|  | HT/VHT40 Beam Forming, M0 to M7 | 2 | 9 | -63.7 | -69.6 |  |  | -53.7 | -41.25 | 12.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | HT/VHT40 Beam Forming, M8 to M15 | 2 | 6 | -63.7 | -69.6 |  |  | -56.7 | -41.25 | 15.5 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 3 | 11 | -63.7 | -69.6 | -69.5 |  | -51.1 | -41.25 | 9.8 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 3 | 8 | -63.7 | -69.6 | -69.5 |  | -54.1 | -41.25 | 12.8 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 3 | 6 | -63.7 | -69.6 | -69.5 |  | -55.9 | -41.25 | 14.6 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 4 | 12 | -63.7 | -69.6 | -69.5 | -69.5 | -49.2 | -41.25 | 7.9 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 4 | 9 | -63.7 | -69.6 | -69.5 | -69.5 | -52.2 | -41.25 | 10.9 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 4 | 7 | -63.7 | -69.6 | -69.5 | -69.5 | -54.0 | -41.25 | 12.7 |
|  | HT/VHT40 STBC, M0 to M7 | 2 | 6 | -63.7 | -69.6 |  |  | -56.7 | -41.25 | 15.5 |
|  | HT/VHT40 STBC, M0 to M7 | 3 | 6 | -63.7 | -69.6 | -69.5 |  | -55.9 | -41.25 | 14.6 |
|  | HT/VHT40 STBC, M0 to M7 | 4 | 6 | -63.7 | -69.6 | -69.5 | -69.5 | -55.2 | -41.25 | 13.9 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { O} \\ & \hat{0} \\ & \end{aligned}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -63.6 |  |  |  | -57.6 | -41.25 | 16.4 |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -63.6 | -69.7 |  |  | -56.6 | -41.25 | 15.4 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -63.6 | -69.7 | -69.4 |  | -55.8 | -41.25 | 14.6 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -63.6 | -69.7 | -69.4 | -69.6 | -55.1 | -41.25 | 13.9 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -63.6 | -69.7 |  |  | -53.6 | -41.25 | 12.4 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -63.6 | -69.7 | -69.4 |  | -51.0 | -41.25 | 9.8 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -63.6 | -69.7 | -69.4 | -69.6 | -49.1 | -41.25 | 7.9 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -63.9 |  |  |  | -57.9 | -41.25 | 16.7 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -63.9 | -69.6 |  |  | -56.9 | -41.25 | 15.6 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -63.9 | -69.6 |  |  | -56.9 | -41.25 | 15.6 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -63.9 | -69.6 | -69.4 |  | -56.0 | -41.25 | 14.7 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -63.9 | -69.6 | -69.4 |  | -56.0 | -41.25 | 14.7 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -63.9 | -69.6 | -69.4 |  | -56.0 | -41.25 | 14.7 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -63.9 | -69.6 | -69.4 | -69.7 | -55.3 | -41.25 | 14.1 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -63.9 | -69.6 | -69.4 | -69.7 | -55.3 | -41.25 | 14.1 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -63.9 | -69.6 | -69.4 | -69.7 | -55.3 | -41.25 | 14.1 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -63.9 | -69.6 |  |  | -53.9 | -41.25 | 12.6 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -63.9 | -69.6 |  |  | -56.9 | -41.25 | 15.6 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -63.9 | -69.6 | -69.4 |  | -51.2 | -41.25 | 9.9 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -63.9 | -69.6 | -69.4 |  | -54.2 | -41.25 | 12.9 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -63.9 | -69.6 | -69.4 |  | -56.0 | -41.25 | 14.7 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -63.9 | -69.6 | -69.4 | -69.7 | -49.3 | -41.25 | 8.1 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -63.9 | -69.6 | -69.4 | -69.7 | -52.3 | -41.25 | 11.1 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -63.9 | -69.6 | -69.4 | -69.7 | -54.1 | -41.25 | 12.9 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -63.9 | -69.6 |  |  | -56.9 | -41.25 | 15.6 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -63.9 | -69.6 | -69.4 |  | -56.0 | -41.25 | 14.7 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -63.9 | -69.6 | -69.4 | -69.7 | -55.3 | -41.25 | 14.1 |

Page No: 54 of 106

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| $\begin{aligned} & \text { O} \\ & \text { مٌ } \end{aligned}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -63.9 |  |  |  | -57.9 | -41.25 | 16.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -63.9 | -69.7 |  |  | -56.9 | -41.25 | 15.6 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -63.9 | -69.7 | -65.3 |  | -54.9 | -41.25 | 13.7 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -63.9 | -69.7 | -65.3 | -69.7 | -54.4 | -41.25 | 13.1 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -63.9 | -69.7 |  |  | -53.9 | -41.25 | 12.6 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -63.9 | -69.7 | -65.3 |  | -50.1 | -41.25 | 8.9 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -63.9 | -69.7 | -65.3 | -69.7 | -48.4 | -41.25 | 7.1 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -63.7 |  |  |  | -57.7 | -41.25 | 16.5 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -63.7 | -69.4 |  |  | -56.7 | -41.25 | 15.4 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -63.7 | -69.4 |  |  | -56.7 | -41.25 | 15.4 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -63.7 | -69.4 | -65.4 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -63.7 | -69.4 | -65.4 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -63.7 | -69.4 | -65.4 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -63.7 | -69.4 | -65.4 | -69.7 | -54.3 | -41.25 | 13.0 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -63.7 | -69.4 | -65.4 | -69.7 | -54.3 | -41.25 | 13.0 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -63.7 | -69.4 | -65.4 | -69.7 | -54.3 | -41.25 | 13.0 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -63.7 | -69.4 |  |  | -53.7 | -41.25 | 12.4 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -63.7 | -69.4 |  |  | -56.7 | -41.25 | 15.4 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -63.7 | -69.4 | -65.4 |  | -50.0 | -41.25 | 8.8 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -63.7 | -69.4 | -65.4 |  | -53.0 | -41.25 | 11.8 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -63.7 | -69.4 | -65.4 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -63.7 | -69.4 | -65.4 | -69.7 | -48.3 | -41.25 | 7.0 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -63.7 | -69.4 | -65.4 | -69.7 | -51.3 | -41.25 | 10.0 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -63.7 | -69.4 | -65.4 | -69.7 | -53.1 | -41.25 | 11.8 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -63.7 | -69.4 |  |  | -56.7 | -41.25 | 15.4 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -63.7 | -69.4 | -65.4 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -63.7 | -69.4 | -65.4 | -69.7 | -54.3 | -41.25 | 13.0 |
|  |  |  |  |  |  |  |  |  |  |  |
| $$ | Non HT40, 6 to 54 Mbps | 1 | 6 | -62.2 |  |  |  | -56.2 | -41.25 | 15.0 |
|  | Non HT40, 6 to 54 Mbps | 2 | 6 | -62.2 | -64.5 |  |  | -54.2 | -41.25 | 12.9 |
|  | Non HT40, 6 to 54 Mbps | 3 | 6 | -62.2 | -64.5 | -69.7 |  | -53.7 | -41.25 | 12.5 |
|  | Non HT40, 6 to 54 Mbps | 4 | 6 | -62.2 | -64.5 | -69.7 | -69.5 | -53.3 | -41.25 | 12.0 |
|  | HT/VHT40, M0 to M7 | 1 | 6 | -63.7 |  |  |  | -57.7 | -41.25 | 16.5 |
|  | HT/VHT40, M0 to M7 | 2 | 6 | -63.7 | -65.2 |  |  | -55.4 | -41.25 | 14.1 |
|  | HT/VHT40, M8 to M15 | 2 | 6 | -63.7 | -65.2 |  |  | -55.4 | -41.25 | 14.1 |
|  | HT/VHT40, M0 to M7 | 3 | 6 | -63.7 | -65.2 | -69.7 |  | -54.8 | -41.25 | 13.5 |
|  | HT/VHT40, M8 to M15 | 3 | 6 | -63.7 | -65.2 | -69.7 |  | -54.8 | -41.25 | 13.5 |
|  | HT/VHT40, M16 to M23 | 3 | 6 | -63.7 | -65.2 | -69.7 |  | -54.8 | -41.25 | 13.5 |
|  | HT/VHT40, M0 to M7 | 4 | 6 | -63.7 | -65.2 | -69.7 | -69.6 | -54.2 | -41.25 | 13.0 |
|  | HT/VHT40, M8 to M15 | 4 | 6 | -63.7 | -65.2 | -69.7 | -69.6 | -54.2 | -41.25 | 13.0 |
|  | HT/VHT40, M16 to M23 | 4 | 6 | -63.7 | -65.2 | -69.7 | -69.6 | -54.2 | -41.25 | 13.0 |

Page No: 55 of 106
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|  | HT/VHT40 Beam Forming, M0 to M7 | 2 | 9 | -63.7 | -65.2 |  |  | -52.4 | -41.25 | 11.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | HT/VHT40 Beam Forming, M8 to M15 | 2 | 6 | -63.7 | -65.2 |  |  | -55.4 | -41.25 | 14.1 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 3 | 11 | -63.7 | -65.2 | -69.7 |  | -50.0 | -41.25 | 8.7 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 3 | 8 | -63.7 | -65.2 | -69.7 |  | -53.0 | -41.25 | 11.7 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 3 | 6 | -63.7 | -65.2 | -69.7 |  | -54.8 | -41.25 | 13.5 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 4 | 12 | -63.7 | -65.2 | -69.7 | -69.6 | -48.2 | -41.25 | 7.0 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 4 | 9 | -63.7 | -65.2 | -69.7 | -69.6 | -51.2 | -41.25 | 10.0 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 4 | 7 | -63.7 | -65.2 | -69.7 | -69.6 | -53.0 | -41.25 | 11.8 |
|  | HT/VHT40 STBC, M0 to M7 | 2 | 6 | -63.7 | -65.2 |  |  | -55.4 | -41.25 | 14.1 |
|  | HT/VHT40 STBC, M0 to M7 | 3 | 6 | -63.7 | -65.2 | -69.7 |  | -54.8 | -41.25 | 13.5 |
|  | HT/VHT40 STBC, M0 to M7 | 4 | 6 | -63.7 | -65.2 | -69.7 | -69.6 | -54.2 | -41.25 | 13.0 |
|  |  |  |  |  |  |  |  |  |  |  |
| 俞 | Non HT80, 6 to 54 Mbps | 1 | 6 | -62.2 |  |  |  | -56.2 | -41.25 | 15.0 |
|  | Non HT80, 6 to 54 Mbps | 2 | 6 | -62.2 | -64.0 |  |  | -54.0 | -41.25 | 12.7 |
|  | Non HT80, 6 to 54 Mbps | 3 | 6 | -62.2 | -64.0 | -69.7 |  | -53.6 | -41.25 | 12.3 |
|  | Non HT80, 6 to 54 Mbps | 4 | 6 | -62.2 | -64.0 | -69.7 | -69.7 | -53.2 | -41.25 | 11.9 |
|  | VHT80, M0.1 to M9.1 | 1 | 6 | -63.9 |  |  |  | -57.9 | -41.25 | 16.7 |
|  | VHT80, M0.1 to M9.1 | 2 | 6 | -63.9 | -65.4 |  |  | -55.6 | -41.25 | 14.3 |
|  | VHT80, M0.2 to M9.2 | 2 | 6 | -63.9 | -65.4 |  |  | -55.6 | -41.25 | 14.3 |
|  | VHT80, M0.1 to M9.1 | 3 | 6 | -63.9 | -65.4 | -64.5 |  | -53.8 | -41.25 | 12.5 |
|  | VHT80, M0.2 to M9.2 | 3 | 6 | -63.9 | -65.4 | -64.5 |  | -53.8 | -41.25 | 12.5 |
|  | VHT80, M0.3 to M9.3 | 3 | 6 | -63.9 | -65.4 | -64.5 |  | -53.8 | -41.25 | 12.5 |
|  | VHT80, M0.1 to M9.1 | 4 | 6 | -63.9 | -65.4 | -64.5 | -69.7 | -53.4 | -41.25 | 12.1 |
|  | VHT80, M0.2 to M9.2 | 4 | 6 | -63.9 | -65.4 | -64.5 | -69.7 | -53.4 | -41.25 | 12.1 |
|  | VHT80, M0.3 to M9.3 | 4 | 6 | -63.9 | -65.4 | -64.5 | -69.7 | -53.4 | -41.25 | 12.1 |
|  | VHT80 Beam Forming, M0.1 to M9.1 | 2 | 6 | -63.9 | -65.4 |  |  | -55.6 | -41.25 | 14.3 |
|  | VHT80 Beam Forming, M0.2 to M9.2 | 2 | 6 | -63.9 | -65.4 |  |  | -55.6 | -41.25 | 14.3 |
|  | VHT80 Beam Forming, M0.1 to M9.1 | 3 | 6 | -63.9 | -65.4 | -64.5 |  | -53.8 | -41.25 | 12.5 |
|  | VHT80 Beam Forming, M0.2 to M9.2 | 3 | 6 | -63.9 | -65.4 | -64.5 |  | -53.8 | -41.25 | 12.5 |
|  | VHT80 Beam Forming, M0.3 to M9.3 | 3 | 6 | -63.9 | -65.4 | -64.5 |  | -53.8 | -41.25 | 12.5 |
|  | VHT80 Beam Forming, M0.1 to M9.1 | 4 | 6 | -63.9 | -65.4 | -64.5 | -69.7 | -53.4 | -41.25 | 12.1 |
|  | VHT80 Beam Forming, M0.2 to M9.2 | 4 | 6 | -63.9 | -65.4 | -64.5 | -69.7 | -53.4 | -41.25 | 12.1 |
|  | VHT80 Beam Forming, M0.3 to M9.3 | 4 | 6 | -63.9 | -65.4 | -64.5 | -69.7 | -53.4 | -41.25 | 12.1 |
|  | VHT80 STBC, M0.1 to M9.1 | 2 | 6 | -63.9 | -65.4 |  |  | -55.6 | -41.25 | 14.3 |
|  | VHT80 STBC, M0.1 to M9.1 | 3 | 6 | -63.9 | -65.4 | -64.5 |  | -53.8 | -41.25 | 12.5 |
|  | VHT80 STBC, M0.1 to M9.1 | 4 | 6 | -63.9 | -65.4 | -64.5 | -69.7 | -53.4 | -41.25 | 12.1 |

