

United States District Court
For the Northern District of California

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

TECHNOLOGY PROPERTIES LIMITED LLC,)
et al.,)

Plaintiffs,)

v.)

HUAWEI TECHNOLOGIES CO., LTD., et al.,)

Defendants.)

Case No. 3:12-cv-03865-VC

**CLAIM CONSTRUCTION REPORT
AND RECOMMENDATION**

TECHNOLOGY PROPERTIES LIMITED LLC,)
ET AL.,)

PLAINTIFFS,)

V.)

ZTE CORPORATION, et al.,)

DEFENDANTS.)

Case No. 3:12-cv-03876-VC

TECHNOLOGY PROPERTIES LIMITED LLC,)
ET AL.,)

PLAINTIFFS,)

V.)

SAMSUNG ELECTRONICS CO., LTD., et al.,)

DEFENDANTS.)

Case No. 3:12-cv-03877-VC

1 TECHNOLOGY PROPERTIES LIMITED LLC,)
 ET AL.,)
 2)
 3)
 4)
 5)
 6)

PLAINTIFFS,

V.

7 LG ELECTRONICS, INC., et al.,)
 8)
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 10)
 11)
 12)

DEFENDANTS.

Case No. 3:12-cv-03880-VC

7 TECHNOLOGY PROPERTIES LIMITED LLC,)
 ET AL.,)
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 12)

PLAINTIFFS,

V.

13 NINTENDO CO., LTD., et al.,)
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 18)

DEFENDANTS.

Case No. 3:12-cv-03881-VC

19 The parties to this patent infringement suit dispute the construction of just one claim term in
 20 U.S. Patent No. 5,809,336: “an entire oscillator disposed upon said integrated circuit substrate.”¹
 21 At issue is the impact of various statements made by the patent applicant to the examiner during
 22 the patent’s prosecution. Because these statements would be understood by one of ordinary skill in
 23 the art as disclaiming certain scope of the disputed “entire oscillator” term, the court
 24 RECOMMENDS construction of the term to reflect this disclaimer, as follows: “an [oscillator]
 25 located entirely on the same semiconductor substrate as the [central processing unit] that does not
 26 require a control signal and whose frequency is not fixed by any external crystal.”

I.

27 Consistent with the Supreme Court’s admonition in 1886 that a patent claim not be “a nose
 28 of wax, which may be turned and twisted in any direction,”² the Federal Circuit has long held that a
 claim term must be understood as limited if the applicant argued as much during prosecution in

¹ See Docket No. 89 at 6-7.

² *White v. Dunbar*, 119 U.S. 47, 51 (1886).

1 order to overcome prior art.³ “[T]he prosecution history can often inform the meaning of the claim
2 language by demonstrating . . . whether the inventor limited the invention in the course of
3 prosecution, making the claim scope narrower than it would otherwise be.”⁴

4 Plaintiff Technology Property Limited and Patriot Scientific brought these patent
5 infringement suits for infringement of three patents: U.S Patent Nos. 5,440,749, 5,530,890 and
6 5,809,336. Only the ’336 patents remains at issue; the others were dismissed by stipulation.⁵ The
7 ’336 patent, titled “High Performance Microprocessor Having Variable Speed System Clock,” was
8 derived along with the others from a single patent application that was subject to nothing less than
9 a ten-way restriction requirement. The result is that the ’336 specification includes much discussion
10 that is irrelevant to that which the ’336 patent specifically claims.⁶

11 The ’336 patent claims an invention that allows the frequency of a central processing unit,
12 the brains of any computing device, to fluctuate based on local conditions. Traditional
13 microprocessors use off-chip, fixed frequency clocks to regulate the CPU’s frequency.⁷ One result
14 is that the clock needs to be set lower than the CPU’s maximum possible frequency to ensure
15 proper operation under worst-case conditions. The ’336 patent solves this problem by placing a
16 ring oscillator on the same silicon substrate as the CPU to act as the CPU’s clock. Because the ring
17 oscillator is on the same silicon substrate and is made of the same components as the CPU, it is
18 subject to the same environmental conditions and thus will allow the CPU to operate at higher rates

19 _____
20 ³ See, e.g., *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995); see also
21 *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319, 1325 (Fed. Cir. 2002) (“Explicit arguments made during
22 prosecution to overcome prior art can lead to a narrow claim interpretation because ‘[t]he public
has a right to rely on such definitive statements made during prosecution.’”) (quoting *Digital
Biometrics, Inc. v. Identix, Inc.*, 149 F.3d 1335, 1347 (Fed. Cir. 1998)).

