

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD, MICRON TECHNOLOGY, INC.,
MICRON SEMICONDUCTOR PRODUCTS, INC., and
MICRON TECHNOLOGY TEXAS LLC
Petitioner,

v.

NETLIST, INC.,
Patent Owner.

Case No. IPR2022-00999
Patent No. 11,232,054

**PATENT OWNER'S MOTION TO SUBMIT SUPPLEMENTAL
INFORMATION PURSUANT TO 37 C.F.R. §42.123(b)**

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Patent Trial and Appeal Board
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Cases

Environment Designs, Ltd. v. Union Oil Co. of Cal.,
713 F.2d 693, 218 USPQ 865 (Fed. Cir. 1983)3

Kingston Tech. Co., Inc. v. Spex Techs., Inc.,
No. IPR2017-01021, Paper 31 (PTAB May 29, 2018)5

Regulations

37 C.F.R. §42.123(b)1

Fed. R. Evid. 801(2).....2

Fed. R. Evid. 804(3).....2

Netlist respectfully moves to submit the deposition transcript excerpts attached to this motion as supplemental information under 37 C.F.R. §42.123(b).

I. Nature of Supplemental Information Sought to be Submitted

The supplemental information consists of testimony from Micron's corporate representative, Boe Holbrook, given in a parallel litigation between Patent Owner and Petitioner Micron in which the '054 patent is at issue. *See* Attachment A, 1; EX2071, 1.

Mr. Holbrook has been with Micron since 2002 and his title is Senior Manager in the Module Development Group. EX2065, ¶2; *see also* Attachment A, 10:17-21. In the parallel litigation, Micron designated Mr. Holbrook as its 30(b)(6) corporate representative on over a dozen topics, including non-infringement EX2066, 29 (Topic #89); EX2067 (Micron's counsel designating Mr. Holbrook for Topic #89). In order to testify on "all facts and circumstances" relating to non-infringement of the '054 patent, Mr. Holbrook reviewed the '054 patent: "Q. You understand that Micron is accused of infringing a number of Netlist patents in this case. Correct? A. I understand that. Q. And did you review those patents in preparation for your testimony? A. Yes, sir." Mr. Holbrook testified he led the design of memory modules at Micron: "Q. Is there anyone more senior than you in module development? A. No, sir." Attachment A, 10:17-19.

The testimony is non-hearsay under FRE 801(2) as Mr. Holbrook testified on the operation and structure of DDR5 modules that are covered by the '054 patent. EX2066, 13 (Topics #14-17); EX2067 (showing Mr. Holbrook was designated for same topics). The testimony is admissible against Samsung under FRE 804(3) for the same reason, coupled with the fact that the statement removes a prior art design in which information is sent in packetized form from the scope of the '918 patent claims, which harms Mr. Holbrook's employers' interest.

II. Relevance of the Supplemental Information

The '054 patent recites "edge connections configured to couple power, data, address, and control signals between the memory modules and the host system." *See e.g.*, EX1001, Cl. 1. The Petitioners point to signals transiting from the AMB to the DRAM chips in FBDIMMs as satisfying this element: "A0-A15," "RAS, CAS, WE, CS"). Pet., 21-25. The claims, however, require the recited signals to pass from the host system to the memory module via the memory module's edge connections. Samsung's expert, Dr. Wolf, testified that, across the edge in FBDIMM, "the information is sent to the advanced memory before in the form of serialized packets." EX2030, 10:7-11. In order to backfill, in its reply Samsung changed arguments and maintained that the serialized packets sent across the edge constitute the required signals. Paper 26, 8-10. In addition to being an improper new argument, it is contradicted by Mr. Holbrook.

Mr. Holbrook is not an expert in FBDIMMs, which makes his testimony particularly relevant because the standard is a POSA. *See Environment Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 218 USPQ 865, 868-69 (Fed. Cir. 1983) (noting the statutory requirement that obviousness be evaluated with respect to a person having ordinary skill in the art, “not to the judge, or to a layman, or to those skilled in remote arts, or to geniuses in the art at hand”). Mr. Hobrook satisfies Petitioners’ definition of a POSA at the time of the invention as he was employed with Micron since 2002 as a “Senior Electrical Engineer” working in the field of design/development of memory systems. Pet., 7-8; EX2065, ¶2; EX2070. Consistent with the admissions of Samsung’s expert he testified that signals (which are required by the claims) and encoded data are different:

Q. What's the difference between a signal and an encoded packet of data?

A. So a signal, from my understanding, is a single, defined signal, a 1 or a 0. Encoded data, group of data, would be a group of 1s and 0s that would be encoded by a device.

