Efficient channel measurement report request and response mechanism for MMR network

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Purpose:

This contribution is response to call for technical comments and contributions (IEEE 802.16j-07/007r2).

Efficient channel measurement report request and response mechanism for MMR network

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Background

- This contribution describes the topic concerning measurement reporting by REP-REQ and REP-RSP.

- Conventional REP-REQ and REP-RSP messages are sent by unicast manner.

- MMR-BS needs to send multiple REP-REQs to RSs and MSs (Figure 1), and each RS and MS replies by REP-RSP message to MMR-BS (Figure 2), therefore it will consume bandwidth resource.
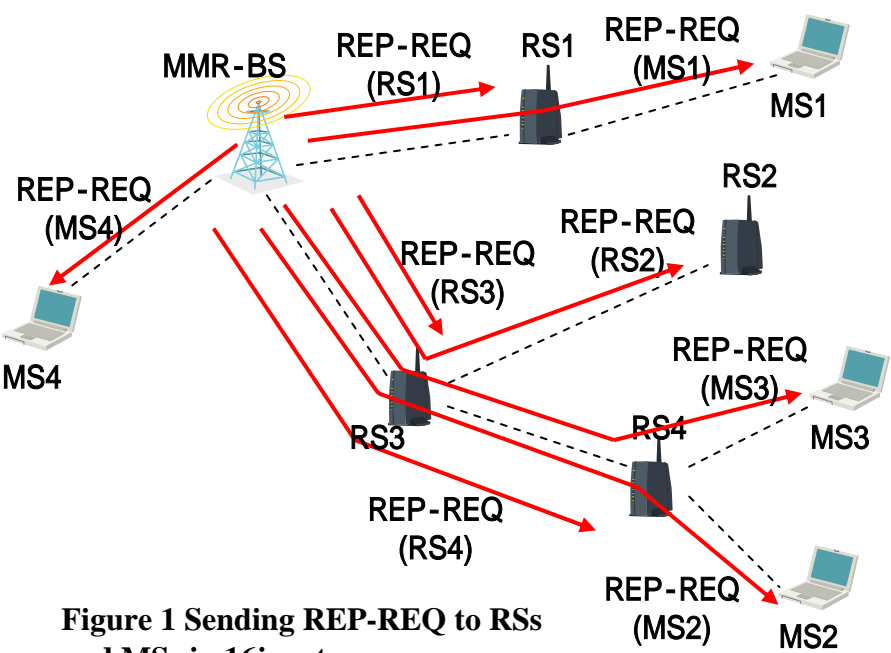
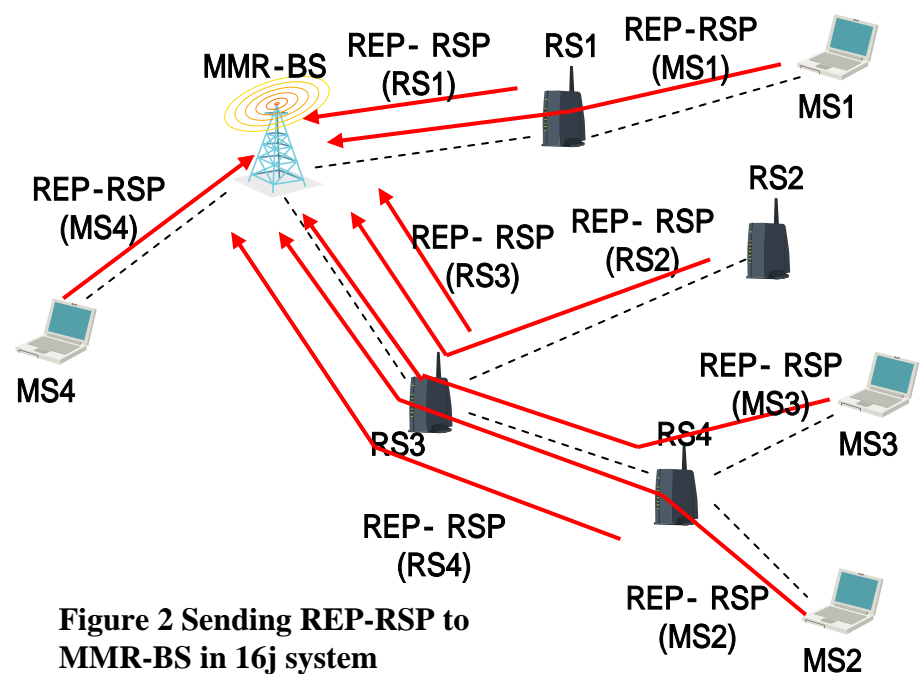**Figure 1 Sending REP-REQ to RSs and MSs in 16j system**

Figure 2 Sending REP-RSP to MMR-BS in 16j system

Proposed Method

- To solve this problem, an efficient channel measurement report mechanism is proposed, defining new management messages; REP-REQ-ADV (REP-REQ advertisement) and REP-RSP-AGG (REP-RSP aggregation)

- MMR-BS broadcasts REP-REQ-ADV to all RSs. When RS receives REP-REQ-ADV, it creates REP-REQ messages on behalf of the MMR-BS, and send them to neighboring MSs (in order to keep the backward compatibility of 16e).

