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11 UNITED STATES DISTRICT COURT
 12 NORTHERN DISTRICT OF CALIFORNIA
 13 OAKLAND DIVISION

14 THE APPLE IPOD ITUNES ANTI-TRUST) Lead Case No. C-05-00037-YGR
 15 LITIGATION)
) CLASS ACTION

16 _____)
 17 This Document Relates To:) PLAINTIFFS' RESPONSIVE SEPARATE
) STATEMENT IN SUPPORT OF
 18 ALL ACTIONS.) OPPOSITION TO DEFENDANT'S MOTION
) FOR SUMMARY JUDGMENT AND TO
) EXCLUDE EXPERT TESTIMONY OF
 19 ROGER G. NOLL

20 DATE: February 18, 2014
 21 TIME: 2:00 p.m.
 CTRM: 5, 2nd Floor
 22 JUDGE: Hon. Yvonne Gonzalez Rogers

23 UNREDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED

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25 ***APPLE'S (PROPOSED) REDACTIONS***
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Claim/Issue No.	Moving Party's Undisputed Material Facts and Supporting Evidence	Opposing Party's Response and Supporting Evidence
<p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7 All claims: 8 No antitrust 9 impact</p>	<p>Fact 1: [REDACTED]</p> <p>Evidence: Expert Report of Robert H. Topel (August 19, 2013) ¶ 27, n. 40 (Amiri Decl. Ex. 4).</p>	<p>Disputed, irrelevant, incoherent and unintelligible as written. The term "Harmony music sales" is meaningless. Harmony is the name of RealNetworks' technology which enabled RealNetworks to sell songs through its own store that were playable on the iPod. In any event, Nothing in the economic theory of demand indicates that some threshold level of users of Harmony among iPod owners is necessary for Harmony to have had an effect on iPod prices.¹</p> <p>Ex. 4, Martin Report, ¶27 & Exhibit 12; Ex. 1, Noll Damages Report at 13-22, 51-63; Ex. 2, Noll Rebuttal at 14-18, 25-32; Ex. 51, 5/16/13 Noll Dep. at 80:22-81:12.</p>
<p>13</p> <p>14</p> <p>15 All claims: 16 No antitrust 17 impact</p>	<p>Fact 2: Consumers would not be expected to be using Harmony in large numbers in 2005 or 2006 because Harmony had already been lawfully disabled by iTunes 4.7 previously.</p> <p>Evidence: Deposition of Roger G. Noll (May 16, 2013) at 147:20-148:5 (Amiri Decl. Ex. 10).</p>	<p>Disputed and irrelevant. This has no basis in law. The citation has no connection to the purported undisputed fact. The relevant fact is that the disabling of Harmony through iTunes 4.7 and 7.0 are an example of exclusion of a competitor.</p> <p>Ex. 1, Noll Damages Report at 4, 13-22, 45-47, 51-63; Ex. 2, Noll Rebuttal at 14-18, 25-32; Ex. 61, Apple_AIIA00325894-97.</p>
<p>20</p> <p>21</p> <p>22 All claims: 23 No antitrust 24 impact</p>	<p>Fact 3: Plaintiffs have no evidence regarding what portion of RealNetworks' sales was to iPod owners or potential iPod purchasers.</p> <p>Evidence: Deposition of Roger G. Noll (May 16, 2013) at 116:18-23 (Amiri Decl. Ex. 10).</p>	<p>Disputed and irrelevant. Professor Noll stated that it does not matter what the amount of sales of RealNetworks filed to iPod owners, but rather it is the "actual pricing behavior and the implicit change in the elasticity of demand" that is important. The problem with this argument is that it focuses on only one way in which the creation of a mandatory closed system of products reduces competition and raises prices. Ex. 51, 5/16/13 Noll Dep. at</p>

¹ All references to "Ex." are to the exhibits attached to the Declaration of Bonny E. Sweeney in Support of Plaintiffs' Memorandum of Law in Opposition to Defendant's Motion for Summary Judgment and to Exclude Expert Testimony of Roger G. Noll, filed concurrently.

