

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

PATENT: US 7,454,212

INVENTOR: XIAODONG LI ET AL.

FILED: August 8, 2005                      ISSUED: November 18, 2008

TITLE: OFDMA WITH ADAPTIVE SUBCARRIER-CLUSTER  
CONFIGURATION AND SELECTIVE LOADING

CASE NO.: IPR2015-00318

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Patent Trial and Appeal Board  
U.S. Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**MOTION FOR PARTIAL REHEARING UNDER 37 C.F.R. § 42.71(d)**

**I. Statement of Relief Requested**

Petitioners Kyocera Corporation and Kyocera Communications Inc. (collectively, "Kyocera") filed two petitions with the Board, a petition seeking *inter partes* review of U.S. Pat. 7,454,212 (the "'212 patent") in Case IPR2015-00318, and a petition seeking *inter partes* review of U.S. Pat. No. 6,947,748 (the "'748 Patent") in Case IPR2015-00319. The Board's decision in Case IPR2015-00319 (the "'748 Decision") held that the Chuang reference disclose the claimed "pilot symbols." The Board's decision in Case IPR2015-00318 (the "'212 Decision") mistakenly held that the Chuang reference does not disclose the claimed "pilot symbols." These decisions cannot be reconciled, as they are based on the same disclosures and same claim language in the two patents. Because Chuang does, in fact, explicitly disclose "pilot symbols," as the Board found in the '748 Decision, Kyocera respectfully submits this motion to request a partial rehearing regarding the "212 Decision.

Specifically, Kyocera respectfully requests that that Board order a partial rehearing to reconsider its rejection of "Ground 4," the combination of the Frodigh, Chuang, and Ritter references. In the '748 Decision, the Board correctly rejected Patent Owner's argument that Chuang does not teach using pilot symbols to measure channel and interference information. The Board found that Chuang discloses pilot symbols, which supported institution. Yet in the "212 Decision, the

Board rejected Ground 4 on those very grounds. The Board's conclusions regarding Chuang's teachings of "pilot symbols" in the '748 Decision should be applied consistently to Kyocera's petition requesting *inter partes* review of the '212 patent. Furthermore, the Board's '212 Decision overlooked that the '212 patent on its face acknowledged that its use of pilot symbols was well-known prior art technology. For these reasons, as explained below, Kyocera respectfully requests a partial rehearing with regard to Ground 4.

## **II. Legal Standard**

37 C.F.R. § 42.71(d) sets forth the standard governing motions for rehearing.

37 C.F.R. § 42.71(d) states that:

A party dissatisfied with a decision may file a request for rehearing, without prior authorization from the Board. The burden of showing a decision should be modified lies with the party challenging the decision. The request must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.

## **III. Issue Number 1: The '212 Decision Misapprehended the Chuang Reference, Which Discloses the Claimed "Pilot Symbols"—As The Board Agreed In Its '748 Decision**

On November 26, 2014, Kyocera filed its petition *for inter partes* of the '748 patent. To satisfy the limitation "based on pilot symbols received from a base station" in claim 8, and the limitation "based on pilot symbols received from the

first base station" in claim 21, Kyocera used the Chuang reference.<sup>1</sup> See IPR2015-00319, Paper No. 1 at 4, 11, 14, 19-22. Kyocera's petition placed particular emphasis on Chuang's "DCA Procedures," as shown in the following excerpt from IPR2015-00319, Paper No. 1, at 14 (emphasis in the original petition):

*"The portable makes measurements on the pilots corresponding to the downlinks of the traffic channels on the short list, and it chooses as the final paired communications channel that channel with the lowest measured power. In this manner, both the port and the portable provide significant input into the distributed DCA algorithm to select channels with low interference on both the uplink and downlink."* Chuang at 708, lines 12-19.

Based on this language, the Board held and held that Chuang disclosed pilot symbols. Specifically, on June 10, 2015, the Board entered its '748 Decision, in which the Board addressed in detail Patent Owner's arguments regarding Chuang's disclosures of pilot symbols. The Board first state that "Patent Owner argues that Ritter, Van Nee, and Chuang do not teach using pilot symbols to measure channel and interference information as required by claims 8 and 21," noting that "Petitioner relies on Chuang for this claim feature." '748 Decision at 7. The Board then considered—and rejected—Patent Owner's argument regarding Chuang's disclosures of "pilot symbols." *Id.* at 8. In reaching this decision, the Board found

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<sup>1</sup> "A pilot based dynamic channel assignment scheme for wireless access TDMA/FDMA systems," Chuang, J.C.-I.; Sollenberger, N.R.; Cox, D.C., Universal Personal Communications, 1993. *Personal Communications: Gateway to the 21st Century. Conference Record., 2nd International Conference on* , vol.2, no., pp. 706,712 vol.2, 12-15 ("Chuang").

