

LETTER OF ASSURANCE FOR ESSENTIAL PATENTS

Please return via mail,
e-mail (.pdf), or FAX to:

Secretary, IEEE-SA Standards Board Patent Committee
Institute of Electrical and Electronics Engineers, Inc.
445 Hoes Lane
Piscataway, NJ 08854 USA
FAX (+1 732-875-0524) e-mail: patcom@ieee.org

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A. PATENT HOLDER/ORGANIZATION:

Legal Name of Organization: AT&T Corp.

B. PATENT HOLDER'S CONTACT FOR LICENSE APPLICATION:

Name & Department: Director, AT&T Intellectual Property
Address: 180 Park Avenue, Florham Park, NJ 07932
Telephone: _____ Fax: _____ E-mail: licensing@att.com
URL: www.att.com/attlabs/products

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C. IEEE STANDARD or PROPOSED IEEE STANDARD:

Number: 802.11N, 802.16D, 802.16E, 802.20, 802.21, 802.22
Title: _____

D. PATENT HOLDER'S POSITION REGARDING LICENSING ESSENTIAL PATENT RIGHTS:

In accordance with Clause 6 of the *IEEE-SA Standards Board Bylaws*, the Patent Holder hereby declares that its licensing position with respect to any patent(s) and/or patent application(s) that it may hold or control, the use of which would be essential to create a compliant implementation of either mandatory or optional portions of the [Proposed] IEEE Standard identified above, is as follows (*check one box only*):

1. The Patent Holder will grant a license without compensation to an unrestricted number of applicants on a worldwide, non-discriminatory basis with reasonable terms and conditions to comply with the [Proposed] IEEE Standard.
2. The Patent Holder will grant a license under reasonable rates to an unrestricted number of applicants on a worldwide, non-discriminatory basis with reasonable terms and conditions to comply with the [Proposed] IEEE Standard.
3. The Patent Holder is unwilling to grant licenses according to the provisions of either 1 or 2 above.
4. The Patent Holder states that, without conditions, it will not enforce any of its present or future patent(s) against any person or entity creating a compliant implementation of the [Proposed] IEEE Standard.
5. I am not aware of any patent(s) and/or patent application(s) that my company may hold or control that would be essential to create a compliant implementation of the [Proposed] IEEE Standard.

[Note: Completion of the following section is optional. Nothing in this Letter of Assurance shall be interpreted as giving rise to a duty to conduct a patent search.]

If the Patent Holder owns or controls patent(s) and/or application(s) that it believes may be essential to create a compliant implementation of the [Proposed] IEEE Standard, please specify the following:

Patent/Application Number: See attached
Title: _____

Patent/Application Number: _____
Title: _____

Patent/Application Number: _____
Title: _____

Use additional pages, as necessary.

E. SIGNATURE:

Print name of authorized person: Richard Palazzo

Title of authorized person: Intellectual Property Manager

Signature of authorized person: Richard Palazzo Date: 11/3/2005

Note: This assurance applies from the date of the standard's approval to the date of the standard's withdrawal and is irrevocable during that period.

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**Patents owned or controlled by AT&T which may be essential to
create a compliant implementation of the [Proposed] IEEE Standard**

Patent Numbers / Titles:

6,018,528, "System and Method for Optimizing Spectral Efficiency Using Time-Frequency-Code Slicing"
6,064,662, "System And Method For Optimizing Spectral Efficiency Using Time-Frequency-Code Slicing"
6,088,408, "Decoding For Generalized Orthogonal Designs For Space-Time Codes For Wireless Communication"
6,115,427, "Method And Apparatus For Data Transmission Using Multiple Transmit Antennas"
6,127,971, "Combined Array Processing And Space-Time Coding"
6,178,196, "Combined Interference Cancellation And Maximum Likelihood Decoding Of Space-Time Block Codes"
6,430,231, "Generalized Orthogonal Designs For Space-Time Codes For Wireless Communication"
6,473,393, "Channel Estimation For OFDM Systems With Transmitter Diversity"
6,549,585, "Combined Interference Cancellation And Maximum Likelihood Decoding Of Space-Time Block Codes"
6,584,593, "Concatenation Of Turbo-TCM With Space-Block Coding"
6,587,515, "Differential Transmitter Diversity Technique For Wireless Communications"
6,618,454, "Diversity Coded OFDM For High Data-Rate Communication"
6,661,856, "Decoding For Generalized Orthogonal Designs For Space-Time Codes For Wireless Communication"
6,693,982, "Minimum Mean Squared Error Approach To Interference Cancellation And Maximum Likelihood
Decoding Of Space-Time Block Codes"
6,760,593, "Cellular Communication System With Virtual Antennas"
6,804,312, "Methods And Systems For Spatial Processing"
6,842,491, "Multi-Channel Parallel/Serial Concatenated Convolutional Codes And Trellis Coded Modulation
Encoder/Decoder"
6,870,882, "Finite-Length Equalization Over Multi-Input Multi-Output Channels"
6,889,355, "Method And Apparatus For Data Transmission Using Multiple Transmit Antennas"
6,891,903, "Multiple Transmit Antenna Differential Detection From Generalized Orthogonal Designs"

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