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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte OLAF ZINGLER and AXEL KLATT

Appeal 2019-002558
Application 14/888,940
Technology Center 2600

Before ALLEN R. MACDONALD, JEREMY J. CURCURI, and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

BENNETT, *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 to reject claims 1, 4, 5, 7–9, 11, 12, and 14–16. We heard oral argument on June 10, 2020. A transcript will be made of record in due course. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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 Deutsche Telekom AG. Appeal Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to an improved cell selection/reselection by user equipment trying to camp on a radio cell of a public land mobile network. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method for cell selection and/or cell reselection handling by a user equipment attempting to connect to a public land mobile network using a random access channel of a base station entity, wherein the public land mobile network comprises a first radio cell with a first base station entity and a second radio cell with a second base station entity, the method comprising:

performing, by the user equipment, a cell selection and/or cell reselection procedure wherein both the first radio cell and the second radio cell fulfill a cell selection criterion with the first radio cell being prioritized relative to the second radio cell;

attempting, by the user equipment, to connect to the public land mobile network using a random access channel of the first base station entity, and failing to connect to the public land mobile network using the random access channel of the first base station entity; and

performing, by the user equipment, a modified cell selection and/or cell reselection procedure, under unchanged radio conditions regarding the first base station entity, the second base station entity, and the user equipment, whereby the user equipment attempts to connect to the public land mobile network using a random access channel of the second base station entity;

wherein performing the modified cell selection and/or cell reselection procedure further comprises: applying a penalty information with respect to the first radio cell so as to lower a priority of the first radio cell relative to a priority of the second radio cell, wherein the penalty information comprises an offset information, and wherein applying the penalty information reduces at least one of the following values with respect to the first radio cell:

-- the cell selection RX level value (Srxlev),

- the cell selection quality value (Squal),
- the measured cell RX level value (RSRP), or
- the measured cell quality value (RSRQ):

wherein the penalty information is transmitted from the first base station entity to the user equipment.

Appeal Br. 12 (Claims Appendix).

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Choi	US 9,008,659 B1	Apr. 14, 2015
Yeo	US 2006/0084443 A1	Apr. 20, 2006
Somasundaram	US 2008/0220784 A1	Sept. 11, 2008

REJECTIONS

Claims 1, 4, 5, 7–9, 11, 12, 14, and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Yeo and Somasundaram. Non-Final Act. 9–16.

Claim 16 stands rejected under 35 U.S.C. § 103 as being unpatentable over Yeo, Somasundaram, and Choi. Non-Final Act. 16–17.

ISSUES

First Issue: Has the Examiner erred in finding Yeo teaches or otherwise suggests “applying a penalty information with respect to the first radio cell so as to lower a priority of the first radio cell,” as recited in claim 1?

Second Issue: Has the Examiner erred in finding that a person of ordinary skill in the art would have combined the teachings of Yeo and Somasundaram to achieve the invention recited in claim 1?

Third Issue: Has the Examiner erred in finding Yeo and Somasundaram teach or suggest “the penalty information is transmitted from the first base station entity to the user equipment,” as recited in claim 1?

ANALYSIS

First Issue

The Examiner rejects claim 1 as obvious over Yeo and Somasundaram. The Examiner relies primarily on Yeo, finding that it teaches or suggests each limitation except for the specific signal quality values reduced by the penalty information. Relevant to this issue, the Examiner finds that Yeo teaches the recited “applying a penalty information with respect to the first radio cell so as to lower a priority of the first radio cell,” because it describes adding a temporary offset for the first radio cell to make it more difficult to reselect the cell. Non-Final Act. 10–11 (citing Yeo ¶¶ 62, 90).

Appellant argues Yeo is deficient because “Yeo does not explain what the offset is or what it is applied to, and from context, it appears that Yeo’s offset is directed to a temporal limitation on reselection.” Appeal Br. 6. Appellant further argues:

Yeo describes ranking cells only with respect to choosing a best cell (*see* element 50 of Yeo Fig. 4 and Yeo [0090]), followed by using a previously unsuccessful reselection attempt of a cell to determine whether selecting that cell should be barred based on a previous failure (*see* element 52 of Yeo Fig. 4 and Yeo [0090]). Although Yeo [0062] mentions “[a]dding a temporary offset for that cell to make it more difficult to reselect

this cell,” this step of adding a temporary offset is one of four options with respect to temporally blocking reselection *after* initial selection of the cell.

Appeal Br. 7.

We are not persuaded by Appellant’s arguments. Yeo describes a cell reselection methodology in which “the MS takes into consideration during cell reselection evaluation and candidate-cell selection, whether the MS had previously been unsuccessful in reselecting the considered cell. This means treating neighbor cells to which the MS had failed reselection before with a lower priority in subsequent cell reselection evaluations.” Yeo, Abstract; *see also* Yeo ¶ 49. Yeo teaches that cell reselection can fail for various reasons, among them “[t]he cell is too weak (a cell selection criterion is not fulfilled).” Yeo ¶ 56. When a failure occurs, data about the failure is stored, which is used for subsequent cell reselection evaluations. Yeo ¶ 60. Yeo teaches four different uses for the data, including “[a]dding a temporary offset for that cell to make it more difficult to reselect to this cell.” Yeo ¶ 62.

