## IEEE P802.15 Wireless Personal Area Networks

Project IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) Title The Ultra-wideband Indoor Multipath Model Date June 24, 2002 Submitted Dr. Saeed S. Ghassemzadeh Voice: 973-236-6793 Source AT&T Labs-Research Fax. 973-360-5877 Rm. B237, 180 Park Ave. E-mail: saeedg@research.att.com Florham park, NJ 07932 Prof. Vahid Tarokh Voice: 617-384-5026 Division of Engineering & Applied Sciences 617-496-6404 Fax: Harvard University E-mail: vahid@deas.harvard.edu 33 Oxford Street Room MD 131 Cambridge, MA 02138 Re: [IEEE P802.15-02/208r1-SG3a] Abstract This contribution describes a simple model for simulation of the UWB indoor channel. It consists of detailed characterization of multipath parameters such as maximum excess delay, mean and RMS delay spread, average multipath intensity profile model, relative multipath powers and their amplitude and phase distribution. The work is based on over 300,000 frequency response measurements taken in 23 homes. Purpose For IEEE 802.15.SG3a to adopt the multipath profile model and the channel parameters and use it for performance evaluation of various UWB PHY proposals. Notice This document has been prepared to assist the IEEE P802.15. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein. Release The contributors acknowledge and accept that this contribution becomes the property of IEEE and may be made publicly available by P802.15.