IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Proposed Draft Text: Parameters for EHT-MCSs | | | | |
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Abstract

This submission shows

* Tables for EHT-MCSs with *NSS* = 1for
  1. 26-tone RU,
  2. 52-tone RU,
  3. 78-tone RU,
  4. 106-tone RU,
  5. 132-tone RU,
  6. 242-tone RU and non-OFDMA 20 MHz,
  7. 484-tone RU and non-OFDMA 40 MHz,
  8. (484+242)-tone RU and non-OFDMA 80 MHz puncturing 20 MHz,
  9. 996-tone RU and non-OFDMA 80 MHz,
  10. (996+484)-tone RU and non-OFDMA 160 MHz puncturing 40 MHz,
  11. (996+484+242)-tone RU and non-OFDMA 160 MHz puncturing 20 MHz,
  12. 2×996-tone RU and non-OFDMA 160 MHz and 80+80 MHz,
  13. (2×996+484)-tone RU and non-OFDMA 320 MHz puncturing 120 MHz,
  14. (3×996)-tone RU and non-OFDMA 320 MHz puncturing 80 MHz,
  15. (3×996+484)-tone RU and non-OFDMA 320 MHz puncturing 40 MHz,
  16. 4×996-tone RU and non-OFDMA 320 MHz and 160+160 MHz.
* Parameters for EHT-MCSs with *Nss* = 2, …, 16 can be obtained by multiplying *NSS* to parameters based on *NSS* = 1.
* The proposed text is in accordance with the following Motions:
  + Motion 111, #SP0611-21
  + Motion 112, #SP147
  + Motion 122, #SP148
  + Motion 122, #SP162
* Highlight remains as TBD

Revisions:

* Rev 0: Initial version of the document.
* Rev 1:
  + add BPSK-DCM and BPSK-DCM-DUP with MCS index TBD
  + unified symbols *NSS,u*, *Ru*, *NBPSCS,u*, *NCBPS,u*, and *NDBPS,u* for user *u* for SU and MU transmission
* Rev 2:
  + TBD updated to fill MCS index and coding rate
  + Separate table for BPSK-DCM-DUP (TBD)
* Rev 3:
  + Fixed based on feedbacks in the PHY ad-hoc teleconference call (09/10/2020)

34.X Parameters for EHT-MCSs

The rate-dependent parameters for various RU sizes using *NSS,u* = 1 are provided in Table 34-x1 (EHT-MCSs for 26-tone RU, *NSS* = 1) through Table 34-x16 (EHT-MCSs for 4×996-tone RU, *NSS* = 1). The rate-dependent parameters for BPSK-DCM-DUP mode are provided in Table 34-y1 (EHT-MCSs for BPSK-DCM-DUP, *NSS,u*= 1) (TBD)

*NCBPS,u* for MCS *M* using *NSS,u* greater than 1 can be obtained by multiplying *NSS,u* to *NCBPS,u* for MCS *M* using *NSS,u* = 1.

*NDBPS,u* and data rate in Mbps (*D*) are computed using Equation (XX-X1) and (XX-X2), respectively.

(XX-X1)

(XX-X2)

where

is the coding rate for user *u*, *u* = 0, …,

*TGI,Data* is the Guard interval duration for the Data field in µsec

BPSK-DCM(TBD) and BPSK-DCM-DUP(TBD) are supported only with *NSS,u* = 1.

