

FCC Radio Test Report

FCC ID: 2AH4HMT4201

This report concerns: Original Grant

Project No. : 2104C020
Equipment : LTE Cat-M1 Tracker
Brand Name : Mobilogix
Test Model : MT4201E
Series Model : MT4201C
Applicant : Mobilogix, Inc.
Address : 5500 Trabuco Rd Suite 150 Irvine, CA, USA
Manufacturer : Mobilogix, Inc.
Address : 5500 Trabuco Rd Suite 150 Irvine, CA, USA
Factory : Suga Electronics (Dongguan) Co., Ltd.
Address : No.8 Fulong Road, Qingxi Town, Dongguan City
Date of Receipt : Apr. 28, 2021
Date of Test : Apr. 29, 2021 ~ May 18, 2021
Issued Date : Jun. 07, 2021
Report Version : R00
Test Sample : Engineering Sample No.: DG2021050858
Standard(s) : 47 CFR FCC Part 24 Subpart E
47 CFR FCC Part 2
ANSI/TIA/EIA-603-E-2016
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.

Vegeta Li

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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's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

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. | Jun. 07, 2021 |

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 24.232(c) | Equivalent Isotropic Radiated Power | PASS | ----- |
| 2.1049 | Occupied Bandwidth | PASS | ----- |
| 2.1051 24.238(a) | Conducted Spurious Emissions | PASS | ----- |
| 2.1053 24.238(a) | Radiated Spurious Emissions | PASS | ----- |
| 24.238(a) | Band Edge Measurements | PASS | ----- |
| 24.232(d) | Peak To Average Ratio | PASS | ----- |
| 2.1055 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 |

B. Other Measurement:

| Parameter | Uncertainty |
|------------------------|-------------|
| Spectrum Bandwidth | ±3.8 % |
| Maximum Output Power | ±0.95 dB |
| Power Spectral Density | ±0.86 dB |
| Frequency Stability | ±0.16 dB |
| Temperature | ±0.08 °C |
| Time | ±0.58 % |
| Supply voltages | ±0.3 % |

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 & ERP | 21.3°C | 46% | DC 3.7 | Tate Liu |
| Occupied Bandwidth | 21.3°C | 46% | DC 3.7 | Tate Liu |
| Conducted Spurious Emissions | 21.3°C | 46% | DC 3.7 | Tate Liu |
| Radiated Spurious Emissions | 26°C | 52% | DC 3.7 | Grani Zhou |
| Band Edge | 21.3°C | 46% | DC 3.7 | Tate Liu |
| Peak to Average Ratio | 21.3°C | 46% | DC 3.7 | Tate Liu |
| Frequency Stability | Normal & Extreme | 46% | Normal & Extreme | Tate Liu |

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

| | | | | |
|---------------------|---|---------------------------|------------|------------|
| Equipment | LTE Cat-M1 Tracker | | | |
| Brand Name | Mobilogix | | | |
| Test Model | MT4201E | | | |
| Series Model | MT4201C | | | |
| Model Difference(s) | Only differ in model name and Harness. | | | |
| Hardware Version | 1.2 | | | |
| Software Version | 1.5.0.1 | | | |
| Power Source | 1# DC voltage supplied from external power supply. 2# Supplied from battery. | | | |
| Power Rating | 1# DC 48V 2# DC 3.7V | | | |
| IEMI No. | 864475040048497 | | | |
| Category | NB2 | | | |
| Sub-carrier Spacing | 3.75KHz, 15KHz | | | |
| Modulation Type | UL: BPSK, QPSK DL: BPSK, QPSK | | | |
| Max. EIRP | LTE | Sub-carrier Spacing (kHz) | BPSK (dBm) | QPSK (dBm) |
| | Band 2 | 3.75 | 18.04 | 18.08 |
| | | 15 | 18.00 | 18.24 |

Note:

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

2. Table for Filed Antenna:

| Brand | Model Name | Antenna Type | Connector | Gain (dBi) | Note |
|-------|------------|--------------|-----------|------------|------------|
| N/A | N/A | Internal | N/A | -2.65 | LTE Band 2 |

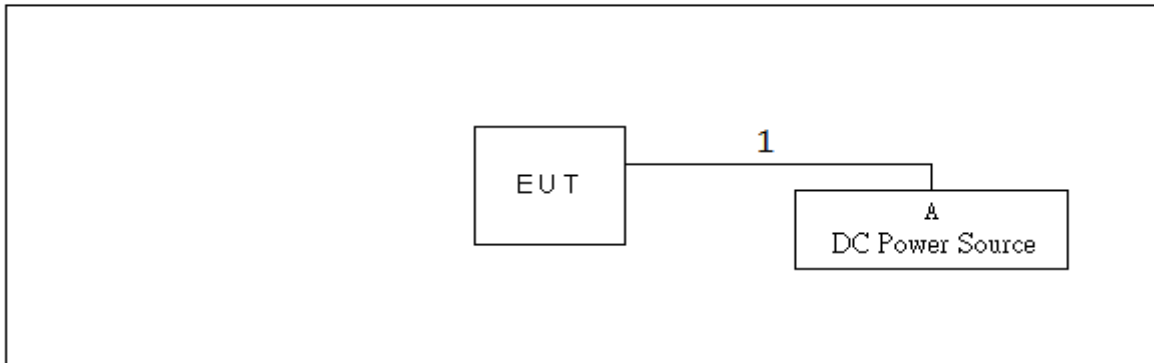
Note: The antenna gain is provided by the manufacturer.

2.2 DESCRIPTION OF TEST MODES

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

| LTE Band 2 MODE | | | | |
|------------------------------|---------------------|--------------------------|------------|----------|
| Test Item | Tested Channel | Sub-carrier Spacing(kHz) | Modulation | Mode |
| Output Power & EIRP | 18601, 18900, 19199 | 3.75 | BPSK, QPSK | 1RB |
| | | 15 | | |
| Occupied Bandwidth | 18601, 18900, 19199 | 3.75 | BPSK, QPSK | 1RB |
| | | 15 | | 1RB/12RB |
| Conducted Spurious Emissions | 18900 | 3.75 | BPSK, QPSK | 1RB |
| | | 15 | | |
| Radiated Spurious Emissions | 18900 | 3.75 | BPSK, QPSK | 1RB |
| | | 15 | | |
| Band Edge | 18602, 19198 | 3.75 | BPSK, QPSK | 1RB |
| | | 15 | | 1RB/12RB |
| Peak To Average Ratio | 18601, 18900, 19199 | 3.75 | BPSK, QPSK | 1RB |
| | | 15 | | |
| Frequency Stability | 18900 | 3.75 | BPSK, QPSK | 1RB |
| | | 15 | | |

2.3 BLOCKDIGRAMSHOWINGTHECONFIGURATIONOFSYSTEMTESTED



2.4 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. |
|------|-----------------|------------|----------------|------------|
| A | DC Power Source | TRUE-POWER | GPC30300N | N/A |

| Item | Cable Type | Shielded Type | Ferrite Core | Length |
|------|------------|---------------|--------------|--------|
| 1 | DC Cable | NO | NO | 1.5m |

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:

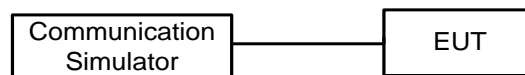
$EIRP = \text{Output Power} + \text{Antenan gain}$

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.

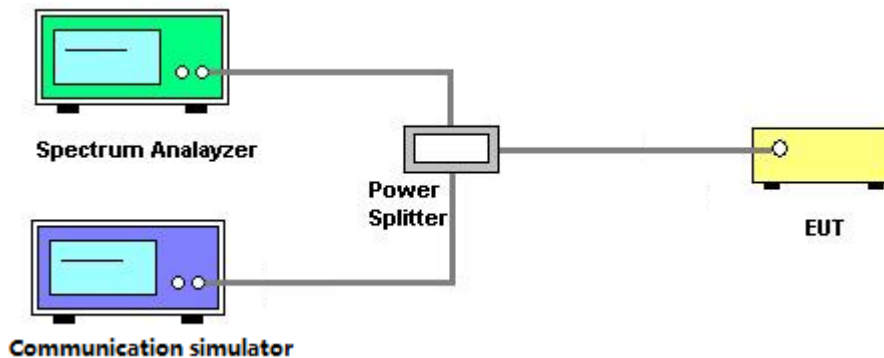
3.2 OCCUPIED BANDWIDTH MEASUREMENT

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. $RBW=(1\% \sim 5\%)*EBW$
 $VBW \geq 3* RBW$
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

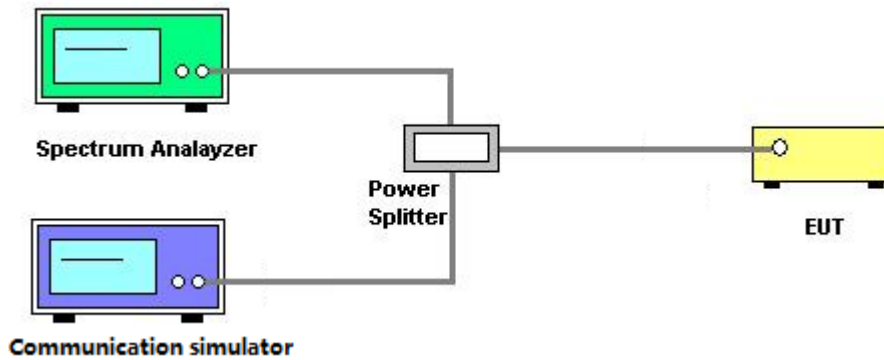
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm.

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 \geq 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

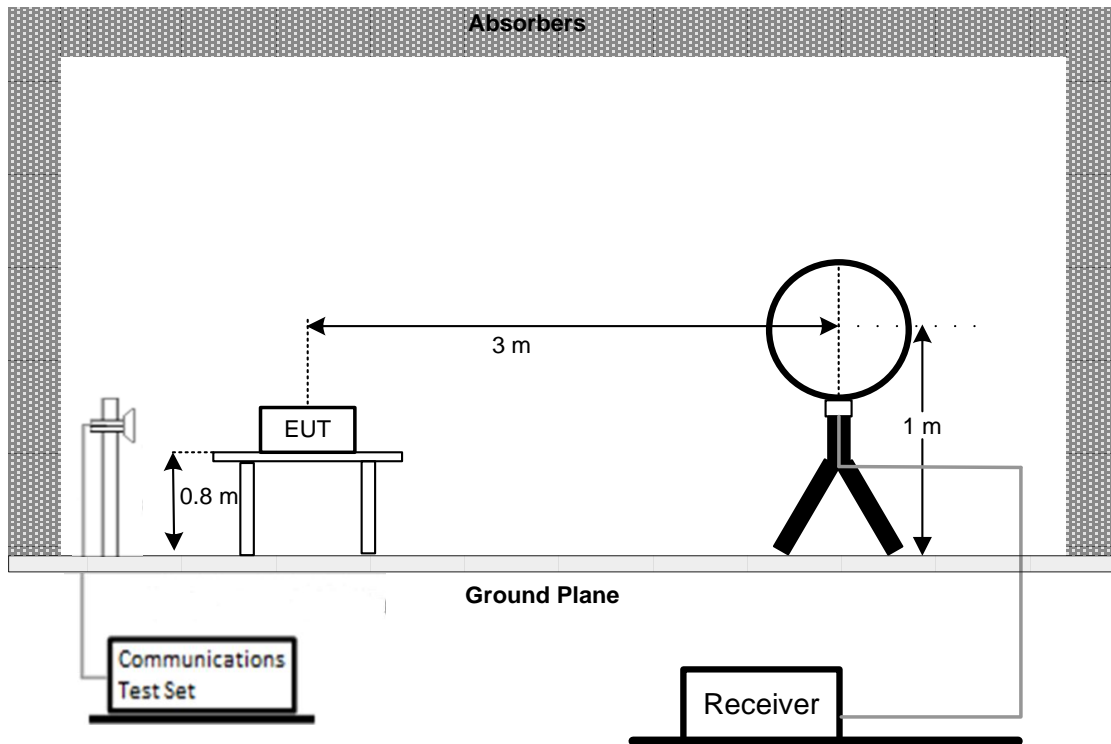
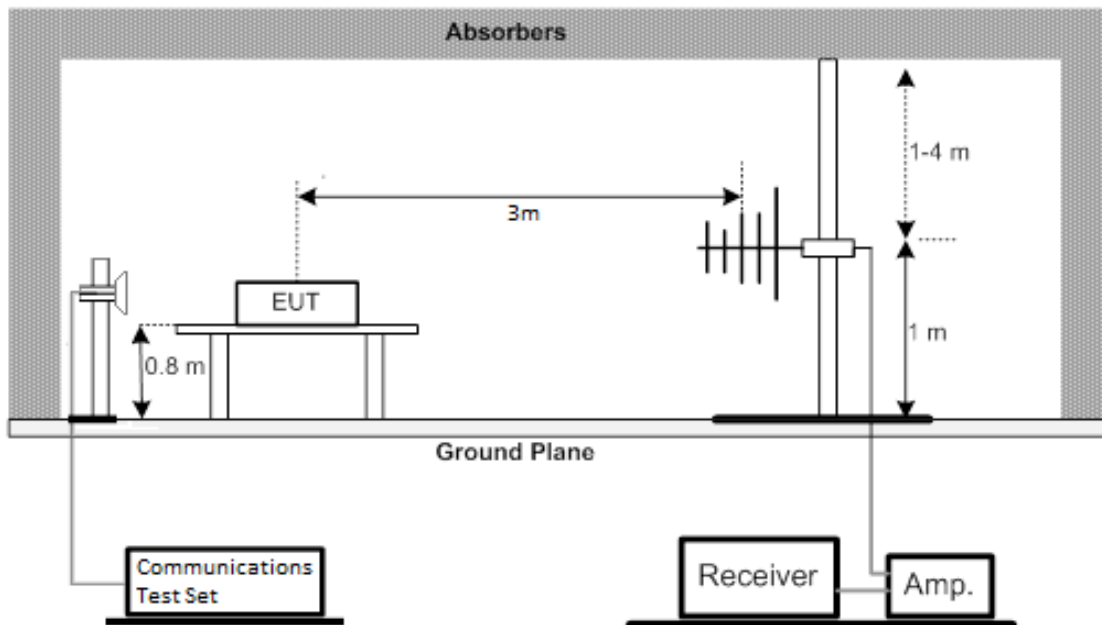
3.4.1 LIMIT

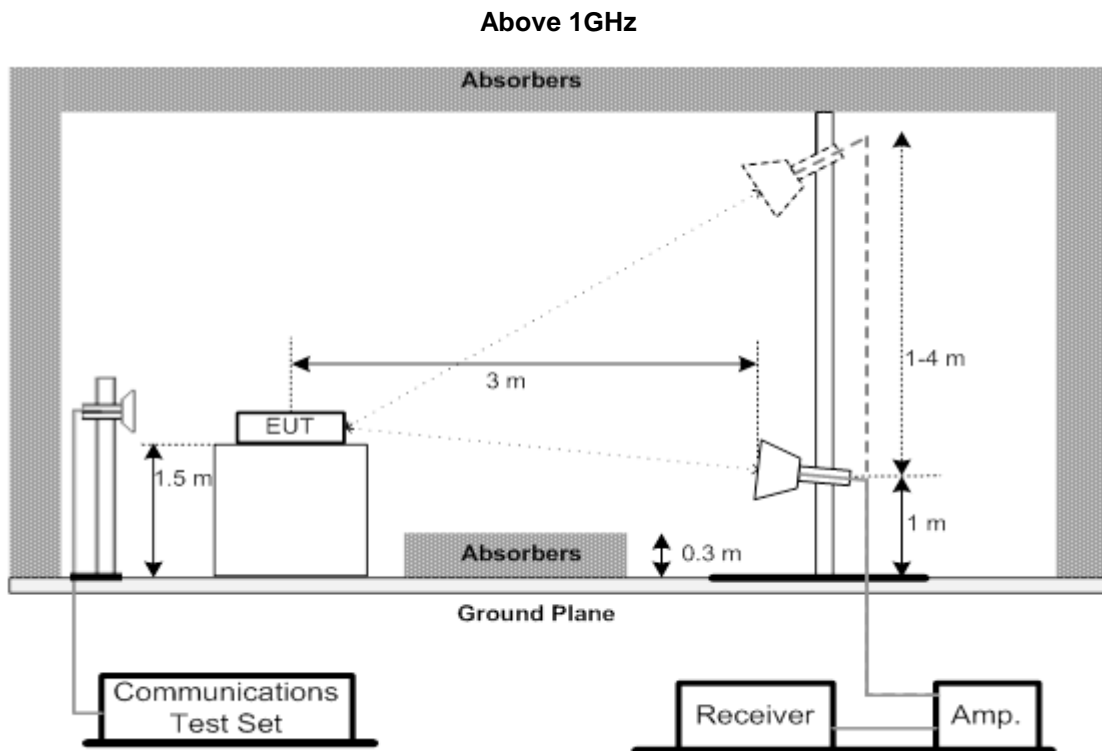
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm.

