

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

ADVANCED MICRO DEVICES, INC., et al.

No. C 08-00986 SI

Plaintiff,

v.

**ORDER GRANTING DEFENDANT'S
MOTION FOR SUMMARY JUDGMENT
OF NON-INFRINGEMENT OF U.S.
PATENT NO. 5,559,990**

SAMSUNG ELECTRONICS CO., LTD., et al.

Defendant.

On November 4, 2010, the Court heard argument on defendants' motion for summary judgment of non-infringement of U.S. Patent No. 5,559,990. Having considered the arguments of counsel and the papers submitted, the Court hereby GRANTS defendants' motion.

BACKGROUND

On February 19, 2008, plaintiffs Advanced Micro Devices, Inc. and ATI Technologies, ULC (collectively "AMD") brought suit against defendants Samsung Electronics Co., Ltd., Samsung Semiconductor, Inc., Samsung Austin Semiconductor, LLC, Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, Samsung Techwin Co., Ltd., and Samsung Opto-Electronics America, Inc. (collectively "Samsung"), alleging infringement of seven AMD patents, including U.S. Patent No. 5,559,990 ("990 Patent").

The '990 Patent is entitled "Memories with Burst Mode Access" and teaches improvements to computer memory performance by making memory faster. *See* '990 Patent, Muschamp Decl. Ex. 1. Computer memory stores and provides data to a computer processor or other device that requests it. Wolfe Decl. ¶ 17. "Generally memory is comprised of an array of memory locations divided into rows

1 and columns, and circuitry such as registers, decoders, and sense amplifiers for accessing these
2 locations.” *Id.* To access a memory location, an address is received by an X-register, which passes the
3 row location to an X-decoder, as well as by a Y-register, which passes the column location to a Y-
4 decoder. The Y-decoder then passes its signal to a Y-select circuit which performs the actual selection
5 of the memory location. ’990 Patent at 16:61-17:15. A sense amplifier can “be used to ‘amplify’ the
6 contents of locations which can then be provided to the memory output” which has requested the data.
7 Wolfe Decl. ¶ 17.

8 The ’990 Patent specifically discloses memories with “burst mode access.” The Court has
9 construed the term “burst mode” as used in the ’990 Patent to mean “a mode for sequentially accessing
10 memory locations in which the memory receives the address of one memory location and provides in
11 response the contents of a plurality of consecutive memory locations.” Claim Construction Order at *7-
12 9 (Docket No. 255). The ’990 Patent acknowledges that “burst mode” memory access was prior art, but
13 claims an improved form of burst mode access described in the specification as “boundaryless burst
14 mode access in which the burst mode read can start at any location and can continue for any number of
15 locations.” ’990 Patent at 1:58-61. According to the specification, the benefit of boundaryless burst
16 mode access is that “any number of locations, not only groups of four locations, can be read
17 consecutively in burst mode. Sequential memory access is consequently quite fast.” *Id.* at 61-64.
18 According to AMD’s expert, the asserted “Claim 20 of the ’990 Patent improves memory performance
19 by dividing the array of memory locations into a plurality of subarrays, each with dedicated circuitry
20 for the selection of data. . . . Because each subarray has dedicated circuitry, each subarray can act
21 independently but also in coordination with another subarray to provide significant performance
22 enhancements.” Wolfe Decl. ¶ 18.

23 In the motion now before the Court, Samsung seeks summary judgment of non-infringement of
24 independent Claim 20 and dependent Claim 22 of the ’990 Patent.

25 26 LEGAL STANDARD

27 Summary judgment is proper “if the pleadings, the discovery and disclosure materials on file,
28 and any affidavits show that there is no genuine issue as to any material fact and that the movant is

1 entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(c). The moving party bears the initial
2 burden of demonstrating the absence of a genuine issue of material fact. *Celotex Corp. v. Catrett*, 477
3 U.S. 317, 323 (1986). The moving party, however, has no burden to negate or disprove matters on
4 which the non-moving party will have the burden of proof at trial; rather, it need only demonstrate to
5 the Court that there is an absence of evidence to support the non-moving party’s case. *Id.* at 325.

