# FCC Radio Test Report

## FCC ID: R9C-CPH2083

**This report concerns: Original Grant**

| | | |
|---|---|---|
| **Project No.** | : | 2003C217 |
| **Equipment** | : | Mobile Phone |
| **Brand Name** | : | OPPO |
| **Test Model** | : | CPH2083 |
| **Series Model** | : | N/A |
| **Applicant** | : | Guangdong OPPO Mobile Telecommunications Corp., Ltd. |
| **Address** | : | NO. 18 HaiBin Road, Wusha village, Chang An Town, DongGuan City, Guangdong, China |
| **Manufacturer** | : | Guangdong OPPO Mobile Telecommunications Corp., Ltd. |
| **Address** | : | NO. 18 HaiBin Road, Wusha village, Chang An Town, DongGuan City, Guangdong, China |
| **Factory** | : | Guangdong OPPO Mobile Telecommunications Corp., Ltd. |
| **Address** | : | NO. 18 HaiBin Road, Wusha village, Chang An Town, DongGuan City, Guangdong, China |
| **Date of Receipt** | : | Mar. 27, 2020 |
| **Date of Test** | : | Mar. 28, 2020 ~ Apr. 24, 2020 |
| **Issued Date** | : | Apr. 29, 2020 |
| **Report Version** | : | R00 |
| **Test Sample** | : | Engineering Sample No.: DG2020032776 for conducted, DG2020032773 for radiated. |
| **Standard(s)** | : | 47 CFR FCC Part 24 Subpart E<br>47 CFR FCC Part 2<br>ANSI/TIA/EIA-603-E-2016<br>FCC KDB 971168 D01 Power Meas License Digital Systems v03r01 |

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

Treey Chen

**Prepared by :** Treey Chen

Steven Lu

**Approved by :** Steven Lu

Certificate #5123.02

Add: No.3, Jinshagang 1st Road, Shixia, Dalang Town,Dongguan, Guangdong, China.
Tel: +86-769-8318-3000
Web: www.newbtl.com

**Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**BTL**'s reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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**BTL** is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

**Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.
Please note that the measurement uncertainty is provided for informational purpose only and is not use in determining the Pass/Fail results.

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# REPORT ISSUED HISTORY

| Report Version | Description | Issued Date |
|---|---|---|
| R00 | Original Issue. | Apr. 29, 2020 |

# 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| FCC Part 24 Subpart E & Part 2 | | | |
|---|---|---|---|
| **Standard(s) Section** | **Test Item** | **Judgment** | **Remark** |
| 2.1046<br>24.232(c) | Equivalent Isotropic Radiated Power | PASS | ------ |
| 2.1049 | Occupied Bandwidth | PASS | ------ |
| 2.1051<br>24.238(a) | Conducted Spurious Emissions | PASS | ------ |
| 2.1053<br>24.238(a) | Radiated Spurious Emissions | PASS | ------ |
| 24.238(a) | Band Edge Measurements | PASS | ------ |
| 24.232(d) | Peak To Average Ratio | PASS | ------ |
| 2.1055<br>24.235 | Frequency Stability | PASS | ------ |

Note:

(1) “N/A” denotes test is not applicable in this test report.

## 1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.
BTL's Test Firm Registration Number for FCC: 357015
BTL's Designation Number for FCC: CN1240

## 1.2 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))
The BTL measurement uncertainty as below table:

A. Radiated Measurement:

| Test Site | Method | Measurement Frequency Range | Ant. H / V | U,(dB) |
|---|---|---|---|---|
| DG-CB03 (3m) | CISPR | 9KHz ~ 30MHz | V | 3.79 |
| | | 9KHz ~ 30MHz | H | 3.57 |
| | | 30MHz ~ 200MHz | V | 4.88 |
| | | 30MHz ~ 200MHz | H | 4.14 |
| | | 200MHz ~ 1,000MHz | V | 4.62 |
| | | 200MHz ~ 1,000MHz | H | 4.80 |

| Test Site | Method | Measurement Frequency Range | U,(dB) |
|---|---|---|---|
| DG-CB03 (3m) | CISPR | 1GHz ~ 6GHz | 4.58 |
| | | 6GHz ~ 18GHz | 5.18 |

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

## 1.3 TEST ENVIRONMENT CONDITIONS

| Test Item | Temperature | Humidity | Test Voltage | Tested By |
|---|---|---|---|---|
| Output Power & EIRP | 23.1°C | 45% | DC 3.85V | Laughing Zhang |
| Occupied Banwidth | 23.1°C | 45% | DC 3.85V | Hayden Chen |
| Conducted Spurious Emissions | 23.1°C | 45% | DC 3.85V | Hayden Chen |
| Radiated Spurious Emissions | 24°C | 68% | AC 120V/60Hz | Kwok Guo |
| Band Edge | 23.1°C | 45% | DC 3.85V | Hayden Chen |
| Peak to Average Ratio | 23.1°C | 45% | DC 3.8V | Hayden Chen |
| Frequency Stability | Normal and Extreme | | | Hayden Chen |

# 2. GENERAL INFORMATION

## 2.1 GENERAL DESCRIPTION OF EUT

| | | | | | |
|---|---|---|---|---|---|
| Equipment | Mobile Phone | | | | |
| Brand Name | OPPO | | | | |
| Test Model | CPH2083 | | | | |
| Series Model | N/A | | | | |
| Model Difference(s) | N/A | | | | |
| Hardware Version | 11 | | | | |
| Software Version | ColorOS V6.1.2 | | | | |
| Power Source | 1. DC Voltage supplied from AC/DC adapter.<br>1# Model: OP52KAUH<br>2# Model: OP52JAUH<br>3# Model: OP52YAUH<br>2. Supplied from Li-ion Polymer battery.<br>Model: BLP673<br>3. Supplied from USB port. | | | | |
| Power Rating | 1. I/P:100-240V~ 50/60Hz 0.4A O/P:5V⎓2A<br>2. 3.85Vdc, 4100mAh/15.78Wh<br>3. DC 5V | | | | |
| IEMI No. | Radiated | 863634040130637 | | | |
| | Conducted | 863634040130603 | | | |
| Modulation Type | GSM | | GMSK | | |
| | EDGE/GPRS | | GMSK, 8PSK | | |
| | WCDMA/HSDPA/HSUPA | | UL: QPSK<br>DL: QPSK, 16QAM | | |
| | LTE | | UL: QPSK,16QAM,64QAM<br>DL: QPSK,16QAM,64QAM | | |
| Max. EIRP | GSM 1900 / GPRS 1900 | | GMSK | 26.98 | dBm |
| | EDGE 1900 | | 8PSK | 22.42 | dBm |
| | WCDMA Band II | | QPSK | 20.62 | dBm |
| | HSDPA Band II | | QPSK | 18.59 | dBm |
| | HSUPA Band II | | QPSK | 20.54 | dBm |
| | LTE | Channel Bandwidth (MHz) | QPSK (dBm) | 16QAM (dBm) | 64QAM (dBm) |
| | Band 2 | 1.4 | 20.26 | 19.58 | 18.70 |
| | | 3 | 20.35 | 19.67 | 18.68 |
| | | 5 | 20.25 | 19.66 | 18.53 |
| | | 10 | 20.33 | 19.62 | 18.65 |
| | | 15 | 20.20 | 19.54 | 18.76 |
| | | 20 | 20.43 | 19.75 | 18.95 |

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

| PCS 1900 | | | | |
|---|---|---|---|---|
| Test Frequency ID | UARFCN | Frequency of Uplink (MHz) | UARFCN | Frequency of Downlink (MHz) |
| Low Range | 512 | 1850.2 | 528 | 1930.2 |
| Mid Range | 661 | 1880 | 677 | 1960 |
| High Range | 810 | 1909.8 | 826 | 1989.8 |

| WCDMA Band II | | | | |
|---|---|---|---|---|
| Test Frequency ID | UARFCN | Frequency of Uplink (MHz) | UARFCN | Frequency of Downlink (MHz) |
| Low Range | 9262 | 1852.4 | 9662 | 1932.4 |
| Mid Range | 9400 | 1880.0 | 9800 | 1960.0 |
| High Range | 9538 | 1907.6 | 9938 | 1987.6 |

| LTE Band 2 | | | | | |
|---|---|---|---|---|---|
| Test Frequency ID | Bandwidth (MHz) | $N_{UL}$ | Frequency of Uplink (MHz) | $N_{DL}$ | Frequency of Downlink (MHz) |
| Low Range | 1.4 | 18607 | 1850.7 | 607 | 1930.7 |
| | 3 | 18615 | 1851.5 | 615 | 1931.5 |
| | 5 | 18625 | 1852.5 | 625 | 1932.5 |
| | 10 | 18650 | 1855 | 650 | 1935 |
| | 15 | 18675 | 1857.5 | 675 | 1937.5 |
| | 20 | 18700 | 1860 | 700 | 1940 |
| Mid Range | 1.4/3/5/10/15/20 | 18900 | 1880 | 900 | 1960 |
| High Range | 1.4 | 19193 | 1909.3 | 1193 | 1989.3 |
| | 3 | 19185 | 1908.5 | 1185 | 1988.5 |
| | 5 | 19175 | 1907.5 | 1175 | 1987.5 |
| | 10 | 19150 | 1905 | 1150 | 1985 |
| | 15 | 19125 | 1902.5 | 1125 | 1982.5 |
| | 20 | 19100 | 1900 | 1100 | 1980 |

3. Table for Filed Antenna:

Main Antenna

| Brand | Model Name | Antenna Type | Connector | Gain (dBi) | Note |
|---|---|---|---|---|---|
| N/A | N/A | Internal | N/A | -2.82 | PCS 1900 |
| N/A | N/A | Internal | N/A | -2.82 | WCDMA Band II |
| N/A | N/A | Internal | N/A | -2.82 | LTE Band 2 |

Second Antenna

| Brand | Model Name | Antenna Type | Connector | Gain (dBi) | Note |
|---|---|---|---|---|---|
| N/A | N/A | Internal | N/A | 0.45 | PCS 1900 |
| N/A | N/A | Internal | N/A | 0.45 | WCDMA Band II |
| N/A | N/A | Internal | N/A | 0.45 | LTE Band 2 |

## 2.2 DESCRIPTION OF TEST MODES

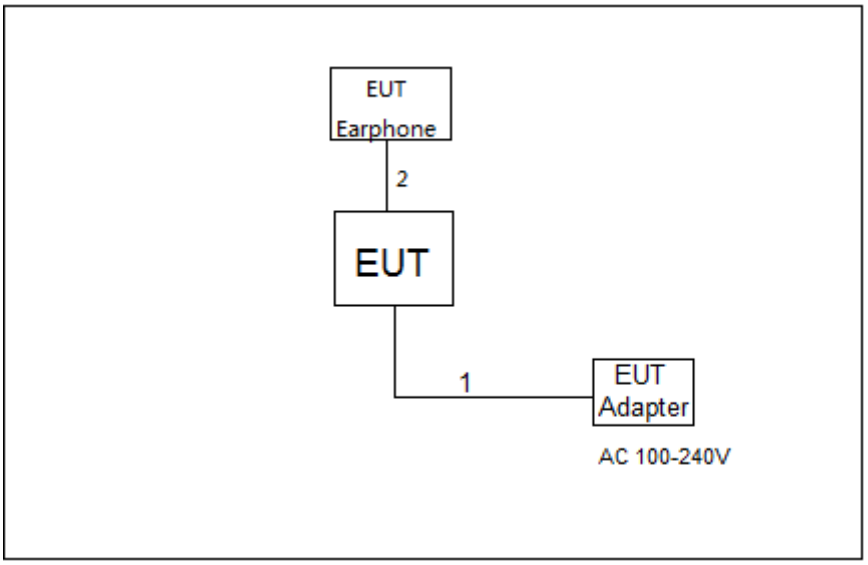
Following mode(s) is (were) found to be the worst case(s) and selected for the final test.

| GSM MODE | | | |
|---|---|---|---|
| Test Item | Available Channel | Tested Channel | Mode |
| Output Power & EIRP | 512 to 810 | 512, 661, 810 | GSM, GPRS, EDGE |
| Occupied Bandwidth | 512 to 810 | 512, 661, 810 | GSM, EDGE |
| Conducted Spurious Emissions | 512 to 810 | 661 | GSM, EDGE |
| Radiated Spurious Emissions | 512 to 810 | 661 | GSM |
| Band Edge | 512 to 810 | 512, 810 | GSM, EDGE |
| Peak to Average Ratio | 512 to 810 | 512, 661, 810 | GSM, EDGE |
| Frequency Stability | 512 to 810 | 661 | GSM |

| WCDMA BAND II MODE | | | |
|---|---|---|---|
| Test Item | Available Channel | Tested Channel | Mode |
| Output Power & EIRP | 9262 to 9538 | 9262, 9400, 9538 | WCDMA, HSDPA,HSUPA |
| Occupied Bandwidth | 9262 to 9538 | 9262, 9400, 9538 | WCDMA, HSDPA,HSUPA |
| Conducted Spurious Emissions | 9262 to 9538 | 9400 | WCDMA |
| Radiated Spurious Emissions | 9262 to 9538 | 9400 | WCDMA |
| Band Edge | 9262 to 9538 | 9262, 9538 | WCDMA, HSDPA, HSUPA |
| Peak to Average Ratio | 9262 to 9538 | 9262, 9400, 9538 | WCDMA, HSDPA, HSUPA |
| Frequency Stability | 9262 to 9538 | 9400 | WCDMA |

| LTE BAND 2 MODE | | | | | |
|---|---|---|---|---|---|
| Test Item | Available Channel | Tested Channel | Channel Bandwidth | Modulation | Mode |
| Output Power & EIRP | 18607 to 19193 | 18607, 18900, 19193 | 1.4MHz | QPSK, 16QAM, 64QAM | 1RB/3RB/6RB |
| | 18615 to 19185 | 18615 , 18900, 19185 | 3MHz | QPSK, 16QAM, 64QAM | 1RB/8RB/15RB |
| | 18625 to 19175 | 18625, 18900, 19175 | 5MHz | QPSK, 16QAM, 64QAM | 1RB/12RB/25RB |
| | 18650 to 19150 | 18650, 18900, 19150 | 10MHz | QPSK, 16QAM, 64QAM | 1RB/25RB/50RB |
| | 18675 to 19125 | 18675, 18900, 19125 | 15MHz | QPSK, 16QAM, 64QAM | 1RB/36RB/75RB |
| | 18700 to 19100 | 18700, 18900, 19100 | 20MHz | QPSK, 16QAM, 64QAM | 1RB/50RB/100RB |
| Occupied Bandwidth | 18607 to 19193 | 18607, 18900, 19193 | 1.4MHz | QPSK, 16QAM, 64QAM | 6RB |
| | 18615 to 19185 | 18615 , 18900, 19185 | 3MHz | QPSK, 16QAM, 64QAM | 15RB |
| | 18625 to 19175 | 18625, 18900, 19175 | 5MHz | QPSK, 16QAM, 64QAM | 25RB |
| | 18650 to 19150 | 18650, 18900, 19150 | 10MHz | QPSK, 16QAM, 64QAM | 50RB |
| | 18675 to 19125 | 18675, 18900, 19125 | 15MHz | QPSK, 16QAM, 64QAM | 75 RB |
| | 18700 to 19100 | 18700, 18900, 19100 | 20MHz | QPSK, 16QAM, 64QAM | 100RB |
| Conducted Spurious Emissions | 18607 to 19193 | 18900 | 1.4 MHz | QPSK | 1RB |
| | 18625 to 19175 | 18900 | 5MHz | QPSK | 1RB |
| | 18700 to 19100 | 18900 | 20MHz | QPSK | 1RB |
| Radiated Spurious Emissions | 18607 to 19193 | 18900 | 1.4 MHz | QPSK | 1RB |
| | 18625 to 19175 | 18900 | 5MHz | QPSK | 1RB |
| | 18700 to 19100 | 18900 | 20MHz | QPSK | 1RB |
| Band Edge | 18607 to 19193 | 18607, 19193 | 1.4MHz | QPSK | 1RB/6RB |
| | 18615 to 19185 | 18615, 19185 | 3MHz | QPSK | 1RB/15RB |
| | 18625 to 19175 | 18625, 19175 | 5MHz | QPSK | 1RB/25RB |
| | 18650 to 19150 | 18650, 19150 | 10MHz | QPSK | 1RB/50RB |
| | 18675 to 19125 | 18675, 19125 | 15MHz | QPSK | 1RB/75RB |
| | 18700 to 19100 | 18700, 19100 | 20MHz | QPSK | 1RB/100RB |
| Peak To Average Ratio | 18607 to 19193 | 18607, 18900, 19193 | 1.4MHz | QPSK, 16QAM, 64QAM | 1RB |
| | 18615 to 19185 | 18615 , 18900, 19185 | 3MHz | QPSK, 16QAM, 64QAM | 1RB |
| | 18625 to 19175 | 18625, 18900, 19175 | 5MHz | QPSK, 16QAM, 64QAM | 1RB |
| | 18650 to 19150 | 18650, 18900, 19150 | 10MHz | QPSK, 16QAM, 64QAM | 1RB |
| | 18675 to 19125 | 18675, 18900, 19125 | 15MHz | QPSK, 16QAM, 64QAM | 1RB |
| | 18700 to 19100 | 18700, 18900, 19100 | 20MHz | QPSK, 16QAM, 64QAM | 1RB |
| Frequency Stability | 18607 to 19193 | 18900 | 1.4MHz | QPSK | 1RB |
| | 18615 to 19185 | 18900 | 3MHz | QPSK | 1RB |
| | 18625 to 19175 | 18900 | 5MHz | QPSK | 1RB |
| | 18650 to 19150 | 18900 | 10MHz | QPSK | 1RB |
| | 18675 to 19125 | 18900 | 15MHz | QPSK | 1RB |
| | 18700 to 19100 | 18900 | 20MHz | QPSK | 1RB |

## 2.3 BLOCKDIGRAMSHOWINGTHECONFIGURATIONOFSYSTEMTESTED




## 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Item | Equipment | Mfr/Brand | Model/Type No. | Series No. |
|---|---|---|---|---|
| - | - | - | - | - |

| Item | Cable Type | Shielded Type | Ferrite Core | Length |
|---|---|---|---|---|
| 1 | USB Cable | YES | NO | 1m |
| 2 | Audio Cable | NO | NO | 1m |

# 3. TEST RESULT

## 3.1 OUTPUT POWER MEASUREMENT

### 3.1.1 LIMIT

Mobile / Portable station are limited to 2 watts e.i.r.p.

### 3.1.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.

**EIRP:**

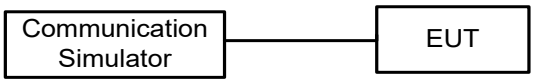
EIRP = Output Power + Antenan gain

**Output Power:**

The EUT was set up for the maximum power with GSM, GPRS, EDGE, WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

### 3.1.3 TEST SETUP LAYOUT

**Output Power Measurement**




### 3.1.4 TEST DEVIATION

No deviation

### 3.1.5 TEST RESULTS

Please refer to the APPENDIX A.

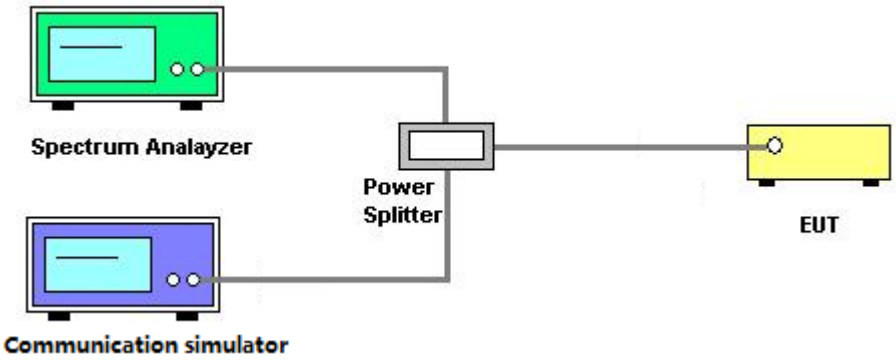
## 3.2 OCCUPIED BANDWIDTH MEASUREMENT

### 3.2.1 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 4.

1. The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth and 26dB bandwidth.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. RBW=(1% ~ 5%)*EBW
   VBW⩾3* RBW
4. Set spectrum analyzer with Peak detector.

### 3.2.2 TEST SETUP LAYOUT




### 3.2.3 TEST DEVIATION

No deviation

### 3.2.4 TEST RESULTS

Please refer to the APPENDIX B.

## 3.3 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

### 3.3.1 LIMIT

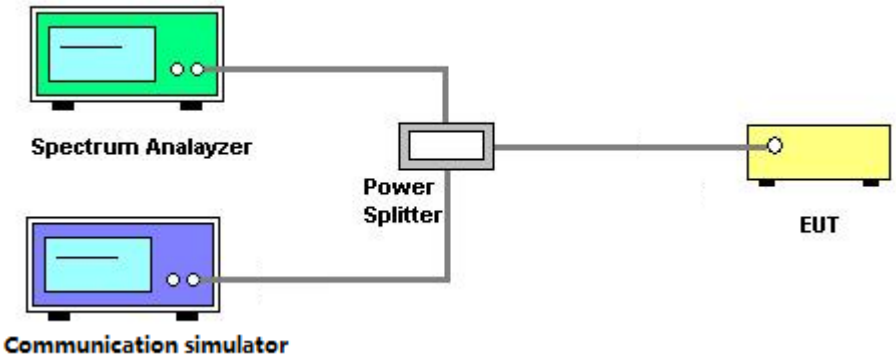
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13dBm.

### 3.3.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Set RBW>=1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
3. Set spectrum analyzer with Peak detector.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

### 3.3.3 TEST SETUP LAYOUT




### 3.3.4 TEST DEVIATION

No deviation

### 3.3.5 TEST RESULTS

Please refer to the APPENDIX C.

## 3.4 RADIATED SPURIOUS EMISSIONS MEASUREMENT

### 3.4.1 LIMIT

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. The emission limit equal to -13dBm.

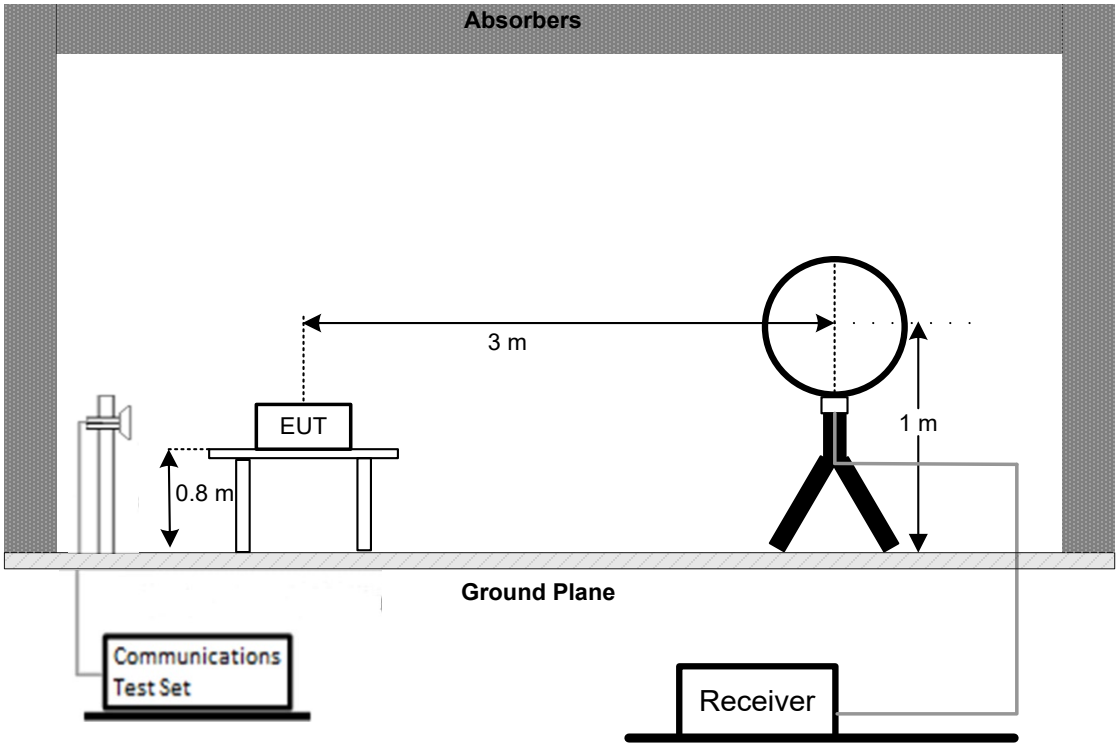
### 3.4.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.2.

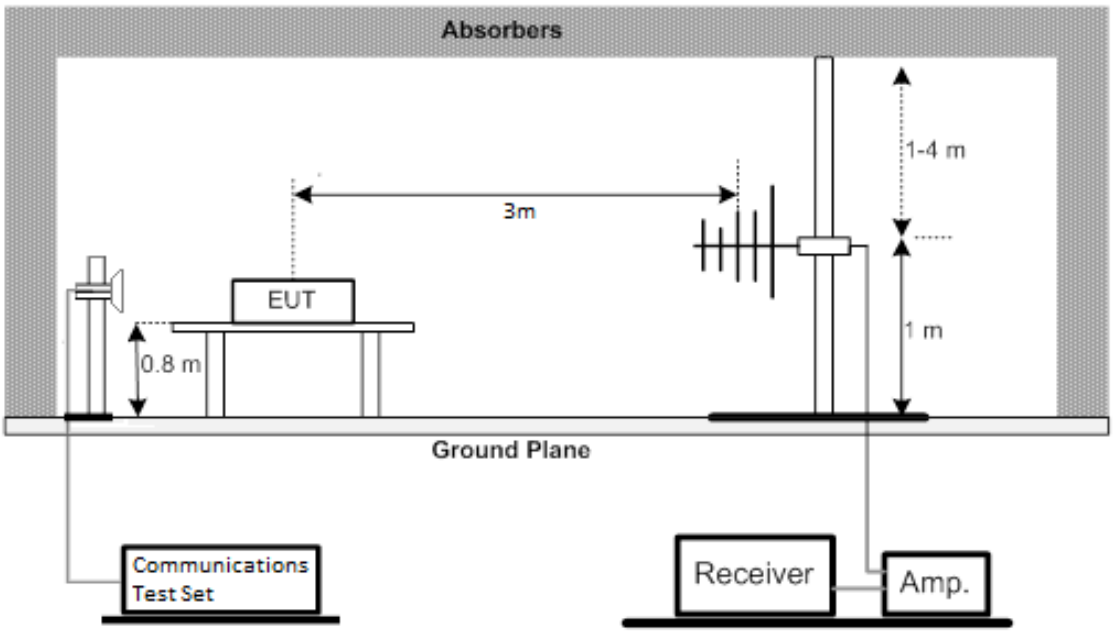
1. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
2. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step a. Record the power level of S.G
3. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
4. ERP can be calculated form EIRP by subtracting the gain of dipole, ERP = EIPR - 2.15dBi.
5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

### 3.4.3 TEST SETUP LAYOUT

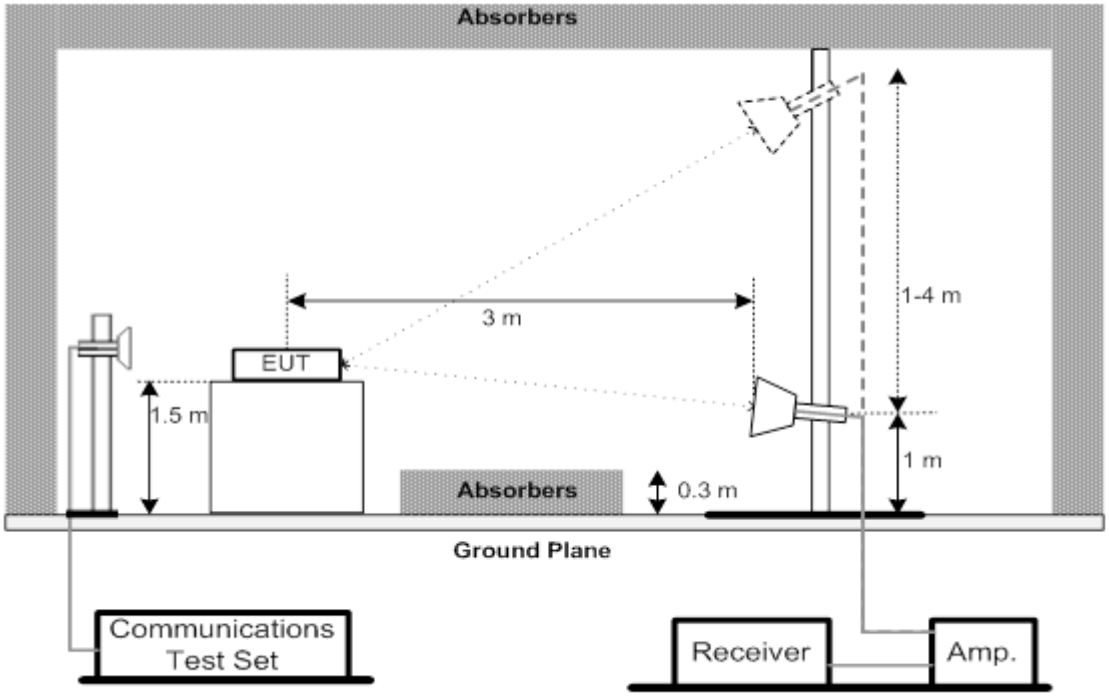
**Below 30MHz**




**30MHz to 1000MHz**



**Above 1GHz**




### 3.4.4 TEST DEVIATION

No deviation

### 3.4.5 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the APPENDIX D.

### 3.4.6 TEST RESULTS (30MHZ TO 1000MHZ)

Please refer to the APPENDIX E.

### 3.4.7 TEST RESULTS (ABOVE 1000MHZ)

Please refer to the APPENDIX F.

## 3.5 BAND EDGE MEASUREMENT

### 3.5.1 LIMIT

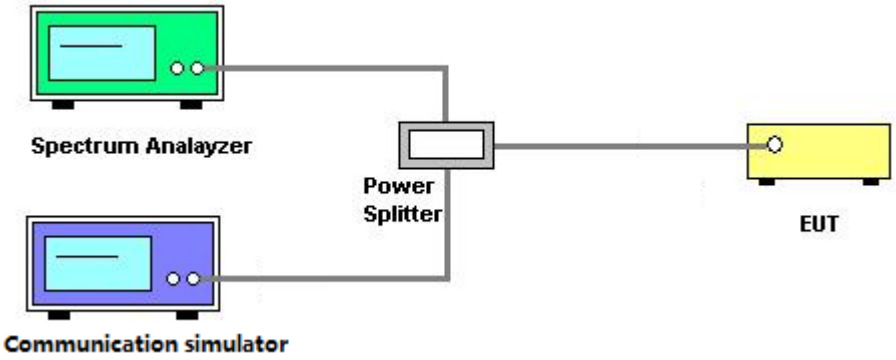
A Power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

### 3.5.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.

1. All measurements were done at low and high operational frequency range.
2. Record the max trace plot into the test report.

### 3.5.3 TEST SETUP LAYOUT




### 3.5.4 TEST DEVIATION

No deviation

### 3.5.5 TEST RESULTS

Please refer to the APPENDIX G.

