# FCC LTE Band Test Data

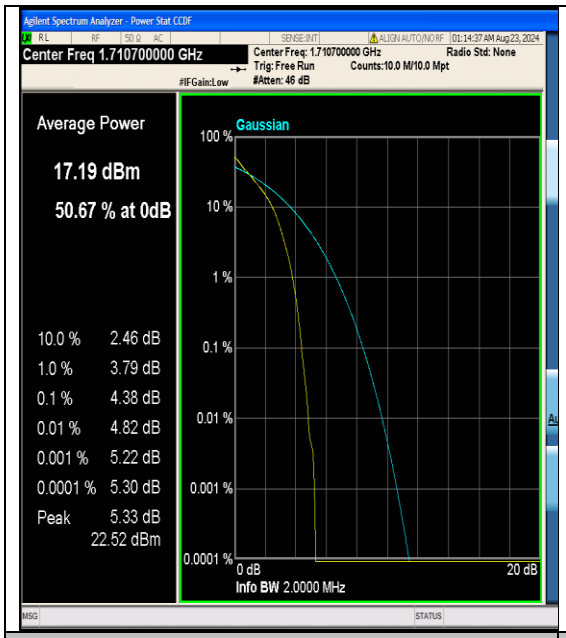
| | | |
|---|---|---|
| **FCC ID** | **:** | **2BKLE-ARIES** |
| **Company:** | **:** | **Versa World Inc.** |
| **EUT** | **:** | **POC/IP Two Way Radio** |
| **Model Number** | **:** | **G232** |
| **Reviewed By** | **:** | **Eric Wang** |

# Appendix B: Peak-to-Average Ratio(CCDF)

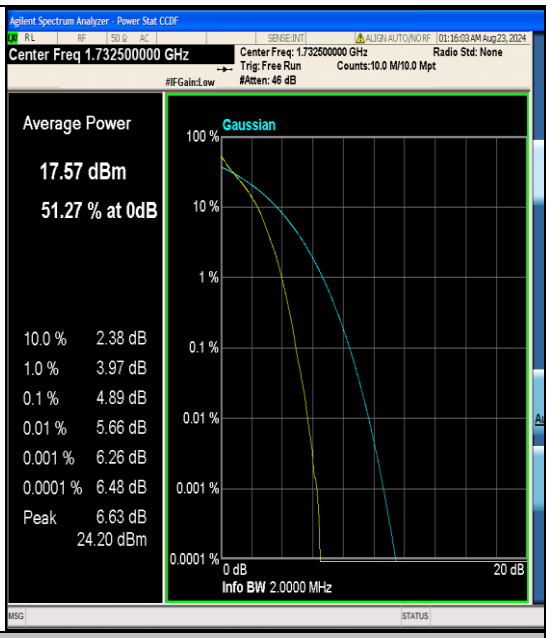
## Test Result

| Band | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|---|---|---|---|---|---|---|---|
| Band4 | 1.4MHz | QPSK | 19957 | 6RB#0 | 4.38 | 13 | PASS |
| Band4 | 1.4MHz | QPSK | 20175 | 6RB#0 | 4.89 | 13 | PASS |
| Band4 | 1.4MHz | QPSK | 20393 | 6RB#0 | 4.07 | 13 | PASS |
| Band4 | 1.4MHz | 16QAM | 19957 | 6RB#0 | 5.24 | 13 | PASS |
| Band4 | 1.4MHz | 16QAM | 20175 | 6RB#0 | 5.66 | 13 | PASS |
| Band4 | 1.4MHz | 16QAM | 20393 | 6RB#0 | 4.86 | 13 | PASS |
| Band4 | 3MHz | QPSK | 19965 | 15RB#0 | 4.93 | 13 | PASS |
| Band4 | 3MHz | QPSK | 20175 | 15RB#0 | 5.22 | 13 | PASS |
| Band4 | 3MHz | QPSK | 20385 | 15RB#0 | 4.78 | 13 | PASS |
| Band4 | 3MHz | 16QAM | 19965 | 15RB#0 | 5.80 | 13 | PASS |
| Band4 | 3MHz | 16QAM | 20175 | 15RB#0 | 5.97 | 13 | PASS |
| Band4 | 3MHz | 16QAM | 20385 | 15RB#0 | 5.46 | 13 | PASS |
| Band4 | 5MHz | QPSK | 19975 | 25RB#0 | 5.02 | 13 | PASS |
| Band4 | 5MHz | QPSK | 20175 | 25RB#0 | 5.35 | 13 | PASS |
| Band4 | 5MHz | QPSK | 20375 | 25RB#0 | 4.79 | 13 | PASS |
| Band4 | 5MHz | 16QAM | 19975 | 25RB#0 | 5.79 | 13 | PASS |
| Band4 | 5MHz | 16QAM | 20175 | 25RB#0 | 5.94 | 13 | PASS |
| Band4 | 5MHz | 16QAM | 20375 | 25RB#0 | 5.48 | 13 | PASS |
| Band4 | 10MHz | QPSK | 20000 | 50RB#0 | 5.19 | 13 | PASS |
| Band4 | 10MHz | QPSK | 20175 | 50RB#0 | 5.34 | 13 | PASS |
| Band4 | 10MHz | QPSK | 20350 | 50RB#0 | 4.94 | 13 | PASS |
| Band4 | 10MHz | 16QAM | 20000 | 50RB#0 | 5.95 | 13 | PASS |
| Band4 | 10MHz | 16QAM | 20175 | 50RB#0 | 5.97 | 13 | PASS |
| Band4 | 10MHz | 16QAM | 20350 | 50RB#0 | 5.66 | 13 | PASS |
| Band4 | 15MHz | QPSK | 20025 | 75RB#0 | 5.57 | 13 | PASS |
| Band4 | 15MHz | QPSK | 20175 | 75RB#0 | 5.56 | 13 | PASS |
| Band4 | 15MHz | QPSK | 20325 | 75RB#0 | 5.10 | 13 | PASS |
| Band4 | 15MHz | 16QAM | 20025 | 75RB#0 | 6.12 | 13 | PASS |
| Band4 | 15MHz | 16QAM | 20175 | 75RB#0 | 6.08 | 13 | PASS |
| Band4 | 15MHz | 16QAM | 20325 | 75RB#0 | 5.74 | 13 | PASS |
| Band4 | 20MHz | QPSK | 20050 | 100RB#0 | 5.39 | 13 | PASS |
| Band4 | 20MHz | QPSK | 20175 | 100RB#0 | 5.24 | 13 | PASS |
| Band4 | 20MHz | QPSK | 20300 | 100RB#0 | 5.04 | 13 | PASS |
| Band4 | 20MHz | 16QAM | 20050 | 100RB#0 | 6.11 | 13 | PASS |
| Band4 | 20MHz | 16QAM | 20175 | 100RB#0 | 5.99 | 13 | PASS |
| Band4 | 20MHz | 16QAM | 20300 | 100RB#0 | 5.77 | 13 | PASS |

