



FCC RADIO TEST REPORT

FCC ID : UZ7RTL10B1
Equipment : Tablet
Brand Name : Zebra
Model Name : RTL10B1
Applicant : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Manufacturer : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Standard : 47 CFR Part 2, 22(H), 24(E), 27(L)

The product was received on Feb. 22, 2019 and testing was started from Apr. 09, 2019 and completed on May 03, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Jones Tsai

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report

| Report No. | Version | Description | Issued Date |
|------------|---------|-------------------------|--------------|
| FG922214A | 01 | Initial issue of report | May 14, 2019 |
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Summary of Test Result

| Report Clause | Ref Std. Clause | Test Items | Result (PASS/FAIL) | Remark |
|---------------|---|--|--------------------|--|
| 3.2 | §2.1046 | Conducted Output Power | Pass | - |
| | §22.913 (a)(2) | Effective Radiated Power | | |
| | §24.232 (c) | Equivalent Isotropic Radiated Power | | |
| | §27.50 (d)(4) | Equivalent Isotropic Radiated Power | | |
| 3.3 | §24.232 (d) | Peak-to-Average Ratio | Pass | - |
| 3.4 | §2.1049 §22.917 (b) §24.238 (b) §27.53 (g) | Occupied Bandwidth | Pass | - |
| 3.5 | §2.1051 §22.917 (a) §24.238 (a) §27.53 (g) | Band Edge Measurement | Pass | - |
| 3.6 | §2.1051 §22.917 (a) §24.238 (a) §27.53 (g) | Conducted Emission | Pass | - |
| 3.7 | §2.1055 §22.355 | Frequency Stability Temperature & Voltage | Pass | - |
| | §2.1055 §24.235 §27.54 | | | - |
| 4.4 | §2.1053 §22.917 (a) §24.238 (a) §27.53 (h) | Field Strength of Spurious Radiation | Pass | Under limit 20.22 dB at 3704.000 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.

Reviewed by: Wii Chang
Report Producer: Natasha Hsieh

1 General Description

1.1 Product Feature of Equipment Under Test

| Product Feature | |
|---------------------------------|---|
| Equipment | Tablet |
| Brand Name | Zebra |
| Model Name | RTL10B1 |
| FCC ID | UZ7RTL10B1 |
| Sample 1 | EUT with SKU 1 + Keyboard |
| Sample 2 | EUT with SKU 1 |
| Sample 3 | EUT with SKU 2 |
| Sample 4 | EUT with SKU 3 |
| Sample 5 | EUT with SKU 4 |
| EUT supports Radios application | WCDMA/HSPA/LTE/NFC/GNSS WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE |
| HW Version | DV0 |
| SW Version | Android version 8.1.0 |
| FW Version - Xpad | 01-17-09.00-OG-U00-PLT |
| FW Version - Xslate | 01-17-05.00-OG-U00-PRD |
| FW Version - Xbook | 01-17-05.00-OG-U00-PRD |
| MFD - Xpad | 19MAR01 |
| MFD - Xslate | 19MAR01 |
| MFD - Xbook | 19MAR01 |
| EUT Stage | Identical Prototype |

Remark: The above EUT's information was declared by manufacturer.

| Specification of Accessories | | | | |
|------------------------------|------------|-----------|------------|------------------------------|
| AC Adapter | Brand Name | Delta | Model Name | ADP-65JH HB |
| Spare Standard Battery 36Whr | Brand Name | XPLORE | Model Name | XLBM1 |
| Keyboard dock | Brand Name | XPLORE | Model Name | LX-KB |
| Touch Pen | Brand Name | WACOM | Model Name | CP-903-05B-2 |
| Touch Pen | Brand Name | EMPIA | Model Name | EPNB-8C1000-0000 40820A01 |
| Touch Pen | Brand Name | HAO SHUAN | Model Name | 440007 |

<Sample Information>

| | Sample 1 | Sample 2 | Sample 3 | Sample 4 | Sample 5 |
|--------------------|-----------------|--|--|---|--|
| DV0 | SKU 1+ Keyboard | L10A - SKU1 | L10A - SKU2 | L10A - SKU3 | L10A - SKU4 |
| ID | Xbook | XSLATE | XPAD | XPAD | XPAD |
| OS | Refer Xslate | Android O | Android O | Android O | Android O |
| CPU | | Qualcomm SDM660 | Qualcomm SDM660 | Qualcomm SDM660 | Qualcomm SDM660 |
| Display with touch | | Panasonic EP101R1912N50 0TG 10.1" LCD (500nits) | Panasonic EP101R1912N50 0TG 10.1" LCD (500nits) | Panasonic EP101R1912N50 0TG 10.1" LCD (1000nits) | Panasonic EP101R1912N50 0TG 10.1" LCD (1000nits) with digitizer |
| Memory | | Samsung LPDDR4 4GB Hynix LPDDR4 4 GB | Samsung LPDDR4 4GB Hynix LPDDR4 4 GB | Samsung LPDDR4 4GB Micron LPDDR4 4 GB | Samsung LPDDR4 4GB Micron LPDDR4 4 GB |
| eMMC | | TOSHIBA 64GB | TOSHIBA 64GB | TOSHIBA 64GB | TOSHIBA 64GB |
| GPS | | Qualcomm | Qualcomm | Qualcomm | Qualcomm |
| WWAN | | Qualcomm | Qualcomm | Qualcomm | Qualcomm |
| WLAN | | Qualcomm WCN3990 | Qualcomm WCN3990 | Qualcomm WCN3990 | Qualcomm WCN3990 |
| Antenna | | WLAN*2/NFC /GPS/WWAN*2 | WLAN*2/NFC /GPS/WWAN*2 | WLAN*2/NFC /GPS/WWAN*2 | WLAN*2/NFC /GPS/WWAN*2 |
| Barcode Reader | | No | Yes | Yes | Yes |
| HDMI | | No | No | Yes | No |
| Serial Port | | No | Yes | No | No |

1.2 Product Specification of Equipment Under Test

| Standards-related Product Specification | |
|---|--|
| Tx Frequency | WCDMA: Band V: 826.4 MHz ~ 846.6 MHz Band II: 1852.4 MHz ~ 1907.6 MHz Band IV: 1712.4 MHz ~ 1752.6 MHz |
| Rx Frequency | WCDMA: Band V: 871.4 MHz ~ 891.6 MHz Band II: 1932.4 MHz ~ 1987.6 MHz Band IV: 2112.4 MHz ~ 2152.6 MHz |
| Maximum Output Power to Antenna | WCDMA: Band V: 24.34 dBm Band II: 23.39 dBm Band IV: 24.20 dBm |
| Antenna Type | PCB Antenna |
| Antenna Gain | Cellular Band: 1.40 dBi PCS Band: 2.96 dBi AWS Band: 2.96 dBi |
| Type of Modulation | WCDMA: BPSK (Uplink) HSDPA: 64QAM (Downlink) HSUPA: QPSK (Uplink) |

1.3 Modification of EUT

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

1.4 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

| FCC Rule | Frequency Range (MHz) | System | Type of Modulation | Maximum ERP/EIRP (W) | Frequency Tolerance (ppm) | Emission Designator |
|----------|-----------------------|-------------------------------|--------------------|----------------------|---------------------------|---------------------|
| Part 22 | 826.4 ~ 846.6 | WCDMA Band V RMC 12.2Kbps | BPSK | 0.2286 | 0.0167 ppm | 4M14F9W |
| Part 24 | 1852.4 ~ 1907.6 | WCDMA Band II RMC 12.2Kbps | BPSK | 0.4315 | 0.0037 ppm | 4M14F9W |
| Part 27 | 1712.4 ~ 1752.6 | WCDMA Band IV RMC 12.2Kbps | BPSK | 0.5200 | 0.0179 ppm | 4M15F9W |

1.5 Testing Location

| | |
|--------------------|---|
| Test Site | SPORTON INTERNATIONAL INC. |
| Test Site Location | No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978 |
| Test Site No. | Sporton Site No. |
| | TH03-HY |

Note: The test site complies with ANSI C63.4 2014 requirement.

| | |
|--------------------|---|
| Test Site | SPORTON INTERNATIONAL INC. |
| Test Site Location | No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855 |
| Test Site No. | Sporton Site No. |
| | 03CH15-HY |

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No. TW1190 and TW0007

1.6 Applicable Standards

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

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ 47 CFR Part 2, 22(H), 24(E), 27(L)
- ♦ 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 conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X Plane for Cellular Band ; Z Plane for PCS Band and AWS Band) were recorded in this report.

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 9000 MHz for WCDMA Band V
2. 30 MHz to 18000 MHz for WCDMA Band IV.
3. 30 MHz to 19100 MHz for WCDMA Band II.

