

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

NETLIST, INC.	)	
	)	
Plaintiff,	)	
	)	
v.	)	
	)	
MICRON TECHNOLOGY, INC.,	)	
MICRON SEMICONDUCTOR	)	
PRODUCTS, INC., MICRON	)	Civil Action No. 2:25-cv-749
TECHNOLOGY TEXAS LLC, AVNET,	)	
INC.,	)	JURY TRIAL DEMANDED
	)	
Defendants.	)	
	)	
	)	
	)	
	)	

COMPLAINT

1. Plaintiff Netlist, Inc. (“Netlist”), by its undersigned counsel, brings this action against Defendants Micron Technology, Inc. (“Micron Technology”), Micron Semiconductor Products, Inc. (“Micron Semiconductor”), Micron Technology Texas, LLC (“Micron Texas” and, together with Micron Technology and Micron Semiconductor, “Micron”), and Avnet, Inc. (“Avnet” and, together with Micron, “Defendants”) for Defendants’ infringement of U.S. Patent No. 12,373,366 (the “366 Patent”).

2. Micron has filed a series of retaliatory suits in its home state of Idaho, accusing Netlist of bad faith assertion of certain other Netlist patents under Idaho Code § 48-1703. *See* Compl. ¶¶ 20-27, *Netlist, Inc. v. Micron Tech., Inc.*, No. 2:23-cv-628, Dkt. 1 (E.D. Tex. Dec. 22, 2023) (summarizing Micron’s pattern of filing retaliatory suits); Am. Compl. ¶¶ 23-31, *Netlist, Inc. v. Micron Tech., Inc.*, No. 2:23-cv-628, Dkt. 14 (E.D. Tex. Feb. 7, 2024) (same); *see also*, e.g., Compl. at 26, *Micron Tech., Inc. v. Netlist, Inc.*, No. 1:25-cv-323, Dkt. 1-3 (D. Idaho June 24,

2025) (Micron’s June 2, 2025 complaint filed in Idaho state court, seeking “[a] declaration that Netlist has violated Idaho Code § 48-1703 in asserting the ’506, ’339, ’060, ’160, ’912, and ’417 Patents against Micron in bad faith”). It is only a matter of time before Micron brings another similar suit in Idaho state court concerning the ’366 Patent. Therefore, Netlist seeks a declaration that this suit was not brought in bad faith; a declaration that Netlist has not made bad faith assertion of patent infringement under Idaho Code § 48-1703; and a declaration that Defendants are not entitled to relief under Idaho Code § 48-1703.

I. THE PARTIES

3. Plaintiff Netlist is a corporation organized and existing under the laws of the State of Delaware, having a principal place of business at 111 Academy Way, Suite 100, Irvine, CA 92617.

4. On information and belief, Micron makes dynamic random-access memory (“DRAM”), NAND Flash, and NOR Flash memory, and other memory products in semiconductor fabrication plants in the United States and other countries throughout the world. On information and belief, Micron sells its products, either directly or through distributors, retailers, authorized dealers, and sales agents, including Avnet, Inc.,¹ to customers, including customers in this District, in the computer, networking and storage, consumer electronics, solid-state drives and mobile telecommunications markets.

5. On information and belief, Micron Technology is a corporation organized and existing under the laws of Delaware. On information and belief, Micron Technology has a regular and established place of business at 805 Central Expressway South, Suite 100, Allen, Texas 75013. On information and belief, Micron Technology is registered to do business in the State of Texas,

¹ See *Micron*, Avnet (last visited July 28, 2025), <https://www.avnet.com/americas/manufacturers/m/micron/>.

and can be served through its registered agent, The Corporation Service Company, 211 E. 7th Street, Suite 620, Austin, Texas 78701-3218.

6. On information and belief, Micron Semiconductor is a corporation organized and existing under the laws of Idaho. On information and belief, Micron Semiconductor has a regular and established place of business at 805 Central Expressway South, Suite 100, Allen, Texas 75013. On information and belief, Micron Semiconductor is registered with the Texas Secretary of State to do business in Texas. On information and belief, Micron Semiconductor can be served through its registered agent, The Corporation Service Company, 211 E. 7th Street, Suite 620, Austin, Texas 78701-3218.

7. On information and belief, Micron Texas is a corporation organized and existing under the laws of Idaho. On information and belief, Micron Texas has a regular and established place of business at 805 Central Expressway South, Suite 100, Allen, Texas 75013. On information and belief, Micron Texas also has a regular and established place of business at 950 West Bethany Drive, Suite 120, Allen, Texas 75013-3837. On information and belief, Micron Texas is registered with the Texas Secretary of State to do business in Texas. On information and belief, Micron Texas can be served through its registered agent, The Corporation Service Company, 211 E. 7th Street, Suite 620, Austin, Texas, 78701-3218.

8. On information and belief, Micron Semiconductor and Micron Texas are wholly owned subsidiaries of Micron Technology. On information and belief, Micron Technology does not separately report revenue from Micron Semiconductor or Micron Texas in its filings to the Securities Exchange Commission, but rather reports combined revenue from its various products and subsidiaries.

9. On information and belief, Avnet is a corporation organized and existing under the laws of the State of New York. On information and belief, Avnet is involved in the use, offering

for sale and/or sales of certain semiconductor products, including the Accused Instrumentalities as defined below. On information and belief, Avnet has a regular and established place of business at 3101 E. President George Bush Highway, Suite 250, Richardson, Texas 75082. On information and belief, Avnet is registered with the Texas Secretary of State to do business in Texas. On information and belief, Avnet can be served through its registered agent, The Corporation Service Company, 211 E. 7th Street, Suite 620, Austin, Texas, 78701-3218.

10. On information and belief, Defendants have semiconductor fabrication plants in the United States and other countries throughout the world and manufacture memory products such as DRAM, NAND Flash, and NOR Flash at those plants. On information and belief, Defendants also use, sell, and offer for sale in the United States, import into the United States and/or export from the United States memory products, including DDR5 dual in-line memory modules (“DIMMs”). On information and belief, Defendants have at least used, sold, or offered to sell products and services, including the Accused Instrumentalities, in this judicial district, *e.g.*, through sales and distribution channels managed by Micron Texas.

11. On information and belief, Defendants place, have placed, and contributed to placing Accused Instrumentalities into the stream of commerce via an established distribution channel knowing or understanding that such products would be sold and used in the United States, including in the Eastern District of Texas. On information and belief, Defendants derive substantial revenues from infringing acts in this judicial district, including from the sale and use of the Accused Instrumentalities.

12. On information and belief, Defendants use, sell, or offer to sell products and services, including the Accused Instrumentalities, in the Eastern District of Texas.

