Project	**IEEE 802.16 Broadband Wireless Access Working Group** <http://ieee802.org/16>	
Title	**Missed MAC control messages over IEEE 802.16.1a**	
Date Submitted	**2012-07-09**	
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Re:	"IEEE 802.16-12-400-00-Gdoc," in response to Letter Ballot Recirc #38b on P802.16.1a/D3	
Abstract	Comments on MAC control message table in GRIDMAN Draft Standard	
Purpose	To discuss and adopt the proposed text in the draft amendment document on GRIDMAN	
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Missed MAC control messages over IEEE 802.16.1a

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1. Introduction

This document provides some missed MAC control messages in Table 29, P802.16.1a.

2. References

[1] IEEE 802.16-12-0132-00, GRIDMAN System Requirement Document including SARM annex, January 2012.

[2] IEEE P802.16n[TM]/D3, Air Interface for Broadband Wireless Access Systems - Draft Amendment: Higher Reliability Networks, June 2012.

[3] IEEE P802.16.1a[TM]/D3, WirelessMAN-Advanced Air Interface for Broadband Access Systems - Draft Amendment: Higher Reliability Networks, June 2012.

[4] EEE P802.16Rev3/D6, IEEE Draft Standard for Local and metropolitan area networks; Part 16: Air Interface for Fixed and Mobile Broadband Wireless Access Systems," April 2012.

[5] IEEE P802.16.1[TM]/D6, IEEE Draft for WirelessMAN-Advanced Air Interface for Broadband Wireless Access Systems, April 2012.

3. Proposed Text on the IEEE 802.16.1a Amendment Draft Standard

[---------------------------------Start of Text Proposal---]

[Remedy: change Table 29, page 7 on P802.16.1a/D3 as follows:]

Table 29 - MAC Control messages

No.	Functional Areas	Message names	Message description	Security	Connection
24	Security	AAI-PKM-RSP	Privacy Key Management Response	Before AK is derived at network entry: NULL at network entry and EAP-transfer message is enclosed: encryption/ICV after AK is derived after AK is derived at network entry and the other message is enclosed: CMAC	Unicast or Multi-cast
71	Multimode	AAI-MM-ADV	Multimode advertisement	N/A	Broadcast
72	Multimode	AAI-MM-RS-REQ	Multimode Relay request	Encrypted/ICV	Unicast
73	Multimode	AAI-MM-RS-RSP	Multimode Relay response	Encrypted/ICV	Unicast
74	Multimode	AAI-MM-RL-REQ	Multimode release request	Encrypted/ICV	Unicast
75	Multimode	AAI-MM-RL-RSP	Multimode release response	Encrypted/ICV	Unicast
76	Multimode	AAI-MM-BS-REQ	Multimode Base station request	Encrypted/ICV	Unicast
77	Multimode	AAI-MM-BS-RSP	Multimode Base station response	Encrypted/ICV	Unicast
78	Multimode	AAI-MM-BS-CMD	Multimode Base station command	Encrypted/ICV	Unicast
79	Multimode	AAI-MM-RS-SYN-REQ	Multimode Relay Synchronization request	Encrypted/ICV	Unicast

Table 29 - MAC Control messages

No.	Functional Areas	Message names	Message description	Security	Connection
80	Multimode	AAI-MM-RS-SYN-RSP	Multimode Relay Synchronization response	Encrypted/ICV	Unicast
81	BS-controlled direct communication	AAI-HR-RNG-CMD	HR-MS/HR-MS ranging command	Encrypted/ICV	Unicast or multicast or broadcast
82	BS-controlled direct communication	AAI-HR-RNG-REP	HR-MS/HR-MS ranging report	Encrypted/ICV	Unicast or multicast or broadcast
83	BS-controlled direct communication	AAI-HR-PCC	Power Control Configuration	Encrypted/ICV	Unicast
84	BS-controlled direct communication	AAI-DC-LC-REQ	Link Creation Request	Encrypted/ICV	Unicast
85	BS-controlled direct communication	AAI-DC-LC-RSP	Link Creation Response	Encrypted/ICV	Unicast
86	BS-controlled direct communication	AAI-DC-LD-REQ	Link Deletion Request	Encrypted/ICV	Unicast
87	BS-controlled direct communication	AAI-DC-LD-RSP	Link Deletion Response	Encrypted/ICV	Unicast
88	BS-controlled direct communication	AAI-DC-LR-REQ	Link Status Report Request	Encrypted/ICV	Unicast
89	BS-controlled direct communication	AAI-DC-LR-RSP	Link Status Report Response	Encrypted/ICV	Unicast
~~83~~ 90	Talk-around direct communication	AAI-DC-LEST-REQ	Link Establishment Request		Unicast
~~84~~ 91	Talk-around direct communication	AAI-DC-LEST-RSP	Link Establishment Response		Unicast
~~85~~ 92	Talk-around direct communication	AAI-DC-LEST-CMD	Link Establishment Command		Multicast
~~86~~ 93	Talk-around direct communication	AAI-DC-MES-REP	Measurement Report		Unicast
~~87~~ 94	Talk-around direct communication	AAI-DC-MES-CMD	Measurement Command		Unicast or Multicast
~~88~~ 95	Talk-around direct communication	AAI-DC-RCHG-REQ	Resource Change Request		Unicast

