

# FCC Test Report

**FCC ID** : N7NHL7688  
**Equipment** : Wireless Module  
**Model No.** : HL7688  
**Brand Name** : AirPrime  
**Applicant** : Sierra Wireless Inc.  
**Address** : 13811 Wireless Way Richmond, BC, V6V 3A4  
Canada  
**Standard** : 47 CFR FCC Part 24 Subpart E  
**Received Date** : Jul. 12, 2016  
**Tested Date** : Aug. 03 ~ Aug. 08, 2016

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:

  
Gary Chang / Manager



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## Release Record

| Report No.     | Version | Description   | Issued Date   |
|----------------|---------|---------------|---------------|
| FG571601-01P24 | Rev. 01 | Initial issue | Aug. 18, 2016 |

## Summary of Test Results

| FCC Rules          | Test Items                              | Measured                                  | Result |
|--------------------|-----------------------------------------|-------------------------------------------|--------|
| 2.1046 / 24.232(c) | Equivalent Isotropically Radiated Power | Power[dBm]:<br>WCDMA: 25.92<br>LTE: 25.78 | Pass   |
| 2.1053 / 24.238(a) | Radiated Emissions                      | Meet the requirement of limit             | Pass   |
| 2.1051 / 24.238(a) | Conducted Emissions                     | Meet the requirement of limit             | Pass   |
| 2.1051 / 24.238(a) | Band Edge                               | Meet the requirement of limit             | Pass   |
| 2.1049 / 24.238(b) | Occupied Bandwidth                      | Meet the requirement of limit             | Pass   |
| 2.1051 / 24.232(d) | Peak to average ratio                   | Meet the requirement of limit             | Pass   |
| 2.1055 / 24.235    | Frequency Stability                     | Meet the requirement of limit             | Pass   |

# 1 General Description

## 1.1 Information

### 1.1.1 Specification of the Equipment under Test (EUT)

|                            |                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Operating Frequency</b> | WCDMA BAND 2: 1852.4 MHz ~ 1907.6 MHz<br>LTE Band 2:<br>Channel Bandwidth: 1.4MHz: 1850.7~1909.3 MHz<br>Channel Bandwidth: 3MHz: 1851.5 MHz ~ 1908.5 MHz<br>Channel Bandwidth: 5MHz: 1852.5 MHz ~ 1907.5 MHz<br>Channel Bandwidth: 10MHz: 1855 MHz ~ 1905 MHz<br>Channel Bandwidth: 15MHz: 1857.5 MHz ~ 1902.5 MHz<br>Channel Bandwidth: 20MHz: 1860 MHz ~ 1900 MHz |
| <b>Modulation</b>          | WCDMA: BPSK (Uplink)<br>LTE: QPSK, 16QAM (Uplink)                                                                                                                                                                                                                                                                                                                   |
| <b>Release Version</b>     | WCDMA: R5 / R6 / R7 / R8<br>LTE: 8                                                                                                                                                                                                                                                                                                                                  |
| <b>Duplex Mode</b>         | FDD                                                                                                                                                                                                                                                                                                                                                                 |
| <b>UE Category</b>         | Cat. 1                                                                                                                                                                                                                                                                                                                                                              |
| <b>H/W Version</b>         | 1                                                                                                                                                                                                                                                                                                                                                                   |
| <b>S/W Version</b>         | RHL76xx.A.2.10.1                                                                                                                                                                                                                                                                                                                                                    |

### 1.1.2 Maximum EIRP and Emission Designator

| Mode                   | Modulation | Maximum EIRP (W) | Emission Designator |
|------------------------|------------|------------------|---------------------|
| WCDMA 1900             | QPSK       | 0.391            | 4M72F9W             |
| LTE Band 2, CB: 1.4MHz | QPSK       | 0.359            | 1M09G7D             |
| LTE Band 2, CB: 1.4MHz | 16QAM      | 0.339            | 1M09W7D             |
| LTE Band 2, CB: 3MHz   | QPSK       | 0.365            | 2M69G7D             |
| LTE Band 2, CB: 3MHz   | 16QAM      | 0.308            | 2M70W7D             |
| LTE Band 2, CB: 5MHz   | QPSK       | 0.367            | 4M50G7D             |
| LTE Band 2, CB: 5MHz   | 16QAM      | 0.332            | 4M50W7D             |
| LTE Band 2, CB: 10MHz  | QPSK       | 0.373            | 9M03G7D             |
| LTE Band 2, CB: 10MHz  | 16QAM      | 0.337            | 9M00W7D             |
| LTE Band 2, CB: 15MHz  | QPSK       | 0.378            | 13M5G7D             |
| LTE Band 2, CB: 15MHz  | 16QAM      | 0.355            | 13M5W7D             |
| LTE Band 2, CB: 20MHz  | QPSK       | 0.376            | 18M02G7D            |
| LTE Band 2, CB: 20MHz  | 16QAM      | 0.322            | 18M02W7D            |

### 1.1.3 Antenna Details

| Ant. No. | Type   | Gain (dBi) | Connector | Remark |
|----------|--------|------------|-----------|--------|
| 1        | Dipole | 2          | R-SMA     | ---    |

Note: The antenna is for testing use only.

### 1.1.4 EUT Operational Condition

|                      |                                                  |                                                  |                                                  |
|----------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|
| Supply Voltage       | 3.7 Vdc from host                                |                                                  |                                                  |
| Operational Voltage  | <input checked="" type="checkbox"/> Vnom (3.7 V) | <input checked="" type="checkbox"/> Vmax (4.5 V) | <input checked="" type="checkbox"/> Vmin (3.2 V) |
| Operational Climatic | <input checked="" type="checkbox"/> Tnom (20°C)  | <input checked="" type="checkbox"/> Tmax (55°C)  | <input checked="" type="checkbox"/> Tmin (-30°C) |

### 1.1.5 Operating Channel List

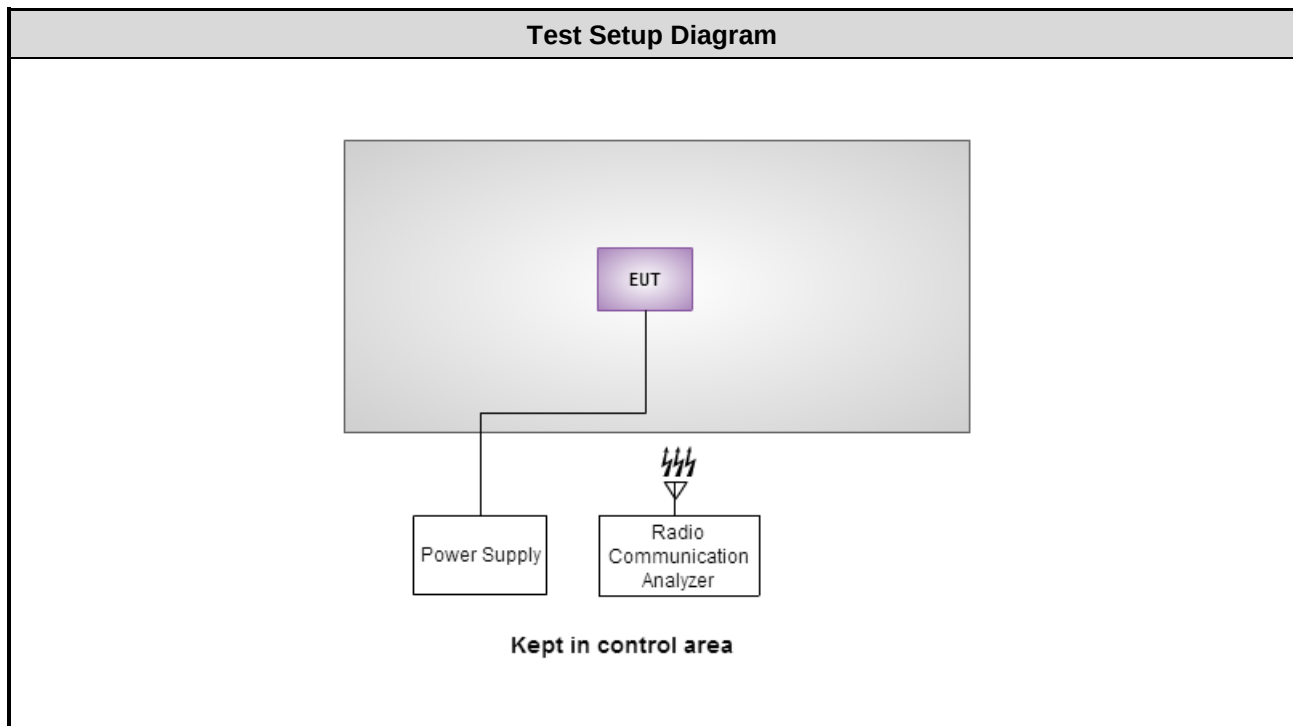
| WCDMA Band 2     |         |                 |
|------------------|---------|-----------------|
| Channel Location | Channel | Frequency (MHz) |
| Low              | 9262    | 1852.4          |
| Middle           | 9400    | 1880.0          |
| High             | 9538    | 1907.6          |

| LTE Band 2              |         |                 |
|-------------------------|---------|-----------------|
| Channel Bandwidth (MHz) | Channel | Frequency (MHz) |
| 1.4                     | 18607   | 1850.7          |
| 1.4                     | 18900   | 1880.0          |
| 1.4                     | 19193   | 1909.3          |
| 3                       | 18615   | 1851.5          |
| 3                       | 18900   | 1880.0          |
| 3                       | 19185   | 1908.5          |
| 5                       | 18625   | 1852.5          |
| 5                       | 18900   | 1880.0          |
| 5                       | 19175   | 1907.5          |
| 10                      | 18650   | 1855.0          |
| 10                      | 18900   | 1880.0          |
| 10                      | 19150   | 1905.0          |
| 15                      | 18675   | 1857.5          |
| 15                      | 18900   | 1880.0          |
| 15                      | 19125   | 1902.5          |
| 20                      | 18700   | 1860.0          |
| 20                      | 18900   | 1880.0          |
| 20                      | 19100   | 1900.0          |

## 1.2 Local Support Equipment List

| Support Equipment List |              |          |           |          |        |                           |
|------------------------|--------------|----------|-----------|----------|--------|---------------------------|
| No.                    | Equipment    | Brand    | Model     | S/N      | FCC ID | Signal cable / Length (m) |
| 1                      | Power Supply | GWINSTEK | GPC-60300 | EM884797 | ---    | ---                       |

## 1.3 Test Setup Chart



## 1.4 The Equipment List

| Test Item                                                           | RF Conducted |                  |             |                  |                   |
|---------------------------------------------------------------------|--------------|------------------|-------------|------------------|-------------------|
| Test Site                                                           | (TH01-WS)    |                  |             |                  |                   |
| Instrument                                                          | Manufacturer | Model No.        | Serial No.  | Calibration Date | Calibration Until |
| Spectrum Analyzer                                                   | R&S          | FSV40            | 101063      | Feb. 17, 2016    | Feb. 16, 2017     |
| TEMP&HUMIDITY CHAMBER                                               | GIANT FORCE  | GCT-225-40-SP-SD | MAF1212-002 | Nov. 27, 2015    | Nov. 26, 2016     |
| Power Meter                                                         | Anritsu      | ML2495A          | 1241002     | Sep. 21, 2015    | Sep. 20, 2016     |
| Power Sensor                                                        | Anritsu      | MA2411B          | 1207366     | Sep. 21, 2015    | Sep. 20, 2016     |
| Radio Communication Analyzer                                        | Anritsu      | MT8820C          | 6201240341  | Mar. 28, 2016    | Mar. 27, 2017     |
| DC POWER SOURCE                                                     | GW INSTRON   | GPC-3060D        | EM884797    | Oct. 20, 2015    | Oct. 19, 2016     |
| Measurement Software                                                | Sporton      | Sporton_1        | 1.3.30      | NA               | NA                |
| Note: Calibration Interval of instruments listed above is one year. |              |                  |             |                  |                   |

