

# EXHIBIT 56

1 UNITED STATES INTERNATIONAL TRADE COMMISSION  
2 WASHINGTON, D.C.  
3

4 In the Matter of:  
5 CERTAIN ELECTRONIC DIGITAL Investigation No.  
6 MEDIA DEVICES AND COMPONENTS 337-TA-796  
THEREOF

-----/

7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CONFIDENTIAL BUSINESS INFORMATION  
PURSUANT TO PROTECTIVE ORDER  
VIDEOTAPED DEPOSITION OF BRIAN LYNCH  
Redwood Shores, California  
Thursday, April 12, 2012

Reported by:  
LORRIE L. MARCHANT, CSR No. 10523  
RPR, CRR, CCRR, CLR  
JOB NO. 48526

1 A. Yes.

2 Q. And can you tell me the -- the types of  
3 issues that are discussed in those brainstorming  
4 meetings?

5 A. I would give you the same description as I  
6 did for the iPhone, the general discussion of  
7 specific technical challenges or issues.

8 Q. And have you participated in brainstorming  
9 meetings regarding the iPod touch, where members of  
10 other product design teams participate?

11 A. Yes.

12 Q. In the brainstorming meetings regarding the  
13 iPhone, do you recall there being any issues  
14 discussed other than what you've described as  
15 technical issues or challenges?

16 A. I recall being in meetings where we  
17 discussed potential features for a product.

18 Q. And that's an iPhone product?

19 A. Yes.

20 Q. Do you recall participating in  
21 brainstorming meetings regarding the iPhone where  
22 the topic of discussion was something other than a  
23 technical discussion or -- or product -- potential  
24 product features?

25 A. No.

1 Q. When you -- you talk about discussing  
2 technical issues or challenges in these  
3 brainstorming meetings, would you include in --  
4 in -- in that category, for example, cost control  
5 issues?

6 MR. DANIS: Objection. Vague.

7 THE WITNESS: What do you mean by "cost  
8 control issues"?

9 BY MR. KIDMAN:

10 Q. Just costing issues.

11 MR. DANIS: Same objection.

12 THE WITNESS: Could you give me an example  
13 of a costing issue?

14 BY MR. KIDMAN:

15 Q. Is -- is -- do you have any -- do you have  
16 any understanding as to what I mean when I say "a  
17 costing issue"?

18 A. I understand cost -- cost -- cost of --  
19 cost is a numerical measure of the expense or value  
20 of something. But "issues" is a very general term.

21 Q. Well, and -- and I intend it to be general.  
22 And that is, in any of these brainstorming meetings  
23 regarding the iPhone, do you ever talk about issues  
24 related to the cost of components or features?

25 A. I would say -- I -- I don't recall any

1 instances of specific discussion in detail of cost.

2 Q. Do you recall any discussions about --  
3 strike that.

4 In -- in your position as director of iPod  
5 product design, do you have any responsibility  
6 for -- for costing issues?

7 A. Yes. One of the requirements of the design  
8 is -- specifically for internal components is that  
9 we design them in such a way that they are able to  
10 be produced at a reasonable price.

11 Q. And in your position, do you see, from time  
12 to time, information relating to the costs of  
13 manufacturing the products that you're responsible  
14 for?

15 A. Yes.

16 Q. And in the brainstorming meetings that  
17 you've participated in regarding the iPhone, can you  
18 tell me the -- the types of technical issues you  
19 recall being discussed?

20 A. I recall a specific discussion around how  
21 to effectively provide radio frequency shielding of  
22 components on a circuit board during the design  
23 phase of the iPhone, third -- iPhone -- the iPhone,  
24 second-generation iPhone.

25 There was a discussion of designing what we

1 call shield cans and shield fences in order to  
2 contain radiated RF emissions from the chips on the  
3 circuit board, prevent them from interfering with  
4 the other radios.

5 Q. Any others?

6 MR. DANIS: I'm sorry. Any other what?

7 BY MR. KIDMAN:

8 Q. Well, any other technical issues regarding  
9 the iPhone that you recall being discussed in any of  
10 these brainstorming meetings.

11 A. Not that I specifically recall.

12 Q. Do you recall generally any other issues  
13 related to the iPhone being discussed in any of  
14 those brainstorming meetings?

15 A. Again, I don't have a specific recollection  
16 of any other -- any other items being discussed.

17 Q. Do you have a general recollection of any  
18 other items being discussed?

19 A. No.

20 Q. What issues do you recall being discussed  
21 in any of these brainstorming meetings regarding the  
22 iPad?

23 A. I recall a discussion of how to design an  
24 internal structure to prevent denting of a housing  
25 in the corners of the housing during a drop test.

1 I recall discussion of using -- I suppose  
2 this is related to an unreleased project, so I  
3 recall --

4 MR. DANIS: Well, let me interject. I  
5 would object to any testimony and instruct you not  
6 to answer as to any unannounced features or product  
7 as related to the iPad or any -- any of the other  
8 products today.

9 THE WITNESS: I recall another brainstorm  
10 related to the --

11 MR. KIDMAN: Well, I just want to -- I just  
12 want to clarify. If it's -- if -- if -- if you're  
13 instructing him not to answer questions about  
14 unreleased product, I agree with that.

15 MR. DANIS: Right.

16 MR. KIDMAN: But if -- if it's -- if it's  
17 explorations of features or alternative designs in  
18 connection with a product that was released, I think  
19 I'm entitled -- entitled to know that.

20 THE WITNESS: This product hasn't been  
21 released.

22 I recall -- actually, this product has not  
23 been released either, the other recollection that I  
24 have.

25

1 BY MR. KIDMAN:

2 Q. Other than the internal structure to  
3 prevent the denting of the housing during --  
4 during -- if the product is dropped, do you recall  
5 any other issues being discussed in any of these  
6 brainstorming meetings regarding the iPad?

7 A. No, not that I recall.

8 Q. What issues do you recall being discussed  
9 in any of these brainstorming meetings regarding the  
10 iPod touch? And I'm referring to any version of the  
11 iPod touch.