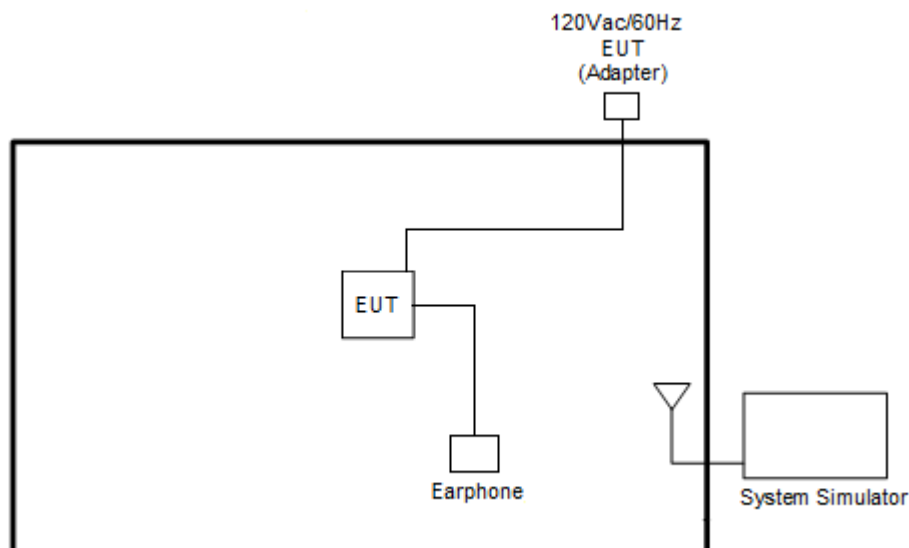
All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

| Test Modes | | |
|---------------|---------------------|---------------------|
| Band | Radiated TCs | Conducted TCs |
| WCDMA Band V | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |
| WCDMA Band II | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |
| WCDMA Band IV | ■ RMC 12.2Kbps Link | ■ RMC 12.2Kbps Link |

Remark: All the radiated test cases were performed with Sample 2.

2.2 Connection Diagram of Test System





2.3 Support Unit used in test configuration

| Item | Equipment | Trade Name | Model No. | FCC ID | Data Cable | Power Cord |
|------|---------------|------------|-----------|--------------|-------------------|-------------------|
| 1. | Base Station | Anritsu | MT8820C | N/A | N/A | Unshielded, 1.8 m |
| 2. | iPod Earphone | Apple | A1387 | Verification | Unshielded, 1.0 m | N/A |

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 4.2 dB and a 10dB attenuator.

Example:

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.2 + 10 = 14.2 \text{ (dB)}\end{aligned}$$

2.5 Frequency List of Low/Middle/High Channels

| Frequency List | | | | |
|------------------|------------------------|--------|--------|---------|
| Band | Channel/Frequency(MHz) | Lowest | Middle | Highest |
| WCDMA Band V | Channel | 4132 | 4182 | 4233 |
| | Frequency | 826.4 | 836.4 | 846.6 |
| WCDMA Band II | Channel | 9262 | 9400 | 9538 |
| | Frequency | 1852.4 | 1880.0 | 1907.6 |
| WCDMA Band IV | Channel | 1312 | 1413 | 1513 |
| | Frequency | 1712.4 | 1732.6 | 1752.6 |

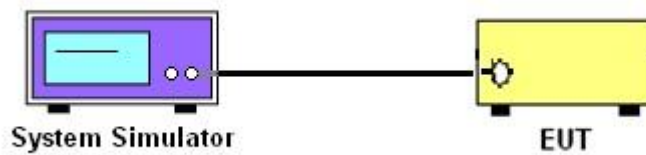
3 Conducted Test Result

3.1 Measuring Instruments

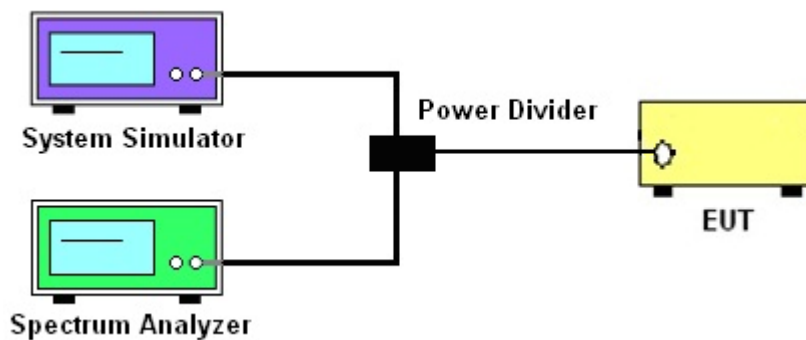
See list of measuring instruments of this test report.

3.1.1 Test Setup

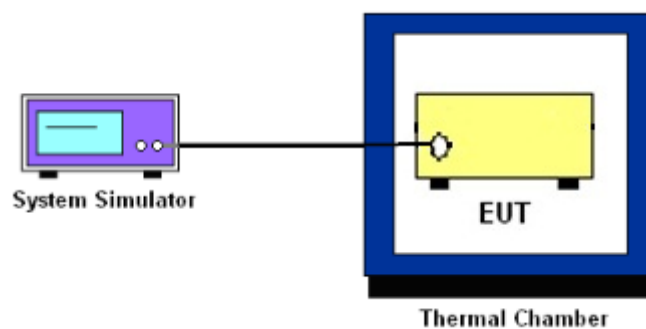
3.1.2 Conducted Output Power



3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power and ERP/EIRP

3.2.1 Description of the Conducted Output Power and ERP/EIRP

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for WCDMA Band V.

The EIRP of mobile transmitters must not exceed 2 Watts for WCDMA Band II.

The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA Band IV.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.



3.3 Peak-to-Average Ratio

3.3.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.3.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 5.7.1

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. Set EUT to transmit at maximum output power.
3. When the duty cycle is less than 98%, then signal gating will be implemented on the spectrum analyzer by triggering from the system simulator.
4. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer.
5. Record the maximum PAPR level associated with a probability of 0.1%.

3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.4.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 4.2

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency.
The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
3. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
4. Set the detection mode to peak, and the trace mode to max hold.
5. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.
(this is the reference value)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.



3.5 Conducted Band Edge

3.5.1 Description of Conducted Band Edge Measurement

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

3.5.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.0.

1. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator.
The path loss was compensated to the results for each measurement.
3. The band edges of low and high channels for the highest RF powers were measured.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
5. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

3.6 Conducted Spurious Emission

3.6.1 Description of Conducted Spurious Emission Measurement

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

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.6.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.0.

1. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator.
The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)



3.7 Frequency Stability

3.7.1 Description of Frequency Stability Measurement

22.355

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

24.235 & 27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

3.7.2 Test Procedures for Temperature Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C steps up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.7.3 Test Procedures for Voltage Variation

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at $20\pm 5^{\circ}\text{C}$ and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

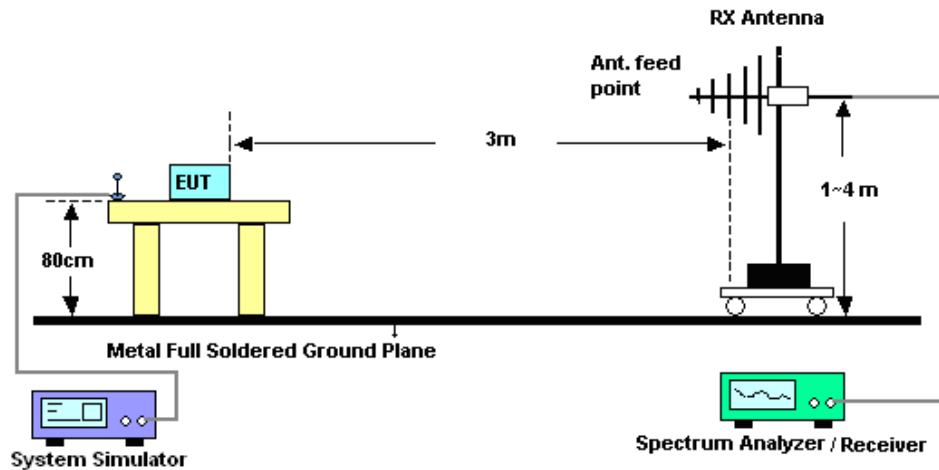
4 Radiated Test Items

4.1 Measuring Instruments

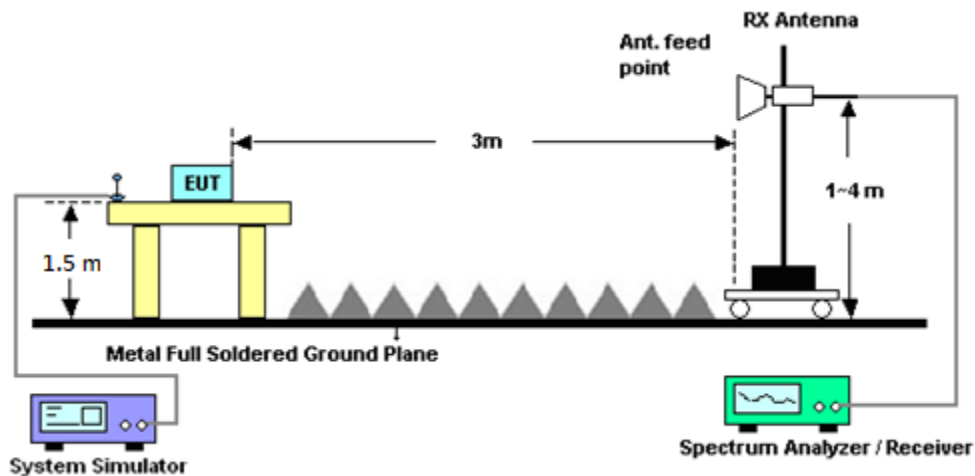
See list of measuring instruments of this test report.

4.2 Test Setup

For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.



