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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** | |
| Title | **Clarification of Table 26 MAC control messages over IEEE 802.16.1a** | |
| Date Submitted | **2012-05-15** | |
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| Re: | “IEEE 802.16-12-271,” in response to Letter Ballot Recirc #38a on P802.16.1a/D2 | |
| Abstract | This provides AWD text proposals for Clarification of Table 26 MAC control messages in IEEE 802.16.1a | |
| Purpose | To discuss and adopt the proposed text in the draft amendment document on GRIDMAN | |
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**Clarification of Table 26 MAC control messages over IEEE 802.16.1a**

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# Introduction

This document provides Clarification of Table 26 MAC control messages over IEEE 802.16.1a.

The functional areas of dirct communication MAC control messges need to be described with “direct communication” as the following proposed texts for matching functional level with other functions. In addition, AAI-DC-RELAY-ADV, AAI-DC-RELAY-REQ, and AAI-DC-RELAY-RSP message have to be specified in the Table 26.

# References

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

[2] IEEE P802.16.1aTM/D2, WirelessMAN-Advanced Air Interface for Broadband Access Systems - Draft Amendment: Higher Reliability Networks, April 2012.

# Proposed Text for the 802.16.1a AWD

Note:

The text in **BLACK** color: the existing text in the 802.16.1a AWD

The text in **~~RED~~** color: the removal of existing 802.16.1a AWD

The text in **BLUE** color: the new text added to the 802.16.1a AWD

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

6.2.3 MAC control messages

*(Change Table 26 in page 7 as indicated:)*

Table 26 -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 |
|  |  |  |  |  |  |
| TBD | Multimode | AAI-MM-ADV | Multimode advertisement | N/A | Broadcast |
| TBD | Multimode | AAI-MM-RS-REQ | Multimode Relay request | Encrypted/ICV | Unicast |
| TBD | Multimode | AAI-MM-RS-RSP | Multimode Relay response | Encrypted/ICV | Unicast |
| TBD | Multimode | AAI-MM-RL-REQ | Multimode release request | Encrypted/ICV | Unicast |
| TBD | Multimode | AAI-MM-RL-RSP | Multimode release response | Encrypted/ICV | Unicast |
| TBD | Multimode | AAI-MM-BS-REQ | Multimode Base station request | Encrypted/ICV | Unicast |
| TBD | Multimode | AAI-MM-BS-RSP | Multimode Base station response | Encrypted/ICV | Unicast |
| TBD | Multimode | AAI-MM-BS-CMD | Multimode Base station command | Encrypted/ICV | Unicast |
| TBD | Multimode | AAI-MM-RS-SYN-REQ | Multimode Relay Synchronization request |  | Unicast |
| TBD | Multimode | AAI-MM-RS-SYN-RSP | Multimode Relay Synchronization response |  | Unicast |
|  |  |  |  |  |  |
| TBD | BS-controlled ~~neighbor discovery~~direct communication | AAI-HR-RNG-CMD | HR-MS/HR-MS ranging command | Encrypted/ICV | Unicast or multicast or broadcast |
| TBD | BS-controlled ~~neighbor discovery~~direct communication | AAI-HR-RNG-REP | HR-MS/HR-MS ranging report | Encrypted/ICV | Unicast or multicast or broadcast |
|  |  |  |  |  |  |
| TBD | ~~Link Establishment~~  Talk-around ~~D~~direct communication | AAI-DC-LEST-REQ | Link Establishment Request |  | Unicast |
| TBD | ~~Link Establishment~~  Talk-around direct communication | AAI-DC-LEST-RSP | Link Establishment Response |  | Unicast |
| TBD | ~~Measurement~~  Talk-around ~~D~~direct communication | AAI-DC-MES-REP | Measurement Report |  | Unicast |
| TBD | ~~Resource Management~~  Talk-around ~~D~~direct communication | AAI-DC-RCHG-REQ | Resource Change Request |  | Unicast |
