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7 LIMESTONE MEMORY SYSTEMS LLC

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10 **UNITED STATES DISTRICT COURT**  
11 **CENTRAL DISTRICT OF CALIFORNIA**

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13 LIMESTONE MEMORY SYSTEMS LLC, a  
California Limited Liability Company,

14  
15 Plaintiff,

16 v.

17 APPLE INC., a California Corporation,

18  
19 Defendant.

Case No.: 8:15-cv-01274 DOC (KESx)

**FIRST AMENDED COMPLAINT FOR PATENT  
INFRINGEMENT**

**DEMAND FOR JURY TRIAL**

**LIMESTONE’S FIRST AMENDED COMPLAINT  
FOR PATENT INFRINGEMENT**

Plaintiff, Limestone Memory Systems LLC (“LMS”), complains against Defendant Apple Inc. for patent infringement pursuant to this Court’s subject matter jurisdiction under 28 U.S.C. §§1331 and 1338(a), as follows:

**THE PARTIES**

1. Plaintiff LMS is a corporation organized and existing under the laws of the State of California with its principle place of business at 520 Newport Center Drive, 12th Floor, Newport Beach, California. LMS is in the business of licensing patented technology. LMS is the assignee of U.S. Patent Nos. 5,805,504 (“the ‘504 patent”), 5,894,441 (“the ‘441 patent”), 6,233,181 (“the ‘181 patent”), and 6,697,296 (“the ‘296 patent”).

2. Defendant Apple Inc. (“Apple”) is a corporation incorporated under the laws of California with its principal place of business at 1 Infinite Loop, Cupertino, California. Apple is registered to do business in California and has a designated registered agent in California for purposes of service of process. Apple conducts business in and is doing business in California and in this District and elsewhere in the United States, including, without limitation, using, promoting, offering to sell, importing and/or selling devices that incorporate memory devices that embody the patented technology, and enabling end-user purchasers to use such devices in this District. Apple is subject to the subpoena power of this Court within the State of California.

**JURISDICTION AND VENUE**

3. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.* This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

4. On information and belief, Defendant Apple is subject to this Court’s specific and general personal jurisdiction pursuant to due process and/or the California Long Arm

1 Statute (CCP §410.10), due at least to its substantial business conducted in this forum,  
2 including (i) having solicited business in the State of California, transacted business  
3 within the State of California and attempted to derive financial benefit from residents of  
4 the State of California, including benefits directly related to the instant patent  
5 infringement causes of action set forth herein; (ii) having placed their products and  
6 services into the stream of commerce throughout the United States and having been  
7 actively engaged in transacting business in California and in this District; and (iii) either  
8 alone or in conjunction with others, having committed acts of infringement within  
9 California and in this District.

10 5. Defendant Apple maintains systematic, continuous and ongoing business  
11 operations within the State of California and this District, through which it uses,  
12 promotes, offers to sell, and sells devices that incorporate memory devices that embody  
13 the patented technology. Apple's California facilities include offices in Culver City  
14 within this District and retail stores in Brea, Cerritos, Costa Mesa, Glendale, Los Angeles,  
15 Manhattan Beach, Mission Viejo, Newport Beach, Palm Desert, Pasadena, Rancho  
16 Cucamonga, San Luis Obispo, Santa Barbara, Santa Clarita, Santa Monica, Simi Valley,  
17 and Thousand Oaks, all of which are within this District. Further, on information and  
18 belief, Apple provides product technical support and sells devices to retailers and/or end  
19 users in this District.

20 6. Venue lies in this District pursuant to 28 U.S.C. §§ 1391(b), 1391(c) and  
21 1400(b) because Defendant Apple is subject to personal jurisdiction in this District,  
22 resides in, has regularly conducted business in this District and/or has committed acts of  
23 patent infringement in this District.

24 **FIRST CAUSE OF ACTION – INFRINGEMENT OF ‘504 PATENT**

25 7. Plaintiff hereby repeats and re-alleges the allegations contained in paragraphs  
26 1 to 6, as if fully set forth herein.

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1           8.     On September 8, 1998, U.S. Patent No. 5,805,504 (“the ‘504 patent”),  
2 entitled “Synchronous Semiconductor Memory Having A Burst Transfer Mode With A  
3 Plurality Of Subarrays Accessible In Parallel Via An Input Buffer,” a copy of which is  
4 attached hereto as Exhibit A, was duly and legally issued to the inventor, Mamoru Fujita.  
5 The ‘504 patent issued from U.S. patent application Serial Number 08/758,367, filed  
6 November 29, 1996 and discloses and claims novel memory devices with burst mode  
7 transfer functions designed to receive and send large amounts of data quickly. The  
8 inventor assigned all right, title, and interest in the ‘504 patent to NEC Corporation  
9 (hereinafter “NEC”). NEC’s right, title, and interest in the ‘504 patent was subsequently  
10 assigned to NEC Electronics Corporation, which further assigned such right, title, and  
11 interest to Renesas Electronics Corp (hereinafter “Renesas”). Renesas assigned all right,  
12 title, and interest in the ‘504 patent to Acacia Research Group LLC (“ARG”). The  
13 assignment to ARG was made subject only to certain prior non-exclusive license  
14 agreements and a limited non-exclusive and non-transferable limited license to Renesas.  
15 Neither the prior licensees nor Renesas possesses any right to sue for or collect past,  
16 present and future damages or to seek and obtain injunctive or any other relief for  
17 infringement of the ‘504 patent.