EHT-MCSs are defined for user *u* in SU transmission or MU transmission. The parameters are *NSS,u*, *Ru*, *NBPSCS,u*, *NCBPS,u*, and *NDBPS,u*, respectively.

|  |
| --- |
|  |

Table 34-x1 EHT-MCSs for 26-tone RU, *NSS,u* = 1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 24 | 24 | 12 | 0.9 | 0.8 | 0.8 |
| 1 | QPSK | 1/2 | 2 | 48 | 24 | 1.8 | 1.7 | 1.5 |
| 2 | 3/4 | 36 | 2.6 | 2.5 | 2.3 |
| 3 | 16-QAM | 1/2 | 4 | 96 | 48 | 3.5 | 3.3 | 3.0 |
| 4 | 3/4 | 72 | 5.3 | 5.0 | 4.5 |
| 5 | 64-QAM | 2/3 | 6 | 144 | 96 | 7.1 | 6.7 | 6.0 |
| 6 | 3/4 | 108 | 7.9 | 7.5 | 6.8 |
| 7 | 5/6 | 120 | 8.8 | 8.3 | 7.5 |
| 8 | 256-QAM | 3/4 | 8 | 192 | 144 | 10.6 | 10.0 | 9.0 |
| 9 | 5/6 | 160 | 11.8 | 11.1 | 10.0 |
| 10 | 1024-QAM | 3/4 | 10 | 240 | 180 | 13.2 | 12.5 | 11.3 |
| 11 | 5/6 | 200 | 14.7 | 13.9 | 12.5 |
| 12 | 4096-QAM | 3/4 | 12 | 288 | 216 | 15.9 | 15.0 | 13.5 |
| 13 | 5/6 | 240 | 17.6 | 16.7 | 15.0 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 12 | 12 | 6 | 0.4 | 0.4 | 0.4 |

**Table 34-x2 EHT-MCSs for 52-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 48 | 48 | 24 | 1.8 | 1.7 | 1.5 |
| 1 | QPSK | 1/2 | 2 | 96 | 48 | 3.5 | 3.3 | 3.0 |
| 2 | 3/4 | 72 | 5.3 | 5.0 | 4.5 |
| 3 | 16-QAM | 1/2 | 4 | 192 | 96 | 7.1 | 6.7 | 6.0 |
| 4 | 3/4 | 144 | 10.6 | 10.0 | 9.0 |
| 5 | 64-QAM | 2/3 | 6 | 288 | 192 | 14.1 | 13.3 | 12.0 |
| 6 | 3/4 | 216 | 15.9 | 15.0 | 13.5 |
| 7 | 5/6 | 240 | 17.6 | 16.7 | 15.0 |
| 8 | 256-QAM | 3/4 | 8 | 384 | 288 | 21.2 | 20.0 | 18.0 |
| 9 | 5/6 | 320 | 23.5 | 22.2 | 20.0 |
| 10 | 1024-QAM | 3/4 | 10 | 480 | 360 | 26.5 | 25.0 | 22.5 |
| 11 | 5/6 | 400 | 29.4 | 27.8 | 25.0 |
| 12 | 4096-QAM | 3/4 | 12 | 576 | 432 | 31.8 | 30.0 | 27.0 |
| 13 | 5/6 | 480 | 35.3 | 33.3 | 30.0 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 24 | 24 | 12 | 0.9 | 0.8 | 0.8 |

**Table 34-x3 EHT-MCSs for 78-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 72 | 72 | 36 | 2.6 | 2.5 | 2.3 |
| 1 | QPSK | 1/2 | 2 | 144 | 72 | 5.3 | 5.0 | 4.5 |
| 2 | 3/4 | 108 | 7.9 | 7.5 | 6.8 |
| 3 | 16-QAM | 1/2 | 4 | 288 | 144 | 10.6 | 10.0 | 9.0 |
| 4 | 3/4 | 216 | 15.9 | 15.0 | 13.5 |
| 5 | 64-QAM | 2/3 | 6 | 432 | 288 | 21.2 | 20.0 | 18.0 |
| 6 | 3/4 | 324 | 23.8 | 22.5 | 20.3 |
| 7 | 5/6 | 360 | 26.5 | 25.0 | 22.5 |
| 8 | 256-QAM | 3/4 | 8 | 576 | 432 | 31.8 | 30.0 | 27.0 |
| 9 | 5/6 | 480 | 35.3 | 33.3 | 30.0 |
| 10 | 1024-QAM | 3/4 | 10 | 720 | 540 | 39.7 | 37.5 | 33.8 |
| 11 | 5/6 | 600 | 44.1 | 41.7 | 37.5 |
| 12 | 4096-QAM | 3/4 | 12 | 864 | 648 | 47.6 | 45.0 | 40.5 |
| 13 | 5/6 | 720 | 52.9 | 50.0 | 45.0 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 36 | 36 | 18 | 1.3 | 1.3 | 1.1 |

