

## **Appendix for Band 17**

Product Name: GNSS Vehicle Terminal  
Model No: JM-VL03

## Appendix A: Average Power Output Data

### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result(dBm) | Verdict |
|--------|-----------|------------|---------|------------------|-------------|---------|
| Band17 | 5MHz      | QPSK       | 23755   | 1RB#0            | 21.64       | PASS    |
| Band17 | 5MHz      | QPSK       | 23755   | 1RB#12           | 23.14       | PASS    |
| Band17 | 5MHz      | QPSK       | 23755   | 1RB#24           | 22.37       | PASS    |
| Band17 | 5MHz      | QPSK       | 23755   | 12RB#0           | 22.94       | PASS    |
| Band17 | 5MHz      | QPSK       | 23755   | 12RB#6           | 22.88       | PASS    |
| Band17 | 5MHz      | QPSK       | 23755   | 12RB#13          | 23.16       | PASS    |
| Band17 | 5MHz      | QPSK       | 23755   | 25RB#0           | 22.06       | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 1RB#0            | 22.23       | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 1RB#12           | 23.17       | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 1RB#24           | 21.75       | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 12RB#0           | 23.33       | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 12RB#6           | 23.28       | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 12RB#13          | 23.09       | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 25RB#0           | 22.21       | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 1RB#0            | 22.56       | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 1RB#12           | 22.63       | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 1RB#24           | 21.26       | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 12RB#0           | 23.17       | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 12RB#6           | 23.13       | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 12RB#13          | 22.33       | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 25RB#0           | 21.83       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 1RB#0            | 20.53       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 1RB#12           | 21.96       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 1RB#24           | 21.27       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 12RB#0           | 21.93       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 12RB#6           | 21.88       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 12RB#13          | 22.26       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 25RB#0           | 21.06       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23790   | 1RB#0            | 21.33       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23790   | 1RB#12           | 22.37       | PASS    |
| Band17 | 5MHz      | 16QAM      | 23790   | 1RB#24           | 20.80       | PASS    |

|        |       |       |       |         |       |      |
|--------|-------|-------|-------|---------|-------|------|
| Band17 | 5MHz  | 16QAM | 23790 | 12RB#0  | 22.40 | PASS |
| Band17 | 5MHz  | 16QAM | 23790 | 12RB#6  | 22.38 | PASS |
| Band17 | 5MHz  | 16QAM | 23790 | 12RB#13 | 22.18 | PASS |
| Band17 | 5MHz  | 16QAM | 23790 | 25RB#0  | 21.21 | PASS |
| Band17 | 5MHz  | 16QAM | 23825 | 1RB#0   | 21.46 | PASS |
| Band17 | 5MHz  | 16QAM | 23825 | 1RB#12  | 21.53 | PASS |
| Band17 | 5MHz  | 16QAM | 23825 | 1RB#24  | 20.15 | PASS |
| Band17 | 5MHz  | 16QAM | 23825 | 12RB#0  | 22.20 | PASS |
| Band17 | 5MHz  | 16QAM | 23825 | 12RB#6  | 22.17 | PASS |
| Band17 | 5MHz  | 16QAM | 23825 | 12RB#13 | 21.50 | PASS |
| Band17 | 5MHz  | 16QAM | 23825 | 25RB#0  | 20.83 | PASS |
| Band17 | 10MHz | QPSK  | 23780 | 1RB#0   | 21.80 | PASS |
| Band17 | 10MHz | QPSK  | 23780 | 1RB#24  | 23.56 | PASS |
| Band17 | 10MHz | QPSK  | 23780 | 1RB#49  | 21.32 | PASS |
| Band17 | 10MHz | QPSK  | 23780 | 25RB#0  | 23.26 | PASS |
| Band17 | 10MHz | QPSK  | 23780 | 25RB#12 | 23.35 | PASS |
| Band17 | 10MHz | QPSK  | 23780 | 25RB#25 | 23.17 | PASS |
| Band17 | 10MHz | QPSK  | 23780 | 50RB#0  | 22.27 | PASS |
| Band17 | 10MHz | QPSK  | 23790 | 1RB#0   | 22.05 | PASS |
| Band17 | 10MHz | QPSK  | 23790 | 1RB#24  | 23.49 | PASS |
| Band17 | 10MHz | QPSK  | 23790 | 1RB#49  | 21.02 | PASS |
| Band17 | 10MHz | QPSK  | 23790 | 25RB#0  | 23.43 | PASS |
| Band17 | 10MHz | QPSK  | 23790 | 25RB#12 | 23.41 | PASS |
| Band17 | 10MHz | QPSK  | 23790 | 25RB#25 | 22.92 | PASS |
| Band17 | 10MHz | QPSK  | 23790 | 50RB#0  | 22.18 | PASS |
| Band17 | 10MHz | QPSK  | 23800 | 1RB#0   | 22.14 | PASS |
| Band17 | 10MHz | QPSK  | 23800 | 1RB#24  | 23.39 | PASS |
| Band17 | 10MHz | QPSK  | 23800 | 1RB#49  | 20.73 | PASS |
| Band17 | 10MHz | QPSK  | 23800 | 25RB#0  | 23.47 | PASS |
| Band17 | 10MHz | QPSK  | 23800 | 25RB#12 | 23.50 | PASS |
| Band17 | 10MHz | QPSK  | 23800 | 25RB#25 | 22.63 | PASS |
| Band17 | 10MHz | QPSK  | 23800 | 50RB#0  | 22.10 | PASS |
| Band17 | 10MHz | 16QAM | 23780 | 1RB#0   | 23.04 | PASS |
| Band17 | 10MHz | 16QAM | 23780 | 1RB#24  | 22.70 | PASS |
| Band17 | 10MHz | 16QAM | 23780 | 1RB#49  | 20.61 | PASS |
| Band17 | 10MHz | 16QAM | 23780 | 25RB#0  | 22.33 | PASS |
| Band17 | 10MHz | 16QAM | 23780 | 25RB#12 | 22.30 | PASS |

