NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

SISVEL S.P.A.,
Appellant

v.

TCT MOBILE INTERNATIONAL LIMITED, TCT MOBILE, INC., TCT MOBILE (US) INC., TCT MOBILE (US) HOLDINGS, INC., TCL COMMUNICATION TECHNOLOGY HOLDINGS LIMITED, HONEYWELL INTERNATIONAL INC., SIERRA WIRELESS, ULC., TELIT CINTERION DEUTSCHLAND GMBH F/D/B/A THALES DIS AIS DEUTSCHLAND GMBH,
Appellees

2023-1123

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2021-00678.

Decided: March 19, 2024

TIMOTHY DEVLIN, Devlin Law Firm LLC, Wilmington, DE, for appellant. Also represented by NEIL A. BENCHELL, ANDREW PETER DEMARCO, ROBERT J. GAJARSA.

JEREMY DEANE PETERSON, PV Law LLP, Washington, DC, for appellees TCT Mobile International Limited, TCT Mobile, Inc., TCT Mobile (US) Inc., TCT Mobile (US) Holdings, Inc., TCL Communication Technology Holdings Limited. Also represented by BRADFORD CANGRO.

JEFFREY R. GARGANO, K&L Gates LLP, Chicago, IL, for appellee Honeywell International Inc. Also represented by BRIAN PAUL BOZZO, Pittsburgh, PA; ERIK HALVERSON, San Francisco, CA.

AMANDA TESSAR, Perkins Coie LLP, Denver, CO, for appellee Sierra Wireless, ULC. Also represented by DANIEL TYLER KEESE, Portland, OR.

GUY YONAY, Pearl Cohen Zedek Latzer Baratz LLP, New York, NY, for appellee Telit Cinterion Deutschland GmbH. Also represented by KYLE AUTERI, I.

Before LOURIE, LINN, and STOLL, *Circuit Judges*.

LOURIE, *Circuit Judge*.

Sisvel S.p.A. ("Sisvel") appeals from a final written decision of the United States Patent and Trademark Office Patent Trial and Appeal Board ("the Board") finding claims 1, 3–5, 11, and 13–15 of U.S. Patent 8,971,279 (the "'279 patent") unpatentable as obvious. *TCT Mobile Int'l Ltd., et al. v. Sisvel S.p.A.*, IPR202-00678 (P.T.A.B. June 7, 2023), J.A. 1–54 (*"Decision*"). For the reasons provided below, we *affirm*.

BACKGROUND

The '279 patent relates to improvements in network communication efficiency in advanced LTE networks for cellular phones. To better allocate network resources, cell phones (*i.e.*, user equipment or "UE") are assigned certain

intervals in which to transmit data and certain frequencies for that transmission. *See* '279 patent, col. 3 ll. 31–37. One method of allocation is Semi-Persistent Scheduling ("SPS"), which provides user equipment with a transmission time and frequency that is valid for a limited period of time, rather than having the user equipment request permission to transmit each time. *See id.* col. 3 ll. 44–62. Under an SPS regime, a user equipment is said to be "activated" during its allocated time period for transmission and is considered "deactivated" when that time period is over. *Id.* To deactivate the user equipment, the base station will transmit a message called an "SPS deactivation signal" to the user equipment informing the user equipment that its assigned frequency was released. *Id.*

The '279 patent is directed to a method of sending more efficient SPS deactivation signals that essentially "piggyback" on existing messages. Appellant's Br. at 5. One such teaching is a method of filling a preexisting binary field (*e.g.*, resource indication value or "RIV") with all "1"s to serve as an SPS deactivation notice. *See* '279 patent, col. 4–5 *passim*; *id.* col. 26 ll. 2–26. In the patented system, the string of ones would always be processed as an invalid value and never mistaken for a valid resource allocation message, providing stability to the network, regardless of size. Appellant's Br. at 6–8; '279 patent Fig. 16. Representative claim 1 is reproduced below:

> 1. A method for deactivating Semi-Persistent Scheduling (SPS) transmission in a wireless mobile communication system, the method comprising:
>
> > performing, by a User Equipment (UE), a SPS transmission at an interval of a subframe period configured by a radio resource control (RRC) signal;
> >
> > receiving, by the UE, a Physical Downlink Control Channel (PDCCH) signal with a Radio Network Temporary Identifier

> (RNTI), wherein the PDCCH signal includes a first field related to a resource allocation; and
>
> performing a procedure for deactivating the SPS transmission if the PDCCH signal satisfies conditions for SPS deactivation,
>
> wherein *the conditions for SPS deactivation include*:
>
> the RNTI is a SPS Cell RNTI (SPS C-RNTI); and
>
> *the first field is entirely filled with '1'*.

'279 patent, col. 26 ll. 2–26 (emphases added). The other challenged independent claim, claim 11, contains the same requirement that "the conditions for SPS deactivation include . . . the first field is entirely filled with '1'." *Id.* col. 27 ll. 13–15.

TCT Mobile International Limited, TCT Mobile, Inc.; TCT Mobile (US) Inc.; TCT Mobile (US) Holdings, Inc.; TCL Communication Technology Holdings Limited; Honeywell International Inc.; Sierra Wireless, Inc.; and Thales Dis Ais Deutschland GMBH (collectively, "Honeywell") petitioned for *inter partes* review. Honeywell asserted four grounds including (1) obviousness based on Samsung[1] and Nokia[2]

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[1] TDOC R2-084455, SPS RESOURCE RELEASE, 3GPP TSG-RAN2#63 MEETING, Jeju, South Korea (August 18–22, 2008), J.A. 1744.

