

Multi-mode Operation for 802.16n

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Re:

“IEEE 802.16gman-10/0042,” in response to the agreement by the Gridman TG at session #70 for IEEE 802.16n at session #71

Base Contribution:

N/A

Purpose:

To be discussed and adopted by 802.16n

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<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>.

Multi-mode Operation for 802.16n

Background

- Degraded network
 - HR-BS breakdown
 - Failure of network connectivity
- Self-healing for degraded network
 - *Multi-mode operation*
 - MS-MS Direct communication
 - Standalone network
 - Etc.

Multi-mode operation

- Multi-function HR-BS
 - BS mode
 - RS mode
 - Only RS function
 - RS function for backhaul link + BS function
- Multi-function HR-MS
 - MS mode
 - BS mode: BS function + MS function
 - RS mode: RS function + MS function

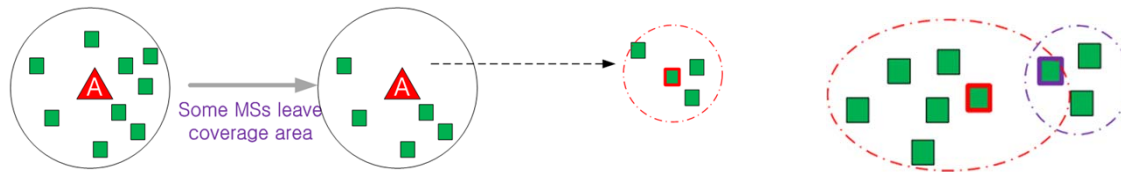
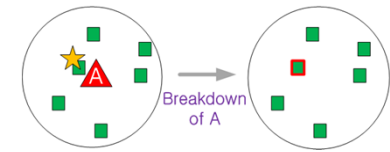
Relay function for HR-BS

- Operation scenarios
 - Breakdown in wired backbone connectivity
- Technical issues
 - Channel monitoring & report
 - Frame structure for RS mode of HR-BS
 - Similar to HR-RS frame structure
 - Signaling for RS mode change of HR-BS
 - Modified RS NE procedures
 - Connection management of subordinate HR-MSs
 - Group handover, callback handover, etc.

BS function for HR-MS

- Operation scenarios

- Breakdown of BS; in the absence of neighbor BS
- Out of coverage
- Temporary network construction for PPDR mission



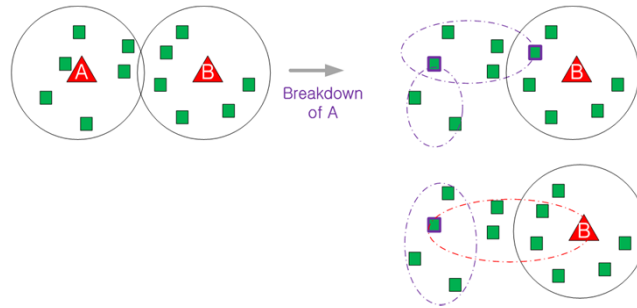
- Self Cell Configuration without infrastructure node

- Selecting a HR-MS acting as BS
- Dynamic role change
- Interference mitigation
- Network merge & separate
- Etc.

RS function for HR-MS

- Operation scenarios

- Breakdown of BS; neighbor BSs
- BS coverage/capacity extension for disaster relief



- Technical issues

- Method of selecting HR-MS acting as RS
- Signaling for RS mode change of HR-MS
- Method of data relaying in multi-mode HR-MS
- HR-MS discovery procedure
- Etc.

Text proposal for SRD as an Annex

Annex C: Protocol Structure

Annex C.1 IEEE 802.16n Protocol Structure

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- Multi-Mode Management: Indicates a block which supports multi-mode operation meeting the requirements described in Section 6.1.1.

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