

**Product Name: GEM-OX-GU**

**Model: TE-304B-A12**

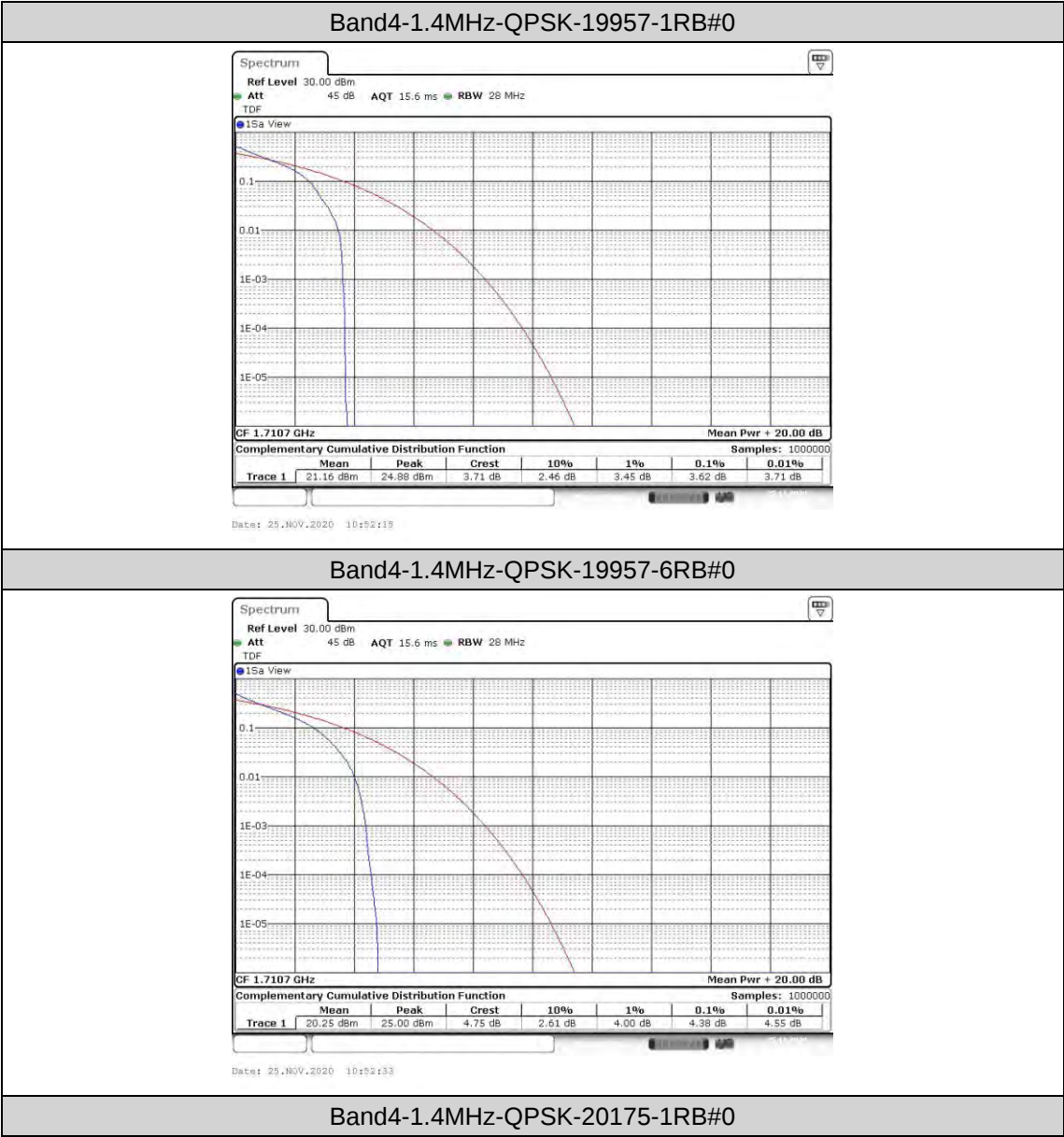
## **Appendix B: Peak-to-Average Ratio(CCDF)**

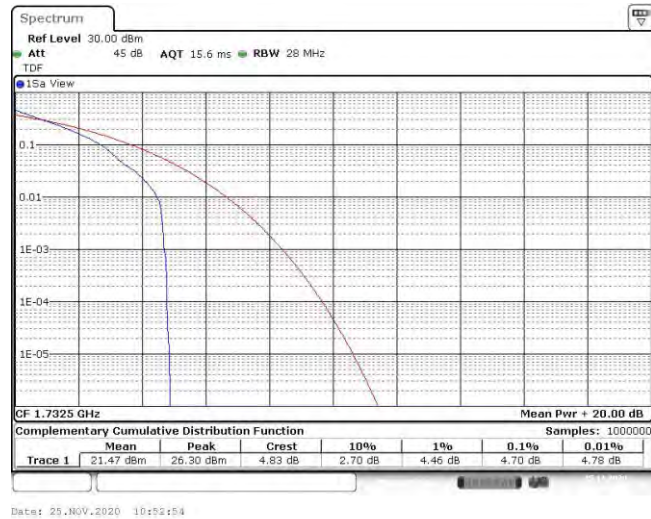
### **Test Result**

| Band  | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|-------|-----------|------------|---------|------------------|------------|-----------|---------|
| Band4 | 1.4MHz    | QPSK       | 19957   | 1RB#0            | 3.62       | 13        | PASS    |
| Band4 | 1.4MHz    | QPSK       | 19957   | 6RB#0            | 4.38       | 13        | PASS    |
| Band4 | 1.4MHz    | QPSK       | 20175   | 1RB#0            | 4.70       | 13        | PASS    |
| Band4 | 1.4MHz    | QPSK       | 20175   | 6RB#0            | 5.36       | 13        | PASS    |
| Band4 | 1.4MHz    | QPSK       | 20393   | 1RB#0            | 4.23       | 13        | PASS    |
| Band4 | 1.4MHz    | QPSK       | 20393   | 6RB#0            | 4.99       | 13        | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 19957   | 1RB#0            | 4.64       | 13        | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 19957   | 6RB#0            | 5.22       | 13        | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 20175   | 1RB#0            | 5.77       | 13        | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 20175   | 6RB#0            | 6.23       | 13        | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 20393   | 1RB#0            | 5.28       | 13        | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 20393   | 6RB#0            | 5.86       | 13        | PASS    |
| Band4 | 3MHz      | QPSK       | 19965   | 15RB#0           | 4.38       | 13        | PASS    |
| Band4 | 3MHz      | QPSK       | 20175   | 15RB#0           | 5.45       | 13        | PASS    |
| Band4 | 3MHz      | QPSK       | 20385   | 15RB#0           | 5.04       | 13        | PASS    |
| Band4 | 3MHz      | 16QAM      | 19965   | 15RB#0           | 5.30       | 13        | PASS    |
| Band4 | 3MHz      | 16QAM      | 20175   | 15RB#0           | 6.35       | 13        | PASS    |
| Band4 | 3MHz      | 16QAM      | 20385   | 15RB#0           | 5.86       | 13        | PASS    |
| Band4 | 5MHz      | QPSK       | 19975   | 25RB#0           | 4.41       | 13        | PASS    |
| Band4 | 5MHz      | QPSK       | 20175   | 25RB#0           | 8.41       | 13        | PASS    |
| Band4 | 5MHz      | QPSK       | 20375   | 25RB#0           | 5.04       | 13        | PASS    |
| Band4 | 5MHz      | 16QAM      | 19975   | 25RB#0           | 5.28       | 13        | PASS    |
| Band4 | 5MHz      | 16QAM      | 20175   | 25RB#0           | 8.46       | 13        | PASS    |
| Band4 | 5MHz      | 16QAM      | 20375   | 25RB#0           | 5.88       | 13        | PASS    |
| Band4 | 10MHz     | QPSK       | 20000   | 50RB#0           | 4.38       | 13        | PASS    |
| Band4 | 10MHz     | QPSK       | 20175   | 50RB#0           | 5.36       | 13        | PASS    |
| Band4 | 10MHz     | QPSK       | 20350   | 50RB#0           | 5.01       | 13        | PASS    |
| Band4 | 10MHz     | 16QAM      | 20000   | 50RB#0           | 5.22       | 13        | PASS    |
| Band4 | 10MHz     | 16QAM      | 20175   | 50RB#0           | 6.23       | 13        | PASS    |
| Band4 | 10MHz     | 16QAM      | 20350   | 50RB#0           | 5.88       | 13        | PASS    |
| Band4 | 15MHz     | QPSK       | 20025   | 75RB#0           | 4.55       | 13        | PASS    |
| Band4 | 15MHz     | QPSK       | 20175   | 75RB#0           | 5.42       | 13        | PASS    |

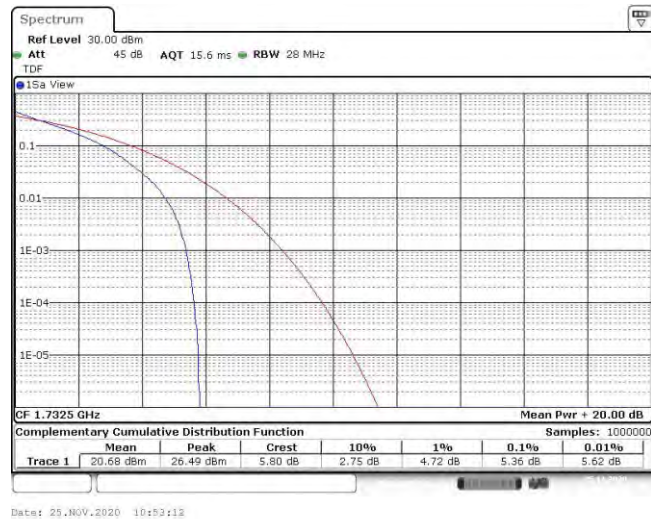
|       |       |       |       |         |      |    |      |
|-------|-------|-------|-------|---------|------|----|------|
| Band4 | 15MHz | QPSK  | 20325 | 75RB#0  | 5.19 | 13 | PASS |
| Band4 | 15MHz | 16QAM | 20025 | 75RB#0  | 5.33 | 13 | PASS |
| Band4 | 15MHz | 16QAM | 20175 | 75RB#0  | 6.23 | 13 | PASS |
| Band4 | 15MHz | 16QAM | 20325 | 75RB#0  | 5.97 | 13 | PASS |
| Band4 | 20MHz | QPSK  | 20050 | 100RB#0 | 4.64 | 13 | PASS |
| Band4 | 20MHz | QPSK  | 20175 | 100RB#0 | 5.16 | 13 | PASS |
| Band4 | 20MHz | QPSK  | 20300 | 100RB#0 | 4.96 | 13 | PASS |
| Band4 | 20MHz | 16QAM | 20050 | 100RB#0 | 8.46 | 13 | PASS |
| Band4 | 20MHz | 16QAM | 20175 | 100RB#0 | 6.09 | 13 | PASS |
| Band4 | 20MHz | 16QAM | 20300 | 100RB#0 | 5.91 | 13 | PASS |

