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|                       |      |        |           |
|-----------------------|------|--------|-----------|
| QPSK-Modulation ANT6  |      |        |           |
|                       | 2690 | -30.89 | compliant |
| QPSK-Modulation ANT7  |      |        |           |
|                       | 2691 | -28.83 | compliant |
| QPSK-Modulation ANT8  |      |        |           |
|                       | 2690 | -30.64 | compliant |
| 64QAM-Modulation ANT1 |      |        |           |
|                       | 2690 | -31.95 | compliant |
| 64QAM-Modulation ANT2 |      |        |           |
|                       | 2690 | -30.07 | compliant |
| 64QAM-Modulation ANT3 |      |        |           |
|                       | 2690 | -30.81 | compliant |
| 64QAM-Modulation ANT4 |      |        |           |
|                       | 2690 | -29.11 | compliant |
| 64QAM-Modulation ANT5 |      |        |           |
|                       | 2690 | -29.47 | compliant |
| 64QAM-Modulation ANT6 |      |        |           |
|                       | 2691 | -30.75 | compliant |
| 64QAM-Modulation ANT7 |      |        |           |
|                       | 2691 | -30.63 | compliant |
| 64QAM-Modulation ANT8 |      |        |           |
|                       | 2691 | -27.51 | compliant |
| 16QAM-Modulation ANT1 |      |        |           |
|                       | 2690 | -29.89 | compliant |
| 16QAM-Modulation ANT2 |      |        |           |
|                       | 2690 | -36.11 | compliant |
| 16QAM-Modulation ANT3 |      |        |           |
|                       | 2690 | -29.58 | compliant |
| 16QAM-Modulation ANT4 |      |        |           |
|                       | 2690 | -26.94 | compliant |
| 16QAM-Modulation ANT5 |      |        |           |
|                       | 2690 | -31.41 | compliant |
| 16QAM-Modulation ANT6 |      |        |           |
|                       | 2691 | -30.69 | compliant |
| 16QAM-Modulation ANT7 |      |        |           |

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|                          |      |                                                                                                                                                                              |           |
|--------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|                          | 2690 | -28.88                                                                                                                                                                       | compliant |
| 16QAM-Modulation ANT8    |      |                                                                                                                                                                              |           |
|                          | 2690 | -30.71                                                                                                                                                                       | compliant |
| Measurement Uncertainty: |      | $f < 1.0\text{GHz}$ : $\pm 1.1\text{dB}$ ,<br>$1.0\text{GHz} \leq f < 3.6\text{GHz}$ : $\pm 1.2\text{dB}$ ,<br>$3.6\text{GHz} \leq f < 8.0\text{GHz}$ : $\pm 1.6\text{dB}$ , |           |



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**Table 20 Configuration C, Spurious emissions**

| Carrier Frequency: 2573/2593/2613 MHz |                          |                              |           |
|---------------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz]                 | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result    |
| QPSK-Modulation ANT1                  |                          |                              |           |
| 0.009 - 26900                         | 5181                     | -28.8                        | compliant |
| QPSK-Modulation ANT2                  |                          |                              |           |
| 0.009 - 26900                         | 5181                     | -28.64                       | compliant |
| QPSK-Modulation ANT3                  |                          |                              |           |
| 0.009 - 26900                         | 5193                     | -28.52                       | compliant |
| QPSK-Modulation ANT4                  |                          |                              |           |
| 0.009 - 26900                         | 5181                     | -29.24                       | compliant |
| QPSK-Modulation ANT5                  |                          |                              |           |
| 0.009 - 26900                         | 5205                     | -30.81                       | compliant |
| QPSK-Modulation ANT6                  |                          |                              |           |
| 0.009 - 26900                         | 5181                     | -28.71                       | compliant |
| QPSK-Modulation ANT7                  |                          |                              |           |
| 0.009 - 26900                         | 2989                     | -28.88                       | compliant |
| QPSK-Modulation ANT8                  |                          |                              |           |
| 0.009 - 26900                         | 5181                     | -28.41                       | compliant |
| 64QAM-Modulation ANT1                 |                          |                              |           |
| 0.009 - 26900                         | 2993                     | -28.89                       | compliant |
| 64QAM-Modulation ANT2                 |                          |                              |           |
| 0.009 - 26900                         | 5193                     | -30.29                       | compliant |
| 64QAM-Modulation ANT3                 |                          |                              |           |
| 0.009 - 26900                         | 5193                     | -29.36                       | compliant |
| 64QAM-Modulation ANT4                 |                          |                              |           |
| 0.009 - 26900                         | 5181                     | -29.46                       | compliant |
| 64QAM-Modulation ANT5                 |                          |                              |           |
| 0.009 - 26900                         | 5193                     | -30.5                        | compliant |
| 64QAM-Modulation ANT6                 |                          |                              |           |
| 0.009 - 26900                         | 5181                     | -29.08                       | compliant |
| 64QAM-Modulation ANT7                 |                          |                              |           |
| 0.009 - 26900                         | 5181                     | -28.73                       | compliant |
| 64QAM-Modulation ANT8                 |                          |                              |           |
| 0.009 - 26900                         | 5193                     | -28.64                       | compliant |
| 16QAM-Modulation ANT1                 |                          |                              |           |
| 0.009 - 26900                         | 2984                     | -30.99                       | compliant |
| 16QAM-Modulation ANT2                 |                          |                              |           |
| 0.009 - 26900                         | 5193                     | -29.27                       | compliant |

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|                          |      |                                                                                                                                                                              |           |
|--------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 16QAM-Modulation ANT3    |      |                                                                                                                                                                              |           |
| 0.009 - 26900            | 5181 | -30.78                                                                                                                                                                       | compliant |
| 16QAM-Modulation ANT4    |      |                                                                                                                                                                              |           |
| 0.009 - 26900            | 5193 | -31.57                                                                                                                                                                       | compliant |
| 16QAM-Modulation ANT5    |      |                                                                                                                                                                              |           |
| 0.009 - 26900            | 5181 | -30.53                                                                                                                                                                       | compliant |
| 16QAM-Modulation ANT6    |      |                                                                                                                                                                              |           |
| 0.009 - 26900            | 5193 | -29.82                                                                                                                                                                       | compliant |
| 16QAM-Modulation ANT7    |      |                                                                                                                                                                              |           |
| 0.009 - 26900            | 5205 | -30.13                                                                                                                                                                       | compliant |
| 16QAM-Modulation ANT8    |      |                                                                                                                                                                              |           |
| 0.009 - 26900            | 5205 | -29.69                                                                                                                                                                       | compliant |
| Measurement Uncertainty: |      | $f < 1.0\text{GHz}$ : $\pm 1.1\text{dB}$ ,<br>$1.0\text{GHz} \leq f < 3.6\text{GHz}$ : $\pm 1.2\text{dB}$ ,<br>$3.6\text{GHz} \leq f < 8.0\text{GHz}$ : $\pm 1.6\text{dB}$ , |           |

The measured conducted emission levels were found to be compliant with the manufacturer's specifications and with all requirements of the FCC rules.



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#### **4.5 Test No. 5: Field Strength of Spurious Radiation (§ 2.1053, § 2.1057, § 27.53)**

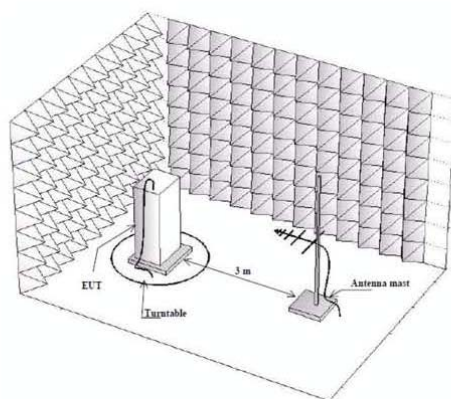
##### **4.5.1 Limits**

Para. No. 27.53(m). For BRS and EBS stations, the power of any emissions outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) measured in watts.

(m)(2) For digital base stations, the attenuation shall be not less than  $43 + 10 \log (P)$  dB ( $P$  = transmitter power in Watts).

##### **4.5.2 Test Configuration**

The measurements were performed in an anechoic chamber. The radiated test site complies with the site attenuation requirements listed in ANSI C63.4 2014 and is listed with the FCC.



**Figure 2 Test Configuration**

Photographs of the EUT in the anechoic chamber are shown on page 255 of this measurement report.

##### **4.5.3 Test Procedure and Results**

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TIA/EIA-603-C-2004, Section 2.2.12

The test was performed in a semi-anechoic shielded room. The EUT was placed on a non-conductive 0.8 m high table standing on the turntable. During the test in the frequency range 30 - 26500 MHz the distance from the EUT to the measuring antenna was 3 m. In order to find the maximum levels of the disturbance radiation the angle of the turntable, the height of the measuring antenna were varied during the tests. The test was performed with the measuring antenna being both in horizontal and vertical polarizations.

Vertical and horizontal polarizations in the frequency range 30 - 26500 MHz was first measured by using the peak detector. During the peak detector scan the turntable was rotated from 0° to 360° with 30° step with the antenna heights 1.0 m and 2.5 m.

The limit of -13 dBm has been calculated to correspond 84.4 dB (μV/m). Spurious emissions closer than 20 dB to the limit was measured with average detector.

According to § 2.1057, all emissions from the lowest radio frequency generated in the equipment, without going below 9 kHz, up to the 10th harmonic were investigated.

The antenna substitution method was used to determine the equivalent radiated power at spurious frequencies. The EUT was replaced with a reference substitution antenna with a known gain referenced to an isotropic radiator  $G_{\text{Antenna[dBi]}}$ . This antenna was fed with a signal at the spurious frequency  $P_{\text{Gen[dBm]}}$ . The level of the signal was adjusted to repeat the previously measured level. The resulting

EIRP is the signal level fed to the reference antenna corrected for gain referenced to an isotropic.

The formula below was used to calculate the EIRP of the EUT.

$$P_{\text{EIRP[dBm]}} = P_{\text{Gen[dBm]}} - L_{\text{Cable[dB]}} + G_{\text{Antenna[dBi]}}$$



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Worst case detected emission levels are reported in the following table (refer to spectral plots included on pages 100 for details). The antenna factor and cable loss is according to the manufacturer's specification.

**Config A, B:**

**Table 21**

| Carrier Frequency: 2506.0 MHz, 2593.0 MHz and 2680.0 MHz |                          |                              |           |
|----------------------------------------------------------|--------------------------|------------------------------|-----------|
| Frequency Range [MHz]                                    | Emission Frequency [MHz] | Maximum Emission Level [dBm] | Result    |
| QPSK-Modulation TX1                                      |                          |                              |           |
| 30 - 26500                                               | 26454.2428               | -25.63                       | compliant |
| Measurement Uncertainty:                                 |                          |                              | ±5.4dB    |

**Table 2 Field Strength of Spurious Radiation (20 MHz Channel BW)**

The measured emission levels were found to be compliant with the manufacturer's specifications and with all requirements of the FCC rules.

