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17   UNITED STATES DISTRICT COURT
              NORTHERN DISTRICT OF CALIFORNIA
18   SAN JOSE DIVISION

19

   HTC CORPORATION and HTC   )   Case No. 5:08-cv-00882 PSG
20 AMERICA, INC.,   )
)
21   Plaintiffs,   )   **DEFENDANTS' OPPOSITION TO**
)   **HTC'S RENEWED MOTION FOR**
)   **JUDGMENT AS A MATTER OF LAW**
22   v.   )   **OF NON-INFRINGEMENT [PER**
)   **F.R.C.P. 50(b)]**
23 TECHNOLOGY PROPERTIES LIMITED,   )
   PATRIOT SCIENTIFIC CORPORATION   )   Date: January 7, 2014
24 and ALLIACENSE LIMITED,   )   Time: 10:00 a.m.
)   Place: Courtroom 5, 4th Floor
25   Defendants.   )   Judge: Hon. Paul S. Grewal
)
26

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Introduction

2   HTC's Rule 50(b) Renewed Motion for Judgment as a Matter of Law of Non-

3 infringement ("Renewed Motion") should be denied. First, in its earlier Rule 50(a) motion, HTC

4 failed to raise the additional requirement that it now seeks to impose on the term "entire

5 oscillator." Second, HTC's new argument is an improper attempt to seek reconsideration of the

6 Court's claim construction of the term. Third, substantial evidence supports the two factual

7 findings by the jury that HTC now challenges. In particular, substantial evidence supports the

8 finding that: (1) an "entire oscillator" exists in each HTC accused product because the external

9 crystal clock is not "used to generate the signal used to clock the CPU;" and (2) the processing

10 frequency of the central processing unit ("CPU") and the clock rate of the on-chip oscillator in

11 each HTC accused product vary "in the same way as a function of parameter variation in one or

12 more fabrication or operational parameters."

13

Argument

14 **I.   LEGAL STANDARD**

15   Rule 50(a) permits a court to grant a motion for judgment as a matter of law where "a

16 party has been fully heard on an issue during a jury trial and the court finds that a reasonable jury

17 would not have a legally sufficient evidentiary basis to find for the party on that issue." Fed. R.

18 Civ. P. 50(a)(1). Where, as here, after the court has denied a Rule 50(a) motion, the movant may

19 file a renewed motion for judgment as a matter of law within 28 days after the entry of judgment.

20 Fed. R. Civ. P. 50(b).

21   In considering such a renewed motion, the question is whether there is substantial

22 evidence to support the jury's findings. *E.E.O.C. v. Go Daddy Software, Inc.*, 581 F.3d 951, 961

23 (9th Cir. 2009); *see also Mendenhall v. Cedarapids, Inc.*, 5 F.3d 1557, 1578 (Fed. Cir. 1993).

24 "[T]he trial court must consider all the evidence in a light most favorable to the non-mover, must

25 draw reasonable inferences favorable to the non-mover, must not determine credibility of

26 witnesses, and must not substitute its choice for that of the jury between conflicting elements in

27 the evidence." *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984)

28 (internal citations omitted). "Following those guidelines, the court determines whether the

1   evidence so viewed constitutes 'substantial evidence' in support of the jury's findings and, if so,

2   whether those findings can support the legal conclusions necessarily drawn by the jury in accord

3   with its instructions enroute to its verdict. 'Substantial' evidence is such relevant evidence from

4   the record taken as a whole as might be accepted by a reasonable mind as adequate to support the

5   finding under review." *Id.*; *see also El-Hakem v. BJY Inc*., 415 F.3d 1068, 1072 (9th Cir. 2005)

6   ("A motion for a judgment as a matter of law is properly granted only if no reasonable juror

7   could find in the non-moving party's favor."); *E.E.O.C. v. Go Daddy Software, Inc*., 581 F.3d at

8   961.

