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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL MEYER, NADIA BRAHMI, and JOACHIM SACHS

Appeal 2019-000760
Application 14/428,406
Technology Center 2400

Before CAROLYN D. THOMAS, NABEEL U. KHAN, and
SCOTT RAEVSKY, *Administrative Patent Judges*.

RAEVSKY, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant,¹ appeals from the Examiner's decision to reject claims 24–26, 30–33, 37, and 41–54. 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 Telefonaktiebolaget L M Ericsson (publ). Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed to vehicle-to-vehicle communication. *See* Spec., Abstract. Claim 24, reproduced below, is illustrative of the claimed subject matter:

24. A method for controlling vehicle-to-vehicle communication, the method comprising:

a vehicle-to-vehicle communication device receiving data from a cellular network implementing a first radio technology, the data indicating a risk of collisions of transmissions from the vehicle-to-vehicle communication device and from other vehicle-to-vehicle communication devices by a second radio technology;

the vehicle-to-vehicle communication device setting at least one control parameter of vehicle-to-vehicle communication by the second radio technology based on the data from the cellular network;

wherein the at least one control parameter relates to a rate of periodically sending a vehicle-to-vehicle Cooperative Awareness Message by the second radio technology.

REJECTIONS

Claims 24–26, 30–33, 37, 41–44, and 46–53 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Nagai (US 2012/0314615 A1, Dec. 13, 2012), Papadimitratos (“Vehicular Communication Systems: Enabling Technologies, Applications, and Future Outlook on Intelligent Transportation,” IEEE Comm. Magazine, Nov. 2009), and Kherani (US 2011/0238987 A1, Sept. 29, 2011). Final Act. 7.²

Claims 45 and 54 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Nagai, Papadimitratos, Kherani, and Farrag (US 2012/0182867 A1, July 19, 2012). *Id.* at 11.

² Although not identified in the preamble of the rejection, the body of the rejection addresses claims 46–53. Final Act. 9–10.

We review the appealed rejections for error based upon the issues identified by Appellant and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

ANALYSIS

Appellant initially contends the cited references fail to teach or suggest claim 24's "vehicle-to-vehicle communication device receiving data from a cellular network implementing a first radio technology, the data *indicating a risk of collisions* of transmissions from the vehicle-to-vehicle communication device and from other vehicle-to-vehicle communication devices." Appeal Br. 5–7 (emphasis added). Appellant focuses on Kherani, arguing Kherani fails to teach or suggest this limitation because "the vehicle 10 of Kherani merely determines and implements an optimal inter-certificate refresh period," which is "not received at all, let alone from a cellular network." *Id.* at 6.

In the Answer, the Examiner newly finds that "Nagai highly implies and/or teaches that [its] control information indicates a risk of data collisions between terminal apparatuses." Ans. 3. Specifically, the Examiner finds that Nagai's "base station adjusts the respective transmission periods depending on the amount of traffic in order to account for the priority given to communications between vehicles." *Id.* Nagai teaches, "the base station apparatus adjusts a length of the IP period according to a traffic amount in the inter-vehicle transmission period" and that thereby, "the inter-vehicle communication has priority over the IP communication." Nagai ¶ 37. The Examiner concludes,

[i]t likely would have been obvious to a person of ordinary skill in the art at the time of the invention, that this congestion indication, which is indicated by the respective transmission

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period control data, is an indication of a greater chance of [data] collision. This is because such a judgement or analysis by one of ordinary skill in the art is founded in common sense—when there are more communications being transmitted, there is a greater chance of collision.

Ans. 3–4.

Appellant does not address these new findings in the Reply Brief. *See* Reply Br. 2–4. Arguments not made are waived. *See* Frye, 94 USPQ2d at 1075 (The Board “reviews . . . rejection[s] for error based upon the issues identified by appellant, and in light of the arguments and evidence produced thereon,” and treats arguments not made as waived.). Accordingly, Appellant does not persuade us the Examiner erred with respect to this disputed limitation.