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. $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn.}$
4. ERP can be calculated form $EIRP$ by subtracting the gain of dipole, $ERP = EIPR - 2.15\text{dBi.}$
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**



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

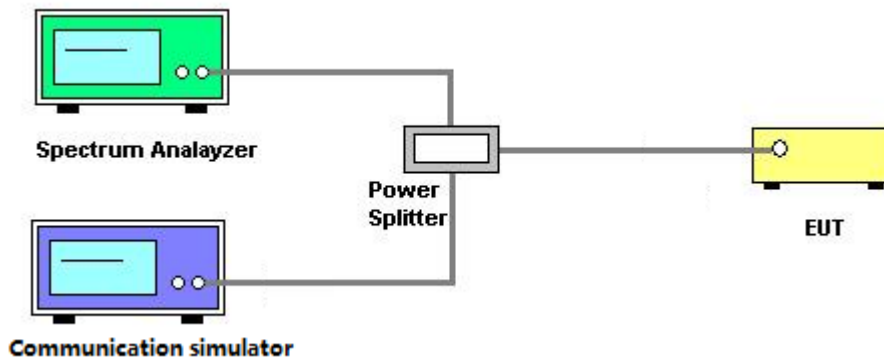
A Power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the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

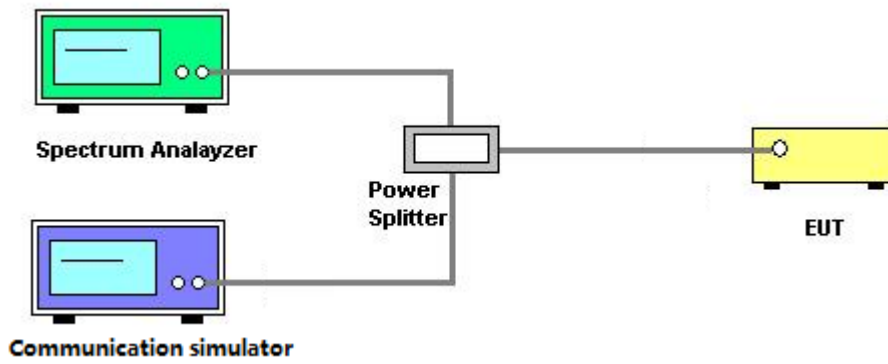
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.6.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 5.7.

1. Set resolution/measurement bandwidth \geq 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

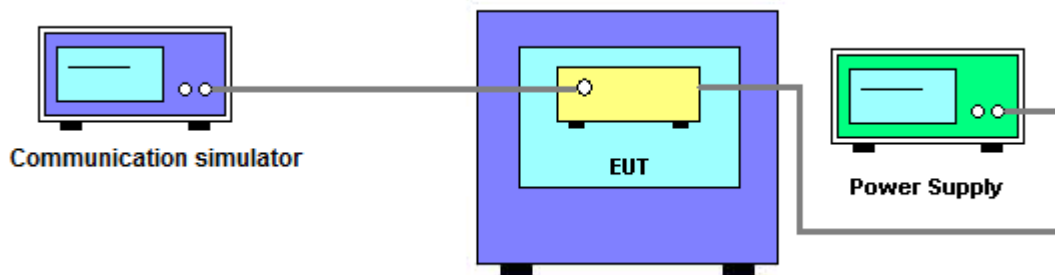
± 1.5 ppm is for base and fixed station. ± 2.5 ppm is for mobile station.

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 $\pm 0.5^\circ\text{C}$ 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. 15, 2022 |
| 2 | Amplifier | Agilent | 8449B | 3008A02334 | Feb. 27, 2022 |
| 3 | HighPass Filter | Wairwright Instruments Gmbh | WHK 1.5/15G-10ST | 11 | Feb. 27, 2022 |
| 4 | Band Reject Filter | Wairwright Instruments Gmbh | WRCG 1710/1785-1690/1805-60/ 12SS | 38 | Feb. 27, 2022 |
| 5 | Band Reject Filter | Wairwright Instruments Gmbh | WRCG 824/849-810/863-60/9SS | 7 | Feb. 27, 2022 |
| 6 | Band Reject Filter | Wairwright Instruments Gmbh | WRCG 880/915-860/935-60/9SS | 14 | Feb. 27, 2022 |
| 7 | Band Reject Filter | Wairwright Instruments Gmbh | WRCG 1850/1910-1830/1930-60/ 10SS | 17 | Feb. 27, 2022 |
| 8 | HighPass Filter | Wairwright Instruments Gmbh | WHK3.1/18G-10SS | 24 | Feb. 27, 2022 |
| 9 | Wireless Communication Test SET | Agilent | E5515C | MY48364183 | Feb. 28, 2022 |
| 10 | Microwave Preamplifier With Adaptor | EMC INSTRUMENT | EMC2654045 | 980039 & HA01 | Feb. 28, 2022 |
| 11 | Receiver | Agilent | N9038A | MY52130039 | Jul. 25, 2021 |
| 12 | wideband radio communication tester | R&S | CMW500 | 152372 | Feb. 27, 2022 |
| 13 | High pass filter | KANGMAIWEI | ZHPF-M3-12.75G-3869 | B2015073763 | Feb. 07, 2022 |
| 14 | High pass filter | KANGMAIWEI | ZHPF-M1000-4000-1 | B2015073762 | Feb. 07, 2022 |
| 15 | High pass filter | KANGMAIWEI | ZHPF-M6-186-1727 | B2015073764 | Feb. 07, 2022 |
| 16 | Cable | emci | LMR-400(30MHz-1GHz) (8m+5m) | N/A | May 23, 2021 |
| 17 | Cable | mitron | B10-01-01-12M | 18072744 | Jun. 28, 2021 |
| 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 | Apr. 28, 2022 |
| 21 | Double Ridged Guide Antenna | ETS | 3115 | 75846 | Mar. 17, 2022 |
| 22 | Broad-Band Horn Antenna | Schwarzbeck | BBHA 9170 | 9170319 | Jul. 07, 2021 |

| Conducted Measurement | | | | | |
|-----------------------|-------------------------------------|---------------|--------------|-------------|------------------|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Wireless Communication Test SET | Agilent | E5515C | MY48364183 | Feb. 28, 2022 |
| 2 | EXA Spectrum Analyzer | Agilent | N9010A | MY50520044 | Feb. 28, 2022 |
| 3 | POWER SPLITTER | Mini-Circuits | ZFRSC-123-S+ | 331000910-1 | Feb. 27, 2022 |
| 4 | wideband radio communication tester | R&S | CMW500 | 152372 | Feb. 27, 2022 |

| Frequency Stability Measurement | | | | | |
|---------------------------------|-------------------------------------|---------------|--------------|-------------|------------------|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Wireless Communication Test SET | Agilent | E5515C | MY48364183 | Feb. 28, 2022 |
| 2* | Multi-output DC Power Supply | GW Instek | GPC-3030DN | EK880675 | Jul. 25, 2023 |
| 3 | POWER SPLITTER | Mini-Circuits | ZFRSC-123-S+ | 331000910-1 | Feb. 27, 2022 |
| 4 | wideband radio communication tester | R&S | CMW500 | 152372 | Feb. 27, 2022 |
| 5 | Const Temp, & Humidity Chamber | Bell | BTH-50C | 20170306001 | Feb. 27, 2022 |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

"*" calibration period of equipment list is three year.

Except * item, all calibration period of equipment list is one year.

APPENDIX A - OUTPUT POWER

Output Power (dBm):

| LTE Band | Sub-carrier Spacing (kHz) | Modulation | N _{tones} | Tone offset | Low CH | Mid CH | High CH |
|----------|---------------------------|------------|--------------------|-------------|-----------|---------|-----------|
| | | | | | CH18601 | CH18900 | CH19199 |
| | | | | | 1850.1MHz | 1880MHz | 1909.9MHz |
| 2 | 3.75 | BPSK | 1 | 0 | 20.45 | 20.47 | 20.69 |
| | | | 1 | 47 | 20.47 | 20.15 | 20.59 |
| | | QPSK | 1 | 0 | 20.28 | 20.23 | 20.73 |
| | | | 1 | 47 | 20.21 | 20.18 | 20.65 |
| | 15 | BPSK | 1 | 0 | 20.34 | 20.39 | 20.65 |
| | | | 1 | 11 | 20.33 | 20.36 | 20.60 |
| | | QPSK | 1 | 0 | 20.42 | 20.47 | 20.89 |
| | | | 1 | 11 | 20.38 | 20.41 | 20.84 |

EIRP (dBm):

| LTE Band | Sub-carrier Spacing (kHz) | Modulation | N _{tones} | Tone offset | Low CH | Mid CH | High CH |
|----------|---------------------------|------------|--------------------|-------------|-----------|---------|-----------|
| | | | | | CH18601 | CH18900 | CH19199 |
| | | | | | 1850.1MHz | 1880MHz | 1909.9MHz |
| 2 | 3.75 | BPSK | 1 | 0 | 17.80 | 17.82 | 18.04 |
| | | | 1 | 47 | 17.82 | 17.50 | 17.94 |
| | | QPSK | 1 | 0 | 17.63 | 17.58 | 18.08 |
| | | | 1 | 47 | 17.56 | 17.53 | 18.00 |
| | 15 | BPSK | 1 | 0 | 17.69 | 17.74 | 18.00 |
| | | | 1 | 11 | 17.68 | 17.71 | 17.95 |
| | | QPSK | 1 | 0 | 17.77 | 17.82 | 18.24 |
| | | | 1 | 11 | 17.73 | 17.76 | 18.19 |

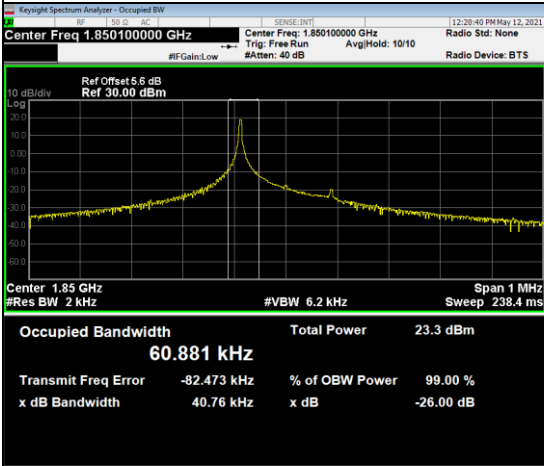
APPENDIX B - OCCUPIED BANDWIDTH

| LTE Band 2_3.75KHz | | | | | |
|--------------------|-----------------|------------------------------|---------|-----------------|----------------------|
| BPSK | | | 1RB#0 | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (KHz) | Channel | Frequency (MHz) | 26dB Bandwidth (KHz) |
| 18601 | 1850.1 | 60.881 | 18601 | 1850.1 | 40.76 |
| 18900 | 1880 | 60.853 | 18900 | 1880 | 41.40 |
| 19199 | 1909.9 | 60.244 | 19199 | 1909.9 | 39.51 |
| QPSK | | | 1RB#0 | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (KHz) | Channel | Frequency (MHz) | 26dB Bandwidth (KHz) |
| 18601 | 1850.1 | 66.906 | 18601 | 1850.1 | 41.93 |
| 18900 | 1880 | 68.950 | 18900 | 1880 | 40.89 |
| 19199 | 1909.9 | 66.243 | 19199 | 1909.9 | 39.89 |