23 ⁴ *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1289 (Fed. Cir. 2009) (quoting *Phillips v. AWH
24 Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc)).

25 ⁵ See Docket No. 86; all docket references are to Case No. 3:12-cv-03865-VC.

26 ⁶ See, e.g., Docket No. 28-3, Ex. C at 3:27-35, 16:43-17:37.

27 ⁷ See Docket No. 28-3, Ex. C at 16:48-50, 17:12-13.

1 during good conditions and lower rates during bad. As the specification explains, the
2 microprocessor may “operate over wide temperature ranges, wide voltage swings, and wide
3 variations in semiconductor processing” that “all affect transistor gate propagation delays.”⁸
4 Because other devices with which the microprocessor communicates, both on-chip and off-
5 chip, cannot tolerate a variable speed clock, a second, conventional “crystal clock” is separately
6 connected to the input/output interface.⁹

7 During the ’336 patent’s prosecution, the applicants made a variety of arguments to the
8 examiner to overcome two key prior art references: U.S. Patent No. 4,503,500 (“Magar”) and U.S.
9 Patent No. 4,670,837 (“Sheets”). With respect to Magar, the examiner initially rejected the claims
10 after noting that certain circuitry in Magar was fabricated on the same microprocessor substrate as
11 the CPU, as required by the claims. The applicants then attempted to distinguish Magar by
12 emphasizing that the clock disclosed in Magar was fixed by a crystal that was external to the
13 microprocessor, unlike their on-chip variable speed clock:

14 [O]ne of ordinary skill in the art should readily recognize that the speed of the CPU
15 and clock *do not* vary together due to manufacturing variation, operating voltage,
16 and temperature of the IC in the Magar processor . . . This is simply because the
17 Magar microprocessor clock is frequency controlled by a crystal which is also
18 external to the microprocessor. Crystals are by design fixed frequency devices whose
19 oscillation speed is designed to be tightly controlled and to vary minimally due to
20 variations in manufacturing, operating voltage and temperature. The Magar
21 microprocessor in no way contemplates a variable speed clock as claimed.¹⁰

19 In the same amendment, the applicants also argued that the Magar clock could not practice the
20 claimed invention because of its reliance on a crystal, which by its nature cannot vary its oscillation
21 frequency:

22 [C]rystal oscillators have never, to Applicants’ knowledge, been fabricated on a
23 single silicon substrate with a CPU, for instance. Even if they were, as previously
24 mentioned, crystals are by design fixed-frequency devices whose oscillation

25 ⁸ Docket No. 28-3, Ex. C at 16:44-48.

26 ⁹ See Docket No. 28-3, Ex. C at 17:14-34, Fig. 17.

27 ¹⁰ Docket No. 90-7, Ex. D at 3-4.

1 frequency is designed to be tightly controlled and to vary minimally due to
2 variations in manufacturing, operating voltage and temperature. The oscillation
3 frequency of a crystal on the same substrate with the microprocessor would
4 inherently not vary due to variations in manufacturing, operating voltage and
5 temperature in the same way as the frequency capability of the microprocessor on
6 the same underlying substrate, as claimed.¹¹

7 The PTO nonetheless issued a second rejection based on Magar, and the applicants
8 responded by emphasizing again that the claimed invention did not rely on an external crystal's
9 fixed frequency to set the clock's frequency rate:

10 The essential difference is that the frequency or rate of the . . . signals is determined
11 by the processing and/or operating parameters of the integrated circuit containing the
12 . . . circuit, while the frequency or rate of the . . . signals depicted in Magar . . . are
13 determined by the fixed frequency of the external crystal.¹²

14 The applicants also disclaimed the use of an external crystal to cause clock signal
15 oscillation:

16 Magar's clock generator relies on an external crystal connected to terminals X1 and
17 X2 to oscillate It is not an entire oscillator in itself. And with the crystal, the
18 clock rate generated is also conventional in that it is a fixed, not a variable,
19 frequency. The Magar clock is comparable in operation to the conventional crystal
20 clock 434 depicted in Fig. 17 of the present application for controlling the I/O
21 interface at a fixed rate frequency, and not at all like the clock on which the claims
22 are based.¹³

23 The examiner similarly issued an initial rejection in view of Sheets. In response, the
24 applicants distinguished their "present invention" from microprocessors that rely on frequency
25 control information from an external source:

26 The present invention does not similarly rely upon provision of frequency control
27 information to an external clock, but instead contemplates providing a ring oscillator
28 clock and the microprocessor within the same integrated circuit. The placement of
these elements within the same integrated circuit obviates the need for provision of
the type of frequency control information described by Sheets, since the
microprocessor and clock will naturally tend to vary commensurately in speed as a
function of various parameters (e.g., temperature) affecting circuit performance.

