, for the reasons discussed with respect to claim 5, the Administrative Law Judge finds that the Simon does not anticipate the “displaying a phone editor” limitation of claim 10.

*(3) switching a display screen into a dialing state for selecting a phone number when said dialing icon is selected during the performance of said PDA function;*

The Administrative Law Judge finds Apple has not shown by clear and convincing evidence that this element of claim 10 is anticipated by the Simon. For the reasons discussed with respect to claim 5 above, the Administrative Law Judge finds that the Simon does not disclose the “dialing icon” limitation of claim 10. With respect to the “switching a display screen into a dialing state” limitation, Apple argues that the Simon switches to a dialing state after the user selects the “dial it” button when using the mark to dial feature. (RBr. at 196; Tr. at 2848 (Ingers).) Samsung does not appear to refute this assertion and Staff is silent on the issue. (CBr. at 173-180; CRBr. at 119-126; SBr. at 104-5.) The Administrative Law Judge concludes that the clear and convincing evidence shows that the Simon is able to “switch a display screen

PUBLIC VERSION

into a dialing state[,]" although the Administrative Law Judge notes that Apple has not shown that the screen is switched "into a dialing state for selecting a phone number[.]<sup>79</sup>" (See also RPX-6.)

**e) IBM's Simon and knowledge of persons of skill in the art, obviousness, claim 10.**

For the reasons discussed above with respect to claim 5 above, the Administrative Law Judge concludes that Apple has not clearly and convincingly shown that, in view of the IBM Simon and the knowledge of a person of skill in the art, claim 10 of the '980 patent would have been obvious.

**f) IBM's Simon, anticipation, claim 13:** *"The method as defined in claim 10, wherein said selected phone number is selected by one of pressing a touch screen and dragging a mouse."*

For the reasons explained above, the Administrative Law Judge has found that the Simon phone does not disclose various limitations of independent claim 10, and therefore the Simon does not infringe dependent claim 13. As discussed above with like claim 9, it is undisputed that the Simon discloses the additional limitation of selecting a phone number by pressing a touch screen.

**g) Allard,<sup>80</sup> anticipation, claim 5.**

U.S. Patent No. 5,815,142 (the "Allard patent") was filed on December 21, 1995 and is prior art to the '980 patent. (RX-480.) The Allard patent relates to aspects of the IBM Simon device, claiming the method of marking information on a touch sensitive display screen of a

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<sup>79</sup> Apple also attempts to argue that this limitation is met with the Simon fax feature. (RBr. at 196-97.) For the reasons discussed above with respect to claim 5, the Administrative Law Judge disapproved Apple's attempts to turn the Simon fax feature into the claimed phone limitations.

<sup>80</sup> It is noted that due to its own conduct, Apple was barred from combining the Simon with the Allard. (Tr. at 2850; Order No. 83.)



## PUBLIC VERSION

computer system. (*Id.* at APL794-A0000023837, 840.) Apple argues that the Allard patent “anticipates the asserted claims of the ‘980 patent[.]” (RBr. at 197.)

*(1) A method for dialing a phone number in a smart phone having random access memory (RAM) and both personal digital assistant (PDA) and mobile phone functions during operation of a PDA function*

According to Apple,

[t]he Allard patent discloses a smartphone that combines the functions of a mobile phone (e.g., dialing voice and fax calls) with PDA functions (e.g., address book, calendar, to-do, note pad, and mail functions), and that also included RAM. (Tr. [Ingers] at 2869:9-2870:4; RX-0480 [Allard], 1:23-32, 3:45-47, Figs. 4 and 5; RX-0428 [Whitley], Abstract, 1:38-50, 2:40-52, 3:66-4:22, Fig. 1; RDX 14-51.)

(RBr. at 198.) Samsung and Staff do not appear to dispute that the Allard patent discloses the preamble of claim 5. (CBr. at 181-185; SBr. at 106.) A review of the Allard patent (RX-480 at 1:23-32, 3:45-47, Figs. 4, 5) as well as the other undisputed evidence adduced by Apple shows that the preamble of claim 5 is disclosed by Allard.

*(2) loading an operating system (OS) program for said PDA function*

Apple relies on the Whitley patent (U.S. Patent No. 5,590,373 (RX-428)), incorporated by reference into the Allard patent (RX-480 at 1:16-22), to argue that Allard discloses this element. (RBr. at 198.) Staff does not appear to dispute this allegation. (SBr. at 106.) Samsung argues that Apple has improperly attempted to incorporate the entirety of another patent for purposes of anticipation. (CBr. at 185 (citing *Callaway Golf Co. v. Acushnet Co.*, 576 F.3d 1331, 1346 (Fed. Cir. 2009); *Adv. Display Sys. Inc., v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir.2000)).) Apple responds that Samsung never raised this argument in its Pre-Hearing Brief and furthermore that the broad language of incorporation in Allard is sufficient to

## PUBLIC VERSION

incorporate Whitley in its entirety. (RRBr. at 126 (citing *Dealtracker, Inc. v. Huber*, 674 F.3d 1315, 1323 (Fed. Cir. 2012); *Harari v. Lee*, 656 F.3d 1331, 1335 (Fed. Cir. 2011)).)

With respect to Apple's arguments regarding Samsung's Pre-Hearing Briefing, the Administrative Law Judge notes that *Apple* did not make clear in *its* Pre-Hearing Brief discussion of this element that it intended to rely on Whitley by way of Allard. (Apple Pre-Hearing Brief at 91.) The Administrative Law Judge finds that Apple does not hold the procedural high ground here, and prefers to handle this issue on the merits.

*Callaway* holds, for purposes of anticipation, that an incorporation by reference must be particular enough that it is clear what material is being incorporated and where it may be found. *Callaway*, 576 F.3d at 1346. For example, language may show one of skill in the art that the referenced material "is fully incorporated in the host document." *Id.* (citing *In re Voss*, 557 F.2d 812, 815-16 (CCPA 1977); *In re Hughes*, 550 F.2d 1273, 1275-76 (CCPA 1977)). *Advanced Display* provides essentially the same overview, explaining that material incorporated by reference may be considered part of an anticipatory piece of prior art if such material is cited "in a manner that makes clear that the material is effectively part of the host document as if it were explicitly contained therein." *Advanced Display*, 212 F.3d at 1282. The Administrative Law Judge finds that the language used in Allard makes clear to one of skill in the art that the entire Willard patent is incorporated by reference. (RX-480 at 1:16-22.) The Administrative Law Judge further finds that Apple has clearly and convincingly shown that the Allard patent, by way of Whitley, discloses loading an OS for the claimed PDA function. (RX-428 at Abstract; Tr. at 2870 (Ingers).)