II. JURISDICTION AND VENUE

13. Subject matter jurisdiction is based on 28 U.S.C. § 1338, in that this action arises under Federal statute, the patent laws of the United States (35 U.S.C. §§ 1, *et seq.*).

14. Each Defendant is subject to this Court's personal jurisdiction consistent with the principles of due process and/or the Texas Long Arm Statute.

15. Personal jurisdiction exists generally over the Defendants because each Defendant has sufficient minimum contacts and/or has engaged in continuous and systematic activities in the forum as a result of business conducted within the State of Texas and the Eastern District of Texas. Personal jurisdiction also exists over each Defendant because each, directly or through subsidiaries, makes, uses, sells, offers for sale, imports, ships, distributes, advertises, makes available, and/or markets products within the State of Texas and the Eastern District of Texas that infringe one or more claims of the '366 Patent. Further, on information and belief, Defendants have placed or contributed to placing infringing products into the stream of commerce, both directly and through intermediaries (including distributors, retailers, authorized dealers, sales agents, and other individuals or entities), knowing or understanding that such products would be sold and used in the United States, including in this District.

16. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391(b) and (c) and/or 1400(b) because Defendants (1) have committed and continue to commit acts of patent infringement in this District by, among other things, directly and/or indirectly making, using, selling, offering to sell, or importing products that infringe one or more claims of the Patents-in-Suits, including through distributors, retailers, authorized dealers, and sales agents in Texas and this Judicial District, including Avnet, and (2) have done and continue to do business in this District by maintaining regular and established places of business, including at least at 805 Central Expressway South, Suite 100, Allen, Texas 75013.

17. Venue is also proper for Avnet because it maintains a regular and established place of business in this judicial district at 3101 E. President George Bush Highway, Suite 250, Richardson, TX 75082 and has committed acts of infringement in this judicial district. Specifically, Avnet offers for sale and distributes its products, including the Accused Instrumentalities supplied by Micron, all throughout the United States, including the State of Texas and the Eastern District of Texas. Avnet's website, <https://www.avnet.com/americas/>, has an (800) contact number that prospective customers can call to obtain more information or a quote for the Accused Instrumentalities (and other products). Avnet's website also specifically targets customers in Texas, including those in the Eastern District of Texas, by providing region-specific email contact, including dallas@avnet.com.² "For nearly 50 years, Micron has partnered with Avnet,"³ "helping [Micron's] customers to innovate and win."⁴ In addition to offering for sale, selling, and distributing the Accused Instrumentalities as an official Micron distributor, "Avnet and Micron also work cooperatively to train engineers on design techniques to leverage next-generation memory technologies."⁵ Furthermore, Avnet's website advertises products for sale and lead times, including certain Accused Instrumentalities manufactured by Micron, as shown below:

² *Locations: Avnet Americas*, Avnet (last visited July 28, 2025), <https://www.avnet.com/americas/about-avnet/locations/>.

³ *Essential Guide to Micron DDR5*, at 8, Avnet EMEA (last visited July 28, 2025), <https://my.stage.avnet.com/wcm/connect/f56c724b-a7af-4bad-9e7b-d71c4bc6d07a/guide-to-micron-ddr5.pdf?MOD=AJPERES&CVID=nmg9jyC&attachment=false&id=1604432657280>.

⁴ *Avnet, Micron Celebrate 30th*, EE Times (Dec. 30, 2014), <https://www.eetimes.com/avnet-micron-celebrate-30th/>.

⁵ *Avnet Electronics Marketing Americas Celebrates 30-Year Anniversary with Micron Technology*, EE Times (Jan. 5, 2015), <https://www.eetimes.com/avnet-electronics-marketing-americas-celebrates-30-year-anniversary-with-micron-technology/>.

Quantity	Price
1+	\$421.9425
10+	\$418.3515
30+	\$411.1695
50+	\$403.9875
100+	\$396.8055

USD \$: \$421.94
Min: 1 Mult: 1
1
ADD TO CART
Need more? Click to Quote

In Stock : 100
Ships in 1 bus. day
Additional inventory
Factory Lead Time: Lead time unavailable

Micron
MTC40F2046S1RC56BD1
64GB RDIMM M
Avnet Manufacturer Part #: MTC40F2046S1RC56BD1

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18. Therefore, Micron, together with Avnet as a distributor of the Accused Instrumentalities, have offered to sell, have sold, and have intentionally and voluntarily placed infringing products into the stream of commerce with the expectation and understanding that those products will be sold, purchased, and/or used by its customers in the State of Texas, including the Eastern District of Texas.

III. FACTUAL ALLEGATIONS

A. Background

19. Since its founding in 2000, Netlist has been a leading innovator in high-performance memory module technologies. Netlist designs and manufactures a wide variety of high-performance products for the cloud computing, virtualization and high-performance computing markets. Netlist's technology enables users to derive useful information from vast amounts of data in a shorter period of time. These capabilities will become increasingly valuable as the volume of data continues to dramatically increase. Netlist has secured multiple jury verdicts confirming the commercial success of its inventions. For example, in 2023, a jury in the Eastern District of Texas found that Samsung willfully infringed five Netlist patents and awarded Netlist \$303.15 million in damages. *See* Verdict at 7, *Netlist, Inc. v. Samsung Elecs. Co.*, No. 2:21-cv-463, Dkt. 479 (E.D. Tex. Apr. 21, 2023). As another example, in May 2024, a jury in the Eastern District of Texas awarded Netlist \$445 million in damages against Micron. *See* Verdict at 5,

⁶ Avnet (last visited July 28, 2025), https://www.avnet.com/americas/products/c/search?search=micron%20ddr5&page=1&limit=20&orderby=&orderbydirection=asc&__c_HomeTabList=PLT.

Netlist, Inc. v. Micron Tech., Inc., No. 2:22-cv-294, Dkt. 135 (E.D. Tex. May 23, 2024). And in November 2024, a jury found that Samsung willfully infringed three Netlist patents and awarded Netlist \$118 million in damages. *See* Verdict at 7, *Netlist, Inc. v. Samsung Elecs. Co.*, No. 2:22-cv-293, Dkt. 847 (E.D. Tex. Nov. 22, 2024).

20. Netlist has a long history of being the first to market with disruptive new products such as the first load-reduced dual in-line memory module (“LRDIMM”), HyperCloud®, based on Netlist’s distributed buffer architecture later adopted by the industry for DDR4 LRDIMM. Netlist was also the first to bring NAND flash to the memory channel with its NVvault® NVDIMM. Netlist’s pioneering NVDIMM products utilized the same on-module power management technology found on newer-generation DDR5 DIMMs. These innovative products built on Netlist’s early pioneering work in areas such as embedding passives into printed circuit boards to free up board real estate, doubling densities via quad-rank double data rate (DDR) technology, and other off-chip technology advances that result in improved performance and lower costs compared to conventional memory.