| Test Item                                                           | Radiated Emission           |                   |                     |                  |                   |
|---------------------------------------------------------------------|-----------------------------|-------------------|---------------------|------------------|-------------------|
| Test Site                                                           | 966 chamber 3 / (03CH03-WS) |                   |                     |                  |                   |
| Instrument                                                          | Manufacturer                | Model No.         | Serial No.          | Calibration Date | Calibration Until |
| Spectrum Analyzer                                                   | Agilent                     | N9010A            | MY53400091          | Sep. 14, 2015    | Sep. 13, 2016     |
| Receiver                                                            | Agilent                     | N9038A            | MY53290044          | Oct. 14, 2015    | Oct. 13, 2016     |
| Bilog Antenna                                                       | SCHWARZBECK                 | VULB9168          | VULB9168-685        | Apr. 26, 2016    | Apr. 25, 2017     |
| Horn Antenna 1G-18G                                                 | SCHWARZBECK                 | BBHA 9120 D       | BBHA 9120 D 1206    | Feb. 24, 2016    | Feb. 23, 2017     |
| Horn Antenna 18G-40G                                                | SCHWARZBECK                 | BBHA 9170         | BBHA 9170517        | Nov. 04, 2015    | Nov. 03, 2016     |
| Preamplifier                                                        | EMC                         | EMC02325          | 980187              | Sep. 21, 2015    | Sep. 20, 2016     |
| Preamplifier                                                        | Agilent                     | 83017A            | MY53270014          | Sep. 07, 2015    | Sep. 06, 2016     |
| Preamplifier                                                        | EMC                         | EMC184045B        | 980192              | Sep. 01, 2015    | Aug. 31, 2016     |
| RF cable-3M                                                         | HUBER+SUHNER                | SUCOFLEX104       | MY22620/4           | Feb. 05, 2016    | Feb. 04, 2017     |
| RF cable-8M                                                         | HUBER+SUHNER                | SUCOFLEX104       | MY22600/4           | Feb. 05, 2016    | Feb. 04, 2017     |
| RF cable-1M                                                         | HUBER+SUHNER                | SUCOFLEX104       | MY22624/4           | Feb. 05, 2016    | Feb. 04, 2017     |
| LF cable-0.8M                                                       | EMC                         | EMC8D-NM-NM-800   | EMC8D-NM-NM-800-001 | Feb. 05, 2016    | Feb. 04, 2017     |
| LF cable-3M                                                         | EMC                         | EMC8D-NM-NM-3000  | 131103              | Feb. 05, 2016    | Feb. 04, 2017     |
| LF cable-13M                                                        | EMC                         | EMC8D-NM-NM-13000 | 131104              | Feb. 05, 2016    | Feb. 04, 2017     |
| Radio Communication Analyzer                                        | Anritsu                     | MT8820C           | 6201240341          | Mar. 28, 2016    | Mar. 27, 2017     |
| Measurement Software                                                | AUDIX                       | e3                | 6.120210g           | NA               | NA                |
| Note: Calibration Interval of instruments listed above is one year. |                             |                   |                     |                  |                   |

## 1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards.

47 CFR FCC Part 24 Subpart E

ANSI / TIA / EIA-603-D -2010

FCC KDB 971168 D01 Power Meas License Digital Systems v02r02

FCC KDB 412172 D01 Determining ERP and EIRP v01r01

## 1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

| Measurement Uncertainty        |                 |
|--------------------------------|-----------------|
| Parameters                     | Uncertainty     |
| Bandwidth                      | $\pm 34.134$ Hz |
| Conducted power                | $\pm 0.808$ dB  |
| Frequency error                | $\pm 34.134$ Hz |
| Temperature                    | $\pm 0.6$ °C    |
| Conducted emission             | $\pm 2.670$ dB  |
| AC conducted emission          | $\pm 2.90$ dB   |
| Radiated emission $\leq 1$ GHz | $\pm 3.66$ dB   |
| Radiated emission $> 1$ GHz    | $\pm 5.37$ dB   |

## 2 Test Configuration

### 2.1 Testing Condition and Location Information

| Test Item          | Test Site | Ambient Condition | Tested By     |
|--------------------|-----------|-------------------|---------------|
| RF conducted       | TH01-WS   | 23°C / 64%        | Felix Sung    |
| Radiated Emissions | 03CH03-WS | 22°C / 64%        | Anderson Hung |

➤ FCC site registration No.: 207696

➤ IC site registration No.: 10807C-1

### 2.2 The Worst Test Modes and Channel Details

| WCDMA Band 2                                                                                                                                                                                                                       |              |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|
| Test item                                                                                                                                                                                                                          | Mode         | Test channel     |
| E.I.R.P                                                                                                                                                                                                                            | WCDMA BAND 2 | 9262, 9400, 9538 |
| Radiated Emission $\leq$ 1GHz                                                                                                                                                                                                      | WCDMA BAND 2 | 9400             |
| Radiated Emission $>$ 1GHz                                                                                                                                                                                                         | WCDMA BAND 2 | 9262, 9400, 9538 |
| Conducted Emissions                                                                                                                                                                                                                | WCDMA BAND 2 | 9262, 9400, 9538 |
| Band Edge                                                                                                                                                                                                                          | WCDMA BAND 2 | 9262, 9538       |
| Occupied Bandwidth                                                                                                                                                                                                                 | WCDMA BAND 2 | 9262, 9400, 9538 |
| Peak to average ratio                                                                                                                                                                                                              | WCDMA BAND 2 | 9262, 9400, 9538 |
| Frequency Stability                                                                                                                                                                                                                | WCDMA BAND 2 | 9400             |
| <b>Note:</b><br>1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The <b>Y-plane</b> results were found as the worst case and were shown in this report. |              |                  |

| LTE Band 2                                                                                                                                                                                                         |                   |              |                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|-----------------------|
| Test item                                                                                                                                                                                                          | Channel Bandwidth | Modulation   | Test channel          |
| E.I.R.P                                                                                                                                                                                                            | 1.4 MHz           | QPSK / 16QAM | 18607 / 18900 / 19193 |
| Conducted Emissions                                                                                                                                                                                                | 3 MHz             | QPSK / 16QAM | 18615 / 18900 / 19185 |
| Occupied Bandwidth                                                                                                                                                                                                 | 5 MHz             | QPSK / 16QAM | 18625 / 18900 / 19175 |
| Peak to Average Ratio                                                                                                                                                                                              | 10 MHz            | QPSK / 16QAM | 18650 / 18900 / 19150 |
|                                                                                                                                                                                                                    | 15 MHz            | QPSK / 16QAM | 18675 / 18900 / 19125 |
|                                                                                                                                                                                                                    | 20 MHz            | QPSK / 16QAM | 18700 / 18900 / 19100 |
| Radiated Emission ≤ 1GHz                                                                                                                                                                                           | 1.4 MHz           | QPSK         | 19193                 |
|                                                                                                                                                                                                                    | 3 MHz             | QPSK         | 19185                 |
|                                                                                                                                                                                                                    | 5 MHz             | QPSK         | 19175                 |
|                                                                                                                                                                                                                    | 10 MHz            | QPSK         | 19150                 |
|                                                                                                                                                                                                                    | 15 MHz            | QPSK         | 19125                 |
|                                                                                                                                                                                                                    | 20 MHz            | QPSK         | 19100                 |
| Radiated Emission > 1GHz                                                                                                                                                                                           | 1.4 MHz           | QPSK         | 18607 / 18900 / 19193 |
|                                                                                                                                                                                                                    | 3 MHz             | QPSK         | 18615 / 18900 / 19185 |
|                                                                                                                                                                                                                    | 5 MHz             | QPSK         | 18625 / 18900 / 19175 |
|                                                                                                                                                                                                                    | 10 MHz            | QPSK         | 18650 / 18900 / 19150 |
|                                                                                                                                                                                                                    | 15 MHz            | QPSK         | 18675 / 18900 / 19125 |
|                                                                                                                                                                                                                    | 20 MHz            | QPSK         | 18700 / 18900 / 19100 |
| Band Edge                                                                                                                                                                                                          | 1.4 MHz           | QPSK / 16QAM | 18607 / 19193         |
|                                                                                                                                                                                                                    | 3 MHz             | QPSK / 16QAM | 18615 / 19185         |
|                                                                                                                                                                                                                    | 5 MHz             | QPSK / 16QAM | 18625 / 19175         |
|                                                                                                                                                                                                                    | 10 MHz            | QPSK / 16QAM | 18650 / 19150         |
|                                                                                                                                                                                                                    | 15 MHz            | QPSK / 16QAM | 18675 / 19125         |
|                                                                                                                                                                                                                    | 20 MHz            | QPSK / 16QAM | 18700 / 19100         |
| Frequency Stability                                                                                                                                                                                                | 1.4 MHz           | QPSK         | 18900                 |
|                                                                                                                                                                                                                    | 3 MHz             | QPSK         | 18900                 |
|                                                                                                                                                                                                                    | 5 MHz             | QPSK         | 18900                 |
|                                                                                                                                                                                                                    | 10 MHz            | QPSK         | 18900                 |
|                                                                                                                                                                                                                    | 15 MHz            | QPSK         | 18900                 |
|                                                                                                                                                                                                                    | 20 MHz            | QPSK         | 18900                 |
| <b>Note:</b>                                                                                                                                                                                                       |                   |              |                       |
| 1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The <b>Y-plane</b> results were found as the worst case and were shown in this report. |                   |              |                       |

### 3 Test Results

#### 3.1 Equivalent Isotropically Radiated Power

##### 3.1.1 Limit of Equivalent Isotropically Radiated Power

Mobile and portable stations are limited to 2 watts EIRP.

##### 3.1.2 Test Procedures

For Conducted power measurement:

1. The EUT links up with simulator and is set to maximum output power level at low / middel / high channel.
2. Measure the output power of low / middle / high channel of the EUT.

For EIRP measurement:

EIPR can be calculated by below formula from KDB 412172 D01.

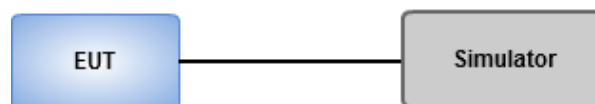
1.  $EIRP = P_T + G_T - L_C$

$P_T$  = transmitter output power, in dBm.

$G_T$  = gain of the transmitting antenna, in dBi (EIRP).

$L_C$  = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

##### 3.1.3 Test Setup



### 3.1.4 Test Result of Conducted power (dBm)

| Band               | WCDMA BAND 2 |              |        |
|--------------------|--------------|--------------|--------|
| Channel            | 9262         | 9400         | 9538   |
| Frequency (MHz)    | 1852.4       | 1880.0       | 1907.6 |
| RMC 12.2K          | 23.91        | <b>23.92</b> | 23.85  |
| HSDPA Subtest-1    | 23.87        | 23.84        | 23.79  |
| HSDPA Subtest-2    | 23.40        | 23.44        | 23.38  |
| HSDPA Subtest-3    | 23.28        | 23.25        | 23.19  |
| HSDPA Subtest-4    | 23.05        | 23.00        | 22.89  |
| DC-HSDPA Subtest-1 | 23.71        | 23.67        | 23.62  |
| DC-HSDPA Subtest-2 | 23.19        | 23.31        | 23.17  |
| DC-HSDPA Subtest-3 | 23.11        | 23.08        | 23.02  |
| DC-HSDPA Subtest-4 | 22.91        | 22.88        | 22.77  |
| HSUPA Subtest-1    | 23.50        | 23.43        | 23.41  |
| HSUPA Subtest-2    | 21.19        | 21.18        | 21.10  |
| HSUPA Subtest-3    | 22.23        | 22.22        | 22.15  |
| HSUPA Subtest-4    | 21.47        | 21.40        | 21.32  |
| HSUPA Subtest-5    | 23.13        | 23.40        | 23.40  |

| Band / Channel Bandwidth |    |           | LTE Band 2 / CB: 1.4MHz |        |              |
|--------------------------|----|-----------|-------------------------|--------|--------------|
| Channel                  |    |           | 18607                   | 18900  | 19193        |
| Frequency (MHz)          |    |           | 1850.7                  | 1880.0 | 1909.3       |
| Mode                     | RB | RB Offset | Maximum AV Power (dBm)  |        |              |
| QPSK                     | 1  | 0         | 23.52                   | 23.43  | <b>23.55</b> |
|                          | 1  | 2         | 23.43                   | 23.20  | 23.46        |
|                          | 1  | 5         | 23.39                   | 23.18  | 23.47        |
|                          | 3  | 0         | 23.47                   | 23.27  | 23.53        |
|                          | 3  | 1         | 23.44                   | 23.28  | 23.51        |
|                          | 3  | 2         | 23.49                   | 23.25  | 23.49        |
|                          | 6  | 0         | 22.48                   | 22.34  | 22.60        |
| 16QAM                    | 1  | 0         | 23.13                   | 23.03  | 23.30        |
|                          | 1  | 2         | 23.07                   | 22.96  | 23.23        |
|                          | 1  | 5         | 22.98                   | 23.00  | 23.20        |
|                          | 3  | 0         | 22.50                   | 22.42  | 22.62        |
|                          | 3  | 1         | 22.63                   | 22.51  | 22.62        |
|                          | 3  | 2         | 22.47                   | 22.28  | 22.68        |
|                          | 6  | 0         | 21.54                   | 21.38  | 21.62        |

