FCC RF Test Report

APPLICANT	:	ASUSTeK COMPUTER INC.
EQUIPMENT	:	ASUS Phone
BRAND NAME	:	ASUS
MODEL NAME	:	ASUS_Z00XS
MARKETING NAME	:	ZX551ML
FCC ID	:	MSQZ00XS
STANDARD	:	FCC 47 CFR Part 2, 22(H), 24(E), 27(L)
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Jul. 23, 2015 and testing was completed on Sep. 15, 2015. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-C-2004 and has been in 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 INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

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APPENDIX A. TEST RESULTS OF CONDUCTED TEST

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG561105-02A	Rev. 01	Initial issue of report	Sep. 29, 2015

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.4	§2.1046	RSS-132 (5.4) RSS-133 (6.4) RSS-139 (6.5)	Conducted Output Power	Reporting Only	PASS	-
3.5	§24.232(d)	RSS-132 (5.4) RSS-133 (6.4) RSS-139 (6.5)	Peak-to-Average Ratio	< 13 dB	PASS	-
3.6	§2.1049 §22.917(b) §24.238(b) §27.53(g)	RSS-GEN(6.6) RSS-132(3.1) RSS-133(3.1) RSS-139 (3.1)	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(h)	RSS-132 (5.5) RSS-133 (6.5) RSS-139 (6.6)	Band Edge Measurement	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	RSS-132 (5.5) RSS-133 (6.5) RSS-139 (6.6)	Conducted Emission	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §22.355	RSS-GEN(6.11) RSS-132 (5.3)	Frequency Stability for Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54	RSS-GEN(6.11) RSS-133 (6.3) RSS-139 (6.4)		Within Authorized Band		
4.4	§22.913(a)(2)	RSS-132(5.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts	PASS	-
	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
	§27.50(d)(4)	RSS-139 (6.5) SRSP-513(5.1.2)	Equivalent Isotropic Radiated Power	< 1 Watts	PASS	-
4.5	§2.1053 §22.917(a) §24.238(a) §27.53(h)	RSS-132 (5.5) RSS-133 (6.5) RSS-139 (6.6)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	Under limit 10.19 dB at 5639.000 MHz

1 General Description

1.1 Applicant

ASUSTeK COMPUTER INC.
4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN

1.2 Manufacturer

ASUSTeK COMPUTER INC.
4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	ASUS Phone
Brand Name	ASUS
Model Name	ASUS_Z00XS
FCC ID	MSQZ00XS
Sample 1	EUT in black
Sample 2	EUT in white
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth v4.0 EDR/LE
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	**GSM/GPRS/EDGE:** 850: 824.2 MHz ~ 848.8 MHz 1900: 1850.2 MHz ~ 1909.8MHz **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	**GSM/GPRS/EDGE:** 850: 869.2 MHz ~ 893.8 MHz 1900: 1930.2 MHz ~ 1989.8 MHz **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	**GSM/GPRS/EDGE:** 850: 32.50 dBm 1900: 29.48 dBm **WCDMA:** Band V: 23.00 dBm Band II: 22.90 dBm Band IV: 22.81 dBm
Antenna Type	PIFA Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: QPSK (Uplink) HSDPA: 64QAM (Downlink) HSUPA: QPSK (Uplink)

1.5 Modification of EUT

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

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

FCC Rule	System	Type of Modulation	Maximum ERP/EIRP (W)	Frequency Tolerance (ppm)	Emission Designator
Part 22	GSM850 GPRS class 8	GMSK	0.7982	0.0407 ppm	250KGXW
Part 22	GSM850 EDGE class 8	8PSK	0.2687	0.0574 ppm	244KG7W
Part 22	WCDMA Band V RMC 12.2Kbps	QPSK	0.1131	0.0215 ppm	4M10F9W
Part 24	GSM1900 GPRS class 10	GMSK	0.8809	0.0367 ppm	245KGXW
Part 24	GSM1900 EDGE class 8	8PSK	0.3809	0.0351 ppm	253KG7W
Part 24	WCDMA Band II RMC 12.2Kbps	QPSK	0.1934	0.0128 ppm	4M08F9W
Part 27	WCDMA Band IV RMC 12.2Kbps	QPSK	0.3455	0.0190 ppm	4M09F9W

1.7 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	**Sporton Site No.**
	TH03-HY

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.**
	03CH10-HY

1.8 Applicable Standards

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

- 47 CFR Part 2, 22(H), 24(E), 27(L)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

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 v02r02 with maximum output power.

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

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
2. 30 MHz to 18000 MHz for WCDMA Band IV.
3. 30 MHz to 19000 MHz for GSM1900 and WCDMA Band II.

All modes and data rates and positions were investigated.

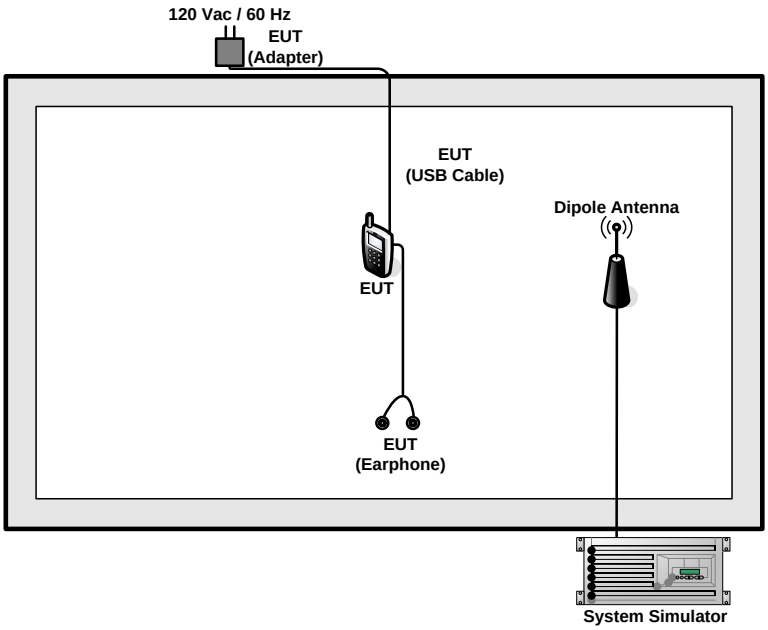
Test modes are chosen to be reported as the worst case configuration below:

Test Modes		
Band	**Radiated TCs**	**Conducted TCs**
GSM 850	■ GPRS class 8 Link ■ EDGE class 8 Link	■ GPRS class 8 Link ■ EDGE class 8 Link
GSM 1900	■ GPRS class 10 Link ■ EDGE class 8 Link	■ GPRS class 10 Link ■ EDGE class 8 Link
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

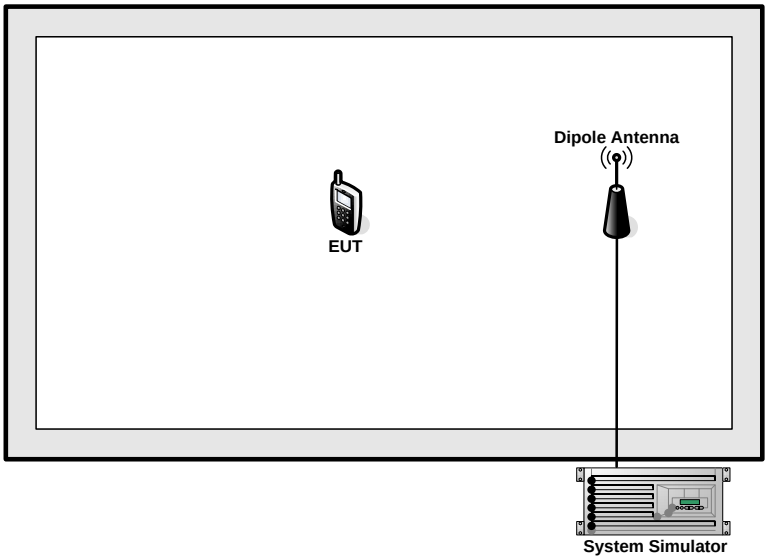
Remark: For Radiated TCs, the tests of Cellular band and AWS band were performed with adapter 2, USB cable 2, and sample 1; the tests of PCS band were performed with sample 1.

