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Paper 30
Entered: March 7, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

QUALCOMM INCORPORATED and
QUALCOMM ATHEROS, INC.,
Petitioner,

v.

PARKERVISION, INC.,
Patent Owner.

Case IPR2015-01831
Patent 6,091,940

Before BART A. GERSTENBLITH, CHRISTOPHER L. CRUMBLEY, and JASON J. CHUNG, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318 and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review trial, instituted pursuant to 35 U.S.C. § 314, Qualcomm Incorporated and Qualcomm Atheros, Inc. (collectively, "Qualcomm") challenge the patentability of claims 4, 22, 23, 100, 113–116, 118, 119, 309–312, 314, 315, and 319 of U.S. Patent No. 6,091,940 (Ex. 1001, "the '940 patent"), owned by ParkerVision, Inc.

We have jurisdiction under 35 U.S.C. § 6(b). This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a), addresses issues and arguments raised during trial. For the reasons discussed below, we determine that Qualcomm has proven, by a preponderance of the evidence, that claims 4, 22, 23, 100, 113–116, 118, 119, 309–312, 314, 315, and 319 of the '940 patent are unpatentable.

A. Procedural History

On August 28, 2015, Qualcomm requested an *inter partes* review of claims 4, 22, 23, 100, 113–116, 118, 119, 309–312, 314, 315, and 319 of the '940 patent. Paper 1, "Pet." ParkerVision filed a Patent Owner Preliminary Response. Paper 7, "Prelim. Resp." In a Decision on Institution of *Inter Partes* Review (Paper 8, "Dec. on Inst."), we instituted trial as to all challenged claims on the following grounds of unpatentability:

1. Whether claims 4, 22, 23, 100, 113–116, 118, 309–312, 314, and 319 are unpatentable under 35 U.S.C. § 103(a), as having been obvious over the combined disclosures of Nozawa[1] and Philips 4052;[2] and
2. Whether claims 119 and 315 are unpatentable under 35 U.S.C. § 103(a), as having been obvious over the combined disclosures of Nozawa, Philips 4052, and Maas.[3]

Dec. on Inst. 32.

Following institution of trial, ParkerVision filed a Patent Owner Response (Paper 16, "PO Resp."), and Qualcomm filed a Reply (Paper 19, "Pet. Reply").

Qualcomm supported its Petition with the Declaration of Dr. Lawrence E. Larson. Ex. 1002. ParkerVision took cross-examination testimony of Dr. Larson via deposition on May 16, 2016, and submitted the transcript of that deposition. Ex. 2001.

With its Response, ParkerVision submitted the Declaration of Dr. Neil Birkett. Ex. 2008. Qualcomm noticed the deposition of Dr. Birkett (Paper 17), but did not submit the transcript of that deposition. Qualcomm did, however, submit the testimony of Dr. Birkett, taken by deposition in a

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[1] Yasuo Nozawa, *The Merigo Method: SSB Generator/Producing a Demodultor*, HAM Journal Special Edition: The Handmade SSB Challenge, 15–26 (July/August 1993) (Ex. 1003). Exhibit 1003 includes both the original Japanese version of Nozawa and a certified translation accompanied by a translator's declaration.

[2] Philips, 74HC/HCT4052 Dual 4-Channel Analog Multiplexer/Demultiplexer, (December 1990) (Philips Semiconductors Data Sheet) (Ex. 1004).

[3] Stephen A. Maas, MICROWAVE MIXERS (Artech House Publishers, 2nd ed. 1993) (Ex. 1017).

related proceeding before the United States International Trade Commission. Ex. 1037.

Following Qualcomm's Reply, counsel for ParkerVision contacted the Board, alleging that the Reply exceeded the scope permitted under 37 C.F.R. § 42.23(b). We authorized ParkerVision to file an identification of the portions of the Reply that allegedly exceeded the proper scope. Paper 22. ParkerVision filed the authorized list (Paper 24), and Qualcomm filed a response (Paper 26).

