

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY MOBILE COMMUNICATIONS (USA) INC., SONY MOBILE
COMMUNICATIONS AB, SONY MOBILE COMMUNICATIONS, INC.,
SONY ELECTRONICS, INC., SONY CORP. OF AMERICA, and
SONY CORP.,
Petitioner,

v.

ADAPTIX, INC.,
Patent Owner.

Case IPR2014-01525
Patent 7,454,212 B2

Before HOWARD B. BLANKENSHIP, TREVOR M. JEFFERSON, and
JUSTIN BUSCH, *Administrative Patent Judges*.

BLANKENSHIP, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. BACKGROUND

Sony Mobile Communications (USA) Inc., Sony Mobile
Communications AB, Sony Mobile Communications, Inc., Sony Electronics,

Inc., Sony Corp. of America, and Sony Corp. (collectively, “Petitioner”) filed a request for an *inter partes* review of claims 1, 8–13, 15, 16, 18–21, and 23–30 of U.S. Patent No. 7,454,212 B2 (Ex. 1001, “the ’212 patent”) under 35 U.S.C. §§ 311–319. *See* Paper 5 (“Petition” or “Pet.”). Patent Owner Adaptix, Inc. filed a preliminary response. *See* Paper 11 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314. Section 314 provides that an *inter partes* review may not be instituted unless “the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons that follow, we institute an *inter partes* review as to claims 1, 8–13, 15, 16, 18–21, and 23–30 of the ’212 patent.

A. Related Proceedings

According to Petitioner, the ’212 patent is involved in the following lawsuits: *Adaptix, Inc. v. AT&T, Inc.*, No. 6:12-cv-00017 (E.D. Tex.); *Adaptix, Inc. v. Pantech Wireless, Inc.*, No. 6:12-cv-00020 (E.D. Tex.); *Adaptix, Inc. v. Cellco Partnership*, No. 6:12-cv-00120 (E.D. Tex.); *Adaptix, Inc. v. Huawei Techs. Co., Ltd.*, Nos. 6:13-cv-00438, ’439, ’440, and ’441 (E.D. Tex.); *Adaptix, Inc. v. ZTE Corp.*, Nos. 6:13-cv-00443, ’444, ’445, and ’446 (E.D. Tex.); *Adaptix, Inc. v. NEC CASIO Mobile Commc’ns, Ltd.*, Nos. 6:13-cv-00585 and ’922 (E.D. Tex.); *Adaptix, Inc. v. Pantech Wireless, Inc.*, No. 6:13-cv-00778 (E.D. Tex.); *Adaptix, Inc. v. Blackberry Limited*, Nos. 5:14-cv-01380, ’386 and ’387 (N.D. Cal.); *Adaptix, Inc. v. Kyocera Corp.*, Nos. 3:14-cv-02894 and ’895 (N.D. Cal.); *Adaptix, Inc. v. Apple, Inc.*, Nos. 5:13-cv-01776, ’1777, and ’2023 (N.D. Cal.); *Adaptix, Inc. v. AT&T, Inc.*,

No. 5:13-cv-01778 (N.D. Cal.); *Adaptix, Inc. v. Cellco Partnership*, No. 5:13-cv-01844 (N.D. Cal.); *Adaptix, Inc. v. Dell, Inc.*, No. 5:14-cv-01259 (N.D. Cal.); *Adaptix, Inc. v. Amazon.com, Inc.*, No. 5:14-cv-01379 (N.D. Cal.); *Adaptix, Inc. v. Sony Mobile Commc'ns, Inc.*, No. 5:14-cv-01385 (N.D. Cal.); *Adaptix, Inc. v. ASUSTek*, No. 5:14-cv-03112 (N.D. Cal.); and *Adaptix, Inc. v. HTC Corp.*, Nos. 5:14-cv-02359 and '360 (N.D. Cal.). Pet. 1–2. The '212 patent is also involved in Case IPR2015-00318 (PTAB Nov. 26, 2014) and was involved in Case IPR2014-01408 (PTAB Aug. 28, 2014), which was terminated by the Board on January 29, 2015.

B. The '212 Patent

The '212 patent relates to subcarrier selection for each of multiple subscribers (e.g., mobile phones) that includes measuring channel and interference information for subcarriers based on pilot symbols received from a base station. Ex. 1001, Abstract. Orthogonal frequency division multiplexing (OFDM) is an efficient modulation scheme for signal transmission over frequency-selective channels. *Id.* at col. 1, ll. 23–25. The invention employs orthogonal frequency division multiple access (OFDMA), which is a method for multiple access using the basic format of the OFDM modulation scheme. *Id.* at col. 1, ll. 36–51; *see generally id.* at col. 1, l. 14 col. 2, l. 30, col. 3, ll. 4–11.

