Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Comments and Proposed SDD Text for Frame Structure Supporting Legacy Frames with a Wider Channel for 802.16m**
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Source(s)	Mo-Han Fong, Jianglei Ma, Sophie Vrzic, Robert Novak, Jun Yuan, Dongsheng Yu, Sang-Youb Kim, Kathiravetpillai Sivanesan, Anna Tee Voice: +1-613-765-8983 E-mail: mhfong@nortel.com Nortel Networks 3500 Carling Avenue Ottawa, Ontario Canada K2H 8E9 *<http://standards.ieee.org/faqs/affiliationFAQ.html>
Re:	IEEE 802.16m-08/016r1 – Call for Contributions on Project 802.16m System Description Document (SDD), on the content of IEEE 802.16m-08/003r1.
Abstract	This contribution proposes the SDD text for frame structure supporting legacy frames with a wider channel for 802.16m
Purpose	To incorporate the proposed text into the Project 802.16m System Description Document
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Comments and Proposed SDD Text for Frame Structure Supporting Legacy Frames with a Wider Channel for 802.16m

Mo-Han Fong, Jianglei Ma, Sophie Vrzic, Robert Novak, Jun Yuan, Dongsheng Yu, Sang-Youb Kim, Kathiravetpillai Sivanesan, Anna Tee

Nortel Networks

1   Introduction

In IEEE 802.16m-08/003r1, the Section 11.4.3 is left as a place holder.

In this contribution, we propose text for section 11.4.3 that addresses different scenarios to allocate one or more legacy channels within the 802.16m system bandwidth. Explicit details on 16m sync channel are not included in the proposed as sync channel is a topic that still needs to be resolved.

2   Proposed SDD Text

11.4.3 Frame Structure Supporting Legacy Frames with a Wider Channel for 802.16m

[Add the following sections and text into 802.16m-08/003r1, section 11.4.3]

In the case where the 802.16m has a wider bandwidth than the legacy system, there can be one or more legacy support channels assigned within the band. The legacy support channel(s) can be assigned at different locations within the band per deployment needs. If the 802.16m MS bandwidth capability is at least 5MHz, the legacy support channel(s) can be located in increments of 5MHz as shown in Figure 11.4.3-1. Some of the legacy support channel(s) can be designated as legacy-only channel.