Neither party filed a motion to exclude evidence.

Oral hearing was requested by both parties (Papers 21, 23), and argument before the Board was held on November 29, 2016.

B. The '940 Patent

The '940 patent, titled "Method and System for Frequency Up-Conversion," is directed to "[a] method and system . . . wherein a signal with a lower frequency is up-converted to a higher frequency." Ex. 1001, [54], [57]. According to the '940 patent, "[t]he up-conversion is accomplished by controlling a switch with an oscillating signal, the frequency of the oscillating signal being selected as a sub-harmonic of the desired output frequency." *Id.* The '940 patent explains:

> The methods and systems of transmitting vary slightly depending on the modulation scheme being used. For some embodiments using frequency modulation (FM) or phase modulation (PM), the information signal is used to module an oscillating signal to create a modulated intermediate signal. If needed, this modulated intermediate signal is "shaped" to provide a substantially optimum pulse-width-to-period ratio. This shaped signal is then used to control a switch which opens and closes as a function of the frequency and pulse width of the

> shaped signal. As a result of this opening and closing, a signal that is harmonically rich is produced with each harmonic of the harmonically rich signal being modulated substantially the same as the modulated intermediate signal. Through proper filtering, the desired harmonic (or harmonics) is selected and transmitted.

Id. at 1:58–2:5. The '940 patent further explains:

> For some embodiments using amplitude modulation (AM), the switch is controlled by an unmodulated oscillating signal (which may, if needed, be shaped). As the switch opens and closes, it gates a reference signal which is the information signal. In an alternate implementation, the information signal is combined with a bias signal to create the reference signal, which is then gated. The result of the gating is a harmonically rich signal having a fundamental frequency substantially proportional to the oscillating signal and an amplitude substantially proportional to the amplitude of the reference signal. Each of the harmonics of the harmonically rich signal also have amplitudes proportional to the reference signal, and are thus considered to be amplitude modulated. Just as with the FM/PM embodiments described above, through proper filtering, the desired harmonic (or harmonics) is selected and transmitted.

Id. at 2:6–21.

C. Illustrative Claims

Of the claims on which trial was instituted, 4 and 22 are independent. Claims 100, 113–116, 118, and 119 depend directly or indirectly from claim 4, and claims 23, 309–312, 314, 315, and 319 depend directly or indirectly from claim 22. Claims 4 and 22 are illustrative of the claimed subject matter and are reproduced below:

> 4. An apparatus for frequency up-conversion, comprising:
>
> a switch module that receives an oscillating signal and a bias signal, wherein said oscillating signal causes said switch module to gate said bias signal and thereby generate a periodic signal having a plurality of harmonics, said periodic

signal having an amplitude that is a function of said bias signal; and

a filter coupled to said switch module to isolate at least one of said plurality of harmonics.

Ex. 1001, 67:25–33.

22. An apparatus for communicating comprising:

(a) a transmitting subsystem comprising:

(1) a switch module having a first input connected to a bias signal, a control input connected to a control signal, and an output generating a periodic signal, wherein said control signal is an oscillating signal, said control signal causing said switch module to gate said bias signal, said periodic signal having an amplitude that is a function of said bias signal, and said periodic signal being a harmonically rich signal comprised of a plurality of harmonics, and

(2) a filter to accept said harmonically rich signal and to output one or more desired harmonics from said plurality of harmonics; and

(b) a receiving subsystem.

Id. at 69:33–47.