**PUBLIC VERSION**

*(3) loading a phone program for editing and dialing a phone number along with displaying a phone editor and dialing icon if said PDA function is requested by a user*

Apple says that Allard “teaches ‘loading’ a phone program by copying it from ROM into RAM.” (RBr. at 200 (again relying on Whitley).) However, Apple admits that Allard “does not state that its phone program is loaded ‘if said PDA function is requested by a user. . . .’” (*Id.*) The Administrative Law Judge concludes that Apple has failed to show by clear and convincing evidence that the Allard anticipates the “loading a phone program” limitation of claim 5.

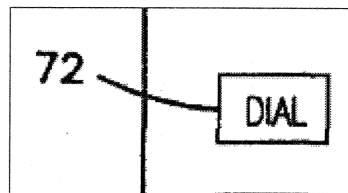
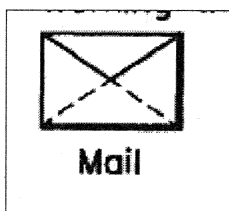
The Administrative Law Judge further finds that Apple has failed to show that Allard discloses “a phone program for editing and dialing a phone number,” a “phone editor,” or a “dialing icon.” With respect to the first limitation, Apple says that Allard teaches that if a user presses the phone icon **26**, this allows the user to edit and dial phone numbers. (RBr. at 198-99 (citing RX-0480 at 1:26-28, 2:65-3:2, Figs. 3, 4, 8; RX-0428 at Abstract, 1:38-50, 2:40-52, 3:66-4:22, Fig. 1).) However, in its citations to Allard (and Whitley), Apple fails to account for the claim language “if said PDA function is requested by a user.” Pointing to the cellular phone functions disclosed in Allard does not amount to a clear and convincing showing that if a user requests the claimed PDA function, there is a phone program for editing and dialing a phone number.

With respect to the second limitation, Apple does not explain how the Allard reference discloses a phone editor, instead saying that one of skill in the art would have known how to implement this. (RBr. at 199 (relying on Dr. Ingers’s testimony that one of skill would have equated an address book with a phone editor).) However, Apple again is taking this limitation in isolation and failing to account for its context within the claim. Apple does not point to clear and convincing evidence that Allard teaches that if the claimed PDA function is requested by a user,

## PUBLIC VERSION

the phone displays a phone editor which would allow the user to edit the selected phone number prior to dialing. Samsung further points out that Dr. Ingers admitted in his reports that Allard does not disclose a phone editor. (CBr. at 182.) Staff argues that “there is no disclosure of a screen displayed by the phone program after the user selects the dialing icon that allows the user to edit the selected phone number prior to dialing.” (SBr. at 106.) For the aforementioned reasons as well as those raised by Samsung and Staff, the Administrative Law Judge concludes that Apple has failed to show that Allard discloses this limitation.

With respect to the third limitation, the Administrative Law Judge finds that Apple has not clearly and convincingly shown that Allard discloses the requisite “dialing icon.” Apple argues that this limitation of claim 5 is met through the “Dial” button 72 shown in Figure 7C. (RBr. at 199.) It is noted that Allard refers to both “icons” and “function keys,” apparently distinguishing between the two throughout the specification. (RX-480. *See e.g., id.* at 2:15-25.) Specifically, Allard refers to the “‘Mail’ icon” in Figure 6 (*id.* at 4:11, Fig. 6), but calls the button that Apple relies on the “‘Dial’ function key 72.” (*Id.* at 5:50-52, Fig. 7C.)



(*Id.* at Fig. 6 (detail), Fig. 7C (detail).) Notably the Mail *icon* has pictorial elements, namely the envelope above the word “Mail,” but the Dial *function key* has just has the text “DIAL” and no image. For the reasons explained above with respect to infringement, the Administrative Law Judge finds that one of skill in the art would have understood an “icon” to have pictorial elements. Even Allard recognizes this.

## PUBLIC VERSION

(4) *executing said phone program if said user selects a phone number during operation of said PDA function*

The Administrative Law Judge finds that Apple has failed to show that Allard discloses this element of claim 5. As noted above, Apple failed to show that Allard teaches the claimed “phone program.” It is also noted that in Apple’s brief, Apple admits that Allard does not disclose whether the execution of the (alleged) phone program occurs if the user selects a phone number during operation of the claimed PDA function. (RBr. at 200.)

(5) *storing an identifying name designated for the selected phone number into a phone book*

The Administrative Law Judge finds that Apple has not shown by clear and convincing evidence that Allard discloses this element. Apple argues that

Allard teaches a smart phone with an address book application, and explains that “data is stored in the SIMON device (for example in the address book)” and that a phone number selected in a PDA function may be stored in the address book with an identifying name. (RX-0480 [Allard], 1:44-45, 6:14-20 (“For example, the marked telephone number illustrated in FIGS. 7A-7C may be inserted into the address book, and particularly into the Joe Smith address.”); Tr. [Ingers] at 2874:8-25; RDX 14-62.)

(RBr. at 200-01 (emphasis added).) However, Apple is referring to storage of a *phone number* and not to the claimed *identifying name* designated for the phone number. A review of the Allard passages cited by Apple confirms this. Dr. Ingers relies on the same passages of Allard. The Administrative Law Judge finds that Apple has not shown that Allard teaches the “storing” element of claim 5.

(6) *dialing the selected phone number*

Apple argues that “[a]s shown in Figures 7A-7C, the Allard patent teaches a smart phone that dials a phone number the user selected from a PDA function when the user presses “Dial” button 72.” (RBr. at 201.) Staff does not appear to dispute this element and quotes a passage of

## PUBLIC VERSION

Allard that refers to how a user may press key 72 to call the number. (SBr. at 106.) Samsung is silent on this issue. The Administrative Law Judge finds that the evidence clearly and convincingly shows that Allard discloses the dialing element of claim 5. (*See e.g.* RX-480 at 5:42-52, Fig. 7C.)

The Administrative Law Judge concludes that claim 5 of the '980 patent is not anticipated by Allard.

**h) Allard and the knowledge of one of ordinary skill, obviousness, claim 5.**

The Administrative Law Judge found above with respect to the Simon, that Apple's approach of substituting known elements for the missing limitations did not work with the '980 combination patent because it failed to account for the interaction among the various limitations and additionally because Apple failed to present clear and convincing evidence that one of skill in the art would have had reason to create the claimed combination. Such is the case here.

The Allard patent discloses even fewer of the claimed limitations of claim 5, as noted above. Yet, Apple argues that even more mixing and matching should invalidate claim 5. (RBr. at 198-201.) Just as with the Simon, Apple has failed to present clear and convincing evidence that one of skill in the art would have had reason to create the claimed combination in view of Allard. (*Id.*) For the reasons discussed above with respect to the Simon, the Administrative Law Judge finds that the parties' respective evidence and arguments with respect to the secondary indicia of nonobviousness do not impact the Administrative Law Judge's finding that the Allard combined with the knowledge of one of skill in the art would not render claim 5 obvious.

## PUBLIC VERSION

### **i) Allard, anticipation, claims 9, 10, 13.**

Dependent claim 9 of the '980 patent is not anticipated by Allard because Allard does not disclose a number of the underlying limitations of claim 5.