## 3.6 PEAK TO AVERAGE RATIO MEASUREMENT

### 3.6.1 LIMIT

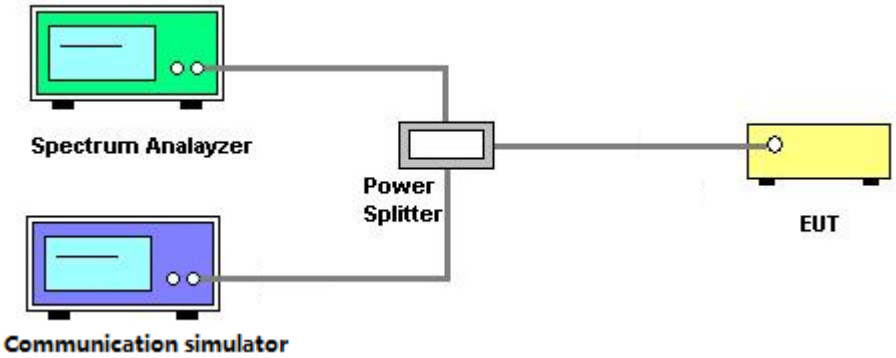
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

### 3.6.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 5.7.

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

### 3.6.3 TEST SETUP LAYOUT




### 3.6.4 TEST DEVIATION

No deviation

### 3.6.5 TEST RESULTS

Please refer to the APPENDIX H.

## 3.7 FREQUENCY STABILITY MEASUREMENT

### 3.7.1 LIMIT

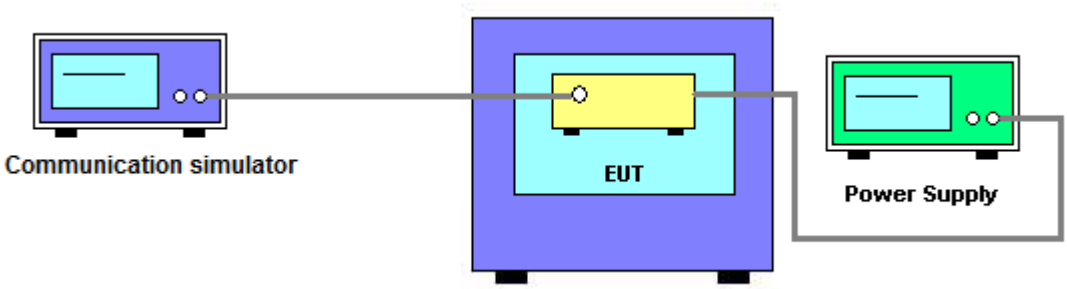
±1.5 ppm is for base and fixed station. ±2.5 ppm is for mobile station.

### 3.7.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 9.

1. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
2. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
3. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5°C during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.
4. The frequency error was recorded frequency error from the communication simulator.

### 3.7.3 TEST SETUP LAYOUT




### 3.7.4 TEST DEVIATION

No deviation

### 3.7.5 TEST RESULTS

Please refer to the APPENDIX I.

## 4. LIST OF MEASUREMENT EQUIPMENTS

| Radiated Spurious Emission Measurement | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Antenna | Schwarzbeck | VULB9160 | 9160-3232 | Mar. 09, 2021 |
| 2 | Amplifier | Agilent | 8449B | 3008A02334 | Mar. 01, 2021 |
| 3 | HighPass Filter | Wairrwright Instruments Gmbh | WHK 1.5/15G-10ST | 11 | Feb. 28, 2021 |
| 4 | Band Reject Filter | Wairrwright Instruments Gmbh | WRCG 1710/1785-1690/1805-60/12SS | 38 | Feb. 28, 2021 |
| 5 | Band Reject Filter | Wairrwright Instruments Gmbh | WRCG 824/849-810/863-60/9SS | 7 | Feb. 28, 2021 |
| 6 | Band Reject Filter | Wairrwright Instruments Gmbh | WRCG 880/915-860/935-60/9SS | 14 | Feb. 28, 2021 |
| 7 | Band Reject Filter | Wairrwright Instruments Gmbh | WRCG 1850/1910-1830/1930-60/10SS | 17 | Feb. 28, 2021 |
| 8 | HighPass Filter | Wairrwright Instruments Gmbh | WHK3.1/18G-10SS | 24 | Feb. 28, 2021 |
| 9 | Wireless Communication Test SET | Agilent | E5515C | MY48364183 | Mar. 01, 2021 |
| 10 | Microwave Preamplifier With Adaptor | EMC INSTRUMENT | EMC2654045 | 980039 & HA01 | Mar. 07, 2021 |
| 11 | Receiver | Agilent | N9038A | MY52130039 | Aug. 03, 2020 |
| 12 | wideband radio communication tester | R&S | CMW500 | 152372 | Feb. 28, 2021 |
| 13 | High pass filter | KANGMAIWEI | ZHPF-M3-12.75G-3869 | B2015073763 | Feb. 11, 2021 |
| 14 | High pass filter | KANGMAIWEI | ZHPF-M1000-4000-1 | B2015073762 | Feb. 11, 2021 |
| 15 | High pass filter | KANGMAIWEI | ZHPF-M6-186-1727 | B2015073764 | Feb. 11, 2021 |
| 16 | Cable | emci | LMR-400(30MHz-1GHz) (8m+5m) | N/A | May 24, 2020 |
| 17 | Cable | mitron | B10-01-01-12M | 18072744 | Jun. 29, 2020 |
| 18 | Controller | ETS-Lindgren | 2090 | N/A | N/A |
| 19 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |
| 20 | Loop Antenna | EM | EM-6876-1 | 230 | Jan. 15, 2022 |
| 21 | Double Ridged Guide Antenna | ETS | 3115 | 75846 | Mar. 19, 2021 |
| 22 | Broad-Band Horn Antenna | Schwarzbeck | BBHA 9170 | 9170319 | Jun. 23, 2020 |

| Conducted Measurement | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Wireless Communication Test SET | Agilent | E5515C | MY48364183 | Mar. 01, 2021 |
| 2 | EXA Spectrum Analyzer | Agilent | N9010A | MY50520044 | Mar. 01, 2021 |
| 3 | POWER SPLITTER | Mini-Circuits | ZFRSC-123-S+ | 331000910-1 | Feb. 28, 2021 |
| 4 | wideband radio communication tester | R&S | CMW500 | 152372 | Feb. 28, 2021 |

| Frequency Stability Measurement | | | | | |
|---|---|---|---|---|---|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Wireless Communication Test SET | Agilent | E5515C | MY48364183 | Mar. 01, 2021 |
| 2 | Multi-output DC Power Supply | GW Instek | GPC-3030DN | EK880675 | Sep. 26, 2020 |
| 3 | POWER SPLITTER | Mini-Circuits | ZFRSC-123-S+ | 331000910-1 | Feb. 28, 2021 |
| 4 | wideband radio communication tester | R&S | CMW500 | 152372 | Feb. 28, 2021 |
| 5 | Const Temp,& Humidity Chamber | Bell | BTH-50C | 20170306001 | Feb. 28, 2021 |

Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

# APPENDIX A - OUTPUT POWER

**Output Power (dBm):**

| PCS1900 | | 512CH | 661CH | 810CH |
|---|---|---|---|---|
| | | 1850.2MHz | 1880MHz | 1909.8MHz |
| GSM (CS) | | 29.74 | 29.80 | 29.77 |
| GPRS/EDGE (GMSK) | 1 Tx Slot | 29.74 | 29.80 | 29.77 |
| | 2 Tx Slot | 26.78 | 26.91 | 26.98 |
| | 3 Tx Slot | 25.72 | 25.88 | 25.97 |
| | 4 Tx Slot | 25.20 | 25.37 | 25.46 |
| EDGE (8PSK) | 1 Tx Slot | 25.24 | 25.21 | 25.12 |
| | 2 Tx Slot | 24.24 | 24.25 | 24.19 |
| | 3 Tx Slot | 23.27 | 23.24 | 23.17 |
| | 4 Tx Slot | 22.02 | 21.98 | 21.92 |

| Modulation | Band | WCDMA Band II | | |
|---|---|---|---|---|
| | Tx Channel | 9262CH | 9400CH | 9538CH |
| | Frequency | 1852.4MHz | 1880MHz | 1907.6MHz |
| QPSK | RMC 12.2K | 23.19 | 23.28 | 23.31 |
| | RMC 64K | 23.16 | 23.37 | 23.44 |
| | RMC 144K | 23.12 | 23.39 | 23.41 |
| | RMC 384K | 23.08 | 23.36 | 23.32 |
| | HSDPA Subtest-1 | 21.09 | 21.26 | 21.35 |
| | HSDPA Subtest-2 | 21.11 | 21.32 | 21.34 |
| | HSDPA Subtest-3 | 21.08 | 21.35 | 21.32 |
| | HSDPA Subtest-4 | 21.12 | 21.41 | 21.33 |
| | HSUPA Subtest-1 | 20.97 | 21.05 | 21.08 |
| | HSUPA Subtest-2 | 21.15 | 21.26 | 21.32 |
| | HSUPA Subtest-3 | 21.78 | 21.84 | 21.98 |
| | HSUPA Subtest-4 | 20.66 | 20.83 | 20.90 |
| | HSUPA Subtest-5 | 23.12 | 23.31 | 23.36 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18607CH | 18900CH | 19193CH |
| | | | | 1850.7MHz | 1880MHz | 1909.3MHz |
| 2 / 1.4M | QPSK | 1 | 0 | 22.97 | 22.95 | 22.88 |
| | | 1 | 2 | 22.99 | 23.08 | 23.02 |
| | | 1 | 5 | 22.95 | 22.94 | 22.91 |
| | | 3 | 0 | 23.01 | 23.05 | 23.00 |
| | | 3 | 1 | 23.03 | 23.08 | 23.07 |
| | | 3 | 2 | 23.02 | 23.03 | 23.05 |
| | | 6 | 0 | 22.05 | 22.02 | 22.04 |
| | 16QAM | 1 | 0 | 22.29 | 21.95 | 22.02 |
| | | 1 | 2 | 22.40 | 22.01 | 22.11 |
| | | 1 | 5 | 22.30 | 21.96 | 22.02 |
| | | 3 | 0 | 22.20 | 22.13 | 22.02 |
| | | 3 | 1 | 22.22 | 22.22 | 22.08 |
| | | 3 | 2 | 22.20 | 22.17 | 22.02 |
| | | 6 | 0 | 20.90 | 21.15 | 21.11 |
| | 64QAM | 1 | 0 | 21.36 | 21.05 | 21.12 |
| | | 1 | 2 | 21.52 | 21.20 | 21.24 |
| | | 1 | 5 | 21.37 | 21.04 | 21.14 |
| | | 3 | 0 | 21.36 | 21.13 | 20.99 |
| | | 3 | 1 | 21.40 | 21.17 | 21.03 |
| | | 3 | 2 | 21.36 | 21.14 | 21.04 |
| | | 6 | 0 | 19.98 | 20.25 | 20.07 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18615CH | 18900CH | 19185CH |
| | | | | 1851.5MHz | 1880MHz | 1908.5MHz |
| 2 / 3M | QPSK | 1 | 0 | 22.92 | 23.01 | 22.92 |
| | | 1 | 7 | 23.07 | 23.17 | 23.12 |
| | | 1 | 14 | 22.94 | 23.00 | 22.95 |
| | | 8 | 0 | 22.04 | 22.00 | 22.00 |
| | | 8 | 4 | 22.05 | 22.03 | 22.07 |
| | | 8 | 7 | 21.99 | 21.97 | 22.01 |
| | | 15 | 0 | 22.02 | 22.00 | 22.00 |
| | 16QAM | 1 | 0 | 21.91 | 22.32 | 21.96 |
| | | 1 | 7 | 22.00 | 22.49 | 22.15 |
| | | 1 | 14 | 21.85 | 22.33 | 21.93 |
| | | 8 | 0 | 21.10 | 21.04 | 20.98 |
| | | 8 | 4 | 21.13 | 21.08 | 21.07 |
| | | 8 | 7 | 21.08 | 21.05 | 21.01 |
| | | 15 | 0 | 21.02 | 20.99 | 20.94 |
| | 64QAM | 1 | 0 | 21.37 | 21.11 | 21.21 |
| | | 1 | 7 | 21.50 | 21.30 | 21.38 |
| | | 1 | 14 | 21.35 | 21.17 | 21.17 |
| | | 8 | 0 | 20.12 | 20.03 | 19.93 |
| | | 8 | 4 | 20.15 | 20.07 | 19.97 |
| | | 8 | 7 | 20.08 | 20.03 | 19.96 |
| | | 15 | 0 | 20.03 | 20.01 | 20.01 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18625CH | 18900CH | 19175CH |
| | | | | 1852.5MHz | 1880MHz | 1907.5MHz |
| 2 / 5M | QPSK | 1 | 0 | 22.96 | 22.87 | 22.90 |
| | | 1 | 13 | 23.07 | 23.00 | 23.07 |
| | | 1 | 24 | 22.90 | 22.87 | 22.94 |
| | | 12 | 0 | 21.96 | 22.01 | 22.08 |
| | | 12 | 6 | 22.01 | 22.05 | 22.06 |
| | | 12 | 11 | 22.05 | 22.01 | 22.01 |
| | | 25 | 0 | 21.99 | 21.98 | 21.99 |
| | 16QAM | 1 | 0 | 22.08 | 22.35 | 21.93 |
| | | 1 | 13 | 22.15 | 22.48 | 22.12 |
| | | 1 | 24 | 21.99 | 22.34 | 21.97 |
| | | 12 | 0 | 21.04 | 21.09 | 21.08 |
| | | 12 | 6 | 21.08 | 21.14 | 21.06 |
| | | 12 | 11 | 21.09 | 21.09 | 21.01 |
| | | 25 | 0 | 21.00 | 21.03 | 20.93 |
| | 64QAM | 1 | 0 | 20.96 | 21.22 | 21.13 |
| | | 1 | 13 | 21.05 | 21.35 | 21.31 |
| | | 1 | 24 | 20.86 | 21.21 | 21.19 |
| | | 12 | 0 | 20.04 | 19.94 | 20.05 |
| | | 12 | 6 | 20.08 | 19.98 | 20.06 |
| | | 12 | 11 | 20.11 | 19.94 | 20.03 |
| | | 25 | 0 | 19.99 | 19.97 | 20.00 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18650CH | 18900CH | 19150CH |
| | | | | 1855MHz | 1880MHz | 1905MHz |
| 2 / 10M | QPSK | 1 | 0 | 22.90 | 22.94 | 22.90 |
| | | 1 | 25 | 23.07 | 23.15 | 23.06 |
| | | 1 | 49 | 22.81 | 22.97 | 22.94 |
| | | 25 | 0 | 21.94 | 22.07 | 22.11 |
| | | 25 | 13 | 22.00 | 22.03 | 22.01 |
| | | 25 | 25 | 22.07 | 21.98 | 21.89 |
| | | 50 | 0 | 22.02 | 22.06 | 22.04 |
| | 16QAM | 1 | 0 | 21.89 | 22.29 | 21.88 |
| | | 1 | 25 | 21.97 | 22.44 | 22.07 |
| | | 1 | 49 | 21.74 | 22.31 | 21.95 |
| | | 25 | 0 | 20.96 | 21.09 | 21.15 |
| | | 25 | 13 | 21.01 | 21.05 | 21.07 |
| | | 25 | 25 | 21.10 | 21.00 | 20.95 |
| | | 50 | 0 | 20.99 | 21.06 | 21.04 |
| | 64QAM | 1 | 0 | 21.36 | 21.10 | 21.11 |
| | | 1 | 25 | 21.47 | 21.29 | 21.29 |
| | | 1 | 49 | 21.23 | 21.12 | 21.16 |
| | | 25 | 0 | 20.00 | 20.17 | 20.12 |
| | | 25 | 13 | 20.08 | 20.11 | 20.02 |
| | | 25 | 25 | 20.13 | 20.08 | 19.94 |
| | | 50 | 0 | 20.05 | 20.11 | 19.98 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18675CH | 18900CH | 19125CH |
| | | | | 1857.5MHz | 1880MHz | 1902.5MHz |
| 2 / 15M | QPSK | 1 | 0 | 22.91 | 22.92 | 22.91 |
| | | 1 | 38 | 22.91 | 23.02 | 23.00 |
| | | 1 | 74 | 22.78 | 22.89 | 22.90 |
| | | 36 | 0 | 21.99 | 22.12 | 22.02 |
| | | 36 | 18 | 22.02 | 22.06 | 22.07 |
| | | 36 | 39 | 22.06 | 22.04 | 21.92 |
| | | 75 | 0 | 22.01 | 22.06 | 21.95 |
| | 16QAM | 1 | 0 | 21.88 | 22.23 | 22.25 |
| | | 1 | 38 | 21.82 | 22.36 | 22.26 |
| | | 1 | 74 | 21.69 | 22.20 | 22.24 |
| | | 36 | 0 | 20.93 | 21.10 | 20.93 |
| | | 36 | 18 | 20.95 | 21.05 | 20.94 |
| | | 36 | 39 | 20.94 | 21.02 | 20.81 |
| | | 75 | 0 | 20.95 | 21.04 | 20.88 |
| | 64QAM | 1 | 0 | 21.31 | 21.03 | 21.50 |
| | | 1 | 38 | 21.34 | 21.16 | 21.58 |
| | | 1 | 74 | 21.18 | 21.04 | 21.55 |
| | | 36 | 0 | 20.02 | 20.13 | 19.97 |
| | | 36 | 18 | 20.05 | 20.10 | 20.01 |
| | | 36 | 39 | 20.06 | 20.05 | 19.87 |
| | | 75 | 0 | 20.05 | 20.07 | 19.99 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18700CH | 18900CH | 19100CH |
| | | | | 1860MHz | 1880MHz | 1900MHz |
| 2 / 20M | QPSK | 1 | 0 | 22.95 | 22.79 | 22.83 |
| | | 1 | 50 | 23.24 | 23.25 | 23.25 |
| | | 1 | 99 | 22.83 | 22.79 | 22.85 |
| | | 50 | 0 | 21.91 | 22.19 | 21.86 |
| | | 50 | 25 | 22.04 | 22.07 | 21.99 |
| | | 50 | 50 | 21.97 | 22.03 | 21.79 |
| | | 100 | 0 | 21.88 | 22.10 | 21.84 |
| | 16QAM | 1 | 0 | 22.25 | 22.15 | 22.08 |
| | | 1 | 50 | 22.54 | 22.57 | 22.41 |
| | | 1 | 99 | 22.14 | 22.17 | 22.11 |
| | | 50 | 0 | 20.81 | 21.16 | 20.78 |
| | | 50 | 25 | 20.94 | 21.03 | 20.94 |
| | | 50 | 50 | 20.90 | 20.96 | 20.69 |
| | | 100 | 0 | 20.88 | 21.07 | 20.76 |
| | 64QAM | 1 | 0 | 21.18 | 21.38 | 20.97 |
| | | 1 | 50 | 21.46 | 21.77 | 21.32 |
| | | 1 | 99 | 21.05 | 21.39 | 20.97 |
| | | 50 | 0 | 19.88 | 20.18 | 19.81 |
| | | 50 | 25 | 19.98 | 20.08 | 19.91 |
| | | 50 | 50 | 19.88 | 20.02 | 19.74 |
| | | 100 | 0 | 19.90 | 20.08 | 19.74 |

**EIRP (dBm):**

| PCS1900 | | 512CH | 661CH | 810CH |
|---|---|---|---|---|
| | | 1850.2MHz | 1880MHz | 1909.8MHz |
| GSM (CS) | | 26.92 | 26.98 | 26.95 |
| GPRS/EDGE (GMSK) | 1 Tx Slot | 26.92 | 26.98 | 26.95 |
| | 2 Tx Slot | 23.96 | 24.09 | 24.16 |
| | 3 Tx Slot | 22.90 | 23.06 | 23.15 |
| | 4 Tx Slot | 22.38 | 22.55 | 22.64 |
| EDGE (8PSK) | 1 Tx Slot | 22.42 | 22.39 | 22.30 |
| | 2 Tx Slot | 21.42 | 21.43 | 21.37 |
| | 3 Tx Slot | 20.45 | 20.42 | 20.35 |
| | 4 Tx Slot | 19.20 | 19.16 | 19.10 |

| Modulation | Band | WCDMA Band II | | |
|---|---|---|---|---|
| | Tx Channel | 9262CH | 9400CH | 9538CH |
| | Frequency | 1852.4MHz | 1880MHz | 1907.6MHz |
| QPSK | RMC 12.2K | 20.37 | 20.46 | 20.49 |
| | RMC 64K | 20.34 | 20.55 | 20.62 |
| | RMC 144K | 20.30 | 20.57 | 20.59 |
| | RMC 384K | 20.26 | 20.54 | 20.50 |
| | HSDPA Subtest-1 | 18.27 | 18.44 | 18.53 |
| | HSDPA Subtest-2 | 18.29 | 18.50 | 18.52 |
| | HSDPA Subtest-3 | 18.26 | 18.53 | 18.50 |
| | HSDPA Subtest-4 | 18.30 | 18.59 | 18.51 |
| | HSUPA Subtest-1 | 18.15 | 18.23 | 18.26 |
| | HSUPA Subtest-2 | 18.33 | 18.44 | 18.50 |
| | HSUPA Subtest-3 | 18.96 | 19.02 | 19.16 |
| | HSUPA Subtest-4 | 17.84 | 18.01 | 18.08 |
| | HSUPA Subtest-5 | 20.30 | 20.49 | 20.54 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18607CH | 18900CH | 19193CH |
| | | | | 1850.7MHz | 1880MHz | 1909.3MHz |
| 2 / 1.4M | QPSK | 1 | 0 | 20.15 | 20.13 | 20.06 |
| | | 1 | 2 | 20.17 | 20.26 | 20.20 |
| | | 1 | 5 | 20.13 | 20.12 | 20.09 |
| | | 3 | 0 | 20.19 | 20.23 | 20.18 |
| | | 3 | 1 | 20.21 | 20.26 | 20.25 |
| | | 3 | 2 | 20.20 | 20.21 | 20.23 |
| | | 6 | 0 | 19.23 | 19.20 | 19.22 |
| | 16QAM | 1 | 0 | 19.47 | 19.13 | 19.20 |
| | | 1 | 2 | 19.58 | 19.19 | 19.29 |
| | | 1 | 5 | 19.48 | 19.14 | 19.20 |
| | | 3 | 0 | 19.38 | 19.31 | 19.20 |
| | | 3 | 1 | 19.40 | 19.40 | 19.26 |
| | | 3 | 2 | 19.38 | 19.35 | 19.20 |
| | | 6 | 0 | 18.08 | 18.33 | 18.29 |
| | 64QAM | 1 | 0 | 18.54 | 18.23 | 18.30 |
| | | 1 | 2 | 18.70 | 18.38 | 18.42 |
| | | 1 | 5 | 18.55 | 18.22 | 18.32 |
| | | 3 | 0 | 18.54 | 18.31 | 18.17 |
| | | 3 | 1 | 18.58 | 18.35 | 18.21 |
| | | 3 | 2 | 18.54 | 18.32 | 18.22 |
| | | 6 | 0 | 17.16 | 17.43 | 17.25 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18615CH | 18900CH | 19185CH |
| | | | | 1851.5MHz | 1880MHz | 1908.5MHz |
| 2 / 3M | QPSK | 1 | 0 | 20.10 | 20.19 | 20.10 |
| | | 1 | 7 | 20.25 | 20.35 | 20.30 |
| | | 1 | 14 | 20.12 | 20.18 | 20.13 |
| | | 8 | 0 | 19.22 | 19.18 | 19.18 |
| | | 8 | 4 | 19.23 | 19.21 | 19.25 |
| | | 8 | 7 | 19.17 | 19.15 | 19.19 |
| | | 15 | 0 | 19.20 | 19.18 | 19.18 |
| | 16QAM | 1 | 0 | 19.09 | 19.50 | 19.14 |
| | | 1 | 7 | 19.18 | 19.67 | 19.33 |
| | | 1 | 14 | 19.03 | 19.51 | 19.11 |
| | | 8 | 0 | 18.28 | 18.22 | 18.16 |
| | | 8 | 4 | 18.31 | 18.26 | 18.25 |
| | | 8 | 7 | 18.26 | 18.23 | 18.19 |
| | | 15 | 0 | 18.20 | 18.17 | 18.12 |
| | 64QAM | 1 | 0 | 18.55 | 18.29 | 18.39 |
| | | 1 | 7 | 18.68 | 18.48 | 18.56 |
| | | 1 | 14 | 18.53 | 18.35 | 18.35 |
| | | 8 | 0 | 17.30 | 17.21 | 17.11 |
| | | 8 | 4 | 17.33 | 17.25 | 17.15 |
| | | 8 | 7 | 17.26 | 17.21 | 17.14 |
| | | 15 | 0 | 17.21 | 17.19 | 17.19 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18625CH | 18900CH | 19175CH |
| | | | | 1852.5MHz | 1880MHz | 1907.5MHz |
| 2 / 5M | QPSK | 1 | 0 | 20.14 | 20.05 | 20.08 |
| | | 1 | 13 | 20.25 | 20.18 | 20.25 |
| | | 1 | 24 | 20.08 | 20.05 | 20.12 |
| | | 12 | 0 | 19.14 | 19.19 | 19.26 |
| | | 12 | 6 | 19.19 | 19.23 | 19.24 |
| | | 12 | 11 | 19.23 | 19.19 | 19.19 |
| | | 25 | 0 | 19.17 | 19.16 | 19.17 |
| | 16QAM | 1 | 0 | 19.26 | 19.53 | 19.11 |
| | | 1 | 13 | 19.33 | 19.66 | 19.30 |
| | | 1 | 24 | 19.17 | 19.52 | 19.15 |
| | | 12 | 0 | 18.22 | 18.27 | 18.26 |
| | | 12 | 6 | 18.26 | 18.32 | 18.24 |
| | | 12 | 11 | 18.27 | 18.27 | 18.19 |
| | | 25 | 0 | 18.18 | 18.21 | 18.11 |
| | 64QAM | 1 | 0 | 18.14 | 18.40 | 18.31 |
| | | 1 | 13 | 18.23 | 18.53 | 18.49 |
| | | 1 | 24 | 18.04 | 18.39 | 18.37 |
| | | 12 | 0 | 17.22 | 17.12 | 17.23 |
| | | 12 | 6 | 17.26 | 17.16 | 17.24 |
| | | 12 | 11 | 17.29 | 17.12 | 17.21 |
| | | 25 | 0 | 17.17 | 17.15 | 17.18 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18650CH | 18900CH | 19150CH |
| | | | | 1855MHz | 1880MHz | 1905MHz |
| 2 / 10M | QPSK | 1 | 0 | 20.08 | 20.12 | 20.08 |
| | | 1 | 25 | 20.25 | 20.33 | 20.24 |
| | | 1 | 49 | 19.99 | 20.15 | 20.12 |
| | | 25 | 0 | 19.12 | 19.25 | 19.29 |
| | | 25 | 13 | 19.18 | 19.21 | 19.19 |
| | | 25 | 25 | 19.25 | 19.16 | 19.07 |
| | | 50 | 0 | 19.20 | 19.24 | 19.22 |
| | 16QAM | 1 | 0 | 19.07 | 19.47 | 19.06 |
| | | 1 | 25 | 19.15 | 19.62 | 19.25 |
| | | 1 | 49 | 18.92 | 19.49 | 19.13 |
| | | 25 | 0 | 18.14 | 18.27 | 18.33 |
| | | 25 | 13 | 18.19 | 18.23 | 18.25 |
| | | 25 | 25 | 18.28 | 18.18 | 18.13 |
| | | 50 | 0 | 18.17 | 18.24 | 18.22 |
| | 64QAM | 1 | 0 | 18.54 | 18.28 | 18.29 |
| | | 1 | 25 | 18.65 | 18.47 | 18.47 |
| | | 1 | 49 | 18.41 | 18.30 | 18.34 |
| | | 25 | 0 | 17.18 | 17.35 | 17.30 |
| | | 25 | 13 | 17.26 | 17.29 | 17.20 |
| | | 25 | 25 | 17.31 | 17.26 | 17.12 |
| | | 50 | 0 | 17.23 | 17.29 | 17.16 |

| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18675CH | 18900CH | 19125CH |
| | | | | 1857.5MHz | 1880MHz | 1902.5MHz |
| 2 / 15M | QPSK | 1 | 0 | 20.09 | 20.10 | 20.09 |
| | | 1 | 38 | 20.09 | 20.20 | 20.18 |
| | | 1 | 74 | 19.96 | 20.07 | 20.08 |
| | | 36 | 0 | 19.17 | 19.30 | 19.20 |
| | | 36 | 18 | 19.20 | 19.24 | 19.25 |
| | | 36 | 39 | 19.24 | 19.22 | 19.10 |
| | | 75 | 0 | 19.19 | 19.24 | 19.13 |
| | 16QAM | 1 | 0 | 19.06 | 19.41 | 19.43 |
| | | 1 | 38 | 19.00 | 19.54 | 19.44 |
| | | 1 | 74 | 18.87 | 19.38 | 19.42 |
| | | 36 | 0 | 18.11 | 18.28 | 18.11 |
| | | 36 | 18 | 18.13 | 18.23 | 18.12 |
| | | 36 | 39 | 18.12 | 18.20 | 17.99 |
| | | 75 | 0 | 18.13 | 18.22 | 18.06 |
| | 64QAM | 1 | 0 | 18.49 | 18.21 | 18.68 |
| | | 1 | 38 | 18.52 | 18.34 | 18.76 |
| | | 1 | 74 | 18.36 | 18.22 | 18.73 |
| | | 36 | 0 | 17.20 | 17.31 | 17.15 |
| | | 36 | 18 | 17.23 | 17.28 | 17.19 |
| | | 36 | 39 | 17.24 | 17.23 | 17.05 |
| | | 75 | 0 | 17.23 | 17.25 | 17.17 |

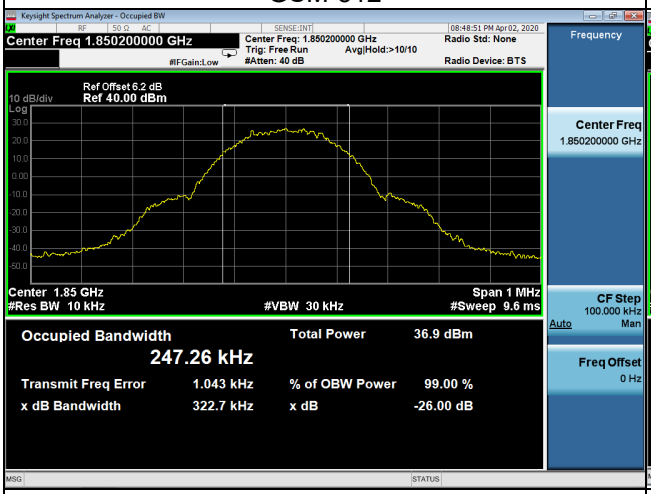
| LTE Band / BW | Modulation | RB Size | RB Offset | Low CH | Mid CH | High CH |
|---|---|---|---|---|---|---|
| | | | | 18700CH | 18900CH | 19100CH |
| | | | | 1860MHz | 1880MHz | 1900MHz |
| 2 / 20M | QPSK | 1 | 0 | 20.13 | 19.97 | 20.01 |
| | | 1 | 50 | 20.42 | 20.43 | 20.43 |
| | | 1 | 99 | 20.01 | 19.97 | 20.03 |
| | | 50 | 0 | 19.09 | 19.37 | 19.04 |
| | | 50 | 25 | 19.22 | 19.25 | 19.17 |
| | | 50 | 50 | 19.15 | 19.21 | 18.97 |
| | | 100 | 0 | 19.06 | 19.28 | 19.02 |
| | 16QAM | 1 | 0 | 19.43 | 19.33 | 19.26 |
| | | 1 | 50 | 19.72 | 19.75 | 19.59 |
| | | 1 | 99 | 19.32 | 19.35 | 19.29 |
| | | 50 | 0 | 17.99 | 18.34 | 17.96 |
| | | 50 | 25 | 18.12 | 18.21 | 18.12 |
| | | 50 | 50 | 18.08 | 18.14 | 17.87 |
| | | 100 | 0 | 18.06 | 18.25 | 17.94 |
| | 64QAM | 1 | 0 | 18.36 | 18.56 | 18.15 |
| | | 1 | 50 | 18.64 | 18.95 | 18.50 |
| | | 1 | 99 | 18.23 | 18.57 | 18.15 |
| | | 50 | 0 | 17.06 | 17.36 | 16.99 |
| | | 50 | 25 | 17.16 | 17.26 | 17.09 |
| | | 50 | 50 | 17.06 | 17.20 | 16.92 |
| | | 100 | 0 | 17.08 | 17.26 | 16.92 |