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Table 29 - MAC Control messages

No.	Functional Areas	Message names	Message description	Security	Connection
~~89~~ 96	Talk-around direct communication	AAI-DC-RCHG-RSP	Resource Change Response		Unicast
~~90~~ 97	Talk-around direct communication	AAI-DC-RCHG-CMD	Resource Change Command		Unicast or Multicast
~~91~~ 98	Talk-around direct communication	AAI-DC-TKN-REQ	Token Request		Unicast
~~92~~ 99	Talk-around direct communication	AAI-DC-TKN-RSP	Token Response		Unicast
~~93~~ 100	Talk-around direct communication	AAI-DC-TKN-HO	Token Handover		Unicast
~~94~~ 101	Talk-around direct communication	AAI-DC-TKN-ADV	Token Advertisement		Multicast
~~95~~ 102	Talk-around direct communication	AAI-DC-LREL-CMD	Link Release Command		Unicast or Multicast
~~96~~ 103	Talk-around direct communication	AAI-DC-DSA-CMD	Dynamic Service Addition Command		Unicast or Multicast
~~97~~ 104	Talk-around direct communication	AAI-DC-DSC-CMD	Dynamic Service Change Command		Unicast or Multicast
~~98~~ 105	Talk-around direct communication	AAI-DC-DSD-CMD	Dynamic Service Delete Command		Unicast or Multicast
~~99~~ 106	Talk-around direct communication	AAI-DC-RTS	Request to Send		Unicast or Multicast or broadcast
~~100~~ 107	Talk-around direct communication	AAI-DC-CTS	Clear to Send		Unicast
~~101~~ 108	Talk-around direct communication	AAI-DC-CFG-CMD	Configuration Command		Unicast
~~102~~ 109	Talk-around direct communication	AAI-DC-RELAY-ADV	Relay Advertisement		Broadcast
~~103~~ 110	Talk-around direct communication	AAI-DC-RELAY-REQ	Relay Request		Unicast
~~104~~ 111	Talk-around direct communication	AAI-DC-RELAY-RSP	Relay Response		Unicast

Table 29 - MAC Control messages

No.	Functional Areas	Message names	Message description	Security	Connection
~~105~~ 112	Talk-around direct communication	AAI-DC-MM-ADV	MS list Advertisement		Broadcast or multicast or unicast
~~106~~ 113	Talk-around direct communication	AAI-DC-LU-REQ	MS List Update Request		Unicast
~~107~~ 114	Talk-around direct communication	AAI-DC-LU-RSP	MS List Update Response		Unicast
~~108~~ 115	BS-controlled HR-MS forwarding to network	AAI-FN-CONFIG-CMD	Forwarding to network configuration		Unicast or multicast
~~109~~ 116	BS-controlled HR-MS forwarding to network	AAI-FN-RNG-ACK	Acknowledging successful receiving of ranging preamble by forwarding HR-MS		Broadcast (toward new HR-MS that is carrying out network entry through the forwarding HR-MS)
~~110~~	~~BS-controlled HR-MS forwarding to network~~	~~AAI-FN-RNG-REP~~	~~Forwarding HR-MS report to serving HR-BS/RS the reception~~	~~Encrypted/ICV~~	~~Unicast~~
~~111~~ 117	BS-controlled HR-MS forwarding to network	AAI-FN-RNG-FLU	HR-BS/RS selects one or group of HR-MS to follow-up with the ranging process of new HR-MS	Encrypted/ICV	Unicast or multicast
118	BS-controlled HR-MS forwarding to network	AAI-MSPG-GRP	HR-MS Paging Group List (Add/Delete)		Unicast
119	BS-controlled HR-MS forwarding to network	AAI-MSPG-PG	HR-MS Paging Group Configuration		Multicast
~~112~~ 120	Standalone	AAI-SA-BPAG-ADV	Blind Page Advertisement Message		Broadcast
~~113~~ 121	Standalone	AAI-SA-BPAG-ACK	Blind Page ACK message		Unicast

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Table 29 - MAC Control messages

No.	Functional Areas	Message names	Message description	Security	Connection
122	Path management	AP-NBR-REQ	Alternative Path Neighbor Request	Encrypted/ICV	Unicast
123	Path management	AP-NBR-REP	Alternative Path Neighbor Report	Encrypted/ICV	Unicast
~~114~~ 124	Multicast	AAI-HR-MG-IND	Multicast Group Indication Message		Broadcast
~~115~~ 125	Multicast	AAI-HR-MT-IND	Multicast Traffic Indication Message		Broadcast or Multicast

[---------------------------------End of Text Proposal---]