18           9.     Prior to the commencement of this action, ARG assigned all right, title, and  
19 interest in the ‘504 patent to LMS, its wholly owned designated affiliate, including all of  
20 ARG’s rights, obligations, interests and liabilities under the assignment agreement with  
21 Renesas. LMS assumed all such rights, obligations, interests and liabilities of ARG under  
22 such assignment agreement. LMS thus possesses the right to sue for or collect past,  
23 present and future damages or to seek and obtain injunctive or any other relief for  
24 infringement of the ‘504 patent.

25           10.    Defendant Apple, directly and/or through its subsidiaries, affiliates, agents,  
26 and/or business partners, has in the past and continues to directly infringe the ‘504 patent  
27 pursuant to 35 U.S.C. § 271(a) by making, having made, using, selling, offering to sell  
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1 and/or importing devices incorporating memory devices that embody the inventions  
2 claimed in the ‘504 patent, within the United States and within this District. Apple has  
3 been and is engaged in one or more of these direct infringing activities related to its  
4 manufacture, distribution, support, and sales of devices such as computers and mobile  
5 devices that incorporate DRAM chips manufactured by Micron Technology, Inc.  
6 (hereinafter “Micron”), including at least DDR2, DDR3 and DDR4 chips (hereinafter “the  
7 ‘504 DRAM Chips”) and any other Micron chip having substantially similar data transfer  
8 architecture.

9 11. A non-exhaustive list of part numbers associated with the ‘504 DRAM Chips  
10 appears in a part catalog provided on Micron’s website (<http://www.micron.com/>), which  
11 list is attached hereto as Exhibit B.

12 12. Defendant Apple’s infringing devices include, for example and without  
13 limitation, the following computing devices incorporating one or more of the ‘504 DRAM  
14 Chips:

- 15 a. MacBook Pro 15”
- 16 b. MacBook Pro 13” Retina
- 17 c. MacBook 12” Retina
- 18 d. iPhone 5c
- 19 e. iPhone 4s

20 13. The service of this Complaint will provide Apple with actual notice of the  
21 ‘504 patent and of Plaintiff’s infringement allegations herein.

22 14. Apple’s direct infringement of the ‘504 patent has injured LMS. LMS is  
23 entitled to recover damages adequate to compensate for such infringement pursuant to 35  
24 U.S.C. § 284.

25 15. Unless it ceases its infringing activities, Apple will continue to injure LMS  
26 by directly infringing the ‘504 patent.

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1 **Apple’s Willful Infringement Of The ‘504 Patent**

2 16. Based upon direct and circumstantial evidence, Apple had at least  
3 constructive notice and knowledge of the ‘504 patent as of when the USPTO published  
4 the ‘504 patent application on September 8, 1998. Upon information and belief, Apple has  
5 scores of lawyers active as its agents in the USPTO who constantly review patents, patent  
6 applications, and printed publications relevant to technology in the fields of the patents-in-  
7 suit. Upon information and belief, Apple itself has been issued over 15,000 patents,  
8 including dozens of patents prosecuted in the USPTO in the same classifications as the  
9 ‘504 patent and the other patents at issue in this civil action, giving Apple intimate  
10 knowledge of the art in fields relevant to this civil action.

11 17. Apple has had actual knowledge of the ‘504 patent since at least August 12,  
12 2015 when LMS served its Original Complaint for patent infringement (“Original  
13 Complaint”). In addition to at least 35 registered USPTO agents, Apple employs scores of  
14 lawyers representing it in civil litigations - - both litigation initiated by Apple and  
15 litigation against Apple - - in which discoverable patents and printed publications have  
16 regularly been the subject of extensive discovery. Upon information and belief, Apple has  
17 engaged in the practice of destroying prior art which has been produced to it and by it in  
18 prior litigations for the purpose of concealing Apple’s knowledge of patents and printed  
19 publications such as the ‘504 patent and the other patents asserted in this civil action, with  
20 the consequent effect of concealing the willfulness of Apple’s patent infringement.

21 18. Since learning of the ‘504 patent, no later than August 12, 2015, Apple has  
22 continued to make, use, sell, offer to sell and/or import devices incorporating memory  
23 devices that embody the inventions claimed in the ‘504 patent, within the United States  
24 and within this District. Apple has failed to produce any evidence that it has ceased its  
25 commercial use of the infringing devices or made any material changes to their design so  
26 as to avoid infringement.

1           19. On September 14, 2015, Apple answered LMS's Complaint ("Apple's  
2 Answer"). Apple's Answer included affirmative defenses and counterclaims that Apple  
3 does not infringe the '504 patent and that the '504 patent is invalid. (D.I. 27). Despite  
4 well-developed case law following the Supreme Court decisions in *Bell Atlantic v.*  
5 *Twombly*, 550 U.S. 544 (2007) and *Ashcroft v. Iqbal*, 129 S. Ct. 1937 (2009) regarding  
6 pleading requirements, Apple failed to identify sufficient facts in its affirmative defenses  
7 and counterclaims supporting its allegations. Instead, Apple's affirmative defenses and  
8 counterclaims contain self-serving, bare bone, conclusory allegations that do not meet the  
9 standards set forth by the Supreme Court. Apple's factually deficient allegations  
10 demonstrate there is an objectively high risk that Apple is continuing to infringe the '504  
11 patent and is aware of its objectively high risk or, alternatively, has continued to infringe  
12 with willful indifference of whether or not it is infringing.

