

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ERICSSON INC. AND
TELEFONAKTIEBOLAGET LM ERICSSON,
Petitioner,

v.

INTELLECTUAL VENTURES I LLC,
Patent Owner.

Case IPR2018-01256
Reissued Patent RE46,206 E

Before KRISTEN L. DROESCH, BRIAN J. McNAMARA, and
DAVID C. McKONE, *Administrative Patent Judges*.

DROESCH, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

Ericsson Inc. and Telefonaktiebolaget LM Ericsson (collectively “Petitioner”) filed a Petition requesting an *inter partes* review of claims 2, 6–8, 15, 16, 19, and 79 (“challenged claims”) of U.S. Reissued Patent No. 46,206 E (Ex. 1001, “’206 Reissued Patent”). Paper 2 (“Pet”). Intellectual Ventures I LLC (“Patent Owner”) timely filed a Preliminary Response. Paper 5 (“Prelim. Resp.”).

We have authority under 35 U.S.C. § 314 and 37 C.F.R. § 42.4. An *inter partes* review may not be instituted unless it is determined that “the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

For the reasons provided below, we determine, based on the record before us, there is a reasonable likelihood Petitioner would prevail in showing at least one of the challenged claims is unpatentable.

B. Related Proceedings

The parties represent that the ’206 Reissued Patent is at issue in *Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, No. 2:17-cv-00577-JRG (E.D. Tex.) (“concurrent district court proceedings”). Pet. 2; Paper 3, 2. The parties further indicate that certain claims of the ’206 Reissued Patent are at issue in Case IPR2018-00758 (“758 IPR”), Case IPR2017-00782 (“782 IPR”), Case IPR2018-01121 (“1121 IPR”), and Case IPR2018-01318. *See* Pet. 2; Prelim. Resp. 1.

C. The '206 Reissued Patent (Ex. 1001)

The '206 Reissued Patent is a reissue of U.S. Patent No. 7,251,218, which issued on July 31, 2007, from Application No. 10/241,454, filed October 24, 2002. *See* Ex. 1001, [64]. The '206 Reissued Patent concerns “implementing a QoS [quality of service] aware wireless point-to-multipoint transmission system.” Ex. 1001, 3:38–41. The '206 Reissued Patent explains that wireless networks present particular challenges over their wireline counterparts in delivering QoS. *See id.* at 3:60–61, 10:63–11:1. In addition to the traditional problems of wireline communications, such as data errors, latency, and jitter, wireless transmission may encounter further problems, such as high inherent bit error rates (BERs), limited bandwidth, user contention, and radio interference. *See id.* at 11:1–9. The '206 Reissued Patent states that a QoS-aware wireless system is desired to address all these problems. *See id.* at 11:9–10.

Figure 3B of the '206 Reissued Patent is reproduced below.

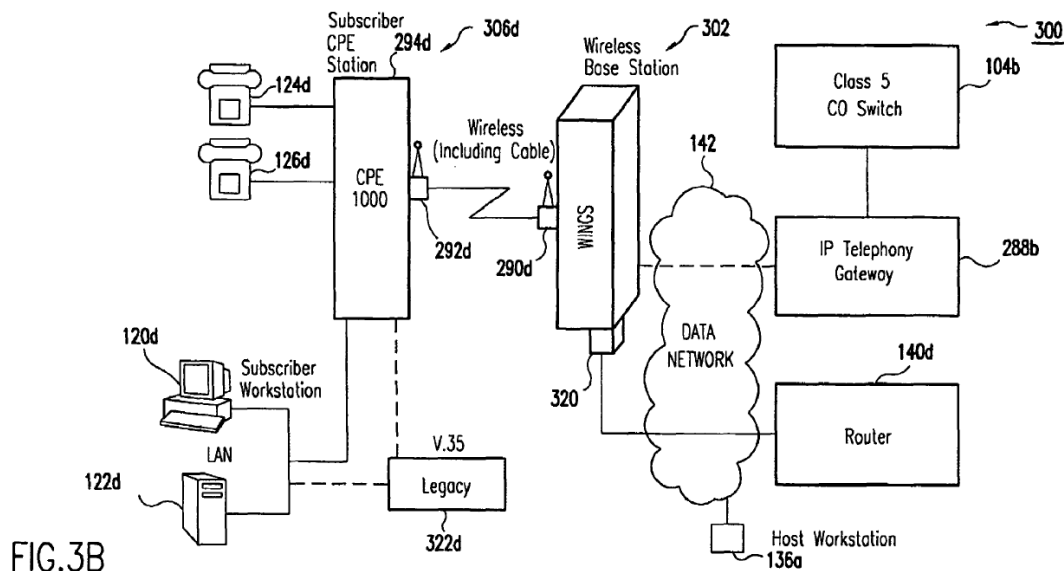


Figure 3B depicts a block diagram illustrating a wireless point-to-multipoint network. *See* Ex. 1001, 5:29–30. Wireless base station 302 communicates

with wireless subscriber customer premise equipment (CPE) 294d via antenna 290d and antenna 292d. *See id.* at 40:39–41. Subscriber CPE 294d, in turn, communicates with subscriber workstation 120d. *See id.* at 40:51–54. Wireless base station 302 is connected to data network 142, which, in turn, is connected to host workstation 136a. *See id.* at 40:32–33, Fig. 3B.

