

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC., MICROSOFT CORPORATION,
MICROSOFT MOBILE OY, and
MICROSOFT MOBILE INC. (F/K/A/ NOKIA INC.),
Petitioner,

v.

EVOLVED WIRELESS LLC,
Patent Owner.

Case IPR2016-01228
Patent 7,881,236 B2

Before WILLAM V. SAINDON, PATRICK M. BOUCHER, and
TERRENCE W. McMILLIN, *Administrative Patent Judges*.

BOUCHER, *Administrative Patent Judge*.

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

In response to a Petition (Paper 2, “Pet.”) filed by Apple Inc., Microsoft Corporation, Microsoft Mobile Oy, and Microsoft Mobile Inc. (f/k/a Nokia Inc.) (collectively, “Petitioner”), we instituted an *inter partes* review of claims 1–10, 12, and 13 of U.S. Patent No. 7,881,236 B2 (“the ’236 patent”). Paper 8 (“Dec.”), 21. During the trial, Evolved Wireless LLC (“Patent Owner”) timely filed a Response (Paper 14, “PO Resp.”), to which Petitioner timely filed a Reply (Paper 16, “Reply”). An oral hearing was held on September 15, 2017, and a copy of the transcript was entered into the record. Paper 22 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of the claims on which we instituted trial. Based on the record before us, Petitioner has shown, by a preponderance of the evidence, that claims 1–10, 12, and 13 are unpatentable.

I. BACKGROUND

A. *The ’236 Patent*

The ’236 patent “relates to a mobile communication technology.” Ex. 1001, col. 1, ll. 17–18. In particular, the patent describes a random access procedure for user equipment (“UE”) and a base station in a telecommunication system. *Id.* at col. 3, ll. 42–59. Figure 1 of the ’236 patent illustrates a particular example of such a telecommunication system—the Evolved Universal Mobile Telecommunication System (“E-UMTS”), and is reproduced below.

FIG. 1

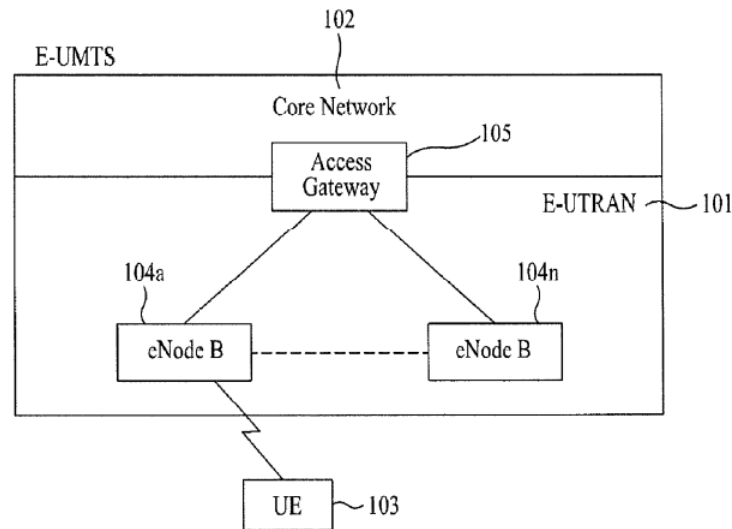


Figure 1 provides a schematic view of a network architecture for the E-UMTS, which may be conceived in terms of two component networks: Evolved UMTS Terrestrial Radio Access Network (“E-UTRAN”) 101 and Core Network 102. *Id.* at col. 1, ll. 26–35. The first of these, E-UTRAN 101, may include user equipment (“UE”) 103, multiple base stations 104 (referred to in the ’236 patent as “eNode B” or “eNB”), and Access Gateway (“AG”) 105. *Id.* at col. 1, ll. 35–39. Access Gateway 105 is positioned at the end of the network and connected to an external network, and can include a portion for processing user traffic and a portion for processing control traffic. *Id.* at col. 1, ll. 38–41.