| Band / Channel Bandwidth |    |           | LTE Band 2 / CB: 3MHz  |        |              |
|--------------------------|----|-----------|------------------------|--------|--------------|
| Channel                  |    |           | 18615                  | 18900  | 19185        |
| Frequency (MHz)          |    |           | 1851.5                 | 1880.0 | 1908.5       |
| Mode                     | RB | RB Offset | Maximum AV Power (dBm) |        |              |
| QPSK                     | 1  | 0         | 23.50                  | 23.23  | <b>23.62</b> |
|                          | 1  | 7         | 23.35                  | 23.20  | 23.53        |
|                          | 1  | 14        | 23.34                  | 23.21  | 23.51        |
|                          | 8  | 0         | 22.62                  | 22.42  | 22.74        |
|                          | 8  | 4         | 22.65                  | 22.36  | 22.66        |
|                          | 8  | 7         | 22.44                  | 22.45  | 22.71        |
|                          | 15 | 0         | 22.52                  | 22.45  | 22.70        |
| 16QAM                    | 1  | 0         | 22.52                  | 22.39  | 22.88        |
|                          | 1  | 7         | 22.45                  | 22.32  | 22.80        |
|                          | 1  | 14        | 22.43                  | 22.28  | 22.76        |
|                          | 8  | 0         | 21.65                  | 21.44  | 21.62        |
|                          | 8  | 4         | 21.56                  | 21.48  | 21.62        |
|                          | 8  | 7         | 21.51                  | 21.41  | 21.59        |
|                          | 15 | 0         | 21.61                  | 21.45  | 21.73        |

| Band / Channel Bandwidth |    |           | LTE Band 2 / CB: 5MHz  |        |              |
|--------------------------|----|-----------|------------------------|--------|--------------|
| Channel                  |    |           | 18625                  | 18900  | 19175        |
| Frequency (MHz)          |    |           | 1852.5                 | 1880.0 | 1907.5       |
| Mode                     | RB | RB Offset | Maximum AV Power (dBm) |        |              |
| QPSK                     | 1  | 0         | 23.49                  | 23.32  | <b>23.65</b> |
|                          | 1  | 12        | 23.40                  | 23.30  | 23.63        |
|                          | 1  | 24        | 23.30                  | 23.24  | 23.53        |
|                          | 12 | 0         | 22.60                  | 22.40  | 22.93        |
|                          | 12 | 6         | 22.53                  | 22.34  | 22.70        |
|                          | 12 | 11        | 22.48                  | 22.30  | 22.63        |
|                          | 25 | 0         | 22.57                  | 22.40  | 22.73        |
| 16QAM                    | 1  | 0         | 23.21                  | 22.95  | 23.00        |
|                          | 1  | 12        | 23.16                  | 22.95  | 22.87        |
|                          | 1  | 24        | 23.04                  | 22.92  | 22.79        |
|                          | 12 | 0         | 21.56                  | 21.44  | 21.81        |
|                          | 12 | 6         | 21.51                  | 21.32  | 21.94        |
|                          | 12 | 11        | 21.53                  | 21.37  | 21.62        |
|                          | 25 | 0         | 21.64                  | 21.47  | 21.80        |

| Band / Channel Bandwidth |    |           | LTE Band 2 / CB: 10MHz |        |              |
|--------------------------|----|-----------|------------------------|--------|--------------|
| Channel                  |    |           | 18650                  | 18900  | 19150        |
| Frequency (MHz)          |    |           | 1855.0                 | 1880.0 | 1905.0       |
| Mode                     | RB | RB Offset | Maximum AV Power (dBm) |        |              |
| QPSK                     | 1  | 0         | 23.47                  | 23.49  | <b>23.72</b> |
|                          | 1  | 24        | 23.30                  | 23.26  | 23.52        |
|                          | 1  | 49        | 23.19                  | 23.28  | 23.37        |
|                          | 25 | 0         | 22.60                  | 22.44  | 22.79        |
|                          | 25 | 12        | 22.47                  | 22.31  | 22.71        |
|                          | 25 | 24        | 22.39                  | 22.33  | 22.53        |
|                          | 50 | 0         | 22.41                  | 22.43  | 22.70        |
| 16QAM                    | 1  | 0         | 23.27                  | 22.78  | 23.12        |
|                          | 1  | 24        | 23.09                  | 22.78  | 22.75        |
|                          | 1  | 49        | 22.91                  | 22.61  | 22.67        |
|                          | 25 | 0         | 21.71                  | 21.54  | 21.83        |
|                          | 25 | 12        | 21.54                  | 21.40  | 21.70        |
|                          | 25 | 24        | 21.38                  | 21.39  | 21.65        |
|                          | 50 | 0         | 21.47                  | 21.41  | 21.76        |

| Band / Channel Bandwidth |    |           | LTE Band 2 / CB: 15MHz |        |              |
|--------------------------|----|-----------|------------------------|--------|--------------|
| Channel                  |    |           | 18675                  | 18900  | 19125        |
| Frequency (MHz)          |    |           | 1857.5                 | 1880.0 | 1902.5       |
| Mode                     | RB | RB Offset | Maximum AV Power (dBm) |        |              |
| QPSK                     | 1  | 0         | 23.70                  | 23.48  | <b>23.78</b> |
|                          | 1  | 37        | 23.39                  | 23.21  | 23.49        |
|                          | 1  | 74        | 23.03                  | 23.21  | 23.34        |
|                          | 36 | 0         | 22.68                  | 22.52  | 22.93        |
|                          | 36 | 18        | 22.51                  | 22.34  | 22.77        |
|                          | 36 | 37        | 22.35                  | 22.36  | 22.64        |
|                          | 75 | 0         | 22.50                  | 22.49  | 22.77        |
| 16QAM                    | 1  | 0         | 23.24                  | 23.13  | 23.50        |
|                          | 1  | 37        | 22.87                  | 22.87  | 23.16        |
|                          | 1  | 74        | 22.73                  | 22.80  | 22.96        |
|                          | 36 | 0         | 21.80                  | 21.56  | 21.88        |
|                          | 36 | 18        | 21.57                  | 21.44  | 21.89        |
|                          | 36 | 37        | 21.42                  | 21.38  | 21.66        |
|                          | 75 | 0         | 21.48                  | 21.45  | 21.77        |

| Band / Channel Bandwidth |     |           | LTE Band 2 / CB: 20MHz |        |              |
|--------------------------|-----|-----------|------------------------|--------|--------------|
| Channel                  |     |           | 18700                  | 18900  | 19100        |
| Frequency (MHz)          |     |           | 1860.0                 | 1880.0 | 1900.0       |
| Mode                     | RB  | RB Offset | Maximum AV Power (dBm) |        |              |
| QPSK                     | 1   | 0         | 23.43                  | 23.53  | <b>23.75</b> |
|                          | 1   | 49        | 23.17                  | 23.07  | 23.42        |
|                          | 1   | 99        | 22.83                  | 23.01  | 23.13        |
|                          | 50  | 0         | 22.68                  | 22.55  | 22.87        |
|                          | 50  | 24        | 22.41                  | 22.34  | 22.63        |
|                          | 50  | 49        | 22.25                  | 22.27  | 22.56        |
|                          | 100 | 0         | 22.53                  | 22.40  | 22.63        |
| 16QAM                    | 1   | 0         | 22.88                  | 22.57  | 23.08        |
|                          | 1   | 49        | 22.30                  | 22.12  | 22.70        |
|                          | 1   | 99        | 21.97                  | 22.19  | 22.39        |
|                          | 50  | 0         | 21.74                  | 21.53  | 21.73        |
|                          | 50  | 24        | 21.41                  | 21.35  | 21.54        |
|                          | 50  | 49        | 21.25                  | 21.30  | 21.54        |
|                          | 100 | 0         | 21.36                  | 21.39  | 21.66        |

### 3.1.5 Test Result of Equivalent Isotropically Radiated Power (dBm)

| Mode    | WCDMA BAND 2, RMC 12.2K |                              |                        |              |          |           |
|---------|-------------------------|------------------------------|------------------------|--------------|----------|-----------|
| Channel | Frequency (MHz)         | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm)   | EIRP (W) | Limit (W) |
| 9262    | 1852.4                  | 23.91                        | 2                      | 25.91        | 0.390    | 2         |
| 9400    | 1880.0                  | 23.92                        | 2                      | <b>25.92</b> | 0.391    | 2         |
| 9538    | 1907.6                  | 23.85                        | 2                      | 25.85        | 0.385    | 2         |

Note: EIRP = S.G Power value + Correction factor.

| Mode    | LTE CB: 1.4MHz, QPSK |                              |                        |            |          |           |
|---------|----------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)      | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18607   | 1850.7               | 23.52                        | 2                      | 25.52      | 0.356    | 2         |
| 18900   | 1880.0               | 23.43                        | 2                      | 25.43      | 0.349    | 2         |
| 19193   | 1909.3               | 23.55                        | 2                      | 25.55      | 0.359    | 2         |

| Mode    | LTE CB: 1.4MHz, 16QAM |                              |                        |            |          |           |
|---------|-----------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)       | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18607   | 1850.7                | 23.13                        | 2                      | 25.13      | 0.326    | 2         |
| 18900   | 1880.0                | 23.03                        | 2                      | 25.03      | 0.318    | 2         |
| 19193   | 1909.3                | 23.30                        | 2                      | 25.30      | 0.339    | 2         |

| Mode    | LTE CB: 3MHz, QPSK |                              |                        |            |          |           |
|---------|--------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)    | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18615   | 1851.5             | 23.5                         | 2                      | 25.5       | 0.355    | 2         |
| 18900   | 1880.0             | 23.23                        | 2                      | 25.23      | 0.333    | 2         |
| 19185   | 1908.5             | 23.62                        | 2                      | 25.62      | 0.365    | 2         |

| Mode    | LTE CB: 3MHz, 16QAM |                              |                        |            |          |           |
|---------|---------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)     | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18615   | 1851.5              | 22.52                        | 2                      | 24.52      | 0.283    | 2         |
| 18900   | 1880.0              | 22.39                        | 2                      | 24.39      | 0.275    | 2         |
| 19185   | 1908.5              | 22.88                        | 2                      | 24.88      | 0.308    | 2         |

Note: EIRP = S.G Power value + Correction factor.

| Mode    | LTE CB: 5MHz, QPSK |                              |                        |            |          |           |
|---------|--------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)    | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18625   | 1852.5             | 23.49                        | 2                      | 25.49      | 0.354    | 2         |
| 18900   | 1880.0             | 23.32                        | 2                      | 25.32      | 0.340    | 2         |
| 19175   | 1907.5             | 23.65                        | 2                      | 25.65      | 0.367    | 2         |

| Mode    | LTE CB: 5MHz, 16QAM |                              |                        |            |          |           |
|---------|---------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)     | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18625   | 1852.5              | 23.21                        | 2                      | 25.21      | 0.332    | 2         |
| 18900   | 1880.0              | 22.95                        | 2                      | 24.95      | 0.313    | 2         |
| 19175   | 1907.5              | 23.00                        | 2                      | 25.00      | 0.316    | 2         |

| Mode    | LTE CB: 10MHz, QPSK |                              |                        |            |          |           |
|---------|---------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)     | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18650   | 1855.0              | 23.47                        | 2                      | 25.47      | 0.352    | 2         |
| 18900   | 1880.0              | 23.49                        | 2                      | 25.49      | 0.354    | 2         |
| 19150   | 1905.0              | 23.72                        | 2                      | 25.72      | 0.373    | 2         |

| Mode    | LTE CB: 10MHz, 16QAM |                              |                        |            |          |           |
|---------|----------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)      | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18650   | 1855.0               | 23.27                        | 2                      | 25.27      | 0.337    | 2         |
| 18900   | 1880.0               | 22.78                        | 2                      | 24.78      | 0.301    | 2         |
| 19150   | 1905.0               | 23.12                        | 2                      | 25.12      | 0.325    | 2         |

Note: EIRP = S.G Power value + Correction factor.

| Mode    | LTE CB: 15MHz, QPSK |                              |                        |              |          |           |
|---------|---------------------|------------------------------|------------------------|--------------|----------|-----------|
| Channel | Frequency (MHz)     | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm)   | EIRP (W) | Limit (W) |
| 18675   | 1857.5              | 23.70                        | 2                      | 25.70        | 0.372    | 2         |
| 18900   | 1880.0              | 23.48                        | 2                      | 25.48        | 0.353    | 2         |
| 19125   | 1902.5              | 23.78                        | 2                      | <b>25.78</b> | 0.378    | 2         |

| Mode    | LTE CB: 15MHz, 16QAM |                              |                        |            |          |           |
|---------|----------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)      | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18675   | 1857.5               | 23.24                        | 2                      | 25.24      | 0.334    | 2         |
| 18900   | 1880.0               | 23.13                        | 2                      | 25.13      | 0.326    | 2         |
| 19125   | 1902.5               | 23.50                        | 2                      | 25.50      | 0.355    | 2         |

| Mode    | LTE CB: 20MHz, QPSK |                              |                        |            |          |           |
|---------|---------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)     | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18700   | 1860.0              | 23.43                        | 2                      | 25.43      | 0.349    | 2         |
| 18900   | 1880.0              | 23.53                        | 2                      | 25.53      | 0.357    | 2         |
| 19100   | 1900.0              | 23.75                        | 2                      | 25.75      | 0.376    | 2         |

| Mode    | LTE CB: 20MHz, 16QAM |                              |                        |            |          |           |
|---------|----------------------|------------------------------|------------------------|------------|----------|-----------|
| Channel | Frequency (MHz)      | Conducted Output Power (dBm) | Max Antenna Gain (dBi) | EIRP (dBm) | EIRP (W) | Limit (W) |
| 18700   | 1860.0               | 22.88                        | 2                      | 24.88      | 0.308    | 2         |
| 18900   | 1880.0               | 22.57                        | 2                      | 24.57      | 0.286    | 2         |
| 19100   | 1900.0               | 23.08                        | 2                      | 25.08      | 0.322    | 2         |

Note: EIRP = S.G Power value + Correction factor.