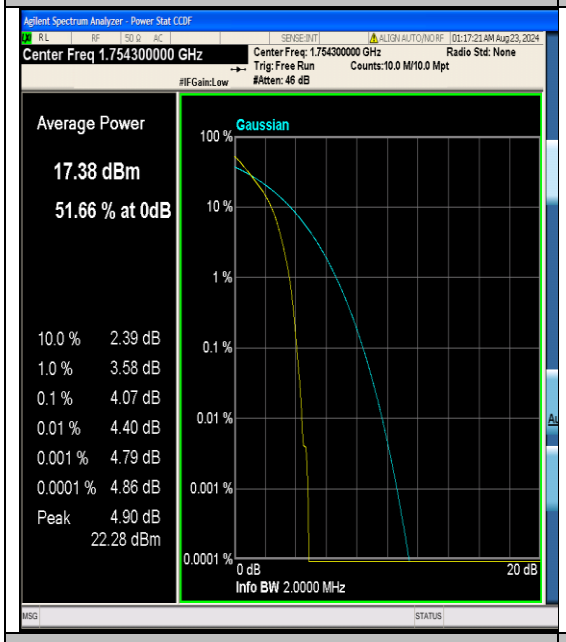
## Test Graphs



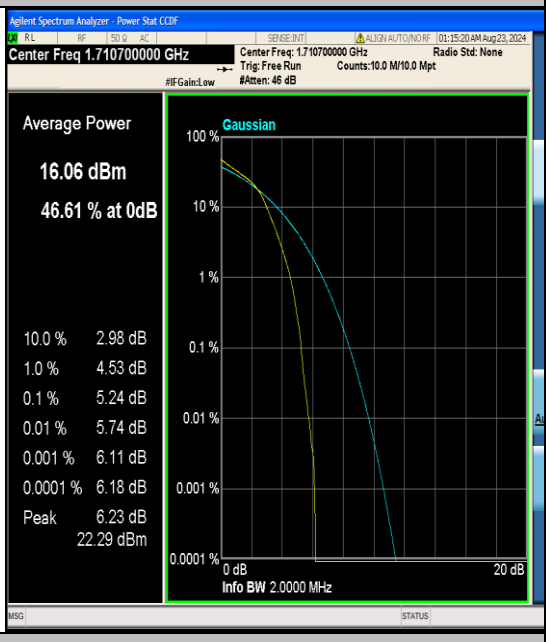

Band4-1.4MHz-QPSK-19957-6RB#0-PASS



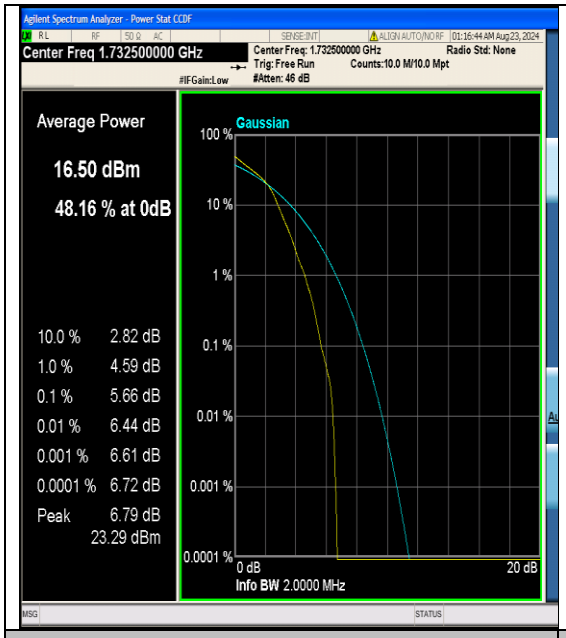

Band4-1.4MHz-QPSK-20175-6RB#0-PASS



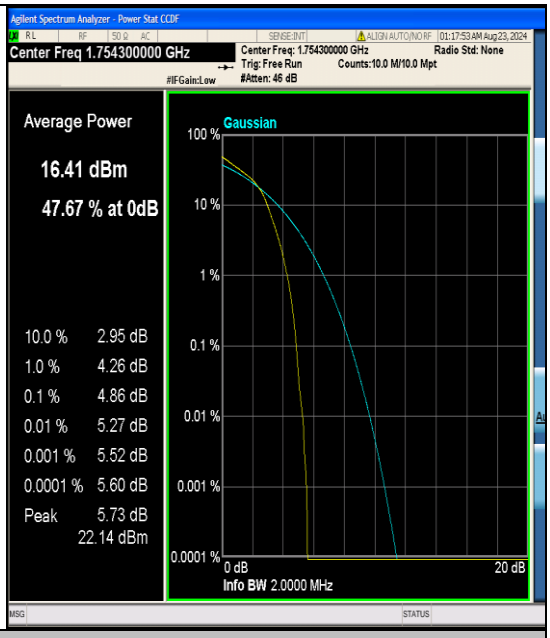

Band4-1.4MHz-QPSK-20393-6RB#0-PASS



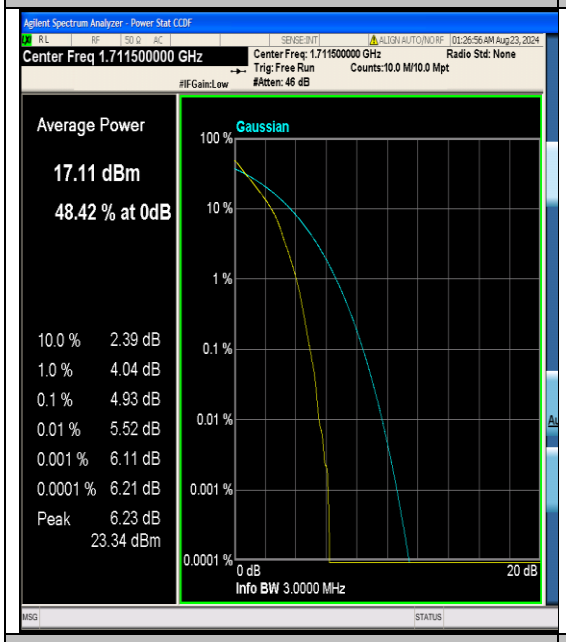

Band4-1.4MHz-16QAM-19957-6RB#0-PASS



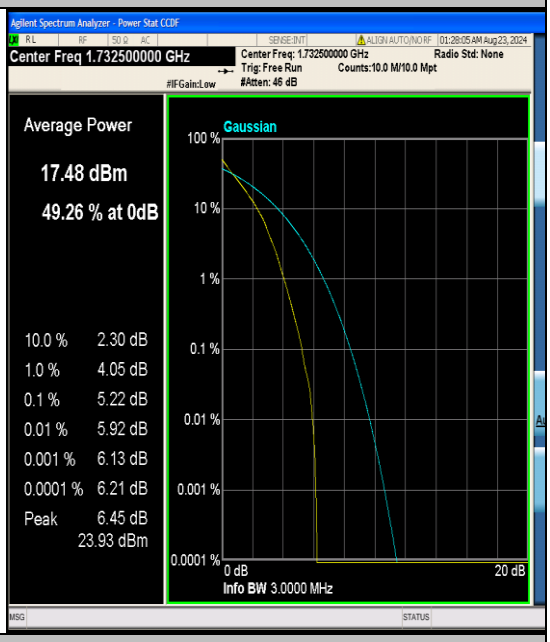

Band4-1.4MHz-16QAM-20175-6RB#0-PASS




Band4-1.4MHz-16QAM-20393-6RB#0-PASS




Band4-3MHz-QPSK-19965-15RB#0-PASS

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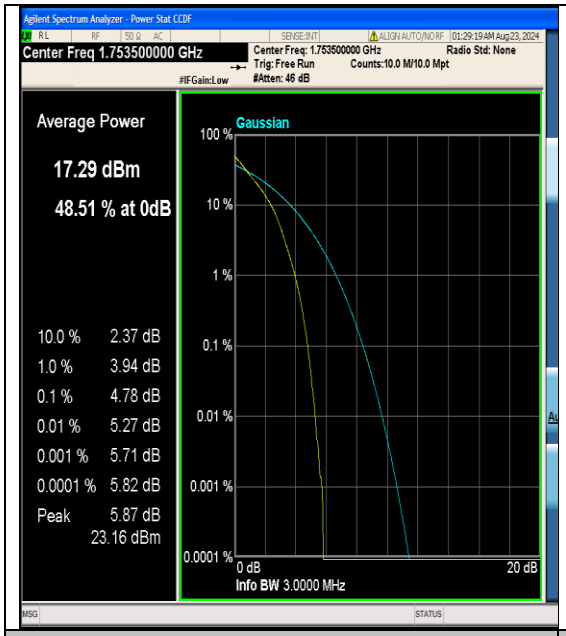
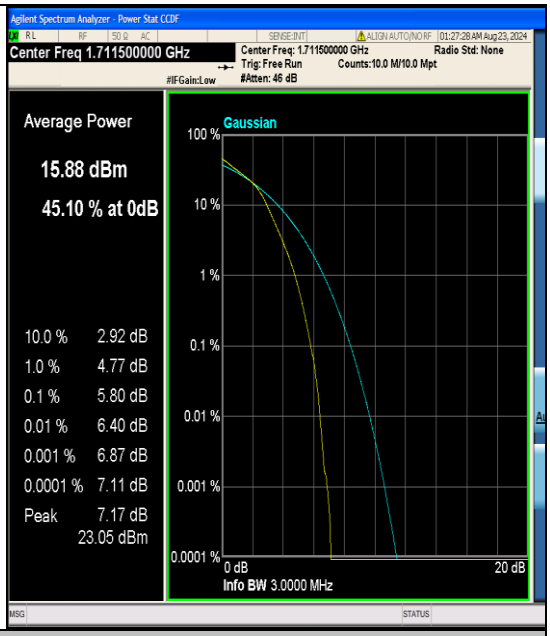
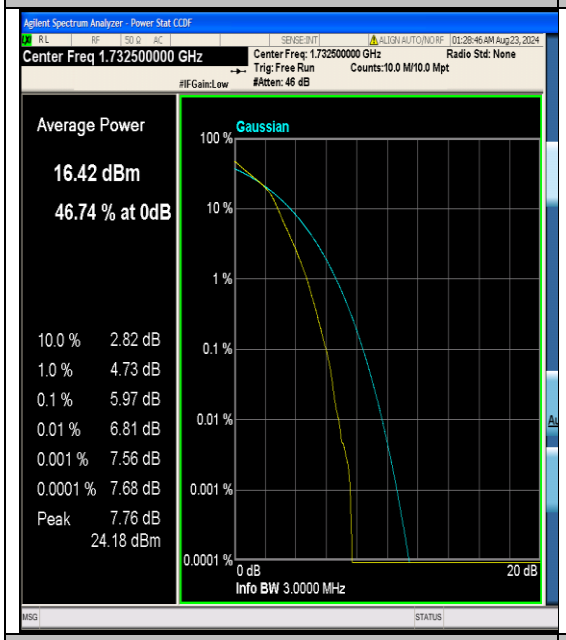


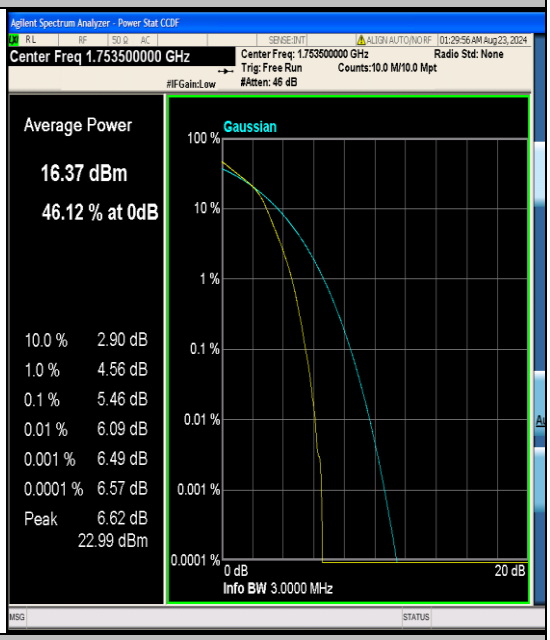

Band4-3MHz-QPSK-20385-15RB#0-PASS



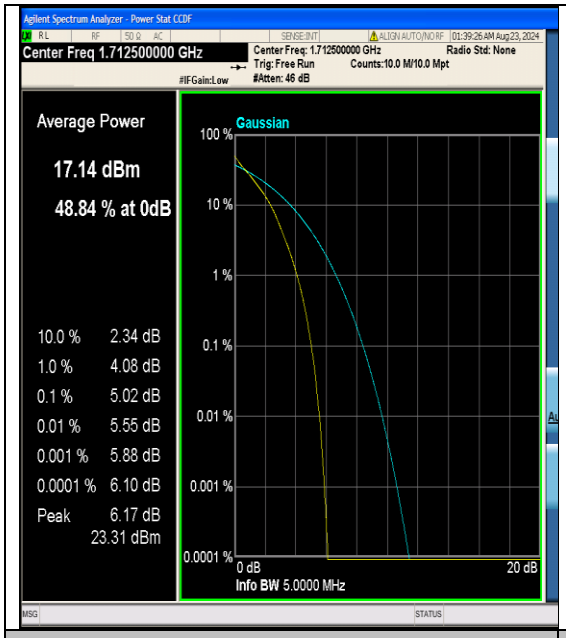

Band4-3MHz-16QAM-19965-15RB#0-PASS



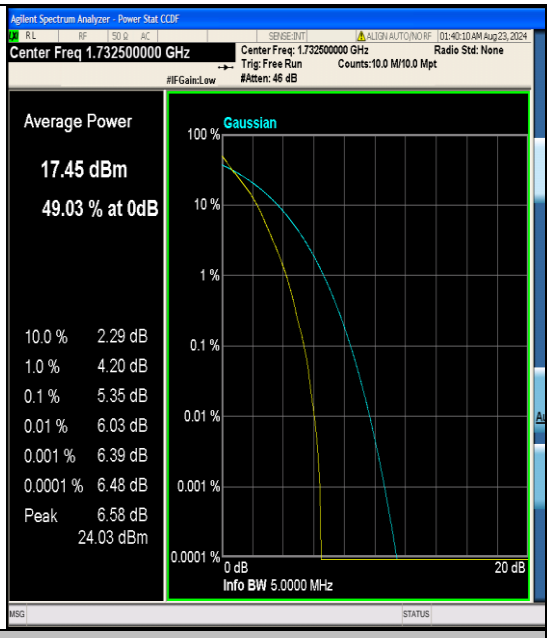

Band4-3MHz-16QAM-20175-15RB#0-PASS




Band4-3MHz-16QAM-20385-15RB#0-PASS




Band4-5MHz-QPSK-19975-25RB#0-PASS

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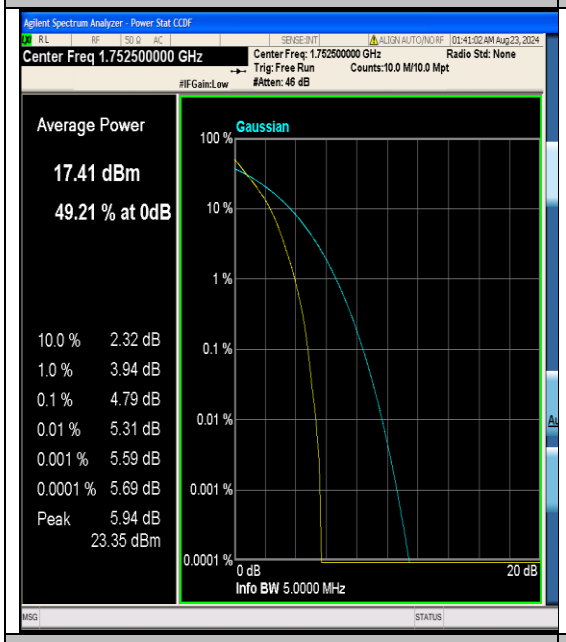


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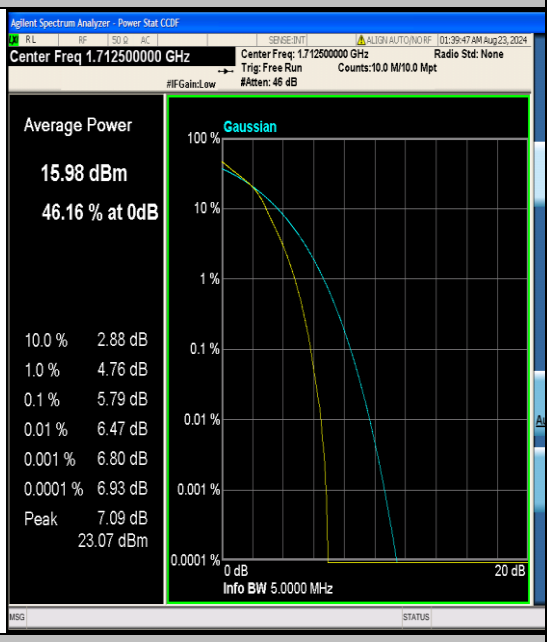
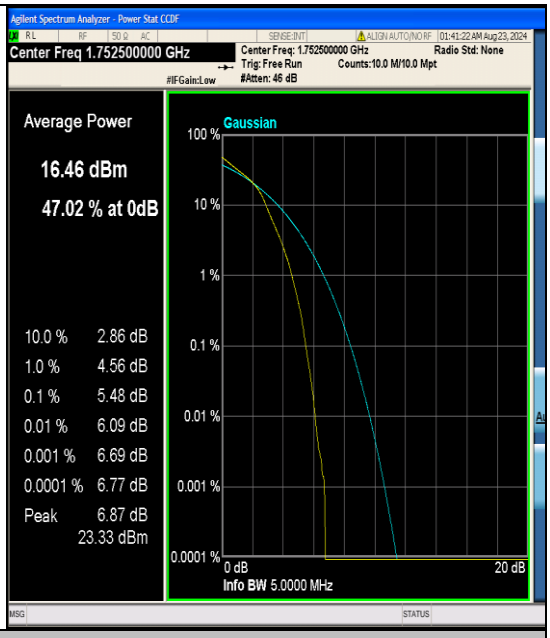


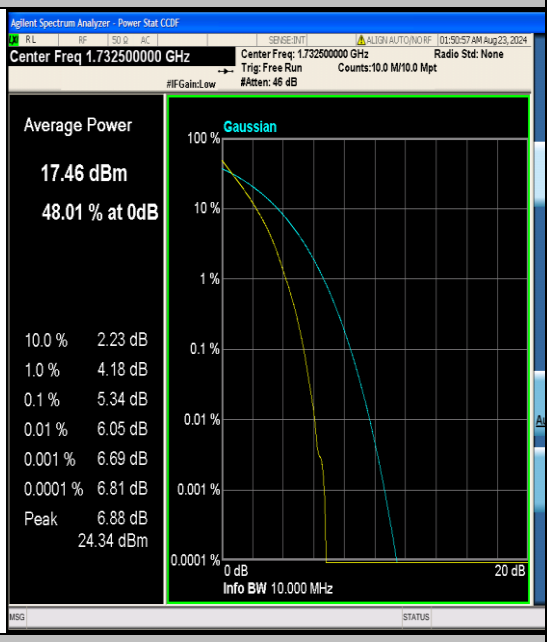

Band4-5MHz-16QAM-19975-25RB#0-PASS

Band4-5MHz-16QAM-20175-25RB#0-PASS

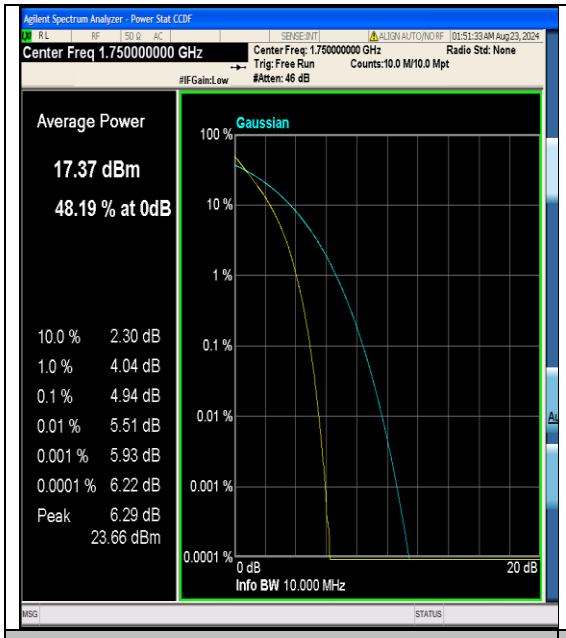



Band4-5MHz-16QAM-20375-25RB#0-PASS

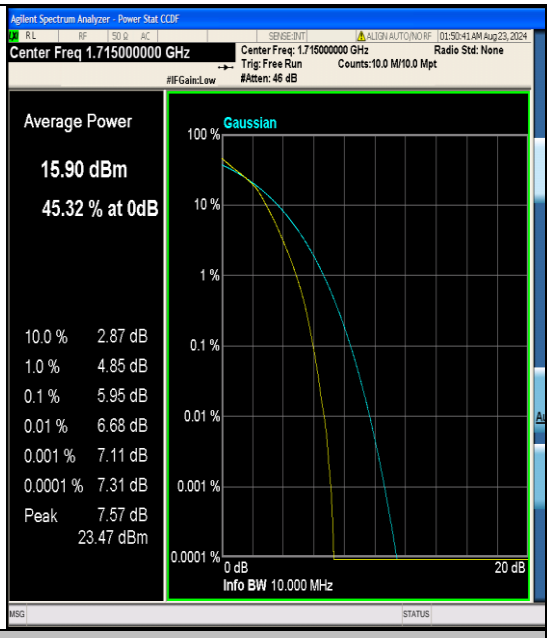
Band4-10MHz-QPSK-20000-50RB#0-PASS



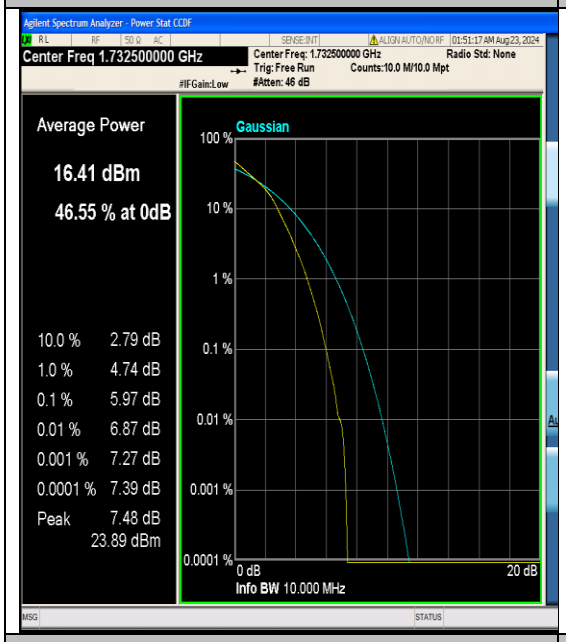

Band4-10MHz-QPSK-20175-50RB#0-PASS



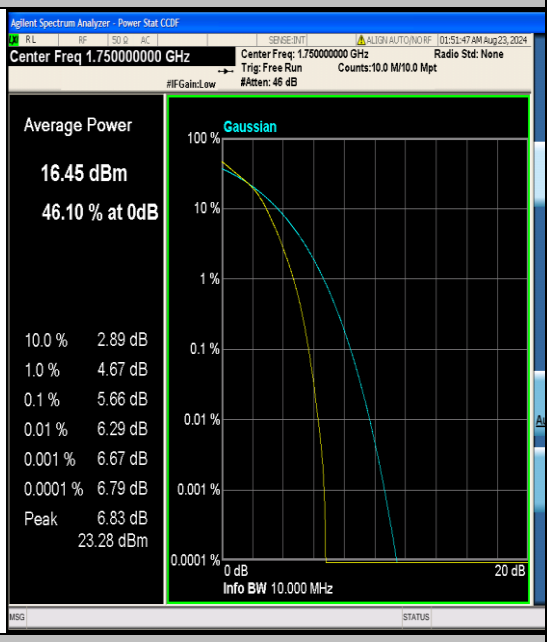

Band4-10MHz-QPSK-20350-50RB#0-PASS



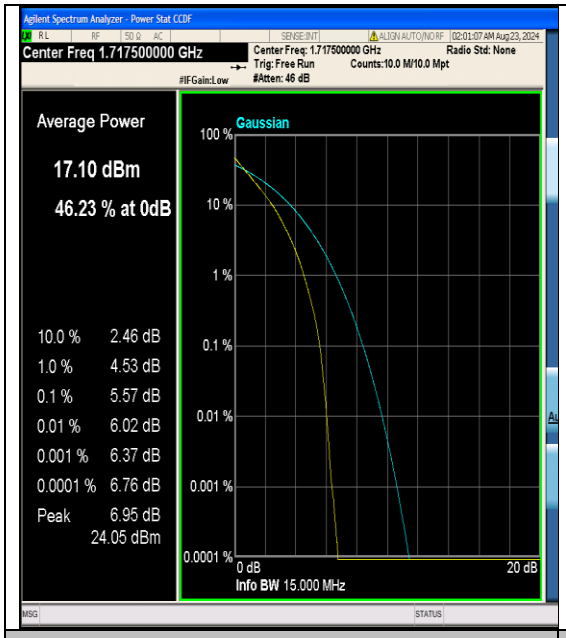

Band4-10MHz-16QAM-20000-50RB#0-PASS



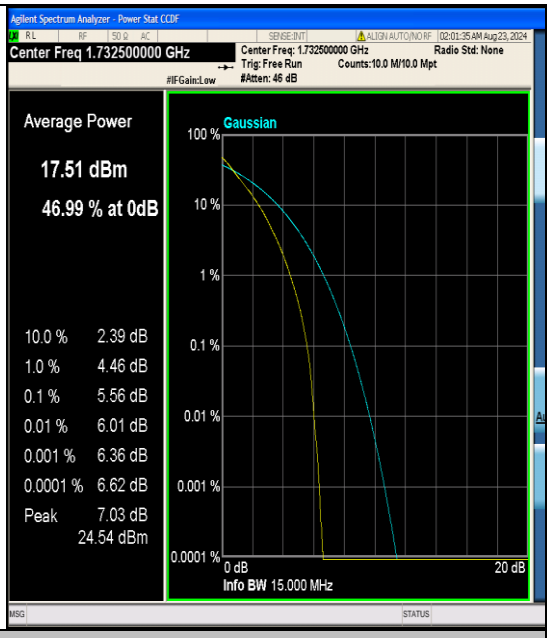

Band4-10MHz-16QAM-20175-50RB#0-PASS



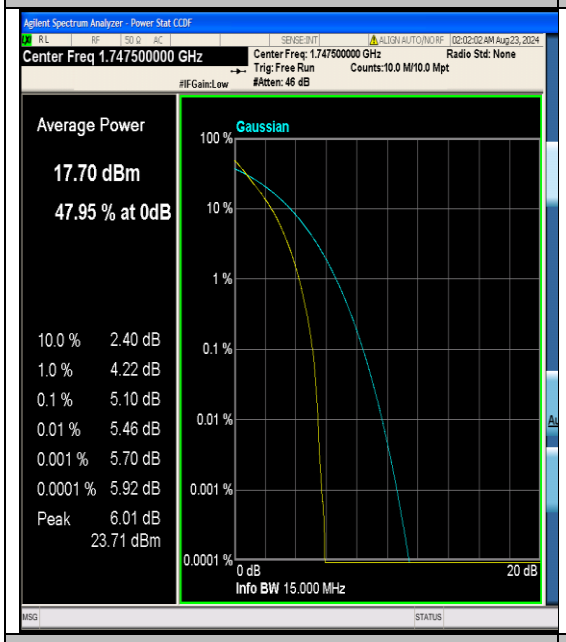

Band4-10MHz-16QAM-20350-50RB#0-PASS




Band4-15MHz-QPSK-20025-75RB#0-PASS




Band4-15MHz-QPSK-20175-75RB#0-PASS

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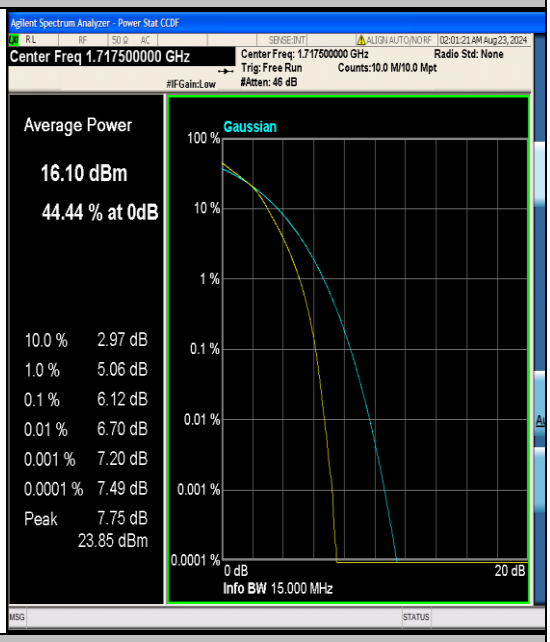
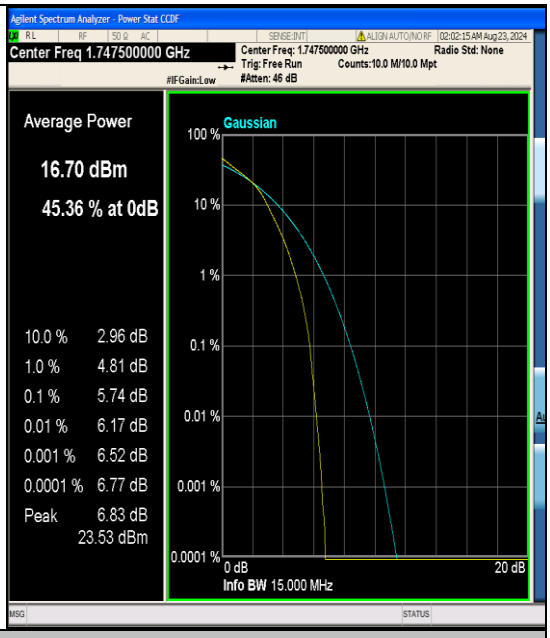
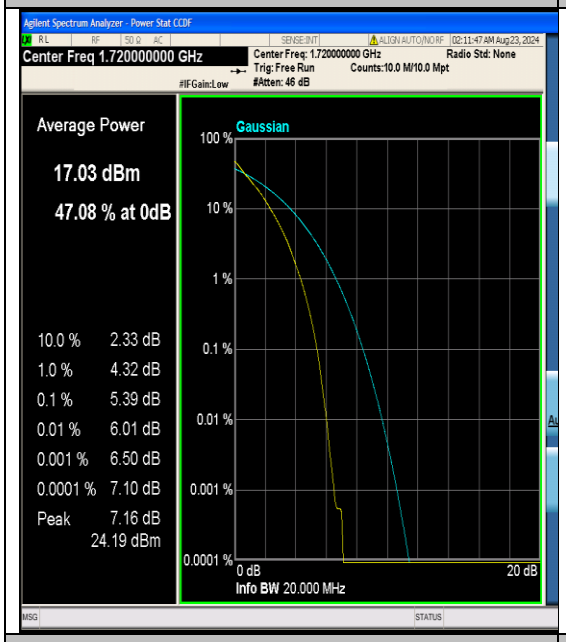



Band4-15MHz-16QAM-20025-75RB#0-PASS

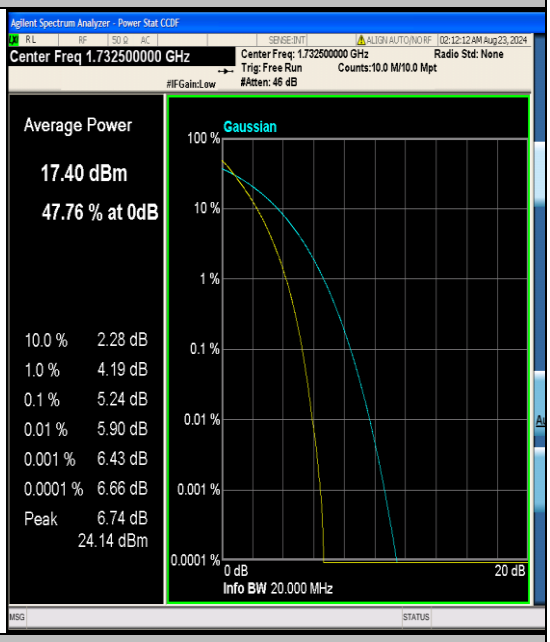
Band4-15MHz-16QAM-20175-75RB#0-PASS



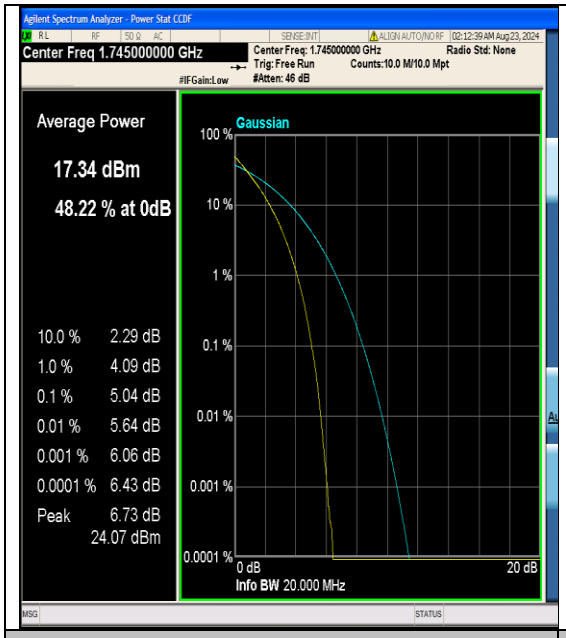

Band4-15MHz-16QAM-20325-75RB#0-PASS



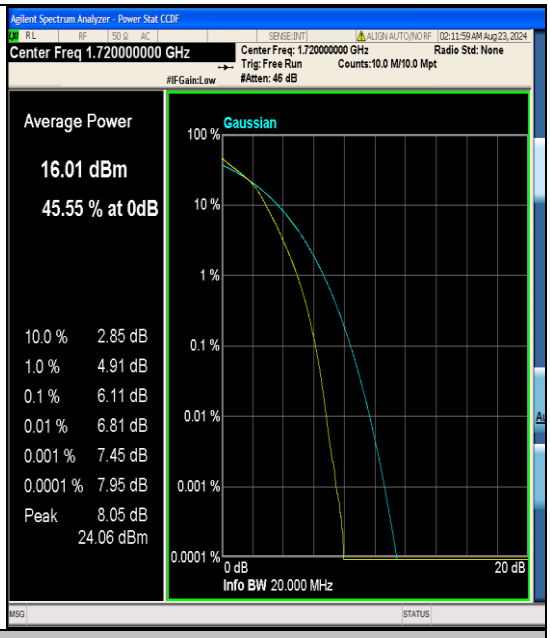

Band4-20MHz-QPSK-20050-100RB#0-PASS




Band4-20MHz-QPSK-20175-100RB#0-PASS




Band4-20MHz-QPSK-20300-100RB#0-PASS

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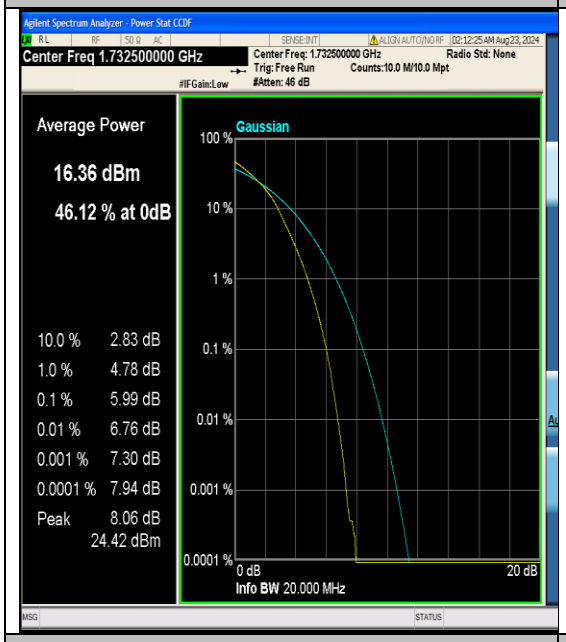
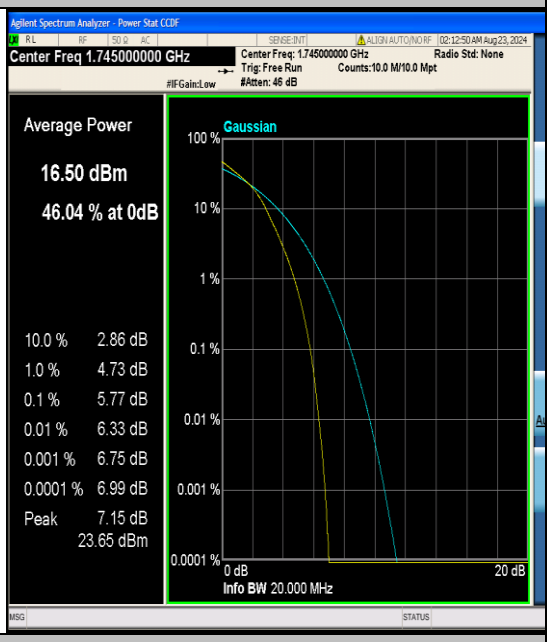



Band4-20MHz-16QAM-20175-100RB#0-PASS




Band4-20MHz-16QAM-20300-100RB#0-PASS

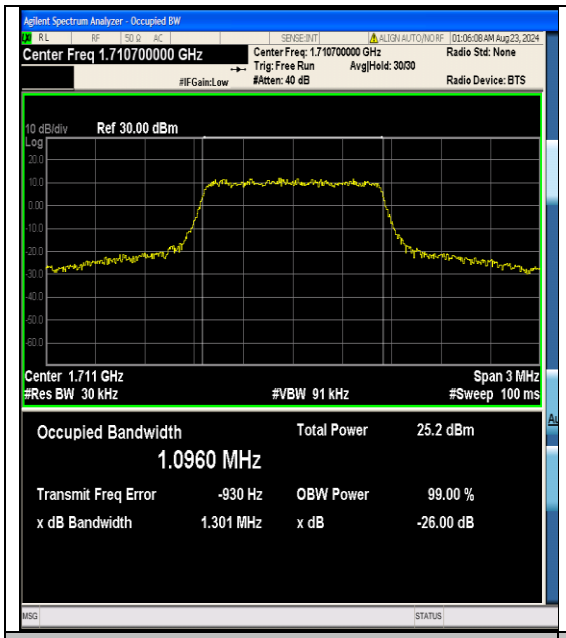
# Appendix C: 26dB Bandwidth and Occupied Bandwidth

## Test Result

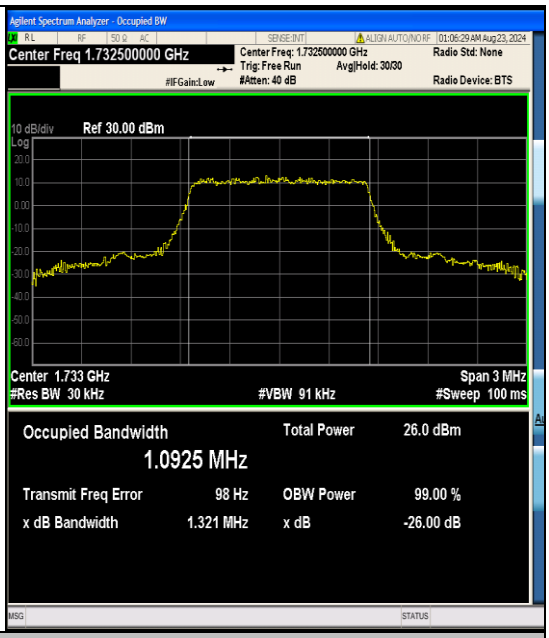
| Band | Bandwidth | Modulation | Channel | RB Configuration | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|---|---|---|---|---|---|---|---|
| Band4 | 1.4MHz | QPSK | 19957 | 6RB#0 | 1.0960 | 1.301 | PASS |
| Band4 | 1.4MHz | QPSK | 20175 | 6RB#0 | 1.0925 | 1.321 | PASS |
| Band4 | 1.4MHz | QPSK | 20393 | 6RB#0 | 1.0942 | 1.314 | PASS |
| Band4 | 1.4MHz | 16QAM | 19957 | 6RB#0 | 1.0990 | 1.304 | PASS |
| Band4 | 1.4MHz | 16QAM | 20175 | 6RB#0 | 1.0996 | 1.318 | PASS |
| Band4 | 1.4MHz | 16QAM | 20393 | 6RB#0 | 1.1018 | 1.305 | PASS |
| Band4 | 3MHz | QPSK | 19965 | 15RB#0 | 2.6954 | 2.897 | PASS |
| Band4 | 3MHz | QPSK | 20175 | 15RB#0 | 2.6900 | 2.893 | PASS |
| Band4 | 3MHz | QPSK | 20385 | 15RB#0 | 2.6869 | 2.897 | PASS |
| Band4 | 3MHz | 16QAM | 19965 | 15RB#0 | 2.6816 | 2.887 | PASS |
| Band4 | 3MHz | 16QAM | 20175 | 15RB#0 | 2.6779 | 2.905 | PASS |
| Band4 | 3MHz | 16QAM | 20385 | 15RB#0 | 2.6840 | 2.904 | PASS |
| Band4 | 5MHz | QPSK | 19975 | 25RB#0 | 4.5183 | 5.207 | PASS |
| Band4 | 5MHz | QPSK | 20175 | 25RB#0 | 4.5218 | 5.215 | PASS |
| Band4 | 5MHz | QPSK | 20375 | 25RB#0 | 4.5338 | 5.294 | PASS |
| Band4 | 5MHz | 16QAM | 19975 | 25RB#0 | 4.5267 | 5.189 | PASS |
| Band4 | 5MHz | 16QAM | 20175 | 25RB#0 | 4.5175 | 5.159 | PASS |
| Band4 | 5MHz | 16QAM | 20375 | 25RB#0 | 4.5287 | 5.204 | PASS |
| Band4 | 10MHz | QPSK | 20000 | 50RB#0 | 9.0337 | 11.17 | PASS |
| Band4 | 10MHz | QPSK | 20175 | 50RB#0 | 9.0113 | 10.13 | PASS |
| Band4 | 10MHz | QPSK | 20350 | 50RB#0 | 9.0298 | 10.15 | PASS |
| Band4 | 10MHz | 16QAM | 20000 | 50RB#0 | 9.0323 | 10.81 | PASS |
| Band4 | 10MHz | 16QAM | 20175 | 50RB#0 | 9.0122 | 9.990 | PASS |
| Band4 | 10MHz | 16QAM | 20350 | 50RB#0 | 9.0182 | 10.07 | PASS |
| Band4 | 15MHz | QPSK | 20025 | 75RB#0 | 13.563 | 19.20 | PASS |
| Band4 | 15MHz | QPSK | 20175 | 75RB#0 | 13.529 | 15.07 | PASS |
| Band4 | 15MHz | QPSK | 20325 | 75RB#0 | 13.533 | 15.30 | PASS |
| Band4 | 15MHz | 16QAM | 20025 | 75RB#0 | 13.584 | 20.66 | PASS |
| Band4 | 15MHz | 16QAM | 20175 | 75RB#0 | 13.500 | 15.05 | PASS |
| Band4 | 15MHz | 16QAM | 20325 | 75RB#0 | 13.513 | 15.11 | PASS |
| Band4 | 20MHz | QPSK | 20050 | 100RB#0 | 18.012 | 19.78 | PASS |
| Band4 | 20MHz | QPSK | 20175 | 100RB#0 | 17.977 | 19.79 | PASS |
| Band4 | 20MHz | QPSK | 20300 | 100RB#0 | 17.939 | 19.79 | PASS |
| Band4 | 20MHz | 16QAM | 20050 | 100RB#0 | 18.023 | 19.80 | PASS |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Band4 | 20MHz | 16QAM | 20175 | 100RB#0 | 17.991 | 19.76 | PASS |
| Band4 | 20MHz | 16QAM | 20300 | 100RB#0 | 17.974 | 19.66 | PASS |

## Test Graphs




Band4-1.4MHz-QPSK-19957-6RB#0-PASS

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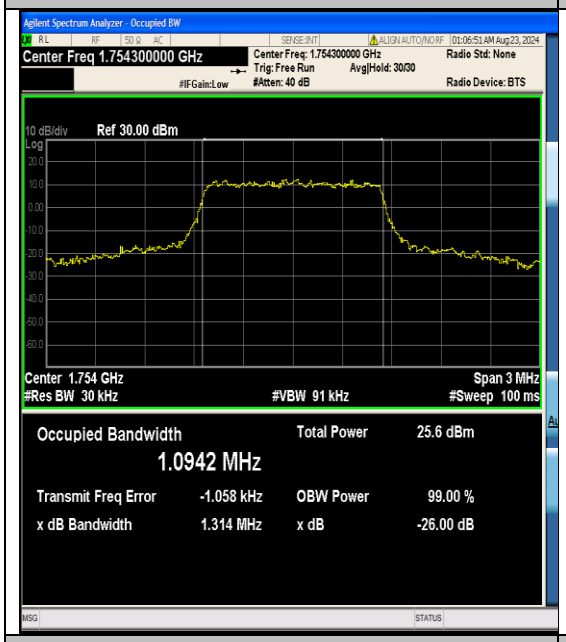
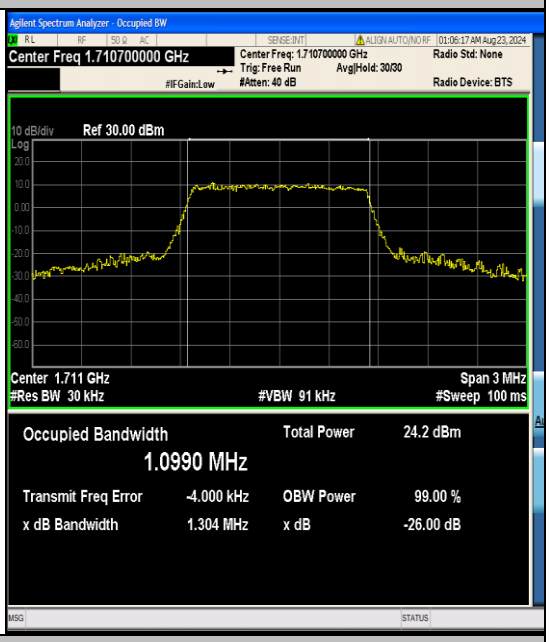



Band4-1.4MHz-QPSK-20393-6RB#0-PASS

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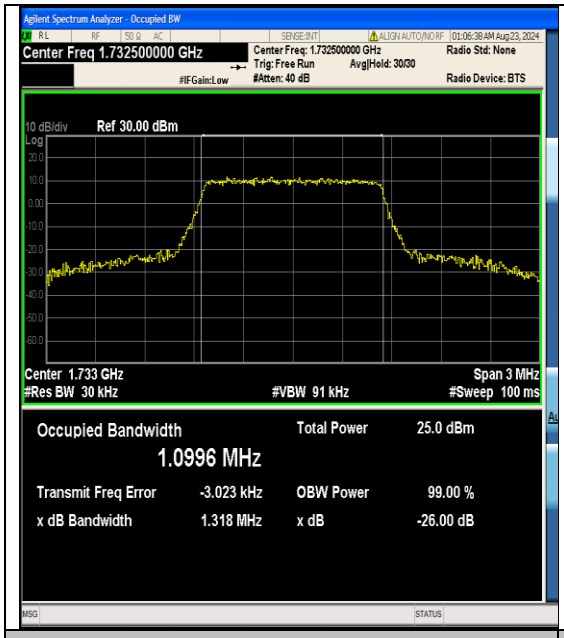


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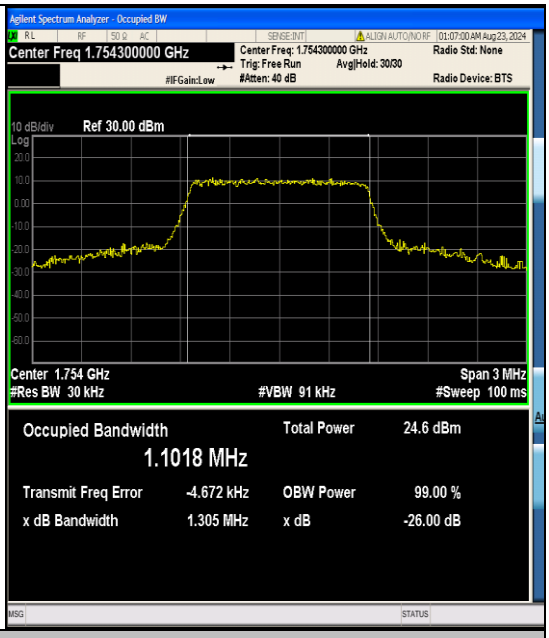


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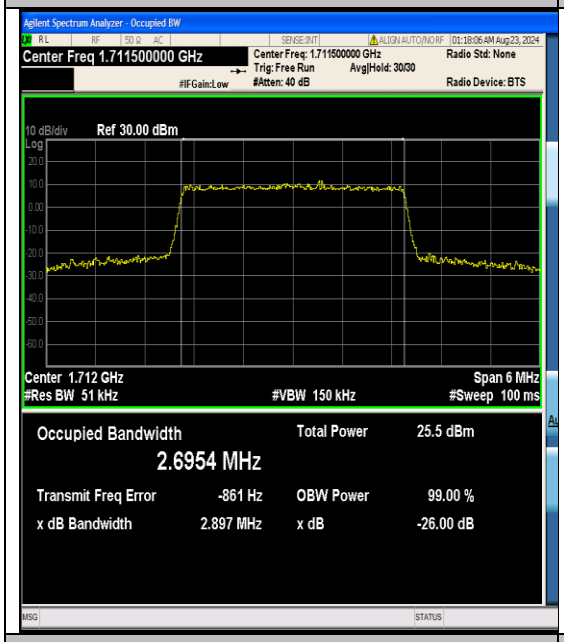
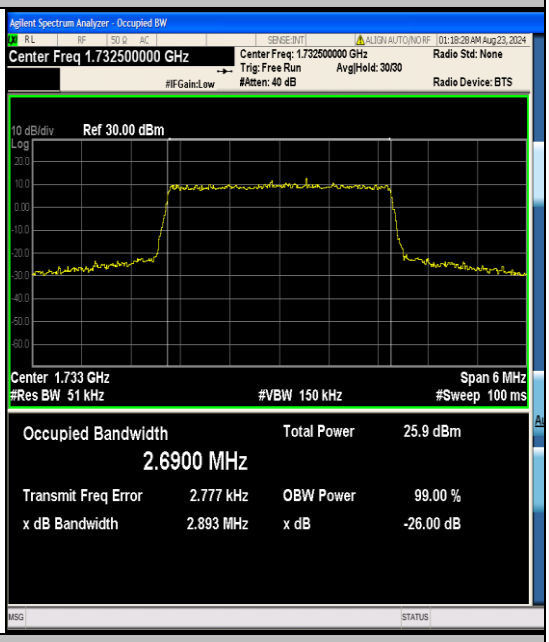



Band4-3MHz-QPSK-19965-15RB#0-PASS

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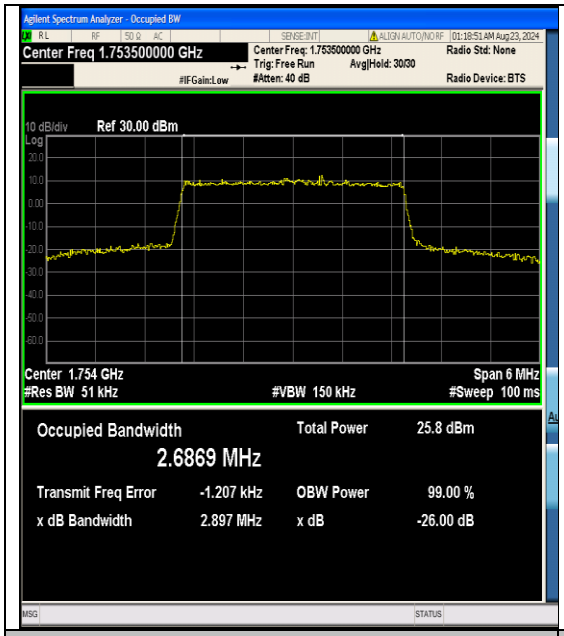


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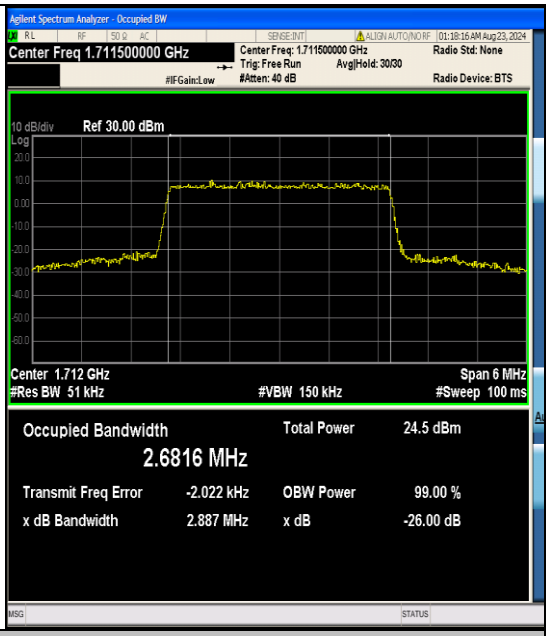


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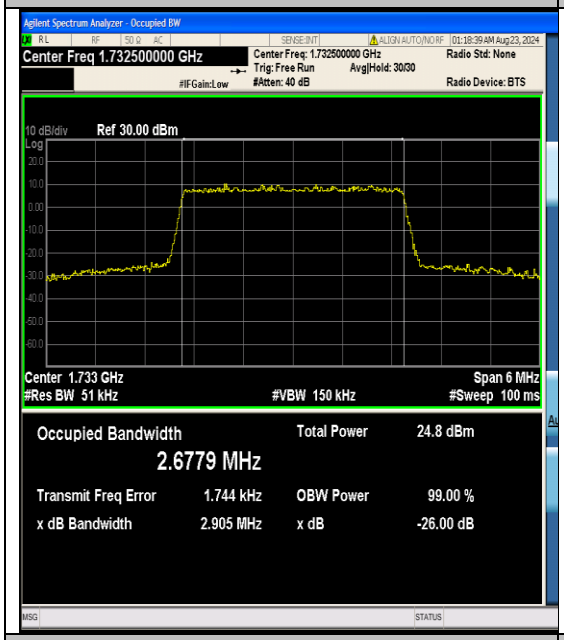


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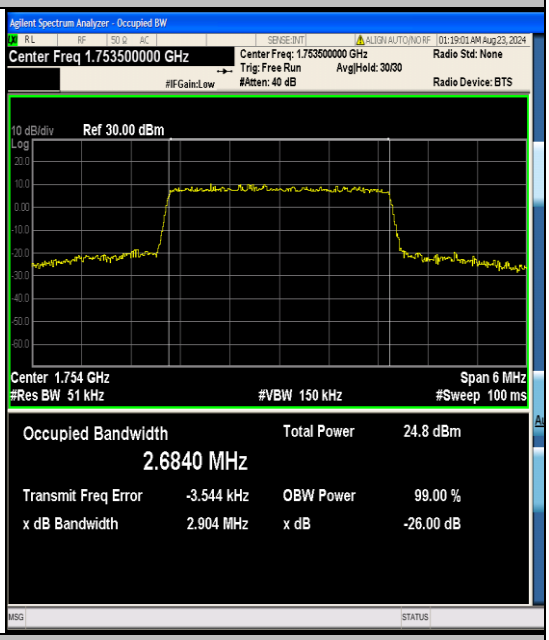


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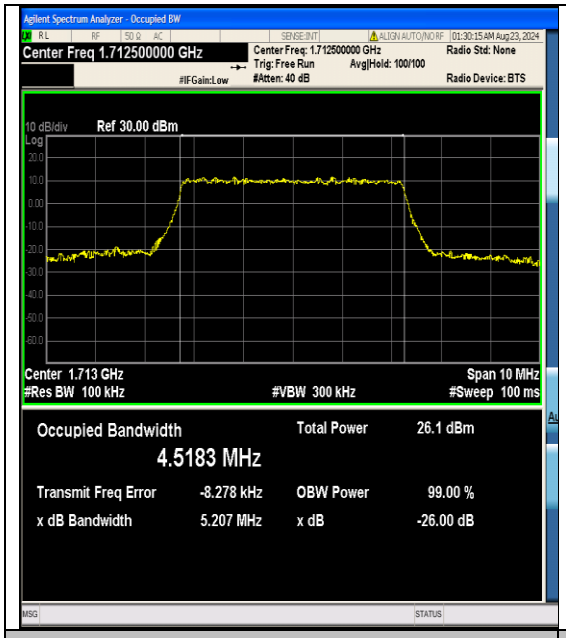
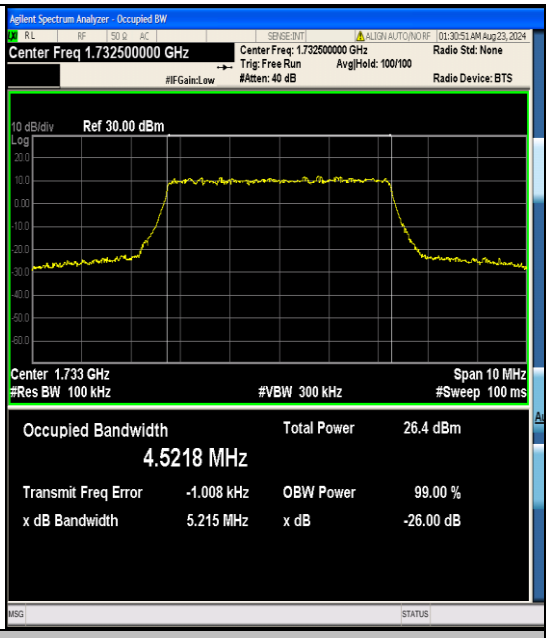