II. ANALYSIS

A. Claim Construction

For purposes of our Decision on Institution, we analyzed each claim term in light of its broadest reasonable interpretation, as understood by one of ordinary skill in the art and consistent with the specification of the '940 patent. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Under the broadest reasonable interpretation standard, and absent any special definitions, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary

skill in the art in the context of the entire disclosure. *In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim terms or phrases must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

In the Decision on Institution, we evaluated the parties' proffered constructions for the claim terms "switch module," "to gate," "harmonic," "desired harmonics," and "pulse shaping module." Dec. on Inst. 7–18. We determined that, based on the record at the time, the broadest reasonable interpretations of the terms were as follows:

switch module	"device with an input and output that can take two states, open and closed"
to gate	no express construction necessary
harmonic	"a frequency or tone that, when compared to its fundamental or reference frequency or tone, is an integer multiple of it . . . [and] includes the fundamental frequency as the first harmonic"
desired harmonic	no express construction necessary
harmonically rich signal	"a signal comprised of a plurality of harmonics"
pulse shaping module	no express construction necessary

During the trial, ParkerVision asserted that we should maintain our construction of "harmonic" (PO Resp. 18–22), and Qualcomm did not address the adopted construction. With respect to the remaining terms, ParkerVision argues that none of these terms are material to the remaining dispute between the parties, which is focused on the "harmonic" limitation. *Id.* at 23–24. On this, we agree. As the remaining terms are not material to

the parties' dispute, we decline to construe them further. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

B. Obviousness over Nozawa and Philips 4052

We instituted trial to determine whether claims 4, 22, 23, 100, 113–116, 118, 309–312, 314, and 319 are unpatentable under 35 U.S.C. § 103(a), as they would have been obvious over the combined disclosures of Nozawa and Philips 4052. Dec. on Inst. 32. An obviousness inquiry involves four underlying determinations: the scope and content of the prior art; the differences between the prior art and the claims at issue; the level of ordinary skill; and any objective indicia of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). We begin by assessing the scope and content of the prior art, namely the disclosures of Nozawa and Philips 4052.

1. Nozawa

Nozawa teaches a single sideband (SSB) transceiver for transmitting and receiving audio signals. Ex. 1003, 15–16; Ex. 1002 ¶ 140. Figure 8 of Nozawa, reproduced below, is a circuit diagram of the transmitter, depicting an SSB generator circuit:

FIG. 8: Diagram of New Type of SSB Generator Circuit

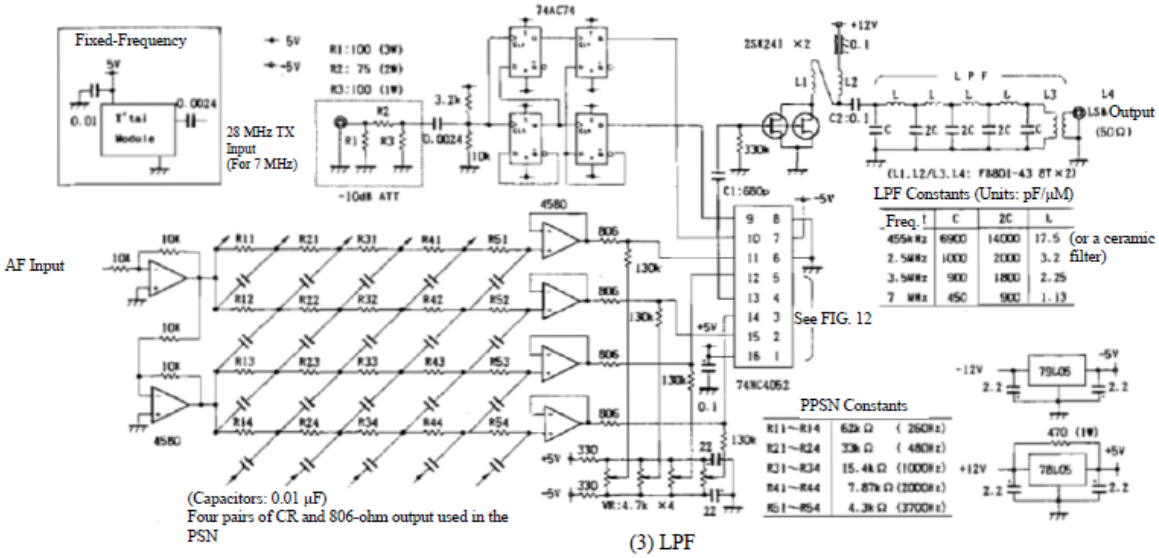

Figure 8 depicts, at bottom left, an audio frequency input ("AF Input") that is split into four signals that have 90° phase differences from one another. Ex. 1003, 20. The signals are then input to a 4052 chip—Nozawa specifically recites "a 74HC4052"—which includes a CMOS analog switch. *Id.* The split AF signals are input to pins 11, 12, 14, and 15 of the chip. *Id.* at Fig. 8.