6 The burden then shifts to the non-moving party to “set out ‘specific facts showing a genuine
7 issue for trial.’” *Id.* at 324 (quoting Fed. R. Civ. P. 56(e)). The non-moving party must “do more than
8 simply show that there is some metaphysical doubt as to the material facts.” *Matsushita Elec. Indus.*
9 *Co., Ltd. v. Zenith Radio Corp.*, 475 U.S. 574, 586 (1986). “The mere existence of a scintilla of
10 evidence . . . will be insufficient; there must be evidence on which the jury could reasonably find for
11 the [non-moving party].” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252 (1986).

12 In ruling on a summary judgment motion, the Court must view the evidence in the light most
13 favorable to the non-moving party and draw all justifiable inferences in its favor. *Id.* at 255. “Credibility
14 determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts
15 are jury functions, not those of a judge . . . ruling on a motion for summary judgment.” *Id.* However,
16 conclusory, speculative testimony in affidavits and moving papers is insufficient to raise genuine issues
17 of fact and defeat summary judgment. *Thornhill Publ’g Co., Inc. v. GTE Corp.*, 594 F.2d 730, 738 (9th
18 Cir. 1979).

20 DISCUSSION

21 “Patent infringement is a two step inquiry. First, the court must construe the asserted claim.
22 Second, the court must determine whether the accused product or process contains each limitation of
23 the properly construed claims, either literally or by a substantial equivalent.”¹ *Freedman Seating Co.*
24 *v. Am. Seating Co.*, 420 F.3d 1350, 1356-57 (Fed. Cir. 2005) (citation omitted). While the first step is
25 a question of law, the second is a question of fact. *Id.* at 1357. AMD will bear the burden at trial to
26 prove that the accused Samsung memory devices infringe its patents by containing every element of the

27
28 ¹ The parties dispute whether AMD is entitled to assert infringement under the doctrine of
equivalents. The Court will address that issue below.

1 asserted claims. *Wolverine World Wide, Inc. v. Nike, Inc.*, 38 F.3d 1192, 1199 (Fed. Cir. 1994).
2 Therefore, to prevail on summary judgment, Samsung need only show an absence of evidence that the
3 accused devices meet any one of the claim limitations.

4 Samsung asserts that it is entitled to summary judgment of non-infringement of independent
5 Claim 20, as well as dependent Claim 22, because the accused memories do not contain the “Y-select
6 circuit” or “plurality of sense amplifiers” limitations of these claims.

8 **I. Independent Claim 20**

9 **A. Construction of Disputed Claim Terms**

10 The parties dispute the proper construction of certain claim terms which were not raised with
11 the Court during claim construction. In the present motion, Samsung requests constructions of two
12 terms: “Y-select circuit” and “plurality of sense amplifiers.” AMD offers a competing construction of
13 the term “Y-select circuit,” and contends that the term “plurality of sense amplifiers” does not require
14 construction.

16 **1. Legal Standard for Claim Construction**

17 Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370,
18 372 (1996). Terms contained in claims are “generally given their ordinary and customary meaning,”
19 which is “the meaning that the term would have to a person of ordinary skill in the art in question at
20 the time of the invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005); *Vitronics*
21 *Corp. v. Conceptor, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

22 In determining the proper construction of a claim, a court begins with the intrinsic evidence of
23 record, consisting of the claim language, the patent specification, and the prosecution history. *Phillips*,
24 415 F.3d at 1313; *Vitronics Corp.*, 90 F.3d at 1582. It is a fundamental rule that “claims must be
25 construed so as to be consistent with the specification.” *Merck & Co., Inc. v. Teva Pharms. USA, Inc.*,
26 347 F.3d 1367, 1371 (Fed. Cir. 2003). In most situations, analysis of intrinsic evidence alone will
27 resolve claim construction disputes. *Vitronics*, 90 F.3d at 1583. Courts should not use extrinsic
28 evidence, or evidence “external to the patent and prosecution history, including expert and inventor

1 testimony, dictionaries, and learned treatises,” to contradict the meaning of claims discernable from
2 examination of intrinsic evidence. *Phillips*, 415 F.3d at 1317; *Pitney Bowes, Inc. v. Hewlett-Packard*
3 *Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999).

