

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**APPLE INC., HTC CORPORATION, HTC AMERICA,  
INC.,**  
*Appellants*

v.

**INVT SPE LLC,**  
*Appellee*

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2020-1859

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Appeal from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in No. IPR2018-  
01473.

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Decided: April 13, 2021

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Before MOORE, TARANTO, and CHEN, *Circuit Judges*.

MOORE, *Circuit Judge*.

Apple Inc., HTC Corp., and HTC America, Inc. (collectively, Appellants) appeal a Patent Trial and Appeal Board final written decision holding Appellants failed to prove claims 1–3, 5–9, and 11 of U.S. Patent No. 6,611,676 would have been obvious over Keskitalo<sup>1</sup> in view of Lindell.<sup>2</sup> We *affirm*.

#### BACKGROUND

The '676 patent is directed to a radio communications system with a variable transmission rate. The '676 patent states that when a prior art radio communications system encountered low reception quality, it would compensate by increasing transmission power. *See* '676 patent at 1:15–32. This coping strategy, however, was “likely to increase interference with other mobile stations to an intolerable degree.” *Id.* at 1:46–55. The '676 patent thus discloses decreasing the transmission rate of the radio signal, which improves reception quality without increasing interference with other mobile devices. *Id.* at 1:65–2:4, 7:4–25. As claimed, however, this occurs only after determining whether the “average transmission power” exceeds a predetermined threshold. *Id.* at claim 1; *see also id.* at 13:32–14:8, 11:29–55. To decrease transmission rate in a conventional Code Division Multiple Access (CDMA) system, the '676 patent discloses increasing the “spreading factor,” *id.*

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<sup>1</sup> PCT Application Publication No. WO 95/10145.

<sup>2</sup> U.S. Patent No. 5,524,275.

at 6:67–7:3, 7:13–16, also known as the “spreading ratio.” Claim 1 is illustrative and recites:

1. A radio communication apparatus having radio transmitting means and radio receiving means, said apparatus comprising:

transmission power control means for increasing or decreasing transmission power of said transmitting means according to transmission power control information received by said receiving means;

average transmission power calculating means for calculating an average value of the transmission power of said transmitting means;

allowable transmission power holding means for holding a predetermined allowable transmission power value;

comparing means for comparing the average value with the allowable transmission power value; and

rate changing means for changing a transmission rate according to the comparison result in said comparing means.

Appellants petitioned for *inter partes* review of claims 1–3, 5–9, and 11, alleging those claims would have been obvious over Keskitalo in view of Lindell. In a final written decision, the Board held that Appellants failed to prove obviousness. Appellants appeal. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

#### DISCUSSION

Obviousness is a question of law based on underlying facts. *Regents of Univ. of Cal. v. Broad Inst., Inc.*, 903 F.3d 1286, 1291 (Fed. Cir. 2018). We review the Board’s

ultimate conclusion of obviousness de novo, and the underlying factual findings for substantial evidence. *Id.* Whether a skilled artisan would have been motivated to combine or modify the teachings in the prior art is a question of fact. *Id.*

In holding the challenged claims would not have been obvious, the Board found there was no motivation for a skilled artisan to combine Keskitalo with Lindell. Specifically, the Board found no motivation to modify Keskitalo's measurement of instantaneous transmission power to instead measure average transmission power, as Lindell teaches. The Board reasoned that Appellants failed to explain why a skilled artisan would look to Lindell to implement changes in Keskitalo. Because substantial evidence supports that finding, we affirm the Board's decision.<sup>3</sup>

As the Board found, Keskitalo is “a data throughput reference.” J.A. 28. It discloses improving reception quality in a CDMA system by adjusting the spreading ratio. J.A. 801 at Abstract. Keskitalo recognizes there are situations where it is not possible to compensate for low reception quality by simply increasing transmission power, such as when transmission power is already at its highest value. J.A. 805:19–25. Keskitalo further recognizes that increasing the spreading ratio improves reception quality without increasing interference with other devices. J.A. 806:30–807:2. Accordingly, Keskitalo teaches adjusting the spreading ratio, rather than transmission power, to address reception quality issues. J.A. 806:18–23. Appellants concede Keskitalo does not disclose measuring the claimed

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<sup>3</sup> The Board also found that neither Keskitalo nor Lindell discloses the claimed “rate changing means.” Because we affirm the Board's conclusion of nonobviousness based on the lack of a motivation to combine, we do not reach this issue.

average transmission power. *E.g.*, Appellants' Br. at 9, 13, 14, 22.

