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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 YONGBIN WEI

Appeal 2019-002276
Application 14/162,664
Technology Center 2400

Before MAHSHID D. SAADAT, ST. JOHN COURTENAY III, and
LINZY T. McCARTNEY, *Administrative Patent Judges*.

McCARTNEY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ seeks review under 35 U.S.C. § 134(a) of the Examiner's final rejection of claims 1–30. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellant identifies the real party in interest as Qualcomm Incorporated. Appeal Brief 3, filed September 10, 2018 (Appeal Br.).

BACKGROUND

This patent application concerns “power control (PC) and timing advance (TA) loops during wireless communication.” Specification ¶ 2, filed January 23, 2014 (Spec.). Claim 1 illustrates the claimed subject matter:

1. A method of wireless communication, comprising:
 - receiving, at a user equipment (UE) from a base station, a signal in a subframe of a plurality of subframes in a frame, the UE configured with:
 - a plurality of power control (PC) loops for a component carrier, and
 - at least one timing advance (TA) loop for the component carrier; and
 - determining, at the UE, a TA loop from the at least one TA loop and a first PC loop from the plurality of PC loops based on the received signal, the first PC loop implicitly determined based on a first subframe index that identifies the subframe of the received signal from the plurality of subframes within the frame, the first subframe index associated with the first PC loop of the plurality of PC loops and a second subframe index associated with a second PC loop of the plurality of PC loops, the first subframe index being different from the second subframe index, and the first PC loop being different from the second PC loop.

Appeal Br. 20.

REJECTIONS

Claims	35 U.S.C. §	References/Basis
1–30 ²	112	Written Description
1–30	112	Indefiniteness
1, 3, 6, 7, 11, 14, 16, 19, 21, 23, 26, 27	103(a)	Stern-Berkowitz, ³ Ojala, ⁴ Eriksson, ⁵ Wu ⁶
2, 4, 5, 12, 13, 17, 18, 22, 24, 25	103(a)	Stern-Berkowitz, Ojala, Eriksson, Wu, Kwon ⁷
8, 28	103(a)	Stern-Berkowitz, Ojala, Eriksson, Wu, Han ⁸
9, 10, 15, 20, 29, 30		Stern-Berkowitz, Ojala, Eriksson, Wu, Sorrentino ⁹

DISCUSSION

We have reviewed the Examiner's rejection and Appellant's arguments, and we agree with Appellant that the Examiner erroneously rejected claims 1–30 for lack of written description and indefiniteness. But Appellant has not persuaded us that the Examiner erroneously rejected claims 1–30 as obvious over various prior art references. For the obviousness rejections, as consistent with the discussion below, we adopt the Examiner's reasoning, findings, and conclusions on pages 6–17 of the Final

² The written description and indefiniteness rejections identify only independent claims 1, 11, 16, and 21, but we understand dependent claims 2–10, 12–15, 17–20, and 22–30 to also stand rejected on these grounds because they depend from one of the rejected independent claims.

³ Stern-Berkowitz et al. (US 2013/0176953 A1; July 11, 2013).

⁴ Ojala et al. (US 2010/0182968 A1; July 22, 2010).

⁵ Eriksson et al. (US 2015/0105119 A1; April 16, 2015).

⁶ Wu et al. (US 2011/0310830 A1; December 22, 2011).

⁷ Kwon et al. (US 2013/0100938 A1; April 25, 2013).

⁸ Han et al. (US 2014/0092829 A1; April 3, 2014).

⁹ Sorrentino et al. (US 2014/0071903 A1; March 13, 2014).

Office Action mailed April 19, 2018 (Final Act.), and pages 7–17 and 23–24 of the Examiner’s Answer mailed November 19, 2018 (Ans.). Before addressing Appellant’s arguments about the Examiner’s written description, indefiniteness, and obviousness rejections, we briefly discuss Appellant’s arguments about the Examiner’s objection to the drawings.