Test Graphs





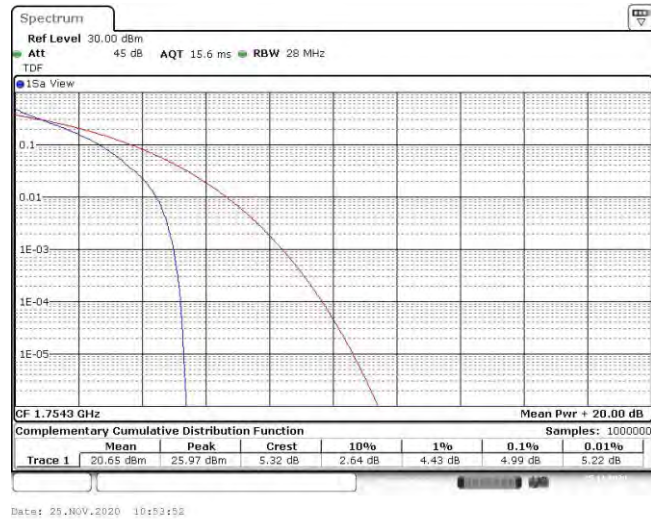
Band4-1.4MHz-QPSK-20175-6RB#0



Band4-1.4MHz-QPSK-20393-1RB#0



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



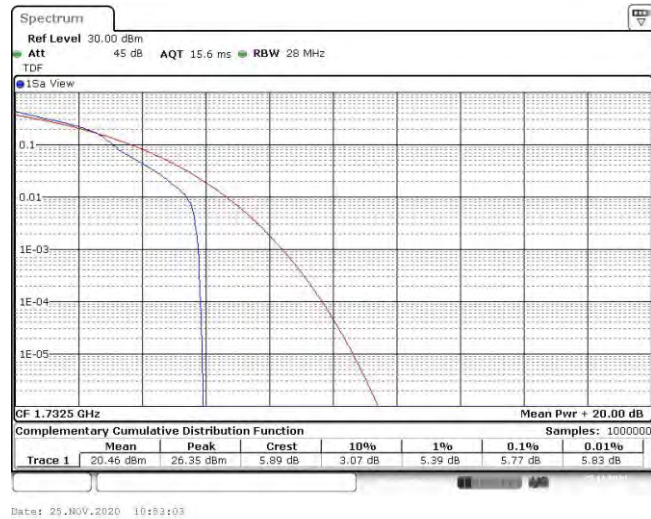
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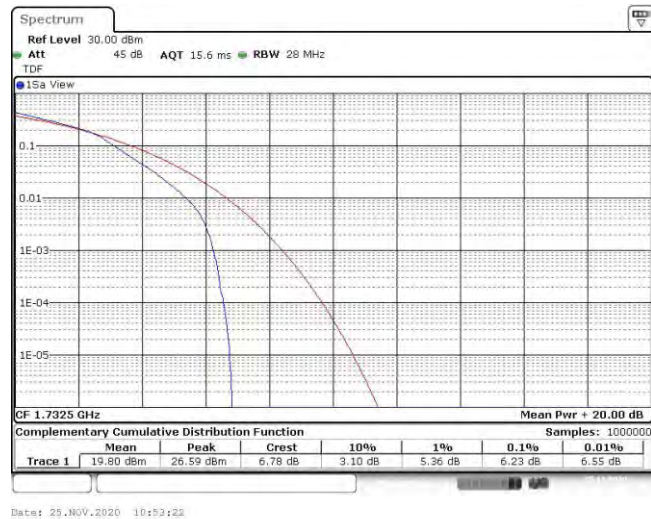
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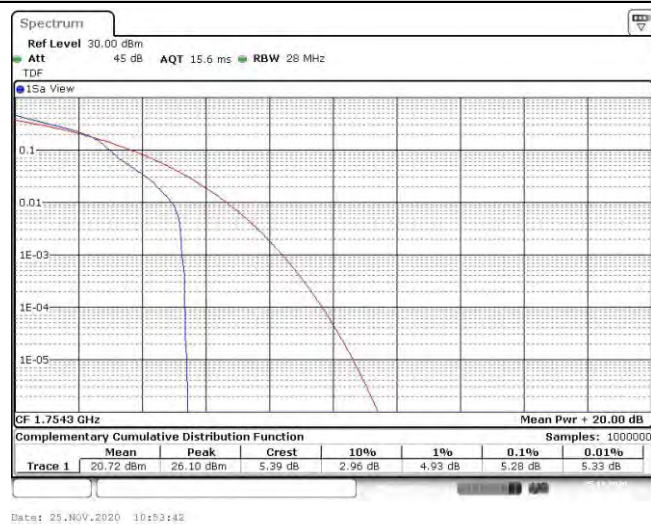
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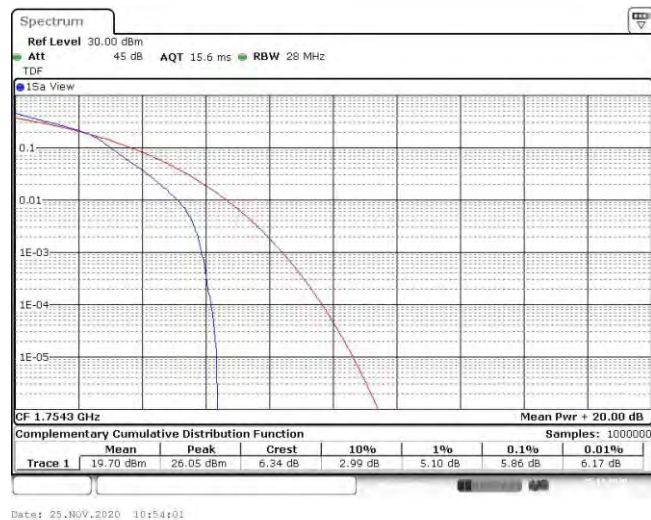
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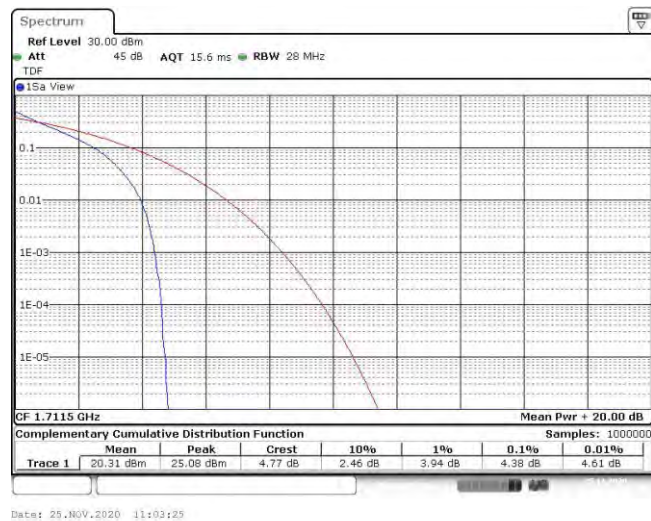
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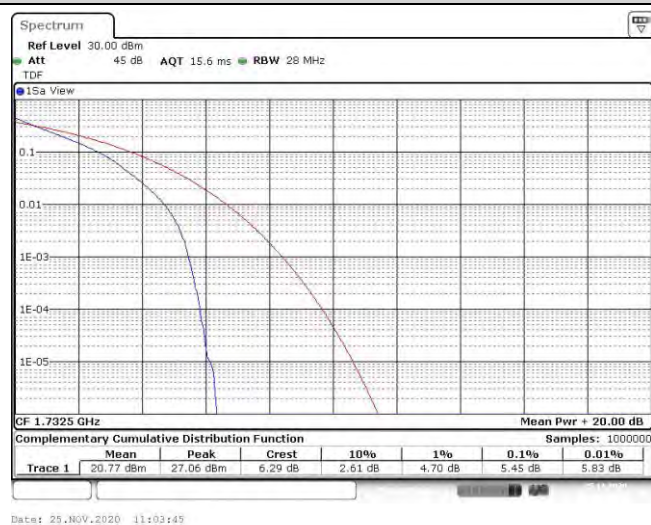
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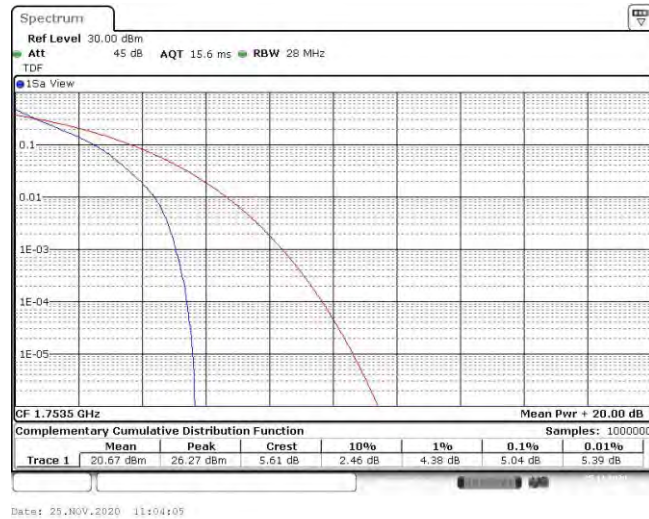
Band4-3MHz-QPSK-19965-15RB#0



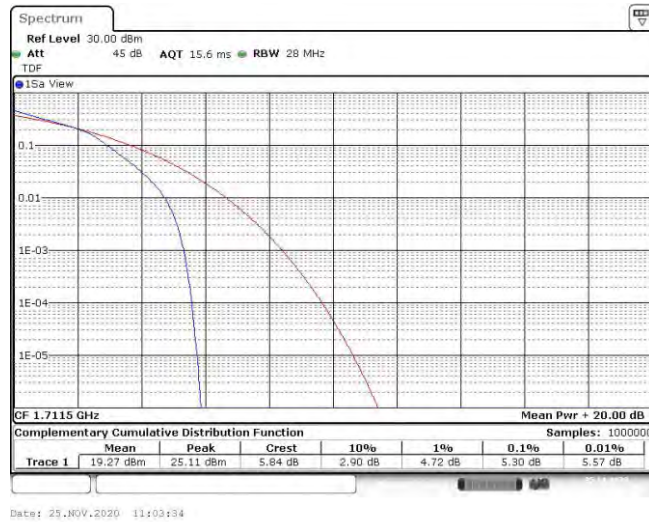
Band4-3MHz-QPSK-20175-15RB#0



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



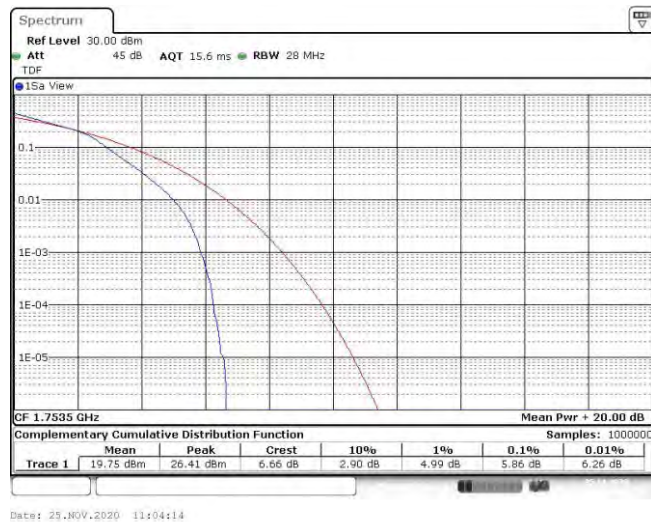
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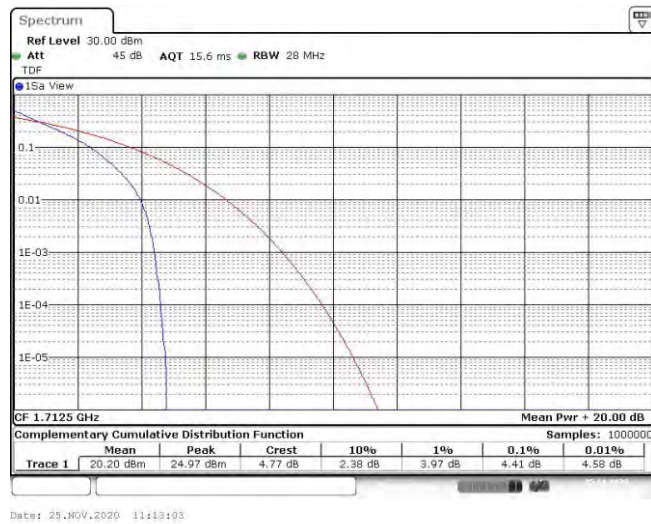
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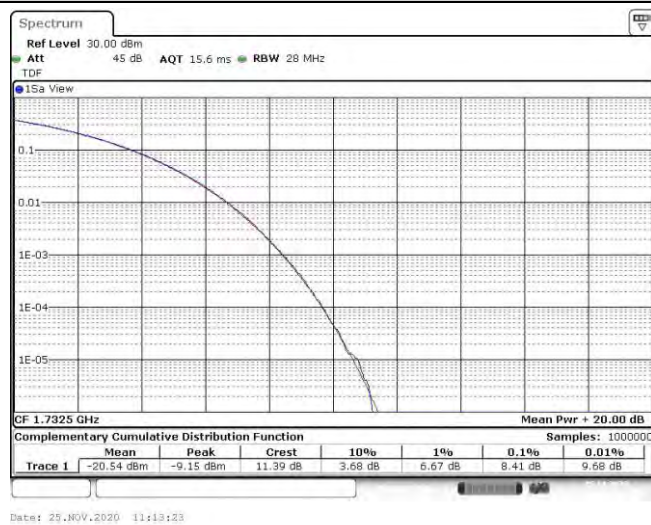
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Band4-5MHz-QPSK-19975-25RB#0



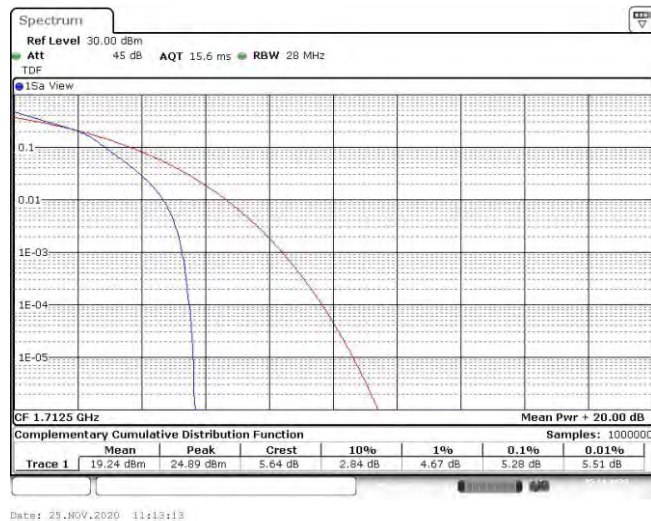
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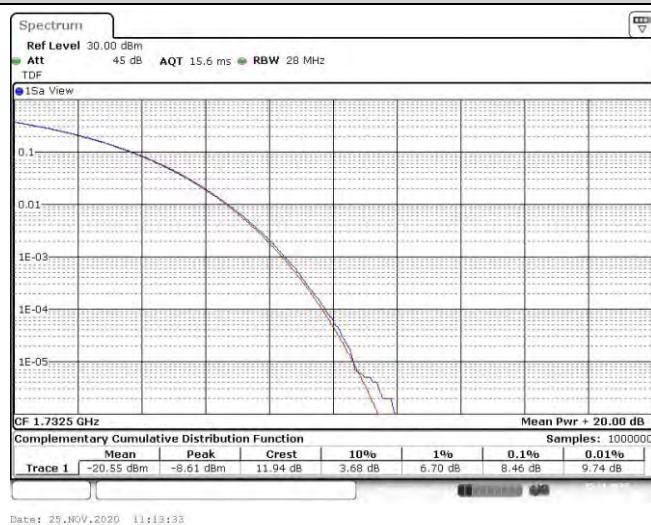
Band4-5MHz-QPSK-20375-25RB#0



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



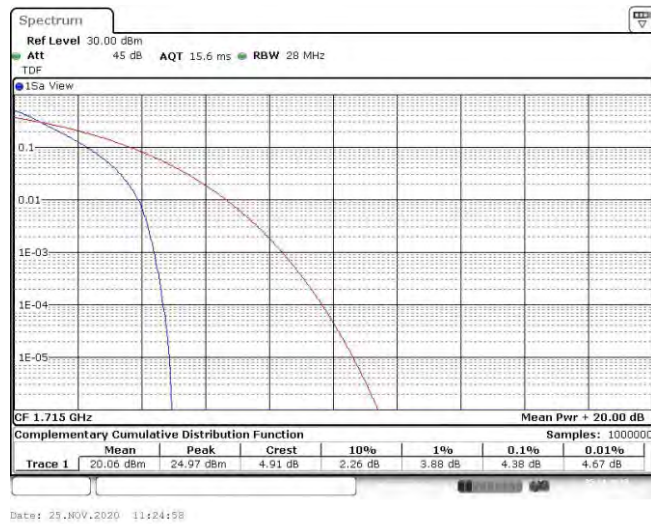
Band4-5MHz-16QAM-20175-25RB#0



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



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



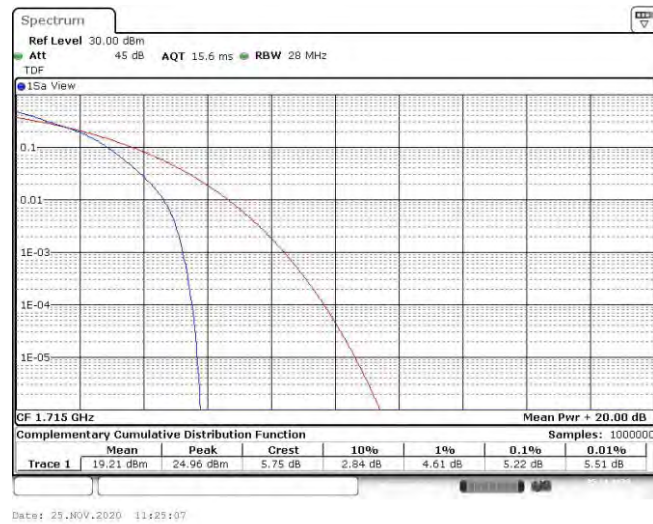
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Band4-10MHz-QPSK-20350-50RB#0