9   **II.   HTC FAILED TO RAISE THE ADDITIONAL REQUIREMENT ON "ENTIRE
          OSCILLATOR" IN ITS RULE 50(a) MOTION AND IS BARRED FROM
10   RAISING IT HERE.**

11   HTC argues in its Renewed Motion that the "entire oscillator" limitation cannot be met

12   because there is no substantial evidence to show that the ring oscillator in each HTC product

13   "does not rely on an input control to determine its frequency." Renewed Motion at 3-4.

14   As a preliminary matter, HTC is precluded from making the above argument because

15   HTC did not raise it in HTC's Rule 50(a) Motion after HTC rested its case-in-chief. *See* HTC's

16   Rule 50(a) Motion (Docket No. 647). Nor did HTC raise the argument in its oral motion for

17   judgment as a matter of law after TPL rested its case-in-chief. Trial Tr. 1008:10-1011:3.

18   "[A] party may only base a motion for judgment notwithstanding the verdict on a ground

19   that he included in a prior motion for directed verdict at the close of all the evidence. . . .

20   Providing the opportunity to the nonmovant to repair gaps in its proofs is the reason Rule 50(b)

21   is rigorously applied." *Hoechst Celanese Corp. v. BP Chems. Ltd*., 78 F.3d 1575, 1581-82 (Fed.

22   Cir. 1996); *E.E.O.C. v. Go Daddy Software, Inc*., 581 F.3d at 961 ("[A] proper post-verdict Rule

23   50(b) motion is limited to the grounds asserted in the pre-deliberation Rule 50(a) motion")

24   (internal citations omitted); *see generally Cone v. West Virginia Pulp & Paper Co*., 330 U.S. 212

25   (1947) (discussing opportunities pursuant to Rule 50(b) for litigants and trial judge to correct

26   errors before appeal is taken). "Failing to properly move for JMOL at the close of the evidence

27   precludes a challenge to the sufficiency of the evidence underlying fact findings." *Sw. Software,*

28   *Inc. v. Harlequin Inc*., 226 F.3d 1280, 1290 (Fed. Cir. 2000) (precluding accused infringers from

1   arguing on renewed JMOL that they could not be liable as a matter of law for infringement under

2   § 271(f) because they did not properly move for JMOL concerning infringement under § 271(f)).

3   In this case, because HTC failed in its previous motions to challenge the sufficiency of the

4   evidence as to whether the ring oscillator in the HTC products relies on an input control to

5   determine its frequency, HTC cannot raise this issue now.

6   Accordingly, HTC's challenge to the jury's finding that an "entire oscillator" exists in

7   each accused product should be rejected on this basis alone.

8   **III.   HTC IS IMPROPERLY SEEKING RECONSIDERATION OF THE COURT'S
         ORDER CONSTRUING "ENTIRE OSCILLATOR."**

9

10   HTC premises much of its Renewed Motion on importing into the term "entire oscillator"

11   the additional requirement that the ring oscillator "does not rely on an input control to determine

12   its frequency." But the Court previously rejected HTC's prior attempt to do exactly that. After

13   the Court's order denying HTC's motion for summary judgment, HTC filed an emergency

14   motion to amend the jury instructions with the above requirement. Docket No. 590 at 2. At the

15   hearing on the motion, HTC strenuously argued for the addition of the requirement, alleging, just

16   as it does now, prosecution history disclaimer based on the Magar and Sheets references. But as

17   TPL pointed out in its opposition, the applicants never disclaimed all reliance or reference to an

18   off-chip crystal. To avoid Magar, the patentees disclaimed an off-chip oscillator that generated

19   the on-chip clock. Defendants' Opposition to Emergency Motion (Docket No. 596) at 4-5. To

20   avoid Sheets, the patentees disclaimed an off-chip clock that required a command input. *Id*. at 5.

