

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC., LG ELECTRONICS, INC.,
HTC CORPORATION, and HTC AMERICA, INC.,
Petitioner,

v.

UNILOC 2017 LLC,
Patent Owner.

Case IPR2018-00387^{1,2}
Patent 7,653,508 B1

Before SALLY C. MEDLEY, JOHN F. HORVATH, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

¹ At the time the Petition was filed, Uniloc Luxembourg S.A. was the patent owner.

² LG Electronics, Inc., who filed a Petition in IPR2018-01577, and HTC Corporation and HTC America, Inc., who collectively filed a Petition in IPR2018-01589, have been joined to petitioner in this proceeding.

I. INTRODUCTION

A. Background

Apple Inc. (“Petitioner”) filed a Petition for *inter partes* review of claims 1–4, 6–8, 11–16, and 19 (the “challenged claims”) of U.S. Patent No. 7,653,508 B1 (Ex. 1001, “the ’508 patent”). Paper 2 (“Pet.”), 1. Uniloc Luxembourg S.A., a predecessor in interest to Uniloc 2017 LLC (“Patent Owner”), filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). On July 23, 2018, we instituted an *inter partes* review of the challenged claims on all grounds raised in the Petition. Paper 8 (“Decision” or “Dec.”), 27.

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 11, “PO Resp.”) and Petitioner filed a Reply to Patent Owner’s Response (Paper 12, “Pet. Reply”). Patent Owner subsequently filed a Sur-Reply to Petitioner’s Reply. Paper 14 (“PO Sur-Reply”). On April 2, 2019, we held an oral hearing. A transcript of the hearing has been entered into the record. Paper 20 (“Tr.”).³

In our Scheduling Order, we notified the parties that “any arguments for patentability not raised in the [Patent Owner] response will be deemed waived.”⁴ Nonetheless, Petitioner bears the burden to show, by a preponderance of the evidence, that the challenged claims are unpatentable. 35 U.S.C. § 316(e). For the reasons that follow, we conclude that Petitioner

³ The oral hearing included related proceedings IPR2018-00389, IPR2018-00424, and IPR2018-01028. Paper 17.

⁴ See Paper 9, 3; see also Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012) (“The patent owner response . . . should identify all the involved claims that are believed to be patentable and state the basis for that belief.”).

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has proven by a preponderance of the evidence that the challenged claims of the '508 patent are unpatentable.

B. Related Matters

The parties indicated that the '508 patent is the subject of the following litigation:

Uniloc USA, Inc. v. Apple Inc., No. 2-17-cv-00522 (E.D. Tex. filed June 30, 2017),

Uniloc USA, Inc. v. Samsung Electronics America, Inc., No. 2-17-cv-00650 (E.D. Tex. filed Sept. 15, 2017),

Uniloc USA, Inc. v. LG Electronics USA, Inc., No. 4-12-cv-00832 (N.D. Tex. filed Oct. 13, 2017),

Uniloc USA, Inc. v. HTC America, Inc., No. 2-17-cv-01629 (W.D. Wash. filed Nov. 1, 2017),

Uniloc USA, Inc. v. Huawei Devices USA, Inc., No. 2-17-cv-00737 (E.D. Tex. filed Nov. 9, 2017), and

Uniloc USA, Inc. v. Apple Inc., No. 4-18-cv-00364 (N.D. Cal. filed Jan. 17, 2018).

Pet. 2; PO Resp., 2.

We note that in IPR2018-01026, Petitioner sought *inter partes* review of claim 5 of the '508 patent. We declined to institute review. IPR2018-01026, Paper 9. The '508 patent was also subject to a petition for *inter partes* review in IPR2018-01756, which we did not institute. IPR2018-01756, Paper 7.