4.4 Field Strength of Spurious Radiation Measurement

4.4.1 Description of Field Strength of Spurious Radiated Measurement

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

4.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a rotatable wooden table 0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz above the ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11. $ERP \text{ (dBm)} = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
13. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)



5 List of Measuring Equipment

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Test Date | Due Date | Remark |
|---------------------------|-----------------|------------------------|-------------|-----------------------------|------------------|------------------------------|---------------|-----------------------|
| LTE Base Station | Anritsu | MT8820C | 6201107509 | - | Mar. 02, 2019 | Apr. 10, 2019 | Mar. 01, 2020 | Conducted (TH03-HY) |
| Spectrum Analyzer | Rohde & Schwarz | FSP30 | 101329 | 9kHz~30GHz | Jun. 29, 2018 | May 03, 2019 | Jun. 28, 2019 | Conducted (TH03-HY) |
| Temperature Chamber | ESPEC | SU-641 | 92013721 | -30℃ ~70℃ | Dec. 06, 2017 | May 03, 2019 | Dec. 05, 2019 | Conducted (TH03-HY) |
| Programmable Power Supply | GW Instek | PSS-2005 | EL883644 | Voltage:0~20V; Current:0~5A | Dec. 06, 2017 | May 03, 2019 | Dec. 05, 2019 | Conducted (TH03-HY) |
| Base Station (Measure) | Rohde & Schwarz | CMU200 | 117995 | GSM / GPRS / WCDMA / CDMA | Aug. 10, 2018 | May 03, 2019 | Aug. 09, 2019 | Conducted (TH03-HY) |
| Preamplifier | EMEC | EM18G40G | 060715 | 18GHz ~ 40GHz | Dec. 06, 2018 | Apr. 09, 2019~ Apr. 12, 2019 | Dec. 05, 2019 | Radiation (03CH15-HY) |
| Loop Antenna | Rohde & Schwarz | HFH2-Z2 | 100488 | 9 kHz~30 MHz | Jan. 07, 2019 | Apr. 09, 2019~ Apr. 12, 2019 | Jan. 06, 2020 | Radiation (03CH15-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK | BBHA 9170 | BBHA9170576 | 18GHz ~ 40GHz | May 08, 2018 | Apr. 09, 2019~ Apr. 12, 2019 | May 07, 2019 | Radiation (03CH15-HY) |
| Amplifier | SONOMA | 310N | 363440 | 9kHz~1GHz | Dec. 28, 2018 | Apr. 09, 2019~ Apr. 12, 2019 | Dec. 27, 2019 | Radiation (03CH15-HY) |
| Bilog Antenna | TESEQ | CBL6111D&0800N1D01N-06 | 41912&05 | 30MHz to 1GHz | Feb. 12, 2019 | Apr. 09, 2019~ Apr. 12, 2019 | Feb. 11, 2020 | Radiation (03CH15-HY) |
| Horn Antenna | SCHWARZBECK | BBHA 9120D | 9120D-1620 | 1G~18GHz | Oct. 17, 2018 | Apr. 09, 2019~ Apr. 12, 2019 | Oct. 16, 2019 | Radiation (03CH15-HY) |
| Preamplifier | Keysight | 83017A | MY53270195 | 1GHz~26.5GHz | Aug. 23, 2018 | Apr. 09, 2019~ Apr. 12, 2019 | Aug. 22, 2019 | Radiation (03CH15-HY) |
| Spectrum Analyzer | Agilent | E4446A | MY50180136 | 3Hz~44GHz | Apr. 25, 2018 | Apr. 09, 2019~ Apr. 12, 2019 | Apr. 24, 2019 | Radiation (03CH15-HY) |
| Antenna Mast | ChainTek | MBS-520-1 | N/A | 1m~4m | N/A | Apr. 09, 2019~ Apr. 12, 2019 | N/A | Radiation (03CH15-HY) |
| Turn Table | ChainTek | T-200-S-1 | N/A | 0~360 Degree | N/A | Apr. 09, 2019~ Apr. 12, 2019 | N/A | Radiation (03CH15-HY) |
| SHF-EHF Horn Antenna | SCHWARZBECK | BBHA 9170 | BBHA9170251 | 18GHz- 40GHz | Nov. 20, 2018 | Apr. 09, 2019~ Apr. 12, 2019 | Nov. 19, 2019 | Radiation (03CH15-HY) |
| Signal Generator | Rohde & Schwarz | SMF100A | 101107 | 100kHz~40GHz | May 22, 2018 | Apr. 09, 2019~ Apr. 12, 2019 | May 21, 2019 | Radiation (03CH15-HY) |
| Horn Antenna | SCHWARZBECK | BBHA 9120 D | 9120D-1522 | 1G~18GHz | Sep. 07, 2018 | Apr. 09, 2019~ Apr. 12, 2019 | Sep. 06, 2019 | Radiation (03CH15-HY) |
| Software | Audix | E3 6.2009-8-24 | RK-000451 | N/A | N/A | Apr. 09, 2019~ Apr. 12, 2019 | N/A | Radiation (03CH15-HY) |

6 Uncertainty of Evaluation

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 3.37 |
|---|------|

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 3.67 |
|---|------|

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

| | |
|---|------|
| Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$) | 4.03 |
|---|------|



Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

| Conducted Power (*Unit: dBm) | | | | | | |
|------------------------------|--------------|-------|-------|---------------|-------|--------|
| Band | WCDMA Band V | | | WCDMA Band II | | |
| Channel | 4132 | 4182 | 4233 | 9262 | 9400 | 9538 |
| Frequency | 826.4 | 836.4 | 846.6 | 1852.4 | 1880 | 1907.6 |
| RMC 12.2K | 24.34 | 24.30 | 24.27 | 23.30 | 23.39 | 23.31 |
| HSDPA Subtest-1 | 23.39 | 23.38 | 23.33 | 22.35 | 22.50 | 22.44 |
| HSDPA Subtest-2 | 23.43 | 23.34 | 23.31 | 22.41 | 22.48 | 22.45 |
| HSDPA Subtest-3 | 22.93 | 22.88 | 22.84 | 21.93 | 21.99 | 22.00 |
| HSDPA Subtest-4 | 22.91 | 22.86 | 22.84 | 21.89 | 21.98 | 21.97 |
| HSUPA Subtest-1 | 23.39 | 23.40 | 23.36 | 22.39 | 22.49 | 22.49 |
| HSUPA Subtest-2 | 21.49 | 21.38 | 21.40 | 20.32 | 20.48 | 20.49 |
| HSUPA Subtest-3 | 22.42 | 22.37 | 22.27 | 21.40 | 21.50 | 21.50 |
| HSUPA Subtest-4 | 21.38 | 21.37 | 21.33 | 20.41 | 20.50 | 20.49 |
| HSUPA Subtest-5 | 23.40 | 23.40 | 23.40 | 22.40 | 22.50 | 22.50 |

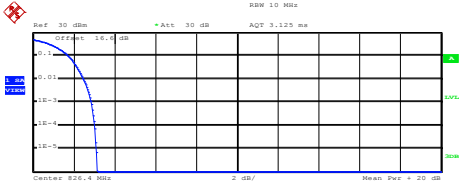
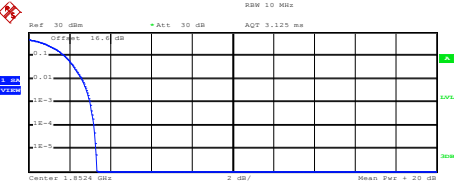
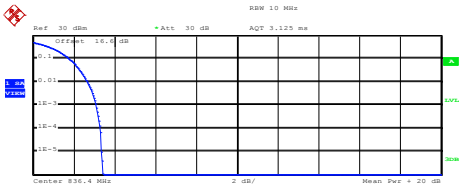
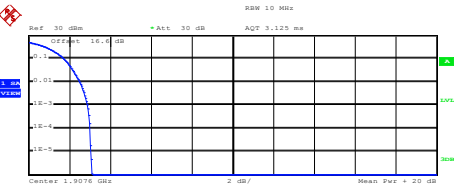
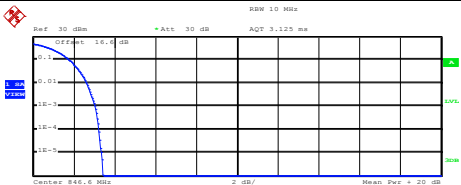
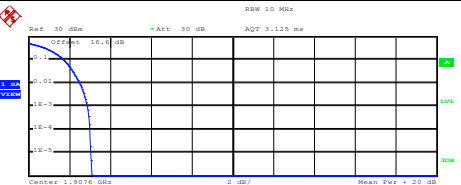
| Conducted Power (*Unit: dBm) | | | |
|------------------------------|---------------|--------|--------|
| Band | WCDMA Band IV | | |
| Channel | 1312 | 1413 | 1513 |
| Frequency | 1712.4 | 1732.6 | 1752.6 |
| RMC 12.2K | 24.11 | 24.20 | 24.17 |
| HSDPA Subtest-1 | 22.99 | 23.20 | 23.27 |
| HSDPA Subtest-2 | 23.02 | 23.18 | 23.24 |
| HSDPA Subtest-3 | 22.53 | 22.68 | 22.75 |
| HSDPA Subtest-4 | 22.51 | 22.68 | 22.75 |
| HSUPA Subtest-1 | 23.03 | 23.20 | 23.28 |
| HSUPA Subtest-2 | 21.04 | 21.21 | 21.27 |
| HSUPA Subtest-3 | 22.02 | 22.23 | 22.02 |
| HSUPA Subtest-4 | 21.03 | 21.23 | 21.28 |
| HSUPA Subtest-5 | 23.10 | 23.20 | 23.20 |