## 3.2 Radiated Emissions

### 3.2.1 Limit of Radiated Emissions

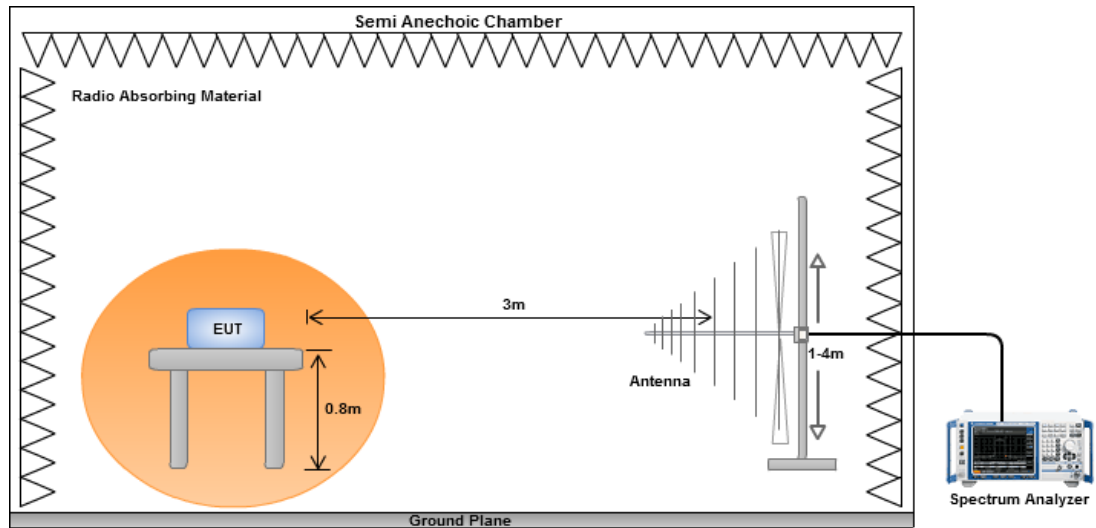
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB equal to -13dBm.

### 3.2.2 Test Procedures

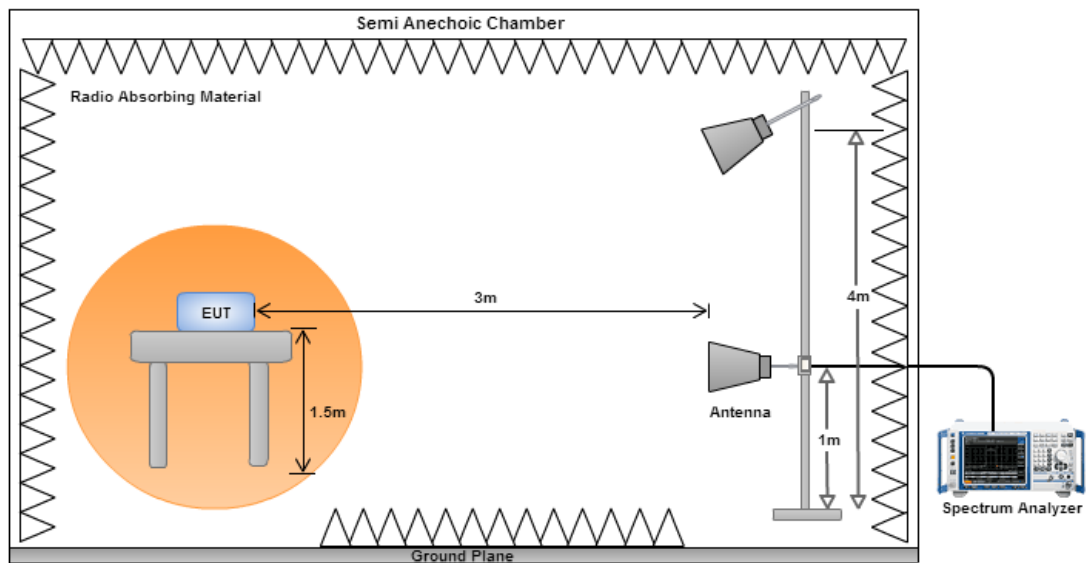
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.
4. After finding the max radiated emission, substitution method will be used for getting effective radiated power. EUT will be removed and substitution antenna will be placed at same position. Signal generator will output CW signal to substitution antenna through a RF cable. Rotate turntable and move antenna to find maximum radiated emission. Adjust output power of signal generator to let the maximum radiated emission is same as step 3. Record the output power level.
5. E.I.R.P = output power of step 4 + gain of substitution antenna – cable loss of RF cable.

### 3.2.3 Test Setup

#### Radiated Emissions below 1 GHz



#### Radiated Emissions above 1 GHz



### 3.2.4 Test Result of Radiated Emissions below 1GHz

| Mode            | WCDMA Band 2 , Channel : 9400 |               |             |             |                   |                       |                        |
|-----------------|-------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity              | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 38.69           | H                             | -54.67        | -13.00      | -41.67      | -56.95            | -42.03                | -12.64                 |
| 69.75           | H                             | -66.58        | -13.00      | -53.58      | -59.79            | -61.37                | -5.21                  |
| 149.36          | H                             | -68.41        | -13.00      | -55.41      | -62.22            | -67.32                | -1.09                  |
| 238.77          | H                             | -74.25        | -13.00      | -61.25      | -65.51            | -78.69                | 4.44                   |
| 358.25          | H                             | -74.13        | -13.00      | -61.13      | -70.39            | -78.50                | 4.37                   |
| 766.98          | H                             | -65.42        | -13.00      | -52.42      | -68.70            | -68.85                | 3.43                   |
| 38.52           | V                             | -60.20        | -13.00      | -47.20      | -52.08            | -47.53                | -12.67                 |
| 70.69           | V                             | -61.25        | -13.00      | -48.25      | -53.48            | -56.31                | -4.94                  |
| 148.25          | V                             | -65.14        | -13.00      | -52.14      | -62.05            | -63.99                | -1.15                  |
| 235.42          | V                             | -66.26        | -13.00      | -53.26      | -62.71            | -70.70                | 4.44                   |
| 356.45          | V                             | -75.78        | -13.00      | -62.78      | -72.93            | -80.15                | 4.37                   |
| 769.25          | V                             | -70.77        | -13.00      | -57.77      | -74.97            | -74.20                | 3.43                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 1.4MHz, 1RB, Offset 0,Channel: 19193 |               |             |             |                   |                       |                        |
|-----------------|------------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                     | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 38.73           | H                                                    | -64.75        | -13.00      | -51.75      | -67.03            | -52.12                | -12.63                 |
| 70.74           | H                                                    | -64.69        | -13.00      | -51.69      | -57.88            | -59.77                | -4.92                  |
| 146.40          | H                                                    | -73.13        | -13.00      | -60.13      | -66.94            | -71.88                | -1.25                  |
| 221.09          | H                                                    | -74.93        | -13.00      | -61.93      | -65.87            | -79.40                | 4.47                   |
| 356.07          | H                                                    | -79.89        | -13.00      | -66.89      | -76.12            | -84.26                | 4.37                   |
| 770.11          | H                                                    | -72.34        | -13.00      | -59.34      | -75.68            | -75.78                | 3.44                   |
| 38.73           | V                                                    | -59.57        | -13.00      | -46.57      | -51.50            | -46.94                | -12.63                 |
| 70.74           | V                                                    | -61.28        | -13.00      | -48.28      | -53.51            | -56.36                | -4.92                  |
| 152.59          | V                                                    | -71.54        | -13.00      | -58.54      | -68.12            | -70.63                | -0.91                  |
| 224.00          | V                                                    | -63.41        | -13.00      | -50.41      | -59.46            | -67.87                | 4.46                   |
| 348.39          | V                                                    | -62.77        | -13.00      | -49.77      | -59.84            | -67.16                | 4.39                   |
| 762.72          | V                                                    | -71.67        | -13.00      | -58.67      | -75.85            | -75.09                | 3.42                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 3MHz, 1RB, Offset 0,Channel: 19185 |               |             |             |                   |                       |                        |
|-----------------|----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                   | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 38.73           | H                                                  | -63.84        | -13.00      | -50.84      | -50.84            | -51.21                | -12.63                 |
| 72.68           | H                                                  | -65.55        | -13.00      | -52.55      | -52.55            | -61.18                | -4.37                  |
| 111.62          | H                                                  | -67.85        | -13.00      | -54.85      | -54.85            | -67.47                | -0.38                  |
| 235.45          | H                                                  | -70.76        | -13.00      | -57.76      | -57.76            | -75.20                | 4.44                   |
| 356.31          | H                                                  | -79.89        | -13.00      | -66.89      | -66.89            | -84.26                | 4.37                   |
| 769.93          | H                                                  | -71.90        | -13.00      | -58.90      | -58.90            | -75.34                | 3.44                   |
| 37.70           | V                                                  | -59.24        | -13.00      | -46.24      | -46.24            | -46.44                | -12.80                 |
| 70.71           | V                                                  | -61.01        | -13.00      | -48.01      | -48.01            | -56.08                | -4.93                  |
| 150.28          | V                                                  | -70.23        | -13.00      | -57.23      | -57.23            | -69.19                | -1.04                  |
| 227.88          | V                                                  | -68.12        | -13.00      | -55.12      | -55.12            | -72.58                | 4.46                   |
| 353.24          | V                                                  | -78.97        | -13.00      | -65.97      | -65.97            | -83.35                | 4.38                   |
| 769.14          | V                                                  | -70.99        | -13.00      | -57.99      | -57.99            | -75.42                | 4.43                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 5MHz, 1RB, Offset 0,Channel: 19175 |               |             |             |                   |                       |                        |
|-----------------|----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                   | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 39.70           | H                                                  | -67.16        | -13.00      | -54.16      | -69.42            | -54.69                | -12.47                 |
| 69.77           | H                                                  | -66.28        | -13.00      | -53.28      | -59.49            | -61.08                | -5.20                  |
| 150.14          | H                                                  | -74.20        | -13.00      | -61.20      | -68.01            | -73.15                | -1.05                  |
| 234.35          | H                                                  | -76.98        | -13.00      | -63.98      | -68.16            | -81.42                | 4.44                   |
| 356.15          | H                                                  | -76.47        | -13.00      | -63.47      | -72.70            | -80.84                | 4.37                   |
| 769.11          | H                                                  | -71.23        | -13.00      | -58.23      | -74.55            | -74.66                | 3.43                   |
| 37.48           | V                                                  | -60.09        | -13.00      | -47.09      | -51.74            | -47.25                | -12.84                 |
| 69.77           | V                                                  | -60.25        | -13.00      | -47.25      | -52.49            | -55.05                | -5.20                  |
| 150.31          | V                                                  | -67.32        | -13.00      | -54.32      | -64.07            | -66.28                | -1.04                  |
| 224.97          | V                                                  | -65.80        | -13.00      | -52.80      | -61.89            | -70.26                | 4.46                   |
| 335.55          | V                                                  | -78.71        | -13.00      | -65.71      | -75.63            | -83.06                | 4.35                   |
| 768.19          | V                                                  | -70.74        | -13.00      | -57.74      | -74.94            | -74.17                | 3.43                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 10MHz, 1RB, Offset 0,Channel: 19150 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                    | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 36.79           | H                                                   | -65.37        | -13.00      | -52.37      | -67.69            | -52.42                | -12.95                 |
| 70.74           | H                                                   | -64.67        | -13.00      | -51.67      | -57.86            | -59.75                | -4.92                  |
| 165.80          | H                                                   | -73.62        | -13.00      | -60.62      | -67.02            | -73.91                | 0.29                   |
| 233.39          | H                                                   | -75.02        | -13.00      | -62.02      | -66.18            | -79.47                | 4.45                   |
| 354.34          | H                                                   | -80.22        | -13.00      | -67.22      | -76.42            | -84.60                | 4.38                   |
| 770.11          | H                                                   | -72.75        | -13.00      | -59.75      | -76.09            | -76.19                | 3.44                   |
| 38.73           | V                                                   | -61.89        | -13.00      | -48.89      | -53.82            | -49.26                | -12.63                 |
| 69.77           | V                                                   | -61.55        | -13.00      | -48.55      | -53.79            | -56.35                | -5.20                  |
| 150.01          | V                                                   | -74.36        | -13.00      | -61.36      | -74.13            | -73.31                | -1.05                  |
| 234.00          | V                                                   | -71.05        | -13.00      | -58.05      | -67.45            | -75.50                | 4.45                   |
| 355.27          | V                                                   | -74.51        | -13.00      | -61.51      | -71.65            | -78.88                | 4.37                   |
| 768.09          | V                                                   | -70.56        | -13.00      | -57.56      | -74.76            | -73.99                | 3.43                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 15MHz, 1RB, Offset 0,Channel: 19125 |              |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|--------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                    | E.IR.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 37.77           | H                                                   | -65.70       | -13.00      | -52.70      | -68.00            | -52.91                | -12.79                 |
| 68.80           | H                                                   | -67.64       | -13.00      | -54.64      | -60.90            | -62.14                | -5.50                  |
| 149.58          | H                                                   | -75.44       | -13.00      | -62.44      | -69.25            | -74.36                | -1.08                  |
| 236.23          | H                                                   | -67.78       | -13.00      | -54.78      | -58.99            | -72.22                | 4.44                   |
| 356.53          | H                                                   | -79.84       | -13.00      | -66.84      | -76.07            | -84.21                | 4.37                   |
| 768.58          | H                                                   | -72.43       | -13.00      | -59.43      | -75.74            | -75.86                | 3.43                   |
| 37.76           | V                                                   | -63.08       | -13.00      | -50.08      | -54.79            | -50.29                | -12.79                 |
| 69.77           | V                                                   | -60.37       | -13.00      | -47.37      | -52.61            | -55.17                | -5.20                  |
| 149.31          | V                                                   | -71.88       | -13.00      | -58.88      | -68.71            | -70.79                | -1.09                  |
| 235.64          | V                                                   | -71.54       | -13.00      | -58.54      | -67.99            | -75.98                | 4.44                   |
| 356.89          | V                                                   | -69.82       | -13.00      | -56.82      | -66.97            | -74.19                | 4.37                   |
| 768.17          | V                                                   | -71.13       | -13.00      | -58.13      | -75.33            | -74.56                | 3.43                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 20MHz, 1RB, Offset 0,Channel: 19100 |             |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|-------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                    | E.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 38.73           | H                                                   | -66.70      | -13.00      | -53.70      | -68.98            | -54.07                | -12.63                 |
| 71.71           | H                                                   | -65.72      | -13.00      | -52.72      | -58.91            | -61.07                | -4.65                  |
| 156.10          | H                                                   | -70.24      | -13.00      | -57.24      | -64.06            | -69.52                | -0.72                  |
| 237.72          | H                                                   | -73.37      | -13.00      | -60.37      | -64.61            | -77.81                | 4.44                   |
| 356.52          | H                                                   | -75.99      | -13.00      | -62.99      | -72.22            | -80.36                | 4.37                   |
| 768.14          | H                                                   | -72.30      | -13.00      | -59.30      | -75.60            | -75.73                | 3.43                   |
| 38.67           | V                                                   | -61.98      | -13.00      | -48.98      | -53.89            | -49.34                | -12.64                 |
| 70.71           | V                                                   | -62.01      | -13.00      | -49.01      | -54.24            | -57.08                | -4.93                  |
| 147.65          | V                                                   | -67.10      | -13.00      | -54.10      | -64.06            | -65.92                | -1.18                  |
| 235.21          | V                                                   | -66.66      | -13.00      | -53.66      | -63.10            | -71.10                | 4.44                   |
| 356.25          | V                                                   | -76.86      | -13.00      | -63.86      | -74.00            | -81.23                | 4.37                   |
| 768.18          | V                                                   | -71.32      | -13.00      | -58.32      | -75.52            | -74.75                | 3.43                   |

