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Title	**Multi-carrier Support in Relay**	
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Re:	SDD Change Request	
Abstract	This contribution specifies multi-carrier support in the RS.	
Purpose	For consideration and adoption into the 16m SDD document.	
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Multi-carrier Support in Relay

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Multi-carrier Operation in Deployments with Relay

In a multi-carrier deployment of 802.16m based system an ABS may operate in multicarrier mode where more than one RF carrier is utilized by a single instantiation of the MAC supporting AMSs also capable of operating on more than one RF carrier.

The RF carriers may all be fully configured or some may be partially configured. Section 19 defines "scenario 1" as the case where all RF carriers are fully configured and "scenario 2" as the case in which some of the RF carriers are partially configured.

In such multi-carrier system there is need for SDD to clarify how ARS's may be used and support the multi-carrier operation.

We believe that ARSs should be used only to relay fully configured carriers as partially configured carriers are mainly targeted for high power broadcast only carriers which in most cases are synchronized to provide macro-diversity.When ARSs are deployed in a multi-carrier deployment individual ARSs can support multiple RF carriers or only a single RF carrier. An example of multi-carrier operation using a multi-carrier RS is shown in Figure 1.
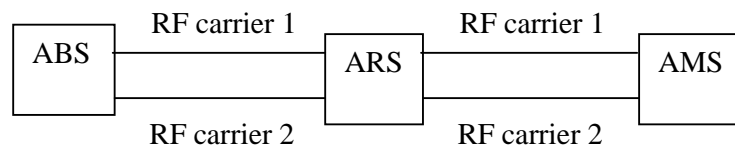

Figure 1 Multi-carrier operation accross multi-carrier ARS

Text Proposal

[Insert the following text into section 15 of the SDD]

15.4.x Relay Support of Multi-Carrier Operation

ARSs may support multi-carrier functionality. All operational principles for multi-carrier operation apply to a system involving ARSs unless explicitly stated otherwise. When multicarrier is enabled in an ARS, only the fully configured carriers are relayed. For a multi-carrier capable AMS, all the carriers over which a service is provided to the AMS, are transmitted by the same station (ABS or ARS).