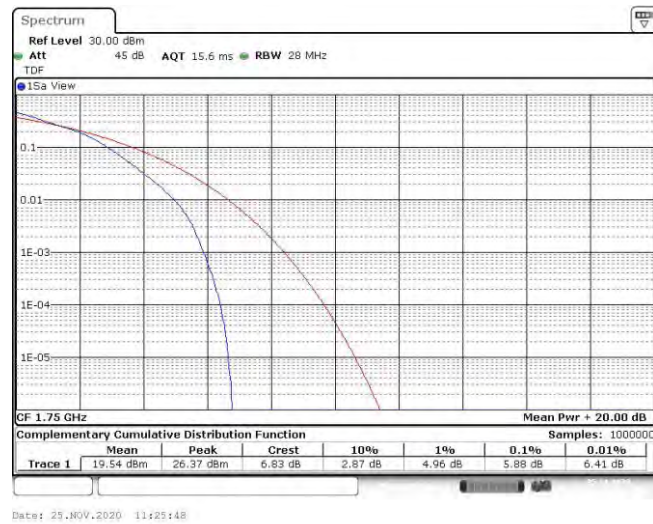
Band4-10MHz-16QAM-20000-50RB#0



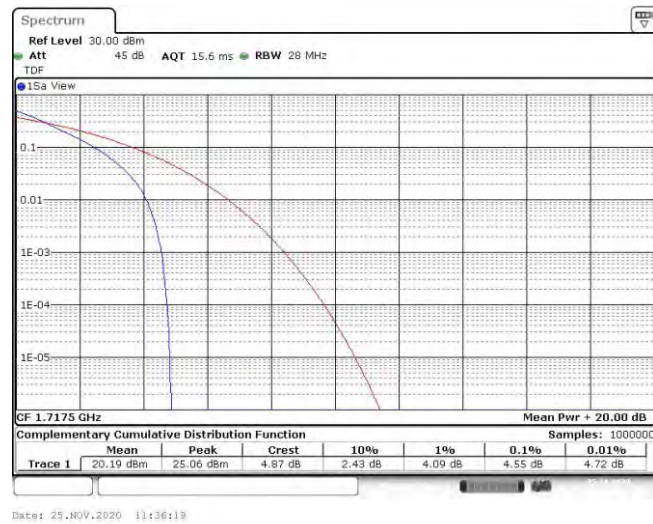
Band4-10MHz-16QAM-20175-50RB#0



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



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



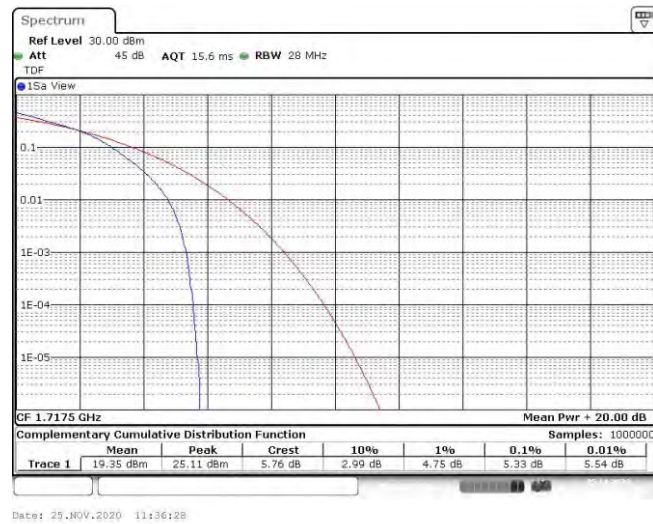
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### Band4-15MHz-QPSK-20325-75RB#0



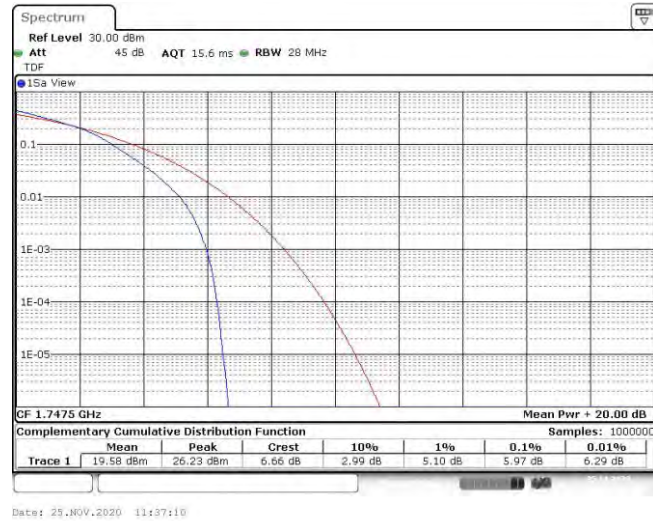
Band4-15MHz-16QAM-20025-75RB#0



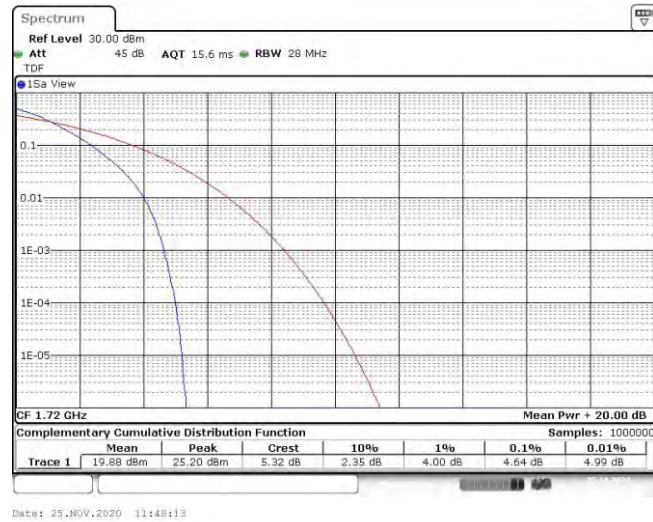
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Band4-15MHz-16QAM-20325-75RB#0



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



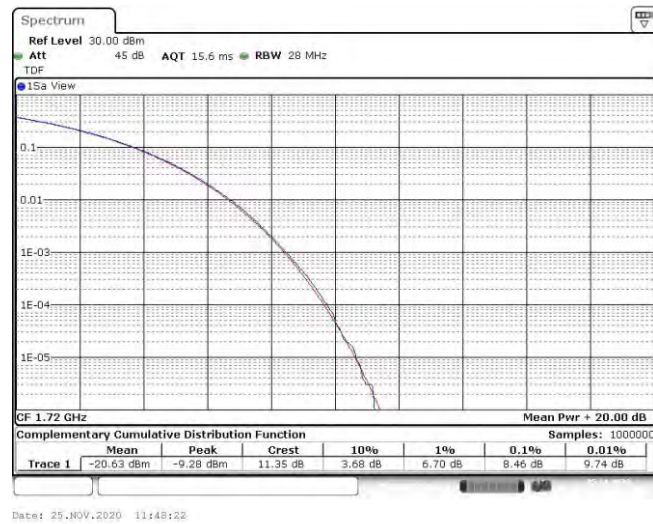
Band4-20MHz-QPSK-20175-100RB#0



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



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



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



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



## Appendix C: 26dB Bandwidth and Occupied Bandwidth

### Test Result

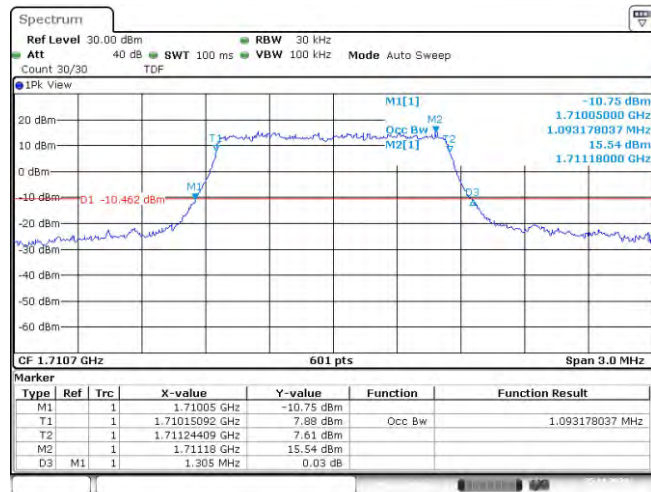
| Band  | Bandwidth | Modulation | Channel | RB Configuration | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|-------|-----------|------------|---------|------------------|--------------------------|----------------------|---------|
| Band4 | 1.4MHz    | QPSK       | 19957   | 6RB#0            | 1.093                    | 1.305                | PASS    |
| Band4 | 1.4MHz    | QPSK       | 20175   | 6RB#0            | 1.103                    | 1.310                | PASS    |
| Band4 | 1.4MHz    | QPSK       | 20393   | 6RB#0            | 1.098                    | 1.325                | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 19957   | 6RB#0            | 1.103                    | 1.335                | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 20175   | 6RB#0            | 1.088                    | 1.290                | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 20393   | 6RB#0            | 1.098                    | 1.305                | PASS    |
| Band4 | 3MHz      | QPSK       | 19965   | 15RB#0           | 2.705                    | 3.000                | PASS    |
| Band4 | 3MHz      | QPSK       | 20175   | 15RB#0           | 2.705                    | 2.980                | PASS    |
| Band4 | 3MHz      | QPSK       | 20385   | 15RB#0           | 2.705                    | 3.000                | PASS    |
| Band4 | 3MHz      | 16QAM      | 19965   | 15RB#0           | 2.696                    | 3.010                | PASS    |
| Band4 | 3MHz      | 16QAM      | 20175   | 15RB#0           | 2.696                    | 2.970                | PASS    |
| Band4 | 3MHz      | 16QAM      | 20385   | 15RB#0           | 2.696                    | 3.000                | PASS    |
| Band4 | 5MHz      | QPSK       | 19975   | 25RB#0           | 4.515                    | 5.030                | PASS    |
| Band4 | 5MHz      | QPSK       | 20175   | 25RB#0           | 4.515                    | 5.050                | PASS    |
| Band4 | 5MHz      | QPSK       | 20375   | 25RB#0           | 4.505                    | 5.060                | PASS    |
| Band4 | 5MHz      | 16QAM      | 19975   | 25RB#0           | 4.505                    | 5.010                | PASS    |
| Band4 | 5MHz      | 16QAM      | 20175   | 25RB#0           | 4.505                    | 5.000                | PASS    |
| Band4 | 5MHz      | 16QAM      | 20375   | 25RB#0           | 4.505                    | 5.010                | PASS    |
| Band4 | 10MHz     | QPSK       | 20000   | 50RB#0           | 8.985                    | 10.000               | PASS    |
| Band4 | 10MHz     | QPSK       | 20175   | 50RB#0           | 8.985                    | 9.933                | PASS    |
| Band4 | 10MHz     | QPSK       | 20350   | 50RB#0           | 8.952                    | 10.000               | PASS    |
| Band4 | 10MHz     | 16QAM      | 20000   | 50RB#0           | 8.952                    | 9.867                | PASS    |
| Band4 | 10MHz     | 16QAM      | 20175   | 50RB#0           | 8.952                    | 10.033               | PASS    |
| Band4 | 10MHz     | 16QAM      | 20350   | 50RB#0           | 8.952                    | 9.867                | PASS    |
| Band4 | 15MHz     | QPSK       | 20025   | 75RB#0           | 13.378                   | 14.850               | PASS    |
| Band4 | 15MHz     | QPSK       | 20175   | 75RB#0           | 13.478                   | 14.950               | PASS    |
| Band4 | 15MHz     | QPSK       | 20325   | 75RB#0           | 13.428                   | 14.850               | PASS    |
| Band4 | 15MHz     | 16QAM      | 20025   | 75RB#0           | 13.428                   | 14.750               | PASS    |
| Band4 | 15MHz     | 16QAM      | 20175   | 75RB#0           | 13.478                   | 14.850               | PASS    |
| Band4 | 15MHz     | 16QAM      | 20325   | 75RB#0           | 13.428                   | 14.800               | PASS    |
| Band4 | 20MHz     | QPSK       | 20050   | 100RB#0          | 17.903                   | 19.800               | PASS    |
| Band4 | 20MHz     | QPSK       | 20175   | 100RB#0          | 17.97                    | 19.800               | PASS    |
| Band4 | 20MHz     | QPSK       | 20300   | 100RB#0          | 17.903                   | 19.733               | PASS    |

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|       |       |       |       |         |        |        |      |
|-------|-------|-------|-------|---------|--------|--------|------|
| Band4 | 20MHz | 16QAM | 20050 | 100RB#0 | 17.97  | 19.667 | PASS |
| Band4 | 20MHz | 16QAM | 20175 | 100RB#0 | 18.037 | 19.867 | PASS |
| Band4 | 20MHz | 16QAM | 20300 | 100RB#0 | 17.97  | 19.800 | PASS |

