	Case 8:16-cv-01605 Document 1	Filed 08/31/16	Page 1 of 20	Page ID #:1
1 2 3 4 5 6 7	SEAN C. CUNNINGHAM, Bar sean.cunningham@dlapiper.com ERIN P. GIBSON, Bar No. 2292 erin.gibson@dlapiper.com TIFFANY C. MILLER, Bar No. tiffany.miller.dlapiper.com JACOB D. ANDERSON, Bar N jacob.anderson@dlapiper.com DLA PIPER LLP (US) 401 B Street, Suite 1700 San Diego, CA 92101-4297 Tel: 619.699.2700 Fax: 619.699.2701	1 305 . 246987		
8 9 10	MARK D. FOWLER, Bar No. 1 DLA Piper LLP (US) 2000 University Avenue East Palo Alto, CA 94303-2215 Tel: 650.833.1559 Fax: 650.833.2001			
11 12 13 14	JAMES HEINTZ, to be admitted DLA Piper LLP (US) 11911 Freedom Drive, #300 Reston, VA 20190 Tel: 703.773.4000 Fax: 703.773.5000	d pro hac vice		
15 16	Attorneys for Plaintiff NETLIST, INC.			
17	UNITED	STATES DIST	RICT COURT	ſ
18	CENTRAL	DISTRICT OF	CALIFORN	[A
19	SA	NTA ANA DIV	/ISION	
20				
21	NETLIST, INC.,	CAS	E NO. 8:16-c	v01605
22	Plaintiff,	COM INFI	IPLAINT FO RINGEMEN	DR PATENT F; DEMAND L
23	V.		JURY TRIA	АĽ
24	SK HYNIX INC., SK HYNIX AMERICA INC., and SK HYNI MEMORY SOLUTIONS INC.,	IX		
25				
26	Defendants.			
27				
28		1		
DLA PIPER LLP (US) San Diego	WEST\270270507	-1-	COMPLAINT FO	DR PATENT INFRINGEMENT 8:16-CV-01605

### Case 8:16-cv-01605 Document 1 Filed 08/31/16 Page 2 of 20 Page ID #:2

1	Plaintiff Netlist, Inc. ("Netlist") brings this action for patent infringement
2	against Defendants SK hynix Inc., SK hynix America Inc. and SK hynix memory
3	solutions Inc. (collectively "Hynix" or "Defendants") and alleges as follows:
4	NATURE OF THE ACTION
5	1. This is a civil action for patent infringement under the patent laws of
6	the United States relating to patents, including 35 U.S.C. § 281.
7	THE PARTIES
8	2. Plaintiff Netlist is a corporation organized and existing under the laws
9	of the State of Delaware, having a principal place of business at 175 Technology
10	Drive, Suite 150, Irvine, California 92618.
11	3. On information and belief, Defendant SK hynix Inc. is a corporation
12	organized and existing under the laws of the Republic of Korea ("Korea"), having a
13	principal place of business at 2091, Gyeongchung-daero, Bubal-eub, Icheon-si,
14	Gyeonggi-do, Korea. On information and belief, SK hynix Inc. is the worldwide
15	parent corporation for Defendants SK hynix America Inc. and SK hynix memory
16	solutions Inc., and is responsible either directly or indirectly through subsidiaries
17	for their infringing activities.
18	4. On information and belief, Defendant SK hynix America Inc. is a
19	corporation organized and existing under the laws of California, having a principal
20	place of business at 3101 North 1st Street, San Jose, CA 95134, United States. On
21	information and belief, Defendant SK hynix America Inc. is a wholly owned
22	subsidiary of SK hynix Inc. and is a United States operating company for SK hynix
23	Inc. On information and belief, Defendant SK hynix America Inc. provides support
24	for sales, technical, and customer/client relationship operations.
25	5. On information and belief, Defendant SK hynix memory solutions Inc.
26	is a corporation organized and existing under the laws of California, having a
27	principal place of business at 3103 North 1st Street, San Jose, CA 95134. On
28	information and belief, Defendant SK hynix memory solutions Inc. is a wholly -2-
DLA PIPER LLP (US) San Diego	WEST\270270507 COMPLAINT FOR PATENT INFRINGEMENT 8:16-CV-01605

1 owned subsidiary of SK hynix Inc. and is a United States operating company for 2 SK hynix Inc. On information and belief, Defendant SK hynix memory solutions 3 Inc. provides to its customers controller hardware and flash management systems 4 and firmware for devices.

JURISDICTION AND VENUE

6 6. This court has jurisdiction over this action pursuant to 28 U.S.C. 7 §§ 1331 and 1338(a) and pursuant to the patent laws of the United States of 8 America, 35 U.S.C. § 101, et seq.