A2. WCDMA

Peak-to-Average Ratio

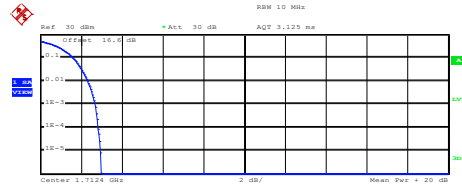
| Mode | WCDMA Band V | WCDMA Band II | WCDMA Band IV | Limit: 13dB |
|------------|--------------|---------------|---------------|-------------|
| Mod. | RMC 12.2Kbps | RMC 12.2Kbps | RMC 12.2Kbps | Result |
| Lowest CH | 2.88 | 3.00 | 2.68 | PASS |
| Middle CH | 3.08 | 2.88 | 2.92 | |
| Highest CH | 3.04 | 2.88 | 2.88 | |

| WCDMA Band V (RMC 12.2Kbps) | WCDMA Band II (RMC 12.2Kbps) |
|--|--|
| Lowest Channel | Lowest Channel |
|  <p>Center 820.4 MHz</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 24.57 dBm Peak 27.71 dBm Crest 3.14 dB</p> <p>10 % 1.72 dB 1 % 2.48 dB .1 % 2.88 dB .01 % 3.04 dB</p> <p>Date: 2.MAY.2019 18:42:46</p> |  <p>Center 1.8524 GHz</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 22.95 dBm Peak 26.30 dBm Crest 3.35 dB</p> <p>10 % 1.76 dB 1 % 2.60 dB .1 % 3.00 dB .01 % 3.20 dB</p> <p>Date: 2.MAY.2019 18:17:08</p> |
| Middle Channel | Middle Channel |
|  <p>Center 830.4 MHz</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 24.50 dBm Peak 27.92 dBm Crest 3.42 dB</p> <p>10 % 1.76 dB 1 % 2.68 dB .1 % 3.08 dB .01 % 3.32 dB</p> <p>Date: 2.MAY.2019 18:43:03</p> |  <p>Center 1.9076 GHz</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 23.05 dBm Peak 26.16 dBm Crest 3.11 dB</p> <p>10 % 1.72 dB 1 % 2.52 dB .1 % 2.88 dB .01 % 3.00 dB</p> <p>Date: 2.MAY.2019 18:17:42</p> |
| Highest Channel | Highest Channel |
|  <p>Center 840.6 MHz</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 24.42 dBm Peak 27.85 dBm Crest 3.43 dB</p> <p>10 % 1.76 dB 1 % 2.64 dB .1 % 3.04 dB .01 % 3.24 dB</p> <p>Date: 2.MAY.2019 18:43:21</p> |  <p>Center 1.9076 GHz</p> <p>Complementary Cumulative Distribution Function (100000 samples)</p> <p>Trace 1</p> <p>Mean 23.05 dBm Peak 26.16 dBm Crest 3.11 dB</p> <p>10 % 1.72 dB 1 % 2.52 dB .1 % 2.88 dB .01 % 3.00 dB</p> <p>Date: 2.MAY.2019 18:17:42</p> |



WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



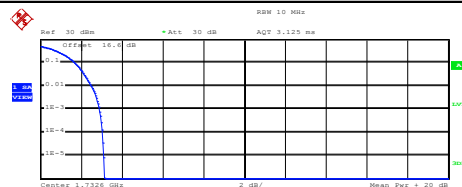
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 23.04 dBm
Peak 26.02 dBm
Crest 2.97 dB

10 % 1.60 dB
1 % 2.32 dB
.1 % 2.68 dB
.01 % 2.84 dB

Date: 9.MAY.2019 09:06:20

Middle Channel



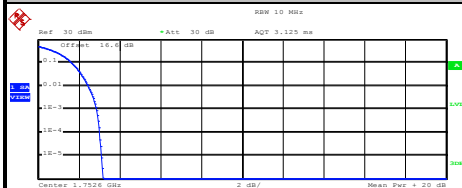
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 23.10 dBm
Peak 26.23 dBm
Crest 3.13 dB

10 % 1.68 dB
1 % 2.52 dB
.1 % 2.92 dB
.01 % 3.04 dB

Date: 9.MAY.2019 09:06:40

Highest Channel



Complementary Cumulative Distribution Function (100000 samples)

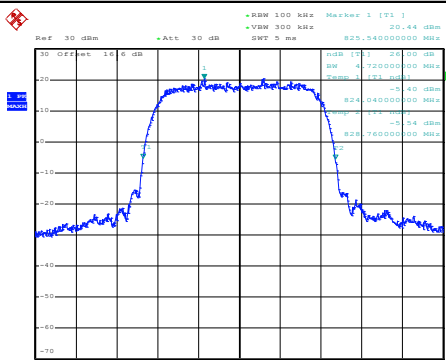
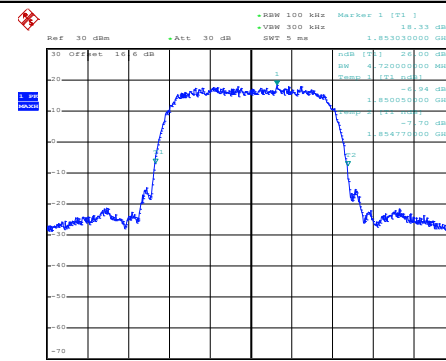
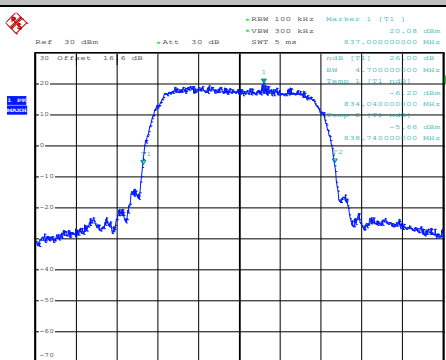
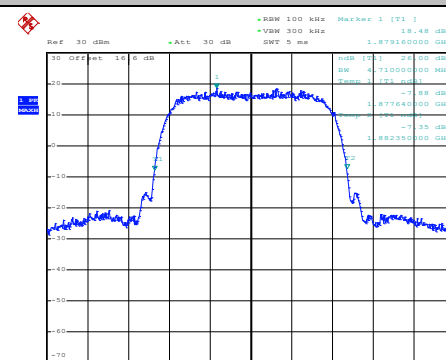
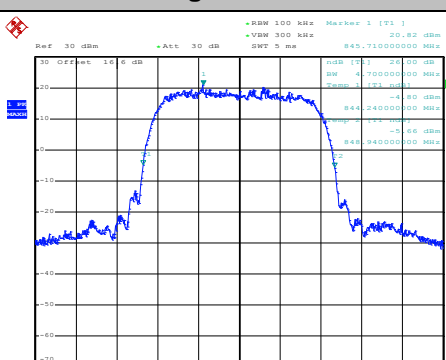
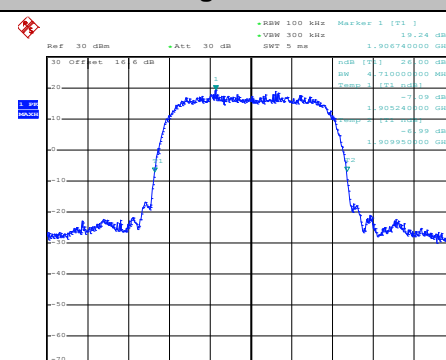
Trace 1
Mean 23.19 dBm
Peak 26.37 dBm
Crest 3.18 dB

10 % 1.64 dB
1 % 2.44 dB
.1 % 2.88 dB
.01 % 3.04 dB

Date: 9.MAY.2019 09:06:58

**26dB Bandwidth**

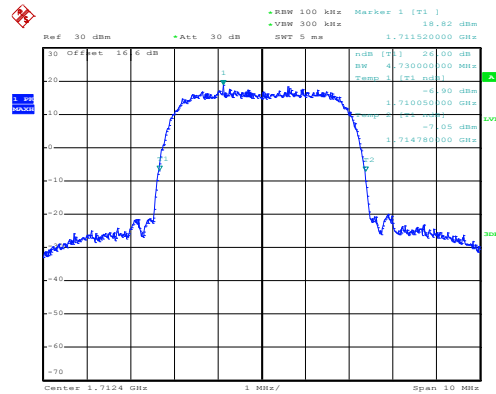
| Mode | WCDMA Band V | WCDMA Band II | WCDMA Band IV |
|------------|--------------|---------------|---------------|
| Mod. | RMC 12.2Kbps | RMC 12.2Kbps | RMC 12.2Kbps |
| Lowest CH | 4.72 | 4.72 | 4.73 |
| Middle CH | 4.70 | 4.71 | 4.72 |
| Highest CH | 4.70 | 4.71 | 4.72 |

| WCDMA Band V (RMC 12.2Kbps) | WCDMA Band II (RMC 12.2Kbps) |
|--|---|
| Lowest Channel | Lowest Channel |
|  <p>Date: 2.MAY.2019 18:29:29</p> |  <p>Date: 2.MAY.2019 18:04:23</p> |
| Middle Channel | Middle Channel |
|  <p>Date: 2.MAY.2019 18:30:05</p> |  <p>Date: 2.MAY.2019 18:04:59</p> |
| Highest Channel | Highest Channel |
|  <p>Date: 2.MAY.2019 18:30:57</p> |  <p>Date: 2.MAY.2019 18:05:36</p> |