21   After considering the parties' arguments, this Court denied HTC's motion and excluded HTC's

22   proposed additional requirement from the construction of the term "entire oscillator." Docket

23   No. 607. Consistent with the Court's construction, the final jury instructions stated only that

24   "[t]he term 'entire oscillator' (in claims 6 and 13) is properly understood to exclude any external

25   clock used to generate the signal used to clock the CPU." Docket No. 646 at 26:4-5. Neither

26   Magar nor Sheets was discussed at trial.

27   Having lost the claim construction argument regarding the term "entire oscillator" on a

28   motion before the Court, and having failed to move for reconsideration of the Court's order,

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1   HTC cannot now disguise the same claim construction argument in a post-trial motion. *See* Civil

2   L. R. 7-9 (Repetition of "any oral or written argument," even in a motion for reconsideration, is

3   prohibited and "subject to appropriate sanctions."). Instead, the proper question on this post-trial

4   motion is whether substantial evidence supports the jury's findings pursuant to the Court's final

5   jury instructions. The answer is a definitive yes.

6   **IV.   SUBSTANTIAL EVIDENCE SUPPORTS THE JURY'S FINDINGS.**

7   Where, as in this case, "a jury returns a general verdict, the law presumes the existence of

8   fact findings implied from the jury's having reached that verdict." *R.R. Dynamics, Inc. v. A.*

9   *Stucki Co*., 727 F.2d 1506, 1516 (Fed. Cir. 1984). "That the jury must make certain findings

10 before it can reach its verdict is, as it was here, made clear in the instructions on the law given

11 the jury." *Id*.

12   The jury in this case received the Court's detailed jury instructions. *See* Final Jury

13 Instructions (Docket No. 646). In its Renewed Motion, HTC made no effort to claim error in any

14 instruction. Those instructions required the jury to make proper findings before reaching its

15 conclusions on the questions presented to it. They specifically required findings that every

16 requirement of a claim was included in an accused product before the jury could reach its

17 conclusion on literal infringement. Docket No. 646 at 29:3-4. Regarding claim construction, the

18 instructions stated, "[t]he term 'entire oscillator' (in claims 6 and 13) is properly understood to

19 exclude any external clock used to generate the signal used to clock the CPU;" and the term

20 "varying . . . in the same way" means "[i]ncreasing and decreasing proportionally." *Id.* 26:4-5,

21 25:4. Furthermore, the Court instructed that "[a]ny terms not construed [] should be interpreted

22 according to their plain and ordinary meaning." *Id*. 24:13-14.

23   Following those instructions, the jury concluded that HTC literally infringed all asserted

24 claims. Jury Verdict (Docket No. 654) at 2. Therefore, the law presumes that the jury found

25 that: (1) an "entire oscillator" exists in each HTC accused product because the external crystal

26 clock is not "used to generate the signal used to clock the CPU;" and (2) the processing

27 frequency of the CPU and the clock rate of the on-chip oscillator in each HTC accused product

28 vary "in the same way as a function of parameter variation in one or more fabrication or

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1   operational parameters." Contrary to HTC's mistaken assertions, the question of literal

2   infringement in this case did turn on resolving conflicting evidence and weighing credibility of

3   witnesses. Both of the above jury findings, which HTC now challenges, were disputed questions

4   of fact surrounding the operation of the accused products. And both findings are supported by

5   substantial evidence.

6   **A.   Substantial Evidence Supports the Finding that an "Entire Oscillator" Exists
            in Each HTC Accused Product Because the External Crystal Clock Is Not
7   "Used to Generate the Signal Used to Clock the CPU."**

8   At trial, the jury heard substantial testimony from the inventor of the '336 patent, both

9   parties' technical experts, and engineers from Texas Instruments and Qualcomm, all of whom

10 established that an "entire oscillator" exists in all of the HTC accused products because none of

11 them use an external crystal clock to generate the clock signal for the CPU.

12   Mr. Moore, one of the '336 patent inventors, testified that ring oscillators generate a

13 clock signal on their own, as long as they are connected to power and ground. Trial Tr. 272:13-

14 16 ("Q. And other than turning on the power, do you need to do anything else to make the ring

15 oscillator go and generate a clock signal? A. No. There are no control signals.").

