UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

ZTE (USA) INC.,
Petitioner,

v.

EVOLVED WIRELESS LLC,
Patent Owner.

_____

Case IPR2016-01349
Patent 8,218,481 B2

_____

Before WILLIAM V. SAINDON, 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

ZTE (USA) Inc. ("Petitioner") filed a Petition requesting an *inter partes* review of claims 1–4, 6, 8–11, 13, 15, and 16 of U.S. Patent No. 8,218,481 B2 (Ex. 1001, "the '481 patent"). Paper 2 ("Pet."). Evolved Wireless, LLC, the assignee of the '481 patent, filed a Preliminary Response to the Petition. Paper 7 ("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. 1.

The '481 patent is the subject of Case IPR2016-00758, in which trial has been instituted on claims 1–3, 6, 8–10, and 13, and of Case IPR2016-00981, in which trial has been instituted on claims 1, 8, 15, and 16. The '481 patent is also the subject of Cases IPR2016-01342, IPR2017-00068,

and IPR2017-00106, in which decisions as to whether or not to institute trial 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 that 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

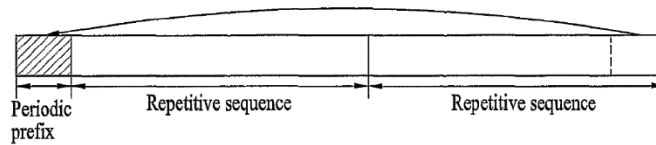Periodic prefix | Repetitive sequence | Repetitive sequence

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 2 and 9 recite generating "said specific sequence from a Constant Amplitude Zero Auto Correlation (CAZAC) sequence." *Id.* at 18:43–45, 19:4–7. Dependent claims 3 and 10 recite applying "a cyclic shift sequence to said specific sequence generated from said CAZAC sequence." *Id.* at 18:46–48, 19:8–11. Dependent claims 4 and 11 recite "a value of said applied cyclic shift is determined as an integer multiple of a predetermined circular shift unit." *Id.* at 18:49–51, 19:13–15. Dependent claims 6 and 13 recite "multiplying said specific sequence by an exponential sequence." *Id.* at 18:54–56, 20:1–4. Dependent claims 15 and 16 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. 21–24.

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

fastcase
Smarter legal research.