UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte HE WANG and CHANDRIKA WORRALL

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Appeal 2019-002938
Application 14/239,087
Technology Center 2400

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Before JOHN A. EVANS, JAMES W. DEJMEK, and
JOYCE CRAIG, *Administrative Patent Judges*.

DEJMEK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1, 5, 7–9, 17, 25, 29, 31, 32, and 41–44. Appellant has canceled claims 2–4, 6, 10–16, 18–24, 26–28, 30, and 33–40. Appeal Br. 17–22. We have jurisdiction over the remaining pending claims under 35 U.S.C. § 6(b).

We affirm in part.

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[1] Throughout this Decision, we use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42 (2017). Appellant identifies Alcatel Lucent as the real party in interest. Appeal Br. 1.

STATEMENT OF THE CASE

Introduction

Appellant's disclosed and claimed invention generally relates to "notifying a user terminal of multimedia broadcast multicast service MBMS service information of at least one neighboring cell of a cell of a base station where the user terminal camps." Spec. 1. In a disclosed embodiment, the MBMS service information may be transmitted in a system information block (SIB) other than SIB 13 so that the information may be transmitted in a cell where there is no MBMS service transmission. Spec. 4.

Claim 1 is representative of the subject matter on appeal and is reproduced below with the disputed limitation emphasized in *italics*:

> 1. A method of notifying a user terminal of multimedia broadcast multicast service MBMS service information of at least one neighboring cell of a cell of a base station where the user terminal camps, comprising:
>
> in a system information block SIB, which is independent of a SIB 13,
>
> transmitting, in the system information block SIB, to the user terminal the multimedia broadcast multicast service MBMS service information of the at least one neighboring cell, *wherein the multimedia broadcast multicast service MBMS service information of the at least one neighboring cell comprises a carrier frequency and a list of an identifier of an MBMS service supported at the carrier frequency.*

The Examiner's Rejections

1. Claims 9, 17, 43, and 44 stand rejected under pre-AIA 35 U.S.C. § 112, second paragraph, as being indefinite. Final Act. 3–4.

2.   Claims 1, 7, 8, 25, 31, 32, 41, and 42 stand rejected under pre-AIA 35 U.S.C. § 102(e) as being anticipated by Zhang et al. (US 2012/0236776 A1; Sept. 20, 2012) ("Zhang"). Final Act. 5–9.

3.   Claims 5, 9, 17, 29, 43, and 44 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Zhang and Maeda et al. (US 2010/0178895 A1; July 15, 2010) ("Maeda"). Final Act. 9–15.

ANALYSIS[2]

Rejection under pre-AIA 35 U.S.C. § 112, second paragraph

a.   Claims 9 and 43

Independent claim 9 recites, in relevant part, "an indicating module configured to indicate to the user terminal a change of the multimedia broadcast multicast service MBMS service information of the at least one neighboring cell included in the system information block SIB by setting bits in a downlink control information DCI format 1C to be all zero." The Examiner determines that the claimed "indicating module" invokes the provisions of pre-AIA 35 U.S.C. § 112, sixth paragraph, and further determines the Specification lacks sufficient corresponding structure for the indicating module. Final Act. 3–4; *see also* Ans. 3–4.

Appellant disputes that the claim language invokes pre-AIA 35 U.S.C. § 112, sixth paragraph. Appeal Br. 6–7. Moreover, Appellant argues the

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[2] Throughout this Decision, we have considered the Appeal Brief, filed September 19, 2018 ("Appeal Br."); the Examiner's Answer, mailed January 2, 2019 ("Ans."); and the Final Office Action, mailed February 20, 2018 ("Final Act."), from which this Appeal is taken. Appellant did not file a Reply Brief. To the extent Appellant has not advanced separate, substantive arguments for particular claims or issues, such arguments are considered waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Specification sets forth a corresponding structure for the claimed indicating module, identifying Figure 3 (item 320) and the corresponding description on page 13 of the Specification. Appeal Br. 6. In addition, Appellant asserts that one of ordinary skill in the art would understand that an indicating module is a component within the base station and would "necessarily involve processors, memory, cooperating circuits and software and/or ASIC devices." Appeal Br. 6.

