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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* JUSSI PEKKA KOSKINEN and  
JARKKO T. KOSKELA

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Appeal 2019-005095  
Application 14/237,868  
Technology Center 3600

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Before PHILLIP J. KAUFFMAN, TARA L. HUTCHINGS, and  
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

KAUFFMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 41–43, 45–48, 50–53, 55–58, 60, 61, and 63–68. Non-Final Act. 5–30. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

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<sup>1</sup> 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 Nokia Technologies Oy. Appeal Br. 2.

Claim 41 is reproduced below (italics added to emphasize the limitation at issue).

41. A method comprising:  
determining that a user equipment is in an any cell selection state, the user equipment in the any cell selection state is not camped on any cell and is attempting to identify an acceptable cell associated with any public land mobile network to camp on;  
in response to determining that the user equipment is in the any cell selection state, *determining that a current physical cell identification split is invalid*, the current physical cell identification split comprising information identifying a range of closed subscriber group cells; and  
in response to the determination that the current physical cell identification split is invalid, voiding the current physical cell identification split to at least prevent the current physical cell identification split from being utilized by the user equipment to identify the acceptable cell.

## REJECTIONS

I. Claims 41, 45–48, 51, 55–58, 61, 64, and 66 are rejected under 35 U.S.C. § 103 as unpatentable over Jung and Kwun.<sup>2</sup> Non-Final Act. 5–22.

II. Claims 42, 43, 50, 52, 53, 60, 63, and 68 are rejected under 35 U.S.C. § 103 as unpatentable over Jung, Kwun, and Maeda '286.<sup>3</sup> Non-Final Act. 22–28.

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<sup>2</sup> Jung (US 2010/0130215 A1, published May 27, 2010); Kwun (US 2011/0190000 A1, published Aug. 4, 2011).

<sup>3</sup> Maeda '286 (EP 2 346 286 A1, published July 20, 2011). Although the Examiner's rejection is based on Maeda '286, the Examiner's citations refer to Maeda '732 (US 2001/0216732 A1, published Sept. 8, 2011), which is the U.S. equivalent of Maeda '286. Non-Final Act. 22.

III. Claims 65 and 67 are rejected under 35 U.S.C. § 103 as unpatentable over Jung, Kwun, and Singh.<sup>4</sup> Non-Final Act. 28–30.

#### ANALYSIS

*Claims 41, 45–48, 51, 55–58, 61, 64, and 66*

The Examiner concludes that the subject matter of claims 41, 45–48, 51, 55–58, 61, 64, and 66 would have been obvious from the combined teachings of Jung and Kwun. Non-Final Act. 5–22. Independent claim 41 recites the step, “in response to determining that the user equipment is in the any cell selection state, determining that a current physical cell identification split is invalid, the current physical cell identification split comprising information identifying a range of closed subscriber group cells.” Put differently, claim 41 defines a physical cell identification (PCI) split as a range of closed subscriber group cells, and requires determining that a current PCI split is invalid. Independent claims 51 and 61 recite similar limitations.

For context, the Background of Appellant’s Specification explains that a PCI split can become invalid based on a number of factors, such as when user equipment (UE)<sup>5</sup> move to another location. Spec. 1–2. In this scenario, the UE continues to use the current PCI split to find an available cell to camp on, even though the split is invalid. *Id.* at 2. In so doing, the UE may be unable to find an available cell, resulting in the UE being unable to connect to the network. *Id.* at 2; *see also id.* (summarizing the invention as deleting or not using a PCI split when it is no longer valid in a current

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<sup>4</sup> Singh (US 2010/0120426 A1, published May 13, 2010).

<sup>5</sup> E.g., a mobile device.

location, and further describing that an inability to connect to an access point is a cause for determining that the mobile terminal is at a location in which the split is not valid).

In rejecting independent claims 41, 51, and 61, the Examiner finds that paragraph 84 and Figures 9–10 of Jung teach the argued limitation. Non-Final Act. 6, 12, 19. Jung teaches that each closed subscriber group (CSG) has its own identification number called a CSG identify (CSG ID). Jung ¶ 83. The UE has a CSG list to which the UE belongs as a member. *Id.* A base station delivers the CSG ID of the CSG to a UE, and the UE uses the CSG list to determine whether the UE is a member of the corresponding CSG cell and the cell is, thus, accessible. *Id.* ¶¶ 79, 84.