Claim 10 shares a number of limitations with claim 5, including a "phone program," "dialing icon" and "phone editor," and the step of "storing an identifying name." For the reasons discussed above with respect to claim 5, the Administrative Law Judge finds that Allard does not disclose, *inter alia*, a "dialing program," "dialing icon" and "phone editor," or the step of "storing an identifying name" and therefore does not anticipate claim 10.

Dependent claim 13 of the '980 patent is not anticipated by Allard because Allard does not disclose a number of the underlying limitations of claim 10.

### **j) Allard and the knowledge of one of ordinary skill, obviousness, claim 10.**

For the reasons discussed above with respect to claim 5 and also with respect to the Simon, the Administrative Law Judge finds that Apple has not clearly and convincingly shown that Allard and the knowledge of one of ordinary skill in the art would render claim 10 of the '980 patent obvious.

## **4. '114 Patent.**

### **a) Anticipation**

#### *(1) Apple's Contentions*

##### *(a) U.S. Patent 5,844,547*

Apple claims that Claims 1-5 of the '114 patent are anticipated by U.S. Patent 5,844,547 (the '547 patent"), which was filed on May 9, 1995 and issued on December 1, 1998. (RBr. at 233 (citing RX-0504 (the '547 patent), at cover page).) The '547 patent was not before the USPTO during the prosecution of the '114 patent, according to Apple. (*Id.* (citing RX-1658).)

## PUBLIC VERSION

Apple says that Samsung concedes that the '547 patent discloses all of the elements of the asserted claims of the '114 patent except the following: (1) "digital representation of a document including data content and a page structure representative of a page layout of the document"; (2) "velocity vector"; (3) "pan command"; (4) "wherein, in response..." and (5) "series of pages."

(i) *"digital representation of a document including data content and a page structure representative of a page layout of the document" limitation*

Apple says that in numerous places the '547 patent discloses this limitation. (*Id.* at 235 (citing Tr. (Balakrishnan) at 2680-83; RDX-9-35, 9-36).) As one example, the '547 patent discloses a system controller that renders images using "object information" stored in a "display information table," described as follows:

The display information table...includes object type information, display position information, file information, normal-display file name and special-state file name. The object type defines the type, including the shape, properties, circumstances, etc., of the object. The display position information defines the size of the object (width "W" and height "H"), and the position (top-left coordinates X,Y) and the angle at which the object is displayed on the display unit 1. The file information, which is used for an object which is so large in size that it requires scrolling to view the whole object, defines the size (width W, height H) of the whole object relative to the display screen size, and also the position (top-left coordinates X,Y) of the object portion being displayed on the display device, relative to the whole object whose data is stored in the normal file. The normal-display file name specifies a display data file where object data for displaying a normal state of the object is stored. The special-state file name specifies a display data file where object data for displaying a special state (e.g., turn-over indication of display color, used for selectively displaying an intermediate process step, or stage, in manipulating the object) of the object is stored. The special state can be displayed selectively for each manipulation.

(*Id.* at 235-236 (citing RX-0504 at 3:31-54; (citing Tr. (Balakrishnan) at 2681; RDX-9-35, 9-36).)

Apple says that with respect to "page layout," the '547 patent discloses at least the following information in the display information table describing how content is laid out on the



## PUBLIC VERSION

screen (which is how both side's experts interpret the term "page layout" (Tr. (Abowd) at 1507-08 (explaining that page layout is "information that describes how that content is laid out on the screen")): (1) object size, (2) object position (X and Y coordinates), (3) angle of object on display, (4) size of the whole object relative the display screen size, and (5) position of the object portion being displayed, relative to the whole object whose data is stored in the system memory. (*Id.* at 236.)

Apple argues that both "object type," which specifies the shape and physical properties of the object, and the "file information," which specifies the size and location of a part of the object data, disclose data content and page structure. (*Id.* (citing RX-0504 at 2:12-19; Tr. (Balakrishnan) at 2681-83).) An object must necessarily have some data content in order to be displayed on a computer screen, says Apple, and in his testimony Dr. Abowd failed to address or rebut any of these disclosures relied on by Dr. Balakrishnan concerning the "data content and a page structure representative of a page layout of the document" limitation, apparently conceding that the passages cited by Dr. Balakrishnan in his testimony disclose "a digital representation of a document including data content and a page structure representative of a page layout of the document." (*Id.* (citing Tr. (Balakrishnan) at 2680-83; RDX 9-35, 9-36).)

Apple contends that, in order to dispute the presence of this limitation, Dr. Abowd relied entirely on the '547 patent's use of the word "object," instead of "document." (*Id.* (citing Tr. (Abowd) at 3101-02).) But, according to Apple, the agreed definition of "document" is "documents, streamed video, web pages, and any other form of data that can be processed and displayed by the computer process." (*Id.* at 236-237 (citing JX-2 at 16.)) Therefore, the objects disclosed by the '547 patent are "documents" under the agreed construction, says Apple. (*Id.* at

## PUBLIC VERSION

237.) Furthermore, argues Apple, Dr. Abowd concedes that the '547 patent discloses a “digital representation” of the “object.” (*Id.* (citing Tr. (Abowd) at 3149).)

(ii) “*velocity detector for determining a velocity vector... limitations*”

Apple says that Samsung and Dr. Abowd do not dispute that the '547 patent has a “velocity detector,” but, nonetheless, claim that the '547 patent fails to disclose “determining a velocity vector.” (*Id.* (citing Tr. (Abowd) at 3102-05).) Apple notes that the parties have stipulated that a vector refers to a quantity consisting of magnitude and direction. (*Id.* (citing JX-4 (Technology Stipulation) at 10).) Under this agreed definition of “vector,” Apple contends that the '547 patent discloses “determining a velocity vector.” (*Id.* (citing Tr. (Balakrishnan) at 2684-85; RDX 9-39).) Apple argues that Dr. Abowd agrees that, if the speed in a particular direction is known, the velocity vector under the agreed definition of “vector” is also known. (*Id.* (citing Tr. (Abowd) at 1691).) The '547 patent discloses determining the “speed at which the finger has moved from right to left” based on a change in position coordinates of the user’s finger. (*Id.* (citing RX-0504 at 5:42-45; Tr. (Balakrishnan) at 2684-85; RDX 9-39).) Applying the agreed definition of “vector,” the '547 patent discloses “determining a velocity vector,” argues Apple, since it describes determining the speed (magnitude) at which the finger is moving in a specific direction, such as right to left. (*Id.* (citing Tr. (Balakrishnan) at 2684-85; RDX 9-39).)

Apple argues that in order to distinguish the '547 patent from other prior art, Dr. Abowd attempted to add a limitation to the asserted claims, contending that the “vector” is limited to a two-dimensional vector that must have both X and Y components. (*Id.* (citing Tr. (Abowd) at 3102-03).) Apple says that Dr. Abowd’s newly minted requirement that a “velocity vector” must

PUBLIC VERSION

be a two-dimensional vector, which would exclude solely horizontal or vertical panning from the scope of the claims, is incorrect for at least three reasons. (*Id.* at 237-238.)