Nozawa also teaches providing to the 4052 chip an oscillating signal ("Lo") output from a 74AC74 chip. *Id.* at 20. This Lo signal is input to pins 9 and 10 of the 74HC4052 chip. *Id.* at Fig. 8. In his Declaration, Dr. Larson annotates Figure 8 of Nozawa as follows:

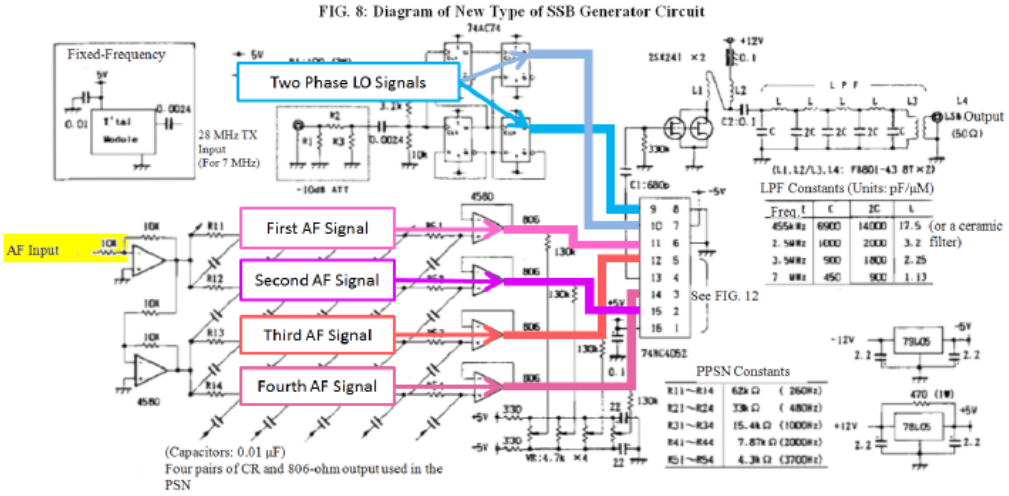

Figure 8 of Nozawa, as annotated by Dr. Larson, depicts two phase LO signals and first through fourth AF signals entering the 4052 chip at pins 9–12, 15, and 16. Ex. 1002 ¶ 142.

Nozawa also teaches the use of a low-pass filter, which filters the output of the 4052 chip (from pin 13) because it "in principle includes many harmonics." Ex. 1003, 20. According to Dr. Larson, this low-pass filter is depicted in the upper right of Figure 8. Ex. 1002 ¶ 147.

A receiver, also described as a single sideband ("SSB") demodulator, is taught by Nozawa and depicted below in Figure 12:

