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Paper 45
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MINDGEEK, S.A.R.L., MINDGEEK USA, INC., and
PLAYBOY ENTERPRISES, INC.,
Petitioner,

v.

SKKY INC.,
Patent Owner.

Case IPR2014-01236
Patent 7,548,875 B2

Before HOWARD B. BLANKENSHIP, KRISTEN L. DROESCH, and ROBERT J. WEINSCHENK, *Administrative Patent Judges.*

BLANKENSHIP, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. BACKGROUND

MindGeek, s.a.r.l., MindGeek USA, Inc., and Playboy Enterprises, Inc., (collectively, "Petitioner") filed a petition[1] requesting an *inter partes* review of claims 1–3, 5, and 15–23 of U.S. Patent No. 7,548,875 B2 (Ex. 1001, "the '875 patent") under 35 U.S.C. §§ 311–319. *See* Paper 4 ("Petition" or "Pet."). The Board instituted an *inter partes* review of claims 1–3, 5, and 15–23 on asserted grounds of unpatentability for obviousness. Paper 10 ("Dec. on Inst.").

Subsequent to institution, Patent Owner Skky, Inc. filed a patent owner response. Paper 21 ("PO Resp."). Petitioner filed a reply. Paper 28 ("Pet. Reply"). We authorized Patent Owner to file a surreply to Petitioner's Reply. Paper 32 ("Surreply").

Patent Owner filed a Motion to Exclude (Paper 33; "PO Mot. to Exclude"). Petitioner filed an Opposition to the Motion to Exclude (Paper 39; "Pet. Exclude Opp."), and Patent Owner filed a Reply (Paper 41; "PO Exclude Reply"). Petitioner filed a Motion to Exclude (Paper 35; "Pet. Mot. to Exclude"). Patent Owner filed an Opposition to the Motion to Exclude (Paper 38; "PO Exclude Opp."), and Petitioner filed a Reply (Paper 40, "Pet. Exclude Reply").

An oral hearing was held on September 23, 2015. A transcript of the hearing is included in the record (Paper 42; "Tr.").

The Board has jurisdiction under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

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[1] This proceeding was terminated with respect to one party to the petition, General Media Communications, Inc. Paper 20 (Decision on Joint Motion to Terminate).

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–3, 5, and 15–23 of the '875 patent are unpatentable.

A. Related Proceedings

According to Petitioner, the '875 patent is involved in the following lawsuits in the U.S. District Court for the District of Minnesota: *Skky, Inc. v. Manwin USA, Inc.*, No. 13-2086 (PJS/JJG); *Skky, Inc. v. Vivid Entm't*, No. 13-2087 (PJS/JJG); *Skky, Inc. v. Playboy Enters., Inc.*, No. 13-2089 (PJS/JJG); *Skky, Inc. v. Gen. Media Commc'ns.*, No. 13-2085 (PJS/JJG); and *Skky, Inc. v. Dada Entm't*, No. 13-2083 (PJS/JJG). Pet. 4. Patent Owner identifies a U.S. patent and several U.S. patent applications that may affect, or be affected by, a decision in this proceeding. Paper 6, 1–2.

B. The '875 Patent

The '875 patent relates to a method for delivery and playback of sound and image files on an electronic device. Ex. 1001, Abstract.

C. Illustrative Claim

Claim 1, reproduced below, is the sole independent claim in the '875 patent.

> 1. A method of wirelessly delivering over the air one or more digital audio and/or visual files from one or more servers to one or more wireless device means comprising:
>
> compressing said one or more digital audio and/or visual files, wherein said audio and/or visual files comprise one or more full or partial master recordings of songs, musical scores or musical compositions, videos or video segments, movies or

> movie segments, film or [film] segments, one or more image clips, television shows, human voice, personal recordings, cartoons, film animation, audio and/or visual advertising content and combinations thereof, and wherein said compressing comprises normalizing, sampling and compressing said digital audio and/or visual files;
>
> storing compressed audio and/or visual files in one or more storage mediums; and
>
> transmitting to said wireless device means said compressed audio and/or visual files wirelessly over the air, with or without an Internet network.

