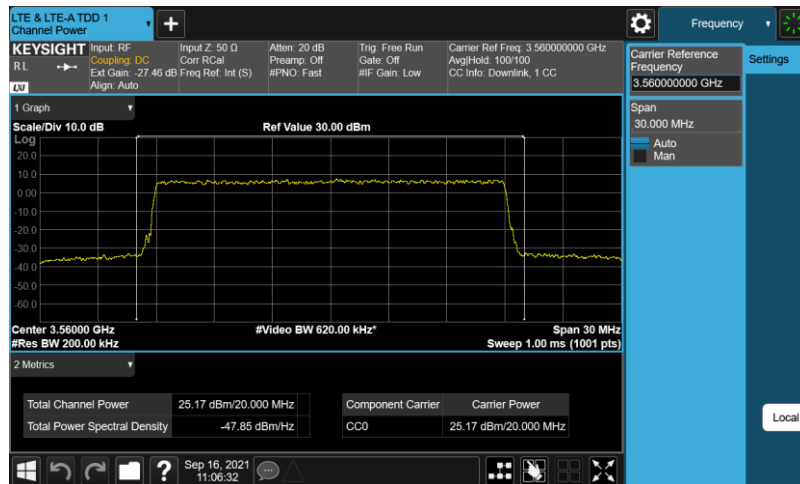
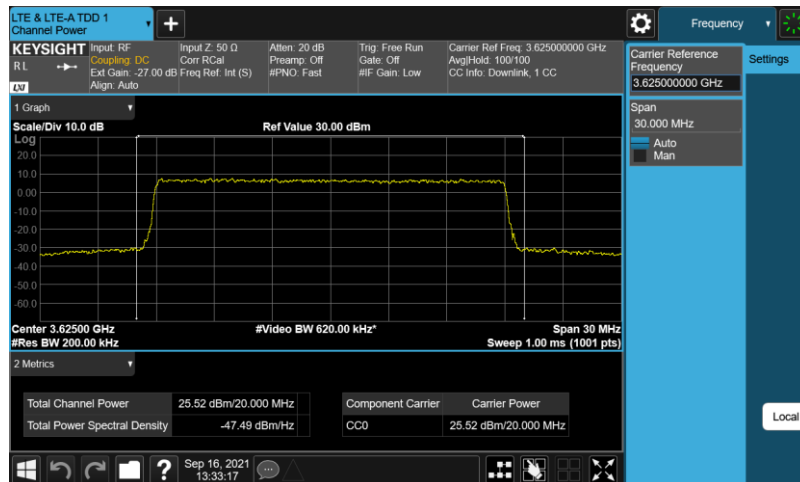


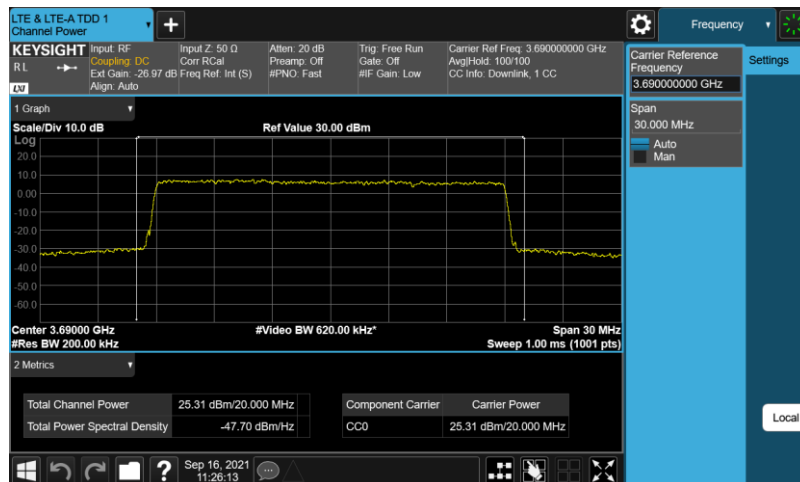
## Band48-20MHz-QPSK-55340-E-TM1.1-20



## Band48-20MHz-QPSK-55990-E-TM1.1-20



## Band48-20MHz-QPSK-56640-E-TM1.1-20



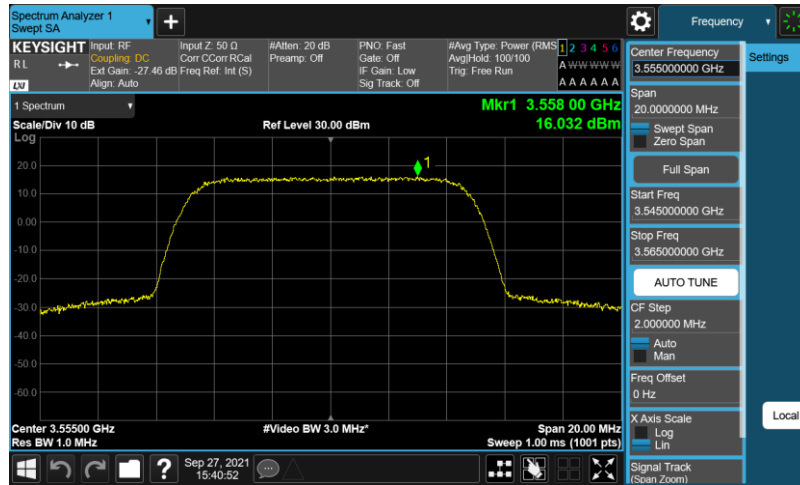
## Appendix B: Power Spectral Density

### Test Result

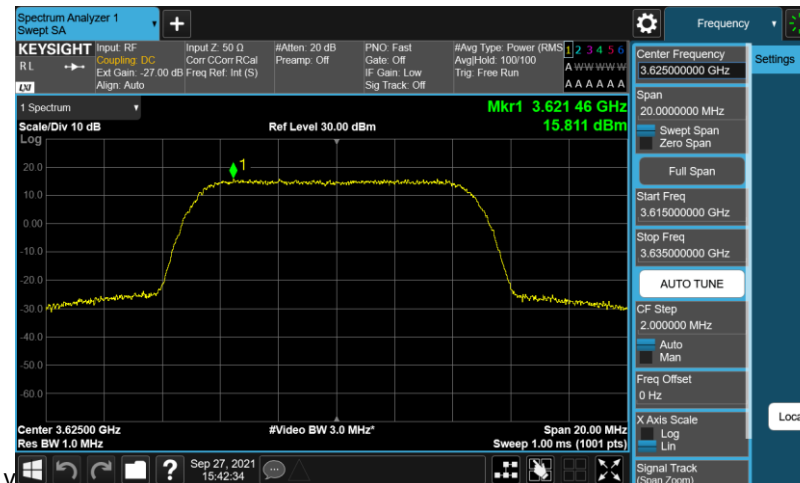
| Band   | Bandwidth | Modulation | Channel | Mode     | PSD (dBm/MHz) |
|--------|-----------|------------|---------|----------|---------------|
| Band48 | 10MHz     | 256QAM     | 55290   | E-TM3.1A | 16.03         |
| Band48 | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 15.81         |
| Band48 | 10MHz     | 256QAM     | 56690   | E-TM3.1A | 15.11         |
| Band48 | 10MHz     | QPSK       | 55290   | E-TM1.1  | 15.80         |
| Band48 | 10MHz     | QPSK       | 55990   | E-TM1.1  | 15.47         |
| Band48 | 10MHz     | QPSK       | 56690   | E-TM1.1  | 15.18         |
| Band48 | 20MHz     | 256QAM     | 55340   | E-TM3.1A | 12.83         |
| Band48 | 20MHz     | 256QAM     | 55990   | E-TM3.1A | 12.95         |
| Band48 | 20MHz     | 256QAM     | 56640   | E-TM3.1A | 12.83         |
| Band48 | 20MHz     | QPSK       | 55340   | E-TM1.1  | 12.78         |
| Band48 | 20MHz     | QPSK       | 55990   | E-TM1.1  | 12.84         |
| Band48 | 20MHz     | QPSK       | 56640   | E-TM1.1  | 12.61         |

