

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HEWLETT PACKARD ENTERPRISE COMPANY and
CISCO SYSTEMS, INC.,
Petitioners,

v.

COBBLESTONE WIRELESS LLC,
Patent Owner.

Case IPR2024-00707
Patent 7,924,802

**PATENT OWNER'S AUTHORIZED
PRELIMINARY SUR-REPLY**

I. THE INTRINSIC RECORD IS CLEAR ABOUT THE MEANING OF “CENTER FREQUENCY.”

The intrinsic record is clear regarding the meaning of “center frequency.” POPR, 5-18. In each of the 90 instances “center frequency” appears in the ’802 patent, it consistently means the carrier frequency to which the baseband signal is upconverted. *Id.* The ’802 even uses “center frequency” and “carrier frequency” interchangeably, confirming this meaning of “center frequency” and rejecting Petitioner’s construction (middle frequency of a frequency range). *Id.*, 11-12. Nor is anything unusual about this usage as Petitioner’s own prior art uses “center frequency” in this same way. *Id.*, 13-14 (discussing Ex. 1004).

The Reply (at 1-2) accuses Patent Owner of “import[ing]” limitations from the specification. Not so. The claims require a “center frequency”; nothing is being imported. Rather, the issue is what a “center frequency” means, and that is perfectly clear in view of the intrinsic record. Indeed, the Federal Circuit routinely interprets claim terms based on similar analysis in view of the specification, rejecting the argument that it would constitute importing a limitation from the specification. *See, e.g., Enzo Biochem, Inc. v. Applera Corp.*, 780 F.3d 1149, 1156 (Fed. Cir. 2015) (rejecting the allegation of importing limitations from the specification and holding that “[h]ere, we are using the specification to more fully understand what the patentee claimed”); *Flex-Rest, LLC v. Steelcase, Inc.*, 455 F.3d 1351, 1361 (Fed. Cir. 2006) (“Such a requirement does not improperly read a

limitation from the specification into the claim. Rather, the written description and the drawings make clear” what the claim term means); *Ultimate Pointer, L.L.C. v. Nintendo Co.*, 816 F.3d 816, 823 (Fed. Cir. 2016) (rejecting the allegation of importing limitations from the specifications, and holding that “the repeated description of the invention as a direct-pointing system, the repeated extolling of the virtues of direct pointing, and the repeated criticism of indirect pointing clearly point to the conclusion that the ‘handheld device’ ... is limited to a direct-pointing device.”); *Kyocera Wireless Corp. v. Int’l Trade Comm’n*, 545 F.3d 1340, 1349 (Fed. Cir. 2008) (similar); *Chamberlain Group, Inc. v. Lear Corp.*, 516 F.3d 1331, 1337 (Fed. Cir. 2008) (similar); *see also* POPR, 14-16 (discussing cases).

Ignoring the vast bulk of the ’802’s disclosure, Petitioner maintains that its understanding of the term is supported by the Figure 4 embodiment. Reply, 2. In that embodiment, the “center frequency” changes over time. Ex. 1001 [’802] 7:19-42. This is done by programming synthesizer 207 to generate different center frequencies at different times, “[a]s illustrated in FIG. 2.” *Id.*, 7:48-55. As Prof. Cooklev explained, Figure 2, in turn, teaches that synthesizer 207 provides the carrier frequency to which the baseband signal is upconverted. POPR, 10. Thus, it is clear that the Figure 4 embodiment changes the “center frequency” by changing the up-conversion carrier frequency through synthesizer 207. Ignoring Prof. Cooklev’s testimony, the Reply (at 2) argues that in Figure 4, the “center

frequency” can be changed “post-up-conversion” and thus “may not be the carrier signal frequency to which the baseband signal was up-converted.” Petitioner’s assertion contradicts the ’802’s disclosure and is not supported by evidence.