# APPENDIX B - OCCUPIED BANDWIDTH

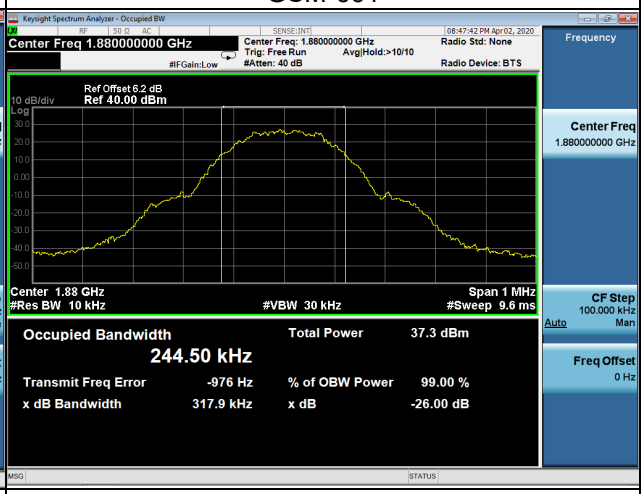
| PCS1900 | | | | | |
|---|---|---|---|---|---|
| GSM | | | EDGE | | |
| CS | | | 8PSK | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) |
| 512 | 1850.2 | 0.2473 | 512 | 1850.2 | 0.2512 |
| 661 | 1880 | 0.2445 | 661 | 1880 | 0.2502 |
| 810 | 1909.8 | 0.2472 | 810 | 1909.8 | 0.2517 |
| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 512 | 1850.2 | 0.3227 | 512 | 1850.2 | 0.3255 |
| 661 | 1880 | 0.3179 | 661 | 1880 | 0.3276 |
| 810 | 1909.8 | 0.3183 | 810 | 1909.8 | 0.3222 |

# Spectrum Plot

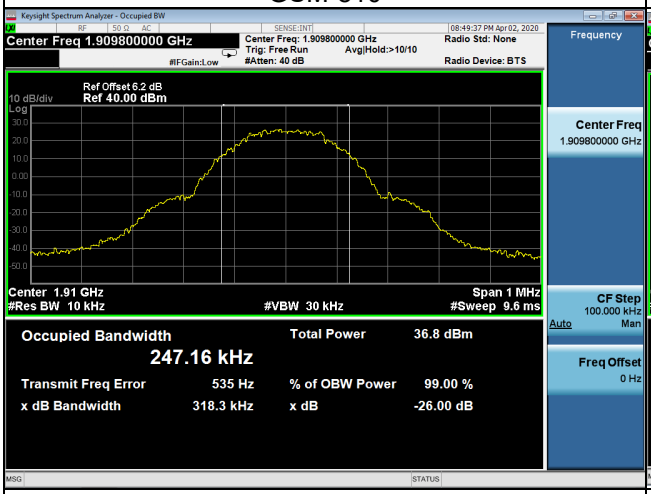
## GSM-512



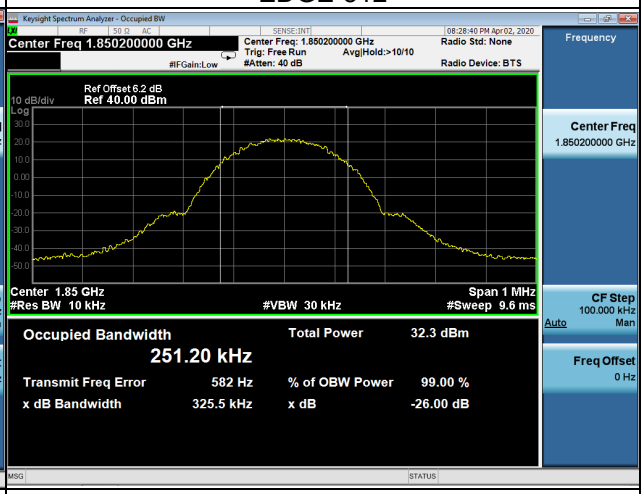

## GSM-661



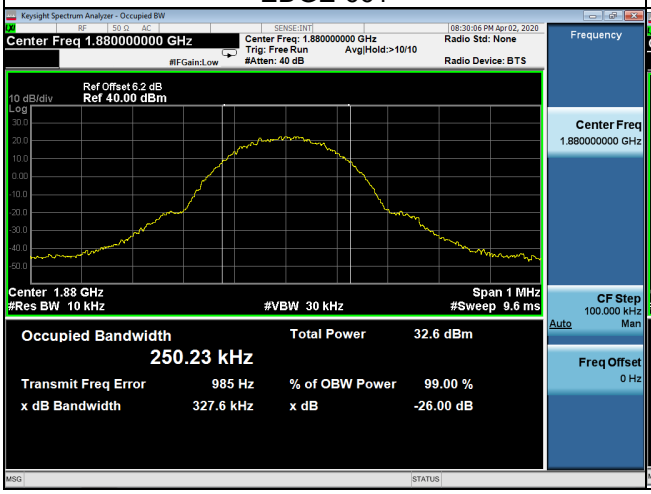

## GSM-810



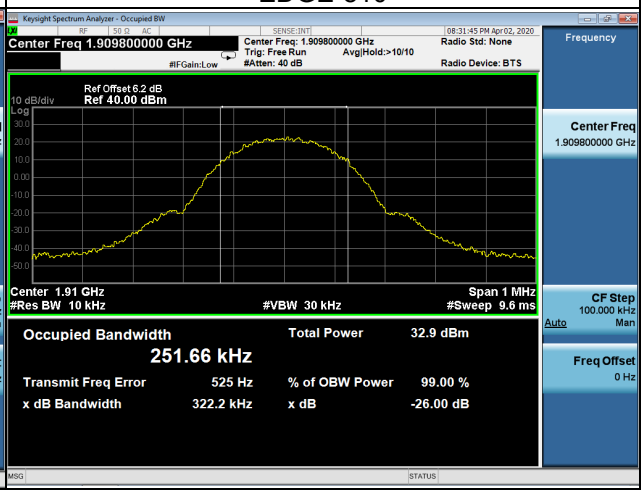

## EDGE-512




## EDGE-661



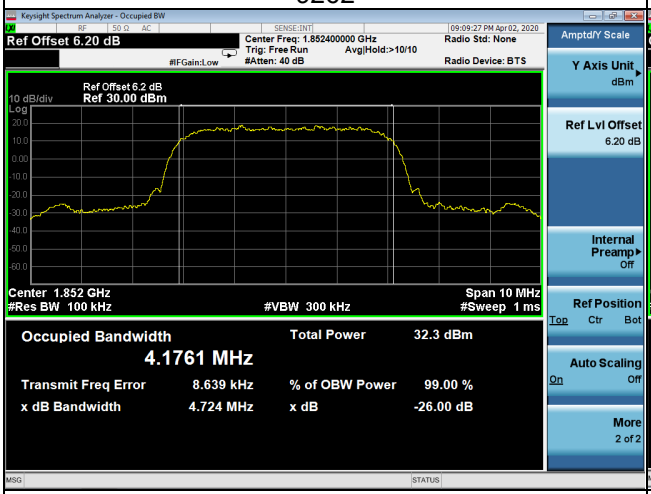

## EDGE-810



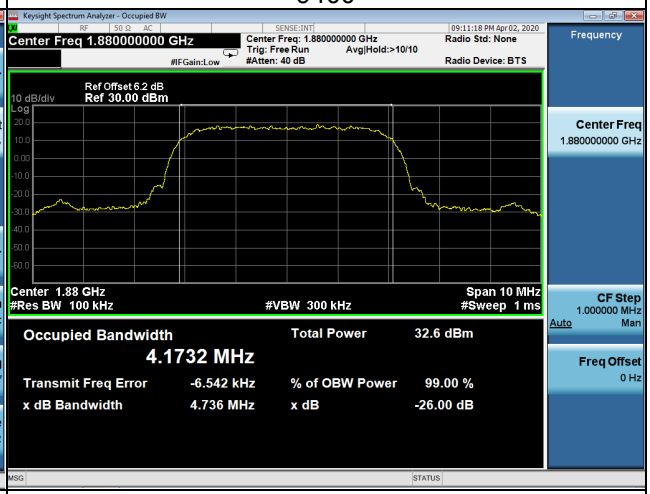
| WCDMA Band II_WCDMA | | | | | |
|---|---|---|---|---|---|
| QPSK | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 9262 | 1852.4 | 4.1761 | 9262 | 1852.4 | 4.724 |
| 9400 | 1880 | 4.1732 | 9400 | 1880 | 4.736 |
| 9538 | 1907.6 | 4.1792 | 9538 | 1907.6 | 4.721 |

Spectrum Plot

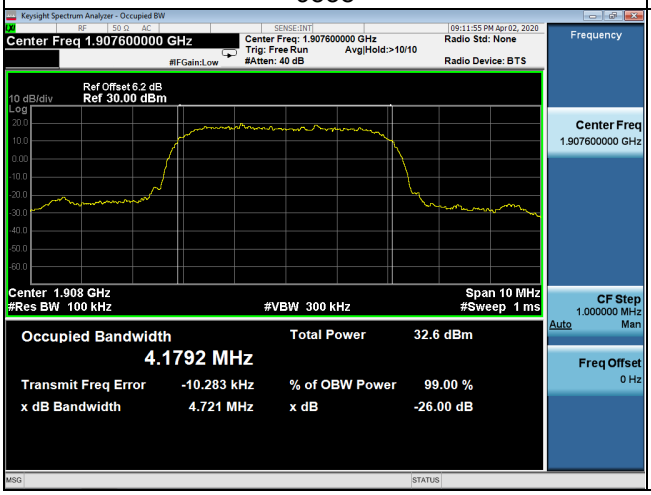
9262




9400




9538

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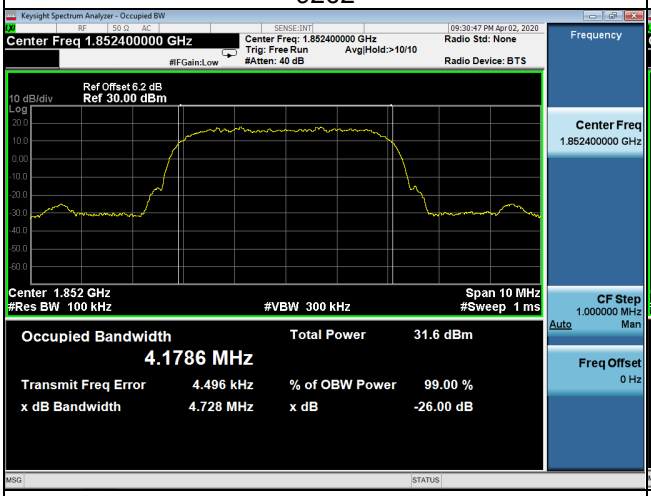
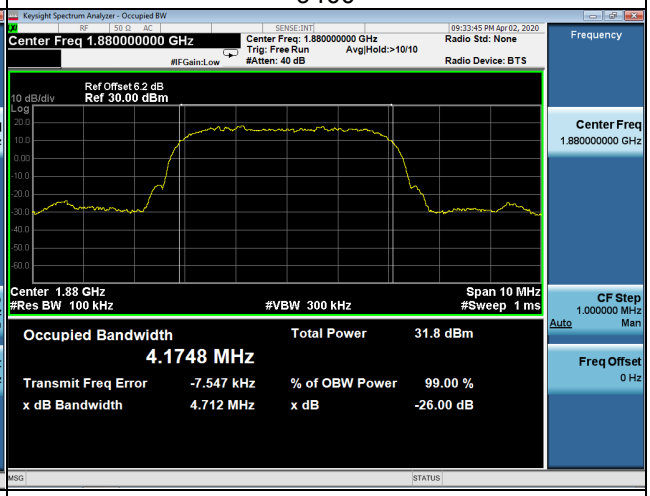
| WCDMA Band II _HSDPA | | | | | |
|---|---|---|---|---|---|
| QPSK | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 9262 | 1852.4 | 4.1786 | 9262 | 1852.4 | 4.728 |
| 9400 | 1880 | 4.1748 | 9400 | 1880 | 4.712 |
| 9538 | 1907.6 | 4.1701 | 9538 | 1907.6 | 4.721 |

Spectrum Plot

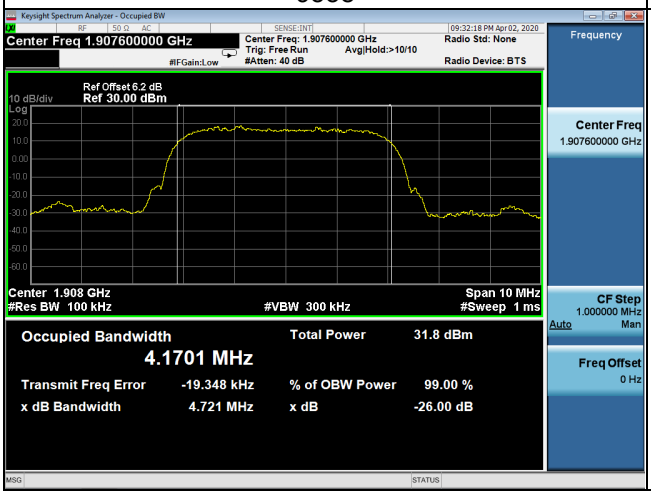
9262




9400




9538

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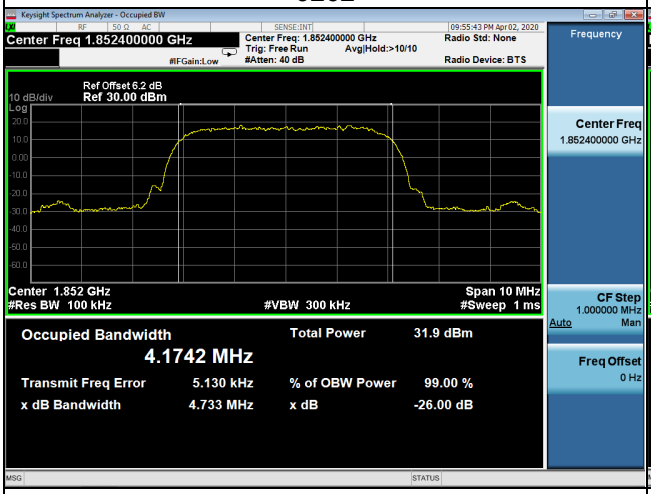
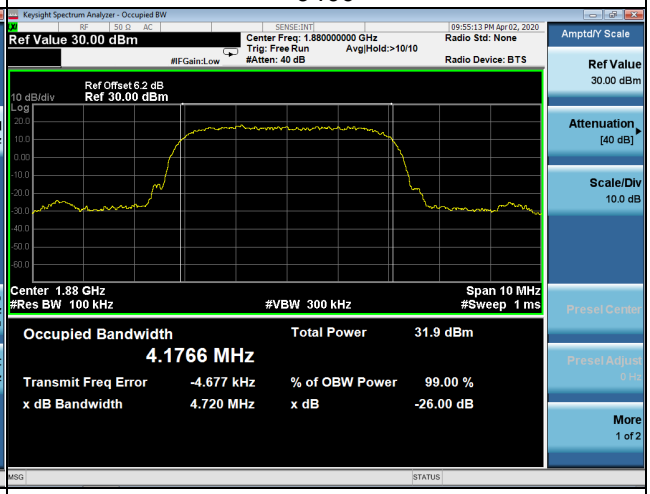
| WCDMA Band II _HSUPA | | | | | |
|---|---|---|---|---|---|
| QPSK | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 9262 | 1852.4 | 4.1742 | 9262 | 1852.4 | 4.733 |
| 9400 | 1880 | 4.1766 | 9400 | 1880 | 4.720 |
| 9538 | 1907.6 | 4.1750 | 9538 | 1907.6 | 4.733 |

Spectrum Plot

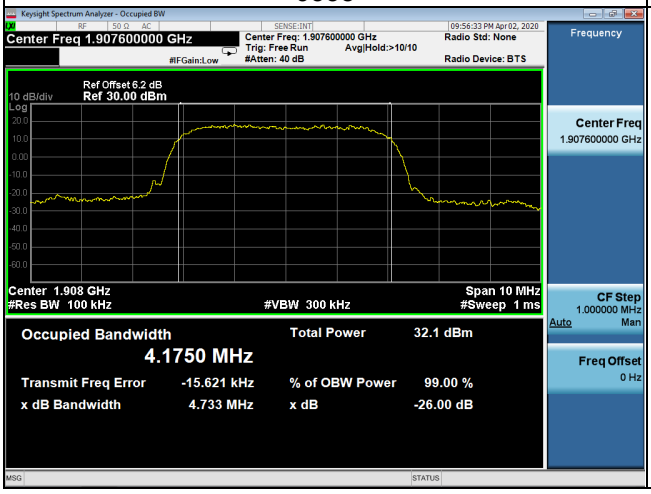
9262




9400




9538

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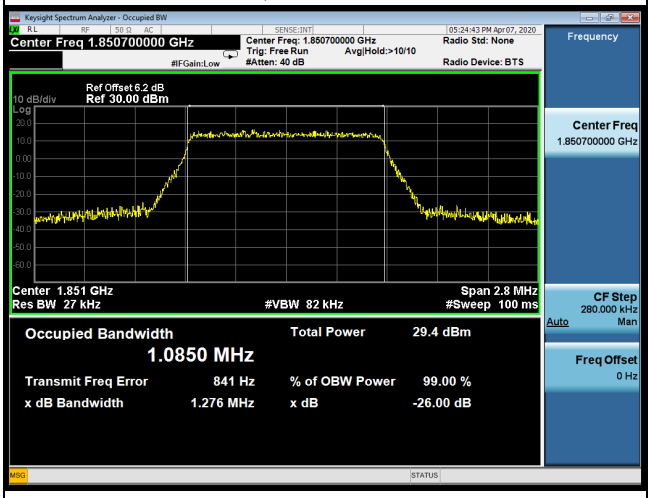
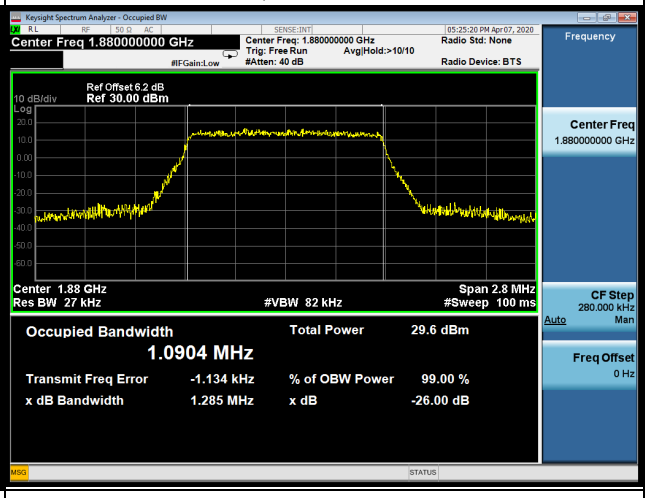
| LTE Band 2_1.4M | | | | | |
|---|---|---|---|---|---|
| QPSK | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18607 | 1850.7 | 1.0850 | 18607 | 1850.7 | 1.276 |
| 18900 | 1880 | 1.0904 | 18900 | 1880 | 1.285 |
| 19193 | 1909.3 | 1.0956 | 19193 | 1909.3 | 1.291 |
| 16QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18607 | 1850.7 | 1.0861 | 18607 | 1850.7 | 1.285 |
| 18900 | 1880 | 1.0917 | 18900 | 1880 | 1.284 |
| 19193 | 1909.3 | 1.0926 | 19193 | 1909.3 | 1.301 |
| 64QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18607 | 1850.7 | 1.0871 | 18607 | 1850.7 | 1.305 |
| 18900 | 1880 | 1.0845 | 18900 | 1880 | 1.261 |
| 19193 | 1909.3 | 1.0845 | 19193 | 1909.3 | 1.275 |

## Spectrum Plot

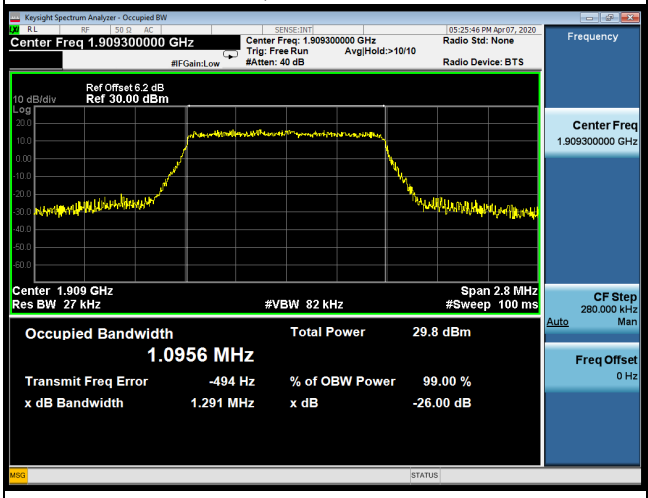
### QPSK-18607



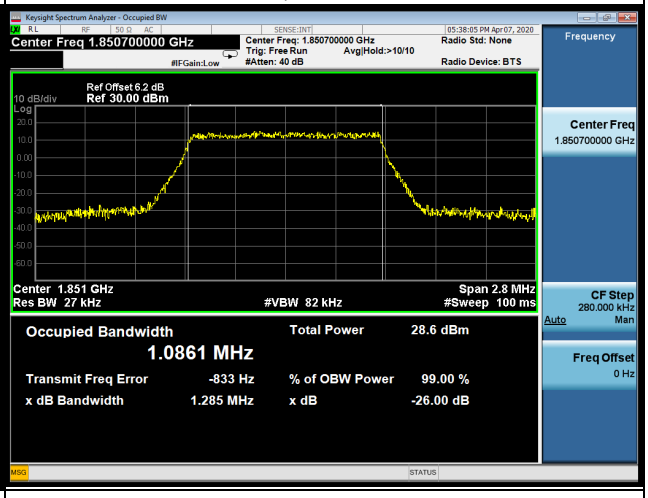

### QPSK-18900



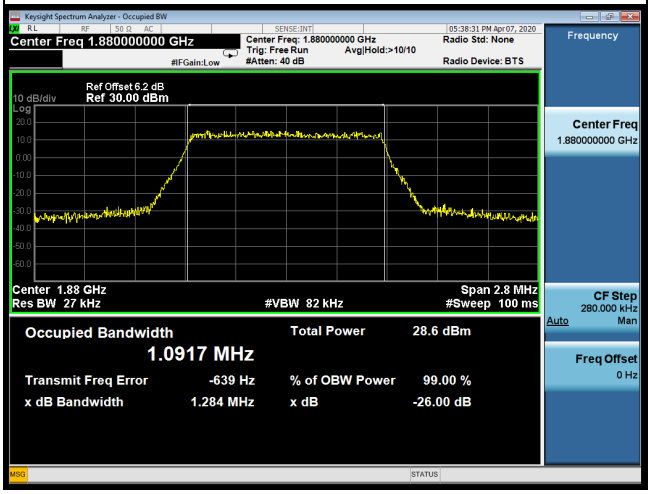

### QPSK-19193



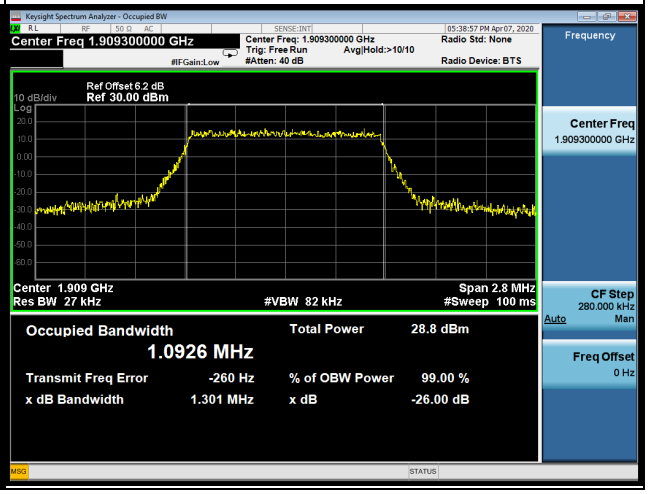

### 16QAM-18607

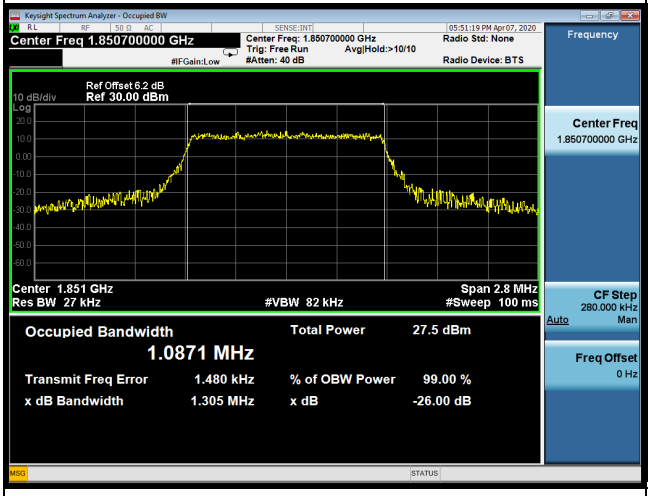
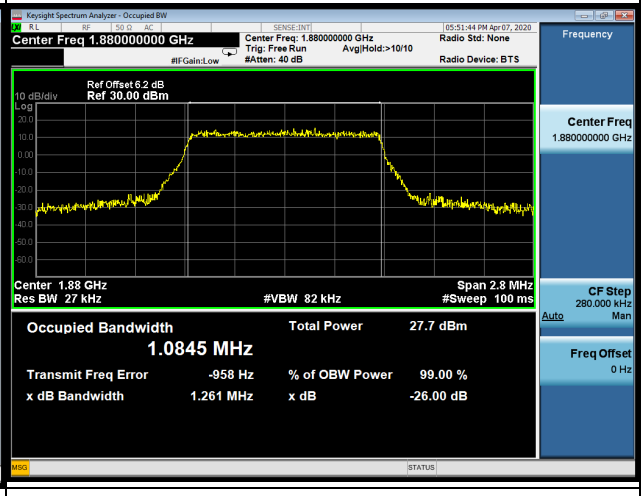
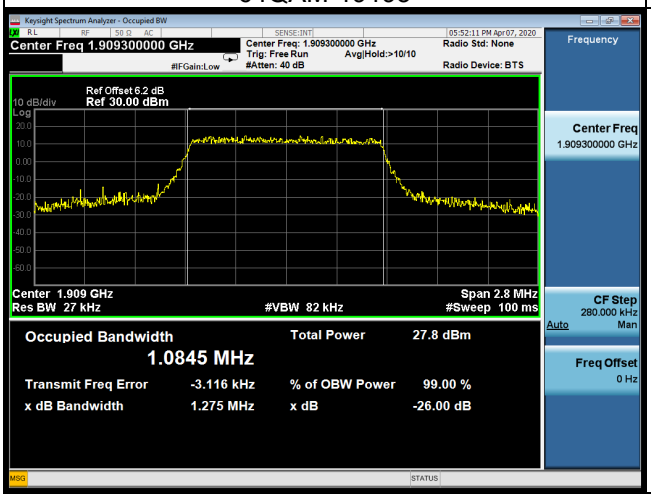



### 16QAM-18900




### 16QAM-19193

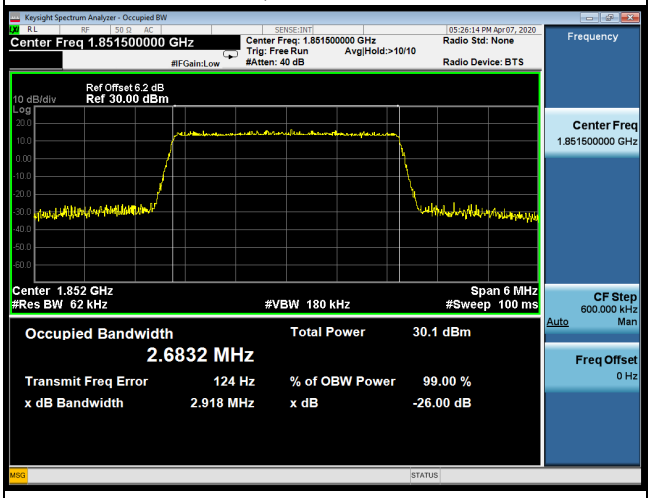


| Spectrum Plot | |
|---|---|
| 64QAM-18607 | 64QAM-18900 |
|  |  |
| 64QAM-19193 | - |
|  | - |

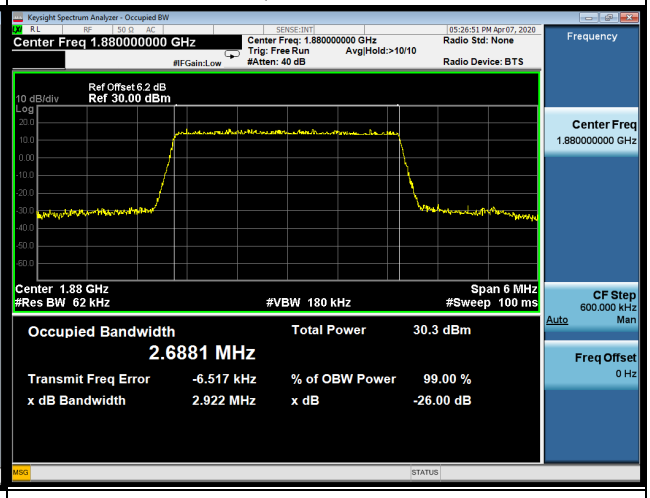
| LTE Band 2_3M | | | | | |
|---|---|---|---|---|---|
| QPSK | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18615 | 1851.5 | 2.6832 | 18615 | 1851.5 | 2.918 |
| 18900 | 1880 | 2.6881 | 18900 | 1880 | 2.922 |
| 19185 | 1908.5 | 2.6899 | 19185 | 1908.5 | 2.928 |
| 16QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18615 | 1851.5 | 2.6861 | 18615 | 1851.5 | 2.913 |
| 18900 | 1880 | 2.6851 | 18900 | 1880 | 2.922 |
| 19185 | 1908.5 | 2.6809 | 19185 | 1908.5 | 2.925 |
| 64QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18615 | 1851.5 | 2.6899 | 18615 | 1851.5 | 2.928 |
| 18900 | 1880 | 2.6898 | 18900 | 1880 | 2.908 |
| 19185 | 1908.5 | 2.6898 | 19185 | 1908.5 | 2.901 |