**Table 34-x4 EHT-MCSs for 106-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 102 | 102 | 51 | 3.8 | 3.5 | 3.2 |
| 1 | QPSK | 1/2 | 2 | 204 | 102 | 7.5 | 7.1 | 6.4 |
| 2 | 3/4 | 153 | 11.3 | 10.6 | 9.6 |
| 3 | 16-QAM | 1/2 | 4 | 408 | 204 | 15.0 | 14.2 | 12.8 |
| 4 | 3/4 | 306 | 22.5 | 21.3 | 19.1 |
| 5 | 64-QAM | 2/3 | 6 | 612 | 408 | 30.0 | 28.3 | 25.5 |
| 6 | 3/4 | 459 | 33.8 | 31.9 | 28.7 |
| 7 | 5/6 | 510 | 37.5 | 35.4 | 31.9 |
| 8 | 256-QAM | 3/4 | 8 | 816 | 612 | 45.0 | 42.5 | 38.3 |
| 9 | 5/6 | 680 | 50.0 | 47.2 | 42.5 |
| 10 | 1024-QAM | 3/4 | 10 | 1,020 | 765 | 56.3 | 53.1 | 47.8 |
| 11 | 5/6 | 850 | 62.5 | 59.0 | 53.1 |
| 12 | 4096-QAM | 3/4 | 12 | 1,224 | 918 | 67.5 | 63.8 | 57.4 |
| 13 | 5/6 | 1,020 | 75.0 | 70.8 | 63.8 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 51 | 51 | 25 | 1.8 | 1.7 | 1.6 |

**Table 34-x5 EHT-MCSs for 132-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 126 | 126 | 63 | 4.6 | 4.4 | 3.9 |
| 1 | QPSK | 1/2 | 2 | 252 | 126 | 9.3 | 8.8 | 7.9 |
| 2 | 3/4 | 189 | 13.9 | 13.1 | 11.8 |
| 3 | 16-QAM | 1/2 | 4 | 504 | 252 | 18.5 | 17.5 | 15.8 |
| 4 | 3/4 | 378 | 27.8 | 26.3 | 23.6 |
| 5 | 64-QAM | 2/3 | 6 | 756 | 504 | 37.1 | 35.0 | 31.5 |
| 6 | 3/4 | 567 | 41.7 | 39.4 | 35.4 |
| 7 | 5/6 | 630 | 46.3 | 43.8 | 39.4 |
| 8 | 256-QAM | 3/4 | 8 | 1,008 | 756 | 55.6 | 52.5 | 47.3 |
| 9 | 5/6 | 840 | 61.8 | 58.3 | 52.5 |
| 10 | 1024-QAM | 3/4 | 10 | 1,260 | 945 | 69.5 | 65.6 | 59.1 |
| 11 | 5/6 | 1,050 | 77.2 | 72.9 | 65.6 |
| 12 | 4096-QAM | 3/4 | 12 | 1,512 | 1,134 | 83.4 | 78.8 | 70.9 |
| 13 | 5/6 | 1,260 | 92.6 | 87.5 | 78.8 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 63 | 63 | 31 | 2.3 | 2.2 | 1.9 |

