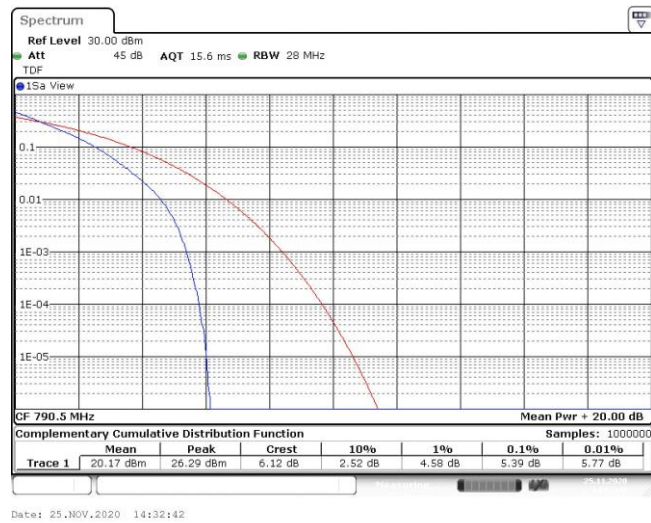


**Product Name: GEM-OX-GU****Model: TE-304B-A12****Appendix B: Peak-to-Average Ratio(CCDF)****Test Result**

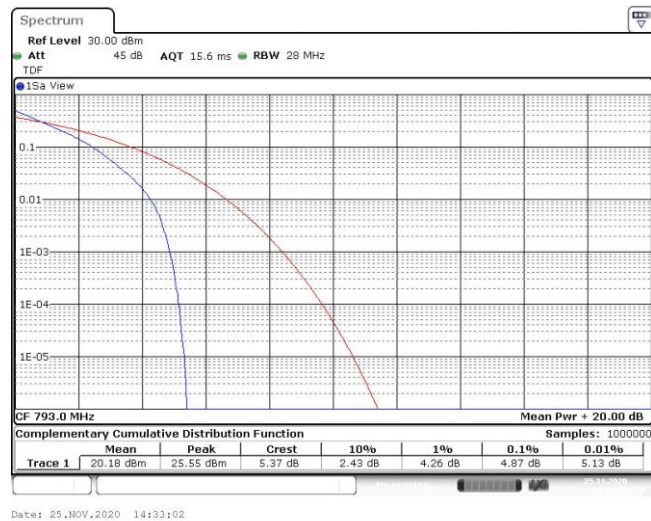
| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|--------|-----------|------------|---------|------------------|------------|-----------|---------|
| Band14 | 5MHz      | QPSK       | 23305   | 25RB#0           | 5.39       | 13        | PASS    |
| Band14 | 5MHz      | QPSK       | 23330   | 25RB#0           | 4.87       | 13        | PASS    |
| Band14 | 5MHz      | QPSK       | 23355   | 25RB#0           | 4.43       | 13        | PASS    |
| Band14 | 5MHz      | 16QAM      | 23305   | 25RB#0           | 6.23       | 13        | PASS    |
| Band14 | 5MHz      | 16QAM      | 23330   | 25RB#0           | 5.74       | 13        | PASS    |
| Band14 | 5MHz      | 16QAM      | 23355   | 25RB#0           | 5.30       | 13        | PASS    |
| Band14 | 10MHz     | QPSK       | 23330   | 50RB#0           | 4.81       | 13        | PASS    |
| Band14 | 10MHz     | 16QAM      | 23330   | 50RB#0           | 5.77       | 13        | PASS    |

## Test Graphs

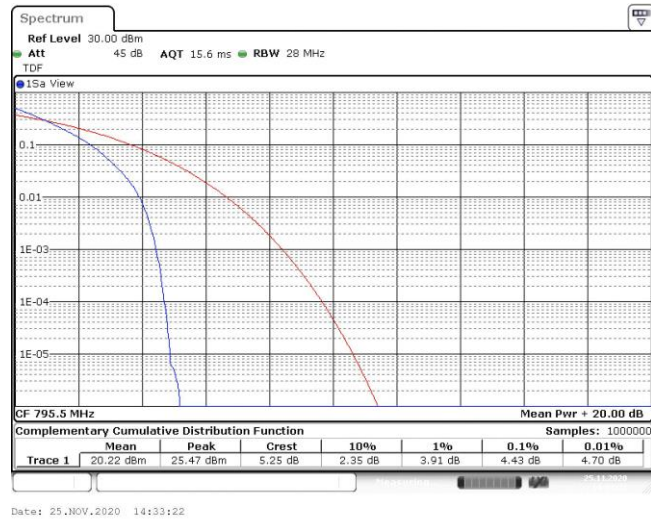
Band14-5MHz-QPSK-23305-25RB#0



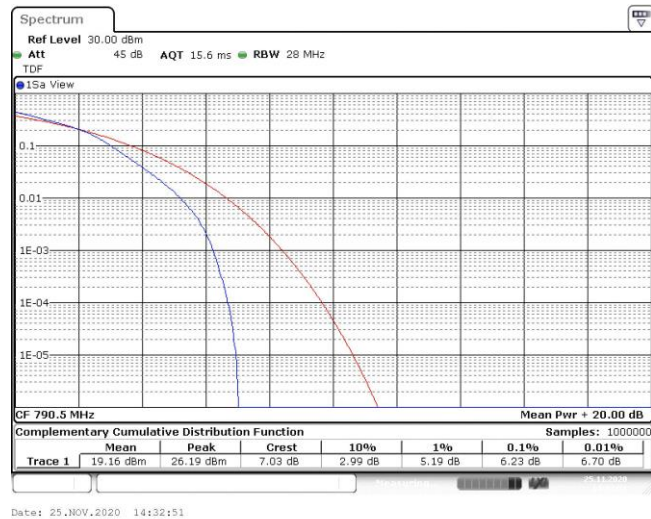
Band14-5MHz-QPSK-23330-25RB#0



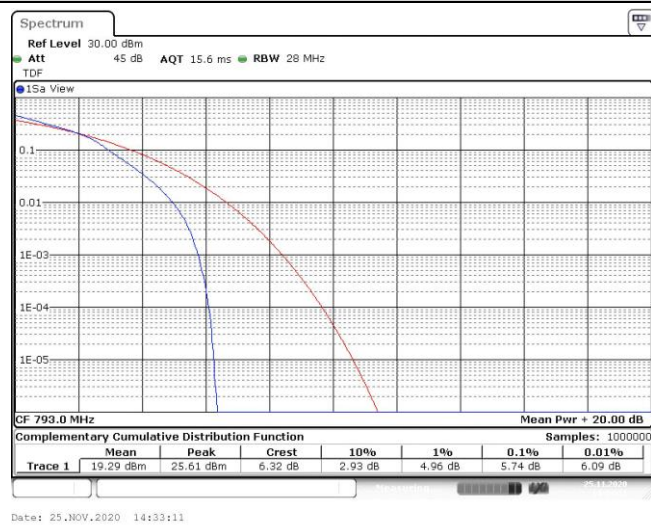
Band14-5MHz-QPSK-23355-25RB#0



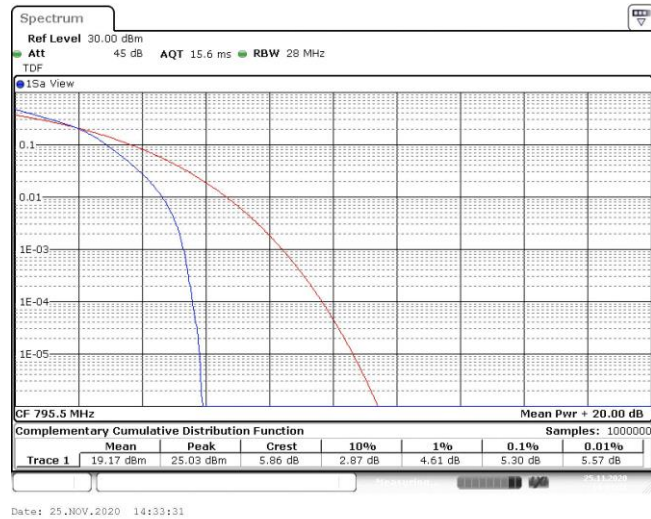
Band14-5MHz-16QAM-23305-25RB#0



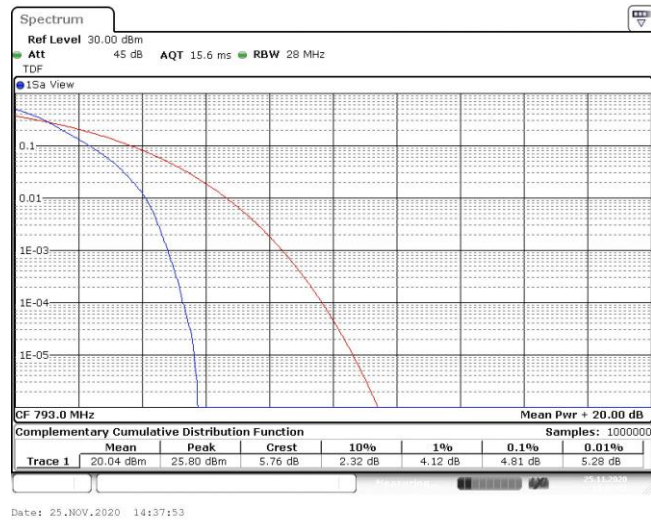
Band14-5MHz-16QAM-23330-25RB#0



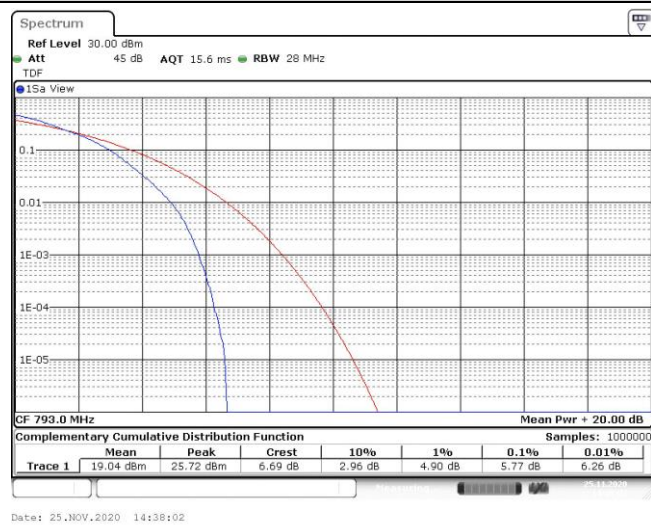
Band14-5MHz-16QAM-23355-25RB#0



## Band14-10MHz-QPSK-23330-50RB#0



## Band14-10MHz-16QAM-23330-50RB#0



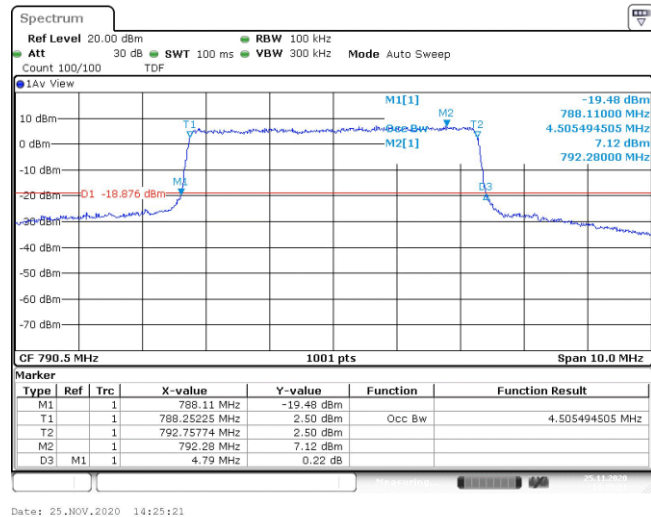
## Appendix C: 26dB Bandwidth and Occupied Bandwidth

### Test Result

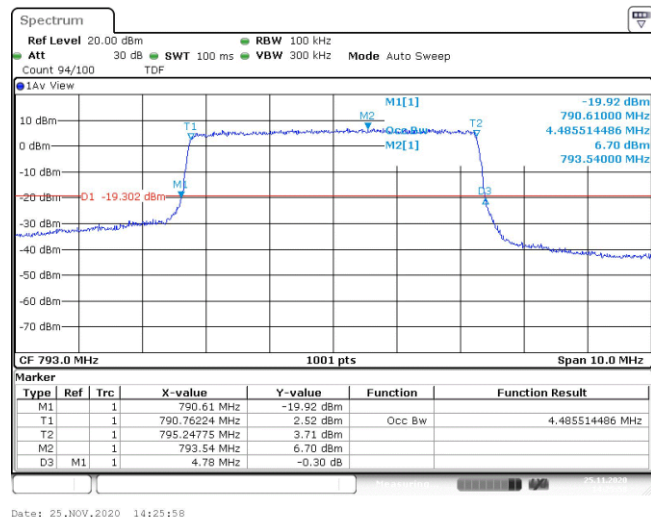
| Band   | Bandwidth | Modulation | Channel | RB Configuration | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|--------|-----------|------------|---------|------------------|--------------------------|----------------------|---------|
| Band14 | 5MHz      | QPSK       | 23305   | 25RB#0           | 4.505                    | 4.790                | PASS    |
| Band14 | 5MHz      | QPSK       | 23330   | 25RB#0           | 4.486                    | 4.780                | PASS    |
| Band14 | 5MHz      | QPSK       | 23355   | 25RB#0           | 4.496                    | 4.770                | PASS    |
| Band14 | 5MHz      | 16QAM      | 23305   | 25RB#0           | 4.505                    | 4.780                | PASS    |
| Band14 | 5MHz      | 16QAM      | 23330   | 25RB#0           | 4.496                    | 4.790                | PASS    |
| Band14 | 5MHz      | 16QAM      | 23355   | 25RB#0           | 4.496                    | 4.770                | PASS    |
| Band14 | 10MHz     | QPSK       | 23330   | 50RB#0           | 8.918                    | 9.533                | PASS    |
| Band14 | 10MHz     | 16QAM      | 23330   | 50RB#0           | 8.918                    | 9.533                | PASS    |