Page No: 56 of 106
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| $\begin{aligned} & \circ \\ & \stackrel{\circ}{0} \end{aligned}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -64.1 |  |  |  | -58.1 | -41.25 | 16.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -64.1 | -65.5 |  |  | -55.7 | -41.25 | 14.5 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -64.1 | -65.5 | -65.5 |  | -54.2 | -41.25 | 13.0 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -64.1 | -65.5 | -65.5 | -68.8 | -53.6 | -41.25 | 12.4 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -64.1 | -65.5 |  |  | -52.7 | -41.25 | 11.5 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -64.1 | -65.5 | -65.5 |  | -49.4 | -41.25 | 8.2 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -64.1 | -65.5 | -65.5 | -68.8 | -47.6 | -41.25 | 6.4 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -63.8 |  |  |  | -57.8 | -41.25 | 16.6 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -63.8 | -65.4 |  |  | -55.5 | -41.25 | 14.3 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -63.8 | -65.4 |  |  | -55.5 | -41.25 | 14.3 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -63.8 | -65.4 | -69.0 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -63.8 | -65.4 | -69.0 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -63.8 | -65.4 | -69.0 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -63.8 | -65.4 | -69.0 | -68.9 | -54.2 | -41.25 | 12.9 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -63.8 | -65.4 | -69.0 | -68.9 | -54.2 | -41.25 | 12.9 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -63.8 | -65.4 | -69.0 | -68.9 | -54.2 | -41.25 | 12.9 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -63.8 | -65.4 |  |  | -52.5 | -41.25 | 11.3 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -63.8 | -65.4 |  |  | -55.5 | -41.25 | 14.3 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -63.8 | -65.4 | -69.0 |  | -50.0 | -41.25 | 8.8 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -63.8 | -65.4 | -69.0 |  | -53.0 | -41.25 | 11.8 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -63.8 | -65.4 | -69.0 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -63.8 | -65.4 | -69.0 | -68.9 | -48.2 | -41.25 | 6.9 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -63.8 | -65.4 | -69.0 | -68.9 | -51.2 | -41.25 | 9.9 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -63.8 | -65.4 | -69.0 | -68.9 | -53.0 | -41.25 | 11.7 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -63.8 | -65.4 |  |  | -55.5 | -41.25 | 14.3 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -63.8 | -65.4 | -69.0 |  | -54.8 | -41.25 | 13.6 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -63.8 | -65.4 | -69.0 | -68.9 | -54.2 | -41.25 | 12.9 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\frac{0}{i}$ | Non HT40, 6 to 54 Mbps | 1 | 6 | -61.9 |  |  |  | -55.9 | -41.25 | 14.7 |
|  | Non HT40, 6 to 54 Mbps | 2 | 6 | -61.9 | -63.7 |  |  | -53.7 | -41.25 | 12.4 |
|  | Non HT40, 6 to 54 Mbps | 3 | 6 | -61.9 | -63.7 | -64.9 |  | -52.6 | -41.25 | 11.3 |
|  | Non HT40, 6 to 54 Mbps | 4 | 6 | -61.9 | -63.7 | -64.9 | -69.1 | -52.2 | -41.25 | 10.9 |
|  | HT/VHT40, M0 to M7 | 1 | 6 | -63.8 |  |  |  | -57.8 | -41.25 | 16.6 |
|  | HT/VHT40, M0 to M7 | 2 | 6 | -63.8 | -65.8 |  |  | -55.7 | -41.25 | 14.4 |
|  | HT/VHT40, M8 to M15 | 2 | 6 | -63.8 | -65.8 |  |  | -55.7 | -41.25 | 14.4 |
|  | HT/VHT40, M0 to M7 | 3 | 6 | -63.8 | -65.8 | -69.0 |  | -54.9 | -41.25 | 13.7 |
|  | HT/VHT40, M8 to M15 | 3 | 6 | -63.8 | -65.8 | -69.0 |  | -54.9 | -41.25 | 13.7 |
|  | HT/VHT40, M16 to M23 | 3 | 6 | -63.8 | -65.8 | -69.0 |  | -54.9 | -41.25 | 13.7 |
|  | HT/VHT40, M0 to M7 | 4 | 6 | -63.8 | -65.8 | -69.0 | -69.0 | -54.3 | -41.25 | 13.1 |
|  | HT/VHT40, M8 to M15 | 4 | 6 | -63.8 | -65.8 | -69.0 | -69.0 | -54.3 | -41.25 | 13.1 |
|  | HT/VHT40, M16 to M23 | 4 | 6 | -63.8 | -65.8 | -69.0 | -69.0 | -54.3 | -41.25 | 13.1 |

Page No: 57 of 106

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|  | HT/VHT40 Beam Forming, M0 to M7 | 2 | 9 | -63.8 | -65.8 |  |  | -52.7 | -41.25 | 11.4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | HT/VHT40 Beam Forming, M8 to M15 | 2 | 6 | -63.8 | -65.8 |  |  | -55.7 | -41.25 | 14.4 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 3 | 11 | -63.8 | -65.8 | -69.0 |  | -50.1 | -41.25 | 8.9 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 3 | 8 | -63.8 | -65.8 | -69.0 |  | -53.1 | -41.25 | 11.9 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 3 | 6 | -63.8 | -65.8 | -69.0 |  | -54.9 | -41.25 | 13.7 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 4 | 12 | -63.8 | -65.8 | -69.0 | -69.0 | -48.3 | -41.25 | 7.1 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 4 | 9 | -63.8 | -65.8 | -69.0 | -69.0 | -51.3 | -41.25 | 10.1 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 4 | 7 | -63.8 | -65.8 | -69.0 | -69.0 | -53.1 | -41.25 | 11.9 |
|  | HT/VHT40 STBC, M0 to M7 | 2 | 6 | -63.8 | -65.8 |  |  | -55.7 | -41.25 | 14.4 |
|  | HT/VHT40 STBC, M0 to M7 | 3 | 6 | -63.8 | -65.8 | -69.0 |  | -54.9 | -41.25 | 13.7 |
|  | HT/VHT40 STBC, M0 to M7 | 4 | 6 | -63.8 | -65.8 | -69.0 | -69.0 | -54.3 | -41.25 | 13.1 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\underset{N}{N}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -63.7 |  |  |  | -57.7 | -41.25 | 16.5 |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -63.7 | -65.5 |  |  | -55.5 | -41.25 | 14.2 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -63.7 | -65.5 | -65.6 |  | -54.1 | -41.25 | 12.8 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -63.7 | -65.5 | -65.6 | -66.6 | -53.2 | -41.25 | 11.9 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -63.7 | -65.5 |  |  | -52.5 | -41.25 | 11.2 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -63.7 | -65.5 | -65.6 |  | -49.3 | -41.25 | 8.0 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -63.7 | -65.5 | -65.6 | -66.6 | -47.2 | -41.25 | 5.9 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -63.8 |  |  |  | -57.8 | -41.25 | 16.6 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -63.8 | -65.6 |  |  | -55.6 | -41.25 | 14.3 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -63.8 | -65.6 |  |  | -55.6 | -41.25 | 14.3 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -63.8 | -65.6 | -65.7 |  | -54.2 | -41.25 | 12.9 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -63.8 | -65.6 | -65.7 |  | -54.2 | -41.25 | 12.9 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -63.8 | -65.6 | -65.7 |  | -54.2 | -41.25 | 12.9 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -63.8 | -65.6 | -65.7 | -69.0 | -53.6 | -41.25 | 12.4 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -63.8 | -65.6 | -65.7 | -69.0 | -53.6 | -41.25 | 12.4 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -63.8 | -65.6 | -65.7 | -69.0 | -53.6 | -41.25 | 12.4 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -63.8 | -65.6 |  |  | -52.6 | -41.25 | 11.3 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -63.8 | -65.6 |  |  | -55.6 | -41.25 | 14.3 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -63.8 | -65.6 | -65.7 |  | -49.4 | -41.25 | 8.1 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -63.8 | -65.6 | -65.7 |  | -52.4 | -41.25 | 11.1 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -63.8 | -65.6 | -65.7 |  | -54.2 | -41.25 | 12.9 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -63.8 | -65.6 | -65.7 | -69.0 | -47.6 | -41.25 | 6.4 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -63.8 | -65.6 | -65.7 | -69.0 | -50.6 | -41.25 | 9.4 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -63.8 | -65.6 | -65.7 | -69.0 | -52.4 | -41.25 | 11.2 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -63.8 | -65.6 |  |  | -55.6 | -41.25 | 14.3 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -63.8 | -65.6 | -65.7 |  | -54.2 | -41.25 | 12.9 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -63.8 | -65.6 | -65.7 | -69.0 | -53.6 | -41.25 | 12.4 |

Page No: 58 of 106

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|  | Mode |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { O} \\ & \text { 스n } \end{aligned}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -54.3 |  |  |  | -48.3 | -21.25 | 27.1 |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -54.3 | -55.1 |  |  | -45.7 | -21.25 | 24.4 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -54.3 | -55.1 | -54.5 |  | -43.8 | -21.25 | 22.6 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -54.3 | -55.1 | -54.5 | -53.8 | -42.4 | -21.25 | 21.1 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -54.3 | -55.1 |  |  | -42.7 | -21.25 | 21.4 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -54.3 | -55.1 | -54.5 |  | -39.0 | -21.25 | 17.8 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -54.3 | -55.1 | -54.5 | -53.8 | -36.4 | -21.25 | 15.1 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -54.7 |  |  |  | -48.7 | -21.25 | 27.5 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -54.7 | -54.3 |  |  | -45.5 | -21.25 | 24.2 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -54.7 | -54.3 |  |  | -45.5 | -21.25 | 24.2 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -54.7 | -54.3 | -55.0 |  | -43.9 | -21.25 | 22.6 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -54.7 | -54.3 | -55.0 |  | -43.9 | -21.25 | 22.6 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -54.7 | -54.3 | -55.0 |  | -43.9 | -21.25 | 22.6 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -54.7 | -54.3 | -55.0 | -54.8 | -42.7 | -21.25 | 21.4 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -54.7 | -54.3 | -55.0 | -54.8 | -42.7 | -21.25 | 21.4 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -54.7 | -54.3 | -55.0 | -54.8 | -42.7 | -21.25 | 21.4 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -54.7 | -54.3 |  |  | -42.5 | -21.25 | 21.2 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -54.7 | -54.3 |  |  | -45.5 | -21.25 | 24.2 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -54.7 | -54.3 | -55.0 |  | -39.1 | -21.25 | 17.8 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -54.7 | -54.3 | -55.0 |  | -42.1 | -21.25 | 20.8 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -54.7 | -54.3 | -55.0 |  | -43.9 | -21.25 | 22.6 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -54.7 | -54.3 | -55.0 | -54.8 | -36.7 | -21.25 | 15.4 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -54.7 | -54.3 | -55.0 | -54.8 | -39.7 | -21.25 | 18.4 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -54.7 | -54.3 | -55.0 | -54.8 | -41.5 | -21.25 | 20.2 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -54.7 | -54.3 |  |  | -45.5 | -21.25 | 24.2 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -54.7 | -54.3 | -55.0 |  | -43.9 | -21.25 | 22.6 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -54.7 | -54.3 | -55.0 | -54.8 | -42.7 | -21.25 | 21.4 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { O} \\ & \stackrel{N}{n} \end{aligned}$ | Non HT40, 6 to 54 Mbps | 1 | 6 | -50.7 |  |  |  | -44.7 | -21.25 | 23.5 |
|  | Non HT40, 6 to 54 Mbps | 2 | 6 | -50.7 | -51.5 |  |  | -42.1 | -21.25 | 20.8 |
|  | Non HT40, 6 to 54 Mbps | 3 | 6 | -50.7 | -51.5 | -53.3 |  | -40.9 | -21.25 | 19.7 |
|  | Non HT40, 6 to 54 Mbps | 4 | 6 | -50.7 | -51.5 | -53.3 | -50.8 | -39.4 | -21.25 | 18.2 |
|  | HT/VHT40, M0 to M7 | 1 | 6 | -53.8 |  |  |  | -47.8 | -21.25 | 26.6 |
|  | HT/VHT40, M0 to M7 | 2 | 6 | -53.8 | -55.1 |  |  | -45.4 | -21.25 | 24.1 |