C. Illustrative Claim

Claim 1, reproduced below, is illustrative.

1. A method for subcarrier selection for a system employing orthogonal frequency division multiple access (OFDMA) comprising:

a subscriber unit measuring channel and interference information for a plurality of subcarriers based on pilot symbols received from a base station;

the subscriber unit selecting a set of candidate subcarriers;

the subscriber unit providing feedback information on the set of candidate subcarriers to the base station;

the subscriber unit receiving an indication of subcarriers of the set of subcarriers selected by the base station for use by the subscriber unit; and

the subscriber unit submitting updated feedback information, after being allocated the set of subcarriers to be allocated an updated set of subcarriers, and thereafter the subscriber unit receiving another indication of the updated set of subcarriers.

D. Asserted Prior Art

Ritter	DE 19800953 C1	July 29, 1999	Ex. 1002 ¹
Kapoor	US 6,795,424 B1	Sep. 21, 2004	Ex. 1003

IEEE Communications Magazine, vol. 38, no. 7, July 2000 (excerpts) (Ex. 1004) (“IEEE”).

¹ The parties refer to Exhibit 1002 as “Ritter,” which is an English translation of DE 19800953 C1. The German patent document has been entered as Exhibit 1021.

Chuang and Sollenberger, *Spectrum Resource Allocation for Wireless Packet Access with Application to Advanced Cellular Internet Service*, IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, vol. 16, no. 6 (Aug. 1998) (Ex 1007) (“Chuang”).

Cimini, et al., *Advanced Cellular Internet Service (ACIS)*, IEEE Communications Magazine (Oct. 1998) (Ex. 1008) (“Cimini”).

E. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability under 35 U.S.C. § 103(a) against claims 1, 8–13, 15, 16, 18–21, and 23–30 (Pet. 4):

Prior Art	Claim(s)
Ritter and Kapoor	1, 8–13, 15, 16, 18–21, and 23–30
IEEE and Chuang	1, 8–13, 15, 16, 18–21, and 23–30
IEEE and Cimini	1, 8–13, 15, 16, 18–21, and 23–30

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); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,764 (Aug. 14, 2012).

Although Petitioner submits constructions for several terms (Pet. 7–13), for purposes of this Decision we do not find construction of any terms necessary at this stage in the proceeding. Further, Patent Owner in its

Preliminary Response does not contest Petitioner's construction of any terms that affect the necessary determinations in this Decision. *See* Prelim. Resp. 6–9.

B. Proposed Grounds of Unpatentability

1. Section 103(a) — Ritter and Kapoor

Petitioner submits that the subject matter of claims 1, 8–13, 15, 16, 18–21, and 23–30 would have been obvious over the combination of Ritter and Kapoor. Petitioner submits a detailed analysis of each of the claims, applies the prior art, and relies on the testimony of Professor Robert Akl. Pet. 18–30; Exhibit 1007.

Petitioner submits that Kapoor teaches the subscriber unit submitting updated feedback information, after being allocated the set of subcarriers to be allocated an updated set of subcarriers, and thereafter the subscriber unit receiving another indication of the updated set of subcarriers, as recited in claim 1. Pet. 23–24 (claim chart). Patent Owner argues, in response, that “[t]he portion of Kapoor emphasized by the Petitioner fails to disclose anything about a subscriber unit submitting updated feedback information after being allocated a set of subcarriers, and thereafter the subscriber unit receiving another indication of an updated set of subcarriers.” Prelim. Resp. 17–18. “In Kapoor, requesting a change in the amount of allocated bandwidth is not the same as submitting updated feedback information” as claimed. *Id.* at 18.

Petitioner relies on more in Kapoor, however, than “requesting a change in the amount of allocated bandwidth.” The Petition points out that Kapoor teaches that “other items” that may be maintained in a table can be

updated in “an event driven mode” such as when a user requests a change in the amount of allocated bandwidth. Pet. 24; Ex. 1003, col. 21, ll. 39–63. Thus, “individual bins may be dynamically allocated and re-allocated on-the-fly.” Ex. 1003, col. 21, 58–59. These frequency bins are allocated to different users by taking spatial and other information into account. *Id.* at col. 3, ll. 60–65. The base station continuously monitors a number of parameters and uses them to compute the bin allocations for a given user. The allocations also can be changed dynamically in response to changes in noise and interference conditions. *Id.* at col. 6, ll. 9–17. The composition of groupings of frequency bins may be changed if a trigger event, such as the advent of a new CCI (co-channel interference) source should arise. *Id.* at col. 6, ll. 60–66. CCI refers to any other undesired signal whose spectrum overlaps with the spectrum of the particular system, such as other communication or broadcast systems operating in the area and having the same or an adjacent frequency band. *Id.* at col. 2, ll. 11–17. For purposes of this Decision, we find that Petitioner has established sufficiently that Kapoor teaches the claim limitations that the Petition attributes to it.

