

Project	IEEE 802.16 Broadband Wireless Access Working Group < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >
Title	Correction to Path Loss Model in C80216j-06/13r1
Date Submitted	2006-11-07
Source(s)	Mark Naden, Gamini Senarath, G.Q. Wang, Wen Tong, Peiying Zhu, Hang Zhang, David Steer, Derek Yu Voice: +1 613 7631315 <a href="mailto:WenTong@nortel.com">[mailto:WenTong@nortel.com]</a> Nortel 3500 Carling Avenue Ottawa, Ontario K2H 8E9
Re:	Call for Technical Proposals regarding IEEE Project P802.16j (IEEE 802.16j-06/027)
Abstract	Correction to the path loss model of 802.16j-06/.013r1
Purpose	Correct a typographical error P802.16j-06/13r1.
Notice	This document has been prepared to assist IEEE 802.16. 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 contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE's name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE's sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.
Patent Policy and Procedures	The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures < <a href="http://ieee802.org/16/ipr/patents/policy.html">http://ieee802.org/16/ipr/patents/policy.html</a> >, including the statement "IEEE standards may include the known use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or applicant with respect to patents essential for compliance with both mandatory and optional portions of the standard." Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair < <a href="mailto:chair@wirelessman.org">mailto:chair@wirelessman.org</a> > as early as possible, in written or electronic form, if patented technology (or technology under patent application) might be incorporated into a draft standard being developed within the IEEE 802.16 Working Group. The Chair will disclose this notification via the IEEE 802.16 web site < <a href="http://ieee802.org/16/ipr/patents/notices">http://ieee802.org/16/ipr/patents/notices</a> >.

## Correction to Path Loss Model

Mark Naden, Gamini Senarath, G.Q. Wang, Wen Tong, Peiyong Zhu, Hang Zhang, David Steer,  
Derek Yu  
Nortel Networks

### 1 Nortel Introduction

There is a problem with the model of Section 2.1.2.1 and Section 2.1.2.2. As written there is a large discontinuity of path loss which occurs at the breakpoint at  $d=d_0'$ . We believe this is an oversight for typing  $d_0'$  instead of  $d_0$  in the denominator of the equation. We therefore propose the change as specified in Section 2.

### 2 Proposed Text Change

Equation from Section 2.1.2.1 and Section 2.1.2.2 of C80216j-06/13r1 is currently:

$$PL(dB) = \begin{cases} 20 \log\left(\frac{4\pi d}{\lambda}\right) & \text{for } d \leq d_0' \\ A + 10\gamma \log\left(\frac{d}{d_0'}\right) + \Delta PL_f + \Delta PL_m & \text{for } d > d_0' \end{cases}$$

That equation should be corrected to:

$$PL(dB) = \begin{cases} 20 \log\left(\frac{4\pi d}{\lambda}\right) & \text{for } d \leq d_0' \\ A + 10\gamma \log\left(\frac{d}{d_0}\right) + \Delta PL_f + \Delta PL_m & \text{for } d > d_0' \end{cases}$$

### 3 Results with the Corrected Equation

The following are the results obtained with original and the corrected one.