D. Asserted Prior Art

U.S. Patent No. 7,065,342 B1, June 20, 2006 (Ex. 1017, "Rolf").

Scot Hacker, *MP3: The Definitive Guide*, Mar. 2000 (Ex. 1009, "MP3 Guide").

OFDM/FM Frame Synchronization for Mobile Radio Data Communication, Aug. 1993 (Ex. 1015, "OFDM/FM").

E. Asserted Grounds of Unpatentability

We instituted *inter partes* review on the following grounds of unpatentability under 35 U.S.C. § 103(a):

References	Claim(s)
Rolf and MP3 Guide	1–3, 5, 15–21, and 23
Rolf, MP3 Guide, and OFDM/FM	22

II. ANALYSIS

A. Claim Interpretation

In an *inter partes* review, the Board construes claim terms in an unexpired patent using their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015), *cert. granted,* 72016 WL 205946 (U.S. Jan. 15, 2016) (No. 15-446). The claim language should be read in light of the specification, as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The Office must apply the broadest reasonable meaning to the claim language, taking into account any definitions presented in the specification. *Id*. (citing *In re Bass*, 314 F.3d 575, 577 (Fed. Cir. 2002)). There is a "heavy presumption" that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp*., 288 F.3d 1359, 1366 (Fed. Cir. 2002). The "ordinary and customary meaning" is that which the term would have to a person of ordinary skill in the art in question. *In re Translogic Tech., Inc*., 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Our reviewing court also has explained:

> The first step in construing a means-plus-function limitation is to identify the function explicitly recited in the claim. The next step is to identify the corresponding structure set forth in the written description that performs the particular function set forth in the claim. Section 112 paragraph 6 does not "permit incorporation of structure from the written description beyond that necessary to perform the claimed function." Structural features that do not actually perform the

> recited function do not constitute corresponding structure and thus do not serve as claim limitations.

Asyst Techs, Inc. v. Empak, Inc., 268 F.3d 1364, 1369–70 (Fed. Cir. 2001) (citations omitted).[2]

B. Wireless Device Means

Claim 1 recites, in its preamble, a method of wirelessly delivering files "to one or more wireless device means." The final step of the claim recites "transmitting *to said wireless device means* said compressed audio and/or visual files wirelessly over the air, with or without an Internet network" (emphasis added).

There is a presumption that when the word "means" appears in a claim element in combination with a function, it is a means-plus-function element to which Section 112, sixth paragraph, applies. *Signtech USA, Ltd. v. Vutek, Inc.*, 174 F.3d 1352, 1356 (Fed. Cir. 1999). A claim element, however, that uses the word "means" but recites no function corresponding to the means does not invoke Section 112, paragraph 6. *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1302 (Fed. Cir. 1999).

The first step in construing a means-plus-function limitation is to identify the function explicitly recited in the claim. *See Asyst Techs, Inc. v. Empak, Inc.*, 268 F.3d at 1369–70. The "wireless device means" of claim 1, however, is not associated with or defined by a function. We acknowledge

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[2] Section 4(c) of the Leahy-Smith America Invents Act ("AIA") re-designated 35 U.S.C. § 112, paragraph six, as 35 U.S.C. § 112(f). Pub. L. No. 112-29, 125 Stat. 284, 296 (2011). Because the '875 patent has a filing date before September 16, 2012 (effective date of § 4(c)), we will refer to the pre-AIA version of § 112.

that the law does not require that a Section 112, sixth paragraph, limitation contain the literal phrase "means for" or be in the form of a nonce word followed by the word "for" and an associated function. For example, in *Signtech USA. v. Vutek, Inc.*, our reviewing court construed the term "ink delivery means." "[T]he claim element 'ink delivery means' uses the term 'means' in association with a function, namely 'ink delivery.' Although the phrase 'means for' is not used, the phrase 'ink delivery means' is equivalent to the phrase 'means for ink delivery,' because 'ink delivery' is purely functional language." 174 F.3d at 1356. The relevant inquiry is whether the term at issue is purely functional. *See Baran v. Med. Device Tech., Inc.*, 616 F.3d 1309, 1317 (Fed. Cir. 2010) (holding that the word "release" in the claimed "release means for retaining the guide in the charged position" was "not an idle description but a vital function to be performed by the means-plus-function element.").