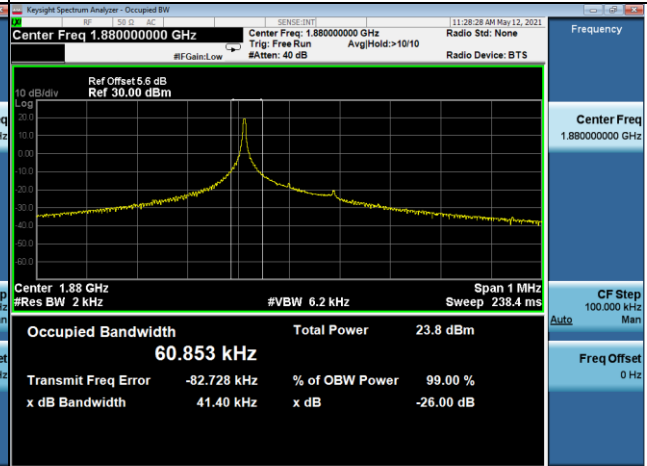
Spectrum Plot

1RB#0

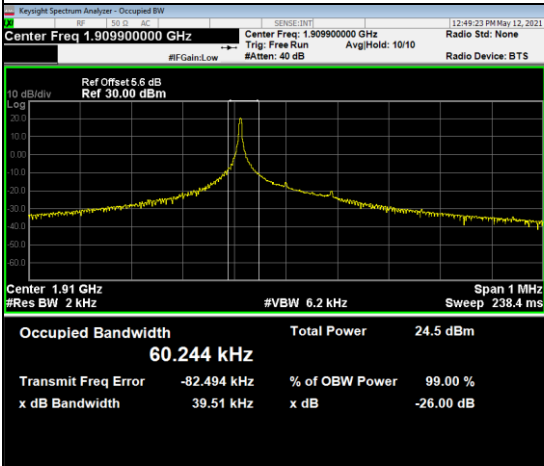
BPSK-18601



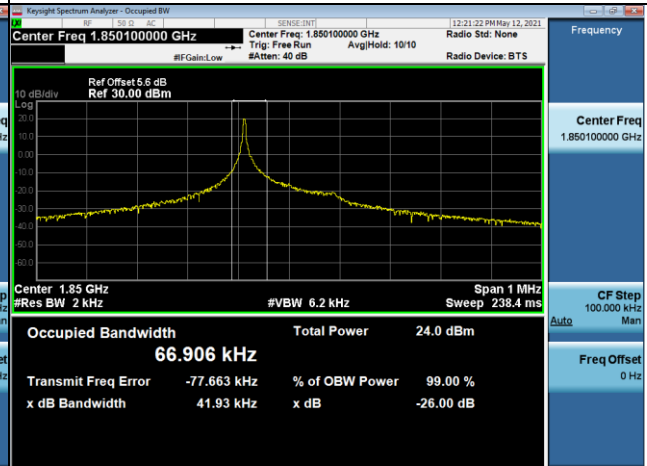
BPSK-18900



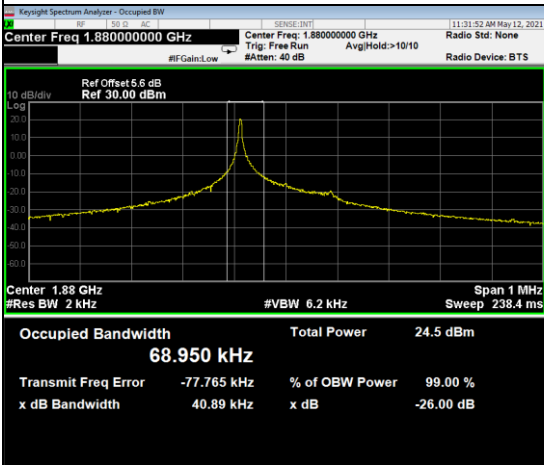
BPSK-19199



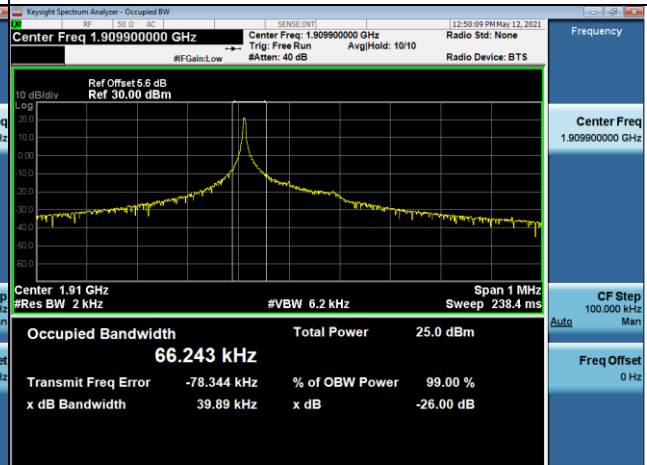
QPSK-18601



QPSK-18900



QPSK-19199

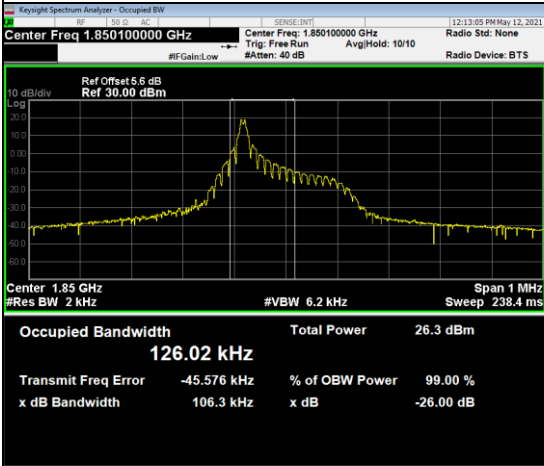


| LTE Band 2_15KHz | | | | | |
|------------------|-----------------|------------------------------|---------|-----------------|----------------------|
| BPSK | | | 1RB#0 | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (KHz) | Channel | Frequency (MHz) | 26dB Bandwidth (KHz) |
| 18601 | 1850.1 | 126.02 | 18601 | 1850.1 | 106.3 |
| 18900 | 1880 | 120.33 | 18900 | 1880 | 105.4 |
| 19199 | 1909.9 | 126.58 | 19199 | 1909.9 | 104.2 |
| QPSK | | | 1RB#0 | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (KHz) | Channel | Frequency (MHz) | 26dB Bandwidth (KHz) |
| 18601 | 1850.1 | 117.01 | 18601 | 1850.1 | 115.8 |
| 18900 | 1880 | 117.98 | 18900 | 1880 | 116.4 |
| 19199 | 1909.9 | 119.78 | 19199 | 1909.9 | 116.4 |
| QPSK | | | 12RB#0 | | |
| Channel | Frequency (MHz) | 99% Occupied Bandwidth (KHz) | Channel | Frequency (MHz) | 26dB Bandwidth (KHz) |
| 18601 | 1850.1 | 185.90 | 18601 | 1850.1 | 238.2 |
| 18900 | 1880 | 185.93 | 18900 | 1880 | 250.9 |
| 19199 | 1909.9 | 189.29 | 19199 | 1909.9 | 253.8 |

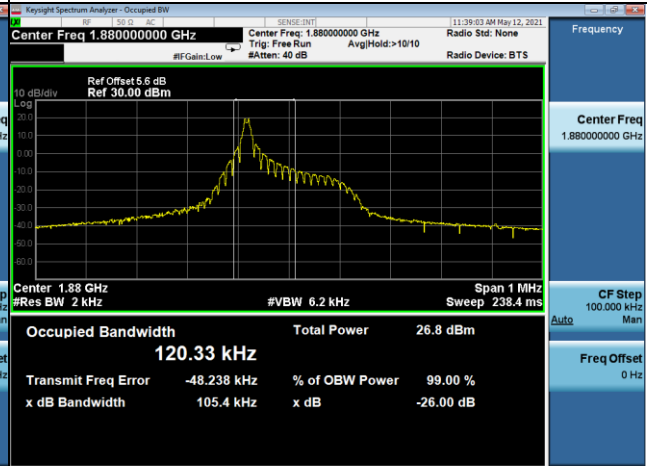
Spectrum Plot

1RB#0

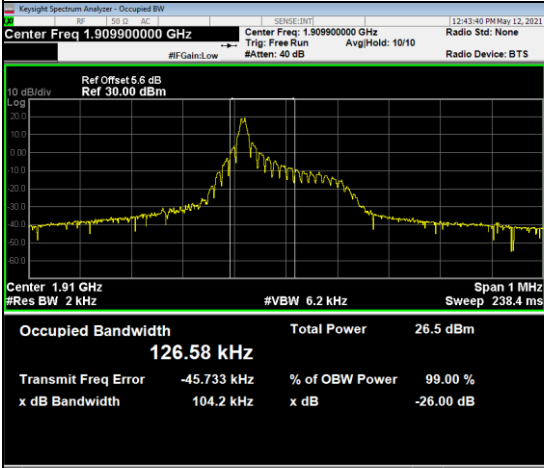
BPSK-18601



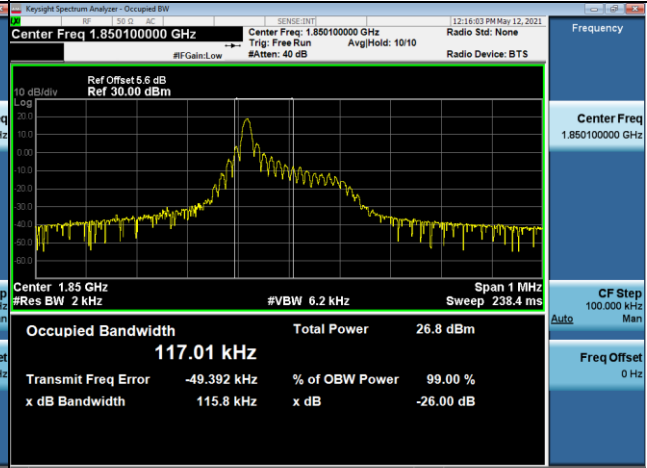
BPSK-18900



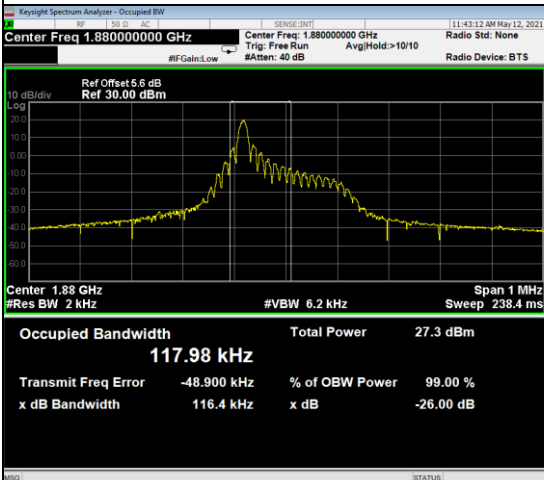
BPSK-19199



QPSK-18601



QPSK-18900



QPSK-19199



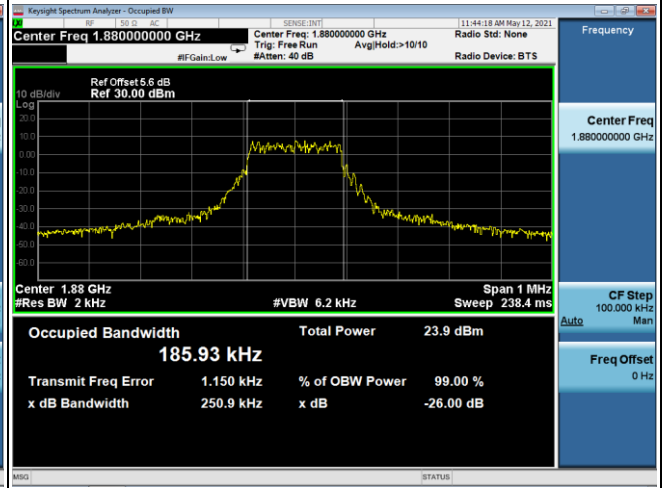
Spectrum Plot

12RB#0

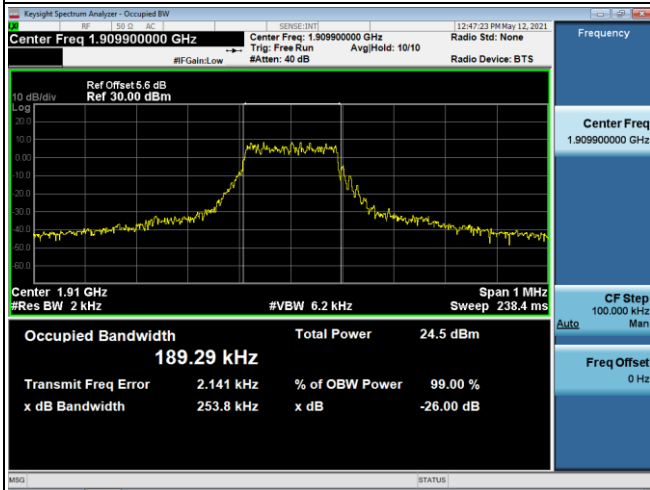
QPSK-18601



QPSK-18900



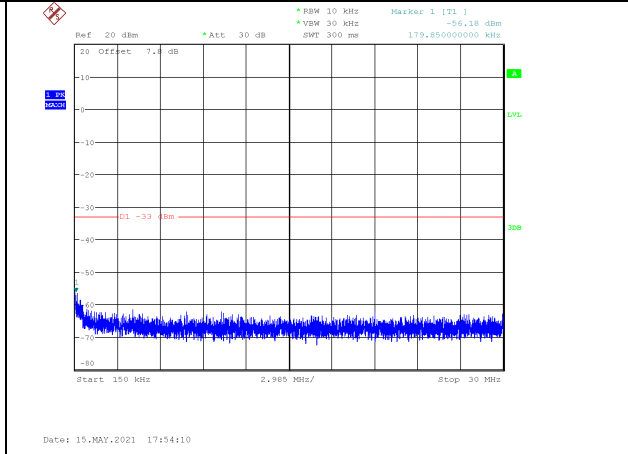
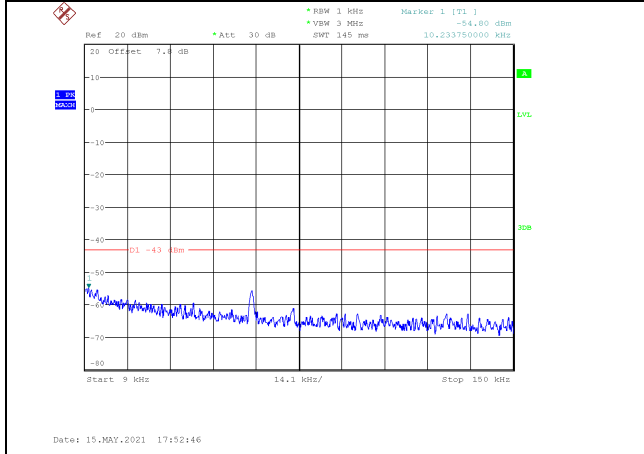
QPSK-19199



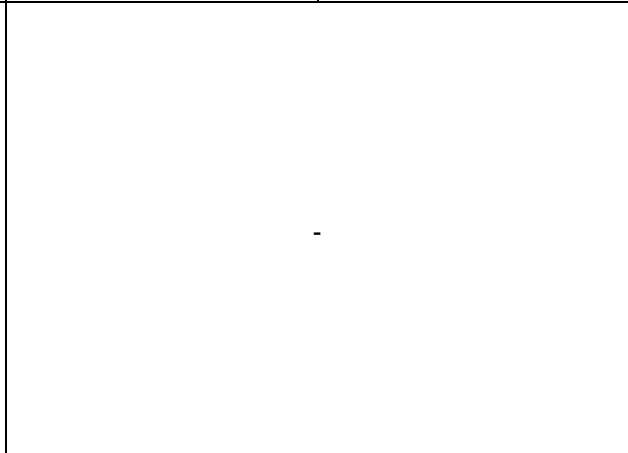
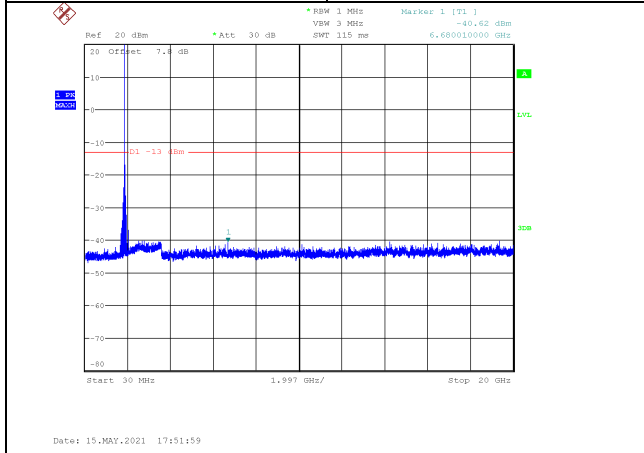
APPENDIX C - CONDUCTED SPURIOUS EMISSIONS