Note: EIRP = S.G Power value + Correction factor.

### 3.2.5 Test Result of Radiated Emissions above 1GHz

| Mode            | WCDMA Band 2 , Channel : 9262 |               |             |             |                   |                       |                        |
|-----------------|-------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity              | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3704.80         | H                             | -51.37        | -13.00      | -38.37      | -62.29            | -58.32                | 6.95                   |
| 5557.20         | H                             | -55.76        | -13.00      | -42.76      | -74.29            | -62.32                | 6.56                   |
| 7409.60         | H                             | -52.26        | -13.00      | -39.26      | -74.66            | -55.80                | 3.54                   |
| 3704.80         | V                             | -49.71        | -13.00      | -36.71      | -63.57            | -56.66                | 6.95                   |
| 5557.20         | V                             | -52.95        | -13.00      | -39.95      | -71.16            | -59.51                | 6.56                   |
| 7409.60         | V                             | -51.52        | -13.00      | -38.52      | -72.29            | -55.06                | 3.54                   |

| Mode            | WCDMA Band 2 , Channel : 9400 |               |             |             |                   |                       |                        |
|-----------------|-------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity              | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3760.00         | H                             | -51.14        | -13.00      | -38.14      | -65.26            | -58.09                | 6.95                   |
| 5640.00         | H                             | -55.38        | -13.00      | -42.38      | -73.99            | -61.90                | 6.52                   |
| 7520.00         | H                             | -51.82        | -13.00      | -38.82      | -74.29            | -55.20                | 3.38                   |
| 3760.00         | V                             | -48.93        | -13.00      | -35.93      | -62.94            | -55.88                | 6.95                   |
| 5640.00         | V                             | -53.76        | -13.00      | -40.76      | -72.26            | -60.28                | 6.52                   |
| 7520.00         | V                             | -50.91        | -13.00      | -37.91      | -72.29            | -54.29                | 3.38                   |

| Mode            | WCDMA Band 2 , Channel : 9538 |               |             |             |                   |                       |                        |
|-----------------|-------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity.             | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3815.20         | H                             | -51.09        | -13.00      | -38.09      | -65.39            | -58.03                | 6.94                   |
| 5722.80         | H                             | -54.13        | -13.00      | -41.13      | -72.88            | -60.60                | 6.47                   |
| 7630.40         | H                             | -52.49        | -13.00      | -39.49      | -75.11            | -55.73                | 3.24                   |
| 3815.20         | V                             | -48.48        | -13.00      | -35.48      | -62.62            | -55.42                | 6.94                   |
| 5722.80         | V                             | -52.19        | -13.00      | -39.19      | -71.20            | -58.66                | 6.47                   |
| 7630.40         | V                             | -50.43        | -13.00      | -37.43      | -72.11            | -53.67                | 3.24                   |

Note: EIRP = S.G Power value + Correction factor

| Mode            | LTE Band 2, CB: 1.4MHz, 1RB, Offset 0,Channel: 18607 |               |             |             |                   |                       |                        |
|-----------------|------------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                     | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3701.50         | H                                                    | -54.13        | -13.00      | -41.13      | -41.13            | -61.08                | 6.95                   |
| 5550.70         | H                                                    | -50.26        | -13.00      | -37.26      | -50.26            | -56.83                | 6.57                   |
| 7401.60         | H                                                    | -49.25        | -13.00      | -36.25      | -49.25            | -52.80                | 3.55                   |
| 3701.50         | V                                                    | -47.29        | -13.00      | -34.29      | -47.29            | -54.24                | 6.95                   |
| 5550.70         | V                                                    | -49.30        | -13.00      | -36.30      | -49.30            | -55.87                | 6.57                   |
| 7401.60         | V                                                    | -48.66        | -13.00      | -35.66      | -48.66            | -52.21                | 3.55                   |

| Mode            | LTE Band 2, CB: 1.4MHz, 1RB, Offset 0,Channel: 18900 |               |             |             |                   |                       |                        |
|-----------------|------------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                     | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3759.00         | H                                                    | -55.62        | -13.00      | -42.62      | -69.74            | -62.57                | 6.95                   |
| 5638.90         | H                                                    | -50.49        | -13.00      | -37.49      | -69.10            | -57.01                | 6.52                   |
| 7517.40         | H                                                    | -50.50        | -13.00      | -37.50      | -72.93            | -53.88                | 3.38                   |
| 3759.00         | V                                                    | -45.22        | -13.00      | -32.22      | -59.22            | -52.17                | 6.95                   |
| 5638.90         | V                                                    | -48.37        | -13.00      | -35.37      | -66.86            | -54.89                | 6.52                   |
| 7517.40         | V                                                    | -48.19        | -13.00      | -35.19      | -69.55            | -51.57                | 3.38                   |

| Mode            | LTE Band 2, CB: 1.4MHz, 1RB, Offset 0,Channel: 19193 |               |             |             |                   |                       |                        |
|-----------------|------------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity.                                    | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3818.40         | H                                                    | -54.03        | -13.00      | -41.03      | -68.33            | -60.97                | 6.94                   |
| 5725.80         | H                                                    | -50.19        | -13.00      | -37.19      | -68.94            | -56.66                | 6.47                   |
| 7636.00         | H                                                    | -48.16        | -13.00      | -35.16      | -70.79            | -51.40                | 3.24                   |
| 3818.40         | V                                                    | -48.66        | -13.00      | -35.66      | -62.81            | -55.60                | 6.94                   |
| 5725.80         | V                                                    | -49.25        | -13.00      | -36.25      | -68.28            | -55.72                | 6.47                   |
| 7636.00         | V                                                    | -47.18        | -13.00      | -34.18      | -68.83            | -50.42                | 3.24                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 3MHz, 1RB, Offset 0,Channel: 18615 |               |             |             |                   |                       |                        |
|-----------------|----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                   | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3701.20         | H                                                  | -52.29        | -13.00      | -39.29      | -66.20            | -59.24                | 6.95                   |
| 5550.70         | H                                                  | -51.99        | -13.00      | -38.99      | -70.51            | -58.56                | 6.57                   |
| 7400.10         | H                                                  | -48.90        | -13.00      | -35.90      | -71.29            | -52.45                | 3.55                   |
| 3701.20         | V                                                  | -48.05        | -13.00      | -35.05      | -61.90            | -55.00                | 6.95                   |
| 5550.70         | V                                                  | -47.23        | -13.00      | -34.23      | -65.43            | -53.80                | 6.57                   |
| 7400.10         | V                                                  | -47.87        | -13.00      | -34.87      | -68.58            | -51.42                | 3.55                   |

| Mode            | LTE Band 2, CB: 3MHz, 1RB, Offset 0,Channel: 18900 |               |             |             |                   |                       |                        |
|-----------------|----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                   | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3757.60         | H                                                  | -56.25        | -13.00      | -43.25      | -70.36            | -63.20                | 6.95                   |
| 5636.00         | H                                                  | -50.64        | -13.00      | -37.64      | -69.25            | -57.16                | 6.52                   |
| 7514.50         | H                                                  | -49.72        | -13.00      | -36.72      | -72.18            | -53.10                | 3.38                   |
| 3757.60         | V                                                  | -45.53        | -13.00      | -32.53      | -59.53            | -52.48                | 6.95                   |
| 5636.00         | V                                                  | -49.11        | -13.00      | -36.11      | -67.58            | -55.63                | 6.52                   |
| 7514.50         | V                                                  | -48.53        | -13.00      | -35.53      | -69.87            | -51.91                | 3.38                   |

| Mode            | LTE Band 2, CB: 3MHz, 1RB, Offset 0,Channel: 19185 |               |             |             |                   |                       |                        |
|-----------------|----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity.                                  | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3814.00         | H                                                  | -53.25        | -13.00      | -40.25      | -67.55            | -60.19                | 6.94                   |
| 5721.40         | H                                                  | -50.24        | -13.00      | -37.24      | -68.98            | -56.71                | 6.47                   |
| 7628.80         | H                                                  | -48.25        | -13.00      | -35.25      | -70.86            | -51.50                | 3.25                   |
| 3814.00         | V                                                  | -46.25        | -13.00      | -33.25      | -60.39            | -53.19                | 6.94                   |
| 5721.40         | V                                                  | -48.12        | -13.00      | -35.12      | -67.12            | -54.59                | 6.47                   |
| 7628.80         | V                                                  | -47.22        | -13.00      | -34.22      | -68.91            | -50.47                | 3.25                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 5MHz, 1RB, Offset 0,Channel: 18625 |               |             |             |                   |                       |                        |
|-----------------|----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                   | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3701.20         | H                                                  | -54.78        | -13.00      | -41.78      | -68.69            | -61.73                | 6.95                   |
| 5550.70         | H                                                  | -51.73        | -13.00      | -38.73      | -70.25            | -58.30                | 6.57                   |
| 7401.60         | H                                                  | -49.90        | -13.00      | -36.90      | -72.29            | -53.45                | 3.55                   |
| 3701.20         | V                                                  | -48.25        | -13.00      | -35.25      | -62.10            | -55.20                | 6.95                   |
| 5550.70         | V                                                  | -49.08        | -13.00      | -36.08      | -67.28            | -55.65                | 6.57                   |
| 7401.60         | V                                                  | -48.16        | -13.00      | -35.16      | -68.88            | -51.71                | 3.55                   |