[2] RI-083718, MISSING DETAILS OF SEMI-PERSISTENT SCHEDULING, 3GPP TSG-RAN WG1 MEETING #54BIS, Prague, Czech Republic (September 29–October 3, 2008), J.A. 1742–43.

and (2) obviousness based on Samsung and Dahlman.[3] Samsung is a technical specification by an industry standards group considering potential codes for SPS deactivation. It proposes that "all 1s could be a good candidate" for such a code, but with no explanation of why. J.A. 1744. Nokia is a technical specification by the same industry standards group that proposes filling a field with all zeroes to serve as a codeword for "SPS release." J.A. 1742. Dahlman is a book that provides background information on wireless technology, particularly on a resource block allocation field, but it does not mention the use of a specific value as a codeword for SPS deactivation.

Sisvel argued that a person of ordinary skill in the art would not have had a reasonable expectation of success in the proposed combinations because of the allegedly extensive calculations that would have been required to ensure that filling the field entirely with ones would be invalid in all circumstances, regardless of network size. *Decision*, J.A. 34. Sisvel cited the testimony of its expert witness stating that a skilled artisan in this field would have demanded mathematical certainty that the solution would work for all size networks. *Id.* at J.A. 37.

The Board held all challenged claims unpatentable as obvious based on both asserted grounds, Dahlman together with Samsung as well as Nokia together with Samsung. The Board found that claim 1 (and claim 11) did "not require performing any calculations prior to filling the 'first field' entirely with 1s," nor did it require any particular field size. *Decision*, J.A. 34–35. It therefore found no need to resolve the parties' dispute as to whether or not a person of ordinary skill in the art would have been capable of calculating whether or not the use of all 1s would be invalid

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[3] ERIK DAHLMAN ET AL., 3G EVOLUTION: HSPA AND LTE FOR MOBILE BROADBAND 1–608 (2d ed. 2008), J.A. 1091.

in all circumstances. *Id.* The Board also found that Honeywell had demonstrated a reasonable expectation of success in combining Samsung and Dahlman because Samsung (1) describes its solution as "simple," (2) states that "all 1s could be a good candidate," and (3) uses the same DCI format for signaling SPS deactivation as Dahlman. *Id.* at J.A. 34–38 (quoting J.A. 1744). *See also id.* at 44–45 (making similar findings with regard to the Samsung and Nokia combination). It noted that, despite Sisvel's expert testimony that a person of ordinary skill would have demanded certainty of success, "'the expectation of success need only be reasonable, not absolute.'" *Id.* at J.A. 37 (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1364 (Fed. Cir. 2007)).

Sisvel appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

Sisvel argues on appeal that the Board erred in finding a motivation to combine Samsung and Dahlman with a reasonable expectation of success. Honeywell responds that the Board's finding is without legal error and based on substantial evidence. Honeywell further argues that Sisvel failed to appeal the Board's invalidation of the claims based on Samsung and Nokia, and the appeal can therefore be affirmed on that ground without consideration of Sisvel's arguments on the other ground. Sisvel replies that its arguments are with respect to the Samsung reference, which is present in both grounds, and it therefore did not forfeit any such argument or appeal.

Because of the weakness of Sisvel's position on the merits, we choose not to address the forfeiture argument. The Board's finding of obviousness is soundly based in both fact and law. Samsung expressly teaches "to use all 1s in [the] RB assignment field on SPS resource allocation . . . to release the SPS resource" and that "all 1s could be a good candidate." J.A. 1744. It further describes that solution as

a "simple release mechanism." *Id.* That language is unequivocal. The reference explicitly teaches both the challenged element (*i.e.*, "to use all 1s in [the] RB assignment field on SPS resource allocation") and provides for a reasonable expectation of success in implementing that element (*i.e.*, "all 1s could be a good candidate"). *Id.*

That Samsung does not explain why it selected all ones or list out the calculations proving its effectiveness does not defeat its plain teaching. *See, e.g.*, *In re Corkill*, 771 F.2d 1496, 1500 (Fed. Cir. 1985) ("Although [the inventor] declared that it cannot be predicted how any candidate will work in a detergent composition, but that it must be tested, this does not overcome [the prior art]'s teaching that hydrated zeolites will work."). The law only requires that a person of ordinary skill in the art have a reasonable expectation of success, not an absolute one. *Pfizer*, 480 F.3d at 1364. Although different fields of art may have differences in what constitutes a "reasonable" expectation of success, such differences are not determinative in this case. Honeywell's expert witness testified that using all ones would *avoid* calculations and be a simple design choice, which the reference itself echoes. *Decision*, J.A. 36; J.A. 1744 (describing the solution as "simple"). And, as the Board found, there is nothing in the record showing that using all ones would not work or would be exceedingly difficult to implement. *Decision*, J.A. 37. Sisvel asks us to ignore the plain text of the reference and impose an inappropriately high standard on expectation of success, which we decline to do.

The Board therefore did not err in concluding that independent claims 1 and 11 would have been obvious over Dahlman (or Nokia) together with Samsung and we affirm those holdings. *See* Appellant's Reply Br. at 18 (asserting that the Board's interpretation of Samsung, common to both grounds, was the critical basis for the Board's findings); *Decision*, J.A. 45 (referencing "Patent Owner's arguments that are common" to both grounds). Because Sisvel does not separately argue for the patentability of the

challenged dependent claims, the Board's finding of obviousness of claims 3–5 and 13–15 is likewise affirmed.

CONCLUSION

We have considered Sisvel's remaining arguments but find them unpersuasive. For the foregoing reasons, the decision of the Board is *affirmed*.

AFFIRMED