#### 4.6 Test No. 6: Frequency Stability (§ 2.1055, § 27.54)

##### 4.6.1 Purpose

Frequency stability measurements were performed to verify that the frequency deviation of the emission stays within the licensee's frequency block under extreme temperature

##### 4.6.2 Limits

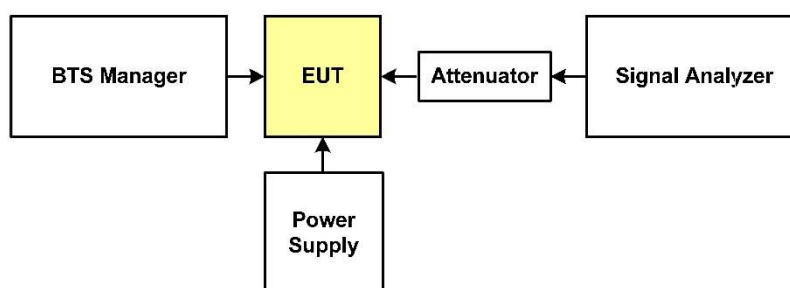
Para. No. 27.54. (-30 °C to +50 °C) and supply voltage conditions according to § 2.1055.



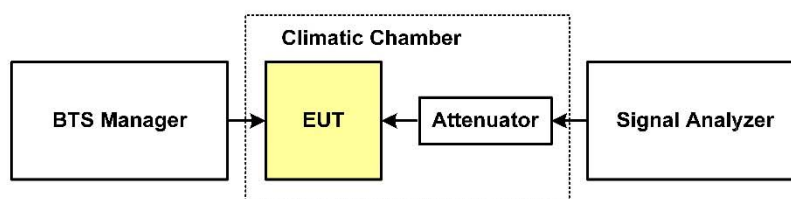
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#### 4.6.3 Test Configuration



**Figure 3 Test Configuration for frequency stability with voltage variation**



**Figure 4 Test Configuration for frequency stability with temperature variation**

A complete list of the measurement equipment is included on page 655 of this measurement report.

#### 4.6.4 Frequency Stability with Temperature Variation

The supply voltage of the EUT was set to the nominal value and the temperature of the environmental chamber was varied in 10 degree steps



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from -30 degrees Celsius to +50 degrees Celsius. The EUT was allowed to stabilize 60 min. at each temperature and the frequency error was measured.

**Table 22 Configuration A**

| Carrier Frequency: 2593.0 MHz |                             |                        |        |                                 |       |           |
|-------------------------------|-----------------------------|------------------------|--------|---------------------------------|-------|-----------|
| Supply Voltage<br>(DC) [V]    | Ambient Temperature<br>[°C] | Frequency<br>Deviation |        | Manufacturer's<br>Specification |       | Result    |
|                               |                             | [Hz]                   | [ppm]  | [Hz]                            | [ppm] |           |
| QPSK Modulation ANT1          |                             |                        |        |                                 |       |           |
| -48.0                         | -30                         | 9.37057                | 0.004  | 129                             | 0.05  | compliant |
| -48.0                         | -20                         | -7.08583               | -0.003 | 129                             | 0.05  | compliant |
| -48.0                         | -10                         | -7.42660               | -0.003 | 129                             | 0.05  | compliant |
| -48.0                         | 0                           | -6.21340               | -0.002 | 129                             | 0.05  | compliant |
| -48.0                         | 10                          | -7.46899               | -0.003 | 129                             | 0.05  | compliant |
| -48.0                         | 30                          | 14.20290               | 0.005  | 129                             | 0.05  | compliant |
| -48.0                         | 40                          | -11.89826              | -0.005 | 129                             | 0.05  | compliant |
| -48.0                         | 50                          | 8.74520                | 0.003  | 129                             | 0.05  | compliant |
| QPSK Modulation ANT2          |                             |                        |        |                                 |       |           |
| -48.0                         | -30                         | -4.48031               | -0.002 | 129                             | 0.05  | compliant |
| -48.0                         | -20                         | 6.58758                | 0.003  | 129                             | 0.05  | compliant |
| -48.0                         | -10                         | 8.72114                | 0.003  | 129                             | 0.05  | compliant |
| -48.0                         | 0                           | 8.99286                | 0.003  | 129                             | 0.05  | compliant |
| -48.0                         | 10                          | 10.49806               | 0.004  | 129                             | 0.05  | compliant |
| -48.0                         | 30                          | -8.09760               | -0.003 | 129                             | 0.05  | compliant |
| -48.0                         | 40                          | 6.30435                | 0.002  | 129                             | 0.05  | compliant |
| -48.0                         | 50                          | 15.44000               | 0.006  | 129                             | 0.05  | compliant |
| QPSK Modulation ANT3          |                             |                        |        |                                 |       |           |
| -48.0                         | -30                         | -10.65810              | -0.004 | 129                             | 0.05  | compliant |
| -48.0                         | -20                         | 6.13170                | 0.002  | 129                             | 0.05  | compliant |
| -48.0                         | -10                         | -10.41440              | -0.004 | 129                             | 0.05  | compliant |
| -48.0                         | 0                           | 11.68549               | 0.005  | 129                             | 0.05  | compliant |
| -48.0                         | 10                          | 7.77830                | 0.003  | 129                             | 0.05  | compliant |
| -48.0                         | 30                          | -7.31818               | -0.003 | 129                             | 0.05  | compliant |
| -48.0                         | 40                          | -9.54090               | -0.004 | 129                             | 0.05  | compliant |
| -48.0                         | 50                          | 14.10072               | 0.005  | 129                             | 0.05  | compliant |
| QPSK Modulation ANT4          |                             |                        |        |                                 |       |           |
| -48.0                         | -30                         | 10.08964               | 0.004  | 129                             | 0.05  | compliant |

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|----------------------|-----|-----------|--------|-----|------|-----------|
| -48.0                | -20 | 6.34539   | 0.002  | 129 | 0.05 | compliant |
| -48.0                | -10 | -12.00230 | -0.005 | 129 | 0.05 | compliant |
| -48.0                | 0   | -10.14579 | -0.004 | 129 | 0.05 | compliant |
| -48.0                | 10  | 12.81030  | 0.005  | 129 | 0.05 | compliant |
| -48.0                | 30  | -7.04518  | -0.003 | 129 | 0.05 | compliant |
| -48.0                | 40  | -4.05026  | -0.002 | 129 | 0.05 | compliant |
| -48.0                | 50  | -7.95022  | -0.003 | 129 | 0.05 | compliant |
| QPSK Modulation ANT5 |     |           |        |     |      |           |
| -48.0                | -30 | -8.50065  | -0.003 | 129 | 0.05 | compliant |
| -48.0                | -20 | 6.97807   | 0.003  | 129 | 0.05 | compliant |
| -48.0                | -10 | -12.88930 | -0.005 | 129 | 0.05 | compliant |
| -48.0                | 0   | 7.35424   | 0.003  | 129 | 0.05 | compliant |
| -48.0                | 10  | -10.98320 | -0.004 | 129 | 0.05 | compliant |
| -48.0                | 30  | 8.00552   | 0.003  | 129 | 0.05 | compliant |
| -48.0                | 40  | 8.40388   | 0.003  | 129 | 0.05 | compliant |
| -48.0                | 50  | -12.56320 | -0.005 | 129 | 0.05 | compliant |
| QPSK Modulation ANT6 |     |           |        |     |      |           |
| -48.0                | -30 | 11.74618  | 0.005  | 129 | 0.05 | compliant |
| -48.0                | -20 | -5.67850  | -0.002 | 129 | 0.05 | compliant |
| -48.0                | -10 | 4.61870   | 0.002  | 129 | 0.05 | compliant |
| -48.0                | 0   | -6.04608  | -0.002 | 129 | 0.05 | compliant |
| -48.0                | 10  | -4.67700  | -0.002 | 129 | 0.05 | compliant |
| -48.0                | 30  | -7.62216  | -0.003 | 129 | 0.05 | compliant |
| -48.0                | 40  | 14.48345  | 0.006  | 129 | 0.05 | compliant |
| -48.0                | 50  | 12.59158  | 0.005  | 129 | 0.05 | compliant |
| QPSK Modulation ANT7 |     |           |        |     |      |           |
| -48.0                | -30 | -10.31441 | -0.004 | 129 | 0.05 | compliant |
| -48.0                | -20 | -5.55450  | -0.002 | 129 | 0.05 | compliant |
| -48.0                | -10 | 12.85040  | 0.005  | 129 | 0.05 | compliant |
| -48.0                | 0   | 8.49558   | 0.003  | 129 | 0.05 | compliant |
| -48.0                | 10  | -14.45230 | -0.006 | 129 | 0.05 | compliant |
| -48.0                | 30  | -8.11829  | -0.003 | 129 | 0.05 | compliant |
| -48.0                | 40  | 7.99624   | 0.003  | 129 | 0.05 | compliant |
| -48.0                | 50  | -8.62737  | -0.003 | 129 | 0.05 | compliant |
| QPSK Modulation ANT8 |     |           |        |     |      |           |
| -48.0                | -30 | 5.26110   | 0.002  | 129 | 0.05 | compliant |
| -48.0                | -20 | -5.76940  | -0.002 | 129 | 0.05 | compliant |
| -48.0                | -10 | 8.94110   | 0.003  | 129 | 0.05 | compliant |
| -48.0                | 0   | -13.50233 | -0.005 | 129 | 0.05 | compliant |

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| -48.0                 | 10  | -11.62670 | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | 30  | -9.39488  | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | 40  | 6.66969   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 50  | -11.04705 | -0.004 | 129 | 0.05 | compliant |
| 64QAM Modulation ANT1 |     |           |        |     |      |           |
| -48.0                 | -30 | -8.71126  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | -20 | 6.84758   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | -10 | -11.52460 | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | 0   | 10.73705  | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 10  | -8.71755  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 30  | -7.82830  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 40  | -6.01263  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | 50  | -10.79900 | -0.004 | 129 | 0.05 | compliant |
| 64QAM Modulation ANT2 |     |           |        |     |      |           |
| -48.0                 | -30 | -10.38693 | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | -20 | -5.50460  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | -10 | 10.33570  | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 0   | -7.57960  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 10  | -5.88020  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | 30  | 7.74467   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 40  | 8.70790   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 50  | -15.41739 | -0.006 | 129 | 0.05 | compliant |
| 64QAM Modulation ANT3 |     |           |        |     |      |           |
| -48.0                 | -30 | -7.13587  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | -20 | 6.88490   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | -10 | -6.40000  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | 0   | 8.45855   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 10  | -8.01860  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 30  | 5.82890   | 0.002  | 129 | 0.05 | compliant |
| -48.0                 | 40  | -8.73338  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 50  | -8.28580  | -0.003 | 129 | 0.05 | compliant |
| 64QAM Modulation ANT4 |     |           |        |     |      |           |
| -48.0                 | -30 | 8.26198   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | -20 | -7.05183  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | -10 | -9.38580  | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | 0   | 7.56787   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 10  | -10.10820 | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | 30  | -8.18985  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 40  | -7.35573  | -0.003 | 129 | 0.05 | compliant |

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| -48.0                 | 50  | 10.22090  | 0.004  | 129 | 0.05 | compliant |
| 64QAM Modulation ANT5 |     |           |        |     |      |           |
| -48.0                 | -30 | -11.46868 | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | -20 | 3.07498   | 0.001  | 129 | 0.05 | compliant |
| -48.0                 | -10 | 9.38290   | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 0   | -8.98450  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 10  | 8.17964   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 30  | 10.91179  | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 40  | -7.38445  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 50  | -7.86326  | -0.003 | 129 | 0.05 | compliant |
| 64QAM Modulation ANT6 |     |           |        |     |      |           |
| -48.0                 | -30 | -12.11630 | -0.005 | 129 | 0.05 | compliant |
| -48.0                 | -20 | -10.78222 | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | -10 | -7.06590  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 0   | -9.14620  | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | 10  | 7.57737   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 30  | 10.95283  | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 40  | 11.50494  | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 50  | -16.22767 | -0.006 | 129 | 0.05 | compliant |
| 64QAM Modulation ANT7 |     |           |        |     |      |           |
| -48.0                 | -30 | -7.51136  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | -20 | -6.82940  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | -10 | 9.94400   | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 0   | -8.15670  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 10  | -6.72918  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 30  | 10.41730  | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 40  | 7.82012   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 50  | -5.23008  | -0.002 | 129 | 0.05 | compliant |
| 64QAM Modulation ANT8 |     |           |        |     |      |           |
| -48.0                 | -30 | 10.24463  | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | -20 | -8.17460  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | -10 | 11.33796  | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 0   | 9.86166   | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 10  | 6.64024   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 30  | -9.96647  | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | 40  | -6.03543  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | 50  | -9.53034  | -0.004 | 129 | 0.05 | compliant |
| 16QAM Modulation ANT1 |     |           |        |     |      |           |
| -48.0                 | -30 | -11.61860 | -0.004 | 129 | 0.05 | compliant |

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|                       |     |           |        |     |      |           |
|-----------------------|-----|-----------|--------|-----|------|-----------|
| -48.0                 | -20 | -7.44375  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | -10 | -9.08367  | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | 0   | 7.36390   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 10  | 9.32267   | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 30  | 7.43594   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 40  | -8.77569  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 50  | -7.54240  | -0.003 | 129 | 0.05 | compliant |
| 16QAM Modulation ANT2 |     |           |        |     |      |           |
| -48.0                 | -30 | -7.09925  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | -20 | -5.95820  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | -10 | 3.58520   | 0.001  | 129 | 0.05 | compliant |
| -48.0                 | 0   | 11.65160  | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 10  | -5.35622  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | 30  | 6.83360   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 40  | -12.73026 | -0.005 | 129 | 0.05 | compliant |
| -48.0                 | 50  | 11.64700  | 0.004  | 129 | 0.05 | compliant |
| 16QAM Modulation ANT3 |     |           |        |     |      |           |
| -48.0                 | -30 | -10.10838 | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | -20 | 5.81390   | 0.002  | 129 | 0.05 | compliant |
| -48.0                 | -10 | 6.14660   | 0.002  | 129 | 0.05 | compliant |
| -48.0                 | 0   | 13.61330  | 0.005  | 129 | 0.05 | compliant |
| -48.0                 | 10  | -13.26700 | -0.005 | 129 | 0.05 | compliant |
| -48.0                 | 30  | 13.15169  | 0.005  | 129 | 0.05 | compliant |
| -48.0                 | 40  | 13.27909  | 0.005  | 129 | 0.05 | compliant |
| -48.0                 | 50  | 6.92554   | 0.003  | 129 | 0.05 | compliant |
| 16QAM Modulation ANT4 |     |           |        |     |      |           |
| -48.0                 | -30 | -6.64871  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | -20 | -4.84090  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | -10 | 8.33280   | 0.003  | 129 | 0.05 | compliant |
| -48.0                 | 0   | -5.91888  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | 10  | -8.02284  | -0.003 | 129 | 0.05 | compliant |
| -48.0                 | 30  | 13.99700  | 0.005  | 129 | 0.05 | compliant |
| -48.0                 | 40  | 9.86575   | 0.004  | 129 | 0.05 | compliant |
| -48.0                 | 50  | -17.17300 | -0.007 | 129 | 0.05 | compliant |
| 16QAM Modulation ANT5 |     |           |        |     |      |           |
| -48.0                 | -30 | -10.46098 | -0.004 | 129 | 0.05 | compliant |
| -48.0                 | -20 | 5.90280   | 0.002  | 129 | 0.05 | compliant |
| -48.0                 | -10 | -6.07420  | -0.002 | 129 | 0.05 | compliant |
| -48.0                 | 0   | 9.33280   | 0.004  | 129 | 0.05 | compliant |

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|                          |     |           |        |     |         |           |
|--------------------------|-----|-----------|--------|-----|---------|-----------|
| -48.0                    | 10  | -4.90954  | -0.002 | 129 | 0.05    | compliant |
| -48.0                    | 30  | -9.71551  | -0.004 | 129 | 0.05    | compliant |
| -48.0                    | 40  | 9.40117   | 0.004  | 129 | 0.05    | compliant |
| -48.0                    | 50  | -12.72560 | -0.005 | 129 | 0.05    | compliant |
| 16QAM Modulation ANT6    |     |           |        |     |         |           |
| -48.0                    | -30 | -8.00980  | -0.003 | 129 | 0.05    | compliant |
| -48.0                    | -20 | -7.04656  | -0.003 | 129 | 0.05    | compliant |
| -48.0                    | -10 | -5.00140  | -0.002 | 129 | 0.05    | compliant |
| -48.0                    | 0   | -12.30947 | -0.005 | 129 | 0.05    | compliant |
| -48.0                    | 10  | -15.66673 | -0.006 | 129 | 0.05    | compliant |
| -48.0                    | 30  | 10.39756  | 0.004  | 129 | 0.05    | compliant |
| -48.0                    | 40  | -10.37236 | -0.004 | 129 | 0.05    | compliant |
| -48.0                    | 50  | -12.37664 | -0.005 | 129 | 0.05    | compliant |
| 16QAM Modulation ANT7    |     |           |        |     |         |           |
| -48.0                    | -30 | 8.80673   | 0.003  | 129 | 0.05    | compliant |
| -48.0                    | -20 | -5.07970  | -0.002 | 129 | 0.05    | compliant |
| -48.0                    | -10 | -12.35810 | -0.005 | 129 | 0.05    | compliant |
| -48.0                    | 0   | -8.28780  | -0.003 | 129 | 0.05    | compliant |
| -48.0                    | 10  | 6.83660   | 0.003  | 129 | 0.05    | compliant |
| -48.0                    | 30  | -15.34974 | -0.006 | 129 | 0.05    | compliant |
| -48.0                    | 40  | 9.28730   | 0.004  | 129 | 0.05    | compliant |
| -48.0                    | 50  | 9.52111   | 0.004  | 129 | 0.05    | compliant |
| 16QAM Modulation ANT8    |     |           |        |     |         |           |
| -48.0                    | -30 | -12.39590 | -0.005 | 129 | 0.05    | compliant |
| -48.0                    | -20 | 10.42850  | 0.004  | 129 | 0.05    | compliant |
| -48.0                    | -10 | -5.75888  | -0.002 | 129 | 0.05    | compliant |
| -48.0                    | 0   | -8.69777  | -0.003 | 129 | 0.05    | compliant |
| -48.0                    | 10  | -5.78780  | -0.002 | 129 | 0.05    | compliant |
| -48.0                    | 30  | -15.21686 | -0.006 | 129 | 0.05    | compliant |
| -48.0                    | 40  | -7.72008  | -0.003 | 129 | 0.05    | compliant |
| -48.0                    | 50  | -6.95958  | -0.003 | 129 | 0.05    | compliant |
| Measurement Uncertainty: |     |           |        |     | ±1.0 Hz |           |

#### 4.6.5 Frequency Stability with Voltage Variation:



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The EUT was placed in a climatic chamber and allowed to stabilize at +20 degrees Celsius for at least 60 minutes. With the supply voltage of the EUT set to 85% of the nominal value, the frequency error was measure. This procedure was repeated at 100% and 115% of the nominal supply voltage value.

**Table 23 Configuration A**

| Carrier Frequency: 2593 MHz |                             |                        |        |                                 |       |           |
|-----------------------------|-----------------------------|------------------------|--------|---------------------------------|-------|-----------|
| Supply Voltage<br>(DC) [V]  | Ambient<br>Temperature [°C] | Frequency<br>Deviation |        | Manufacturer's<br>Specification |       | Result    |
|                             |                             | [Hz]                   | [ppm]  | [Hz]                            | [ppm] |           |
| QPSK Modulation ANT1        |                             |                        |        |                                 |       |           |
| -40.8                       | 20.0                        | 10.82500               | 0.004  | 36                              | 0.05  | compliant |
| -48.0                       | 20.0                        | -8.71000               | -0.003 | 36                              | 0.05  | compliant |
| -55.2                       | 20.0                        | 9.64330                | 0.004  | 36                              | 0.05  | compliant |
| QPSK Modulation ANT2        |                             |                        |        |                                 |       |           |
| -40.8                       | 20.0                        | -7.33150               | -0.003 | 36                              | 0.05  | compliant |
| -48.0                       | 20.0                        | -13.21834              | -0.005 | 36                              | 0.05  | compliant |
| -55.2                       | 20.0                        | -7.12420               | -0.003 | 36                              | 0.05  | compliant |
| QPSK Modulation ANT3        |                             |                        |        |                                 |       |           |
| -40.8                       | 20.0                        | 8.92740                | 0.003  | 36                              | 0.05  | compliant |
| -48.0                       | 20.0                        | 9.50769                | 0.004  | 36                              | 0.05  | compliant |
| -55.2                       | 20.0                        | 10.50300               | 0.004  | 36                              | 0.05  | compliant |
| QPSK Modulation ANT4        |                             |                        |        |                                 |       |           |
| -40.8                       | 20.0                        | 11.85269               | 0.005  | 36                              | 0.05  | compliant |
| -48.0                       | 20.0                        | -9.52308               | -0.004 | 36                              | 0.05  | compliant |
| -55.2                       | 20.0                        | -16.60177              | -0.006 | 36                              | 0.05  | compliant |
| QPSK Modulation ANT5        |                             |                        |        |                                 |       |           |
| -40.8                       | 20.0                        | -5.87710               | -0.002 | 36                              | 0.05  | compliant |
| -48.0                       | 20.0                        | 10.79037               | 0.004  | 36                              | 0.05  | compliant |
| -55.2                       | 20.0                        | -12.02341              | -0.005 | 36                              | 0.05  | compliant |
| QPSK Modulation ANT6        |                             |                        |        |                                 |       |           |
| -40.8                       | 20.0                        | 13.33477               | 0.005  | 36                              | 0.05  | compliant |
| -48.0                       | 20.0                        | -9.30316               | -0.004 | 36                              | 0.05  | compliant |
| -55.2                       | 20.0                        | -4.67040               | -0.002 | 36                              | 0.05  | compliant |
| QPSK Modulation ANT7        |                             |                        |        |                                 |       |           |
| -40.8                       | 20.0                        | -9.06268               | -0.003 | 36                              | 0.05  | compliant |