In this case, however, the term "wireless device" is not purely functional language but language that denotes structure. The '875 patent provides examples of wireless devices, such as "cellular phone 202" (Fig. 2) and "I-Pod™ type listening device 1802" (Fig. 18). Ex. 1001, col. 14, ll. 14–18, col. 30, ll. 49–59.

In the Petition, Petitioner submits that the "wireless device means" is a means-plus-function limitation that is to be interpreted in accordance with 35 U.S.C. § 112, sixth paragraph. Pet. 9–12. After hearing from Patent Owner in its Preliminary Response (Paper 8), we determined, for purposes of the Decision to Institute, that "wireless device means" is not a means-plus-function limitation. Dec. on Inst. 5–7. We authorized a surreply to

Petitioner's Reply because Patent Owner had not had the opportunity to respond to Petitioner's views on our claim interpretation.

In its Patent Owner Response and Surreply, Patent Owner argues that the prosecution history of the '875 patent compels that the "wireless device means" be interpreted in accordance with 35 U.S.C. § 112, sixth paragraph. We acknowledge that the prosecution history indicates that instant claim 1 was allowed in response to the insertion of the term "wireless device means" into the claim, at the suggestion of the Examiner. The USPTO, however, is "under no obligation to accept a claim construction proffered as a prosecution history disclaimer, which generally only binds the patent owner." *Tempo Lighting, Inc. v. Tivoli, LLC*, 742 F.3d 973, 978 (2014). The meaning of "wireless device means," under the required broadest reasonable interpretation, is not precluded from review in this proceeding.

The only "function" recited *in the claims* that Patent Owner appears to rely on for its position with respect to application of Section 112, sixth paragraph, is the preamble of claim 1, which is said to include the "functional language" of "wirelessly delivering" the compressed file to the wireless device means. PO Resp. 7. "As such, the functional language of 'wirelessly delivering' defines the function of the 'wireless device means.'" *Id.* "[B]ased on the language of the claim, a person of ordinary skill in the art would interpret the function of the wireless device means as requesting, wirelessly receiving, and processing a compressed audio and/or visual file." *Id.* Patent Owner cites no authority for the proposition that the function of an element in a means-plus-function limitation may be defined by inference from language in the preamble of the claim, and we know of none. Patent Owner does cite, without explanation, to an unreported Markman Order

concerning a patent unrelated to the '875 patent. The District Court in that Order, however, came to the unsurprising conclusion that the function associated with a claimed "means for securing said device to a delivery system" is "securing the device to a delivery system." *AGA Medical Corp. v. W. L. Gore & Associates, Inc.*, No. 10-3734, 2012 WL 4479241, at *11 (D. Minn. Sept. 28, 2012). The Court came to the equally unsurprising conclusion that the function associated with a claimed "means for attachment to a delivery device" is "to attach the device to a delivery device." *Id.* at *13. We, therefore, are unconvinced that claim 1 defines the "wireless device means" in functional terms.

Assuming for the moment, however, that the "wireless device means" *is* to be interpreted according to Section 112, sixth paragraph, we note that Patent Owner argues the corresponding structure for the claimed "wireless device means" includes multiple hardware processors. In the '875 patent, a preferred embodiment may be described, inherently, as containing two processors — one in cell phone 202 and one in board 203 contained in accessory 204. Ex. 1001, col. 14, l. 13–col. 15, l. 17, Figs. 2, 3. Alternative embodiments of a "wireless device means," however, are not described as having multiple processors. *See, e.g., id.* at col. 30, l. 49–col. 31, l. 3, Fig. 18 ("I-Pod™ type listening device 1802"). Patent Owner contends, apparently, that the '875 patent *inherently* describes that the "I-Pod™ type listening device" requires multiple processors. PO Resp. 22–23. As set forth below, we need not determine if that contention is correct because (1) the claimed wireless device means is not limited to structures described in the Specification and equivalents thereof, and (2) even if it were, Patent

Owner does not address all the described embodiments of the wireless device means.

