

# Exhibit 4

1 UNITED STATES DISTRICT COURT  
2 NORTHERN DISTRICT OF CALIFORNIA  
3 SAN JOSE DIVISION  
4

5 APPLE INC., a California  
6 corporation,

7 Plaintiff,

8 vs.

CASE NO. 11-CV-01846-LHK

9 SAMSUNG ELECTRONICS CO., LTD.,  
10 A Korean business entity;  
11 SAMSUNG ELECTRONICS AMERICA,  
12 INC., a New York corporation;  
13 SAMSUNG TELECOMMUNICATIONS  
14 AMERICA, LLC, a Delaware  
15 limited liability company,

16 Defendants.  
17 \_\_\_\_\_/

18 C O N F I D E N T I A L  
19 A T T O R N E Y S ' E Y E S O N L Y  
20 O U T S I D E C O U N S E L

21 VIDEOTAPED DEPOSITION OF RAVIN BALAKRISHNAN, Ph.D.  
22 SAN FRANCISCO, CALIFORNIA  
23 TUESDAY, AUGUST 16, 2011

24 BY: ANDREA M. IGNACIO HOWARD, CSR, RPR, CCRR, CLR  
25 CSR LICENSE NO. 9830  
JOB NO. 41176

1 MR. LIEN: Henry Lien, representing Samsung.

2 MR. BRIGGS: Todd Briggs, representing  
3 Samsung.

4 MR. AHN: Matthew Ahn, of Morrison &  
5 Foerster, on behalf of Apple.

6 THE VIDEOGRAPHER: Will the court reporter  
7 please swear in the witness.

8  
9 RAVIN BALAKRISHNAN, Ph.D.,  
10 having been sworn as a witness,  
11 by the Certified Shorthand Reporter,  
12 testified as follows:

13  
14  
15 THE VIDEOGRAPHER: You may proceed.

16  
17 EXAMINATION BY MR. JOHNSON

18 MR. JOHNSON: Good morning, Mr. Balakrishnan.

19 Q Have -- you've been deposed before?

20 A Yes, I have.

21 Q Okay. About how many times?

22 A About a half a dozen times, roughly.

23 Q I'll try to ask coherent questions, and if  
24 you -- hopefully you'll provide some answers, and  
25 if -- to the extent that you don't understand any of

1 have to align with the screen.

2 Q So you can have -- you can have the edge of  
3 the boundary be something other than the edge of the  
4 screen?

5 MR. MONACH: Objection; vague.

6 MR. JOHNSON: I think we're saying the same  
7 thing. I'm just -- I'm really bad with trying to --

8 A I want to make sure I say the right thing  
9 with my understanding of what you're saying, too.

10 Q So all I'm saying is, under your view of an  
11 electronic document, an electronic document can have a  
12 boundary that is internal to the screen or, you know,  
13 doesn't have to be at the edge of the screen --

14 MR. MONACH: Objection; form.

15 MR. JOHNSON: Q. -- right?

16 MR. MONACH: Objection; calling for a legal  
17 conclusion; asked and answered.

18 You can do it again.

19 THE WITNESS: So as I answered earlier, and  
20 my opinion is that the boundary of the electronic  
21 document, in this case, this -- this edge is one  
22 boundary of it, does not have to match the edge of the  
23 screen, yes.

24 MR. JOHNSON: Okay.

25 Q So just, during the lunch, I had the guys

1 just print up a sheet of paper with some squares on it  
2 for me. So if you imagine, sir, that the -- the  
3 quadrants that are labeled 1 to 36 on here are the  
4 entire -- that's this -- that's the screen of the  
5 display.

6 A So the whole -- the big rectangular is the  
7 screen?

8 Q Right.

9 A Okay.

10 Q So you can have an electronic document that  
11 consists of smaller grids within the screen; right?

12 MR. MONACH: Object to the form of the  
13 question; calling for a legal conclusion; incomplete  
14 hypothetical; asking for a new opinion.