Appellant contends Yeo is deficient in that it does not provide details regarding the nature of the offset. Appellant asserts that because the other three uses for the data are temporal in nature, the “temporary offset” is an offset in timing and not a change to any signal quality measurement value. We disagree. We agree with the Examiner that a person of ordinary skill in the art would have understood Yeo paragraph 62 example of a “temporary offset” to be a change in some value which would “make it more difficult to reselect this cell.” Yeo demonstrates that it was known for cell reselection to be based on “radio based criteria” including “received signal code power (RSCP)” which provides a cell ranking. Yeo ¶ 3; *see also* Yeo ¶ 90.

Understanding that reselection may be based on radio-based criteria, it follows that an ordinarily skilled artisan would have understood that offset to make it difficult to reselect a cell would have modified a radio-based criterion to achieve this effect.

We also do not find persuasive Appellant's argument that the "step of adding a temporary offset is one of four options with respect to temporally blocking reselection *after* initial selection of the cell." Appeal Br. 7. Appellant argues that Yeo would need to remove step 52 for the Examiner's reading of Yeo to make sense because the temporary offset would occur only after an initial reselection already has been made. Tr. 14:12–15. However, this incorrectly assumes that only a single reselection attempt is made. The temporary offset taught by Yeo would remain in effect during a subsequent reselection procedure begun after the initial reselection procedure terminates without a successful reselection. That is, when the process depicted in Figure 4 arrives at step 74, and temporary offset is added so as to "better identify the cell uniquely to prevent further access to it for a certain time," the process would then return to step 50 for another selection to be made which accounts for the offset value.

Second Issue

As noted above, the Examiner relies primarily on Yeo, but adds the teachings of Somasundaram as teaching the specific signal quality indicator values recited in the claim. Non-Final Act. 12 (citing Somasundaram ¶¶ 3–7). In combining their respective teachings, the Examiner finds:

It would have been obvious to one of ordinary skills in the art before the effective filing date of the invention to use different known received signal indicators and/or signal quality values in the selection/reselection process so as to enable deployment of

the process in various intended communications systems that may be using different parameters for measuring the cell signal power or quality and/or different measurement techniques as suggested by Soma above.

Non-Final Act. 12; *see also* Somasundaram ¶¶ 3–7.

Appellant argues it would not have been obvious to combine the teachings of Somasundaram with those of Yeo because “Yeo is directed to selecting a best cell . . . followed by applying a temporary bar after-the-fact” while “Soma . . . is directed to attempting to select the best cell while at the same time trying to avoid undesirable oscillations . . . by using offset and hysteresis.” Appeal Br. 7–8.

We are not persuaded by Appellant’s argument against the combination of references because it does not address the reasoning provided by the Examiner. We find the Examiner’s rationale for combining Yeo and Somasundaram to be reasonable on its face, consistent with controlling law, and has rational underpinnings drawn from evidence in the record. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (“[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006))); *see also* Somasundaram ¶¶ 3–7.

Third Issue

Claim 1 additionally recites the limitation “wherein the penalty information is transmitted from the first base station entity to the user equipment.” Appeal Br. 12 (Claims Appendix). The Examiner finds this limitation taught by Yeo’s transmitting information about how the mobile device should handle cells subject to the temporary offset from the network to the mobile device. Non-Final Act. 11 (citing Yeo ¶¶ 65–67).

Appellant argues the Examiner has erred because the cited paragraphs in Yeo merely “correspond[] to the network information the mobile station that access is denied.” Appeal Br. 8. According to Appellant, “[i]nforming a mobile station that access to a network is denied . . . is not the same as transmission of penalty information which is used in cell prioritization.” *Id.*

We are not persuaded of error. Yeo teaches that “the information about how the MS shall handle such cells can be . . . [i]nforming the behavior in the system information sent by the network to the MS.” Yeo ¶¶ 65, 67. The “information about how the MS shall handle such cells” includes the temporary offset information. Thus, Yeo teaches that temporary offset information is transmitted from the network (i.e., the base station) to the mobile device.

Appellant argues the information that is passed merely indicates that access to a network has been denied. We disagree because Yeo indicates that the information transmitted is intended to convey *how* the mobile station should handle cells for which reselection failed, and not merely that the reselection failure occurred. How such failures are handled includes the offset information, which, as we discussed *supra*, corresponds to the recited “penalty information.”

Because we are not persuaded the Examiner erred in rejecting claim 1, we sustain the rejection of claim 1 under 35 U.S.C. § 103.

Remaining Claims

Appellant does not present separate arguments for patentability of any other claim. Therefore, we also sustain the rejections of the remaining claims under § 103.

CONCLUSION

We affirm the Examiner's rejections.

More specifically:

We affirm the rejection of claims 1, 4, 5, 7-9, 11, 12, 14, and 15 under 35 U.S.C. § 103 as being unpatentable over Yeo and Somasundaram.

We affirm the rejection of claim 16 under 35 U.S.C. § 103 as being unpatentable over Yeo, Somasundaram, and Choi.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 4, 5, 7-9, 11, 12, 14, 15	103	Yeo, Somasundaram	1, 4, 5, 7-9, 11, 12, 14, 15	
16	103	Yeo, Somasundaram, Choi	16	
Overall Outcome			1, 4, 5, 7-9, 11, 12, 14-16	

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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED