



FCC RF Test Report

APPLICANT : Sierra Wireless, Inc.
EQUIPMENT : Wireless Module
BRAND NAME : AirPrime
MODEL NAME : EM7690
FCC ID : N7NEM76
STANDARD : 47 CFR Part 2, 27(M)
CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was received on Jun. 30, 2020 and completely tested on Jul. 18, 2020. We, Sporton International (ShenZhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (ShenZhen) Inc., the test report shall not be reproduced except in full.

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager



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People's Republic of China



TABLE OF CONTENTS

REVISION HISTORY...3
SUMMARY OF TEST RESULT...4
1 GENERAL DESCRIPTION...5
1.1 Applicant...5
1.2 Manufacturer...5
1.3 Product Feature of Equipment Under Test...5
1.4 Product Specification of Equipment Under Test...5
1.5 Modification of EUT...6
1.6 Re-use of Measured Data...6
1.7 Testing Location...7
1.8 Test Software...7
1.9 Applicable Standards...7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST...8
2.1 Test Mode...8
2.2 Connection Diagram of Test System...9
2.3 Support Unit used in test configuration and system...9
2.4 Frequency List of Low/Middle/High Channels...10
3 RADIATED TEST ITEMS...14
3.1 Measuring Instruments...14
3.2 Test Setup...14
3.3 Test Result of Radiated Test...14
3.4 Radiated Spurious Emission...15
4 LIST OF MEASURING EQUIPMENT...16
5 UNCERTAINTY OF EVALUATION...17
APPENDIX A. TEST RESULTS OF RADIATED TEST
APPENDIX B. TEST SETUP PHOTOGRAPHS
APPENDIX C. REFERENCE REPORT



REVISION HISTORY

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|--------------|---------|-------------------------|---------------|
| FG021501-03D | Rev. 01 | Initial issue of report | Sep. 16, 2020 |
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SUMMARY OF TEST RESULT

| Report Section | FCC Rule | Description | Limit | Result | Remark |
|----------------|-------------------------|--|-------------------------------------|--------|---|
| 3.4 | §2.1053 §27.53(m)(4) | Radiated Spurious Emission (Band 7) (Band 38) (Band 41) | $< 55+10\log_{10}(P[\text{Watts}])$ | PASS | Under limit 24.70 dB at 10741.36 MHz |

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



1 General Description

1.1 Applicant

Sierra Wireless, Inc.
13811 Wireless Way, Richmond, BC, Canada V6A 3A4

1.2 Manufacturer

Sierra Wireless, Inc.
13811 Wireless Way, Richmond, BC, Canada V6A 3A4

1.3 Product Feature of Equipment Under Test

| Product Feature | |
|---------------------------------|----------------------------|
| Equipment | Wireless Module |
| Brand Name | AirPrime |
| Model Name | EM7690 |
| FCC ID | N7NEM76 |
| EUT supports Radios application | WCDMA/LTE/GNSS |
| IMEI Code | Radiation: 352175380000030 |
| HW Version | 1.0 |
| SW Version | SWIX55C_00.16.04.00 |
| EUT Stage | Identical Prototype |

1.4 Product Specification of Equipment Under Test

| Standards-related Product Specification | |
|---|--|
| Tx Frequency | LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 38 : 2572.5MHz ~ 2617.5MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz |
| Rx Frequency | LTE Band 7 : 2622.5MHz ~ 2687.5 MHz LTE Band 38 : 2572.5MHz ~ 2617.5MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz |
| Bandwidth | LTE Band 7 : 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 38 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz |
| Antenna Gain | LTE Band 7 : 4.00 dBi LTE Band 38 : 4.00 dBi LTE Band 41 : 4.00 dBi |
| Type of Modulation | QPSK / 16QAM / 64QAM / 256QAM |

Remark: LTE band 41 supports HPUE



1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Re-use of Measured Data

1.7.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: EM7690, FCC ID: N7NEM76) is electrically identical to the reference device (Model: EM9190, FCC ID: N7NEM91) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 484596 D01.

1.7.2 Difference Section

For details concerning the similarity with respect to component placement, mechanical/electrical design etc., please refer to the Product Equality Declaration.

The re-used RF data includes the following bands provided in Appendix C (Sporton RF Report No. FG021501D for the reference device Model: EM9190, FCC ID: N7NEM91).

1.7.3 Reference detail Section:

| Equipment Class | Reference FCC ID | Folder Test | Report Title/Section |
|-----------------|------------------|--------------------------|-----------------------------------|
| PCE (LTE) | N7NEM91 | Part27(M) (FG021501D) | All Conducted sections applicable |

1.7.4 Spot Check Verification Data Section

In order to confirm hardware similarity of the subject device with the reference device, spot check measurements were performed on the subject device for the following test items, the test result were consistent with FCC ID: N7NEM91.

Assertions concerning the similarity of these devices are based on representations by the applicant. The applicant accepts full responsibility for the validity of the similarity claim, and for the determination that verification test data are sufficient to support it.

| Test Item | Mode | N7NEM91 Worst Result | N7NEM76 Worst Result | Difference (dB) |
|-------------------------------|-------------|----------------------|----------------------|-----------------|
| Average Conducted Power (dBm) | LTE Band 7 | 23.40 | 22.66 | -0.74 |
| | LTE Band 38 | 23.40 | 22.4 | -1.00 |
| | LTE Band 41 | 25.23 | 24.31 | -0.92 |



1.7 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

| | | | |
|---------------------------|---|----------------------------|---------------------------------------|
| Test Firm | Sporton International (Shenzhen) Inc. | | |
| Test Site Location | No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan Shenzhen, 518055 People's Republic of China TEL: +86-755-33202398 | | |
| Test Site No. | Sporton Site No. | FCC Designation No. | FCC Test Firm Registration No. |
| | 03CH01-SZ | CN1256 | 421272 |

1.8 Test Software

| Item | Site | Manufacture | Name | Version |
|------|-----------|-------------|------|-------------|
| 1. | 03CH01-SZ | AUDIX | E3 | 6.2009-8-24 |

1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, 27(M)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

2.1 Test Mode

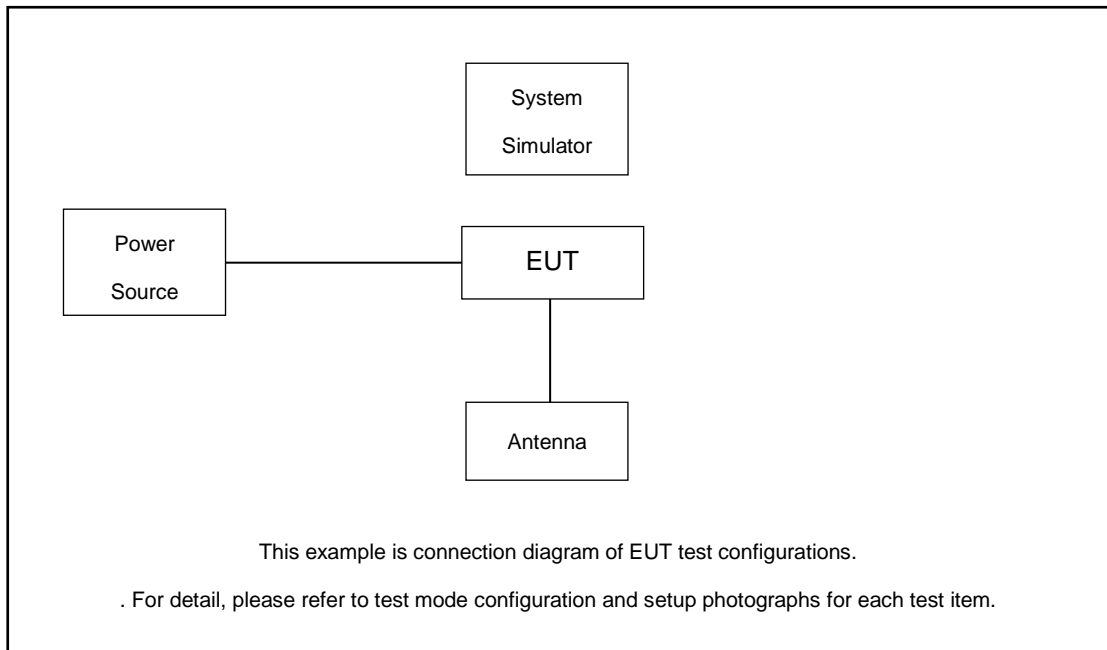
Antenna port radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