LTE Band 2_BPSK_3.75KHz Spectrum Plot

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---------|----------------|---------|----------------|
| 18900 | 1880 | 18900 | 1880 |



| Channel | Frequency(MHz) | - | - |
|---------|----------------|---|---|
| 18900 | 1880 | - | - |

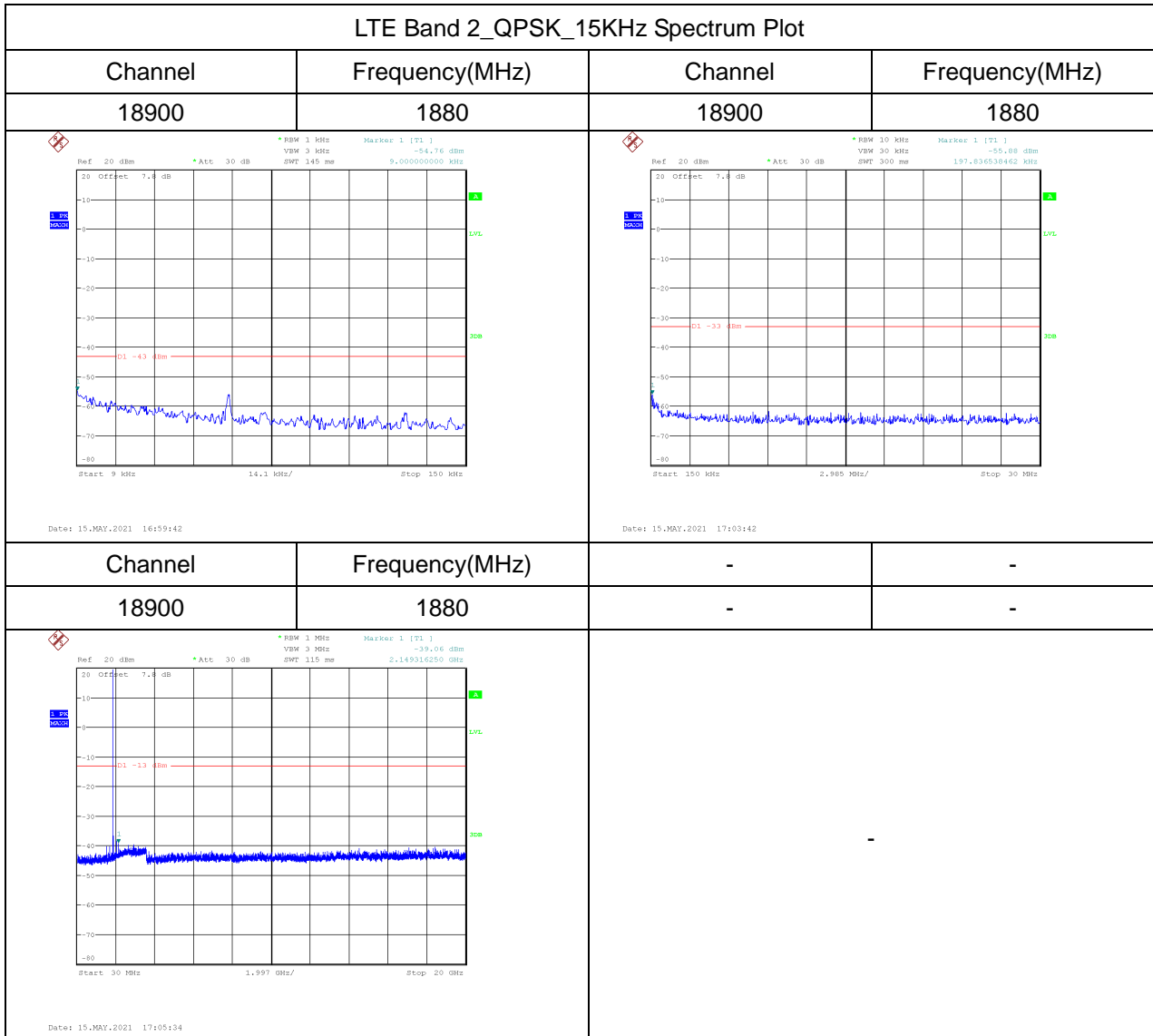


LTE Band 2_BPSK_15KHz Spectrum Plot

| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|---------|----------------|---------|----------------|
| 18900 | 1880 | 18900 | 1880 |
| | | | |
| Channel | Frequency(MHz) | - | - |
| 18900 | 1880 | - | - |
| | | | |

LTE Band 2_QPSK_3.75KHz Spectrum Plot

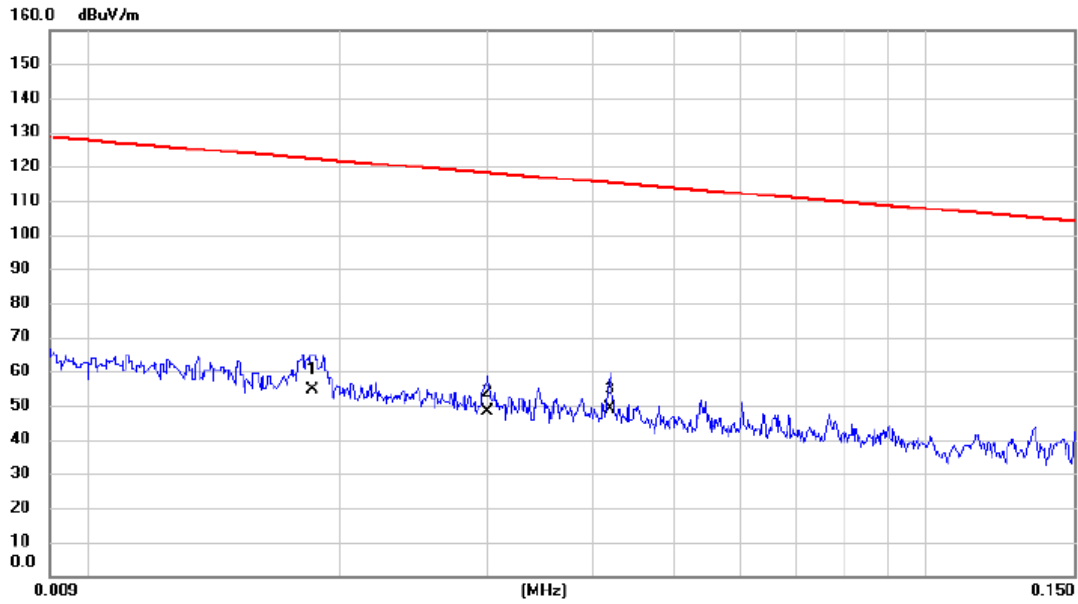
| Channel | Frequency(MHz) | Channel | Frequency(MHz) |
|-----------------------------------|----------------|-----------------------------------|----------------|
| 18900 | 1880 | 18900 | 1880 |
| <p>Date: 15.MAY.2021 17:53:15</p> | | <p>Date: 15.MAY.2021 17:53:51</p> | |
| Channel | Frequency(MHz) | - | - |
| 18900 | 1880 | - | - |
| <p>Date: 15.MAY.2021 17:10:31</p> | | | |



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

Test Mode TX Mode

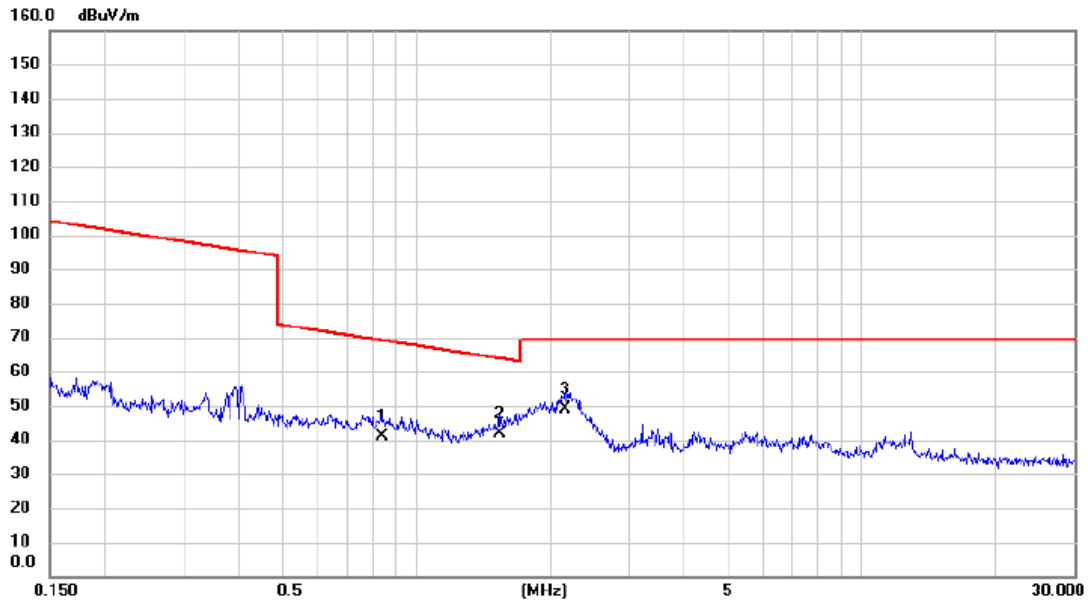
Ant 0°



| No. Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|---------|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1 | 0.0185 | 40.88 | 13.68 | 54.56 | 122.26 | -67.70 | AVG | |
| 2 | 0.0300 | 35.19 | 12.95 | 48.14 | 118.06 | -69.92 | AVG | |
| 3 * | 0.0420 | 36.24 | 12.63 | 48.87 | 115.14 | -66.27 | AVG | |

Test Mode TX Mode

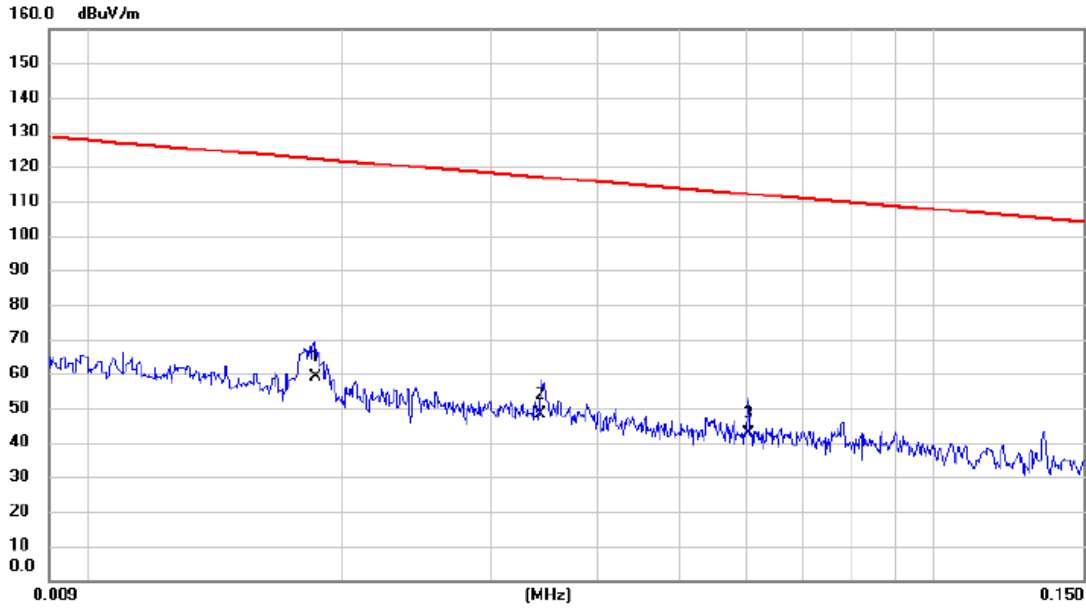
Ant 0°



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1 | | 0.8350 | 28.98 | 11.87 | 40.85 | 69.17 | -28.32 | QP | |
| 2 | | 1.5355 | 30.24 | 11.53 | 41.77 | 63.88 | -22.11 | QP | |
| 3 | * | 2.1552 | 37.65 | 11.23 | 48.88 | 69.54 | -20.66 | QP | |

Test Mode TX Mode

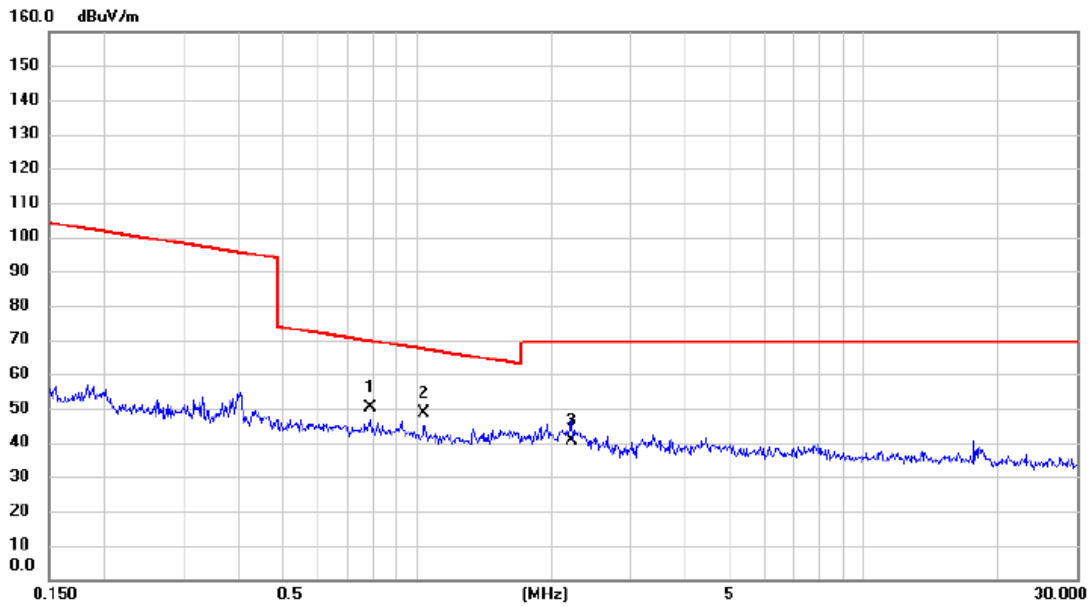
Ant 90°



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1 | * | 0.0186 | 45.18 | 13.65 | 58.83 | 122.21 | -63.38 | AVG | |
| 2 | | 0.0343 | 35.27 | 12.84 | 48.11 | 116.90 | -68.79 | AVG | |
| 3 | | 0.0603 | 30.06 | 12.48 | 42.54 | 112.00 | -69.46 | AVG | |