Appellant next contends Nagai fails to teach or suggest claim 24’s “a cellular network implementing a first radio technology” and “vehicle-to-vehicle communication devices by a second radio technology.” *See* Appeal Br. 7. Specifically, Appellant contends, “Nagai does not stipulate that the base station utilizes any particular radio technology or that such a radio technology is different than a radio technology utilized by a terminal device for vehicle-to-vehicle signal transmissions.” *Id.*

The Examiner finds, and we agree, that under the broadest reasonable interpretation, Nagai’s “communication between a vehicle and a base station is a different technology than communication between a vehicle and another moving vehicle.” Ans. 7. The Examiner also finds that “IP communication as opposed to non-IP communication is a different technolog[y] as discussed in Nagai (e.g. [0035] and [0036]).” *Id.* Further, the Examiner finds that Appellant attacks the references individually because “Papadimitratos teaches the utilization of multiple types of wireless transceivers within on-

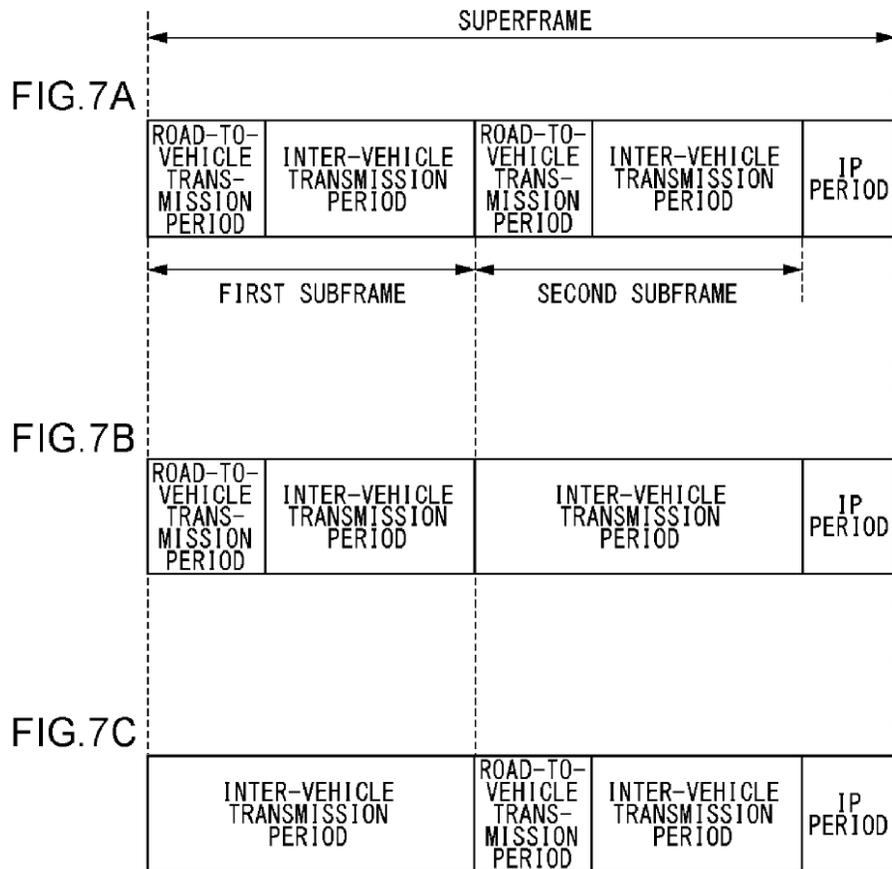
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board units of cars.” *Id.* at 8; *see* Papadimitratos, 90. Appellant does not address these findings and, therefore, does not persuade us the Examiner erred.