1		107:16-24, 77:24-78:10; Ex. 1, Noll Damages Report at 4, 13-22, 45-47, 51-63; Ex. 2, Noll Rebuttal at 14-18, 25-32.
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3	All claims: No antitrust impact	Fact 4: In determining whether [REDACTED] had any impact, the relevant sales of Harmony music are to consumers who were iPod owners or potential iPod purchasers.
4		Disputed, misstates testimony and irrelevant. Professor Noll's answer was in response to whether the size of RealNetworks' market share had an impact on iPod demand.
5		Evidence: Deposition of Roger G. Noll (May 16, 2013) at 81:6-12 (Amiri Decl. Ex. 10).
6		Ex. 51, 5/16/13 Noll Dep. at 81:6-12; <i>see also</i> Plaintiffs' Responses to Fact 2 and 3 above.
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8	All claims: No antitrust impact	Fact 5: Plaintiffs have no evidence of the number of people who became locked in or locked out as a result of the [REDACTED]
9		Disputed and irrelevant. <i>See</i> Plaintiffs' Responses to Fact 2 and 3 above.
10		Evidence: Deposition of Roger G. Noll (May 16, 2013) at 107:16-24 (Amiri Decl. Ex. 10).
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13	All claims: No antitrust impact	Fact 6: The named plaintiffs do not allege that they were locked in or locked out as a result of the [REDACTED]
14		Disputed and irrelevant. This is not a requirement to establishing liability and has nothing to do with the determination of whether the price of iPods was inflated due to this conduct. Apple's cite to the complaint is unintelligible and meaningless. In any event, named plaintiff Melanie Tucker testified: "Q. And how did you choose an iPod rather than, say, an iRiver at that point? A. Because all of my music was already on my iTunes and that would have the only way to keep my music.") Named plaintiff Troy Charonosek stated "I was locked out of the music that I purchased, That was my main complaint."
15		Evidence: Amended Consolidated Complaint (ECF No. 322).
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23		Ex. 58, Tucker Dep. at 12:20-13:5, 13:16-19; Ex. 60, Charonosek Dep. at 26:9-11; Ex. 1, Noll Damages Report at 4, 13-22, 45-47, 51-63; Ex. 2, Noll Rebuttal at 14-18, 25-32.
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26	All claims: No antitrust impact	Fact 7: [REDACTED]
27		[REDACTED]
28		[REDACTED]
		Disputed and irrelevant. As a matter of both law and economics, Apple's reliance has no meaning in estimating what the overcharge was as a result of its

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	<p>[REDACTED]</p> <p>Evidence: Deposition of Roger G. Noll (Dec. 18, 2013) at 78:20-82:4 (Amiri Decl. Ex. 11).</p>	<p>anticompetitive behavior.</p> <p>Ex. 1, Noll Damages Report at 59-82; Ex. 2, Noll Rebuttal at 13-33 & Appendix B; Ex. 48, Donnelly Dep. at 54, 59-60, Ex. 49, Apple_AIIA001877793 at 795.</p>
<p>All claims: No antitrust impact</p>	<p>Fact 8: [REDACTED]</p> <p>Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶¶ 78 (Amiri Decl. Ex. 3); Expert Report of Robert Topel (August 19, 2013) at ¶ 127 (Amiri Decl. Ex. 4); Deposition of Mark Donnelly (Dec. 20, 2010) at 72:2-12 (Amiri Decl. Ex. 18).</p>	<p>Disputed. [REDACTED]</p> <p>Ex. 48, Donnelly Dep. at 43-44; Ex. 2, Noll Rebuttal at 33 & Appendix B. <i>See also</i> Plaintiffs’ Responses to Fact 7 above.</p>
<p>All claims: No antitrust impact</p>	<p>Fact 9: [REDACTED]</p> <p>Evidence: Deposition of Roger G. Noll (April 7, 2011) at 213:2-10; . Deposition of Mark Donnelly (Dec. 20, 2010) at 72:2-12 (Amiri Decl. Ex. 18).</p>	<p>Disputed. [REDACTED]</p> <p>Ex. 62, 4/7/11 Noll Dep. at 211:16-212:9. <i>See also</i> Plaintiffs’ Responses to Fact 7 above.</p>
<p>All claims: No antitrust impact</p>	<p>Fact 10: Under plaintiffs’ theory, the number of consumers who were locked in to purchasing iPods would have progressively increased during the damage period as consumers purchased more music from iTS.</p> <p>Evidence: Deposition of Roger Noll (Dec. 18, 2013) at 51:16-52:11, 109:10-21 (Amiri Decl., Ex. 11); Rebuttal Declaration of Roger Noll at p. 7 (Amiri Decl., Ex. 8).</p>	<p>Disputed. Professor Noll stated: “[T]his argument ignores the fact that iTunes 7.0 immediately locked out a customer who has been using a portable digital media player”; “The effect of lock-out is immediate, and the principal anticompetitive effect of blocking Harmony on iPod prices arises from the general reduction in competition among iPods and other portable digital media players arising from the lock-out effect.”</p> <p>Ex. 2, Noll Rebuttal at 27. <i>See</i> Plaintiffs’ Responses to Fact 2 and 3 above.</p>

