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| Project | **IEEE 802.16 Broadband Wireless Access Working Group <**<http://ieee802.org/16>**>** |
| Title | **Clarification of talk-around direct communication in IEEE 802.16.1a/D3**  |
| 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 | Changes are provided to accommodate corrections on Talk-around direct communication 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 talk-around direct communication in IEEE 802.16.1a/D3**

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

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# Introduction

This document provides the clarification of talk-around direct communication in IEEE 802.16.1a/d3.

Changes are provided to accommodate corrections for talk-around direct communication as the following proposed texts.

# References

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

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

**[Remedy #1: Adopt the following proposed modification from page 11, table No.112~115]**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 112 | Standalone | [AAI-SA-BPAG-ADV](#_DM-RELAY-ADV) | Blind Page Advertisement ~~message~~  |  | Broadcast |
| 113 | Standalone | [AAI-SA-BPAG-ACK](#_DM-RELAY-ADV) | Blind Page ~~ACK message~~ Acknowledgement |  | Unicast |

**[Remedy #2: Adopt the following proposed modification from page 32, table]**

|  |  |  |  |
| --- | --- | --- | --- |
| Blind Paging Offset | 12 | Indicates the number of TDC frames used for blind paging offset | Present if needed in HR-Networks |
| Blind Paging Cycle | 4 | Indicates the number of TDC frames with that a blind paging interval repeats | Present if needed in HR-Networks |

**[Remedy #3: Adopt the following proposed modification from page 71, table 106v]**

**Table 106v – AAI-DC-LEST-RSP message field description**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Size (bits)** | **Value/Description** | **Condition** |
| Link Change Count | 4 | The change count of this transaction assigned by the sender. If new transaction is started, Link Change Count is incremented by one (modulo 16) by the sender. | Shall always be present |
| Confirmation Code  | 4 | Zero indicates the request was successful.Nonzero indicates failure.0x0: accept0x1: reject with a recommended DCH0x2: reject0x3 to 0xF: Reserved | Shall always bepresent |
| Direct Mode Zone Type  | 2 | Direct mode zone type of a recommended DCH0x0: Common direct mode zone (CDMZ)0x1: Common direct mode zone extended (CDMZ-E)0x2: Cell specific direct mode zone (CSDMZ)0x3 ~~to 0xF~~: reserved | Present if Confirmation Code == 0x1 |
| DCH Number  | 6 | Recommended DCH number on the zone of Direct Mode Zone Type | Present ifConfirmation Code == 0x1 |

**[Remedy #4: Adopt the following proposed modification from page 74, 6.2.3.65.26 AAI-DC-TKN-REQ]**

**6.2.3.65.26 AAI-DC-TKN-REQ**

An HR-MS transmits an AAI-DC-TKN-REQ message to ~~change~~ request a token for half duplex communication.

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Size (bits)** | **Value/Description** | **Condition** |
| Direct Mode Zone Type  | 2 | Direct mode zone type for old DCH0x0: Common direct mode zone (CDMZ)0x1: Common direct mode zone extended (CDMZ-E)0x2: Cell specific direct mode zone (CSDMZ)0x3 ~~to 0xF~~: reserved. |  |
| DCH Number  | 4 | Indicates old DCH number. |  |

**[Remedy #5: Adopt the following proposed modification from page 76, line 2~4]**

**6.2.3.65.30 AAI-DC-LREL-CMD**

An HR-MS transmits an AAI-DC-LREL-CMD message to release one-way point-to-point ~~and~~ or point-to-multipoint TDC links.

**[Remedy #6: Adopt the following proposed modification from page 76, line 7~9]**

**6.2.3.65.31 AAI-DC-DSA-CMD**

An HR-MS transmits an AAI-DC-DSA-CMD message to create a new service flow on one-way point-to-point ~~and~~ or point-to-multipoint TDC links.

**[Remedy #7: Adopt the following proposed modification from page 77, line 2~4]**

**6.2.3.65.32 AAI-DC-DSC-CMD**

An HR-MS transmits an AAI-DC-DSC-CMD message to change the parameters of an existing service flow on one-way point-to-point ~~and~~ or point-to-multipoint TDC links.