4
5 **2. “Y-select Circuit”**

6 The first disputed claim term, “Y-select circuit,” is used in Claim 20 as follows:

7 20. An integrated circuit memory comprising:
8 an array of memory locations, the array comprising a plurality of subarrays, each
9 subarray comprising a predetermined number of groups of columns of the memory
10 locations such that for any given column position in a group, the memory locations
11 in any given row in the columns at said given position in the groups of the subarray
12 have consecutive addresses;
13 one X-decoder for each subarray;
14 one X-register for each X-decoder;
15 one Y-decoder for each subarray;
16 one Y-register for each Y-decoder;
17 one *Y-select circuit* for each subarray, the *Y-select circuit* being responsive to the Y-
18 decoder of the subarray to select all the columns that occupy a selected position in
19 the groups of the subarray;
20 a plurality of sense amplifier circuits for each subarray, each sense amplifier circuit
21 for amplifying signals from a column selected by the *Y-select circuit* of the
22 subarray;
23 a memory output; and
24 a control circuit for selecting one of the sense amplifier circuits to provide data to the
25 memory output,
26 wherein in a burst mode read operation, at least one X-register provides to its
27 respective X-decoder signals identifying a row in one of the subarrays, and at least
28 one Y-register provides to its respective Y-decoder signals identifying a position of
columns in the groups of one of the subarrays.

’990 Patent at 16:61-17:15 (emphasis added).

Samsung proposes that the Court construe “Y-select circuit” as “a circuit that selects columns from an array and provides signals from the selected columns to a sense amplifier.”² AMD objects to Samsung’s inclusion of language specifying any interaction between the Y-select circuit and the sense amplifier, and instead proposes the construction “a circuit for selecting columns.” As the parties agree that the Y-select circuit performs the function of selecting columns, the Court’s discussion will focus on whether there is support for Samsung’s additional language concerning the function of providing

² Samsung provided three versions of its proposed construction in its summary judgment motion. After AMD objected that Samsung had failed to provide the Court with a sufficiently definite proposal for construing the disputed term, Samsung provided the construction quoted above in its reply.

1 signals to the sense amplifier.

2 When read in light of the claim language itself as well as the patent as a whole, the Court finds
3 that Samsung’s proposed construction is superior to AMD’s construction.³ First, the plain language of
4 the Claim 20 itself supports Samsung’s construction. The claim recites “a plurality of sense amplifier
5 circuits for each subarray, each sense amplifier circuit for amplifying signals from a column selected
6 by the Y-select circuit of the subarray.” ’990 Patent at 17:3-6. This language, on its face, states that
7 the sense amplifier exists “for” – i.e., in order to – amplify signals from columns that have been selected
8 by the Y-select circuit. Samsung persuasively points out that unless the selection of columns has been
9 signaled to the sense amplifier, the sense amplifier cannot perform its stated function. AMD objects to
10 Samsung’s use of the phrase “*provides* signals from the selected columns to a sense amplifier,” noting
11 that where the patentee intended to indicate that a particular type of circuitry “provided” information
12 to another type of circuitry, that word was specifically used in the patent. *See, e.g.*, ’990 Patent at 17:8-9
13 (“a control circuit for selecting one of the sense amplifier circuits to *provide* data to the memory
14 output”), 17:10-11 (“at least one X-register *provides* to its respective X-decoder signals identifying a
15 row in one of the subarrays”) (emphasis added). It is apparent from the claim language, however, that
16 the Y-select circuit is the component which allows the sense amplifiers to receive signals from the
17 columns that have been selected, thereby enabling the sense amplifiers to perform their recited function
18 of amplifying the selected columns.

19 Second, Samsung’s construction is supported by the specification. “Claims must be read in view
20 of the specification, of which they are a part. . . . For claim construction purposes, the description may
21 act as a sort of dictionary, which explains the invention and may define terms used in the claims.”
22 *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc) (citations omitted),
23 *aff’d*, 517 U.S. 370 (1996). As Samsung points out, the description of the preferred embodiment for the
24 invention, as well as its diagrams, contemplate the provision of signals from the Y-select circuit to the
25 sense amplifier. *See* ’990 Patent at Figs. 3A-3B; *id.* at 4:5-9 (“Memory 310 can be read in either burst
26 mode or random (non-burst) mode. In either mode Y-select circuit 320.L selects simultaneously one

27
28 ³ As the Court concludes that the intrinsic evidence is sufficient to provide a proper construction
of the term, the Court disregards the extrinsic evidence cited by both parties.