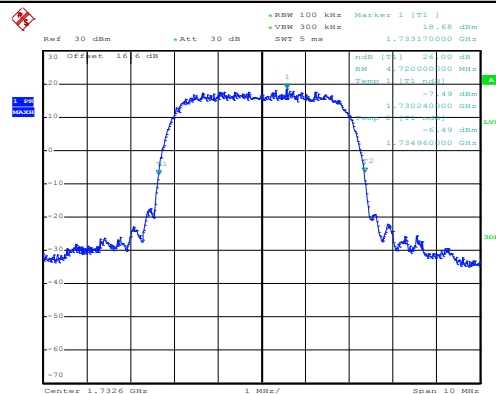
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



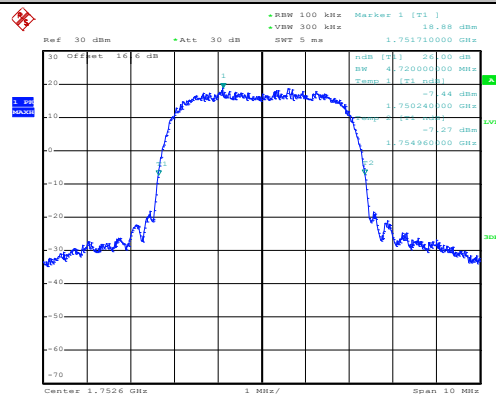
Date: 9.MAY.2019 08:53:20

Middle Channel



Date: 9.MAY.2019 08:54:09

Highest Channel



Date: 9.MAY.2019 08:54:48

**Occupied Bandwidth**

| Mode | WCDMA Band V | WCDMA Band II | WCDMA Band IV |
|------------|--------------|---------------|---------------|
| Mod. | RMC 12.2Kbps | RMC 12.2Kbps | RMC 12.2Kbps |
| Lowest CH | 4.14 | 4.14 | 4.15 |
| Middle CH | 4.14 | 4.14 | 4.14 |
| Highest CH | 4.13 | 4.14 | 4.14 |

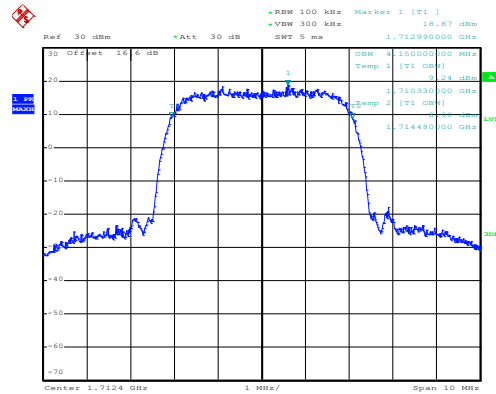


WCDMA Band V (RMC 12.2Kbps)

Lowest Channel

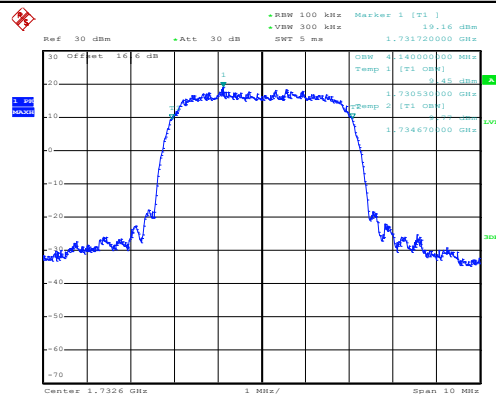
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



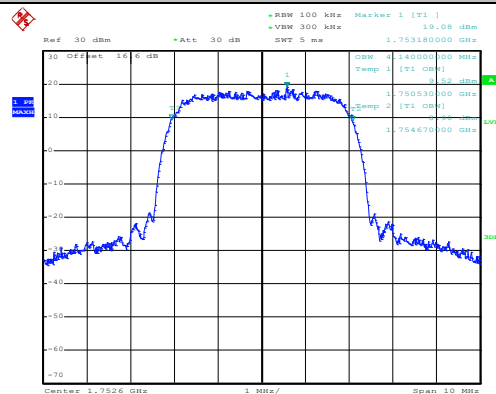
Date: 9.MAY.2019 08:55:31

Middle Channel



Date: 9.MAY.2019 08:56:06

Highest Channel

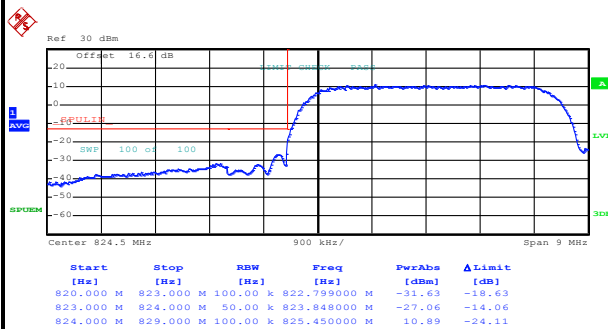


Date: 9.MAY.2019 08:56:43

Conducted Band Edge

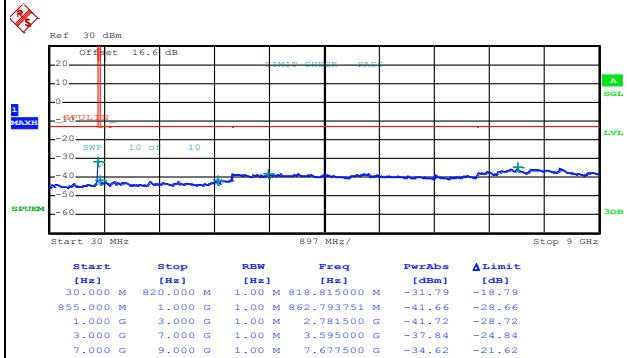
WCDMA Band V (RMC 12.2Kbps)

Lowest Band Edge



Date: 2.MAY.2019 18:36:24

Highest Band Edge

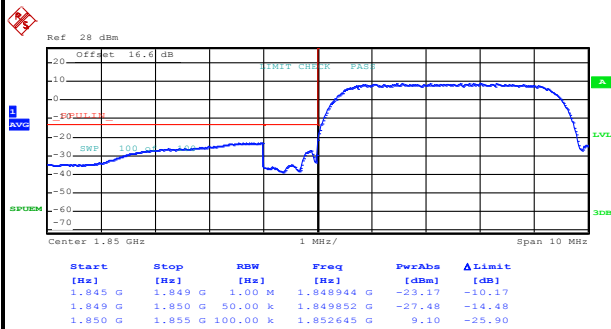


Date: 2.MAY.2019 18:40:22



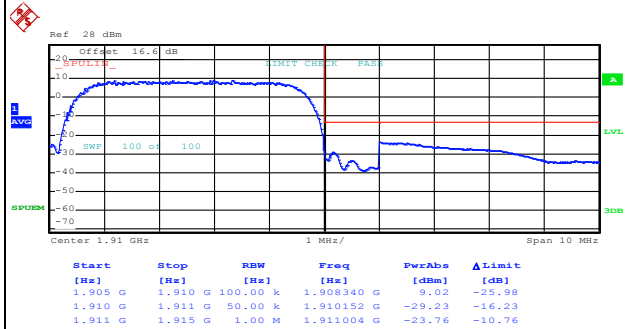
WCDMA Band II (RMC 12.2Kbps)

Lowest Band Edge



Date: 2.MAY.2019 18:10:34

Highest Band Edge

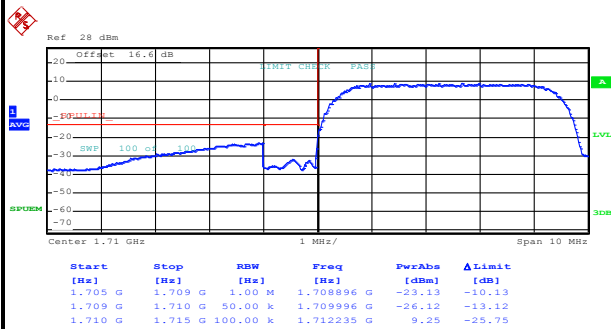


Date: 2.MAY.2019 18:13:30



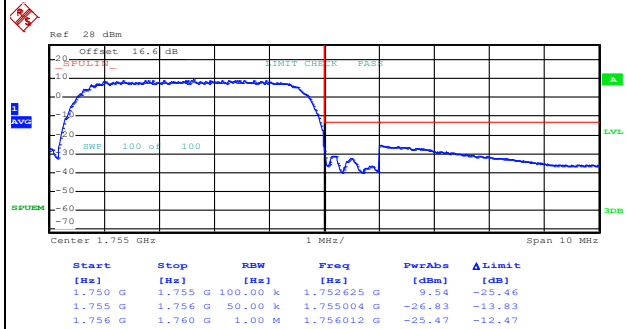
WCDMA Band IV (RMC 12.2Kbps)

