|  |  |  |
| --- | --- | --- |
| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** | |
| Title | **Clarification on MAC control message and Header for multimode operation over IEEE 802.16.1a** | |
| Date Submitted | **2012-09-12** | |
| Source(s) | Won-Ik Kim, Seokki Kim, Miyoung Yun, Sungkyung Kim, Hyun Lee, Chulsik Yoon, Sungcheol Chang  ETRI  Seokjoo Shin  Chosun University | E-mail:  [woniks@etri.re.kr](mailto:woniks@etri.re.kr)  [scchang@etri.re.kr](mailto:scchang@etri.re.kr)  [sjshin@chosun.ac.kr](mailto:sjshin@chosun.ac.kr) |
| Re: | In response to Sponsor Ballot on P802.16.1a | |
| Abstract | Comments on MAC control message for multimode operation over IEEE 802.16.1a | |
| Purpose | To discuss and adopt the proposed text in the draft amendment document on GRIDMAN | |
| Notice | *This document does not represent the agreed views of the IEEE 802.16 Working Group or any of its subgroups*. It represents only the views of the participants listed in the “Source(s)” field above. It is offered as a basis for discussion. It is not binding on the contributor(s), who reserve(s) the right to add, amend or withdraw material contained herein. | |
| Copyright Policy | The contributor is familiar with the IEEE-SA Copyright Policy <http://standards.ieee.org/IPR/copyrightpolicy.html>. | |
| Patent Policy | The contributor is familiar with the IEEE-SA Patent Policy and Procedures:  <<http://standards.ieee.org/guides/bylaws/sect6-7.html#6>> and <<http://standards.ieee.org/guides/opman/sect6.html#6.3>>.  Further information is located at <<http://standards.ieee.org/board/pat/pat-material.html>> and <<http://standards.ieee.org/board/pat>>. | |

**Clarification on MAC control message and Header for multimode operation over IEEE 802.16.1a**

Won-Ik Kim, Seokki Kim, Miyoung Yun, Sungkyung Kim, Hyun Lee, Chulsik Yoon, Sungcheol Chang

ETRI

Seokjoo Shin

Chosun University

# Introduction

In this contribution, we suggest the modification of MAC control message and header related to multimode operation over IEEE P802.16.1a/D5.

* Remedy1: We modified the descriptions of syntax which is “Maximum Capacity of AMS Battery” shown in Table 11. An ampere (A) is a unit generally used for expressing battery capacity of mobile phone. Therefore, we rewrote the notes of the syntax.
* Remedy2: We modified the descriptions of action code in AAI- MM-BS-REQ message to make it clearer.

# References

[1] IEEE P802.16nTM/D5, Air Interface for Broadband Wireless Access Systems - Draft Amendment: Higher Reliability Networks, 2012.

[2] IEEE P802.16.1aTM/D5, WirelessMAN-Advanced Air Interface for Broadband Access Systems - Draft Amendment: Higher Reliability Networks, 2012.

[3] IEEE Std 802.16™-2012, IEEE Standard for Air Interface for Broadband Wireless Access Systems,” 2012.

[4] IEEE P802.16.1™/D6, IEEE Draft for WirelessMAN-Advanced Air Interface for Broadband Wireless Access Systems, 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: Modify the following text and table in Section 6.2.2 of IEEE P802.16.1a/D5.]***

***[Line# 2, Page# 5]***

**6.2.2 MAC PDU formats**

…

*Change Table 11 in 6.2.2.1.3.5 as indicated:*

**Table 11—AMS Battery Report Header format**

|  |  |  |
| --- | --- | --- |
| **Syntax** | **Size**  **(bits)** | **Notes** |
| AMS Battery Level Report header ()  { | — | — |
| FID | 4 | Flow Identifier. This field indicates MAC signaling header. Set to 0010. |
| Type | 5 | MAC signaling header type = 0b00100 |
| Length | 3 | Indicates the length of the signaling header in bytes. |
| AMS Battery Status | 1 | 0b0: The AMS is plugged into a power source.  0b1: The AMS is not plugged into a power source. |
| Battery Level Indication | 1 | 0b0: Detailed battery level report is not included.  0b1: Detailed battery level report is included. |
| If (Battery Level Indication == 1) { |  |  |
| AMS Battery Level | 3 | 0b000: Battery level is > 75% and ≤ 100%  0b001: Battery level is > 50% and ≤ 75%  0b010: Battery level is > 25% and ≤ 50%  0b011: Battery level is > 5 % and ≤ 25%  0b100: Battery level is below 5%  0b101–0b111: Reserved |
| *~~Reserved~~* | ~~7~~ | ~~Shall be filled by 0~~ |
| Max Capacity of AMS Battery | 4 | 0b0000: No support  ~~0b0001~0b1110: 1Wh~31Wh (round off to the nearest whole number)~~  ~~0b1111: The maximum capacity of battery is more than 32Wh or the battery is charging.~~  0b0001~0b1111: The value shall be increased by 0.2 from 1.0 in unit of ampere (A). Values outside this range shall be assigned the closest extreme.  Value: 1.0~4.0  Max. Capacity of AMS Battery: Value + 0.2 |
| *Reserved* | 3 | Shall be filled by 0 |
| } |  |  |
| else { |  |  |
| *Reserved* | 2 | Shall be filled by 0 |
| } |  |  |
| } |  |  |

***[Remedy2: Modify the following table in Section 6.2.3.65.6 of IEEE P802.16.1a/D5.]***

***[Line# 5, Page# 65]***

**6.2.3.65.6 AAI-MM-BS-REQ**

…

**Table 106f —AAI-MM-BS-REQ message field description**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Size (bits)** | **Value/Description** | **Condition** |
| Action code | 2 | Used to indicate the purpose of this message.  0b00: Request ~~to transfer~~ HR-BS role to the multimode HR-MS  0b01: ~~Response for~~ Approval of the unsolicited AAI-MM-BS-RSP message by the multimode HR-MS.  0b10: ~~Reject for~~ Rejection of the unsolicited AAI-MM-BS-RSP message by the multimode HR-MS.  0b11: *Reserved*. |  |
| … | … | … | .,.. |

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