## Spectrum Plot

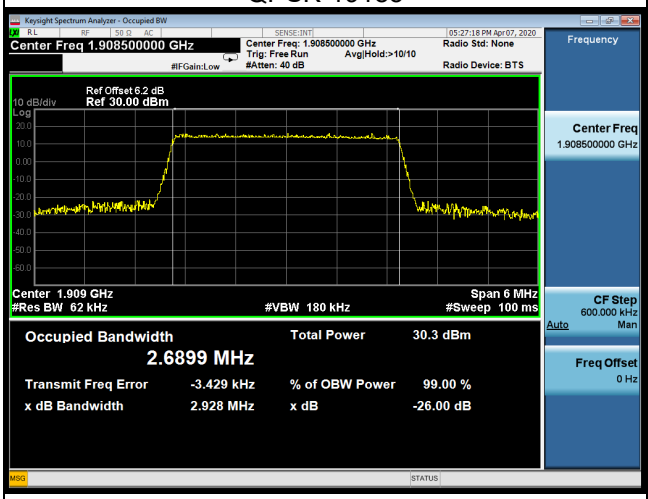
### QPSK-18615



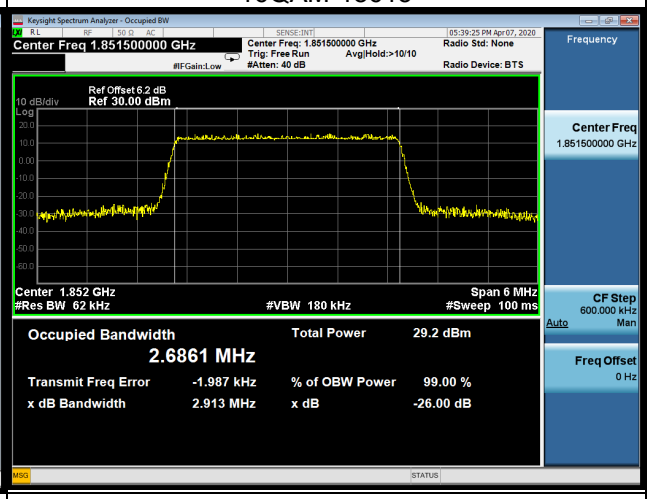

### QPSK-18900



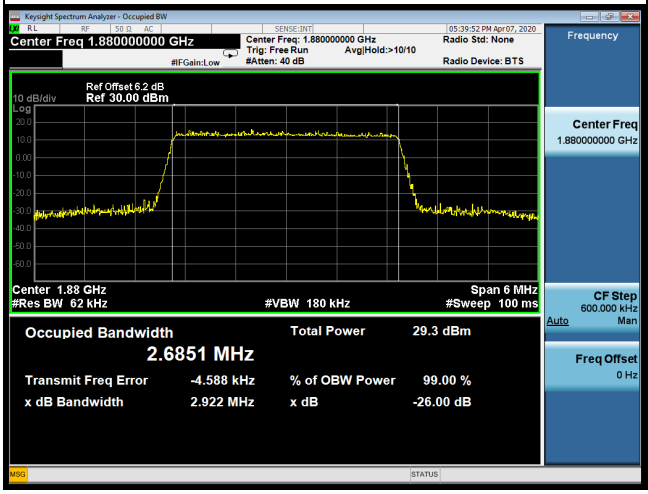

### QPSK-19185



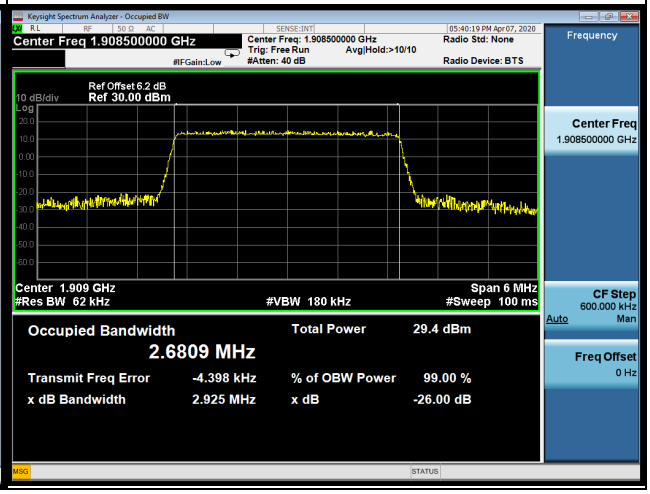

### 16QAM-18615

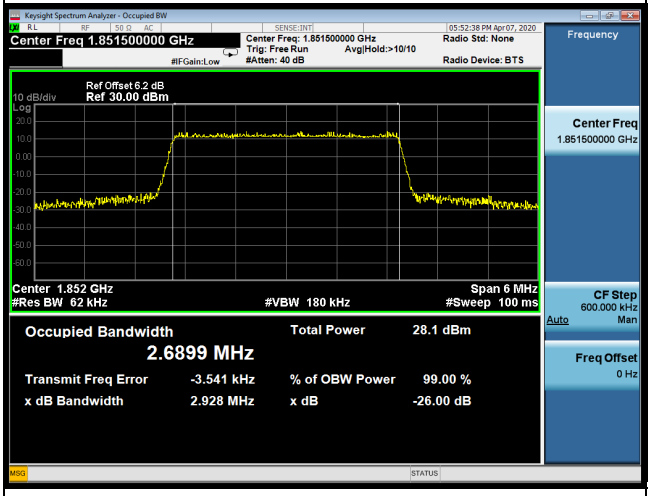
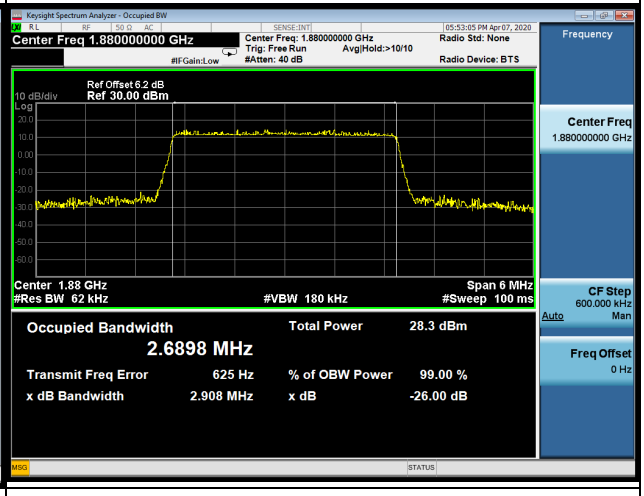
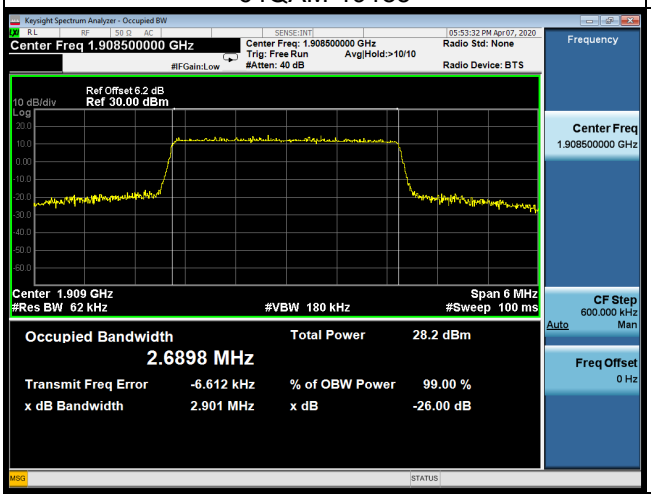



### 16QAM-18900




### 16QAM-19185

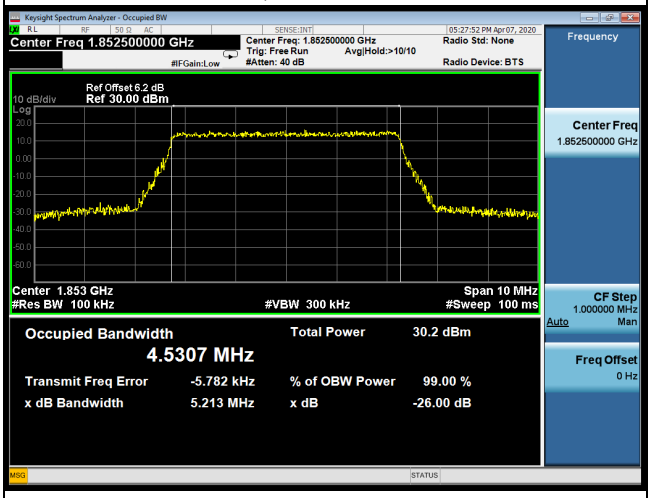


| Spectrum Plot | |
|---|---|
| 64QAM-18615 | 64QAM-18900 |
|  |  |
| 64QAM-19185 | - |
|  | - |

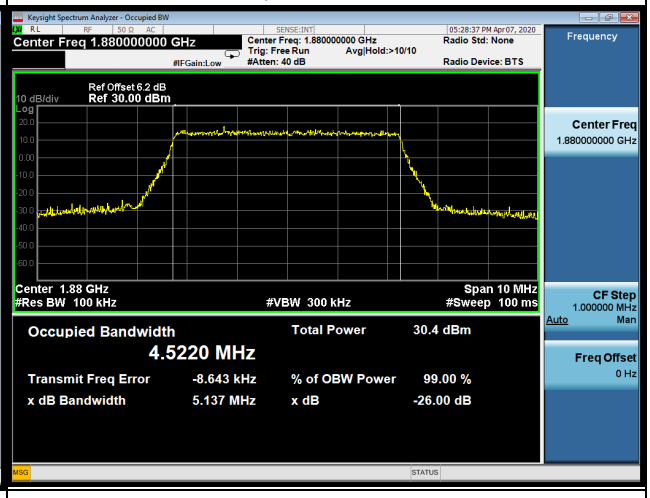
| LTE Band 2_5M | | | | | |
|---|---|---|---|---|---|
| QPSK | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18625 | 1852.5 | 4.5307 | 18625 | 1852.5 | 5.213 |
| 18900 | 1880 | 4.5220 | 18900 | 1880 | 5.137 |
| 19175 | 1907.5 | 4.5165 | 19175 | 1907.5 | 5.142 |
| 16QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18625 | 1852.5 | 4.5145 | 18625 | 1852.5 | 5.170 |
| 18900 | 1880 | 4.5105 | 18900 | 1880 | 5.143 |
| 19175 | 1907.5 | 4.5161 | 19175 | 1907.5 | 5.086 |
| 64QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18625 | 1852.5 | 4.5165 | 18625 | 1852.5 | 5.210 |
| 18900 | 1880 | 4.5245 | 18900 | 1880 | 5.158 |
| 19175 | 1907.5 | 4.5334 | 19175 | 1907.5 | 5.149 |

## Spectrum Plot

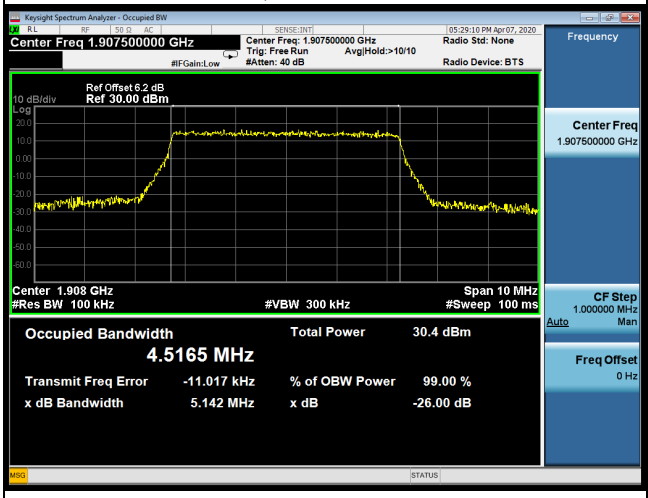
### QPSK-18625



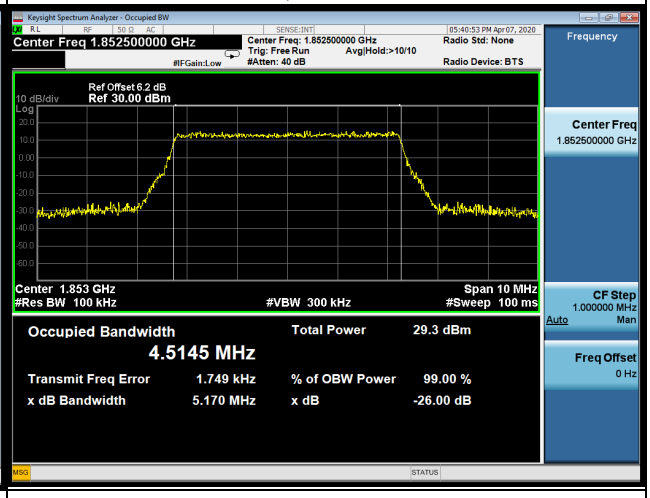

### QPSK-18900



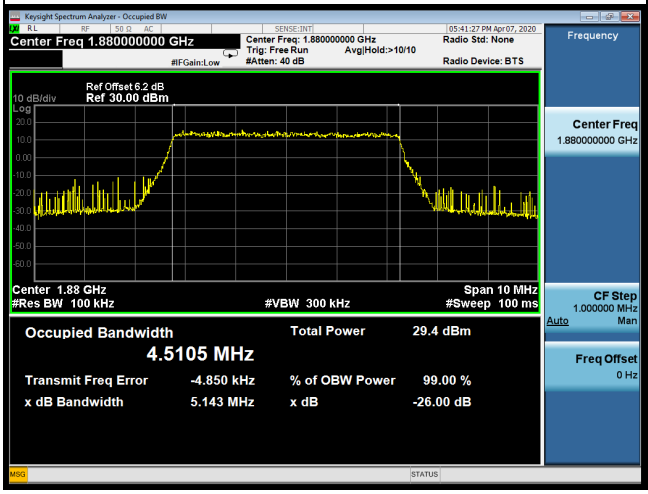

### QPSK-19175



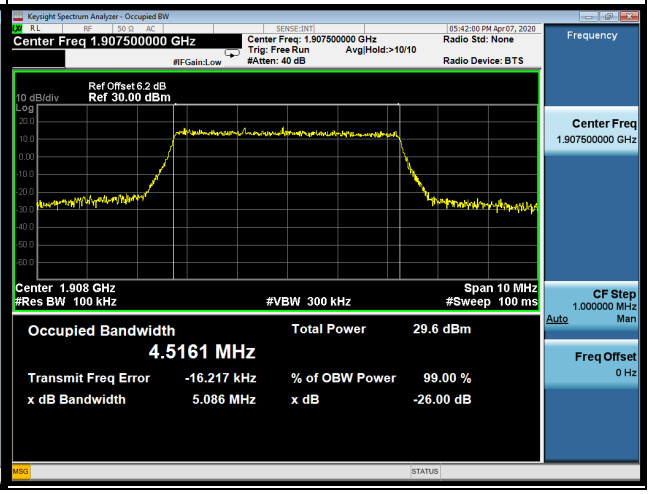

### 16QAM-18625

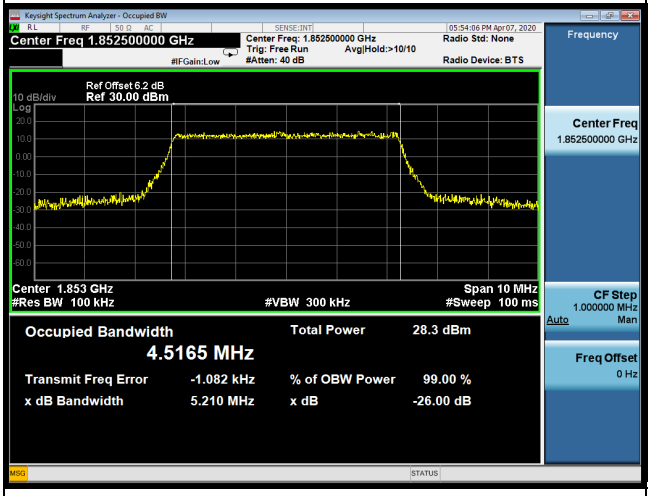
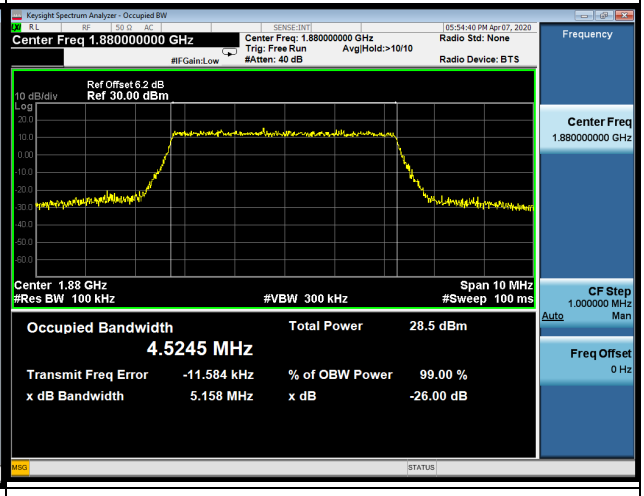
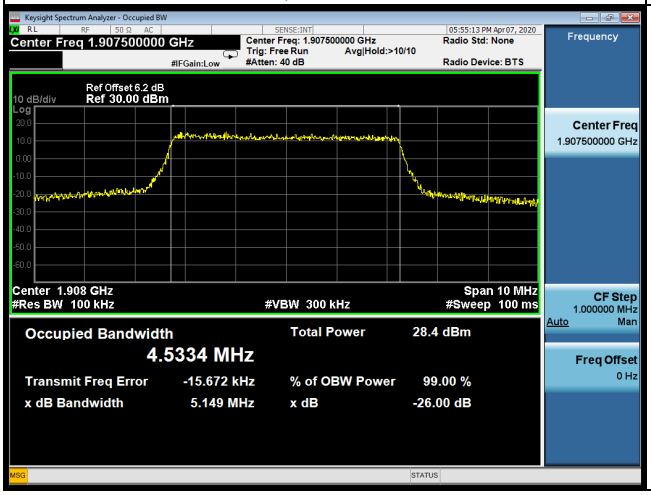



### 16QAM-18900




### 16QAM-19175

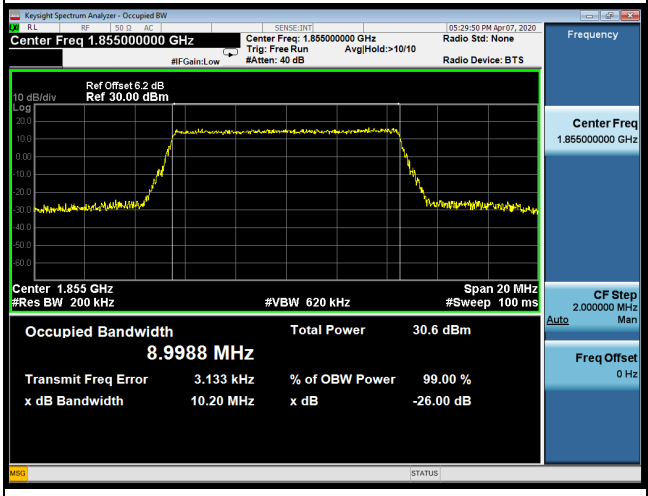


| Spectrum Plot | |
|---|---|
| 64QAM-18625 | 64QAM-18900 |
|  |  |
| 64QAM-19175 | - |
|  | - |

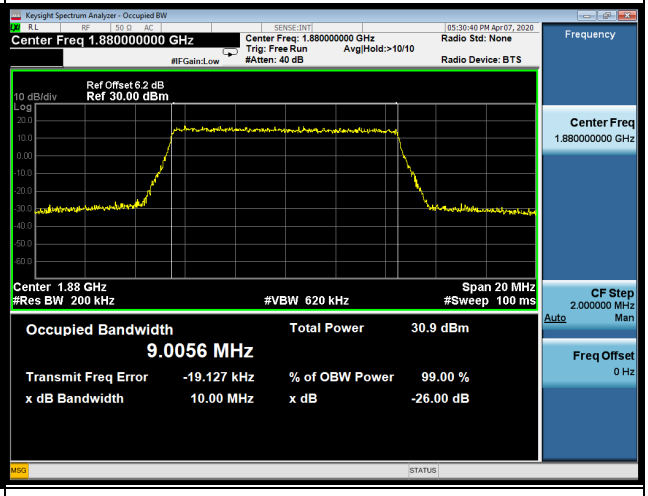
| LTE Band 2_10M | | | | | |
|---|---|---|---|---|---|
| QPSK | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18650 | 1855 | 8.9988 | 18650 | 1855 | 10.20 |
| 18900 | 1880 | 9.0056 | 18900 | 1880 | 10.00 |
| 19150 | 1905 | 9.0042 | 19150 | 1905 | 10.22 |
| 16QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18650 | 1855 | 9.0063 | 18650 | 1855 | 10.12 |
| 18900 | 1880 | 8.9804 | 18900 | 1880 | 10.06 |
| 19150 | 1905 | 8.9950 | 19150 | 1905 | 10.07 |
| 64QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18650 | 1855 | 8.9932 | 18650 | 1855 | 10.03 |
| 18900 | 1880 | 8.9969 | 18900 | 1880 | 10.21 |
| 19150 | 1905 | 9.0081 | 19150 | 1905 | 10.11 |

## Spectrum Plot

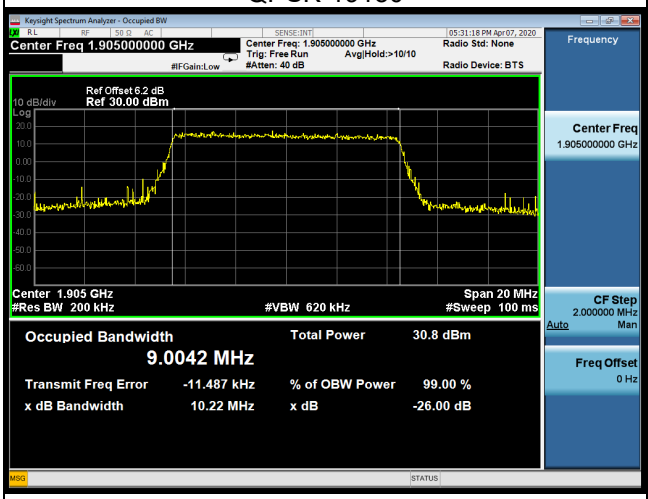
### QPSK-18650



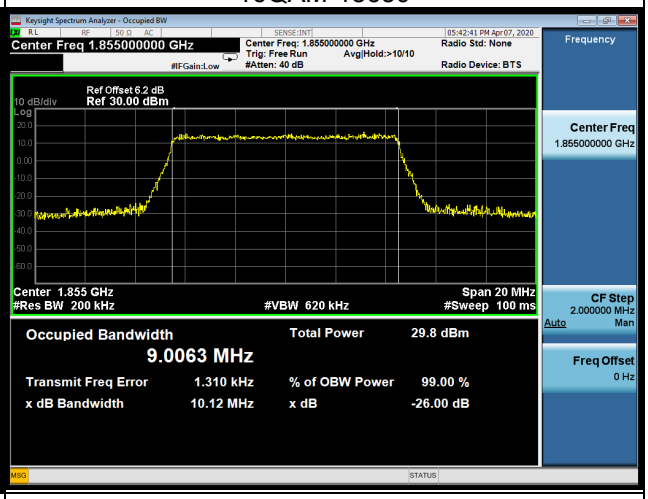

### QPSK-18900



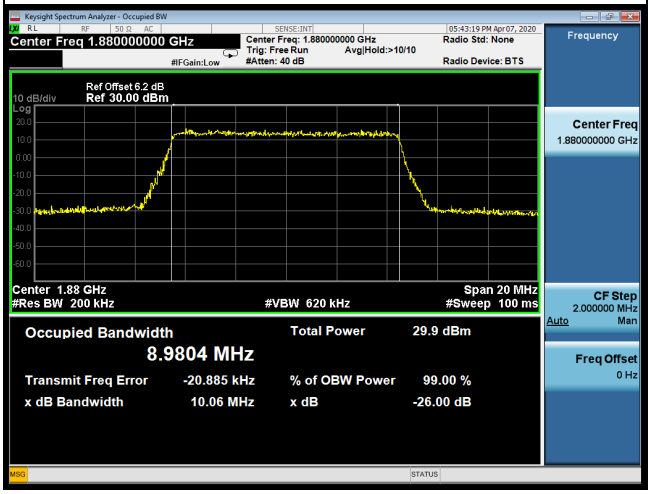

### QPSK-19150



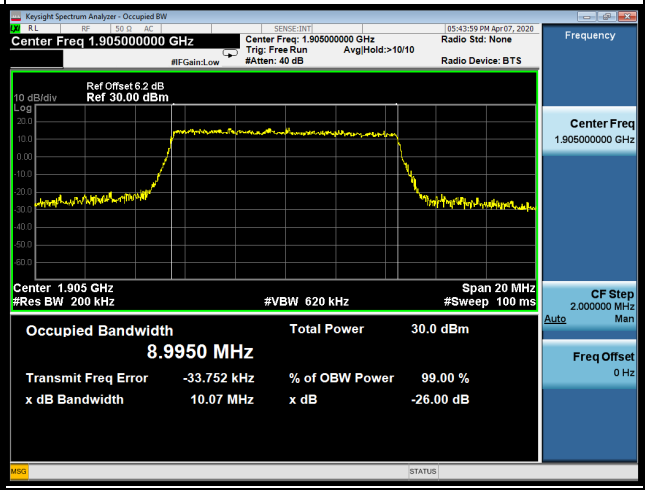

### 16QAM-18650

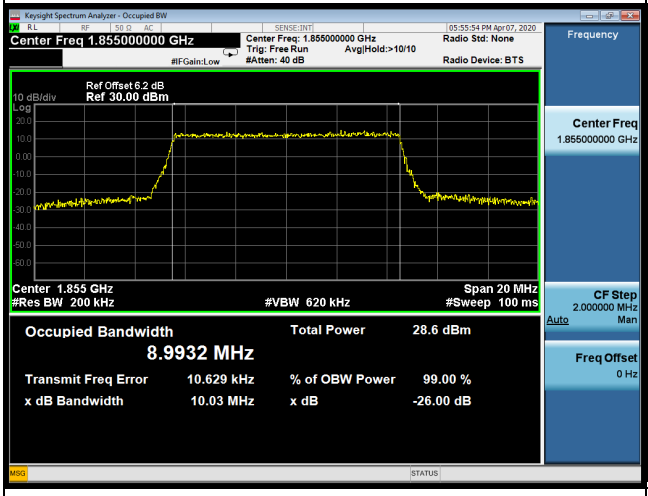
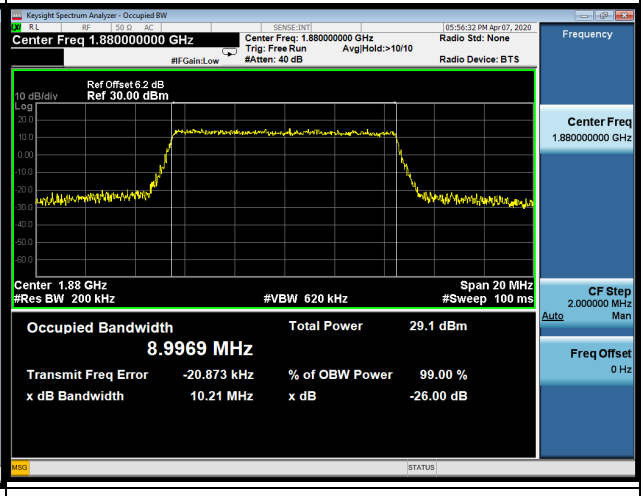
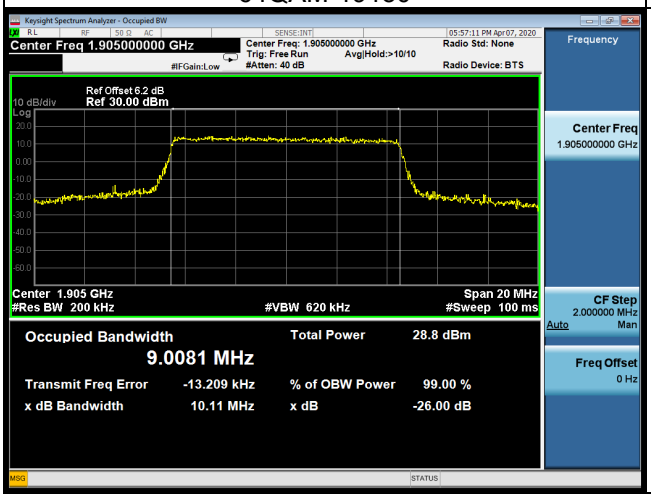



### 16QAM-18900




### 16QAM-19150

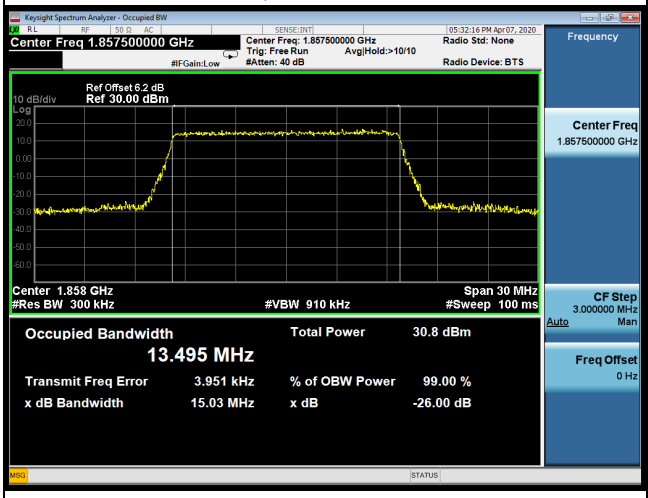


| Spectrum Plot | |
|---|---|
| 64QAM-18650 | 64QAM-18900 |
|  |  |
| 64QAM-19150 | - |
|  | - |

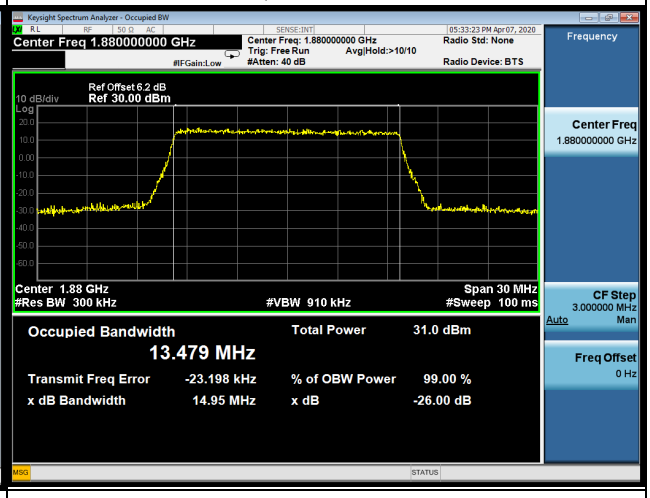
| LTE Band 2_15M | | | | | |
|---|---|---|---|---|---|
| QPSK | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18675 | 1857.5 | 13.495 | 18675 | 1857.5 | 15.03 |
| 18900 | 1880 | 13.479 | 18900 | 1880 | 14.95 |
| 19125 | 1902.5 | 13.424 | 19125 | 1902.5 | 14.90 |
| 16QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18675 | 1857.5 | 13.481 | 18675 | 1857.5 | 15.14 |
| 18900 | 1880 | 13.468 | 18900 | 1880 | 14.97 |
| 19125 | 1902.5 | 13.441 | 19125 | 1902.5 | 14.91 |
| 64QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18675 | 1857.5 | 13.476 | 18675 | 1857.5 | 14.92 |
| 18900 | 1880 | 13.506 | 18900 | 1880 | 14.93 |
| 19125 | 1902.5 | 13.457 | 19125 | 1902.5 | 14.83 |