We must evaluate Patent Owner's arguments in light of the evidence that is before us. Patent Owner submits that "the patent" is not limited to an accessory unit as depicted in Figure 2. PO Resp. 18 n.2. Patent Owner quotes only a partial sentence from the '875 patent for disclosure that "'a chip performing the same functions of the board [that] may instead be embedded in the phone itself.'" *Id.* (quoting Ex. 1001, col. 14, ll. 15–25) (alteration by Patent Owner). The quoted sentence reads in full: "Although the system 200 [Fig. 2] is described as incorporating an accessory unit, it should be understood that a chip performing the same functions of the board may instead be embedded in the phone itself, *or a software system may be integrated with the existing hardware chip of a conventional cellular phone without the need for additional hardware.*" Ex. 1001, col. 14, ll. 19–25 (emphasis added). This software embodiment also is discussed elsewhere in the '875 patent. *See, e.g.*, Ex. 1001, col. 5, l. 66–col. 6, l. 2 ("A cellular phone, or similar device (having a processor, RAM, and flash elements) may be integrated with software at the time of manufacturing for implementing the system of the present invention."); col. 32, ll. 46–50 ("It is a further object of the present invention to provide a software system which may be integrated into existing cellular telephone hardware for enabling the cellular telephone to access and utilize sound files including clips, without the need for extra hardware.").

When the specification describes two or more distinct embodiments that perform the same recited function, one does not attempt to craft a single claim interpretation that is consonant with all structures in the specification

corresponding to the claimed functions. *Ishida Co. v. Taylor*, 221 F.3d 1310, 1316 (Fed. Cir. 2000). Further, though such "means plus function" limitations embrace all of the disclosed embodiments that correspond to the claimed function, the claims are not limited to any particular one of the disclosed embodiments. *See Micro Chem. Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1259 (Fed. Cir. 1999) ("Because alternative structures corresponding to the claimed function were described, the district court incorrectly limited 'weighing means' to the specific structures of the preferred embodiment."). Of particular relevance is our reviewing court's determination in the case of *Serrano v. Telular Corp.*, 111 F.3d 1578 (Fed. Cir. 1997). Although the specification disclosed discrete logic circuitry as a preferred embodiment, the invention was not limited to such circuitry because the specification also stated that the logic could be configured in software. *Id.* at 1583. Thus, even if the "wireless device means" were to be interpreted in accordance with Section 112, sixth paragraph, we are unpersuaded that such "means" is required to have multiple processors.

Patent Owner argues, in the alternative, that even if not interpreted in accordance with Section 112, sixth paragraph, the claimed "wireless device means" should be interpreted as "a device capable of receiving data over a cellular communications network and having multiple processors wherein one or more processors is primarily dedicated to processing the compressed multimedia data." PO Resp. 15. Patent Owner relies on a declaration submitted under 37 C.F.R. § 1.132 during prosecution by a co-inventor of the patent, which is said to provide "additional evidence" that the "means" includes a cellular device with "at least a second processor" in addition to a processor included with the device. PO Resp. 21. Patent Owner refers to

the Declaration (Ex. 1036) at paragraphs 4 and 5, contending that the paragraphs reveal: (1) a prototype contained a second processor dedicated to processing the data associated with compressed audio files; (2) one of ordinary skill in the art would know that a conventional cellular phone contains a single processor; and (3) the single processor was not powerful enough to process a compressed audio and/or visual file. *Id.* at 20–21. Patent Owner's arguments are unhelpful because they do not quote the statements from the Declaration that are deemed to provide the basis for Patent Owner's allegations. We find no indication in the cited paragraphs that a "second processor" was necessary, or even contemplated.

Patent Owner also relies on the Declaration of its expert, which alleges that a particular cell phone commercially available around the time of invention contained a processor. PO Resp. 17 (citing Ex. 2021 ¶¶ 45-46). We can assume there were cell phones available at the time of invention that contained a processor. It is not apparent, however, how that testimony may be relied upon to show that the '875 patent's disclosure limits the claimed "wireless device means" to "a device capable of receiving data over a cellular communications network and having multiple processors wherein one or more processors is primarily dedicated to processing the compressed multimedia data," as urged by Patent Owner.

