

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HUAWEI DEVICE USA, INC.

Petitioner

v.

SPH AMERICA, LLC

Patent Owner

Patent No. 8,532,231

Filing Date: Nov. 9, 2011

Issue Date: Sept. 10, 2013

Title: Apparatus for Transmitting and Receiving Data to Provide High-Speed Data
Communication and Method Thereof

Inter Partes Review No. IPR2015-00203

**PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 *ET. SEQ.***

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LIST OF EXHIBITS

Exhibit No.	Exhibit
1001	U.S. Patent No. 8,532,231 (“the ’231 patent”)
1002	Declaration of Dr. Timothy Williams (“Williams Declaration”)
1003	S. M. Alamouti, " <i>A Simple Transmit Diversity Technique For Wireless Communications</i> ," IEEE J. on Select Areas in Communications, Vol. 16, No. 8, October 1998. (“Alamouti”)
1004	Rosdahl, “ <i>High Throughput Study Group WG Report and Meeting Slides</i> ”, IEEE 802.11-02/532r0 (Sep. 2002) (“Rosdahl”)
1005	Hillman, “ <i>Minutes of High Throughput Study Group Meetings</i> ”, IEEE 802.11-02/607r0 (Sept. 2002) (“Hillman”)
1006	Jeon, <i>et al.</i> , " <i>Optimal Combining of STBC and Spatial Multiplexing for MIMO-OFDM</i> ," IEEE 802.11-03/0513r0 (Jul. 2003) (“Jeon”)
1007	Boer, <i>et al.</i> , “ <i>Backwards compatibility – How to make a MIMO-OFDM system backwards compatible and coexistence with 11a/g at the link level</i> ”, IEEE 802.11-03/714r0 (Sept. 2003) (“Boer”)
1008	Aoki, <i>et al.</i> , " <i>New preamble structure for AGC in a MIMO-OFDM system</i> ," IEEE 802.11-04/046r1 (Jan. 2004) (“Aoki”)
1009	U.S. Patent 7,577,085 to Narasimhan (“N’085”)
1010	IEEE 802.11a Standard (1999)
1011	U.S. Patent Publication No. 2005/0054313 (“Gummadi”)
1012	Liu & Li, “ <i>A MIMO System with Backwards Compatibility for OFDM based WLANs</i> ”, 4 th IEEE Workshop on Signal Processing Advances in Wireless Communications, 2003. (“Liu”)
1013	First Amended Complaint for Patent Infringement. <i>SPH America, LLC v. Huawei Technologies, Co. Ltd., et al.</i> , Case 13-CV-2323-

	CAB-NLS (U.S. Dist. Ct. S. Cal.) filed January 3, 2014 (“Huawei Complaint”)
1014	First Amended Complaint for Patent Infringement. <i>SPH America, LLC v. ZTE (USA), Inc.</i> , Case 13-CV-2326-CAB-NLS (U.S. Dist. Ct. S. Cal.) filed January 9, 2014 (“ZTE Complaint”)
1015	U.S. Provisional No. 60/500,438
1016	U.S. Patent No. 8,565,346 (“the ’346 patent”)
1017	Ware, <i>et al.</i> , “ <i>HTSG Requirements – Scope and Purpose</i> ”, IEEE 802.11-02/5670r0, pp. 1-8 (Sept. 2002)
1018	Tarokh, <i>et al.</i> , “ <i>Space–time codes for high data rate wireless communication: Performance criterion and code construction</i> ”, IEEE Transactions on Information Theory, v.44, issue 2, pp. 744-765 (Mar. 1998)
1019	Foschini “ <i>Layered Space-Time Architecture for Wireless Communication in a Fading Environment When Using Multi-Element Antennas</i> ”, <i>Bell Laboratories Technical Journal</i> : 41–59 (October 1996).
1020	Gorokhov, <i>et al.</i> , “ <i>MIMO-OFDM for high throughput WLAN: experiemental results</i> ”, IEEE 802.11-02-708r1, pp. 1-23 (Nov. 2002)
1021	Mahadevappa, <i>et al.</i> “ <i>Receiver Sensitivity Tables for MIMO-OFDM 802.11n</i> ,” IEEE 802.11-03/845r0, pp. 1-39 (Nov. 2003)
1022	Yu, <i>et al.</i> , “ <i>ETRI Proposal to IEEE 802.11 TGn</i> ”, IEEE 802.11-04/0922r0, pp. 1-54 (Aug. 2004)
1023	Yu, <i>et al.</i> , “ <i>ETRI proposal specification for IEEE 802.11 TGn</i> ”, IEEE 802.11-04/0923r0, pp. 1-27 (Aug. 2004)

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