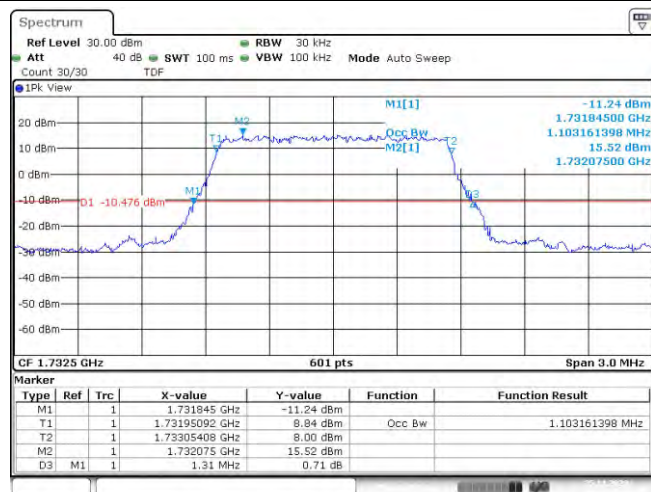
## Test Graphs

Band4-1.4MHz-QPSK-19957-6RB#0-1.093



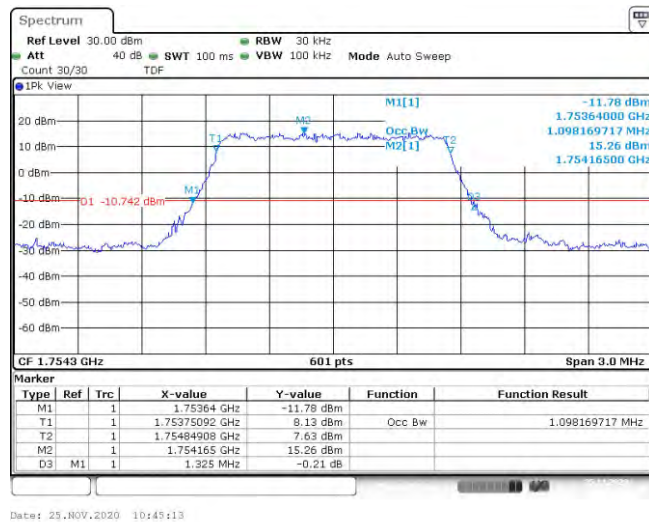
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Band4-1.4MHz-QPSK-20175-6RB#0-1.103

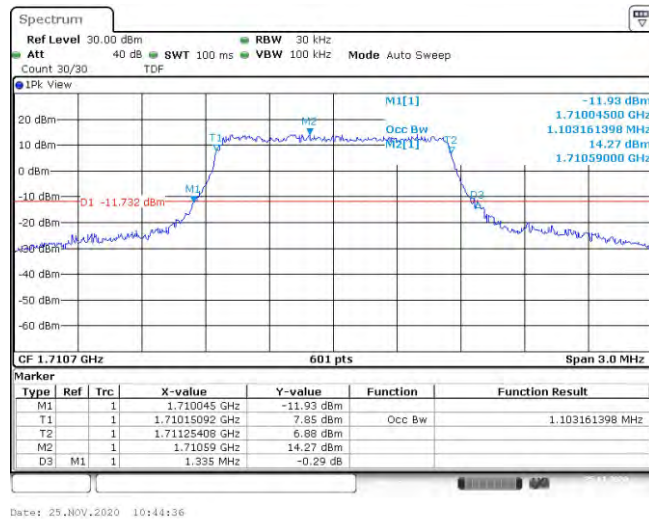


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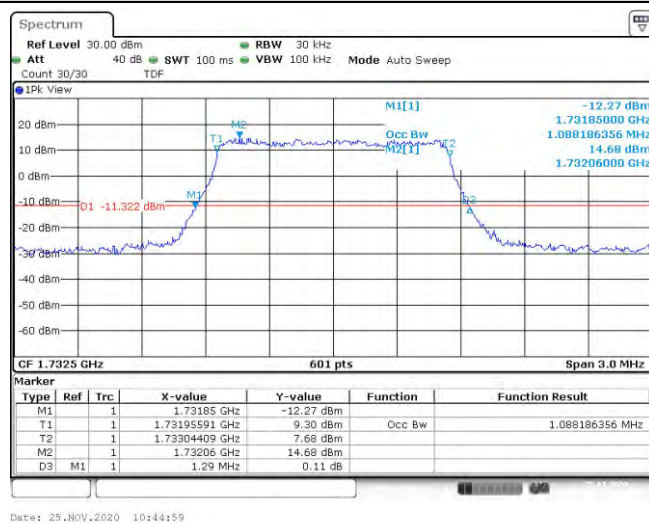
Band4-1.4MHz-QPSK-20393-6RB#0-1.098



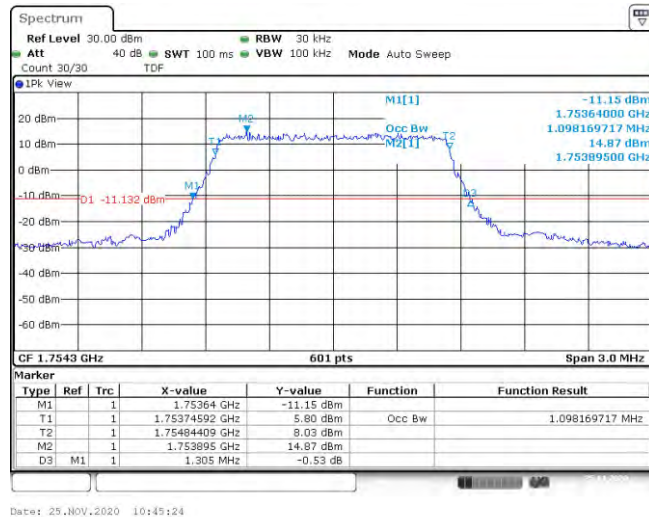
Band4-1.4MHz-16QAM-19957-6RB#0-1.103



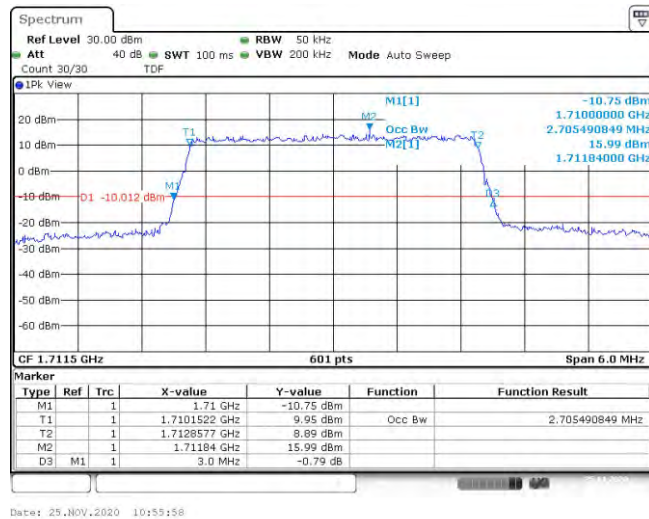
Band4-1.4MHz-16QAM-20175-6RB#0-1.088



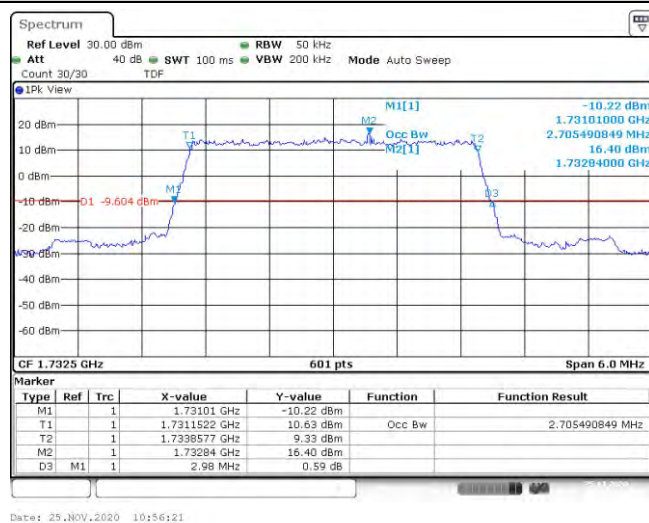
Band4-1.4MHz-16QAM-20393-6RB#0-1.098



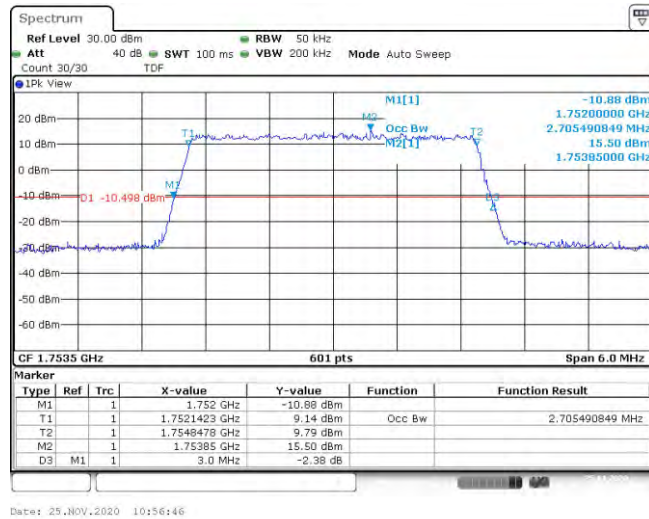
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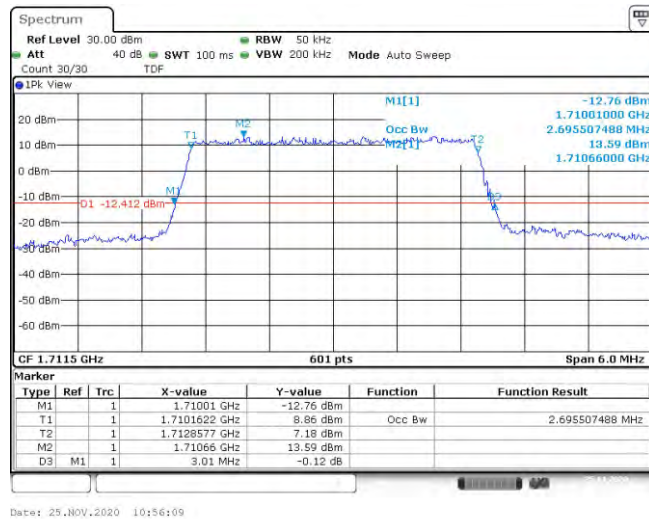
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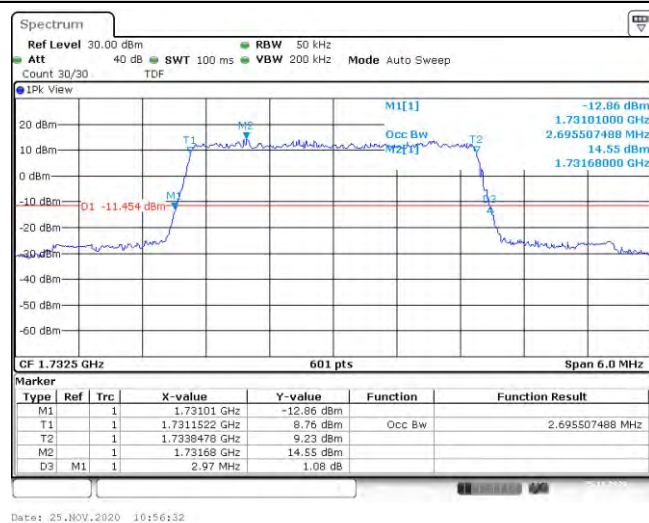
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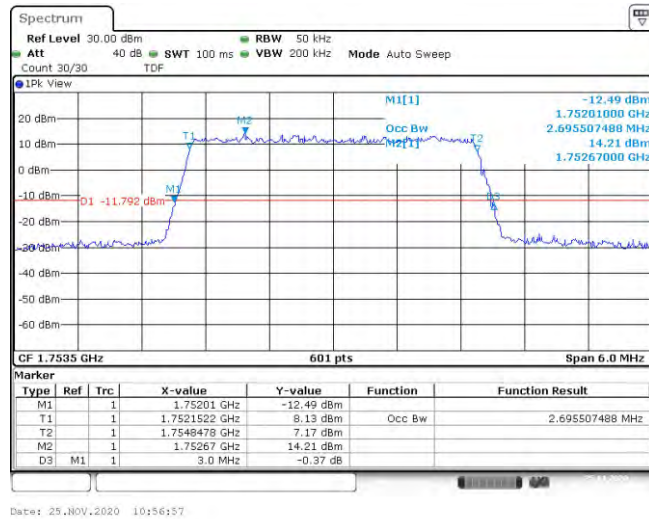
Band4-3MHz-16QAM-19965-15RB#0-2.696



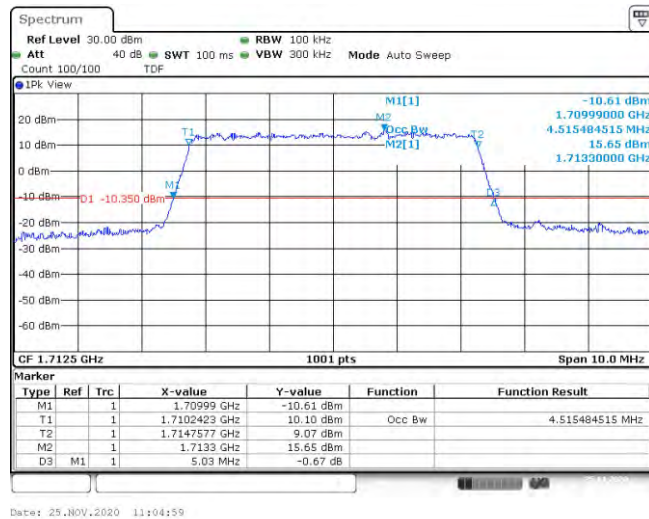
Band4-3MHz-16QAM-20175-15RB#0-2.696



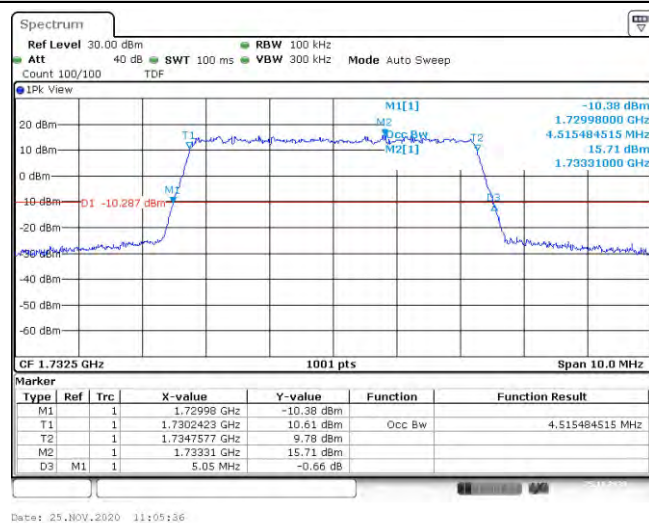
Band4-3MHz-16QAM-20385-15RB#0-2.696



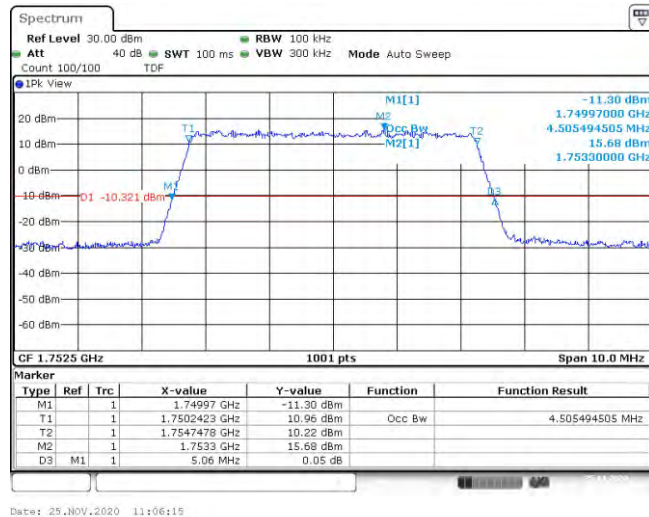
## Band4-5MHz-QPSK-19975-25RB#0-4.515



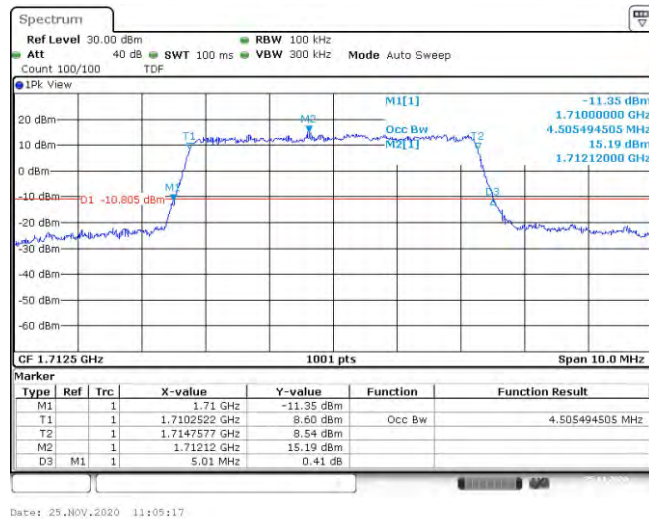
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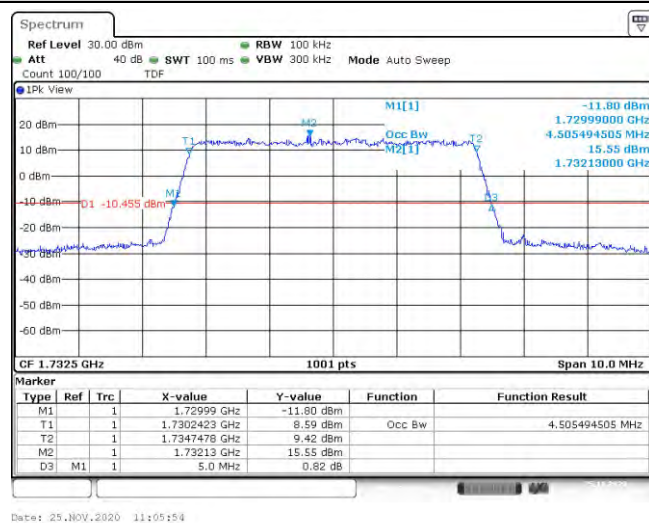
## Band4-5MHz-QPSK-20375-25RB#0-4.505



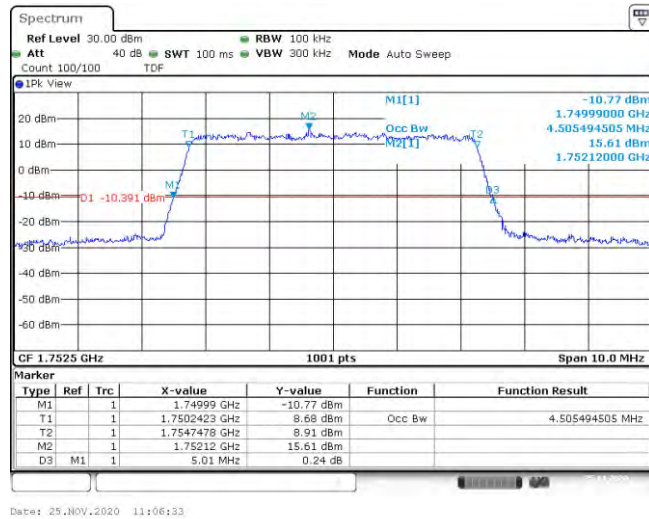
## Band4-5MHz-16QAM-19975-25RB#0-4.505



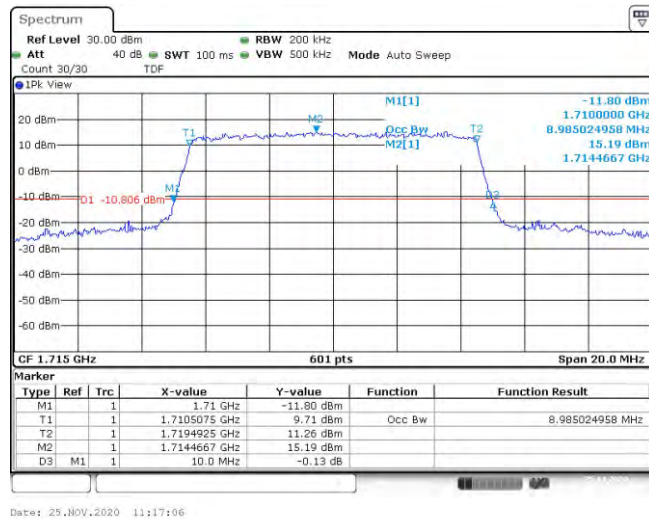
## Band4-5MHz-16QAM-20175-25RB#0-4.505



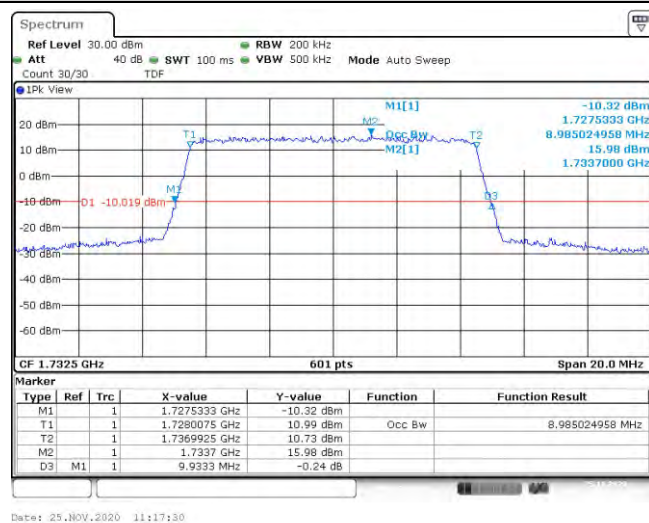
## Band4-5MHz-16QAM-20375-25RB#0-4.505



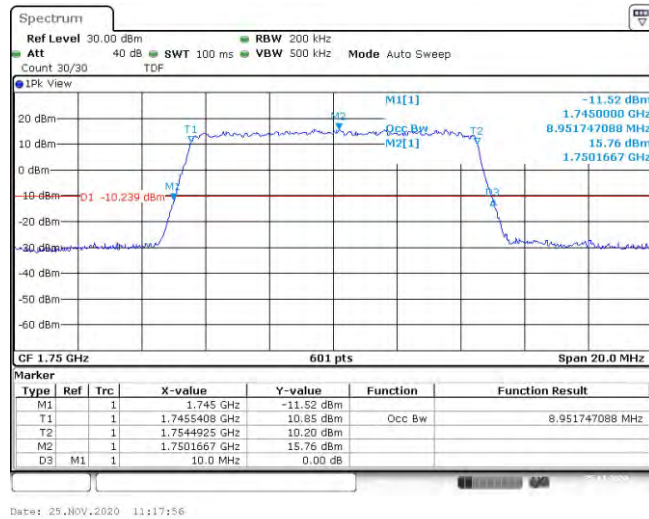
## Band4-10MHz-QPSK-20000-50RB#0-8.985



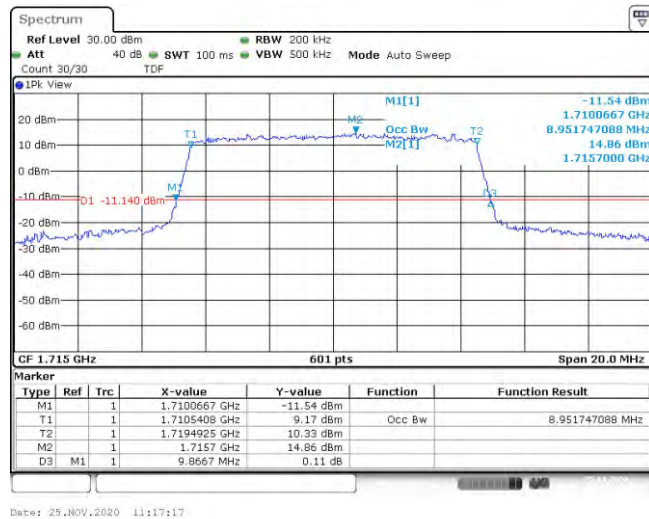
## Band4-10MHz-QPSK-20175-50RB#0-8.985



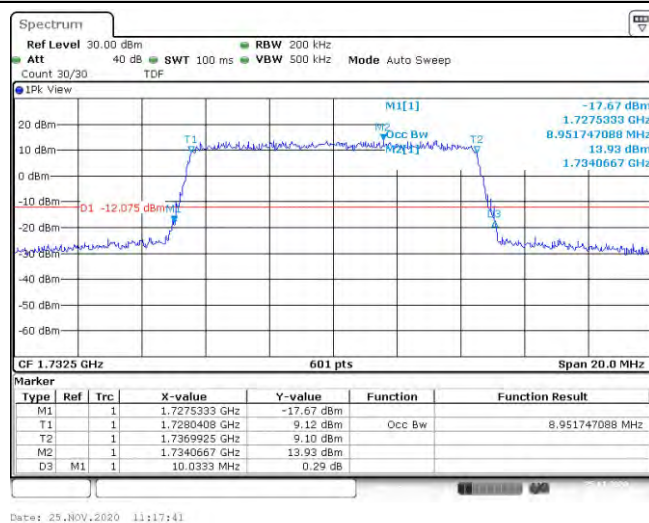
## Band4-10MHz-QPSK-20350-50RB#0-8.952



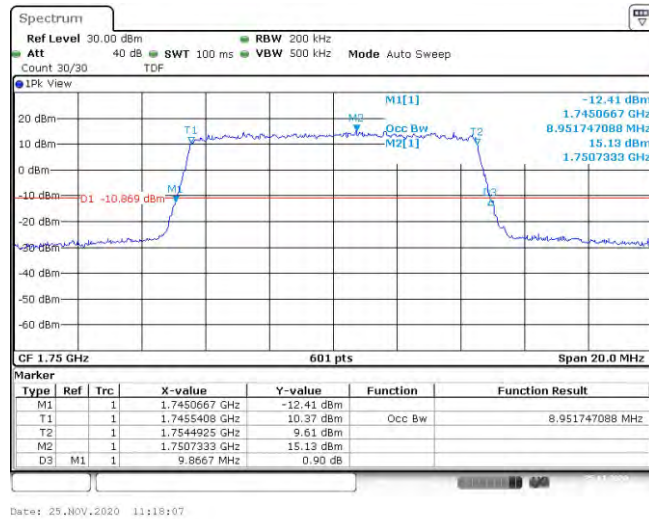
Band4-10MHz-16QAM-20000-50RB#0-8.952



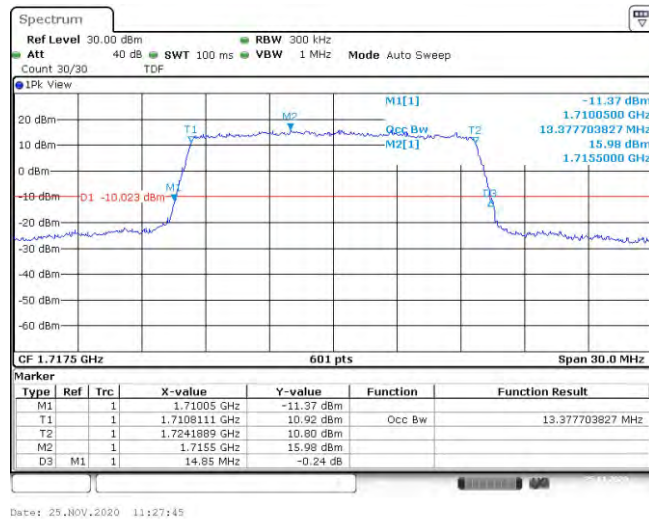
Band4-10MHz-16QAM-20175-50RB#0-8.952



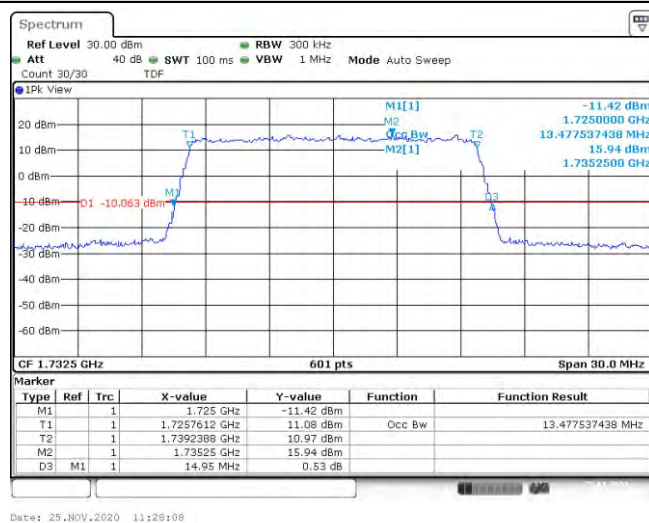
Band4-10MHz-16QAM-20350-50RB#0-8.952



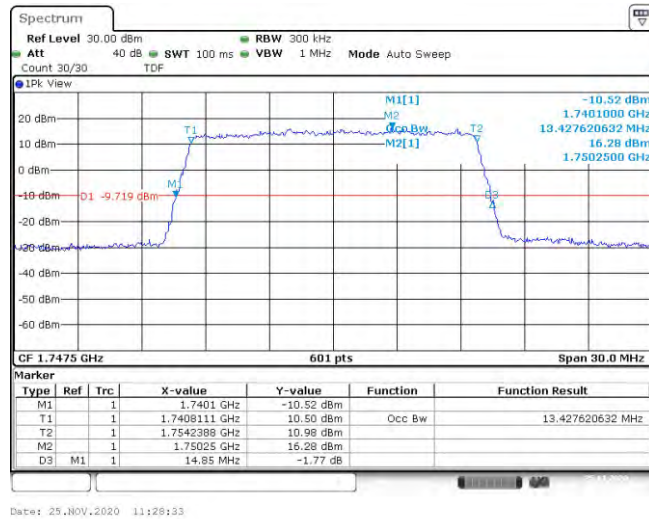
### Band4-15MHz-QPSK-20025-75RB#0-13.378



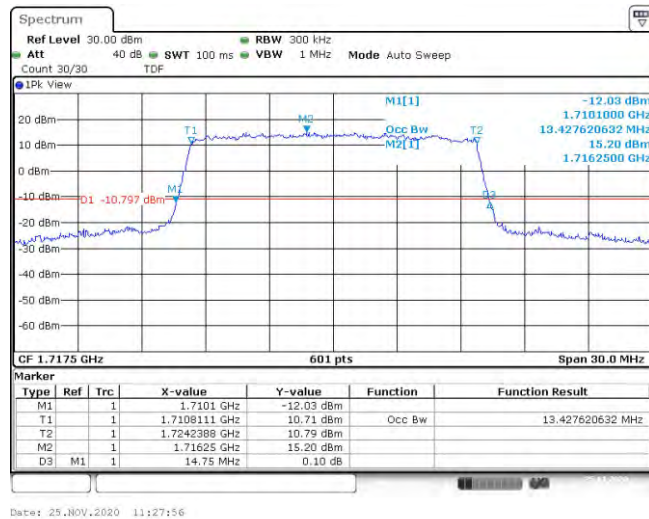
### Band4-15MHz-QPSK-20175-75RB#0-13.478



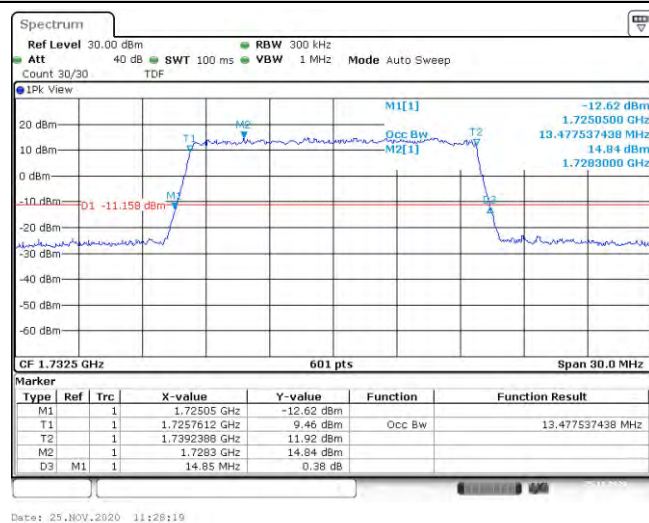
### Band4-15MHz-QPSK-20325-75RB#0-13.428



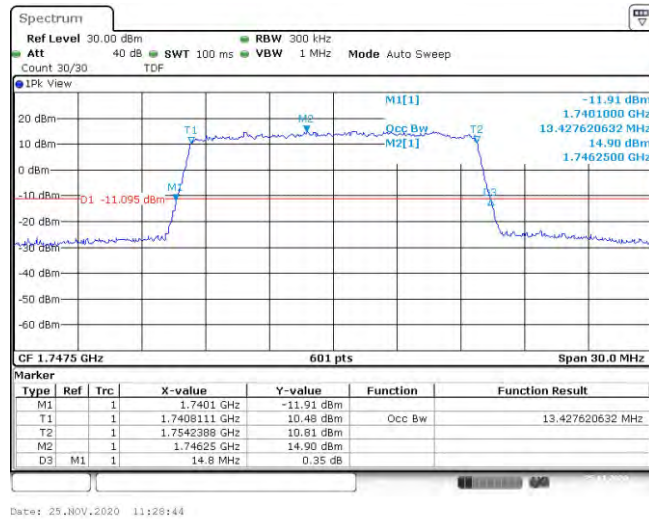
Band4-15MHz-16QAM-20025-75RB#0-13.428



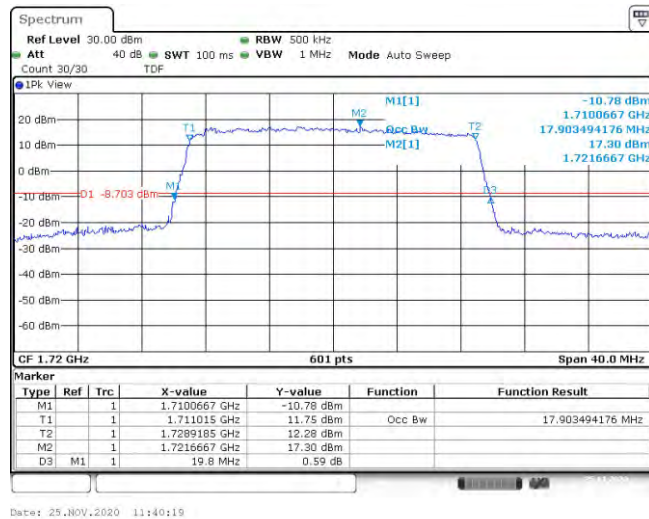
Band4-15MHz-16QAM-20175-75RB#0-13.478



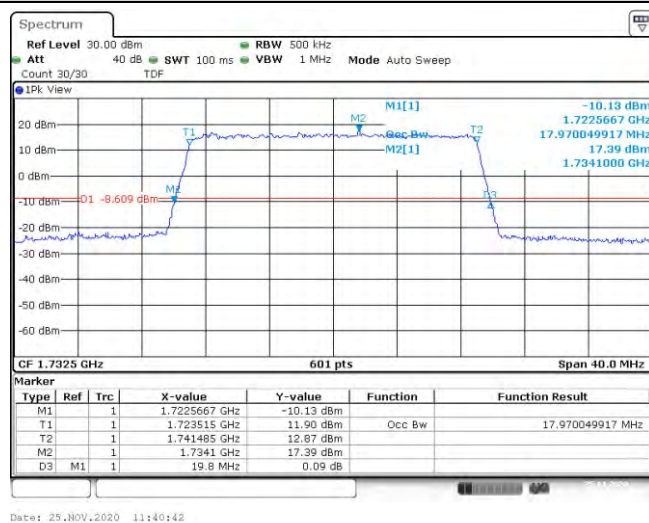
Band4-15MHz-16QAM-20325-75RB#0-13.428



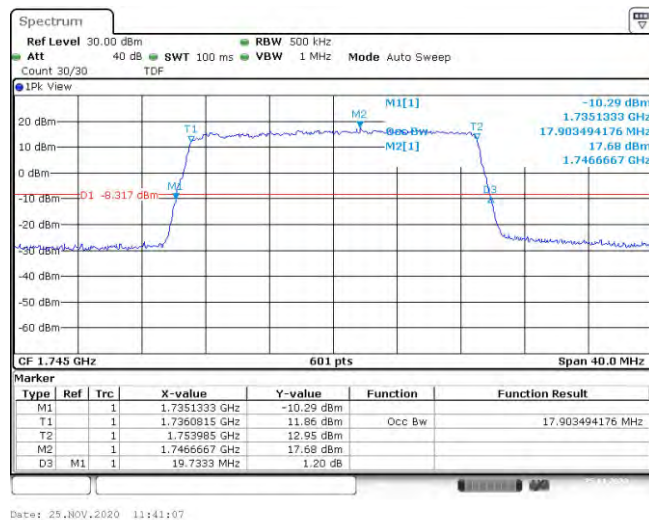
### Band4-20MHz-QPSK-20050-100RB#0-17.903



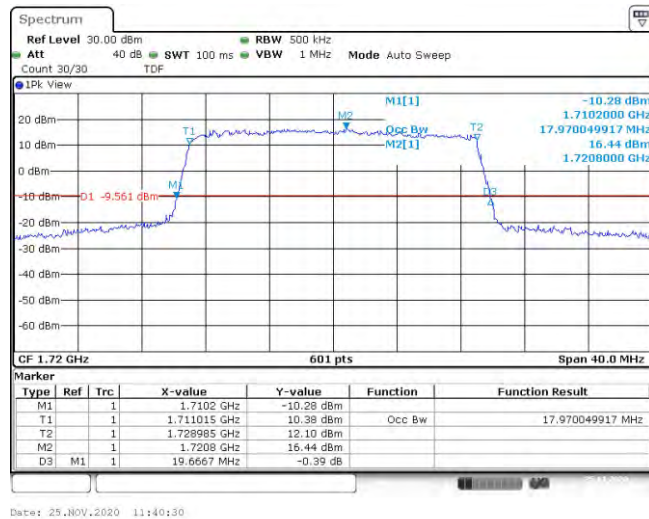
### Band4-20MHz-QPSK-20175-100RB#0-17.97



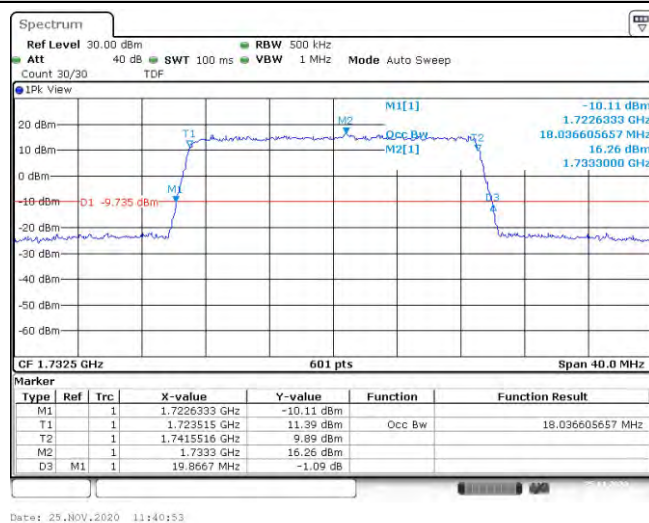
### Band4-20MHz-QPSK-20300-100RB#0-17.903



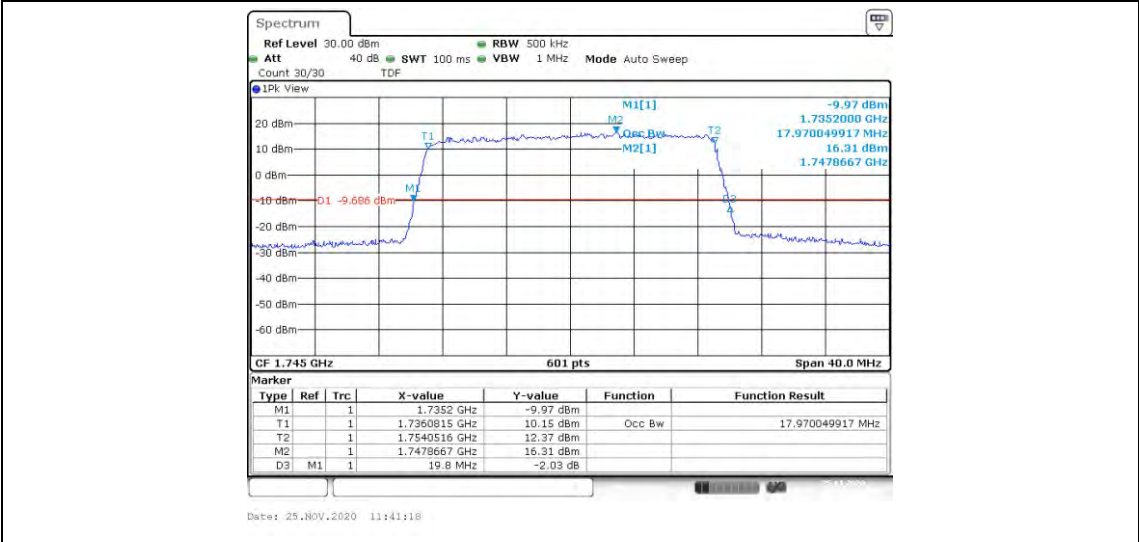
### Band4-20MHz-16QAM-20050-100RB#0-17.97



### Band4-20MHz-16QAM-20175-100RB#0-18.037



### Band4-20MHz-16QAM-20300-100RB#0-17.97



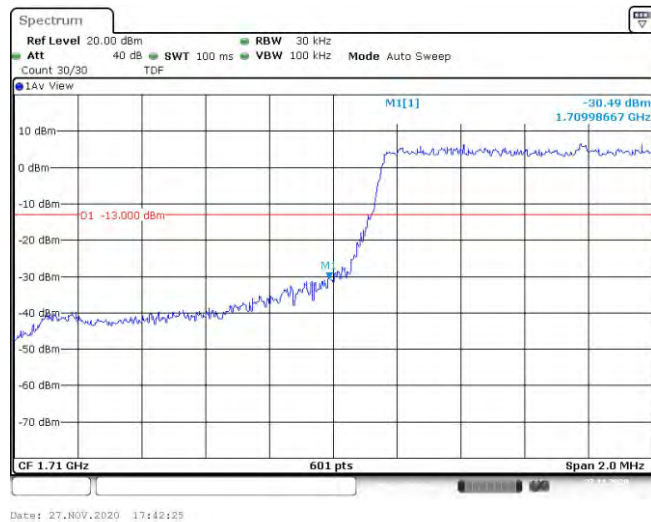
## Appendix D: Band Edge

### Test Result

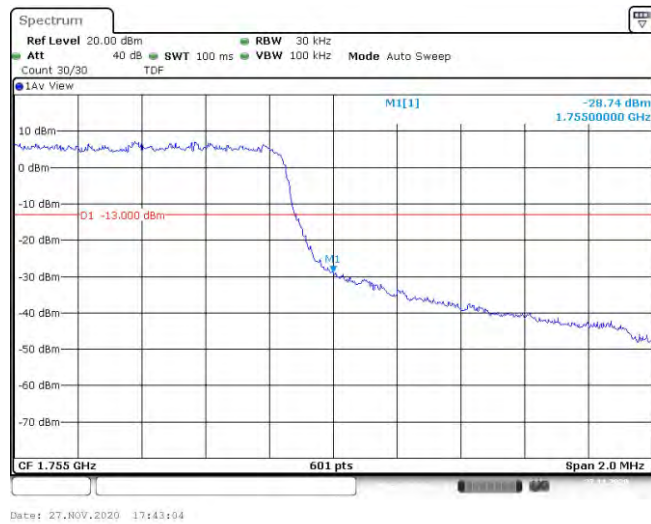
| Band  | Bandwidth | Modulation | Channel | RB Configuration | Result(dBm) | Verdict |
|-------|-----------|------------|---------|------------------|-------------|---------|
| Band4 | 1.4MHz    | QPSK       | 19957   | 6RB#0            | -30.49      | PASS    |
| Band4 | 1.4MHz    | QPSK       | 20393   | 6RB#0            | -28.74      | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 19957   | 6RB#0            | -30.49      | PASS    |
| Band4 | 1.4MHz    | 16QAM      | 20393   | 6RB#0            | -29.16      | PASS    |
| Band4 | 3MHz      | QPSK       | 19965   | 15RB#0           | -23.57      | PASS    |
| Band4 | 3MHz      | QPSK       | 20385   | 15RB#0           | -26.02      | PASS    |
| Band4 | 3MHz      | 16QAM      | 19965   | 15RB#0           | -27.32      | PASS    |
| Band4 | 3MHz      | 16QAM      | 20385   | 15RB#0           | -25.45      | PASS    |
| Band4 | 5MHz      | QPSK       | 19975   | 25RB#0           | -29.39      | PASS    |
| Band4 | 5MHz      | QPSK       | 20375   | 25RB#0           | -31.91      | PASS    |
| Band4 | 5MHz      | 16QAM      | 19975   | 25RB#0           | -32.11      | PASS    |
| Band4 | 5MHz      | 16QAM      | 20375   | 25RB#0           | -31.25      | PASS    |
| Band4 | 10MHz     | QPSK       | 20000   | 50RB#0           | -34.91      | PASS    |
| Band4 | 10MHz     | QPSK       | 20350   | 50RB#0           | -35.89      | PASS    |
| Band4 | 10MHz     | 16QAM      | 20000   | 50RB#0           | -35.51      | PASS    |
| Band4 | 10MHz     | 16QAM      | 20350   | 50RB#0           | -37.23      | PASS    |
| Band4 | 15MHz     | QPSK       | 20025   | 75RB#0           | -34.69      | PASS    |
| Band4 | 15MHz     | QPSK       | 20325   | 75RB#0           | -37.97      | PASS    |
| Band4 | 15MHz     | 16QAM      | 20025   | 75RB#0           | -35.53      | PASS    |
| Band4 | 15MHz     | 16QAM      | 20325   | 75RB#0           | -38.61      | PASS    |
| Band4 | 20MHz     | QPSK       | 20050   | 100RB#0          | -33.39      | PASS    |
| Band4 | 20MHz     | QPSK       | 20300   | 100RB#0          | -37.77      | PASS    |
| Band4 | 20MHz     | 16QAM      | 20050   | 100RB#0          | -34.24      | PASS    |
| Band4 | 20MHz     | 16QAM      | 20300   | 100RB#0          | -37.40      | PASS    |