13           20. On September 14, 2015, Apple moved to dismiss LMS's willful allegations  
14 in its Original Complaint. In its Motion to Dismiss, Apple failed to aver that it did not  
15 have pre-suit knowledge of the patents-in-suit or articulate any reasonable good faith  
16 belief that its activities do not infringe any valid claim of the '504 patent. Because such  
17 knowledge and belief are matters within Apple's own control, Apple's failure to include  
18 such averments is circumstantial evidence leading to the conclusion that it could not  
19 truthfully deny actual pre-suit knowledge of the patents-in-suit or a reasonable good faith  
20 belief that its activities do not infringe any valid claim of the '504 patent.

21           21. Apple has also not asserted that it relied on a competent legal opinion that  
22 provided a good faith basis on which Apple might reasonably believe that its activities did  
23 not infringe the '504 patent or that each and every claim of the '504 patent was invalid.  
24 Apple's failure to include such averments or to produce any such opinion is circumstantial  
25 evidence leading to the conclusion that Apple obtained no such opinion or that it  
26 requested such an opinion, but the opinion was adverse to Apple's claims of non-  
27 infringement and invalidity.

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1 22. Moreover, Apple has not disclosed any efforts it undertook to design around  
2 the technology disclosed in the ‘504 patent, either before or after this litigation  
3 commenced. The failure of Apple to disclose such efforts, specifically including such  
4 failure after the Original Complaint was served, demonstrates that there is an objectively  
5 high risk that Apple will continue to willfully infringe the ‘504 patent.

6 23. Additionally, Apple has never denied its knowledge of the ‘504 patent before  
7 service of LMS’s Original Complaint. From Apple’s failure to so allege, despite having  
8 multiple attempts to deny having actual pre-litigation notice of the ‘504 patent, an  
9 inference arises that Apple had knowledge of the ‘504 patent prior to receiving service of  
10 LMS’s Original Complaint. Apple’s pre-litigation knowledge of the ‘504 patent is a  
11 matter known to Apple on which LMS will promulgate relevant discovery and conduct  
12 further investigation to prove and corroborate Apple’s willfulness.

13 24. Apple has continued to infringe the LMS patent since this litigation began,  
14 and Apple will continue its infringement until an actual court judgment is entered,  
15 notwithstanding its actual knowledge of the ‘504 patent and while lacking an objectively  
16 reasonable good faith basis to believe that its activities do not infringe any valid claim of  
17 the ‘504 patent. As such, Apple’s infringement since at least the service of the complaint  
18 herein, and continuing future acts of infringement constitute willful infringement of the  
19 ‘504 patent.

20 **SECOND CAUSE OF ACTION – INFRINGEMENT OF ‘441 PATENT**

21 25. Plaintiff hereby repeats and re-alleges the allegations contained in paragraphs  
22 1 to 24, as if fully set forth herein.

23 26. On April 13, 1999, U.S. Patent No. 5,894,441 (“the ‘441 patent”), entitled  
24 “Semiconductor Memory Device With Redundancy Circuit,” a copy of which is attached  
25 hereto as Exhibit C, was duly and legally issued to the inventor, Shigeyuki Nakazawa.  
26 The ‘441 patent issued from U.S. patent application Serial Number 09/050,354 filed  
27 March 31, 1998 and discloses and claims novel memory devices with structures designed  
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1 to identify a defective region on the memory device such that a redundant region may be  
2 used in lieu of the defective region. The inventor assigned all right, title, and interest in  
3 the '441 patent to NEC Corporation (hereinafter "NEC"). NEC's right, title, and interest  
4 in the '441 patent was subsequently assigned to NEC Electronics Corporation, which  
5 further assigned such right, title, and interest to Renesas Electronics Corp. (hereinafter  
6 "Renesas"). Renesas assigned all right, title, and interest in the '441 patent to Acacia  
7 Research Group LLC ("ARG"). The assignment to ARG was made subject only to  
8 certain prior non-exclusive license agreements and a limited non-exclusive and non-  
9 transferable limited license to Renesas. Neither the prior licensees nor Renesas possesses  
10 any right to sue for or collect past, present and future damages or to seek and obtain  
11 injunctive or any other relief for infringement of the '441 patent.

12 27. Prior to the commencement of this action, ARG assigned all right, title, and  
13 interest in the '441 patent to LMS, its wholly owned designated affiliate, including all of  
14 ARG's rights, obligations, interests and liabilities under the assignment agreement with  
15 Renesas. LMS assumed all such rights, obligations, interests and liabilities of ARG under  
16 such assignment agreement. LMS thus possesses the right to sue for or collect past,  
17 present and future damages or to seek and obtain injunctive or any other relief for  
18 infringement of the '441 patent.

19 28. Defendant Apple, directly and/or through its subsidiaries, affiliates, agents,  
20 and/or business partners, has in the past and continues to directly infringe the '441 patent  
21 pursuant to 35 U.S.C. § 271(a) by making, having made, using, selling, offering to sell  
22 and/or importing devices incorporating memory devices that embody the inventions  
23 claimed in the '441 patent, within the United States and within this District. Apple has  
24 been and is engaged in one or more of these direct infringing activities related to its  
25 manufacture, distribution, support, and sales of devices such as computers and mobile  
26 devices that incorporate DRAM chips manufactured by Micron including at least DDR2,  
27 DDR3, DDR4, LPDDR, LPDDR2, LPDDR3, LPDDR4 GDDR5, and RLDRAM

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1 chips (hereinafter “the ‘441 DRAM Chips”) and any other Micron chip having  
2 substantially similar structures for managing defective regions of the chip.

3 29. A non-exhaustive list of part numbers associated with the ‘441 DRAM Chips  
4 appears in a part catalog provided on Micron’s website (<http://www.micron.com/>), which  
5 is attached hereto as Exhibit D.