The presumption that a limitation that does not recite a "means for" or a "step for" and, therefore, is not subject to § 112, sixth paragraph is not a strong one. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (concluding "that such a heightened burden is unjustified and that we should abandon characterizing as 'strong' the presumption that a limitation lacking the word 'means' is not subject to § 112, para. 6"). Rather, the *Williamson* Court explained:

> The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. When a claim term lacks the word "means," the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to "recite sufficiently definite structure" or else recites "function without reciting sufficient structure for performing that function."

Williamson, 792 F.3d at 1349 (internal citations omitted). Further, the Court stated:

> "Module" is a well-known nonce word that can operate as a substitute for "means" in the context of § 112, para. 6. . . . Generic terms such as "mechanism," "element," "device," and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a manner that is tantamount to using the word "means" because they "typically do not

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> connote sufficiently definite structure" and therefore may invoke
> § 112, para. 6.

Williamson, 792 F.3d at 1350.

We agree with the Examiner that, as recited, the "indicator module" configured to indicate a change of the MBMS information by setting bits in a DCI format 1C to all zero invokes pre-AIA 35 U.S.C. § 112, sixth paragraph.

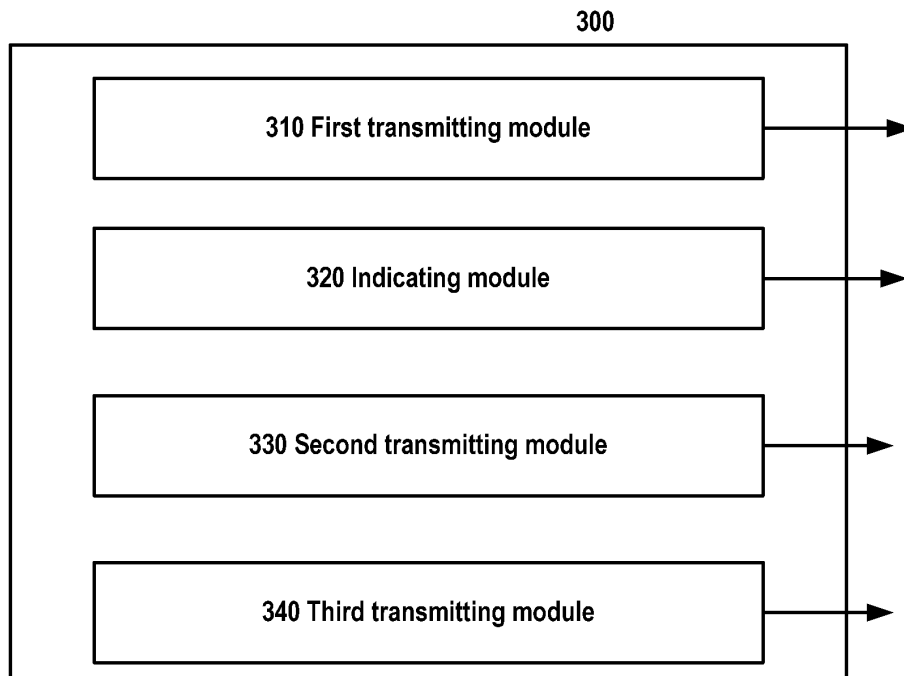Figure 3 from the Specification is reproduced below.

300

| 310 First transmitting module |

| 320 Indicating module |

| 330 Second transmitting module |

| 340 Third transmitting module |

Fig.3

Figure 3 is a block diagram of a base station. Spec. 3. Although an indicating module (320) is included in the block diagram, we agree with the Examiner that this is simply a black box, devoid of the requisite corresponding structure. Similarly, the Specification fails to describe the

corresponding structure for the indicating module, but instead recites the function it performs. *See* Spec. 13.

> A patentee cannot avoid providing specificity as to structure simply because someone of ordinary skill in the art would be able to devise a means to perform the claimed function. To allow that form of claiming under section 112, paragraph 6, would allow the patentee to claim all possible means of achieving a function.