| Test Items | Band | Bandwidth (MHz) | | | | | | Modulation | | | RB # | | | Test Channel | | |
|----------------------------|---|-----------------|---|---|----|----|----|------------|-------|-------|------|------|------|--------------|---|---|
| | | 1.4 | 3 | 5 | 10 | 15 | 20 | QPSK | 16QAM | 64QAM | 1 | Half | Full | L | M | H |
| Radiated Spurious Emission | 7 | - | - | v | v | v | v | v | | | v | | | v | v | v |
| | 38 | - | - | v | v | v | v | v | | | v | | | v | v | v |
| | 41 | - | - | v | v | v | v | v | | | v | | | v | v | v |
| Note | <ol style="list-style-type: none"> The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. | | | | | | | | | | | | | | | |

| Test Items | Band | Bandwidth (MHz) | | | | | | | | | | Modulation | | | RB # | | | Test Channel | | |
|----------------------------|---|-----------------|-------|-------|-------|-------|------|------|-------|-------|-------|------------|-------|-------|------|------|------|--------------|---|---|
| | | 20+20 | 20+15 | 15+20 | 20+10 | 10+20 | 20+5 | 5+20 | 15+15 | 15+10 | 10+15 | QPSK | 16QAM | 64QAM | 1 | Half | Full | L | M | H |
| Radiated Spurious Emission | 7C_CA | v | | | | | - | - | | | - | v | | | v | | | v | v | v |
| | 38C_CA | v | - | - | - | - | - | - | | - | - | v | | | v | | | v | v | v |
| | 41C_CA | v | | | | | | | | | | v | | | v | | | v | v | v |
| Note | <ol style="list-style-type: none"> The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. | | | | | | | | | | | | | | | | | | | |

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

| Item | Equipment | Trade Name | Model No. | FCC ID | Data Cable | Power Cord |
|------|------------------|------------|-----------|--------|------------|-------------------|
| 1. | Power Supply | GWINSTEK | PSS-2002 | N/A | N/A | Unshielded, 1.8 m |
| 2. | LTE Base Station | Anritsu | MT8820C | N/A | N/A | Unshielded, 1.8 m |



2.4 Frequency List of Low/Middle/High Channels

| LTE Band 7 Channel and Frequency List | | | | |
|---------------------------------------|------------------------|--------|--------|---------|
| BW [MHz] | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 20 | Channel | 20850 | 21100 | 21350 |
| | Frequency | 2510 | 2535 | 2560 |
| 15 | Channel | 20825 | 21100 | 21375 |
| | Frequency | 2507.5 | 2535 | 2562.5 |
| 10 | Channel | 20800 | 21100 | 21400 |
| | Frequency | 2505 | 2535 | 2565 |
| 5 | Channel | 20775 | 21100 | 21425 |
| | Frequency | 2502.5 | 2535 | 2567.5 |

| LTE Band 38 Channel and Frequency List | | | | |
|--|------------------------|--------|--------|---------|
| BW [MHz] | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 20 | Channel | 37850 | 38000 | 38150 |
| | Frequency | 2580 | 2595 | 2610 |
| 15 | Channel | 37825 | 38000 | 38175 |
| | Frequency | 2577.5 | 2595 | 2612.5 |
| 10 | Channel | 37800 | 38000 | 38200 |
| | Frequency | 2575 | 2595 | 2615 |
| 5 | Channel | 37775 | 38000 | 38225 |
| | Frequency | 2572.5 | 2595 | 2617.5 |

| LTE Band 41 Channel and Frequency List | | | | |
|--|------------------------|--------|--------|---------|
| BW [MHz] | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| 20 | Channel | 39750 | 40620 | 41490 |
| | Frequency | 2506 | 2593 | 2680 |
| 15 | Channel | 39725 | 40620 | 41515 |
| | Frequency | 2503.5 | 2593 | 2682.5 |
| 10 | Channel | 39700 | 40620 | 41540 |
| | Frequency | 2501 | 2593 | 2685 |
| 5 | Channel | 39675 | 40620 | 41565 |
| | Frequency | 2498.5 | 2593 | 2687.5 |



| LTE Band 7C_CA Channel and Frequency List | | | | | |
|---|------------------------|-----------|--------|--------|---------|
| BW [MHz] | Channel/Frequency(MHz) | | Lowest | Middle | Highest |
| 20 + 20 | PCC | Channel | 20850 | 21001 | 21152 |
| | | Frequency | 2510.0 | 2525.1 | 2540.2 |
| | SCC | Channel | 21048 | 21199 | 21350 |
| | | Frequency | 2529.8 | 2544.9 | 2560.0 |
| 20 + 15 | PCC | Channel | 20850 | 21026 | 21201 |
| | | Frequency | 2510.0 | 2527.6 | 2545.1 |
| | SCC | Channel | 21021 | 21197 | 21372 |
| | | Frequency | 2527.1 | 2544.7 | 2562.2 |
| 15 + 20 | PCC | Channel | 20828 | 21003 | 21179 |
| | | Frequency | 2507.8 | 2525.3 | 2542.9 |
| | SCC | Channel | 20999 | 21174 | 21350 |
| | | Frequency | 2524.9 | 2542.4 | 2560.0 |
| 20 + 10 | PCC | Channel | 20850 | 21051 | 21251 |
| | | Frequency | 2510.0 | 2530.1 | 2550.1 |
| | SCC | Channel | 20994 | 21195 | 21395 |
| | | Frequency | 2524.4 | 2544.5 | 2564.5 |
| 10 + 20 | PCC | Channel | 20805 | 21006 | 21206 |
| | | Frequency | 2505.5 | 2525.6 | 2545.6 |
| | SCC | Channel | 20949 | 21150 | 21350 |
| | | Frequency | 2519.9 | 2540.0 | 2560.0 |
| 15 + 15 | PCC | Channel | 20825 | 21025 | 21225 |
| | | Frequency | 2507.5 | 2527.5 | 2547.5 |
| | SCC | Channel | 20975 | 21175 | 21375 |
| | | Frequency | 2522.5 | 2542.5 | 2562.5 |
| 15 + 10 | PCC | Channel | 20825 | 21051 | 21277 |
| | | Frequency | 2507.5 | 2530.1 | 2552.7 |
| | SCC | Channel | 20945 | 21171 | 21397 |
| | | Frequency | 2519.5 | 2542.1 | 2564.7 |



| LTE Band 38C_CA Channel and Frequency List | | | | | |
|--|------------------------|-----------|--------|--------|---------|
| BW [MHz] | Channel/Frequency(MHz) | | Lowest | Middle | Highest |
| 20 + 20 | PCC | Channel | 37850 | 37901 | 37952 |
| | | Frequency | 2580.0 | 2585.1 | 2590.2 |
| | SCC | Channel | 38048 | 38099 | 38150 |
| | | Frequency | 2599.8 | 2604.9 | 2610.0 |
| 15+ 15 | PCC | Channel | 37825 | 37925 | 38025 |
| | | Frequency | 2577.5 | 2587.5 | 2597.5 |
| | SCC | Channel | 37975 | 38075 | 38175 |
| | | Frequency | 2592.5 | 2602.5 | 2612.5 |

