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Re:	IEEE 802.16m-08/033, Call for Contributions and Comments on Project 802.16m System Description Document (SDD) Topic: Bandwidth Request in Section 11	
Abstract	To propose to add FFR group indication to BW request indicator	
Purpose	To propose to add FFR group indication to BW request indicator	
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Bandwidth Request Indicator for uplink FFR

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Introduction

Two random access bandwidth request procedures have been adapted in SDD. In 5-step regular procedure, after MS receives a UL grant for BW-REQ message from BS, MS sends a BW-REQ message to BS through slots which BS indicates by the UL grant for BW-REQ message.

When FFR is used for uplink, a shared Bandwidth request channel might be allocated to a UL sub-frame for some FFR group region for the resource efficiency. Figure 1 shows the UL sub-frame with two FFR group regions and one shared Bandwidth request channel. In this case, it is efficient that BS allocates slots for MS sending a BW-REQ message on an FFR group region which is suitable for MS.

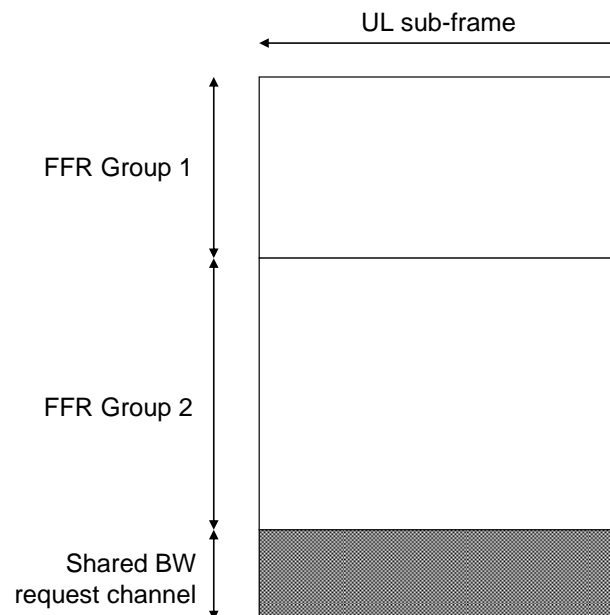


Figure 1 Shared Bandwidth request channel

Proposed Bandwidth Request Method

In order that BS allocates slots on a suitable FFR group region for MS sending a BW-REQ message, BS informs MS of an FFR group selection rule by a broadcast message. This FFR group selection rule includes some thresholds such as MS Tx Power, CINR and interference. And MS sends a Bandwidth Request indicator with FFR Group indication.

When MS sends a bandwidth request indicator to BS, MS selects an FFR group region to send BW-REQ message according to the FFR group selection rule. Then, MS sends a bandwidth request indicator with the FFR group indication corresponding to the selected FFR group. BS, which receives a bandwidth request indicator with FFR group indication, allocates UL grant to send BW-REQ message on the selected FFR group region.

Figure 1 shows the proposed bandwidth request procedure for uplink FFR.

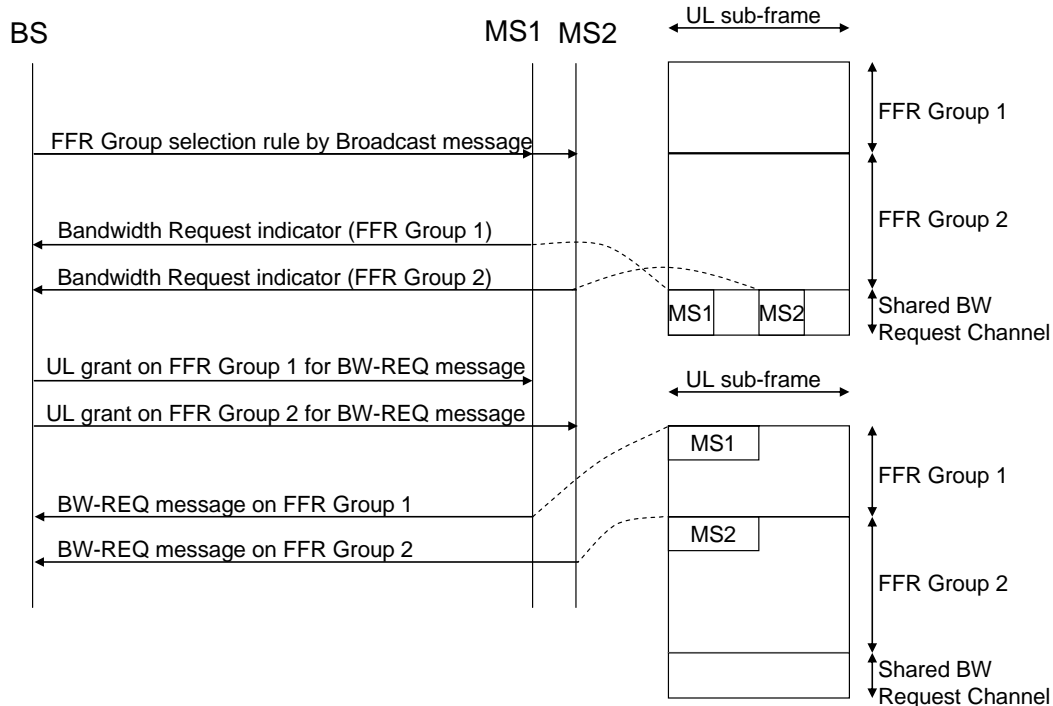


Figure 1. Bandwidth Request Procedure for uplink FFR

Proposed Text to the SDD

[Change the first paragraph of 11.9.2.5 as indicated]

11.9.2.5 Bandwidth Request Channel

Contention based or non-contention based random access is used to transmit a bandwidth request indicator on this control channel. To support different levels of QoS, the bandwidth request channel provides a mechanism for prioritized bandwidth requests. ~~Inclusion of additional information in bandwidth request indicator such as bandwidth request size, MS-ID, flow identifier, uplink transmit power and report CINR report is FFS. A bandwidth request indicator can include bandwidth request size, MS-ID, flow identifier, uplink transmit power report, CINR report and FFR group indication.~~

[Change the second paragraph of 11.9.2.5 as indicated]

The random access bandwidth request procedure is described in Figure 35. A 5-step regular procedure (step 1 to 5) or an optional quick access procedure (step 1, 4 and 5) may be supported concurrently. Step 2 and 3 are used only in 5-step regular procedure. In step 1, MS sends a bandwidth request indicator that may indicate information such as MS addressing and/or request size (FFS) and/or uplink transmit power report (FFS) and FFR group indication when FFR is used for uplink, and the BS may allocate uplink grant based on certain policy. The 5-step regular procedure is used independently or as fallback mode for quick access procedure. The MS may piggyback additional BW-REQ information along with user data during uplink transmission (step 5).