Page No: 59 of 106
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Page No: 60 of 106
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|  | VHT80 STBC, M0.1 to M9.1 | 3 | 6 | -53.4 | -54.8 | -55.5 |  | -43.7 | -21.25 | 22.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | VHT80 STBC, M0.1 to M9.1 | 4 | 6 | -53.4 | -54.8 | -55.5 | -53.9 | -42.3 | -21.25 | 21.1 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\stackrel{\circ}{\mathrm{H}}$ | Non HT160, 6 to 54 Mbps | 1 | 6 | -45.3 |  |  |  | -39.3 | -21.25 | 18.1 |
|  | Non HT160, 6 to 54 Mbps | 2 | 6 | -45.3 | -45.8 |  |  | -36.5 | -21.25 | 15.3 |
|  | Non HT160, 6 to 54 Mbps | 3 | 6 | -45.3 | -45.8 | -47.9 |  | -35.4 | -21.25 | 14.2 |
|  | Non HT160, 6 to 54 Mbps | 4 | 6 | -45.3 | -45.8 | -47.9 | -46.2 | -34.2 | -21.25 | 12.9 |
|  | VHT160, M0.1 to M9.1 | 1 | 6 | -50.6 |  |  |  | -44.6 | -21.25 | 23.4 |
|  | VHT160, M0.1 to M9.1 | 2 | 6 | -50.6 | -46.8 |  |  | -39.3 | -21.25 | 18.0 |
|  | VHT160, M0.2 to M9.2 | 2 | 6 | -50.6 | -46.8 |  |  | -39.3 | -21.25 | 18.0 |
|  | VHT160, M0.1 to M9.1 | 3 | 6 | -50.6 | -46.8 | -51.8 |  | -38.4 | -21.25 | 17.2 |
|  | VHT160, M0.2 to M9.2 | 3 | 6 | -50.6 | -46.8 | -51.8 |  | -38.4 | -21.25 | 17.2 |
|  | VHT160, M0.3 to M9.3 | 3 | 6 | -50.6 | -46.8 | -51.8 |  | -38.4 | -21.25 | 17.2 |
|  | VHT160, M0.1 to M9.1 | 4 | 6 | -50.6 | -46.8 | -51.8 | -51.2 | -37.6 | -21.25 | 16.3 |
|  | VHT160, M0.2 to M9.2 | 4 | 6 | -50.6 | -46.8 | -51.8 | -51.2 | -37.6 | -21.25 | 16.3 |
|  | VHT160, M0.3 to M9.3 | 4 | 6 | -50.6 | -46.8 | -51.8 | -51.2 | -37.6 | -21.25 | 16.3 |
|  | VHT160 Beam Forming, M0.1 to M9.1 | 2 | 6 | -50.6 | -46.8 |  |  | -39.3 | -21.25 | 18.0 |
|  | VHT160 Beam Forming, M0.2 to M9.2 | 2 | 6 | -50.6 | -46.8 |  |  | -39.3 | -21.25 | 18.0 |
|  | VHT160 Beam Forming, M0.1 to M9.1 | 3 | 6 | -50.6 | -46.8 | -51.8 |  | -38.4 | -21.25 | 17.2 |
|  | VHT160 Beam Forming, M0.2 to M9.2 | 3 | 6 | -50.6 | -46.8 | -51.8 |  | -38.4 | -21.25 | 17.2 |
|  | VHT160 Beam Forming, M0.3 to M9.3 | 3 | 6 | -50.6 | -46.8 | -51.8 |  | -38.4 | -21.25 | 17.2 |
|  | VHT160 Beam Forming, M0.1 to M9.1 | 4 | 6 | -50.6 | -46.8 | -51.8 | -51.2 | -37.6 | -21.25 | 16.3 |
|  | VHT160 Beam Forming, M0.2 to M9.2 | 4 | 6 | -50.6 | -46.8 | -51.8 | -51.2 | -37.6 | -21.25 | 16.3 |
|  | VHT160 Beam Forming, M0.3 to M9.3 | 4 | 6 | -50.6 | -46.8 | -51.8 | -51.2 | -37.6 | -21.25 | 16.3 |
|  | VHT160 STBC, M0.1 to M9.1 | 2 | 6 | -50.6 | -46.8 |  |  | -39.3 | -21.25 | 18.0 |
|  | VHT160 STBC, M0.1 to M9.1 | 3 | 6 | -50.6 | -46.8 | -51.8 |  | -38.4 | -21.25 | 17.2 |
|  | VHT160 STBC, M0.1 to M9.1 | 4 | 6 | -50.6 | -46.8 | -51.8 | -51.2 | -37.6 | -21.25 | 16.3 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { O} \\ & \text { Ĥn } \end{aligned}$ | Non HT40, 6 to 54 Mbps | 1 | 6 | -51.2 |  |  |  | -45.2 | -21.25 | 24.0 |
|  | Non HT40, 6 to 54 Mbps | 2 | 6 | -51.2 | -53.8 |  |  | -43.3 | -21.25 | 22.0 |
|  | Non HT40, 6 to 54 Mbps | 3 | 6 | -51.2 | -53.8 | -53.8 |  | -42.0 | -21.25 | 20.7 |
|  | Non HT40, 6 to 54 Mbps | 4 | 6 | -51.2 | -53.8 | -53.8 | -50.1 | -39.9 | -21.25 | 18.7 |
|  | HT/VHT40, M0 to M7 | 1 | 6 | -55.0 |  |  |  | -49.0 | -21.25 | 27.8 |
|  | HT/VHT40, M0 to M7 | 2 | 6 | -55.0 | -55.5 |  |  | -46.2 | -21.25 | 25.0 |
|  | HT/VHT40, M8 to M15 | 2 | 6 | -55.0 | -55.5 |  |  | -46.2 | -21.25 | 25.0 |
|  | HT/VHT40, M0 to M7 | 3 | 6 | -55.0 | -55.5 | -55.1 |  | -44.4 | -21.25 | 23.2 |
|  | HT/VHT40, M8 to M15 | 3 | 6 | -55.0 | -55.5 | -55.1 |  | -44.4 | -21.25 | 23.2 |
|  | HT/VHT40, M16 to M23 | 3 | 6 | -55.0 | -55.5 | -55.1 |  | -44.4 | -21.25 | 23.2 |
|  | HT/VHT40, M0 to M7 | 4 | 6 | -55.0 | -55.5 | -55.1 | -54.0 | -42.8 | -21.25 | 21.6 |
|  | HT/VHT40, M8 to M15 | 4 | 6 | -55.0 | -55.5 | -55.1 | -54.0 | -42.8 | -21.25 | 21.6 |
|  | HT/VHT40, M16 to M23 | 4 | 6 | -55.0 | -55.5 | -55.1 | -54.0 | -42.8 | -21.25 | 21.6 |

Page No: 61 of 106
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|  | HT/VHT40 Beam Forming, M0 to M7 | 2 | 9 | -55.0 | -55.5 |  |  | -43.2 | -21.25 | 22.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | HT/VHT40 Beam Forming, M8 to M15 | 2 | 6 | -55.0 | -55.5 |  |  | -46.2 | -21.25 | 25.0 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 3 | 11 | -55.0 | -55.5 | -55.1 |  | -39.6 | -21.25 | 18.4 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 3 | 8 | -55.0 | -55.5 | -55.1 |  | -42.6 | -21.25 | 21.4 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 3 | 6 | -55.0 | -55.5 | -55.1 |  | -44.4 | -21.25 | 23.2 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 4 | 12 | -55.0 | -55.5 | -55.1 | -54.0 | -36.8 | -21.25 | 15.6 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 4 | 9 | -55.0 | -55.5 | -55.1 | -54.0 | -39.8 | -21.25 | 18.6 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 4 | 7 | -55.0 | -55.5 | -55.1 | -54.0 | -41.6 | -21.25 | 20.4 |
|  | HT/VHT40 STBC, M0 to M7 | 2 | 6 | -55.0 | -55.5 |  |  | -46.2 | -21.25 | 25.0 |
|  | HT/VHT40 STBC, M0 to M7 | 3 | 6 | -55.0 | -55.5 | -55.1 |  | -44.4 | -21.25 | 23.2 |
|  | HT/VHT40 STBC, M0 to M7 | 4 | 6 | -55.0 | -55.5 | -55.1 | -54.0 | -42.8 | -21.25 | 21.6 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { O} \\ & \text { in } \end{aligned}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -54.1 |  |  |  | -48.1 | -21.25 | 26.9 |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -54.1 | -55.3 |  |  | -45.6 | -21.25 | 24.4 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -54.1 | -55.3 | -54.6 |  | -43.9 | -21.25 | 22.6 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -54.1 | -55.3 | -54.6 | -61.9 | -43.6 | -21.25 | 22.4 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -54.1 | -55.3 |  |  | -42.6 | -21.25 | 21.4 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -54.1 | -55.3 | -54.6 |  | -39.1 | -21.25 | 17.8 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -54.1 | -55.3 | -54.6 | -61.9 | -37.6 | -21.25 | 16.4 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -59.5 |  |  |  | -53.5 | -21.25 | 32.3 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -59.5 | -59.1 |  |  | -50.3 | -21.25 | 29.0 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -59.5 | -59.1 |  |  | -50.3 | -21.25 | 29.0 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -59.5 | -59.1 | -54.8 |  | -46.5 | -21.25 | 25.2 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -59.5 | -59.1 | -54.8 |  | -46.5 | -21.25 | 25.2 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -59.5 | -59.1 | -54.8 |  | -46.5 | -21.25 | 25.2 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -59.5 | -59.1 | -54.8 | -61.8 | -46.0 | -21.25 | 24.7 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -59.5 | -59.1 | -54.8 | -61.8 | -46.0 | -21.25 | 24.7 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -59.5 | -59.1 | -54.8 | -61.8 | -46.0 | -21.25 | 24.7 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -59.5 | -59.1 |  |  | -47.3 | -21.25 | 26.0 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -59.5 | -59.1 |  |  | -50.3 | -21.25 | 29.0 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -59.5 | -59.1 | -54.8 |  | -41.7 | -21.25 | 20.4 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -59.5 | -59.1 | -54.8 |  | -44.7 | -21.25 | 23.4 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -59.5 | -59.1 | -54.8 |  | -46.5 | -21.25 | 25.2 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -59.5 | -59.1 | -54.8 | -61.8 | -40.0 | -21.25 | 18.7 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -59.5 | -59.1 | -54.8 | -61.8 | -43.0 | -21.25 | 21.7 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -59.5 | -59.1 | -54.8 | -61.8 | -44.8 | -21.25 | 23.5 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -59.5 | -59.1 |  |  | -50.3 | -21.25 | 29.0 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -59.5 | -59.1 | -54.8 |  | -46.5 | -21.25 | 25.2 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -59.5 | -59.1 | -54.8 | -61.8 | -46.0 | -21.25 | 24.7 |

Page No: 62 of 106

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| $\begin{aligned} & \text { O} \\ & \text { مे } \end{aligned}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -54.5 |  |  |  | -48.5 | -21.25 | 27.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -54.5 | -55.4 |  |  | -45.9 | -21.25 | 24.7 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -54.5 | -55.4 | -55.3 |  | -44.3 | -21.25 | 23.0 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -54.5 | -55.4 | -55.3 | -54.3 | -42.8 | -21.25 | 21.6 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -54.5 | -55.4 |  |  | -42.9 | -21.25 | 21.7 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -54.5 | -55.4 | -55.3 |  | -39.5 | -21.25 | 18.2 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -54.5 | -55.4 | -55.3 | -54.3 | -36.8 | -21.25 | 15.6 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -55.9 |  |  |  | -49.9 | -21.25 | 28.7 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -55.9 | -54.7 |  |  | -46.2 | -21.25 | 25.0 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -55.9 | -54.7 |  |  | -46.2 | -21.25 | 25.0 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -55.9 | -54.7 | -55.9 |  | -44.7 | -21.25 | 23.4 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -55.9 | -54.7 | -55.9 |  | -44.7 | -21.25 | 23.4 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -55.9 | -54.7 | -55.9 |  | -44.7 | -21.25 | 23.4 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -55.9 | -54.7 | -55.9 | -53.7 | -42.9 | -21.25 | 21.7 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -55.9 | -54.7 | -55.9 | -53.7 | -42.9 | -21.25 | 21.7 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -55.9 | -54.7 | -55.9 | -53.7 | -42.9 | -21.25 | 21.7 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -55.9 | -54.7 |  |  | -43.2 | -21.25 | 22.0 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -55.9 | -54.7 |  |  | -46.2 | -21.25 | 25.0 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -55.9 | -54.7 | -55.9 |  | -39.9 | -21.25 | 18.6 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -55.9 | -54.7 | -55.9 |  | -42.9 | -21.25 | 21.6 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -55.9 | -54.7 | -55.9 |  | -44.7 | -21.25 | 23.4 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -55.9 | -54.7 | -55.9 | -53.7 | -36.9 | -21.25 | 15.7 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -55.9 | -54.7 | -55.9 | -53.7 | -39.9 | -21.25 | 18.7 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -55.9 | -54.7 | -55.9 | -53.7 | -41.7 | -21.25 | 20.5 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -55.9 | -54.7 |  |  | -46.2 | -21.25 | 25.0 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -55.9 | -54.7 | -55.9 |  | -44.7 | -21.25 | 23.4 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -55.9 | -54.7 | -55.9 | -53.7 | -42.9 | -21.25 | 21.7 |
|  |  |  |  |  |  |  |  |  |  |  |
| $$ | Non HT40, 6 to 54 Mbps | 1 | 6 | -53.8 |  |  |  | -47.8 | -21.25 | 26.6 |
|  | Non HT40, 6 to 54 Mbps | 2 | 6 | -53.8 | -54.7 |  |  | -45.2 | -21.25 | 24.0 |
|  | Non HT40, 6 to 54 Mbps | 3 | 6 | -53.8 | -54.7 | -55.0 |  | -43.7 | -21.25 | 22.4 |
|  | Non HT40, 6 to 54 Mbps | 4 | 6 | -53.8 | -54.7 | -55.0 | -51.7 | -41.6 | -21.25 | 20.3 |
|  | HT/VHT40, M0 to M7 | 1 | 6 | -55.4 |  |  |  | -49.4 | -21.25 | 28.2 |
|  | HT/VHT40, M0 to M7 | 2 | 6 | -55.4 | -55.8 |  |  | -46.6 | -21.25 | 25.3 |
|  | HT/VHT40, M8 to M15 | 2 | 6 | -55.4 | -55.8 |  |  | -46.6 | -21.25 | 25.3 |
|  | HT/VHT40, M0 to M7 | 3 | 6 | -55.4 | -55.8 | -55.8 |  | -44.9 | -21.25 | 23.6 |
|  | HT/VHT40, M8 to M15 | 3 | 6 | -55.4 | -55.8 | -55.8 |  | -44.9 | -21.25 | 23.6 |
|  | HT/VHT40, M16 to M23 | 3 | 6 | -55.4 | -55.8 | -55.8 |  | -44.9 | -21.25 | 23.6 |
|  | HT/VHT40, M0 to M7 | 4 | 6 | -55.4 | -55.8 | -55.8 | -60.0 | -44.4 | -21.25 | 23.1 |
|  | HT/VHT40, M8 to M15 | 4 | 6 | -55.4 | -55.8 | -55.8 | -60.0 | -44.4 | -21.25 | 23.1 |
|  | HT/VHT40, M16 to M23 | 4 | 6 | -55.4 | -55.8 | -55.8 | -60.0 | -44.4 | -21.25 | 23.1 |