| LTE Band 41C_CA Channel and Frequency List | | | | | |
|--|------------------------|-----------|--------|--------|---------|
| BW [MHz] | Channel/Frequency(MHz) | | Lowest | Middle | Highest |
| 20 + 20 | PCC | Channel | 39750 | 40521 | 41292 |
| | | Frequency | 2506.0 | 2583.1 | 2660.2 |
| | SCC | Channel | 39948 | 40719 | 41490 |
| | | Frequency | 2525.8 | 2602.9 | 2680.0 |
| 20 + 15 | PCC | Channel | 39750 | 40546 | 41341 |
| | | Frequency | 2506.0 | 2585.6 | 2665.1 |
| | SCC | Channel | 39921 | 40717 | 41512 |
| | | Frequency | 2523.1 | 2602.7 | 2682.2 |
| 15 + 20 | PCC | Channel | 39728 | 40523 | 41319 |
| | | Frequency | 2503.8 | 2593.3 | 2662.9 |
| | SCC | Channel | 39899 | 40694 | 41490 |
| | | Frequency | 2520.9 | 2600.4 | 2680.0 |
| 20 + 10 | PCC | Channel | 39750 | 40571 | 41391 |
| | | Frequency | 2506.0 | 2588.1 | 2670.1 |
| | SCC | Channel | 39894 | 40715 | 41535 |
| | | Frequency | 2520.4 | 2602.5 | 2684.5 |
| 10 + 20 | PCC | Channel | 39705 | 40526 | 41346 |
| | | Frequency | 2501.5 | 2583.6 | 2665.6 |
| | SCC | Channel | 39849 | 40670 | 41490 |
| | | Frequency | 2515.9 | 2598.0 | 2680.0 |



| LTE Band 41C_CA Channel and Frequency List | | | | | |
|--|-----|-----------|--------|--------|--------|
| 20 + 5 | PCC | Channel | 39750 | 40595 | 41440 |
| | | Frequency | 2506.0 | 2590.5 | 2675.0 |
| | SCC | Channel | 39867 | 40712 | 41557 |
| | | Frequency | 2517.7 | 2602.2 | 2686.7 |
| 5 + 20 | PCC | Channel | 39683 | 40528 | 41373 |
| | | Frequency | 2499.3 | 2583.8 | 2668.3 |
| | SCC | Channel | 39800 | 40645 | 41490 |
| | | Frequency | 2511.0 | 2595.5 | 2680.0 |
| 15 + 15 | PCC | Channel | 39725 | 40545 | 41365 |
| | | Frequency | 2503.5 | 2585.5 | 2667.5 |
| | SCC | Channel | 39875 | 40695 | 41515 |
| | | Frequency | 2518.5 | 2600.5 | 2682.5 |
| 10 + 15 | PCC | Channel | 39703 | 40549 | 41395 |
| | | Frequency | 2501.3 | 2585.9 | 2670.5 |
| | SCC | Channel | 39823 | 40669 | 41515 |
| | | Frequency | 2513.3 | 2597.9 | 2682.5 |
| 15 + 10 | PCC | Channel | 39725 | 40571 | 41417 |
| | | Frequency | 2503.5 | 2588.1 | 2672.7 |
| | SCC | Channel | 39845 | 40691 | 41537 |
| | | Frequency | 2515.5 | 2600.1 | 2684.7 |

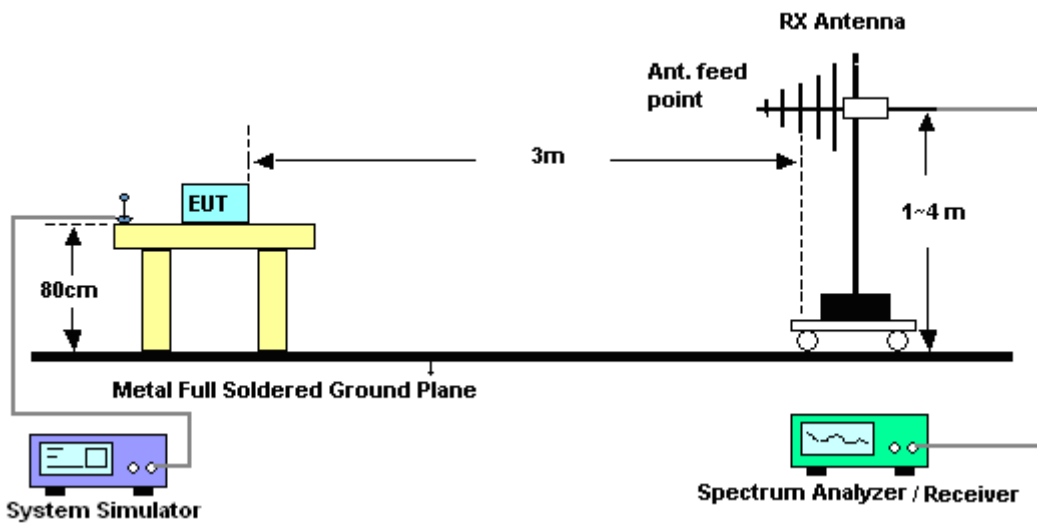
3 Radiated Test Items

3.1 Measuring Instruments

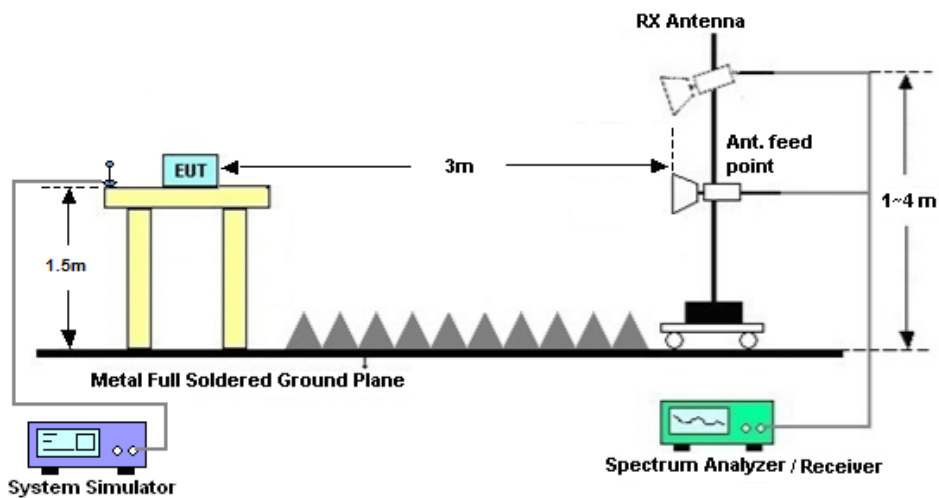
See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 For radiated test from 30MHz to 1GHz



3.2.2 For radiated test above 1GHz



3.3 Test Result of Radiated Test

Please refer to Appendix A.