## Spectrum Plot

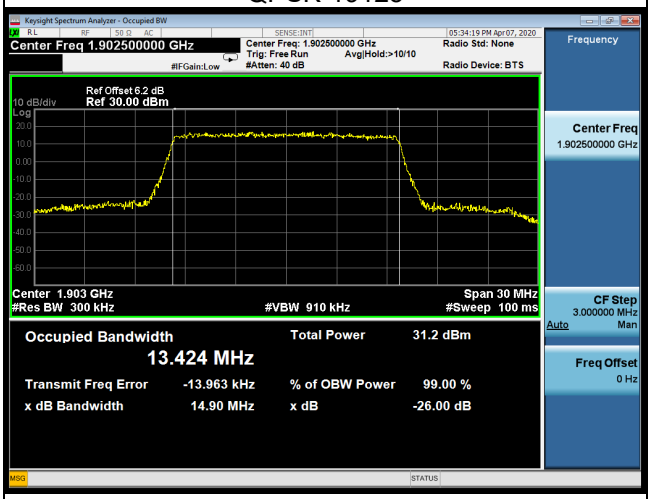
### QPSK-18675



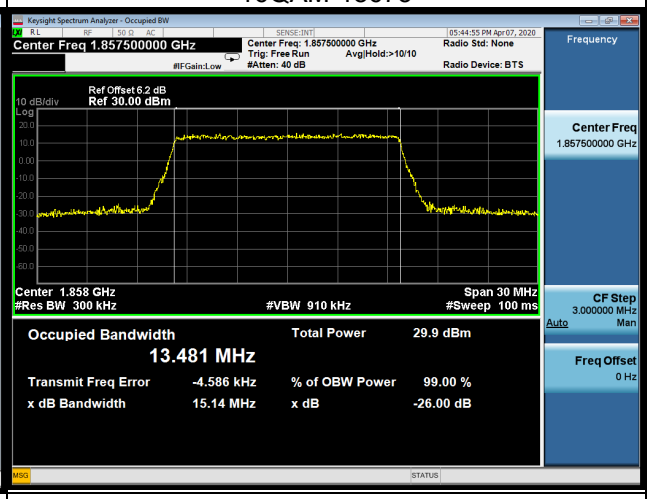

### QPSK-18900



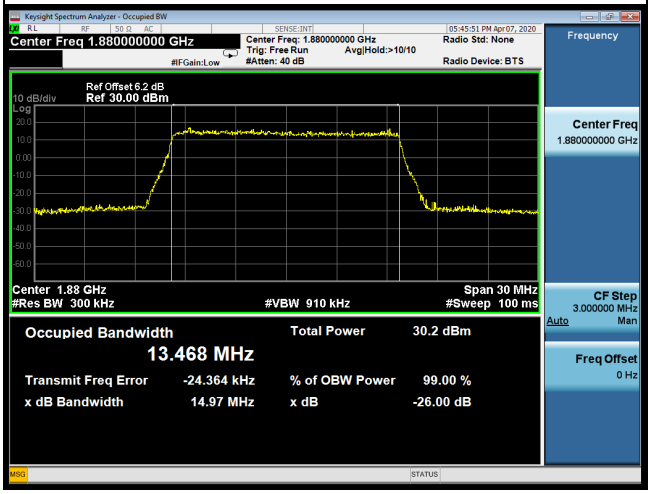

### QPSK-19125



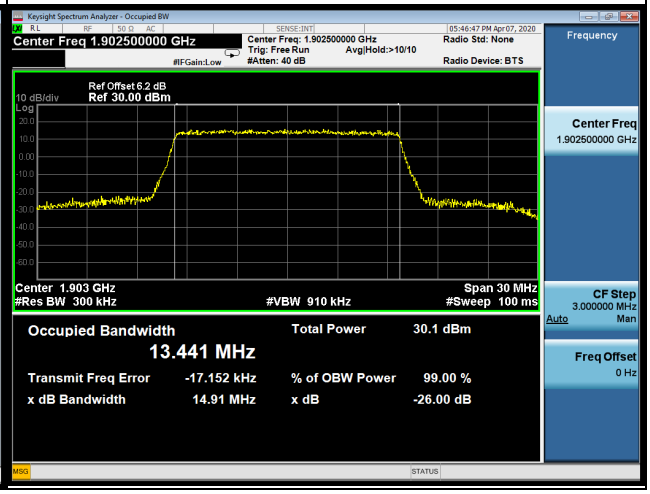

### 16QAM-18675

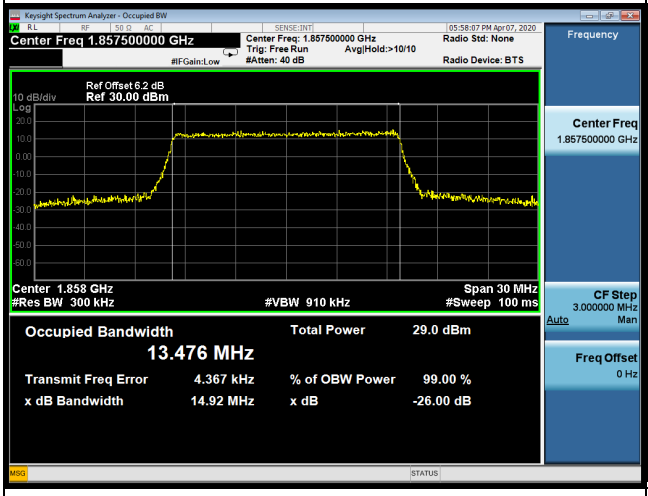
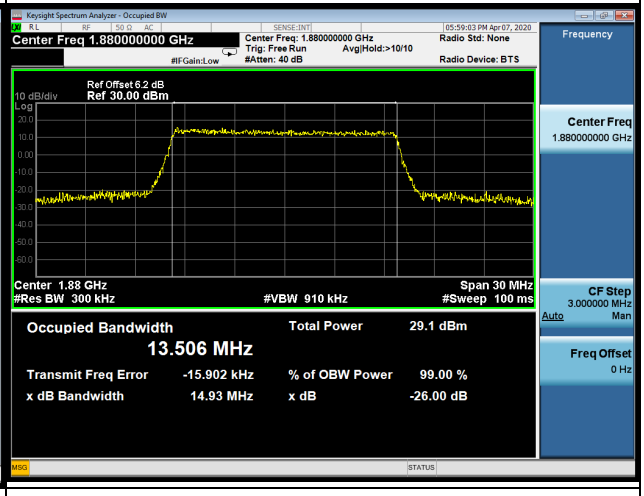
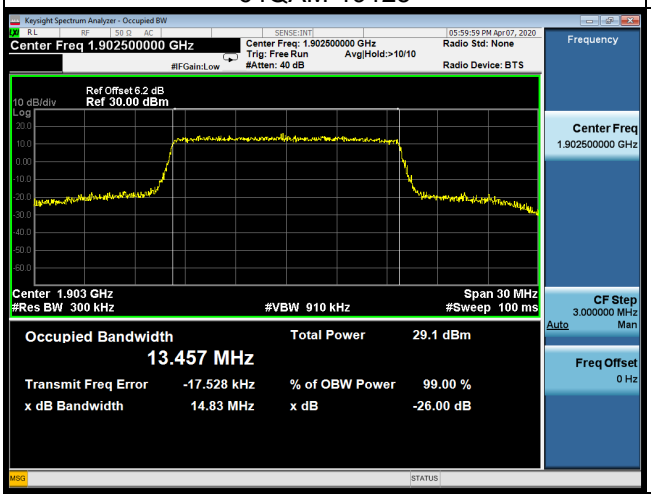



### 16QAM-18900




### 16QAM-19125

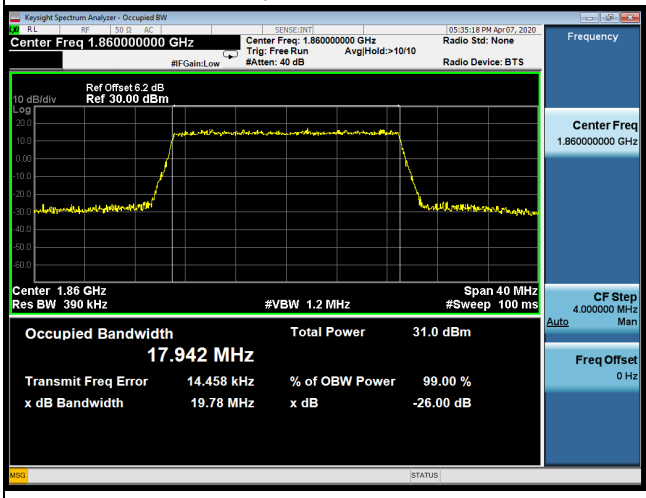


| Spectrum Plot | |
|---|---|
| 64QAM-18675 | 64QAM-18900 |
|  |  |
| 64QAM-19125 | - |
|  | - |

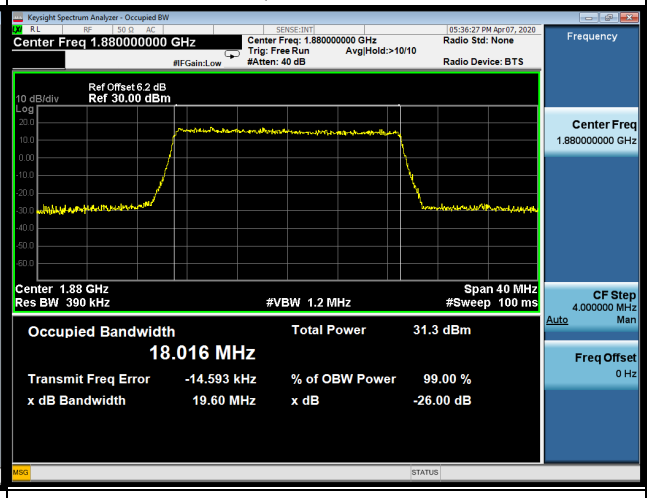
| LTE Band 2_20M | | | | | |
|---|---|---|---|---|---|
| QPSK | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18700 | 1860 | 17.942 | 18700 | 1860 | 19.78 |
| 18900 | 1880 | 18.016 | 18900 | 1880 | 19.60 |
| 19100 | 1900 | 17.882 | 19100 | 1900 | 20.57 |
| 16QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18700 | 1860 | 17.915 | 18700 | 1860 | 19.64 |
| 18900 | 1880 | 17.960 | 18900 | 1880 | 19.76 |
| 19100 | 1900 | 17.908 | 19100 | 1900 | 19.56 |
| 64QAM | | | | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 18700 | 1860 | 17.973 | 18700 | 1860 | 19.62 |
| 18900 | 1880 | 17.951 | 18900 | 1880 | 19.79 |
| 19100 | 1900 | 17.913 | 19100 | 1900 | 19.53 |

## Spectrum Plot

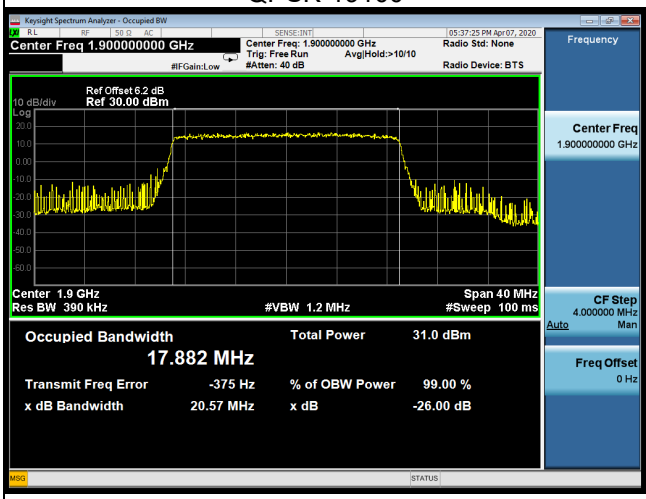
### QPSK-18700



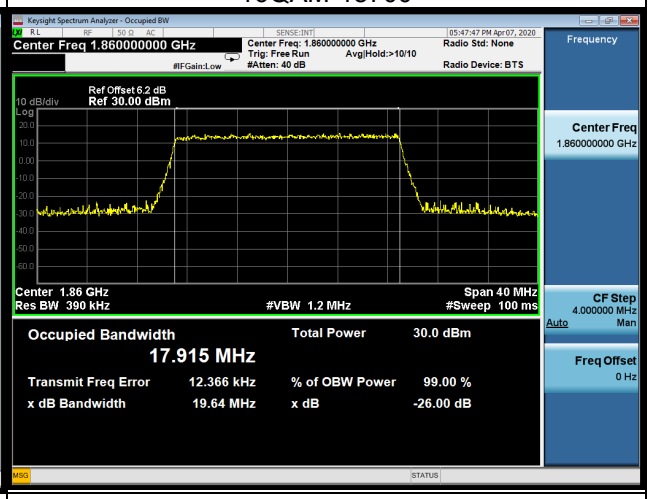

### QPSK-18900



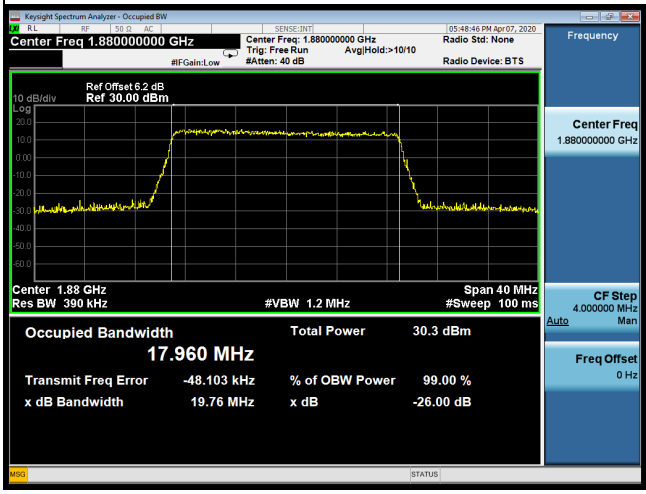

### QPSK-19100



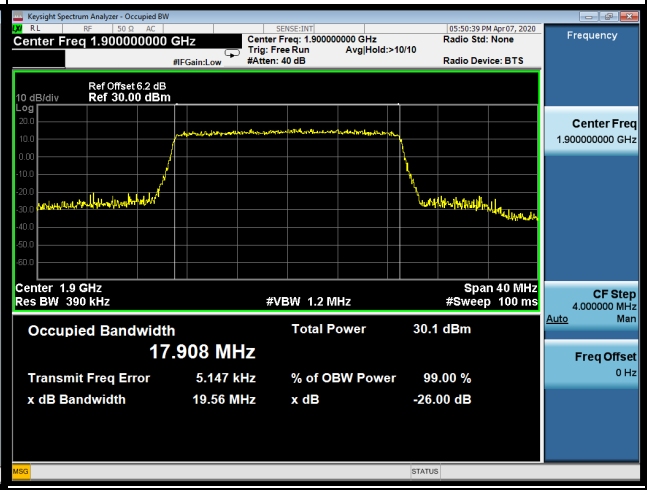

### 16QAM-18700

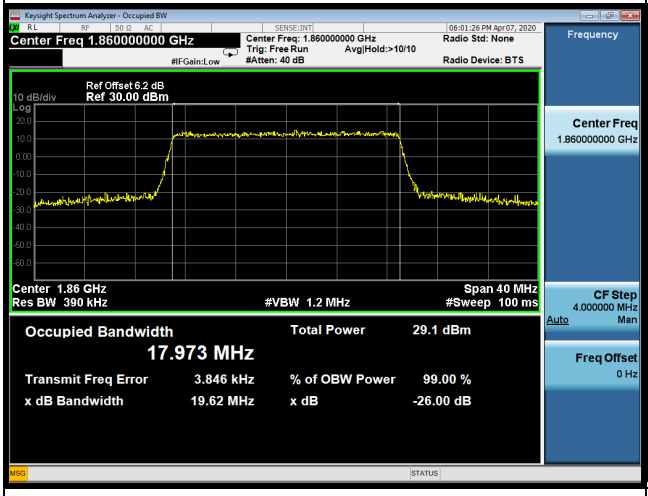
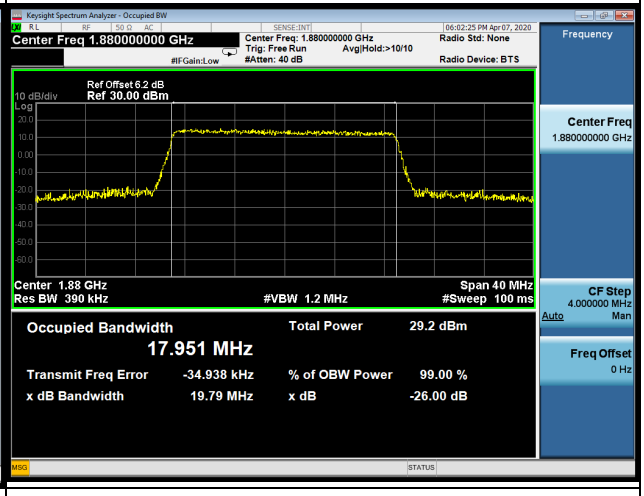
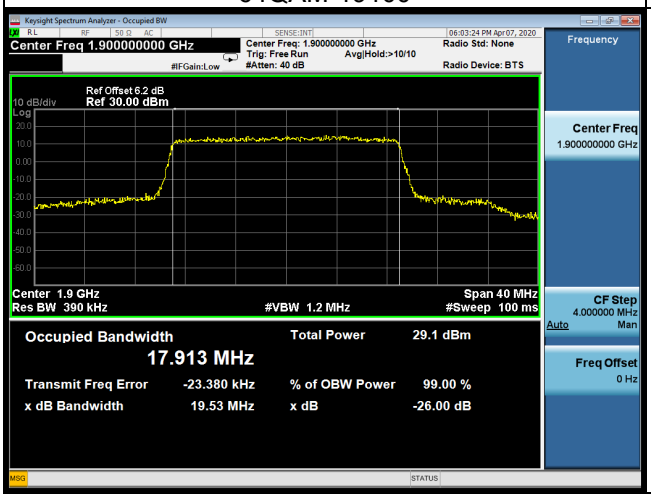



### 16QAM-18900

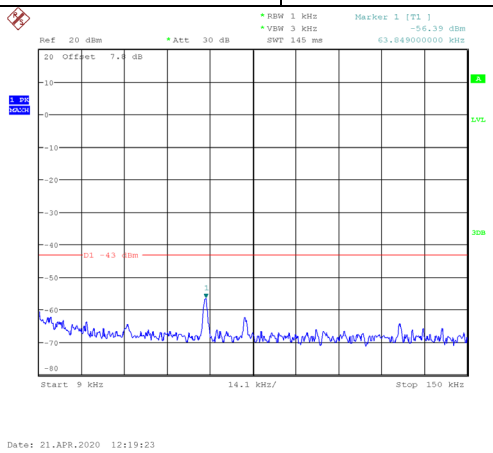
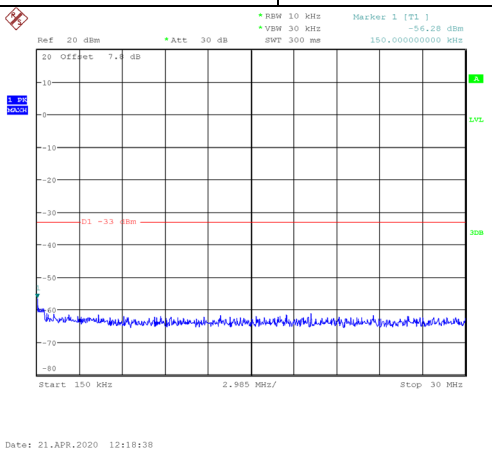
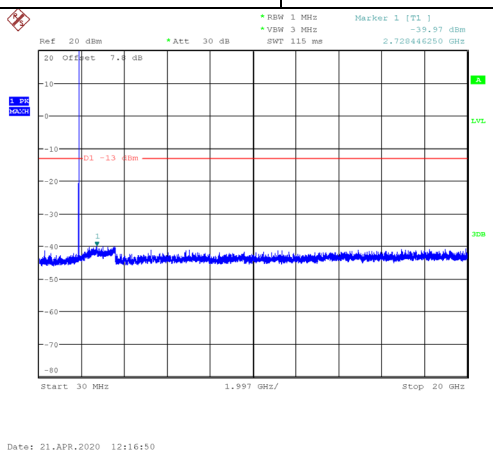
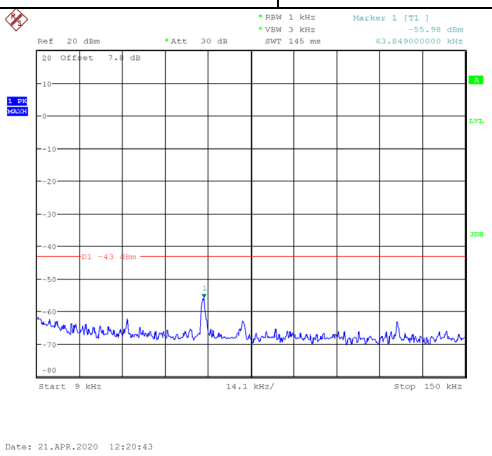
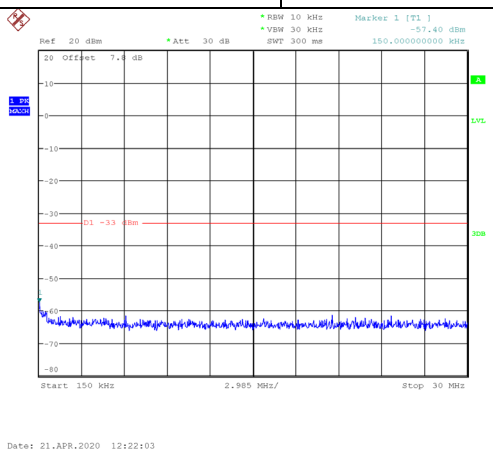
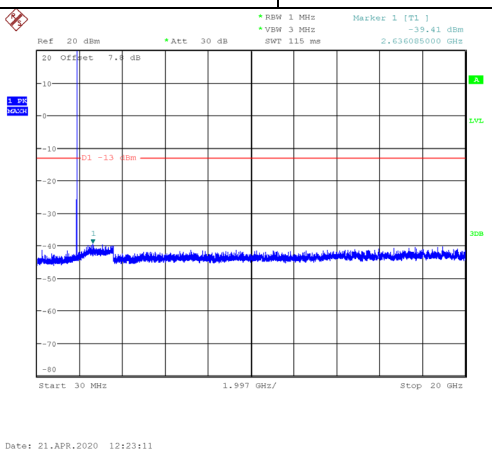


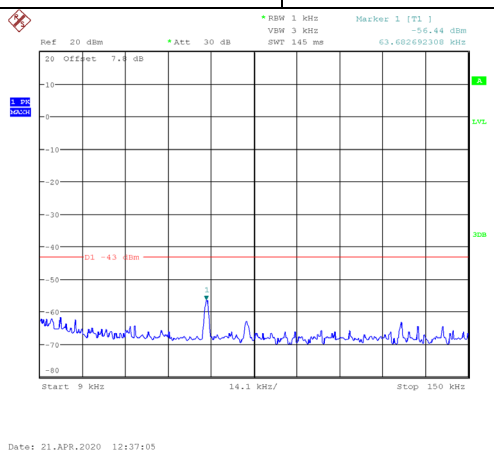
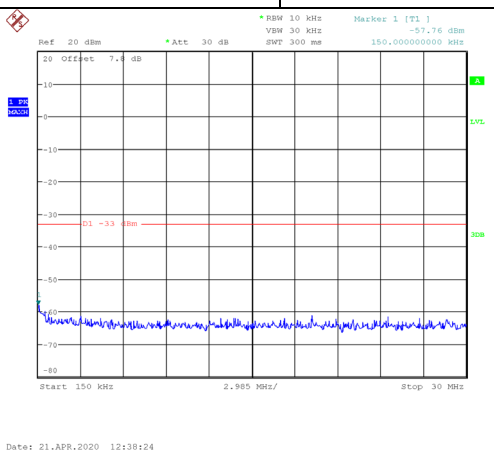
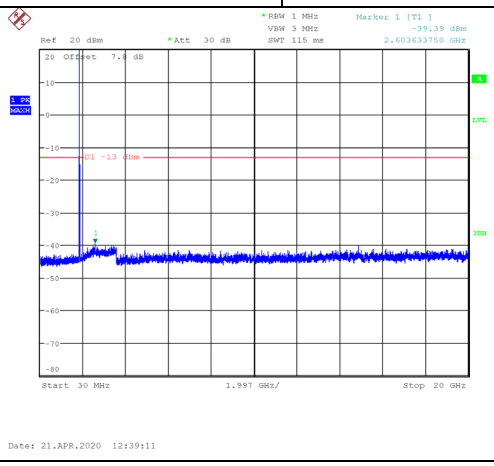

### 16QAM-19100

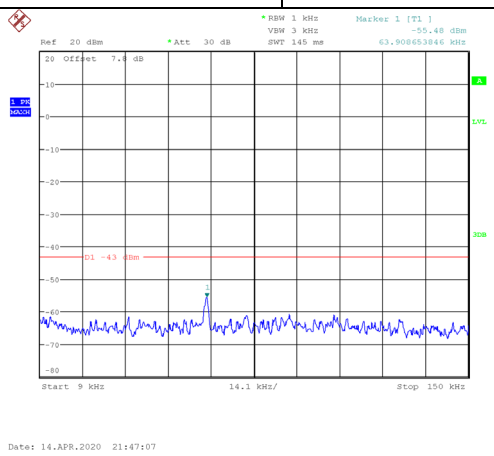
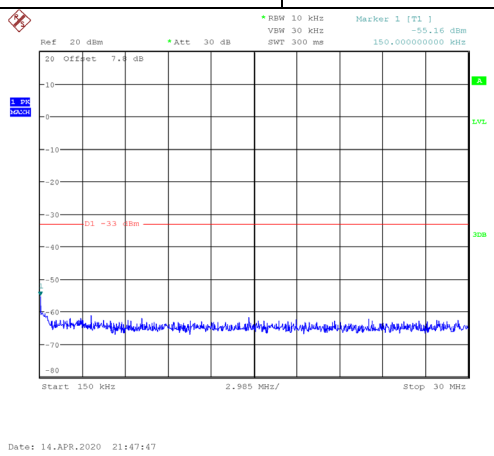
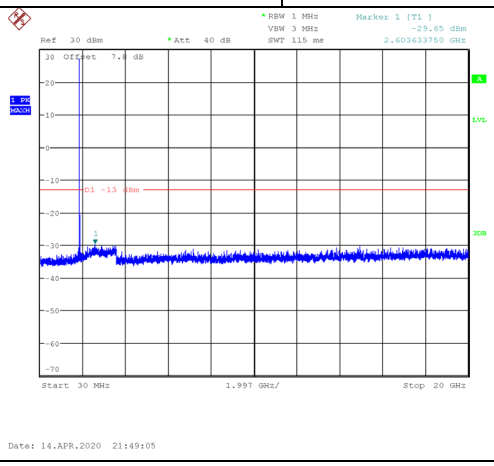


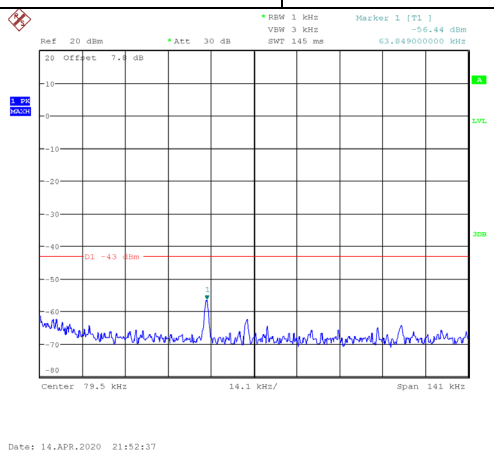
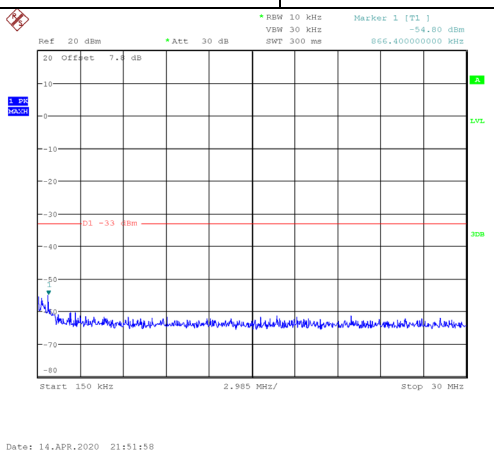
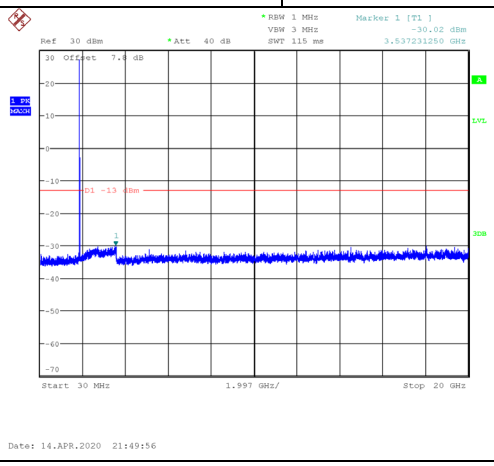
| Spectrum Plot | |
|---|---|
| 64QAM-18700 | 64QAM-18900 |
|  |  |
| 64QAM-19100 | - |
|  | - |

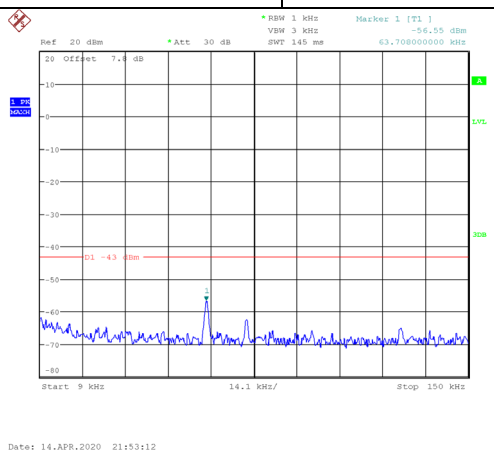
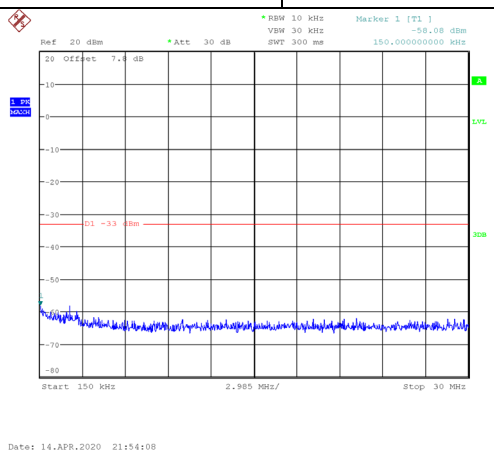
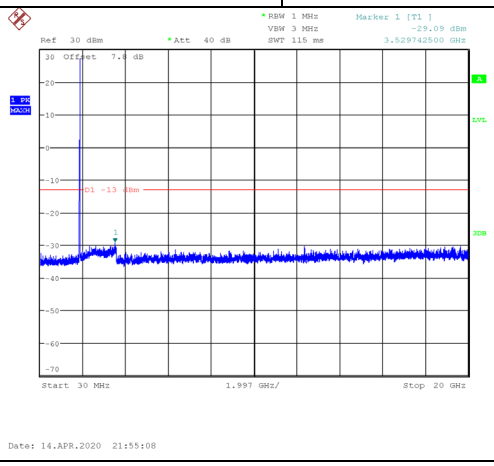
# APPENDIX C - CONDUCTED SPURIOUS EMISSIONS

| PCS1900 Spectrum Plot | | | |
|---|---|---|---|
| GSM | | GSM | |
| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
| 661 | 1880 | 661 | 1880 |
|  | |  | |
| GSM | | EDGE | |
| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
| 661 | 1880 | 661 | 1880 |
|  | |  | |
| EDGE | | EDGE | |
| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
| 661 | 1880 | 661 | 1880 |
|  | |  | |

| WCDMA Band II_WCDMA Spectrum Plot | | | |
|---|---|---|---|
| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
| 9400 | 1880 | 9400 | 1880 |
|   | |   | |
| Channel | Frequency(MHz) | - | - |
| 9400 | 1880 | - | - |
|   | | - | |

| LTE Band 2_1.4M Spectrum Plot | | | |
|---|---|---|---|
| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
| 18900 | 1880 | 18900 | 1880 |
|   | |   | |
| Channel | Frequency(MHz) | - | - |
| 18900 | 1880 | - | - |
|   | | - | |

