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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** | |
| Title | **Clarification on priority access operation 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 | This provides AWD text proposals for clarification on priority access 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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**Clarification on base station function of HR-MS over IEEE 802.16.1a**

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# Introduction

In this contribution, we suggest the revised version of Section 6.12.8.1 Priority access operation in initial ranging. Informative text is mostly revised.

For readers’ convenience, we elaborate the concept of controlling priority access in initial ranging again. The below text was presented in the previous meeting.

According to the role of HR-MS user or HR-MS device, various priority levels can be assigned to HR-MSs. The purpose of this contribution is to propose a method for priority HR-MSs access to a HR-BS in initial ranging phase with taking precedence over the non-priority HR-MS and AMS. In the method, access opportunity of higher priority users will be higher than that of lower priority users with differentiating initial ranging window size for each priority group. In the current standards, S-SFH SP3 specifies the initial ranging window size with setting ‘initial ranging backoff start’ and ‘initial ranging backoff end’ values in periodic manner. However, S-SFH SP3 does not deliver any priority related information of such user. Therefore, we insert new initial ranging window size parameters into AAI-SCD message in order for high priority users to take precedence.

According to the degree of congestion in initial ranging phase, initial access control can be done in two modes described in below.

In general, all users including non-priority and priority users try to do initial ranging to an HR-BS with given backoff window size parameters received through S-SFH SP3.

In case an HR-BS detects congestion in initial ranging, the HR-BS broadcasts different range of backoff window size to non-priority users and priority users by sending S-SFH SP3 and AAI-SCD message, respectively. An HR-BS transmits S-SFH SP3 with setting larger backoff window size for non-priority users while transmitting AAI-SCD with setting smaller backoff window size for priority users.

# 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---------------------------------------------------]

**6.12.8 Support for priority access operation**

***[Remedy1: Modify the sentences in Section 6.12.8.1 in IEEE P802.16.1a/D3.]***

***[Page# 197, Line# 29]***

**6.12.8.1 Priority access operation in initial ranging**

An HR-MS may have higher priority than others due to its role of communication in PPDR. In order for priority HR-MSs to take precedence over the non-priority HR-MSs or AMSs, an HR-BS ~~may assign~~ assigns different values to the initial ranging backoff window size to priority and non-priority users by sending AAI-SCD and S-SFH SP3, respectively.

~~According to the degree of congestion in initial ranging phase, initial access control can be done in two modes described below.~~

~~In normal (or light congestion) mode, all users (including non-priority and priority users) try to do initial ranging to an HR-BS with given initial ranging backoff window size parameters received through S-SFH SP3.~~

~~In heavy congestion mode, an HR-BS broadcasts different initial ranging backoff window sizes to non-priority users and priority users by sending S-SFH SP3 and AAI-SCD messages, respectively. An HR-BS transmits S-SFH SP3 with a larger initial ranging backoff window size for non-priority users while transmitting AAI-SCD with a smaller initial ranging backoff window size for priority users.~~

In general, all users including non-priority and priority users shall try to do initial ranging to an HR-BS with given initial ranging backoff window size parameters received through S-SFH SP3. If congestion occurs during initial ranging, an HR-BS may transmit S-SFH SP3 with a larger initial ranging backoff window size for non-priority users while transmitting AAI-SCD with a smaller initial ranging backoff window size for priority users.