1 2 3 4 5 6 7 8 9 10	All claims: No antitrust impact	<p>Fact 11: The impact on demand from lock-in of iPod purchasers would not occur until they purchased a replacement player which occurred on average 18-24 months after their initial purchase.</p> <p>Evidence: Deposition of Roger Noll (December 18, 2013) at 49:9-23 (Amiri Decl., Ex. 11); Rebuttal Declaration of Roger Noll at p. 27 (Amiri Decl., Ex. 8).</p>	<p>Disputed in part. Professor Noll is referring to new iPod owners – iTunes 7.0 immediately locked out a customer who has been using a portable digital media player that used the RealNetworks DRM format and who had purchased downloads from RMS. “The main immediate effect of lock-in is the existing or established base. It’s not the new people. And the new people would just gradually through time get added to the people who are affected by lock-in in terms of their effect on the demand for iPods.”</p> <p>Ex. 50, 12/18/13 Noll Dep. at 49:9-23-52:11. <i>See</i> Plaintiffs’ Responses to Fact 2 and 3 above.</p>
11 12 13 14 15 16 17	All claims: No antitrust impact	<p>Fact 12: The lock-in effect on consumers who purchased a new iPod for the first time after September 2006 would not be an important factor affecting iPod prices for most of the damage period.</p> <p>Evidence: Rebuttal Declaration of Roger Noll at p. 27 (Amiri Decl., Ex. 8).</p>	<p>Disputed.</p> <p><i>See</i> Plaintiffs’ Response to Fact 11 above.</p>
18 19 20 21 22 23 24	All claims: No antitrust impact	<p>Fact 13: By turning the iTunes 4.7 variable off, Dr. Noll’s regression treated iTunes 4.7 as having no effect on prices after the [REDACTED] was released.</p> <p>Evidence: Expert Report of Robert Topel (August 19, 2013) at ¶¶ 94-95 (Amiri Decl. Ex. 4).</p>	<p>Disputed. “The proper way to measure the impact of enabling the [REDACTED] and using iTunes 7.0 is not to assume that these models contained the old blocking technology from iTunes 4.7, which is the implicit assumption in the proposal by Professors Murphy and Topel.”</p> <p>Ex. 50, 12/18/13 Noll Dep. at 53:19-54:17, 56:4-57:6, 93:13-25; Ex. 3, Supp. Noll Rebuttal at 1-3,13-15. <i>See also</i> Plaintiffs’ Response to Fact 11 above.</p>
25 26 27 28	All claims: No antitrust impact	<p>Fact 14: By turning the iTunes 4.7 variable off, Dr. Noll’s regression treated the but-for world as one in which iTunes 4.7 did not exist.</p> <p>Evidence: Expert Report of Robert Topel (August 19, 2013) at ¶¶ 94-</p>	<p>Disputed.</p> <p><i>See</i> Plaintiffs’ Response to Fact 13 above.</p>

1		95 (Amiri Decl. Ex. 4).	
2	All claims: No antitrust impact	Fact 15: Under plaintiffs' theory, the increase in prices caused by iTunes 4.7 would persist even after the [REDACTED] was issued because the initial shutdown of Harmony in 2004 could have caused consumers to permanently abandon Harmony.	Disputed.
3			Further, Professor Noll stated that consumer expectations about the durability of Harmony's relaunch may be a continuing effect of 4.7, but because 7.0 was never undone, there is no way to test whether this consumer expectation may continue after 7.0 was issued.
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6		Evidence: Deposition of Roger G. Noll (May 16, 2013) at 68:2-70:16 (Amiri Decl. Ex. 10).	Ex. 51, 5/16/13 Noll Dep. at 68:2-70:16. See also Plaintiffs' Response to Fact 13 above.
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10	All claims: No antitrust impact	Fact 16: By turning off the iTunes 4.7 variable when he turned on the iTunes 7.0 variable, Dr. Noll causes the iTunes 7.0 variable to capture the continuing effect from iTunes 4.7.	Disputed.
11			See Plaintiffs' Response to Fact 13 above.
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14		Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶¶ 102 (Amiri Decl. Ex. 3); Expert Report of Robert Topel (August 19, 2013) at ¶¶ 92-93 (Amiri Decl. Ex. 4).	
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18	All claims: No antitrust impact	Fact 17: Dr. Noll admitted that "the effect on prices [from iTunes 7.0] is not necessarily limited to just the products that were sold that had 7.0 in them."	Disputed and incomplete.
19			The testimony cited here is from before Apple submitted a Supplemental Declaration from Augustin Farrugia on July 2, 2013, which corrected certain of Apple's prior representations regarding which models of iPods that came installed with KVC.
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21		Evidence: Deposition of Roger G. Noll (May 16, 2013) at 46:2-4 (Amiri Decl. Ex. 10); Deposition of Roger G. Noll (Dec. 18, 2013) at 64:16-65:21 (Amiri Decl. Ex. 11).	See Ex. 59, Farrugia Supp. Decl.; Ex. 50, 12/18/13 Noll Dep. at 52:19-113:10; see also Plaintiffs' Response to Fact 13 above.
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25		All claims: No antitrust impact	Fact 18: According to Dr. Noll, disabling Harmony in 2006 was a "market-defining event."
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28	Evidence: Deposition of Roger G. Noll (May 16, 2013) at 48:24-49:17 (Amiri Decl. Ex. 10).		

