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Patterson & Sheridan, L.L.P. Qualcomm 24 Greenway Plaza, Suite 1600 Houston, TX 77046			DIVITO, WALTER J	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WANSHI CHEN, HAO XU,
PETER GAAL, and TINGFANG JI

Appeal 2018-002622
Application 14/264,220
Technology Center 2400

Before BRADLEY W. BAUMEISTER, IRVIN E. BRANCH, and
DAVID J. CUTITTA II, *Administrative Patent Judges*.

CUTITTA, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–5, 7–19, 21–27, 29, 32, and 34.² We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as QUALCOMM Incorporated. *See* Appeal Br. 3.

² Claims 6, 20, 28, and 30, 31, and 33 are cancelled. *See* Appeal Br. 19 and 22–24.

STATEMENT OF THE CASE

Introduction

Appellant's invention is described generally as "transmission time interval (TTI) bundling for physical downlink shared channel (PDSCH) in long term evolution (LTE)." Spec. ¶ 2.³

Illustrative Claim

Claims 1, 15, and 29 are independent claims. Independent claim 1 is illustrative of the claimed subject matter and is reproduced below with limitation at issue emphasized:

1. A method for wireless communications by a user equipment (UE), comprising:

identifying a transmit time interval (TTI) bundle comprising a subset of subframes from a set of subframes for transmitting data on a physical downlink shared channel (PDSCH), wherein the subset of subframes comprises different subframes for different types of PDSCH transmissions;

identifying a signal configured to be transmitted in one or more subframes in the subset of subframes;

determining whether to monitor for the signal in the one or more subframes; and

receiving the data on the PDSCH in the subset of subframes.

Appeal Br. 19 (Claims Appendix).

³ Throughout this Decision, we refer to: (1) Appellant's Specification filed April 29, 2014 ("Spec."); (2) the Final Office Action ("Final Act.") mailed August 24, 2016; (3) the Appeal Brief filed February 21, 2017 ("Appeal Br."); (4) the Examiner's Answer ("Ans.") mailed November 15, 2017; and the Reply Brief filed January 15, 2018 ("Reply Br.").

REFERENCES

The Examiner relies upon the following prior art⁴ in rejecting the claims on appeal:

Chmiel	US 2011/0317657 A1	Dec. 29, 2011
Chen	US 2012/0182946 A1	July 19, 2012
Lee (“Lee ’753”)	US 2013/0083753 A1	Apr. 4, 2013
Dinan	US 2013/0107828 A1	May 2, 2013
Davydov	US 2013/0336224 A1	Dec. 19, 2013
Lee (“Lee ’849”)	US 2016/0043849 A1	Feb. 11, 2016

REFERENCES AND REJECTIONS

Claims 1–5 and 27 stand rejected under pre-AIA 35 U.S.C. § 102(a)(2) as anticipated by Lee ’753. Final Act. 7–9.

Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Lee ’753 and Chmiel. Final Act. 9–11.

Claims 8 and 9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Lee ’753 and Chen. Final Act. 11–13.

Claims 10, 11, 24, and 25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Lee ’753, Chen, and Davydov. Final Act. 13–15.

Claims 12–14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Lee ’753 and Lee ’849. Final Act. 15–18.

Claim 32 stands rejected under 35 U.S.C. § 103 as being unpatentable over Lee ’753 and Dinan. Final Act. 18.

Claims 15–19, 22, 23, 29, and 33 stand rejected under 35 U.S.C. § 103 as being unpatentable over Lee ’753 and Chen. Final Act. 18–22.

⁴ All citations to the references use the first-named inventor only.

Claim 21 stands rejected under 35 U.S.C. § 103 as being unpatentable over Lee '753, Chen, and Chmiel. Final Act. 22–24.

Claim 26 stands rejected under 35 U.S.C. § 103 as being unpatentable over Lee '753, Chen, and Lee '849. Final Act. 24–25.

Claim 34 stands rejected under 35 U.S.C. § 103 as being unpatentable over Lee '753, Chen, and Dinan. Final Act. 25.

Our review in this appeal is limited to the above rejections and the issues raised by Appellant. Arguments not made are waived. *See* 37 C.F.R. §§ 41.37(c)(1)(iv).

DISCUSSION

Issue: Whether the Examiner errs in finding Olsen discloses “identifying a transmit time interval (TTI) bundle comprising a subset of subframes from a set of subframes for transmitting data on a physical downlink shared channel (PDSCH), wherein the subset of subframes comprises different subframes for different types of PDSCH transmissions,” as recited in illustrative claim 1.

The Examiner finds Lee '753 discloses the limitation at issue. *See* Final Act. 8 (citing Lee '753 ¶ 280). Specifically, the Examiner finds

Lee '753 discloses the subframes are divided between PDCCH and PDSCH where subframes [4,5] and [9,0] can be for PDCCH transmissions and [6,7,8] and [1,2,3] can be for PDSCH transmissions [para. 0280]. Therefore, some PDSCH transmissions are performed on the subset consisting of subframes [6,7,8] (i.e., this is one “type” of PDSCH transmission) and other PDSCH transmissions are performed on the subset consisting of subframes [1,2,3] (i.e., this is another “type” of PDSCH transmission). Although Lee '753 does not go

into detail regarding what the varying “types” of PDSCH transmissions might be, neither does claim 1.