21. In many commercial products, a memory module is a printed circuit board that contains, among other components, a plurality of individual memory devices (such as DRAMs). The memory devices are typically arranged in “ranks,” which are accessible by a processor or memory controller of the host system. A memory module is typically installed into a memory slot on a computer motherboard.

22. Memory modules are designed for, among other things, use in servers such as those supporting cloud-based computing, artificial intelligence, and other data-intensive applications, as well as in consumer applications such as PCs and laptops. Memory modules are typically characterized by, among other things, the generation of DRAM on the module (*e.g.*, DDR5, DDR4, DDR3) and the type of module (*e.g.*, UDIMM, SODIMM, RDIMM).

B. U.S. Patent No. 12,373,366

23. The '366 Patent is entitled "Memory with On-Module Power Management."

24. Netlist owns by assignment the entire right, title, and interest in and to the '366 Patent. The '366 Patent was filed as Application No. 17/582,797 on January 24, 2022, issued as a patent on July 29, 2025 and claims priority to, among others, U.S. Application No. 13/559,476 filed on July 26, 2012; U.S. Application No. 12/240,916 filed on September 29, 2008; U.S. Application No. 12/131,873 filed on June 2, 2008; as well as to two provisional applications, filed on June 1, 2007 (No. 60/941,586) and July 28, 2011 (No. 61/512,871).

25. Micron has gained knowledge of the '366 Patent via this Complaint.

26. Claim 1 of the '366 Patent provides:

[1pre] A dual in-line memory module (DIMM) configured to fit into a memory slot connector of a system board of a computer system, the memory slot connector including a set of power conduits, a set of data conduits, and a set of address and control conduits, wherein data signals are transferred between the system board and the DIMM via the set of data conduits, and address and control signals are delivered from the system board to the DIMM via the set of address and control conduits, the DIMM comprising:

[1a] a printed circuit board (PCB) having edge connections configured to fit into the memory slot connector of the system board, the PCB including:

a first set of edge connections configured to be electrically connected to the set of power conduits and operable to deliver to the DIMM power from power rails of the system board via the set of power conduits, wherein the power delivered to the DIMM from the power rails of the system board is the only power received by the DIMM;

a second set of edge connections configured to be electrically connected to the set of data conduits, and

a third set of edge connections configured to be electrically connected to the set of address and control conduits,

a set of voltage supply lines electrically connected to the first set of edge connections and configured to receive the power delivered to the DIMM from the power rails of the system board by way of the memory slot connector of the system board and the first set of edge connections of the DIMM,

a set of data lines electrically connected to the second set of edge connections, and

a set of address and control lines electrically connected to the third set of edge connections;

[1b] a controller including a voltage monitor circuit and nonvolatile memory, the controller coupled to the PCB and to an input voltage supply line of the set of voltage supply lines, the voltage monitor circuit configured to:

(i) monitor an input voltage supplied via the input voltage supply line;

(ii) generate a trigger signal upon detecting a trigger condition; and

(iii) transmit the trigger signal to at least one other portion of the controller, wherein the controller is configured to perform, in response to the trigger signal, a write operation to write data into the nonvolatile memory, and wherein the trigger condition occurs when the input voltage exceeds a first threshold voltage;

[1c] a set of components coupled to the PCB, the set of components including a plurality of double data rate (DDR) synchronous dynamic random access memory (SDRAM) devices coupled to the set of address and control lines and to the set of data lines, the DDR SDRAM devices being operable to receive or output data signals via the set of data lines based on address and control signals received from the system board via the set of address and control lines; and

[1d] first, second, third, and fourth converter circuits coupled to the PCB and to the input voltage supply line, and configured to receive power from the input voltage supply line and to deliver power via first, second, third, and fourth regulated voltage lines,

wherein the set of components includes:

a first component configured to receive power via at least the first regulated voltage line;

a second component configured to receive power via at least the second regulated voltage line;

a third component configured to receive power via at least the third regulated voltage line; and

a fourth component configured to receive power via at least the fourth regulated voltage line;

wherein each component of the set of components:

(i) is electrically connected to one or more of the first, second, third, and fourth regulated voltage lines; and

(ii) receives power only via the one or more of the first, second, third, and fourth regulated voltage lines,

[1e] wherein the plurality of DDR SDRAM devices includes:

a first group of at least five DDR SDRAM devices that are each connected to a first chip select line configured to electrically conduct a first chip select signal;

a second group of at least four DDR SDRAM devices that are each connected to a second chip select line configured to electrically conduct a second chip select signal;

wherein when power from the power rails of the system board is provided to the DIMM and each group of the first and second groups of DDR SDRAM devices is not in self-refresh mode:

- the first group of DDR SDRAM devices is configured to be enabled, in response to the first chip select signal, to receive or output at least 40 1-bit DDR data signals in parallel via at least 40 data lines of the set of data lines independently of whether the second group of DDR SDRAM devices is enabled, in response to the second chip select signal, to receive or output an integer number of 1-bit DDR data signals in parallel via an integer number of data lines of the set of data lines;
- the at least 40 1-bit DDR data signals include at least 32 1-bit wide DDR data signals and at least eight 1-bit DDR error-correcting code (ECC) data signals; and

wherein the sum of the at least 40 data lines and the integer number of data lines equals a total number of data conduits of the set of data conduits of the memory slot connector, and the total number of data conduits is at least 72 data conduits.

C. Defendants' Infringing Activities

27. Defendants are worldwide semiconductor solution providers that primarily manufacture semiconductor memory products such as DRAM, DIMMs, and MCP (Multi-Chip Package). Defendants develop, manufacture, sell, offer to sell, import into the United States and export from the United States memory components and memory modules (including semi-finished

ones) designed for, among other things, use in servers such as those supporting cloud-based computing and other data-intensive applications as well as use in consumer applications such as in PCs, laptops, and gaming.