| TBD | ~~Resource Management~~  Talk-around ~~D~~direct communication | AAI-DC-RCHG-RSP | Resource Change Response |  | Unicast |
| TBD | ~~Token Management~~  Talk-around ~~D~~direct communication | AAI-DC-TKN-REQ | Token Request |  | Unicast |
| TBD | ~~Token Management~~  Talk-around ~~D~~direct communication | AAI-DC-TKN-RSP | Token Response |  | Unicast |
| TBD | ~~Token Management~~  Talk-around ~~D~~direct communication | AAI-DC-TKN-HO | Token Handover |  | Unicast or Multicast |
| TBD | ~~Link Establishment~~  Talk-around ~~D~~direct communication | AAI-DC-LEST-CMD | Link Establishment Command |  | Multicast |
| TBD | ~~Link Release~~  Talk-around ~~D~~direct communication | AAI-DC-LREL-CMD | Link Release Command |  | Unicast or Multicast |
| TBD | ~~Flow Management~~  Talk-around ~~D~~direct communication | AAI-DC-DSA-CMD | Dynamic Service Addition Command |  | Unicast or Multicast |
| TBD | ~~Flow Management~~  Talk-around ~~D~~direct communication | AAI-DC-DSC-CMD | Dynamic Service Change Command |  | Unicast or Multicast |
| TBD | ~~Flow Management~~  Talk-around ~~D~~direct communication | AAI-DC-DSD-CMD | Dynamic Service Delete Command |  | Unicast or Multicast |
| TBD | ~~Measurement~~  Talk-around ~~D~~direct communication | AAI-DC-MES-CMD | Measurement Command |  | Unicast or Multicast |
| TBD | ~~Resource Management~~  Talk-around ~~D~~direct communication | AAI-DC-RCHG-CMD | Resource Change Command |  | Unicast or Multicast |
| TBD | ~~Token Management~~  Talk-around ~~D~~direct communication | AAI-DC-TKN-ADV | Token Advertisement |  | Multicast |
| TBD | ~~Resource allocation~~  Talk-around ~~D~~direct communication | AAI-DC-RTS | Request To Send |  | Unicast or Multicast or broadcast |
| TBD | ~~Resource allocation~~  Talk-around ~~D~~direct communication | AAI-DC-CTS | Clear To Send |  | Unicast |
| TBD | ~~MCS Change~~  Talk-around ~~D~~direct communication | AAI-DC-MCHG-CMD | MCS Change Command |  | Unicast |
| TBD | Talk-around ~~D~~direct communication | AAI-DC-RELAY-ADV | Relay Advertisement |  | Broadcast |
| TBD | Talk-around ~~D~~direct communication | AAI-DC-RELAY-REQ | Relay Request |  | Unicast |
| TBD | Talk-around ~~D~~direct communication | AAI-DC-RELAY-RSP | Relay Response |  | Unicast |
|  |  |  |  |  |  |
| TBD | BS-controlled ~~HR-MS forwarding to network~~direct communication | AAI-FN-CONFIG-CMD | Forwarding to network configuration |  | Unicast or multicast |
| TBD | BS-controlled ~~HR-MS forwarding to network~~direct communication | 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) |
| TBD | BS-controlled ~~HR-MS forwarding to network~~direct communication | AAI-FN-RNG-REP | Forwarding HR-MS report to serving HR-BS/RS the reception of ranging signal from new HR-MS | Encrypted/ICV | Unicast |
| TBD | BS-controlled ~~HR-MS forwarding to network~~direct communication | 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 |
| TBD | ~~Forwarding MS List~~  Talk-around ~~D~~direct comunication | AAI-DC-MM-ADV | MS list Advertisement |  | Broadcast or multicast or unicast |
| TBD | ~~Forwarding MS list Update~~  Talk-around ~~D~~direct comunication | AAI-DC-LU-REQ | MS List Update Request |  | Unicast |
| TBD | ~~Forwarding MS list Update~~  Talk-around ~~D~~direct comunication | AAI-DC-LU-RSP | MS List Update Response |  | Unicast |
|  |  |  |  |  |  |
| TBD | Standalone | AAI-SA-BPAG-ADV | Blind Page Advertisement Message |  | Broadcast |
| TBD | Standalone | AAI-SA-BPAG-ACK | Blind Page ACK message |  | Unicast |
| TBD | Multicast | AAI-HR-MG-IND | Multicast Group Indication Message |  | Broadcast |
| TBD | Multicast | AAI-HR-MT-IND | Multicast Traffic Indication Message |  | Broadcast or Multicast |

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