Page No: 63 of 106
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|  | HT/VHT40 Beam Forming, M0 to M7 | 2 | 9 | -55.4 | -55.8 |  |  | -43.6 | -21.25 | 22.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | HT/VHT40 Beam Forming, M8 to M15 | 2 | 6 | -55.4 | -55.8 |  |  | -46.6 | -21.25 | 25.3 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 3 | 11 | -55.4 | -55.8 | -55.8 |  | -40.1 | -21.25 | 18.8 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 3 | 8 | -55.4 | -55.8 | -55.8 |  | -43.1 | -21.25 | 21.8 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 3 | 6 | -55.4 | -55.8 | -55.8 |  | -44.9 | -21.25 | 23.6 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 4 | 12 | -55.4 | -55.8 | -55.8 | -60.0 | -38.4 | -21.25 | 17.1 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 4 | 9 | -55.4 | -55.8 | -55.8 | -60.0 | -41.4 | -21.25 | 20.1 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 4 | 7 | -55.4 | -55.8 | -55.8 | -60.0 | -43.2 | -21.25 | 21.9 |
|  | HT/VHT40 STBC, M0 to M7 | 2 | 6 | -55.4 | -55.8 |  |  | -46.6 | -21.25 | 25.3 |
|  | HT/VHT40 STBC, M0 to M7 | 3 | 6 | -55.4 | -55.8 | -55.8 |  | -44.9 | -21.25 | 23.6 |
|  | HT/VHT40 STBC, M0 to M7 | 4 | 6 | -55.4 | -55.8 | -55.8 | -60.0 | -44.4 | -21.25 | 23.1 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { 앙 } \\ & \hline 6 \end{aligned}$ | Non HT80, 6 to 54 Mbps | 1 | 6 | -53.8 |  |  |  | -47.8 | -21.25 | 26.6 |
|  | Non HT80, 6 to 54 Mbps | 2 | 6 | -53.8 | -54.7 |  |  | -45.2 | -21.25 | 24.0 |
|  | Non HT80, 6 to 54 Mbps | 3 | 6 | -53.8 | -54.7 | -54.6 |  | -43.6 | -21.25 | 22.3 |
|  | Non HT80, 6 to 54 Mbps | 4 | 6 | -53.8 | -54.7 | -54.6 | -52.7 | -41.9 | -21.25 | 20.6 |
|  | VHT80, M0.1 to M9.1 | 1 | 6 | -54.9 |  |  |  | -48.9 | -21.25 | 27.7 |
|  | VHT80, M0.1 to M9.1 | 2 | 6 | -54.9 | -55.8 |  |  | -46.3 | -21.25 | 25.1 |
|  | VHT80, M0.2 to M9.2 | 2 | 6 | -54.9 | -55.8 |  |  | -46.3 | -21.25 | 25.1 |
|  | VHT80, M0.1 to M9.1 | 3 | 6 | -54.9 | -55.8 | -60.6 |  | -45.7 | -21.25 | 24.5 |
|  | VHT80, M0.2 to M9.2 | 3 | 6 | -54.9 | -55.8 | -60.6 |  | -45.7 | -21.25 | 24.5 |
|  | VHT80, M0.3 to M9.3 | 3 | 6 | -54.9 | -55.8 | -60.6 |  | -45.7 | -21.25 | 24.5 |
|  | VHT80, M0.1 to M9.1 | 4 | 6 | -54.9 | -55.8 | -60.6 | -54.0 | -43.7 | -21.25 | 22.4 |
|  | VHT80, M0.2 to M9.2 | 4 | 6 | -54.9 | -55.8 | -60.6 | -54.0 | -43.7 | -21.25 | 22.4 |
|  | VHT80, M0.3 to M9.3 | 4 | 6 | -54.9 | -55.8 | -60.6 | -54.0 | -43.7 | -21.25 | 22.4 |
|  | VHT80 Beam Forming, M0.1 to M9.1 | 2 | 6 | -54.9 | -55.8 |  |  | -46.3 | -21.25 | 25.1 |
|  | VHT80 Beam Forming, M0.2 to M9.2 | 2 | 6 | -54.9 | -55.8 |  |  | -46.3 | -21.25 | 25.1 |
|  | VHT80 Beam Forming, M0.1 to M9.1 | 3 | 6 | -54.9 | -55.8 | -60.6 |  | -45.7 | -21.25 | 24.5 |
|  | VHT80 Beam Forming, M0.2 to M9.2 | 3 | 6 | -54.9 | -55.8 | -60.6 |  | -45.7 | -21.25 | 24.5 |
|  | VHT80 Beam Forming, M0.3 to M9.3 | 3 | 6 | -54.9 | -55.8 | -60.6 |  | -45.7 | -21.25 | 24.5 |
|  | VHT80 Beam Forming, M0.1 to M9.1 | 4 | 6 | -54.9 | -55.8 | -60.6 | -54.0 | -43.7 | -21.25 | 22.4 |
|  | VHT80 Beam Forming, M0.2 to M9.2 | 4 | 6 | -54.9 | -55.8 | -60.6 | -54.0 | -43.7 | -21.25 | 22.4 |
|  | VHT80 Beam Forming, M0.3 to M9.3 | 4 | 6 | -54.9 | -55.8 | -60.6 | -54.0 | -43.7 | -21.25 | 22.4 |
|  | VHT80 STBC, M0.1 to M9.1 | 2 | 6 | -54.9 | -55.8 |  |  | -46.3 | -21.25 | 25.1 |
|  | VHT80 STBC, M0.1 to M9.1 | 3 | 6 | -54.9 | -55.8 | -60.6 |  | -45.7 | -21.25 | 24.5 |
|  | VHT80 STBC, M0.1 to M9.1 | 4 | 6 | -54.9 | -55.8 | -60.6 | -54.0 | -43.7 | -21.25 | 22.4 |

Page No: 64 of 106

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| $\begin{aligned} & \mathrm{O} \\ & \stackrel{\circ}{n} \end{aligned}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -54.7 |  |  |  | -48.7 | -21.25 | 27.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -54.7 | -58.3 |  |  | -47.1 | -21.25 | 25.9 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -54.7 | -58.3 | -55.4 |  | -45.1 | -21.25 | 23.9 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -54.7 | -58.3 | -55.4 | -55.0 | -43.6 | -21.25 | 22.4 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -54.7 | -58.3 |  |  | -44.1 | -21.25 | 22.9 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -54.7 | -58.3 | -55.4 |  | -40.3 | -21.25 | 19.1 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -54.7 | -58.3 | -55.4 | -55.0 | -37.6 | -21.25 | 16.4 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -56.4 |  |  |  | -50.4 | -21.25 | 29.2 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -56.4 | -57.9 |  |  | -48.1 | -21.25 | 26.8 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -56.4 | -57.9 |  |  | -48.1 | -21.25 | 26.8 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -56.4 | -57.9 | -58.8 |  | -46.8 | -21.25 | 25.6 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -56.4 | -57.9 | -58.8 |  | -46.8 | -21.25 | 25.6 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -56.4 | -57.9 | -58.8 |  | -46.8 | -21.25 | 25.6 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -56.4 | -57.9 | -58.8 | -55.4 | -44.9 | -21.25 | 23.7 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -56.4 | -57.9 | -58.8 | -55.4 | -44.9 | -21.25 | 23.7 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -56.4 | -57.9 | -58.8 | -55.4 | -44.9 | -21.25 | 23.7 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -56.4 | -57.9 |  |  | -45.1 | -21.25 | 23.8 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -56.4 | -57.9 |  |  | -48.1 | -21.25 | 26.8 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -56.4 | -57.9 | -58.8 |  | -42.0 | -21.25 | 20.8 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -56.4 | -57.9 | -58.8 |  | -45.0 | -21.25 | 23.8 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -56.4 | -57.9 | -58.8 |  | -46.8 | -21.25 | 25.6 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -56.4 | -57.9 | -58.8 | -55.4 | -38.9 | -21.25 | 17.7 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -56.4 | -57.9 | -58.8 | -55.4 | -41.9 | -21.25 | 20.7 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -56.4 | -57.9 | -58.8 | -55.4 | -43.7 | -21.25 | 22.5 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -56.4 | -57.9 |  |  | -48.1 | -21.25 | 26.8 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -56.4 | -57.9 | -58.8 |  | -46.8 | -21.25 | 25.6 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -56.4 | -57.9 | -58.8 | -55.4 | -44.9 | -21.25 | 23.7 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\frac{0}{i}$ | Non HT40, 6 to 54 Mbps | 1 | 6 | -54.0 |  |  |  | -48.0 | -21.25 | 26.8 |
|  | Non HT40, 6 to 54 Mbps | 2 | 6 | -54.0 | -54.5 |  |  | -45.2 | -21.25 | 24.0 |
|  | Non HT40, 6 to 54 Mbps | 3 | 6 | -54.0 | -54.5 | -55.0 |  | -43.7 | -21.25 | 22.5 |
|  | Non HT40, 6 to 54 Mbps | 4 | 6 | -54.0 | -54.5 | -55.0 | -53.9 | -42.3 | -21.25 | 21.1 |
|  | HT/VHT40, M0 to M7 | 1 | 6 | -59.6 |  |  |  | -53.6 | -21.25 | 32.4 |
|  | HT/VHT40, M0 to M7 | 2 | 6 | -59.6 | -58.3 |  |  | -49.9 | -21.25 | 28.6 |
|  | HT/VHT40, M8 to M15 | 2 | 6 | -59.6 | -58.3 |  |  | -49.9 | -21.25 | 28.6 |
|  | HT/VHT40, M0 to M7 | 3 | 6 | -59.6 | -58.3 | -54.9 |  | -46.4 | -21.25 | 25.1 |
|  | HT/VHT40, M8 to M15 | 3 | 6 | -59.6 | -58.3 | -54.9 |  | -46.4 | -21.25 | 25.1 |
|  | HT/VHT40, M16 to M23 | 3 | 6 | -59.6 | -58.3 | -54.9 |  | -46.4 | -21.25 | 25.1 |
|  | HT/VHT40, M0 to M7 | 4 | 6 | -59.6 | -58.3 | -54.9 | -54.5 | -44.3 | -21.25 | 23.0 |
|  | HT/VHT40, M8 to M15 | 4 | 6 | -59.6 | -58.3 | -54.9 | -54.5 | -44.3 | -21.25 | 23.0 |
|  | HT/VHT40, M16 to M23 | 4 | 6 | -59.6 | -58.3 | -54.9 | -54.5 | -44.3 | -21.25 | 23.0 |

Page No: 65 of 106
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|  | HT/VHT40 Beam Forming, M0 to M7 | 2 | 9 | -59.6 | -58.3 |  |  | -46.9 | -21.25 | 25.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | HT/VHT40 Beam Forming, M8 to M15 | 2 | 6 | -59.6 | -58.3 |  |  | -49.9 | -21.25 | 28.6 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 3 | 11 | -59.6 | -58.3 | -54.9 |  | -41.6 | -21.25 | 20.3 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 3 | 8 | -59.6 | -58.3 | -54.9 |  | -44.6 | -21.25 | 23.3 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 3 | 6 | -59.6 | -58.3 | -54.9 |  | -46.4 | -21.25 | 25.1 |
|  | HT/VHT40 Beam Forming, M0 to M7 | 4 | 12 | -59.6 | -58.3 | -54.9 | -54.5 | -38.3 | -21.25 | 17.0 |
|  | HT/VHT40 Beam Forming, M8 to M15 | 4 | 9 | -59.6 | -58.3 | -54.9 | -54.5 | -41.3 | -21.25 | 20.0 |
|  | HT/VHT40 Beam Forming, M16 to M23 | 4 | 7 | -59.6 | -58.3 | -54.9 | -54.5 | -43.1 | -21.25 | 21.8 |
|  | HT/VHT40 STBC, M0 to M7 | 2 | 6 | -59.6 | -58.3 |  |  | -49.9 | -21.25 | 28.6 |
|  | HT/VHT40 STBC, M0 to M7 | 3 | 6 | -59.6 | -58.3 | -54.9 |  | -46.4 | -21.25 | 25.1 |
|  | HT/VHT40 STBC, M0 to M7 | 4 | 6 | -59.6 | -58.3 | -54.9 | -54.5 | -44.3 | -21.25 | 23.0 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\stackrel{\text { N}}{\text { N }}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -58.1 |  |  |  | -52.1 | -21.25 | 30.9 |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -58.1 | -57.8 |  |  | -48.9 | -21.25 | 27.7 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -58.1 | -57.8 | -59.6 |  | -47.7 | -21.25 | 26.4 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -58.1 | -57.8 | -59.6 | -60.8 | -46.9 | -21.25 | 25.6 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -58.1 | -57.8 |  |  | -45.9 | -21.25 | 24.7 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -58.1 | -57.8 | -59.6 |  | -42.9 | -21.25 | 21.6 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -58.1 | -57.8 | -59.6 | -60.8 | -40.9 | -21.25 | 19.6 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -59.6 |  |  |  | -53.6 | -21.25 | 32.4 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -59.6 | -59.9 |  |  | -50.7 | -21.25 | 29.5 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -59.6 | -59.9 |  |  | -50.7 | -21.25 | 29.5 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -59.6 | -59.9 | -58.7 |  | -48.6 | -21.25 | 27.3 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -59.6 | -59.9 | -58.7 |  | -48.6 | -21.25 | 27.3 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -59.6 | -59.9 | -58.7 |  | -48.6 | -21.25 | 27.3 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -59.6 | -59.9 | -58.7 | -58.5 | -47.1 | -21.25 | 25.9 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -59.6 | -59.9 | -58.7 | -58.5 | -47.1 | -21.25 | 25.9 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -59.6 | -59.9 | -58.7 | -58.5 | -47.1 | -21.25 | 25.9 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -59.6 | -59.9 |  |  | -47.7 | -21.25 | 26.5 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -59.6 | -59.9 |  |  | -50.7 | -21.25 | 29.5 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -59.6 | -59.9 | -58.7 |  | -43.8 | -21.25 | 22.5 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -59.6 | -59.9 | -58.7 |  | -46.8 | -21.25 | 25.5 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -59.6 | -59.9 | -58.7 |  | -48.6 | -21.25 | 27.3 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -59.6 | -59.9 | -58.7 | -58.5 | -41.1 | -21.25 | 19.9 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -59.6 | -59.9 | -58.7 | -58.5 | -44.1 | -21.25 | 22.9 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -59.6 | -59.9 | -58.7 | -58.5 | -45.9 | -21.25 | 24.7 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -59.6 | -59.9 |  |  | -50.7 | -21.25 | 29.5 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -59.6 | -59.9 | -58.7 |  | -48.6 | -21.25 | 27.3 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -59.6 | -59.9 | -58.7 | -58.5 | -47.1 | -21.25 | 25.9 |

Page No: 66 of 106
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Conducted Spurs Average, All Antennas


## Conducted Spurs Peak, All Antennas



Conducted Spurs Average, 5500 MHz, HT/VHT20 Beam Forming, MO to M7


Antenna A


Antenna C


Antenna B


Antenna D

Conducted Spurs Peak, 5570 MHz, Non HT160, 6 to 54 Mbps


Antenna A


Antenna C


Antenna B


Antenna D

## A. 4 <br> Conducted Bandedge

15.407 (b) Undesirable emission limits. Except as shown in paragraph (b) (7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(3) For transmitters operating in the $5.47-5.725 \mathrm{GHz}$ band: All emissions outside of the $5.47-5.725 \mathrm{GHz}$ band shall not exceed an e.i.r.p. of $-27 \mathrm{dBm} / \mathrm{MHz}$.
(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in 15.209.
(7) The provisions of $\S 15.205$ apply to intentional radiators operating under this section.
(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits

## Test Procedure

Ref. KDB 789033 D02 General UNII Test Procedures New Rules v01r01

## ANSI C63.10: 2013

## Conducted Bandedge

Test Procedure

1. Connect the antenna port(s) to the spectrum analyzer input.
2. Place the radio in continuous transmit mode. Use the procedures in ANSI C63.10: 2013 to substitute conducted measurements in place of radiated measurements.
3. Configure Spectrum analyzer as per test parameters below (be sure to enter all losses between the transmitter output and the spectrum analyzer).
4. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance.

Also measure any emissions in the restricted bands.
5. The "measure-and-sum technique" is used for measuring in-band transmit power of a device. In the measure-and-sum approach, the conducted emission level is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically to determine the total emission level from the device.
Summing is performed in linear power units. The worst case output is recorded.
6 . Place a marker at the end of the restricted band closest to the transmit frequency to show compliance.
Also measure any emissions in the restricted bands
7. Capture graphs and record pertinent measurement data.