12 A. I recall a brainstorm related to preventing  
13 the denting of the corner of the iPod touch housing  
14 as well. I recall -- I apologize. I've worked on a  
15 lot of products.

16 I recall brainstorms related to the  
17 general -- the -- what we would call the  
18 architecture of a product, meaning the general ways  
19 in which we connect major parts together, for  
20 second-generation iPod. Internal details of how to  
21 connect things.

22 I recall brainstorms of how to do --  
23 related to how to -- where to locate circuits,  
24 internal integrated circuit chips, and batteries  
25 relative to one another inside a product.

1 Q. Do you recall any other issues being  
2 discussed regarding any version of the iPod touch  
3 during any of these brainstorming meetings?

4 A. No, not specifically.

5 Q. So we kind of started down this road about  
6 talking about the brain -- brainstorming meetings  
7 that you've participated in when I asked you about  
8 your involvement with any Apple products other than  
9 iPod products.

10 Other than participating in these  
11 brainstorming meetings, have you had any -- any  
12 involvement in connection with the design or  
13 development of any version of the iPhone?

14 MR. DANIS: Objection. Vague. Overbroad.

15 THE WITNESS: Again, very -- that's a very  
16 general statement. Perhaps if you could give me  
17 examples of specific ways that -- yeah. Not in any  
18 formal way, let's say.

19 BY MR. KIDMAN:

20 Q. Do you have in mind any other ways in which  
21 you've been involved in the design or development of  
22 the iPhone other than these brainstorming meetings?

23 A. I would say I've been shown samples of  
24 internal components in an informal way.

25 Q. Anything else?

1           A.     I have looked at CAD models of components  
2     in an informal setting.  And I've discussed the  
3     status of iPhone projects with my colleagues on the  
4     iPhone team and, again, in informal ways and in,  
5     like, staff meetings or things like that.  I've  
6     received e-mails about the status of iPhone  
7     projects.

8           Q.     Anything else come to mind?

9           A.     No, nothing else comes to mind.

10          Q.     In any of these other settings in -- that  
11     you've just described for me, where you've  
12     participated in the design or development of the  
13     iPhone, any version of the iPhone, do you recall the  
14     discussion of any -- what you've described as  
15     technical issues?

16          A.     Do I recall the discussion of technical  
17     issues in those settings?

18          Q.     Yes.

19                 MR. DANIS:  Objection.  It's vague and  
20     overbroad.

21                 THE WITNESS:  The first thing, you said  
22     that I was involved in the design and development of  
23     iPhones.  I wouldn't -- I wouldn't agree with that  
24     statement.  I wouldn't say that I was involved in  
25     their design.

1 I would say that I was involved in  
2 discussions around their design. I wouldn't take  
3 personal credit for design.

4 And could you clarify your question?

5 BY MR. KIDMAN:

6 Q. Sure.

7 In -- in any -- any of these settings --  
8 and I'm not trying to mischaracterize the extent of  
9 your involvement, but I'm -- I just want to focus on  
10 these -- these -- we've talked about the  
11 brainstorming meetings.

12 A. Right.

13 Q. And the technical issues regarding the  
14 iPhone you recall being discussed in these  
15 brainstorming meetings.

16 A. Yes.

17 Q. And then we talked about these other --  
18 other settings where you've had some participation.

19 A. Right.

20 Q. And discussions concerning the iPhone.  
21 And so my question is in these other  
22 settings --

23 A. Yes.

24 Q. -- do you recall any technical issues that  
25 were discussed?

1           A.    Any specific technical issues.

2                    I recall discussing the design of  
3 insulating layers nearby electrical components in  
4 order to prevent them from making contact with metal  
5 housing components.

6                    I recall discussing the manufacturing  
7 process for certain iPhone components, particularly  
8 housings, the sequence in which they're made.  The  
9 equipment that's used to make them.

10                   I recall discussing the internal  
11 architecture of the phone, where the headphone  
12 connector is located relative to the display, for  
13 example.

14                   THE VIDEOGRAPHER:  Please be careful of  
15 your microphone, Counsel.

16                   MR. KIDMAN:  Oh, I'm sorry.

17                   BY MR. KIDMAN:

18           Q.    Any other issues?

19                   A.    I recall discussing the performance of  
20 other products in reliability tests.  I recall  
21 discussing the selection of materials for other  
22 products.  The selection of vendors for those parts.

23           Q.    Anything else that you recall?

24                   A.    I recall discussion of issues related to  
25 the interaction of sensors on the inside of -- of

1 iPhones. Sensors that also exist in an iPod touch.

2 I recall discussing field reliability  
3 issues of iPhones and iPods.

4 I recall discussing the -- the road map for  
5 new versions of sensors and other internal  
6 components that would eventually find their way into  
7 iPods and iPhones.

8 Q. Any other issues that you recall?

9 MR. DANIS: Technical issues?

10 BY MR. KIDMAN:

11 Q. Any -- any issues that you recall being  
12 discussed that --

13 A. Any issues at all?

14 Q. -- we haven't talked about.

15 A. I recall discussing procedures for handling  
16 prototypes, to avoid them being misplaced or lost.

17 I recall discussing positions of engineers  
18 within the -- within the iPhone team and -- you  
19 know, we've had engineers transfer from one group to  
20 the other group.

21 I recall discussing space planning, where  
22 we will make space for new engineers who join the  
23 team.

24 I recall discussing potential new engineers  
25 who we'd be interested in hiring and discussing

1 where they might fit into our team.

2 I recall discussing relationships with the  
3 cross-functional teams, electrical engineering  
4 teams, and strategies for working -- working with  
5 them.

