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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 CRISTINA SEIBERT, JOHN NOTOR, and
GEORGE H. FLAMMER III
———————

Appeal 2019-002272
Application 13/921,004
Technology Center 2400
———————

Before MAHSHID D. SAADAT, ELENI MANTIS MERCADER, and
LINZY T. McCARTNEY, *Administrative Patent Judges.*

McCARTNEY, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant[1] seeks review under 35 U.S.C. § 134(a) of the Examiner's
final rejection of claims 1–28. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] Appellant identifies the real party in interest as Itron Networked Solutions,
Inc. Appeal Brief 3, filed June 11, 2018 (Appeal Br.).

BACKGROUND

This patent application concerns "configuring a network of devices to operate within a television whitespace spectrum." Specification ¶ 1, filed June 18, 2013 (Spec.). Claim 1 illustrates the claimed subject matter:

> 1. A computer-implemented method for configuring a node to communicate on a television white space (TVWS) spectrum of frequencies, the method comprising:
>
> receiving, at a server, a request for at least one operating parameter from a first node that resides at a first location in a network;
>
> retrieving, from a first database that is physically remote from the server and coupled to the server, one or more entries associated with the first location, wherein each of the one or more entries includes a quality of service metric for a different TVWS channel at the first location;
>
> determining the at least one operating parameter for the first node based on the quality of service metrics included in the one or more entries, wherein the at least one operating parameter comprises an optimization setting for processing data transmitted to or by the first node via the available TVWS channel; and
>
> transmitting the at least one operating parameter to the first node, wherein the first node is configured to perform future communications over the available TVWS channel according to the at least one operating parameter.

Appeal Br. 16.

REJECTIONS

Claims	35 U.S.C. §	References/Basis
1, 3, 10, 12, 19–21, 23, 25–27	103	Schmidt,[2] McCann[3]
2, 11	103	Schmidt, McCann, Vuyyuru[4]
4, 6, 7, 9, 13, 15, 16, 18, 22	103	Schmidt, McCann, Ojard[5]
5, 14	103	Schmidt, McCann, Azenko[6]
8, 17	103	Schmidt, McCann, Ojard, Bahl[7]
24	103	Schmidt, McCann, Bahl
28	103	Schmidt, McCann, Shiu[8]

DISCUSSION

We have reviewed the Examiner's rejections and Appellant's arguments, and Appellant has not persuaded us that the Examiner erred. As consistent with the discussion below, we adopt the Examiner's reasoning, findings, and conclusions on pages 2–21 of the Final Office Action mailed November 6, 2017 (Final Act.), and pages 3–26 of the Examiner's Answer mailed November 15, 2018 (Ans.). We address Appellant's arguments in turn.

Claim 1

Claim 1 recites "determining the at least one operating parameter for the first node based on the quality of service metrics included in the one or more entries, wherein the at least one operating parameter comprises an

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[2] Schmidt et al. (US 2013/0115984 A1; May 9, 2013).
[3] McCann et al. (US 2011/0280180 A1; November 17, 2011).
[4] Vuyyuru et al. (US 2013/0122819 A1; May 16, 2013).
[5] Ojard (US 2004/0190641 A1; September 30, 2004).
[6] Azenko et al. (US 2005/0039103 A1; February 17, 2005).
[7] Bahl et al. (US 2011/0317019 A1; December 29, 2011).
[8] Shiu et al. (US 2004/0082311 A1; April 29, 2004).

optimization setting for processing data transmitted to or by the first node via the available TVWS channel." Appeal Br. 16. Claim 1 also recites "transmitting the at least one operating parameter to the first node." Appeal Br. 16. The Examiner found that Schmidt teaches "at least one operating parameter" because Schmidt discloses noise floor, channel, and availability parameters. Final Act. 5. The Examiner also found that Schmidt teaches "transmitting the at least one operating parameter to the first node" because Schmidt discloses sending the noise floor, channel, and availability parameters to a radio device. *See* Final Act. 5–6.

Appellant argues that the Examiner erroneously found that Schmidt's noise floor (which Appellant calls a "noise floor level") teaches "at least one operating parameter." *See* Appeal Br. 10–12; Reply Brief 3–5, filed January 15, 2019 (Reply Br.). Appellant asserts that Schmidt's noise floor "is nothing more than a quality of service metric" and points out that the disputed limitations require determining at least one operating parameter *based on* a quality of service metric, the at least one operating parameter including an optimization setting for processing data transmitted to or by the first node. Appeal Br. 11. Appellant contends that "because the noise floor level . . . is only a quality of service metric . . . the noise floor level cannot, as a logical matter, also be an optimization setting for a node that is determined based on the quality of service metric, as required to meet the claim language." Appeal Br. 11; *see also* Reply Br. 4 (making similar arguments).

Appellant has not persuaded us that the Examiner erred. As an initial matter, in addition to finding that Schmidt's noise floor teaches "at least one operating parameter," the Examiner also found that Schmidt discloses

channel and availability parameters that teach this element. Final Act. 5; *see also* Spec. ¶ 51 (explaining that a server may "determine operating parameters for nodes, including a channel on which those nodes should communicate" (reference numbers omitted)). Appellant does not address this finding and therefore has forfeited the argument that Schmidt's channel and availability parameters are not "at least one operating parameter." *See* 37 C.F.R. § 41.37 (c)(1)(iv). Appellant thus has not persuaded us that the Examiner erred in finding that Schmidt teaches "at least one operating parameter."