| Mode            | LTE Band 2, CB: 5MHz, 1RB, Offset 0,Channel: 18900 |               |             |             |                   |                       |                        |
|-----------------|----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                   | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3756.20         | H                                                  | -55.74        | -13.00      | -42.74      | -69.85            | -62.69                | 6.95                   |
| 5633.10         | H                                                  | -50.65        | -13.00      | -37.65      | -69.25            | -57.17                | 6.52                   |
| 7511.60         | H                                                  | -51.80        | -13.00      | -38.80      | -74.27            | -55.19                | 3.39                   |
| 3756.20         | V                                                  | -45.88        | -13.00      | -32.88      | -59.88            | -52.83                | 6.95                   |
| 5633.10         | V                                                  | -48.84        | -13.00      | -35.84      | -67.29            | -55.36                | 6.52                   |
| 7511.60         | V                                                  | -48.25        | -13.00      | -35.25      | -69.58            | -51.64                | 3.39                   |

| Mode            | LTE Band 2, CB: 5MHz, 1RB, Offset 0,Channel: 19175 |               |             |             |                   |                       |                        |
|-----------------|----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity.                                  | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3811.10         | H                                                  | -54.52        | -13.00      | -41.52      | -68.80            | -61.46                | 6.94                   |
| 5715.60         | H                                                  | -50.52        | -13.00      | -37.52      | -69.25            | -57.00                | 6.48                   |
| 7621.60         | H                                                  | -48.51        | -13.00      | -35.51      | -71.10            | -51.76                | 3.25                   |
| 3811.10         | V                                                  | -48.73        | -13.00      | -35.73      | -62.86            | -55.67                | 6.94                   |
| 5715.60         | V                                                  | -49.42        | -13.00      | -36.42      | -68.38            | -55.90                | 6.48                   |
| 7621.60         | V                                                  | -47.15        | -13.00      | -34.15      | -68.88            | -50.40                | 3.25                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 10MHz, 1RB, Offset 0,Channel: 18650 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                    | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3701.20         | H                                                   | -53.39        | -13.00      | -40.39      | -67.30            | -60.34                | 6.95                   |
| 5552.10         | H                                                   | -52.59        | -13.00      | -39.59      | -71.11            | -59.16                | 6.57                   |
| 7403.00         | H                                                   | -49.89        | -13.00      | -36.89      | -72.28            | -53.44                | 3.55                   |
| 3701.20         | V                                                   | -48.66        | -13.00      | -35.66      | -62.51            | -55.61                | 6.95                   |
| 5552.10         | V                                                   | -47.59        | -13.00      | -34.59      | -65.80            | -54.16                | 6.57                   |
| 7403.00         | V                                                   | -48.66        | -13.00      | -35.66      | -69.39            | -52.21                | 3.55                   |

| Mode            | LTE Band 2, CB: 10MHz, 1RB, Offset 0,Channel: 18900 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                    | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3751.80         | H                                                   | -56.78        | -13.00      | -43.78      | -70.87            | -63.73                | 6.95                   |
| 5627.40         | H                                                   | -52.03        | -13.00      | -39.03      | -70.63            | -58.55                | 6.52                   |
| 7502.90         | H                                                   | -51.26        | -13.00      | -38.26      | -73.71            | -54.66                | 3.40                   |
| 3751.80         | V                                                   | -45.71        | -13.00      | -32.71      | -59.70            | -52.66                | 6.95                   |
| 5627.40         | V                                                   | -50.06        | -13.00      | -37.06      | -68.48            | -56.58                | 6.52                   |
| 7502.90         | V                                                   | -49.18        | -13.00      | -36.18      | -70.46            | -52.58                | 3.40                   |

| Mode            | LTE Band 2, CB: 10MHz, 1RB, Offset 0,Channel: 19150 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity.                                   | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3801.00         | H                                                   | -53.57        | -13.00      | -40.57      | -67.84            | -60.51                | 6.94                   |
| 5701.20         | H                                                   | -50.41        | -13.00      | -37.41      | -69.12            | -56.89                | 6.48                   |
| 7602.70         | H                                                   | -49.91        | -13.00      | -36.91      | -72.47            | -53.17                | 3.26                   |
| 3801.00         | V                                                   | -46.69        | -13.00      | -33.69      | -60.81            | -53.63                | 6.94                   |
| 5701.20         | V                                                   | -49.27        | -13.00      | -36.27      | -68.15            | -55.75                | 6.48                   |
| 7602.70         | V                                                   | -47.55        | -13.00      | -34.55      | -69.39            | -50.81                | 3.26                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 15MHz, 1RB, Offset 0,Channel: 18675 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                    | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3701.50         | H                                                   | -54.36        | -13.00      | -41.36      | -68.27            | -61.31                | 6.95                   |
| 5552.50         | H                                                   | -53.53        | -13.00      | -40.53      | -72.05            | -60.10                | 6.57                   |
| 7403.30         | H                                                   | -50.66        | -13.00      | -37.66      | -73.05            | -54.20                | 3.54                   |
| 3701.50         | V                                                   | -48.49        | -13.00      | -35.49      | -62.34            | -55.44                | 6.95                   |
| 5552.50         | V                                                   | -48.36        | -13.00      | -35.36      | -66.57            | -54.93                | 6.57                   |
| 7403.30         | V                                                   | -49.19        | -13.00      | -36.19      | -69.92            | -52.73                | 3.54                   |

| Mode            | LTE Band 2, CB: 15MHz, 1RB, Offset 0,Channel: 18900 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                    | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3746.70         | H                                                   | -56.49        | -13.00      | -43.49      | -70.57            | -63.44                | 6.95                   |
| 5620.00         | H                                                   | -51.18        | -13.00      | -38.18      | -69.76            | -57.71                | 6.53                   |
| 7493.40         | H                                                   | -50.75        | -13.00      | -37.75      | -73.16            | -54.31                | 3.56                   |
| 3746.70         | V                                                   | -45.35        | -13.00      | -32.35      | -59.32            | -52.30                | 6.95                   |
| 5620.00         | V                                                   | -49.47        | -13.00      | -36.47      | -67.84            | -56.00                | 6.53                   |
| 7493.40         | V                                                   | -49.13        | -13.00      | -36.13      | -69.90            | -52.69                | 3.56                   |

| Mode            | LTE Band 2, CB: 15MHz, 1RB, Offset 0,Channel: 19125 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity.                                   | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3791.60         | H                                                   | -54.01        | -13.00      | -41.01      | -68.25            | -60.95                | 6.94                   |
| 5687.50         | H                                                   | -50.18        | -13.00      | -37.18      | -68.87            | -56.67                | 6.49                   |
| 7583.40         | H                                                   | -48.83        | -13.00      | -35.83      | -71.37            | -52.11                | 3.28                   |
| 3791.60         | V                                                   | -47.09        | -13.00      | -34.09      | -61.19            | -54.03                | 6.94                   |
| 5687.50         | V                                                   | -49.69        | -13.00      | -36.69      | -68.49            | -56.18                | 6.49                   |
| 7583.40         | V                                                   | -47.73        | -13.00      | -34.73      | -69.49            | -51.01                | 3.28                   |

Note: EIRP = S.G Power value + Correction factor.

| Mode            | LTE Band 2, CB: 20MHz, 1RB, Offset 0,Channel: 18700 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                    | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3702.60         | H                                                   | -55.45        | -13.00      | -42.45      | -69.36            | -62.40                | 6.95                   |
| 5553.50         | H                                                   | -53.38        | -13.00      | -40.38      | -71.91            | -59.95                | 6.57                   |
| 7404.50         | H                                                   | -50.86        | -13.00      | -37.86      | -73.26            | -54.40                | 3.54                   |
| 3702.60         | V                                                   | -48.46        | -13.00      | -35.46      | -62.31            | -55.41                | 6.95                   |
| 5553.50         | V                                                   | -48.24        | -13.00      | -35.24      | -66.45            | -54.81                | 6.57                   |
| 7404.50         | V                                                   | -49.44        | -13.00      | -36.44      | -70.18            | -52.98                | 3.54                   |

| Mode            | LTE Band 2, CB: 20MHz, 1RB, Offset 0,Channel: 18900 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity                                    | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3741.70         | H                                                   | -56.87        | -13.00      | -43.87      | -70.93            | -63.82                | 6.95                   |
| 5612.90         | H                                                   | -51.69        | -13.00      | -38.69      | -70.26            | -58.22                | 6.53                   |
| 7484.10         | H                                                   | -50.82        | -13.00      | -37.82      | -73.26            | -54.25                | 3.43                   |
| 3741.70         | V                                                   | -46.31        | -13.00      | -33.31      | -60.27            | -53.26                | 6.95                   |
| 5612.90         | V                                                   | -50.03        | -13.00      | -37.03      | -68.36            | -56.56                | 6.53                   |
| 7484.10         | V                                                   | -49.09        | -13.00      | -36.09      | -70.26            | -52.52                | 3.43                   |

| Mode            | LTE Band 2, CB: 20MHz, 1RB, Offset 0,Channel: 19100 |               |             |             |                   |                       |                        |
|-----------------|-----------------------------------------------------|---------------|-------------|-------------|-------------------|-----------------------|------------------------|
| Frequency (MHz) | Antenna Polarity.                                   | E.I.R.P (dBm) | Limit (dBm) | Margin (dB) | S.A Reading (dBm) | S.G Power Vaule (dBm) | Correction Factor (dB) |
| 3782.20         | H                                                   | -55.45        | -13.00      | -42.45      | -69.65            | -62.39                | 6.94                   |
| 5673.70         | H                                                   | -51.45        | -13.00      | -38.45      | -70.11            | -57.95                | 6.50                   |
| 7565.10         | H                                                   | -49.66        | -13.00      | -36.66      | -72.17            | -52.97                | 3.31                   |
| 3782.20         | V                                                   | -48.26        | -13.00      | -35.26      | -62.33            | -55.20                | 6.94                   |
| 5673.70         | V                                                   | -49.51        | -13.00      | -36.51      | -68.21            | -56.01                | 6.50                   |
| 7565.10         | V                                                   | -48.07        | -13.00      | -35.07      | -69.71            | -51.38                | 3.31                   |

Note: EIRP = S.G Power value + Correction factor.

### 3.3 Conducted Emissions

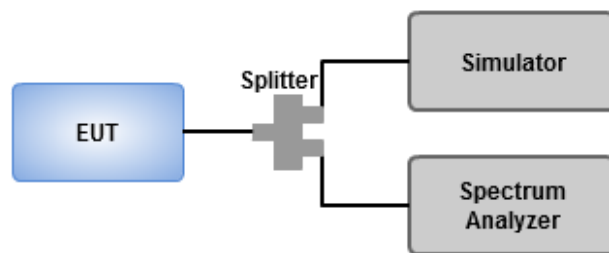
#### 3.3.1 Limit of Conducted Emissions

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 equal to -13dBm.