### Test Graphs

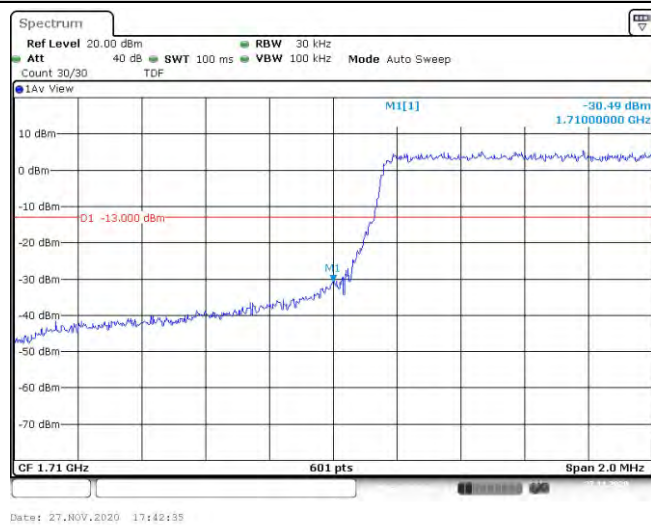
Band4-1.4MHz-QPSK-19957-6RB#0



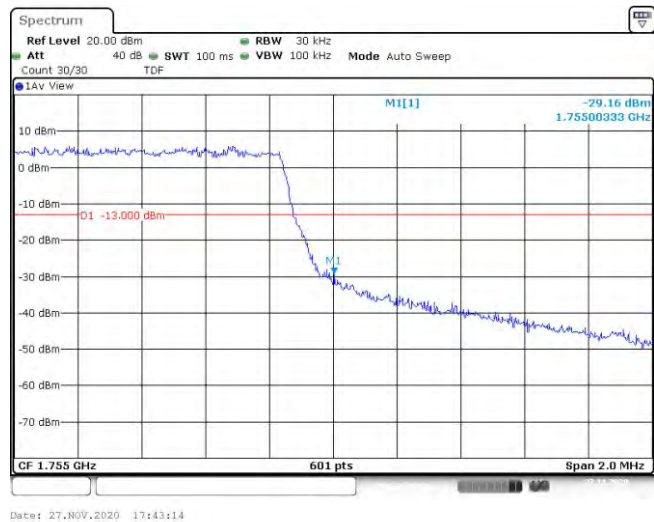
Band4-1.4MHz-QPSK-20393-6RB#0



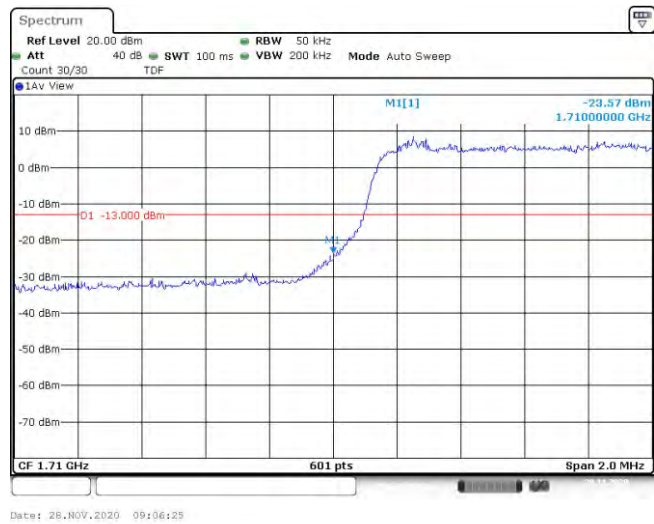
Band4-1.4MHz-16QAM-19957-6RB#0



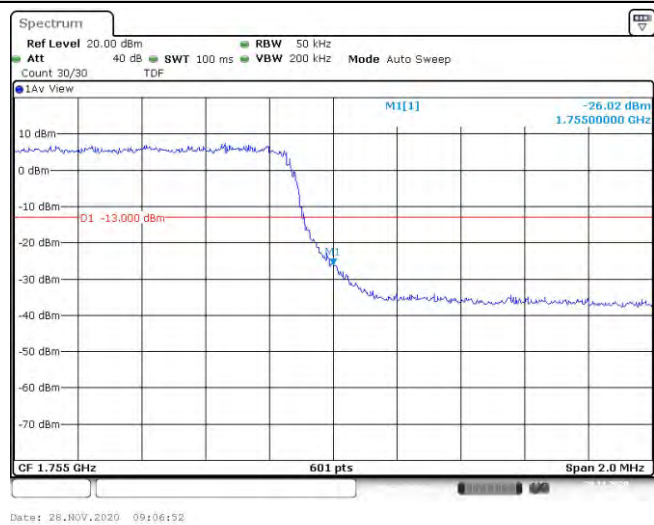
Band4-1.4MHz-16QAM-20393-6RB#0



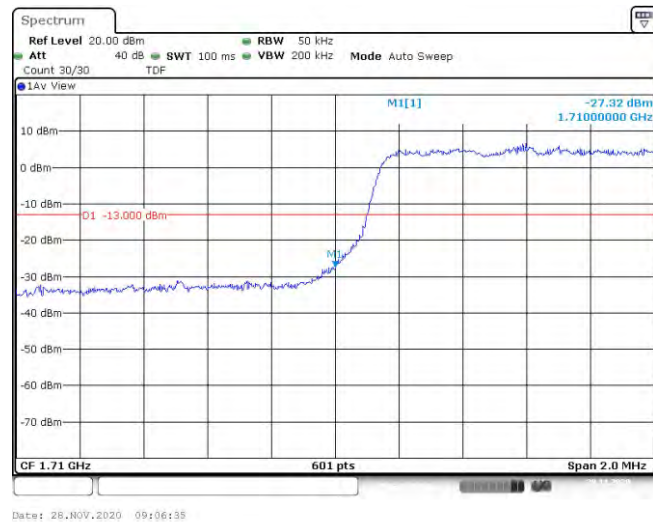
Band4-3MHz-QPSK-19965-15RB#0



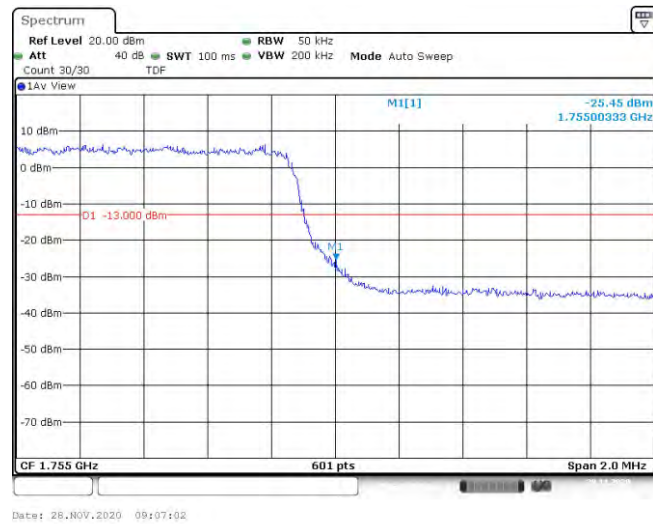
Band4-3MHz-QPSK-20385-15RB#0



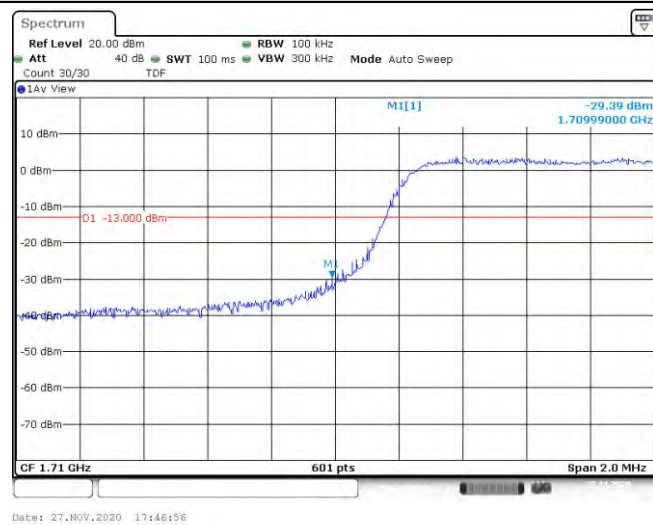
Band4-3MHz-16QAM-19965-15RB#0



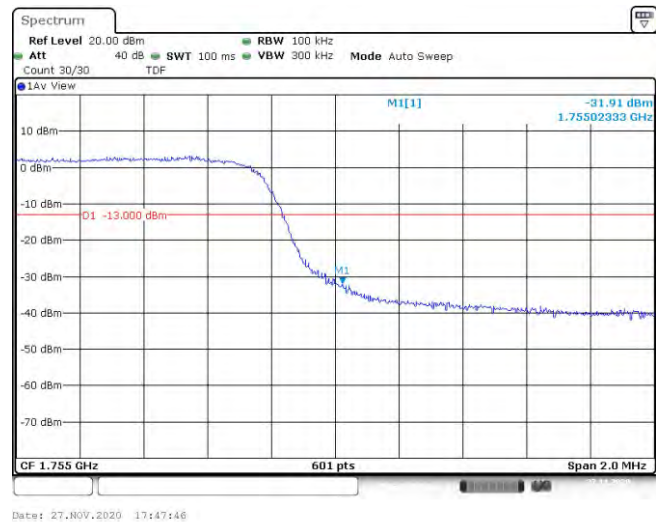
Band4-3MHz-16QAM-20385-15RB#0



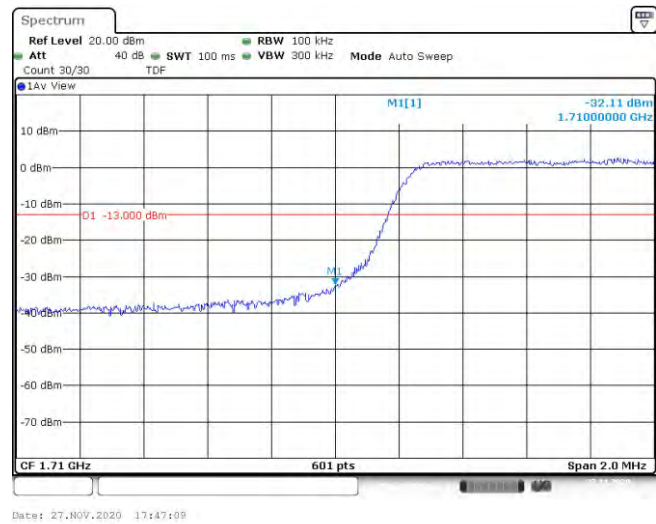
Band4-5MHz-QPSK-19975-25RB#0



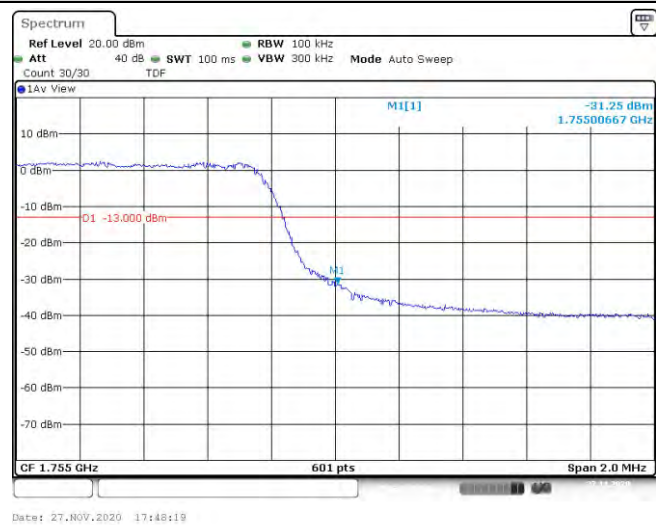
Band4-5MHz-QPSK-20375-25RB#0



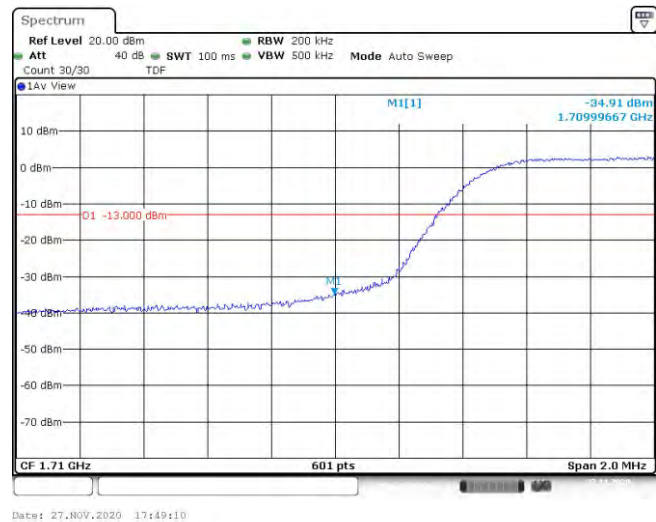
Band4-5MHz-16QAM-19975-25RB#0



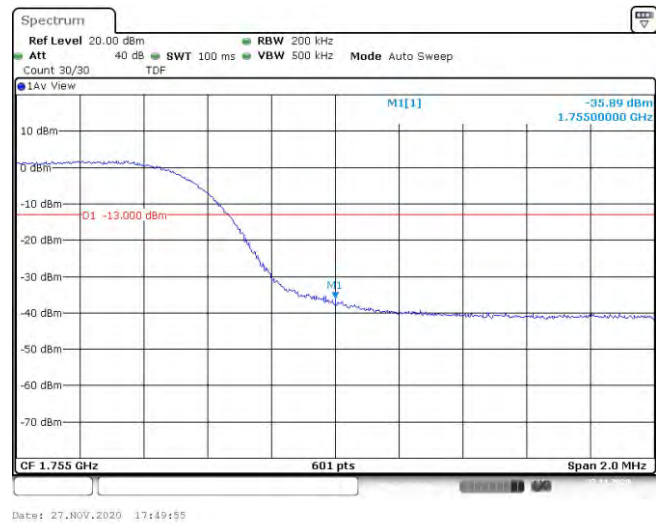
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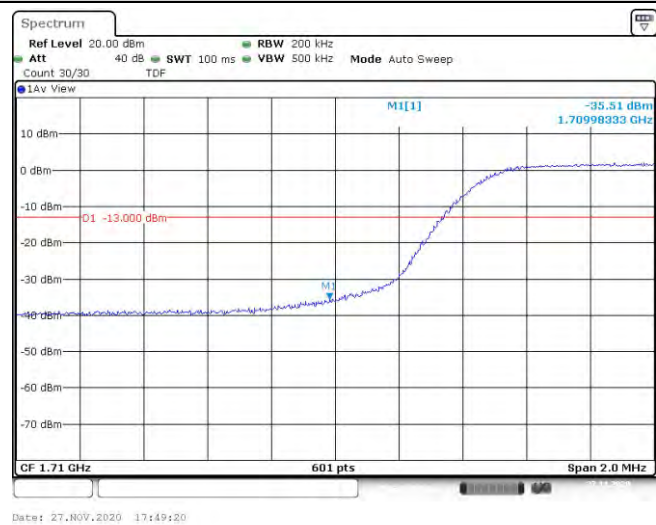
Band4-10MHz-QPSK-20000-50RB#0



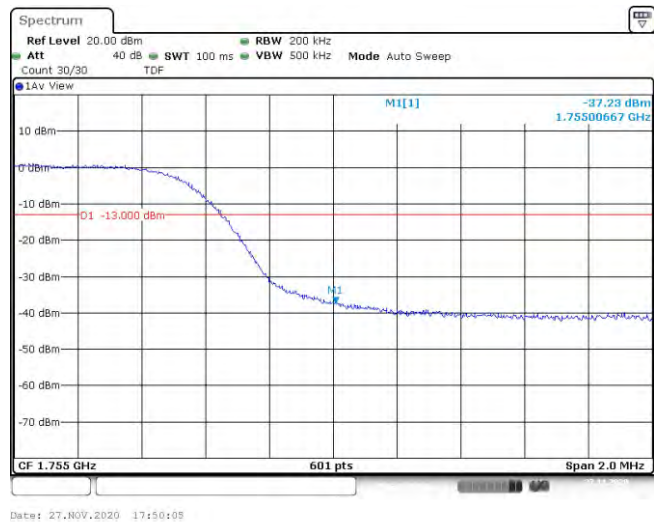
Band4-10MHz-QPSK-20350-50RB#0



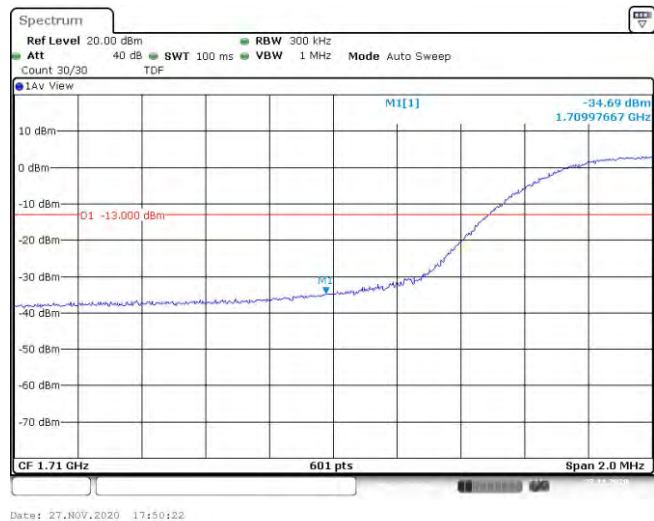
Band4-10MHz-16QAM-20000-50RB#0



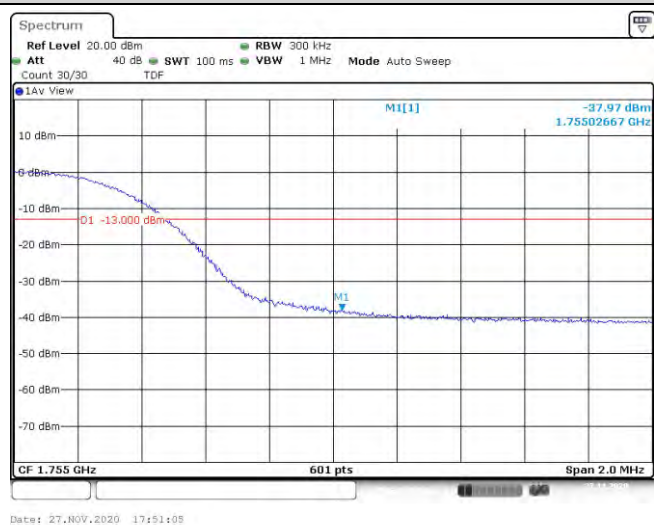
Band4-10MHz-16QAM-20350-50RB#0



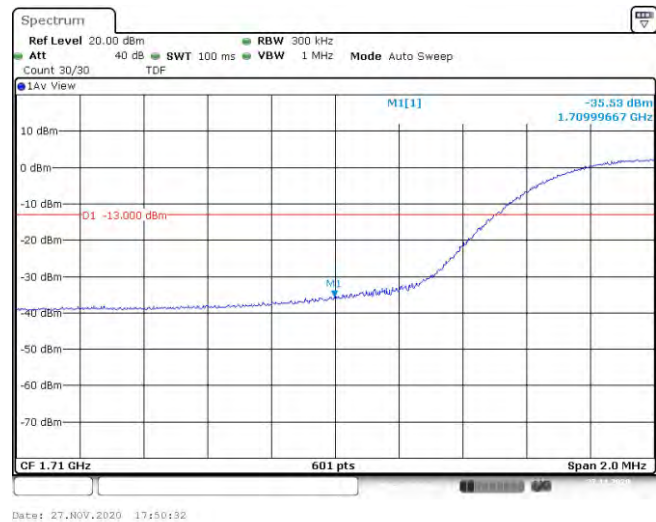
Band4-15MHz-QPSK-20025-75RB#0



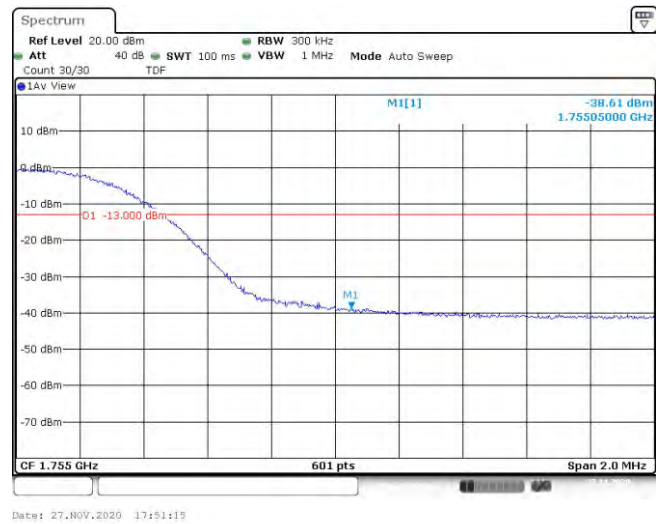
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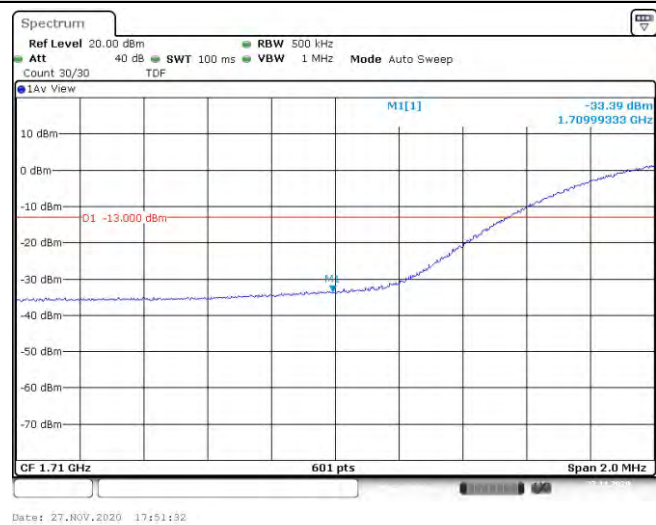
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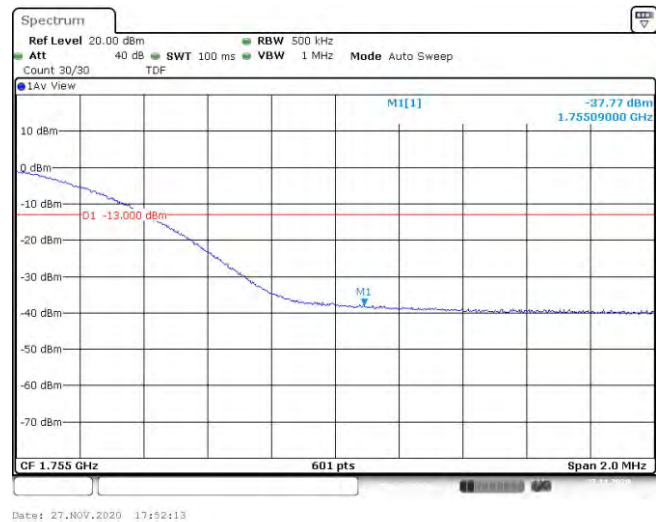
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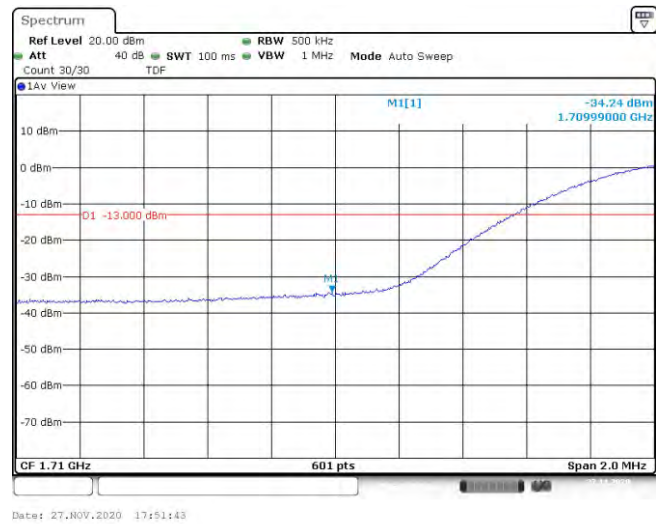
Band4-20MHz-QPSK-20050-100RB#0



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



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



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

