UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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SAMSUNG ELECTRONICS CO., LTD.,
Petitioner,

v.

HUAWEI TECHNOLOGIES CO., LTD.,
Patent Owner.
_____

Case IPR2017-01473
Patent 8,885,583 B2
_____

Before TREVOR M. JEFFERSON, MICHELLE N. WORMMEESTER, and
JOHN F. HORVATH, *Administrative Patent Judges*.

WORMMEESTER, *Administrative Patent Judge*.

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

I. INTRODUCTION

Samsung Electronics Co., Ltd. ("Petitioner") filed a Petition (Paper 1, "Pet.") requesting *inter partes* review of claims 3, 4, and 7 of U.S. Patent No. 8,885,583 B2 (Ex. 1001, "the '583 patent"). We initially instituted an *inter partes* review of all the challenged claims and four of the five grounds presented in the Petition because Petitioner demonstrated a "reasonable likelihood" of prevailing on "at least 1 of the claims challenged in the petition." Paper 11 ("Inst. Dec."); *see* 35 U.S.C. § 314(a). After institution of trial, we modified our Institution Decision to include review of all the challenged claims and all the grounds presented in the Petition. Paper 24.

Huawei Technologies Co., Ltd. ("Patent Owner") filed a Patent Owner Response (Paper 23, "PO Resp.") addressing the four grounds originally identified for review in our Institution Decision, and a Supplemental Patent Owner's Response (Paper 31, "Supp. PO Resp.") addressing the fifth ground that was subsequently added for review. Petitioner then filed a Reply. Paper 32 ("Pet. Reply"). With our authorization, Patent Owner filed a Sur-Reply. Paper 38 ("PO Sur-Reply"). Patent Owner also filed a Motion to Exclude (Paper 36), which we address below. On September 27, 2018, we conducted an oral hearing. A copy of the transcript (Paper 44, "Tr.") is included in the record.

We have jurisdiction under 35 U.S.C. § 6(b). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 3, 4, and 7 of the '583 patent are unpatentable. This final written decision is issued pursuant to 35 U.S.C. § 318(a).

II. BACKGROUND

A. *Related Proceedings*

The parties identify one related federal district court case: *Huawei Technologies Co. v. Samsung Electronics Co.*, Case No. 3:16-cv-02787 (N.D. Cal.). Pet. 5; Paper 5, 1.

B. *The '583 Patent*

The '583 patent is titled "Conditional Uplink Timing Alignment in a Mobile Station Device of a Radio Communication System." Ex. 1001, [54]. The Abstract describes the subject matter as follows:

> A mobile station device transmits a random access preamble, whose preamble ID is randomly selected by the mobile station device, to a base station device and performs uplink timing alignment based on the synchronization timing deviation information included in a random access response which the base station device transmits in response to the transmitted random access preamble. In an uplink synchronous status, upon receiving the random access response including timing deviation information, the mobile station device ignores the timing deviation information. Otherwise, the mobile station device performs the uplink timing alignment based on the timing deviation information.

Id. at [57]. The specification further discloses that the mobile station device and the base station device use a timer to manage the uplink synchronous/ asynchronous status of the mobile station device. *Id.* at 13:64–66. Either the base station device resets the timer when it transmits the synchronization timing deviation information or the mobile station device resets the timer when it receives the information. *Id.* at 14:3–6. The base station device provides the mobile station device with an expiration value for the timer. *Id.* at 14:6–8. The mobile station device is considered to be in an uplink

synchronous status until the timer expires, and it is considered to be in an uplink asynchronous status after the timer expires. *Id.* at 14:8–15.

C. Illustrative Claim

Petitioner challenges claims 3, 4, and 7 of the '583 patent. Claims 3 and 7 are independent. Claim 3 is illustrative of the claims under challenge:

3. A mobile station device comprising:
circuitry configured to transmit a random access preamble;

circuitry configured to receive, from a base station device, a random access response to the random access preamble; and

circuitry configured to ignore timing deviation information, in case that, in an uplink synchronous status, the timing deviation information is included in the random access response and corresponds to the random access preamble whose preamble identification (ID) is randomly selected by the mobile station device, wherein the timing deviation information does not include a Null value or an indication to ignore the timing deviation information; and to perform uplink timing alignment based on timing deviation information, in case that, in an uplink asynchronous status, the timing deviation information is included in the random access response and corresponds to the random access preamble whose preamble identification (ID) is randomly selected by the mobile station device.

D. The Instituted Grounds

Petitioner asserts in its Petition five grounds based on obviousness under 35 U.S.C. § 103.[1] Pet. 8, 31–70.

Reference(s)	Basis	Claims Challenged
TS 36.300[2]	§ 103	3, 4, and 7
TS 36.300 and Toskala[3]	§ 103	3, 4, and 7
TS 36.300 and Dalsgaard[4]	§ 103	3, 4, and 7
TS 36.300 and Sun[5]	§ 103	3, 4, and 7
TS 36.300 and R1-072197[6]	§ 103	3, 4, and 7

In support of the instituted grounds, Petitioner relies on the declarations of Vijay Madisetti, Ph.D. (Exhibit 1004) and Raziq Yaqub, Ph.D. (Exhibit 1012). Id. With its responsive papers, Patent Owner submits two declarations of Nicholas Laneman, Ph.D. (Exhibits 2005 and 2011).

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[1] In its summary of the asserted grounds, Petitioner identifies three grounds. Pet. 8. Under the first ground, Petitioner asserts that claims 3, 4, and 7 are unpatentable over TS 36.300 alone or in combination with Toskala *and* Dalsgaard. Id. Based on Petitioner's substantive arguments (*id.* at 31–52), however, we address whether the claims are unpatentable over TS 36.300 alone or in combination with Toskala *or* Dalsgaard. That is, we treat the first ground as containing three separate grounds: obviousness over TS 36.300; obviousness over TS 36.300 and Toskala; and obviousness over TS 36.300 and Dalsgaard.

[2] 3d Generation P'ship Project, *Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2 (Release 8) (3GPP TS 36.300 V8.1.0)* (June 2007) (Ex. 1005, "TS 36.300").

[3] Toskala, U.S. Patent No. 6,657,988 B2, issued Dec. 2, 2003 (Ex. 1006).

[4] Dalsgaard, Int'l Pub. No. WO 2007/110483 A1, published Oct. 4, 2007 (Ex. 1020).

[5] Sun, U.S. Patent No. 7,286,841 B2, issued Oct. 23, 2007 (Ex. 1007).

[6] Texas Instruments, *Transmission of Uplink Timing Advance Command in E-UTRA*, 3GPP TSG RAN WG1#49, R1-072197 (May 2007) (Ex. 1008, "R1-072197").

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