Drawing Objections

Appellant contends that the Examiner “erroneously object[ed] to the drawings under 37 CFR 1.83(a)” and asks that we overturn this objection. Appeal Br. 6–7. But only the Director can review objections. *See* 37 C.F.R. § 1.181; *see also* Manual of Patent Examining Procedure § 706.01 (“The practical difference between a rejection and an objection is that a rejection, involving the merits of the claim, is subject to review by the Patent Trial and Appeal Board, while an objection, if persisted, *may be reviewed only by way of petition to the Director of the USPTO.*” (emphasis added)). Accordingly, we will not consider Appellant’s request to overturn the Examiner’s objection.

Written Description

Claim 1 recites “determining . . . a first PC loop from the plurality of PC loops based on the received signal, the first PC loop implicitly determined based on a first subframe index that identifies the subframe of the received signal” (the “determining” limitation). Appeal Br. 20. Independent claims 11, 16, and 21 recite similar limitations. *See* Appeal Br. 21–24. The Examiner found that the written description does not provide adequate support for these limitations because “[t]he only instance of the term ‘subframe indices’” in the written description “is not clearly defined [as] a ‘downlink’ subframe index.” Ans. 17; *see also* Final Act. 3–4. As a

result, the Examiner rejected claims 1–30 for lack of written description. *See* Final Act. 3–4.

Appellant argues that the Examiner erred because the written description describes not only downlink subframe indices but also implicitly associating subframe indices with PC loops and implicitly determining a PC loop based on subframe indices. *See* Appeal Br. 7–12.

To satisfy the written description requirement, “the disclosure of the application relied upon” must “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). Appellant has persuaded us that the application at issue satisfies this standard for the disputed limitation. As argued by Appellant, the written description discloses downlink subframe indices, implicitly associating subframe indices to PC loops, and implicitly determining a PC loop based on subframe indices. *See, e.g.*, Spec. ¶¶ 32, 83, 84, 87, 93, Fig. 2. We agree with Appellant that these disclosures reasonably convey to those skilled in the art that the inventor had possession of the claimed implicit determination at the time the application was filed. We thus do not sustain the Examiner’s rejection of claims 1–30 for lack of written description.

Indefiniteness

The Examiner concluded that claims 1–30 are indefinite because, in the Examiner’s view, the written description does not provide adequate support for the “determining” limitations recited in claims 1–30 and thus “[i]t is unclear . . . how the PC loop is being determined with respect[] to the ‘downlink’ subframe index.” Ans. 22; *see also* Final Act. 5–6.

Appellant contends that the Examiner failed to show that claims 1–30 are indefinite because the Examiner relied on “conclusory statements . . . that the specification does not disclose ‘determining a PC loop based on the downlink subframe index.’” Appeal Br. 16.

Appellant has persuaded us that the Examiner erred. During prosecution, a claim is indefinite when it contains words or phrases whose meaning is unclear. *See In re Packard*, 751 F.3d 1307, 1314 (Fed. Cir. 2014). A claim is indefinite, for instance, if the claim is “ambiguous, vague, incoherent, opaque, or otherwise unclear in describing and defining the claimed invention,” *Packard*, 751 F.3d at 1311, or if it is “is amenable to two or more plausible claim constructions,” *Ex Parte Miyazaki*, 89 USPQ.2d 1207, 1211 (BPAI 2008) (precedential). Here, the Examiner has not identified anything “ambiguous, vague, incoherent, opaque, or otherwise unclear in” the disputed limitations or shown that the disputed limitations are “amenable to two or more plausible claim constructions.” The Examiner’s indefiniteness rejection rests on the Examiner’s written description rejection, which we do not sustain for the reasons discussed above. Accordingly, we do not sustain the Examiner’s indefiniteness rejection of claims 1–30.