Attachment A, 52:13-18.

Q. But you understand that there is a difference between **encoded data** and **data signals** in terms of how you’re controlling memory devices on a module.

A. So how memory devices are controlled on a module in respect to FBDIMM, yes, I understand that.

Id., 53:7-13.

At the hearing, Samsung argued that the claims must cover packetized transfer of information as opposed to signals because the specification list a large number of form factors, one of which is FB-DIMM. EX1079, 37. But Mr. Holbrook's testimony corroborates that "form factor" in this context refers to the shape of the module, not how information is passed, because the claims recite the use of signals which is different from the packets used to supply AMBs. Mr. Holbrook's testimony also corroborates the specification, which makes no provision for an AMD-like structure that can convert packetized information to signals, but in all discussions describes signals passing across the edge that need not be decoded or converted. EX1001, 22:1-6 (described "standard DIMM interface 1022" of FIG. 12).

III. The Supplemental Information Could Not Be Obtained Earlier

Mr. Holbrook was not made available to testify until August 30, 2023 (EX2068), and therefore the information could not have been obtained earlier. Netlist served its 30(b)(6) notice on May 15, 2023. EX2066. Micron did not respond to Netlist's notice until June 27, 2023, merely objecting to each of Netlist's topics without designating a single witness. Micron finally provided Mr. Holbrook's availability for deposition on August 3, 2023, informing Netlist that Mr. Holbrook would not be available for deposition until August 30, 2023. Micron did not provide its final designations for its 30(b)(6) witnesses until August 9, 2023—nearly 3 months after Netlist served its 30(b)(6) notice. EX2067.

After the deposition, Micron further delayed by improperly designating the entire transcript as confidential under the district court's protective order. The next day, Netlist asked for the relevant testimony be de-designated (EX2069). Netlist further acted diligently in expediently raising this issue with the Board on September 5, 2023 (EX3002) after Micron's delay in de-designating the relevant testimony.

To the extent Samsung argues that Netlist should have sought discovery from Mr. Holbrook in the IPR, this was an impossibility as he was not designated to provide testimony on non-infringement of the patents (and thus Micron's understanding of the patents) until August 9, 2023.

IV. Admission of the Supplemental Information is in Interest-of-Justice

As the Board has recognized in past cases, evidence that a party has taken inconsistent positions on the same issues here and in related district court litigation is relevant to the Board's determination and should be considered in the interests-of-justice. *See, e.g., Kingston Tech. Co., Inc. v. Spex Techs., Inc.*, No. IPR2017-01021, Paper 31, at 2, 4-5 (PTAB May 29, 2018).

Here, Samsung itself has submitted and relied on evidence from parallel district court proceedings. *See, e.g.,* EX1071-1073, EX1077; Pet., 8, 27, 40, 50, 63, 82, 118 (discussing alleged positions and statements made by Netlist in EX1071 and EX1073); Paper 26 (Petitioner Reply), 3, 9, 25-26 (discussing Netlist's district court technology tutorial).

Case No. IPR2022-00999
Patent No. 11,232,054

Dated: October 4, 2023

Respectfully submitted,

By /Jonathan Lindsay/

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ATTACHMENT A

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

---oOo---

NETLIST, INC.,

Plaintiff,

vs.

No. 2:22-cv-203-JRG-RSP

MICRON TECHNOLOGY, INC.;

MICRON SEMICONDUCTOR

PRODUCTS, INC.; MICRON

TECHNOLOGY TEXAS LLC,

Defendants.

_____/

REMOTE VIDEOTAPED DEPOSITION OF
BOE HOLBROOK
30(B)(6) DESIGNEE, MICRON

WEDNESDAY, AUGUST 30, 2023

REPORTED BY: HOLLY THUMAN, CSR No. 6834, RMR, CRR
JOB NUMBER 6066631

Page 1

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Remote videotaped deposition of BOE HOLBROOK,
taken by the Plaintiff, with the witness located in
Boise, Idaho, commencing at 10:16 A.M. Mountain Time,
on WEDNESDAY, AUGUST 30, 2023, before me, HOLLY THUMAN,
CSR, RMR, CRR.

