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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** | |
| Title | **Modification of AAI-MM-ADV message in 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 | This provides AWD text proposals for clarification of message fields for multimode operation over IEEE 802.16.1a | |
| Purpose | To discuss and adopt the proposed text in the draft amendment document on GRIDMAN | |
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**Modification of AAI-MM-ADV message in IEEE 802.16.1a**

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# Introduction

According to Section 6.12.1.3.1 Proactive Operation of IEEE P802.16.1a/D3, multimode HR-MSs can transmit their status information to the superordinate HR-BS after receiving AAI-MM-ADV message. In the current standard, however, AAI-MM-ADV message does not have an Action Type for requesting HR-MS’s status information response.

In this contribution, we suggest to insert an additional value of Action Type in AAI-MM-ADV for requesting multimode HR-MS’s status information.

# References

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

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

[3] 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,” June 2012.

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

***[Remedy1: Insert the sentence and type in Section 6.12.1.1.3 in IEEE P802.16.1a/D3.]***

***[Page# 57, Line# 6]***

**6.2.3.65.1 AAI-MM-ADV message**

Infrastructure stations and HR-MS acting as HR-BS or HR-RS may transmit AAI-MM-ADV message to support multimode operation in the case as follows:

* When the backhaul link is down or up
* During maintaining relay link due to unavailable backhaul link, PHY/MAC layer parameters need be reconfigured such as
  + Power down
  + Power reduction
  + FA change
* Multimode service establish/release/change to inform subordinate stations to perform handover
* Scanning operation for HR-MS acting as relay to maintain synchronization with the serving HR-BS
* Neighbor cell scanning operation
* Report status information of multimode station

**Table 106a – AAI-MM-ADV message field description**

| **Field** | **Size**  **(bits)** | **Value/Description** | **Condition** |
| --- | --- | --- | --- |
| Action Type | 4 | Used to indicate the purpose of this message  0b0000: Reconfiguration of HR-BS/RS including multimode BS/RS  0b0001: Restart of HR-BS/RS including multimode BS/RS  0b0010: Power down (including FA down) of HR-BS/RS including multimode BS/RS  0b0011: Power reduction of HR-BS/RS including multimode BS/RS  0b0100: Backhaul link down of HR-BS  0b0101: Backhaul link up of HRBS  0b0110: FA change of HR-BS/RS including multimode BS/RS  0b0111: Multimode service end of HR-MS  0b1000: Scanning operation for HR-MS acting as relay to maintain synchronization with the serving HR-BS  0b1001: Neighbor cell scanning  0b1010 : Handover of multimode station with access link reconfiguration  0b1011: Report status information of multimode station  0b1100 – 0b1111: reserved  ~~0b1011 – 0b1111:~~ *~~reserved~~* | Mandatory |
| … | … | … | … |