3.4 Radiated Spurious Emission

3.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 7, 38, 41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. $EIRP (dBm) = S.G. Power - Tx Cable Loss + Tx Antenna Gain$
11. $ERP (dBm) = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] (dB)$
 $= [30 + 10\log(P)] (dBm) - [43 + 10\log(P)] (dB)$
 $= -13dBm.$



4 List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---------------------------|--------------|--------------------------|------------|-----------------|------------------|---------------------------------|---------------|--------------------------|
| EMI Test Receiver&SA | Agilent | N9038A | MY52260185 | 20Hz~26.5GHz | Jul. 22, 2019 | Jul. 11, 2020~ Jul. 18, 2020 | Jul. 21, 2020 | Radiation (03CH01-SZ) |
| EXA Spectrum Analyzer | KEYSIGHT | N9010A | MY55150213 | 10Hz~44GHz | Apr. 17, 2020 | Jul. 11, 2020~ Jul. 18, 2020 | Apr. 16, 2021 | Radiation (03CH01-SZ) |
| Loop Antenna | R&S | HFH2-Z2 | 100354 | 9kHz~30MHz | May. 28, 2020 | Jul. 11, 2020~ Jul. 18, 2020 | May. 27, 2022 | Radiation (03CH01-SZ) |
| Bilog Antenna | TeseQ | CBL6112D | 35407 | 30MHz~2GHz | Jul. 19, 2019 | Jul. 11, 2020~ Jul. 18, 2020 | Jul. 18, 2020 | Radiation (03CH01-SZ) |
| Double Ridge Horn Antenna | ETS-Lindgren | 3117 | 00119436 | 1GHz~18GHz | Aug. 27, 2019 | Jul. 11, 2020~ Jul. 18, 2020 | Aug. 26, 2020 | Radiation (03CH01-SZ) |
| SHF-EHF Horn | com-power | AH-840 | 101071 | 18Ghz~40GHz | Apr. 17, 2020 | Jul. 11, 2020~ Jul. 18, 2020 | Apr. 16, 2021 | Radiation (03CH01-SZ) |
| LF Amplifier | Burgeon | BPA-530 | 102209 | 0.01~3000Mhz | Apr. 17, 2020 | Jul. 11, 2020~ Jul. 18, 2020 | Apr. 16, 2021 | Radiation (03CH01-SZ) |
| HF Amplifier | MITEQ | AMF-7D-00 101800-30-1 | 1943528 | 1GHz~18GHz | Oct. 18,2019 | Jul. 11, 2020~ Jul. 18, 2020 | Oct. 17,2020 | Radiation (03CH01-SZ) |
| HF Amplifier | KEYSIGHT | 83017A | MY53270104 | 0.5GHz~26.5Ghz | Dec. 27, 2019 | Jul. 11, 2020~ Jul. 18, 2020 | Dec. 26, 2020 | Radiation (03CH01-SZ) |
| HF Amplifier | MITEQ | TTA1840-35 -HG | 1871923 | 18GHz~40GHz | Jul. 22. 2019 | Jul. 11, 2020~ Jul. 18, 2020 | Jul. 21. 2020 | Radiation (03CH01-SZ) |

NCR: No Calibration Required



5 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

| | |
|---|--------|
| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 2.48dB |
|---|--------|

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

| | |
|---|--------|
| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 3.53dB |
|---|--------|

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

| | |
|---|--------|
| Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y)) | 4.02dB |
|---|--------|



