

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICRON TECHNOLOGY, INC.,
Petitioner,

v.

VERVAIN, LLC,
Patent Owner.

Case No.: IPR2021-01550
U.S. Patent No. 10,950,300
Original Issue Date: March 16, 2021

Title: LIFETIME MIXED LEVEL NON-VOLATILE MEMORY SYSTEM

PETITIONER'S NOTICE OF FILING DEMONSTRATIVE EXHIBITS

LISTING OF EXHIBITS

Exhibit	Description
1001-1006	<i>Intentionally omitted</i>
1007	U.S. Patent No. 10,950,300 (“300 patent”)
1008	File History of U.S. Patent No. 10,950,300
1009	Declaration of Dr. David Liu (“Liu Decl.”) – IPR2021-01550
1010	U.S. Patent Application Publication No. 2011/0099460 (“Dusija”)
1011	U.S. Patent Application Publication No. 2008/0140918 (“Sutardja”)
1012	U.S. Patent Application Publication No. 2009/0327591 (“Moshayedi”)
1013	<i>Intentionally omitted</i>
1014	Betty Prince, Semiconductor Memories – A Handbook of Design, Manufacture, and Application (2d ed. 1991) (“Prince”)
1015	U.S. Patent No. 8,120,960 (“Varkony”)
1016	U.S. Patent No. 7,000,063 (“Friedman”)
1017	U.S. Patent Application Publication No. 2005/0251617 (“Sinclair”)
1018	Jan Axelson, USB Mass Storage: Designing and Programming Devices and Embedded Hosts (2006) (“Axelson”)
1019	Rino Micheloni et al., Inside NAND Flash Memories (1 st ed. 2010) (“Micheloni”)
1020	U.S. Patent Application Publication No. 2011/0115192 (“Y. Lee”)
1021	U.S. Patent No. 7,453,712 (“Kim”)

Exhibit	Description
1022	U.S. Patent Application Publication No. 2011/0096601 (“Gavens”)
1023	U.S. Patent No. 8,078,794 (“C. Lee”)
1024	U.S. Patent No. 7,733,729 (“Boeve”)
1025	Microsoft Computer Dictionary, Fifth Edition, 2002, definition of read-after-write
1026	Merriam-Webster’s Collegiate Dictionary, Eleventh Edition, 2006, definition of periodic
1027	<i>Intentionally omitted</i>
1028	U.S. Patent Application Publication No. 2010/0172180 (“Paley”)
1029	U.S. Patent No. 7,853,749 (“Kolokowsky”)
1030	U.S. Patent Application Publication No. 2010/0017650 (“Chin”)
1031	European Patent Specification No. EP 2.291.746 B1 (“Radke”)
1032	<i>Intentionally omitted</i>
1033	U.S. Patent Application Publication No. 2006/0053246 (“S. Lee”)
1034	Complaint for Patent Infringement, Dkt. No. 1, <i>Vervain, LLC v. Micron Technology, Inc., Micron Semiconductor Products, Inc., and Micron Technology Texas, LLC</i> , Case No. 6:21-cv-00487-ADA (May 10, 2021 W.D. Tex.)
1035	Agreed Scheduling Order, Dkt. No. 24, dated September 16, 2021, in <i>Vervain, LLC v. Micron Technology, Inc., Micron Semiconductor Products, Inc., and Micron Technology Texas, LLC</i> , Case No. 6:21-cv-00487-ADA
1036	Vervain’s Preliminary Infringement Contentions, dated August 6, 2021, in <i>Vervain, LLC v. Micron Technology, Inc., Micron Semiconductor Products, Inc., and Micron Technology Texas,</i>

Exhibit	Description
	<i>LLC</i> , Case No. 6:21-cv-00487-ADA
1037	Judge Albright, Order Governing Proceedings - Patent Cases (OGP 3.4), dated June 24, 2021
1038	Scott McKeown, “WDTX ‘Implausible Schedule’ & Cursory Markman Order Highlighted,” Ropes & Gray, Patents Post-Grant, Inside Views & News Pertaining to the Nation’s Busiest Patent Court, June 2, 2021
1039	Dani Kass, Judge Albright Now Oversees 20% of New U.S. Patent Cases, Law360, March 10, 2021
1040	Brian Dipert and Markus Levy, Designing with Flash Memory (1994) (“Dipert & Levy”)
1041	U.S. Patent No. 7,366,826 (“Gorobets”)
1042	U.S. Patent No. 6,901,498 (“Conley”)
1043	U.S. Patent No. 8,356,152 (“You”)
1044-1046	<i>Intentionally omitted</i>
1047	Ashok Sharma, Advanced Semiconductor Memories, Architectures, Designs, and Applications (2003) (“Sharma”)
1048	Microsoft Computer Dictionary, Fifth Edition, 2002, definitions of static RAM and volatile memory
1049	U.S. Patent No. 5,936,971 (“Harari”)
1050	PCT Publication No. WO 03/027828 (“Gorobets WO”)
1051	Microsoft Computer Dictionary, Fifth Edition, 2002, definition address space
1052	U.S. Patent Application Publication No. 2009/0300269 (“Radke Appl.”)
1053	U.S. Patent No. 8,250,333 (“Gorobets II”)

Exhibit	Description
1054	Microsoft Computer Dictionary, Fifth Edition, 2002, definition of firmware
1055	<i>Intentionally omitted</i>
1056	Declaration of Jared Bobrow in Support of Petitioner’s Motion for Admission <i>Pro Hac Vice</i> - IPR2021-01550
1057	Reply Declaration of Dr. David Liu (“Liu Reply”) – IPR2021-01550
1058	<i>Curriculum vitae</i> of Dr. David Liu
1059	<i>Intentionally omitted</i>
1060	Deposition Transcript of Sunil Khatri (September 2, 2022) – IPR2021-01550
1061 – 1067	<i>Intentionally omitted</i>
1068	U.S. Patent No. 8,010,873 (“Kirschner”)
1069-1070	<i>Intentionally omitted</i>
1071	Petitioner’s Hearing Demonstratives

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.