|        |       |       |       |         |       |      |
|--------|-------|-------|-------|---------|-------|------|
| Band17 | 10MHz | 16QAM | 23780 | 25RB#25 | 22.25 | PASS |
| Band17 | 10MHz | 16QAM | 23780 | 50RB#0  | 22.05 | PASS |
| Band17 | 10MHz | 16QAM | 23790 | 1RB#0   | 21.12 | PASS |
| Band17 | 10MHz | 16QAM | 23790 | 1RB#24  | 22.69 | PASS |
| Band17 | 10MHz | 16QAM | 23790 | 1RB#49  | 20.13 | PASS |
| Band17 | 10MHz | 16QAM | 23790 | 25RB#0  | 22.51 | PASS |
| Band17 | 10MHz | 16QAM | 23790 | 25RB#12 | 22.35 | PASS |
| Band17 | 10MHz | 16QAM | 23790 | 25RB#25 | 21.96 | PASS |
| Band17 | 10MHz | 16QAM | 23790 | 50RB#0  | 21.64 | PASS |
| Band17 | 10MHz | 16QAM | 23800 | 1RB#0   | 21.28 | PASS |
| Band17 | 10MHz | 16QAM | 23800 | 1RB#24  | 22.58 | PASS |
| Band17 | 10MHz | 16QAM | 23800 | 1RB#49  | 19.94 | PASS |
| Band17 | 10MHz | 16QAM | 23800 | 25RB#0  | 22.54 | PASS |
| Band17 | 10MHz | 16QAM | 23800 | 25RB#12 | 22.46 | PASS |
| Band17 | 10MHz | 16QAM | 23800 | 25RB#25 | 21.73 | PASS |
| Band17 | 10MHz | 16QAM | 23800 | 50RB#0  | 21.39 | PASS |

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

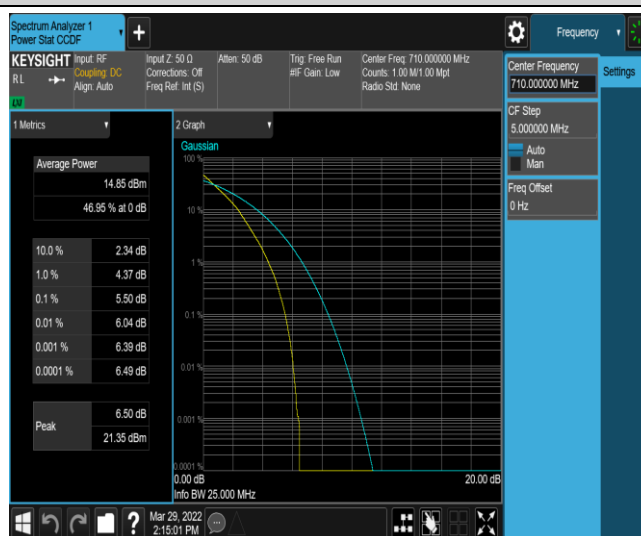
### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|--------|-----------|------------|---------|------------------|------------|-----------|---------|
| Band17 | 5MHz      | QPSK       | 23755   | 1RB#0            | 5.13       | 13        | PASS    |
| Band17 | 5MHz      | QPSK       | 23755   | 25RB#0           | 5.21       | 13        | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 1RB#0            | 5.21       | 13        | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 25RB#0           | 5.50       | 13        | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 1RB#0            | 5.46       | 13        | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 25RB#0           | 5.51       | 13        | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 1RB#0            | 5.73       | 13        | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 25RB#0           | 5.97       | 13        | PASS    |
| Band17 | 5MHz      | 16QAM      | 23790   | 1RB#0            | 5.69       | 13        | PASS    |
| Band17 | 5MHz      | 16QAM      | 23790   | 25RB#0           | 6.22       | 13        | PASS    |
| Band17 | 5MHz      | 16QAM      | 23825   | 1RB#0            | 6.09       | 13        | PASS    |
| Band17 | 5MHz      | 16QAM      | 23825   | 25RB#0           | 6.26       | 13        | PASS    |
| Band17 | 10MHz     | QPSK       | 23780   | 1RB#0            | 5.23       | 13        | PASS    |
| Band17 | 10MHz     | QPSK       | 23780   | 50RB#0           | 5.42       | 13        | PASS    |
| Band17 | 10MHz     | QPSK       | 23790   | 1RB#0            | 8.46       | 13        | PASS    |
| Band17 | 10MHz     | QPSK       | 23790   | 50RB#0           | 5.47       | 13        | PASS    |
| Band17 | 10MHz     | QPSK       | 23800   | 1RB#0            | 5.07       | 13        | PASS    |
| Band17 | 10MHz     | QPSK       | 23800   | 50RB#0           | 5.54       | 13        | PASS    |
| Band17 | 10MHz     | 16QAM      | 23780   | 1RB#0            | 8.46       | 13        | PASS    |
| Band17 | 10MHz     | 16QAM      | 23780   | 50RB#0           | 8.44       | 13        | PASS    |
| Band17 | 10MHz     | 16QAM      | 23790   | 1RB#0            | 5.84       | 13        | PASS    |
| Band17 | 10MHz     | 16QAM      | 23790   | 50RB#0           | 8.45       | 13        | PASS    |
| Band17 | 10MHz     | 16QAM      | 23800   | 1RB#0            | 8.44       | 13        | PASS    |
| Band17 | 10MHz     | 16QAM      | 23800   | 50RB#0           | 8.44       | 13        | PASS    |

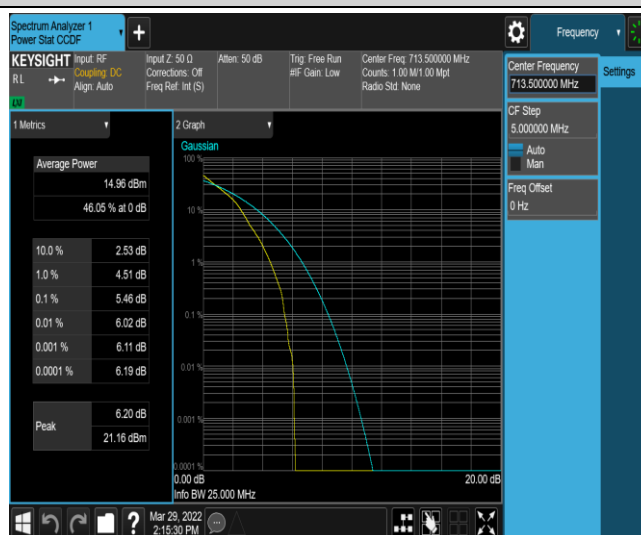
## Test Graphs



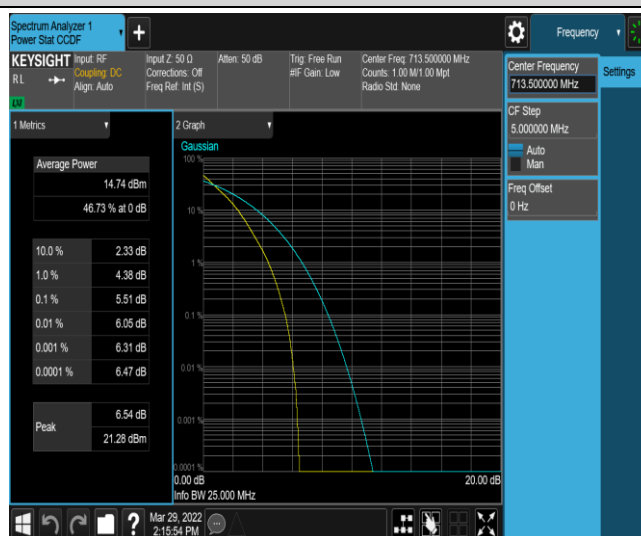
## Band17-5MHz-QPSK-23790-1RB#0



## Band17-5MHz-QPSK-23790-25RB#0



## Band17-5MHz-QPSK-23825-1RB#0



## Band17-5MHz-QPSK-23825-25RB#0



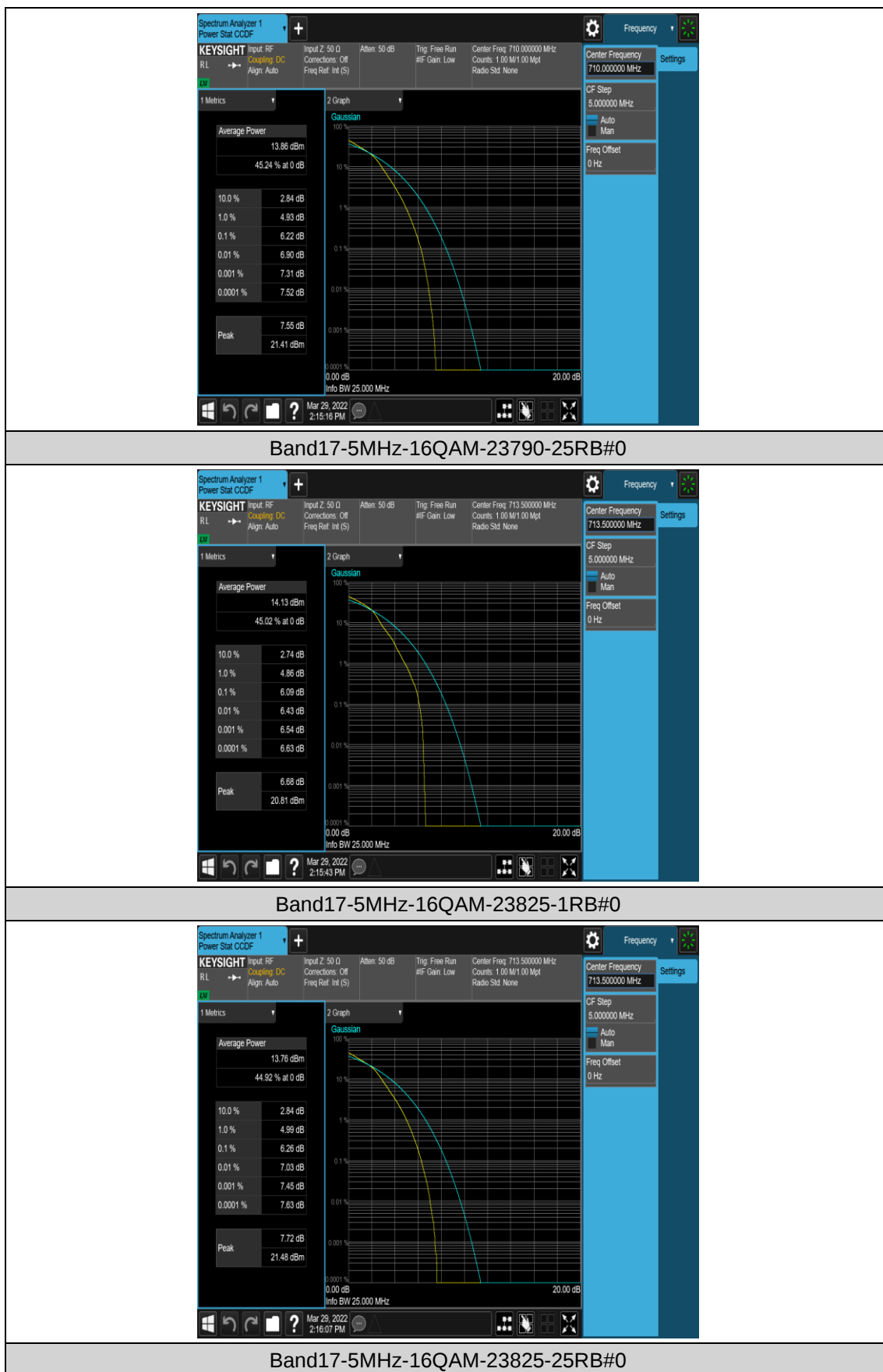
Band17-5MHz-16QAM-23755-1RB#0