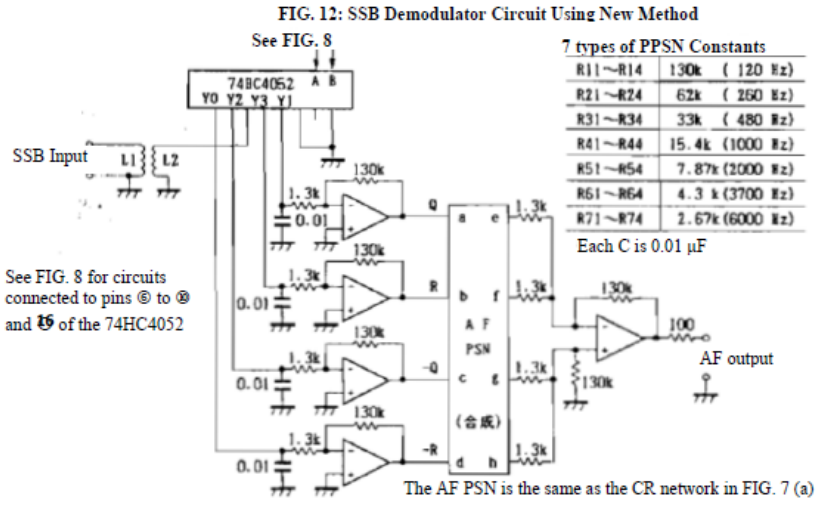

Figure 12 shows that the Nozawa receiver uses the same 4052 chip "rotary switch" as used in the transmitter, in the "opposite of its role in the generator in that it acts as a distributor that distributes the SSB input signal to the four capacitors." Ex. 1003, 24. The four component AF signals are then reconstituted into the final AF output. *Id.*

2. Philips 4052

Philips 4052 is a product specification for a 74HC/HCT4052 Dual 4-channel analog multiplexer/demultiplexer, manufactured by Philips Semiconductors. Ex. 1004, 1. Dr. Larson testifies that the chip described in Philips 4052 is the same as that referenced by Nozawa as "74HC4052," and that a person of skill in the art "would have considered it obvious to look at the Philips 4052 datasheet to help explain the operation of the device in Nozawa." Ex. 1002 ¶¶ 152–53. Philips 4052 provides details on the function of the chip, including a functional diagram as Figure 4, depicted below:

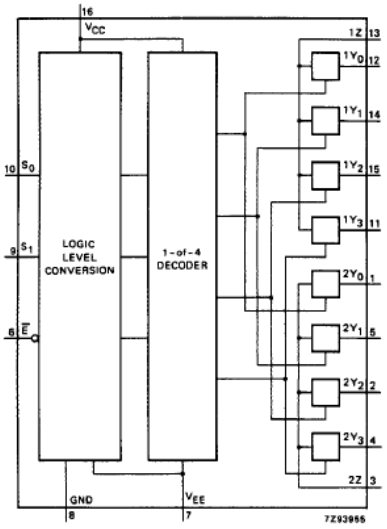

Fig.4 Functional diagram.

Figure 4 of Philips 4052 shows the inputs at various pins 1–16 of the 74HC4052 chip and how those inputs are fed to various components within the chip. Each of pins 1–5 and 11–15 is connected to a CMOS switch, detailed in Figure 5 of Philips 4052. Ex. 1004, 4; Ex. 1002 ¶ 144.

3. Level of Ordinary Skill in the Art

Qualcomm contends, citing Dr. Larson's testimony, that one of ordinary skill in the art

> as of October 1998 would possess, at a minimum, either (a) a master of science degree in electrical engineering and two or more years of experience in radio frequency circuit design, or (b) a bachelor of science degree in electrical engineering with three or more years of experience with the design and development of RF circuits.

Pet. 10 (citing Ex. 1002 ¶¶ 31–39). ParkerVision does not contest Qualcomm's designation of the level of ordinary skill in the art as of the date of the invention. Accordingly, we adopt Qualcomm's proposed level of ordinary skill in the art.

4. Proposed Combination of Nozawa and Philips 4052

Qualcomm contends that "Nozawa and Philips 4052 both provide architectures and methods for upconversion that can be used for a transmitter." Pet. 21. Indeed, as Qualcomm observes, the 74HC4052 chip described in Philips 4052 is used in Nozawa. *Id.* at 23–24. We agree with Qualcomm that a person of ordinary skill in the art would have had reason to look to the disclosure of Philips 4052 to learn more about the operation of the 74HC4052 chip disclosed in Nozawa. ParkerVision does not challenge that a person of ordinary skill in the art would have combined Nozawa with Philips 4052.