In any event, the written description indicates "at least one operating parameter" encompasses Schmidt's noise floor. The written description explains that "the operational parameters determined for a given node could include . . . parameters that may influence the quality and strength of signals involved with communication with other nodes." Spec. ¶ 43 (reference numbers omitted). Schmidt teaches that a noise floor indicates the amount of noise or interference on a communication channel and that the noise floor can be used to select the communication channel with the least noise or interference for future use. *See, e.g.*, Schmidt ¶¶ 11, 25, 45–47, 53–54, Table 2, Fig. 4. Because Schmidt's noise floor can be used to select a communication channel with the least noise or interference for future use, the noise floor "may influence the quality and strength of signals involved with communication with other nodes" and thus is "at least one operating parameter."

The written description also indicates that Schmidt's noise floor is "based on" a quality of service metric. The written description explains that disclosed invention can "retrieve quality of service (QOS) metrics," Spec.

¶ 37, and that "[t]he QOS metric for a particular channel and particular location generally indicates the quality of that channel at that location," Spec. ¶ 56. Schmidt discloses calculating a noise floor from a communication channel's "field strength," which Schmidt explains is "also referred to as signal strength." Schmidt ¶ 41. Because signal strength can "generally indicate[] the quality of that channel at that location" and Schmidt teaches using signal strength to calculate a noise floor, Schmidt teaches that a noise floor is "based on" a quality of service metric.

Finally, although Appellant asserts that Schmidt's noise floor is not "an optimization setting for processing data transmitted to or by the first node," Appellant has not persuasively explained why that is so. The Examiner found that Schmidt's noise floor teaches this element because Schmidt discloses using noise floors to rank communication channels and select the "best" communication channel, that is, the channel with the least noise or interference. *See* Final Act. 4–5; Ans. 22. Appellant has not meaningfully addressed this finding and therefore has not persuaded us that the Examiner erred.

In the Reply Brief, Appellant argues for the first time that Schmidt's noise floors are not "for the first node" as required by the disputed limitations. Reply Br. 4. Appellant forfeited this argument by failing to raise it in the Appeal Brief. *See* 37 C.F.R. § 41.41 (b)(2). Even if Appellant had timely raised this argument, we would have found it unpersuasive. The Examiner found that Schmidt's noise floors are for a "radio device," and that this radio device teaches the "first node." *See* Final Act. 4–5. Appellant does not expressly dispute that the "first node" encompasses Schmidt's radio device, and we see no error in the Examiner's finding that Schmidt's noise

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floors are for the radio device. Schmidt teaches transmitting noise floors to a radio device so that the device can use the noise floors to select a communication channel for future use. *See* Schmidt ¶¶ 25, 45–47, 53–54, Table 2. The noise floors are thus "for the first node" as required by the disputed limitations.

We have considered Appellant's remaining arguments and find them unpersuasive. For at least the above reasons, we sustain the Examiner's rejection of claim 1 under § 103.[9]

Claim 4

Claim 4 depends from claim 1 and recites "wherein the at least one operating parameter determined for the first node reflects a sensitivity value with which signals received on the TWWS channel are to be processed by the first node or a target signal-to-noise ratio with which signals are to be transmitted by the first node over the available TWWS channel." Appeal Br. 17. In the Appeal Brief, Appellant contends that the Examiner erroneously found that Schmidt's noise floor teaches at least one operating parameter that reflects the recited *target signal-to-noise ratio*. *See* Appeal Br. 12–14. In the Reply Brief, Appellant argues for the first time that that the Examiner erroneously found that Schmidt's noise floor teaches at least one operating parameter that reflects the recited *sensitivity value*. *See* Reply Br. 5.

Appellant has not persuaded us that the Examiner erred. Even assuming that Schmidt's noise floor does not reflect the recited target signal-to-noise ratio, claim 4 requires that the at least one operating parameter

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[9] If prosecution continues, the Examiner may determine whether claim 1 provides sufficient antecedent basis for "the available TVWS channel" recited in the "determining" limitation.

reflect either the recited target signal-to-noise ratio *or* the recited sensitivity value. Appeal Br. 17. In the Final Office Action, the Examiner found that Schmidt's noise floor reflects the recited sensitivity value. *See* Final Act. 12–13. Yet Appellant waited until the Reply Brief to argue that Schmidt's noise floor does not reflect this sensitivity value. *Compare* Appeal Br. 12–14, *with* Reply Br. 5–6. Appellant forfeited this argument by raising it for the first time in the Reply Brief. *See* 37 C.F.R. §§ 41.37 (c)(1)(iv), 41.41 (b)(2). Appellant thus has not persuaded us that the Examiner erred in finding that Schmidt teaches at least one operating parameter that reflects the recited sensitivity value. We therefore sustain the Examiner's rejection of claim 4.[10]

Remaining Claims

Appellant has not provided separate, persuasive arguments for claims 2, 3, and 5–28. We thus sustain the Examiners' rejections of these claims.

CONCLUSION

Claims Rejected	35 U.S.C. §	References/Basis	Affirmed	Reversed
1, 3, 10, 12, 19–21, 23, 25–27	103	Schmidt, McCann	1, 3, 10, 12, 19–21, 23, 25–27	
2, 11	103	Schmidt, McCann, Vuyyuru	2, 11	
4, 6, 7, 9, 13, 15, 16, 18, 22	103	Schmidt, McCann, Ojard	4, 6, 7, 9, 13, 15, 16, 18, 22	

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[10] Claim 4 recites "the T**W**WS channel" while claim 1 refers to "T**V**WS" channels. *See* Appeal Br. 16–17. If prosecution continues, the Examiner may consider whether there is adequate antecedent basis for the "the TWWS channel" recited in claim 4.

Claims Rejected	35 U.S.C. §	References/Basis	Affirmed	Reversed
5, 14	103	Schmidt, McCann, Azenko	5, 14	
8, 17	103	Schmidt, McCann, Ojard, Bahl	8, 17	
24	103	Schmidt, McCann, Bahl	24	
Overall Outcome			1–28	

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