15 THE WITNESS: It would depend on what one  
16 considers to be the electronic document. It could be  
17 one of these, let me call it sub rectangles that you  
18 can label with numbers. It could be some combination  
19 of them. It --

20 MR. JOHNSON: Right.

21 THE WITNESS: -- really depends on -- depends  
22 on how, you know, you want to put the boundary around  
23 it.

24 MR. JOHNSON: Q. So you could draw a  
25 boundary, hypothetically, around squares 15, 16, 17,

1 18, 21 and 22, 23 and 24?

2 A Say -- sorry. 15, 16, 17, 18, 21?

3 Q 22, 23, and 24.

4 A So kind of like this?

5 Q Yeah, go ahead and draw it.

6 MR. MONACH: Object to the -- object to the  
7 form of the question as vague and ambiguous;  
8 incomplete hypothetical.

9 MR. JOHNSON: Q. Make it a little more  
10 noticeable for me.

11 A We've got black lines around it.

12 Q Yeah, okay.

13 So that could be an electronic document;  
14 right?

15 A Depend --

16 MR. MONACH: Same objection.

17 THE WITNESS: Sorry. I jumped in there.

18 Depending on the context, depending on the  
19 application, it could be.

20 MR. JOHNSON: Okay.

21 THE WITNESS: Or some other collection.

22 MR. JOHNSON: Q. It's not limited to that;  
23 right?

24 A I would not say it's limited.

25 Q So it could be also a -- a six-by-six grid or

1 a two-by-two grid?

2 MR. MONACH: Same --

3 MR. JOHNSON: Q. -- or even a three-by-three  
4 grid, I guess --

5 MR. MONACH: Same objection.

6 MR. JOHNSON: Q. -- right?

7 MR. MONACH: Vague and ambiguous; incomplete  
8 hypothetical.

9 THE WITNESS: Again, it would depend on the  
10 def- -- you know, how -- whoever is being the  
11 application, what they consider to be the document --  
12 to be the extent of the document, yes.

13 MR. JOHNSON: Q. Under your view, though, it  
14 could be those, those grids; right?

15 MR. MONACH: Objection; same objection as  
16 before. Also, misstates the prior testimony.

17 THE WITNESS: Depending on the context, it --  
18 it could take on different forms.

19 MR. JOHNSON: Okay.

20 Q Does the grid need to be a rectangle?

21 MR. MONACH: Same objection.

22 MR. JOHNSON: Strike it. Let me ask it  
23 again.

24 Q Does -- would the grid need to be a rectangle  
25 in order for it to be an electronic document?

1 MR. MONACH: Same objection.

2 THE WITNESS: Well, I think the electronic  
3 document doesn't have to be anything to do with the  
4 grid. It --

5 MR. JOHNSON: Okay.

6 THE WITNESS: -- it's any visual thing with  
7 defined boundaries --

8 MR. JOHNSON: So -- so it --

9 THE WITNESS: -- by my definition of it.

10 MR. JOHNSON: Q. Could -- if you -- if you  
11 drew lines around squares one, two, and eight, for  
12 example --

13 A One, two, and eight. So this kind of, I  
14 guess, inverted L?

15 Q Yeah.

16 Could that be an electronic document?

17 MR. MONACH: Objection; vague; incomplete  
18 hypothetical; calling for a legal conclusion and a new  
19 opinion.

20 THE WITNESS: So to the extent that I haven't  
21 considered this, this style of odd-shaped documents  
22 prior to coming here today, just thinking on the fly  
23 here, a -- based on my understanding of, you know,  
24 boundaries, that wouldn't -- would satisfy the notion  
25 of a boundary, again, depending on the context of the



1 application and what a document means in that context.

2 MR. JOHNSON: Q. If -- going back to the  
3 original two-by-four rectangle of 15, 16, 17, 18, 21,  
4 22, 23, 24, if you look at that, is it fair to say  
5 that this line right here is an edge of the electronic  
6 document?

