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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte Zheng Liu and Qi Jiang

Appeal 2018-008989
Application 14/385,973
Technology Center 2400

Before JAMES R. HUGHES, JASON J. CHUNG, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

HUGHES, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner’s decision rejecting claims 1–14 and 16–20. Claim 15 has been canceled. *See* Final Act. 1; Appeal Br. 15.² We have jurisdiction under 35 U.S.C. § 6(b).

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Alcatel Lucent. *See* Appeal Br. 1.

² We refer to Appellant’s Specification (“Spec.”), filed Sept. 17, 2014 (claiming benefit of CN 201210073146.X, filed Mar. 19, 2012); Appeal Brief (“Appeal Br.”), filed May 29, 2018; and Reply Brief (“Reply Br.”), filed Sept. 20, 2018. We also refer to the Examiner’s Final Office Action

We REVERSE.

CLAIMED SUBJECT MATTER

The invention relates generally “to a physical uplink control channel [(PUCCH)] and more particularly to a method of linking extended PUCCH resources for ACK/NACK [(Acknowledgement/Negative Acknowledgement)] implicitly to eCCEs [(enhanced Control Channel Elements)] used by EPDCCH [(enhanced Physical Downlink Control Channel)].” Spec. 1:5–7; *see* Spec. 1:10–6:12; Abstract. Claims 1, 6, 11, 14, and 17–20 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method, *in a base station of a communication system*, of linking PUCCH resources for ACK/NACK to eCCEs used by one or more EPDCCH, one or more EPDCCH uses the eCCEs for transmission, the method comprises:

numbering a plurality of PUCCH resources for ACK/NACK, without confliction among user equipments served by the base station wherein each of the plurality of extended PUCCH resources corresponds to one user equipment;

numbering the eCCEs used by the one or more EPDCCHs, wherein the numbering of the eCCEs corresponds to an offset in PUCCH resources;

determining a linkage between the numbering of the PUCCH resources and the numbering of the eCCEs;

sharing with one or more of the user equipments the linkage and/or information associated with the numbering of the extended PUCCH resources; and

(“Final Act.”), mailed Nov. 14, 2017; and Answer (“Ans.”) mailed July 20, 2018.

transmitting number information associated with the eCCEs to the one or more user equipments, wherein the number information comprises the offset.

Appeal Br. 12 (Claims App.) (emphases added).

REFERENCES

The prior art relied upon by the Examiner is:

| Name | Reference | Date |
|--------------------|--------------------|---|
| Kim et al. (“Kim”) | US 2014/0301329 A1 | Oct. 9, 2014 (claiming benefit of US 61/550,451, filed Oct. 24, 2011) |

REJECTION³

The Examiner rejects claims 1–14, and 16–20 under 35 U.S.C. § 103 as being unpatentable over Kim. *See* Final Act. 2–21.

OPINION

Obviousness Rejection of Claims 1–14 and 16–20

The Examiner rejects independent claim 1 (as well as independent claims 6, 11, 14, and 17–20, and dependent claims 2–5, 7–10, 12, 13, and 16) over Kim. *See* Final Act. 2–21; Ans. 3–10. Appellant contends Kim does not teach the disputed limitations of claim 1. *See* Appeal Br. 8–10; Reply Br. 3–4. Specifically, Appellant contends, *inter alia*, that Kim does not describe a base station performing numbering using an offset as recited in claim 1. *See* Appeal Br. 8–10; Reply Br. 3–4. Appellant states that:

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (2011), amended 35 U.S.C. § 103, e.g., to rename 35 U.S.C. § 103’s subsections. Because the present application has an effective filing date (March 19, 2012) prior to the AIA’s effective date for applications (March 16, 2013), this decision refers 35 U.S.C. § 103(a).

The Examiner . . . does not establish that the base station in Kim performs the claimed features. In this regard, for example, the Examiner asserts that Kim assigns the CCE index for the E-PDCCH after the CCE indexes of the legacy PDCCHs. However, even if the assertions of the Examiner are accepted (although such assertions are not conceded by the Applicant), the Examiner does not fairly establish that the features of the claimed method are performed by the base station. At most, it appears that Kim teaches that the base station might, in circumstances where the User Equipment (UE) does not monitor the region of the PDCCH, send data on a total number of CCEs in the PDCCH. However, this is not a fair citation to render obvious all the claimed features. As best understood, meaningful functionality of the Kim disclosure is performed by the User Equipment (UE). The Examiner has not established that the base station in Kim performs the features of numbering, determining, sharing and transmitting.

Reply Br. 3.

We agree with Appellant that the Examiner-cited portions of Kim do not teach or suggest “that the base station in Kim performs the features of numbering, determining, sharing and transmitting” (Reply Br. 3) as required by Appellant’s claim 1—“A method, *in a base station of a communication system*” comprising “numbering a plurality of PUCCH resources for ACK/NACK” “wherein the numbering of the eCCEs corresponds to an offset in PUCCH resources” and “transmitting number information associated with the eCCEs to the one or more user equipments, wherein the number information comprises the offset” (Appeal Br. 24–25 (Claims App.) (emphasis added)). *See* Appeal Br. 8–10; Reply Br. 3–4. The Examiner-cited portions of Kim describe “a PUCCH resource index for ACK/NACK transmission” (Kim ¶ 124) using an offset (*see* Kim ¶ 136) and configuring “a PUCCH ACK/NACK resource for an E-PDCCH” (Kim ¶ 151). *See* Final Act. 2–4; Ans. 3–10 (citing Kim ¶¶ 12–13, 124, 136–140, 142, 145, 146,

148, 149, and 151–154; Figs. 13–15). The cited portions of Kim, however, also describe the user equipment (UE) determining the numbering of the resources, not the base station. *See* Kim ¶¶ 13, 136–149. The Examiner does not explain sufficiently how the cited portions of Kim at least suggest a base station performing the disputed features.

Consequently, we are constrained by the record before us to find that the Examiner erred in finding that Kim renders obvious Appellant’s claim 1. Independent claims 6, 11, 14, and 17–20 include limitations of commensurate scope. Claims 2–5, 7–10, 12, 13, and 16 depend from and stand with claims 1, 6, 11, and 14, respectively.

CONCLUSION

Appellant has shown that the Examiner erred in rejecting claims 1–14 and 16–20 under 35 U.S.C. § 103(a). We, therefore, do not sustain the Examiner’s rejection of claims 1–14 and 16–20.

DECISION SUMMARY

In summary:

| Claims Rejected | 35 U.S.C. § | Reference(s)/Basis | Affirmed | Reversed |
|------------------------|--------------------|---------------------------|-----------------|-----------------|
| 1–14, 16–20 | 103 | Kim | None | 1–14, 16–20 |

REVERSED