2.2 Connection Diagram of Test System

<EUT with Adapter and Earphone for Cellular band and AWS band>



<EUT without Adapter and Earphone for PCS band>



2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m

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 :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

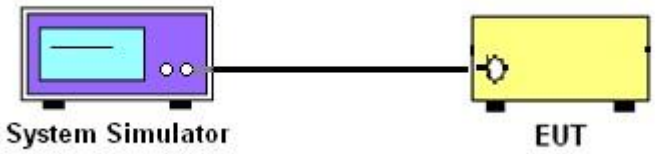
3 Conducted Test Result

3.1 Measuring Instruments

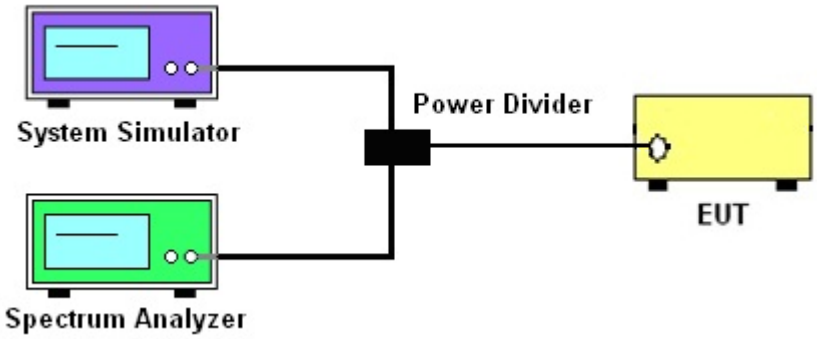
See list of measuring instruments of this test report.

3.2 Test Setup

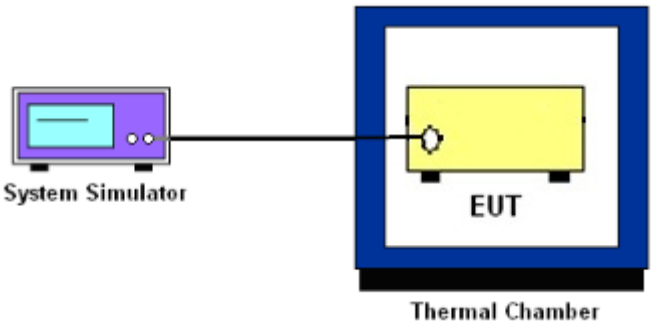
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power

3.4.1 Description of the Conducted Output Power

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.

3.4.2 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.

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.7.1.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. Set EUT to transmit at maximum output power.
4. When the duty cycle is less than 98%, then signal gating will be implemented on the spectrum analyzer by triggering from the system simulator.
5. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer.
6. Record the maximum PAPR level associated with a probability of 0.1%.

3.6 99% Occupied Bandwidth and 26dB Bandwidth Measurement

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

The 99% 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 emission bandwidth is defined as the width of the signal between two points, located at the two sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

3.6.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 4.2.
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of the EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The 99% occupied bandwidth were measured, set RBW= 1% of span, VBW= 3*RBW, sample detector, trace maximum hold.
5. The 26dB bandwidth were measured, set RBW= 1% of EBW, VBW= 3*RBW, peak detector, trace maximum hold.

3.7 Conducted Band Edge

3.7.1 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.

3.7.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 6.0.
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. 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.
4. The band edges of low and high channels for the highest RF powers were measured.
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 + 10log(P) dB below the transmitter power P(Watts)
   = P(W) - [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
   = -13dBm.

3.8 Conducted Spurious Emission

3.8.1 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.

3.8.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 6.0.
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. 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.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)
   = P(W) - [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
   = -13dBm.

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

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 ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

1. The testing follows FCC KDB 971168 D01 v02r02 Section 9.0.
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. 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.
4. 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.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows FCC KDB 971168 D01 v02r02 Section 9.0.
2. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

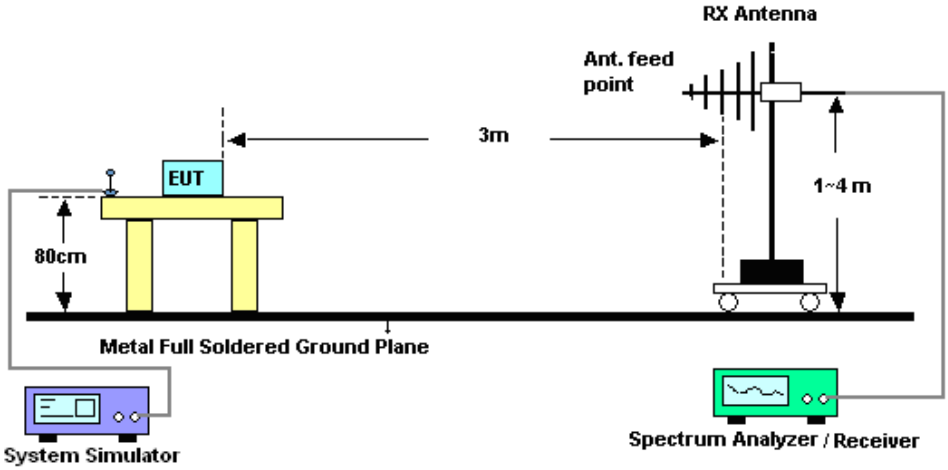
4 Radiated Test Items

4.1 Measuring Instruments

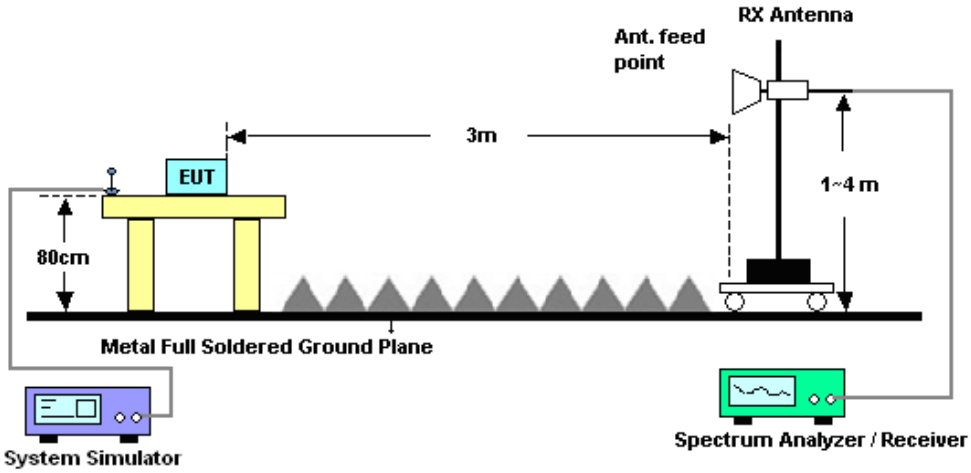
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

4.4 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

4.4.1 Description of the ERP/EIRP Measurement

The substitution method, in ANSI / TIA / EIA-603-C-2004, was used for ERP/EIRP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. The ERP of mobile transmitters must not exceed 7 Watts (Cellular Band) and the EIRP of mobile transmitters are limited to 2 Watts (PCS Band) and 1 Watts (AWS Band).

4.4.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-C-2004 Section 2.2.17.
2. The EUT was placed on a non-conductive rotating platform 0.8 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RMS detector per section 5. of KDB 971168 D01.
3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
4. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, EIRP = LVL + Correction factor and ERP = EIRP - 2.15. Take the record of the output power at substitution antenna.