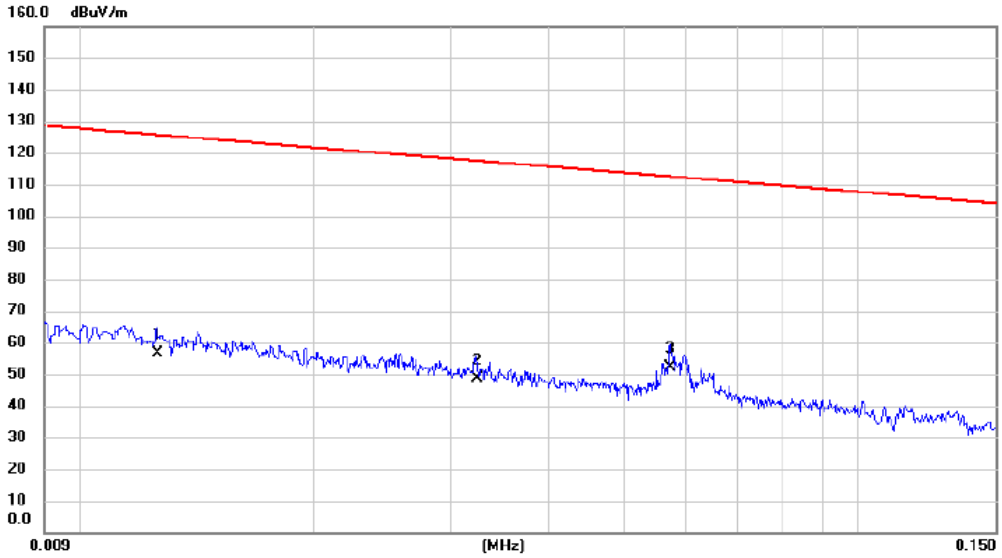
| LTE Band 2_5M Spectrum Plot | | | |
|---|---|---|---|
| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
| 18900 | 1880 | 18900 | 1880 |
|   | |   | |
| Channel | Frequency(MHz) | - | - |
| 18900 | 1880 | - | - |
|   | | - | |

| LTE Band 2_20M Spectrum Plot | | | |
|---|---|---|---|
| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
| 18900 | 1880 | 18900 | 1880 |
|   | |   | |
| Channel | Frequency(MHz) | - | - |
| 18900 | 1880 | - | - |
|   | | - | |

# APPENDIX D - RADIATED SPURIOUS EMISSIONS (9KHZ TO 30MHZ)

| Test Mode | TX Mode |
|---|---|

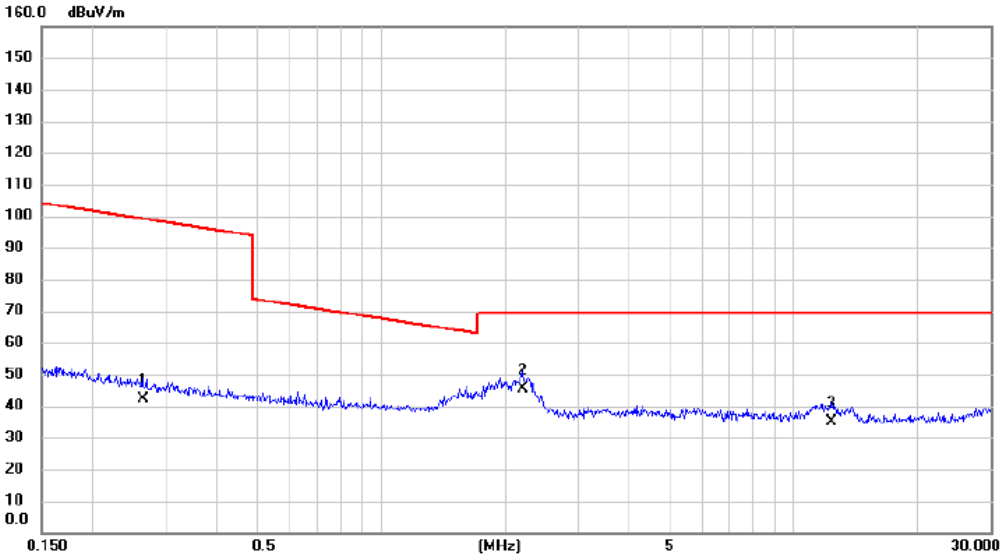
**Ant 0°**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 0.0126 | 40.58 | 16.04 | 56.62 | 125.60 | -68.98 | AVG | |
| 2 | | 0.0324 | 34.59 | 13.87 | 48.46 | 117.39 | -68.93 | AVG | |
| 3 | * | 0.0573 | 38.44 | 13.81 | 52.25 | 112.44 | -60.19 | AVG | |

| Test Mode | TX Mode |
|---|---|

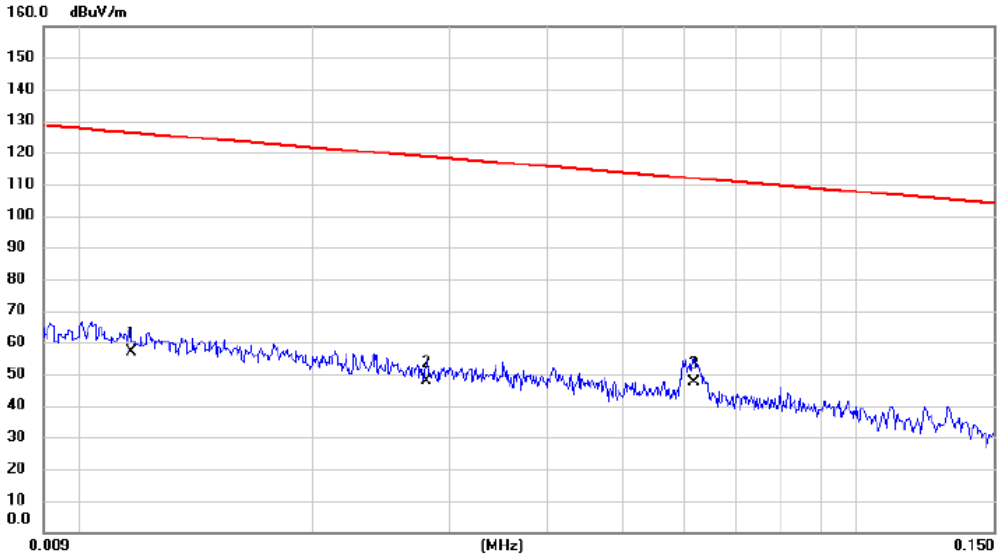
**Ant 0°**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 0.2644 | 28.41 | 13.63 | 42.04 | 99.16 | -57.12 | AVG | |
| 2 | * | 2.2015 | 33.69 | 11.70 | 45.39 | 69.54 | -24.15 | QP | |
| 3 | | 12.3837 | 23.47 | 11.60 | 35.07 | 69.54 | -34.47 | QP | |

| Test Mode | TX Mode |
|---|---|

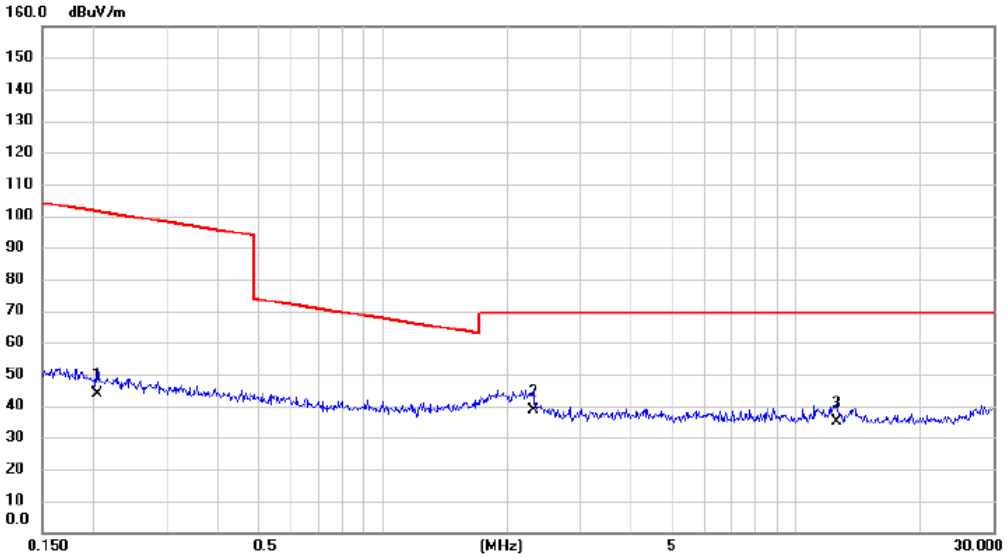
**Ant 90°**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 0.0117 | 40.62 | 16.31 | 56.93 | 126.24 | -69.31 | AVG | |
| 2 | | 0.0280 | 34.15 | 13.85 | 48.00 | 118.66 | -70.66 | AVG | |
| 3 | * | 0.0618 | 33.68 | 13.74 | 47.42 | 111.79 | -64.37 | AVG | |

| Test Mode | TX Mode |
|---|---|

**Ant 90°**

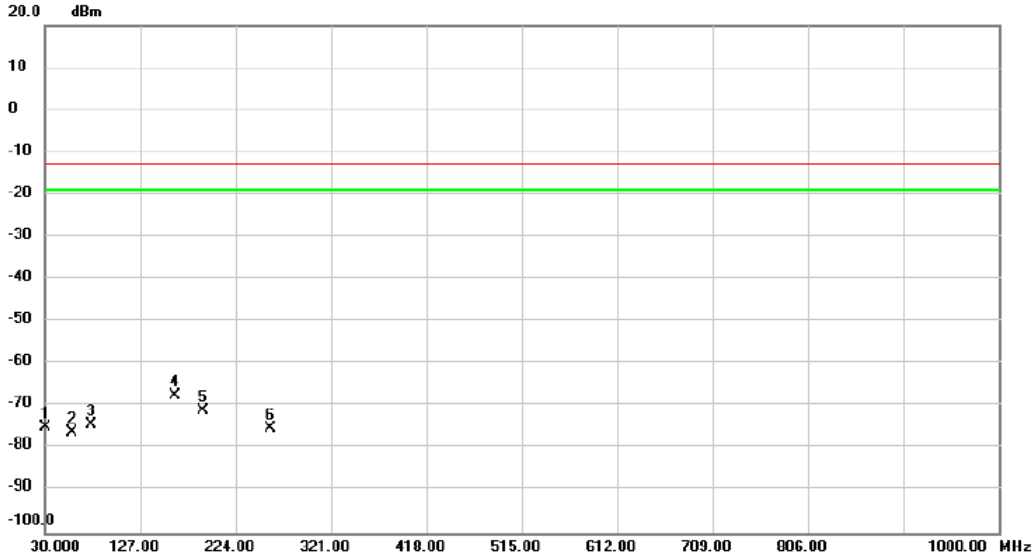



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 0.2040 | 30.25 | 13.61 | 43.86 | 101.41 | -57.55 | AVG | |
| 2 | * | 2.3090 | 26.97 | 11.63 | 38.60 | 69.54 | -30.94 | QP | |
| 3 | | 12.5156 | 23.48 | 11.60 | 35.08 | 69.54 | -34.46 | QP | |

# APPENDIX E - RADIATED SPURIOUS EMISSIONS (30MHZ TO 1000MHZ)

| Test Mode | PCS1900_TX CH661_GSM_Main Antenna |
|---|---|

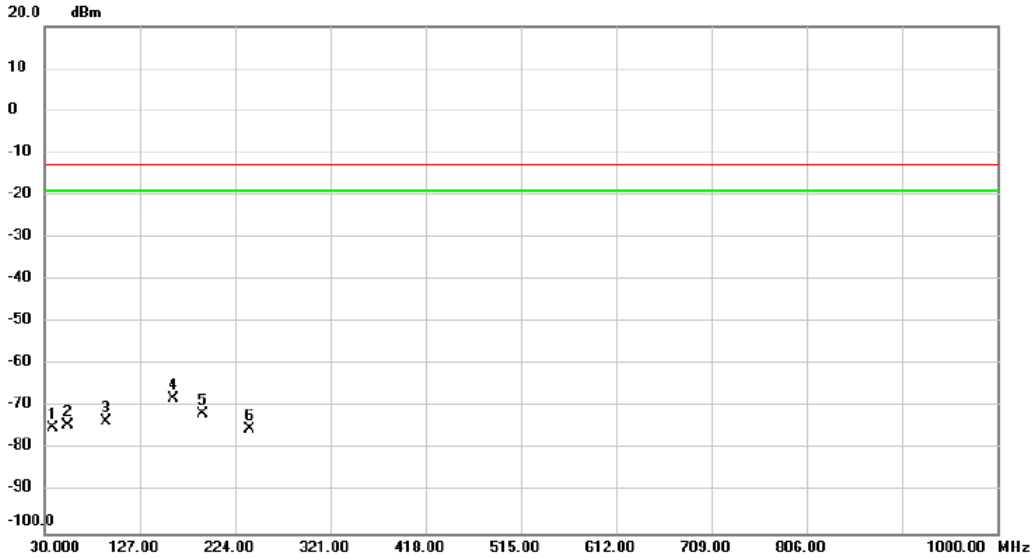
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 30.0000 | -69.67 | -5.16 | -74.83 | -13.00 | -61.83 | peak | |
| 2 | | 58.1300 | -71.08 | -4.97 | -76.05 | -13.00 | -63.05 | peak | |
| 3 | | 77.5300 | -66.47 | -7.99 | -74.46 | -13.00 | -61.46 | peak | |
| 4 | * | 161.9200 | -65.73 | -1.81 | -67.54 | -13.00 | -54.54 | peak | |
| 5 | | 191.0200 | -65.88 | -5.08 | -70.96 | -13.00 | -57.96 | peak | |
| 6 | | 259.8900 | -71.96 | -3.23 | -75.19 | -13.00 | -62.19 | peak | |

| Test Mode | PCS1900_TX CH661_GSM_Main Antenna |
|---|---|

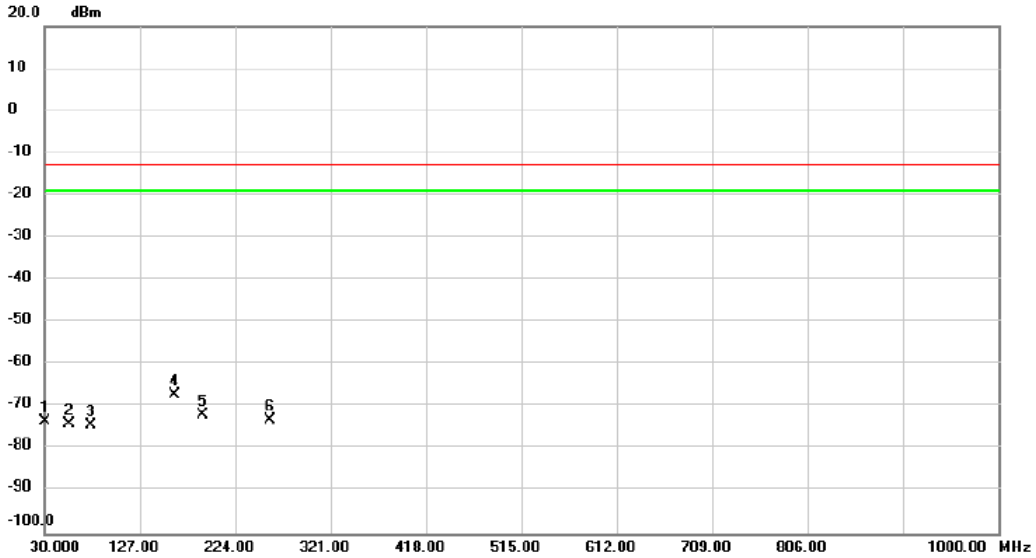
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 38.7300 | -70.29 | -4.52 | -74.81 | -13.00 | -61.81 | peak | |
| 2 | | 53.2800 | -70.23 | -4.24 | -74.47 | -13.00 | -61.47 | peak | |
| 3 | | 92.0800 | -67.19 | -6.25 | -73.44 | -13.00 | -60.44 | peak | |
| 4 | * | 160.9500 | -66.47 | -1.66 | -68.13 | -13.00 | -55.13 | peak | |
| 5 | | 191.0200 | -66.57 | -5.08 | -71.65 | -13.00 | -58.65 | peak | |
| 6 | | 238.5500 | -70.79 | -4.60 | -75.39 | -13.00 | -62.39 | peak | |

| Test Mode | PCS1900_TX CH661_GSM_Second Antenna |
|---|---|

**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 30.0000 | -68.17 | -5.16 | -73.33 | -13.00 | -60.33 | peak | |
| 2 | | 55.2200 | -69.85 | -4.30 | -74.15 | -13.00 | -61.15 | peak | |
| 3 | | 77.5300 | -66.47 | -7.99 | -74.46 | -13.00 | -61.46 | peak | |
| 4 | * | 161.9200 | -65.23 | -1.81 | -67.04 | -13.00 | -54.04 | peak | |
| 5 | | 191.0200 | -66.88 | -5.08 | -71.96 | -13.00 | -58.96 | peak | |
| 6 | | 259.8900 | -69.96 | -3.23 | -73.19 | -13.00 | -60.19 | peak | |

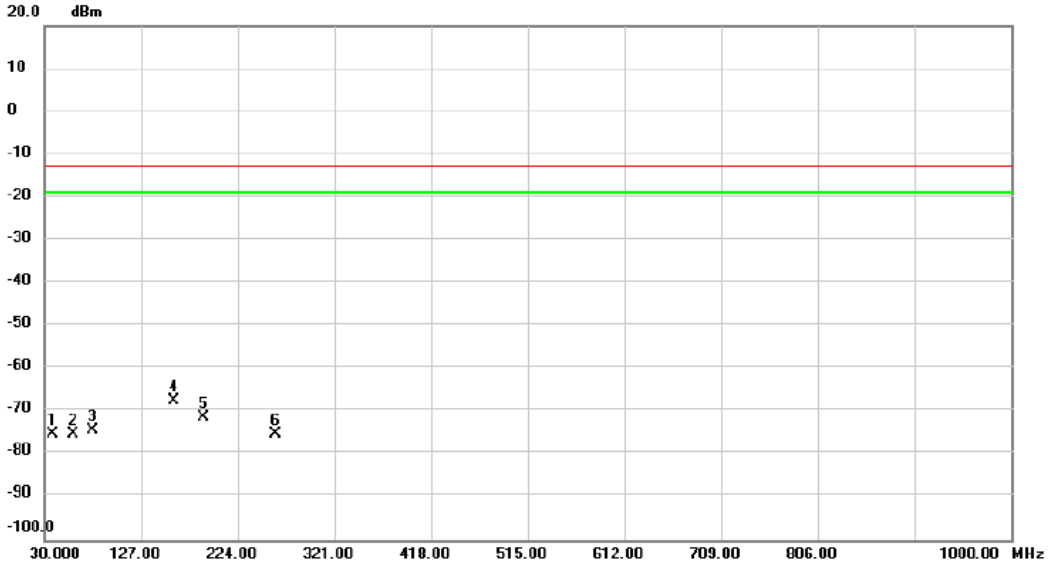
| Test Mode | PCS1900_TX CH661_GSM_Second Antenna |
|---|---|

**Horizontal**

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 30.0000 | -66.51 | -5.16 | -71.67 | -13.00 | -58.67 | peak | |
| 2 | | 58.1300 | -67.71 | -4.97 | -72.68 | -13.00 | -59.68 | peak | |
| 3 | | 91.1100 | -66.32 | -6.34 | -72.66 | -13.00 | -59.66 | peak | |
| 4 | * | 162.8900 | -65.43 | -1.94 | -67.37 | -13.00 | -54.37 | peak | |
| 5 | | 191.0200 | -63.57 | -5.08 | -68.65 | -13.00 | -55.65 | peak | |
| 6 | | 264.7400 | -70.85 | -3.43 | -74.28 | -13.00 | -61.28 | peak | |

| Test Mode | WCDMA Band II_TX CH9400_Main Antenna |
|---|---|

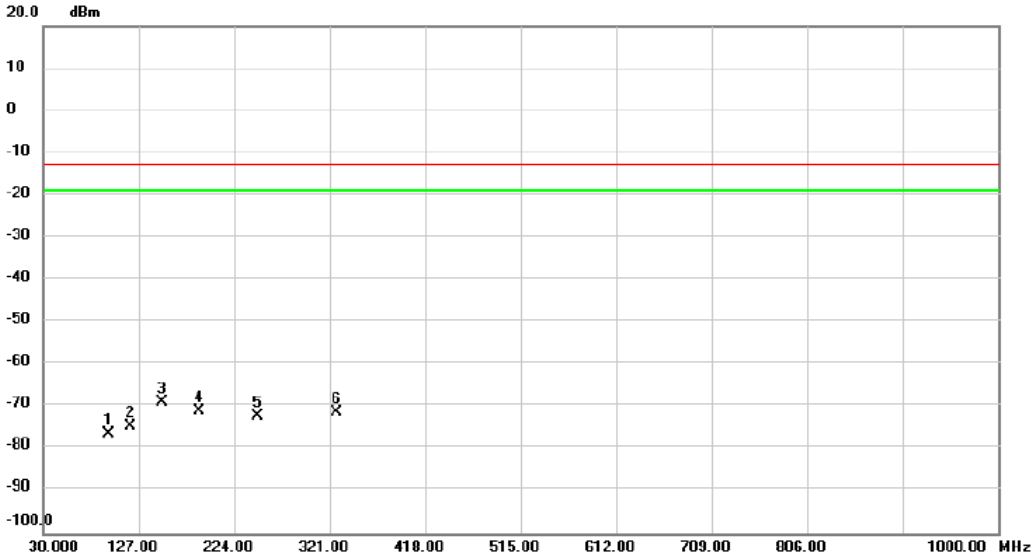
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 37.7600 | -60.92 | -14.40 | -75.32 | -13.00 | -62.32 | peak | |
| 2 | | 59.1000 | -60.63 | -14.66 | -75.29 | -13.00 | -62.29 | peak | |
| 3 | | 78.5000 | -56.52 | -17.75 | -74.27 | -13.00 | -61.27 | peak | |
| 4 | * | 159.9800 | -56.32 | -11.13 | -67.45 | -13.00 | -54.45 | peak | |
| 5 | | 190.0500 | -56.63 | -14.60 | -71.23 | -13.00 | -58.23 | peak | |
| 6 | | 261.8300 | -62.30 | -12.89 | -75.19 | -13.00 | -62.19 | peak | |

| Test Mode | WCDMA Band II_TX CH9400_Main Antenna |
|---|---|

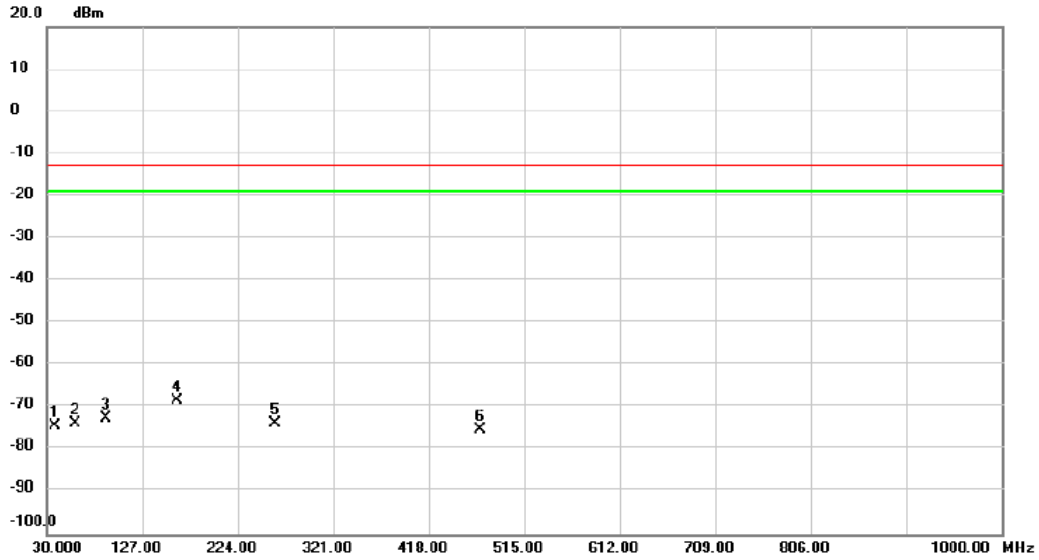
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 96.9300 | -61.11 | -15.47 | -76.58 | -13.00 | -63.58 | peak | |
| 2 | | 118.2700 | -61.19 | -13.37 | -74.56 | -13.00 | -61.56 | peak | |
| 3 | * | 151.2500 | -56.81 | -12.23 | -69.04 | -13.00 | -56.04 | peak | |
| 4 | | 188.1100 | -56.57 | -14.35 | -70.92 | -13.00 | -57.92 | peak | |
| 5 | | 247.2800 | -58.33 | -13.95 | -72.28 | -13.00 | -59.28 | peak | |
| 6 | | 327.7900 | -60.18 | -11.22 | -71.40 | -13.00 | -58.40 | peak | |

| Test Mode | WCDMA Band II_TX CH9400_Second Antenna |
|---|---|

**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 37.7600 | -59.92 | -14.40 | -74.32 | -13.00 | -61.32 | peak | |
| 2 | | 59.1000 | -59.13 | -14.66 | -73.79 | -13.00 | -60.79 | peak | |
| 3 | | 90.1400 | -56.56 | -16.02 | -72.58 | -13.00 | -59.58 | peak | |
| 4 | * | 161.9200 | -56.86 | -11.40 | -68.26 | -13.00 | -55.26 | peak | |
| 5 | | 261.8300 | -60.80 | -12.89 | -73.69 | -13.00 | -60.69 | peak | |
| 6 | | 470.3800 | -67.04 | -8.24 | -75.28 | -13.00 | -62.28 | peak | |

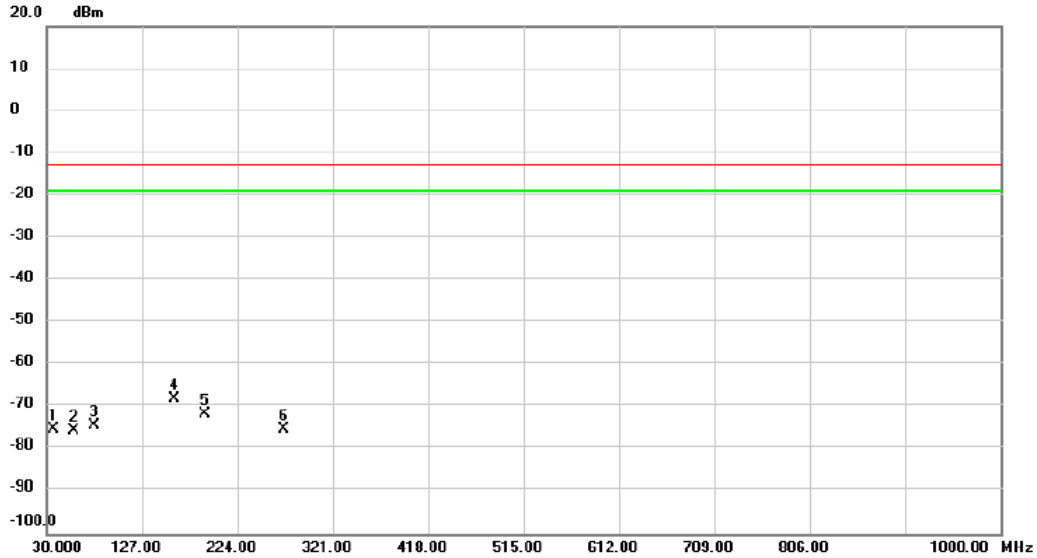
| Test Mode | WCDMA Band II_TX CH9400_Second Antenna |
|---|---|

**Horizontal**

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 95.9600 | -61.30 | -15.54 | -76.84 | -13.00 | -63.84 | peak | |
| 2 | | 118.2700 | -61.19 | -13.37 | -74.56 | -13.00 | -61.56 | peak | |
| 3 | * | 153.1900 | -57.28 | -12.00 | -69.28 | -13.00 | -56.28 | peak | |
| 4 | | 188.1100 | -55.57 | -14.35 | -69.92 | -13.00 | -56.92 | peak | |
| 5 | | 247.2800 | -58.33 | -13.95 | -72.28 | -13.00 | -59.28 | peak | |
| 6 | | 327.7900 | -60.18 | -11.22 | -71.40 | -13.00 | -58.40 | peak | |

| Test Mode | LTE Band 2_TX CH18900_1.4M_Main Antenna |
|---|---|

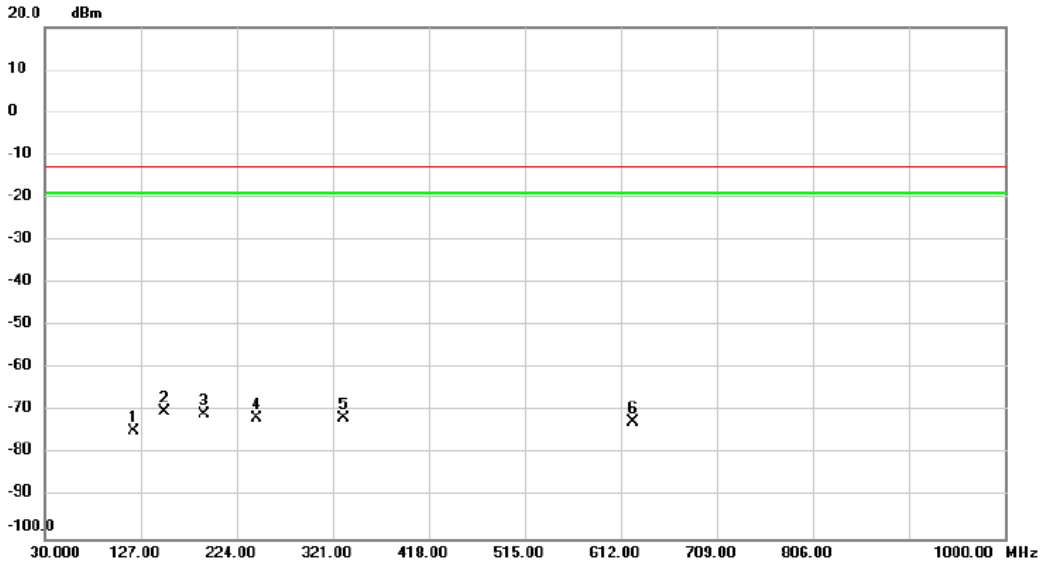
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 36.7900 | -60.93 | -14.41 | -75.34 | -13.00 | -62.34 | peak | |
| 2 | | 58.1300 | -61.00 | -14.56 | -75.56 | -13.00 | -62.56 | peak | |
| 3 | | 78.5000 | -56.59 | -17.75 | -74.34 | -13.00 | -61.34 | peak | |
| 4 | * | 159.9800 | -56.79 | -11.13 | -67.92 | -13.00 | -54.92 | peak | |
| 5 | | 191.0200 | -56.96 | -14.67 | -71.63 | -13.00 | -58.63 | peak | |
| 6 | | 271.5300 | -62.21 | -13.17 | -75.38 | -13.00 | -62.38 | peak | |

| Test Mode | LTE Band 2_TX CH18900_1.4M_Main Antenna |
|---|---|

**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 120.2100 | -61.38 | -13.12 | -74.50 | -13.00 | -61.50 | peak | |
| 2 | * | 151.2500 | -57.84 | -12.23 | -70.07 | -13.00 | -57.07 | peak | |
| 3 | | 191.0200 | -55.97 | -14.67 | -70.64 | -13.00 | -57.64 | peak | |
| 4 | | 243.4000 | -57.68 | -14.05 | -71.73 | -13.00 | -58.73 | peak | |
| 5 | | 331.6700 | -60.65 | -11.14 | -71.79 | -13.00 | -58.79 | peak | |
| 6 | | 624.6100 | -66.87 | -5.66 | -72.53 | -13.00 | -59.53 | peak | |

