VERVAIN, LLC,	
Plaintiff,	**Case No. 6:21-cv-00487-ADA**
vs.	
MICRON TECHNOLOGY, INC., **MICRON SEMICONDUCTOR PRODUCTS,** **INC., AND MICRON TECHNOLOGY** **TEXAS, LLC,**	
Defendants.	

VERVAIN'S PRELIMINARY INFRINGEMENT CONTENTIONS

Pursuant to the Court's Order Governing Proceedings, Plaintiff Vervain, LLC ("Vervain") hereby provides its preliminary infringement contentions, including identification of asserted claims, the priority date for each asserted claim, accused products, and accompanying document production. Claim charts are attached as Exhibits 1-4.

Vervain's disclosures are based on publicly available materials regarding the accused infringing products of Micron Technology, Inc., Micron Semiconductor Products, Inc., and Micron Technology Texas, LLC (together "Defendants"). Vervain does not yet have access to any of Defendants' discovery materials that may be relevant to its infringement claims and thus relies on publicly available materials. Vervain explicitly reserves the right to supplement or alter its disclosures herein, as a matter of right, as permitted by the Court, based on the Court's claim constructions, based on additional information obtained through formal discovery or other means, and/or based on other circumstances.

I. ASSERTED CLAIMS AND PRIORITY DATE

Based on the information presently available to it, Vervain identifies the asserted claims of each asserted patent that Vervain alleges are infringed by Defendants, and the priority date of those claims, as set forth in the table below.   Based on the information presently available to it, Vervain alleges that all asserted claims of each particular asserted patent are entitled to the same priority date.

Patent	Asserted Claims	Priority Date of Asserted Claims
8,891,298	1, 3-5, 11	July 19, 2011
9,196,385	1, 3-5, 11-13	July 19, 2011
9,997,240	1-2, 6-7	July 19, 2011
10,950,300	1-5, 7-12	July 19, 2011

Vervain notes that the claims identified in the table reflect the asserted claims in this case, and the absence of a claim from the list does not imply that the claim is not infringed. Vervain explicitly reserves the right to supplement or alter its identification of asserted claims and priority dates, as a matter of right, as permitted by the Court, based on the Court's claim constructions, based on additional information obtained through formal discovery or other means, and/or based on other circumstances.

II. ACCUSED PRODUCTS

Based upon information presently available to it, Vervain asserts infringement by the accused products set forth in the table below. For each accused product identified below, Vervain's contentions apply to the accused product and any other similar past, present, or future products, as well as systems incorporating the accused products or other products with the same or substantially similar features.

Patent	Accused Products
8,891,298	All flash memory products with the part name or number M600 SATA SSD, 2200 SSD, 2210 SSD, and 2300 SSD, and all other SSDs, memory cards, managed NAND, e.MMC, Embedded USB, Universal Flash Storage, or other flash memory products that have the same or similar structures, features, or functionalities, as the aforementioned products. All flash memory products capable of storing data in single-level cells (SLCs) (*i.e.*, any cell with two states, or storing 1 bit) and multi-level cells (MLCs) (*i.e.*, any cell with more than two states, or storing more than 1 bit) that are capable of dynamic write acceleration or similar operations, features, or functionalities. All flash memory products that are capable of writing from MLCs to SLCs during wear leveling, defect and error management, COPYBACK operations, and/or similar operations, features, or functionalities.
9,196,385	All flash memory products with the part name or number M600 SATA SSD, 2200 SSD, 2210 SSD, and 2300 SSD, and all other SSDs, memory cards, managed NAND, e.MMC, Embedded USB, Universal Flash Storage, or other flash memory products that have the same or similar structures, features, or functionalities, as the aforementioned products. All flash memory products capable of storing data in single-level cells (SLCs) (*i.e.*, any cell with two states, or storing 1 bit) and multi-level cells (MLCs) (*i.e.*, any cell with more than two states, or storing more than 1 bit) that are capable of dynamic write acceleration or similar operations, features, or functionalities. All flash memory products that are capable of writing from MLCs to SLCs during wear leveling, defect and error management, COPYBACK operations, and/or similar operations, features, or functionalities.
9,997,240	All flash memory products with the part name or number M600 SATA SSD, 2200 SSD, 2210 SSD, and 2300 SSD, and all other SSDs, memory cards, managed NAND, e.MMC, Embedded USB, Universal Flash Storage, or other flash memory products that have the same or similar structures, features, or functionalities, as the aforementioned products. All flash memory products capable of storing data in single-level cells (SLCs) (*i.e.*, any cell with two states, or storing 1 bit) and multi-level cells (MLCs) (*i.e.*, any cell with more than two states, or storing more than 1 bit) that are capable of dynamic write acceleration or similar operations, features, or functionalities. All flash memory products that are capable of writing from MLCs to SLCs during wear leveling, defect and error management, COPYBACK operations, and/or similar operations, features, or functionalities.
10,950,300	All flash memory products with the part name or number M600 SATA SSD, 2200 SSD, 2210 SSD, and 2300 SSD, and all other SSDs, memory cards, managed NAND, e.MMC, Embedded USB, Universal Flash