Ref. ANSI C63.10: 2013 section 12.7.6 (peak) \& 12.7.7.3 (average, Method VB-A (Alternative))
Conducted Bandedge
Test parameters restricted Band

```
RBW = 1 MHz
VBW \geq3 x RBW for Peak, 100Hz for Average
Sweep = Auto couple
Detector = Peak
Trace = Max Hold.
```

| System <br> Number | Description | Samples | System under <br> test | Support <br> equipment |
| :---: | :--- | :--- | :--- | :--- |
| 1 | EUT | S01 | $\boxed{\square}$ | $\square$ |
|  | Support | S02 | $\square$ | $\square$ |


| Tested By: | Date of testing: |
| :--- | :--- |
| Jose Aguirre | 01-Jan-16-22-Feb-16 |
| Test Result : PASS |  |

See Appendix C for list of test equipment

|  | Mode |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \mathrm{O} \\ & \text { Hin } \end{aligned}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -56.7 |  |  |  | -50.7 | -41.25 | 9.5 |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -56.7 | -54.9 |  |  | -46.7 | -41.25 | 5.4 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -61.8 | -61.6 | -62.1 |  | -51.1 | -41.25 | 9.8 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -62.3 | -62.4 | -62.7 | -61.4 | -50.2 | -41.25 | 8.9 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -57.8 | -56.7 |  |  | -45.2 | -41.25 | 4.0 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -61.8 | -61.6 | -62.1 |  | -46.3 | -41.25 | 5.0 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -62.5 | -62.7 | -63.0 | -61.7 | -44.4 | -41.25 | 3.2 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -56.3 |  |  |  | -50.3 | -41.25 | 9.1 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -56.3 | -55.0 |  |  | -46.6 | -41.25 | 5.3 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -56.3 | -55.0 |  |  | -46.6 | -41.25 | 5.3 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -61.7 | -61.4 | -61.9 |  | -50.9 | -41.25 | 9.6 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -57.6 | -56.7 | -57.4 |  | -46.4 | -41.25 | 5.2 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -56.3 | -55.0 | -56.0 |  | -45.0 | -41.25 | 3.7 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -62.3 | -62.3 | -62.8 | -61.0 | -50.0 | -41.25 | 8.8 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -58.7 | -58.5 | -58.9 | -60.1 | -47.0 | -41.25 | 5.7 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -57.6 | -56.7 | -57.4 | -56.9 | -45.1 | -41.25 | 3.9 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -57.6 | -56.7 |  |  | -45.1 | -41.25 | 3.9 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -56.3 | -55.0 |  |  | -46.6 | -41.25 | 5.3 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -61.7 | -61.4 | -61.9 |  | -46.1 | -41.25 | 4.8 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -58.4 | -57.8 | -58.2 |  | -45.6 | -41.25 | 4.3 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -56.3 | -55.0 | -56.0 |  | -45.0 | -41.25 | 3.7 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -62.5 | -62.6 | -63.0 | -61.5 | -44.3 | -41.25 | 3.1 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -61.7 | -61.4 | -61.9 | -60.3 | -46.3 | -41.25 | 5.0 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -58.4 | -57.8 | -58.2 | -57.2 | -44.7 | -41.25 | 3.4 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -56.3 | -55.0 |  |  | -46.6 | -41.25 | 5.3 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -57.6 | -56.7 | -57.4 |  | -46.4 | -41.25 | 5.2 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -58.7 | -58.5 | -58.9 | -60.1 | -47.0 | -41.25 | 5.7 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { O} \\ & \stackrel{N}{n} \end{aligned}$ | Non HT40, 6 to 54 Mbps | 1 | 6 | -56.6 |  |  |  | -50.6 | -41.25 | 9.4 |
|  | Non HT40, 6 to 54 Mbps | 2 | 6 | -61.6 | -61.0 |  |  | -52.3 | -41.25 | 11.0 |
|  | Non HT40, 6 to 54 Mbps | 3 | 6 | -62.3 | -62.1 | -63.0 |  | -51.7 | -41.25 | 10.4 |
|  | Non HT40, 6 to 54 Mbps | 4 | 6 | -62.5 | -62.6 | -63.0 | -61.9 | -50.5 | -41.25 | 9.2 |
|  | HT/VHT40, M0 to M7 | 1 | 6 | -55.2 |  |  |  | -49.2 | -41.25 | 8.0 |
|  | HT/VHT40, M0 to M7 | 2 | 6 | -56.5 | -53.7 |  |  | -45.9 | -41.25 | 4.6 |

Page No: 71 of 106

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| HT／VHT40，M8 to M15 | 2 | 6 | -56.5 | -53.7 |  |  | -45.9 | -41.25 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| HT／VHT40，M0 to M7 | 3 | 6 | -58.2 | -56.3 | -57.8 |  | -46.6 | -41.25 |
| HT／VHT40，M8 to M15 | 3 | 6 | -58.2 | -56.3 | -57.8 |  | -46.6 | -41.25 |
| HT／VHT40，M16 to M23 | 3 | 6 | -58.2 | -56.3 | -57.8 |  | -46.6 | -41.25 |
| HT／VHT40，M0 to M7 | 4 | 6 | -58.2 | -56.3 | -57.8 | -56.5 | -45.1 | -41.25 |
| HT／VHT40，M8 to M15 | 4 | 6 | -58.2 | -56.3 | -57.8 | -56.5 | -45.1 | -41.25 |
| HT／VHT40，M16 to M23 | 4 | 6 | -58.2 | -56.3 | -57.8 | -56.5 | -45.1 | -41.25 |
| HT／VHT40 Beam Forming，M0 to M7 | 2 | 9 | -58.2 | -56.3 |  |  | -45.1 | -41.25 |
| HT／VHT40 Beam Forming，M8 to M15 | 2 | 6 | -56.5 | -53.7 |  |  | -45.9 | -41.25 |
| HT／VHT40 Beam Forming，M0 to M7 | 3 | 11 | -62.1 | -61.4 | -62.3 |  | -46.3 | -41.25 |
| HT／VHT40 Beam Forming，M8 to M15 | 3 | 8 | -58.2 | -56.3 | -57.8 |  | -44.8 | -41.25 |
| HT／VHT40 Beam Forming，M16 to M23 | 3 | 6 | -58.2 | -56.3 | -57.8 |  | -46.6 | -41.25 |
| HT／VHT40 Beam Forming，M0 to M7 | 4 | 12 | -64.3 | -63.9 | -64.3 | -64.0 | -46.1 | -41.25 |
| HT／VHT40 Beam Forming，M8 to M15 | 4 | 9 | -62.1 | -61.4 | -62.3 | -61.1 | -46.7 | -41.25 |
| HT／VHT40 Beam Forming，M16 to M23 | 4 | 7 | -61.2 | -59.4 | -61.3 | -59.1 | -46.9 | -41.25 |
| HT／VHT40 STBC，M0 to M7 | 2 | 6 | -56.5 | -53.7 |  |  | -45.9 | -41.25 |
| HT／VHT40 STBC，M0 to M7 | 3 | 6 | -58.2 | -56.3 | -57.8 |  | -46.6 | -41.25 |
| HT／VHT40 STBC，M0 to M7 | 4 | 6 | -58.2 | -56.3 | -57.8 | -56.5 | -45.1 | -41.25 |
| 3.9 |  |  |  |  |  |  |  |  |


| Non HT80， 6 to 54 Mbps | 1 | 6 | -51.4 |  |  |  | -45.4 | -41.25 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Non HT80， 6 to 54 Mbps | 2 | 6 | -52.2 | -50.2 |  |  | -42.1 | -41.25 |
| Non HT80， 6 to 54 Mbps | 3 | 6 | -53.1 | -51.6 | -53.7 |  | -41.9 | -41.25 |
| Non HT80， 6 to 54 Mbps | 4 | 6 | -53.8 | -52.4 | -53.8 | -54.2 | -41.5 | -41.25 |
| VHT80，M0．1 to M9．1 | 1 | 6 | -52.3 |  |  |  | -46.3 | -41.25 |
| VHT80，M0．1 to M9．1 | 2 | 6 | -53.8 | -51.8 |  |  | -43.7 | -41.25 |
| VHT80，M0．2 to M9．2 | 2 | 6 | -53.8 | -51.8 |  |  | -43.7 | -41.25 |
| VHT80，M0．1 to M9．1 | 3 | 6 | -53.8 | -51.8 | -51.8 |  | -41.6 | -41.25 |
| VHT80，M0．2 to M9．2 | 3 | 6 | -53.8 | -51.8 | -51.8 |  | -41.6 | -41.25 |
| VHT80，M0．3 to M9．3 | 3 | 6 | -53.8 | -51.8 | -51.8 |  | -41.6 | -41.25 |
| VHT80，M0．1 to M9．1 | 4 | 6 | -55.0 | -53.2 | -54.0 | -52.9 | -41.7 | -41.25 |
| VHT80，M0．2 to M9．2 | 4 | 6 | -55.0 | -53.2 | -54.0 | -52.9 | -41.7 | -41.25 |
| VHT80，M0．3 to M9．3 | 4 | 6 | -55.0 | -53.2 | -54.0 | -52.9 | -41.7 | -41.25 |
| VHT80 Beam Forming，M0．1 to M9．1 | 2 | 6 | -53.8 | -51.8 |  |  | -43.7 | -41.25 |
| VHT80 Beam Forming，M0．2 to M9．2 | 2 | 6 | -53.8 | -51.8 |  |  | -43.7 | -41.25 |
| VHT80 Beam Forming，M0．1 to M9．1 | 3 | 6 | -56.0 | -54.2 | -55.7 |  | -44.5 | -41.25 |
| VHT80 Beam Forming，M0．2 to M9．2 | 3 | 6 | -53.8 | -51.8 | -51.8 |  | -41.6 | -41.25 |
| VHT80 Beam Forming，M0．3 to M9．3 | 3 | 6 | -53.8 | -51.8 | -51.8 |  | -41.6 | -41.25 |
|  | 0.3 |  |  |  |  |  |  |  |
| VHT80 Beam Forming，M0．1 to M9．1 | 4 | 6 | -58.3 | -56.5 | -58.6 | -57.0 | -45.5 | -41.25 |
| VHT80 Beam Forming，M0．2 to M9．2 | 4.2 |  |  |  |  |  |  |  |
| VHT80 Beam Forming，M0．3 to M9．3 | 6 | -55.0 | -53.2 | -54.0 | -52.9 | -41.7 | -41.25 | 0.4 |
| VHT80 STBC，M0．1 to M9．1 | 2 | 6 | -55.0 | -53.2 | -54.0 | -52.9 | -41.7 | -41.25 |
| 0.4 |  |  |  |  |  |  |  |  |

Page No： 72 of 106

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|  | VHT80 STBC, M0.1 to M9.1 | 3 | 6 | -53.8 | -51.8 | -51.8 |  | -41.6 | -41.25 | 0.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | VHT80 STBC, M0.1 to M9.1 | 4 | 6 | -55.0 | -53.2 | -54.0 | -52.9 | -41.7 | -41.25 | 0.4 |
|  |  |  |  |  |  |  |  |  |  |  |
| 응 | Non HT160, 6 to 54 Mbps | 1 | 6 | -48.2 |  |  |  | -42.2 | -41.25 | 1.0 |
|  | Non HT160, 6 to 54 Mbps | 2 | 6 | -56.7 | -55.6 |  |  | -47.1 | -41.25 | 5.9 |
|  | Non HT160, 6 to 54 Mbps | 3 | 6 | -56.7 | -55.6 | -55.1 |  | -45.0 | -41.25 | 3.7 |
|  | Non HT160, 6 to 54 Mbps | 4 | 6 | -56.7 | -55.6 | -55.1 | -54.0 | -43.2 | -41.25 | 2.0 |
|  | VHT160, M0.1 to M9.1 | 1 | 6 | -52.1 |  |  |  | -46.1 | -41.25 | 4.9 |
|  | VHT160, M0.1 to M9.1 | 2 | 6 | -52.1 | -52.2 |  |  | -43.1 | -41.25 | 1.9 |
|  | VHT160, M0.2 to M9.2 | 2 | 6 | -52.1 | -52.2 |  |  | -43.1 | -41.25 | 1.9 |
|  | VHT160, M0.1 to M9.1 | 3 | 6 | -53.8 | -54.0 | -50.7 |  | -41.8 | -41.25 | 0.5 |
|  | VHT160, M0.2 to M9.2 | 3 | 6 | -53.8 | -54.0 | -50.7 |  | -41.8 | -41.25 | 0.5 |
|  | VHT160, M0.3 to M9.3 | 3 | 6 | -53.8 | -54.0 | -50.7 |  | -41.8 | -41.25 | 0.5 |
|  | VHT160, M0.1 to M9.1 | 4 | 6 | -55.4 | -55.2 | -52.9 | -55.5 | -42.6 | -41.25 | 1.3 |
|  | VHT160, M0.2 to M9.2 | 4 | 6 | -55.4 | -55.2 | -52.9 | -55.5 | -42.6 | -41.25 | 1.3 |
|  | VHT160, M0.3 to M9.3 | 4 | 6 | -55.4 | -55.2 | -52.9 | -55.5 | -42.6 | -41.25 | 1.3 |
|  | VHT160 Beam Forming, M0.1 to M9.1 | 2 | 6 | -52.1 | -52.2 |  |  | -43.1 | -41.25 | 1.9 |
|  | VHT160 Beam Forming, M0.2 to M9.2 | 2 | 6 | -52.1 | -52.2 |  |  | -43.1 | -41.25 | 1.9 |
|  | VHT160 Beam Forming, M0.1 to M9.1 | 3 | 6 | -55.4 | -55.2 | -52.9 |  | -43.6 | -41.25 | 2.3 |
|  | VHT160 Beam Forming, M0.2 to M9.2 | 3 | 6 | -53.8 | -54.0 | -50.7 |  | -41.8 | -41.25 | 0.5 |
|  | VHT160 Beam Forming, M0.3 to M9.3 | 3 | 6 | -53.8 | -54.0 | -50.7 |  | -41.8 | -41.25 | 0.5 |
|  | VHT160 Beam Forming, M0.1 to M9.1 | 4 | 6 | -58.9 | -58.1 | -57.1 | -58.1 | -46.0 | -41.25 | 4.7 |
|  | VHT160 Beam Forming, M0.2 to M9.2 | 4 | 6 | -55.4 | -55.2 | -52.9 | -55.5 | -42.6 | -41.25 | 1.3 |
|  | VHT160 Beam Forming, M0.3 to M9.3 | 4 | 6 | -55.4 | -55.2 | -52.9 | -55.5 | -42.6 | -41.25 | 1.3 |
|  | VHT160 STBC, M0.1 to M9.1 | 2 | 6 | -52.1 | -52.2 |  |  | -43.1 | -41.25 | 1.9 |
|  | VHT160 STBC, M0.1 to M9.1 | 3 | 6 | -53.8 | -54.0 | -50.7 |  | -41.8 | -41.25 | 0.5 |
|  | VHT160 STBC, M0.1 to M9.1 | 4 | 6 | -55.4 | -55.2 | -52.9 | -55.5 | -42.6 | -41.25 | 1.3 |