Lowest Band Edge



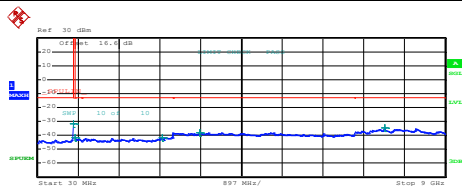
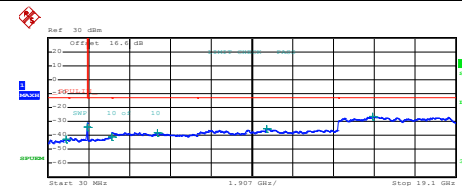
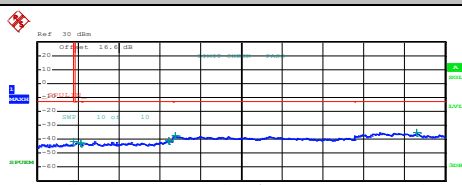
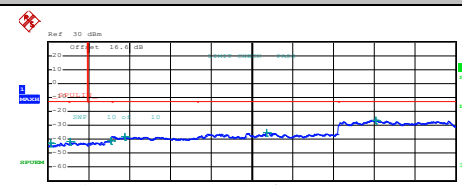
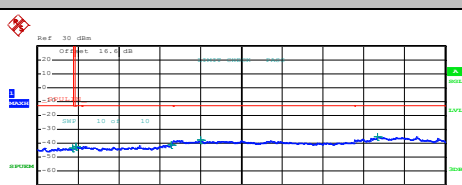
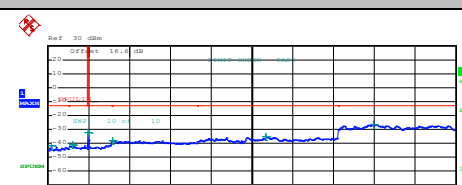
Date: 9.MAY.2019 08:59:41

Highest Band Edge



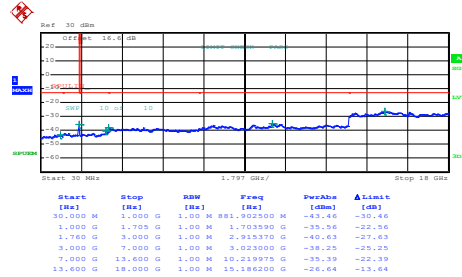
Date: 9.MAY.2019 09:03:03

Conducted Spurious Emission

| WCDMA Band V (RMC 12.2Kbps) | WCDMA Band II (RMC 12.2Kbps) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------------|--------|--------------|--------|--------|--------|------|------|------|------|-------|------|----------|-----------|--------|--------------|--------|--------|-----------|---------|--------|--------------|--------|--------|---------|---------|--------|-------------|--------|--------|---------|---------|--------|-------------|--------|--------|---------|---------|--------|-------------|--------|--------|--|-------|------|-----|------|--------|--------|------|------|------|------|-------|------|----------|---------|--------|--------------|--------|--------|---------|---------|--------|------------|--------|--------|---------|---------|--------|------------|--------|--------|---------|---------|--------|-------------|--------|--------|---------|----------|--------|-------------|--------|--------|----------|----------|--------|-------------|--------|--------|
| Lowest Channel | Lowest Channel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div></div> <table><thead><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr></thead><tbody><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>818,815000 M</td><td>-31.79</td><td>-18.79</td></tr><tr><td>855,000 M</td><td>1,000 G</td><td>1,00 M</td><td>862,793751 M</td><td>-41.66</td><td>-28.66</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,7835000 G</td><td>-41.72</td><td>-28.72</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,5950000 G</td><td>-37.84</td><td>-24.84</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,6775000 G</td><td>-34.62</td><td>-21.62</td></tr></tbody></table> <div>Date: 2.MAY.2019 18:40:22</div> | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 818,815000 M | -31.79 | -18.79 | 855,000 M | 1,000 G | 1,00 M | 862,793751 M | -41.66 | -28.66 | 1,000 G | 3,000 G | 1,00 M | 2,7835000 G | -41.72 | -28.72 | 3,000 G | 7,000 G | 1,00 M | 3,5950000 G | -37.84 | -24.84 | 7,000 G | 9,000 G | 1,00 M | 7,6775000 G | -34.62 | -21.62 | <div></div> <table><thead><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr></thead><tbody><tr><td>30,000 M</td><td>1,000 G</td><td>1,00 M</td><td>876,325000 M</td><td>-42.68</td><td>-29.68</td></tr><tr><td>1,000 G</td><td>1,845 G</td><td>1,00 M</td><td>1,844578 G</td><td>-34.16</td><td>-21.16</td></tr><tr><td>1,915 G</td><td>3,000 G</td><td>1,00 M</td><td>2,994304 G</td><td>-41.26</td><td>-28.26</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>5,1430000 G</td><td>-37.95</td><td>-24.95</td></tr><tr><td>7,000 G</td><td>13,600 G</td><td>1,00 M</td><td>10,236475 G</td><td>-35.11</td><td>-22.11</td></tr><tr><td>13,600 G</td><td>19,100 G</td><td>1,00 M</td><td>15,219063 G</td><td>-26.26</td><td>-13.26</td></tr></tbody></table> <div>Date: 2.MAY.2019 18:14:42</div> | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 1,000 G | 1,00 M | 876,325000 M | -42.68 | -29.68 | 1,000 G | 1,845 G | 1,00 M | 1,844578 G | -34.16 | -21.16 | 1,915 G | 3,000 G | 1,00 M | 2,994304 G | -41.26 | -28.26 | 3,000 G | 7,000 G | 1,00 M | 5,1430000 G | -37.95 | -24.95 | 7,000 G | 13,600 G | 1,00 M | 10,236475 G | -35.11 | -22.11 | 13,600 G | 19,100 G | 1,00 M | 15,219063 G | -26.26 | -13.26 |
| Start | Stop | RBW | Freq | PerAbn | ΔLimit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30,000 M | 820,000 M | 1,00 M | 818,815000 M | -31.79 | -18.79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 855,000 M | 1,000 G | 1,00 M | 862,793751 M | -41.66 | -28.66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,000 G | 3,000 G | 1,00 M | 2,7835000 G | -41.72 | -28.72 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,000 G | 7,000 G | 1,00 M | 3,5950000 G | -37.84 | -24.84 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7,000 G | 9,000 G | 1,00 M | 7,6775000 G | -34.62 | -21.62 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Start | Stop | RBW | Freq | PerAbn | ΔLimit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30,000 M | 1,000 G | 1,00 M | 876,325000 M | -42.68 | -29.68 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,000 G | 1,845 G | 1,00 M | 1,844578 G | -34.16 | -21.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,915 G | 3,000 G | 1,00 M | 2,994304 G | -41.26 | -28.26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,000 G | 7,000 G | 1,00 M | 5,1430000 G | -37.95 | -24.95 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7,000 G | 13,600 G | 1,00 M | 10,236475 G | -35.11 | -22.11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13,600 G | 19,100 G | 1,00 M | 15,219063 G | -26.26 | -13.26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Middle Channel | Middle Channel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div></div> <table><thead><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr></thead><tbody><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>817,432500 M</td><td>-41.80</td><td>-28.80</td></tr><tr><td>855,000 M</td><td>1,000 G</td><td>1,00 M</td><td>983,653259 M</td><td>-42.76</td><td>-29.76</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,9100000 G</td><td>-40.94</td><td>-27.94</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,0670000 G</td><td>-37.82</td><td>-24.82</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>8,3735000 G</td><td>-35.04</td><td>-22.04</td></tr></tbody></table> <div>Date: 2.MAY.2019 18:41:18</div> | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 817,432500 M | -41.80 | -28.80 | 855,000 M | 1,000 G | 1,00 M | 983,653259 M | -42.76 | -29.76 | 1,000 G | 3,000 G | 1,00 M | 2,9100000 G | -40.94 | -27.94 | 3,000 G | 7,000 G | 1,00 M | 3,0670000 G | -37.82 | -24.82 | 7,000 G | 9,000 G | 1,00 M | 8,3735000 G | -35.04 | -22.04 | <div></div> <table><thead><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr></thead><tbody><tr><td>30,000 M</td><td>1,000 G</td><td>1,00 M</td><td>143,005000 M</td><td>-42.83</td><td>-29.83</td></tr><tr><td>1,000 G</td><td>1,845 G</td><td>1,00 M</td><td>1,842039 G</td><td>-41.41</td><td>-28.41</td></tr><tr><td>1,915 G</td><td>3,000 G</td><td>1,00 M</td><td>2,977215 G</td><td>-41.02</td><td>-28.02</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,6230000 G</td><td>-38.02</td><td>-25.02</td></tr><tr><td>7,000 G</td><td>13,600 G</td><td>1,00 M</td><td>10,232130 G</td><td>-35.10</td><td>-22.10</td></tr><tr><td>13,600 G</td><td>19,100 G</td><td>1,00 M</td><td>15,346937 G</td><td>-26.36</td><td>-13.36</td></tr></tbody></table> <div>Date: 2.MAY.2019 18:15:37</div> | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 1,000 G | 1,00 M | 143,005000 M | -42.83 | -29.83 | 1,000 G | 1,845 G | 1,00 M | 1,842039 G | -41.41 | -28.41 | 1,915 G | 3,000 G | 1,00 M | 2,977215 G | -41.02 | -28.02 | 3,000 G | 7,000 G | 1,00 M | 3,6230000 G | -38.02 | -25.02 | 7,000 G | 13,600 G | 1,00 M | 10,232130 G | -35.10 | -22.10 | 13,600 G | 19,100 G | 1,00 M | 15,346937 G | -26.36 | -13.36 |
| Start | Stop | RBW | Freq | PerAbn | ΔLimit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30,000 M | 820,000 M | 1,00 M | 817,432500 M | -41.80 | -28.80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 855,000 M | 1,000 G | 1,00 M | 983,653259 M | -42.76 | -29.76 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,000 G | 3,000 G | 1,00 M | 2,9100000 G | -40.94 | -27.94 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,000 G | 7,000 G | 1,00 M | 3,0670000 G | -37.82 | -24.82 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7,000 G | 9,000 G | 1,00 M | 8,3735000 G | -35.04 | -22.04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Start | Stop | RBW | Freq | PerAbn | ΔLimit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30,000 M | 1,000 G | 1,00 M | 143,005000 M | -42.83 | -29.83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,000 G | 1,845 G | 1,00 M | 1,842039 G | -41.41 | -28.41 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,915 G | 3,000 G | 1,00 M | 2,977215 G | -41.02 | -28.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,000 G | 7,000 G | 1,00 M | 3,6230000 G | -38.02 | -25.02 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7,000 G | 13,600 G | 1,00 M | 10,232130 G | -35.10 | -22.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13,600 G | 19,100 G | 1,00 M | 15,346937 G | -26.36 | -13.36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Highest Channel | Highest Channel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div></div> <table><thead><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr></thead><tbody><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>808,545000 M</td><td>-43.48</td><td>-30.48</td></tr><tr><td>855,000 M</td><td>1,000 G</td><td>1,00 M</td><td>869,137501 M</td><td>-42.41</td><td>-29.41</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,9795000 G</td><td>-40.98</td><td>-27.98</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,6210000 G</td><td>-37.79</td><td>-24.79</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,5190000 G</td><td>-35.48</td><td>-22.48</td></tr></tbody></table> <div>Date: 2.MAY.2019 18:42:19</div> | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 820,000 M | 1,00 M | 808,545000 M | -43.48 | -30.48 | 855,000 M | 1,000 G | 1,00 M | 869,137501 M | -42.41 | -29.41 | 1,000 G | 3,000 G | 1,00 M | 2,9795000 G | -40.98 | -27.98 | 3,000 G | 7,000 G | 1,00 M | 3,6210000 G | -37.79 | -24.79 | 7,000 G | 9,000 G | 1,00 M | 7,5190000 G | -35.48 | -22.48 | <div></div> <table><thead><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr></thead><tbody><tr><td>30,000 M</td><td>1,000 G</td><td>1,00 M</td><td>168,225000 M</td><td>-41.85</td><td>-28.85</td></tr><tr><td>1,000 G</td><td>1,845 G</td><td>1,00 M</td><td>1,187167 G</td><td>-41.34</td><td>-28.34</td></tr><tr><td>1,915 G</td><td>3,000 G</td><td>1,00 M</td><td>1,953814 G</td><td>-38.31</td><td>-25.31</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,0400000 G</td><td>-37.88</td><td>-24.88</td></tr><tr><td>7,000 G</td><td>13,600 G</td><td>1,00 M</td><td>10,219975 G</td><td>-35.36</td><td>-22.36</td></tr><tr><td>13,600 G</td><td>19,100 G</td><td>1,00 M</td><td>15,230688 G</td><td>-26.36</td><td>-13.36</td></tr></tbody></table> <div>Date: 2.MAY.2019 18:16:32</div> | Start | Stop | RBW | Freq | PerAbn | ΔLimit | [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | 30,000 M | 1,000 G | 1,00 M | 168,225000 M | -41.85 | -28.85 | 1,000 G | 1,845 G | 1,00 M | 1,187167 G | -41.34 | -28.34 | 1,915 G | 3,000 G | 1,00 M | 1,953814 G | -38.31 | -25.31 | 3,000 G | 7,000 G | 1,00 M | 3,0400000 G | -37.88 | -24.88 | 7,000 G | 13,600 G | 1,00 M | 10,219975 G | -35.36 | -22.36 | 13,600 G | 19,100 G | 1,00 M | 15,230688 G | -26.36 | -13.36 |
| Start | Stop | RBW | Freq | PerAbn | ΔLimit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30,000 M | 820,000 M | 1,00 M | 808,545000 M | -43.48 | -30.48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 855,000 M | 1,000 G | 1,00 M | 869,137501 M | -42.41 | -29.41 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,000 G | 3,000 G | 1,00 M | 2,9795000 G | -40.98 | -27.98 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,000 G | 7,000 G | 1,00 M | 3,6210000 G | -37.79 | -24.79 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7,000 G | 9,000 G | 1,00 M | 7,5190000 G | -35.48 | -22.48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Start | Stop | RBW | Freq | PerAbn | ΔLimit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| [Hz] | [Hz] | [Hz] | [Hz] | [dBm] | [dB] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30,000 M | 1,000 G | 1,00 M | 168,225000 M | -41.85 | -28.85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,000 G | 1,845 G | 1,00 M | 1,187167 G | -41.34 | -28.34 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,915 G | 3,000 G | 1,00 M | 1,953814 G | -38.31 | -25.31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3,000 G | 7,000 G | 1,00 M | 3,0400000 G | -37.88 | -24.88 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7,000 G | 13,600 G | 1,00 M | 10,219975 G | -35.36 | -22.36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13,600 G | 19,100 G | 1,00 M | 15,230688 G | -26.36 | -13.36 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