As the ’236 patent describes, “a UE performs the random access procedure” in a number of instances, including “when the UE performs initial access” to a base station and “when there is uplink data transmission in a situation where uplink time synchronization is not aligned or where a

specific radio resource used for requesting radio resources is not allocated.”
Id. at col. 3, ll. 42–57. A version of Figure 5 of the ’236 patent annotated by
Petitioner is reproduced below.

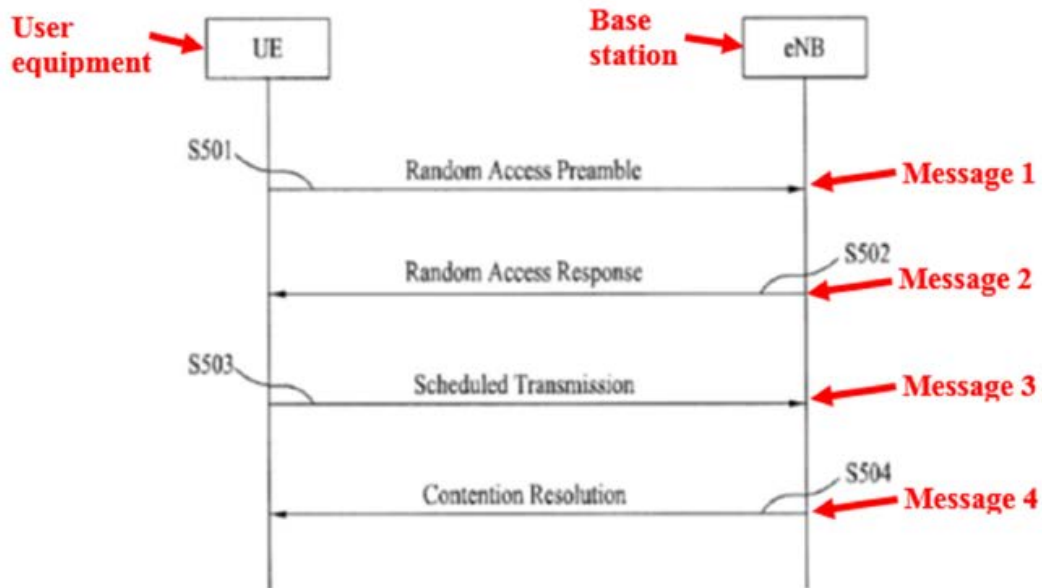


Figure 5 shows an example of a random access procedure performed between user equipment UE and base station eNB. *Id.* at col. 6, ll. 53–55. The procedure begins with transmission of a “random access preamble” from the UE to the base station at step S501 (referred to as a “message 1” transmitting step). *Id.* at col. 4, ll. 3–7. The UE receives a “random access response” from the base station at step S502 “in correspondence with the transmitted random access preamble” (referred to as a “message 2” receiving step). *Id.* at col. 4, ll. 7–11. Of particular relevance, the UE then transmits an uplink message to the base station at step S503 (referred to as a “message 3” or “Msg3” transmitting step). *Id.* at col. 4, ll. 11–14. The UE receives a corresponding “contention resolution” message from the base station at step S504 (referred to as a “message 4” receiving step). *Id.* at col. 4, ll. 14–17.

In the random access procedure, the UE stores data to be transmitted via the message 3 in a “Msg3 buffer” and transmits the stored data “in correspondence with the reception of an Uplink (UL) Grant signal.” *Id.* at col. 4, ll. 18–21. The UL Grant signal indicates information about uplink radio resources that may be used when the UE transmits a signal to the base station. *Id.* at col. 4, ll. 21–26. According to the ’236 patent, then-current Long-Term Evolution (“LTE”) system standards provided that data stored in the Msg3 buffer of the UE would be transmitted to the base station “*regardless of the reception mode of the UL Grant signal,*” and that “if the data stored in the Msg3 buffer is transmitted in correspondence with the reception of *all* UL Grant signals, problems may occur.” *Id.* at col. 4, ll. 26–32 (emphases added). The ’236 patent purports to solve such problems. *Id.* at col. 4, ll. 33–34.

Figure 9 of the ’236 patent is reproduced below.

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