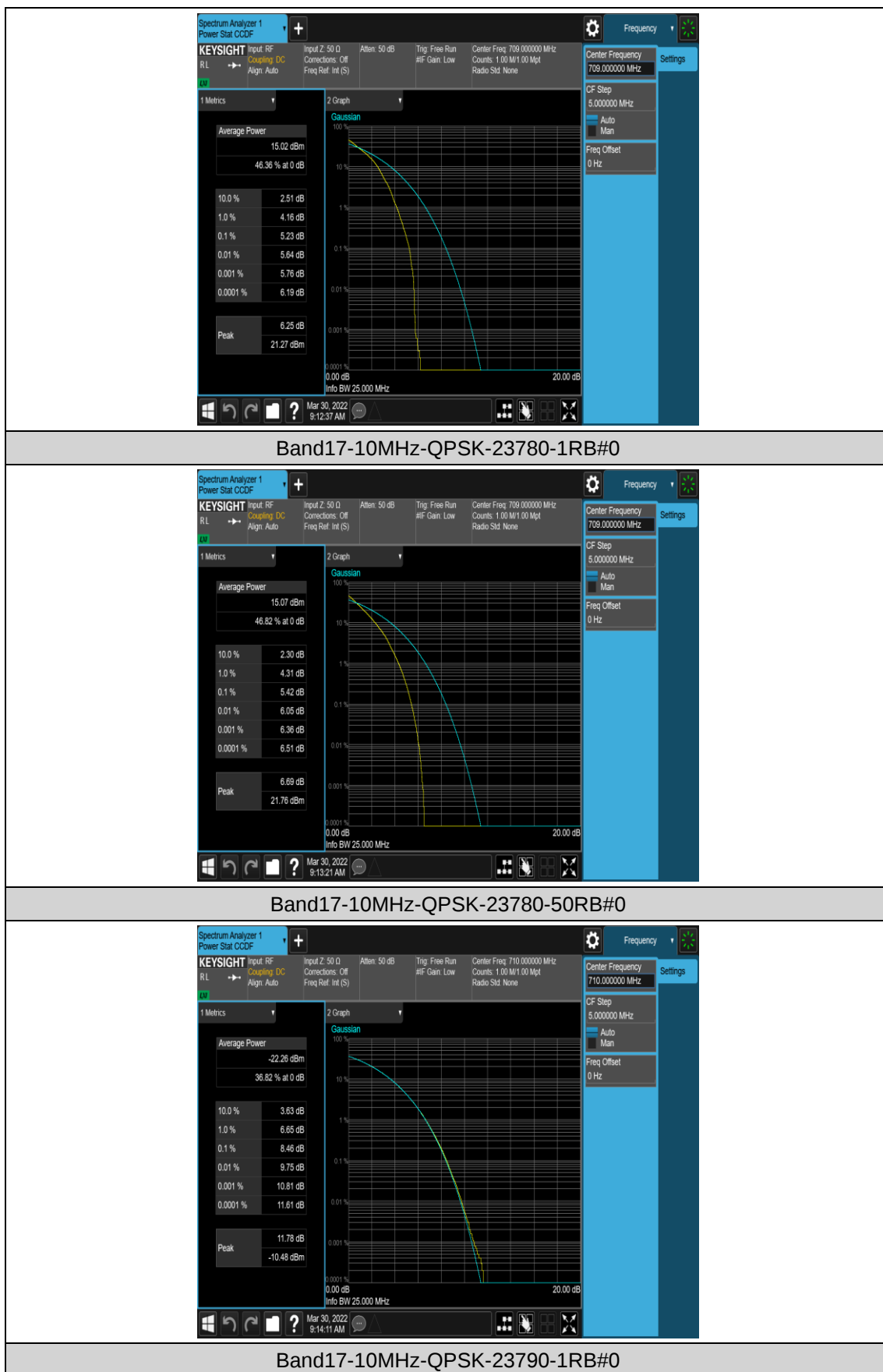


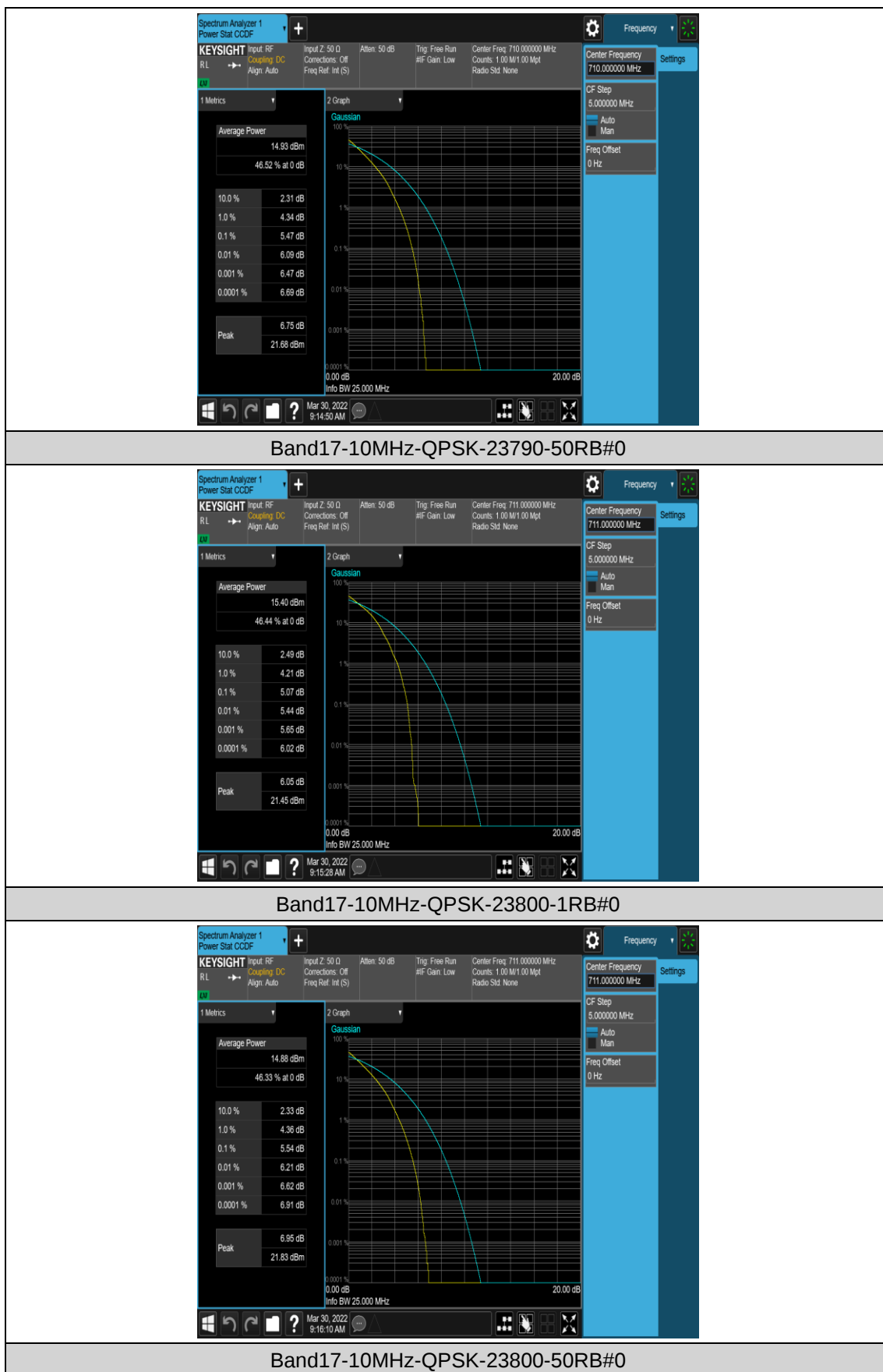
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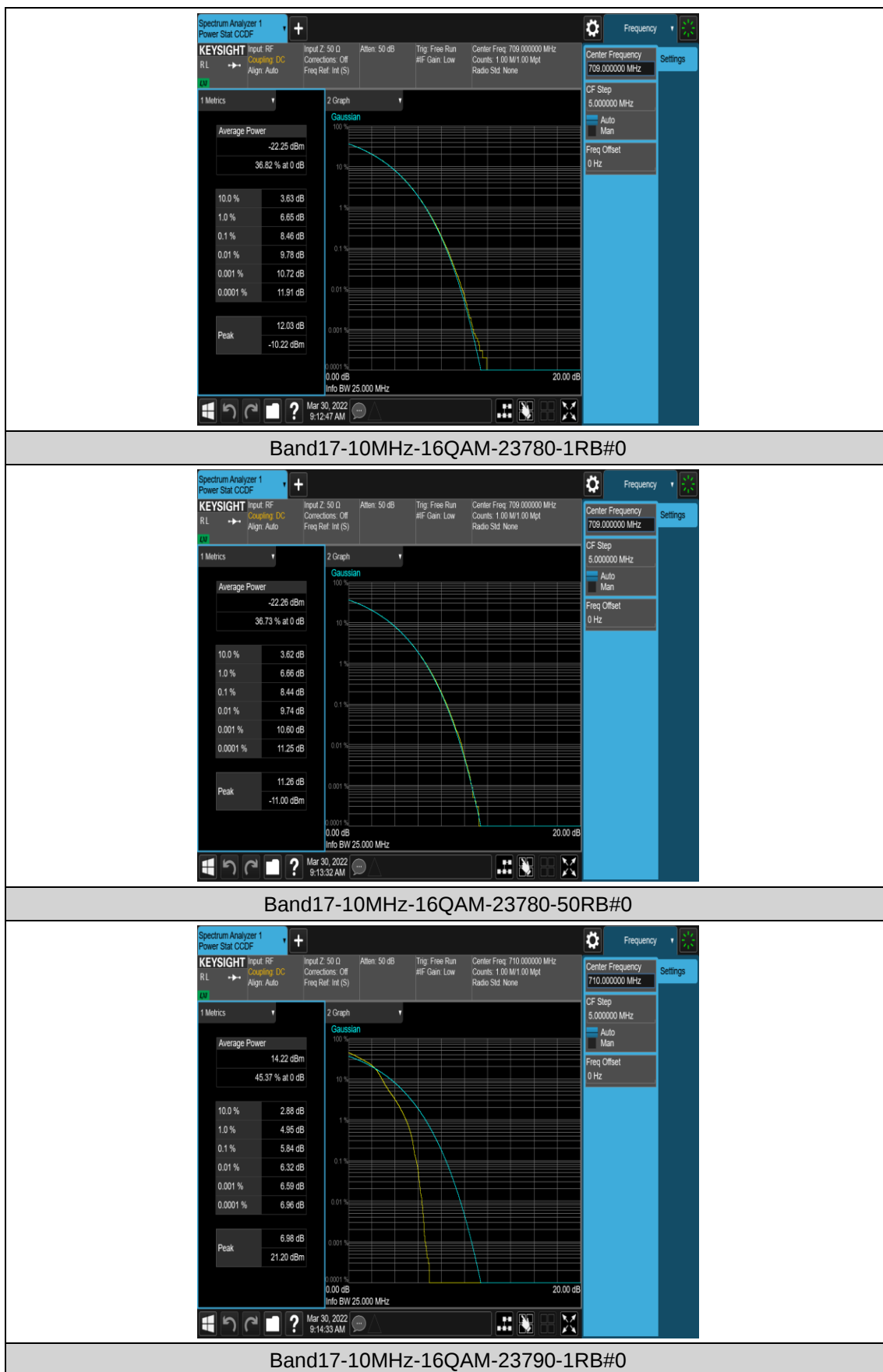