Blackboard, Inc. v. Desire2Learn, Inc., 574 F.3d 1371, 1385 (Fed. Cir. 2009).

For the reasons discussed *supra*, we are unpersuaded of Examiner error. Accordingly, we sustain the Examiner's rejection of claim 9 under pre-AIA 35 U.S.C. § 112, second paragraph, as being indefinite.[3] In addition, we sustain the Examiner's rejection under pre-AIA 35 U.S.C. § 112, second paragraph, of claim 43, which depends therefrom and was not argued separately with particularity. *See* Appeal Br. 6–7; *see also* 37 C.F.R. § 41.37(c)(1)(iv).

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[3] We note that Manual of Patent Examining Procedure ("MPEP") § 2163(II)(A)(3)(a) (9th ed. Rev. 08.2017, Jan. 2018) states that "when a claim is rejected as indefinite under **35 U.S.C. 112(b)** or **pre-AIA 35 U.S.C. 112**, second paragraph, because there is no corresponding structure, materials, or acts, or an inadequate disclosure of corresponding structure, materials, or acts, for a means- (or step-) plus-function claim limitation, then the claim must also be rejected under **35 U.S.C. 112(a)** or **pre-AIA 35 U.S.C. 112**, first paragraph, for lack of an adequate written description." In the event of further prosecution, we leave it to the Examiner to determine whether a rejection of under pre-AIA 35 U.S.C. § 112, first paragraph, is also appropriate. Although the Board is authorized to reject claims under 37 C.F.R. § 41.50(b), no inference should be drawn when the Board elects not to do so. *See* MPEP § 1213.02.

b.   Claims 17 and 44

Independent claim 17 recites, in relevant part, "a determining module configured to determine whether the multimedia broadcast multicast service MBMS service information of the at least one neighboring cell included in the system information block SIB is changed by determining whether bits in a downlink control information DCI format 1C are set to zero." The Examiner determines that the claimed "determining module" invokes the provisions of pre-AIA 35 U.S.C. § 112, sixth paragraph, and further determines the Specification lacks sufficient corresponding structure for the indicating module. Final Act. 3–4; *see also* Ans. 3–4.

Similar to the arguments presented with respect to the "indicating module," Appellant again disputes that the "determining module" invokes pre-AIA 35 U.S.C. § 112, sixth paragraph, but that the Specification nonetheless provides sufficient corresponding structure. Appeal Br. 7 (citing Spec. 14, Fig. 4 (item 420).

Similar to Figure 3, Figure 4 merely illustrates a high-level block diagram of a user terminal and represents the determining module as a box with an arrow pointing into it. *See* Fig. 4. Similarly, the Specification fails to provide any corresponding structure for the determining module, instead reciting the function it performs.

Thus, for similar reasoning as that discussed with respect to claim 9 and the "indicating module," we sustain the Examiner's rejection under pre-AIA 35 U.S.C. § 112, second paragraph, of independent claim 17. In addition, we sustain the Examiner's rejection under pre-AIA 35 U.S.C. § 112, second paragraph, of claim 44, which depends therefrom and was not

argued separately with particularity. *See* Appeal Br. 7; *see also* 37 C.F.R. § 41.37(c)(1)(iv).

Rejection under pre-AIA 35 U.S.C. § 102(e)

Appellant argues Zhang fails to disclose that the multimedia broadcast multicast service information of at least one neighboring cell comprises a carrier frequency and a list of an identifier of an MBMS service supported at the carrier frequency. Appeal Br. 7–10.

Claim construction is an important step in a patentability determination. A finding of anticipation is a two-step inquiry wherein first, the claims are properly construed, and second, the properly construed claims are compared to the prior art. *See Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003); *see also In re Crish*, 393 F.3d 1253, 1256 (Fed. Cir. 2004).