## Test Graphs

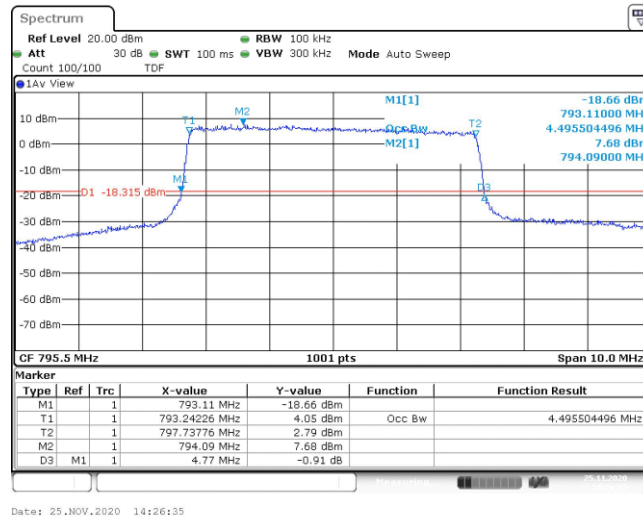
Band14-5MHz-QPSK-23305-25RB#0-4.505



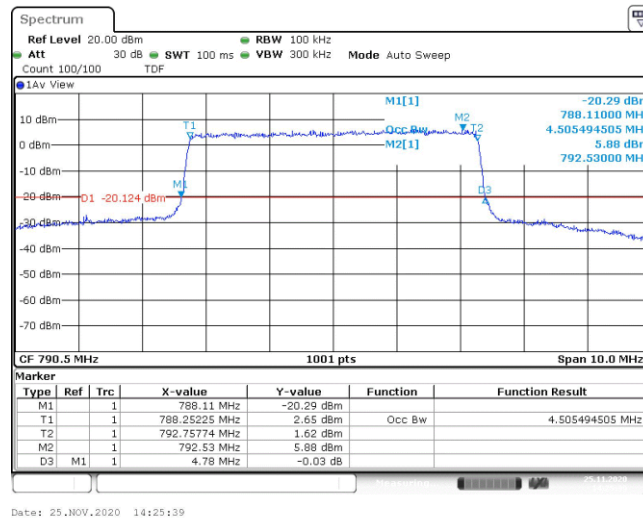
Band14-5MHz-QPSK-23330-25RB#0-4.486



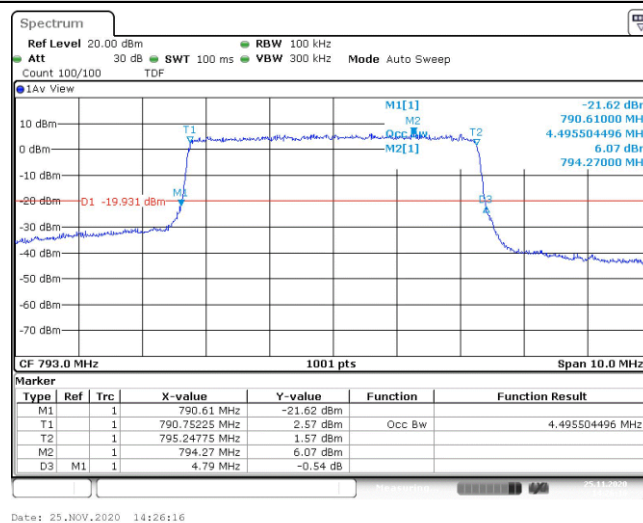
Band14-5MHz-QPSK-23355-25RB#0-4.496



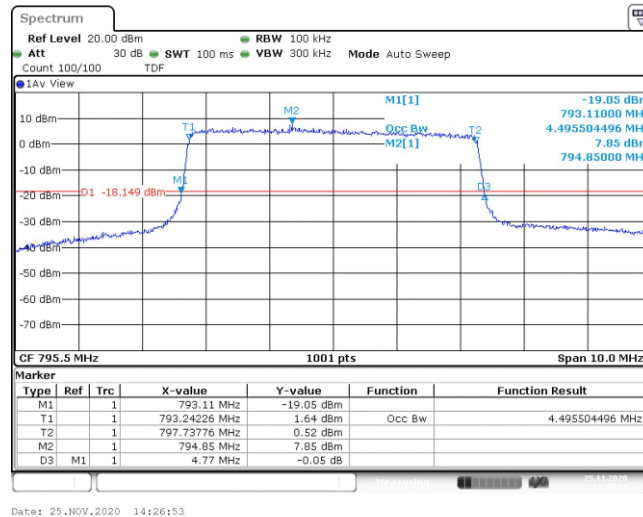
### Band14-5MHz-16QAM-23305-25RB#0-4.505



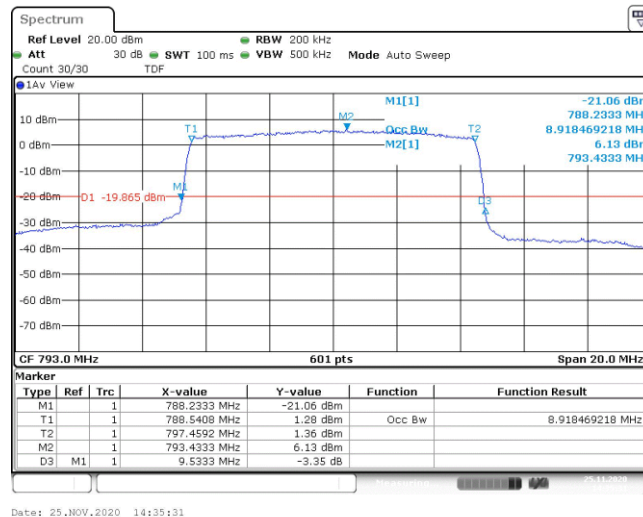
### Band14-5MHz-16QAM-23330-25RB#0-4.496



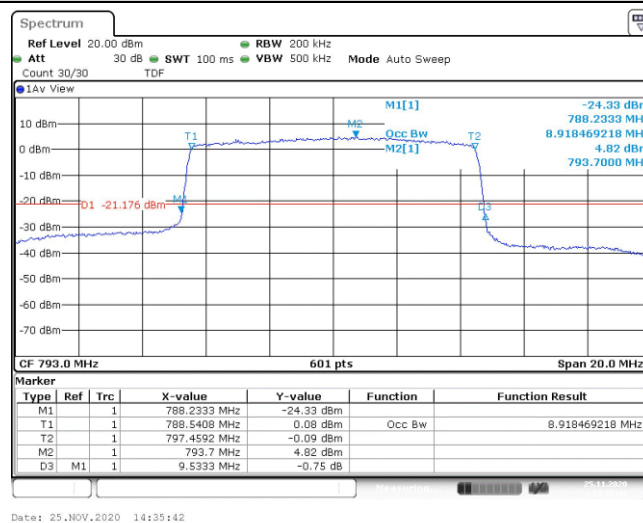
### Band14-5MHz-16QAM-23355-25RB#0-4.496



### Band14-10MHz-QPSK-23330-50RB#0-8.918



### Band14-10MHz-16QAM-23330-50RB#0-8.918

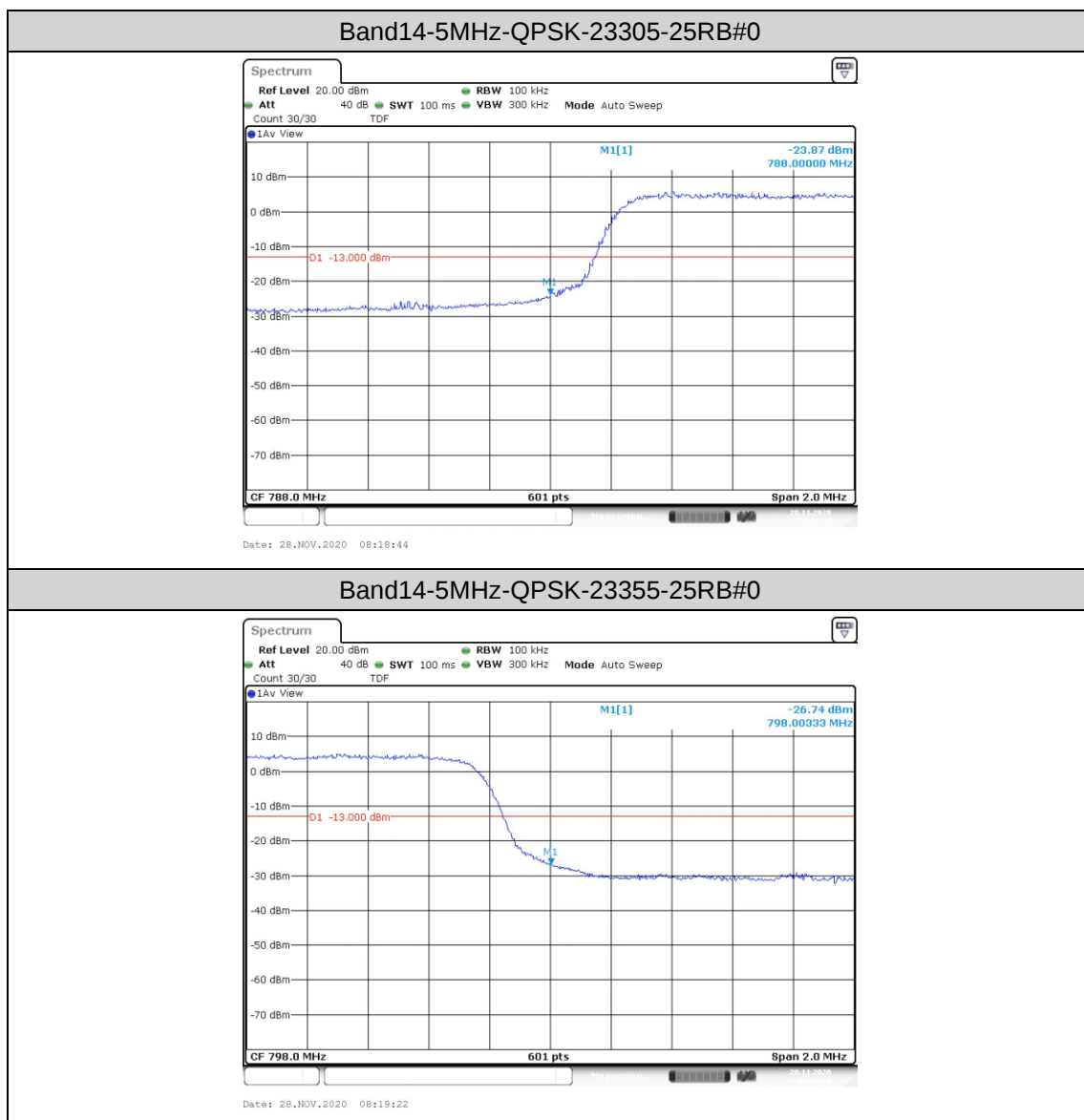


## Appendix D: Band Edge

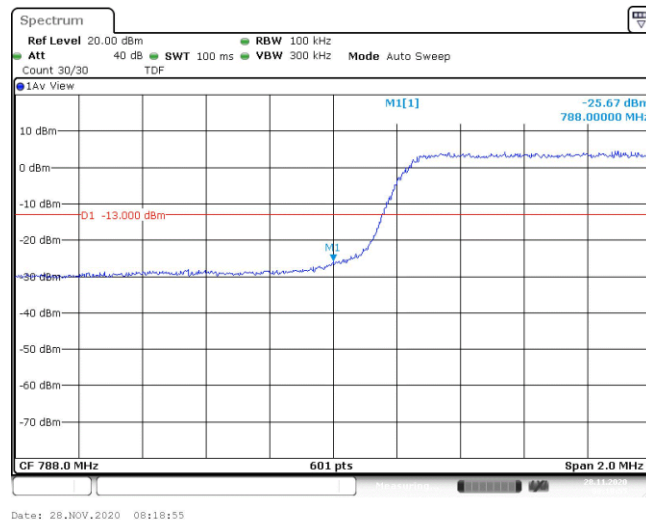
### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result(dBm)   | Verdict |
|--------|-----------|------------|---------|------------------|---------------|---------|
| Band14 | 5MHz      | QPSK       | 23305   | 25RB#0           | -23.87        | PASS    |
| Band14 | 5MHz      | QPSK       | 23355   | 25RB#0           | -26.74        | PASS    |
| Band14 | 5MHz      | 16QAM      | 23305   | 25RB#0           | -25.67        | PASS    |
| Band14 | 5MHz      | 16QAM      | 23355   | 25RB#0           | -27.56        | PASS    |
| Band14 | 10MHz     | QPSK       | 23330   | 50RB#0           | -26.81,-32.99 | PASS    |
| Band14 | 10MHz     | 16QAM      | 23330   | 50RB#0           | -29.09,-33.84 | PASS    |

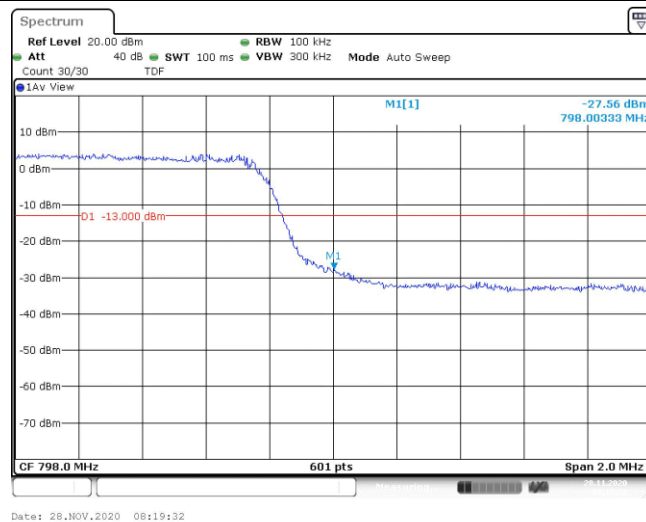
### Test Graphs



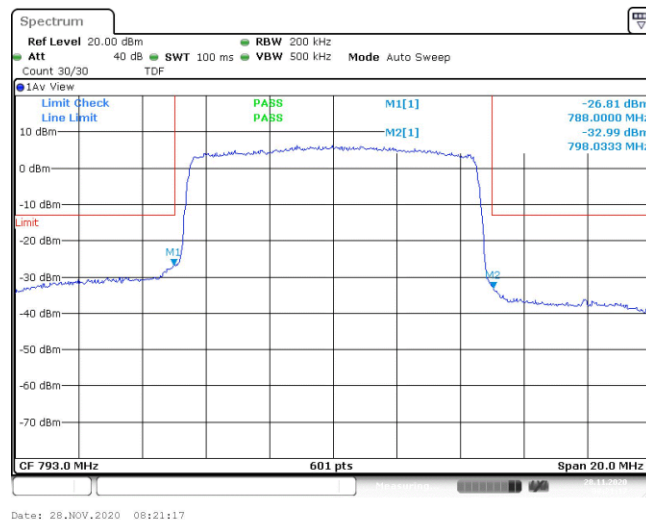
## Band14-5MHz-16QAM-23305-25RB#0



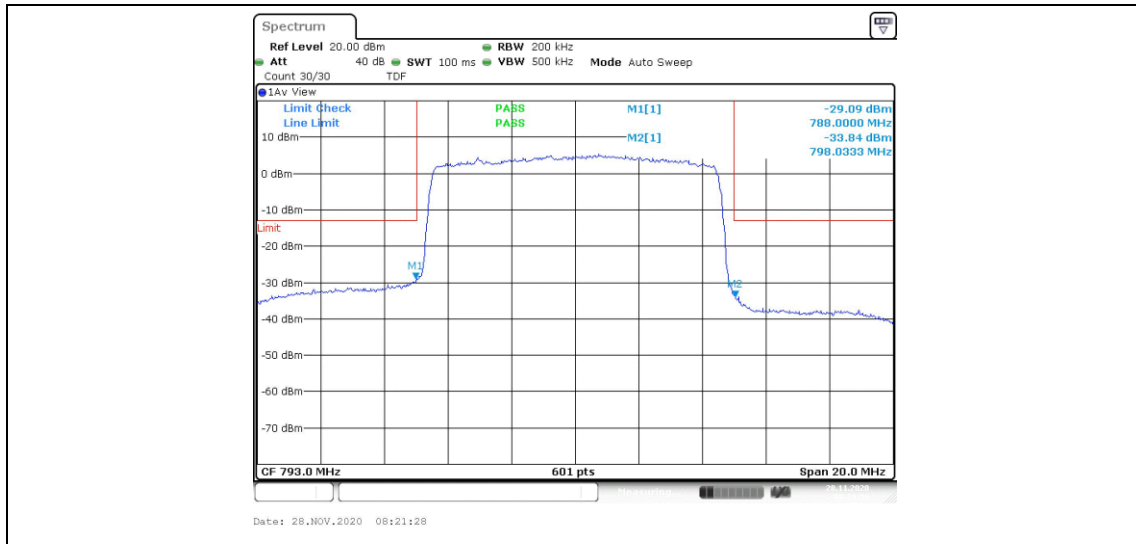
## Band14-5MHz-16QAM-23355-25RB#0



## Band14-10MHz-QPSK-23330-50RB#0



## Band14-10MHz-16QAM-23330-50RB#0



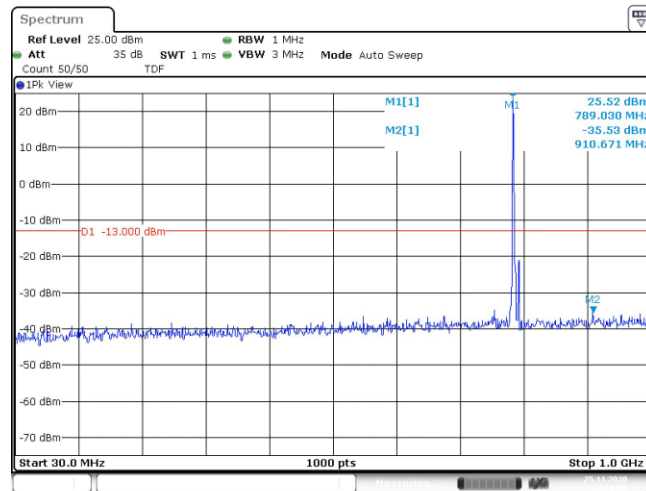
## Appendix E: Conducted Spurious Emission

### Test Result

| Band       | Bandwidth | Modulation | Channel | RB Configuration | Frequency Range      | Result (dBm) | Verdict  |
|------------|-----------|------------|---------|------------------|----------------------|--------------|----------|
| Band1<br>4 | 5MHz      | QPSK       | 23305   | 1RB#0            | Range1:30~1000MHz    | -35.5<br>3   | PAS<br>S |
| Band1<br>4 | 5MHz      | QPSK       | 23305   | 1RB#0            | Range2:1000~10000MHz | -32.6<br>5   | PAS<br>S |
| Band1<br>4 | 5MHz      | QPSK       | 23330   | 1RB#0            | Range1:30~1000MHz    | -35.4        | PAS<br>S |
| Band1<br>4 | 5MHz      | QPSK       | 23330   | 1RB#0            | Range2:1000~10000MHz | -31.7<br>8   | PAS<br>S |
| Band1<br>4 | 5MHz      | QPSK       | 23355   | 1RB#0            | Range1:30~1000MHz    | -36.2<br>7   | PAS<br>S |
| Band1<br>4 | 5MHz      | QPSK       | 23355   | 1RB#0            | Range2:1000~10000MHz | -34.6<br>9   | PAS<br>S |
| Band1<br>4 | 5MHz      | 16QAM      | 23305   | 1RB#0            | Range1:30~1000MHz    | -35.8<br>2   | PAS<br>S |
| Band1<br>4 | 5MHz      | 16QAM      | 23305   | 1RB#0            | Range2:1000~10000MHz | -32.4<br>2   | PAS<br>S |
| Band1<br>4 | 5MHz      | 16QAM      | 23330   | 1RB#0            | Range1:30~1000MHz    | -36.1<br>1   | PAS<br>S |
| Band1<br>4 | 5MHz      | 16QAM      | 23330   | 1RB#0            | Range2:1000~10000MHz | -33.1<br>2   | PAS<br>S |
| Band1<br>4 | 5MHz      | 16QAM      | 23355   | 1RB#0            | Range1:30~1000MHz    | -35.8<br>5   | PAS<br>S |
| Band1<br>4 | 5MHz      | 16QAM      | 23355   | 1RB#0            | Range2:1000~10000MHz | -34.6<br>1   | PAS<br>S |
| Band1<br>4 | 10MHz     | QPSK       | 23330   | 1RB#0            | Range1:30~1000MHz    | -35.2<br>9   | PAS<br>S |
| Band1<br>4 | 10MHz     | QPSK       | 23330   | 1RB#0            | Range2:1000~10000MHz | -32.1<br>4   | PAS<br>S |
| Band1<br>4 | 10MHz     | 16QAM      | 23330   | 1RB#0            | Range1:30~1000MHz    | -35.7<br>8   | PAS<br>S |
| Band1<br>4 | 10MHz     | 16QAM      | 23330   | 1RB#0            | Range2:1000~10000MHz | -34.0<br>4   | PAS<br>S |

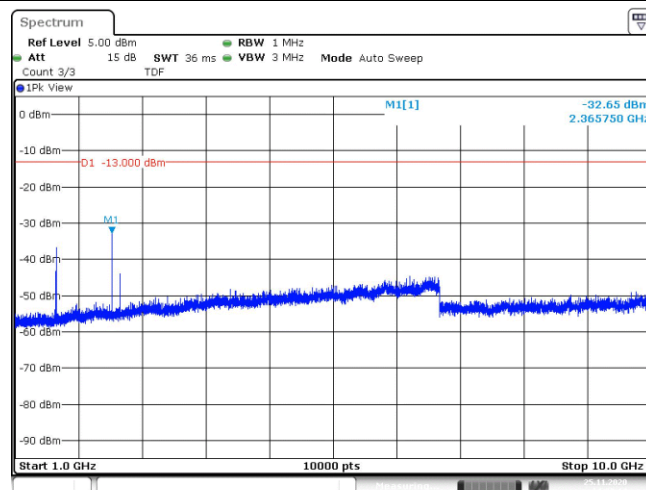
## Test Graphs

Band14-5MHz-QPSK-23305-1RB#0-Range1:30~1000MHz



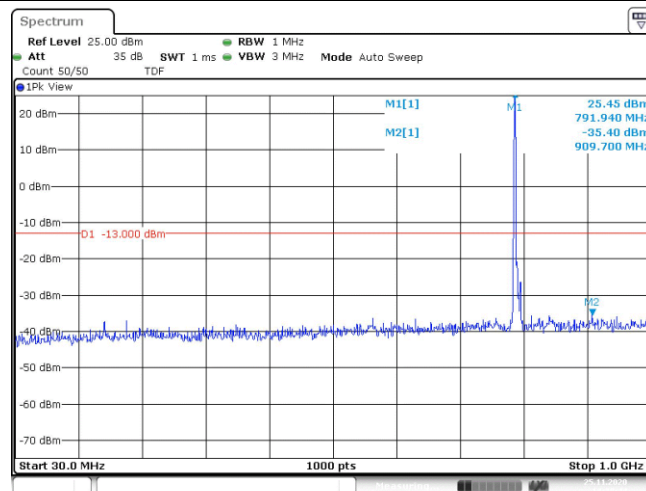
Date: 25.NOV.2020 14:28:05

Band14-5MHz-QPSK-23305-1RB#0-Range2:1000~10000MHz



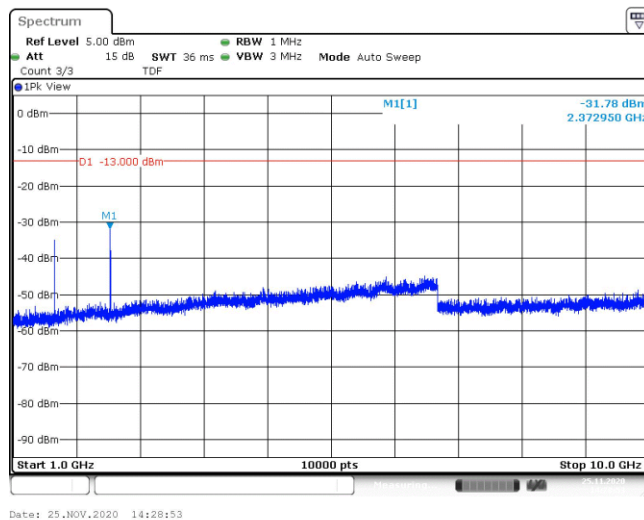
Date: 25.NOV.2020 14:28:14

Band14-5MHz-QPSK-23330-1RB#0-Range1:30~1000MHz

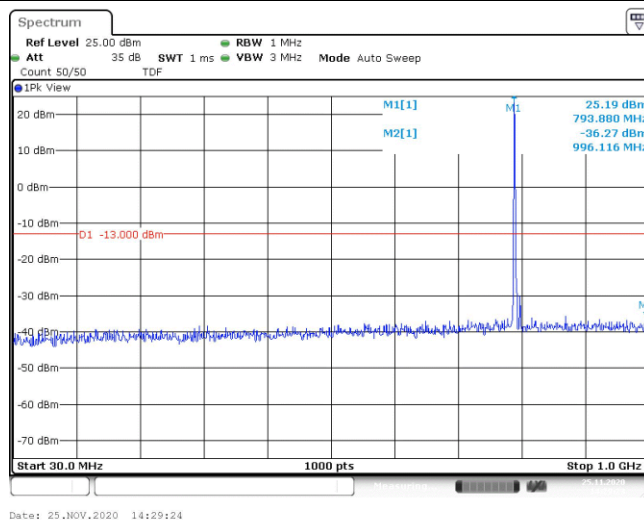


Date: 25.NOV.2020 14:28:45

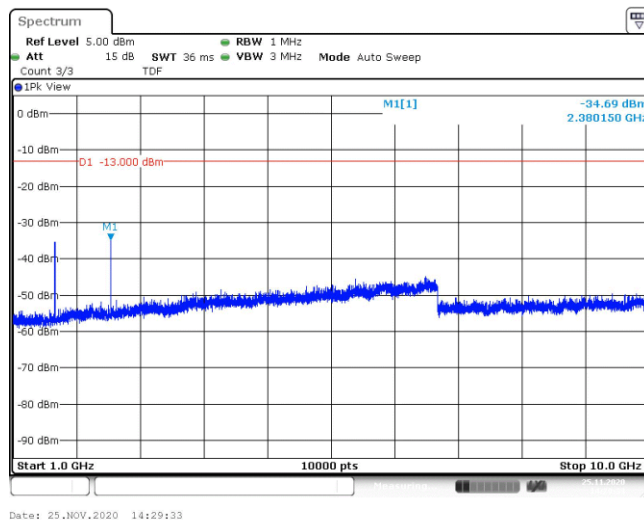
## Band14-5MHz-QPSK-23330-1RB#0-Range2:1000~10000MHz



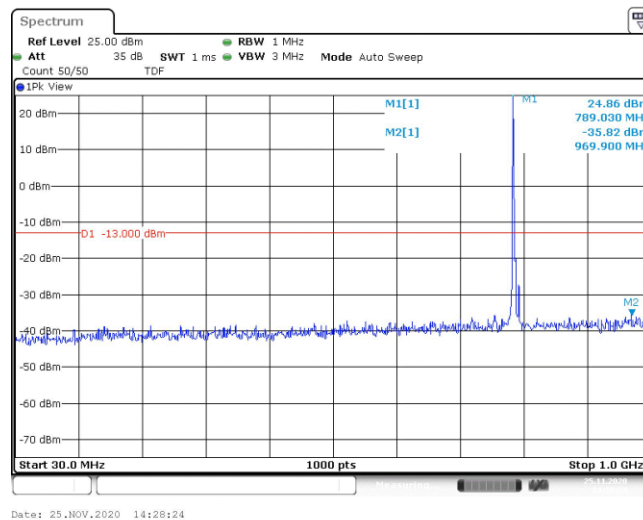
## Band14-5MHz-QPSK-23355-1RB#0-Range1:30~1000MHz



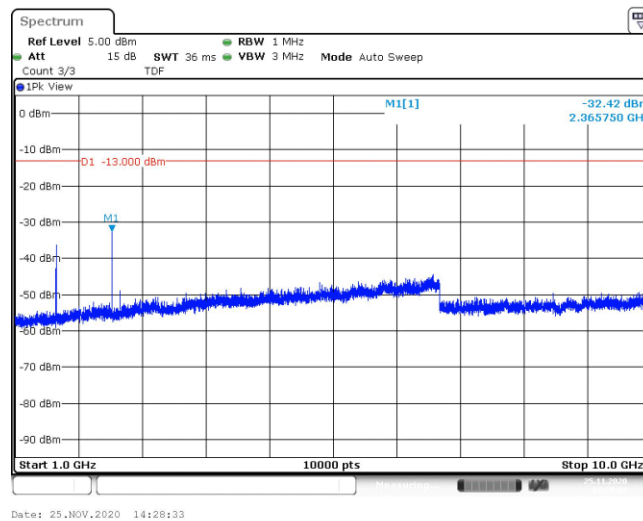
## Band14-5MHz-QPSK-23355-1RB#0-Range2:1000~10000MHz



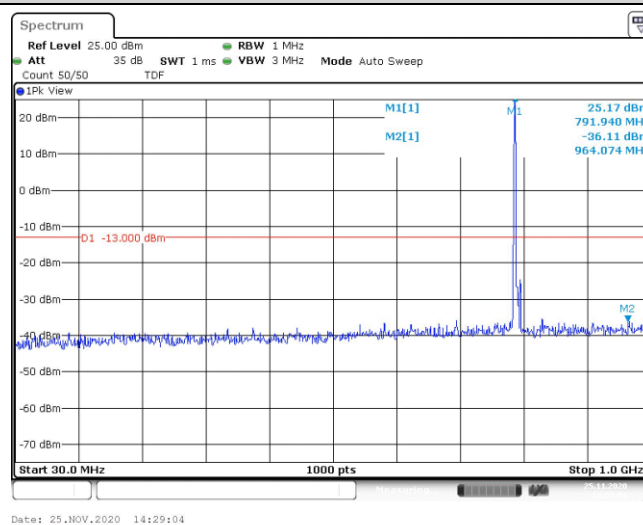
## Band14-5MHz-16QAM-23305-1RB#0-Range1:30~1000MHz



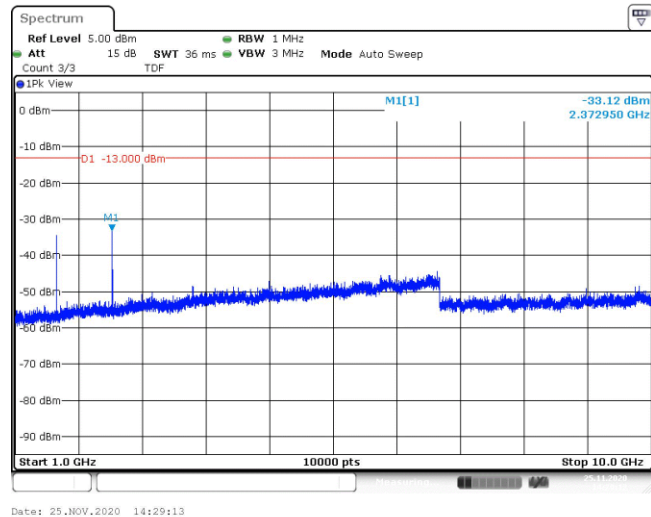
Band14-5MHz-16QAM-23305-1RB#0-Range2:1000~10000MHz



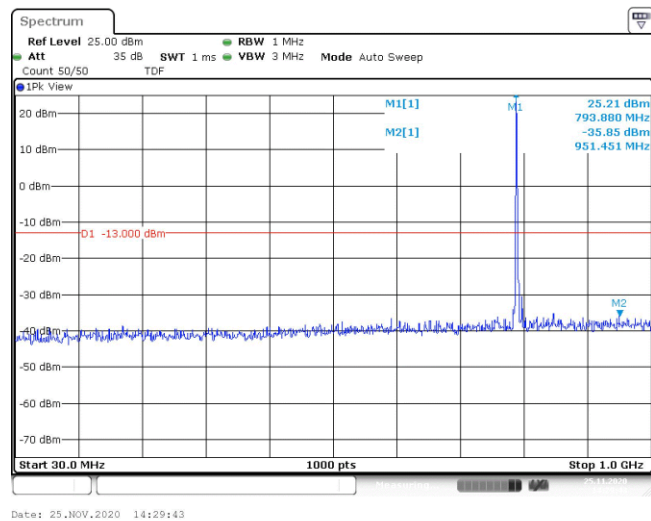
Band14-5MHz-16QAM-23330-1RB#0-Range1:30~1000MHz



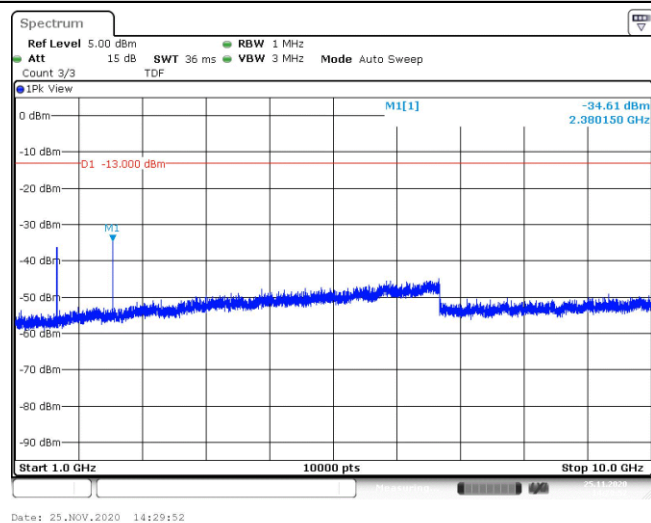
Band14-5MHz-16QAM-23330-1RB#0-Range2:1000~10000MHz



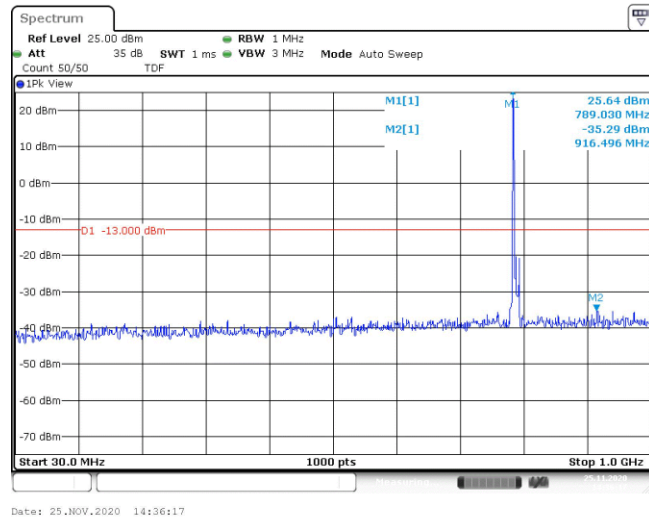
Band14-5MHz-16QAM-23355-1RB#0-Range1:30~1000MHz



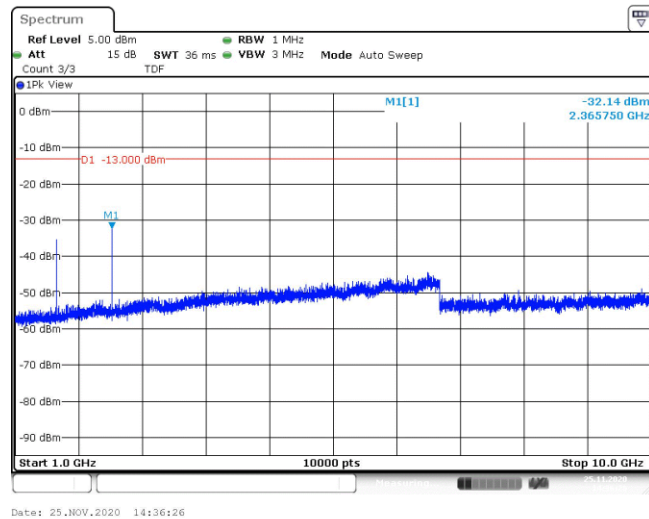
Band14-5MHz-16QAM-23355-1RB#0-Range2:1000~10000MHz



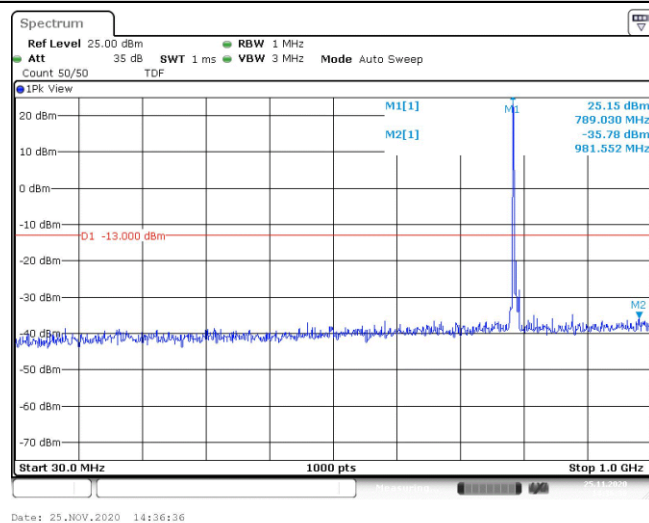
Band14-10MHz-QPSK-23330-1RB#0-Range1:30~1000MHz



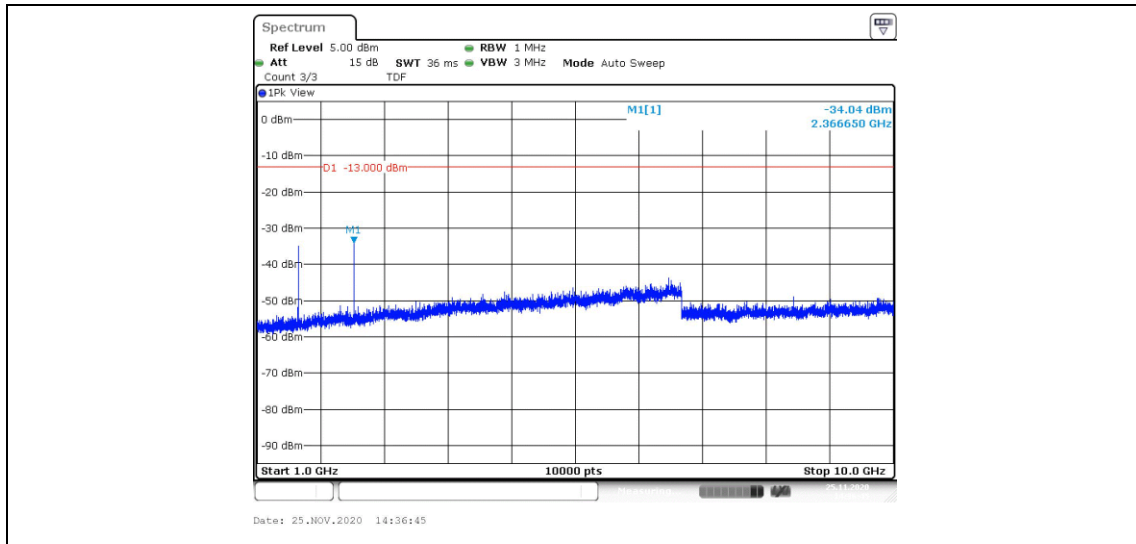
Band14-10MHz-QPSK-23330-1RB#0-Range2:1000~10000MHz



Band14-10MHz-16QAM-23330-1RB#0-Range1:30~1000MHz



Band14-10MHz-16QAM-23330-1RB#0-Range2:1000~10000MHz



## Appendix F: Frequency Stability

### Test Result

| Band    | Bandwidth | Modulation | Channel | RB Configuration | Voltage       |                  | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
|---------|-----------|------------|---------|------------------|---------------|------------------|----------------|-----------------|-------------|---------|
|         |           |            |         |                  | Voltage [Vdc] | Temperature (°C) |                |                 |             |         |
| Band1_4 | 5MHz      | QPSK       | 23305   | 25RB#0           | VL            | NT               | -3.42          | -0.004326       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | QPSK       | 23305   | 25RB#0           | VN            | NT               | 2.47           | 0.003125        | ±2.5        | PASS    |
| Band1_4 | 5MHz      | QPSK       | 23305   | 25RB#0           | VH            | NT               | -2.42          | -0.003061       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | QPSK       | 23330   | 25RB#0           | VL            | NT               | -3.32          | -0.004187       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | QPSK       | 23330   | 25RB#0           | VN            | NT               | -2.80          | -0.003531       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | QPSK       | 23330   | 25RB#0           | VH            | NT               | -3.15          | -0.003972       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | QPSK       | 23355   | 25RB#0           | VL            | NT               | 1.32           | 0.001659        | ±2.5        | PASS    |
| Band1_4 | 5MHz      | QPSK       | 23355   | 25RB#0           | VN            | NT               | 2.00           | 0.002514        | ±2.5        | PASS    |
| Band1_4 | 5MHz      | QPSK       | 23355   | 25RB#0           | VH            | NT               | -2.68          | -0.003369       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | 16QAM      | 23305   | 25RB#0           | VL            | NT               | -4.23          | -0.005351       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | 16QAM      | 23305   | 25RB#0           | VN            | NT               | -3.82          | -0.004832       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | 16QAM      | 23305   | 25RB#0           | VH            | NT               | -4.92          | -0.006224       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | 16QAM      | 23330   | 25RB#0           | VL            | NT               | -3.28          | -0.004136       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | 16QAM      | 23330   | 25RB#0           | VN            | NT               | -3.42          | -0.004313       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | 16QAM      | 23330   | 25RB#0           | VH            | NT               | -1.99          | -0.002509       | ±2.5        | PASS    |
| Band1_4 | 5MHz      | 16QAM      | 23355   | 25RB#0           | VL            | NT               | 2.82           | 0.003545        | ±2.5        | PASS    |
| Band1_4 | 5MHz      | 16QAM      | 23355   | 25RB#0           | VN            | NT               | -1.97          | -0.002476       | ±2.5        | PASS    |
| Band1   | 5MHz      | 16QAM      | 23355   | 25RB#0           | VH            | NT               | 1.54           | 0.001936        | ±2.5        | PASS    |

|            |       |       |       |        |    |    |       |           |      |      |
|------------|-------|-------|-------|--------|----|----|-------|-----------|------|------|
| 4          |       |       |       |        |    |    |       |           |      |      |
| Band1<br>4 | 10MHz | QPSK  | 23330 | 50RB#0 | VL | NT | -5.16 | -0.006507 | ±2.5 | PASS |
| Band1<br>4 | 10MHz | QPSK  | 23330 | 50RB#0 | VN | NT | -2.56 | -0.003228 | ±2.5 | PASS |
| Band1<br>4 | 10MHz | QPSK  | 23330 | 50RB#0 | VH | NT | -2.80 | -0.003531 | ±2.5 | PASS |
| Band1<br>4 | 10MHz | 16QAM | 23330 | 50RB#0 | VL | NT | 2.70  | 0.003405  | ±2.5 | PASS |
| Band1<br>4 | 10MHz | 16QAM | 23330 | 50RB#0 | VN | NT | -2.79 | -0.003518 | ±2.5 | PASS |
| Band1<br>4 | 10MHz | 16QAM | 23330 | 50RB#0 | VH | NT | -2.96 | -0.003733 | ±2.5 | PASS |

| Temperature |           |            |         |              |               |                  |                |                 |             |         |
|-------------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band        | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| Band1<br>4  | 5MHz      | QPSK       | 23305   | 25RB#0       | NV            | -30              | -4.35          | -0.005503       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23305   | 25RB#0       | NV            | -20              | -2.80          | -0.003542       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23305   | 25RB#0       | NV            | 0                | -2.89          | -0.003656       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23305   | 25RB#0       | NV            | 10               | -3.28          | -0.004149       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23305   | 25RB#0       | NV            | 20               | -2.32          | -0.002935       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23330   | 25RB#0       | NV            | -30              | 1.34           | 0.001690        | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23330   | 25RB#0       | NV            | -20              | -2.27          | -0.002863       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23330   | 25RB#0       | NV            | 0                | -2.06          | -0.002598       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23330   | 25RB#0       | NV            | 10               | -2.99          | -0.003770       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23330   | 25RB#0       | NV            | 20               | -3.88          | -0.004893       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23355   | 25RB#0       | NV            | -30              | -2.12          | -0.002665       | ±2.5        | PASS    |
| Band1<br>4  | 5MHz      | QPSK       | 23355   | 25RB#0       | NV            | -20              | -1.86          | -0.002338       | ±2.5        | PASS    |
| Band1       | 5MHz      | QPSK       | 23355   | 25RB#0       | NV            | 0                | -1.37          | -0.001722       | ±2.5        | PASS    |

|            |       |       |       |        |    |     |       |           |      |      |
|------------|-------|-------|-------|--------|----|-----|-------|-----------|------|------|
| 4          |       |       |       |        |    |     |       |           |      |      |
| Band1<br>4 | 5MHz  | QPSK  | 23355 | 25RB#0 | NV | 10  | -1.96 | -0.002464 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | QPSK  | 23355 | 25RB#0 | NV | 20  | 1.53  | 0.001923  | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23305 | 25RB#0 | NV | -30 | -4.63 | -0.005857 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23305 | 25RB#0 | NV | -20 | -3.49 | -0.004415 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23305 | 25RB#0 | NV | 0   | -4.46 | -0.005642 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23305 | 25RB#0 | NV | 10  | -3.30 | -0.004175 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23305 | 25RB#0 | NV | 20  | -3.50 | -0.004428 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23330 | 25RB#0 | NV | -30 | -1.82 | -0.002295 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23330 | 25RB#0 | NV | -20 | 1.52  | 0.001917  | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23330 | 25RB#0 | NV | 0   | -2.33 | -0.002938 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23330 | 25RB#0 | NV | 10  | -3.10 | -0.003909 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23330 | 25RB#0 | NV | 20  | -3.40 | -0.004288 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23355 | 25RB#0 | NV | -30 | -1.90 | -0.002388 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23355 | 25RB#0 | NV | -20 | -2.22 | -0.002791 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23355 | 25RB#0 | NV | 0   | -1.89 | -0.002376 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23355 | 25RB#0 | NV | 10  | -2.42 | -0.003042 | ±2.5 | PASS |
| Band1<br>4 | 5MHz  | 16QAM | 23355 | 25RB#0 | NV | 20  | -3.00 | -0.003771 | ±2.5 | PASS |
| Band1<br>4 | 10MHz | QPSK  | 23330 | 50RB#0 | NV | -30 | -3.03 | -0.003821 | ±2.5 | PASS |
| Band1<br>4 | 10MHz | QPSK  | 23330 | 50RB#0 | NV | -20 | -2.95 | -0.003720 | ±2.5 | PASS |
| Band1<br>4 | 10MHz | QPSK  | 23330 | 50RB#0 | NV | 0   | 3.53  | 0.004451  | ±2.5 | PASS |
| Band1<br>4 | 10MHz | QPSK  | 23330 | 50RB#0 | NV | 10  | -3.72 | -0.004691 | ±2.5 | PASS |

|            |       |       |       |        |    |     |       |           |      |      |
|------------|-------|-------|-------|--------|----|-----|-------|-----------|------|------|
| Band1<br>4 | 10MHz | QPSK  | 23330 | 50RB#0 | NV | 20  | -3.83 | -0.004830 | ±2.5 | PASS |
| Band1<br>4 | 10MHz | 16QAM | 23330 | 50RB#0 | NV | -30 | 1.90  | 0.002396  | ±2.5 | PASS |
| Band1<br>4 | 10MHz | 16QAM | 23330 | 50RB#0 | NV | -20 | -2.95 | -0.003720 | ±2.5 | PASS |
| Band1<br>4 | 10MHz | 16QAM | 23330 | 50RB#0 | NV | 0   | 3.52  | 0.004439  | ±2.5 | PASS |
| Band1<br>4 | 10MHz | 16QAM | 23330 | 50RB#0 | NV | 10  | 2.37  | 0.002989  | ±2.5 | PASS |
| Band1<br>4 | 10MHz | 16QAM | 23330 | 50RB#0 | NV | 20  | 1.97  | 0.002484  | ±2.5 | PASS |