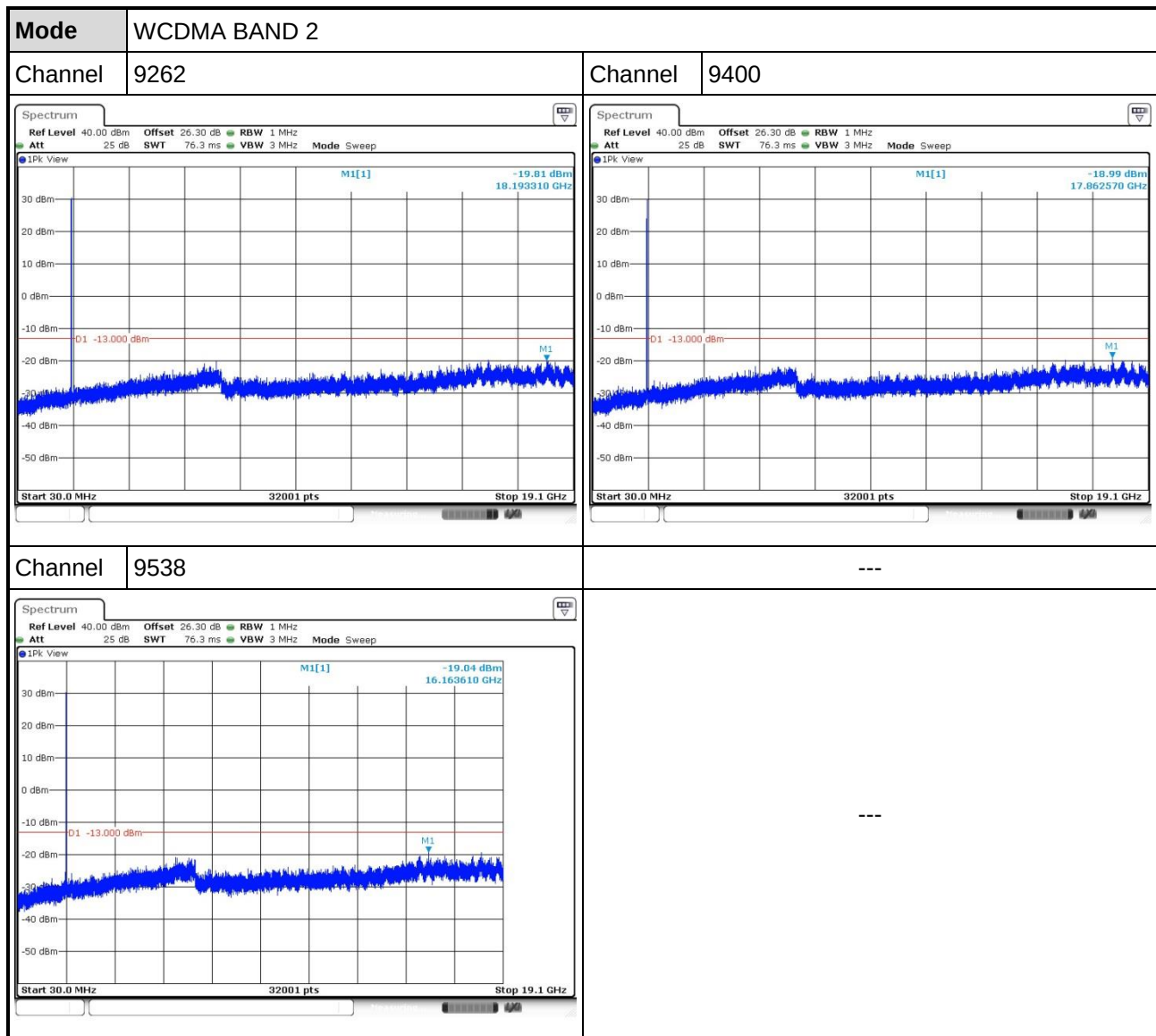
#### 3.3.2 Test Procedures

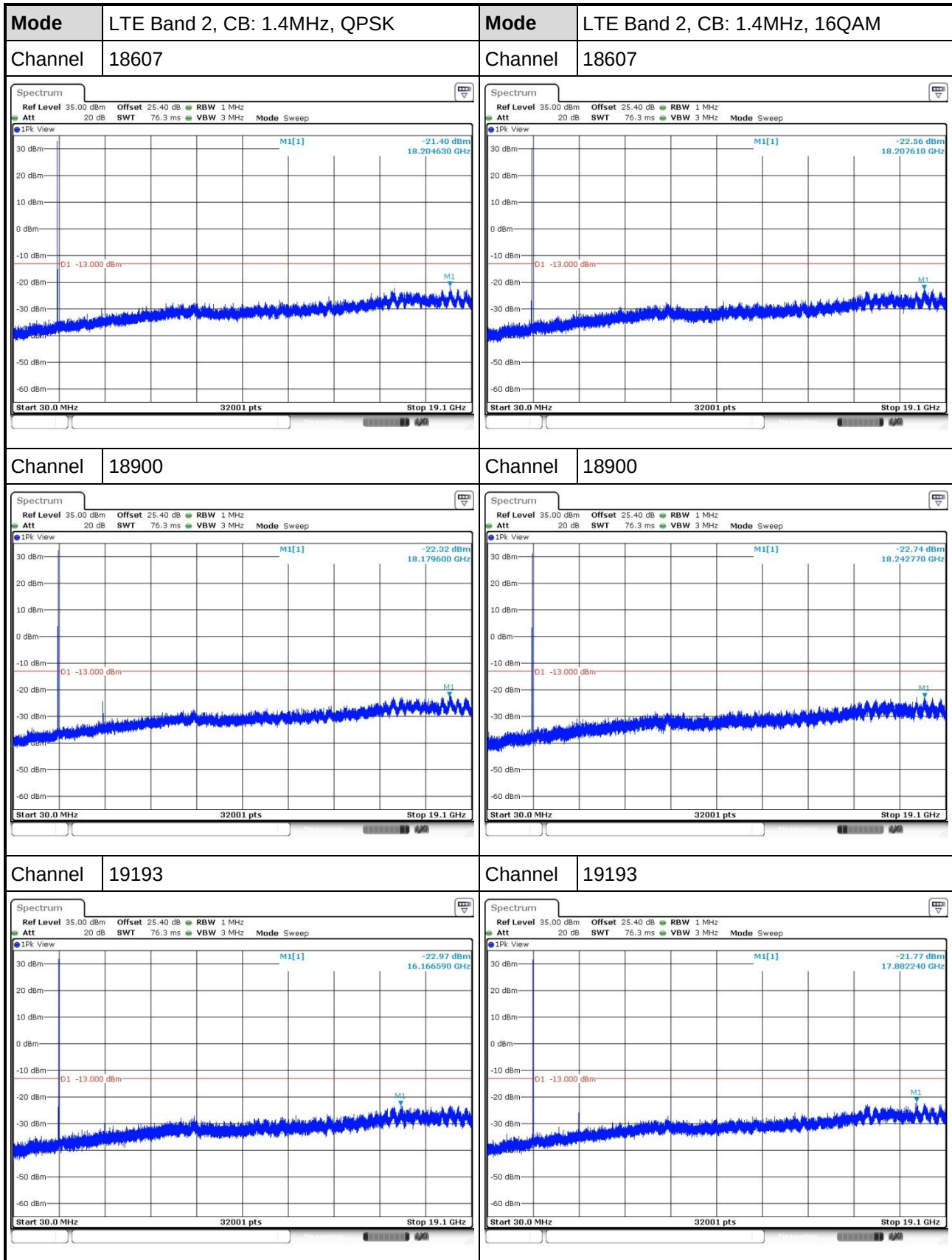
1. Lowest, middle and highest operating channels are tested for this item.
2. Scan frequency range is from 30 MHz ~ 19.1 GHz.
3. Set RBW = 1 MHz, VBW = 3 MHz, detector = Peak, sweep time = auto.
4. Record the max trace value and capture the test plot of each sub frequency band.

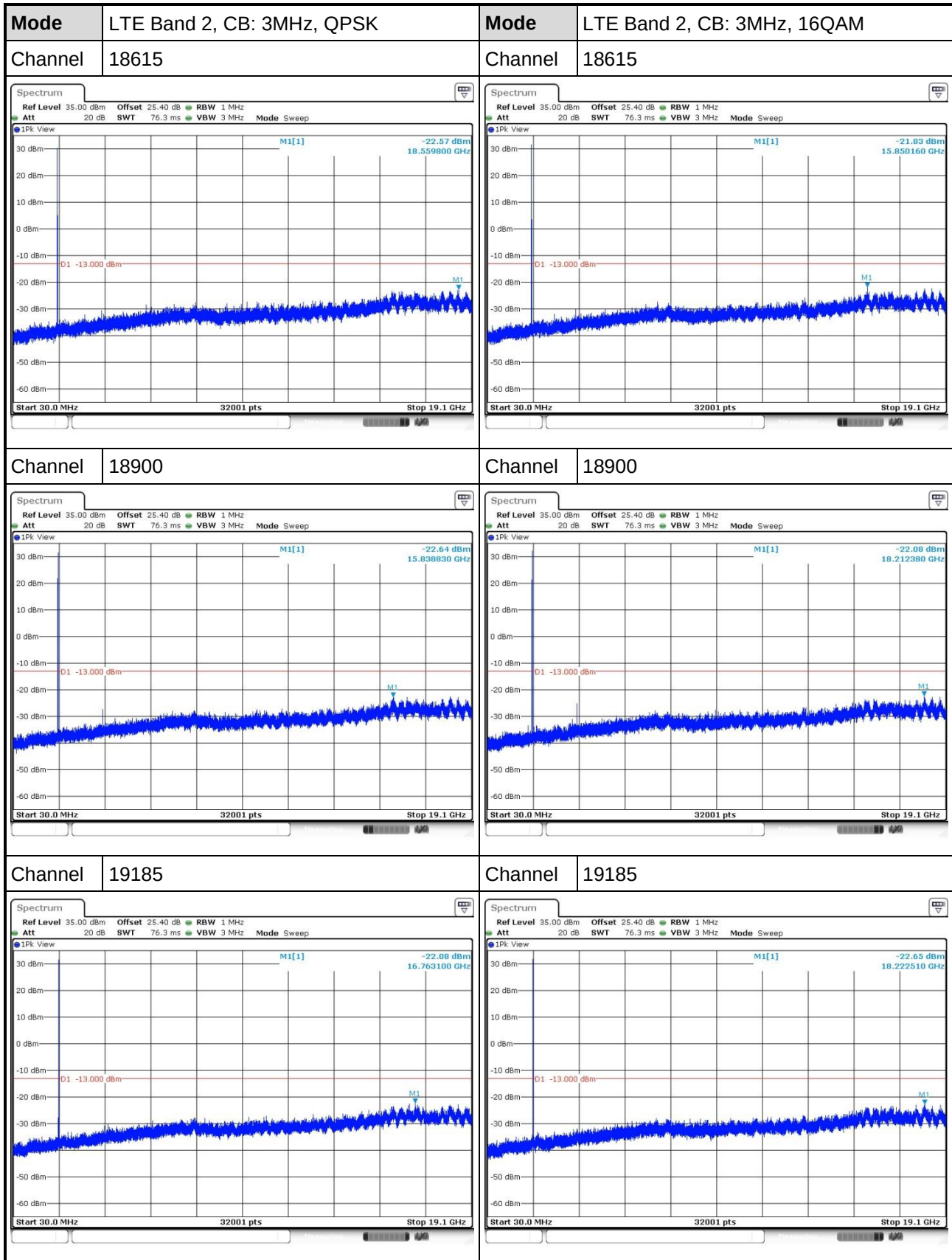
#### 3.3.3 Test Setup

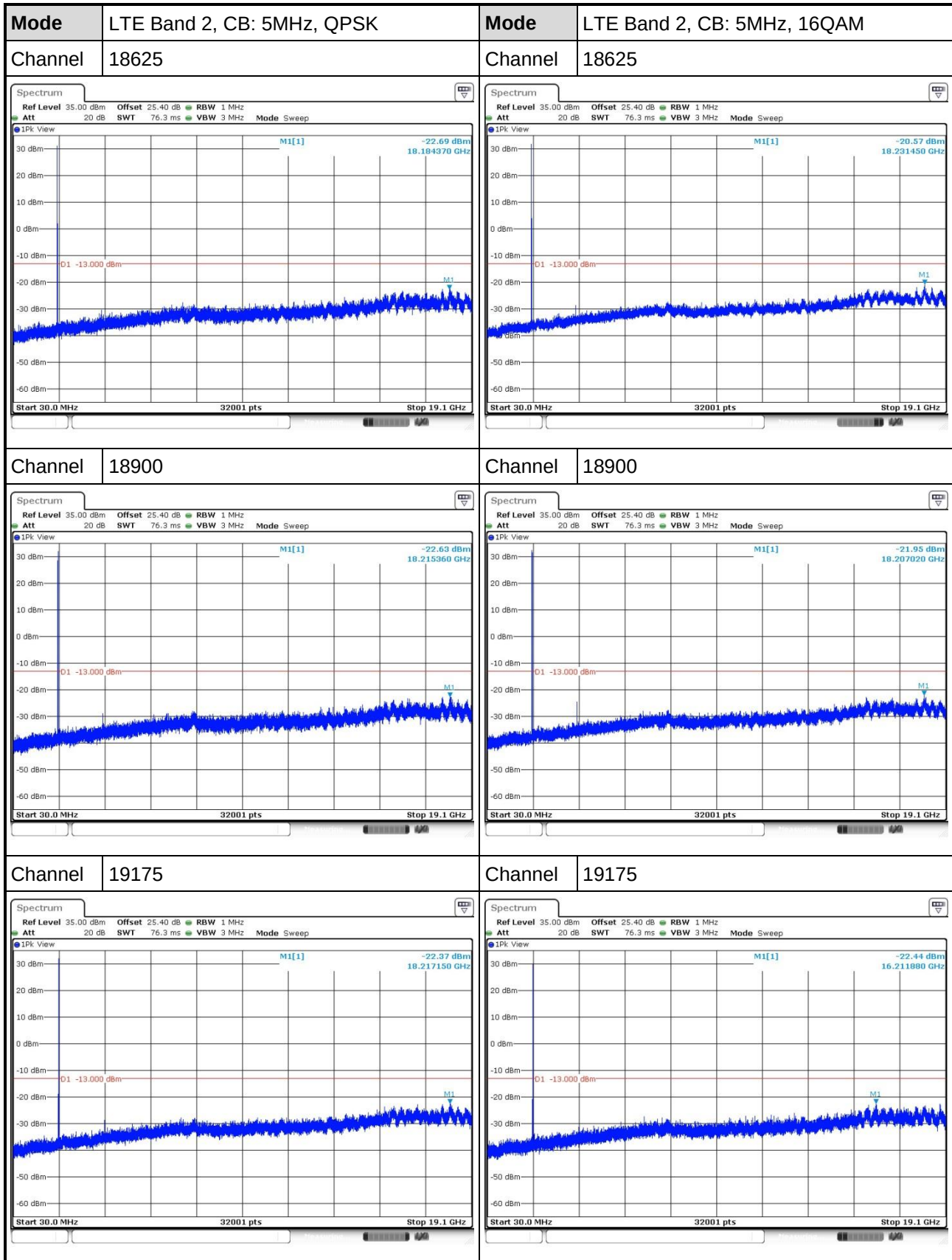


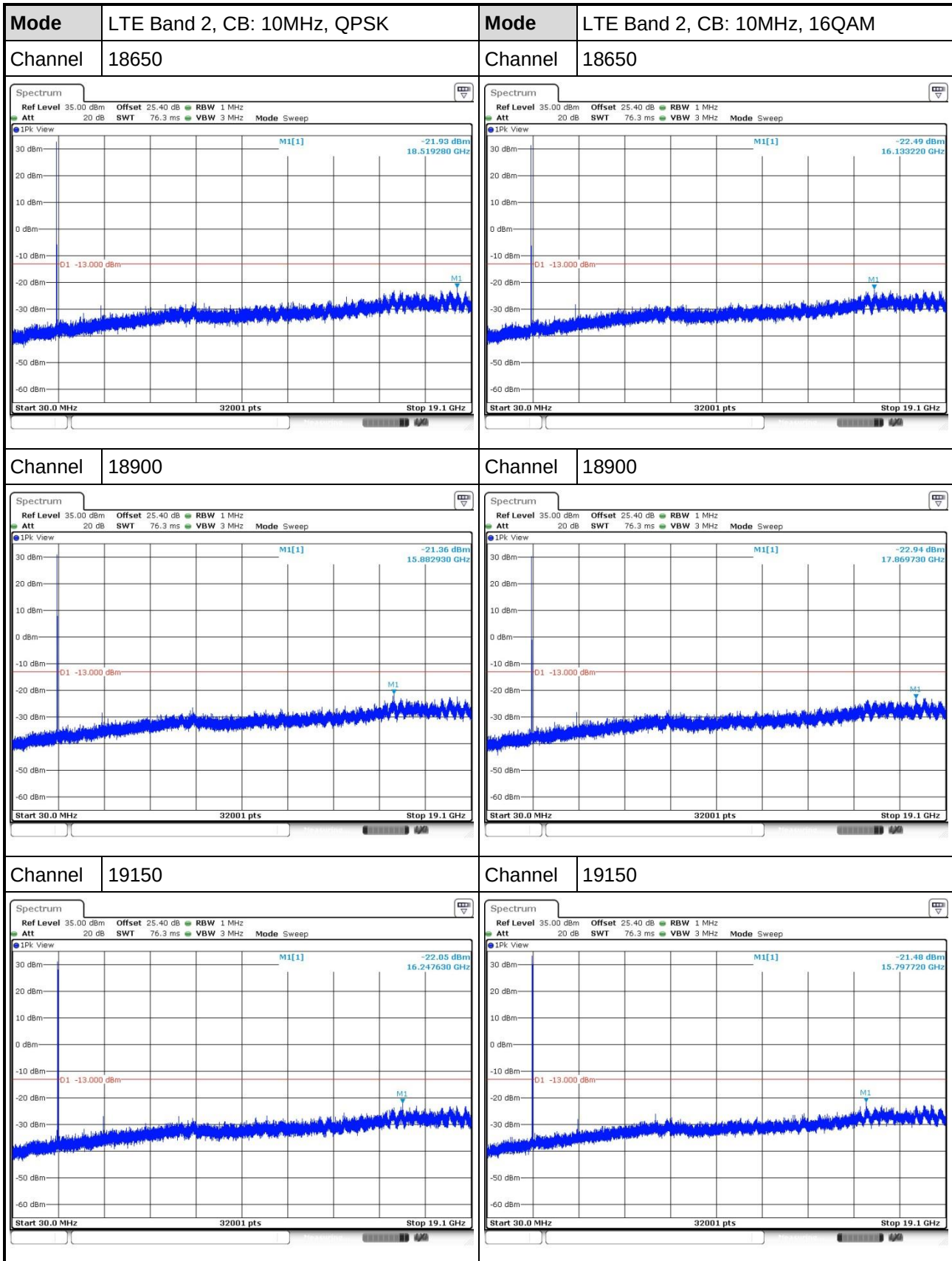
### 3.3.4 Test Result of Conducted Emissions

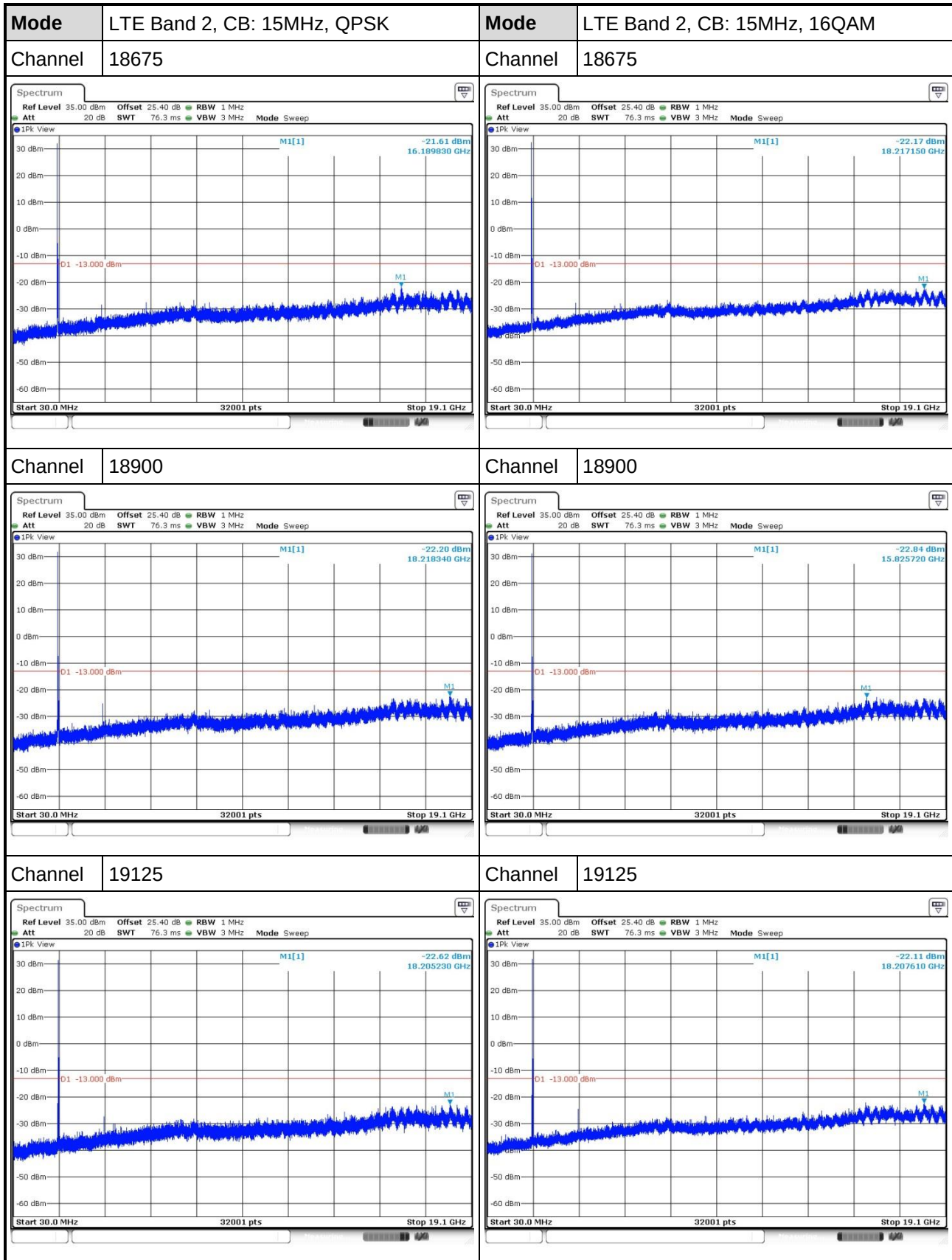


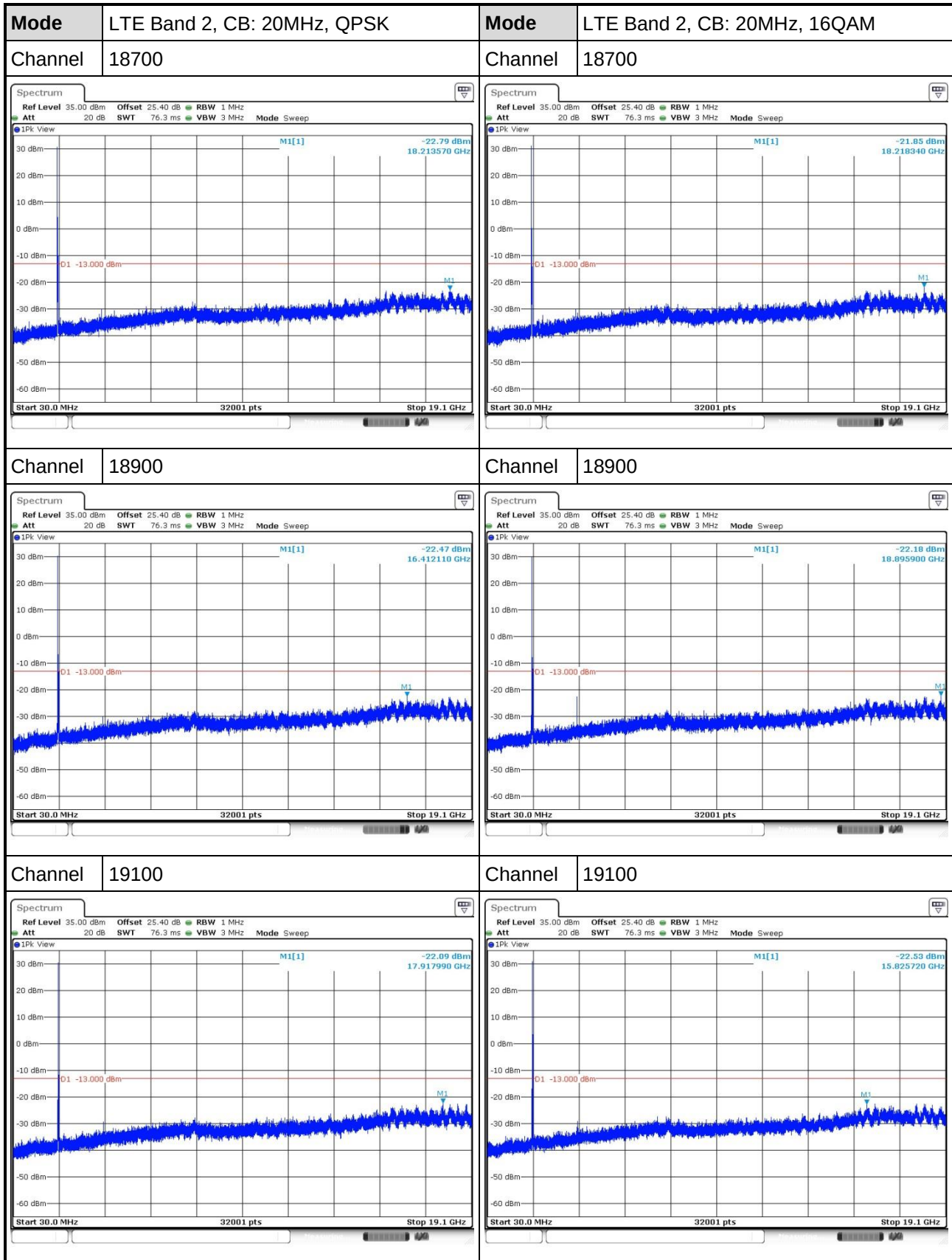












## 3.4 Band Edge

### 3.4.1 Limit of Band Edge

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 equal to -13dBm.

### 3.4.2 Test Procedures

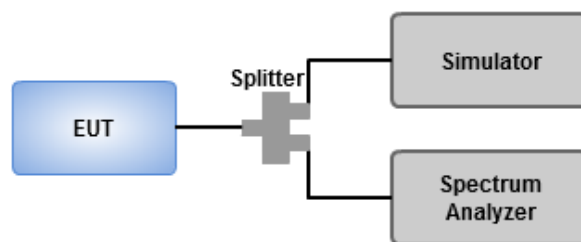
#### For WCDMA

1. Lowest and highest operating channels are tested for this item.
2. The center frequency of spectrum analyzer will be set to 1850 and 1910 MHz.
3. Set RBW = 100 kHz, VBW = 300 kHz, span = 5 MHz, detector = RMS, sweep time.
4. Record the max trace value and capture the test plot.

#### For LTE

1. Lowest and highest operating channels are tested for this item.
2. Set RBW = 15 / 39 / 56 / 110 / 160 / 220 kHz, VBW = 62 / 120 / 180 / 330 / 510 / 680 kHz for LTE channel bandwidth 1.4 / 3 / 5 / 10 / 15 / 20 MHz, detector = RMS, sweep time = auto to measure trace.
3. Set RBW = 20 / 50 / 100 / 200 / 300 kHz, VBW = 100 / 200 / 300 / 1000 / 1000 / 1000 kHz for LTE channel bandwidth 1.4 / 3 / 5 / 10 / 15 / 20 MHz, detector = RMS and use channel power measurement function of spectrum analyzer to integrate power over 1MHz.

### 3.4.3 Test Setup



### 3.4.4 Test Result of Band Edge

