2004-02-27 IEEE C802.16d-04/13

Project	IEEE 802.16 Broadband Wireless Access Working Group http://ieee802.org/16 Updates to Block Turbo Coding for OFDM				
Title					
Date Submitted	2004-02-27				
Source(s)	Brian Banister, Comtech AHA bbaniste@aha.com				
Re:					
Abstract	This submission addresses additional changes required to the Turbo Coding sections of OFDM to accommodate shorter blocks found in subchannel mode.				
Purpose	Submitted for review by 802.16 members.				
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 http://ieee802.org/16/ipr/patents/policy.html , 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 mailto:chair@wirelessman.org 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 http://ieee802.org/16/ipr/patents/notices .				

2004-03-12 IEEE C802.16d-04/13

Modifications to Block Turbo Coding for OFDM

Brian Banister (Comtech AHA)

Introduction

Subchannels in OFDM result in smaller block sizes, and the descriptions for block Turbo Codes (BTC) were modified during Session 29 to accommodate the smaller block sizes. The included text provides updates for the BTC mode.

[Apply the following changes to Table 192 in Section 8.3.3.2.2:]

Coded Bits	Approximate Rate	Constituent Code	Code Parameters			
			Ix	Iy	В	Q
96	1/2	(8,7)(32,26)	4	8	0	6
	3/4	(16,15)(16,15)	6	6	4	5
144	3/5	(16,15)(16,11)	7	0	0	0
111	5/6	(16,15)(16,11)	4	4	0	1
						_
192	3/8	(16,11)(16,11)	2	2	4	5
	2/3	(8,7)(32,26)	2	0	0	2
	5/6	(16,15)(16,15)	2	2	4	5
288	1/2	(16,11)(32,26)	0	14	0	4
	3/4	(16,15)(32,26)	7	0	0	0
384	1/2	(16,11)(32,26)	0	8	0	6
301	3/4	(16,15)(32,26)	4	0	0	6
50.6	1.0	(22.20)(22.20)	0	0	0	,
576	1/2	(32,26)(32,26)	8	8	0	4
	3/4	(16,15)(64,57)	7	0	0	0
768	3/5	(32,26)(32,26)	4	4	16	4
	4/5	(64,57)(16,15)	6	2	44	3
1152	2/3	(64,57)(32,26)	28	0	0	2
-	5/6	(32,31)(64,57)	13	3	7	5