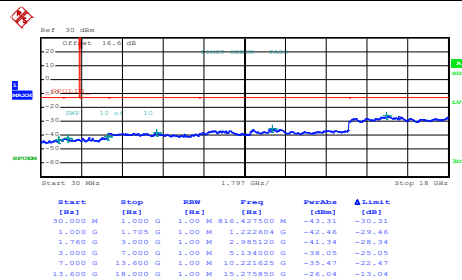
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



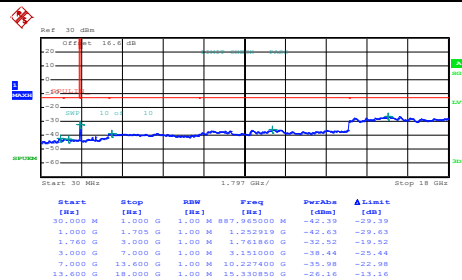
Date: 9.MAY.2019 09:04:06

Middle Channel



Date: 9.MAY.2019 09:05:04

Highest Channel



Date: 9.MAY.2019 09:05:59

Frequency Stability

| Test Conditions | Middle Channel | WCDMA Band V (RMC 12.2Kbps) | Limit 2.5ppm |
|------------------|-------------------|--------------------------------|-----------------|
| Temperature (°C) | Voltage (Volt) | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0155 | PASS |
| 40 | Normal Voltage | 0.0132 | |
| 30 | Normal Voltage | 0.0167 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0000 | |
| 0 | Normal Voltage | 0.0012 | |
| -10 | Normal Voltage | 0.0000 | |
| -20 | Normal Voltage | 0.0024 | |
| -30 | Normal Voltage | 0.0036 | |
| 20 | Maximum Voltage | 0.0167 | |
| 20 | Normal Voltage | 0.0143 | |
| 20 | Battery End Point | 0.0167 | |

| Test Conditions | Middle Channel | WCDMA Band II (RMC 12.2Kbps) | Limit Note 2. |
|------------------|-------------------|---------------------------------|------------------|
| Temperature (°C) | Voltage (Volt) | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0037 | PASS |
| 40 | Normal Voltage | 0.0021 | |
| 30 | Normal Voltage | 0.0016 | |
| 20(Ref.) | Normal Voltage | 0.0011 | |
| 10 | Normal Voltage | 0.0005 | |
| 0 | Normal Voltage | 0.0021 | |
| -10 | Normal Voltage | 0.0016 | |
| -20 | Normal Voltage | 0.0005 | |
| -30 | Normal Voltage | 0.0021 | |
| 20 | Maximum Voltage | 0.0032 | |
| 20 | Normal Voltage | 0.0011 | |
| 20 | Battery End Point | 0.0011 | |

| Test Conditions | Middle Channel | WCDMA Band IV (RMC 12.2Kbps) | Limit Note 2. |
|------------------|-------------------|---------------------------------|------------------|
| Temperature (°C) | Voltage (Volt) | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0173 | PASS |
| 40 | Normal Voltage | 0.0179 | |
| 30 | Normal Voltage | 0.0150 | |
| 20(Ref.) | Normal Voltage | 0.0155 | |
| 10 | Normal Voltage | 0.0023 | |
| 0 | Normal Voltage | 0.0058 | |
| -10 | Normal Voltage | 0.0092 | |
| -20 | Normal Voltage | 0.0110 | |
| -30 | Normal Voltage | 0.0115 | |
| 20 | Maximum Voltage | 0.0087 | |
| 20 | Normal Voltage | 0.0155 | |
| 20 | Battery End Point | 0.0069 | |

Note:

1. Normal Voltage = 7.6 V. ; Battery End Point (BEP) = 7.0 V. ; Maximum Voltage =8.7 V
2. The frequency fundamental emissions stay within the authorized frequency block.

