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| **Cable**LabsSpecification Engineering Change (EC) Form |
| **EC Tracking Information (Blue fields to be completed by CableLabs only)** |
| **Project** | DOCSIS | **Status** | N | **Identifier** | MULPIv4.0-N-22.2239-1 | **Version** | 1 |
| **Affected Specification** | CM-SP-MULPIv4.0-I04-210826 |
| **ECR Date** | 02/24/2022 | **Comment Period End Date** | 03/09/2022 | **Severity** | **Change Type** |
| **ECO Date** | 03/10/2022 | **Comment Period End Date** | 03/23/2022 | **[x]  Non-Critical** | **[x]  Minor** |
| **ECN Date** | 03/24/2022 | **Cert Wave No** |  | [ ]  **Critical** | **[ ]  Major** |
| **ECN Effective Date** |  | **Overall Type of Change (Tech/Edit/Both)** | Both |

to obtain latest issued Specification Word version, click the following: [https://community.cablelabs.com/wiki/display/TECHPUBS/DOCSIS+Spec+Current+Issued](https://community.cablelabs.com/wiki/display/TECHPUBS/DOCSIS%2BSpec%2BCurrent%2BIssued)

to submit ec, email completed form to: docsis\_ec@cablelabs.com

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| **specification document details** |
| **Document EC is written against:**   **Issued Version #** I04 |
| **author information** |
| **Primary Author** | **First** Rex **Last** Coldren  | **Country** | USA |
| **Email** | rex.coldren@vecima.com | **Phone** | 1 602 206 2690 |
| **Company** | Vecima |
| **Additional Contributors** | D4.0 MAC WG |
| **engineering change document details** |
| **Title of EC** | Support for Overlapping OFDMA Channels (OOC) |
| **Date sent to CableLabs** | 2/24/22 |  |
| **ec revision history** |
| **Date of revised EC** |       |
| **Brief description of revision** |       |
| **detailed proposed changes** |
| Sections Affected | 5.2.4.8 |
| REQs Affected |  | Test Plans Affected |  |
| If you selected 'Yes' to Test Plans Affected, and the affected TP is Issued, please fill out a separate EC using form DOCSIS\_3.1ATP-only\_EC-Form at [https://community.cablelabs.com/wiki/display/TECHPUBS/DOCSIS+ECs](https://community.cablelabs.com/wiki/display/TECHPUBS/DOCSIS%2BECs) |

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| **Does this EC request a new TLV or sub-TLV number?** Yes \_\_\_ (See embedded change detail form for TLV table templates.) |
| **Does this EC request a new *or* revised figure or graphic?**  Yes \_\_\_ If yes, attach all graphic files and list in the table below. NOTE: Graphics submitted must be **editable** except for UML diagrams. |

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| **This Engineering Change has the following file(s) attached.**  |
| **Attachment type:** (Visio, Word, txt, .yang, etc.) | **File Name of Attachment(s)** |
|  |  |

other related engineering changes —list all ECs recommended to be processed with his EC

EC#: Title of EC: Affected Document:

**DETAILED DESCRIPTION OF PROBLEM:**

DOCSIS 3.1/4.0 requires support for two OFDMA channels. In a High-Split band plan, one of those OFDMA channels is ideally placed from 108 to 204 MHz. The other OFDMA channel would cover spectrum below 108 MHz. When the plant simultaneously has a mix of DOCSIS 3.1 cable modems that need to operate in Low-Split, Mid-Split, and High-Split mode, there is currently no way specified to make the best use of the OFDMA channel below 108 MHz.

As an example, a Mid-Split cable modem can only transmit up to 85 MHz. If the OFDMA channel is configured to best suit the Mid-Split cable modem, spectrum from 85 to 108 MHz is wasted. Similarly, a Low-Split cable modem can only transmit up to 42 MHz. If the OFDMA channel is configured to best suit the Low-Split cable modem, spectrum from 42 to 108 MHz is wasted. Ideally, the OFDMA channel can cover spectrum from some lower bound frequency (e.g., 12 MHz) to 108 MHz and all three DOCSIS 3.1 cable modem types can use it simultaneously. This EC describes a way in which existing DOCSIS 3.1/4.0 specifications can be leveraged to accomplish this with changes only to the CMTS software.

**CHANGE DETAILS FOR THE SPECIFICATION:**

Markup of Engineering Change details **for the specification are** contained in the following embedded files.
There are 2 different options for including change details:

1) complete the DOCSIS Spec Change Details form (deleting the REQs-MetadataChg Details doc below) ***or***

2) complete compilation engineering change details (usually a markup of the entire spec Word document) and
 then complete the REQs-Metadata Chg Details doc.

If embedding a markup version of the entire affected document instead, please delete 1) REQ-SpecChangeDetails document below, then embed the marked up spec doc EC *and* the completed 2) REQ-MetadataChgDetails docs.

1) 

2) Embedded compilation change details (usually a markup of the entire specification) + REQ-Metadata Change Details document:

(compilation doc) *plus:*

 

If assistance is required on how to embed documents in this form, please contact the project spec lead.

**End of Request**