	GSM/GPRS/EDGE	WCDMA/HSPA
SPAN	500kHz	10MHz
RBW	10kHz	100kHz
VBW	30kHz	300kHz
Detector	RMS	RMS
Trace	Average	Average
Average Type	Power	Power
Sweep Count	100	100

4.5 Field Strength of Spurious Radiation Measurement

4.5.1 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.

4.5.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.8 and ANSI / TIA-603-C-2004 Section 2.2.12.
2. The EUT was placed on a rotatable wooden table 0.8 meters above the ground.
3. The EUT was set 3 meters from the receiving antenna, which was 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 one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

    = P(W) - [43 + 10log(P)] (dB)

    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

    = -13dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP30	101329	9kHz~30GHz	Jun. 24, 2015	Aug. 03, 2015~ Sep. 15, 2015	Jun. 23, 2016	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL883644	Voltage:0~20V; Current:0~5A	Dec. 01, 2014	Aug. 03, 2015~ Sep. 15, 2015	Nov. 30, 2015	Conducted (TH03-HY)
Hygrometer	Testo	608-H1	34893241	N/A	May 04, 2015	Aug. 03, 2015~ Sep. 15, 2015	May 03, 2016	Conduction (TH03-HY)
Temperature Chamber	ESPEC	SU-641	92013721	-30°~70°	Dec. 01, 2014	Aug. 03, 2015~ Sep. 15, 2015	Nov. 30, 2015	Conducted (TH03-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz- 40GHz	Oct. 02, 2014	Jul. 31, 2015~ Aug. 01, 2015	Oct. 01, 2015	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 03, 2014	Jul. 31, 2015~ Aug. 01, 2015	Nov. 02, 2015	Radiation (03CH10-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Nov. 24, 2014	Jul. 31, 2015~ Aug. 01, 2015	Nov. 23, 2015	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D	35413	30MHz~1GHz	Oct. 24, 2014	Jul. 31, 2015~ Aug. 01, 2015	Oct. 23, 2015	Radiation (03CH10-HY)
EMI Test Receiver	Keysight	N9038A	MY54130085	20Hz ~ 8.4GHz	Nov. 05, 2014	Jul. 31, 2015~ Aug. 01, 2015	Nov. 04, 2015	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Oct. 03, 2014	Jul. 31, 2015~ Aug. 01, 2015	Oct. 02, 2015	Radiation (03CH10-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Nov. 20, 2014	Jul. 31, 2015~ Aug. 01, 2015	Nov. 19, 2015	Radiation (03CH10-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHZ	Oct. 14, 2014	Jul. 31, 2015~ Aug. 01, 2015	Oct. 13, 2015	Radiation (03CH10-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Jul. 31, 2015~ Aug. 01, 2015	N/A	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jul. 31, 2015~ Aug. 01, 2015	N/A	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0-360 degree	N/A	Jul. 31, 2015~ Aug. 01, 2015	N/A	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D	35414	30MHz~1GHz	Oct. 24, 2014	Jul. 31, 2015~ Aug. 01, 2015	Oct. 23, 2015	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 03, 2014	Jul. 31, 2015~ Aug. 01, 2015	Oct. 02, 2015	Radiation (03CH10-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	May 22, 2015	Jul. 31, 2015~ Aug. 01, 2015	May 21, 2016	Radiation (03CH10-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))	**4.90**

Appendix A. Test Results of Conducted Test

Conducted Output Power (Average power)

Conducted Power (*Unit: dBm)						
Band	GSM850			GSM1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880.0	1909.8
GSM	32.46	32.41	32.40	29.33	29.32	29.41
GPRS class 8	32.50	32.40	32.39	29.29	29.27	29.39
GPRS class 10	29.99	29.95	29.94	29.39	29.39	29.48
EGPRS class 8	27.35	27.24	27.14	25.86	25.96	26.04
EGPRS class 10	27.28	27.12	27.07	25.81	25.90	25.98

Conducted Power (*Unit: dBm)									
Band	WCDMA Band V			WCDMA Band II			WCDMA Band IV		
Channel	4132	4182	4233	9262	9400	9538	1312	1413	1513
Frequency	826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
RMC 12.2K	22.89	22.83	23.00	22.83	22.90	22.84	22.61	22.81	22.66
HSDPA Subtest-1	22.94	22.89	22.97	22.84	22.89	22.86	22.63	22.79	22.62
HSDPA Subtest-2	22.92	22.87	22.96	22.86	22.89	22.84	22.65	22.80	22.63
HSDPA Subtest-3	22.89	22.82	22.91	22.82	22.87	22.81	22.63	22.78	22.58
HSDPA Subtest-4	22.92	22.85	22.95	22.84	22.88	22.85	22.66	22.80	22.61
HSUPA Subtest-1	22.41	22.52	22.49	22.38	22.44	22.46	22.17	22.37	22.19
HSUPA Subtest-2	20.60	20.70	20.66	20.62	20.66	20.58	20.35	20.55	20.40
HSUPA Subtest-3	21.67	21.75	21.71	21.51	21.55	21.48	21.39	21.49	21.42
HSUPA Subtest-4	20.79	20.91	20.87	20.85	20.89	20.76	20.72	20.82	20.78
HSUPA Subtest-5	22.90	22.92	22.96	22.85	22.89	22.89	22.61	22.77	22.63

A1. GSM

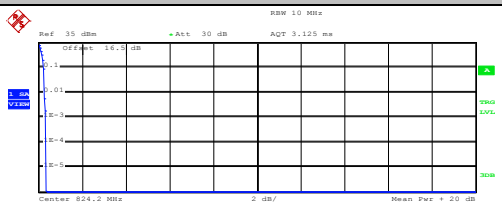
Peak-to-Average Ratio

Mode	GSM850		Limit: 13dB
Mod.	GPRS class 8	EDGE class 8	Result
Lowest CH	0.32	3.52	PASS
Middle CH	0.40	3.56	
Highest CH	0.36	3.28	

Mode	GSM1900		Limit: 13dB
Mod.	GPRS class 10	EDGE class 8	Result
Lowest CH	0.24	3.00	PASS
Middle CH	0.24	2.96	
Highest CH	0.28	3.12	

GSM850 (GPRS class 8)

Lowest Channel

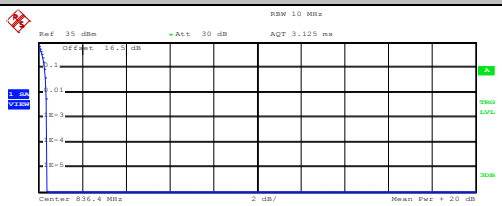


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	32.37 dBm
Peak	32.71 dBm
Crest	0.34 dB
10 %	0.24 dB
1 %	0.28 dB
.1 %	0.32 dB
.01 %	0.36 dB

Date: 29.AUG.2015 12:44:01

Middle Channel

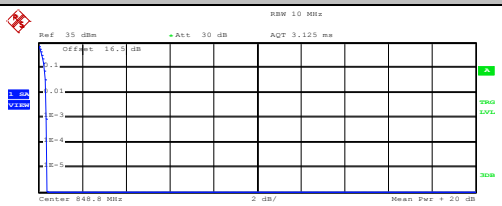


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	31.99 dBm
Peak	32.36 dBm
Crest	0.37 dB
10 %	0.28 dB
1 %	0.36 dB
.1 %	0.40 dB
.01 %	0.40 dB

Date: 29.AUG.2015 12:44:15

Highest Channel



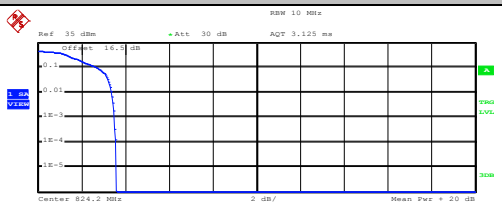
Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	31.78 dBm
Peak	32.14 dBm
Crest	0.36 dB
10 %	0.28 dB
1 %	0.36 dB
.1 %	0.36 dB
.01 %	0.40 dB