Patent Owner refers also to one embodiment of a "wireless device means" described by the '875 patent that includes multiple processors. PO Resp. 18-20. But the "wireless device means" is not interpreted in accordance with Section 112, sixth paragraph. Our reviewing court has repeatedly warned against confining such claims to specific embodiments

described in the specification. *Phillips v. AWH Corp.,* 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc).

In view of the foregoing, on this record, we determine that the term "wireless device means" is not a means-plus-function limitation and, thus, is not governed by Section 112, sixth paragraph. Further, even if the term were to be so construed, the corresponding structure in the specification is not limited to the multiple-processor embodiment as depicted in Figure 2. No further construction is required for the purposes of this decision.

C. A Segment of a Full Song, Musical Composition or Other Audio Recording or Visual Recordings

Claim 21 depends from claim 1 and recites "wherein the compressed digital audio and/or visual file is a segment of a full song, musical composition or other audio recording or visual recordings." Patent Owner submits that the phrase "segment of a full song, musical composition, or other audio recording or visual recording" should be construed as a "playable portion of a song, musical composition, or other audio recording or visual recording." PO Resp. 25. As a basis for the interpretation, Patent Owner argues that the Specification of the '875 patent "discloses that a segment is simply a shorter, playable portion of a full song, musical composition, or other audio or visual recording." *Id.* at 25–26.

The patent refers, for example, to "[s]ound clips, which are segments of whole songs, musical compositions or other sound recordings." Ex. 1001, col. 11, ll. 3–5. The patent also refers to "a multiple number of clip segments from a single song, musical composition, or other sound recording played in sequence." *Id.* at col. 11, ll. 46–48.

We agree with Patent Owner that a "segment of a full song, musical composition, or other audio recording or visual recordings" as recited in claim 21 may be construed as a "playable portion of a song, musical composition, or other audio recording or visual recording."

D. Asserted Grounds of Unpatentability

1. Section 103(a) – Rolf and MP3 Guide

Rolf describes a mobile cellular telephone used to select a music recording from a remote source, with the phone wirelessly receiving the selected music recording into memory where it is available for playback by an audio player in the phone. Ex. 1017, at *[57]. Petitioner applies the teachings of Rolf and MP3 Guide in an asserted ground of obviousness as to claims 1–3, 5, 15–21, and 23.

Petitioner contends that Rolf describes the method of claim 1 with the exception of the "normalizing" and "sampling" limitations, which MP3 Guide describes as standard or well-known operations in applying MP3 compression to audio files. Pet. 20, 21–27 (claim chart). Petitioner relies on the testimony of Dr. Michael Kotzin (Ex. 1008). Petitioner submits that one of ordinary skill in the art would have combined the teachings of Rolf and MP3 Guide because each reference relates to digital audio files and teaches (MP3) compression processes for the files, achieving known results. Pet. 20– 21.

Patent Owner responds that Rolf does not disclose a structure consisting of multiple hardware processors, with one or more of the processors being "primarily dedicated" to processing compressed multimedia data, which Patent Owner contends is a structural feature of the

"wireless device means." PO Resp. 33–36. We are not persuaded, however, that the "wireless device means" is limited to a structure consisting of multiple hardware processors. As discussed above, we are not persuaded that the "wireless device means" is governed by 35 U.S.C. § 112, sixth paragraph. Moreover, even if the "wireless device means" were to be construed as a means-plus-function limitation under Section 112, sixth paragraph, Patent Owner relies on only one embodiment described by the '875 patent. The cell phone embodiment may be described, inherently, as containing two processors — one in cell phone 202 and one in board 203 contained in accessory 204. Ex. 1001, col. 14, l. 13–col. 15, l. 17, Figs. 2, 3. At least one alternative embodiment of a "wireless device means," however, is not described as having multiple processors. *See* § II.B, ***supra.***

a. Claim 18

Claim 18 depends from claim 1 and recites that the compressed file "is delivered to said wireless device means independent of an Internet connection or other computer based system." Patent Owner submits (PO Resp. 37) that the claim is supported by the Specification at column 16, line 31 through column 17, line 19, which describes a method for transferring data over an audio channel of a wireless telephone, whereby a customer need not use a wireless internet service provider.