1		pricing strategy of portable digital media players would be.”
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3		Ex. 51, 5/16/13 Noll Dep. at 48:24-49:17.
4	All claims: No antitrust impact	Fact 19: Dr. Noll’s regression includes a single “iTunes 7.0” variable that he asserts measures the alleged unlawful overcharge in iPod prices.
5		Disputed as phrased. The iTunes 7.0 variable includes within in it all relevant aspects in determining the value of the variable.
6		Evidence: Expert Report of Kevin Murphy (August 19, 2013) at p. 81 (Amiri Decl. Ex. 3); Expert Report of Robert Topel (August 19, 2013) at ¶ 80 (Amiri Decl. Ex. 4).
7		Ex. 51, 5/16/13 Noll Dep. at 34:1-35:5. Ex. 2, Noll Rebuttal at 18, 23-32. See also Plaintiffs’ Response to Fact 17 above.
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10	All claims: No antitrust impact	Fact 20: Plaintiffs challenge only the █████ aspect of iTunes 7.0.
11		Disputed as phrased; incoherent. Plaintiffs are not “challenging” “iTunes 7.0.” Plaintiffs allege that Apple maintained and enhanced its monopoly power in the market for portable digital media players by releasing iTunes 7.0. The technical explanation of iTunes 7.0 cannot be as simply stated as Apple states in Fact 20.
12		Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶ 113 (Amiri Decl. Ex. 3); Expert Report of Robert Topel (August 19, 2013) at ¶ 110 (Amiri Decl. Ex. 4).
13		Dkt. No. 322, Amended Consolidated Complaint; Ex. 4, Martin Report, ¶¶75-106; <i>see also</i> Plaintiffs’ Response to Fact 17 above.
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16	All claims: No antitrust impact	Fact 21: Dr. Noll’s regression must control for any unchallenged aspects of iTunes 7.0 that may be correlated with the █████ to ensure that the coefficient on iTunes 7.0 captures only the price impact of the challenged conduct.
17		Disputed; incoherent; improper assumptions built into the “fact.”
18		Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶¶ 80, 108 (Amiri Decl. Ex. 3); Expert Report of Robert Topel (August 19, 2013) at ¶ 48 (Amiri Decl. Ex. 4).
19		Adding additional variables with no additional explanatory power to the equation is unnecessary and can cause problems with the regression. “The goal of the hedonic price equation is to explain as much of the variation in price as possible, using measures of product features.”
20		In addition, the iTunes 7.0 variable includes within in it all relevant aspects in determining the value of the variable.
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28		Ex. 2, Noll Rebuttal at 29-31; <i>see</i> Ex. 3, Supp. Noll Rebuttal at 7-13; Ex. 51, 5/16/13 Noll Dep. at 34:1-35:5; <i>see also</i> Plaintiffs’ Response to Fact 17 above.

