Project	IEEE 802.16 Broadband Wireless Access Working Group < <u>http://ieee802.org/16</u> >				
Title	Power control clarification				
Date Submitted	May 5, 2005				
Source(s)	Atul Salvekar				
	Atul.salvekar@intel.com				
	Roger Eline				
	Roger.eline@intel.com				
	Baraa Al-Dabagh				
	Baraa.al.dabagh@intel.com				
	Ambroise Popper				
	ambroise@sequans.com				
	Cavalli Giulio				
	Giulio.Cavalli@siemens.com				
Re:	IEEE 802.16-2004 and Corrigenda				
Abstract	Application of the power control command and step size				
Purpose	To clarify the time when the UL power change should apply and the step range				
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.			
D 1	The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution,			
Release	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.			
D ()	The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures			
Patent	http://ieee802.org/16/ipr/patents/policy.html , including the statement "IEEE standards may include the known			
Policy and	use of patent(s), including patent applications, provided the IEEE receives assurance from the patent holder or			
Procedures	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 <mailto:chair@wirelessman.org> as early as</mailto:chair@wirelessman.org>			
	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 http://ieee802.org/16/ipr/patents/notices .			

Suggested changes

Section 8.3..10.1 apply the following changes

For an SS not supporting subchannelization, the transmitter shall support a monotonic power level control of 30 dB minimum. For an SS supporting subchannelization, the transmitter shall support a monotonic power level control of 50 dB minimum. The minimum step size shall be no more than 1 dB. The relative accuracy of the power control mechanism is +/-1.5dB for step sizes not exceeding 30dB 15dB, and +/-3dB for step sizes from 15dB to 30dB and 5dB for step size greater than 30dB. For a BS, the transmitter shall support a monotonic power level control of 10 dB minimum.

System	Name	Time Reference	Minimum Value	Default Value	Maximum Value
SS	FPC processing time	Max.time between reception of Fast Power Control management messages and compliance to its instructions by SS			2.5 msec from the start of the frame (n+1) were frame n is the frame containing the FPC. If there is an UL allocation to the SS before the 2.5 msec in frame n+1 then the power change shall be applied before the end of the frame n+1
SS	RNG-RSP processing	Time allowed for an SS following receipt of a			25 msec 2.5 msec from the start of the frame

Apply the following changes to table 342:

		RNG-RSP before it is expected to apply the corrections instructed by the BS		(n+1) were frame n is the frame containing the RNG_RSP. If there is an UL allocation to the SS before the 2.5 msec in frame n+1 then the power change shall be applied before the end of the frame n+1
SS	power control IE	Time allowed for an SS following receipt of a UL- MAP including a power control IE before it is expected to apply the corrections instructed by the BS		25 msee 2.5 msec from the start of the frame (n+1) were frame n is the frame containing the UL map containing the power control IE. If there is an UL allocation to the SS before the 2.5 msec in frame n+1 then the power change shall be applied before the end of the frame n+1