Moreover, Petitioner does not contend that Figure 4 or anything else in the intrinsic record supports its construction of “center frequency.” Reply, 1-3. This flies in the face of basic claim construction principles. The meaning of a claim is not determined “in a vacuum,” *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005), but rather “in the context of” the specification, which is “the single best guide to the meaning of a disputed term,” and usually “dispositive.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc); *see also V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1311 (Fed. Cir. 2005) (“In most cases, the best source for discerning this proper context is the patent specification wherein the patent applicant describes the invention.”).

The Reply (at 1) argues that the challenged claims do not expressly recite two up-conversions. But the ’802 is clear what “center frequency” means, and two center frequencies is expressly required in the Claims. That two “up-conversions” is not recited there is irrelevant. *See also* POPR, 6 (discussing the technology).

The Reply (at 3) also asserts that Patent Owner’s expert “does not opine that a POSITA would understand the plain and ordinary meaning of center frequency to be other than the middle frequency of a frequency range.” But Prof. Cooklev’s

construction of “center frequency” is supported not only by the ’802’s consistent usage but also how that term is used in Petitioner’s own reference, the IEEE 802.11 standard. *See* POPR, 13-14 (discussing Ex. 1004). There is nothing unusual or unsubstantiated about Patent Owner’s construction.

II. PETITIONER’S GROUNDS DO NOT DISCLOSE THE CLAIMS.

As the POPR (at 18-40) showed, Petitioner’s grounds do not disclose *two* “center frequencies,” one greater than the other. Instead, the transmitted signal in these grounds is a baseband signal up-converted to a *single* carrier frequency—thus having a *single* “center frequency.” The Reply (at 1) argues that “the Board need not construe” “center frequency” because Petitioner’s grounds disclose the claim as properly construed. They do not because the claims require two center frequencies, not one. In fact, Petitioner’s references are exactly the prior art the ’802 patent disclosed and improved upon. POPR, 22-24.

In arguing that its grounds disclose the properly construed claims, Petitioner misapprehends Patent Owner’s construction of “center frequency” to mean the middle frequency of a frequency range—the very meaning Patent Owner has refuted. For Ground 1, the Reply (at 4) again argues that the middle frequency of two frequency ranges discloses two “center frequencies” and “[w]hether these two center frequencies and their associated frequency ranges were up-converted by one or more up-convertors from one or more baseband signals is not relevant to

whether the Challenged Claims are unpatentable.” Not so. As Prof. Cooklev explained, a baseband signal is up-converted to a carrier signal, and “center frequency” in the context of the ’802 patent refers to the frequency of this carrier signal. Exhibit 2001 [Cooklev-Decl.] ¶¶ 37-41. Thus, to transmit across two “center frequencies,” one greater than the other, there has to be two up-conversions—each one to a different carrier frequency. *Id.*

The Reply’s attorney arguments appear to be rooted in a misapprehension of the technology. For example, the Reply (at 3) asserts that “PO’s construction only requires that the center frequency be the carrier signal that has been up-converted from a baseband signal.” But as explained, the “center *frequency*” is not “the carrier *signal*,” and the carrier signal is not “up-converted from a baseband signal.” Rather, it is the baseband signal that is modulated on the carrier signal and is thus up-converted to the carrier frequency. POPR, 6-7.

With respect to its Ground 2, Petitioner’s misapprehensions go further, as it argues that Shearer “discloses two separate up-conversions applied to each respective one of the two adjacent 20 MHz frequency ranges” Reply, 5. As the POPR (at 34-35) demonstrated, however, it is undisputed by the experts that both of Shearer’s 20 MHz frequency ranges are combined into a single baseband signal, which is then up-converted once to a single carrier signal with a single carrier frequency—thus disclosing a single “center frequency.”

Respectfully submitted,

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Date: August 1, 2024

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the following documents were served by electronic service, by consent between the parties (Pet. at 77), on the date signed below:

PATENT OWNER'S AUTHORIZED PRELIMINARY SUR-REPLY

The names and address of the parties being served are as follows:

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Respectfully submitted,

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