Lindell, on the other hand, is "an RF exposure reference," as the Board found. J.A. 28. It discloses a radio transmitter power controller that automatically restricts transmission power when the average power approaches or exceeds a predetermined limit. J.A. 820 at Abstract. The purpose of Lindell's power controller is to limit a user's exposure to radiofrequency (RF) radiation, which is correlated with transmission power. J.A. 825 at 1:5–45. The power controller uses an average power determining circuit 11 to determine the average transmission power during a preceding time period,  $T_{\text{ave}}$ . J.A. 826 at 4:5–15. Lindell teaches that  $T_{\text{ave}}$  may be, for example, "6 or 30 minutes." J.A. 825 at 1:37–39.

Substantial evidence supports the Board's finding that a skilled artisan would not have been motivated to modify Keskitalo to measure average transmission power in accordance with Lindell's teachings. Although Keskitalo and Lindell both involve measuring transmission power, they do so for different reasons, on different time scales, and compare the results to different thresholds. Keskitalo compares transmission power to the maximum possible value to determine whether its system must resort to decreasing transmission rate to improve reception quality. *See* J.A. 805:9–25, 806:13–23. Lindell, by contrast, compares average transmission power to the maximum permitted value to determine whether its system must decrease transmission power to limit RF exposure. *See* J.A. 825 at 1:5–2:17. Appellants acknowledge these functionalities are "distinct." *E.g.*, Appellants' Br. at 25. Further, Lindell discloses a relatively long averaging time ("e.g., 6 or 30 minutes"), and INVT's expert testified that Keskitalo requires short-term power adjustments (*i.e.*, every 1–1.25 milliseconds). J.A. 825 at 1:37–39; J.A. 1402–03. Appellants concede that Lindell operates "on much longer time scales" than Keskitalo. *See* Appellants' Br. at 30. Given

these disparities, a reasonable fact finder could conclude there was no motivation to combine Keskitalo and Lindell.

Appellants argue that the Board erred by misconstruing their proposed combination. In particular, Appellants argue the Board mistakenly believed the proposed combination merges Keskitalo's maximum *possible* power threshold with Lindell's maximum *permitted* power threshold, rather than replacing Keskitalo's instantaneous power measurement with an average power measurement. For support, Appellants rely on out-of-context quotations from the Board's final written decision. *See* Appellants' Br. at 23–25. Read in context, however, it is clear the Board correctly understood and analyzed Appellants' proposed combination. For example, in summarizing the parties' positions, the Board explained:

Petitioner contends that . . . , rather than utilizing an instantaneous maximum power threshold, the system of Keskitalo would use an average power as its maximum power threshold. According to Petitioner, upon reading the disclosure of Keskitalo, a POSITA would have known that benefits can be realized by setting a maximum power transmission threshold based on an average transmission power value, as taught by Lindell . . . . That is, Petitioner argues that, based on Lindell's disclosure and its expert declaration testimony, one of ordinary skill in the art would have reason and ability to modify Keskitalo with the technique for calculating an average transmission power value of a mobile station and utilizing this value to impose a maximum output, as taught by Lindell.

J.A. 22–23 (citations and internal quotation marks omitted). And in finding no motivation to combine, the Board again demonstrated its grasp of Appellants' proposed combination:

In weighing the evidence before us, we find more persuasive the position of Patent Owner. In particular, we are unpersuaded by Petitioner’s contention that it would have been obvious to modify Keskitalo such that its predetermined thresholds for transmission power are *average* transmission power values in accordance with the teachings of Lindell.

J.A. 24 (emphasis in original); *see also* J.A. 31 (holding it would not have been obvious “to modify Keskitalo’s disclosed control processor . . . such that the maximum value is the average transmission power value, in accordance with the teachings of Lindell”). We see no error in the Board’s understanding of Appellants’ proposed combination.

#### CONCLUSION

Because substantial evidence supports the Board’s finding of no motivation to combine Keskitalo and Lindell, we affirm the Board’s determination that Appellants failed to prove claims 1–3, 5–9, and 11 of the ’676 patent would have been obvious.

**AFFIRMED**