Band17-5MHz-16QAM-23790-1RB#0











Band17-10MHz-16QAM-23790-50RB#0



Band17-10MHz-16QAM-23800-1RB#0



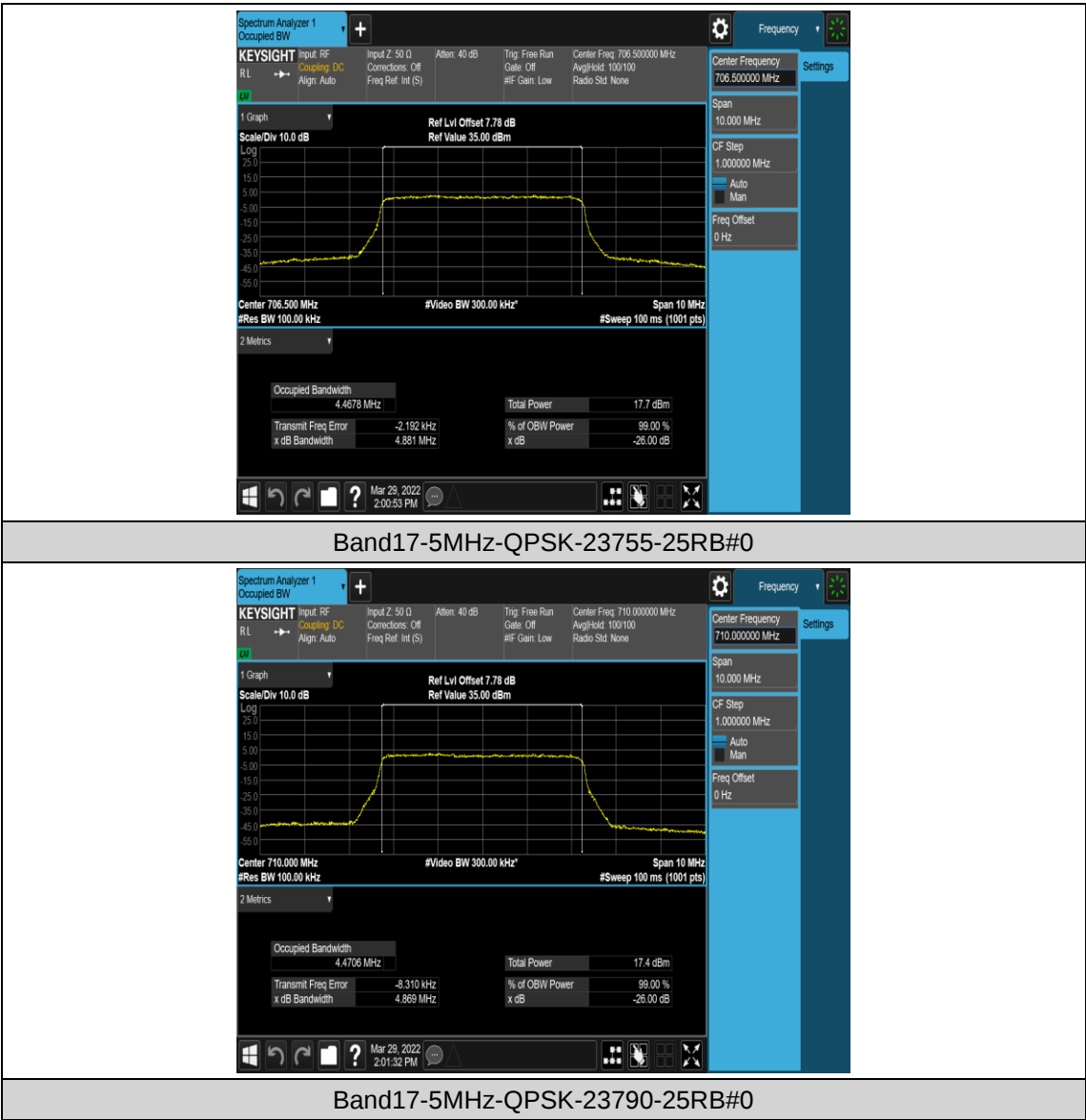
Band17-10MHz-16QAM-23800-50RB#0

## Appendix C: 26dB Bandwidth and Occupied Bandwidth

### Test Result

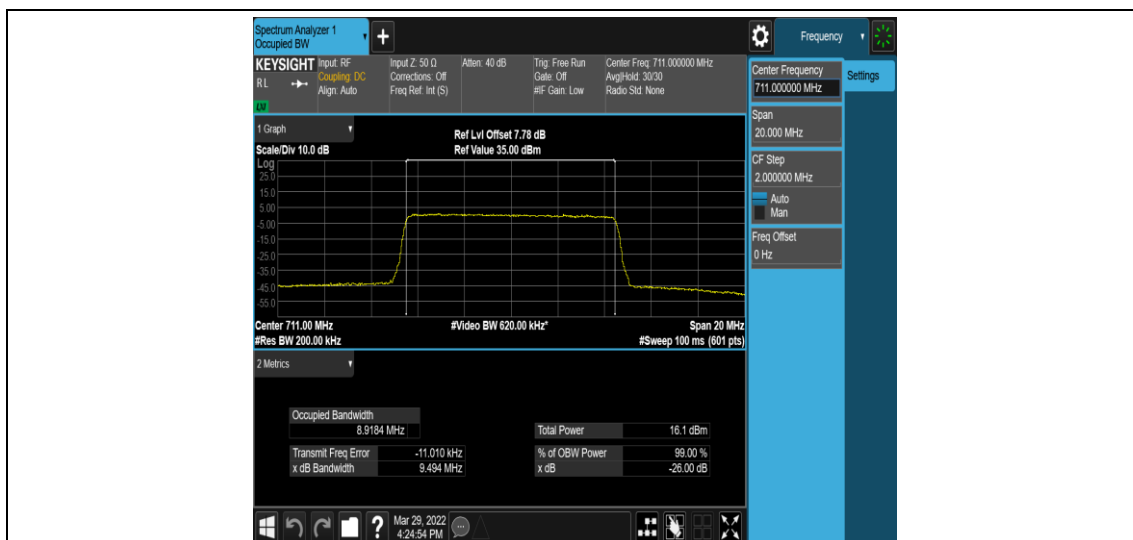
| Band   | Bandwidth | Modulation | Channel | RB Configuration | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|--------|-----------|------------|---------|------------------|--------------------------|----------------------|---------|
| Band17 | 5MHz      | QPSK       | 23755   | 25RB#0           | 4.4678                   | 4.881                | PASS    |
| Band17 | 5MHz      | QPSK       | 23790   | 25RB#0           | 4.4706                   | 4.869                | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 25RB#0           | 4.4702                   | 4.873                | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 25RB#0           | 4.4714                   | 4.870                | PASS    |
| Band17 | 5MHz      | 16QAM      | 23790   | 25RB#0           | 4.4756                   | 4.895                | PASS    |
| Band17 | 5MHz      | 16QAM      | 23825   | 25RB#0           | 4.4724                   | 4.916                | PASS    |
| Band17 | 10MHz     | QPSK       | 23780   | 50RB#0           | 8.9147                   | 9.490                | PASS    |
| Band17 | 10MHz     | QPSK       | 23790   | 50RB#0           | 8.9185                   | 9.513                | PASS    |
| Band17 | 10MHz     | QPSK       | 23800   | 50RB#0           | 8.9184                   | 9.494                | PASS    |
| Band17 | 10MHz     | 16QAM      | 23780   | 50RB#0           | 9.0034                   | 9.619                | PASS    |
| Band17 | 10MHz     | 16QAM      | 23790   | 50RB#0           | 8.9984                   | 9.544                | PASS    |
| Band17 | 10MHz     | 16QAM      | 23800   | 50RB#0           | 8.9971                   | 9.535                | PASS    |