6 Q. Anything else that you recall?

7 MR. DANIS: Objection. It's vague and  
8 ambiguous.

9 THE WITNESS: Yeah. Yes, there are other  
10 discussions that I recall having with members of the  
11 iPhone team.

12 BY MR. KIDMAN:

13 Q. And these are issues related to the design  
14 or development of the iPhone?

15 MR. DANIS: Objection. Vague and  
16 ambiguous.

17 THE WITNESS: Those are the specific  
18 discussions that I recall.

19 BY MR. KIDMAN:

20 Q. Is there a -- strike that.

21 So you -- you're the director of the iPod  
22 product design group; correct?

23 A. Correct.

24 Q. Is there a -- to your knowledge, a director  
25 of the iPhone product design group?

1 A. Yes.

2 Q. Who is that?

3 A. His name is Tang Tan.

4 Q. And is there a manager -- one or more  
5 managers of the iPhone product design group?

6 A. Tang has two managers on his team.

7 Q. Who -- who are they?

8 A. Their names are Dave Pakula and  
9 Richard Dinh.

10 Q. And is there a director of the iPad product  
11 design team?

12 A. Yes.

13 Q. And who is that?

14 A. His name is John Ternus.

15 Q. And does Mr. Ternus have managers below  
16 him?

17 A. I believe so.

18 Q. Do you know who they are?

19 A. I believe one is named Sean Corbin.  
20 Another is named Andy Lauder.

21 Q. And, I'm sorry, I may have asked you this.  
22 Do you have managers -- managers below --  
23 below you?

24 A. I do, yes.

25 Q. And how many?

1 A. Two.

2 Q. Who are your managers?

3 A. Emery Sanford and Fletcher Rothkopf.

4 Q. Are Mr. Sanford's areas of responsibility  
5 different from Mr. Rothkopf's?

6 A. Yes.

7 Q. And how -- how does that divide up?

8 A. They work on different projects.

9 Q. And -- and do you assign them the  
10 product -- the products that they -- or projects  
11 that they work on?

12 A. Yes. Emery and Fletcher have been managers  
13 only since January of this year or December of last  
14 year. Just recently.

15 Q. Did Mr. Rothkopf replace somebody in -- in  
16 that position as -- in his current position as  
17 manager?

18 A. No.

19 Q. That was a newly created position?

20 A. Yes.

21 Q. And how about Mr. Sanford, did he replace  
22 somebody?

23 A. No.

24 Q. Prior to Mr. Sanford and Mr. Rothkopf  
25 becoming managers on the iPod product design team,

1 again.

2 Q. Sure.

3 Do you recall any discussion about any  
4 risks associated with using cover glass where the  
5 top surface was curved in connection with the iPhone  
6 4?

7 MR. DANIS: Objection. Asked and answered.

8 THE WITNESS: Not other than the general  
9 recollection that I have around these architectures.

10 BY MR. KIDMAN:

11 Q. And -- and -- and what's your general  
12 recollection about the risks associated with using  
13 cover glass where the top surface was curved?

14 A. What's my general recollection?

15 MR. DANIS: Objection. Misstates the  
16 witness's prior testimony.

17 THE WITNESS: Again, all I have is a  
18 general recollection.

19 BY MR. KIDMAN:

20 Q. And what is that general recollection?

21 A. That we discussed different architectures  
22 for achieving touch sensing on a curved cover glass.

23 BY MR. KIDMAN:

24 Q. And in connection with those discussions,  
25 did you also talk about risks associated with using

1 industrial design decision; is that correct?

2 A. That's my -- that's my best recollection,  
3 yeah.

4 Q. Did you participate in any discussions  
5 concerning the decision not to use curved cover  
6 glass in the sixth-generation iPod nano?

7 A. Not that I recall.

8 Q. Have you seen any documents that discuss  
9 the decision as to whether or not to use curved  
10 cover glass in the sixth-generation iPod nano?

11 A. Not that I recall.

12 Q. Do you recall how it was you learned that  
13 curved cover glass would not be used in the  
14 sixth-generation iPod nano?

15 A. I recall receiving from industrial design  
16 a -- a -- our team received from industrial design a  
17 final file describing the specific geometry for  
18 the -- for the sixth-generation iPod nano that  
19 contained flat top surface cover glass.

20 Q. Was that a surface file that you received  
21 from the industrial design group?

22 A. It would have been a surface file, yes.

23 Q. Other than the surface file, have you seen  
24 any -- any other documents -- well, strike that.

25 Did you yourself have any discussion with

1 any -- any people in the industrial design group  
2 about whether or not to use curved cover glass with  
3 the sixth- -- sixth-generation iPod nano?

4 A. I don't remember any specific discussions.

5 Q. Do you recall generally that such  
6 discussions did happen?

7 A. I don't recall that.

8 Q. Do you know if any of the members of -- of  
9 your team had discussions with the industrial design  
10 group about whether or not to use curved cover glass  
11 with the sixth-generation iPod nano?

12 A. I don't recall that happening either.

13 Q. Going back to the PD risks associated with  
14 using curved cover glass on the fourth-generation  
15 iPod nano, you indicated that the curved cover glass  
16 required new manufacturing methods that were  
17 unknown; correct?

18 A. I would say that -- to be specific, that  
19 they were -- required manufacturing methods that  
20 were unknown to us at Apple at that time. Unknown  
21 to me, I should say.

22 Q. And how is the manufacturing method used to  
23 manufacture the curved cover glass different from  
24 the manufacturing method used to manufacture flat  
25 cover glass?

1           A.     Which specific cover glass are you  
2 referring to?

3           Q.     I'm talking about the curved cover glass  
4 used with the fourth-generation iPod nano.

5           A.     So the manufacturing process for what's a  
6 completely front and back side planar cover glass  
7 involves one or two fewer steps.

8                     So a curved cover glass, in the case of the  
9 fourth-generation iPod nano, requires basically two  
10 additional steps in order to manufacture it.

11                    There's a grinding and polishing step that use a  
12 grinding and polishing tool with a geometry that  
13 matches the curvature of the glass.

14                    Whereas in -- in the alternative process  
15 for using -- for manufacturing flat glass, there is  
16 simply a lapping or polishing step on the front and  
17 back that uses a planar polishing surface.

18           Q.     And, I'm sorry, so the two additional steps  
19 required to manufacture the curved cover glass as  
20 opposed to the flat cover -- cover glass are the  
21 grinding and polishing steps?