6 30. Defendant Apple’s infringing devices include, for example and without  
7 limitation, the following computing devices incorporating one or more of the ‘441 DRAM  
8 Chips:

- 9 a. MacBook Air 11”
- 10 b. MacBook Air 13”
- 11 c. MacBook Retina 12”
- 12 d. MacBook Pro 13” Retina
- 13 e. Macbook Pro 15”
- 14 f. iPad Air
- 15 g. iPad Air 2
- 16 h. iPad Mini Retina
- 17 i. iPad 3
- 18 j. iPad 4
- 19 k. iPod Touch 5th Generation
- 20 l. iPhone 4s
- 21 m. iPhone 5
- 22 n. iPhone 5s
- 23 o. iPhone 5c
- 24 p. iPhone 6 and iPhone 6 plus

25 31. The service of this Complaint will provide Apple with actual notice of the  
26 ‘441 patent and of Plaintiff’s infringement allegations herein.

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1 32. Apple's direct infringement of the '441 patent has injured LMS. LMS is  
2 entitled to recover damages adequate to compensate for such infringement pursuant to 35  
3 U.S.C. § 284.

4 33. Unless it ceases its infringing activities, Apple will continue to injure LMS  
5 by directly infringing the '441 patent.

6 **Apple's Willful Infringement Of The '441 Patent**

7 34. Based upon direct and circumstantial evidence, Apple had at least  
8 constructive notice and knowledge of the '441 patent as of when the USPTO published  
9 the '441 patent application on April 13, 1999. Upon information and belief, Apple has  
10 scores of lawyers active as its agents in the USPTO who constantly review patents, patent  
11 applications, and printed publications relevant to technology in the fields of the patents-in-  
12 suit. Upon information and belief, Apple itself has been issued over 15,000 patents,  
13 including dozens of patents prosecuted in the USPTO in the same classifications as the  
14 '441 patent and the other patents at issue in this civil action, giving Apple intimate  
15 knowledge of the art in fields relevant to this civil action.

16 35. Apple has had actual knowledge of the '441 patent since at least August 12,  
17 2015 when LMS served its Original Complaint for patent infringement ("Original  
18 Complaint"). In addition to at least 35 registered USPTO agents, Apple employs scores of  
19 lawyers representing it in civil litigations - - both litigation initiated by Apple and  
20 litigation against Apple - - in which discoverable patents and printed publications have  
21 regularly been the subject of extensive discovery. Upon information and belief, Apple has  
22 engaged in the practice of destroying prior art which has been produced to it and by it in  
23 prior litigations for the purpose of concealing Apple's knowledge of patents and printed  
24 publications such as the '441 patent and the other patents asserted in this civil action, with  
25 the consequent effect of concealing the willfulness of Apple's patent infringement.

26 36. Since learning of the '441 patent, no later than August 12, 2015, Apple has  
27 continued to make, use, sell, offer to sell and/or import devices incorporating memory  
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1 devices that embody the inventions claimed in the '441 patent, within the United States  
2 and within this District. Apple has failed to produce any evidence that it has ceased its  
3 commercial use of the infringing devices or made any material changes to their design so  
4 as to avoid infringement.

5 37. On September 14, 2015, Apple answered LMS's Complaint ("Apple's  
6 Answer"). Apple's Answer included affirmative defenses and counterclaims that Apple  
7 does not infringe the '441 patent and that the '441 patent is invalid. (D.I. 27). Despite  
8 well-developed case law following the Supreme Court decisions in *Bell Atlantic v.*  
9 *Twombly*, 550 U.S. 544 (2007) and *Ashcroft v. Iqbal*, 129 S. Ct. 1937 (2009) regarding  
10 pleading requirements, Apple failed to identify sufficient facts in its affirmative defenses  
11 and counterclaims supporting its allegations. Instead, Apple's affirmative defenses and  
12 counterclaims contain self-serving, bare bone, conclusory allegations that do not meet the  
13 standards set forth by the Supreme Court. Apple's factually deficient allegations  
14 demonstrate there is an objectively high risk that Apple is continuing to infringe the '441  
15 patent and is aware of its objectively high risk or, alternatively, has continued to infringe  
16 with willful indifference of whether or not it is infringing.

17 38. On September 14, 2015, Apple moved to dismiss LMS's willful allegations  
18 in its Original Complaint. In its Motion to Dismiss, Apple failed to aver that it did not  
19 have pre-suit knowledge of the patents-in-suit or articulate any reasonable good faith  
20 belief that its activities do not infringe any valid claim of the '441 patent. Because such  
21 knowledge and belief are matters within Apple's own control, Apple's failure to include  
22 such averments is circumstantial evidence leading to the conclusion that it could not  
23 truthfully deny actual pre-suit knowledge of the patents-in-suit or a reasonable good faith  
24 belief that its activities do not infringe any valid claim of the '441 patent.

25 39. Apple has also not asserted that it relied on a competent legal opinion that  
26 provided a good faith basis on which Apple might reasonably believe that its activities did  
27 not infringe the '441 patent or that each and every claim of the '441 patent was invalid.

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1 Apple's failure to include such averments or to produce any such opinion is circumstantial  
2 evidence leading to the conclusion that Apple obtained no such opinion or that it  
3 requested such an opinion, but the opinion was adverse to Apple's claims of non-  
4 infringement and invalidity.

5 40. Moreover, Apple has not disclosed any efforts it undertook to design around  
6 the technology disclosed in the '441 patent, either before or after this litigation  
7 commenced. The failure of Apple to disclose such efforts, specifically including such  
8 failure after the Original Complaint was served, demonstrates that there is an objectively  
9 high risk that Apple will continue to willfully infringe the '441 patent.