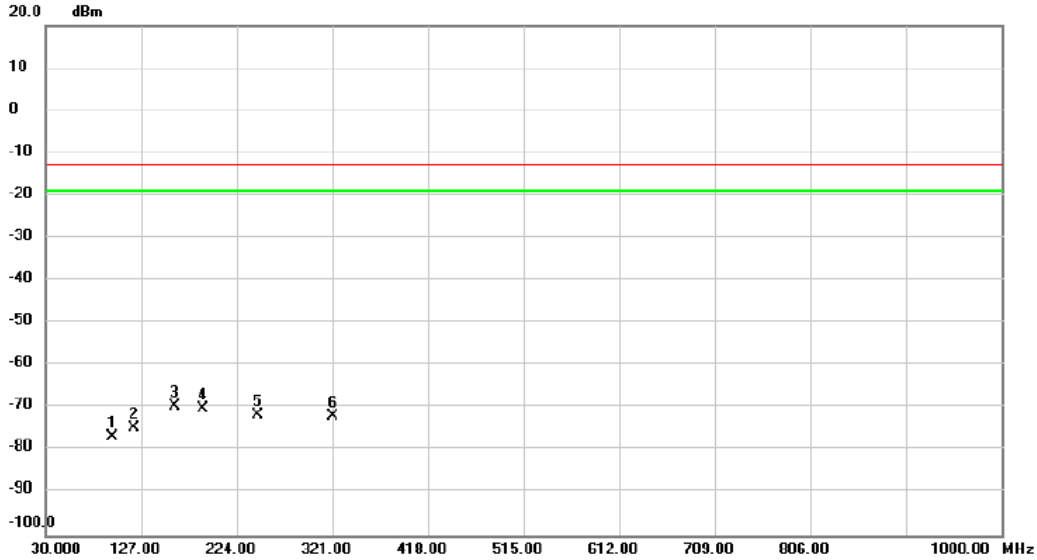
| Test Mode | LTE Band 2_TX CH18900_5M_Main Antenna |
|---|---|

**Vertical**

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 38.7300 | -61.29 | -14.11 | -75.40 | -13.00 | -62.40 | peak | |
| 2 | | 53.2800 | -60.32 | -13.83 | -74.15 | -13.00 | -61.15 | peak | |
| 3 | | 90.1400 | -56.84 | -16.02 | -72.86 | -13.00 | -59.86 | peak | |
| 4 | * | 159.9800 | -55.80 | -11.13 | -66.93 | -13.00 | -53.93 | peak | |
| 5 | | 191.0200 | -56.72 | -14.67 | -71.39 | -13.00 | -58.39 | peak | |
| 6 | | 260.8600 | -61.88 | -12.84 | -74.72 | -13.00 | -61.72 | peak | |

| Test Mode | LTE Band 2_TX CH18900_5M_Main Antenna |
|---|---|

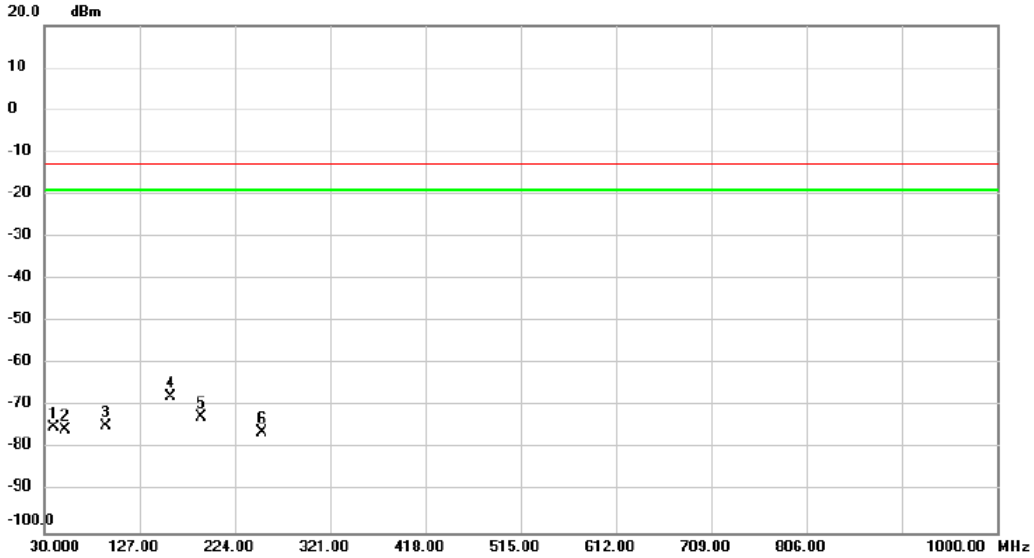
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 97.9000 | -61.24 | -15.41 | -76.65 | -13.00 | -63.65 | peak | |
| 2 | | 119.2400 | -61.42 | -13.24 | -74.66 | -13.00 | -61.66 | peak | |
| 3 | * | 160.9500 | -58.25 | -11.25 | -69.50 | -13.00 | -56.50 | peak | |
| 4 | | 190.0500 | -55.66 | -14.60 | -70.26 | -13.00 | -57.26 | peak | |
| 5 | | 245.3400 | -57.61 | -14.00 | -71.61 | -13.00 | -58.61 | peak | |
| 6 | | 321.0000 | -60.59 | -11.31 | -71.90 | -13.00 | -58.90 | peak | |

| Test Mode | LTE Band 2_TX CH18900_20M_Main Antenna |
|---|---|

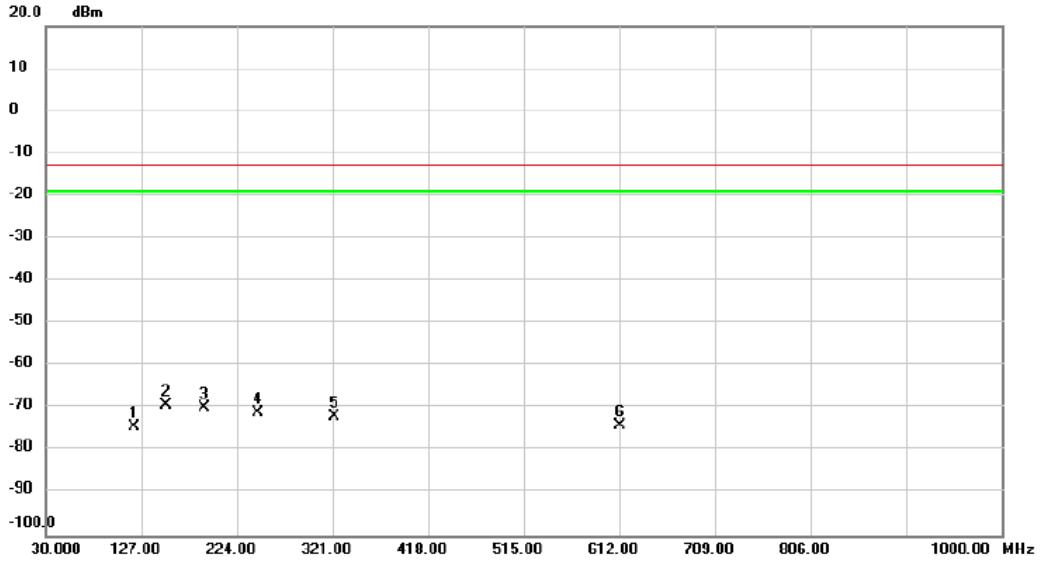
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 39.7000 | -61.26 | -13.71 | -74.97 | -13.00 | -61.97 | peak | |
| 2 | | 51.3400 | -61.86 | -13.83 | -75.69 | -13.00 | -62.69 | peak | |
| 3 | | 93.0500 | -58.89 | -15.77 | -74.66 | -13.00 | -61.66 | peak | |
| 4 | * | 158.0400 | -56.46 | -11.37 | -67.83 | -13.00 | -54.83 | peak | |
| 5 | | 190.0500 | -57.92 | -14.60 | -72.52 | -13.00 | -59.52 | peak | |
| 6 | | 252.1300 | -62.44 | -13.66 | -76.10 | -13.00 | -63.10 | peak | |

| Test Mode | LTE Band 2_TX CH18900_20M_Main Antenna |
|---|---|

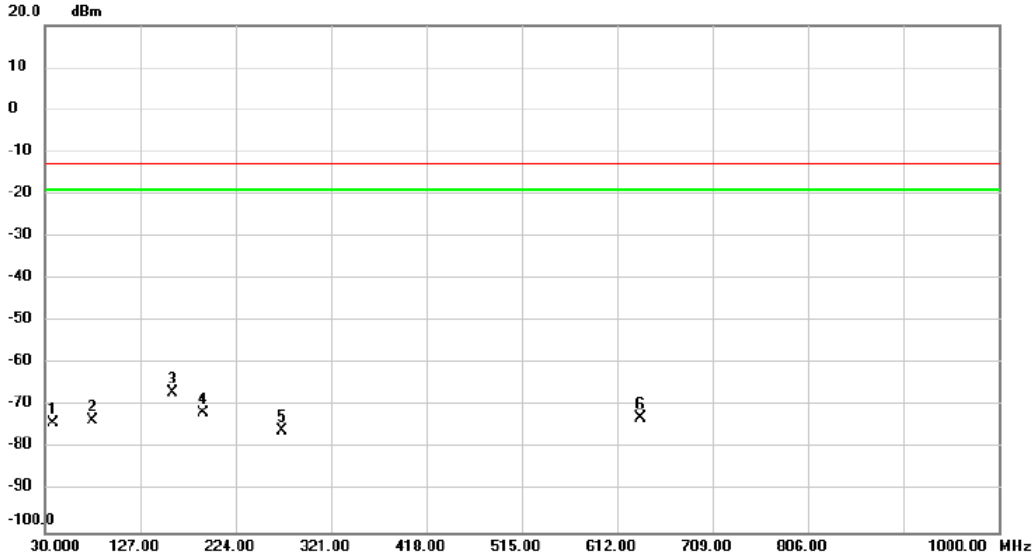
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 119.2400 | -61.22 | -13.24 | -74.46 | -13.00 | -61.46 | peak | |
| 2 | * | 152.2200 | -57.16 | -12.11 | -69.27 | -13.00 | -56.27 | peak | |
| 3 | | 191.0200 | -55.05 | -14.67 | -69.72 | -13.00 | -56.72 | peak | |
| 4 | | 245.3400 | -57.19 | -14.00 | -71.19 | -13.00 | -58.19 | peak | |
| 5 | | 322.9400 | -60.72 | -11.28 | -72.00 | -13.00 | -59.00 | peak | |
| 6 | | 612.0000 | -68.04 | -5.92 | -73.96 | -13.00 | -60.96 | peak | |

| Test Mode | LTE Band 2_TX CH18900_1.4M_Second Antenna |
|---|---|

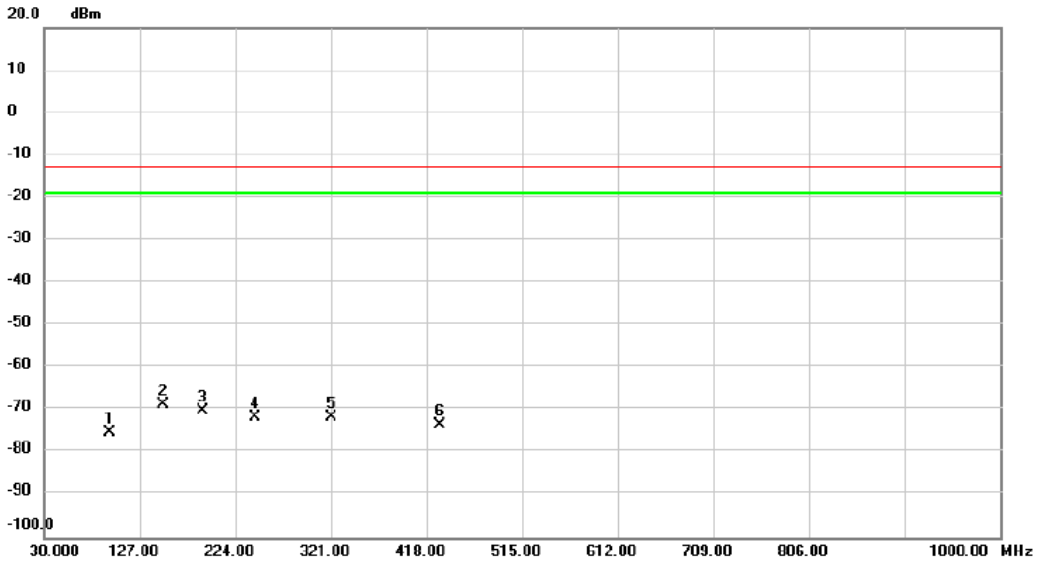
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 37.7600 | -59.68 | -14.40 | -74.08 | -13.00 | -61.08 | peak | |
| 2 | | 78.5000 | -55.59 | -17.75 | -73.34 | -13.00 | -60.34 | peak | |
| 3 | * | 159.9800 | -55.79 | -11.13 | -66.92 | -13.00 | -53.92 | peak | |
| 4 | | 191.0200 | -56.96 | -14.67 | -71.63 | -13.00 | -58.63 | peak | |
| 5 | | 271.5300 | -62.71 | -13.17 | -75.88 | -13.00 | -62.88 | peak | |
| 6 | | 636.2500 | -67.30 | -5.42 | -72.72 | -13.00 | -59.72 | peak | |

| Test Mode | LTE Band 2_TX CH18900_1.4M_Second Antenna |
|---|---|

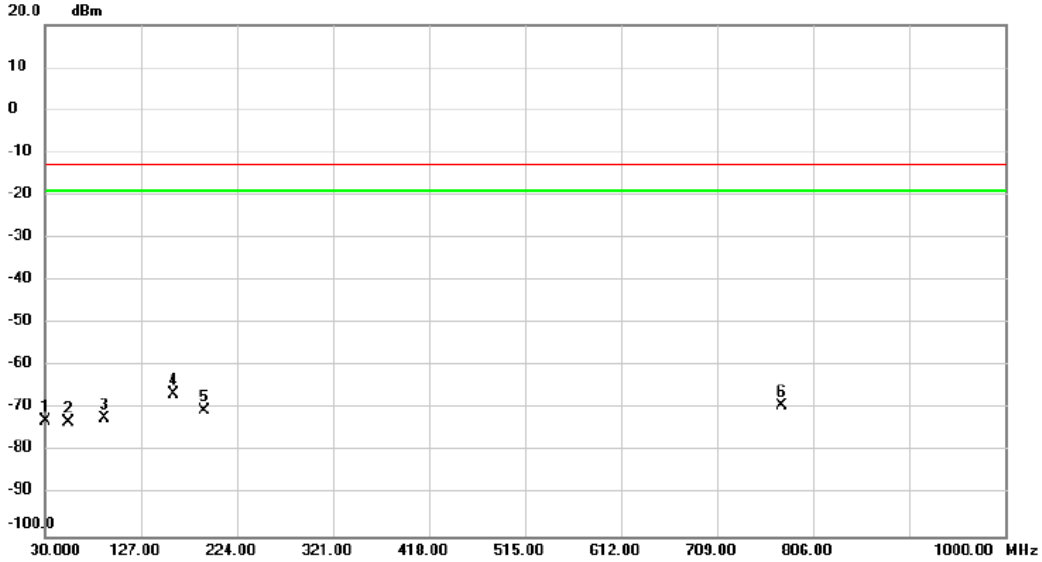
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 96.9300 | -59.89 | -15.47 | -75.36 | -13.00 | -62.36 | peak | |
| 2 | * | 151.2500 | -56.34 | -12.23 | -68.57 | -13.00 | -55.57 | peak | |
| 3 | | 191.0200 | -55.47 | -14.67 | -70.14 | -13.00 | -57.14 | peak | |
| 4 | | 243.4000 | -57.68 | -14.05 | -71.73 | -13.00 | -58.73 | peak | |
| 5 | | 321.9700 | -60.40 | -11.30 | -71.70 | -13.00 | -58.70 | peak | |
| 6 | | 431.5800 | -64.72 | -8.87 | -73.59 | -13.00 | -60.59 | peak | |

| Test Mode | LTE Band 2_TX CH18900_5M_Second Antenna |
|---|---|

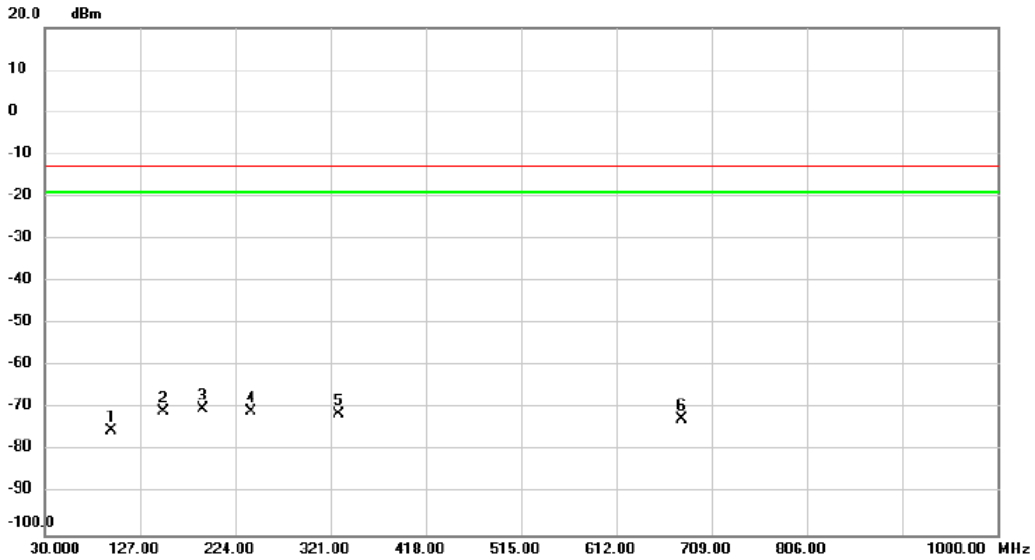
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 30.0000 | -58.07 | -14.75 | -72.82 | -13.00 | -59.82 | peak | |
| 2 | | 53.2800 | -59.32 | -13.83 | -73.15 | -13.00 | -60.15 | peak | |
| 3 | | 90.1400 | -56.34 | -16.02 | -72.36 | -13.00 | -59.36 | peak | |
| 4 | * | 159.9800 | -55.30 | -11.13 | -66.43 | -13.00 | -53.43 | peak | |
| 5 | | 191.0200 | -55.72 | -14.67 | -70.39 | -13.00 | -57.39 | peak | |
| 6 | | 773.9900 | -65.37 | -3.80 | -69.17 | -13.00 | -56.17 | peak | |

| Test Mode | LTE Band 2_TX CH18900_5M_Second Antenna |
|---|---|

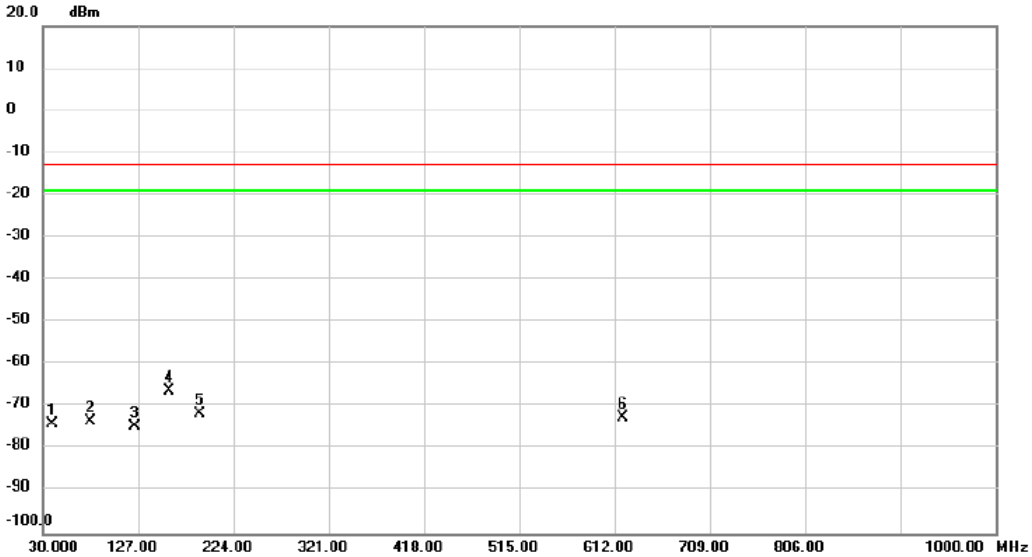
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 97.9000 | -59.74 | -15.41 | -75.15 | -13.00 | -62.15 | peak | |
| 2 | | 151.2500 | -58.43 | -12.23 | -70.66 | -13.00 | -57.66 | peak | |
| 3 | * | 191.0200 | -55.57 | -14.67 | -70.24 | -13.00 | -57.24 | peak | |
| 4 | | 240.4900 | -56.60 | -14.13 | -70.73 | -13.00 | -57.73 | peak | |
| 5 | | 329.7300 | -60.20 | -11.18 | -71.38 | -13.00 | -58.38 | peak | |
| 6 | | 678.9300 | -67.79 | -4.74 | -72.53 | -13.00 | -59.53 | peak | |

| Test Mode | LTE Band 2_TX CH18900_20M_Second Antenna |
|---|---|

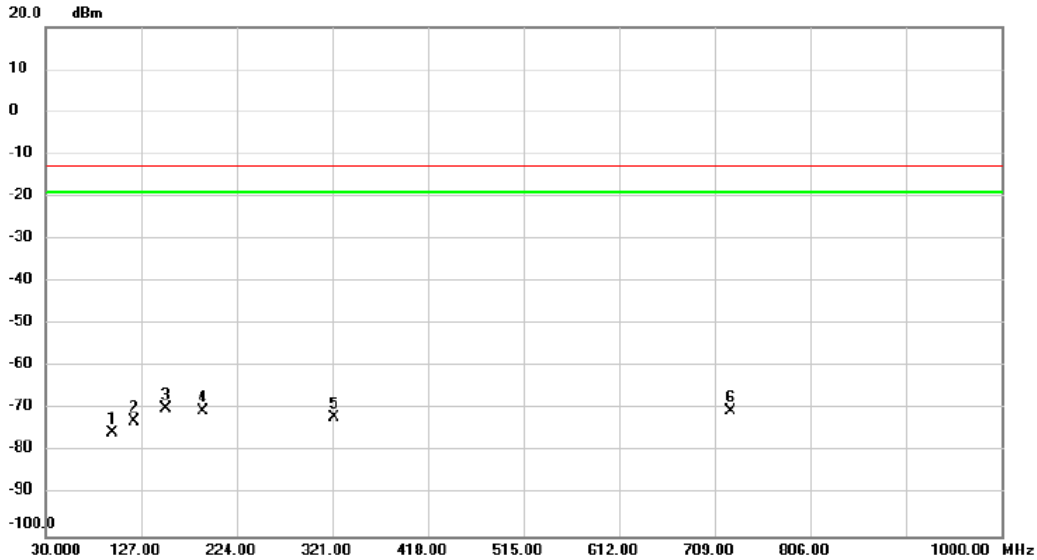
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 39.7000 | -60.26 | -13.71 | -73.97 | -13.00 | -60.97 | peak | |
| 2 | | 78.5000 | -55.80 | -17.75 | -73.55 | -13.00 | -60.55 | peak | |
| 3 | | 123.1200 | -61.43 | -13.13 | -74.56 | -13.00 | -61.56 | peak | |
| 4 | * | 158.0400 | -54.96 | -11.37 | -66.33 | -13.00 | -53.33 | peak | |
| 5 | | 190.0500 | -56.92 | -14.60 | -71.52 | -13.00 | -58.52 | peak | |
| 6 | | 620.7300 | -66.86 | -5.75 | -72.61 | -13.00 | -59.61 | peak | |

| Test Mode | LTE Band 2_TX CH18900_20M_Second Antenna |
|---|---|

**Horizontal**

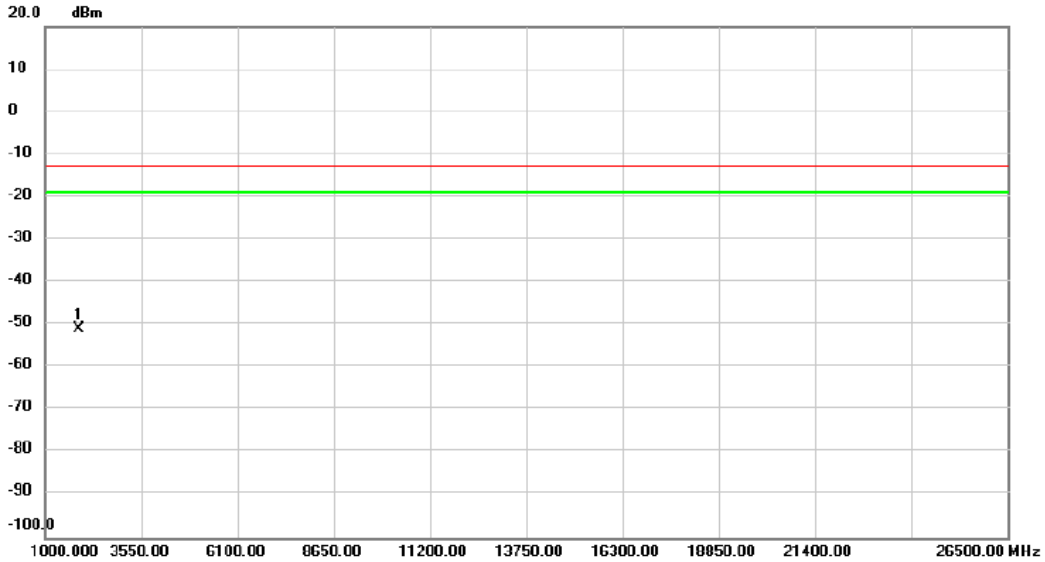



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | | 97.9000 | -60.09 | -15.41 | -75.50 | -13.00 | -62.50 | peak | |
| 2 | | 119.2400 | -59.72 | -13.24 | -72.96 | -13.00 | -59.96 | peak | |
| 3 | * | 152.2200 | -57.66 | -12.11 | -69.77 | -13.00 | -56.77 | peak | |
| 4 | | 189.0800 | -55.89 | -14.48 | -70.37 | -13.00 | -57.37 | peak | |
| 5 | | 322.9400 | -60.72 | -11.28 | -72.00 | -13.00 | -59.00 | peak | |
| 6 | | 725.4900 | -66.03 | -4.29 | -70.32 | -13.00 | -57.32 | peak | |

# APPENDIX C - RADIATED SPURIOUS EMISSIONS (ABOVE 1000MHZ)

| Test Mode | PCS1900_TX CH661_GSM_Main Antenna |
|---|---|

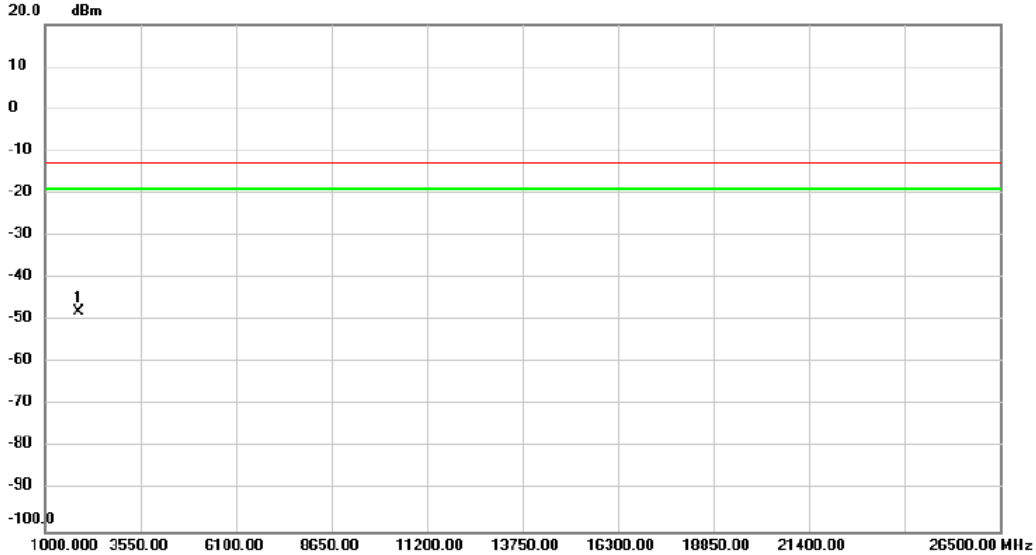
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -59.44 | 8.38 | -51.06 | -13.00 | -38.06 | peak | |

| Test Mode | PCS1900_TX CH661_GSM_Main Antenna |
|---|---|

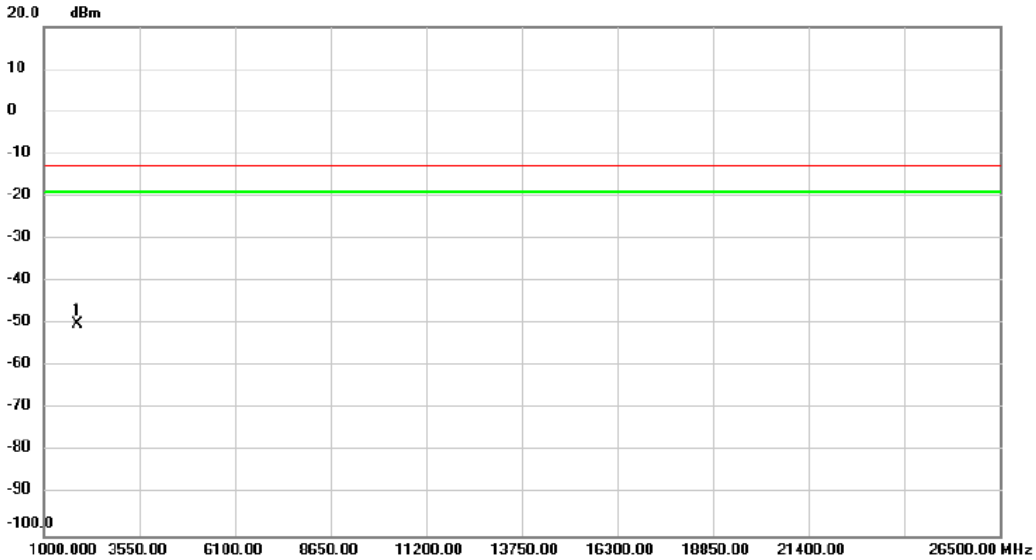
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -56.28 | 8.38 | -47.90 | -13.00 | -34.90 | peak | |

| Test Mode | PCS1900_TX CH661_GSM_Second Antenna |
|---|---|

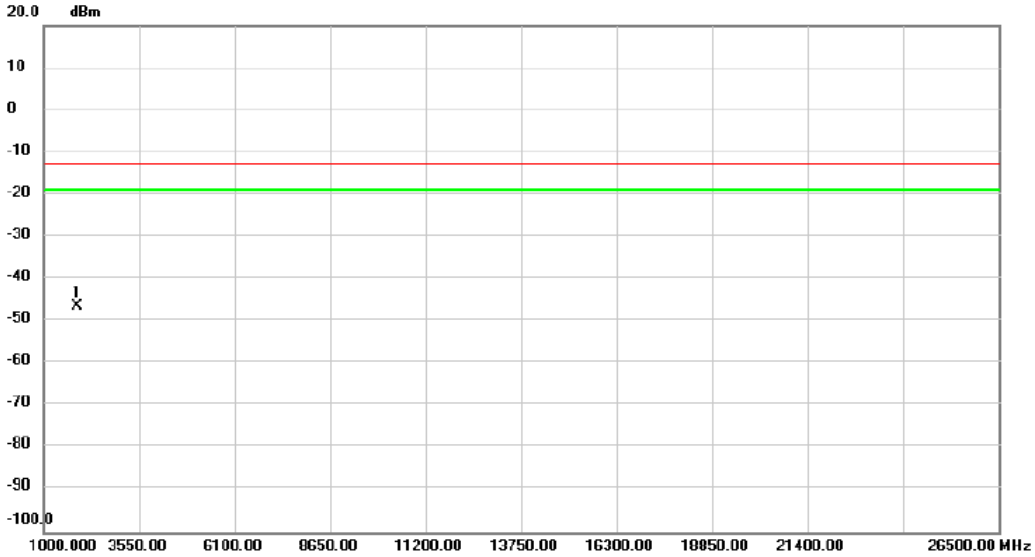
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -58.44 | 8.38 | -50.06 | -13.00 | -37.06 | peak | |

| Test Mode | PCS1900_TX CH661_GSM_Second Antenna |
|---|---|

**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -54.78 | 8.38 | -46.40 | -13.00 | -33.40 | peak | |

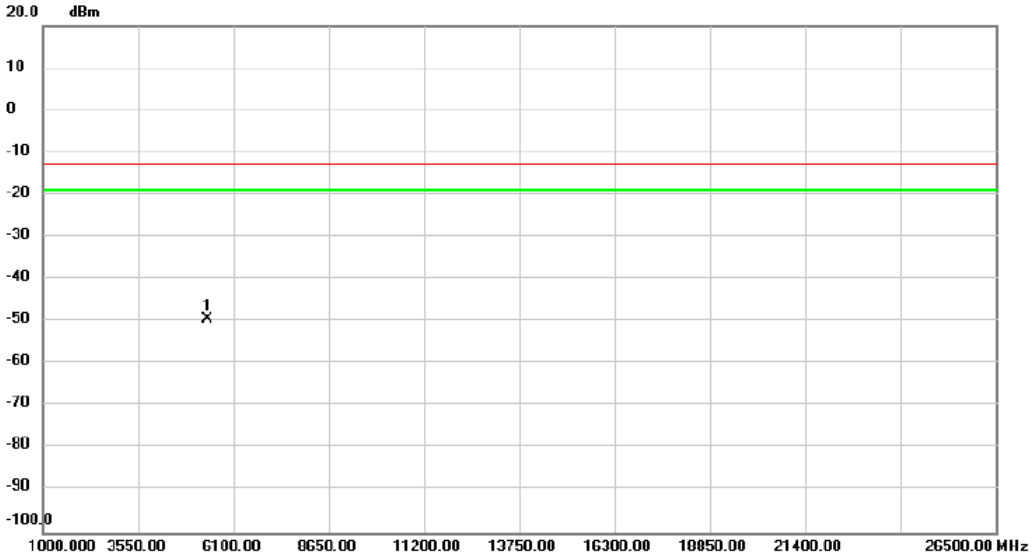
| Test Mode | WCDMA Band II_TX CH9400_Main Antenna |
|---|---|