First, Dr. Abowd’s interpretation of “vector” ignores, and is contrary to, the parties’ Technology Stipulation, which defines a “vector” as “a quantity with both a magnitude and a direction.” (*Id.* at 238 (citing JX-4 at 10).) Dr. Abowd admits that this agreed definition of “vector” does not require that the “vector” be a two-dimensional vector or have X and Y components. (*Id.* (citing Tr. (Abowd) at 1690).)

Second, Dr. Abowd’s revised contention that a “vector” must be two-dimensional ignores, and is contrary to, the disclosure of the ’114 patent, because neither the claims nor the specification requires calculation of both the X and Y velocities when determining the “velocity vector,” nor limits the direction of panning in any way. Nothing in the patent precludes movement that is exclusively in one dimension, such as strictly along the X axis or strictly along the Y axis. (*Id.* (citing Tr. (Balakrishnan) at 2798).) In fact, argues Apple, Figures 13A and 13B, which constitute the only disclosed embodiment of panning in the patent, depict one-dimensional movement in a strictly horizontal direction, as shown here:

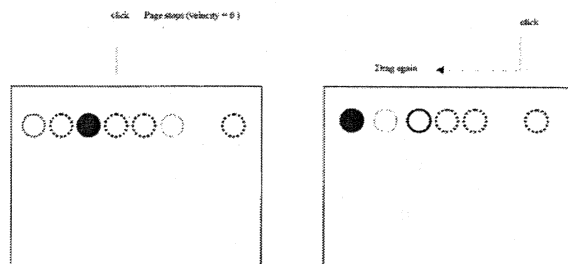


Figure 13A

Figure 13B

(*Id.* (citing JXM-9 at Figures 13A, 13B; Tr. (Balakrishnan) at 2634).) Apple says the description accompanying Figures 13A and 13B discloses that the “page velocity determination” is based on one-dimensional movement, and there is no mention of calculating change in both the X and the

## PUBLIC VERSION

Y directions in order to make that determination. (*Id.* (citing JXM-9 at 14:3-32).) For strictly one-dimensional movements, as depicted in Figures 13A and 13B, the speed in the direction of movement, along the X or Y axis, defines the velocity vector, because the change in position in the direction orthogonal to the movement (change in Y when moving X, or change in X when moving Y) is necessarily zero, says Apple. (*Id.* at 238-239.)

Third, Dr. Abowd's current position that both X and Y velocities must be calculated in order to determine a velocity vector, even for a strictly one-dimensional movement, ignores and is contrary to his prior opinions, says Apple. (*Id.* at 239.) For example, Dr. Abowd contended in his expert report that the iTunes and App Store applications used by the Accused Products, which can only pan in one direction, infringe the asserted claims of the '114 patent. (*Id.* (citing Tr. (Abowd) at 1719-20).) Similarly, in asserting that the Email application in Samsung's domestic industry products practice claim 1, Dr. Abowd testified that the Email application calculates and uses the velocity only in the Y direction; and he testified that this was sufficient to satisfy the "velocity vector" limitation. (*Id.* (citing Tr. (Abowd) at 1723-26).)

Apple contends that, even if Dr. Abowd were correct in maintaining that the claims require calculating changes in both the X and Y positions in order to determine a velocity vector, this, as well, is explicitly disclosed in the '547 patent, according to the following:

As another touch screen information 21 comes in, the discriminator 51 sends a touch report 3R including, e.g., "continuous touch in progress" and coordinates (780, 800)" (i.e., the movement to the left by the finger as shown in Fig. 7(a), and thus from X=800 to X=780 while at a fixed Y=800). When the touch screen information 21 is not sent for more than 100 milliseconds, for example, the discriminator 51 sends a touch report 3R including "continuous touch end" and, e.g., "coordinates (700, 800)" (i.e., the final X, Y coordinates as of the "touch end") to the system controller 50.

(*Id.* (citing RX-0504 at 5:26-36; Tr. (Balakrishnan) at 2684-85).) This passage, which Dr. Balakrishnan discussed, but Dr. Abowd did not, discloses tracking the X and Y coordinates of

## PUBLIC VERSION

the user's finger position (“coordinates (700, 800)” (i.e., the final X, Y coordinates”). (*Id.*) Apple says that this passage describes the user's finger starting at a position (800, 800), moving to (780, 800), and eventually stopping at position (700, 800). (*Id.*) It describes calculating changes in both the X direction (“from X = 800 to X = 780”) and Y direction (“while at a fixed Y = 800”—i.e., the change in Y is zero). (*Id.*) The '547 patent thus discloses calculating changes in both the X and the Y directions, argues Apple, and therefore even under Dr. Abowd's new, untimely, and incorrect claim construction, the '547 patent satisfies the “velocity vector” limitation. (*Id.* at 239-240.)

### (iii) “pan command” limitation

Apple contends that the '547 patent also discloses a “pan command.” (*Id.* (citing Tr. (Balakrishnan) at 2685-86; RDX 9-40, 9-41, 9-42).) The '547 patent specifically discloses that “the system controller 50 recognizes the manipulation as a scroll and the object as a large one extending beyond the display screen.” (*Id.* at 240 (citing RX-0504 at 5:39-41; Tr. (Balakrishnan) at 2685-86; RDX 9-40, 9-41, 9-42).) This scroll manipulation, says Apple, is a “pan command.” (*Id.*) Apple claims that Samsung disputes this limitation solely because that panning purportedly requires simultaneous movement in the X and Y directions and the '547 patent only discloses panning in one direction. (*Id.* (citing Tr. (Abowd) at 3109-10).) Apple says Dr. Abowd is wrong because the “velocity vector” disclosed in the '114 patent applies to movement in any direction, as argued by Apple in its previous discussions. (*Id.*)

Apple maintains that Dr. Abowd's construction of “pan command” is contrary to the claim language and the specification, and that nothing in the claims or specification requires movement in two dimensions or precludes movement exclusively in one dimension. (*Id.* (citing Tr. (Balakrishnan) at 2798).) Furthermore, the only disclosed embodiment in the patent

PUBLIC VERSION

unmistakably shows one-dimensional scrolling, from right to left. (*Id.* (citing JXM-9, Figures 13A and 13B; Tr. (Balakrishnan) at 2634).) Apple says that Dr. Abowd's construction of "pan command" would result in reading out of the scope of the claims the only embodiment of panning that is disclosed in the patent. (*Id.*)

According to Apple, despite the very narrow construction of "pan command" that Dr. Abowd applies to the prior art, he admitted that panning can refer to movement strictly in one direction:

Q. Do you see the sentence that reads, "I also agree that while panning can refer to movement in a single direction (e.g. horizontally or vertically), panning can also refer to a dynamic range of movement, such as transverse and oblique movements"? Have I read that correctly?