22           A.     Shaped grinding and shaped polishing.

23           Q.     And how does that differ from the process  
24 for doing -- manufacturing flat glass?

25           A.     There's -- the grinding process for the

1 front surface does not exist in the manufacturing of  
2 a flat piece of glass. And the polishing, to be  
3 specific, sort of bristled wheel polishing of the  
4 front surface does not exist in the -- in the  
5 creation of a flat -- flat piece of glass.

6 Q. In -- excuse me.

7 Do those two additional manufacturing steps  
8 that are required to make the curved cover glass as  
9 opposed to the flat cover glass, do those two  
10 additional steps add cost to the manufacturing?

11 MR. DANIS: Objection. Speculation.

12 THE WITNESS: I -- I don't -- I don't have  
13 a complete breakdown of the process costs. I would  
14 say that they are additional operations, but I --  
15 but I don't know whether or not -- I don't know  
16 their contribution to the cost.

17 BY MR. KIDMAN:

18 Q. Do you know if the cost to manufacture the  
19 curved cover glass used with the fourth-generation  
20 iPod nano is -- is higher than the cost would have  
21 been to manufacture that same cover glass, only  
22 flat?

23 A. I don't -- I don't recall ever trying to  
24 estimate the cost of that same piece of glass in a  
25 flat state.

1 Q. Do you know if the cost of the -- so you  
2 don't have any understanding one way or another as  
3 to whether it costs more to manufacture -- well,  
4 strike that.

5 Do you have any understanding at all as to  
6 whether it costs more to manufacture the curved  
7 cover glass used with a fourth-generation iPod nano  
8 than it would to manufacture that same piece of  
9 glass with -- with a flat top surface?

10 MR. DANIS: Objection. Speculation. Asked  
11 and answered.

12 THE WITNESS: Yeah. Again, I haven't ever  
13 tried to estimate the cost of -- of a -- of the  
14 alternate geometry that you've described.

15 BY MR. KIDMAN:

16 Q. Well, based on your experience, do you  
17 have -- do you have any understanding as to whether  
18 it would cost more to -- to manufacture the curved  
19 cover glass with these additional manufacturing  
20 steps?

21 MR. DANIS: Objection. No foundation.  
22 Speculation.

23 THE WITNESS: Yeah, I wouldn't speculate.

24 BY MR. KIDMAN:

25 Q. You just don't have any understanding in

1 that regard; is that -- is that true?

2 MR. DANIS: Same objections. And it's also  
3 vague.

4 THE WITNESS: I don't have any specific  
5 understanding of that.

6 BY MR. KIDMAN:

7 Q. So based -- based on your experience and  
8 based on your position as the director of product  
9 design for the iPod group, you have no understanding  
10 as to whether that decision to include curved cover  
11 glass on the fourth-generation iPod nano added to  
12 the cost of the manufacturing of the product; is  
13 that correct?

14 MR. DANIS: I'm sorry. Can you -- can you  
15 read the question back.

16 (Record read as follows:

17 "Q So based on your experience and based  
18 on your position as the director of product  
19 design for the iPod group, you have no  
20 understanding as to whether that decision  
21 to include curved cover glass on the  
22 fourth-generation iPod nano added to the  
23 cost of the manufacturing of the product;  
24 is that correct?")

25 THE WITNESS: I would say that with the

1 introduction of a new process, I was personally  
2 concerned about the addition of cost from adding  
3 additional processing steps. But I do not -- I did  
4 not do a -- I don't recall doing a comparison of the  
5 same geometry with the flat surface to a curved  
6 surface in order to quantify what the exact cost  
7 difference would be.

8 BY MR. KIDMAN:

9 Q. But your concern was that by adding these  
10 additional processing steps, that it would increase  
11 the cost to some degree; is that correct?

12 A. That's a consideration, yes.

13 Q. And is it your understanding -- I  
14 understand that you may not have quantified a  
15 difference in cost between manufacturing the curved  
16 cover glass and the flat cover glass, but is it your  
17 understanding that it did add to the cost -- the  
18 manufacturing cost of the product to include the  
19 curved cover glass as opposed to the flat cover  
20 glass?

21 MR. DANIS: Objection. No foundation.  
22 Speculation. Vague.

23 THE WITNESS: I don't know what -- which  
24 flat cover glass you're referring to. There was no  
25 specific alternative flat design to which to

1 compare.

2 BY MR. KIDMAN:

3 Q. Well, what was your concern, then, about  
4 the -- adding the two additional manufacturing steps  
5 with respect to the issue of cost?

6 MR. DANIS: Objection. Asked and answered.

7 THE WITNESS: I'll say it again, that I am  
8 concerned that -- I was concerned that adding  
9 additional processing steps would increase the cost.

10 BY MR. KIDMAN:

11 Q. And is it your understanding that adding  
12 those additional processing steps did, in fact,  
13 increase the cost in some amount?

14 MR. DANIS: Objection. Speculation.  
15 Vague.

16 THE WITNESS: I would say that -- that  
17 those processing costs -- that those additional  
18 processing steps -- those processing steps have  
19 associated cost.

20 BY MR. KIDMAN:

21 Q. And the cost of those additional processing  
22 steps add to the cost of manufacturing the product;  
23 correct?

24 A. Every -- yeah. The -- the cost of the  
25 product is a sum of the cost of material and

1 processing steps.

2 Q. And so if there's a cost associated with  
3 additional processing steps, then those -- those  
4 costs associated with those additional processing  
5 steps add to the cost of the product; correct?

6 MR. DANIS: Vague. Speculation.

7 THE WITNESS: Again, I -- I can only make  
8 specific statements about the cost of this -- the --  
9 the process steps involved in making this piece of  
10 glass and this cost are extremely general ones.

11 And in the case of this glass, there wasn't  
12 an alternate processing -- alternate process or  
13 alternate geometry that we considered for  
14 comparison, so I don't really know how to answer  
15 that.