Test Mode TX Mode

Ant 90°

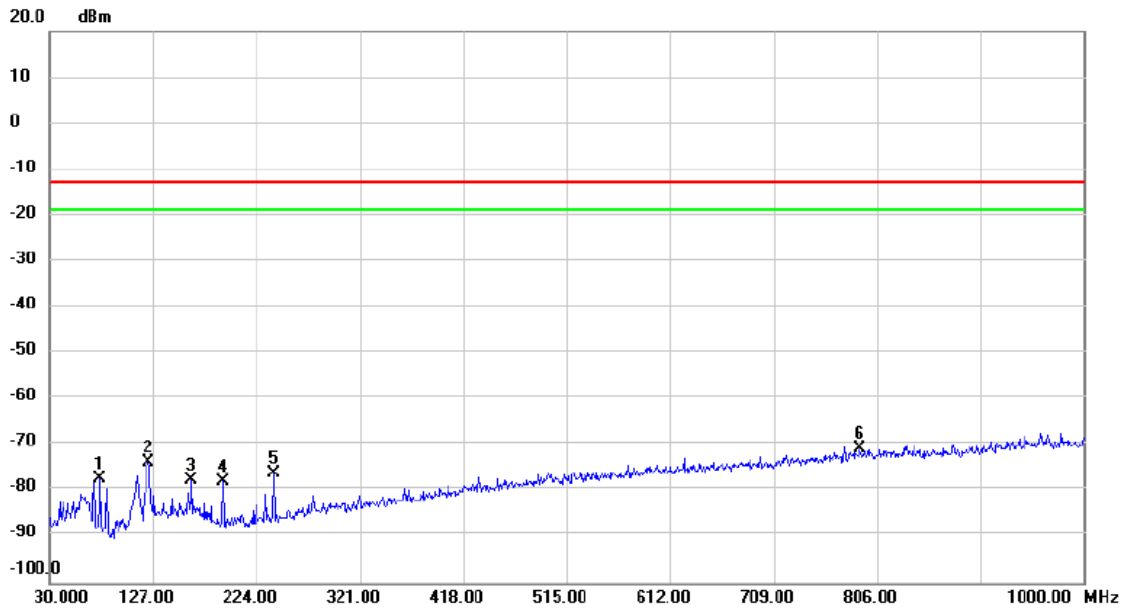


| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1 | | 0.7876 | 38.41 | 11.88 | 50.29 | 69.68 | -19.39 | QP | |
| 2 | * | 1.0374 | 36.74 | 11.78 | 48.52 | 67.29 | -18.77 | QP | |
| 3 | | 2.2250 | 29.25 | 11.20 | 40.45 | 69.54 | -29.09 | QP | |

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

Test Mode | LTE Band 2_BPSK_TX CH18900_3.75KHz

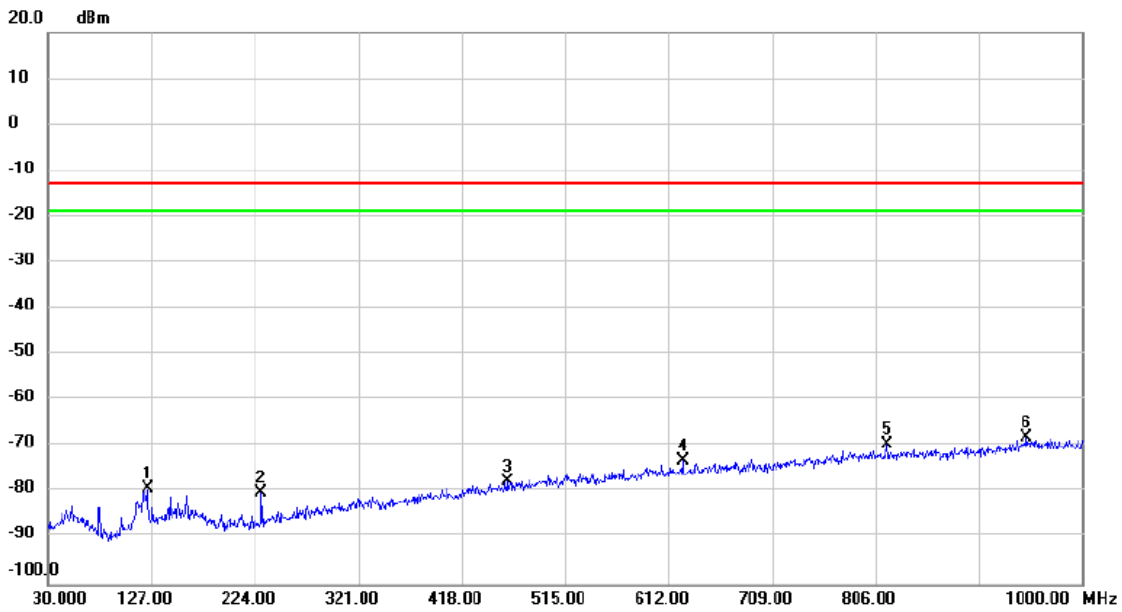
Vertical



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | | 77.530 | -59.61 | -17.86 | -77.47 | -13.00 | -64.47 | peak | |
| 2 | | 122.150 | -59.79 | -13.99 | -73.78 | -13.00 | -60.78 | peak | |
| 3 | | 162.890 | -65.17 | -12.44 | -77.61 | -13.00 | -64.61 | peak | |
| 4 | | 191.990 | -62.80 | -15.03 | -77.83 | -13.00 | -64.83 | peak | |
| 5 | | 240.005 | -62.92 | -13.38 | -76.30 | -13.00 | -63.30 | peak | |
| 6 | * | 789.995 | -69.92 | -0.93 | -70.85 | -13.00 | -57.85 | peak | |

Test Mode | LTE Band 2_BPSK_TX CH18900_1.4M_3.75KHz

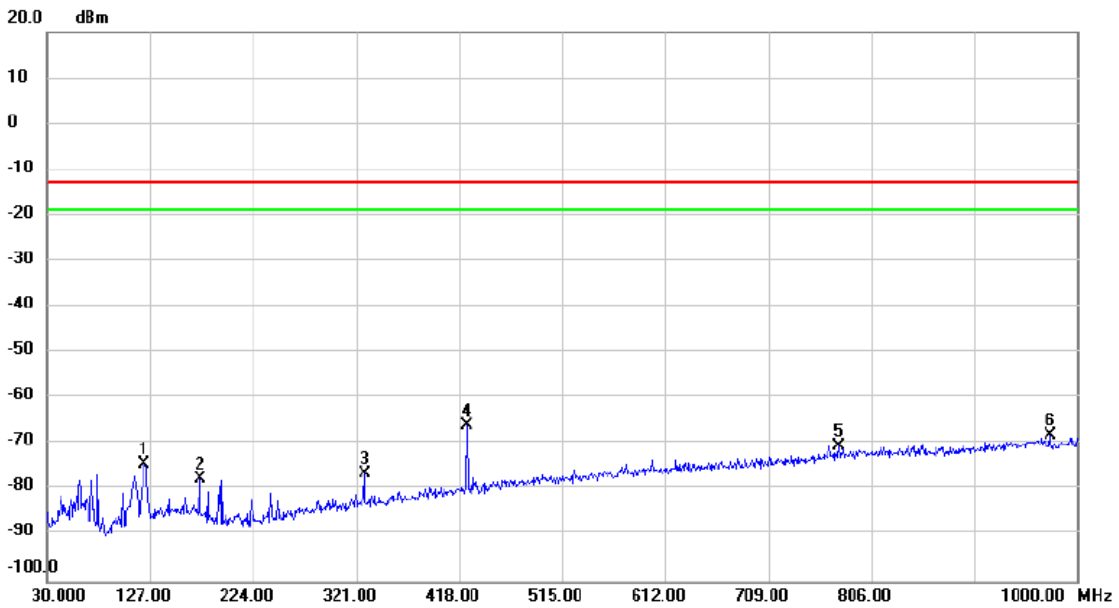
Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | | 123.120 | -65.38 | -13.92 | -79.30 | -13.00 | -66.30 | peak | |
| 2 | | 230.305 | -66.15 | -13.92 | -80.07 | -13.00 | -67.07 | peak | |
| 3 | | 461.650 | -70.54 | -7.20 | -77.74 | -13.00 | -64.74 | peak | |
| 4 | | 625.095 | -68.88 | -4.14 | -73.02 | -13.00 | -60.02 | peak | |
| 5 | | 816.670 | -68.99 | -0.67 | -69.66 | -13.00 | -56.66 | peak | |
| 6 | * | 948.105 | -69.79 | 1.74 | -68.05 | -13.00 | -55.05 | peak | |

Test Mode | LTE Band 2_BPSK_TX CH18900_15KHz

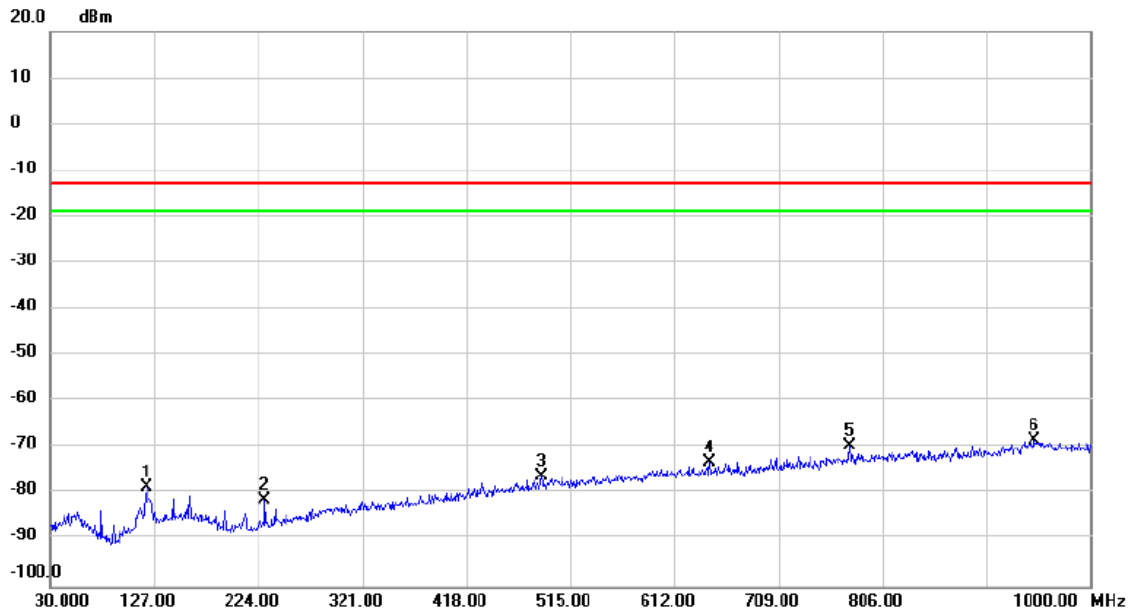
Vertical



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | | 121.665 | -60.29 | -14.03 | -74.32 | -13.00 | -61.32 | peak | |
| 2 | | 174.045 | -64.57 | -13.01 | -77.58 | -13.00 | -64.58 | peak | |
| 3 | | 329.245 | -66.13 | -10.35 | -76.48 | -13.00 | -63.48 | peak | |
| 4 | * | 424.790 | -57.98 | -8.10 | -66.08 | -13.00 | -53.08 | peak | |
| 5 | | 774.960 | -69.08 | -1.32 | -70.40 | -13.00 | -57.40 | peak | |
| 6 | | 974.295 | -69.82 | 1.82 | -68.00 | -13.00 | -55.00 | peak | |

Test Mode | LTE Band 2_BPSK_TX CH18900_15KHz

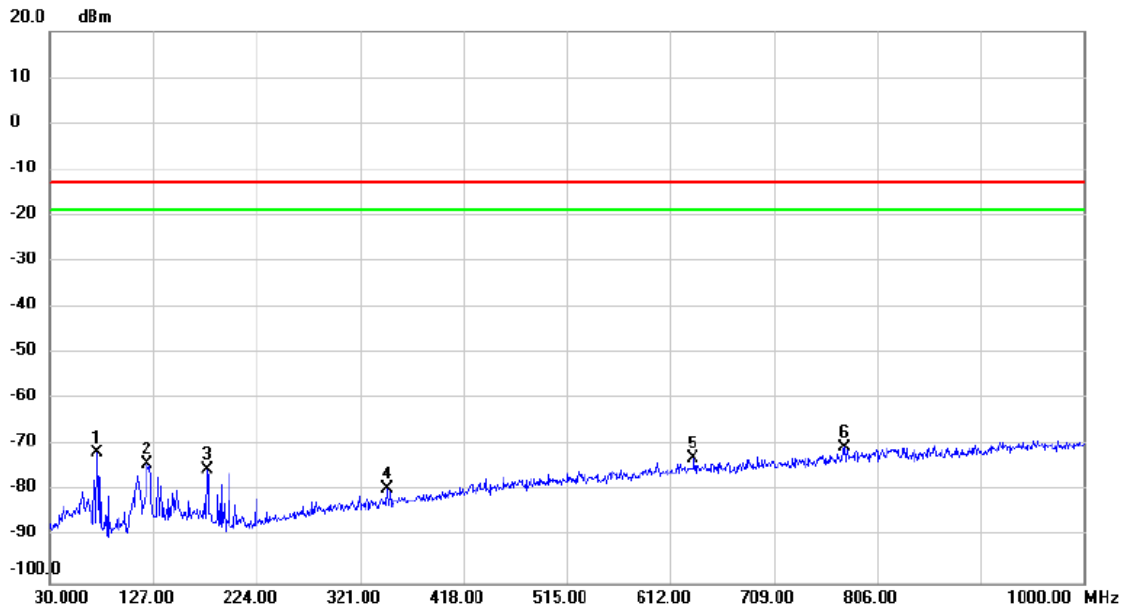
Horizontal



| No. Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|---------|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | 120.210 | -64.40 | -14.15 | -78.55 | -13.00 | -65.55 | peak | |
| 2 | 230.305 | -67.35 | -13.92 | -81.27 | -13.00 | -68.27 | peak | |
| 3 | 488.325 | -69.50 | -6.75 | -76.25 | -13.00 | -63.25 | peak | |
| 4 | 645.465 | -69.40 | -3.82 | -73.22 | -13.00 | -60.22 | peak | |
| 5 | 774.960 | -68.33 | -1.32 | -69.65 | -13.00 | -56.65 | peak | |
| 6 * | 948.105 | -70.08 | 1.74 | -68.34 | -13.00 | -55.34 | peak | |