25 ¹¹ *Id.* at 4.

26 ¹² *Id.* at 4.

27 ¹³ *Id.* at 3.

1 Sheets' system for providing clock control signals to an external clock is thus seen to
2 be unrelated to the integral microprocessor/clock system of the present invention.¹⁴

3 Because the applicants referred to the "present invention" in this statement, their disclaimer applies
4 to all claims.¹⁵

5 But that disclaimer, like the prior disclaimers, could not secure allowance. In response to
6 a subsequent rejection, the applicants went even further and disclaimed the use of controlled
7 inputs altogether, regardless whether the control is on-chip or not:

8 Even if the examiner is correct that the variable clock in Sheets is in the same
9 circuit as the microprocessor of system 100, that still does not give the claimed
10 subject matter. In Sheets, a command input is required to change the clock speed. In
11 the present invention, the clock speed varies correspondingly to variations in
12 operating parameters No command input is necessary to change the clock
13 frequency.¹⁶

14 Thus, according to applicants, controlling the on-chip oscillator's speed using a command signal
15 "does not give the claimed subject matter."¹⁷ Indeed, in a later amendment, the applicants left no
16 doubt that, unlike "all cited references," the claimed oscillator is completely free of inputs and
17 extra components:

18 Crucial to the present invention is that . . . when fabrication and environmental
19 parameters vary, the oscillation or clock frequency and the frequency capability of
20 the driven device will automatically vary together. This differs from all cited
21 references in that . . . the oscillator or variable speed clock varies in frequency but
22 does not require manual or programmed inputs or external or extra components to
23 do so.¹⁸

24 After overcoming these and other objections by the examiner, the '336 patent issued on
25 September 15, 1998. The patent has been construed in three previous litigations, including

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27 ¹⁴ Docket No. 90-9, Ex. F at 8.

28 ¹⁵ *See, e.g., Ballard Med. Prods. v. Allegiance Healthcare Corp.*, 268 F.3d 1352, 1360-62 (Fed.
Cir. 2001).

¹⁶ Docket No. 90-10, Ex. G at 4.

¹⁷ *Id.*

¹⁸ Docket No. 90-7, Ex. D at 5.

1 one before the undersigned that resulted in a nine-day trial. In the Eastern District of Texas, Judge
 2 Ward construed the “entire ring oscillator” claim term in claim 1 to preclude reliance on either a
 3 control signal or an external crystal/clock generator to generate a clock signal.¹⁹ In reaching this
 4 conclusion, Judge Ward explained: “The Court agrees with the defendants that the applicant
 5 disclaimed the use of an input control signal and an external crystal/clock generator to generate a
 6 clock signal.”²⁰

7 Similarly, in a United States International Trade Commission investigation, Judge Gildea
 8 construed “entire oscillator” as precluding reliance on either a control signal or an external
 9 crystal/clock generator to generate a clock signal.²¹ Judge Gildea found that Plaintiffs clearly and
 10 unambiguously disclaimed any oscillator that relies on a control signal or an external crystal or
 11 frequency generator.²² The Commission affirmed Judge Gildea’s construction.²³

12 Likewise, this court construed “ring oscillator” as “an oscillator having a multiple, odd
 13 number of inversions arranged in a loop, wherein the oscillator is variable based on the
 14 temperature, voltage and process parameters in the environment,”²⁴ and instructed the jury that the
 15 term “entire oscillator” excludes any external clock used to generate the CPU clock signal.²⁵

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 18 ¹⁹ See Docket No. 90-15, Ex. L at 12.

19 ²⁰ *Id.*

20 ²¹ See Docket No. 90-16, Ex. M at 40-41; Docket No. 90-17, Ex. N at 16-25.

21 ²² See Docket No. 90-20, Ex. Q at 39-40 (finding that “the essential point made by the applicants in
 22 seeking to gain acceptance” of their claims, and their “unqualified statements in distinguishing” the
 23 prior art, constituted a “clear disavowal” of claim scope).

24 ²³ See Docket No. 90-17, Ex. N at 16-25.