For the requirements of claim 18, the Petition relies on MP3 Guide at page 286, which describes offering MP3 files for direct download over the World Wide Web "or through an FTP server." Pet. 31; Ex. 1009, 286.[3] The

[3] We cite to the document's page number when referencing Exhibit 1009.

Petition relies, further, on the Declaration of Dr. Kotzin (Ex. 1008). Pet. 31. Dr. Kotzin opines that one of ordinary skill in the art would recognize that file access from an FTP server need not be through the Internet, but the server "could reside on a separate personal computer / network which is not connected to the internet." Ex. 1008 ¶¶ 73–74.

Patent Owner argues that "MP3 Guide explicitly teaches that an FTP server uses the Internet." PO Resp. 38. Patent Owner does not, however, point to any disclosure in MP3 Guide that an FTP server or the FTP (file transfer) protocol is *limited to* use on the Internet. Patent Owner further argues that even if an Internet connection is not required, Petitioner's expert Dr. Kotzin testified in his Declaration that an FTP server for stored MP3 files could reside "on a separate personal computer/network which is not connected to the Internet," such that Dr. Kotzin "admits" that using FTP requires a computer based system. *Id.* at 37–38. Dr. Kotzin, however, describes the architecture of connecting to an FTP server on a private network using cellular remote access to a modem, rather than requiring some intervening computer between the server and the modem. *See* Ex. 1008 ¶ 74. Thus, although the FTP server could reside on a computer, Dr. Kotzin does not admit that the compressed file is delivered to the wireless device means using a computer. *Cf.* Ex. 1001, col. 16, ll. 55-57 ("A user can simply place a regular call to the specific number (e.g., an "800" number) to gain access to *the Server*" (emphasis added)). Patent Owner also refers for support to paragraphs 89 through 91 of the Declaration of its expert, Professor Kevin C. Almeroth. PO Resp. 38. Professor Almeroth, however, does not allege that access to an FTP server for delivery of files requires a "computer based system," but does allege that an FTP server is "most

typically" accessed via the Internet. Ex. 2021 ¶ 91. The testimony does not support the view that an FTP server is *limited to* use on or over the Internet.

b. Claim 21

Claim 21 depends from claim 1 and recites "wherein the compressed digital audio and/or visual file is a segment of a full song, musical composition or other audio recording or visual recordings." For disclosure or suggestion of the additional requirements of claim 21, the Petition refers to material in Rolf that includes column 8, lines 8 through 16, which states that a user may download "the single being played, or the entire album on which the single is located." Pet. 32–33; Ex. 1017, col. 7, ll. 8–16; Ex. 1008 ¶ 79. Patent Owner acknowledges that Petitioner cites to portions of Rolf "that disclose that a single full length song may be distributed rather than an entire album" but argues a "single full length song is not a segment of a song." PO Resp. 39. "The plain language of the claim limits the transmission to a segment of a song, or a playable portion of the song." *Id.* We disagree with Patent Owner's assessment of claim 21 because a "segment of a full song" is but one of the alternatives recited by the claim. Under the broadest reasonable interpretation, and consistent with Patent Owner's construction as a "playable portion of a song, musical composition, or other audio recording or visual recording" (§ II.C, *supra*), the claim is read as "segment" (or "playable portion") modifying "musical composition or audio recording" — and a single full length song is a "segment" (or "playable portion") of an album. Further, even if "segment" were to be read as modifying only "a full song," a single full length song from an album is,

at the least, an "other audio recording" in accordance with the claim because it is not "a segment of a full song."

2. Section 103(a) – Rolf, MP3 Guide, and OFDM/FM

Petitioner applies the teachings of Rolf, MP3 Guide, and OFDM/FM in an asserted ground of obviousness as to dependent claim 22, which recites "the use of OFDM." Petitioner submits that OFDM/FM teaches that orthogonal frequency division multiplexing ("OFDM") was used for data transmission over an analog FM channel such as one used with an analog cellular phone. Pet. 55–56. According to Petitioner, one of skill in the art who was considering how to transfer data over a cellular network would have "considered and likely used OFDM as a tool to facilitate the transfer of data." *Id.* at 56. Petitioner also relies on the testimony of Dr. Kotzin. *Id.* at 55–57 (citing Ex. 1008).