28. Avnet “is one of the largest distributors of electronic components, computer products and embedded technology.”⁷ Avnet has been an official distributor for Micron “[f]or nearly 50 years,”⁸ “helping [Micron’s] customers to innovate and win.”⁹ As an authorized distributor of Micron memory products, Avnet “accelerates its partners’ success by connecting the world’s leading technology suppliers with a broad base of customers by providing cost-effective, value-added services and solutions.”¹⁰ Avnet is involved in the use, offering for sale and/or sales of certain semiconductor products, including the Accused Instrumentalities as defined below. In addition to offering for sale, selling, and distributing the Accused Instrumentalities as Micron’s official distributor, “Avnet and Micron also work cooperatively to train engineers on design techniques to leverage next-generation memory technologies.”¹¹

D. DDR5 Memory Modules

29. The Accused DDR5 Products include, without limitation, any Micron DDR5 products made, sold, offered for sale, used and/or imported into the United States by Defendants. By way of non-limiting example, the accused DDR5 memory modules include Samsung’s DDR5 RDIMMs and other products with similar structures and features. As further example, the Accused Instrumentalities include, without limitation, any DDR5 products made, sold, offered for sale, used

⁷ *Avnet, Inc. Names Rodney C. Adkins to Its Board of Directors*, SEC (June 15, 2015), <https://www.sec.gov/Archives/edgar/data/8858/000129993315000942/exhibit1.htm>.

⁸ *Essential Guide to Micron DDR5*, *supra*, at 8.

⁹ *Avnet, Micron Celebrate 30th*, *supra*.

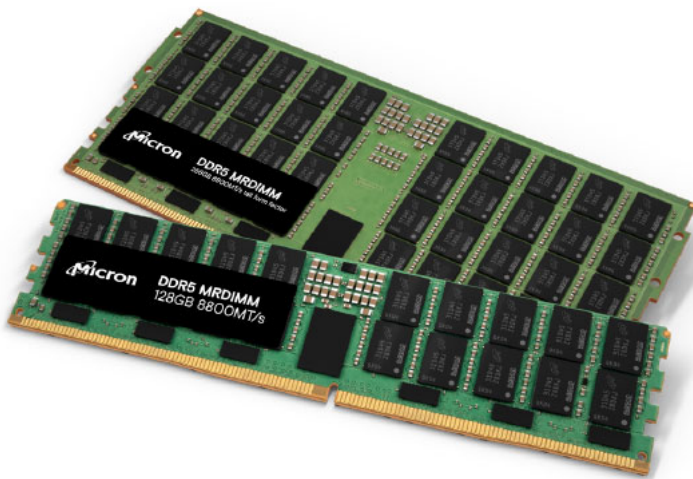
¹⁰ *Avnet, Inc. Names Rodney C. Adkins to Its Board of Directors*, *supra*.

¹¹ *Avnet Electronics Marketing Americas Celebrates 30-Year Anniversary with Micron Technology*, *supra*.

and/or imported into the United States by Defendants, including those modules utilizing Micron's own power management IC. The Accused DDR5 Products also include any DDR5 products sold, offered for sale, used and/or imported into the United States by Defendants that include PMICs supplied by third parties. Below is an image of Micron DDR5 RDIMMs from Micron's website.¹²



Below is an image of Micron DDR5 MRDIMMs from a Micron product brief.¹³



30. Each of the DDR5 memory modules includes a plurality of connections at the edge through which command/address signals are received from a memory controller of the host computer system and data is exchanged with the memory controller.

¹² *DDR5 DRAM*, Micron (last visited July 28, 2025), <https://www.micron.com/products/memory/dram-components/ddr5-sdram>.

¹³ *Micron MRDIMM Product Brief*, Micron (last visited July 28, 2025), https://assets.micron.com/adobe/assets/urn:aaid:aem:b19be6b5-f4bb-4367-bb0d-d583bdef5bae/renditions/original/as/mrdimm_product_brief.pdf.

31. DDR5 memory modules introduced important upgrades over DDR4 modules. For example, it introduced the feature of two 40-bit (32 data bits plus 8 ECC bits) channels that can operate independently. This feature, combined with a new default burst length of 16 in the DDR5 component allows a single burst to access 64B of data in a typical CPU cache line using only one of the independent channels which in turn permits interleaving accesses from the two independent channels. This leads to significant improvement in concurrency, bandwidths and performance.

32. To accommodate increased data rates, DDR5 memory modules also moved the power management from the motherboard onto the module itself, leading to more precise voltage control needed for high data rates as well as a reduction in power loss. Micron notes on its website that it “builds DDR5 server memory with power management integrated circuits (PMICs) on the module.”¹⁴ DDR5 has “[m]ore performance” and “[i]mproved reliability,” and the “design can initially mean a lower overall cost to power DDR5 servers compared to DDR4 servers when some system slots are left open.”¹⁵

IV. FIRST CLAIM FOR RELIEF – ’366 Patent

33. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

34. Upon information and belief, Defendants directly infringed and are currently infringing at least one claim of the ’366 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 DDR5 DIMMs, and other products with materially the same structure in

¹⁴ *DDR5 DRAM*, *supra* (under “Is DDR5 better than DDR4 in data centers?”).

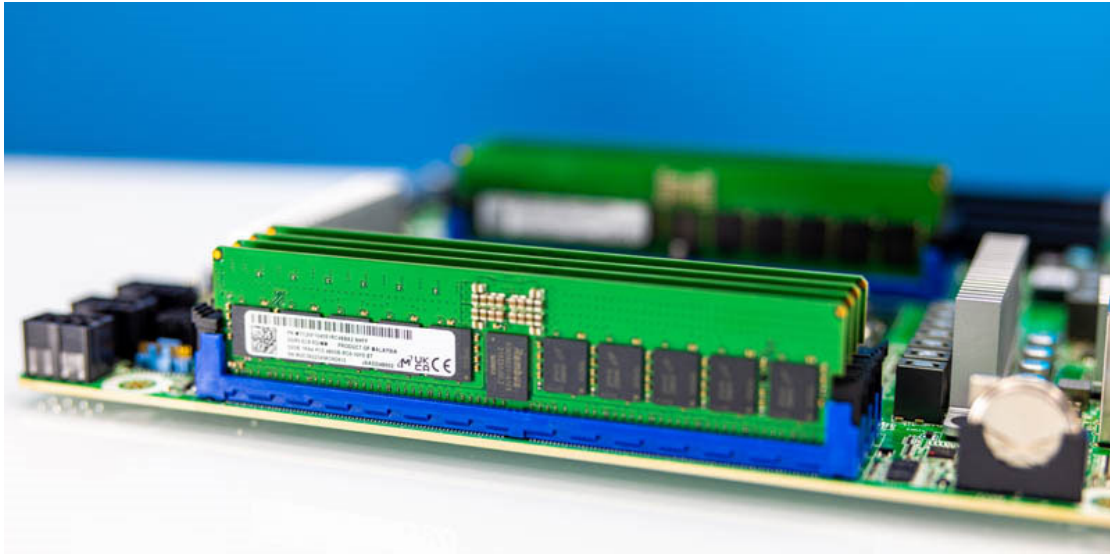
¹⁵ *Id.* (under “What are the benefits of DDR5 vs. DDR4?” and “Is DDR5 better than DDR4 in data centers?”).

relevant part. For example, and as shown below, the accused DDR5 RDIMMs and other products with materially the same structures in relevant parts infringe at least one claim of the '366 Patent.