25 ²⁴ See *Acer, Inc. v. Tech. Properties Ltd.*, No. 5:08-CV-00877 PSG, 2013 WL 4515545, at *5 (N.D.
 Cal. Aug. 21, 2013).

26 ²⁵ See Docket No. 90-13, Ex. J at 26; Docket No. 90-14, Ex. K at 2; *see also* Docket No. 90-18, Ex.
 27 O at 11, and n.24.

1 to the claim construction analysis.”³³ Claims “must be read in view of the specification, of which
2 they are part.”³⁴

3 Although the patent’s prosecution history “lacks the clarity of the specification and thus is
4 less useful for claim construction purposes,” it “can often inform the meaning of the claim
5 language by demonstrating how the inventor understood the invention and whether the inventor
6 limited the invention in the course of prosecution, making the claim scope narrower than it would
7 otherwise be.”³⁵ The court also has the discretion to consider extrinsic evidence, including
8 dictionaries, learned treatises and testimony from experts and inventors.³⁶ Such evidence, however,
9 is “less significant than the intrinsic record in determining the legally operative meaning of claim
10 language.”³⁷ No extrinsic evidence is necessary to resolve the dispute here, however, because the
11 intrinsic record is dispositive that the applicant disclaimed certain claim scope to convince the
12 examiner to issue the patent.

13 III.

14 “[T]here is no principle of patent law that the scope of surrender of subject matter made
15 during prosecution is limited to what is absolutely necessary to avoid a prior art reference that was
16 the basis for an examiner’s rejection.”³⁸ Whether necessary or not to get the examiner to avoid
17 Magar and Sheets, the applicant here surrendered subject matter that the definition of the “entire
18 oscillator” term must account, albeit in language different than that proposed by either side.

19 ³³ *Phillips*, 415 F.3d at 1312-15.

20 ³⁴ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995); *see also Ultimax*
21 *Cement Mfg. Corp v. CTS Cement Mfg. Corp.*, 587 F. 3d 1339, 1347 (Fed. Cir. 2009).

22 ³⁵ *Phillips*, 415 F.3d at 1317 (internal quotations omitted).

23 ³⁶ *See id.* (“Although we have emphasized the importance of intrinsic evidence in claim
24 construction, we have also authorized district courts to rely on extrinsic evidence, which ‘consists
25 of all evidence external to the patent and prosecution history, including expert and inventor
testimony, dictionaries, and learned treatises.’”) (quoting *Markman*, 52 F.3d at 980).

26 ³⁷ *Phillips*, 415 F.3d at 1317 (citing *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed.
27 Cir. 2004)) (internal quotations and additional citations omitted).

28 ³⁸ *Norian Corp. v. Stryker Corp.*, 432 F.3d 1356, 1361 (Fed. Cir. 2005).

1 To avoid Magar, the applicants surrendered any oscillator that like Magar's is fixed by an
2 off-chip crystal. Over and over again, the applicants insisted that its claims did not read on Magar
3 because of this distinction. Whether styled by the applicants as an "essential difference" or "not at
4 all like the clock on which the claims are based,"³⁹ Magar is distinct from the invention because it
5 fixes the frequency of the CPU with a crystal oscillator that is not on the same silicon substrate.
6 Having sold the Patent Office on this distinction, and told the world the same in the prosecution
7 history, the applicants understood that they could not later claim anything else. The Federal Circuit
8 has taught this lesson over and over again.⁴⁰

9 ³⁹ Docket No. 90-8, Ex. E at 3, 4.