9 7. This Court has personal jurisdiction over Defendants because, on 10 information and belief, they have regularly and systematically transacted business within the State of California and this District. In addition, this Court has personal 11 12 jurisdiction over Defendants because, on information and belief, this lawsuit arises out of Defendants' infringing activities, including without limitation their making, 13 14 using, selling and/or offering to sell infringing products within the State of 15 California and this District. This Court also has personal jurisdiction over 16 Defendants because, on information and belief, Defendants have made, used, sold 17 and/or offered for sale their infringing products and placed such infringing products 18 in the stream of interstate commerce with the expectation that such infringing 19 products would be made, used, sold and/or offered for sale within the State of 20 California and this District. Finally, this Court has personal jurisdiction over 21 Defendants SK hynix America Inc. and SK hynix memory solutions Inc. because 22 they are corporations duly incorporated under the laws of California and have 23 offices in California.

24 8. Venue is proper in the Central District of California pursuant to the provisions of 28 U.S.C. §§ 1391(b), (c), and (d) and 1400(b). On information and 25 26 belief, Defendants conduct substantial business directly and/or through third parties 27 or agents in this judicial district by selling and/or offering to sell the infringing 28 products, and/or by conducting other business in this judicial district. Furthermore, -3-

DLA PIPER LLP (US) SAN DIEGO

1 Netlist is headquartered and has its principal place of business in this District, sells 2 products in this District, and has been harmed by Defendants' conduct, business 3 transactions and sales in this District.

4

SAN DIEGO

## FACTUAL BACKGROUND

9. 5 Since its founding in 2000, Netlist has been a leading innovator in 6 high-performance memory module technologies. Netlist designs and manufactures 7 a wide variety of high-performance products for the cloud computing, virtualization and high-performance computing (HPC) markets. Netlist's technology enables 8 9 users to derive useful information from vast amounts of data in a shorter period of 10 time. These capabilities will become increasingly valuable as the volume of data 11 continues to dramatically increase.

12 10. The technologies disclosed and claimed in the asserted patents relate 13 generally to memory modules. Generally speaking, a memory module is a circuit 14 board that contains DRAM integrated circuits that is installed into a memory slot on 15 a computer motherboard. United States Patent Nos. 8,756,364 ("the '364 patent") 16 and 8,516,185 ("the '185 patent") relate to memory modules of a computer system, 17 and more specifically to devices and methods for improving the performance, the 18 memory capacity, or both, of memory modules such as DIMMs. United States Patent Nos. 8,001,434 ("the '434 patent"), 8,359,501 ("the '501 patent"), and 19 20 8,689,064 ("the '064 patent") relate to self-testing electronic memory modules. 21 United States Patent No. 8,489,837 ("the '837 patent") relates to memory modules 22 that perform handshaking during or upon completion of initialization.

23 11. Server memory modules historically have been standardized by the 24 standard-setting body for the microelectronics industry, JEDEC (Joint Electron Device Engineering Council). RDIMM is a JEDEC-standard memory module, 25 which was first standardized in the mid-1990s. RDIMM accounted for more than 26 27 95 percent of all server memory modules shipped worldwide in 2011. Despite its 28 longevity and prevalence, standard RDIMM has become increasingly unable to -4-DLA PIPER LLP (US) WEST\270270507 COMPLAINT FOR PATENT INFRINGEMENT 8:16-CV-01605

1 keep pace with the higher performance requirements of high-end servers. 2 LRDIMM is a different type of memory module also based on a JEDEC standard. 3 JEDEC has not yet approved a final version of the DDR4 LRDIMM standard, 4 though DDR4 products are widely available on the market today that are compliant 5 with draft versions of the standards being considered by JEDEC.

6 12. Netlist has in all respects acted in a manner consistent with the JEDEC 7 Patent Policy, as set forth in the JEDEC Manual of Organization and Procedure, 8 which states in relevant part that "[a] license will be offered, to applicants desiring 9 to utilize the license for the purpose of implementing the JEDEC Standard under 10 reasonable terms and conditions that are free of any unfair discrimination...." Netlist contacted Hynix last year regarding its need for a license to Netlist's patent 11 12 portfolio and has since been negotiating in good faith to reach a resolution. In the 13 course of these negotiations, Netlist offered to license the asserted patents to Hynix 14 under reasonable terms and conditions that are free of any unfair discrimination 15 months before bringing this action. Hynix, however, has from the beginning taken 16 unreasonable positions and refused to attribute any meaningful value to Netlist's 17 fundamental patent portfolio. As a result, the parties have made no progress 18 towards resolution despite multiple substantive exchanges, months of negotiation, 19 and Netlist's offer to license.

20 13. In June 2016, consistent with its obligations to JEDEC, Netlist sent Hynix a formal letter outlining Netlist's offer to license Netlist's patent portfolio for 21 22 DDR4 RDIMMs and LRDIMMs on reasonable terms and conditions that are free of 23 any unfair discrimination. Netlist again identified the asserted patents, and 24 informed Hynix that Hynix DDR4 RDIMMs and LRDIMMs practice the asserted 25 patents. Hynix did not accept Netlist's reasonable, good-faith offer.