10 41. Additionally, Apple has never denied its knowledge of the '441 patent before  
11 service of LMS's Original Complaint. From Apple's failure to so allege, despite having  
12 multiple attempts to deny having actual pre-litigation notice of the '441 patent, an  
13 inference arises that Apple had knowledge of the '441 patent prior to receiving service of  
14 LMS's Original Complaint. Apple's pre-litigation knowledge of the '441 patent is a  
15 matter known to Apple on which LMS will promulgate relevant discovery and conduct  
16 further investigation to prove and corroborate Apple's willfulness.

17 42. Apple has continued to infringe the LMS patent since this litigation began,  
18 and Apple will continue its infringement until an actual court judgment is entered,  
19 notwithstanding its actual knowledge of the '441 patent and while lacking an objectively  
20 reasonable good faith basis to believe that its activities do not infringe any valid claim of  
21 the '441 patent. As such, Apple's infringement since at least the service of the complaint  
22 herein, and continuing future acts of infringement constitute willful infringement of the  
23 '441 patent.

24 **THIRD CAUSE OF ACTION – INFRINGEMENT OF '181 PATENT**

25 43. Plaintiff hereby repeats and re-alleges the allegations contained in paragraphs  
26 1 to 42, as if fully set forth herein.

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1           44. On May 15, 2001, U.S. Patent No. 6,233,181 (“the ‘181 patent”), entitled  
2 “Semiconductor Memory Device With Improved Flexible Redundancy Scheme” a copy  
3 of which is attached hereto as Exhibit E, was duly and legally issued to the inventor,  
4 Hideto Hidaka. The ‘181 patent issued from U.S. patent application Serial Number  
5 09/251,352 filed February 17, 1999 and discloses and claims novel memory devices with  
6 redundant rows of memory cells, available for use among a particular group of memory  
7 sub-arrays. The inventor assigned all right, title, and interest in the ‘181 patent to  
8 Mitsubishi Denki Kabushiki Kaisha (hereinafter “Mitsubishi”). Mitsubishi’s right, title,  
9 and interest in the ‘181 patent was subsequently assigned to Renesas Electronics Corp.  
10 (hereinafter “Renesas”). Renesas assigned all right, title, and interest in the ‘181 patent to  
11 Acacia Research Group LLC (“ARG”). The assignment to ARG was made subject only  
12 to certain prior non-exclusive license agreements and a limited non-exclusive and non-  
13 transferable limited license to Renesas. Neither the prior licensees nor Renesas possesses  
14 any right to sue for or collect past, present and future damages or to seek and obtain  
15 injunctive or any other relief for infringement of the ‘181 patent.

16           45. Prior to the commencement of this action, ARG assigned all right, title, and  
17 interest in the ‘181 patent to LMS, its wholly owned designated affiliate, including all of  
18 ARG’s rights, obligations, interests and liabilities under the assignment agreement with  
19 Renesas. LMS assumed all such rights, obligations, interests and liabilities of ARG under  
20 such assignment agreement. LMS thus possesses the right to sue for or collect past,  
21 present and future damages or to seek and obtain injunctive or any other relief for  
22 infringement of the ‘181 patent.

23           46. Defendant Apple, directly and/or through its subsidiaries, affiliates, agents,  
24 and/or business partners, has in the past and continues to directly infringe the ‘181 patent  
25 pursuant to 35 U.S.C. § 271(a) by making, having made, using, selling, offering to sell  
26 and/or importing devices incorporating memory devices that embody the inventions  
27 claimed in the ‘181 patent, within the United States and within this District. Apple has  
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1 been and is engaged in one or more of these direct infringing activities related to its  
2 manufacture, distribution, support, and sales of devices such as computers and mobile  
3 devices that incorporate DRAM chips manufactured by Micron, including at least its  
4 DDR2, DDR3, DDR4, LPSDR, LPDDR, LPDDR2, LPDDR3, LPDDR4 GDDR5, and  
5 RLDRAM chips (hereinafter “the ‘181 DRAM Chips”) and any other Micron chip having  
6 substantially similar structures providing redundant memory cells.

7 47. A non-exhaustive list of part numbers associated with the ‘181 DRAM Chips  
8 appears in a part catalog provided on Defendant Micron’s website  
9 (<http://www.micron.com/>), which list is attached hereto as Exhibit F.

10 48. Defendant Apple’s infringing devices include, for example and without  
11 limitation, the following computing devices incorporating one or more of the ‘181 DRAM  
12 Chips:

- 13 a. MacBook Air 11”
- 14 b. MacBook Air 13”
- 15 c. MacBook Retina 12”
- 16 d. MacBook Pro 13” Retina
- 17 e. Macbook Pro 15”
- 18 f. iPad Air
- 19 g. iPad Air 2
- 20 h. iPad Mini Retina
- 21 i. iPad 3
- 22 j. iPad 4
- 23 k. iPhone 5s
- 24 l. iPhone 6 and iPhone 6 plus

25 49. The service of this Complaint will provide Apple with actual notice of the  
26 ‘181 patent and of Plaintiff’s infringement allegations herein.

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1 50. Apple's direct infringement of the '181 patent has injured LMS. LMS is  
2 entitled to recover damages adequate to compensate for such infringement pursuant to 35  
3 U.S.C. § 284.

4 51. Unless it ceases its infringing activities, Defendant Apple will continue to  
5 injure LMS by directly infringing the '181 patent.

