THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ELM 3DS INNOVATIONS, LLC Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD., Defendants.	: : : : : : : : :	C.A. No. 14-1430-LPS-CJB
ELM 3DS INNOVATIONS, LLC Plaintiff, v. MICRON TECHNOLOGY, INC., et al. Defendants.	: : : : : : : : :	C.A. No. 14-1431-LPS-CJB
ELM 3DS INNOVATIONS, LLC Plaintiff, v. SK HYNIX INC., et al. Defendants.	: : : : : : : : :	C.A. No. 14-1432-LPS-CJB

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MEMORANDUM OPINION

April 13, 2020
Wilmington, Delaware

STARK, U.S. District Judge:

Elm 3DS Innovations, LLC ("Elm" or "Plaintiff") filed suit against Defendants Samsung Electronics Co., LTD., Samsung Semiconductor, Inc., Samsung Electronics America, Inc., and Samsung Austin Semiconductor, LLC (collectively, "Samsung"); Micron Technology, Inc., Micron Semiconductor Products, Inc., and Micron Consumer Products Group, Inc. (collectively, "Micron"); and SK Hynix Inc., SK Hynix America Inc., Hynix Semiconductor Manufacturing America Inc., and SK Hynix Memory Solutions Inc. (collectively, "SK Hynix" and, together with Samsung and Micron, "Defendants") on November 21, 2014, alleging infringement of 13 patents, specifically U.S. Patent Nos. 7,193,239 (the "'239 patent"), 7,474,004 (the "'004 patent"), 7,504,732 (the "'732 patent"), 8,035,233 (the "'233 patent"), 8,410,617 (the "'617 patent"), 8,629,542 (the "'542 patent"), 8,653,672 (the "'672 patent"), 8,791,581 (the "'581 patent"), 8,796,862 (the "'862 patent"), 8,841,778 ("the '778 patent"), 8,907,499 (the "'499 patent"), 8,928,119 (the "'119 patent"), and 8,933,570 (the "'570 patent") (collectively, the "patents-in-suit"). (D.I. 1)[1] The patents-in-suit generally relate to semiconductor technologies in the design and manufacture of three-dimensional integrated circuits. The parties submitted their joint claim construction brief on November 13, 2019. (D.I. 236) The Court held a claim construction hearing on January 9, 2020. (D.I. 243 ("Tr."))

I. LEGAL STANDARDS

A. CLAIM CONSTRUCTION

The proper construction of a patent is a question of law. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837 (2015) (citing *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388-91 (1996)). "It is a bedrock principle of patent law that the claims of a patent

[1] Unless otherwise noted, all references to the docket index are to C.A. No. 14-1430-LPS.

define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotation marks omitted).

"[T]here is no magic formula or catechism for conducting claim construction." *Id.* at 1324. Instead, the Court is free to attach the appropriate weight to appropriate sources "in light of the statutes and policies that inform patent law." *Id.*

"[T]he words of a claim are generally given their ordinary and customary meaning . . . [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1312-13 (internal citations and quotation marks omitted). "[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Id.* at 1321 (internal quotation marks omitted). The patent specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

While "the claims themselves provide substantial guidance as to the meaning of particular claim terms," the context of the surrounding words of the claim also must be considered. *Phillips*, 415 F.3d at 1314. Furthermore, "[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment . . . [b]ecause claim terms are normally used consistently throughout the patent." *Id.* (internal citation omitted).

It is likewise true that "[d]ifferences among claims can also be a useful guide . . . For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id.* at 1314-15 (internal citation omitted). This "presumption is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one

party is urging that the limitation in the dependent claim should be read into the independent claim." *SunRace Roots Enter. Co., Ltd. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003).

It is also possible that "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316. It bears emphasis that "[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Hill–Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)) (internal quotation marks omitted).

In addition to the specification, a court "should also consider the patent's prosecution history, if it is in evidence." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996). The prosecution history, which is "intrinsic evidence," "consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent." *Phillips*, 415 F.3d at 1317. "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

In some cases, "the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." *Teva*, 135 S. Ct. at 841. Extrinsic evidence "consists of all evidence external to the patent and prosecution history,

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