**Table 34-x6 EHT-MCSs for 242-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 234 | 234 | 117 | 8.6 | 8.1 | 7.3 |
| 1 | QPSK | 1/2 | 2 | 468 | 234 | 17.2 | 16.3 | 14.6 |
| 2 | 3/4 | 351 | 25.8 | 24.4 | 21.9 |
| 3 | 16-QAM | 1/2 | 4 | 936 | 468 | 34.4 | 32.5 | 29.3 |
| 4 | 3/4 | 702 | 51.6 | 48.8 | 43.9 |
| 5 | 64-QAM | 2/3 | 6 | 1,404 | 936 | 68.8 | 65.0 | 58.5 |
| 6 | 3/4 | 1,053 | 77.4 | 73.1 | 65.8 |
| 7 | 5/6 | 1,170 | 86.0 | 81.3 | 73.1 |
| 8 | 256-QAM | 3/4 | 8 | 1,872 | 1,404 | 103.2 | 97.5 | 87.8 |
| 9 | 5/6 | 1,560 | 114.7 | 108.3 | 97.5 |
| 10 | 1024-QAM | 3/4 | 10 | 2,340 | 1,755 | 129.0 | 121.9 | 109.7 |
| 11 | 5/6 | 1,950 | 143.4 | 135.4 | 121.9 |
| 12 | 4096-QAM | 3/4 | 12 | 2,808 | 2,106 | 154.9 | 146.3 | 131.6 |
| 13 | 5/6 | 2,340 | 172.1 | 162.5 | 146.3 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 117 | 117 | 58 | 4.3 | 4.0 | 3.6 |

**Table 34-x7 EHT-MCSs for 484-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 468 | 468 | 234 | 17.2 | 16.3 | 14.6 |
| 1 | QPSK | 1/2 | 2 | 936 | 468 | 34.4 | 32.5 | 29.3 |
| 2 | 3/4 | 702 | 51.6 | 48.8 | 43.9 |
| 3 | 16-QAM | 1/2 | 4 | 1,872 | 936 | 68.8 | 65.0 | 58.5 |
| 4 | 3/4 | 1,404 | 103.2 | 97.5 | 87.8 |
| 5 | 64-QAM | 2/3 | 6 | 2,808 | 1,872 | 137.6 | 130.0 | 117.0 |
| 6 | 3/4 | 2,106 | 154.9 | 146.3 | 131.6 |
| 7 | 5/6 | 2,340 | 172.1 | 162.5 | 146.3 |
| 8 | 256-QAM | 3/4 | 8 | 3,744 | 2,808 | 206.5 | 195.0 | 175.5 |
| 9 | 5/6 | 3,120 | 229.4 | 216.7 | 195.0 |
| 10 | 1024-QAM | 3/4 | 10 | 4,680 | 3,510 | 258.1 | 243.8 | 219.4 |
| 11 | 5/6 | 3,900 | 286.8 | 270.8 | 243.8 |
| 12 | 4096-QAM | 3/4 | 12 | 5,616 | 4,212 | 309.7 | 292.5 | 263.3 |
| 13 | 5/6 | 4,680 | 344.1 | 325.0 | 292.5 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 234 | 234 | 117 | 8.6 | 8.1 | 7.3 |

**Table 34-x8 EHT-MCSs for (484+242)-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 702 | 702 | 351 | 25.8 | 24.4 | 21.9 |
| 1 | QPSK | 1/2 | 2 | 1,404 | 702 | 51.6 | 48.8 | 43.9 |
| 2 | 3/4 | 1,053 | 77.4 | 73.1 | 65.8 |
| 3 | 16-QAM | 1/2 | 4 | 2,808 | 1,404 | 103.2 | 97.5 | 87.8 |
| 4 | 3/4 | 2,106 | 154.9 | 146.3 | 131.6 |
| 5 | 64-QAM | 2/3 | 6 | 4,212 | 2,808 | 206.5 | 195.0 | 175.5 |
| 6 | 3/4 | 3,159 | 232.3 | 219.4 | 197.4 |
| 7 | 5/6 | 3,510 | 258.1 | 243.8 | 219.4 |
| 8 | 256-QAM | 3/4 | 8 | 5,616 | 4,212 | 309.7 | 292.5 | 263.3 |
| 9 | 5/6 | 4,680 | 344.1 | 325.0 | 292.5 |
| 10 | 1024-QAM | 3/4 | 10 | 7,020 | 5,265 | 387.1 | 365.6 | 329.1 |
| 11 | 5/6 | 5,850 | 430.1 | 406.3 | 365.6 |
| 12 | 4096-QAM | 3/4 | 12 | 8,424 | 6,318 | 464.6 | 438.8 | 394.9 |
| 13 | 5/6 | 7,020 | 516.2 | 487.5 | 438.8 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 351 | 351 | 175 | 12.9 | 12.2 | 10.9 |

