

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE, INC., MICROSOFT CORPORATION,  
MICROSOFT MOBILE OY, and MICROSOFT  
MOBILE INC.,  
Petitioner,

v.

EVOLVED WIRELESS LLC,  
Patent Owner.

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Case IPR2016-00981  
Patent 8,218,481 B2

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Before CHRISTOPHER L. CRUMBLY, PETER P. CHEN, and  
TERRENCE W. McMILLIN, *Administrative Patent Judges*

McMILLIN, *Administrative Patent Judge*

DECISION

Institution of *Inter Partes* Review  
35 U.S.C. § 314(a) and 37 C.F.R. § 42.108

## I. INTRODUCTION

Apple, Inc., Microsoft Corporation, Microsoft Mobile OY, and Microsoft Mobile Inc. (f/k/a Nokia, Inc.) (collectively, “Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–4, 6, 8–11, 15, and 16 of U.S. Patent No. 8,218,481 B2 (Ex. 1001, “the ’481 patent”). Paper 4 (“Pet.”). Evolved Wireless, LLC, the assignee of the ’481 patent, filed a Preliminary Response to the Petition. Paper 9 (“Prelim. Resp.”).

Pursuant to 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition and any Preliminary Response shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Taking into account the information presented, we conclude the record establishes there is a reasonable likelihood that Petitioner will prevail with respect to at least one of the challenged claims of the ’481 patent. Accordingly, we institute trial as set forth below.

### A. *Related Matters*

The ’481 patent has been asserted in several actions, captioned *Evolved Wireless, LLC v. Apple, Inc.*, C.A. 15-cv-542 (D. Del.); *Evolved Wireless, LLC v. HTC Corp.*, C.A. 15-cv-543 (D. Del.); *Evolved Wireless, LLC v. Lenovo Group Ltd.*, C.A. 15-cv-544 (D. Del.); *Evolved Wireless, LLC v. Samsung Electronics Co. Ltd.*, C.A. 15-cv-545 (D. Del.); *Evolved Wireless, LLC v. ZTE Corp.*, C.A. 15-cv-546 (D. Del.); and *Evolved Wireless, LLC v. Microsoft Corp.*, C.A. 15-cv-547 (D. Del.). Pet. 2.

The ’481 patent is the subject of IPR2016–00758, in which a trial has been instituted on claims 1–3, 6, 8–10, and 13. The ’481 patent is also the subject of IPR2016-01342, IPR2016-01349, IPR2017-00068, and IPR2017-

00106, in which decisions as to whether or not to institute have not yet been rendered.

*B. The '481 Patent*

The '481 patent is titled “Method of Transmitting Data in a Mobile Communication System.” Ex. 1001, [54]. It issued on July 10, 2012, from U.S. Patent Application No. 12/303,947, filed on June 8, 2007, which claims priority to KR 10-2006-0052167, filed June 9, 2006, and KR 10-2006-0057488, filed June 26, 2006. *Id.* at [21], [22], [30], [45]. According to the Specification, “[t]he present invention relates to a mobile communication system, and more particularly, to a method of expanding a code sequence, a structure of a random access channel and a method of transmitting data in a mobile communication system.” *Id.* at 1:16–20. The disclosed methods and systems are alleged to increase the amount of data which can be transmitted to make the data transmission more robust and less susceptible to noise or channel change. *Id.* at 2:45–49. And the invention is alleged to be applicable to wireless Internet systems. *Id.* at 18:28–30.

The '481 patent contains sixteen claims, all of which are directed to the structure of a preamble sequence of a data transmission. *Id.* at 18:33–20:16. Independent claim 1 is directed to “[a] method of transmitting a preamble sequence” and independent claim 8 is directed to “[a] transmitter for transmitting a preamble sequence.” *Id.* at 18:33–42, 18:60–19:3. The independent claims require “repeating a specific sequence, having a length (L), N times to generate a consecutive sequence having a length (N\*L)” and “concatenating a single cyclic prefix (CP) to a front end of said consecutive sequence.” *Id.* Figure 11, which illustrates the claimed preamble structure with a single prefix and a repeated sequence, is reproduced below.

FIG. 11

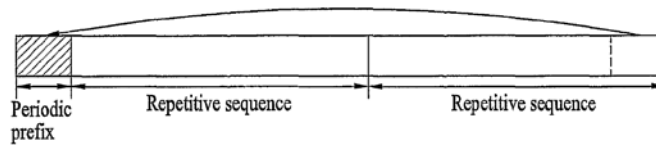


Figure 11 depicts a single prefix at the front end of consecutive, repeated sequences. *Id.* at 18:46–60.

### C. The '481 Patent Claims

Of the challenged claims, claims 1 and 8 are independent. Claim 1 recites:

1. A method of transmitting a preamble sequence in a mobile communication system, the method comprising:

repeating a specific sequence, having a length (L), N times to generate a consecutive sequence having a length (N\*L);

generating said preamble sequence by concatenating a single cyclic prefix (CP) to a front end of said consecutive sequence; and

transmitting, on a random access channel, said preamble sequence to a receiving side.

Ex. 1001, 18:33–42. Claim 8 recites:

8. A transmitter for transmitting a preamble sequence in a mobile communication system, the transmitter comprising:

a preamble generation unit configured to generate said preamble sequence by repeating a specific sequence, having a length (L), N times to generate a consecutive sequence having a length (N\*L) and concatenating a single cyclic prefix (CP) to a front end of said consecutive sequence;

a transmission unit configured to transmit, on a random access channel, said preamble sequence to a receiving side.

Ex. 1001, 18:60–19:3.

Dependent claims 15 and 16 depend from claims 1 and 8 respectively, and recite “said consecutive sequence comprises at least a first sequence, a second sequence, and an N-th sequence; and said CP is identical to a rear part of said N-th sequence.” *Id.* at 20:9–16.

#### *D. Asserted Grounds of Unpatentability*

Petitioner challenges claims of the '481 patent on the following grounds of unpatentability. Petitioner presents two sets of alternative grounds of unpatentability. The first set, styled as Grounds 1A, 1B, 1C, and 1D, applies if the preambles of independent claims 1 and 8 are construed to be non-limiting; and the second set, Grounds 2A, 2B, 2C, and 2D, applies if the preambles are construed to be limiting. Pet. 16–19.

Ground	Reference(s)	Basis <sup>1</sup>	Challenged Claims
1A	IEEE802.16-2004 <sup>2</sup>	§ 102(a)	1 and 15
1B	IEEE802.16-2004 and Chou <sup>3</sup>	§ 103(a)	8 and 16

<sup>1</sup> The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (September 16, 2011), took effect on March 16, 2013. Because the application from which the '481 patent issued was filed before that date, our citations to Title 35 are to its pre-AIA version.

<sup>2</sup> IEEE Std 802.16-2004, “*IEEE Standard for Local and metropolitan area networks Part 16: Air Interface for Fixed Broadband Wireless Access Systems*” (Oct. 1, 2004) (Ex. 1005).

<sup>3</sup> US Patent No. 8,977,258 B2 (Ex. 1010).

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