Patent Owner in its Response argues that the use of OFDM on cellular networks "was anything but routine," and submits that several disadvantages related to using OFDM were known around the time of invention. PO Resp. 42–43. Patent Owner relies on the Declaration of Professor Almeroth (Ex. 2021). As one drawback, Patent Owner submits that one would not have contemplated using OFDM on a cellular network because cellular phones are mobile receivers having signals subject to Doppler shift, for which the system must compensate. PO Resp. 42–43. Yet, the *title* of the OFDM/FM reference makes plain that device mobility was considered: "OFDM/FM Frame Synchronization for *Mobile* Radio Data Communication" (emphasis added). Moreover, although we acknowledge there may be tradeoffs in the selection of any particular modulation technique, we also are cognizant that

the OFDM/FM reference teaches "OFDM/FM is particularly attractive because it can be implemented simply and inexpensively by retrofitting existing FM communication systems." Ex. 1015, 302.[4] Further, in evaluating the weight to be accorded Patent Owner's arguments and evidence, we observe that the '875 patent does not teach that the inventors faced significant obstacles in implementing OFDM for data transmission. The patent, in fact, lists numerous benefits in the use of an OFDM modulation scheme, without any hint or indication that the inventors were the ones who discovered those benefits. Ex. 1001, col. 16, l. 60–col. 17. l. 3.

Patent Owner also alleges that, around the time of invention, OFDM was considered for implementation by cellular network standard setting bodies, but was ultimately rejected. PO Resp. 43 (citing Ex. 2021 ¶ 75). Patent Owner does not however, identify any of the "standard setting bodies" or allege why OFDM may have been "ultimately rejected." Moreover, even if the allegation were founded in fact, Patent Owner directs us to no evidence tending to show what factors a standard setting body might consider in setting a standard, and the relative weight given to each factor.

Patent Owner alleges that Rolf and OFDM/FM "teach away from each other" because Rolf teaches the use of 3G modulation protocols instead of OFDM. "Because 3G does not use an OFDM modulation scheme, Rolf teaches away from the process in OFDM/FM." PO Resp. 44 (citing Ex. 2021 ¶ 103). Although the prior art might teach more than "one" way, Appellant fails to point to any actual "teaching away" in either reference.

> A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be

[4] We cite to the document's page number when referencing Exhibit 1015.

> discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into the invention claimed.

Depuy Spine, Inc. v. Medtronic Sofamor Danek, Inc., 567 F.3d 1314, 1327 (Fed. Cir. 2009) (internal quotations omitted). Neither reference warns against, or discourages the artisan from, using OFDM.

Patent Owner argues, further, there would be no expectation of success in combining Rolf and OFDM because Rolf uses a 3G network and OFDM uses an incompatible ALOHA network architecture. PO Resp. 46 (citing Ex. 2021 ¶ 111). The asserted ground of obviousness, however, does not propose combining a 3G network and an ALOHA network architecture. Rather, Petitioner proposes using OFDM as a modulation technique for use over an analog FM channel. Pet. 55–56. Patent Owner also submits that data resulting from experiments performed in "a pure ALOHA environment would have no bearing on real world data transmission." PO Resp. 45 (citing Ex. 2021 ¶ 78). Actually, Patent Owner's expert opines that data from such experiments would provide "little if any" insight on real world data transmission. Ex. 2021 ¶ 78. Patent Owner's expert does not, however, cite to any comparative data or other evidence in the record in support of the opinion. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Patent Owner also alleges that the cellular device taught in Rolf would require "dramatic changes" to utilize OFDM transmission as taught by

