IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

VERVAIN, LLC, ***Plaintiff*** **-v-** **MICRON TECHNOLOGY, INC., MICRON SEMICONDUCTOR PRODUCTS, INC., MICRON TECHNOLOGY TEXAS, LLC** ***Defendants***	§	**W-21-CV-00487-ADA**
VERVAIN, LLC, ***Plaintiff*** **-v-** **WESTERN DIGITAL CORPORATION, WESTERN DIGITAL TECHNOLOGIES, INC., HGST, INC.** ***Defendants***	§	**W-21-cv-00488-ADA**

CLAIM CONSTRUCTION ORDER

The Court held a *Markman* hearing on January 24, 2022. During that hearing, the Court provided its final constructions. The Court now enters those claim constructions.

SIGNED this 24th day of January, 2022.

ALAN D ALBRIGHT
UNITED STATES DISTRICT JUDGE

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Final Construction
#1: "SLC non-volatile memory" U.S. Patent No. 8,891,298, Claims 1, 5; U.S. Patent No. 9,196,385, Claims 1, 5; U.S. Patent No. 9,997,240, Claims 1, 6; U.S. Patent No. 10,950,300, Claims 1, 3, 4, 7, 12 Proposed by Western Digital	Plain and ordinary meaning, where the plain and ordinary meaning is "nonvolatile memory that stores one bit of information per cell"	Western Digital: "non-volatile memory where each cell is capable of storing no more than one bit of information per cell"	Plain and ordinary meaning, where the plain and ordinary meaning is "nonvolatile memory that stores one bit of information per cell"
#2: "MLC non-volatile memory" U.S. Patent No. 8,891,298, Claims 1, 4; U.S. Patent No. 9,196,385, Claims 1, 4; U.S. Patent No. 9,997,240, Claims 1, 6; U.S. Patent No. 10,950,300, Claims 1, 3, 4, 12 Proposed by Western Digital	Plain and ordinary meaning, where the plain and ordinary meaning is "nonvolatile memory that stores multiple bits of information per cell"	Western Digital: "non-volatile memory where each cell is capable of storing multiple bits of information per cell"	Plain and ordinary meaning, where the plain and ordinary meaning is "nonvolatile memory that stores multiple bits of information per cell"

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Final Construction
#3: "data integrity test" U.S. Patent No. 8,891,298, Claim 1; U.S. Patent No. 9,196,385, Claim 1; U.S. Patent No. 9,997,240, Claim 1; U.S. Patent No. 10,950,300, Claims 1, 7, 12 Proposed by Micron	Plain and ordinary meaning	Micron: Plain and ordinary meaning, which is "testing data for errors after the data has been written to flash"	Plain-and-ordinary meaning
#4: "comparing the stored data to the retained data in the random access volatile memory" U.S. Patent No. 10,950,300, Claims 1, 7, 12 Proposed by Defendants	Plain and ordinary meaning	"comparing the data obtained by reading the nonvolatile memory space to the data retained as part of a Write access operation, wherein both sets of the data are in the same random access volatile memory"	Plain-and-ordinary meaning
#5: "to achieve enhanced endurance" U.S. Patent No. 10,950,300, Claims 1, 7, 12 Proposed by Micron	"Plain and ordinary meaning"	Micron: Plain and ordinary meaning, which is "to achieve endurance (i.e., lifetime) superior to that of the MLC nonvolatile memory element"	Plain-and-ordinary meaning

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#6: "the list of logical address ranges having a minimum quanta of addresses" U.S. Patent No. 8,891,298, Claim 1; U.S. Patent No. 9,196,385, Claim 1; U.S. Patent No. 9,997,240, Claims 1, 6 Proposed by Western Digital	Plain and ordinary meaning	Western Digital: Indefinite	Not indefinite. Plain-and-ordinary meaning.

#7: "wherein the controller is further adapted to determine which of the blocks of the plurality of the blocks in the MLC and SLC non-volatile memory modules are accessed most frequently and wherein the controller segregates those blocks that receive frequent writes into the at least one SLC non-volatile memory module and those blocks that receive infrequent writes into the at least one MLC nonvolatile module, and maintain a count value of the blocks in the MLC non-volatile memory module determined to have received frequent writes and that are accessed most frequently on a periodic basis when the count value is a predetermined count value, transfer the contents of the counted blocks in the MLC non-volatile memory module determined to have received frequent writes after reaching the predetermined count value to the SLC non-volatile memory module and which determined blocks in the SLC are determined in accordance with the next equivalent range	Plain and ordinary meaning	Indefinite. Although it is possible for a person of ordinary skill ("POSA") to identify some embodiments that fall within the scope of the claim, a POSA would not be reasonably certain of the full scope of the claim.	Not indefinite. Plain-and-ordinary meaning.

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of physical addresses determined by the controller" U.S. Patent No. 9,997,240, Claims 1, 6 Proposed by Defendants			
#8: "wherein the controller is further adapted to maintain a count value of those blocks that are accessed most frequently and, on a periodic basis when the count value is a predetermined count value, transfer the contents of those counted blocks into the SLC non-volatile memory module, wherein the counted blocks transferred to after reaching the predetermined count value are determined in accordance with the next equivalent range of physical addresses determined by the controller" U.S. Patent No. 9,997,240, Claims 1, 6 Proposed by Defendants	Plain and ordinary meaning	Indefinite. Although it is possible for POSA to identify some embodiments that fall within the scope of the claim, a POSA would not be reasonably certain of the full scope of the claim.	Not indefinite. Plain-and-ordinary meaning.

Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction	Court's Final Construction
#9: "wherein the mapping is performed as necessitated by the system to maximize lifetime" U.S. Patent No. 10,950,300, Claims 1, 12 Proposed by Western Digital	Plain and ordinary meaning	Western Digital: Indefinite	Not indefinite. Plain-and-ordinary meaning.
#10: "wherein a failure of the data integrity test performed by the controller results in a remapping of the address space to a different physical range of addresses and transfer of data corresponding to the stored data to those remapped physical addresses" U.S. Patent No. 10,950,300, Claims 1, 12 Proposed by Micron	Plain and ordinary meaning	Micron: Indefinite under *IPXL Holdings v. Amazon.com.*	Not indefinite. Plain-and-ordinary meaning.