26 14. Each of the Defendants has been aware of the asserted patents since at 27 least January 2016 when Netlist presented to the Defendants detailed claim charts 28 related to each of the asserted patents. -5-

DLA PIPER LLP (US) SAN DIEGO

	Case 8:16-cv-01605 Document 1 Filed 08/31/16 Page 6 of 20 Page ID #:6
1	COUNT ONE
2	Infringement of United States Patent No. 8,756,364
3	15. Netlist incorporates by reference the preceding allegations of its
4	Complaint.
5	16. The '364 patent, entitled "Multirank DDR Memory Modual With Load
6	Reduction," issued on June 17, 2014 to inventors Jeffrey C. Solomon and Jayesh R.
7	Bhakta. The '364 patent issued from United States Patent Application No.
8	13/287,042 filed on November 1, 2011. Netlist owns by assignment the entire
9	right, title and interest in and to the '364 patent. Attached hereto as Exhibit 1 is a
10	true and correct copy of the '364 patent.
11	17. On information and belief, Defendants directly infringed and are
12	currently infringing at least claims 1, 2, 3, 4, 6, 7, 10, 13, 17 and 23 of the '364
13	patent by, among other things, making, using, selling, offering to sell, and/or
14	importing within this District and elsewhere in the United States, without authority,
15	Hynix DDR4 LRDIMMs (Load-Reduced Dual In-Line Memory Modules),
16	including but not limited to the exemplary Hynix DDR4 LRDIMM modules
17	identified in the Hynix Q3 2016 Databook attached as Exhibit 2 (the "accused
18	LRDIMM products"). An exemplary claim chart comparing the asserted
19	independent claims of the '364 patent to an exemplary one of the accused
20	LRDIMM products (part number HMA84GL7AMR4N-TF TE AB) is attached as
21	Exhibit 3.
22	18. On information and belief, each of the Defendants has been aware of
23	the '364 patent since at least January 2016.
24	19. On information and belief, users making routine use of the accused
25	LRDIMM products infringe at least claims 1, 2, 3, 4, 6, 7, 10, 13, 17 and 23 of the
26	'364 patent. On information and belief, each of the Defendants was aware that the
27	accused LRDIMM products infringe at least claims 1, 2, 3, 4, 6, 7, 10, 13, 17 and
28	-6-
DLA PIPER LLP (US) San Diego	WEST\270270507 COMPLAINT FOR PATENT INFRINGEMENT 8:16-CV-01605

23 of the '364 patent, and was aware that users making routine use of the accused 2 LRDIMM products infringe those claims.

3

4

5

6

7

8

9

10

1

20. On information and belief, each of the Defendants specifically intended that users of the accused LRDIMM products infringe at least claims 1, 2, 3, 4, 6, 7, 10, 13, 17 and 23 of the '364 patent, and took actions while the '364 patent was in force intending to cause the infringing acts, including the infringing routine use of the accused LRDIMM products by users. For example, on information and belief, Defendants provide specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused LRDIMM products by users with the intent of inducing infringement.

11 21. On information and belief, each of the Defendants contributes to the direct infringement of at least claims 1, 2, 3, 4, 6, 7, 10, 13, 17 and 23 of the '364 12 patent, including the infringing routine use of the accused LRDIMM products by 13 14 users. On information and belief, Defendants have sold, offered for sale and/or 15 imported within the United States the accused LRDIMM products for use in a 16 product or process that practices those claims, while the '364 patent was in force. 17 On information and belief, the accused LRDIMM products have no substantial 18 noninfringing use, and constitute a material part of the patented invention. On 19 information and belief, each of the Defendants is aware that the product or process 20 that includes the accused LRDIMM products may be covered by a claim of the '364 21 patent or may satisfy a claim of the '364 patent under the doctrine of equivalents. 22 On information and belief, the use of the product or process that includes the 23 accused LRDIMM products infringes at least claims 1, 2, 3, 4, 6, 7, 10, 13, 17 and 23 of the '364 patent. 24

25 Defendants have committed these acts of direct and indirect 22. 26 infringement with knowledge of at least claims 1, 2, 3, 4, 6, 7, 10, 13, 17 and 23 of 27 the '364 patent and thus have acted recklessly and willfully with regard to Netlist's 28 rights in the '364 patent.