C. Real Parties-in-Interest

The statute governing *inter partes* review proceedings sets forth certain requirements for a petition for *inter partes* review, including that “the

petition identif[y] all real parties in interest.” 35 U.S.C. § 312(a)(2); *see also* 37 C.F.R. § 42.8(b)(1) (requiring identification of real parties-in-interest in mandatory notices). The Petition identifies “Apple Inc.” as the real party-in-interest. Pet. 1. The joinder petitioners identify LG Electronics, Inc., LG Electronics U.S.A., Inc., LG Electronics MobileComm USA, Inc., HTC Corporation, and HTC America, Inc. as real parties-in-interest. IPR2018-01577, Paper 1, 2; IPR2018-01589, Paper 1, 2. Patent Owner states that its real parties-in-interest are Uniloc 2017 LLC, Uniloc USA, Inc., and Uniloc Licensing USA LLC. Paper 10, 2.

D. The Challenged Patent

The '508 patent discloses a device and method for counting a user's steps using an inertial sensor. Ex. 1001, 1:5–7, 2:8–9. As used in the '508 patent, a “step” is “any user activity having a periodic set of repeated movements.” *Id.* at 3:32–36. A tri-axis inertial sensor can be used to provide acceleration data as a function of time along three axes. *Id.* at 3:37–44; Fig. 2. Steps are counted by analyzing acceleration data relative to a dominant axis, which can be the axis most influenced by gravity or an axis that is defined as approximately aligned to gravity. *Id.* at 6:22–55. An example acceleration chart is shown in Figure 2, which is reproduced below:

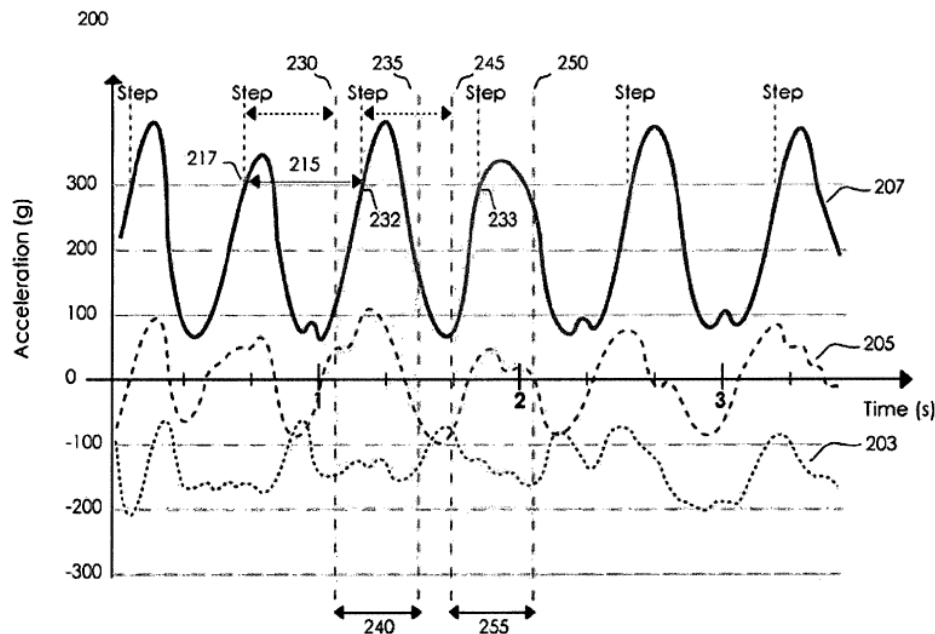


Figure 2

Figure 2 illustrates an exemplary cadence of motion graph displaying acceleration measurements versus time along a first axis 203, a second axis 205, and a third (dominant) axis 207. *Id.* at 1:45–47, 3:42–45.

Step counting may be accomplished by taking an acceleration measurement, filtering the measurement to remove high and/or low frequency data, and determining whether the measurement is within a certain amount of time since the last step was counted. *Id.* at 3:65–67, 12:31–51. If the measurement is made within the allowed time, it is further evaluated to determine whether the acceleration along the dominant axis is greater than a lower threshold. *Id.* at 12:52–58. A step may be counted if the measurement is greater than the lower threshold, greater than previous measurements, and less than an upper threshold, and if it is determined that the user is moving away from gravity (e.g., the user is lifting a foot from the

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