**Appendix B. Test Results of ERP/EIRP and Radiated Test****ERP/EIRP**

| Channel | Mode | Conducted | | ERP | |
|---------|--------------------|-------------|---------------|----------|--------|
| | | Power (dBm) | Power (Watts) | ERP(dBm) | ERP(W) |
| Lowest | WCDMA Band V | 24.34 | 0.2716 | 23.59 | 0.2286 |
| Middle | RMC 12.2Kbps | 24.30 | 0.2692 | 23.55 | 0.2265 |
| Highest | (GT - LC = 1.4 dB) | 24.27 | 0.2673 | 23.52 | 0.2249 |
| Limit | ERP < 7W | Result | | PASS | |

| Channel | Mode | Conducted | | EIRP | |
|---------|---------------------|-------------|---------------|-----------|---------|
| | | Power (dBm) | Power (Watts) | EIRP(dBm) | EIRP(W) |
| Lowest | WCDMA Band II | 23.30 | 0.2138 | 26.26 | 0.4227 |
| Middle | RMC 12.2Kbps | 23.39 | 0.2183 | 26.35 | 0.4315 |
| Highest | (GT - LC = 2.96 dB) | 23.31 | 0.2143 | 26.27 | 0.4236 |
| Limit | EIRP < 2W | Result | | PASS | |

| Channel | Mode | Conducted | | EIRP | |
|---------|---------------------|-------------|---------------|-----------|---------|
| | | Power (dBm) | Power (Watts) | EIRP(dBm) | EIRP(W) |
| Lowest | WCDMA Band IV | 24.11 | 0.2576 | 27.07 | 0.5093 |
| Middle | RMC 12.2Kbps | 24.20 | 0.2630 | 27.16 | 0.5200 |
| Highest | (GT - LC = 2.96 dB) | 24.17 | 0.2612 | 27.13 | 0.5164 |
| Limit | EIRP < 1W | Result | | PASS | |

**Radiated Spurious Emission****WCDMA 850**

| WCDMA 850 | | | | | | | | | |
|-----------|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| Channel | Frequency (MHz) | ERP (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 | 1652 | -54.66 | -13 | -41.66 | -65.75 | -60.52 | 0.70 | 8.71 | H |
| | 2479 | -59.80 | -13 | -46.80 | -75.76 | -67.47 | 0.95 | 10.77 | H |
| | 3305 | -58.12 | -13 | -45.12 | -76.24 | -66.64 | 1.20 | 11.87 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1652 | -52.76 | -13 | -39.76 | -63.73 | -58.62 | 0.70 | 8.71 | V |
| | 2479 | -59.74 | -13 | -46.74 | -75.69 | -67.41 | 0.95 | 10.77 | V |
| | 3305 | -58.13 | -13 | -45.13 | -76.08 | -66.65 | 1.20 | 11.87 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |



| | | | | | | | | | |
|---------|------|--------|-----|--------|--------|--------|------|-------|---|
| Middle | 1672 | -52.62 | -13 | -39.62 | -63.83 | -58.55 | 0.71 | 8.79 | H |
| | 2509 | -59.58 | -13 | -46.58 | -75.55 | -67.28 | 0.95 | 10.81 | H |
| | 3345 | -57.65 | -13 | -44.65 | -75.67 | -66.25 | 1.21 | 11.96 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1672 | -53.30 | -13 | -40.30 | -64.42 | -59.23 | 0.71 | 8.79 | V |
| | 2509 | -59.62 | -13 | -46.62 | -75.61 | -67.32 | 0.95 | 10.81 | V |
| | 3345 | -58.31 | -13 | -45.31 | -76.03 | -66.91 | 1.21 | 11.96 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Highest | 1696 | -49.59 | -13 | -36.59 | -60.94 | -55.60 | 0.72 | 8.88 | H |
| | 2539 | -59.19 | -13 | -46.19 | -75.21 | -66.91 | 0.96 | 10.83 | H |
| | 3386 | -58.47 | -13 | -45.47 | -76.38 | -67.15 | 1.22 | 12.05 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 1696 | -50.80 | -13 | -37.80 | -62.08 | -56.81 | 0.72 | 8.88 | V |
| | 2539 | -58.79 | -13 | -45.79 | -75.08 | -66.51 | 0.96 | 10.83 | V |
| | 3386 | -58.88 | -13 | -45.88 | -76.37 | -67.56 | 1.22 | 12.05 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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

**WCDMA 1700**

| WCDMA 1700 | | | | | | | | | |
|------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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 | 3424 | -41.52 | -13 | -28.52 | -60.36 | -52.42 | 1.23 | 12.13 | H |
| | 5137 | -45.41 | -13 | -32.41 | -69.28 | -56.31 | 1.97 | 12.86 | H |
| | 6849 | -51.12 | -13 | -38.12 | -76.18 | -60.09 | 2.34 | 11.32 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3424 | -39.22 | -13 | -26.22 | -57.68 | -50.12 | 1.23 | 12.13 | V |
| | 5137 | -46.18 | -13 | -33.18 | -69.77 | -57.08 | 1.97 | 12.86 | V |
| | 6849 | -51.45 | -13 | -38.45 | -76.41 | -60.42 | 2.34 | 11.32 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3465 | -38.13 | -13 | -25.13 | -57.46 | -49.11 | 1.24 | 12.22 | H |
| | 5198 | -43.85 | -13 | -30.85 | -67.88 | -54.81 | 1.97 | 12.94 | H |
| | 6930 | -50.56 | -13 | -37.56 | -76.35 | -59.78 | 2.36 | 11.58 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3465 | -34.96 | -13 | -21.96 | -54.04 | -45.94 | 1.24 | 12.22 | V |
| | 5198 | -43.47 | -13 | -30.47 | -67.06 | -54.43 | 1.97 | 12.94 | V |
| | 6930 | -50.18 | -13 | -37.18 | -76.07 | -59.40 | 2.36 | 11.58 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |



| | | | | | | | | | |
|---------|------|--------|-----|--------|--------|--------|------|-------|---|
| Highest | 3504 | -37.21 | -13 | -24.21 | -56.91 | -48.26 | 1.25 | 12.30 | H |
| | 5254 | -43.30 | -13 | -30.30 | -67.32 | -54.32 | 1.98 | 13.00 | H |
| | 7010 | -48.86 | -13 | -35.86 | -75.37 | -58.28 | 2.37 | 11.79 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3504 | -33.90 | -13 | -20.90 | -53.44 | -44.95 | 1.25 | 12.30 | V |
| | 5254 | -43.16 | -13 | -30.16 | -66.87 | -54.18 | 1.98 | 13.00 | V |
| | 7010 | -48.72 | -13 | -35.72 | -75.53 | -58.14 | 2.37 | 11.79 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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

**WCDMA 1900**

| WCDMA 1900 | | | | | | | | | |
|------------|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|
| 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 | 3704 | -35.54 | -13 | -22.54 | -56.11 | -46.57 | 1.43 | 12.46 | H |
| | 5557 | -43.46 | -13 | -30.46 | -67.43 | -54.74 | 2.01 | 13.29 | H |
| | 7409 | -48.39 | -13 | -35.39 | -76.3 | -57.57 | 2.21 | 11.39 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3704 | -33.22 | -13 | -20.22 | -53.49 | -44.25 | 1.43 | 12.46 | V |
| | 5557 | -43.52 | -13 | -30.52 | -67.71 | -54.80 | 2.01 | 13.29 | V |
| | 7409 | -48.78 | -13 | -35.78 | -76.27 | -57.96 | 2.21 | 11.39 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| Middle | 3760 | -38.87 | -13 | -25.87 | -59.55 | -49.90 | 1.48 | 12.51 | H |
| | 5640 | -43.80 | -13 | -30.80 | -67.81 | -55.07 | 2.00 | 13.27 | H |
| | 7520 | -48.63 | -13 | -35.63 | -76.45 | -57.74 | 2.18 | 11.30 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3760 | -34.94 | -13 | -21.94 | -55.37 | -45.97 | 1.48 | 12.51 | V |
| | 5640 | -44.13 | -13 | -31.13 | -68.42 | -55.40 | 2.00 | 13.27 | V |
| | 7520 | -48.44 | -13 | -35.44 | -76.4 | -57.55 | 2.18 | 11.30 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |



| | | | | | | | | | |
|---------|------|--------|-----|--------|--------|--------|------|-------|---|
| Highest | 3815 | -40.53 | -13 | -27.53 | -61.31 | -51.55 | 1.53 | 12.55 | H |
| | 5723 | -46.93 | -13 | -33.93 | -71.01 | -58.19 | 1.99 | 13.26 | H |
| | 7630 | -48.07 | -13 | -35.07 | -75.39 | -57.08 | 2.26 | 11.27 | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | | | | | | | | | H |
| | 3815 | -35.80 | -13 | -22.80 | -56.4 | -46.82 | 1.53 | 12.55 | V |
| | 5723 | -48.11 | -13 | -35.11 | -72.45 | -59.37 | 1.99 | 13.26 | V |
| | 7630 | -47.60 | -13 | -34.60 | -75.15 | -56.61 | 2.26 | 11.27 | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |
| | | | | | | | | | V |

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