Ans. 2–3 (citing *Lee* ’753 ¶ 280). The Examiner further finds “*Lee* ’753 discloses that the device may receive the PDSCH [transmission] in subframe *n* if a corresponding PDCCH [transmission] is received in subframe *n-j* [para. 0277]. This also qualifies as one ‘type’ of PDSCH transmission, where another ‘type’ would be those received in subframe *m*.”

Ans. 3 (citing *Lee* ’753 ¶ 277 [sic] [*recte* ¶ 278]).

Appellant argues “[a]lthough *Lee* ’753 describes the UE or [machine type communications (MTC)] device may receive a PDSCH across the subframes {6,7,8} or {1,2,3} for a corresponding PDCCH in subframes {4,5} or {9,0}, respectively (¶ [0280]), this does not correspond to different subframes for different types of PDSCH transmissions,” but “merely corresponds to PDSCH scheduled by different uplink grants—this is unrelated to a type of the PDSCH.” Reply Br. 2.

Appellant further argues “the pending application describes that . . . different types of broadcast PDSCH include PDSCH for paging, PDSCH with SIBs (“system information broadcasts”), etc.” Appeal Br. 9 (citing Spec. ¶ 64); *see also* Spec. ¶¶ 26, 55. With respect to the Examiner’s finding that *Lee* ’753’s UE may receive different types of PDSCH transmissions in subframes *n* and *m* in accordance with corresponding PDCCH transmissions, Appellant argues “[t]his merely corresponds to PDSCH scheduled by different PDCCH” and thus “this does not correspond to different subframes for different types of PDSCH transmissions.” Reply Br. 3.

The Examiner’s interpretation of “different types of PDSCH transmissions,” as in claim 1, is unreasonable. “The correct inquiry in giving a claim term its broadest reasonable interpretation in light of the specification is not whether the specification proscribes or precludes some broad reading of the claim term adopted by the examiner.” *In re Smith Int’l, Inc.*, 871 F.3d 1375, 1382–83 (Fed. Cir. 2017). Instead, a proper claim construction analysis endeavors to assign a meaning to a disputed claim term “that corresponds with . . . how the inventor describes his invention in the specification.” *Id.* at 1383.

Appellant’s Specification, at a minimum, indicates that different *types* of PDSCH transmissions refer to PDSCH data transmitted for different *purposes* such as for paging, system information broadcasts, or random access response. *See*, e.g., Spec. ¶¶ 24, 55, 64). The Examiner does not explain how *Lee* ’753’s PDSCH data received across subframes [6,7,8] or [1,2,3] is different in any way, let alone, how the PDSCH data is transmitted for different purposes. Nor does the Examiner explain how *Lee* ’753’s discussion of receiving PDSCH transmissions in subframes n and m in accordance with corresponding PDCCH transmissions discloses different types of PDSCH transmissions. *See* Ans. 3; *Lee* ’753, ¶ 278. We determine, therefore, that the Examiner has not sufficiently shown how *Lee* ’753’s receipt of PDSCH data across different subframes discloses “the subset of subframes comprises different subframes for different types of PDSCH transmissions,” as recited in illustrative claim 1. Accordingly, we agree with Appellant that the Examiner has not sufficiently demonstrated that *Lee* ’753 discloses each and every element of claim 1.

Because we agree with at least one of the dispositive arguments advanced by Appellant for claim 1, we need not reach the merits of Appellant's other arguments. Accordingly, based on the record before us, we do not sustain the Examiner's 35 U.S.C. § 102 rejection of independent claim 1, and, for the same reasons, of dependent claims 2–5 and 27.

35 U.S.C. § 103 Rejections

With respect to the 35 U.S.C. § 103 rejection of independent claims 15 and 29, the Examiner does not provide additional findings based on Lee '753, nor does the Examiner rely on Chen, to cure the deficiency of the anticipation rejection discussed above. *See* Final Act. 19, 21.

Accordingly we do not sustain the rejection of those claims for the reasons set forth in relation to independent claim 1. We do not sustain, for similar reasons, the Examiner's 35 U.S.C. § 103 rejections of claims 7–14, 16–19, 21–27, 32, and 34, which variously depend from independent claims 1, 15, and 29 and, thus, also recite the limitation at issue.

CONCLUSION⁵

In summary:

Claims Rejected	Basis	Affirmed	Reversed
1–5 and 27	§ 102(a)(2) Lee '753		1–5 and 27
7	§ 103, Lee '753, Chmiel		7
8, 9	§ 103, Lee '753, Chen		8, 9
10, 11, 24, and 25	§ 103, Lee '753, Chen, Davydov		10, 11, 24, and 25
12–14	§ 103, Lee '753, Lee '849		12–14
32	§ 103, Lee '753, Dinan		32
15–19, 22, 23, 29, and 33	§ 103, Lee '753, Chen		15–19, 22, 23, 29, and 33
21	§ 103, Lee '753, Chen, Chmiel		21
26	§ 103, Lee '753, Chen, Lee '849		26
34	§ 103, Lee '753, Chen, Dinan		34
Overall Outcome			1–5, 7–19, 21–27, 29, 32, and 34

REVERSED

⁵ Appellant, during prosecution, added the limitation “determining whether to monitor for the signal in the one or more subframes” to claim 1. *See* Amendment filed July 5, 2016. Claims 15 and 29 include similar limitations. In the Appeal Brief, Appellant indicates support for the newly added limitation can be found in the original Specification at ¶ 61. *See* Appeal Br. 5. Upon our review, Appellant’s Specification appears to be silent regarding “determining whether to monitor for the signal,” and so we cannot confirm the Specification provides written support for the limitation.