1 column from each group 0 through 3 and provides the selected column signals to the respective sense
2 amplifier circuits 330.L-0 through 330.L-3.”). AMD rightly points out that “[t]he claims, not
3 specification embodiments, define the scope of patent protection,” and the court should not “limit [the
4 patentee] to his preferred embodiment or import a limitation from the specification into the claims.”
5 *Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009). Samsung’s proposal,
6 however, does not ask the Court to import a limitation from the embodiment that is not otherwise
7 present in the claim. Rather, the Court agrees with Samsung that the embodiment simply confirms the
8 construction that is already apparent from the claim language on its face.

9 AMD also asserts that Samsung errs by assuming that a Y-select circuit must always connect
10 a memory location with a sense amplifier, because a memory need not even contain a sense amplifier.
11 The only intrinsic evidence cited by AMD, however, is a diagram of a *prior art* memory which did not
12 contain sense amplifiers. *See* ’990 Patent at Fig. 2. By contrast, Claim 20 specifically recites that the
13 patented memory contains “a plurality of sense amplifier circuits for each subarray” of memory
14 locations. ’990 Patent at 17:3. Contrary to AMD’s argument, Samsung need not show that its
15 construction would properly define the term “Y-select circuit” in every memory in existence, including
16 prior art memories. Rather, Samsung need only show that its construction is proper in the context of
17 the present invention. *See SEB S.A. v. Montgomery Ward & Co., Inc.*, 594 F.3d 1360, 1368 (Fed. Cir.
18 2010) (claim terms must be given the “meaning discernible by a person of ordinary skill in the art who
19 has read the entire patent[-in-suit], including the specification”); *Renishaw PLC v. Marposs Societs’ per*
20 *Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (“The construction that stays true to the claim language
21 and most naturally aligns with the patent’s description of the invention will be, in the end, the correct
22 construction. A claim construction is persuasive . . . because it defines terms in the context of the whole
23 patent.”). An examination of the ’990 Patent as a whole reveals that Samsung’s proposed construction
24 is the correct one. Accordingly, the Court hereby adopts Samsung’s construction of “Y-select circuit.”

25
26
27 **3. “Plurality of Sense Amplifiers”**

28 Samsung also asks the Court to construe the term “plurality of sense amplifiers,” as used in the

1 phrase, “a plurality of sense amplifier circuits for each subarray, each sense amplifier circuit for
2 amplifying signals from a column selected by the Y-select circuit of the subarray.” ’990 Patent at 17:3-
3 6. Samsung asks that the term be construed to “require the sense amplifiers to amplify signals received
4 from the columns selected by the Y-select circuit.” The Court agrees with AMD that the meaning of
5 the term is clear from the face of the claim language and needs no construction. In addition, it appears
6 that Samsung’s request for construction of this term is made in the alternative, in the event the Court
7 did not adopt Samsung’s proposed construction of “Y-select circuit.” Having construed “Y-select
8 circuit” as requested by Samsung, the Court finds it unnecessary to provide a construction of “plurality
9 of sense amplifiers.”

10
11 **B. Evidence of Infringement**

12 Samsung seeks summary judgment of non-infringement of Claim 20 on the ground that the
13 accused Samsung memories do not contain the “Y-select circuit” and “plurality of sense amplifiers”
14 limitations. In its opposition to the summary judgment motion, AMD does not contest that there is no
15 evidence of literal infringement in the event the Court construes either of the disputed terms according
16 to Samsung’s proposals. Having adopted Samsung’s construction of the term “Y-select circuit,” the
17 Court must therefore conclude that Samsung is entitled to summary judgment of no literal infringement
18 of Claim 20 of the ’990 Patent.

