Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Resolution of Comments 196 and 197 (Frame Duration Codes)**
Date Submitted	**2002-10-11**
Source(s)	David Trinkwon Medley Systems Ltd Voice: 650 245 5650 Fax: 650 649 2728 [mailto:trinkwon@compuserve.com]
Re:	Comments 196 and 197 in the Sponsor Ballot Comment database ***IEEE 802.16-02/42r3***
Abstract	This document is a proposal for improving the resolution of disagreements over the range and values of Frame Duration Codes for the OFDM and OFDMA PHYs
Purpose	This information is submitted for consideration by the Ballot Resolution Committee for the Recirculation of comments and resolutions from the Sponsor Ballot.
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 (Version 1.0) <http://ieee802.org/16/ipr/patents/policy.html>, including the statement "IEEE standards may include the known use of patent(s), including patent applications, if there is technical justification in the opinion of the standards-developing committee and provided the IEEE receives assurance from the patent holder that it will license applicants under reasonable terms and conditions for the purpose of implementing 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:r.b.marks@ieee.org > as early as possible, in written or electronic form, of any patents (granted or under application) that may cover technology that is under consideration by or has been approved by IEEE 802.16. The Chair will disclose this notification via the IEEE 802.16 web site <http://ieee802.org/16/ipr/patents/notices>.

Proposed Revision of Resolution for Comments 196 and 197 (Frame Duration Codes)

David Trinkwon

1. Background

There have been numerous proposals to rationalize the number and values of Frame Durations / Codes within the OFDM and OFDMA PHY specifications, but none of them could gain enough support to be adopted. Based on the most recent discussions at Meeting #21 (Cheju) – including a straw poll on specific values – the following proposal has been crafted in a (final) attempt to satisfy everyone involved.

The Mtg # 21 Straw Poll and Discussion gave the following indications :

1. Nobody needed 2.5, 4.5, 6.0 or 9.0 ms values
2. "Lots" of members wanted 5ms and 10ms
3. BeamReach wanted 3.5ms, but would actually prefer 3.33ms instead
4. WiLAN wants OFDM values up to 20ms, in 2ms steps
5. Runcom and Nokia want to limit / minimize the number of different durations / codes

Most of the discussion at the Meeting was focused around the OFDM mode. Additional discussions were held following the meeting to simplify the OFDMA mode.

The following proposals are based on these discussions.

2. Proposed Resolutions (changes indicated in Red based on Draft 5)

Page 161 Line 42 – 53 becomes

Table 116am—OFDM Frame Duration~~s~~ Codes (T_F ms)

Code(N)	PMP		Mesh	
	Nominal	Actual	Nominal	Actual
0-4	3.0 – 5.0 ms by 0.5 ms	round((N/2+3)/T_s)*T_s	4 – 16 ms by 1 ms	round((N+4)/T_s)*T_s
5-6	7 – 8 ms by 1 ms	round((N+2)/T_s)*T_s		
7-12	10 – 20 ms by 2 ms	round(2*(N-2)/T_s)*T_s		
13-255		Reserved		Reserved

Page 192 Line 36 – 50 becomes

Table 116bi—OFDMA Frame Duration~~s~~ Codes (T_F ms)

Code (N)	PMP		Mesh	
	Nominal (D)	Actual	Nominal	Actual
0	2 ms	FDD: round(D/3T_s)*3T_s TDD: max(round((D/T_s),5)*T_s	4 – 16 ms by 1 ms	round((N+4)/T_s)*T_s
1	3.3 ms D=10/3			
2	5 ms			
3	7 ms			
4	10 ms			
5-12	n/a	Reserved		
13-255	n/a	Reserved	n/a	Reserved