Date: 29.AUG.2015 12:44:30

GSM850 (EDGE class 8)

Lowest Channel

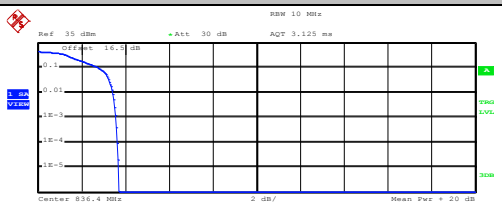


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	26.87 dBm
Peak	30.45 dBm
Crest	3.59 dB
10 %	2.72 dB
1 %	3.36 dB
.1 %	3.52 dB
.01 %	3.56 dB

Date: 29.AUG.2015 12:03:16

Middle Channel

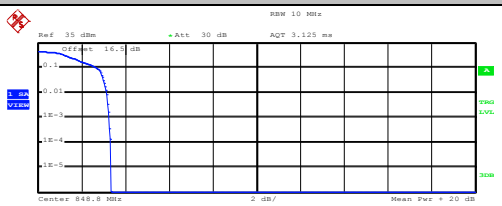


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	26.39 dBm
Peak	30.10 dBm
Crest	3.71 dB
10 %	2.80 dB
1 %	3.44 dB
.1 %	3.56 dB
.01 %	3.64 dB

Date: 29.AUG.2015 12:03:37

Highest Channel



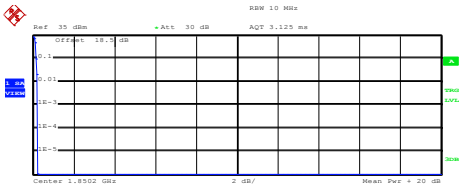
Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	26.27 dBm
Peak	29.60 dBm
Crest	3.34 dB
10 %	2.72 dB
1 %	3.16 dB
.1 %	3.28 dB
.01 %	3.32 dB

Date: 29.AUG.2015 12:03:51

GSM1900 (GPRS class 10)

Lowest Channel



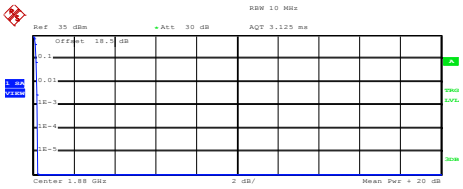
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	30.57 dBm
Peak	30.81 dBm
Crest	0.24 dB
10 %	0.16 dB
1 %	0.24 dB
.1 %	0.24 dB
.01 %	0.24 dB

Date: 3.AUG.2015 11:13:48

Middle Channel



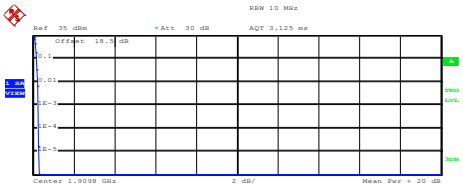
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	30.22 dBm
Peak	30.46 dBm
Crest	0.24 dB
10 %	0.16 dB
1 %	0.20 dB
.1 %	0.24 dB
.01 %	0.24 dB

Date: 3.AUG.2015 11:14:03

Highest Channel



Complementary Cumulative Distribution Function (100000 samples)

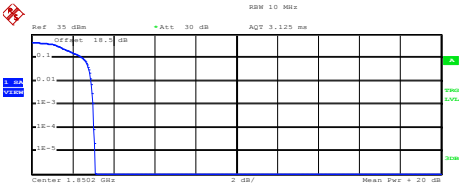
Trace 1

Mean	29.99 dBm
Peak	30.32 dBm
Crest	0.32 dB
10 %	0.20 dB
1 %	0.24 dB
.1 %	0.28 dB
.01 %	0.28 dB

Date: 3.AUG.2015 11:14:22

GSM1900 (EDGE class 8)

Lowest Channel



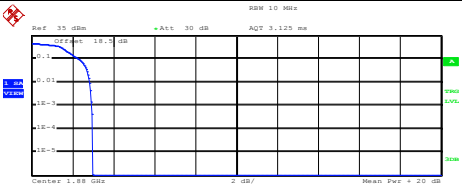
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	26.80 dBm
Peak	29.89 dBm
Crest	3.09 dB
10 %	2.48 dB
1 %	2.92 dB
.1 %	3.00 dB
.01 %	3.04 dB

Date: 15.SEP.2015 09:55:31

Middle Channel



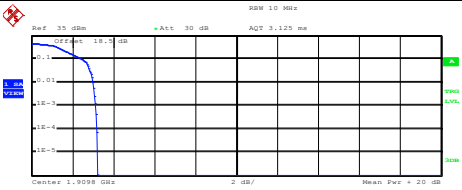
Complementary Cumulative Distribution Function (100000 samples)

Trace 1

Mean	26.55 dBm
Peak	29.54 dBm
Crest	2.99 dB
10 %	2.32 dB
1 %	2.84 dB
.1 %	2.96 dB
.01 %	3.00 dB

Date: 15.SEP.2015 09:55:47

Highest Channel



Complementary Cumulative Distribution Function (100000 samples)

Trace 1

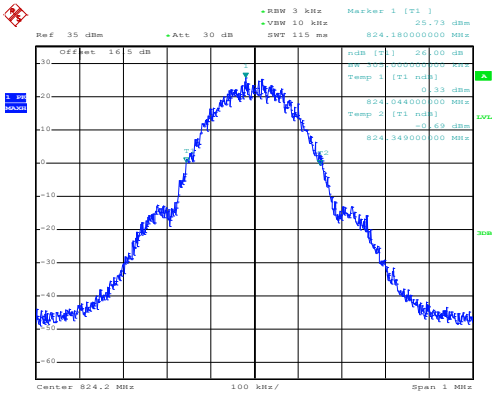
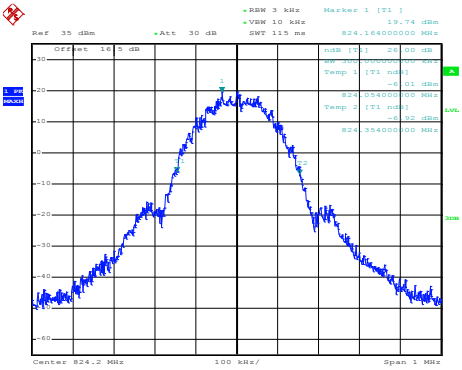
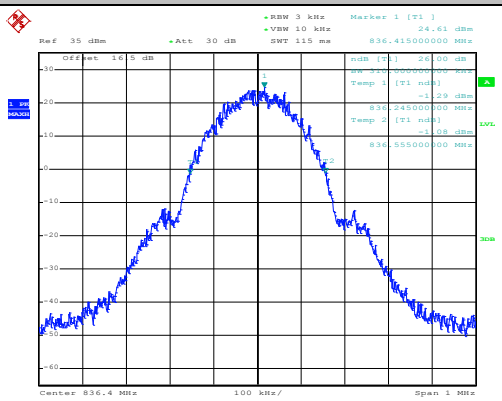
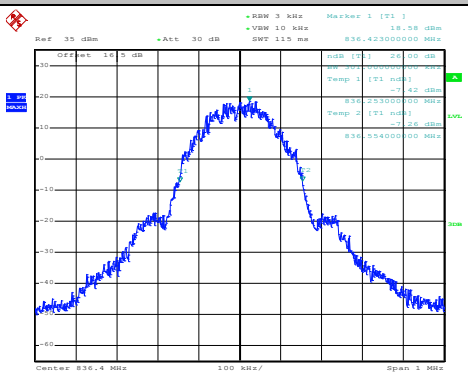
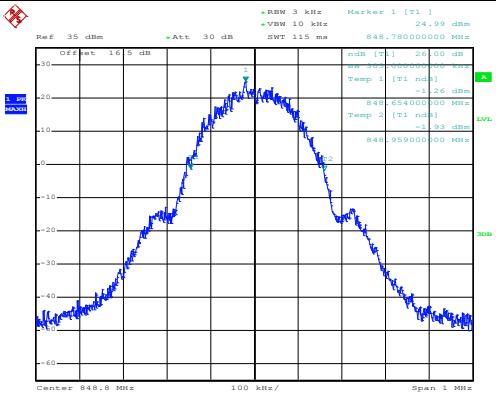
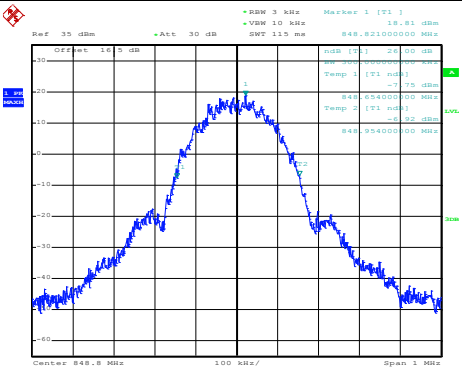
Mean	26.27 dBm
Peak	29.47 dBm
Crest	3.20 dB
10 %	2.48 dB
1 %	3.00 dB
.1 %	3.12 dB
.01 %	3.20 dB

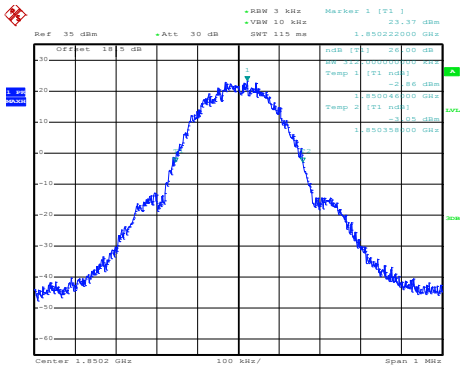
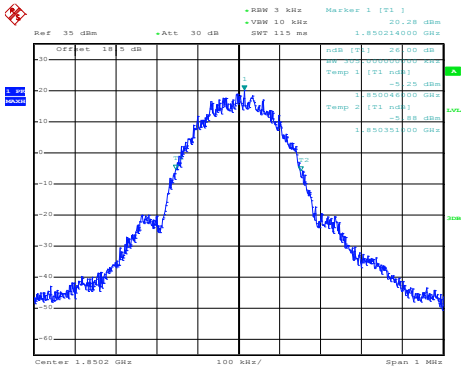
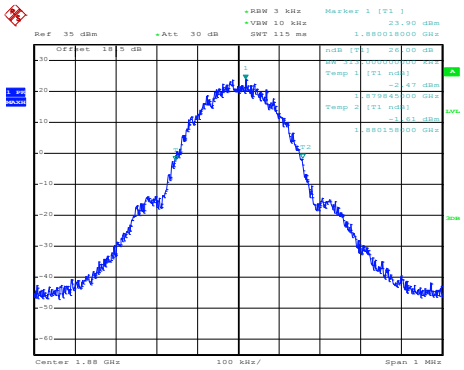
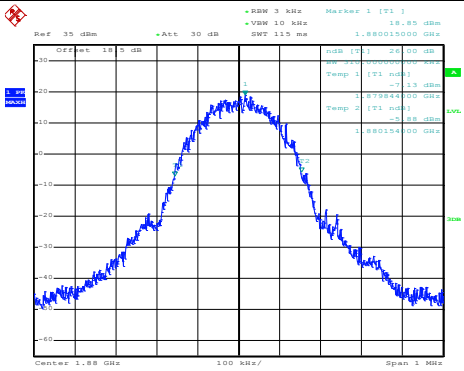
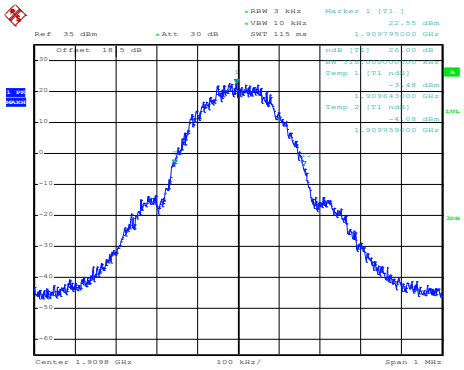
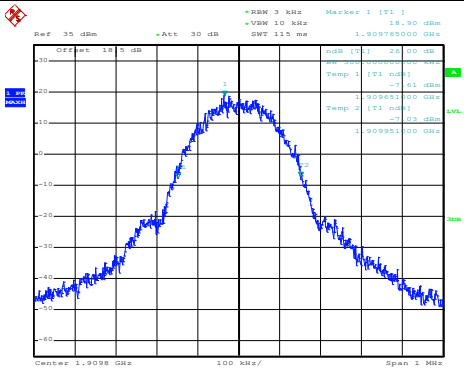
Date: 15.SEP.2015 09:56:06

26dB Bandwidth

Mode	GSM850	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.305	0.300
Middle CH	0.310	0.301
Highest CH	0.305	0.300

Mode	GSM1900	
Mod.	GPRS class 10	EDGE class 8
Lowest CH	0.312	0.305
Middle CH	0.313	0.310
Highest CH	0.316	0.300

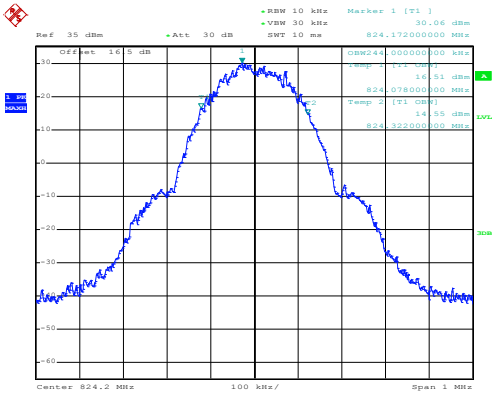
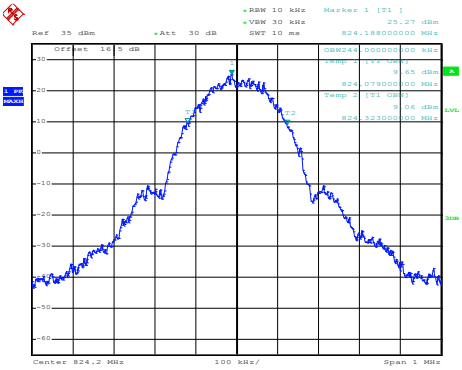
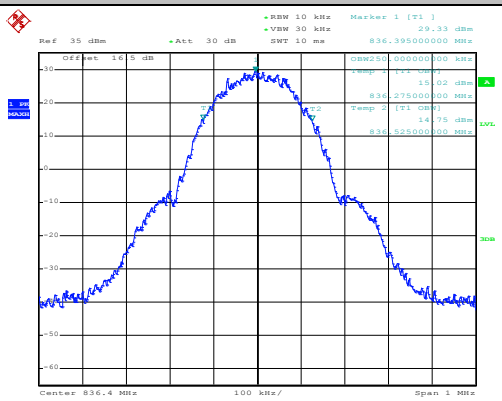
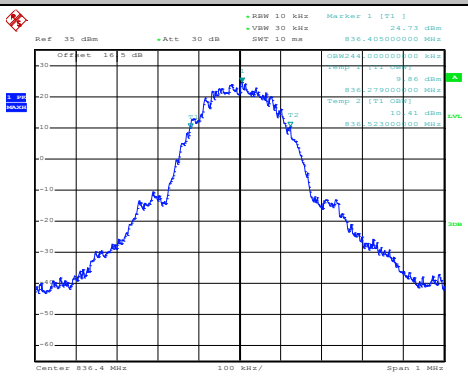
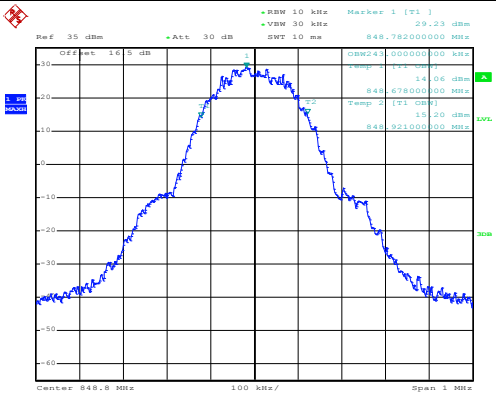
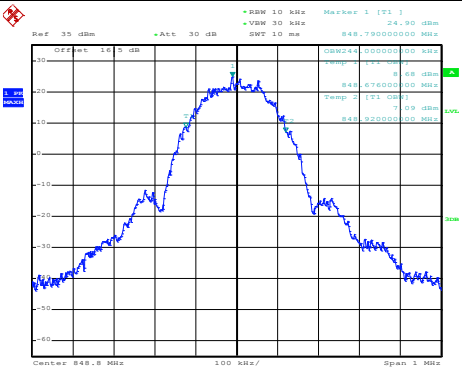
GSM850 (GPRS class 8)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
 Date: 29.AUG.2015 12:38:26	 Date: 29.AUG.2015 11:56:25
Middle Channel	**Middle Channel**
 Date: 29.AUG.2015 12:39:11	 Date: 29.AUG.2015 11:56:58
Highest Channel	**Highest Channel**
 Date: 29.AUG.2015 12:40:53	 Date: 29.AUG.2015 11:57:31