Page No: 73 of 106

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|  | Mode |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { O } \\ & \text { Hinn } \end{aligned}$ | Non HT20, 6 to 54 Mbps | 1 | 6 | -33.7 |  |  |  | -27.7 | -21.25 | 6.5 |
|  | Non HT20, 6 to 54 Mbps | 2 | 6 | -33.7 | -33.3 |  |  | -24.5 | -21.25 | 3.2 |
|  | Non HT20, 6 to 54 Mbps | 3 | 6 | -37.9 | -37.3 | -38.7 |  | -27.2 | -21.25 | 5.9 |
|  | Non HT20, 6 to 54 Mbps | 4 | 6 | -39.7 | -38.9 | -40.4 | -40.3 | -27.8 | -21.25 | 6.5 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 2 | 9 | -34.8 | -34.4 |  |  | -22.6 | -21.25 | 1.3 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 3 | 11 | -37.9 | -37.3 | -38.7 |  | -22.4 | -21.25 | 1.1 |
|  | Non HT20 Beam Forming, 6 to 54 Mbps | 4 | 12 | -41.0 | -39.8 | -41.0 | -40.9 | -22.6 | -21.25 | 1.4 |
|  | HT/VHT20, M0 to M7 | 1 | 6 | -34.1 |  |  |  | -28.1 | -21.25 | 6.9 |
|  | HT/VHT20, M0 to M7 | 2 | 6 | -34.1 | -31.5 |  |  | -23.6 | -21.25 | 2.3 |
|  | HT/VHT20, M8 to M15 | 2 | 6 | -34.1 | -31.5 |  |  | -23.6 | -21.25 | 2.3 |
|  | HT/VHT20, M0 to M7 | 3 | 6 | -37.7 | -37.1 | -38.5 |  | -27.0 | -21.25 | 5.7 |
|  | HT/VHT20, M8 to M15 | 3 | 6 | -35.2 | -34.5 | -35.6 |  | -24.3 | -21.25 | 3.1 |
|  | HT/VHT20, M16 to M23 | 3 | 6 | -34.1 | -31.5 | -34.6 |  | -22.4 | -21.25 | 1.2 |
|  | HT/VHT20, M0 to M7 | 4 | 6 | -39.9 | -39.2 | -40.3 | -39.9 | -27.8 | -21.25 | 6.5 |
|  | HT/VHT20, M8 to M15 | 4 | 6 | -36.9 | -36.2 | -37.6 | -37.3 | -24.9 | -21.25 | 3.7 |
|  | HT/VHT20, M16 to M23 | 4 | 6 | -35.2 | -34.5 | -35.6 | -35.0 | -23.0 | -21.25 | 1.8 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 2 | 9 | -35.2 | -34.5 |  |  | -22.8 | -21.25 | 1.6 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 2 | 6 | -34.1 | -31.5 |  |  | -23.6 | -21.25 | 2.3 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 3 | 11 | -37.7 | -37.1 | -38.5 |  | -22.2 | -21.25 | 0.9 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 3 | 8 | -35.8 | -35.4 | -36.5 |  | -23.3 | -21.25 | 2.1 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 3 | 6 | -34.1 | -31.5 | -34.6 |  | -22.4 | -21.25 | 1.2 |
|  | HT/VHT20 Beam Forming, M0 to M7 | 4 | 12 | -40.0 | -40.1 | -41.1 | -40.8 | -22.5 | -21.25 | 1.2 |
|  | HT/VHT20 Beam Forming, M8 to M15 | 4 | 9 | -37.7 | -37.1 | -38.5 | -38.0 | -22.8 | -21.25 | 1.5 |
|  | HT/VHT20 Beam Forming, M16 to M23 | 4 | 7 | -35.8 | -35.4 | -36.5 | -36.3 | -22.8 | -21.25 | 1.5 |
|  | HT/VHT20 STBC, M0 to M7 | 2 | 6 | -34.1 | -31.5 |  |  | -23.6 | -21.25 | 2.3 |
|  | HT/VHT20 STBC, M0 to M7 | 3 | 6 | -35.2 | -34.5 | -35.6 |  | -24.3 | -21.25 | 3.1 |
|  | HT/VHT20 STBC, M0 to M7 | 4 | 6 | -36.9 | -36.2 | -37.6 | -37.3 | -24.9 | -21.25 | 3.7 |
|  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { O} \\ & \text { NN } \end{aligned}$ | Non HT40, 6 to 54 Mbps | 1 | 6 | -30.9 |  |  |  | -24.9 | -21.25 | 3.7 |
|  | Non HT40, 6 to 54 Mbps | 2 | 6 | -31.9 | -31.4 |  |  | -22.6 | -21.25 | 1.4 |
|  | Non HT40, 6 to 54 Mbps | 3 | 6 | -33.7 | -33.2 | -30.3 |  | -21.4 | -21.25 | 0.1 |
|  | Non HT40, 6 to 54 Mbps | 4 | 6 | -31.1 | -33.8 | -34.4 | -35.4 | -21.3 | -21.25 | 0.1 |
|  | HT/VHT40, M0 to M7 | 1 | 6 | -27.7 |  |  |  | -21.7 | -21.25 | 0.5 |
|  | HT/VHT40, M0 to M7 | 2 | 6 | -33.9 | -31.3 |  |  | -23.4 | -21.25 | 2.1 |

Page No: 74 of 106

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| HT/VHT40, M8 to M15 | 2 | 6 | -33.9 | -31.3 |  |  | -23.4 | -21.25 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| HT/VHT40, M0 to M7 | 3 | 6 | -33.5 | -34.3 | -34.5 |  | -23.3 | -21.25 |
| HT/VHT40, M8 to M15 | 3 | 6 | -33.5 | -34.3 | -34.5 |  | -23.3 | -21.25 |
| HT/VHT40, M16 to M23 | 3 | 6 | -33.5 | -34.3 | -34.5 |  | -23.3 | -21.25 |
| HT/VHT40, M0 to M7 | 4 | 6 | -33.5 | -34.3 | -34.5 | -32.4 | -21.6 | -21.25 |
| HT/VHT40, M8 to M15 | 4 | 6 | -33.5 | -34.3 | -34.5 | -32.4 | -21.6 | -21.25 |
| HT/VHT40, M16 to M23 | 4 | 6 | -33.5 | -34.3 | -34.5 | -32.4 | -21.6 | -21.25 |
| HT/VHT40 Beam Forming, M0 to M7 | 2 | 9 | -33.5 | -34.3 |  |  | -21.9 | -21.25 |
| HT/VHT40 Beam Forming, M8 to M15 | 2 | 6 | -33.9 | -31.3 |  |  | -23.4 | -21.25 |
| HT/VHT40 Beam Forming, M0 to M7 | 3 | 11 | -37.2 | -35.9 | -38.0 |  | -21.4 | -21.25 |
| HT/VHT40 Beam Forming, M8 to M15 | 3 | 8 | -33.5 | -34.3 | -34.5 |  | -21.5 | -21.25 |
| HT/VHT40 Beam Forming, M16 to M23 | 3 | 6 | -33.5 | -34.3 | -34.5 |  | -23.3 | -21.25 |
| HT/VHT40 Beam Forming, M0 to M7 | 4 | 12 | -39.5 | -40.6 | -38.6 | -40.6 | -21.7 | -21.25 |
| HT/VHT40 Beam Forming, M8 to M15 | 4 | 9 | -37.2 | -35.9 | -38.0 | -37.4 | -22.0 | -21.25 |
| HT/VHT40 Beam Forming, M16 to M23 | 4 | 7 | -37.6 | -34.7 | -35.4 | -36.9 | -22.8 | -21.25 |
| HT/VHT40 STBC, M0 to M7 | 2 | 6 | -33.9 | -31.3 |  |  | -23.4 | -21.25 |
| HT/VHT40 STBC, M0 to M7 | 3 | 6 | -33.5 | -34.3 | -34.5 |  | -23.3 | -21.25 |
| HT/VHT40 STBC, M0 to M7 | 4 | 6 | -33.5 | -34.3 | -34.5 | -32.4 | -21.6 | -21.25 |


| $\begin{aligned} & \text { O} \\ & \text { Nn } \end{aligned}$ | Non HT80, 6 to 54 Mbps | 1 | 6 | -29.9 |  |  |  | -23.9 | -21.25 | 2.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Non HT80, 6 to 54 Mbps | 2 | 6 | -34.4 | -30.3 |  |  | -22.9 | -21.25 | 1.6 |
|  | Non HT80, 6 to 54 Mbps | 3 | 6 | -33.0 | -35.6 | -35.9 |  | -23.9 | -21.25 | 2.6 |
|  | Non HT80, 6 to 54 Mbps | 4 | 6 | -34.6 | -32.9 | -34.4 | -36.9 | -22.5 | -21.25 | 1.2 |
|  | VHT80, M0.1 to M9.1 | 1 | 6 | -29.3 |  |  |  | -23.3 | -21.25 | 2.1 |
|  | VHT80, M0.1 to M9.1 | 2 | 6 | -37.3 | -28.9 |  |  | -22.3 | -21.25 | 1.1 |
|  | VHT80, M0.2 to M9.2 | 2 | 6 | -37.3 | -28.9 |  |  | -22.3 | -21.25 | 1.1 |
|  | VHT80, M0.1 to M9.1 | 3 | 6 | -37.3 | -28.9 | -34.8 |  | -21.4 | -21.25 | 0.2 |
|  | VHT80, M0.2 to M9.2 | 3 | 6 | -37.3 | -28.9 | -34.8 |  | -21.4 | -21.25 | 0.2 |
|  | VHT80, M0.3 to M9.3 | 3 | 6 | -37.3 | -28.9 | -34.8 |  | -21.4 | -21.25 | 0.2 |
|  | VHT80, M0.1 to M9.1 | 4 | 6 | -37.8 | -37.2 | -36.3 | -33.8 | -24.0 | -21.25 | 2.7 |
|  | VHT80, M0.2 to M9.2 | 4 | 6 | -37.8 | -37.2 | -36.3 | -33.8 | -24.0 | -21.25 | 2.7 |
|  | VHT80, M0.3 to M9.3 | 4 | 6 | -37.8 | -37.2 | -36.3 | -33.8 | -24.0 | -21.25 | 2.7 |
|  | VHT80 Beam Forming, M0.1 to M9.1 | 2 | 6 | -37.3 | -28.9 |  |  | -22.3 | -21.25 | 1.1 |
|  | VHT80 Beam Forming, M0.2 to M9.2 | 2 | 6 | -37.3 | -28.9 |  |  | -22.3 | -21.25 | 1.1 |
|  | VHT80 Beam Forming, M0.1 to M9.1 | 3 | 6 | -38.7 | -37.9 | -38.3 |  | -27.5 | -21.25 | 6.3 |
|  | VHT80 Beam Forming, M0.2 to M9.2 | 3 | 6 | -37.3 | -28.9 | -34.8 |  | -21.4 | -21.25 | 0.2 |
|  | VHT80 Beam Forming, M0.3 to M9.3 | 3 | 6 | -37.3 | -28.9 | -34.8 |  | -21.4 | -21.25 | 0.2 |
|  | VHT80 Beam Forming, M0.1 to M9.1 | 4 | 6 | -40.3 | -38.0 | -40.4 | -40.4 | -27.6 | -21.25 | 6.4 |
|  | VHT80 Beam Forming, M0.2 to M9.2 | 4 | 6 | -37.8 | -37.2 | -36.3 | -33.8 | -24.0 | -21.25 | 2.7 |
|  | VHT80 Beam Forming, M0.3 to M9.3 | 4 | 6 | -37.8 | -37.2 | -36.3 | -33.8 | -24.0 | -21.25 | 2.7 |
|  | VHT80 STBC, M0.1 to M9.1 | 2 | 6 | -37.3 | -28.9 |  |  | -22.3 | -21.25 | 1.1 |

Page No: 75 of 106

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|  | VHT80 STBC, M0.1 to M9.1 | 3 | 6 | -37.3 | -28.9 | -34.8 |  | -21.4 | -21.25 | 0.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | VHT80 STBC, M0.1 to M9.1 | 4 | 6 | -37.8 | -37.2 | -36.3 | -33.8 | -24.0 | -21.25 | 2.7 |
|  |  |  |  |  |  |  |  |  |  |  |
| 응 | Non HT160, 6 to 54 Mbps | 1 | 6 | -27.3 |  |  |  | -21.3 | -21.25 | 0.1 |
|  | Non HT160, 6 to 54 Mbps | 2 | 6 | -44.1 | -37.1 |  |  | -30.3 | -21.25 | 9.1 |
|  | Non HT160, 6 to 54 Mbps | 3 | 6 | -44.1 | -37.1 | -38.4 |  | -28.2 | -21.25 | 7.0 |
|  | Non HT160, 6 to 54 Mbps | 4 | 6 | -44.1 | -37.1 | -38.4 | -44.6 | -27.8 | -21.25 | 6.6 |
|  | VHT160, M0.1 to M9.1 | 1 | 6 | -32.4 |  |  |  | -26.4 | -21.25 | 5.2 |
|  | VHT160, M0.1 to M9.1 | 2 | 6 | -32.4 | -32.0 |  |  | -23.2 | -21.25 | 1.9 |
|  | VHT160, M0.2 to M9.2 | 2 | 6 | -32.4 | -32.0 |  |  | -23.2 | -21.25 | 1.9 |
|  | VHT160, M0.1 to M9.1 | 3 | 6 | -34.6 | -35.7 | -30.3 |  | -22.1 | -21.25 | 0.8 |
|  | VHT160, M0.2 to M9.2 | 3 | 6 | -34.6 | -35.7 | -30.3 |  | -22.1 | -21.25 | 0.8 |
|  | VHT160, M0.3 to M9.3 | 3 | 6 | -34.6 | -35.7 | -30.3 |  | -22.1 | -21.25 | 0.8 |
|  | VHT160, M0.1 to M9.1 | 4 | 6 | -36.4 | -37.0 | -31.7 | -35.6 | -22.6 | -21.25 | 1.4 |
|  | VHT160, M0.2 to M9.2 | 4 | 6 | -36.4 | -37.0 | -31.7 | -35.6 | -22.6 | -21.25 | 1.4 |
|  | VHT160, M0.3 to M9.3 | 4 | 6 | -36.4 | -37.0 | -31.7 | -35.6 | -22.6 | -21.25 | 1.4 |
|  | VHT160 Beam Forming, M0.1 to M9.1 | 2 | 6 | -32.4 | -32.0 |  |  | -23.2 | -21.25 | 1.9 |
|  | VHT160 Beam Forming, M0.2 to M9.2 | 2 | 6 | -32.4 | -32.0 |  |  | -23.2 | -21.25 | 1.9 |
|  | VHT160 Beam Forming, M0.1 to M9.1 | 3 | 6 | -36.4 | -37.0 | -31.7 |  | -23.6 | -21.25 | 2.3 |
|  | VHT160 Beam Forming, M0.2 to M9.2 | 3 | 6 | -34.6 | -35.7 | -30.3 |  | -22.1 | -21.25 | 0.8 |
|  | VHT160 Beam Forming, M0.3 to M9.3 | 3 | 6 | -34.6 | -35.7 | -30.3 |  | -22.1 | -21.25 | 0.8 |
|  | VHT160 Beam Forming, M0.1 to M9.1 | 4 | 6 | -40.0 | -40.6 | -36.6 | -40.5 | -27.1 | -21.25 | 5.8 |
|  | VHT160 Beam Forming, M0.2 to M9.2 | 4 | 6 | -36.4 | -37.0 | -31.7 | -35.6 | -22.6 | -21.25 | 1.4 |
|  | VHT160 Beam Forming, M0.3 to M9.3 | 4 | 6 | -36.4 | -37.0 | -31.7 | -35.6 | -22.6 | -21.25 | 1.4 |
|  | VHT160 STBC, M0.1 to M9.1 | 2 | 6 | -32.4 | -32.0 |  |  | -23.2 | -21.25 | 1.9 |
|  | VHT160 STBC, M0.1 to M9.1 | 3 | 6 | -34.6 | -35.7 | -30.3 |  | -22.1 | -21.25 | 0.8 |
|  | VHT160 STBC, M0.1 to M9.1 | 4 | 6 | -36.4 | -37.0 | -31.7 | -35.6 | -22.6 | -21.25 | 1.4 |