DLA PIPER LLP (US) SAN DIEGO

1	23. As a result of Defendants' direct, indirect and willful infringement of
2	at least claims 1, 2, 3, 4, 6, 7, 10, 13, 17 and 23 of the '364 patent, Netlist has
3	suffered and is continuing to suffer monetary damages and is entitled to a monetary
4	judgment in an amount adequate to compensate for Defendants' past infringement,
5	together with enhanced damages, attorneys' fees, interest, and costs.
6	24. Netlist has been irreparably harmed by Defendants' acts of
7	infringement, and will continue to be harmed unless and until Defendants' acts of
8	infringement are enjoined and restrained by order of this Court. Netlist has no
9	adequate remedy at law and is entitled to a preliminary and permanent injunction
10	against Defendants and the accused LRDIMM products.
11	<u>COUNT TWO</u>
12	Infringement of United States Patent No. 8,516,185
13	25. Netlist incorporates by reference the preceding allegations of its
14	Complaint.
15	26. The '185 patent, entitled "System and method utilizing distributed
16	byte-wise buffers on a memory module," issued to inventors Dr. Hyun Lee and
17	Jayesh R. Bhakta on August 20, 2013. The '185 patent issued from Application
18	No. 12/761,179, filed on April 15, 2010. Netlist owns by assignment the entire
19	right, title and interest in and to the '185 patent. Attached hereto as Exhibit 4 is a
20	true and correct copy of the '185 patent.
21	27. On information and belief, Defendants directly infringed and are
22	currently infringing at least claims 1, 2, 3, 7, 8, 10, 11 and 12 of the '185 patent by,
23	among other things, making, using, selling, offering to sell, and/or importing within
24	this District and elsewhere in the United States, without authority, the accused
25	LRDIMM products. An exemplary claim chart comparing the asserted independent
26	claim of the '185 patent to an exemplary one of the accused LRDIMM products
27	(part number HMA84GL7AMR4N-TF TE AB (32GB DDR4 LRDIMM)) is
28	attached as Exhibit 5. -8-
(TIC)	

DLA PIPER LLP (US) SAN DIEGO

1 2

28. On information and belief, each of the Defendants has been aware of the '185 patent since at least January 2016.

3 29. On information and belief, users making routine use of the accused 4 LRDIMM products infringe at least claims 1, 2, 3, 7, 8, 10, 11 and 12 of the '185 5 patent. On information and belief, each of the Defendants was aware that the 6 accused LRDIMM products infringe at least claims 1, 2, 3, 7, 8, 10, 11 and 12 of 7 the '185 patent, and was aware that users making routine use of the accused LRDIMM products infringe those claims. On information and belief, each of the 8 9 Defendants specifically intended that users of the accused LRDIMM products 10 infringe at least claims 1, 2, 3, 7, 8, 10, 11 and 12 of the '185 patent, and took actions while the '185 patent was in force intending to cause the infringing acts, 11 12 including the infringing routine use of the accused LRDIMM products by users. 13 For example, on information and belief, Defendants provide specifications, 14 datasheets, instruction manuals, and/or other materials that encourage and facilitate 15 infringing use of the accused LRDIMM products by users with the intent of inducing infringement. 16

17 30. On information and belief, each of the Defendants contributes to the direct infringement of at least claims 1, 2, 3, 7, 8, 10, 11 and 12 of the '185 patent 18 19 by users making routine use of the accused LRDIMM products. On information 20 and belief, Defendants have sold, offered for sale and/or imported within the United 21 States the accused LRDIMM products for use in a product or process that practices 22 those claims, while the '185 patent was in force. On information and belief, the 23 accused LRDIMM products have no substantial noninfringing use, and constitute a material part of the patented invention. On information and belief, each of the 24 25 Defendants is aware that the product or process that includes the accused LRDIMM 26 products may be covered by a claim of the '185 patent or may satisfy a claim of the 27 '185 patent under the doctrine of equivalents. On information and belief, the use of

1	the product or process that includes the accused LRDIMM products infringes at
2	least claims 1, 2, 3, 7, 8, 10, 11 and 12 of the '185 patent.
3	31. Defendants have committed these acts of direct and indirect
4	infringement with knowledge of at least claims 1, 2, 3, 7, 8, 10, 11 and 12 of the
5	'185 patent and thus have acted recklessly and willfully with regard to Netlist's
6	rights in the '185 patent.
7	32. As a result of Defendants' direct, indirect and willful infringement of
8	at least claims 1, 2, 3, 7, 8, 10, 11 and 12 of the '185 patent, Netlist has suffered and
9	is continuing to suffer monetary damages and is entitled to a monetary judgment in
10	an amount adequate to compensate for Defendants' past infringement, together with
11	enhanced damages, attorneys' fees, interest, and costs.
12	33. Netlist has been irreparably harmed by Defendants' acts of
13	infringement, and will continue to be harmed unless and until Defendants' acts of
14	infringement are enjoined and restrained by order of this Court. Netlist has no
15	adequate remedy at law and is entitled to a preliminary and permanent injunction
16	against Defendants and the accused LRDIMM products.
17	COUNT THREE
18	Infringement of United States Patent No. 8,001,434
19	34. Netlist incorporates by reference the preceding allegations of its
20	Complaint.
21	35. The '434 patent, entitled "Memory board with self-testing capability,"
22	issued to inventors Dr. Hyun Lee, Jayesh R. Bhakta and Soonju Choi on August 16,
23	2011. The '434 patent issued from Application No. 12/422,925, filed on April 13,
24	2009. Netlist owns by assignment the entire right, title and interest in and to the
25	'434 patent. Attached hereto as Exhibit 6 is a true and correct copy of the '434
26	patent.
27	36. On information and belief, Defendants directly infringed and are
28	currently infringing at least claims 2, 3, 4, 5, 6 and 7 of the '434 patent by, among -10-
P (US)	10

