

Plot 4-83 Band Edge Plot - LTE Band2 - [3MHz] [Full RB] [High Channel] [QPSK] [Ant 2]



Plot 4-84 Band Edge Plot - LTE Band2 - [1.4MHz] [Full RB] [High Channel] [QPSK] [Ant 2]



## 4.7. Conducted Spurious Emissions

### 4.7.1. Regulatory Limit

§Part. 24.238

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB

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Equipment shall meet the unwanted emission limits, specified in table below, outside each frequency block group.

| Offset frequency from the edge of the frequency block group (MHz) | Unwanted emission limit |
|-------------------------------------------------------------------|-------------------------|
| $\leq 1$                                                          | -13 dBm / (1% of OBW)   |
| $>1$                                                              | -13 dBm/MHz             |

### 4.7.2. Test Method

ANSI C63.26-2015, clause 5.7.4

### 4.7.3. Test Procedure

The measurement range defined by the start and stop frequencies was subdivided based on the frequency block requirements. The procedure for this method is follows :

- Set RBW = 1 MHz
- Set the VBW  $\geq 3 \times$  RBW
- Detector = RMS
- Trace Mode = Average
- Set Number of points Sweep  $\geq 2 \times$  (span / RBW)
- When unwanted noise or emissions are detected close to the limit, the sweep time is increased to perform a detailed measurement and capture the accurate signal level. (sweep time > number of points in sweep  $\times$  symbol period)

### Test Note

- ✓ All out of band spurious emissions were measured up to more than the 10th harmonic.
- ✓ Tests were conducted under QPSK modulation, which represents the worst-case scenario with the highest power level across all bandwidths.
- ✓ Although all transmission bandwidths and RB allocations including Full RB and 1 RB were evaluated, only the worst-case results are reported herein.

- ✓ Frequency Ranges A, B, and C represent separate out-of-band emission frequency ranges for each operating band.

#### 4.7.4. Test Results

Table 4-6 Conducted Spurious Emissions Data Ant1

| Band          | Band Width [MHz] | Channel | Frequency [MHz] | Earfcn UL | RB Size/Offset | Modulation | Range | Level [dBm] | Limit [dBm] | Margin [dB] |
|---------------|------------------|---------|-----------------|-----------|----------------|------------|-------|-------------|-------------|-------------|
| LTE Band 25/2 | 20               | Low     | 1860            | 26140     | 1/50           | QPSK       | A     | -37.57      | -13         | -24.57      |
|               |                  |         |                 |           |                |            | B     | -44.95      | -13         | -31.95      |
|               |                  |         |                 |           |                |            | C     | -36.80      | -13         | -23.80      |
|               |                  | Mid     | 1882.5          | 26365     | 1/50           | QPSK       | A     | -48.41      | -13         | -35.41      |
|               |                  |         |                 |           |                |            | B     | -45.13      | -13         | -32.13      |
|               |                  |         |                 |           |                |            | C     | -36.77      | -13         | -23.77      |
|               |                  | High    | 1905            | 26590     | 1/50           | QPSK       | A     | -52.53      | -13         | -39.53      |
|               |                  |         |                 |           |                |            | B     | -39.54      | -13         | -26.54      |
|               |                  |         |                 |           |                |            | C     | -36.72      | -13         | -23.72      |

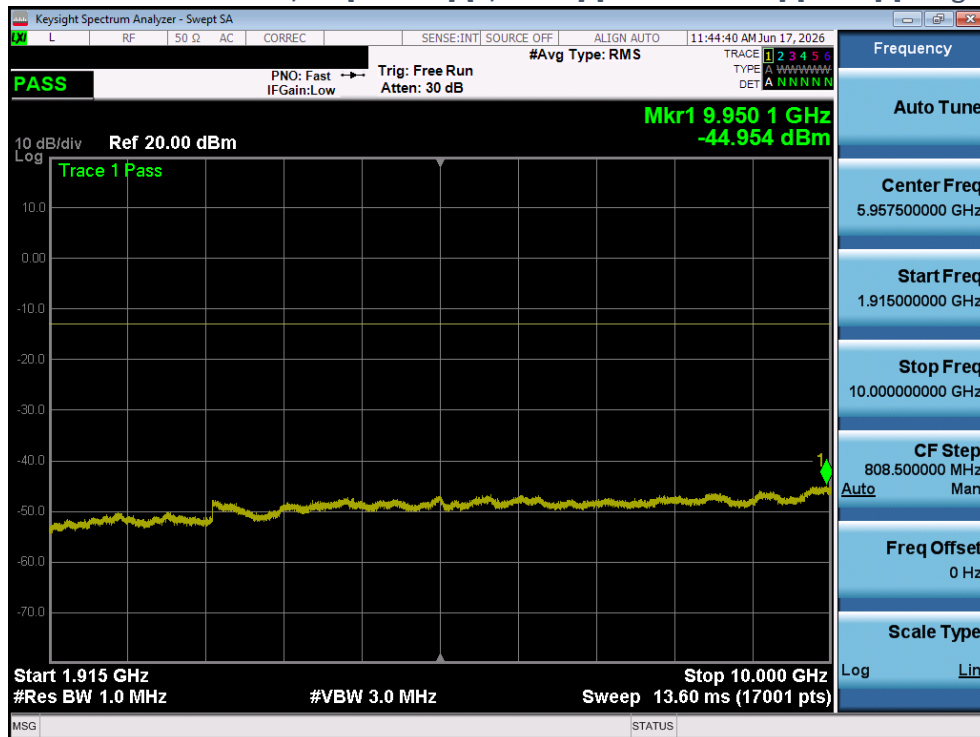
Table 4-7 Conducted Spurious Emissions Data Ant2

| Band          | Band Width [MHz] | Channel | Frequency [MHz] | Earfcn UL | RB Size/Offset | Modulation | Range | Level [dBm] | Limit [dBm] | Margin [dB] |
|---------------|------------------|---------|-----------------|-----------|----------------|------------|-------|-------------|-------------|-------------|
| LTE Band 25/2 | 20               | Low     | 1860            | 26140     | 1/50           | QPSK       | A     | -37.11      | -13         | -24.11      |
|               |                  |         |                 |           |                |            | B     | -44.69      | -13         | -31.69      |
|               |                  |         |                 |           |                |            | C     | -36.34      | -13         | -23.34      |
|               |                  | Mid     | 1882.5          | 26365     | 1/50           | QPSK       | A     | -49.47      | -13         | -36.47      |
|               |                  |         |                 |           |                |            | B     | -44.63      | -13         | -31.63      |
|               |                  |         |                 |           |                |            | C     | -36.49      | -13         | -23.49      |
|               |                  | High    | 1905            | 26590     | 1/50           | QPSK       | A     | -25.28      | -13         | -12.28      |
|               |                  |         |                 |           |                |            | B     | -44.85      | -13         | -31.85      |
|               |                  |         |                 |           |                |            | C     | -36.64      | -13         | -23.64      |

Plot 4-85 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range A] [Ant 1]



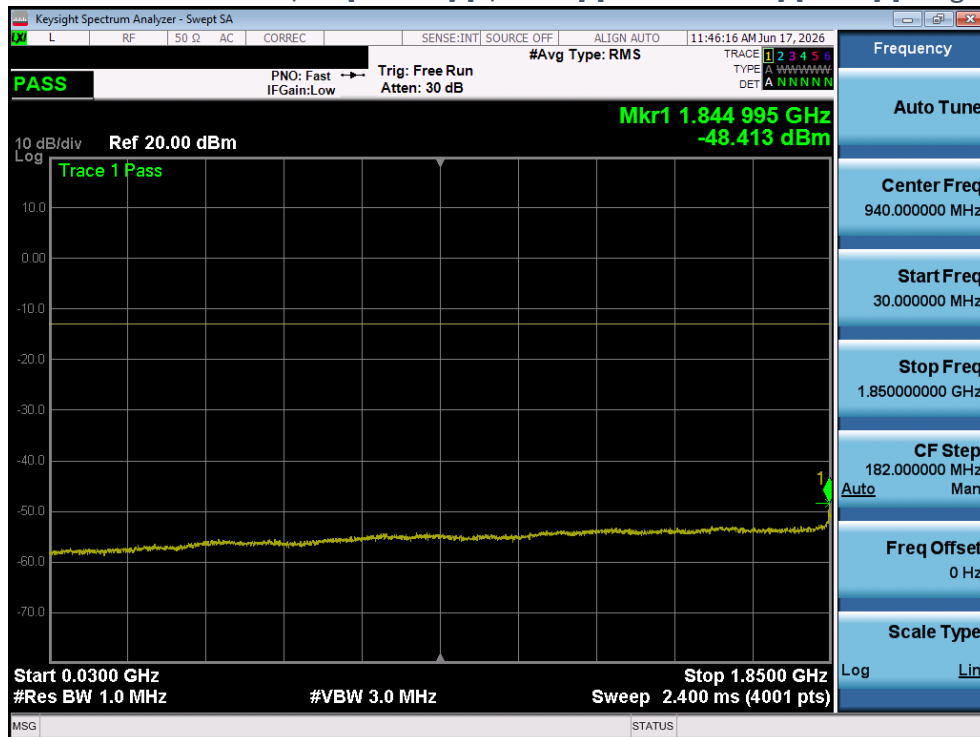
Plot 4-86 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range B] [Ant 1]



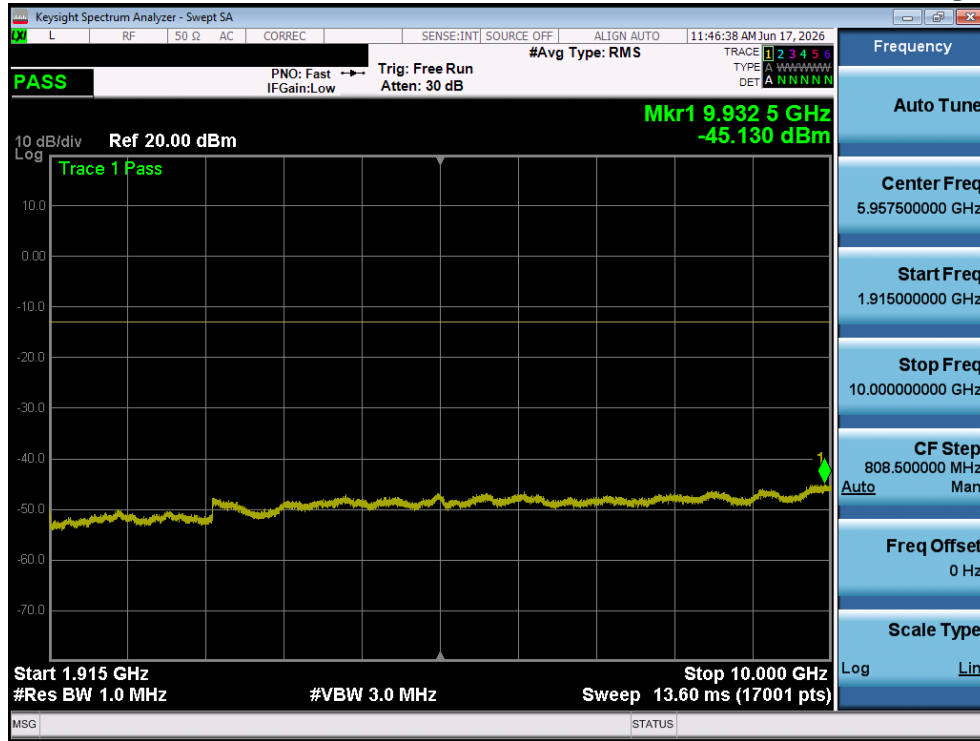
Plot 4-87 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range C] [Ant 1]



Plot 4-88 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Mid Channel] [QPSK] [Range A] [Ant 1]

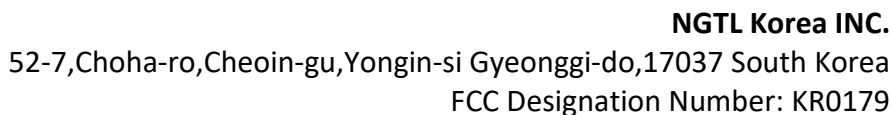


Plot 4-89 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Mid Channel] [QPSK] [Range B] [Ant 1]

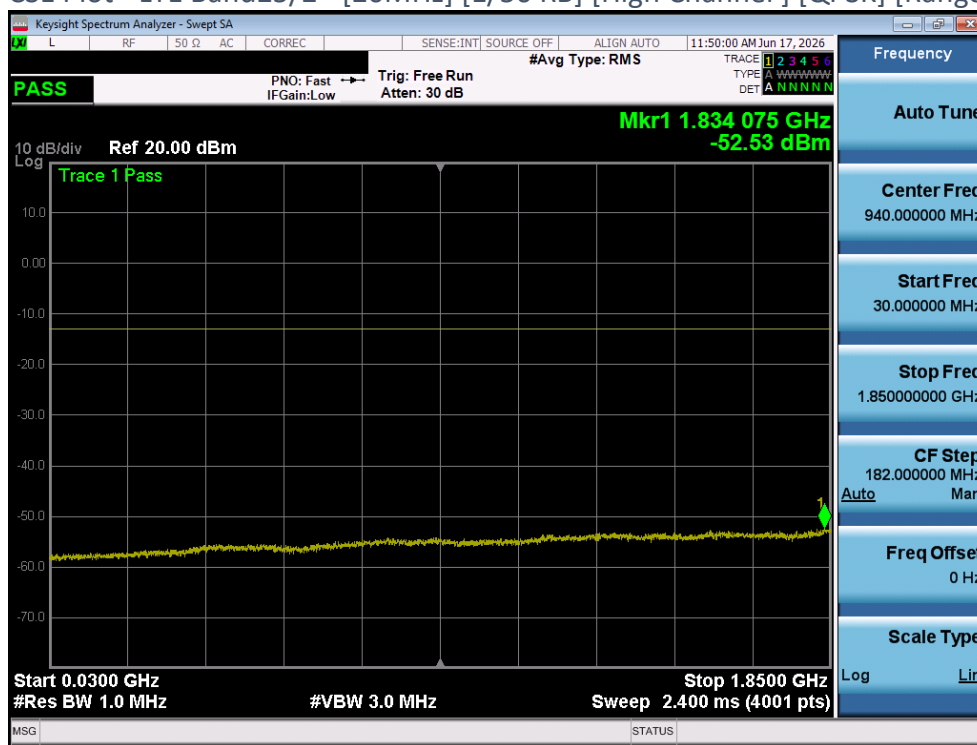


Plot 4-90 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Mid Channel] [QPSK] [Range C] [Ant 1]

