

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HUAWEI DEVICE USA, INC. and
ZTE (USA), INC.,
Petitioner,

v.

SPH AMERICA, LLC and ELECTRONICS AND
TELECOMMUNICATIONS RESEARCH INSTITUTE,
Patent Owner.

Case IPR2015-00221
Patent 8,565,346 B2

Before SALLY C. MEDLEY, BARBARA A. BENOIT, and
BETH Z. SHAW, *Administrative Patent Judges*.

BENOIT, *Administrative Patent Judge*.

DECISION

Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Huawei Device USA, Inc. and ZTE (USA), Inc. (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1, 23–25, 27–32, 34, 37, 38, and 40–42 (the “challenged claims”) of U.S. Patent No. 8,565,346 B2 (Ex. 1016, “the ’346 patent”). SPH America, LLC and Electronics and Telecommunications Research Institute (collectively, “Patent Owner”) filed a Preliminary Response. Paper 9 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons that follow, we deny institution of an *inter partes* review.

A. Related Matters

Petitioner represents that the ’346 patent was asserted in various proceedings in the United States District Court for the Southern District of California. Pet. 1; *see* Paper 7, 2 (Patent Owner’s Notice of Related Matters). Petitioner has requested *inter partes* review of related patent¹ U.S. Patent No. 8,532,231 B2 (IPR2015-00203).

B. The ’346 Patent

The ’346 patent relates to techniques for increasing the rate of transmitting data in a wireless network, while maintaining compatibility

¹ U.S. Patent No. 8,532,231 B2 and the challenged patent both claim priority to the same family of patent applications, including Application No. 12/805,117, which issued as U.S. Patent No. 8,130,869.

with conventional wireless transmission protocols—specifically, while maintaining compatibility with the conventional IEEE 802.11a standard. Ex. 1016, 1:24–29, 42–45, 3:19–22. Rather than using a single antenna for wirelessly transmitting data as used in the conventional IEEE 802.11a standard, the ’346 patent describes using multiple antennas for transmission to achieve a higher data rate. *Id.* at 1:35–41, 45–47. As the ’346 patent indicates, previous systems using multiple antennas to provide a high speed data rate had not been compatible with conventional transmitting and receiving systems using the IEEE 802.11a standard. *Id.* at 3:8–10.

To maintain compatibility with the IEEE 802.11a standard in a multiple antenna system, the ’346 patent describes using the signal symbol portion of a conventional IEEE 802.11a frame in two particular ways. *Id.* at 3:54–63 (“Technical Solution” in the “Summary of the Invention” section). First, the signal symbol portion includes a “transmit mode identifier” that indicates whether the transmit mode of the frame is a conventional “single antenna transmit mode” or a multiple antenna mode—more specifically, “a multiple-input/multiple-output (MIMO) mode.” *Id.* at 3:54–57. Second, the reserved bit of the signal symbol portion of a conventional IEEE 802.11a frame is used to indicate which of two MIMO methods—a spatial division multiplexing (SDM) method or a space-time block code (STBC) encoding method—is used for the transmission of the frame. *Id.* at 3:58–63; *see id.* at 10:43–46 (describing SDM and STBC as methods in a MIMO system).

C. Challenged Claims

Of the challenged claims, claims 1, 23, 30, and 37 are independent. Claim 23, reproduced below, is illustrative of the claimed subject matter:

23. A transmitting apparatus in a wireless communication system, the apparatus comprising:
- a frame generator configured to generate a frame comprising:
 - a short preamble comprising synchronization information,
 - a first and a second long preambles subsequent to the short preamble,
 - a signal symbol positioned between the first long preamble and the second long preamble, wherein the signal symbol comprises information about space time block coding, and
 - a data field positioned subsequent to the second long preamble;
 - and
 - a transmitter configured to transmit the frame to a receiver.

Ex. 1016, 16:60–17:7.

D. Asserted Grounds of Unpatentability

Petitioner contends the challenged claims are unpatentable under 35 U.S.C. § 103(a) as obvious over the following references (Pet. 3–4):

References	Claims Challenged
Narasimhan ² and Alamouti ³	23 and 30
Narasimhan, Alamouti, and IEEE 802.11a Standard ⁴	24, 25, 31, 32, 37, and 38
Narasimhan, Alamouti, IEEE 802.11a Standard, and Aoki ⁵	27–29, 34, and 40–42

² U.S. Patent No. 7,577,085 B1, issued Aug. 18, 2009, filed July 5, 2002 (Ex. 1009) (“Narasimhan”). The parties refer to this reference as “N’085.”

³ S. M. Alamouti, “A Simple Transmit Diversity Technique for Wireless Communications,” 16 IEEE J. ON SELECT AREAS IN COMMUNICATIONS 1451 (1998) (Ex. 1003) (“Alamouti”).

⁴ IEEE Standard 802.11a (1999) (Ex. 1010).

References	Claims Challenged
Narasimhan, Alamouti, IEEE 802.11a Standard, and Gummadi ⁶	1, 27, 34, and 40
Liu ⁷ and Jeon ⁸	23 and 30
Liu, Jeon, and IEEE 802.11a Standard	24, 25, 31, 32, 37, and 38
Liu, Jeon, IEEE 802.11a Standard, and Aoki	27–29, 34, and 40–42

II. ANALYSIS

We turn to Petitioner’s asserted grounds of unpatentability to determine whether Petitioner has met the threshold of 35 U.S.C. § 314(a). A ground of unpatentability can be instituted only if the petition supporting the ground demonstrates there is a reasonable likelihood that at least one challenged claim is unpatentable. 37 C.F.R. § 42.108(c).

A. *Real Party-In-Interest*

Section 312(a) of Title 35 of the United States Code provides that a petition for *inter partes* review under 35 U.S.C. § 311 may be considered

⁵ Aoki, et al., “New preamble structure for AGC in a MIMO-OFDM system,” IEEE 802.11-04/046r1, Jan. 2004 (Ex. 1008) (“Aoki”). Petitioner asserts this reference is “a presentation given by employees of [a particular corporation] . . . to the IEEE in January 2004.” Pet. 8.

⁶ U.S. Patent Application Publication No. 2005/0054313 A1, published Mar. 10, 2005, filed Mar. 29, 2004 (Ex. 1011) (“Gummadi”).

⁷ Liu & Li, “A MIMO System with Backwards Compatibility for OFDM based WLANs,” 4th IEEE Workshop on Signal Processing Advances in Wireless Communications, 2003 (Ex. 1012) (“Liu”).

⁸ Jeon, et al., “Optimal Combining of STBC and Spatial Multiplexing for MIMO-OFDM,” IEEE 802.11-03/0513r0, July 2003 (Ex. 1006) (“Jeon”). Petitioner asserts these slides were “submitted to IEEE on July 2003.” Pet. 7.

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