A. Yes, you have.

Q. And you stand by that, correct?

A. Yes, I do.

Q. Panning can be in the horizontal direction, it can be in the vertical direction, it can be in the transverse direction, it can be in the oblique direction, correct?

A. That's correct.

(*Id.* at 240-241 (citing Tr. (Abowd) at 1683-84).)

Apple says that Dr. Abowd read the claims differently for infringement than he did for validity and that his construction of "pan command" as requiring two-dimensional movement is contrary to his earlier opinion—which he now calls a "mistake"—that the iTunes and App Store applications on the iPhone 4S infringe the asserted claims. (*Id.* (citing Tr. (Abowd) at 1716-17, 1720).) Apple says that both iTunes and App Store on the iPhone 4S only allow panning strictly in one direction (i.e., vertically in the Y direction.) (*Id.* (citing Tr. (Abowd) at 1723-26).) Thus, for infringement, Dr. Abowd opined that one-dimensional panning is covered by the asserted

PUBLIC VERSION

claims. (*Id.*) Furthermore, argues Apple, Dr. Balakrishnan testified that “scrolling” and “panning” are used interchangeably in the field and in the ’114 patent. (*Id.* (citing Tr. (Balakrishnan) at 2633-34).) And despite Dr. Abowd’s current contention that “scrolling” is different from “panning,” he used the terms interchangeably throughout his testimony, as exemplified by this:

Q. What is a pan command?

A. The pan command is what is going to be turned into something that results in this scrolling or dragging of the underlying digital document.

\* \* \*

Q. Looking at CDX-5.21, please explain 1H.

A. So this element is talking about the specific detected command of the pan command and what behavior results from that. And it says that when that pan command is recognized, the engine is going to move or display the underlying document at a rate—in the scrolling behavior, at a rate that is based on the determined velocity vector.

(*Id.* at 241-42 (citing Tr. (Abowd) at 1512-13, 1531-32, 1579-80, 1617, 1639-40).)

*(iv) “wherein, in response to the command detected by the interface process being the pan command, the engine pans the displayed document on the display at a rate based on the determined velocity vector” limitation [Claim 1]*

*“wherein, in response to the command detected by the interface process being the pan command, the engine renders a series of pages of the document on the touch-sensitive display at a rate based on the determined velocity vector and a page inertia” limitation [Claim 3]*

Apple says the ’547 patent discloses the “wherein, in response...” clauses of claims 1 and 3, by reason of the following passage:

When a “continuous touch start” is reported and the “object type” is defined as “out-screen” in the display information table 1T as shown in FIG. 7(b), the system controller 50 recognizes the manipulation as a scroll and the object as a large one extending beyond the display screen. Then, the system controller 50 determines

## PUBLIC VERSION

the speed at which the finger has moved from right to left, for example, based on a change in the X-coordinate in terms of data, between a touch report 3R and the following one.

Depending on whether the finger has moved at a speed of more (high-speed) or less (normal-speed) than 20 dots, for example, the object display position on the display screen is scrolled initially at corresponding intervals of 100 or 500 milliseconds, respectively. Then, the interval, at which the display update request 4Q is sent to the display controller 52, is increased by a factor of 1.5 at each touch report 3R and, when the interval reaches 2 seconds, the scrolling is stopped.

(*Id.* (citing RX-0504 at 5:37-53); Tr. (Balakrishnan) at 2686-87; RDX-9-42, 9-43).) For instance, argues Apple, the above passage discloses recognizing a pan command (“the system controller 50 recognizes the manipulation as a scroll”), determining a velocity vector (“the system controller 50 determines the speed at which the finger has moved from right to left”), and panning the displayed document at a rate based on the determined velocity vector (“depending on whether the finger has moved at a speed of more (high-speed) or less (normal-speed) than 20 dots...the object display position on the display screen is scrolled initially at corresponding intervals of 1000 or 500 milliseconds, respectively”). (*Id.* at 242-243.) It further discloses the “page inertia” limitation of claim 3 (which Samsung does not dispute), as the passage describes the rate of scrolling slowing down and eventually stopping. (*Id.* at 243 (citing Tr. (Balakrishnan) at 2687; RDX 9-43).)

Apple says that Dr. Abowd disputes that the '547 patent discloses the “wherein, in response...” clauses of claims 1 and 3, for the same reasons discussed above in relation to “pan command” and “velocity vector.” (*Id.* (citing Tr. (Abowd) at 3110-11).) Apple repeats its previous arguments that Dr. Abowd’s validity contentions lack merit with regard to those claim elements, and Apple also notes that he disputes the “series of pages” element contained in claim 3, which as discussed in detail below, is disclosed. (*Id.*)



**PUBLIC VERSION**

*(v) "series of pages" limitation*

Apple notes that the '547 patent also discloses a "series of pages." (*Id.* (citing Tr. (Balakrishnan) at 2688; RDX 9-45).) For instance, the '547 patent contemplates displaying objects with a "plurality of different states." (*Id.* (citing RX-504 at Abstract).) Apple says that, under the parties' agreed construction, these objects are documents, which a person of ordinary skill would understand to mean a document that has multiple pages. (*Id.* (citing Tr. (Balakrishnan) at 2688).)

*(b) EP 0 880 091*

Apple contends that European Patent 0 880 091 ("the '091 patent"), which was filed on May 19, 1988, and published on November 25, 1998, anticipates claims 1-5 of the '114 patent. (*Id.*) Apple says that the '091 patent was not before the USPTO during prosecution of the '114 patent and that Samsung concedes that the '091 patent discloses all of the elements of the asserted claims except the following: (1) "digital representation of a document including data content and a page structure representative of a page layout of the document"; (2) "velocity vector"; (3) "pan command"; and (4) "series of pages." (*Id.*) With respect to these excepted limitations, Apple provides the following analysis and arguments.

*(i) "digital representation of a document including data content and a page structure representative of a page layout of the document" limitation*

Apple says that the '091 patent discloses this limitation. (*Id.* at 245 (citing Tr. (Balakrishnan) at 2691-93; RDX 9-54, 9-55, 9-56).) Dr. Balakrishnan testified that the '091 patent discloses the displaying of a digital representation of a document, such as a list; having data content, such as text, symbols, and patterns; a page layout in the form of a cylinder, in the size of elements, in the spacing of elements, or in the line spacing, as disclosed below:

PUBLIC VERSION

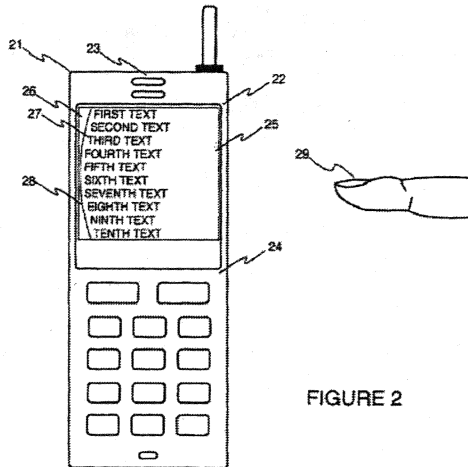


FIGURE 2

“In an embodiment of the invention the arrangement also includes means to display said presented information in the form of a cylinder rotating in the display, whereby the information elements, such as text and symbols are displayed on the outer surface of the cylinder. The size of the elements and their spacing can be displayed in different sizes in different places on the cylinder, and the edge formed by the elements can be presented as an arcuate [sic] edge in order to give a three-dimensional impression.