Chuang's "DCA Procedures" discussion in particular to be highly relevant to the pilot symbols issue:

**Patent Owner argues** (Prelim. Resp. 19) **that Chuang does not describe using pilot symbols** from the base station that is carrying out subcarrier allocation among subscribers. However, **Chuang describes a port transmitting an RF pilot signal** at a controlled power to enable all portables **to make measurements corresponding to interference of all possible traffic channels**. Ex. 1006, 3 ("2.3 Pilots"). Chuang further describes portables making **measurements based on pilots corresponding to downlinks on a "short list" and chooses channels that have the lowest measured interference**. *Id.* at 3 ("2.4 DCA procedures").

**For reasons stated above**, on the record developed thus far, **Petitioner has demonstrated a reasonable likelihood it would prevail** in a challenge to claims 8, 9, 21 and 22 **based on the combined teachings** of Ritter, Van Nee, and **Chuang**.

'748 Decision at 8 (emphasis added). In this way, the Board expressly found that Chuang disclosed "pilot symbols" such that Chuang justified institution of *inter partes* review for claims containing the limitations "based on pilot symbols received from a base station" and "based on pilot symbols received from the first base station."

On November 26, 2014, Kyocera also filed its petition for *inter partes* review of the '212 patent. To satisfy the limitation "based on pilot symbols received from a base station" for purposes of claims 1, 8, 11-12, 18, 23 and 26-28 of the '212 patent—the same claim limitation as in claim 8 of the '748 patent—

Kyocera again relied on Chuang. *See* IPR2015-00318, Paper No. 1 at 4, 5, 12, 42-44. Kyocera cited to the same portions of Chuang in its '212 petition as in its '748 petition, as shown below:

'748 petition, IPR2015-00319, Paper No. 1 at 14		'212 petition, IPR2015-00318, Paper No. 1 at 42	
[a][2] based on pilot symbols received from a base station;	Chuang discloses pilot symbols received from a base station ["pilot signals to permit portables to evaluate downlink interference"], and further that those pilot symbols are used by the subscriber ["portable"] to measure channel and interference information for a plurality of subcarriers ["to evaluate downlink interference"].  "A common control frequency, which is frame-synchronized among <i>base stations</i> , provides (1) beacons for portables to locate base-stations and obtain DCA information, (2) broadcast channels for system and alerting information, and (3) <i>pilot signals to permit portables to evaluate downlink interference</i> ." Chuang Abstract.  "The portable makes <i>measurements on the pilots corresponding to the downlinks of the traffic</i> channels on the short list, and it chooses as the final paired communications channel that channel with the lowest measured power. <i>In this manner, both the port and the portable provide significant input into the distributed DCA algorithm to select channels with low interference on both the uplink and downlink.</i> " Chuang at 708, lines 12-19.	'212 Patent Claim 1	Disclosure
		[a][2] based on pilot symbols received from a base station;	Chuang discloses pilot symbols received from a base station ["pilot signals to permit portables to evaluate downlink interference"], and further that those pilot symbols are used by the subscriber ["portable"] to measure channel and interference information for a plurality of subcarriers ["to evaluate downlink interference"].  "A common control frequency, which is frame-synchronized among <i>base stations</i> , provides (1) beacons for portables to locate base-stations and obtain DCA information, (2) broadcast channels for system and alerting information, and (3) <i>pilot signals to permit portables to evaluate downlink interference</i> ." Chuang Abstract; "The portable makes <i>measurements on the pilots corresponding to the downlinks of the traffic</i> channels on the short list, and it chooses as the final paired communications channel that channel with the lowest measured power. <i>In this manner, both the port and the portable provide significant input into the distributed DCA algorithm to select channels with low interference on both the uplink and downlink.</i> " Chuang at 708, lines 12-19.