**Table 34-x9 EHT-MCSs for 996-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 980 | 980 | 490 | 36.0 | 34.0 | 30.6 |
| 1 | QPSK | 1/2 | 2 | 1,960 | 980 | 72.1 | 68.1 | 61.3 |
| 2 | 3/4 | 1,470 | 108.1 | 102.1 | 91.9 |
| 3 | 16-QAM | 1/2 | 4 | 3,920 | 1,960 | 144.1 | 136.1 | 122.5 |
| 4 | 3/4 | 2,940 | 216.2 | 204.2 | 183.8 |
| 5 | 64-QAM | 2/3 | 6 | 5,880 | 3,920 | 288.2 | 272.2 | 245.0 |
| 6 | 3/4 | 4,410 | 324.3 | 306.3 | 275.6 |
| 7 | 5/6 | 4,900 | 360.3 | 340.3 | 306.3 |
| 8 | 256-QAM | 3/4 | 8 | 7,840 | 5,880 | 432.4 | 408.3 | 367.5 |
| 9 | 5/6 | 6,533 | 480.4 | 453.7 | 408.3 |
| 10 | 1024-QAM | 3/4 | 10 | 9,800 | 7,350 | 540.4 | 510.4 | 459.4 |
| 11 | 5/6 | 8,166 | 600.4 | 567.1 | 510.4 |
| 12 | 4096-QAM | 3/4 | 12 | 11,760 | 8,820 | 648.5 | 612.5 | 551.3 |
| 13 | 5/6 | 9,800 | 720.6 | 680.6 | 612.5 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 490 | 490 | 245 | 18.0 | 17.0 | 15.3 |

**Table 34-x10 EHT-MCSs for (996+484)-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 1448 | 1,448 | 724 | 53.2 | 50.3 | 45.3 |
| 1 | QPSK | 1/2 | 2 | 2,896 | 1,448 | 106.5 | 100.6 | 90.5 |
| 2 | 3/4 | 2,172 | 159.7 | 150.8 | 135.8 |
| 3 | 16-QAM | 1/2 | 4 | 5,792 | 2,896 | 212.9 | 201.1 | 181.0 |
| 4 | 3/4 | 4,344 | 319.4 | 301.7 | 271.5 |
| 5 | 64-QAM | 2/3 | 6 | 8,688 | 5,792 | 425.9 | 402.2 | 362.0 |
| 6 | 3/4 | 6,516 | 479.1 | 452.5 | 407.3 |
| 7 | 5/6 | 7,240 | 532.4 | 502.8 | 452.5 |
| 8 | 256-QAM | 3/4 | 8 | 11,584 | 8,688 | 638.8 | 603.3 | 543.0 |
| 9 | 5/6 | 9,653 | 709.8 | 670.3 | 603.3 |
| 10 | 1024-QAM | 3/4 | 10 | 14,480 | 10,860 | 798.5 | 754.2 | 678.8 |
| 11 | 5/6 | 12,066 | 887.2 | 837.9 | 754.1 |
| 12 | 4096-QAM | 3/4 | 12 | 17,376 | 13,032 | 958.2 | 905.0 | 814.5 |
| 13 | 5/6 | 14,480 | 1064.7 | 1005.6 | 905.0 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 724 | 724 | 362 | 26.6 | 25.1 | 22.6 |