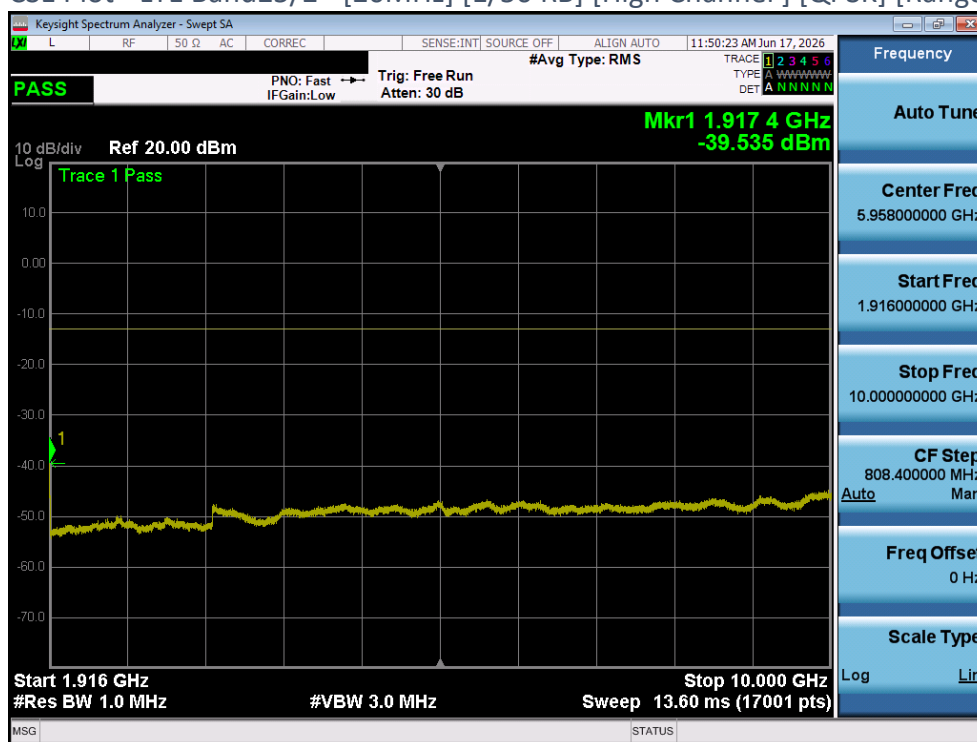




Plot 4-91 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [High Channel ] [QPSK] [Range A] [Ant 1]



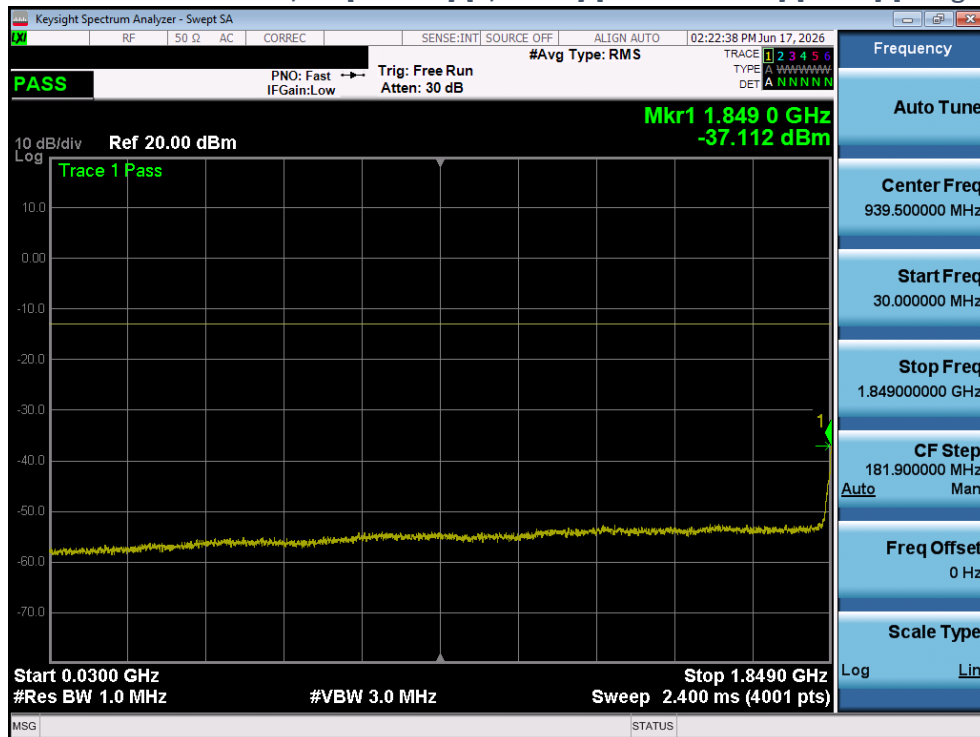
Plot 4-92 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [High Channel ] [QPSK] [Range B] [Ant 1]



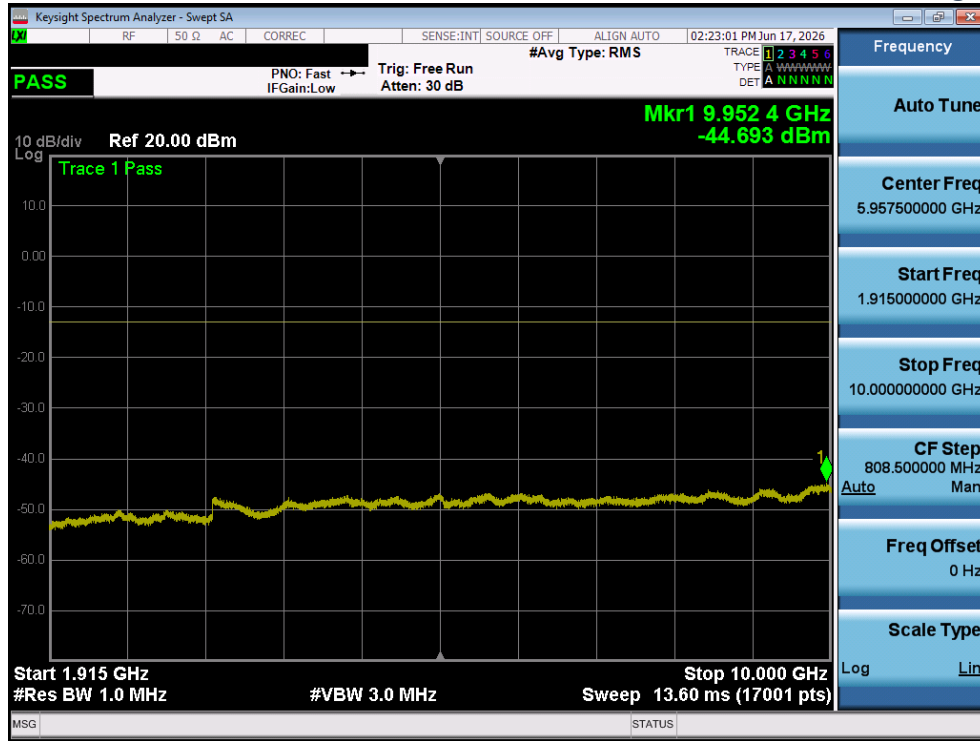
Plot 4-93 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [High Channel] [QPSK] [Range C] [Ant 1]



Plot 4-94 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range A] [Ant 2]



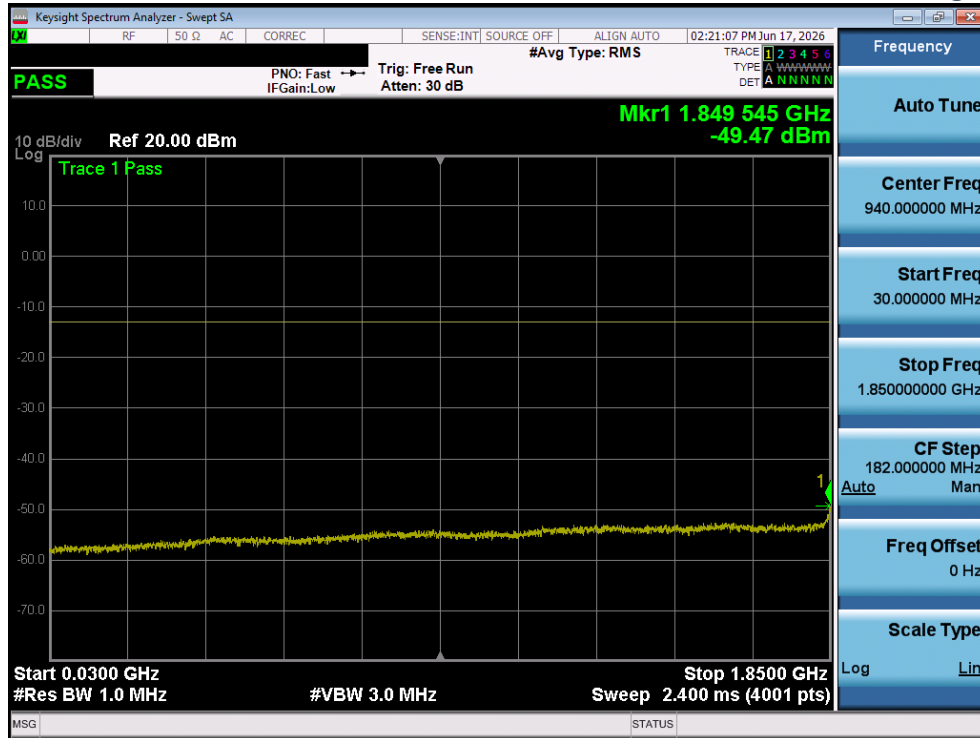
Plot 4-95 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range B] [Ant 2]



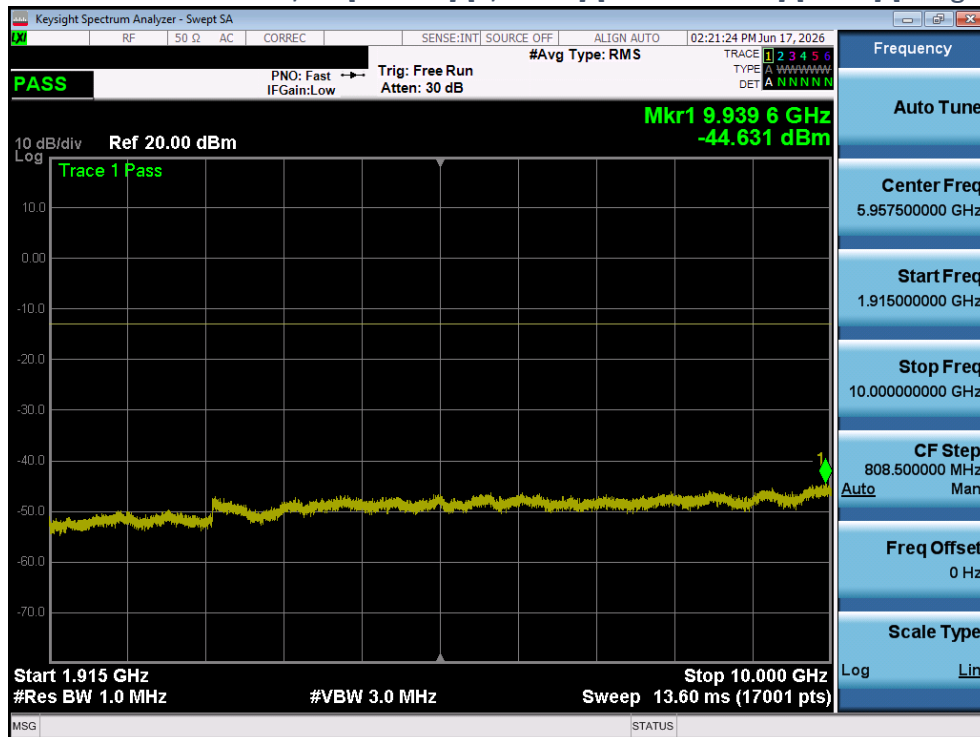
Plot 4-96 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Low Channel] [QPSK] [Range C] [Ant 2]



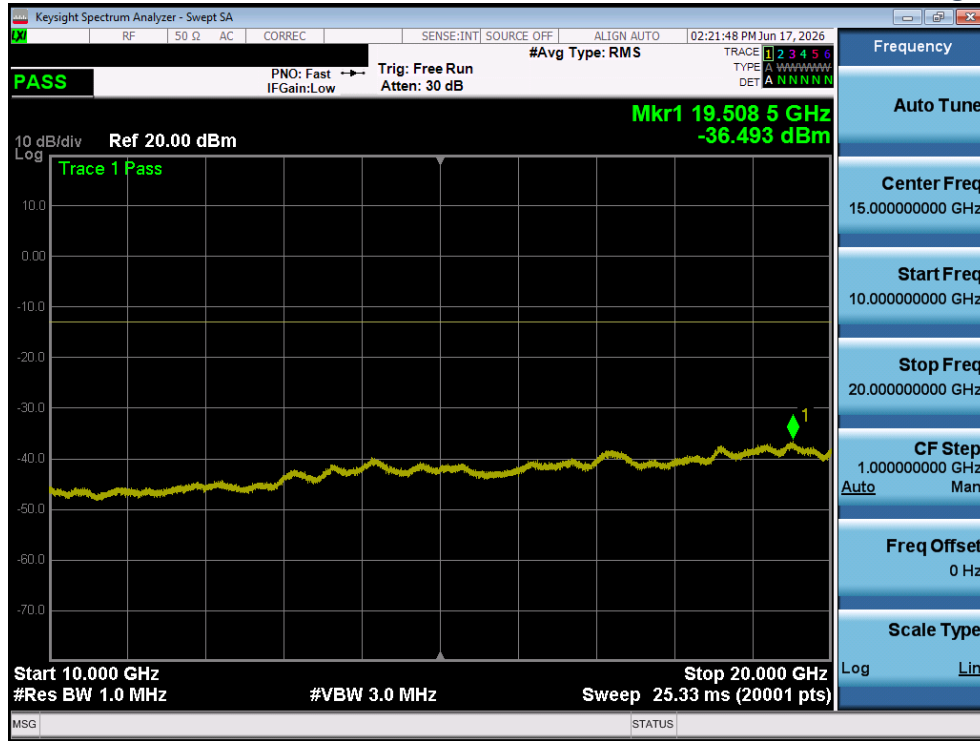
Plot 4-97 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Mid Channel] [QPSK] [Range A] [Ant 2]