6 **Apple's Willful Infringement Of The '181 Patent**

7 52. Based upon direct and circumstantial evidence, Apple had at least  
8 constructive notice and knowledge of the '181 patent as of when the USPTO published  
9 the '181 patent application on May 15, 2001. Upon information and belief, Apple has  
10 scores of lawyers active as its agents in the USPTO who constantly review patents, patent  
11 applications, and printed publications relevant to technology in the fields of the patents-in-  
12 suit. Upon information and belief, Apple itself has been issued over 15,000 patents,  
13 including dozens of patents prosecuted in the USPTO in the same classifications as the  
14 '181 patent and the other patents at issue in this civil action, giving Apple intimate  
15 knowledge of the art in fields relevant to this civil action.

16 53. Apple has had actual knowledge of the '181 patent since at least August 12,  
17 2015 when LMS served its Original Complaint for patent infringement ("Original  
18 Complaint"). In addition to at least 35 registered USPTO agents, Apple employs scores of  
19 lawyers representing it in civil litigations - - both litigation initiated by Apple and  
20 litigation against Apple - - in which discoverable patents and printed publications have  
21 regularly been the subject of extensive discovery. Upon information and belief, Apple has  
22 engaged in the practice of destroying prior art which has been produced to it and by it in  
23 prior litigations for the purpose of concealing Apple's knowledge of patents and printed  
24 publications such as the '181 patent and the other patents asserted in this civil action, with  
25 the consequent effect of concealing the willfulness of Apple's patent infringement.

26 54. Since learning of the '181 patent, no later than August 12, 2015, Apple has  
27 continued to make, use, sell, offer to sell and/or import devices incorporating memory  
28



1 devices that embody the inventions claimed in the ‘181 patent, within the United States  
2 and within this District. Apple has failed to produce any evidence that it has ceased its  
3 commercial use of the infringing devices or made any material changes to their design so  
4 as to avoid infringement.

5 55. On September 14, 2015, Apple answered LMS’s Complaint (“Apple’s  
6 Answer”). Apple’s Answer included affirmative defenses and counterclaims that Apple  
7 does not infringe the ‘181 patent and that the ‘181 patent is invalid. (D.I. 27). Despite  
8 well-developed case law following the Supreme Court decisions in *Bell Atlantic v.*  
9 *Twombly*, 550 U.S. 544 (2007) and *Ashcroft v. Iqbal*, 129 S. Ct. 1937 (2009) regarding  
10 pleading requirements, Apple failed to identify sufficient facts in its affirmative defenses  
11 and counterclaims supporting its allegations. Instead, Apple’s affirmative defenses and  
12 counterclaims contain self-serving, bare bone, conclusory allegations that do not meet the  
13 standards set forth by the Supreme Court. Apple’s factually deficient allegations  
14 demonstrate there is an objectively high risk that Apple is continuing to infringe the ‘181  
15 patent and is aware of its objectively high risk or, alternatively, has continued to infringe  
16 with willful indifference of whether or not it is infringing.

17 56. On September 14, 2015, Apple moved to dismiss LMS’s willful allegations  
18 in its Original Complaint. In its Motion to Dismiss, Apple failed to aver that it did not  
19 have pre-suit knowledge of the patents-in-suit or articulate any reasonable good faith  
20 belief that its activities do not infringe any valid claim of the ‘181 patent. Because such  
21 knowledge and belief are matters within Apple’s own control, Apple’s failure to include  
22 such averments is circumstantial evidence leading to the conclusion that it could not  
23 truthfully deny actual pre-suit knowledge of the patents-in-suit or a reasonable good faith  
24 belief that its activities do not infringe any valid claim of the ‘181 patent.

25 57. Apple has also not asserted that it relied on a competent legal opinion that  
26 provided a good faith basis on which Apple might reasonably believe that its activities did  
27 not infringe the ‘181 patent or that each and every claim of the ‘181 patent was invalid.

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1 Apple's failure to include such averments or to produce any such opinion is circumstantial  
2 evidence leading to the conclusion that Apple obtained no such opinion or that it  
3 requested such an opinion, but the opinion was adverse to Apple's claims of non-  
4 infringement and invalidity.

5 58. Moreover, Apple has not disclosed any efforts it undertook to design around  
6 the technology disclosed in the '181 patent, either before or after this litigation  
7 commenced. The failure of Apple to disclose such efforts, specifically including such  
8 failure after the Original Complaint was served, demonstrates that there is an objectively  
9 high risk that Apple will continue to willfully infringe the '181 patent.

10 59. Additionally, Apple has never denied its knowledge of the '181 patent before  
11 service of LMS's Original Complaint. From Apple's failure to so allege, despite having  
12 multiple attempts to deny having actual pre-litigation notice of the '181 patent, an  
13 inference arises that Apple had knowledge of the '181 patent prior to receiving service of  
14 LMS's Original Complaint. Apple's pre-litigation knowledge of the '181 patent is a  
15 matter known to Apple on which LMS will promulgate relevant discovery and conduct  
16 further investigation to prove and corroborate Apple's willfulness.

17 60. Apple has continued to infringe the LMS patent since this litigation began,  
18 and Apple will continue its infringement until an actual court judgment is entered,  
19 notwithstanding its actual knowledge of the '181 patent and while lacking an objectively  
20 reasonable good faith basis to believe that its activities do not infringe any valid claim of  
21 the '181 patent. As such, Apple's infringement since at least the service of the complaint  
22 herein, and continuing future acts of infringement constitute willful infringement of the  
23 '181 patent.

24 **FOURTH CAUSE OF ACTION – INFRINGEMENT OF '296 PATENT**

25 61. Plaintiff hereby repeats and re-alleges the allegations contained in paragraphs  
26 1 to 60, as if fully set forth herein.