Band4-5MHz-QPSK-19975-25RB#0-PASS

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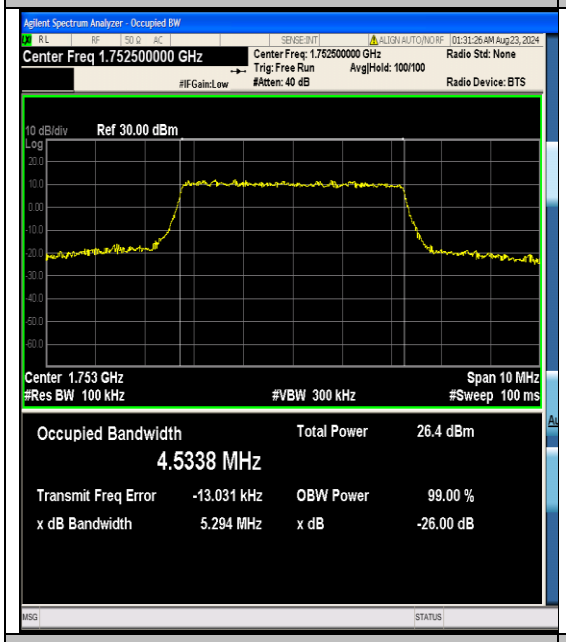
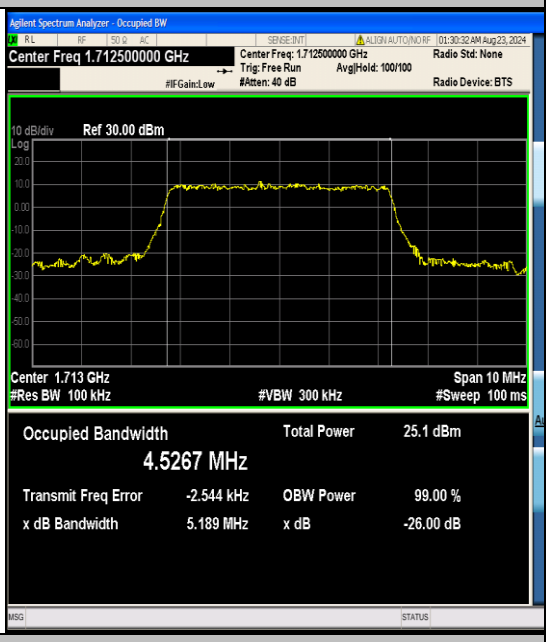



Band4-5MHz-QPSK-20375-25RB#0-PASS

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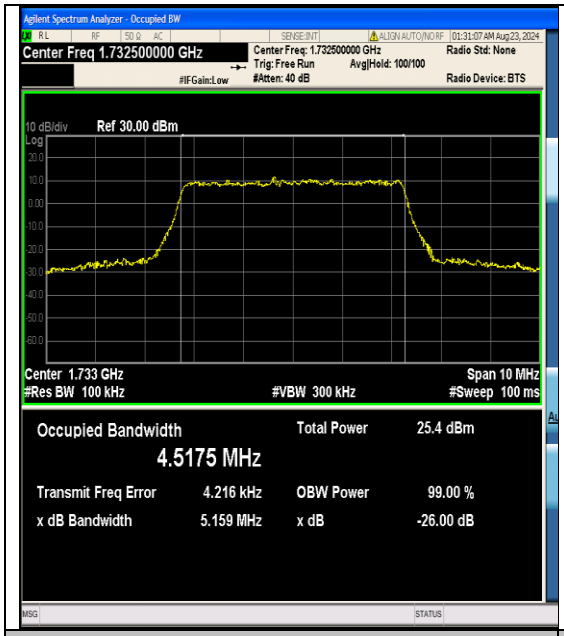


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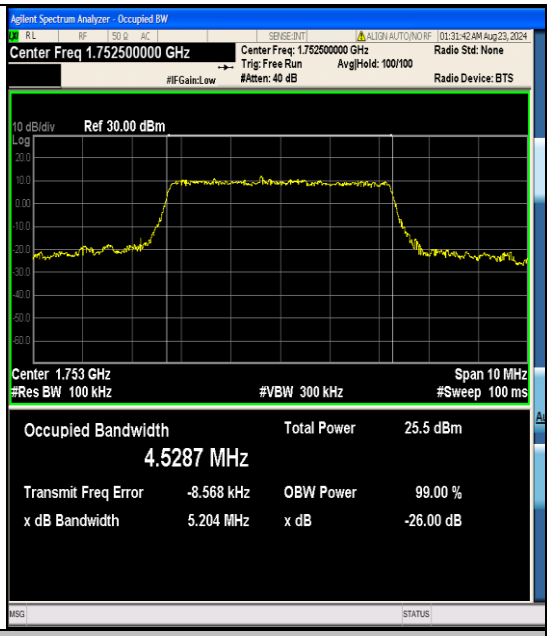


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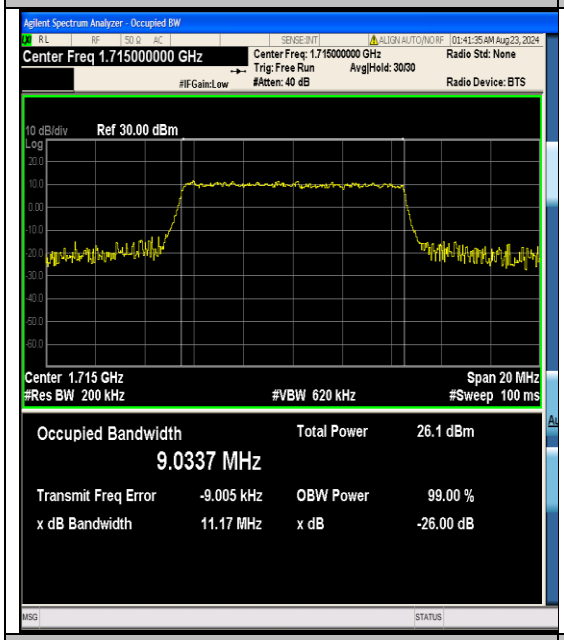
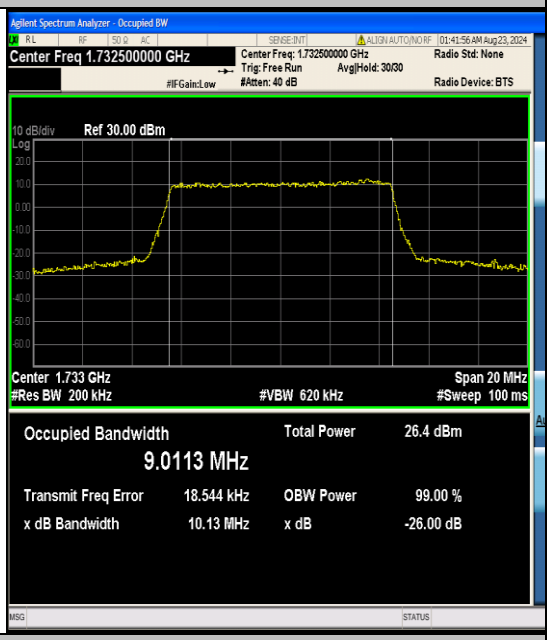



Band4-10MHz-QPSK-20000-50RB#0-PASS

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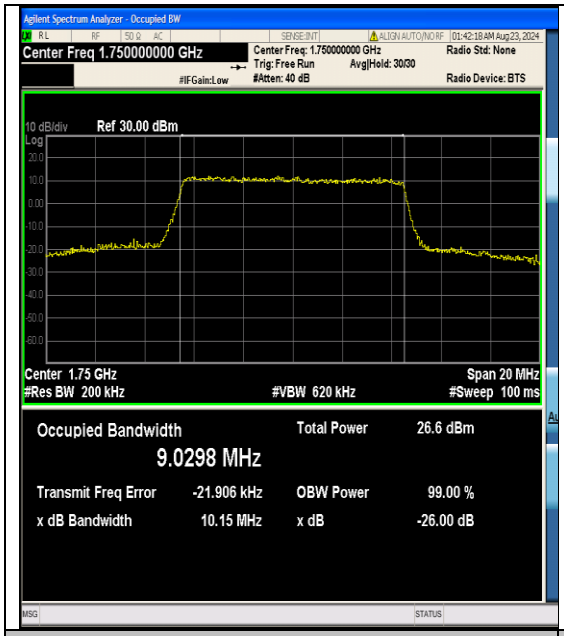
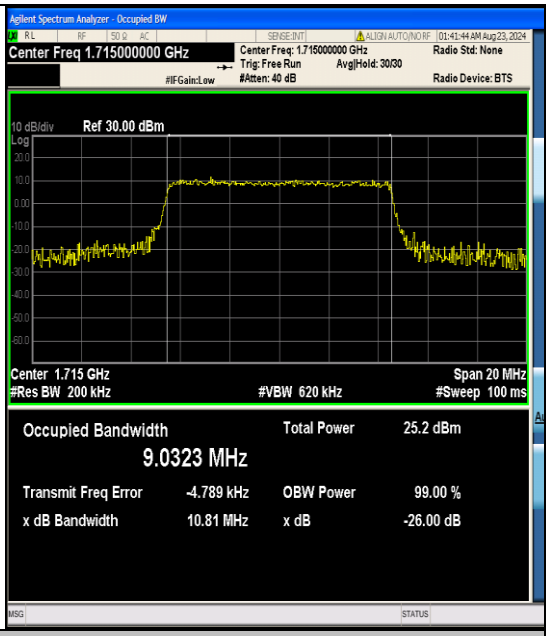



Band4-10MHz-QPSK-20350-50RB#0-PASS

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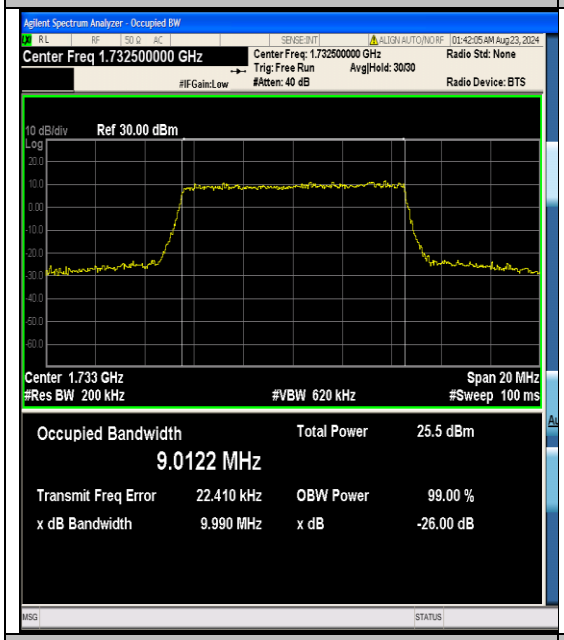


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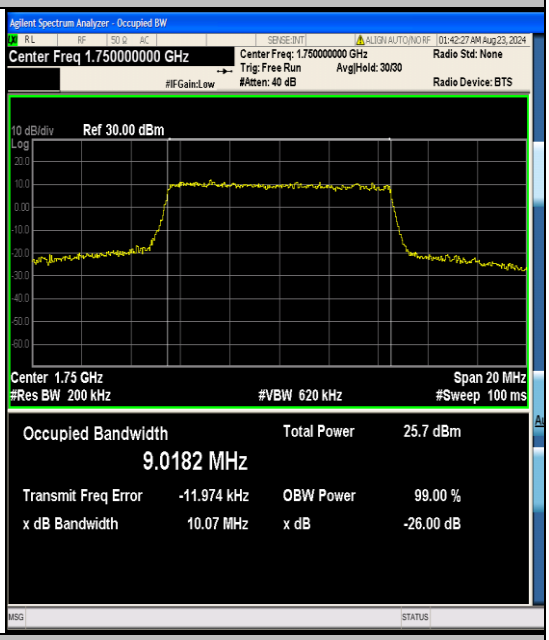
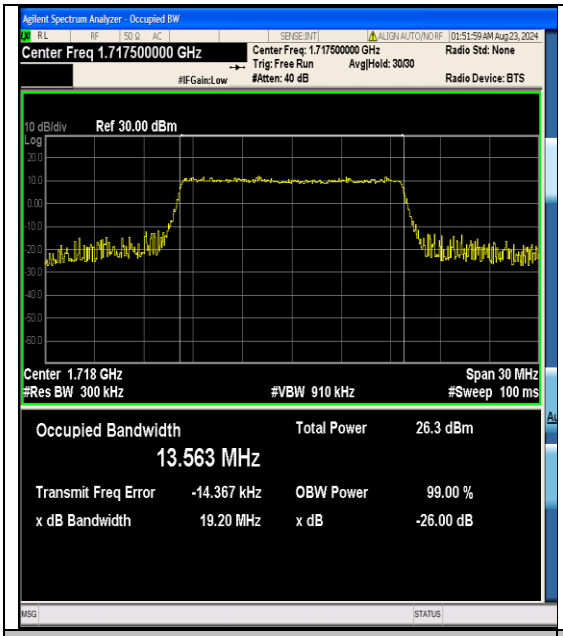