1 2 3 4 5 6 7	All claims: No antitrust impact	Fact 22: Because iTunes 7.0 included “unique attributes” that Dr. Noll’s model ignores, the model cannot accurately determine whether any price-elevating impact of iTunes 7.0 was due to the [REDACTED] or the other features of iTunes 7.0. Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶ 113 (Amiri Decl. Ex. 3).	Disputed. Adding more variables that have a minimal effect on the explanatory power of a regression is worse than simply being unnecessary. “I’m not aware of any that would add statistical significance to the regression equation without being so highly multicollinear that they would destroy the coefficient estimates.” Ex. 2, Noll Rebuttal at 5, 8, 30-32; Ex. 50, 12/18/13 Noll Dep. at 34:10-35:13; <i>see also</i> Plaintiffs’ Response to Fact 21 above.
8 9 10 11 12 13 14 15 16 17	All claims: No antitrust impact	Fact 23: Dr. Noll recognizes that product features are important determinants of price, and thus his regression includes variables for a few such characteristics (e.g. storage capacity, photo and video capability, and size). Evidence: Deposition of Roger G. Noll (May 16, 2013) at 30:22-32:31 (Amiri Decl. Ex. 10).	Disputed as phrased. “Because no issue in this litigation hinges on monetizing the value of any particular technical feature of an iPod, nothing is gained by adding more characteristics that do not increase the explanatory power of the regression but reduce the precision of the estimates of the coefficients.” “I’m not aware of any . . . that would add statistical significance to the regression equation without being so highly multicollinear that they would destroy the coefficient estimates.” Ex. 2, Noll Rebuttal at 8, 31-32; Ex. 50, 12/18/13 Noll Dep. at 34:10-35-13. <i>See also</i> Plaintiffs’ Response to Fact 22 above.
18 19 20 21 22 23 24 25 26 27	All claims: No antitrust impact	Fact 24: Dr. Noll’s model omits numerous other characteristics that are likely to affect price, including battery life, display size, weight, screen resolution, and type of connector. Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶ 110 (Amiri Decl. Ex. 3); Expert Report of Robert Topel (August 19, 2013) at ¶ 111 & Ex. 10 thereto (Amiri Decl. Ex. 4).	Disputed. “Because no issue in this litigation hinges on monetizing the value of any particular technical feature of an iPod, nothing is gained by adding more characteristics that do not increase the explanatory power of the regression but reduce the precision of the estimates of the coefficients.” “I’m not aware of any that would add statistical significance to the regression equation without being so highly multicollinear that they would destroy the coefficient estimates.” Ex. 2, Noll Rebuttal at 8, 31-32; Ex. 50, 12/18/13 Noll Dep. at 34:10-35-13. <i>See also</i> Plaintiffs’ Response to Fact 22 above.
28	All claims:	Fact 25: By failing to control for	Disputed. <i>See</i> Plaintiffs’ Response to Fact

1 2 3 4 5 6 7	No antitrust impact	<p>the relevant product characteristics, Dr. Noll’s regression erroneously attributes iPod price changes to the [REDACTED] that are actually the result of the omitted variables.</p> <p>Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶¶ 79-80 (Amiri Decl. Ex. 3); Expert Report of Robert Topel (August 19, 2013) at ¶ 110 (Amiri Decl. Ex. 4).</p>	24.
8 9 10 11 12 13 14 15 16 17 18	All claims: No antitrust impact	<p>Fact 26: An assumption fundamental to all regression analysis is that the errors or residuals (the portion of the price that cannot be explained by the explanatory variables) are uncorrelated or independent of one another.</p> <p>Evidence: Rebuttal Declaration of Roger G. Noll (November 25, 2013) at 36-38 (Amiri Decl., Ex. 8); Deposition Transcript of Roger G. Noll (December 18, 2013) at 23:9-24:7 (Amiri Decl. Ex. 11); Expert Report of Robert Topel (August 19, 2013) at pp. 32-33 (Amiri Decl. Ex. 4).</p>	<p>Disputed; incoherent; incomplete; vague as to “fundamental to all regression analysis [sic].” Apple’s statement overreaches, as Professor Noll states:</p> <p>“[T]he appropriate residual error for a transaction is a single observation on the difference between estimated and actual price for the transaction, not for each unit in the transaction. Thus, the appropriate procedure to test for within-cluster correlation of errors is to examine the residual errors of transactions, not the residual errors of the price of each unit sold.”</p> <p>Ex. 2, Noll Rebuttal at 10-11, 33-47; Ex. 3, Supp. Noll Rebuttal at 3-7; <i>see generally</i> Ex. 54, Wooldridge Decl.</p>
19 20 21 22 23	All claims: No antitrust impact	<p>Fact 27: If the errors within a group are correlated (not independent) they are said to be clustered and must be corrected before calculating standard errors.</p> <p>Evidence: Expert Report of Robert Topel (August 19, 2013) at pp. 34-35 (Amiri Decl. Ex. 4).</p>	<p>Disputed; incomplete. This is not necessarily correct and overreaches. “Clustering does not apply to Apple’s transactions data because the data are not a sample, let alone a clustered sample.”</p> <p>Ex. 2, Noll Rebuttal at 10-11, 33-47. <i>See generally</i> Ex. 54, Wooldridge Decl. <i>See also</i> Plaintiffs’ Response to Fact 26.</p>
24 25 26 27 28	All claims: No antitrust impact	<p>Fact 28: If clustering issues are not corrected, the standard errors will be miscalculated and will under- or over-estimate the model’s precision.</p> <p>Evidence: Deposition of Roger G. Noll (Dec. 18, 2013) at 25:15-20</p>	<p>Disputed as phrased; incomplete; vague. This is not necessarily correct and overreaches. If there are “clustering issues,” they may under- or over-estimate a model’s precision. However, “[c]lustering does not apply to Apple’s transactions data because these data are not a sample, let alone a clustered sample.”</p>