According to the '206 Reissued Patent, at wireless base station 302, the QoS-aware scheduling of the wireless transmission of data packets takes place at the data link layer or the MAC layer. *See Ex. 1001*, 41:16–29; 47:6–8; 47:13–15; Fig. 5A. Specifically, the '206 Reissued Patent discloses that a MAC layer can read header information in the packets to analyze and schedule an IP packet of an IP flow. *See id.* at 41:22–26. IP packets of the IP flow are identified by analyzing the header information to determine QoS requirements of the IP flow “so that the IP flow can be characterized, classified, presented, prioritized and scheduled” for wireless transmission over the air. *Id.* at 41:26–29.

The '206 Reissued Patent discloses that IP packets of IP flows are wirelessly transmitted over the air using time division multiple access/time division duplex (TDMA/TDD) MAC transmission air frames. *See Ex. 1001*, 52:23–26.

Figure 12A of the '206 Reissued Patent is reproduced below.

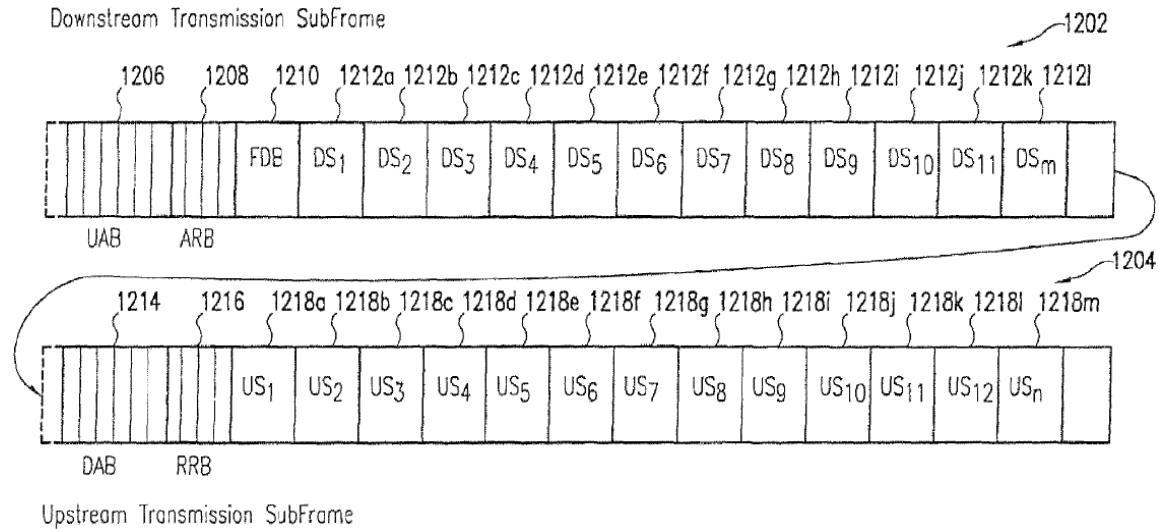


Figure 12A illustrates an entire TDMA MAC transmission air frame. *See* Ex. 1001, 52:30–31. TDMA MAC air frame 1202 includes downstream transmission subframe 1202 and upstream transmission subframe 1204. *See id.* at 52:31–32. Downstream transmission subframe 1202 includes upstream acknowledgment block (UAB) 1206, acknowledgement request block (ARB) 1208, frame descriptor block (FDB) 1210. *See id.* at 52:33–38. Upstream transmission subframe 1204 includes downstream acknowledgment block (DAB) 1214 and reservation request block (RRB) 1216. *See id.* at 52:38–43. Frame size can be, e.g., 16 slots or 32 slots. *See id.* at 53:38–39; Fig. 12B. The number of slots is dynamically assigned for both the uplink and the downlink. *See id.* at 53:49–50. It is possible to dynamically allocate a subset of the entire number of TDMA slots to an uplink direction and to dynamically allocate a subset of the entire number of TDMA slots to a downlink direction. *See id.* at 53:50–60.

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