35. The allegations below are based upon Netlist's current information and belief. Internal documentation from Defendants, including confidential Micron product specifications and source code, will show infringement. The examples provided below are not intended to be, and should not be understood as, limiting in any way.

36. To the extent the preamble is limiting, the Accused DDR5 Products are DIMMs "configured to fit into a memory slot connector of a system board of a computer system, the memory slot connector including a set of power conduits, a set of data conduits, and a set of address and control conduits, wherein data signals are transferred between the system board and the DIMM via the set of data conduits, and address and control signals are delivered from the system board to the DIMM via the set of address and control conduits."

37. For example, a Micron DDR5 RDIMM module fits into a memory slot connector of a system board of a computer system, the memory slot connector including a set of power conduits [*e.g.*, Vin_Bulk, Vin_Mgmt, and VSS], a set of data conduits [*e.g.*, DIMM's memory channels (A and B)], and a set of address and control conduits [*e.g.*, Command and Address (CA) Bus], wherein data signals are transferred between the system board and the DIMM via the set of data conduits, and address and control signals are delivered from the system board to the DIMM via the set of address and control conduits.



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38. The Accused DDR5 Products are DIMMs comprising “a printed circuit board (PCB) having edge connections configured to fit into the memory slot connector of the system board.”

39. For example, a Micron DDR5 RDIMM comprises a PCB that includes edge connections, *i.e.*, “gold fingers,” that fit into the memory slot connector of the system board, as shown below:

¹⁶ Patrick Kennedy, *Why DDR5 Is Absolutely Necessary in Modern Servers*, ServeTheHome (Feb. 10, 2023), <https://www.servethehome.com/why-ddr5-is-absolutely-necessary-in-modern-servers-micron/3/>.



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40. The Accused DDR5 Products contain a PCB that includes “a first set of edge connections configured to be electrically connected to the set of power conduits and operable to deliver to the DIMM power from power rails of the system board via the set of power conduits, wherein the power delivered to the DIMM from the power rails of the system board is the only power received by the DIMM.”

41. For example, as shown below,¹⁸ a Micron DDR5 RDIMM’s PCB includes a first set of edge connections (*e.g.*, at pins specifically configured for receiving power and ground supplies) configured to be electrically connected to the set of power conduits and operable to deliver to the DIMM power from the power rails of the system board via the set of power conduits. The DIMM power supply is delivered from the system to the PMIC.

¹⁷ *RDIMM Memory*, Micron (last visited July 28, 2025), <https://www.micron.com/products/memory/dram-modules/rdimm>.

¹⁸ *Micron® DDR5: Key Module Features*, at 3, Micron Technical Brief (2020), <https://my.avnet.com/wcm/connect/69a0d62b-5651-4e24-acb5-304daa61a873/DDR5-Key-Module-Technical-Brief.pdf?MOD=AJPERES&attachment=false&id=1601388707554>.

Table 1: Pin Differences Between DDR4 and DDR5 L/RDIMMs

Overview of L/RDIMM Pin Condition Changes			
Pin Type	DDR4	DDR5	Note
VDD	26 – VDD	3 – 12V (bulk)	Reduces overall power pins
VSS	94	127	Increased ground for SI; signals are all VSS referenced
VTT/VPP/VREF/VDDSPD	9	0	PMIC supports all these rails
Command/Address	27 + CS	2 x 7 (DDR) + CS	Seven DDR CA pins per subchannel; plus, chip select (CS) pin
Data I/Os	72	80	Support for separate subchannels

Reducing the number of power rail and CA pins allows adding more VSS ground pins to improve DDR5 VSS-referenced signal crosstalk as well as other signal-integrity challenges caused by increasing the overall system bandwidth.

42. The Accused DDR5 Products contain a PCB that includes “a second set of edge connections configured to be electrically connected to the set of data conduits” (*e.g.*, pins for DQ and ECC signals) and “a third set of edge connections configured to be electrically connected to the set of address and control conduits” (*e.g.*, edge connections for address and control signals).

43. The Accused DDR5 Products also contain a PCB that includes “a set of voltage supply lines electrically connected to the first set of edge connections and configured to receive the power delivered to the DIMM from the power rails of the system board by way of the memory slot connector of the system board and the first set of edge connections of the DIMM,” such as a set of voltage supply lines that are electrically connected to the first set of edge connections (power and ground pins) and configured to receive the power delivered to the DIMM from the power rails of the system board by way of the memory slot connector of the system board when the DIMM is fitted into the memory slot connector.

44. The Accused DDR5 Products contain a PCB that includes “a set of data lines [*e.g.*, DQ and error check bit lines] electrically connected to the second set of edge connections [*e.g.*, pins for data (DQ) and error check bits].”

45. For example, a Micron DDR5 RDIMM’s PCB includes data lines that are electrically connected to the second set of edge connections. That is, each DQ edge connection is

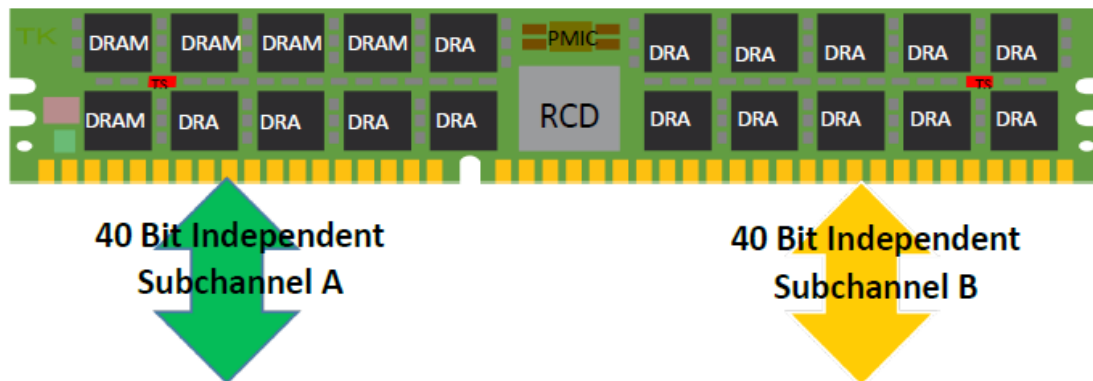
electrically connected respectively to a DQ pin of the memory slot connector when the DIMM is fitted into the memory slot connector.