Appendix A. Test Results of Radiated Test

Radiated Spurious Emission

| LTE Band 7 / 5MHz / QPSK | | | | | | | | | |
|--------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5000.68 | -59.35 | -25 | -34.35 | -81.50 | -64.91 | 7.12 | 12.68 | H |
| | 7501.02 | -55.71 | -25 | -30.71 | -81.71 | -59.04 | 8.26 | 11.59 | H |
| | 10001.36 | -54.56 | -25 | -29.56 | -83.75 | -56.09 | 10.45 | 11.98 | H |
| | 5000.68 | -57.46 | -25 | -32.46 | -81.29 | -63.02 | 7.12 | 12.68 | V |
| | 7501.02 | -55.70 | -25 | -30.70 | -81.69 | -59.03 | 8.26 | 11.59 | V |
| | 10001.36 | -53.73 | -25 | -28.73 | -83.5 | -55.26 | 10.45 | 11.98 | V |
| Middle | 5065.68 | -58.63 | -25 | -33.63 | -81.26 | -64.19 | 7.14 | 12.70 | H |
| | 7598.52 | -56.15 | -25 | -31.15 | -81.76 | -59.45 | 8.30 | 11.60 | H |
| | 10131.36 | -53.56 | -25 | -28.56 | -82.93 | -55.08 | 10.48 | 12.00 | H |
| | 5065.68 | -57.33 | -25 | -32.33 | -81.17 | -62.89 | 7.14 | 12.70 | V |
| | 7598.52 | -55.66 | -25 | -30.66 | -81.27 | -58.96 | 8.30 | 11.60 | V |
| | 10131.36 | -52.91 | -25 | -27.91 | -83.33 | -54.43 | 10.48 | 12.00 | V |
| Highest | 5130.68 | -58.16 | -25 | -33.16 | -81.28 | -63.72 | 7.16 | 12.72 | H |
| | 7696.02 | -56.35 | -25 | -31.35 | -81.68 | -59.65 | 8.33 | 11.63 | H |
| | 10261.36 | -54.09 | -25 | -29.09 | -83.63 | -55.69 | 10.50 | 12.10 | H |
| | 5130.68 | -57.80 | -25 | -32.80 | -81.66 | -63.36 | 7.16 | 12.72 | V |
| | 7696.02 | -54.33 | -25 | -29.33 | -81.71 | -57.63 | 8.33 | 11.63 | V |
| | 10261.36 | -52.79 | -25 | -27.79 | -83.84 | -54.39 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 7 / 10MHz / QPSK | | | | | | | | | |
|---------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5001.18 | -59.04 | -25 | -34.04 | -81.19 | -64.60 | 7.12 | 12.68 | H |
| | 7501.77 | -55.16 | -25 | -30.16 | -81.16 | -58.49 | 8.26 | 11.59 | H |
| | 10002.36 | -54.29 | -25 | -29.29 | -83.51 | -55.82 | 10.45 | 11.98 | H |
| | 5001.18 | -57.69 | -25 | -32.69 | -81.52 | -63.25 | 7.12 | 12.68 | V |
| | 7501.77 | -55.80 | -25 | -30.80 | -81.79 | -59.13 | 8.26 | 11.59 | V |
| | 10002.36 | -53.18 | -25 | -28.18 | -83.04 | -54.71 | 10.45 | 11.98 | V |
| Middle | 5061.18 | -58.83 | -25 | -33.83 | -81.46 | -64.39 | 7.14 | 12.70 | H |
| | 7591.77 | -56.08 | -25 | -31.08 | -81.69 | -59.38 | 8.30 | 11.60 | H |
| | 10122.36 | -53.68 | -25 | -28.68 | -83.05 | -55.20 | 10.48 | 12.00 | H |
| | 5061.18 | -57.42 | -25 | -32.42 | -81.26 | -62.98 | 7.14 | 12.70 | V |
| | 7591.77 | -56.31 | -25 | -31.31 | -81.92 | -59.61 | 8.30 | 11.60 | V |
| | 10122.36 | -52.51 | -25 | -27.51 | -82.93 | -54.03 | 10.48 | 12.00 | V |
| Highest | 5121.18 | -58.43 | -25 | -33.43 | -81.43 | -63.99 | 7.16 | 12.72 | H |
| | 7681.77 | -56.15 | -25 | -31.15 | -81.53 | -59.45 | 8.33 | 11.63 | H |
| | 10242.36 | -53.87 | -25 | -28.87 | -83.40 | -55.47 | 10.50 | 12.10 | H |
| | 5121.18 | -57.83 | -25 | -32.83 | -81.68 | -63.39 | 7.16 | 12.72 | V |
| | 7681.77 | -54.39 | -25 | -29.39 | -81.48 | -57.69 | 8.33 | 11.63 | V |
| | 10242.36 | -52.53 | -25 | -27.53 | -83.51 | -54.13 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 7 / 15MHz / QPSK | | | | | | | | | |
|---------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5001.68 | -59.27 | -25 | -34.27 | -81.42 | -64.83 | 7.12 | 12.68 | H |
| | 7502.52 | -55.23 | -25 | -30.23 | -81.17 | -58.56 | 8.26 | 11.59 | H |
| | 10003.36 | -54.18 | -25 | -29.18 | -83.40 | -55.71 | 10.45 | 11.98 | H |
| | 5001.68 | -57.85 | -25 | -32.85 | -81.68 | -63.41 | 7.12 | 12.68 | V |
| | 7502.52 | -55.71 | -25 | -30.71 | -81.64 | -59.04 | 8.26 | 11.59 | V |
| | 10003.36 | -53.36 | -25 | -28.36 | -83.22 | -54.89 | 10.45 | 11.98 | V |
| Middle | 5056.68 | -58.82 | -25 | -33.82 | -81.45 | -64.38 | 7.14 | 12.70 | H |
| | 7585.02 | -56.18 | -25 | -31.18 | -81.86 | -59.48 | 8.30 | 11.60 | H |
| | 10113.36 | -53.94 | -25 | -28.94 | -83.29 | -55.46 | 10.48 | 12.00 | H |
| | 5056.68 | -57.44 | -25 | -32.44 | -81.28 | -63.00 | 7.14 | 12.70 | V |
| | 7585.02 | -55.77 | -25 | -30.77 | -81.45 | -59.07 | 8.30 | 11.60 | V |
| | 10113.36 | -52.81 | -25 | -27.81 | -83.14 | -54.33 | 10.48 | 12.00 | V |
| Highest | 5111.68 | -58.56 | -25 | -33.56 | -81.56 | -64.12 | 7.16 | 12.72 | H |
| | 7667.52 | -55.94 | -25 | -30.94 | -81.37 | -59.24 | 8.33 | 11.63 | H |
| | 10223.36 | -54.27 | -25 | -29.27 | -83.77 | -55.87 | 10.50 | 12.10 | H |
| | 5111.68 | -57.59 | -25 | -32.59 | -81.44 | -63.15 | 7.16 | 12.72 | V |
| | 7667.52 | -54.09 | -25 | -29.09 | -80.89 | -57.39 | 8.33 | 11.63 | V |
| | 10223.36 | -52.77 | -25 | -27.77 | -83.67 | -54.37 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 7 / 20MHz / QPSK | | | | | | | | | |
|---------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5002.18 | -59.39 | -25 | -34.39 | -81.54 | -64.95 | 7.12 | 12.68 | H |
| | 7503.27 | -55.69 | -25 | -30.69 | -81.63 | -59.02 | 8.26 | 11.59 | H |
| | 10004.36 | -54.18 | -25 | -29.18 | -83.40 | -55.71 | 10.45 | 11.98 | H |
| | 5002.18 | -57.85 | -25 | -32.85 | -81.68 | -63.41 | 7.12 | 12.68 | V |
| | 7503.27 | -55.65 | -25 | -30.65 | -81.58 | -58.98 | 8.26 | 11.59 | V |
| | 10004.36 | -53.29 | -25 | -28.29 | -83.15 | -54.82 | 10.45 | 11.98 | V |
| Middle | 5052.18 | -58.86 | -25 | -33.86 | -81.37 | -64.42 | 7.14 | 12.70 | H |
| | 7578.27 | -55.89 | -25 | -30.89 | -81.57 | -59.19 | 8.30 | 11.60 | H |
| | 10104.36 | -54.49 | -25 | -29.49 | -83.84 | -56.01 | 10.48 | 12.00 | H |
| | 5052.18 | -56.64 | -25 | -31.64 | -80.48 | -62.20 | 7.14 | 12.70 | V |
| | 7578.27 | -56.14 | -25 | -31.14 | -81.82 | -59.44 | 8.30 | 11.60 | V |
| | 10104.36 | -53.50 | -25 | -28.50 | -83.83 | -55.02 | 10.48 | 12.00 | V |
| Highest | 5102.18 | -58.95 | -25 | -33.95 | -81.82 | -64.51 | 7.16 | 12.72 | H |
| | 7653.27 | -56.17 | -25 | -31.17 | -81.64 | -59.47 | 8.33 | 11.63 | H |
| | 10204.36 | -54.43 | -25 | -29.43 | -83.89 | -56.03 | 10.50 | 12.10 | H |
| | 5102.18 | -57.59 | -25 | -32.59 | -81.44 | -63.15 | 7.16 | 12.72 | V |
| | 7653.27 | -54.72 | -25 | -29.72 | -81.22 | -58.02 | 8.33 | 11.63 | V |
| | 10204.36 | -53.03 | -25 | -28.03 | -83.76 | -54.63 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 38 / 5MHz / QPSK | | | | | | | | | |
|---------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5140.50 | -58.17 | -25 | -33.17 | -81.41 | -63.73 | 7.12 | 12.68 | H |
| | 7710.75 | -56.52 | -25 | -31.52 | -81.81 | -59.85 | 8.26 | 11.59 | H |
| | 10281.00 | -54.15 | -25 | -29.15 | -83.71 | -55.68 | 10.45 | 11.98 | H |
| | 5140.50 | -57.69 | -25 | -32.69 | -81.55 | -63.25 | 7.12 | 12.68 | V |
| | 7710.75 | -53.93 | -25 | -28.93 | -81.61 | -57.26 | 8.26 | 11.59 | V |
| | 10281.00 | -52.49 | -25 | -27.49 | -83.62 | -54.02 | 10.45 | 11.98 | V |
| Middle | 5185.50 | -58.03 | -25 | -33.03 | -81.51 | -63.59 | 7.14 | 12.70 | H |
| | 7778.25 | -56.16 | -25 | -31.16 | -81.25 | -59.46 | 8.30 | 11.60 | H |
| | 10371.00 | -53.69 | -25 | -28.69 | -83.36 | -55.21 | 10.48 | 12.00 | H |
| | 5185.50 | -57.67 | -25 | -32.67 | -81.54 | -63.23 | 7.14 | 12.70 | V |
| | 7778.25 | -52.37 | -25 | -27.37 | -81.23 | -55.67 | 8.30 | 11.60 | V |