Nor does ParkerVision contest that most of the limitations of the challenged claims are taught by Nozawa and Philips 4052. With respect to claim 4, for example, Qualcomm relies upon Nozawa's SSB Generator Circuit, as informed by the disclosure of Philips 4052, to provide each element of the claim. *Id.* at 22–36. Qualcomm contends that the 74HC4052 chip is the claimed "switch module," which receives a bias signal from one or more of the AF Inputs, and generates a periodic signal having a plurality of harmonics. *Id.* at 23–31. Qualcomm cites to Dr. Larson's testimony, which explains that the oscillating signals sent to each switch of the 4052 chip "gate" the bias signal, by causing the switch to change from an ON-state to an OFF-state. Ex. 1002 ¶ 180.

As such, Qualcomm argues that the proposed combination of Nozawa and Philips 4052 teaches each limitation of the independent claims. ParkerVision contests only one limitation: whether Qualcomm has proven that the combination discloses a "plurality of harmonics." PO Resp. 24–30. We address this argument below.

As to the uncontested limitations of claims 4 and 22, as well as the additional limitations of the challenged dependent claims, we have reviewed Qualcomm's unchallenged arguments and evidence on these points (Pet. 22–48), find them persuasive that the references disclose the limitations, and adopt Qualcomm's analysis as our findings herein.

5. Whether Nozawa and Philips 4052 Disclose a Plurality of Harmonics

Claims 4 and 22, as well as the dependent claims, are directed to apparatuses for frequency up-conversion (or communicating) that have, *inter alia*, "a switch module" that generates a periodic signal having a plurality of

harmonics. ParkerVision's sole[4] argument for patentability is that the combination of Nozawa and Philips 4052 fails to teach or suggest this limitation, particularly the "plurality of harmonics." PO Resp. 24–30.

Qualcomm argues that Nozawa teaches generating a periodic signal from its 74HC4052 chip (Pet. 29–31), shown highlighted in green in the following portion of Nozawa's Figure 8, as annotated by Dr. Larson:

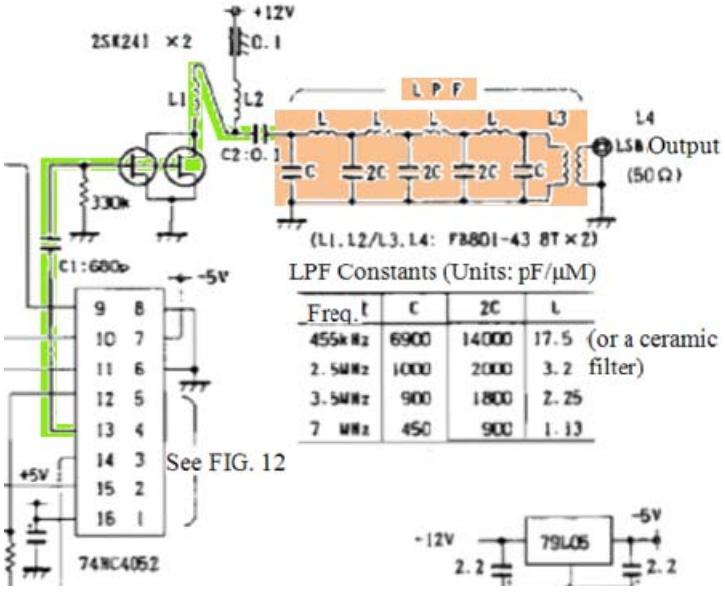

Figure 8 of Nozawa, as annotated by Dr. Larson, shows a periodic signal (green highlight), produced by chip 74HC4052 at pin 13, going to a low-pass filter (LPF, orange highlight). Ex. 1002 ¶ 190. Qualcomm points to Nozawa's statement that the low-pass filter is needed because "the method used to realize this system is 'switching,' which in principle includes many harmonics." Ex. 1003, 20. Dr. Larson also testifies that a person of

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[4] ParkerVision also argues that the prior art does not teach a filter to isolate the desired harmonics of a plurality of harmonics, but this argument is based entirely on the prior argument that no plurality of harmonics is generated. PO Resp. 32. Resolution of the "plurality of harmonics" issue, therefore, resolves the "filter" issue.

ordinary skill in the art would have recognized that the output signal of the 74HC4052 chip contains harmonics, using the formula for mixer output frequencies given in Maas. Ex. 1002 ¶ 184 (citing Ex. 1017, 30).