**[Remedy #8: Adopt the following proposed modification from page 78, line 2~4]**

**6.2.3.65.33 AAI-DC-DSD-CMD**

An HR-MS transmits an AAI-DC-DSD-CMD message to delete an existing service flow on one-way point-to-point ~~and~~ or point-to-multipoint TDC links.

**[Remedy #9: Adopt the following proposed modification from page 79, line 2~4]**

**6.2.3.65.34 AAI-DC-MES-CMD**

An HR-MS transmits an AAI-DC-MES-CMD message to request a radio measurement and reporting the measurement results on one-way point-to-point ~~and~~ or point-to-multipoint TDC links.

**[Remedy #10: Adopt the following proposed modification from page 83, Table 106nn]**

**Table 106nn – AAI-DC-RELAY-ADV message field description**

|  |  |  |  |
| --- | --- | --- | --- |
| **Field** | **Size (bits)** | **Value/Description** | **Condition** |
| Relay DCTID  | 24 | DC Terminal Identifier.Indicate the HR-MS which relays packetsbetween two TDC links |  |
| Relay Status  | 1 | Indicate that the relaying HR-MS is available for two-hop operation.0x0: available0x1: relaying packets |  |
| Relay Traffic Priority  | 3 | Indicate the traffic priority for relaying packets0 to 7: Higher numbers indicate higherpriorityDefault: 0 |  |
| For (i=0; i<N\_Reserved\_DCH;i++) { |  | N\_Reserved\_DCH is the number ofdedicated channels for reservationRange [0..36] |  |
| Direct Mode Zone Type forReservation  | 2 | Direct mode zone type of a reserved DCH0x0: Common direct mode zone (CDMZ)0x1: Common direct mode zone extended (CDMZ-E)0x2: Cell specific direct mode zone (CSDMZ)0x3 ~~to 0xF~~: *Reserved*. |  |
| DCH Number for Reservation  | 6 | Reserved DCH number on the zone of Direct Mode Zone Type |  |
| } |  |  |  |

**[Remedy #11: Adopt the following proposed modification from page 84, line 3~4]**

An HR-MS transmits a AAI-DC-RELAY-REQ message to request a relaying HR-MS to establish a unicast TDC link.

**[Remedy #12: Adopt the following proposed modification from page 136, line 20]**

A sending HR-MS may send~~s~~ AAI-DC-RCHG-CMD message unsolicitedly.

**[Remedy #13: Adopt the following proposed modification from page 136, figure 241]**





**Figure 241 —Procedures of resource** 1 **management for unicast and multicast links**

**[Remedy #14: Adopt the following proposed modification from page 137, line 4~6]**

The sending HR-MS sends the AAI-DC-MES-CMD messages to request the measurement on resources. The receiving HR-MS sends the AAI-DC-MES-REP message ~~or CQI report~~ on supplementary channel in response to AAI-DC-MES-CMD message.

**[Remedy #15: Adopt the following proposed modification from page 184, line 17-21]**

An HR-BS shall maintain a list of HR-MSs that are collected from forwarding HR-MSs for HR-MS

forwarding. An HR-BS broadcasts the HR-MS list for HR-MS forwarding to forwarding HR-MSs using

AAI-DC-MM-ADV message. When a new HR-MS is added or HR-MSs are deleted, the forwarding HR-MS

shall update the HR-MS list by an exchange of MAC Management messages with the HR-BS such as AAI

DC-LU-REQ/RSP.

**[Remedy #16: Adopt the following proposed modification from page 185, line 31-35]**

The HR-MS sends AAI-DSA-REQ message with a TDC target address of DCTID to the HR-BS. The HR-

BS and the HR-MS exchange AAI-DSA-RSP/ACK message to establish a MAC service flow. If the target

HR-MS is active and its TDC target address is stored in the HR-BS, the HR-BS initiates to establish a

MAC service flow using AAI-DSA-REQ message with a TDC source address of DCTID to the target HR

MS. And the HR-BS and the HR-MS exchange AAI-DSA-RSP/ACK message ~~exchange~~ to establish a

**[Remedy #17: Adopt the following proposed modification from page 185, line 31-35]**

The length of the blind paging listening interval is one superframe per blind paging cycle.

**[Remedy #18: Adopt the following proposed modification from page 186, line 28]**

When HR-MSs deregister~~s~~, all the MAC service flows may be deleted.

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