Patent Owner also submits that, contrary to the Petition, Ritter does not teach that “providing feedback information” as required by claim 1 comprises “sequentially ordering candidate clusters” as recited in dependent claim 15. Prelim. Resp. 18–19. Patent Owner acknowledges that Petitioner relies on Ritter’s disclosure that ““several segments (e.g., S_x , S_y , S_z) of the best quality are determined by the mobile station (MS) and are numbered in a priority list (e.g., PL1) corresponding to increasing amplitude modulation.”” *Id.* at 18. According to Patent Owner, because claim 15 recites “sequentially ordering” candidate clusters, “an indication or a list of

the clusters is not needed.” *Id.* “By expressly teaching a cluster list for purposes of identifying only a subset of segments, Ritter teaches away from sequential[ly] ordering candidate clusters.” *Id.* at 19.

Claim 15, however, is silent with respect to whether “subsets” or all “candidate clusters” are sequentially ordered. Moreover, Patent Owner’s argument is inconsistent with the intrinsic evidence. As noted by Petitioner (Ex. 1007 ¶ 49), the ’212 patent teaches that the “sequential ordering” may include a priority list. “[T]he selected clusters can also be ordered in the feedback to indicate priority. In one embodiment, the subscriber *may form a priority list of clusters* and sends back the SINR (signal-to-interference-plus-noise ratio) information in a descending order of priority.” Ex. 1001 col. 11, ll. 1–4.

Patent Owner argues, further, that combining Kapoor’s “overhead-consuming pilot-symbol approach” would “defeat the purpose of Ritter by increasing its overhead.” Prelim. Resp. 20–21. As evidentiary support, Patent Owner refers to paragraph 50 of Exhibit 2002. *Id.* Exhibit 2002 purports to be an expert report of Michael Caloyannides, Ph.D. (“the Caloyannides Report”) filed in related U.S. District Court actions.

The Caloyannides Report is, however, an expert report directed to rebuttal of another expert report. *See* Ex. 2002, 1. The Caloyannides Report merely refers to the other expert report, not of record in this proceeding, which is alleged to “note[] that Ritter proposed a novel measurement technique that specifically avoided the use of known, non-data-bearing pilot symbols from the base station so as to save ‘overhead.’” *Id.* ¶ 50. Neither Patent Owner, nor the Caloyannides Report at the indicated paragraph, establishes that Ritter “avoided” the “pilot-symbol approach” in the interest

of not consuming “overhead,” or for any other reason. We are, therefore, persuaded that Petitioner’s proposed combination of references is appropriate.

2. Secondary Considerations

Patent Owner submits that there are “objective indicia” that demonstrate non-obviousness of the invention. We address first the evidence that Patent Owner places under the category of “skepticism of the experts.” Prelim. Resp. 53, 54–57.

Patent Owner submits that Exhibit 2004 is a “[c]oncept evaluation” that discusses four proposed concepts to be pursued, at that time, as the next Universal Mobile Telecommunication System standard. *Id.* at 54. According to Patent Owner, the document “explains three OFDMA based approaches referred to collectively as ‘Concept β .’” *Id.* Patent Owner continues that in the first meeting of the European Telecommunication Standards Institute (“ETSI”) delegates were asked to vote for one of the “four proposed concepts,” which included Concept β . Prelim. Resp. 55. Concept β received zero percent of the votes, while votes went to other “approaches” that did not include OFDM or OFDMA. *Id.* at 55–56. In the next ETSI meeting, again, Concept β received zero percent of the votes. *Id.* at 56. Patent Owner provides technical committee reports of the meetings as Exhibits 2005 and 2006.

Patent Owner does not, however, point to evidence that establishes *why* Concept β was disfavored by the ETSI delegates. Nor does Patent Owner explain how any of the “three OFDMA based approaches” might relate to the claimed invention, other than the fact that the claims recite

“OFDMA.” Because Patent Owner characterizes the evidence as showing “skepticism of the experts,” the evidence is presented, presumably, to demonstrate that the Concept β “OFDMA based approaches” were thought to represent impossible or impractical technologies as late as the ETSI second meeting, January 1998 (Ex. 2006, 1). At the time of invention,² however, OFDMA was known to be a method that supports multiple access for multiple subscribers. Ex. 1001, col. 1, l. 36 – col. 2, l. 15.