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	<p>(Amiri Decl. Ex. 11); Expert Report of Robert Topel (August 19, 2013) at pp. 34-37 (Amiri Decl. Ex. 4); Expert Report of Kevin Murphy (August 19, 2013) at pp. 50-51 (Amiri Decl. Ex. 3).</p>	<p>Ex. 50, 12/18/13 Noll Dep. at 25:15-27:8. <i>See also</i> Plaintiffs’ Response to Fact 27.</p>
<p>All claims: No antitrust impact</p>	<p>Fact 29: Dr. Noll admits that there are standard procedures to test whether the errors in a regression are correlated.</p> <p>Evidence: Deposition of Roger Noll (Dec. 18, 2013) at 24:9-14 (Amiri Decl., Ex. 11).</p>	<p>Disputed, incomplete. Dr. Noll stated that “[t]here are many such tests and many such corrections . . . So the corrections for autocorrelation of residuals are not something that actually matters in the vast majority of cases because the -- it’s almost never the case there’s no correlation in residual errors, but it’s almost never the case that making a correction for the auto-- the correlation that does exist matters in terms of the regression.”</p> <p>Ex. 50, 12/18/13 Noll Dep. at 24:9-25:3. <i>See also</i> Plaintiffs’ Response to Fact 27.</p>
<p>All claims: No antitrust impact</p>	<p>Fact 30: Dr. Noll did not employ any of the standard procedures for testing whether the errors in his regression are correlated such that the independence assumption is violated.</p> <p>Evidence; Supp. Report of Kevin M. Murphy & Robert H. Topel at pp. 5-6 (Amiri Decl., Ex. 14); Deposition of Roger Noll (Dec. 18, 2013) at 27:9-32:8, 45:23-46:9 (Amiri Decl., Ex. 11).</p>	<p>Disputed.</p> <p><i>See</i> Plaintiffs’ Response to Fact 29. Ex. 3.</p>
<p>All claims: No antitrust impact</p>	<p>Fact 31: Had Dr. Noll run the tests to determine if the errors in his regression were correlated, he would have discovered that errors within certain groups or clusters are highly correlated, revealing that this independence assumption is false.</p> <p>Evidence; Supp. Report of Kevin M. Murphy & Robert H. Topel at pp. 5-6 (Amiri Decl., Ex. 14)</p>	<p>Disputed. Professor Noll stated: “[T]he empirical analysis that Professors Murphy and Topel present . . . does not show that residual errors are correlated. Instead, this analysis shows that the two samples generate similar estimates of the mean residual error, which is to be expected if the samples are drawn randomly . . . Thus, the analysis of residual errors by Professors Murphy and Topel does not actually test whether residual errors are correlated within a cluster.”</p>