Page No: 76 of 106

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Conducted Bandedge Average, 5530 MHz , Non HT80, 6 to 54 Mbps


Antenna A


Antenna C


Antenna B


Antenna D

## Conducted Bandedge Peak, 5570 MHz, Non HT160, 6 to 54 Mbps



Antenna A

## Appendix B: Emission Test Results

Testing Laboratory: Cisco Systems, Inc., 125 West Tasman Drive, San Jose, CA 95134, USA

## Radiated Emission Setup Diagram-Below 1G



## Radiated Emission Setup Diagram-Above 1G



## B. $1 \quad$ Radiated Spurious Emissions

15.407 (b) Undesirable emission limits. Except as shown in paragraph (b) (7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(3) For transmitters operating in the $5.47-5.725 \mathrm{GHz}$ band: All emissions outside of the $5.47-5.725 \mathrm{GHz}$ band shall not exceed an e.i.r.p. of $-27 \mathrm{dBm} / \mathrm{MHz}$.

### 15.205 / 15.209

(7) The provisions of 15.205 apply to intentional radiators operating under this section.
(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in 15.209 .

Ref. ANSI C63.10: 2013 section 12.7.6 (peak) \& 12.7.7.3 (average)
Using Vasona, configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer). Place the radio in continuous transmit mode.

| Span: | $1 \mathrm{GHz}-18 \mathrm{GHz} / 18 \mathrm{GHz}-26 \mathrm{G} / 26 \mathrm{GHz}-40 \mathrm{GHz}$ |
| :--- | :--- |
| Reference Level: | 80 dBuV |
| Attenuation: | 10 dB |
| Sweep Time: | Coupled |
| Resolution Bandwidth: | 1 MHz |
| Video Bandwidth: | 3 MHz for peak, 1 KHz for average |
| Detector: | Peak |

Terminate the access Point RF ports with 50 ohm loads.
Maximize Turntable (find worst case table angle), Maximize Antenna (find worst case height)
Save 2 plots: 1) Average plot (Vertical and Horizontal), Limit= $54 \mathrm{dBuV} / \mathrm{m} @ 3 \mathrm{~m}$
2) Peak plot (Vertical and Horizontal), Limit $=74 \mathrm{dBuV} / \mathrm{m} @ 3 \mathrm{~m}$

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands.

This report represents the worst case data for all supported operating modes and antennas. There are no measurable emissions above 18 GHz .

| System <br> Number | Description | Samples | System under <br> test | Support <br> equipment |
| :---: | :--- | :--- | :--- | :--- |
| 1 | EUT | S01 | $\boxed{ }$ | $\square$ |
|  | Support | S02 | $\square$ | $\square$ |


| Tested By: | Date of testing: <br> Jose Aguirre |
| :--- | :--- |
| 01-Jan-16-22-Feb-16 |  |

See Appendix C for list of test equipment

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## B.1.A Transmitter Radiated Spurious Emissions-Average Worst Case

| Frequency (MHz) | Mode | Data Rate (Mbps) | Spurious Emission Level (dBuV/m) | Limit (dBuV/m) | Margin (MHz) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5500 | HT/VHT20, M0 to M23 | M0 | 50.2 | 54.0 | 3.8 |
| 5510 | HT/VHT40, M0 to M23 | M0 | 50.4 | 54.0 | 3.6 |
| 5530 | VHT80, M0. 1 to M9.3 | M0x1 | 50.5 | 54.0 | 3.5 |
| 5560 | HT/VHT20, M0 to M23 | M0 | 50.3 | 54.0 | 3.7 |
| 5570 | VHT160, M0.1 to M9.3 | M0x1 | 50.5 | 54.0 | 3.5 |
| 5670 | HT/VHT20, M0 to M23 | M0 | 50.5 | 54.0 | 3.5 |
| 5690 | VHT80, M0.1 to M9.3 | M0x1 | 50.5 | 54.0 | 3.5 |
| 5710 | HT/VHT20, M0 to M23 | M0 | 50.4 | 54.0 | 3.6 |
| 5720 | HT/VHT20, M0 to M23 | M0 | 50.0 | 54.0 | 4.0 |

B.1.P. 1 Radiated Transmitter Spurs, $5500 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT20}$, MO to M23, Average (1-18GHz)

B.1.P. 2 Radiated Transmitter Spurs, $5510 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT40}$, MO to M23, Average (1-18GHz)

B.1.P. 3 Radiated Transmitter Spurs, 5530 MHz, VHT80, M0. 1 to M9.3, Average (1-18GHz)

B.1.P. 4 Radiated Transmitter Spurs, $5560 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT} 20$, MO to M23, Average (1-18GHz)

B.1.P. 5 Radiated Transmitter Spurs, 5570 MHz , VHT160, M0.1 to M9.3, Average (1-18GHz)

B.1.P. 6 Radiated Transmitter Spurs, $5670 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT40}$, MO to M23, M0.0 to M9.4, Average (1-18GHz)

B.1.P. 7 Radiated Transmitter Spurs, 5690 MHz, VHT80, M0. 1 to M9.3, Average (1-18GHz)

B.1.P. 8 Radiated Transmitter Spurs, $5710 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT40}$, MO to M23, Average (1-18GHz)

B.1.P. 9 Radiated Transmitter Spurs, $5720 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT20}$, M0 to M23, Average (1-18GHz)

B.1.P. 10 Radiated Transmitter Spurs, All rate, All modes, Average (18-26.5GHz) Horizontal \& Vertical

B.1.P. 11 Radiated Transmitter Spurs, All rate, All modes, Average (26.5-40GHz) Horizontal \& Vertical


## B.1.P Transmitter Radiated Spurious Emissions-Peak worst case

| Frequency <br> $(\mathrm{MHz})$ | Mode | Spurious <br> Emission <br> Level <br> $(\mathrm{Mbps})$ | Limit <br> $(\mathrm{dBuV} / \mathrm{m})$ | Margin <br> $(\mathrm{dBuV} / \mathrm{m})$ |
| :---: | :--- | :---: | :---: | :---: | :---: |
| $(\mathrm{MHz})$ |  |  |  |  |$|$

B.1.P. 1 Radiated Transmitter Spurs, $5500 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT20}$, M0 to M23, Peak (1-18GHz)

B.1.P. 2 Radiated Transmitter Spurs, $5510 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT40}$, MO to M23, Peak (1-18GHz)

B.1.P.3 Radiated Transmitter Spurs, 5530 MHz , VHT80, M0.1 to M9.3, Peak (1-18GHz)

B.1.P. 4 Radiated Transmitter Spurs, $5560 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT20}$, MO to M23, Peak (1-18GHz)

B.1.P. 5 Radiated Transmitter Spurs, 5570 MHz, VHT160, M0.1 to M9.3, Peak (1-18GHz)

B.1.P. 6 Radiated Transmitter Spurs, 5670 MHz, HT/VHT40, MO to M23, MO. 0 to M9.4, Peak (1-18GHz)

B.1.P. 7 Radiated Transmitter Spurs, 5690 MHz, VHT80, M0. 1 to M9.3, Peak (1-18GHz)

B.1.P. 8 Radiated Transmitter Spurs, $5710 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT40}$, MO to M23, Peak (1-18GHz)

B.1.P. 9 Radiated Transmitter Spurs, $5720 \mathrm{MHz}, \mathrm{HT} / \mathrm{VHT20}$, M0 to M23, Peak (1-18GHz)

B.1.P.10 Radiated Transmitter Spurs, All rate, All modes, Peak (18-26.5GHz) Horizontal \& Vertical

B.1.P. 11 Radiated Transmitter Spurs, All rate, All modes, Peak (26.5-40GHz) Horizontal \& Vertical


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## B. 2 Radiated Emissions 30MHz to $\mathbf{1 G H z}$

## FCC 15.205 / 15.209

(7) The provisions of 15.205 apply to intentional radiators operating under this section.
(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in 15.209.

Ref. ANSI C63.10: 2013 section 6.5

Using Vasona, configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer). Place the radio in continuous transmit mode.

| Span: | $30 \mathrm{MHz}-1 \mathrm{GHz}$ |
| :--- | :--- |
| Reference Level: | 80 dBuV |
| Attenuation: | 10 dB |
| Sweep Time: | Coupled |
| Resolution Bandwidth: | 100 kHz |
| Video Bandwidth: | 300 kHz <br> Detector: |
|  | Peak for Pre-scan, Quasi-Peak <br> Compliance shall be determined using CISPR quasi-peak detection; <br>  <br>  <br>  <br>  <br>  <br> however, peak detection is permitted as an alternative to quasi-peak <br> detection. |

Terminate the access Point RF ports with 50 ohm loads.
Maximize Turntable (find worst case table angle), Maximize Antenna (find worst case height)

This report represents the worst case data for all supported operating modes and antennas.

| System <br> Number | Description | Samples | System under <br> test | Support <br> equipment |
| :---: | :--- | :--- | :--- | :--- |
| 1 | EUT | S01 | $\boxed{ }$ | $\square$ |
|  | Support | S02 | $\square$ | $\square$ |


| Tested By : | Date of testing: <br> Jose Aguirre |
| :--- | :--- |
| 01-Jan-16-22-Feb-16 |  |

See Appendix C for list of test equipment

## Graphical Test Results

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements


Test Result

| Frequency $\mathrm{MHz}$ | Raw $\mathrm{dBuV}$ | Cable <br> Loss | $\begin{aligned} & \mathrm{AF} \\ & \mathrm{~dB} \end{aligned}$ | Level $\mathrm{dBuV} / \mathrm{m}$ | Measureme nt Type | P <br> O <br> 1 | Hgt <br> cm | Azt <br> Deg | Limit $\mathrm{dBuV} / \mathrm{m}$ | $\begin{aligned} & \text { Margi } \\ & \text { n dB } \end{aligned}$ | Pass <br> /Fail |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 967.505 | 0.54 | 2.96 | 23.1 | 26.6 | Quasi Max | H | 389 | 52 | 54 | -27.4 | Pass |
| 53.998 | 26.59 | 0.7 | 7.35 | 34.65 | Quasi Max | V | 110 | 142 | 40 | -5.35 | Pass |
| 98.87 | 18.09 | 0.93 | 9.89 | 28.92 | Quasi Max | V | 157 | 194 | 43.5 | -14.58 | Pass |
| 398.115 | -1.71 | 1.89 | $\begin{array}{r} 15.0 \\ 6 \end{array}$ | 15.24 | Quasi Max | H | 326 | 200 | 46 | -30.76 | Pass |
| 30.485 | -0.96 | 0.49 | $\begin{array}{r} 21.2 \\ 7 \\ \hline \end{array}$ | 20.81 | Quasi Max | V | 355 | 350 | 40 | -19.19 | Pass |

## B. $3 \quad$ AC Conducted Emissions

FCC 15.207 Except when the requirements applicable to a given device state otherwise, for any radio apparatus equipped to operate from the public utility AC power supply, either directly or indirectly (such as with a battery charger), the radio frequency voltage of emissions conducted back onto the $A C$ power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in the table in these sections. The more stringent limit applies at the frequency range boundaries.