Referring to the Caloyannides Report, Patent Owner submits further that a long-felt but unmet need “to provide a new generation of wireless technology that would improve throughput” was met by “4G/LTE” mobile phones that “may” achieve data transmission rates that are “10 to 100 times faster than 3G mobile phones.” Prelim. Resp. 58–59; Ex. 2002 ¶ 340. Patent Owner does not correlate the claimed invention to the asserted evidence of meeting a “long-felt need” beyond the claims reciting “OFDMA,” which was not an unmet need because it was known at the time of invention. Ex. 1001, col. 1, l. 36 – col. 2, l. 5.

Patent Owner also refers to the Caloyannides Report as demonstrating commercial success of “4G/LTE based products.” Prelim. Resp. 58–59. The Caloyannides Report, however, does not refer to any evidence in this record of commercial success of “4G/LTE based products,” nor does it refer to any evidence in this record tending to show that limitations from claim 1, which are reproduced in the Caloyannides Report, were responsible for any “commercial success.” See Ex. 2002 ¶ 344 (“Further information and

² On this record, the date of invention is the filing date of the ’212 parent patent application, December 15, 2000, or nearly three years after the second ETSI meeting.

evidence about the commercial success that has followed the use of these aspects of the [’212 patent] is provided in my infringement report[] involving the same patent[]”). The “infringement report” referenced by Exhibit 2002 has not been provided as an exhibit in this proceeding. Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight. 37 C.F.R. § 42.65(a). Moreover, even if commercial success were established, Patent Owner’s allegations would not support a prima facie case of nexus.

A prima facie case of nexus is generally made out when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent. When the thing that is commercially successful is not coextensive with the patented invention—for example, if the patented invention is only a component of a commercially successful machine or process—the patentee must show prima facie a legally sufficient relationship between that which is patented and that which is sold.

Demaco Corp. v. F. Von Langsdorff Licensing Ltd., 851 F.2d 1387, 1392 (Fed. Cir. 1988). However, “if the commercial success is due to an unclaimed feature of the device” or “if the feature that creates the commercial success was known in the prior art, the success is not pertinent.” *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006). The Caloyannides Report (§ 344) alleges that limitations of claim 1 represent, at most, an “essential element” of only one part of “current LTE networks.” Further, to the extent that OFDMA might contribute to “commercial success,” OFDMA was known in the prior art and thus, not pertinent. *See* Ex. 1001, col. 1, l. 36 – col. 2, l. 15.

For the foregoing reasons, we find Patent's Owner's evidence of secondary considerations to be entitled to little weight in support of non-obviousness. We emphasize, however, that our weighing of the evidence in support of non-obviousness is for purposes of this Decision only, as we are limited to consideration of the record that exists at this preliminary stage of the proceeding.

3. Section 103(a) — Ritter and Kapoor — Conclusion

Upon consideration of the Petition and weighing the evidence in this record, we determine that Petitioner has demonstrated a reasonable likelihood that claims 1, 8–13, 15, 16, 18–21, and 23–30 would have been obvious over the combination of Ritter and Kapoor.

4. Section 103(a) – Other Asserted Grounds

In view of the ground on which we institute *inter partes* review of claims 1, 8–13, 15, 16, 18–21, and 23–30, we do not institute review based on the additional asserted grounds that these claims are unpatentable for obviousness over combinations of references that involve IEEE, Chuang, or Cimini. *See* 35 U.S.C. 314(a); 37 C.F.R. § 42.108(a).

III. CONCLUSION

The Petition demonstrates a reasonable likelihood of prevailing on the ground of obviousness over Ritter and Kapoor as to claims 1, 8–13, 15, 16, 18–21, and 23–30.

The Board has not made a final determination on the patentability of any challenged claim.

IV. ORDER

In consideration of the foregoing, it is

ORDERED that an *inter partes* review is instituted as to claims 1, 8–13, 15, 16, 18–21, and 23–30 of the '212 patent on the ground of obviousness under 35 U.S.C. § 103(a) based on Ritter and Kapoor;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '212 patent is instituted with trial commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is given of the institution of the trial; and

FURTHER ORDERED that the trial is limited to the grounds identified immediately above, and no other ground is authorized for the '212 patent claims.

IPR2014-01525
Patent 7,454,212 B2

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