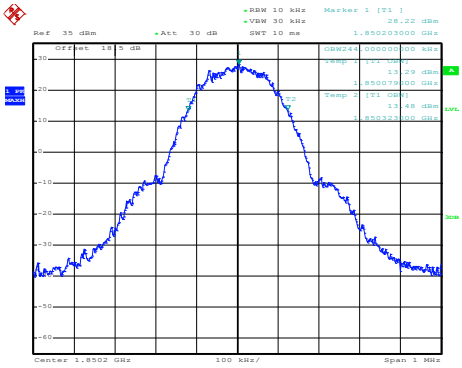
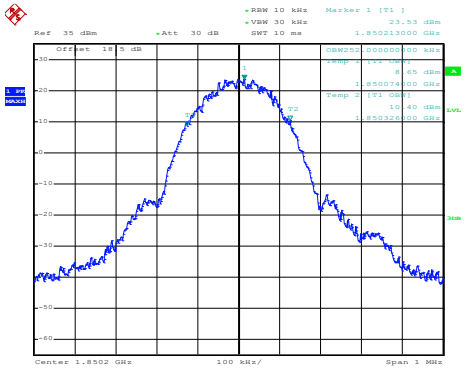
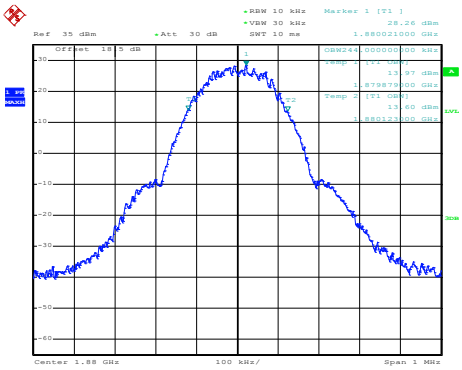
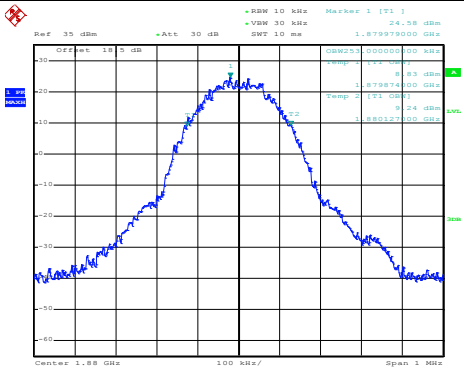
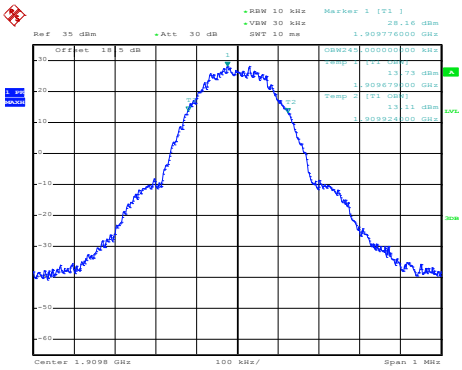
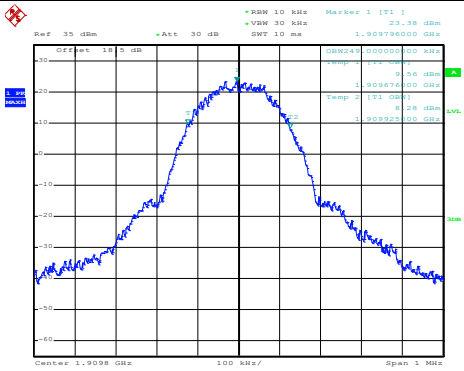
GSM1900 (GPRS class 10)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
 Date: 3.AUG.2015 11:05:12	 Date: 15.SEP.2015 09:46:06
Middle Channel	**Middle Channel**
 Date: 3.AUG.2015 11:05:45	 Date: 15.SEP.2015 09:46:40
Highest Channel	**Highest Channel**
 Date: 3.AUG.2015 11:06:22	 Date: 15.SEP.2015 09:47:38

Occupied Bandwidth

Mode	GSM850	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.244	0.244
Middle CH	0.250	0.244
Highest CH	0.243	0.244

Mode	GSM1900	
Mod.	GPRS class 10	EDGE class 8
Lowest CH	0.244	0.252
Middle CH	0.244	0.253
Highest CH	0.245	0.249

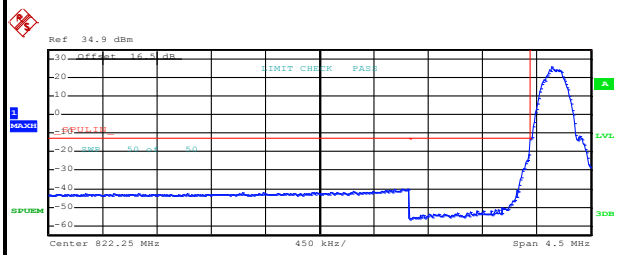
GSM850 (GPRS class 8)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
 Date: 29.AUG.2015 12:41:49	 Date: 29.AUG.2015 11:58:33
Middle Channel	**Middle Channel**
 Date: 29.AUG.2015 12:42:32	 Date: 29.AUG.2015 11:59:14
Highest Channel	**Highest Channel**
 Date: 29.AUG.2015 12:43:19	 Date: 29.AUG.2015 11:59:45

GSM1900 (GPRS class 10)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
 Date: 3.AUG.2015 11:07:06	 Date: 15.SEP.2015 09:48:21
Middle Channel	**Middle Channel**
 Date: 3.AUG.2015 11:07:37	 Date: 15.SEP.2015 09:49:04
Highest Channel	**Highest Channel**
 Date: 3.AUG.2015 11:08:12	 Date: 15.SEP.2015 09:49:37

Conducted Band Edge

GSM850 (GPRS class 8)

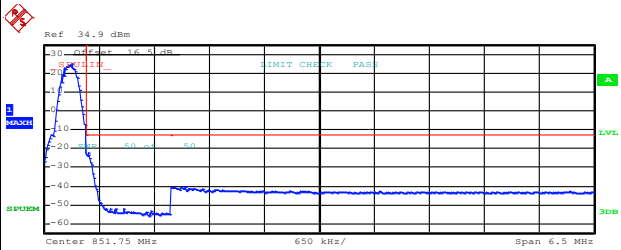
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
820.000 M	823.000 M	100.00 k	822.928000 M	-40.22	-27.22
823.000 M	824.000 M	3.00 k	823.996000 M	-21.29	-8.29
824.000 M	824.500 M	10.00 k	824.180000 M	25.75	-9.25

