

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	Changes to CXCC to support some coexistence with bursty systems	
Date Submitted	2007-01-07	
Source(s)	Mariana Goldhamer Alvarion Tel Aviv, 21 HaBarzel Street Israel	Voice: +972 3 6456241 Fax: +972 3 645 6204 mailto:marianna.goldhammer@alvarion.com
Re:	[If this is a proposed revision, cite the original document.] [If this is a response to a Call for Contributions, cite the name and date of the Call for Contributions to which this document responds, as well as the relevant item number in the Call for Contributions. Contributions that are not responsive to this section of the template, and contributions which do not address the topic under which they are submitted, may be refused or consigned to the "General Contributions" area.]	
Abstract	[Description of document contents.]	
Purpose	[Description of what the author wants 802.16 to do with the information in the document.]	
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 >.	

Changes to CXCC to support some coexistence with bursty systems

Mariana Goldhamer
Alvarion

1 Introduction

Following the addition of bursty systems to the CX Frame structure, further changes are needed to the CXCC.

2 Changes to CXCC to support some coexistence with bursty systems

There are two basic types of systems: scheduled systems and Bursty systems. We perceive the scheduled systems similar with 802.16 systems and we make no differentiation between 802.16 systems and these systems, as long as they support the functionality in clause 15.

A special class of systems is represented by the Bursty systems, as 802.11-compliant systems. The CX-BRSTY systems are systems using GPS or equivalent synchronization, respecting the functionality of the CXCC and the WirelessMAN-CX Frame structure, frame timing and rules for interference prevention.

Systems not compliant with WirelessMAN-CX basic functionality are called NON-CX. Systems compliant with the WirelessMAN basic functionality are called CX-TN compliant.

It is proposed to change the CXCC allocations, such that will be possible a better detection of the systems sharing the spectrum in a given area.

Function Of Control Channel	Control Channel Function Name & Chapter	CX_MAC_NO containing Control Channel for given Frame Duration			
		5 ms	10 ms	20 ms	Starting Time WRT Absolute Reference (msec)
GPS Timing Recovery Sync. 1 st source (DL)	TBD-GPS-timing recovery sync.	1	1	1	0
GPS Timing Recovery Sync. 1 st source(UL)		41	21	11	200
GPS Timing Recovery Sync. 2 nd source(DL)		81	41	21	400
GPS Timing Recovery (UL)		121	61	31	600

Sync. 2nd source					
GPS Timing Recovery (DL)CX_BRSTY_D1		161	81	41	800
GPS Timing Recovery (UL)CX_BRSTY_U1		201	101	51	1000
GPS Timing Recovery (UL)Spare		241	121	61	1200
CX_CMI_D1		281	141	71	1400
CX_CMI_U1		321	161	81	1600
CX_CMI_D2		361	181	91	1800
No+Io (Noise and NON-WMAN-CX)		401	201	101	2000
CX_CMI_U2		441	221	111	2200
AT2		481	241	121	2400
Spare CX_BRSTY_D2	TBD-use	521	261	131	2600
CX_CMI_D3		561	281	141	2800
No+Io (Noise and NON-CX)		601	301	151	3000
Spare CX_BRSTY_U2		641	321	161	3200
CX_CMI_U3		681	341	171	3400
AT3		721	361	181	3600
Spare	TBD-use	761	381	191	3800
No+Io (Noise and NON-CX)		801	401	201	4000
CX_CMI_D4	Reserved	841	421	211	4200
Spare		881	441	221	4400
CX_CMI_U4	Reserved	921	461	231	4600
AT4		961	481	241	4800
No+Io (Noise and NON-CX)		1001	501	251	5000
Spare	TBD	1041	521	261	5200

CX_CMI_D5	Reserved	1081	541	271	5400
Spare		1121	561	281	5600
CX_CMI_U5	Reserved	1161	581	291	5800
No+Io (Noise and NON-CX)		1201	601	301	6000
Spare		1241	621	311	6200
CX_CMI_D6	Reserved	1281	641	321	6400
Spare	TBD use	1321	661	331	6600
CX_CMI_U6	Reserved	1361	681	341	6800
No+Io (Noise and NON-CX)		1401	701	351	7000
Freq_Key 1		1441	721	361	7200
Freq_Key 2		1481	741	371	7400
Freq_Key 3		1521	761	381	7600
Freq_Key 4		1561	781	391	7800
No+Io (Noise and NON-CX)		1601	801	401	8000
Spare		1641	821	411	8200
Spare		1681	841	421	8400
Spare		1721	861	431	8600
Spare		1761	881	441	8800
No+Io (Noise and NON-CX)		1801	901	451	9000
Spare		1841	921	461	9200
Spare		1881	941	471	9400
Spare		1921	961	481	9600
Spare		1961	981	491	9800

- If the power during the No+Io slots is higher than the noise level by **3dB**, this is an indication that NON-CX systems are operating in the area. The Master Frame 3 is made available for these systems.