On June 10, 2015, the Board entered its '212 Decision. The Board first stated that "Patent Owner argues that Chuang (like Sollenberger) does not teach measuring both channel and interference information based on pilot symbols." '212 Decision at 17. This is the same Patent Owner argument that the Board rejected in its '748 Decision, where it was formulated as "Patent Owner argues that Ritter, Van Nee, and Chuang do not teach using pilot symbols to measure channel and interference information as required by claims 8 and 21... Petitioner relies on Chuang for this claim feature." '748 Decision at 7. In the '212 Decision, however, the Board misapprehended the disclosures of Chuang—and contradicted its own '748 Decision—by holding that "We agree with Patent Owner"s argument (Prelim. Resp. 34–35) that Chuang utilizes "'beacons"' to determine which port to

communicate with, and not to determine strength of traffic subcarriers." '212

Decision at 17. The Board then relied on Chuang's purported deficiency regarding pilot symbols as the basis for rejecting the combination of Frodigh and Chuang and, ultimately, Ground 4—the combination of Frodigh, Chuang, and Ritter. '212 Decision at 17-18.<sup>2</sup>

Kyocera's '212 and '748 petitions cited identical portions of Chuang to satisfy identical claim limitations. Furthermore, Patent Owner made identical arguments against Chuang for both petitions. For these reasons, the Board's '212 Decision should be consistent with its '748 Decision regarding Chuang's disclosure of "pilot symbols." Instead, the '212 Decision reached exactly the opposite conclusion as the '748 Decision on this important point.

As explained in Kyocera's '212 petition, and as the Board recognized in its correct '748 Decision, Chuang in fact satisfies the claimed "pilot symbols" limitation. IPR2015-00318, Paper No. 1 at 4, 5, 12, 42-44; '748 Decision at 8. The Board thus misinterpreted the disclosures of Chuang with regard to pilot symbols in its '212 Decision. Therefore, the Board should grant partial rehearing of Ground

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<sup>2</sup> The Board expressed skepticism of Frodigh's disclosures with regard to OFDMA. '212 Decision at 15. Regardless of Frodigh's disclosures concerning OFDMA, the Board recognized that Ritter "describes an OFDMA system." '212 Decision at 18. Therefore, Chuang's purported lack of disclosure of pilot symbols is the only basis for the Board's rejection of Ground 4.

4 in order to correct this misinterpretation and resolve the inconsistency with its '748 Decision.

**IV. Issue Number 2: The '212 Patent Acknowledges On Its Face That The Claimed Use Of Pilot Symbols Was Well-Known Prior Art**

The Board's '212 Decision also overlooked the fact that the '212 patent acknowledges on its face that the claimed use of pilot symbols was well-known prior art. Kyocera discussed this point in its '212 petition:

First, the '212 patent on its face acknowledges that the use of pilot symbols for determining channel quality was a well-known prior art technology. Ex. 1003, '212 patent, 9:12-15 ("The channel/interference estimation by processing block 301 is well-known in the art by monitoring the interference that is generated due to full-bandwidth pilot symbols being simultaneously broadcast in multiple cells."). As such, by admission of the '212 patent itself, a person of ordinary skill in the art would have understood that such pilot symbols would be an effective way to implement the channel monitoring described in Frodigh. Therefore, Frodigh alone would render obvious all claim elements involving measuring pilot symbols to determine channel quality. Moreover, a person of ordinary skill in the art would think to, and be motivated to, combining Frodigh with the teachings of specific references which have strong teachings of pilot symbols in the context of adaptive channel allocation, such as Sollenberger.

IPR2015-00318, Paper No. 1 at 23. Kyocera's petition demonstrated that the '212 patent by its own terms does not consider its use of pilot symbols to be a novel aspect of the claimed invention. The Board's '212 Decision overlooked this disclosure, which provides an independent justification for institution of Ground 4,



separate and apart from the disclosures of Chuang. Kyocera therefore requests that the Board grant partial rehearing to reconsider its decision with regard to Ground 4 on this basis as well.

**V. Conclusion**

For the foregoing reasons, Kyocera respectfully requests that the Board grant partial rehearing of the '212 petition under 37 C.F.R. § 42.71(d) and institute *inter partes* review of the '212 patent for Ground 4, as set forth in Kyocera's '212 Petition. IPR2015-00318, Paper No. 1. Although Kyocera believes that no fee is required for this Motion, the Commissioner is hereby authorized to charge any additional fees that may be required for this Motion to Deposit Account No. 505708.

Date: June 30, 2015

Respectfully Submitted,

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## **CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. § 42.6, the undersigned certifies that on June 30, 2015, a complete and entire copy of Petitioners' MOTION FOR PARTIAL REHEARING UNDER 37 C.F.R. § 42.71(d) was provided, via electronic mail, to the Patent Owner's designated lead and back-up counsel of record:

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