16   Throughout his testimony, TPL's technical expert, Dr. Oklobdzija, emphasized that a ring

17 oscillator in an HTC accused product *does not use* an external crystal/clock *to generate* a clock

18 signal used by the CPU. Dr. Oklobdzija repeatedly clarified that a ring oscillator generates a

19 clock signal on its own, without relying on external crystals. Trial Tr. 565:15-19 ("The ring

20 oscillator generates the clock regardless, and it will continue to generate the clock even when

21 you disconnect this, this crystal."), 565:22-25 ("Q. Does any on-chip component rely on the off-

22 chip crystal to generate a clock signal? A. No.").

23   HTC's technical expert, Mr. Gafford, admitted that it is the ring oscillator that generates

24 the clock signal for the CPU. Trial Tr. 1364:18-22 ("Q. So you've got a 2.0 gigahertz clock

25 signal generated by the ring oscillator that's clocking the CPU, and you divide by 100, and that's

26 what this circuitry actually does; correct? A. Yes.").

27   Mr. Gafford further admits that the external crystal is not used to generate the signal.

28 Rather, its clock is used only to compare with the phase of the ring oscillator's *already*

1   *generated* clock signal that has been steeply divided by the frequency divider. Trial Tr. 1364:18-

2   1365:1 ("Q. [The 2.0-gigahertz clock signal generated by the ring oscillator is divided by 100]

3   [t]o get a 20 megahertz signal so that you can do edge matching with the external reference

4   crystal signal in the phase detector, correct? A. Yes."). As Dr. Oklobdzija explained, the ring

5   oscillator generates a very high frequency clock signal on its own, which must then be divided to

6   obtain a lower frequency so that its phase can be compared to the phase of the external reference.

7   Trial Tr. 569:2-18. After that, the PLL can make adjustments to the analog voltage/current

8   provided to the ring oscillator to *regulate* -- but not to *generate* -- its frequency. *Id*. at 569:19-

9   22.

10   HTC's focus on a formula is a red herring. The frequency of the external crystal clock

11   (f_{TCXO}) is never multiplied to generate the output frequency of the on-chip clock (f_{CLK}). Rather,

12   f_{CLK} is divided down to allow it to be compared to the much slower f_{TCXO}. The formula merely

13   shows how the ring oscillator is able to use the external crystal clock as a *reference* to *adjust* the

14   on-chip clock signal, not to actually *generate* the on-chip clock signal itself. In fact, HTC's own

15   witness, Mr. Fichter, testified that the external crystal clock in the HTC phones serves merely as

16   a *reference* signal. Trial Tr. 1019:23-1020:3. Mr. Dena confirmed that this crystal functions as

17   a *reference* for the Qualcomm chips used in the HTC phones. Trial Tr. 1044:2-12; 1048:10-15.

18   Dr. Haroun also confirmed that the external crystal clock functions as a *reference* for the TI

19   chips used in the HTC phones. Trial Tr. 350:14-17. In fact, Dr. Haroun admitted that only the

20   ring oscillator in the TI chips could create or generate the high frequency used to clock the CPU.

21   Trial Tr. 353:23-354:3. Because the external crystal serves merely as a reference, if that crystal

22   is disconnected, the ring oscillator will still be able to generate a clock signal. Trial Tr. 567:8-22

23   ("Q. So the ring oscillator will still run if you disconnect the crystal? A. Yes, because *crystal is*

24   *not essential to generate* the clock. *Crystal is not needed to generate* the clock.") (emphasis

25   added).