**Table 34-x11 EHT-MCSs for (996+484+242)-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
|  |  |  |  |  |  |  |  |  |  |
| 0 | BPSK | 1/2 | 1 | 1682 | 1,682 | 841 | 61.8 | 58.4 | 52.6 |
| 1 | QPSK | 1/2 | 2 | 3,364 | 1,682 | 123.7 | 116.8 | 105.1 |
| 2 | 3/4 | 2,523 | 185.5 | 175.2 | 157.7 |
| 3 | 16-QAM | 1/2 | 4 | 6,728 | 3,364 | 247.4 | 233.6 | 210.3 |
| 4 | 3/4 | 5,046 | 371.0 | 350.4 | 315.4 |
| 5 | 64-QAM | 2/3 | 6 | 10,092 | 6,728 | 494.7 | 467.2 | 420.5 |
| 6 | 3/4 | 7,569 | 556.5 | 525.6 | 473.1 |
| 7 | 5/6 | 8,410 | 618.4 | 584.0 | 525.6 |
| 8 | 256-QAM | 3/4 | 8 | 13,456 | 10,092 | 742.1 | 700.8 | 630.8 |
| 9 | 5/6 | 11,213 | 824.5 | 778.7 | 700.8 |
| 10 | 1024-QAM | 3/4 | 10 | 16,820 | 12,615 | 927.6 | 876.0 | 788.4 |
| 11 | 5/6 | 14,016 | 1030.6 | 973.3 | 876.0 |
| 12 | 4096-QAM | 3/4 | 12 | 20,184 | 15,138 | 1113.1 | 1051.3 | 946.1 |
| 13 | 5/6 | 16,820 | 1236.8 | 1168.1 | 1051.3 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 841 | 841 | 420 | 30.9 | 29.2 | 26.3 |

**Table 34-x12 EHT-MCSs for 2×996-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 1960 | 1,960 | 980 | 72.1 | 68.1 | 61.3 |
| 1 | QPSK | 1/2 | 2 | 3,920 | 1,960 | 144.1 | 136.1 | 122.5 |
| 2 | 3/4 | 2,940 | 216.2 | 204.2 | 183.8 |
| 3 | 16-QAM | 1/2 | 4 | 7,840 | 3,920 | 288.2 | 272.2 | 245.0 |
| 4 | 3/4 | 5,880 | 432.4 | 408.3 | 367.5 |
| 5 | 64-QAM | 2/3 | 6 | 11,760 | 7,840 | 576.5 | 544.4 | 490.0 |
| 6 | 3/4 | 8,820 | 648.5 | 612.5 | 551.3 |
| 7 | 5/6 | 9,800 | 720.6 | 680.6 | 612.5 |
| 8 | 256-QAM | 3/4 | 8 | 15,680 | 11,760 | 864.7 | 816.7 | 735.0 |
| 9 | 5/6 | 13,066 | 960.7 | 907.4 | 816.6 |
| 10 | 1024-QAM | 3/4 | 10 | 19,600 | 14,700 | 1080.9 | 1020.8 | 918.8 |
| 11 | 5/6 | 16,333 | 1201.0 | 1134.2 | 1020.8 |
| 12 | 4096-QAM | 3/4 | 12 | 23,520 | 17,640 | 1297.1 | 1225.0 | 1102.5 |
| 13 | 5/6 | 19,600 | 1441.2 | 1361.1 | 1225.0 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 980 | 980 | 490 | 36.0 | 34.0 | 30.6 |