1			<i>See</i> Plaintiffs’ Response to Fact 29. Ex. 3.
2	All claims: No antitrust impact	Fact 32: Dr. Noll admits that economists typically determine relevant markets by estimating cross-elasticity of demand, but he did not estimate cross-elasticity of demand.	Disputed. Dr. Noll stated “Economists use several methods to identify a relevant market. In some cases, economists estimate the cross-elasticity of demand . . . In most cases data limitations preclude econometric estimation of cross elasticity of demand . . . If reliable estimation of cross-elasticity of demand is not feasible, economists look for indirect evidence that products are close substitutes: similarity of components and functional uses, statements outside the context of litigation by executives and industry analysts about their beliefs about which products are close competitors, and surveys of buyers about which products they considered before buying a product that is a candidate to be included in a relevant market.” Ex. 1, Noll Damages Report at 23-42; Ex. 2, Noll Rebuttal at 23-24.
3		Evidence: Declaration of Roger Noll on Liability and Damages (April 3, 2013) at pp. 23-24 (Amiri Decl., Ex. 6).	
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14	All claims: No antitrust impact	Fact 33: Dr. Noll did not employ the “hypothetical monopolist” test endorsed by the Department of Justice.	Irrelevant. There is no requirement that this test be performed to determine a relevant market. Professor Noll uses commonly accepted methodology to establish a relevant market. <i>See</i> Ex. 1, Noll Damages Report at 22-47 & Exhibits 2-8; <i>see also</i> Plaintiffs’ Response to Fact 32.
15		Evidence: Declaration of Roger Noll on Liability and Damages (April 3, 2013) at pp. 23-24 (Amiri Decl., Ex. 6).	
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19	All claims: No antitrust impact	Fact 34: Dr. Noll asserts that economists rely on surveys of buyers or statements of executives in the industry to establish a product market, but Dr. Noll does not present any such evidence.	Disputed and irrelevant. There is no requirement that surveys or statements of executives in the industry are used to establish a product market. However, Professor Noll does present survey evidence and statements from industry executives Ex. 1, Noll Damages Report at n.5, n.22, n.70, n.82; <i>id.</i> at 40-41, 47, 50; <i>see also</i> Plaintiffs’ Response to Fact 32.
20		Evidence: Declaration of Roger Noll on Liability and Damages (April 3, 2013) at pp. 23-24 (Amiri Decl., Ex. 6).	
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25	All claims: No antitrust impact	Fact 35: Dr. Noll does not profess to have any industry or other experience that would make him an expert on what consumers consider	Disputed. Professor Noll is a renowned antitrust expert who has testified and submitted reports and declarations in numerous antitrust cases. His reports and
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1		to be substitutes for digital music and music players.	testimony were obtained using widely accepted economic methods that have demonstrated impact and damages. He has 45 years of experience in analyzing the economics of the communication industry.
2		Evidence: Declaration of Roger Noll on Liability and Damages (April 3, 2013) at pp. 23-24 (Amiri Decl., Ex. 6).	Ex. 1, Noll Damages Report at 3. <i>See also id.</i> , Appendix A (23 page C.V.).
3		Fact 36: Dr. Noll refers only to CD players and cell phones without discussing any other potentially competing devices (such as notebook computers and home stereos) for playing digital music.	Disputed. Professor Noll examines many other portable digital media players, including those that Apple themselves listed as examples of competitors. Because the market is portable digital music players, Professor Noll did not examine obvious non-portable or non-digital (or both) media players.
4		[REDACTED]	
5		[REDACTED]	
6		[REDACTED]	
7	All claims: No antitrust impact	[REDACTED]	Ex. 1, Noll Damages Report at 7-12; 25-32, 39, 40-41 & Exhibits 2-7.
8		Evidence: Declaration of Roger Noll on Liability and Damages (April 3, 2013) at pp. 32-42 (Amiri Decl., Ex. 6); Deposition of Arthur Rangel (December 17, 2010) at 48:4-10 (Amiri Decl., Ex. 13).	
9		Fact 37: Dr. Noll does not address whether customers might substitute free downloads from peer-to-peer file sharing sites for iTS music, disregarding evidence that the availability of free downloads was a major challenge to the success of paid music stores like iTS.	Disputed and irrelevant. Professor Noll stated: "Professor Murphy does not show that CDs, illegal file sharing, and on-demand streaming services are equally close substitutes for iTS as a competing source of permanent downloads. The <i>Noll Merits</i> Report (pp. 31-42) explains why these other sources of recordings are not as close substitutes for iTS as other Internet sites that sell permanent downloads of recordings. Briefly, the success of sites like iTS, RMS, Amazon and others demonstrates that many consumers do not want to obtain recordings in a way that infringes copyrights."
10	All claims: No antitrust impact	Evidence: Declaration of Roger Noll on Liability and Damages (April 3, 2013) at pp. 32-42 (Amiri Decl., Ex. 6); Expert Report of Kevin Murphy (August 19, 2013) at ¶ 125 (Amiri Decl. Ex. 3).	Ex. 1, Noll Damages Report at 31-42; Ex. 2, Noll Rebuttal at 16.
11		Fact 38: Dr. Noll assumes that cell phones must be able to download music over wireless carriers' networks to be substitutes for	Disputed and irrelevant. Professor Noll examined data in a FCC "annual report" indicated that smart phones are now competitive substitutes for portable digital
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27	All claims: No antitrust impact		
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1		iPods.	media players. He also noted: “these data indicate that smart phones did not begin to have a competitively significant effect on the market for portable digital media players until after the end of the class period.”
2		Evidence: Declaration of Roger Noll on Liability and Damages (April 3, 2013) at pp. 29-31 (Amiri Decl., Ex. 6).	Ex. 1, Noll Damages Report at 29-31.
3	All claims: No antitrust impact	Fact 39: iPods never had the capability to download music over wireless carriers’ networks during the class period. Only the iPod touch could wirelessly download music, but only over a Wi-Fi connection, not a wireless carrier network.	Irrelevant.
4		Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶ 30 (Amiri Decl. Ex. 3).	See Plaintiffs’ Response to Fact 38.
5	All claims: No antitrust impact	Fact 40: Dr. Noll excludes on-demand and non-interactive streaming music from the market because those services were not fully available on mobile devices during the class period.	Disputed in part and irrelevant. Professor Noll analyzes the on-demand and streaming music for nearly 7 pages and concludes: “The insignificance of on-demand and non-interactive digital streaming services is documented in Exhibit 1, which shows the breakdown of revenues to the record industry from various sources . . . digital streaming services were too small during the class period to be a competitive restraint on audio download services.”
6		Evidence: Declaration of Roger Noll on Liability and Damages (April 3, 2013) at pp. 33-39 (Amiri Decl., Ex. 6).	Ex. 1, Noll Damages Report at 33-39.
7	All claims: No antitrust impact	Fact 40: Support for mobile devices is not relevant to consumers who purchased music to play on other devices, and Dr. Noll presents no analysis as to the volume of iTS sales for use on such other devices.	Disputed and irrelevant.
8		Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶ 126 (Amiri Decl. Ex. 3).	See Plaintiffs’ Response to Fact 38.
9	All claims: No antitrust	Fact 41: ██████████	Disputed. Professor Noll states: “[t]he issue is whether the decline indicates that