\* \* \*

The elements 13, 14 of the list 12 shown on the outer surface of the imaginary cylinder can contain i.a. [sic] text, numbers, and patterns. . . . The size of the elements 13, 14 of the list 12 and the line spacing can be changed, e.g. according to their location.”

(*Id.* at 245-246 (citing RX-0512 at Figure 2, 3:51-4:2, 4:57-5:8; Tr. (Balakrishnan) at 2691-93; RDX 9-54, 9-55, 9-56).)

Apple argues that Dr. Abowd failed to address or rebut any of these disclosures that Dr. Balakrishnan identified in support of his opinions regarding the “data content and a page structure representative of a page layout of the document” limitation. (*Id.* at 246 (citing Tr. (Abowd) at 3113-14, (Balakrishnan) at 2691-93; CDX 29.11; RDX 9-54, 9-55, 9-56).) Rather, says Apple, Dr. Abowd offered a nonsensical opinion that a “long list” could not be a “digital representation of a document including data content and a page structure representative of a page layout of the document.” (*Id.* (citing Tr. (Abowd) at 3113-14).) Whether a list consumes one page or many, no one would doubt that lists are written on pages, argues Apple. (*Id.*) Apple says that Dr. Abowd admitted that the list in the '091 patent is a digital representation that has

## PUBLIC VERSION

data content and that the text and images, which are disclosed above as part of the list, are data content that is representative of a page layout. (*Id.* (citing Tr. (Abowd) at 1521-22).)

(ii) “*velocity detector for determining a velocity vector...*” limitation

Apple contends that the '091 patent also discloses the “velocity detector for determining a velocity vector...” limitations. (*Id.* at 247 (citing Tr. (Balakrishnan) at 2694; RDX 9-58). Apple says that Dr. Balakrishnan testified that the '091 patent discloses a computer device “arranged to scroll at a rate measured for, or proportional to, the speed of the pointing means at the last moment before it was removed[,]” and “[t]he speed of the pointing means in the direction of the control area of the display, when the pointing means is removed determines the initial scrolling speed of the displayed part and the scroll direction.” (*Id.* (citing Tr. (Balakrishnan) at 2694; RDX 9-58).) Apple says that the '091 patent therefore discloses measuring both the speed and the direction of the user’s pointer on the touch-sensitive display, which is a velocity vector under the agreed construction of vector (i.e., “a quantity with both a magnitude and a direction”). (*Id.* (citing JX-4 at 10; RX-0512 at 2:37-45; Tr. (Balakrishnan) at 2694; RDX 9-58).)

Apple notes that Dr. Abowd disputes this limitation solely on the basis of his new argument that a velocity vector must be a two-dimensional vector containing information about the changes in the X and Y positions. (*Id.* (citing Tr. (Abowd) at 3114-15).) However, Apple counters that, as already discussed in connection with the '597 patent, Dr. Abowd’s argument in this respect fails because it is contrary to the agreed definition of “vector,” the disclosure of the '114 patent, and his own infringement and domestic industry opinions. (*Id.*) Furthermore, argues Apple, as it previously explained, the '091 patent discloses this limitation under the agreed definition of “vector,” which Dr. Abowd does not dispute. (*Id.* (citing JX-4 at 10; RX-0512 at 2:37-45; Tr. (Balakrishnan) at 2694; RDX 9-58).)

**PUBLIC VERSION**

*(iii) “pan command”*

Apple argues that the '091 patent discloses a “pan command,” as demonstrated in the following passage:

The object of the invention is a method to scroll data presented on the display of a mobile station. According to the invention the control area of the display is touched with a pointing means, the pointing means is moved in contact with the control area of the display, and the displayed part of the presented information is scrolled in the display in the direction of the movement of the pointing means.

*(Id. (citing RX-051 at 2:14-21; Tr. (Balakrishnan) at 2694-95; RDX 9-60.)* Therefore, reasons Apple, the '091 patent discloses that the content will scroll in any direction that the pointing means is moved on the touch-sensitive display, which includes two-dimensional scrolling. *(Id. at 247-248.)* Apple says that in order to emphasize that the '091 patent discloses panning in any direction, an alternative embodiment is disclosed where “[i]t is also possible to limit the movement so that a movement is possible only in a single direction at a time.” *(Id. at 248 (citing RX-0512 at 8:5-7).)* This alternative embodiment, which limits panning to one direction, is contrasted with the previously disclosed embodiment, which allow panning in any direction. *(Id.)*

Apple says that Dr. Abowd failed to address or rebut Dr. Balakrishnan’s testimony that the '091 patent discloses a “pan command” at column 2, lines 14 to 21. *(Id.)* Instead, argues Apple, Dr. Abowd contends that a “pan command” is not disclosed because the '091 patent does not disclose panning in two dimension simultaneously. *(Id. (citing Tr. (Abowd) at 3115-18).)* Apple says Dr. Abowd’s contention that the “pan command” requires two-dimensional movement is incorrect, for the reasons discussed above. *(Id.)*

**PUBLIC VERSION**

*(iv) “wherein, in response ...” limitations [Claims 1 and 3]*

According to Apple, the '091 patent discloses the “wherein, in response...” clauses of claims 1 and 3 as demonstrated in the following passage:

According to a preferred embodiment of the invention said displayed part, which is left scrolling, is arranged to a scroll at a rate measured for, or proportional to, the speed of the pointing means at the last moment before it was removed. The speed of the pointing means in the direction of the control area of the display, when the pointing means is removed, determines the initial scrolling speed of the displayed part and the scroll direction.

*(Id. (citing RX-0512 at 2:37-45); Tr. (Balakrishnan) at 2696-97.)* Apple says this disclosure describes a pan command (“is left scrolling, as arranged to scroll”), a determined velocity vector (“[t]he speed of the pointing means in the direction of the control area”), and panning the displayed document at a rate based on the determined velocity vector (“The speed of the pointing means in the direction of the control area...determines the initial scrolling speed...and the scroll direction.”) *(Id.)* Apple says that it further discloses the “page inertia” limitation of claim 3, which Samsung does not dispute, as the patent also discloses the rate of scrolling decreasing by itself (“it is arranged to scroll and retard by itself”). *(Id. at 248 (citing RX-0512 at 2:50-54; Tr. (Balakrishnan) at 2696-97; RDX 9-62).)*

*(v) “series of pages” limitation*

Apple contends that the '091 patent also discloses a “series of pages,” because, as Dr. Balakrishnan testified, the patent describes arranging “an empty space” at the end of a list so that the “beginning of the list is clearly perceived,” and at least two lists (the end of one and the beginning of another) are contemplated (i.e., a series of pages). *(Id. at 249 (citing RX-0512 at 4:57-5:8; Tr. (Balakrishnan) at 2697; RDX 9-63).)* Furthermore, the '091 patent states that the

**PUBLIC VERSION**

object of the invention is to “facilitate the scrolling of a long list,” which is itself a disclosure of scrolling a series of pages of a list. (*Id.* (citing RX-0512 at 2:1-6).)