DLA PIPER LLP (US) SAN DIEGO WEST\270270507

### Gase 8:16-cv-01605 Document 1 Filed 08/31/16 Page 11 of 20 Page ID #:11

1 other things, making, using, selling, offering to sell, and/or importing within this 2 District and elsewhere in the United States, without authority, the accused 3 LRDIMM products. An exemplary claim chart comparing the asserted claims of 4 the '434 patent to an exemplary one of the accused LRDIMM products (part 5 number HMA84GL7AMR4N-TF TE AB (32GB DDR4 LRDIMM)) is attached as 6 Exhibit 7.

7

8

37. On information and belief, each of the Defendants has been aware of the '434 patent since at least January 2016.

9 38. On information and belief, users making routine use of the accused 10 LRDIMM products infringe at least claims 2, 3, 4, 5, 6 and 7 of the '434 patent. On 11 information and belief, each of the Defendants was aware that the accused LRDIMM products infringe at least claims 2, 3, 4, 5, 6 and 7 of the '434 patent, and 12 13 was aware that users making routine use of the accused LRDIMM products infringe 14 those claims. On information and belief, each of the Defendants specifically 15 intended that users of the accused LRDIMM products infringe at least claims 2, 3, 4, 5, 6 and 7 of the '434 patent, and took actions while the '434 patent was in force 16 17 intending to cause the infringing acts, including the infringing routine use of the 18 accused LRDIMM products by users. For example, on information and belief, 19 Defendants provide specifications, datasheets, instruction manuals, and/or other 20 materials that encourage and facilitate infringing use of the accused LRDIMM 21 products by users with the intent of inducing infringement.

SAN DIEGO

On information and belief, each of the Defendants contributes to the 39. direct infringement of at least claims 2, 3, 4, 5, 6 and 7 of the '434 patent, including the infringing routine use of the accused LRDIMM products by users. On information and belief, Defendants have sold, offered for sale and/or imported within the United States the accused LRDIMM products for use in a product or process that practices those claims, while the '434 patent was in force. On 27 28 information and belief, the accused LRDIMM products have no substantial -11-DLA PIPER LLP (US) WEST\270270507 COMPLAINT FOR PATENT INFRINGEMENT 8:16-CV-01605

### Gase 8:16-cv-01605 Document 1 Filed 08/31/16 Page 12 of 20 Page ID #:12

noninfringing use, and constitute a material part of the patented invention. On
information and belief, each of the Defendants is aware that the product or process
that includes the accused LRDIMM products may be covered by a claim of the '434
patent or may satisfy a claim of the '434 patent under the doctrine of equivalents.
On information and belief, the use of the product or process that includes the
accused LRDIMM products infringes at least claims 2, 3, 4, 5, 6 and 7 of the '434
patent.

8 40. Defendants have committed these acts of direct and indirect
9 infringement with knowledge of at least claims 2, 3, 4, 5, 6 and 7 of the '434 patent
10 and thus have acted recklessly and willfully with regard to Netlist's rights in the
11 '434 patent.

41. As a result of Defendants' direct, indirect and willful infringement of
at least claims 2, 3, 4, 5, 6 and 7 of the '434 patent, Netlist has suffered and is
continuing to suffer monetary damages and is entitled to a monetary judgment in an
amount adequate to compensate for Defendants' past infringement, together with
enhanced damages, attorneys' fees, interest, and costs.

42. Netlist has been irreparably harmed by Defendants' acts of
infringement, and will continue to be harmed unless and until Defendants' acts of
infringement are enjoined and restrained by order of this Court. Netlist has no
adequate remedy at law and is entitled to a preliminary and permanent injunction
against Defendants and the accused LRDIMM products.

### **COUNT FOUR**

# Infringement of United States Patent No. 8,359,501

24 43. Netlist incorporates by reference the preceding allegations of its25 Complaint.

44. The '501 patent, entitled "Memory board with self-testing capability,"
 issued to inventors Dr. Hyun Lee, Jayesh R. Bhakta and Soonju Choi on January
 22, 2013. The '501 patent issued from Application No. 13/183,253, filed on July
 <sup>(US)</sup> WEST 270270507 COMPLAINT FOR PATENT INFRINGEMENT

22

14, 2011, which claims priority as a continuation of Application No. 12/422,925,
 which issued as the '434 patent. Netlist owns by assignment the entire right, title
 and interest in and to the '501 patent. Attached hereto as Exhibit 8 is a true and
 correct copy of the '501 patent.

