IEEE P802.11  
 Wireless LANs

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| **Proposed TGbd draft specification**  **NGV modulation and coding scheme (NGV-MCS)** |
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Abstract

This document contains a proposal for the TGbd draft amendment. It captures the feature requirements outlined in the TGbd specification framework document (11-19/0497) in detailed draft text.

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# Next Generation V2X (NGV) PHY specification

## Intorduction

## NGV PPDU format

## Transmitter block diagram

## Overview of the PPDU encoding process

## NGV modulation and coding schemes

The NGV-MCS is a value that determines the modulation and coding used in the Data field of the PPDU. It is a compact representation that is carried in the TBD for NGV PPDUs. Rate-dependent parameters for the full set of NGV-MCSs are shown in Table 33-x1 (NGV-MCSs for 10 MHz, NSS = 1) to Table 33-x4 (NGV-MCSs for 20 MHz, NSS = 2) (in 33.15 (Parameters for NGV-MCSs)). These tables give rate-dependent parameters for NGV-MCSs with indices 0 to TBD, with number of spatial streams from 1 to 2 and bandwidth options of 10 MHz and 20 MHz. Equal modulation (EQM) is applied to all streams for a particular user.

DCM is a modulation scheme used for the the Data field in an NGV PPDU. The use of DCM on the Data field of an NGV PPDU is indicated in the TBD. DCM is applied only for the NGV-MCS 0.

## Timing related parameters

## Mathematical description of signals

## NGV Preamble

## Data field

## Transmit specification

## Receiver specification

## NGV transmit procedure

## NGV receive proceduee

## Regulatory requirements

## Parameters for NGV-MCSs

The rate-dependent parameters for 10 MHz and 20 MHz are given in Table 33-x1 (NGV-MCSs for 10 MHz, NSS = 1) to Table 33-x4 (NGV-MCSs for 20 MHz, NSS = 2).

Table 33-x1—NGV-MCSs for 10 MHz, NSS = 1

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **NGV-MCS Index** | **Modula- tion** | **R** | ***NBPSCS*** | ***NSD*** | ***NCBPS*** | ***NDBPS*** | **Data rate (Mb/s)**  **1.6 μs GI** |
| TBD | TBD | TBD | TBD | TBD | TBD | TBD | TBD |

Table 33-x2—NGV-MCSs for 10 MHz, NSS = 2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **NGV-MCS Index** | **Modula- tion** | **R** | ***NBPSCS*** | ***NSD*** | ***NCBPS*** | ***NDBPS*** | **Data rate (Mb/s)**  **1.6 μs GI** |
| TBD | TBD | TBD | TBD | TBD | TBD | TBD | TBD |

Table 33-x3—NGV-MCSs for 20 MHz, NSS = 1

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **NGV-MCS Index** | **Modula- tion** | **R** | ***NBPSCS*** | ***NSD*** | ***NCBPS*** | ***NDBPS*** | **Data rate (Mb/s)**  **1.6 μs GI** |
| TBD | TBD | TBD | TBD | TBD | TBD | TBD | TBD |

Table 33-x4—NGV-MCSs for 20 MHz, NSS = 2

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **NGV-MCS Index** | **Modula- tion** | **R** | ***NBPSCS*** | ***NSD*** | ***NCBPS*** | ***NDBPS*** | **Data rate (Mb/s)**  **1.6 μs GI** |
| TBD | TBD | TBD | TBD | TBD | TBD | TBD | TBD |