46. The Accused DDR5 Products contain a PCB that includes “a set of address and control lines electrically connected to the third set of edge connections.”

47. For example, a Micron DDR5 RDIMM’s PCB includes a set of address and control lines, each of which is a line that is electrically connected to one designated edge connection.

48. The Accused DDR5 Products are DIMMs comprising “a controller including a voltage monitor circuit and nonvolatile memory, the controller coupled to the PCB and to an input voltage supply line of the set of voltage supply lines.”

49. For example, a Micron DDR5 RDIMM module comprises a controller (*e.g.*, PMIC) that includes a voltage monitor circuit and nonvolatile memory. The PMIC, which includes a voltage monitor and nonvolatile memory, is coupled to the PCB, as illustrated below in a figure from a Micron Technical Brief.¹⁹



50. The Accused DDR5 Products contain a voltage monitor circuit configured to “monitor an input voltage supplied via the input voltage supply line.”

¹⁹ Micron® DDR5: Key Module Features, *supra*, at 1 (identifying the PMIC on the top center of the module).

51. For example, a Micron DDR5 RDIMM's PMIC is connected to an input voltage supply line (*e.g.*, Vin_Bulk) and includes a voltage monitor circuit to actively monitor the input voltage supply line.

52. The Accused DDR5 Products contain a voltage monitor circuit configured to "generate a trigger signal upon detecting a trigger condition."

53. For example, a Micron DDR5 RDIMM's PMIC's voltage monitor circuit is configured to generate a trigger signal indicating when a Vin_Bulk overvoltage condition has occurred.

54. The Accused DDR5 Products contain a voltage monitor circuit configured to "transmit the trigger signal to at least one other portion of the controller, wherein the controller is configured to perform, in response to the trigger signal, a write operation to write data into the nonvolatile memory, and wherein the trigger condition occurs when the input voltage exceeds a first threshold voltage."

55. For example, a Micron DDR5 RDIMM's PMIC's voltage monitor circuit is configured to transmit the generated trigger signal to circuitry within the PMIC, that is, the command (trigger condition) is transmitted internally to at least one other portion of the controller, which could be (1) circuitry configured to execute a power down sequence in response to the generated command, and/or (2) the generated trigger signal is captured by writing binary code into real time status registers indicating the Vin_Bulk overvoltage has occurred. The event triggers would lead to actions that include updating memory spaces in the non-volatile memory through a write operation.

56. The Accused DDR5 Products comprise "a set of components coupled to the PCB, the set of components including a plurality of double data rate (DDR) synchronous dynamic random access memory (SDRAM) devices coupled to the set of address and control lines and to

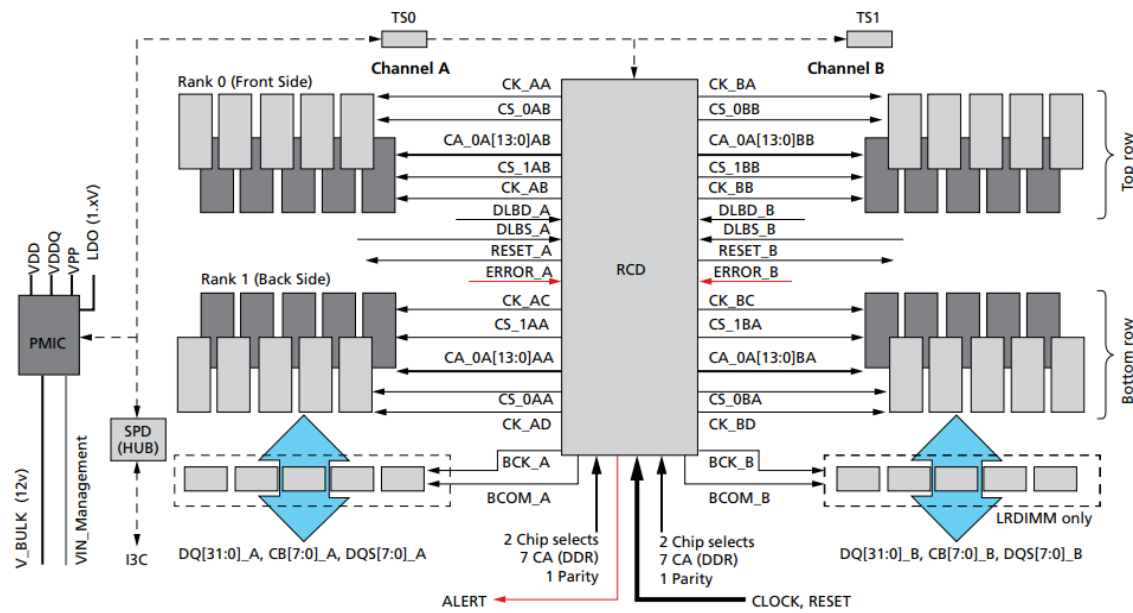
the set of data lines, the DDR SDRAM devices being operable to receive or output data signals via the set of data lines based on address and control signals received from the system board via the set of address and control lines.”

57. For example, a Micron DDR5 RDIMM further comprises a set of components coupled to the PCB. These include DDR5 SDRAM memory devices, a register clock driver (RCD), PMIC, and temperature sensors. The DDR5 SDRAM devices are coupled to (1) the set of address and control lines via the RCD, and (2) to the set of data lines for data signals. The DDR5 SDRAM devices are configured to receive or output data signals via the set of data lines based on address and control signals received from the output of the RCD based on the set of address and control signals received by the RCD. Each of the DDR5 SDRAM devices include data pins connected to specific data lines of the set of data lines, and the address and control pins connected to the RCD’s address and control output pins.

58. On information and belief, the Accused DDR5 products comprise “first, second, third, a fourth converter circuits coupled to the PCB and to the input voltage supply line, and configured to receive power from the input voltage supply line and to deliver power via first, second, third, and fourth regulated voltage lines.”

59. For example, as shown below,²⁰ a Micron DDR5 RDIMM’s PMIC comprises circuitry that makes up four converter circuits, each of which is configured to receive power from the input voltage supply line (*e.g.*, Vin_Bulk and/or Vin_MGMT), as described above, and to deliver regulated power via first, second, third, and fourth regulated voltage lines.

²⁰ *DDR5 SDRAM RDIMM Core: 288-Pin DDR5 RDIMM Core Product Specification*, Micron (last visited July 28, 2025), https://www.mouser.com/datasheet/2/671/ddr5_rdim_core-3310292.pdf.