| | 10371.00 | -51.95 | -25 | -26.95 | -83.48 | -53.47 | 10.48 | 12.00 | V |
| Highest | 5230.50 | -57.70 | -25 | -32.70 | -81.42 | -63.26 | 7.16 | 12.72 | H |
| | 7845.75 | -56.64 | -25 | -31.64 | -81.91 | -59.94 | 8.33 | 11.63 | H |
| | 10461.00 | -54.39 | -25 | -29.39 | -84.19 | -55.99 | 10.50 | 12.10 | H |
| | 5230.50 | -57.85 | -25 | -32.85 | -81.64 | -63.41 | 7.16 | 12.72 | V |
| | 7845.75 | -52.70 | -25 | -27.70 | -81.6 | -56.00 | 8.33 | 11.63 | V |
| | 10461.00 | -51.86 | -25 | -26.86 | -83.87 | -53.46 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 38 / 10MHz / QPSK | | | | | | | | | |
|----------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5141.00 | -58.13 | -25 | -33.13 | -81.37 | -63.69 | 7.12 | 12.68 | H |
| | 7711.50 | -56.20 | -25 | -31.20 | -81.49 | -59.53 | 8.26 | 11.59 | H |
| | 10282.00 | -53.77 | -25 | -28.77 | -83.33 | -55.30 | 10.45 | 11.98 | H |
| | 5141.00 | -57.37 | -25 | -32.37 | -81.23 | -62.93 | 7.12 | 12.68 | V |
| | 7711.50 | -53.65 | -25 | -28.65 | -81.33 | -56.98 | 8.26 | 11.59 | V |
| | 10282.00 | -52.44 | -25 | -27.44 | -83.57 | -53.97 | 10.45 | 11.98 | V |
| Middle | 5181.00 | -57.91 | -25 | -32.91 | -81.39 | -63.47 | 7.14 | 12.70 | H |
| | 7771.50 | -56.03 | -25 | -31.03 | -81.16 | -59.33 | 8.30 | 11.60 | H |
| | 10362.00 | -53.82 | -25 | -28.82 | -83.49 | -55.34 | 10.48 | 12.00 | H |
| | 5181.00 | -57.78 | -25 | -32.78 | -81.65 | -63.34 | 7.14 | 12.70 | V |
| | 7771.50 | -52.52 | -25 | -27.52 | -81.08 | -55.82 | 8.30 | 11.60 | V |
| | 10362.00 | -51.73 | -25 | -26.73 | -83.26 | -53.25 | 10.48 | 12.00 | V |
| Highest | 5221.00 | -58.11 | -25 | -33.11 | -81.77 | -63.67 | 7.16 | 12.72 | H |
| | 7831.50 | -55.73 | -25 | -30.73 | -80.92 | -59.03 | 8.33 | 11.63 | H |
| | 10442.00 | -54.12 | -25 | -29.12 | -83.89 | -55.72 | 10.50 | 12.10 | H |
| | 5221.00 | -57.65 | -25 | -32.65 | -81.48 | -63.21 | 7.16 | 12.72 | V |
| | 7831.50 | -52.57 | -25 | -27.57 | -81.55 | -55.87 | 8.33 | 11.63 | V |
| | 10442.00 | -51.60 | -25 | -26.60 | -83.45 | -53.20 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 38 / 15MHz / QPSK | | | | | | | | | |
|----------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5141.50 | -58.39 | -25 | -33.39 | -81.63 | -63.95 | 7.12 | 12.68 | H |
| | 7712.25 | -56.35 | -25 | -31.35 | -81.64 | -59.68 | 8.26 | 11.59 | H |
| | 10283.00 | -54.11 | -25 | -29.11 | -83.67 | -55.64 | 10.45 | 11.98 | H |
| | 5141.50 | -57.15 | -25 | -32.15 | -81.01 | -62.71 | 7.12 | 12.68 | V |
| | 7712.25 | -53.68 | -25 | -28.68 | -81.36 | -57.01 | 8.26 | 11.59 | V |
| | 10283.00 | -52.53 | -25 | -27.53 | -83.66 | -54.06 | 10.45 | 11.98 | V |
| Middle | 5176.50 | -58.12 | -25 | -33.12 | -81.60 | -63.68 | 7.14 | 12.70 | H |
| | 7764.75 | -56.42 | -25 | -31.42 | -81.56 | -59.72 | 8.30 | 11.60 | H |
| | 10353.00 | -53.91 | -25 | -28.91 | -83.56 | -55.43 | 10.48 | 12.00 | H |
| | 5176.50 | -57.40 | -25 | -32.40 | -81.27 | -62.96 | 7.14 | 12.70 | V |
| | 7764.75 | -52.73 | -25 | -27.73 | -81.3 | -56.03 | 8.30 | 11.60 | V |
| | 10353.00 | -52.19 | -25 | -27.19 | -83.64 | -53.71 | 10.48 | 12.00 | V |
| Highest | 5211.50 | -57.84 | -25 | -32.84 | -81.50 | -63.40 | 7.16 | 12.72 | H |
| | 7817.25 | -56.51 | -25 | -31.51 | -81.63 | -59.81 | 8.33 | 11.63 | H |
| | 10423.00 | -54.16 | -25 | -29.16 | -83.90 | -55.76 | 10.50 | 12.10 | H |
| | 5211.50 | -57.63 | -25 | -32.63 | -81.46 | -63.19 | 7.16 | 12.72 | V |
| | 7817.25 | -52.55 | -25 | -27.55 | -81.62 | -55.85 | 8.33 | 11.63 | V |
| | 10423.00 | -51.95 | -25 | -26.95 | -83.72 | -53.55 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 38 / 20MHz / QPSK | | | | | | | | | |
|----------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5142.00 | -58.32 | -25 | -33.32 | -81.56 | -63.88 | 7.12 | 12.68 | H |
| | 7713.00 | -56.21 | -25 | -31.21 | -81.50 | -59.54 | 8.26 | 11.59 | H |
| | 10284.00 | -53.74 | -25 | -28.74 | -83.30 | -55.27 | 10.45 | 11.98 | H |
| | 5142.00 | -57.61 | -25 | -32.61 | -81.47 | -63.17 | 7.12 | 12.68 | V |
| | 7713.00 | -53.84 | -25 | -28.84 | -81.52 | -57.17 | 8.26 | 11.59 | V |
| | 10284.00 | -52.31 | -25 | -27.31 | -83.44 | -53.84 | 10.45 | 11.98 | V |
| Middle | 5172.00 | -58.13 | -25 | -33.13 | -81.49 | -63.69 | 7.14 | 12.70 | H |
| | 7758.00 | -56.49 | -25 | -31.49 | -81.63 | -59.79 | 8.30 | 11.60 | H |
| | 10344.00 | -53.82 | -25 | -28.82 | -83.48 | -55.34 | 10.48 | 12.00 | H |
| | 5172.00 | -56.83 | -25 | -31.83 | -80.69 | -62.39 | 7.14 | 12.70 | V |
| | 7758.00 | -52.90 | -25 | -27.90 | -81.47 | -56.20 | 8.30 | 11.60 | V |
| | 10344.00 | -52.22 | -25 | -27.22 | -83.68 | -53.74 | 10.48 | 12.00 | V |
| Highest | 5202.00 | -58.00 | -25 | -33.00 | -81.60 | -63.56 | 7.16 | 12.72 | H |
| | 7803.00 | -56.44 | -25 | -31.44 | -81.48 | -59.74 | 8.33 | 11.63 | H |
| | 10404.00 | -54.09 | -25 | -29.09 | -83.81 | -55.69 | 10.50 | 12.10 | H |
| | 5202.00 | -57.54 | -25 | -32.54 | -81.41 | -63.10 | 7.16 | 12.72 | V |
| | 7803.00 | -52.71 | -25 | -27.71 | -81.86 | -56.01 | 8.33 | 11.63 | V |
| | 10404.00 | -52.07 | -25 | -27.07 | -83.76 | -53.67 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 41 / 5MHz / QPSK | | | | | | | | | |
|---------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 4992.68 | -59.15 | -25 | -34.15 | -81.30 | -64.71 | 7.12 | 12.68 | H |
| | 7489.02 | -55.83 | -25 | -30.83 | -81.84 | -59.16 | 8.26 | 11.59 | H |
| | 9985.36 | -54.10 | -25 | -29.10 | -83.27 | -55.63 | 10.45 | 11.98 | H |
| | 4992.68 | -57.79 | -25 | -32.79 | -81.62 | -63.35 | 7.12 | 12.68 | V |
| | 7489.02 | -55.63 | -25 | -30.63 | -81.63 | -58.96 | 8.26 | 11.59 | V |
| | 9985.36 | -53.41 | -25 | -28.41 | -83.16 | -54.94 | 10.45 | 11.98 | V |
| Middle | 5181.68 | -57.86 | -25 | -32.86 | -81.34 | -63.42 | 7.14 | 12.70 | H |
| | 7772.52 | -56.16 | -25 | -31.16 | -81.29 | -59.46 | 8.30 | 11.60 | H |
| | 10363.36 | -53.50 | -25 | -28.50 | -83.17 | -55.02 | 10.48 | 12.00 | H |
| | 5181.68 | -57.47 | -25 | -32.47 | -81.34 | -63.03 | 7.14 | 12.70 | V |
| | 7772.52 | -52.34 | -25 | -27.34 | -80.9 | -55.64 | 8.30 | 11.60 | V |
| | 10363.36 | -51.67 | -25 | -26.67 | -83.2 | -53.19 | 10.48 | 12.00 | V |
| Highest | 5370.68 | -56.83 | -25 | -31.83 | -81.03 | -62.39 | 7.16 | 12.72 | H |
| | 8056.02 | -55.26 | -25 | -30.26 | -81.11 | -58.56 | 8.33 | 11.63 | H |
| | 10741.36 | -52.21 | -25 | -27.21 | -83.10 | -53.81 | 10.50 | 12.10 | H |
| | 5370.68 | -55.88 | -25 | -30.88 | -79.42 | -61.44 | 7.16 | 12.72 | V |
| | 8056.02 | -53.08 | -25 | -28.08 | -81.38 | -56.38 | 8.33 | 11.63 | V |
| | 10741.36 | -49.70 | -25 | -24.70 | -83.12 | -51.30 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 41 / 10MHz / QPSK | | | | | | | | | |
|----------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 4993.18 | -59.22 | -25 | -34.22 | -81.37 | -64.78 | 7.12 | 12.68 | H |
| | 7489.77 | -55.48 | -25 | -30.48 | -81.48 | -58.81 | 8.26 | 11.59 | H |
| | 9986.36 | -54.25 | -25 | -29.25 | -83.42 | -55.78 | 10.45 | 11.98 | H |
| | 4993.18 | -57.67 | -25 | -32.67 | -81.5 | -63.23 | 7.12 | 12.68 | V |
| | 7489.77 | -55.47 | -25 | -30.47 | -81.46 | -58.80 | 8.26 | 11.59 | V |
