

Attorney Docket No. 01048-21IP891
IPR of U.S. Patent No. 5,659,891

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Hays *et al.*
U.S. Patent No.: 5,659,891 Attorney Docket No.: 01048-21IP891
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Appl. Serial No.: 08/480,718
Filing Date: Jun. 7, 1995
Title: MULTICARRIER TECHNIQUES IN BANDLIMITED
CHANNELS

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**PETITION FOR *INTER PARTES* REVIEW OF
UNITED STATES PATENT NO. 5,659,891
PURSUANT TO 35 U.S.C. §§ 311–319, 37 C.F.R. § 42**

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EXHIBITS

- TMO1001 U.S. Patent No. 5,659,891 to Hays *et al.* (the “’891 patent”)
- TMO1002 Unopposed Application for Extension of Time to Answer Complaint from *Mobile Telecommunications Technologies, LLC v. T-Mobile USA, Inc. and T-Mobile US, Inc.*, Case No. 2:13-CV-886-JRG-RSP (E.D. Tex.)
- TMO1003 Claim Construction Order from *Mobile Telecommunications Technologies, LLC v. Clearwire Corp.*, Civil Action No. 2:12-cv-308-JRG-RSP (E.D. Tex.)
- TMO1004 Claim Construction Order from *Mobile Telecommunications Technologies, LLC v. Apple, Inc.*, Civil Action No. 2:13-cv-258-JRG-RSP (E.D. Tex.)
- TMO1005 U.S. Patent No. 5,590,403 to Cameron *et al.* (the “’403 Patent”)
- TMO1006 Excerpts from the Prosecution History of the ’891 Patent (the “Prosecution History”)
- TMO1007 Dr. Rade Petrovic *et al.*, *Permutation Modulation for Advanced Radio Paging*, IEEE Proceedings of Southeastcon ‘93 (7 Apr. 1993) (“Petrovic”)
- TMO1008 Declaration of Dr. Apostolos Kakaes from *Apple Inc. v. Mobile Telecommunications Technologies, LLC* (IPR2014-01035) (“Kakaes ’891 Declaration”)
- TMO1009 Declaration of Dr. Behnaam Aazhang (“Aazhang Declaration”)
- TMO1010 WIPO Publication No. 1989/008355 to Raith *et al.* (“Raith”)
- TMO1011 C. Alakija and S. P. Stapleton, *A Mobile Base Station Phased Array Antenna*, 1992 IEEE International Conference on Selected Topics in Wireless Communications at 118 (Jun. 1992) (“Alakija”)

- TMO1012 Leonard J. Cimini, *Analysis and Simulation of a Digital Mobile Channel Using Orthogonal Frequency Division Multiplexing*, 33 IEEE Transactions on Communications 665 (Jul. 1985) (“Cimini”)
- TMO1013 MTel’s ’891 Patent Infringement Contentions from *Mobile Telecommunications Technologies, LLC v. T-Mobile USA, Inc. and T-Mobile US, Inc.*, Case No. 2:13-CV-886-JRG-RSP (E.D. Tex.)

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