- RS waits for receiving REP-RSP from neighboring RSs or MSs. If RS receives them, it aggregates these messages, creates REP-RSP-AGG, and sends it to MMR-BS. RS has a timer for aggregation to avoid the serious delay of channel measurement report delivery to MMR-BS.
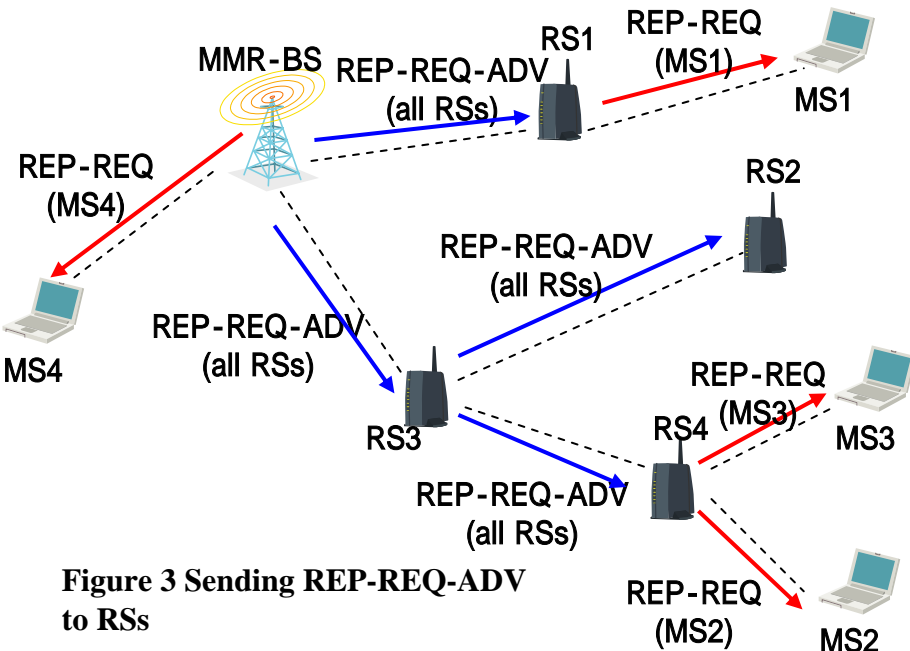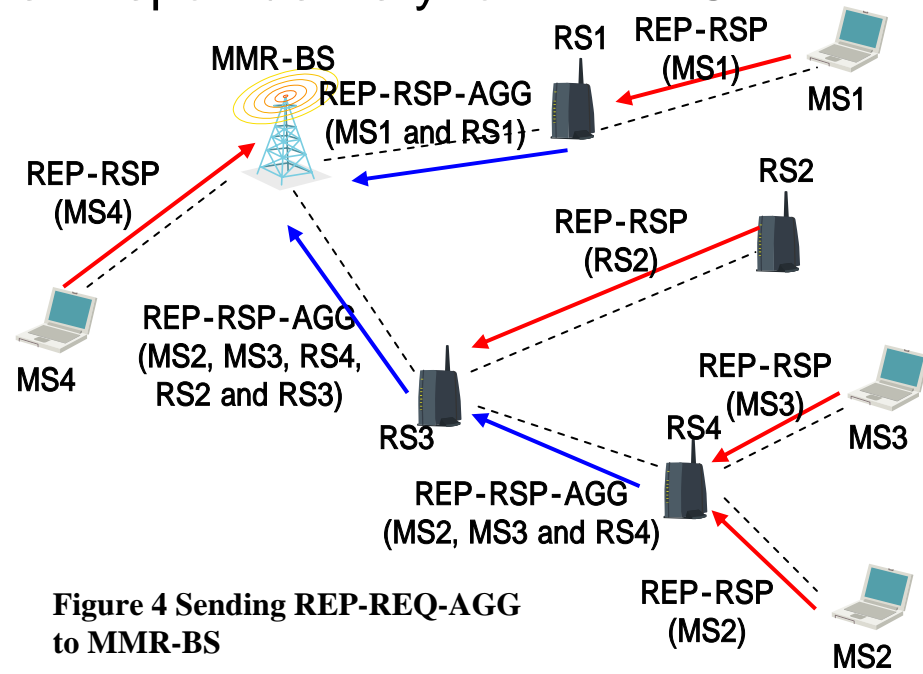

Figure 3 Sending REP-REQ-ADV to RSs

Figure 4 Sending REP-REQ-AGG to MMR-BS

Proposed text changes

(For detail, please see the contribution C80216j-07_231.pdf)

6.3.15.6 Requesting and reporting of measurements

Inserting the text at the end of the subclause, describing an efficient channel measurement report request and response mechanism.

6.3.2.3.65 REP-REQ-ADV message

Adding the new subclause defining a new control message REP-REQ-ADV (REP-REQ advertisement).

6.3.2.3.66 REP-RSP-AGG message

Adding the new subclause defining a new control message REP-RSP-AGG (REP-RSP aggregation).