Test Graphs

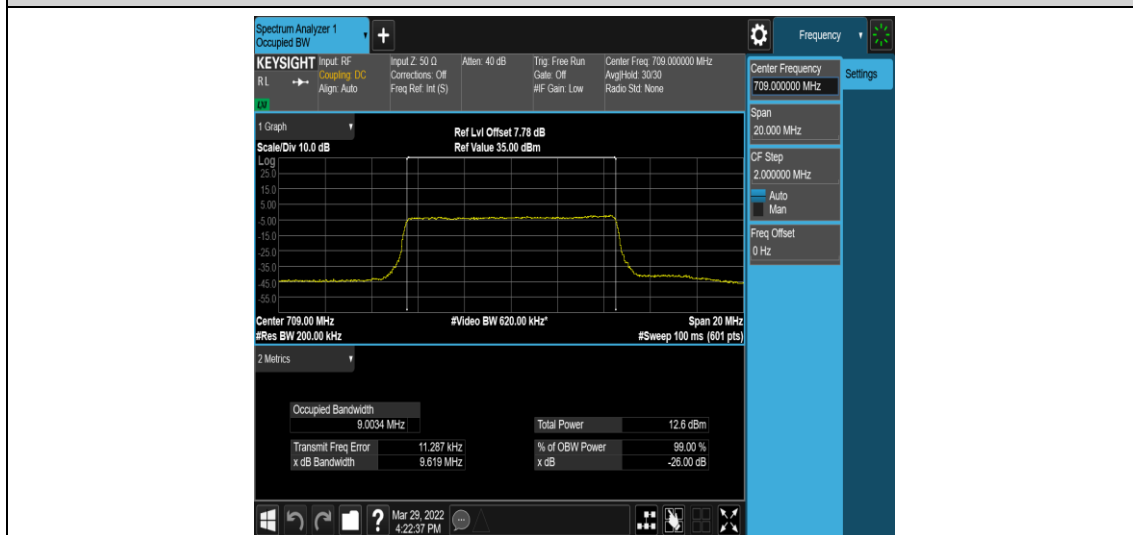




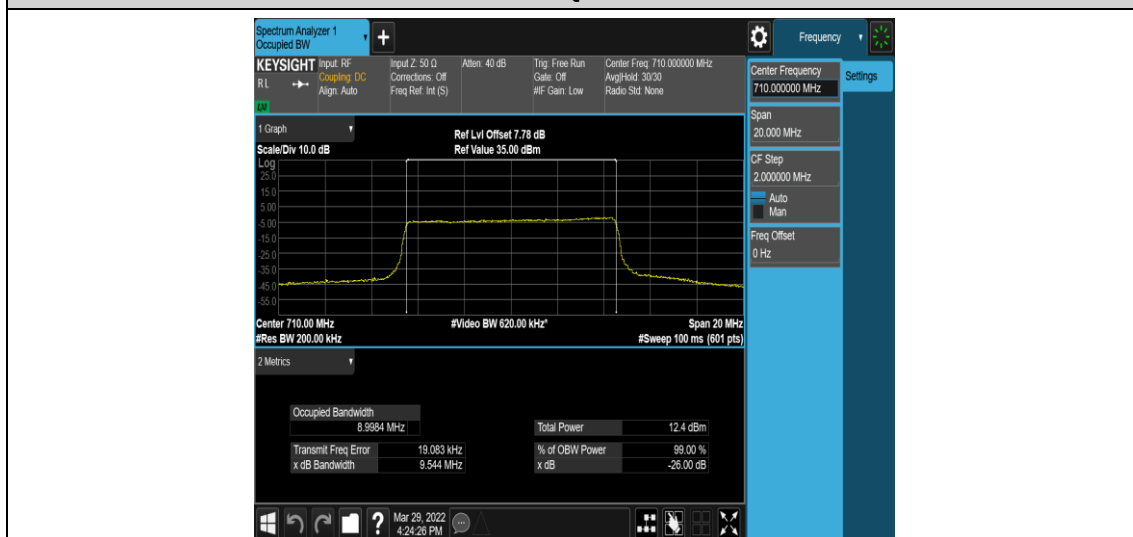




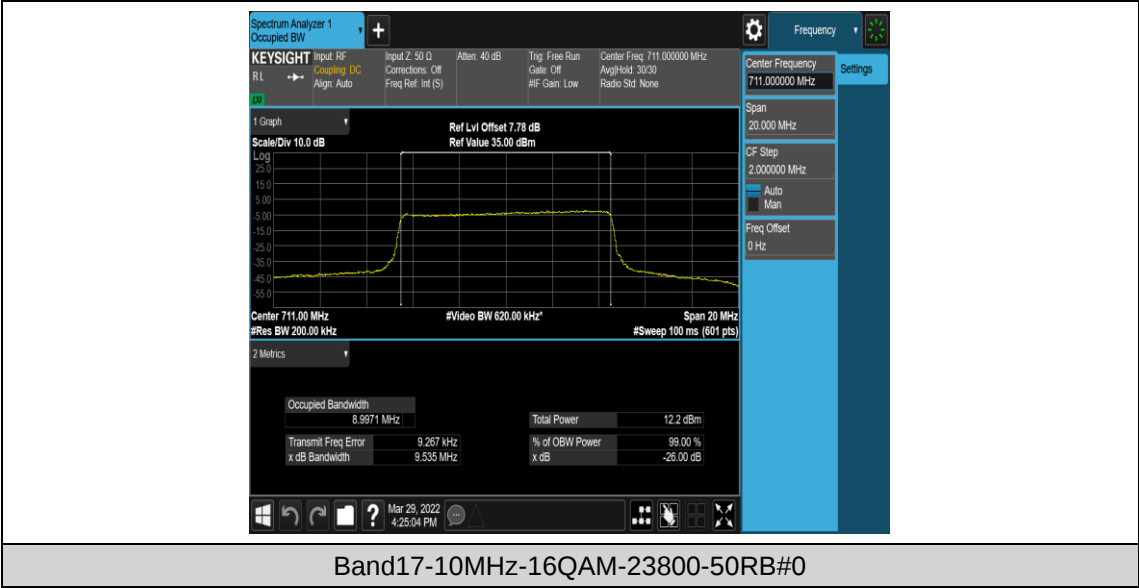
Band17-10MHz-QPSK-23800-50RB#0



Band17-10MHz-16QAM-23780-50RB#0



Band17-10MHz-16QAM-23790-50RB#0

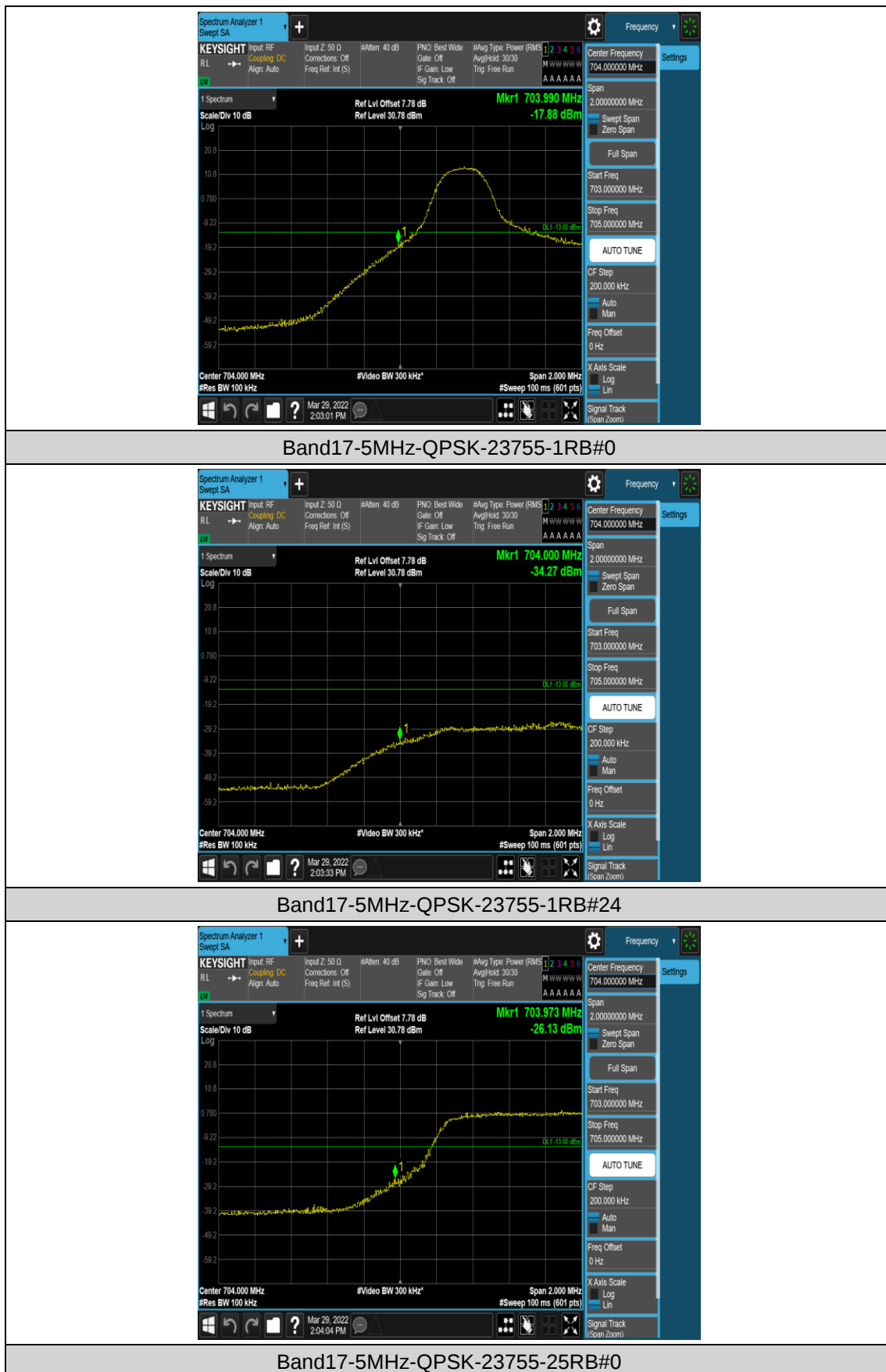


## Appendix D: Band Edge

### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Verdict |
|--------|-----------|------------|---------|------------------|---------|
| Band17 | 5MHz      | QPSK       | 23755   | 1RB#0            | PASS    |
| Band17 | 5MHz      | QPSK       | 23755   | 1RB#24           | PASS    |
| Band17 | 5MHz      | QPSK       | 23755   | 25RB#0           | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 1RB#0            | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 1RB#24           | PASS    |
| Band17 | 5MHz      | QPSK       | 23825   | 25RB#0           | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 1RB#0            | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 1RB#24           | PASS    |
| Band17 | 5MHz      | 16QAM      | 23755   | 25RB#0           | PASS    |
| Band17 | 5MHz      | 16QAM      | 23825   | 1RB#0            | PASS    |