"Claim limitations directed to printed matter are not entitled to patentable weight unless the printed matter is *functionally related* to the substrate on which the printed matter is applied." *Praxair Distribution, Inc. v. Mallinckrodt Hosp. Prods. IP Ltd.*, 890 F.3d 1024, 1031 (Fed. Cir. 2018) (emphasis added). Our reviewing court has also explained that this printed matter doctrine is not strictly limited to "printed" materials. *Mallinckrodt*, 890 F.3d at 1032. More specifically, "a claim limitation is directed to printed matter 'if it claims the content of information.'" *Mallinckrodt*, 890 F.3d at 1032 (quoting *In re Distefano*, 808 F.3d 845, 848 (Fed. Cir. 2015)).

"Where the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in

terms of patentability." *In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983) (footnote omitted). As a general proposition, we need not give patentable weight to non-functional descriptive material absent a new and nonobvious functional relationship between the descriptive material and the substrate. *See In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *see also King Pharm., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1279 (Fed. Cir. 2010); and Manual of Patent Examining Procedure (MPEP) § 2111.05 (9th ed. Rev. 08.2017, Jan. 2018).

In *Ex parte Nehls*, 88 USPQ2d 1883, 1888 (BPAI 2008) (precedential), the Board held that the nature of the information being manipulated by the computer should not be given patentable weight absent evidence that the information is functionally related to the process "by changing the efficiency or accuracy or any other characteristic" of the steps. *See also Ex parte Curry*, 84 USPQ2d 1272, 1274 (BPAI 2005) (non-precedential) (holding "wellness-related" data stored in a database and communicated over a network was non-functional descriptive material as claimed because the data "does not functionally change" the system).

Here, we find the content of the multimedia broadcast multicast service MBMS service information of at least one neighboring cell (i.e., a carrier frequency and a list of an identifier of an MBMS service supported at the carrier frequency) does not change the recited methods of at least independent claims 1 and 25. The content of the MBMS service information is not functionally related to the transmission of a system information block (SIB) from a base station to a user terminal. Further, the recited content of the MBMS service information is not used in the claim—it is merely data sent from the base station to a user terminal. Accordingly, the content of the

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multimedia broadcast multicast service MBMS service information of at least one neighboring cell is merely non-functional descriptive material.

Having determined independent claim 1 recites non-functional descriptive material, we are mindful to read the claim as a whole in our analysis. *See Gulack*, 703 F.2d at 1385 ("[T]he board cannot dissect a claim, excise the printed matter from it, and declare the remaining portion of the mutilated claim to be unpatentable. The claim must be read as a whole.") (footnote omitted).

Based on the foregoing discussion, claim 1 is interpreted as follows:

1. A method of notifying a user terminal of multimedia broadcast multicast service MBMS service information of at least one neighboring cell of a cell of a base station where the user terminal camps, comprising:

in a system information block SIB, which is independent of a SIB 13,

transmitting, in the system information block SIB, to the user terminal the multimedia broadcast multicast service MBMS service information of the at least one neighboring cell, wherein the multimedia broadcast multicast service MBMS service information of the at least one neighboring cell comprises [*non-functional descriptive material*].

As an initial matter, we do not find Appellant's arguments persuasive of Examiner error because, at least, they rely on the MBMS service information to comprise specific content (i.e., a carrier frequency and a list of an identifier of an MBMS service supported at the carrier frequency), which we have concluded to be non-functional descriptive material.

Zhang, as relied on by the Examiner, discloses a mobile entity (i.e., user terminal) "obtains information about MBMS service support of cells in its neighbor list." Zhang ¶ 94. Zhang describes that the information in a

system information block other than SIB 13 of a Broadcast Control Channel (BCCH). Zhang ¶ 94.