Date: 29.AUG.2015 12:08:22

Highest Band Edge

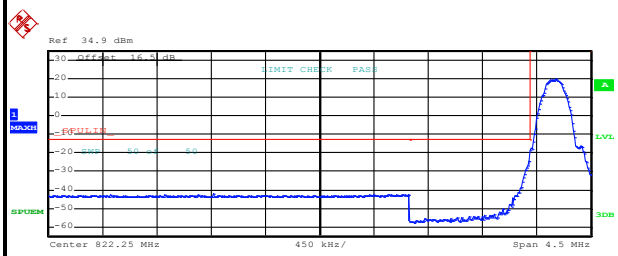


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
848.500 M	849.000 M	10.00 k	848.823000 M	24.96	-10.04
849.000 M	850.000 M	3.00 k	849.020000 M	-22.17	-9.17
850.000 M	855.000 M	100.00 k	850.160000 M	-40.51	-27.51

Date: 29.AUG.2015 12:37:10

GSM850 (EDGE class 8)

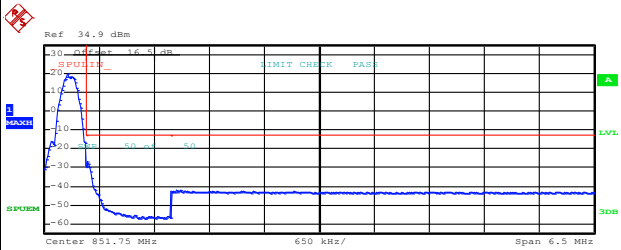
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
820.000 M	823.000 M	100.00 k	821.365000 M	-42.24	-29.24
823.000 M	824.000 M	3.00 k	823.988000 M	-24.24	-11.24
824.000 M	824.500 M	10.00 k	824.210000 M	19.82	-15.18

Date: 29.AUG.2015 12:01:24

Highest Band Edge

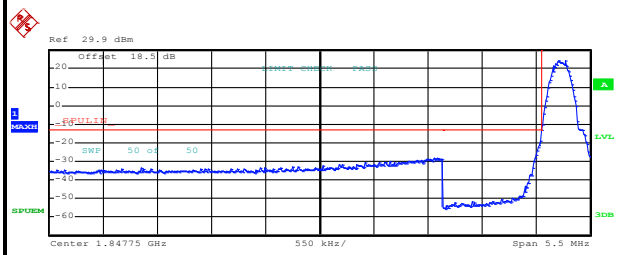


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
848.500 M	849.000 M	10.00 k	848.778500 M	20.02	-14.98
849.000 M	850.000 M	3.00 k	849.008000 M	-26.70	-13.70
850.000 M	855.000 M	100.00 k	850.050000 M	-42.15	-29.15

Date: 29.AUG.2015 12:02:54

GSM1900 (GPRS class 10)

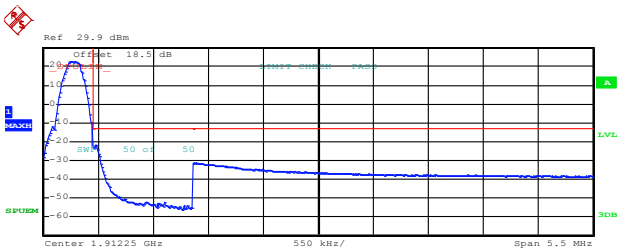
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.845 G	1.849 G	1.00 M	1.848912 G	-28.27	-15.27
1.849 G	1.850 G	3.00 k	1.849996 G	-19.02	-6.02
1.850 G	1.851 G	10.00 k	1.850245 G	24.39	-10.61

Date: 3.AUG.2015 11:09:58

Highest Band Edge

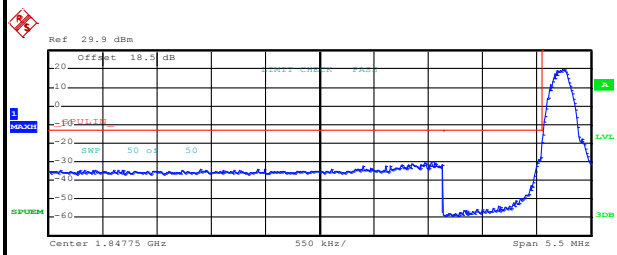


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.910 G	1.910 G	10.00 k	1.909784 G	22.80	-12.20
1.910 G	1.911 G	3.00 k	1.910012 G	-21.62	-8.62
1.911 G	1.915 G	1.00 M	1.911008 G	-31.43	-18.43

Date: 3.AUG.2015 11:11:28

GSM1900 (EDGE class 8)

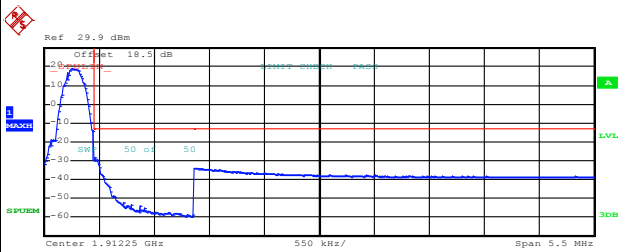
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.845 G	1.849 G	1.00 M	1.848876 G	-30.02	-17.02
1.849 G	1.850 G	3.00 k	1.849968 G	-29.08	-16.08
1.850 G	1.851 G	10.00 k	1.850236 G	19.59	-15.41

Date: 15.SEP.2015 09:51:16

Highest Band Edge



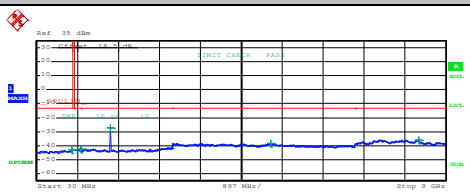
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.910 G	1.910 G	10.00 k	1.909770 G	18.88	-16.12
1.910 G	1.911 G	3.00 k	1.910004 G	-28.42	-15.42
1.911 G	1.915 G	1.00 M	1.911052 G	-33.97	-20.97

Date: 15.SEP.2015 09:52:49

Conducted Spurious Emission

GSM850 (GPRS class 8)

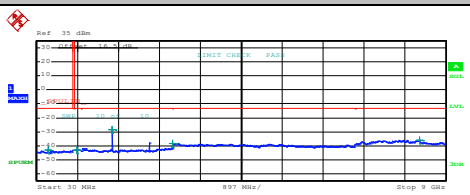
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	810.125000 M	-43.12	-30.12
855.000 M	1.000 G	1.00 M	990.212509 M	-42.59	-29.59
1.000 G	3.000 G	1.00 M	1.648500 G	-27.07	-14.07
3.000 G	7.000 G	1.00 M	5.152000 G	-38.55	-25.55
7.000 G	9.000 G	1.00 M	8.407000 G	-36.01	-23.01

Date: 29.AUG.2015 12:05:19

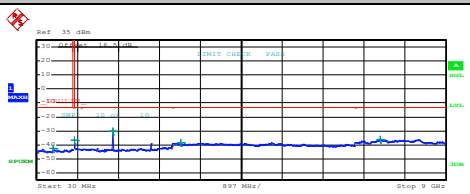
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	289.515000 M	-43.31	-30.31
855.000 M	1.000 G	1.00 M	914.993754 M	-42.79	-29.79
1.000 G	3.000 G	1.00 M	1.673000 G	-28.18	-15.18
3.000 G	7.000 G	1.00 M	3.004000 G	-38.23	-25.23
7.000 G	9.000 G	1.00 M	8.430500 G	-36.15	-23.15