Figures 9 and 10 of Jung each shows a base station sending a CSG indicator and a CSG ID to the UE. The UE determines from the CSG indicator that the corresponding cell is a CSG cell, and ultimately concludes that the UE is not a CSG member of the CSG cell, i.e., the corresponding cell is access-restricted. *Id.* ¶¶ 110, 112, Figs. 9–10. However, the manner in which a CSG cell is determined to be access-restricted differs in the two embodiments. In Figure 9 the UE has an accessible CSG list. *Id.* ¶ 109. Therefore, after determining that the corresponding cell is a CSG cell, the UE checks the CSG identity received from the base station against the accessible CSG list to determine whether the UE is a CSG member of the cell. *Id.* ¶ 110. In contrast, in Figure 10, the UE does not have an accessible CSG list. *Id.* ¶ 111. In that case, after determining that a corresponding cell is a CSG cell, the UE regards the cell as access-restricted without any check of the CSG identity received from the base station. *Id.* ¶ 112. Because both scenarios involve determining that the corresponding cell is access-

restricted, the UE does not perform an initial connection process between the UE and the base station. *Id.* ¶¶ 110, 112, Figs. 9–10.

The Examiner construes Jung’s CSG ID as the PCI split. Non-Final Act. 6, 12, 19. However, Jung’s CSG ID identifies one closed subscriber group cell (*see* Jung ¶ 83) and, as such, does not teach the claimed PCI split “comprising information identifying a range of closed subscriber group cells,” as recited in claim 41, and similarly recited in claims 51 and 61.

The Examiner further finds that Jung’s disclosure of determining whether a corresponding cell is access-restricted based on the CSG ID received from the base station teaches determining that a PCI split is invalid. *See* Non-Final Act. 6 (citing Jung ¶ 84, Figs. 9–10). However, these portions of Jung, at best, teach using a current PCI split, i.e., an available CSG list, to determine whether the UE is a member of the corresponding CSG cell. Jung ¶¶ 83–84, 109–110, Fig. 9. The portions of Jung relied on by the Examiner do not teach or suggest determining that a current PCI split itself is invalid, much less making such determination in response to determining that the user equipment is in the any cell selection state, as required by claims 41, 51, and 61.

The Examiner acknowledges that Jung does not teach that a PCI split comprises information identifying a range of closed subscriber group cells, as required by claims 41, 51, and 61, and finds that Kwun teaches this aspect of the limitation. Non-Final Act. 7–8 (citing Kwun ¶¶ 24, 35, 38, 42), 13–14, 20–21. Even if one of ordinary skill in the art were to combine Jung and Kwun in the manner suggested by the Examiner, the Examiner still fails to establish that the combination would have resulted in determining that a current physical cell identification split is invalid, much less that the

determination is performed in response to determining that the user equipment is in the any cell selection state, as required by claims 41, 51, and 61. Appeal Br. 17; Reply Br. 2–3.

Therefore, we do not sustain the rejection of independent claims 41, 51, and 61, and dependent claims 45–48, 55–58, 64, and 66 under 35 U.S.C. § 103 as unpatentable over Jung and Kwun.

*Claims 42, 43, 50, 52, 53, 60, 63, and 68<sup>6</sup>*

The Examiner concludes that the subject matter of dependent claims 42, 43, 50, 52, 53, 60, 63, and 68 would have been obvious from the combined teachings of Jung, Kwun, and Maeda '286. Non-Final Act. 22–28. The Examiner finds that “Maeda teaches, in response to an out of network search, voiding the current physical cell identification split.” Non-Final Act. 22 (citing Maeda '732 ¶ 103). Consequently, the Examiner does not rely on Maeda in a manner that remedies the deficiencies in the combined teachings of Jung and Kwun as applied to independent claims 41, 51, and 61. We do not sustain the rejection of claims 42, 43, 50, 52, 53, 60, 63, and 68 under 35 U.S.C. § 103 as unpatentable over Jung, Kwun, and Maeda '286.

*Claims 65 and 67*

The Examiner concludes that the subject matter of dependent claims 65 and 67 would have been obvious from the combined teachings of Jung, Kwun, and Singh. Non-Final Act. 28–30. The Examiner finds that “Singh

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<sup>6</sup> We note that claim 68 purports to depend from cancelled claim 1.

teaches, wherein the information identifying the range of closed subscriber group cells comprises a closed group subscriber primary synchronization code split information.” Non-Final Act. 28–29 (citing Singh ¶¶ 8, 49, 53–54). The Examiner has not shown that Singh remedies the deficiencies in the combined teachings of Jung and Kwun as applied to independent claims 41, 51, and 61. We do not sustain the rejection of claims 65 and 67 under 35 U.S.C. § 103 as unpatentable over Jung, Kwun, and Singh.

CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
41, 45–48, 51, 55–58, 61, 64, 66	103	Jung, Kwun		41, 45–48, 51, 55–58, 61, 64, 66
42, 43, 50, 52, 53, 60, 63, 68	103	Jung, Kwun, Maeda '723		42, 43, 50, 52, 53, 60, 63, 68
65, 67	103	Jung, Kwun, Singh		65, 67
<b>Overall Outcome</b>				41–43, 45–48, 50–53, 55–58, 60, 61, 63–68

REVERSED