1	impact	[REDACTED]	CDs are a sufficient competitive constraint on downloads of digital audio files to be included in the relevant market. The continued decline after download sales stopped growing indicates that CDs are not constraining sales of downloads. If they were, then download sales would have captured a large share of the drop in CD sales after 2007, which they have not.”
2		[REDACTED]	
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4		Evidence: Expert Report of Kevin Murphy (August 19, 2013) at ¶ 126 (Amiri Decl. Ex. 3).	
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7			Ex. 1, Noll Damages Report at 39-41. <i>See</i> Plaintiffs’ Responses to Fact 37 and 38.

PLAINTIFFS’ ADDITIONAL MATERIAL FACTS

	Claim/Issue No.	Moving Party’s Undisputed Material Facts and Supporting Evidence	Opposing Party’s Response and Supporting Evidence
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12			<u>Additional Fact 42:</u> A [REDACTED]
13	All Claims: Antitrust Impact		<i>See</i> Ex. 5, Warner Decl.; Ex. 7, Universal Decl.; Ex. 6, Sony Decl. <i>See also</i> Ex. 31, Apple_AIIA00090405-07; Ex. 32, Apple_AIIA00090429-31.
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16			<u>Additional Fact 43:</u> Apple’s closed system through its use of FairPlay, created “lock-in.”
17	All Claims: Antitrust Impact		<i>See</i> Ex. 33, Martin Rebuttal Report at 29-31; <i>see also</i> Ex. 1, Noll Damages Report at 10-22.
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20	All Claims: Antitrust Impact		<u>Additional Fact 44:</u> Harmony threatened Apple’s monopoly by reducing lock-in.
21			<i>See</i> Ex. 1, Noll Damages Report at 10-22, 52-57.
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1		<u>Additional Fact 45</u> : Apple viewed
2		Harmony as a serious threat and worked
3		to disable it immediately.
4	All Claims:	<i>See</i> Ex. 23, Apple_AIIA00090441; Ex.
5	Antitrust	36, Apple_AIIA00093875; Ex. 37,
6	Impact	Apple_AIIA00090427; Ex. 38,
7		Apple_AIIA00090428; Ex. 39,
8		Apple_AIIA00329373; Ex. 40,
9		Apple_AIIA00093265; Ex. 34,
10		Apple_AIIA00090485; Ex. 56,
11		Apple_AIIA00093859; Ex. 42,
12		Apple_AIIA00094563; Ex. 11, Farrugia
13		Dep. at 195:10-196:13, 202:22-205:21.
14		
15	All Claims:	<u>Additional Fact 46</u> : Disabling Harmony
16	Antitrust	enabled Apple to maintain and enhance
17	Impact	its monopoly.
18		<i>See</i> Ex. 1, Noll Damages Report at 52-57.
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20	All Claims:	<u>Additional Fact 47</u> : [REDACTED]
21	Antitrust	[REDACTED]
22	Impact	[REDACTED]
23		[REDACTED]
24		[REDACTED]
25		<i>See</i> Ex. 2, Noll Rebuttal Report at 11-12.
26		
27	All Claims:	<u>Additional Fact 48</u> : [REDACTED]
28	Antitrust	[REDACTED]
29	Impact	[REDACTED]
30		<i>See</i> Ex. 1, Noll Damages Report at 68-90.

18 I attest that the evidence cited herein fairly and accurately disputes the facts as asserted.

19 DATED: January 13, 2014

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