Band4-10MHz-16QAM-20350-50RB#0-PASS

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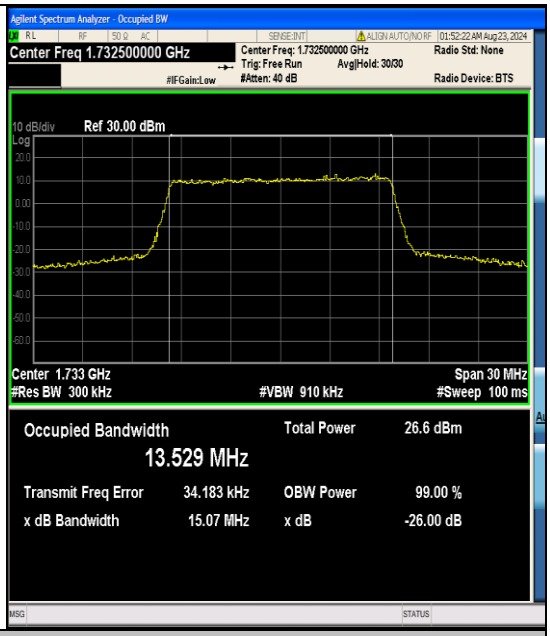


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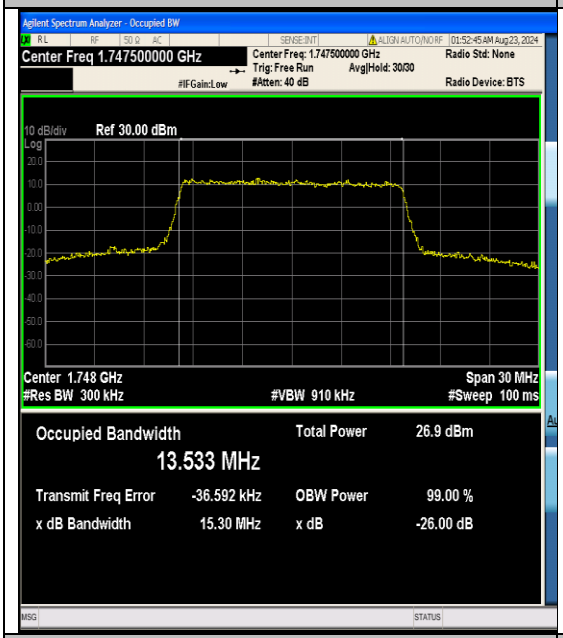


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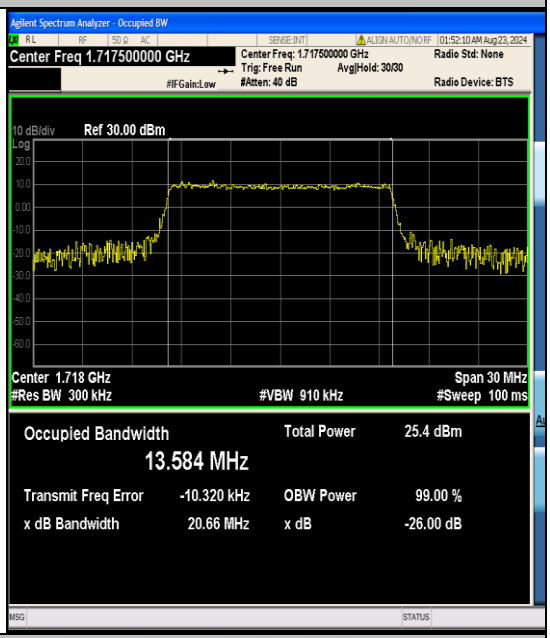


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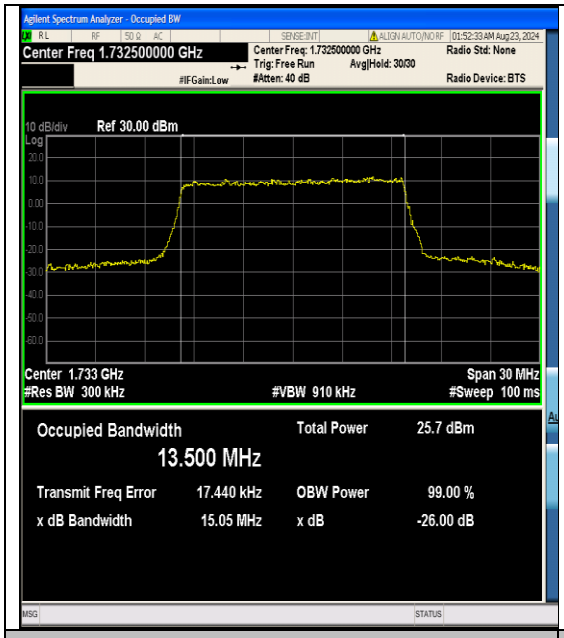


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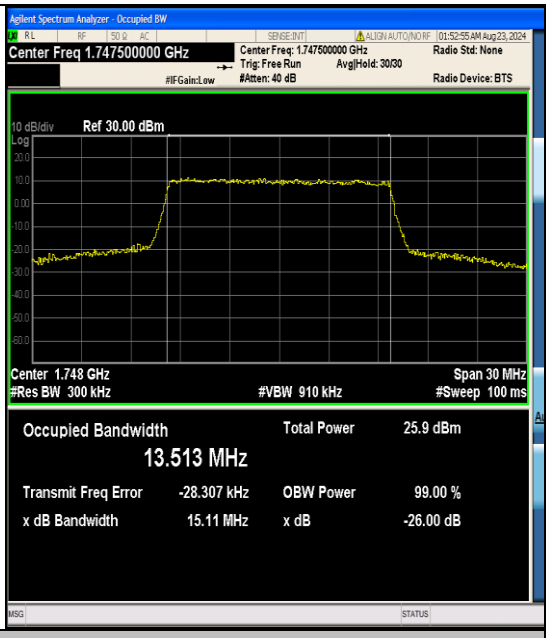


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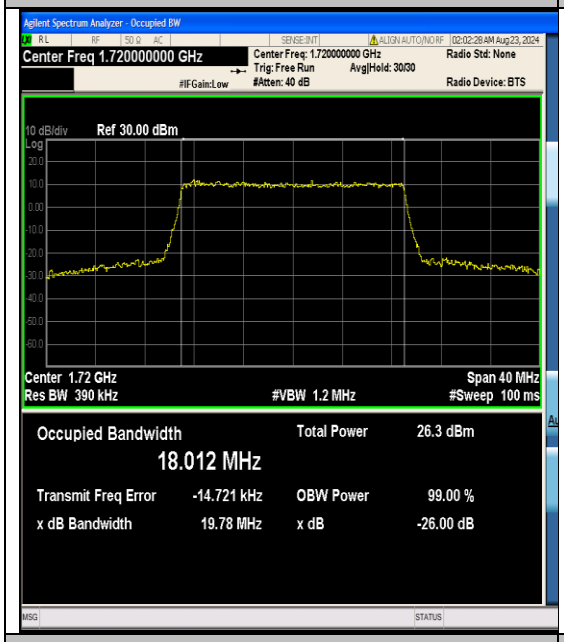
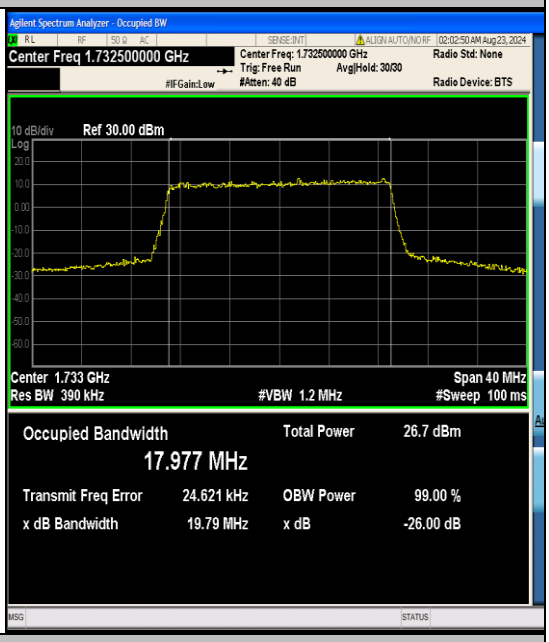
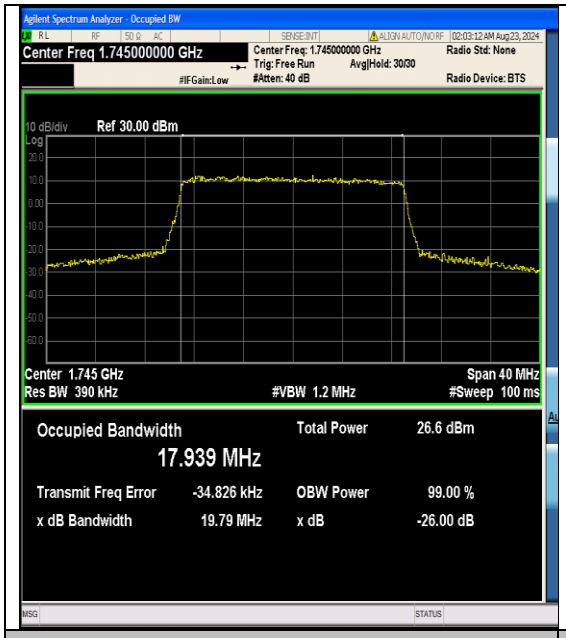


