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Paper 26
Entered: February 12, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HTC CORPORATION and HTC AMERICA, INC., ZTE CORPORATION, and ZTE (USA), INC.
Petitioner,

v.

CELLULAR COMMUNICATIONS EQUIPMENT LLC,
Patent Owner.

Case IPR2016-01501[1]
Patent 8,457,676 B2

Before BRYAN F. MOORE, GREGG I. ANDERSON, and JOHN A. HUDALLA, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. 318(a)

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[1] ZTE Corporation, and ZTE (USA), Inc. filed a petition in (now terminated) IPR2017-01079, and have been joined to the instant proceeding.

I. INTRODUCTION

HTC Corporation and HTC America, Inc. (collectively "HTC") filed a Petition (Paper 1, "Pet.") pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1, 3, 19, 21, 33, and 34 ("the challenged claims") of U.S. Patent No. 8,457,676 B2 ("the '676 patent," Ex. 1001). The Petition is supported by the Declaration of Tim A. Williams, Ph.D. ("Williams Declaration," "Williams Dec.," Ex. 1003). ZTE Corporation and ZTE (USA), Inc. (collectively "ZTE") were joined into this *inter partes* review. Paper 18. Thus, HTC and ZTE (collectively "Petitioner") are currently Petitioner in this *inter partes* review. Cellular Communications Equipment LLC ("Patent Owner") filed a Preliminary Response ("Prelim. Resp.," Paper 6).

On February 13, 2017, we instituted an *inter partes* review of claims 1, 19, and 33 of the '676 patent. Paper 7, 20 ("Inst. Dec."). Patent Owner filed a Response. Paper 11 ("PO Resp."). The Patent Owner Response is supported by the Declaration of Jay P. Kesan, Ph.D. ("Kesan Declaration," "Kesan Dec.," Ex. 2005). Petitioner filed a Reply. Paper 13 ("Reply"). An oral hearing was held on November 8, 2017. Paper 24 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 19, and 33 are unpatentable.

A. Related Proceedings

Petitioner advises us that the following District Court lawsuits are related to this proceeding: *Cellular Communications Equipment LLC v.*

AT&T Inc.,No. 2:15-cv-00576 (E.D. Tex.); *Cellular Commc'ns Equipment LLC v. Sprint Corp.*, No. 2:15-cv-00579 (E.D. Tex.); *Cellular Commc'ns Equipment LLC v. T-Mobile USA, Inc.*, No. 2:15-cv-00580 (E.D. Tex.); and *Cellular Commc'ns Equipment LLC v. Verizon Commc'ns, Inc.*, No. 2:15-cv-00581 (E.D. Tex.). Pet. 1. In addition, there is one other *inter partes* review proceeding asserting unpatentability of the '676 patent: *Apple Inc. v. Cellular Communications Equipment LLC*, Case IPR2016-01493 ("1493 IPR"). A Final Written Decision in IPR2016-01493 is being issued concurrently with the instant Decision.

B. The '676 Patent

The '676 patent generally relates to wireless communication technologies and the reporting of power headroom information from a mobile unit to a base station. The '676 patent is directed to an apparatus and method that "provides specific reporting criteria that are an attractive trade-off between signalling overhead versus overall uplink performance for LTE [Long-Term Evolution]." Ex. 1001, 4:32–35. When the user equipment (UE) determines that a threshold from a set of one or more criteria has been reached, it triggers sending a power control headroom report to the base station. *Id.* at Abstract. The inventors state that the triggering criteria used in the invention "are found to be very efficient for sending a power control headroom report in the uplink, while optimizing uplink performance, and while minimizing signaling overhead." *Id.* at 4:35–38. Further, the triggering criterion "includes a threshold having been reached, and the threshold is adjustable via a signal to the user equipment from a base station." *Id.* at Abstract. The inventors state that the time since the last

headroom report as measured by an integer multiplied by the transmission time interval (TTI) is a triggering criterion. *Id.* at 4:53–59. The inventors state that the absolute difference between the current and latest path-loss also is a triggering criterion. *Id.* at 4:60–65.

C. Illustrative Claim

The instituted claims 1, 19, and 33[2] are independent claims.

Claim 1, reproduced below, is illustrative.

1. A method comprising:

determining that a set of at east one triggering criterion is met; and

providing a power control headroom report on an uplink from user equipment, in response to determining that the set is met,

wherein said at least one triggering criterion include at least one threshold having been reached, wherein said at least one threshold is adjustable via a signal to the user equipment,

wherein the set of at least one triggering criterion comprises a criterion being met based on reaching a threshold of the at least one threshold of k transmission time intervals following a previous power control headroom report, wherein k is an integer and wherein said at least one threshold adjustable via the signal comprises adjusting the threshold integer k.

Ex. 1001, 6:26–40 (paragraphing added).

[2] Claim 33 was changed in a Certificate of Correction dated July 7, 2015. Ex. 1002, 1.

D. Instituted Ground of Unpatentability

We instituted trial on the following ground (Inst. Dec. 20):

Claims	Basis	Reference
1, 19, and 33	§ 103	Kwak[3]

II. ANALYSIS

A. Relevant Law

1. Obviousness

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and, (4) where in evidence, so-called secondary considerations, including commercial success, long-felt but unsolved needs, failure of others, and unexpected results.[4] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966) ("the *Graham* factors").

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[3] U.S. Patent Application Pub. No. 2006/0140154 A1, published June 29, 2006 (Ex. 1005, "Kwak").

[4] Patent Owner does not put forth evidence it alleges tend to show secondary considerations of non-obviousness in its Response.

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