7 A The line --

8 MR. MONACH: Object.

9 Hang on a second.

10 THE WITNESS: I'm sorry.

11 MR. MONACH: Objection; vague and ambiguous;  
12 incomplete hypothetical; calling for a legal  
13 conclusion and a new opinion.

14 THE WITNESS: So, again, I haven't considered  
15 this prior to this, you putting this in front of me.

16 Thinking on the fly here, so you're saying  
17 this line -- the vertical line between --

18 MR. JOHNSON: Since the witness is pointing,  
19 I just want to make sure you get what he's pointing  
20 to.

21 Yeah.

22 THE WITNESS: The vertical line between 14  
23 and 15, and 20 and 21, here, this --

24 Q That -- that's right, yeah.

25 A -- line.

1           Given this hypothetical scenario, where  
2 you're saying the -- this two -- I'm sorry --  
3 two-by-four grid of elements -- rectangle is an  
4 electronic document in this hypothetical scenario,  
5 that would be indeed, I guess, one boundary one  
6 edge --

7           Q    Okay.

8           A    -- of that.

9           Q    So let's just label that "edge" for me, just  
10 so I can keep track of it after the deposition.  
11 Just --

12          A    What do you want me to call it?

13          Q    Just call it "edge," and then maybe put it  
14 down at the bottom and draw an arrow down to the line,  
15 or something.

16          A    Like this?

17          Q    Yeah.

18          A    Okay.

19          Q    Okay. And then, is it fair to say that  
20 the -- the -- the Blocks 14 and 20 are an area beyond  
21 the edge --

22               MR. MONACH:   Same --

23               MR. JOHNSON:   Q.  -- of the electronic  
24 document?

25               MR. MONACH:   Same objection.

1 THE WITNESS: So, again, considering this for  
2 the first time here, I haven't thought this in detail,  
3 if, in this hypothetical scenario, the document is  
4 this two-by-four grid, labelled 15, 16, 17, 18, 21,  
5 22, 23, 24, if that is the document, then anything  
6 beyond that edge would be an area outside the document  
7 beyond the edge of the document.

8 So given those hypotheticals, area 14 and 20  
9 would be beyond the edge of the document, given that  
10 scenario.

11 MR. JOHNSON: Okay.

12 Q So can you just label that "beyond the edge"?

13 A How -- just label each one of these?

14 Q Yeah, or just draw -- however you want.

15 A Well, we're getting a lot of drawings on this  
16 thing, so I don't know. "Beyond."

17 Q Speaking of which, let me just mark the --  
18 the grid as Exhibit 104.

19 A Put it on the bottom?

20 Q Thanks.

21 (Phone marked Balakrishnan Exhibit 104  
22 for identification.)

23 MR. JOHNSON: Q. Can you look at the Galaxy  
24 Tab, which is Exhibit 101, and pull up for me the  
25 contacts application.

## 1 CERTIFICATE OF REPORTER

2  
3  
4  
5 I, ANDREA M. IGNACIO HOWARD, hereby certify  
6 that the witness in the foregoing deposition was by me  
7 duly sworn to tell the truth, the whole truth, and  
8 nothing but the truth in the within-entitled cause;  
9

10 That said deposition was taken in shorthand  
11 by me, a Certified Shorthand Reporter of the State of  
12 California, and was thereafter transcribed into  
13 typewriting, and that the foregoing transcript  
14 constitutes a full, true and correct report of said  
15 deposition and of the proceedings which took place;  
16

17 That I am a disinterested person to the said  
18 action.  
19

20 IN WITNESS WHEREOF, I have hereunto set my  
21 hand this 17th day of August, 2011.  
22

23 \_\_\_\_\_  
24 ANDREA M. IGNACIO HOWARD, RPR, CCRR, CLR, CSR No. 9830  
25