| Band17 | 5MHz      | 16QAM      | 23825   | 1RB#24           | PASS    |
| Band17 | 5MHz      | 16QAM      | 23825   | 25RB#0           | PASS    |
| Band17 | 10MHz     | QPSK       | 23780   | 1RB#0            | PASS    |
| Band17 | 10MHz     | QPSK       | 23780   | 1RB#49           | PASS    |
| Band17 | 10MHz     | QPSK       | 23780   | 50RB#0           | PASS    |
| Band17 | 10MHz     | QPSK       | 23800   | 1RB#0            | PASS    |
| Band17 | 10MHz     | QPSK       | 23800   | 1RB#49           | PASS    |
| Band17 | 10MHz     | QPSK       | 23800   | 50RB#0           | PASS    |
| Band17 | 10MHz     | 16QAM      | 23780   | 1RB#0            | PASS    |
| Band17 | 10MHz     | 16QAM      | 23780   | 1RB#49           | PASS    |
| Band17 | 10MHz     | 16QAM      | 23780   | 50RB#0           | PASS    |
| Band17 | 10MHz     | 16QAM      | 23800   | 1RB#0            | PASS    |
| Band17 | 10MHz     | 16QAM      | 23800   | 1RB#49           | PASS    |
| Band17 | 10MHz     | 16QAM      | 23800   | 50RB#0           | PASS    |

## Test Graphs









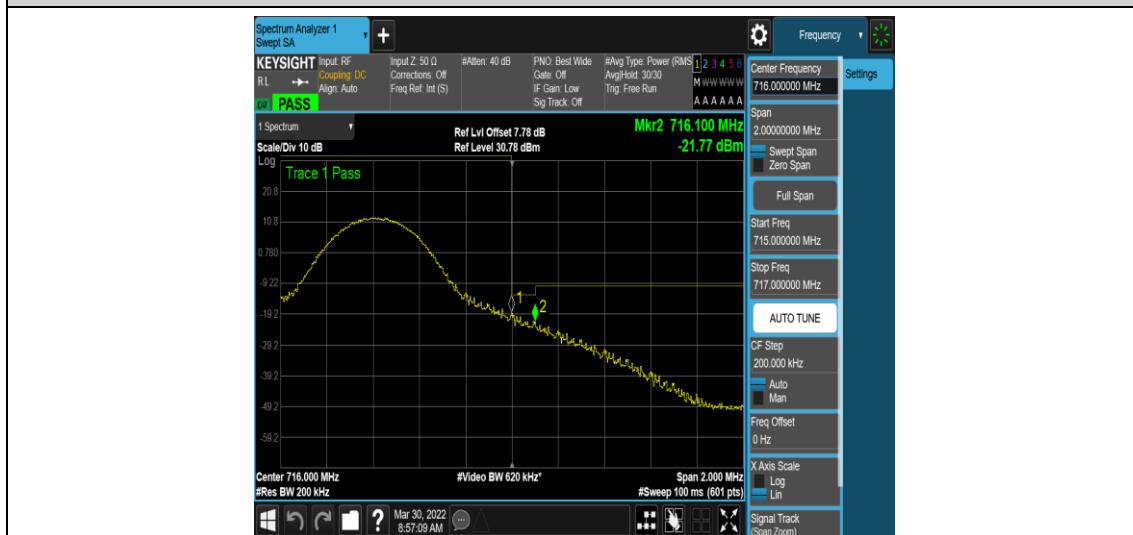








Band17-10MHz-16QAM-23800-1RB#0



Band17-10MHz-16QAM-23800-1RB#49



Band17-10MHz-16QAM-23800-50RB#0