60. The Accused DDR5 Products comprise a set of components that includes “a first component configured to receive power via at least the first regulated voltage line.”

61. For example, a Micron DDR5 RDIMM includes components such as DDR5 SDRAM devices, RCD, Hub and temperature sensors that are specified to receive one or more of the first, second, third, and fourth regulated voltages which are generated by the first, second, third, and fourth converter circuits configured to receive power from the input voltage supply line and to deliver power via first, second, third, and fourth regulated voltage lines. A first component may be the SPD_Hub component, which receives power via at least a first regulated voltage. Alternatively, the first component may be an SDRAM D01 component that receives power via an alternate first regulated voltage.

62. The Accused DDR5 Products comprise a set of components that includes “a second component configured to receive power via at least the second regulated voltage line.”

63. For example, a Micron DDR5 RDIMM includes a second component, which may be the RCD component that receives power at least via VDDIO (also referred to as VIO). The RCD component receives two regulated voltages, VDDIO and VDD.

64. The Accused DDR5 Products comprise a set of components that includes “a third component configured to receive power via at least the third regulated voltage line.”

65. For example, a Micron DDR5 RDIMM includes a third component, which may be the SDRAM D02 component that receives power via at least VDD.

66. The Accused DDR5 Products comprise a set of components that includes “a fourth component configured to receive power via at least the fourth regulated voltage line.”

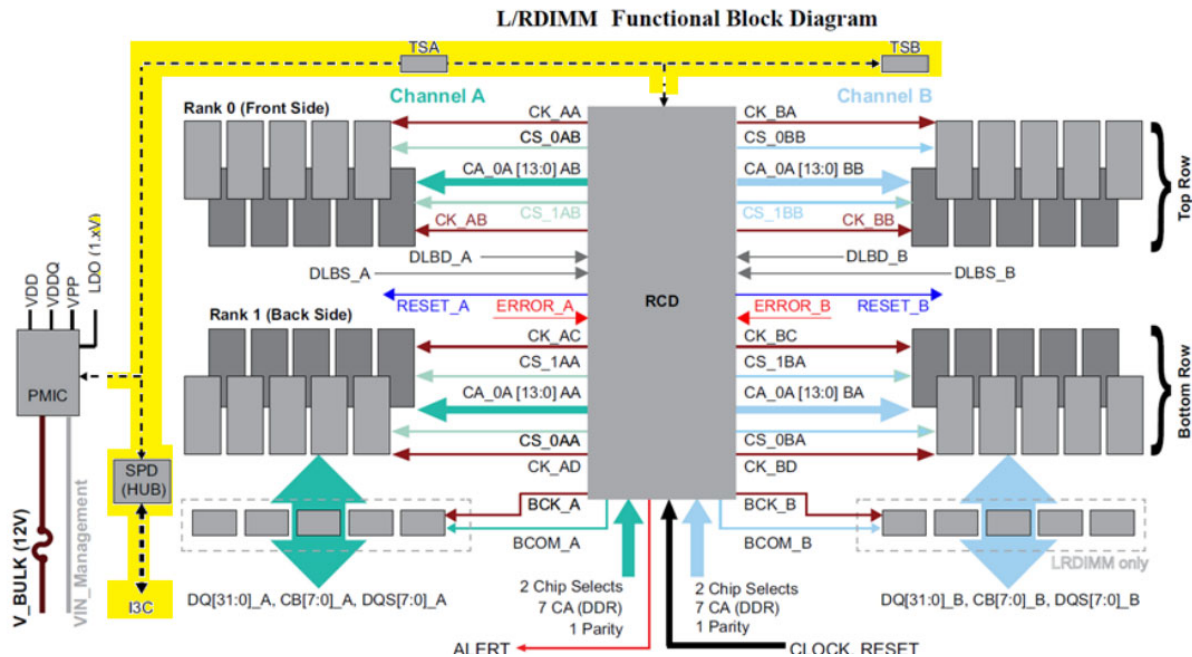
67. For example, a Micron DDR5 RDIMM includes a fourth component, which may be the SDRAM D03 component that receives power at least via VPP.

68. The Accused DDR5 Products comprise a set of components as described above, wherein each component of the set of components “is electrically connected to one or more of the first, second, third, and fourth regulated voltage lines” and “receives power only via the one or more of the first, second, third, and fourth regulated voltage lines.”

69. The Accused DDR5 Products comprise a plurality of DDR SDRAM devices that includes “a first group of at least five DDR SDRAM devices that are each connected to a first chip select line configured to electrically conduct a first chip select signal.”

70. For example, as shown below,²¹ a Micron DDR5 RDIMM module includes a first chip select line connected to each of a first group of at least 5 SDRAM devices (Channel A) and a second chip select line connected to each of a second group of at least 5 SDRAM devices (Channel B). In the case of 80-bit DDR5 RDIMM, each of Channel A and Channel B are designed to receive or output 40-bit DDR data signals independently of each other by using separate chip select signal groups for Channel A and Channel B. The SDRAMs are x4 or x8 for DDR5 RDIMMs, such that each channel includes five SDRAMs for x8 and 10 SDRAMs for x4.

²¹ *Micron® DDR5: Key Module Features*, *supra*, at 2.



71. The Accused DDR5 Products comprise a plurality of DDR SDRAM devices that include “a second group of at least four DDR SDRAM devices that are each connected to a second chip select line configured to electrically conduct a second chip select signal.”

72. For example, as explained above, a Micron DDR5 RDIMM includes a second chip select line connected to each of a second group of at least 5 SDRAM devices.

73. In the Accused DDR5 Products, when power from the power rails of the system board is provided to the DIMM and each group of the first and second groups of DDR SDRAM devices is not in self-refresh mode, “the first group of DDR SDRAM devices is configured to be enabled, in response to the first chip select signal, to receive or output at least 40 1-bit DDR data signals in parallel via at least 40 data lines of the set of data lines independently of whether the second group of DDR SDRAM devices is enabled, in response to the second chip select signal, to receive or output an integer number of 1-bit DDR data signals in parallel via an integer number of data lines of the set of data lines.”

74. For example, a Micron DDR5 RDIMM includes an RCD that receives a first chip select signal for Channel A and outputs a corresponding signal to the first group of SDRAM, and

receives a second chip select signal for Channel B and outputs a corresponding signal to the second group of SDRAM. When Vin_Bulk, Vin_Mgmt and ground rails are provided to the DDR5 RDIMM and received by the PMIC, the system generates the four regulated voltages that are used to power the set of components on the DIMM, including the first and second groups of DDR SDRAM. After the initialization process, when the DDR5 RDIMM receives independent read or write commands for either Channel A or Channel B, the RCD output corresponding commands to the first or second groups of DDR SDRAM. The output commands in turn enable Channel A or Channel B to receive or output data via data lines in accordance with executing the read or write operation. The self-refresh state is a deep power saving state where no access to the SDRAM is possible.

