Project	IEEE 802.16 Broadband Wireless Access Working Group <**http://ieee802.org/16**>
Title	Mobile Multihop Relay Technical Requirement
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Re:	Response to technical requirements and related issues in the Call for Comments and Contributions: IEEE 802.16j-06/006 issued on June 19, 2006.
Abstract	This document defines a minimal set of technical requirements for the IEEE 802.16j task group
Purpose	For technical requirements discussion at IEEE802.16j at IEEE802.16 #44 Task Group Meeting
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Mobile Multihop Relay Technical Requirements

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1   Introduction

This document defines a minimal set of technical requirements for the IEEE 802.16j task group. These requirements provide a basis for the enhancement of IEEE Std 802.16e OFDMA and are consistent with the Task Group PAR[1].

We believe that these requirements are sufficient for the 802.16j standard, provide the functionality intended in the PAR and Five Criteria documents and enable interoperability among equipment vendors.

2   Technical Requirements

2.1 Backward Compatibility Requirements

	Backward Compatibility Requirement	Comment
B1	No Change to Mobile Station (MS)	
B2	RS Supports IEEE Std 802.16e OFDMA PHY/MAC on access links	
B3	MMR-BS supports IEEE Std 802.16e OFDMA PHY/MAC on access links	

2.2 Mobile Multihop Relay Technical Requirements

	Mobile Multihop Relay Technical Requirement	Comment
M1	RS transmits preambles	
M2	RS relays/generates MAC Management Messages (MMM) for MMR–BS, for MS or for other RS	
M3	RS relays MAC SDU for MMR–BS or for MS or for other RSs	
M4	MMR-BS supports network entry procedure for RS ▪ RS negotiates capabilities with MMR-BS	
M5	RS supports network entry procedure for RS and MS	
M6	RS relays bandwidth request/grant messages	
M7	MMR-BS creates service flow that goes through RS(s) and the RS relays QoS-enabled service flow	
M8	RS supports the security processes defined in section 7 of [2] and [3] by relaying of security messages between the MMR-BS and an MS	
M9	RS supports handover of MS	
M10	MMR-BS and RS support path selection when multiple paths are available	

	Mobile Multihop Relay Technical Requirement	Comment
M11	RS relay shall perform all required signal processing to recover baseband information from a received radio link and all required signal processing to re-transmit that information on a different radio link.	analog relay is not being considered
M12	RS supports MAC PDU construction	
M13	RS supports ARQ feedback for associated access links	
M14	RS supports channel quality measurement and reporting	
M15	RS supports transmit power level control for the associated MMR link	
M16	RS supports Hybrid ARQ	
M17	MMR supports multiple antennas or advanced antenna	
M18	The MMR-BS and associated RS support the handover of mobile RSs with all attached MS	mobile RS handover

3 References

[1] Draft P802.16j PAR and Five Criteria: Mobile Multihop Reply, IEEE 802.16mmr-06/002r1, 2006-03-08 (http://www.wirelessman.org/sg/mmr/docs/80216mmr-06_002r1.pdf)

[2] "Part 16: Air Interface for Fixed Broadband Wireless Access Systems", IEEE Std 802.16™-2004 (Revision of IEEE Std 802.16-2001), October 1, 2005

[3] "Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems Amendment for Physical and Medium Access Control Layers for Combined Fixed and Mobile Operation in Licensed Bands," 802.16E-2005 &802.16/COR1