Figure 11.4.3-2 shows the frame structure for the case where one legacy support channel is allocated in the middle of the 802.16m band. Figure 11.4.3-3 shows the frame structure for the case where more than one legacy support channels is allocated within the 802.16m band. The FRAME_OFFSET shown in Figure 11.4.3-2 and Figure 11.4.3-3 is for illustration. It is an offset between the start of the legacy frame and the start of the new frame. The value and the relative shifting direction of the FRAME_OFFSET is for TBD. The UL sub-frame shown in the figure does not preclude TDM or FDM multiplexing. In a sub-frame duration that contains both legacy support channel and 802.16m channel, guard bands are assigned between adjacent legacy support channel and an 802.16m channel. In a sub-frame duration that contains only 802.16m channel, guard bands may be omitted.
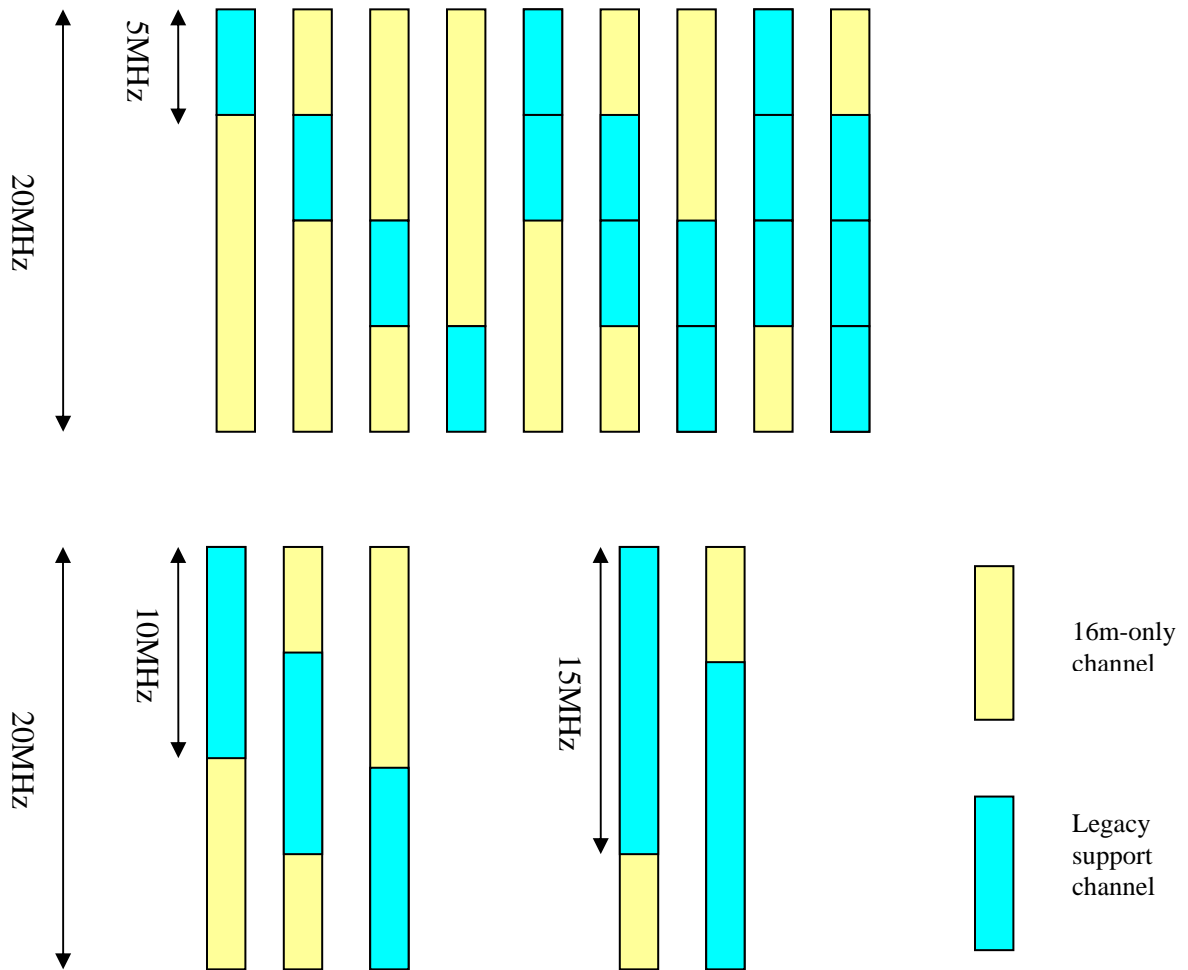
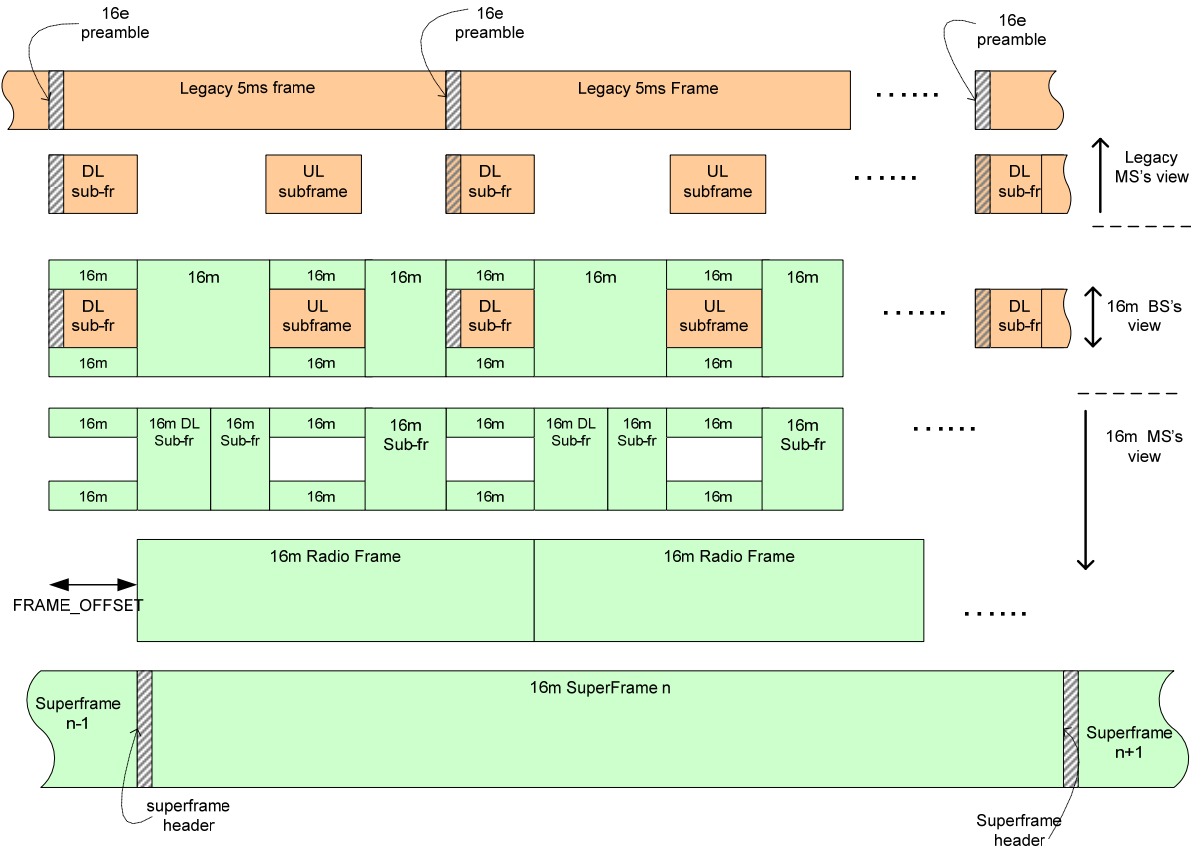Figure 11.4.3-1 Multiplexing of legacy and 16m channels