In response, ParkerVision contends that Nozawa does not disclose expressly that its periodic signal contains a plurality of harmonics because there is no evidence that the "many harmonics" of Nozawa are the integer multiple harmonics required by the claims. PO Resp. 25–27. On this point, we agree with ParkerVision. Nozawa's disclosure that the output "in principle" contains many harmonics does not convince us that the output actually, or necessarily, contains the integer multiple harmonics.

Regarding the Maas equation, ParkerVision directs us to a portion of Dr. Larson's deposition, in which Dr. Larson used the Maas equation to calculate the harmonics produced by a mixer, given certain assumed inputs supplied by ParkerVision's counsel (an input signal of 100 kHz and an LO input of 1 MHz). *Id.* at 28–30 (citing Ex. 2001, 177–87). ParkerVision notes that Dr. Larson's calculations produced -0.9, 3.1, and -4.9 MHz as the first three harmonics, which are not integer multiples. PO Resp. 30. Thus, ParkerVision argues, the circuit of Nozawa does not necessarily produce a plurality of harmonics, defined by the '940 patent as being integer multiples of the fundamental frequency. *Id.*

Qualcomm argues that the Maas equation "shows that Nozawa will necessarily produce the required 'integer multiple' harmonics for *many* input frequencies." Pet. Reply 4 (emphasis added). According to Qualcomm, it is not required to show that Nozawa will produce integer multiple harmonics for all operating conditions; rather, it is only relevant that Nozawa *could* be operated to produce the harmonics. *Id.* Regarding Dr. Larson's calculations

during his deposition, Qualcomm contends that even using the assumed inputs provided by ParkerVision, the Maas equation shows that the 35th and 37th harmonics are 35.1 and -36.9 MHz, respectively, which are integer multiples of the fundamental frequency of 0.9 MHz. *Id.* at 7. Qualcomm also notes that selecting slightly different input frequencies for the Maas equation will produce much lower integer multiple harmonics, such as at the 7th and 9th harmonics. *Id.* at 8.

The parties' disagreements over the various inputs and permutations of the Maas equation aside, one point appears to be beyond dispute: under some conditions, but not all conditions, the Maas equation shows that Nozawa's structure will produce a periodic signal that contains integer multiples of the fundamental frequency. In other words, the structure of Nozawa is *capable* of producing a signal that satisfies the limitations of the claim. Qualcomm argues that this is sufficient to show unpatentability. Pet. Reply 13 (citing *Gen. Electric Co. v. Jewel Incandescent Lamp Co.*, 326 U.S. 242, 248–49 (1945)). On this point, we agree. The challenged claims at issue here are apparatus claims; as such, they "cover what a device *is*, not what a device *does*." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 (Fed. Cir. 1990). In other words, the "periodic signal" limitations, which are directed to the transitory electrical signals produced by the apparatus, cannot give rise to patentability so long as the underlying apparatus has been shown to be capable of generating those signals. Here, it is undisputed that Nozawa's circuit is capable of generating a periodic signal having a plurality of harmonics, wherein those harmonics are integer multiples of the fundamental frequency. Furthermore, we agree with

Qualcomm that Nozawa's low-pass filter is capable of isolating one or more of those harmonics, as desired.

Accordingly, we find that Qualcomm has shown,[5] by a preponderance of the evidence, that the combination of Nozawa and Philips 4052 teaches each and every limitation of claims 4, 22, 23, 100, 113–116, 118, 309–312, 314, and 319. Additionally, for the reasons discussed above, we find that Qualcomm has shown that one of ordinary skill in the art would have been prompted to combine the teachings of the references in the manner proposed.