19 In addition to literal infringement, however, a patentee may also assert infringement under the
20 doctrine of equivalents. “An accused device that does not literally infringe a claim may still infringe
21 under the doctrine of equivalents if each limitation of the claim is met in the accused device either
22 literally or equivalently.” *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1459 (Fed. Cir. 1998) (en
23 banc). An element of an accused product is “equivalent” to a limitation in the asserted claim if “the
24 accused device performs substantially the same function in substantially the same way to obtain the
25 same result as the claim limitation.” *Amgen Inc. v. F. Hoffman-LA Roche Ltd.*, 580 F.3d 1340, 1382
26 (Fed. Cir. 2009).

27 Samsung contends that AMD is not entitled to assert a doctrine of equivalents claim because it
28 failed to include doctrine of equivalents allegations addressing all the relevant claim limitations in its

1 infringement contentions and its initial expert reports. Even assuming that AMD did timely raise a
2 doctrine of equivalents analysis, however, the Court finds that AMD has failed to raise a genuine dispute
3 of material fact as to whether the accused Samsung memories contain features equivalent to the claim
4 limitations at issue.

5 The Court has construed the Y-select circuit limitation as having the function of “select[ing]
6 columns from an array and provid[ing] signals from the selected columns to a sense amplifier.” AMD’s
7 expert, Dr. Wolfe, asserts that the accused products contain a Y-select circuit that is between the sense
8 amplifiers and the memory output, rather than between the memory array and the sense amplifiers, as
9 in the asserted claim. Wolfe Decl. ¶ 27. Dr. Wolfe then concludes that a Y-select circuit in this position
10 is the equivalent of a Y-select circuit in the position recited in the patent.

11 As Samsung points out, however, Dr. Wolfe fails to distinguish among the different functions
12 recited in the claim language for different types of circuitry. According to Dr. Wolfe, the Y-select
13 circuit in the accused Samsung products performs the function of “select[ing] columns amplified by the
14 sense amplifiers and providing the amplified signals to the output.” Wolfe Decl. ¶ 26B. In Claim 20,
15 however, this function is performed not by the Y-select circuit, but by a different component altogether,
16 the control circuit. *See* ’990 Patent at 17:8-9 (reciting “a control circuit for selecting one of the sense
17 amplifier circuits to provide data to the memory output”).

18 In addition, Dr. Wolfe appears to ignore the claim language tying the claimed Y-select circuits
19 to specific parts of the memory array. *See id.* at 16:53-17:6. He does not explain how a Y-select circuit
20 which also receives input from a sense amplifier, as opposed to receiving input only from a memory
21 array, can perform the same function as the claimed Y-select circuit or achieve the same result. These
22 oversights undermine AMD’s doctrine of equivalents analysis. AMD attempts to save its analysis by
23 contending in its surreply that Claim 20’s recited language “each sense amplifier circuit for amplifying
24 signals from a column selected by the Y-select circuit of the subarray” really means that “sense
25 amplifiers must be capable of amplifying signals *at least* from a column selected by the Y-select
26 circuit.” AMD’s Surreply at 1-2 (emphasis added). AMD has criticized Samsung for attempting to
27 narrow the claim language using unsupported arguments, but here, AMD attempts to broaden the claim
28 without providing any intrinsic support.

1 In sum, the Court concludes that there are no disputed issues of fact with respect to whether
2 Samsung is infringing Claim 20 of the '990 Patent, either literally or under the doctrine of equivalents.
3 The Court therefore GRANTS Samsung's motion for summary judgment of non-infringement with
4 respect to Claim 20.

5
6
7 **II. Claim 22**


8 Having concluded that Samsung is entitled to summary judgment of non-infringement of
9 independent Claim 20, the Court must also GRANT summary judgment in Samsung's favor on
10 dependent Claim 22. *See Wahpeton Canvas Co., Inc. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n.9 (Fed.
11 Cir. 1989) ("One who does not infringe an independent claim cannot infringe a claim dependent on (and
12 thus containing all the limitations of) that claim.").

13
14 **CONCLUSION**

15 For the foregoing reasons and for good cause shown, the Court hereby GRANTS Samsung's
16 motion for summary judgment of non-infringement of U.S. Patent No. 5,559,990. (Doc. 528.)

17
18 **IT IS SO ORDERED.**

19
20 Dated: December 6, 2010

21 
22 _____
23 SUSAN ILLSTON
24 United States District Judge
25
26
27
28