Figure 11.4.3-2 Frame Structure for the case where one legacy channel is assigned in the middle of the 802.16m band
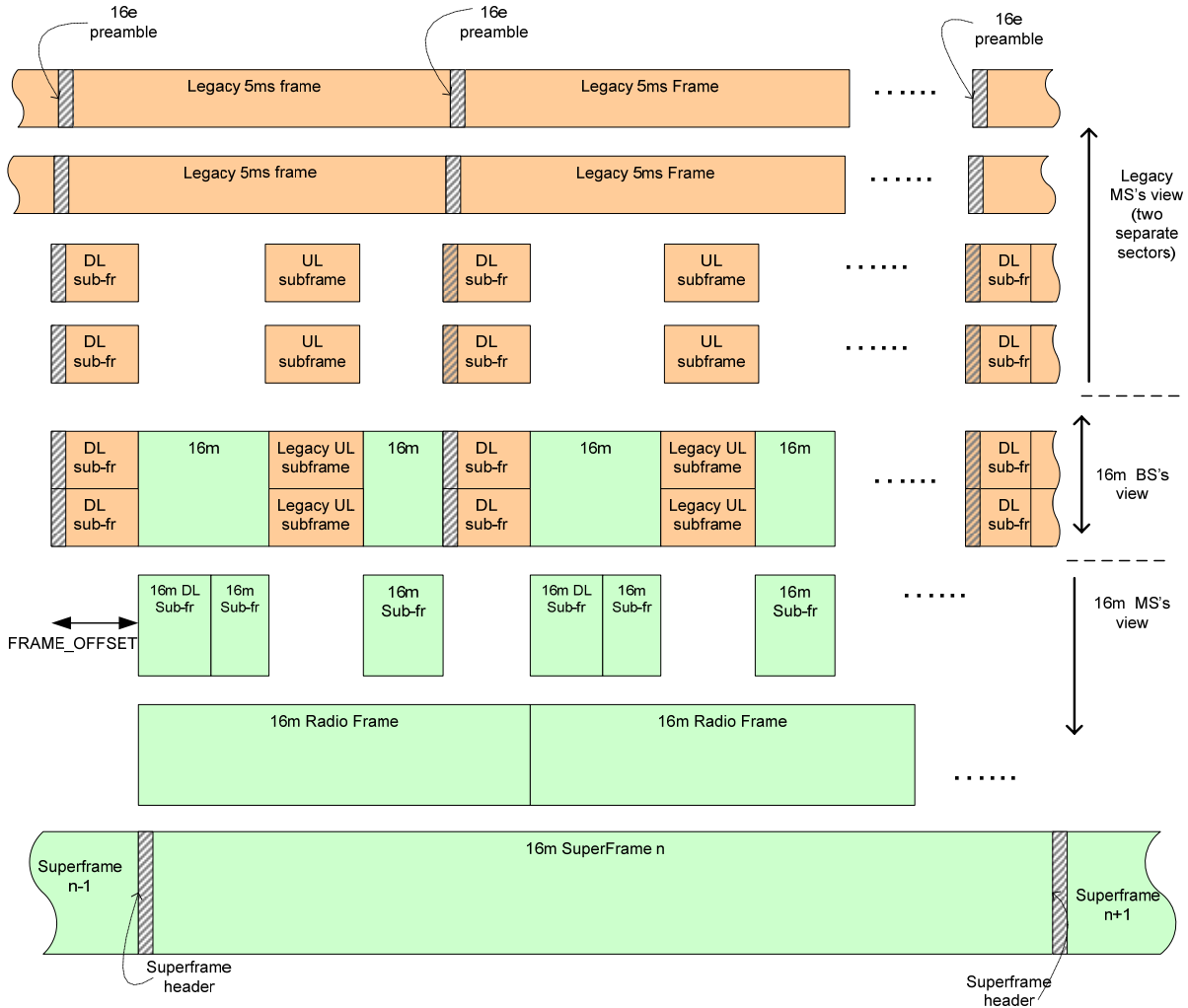
Figure 11.4.3-3 Frame Structure for the case where the two legacy channels are assigned within the 802.16m band