45. On information and belief, Defendants directly infringed and are
currently infringing at least claim 4 of the '501 patent by, among other things,
making, using, selling, offering to sell, and/or importing within this District and
elsewhere in the United States, without authority, the accused LRDIMM products.
An exemplary claim chart comparing the asserted claim of the '501 patent to an
exemplary one of the accused LRDIMM products (part number

11 HMA84GL7AMR4N-TF TE AB (32GB DDR4 LRDIMM)) is attached as Exhibit
12 9.

46. On information and belief, each of the Defendants has been aware ofthe '501 patent since at least January 2016.

15 47. On information and belief, users making routine use of the accused LRDIMM products infringe at least claim 4 of the '501 patent. On information and 16 17 belief, each of the Defendants was aware that the accused LRDIMM products 18 infringe at least claim 4 of the '501 patent, and was aware that users making routine 19 use of the accused LRDIMM products infringe that claim. On information and 20 belief, each of the Defendants specifically intended that users of the accused 21 LRDIMM products infringe at least claim 4 of the '501 patent, and took actions 22 while the '501 patent was in force intending to cause the infringing acts, including 23 the infringing routine use of the accused LRDIMM products by users. For 24 example, on information and belief, Defendants provide specifications, datasheets, 25 instruction manuals, and/or other materials that encourage and facilitate infringing 26 use of the accused LRDIMM products by users with the intent of inducing 27 infringement.

28 /////

DLA PIPER LLP (US) San Diego

48. 1 On information and belief, each of the Defendants contributes to the 2 direct infringement of at least claim 4 of the '501 patent, including the infringing 3 routine use of the accused LRDIMM products by users. On information and belief, 4 Defendants have sold, offered for sale and/or imported within the United States the 5 accused LRDIMM products for use in a product or process that practices that claim, 6 while the '501 patent was in force. On information and belief, the accused 7 LRDIMM products have no substantial noninfringing use, and constitute a material 8 part of the patented invention. On information and belief, each of the Defendants is 9 aware that the product or process that includes the accused LRDIMM products may 10 be covered by a claim of the '501 patent or may satisfy a claim of the '501 patent 11 under the doctrine of equivalents. On information and belief, the use of the product 12 or process that includes the accused LRDIMM products infringes at least claim 4 of 13 the '501 patent.

14 49. Defendants have committed these acts of direct and indirect
15 infringement with knowledge of at least claim 4 of the '501 patent and thus have
16 acted recklessly and willfully with regard to Netlist's rights in the '501 patent.

50. As a result of Defendants' direct, indirect and willful infringement of
at least claim 4 of the '501 patent, Netlist has suffered and is continuing to suffer
monetary damages and is entitled to a monetary judgment in an amount adequate to
compensate for Defendants' past infringement, together with enhanced damages,
attorneys' fees, interest, and costs.

51. Netlist has been irreparably harmed by Defendants' acts of
infringement, and will continue to be harmed unless and until Defendants' acts of
infringement are enjoined and restrained by order of this Court. Netlist has no
adequate remedy at law and is entitled to a preliminary and permanent injunction
against Defendants and the accused LRDIMM products.

27 /////

28 /////

DLA PIPER LLP (US) San Diego

C	ase 8:16-cv-01605 Document 1 Filed 08/31/16 Page 15 of 20 Page ID #:15
1	<u>COUNT FIVE</u>
2	Infringement of United States Patent No. 8,689,064
3	52. Netlist incorporates by reference the preceding allegations of its
4	Complaint.
5	53. The '064 patent, entitled "Apparatus and method for self-test in a
6	multi-rank memory module," issued to inventors Dr. Hyun Lee, Jayesh R. Bhakta
7	and Soonju Choi on April 1, 2014. The '064 patent issued from Application No.
8	13/745,790, filed on January 19, 2013, which claims priority as a continuation of
9	Application No. 13/183,253, which issued as the '501 patent, which claims priority
10	as a continuation of Application No. 12/422,925, which issued as the '434 patent.
11	Netlist owns by assignment the entire right, title and interest in and to the '064
12	patent. Attached hereto as Exhibit 10 is a true and correct copy of the '064 patent.
10	

13 54. On information and belief, Defendants directly infringed and are 14 currently infringing at least claim 16 of the '064 patent by, among other things, 15 making, using, selling, offering to sell, and/or importing within this District and 16 elsewhere in the United States, without authority, the accused LRDIMM products. 17 An exemplary claim chart comparing the asserted independent claim of the '064 18 patent to an exemplary one of the accused LRDIMM products (part number HMA84GL7AMR4N-TF TE AB (32GB DDR4 LRDIMM)) is attached as Exhibit 19 20 11.