OFDM/FM. PO Resp. 45 (citing Ex. 2021 ¶ 81). Actually, Patent Owner's expert opines that due to a relatively high bit error rate (BER), the system described by OFDM/FM "would likely require error control techniques" to be implemented at the receiver in order for complex data to be successfully received. Ex. 2021 ¶ 81. Even assuming that error control techniques would be required, Patent Owner's expert does not allege, let alone show, that such techniques would have been beyond the level of skill of the ordinary artisan. Moreover, we are not persuaded that the bit error rate associated with the OFDM/FM paper would discourage transmission of a compressed audio file or even a "high quality rich media file." PO Resp. 46. Patent Owner's expert refers to Exhibit 2020 (Handbook of Electrical Engineering Calculations) at 170 as support for the opinion that "to transmit MP3 data as taught by Rolf," a BER "better than 1×10^{-6} would be required." Ex. 2021 ¶ 110. Exhibit 2020 at 170, however, indicates that "[g]enerally, speech transmission requires a BER better than 10^{-6}, and video transmission requires BER $< 10^{-7}$ to provide acceptable signals." The instant claims, however, are not directed to speech or video "transmission" or streaming. The claims are directed to wireless delivery of compressed audio or video files (e.g., a compressed audio file of a human voice) for storage and later playback. *See* independent claim 1, dependent claims 2, 3, and 15. We, therefore, accord little weight to the view that the BER associated with OFDM/FM would be fatal to the combination proposed by Petitioner. Further, we are not persuaded that the combination as proposed would require "undue experimentation." PO Resp. 47–48. The evidence to which Patent Owner cites (Ex. 2021 ¶ 107) is testimony that merely alleges differences exist between the systems of Rolf and OFDM/FM.

Patent Owner also alleges that Petitioner has not shown a motivation to combine Rolf and MP3 Guide with the teachings of OFDM/FM. "Petitioners fail to address why one of skill would modify the transmission modulation used in Rolf with that provided in OFDM/FM." PO Resp. 49. Patent Owner's argument is factually incorrect and, thus, not persuasive. Petitioner submits, for example, that OFDM/FM was particularly attractive because it could be implemented simply and inexpensively by retrofitting existing FM communication systems. Pet. 57; Ex. 1015, 302.

E. Asserted Grounds — Conclusion

Upon review of the Petition and supporting evidence, as well as the Patent Owner Response, Surreply, and supporting evidence, we conclude that Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–3, 5, 15–21, and 23 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Rolf and MP3 Guide, and that claim 22 is unpatentable under § 103(a) over the combination of Rolf, MP3 Guide, and OFDM/FM.

F. Patent Owner's Motion to Exclude

Patent Owner moves to exclude Petitioner's Exhibit 1046. PO Mot. to Exclude. In its Reply, Petitioner relies on Exhibit 1046 to show that a particular cell phone addressed by Patent Owner's expert in his Declaration included multiple processors. We did not, and need not, consider such arguments or evidence in connection with the Reply. We have determined that Petitioner has demonstrated, by a preponderance of the evidence that the challenged claims are unpatentable, without considering Petitioner's

arguments regarding the particular cell phone. Accordingly, we *dismiss* Patent Owner's motion to exclude as moot.

G. Petitioner's Motion to Exclude

Petitioner moves to exclude much of the testimony in Professor Almeroth's Declaration on the basis that he is not qualified to provide expert testimony in this proceeding. Most of Petitioner's arguments in support of the motion appear to address the weight to be given the testimony, as opposed to its admissibility. We have considered the testimony and assigned the weight to which we believe it is entitled.

Petitioner also moves to exclude Exhibits 2006 through 2020, filed with Professor Almeroth's Declaration, and testimony in the Declaration that is purported to rely on the Exhibits, on the basis that the Exhibits consist of inadmissible hearsay.

In any event, because consideration of Professor Almeroth's Declaration and Exhibits 2006 through 2020, to the extent relied upon by Patent Owner in its Response, does not affect the outcome in favor of Petitioner in this final written decision, Petitioner's motion to exclude is *dismissed* as moot.

III. CONCLUSION

For the foregoing reasons, we conclude that Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–3, 5, 15–21, and 23 of the '875 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Rolf and MP3 Guide, and that claim 22 is

unpatentable under § 103(a) over the combination of Rolf, MP3 Guide, and OFDM/FM.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that claims 1–3, 5, and 15–23 of the '875 patent have been shown to be unpatentable;

FURTHER ORDERED that the parties' respective motions to exclude evidence are *dismissed*; 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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