Test Mode LTE Band 2_QPSK_TX CH18900_3.75KHz

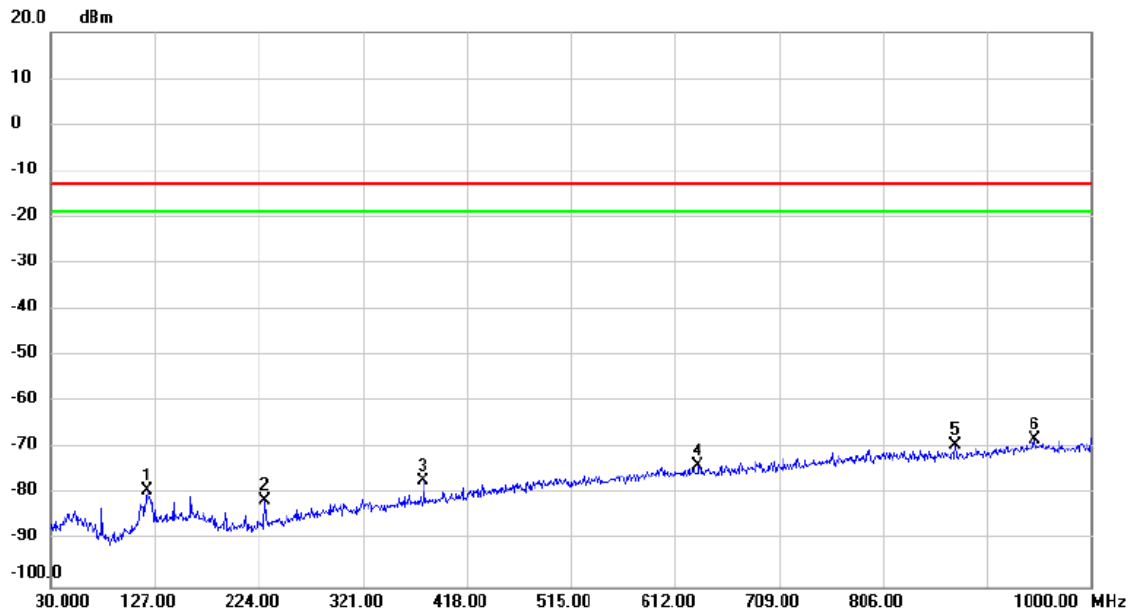
Vertical



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | | 74.620 | -54.55 | -17.23 | -71.78 | -13.00 | -58.78 | peak | |
| 2 | | 121.665 | -59.93 | -14.03 | -73.96 | -13.00 | -60.96 | peak | |
| 3 | | 177.440 | -61.90 | -13.37 | -75.27 | -13.00 | -62.27 | peak | |
| 4 | | 346.705 | -69.36 | -10.02 | -79.38 | -13.00 | -66.38 | peak | |
| 5 | | 633.340 | -68.79 | -4.01 | -72.80 | -13.00 | -59.80 | peak | |
| 6 | * | 774.960 | -69.19 | -1.32 | -70.51 | -13.00 | -57.51 | peak | |

Test Mode | LTE Band 2_QPSK_TX CH18900_3.75KHz

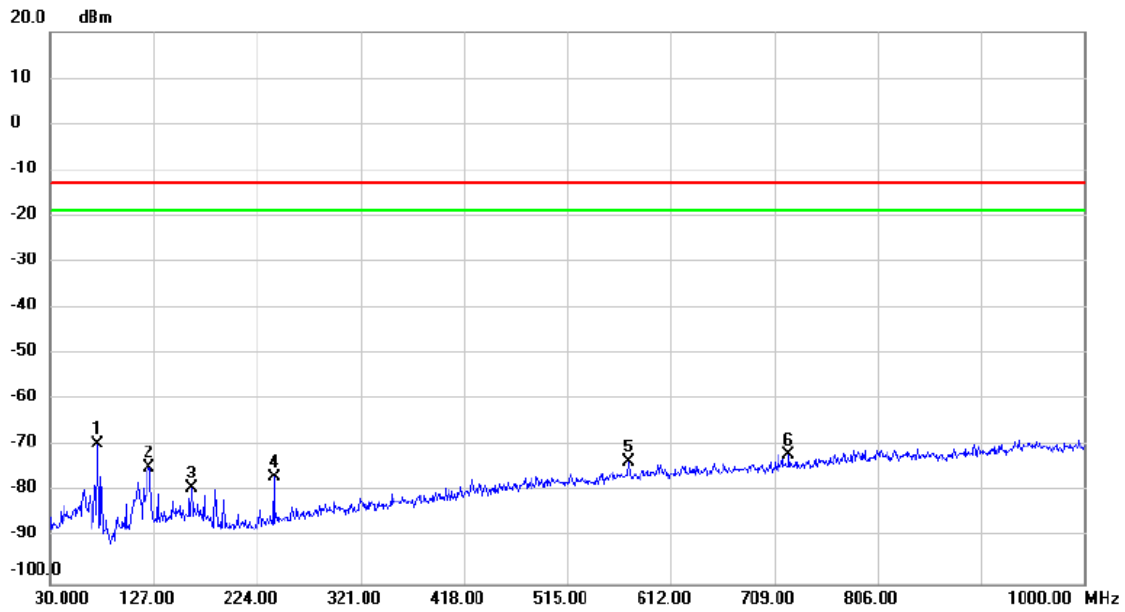
Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | | 119.725 | -64.87 | -14.18 | -79.05 | -13.00 | -66.05 | peak | |
| 2 | | 230.305 | -67.46 | -13.92 | -81.38 | -13.00 | -68.38 | peak | |
| 3 | | 377.260 | -67.59 | -9.31 | -76.90 | -13.00 | -63.90 | peak | |
| 4 | | 633.340 | -69.61 | -4.01 | -73.62 | -13.00 | -60.62 | peak | |
| 5 | | 874.385 | -69.00 | -0.19 | -69.19 | -13.00 | -56.19 | peak | |
| 6 | * | 948.105 | -69.83 | 1.74 | -68.09 | -13.00 | -55.09 | peak | |

Test Mode LTE Band 2_QPSK_TX CH18900_15KHz

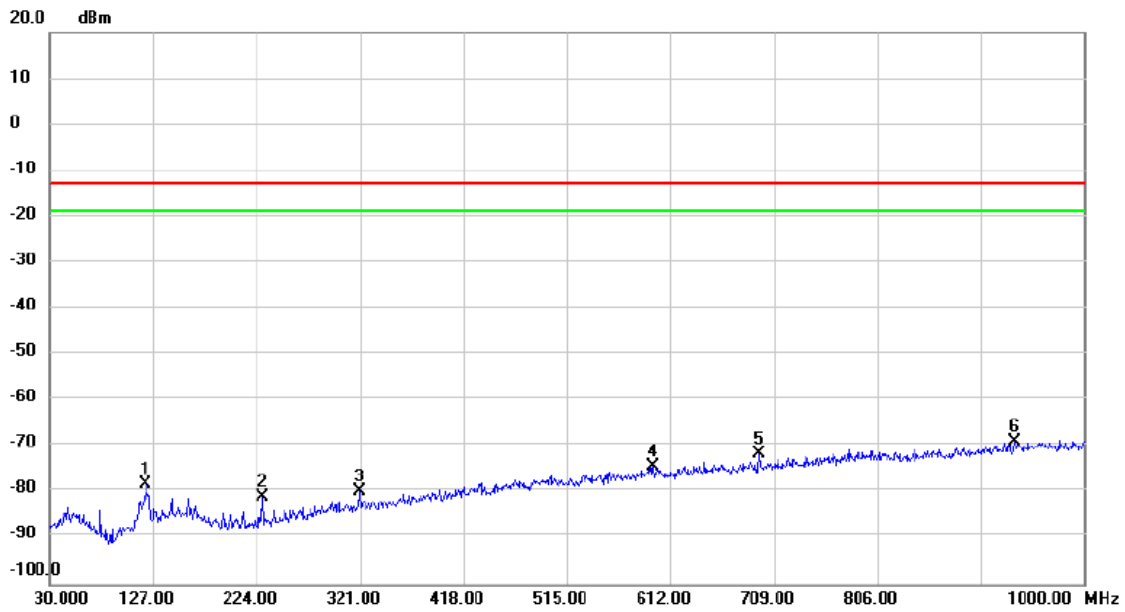
Vertical



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | * | 74.620 | -52.46 | -17.23 | -69.69 | -13.00 | -56.69 | peak | |
| 2 | | 122.150 | -60.72 | -13.99 | -74.71 | -13.00 | -61.71 | peak | |
| 3 | | 161.920 | -66.73 | -12.41 | -79.14 | -13.00 | -66.14 | peak | |
| 4 | | 240.005 | -63.29 | -13.38 | -76.67 | -13.00 | -63.67 | peak | |
| 5 | | 572.230 | -68.06 | -5.29 | -73.35 | -13.00 | -60.35 | peak | |
| 6 | | 723.065 | -69.27 | -2.55 | -71.82 | -13.00 | -58.82 | peak | |

Test Mode LTE Band 2_QPSK_TX CH18900_15KHz

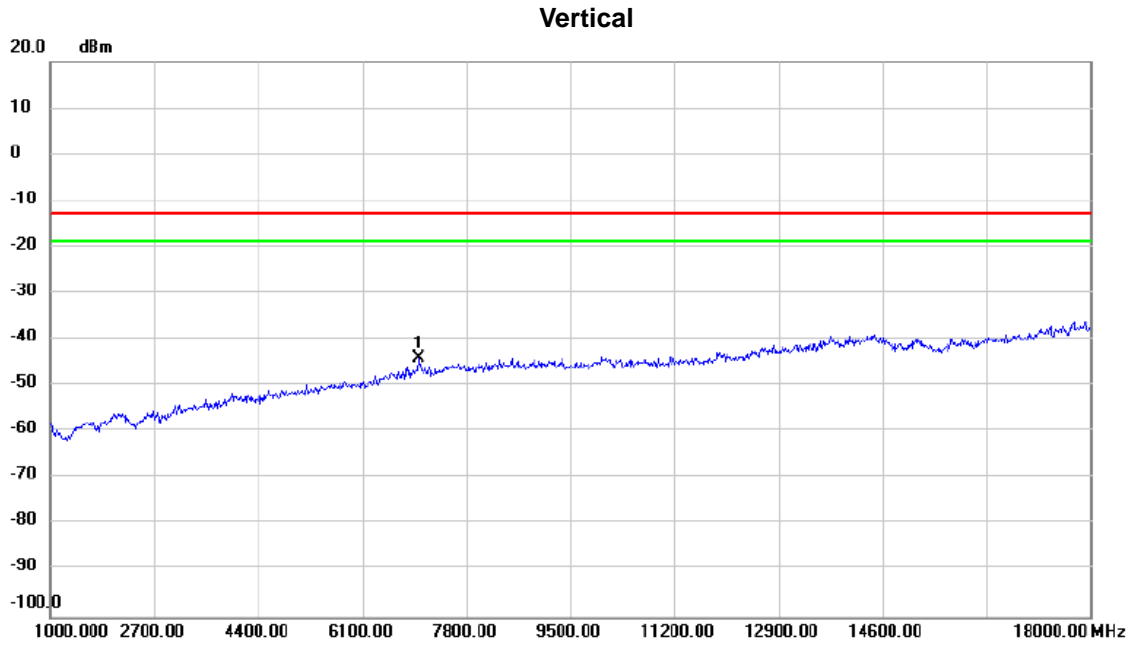
Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | | 120.210 | -64.14 | -14.15 | -78.29 | -13.00 | -65.29 | peak | |
| 2 | | 230.305 | -67.13 | -13.92 | -81.05 | -13.00 | -68.05 | peak | |
| 3 | | 320.030 | -69.15 | -10.52 | -79.67 | -13.00 | -66.67 | peak | |
| 4 | | 595.995 | -69.71 | -4.65 | -74.36 | -13.00 | -61.36 | peak | |
| 5 | | 695.905 | -68.67 | -3.12 | -71.79 | -13.00 | -58.79 | peak | |
| 6 | * | 934.525 | -70.42 | 1.34 | -69.08 | -13.00 | -56.08 | peak | |

APPENDIX C - RADIATED SPURIOUS EMISSIONS (ABOVE 1000MHZ)

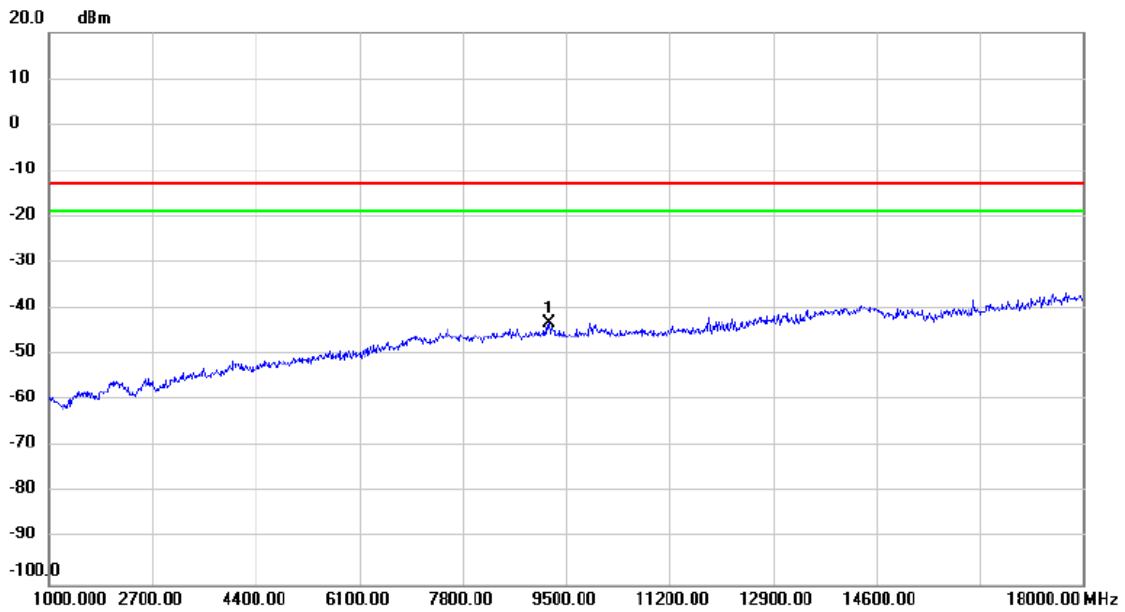
Test Mode | LTE Band 2_BPSK_TX CH18900_3.75KHz



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | * | 7018.000 | -53.75 | 9.82 | -43.93 | -13.00 | -30.93 | peak | |

Test Mode | LTE Band 2_BPSK_TX CH18900_1.4M_3.75KHz

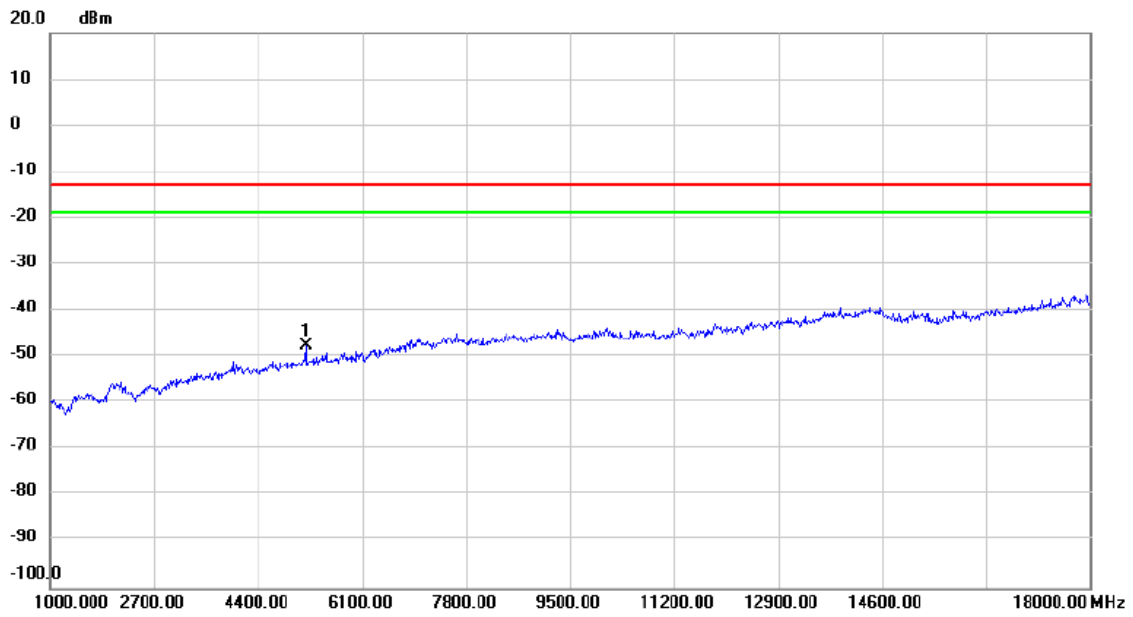
Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | * | 9219.500 | -54.46 | 11.39 | -43.07 | -13.00 | -30.07 | peak | |