21 55. On information and belief, each of the Defendants has been aware of the '064 patent since at least January 2016. 22

23 56. Additionally, on information and belief, users making routine use of 24 the accused LRDIMM products infringe at least claim 16 of the '064 patent. On 25 information and belief, each of the Defendants was aware that the accused 26 LRDIMM products infringe at least claim 16 of the '064 patent, and was aware that 27 users making routine use of the accused LRDIMM products infringe that claim. On 28 information and belief, each of the Defendants specifically intended that users of -15-DLA PIPER LLP (US) WEST\270270507 COMPLAINT FOR PATENT INFRINGEMENT 8:16-CV-01605

SAN DIEGO

the accused LRDIMM products infringe at least claim 16 of the '064 patent, and took actions while the '064 patent was in force intending to cause the infringing acts, including the infringing routine use of the accused LRDIMM products by users. For example, on information and belief, Defendants provide specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing use of the accused LRDIMM products by users with the intent of inducing infringement.

8 57. On information and belief, each of the Defendants contributes to the 9 direct infringement of at least claim 16 of the '064 patent, including the infringing 10 routine use of the accused LRDIMM products by users. On information and belief, 11 Defendants have sold, offered for sale and/or imported within the United States the 12 accused LRDIMM products for use in a product or process that practices that claim, while the '064 patent was in force. On information and belief, the accused 13 14 LRDIMM products have no substantial noninfringing use, and constitute a material 15 part of the patented invention. On information and belief, each of the Defendants is 16 aware that the product or process that includes the accused LRDIMM products may 17 be covered by a claim of the '064 patent or may satisfy a claim of the '064 patent 18 under the doctrine of equivalents. On information and belief, the use of the product 19 or process that includes the accused LRDIMM products infringes at least claim 16 20 of the '064 patent.

58. Defendants have committed these acts of direct and indirect
infringement with knowledge of at least claim 16 of the '064 patent and thus have
acted recklessly and willfully with regard to Netlist's rights in the '064 patent.

59. As a result of Defendants' direct, indirect and willful infringement of
at least claim 16 of the '064 patent, Netlist has suffered and is continuing to suffer
monetary damages and is entitled to a monetary judgment in an amount adequate to
compensate for Defendants' past infringement, together with enhanced damages,
attorneys' fees, interest, and costs.

DLA PIPER LLP (US) San Diego

WEST\270270507

-16-

60. Netlist has been irreparably harmed by Defendants' acts of
 infringement, and will continue to be harmed unless and until Defendants' acts of
 infringement are enjoined and restrained by order of this Court. Netlist has no
 adequate remedy at law and is entitled to a preliminary and permanent injunction
 against Defendants and the accused LRDIMM products.

## COUNT SIX

# Infringement of United States Patent No. 8,489,837

8 61. Netlist incorporates by reference the preceding allegations of its9 Complaint.

10 62. The '837 patent, entitled "Systems and methods for handshaking with
11 a memory module," issued to inventor Dr. Hyun Lee on July 16, 2013. The '837
12 patent issued from Application No. 12/815,339, filed on June 14, 2010. Netlist
13 owns by assignment the entire right, title and interest in and to the '837 patent.
14 Attached hereto as Exhibit 12 is a true and correct copy of the '837 patent.

15 63. On information and belief, Defendants directly infringed and are currently infringing at least claims 1, 2, 3, 5 and 6 of the '837 patent by, among 16 17 other things, making, using, selling, offering to sell, and/or importing within this 18 District and elsewhere in the United States, without authority, the accused 19 LRDIMM products and Hynix DDR4 RDIMMs (Registered Dual In-Line Memory 20 Modules), including but not limited to the exemplary Hynix DDR4 RDIMM 21 modules identified in the Hynix Q3 2016 Databook attached as Exhibit 2 (the 22 "accused RDIMM products") (collectively the "accused products" or the "accused 23 LRDIMM and RDIMM products"). An exemplary claim chart comparing the 24 asserted independent claim of the '837 patent to exemplary accused LRDIMM and 25 RDIMM products (part number HMA84GL7AMR4N-TF TE AB (32GB DDR4) 26 LRDIMM) and part number HMA84GR7MFR4N-TF TD BA (32GB DDR4) 27 RDIMM)) is attached as Exhibit 13.

28 /////

6

7

DLA PIPER LLP (US) San Diego

```
WEST\270270507
```

1 2 64. On information and belief, each of the Defendants has been aware of the '837 patent since at least January 2016.