16 In general, though, I would say that when  
17 you add more processing steps to the creation of  
18 something, depending on the cost of those processing  
19 steps and the cost of the -- and the time of those  
20 processing steps and the time things -- of the -- of  
21 each processing step leading up to that or after  
22 that, the yield of that processing steps, all of  
23 those things can contribute to the cost of a part.

24 BY MR. KIDMAN:

25 Q. Did you do anything to investigate your

1 concern that these additional processing costs --  
2 processing steps to manufacture the curved cover  
3 glass would -- would increase costs?

4 MR. DANIS: Objection. Misstates the  
5 witness's prior testimony.

6 THE WITNESS: Could you just -- could we  
7 read it back.

8 (Record read as follows:

9 "Q Did you do anything to investigate your  
10 concern that these additional processing  
11 costs -- processing steps to manufacture  
12 the curved cover glass would increase  
13 costs?")

14 THE WITNESS: We specifically worked to --  
15 with other teams within Apple to quantify the costs  
16 of the part.

17 BY MR. KIDMAN:

18 Q. What -- what other teams did you work with  
19 to quantify the cost of the part?

20 A. We worked with our supply base engineering  
21 team and our global supply chain management team.

22 Q. And did you, in fact, quantify the cost of  
23 manufacturing the part?

24 A. I did not personally.

25 Q. But that was done at Apple?

1 Q. When you say "N81," that's the currently  
2 shipping fourth generation of iPod touch?

3 A. Correct. Yes.

4 Q. And putting that aside, are you aware of  
5 any drop testing that was done on any design  
6 exploration in connection with any version of the  
7 iPod touch where that cover glass sat higher than  
8 the top edge of the housing in a way that was  
9 intended to be visually apparent to the user of the  
10 device?

11 A. None other than the -- the testing we  
12 discussed before with curved glass.

13 Q. Now, when you presented the results of the  
14 testing of the design with the curved glass to the  
15 industrial design group, did you present that by way  
16 of a -- a Keynote presentation?

17 A. I believe we had printed copies of the  
18 Keynote presentation.

19 Q. And isn't it true that the reaction of the  
20 industrial design members who you made the  
21 presentation to was that they were disappointed with  
22 the high failure rate of the curved cover glass?

23 MR. DANIS: Objection. Asked and answered.

24 THE WITNESS: I don't recall that -- that  
25 disappointment as a particular reaction. Again, I

1 don't -- I don't recall their reaction.

2 BY MR. KIDMAN:

3 Q. You don't recall one way or another whether  
4 they were disappointed with the failure rate of the  
5 curved cover glass?

6 A. I recall that they weren't -- they weren't  
7 pleased by the result. I don't recall them being --  
8 I'm certain that they weren't happy about the  
9 result. I don't recall particular disappointment.

10 Q. And -- and why do you say you're certain  
11 that they weren't happy about the result?

12 A. I think that I would have recalled a -- a  
13 positive -- a very positive reaction, I guess. Just  
14 don't -- yeah.

15 Q. I'm sorry. Are you finished?

16 A. Yes, I'm finished. Sorry.

17 Q. There's a white version of the N81;  
18 correct?

19 A. Yes. We call it N81A.

20 Q. And N81, again, is the fourth-generation  
21 iPod touch correct?

22 A. Correct.

23 Q. And is there a white version of the  
24 third-generation iPod touch?

25 A. No.

1 Q. So the fourth-generation iPod touch is the  
2 one that shipped in a -- in a white version?

3 A. With the cover glass, yes.

4 Q. And is there a separate team within product  
5 design that works on the white version of the  
6 fourth-generation iPod touch as opposed to the black  
7 version?

8 A. No. The -- well, to be specific, the white  
9 version happened at a different point in time of the  
10 black version, with a subset of the team.

11 Q. And who's -- who makes up the team or who  
12 made up the team that works on the white version of  
13 the fourth-generation iPod touch?

14 A. The white version for the iPod team was  
15 Anna Shedletsky and Eric De Jong.

16 Q. Anyone else?

17 A. Adam Mittleman may have briefly worked on  
18 it. He no longer -- no longer works at Apple.

19 Q. When did Adam leave?

20 A. He left in -- I believe around April of  
21 2011.

22 Q. Do you know where he went?

23 A. He went -- he took time away from work.

24 Q. Do you know if he is currently working?

25 A. He is currently working, yeah.

1 Q. Do you know where?

2 A. I believe he's working at a company called  
3 Nest Labs.

4 Q. Is that Tony Fadell's company?

5 A. I don't know if it's Tony Fadell's company.  
6 I know that he is associated with it.

7 Q. M-hm. He's associated with Nest Labs?

8 A. With Nest Labs, yes. I don't know what the  
9 nature of the association is.

10 Q. Does the white version of the  
11 fourth-generation iPod touch cost more to  
12 manufacture than the black version?

13 A. I believe so, yes.

14 Q. Do you have any understanding as to -- to  
15 why the white version costs more to manufacture than  
16 the black version?

17 A. There are -- yes, I do.

18 Q. And what's your understanding in that  
19 regard?

20 A. There are -- for the cover glass part,  
21 there are additional layers of ink printed on the  
22 back side of the cover. There is also a painting  
23 operation on a plastic housing part that's not --  
24 that doesn't exist on the black housing and a two --  
25 at least two printing operations on the inside of

1 that white piece of plastic than doesn't exist on  
2 the black unit.

3 It also has a -- I'm -- I'm not actually  
4 sure if this affects cost or not, so I won't  
5 speculate. Never mind.

6 Q. Are there any other reasons why the white  
7 version of the fourth-generation iPod touch cost  
8 more to manufacture than the black version other  
9 than the things you've just told me about?