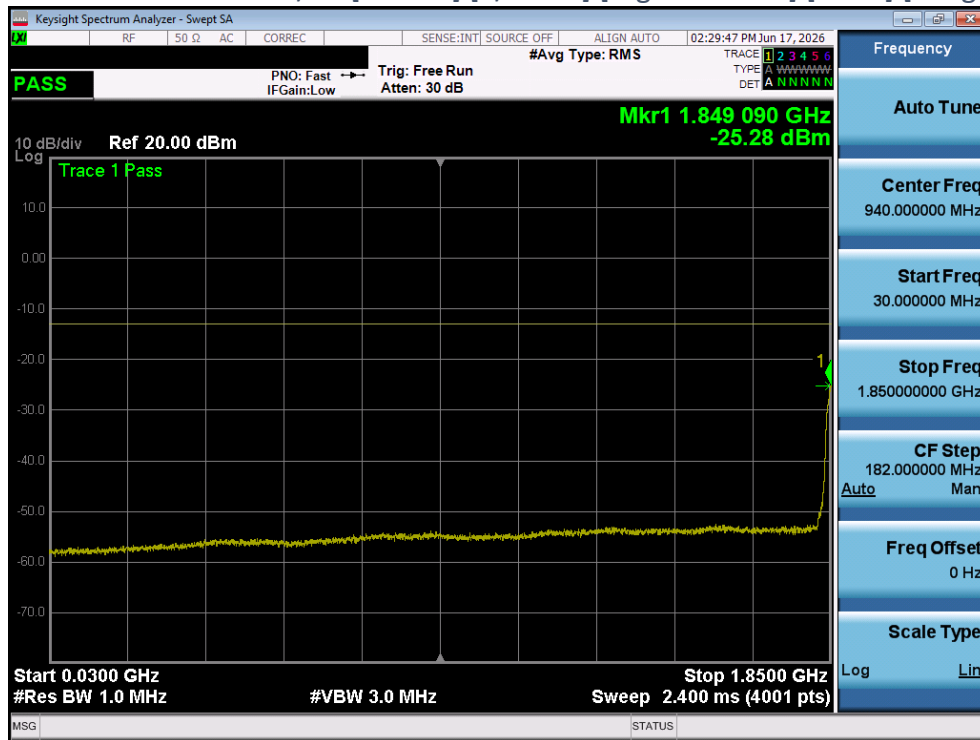
Plot 4-98 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Mid Channel] [QPSK] [Range B] [Ant 2]



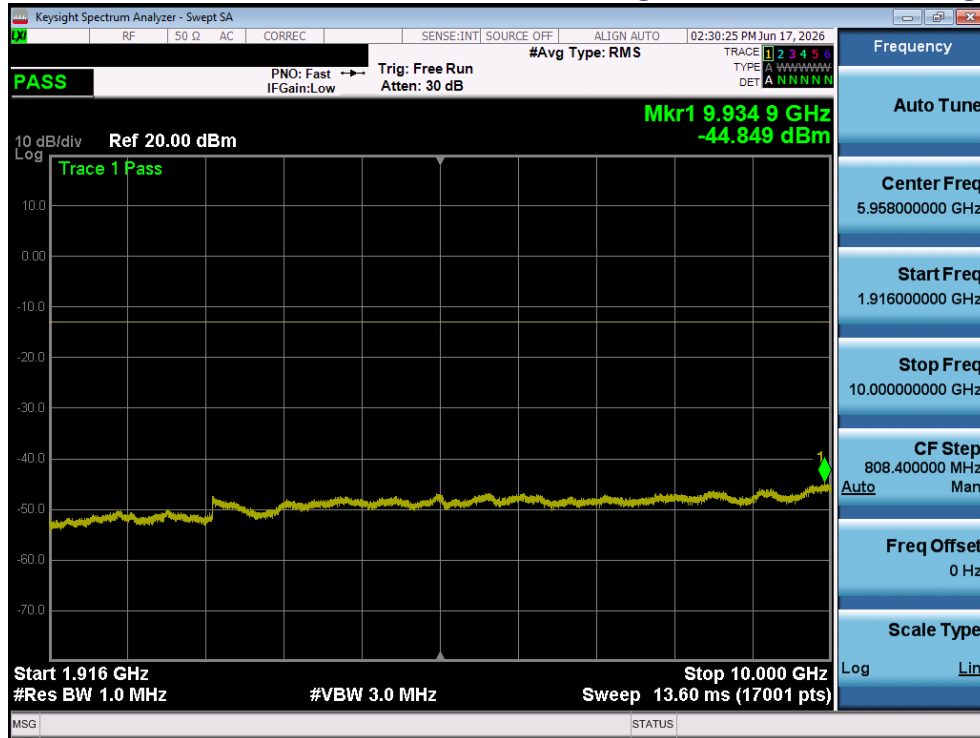
Plot 4-99 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [Mid Channel] [QPSK] [Range C] [Ant 2]



Plot 4-100 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [High Channel] [QPSK] [Range A] [Ant 2]



Plot 4-101 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [High Channel] [QPSK] [Range B] [Ant 2]



Plot 4-102 CSE Plot - LTE Band25/2 - [20MHz] [1/50 RB] [High Channel] [QPSK] [Range C] [Ant 2]



## 4.8. Frequency Stability

### 4.8.1. Regulatory Limits

§Part. 2.1055

The frequency stability of the transmitter shall be measured while varying the ambient temperatures and supply voltages over the ranges specified in Section 2.1055.

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The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group when tested to the temperature and supply voltage variations specified in RSS-Gen.

### 4.8.2. Test Method

ANSI C63.26-2015, clause 5.6

### 4.8.3. Test Procedure

The call simulator was used to control the EUT for RF power measurements.

For the frequency stability measurement, the OBW function of the spectrum analyzer was used.

The procedure for this method is follows:

- Place the test sample (EUT) inside the temperature chamber
- Reference Measurement - Set the chamber to +20°C and wait until both the chamber and the EUT internal components are completely stabilized under the nominal voltage condition.
- Connect the dummy load provided by the client and perform the measurement at the battery operating end point voltage.
- High-Temperature - increase the chamber temperature to +50°C.
- Incremental Temperature - lower the chamber temperature in 10°C (+50°C ~ -30°C)

## Test Note

- ✓ The supply voltage was varied using the dummy load provided by the customer, and the battery operating end point voltage was verified.
- ✓ Sufficient time was allowed for the EUT to stabilize under all temperature conditions.
- ✓ Frequency stability was evaluated at both the low and high operating channels to verify that the transmitter remains within the authorized frequency block across the operating frequency range.
- ✓ Nominal voltage – 3.89 VDC, Endpoint – 2.85 VDC

#### 4.8.4. Test Results

Table 4-8 Frequency Stability Data

| Band          | Channel | Voltage Condition | Temp [°C] | OBW T1 [Hz]   | Limit         | Pass/Fail |
|---------------|---------|-------------------|-----------|---------------|---------------|-----------|
| LTE Band 25/2 | Low     | Nominal           | +50       | 1,850,823,060 | 1,850,000,000 | PASS      |
|               |         |                   | +40       | 1,850,819,600 | 1,850,000,000 | PASS      |
|               |         |                   | +30       | 1,850,817,580 | 1,850,000,000 | PASS      |
|               |         |                   | +20       | 1,850,809,870 | 1,850,000,000 | PASS      |
|               |         |                   | +10       | 1,850,820,330 | 1,850,000,000 | PASS      |
|               |         |                   | 0         | 1,850,814,980 | 1,850,000,000 | PASS      |
|               |         |                   | -10       | 1,850,808,040 | 1,850,000,000 | PASS      |
|               |         |                   | -20       | 1,850,810,320 | 1,850,000,000 | PASS      |
|               |         |                   | -30       | 1,850,809,480 | 1,850,000,000 | PASS      |
|               |         | Endpoint          | +20       | 1,850,814,200 | 1,850,000,000 | PASS      |
|               | Channel | Voltage Condition | Temp [°C] | OBW T2 [Hz]   | Limit         | Pass/Fail |
|               | High    | Nominal           | +50       | 1,914,095,010 | 1,915,000,000 | PASS      |
|               |         |                   | +40       | 1,914,101,130 | 1,915,000,000 | PASS      |
|               |         |                   | +30       | 1,914,118,490 | 1,915,000,000 | PASS      |
|               |         |                   | +20       | 1,914,123,430 | 1,915,000,000 | PASS      |
|               |         |                   | +10       | 1,914,099,440 | 1,915,000,000 | PASS      |
|               |         |                   | 0         | 1,914,107,520 | 1,915,000,000 | PASS      |
|               |         |                   | -10       | 1,914,124,280 | 1,915,000,000 | PASS      |
|               |         |                   | -20       | 1,914,148,220 | 1,915,000,000 | PASS      |
|               |         |                   | -30       | 1,914,124,650 | 1,915,000,000 | PASS      |
|               |         | Endpoint          | +20       | 1,914,089,620 | 1,915,000,000 | PASS      |

\*Note - Temp '+20°C' condition is reference

## 5. Radiated Test Results

### 5.1. Test Configuration

#### Radiated Test Facilities & Setup

Radiated emissions testing was conducted in an indoor 3-meter semi-anechoic chamber (SAC). For all frequency ranges, the turntable was rotated 360° and the receive antenna height was varied from 1 m to 4 m to maximize emissions. The specific test setups and calibrated, linearly polarized antennas utilized are as follows:

- 9 kHz to 30 MHz : DUT height at 0.8 m / Active Loop Antenna
- 30 MHz to 1 GHz : DUT height at 0.8 m / No floor absorbers / Broadband Bi-log Antenna
- 1 GHz to 18 GHz : DUT height at 1.5 m / Floor absorbers deployed / Broadband Double-Ridge Horn Antenna
- Above 18 GHz : DUT height at 1.5 m / Floor absorbers deployed / Standard Gain Horn Antenna
- 

#### Test Orientations

The DUT was investigated in three orthogonal orientations (X, Y, and Z) for each band. Since the equipment transmits below 10 GHz, Radiated Spurious Emissions testing was performed from 9 kHz up to the lower of the tenth harmonic of the highest fundamental frequency or 40 GHz. Testing from 1 GHz to 18 GHz was performed on the low, mid, and high channels. Testing below 1 GHz and above 18 GHz was conducted only under the worst-case configuration. In accordance with ANSI C63.26, measurement results for the 9 kHz to 30 MHz range and frequencies above 18 GHz are included in the report only when emissions are detected within 20 dB of the applicable limit.



Figure 5-1 Three orthogonal orientations.

Radiated emissions were captured using automated test software 'NGTL ATE' Ver. 0.00.

## 5.2. Radiated Measurement Setup

Figure 5-2 Radiated Measurement Setup Below 30 MHz

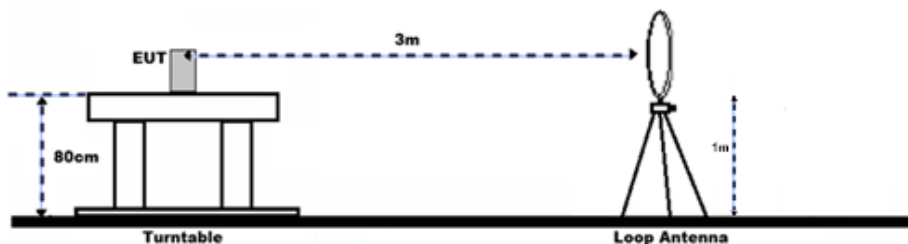


Figure 5-3 Radiated Measurement Setup Below 1 GHz

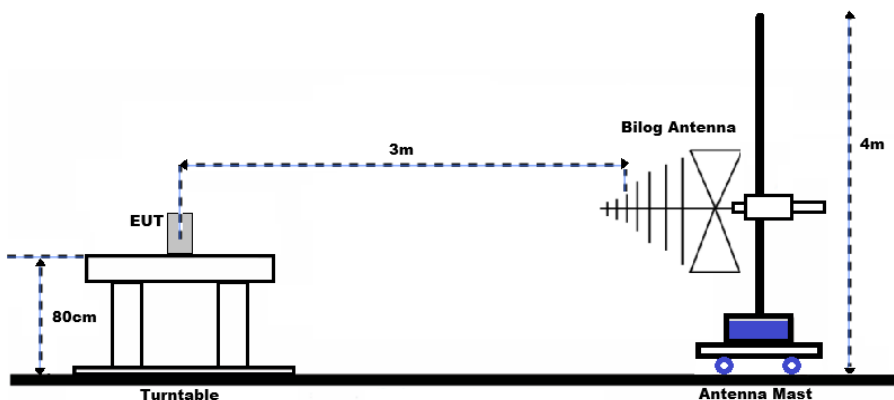
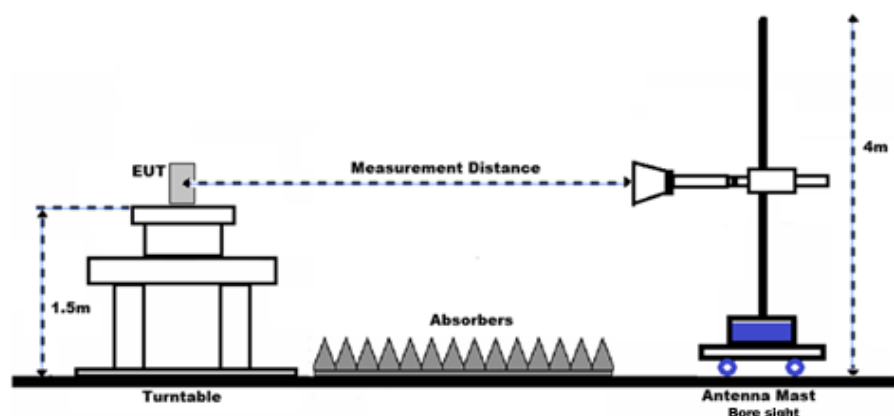


Figure 5-4 Radiated Measurement Setup Above 1 GHz



## 5.3. Radiated Measurement Sample

Serial Number(s) :

ZF50735M, ZEE0154M, ZDR0217M

## 5.4. Radiated Power

### 5.4.1. Regulatory Limit

#### § Part 24.232(c)

Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

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The maximum power spectral density of the equipment, measured in terms of average values, shall comply with the limits specified in table below. These limits are either specified in terms of equivalent isotropically radiated power (e.i.r.p.) or TRP for the purpose of certification and may not apply to all deployment scenarios.

| Equipment type       | Maximum power spectral density |
|----------------------|--------------------------------|
| Subscriber equipment | 2 W /channel bandwidth e.i.r.p |

### 5.4.2. Test Method

ANSI C63.26 – 2015, clause 5.2.4.2,

### 5.4.3. Test Procedure

The procedure for Average measurement is follows :

- Connect the power sensor to the EMI receiver, and then perform zeroing and calibration.
- Connect the DUT to a wideband gated RF power sensor.
- Configure the DUT to transmit at its maximum power control level.
- Record the maximum power level
- When the burst duty cycle is below 98%, a trigger/gate is utilized to ensure power is measured only during active full-power transmission bursts.

### **Test Note**

- ✓ For this test, substitution measurements were performed in a 3 meter semi-anechoic chamber that meets both normalized site attenuation (NSA) and SVWSR requirements.
- ✓ For the test in this section, a power sensor was connected to the EMI receiver. Signal maximizing was performed using the receiver, while the power measurement was conducted using the sensor. A splitter was placed at the input of the receiver to distribute the signal to both the receiver and the sensor, and the resulting loss was compensated as an offset in the power sensor.

### 5.4.4. Test Results

**Table 5-1 Radiated Power - LTE Band 25/2 Ant1**

| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|----------|------------|-----------|--------------------|---------------------------|---------|-----------|---------------------------------------|--------|--------|-------------|--------------------------|
|          |            |           |                    |                           |         |           | 1860                                  | 1882.5 | 1905   |             |                          |
|          |            |           |                    |                           |         |           | 26140                                 | 26365  | 26590  |             |                          |
| 20       | QPSK       | V         | 1.27               | 344                       | 1       | 0         | 23.96                                 | 23.81  | 23.57  | 33          | -9.04                    |
|          |            | V         | 1.29               | 345                       | 1       | 50        | 23.92                                 | 24.16  | 23.34  |             | -8.84                    |
|          |            | V         | 1.32               | 347                       | 1       | 99        | 23.19                                 | 23.62  | 23.03  |             | -9.38                    |
|          |            | V         | 1.29               | 345                       | 100     | 0         | 22.85                                 | 23.01  | 22.44  |             | -9.99                    |
|          | 16QAM      | V         | 1.27               | 344                       | 1       | 0         | 23.28                                 | 22.96  | 22.78  |             | -9.72                    |
|          |            | V         | 1.29               | 345                       | 1       | 50        | 23.04                                 | 23.34  | 22.68  |             | -9.66                    |
|          |            | V         | 1.32               | 347                       | 1       | 99        | 22.28                                 | 22.79  | 22.19  |             | -10.21                   |
|          |            | V         | 1.29               | 345                       | 100     | 0         | 21.79                                 | 22.02  | 21.28  |             | -10.98                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1857.5                                | 1882.5 | 1907.5 |             |                          |
|          |            |           |                    |                           |         |           | 26115                                 | 26365  | 26615  |             |                          |
| 15       | QPSK       | V         | 1.27               | 344                       | 1       | 0         | 23.97                                 | 23.85  | 23.35  | 33          | -9.03                    |
|          |            | V         | 1.29               | 345                       | 1       | 36        | 23.79                                 | 24.08  | 23.29  |             | -8.92                    |
|          |            | V         | 1.32               | 347                       | 1       | 74        | 23.14                                 | 23.55  | 23.01  |             | -9.45                    |
|          |            | V         | 1.29               | 345                       | 75      | 0         | 22.94                                 | 23.08  | 22.41  |             | -9.92                    |
|          | 16QAM      | V         | 1.27               | 344                       | 1       | 0         | 23.37                                 | 22.94  | 22.71  |             | -9.63                    |
|          |            | V         | 1.29               | 345                       | 1       | 36        | 22.94                                 | 23.44  | 22.70  |             | -9.56                    |
|          |            | V         | 1.32               | 347                       | 1       | 74        | 22.30                                 | 22.74  | 22.27  |             | -10.26                   |
|          |            | V         | 1.29               | 345                       | 75      | 0         | 21.83                                 | 22.06  | 21.22  |             | -10.94                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1855                                  | 1882.5 | 1910   |             |                          |
|          |            |           |                    |                           |         |           | 26090                                 | 26365  | 26640  |             |                          |
| 10       | QPSK       | V         | 1.27               | 344                       | 1       | 0         | 23.92                                 | 23.84  | 23.31  | 33          | -9.08                    |
|          |            | V         | 1.29               | 345                       | 1       | 25        | 23.77                                 | 24.22  | 23.51  |             | -8.78                    |
|          |            | V         | 1.32               | 347                       | 1       | 49        | 23.19                                 | 23.62  | 23.04  |             | -9.38                    |
|          |            | V         | 1.29               | 345                       | 50      | 0         | 22.89                                 | 22.96  | 22.38  |             | -10.04                   |
|          | 16QAM      | V         | 1.27               | 344                       | 1       | 0         | 23.32                                 | 22.96  | 22.62  |             | -9.68                    |
|          |            | V         | 1.29               | 345                       | 1       | 25        | 23.17                                 | 23.73  | 22.74  |             | -9.27                    |
|          |            | V         | 1.32               | 347                       | 1       | 49        | 22.34                                 | 22.76  | 22.32  |             | -10.24                   |
|          |            | V         | 1.29               | 345                       | 50      | 0         | 21.84                                 | 22.02  | 21.23  |             | -10.98                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1852.5                                | 1882.5 | 1912.5 |             |                          |
|          |            |           |                    |                           |         |           | 26065                                 | 26365  | 26665  |             |                          |
| 5        | QPSK       | V         | 1.27               | 344                       | 1       | 0         | 23.91                                 | 23.78  | 23.34  | 33          | -9.09                    |
|          |            | V         | 1.29               | 345                       | 1       | 12        | 23.68                                 | 23.81  | 23.27  |             | -9.19                    |
|          |            | V         | 1.32               | 347                       | 1       | 24        | 23.25                                 | 23.57  | 23.03  |             | -9.43                    |
|          |            | V         | 1.29               | 345                       | 25      | 0         | 22.89                                 | 22.94  | 22.38  |             | -10.06                   |
|          | 16QAM      | V         | 1.27               | 344                       | 1       | 0         | 23.40                                 | 23.01  | 22.50  |             | -9.60                    |
|          |            | V         | 1.29               | 345                       | 1       | 12        | 23.10                                 | 23.51  | 22.82  |             | -9.49                    |
|          |            | V         | 1.32               | 347                       | 1       | 24        | 22.47                                 | 22.79  | 22.38  |             | -10.21                   |
|          |            | V         | 1.29               | 345                       | 25      | 0         | 21.79                                 | 21.99  | 21.25  |             | -11.01                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1851.5                                | 1882.5 | 1913.5 |             |                          |
|          |            |           |                    |                           |         |           | 26055                                 | 26365  | 26675  |             |                          |
| 3        | QPSK       | V         | 1.27               | 344                       | 1       | 0         | 23.94                                 | 23.74  | 23.28  | 33          | -9.06                    |
|          |            | V         | 1.29               | 345                       | 1       | 7         | 23.98                                 | 23.87  | 23.16  |             | -9.02                    |
|          |            | V         | 1.32               | 347                       | 1       | 14        | 23.20                                 | 23.57  | 22.97  |             | -9.43                    |
|          |            | V         | 1.29               | 345                       | 15      | 0         | 22.91                                 | 22.89  | 22.34  |             | -10.09                   |
|          | 16QAM      | V         | 1.27               | 344                       | 1       | 0         | 23.35                                 | 22.93  | 22.61  |             | -9.65                    |
|          |            | V         | 1.29               | 345                       | 1       | 7         | 23.14                                 | 23.64  | 22.81  |             | -9.36                    |
|          |            | V         | 1.32               | 347                       | 1       | 14        | 22.39                                 | 22.76  | 22.22  |             | -10.24                   |
|          |            | V         | 1.29               | 345                       | 15      | 0         | 21.85                                 | 21.93  | 21.25  |             | -11.07                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1850.7                                | 1882.5 | 1914.3 |             |                          |
|          |            |           |                    |                           |         |           | 26047                                 | 26365  | 26683  |             |                          |
| 1.4      | QPSK       | V         | 1.27               | 344                       | 1       | 0         | 23.94                                 | 23.86  | 23.29  | 33          | -9.06                    |
|          |            | V         | 1.29               | 345                       | 1       | 3         | 24.07                                 | 24.18  | 23.33  |             | -8.82                    |
|          |            | V         | 1.32               | 347                       | 1       | 5         | 23.33                                 | 23.62  | 23.01  |             | -9.38                    |
|          |            | V         | 1.29               | 345                       | 6       | 0         | 22.94                                 | 22.94  | 22.34  |             | -10.06                   |
|          | 16QAM      | V         | 1.27               | 344                       | 1       | 0         | 23.36                                 | 22.94  | 22.58  |             | -9.64                    |
|          |            | V         | 1.29               | 345                       | 1       | 3         | 23.19                                 | 23.65  | 22.73  |             | -9.35                    |
|          |            | V         | 1.32               | 347                       | 1       | 5         | 22.47                                 | 22.81  | 22.25  |             | -10.19                   |
|          |            | V         | 1.29               | 345                       | 6       | 0         | 21.94                                 | 22.03  | 21.31  |             | -10.97                   |

**Table 5-2 Radiated Power - LTE Band 25/2 Ant2**

| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|----------|------------|-----------|--------------------|---------------------------|---------|-----------|---------------------------------------|--------|--------|-------------|--------------------------|
|          |            |           |                    |                           |         |           | 1860                                  | 1882.5 | 1905   |             |                          |
|          |            |           |                    |                           |         |           | 26140                                 | 26365  | 26590  |             |                          |
| 20       | QPSK       | V         | 1.05               | 322                       | 1       | 0         | 21.79                                 | 22.53  | 22.31  | 33          | -10.47                   |
|          |            | V         | 1.04               | 320                       | 1       | 50        | 21.86                                 | 22.14  | 22.22  |             | -10.78                   |
|          |            | V         | 1.04               | 328                       | 1       | 99        | 21.62                                 | 22.07  | 20.86  |             | -10.93                   |
|          |            | V         | 1.04               | 319                       | 100     | 0         | 20.86                                 | 21.27  | 21.26  |             | -11.73                   |
|          | 16QAM      | V         | 1.05               | 322                       | 1       | 0         | 20.83                                 | 21.59  | 21.54  |             | -11.41                   |
|          |            | V         | 1.04               | 320                       | 1       | 50        | 20.92                                 | 21.19  | 21.37  |             | -11.63                   |
|          |            | V         | 1.04               | 328                       | 1       | 99        | 20.77                                 | 21.27  | 20.29  |             | -11.73                   |
|          |            | V         | 1.04               | 319                       | 100     | 0         | 19.86                                 | 20.25  | 20.28  |             | -12.72                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1857.5                                | 1882.5 | 1907.5 |             |                          |
|          |            |           |                    |                           |         |           | 26115                                 | 26365  | 26615  |             |                          |
| 15       | QPSK       | V         | 1.05               | 322                       | 1       | 0         | 21.80                                 | 22.57  | 22.09  | 33          | -10.43                   |
|          |            | V         | 1.04               | 320                       | 1       | 36        | 21.73                                 | 22.06  | 22.17  |             | -10.83                   |
|          |            | V         | 1.04               | 328                       | 1       | 74        | 21.57                                 | 22.00  | 20.84  |             | -11.00                   |
|          |            | V         | 1.04               | 319                       | 75      | 0         | 20.95                                 | 21.34  | 21.23  |             | -11.66                   |
|          | 16QAM      | V         | 1.05               | 322                       | 1       | 0         | 20.92                                 | 21.57  | 21.47  |             | -11.43                   |
|          |            | V         | 1.04               | 320                       | 1       | 36        | 20.82                                 | 21.29  | 21.39  |             | -11.61                   |
|          |            | V         | 1.04               | 328                       | 1       | 74        | 20.79                                 | 21.22  | 20.37  |             | -11.78                   |
|          |            | V         | 1.04               | 319                       | 75      | 0         | 19.90                                 | 20.29  | 20.22  |             | -12.71                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1855                                  | 1882.5 | 1910   |             |                          |
|          |            |           |                    |                           |         |           | 26090                                 | 26365  | 26640  |             |                          |
| 10       | QPSK       | V         | 1.05               | 322                       | 1       | 0         | 21.75                                 | 22.56  | 22.05  | 33          | -10.44                   |
|          |            | V         | 1.04               | 320                       | 1       | 25        | 21.71                                 | 22.20  | 22.39  |             | -10.61                   |
|          |            | V         | 1.04               | 328                       | 1       | 49        | 21.62                                 | 22.07  | 20.87  |             | -10.93                   |
|          |            | V         | 1.04               | 319                       | 50      | 0         | 20.90                                 | 21.22  | 21.20  |             | -11.78                   |
|          | 16QAM      | V         | 1.05               | 322                       | 1       | 0         | 20.87                                 | 21.59  | 21.38  |             | -11.41                   |
|          |            | V         | 1.04               | 320                       | 1       | 25        | 21.05                                 | 21.58  | 21.43  |             | -11.42                   |
|          |            | V         | 1.04               | 328                       | 1       | 49        | 20.83                                 | 21.24  | 20.42  |             | -11.76                   |
|          |            | V         | 1.04               | 319                       | 50      | 0         | 19.91                                 | 20.25  | 20.23  |             | -12.75                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1852.5                                | 1882.5 | 1912.5 |             |                          |
|          |            |           |                    |                           |         |           | 26065                                 | 26365  | 26665  |             |                          |
| 5        | QPSK       | V         | 1.05               | 322                       | 1       | 0         | 21.65                                 | 22.48  | 21.94  | 33          | -10.52                   |
|          |            | V         | 1.04               | 320                       | 1       | 12        | 21.74                                 | 22.50  | 22.08  |             | -10.50                   |
|          |            | V         | 1.04               | 328                       | 1       | 24        | 21.62                                 | 21.79  | 22.15  |             | -10.85                   |
|          |            | V         | 1.04               | 319                       | 25      | 0         | 21.68                                 | 22.02  | 20.86  |             | -10.98                   |
|          | 16QAM      | V         | 1.05               | 322                       | 1       | 0         | 20.90                                 | 21.20  | 21.20  |             | -11.80                   |
|          |            | V         | 1.04               | 320                       | 1       | 12        | 20.95                                 | 21.64  | 21.26  |             | -11.36                   |
|          |            | V         | 1.04               | 328                       | 1       | 24        | 20.98                                 | 21.36  | 21.51  |             | -11.49                   |
|          |            | V         | 1.04               | 319                       | 25      | 0         | 20.96                                 | 21.27  | 20.48  |             | -11.73                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1851.5                                | 1882.5 | 1913.5 |             |                          |
|          |            |           |                    |                           |         |           | 26055                                 | 26365  | 26675  |             |                          |
| 3        | QPSK       | V         | 1.05               | 322                       | 1       | 0         | 21.77                                 | 22.46  | 22.02  | 33          | -10.54                   |
|          |            | V         | 1.04               | 320                       | 1       | 7         | 21.92                                 | 21.85  | 22.04  |             | -10.96                   |
|          |            | V         | 1.04               | 328                       | 1       | 14        | 21.63                                 | 22.02  | 20.80  |             | -10.98                   |
|          |            | V         | 1.04               | 319                       | 15      | 0         | 20.92                                 | 21.15  | 21.16  |             | -11.84                   |
|          | 16QAM      | V         | 1.05               | 322                       | 1       | 0         | 20.90                                 | 21.56  | 21.37  |             | -11.44                   |
|          |            | V         | 1.04               | 320                       | 1       | 7         | 21.02                                 | 21.49  | 21.50  |             | -11.50                   |
|          |            | V         | 1.04               | 328                       | 1       | 14        | 20.88                                 | 21.24  | 20.32  |             | -11.76                   |
|          |            | V         | 1.04               | 319                       | 15      | 0         | 19.92                                 | 20.16  | 20.25  |             | -12.75                   |
| BW [MHz] | Modulation | Ant. Pol. | Antenna Height [m] | Turntable Azimuth [deg °] | RB Size | RB Offset | Frequency [MHz] / Earfcn / EIRP [dBm] |        |        | Limit [dBm] | Margin at Max Power [dB] |
|          |            |           |                    |                           |         |           | 1850.7                                | 1882.5 | 1914.3 |             |                          |
|          |            |           |                    |                           |         |           | 26047                                 | 26365  | 26683  |             |                          |
| 1.4      | QPSK       | V         | 1.05               | 322                       | 1       | 0         | 21.77                                 | 22.58  | 22.03  | 33          | -10.42                   |
|          |            | V         | 1.04               | 320                       | 1       | 3         | 22.01                                 | 22.16  | 22.21  |             | -10.79                   |
|          |            | V         | 1.04               | 328                       | 1       | 5         | 21.76                                 | 22.07  | 20.84  |             | -10.93                   |
|          |            | V         | 1.04               | 319                       | 6       | 0         | 20.95                                 | 21.20  | 21.16  |             | -11.80                   |
|          | 16QAM      | V         | 1.05               | 322                       | 1       | 0         | 20.91                                 | 21.57  | 21.34  |             | -11.43                   |
|          |            | V         | 1.04               | 320                       | 1       | 3         | 21.07                                 | 21.50  | 21.42  |             | -11.50                   |
|          |            | V         | 1.04               | 328                       | 1       | 5         | 20.96                                 | 21.29  | 20.35  |             | -11.71                   |
|          |            | V         | 1.04               | 319                       | 6       | 0         | 20.01                                 | 20.26  | 20.31  |             | -12.69                   |

## 5.5. Unwanted Emissions Outside of the Band

### 5.5.1. Regulatory Limit

§ Part 24.238

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB

RSS-133(5.6)

Equipment shall meet the unwanted emission limits, specified in table below, outside each frequency block group.

| Offset frequency from the edge of the frequency block group (MHz) | Unwanted emission limit |
|-------------------------------------------------------------------|-------------------------|
| $\leq 1$                                                          | -13 dBm / (1% of OBW)   |
| $>1$                                                              | -13 dBm/MHz             |

### 5.5.2. Test Method

ANSI C63.26 – 2015, clause 5.5.4

### 5.5.3. Test Procedure

The procedure for this method is follows :

- Set RBW = 1 MHz  
 100 kHz if the authorized frequency band/block is at or below 1 GHz  
 1 MHz if the authorized frequency band/block is above 1 GHz
- Set the VBW  $\geq 3 \times$  RBW.
- Detector = RMS
- Trace Mode = Average
- Set Number of points Sweep  $\geq 2 \times$  (span / RBW)

### 5.5.4. Sample Calculation

Where relevant, the following sample calculation is provided:

$$E \text{ (dB}\mu\text{V/m)} = \text{Measured amplitude level (dBm)} + 107 + \text{Cable Loss (dB)} + \text{Antenna Factor (dB/m)}.$$

$$\text{EIRP (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8;$$

where D is the measurement distance (in the far field region) in m.

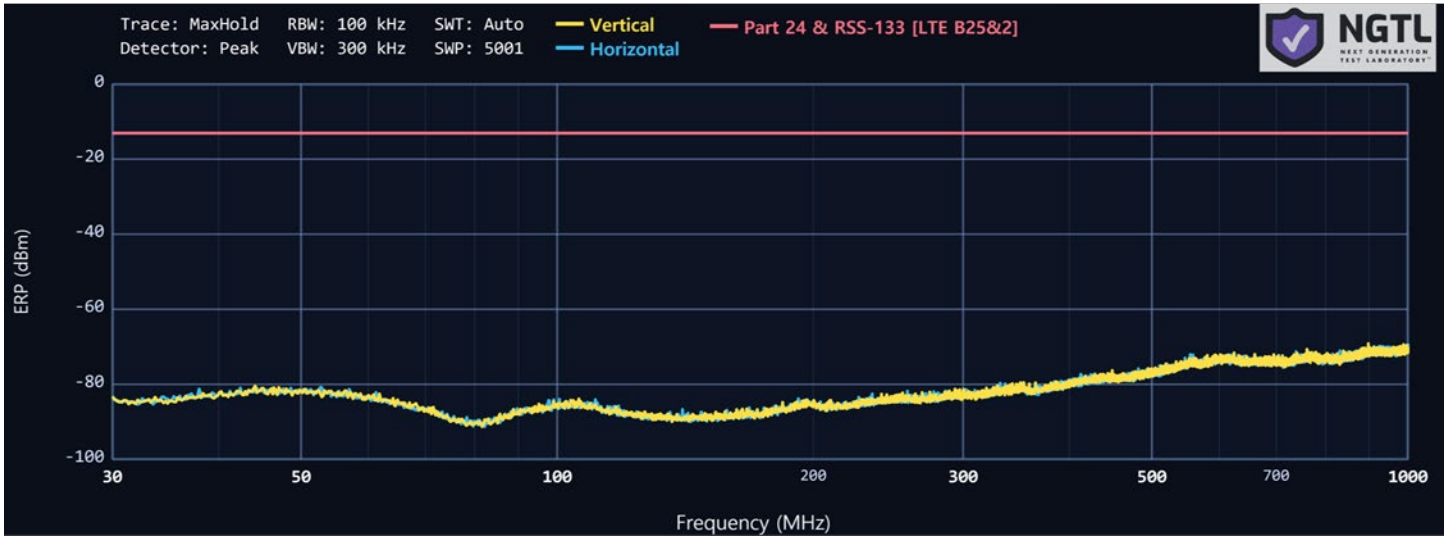
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**Test Note**

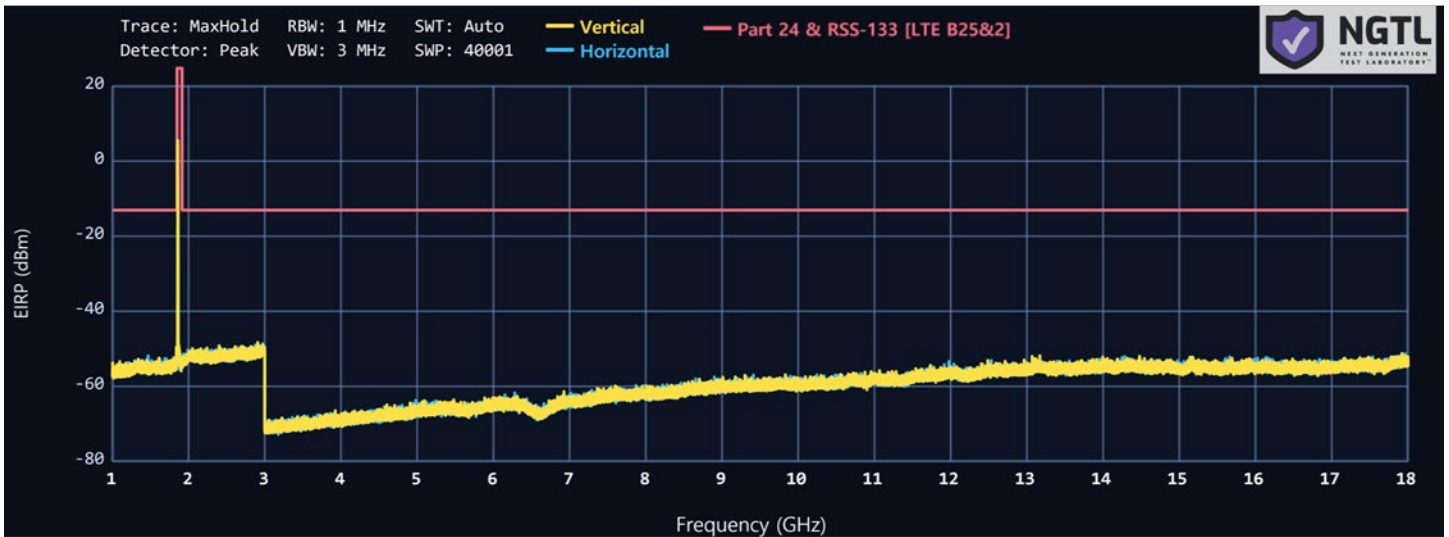
- ✓ The DUT incorporates an integral antenna, and testing was performed in a radiated configuration
- ✓ Radiated Unwanted emissions were measured using the direct radiated field strength method on a validated test site in accordance with the requirements of ANSI C63.4.
- ✓ The EUT was oriented in three orthogonal axes (X, Y, and Z), and only the worst-case emissions are reported.
- ✓ In accordance with ANSI C63.26 Section 5.5.2.5, a pre-scan was performed, and the final compliance tests were conducted using the designated detector at the worst-case parameters.
- ✓ No spurious emissions were observed above 18 GHz. Only the measurement system noise floor was detected.

### 5.5.5. Test Results

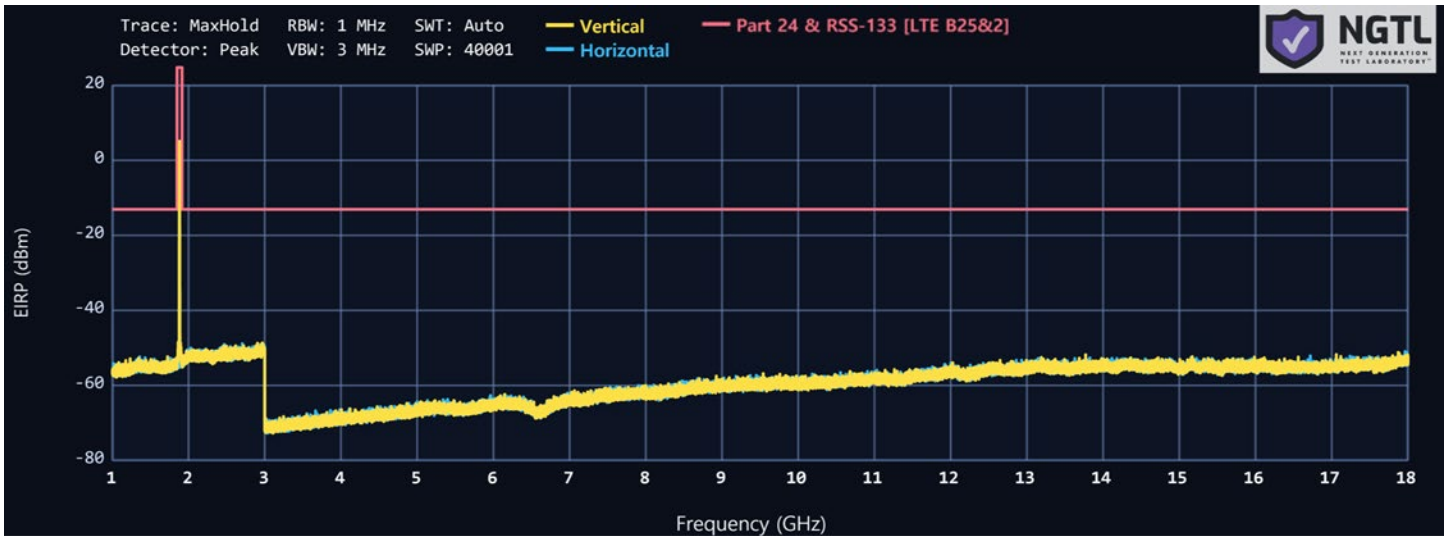
Plot 5-1 RSE Below 1GHz PLOT - LTE Band25/2 - [20MHz] [1/50RB] [Mid Channel] [QPSK] [ANT 1]



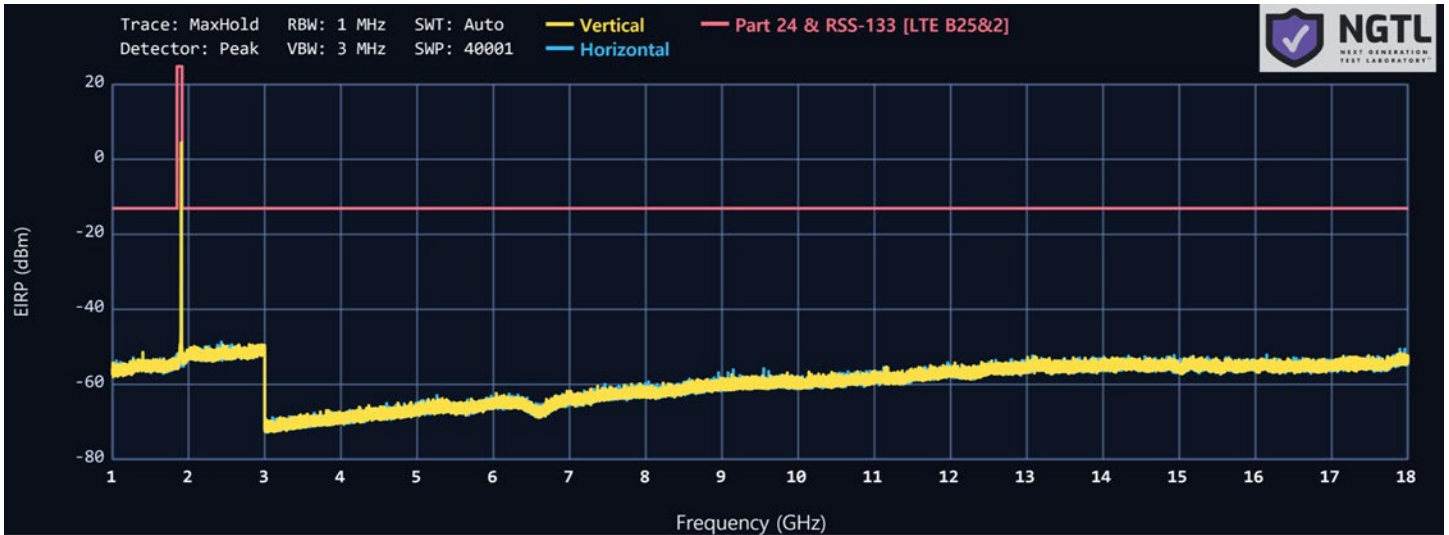
Plot 5-2 RSE Above 1GHz PLOT - LTE Band25/2 - [20MHz] [1/50RB] [Low Channel] [QPSK] [ANT 1]



Plot 5-3 RSE Above 1GHz PLOT - LTE Band25/2 - [20MHz] [1/50RB] [Mid Channel] [QPSK] [ANT 1]



Plot 5-4 RSE Above 1GHz PLOT - LTE Band25/2 - [20MHz] [1/50RB] [High Channel] [QPSK] [ANT 1]



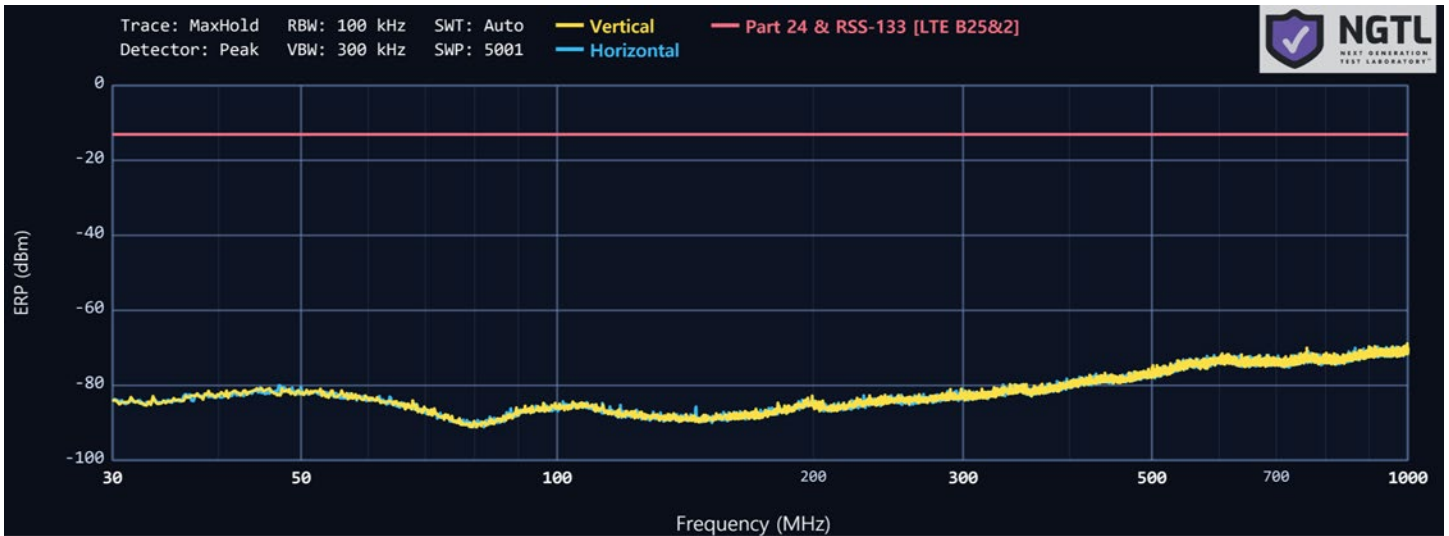
**Table 5-3 Radiated Spurious Emissions Below 1GHz DATA - LTE Band25/2 - ANT 1**

| Test mode           | Tested Frequency [MHz] | Frequency [MHz] | Reading Value [dBuV] | Pol [H/V] | Detector Mode | AFCL [dB] | Result [dBm] | Limit [dBm] | Margin [dB] |
|---------------------|------------------------|-----------------|----------------------|-----------|---------------|-----------|--------------|-------------|-------------|
| LTE Band 25/2 ANT 1 | 1882.5                 | 950.82          | 54.76                | H         | PK            | -21.42    | -61.86       | -13.00      | -48.86      |
|                     |                        | 972.72          | 53.82                | V         | PK            | -22.01    | -63.39       | -13.00      | -50.39      |

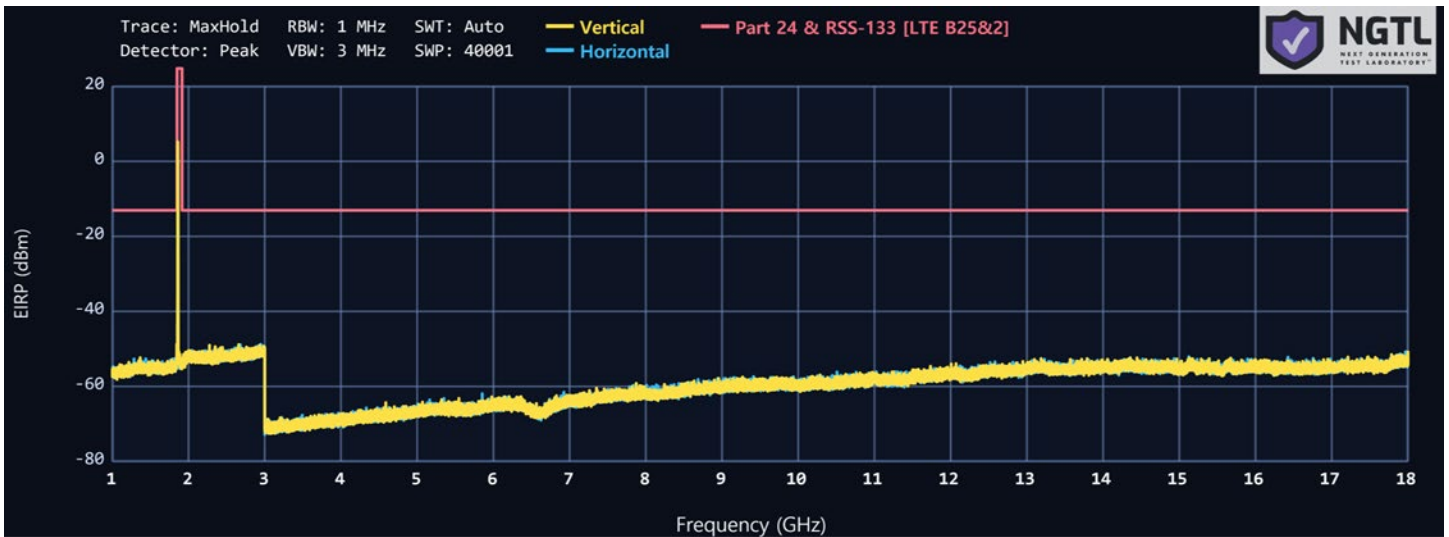
**Table 5-4 Radiated Spurious Emissions Above 1GHz DATA - LTE Band25/2 - ANT 1**

| Test mode           | Tested Frequency [MHz] | Frequency [MHz] | Reading Value [dBuV] | Pol [H/V] | Detector Mode | AFCL [dB] | Result [dBm] | Limit [dBm] | Margin [dB] |
|---------------------|------------------------|-----------------|----------------------|-----------|---------------|-----------|--------------|-------------|-------------|
| LTE Band 25/2 ANT 1 | 1860.0                 | 3 719.24        | 44.66                | H         | PK            | -19.01    | -69.55       | -13.00      | -56.55      |
|                     |                        | 5 580.63        | 45.30                | H         | PK            | -15.90    | -65.80       | -13.00      | -52.80      |
|                     |                        | 7 440.83        | 43.37                | H         | PK            | -12.21    | -64.04       | -13.00      | -51.04      |
|                     | 1882.5                 | 3 764.42        | 42.74                | H         | PK            | -18.92    | -71.38       | -13.00      | -58.38      |
|                     |                        | 5 646.54        | 44.27                | H         | PK            | -15.81    | -66.74       | -13.00      | -53.74      |
|                     |                        | 7 530.22        | 44.16                | H         | PK            | -12.16    | -63.20       | -13.00      | -50.20      |
|                     | 1905.0                 | 3 809.20        | 45.07                | H         | PK            | -18.83    | -68.96       | -13.00      | -55.96      |
|                     |                        | 5 714.82        | 44.94                | H         | PK            | -15.64    | -65.90       | -13.00      | -52.90      |
|                     |                        | 7 619.70        | 45.34                | H         | PK            | -11.94    | -61.80       | -13.00      | -48.80      |

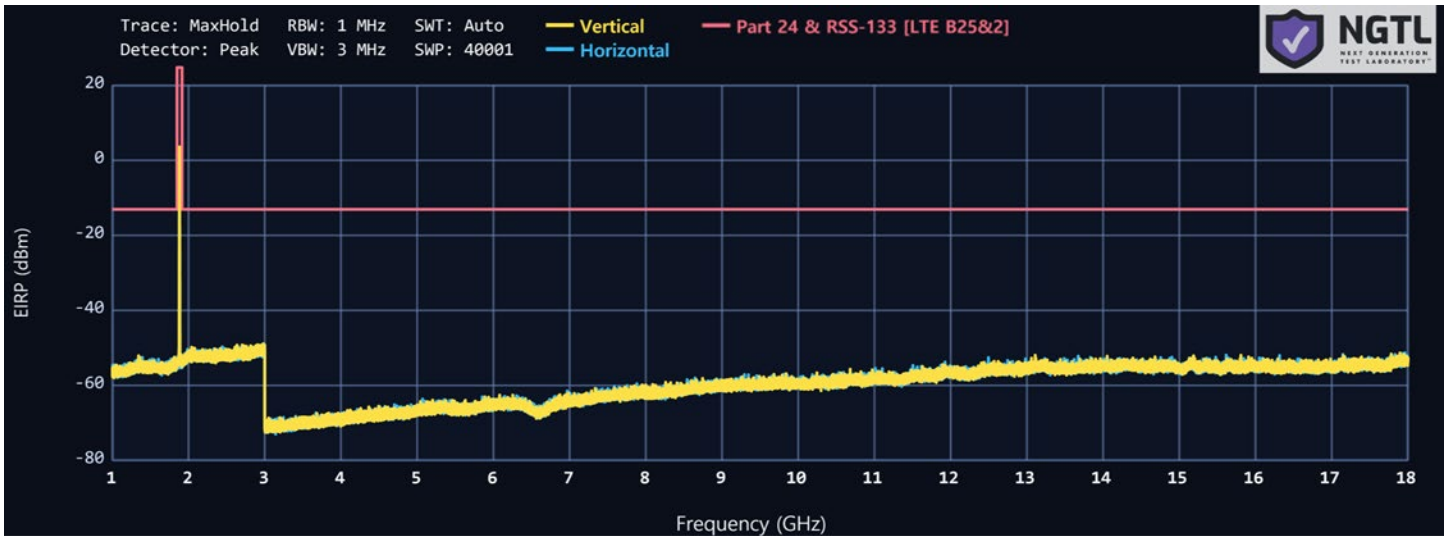
Plot 5-5 RSE Below 1GHz PLOT - LTE Band25/2 - [20MHz] [1/50RB] [Mid Channel] [QPSK] [ANT 2]



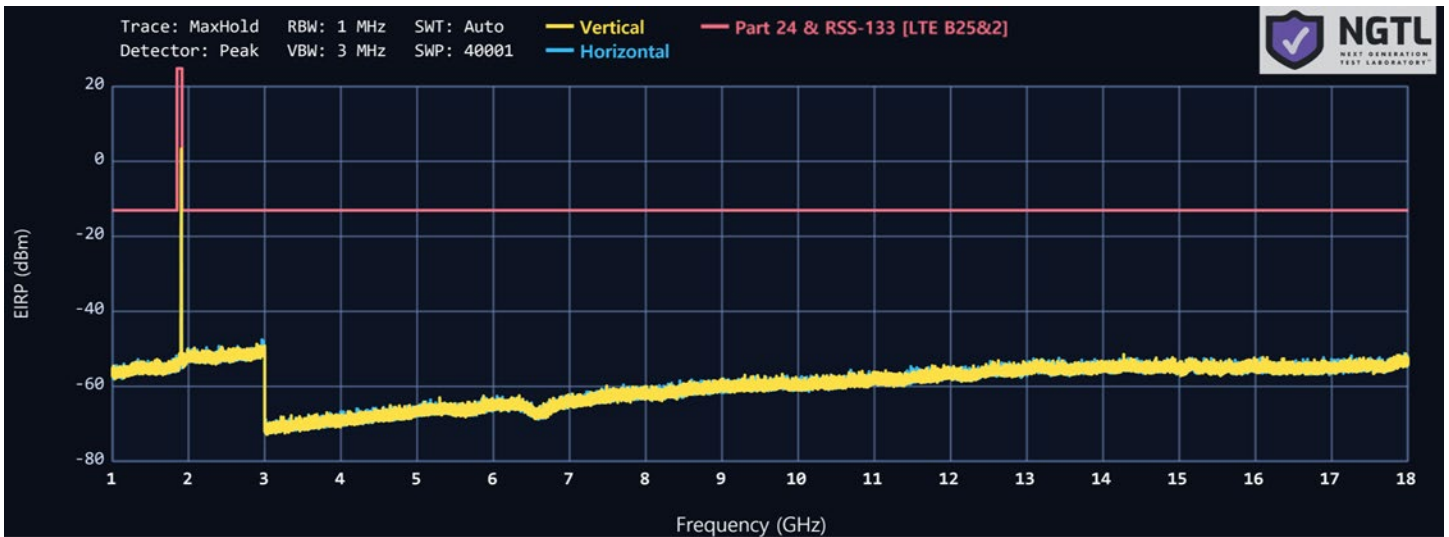
Plot 5-6 RSE Above 1GHz PLOT - LTE Band25/2 - [20MHz] [1/50RB] [Low Channel] [QPSK] [ANT 2]



Plot 5-7 RSE Above 1GHz PLOT - LTE Band25/2 - [20MHz] [1/50RB] [Mid Channel] [QPSK] [ANT 2]



Plot 5-8 RSE Above 1GHz PLOT - LTE Band25/2 - [20MHz] [1/50RB] [High Channel] [QPSK] [ANT 2]



Plot 5-9 RSE Above 18GHz PLOT - LTE Band25/2 - [20MHz] [1/50RB] [High Channel] [QPSK]

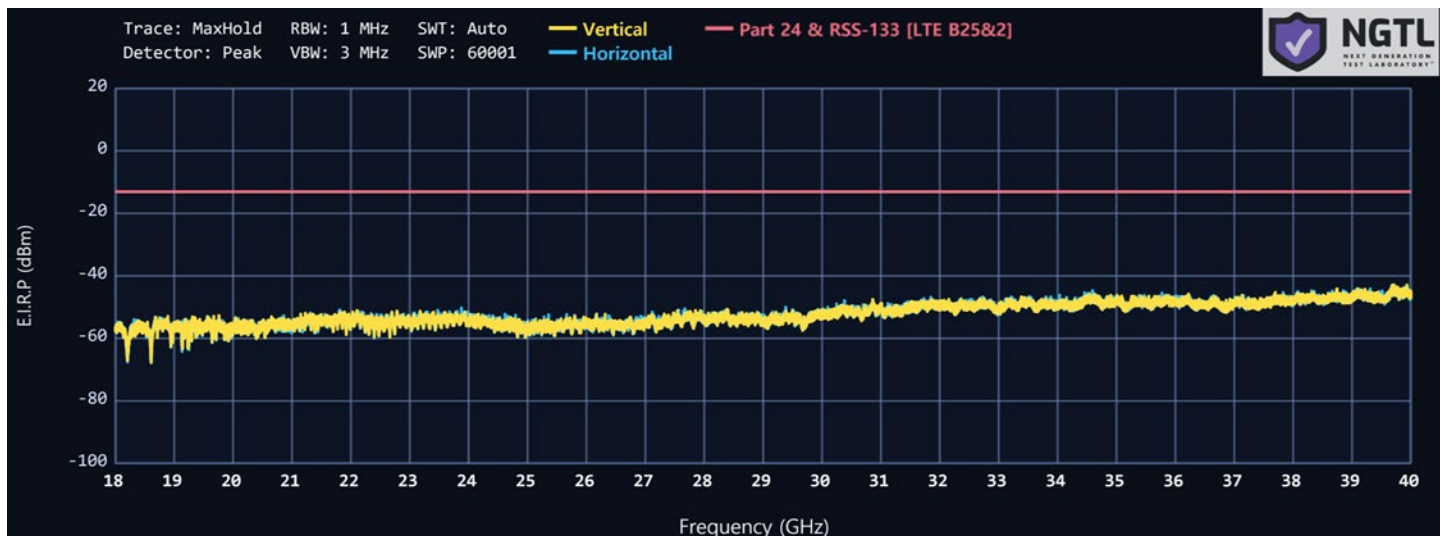


Table 5-5 Radiated Spurious Emissions Below 1GHz DATA - LTE Band25/2 - ANT 2

| Test mode           | Tested Frequency [MHz] | Frequency [MHz] | Reading Value [dBuV] | Pol [H/V] | Detector Mode | AFCL [dB] | Result [dBm] | Limit [dBm] | Margin [dB] |
|---------------------|------------------------|-----------------|----------------------|-----------|---------------|-----------|--------------|-------------|-------------|
| LTE Band 25/2 ANT 2 | 1882.5                 | 956.16          | 52.99                | H         | PK            | -21.52    | -63.73       | -13.00      | -50.73      |
|                     |                        | 958.12          | 54.93                | V         | PK            | -21.56    | -61.83       | -13.00      | -48.83      |

Table 5-6 Radiated Spurious Emissions Above 1GHz DATA - LTE Band25/2 - ANT 2

| Test mode           | Tested Frequency [MHz] | Frequency [MHz] | Reading Value [dBuV] | Pol [H/V] | Detector Mode | AFCL [dB] | Result [dBm] | Limit [dBm] | Margin [dB] |
|---------------------|------------------------|-----------------|----------------------|-----------|---------------|-----------|--------------|-------------|-------------|
| LTE Band 25/2 ANT 2 | 1860.0                 | 3 719.29        | 45.21                | H         | PK            | -19.01    | -69.00       | -13.00      | -56.00      |
|                     |                        | 5 579.29        | 44.62                | H         | PK            | -15.90    | -66.48       | -13.00      | -53.48      |
|                     |                        | 7 439.61        | 44.50                | H         | PK            | -12.21    | -62.91       | -13.00      | -49.91      |
|                     | 1882.5                 | 3 764.58        | 42.43                | H         | PK            | -18.92    | -71.69       | -13.00      | -58.69      |
|                     |                        | 5 646.97        | 43.22                | H         | PK            | -15.81    | -67.79       | -13.00      | -54.79      |
|                     |                        | 7 530.10        | 44.81                | H         | PK            | -12.16    | -62.55       | -13.00      | -49.55      |
|                     | 1905.0                 | 3 809.50        | 45.71                | H         | PK            | -18.83    | -68.32       | -13.00      | -55.32      |
|                     |                        | 5 715.02        | 43.51                | H         | PK            | -15.64    | -67.33       | -13.00      | -54.33      |
|                     |                        | 7 620.89        | 44.69                | H         | PK            | -11.94    | -62.45       | -13.00      | -49.45      |

## 6. Revision History

| Rev. | Issue Date | Revisions                 | Prepared By |
|------|------------|---------------------------|-------------|
| 00   | 07/06/2026 | Initial Release           | SK Hong     |
| 01   | 07/07/2026 | Typographical corrections | SK Hong     |
| 02   | 07/24/2026 | Typographical corrections | SK Hong     |

## 7. Measurement Uncertainty

| Measurement Items              | Frequency Range | Expanded Uncertainty (±) |
|--------------------------------|-----------------|--------------------------|
| Maximum Conducted Output Power | f < 8 GHz       | 1.06 dB                  |
| Conducted Emissions            | f < 1 GHz       | 0.71 dB                  |
| Conducted Emissions            | f < 18 GHz      | 2.06 dB                  |
| Conducted Emissions            | f > 18 GHz      | 3.12 dB                  |
| Radiated Emissions             | f < 30 MHz      | 3.68 dB                  |
| Radiated Emissions             | f < 1 GHz       | 4.01 dB                  |
| Radiated Emissions             | f > 1 GHz       | 4.41 dB                  |
| Radiated Emissions             | f > 18 GHz      | 5.23 dB                  |
| AC Line Conducted Emissions    | f < 30 MHz      | 2.66 dB                  |
| Occupied Bandwidth             |                 | 0.43 %                   |
| Time                           |                 | 4.8 %                    |

The expanded measurement uncertainty is calculated at an approximate 95% confidence level (k = 2).

✓ Notes : Measurement uncertainty is for reference only. Based on Simple Acceptance, compliance is determined by directly comparing the measured data against applicable limits.

## 8. Equipment List

All test equipment used for the measurements was within its valid calibration interval. All test antennas were calibrated in accordance with ANSI C63.5-2017, and all test cables were calibrated in-house prior to testing. The calibration dates presented in the tables below apply only to equipment calibrated by an accredited calibration laboratory.

Table 8-1 Test Equipment and Calibration Date

| Equipment Name               | Manufacturer    | Model         | Serial Number | Cal. Date  | Next Cal.  |
|------------------------------|-----------------|---------------|---------------|------------|------------|
| Signal & Spectrum Analyzer   | Rohde & Schwarz | FSW43         | 103432        | 2026-02-13 | 2027-02-13 |
| Signal & Spectrum Analyzer   | Keysight        | N9010B        | MY56460241    | 2025-12-18 | 2026-12-18 |
| Signal & Spectrum Analyzer   | Keysight        | N9040B        | MY62480133    | 2026-01-23 | 2027-01-23 |
| Signal & Spectrum Analyzer   | Keysight        | N9020A        | MY54482751    | 2025-10-16 | 2026-10-16 |
| Signal & Spectrum Analyzer   | Keysight        | N9020A        | MY54480472    | 2026-02-24 | 2027-02-24 |
| Power Sensor                 | Rohde & Schwarz | NRP-Z85       | 102404        | 2026-01-19 | 2027-01-19 |
| EMI Test Receiver            | Rohde & Schwarz | ESU40         | 100469        | 2026-01-07 | 2027-01-07 |
| Loop Antenna                 | Rohde & Schwarz | HFH2-Z2E      | 101318        | 2026-01-19 | 2027-01-19 |
| Bi-log Antenna               | Schwarzbeck     | VULB9163      | 01843         | 2026-01-06 | 2027-01-06 |
| Horn Antenna                 | RF SPIN         | DRH18S        | CE2F08A18S    | 2026-01-08 | 2027-01-08 |
| Horn Antenna                 | Rohde & Schwarz | DRH40G20K     | 101356        | 2026-01-23 | 2027-01-23 |
| Call Simulator               | Rohde & Schwarz | CMX500        | 100198        | 2025-09-30 | 2026-09-30 |
| Vector Signal Generator      | Rohde & Schwarz | SMM100A       | 101593        | 2026-01-05 | 2027-01-05 |
| Signal Generator             | Rohde & Schwarz | SMC100A       | 104214        | 2026-02-10 | 2027-02-10 |
| Temperature&Humidity Chamber | ENEX            | EN-STH-604_1K | EN202510-03   | 2026-01-10 | 2027-01-10 |
| DC Power supply              | Rohde & Schwarz | NGC101        | 100740        | 2026-01-07 | 2027-01-07 |
| Two-Line V-Network           | Rohde & Schwarz | ENV216        | 103321        | 2026-01-09 | 2027-01-09 |
| Temperature & Humidity Meter | TESTO           | 608-H2        | 86293672      | 2026-04-02 | 2027-04-02 |
| Vector Network Analyzer      | Rohde & Schwarz | ZNL20         | 101202        | 2026-01-28 | 2027-01-28 |
| Conducted Test System        | Various         |               |               |            |            |
| Radiated Test System         | Various         |               |               |            |            |

**Table 8-2 Conducted Test System**

| Equipment Name | Manufacturer  | Model         | Serial Number | Cal. Date  | Next Cal.  |
|----------------|---------------|---------------|---------------|------------|------------|
| Power Splitter | Mini-Circuits | ZFRSC-183-S+  | FA46402540-1  | 2026-01-16 | 2027-01-16 |
| Power Splitter | Mini-Circuits | ZFRSC-183-S+  | FA46402540-2  | 2026-01-16 | 2027-01-16 |
| DC coupler     | EXYNOD        | EXDC-00504000 | 251201        | 2026-01-16 | 2027-01-16 |
| DC coupler     | EXYNOD        | EXDC-00504000 | 251202        | 2026-01-16 | 2027-01-16 |
| RF Attenuator  | EXYNOD        | 10A           | 008           | 2026-01-05 | 2027-01-05 |
| RF Attenuator  | EXYNOD        | SN0609        | 0609          | 2026-01-05 | 2027-01-05 |
| RF Cable       | OSI           | PLH16D-EXD    | RF Cable 1    | -          | -          |
| RF Cable       | OSI           | PLH16D-EXD    | RF Cable 2    | -          | -          |
| RF Cable       | OSI           | PLH16D-EXD    | RF Cable 3    | -          | -          |
| RF Cable       | OSI           | PLH16D-EXD    | RF Cable 4    | -          | -          |
| RF Cable       | Rosenberger   | LU7           | 0062          | -          | -          |
| RF Cable       | Rosenberger   | LU7           | 0083          | -          | -          |

**Table 8-3 Radiated Test System**

| Equipment Name             | Manufacturer  | Model      | Serial Number | Cal. Date  | Next Cal.  |
|----------------------------|---------------|------------|---------------|------------|------------|
| Amplifier                  | EXYNOD        | ELNA01-40D | 631307        | 2026-01-05 | 2027-01-05 |
| Amplifier                  | EXYNOD        | ELNA18     | 33686         | 2026-01-05 | 2027-01-05 |
| Amplifier                  | EXYNOD        | ELNA40-50  | 631308        | 2026-01-05 | 2027-01-05 |
| 9000 MHz High Pass Filter  | Mini-Circuits | ZHFW-K9000 | 2537          | 2026-01-29 | 2027-01-29 |
| 18000 MHz High Pass Filter | Mini-Circuits | ZHSS-K18G+ | 2546          | 2026-01-29 | 2027-01-29 |
| RF Cable                   | OSI           | LH18-EXD   | AP_X1         | -          | -          |
| RF Cable                   | OSI           | LH18-EXD   | AP_X2         | -          | -          |
| RF Cable                   | OSI           | E31-EXD    | AP_X3         | -          | -          |
| RF Cable                   | OSI           | E31-EXD    | AP_X4         | -          | -          |
| RF Cable                   | OSI           | PLH16D-EXD | RF Cable 5    | -          | -          |

**Table 8-4 Test Accessories**

| Test Accessories Name  | Brand   | Model No. | Used For          |
|------------------------|---------|-----------|-------------------|
| Power Adapter          | SamSung | EP-TA865  | AC Line Conducted |
| Charger Cable (C-type) | SamSung | EP-DN980  | AC Line Conducted |

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## 9. Conclusion

The RF evaluation indicates that the DUT is capable of compliance with the applicable FCC&ISED technical requirements for all parameters subject to this test. These measurements were performed under worst-case operating conditions to ensure representative results. Appropriate laboratory procedures were applied to ensure the repeatability and reliability of the measurements. The results and statements relate only to the item(s) tested.

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## APPENDIX A - The Maximum Output Power

### 1) Reference Rule

§2.1046(a)

### 2) Test Method

ANSI C63.26-2015, clause 5.2.4.2

### 3) Test Procedure

The call simulator was used to control the EUT for RF power measurements.

The procedure for this method is follows :

- a) Connect the DUT to a wideband gated RF power meter.
- b) Apply an offset to the power meter to compensate for the insertion losses of the cables and attenuators connected between the DUT and the power sensor.
- c) Configure the DUT to transmit at its maximum power control level.
- d) Adjust the gate parameters on the power meter to ensure that the power is measured strictly during the active transmission of the DUT.

### **Test Note**

- ✓ The output power was measured during the transmitter ON time at the maximum power control level using a gated RF power meter. No duty cycle correction factor was applied.
- ✓ The Output Power unit is dBm.

### Conducted Output Power LTE Band25/2 – ANT 1

| BW<br>[MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|-------------|------------|---------|-----------|--------------------------|--------|--------|
|             |            |         |           | 1860                     | 1882.5 | 1905   |
|             |            |         |           | 26140                    | 26365  | 26590  |
| 20          | QPSK       | 1       | 0         | 24.16                    | 24.01  | 24.04  |
|             |            | 1       | 50        | 24.18                    | 24.23  | 23.76  |
|             |            | 1       | 99        | 24.02                    | 24.03  | 23.78  |
|             |            | 100     | 0         | 23.00                    | 23.08  | 22.81  |
|             | 16QAM      | 1       | 0         | 23.24                    | 23.16  | 23.04  |
|             |            | 1       | 50        | 23.21                    | 22.96  | 22.92  |
|             |            | 1       | 99        | 23.07                    | 23.17  | 22.79  |
|             |            | 100     | 0         | 22.01                    | 22.07  | 21.79  |
| BW<br>[MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|             |            |         |           | 1857.5                   | 1882.5 | 1907.5 |
|             |            |         |           | 26115                    | 26365  | 26615  |
| 15          | QPSK       | 1       | 0         | 24.17                    | 24.05  | 23.82  |
|             |            | 1       | 36        | 24.05                    | 24.15  | 23.71  |
|             |            | 1       | 74        | 23.97                    | 23.96  | 23.76  |
|             |            | 75      | 0         | 23.09                    | 23.15  | 22.78  |
|             | 16QAM      | 1       | 0         | 23.33                    | 23.14  | 22.97  |
|             |            | 1       | 36        | 23.11                    | 23.06  | 22.94  |
|             |            | 1       | 74        | 23.09                    | 23.12  | 22.87  |
|             |            | 75      | 0         | 22.05                    | 22.11  | 21.73  |
| BW<br>[MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|             |            |         |           | 1855                     | 1882.5 | 1910   |
|             |            |         |           | 26090                    | 26365  | 26640  |
| 10          | QPSK       | 1       | 0         | 24.12                    | 24.04  | 23.78  |
|             |            | 1       | 25        | 24.03                    | 24.29  | 23.93  |
|             |            | 1       | 49        | 24.02                    | 24.03  | 23.79  |
|             |            | 50      | 0         | 23.04                    | 23.03  | 22.75  |
|             | 16QAM      | 1       | 0         | 23.28                    | 23.16  | 22.88  |
|             |            | 1       | 25        | 23.34                    | 23.35  | 22.98  |
|             |            | 1       | 49        | 23.13                    | 23.14  | 22.92  |
|             |            | 50      | 0         | 22.06                    | 22.07  | 21.74  |
| BW<br>[MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|             |            |         |           | 1852.5                   | 1882.5 | 1912.5 |
|             |            |         |           | 26065                    | 26365  | 26665  |
| 5           | QPSK       | 1       | 0         | 24.11                    | 23.98  | 23.81  |
|             |            | 1       | 12        | 23.94                    | 23.88  | 23.69  |
|             |            | 1       | 24        | 24.08                    | 23.98  | 23.78  |
|             |            | 25      | 0         | 23.04                    | 23.01  | 22.75  |
|             | 16QAM      | 1       | 0         | 23.36                    | 23.21  | 22.76  |
|             |            | 1       | 12        | 23.27                    | 23.13  | 23.06  |
|             |            | 1       | 24        | 23.26                    | 23.17  | 22.98  |
|             |            | 25      | 0         | 22.01                    | 22.04  | 21.76  |
| BW<br>[MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|             |            |         |           | 1851.5                   | 1882.5 | 1913.5 |
|             |            |         |           | 26055                    | 26365  | 26675  |
| 3           | QPSK       | 1       | 0         | 24.14                    | 23.94  | 23.75  |
|             |            | 1       | 7         | 24.24                    | 23.94  | 23.58  |
|             |            | 1       | 14        | 24.03                    | 23.98  | 23.72  |
|             |            | 15      | 0         | 23.06                    | 22.96  | 22.71  |
|             | 16QAM      | 1       | 0         | 23.31                    | 23.13  | 22.87  |
|             |            | 1       | 7         | 23.31                    | 23.26  | 23.05  |
|             |            | 1       | 14        | 23.18                    | 23.14  | 22.82  |
|             |            | 15      | 0         | 22.07                    | 21.98  | 21.76  |
| BW<br>[MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|             |            |         |           | 1850.7                   | 1882.5 | 1914.3 |
|             |            |         |           | 26047                    | 26365  | 26683  |
| 1.4         | QPSK       | 1       | 0         | 24.14                    | 24.06  | 23.76  |
|             |            | 1       | 3         | 24.33                    | 24.25  | 23.75  |
|             |            | 1       | 5         | 24.16                    | 24.03  | 23.76  |
|             |            | 6       | 0         | 23.09                    | 23.01  | 22.71  |
|             | 16QAM      | 1       | 0         | 23.32                    | 23.14  | 22.84  |
|             |            | 1       | 3         | 23.36                    | 23.27  | 22.97  |
|             |            | 1       | 5         | 23.26                    | 23.19  | 22.85  |
|             |            | 6       | 0         | 22.16                    | 22.08  | 21.82  |

### Conducted Output Power LTE Band25/2 – ANT 2

| BW [MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|----------|------------|---------|-----------|--------------------------|--------|--------|
|          |            |         |           | 1860                     | 1882.5 | 1905   |
|          |            |         |           | 26140                    | 26365  | 26590  |
| 20       | QPSK       | 1       | 0         | 23.92                    | 23.71  | 23.56  |
|          |            | 1       | 50        | 23.86                    | 23.64  | 23.78  |
|          |            | 1       | 99        | 23.85                    | 23.62  | 23.68  |
|          |            | 100     | 0         | 22.87                    | 22.66  | 22.64  |
|          | 16QAM      | 1       | 0         | 22.86                    | 22.82  | 22.75  |
|          |            | 1       | 50        | 22.95                    | 22.82  | 22.81  |
|          |            | 1       | 99        | 22.81                    | 22.66  | 22.76  |
|          |            | 100     | 0         | 21.86                    | 21.68  | 21.65  |
| BW [MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|          |            |         |           | 1857.5                   | 1882.5 | 1907.5 |
|          |            |         |           | 26115                    | 26365  | 26615  |
| 15       | QPSK       | 1       | 0         | 23.94                    | 23.71  | 23.63  |
|          |            | 1       | 36        | 23.95                    | 23.51  | 23.66  |
|          |            | 1       | 74        | 23.81                    | 23.59  | 23.78  |
|          |            | 75      | 0         | 22.92                    | 22.62  | 22.65  |
|          | 16QAM      | 1       | 0         | 23.00                    | 22.84  | 22.74  |
|          |            | 1       | 36        | 22.98                    | 22.86  | 22.85  |
|          |            | 1       | 74        | 22.97                    | 22.72  | 22.76  |
|          |            | 75      | 0         | 21.90                    | 21.59  | 21.76  |
| BW [MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|          |            |         |           | 1855                     | 1882.5 | 1910   |
|          |            |         |           | 26090                    | 26365  | 26640  |
| 10       | QPSK       | 1       | 0         | 23.84                    | 23.68  | 23.62  |
|          |            | 1       | 25        | 23.84                    | 23.91  | 23.75  |
|          |            | 1       | 49        | 23.90                    | 23.64  | 23.70  |
|          |            | 50      | 0         | 22.93                    | 22.66  | 22.64  |
|          | 16QAM      | 1       | 0         | 23.02                    | 22.79  | 22.79  |
|          |            | 1       | 25        | 23.15                    | 23.05  | 22.81  |
|          |            | 1       | 49        | 23.05                    | 22.75  | 22.79  |
|          |            | 50      | 0         | 21.91                    | 21.70  | 21.63  |
| BW [MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|          |            |         |           | 1852.5                   | 1882.5 | 1912.5 |
|          |            |         |           | 26065                    | 26365  | 26665  |
| 5        | QPSK       | 1       | 0         | 23.78                    | 23.61  | 23.47  |
|          |            | 1       | 12        | 22.74                    | 23.52  | 23.48  |
|          |            | 1       | 24        | 23.69                    | 23.43  | 23.52  |
|          |            | 25      | 0         | 22.78                    | 22.54  | 22.47  |
|          | 16QAM      | 1       | 0         | 22.89                    | 22.81  | 22.66  |
|          |            | 1       | 12        | 22.83                    | 22.71  | 22.62  |
|          |            | 1       | 24        | 22.90                    | 22.62  | 22.71  |
|          |            | 25      | 0         | 21.76                    | 21.51  | 21.53  |
| BW [MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|          |            |         |           | 1851.5                   | 1882.5 | 1913.5 |
|          |            |         |           | 26055                    | 26365  | 26675  |
| 3        | QPSK       | 1       | 0         | 23.86                    | 23.65  | 23.85  |
|          |            | 1       | 7         | 23.82                    | 23.59  | 23.89  |
|          |            | 1       | 14        | 23.88                    | 23.63  | 23.84  |
|          |            | 15      | 0         | 22.84                    | 22.65  | 22.54  |
|          | 16QAM      | 1       | 0         | 22.91                    | 22.84  | 22.99  |
|          |            | 1       | 7         | 23.06                    | 22.78  | 22.91  |
|          |            | 1       | 14        | 22.97                    | 22.75  | 22.94  |
|          |            | 15      | 0         | 21.86                    | 21.64  | 21.51  |
| BW [MHz] | Modulation | RB Size | RB Offset | Frequency [MHz] / Earfcn |        |        |
|          |            |         |           | 1850.7                   | 1882.5 | 1914.3 |
|          |            |         |           | 26047                    | 26365  | 26683  |
| 1.4      | QPSK       | 1       | 0         | 24.17                    | 23.97  | 23.91  |
|          |            | 1       | 3         | 24.26                    | 23.93  | 23.88  |
|          |            | 1       | 5         | 24.16                    | 23.89  | 23.77  |
|          |            | 6       | 0         | 23.17                    | 22.94  | 22.89  |
|          | 16QAM      | 1       | 0         | 23.24                    | 22.97  | 22.93  |
|          |            | 1       | 3         | 23.39                    | 23.03  | 23.02  |
|          |            | 1       | 5         | 23.18                    | 23.01  | 22.93  |
|          |            | 6       | 0         | 22.19                    | 21.98  | 21.91  |

End of Test Report.