75. In the Accused DDR5 Products, when power from the power rails of the system board is provided to the DIMM and each group of the first and second groups of DDR SDRAM devices is not in self-refresh mode, “the at least 40 1-bit DDR data signals [that are received or output in response the received C/A signals] include at least 32 1-bit wide DDR data signals and at least eight 1-bit DDR error-correcting code (ECC) data signals.”

76. For example, in a Micron DDR5 RDIMM, the number of data lines per channel (A and B) is 40, including 32 bits of data and 8 bits of error correction data (also called error check bits).

77. In the Accused DDR5 Products, “the sum of the at least 40 data lines and the integer number of data lines equals a total number of data conduits of the set of data conduits of the memory slot connector, and the total number of data conduits is at least 72 data conduits.”

78. For example, in a Micron DDR5 RDIMM, each of Channel A and Channel B is designed to receive or output 40 bits of DDR data signals independently of one another by using separate chip select signals. The sum of the data lines of Channel A and Channel B is 80 data

lines, which equals a total number of data conduits of 80 data conduits, which is greater than at least 72 data conduits.

79. On information and belief, Defendants also indirectly infringe the '366 Patent, as provided in 35 U.S.C. § 271(b), by inducing infringement by others, such as Defendants' customers and end users, in this District and elsewhere in the United States. For example, on information and belief, Defendants have induced, and currently induce, infringement of the '366 Patent through their affirmative acts of selling, offering to sell, distributing, and/or otherwise making available the Accused DDR5 Products and other materially similar products that infringe the '366 Patent. On information and belief, Defendants provide specifications, datasheets, instruction manuals, and/or other materials that encourage and facilitate infringing uses of the Accused Instrumentalities and other materially similar products by users in a manner that they know or should have known would result in infringement and with the intent of inducing infringement. On information and belief, Micron is encouraging and facilitating infringement of the '366 Patent by others. For example, on information and belief, Micron sells or otherwise provides the Accused Instrumentalities to distributors or U.S.-based sales entities, including but not limited to Avnet, knowing that these entities intend to make, use, offer for sale, and/or sell the Accused Instrumentalities within the United States and/or import the Accused Instrumentalities into the United States in an infringing manner.

80. On information and belief, Defendants also indirectly infringe the '366 Patent, as provided in 35 U.S.C. § 271(c), contributing to direct infringement committed by others, such as customers and end users, in the Eastern District of Texas and elsewhere in the United States. For example, on information and belief, Defendants have contributed to, and currently contribute to, Defendants' customers' and end-users' infringement of the '366 Patent through their affirmative acts of selling and offering to sell, either directly or through distributors, in this District and

elsewhere in the United States, the Accused DDR5 Products and other materially similar products that infringe the '366 Patent. On information and belief, the Accused Instrumentalities and other materially similar products have no substantial noninfringing uses, and constitute a material part of the patented invention. On information and belief, Defendants are aware that the product or process that includes the Accused DDR5 Products and other materially similar products may be covered by one or more claims of the '366 Patent. On information and belief, the use of the product or process that includes the Accused DDR5 Products and other materially similar products infringes at least one claim of the '366 Patent.

81. Micron's infringement of the '366 Patent has damaged and will continue to damage Netlist. Micron has had actual notice of the '366 Patent since at least the filing of this Complaint. Micron's infringement of the '366 Patent is willful. Micron continues to commit acts of infringement despite a high likelihood that its actions constitute infringement, and Micron knew or should have known that its action constituted an unjustifiably high risk of infringement.

82. Avnet's infringement of the '366 Patent has damaged and will continue to damage Netlist. Avnet has had actual notice of the '366 Patent since at least the filing of this Complaint. Avnet's infringement of the '366 Patent is willful. Avnet continues to commit acts of infringement, including advertising, marketing, offering to sell and/or selling the Accused Instrumentalities, despite a high likelihood that its actions constitute infringement, and Avnet knew or should have known that its actions constituted an unjustifiably high risk of infringement.

V. SECOND CLAIM FOR RELIEF – Idaho Code § 48-1703

83. Netlist re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

84. Netlist has not violated Idaho Code § 48-1703 by asserting the '366 Patent against Micron.

VI. DEMAND FOR JURY TRIAL

85. Pursuant to Federal Rule of Civil Procedure 38(b) and Local Rule CV-38, Netlist demands a trial by jury on all issues triable to a jury.

VII. PRAYER FOR RELIEF

WHEREFORE, Netlist respectfully requests that this Court enter judgment in its favor ordering, finding, declaring, and/or awarding Netlist relief as follows:

- A. that Defendants infringe the '366 Patent;
- B. all equitable relief the Court deems just and proper as a result of Defendants' infringement;
- C. an award of damages resulting from Defendants' acts of infringement in accordance with 35 U.S.C. § 284;
- D. that Micron's infringement of the '366 Patent is willful;
- E. that Avnet's infringement of the '366 Patent is willful;
- F. enhanced damages pursuant to 35 U.S.C. § 284;
- G. that this is an exceptional case and awarding Netlist its reasonable attorneys' fees and costs pursuant to 35 U.S.C. § 285;
- H. an accounting for acts of infringement and supplemental damages, without limitation, prejudgment and post-judgment interest; and
- I. a declaration that Netlist has not made a bad-faith assertion of patent infringement against Micron nor engaged in any unlawful, unfair, or deceptive act or practice in trade or commerce under the Idaho Consumer Protection Act, and is therefore compliant with Idaho Code § 48-1703;
- J. a judgment that Micron is not entitled to any award of damages in the pursuit of this litigation pursuant to Idaho Code § 48-1706(b) and (d), § 48-1706(1)(c), Idaho

Rule of Civil Procedure 54, and such other and additional provisions of the Idaho Rules of Civil Procedure and Idaho Code, or any other applicable authority;

- K. in the alternative to an award of damages under 35 U.S.C. § 284, an order pursuant to 35 U.S.C. § 283 permanently enjoining Defendants, their distributors, officers, agents, servants, employees, attorneys, instrumentalities, and those persons in privity, active concert, or participation with them, from further acts of direct and/or indirect infringement of the '366 Patent, including the manufacture, sale, offer for sale, importation, and/or use of the Accused Instrumentalities.
- L. such other equitable relief which may be requested and to which Netlist is entitled.

Dated: July 28, 2025

Respectfully submitted,

/s/ Samuel F. Baxter

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