10 ⁴⁰ See, e.g., *Southwall*, 54 F.3d at 1576 ("Claims may not be construed one way in order to obtain
11 their allowance and in a different way against accused infringers."); *Rheox*, 276 F.3d at 1325
12 ("Explicit arguments made during prosecution to overcome prior art can lead to a narrow claim
13 interpretation because '[t]he public has a right to rely on such definitive statements made during
14 prosecution.'"); *Gillespie v. Dywidag Sys. Int'l, USA*, 501 F.3d 1285, 1291 (Fed. Cir. 2007) ("The
15 patentee is held to what he declares during the prosecution of his patent."); *Computer Docking
16 Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1379 (Fed. Cir. 2008) (holding that "the sum of the
17 patentees' statements during prosecution would lead a competitor to believe that the patentee had
18 disavowed coverage of laptops" and, thus, affirming the trial court's construction of the portable
19 computer limitation); *Seachange Int'l, Inc. v. C-COR, Inc.*, 413 F.3d 1361, 1372-75 (Fed. Cir.
20 2005) ("Where an applicant argues that a claim possesses a feature that the prior art does not
21 possess in order to overcome a prior art rejection, the argument may serve to narrow the scope of
22 otherwise broad claim language."); see also *Am. Piledriving Equip. v. Geoquip, Inc.*, 637 F.3d
23 1324, 1336 (Fed. Cir. 2011) ("[A]n applicant's argument that a prior art reference is
24 distinguishable on a particular ground can serve as a disclaimer of claim scope even if the applicant
25 distinguishes the reference on other grounds as well."); *Chimie v. PPG Indus., Inc.*, 402 F.3d 1371,
26 1384 (Fed. Cir. 2005) ("The purpose of consulting the prosecution history in construing a claim is
27 to 'exclude any interpretation that was disclaimed during prosecution.'"; "Accordingly, 'where the
28 patentee has unequivocally disavowed a certain meaning to obtain his patent, the doctrine of
prosecution disclaimer attaches and narrows the ordinary meaning of the claim congruent with the
scope of the surrender.'") (citations omitted); *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d
1340, 1349 (Fed. Cir. 2004) (a court "cannot construe the claims to cover subject matter broader
than that which the patentee itself regarded as comprising its invention and represented to the
PTO"); *Springs Window Fashions LP v. Novo Indus., L.P.*, 323 F.3d 989, 993-96 (Fed. Cir. 2003)
(rejecting patentee's attempt to narrow the scope of disclaimer, even though the examiner did not
rely on the disclaimer to issue the claims); *N. Am. Container Inc. v. Plastipak Packaging Inc.*, 415
F.3d 1335, 1345-46 (Fed. Cir. 2005) (holding that "the applicant, through argument [that the prior
art inner walls are 'slightly concave'] during the prosecution, disclaimed inner walls of the base
portion having any concavity. . . . [a]lthough the inner walls disclosed in the [prior art] may be
viewed as entirely concave").

1 The song remains much the same regarding Sheets. The applicants distinguished Sheets
2 repeatedly on the ground that Sheets requires control signals, frequency control information or
3 command inputs. In contrast, they characterize the invention upon relying upon or requiring any
4 such signals, information or inputs.⁴¹ Because applicants described this distinction as no less than
5 “crucial,” and applicable to the “present invention,” their disclaimer applies to all claims.⁴²

6 Plaintiffs principally argue that the distinctions drawn from Magar and Sheets are already
7 expressly included in the patent claims themselves. It is true that the “on-chip/off-chip” distinction
8 and the invention’s variability depending on PVT are reflected in other limitations. But those other
9 limitations do not get at the full range of distinctions drawn, especially the claimed invention’s
10 oscillator frequency not being fixed by any crystal off-chip and the oscillator not needing any
11 control inputs. The Federal Circuit has been clear that claim construction must reflect all
12 disclaimers, not merely a subset.⁴³

13 The undersigned appreciates that the construction recommended differs from the
14 constructions adopted in the Eastern District of Texas, the International Trade Commission and by
15 the undersigned as presiding judge in *HTC*. It also must be noted that neither party urged this
16 particular language. But putting aside any notion that this court is bound in this case by any prior
17 construction, the recommended construction is consistent with the fundamental meaning of those
18 earlier constructions. After multiple rounds of briefing by the parties and a lengthy hearing, the
19 undersigned is convinced that the particular language urged recommended here best captures what
20 actually happened at the patent office. In the universe of claim construction, that directive is
21 ultimate prime.

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23 ⁴¹ See Docket No. 90-9, Ex. F at 8; see also Docket No. 90-10, Ex. G at 4.

24 ⁴² See, e.g., *Ballard Med. Prods. v. Allegiance Healthcare Corp.*, 268 F.3d 1352, 1360-62 (Fed.
25 Cir. 2001).

26 ⁴³ See *Krippelz v. Ford Motor Co.*, 667 F.3d 1261, 1267 (Fed. Cir. 2012); *Am. Piledriving Equip. v.*
27 *Geoquip, Inc.*, 637 F.3d 1324, 1336 (Fed. Cir. 2011); *Elkay v. Mgf. Co. v. Ebco Mfg. Co.*, 192 F.3d
973, 979 (Fed. Cir. 1999).

SO ORDERED.

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Dated: September 22, 2015



PAUL S. GREWAL
United States Magistrate Judge

United States District Court
For the Northern District of California