Apple argues that, besides the evidence described above with respect to these several claim limitations, Dr. Abowd has admitted that even under his interpretation of the claims, the '091 patent works in the same manner as iTunes, which he had accused of infringing the asserted claims of the '114 patent, as shown by this colloquy at the hearing:

Q. Okay. Now, just a couple of more questions. Can I have CDX-0072, which is a slide that Samsung used in the opening to describe the '091 patent. Do you remember this?

A. Yes, I do.

Q. And Veerhoeven saying if you moved your finger in the direction of the arrow, you would only get movement in one dimension, correct?

A. If you move your finger along that red line, yes.

Q. So let me show you RDX-16-1 which compares CDX-0072 to iTunes. And if we move the finger in exactly the same way, they operate in exactly the same manner, don't they, sir?

A. Yes, they do.

(*Id.* at 249-250 (citing Tr. (Abowd) at 3155-56; CDX-0072; RDX 16-1).) Consequently, reasons Apple, even under Samsung's interpretation of the claim, the '091 patent anticipates the '114 patent. (*Id.* at 250.)

(c) *Japanese Publication No. S63-174125*

According to Apple, Japanese Publication No. S63-174125 (“the '125 publication”) anticipates all of the claims of the '114 patent. (*Id.* (citing RX-0511 at cover page).) Apple says the '125<sup>81</sup> publication was not before the USPTO during prosecution of the '114 patent. (*Id.* (citing RX-1658).) According to Apple, Samsung concedes that the '125 publication discloses

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<sup>81</sup> Apple's brief says the "'091 patent, which discussed in the preceding section of its brief, and obviously was referring to the '125 publication, since that is what Apple's discussion at this section of its brief concerns.

PUBLIC VERSION

all of the elements of the asserted claims except the following: (1) “digital representation of a document including data content and a page structure representative of a page layout of the document”; (2) “velocity vector”; (3) “pan command”; and () “wherein, in response...” (*Id.*)

(i) “digital representation of a document including data content and a page structure representative of a page layout of the document” limitation

Apple says the '125 publication discloses a “digital representation of a document including data content and a page structure representative of a page layout of the document.” (*Id.* at 251 (citing Tr. (Balakrishnan) at 2700-01; RDX 9-71).) For example, the disclosed computer device stores and displays the “content of a file 1 displayed by controlling portion 2 on a displaying portion 3 in an image of a sack of cards.” (*Id.* at 251-252 (citing RX-0511 at 150); Tr. (Balakrishnan) at 2700-01; RDX 9-71).) Apple points to this illustration in Figure 1 of the publication:

FIG. 1: Block Diagram of the Principle of the Invention

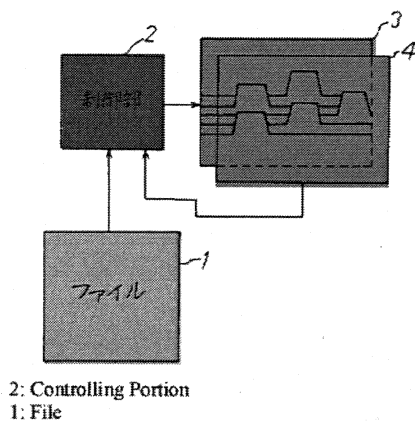
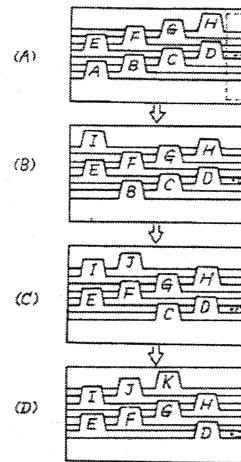


FIG. 6: Explanatory Diagram of a Scrolling Display in a Conventional Example



(*Id.* at 252 (citing RX-0511 at Figure 1; Tr. (Balakrishnan) at 2700-01; RDX 9-71). As illustrated and described, the stack of cards contains data content (“the content of a file”) and page structure because the cards have a visible shape and size representative of a page layout, the cards being arranged on the display at different positions relative to each other. (*Id.*)

## PUBLIC VERSION

Apple says that Dr. Abowd failed to address or rebut any of the passages of the '125 publication relied on by Dr. Balakrishnan for this limitation. (*Id.* (citing Tr. (Abowd) at 3120-21, (Balakrishnan) at 2700-01; RDX 9-71).) Instead, says Apple, Dr. Abowd merely offered the conclusory assertion that an image of a stack of cards does not contain page layout information, without providing any further explanation. (*Id.* (citing Tr. (Abowd) at 3120-21).) Apple asserts that Dr. Abowd is interpreting the claims differently for infringement than validity. (*Id.*) In his infringement analysis of the iPhone 4S, Dr. Abowd states that “images” are data content (Tr. at 1521-22), and as Figures 1 and 6 above show, the '125 publication discloses displaying images of cards, which are data content. (*Id.* (citing RX-0511 at Figures 1 and 6 and at 150; Tr. (Balakrishnan) at 2700-01; RDX 9-71).) Further, in his infringement analysis, Dr. Abowd states that “where the other images are positioned on the screen...that’s all page layout that’s determining how information is laid out in the digital representation of the document.” (*Id.* at 252-253 (citing Tr. (Abowd) at 1522).) Apple says that as shown in Figures 1 and 6 above, the '125 publication discloses the displaying of images of cards of different shapes at different positions relative to each other, which is clearly a “page layout.” (*Id.* (citing RX-0511 at 150, Figures 1, 6; Tr. (Balakrishnan) at 2700-01; RDX 9-71).) Apple says that even under Dr. Abowd’s own interpretation of the claims, the '125 publication discloses the “digital representation of a document including data content and a page structure representative of a page layout of the document” limitation. (*Id.* at 253.)

*(ii) “velocity detector for determining a velocity vector....” limitations*

Apple maintains that the '125 publication discloses the “velocity vector” limitations. (*Id.* (citing Tr. (Balakrishnan) at 2702; RDX 9-74).) Apple notes that Dr. Balakrishnan testified that the '125 publication discloses taking position measurements from the touchscreen at regular



PUBLIC VERSION

intervals (i.e., sampling) and using those measurements to calculate speed and direction (i.e., the velocity vector) of the user's pointer to determine the rate of scrolling, according to the following passage:

That is, in Step 30 in FIG. 2, with the y coordinate at the time of touch-off defined as  $Y_0$  and the y coordinate at the time of the sampling one prior to the sampling at the time of touch-off defined as  $Y_{-1}$ ,  $(Y_0 - Y_{-1}) / t_s$  (where  $t_s$  is the sampling interval of the touch panel) is calculated in Step 31, and this is defined as the velocity  $v$ . In Step 32, the display screen is scrolled at this velocity  $v$ .