**Table 34-x13 EHT-MCSs for (2×996+484)-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 2428 | 2,428 | 1,214 | 89.3 | 84.3 | 75.9 |
| 1 | QPSK | 1/2 | 2 | 4,856 | 2,428 | 178.5 | 168.6 | 151.8 |
| 2 | 3/4 | 3,642 | 267.8 | 252.9 | 227.6 |
| 3 | 16-QAM | 1/2 | 4 | 9,712 | 4,856 | 357.1 | 337.2 | 303.5 |
| 4 | 3/4 | 7,284 | 535.6 | 505.8 | 455.3 |
| 5 | 64-QAM | 2/3 | 6 | 14,568 | 9,712 | 714.1 | 674.4 | 607.0 |
| 6 | 3/4 | 10,926 | 803.4 | 758.8 | 682.9 |
| 7 | 5/6 | 12,140 | 892.6 | 843.1 | 758.8 |
| 8 | 256-QAM | 3/4 | 8 | 19,424 | 14,568 | 1071.2 | 1011.7 | 910.5 |
| 9 | 5/6 | 16,186 | 1190.1 | 1124.0 | 1011.6 |
| 10 | 1024-QAM | 3/4 | 10 | 24,280 | 18,210 | 1339.0 | 1264.6 | 1138.1 |
| 11 | 5/6 | 20,233 | 1487.7 | 1405.1 | 1264.6 |
| 12 | 4096-QAM | 3/4 | 12 | 29,136 | 21,852 | 1606.8 | 1517.5 | 1365.8 |
| 13 | 5/6 | 24,280 | 1785.3 | 1686.1 | 1517.5 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 1214 | 1,214 | 607 | 44.6 | 42.2 | 37.9 |

**Table 34-x14 EHT-MCSs for 3×996-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 2940 | 2,940 | 1,470 | 108.1 | 102.1 | 91.9 |
| 1 | QPSK | 1/2 | 2 | 5,880 | 2,940 | 216.2 | 204.2 | 183.8 |
| 2 | 3/4 | 4,410 | 324.3 | 306.3 | 275.6 |
| 3 | 16-QAM | 1/2 | 4 | 11,760 | 5,880 | 432.4 | 408.3 | 367.5 |
| 4 | 3/4 | 8,820 | 648.5 | 612.5 | 551.3 |
| 5 | 64-QAM | 2/3 | 6 | 17,640 | 11,760 | 864.7 | 816.7 | 735.0 |
| 6 | 3/4 | 13,230 | 972.8 | 918.8 | 826.9 |
| 7 | 5/6 | 14,700 | 1080.9 | 1020.8 | 918.8 |
| 8 | 256-QAM | 3/4 | 8 | 23,520 | 17,640 | 1297.1 | 1225.0 | 1102.5 |
| 9 | 5/6 | 19,600 | 1441.2 | 1361.1 | 1225.0 |
| 10 | 1024-QAM | 3/4 | 10 | 29,400 | 22,050 | 1621.3 | 1531.3 | 1378.1 |
| 11 | 5/6 | 24,500 | 1801.5 | 1701.4 | 1531.3 |
| 12 | 4096-QAM | 3/4 | 12 | 35,280 | 26,460 | 1945.6 | 1837.5 | 1653.8 |
| 13 | 5/6 | 29,400 | 2161.8 | 2041.7 | 1837.5 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 1470 | 1,470 | 735 | 54.0 | 51.0 | 45.9 |

