

NOTE: This disposition is nonprecedential.

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

LBT IP I LLC,
Appellant

v.

APPLE INC.,
Appellee

2022-1613, 2022-1614, 2022-1615, 2022-1616, 2022-1617

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2020-01189, IPR2020-01190, IPR2020-01191, IPR2020-01192, IPR2020-01193.

Decided: June 9, 2023

BRIAN SHERWOOD SEAL, Taft Stettinius & Hollister LLP, Washington, DC, argued for appellant. Also argued by SHAUN DARRELL GREGORY.

ADAM PRESCOTT SEITZ, Erise IP, P.A., Overland Park, KS, argued for appellee. Also represented by JENNIFER C. BAILEY, CLIFFORD T. BRAZEN; ABRAN J. KEAN, Greenwood Village, CO.

Before MOORE, *Chief Judge*, LOURIE and STOLL, *Circuit Judges*.

MOORE, *Chief Judge*.

LBT IP I LLC (LBT) appeals five *inter partes* review decisions of the Patent Trial and Appeal Board holding various claims of U.S. Patent Nos. 8,497,774; 8,542,113; 8,102,256; 8,421,618; and 8,421,619 unpatentable. For the following reasons, we affirm in part, reverse in part, vacate in part, and remand in part.

BACKGROUND

LBT's patents relate to improvements in battery power conservation of portable electronic tracking devices. *See, e.g.*, '774 patent at 3:55–4:58. The '113, '256, and '618 patents¹ disclose electronic tracking devices that include location tracking circuitry (e.g., GPS circuitry) and an accelerometer to measure location coordinates without requiring GPS signaling. *See* '618 patent at Fig. 1, 5:4–10. When the strength of the device's GPS signal is below a predetermined threshold value—for example, when the device's access to GPS satellites is partially or fully blocked—portions of the location tracking circuitry may be deactivated to conserve battery power. *Id.* at 5:1–14, 6:66–7:11, 7:62–8:12. The device may subsequently reactivate the location tracking circuitry when the signal level is above the predetermined signal level. *Id.* at 6:66–7:11, 9:48–54.

¹ LBT raises the same issue on appeal with respect to the '113, '256, and '618 patents. The relevant disclosures in these patents and the Board's relevant analyses in the final written decisions are materially the same. For simplicity, we cite only to the '618 patent and the corresponding final written decision.

The '774 patent discloses an electronic tracking device that, to conserve power, may intermittently deactivate the GPS receiver in response to a low detected battery level. *See* '774 patent at 11:44–53, 13:52–67. The claimed device also permits the user to make certain power level adjustments and select between modes with higher update rates but shorter battery lives and modes with lower update rates but longer battery lives. *Id.* at 13:52–14:57; *see also id.* at Fig. 4. This feature allows the user “to select an appropriate update[d] set of network communication signaling protocols to achieve a desired user defined battery operating environment.” *Id.* at 11:58–63.

The '619 patent discloses an electronic tracking device including an accelerometer and GPS receiver. '619 patent at 5:2–6, 5:50–6:17. The accelerometer is used to detect movement and to determine location coordinates when GPS signals are not available. *Id.* at 5:3–6, 8:13–15. If the accelerometer determines the tracking device is stationary for a period of time, a last-known location is sent without accessing the GPS signaling circuitry. *Id.* at 8:13–39. Additionally, the GPS receiver may be activated or deactivated based on that determination. *Id.* at 6:54–65, 8:13–19. This approach conserves battery power by reducing use of the GPS receiver when the device is at rest. *Id.* at 8:29–39.

Apple Inc. (Apple) filed five petitions for *inter partes* review challenging claims 1, 4–6, 8, 10, 13, and 15 of the '774 patent; claims 1–20 of the '113 patent; claims 8–10 of the '256 patent; claims 1–24 of the '618 patent; and claims 1–20 of the '619 patent as unpatentable. The Board instituted each petition and issued final written decisions holding all challenged claims unpatentable. *Apple Inc. v. LBT IP I LLC ('774 Decision)*, No. IPR2020-01189, 2022 WL 685040 (P.T.A.B. Mar. 2, 2022); *Apple Inc. v. LBT IP I LLC ('113 Decision)*, No. IPR2020-01190, 2022 WL 685081 (P.T.A.B. Mar. 2, 2022); *Apple Inc. v. LBT IP I LLC ('256 Decision)*, No. IPR2020-01191, 2022 WL 683992 (P.T.A.B.

Mar. 2, 2022); *Apple Inc. v. LBT IP I LLC* ('618 Decision), No. IPR2020-01192, 2022 WL 683994 (P.T.A.B. Mar. 2, 2022); *Apple Inc. v. LBT IP I LLC* ('619 Decision), No. IPR2020-01193, 2022 WL 685082 (P.T.A.B. Mar. 2, 2022).

Specifically, the Board determined the challenged claims of the '113, '256, and '618 patents would have been obvious over Japanese Patent Application Publication No. 2004-37116A (Sakamoto) in view of various combinations of secondary references. '618 Decision, at *27. The Board determined the challenged claims of the '774 patent would have been obvious over Sakamoto. '774 Decision, at *26. Finally, the Board determined the challenged claims of the '619 patent would have been obvious over prior art combinations that all included U.S. Patent No. 6,940,407 (Miranda-Knapp) and U.S. Patent Application Publication No. 2006/0119508A1 (Miller). '619 Decision, at *30. LBT appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

LBT raises three distinct challenges on appeal. First, LBT argues the Board's finding that Sakamoto discloses the activation/reactivation limitation in certain claims of the '618, '256, and '113 patents is not supported by substantial evidence. Second, LBT argues the Board improperly construed the term "multitude" in claim 8 of the '774 patent. Finally, LBT argues the Board's finding that a skilled artisan would have been motivated to combine Miranda-Knapp and Miller as claimed in the '619 patent is not supported by substantial evidence. We address each argument in turn.

We review the Board's ultimate determination of obviousness de novo and its underlying findings of fact for substantial evidence. *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 991 (Fed. Cir. 2017). What a prior art reference discloses and whether a skilled artisan would have been motivated to combine prior art references are questions of

fact. *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1364 (Fed. Cir. 2015). We review the Board's claim construction de novo and review any necessary subsidiary factual findings based on extrinsic evidence for substantial evidence. *Apple Inc. v. MPH Techs. Oy*, 28 F.4th 254, 259 (Fed. Cir. 2022).

I. THE '113, '256, AND '618 PATENTS

The Board determined claims 1–20 of the '113 patent; claims 8–10 of the '256 patent; and claims 1–24 of the '618 patent would have been obvious over Sakamoto in view of various combinations of secondary references. *'618 Decision*, at *27. Claim 1 of the '618 patent is representative for purposes of this appeal:

1. A portable electronic tracking device to monitor location coordinates of one or more individuals or objects, the device comprising:

transceiver circuitry to receive at least one portion of a receive communication signal comprising location coordinates information;

accelerometer circuitry to measure displacements of the portable electronic tracking device;

a battery power monitor configured to selectively activate and deactivate at least one portion of the transceiver circuitry and location tracking circuitry to conserve battery power in response to a signal level of the at least one portion of the receive communication signal; and

processor circuitry configured to process the at least one portion of the receive communication signal.

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