Measurement Procedure
Accordance with ANSI C63.10:2013 section 6.2
Using Vasona, configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer). Place the radio in continuous transmit mode.

| Span: | $150 \mathrm{KHz}-30 \mathrm{MHz}$ |
| :--- | :--- |
| Attenuation: | 10 dB |
| Sweep Time: | Coupled |
| Resolution Bandwidth: | 9 KHz |
| Video Bandwidth: | 30 KHz |
| Detector: | Quasi-Peak / Average |


| System <br> Number | Description | Samples | System under <br> test | Support <br> equipment |
| :---: | :--- | :--- | :--- | :--- |
| 1 | EUT | S01 | $\boxed{ }$ | $\square$ |
|  | Support | S02 | $\square$ | $\square$ |


| Tested By: | Date of testing: <br> Jose Aguirre |
| :--- | :--- |
| 01-Jan-16-22-Feb-16 |  |

See Appendix C for list of test equipment

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## Graphical Test Results

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements


Test Results

| Frequency $\mathrm{MHz}$ | Raw dBuV | Cable <br> Loss | Factors dB | Level dBuV | Measurement Type | Line | Limit dBuV | Margin dB | Pass <br> /Fail |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.857757 | 16.19 | 19.91 | 0.03 | 36.14 | Quasi Peak | Live | 56 | -19.86 | Pass |
| 0.187244 | 29.09 | 20.91 | 0.06 | 50.06 | Quasi Peak | Live | 64.16 | -14.1 | Pass |
| 19.007406 | 15.87 | 20.3 | 0.2 | 36.37 | Quasi Peak | Live | 60 | -23.63 | Pass |
| 1.755417 | 17.64 | 19.9 | 0.03 | 37.57 | Quasi Peak | Live | 56 | -18.43 | Pass |
| 19.383573 | 15.92 | 20.3 | 0.2 | 36.42 | Quasi Peak | Live | 60 | -23.58 | Pass |
| 6.724028 | 18.68 | 20.01 | 0.07 | 38.76 | Quasi Peak | Live | 60 | -21.24 | Pass |
| 1.131699 | 18.77 | 19.9 | 0.04 | 38.71 | Quasi Peak | Live | 56 | -17.29 | Pass |
| 19.029708 | 16 | 20.3 | 0.2 | 36.5 | Quasi Peak | Neutral | 60 | -23.5 | Pass |
| 0.856911 | 16.86 | 19.91 | 0.03 | 36.81 | Quasi Peak | Neutral | 56 | -19.19 | Pass |
| 19.384527 | 15.97 | 20.3 | 0.2 | 36.47 | Quasi Peak | Neutral | 60 | -23.53 | Pass |
| 0.190178 | 28.11 | 20.9 | 0.06 | 49.06 | Quasi Peak | Neutral | 64.03 | -14.97 | Pass |
| 1.133571 | 19.28 | 19.9 | 0.04 | 39.22 | Quasi Peak | Neutral | 56 | -16.78 | Pass |
| 1.756893 | 17.73 | 19.9 | 0.03 | 37.66 | Quasi Peak | Neutral | 56 | -18.34 | Pass |
| 6.712994 | 19.08 | 20.01 | 0.07 | 39.16 | Quasi Peak | Neutral | 60 | -20.84 | Pass |
| 0.857757 | 4.02 | 19.91 | 0.03 | 23.97 | Average | Live | 46 | -22.03 | Pass |
| 0.187244 | 19.33 | 20.91 | 0.06 | 40.3 | Average | Live | 54.16 | -13.86 | Pass |
| 19.007406 | 4.14 | 20.3 | 0.2 | 24.65 | Average | Live | 50 | -25.35 | Pass |
| 1.755417 | 12.41 | 19.9 | 0.03 | 32.34 | Average | Live | 46 | -13.66 | Pass |
| 19.383573 | 4.45 | 20.3 | 0.2 | 24.95 | Average | Live | 50 | -25.05 | Pass |
| 6.724028 | 13.39 | 20.01 | 0.07 | 33.47 | Average | Live | 50 | -16.53 | Pass |
| 1.131699 | 14.43 | 19.9 | 0.04 | 34.37 | Average | Live | 46 | -11.63 | Pass |
| 19.029708 | 4.05 | 20.3 | 0.2 | 24.55 | Average | Neutral | 50 | -25.45 | Pass |
| 0.856911 | 3.62 | 19.91 | 0.03 | 23.57 | Average | Neutral | 46 | -22.43 | Pass |
| 19.384527 | 4.22 | 20.3 | 0.2 | 24.72 | Average | Neutral | 50 | -25.28 | Pass |
| 0.190178 | 18.8 | 20.9 | 0.06 | 39.75 | Average | Neutral | 54.03 | -14.28 | Pass |
| 1.133571 | 14.69 | 19.9 | 0.04 | 34.63 | Average | Neutral | 46 | -11.37 | Pass |
| 1.756893 | 12.41 | 19.9 | 0.03 | 32.34 | Average | Neutral | 46 | -13.66 | Pass |
| 6.712994 | 13.86 | 20.01 | 0.07 | 33.94 | Average | Neutral | 50 | -16.06 | Pass |

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Photographs of setup


This is a dual band $2.4 \mathrm{GHz} / 5 \mathrm{GHz}$ device. All ports in this test set up photo are connected as all testing is automated. Section 2.6 of this test report given an overview of the different $T x$ antenna combinations used by this device.


AIR-AP3802E-B-K9 Radiated Emissions setup 30MHz - 1GHz


AIR-AP3802E-B-K9 Radiated Emissions setup above 1GHz


Appendix C: List of Test Equipment Used to perform the test

| Equip\# | Manufacturer/ Model | Description | Last Cal | Next Due | Test Item |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Test Equipment used for Radiated Emissions |  |  |  |  |  |
| CIS005691 | $\begin{aligned} & \text { NSP1800-25-S1 } \\ & \text { Miteq } \\ & \hline \end{aligned}$ | Broadband Preamplifier (1-18GHz) | 25-Jun-15 | 25-Jun-16 | B. 1 |
| CIS008448 | NSA 5m Chamber Cisco | NSA 5m Chamber | 9-Oct-15 | 9-Oct-16 | B. 2 |
| CIS021117 | UFB311A-0-2484-520520 Micro-Coax | RF Coaxial Cable, to $18 \mathrm{GHz}, 248.4$ in | 24-Aug-15 | 24-Aug-16 | B.1, B. 2 |
| CIS034075 | RSG 2000 <br> Schaffner | Reference Spectrum Generator, 1-18GHz | Cal Not <br> Required | Cal Not <br> Required | B. 1 |
| CIS035284 | $3117$ <br> ETS-Lindgren | Double Ridged Waveguide Horn Antenna | 30-Sep-15 | 30-Sep-16 | B. 1 |
| CIS037236 | 50CB-015 <br> JFW | GPIB Control Box | Cal Not <br> Required | Cal Not <br> Required | B. 1 |
| CIS040597 | Above 1GHz Site Cal Cisco | Above 1GHz Cispr Site Verification | 25-Sep-15 | 25-Sep-16 | B. 1 |
| CIS041979 | $\begin{aligned} & 1840 \\ & \text { Cisco } \end{aligned}$ | 18-40GHz EMI Test Head/Verification Fixture | 13-Jul-15 | 13-Jul-16 | B. 1 |
| CIS042266 | $\begin{aligned} & \hline \text { JB1 } \\ & \text { Sunol Sciences } \end{aligned}$ | Combination Antenna | 21-Apr-15 | 21-Apr-16 | B. 2 |
| CIS044940 | ESU40 <br> Rohde \& Schwarz | EMI Test Receiver, $20 \mathrm{~Hz}-40 \mathrm{GHz}$ | 2-Nov-15 | 2-Nov-16 | B. 1 |
| CIS054230 | iBTHP-5-DB9 <br> Newport | 5 inch Temp/RH/Press Sensor w/20ft cable | 10-Feb-16 | 10-Feb-17 | B.1, B. 2 |


| Test Equipment used for AC Mains Conducted Emissions |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Equip No | Model <br> Manufacturer | Description | Last Cal | Next Cal | Test Item |
| CIS002464 | FCC-801-M2-16 <br> Fischer Custom Communications | CDN, 2-LINE, 16A | 12-Mar-15 | 12-Mar-16 | B. 3 |
| CIS049532 | $\begin{aligned} & \text { H785-150K-50-21378 } \\ & \text { TTE } \end{aligned}$ | High Pass Filter | 8-May-15 | 8-May-16 | B. 3 |
| CIS020913 | FCC-LISN-PA-NEMA-5-15 <br> Fischer Custom Communications | AC Adapter | 8-May-15 | 8-May-16 | B. 3 |
| CIS007704 | FCC-LISN-50/250-50-2-01 <br> Fischer Custom Communications | LISN | 8-May-15 | 8-May-16 | B. 3 |
| CIS008185 | FCC-450B-2.4-N <br> Fischer Custom Communications | Instrumentation Limiter | 28-Jul-15 | 28-Jul-16 | B. 3 |
| CIS051756 | 5-T-MB <br> Bird | 5W 50 Ohm BNC Termination 4GHz | 6-Aug-15 | 6-Aug-16 | B. 3 |
| CIS049563 | Sucoflex 106A <br> Huber + Suhner | N Type Cable 18GHz | 24-Aug-15 | 24-Aug-16 | B. 3 |
| CIS021117 | UFB311A-0-2484-520520 Micro-Coax | RF Coaxial Cable, to 18GHz, 248.4 in | 24-Aug-15 | 24-Aug-16 | B. 3 |
| CIS044940 | ESU40 <br> Rohde \& Schwarz | EMI Test Receiver, 20Hz-40GHz | 2-Nov-15 | 2-Nov-16 | B. 3 |
| CIS054647 | 33-605 <br> Stanley | 10meter Measuring Tape | Cal not required | Cal not required | B. 3 |
| CIS018963 | CNE V <br> York | Comparison Noise Emitter, 30-1000MHz | Cal not required | Cal not required | B. 3 |


| Test Equipment used for RF Conducted Tests |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :---: | :---: |
| Equip No | Model <br> Manufacturer | Description | Last Cal | Next Cal | Test Item |  |  |

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| CIS050721 | N9030A Keysight | PXA Signal Analyzer | 13-Apr-15 | 13-Apr-16 | A1 thru A4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CIS054662 | SF18-S1S1-36 <br> MegaPhase | SMA 36" cable | 24-Sep-15 | 24-Sep-16 | A1 thru A4 |
| CIS054663 | F120-S1S1-48 MegaPhase | SMA 48" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054665 | RA08-S1S1-24 MegaPhase | SMA 24" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054666 | RA08-S1S1-18 MegaPhase | SMA 18" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054667 | RA08-S1S1-18 MegaPhase | SMA 18" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054668 | $\begin{array}{\|l} \hline \text { RA08-S1S1-18 } \\ \text { MegaPhase } \\ \hline \end{array}$ | SMA 18" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054669 | RA08-S1S1-18 <br> MegaPhase | SMA 18" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054670 | RA08-S1S1-12 <br> MegaPhase | SMA 12" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054671 | RA08-S1S1-12 <br> MegaPhase | SMA 12" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054672 | $\begin{array}{\|l} \hline \text { RA08-S1S1-12 } \\ \text { MegaPhase } \\ \hline \end{array}$ | SMA 12" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054673 | RA08-S1S1-12 MegaPhase | SMA 12" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054674 | RA08-S1S1-12 MegaPhase | SMA 12" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054675 | RA08-S1S1-12 MegaPhase | SMA 12" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054677 | RA08-S1S1-12 <br> MegaPhase | SMA 12" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054678 | RA08-S1S1-12 MegaPhase | SMA 12" Cable | 25-Sep-15 | 25-Sep-16 | A1 thru A4 |
| CIS054686 | NI PXI-2796 <br> National Instruments | Plug-in switch module | 6-Oct-15 | 6-Oct-16 | A1 thru A4 |
| CIS055094 | PXI-1042 <br> National Instruments | Chassis | Cal Not Required | Cal Not Required | A1 thru A4 |
| CIS055117 | $\begin{aligned} & \text { RFLT2WDC40G } \\ & \text { RF Lambda } \\ & \hline \end{aligned}$ | 2 Way 40GHz Splitter | 11-Nov-15 | 11-Nov-16 | A1 thru A4 |
| CIS055166 | RFLT4WDC40GK RF Lambda | 4 Way Power Divider 40GHz | 23-Nov-15 | 23-Nov-16 | A1 thru A4 |
| CIS054656 | BRC50705-02 Micro-Tronics | Band Reject Filter | 24-Sep-15 | 24-Sep-16 | A1 thru A4 |
| CIS054655 | BRC50704-02 <br> Micro-Tronics | Notch Filter, SB:5.470-5.725GHz, to 12 GHz | 24-Sep-15 | 24-Sep-16 | A1 thru A4 |
| CIS054654 | BRC50703-02 <br> Micro-Tronics | Notch Filter, SB:5.150-5.350GHz, to 11 GHz | 24-Sep-15 | 24-Sep-16 | A1 thru A4 |
| CIS054653 | BRM50702-02 Micro-Tronics | $\begin{aligned} & \text { Notch Filter, SB:2.400-2.500GHz, to } \\ & 18 \mathrm{GHz} \end{aligned}$ | 24-Sep-15 | 24-Sep-16 | A1 thru A4 |
| CIS054637 | BWS30-W2/ Aeroflex | SMA 30dB Attenuator | 02-June-15 | 02-June-16 | A1 thru A4 |
| CIS054636 | BWS20-W2/ Aeroflex | 20dB SMA Attenuator | 02-June-15 | 02-June-16 | A1 thru A4 |

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## Appendix E: Abbreviation Key and Definitions

The following table defines abbreviations used within this test report.

| Abbreviation | Description | Abbreviation | Description |
| :---: | :---: | :---: | :---: |
| EMC | Electro Magnetic Compatibility | ${ }^{\circ} \mathrm{F}$ | Degrees Fahrenheit |
| EMI | Electro Magnetic Interference | ${ }^{\circ} \mathrm{C}$ | Degrees Celsius |
| EUT | Equipment Under Test | Temp | Temperature |
| ITE | Information Technology Equipment | S/N | Serial Number |
| TAP | Test Assessment Schedule | Qty | Quantity |
| ESD | Electro Static Discharge | emf | Electromotive force |
| EFT | Electric Fast Transient | RMS | Root mean square |
| EDCS | Engineering Document Control System | Qp | Quasi Peak |
| Config | Configuration | Av | Average |
| CIS\# | Cisco Number (unique identification number for Cisco test equipment) | Pk | Peak |
| Cal | Calibration | kHz | Kilohertz ( $1 \times 10^{3}$ ) |
| EN | European Norm | MHz | MegaHertz ( $1 \times 10^{6}$ ) |
| IEC | International Electro technical Commission | GHz | Gigahertz ( $1 \times 10^{9}$ ) |
| CISPR | International Special Committee on Radio Interference | H | Horizontal |
| CDN | Coupling/Decoupling Network | V | Vertical |
| LISN | Line Impedance Stabilization Network | dB | decibel |
| PE | Protective Earth | V | Volt |
| GND | Ground | kV | Kilovolt ( $1 \times 10^{3}$ ) |
| L1 | Line 1 | $\mu \mathrm{V}$ | Microvolt ( $1 \times 10^{-6}$ ) |
| L2 | Line2 | A | Amp |
| L3 | Line 3 | $\mu \mathrm{A}$ | Micro Amp ( $1 \times 10^{-6}$ ) |
| DC | Direct Current | mS | Milli Second ( $1 \times 10^{-3}$ ) |
| RAW | Uncorrected measurement value, as indicated by the measuring device | $\mu \mathrm{S}$ | Micro Second ( $1 \times 10^{-6}$ ) |
| RF | Radio Frequency | $\mu \mathrm{S}$ | Micro Second ( $1 \times 10^{-6}$ ) |
| SLCE | Signal Line Conducted Emissions | m | Meter |
| Meas dist | Measurement distance | Spec dist | Specification distance |
| N/A or NA | Not Applicable | SL | Signal Line (or Telecom Line) |
| P | Power Line | L | Live Line |
| N | Neutral Line | R | Return |
| S | Supply | AC | Alternating Current |

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## End