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|                       |      |           |        |    |      |           |
|-----------------------|------|-----------|--------|----|------|-----------|
| -48.0                 | 20.0 | 11.61770  | 0.004  | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | -7.78924  | -0.003 | 36 | 0.05 | compliant |
| QPSK Modulation ANT8  |      |           |        |    |      |           |
| -40.8                 | 20.0 | -8.55584  | -0.003 | 36 | 0.05 | compliant |
| -48.0                 | 20.0 | -8.75945  | -0.003 | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | 8.99490   | 0.003  | 36 | 0.05 | compliant |
| 64QAM Modulation ANT1 |      |           |        |    |      |           |
| -40.8                 | 20.0 | 6.30740   | 0.002  | 36 | 0.05 | compliant |
| -48.0                 | 20.0 | -12.02580 | -0.005 | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | -17.00100 | -0.007 | 36 | 0.05 | compliant |
| 64QAM Modulation ANT2 |      |           |        |    |      |           |
| -40.8                 | 20.0 | 16.78690  | 0.006  | 36 | 0.05 | compliant |
| -48.0                 | 20.0 | -8.70439  | -0.003 | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | 8.60660   | 0.003  | 36 | 0.05 | compliant |
| 64QAM Modulation ANT3 |      |           |        |    |      |           |
| -40.8                 | 20.0 | 6.75720   | 0.003  | 36 | 0.05 | compliant |
| -48.0                 | 20.0 | -6.05662  | -0.002 | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | -9.34540  | -0.004 | 36 | 0.05 | compliant |
| 64QAM Modulation ANT4 |      |           |        |    |      |           |
| -40.8                 | 20.0 | -10.11518 | -0.004 | 36 | 0.05 | compliant |
| -48                   | 20.0 | -10.06690 | -0.004 | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | -8.63770  | -0.003 | 36 | 0.05 | compliant |
| 64QAM Modulation ANT5 |      |           |        |    |      |           |
| -40.8                 | 20.0 | 8.02528   | 0.003  | 36 | 0.05 | compliant |
| -48.0                 | 20.0 | -6.07240  | -0.002 | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | 9.19828   | 0.004  | 36 | 0.05 | compliant |
| 64QAM Modulation ANT6 |      |           |        |    |      |           |
| -40.8                 | 20.0 | 7.74691   | 0.003  | 36 | 0.05 | compliant |
| -48.0                 | 20.0 | -6.35204  | -0.002 | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | 8.05338   | 0.003  | 36 | 0.05 | compliant |
| 64QAM Modulation ANT7 |      |           |        |    |      |           |
| -40.8                 | 20.0 | -10.16885 | -0.004 | 36 | 0.05 | compliant |
| -48.0                 | 20.0 | 4.61462   | 0.002  | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | -6.43149  | -0.002 | 36 | 0.05 | compliant |
| 64QAM Modulation ANT8 |      |           |        |    |      |           |
| -40.8                 | 20.0 | -9.69580  | -0.004 | 36 | 0.05 | compliant |
| -48.0                 | 20.0 | 11.08767  | 0.004  | 36 | 0.05 | compliant |
| -55.2                 | 20.0 | -10.88198 | -0.004 | 36 | 0.05 | compliant |
| 16QAM Modulation ANT1 |      |           |        |    |      |           |

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|                          |      |           |        |    |         |           |
|--------------------------|------|-----------|--------|----|---------|-----------|
| -40.8                    | 20.0 | -9.61510  | -0.004 | 36 | 0.05    | compliant |
| -48.0                    | 20.0 | 13.09369  | 0.005  | 36 | 0.05    | compliant |
| -55.2                    | 20.0 | -9.88590  | -0.004 | 36 | 0.05    | compliant |
| 16QAM Modulation ANT2    |      |           |        |    |         |           |
| -40.8                    | 20.0 | -9.00460  | -0.003 | 36 | 0.05    | compliant |
| -48.0                    | 20.0 | -5.44770  | -0.002 | 36 | 0.05    | compliant |
| -55.2                    | 20   | -5.51070  | -0.002 | 36 | 0.05    | compliant |
| 16QAM Modulation ANT3    |      |           |        |    |         |           |
| -40.8                    | 20.0 | -11.79968 | -0.005 | 36 | 0.05    | compliant |
| -48.0                    | 20.0 | -8.03089  | -0.003 | 36 | 0.05    | compliant |
| -55.2                    | 20.0 | 9.44000   | 0.004  | 36 | 0.05    | compliant |
| 16QAM Modulation ANT4    |      |           |        |    |         |           |
| -40.8                    | 20.0 | -5.76850  | -0.002 | 36 | 0.05    | compliant |
| -48.0                    | 20.0 | 12.56310  | 0.005  | 36 | 0.05    | compliant |
| -55.2                    | 20.0 | 8.62586   | 0.003  | 36 | 0.05    | compliant |
| 16QAM Modulation ANT5    |      |           |        |    |         |           |
| -40.8                    | 20.0 | -6.84870  | -0.003 | 36 | 0.05    | compliant |
| -48.0                    | 20.0 | -7.20872  | -0.003 | 36 | 0.05    | compliant |
| -55.2                    | 20.0 | 10.28750  | 0.004  | 36 | 0.05    | compliant |
| 16QAM Modulation ANT6    |      |           |        |    |         |           |
| -40.8                    | 20.0 | 6.13649   | 0.002  | 36 | 0.05    | compliant |
| -48.0                    | 20.0 | -6.46080  | -0.002 | 36 | 0.05    | compliant |
| -55.2                    | 20.0 | -8.36470  | -0.003 | 36 | 0.05    | compliant |
| 16QAM Modulation ANT7    |      |           |        |    |         |           |
| -40.8                    | 20.0 | -14.96670 | -0.006 | 36 | 0.05    | compliant |
| -48.0                    | 20.0 | -12.58420 | -0.005 | 36 | 0.05    | compliant |
| -55.2                    | 20.0 | -8.26085  | -0.003 | 36 | 0.05    | compliant |
| 16QAM Modulation ANT8    |      |           |        |    |         |           |
| -40.8                    | 20.0 | 7.24860   | 0.003  | 36 | 0.05    | compliant |
| -48.0                    | 20.0 | 4.92283   | 0.002  | 36 | 0.05    | compliant |
| -55.2                    | 20.0 | -13.62854 | -0.005 | 36 | 0.05    | compliant |
| Measurement Uncertainty: |      |           |        |    | ±1.0 Hz |           |

The measured frequency stability was found to be compliant with the manufacturer's specifications and with all requirements of the FCC rules.



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## 5 TEST DATA AND SCREENSHOTS

### 5.1 Part List of the RF Measurement Test Equipment

**Table 24 Part List of the RF Measurement Test Equipment**

| No. | Test Equipment                     | Manufacturer & Type          | Serial Number | Calibration date | Calibration due | Test No.      |
|-----|------------------------------------|------------------------------|---------------|------------------|-----------------|---------------|
| 1   | Signal Analyzer                    | Rohde & Schwarz: FSV 30      | 100781        | 06/2016          | 06/2017         | 1, 2, 3, 4, 6 |
| 2   | Vector Network Analyzer            | Rohde & Schwarz: ZVA40       | 100146        | 01/2016          | 01/2017         | 4             |
| 3   | Vector Network Analyzer            | Rohde & Schwarz: ZVL13       | 101177        | 07/2016          | 07/2017         | 4             |
| 4   | Calibration Unit                   | Rohde & Schwarz: ZV-Z54      | 100125        | 06/2016          | 06/2017         | 4             |
| 5   | Calibration Kit                    | Hewlett-Packard: HP85032B    | 2919A04843    | 07/2016          | 07/2017         | 4             |
| 6   | Multimeter                         | Fluke 83                     | 65870302      | 01/2016          | 01/2017         | 1, 2, 3, 4, 6 |
| 7   | Humidity and Temperature Indicator | Vaisala: HMI 31              | P3730008      | 07/2016          | 07/2017         | 1, 2, 3, 4, 6 |
| 8   | DC Power Supply                    | Agilent 6674A                | MY41001083    | cnn              | -               | 1, 2, 3, 4, 6 |
| 9   | Attenuator                         | Aeroflex/Weinschel: 66-20-33 | BV3345        | cnn              | -               | 1,2,3,4,6     |
| 10  | Attenuator                         | Aeroflex/Weinschel: 48-10-39 | BC2566        | cnn              | -               | 1,2,3,4,6     |
| 11  | EMI Test Receiver                  | R&S ESU40                    | 100262        | 05/2016          | 05/2017         | 5             |
| 12  | Horn Antenna                       | ETS LINDGREN 3115            | 92148         | 06/2016          | 06/2017         | 5             |



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|    |                      |                 |              |         |         |   |
|----|----------------------|-----------------|--------------|---------|---------|---|
| 13 | Bilog Antenna        | Chase CBL6112   | 2003         | 06/2016 | 06/2017 | 5 |
| 14 | Log Periodic Antenna | R&S 1-26.5GHz   | 356749/012   | 04/2016 | 04/2017 | 5 |
| 15 | Amplifier            | Miteq AFSX4     | 902638       | cnn     | -       | 5 |
| 16 | Amplifier            | HP 83017A       | -            | cnn     | -       | 5 |
| 17 | Antenna Mast         | MATURO TAM4.0-E | 086/17210915 | cnn     | -       | 5 |
| 18 | Controller           | NCD/180_2       | 17210416     | cnn     | -       | 5 |



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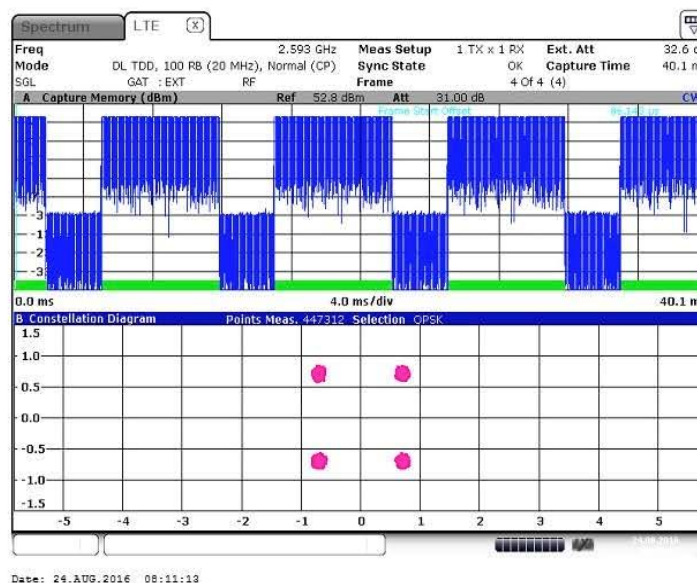
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## 5.2 Spectral Plots

### 5.2.1 Test No. 2: Modulation Characteristics

No additional measurements are required for the modulation characteristics. Please refer to test no. 3, occupied bandwidth on page 23.

Screenshots below shows information about the modulations I/Q constellation form and modulation information table, displaying error to ideal modulation symbols.



**Figure 5 I/Q constellation diagram with capture buffer – QPSK (2593.0 MHz)  
(20MHz Channel BW)**



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Figure 6 I/Q constellation table with I/Q error – QPSK (2593.0 MHz) (20MHz Channel BW)

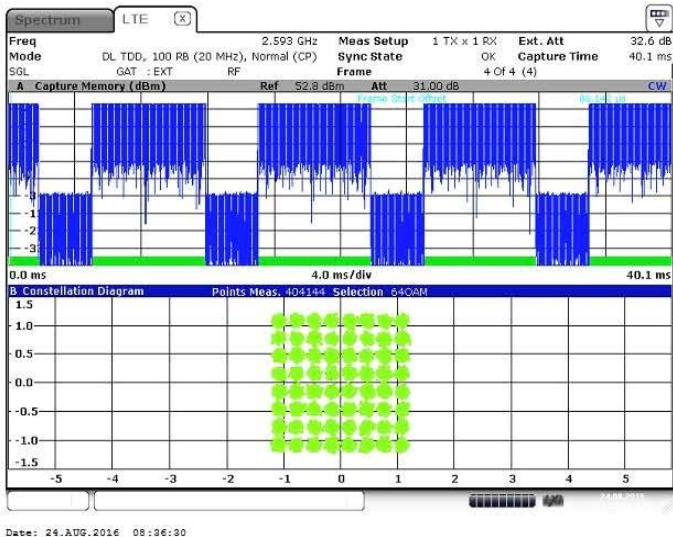


Figure 7 I/Q constellation diagram with capture buffer – 64QAM (2593.0 MHz) (20MHz Channel BW)



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Figure 8 I/Q constellation table with I/Q error – 64QAM (2593.0 MHz) (20MHz Channel BW)



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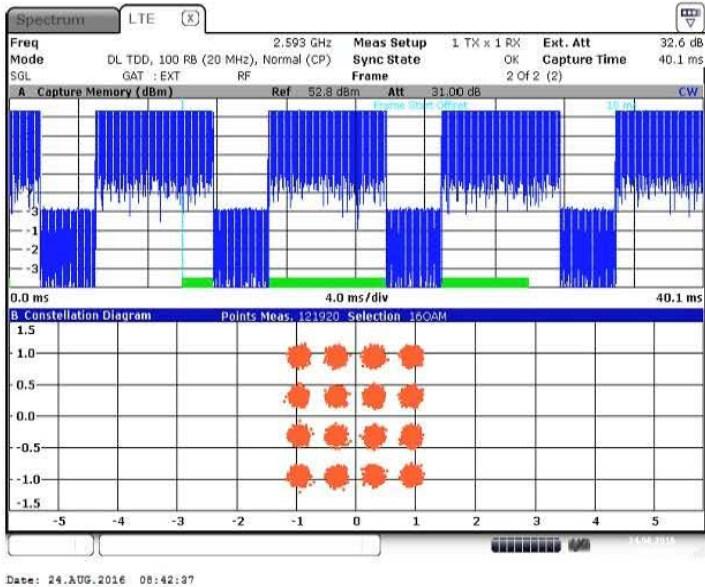


Figure 9 I/Q constellation diagram with capture buffer – 16QAM (2593.0 MHz) (20MHz Channel BW)



Figure 10 I/Q constellation table with I/Q error – 16QAM (2593.0 MHz) (20MHz Channel BW)

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5.2.2 Test No. 3: Occupied Bandwidth

The value 'Occ Bw' is the measured occupied bandwidth.

Configuration A Antenna 1:

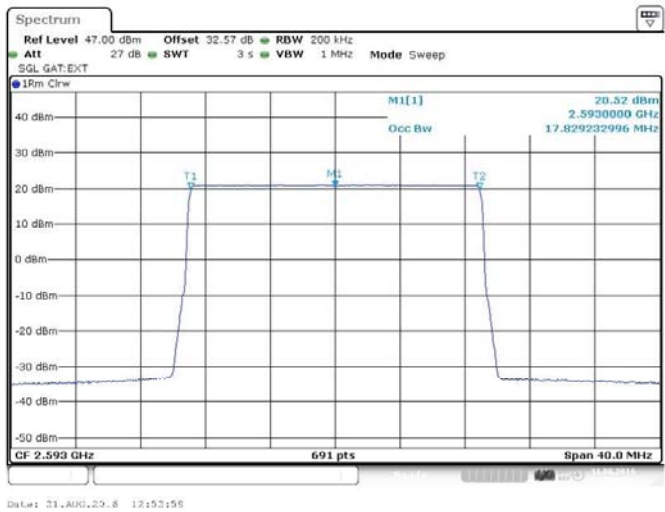


Figure 11 Occupied Bandwidth – QPSK (2593.0 MHz) (20MHz Channel BW)



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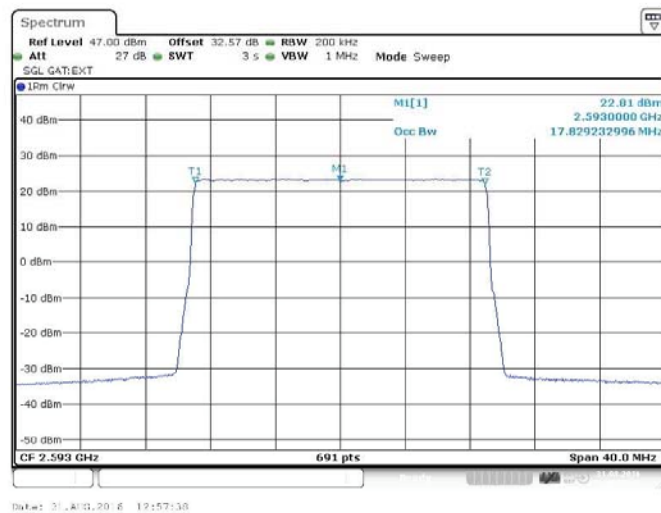


Figure 12 Occupied Bandwidth – 64QAM (2593.0 MHz) (20MHz Channel BW)

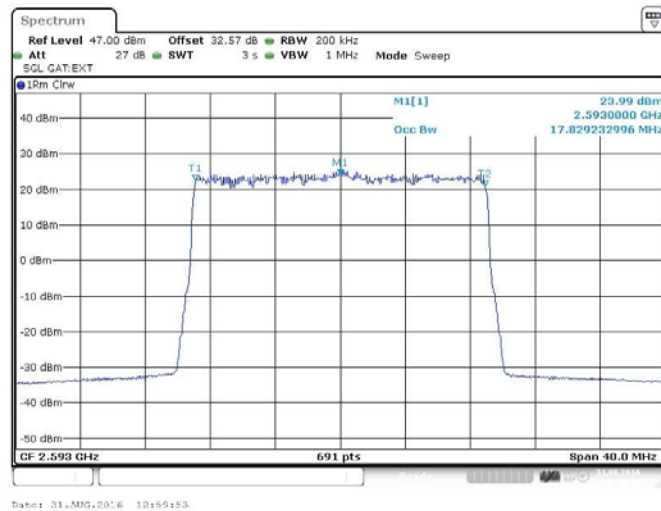


Figure 13 Occupied Bandwidth – 16QAM (2593.0 MHz) (20MHz Channel BW)



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Configuration A Antenna 2:

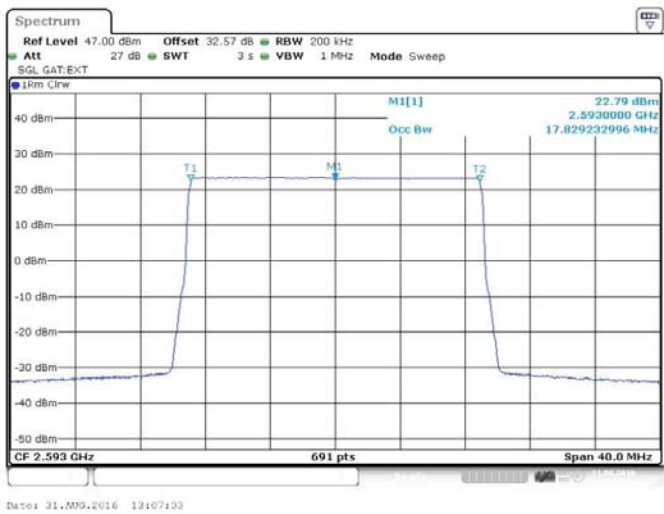


Figure 14 Occupied Bandwidth – QPSK (2593.0 MHz) (20MHz Channel BW)

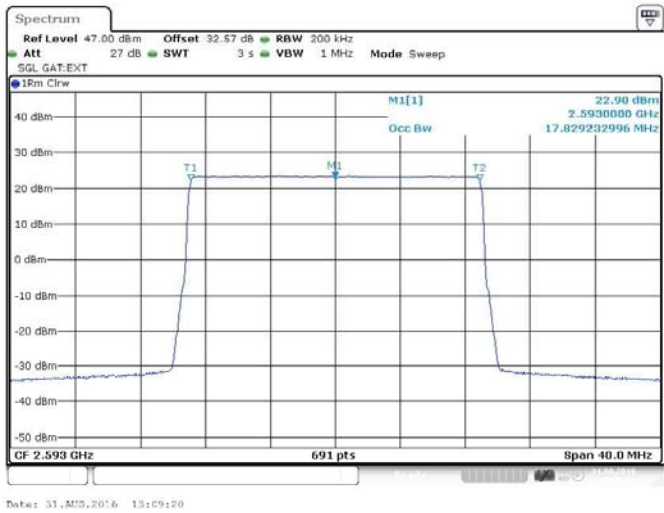


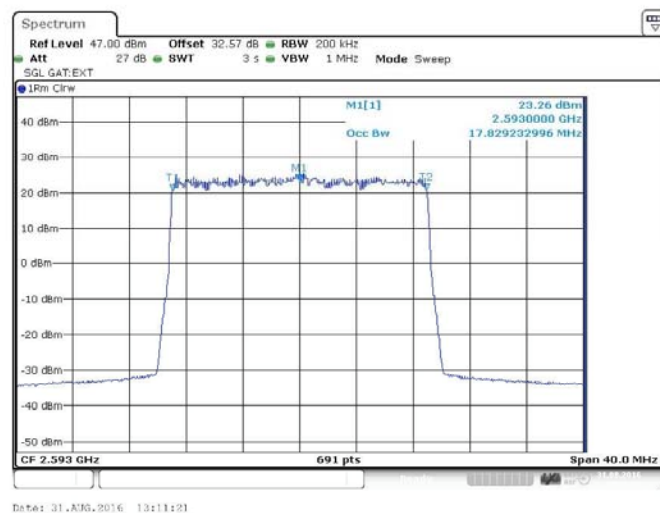
Figure 15 Occupied Bandwidth – 64QAM (2593.0 MHz) (20MHz Channel BW)



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**Figure 16 Occupied Bandwidth – 16QAM (2593.0 MHz) (20MHz Channel BW)**



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Configuration A Antenna 3:

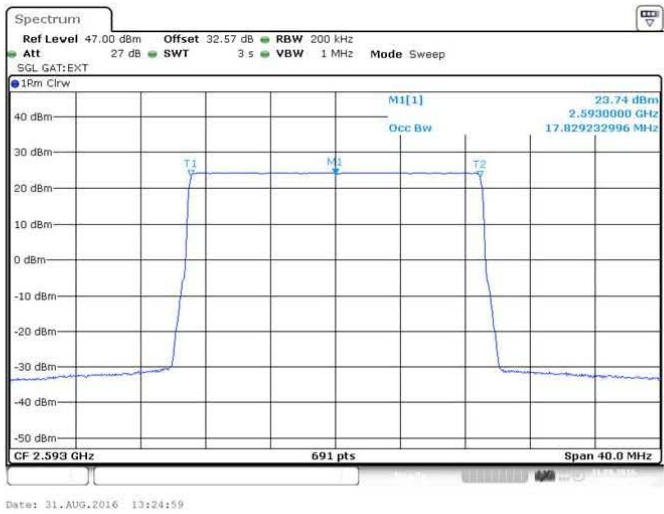


Figure 17 Occupied Bandwidth – QPSK (2593.0 MHz) (20MHz Channel BW)

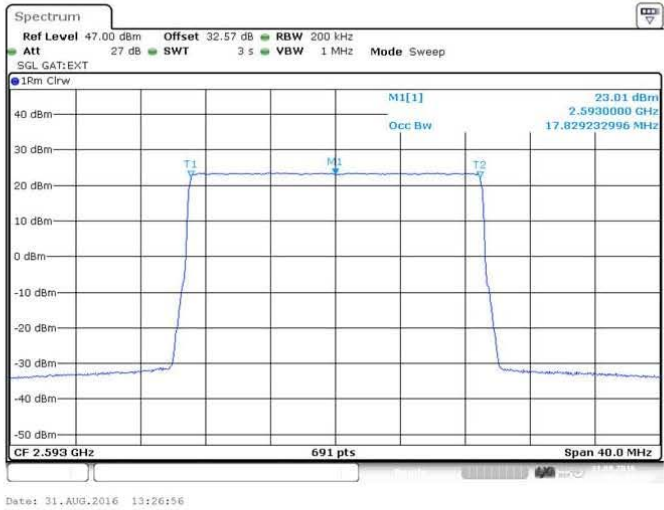


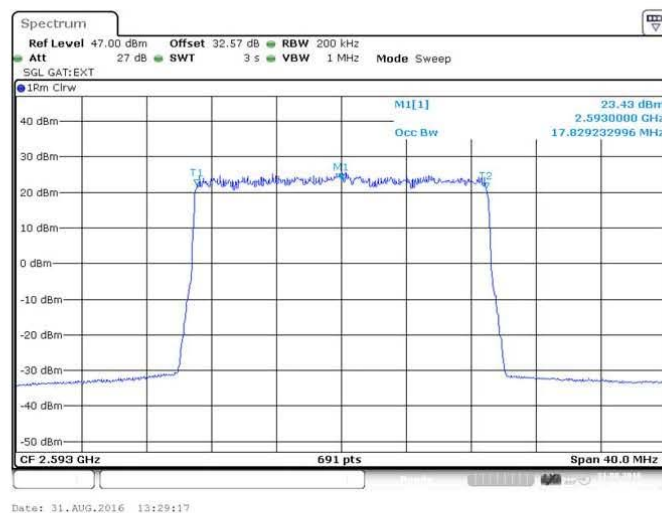
Figure 18 Occupied Bandwidth – 64QAM (2593.0 MHz) (20MHz Channel BW)



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**Figure 19 Occupied Bandwidth – 16QAM (2593.0 MHz) (20MHz Channel BW)**



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Configuration A Antenna 4:



Figure 20 Occupied Bandwidth – QPSK (2593.0 MHz) (20MHz Channel BW)

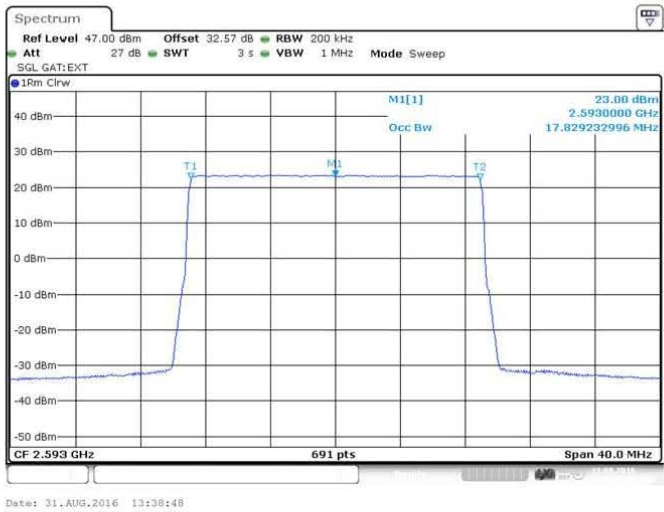


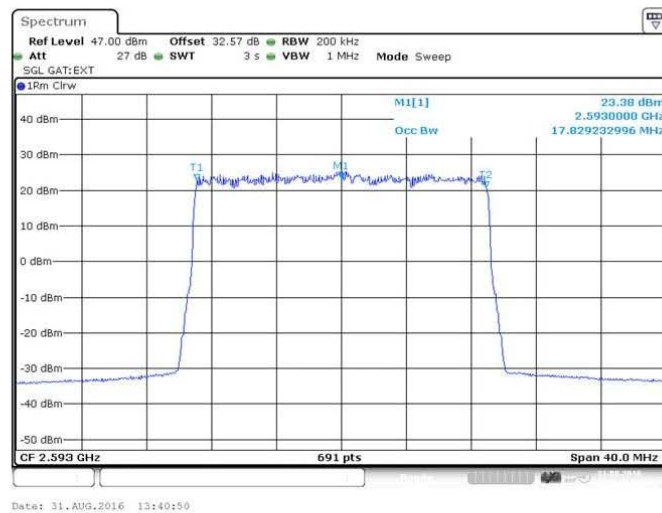
Figure 21 Occupied Bandwidth – 64QAM (2593.0 MHz) (20MHz Channel BW)



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**Figure 22 Occupied Bandwidth – 16QAM (2593.0 MHz) (20MHz Channel BW)**



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Configuration A Antenna 5:

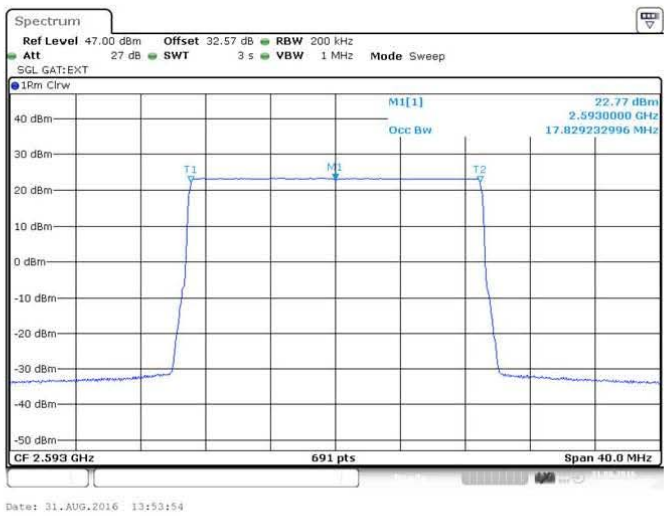


Figure 23 Occupied Bandwidth – QPSK (2593.0 MHz) (20MHz Channel BW)



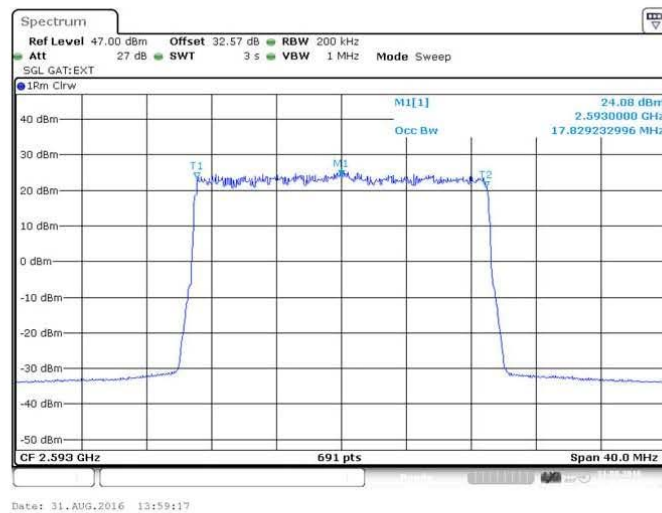
Figure 24 Occupied Bandwidth – 64QAM (2593.0 MHz) (20MHz Channel BW)



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**Figure 25 Occupied Bandwidth – 16QAM (2593.0 MHz) (20MHz Channel BW)**



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Configuration A Antenna 6:

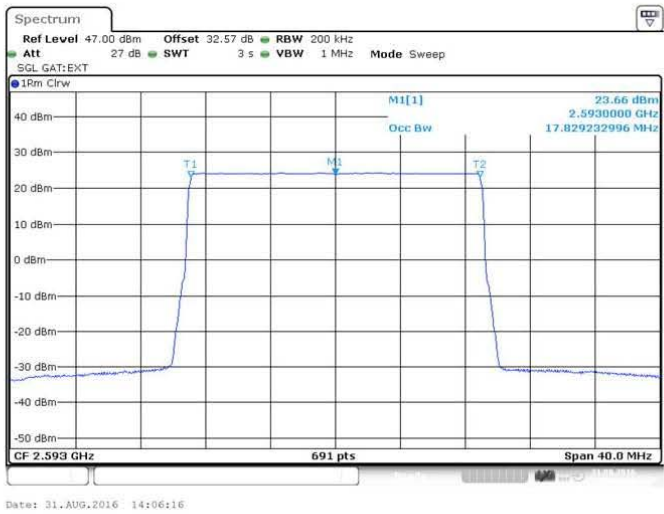


Figure 26 Occupied Bandwidth – QPSK (2593.0 MHz) (20MHz Channel BW)

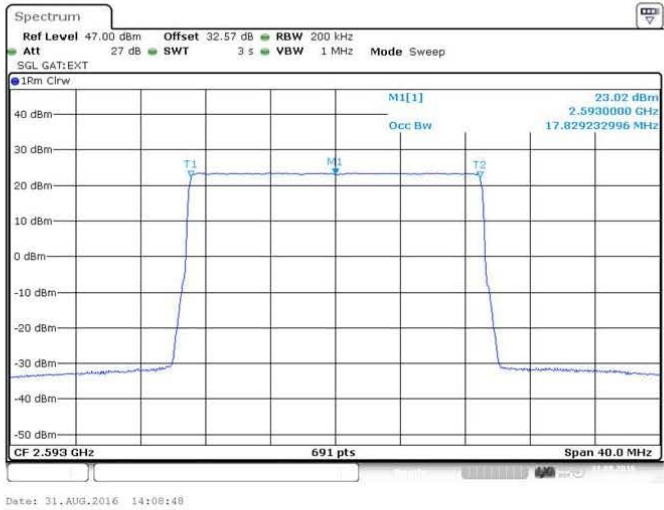


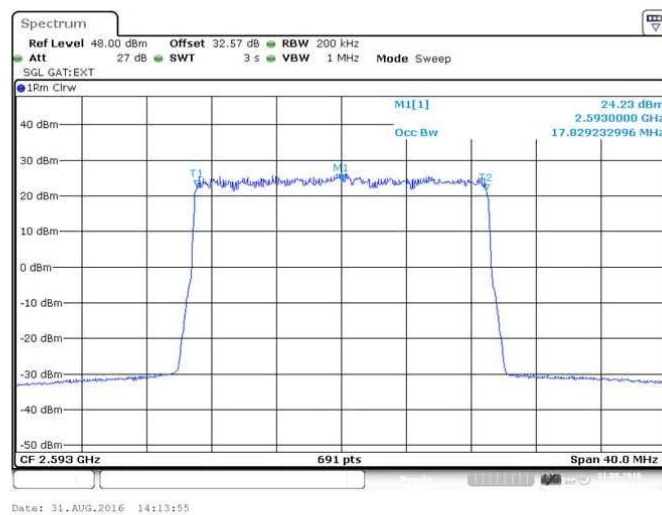
Figure 27 Occupied Bandwidth – 64QAM (2593.0 MHz) (20MHz Channel BW)



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**Figure 28 Occupied Bandwidth – 16QAM (2593.0 MHz) (20MHz Channel BW)**



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Configuration A Antenna 7:

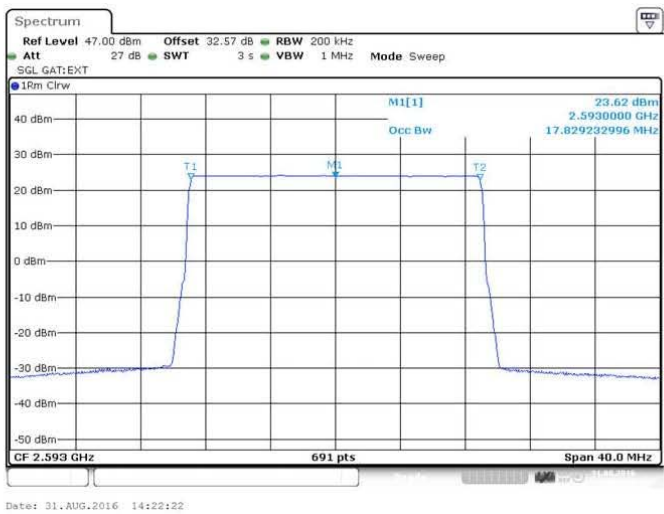


Figure 29 Occupied Bandwidth – QPSK (2593.0 MHz) (20MHz Channel BW)

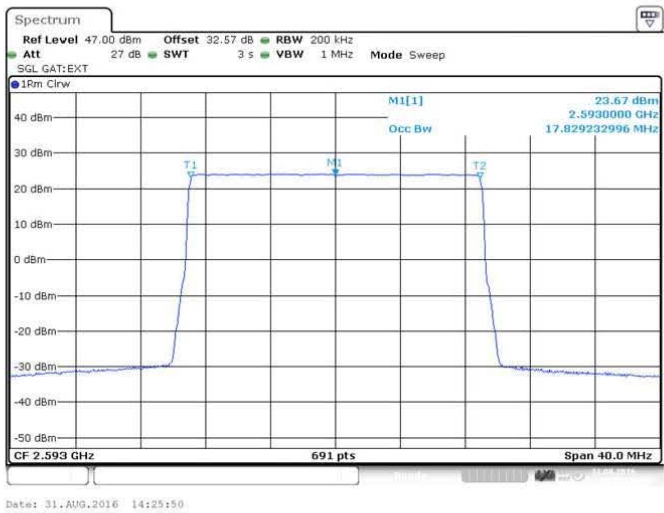


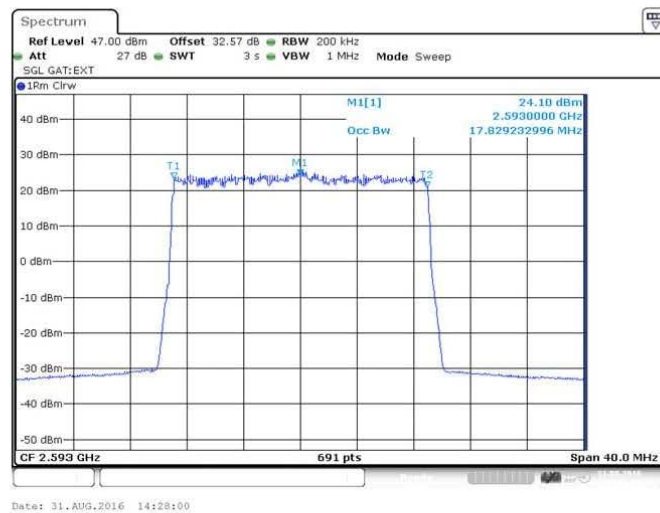
Figure 30 Occupied Bandwidth – 64QAM (2593.0 MHz) (20MHz Channel BW)



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**Figure 31 Occupied Bandwidth – 16QAM (2593.0 MHz) (20MHz Channel BW)**



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Configuration A Antenna 8:

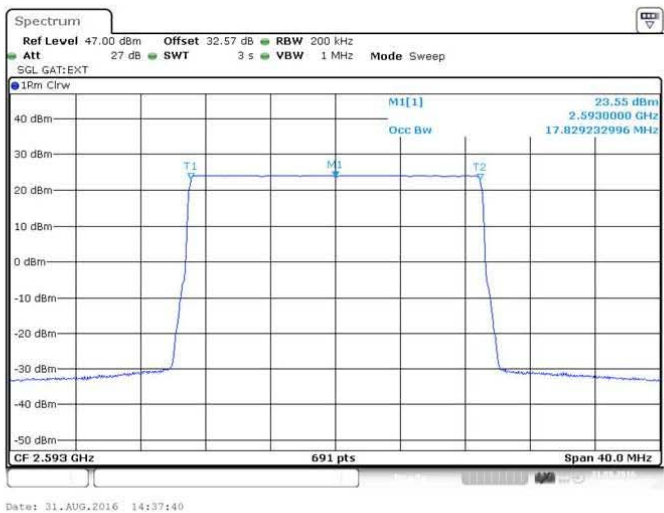


Figure 32 Occupied Bandwidth – QPSK (2593.0 MHz) (20MHz Channel BW)

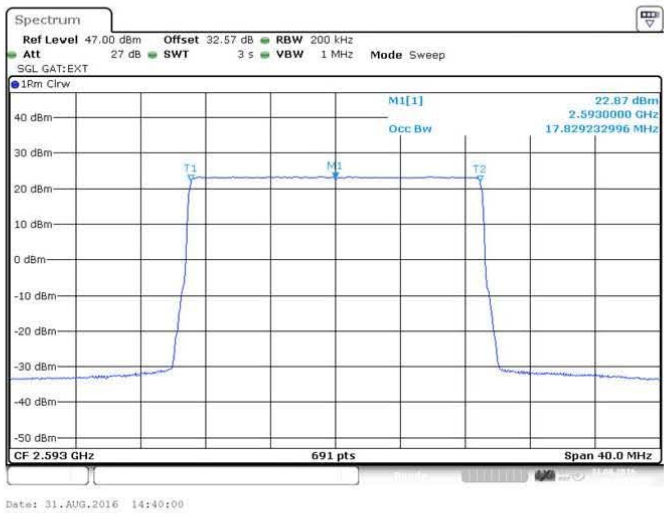


Figure 33 Occupied Bandwidth – 16QAM (2593.0 MHz) (20MHz Channel BW)



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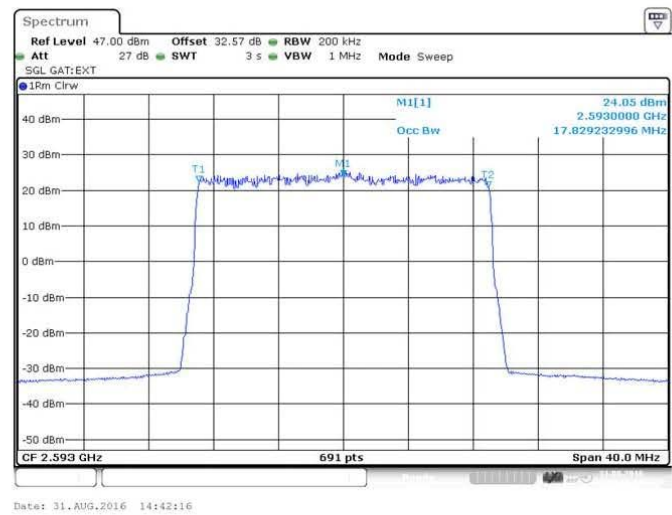


Figure 34 Occupied Bandwidth – 64QAM (2593.0 MHz) (20MHz Channel BW)



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Configuration B Antenna 1:

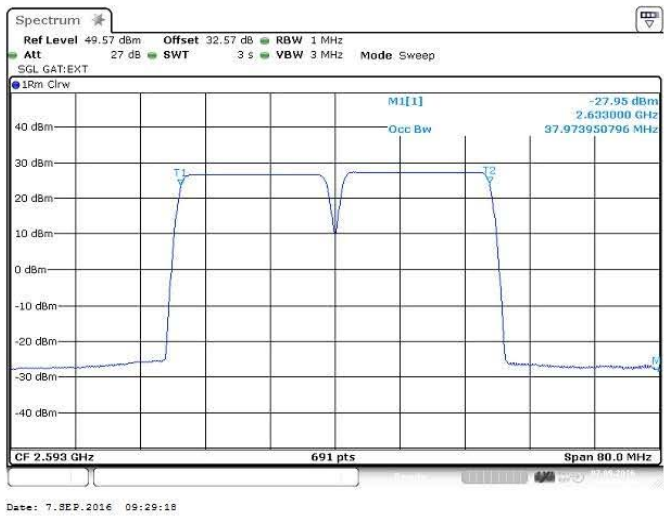


Figure 35 Occupied Bandwidth – QPSK (2583/ 2603 MHz) (2 X 20MHz Channel BW)

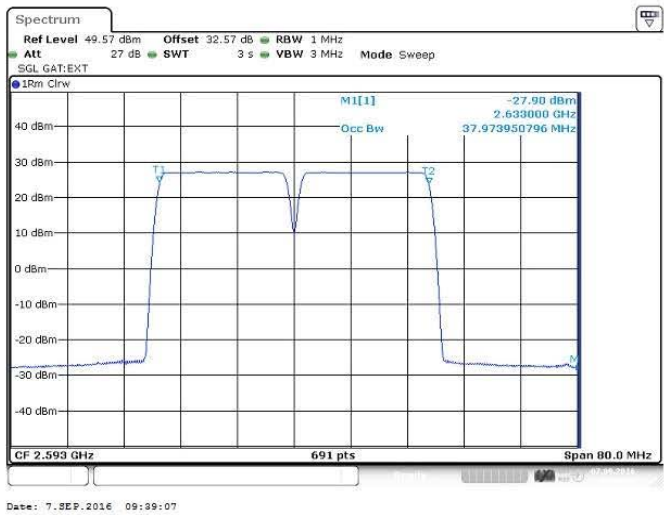


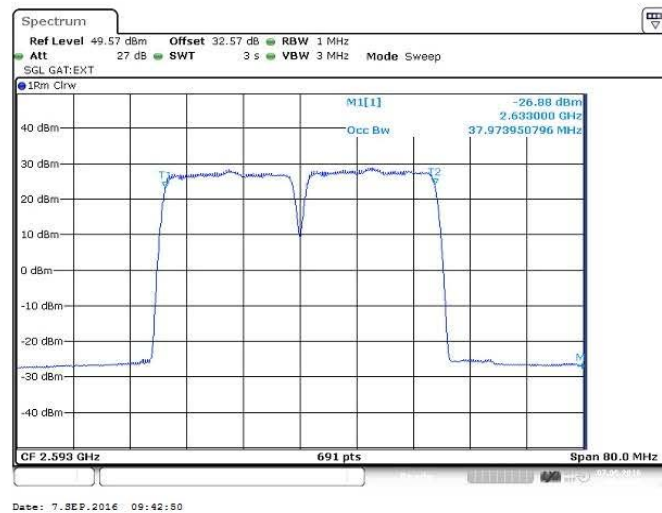
Figure 36 Occupied Bandwidth – 64QAM (2583/ 2603 MHz) (2 X 20MHz Channel BW)



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**Figure 37 Occupied Bandwidth –16QAM (2583/ 2603 MHz) (2 X 20MHz Channel BW)**



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Configuration B Antenna 2:

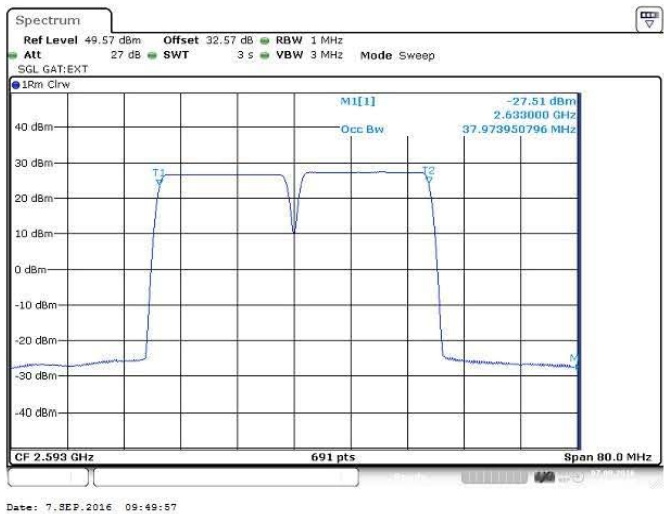


Figure 38 Occupied Bandwidth –QPSK (2583/ 2603 MHz) (2 X 20MHz Channel BW)

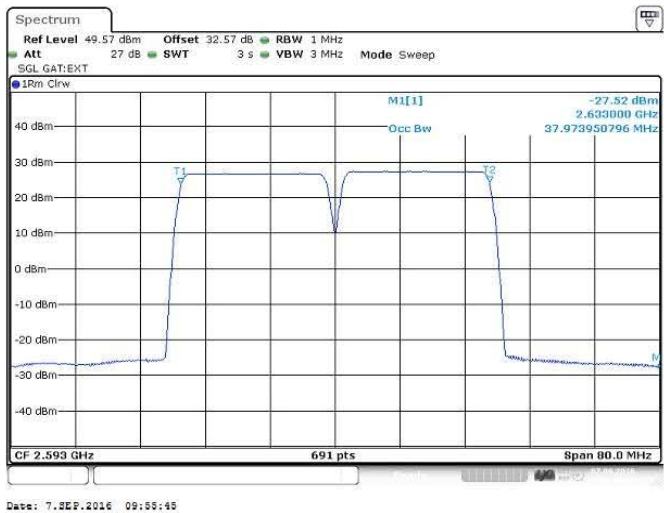


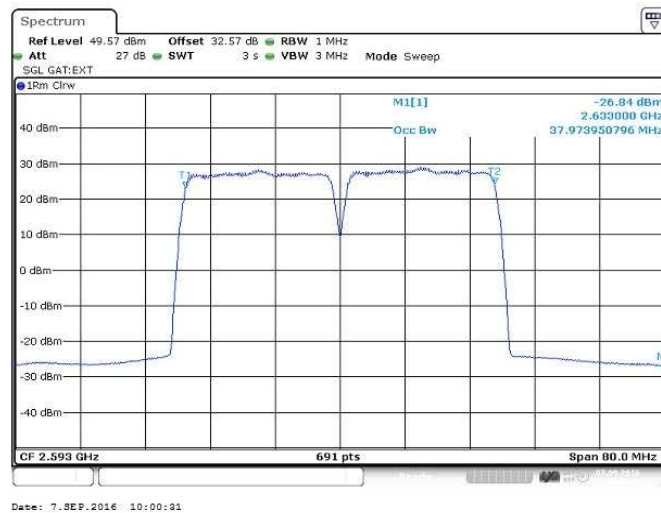
Figure 39 Occupied Bandwidth –64QAM (2583/ 2603 MHz) (2 X 20MHz Channel BW)



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**Figure 40 Occupied Bandwidth –16QAM (2583/ 2603 MHz) (2 X 20MHz Channel BW)**



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Configuration B Antenna 3:

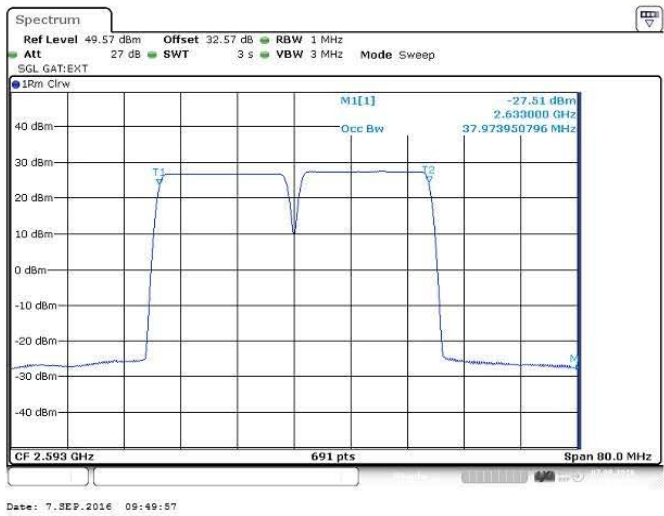


Figure 41 Occupied Bandwidth –QPSK (2583/ 2603 MHz) (2 X 20MHz Channel BW)

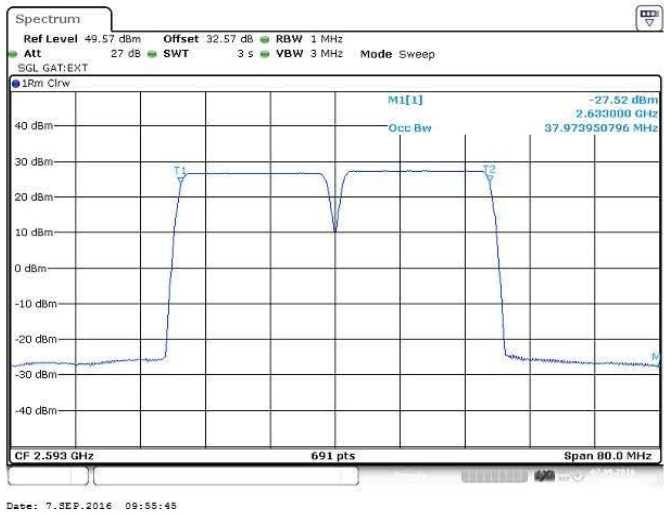


Figure 42 Occupied Bandwidth –64QAM (2583/ 2603 MHz) (2 X 20MHz Channel BW)

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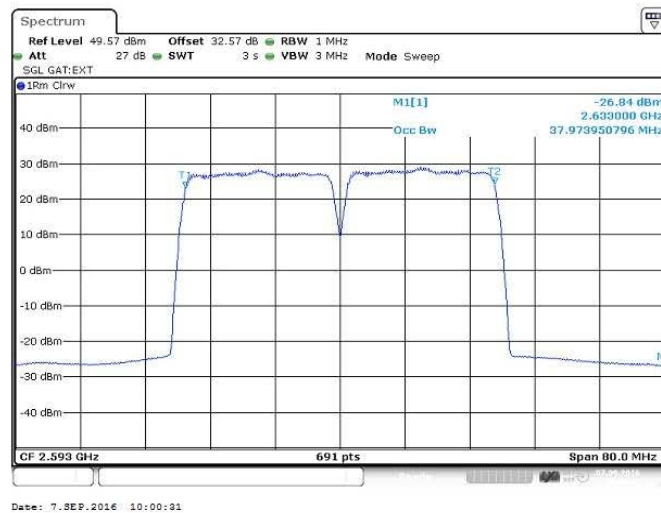
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**Figure 43 Occupied Bandwidth –16QAM (2583/ 2603 MHz) (2 X 20MHz Channel BW)**