(*Id.* at 253 (citing RX-0511 at 150; Tr. (Balakrishnan) at 2702; RDX 9-74).) Apple says that Dr. Abowd did not address or rebut this passage, as relied on by Dr. Balakrishnan, in regard to his invalidity analysis. (*Id.* (citing Tr. (Abowd) at 3121).) Rather, argues Apple, in his testimony, Dr. Abowd discussed another portion of the specification that was not cited by or relied on by Dr. Balakrishnan. (*Id.*) Lastly, argues Apple, Dr. Abowd disputes this limitation based on his new argument that a velocity vector must be a two-dimensional vector containing information about the changes in the X and Y positions and this argument lacks merit because it is contrary to the definition of "vector," the '114 patent disclosure, and his own infringement and domestic industry opinions. (*Id.*)

(iii) "pan command" limitation

According to Apple, the '125 publication discloses the "pan command" limitation, as by way of example, this description:

where the card corresponding to the pointing position coordinate is scrolled by the controlling portion 2 following the pointing movement coordinate, wherein: the scrolling velocity of the screen that is displayed on the display portion 3 is gradually reduced by the control of the controlling portion 2.

\* \* \*

In the case of the present invention, the program illustrated in FIG. 2 is stored in advance in the ROM 12 by the controlling portion 2 of the file searching device illustrated in FIG. 4, and after the finger touch has been removed, the scrolling is stopped by gradually decreasing the scrolling velocity.

## PUBLIC VERSION

(*Id.* (citing RX-0511 at 150; Tr. (Balakrishnan) at 2702; RDX 9-75).) The '125 publication discloses panning a stack of cards in response to a pan command, that is, in response to the touch input from the user. (*Id.* at 254.) Apple argues that Dr. Abowd did not address or rebut the disclosure of either of these passages that Dr. Balakrishnan relied on. (*Id.* (citing Tr. (Abowd) at 3122-23, (Balakrishnan) at 2702; RDX 9-75).) However, Apple says that Dr. Abowd does contend that a “pan command” is not disclosed, because the term “pan command” requires panning in two dimensions simultaneously, whereas, the '125 publication only discloses panning horizontally. (*Id.* (citing Tr. (Abowd) at 3122-23, (Balakrishnan) at 2702; RDX 9-75).) Apple proposes that Dr. Abowd’s interpretation of “pan command” is incorrect. (*Id.*)

### (2) *Samsung’s Opposition*

Samsung counters that an issued patent is presumed valid under 35 U.S.C. § 282 and an accused infringer must present clear and convincing evidence of invalidity in order to overcome this presumption. (CRBr. at 149 (citing *Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 962 (Fed. Cir. 2001)).) Samsung says the three references relied on by Apple do not provide clear and convincing evidence that overcomes the presumption of validity. (*Id.*) Samsung says that none of the three references relied on by Apple as allegedly anticipating the '114 patent includes all of the limitations of each of the asserted claims inasmuch as they are missing the following elements: (1) “a digital representation of a document including data content and a page structure representative of a page layout of the document”; (ii) “a velocity detector for determining a velocity vector based on a velocity of the detected motion”; and (iii) a pan command.” (*Id.* at 149-50.) Additionally, argues Samsung, Apple’s references do not disclose a “series of pages,” as required by claims 3-5 of the '114 patent. (*Id.*) The three references do not pan a document

PUBLIC VERSION

with a page layout, or a series of pages of a document, based on a determined velocity vector.

(*Id.*)

(a) *U.S. Patent 5,844,547*

Samsung says the '547 patent is directed at a very different technology than what is claimed in the '114 patent, because the '547 patent discusses manipulating an object with physical properties and this technology is more akin to computer-aided drafting and design systems that simulate physical objects and their characteristics on a computer. (*Id.* (citing RX-0504 at Abstract, 8:23-26).) On the other hand, the '114 patent is related to panning within a page or through a series of pages of a digital representation of a document, such as a web page or an e-mail. (*Id.* (citing JXM-9 at 14:3-32).)

(i) *“digital representation of a document”  
limitation*

Samsung says the '547 patent fails to describe a “digital representation of a document including data content and a page structure representative of a page layout of the document.” (*Id.* (citing JXM-9 at 16:19-22; Tr. (Abowd) at 3101-02).) The '547 patent, according to Samsung, simply refers to scrolling a vague “object” having physical properties such as “weight, hardness, frictional resistance, and a center of gravity.” (*Id.* (citing RX-0504 at 8:23-26).) Samsung says the “object” mentioned in that patent is, at best, a computer-generation of some physical object, which is very different from a digital representation of a document, such as a Web page or an e-mail, which will contain a page layout, such as an arrangement of text, graphics, margins, etc. and data content, such actual text and graphics. (*Id.* at 150-151.)

Samsung says Apple’s argument that the '547 patent’s “object” has “shape, properties, circumstances...[and] size” is insufficient to meet its burden of proof, because that patent fails to describe any data content within that object. (*Id.* at 151 (citing Tr. (Abowd) at 3101-02).) As an

## PUBLIC VERSION

example, the '547 patent does not disclose the object containing any text or graphics; it only describes superficial characteristics of the object. (*Id.*) As for Apple's assertion that the "object type" and "file information" referred to in the '547 patent disclose data content and a page structure, Samsung responds that Apple admits that this information refers to the "size and location" of the object in the very same sentence, and Samsung contends that the patent says nothing about what the "object type" and "file information" are or what they contain. (*Id.* (citing RX-0504 at 2:12-19).) Also, Apple admits that both side's experts agree that the "page layout" describes how the data content within a document is laid out on the screen; therefore, reasons Samsung, the '547 patent cannot possibly disclose a page layout, because it does not disclose any structure to that content, such as whether there are margins. (*Id.* (citing JXM-9 at 7:60-62; Tr. (Abowd) at 3101-02).)

### (ii) "velocity vector" limitation

Samsung contends that the '547 patent does not describe a velocity detector for "determining a velocity vector" and panning a page at "a rate based on the determined velocity vector." (*Id.* (citing Tr. (Abowd) at 3102-08, 3110).) With respect to Apple's contention that the '547 patent discloses a "velocity vector" because it calculates a "speed at which the finger moved from right to left," Samsung says Apple is correct that the parties have stipulated that a vector is a "quantity with a magnitude and a direction," which means that the magnitude and direction are used together to determine a velocity vector, but argues Samsung, this passage from the '547 patent does not indicate that the speed, or magnitude, and direction of the finger movement are considered together to calculate a velocity vector. (*Id.* at 151-152 (citing RX-504 at 5:42-45; Tr. (Abowd) at 3102-08, 3110).)