10 A. Not that I recall.

11 Q. And do you know how much more the white  
12 version of the iPod touch costs than the black  
13 version?

14 A. I'm not certain, no.

15 Q. Do you have -- do you have any  
16 understanding in that regard?

17 A. My --

18 MR. DANIS: Objection. Speculation. Asked  
19 and answered.

20 THE WITNESS: Yeah. I'd be guessing.

21 BY MR. KIDMAN:

22 Q. Have you seen information on that?

23 A. I believe at one point I've seen  
24 information on the cost difference, but I don't  
25 recall the numbers.

1 Q. Do you know if it's more than a dollar?

2 MR. DANIS: Objection. Speculation.

3 THE WITNESS: I'd be -- yeah, I'd be  
4 guessing.

5 BY MR. KIDMAN:

6 Q. M-hm. Well, is -- is there some -- is  
7 there some amount that you know or that you're --  
8 you're confident saying that it -- that it -- the  
9 difference exceeds?

10 A. The difference exceeds? I'm confident that  
11 the difference exceeds 50 cents.

12 Q. Have you seen any documents that show the  
13 difference in the manufacturing cost between the  
14 white version and the black version of the iPod  
15 touch?

16 A. I believe so. I can't recall a specific  
17 time or document, but I believe I have, yes.

18 Q. Is -- is there some amount that you're  
19 confident in saying that the cost difference is less  
20 than?

21 A. I'm pretty confident it's less than \$5.

22 Q. And are you able to bracket the cost  
23 difference between the white version and the black  
24 version any more narrowly than more than 50 cents  
25 but less than \$5?

1 A. No.

2 Q. Why does the white version of the iPod  
3 touch require more layers of ink than the black  
4 version?

5 MR. DANIS: Objection. Speculation.

6 THE WITNESS: My understanding is that  
7 individual layers of -- multiple layers of white ink  
8 are required to provide -- to, in the finished  
9 product, have the appropriate shade of white, the  
10 target shade of white from ID that we'd like the  
11 outside -- for the outside appearance -- outside of  
12 the phone to -- or, sorry, of the touch to have.  
13 Sorry. That's unclear.

14 Too few layers of white ink would have  
15 resulted in a grayish appearance. And with adding  
16 additional layers of white, the outside appearance  
17 becomes more white because of the increased opacity  
18 of the ink.

19 THE VIDEOGRAPHER: Try not pull on your  
20 cord.

21 BY MR. KIDMAN:

22 Q. And is it also true that additional layers  
23 of white ink are required to increase the opacity so  
24 that light doesn't shine through the border region  
25 that's created with the layers of ink?

1 MR. DANIS: Objection. Speculation. Vague  
2 and ambiguous.

3 THE WITNESS: I don't think that that's a  
4 direct requirement of additional layers of white  
5 ink.

6 BY MR. KIDMAN:

7 Q. Well, is one of the reasons that additional  
8 layers of white ink are used to create the border on  
9 the white version of the iPod touch, some of that  
10 light doesn't shine through border area?

11 MR. DANIS: Objection. Speculation. Vague  
12 and ambiguous.

13 THE WITNESS: I don't think that's the  
14 specific reason, no.

15 BY MR. KIDMAN:

16 Q. So have you ever heard that that's one of  
17 the reasons for using additional layers of white ink  
18 on the white version?

19 A. I haven't heard that as a reason for  
20 additional layers of white ink.

21 Q. What was the additional painting operation  
22 on the housing that's used with the white version of  
23 the iPod touch?

24 A. It's a spray paint, clear spray paint.  
25 It's applied to the outside edge of part of -- one

1 of the housing parts.

2 Q. What housing part is that clear spray --

3 A. We call that part the --

4 Q. I'm sorry. I had a little pause there. I  
5 wasn't quite finished, so just let me ask a full  
6 question.

7 A. Sure.

8 Q. What's the housing part that this clear  
9 spray is applied to?

10 A. We call the part the G-frame.

11 Q. Is the G-frame on the exterior of the  
12 product?

13 A. It's both on the exterior and interior.

14 Q. And is the clear spray applied to the  
15 exterior of the G-frame?

16 A. Yes.

17 Q. Is it also applied to the interior part of  
18 the G -- G-frame?

19 A. It is applied, yeah -- yes.

20 Q. And why is this clear spray applied to  
21 the -- the G-frame?

22 A. It's applied to the G-frame to prevent  
23 staining of the white G-frame.

24 Q. And is a clear spray like that applied to  
25 the black version of the iPod touch?

1 A. No. No, it's not.

2 Q. Why not?

3 MR. DANIS: Objection. Speculation.

4 THE WITNESS: The -- the black G-frame does  
5 not have a tendency to stain.

6 BY MR. KIDMAN:

7 Q. On the original iPhone, is -- is there an  
8 area that's referred to as "the G-frame"?

9 A. Not that I'm aware of.

10 Q. I'm sorry. What material is the G-frame  
11 made out of on the iPod touch?

12 A. I believe it's a nylon thermoplastic.

13 Q. Is that a kind of resin?

14 A. Nylon is the base resin, yeah.

15 Q. And what are the two printing operations on  
16 the inside of the housing that are done on the white  
17 version of the iPod touch?

18 A. There is one printing operation that is  
19 black ink to reduce the transparency of the white  
20 G-frame in local regions.

21 There's another that is black ink, also in  
22 the region of the rear-facing camera, in order to  
23 make the outward appearance of the white G-frame  
24 black in that region.

25 Q. And the first operation that you referred

1 to, when black ink is -- is applied to reduce the  
2 transparency of the G-frame, what's the reason for  
3 wanting to reduce the transparency of the G-frame?

4 MR. DANIS: Objection. Speculation.

5 THE WITNESS: We observed on some prototype  
6 units that light coming from the LCD backlight could  
7 travel through the white G-frame and be visible to a  
8 user from the outside.

9 BY MR. KIDMAN:

10 Q. And what's -- what's the reason for  
11 applying -- talking now about the second operation.

12 What's the reason for applying the black  
13 ink on the G-frame in the area -- in the region of  
14 the rear-facing camera?

15 A. The -- the reason is that ID did not want  
16 the user to be able to look into the region and see  
17 the white G-frame, so they painted it black. They  
18 wanted the appearance of the region around the  
19 camera to be black.

20 Q. Is the thickness of the cover glass on the  
21 white version of the iPod touch the same as the  
22 thickness of the cover glass on the black version?