Appellant further contends Nagai fails to teach or suggest claim 24’s “the at least one control parameter relates to a rate of periodically sending a vehicle-to-vehicle Cooperative Awareness Message by the second radio technology.” Appeal Br. 7. Appellant contends, “Nagai does not disclose or suggest that the at least one control parameter set by the claimed vehicle-to-vehicle communication device indicates (or is even related to) a rate of periodically sending a vehicle-to-vehicle message by the second radio technology.” *Id.* Appellant contends that “Nagai . . . describes aspects of the one-to-one communication between the terminal apparatus and the base station during the defined IP period of the superframe, which is a completely different period of the defined superframe than the inter-vehicle transmission period during which any inter-vehicle transmissions are confined.” *Id.* (citing Nagai ¶ 37). “Nevertheless,” Appellant contends, “even if the entirety of Nagai is considered, the reference is simply silent with respect to periodically sending any vehicle-to-vehicle messages, let alone setting a control parameter indicating a specific rate for periodically sending such messages.” *Id.*

The Examiner finds, and we agree, “Nagai teaches wherein the periodicity of communications is set based on the control information received from the base station.” Ans. 8; Final Act. 6, 8 (citing Nagai ¶ 37). Specifically, Nagai teaches that “[t]he control information includes information about a period for the base station . . . to broadcast-transmit . . . a ‘road-to-vehicle-transmission period[.]’” Nagai ¶ 29. Nagai also teaches, “the base station apparatus adjusts a length of the IP period according to a

traffic amount in the inter-vehicle transmission period,” and “[i]n this manner, the inter-vehicle communication has priority over the IP communication.” *Id.* ¶ 37. The Examiner also newly finds that Nagai’s communication of “inter-vehicle transmission period timing . . . (see, e.g., figures 7A–C)” teaches or suggests the claimed “at least one control parameter relate[d] to a rate of periodically sending a vehicle-to-vehicle [message].” *See* Ans. 8. Figures 7A–C are reproduced below:



Figures 7A–C illustrate example superframe formats. Nagai ¶ 19. In Figure 7B, for example, the inter-vehicle transmission period in the second subframe is longer than the inter-vehicle transmission period in Figure 7A’s second subframe.

Appellant does not address the Examiner’s new finding with respect to Figures 7A–C of Nagai. *See* Reply Br. 4–5. Arguments not made are

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waived. As Appellant does not address this finding, Appellant does not persuasively distinguish Nagai.

Appellant next contends Papadimitratos “does not disclose that a cellular network is used for transmitting data indicating a risk of collisions between different vehicle-to-vehicle transmissions by different vehicles.” Appeal Br. 8. But Appellant overlooks that the Examiner relies on Papadimitratos for teaching or suggesting cellular networks and relies on Nagai and Kherani for teaching or suggesting data indicating a risk of collisions. Ans. 8–9. The Examiner correctly finds that Appellant attacks the references individually, and thus, Appellant’s argument is unpersuasive. *Id.* at 9.

Finally, Appellant contends, “the Office Action appears to imply that Papadimitratos teaches systems that utilize a first radio technology for vehicle-cellular communication while utilizing a second radio technology for vehicle-vehicle communication.” Appeal Br. 8. Appellant contends, “Papadimitratos fails to disclose or suggest a system or service that utilizes a cellular network to relay control information to a vehicle where the control information is used to define a parameter for vehicle-to-vehicle communication utilizing a different radio technology than the cellular network.” *Id.* at 8–9. But, as we explained above, the Examiner relies on Nagai for the control information and relies on Papadimitratos for the cellular network, and the Examiner also relies on Nagai for teaching or suggesting different radio technologies. Final Act. 7–8. Appellant again attacks the references individually.

We, therefore, sustain the Examiner’s rejection of claim 24. Appellant’s arguments regarding the rejection of independent claims 32, 43, and 44 rely on the same arguments as for claim 24, and Appellant does not

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argue separate patentability for the dependent claims. *See* Appeal Br. 9. We therefore also sustain the Examiner’s rejection of claims 25, 26, 30–33, 37 and 41–54. *See* 37 C.F.R. § 41.37(c)(1)(iv).

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
24–26, 30–33, 37, 41–44, 46–53	103	Nagai, Papadimitratos, Kherani	24–26, 30–33, 37, 41–44, 46–53	
45, 54	103	Nagai, Papadimitratos, Kherani, Farrag	45, 54	
Overall Outcome			24–26, 30–33, 37, 41–54	

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