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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** |
| Title | **Clarification on relay link release in IEEE 802.16.1a**  |
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| Re: | In response to Sponsor Ballot Recirculation #1 on P802.16.1a |
| Abstract | Comments on multimode operation in IEEE P802.16.1a |
| Purpose | To discuss and adopt the proposed text in the draft amendment document on GRIDMAN |
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**Clarification on relay link release in IEEE 802.16.1a**

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# Introduction

This contribution is to clarify some descriptions of subsection 6.12.1.2.4 which is ‘Relay link release’.

According to the current document, an HR-BS who received AAI-MM-RL-REQ message from an HR-MS acting as RS is supposed to send AAI-MM-RL-RSP message to the HR-MS acting as RS after its subordinate HR-MSs complete handover procedures.

We propose a modified procedure of relay link release. The conceptual diagram is drawn in Fig. 1.



Fig 1. Proposed relay link release procedure of HR-MS acting as RS

If processing time is required for handover procedure of all subordinate HR-MSs when an HR-MS acting as RS is going to release its RS mode, the superordinate HR-BS sends AAI-MM-RL-RSP message with Action code==0b01. The action time in the message may be set to be enough for completing handover procedures issued by all subordinate HR-MSs.

# References

[1] IEEE P802.16nTM/D6, Air Interface for Broadband Wireless Access Systems - Draft Amendment: Higher Reliability Networks, 2012.

[2] IEEE P802.16.1aTM/D6, 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™-2012, 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: Modified subsection in Section 6.12.1.2.4 in IEEE P802.16.1a/D6.]***

***[Line# 31, Page# 103]***

6.12.1.2.4 Relay link release

An HR-MS acting as RS may end its relay service and remove the relay link from the HR-BS. During the HR-MS’ relay mode release process, all subordinate HR-MSs of the HR-MS acting as RS shall be transferred to another infrastructure station prior to HR-MS’ relay mode release. The HR-MS acting as RS sets Cell Bar bit to 1 in order to prevent HR-MS (re)entry and transmits AAI-MM-ADV message to transfer all subordinate HR-MSs to another infrastructure station. An HR-MS acting as RS may transmit an AAI-MM-RL-REQ message described in 6.2.3.65.4 in UL relay zone to an HR-BS so that it initiates the release procedure and requests handover of all its subordinate HR-MSs. Upon receiving the AAI-MM-RL-REQ message, the HR-BS decides whether it allows the HR-MS’ relay mode release. If the request is accepted, the HR-BS may transmit the AAI-MM-RL-RSP message described in 6.2.3.65.5 in DL relay zone to inform the acceptance. ~~and start BS-initiated handover process for the requested HR-MSs. After handover procedures between the HR-BS and HR-MS acting as RS’ subordinate HR-MSs are completed, the HR-BS informs the HR-MS acting as RS that handover is completed by transmitting an AAI-MM-RL-RSP message in DL relay zone.~~ Upon receiving the AAI-MM-RL-RSP message, the HR-MS acting as RS starts relay mode release process immediately or at action time expires. If Action code is 0b10, the HR-MS acting as RS may complete handover process of all subordinate HR-MSs until the action time expires. If the HR-BS rejects the request, the HR-BS informs the HR-MS acting as RS the rejection of the request by transmitting the AAI-MM-RL-RSP message with Action code = 0b10 or 0b11 in DL relay zone. Upon receiving the AAI-MM-RL-RSP message with rejection information, the HR-MS acting as RS may continue~~s~~ operating in relay mode. ~~After action time expires,~~ If the Action code is 0b11, the HR-MS acting as RS retransmits an AAI-MM-RL-REQ message in UL relay zone to the HR-BS.

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