**Vertical**

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 7783.000 | -55.76 | 9.49 | -46.27 | -13.00 | -33.27 | peak | |

| Test Mode | WCDMA Band II_TX CH9400_Main Antenna |
|---|---|

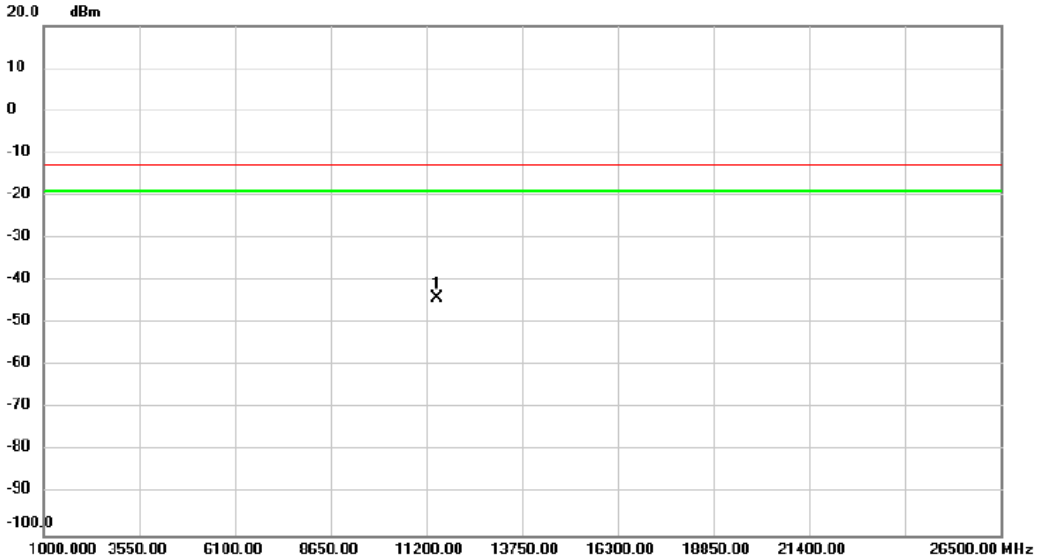
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 5411.500 | -54.63 | 5.17 | -49.46 | -13.00 | -36.46 | peak | |

| Test Mode | WCDMA Band II_TX CH9400_Second Antenna |
|---|---|

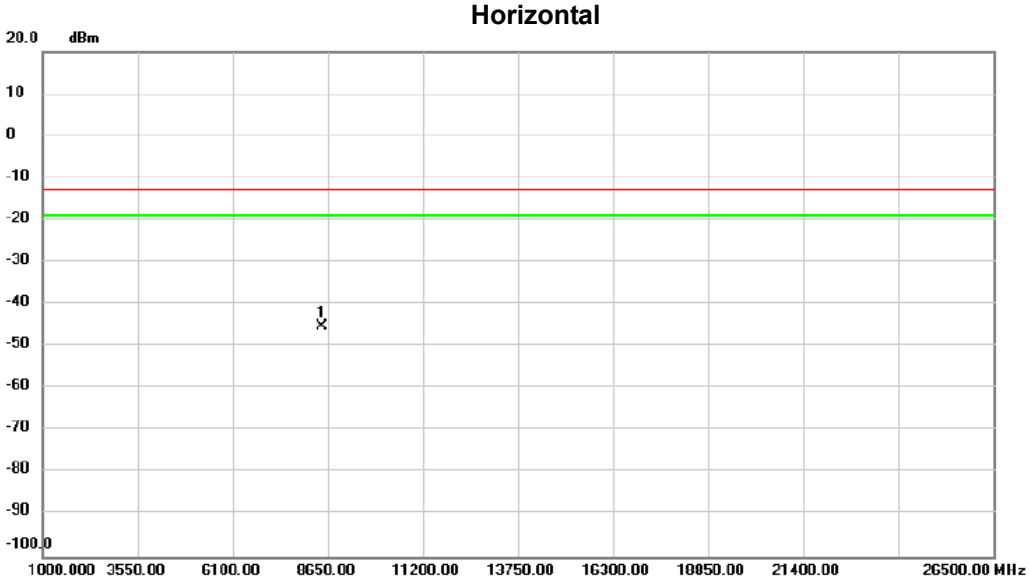
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 11480.50 | -56.82 | 12.73 | -44.09 | -13.00 | -31.09 | peak | |

| Test Mode | WCDMA Band II_TX CH9400_Second Antenna |
|---|---|

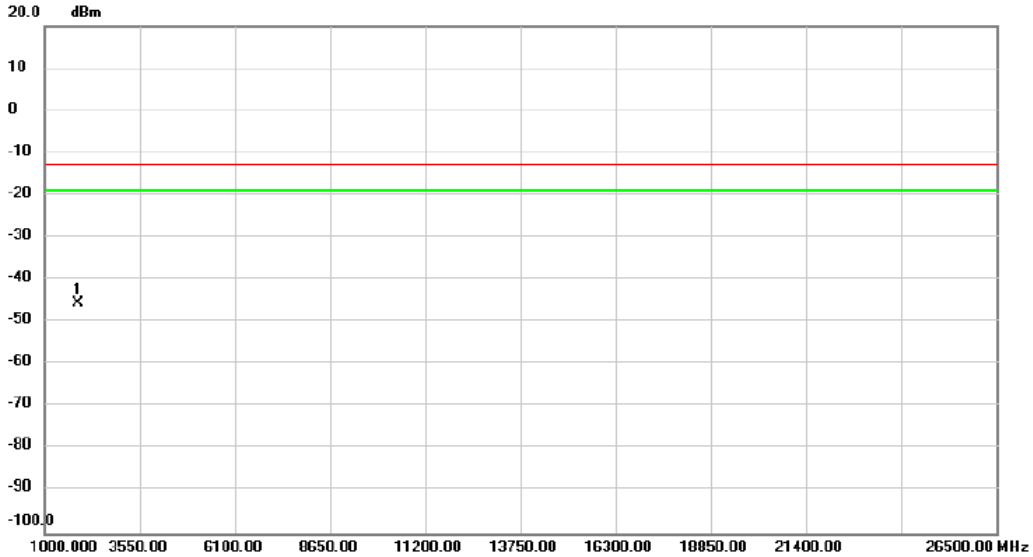
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 8497.000 | -55.44 | 10.16 | -45.28 | -13.00 | -32.28 | peak | |

| Test Mode | LTE Band 2_TX CH18900_1.4M_Main Antenna |
|---|---|

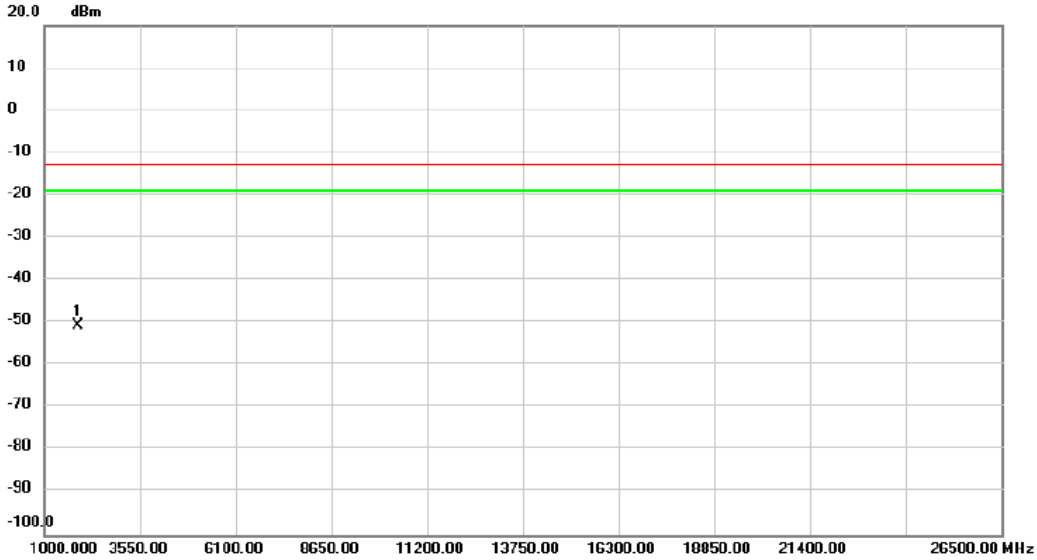
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -42.21 | -3.36 | -45.57 | -13.00 | -32.57 | peak | |

| Test Mode | LTE Band 2_TX CH18900_1.4M_Main Antenna |
|---|---|

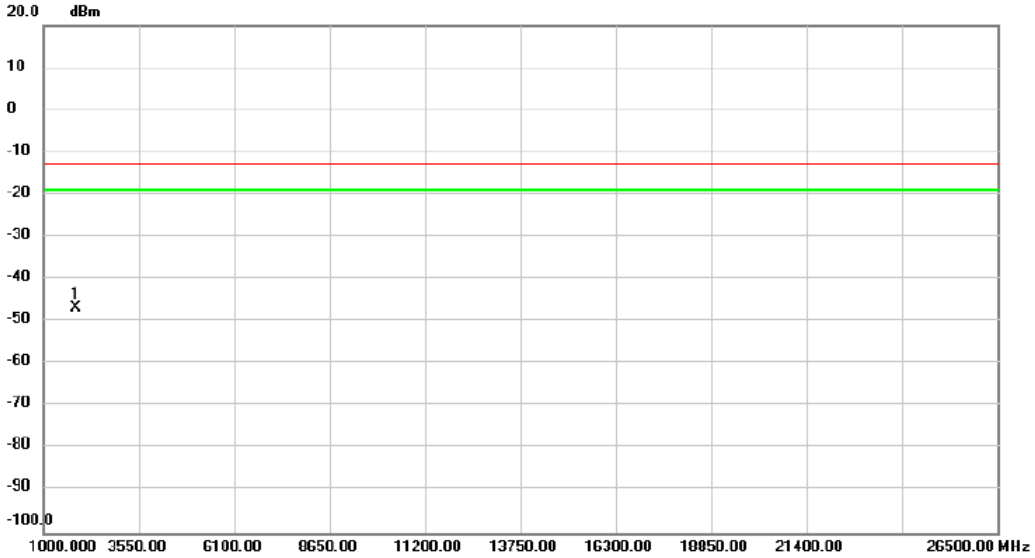
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -47.36 | -3.36 | -50.72 | -13.00 | -37.72 | peak | |

| Test Mode | LTE Band 2_ TX CH18900_5M_Main Antenna |
|---|---|

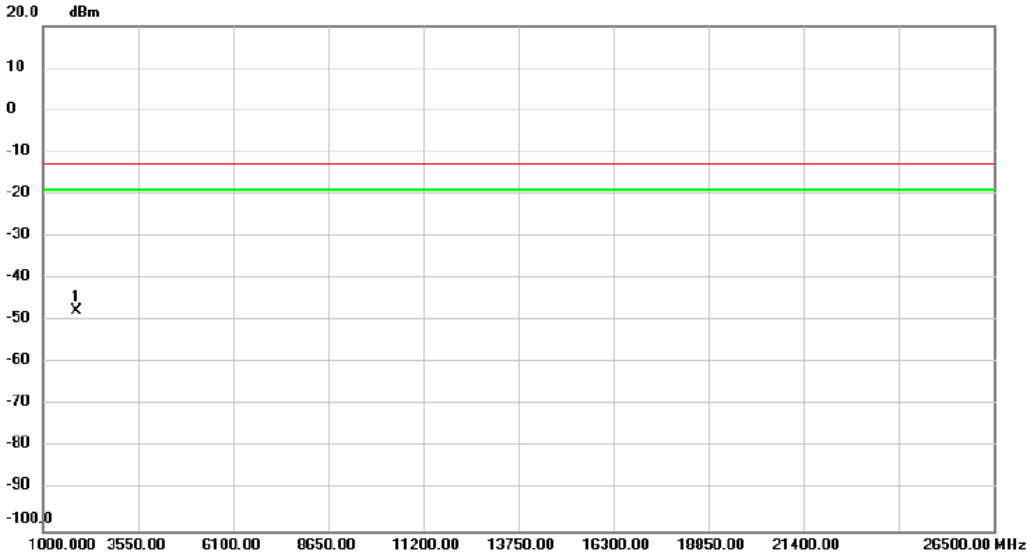
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1867.000 | -43.27 | -3.53 | -46.80 | -13.00 | -33.80 | peak | |

| Test Mode | LTE Band 2_ TX CH18900_5M_Main Antenna |
|---|---|

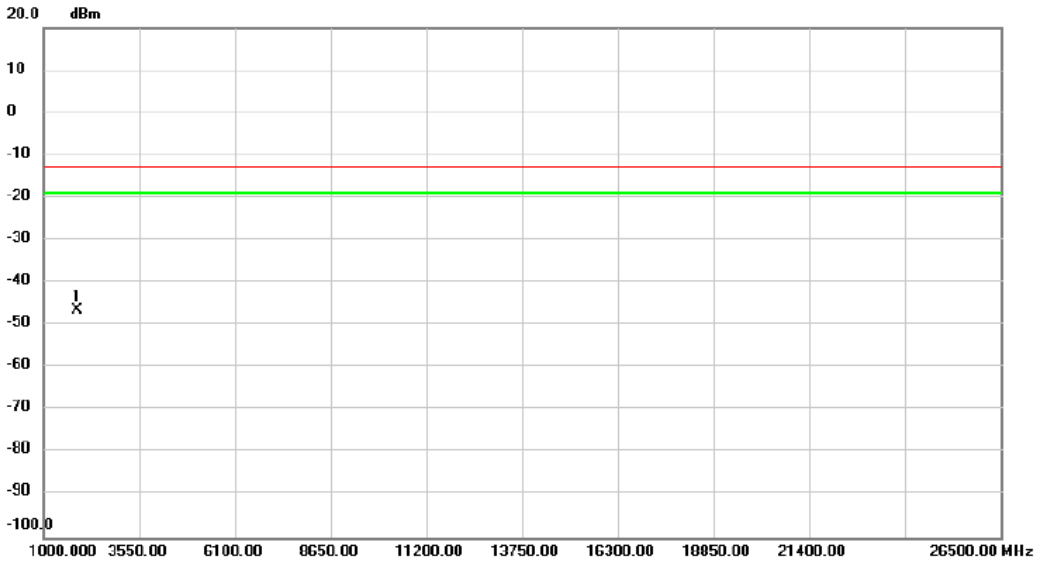
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -44.41 | -3.36 | -47.77 | -13.00 | -34.77 | peak | |

| Test Mode | LTE Band 2_TX CH18900_20M_Main Antenna |
|---|---|

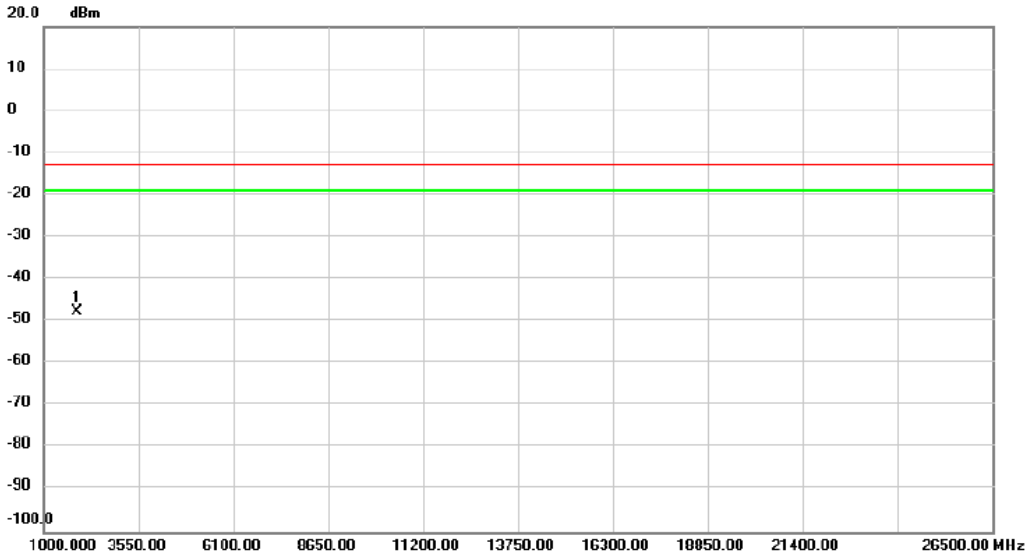
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -43.08 | -3.36 | -46.44 | -13.00 | -33.44 | peak | |

| Test Mode | LTE Band 2_TX CH18900_20M_Main Antenna |
|---|---|

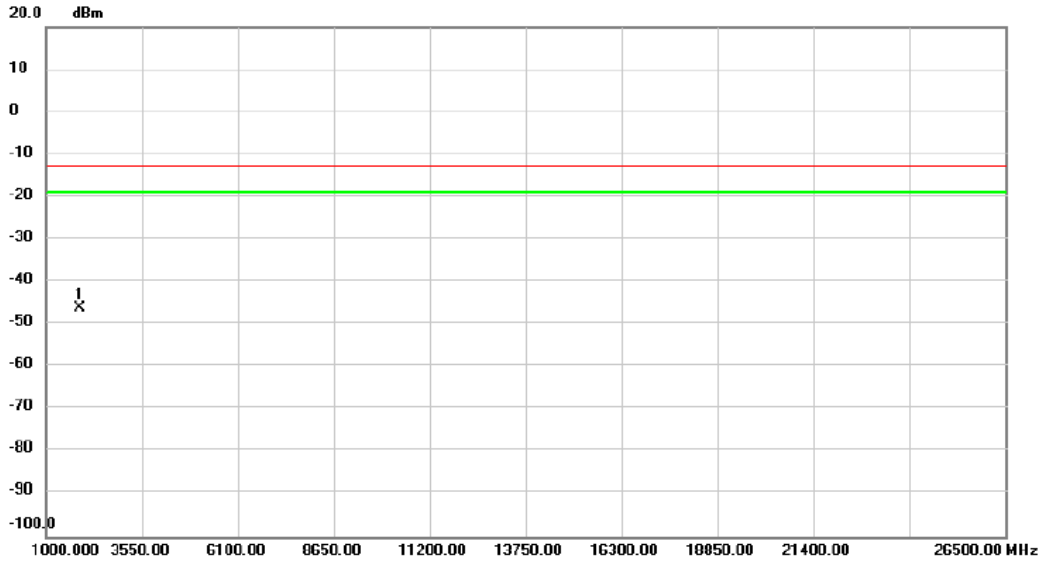
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -44.20 | -3.36 | -47.56 | -13.00 | -34.56 | peak | |

| Test Mode | LTE Band 2_TX CH18900_1.4M_Second Antenna |
|---|---|

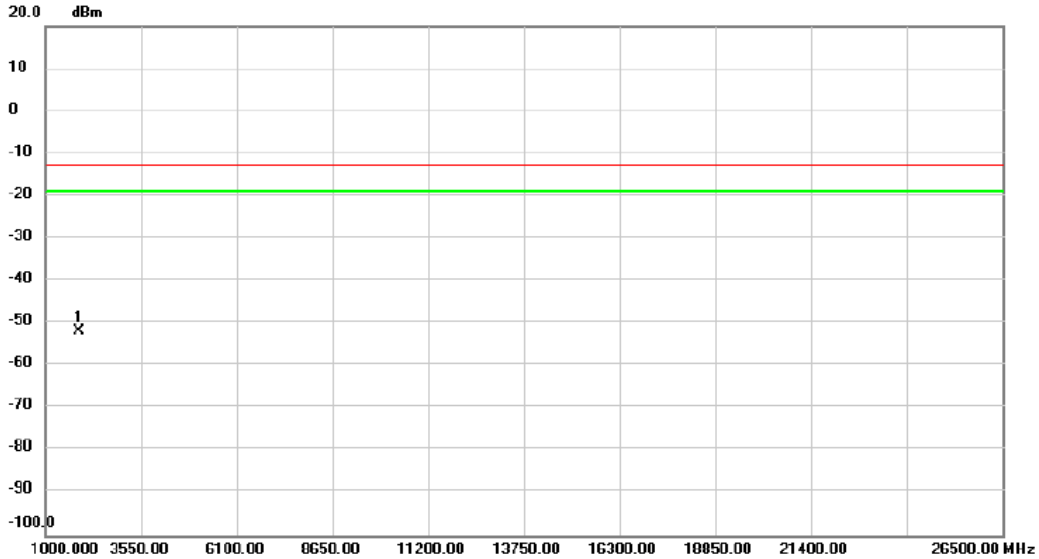
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -42.71 | -3.36 | -46.07 | -13.00 | -33.07 | peak | |

| Test Mode | LTE Band 2_TX CH18900_1.4M_Second Antenna |
|---|---|

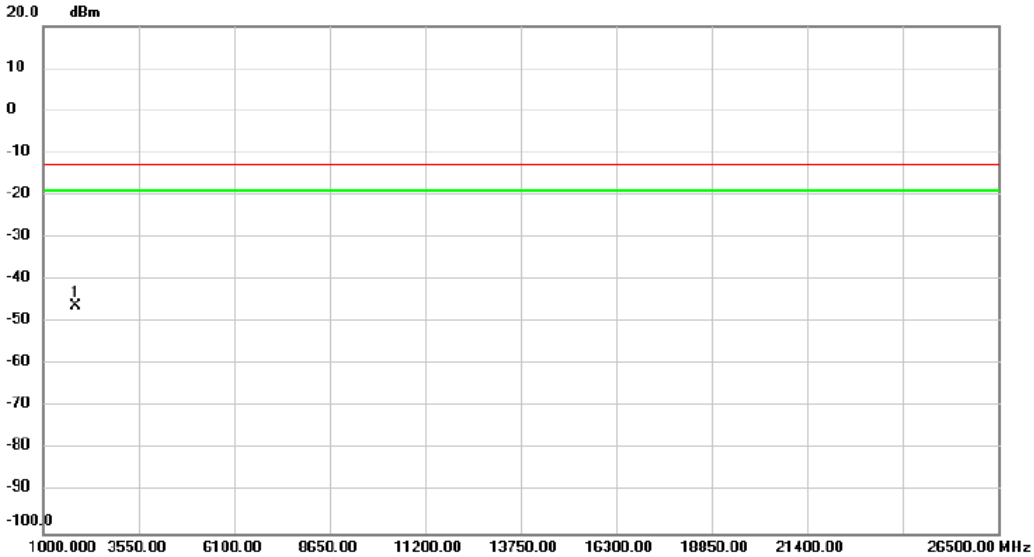
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -48.36 | -3.36 | -51.72 | -13.00 | -38.72 | peak | |

| Test Mode | LTE Band 2_ TX CH18900_5M_Second Antenna |
|---|---|

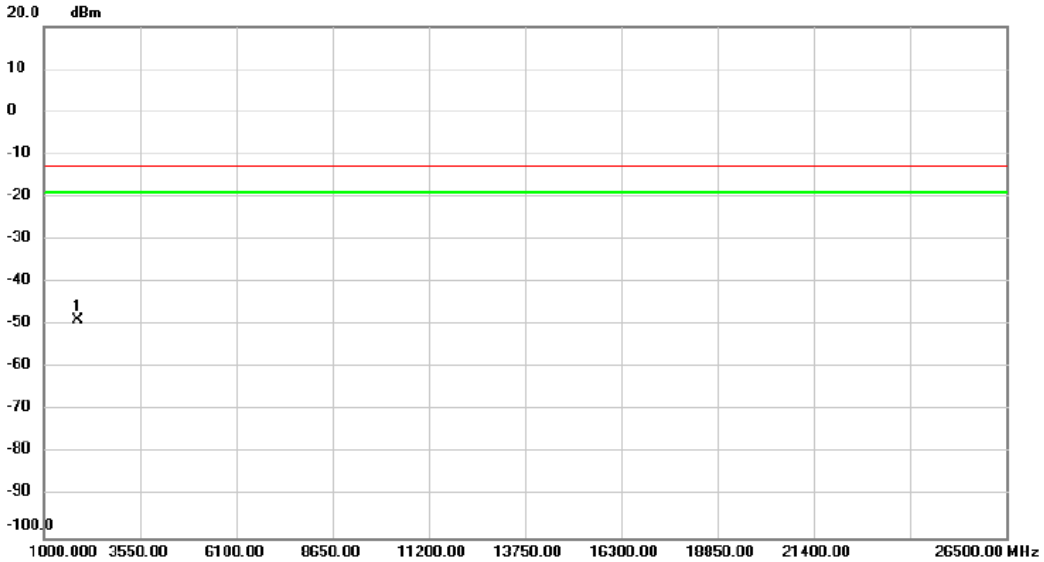
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1867.000 | -42.77 | -3.53 | -46.30 | -13.00 | -33.30 | peak | |

| Test Mode | LTE Band 2_ TX CH18900_5M_Second Antenna |
|---|---|

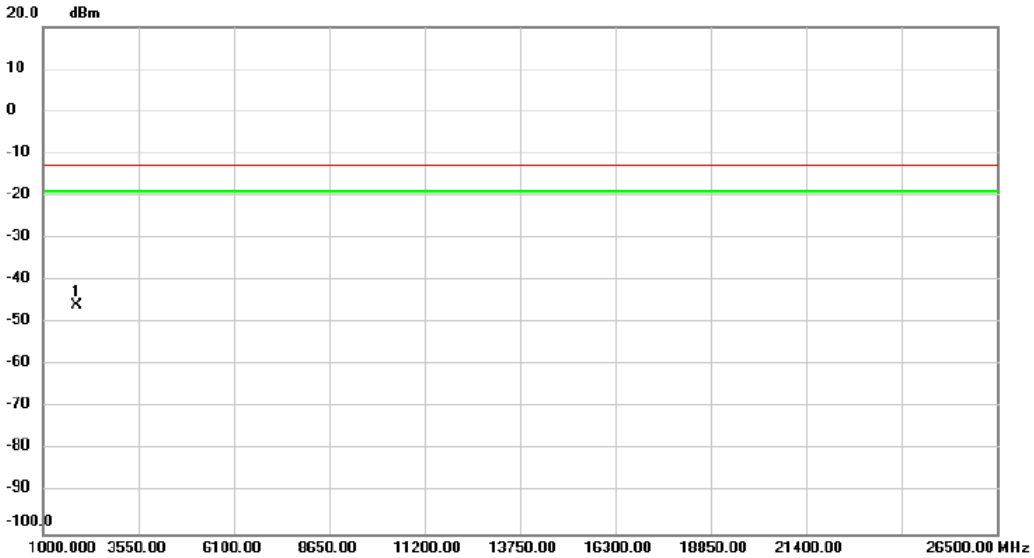
**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -45.41 | -3.36 | -48.77 | -13.00 | -35.77 | peak | |

| Test Mode | LTE Band 2_TX CH18900_20M_Second Antenna |
|---|---|

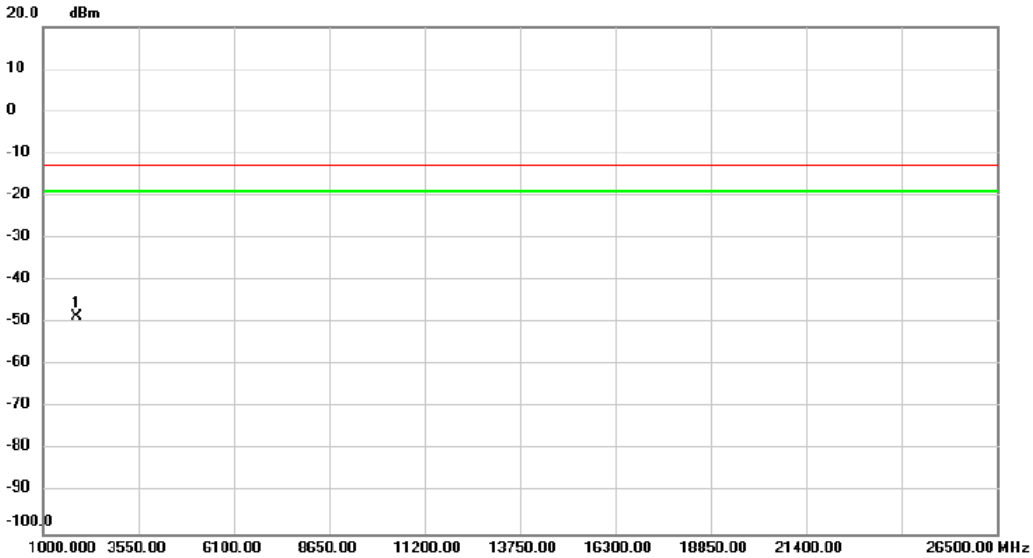
**Vertical**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -42.58 | -3.36 | -45.94 | -13.00 | -32.94 | peak | |

| Test Mode | LTE Band 2_TX CH18900_20M_Second Antenna |
|---|---|

**Horizontal**




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Margin | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | Comment |
| 1 | * | 1892.500 | -45.20 | -3.36 | -48.56 | -13.00 | -35.56 | peak | |

# APPENDIX G - BAND EDGE