26   Contrary to HTC's assertion, TPL did not argue during trial, by way of the RV analogy,

27   that "for a system to be excluded from the 'entire oscillator' definition, the signal from the

28   external clock had to *directly* clock the CPU." HTC's Renewed Motion at 6-7 (emphasis in

1   original). Instead, TPL's counsel pointed out only that the RV's engine was not "used to

2   generate" the power for the sports car that was following (but not being towed by) the RV. Trial

3   Tr. 1552:18-21. Similarly, the external crystal in HTC's accused products is not "used to

4   generate the signal used to clock the CPU." It is only "used to limit or regulate the speed of the

5   clock signal that is generated by the ring oscillator." Trial Tr. 1551:16-18.

6   Whether the external crystal is used to "generate" was a factual dispute presented to the

7   jury. As explained above, the jury properly found that the external crystal is not used to

8   "generate," and that finding is supported by substantial evidence.

9   **B.**   **Substantial Evidence Supports the Finding that the Accused Products Meet**
            the "Varying" Limitation.

10

11   Substantial evidence supports the jury's finding that the processing frequency of the CPU

12   and the clock rate of the on-chip oscillator in each HTC accused product vary "in the same way

13   as a function of parameter variation in one or more fabrication or operational parameters." First,

14   HTC's own technical expert, Thomas Gafford, testified that the processing frequency of the CPU

15   and the clock rate of the on-chip oscillator must always vary in the same way. Trial Tr. 1387:13-

16   1388:1. Second, because the claim limitation is disjunctive, TPL needed to show only that such

17   variation is a function of at least one parameter among the several fabrication or operational

18   parameters (*e.g.*, voltage and temperature). The trial record is abundantly clear that TPL did

19   exactly that with respect to at least the process / fabrication parameters.

20   Process parameters vary from chip to chip because, as Mr. Gafford testified, process

21   parameters are the same for components of the same chip, such as the CPU and the on-chip

22   oscillator in each HTC accused product. Trial Tr. 1394:8-11, 1393:16-23. Mr. Gafford also

23   admitted that such process variation between chips results in variation between chips in

24   processing frequency (and the associated clock rate). Trial Tr. 1390:2-11; 1394:8:-11.

25   Process variation, and therefore processing frequency and clock rate variation, between

26   chips, exists in all HTC accused products. Qualcomm's representative, Mr. Sina Dena, testified,

27   for example, that, for the same chip design, Qualcomm separates chips with higher clock speeds

28   at the "high end" or "fast corner of the process," from chips with lower clock speeds at the

1 "slower corner of the process" -- a practice called binning. Trial Tr. 1083:5-14. Qualcomm

2 assigns different product names or designations to chips in different bins even though they have

3 the "same design." Trial Tr. 1083:5-14, 1064:14-24, 1083:22-23. In fact, "the higher speed bin

4 products will have potentially a different frequency plan." Trial Tr. 1083:22-1084:5. Qualcomm

5 charges more for such chips. Trial Tr. 1064:10-24. HTC's expert, Mr. Gafford, confirmed that

6 "there have to be process variations among the chips in the HTC accused products," "because

7 process variation is endemic to silicon production." Trial Tr. 1393:16-23.

8   HTC argues that the processing frequency and clock rate in each HTC accused product do

9 not vary "as a function of parameter variation in one or more fabrication or operational

10 parameters" because certain formulae do not recite any fabrication or operational parameter.

11 Renewed Motion at 8. Again, HTC's focus is misplaced. As explained above, the formulae

12 merely show how the ring oscillator uses the external crystal clock as a reference, not how the

13 ring oscillator actually generates the clock signal. HTC's formula argument is also irrelevant to

14 the fact that differently binned chips – even if they have the same design – are set to run at

15 different frequencies and sold for different prices.

16   In short, substantial evidence supports the jury's verdict that the clock rate and CPU

17 processing frequency "vary … in the same way" based on fabrication variations.

18 ## Conclusion

19   For the foregoing reasons, TPL respectfully requests that the Court deny HTC's Renewed

20 Motion in its entirety.

21

22 Dated: November 14, 2013   Respectfully submitted,

23   AGILITY IP LAW, LLP

24

25   By: /s/ James C. Otteson_____
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