| | 9986.36 | -53.46 | -25 | -28.46 | -83.21 | -54.99 | 10.45 | 11.98 | V |
| Middle | 5177.18 | -57.58 | -25 | -32.58 | -81.06 | -63.14 | 7.14 | 12.70 | H |
| | 7765.77 | -56.22 | -25 | -31.22 | -81.36 | -59.52 | 8.30 | 11.60 | H |
| | 10354.36 | -53.52 | -25 | -28.52 | -83.17 | -55.04 | 10.48 | 12.00 | H |
| | 5177.18 | -57.58 | -25 | -32.58 | -81.45 | -63.14 | 7.14 | 12.70 | V |
| | 7765.77 | -52.23 | -25 | -27.23 | -80.8 | -55.53 | 8.30 | 11.60 | V |
| | 10354.36 | -51.79 | -25 | -26.79 | -83.24 | -53.31 | 10.48 | 12.00 | V |
| Highest | 5361.18 | -55.94 | -25 | -30.94 | -80.14 | -61.50 | 7.16 | 12.72 | H |
| | 8041.77 | -55.52 | -25 | -30.52 | -81.39 | -58.82 | 8.33 | 11.63 | H |
| | 10722.36 | -52.77 | -25 | -27.77 | -83.58 | -54.37 | 10.50 | 12.10 | H |
| | 5361.18 | -55.50 | -25 | -30.50 | -79.04 | -61.06 | 7.16 | 12.72 | V |
| | 8041.77 | -53.12 | -25 | -28.12 | -81.36 | -56.42 | 8.33 | 11.63 | V |
| | 10722.36 | -49.76 | -25 | -24.76 | -83.09 | -51.36 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 41 / 15MHz / QPSK | | | | | | | | | |
|----------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 4993.68 | -58.96 | -25 | -33.96 | -81.11 | -64.52 | 7.12 | 12.68 | H |
| | 7490.52 | -55.07 | -25 | -30.07 | -81.07 | -58.40 | 8.26 | 11.59 | H |
| | 9987.36 | -54.32 | -25 | -29.32 | -83.49 | -55.85 | 10.45 | 11.98 | H |
| | 4993.68 | -57.62 | -25 | -32.62 | -81.45 | -63.18 | 7.12 | 12.68 | V |
| | 7490.52 | -55.62 | -25 | -30.62 | -81.61 | -58.95 | 8.26 | 11.59 | V |
| | 9987.36 | -53.70 | -25 | -28.70 | -83.45 | -55.23 | 10.45 | 11.98 | V |
| Middle | 5172.68 | -57.65 | -25 | -32.65 | -81.01 | -63.21 | 7.14 | 12.70 | H |
| | 7759.02 | -56.24 | -25 | -31.24 | -81.38 | -59.54 | 8.30 | 11.60 | H |
| | 10345.36 | -53.44 | -25 | -28.44 | -83.10 | -54.96 | 10.48 | 12.00 | H |
| | 5172.68 | -57.29 | -25 | -32.29 | -81.15 | -62.85 | 7.14 | 12.70 | V |
| | 7759.02 | -52.90 | -25 | -27.90 | -81.47 | -56.20 | 8.30 | 11.60 | V |
| | 10345.36 | -51.51 | -25 | -26.51 | -82.97 | -53.03 | 10.48 | 12.00 | V |
| Highest | 5351.68 | -56.72 | -25 | -31.72 | -80.86 | -62.28 | 7.16 | 12.72 | H |
| | 8027.52 | -55.43 | -25 | -30.43 | -81.32 | -58.73 | 8.33 | 11.63 | H |
| | 10703.36 | -52.79 | -25 | -27.79 | -83.53 | -54.39 | 10.50 | 12.10 | H |
| | 5351.68 | -54.90 | -25 | -29.90 | -78.47 | -60.46 | 7.16 | 12.72 | V |
| | 8027.52 | -52.72 | -25 | -27.72 | -80.9 | -56.02 | 8.33 | 11.63 | V |
| | 10703.36 | -50.18 | -25 | -25.18 | -83.42 | -51.78 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 41 / 20MHz / QPSK | | | | | | | | | |
|----------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 4994.18 | -59.41 | -25 | -34.41 | -81.56 | -64.97 | 7.12 | 12.68 | H |
| | 7491.27 | -55.58 | -25 | -30.58 | -81.58 | -58.91 | 8.26 | 11.59 | H |
| | 9988.36 | -54.20 | -25 | -29.20 | -83.37 | -55.73 | 10.45 | 11.98 | H |
| | 4994.18 | -57.73 | -25 | -32.73 | -81.56 | -63.29 | 7.12 | 12.68 | V |
| | 7491.27 | -55.68 | -25 | -30.68 | -81.67 | -59.01 | 8.26 | 11.59 | V |
| | 9988.36 | -53.68 | -25 | -28.68 | -83.43 | -55.21 | 10.45 | 11.98 | V |
| Middle | 5168.18 | -57.62 | -25 | -32.62 | -80.98 | -63.18 | 7.14 | 12.70 | H |
| | 7752.27 | -55.92 | -25 | -30.92 | -81.10 | -59.22 | 8.30 | 11.60 | H |
| | 10336.36 | -53.17 | -25 | -28.17 | -82.80 | -54.69 | 10.48 | 12.00 | H |
| | 5168.18 | -57.26 | -25 | -32.26 | -81.12 | -62.82 | 7.14 | 12.70 | V |
| | 7752.27 | -52.71 | -25 | -27.71 | -80.98 | -56.01 | 8.30 | 11.60 | V |
| | 10336.36 | -51.96 | -25 | -26.96 | -83.34 | -53.48 | 10.48 | 12.00 | V |
| Highest | 5342.18 | -57.33 | -25 | -32.33 | -81.41 | -62.89 | 7.16 | 12.72 | H |
| | 8013.27 | -55.34 | -25 | -30.34 | -81.22 | -58.64 | 8.33 | 11.63 | H |
| | 10684.36 | -52.88 | -25 | -27.88 | -83.54 | -54.48 | 10.50 | 12.10 | H |
| | 5342.18 | -54.97 | -25 | -29.97 | -78.57 | -60.53 | 7.16 | 12.72 | V |
| | 8013.27 | -53.03 | -25 | -28.03 | -81.2 | -56.33 | 8.33 | 11.63 | V |
| | 10684.36 | -50.46 | -25 | -25.46 | -83.61 | -52.06 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 7C_CA / 20MHz+20MHz / QPSK | | | | | | | | | |
|-------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5039.80 | -59.02 | -25 | -34.02 | -81.53 | -64.58 | 7.12 | 12.68 | H |
| | 7559.70 | -55.32 | -25 | -30.32 | -81.07 | -58.65 | 8.26 | 11.59 | H |
| | 10079.60 | -53.76 | -25 | -28.76 | -83.06 | -55.29 | 10.45 | 11.98 | H |
| | 5039.80 | -57.37 | -25 | -32.37 | -81.21 | -62.93 | 7.12 | 12.68 | V |
| | 7559.70 | -55.80 | -25 | -30.80 | -81.54 | -59.13 | 8.26 | 11.59 | V |
| | 10079.60 | -52.62 | -25 | -27.62 | -82.79 | -54.15 | 10.45 | 11.98 | V |
| Middle | 5070.00 | -58.67 | -25 | -33.67 | -81.30 | -64.23 | 7.14 | 12.70 | H |
| | 7605.00 | -55.90 | -25 | -30.90 | -81.47 | -59.20 | 8.30 | 11.60 | H |
| | 10140.00 | -53.01 | -25 | -28.01 | -82.41 | -54.53 | 10.48 | 12.00 | H |
| | 5070.00 | -57.34 | -25 | -32.34 | -81.18 | -62.90 | 7.14 | 12.70 | V |
| | 7605.00 | -55.64 | -25 | -30.64 | -81.55 | -58.94 | 8.30 | 11.60 | V |
| | 10140.00 | -51.91 | -25 | -26.91 | -82.41 | -53.43 | 10.48 | 12.00 | V |
| Highest | 5100.20 | -58.35 | -25 | -33.35 | -81.22 | -63.91 | 7.16 | 12.72 | H |
| | 7650.30 | -55.49 | -25 | -30.49 | -80.96 | -58.79 | 8.33 | 11.63 | H |
| | 10200.30 | -53.62 | -25 | -28.62 | -83.08 | -55.22 | 10.50 | 12.10 | H |
| | 5100.20 | -57.39 | -25 | -32.39 | -81.24 | -62.95 | 7.16 | 12.72 | V |
| | 7650.30 | -54.06 | -25 | -29.06 | -80.56 | -57.36 | 8.33 | 11.63 | V |
| | 10200.30 | -52.20 | -25 | -27.20 | -82.93 | -53.80 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 38C_CA / 20MHz+20MHz / QPSK | | | | | | | | | |
|--------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5179.80 | -57.93 | -25 | -32.93 | -81.41 | -63.49 | 7.12 | 12.68 | H |
| | 7769.70 | -56.21 | -25 | -31.21 | -81.35 | -59.54 | 8.26 | 11.59 | H |
| | 10359.60 | -53.85 | -25 | -28.85 | -83.52 | -55.38 | 10.45 | 11.98 | H |
| | 5179.80 | -57.45 | -25 | -32.45 | -81.32 | -63.01 | 7.12 | 12.68 | V |
| | 7769.70 | -52.46 | -25 | -27.46 | -81.03 | -55.79 | 8.26 | 11.59 | V |
| | 10359.60 | -52.22 | -25 | -27.22 | -83.75 | -53.75 | 10.45 | 11.98 | V |
| Middle | 5190.00 | -57.77 | -25 | -32.77 | -81.25 | -63.33 | 7.14 | 12.70 | H |
| | 7785.00 | -56.19 | -25 | -31.19 | -81.28 | -59.49 | 8.30 | 11.60 | H |
| | 10380.00 | -54.19 | -25 | -29.19 | -83.89 | -55.71 | 10.48 | 12.00 | H |
| | 5190.00 | -57.53 | -25 | -32.53 | -81.4 | -63.09 | 7.14 | 12.70 | V |
| | 7785.00 | -52.34 | -25 | -27.34 | -81.2 | -55.64 | 8.30 | 11.60 | V |
| | 10380.00 | -51.64 | -25 | -26.64 | -83.25 | -53.16 | 10.48 | 12.00 | V |
| Highest | 5200.00 | -57.91 | -25 | -32.91 | -81.51 | -63.47 | 7.16 | 12.72 | H |
| | 7800.00 | -56.18 | -25 | -31.18 | -81.22 | -59.48 | 8.33 | 11.63 | H |
| | 10400.00 | -53.86 | -25 | -28.86 | -83.58 | -55.46 | 10.50 | 12.10 | H |
| | 5200.00 | -57.54 | -25 | -32.54 | -81.41 | -63.10 | 7.16 | 12.72 | V |
| | 7800.00 | -52.08 | -25 | -27.08 | -81.23 | -55.38 | 8.33 | 11.63 | V |
| | 10400.00 | -52.05 | -25 | -27.05 | -83.74 | -53.65 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