Test Mode | LTE Band 2_BPSK_TX CH18900_15KHz

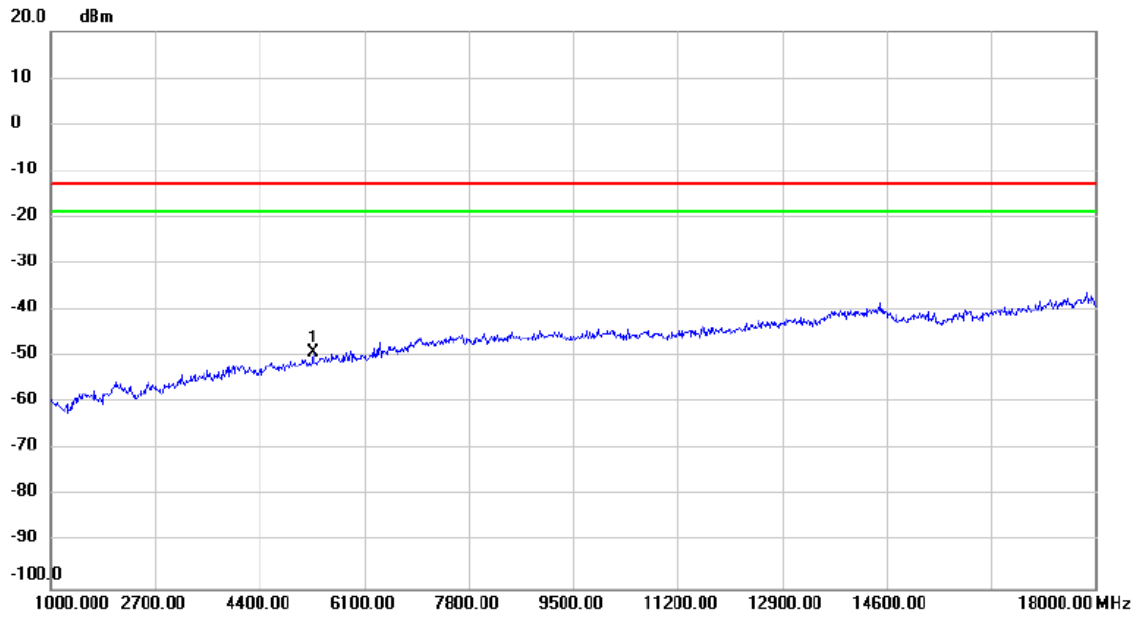
Vertical



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | * | 5173.500 | -52.91 | 5.31 | -47.60 | -13.00 | -34.60 | peak | |

Test Mode | LTE Band 2_BPSK_TX CH18900_15KHz

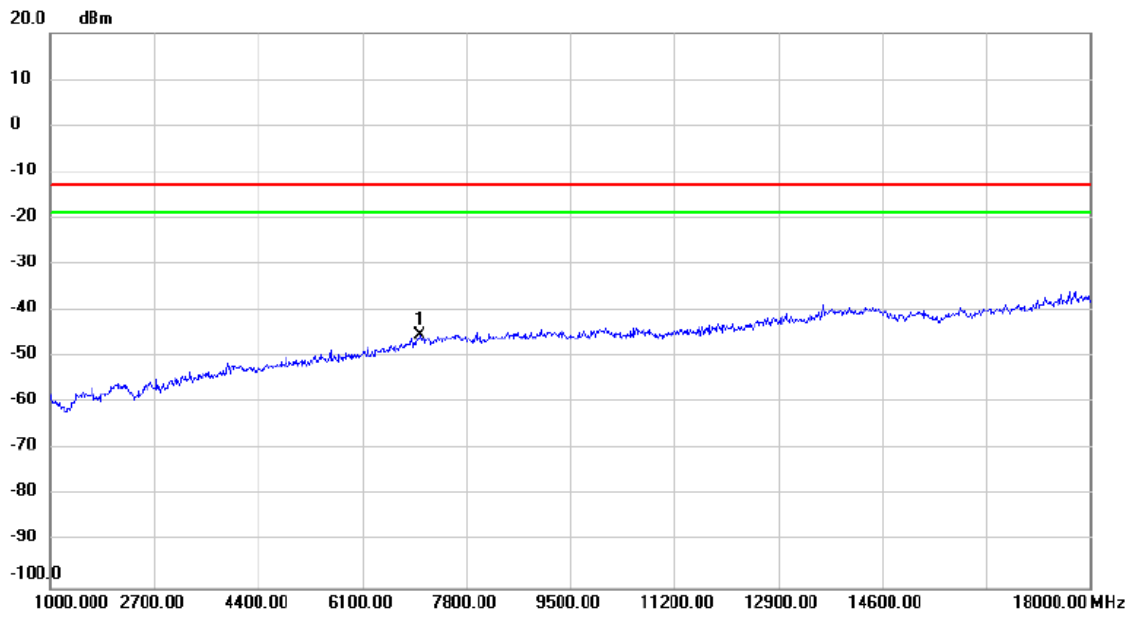
Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | * | 5275.500 | -54.71 | 5.56 | -49.15 | -13.00 | -36.15 | peak | |

Test Mode | LTE Band 2_QPSK_TX CH18900_3.75KHz

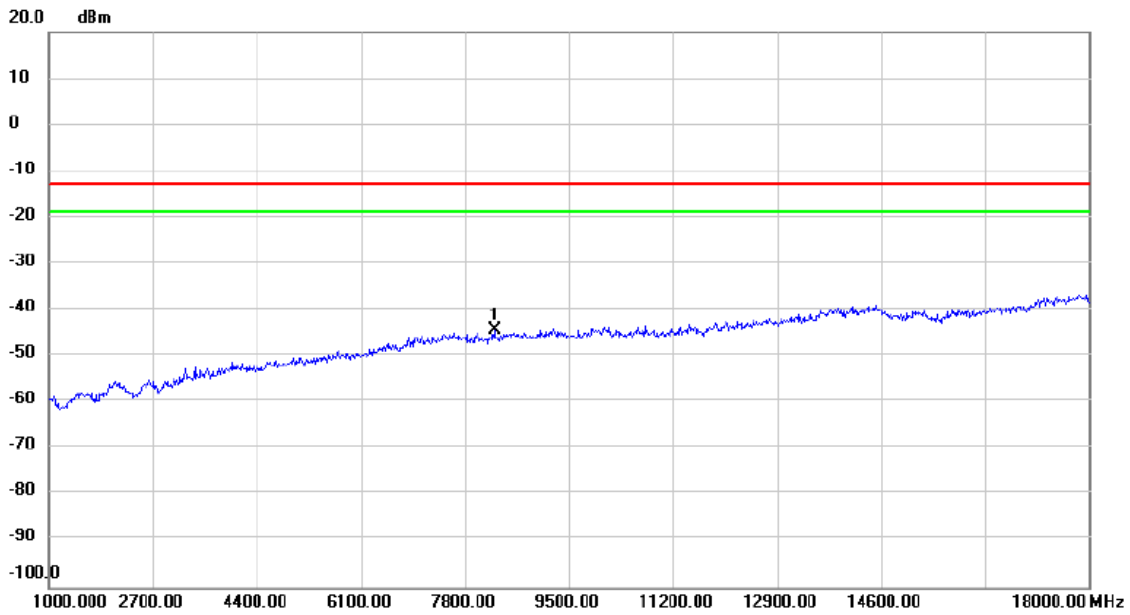
Vertical



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | * | 7043.500 | -55.12 | 9.86 | -45.26 | -13.00 | -32.26 | peak | |

Test Mode | LTE Band 2_QPSK_TX CH18900_3.75KHz

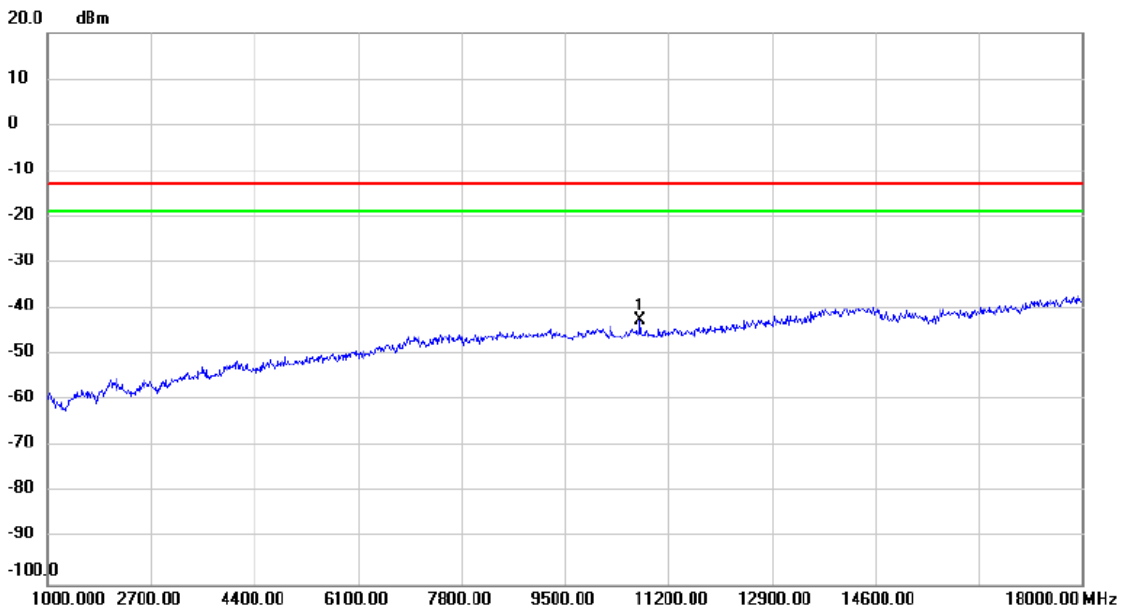
Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | * | 8276.000 | -55.11 | 10.78 | -44.33 | -13.00 | -31.33 | peak | |

Test Mode | LTE Band 2_QPSK_TX CH18900_15KHz

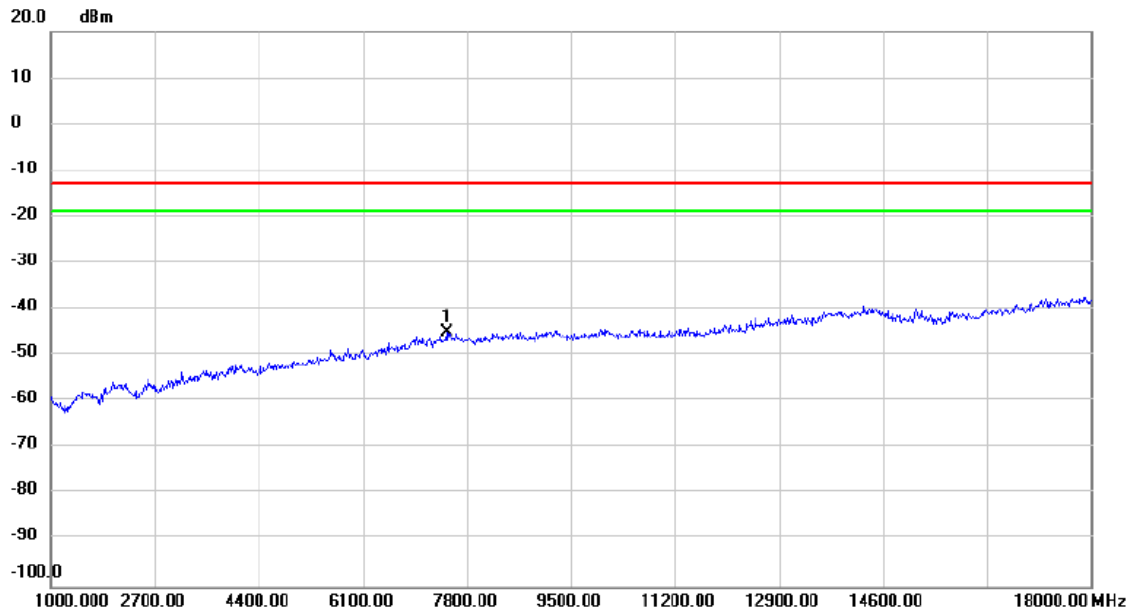
Vertical



| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | * | 10741.000 | -55.09 | 12.57 | -42.52 | -13.00 | -29.52 | peak | |