23 A. Yes.

24 Q. Does the application of the additional  
25 layers of ink on the white version of the iPod touch

1 increase the height of the Grape stack compared to  
2 the black version?

3 A. The -- it, frankly, depends on your  
4 reference for measurement. So I'm not sure. If  
5 you -- if you could describe the -- what -- what's  
6 the -- what you mean as the datum for the thickness  
7 measurement. What's the zero point?

8 Q. How does it differ based on -- on --

9 A. In general, how does it differ? The  
10 additional ink -- the -- the glass material itself  
11 is of the same thickness for the cover on both  
12 types. The additional layers of ink increase the  
13 thickness of the glass and ink together.

14 The difference from the back of the ink to  
15 the bottommost surface of the -- the backmost  
16 surface of the display which comprises the Grape  
17 module is identical to that on the black touch.

18 Q. And so does the cover glass on the white  
19 version of the iPod touch sit higher relative to the  
20 edge of the device than on the black version?

21 A. Yeah. The white version, the glass sits  
22 approximately 30 microns higher relative to the --  
23 to the plastic G-frame than it does on the black  
24 version.

25 Q. And does -- does that -- does that fact

1 have any impact on the failure rate of the glass in  
2 drop testing?

3 A. I don't believe -- I believe that in the  
4 the end, the drop performance was very similar  
5 between the two.

6 Q. Is -- has there been any observed  
7 difference in the failure rate of the cover glass on  
8 the white version as compared to the black version  
9 in drop testing?

10 A. There may have been at different points in  
11 time in the project. But the overall performance by  
12 the end of the project was comparable.

13 Q. And was anything done over the course of  
14 the project to reduce the failure rate of the cover  
15 glass on the white version?

16 A. I don't recall specific changes. It was  
17 something that we paid very close attention to, but  
18 I don't recall any specific design changes.

19 MR. KIDMAN: Let's mark the next document  
20 as Exhibit 5.

21 (Marked for identification purposes,  
22 Exhibit 5.)

23 MR. KIDMAN: And for the record, Exhibit 5  
24 is a multipage document Bates-numbered  
25 APLNDC0002015123 through 2015125.

1 BY MR. KIDMAN:

2 Q. Mr. Lynch, have you seen this document  
3 before?

4 A. I have a vague recollection. I don't  
5 remember it specifically, but ...

6 Q. At the bottom of the first page, there's an  
7 e-mail from you to Adam, dated March 24, 2010.

8 Do you see that?

9 A. Yes.

10 Q. And is the Adam that you're sending this  
11 e-mail to Adam -- Adam Mittleman?

12 A. Mittleman. Yes. I believe so.

13 Q. Okay. And do you recall having sent this  
14 e-mail?

15 A. Not specifically.

16 Q. Do you have any reason to doubt that you  
17 sent this e-mail on March 24, 2010?

18 A. No, no reason to doubt it.

19 Q. And if you move up the page, there's an  
20 e-mail from Adam Mittleman to you, with a copy to  
21 others.

22 Do you see that?

23 A. Yes.

24 Q. Do you recall having received this e-mail  
25 from Adam Mittleman?

1 A. Again, not specifically.

2 Q. Do you have any reason to doubt that you  
3 received this e-mail from Adam Mittleman --

4 A. No.

5 Q. -- on March 26, 2010?

6 A. No, I don't.

7 Q. In Mr. Mittleman's e-mail to you, he says,  
8 B, here's a rundown of the design and operational  
9 issues associated with white ink.

10 Do you see that?

11 A. Yes.

12 Q. And is the -- the third page of -- of the  
13 e-mail, the rundown of design and operational issues  
14 associated with white ink that Mr. Mittleman is  
15 referring to?

16 A. Yes, I think so.

17 Q. Adam goes on in his e-mail to say, Danny  
18 and Jody had a chat today, and it seems that Johnny  
19 is mostly interested in white CG for K93, so the  
20 same may be true for N81 as well.

21 Do you see that?

22 A. Yes.

23 Q. And "K93" -- "K93" refers to the -- the  
24 iPad; correct?

25 A. Yes.

1 Q. In the next sentence of Mr. Mittleman's  
2 e-mail he says, I'm still getting cost info for the  
3 white frame and white home button, but the white CG  
4 is about a buck coster adder.

5 Do you see that?

6 A. Yes.

7 Q. Does that refresh your recollection at all  
8 as to the -- the cost difference between the white  
9 version and the black version of the iPod touch?

10 A. No. I mean, I think this is a -- yeah.  
11 No, it doesn't.

12 Q. And when Mr. -- and when Mr. Mittleman says  
13 the white CG is about a buck coster adder, do you  
14 have any understanding of what he was referring to  
15 there?

16 A. I would interpret that to mean that -- that  
17 his -- his estimate of additional cost for a white  
18 cover glass is about a dollar with respect to the  
19 black cover glass. I don't know the origin of his  
20 estimate.

21 Q. Okay. But that's just -- your  
22 understanding is that he's just referring to the  
23 additional cost for the white cover glass; correct?

24 A. Correct.

25 Q. And so that wouldn't include the -- the

1 additional painting operations on the housing and  
2 G-frame; is that correct?

3 A. From this statement, I would interpret that  
4 just to mean just the CG, just the cover glass.

5 Q. If you look at the third page of Exhibit 5,  
6 which is what Mr. Mittleman refers to as the rundown  
7 of design and operational issues associated with  
8 white ink, do you see that the first -- under the  
9 heading "White N81," the first line says, Design  
10 implications of white ink.

11 Do you see that?

12 A. Yes.

13 Q. And there are some -- some bullet points  
14 below that. And the first one is, White ink is 35  
15 UM thicker than black.

16 A. Yes.

17 Q. What's -- what's UM?

18 A. That's short for microns.

19 Q. And the next bullet point says, Would  
20 require growing the G-frame in Z by 35 UM to  
21 maintain current CG proudness.