Thus, Zhang describes notifying a user terminal of MBMS service information of a neighboring cell by transmitting to a user terminal such information in a system information block other than SIB 13. Accordingly, having properly construed claim 1, we find Zhang anticipates claim 1 and we sustain the Examiner's rejection. For similar reasons, we also sustain the Examiner's rejection of independent claim 25, which recites commensurate limitations and for which Appellant relies on similar arguments (*see* Appeal Br. 10). In addition, we sustain the Examiner's rejection of claims 7, 8, 31, 32, 41, and 42, which depend therefrom and were not argued separately. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Rejection under pre-AIA 35 U.S.C. § 103(a)

The Examiner rejects claims 5, 9, 17, 29, 43, and 44 under pre-AIA 35 U.S.C. § 103(a) over the combined teachings and suggestions of Zhang and Maeda. *See* Final Act. 9–15. In relevant part, the Examiner relies on Maeda to teach indicating (or determining) a change of the MBMS service information of a neighboring cell by setting bits in a downlink control information DCI format 1C to be all zero. *See, e.g.*, Final Act. 11, 13–15 (citing Maeda ¶ 144). In particular, the Examiner finds "the use of certain values in a given field to indicate a change in an information field is known in the art" and that Maeda describes using a value of 11 to indicate a change (00 indicates no change), but that it would have been obvious to one of ordinary skill in the art to use any value (such as 00) to indicate a change.

Final Act. 11. Additionally, the Examiner finds it would have been obvious "to apply this teaching to another field (the DCI format 1C)." Ans. 6.

Appellant asserts that Maeda relates to notifying emergency information using a broadcast type multimedia service and "fails to specifically mention 8 bits in the DCI format 1C set to be all zero." Appeal Br. 13–14. Instead, Appellant argues Maeda only describes an indicator for notification being 2-bit digital data. Appeal Br. 14 (citing Maeda ¶ 144).

As an initial matter, although the Specification describes the current DCI format 1C has 8 bits, we note the claim language does not specify a specific number of bits being set to zero. Thus, Appellant's arguments are not commensurate with the scope of the claims and, as such, do not demonstrate error in the Examiner's rejection of those claims. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) (limitations not appearing in the claims cannot be relied upon for patentability).

However, the claim does recite that the indication information (i.e., all bits being set to zero) is within a DCI format 1C. The Examiner's reasoning to apply the teaching of Maeda "to another field" such as the DCI format 1C lacks adequate support.

A proper finding of obviousness based on an "obvious to try" rationale requires, *inter alia*, a showing that, at the time Appellant's invention was filed, (1) there was a recognized problem and a design need or market pressure to solve the problem; (2) there were a finite number of identified, predictable solutions; and (3) one of ordinary skill would have had good reason to pursue the known options within his or her technical grasp, with a reasonable expectation of success. *See KSR*, 550 U.S. at 421.

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Although, as Appellant states in the Specification, "the DCI format 1C is used for a base station to notify a UE [(user equipment)] of a change of a MBMS point-to-multipoint Control Channel MCCH message" (Spec. 7) and it may be, therefore, a logical selection by one of ordinary skill in the art to apply the teaching of Maeda to the DCI format 1C to indicate a change in MBMS service information of a neighboring cell, the Examiner has not set forth sufficient persuasive evidence or technical reasoning to support applying Maeda's teaching to the DCI format 1C field.

Accordingly, constrained by the record before us, we do not sustain the Examiner's rejection of claims 5, 9, 17, and 29, which each recite the disputed limitation. In addition, we do not sustain the Examiner's rejection under pre-AIA 35 U.S.C. § 103(a) of claims 43 and 44, which depend from claims 9 and 17, respectively.

CONCLUSION

We affirm the Examiner's decision rejecting claims 9, 17, 43, and 44 under pre-AIA 35 U.S.C. § 112, second paragraph.

We affirm the Examiner's decision rejecting claims 1, 7, 8, 25, 31, 32, 41, and 42 under pre-AIA 35 U.S.C. § 102(e).

We reverse the Examiner's decision rejecting claims 5, 9, 17, 29, 43, and 44 under pre-AIA 35 U.S.C. § 103(a).

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
9, 17, 43, 44	112, second paragraph	Indefiniteness	9, 17, 43, 44	
1, 7, 8, 25, 31, 32, 41, 42	102(e)	Zhang	1, 7, 8, 25, 31, 32, 41, 42	
5, 9, 17, 29, 43, 44	103(a)	Zhang, Maeda		5, 9, 17, 29, 43, 44
Overall Outcome			1, 7–9, 17, 25, 31, 32, 41–44	5, 29

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED IN PART