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1           62. On February 24, 2004, U.S. Patent No. 6,697,296 (“the ‘296 patent”),  
2 entitled “Clock Synchronous Semiconductor Memory Device” a copy of which is attached  
3 hereto as Exhibit G, was duly and legally issued to the inventors, Junko Matsumoto, et al.  
4 The ‘296 patent issued from U.S. patent application Serial Number 10/140,937 filed May  
5 9, 2002 and discloses novel memory devices with input/output buffers that can be  
6 disabled to reduce the power consumption of the memory device when it is in a low-  
7 power state. The inventors assigned all right, title, and interest in the ‘296 patent to  
8 Mitsubishi Denki Kabushiki Kaisha (hereinafter “Mitsubishi”). Mitsubishi’s right, title,  
9 and interest in the ‘296 patent was subsequently assigned to Renesas Technology Group,  
10 which further assigned such right, title, and interest to Renesas Electronics Corp.  
11 (hereinafter “Renesas”). Renesas assigned all right, title, and interest in the ‘296 patent to  
12 Acacia Research Group LLC (“ARG”). The assignment to ARG was made subject only  
13 to certain prior non-exclusive license agreements and a limited non-exclusive and non-  
14 transferable limited license to Renesas. Neither the prior licensees nor Renesas possesses  
15 any right to sue for or collect past, present and future damages or to seek and obtain  
16 injunctive or any other relief for infringement of the ‘296 patent.

17           63. Prior to the commencement of this action, ARG assigned all right, title, and  
18 interest in the ‘296 patent to LMS, its wholly owned designated affiliate, including all of  
19 ARG’s rights, obligations, interests and liabilities under the assignment agreement with  
20 Renesas. LMS assumed all such rights, obligations, interests and liabilities of ARG under  
21 such assignment agreement. LMS thus possesses the right to sue for or collect past,  
22 present and future damages or to seek and obtain injunctive or any other relief for  
23 infringement of the ‘296 patent.

24           64. Defendant Apple, directly and/or through its subsidiaries, affiliates, agents,  
25 and/or business partners, has in the past and continues to directly infringe the ‘296 patent  
26 pursuant to 35 U.S.C. § 271(a) by making, having made, using, selling, offering to sell  
27 and/or importing devices incorporating memory devices that embody the inventions  
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1 claimed in the '296 patent, within the United States and within this District. Apple has  
2 been and is engaged in one or more of these direct infringing activities related to its  
3 manufacture, distribution, support, and sales of devices such as computers and mobile  
4 devices that incorporate DRAM chips manufactured by Micron, including at least its  
5 DDR3, DDR4, LPDDR3, and LRPDDR4 chips (hereinafter "the '296 DRAM Chips") and  
6 any other Micron chip having substantially similar capability to disable input/output  
7 buffers in a low power state.

8         65. A non-exhaustive list of part numbers associated with the '296 DRAM Chips  
9 appears in a part catalog provided on Micron's website (<http://www.micron.com/>), which  
10 list is attached hereto as Exhibit H.

11         66. Defendant Apple's infringing devices include, for example and without  
12 limitation, the following computing devices incorporating one or more of the '296 DRAM  
13 Chips:

- 14             a. MacBook Air 11"
- 15             b. MacBook Air 13"
- 16             c. MacBook Retina 12"
- 17             d. MacBook Pro 13" Retina
- 18             e. Macbook Pro 15"
- 19             f. iPad Air
- 20             g. iPad Air 2
- 21             h. iPad Mini Retina
- 22             i. iPad 3
- 23             j. iPad 4
- 24             k. iPhone 5s
- 25             l. iPhone 6 and iPhone 6 plus

26         67. The service of this Complaint will provide Apple with actual notice of the  
27 '296 patent and of Plaintiff's infringement allegations herein.

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1 68. Apple's direct infringement of the '296 patent has injured LMS. LMS is  
2 entitled to recover damages adequate to compensate for such infringement pursuant to 35  
3 U.S.C. § 284.

4 69. Unless it ceases its infringing activities, Defendant Apple will continue to  
5 injure LMS by directly infringing the '296 patent.

6 **Apple's Willful Infringement Of The '296 Patent**

7 70. Based upon direct and circumstantial evidence, Apple had at least  
8 constructive notice and knowledge of the '296 patent as of when the USPTO published  
9 the '296 patent application on February 24, 2004. Upon information and belief, Apple has  
10 scores of lawyers active as its agents in the USPTO who constantly review patents, patent  
11 applications, and printed publications relevant to technology in the fields of the patents-in-  
12 suit. Upon information and belief, Apple itself has been issued over 15,000 patents,  
13 including dozens of patents prosecuted in the USPTO in the same classifications as the  
14 '296 patent and the other patents at issue in this civil action, giving Apple intimate  
15 knowledge of the art in fields relevant to this civil action.

16 71. Apple has had actual knowledge of the '296 patent since at least August 12,  
17 2015 when LMS served its Original Complaint for patent infringement ("Original  
18 Complaint"). In addition to at least 35 registered USPTO agents, Apple employs scores of  
19 lawyers representing it in civil litigations - - both litigation initiated by Apple and  
20 litigation against Apple - - in which discoverable patents and printed publications have  
21 regularly been the subject of extensive discovery. Upon information and belief, Apple has  
22 engaged in the practice of destroying prior art which has been produced to it and by it in  
23 prior litigations for the purpose of concealing Apple's knowledge of patents and printed  
24 publications such as the '296 patent and the other patents asserted in this civil action, with  
25 the consequent effect of concealing the willfulness of Apple's patent infringement.