## Test Graphs

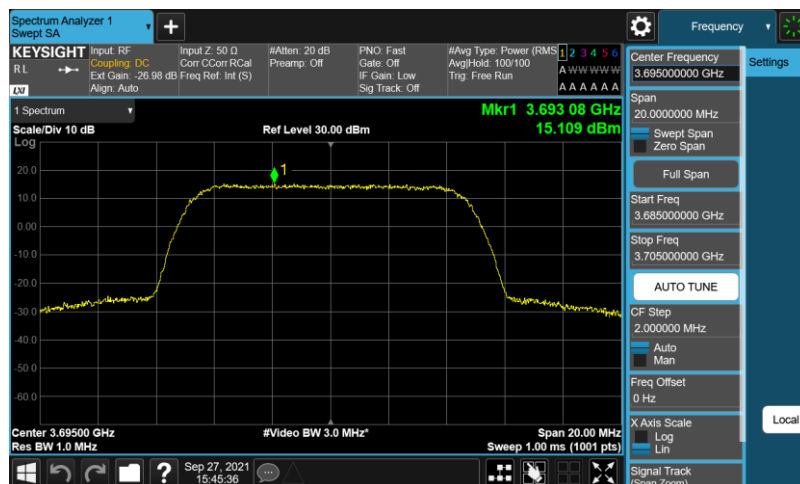
Band48-10MHz-256QAM-55290-E-TM3.1A



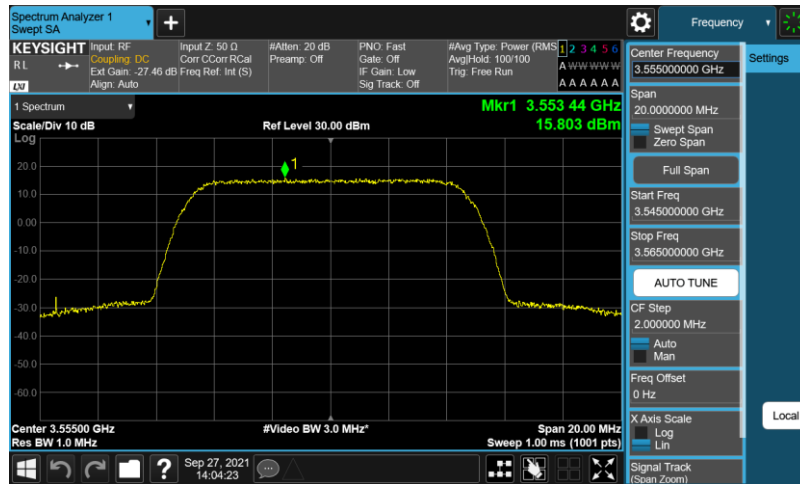
Band48-10MHz-256QAM-55990-E-TM3.1A



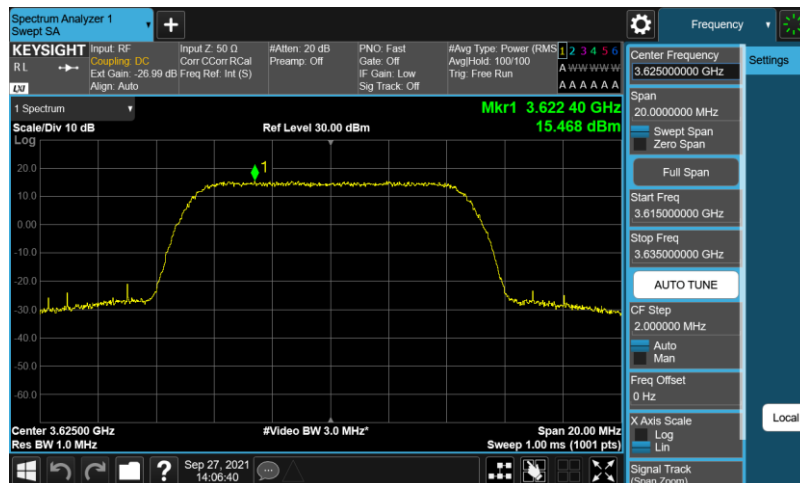
Band48-10MHz-256QAM-56690-E-TM3.1A



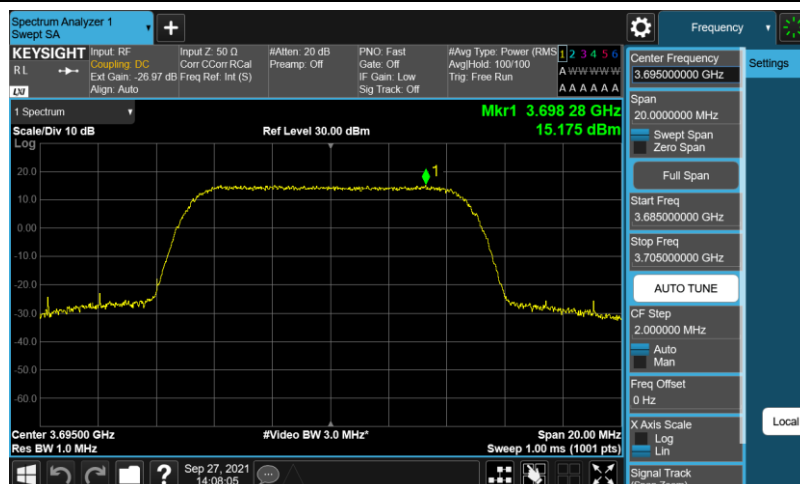
## Band48-10MHz-QPSK-55290-E-TM1.1



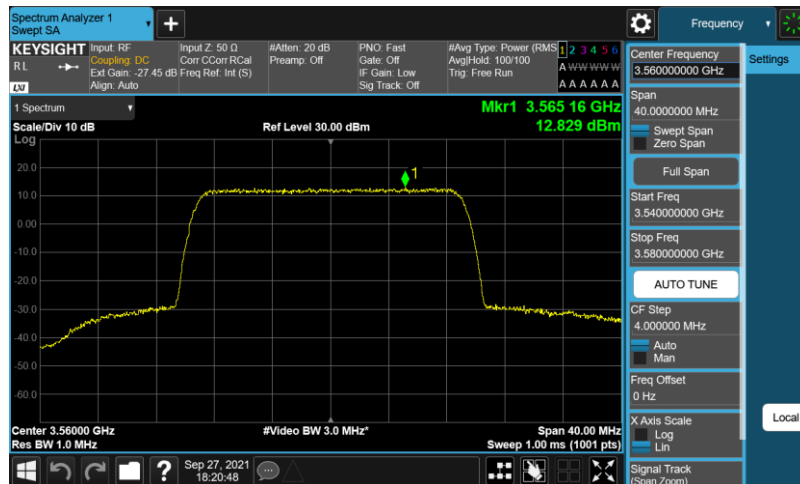
## Band48-10MHz-QPSK-55990-E-TM1.1



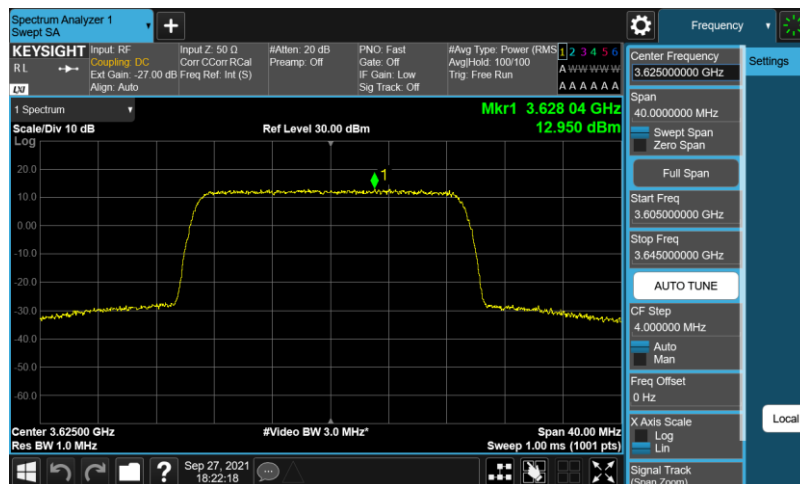
## Band48-10MHz-QPSK-56690-E-TM1.1



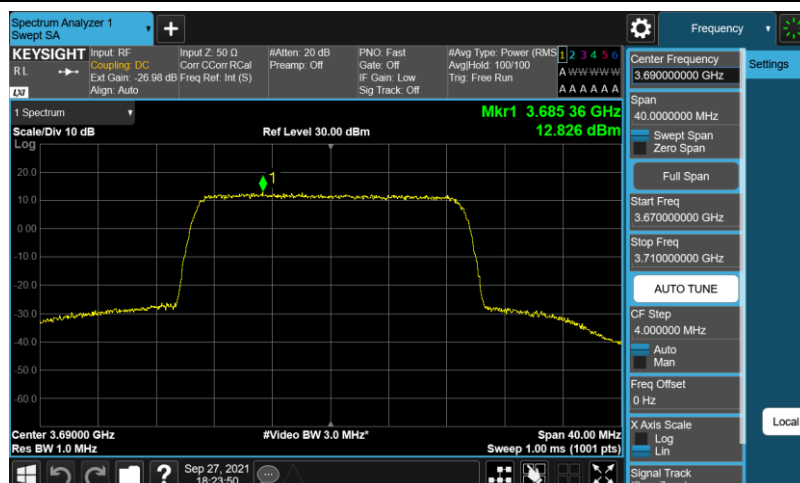
## Band48-20MHz-256QAM-55340-E-TM3.1A



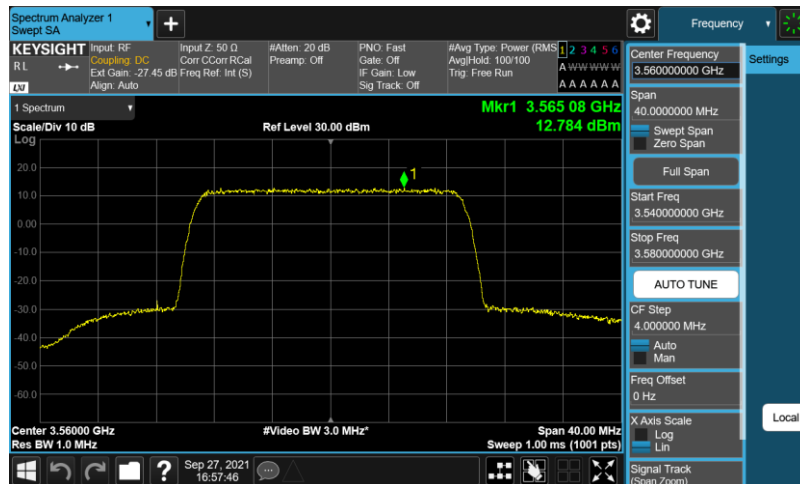
## Band48-20MHz-256QAM-55990-E-TM3.1A



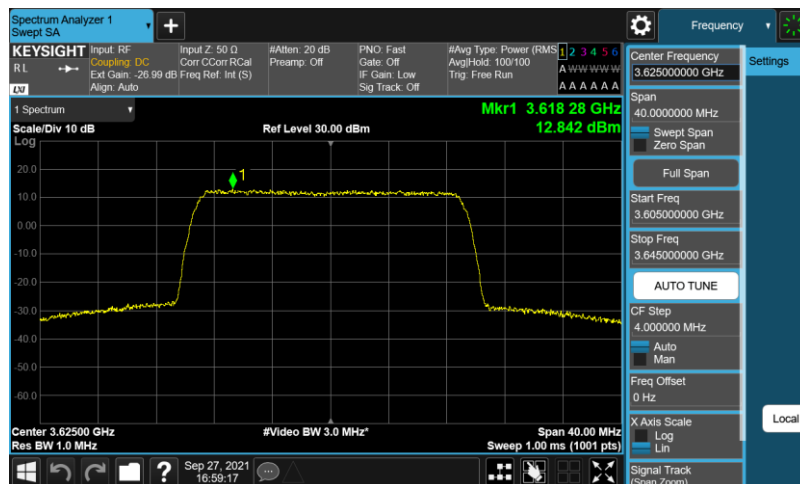
## Band48-20MHz-256QAM-56640-E-TM3.1A



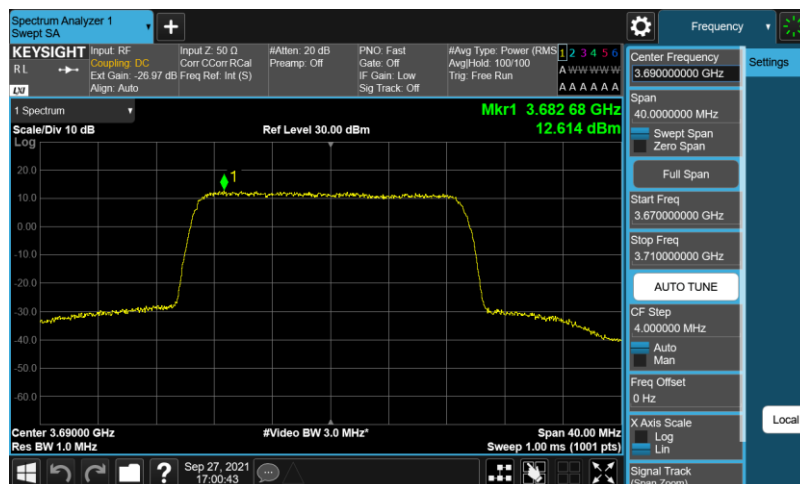
## Band48-20MHz-QPSK-55340-E-TM1.1



## Band48-20MHz-QPSK-55990-E-TM1.1



## Band48-20MHz-QPSK-56640-E-TM1.1



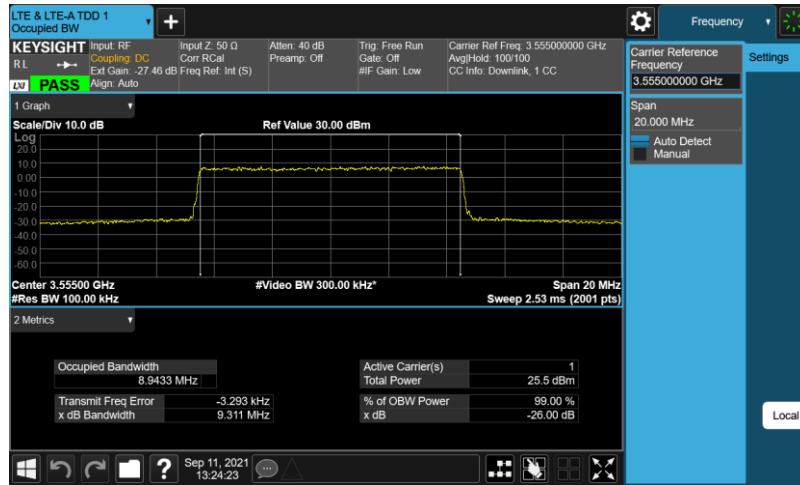
## Appendix C: 26dB Bandwidth and Occupied Bandwidth

### Test Result

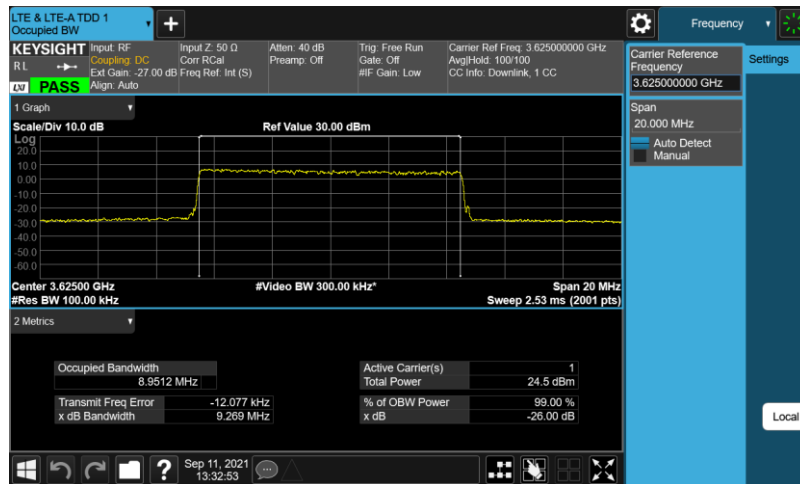
| Band   | Bandwidth | Modulation | Channel | Mode     | 99%(MHz) | EBW(MHz) |
|--------|-----------|------------|---------|----------|----------|----------|
| Band48 | 10MHz     | 256QAM     | 55290   | E-TM3.1A | 8.9433   | 9.311    |
| Band48 | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 8.9512   | 9.269    |
| Band48 | 10MHz     | 256QAM     | 56690   | E-TM3.1A | 8.9435   | 9.345    |
| Band48 | 10MHz     | QPSK       | 55290   | E-TM1.1  | 8.9410   | 9.364    |
| Band48 | 10MHz     | QPSK       | 55990   | E-TM1.1  | 8.9240   | 9.298    |
| Band48 | 10MHz     | QPSK       | 56690   | E-TM1.1  | 8.9312   | 9.370    |
| Band48 | 20MHz     | 256QAM     | 55340   | E-TM3.1A | 17.876   | 18.52    |
| Band48 | 20MHz     | 256QAM     | 55990   | E-TM3.1A | 17.860   | 18.52    |
| Band48 | 20MHz     | 256QAM     | 56640   | E-TM3.1A | 17.861   | 18.67    |
| Band48 | 20MHz     | QPSK       | 55340   | E-TM1.1  | 17.852   | 18.53    |
| Band48 | 20MHz     | QPSK       | 55990   | E-TM1.1  | 17.873   | 18.59    |
| Band48 | 20MHz     | QPSK       | 56640   | E-TM1.1  | 17.866   | 18.59    |

## Test Graphs

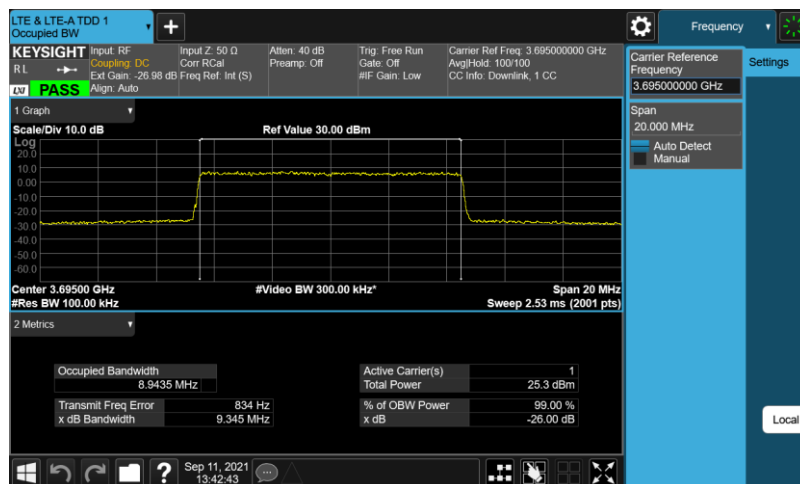
Band48-10MHz-256QAM-55290-E-TM3.1A



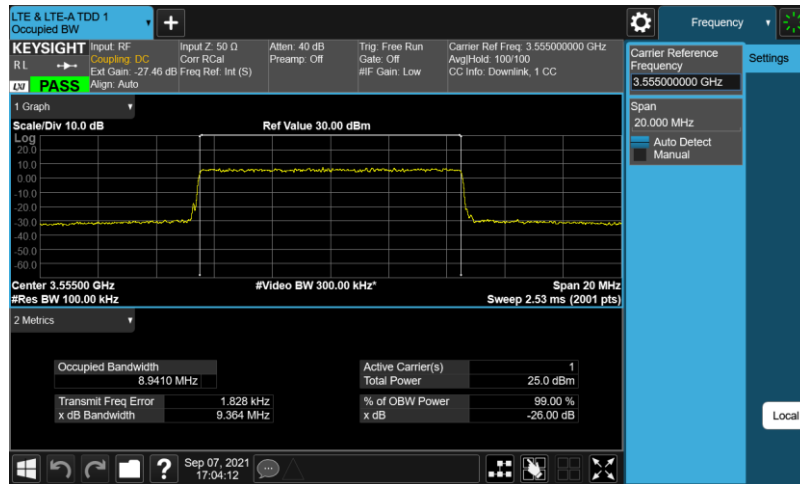
Band48-10MHz-256QAM-55990-E-TM3.1A



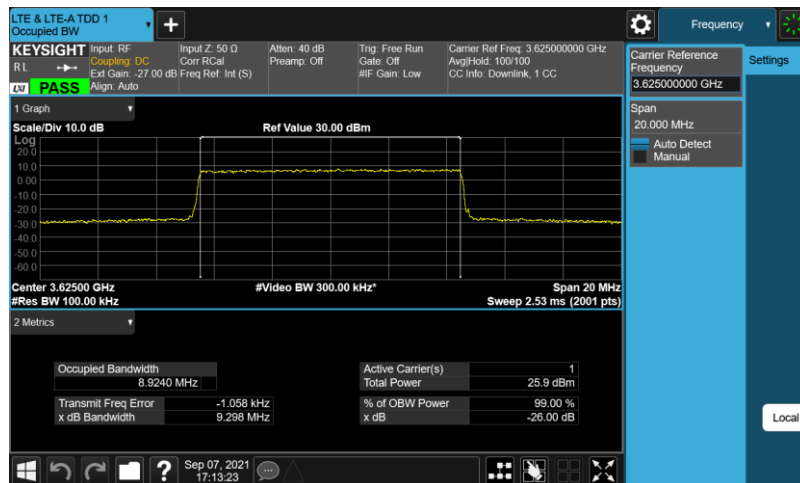
Band48-10MHz-256QAM-56690-E-TM3.1A



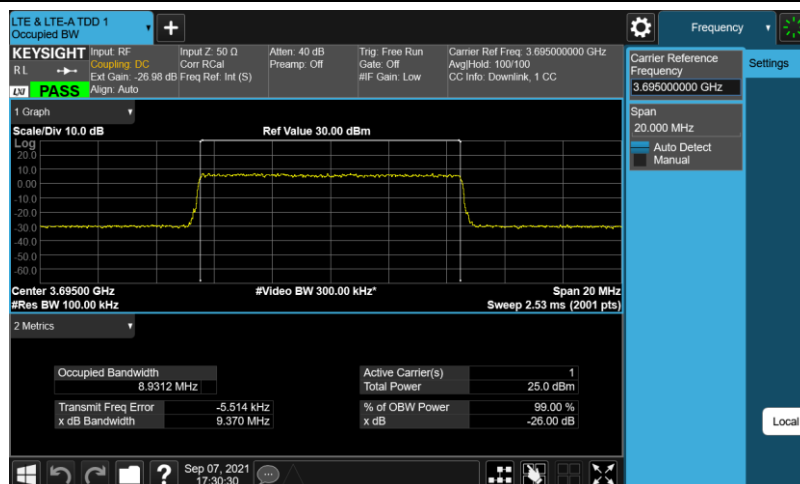
## Band48-10MHz-QPSK-55290-E-TM1.1



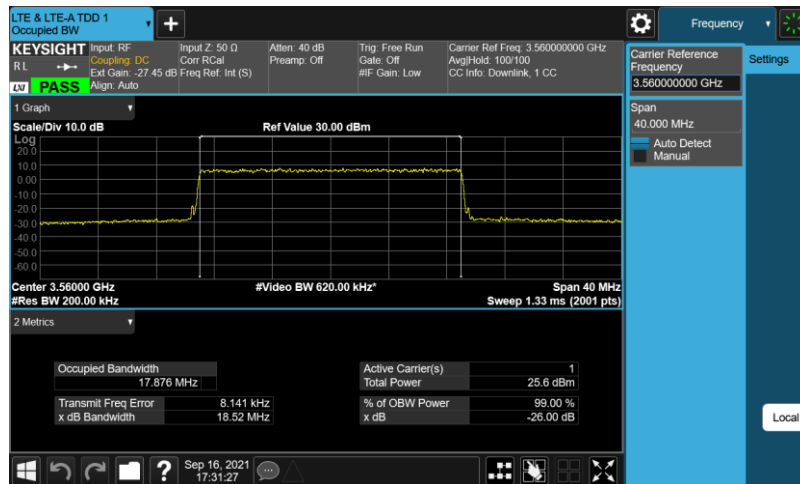
## Band48-10MHz-QPSK-55990-E-TM1.1



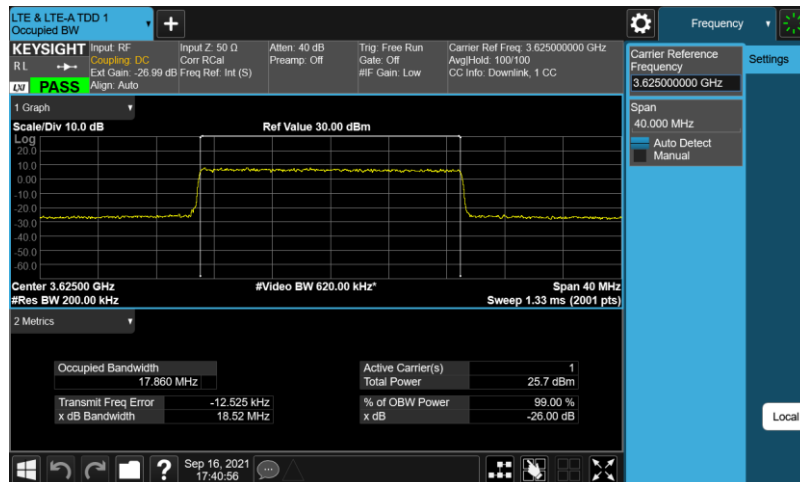
## Band48-10MHz-QPSK-56690-E-TM1.1



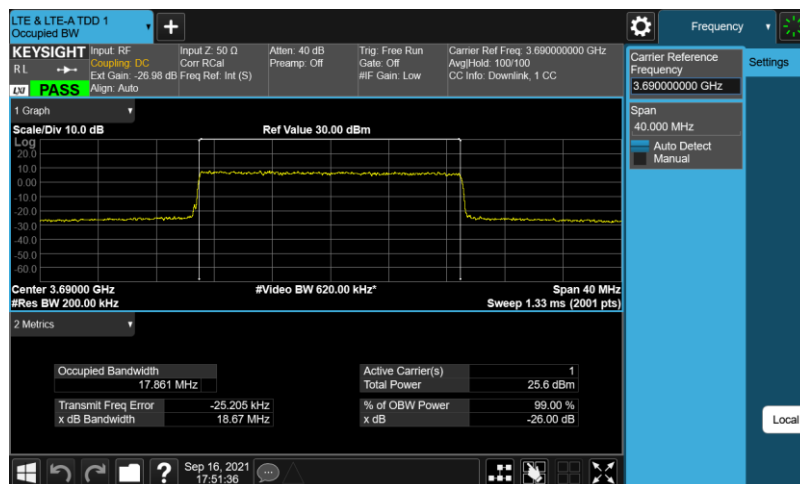
### Band48-20MHz-256QAM-55340-E-TM3.1A



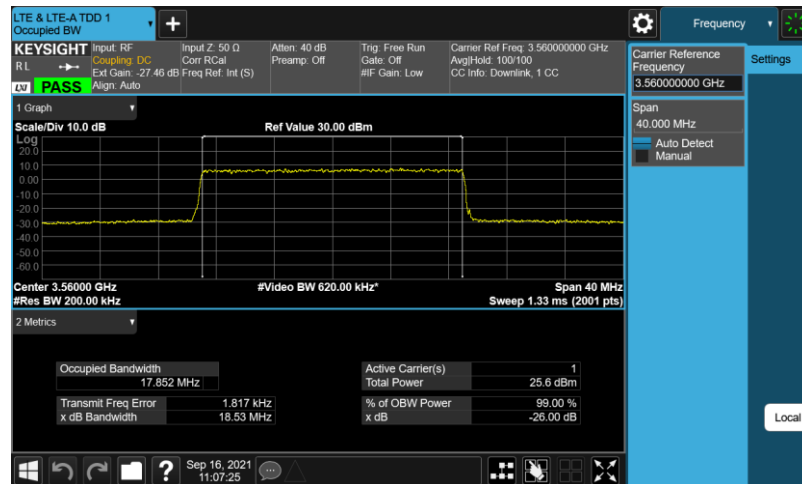
### Band48-20MHz-256QAM-55990-E-TM3.1A



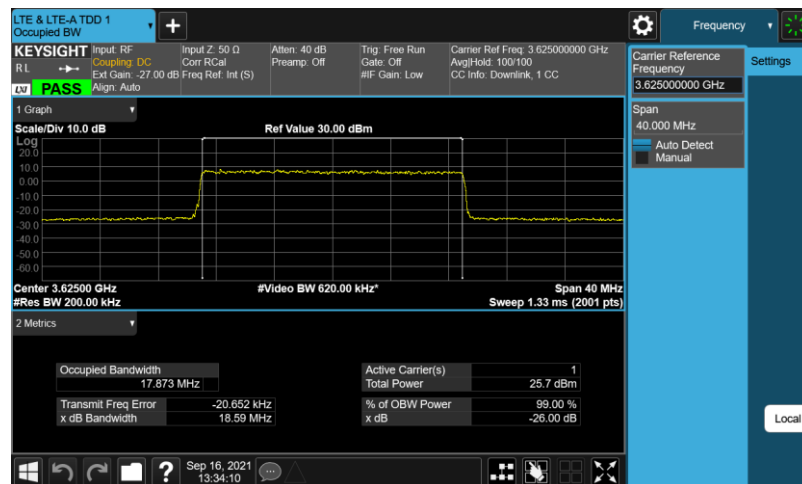
### Band48-20MHz-256QAM-56640-E-TM3.1A



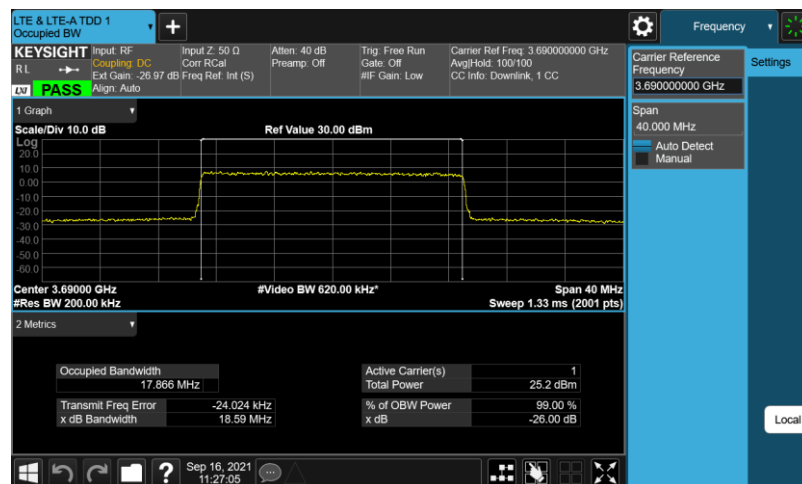
## Band48-20MHz-QPSK-55340-E-TM1.1



## Band48-20MHz-QPSK-55990-E-TM1.1



## Band48-20MHz-QPSK-56640-E-TM1.1



## Appendix D: Frequency Stability

### Test Result

| Voltage measurement |           |            |         |          |               |                  |                |                 |                             |
|---------------------|-----------|------------|---------|----------|---------------|------------------|----------------|-----------------|-----------------------------|
| Band                | Bandwidth | Modulation | Channel | Mode     | Voltage [Vac] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm)                 |
| Band48              | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 102           | 25               | 66             | 0.018           | within the authorized bands |
| Band48              | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | 25               | 68             | 0.019           |                             |
| Band48              | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 138           | 25               | 60             | 0.017           |                             |
| Band48              | 10MHz     | QPSK       | 55990   | E-TM1.1  | 102           | 25               | 65             | 0.018           |                             |
| Band48              | 10MHz     | QPSK       | 55990   | E-TM1.1  | 120           | 25               | 67             | 0.018           |                             |
| Band48              | 10MHz     | QPSK       | 55990   | E-TM1.1  | 138           | 25               | 66             | 0.018           |                             |
| Band48              | 20MHz     | 256QAM     | 55990   | E-TM3.1A | 102           | 25               | 68             | 0.019           |                             |
| Band48              | 20MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | 25               | 66             | 0.018           |                             |
| Band48              | 20MHz     | 256QAM     | 55990   | E-TM3.1A | 138           | 25               | 64             | 0.018           |                             |
| Band48              | 20MHz     | QPSK       | 55990   | E-TM1.1  | 102           | 25               | 70             | 0.019           |                             |
| Band48              | 20MHz     | QPSK       | 55990   | E-TM1.1  | 120           | 25               | 72             | 0.020           |                             |
| Band48              | 20MHz     | QPSK       | 55990   | E-TM1.1  | 138           | 25               | 72             | 0.020           |                             |

| Temperature measurement |           |            |         |          |               |                  |                |                 |                             |
|-------------------------|-----------|------------|---------|----------|---------------|------------------|----------------|-----------------|-----------------------------|
| Band                    | Bandwidth | Modulation | Channel | Mode     | Voltage [Vac] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm)                 |
| Band48                  | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | -30              | 62             | 0.017           | within the authorized bands |
| Band48                  | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | -20              | 59             | 0.016           |                             |
| Band48                  | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | -10              | 64             | 0.018           |                             |
| Band48                  | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | 0                | 66             | 0.018           |                             |
| Band48                  | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | 10               | 59             | 0.016           |                             |
| Band48                  | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | 20               | 62             | 0.017           |                             |
| Band48                  | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | 30               | 60             | 0.017           |                             |
| Band48                  | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | 40               | 61             | 0.017           |                             |
| Band48                  | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 120           | 50               | 58             | 0.016           |                             |
| Band48                  | 10MHz     | QPSK       | 55990   | E-TM1.1  | 120           | -30              | 72             | 0.020           |                             |
| Band48                  | 10MHz     | QPSK       | 55990   | E-TM1.1  | 120           | -20              | 68             | 0.019           |                             |
| Band48                  | 10MHz     | QPSK       | 55990   | E-TM1.1  | 120           | -10              | 73             | 0.020           |                             |
| Band48                  | 10MHz     | QPSK       | 55990   | E-TM1.1  | 120           | 0                | 66             | 0.018           |                             |
| Band48                  | 10MHz     | QPSK       | 55990   | E-TM1.1  | 120           | 10               | 68             | 0.019           |                             |
| Band48                  | 10MHz     | QPSK       | 55990   | E-TM1.1  | 120           | 20               | 70             | 0.019           |                             |
| Band48                  | 10MHz     | QPSK       | 55990   | E-TM1.1  | 120           | 30               | 70             | 0.019           |                             |

|        |       |        |       |          |     |     |    |       |  |
|--------|-------|--------|-------|----------|-----|-----|----|-------|--|
| Band48 | 10MHz | QPSK   | 55990 | E-TM1.1  | 120 | 40  | 72 | 0.020 |  |
| Band48 | 10MHz | QPSK   | 55990 | E-TM1.1  | 120 | 50  | 67 | 0.018 |  |
| Band48 | 20MHz | 256QAM | 55990 | E-TM3.1A | 120 | -30 | 78 | 0.022 |  |
| Band48 | 20MHz | 256QAM | 55990 | E-TM3.1A | 120 | -20 | 80 | 0.022 |  |
| Band48 | 20MHz | 256QAM | 55990 | E-TM3.1A | 120 | -10 | 77 | 0.021 |  |
| Band48 | 20MHz | 256QAM | 55990 | E-TM3.1A | 120 | 0   | 76 | 0.021 |  |
| Band48 | 20MHz | 256QAM | 55990 | E-TM3.1A | 120 | 10  | 78 | 0.022 |  |
| Band48 | 20MHz | 256QAM | 55990 | E-TM3.1A | 120 | 20  | 80 | 0.022 |  |
| Band48 | 20MHz | 256QAM | 55990 | E-TM3.1A | 120 | 30  | 77 | 0.021 |  |
| Band48 | 20MHz | 256QAM | 55990 | E-TM3.1A | 120 | 40  | 75 | 0.021 |  |
| Band48 | 20MHz | 256QAM | 55990 | E-TM3.1A | 120 | 50  | 72 | 0.020 |  |
| Band48 | 20MHz | QPSK   | 55990 | E-TM1.1  | 120 | -30 | 80 | 0.022 |  |
| Band48 | 20MHz | QPSK   | 55990 | E-TM1.1  | 120 | -20 | 81 | 0.022 |  |
| Band48 | 20MHz | QPSK   | 55990 | E-TM1.1  | 120 | -10 | 78 | 0.022 |  |
| Band48 | 20MHz | QPSK   | 55990 | E-TM1.1  | 120 | 0   | 76 | 0.021 |  |
| Band48 | 20MHz | QPSK   | 55990 | E-TM1.1  | 120 | 10  | 78 | 0.022 |  |
| Band48 | 20MHz | QPSK   | 55990 | E-TM1.1  | 120 | 20  | 80 | 0.022 |  |
| Band48 | 20MHz | QPSK   | 55990 | E-TM1.1  | 120 | 30  | 82 | 0.023 |  |
| Band48 | 20MHz | QPSK   | 55990 | E-TM1.1  | 120 | 40  | 78 | 0.022 |  |
| Band48 | 20MHz | QPSK   | 55990 | E-TM1.1  | 120 | 50  | 76 | 0.021 |  |

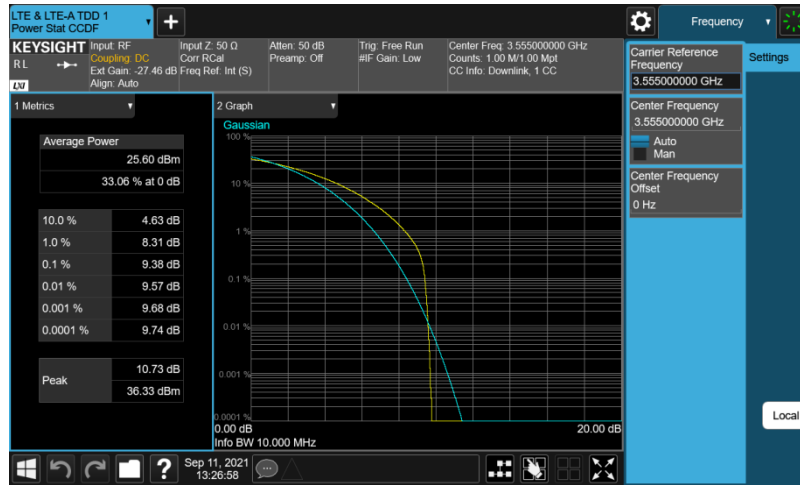
## Appendix E: Peak-to-Average Ratio(CCDF)

### Test Result

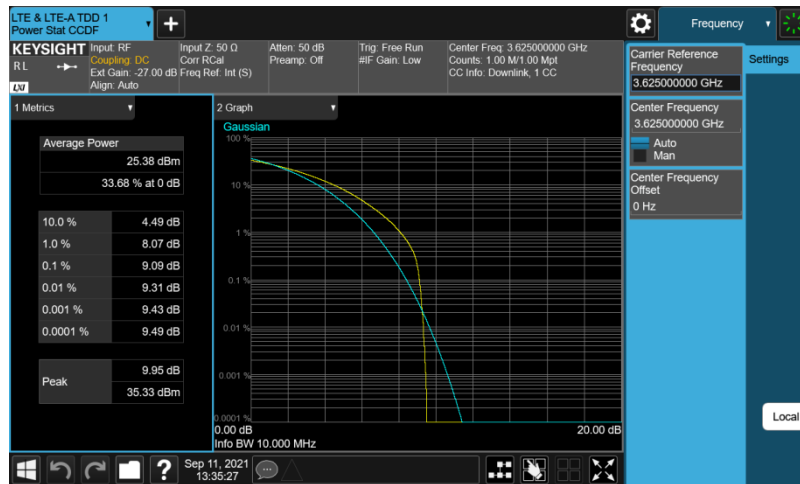
| Band   | Bandwidth | Modulation | Channel | Mode     | Result(dBm) |
|--------|-----------|------------|---------|----------|-------------|
| Band48 | 10MHz     | 256QAM     | 55290   | E-TM3.1A | 9.38        |
| Band48 | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 9.09        |
| Band48 | 10MHz     | 256QAM     | 56690   | E-TM3.1A | 9.33        |
| Band48 | 10MHz     | QPSK       | 55290   | E-TM1.1  | 9.30        |
| Band48 | 10MHz     | QPSK       | 55990   | E-TM1.1  | 9.35        |
| Band48 | 10MHz     | QPSK       | 56690   | E-TM1.1  | 9.09        |
| Band48 | 20MHz     | 256QAM     | 55340   | E-TM3.1A | 8.91        |
| Band48 | 20MHz     | 256QAM     | 55990   | E-TM3.1A | 10.48       |
| Band48 | 20MHz     | 256QAM     | 56640   | E-TM3.1A | 9.51        |
| Band48 | 20MHz     | QPSK       | 55340   | E-TM1.1  | 9.11        |
| Band48 | 20MHz     | QPSK       | 55990   | E-TM1.1  | 9.44        |
| Band48 | 20MHz     | QPSK       | 56640   | E-TM1.1  | 9.17        |

## Test Graphs

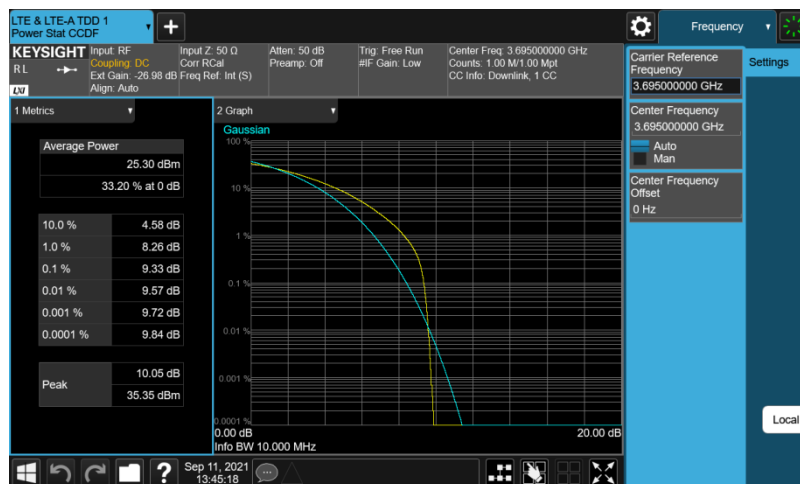
Band48-10MHz-256QAM-55290-E-TM3.1A



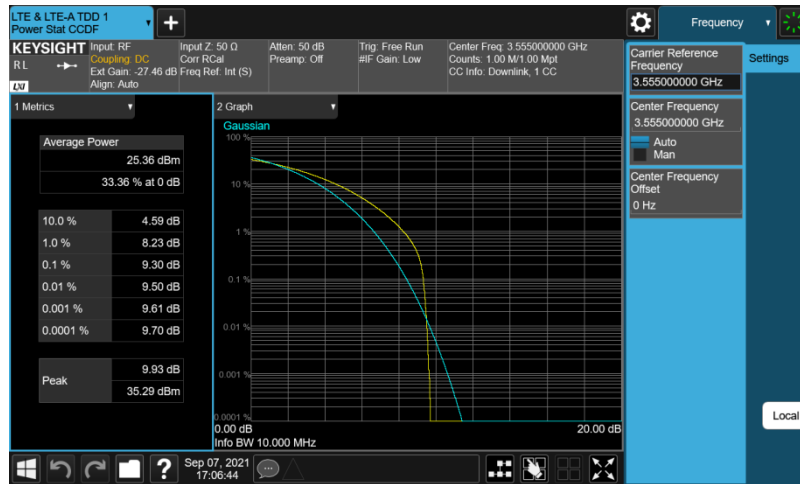
Band48-10MHz-256QAM-55990-E-TM3.1A



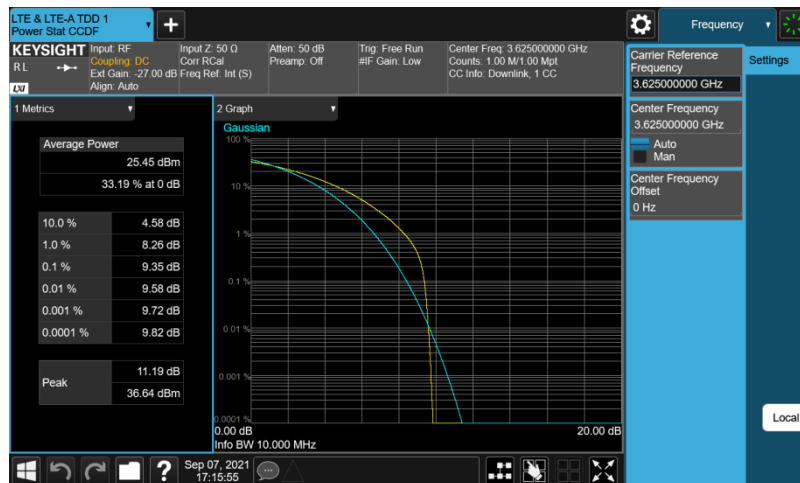
Band48-10MHz-256QAM-56690-E-TM3.1A



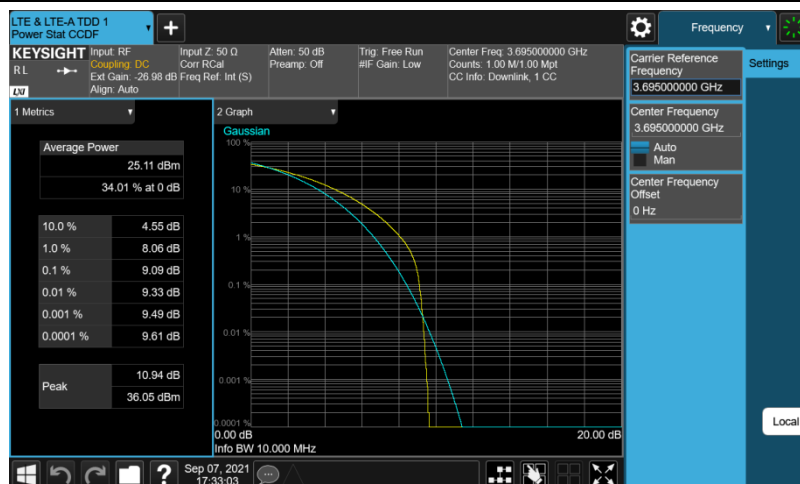
## Band48-10MHz-QPSK-55290-E-TM1.1



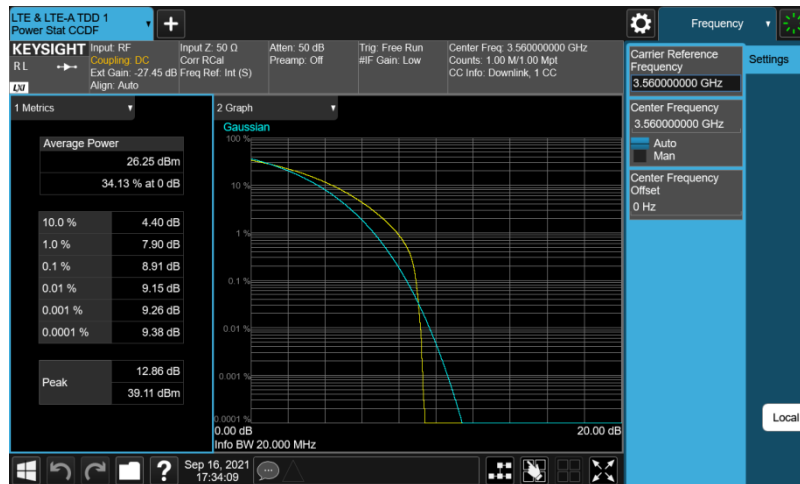
## Band48-10MHz-QPSK-55990-E-TM1.1



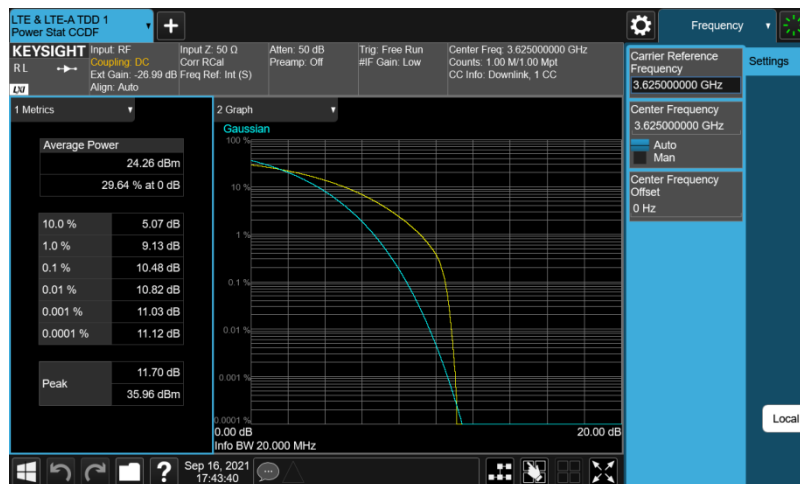
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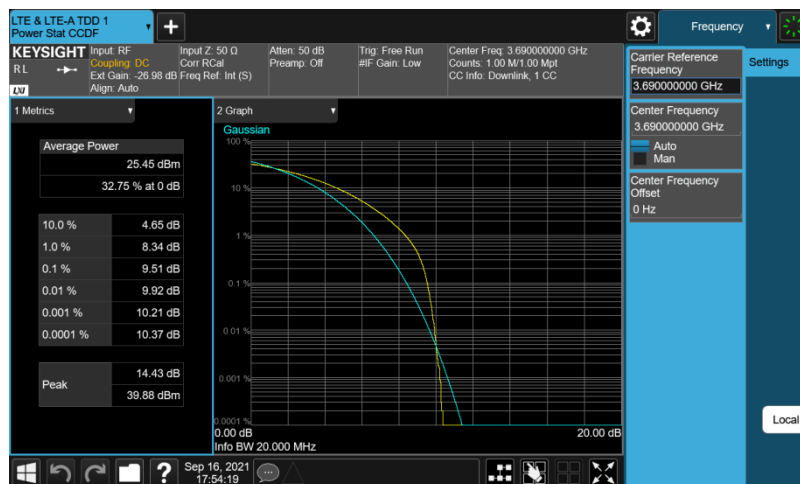
### Band48-20MHz-256QAM-55340-E-TM3.1A



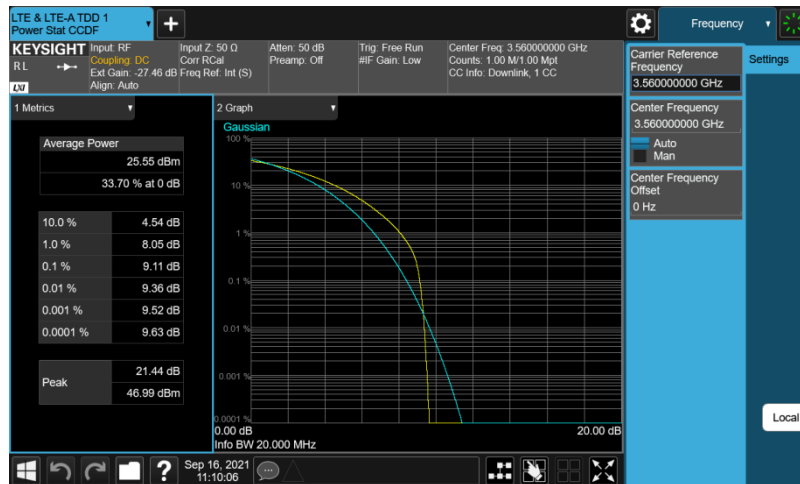
### Band48-20MHz-256QAM-55990-E-TM3.1A



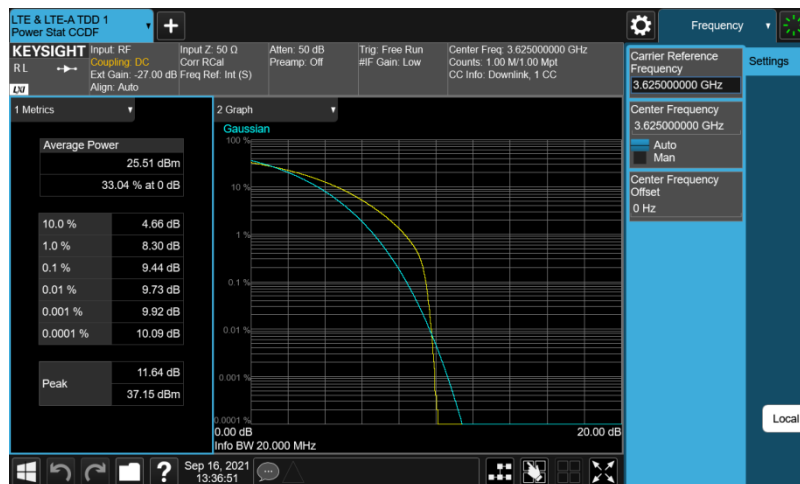
### Band48-20MHz-256QAM-56640-E-TM3.1A



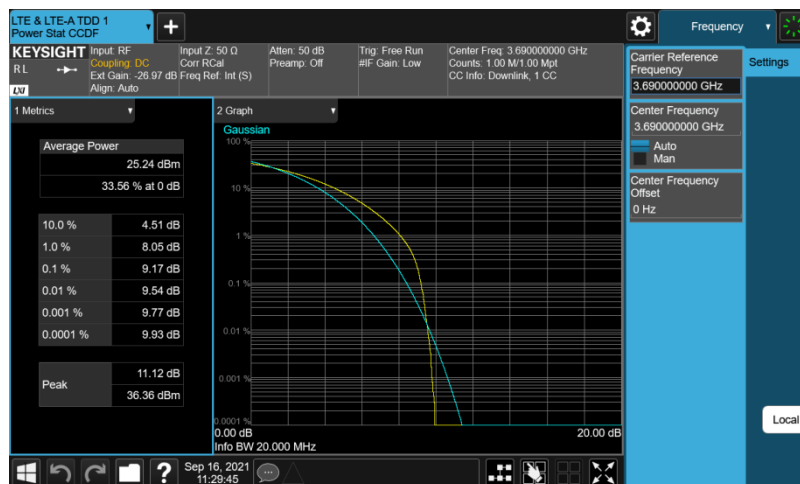
### Band48-20MHz-QPSK-55340-E-TM1.1



### Band48-20MHz-QPSK-55990-E-TM1.1



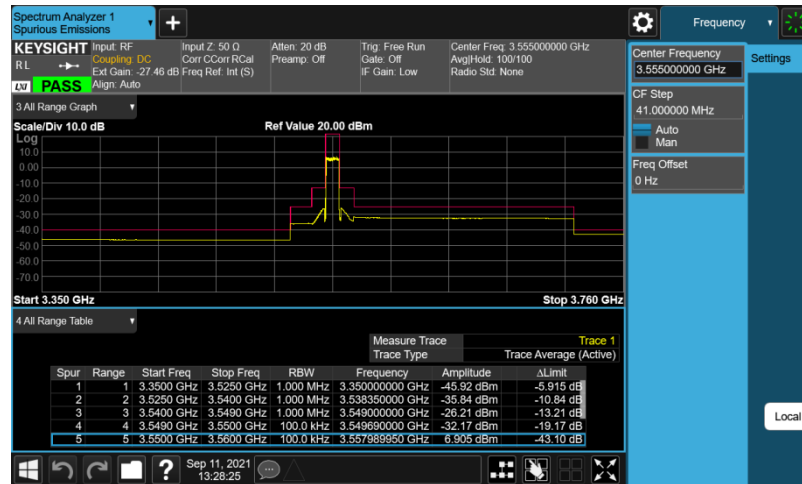
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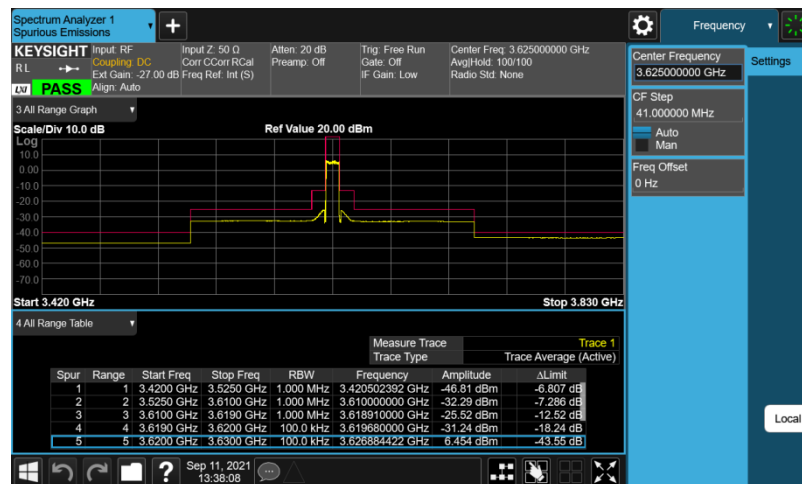
## Appendix F: Emission Mask

### Test Graphs

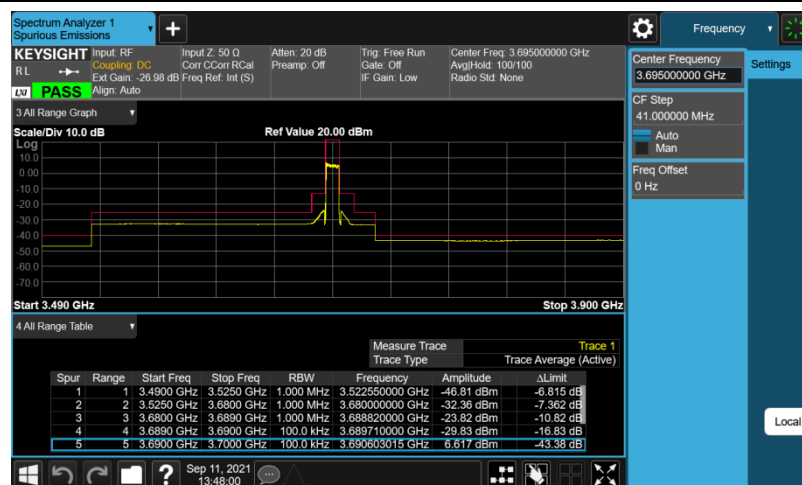
Band48-10MHz-256QAM-55290-E-TM3.1A



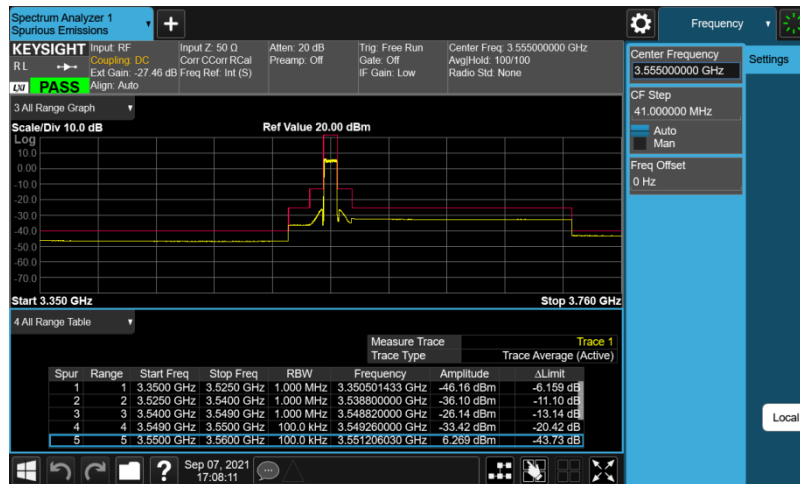
Band48-10MHz-256QAM-55990-E-TM3.1A



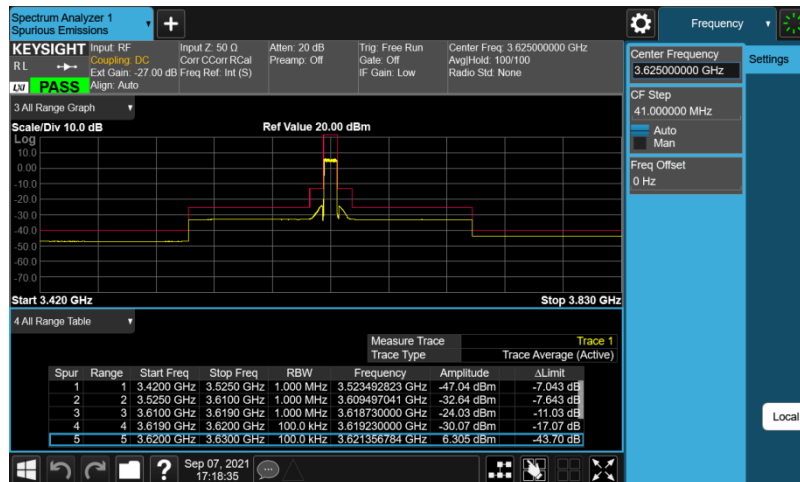
Band48-10MHz-256QAM-56690-E-TM3.1A



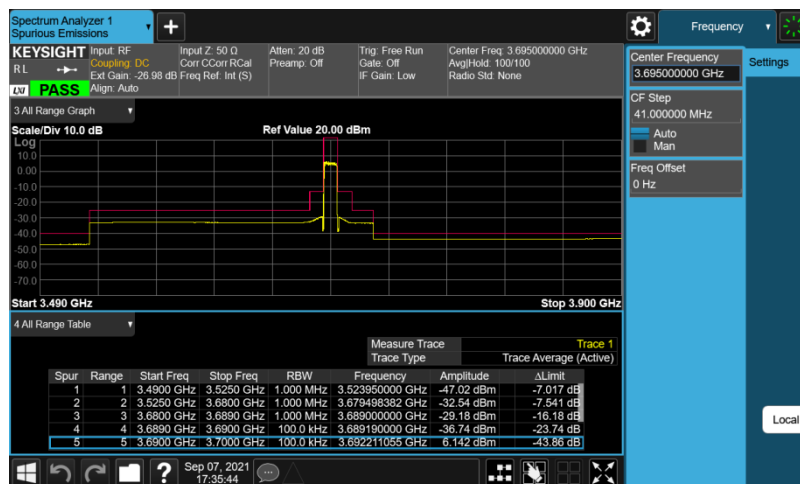
## Band48-10MHz-QPSK-55290-E-TM1.1



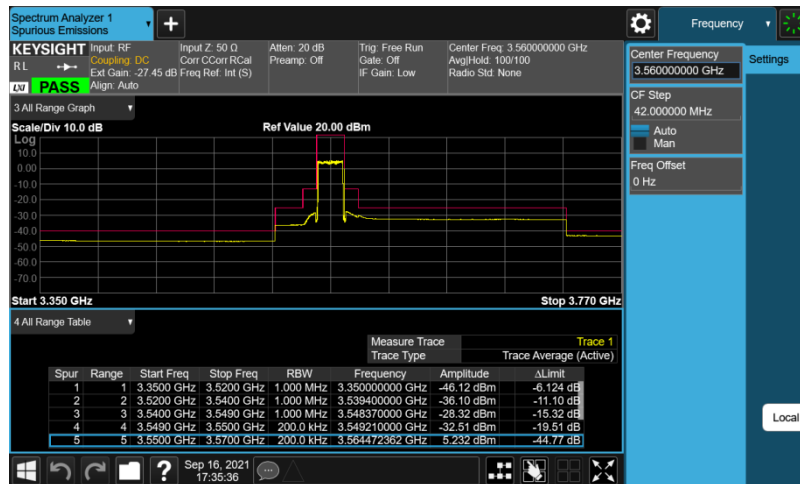
## Band48-10MHz-QPSK-55990-E-TM1.1



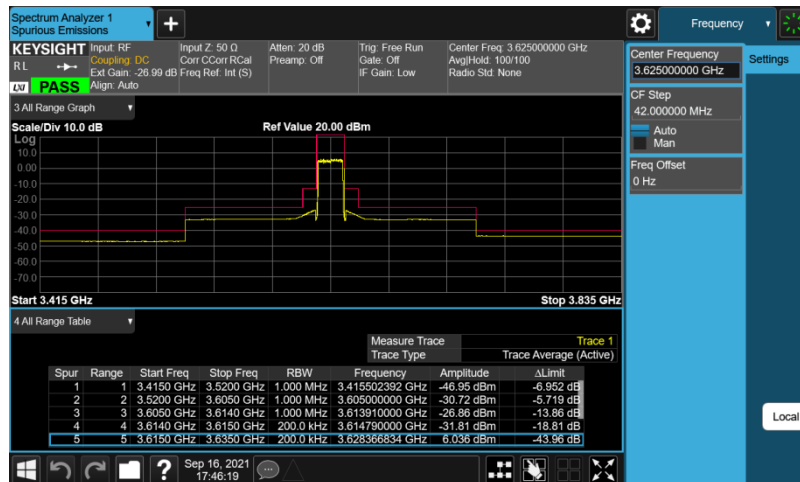
## Band48-10MHz-QPSK-56690-E-TM1.1



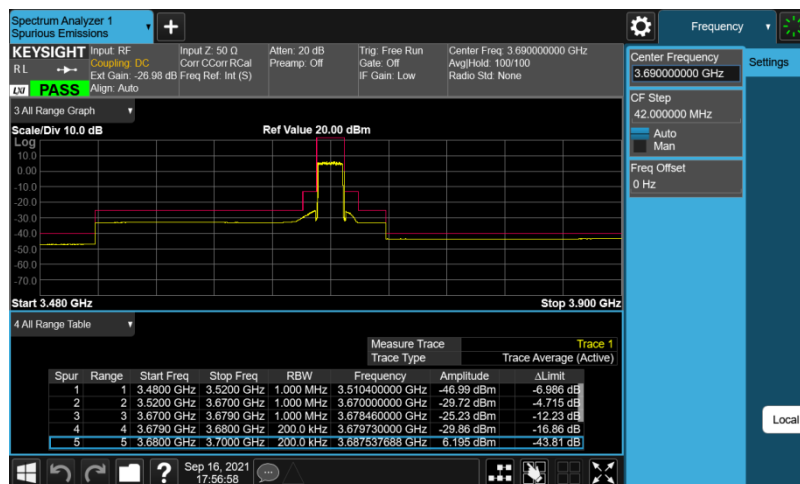
### Band48-20MHz-256QAM-55340-E-TM3.1A



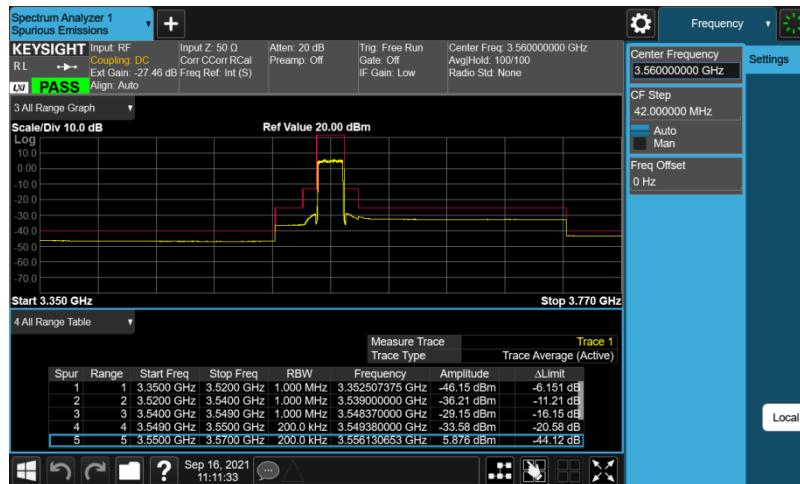
### Band48-20MHz-256QAM-55990-E-TM3.1A



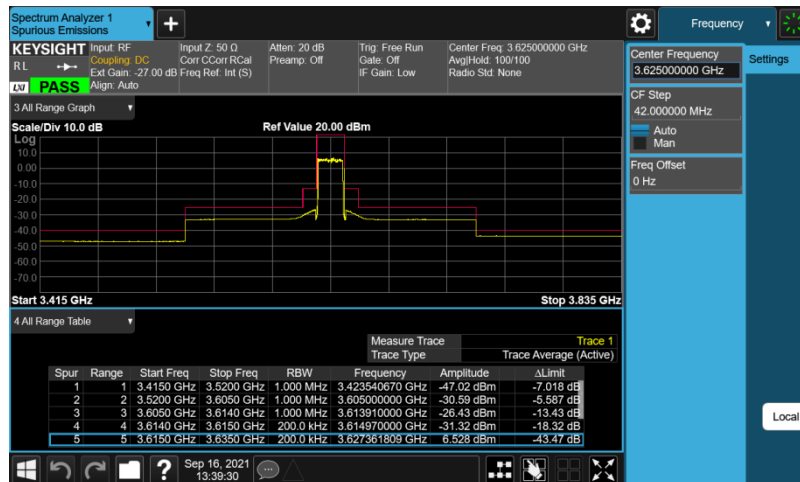
### Band48-20MHz-256QAM-56640-E-TM3.1A



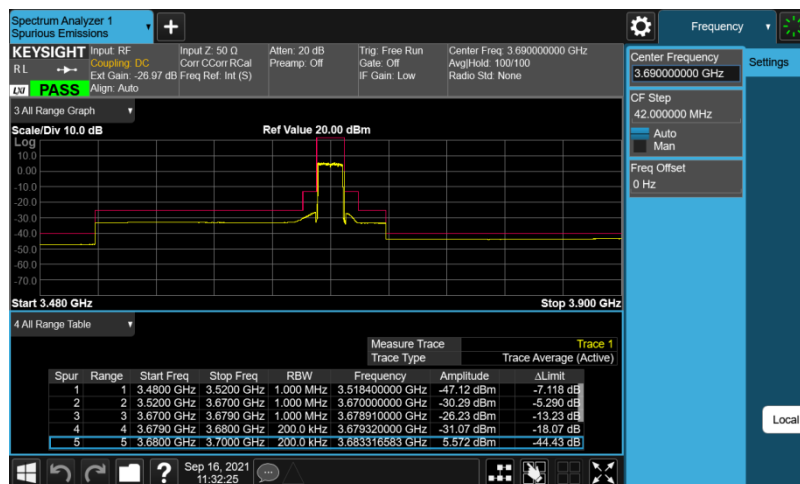
## Band48-20MHz-QPSK-55340-E-TM1.1



## Band48-20MHz-QPSK-55990-E-TM1.1



## Band48-20MHz-QPSK-56640-E-TM1.1



## Appendix G: Conducted Spurious Emission

### Test Result

| Band   | Bandwidth | Modulation | Channel | Mode     | Test Frequency(MHz) | Result (dBm) | Verdict |
|--------|-----------|------------|---------|----------|---------------------|--------------|---------|
| Band48 | 10MHz     | 256QAM     | 55290   | E-TM3.1A | 30-3530             | -53.62       | PASS    |
| Band48 | 10MHz     | 256QAM     | 55290   | E-TM3.1A | 3720-6000           | -52.93       | PASS    |
| Band48 | 10MHz     | 256QAM     | 55290   | E-TM3.1A | 6000-40000          | -53.41       | PASS    |
| Band48 | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 30-3530             | -53.94       | PASS    |
| Band48 | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 3720-6000           | -52.78       | PASS    |
| Band48 | 10MHz     | 256QAM     | 55990   | E-TM3.1A | 6000-40000          | -53.37       | PASS    |
| Band48 | 10MHz     | 256QAM     | 56690   | E-TM3.1A | 30-3530             | -53.87       | PASS    |
| Band48 | 10MHz     | 256QAM     | 56690   | E-TM3.1A | 3720-6000           | -52.98       | PASS    |
| Band48 | 10MHz     | 256QAM     | 56690   | E-TM3.1A | 6000-40000          | -53.43       | PASS    |
| Band48 | 10MHz     | QPSK       | 55290   | E-TM1.1  | 30-3530             | -53.77       | PASS    |
| Band48 | 10MHz     | QPSK       | 55290   | E-TM1.1  | 3720-6000           | -52.82       | PASS    |
| Band48 | 10MHz     | QPSK       | 55290   | E-TM1.1  | 6000-40000          | -53.54       | PASS    |
| Band48 | 10MHz     | QPSK       | 55990   | E-TM1.1  | 30-3530             | -53.92       | PASS    |
| Band48 | 10MHz     | QPSK       | 55990   | E-TM1.1  | 3720-6000           | -53.25       | PASS    |
| Band48 | 10MHz     | QPSK       | 55990   | E-TM1.1  | 6000-40000          | -53.58       | PASS    |
| Band48 | 10MHz     | QPSK       | 56690   | E-TM1.1  | 30-3530             | -54.27       | PASS    |
| Band48 | 10MHz     | QPSK       | 56690   | E-TM1.1  | 3720-6000           | -53.18       | PASS    |
| Band48 | 10MHz     | QPSK       | 56690   | E-TM1.1  | 6000-40000          | -53.63       | PASS    |
| Band48 | 20MHz     | 256QAM     | 55340   | E-TM3.1A | 30-3530             | -53.72       | PASS    |
| Band48 | 20MHz     | 256QAM     | 55340   | E-TM3.1A | 3720-6000           | -52.93       | PASS    |
| Band48 | 20MHz     | 256QAM     | 55340   | E-TM3.1A | 6000-40000          | -53.55       | PASS    |
| Band48 | 20MHz     | 256QAM     | 55990   | E-TM3.1A | 30-3530             | -54.36       | PASS    |
| Band48 | 20MHz     | 256QAM     | 55990   | E-TM3.1A | 3720-6000           | -52.94       | PASS    |
| Band48 | 20MHz     | 256QAM     | 55990   | E-TM3.1A | 6000-40000          | -53.47       | PASS    |
| Band48 | 20MHz     | 256QAM     | 56640   | E-TM3.1A | 30-3530             | -54.25       | PASS    |
| Band48 | 20MHz     | 256QAM     | 56640   | E-TM3.1A | 3720-6000           | -52.97       | PASS    |
| Band48 | 20MHz     | 256QAM     | 56640   | E-TM3.1A | 6000-40000          | -53.57       | PASS    |
| Band48 | 20MHz     | QPSK       | 55340   | E-TM1.1  | 30-3530             | -53.83       | PASS    |
| Band48 | 20MHz     | QPSK       | 55340   | E-TM1.1  | 3720-6000           | -52.90       | PASS    |
| Band48 | 20MHz     | QPSK       | 55340   | E-TM1.1  | 6000-40000          | -53.76       | PASS    |
| Band48 | 20MHz     | QPSK       | 55990   | E-TM1.1  | 30-3530             | -54.32       | PASS    |

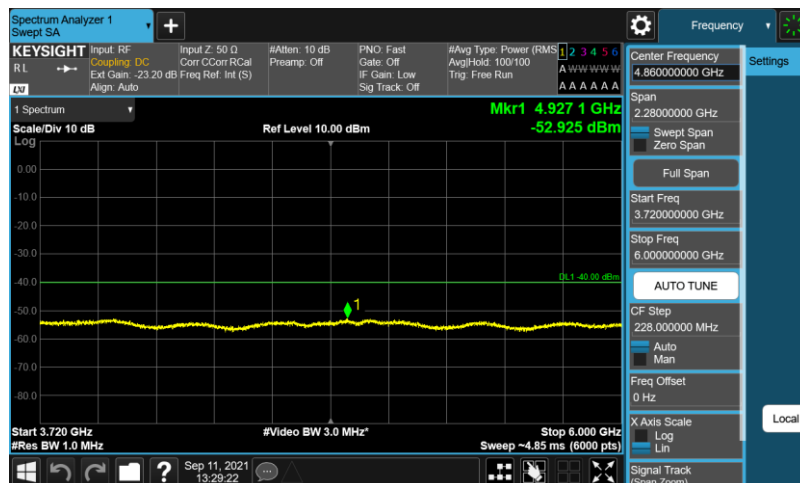
|        |       |      |       |         |            |        |      |
|--------|-------|------|-------|---------|------------|--------|------|
| Band48 | 20MHz | QPSK | 55990 | E-TM1.1 | 3720-6000  | -53.14 | PASS |
| Band48 | 20MHz | QPSK | 55990 | E-TM1.1 | 6000-40000 | -53.58 | PASS |
| Band48 | 20MHz | QPSK | 56640 | E-TM1.1 | 30-3530    | -54.09 | PASS |
| Band48 | 20MHz | QPSK | 56640 | E-TM1.1 | 3720-6000  | -53.08 | PASS |
| Band48 | 20MHz | QPSK | 56640 | E-TM1.1 | 6000-40000 | -53.69 | PASS |

## Test Graphs

Band48-10MHz-256QAM-55290-E-TM3.1A-30-3530



Band48-10MHz-256QAM-55290-E-TM3.1A-3720-6000



Band48-10MHz-256QAM-55290-E-TM3.1A-6000-40000