	Storage, or other flash memory products that have the same or similar structures, features, or functionalities, as the aforementioned products.
	All flash memory products capable of storing data in single-level cells (SLCs) (*i.e.*, any cell with two states, or storing 1 bit) and multi-level cells (MLCs) (*i.e.*, any cell with more than two states, or storing more than 1 bit), and random access memory, that are capable of dynamic write acceleration or similar operations, features, or functionalities.
	All flash memory products with random access memory that are capable of writing from MLCs to different locations during wear leveling, defect and error management, COPYBACK operations, and/or similar operations, features, or functionalities.

This identification of accused products is based upon Vervain's investigation to date. More complete information about the accused products is in the possession of Defendants and is expected to be obtained through discovery. Vervain explicitly reserves the right to supplement or alter its preliminary identification of accused products, as a matter of right, as permitted by the Court, based on the Court's claim constructions, based on additional information obtained through formal discovery or other means, and/or based on other circumstances.

III. CLAIM CHARTS FOR LITERAL INFRINGEMENT

Based upon information presently available to it, Vervain's preliminary infringement claim charts are provided as attached Exhibits 1-4. In each claim chart, the discussion for dependent claims should be read as incorporating by reference the discussion corresponding to the claims on which they depend. In addition, the discussion for each row in the chart should be read within the context of the discussion for the entire claim to which that row pertains. Where the charts incorporate excerpts of particular documents, the reference to those excerpts is exemplary and not to the exclusion of any other excerpt or version of the document or any versions of related documents.

These preliminary infringement claim charts are based upon Vervain's investigation to date. More complete information about the accused products is in the possession of

defendants and is expected to be obtained through discovery. Vervain explicitly reserves the right to supplement or alter its preliminary infringement claim charts, as a matter of right, as permitted by the Court, based on the Court's claim constructions, based on additional information obtained through formal discovery or other means, and/or based on other circumstances.

IV.   DOCTRINE OF EQUIVALENTS

Unless otherwise noted in the claim charts, Vervain alleges that Defendants infringe literally all asserted claims. To the extent any differences are alleged to exist between the asserted claims and Defendants' accused products, such differences are insubstantial and Defendants' accused products perform substantially the same function, in substantially the same way, to yield substantially the same result, and therefore Defendants infringe under the doctrine of equivalents.

Vervain explicitly reserves the right to supplement or alter its disclosure concerning the doctrine of equivalents, as a matter of right, as permitted by the Court, based on the Court's claim constructions, based on additional information obtained through formal discovery or other means, and/or based on other circumstances. In the event that a claim limitation is deemed to be missing under a literal infringement analysis, Vervain also reserves the right to demonstrate the presence of a substantial equivalent of such limitation and to pursue infringement under the doctrine of equivalents.

V.   DOCUMENT PRODUCTION

Accompanying these preliminary infringement contentions, Vervain is producing documents pursuant to § 2 of the Court's Order Governing Proceedings.

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