26 72. Since learning of the '296 patent, no later than August 12, 2015, Apple has  
27 continued to make, use, sell, offer to sell and/or import devices incorporating memory  
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1 devices that embody the inventions claimed in the ‘296 patent, within the United States  
2 and within this District. Apple has failed to produce any evidence that it has ceased its  
3 commercial use of the infringing devices or made any material changes to their design so  
4 as to avoid infringement.

5 73. On September 14, 2015, Apple answered LMS’s Complaint (“Apple’s  
6 Answer”). Apple’s Answer included affirmative defenses and counterclaims that Apple  
7 does not infringe the ‘296 patent and that the ‘296 patent is invalid. (D.I. 27). Despite  
8 well-developed case law following the Supreme Court decisions in *Bell Atlantic v.*  
9 *Twombly*, 550 U.S. 544 (2007) and *Ashcroft v. Iqbal*, 129 S. Ct. 1937 (2009) regarding  
10 pleading requirements, Apple failed to identify sufficient facts in its affirmative defenses  
11 and counterclaims supporting its allegations. Instead, Apple’s affirmative defenses and  
12 counterclaims contain self-serving, bare bone, conclusory allegations that do not meet the  
13 standards set forth by the Supreme Court. Apple’s factually deficient allegations  
14 demonstrate there is an objectively high risk that Apple is continuing to infringe the ‘296  
15 patent and is aware of its objectively high risk or, alternatively, has continued to infringe  
16 with willful indifference of whether or not it is infringing.

17 74. On September 14, 2015, Apple moved to dismiss LMS’s willful allegations  
18 in its Original Complaint. In its Motion to Dismiss, Apple failed to aver that it did not  
19 have pre-suit knowledge of the patents-in-suit or articulate any reasonable good faith  
20 belief that its activities do not infringe any valid claim of the ‘296 patent. Because such  
21 knowledge and belief are matters within Apple’s own control, Apple’s failure to include  
22 such averments is circumstantial evidence leading to the conclusion that it could not  
23 truthfully deny actual pre-suit knowledge of the patents-in-suit or a reasonable good faith  
24 belief that its activities do not infringe any valid claim of the ‘296 patent.

25 75. Apple has also not asserted that it relied on a competent legal opinion that  
26 provided a good faith basis on which Apple might reasonably believe that its activities did  
27 not infringe the ‘296 patent or that each and every claim of the ‘296 patent was invalid.

28

1 Apple's failure to include such averments or to produce any such opinion is circumstantial  
2 evidence leading to the conclusion that Apple obtained no such opinion or that it  
3 requested such an opinion, but the opinion was adverse to Apple's claims of non-  
4 infringement and invalidity.

5 76. Moreover, Apple has not disclosed any efforts it undertook to design around  
6 the technology disclosed in the '296 patent, either before or after this litigation  
7 commenced. The failure of Apple to disclose such efforts, specifically including such  
8 failure after the Original Complaint was served, demonstrates that there is an objectively  
9 high risk that Apple will continue to willfully infringe the '296 patent.

10 77. Additionally, Apple has never denied its knowledge of the '296 patent before  
11 service of LMS's Original Complaint. From Apple's failure to so allege, despite having  
12 multiple attempts to deny having actual pre-litigation notice of the '296 patent, an  
13 inference arises that Apple had knowledge of the '296 patent prior to receiving service of  
14 LMS's Original Complaint. Apple's pre-litigation knowledge of the '296 patent is a  
15 matter known to Apple on which LMS will promulgate relevant discovery and conduct  
16 further investigation to prove and corroborate Apple's willfulness.

17 78. Apple has continued to infringe the LMS patent since this litigation began,  
18 and Apple will continue its infringement until an actual court judgment is entered,  
19 notwithstanding its actual knowledge of the '296 patent and while lacking an objectively  
20 reasonable good faith basis to believe that its activities do not infringe any valid claim of  
21 the '296 patent. As such, Apple's infringement since at least the service of the complaint  
22 herein, and continuing future acts of infringement constitute willful infringement of the  
23 '296 patent.

24 **PRAYER FOR RELIEF**

25 WHEREFORE, Plaintiffs prays for:

26 1. Judgment that the '504, '441, '181, and '296 patents are each valid and  
27 enforceable;

28

1           2.     Judgment that the ‘504, ‘441, ‘181, and ‘296 patents are infringed by  
2 Defendant Apple;

3           3.     Judgment that Defendant Apple’s current and future acts of patent  
4 infringement relating to the ‘504, ‘441, ‘181, and the ‘296 patents are willful;

5           4.     An award of damages arising out of Defendant Apple’s acts of patent  
6 infringement, together with pre-judgment and post-judgment interest;

7           5.     Judgment that the future damages so adjudged be trebled in accordance with  
8 35 U.S.C. § 284;

9           6.     An award of Plaintiff LMS’s attorneys’ fees, costs and expenses incurred in  
10 this action in accordance with 35 U.S.C. § 285; and

11          7.     Such other and further relief as the Court may deem just and proper.

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13

**RESERVATION OF RIGHTS**

14           LMS’s investigation is ongoing, and certain material information remains in the  
15 sole possession of the Defendant or third parties, which will be obtained via discovery  
16 herein. LMS expressly reserves the right to amend or supplement the causes of action set  
17 forth herein in accordance with Rule 15 of the Federal Rules of Civil Procedure.

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Respectfully submitted,

/s/ Eric L. Broxterman

Date: November 5, 2015

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**ATTORNEY FOR PLAINTIFF**

**JURY DEMAND**

LMS demands trial by jury of all issues triable of right by a jury.

Respectfully submitted,

Date: November 5, 2015

/s/ Eric L. Broxterman

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