3 On information and belief, users making routine use of the accused 65. 4 LRDIMM and RDIMM products infringe at least claims 1, 2, 3, 5 and 6 of the '837 5 patent. On information and belief, each of the Defendants was aware that the 6 accused LRDIMM and RDIMM products infringe at least claims 1, 2, 3, 5 and 6 of 7 the '837 patent, and was aware that users making routine use of the accused 8 LRDIMM and RDIMM products infringe those claims. On information and belief, 9 each of the Defendants specifically intended that users of the accused LRDIMM 10 and RDIMM products infringe at least claims 1, 2, 3, 5 and 6 of the '837 patent, and took actions while the '837 patent was in force intending to cause the infringing 11 12 acts, including the infringing routine use of the accused LRDIMM and RDIMM 13 products by users. For example, on information and belief, Defendants provide 14 specifications, datasheets, instruction manuals, and/or other materials that 15 encourage and facilitate infringing use of the accused LRDIMM and RDIMM 16 products by users with the intent of inducing infringement.

17 66. On information and belief, each of the Defendants contributes to the 18 direct infringement of at least claims 1, 2, 3, 5 and 6 of the '837 patent, including 19 the infringing routine use of the accused LRDIMM and RDIMM products by users. 20 On information and belief, Defendants have sold, offered for sale and/or imported 21 within the United States the accused LRDIMM and RDIMM products for use in a 22 product or process that practices those claims, while the '837 patent was in force. 23 On information and belief, the accused LRDIMM and RDIMM products have no 24 substantial noninfringing use, and constitute a material part of the patented 25 invention. On information and belief, each of the Defendants is aware that the 26 product or process that includes the accused LRDIMM and RDIMM products may 27 be covered by a claim of the '837 patent or may satisfy a claim of the '837 patent 28 under the doctrine of equivalents. On information and belief, the use of the product -18-

DLA PIPER LLP (US) San Diego

or process that includes the accused LRDIMM and RDIMM products infringes at
 least claims 1, 2, 3, 5 and 6 of the '837 patent.

67. Defendants have committed these acts of direct and indirect
infringement with knowledge of at least claims 1, 2, 3, 5 and 6 of the '837 patent
and thus have acted recklessly and willfully with regard to Netlist's rights in the
'837 patent.

68. As a result of Defendants' direct, indirect and willful infringement of
at least claims 1, 2, 3, 5 and 6 of the '837 patent, Netlist has suffered and is
continuing to suffer monetary damages and is entitled to a monetary judgment in an
amount adequate to compensate for Defendants' past infringement, together with
enhanced damages, attorneys' fees, interest, and costs.

69. Netlist has been irreparably harmed by Defendants' acts of
infringement, and will continue to be harmed unless and until Defendants' acts of
infringement are enjoined and restrained by order of this Court. Netlist has no
adequate remedy at law and is entitled to a preliminary and permanent injunction
against Defendants and the accused LRDIMM and RDIMM products.

# **PRAYER FOR RELIEF**

**WHEREFORE**, Netlist respectfully requests that judgment be entered:

A. Declaring that Defendants have infringed and are infringing, directlyand indirectly, the claims of the asserted patents;

B. Compensating Netlist for all damages caused by Defendants'
infringement of the asserted patents;

C. Enhancing Netlist's damages up to three times their amount under 35
U.S.C. § 284;

D. Granting Netlist pre- and post-judgment interests, together with all
costs and expenses;

E. Granting Netlist its reasonable attorneys' fees under 35 U.S.C. § 285;
/////

DLA PIPER LLP (US) San Diego

17

1	F. Granting a permanent injunction enjoining and restraining Defendants
2	and their agents, servants, employees, affiliates, divisions, and subsidiaries, and
2	those in association with Defendants, from making, using, offering to sell, selling,
4	
	and importing into the United States any product, or using, offering to sell, or
5	selling any service, that falls within the scope of any claim of the asserted patents;
6	and
7	G. Awarding such other relief as this Court may deem just and proper.
8	DEMAND FOR JURY TRIAL
9	Netlist respectfully requests a trial by jury on all claims so triable.
10	
11	Dated: August 31, 2016
12	DLA PIPER LLP (US)
13	By: /s/ Sean C. Cunningham
14	SEAN C. CUNNINGHAM
15	ERIN P. GIBSON TIFFANY C. MILLER
16	JACOB D. ANDERSON DLA PIPER LLP (US)
17	401 B Street, Suite 1700 San Diego, CA 92101
18	Tel: 619.699.2700 Fax: 619.699.2701
19	MARK D. FOWLER
20	DLA PIPER LLP (US) 2000 University Avenue East Palo Alto, CA 94303-2215 Tel: 650.833.2000
21	East Palo Alto, CA 94303-2215 Tel: 650.833.2000
22	Fax: 650.833.2001
23	JAMES HEINTZ DLA PIPER LLP (US)
24	11911 Freedom Drive, #300 Reston, VA 20190
25	DLA PIPER LLP (US) 11911 Freedom Drive, #300 Reston, VA 20190 Tel: 703.773.4000 Fax: 703.773.5000
26	Attorneys for Plaintiff
27	NETLIST, INC.
28	
DLA PIPER LLP (US) San Diego	-20- WEST\270270507 COMPLAINT FOR PATENT INFRINGEMENT
	8:16-CV-01605