--o0o--

APPEARANCES

(ALL APPEARANCES REMOTE)

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TONY NOKES, Videographer
CARRISA NARCISO, Tech Concierge
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I N D E X

INDEX OF EXAMINATIONS

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EXHIBITS MARKED FOR IDENTIFICATION

NO.	DESCRIPTION	PAGE
Exhibit 1	JEDEC Standard JESD82-31A, August 2019 (SAM-NET00332467 through -665)	16
Exhibit 2	JEDEC Standard JESD82-32A, August 2019 (MICNL203-00012556 through -755)	17
Exhibit 3	Micron document, "3-Dimensional Stack (3DS) DDR4 SDRAM"	37
Exhibit 5	Micron document "DDR4 SDRAM LRDIMM" (MICNL203-00001364 through -391)	55
Exhibit 6	Micron document, "DDR5 SDRAM RDIMM Addendum" (MICNL203-00000678 through -685)	91
Exhibit 7	Master Revision Control Document 3408.01	90
Exhibit 8	Micron document, "DDR5 SDRAM SODIMM Core" (MICNL203-00000562 through -580)	90
Exhibit 9	Master Revision Control Document 3163.01	90
Exhibit 10	Master Revision Control Document 3405.1	92

(Cont'd)

1	(Exhibits, cont'd)	
2	Exhibit 12	Press release, May 7, 2012, "Micron Announces Its First Fully Functional DDR4 DRAM Module" 110
3		
4	Exhibit 14	Presentation deck, "Micron/Netlist Partnership Opportunity, April 2015" 112
5		(NL-MIC-203_00041942 through -2004)
6	Exhibit 16	Micron document, "DDR4 SDRAM LRDIMM" 99
7		(MICNL203-00001364 through -391)
8	Exhibit 17	US Patent 10,949,339, Lee et al. 105
9	Exhibit 18	Page from presentation deck with diagrams headed "Micron" and "Netlist Patents" 108
10		
11	Exhibit 19	Texas Instruments presentation deck, "Alternative HDLR Dimm Concept," 124
12		October 6, 2008
13		(NETLIST_SAMSUNG_EDTX00056236 through -245)
14	Exhibit 20	Document marked as Exhibit 19, with highlights 126
15	Exhibit 21	Page from presentation deck with headings for Micron, Netlist Patents, and TI JEDEC Presentation 133
16		
17	Exhibit 23	Presentation deck, "Micron/Netlist Partnership Opportunity, April 2015" 142
18		(NL-MIC-203_00041942 through -2004)
19	Exhibit 25	Minutes of Meeting No. 164, JC-40 Digital Logic Committee, December 9, 2010 (SAM-NET00078119 through -134) 144
20		
21	Exhibit 26	Richtek document, "DDR5 VR on DIMM PMIC" (MICNL203-00059886 through -60009) 148
22		
23	Exhibit 27	Minutes of Meeting No. 193, JC-40 Digital Logic Committee, June 4-6, 2018 (SAM-NET00246201 through -225) 156
24		
25	(Cont'd)	

1 (Exhibits, cont'd)

2 Exhibit 29 Presentation slide, "4.3.1.0, 158
3 #2259.39, Micron, Voltage Regulators
4 for DDR5 DIMMs"

5 Exhibit 30 Minutes of Meeting No. 59, JC-45 162
6 Module Committee, June 4-6, 2018
7 (NETLIST_SAMSUNG_EDTX00158253 through
8 -287)

6

7 --o0o--

8 INSTRUCTIONS TO WITNESS/REQUESTS TO MARK TRANSCRIPT

9 PAGE LINE

10 Instruction not to answer 76 23

11 Instruction not to answer 175 15

12 Instruction not to answer 175 24

13 --o0o--

14 REPORTER'S NOTE: Exhibits Numbers 4, 11, 15, 22, 24,
15 and 28 were not used.

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[illegible]

17	Q. Is there anyone more senior than you in	10:22:20
18	module development?	10:22:23
19	A. No, sir.	10:22:24
20	Q. And how long have you been at Micron?	10:22:25
21	A. 21 years.	10:22:27

Page 10

23 Q. I've marked as Exhibit 1 what is the 10:34:46

24 DDR -- DDR4RCD. 10:34:49

25 Do you see that? 10:34:51

[REDACTED]

1 Q. By the way, just so -- before we do that, 11:08:23

2 Exhibit 1 is the RCD specification. 11:08:26

3 Do you see that? 11:08:29

4 A. Yes, I see that. 11:08:31

█ [REDACTED] █ [REDACTED]

█ [REDACTED] █ [REDACTED]

█ [REDACTED] █ [REDACTED]

█ [REDACTED] █ [REDACTED]

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█ [REDACTED] █ [REDACTED]

█ [REDACTED] █ [REDACTED]

20	Q. And "CS" stands for chip-select. Is that	11:42:56
21	correct?	11:43:01
22	A. That's correct.	11:43:02
23	Q. And in JEDEC DDR parlance, chip-selects	11:43:03
24	select a rank. Is that correct?	11:43:07
25	A. Yes. That's correct.	11:43:13