C. Obviousness over Nozawa, Philips 4052, and Maas

We also instituted trial to determine whether claims 119 and 315 are unpatentable under 35 U.S.C. § 103(a), as they would have been obvious over the combined disclosures of Nozawa, Philips 4052, and Maas. Dec. on Inst. 32. These dependent claims further require that the plurality of harmonics are harmonics of the fundamental frequency of the periodic signal. *See, e.g.*, Ex. 1001, 77:39–41 (claim 119). Qualcomm relies on Maas, in combination with Nozawa and Philips 4052, to disclose this limitation. Pet. 49–51.

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[5] In reaching our conclusion, we found that the Petition set forth sufficient evidence and argument that Nozawa discloses an apparatus that teaches the elements of the challenged claims. As such, we did not rely upon the portions of Qualcomm's Reply that ParkerVision identified as exceeding the scope of a permissible reply. *See* Paper 24. Because we did not rely upon them, we need not decide whether Qualcomm's additional arguments, identified by ParkerVision, were appropriate for a reply brief. Accordingly, ParkerVision's argument that Qualcomm's Reply exceeded the scope of a permissible reply is moot.

According to Qualcomm, a person of ordinary skill in the art would have understood that Nozawa generates harmonics that are harmonics of the fundamental frequency. Pet. 49 (citing Ex. 1002 ¶¶ 242–244). To support this alleged understanding, both Petitioner and Dr. Larson cite Maas, and argue that, "as a matter of physics, harmonics of the fundamental frequency of the periodic signal are present in the mixer output." *Id.*; Ex. 1002 ¶ 243. Petitioner concludes that a person of ordinary skill in the art "would consider it obvious to operate Nozawa's mixer at frequencies that would generate harmonics of the fundamental frequency of the periodic signal." Pet. 50 (citing Ex. 1002 ¶¶ 242–244).

ParkerVision does not challenge Qualcomm's characterization of the disclosure of Maas or this testimony by Dr. Larson, or contend that a person of ordinary skill in the art would not have combined Maas's disclosure with that of Nozawa and Philips 4052. Nor does ParkerVision raise any other argument for the patentability of claims 119 and 315 separate from those made for the independent claims, which we have found unpersuasive. *See* Paper 9, 3 ("Patent Owner is cautioned that any arguments for patentability not raised in the response will be deemed waived."). As discussed above, ParkerVision does not deny that Nozawa's device is capable of being operated to produce a plurality of harmonics, or that those harmonics would be harmonics of the fundamental frequency. This is sufficient to meet the apparatus claims challenged here.

For the foregoing reasons, we conclude that Qualcomm has established, by a preponderance of the evidence, that claims 119 and 315 would have been obvious over the disclosures of Nozawa, Philips 4052, and Maas.

III. CONCLUSION

We have reviewed the evidence and arguments presented by the parties and found that a person of ordinary skill in the art would have had reason to combine the disclosures of Nozawa, Philips 4052, and Maas and would have had a reasonable expectation of success in doing so, and the combination would have taught all elements of the challenged claims. Furthermore, ParkerVision has not presented any evidence pertaining to objective indicia of nonobviousness. We conclude that Qualcomm has met its burden to prove, by a preponderance of the evidence, that claims 4, 22, 23, 100, 113–116, 118, 309–312, 314, and 319 would have been obvious over the combined disclosures of Nozawa and Philips 4052, and that claims 119 and 315 would have been obvious over the combined disclosures of Nozawa, Philips 4052, and Maas.

IV. ORDER

Accordingly, it is:

ORDERED that claims 4, 22, 23, 100, 113–116, 118, 119, 309–312, 314, 315, and 319 of U.S. Patent No. 6,091,940 are *unpatentable*;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 318(b), upon expiration of the time for appeal of this Decision, or the termination of any such appeal, a certificate shall issue canceling claims 4, 22, 23, 100, 113–116, 118, 119, 309–312, 314, 315, and 319 of U.S. Patent No. 6,091,940; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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