| LTE Band 41C_CA / 20MHz+20MHz / QPSK | | | | | | | | | |
|--------------------------------------|-------------------|--------------|---------------|-------------------|-------------------|--------------------|----------------------|-----------------------|--------------------|
| Channel | Frequency (MHz) | EIRP (dBm) | Limit (dBm) | Over Limit (dB) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) |
| Lowest | 5031.80 | -58.95 | -25 | -33.95 | -81.34 | -64.51 | 7.12 | 12.68 | H |
| | 7547.70 | -55.35 | -25 | -30.35 | -81.16 | -58.68 | 8.26 | 11.59 | H |
| | 10063.60 | -53.87 | -25 | -28.87 | -83.15 | -55.40 | 10.45 | 11.98 | H |
| | 5031.80 | -57.64 | -25 | -32.64 | -81.48 | -63.20 | 7.12 | 12.68 | V |
| | 7547.70 | -55.16 | -25 | -30.16 | -80.96 | -58.49 | 8.26 | 11.59 | V |
| | 10063.60 | -52.82 | -25 | -27.82 | -82.91 | -54.35 | 10.45 | 11.98 | V |
| Middle | 5186.00 | -57.49 | -25 | -32.49 | -80.97 | -63.05 | 7.14 | 12.70 | H |
| | 7779.00 | -56.01 | -25 | -31.01 | -81.10 | -59.31 | 8.30 | 11.60 | H |
| | 10372.00 | -53.31 | -25 | -28.31 | -82.98 | -54.83 | 10.48 | 12.00 | H |
| | 5186.00 | -57.59 | -25 | -32.59 | -81.46 | -63.15 | 7.14 | 12.70 | V |
| | 7779.00 | -52.13 | -25 | -27.13 | -80.99 | -55.43 | 8.30 | 11.60 | V |
| | 10372.00 | -51.44 | -25 | -26.44 | -82.97 | -52.96 | 10.48 | 12.00 | V |
| Highest | 5340.00 | -57.13 | -25 | -32.13 | -81.21 | -62.69 | 7.16 | 12.72 | H |
| | 8010.30 | -55.29 | -25 | -30.29 | -81.19 | -58.59 | 8.33 | 11.63 | H |
| | 10680.40 | -52.48 | -25 | -27.48 | -83.06 | -54.08 | 10.50 | 12.10 | H |
| | 5340.00 | -55.90 | -25 | -30.90 | -79.5 | -61.46 | 7.16 | 12.72 | V |
| | 8010.30 | -53.37 | -25 | -28.37 | -81.48 | -56.67 | 8.33 | 11.63 | V |
| | 10680.40 | -50.03 | -25 | -25.03 | -83.09 | -51.63 | 10.50 | 12.10 | V |

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Appendix C. Reference Report

Please refer to Sporton report number FG021501D which is issued separately.