**Table 34-x15 EHT-MCSs for (3×996+484)-tone RU, *NSS,u* = 1**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 3408 | 3,408 | 1,704 | 125.3 | 118.3 | 106.5 |
| 1 | QPSK | 1/2 | 2 | 6,816 | 3,408 | 250.6 | 236.7 | 213.0 |
| 2 | 3/4 | 5,112 | 375.9 | 355.0 | 319.5 |
| 3 | 16-QAM | 1/2 | 4 | 13,632 | 6,816 | 501.2 | 473.3 | 426.0 |
| 4 | 3/4 | 10,224 | 751.8 | 710.0 | 639.0 |
| 5 | 64-QAM | 2/3 | 6 | 20,448 | 13,632 | 1002.4 | 946.7 | 852.0 |
| 6 | 3/4 | 15,336 | 1127.6 | 1065.0 | 958.5 |
| 7 | 5/6 | 17,040 | 1252.9 | 1183.3 | 1065.0 |
| 8 | 256-QAM | 3/4 | 8 | 27,264 | 20,448 | 1503.5 | 1420.0 | 1278.0 |
| 9 | 5/6 | 22,720 | 1670.6 | 1577.8 | 1420.0 |
| 10 | 1024-QAM | 3/4 | 10 | 34,080 | 25,560 | 1879.4 | 1775.0 | 1597.5 |
| 11 | 5/6 | 28,400 | 2088.2 | 1972.2 | 1775.0 |
| 12 | 4096-QAM | 3/4 | 12 | 40,896 | 30,672 | 2255.3 | 2130.0 | 1917.0 |
| 13 | 5/6 | 34,080 | 2505.9 | 2366.7 | 2130.0 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 1704 | 1,704 | 852 | 62.6 | 59.2 | 53.3 |

**Table 34-x16 EHT-MCSs for 4×996-tone RU, *NSS,u* = 1 (TBD)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| 0 | BPSK | 1/2 | 1 | 3920 | 3,920 | 1,960 | 144.1 | 136.1 | 122.5 |
| 1 | QPSK | 1/2 | 2 | 7,840 | 3,920 | 288.2 | 272.2 | 245.0 |
| 2 | 3/4 | 5,880 | 432.4 | 408.3 | 367.5 |
| 3 | 16-QAM | 1/2 | 4 | 15,680 | 7,840 | 576.5 | 544.4 | 490.0 |
| 4 | 3/4 | 11,760 | 864.7 | 816.7 | 735.0 |
| 5 | 64-QAM | 2/3 | 6 | 23,520 | 15,680 | 1152.9 | 1088.9 | 980.0 |
| 6 | 3/4 | 17,640 | 1297.1 | 1225.0 | 1102.5 |
| 7 | 5/6 | 19,600 | 1441.2 | 1361.1 | 1225.0 |
| 8 | 256-QAM | 3/4 | 8 | 31,360 | 23,520 | 1729.4 | 1633.3 | 1470.0 |
| 9 | 5/6 | 26,133 | 1921.5 | 1814.8 | 1633.3 |
| 10 | 1024-QAM | 3/4 | 10 | 39,200 | 29,400 | 2161.8 | 2041.7 | 1837.5 |
| 11 | 5/6 | 32,666 | 2401.9 | 2268.5 | 2041.6 |
| 12 | 4096-QAM | 3/4 | 12 | 47,040 | 35,280 | 2594.1 | 2450.0 | 2205.0 |
| 13 | 5/6 | 39,200 | 2882.4 | 2722.2 | 2450.0 |
|  |  |  |  |  |  |  |  |  |  |
| TBD | BPSK-DCM (TBD) | 1/2 | 1 | 1960 | 1,960 | 980 | 72.1 | 68.1 | 61.3 |

**Table 34-y1 EHT-MCSs for BPSK-DCM-DUP, *NSS,u* = 1 (TBD)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EHT-MCS Index** | **Modulation** | **Bandwidth** | ***Ru*** | ***NBPSCS,u*** | ***NSD,u*** | ***NCBPS,u*** | ***NDBPS,u*** | **Data rate (Mbps)** | | |
| **0.8** μ**s GI** | **1.6** μ**s GI** | **3.2** μ**s GI** |
| TBD | BPSK-DCM-DUP  (TBD) | 80 MHz | 1/2 | 1 | 234 | 234 | 117 | 8.6 | 8.1 | 7.3 |
| TBD | BPSK-DCM-DUP  (TBD) | 160 MHz | 1/2 | 1 | 490 | 490 | 245 | 18.0 | 17.0 | 15.3 |
| TBD | BPSK-DCM-DUP  (TBD) | 320 MHz | 1/2 | 1 | 980 | 980 | 490 | 36.0 | 34.0 | 30.6 |