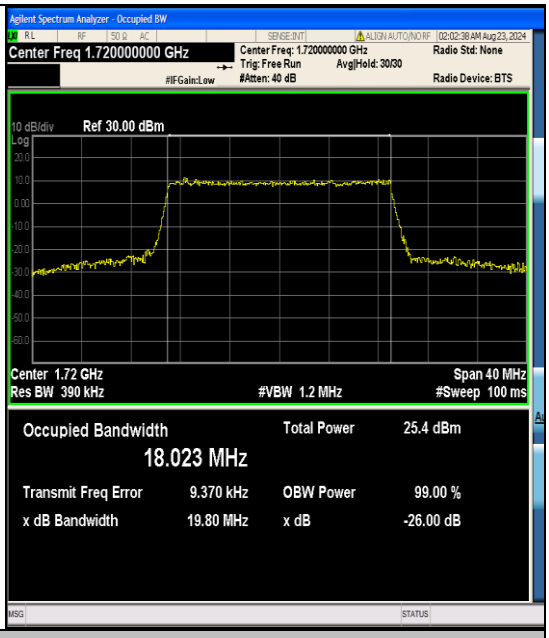

Band4-20MHz-QPSK-20050-100RB#0-PASS



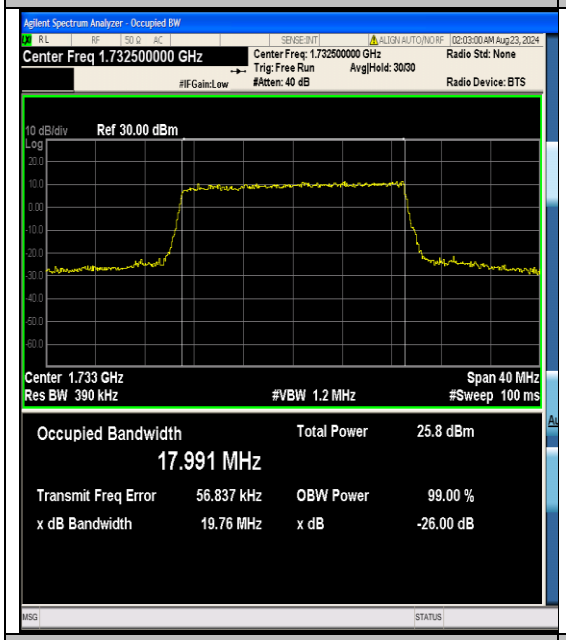

Band4-20MHz-QPSK-20175-100RB#0-PASS



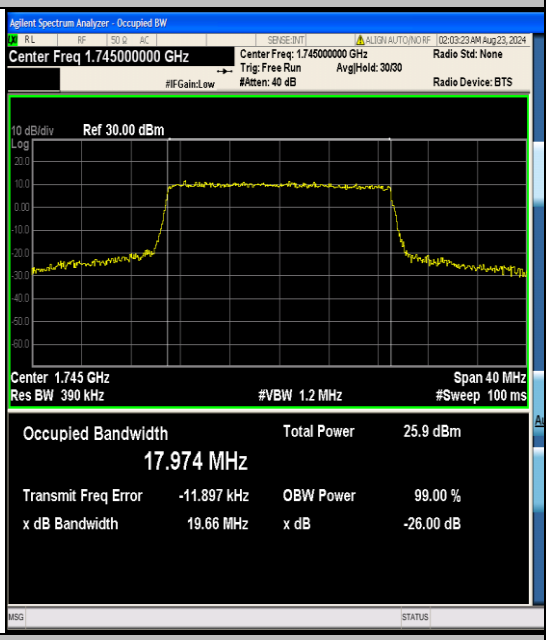

Band4-20MHz-QPSK-20300-100RB#0-PASS




Band4-20MHz-16QAM-20050-100RB#0-PASS




Band4-20MHz-16QAM-20175-100RB#0-PASS



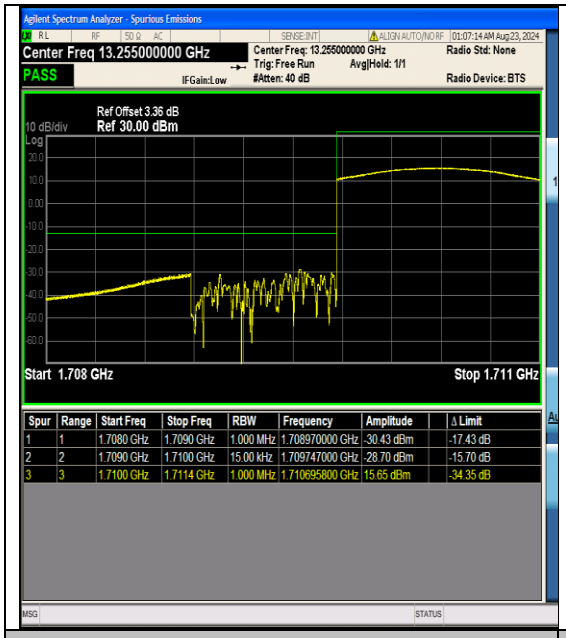

Band4-20MHz-16QAM-20300-100RB#0-PASS

# Appendix D: Band Edge

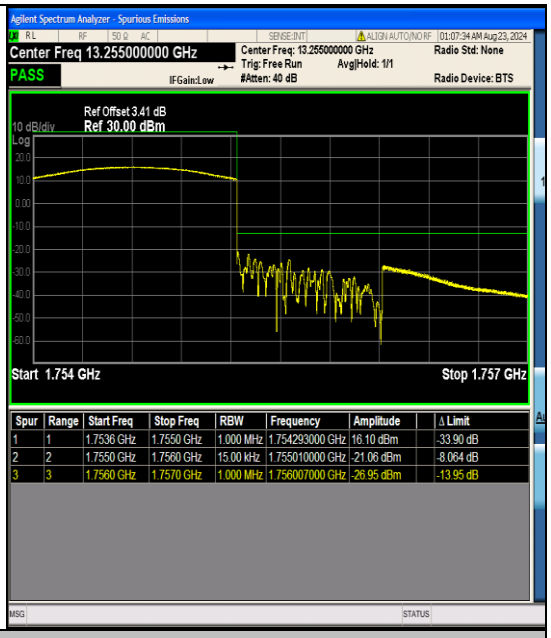
## Test Result

| Band | Bandwidth | Modulation | Channel | RB Configuration | Result(dBm) | Verdict |
|---|---|---|---|---|---|---|
| Band4 | 1.4MHz | QPSK | 19957 | 6RB#0 | -28.70 | PASS |
| Band4 | 1.4MHz | QPSK | 20393 | 6RB#0 | -21.06 | PASS |
| Band4 | 1.4MHz | 16QAM | 19957 | 6RB#0 | -32.88 | PASS |
| Band4 | 1.4MHz | 16QAM | 20393 | 6RB#0 | -24.11 | PASS |
| Band4 | 3MHz | QPSK | 19965 | 15RB#0 | -28.10 | PASS |
| Band4 | 3MHz | QPSK | 20385 | 15RB#0 | -24.16 | PASS |
| Band4 | 3MHz | 16QAM | 19965 | 15RB#0 | -31.34 | PASS |
| Band4 | 3MHz | 16QAM | 20385 | 15RB#0 | -27.95 | PASS |
| Band4 | 5MHz | QPSK | 19975 | 25RB#0 | -28.37 | PASS |
| Band4 | 5MHz | QPSK | 20375 | 25RB#0 | -25.15 | PASS |
| Band4 | 5MHz | 16QAM | 19975 | 25RB#0 | -31.95 | PASS |
| Band4 | 5MHz | 16QAM | 20375 | 25RB#0 | -29.47 | PASS |
| Band4 | 10MHz | QPSK | 20000 | 50RB#0 | -30.17 | PASS |
| Band4 | 10MHz | QPSK | 20350 | 50RB#0 | -27.51 | PASS |
| Band4 | 10MHz | 16QAM | 20000 | 50RB#0 | -33.89 | PASS |
| Band4 | 10MHz | 16QAM | 20350 | 50RB#0 | -31.73 | PASS |
| Band4 | 15MHz | QPSK | 20025 | 75RB#0 | -29.18 | PASS |
| Band4 | 15MHz | QPSK | 20325 | 75RB#0 | -26.48 | PASS |
| Band4 | 15MHz | 16QAM | 20025 | 75RB#0 | -33.18 | PASS |
| Band4 | 15MHz | 16QAM | 20325 | 75RB#0 | -31.65 | PASS |
| Band4 | 20MHz | QPSK | 20050 | 100RB#0 | -34.62 | PASS |
| Band4 | 20MHz | QPSK | 20300 | 100RB#0 | -32.10 | PASS |
| Band4 | 20MHz | 16QAM | 20050 | 100RB#0 | -36.45 | PASS |
| Band4 | 20MHz | 16QAM | 20300 | 100RB#0 | -35.89 | PASS |

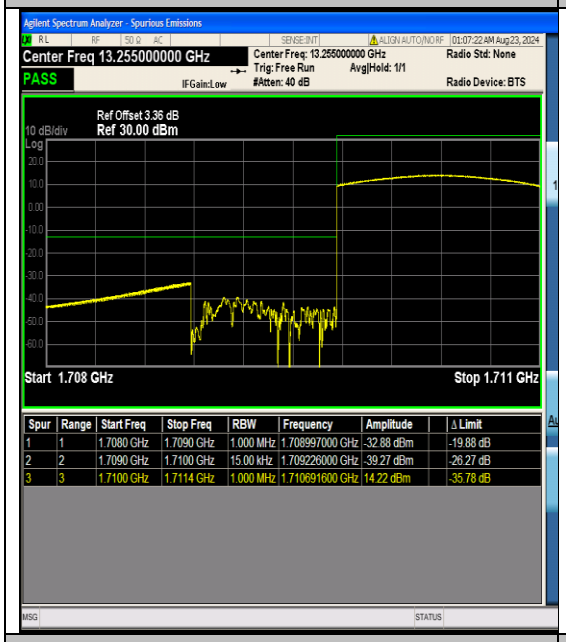
## Test Graphs




Band4_1.4MHz_QPSK_19957_6RB#0

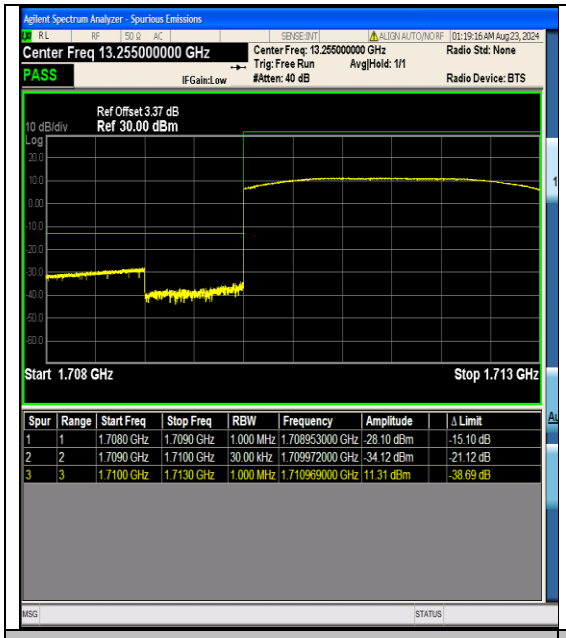



Band4_1.4MHz_QPSK_20393_6RB#0

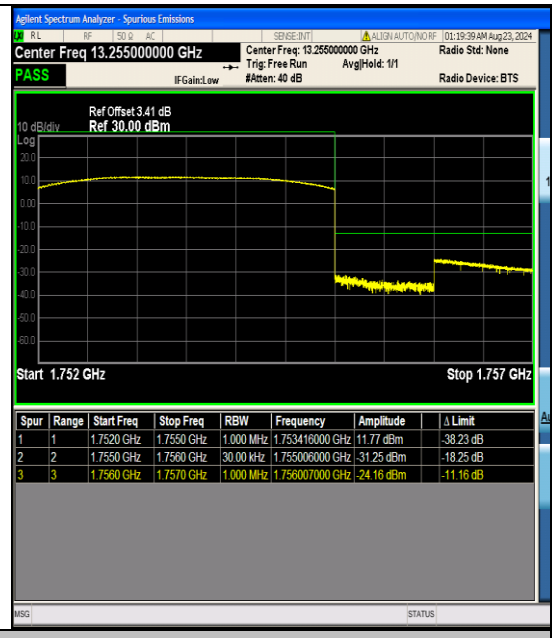



Band4_1.4MHz_16QAM_19957_6RB#0

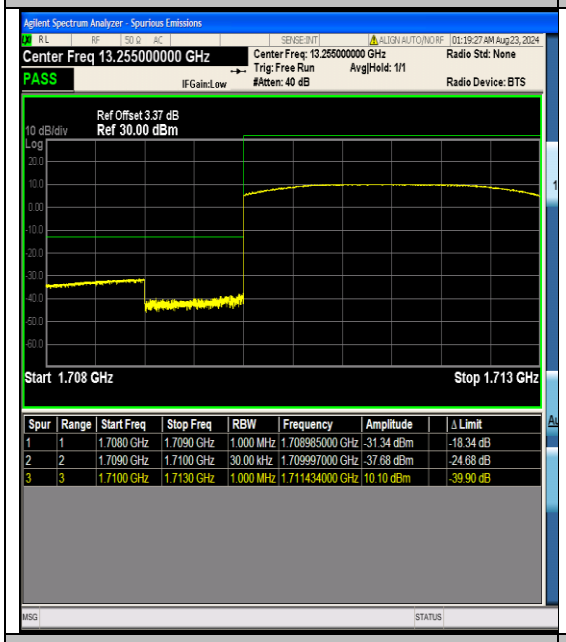
Band4_1.4MHz_16QAM_20393_6RB#0




Band4_3MHz_QPSK_19965_15RB#0

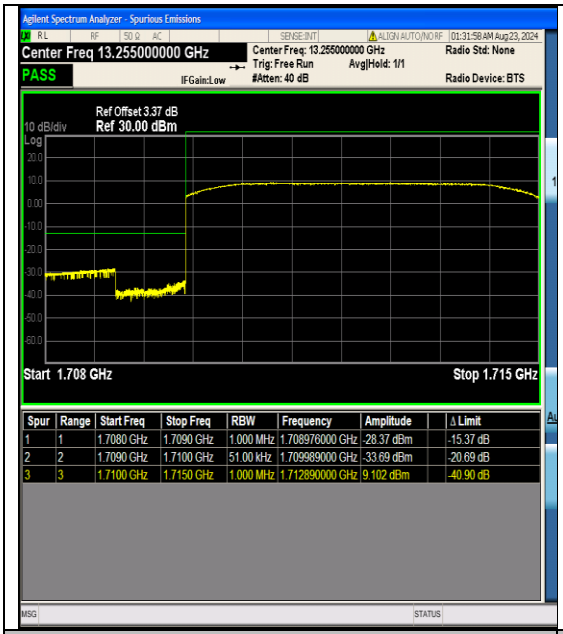



Band4_3MHz_QPSK_20385_15RB#0



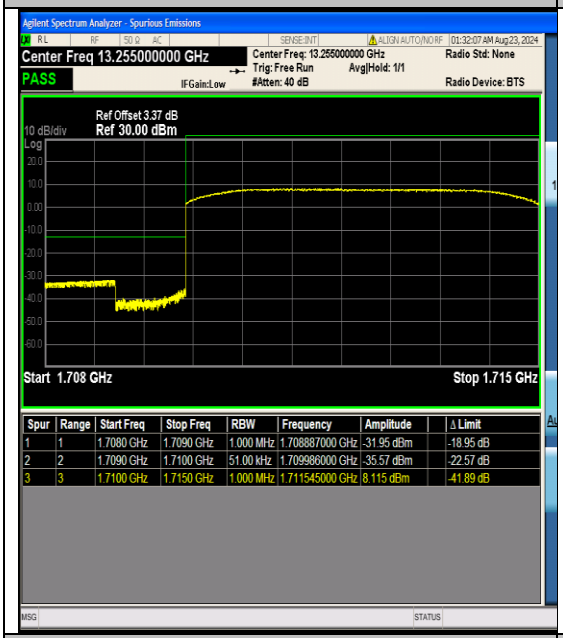

Band4_3MHz_16QAM_19965_15RB#0

Band4_3MHz_16QAM_20385_15RB#0




Band4_5MHz_QPSK_19975_25RB#0

Band4_5MHz_QPSK_20375_25RB#0

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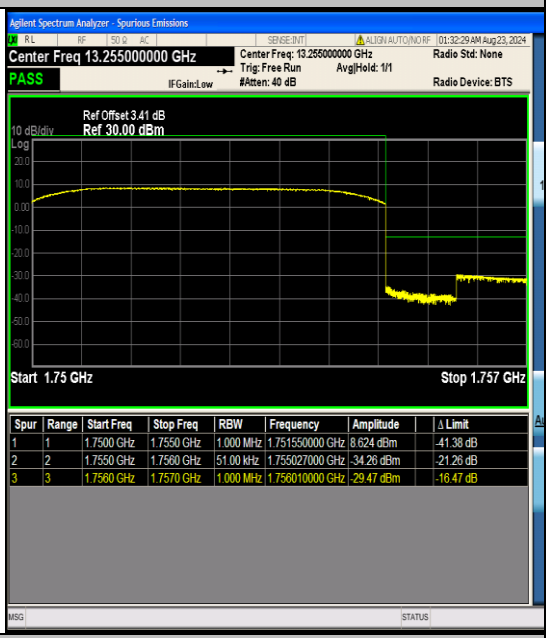


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