22 Do you know what he's referring to there?

23 A. Yeah. He's referring to the -- the  
24 additional -- the additional ink thickness would  
25 cause the glass to sit slightly higher in the

1 product. And if we wanted to maintain the same  
2 position of the G-frame with respect to the glass,  
3 we would need to grow the G-frame by 35 microns.

4 Q. And in the version of the white N81 that  
5 shipped, you didn't grow the G-frame; correct?

6 A. Correct.

7 Q. And, instead, the cover glass just sits a  
8 little prouder than the black version?

9 A. That's right.

10 Q. And then down below, it says, Operational  
11 implications for white ink.

12 Do you see that?

13 A. Yes.

14 Q. And third bullet point is, Need to manage  
15 two glass thicknesses, .80 UM for white, .83 UM for  
16 black. And, in fact, you didn't need to manage two  
17 different glass thicknesses; is that correct?

18 MR. DANIS: I'm sorry. Can you read that  
19 question back.

20 MR. KIDMAN: Let me just ask a different --  
21 different question because I think I -- now I think  
22 I understand what this is saying and it supersedes  
23 my question.

24 BY MR. KIDMAN:

25 Q. When he says, Need to manage two glass

1 thicknesses, is he referring to the addition --  
2 additional layers of ink on the white cover glass  
3 increasing the thickness over the -- as compared to  
4 the black version?

5 A. No. I think he's referring to a potential  
6 third solution, which would be to reduce the  
7 thickness of the -- of the white glass and to  
8 compensate for the thickness of the ink.

9 Q. And was that -- was that solution  
10 implemented?

11 A. No.

12 Q. Okay. And then the next bullet point says,  
13 White CG is 80 cents to \$1.05 more expensive.

14 Do you see that?

15 A. Yes.

16 Q. Does that refresh your recollection in any  
17 way as to the additional cost for manufacturing the  
18 white cover glass as compared to the black?

19 A. This --

20 MR. DANIS: I'm sorry. I don't think there  
21 was a prior question to the witness on the cost of  
22 white cover glass. So I don't know how to state the  
23 objection, but I -- I think you're asking --

24 BY MR. KIDMAN:

25 Q. Do you have any understanding as to the

1 tests. And these are tests that I'm familiar with  
2 from other -- you know, other projects and other  
3 uses.

4 Q. And who was it that shared the -- the data  
5 with you that's reflected here?

6 A. I believe it was Chris Prest. I think he  
7 was the one who oversaw this testing, this effort.

8 Q. Are you aware of any testing that's been  
9 done on glass configurations where the corners of  
10 the glass from the plan view are at a 90-degree  
11 angle without -- without any radii?

12 A. No, not that I remember.

13 Q. The first through third generations of the  
14 iPod nano used plastic for the top cover; correct?

15 A. Correct.

16 Q. Do any versions of the iPod touch use  
17 plastic for the top cover?

18 A. No.

19 Q. And do all versions of the iPod touch use  
20 glass as the material for the top cover?

21 A. Yes.

22 Q. Do you know, in connection with any version  
23 of the iPod touch, whether any material other than  
24 glass has been considered for the top cover?

25 A. It's possible that in early -- early

1 configurations of N45, the first touch, such as  
2 the -- the configuration that you showed in the  
3 image, that -- in the image in a prior exhibit, that  
4 we may have considered plastic for -- for that type  
5 of product. I don't recall the -- I don't recall  
6 definitively.

7 Q. Do you have any understanding as to why  
8 glass was selected as the material for the top cover  
9 of each of the versions of the iPod touch that have  
10 shipped?

11 A. I recall the decision to use glass -- or  
12 hearing of the decision to use glass on the  
13 first-generation iPhone, and I believe that the  
14 logic for that -- for that decision was applied to  
15 the touch, although I don't recall -- you know, I  
16 wasn't part of that decision.

17 I don't recall the specific timing when  
18 that happened relative to where we were in the  
19 development of N45.

20 Q. And do you know what the logic was behind  
21 selecting glass for the top cover of the -- of the  
22 original iPhone?

23 A. I understand from, you know, recollection  
24 of discussions at the time and then also from, you  
25 know, news articles I've read more recently about --

1 that Steve Jobs advocated switching to it because of  
2 its scratch resistance -- to glass because of its  
3 scratch resistance.

4 Q. And do you recall -- putting aside news  
5 articles that you've subsequently read, do you  
6 recall any discussions internally at Apple about  
7 that being the logic behind selecting glass for the  
8 top cover of the original iPhone?

9 A. I recall speaking to Steve Zadesky about  
10 it, sometime -- sometime shortly after, that we  
11 learned -- or he had learned of that decision. And  
12 him -- he related to me a similar -- similar logic,  
13 similar story.

14 Q. What do you recall Mr. Zadesky saying?

15 A. I recall him saying that -- that the --  
16 that Steve Jobs felt that the scratch resistance of  
17 the plastic was unacceptable and that the team  
18 should switch to glass.

19 Q. Do you recall any testing being done on  
20 plastic top covers?

21 MR. DANIS: Objection. Vague as to  
22 "device."

23 BY MR. KIDMAN:

24 Q. For any version of the iPod touch or the  
25 iPhone.

1           A.    I don't recall any touch relating --  
2 related testing -- any touch-related testing. I do  
3 recall tests -- I -- I recall that there was -- I  
4 believe that there was testing at the time of the  
5 original iPhone during the development of that  
6 product.

7           Q.    When you say you don't recall any  
8 touch-related testing, do you mean you don't recall  
9 any testing of a plastic cover in connection with  
10 the iPod touch?

11          A.    Yes, exactly.

12          Q.    Okay. What do you recall about the testing  
13 of plastic for the top cover in connection with the  
14 iPhone?

15          A.    I just have vague recollections of hearing  
16 about different materials that were trialed and, you  
17 know, hearing hardness result numbers from those  
18 plastics. I don't -- I don't recall any -- any  
19 level of detail, but I'm just aware that that  
20 testing was happening.

21          Q.    When you say you recall hearing about  
22 hardness result numbers, what does -- what does that  
23 refer to?

24          A.    Hardness is a -- is a material property,  
25 something you can measure.