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

7 Q. And, by the way, do you know what the 11:46:45

8 difference is -- between a signal and an encoded 11:46:47

9 packet of data is in JEDEC? 11:46:50

10 A. JEDEC definition, I do not know what that 11:46:57

11 would be; but I understand what a signal would be 11:47:00

12 versus an encoded packet of data. 11:47:03

13 Q. What's the difference between a signal and 11:47:07

14 an encoded packet of data? 11:47:10

15 A. So a signal, from my understanding, is a 11:47:12

16 single, defined signal, a 1 or a 0. Encoded data, 11:47:16

17 group of data, would be a group of 1s and 0s that 11:47:23

18 would be encoded by a device. 11:47:28

19 Q. Do you remember FBDIMMs? 11:47:32

20 A. I am familiar with FBDIMMs. 11:47:36

21 Q. A little before your time? 11:47:39

22 A. A little bit. 11:47:42

23 Q. And you know that they use an advanced 11:47:43

24 memory buffer. 11:47:45

25 Do you remember that? 11:47:47

[REDACTED]

1 A. Yes, sir. 11:47:48

2 Q. And in an advanced memory buffer, they 11:47:48

3 use -- that uses encoded data as opposed to data 11:47:52

4 signals. Correct? 11:47:55

5 A. I wouldn't know. AMB and FBDIMM was not 11:48:00

6 my area of expertise. 11:48:04

7 Q. But you understand that there is a 11:48:06

8 difference between encoded data and data signals in 11:48:08

9 terms of how you're controlling memory devices on a 11:48:12

10 module. 11:48:15

11 A. So how memory devices are controlled on a 11:48:18

12 module in respect to FBDIMM, yes, I understand 11:48:21

13 that. 11:48:28

■ [REDACTED] ■ [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

■ [REDACTED] [REDACTED]

CERTIFICATE OF REPORTER

I, HOLLY THUMAN, a Certified Shorthand Reporter, hereby certify that the witness in the foregoing deposition was by me duly sworn to tell the truth, the whole truth, and nothing but the truth in the within-entitled cause; that said deposition was taken down in shorthand by me, a disinterested person, at the time and place therein stated; and that the testimony of said witness was thereafter reduced to typewriting by computer, to the best of my ability via remote videoconferencing, under my direction and supervision;

That before completion of the deposition review of the transcript [] was [X] was not requested/offered. If requested, any changes made by the deponent (and provided to the reporter) during the period allowed are appended hereto.

I further certify that I am not of counsel or attorney for either or any of the parties to the said deposition, nor in any way interested in the event of this cause, and that I am not related to any of the parties thereto.

DATED: 9/05/2023



HOLLY THUMAN, CSR

JASON G. SHEASBY, ESQ.

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September 5, 2023

RE: NETLIST, INC. vs. MICRON TECHNOLOGY, INC.

AUGUST 30, 2023-BOE HOLBROOK-30(B)(6)-JOB NO.6066631

The above-referenced transcript has been completed by Veritext Legal Solutions and review of the transcript is being handled as follows:

___ Per CA State Code (CCP 2025.520 (a)-(e)) - Contact Veritext to schedule a time to review the original transcript at a Veritext office.

___ Per CA State Code (CCP 2025.520 (a)-(e)) - Locked .PDF Transcript - The witness should review the transcript and make any necessary corrections on the errata pages included below, notating the page and line number of the corrections. The witness should then sign and date the errata and penalty of perjury pages and return the completed pages to all appearing counsel within the period of time determined at the deposition or provided by the Code of Civil Procedure.

___ Waiving the CA Code of Civil Procedure per Stipulation of Counsel - Original transcript to be released for signature as determined at the deposition.

___ Signature Waived - Reading & Signature was waived at the time of the deposition.

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1 ___ Federal R&S Requested (FRCP 30(e)(1)(B)) - Locked .PDF
2 Transcript - The witness should review the transcript and
3 make any necessary corrections on the errata pages included
4 below, notating the page and line number of the corrections.
5 The witness should then sign and date the errata and penalty
6 of perjury pages and return the completed pages to all
7 appearing counsel within the period of time determined at
8 the deposition or provided by the Federal Rules.
9 _X_ Federal R&S Not Requested - Reading & Signature was not
10 requested before the completion of the deposition.

CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. section 42.6, that on October 4, 2023, a complete copy of the foregoing document **PATENT OWNER'S MOTION TO SUBMIT SUPPLEMENTAL INFORMATION PURSUANT TO 37 C.F.R. §42.123(b) and Exhibits 2065-2071** were served by electronic mail, as agreed to by the parties, upon the following:

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