Obviousness

For the “determining” limitation recited in claim 1, Appellant contends that the Examiner erroneously found “that Eriksson discloses an implicit manner of signaling the set of power control parameters.” Appeal Br. 17. Appellant contends that paragraph 83 of the written description describes an implicit association that “does not add additional downlink control information bits” and thus reduces overhead, whereas Eriksson uses “a bit set S” and therefore increases overhead. Appeal Br. 18 (quotation

marks and emphases omitted). According to Appellant, Eriksson thus “discloses the opposite of implicitly determining.” Appeal Br. 18.

We find these arguments unpersuasive. Appellant has not that shown that either claim 1 or the written description limits the recited implicit determination to using implicit associations that do “not add additional downlink control information bits.” Claim 1 does not mention this requirement. *See* Appeal Br. 20. Paragraph 83 of the written description explains that in “another configuration, the power control loop may be implicitly associated with an enhanced control channel set” and that user equipment “may determine the power control loop and the associated power control commands based on the enhanced control channel set index.” Spec. ¶ 83. In this situation, “additional downlink control information bits are not added.” Spec. ¶ 83. But this paragraph does not expressly limit an implicit association (or more important, the recited implicit determination) to those that do not add or require “additional downlink control information bits.” And Appellant has not identified any other persuasive evidence that an implicit association or determination is limited in this way. Given its broadest reasonable interpretation in light of the written description, the “determining” limitation recited in claim 1 encompasses an implicit determination of the first PC loop that involves additional bits of downlink control information. *See* Appeal Br. 20.

Because Appellant has not established that the disputed “determining” limitation is limited in the way it proposes, Appellant has not shown that the Examiner erroneously found that Eriksson discloses this limitation. Eriksson discloses indicating a set of power control parameters out of multiple sets of power control parameters, the set of power control parameters “used by the

user equipment when determining transmit power at the user equipment.” Eriksson ¶ 30 (reference numbers omitted). As found by the Examiner, *see, e.g.,* Ans. 23–24, Final Act. 10, Eriksson teaches that “the indication may be an *implicit indication*, such as an indication of a subframe to use,” Eriksson ¶ 31 (emphasis added); *see also* Eriksson ¶ 50 (explaining that Figure 3 “illustrates an *implicit manner* of signalling the set of power control parameters to use when determining transmit power at the user equipment” (emphasis added)). Eriksson indicates that the implicit manner of signaling the set of power control parameters involves using a “bit set S compris[ing] bits indicating subframe numbers.” Eriksson ¶¶ 50–51. We thus find Appellant’s arguments unpersuasive.

Appellant does not present any other argument for claim 1, so we sustain the Examiner’s obviousness rejection of claim 1. Because Appellant does not present separate, persuasive arguments for claims 2–30, we also sustain the Examiner’s obviousness rejections of these claims.

CONCLUSION

Claims Rejected	35 U.S.C. §	Rejections/Basis	Affirmed	Reversed
1–30	112	Written Description		1–30
1–30	112	Indefiniteness		1–30
1, 3, 6, 7, 11, 14, 16, 19, 21, 23, 26, 27	103(a)	Stern-Berkowitz, Ojala, Eriksson, Wu	1, 3, 6, 7, 11, 14, 16, 19, 21, 23, 26, 27	
2, 4, 5, 12, 13, 17, 18, 22, 24, 25	103(a)	Stern-Berkowitz, Ojala, Eriksson, Wu, Kwon	2, 4, 5, 12, 13, 17, 18, 22, 24, 25	
8, 28	103(a)	Stern-Berkowitz, Ojala, Eriksson, Wu, Han	8, 28	

Claims Rejected	35 U.S.C. §	Rejections/Basis	Affirmed	Reversed
9, 10, 15, 20, 29, 30		Stern-Berkowitz, Ojala, Eriksson, Wu, Sorrentino	9, 10, 15, 20, 29, 30	
Overall Outcome			1-30	

Because we affirm at least one ground of rejection for each claim on appeal, we affirm the Examiner's decision. *See* 37 C.F.R. § 41.50(a)(1). No period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED