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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC., LG ELECTRONICS INC.,
SAMSUNG ELECTRONICS CO., LTD., and
SAMSUNG ELECTRONICS AMERICA, INC.
Petitioner,

v.

UNILOC 2017 LLC
Patent Owner.

Case IPR2019-00222
Patent 7,167,487 B2

Before ROBERT J. WEINSCHENK, JOHN F. HORVATH, and SEAN P. O'HANLON, *Administrative Patent Judges.*

HORVATH, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
35 U.S.C. § 314(a)

I. INTRODUCTION

A. Background

Apple Inc., LG Electronics Inc., Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. ("Petitioner")[1] filed a Petition requesting *inter partes* review of claims 1–6 ("the challenged claims") of U.S. Patent No. 7,167,487 B2 (Ex. 1001, "the '487 patent"). Paper 5 ("Pet."), 1. Uniloc 2017 LLC ("Patent Owner"), filed a Preliminary Response. Paper 9 ("Prelim. Resp."). We have authority under 35 U.S.C. § 314. Upon consideration of the Petition and Preliminary Response, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing the unpatentability of at least one challenged claim of the '487 patent. Accordingly, we institute *inter partes* review of all challenged claims on all grounds raised.

B. Related Matters

Petitioner and Patent Owner identify various matters between Uniloc USA, Inc. or Uniloc 2017 LLC, and Apple, Inc., Blackberry Corp., HTC America, Inc., Huawei Device USA, Inc., LG Electronics USA, Inc., Microsoft Corp., Motorola Mobility, LLC, Samsung Electronics America, Inc., or ZTE (USA), in various Federal District Courts, including District Courts for the Eastern, Western, and Northern Districts of Texas, the Central and Northern Districts of California, the District of Delaware, and the Western District of Washington, as matters that can affect or be affected by this proceeding. *See* Pet. 76; Paper 7, 2.

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[1] Petitioner identifies LG Electronics U.S.A., Inc. and LG Electronics Mobilecomm U.S.A. Inc. as real parties-in-interest. Pet. 76.

C. Evidence Relied Upon[2]

References		Effective Date[3]	Exhibit
MAC protocol specification (Release 1999), 3rd Generation Partnership Project, 3GPP TS 25.321 V3.6.0 (2000–12) ("TS 25.321").		Dec. 10, 2000	1007
Corrections to logical channel priorities in MAC protocol, 3rd Generation Partnership Project, 3GPP TSG-RAN WG2 Meeting #18 ("R2-010182").		Jan. 23, 2001	1008
Services provided by the physical layer (Release 1999), 3rd Generation Partnership Project, 3GPP TS 25.302 V3.6.0 (2000–09) ("TS 25.302").		Oct. 16, 2000	1009
Peisa	US 6,850,540 B1	Feb. 25, 2000[4]	1013

D. Asserted Grounds of Unpatentability

Petitioner asserts the following ground of unpatentability:

Reference(s)	Basis	Claims Challenged
TS 25.321, TS 25.302, and R2-010182	§ 103(a)	1–6
Peisa	§ 103(a)	1, 2
Peisa and TS 25.302	§ 103(a)	4–6

[2] Petitioner also relies upon the Declarations of R. Michael Buehrer, Ph.D., FIEEE (Ex. 1002) and Craig Bishop (Ex. 1006).

[3] Petitioner relies upon the Bishop Declaration to establish the public availability of TS 25.302, TS 25.321, and R2-010182, and their respective publication dates. *See* Pet. 9–10, 12, 15.

[4] Petitioner relies on the U.S. filing date of Peisa to establish its availability as prior art under 35 U.S.C. § 102(e). *See* Pet. 17.

II. ANALYSIS

A. The '487 Patent

The '487 patent "relates to a network with a first plurality of logic channels with which is associated a second plurality of transport channels . . . for the transmission of transport blocks formed from packet units of the logic channels." Ex. 1001, 1:4–8. According to the '487 patent, "[s]uch a network is known from the 3rd Generation Partnership Project (3GPP); Technical Specification Group (TSG) RAN; Working Group 2 (WG2); Radio Interface Protocol Architecture; TS 25.302 V3.6.0." *Id*. at 1:9–12.

The '487 patent describes the 3GPP network architecture disclosed in TS 25.302 V3.6.0 as follows:

> A physical layer offers transport channels or transport links to the MAC [Media Access Control] layer. The MAC layer makes logic channels or logic links available to an RLC layer (RLC=Radio Link Control). The packet units formed in the RLC layer are packed in transport blocks in the MAC layer, which blocks are transmitted from the physical layer through physical channels to a terminal, or the other way about, by the radio network control. Apart from such a multiplex or demultiplex function, the MAC layer also has the function of selecting suitable transport format combinations (TFC). A transport format combination represents a combination of transport formats for each transport channel. The transport format combination describes inter alia how the transport channels are multiplexed into a physical channel in the physical layer.

Id. at 1:14–28. This architecture is illustrated in in Figure 2 of the '487 patent, which is reproduced below.

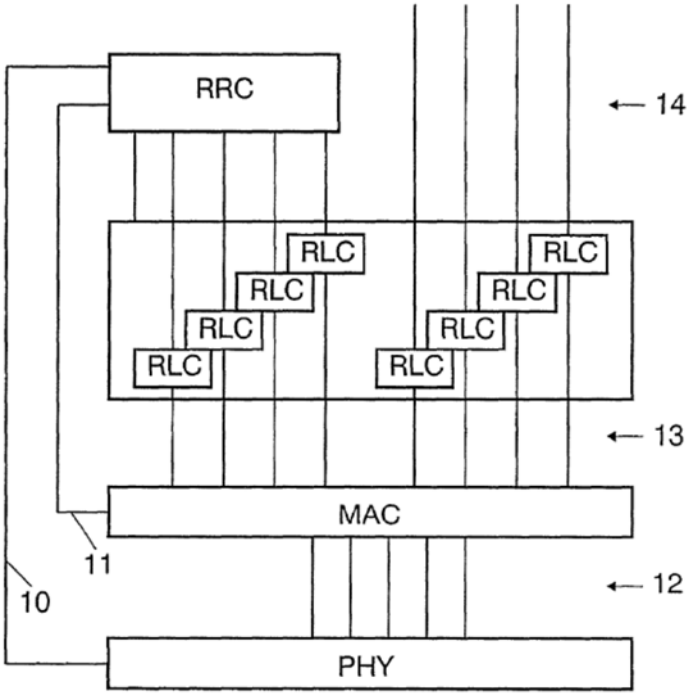

FIG. 2

Figure 2 is a "layer model" illustrating the various functions of a terminal or radio network control in a 3GPP wireless network. *Id*. at 4:63–64, 6:9–16. The "layer model" includes a physical layer (PHY), a data connection layer (MAC and RLC), and a radio resource control layer (RRC). *Id*. at 6:16–19. The RRC layer is responsible for signaling between a wireless terminal and a base station's radio network controller (RNC), and "controls the layers MAC and PHY via control lines 10 and 11." *Id*. at 6:22–27. The RLC layer receives data in the form of packet units from application channels 14. *Id*. at 6:32–35. The MAC layer makes logic channels 13 available to the RLC layer. *Id*. at 6:30–32. The PHY layer makes transport channels 12 available to the MAC layer. *Id*. at 6:29–30.

The MAC layer packs RLC layer packet units into transport blocks that are transmitted from a base station's radio network controller to a

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