Test Mode | LTE Band 2_QPSK_TX CH18900_15KHz

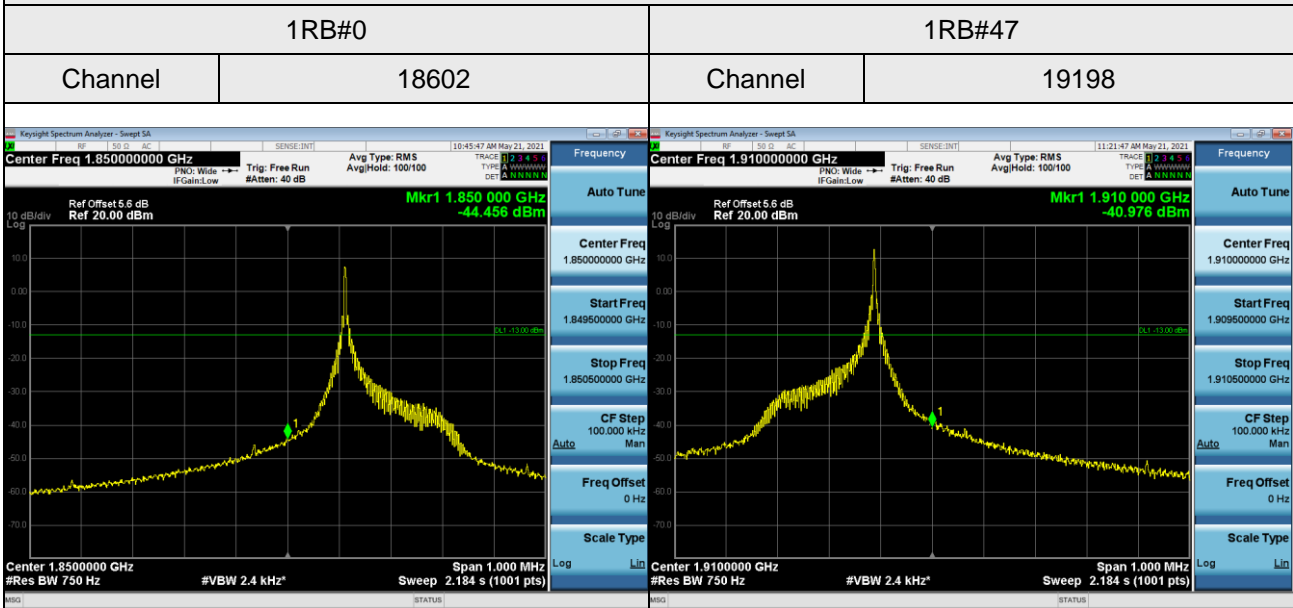
Horizontal



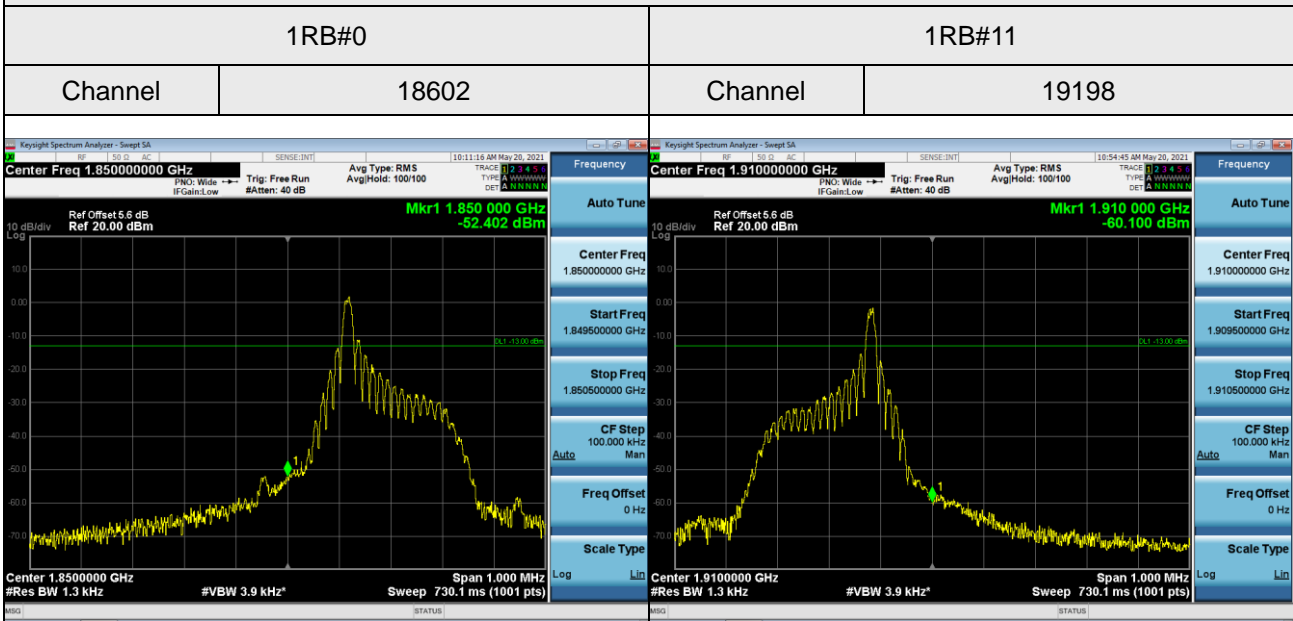
| No. | Mk. | Freq. MHz | Reading Level dBm | Correct Factor dB | Measure- ment dBm | Limit dBm | Margin dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1 | * | 7468.500 | -55.64 | 10.59 | -45.05 | -13.00 | -32.05 | peak | |

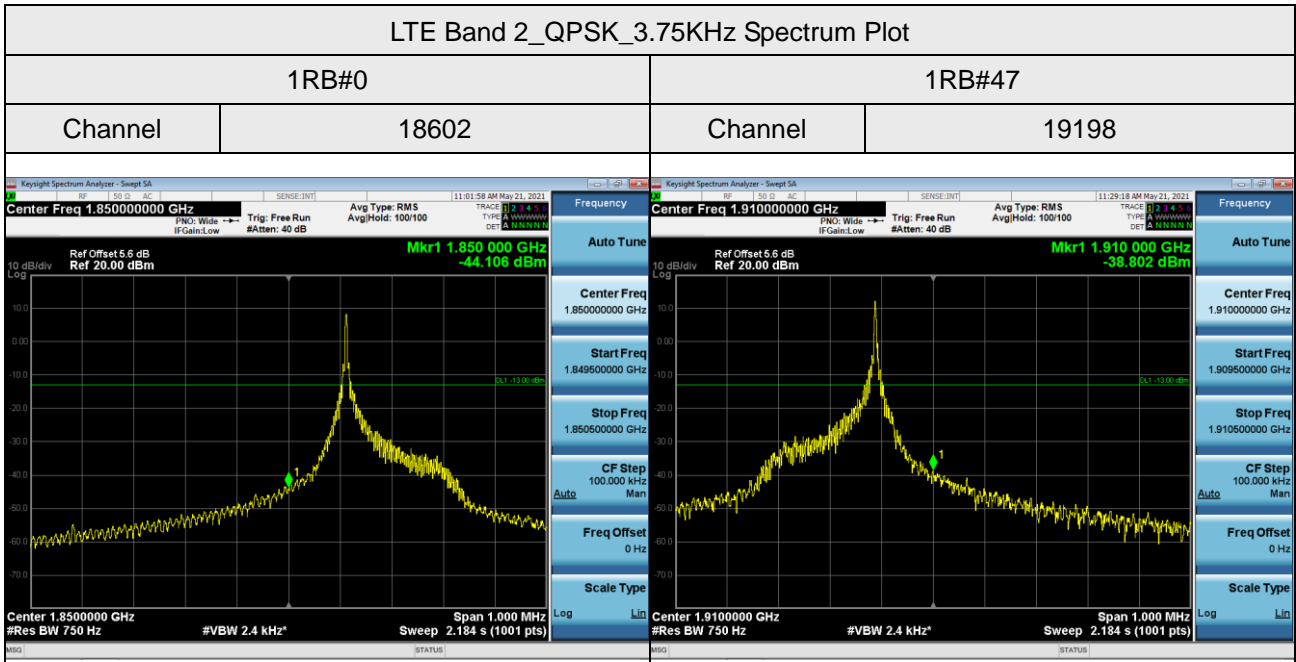
APPENDIX G - BAND EDGE

LTE Band 2_BPSK_3.75KHz Spectrum Plot



LTE Band 2_BPSK_15KHz Spectrum Plot





LTE Band 2_QPSK_15KHz Spectrum Plot

1RB#0

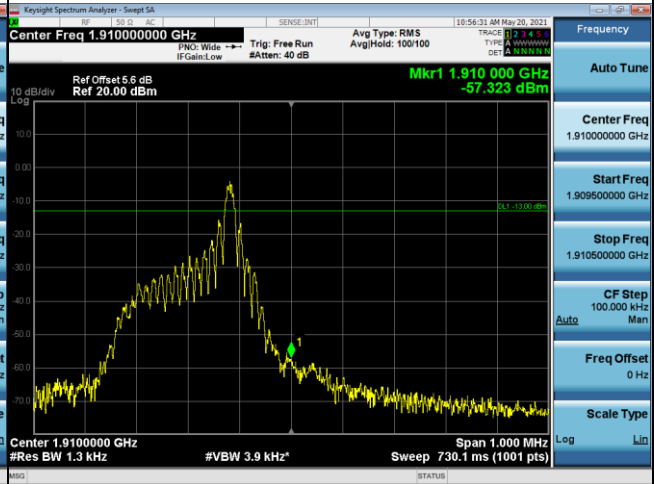
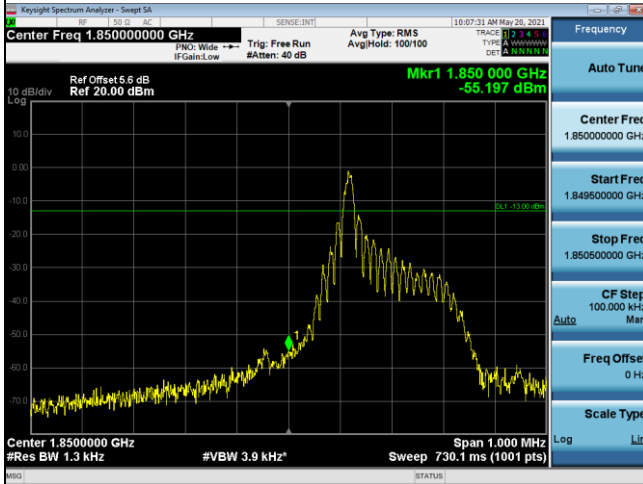
1RB#11

Channel

18602

Channel

19198



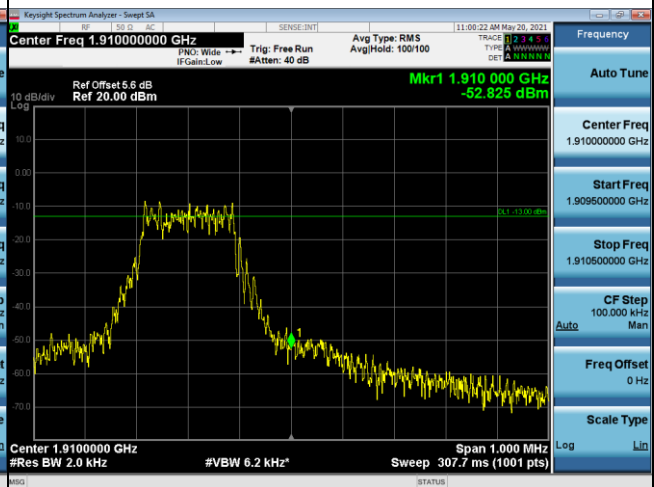
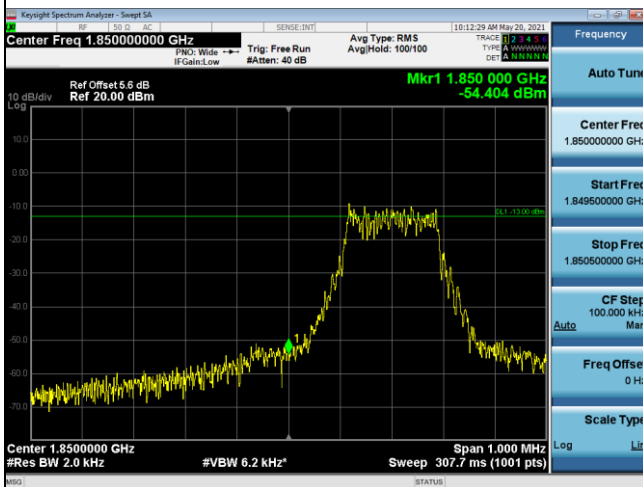
12RB#0

Channel

18602

Channel

19198



APPENDIX H - PEAK TO AVERAGE RATIO

LTE Band 2_3.75KHz Spectrum Plot



LTE Band 2_15KHz Spectrum Plot



APPENDIX I - FREQUENCY STABILITY

| | |
|-----------|---------------------------------|
| Test Mode | LTE Band 2_BPSK_CH18900_3.75KHz |
|-----------|---------------------------------|

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -20 | -5.22 | -0.002776596 | ±2.5 |
| -10 | -0.20 | -0.000106383 | |
| 0 | -4.92 | -0.002617021 | |
| 10 | -11.44 | -0.006085106 | |
| 20 | -8.65 | -0.004601064 | |
| 30 | 11.19 | 0.005952128 | |
| 40 | -6.94 | -0.003691489 | |
| 50 | -10.74 | -0.005712766 | |
| 60 | -7.51 | -0.003994681 | |
| Max. Deviation (ppm) | -11.44 | -0.006085106 | |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 4.2 | -5.41 | -0.00287766 | ±2.5 |
| 3.7 | 11.15 | 0.005930851 | |
| 3.3 | -9.45 | -0.005026596 | |
| Max. Deviation (ppm) | 11.15 | 0.005930851 | |

| | |
|-----------|-------------------------------|
| Test Mode | LTE Band 2_BPSK_CH18900_15KHz |
|-----------|-------------------------------|

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -20 | -2.67 | -0.001420213 | ±2.5 |
| -10 | -0.78 | -0.000414894 | |
| 0 | -2.69 | -0.001430851 | |
| 10 | 3.10 | 0.001648936 | |
| 20 | 14.55 | 0.007739362 | |
| 30 | 11.47 | 0.006101064 | |
| 40 | -9.85 | -0.005239362 | |
| 50 | -2.47 | -0.00131383 | |
| 60 | 7.75 | 0.00412234 | |
| Max. Deviation (ppm) | 14.55 | 0.007739362 | |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 4.2 | -12.51 | -0.006654255 | ±2.5 |
| 3.7 | -11.56 | -0.006148936 | |
| 3.3 | -12.34 | -0.00656383 | |
| Max. Deviation (ppm) | -12.51 | -0.006654255 | |

| | |
|-----------|---------------------------------|
| Test Mode | LTE Band 2_QPSK_CH18900_3.75KHz |
|-----------|---------------------------------|

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -20 | 1.88 | 0.001 | ±2.5 |
| -10 | 2.35 | 0.00125 | |
| 0 | -5.89 | -0.003132979 | |
| 10 | 3.54 | 0.001882979 | |
| 20 | 12.23 | 0.006505319 | |
| 30 | -12.84 | -0.006829787 | |
| 40 | -11.65 | -0.006196809 | |
| 50 | 7.63 | 0.004058511 | |
| 60 | 5.32 | 0.002829787 | |
| Max. Deviation (ppm) | -12.84 | -0.006829787 | |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 4.2 | -7.58 | -0.004031915 | ±2.5 |
| 3.7 | -10.53 | -0.005601064 | |
| 3.3 | 3.84 | 0.002042553 | |
| Max. Deviation (ppm) | -10.53 | -0.005601064 | |

| | |
|-----------|-------------------------------|
| Test Mode | LTE Band 2_QPSK_CH18900_15KHz |
|-----------|-------------------------------|

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -20 | -14.02 | -0.007457447 | ±2.5 |
| -10 | 3.66 | 0.001946809 | |
| 0 | -13.66 | -0.007265957 | |
| 10 | -11.05 | -0.00587766 | |
| 20 | -3.93 | -0.002090426 | |
| 30 | 7.29 | 0.00387766 | |
| 40 | -1.54 | -0.000819149 | |
| 50 | 14.46 | 0.007691489 | |
| 60 | -10.81 | -0.00575 | |
| Max. Deviation (ppm) | 14.46 | 0.007691489 | |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 4.2 | -12.31 | -0.006547872 | ±2.5 |
| 3.7 | -12.74 | -0.006776596 | |
| 3.3 | 2.33 | 0.001239362 | |
| Max. Deviation (ppm) | -12.74 | -0.006776596 | |

End of Test Report