Date: 29.AUG.2015 12:06:11

Highest Channel

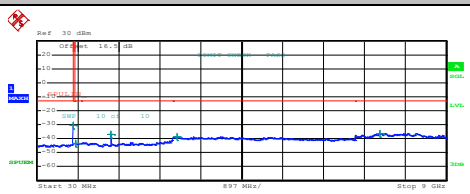


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	383.525000 M	-42.53	-29.53
855.000 M	1.000 G	1.00 M	855.036250 M	-36.66	-23.66
1.000 G	3.000 G	1.00 M	1.697500 G	-30.34	-17.34
3.000 G	7.000 G	1.00 M	3.191000 G	-38.54	-25.54
7.000 G	9.000 G	1.00 M	7.562500 G	-36.20	-23.20

Date: 29.AUG.2015 12:06:46

GSM850 (EDGE class 8)

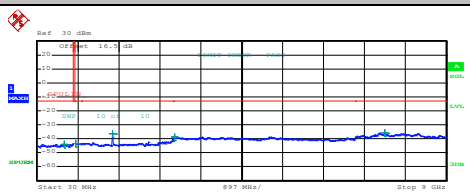
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	819.802500 M	-30.46	-17.46
855.000 M	1.000 G	1.00 M	869.065001 M	-43.36	-30.36
1.000 G	3.000 G	1.00 M	1.648500 G	-36.84	-23.84
3.000 G	7.000 G	1.00 M	3.094000 G	-38.56	-25.56
7.000 G	9.000 G	1.00 M	7.555500 G	-36.26	-23.26

Date: 29.AUG.2015 11:53:47

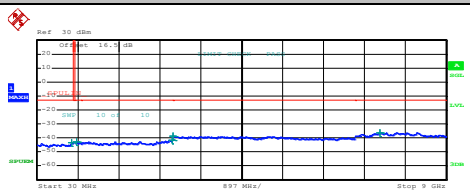
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	615.192500 M	-43.91	-30.91
855.000 M	1.000 G	1.00 M	870.515001 M	-43.32	-30.32
1.000 G	3.000 G	1.00 M	1.673000 G	-36.16	-23.16
3.000 G	7.000 G	1.00 M	3.051000 G	-38.56	-25.56
7.000 G	9.000 G	1.00 M	7.646500 G	-35.77	-22.77

Date: 29.AUG.2015 11:54:41

Highest Channel

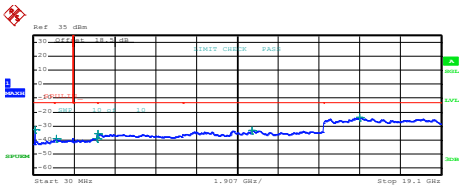


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	791.362500 M	-43.50	-30.50
855.000 M	1.000 G	1.00 M	896.796253 M	-42.78	-29.78
1.000 G	3.000 G	1.00 M	2.983000 G	-41.55	-28.55
3.000 G	7.000 G	1.00 M	3.010000 G	-38.84	-25.84
7.000 G	9.000 G	1.00 M	7.555000 G	-36.20	-23.20

Date: 29.AUG.2015 11:55:24

GSM1900 (GPRS class 10)

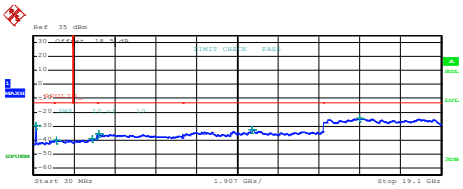
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	111.965000 M	-32.40	-19.40
1.000 G	1.845 G	1.00 M	1.082388 G	-39.23	-26.23
1.915 G	3.000 G	1.00 M	2.996745 G	-39.03	-26.03
3.000 G	7.000 G	1.00 M	3.031000 G	-35.44	-22.44
7.000 G	13.600 G	1.00 M	10.237300 G	-33.09	-20.09
13.600 G	19.100 G	1.00 M	15.283000 G	-23.96	-10.96

Date: 3.AUG.2015 11:12:07

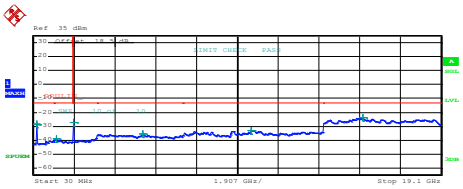
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	141.792500 M	-29.74	-16.74
1.000 G	1.845 G	1.00 M	1.081120 G	-39.98	-26.98
1.915 G	3.000 G	1.00 M	2.781372 G	-38.75	-25.75
3.000 G	7.000 G	1.00 M	3.099000 G	-35.74	-22.74
7.000 G	13.600 G	1.00 M	10.246375 G	-32.67	-19.67
13.600 G	19.100 G	1.00 M	15.281625 G	-24.47	-11.47

Date: 3.AUG.2015 11:12:42

Highest Channel

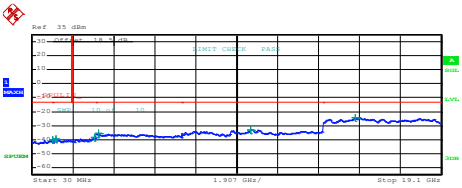


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	171.620000 M	-28.31	-15.31
1.000 G	1.845 G	1.00 M	1.097809 G	-38.77	-25.77
1.915 G	3.000 G	1.00 M	1.915271 G	-27.10	-14.10
3.000 G	7.000 G	1.00 M	5.132000 G	-35.51	-22.51
7.000 G	13.600 G	1.00 M	10.224925 G	-32.96	-19.96
13.600 G	19.100 G	1.00 M	15.437000 G	-24.00	-11.00

Date: 3.AUG.2015 11:13:13

GSM1900 (EDGE class 8)

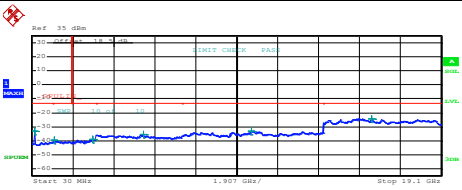
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	996.847500 M	-40.37	-27.37
1.000 G	1.845 G	1.00 M	1.137312 G	-39.71	-26.71
1.915 G	3.000 G	1.00 M	2.928119 G	-38.39	-25.39
3.000 G	7.000 G	1.00 M	3.126000 G	-35.76	-22.76
7.000 G	13.600 G	1.00 M	10.214200 G	-33.05	-20.05
13.600 G	19.100 G	1.00 M	15.082938 G	-24.45	-11.45

Date: 15.SEP.2015 09:53:37

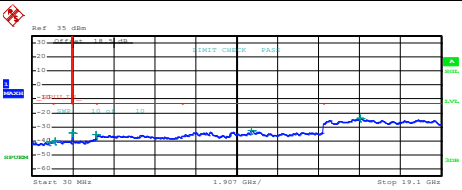
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	141.792500 M	-33.36	-20.36
1.000 G	1.845 G	1.00 M	1.073726 G	-39.76	-26.76
1.915 G	3.000 G	1.00 M	2.836979 G	-38.96	-25.96
3.000 G	7.000 G	1.00 M	5.200000 G	-35.19	-22.19
7.000 G	13.600 G	1.00 M	10.233175 G	-33.18	-20.18
13.600 G	19.100 G	1.00 M	15.870125 G	-24.38	-11.38

Date: 15.SEP.2015 09:54:25

Highest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	819.822500 M	-40.66	-27.66
1.000 G	1.845 G	1.00 M	1.101822 G	-39.86	-26.86
1.915 G	3.000 G	1.00 M	1.915542 G	-34.50	-21.50
3.000 G	7.000 G	1.00 M	3.022000 G	-35.63	-22.63
7.000 G	13.600 G	1.00 M	10.239775 G	-32.48	-19.48
13.600 G	19.100 G	1.00 M	15.318750 G	-24.06	-11.06

Date: 15.SEP.2015 09:55:05

Frequency Stability

Test Conditions	Middle Channel	GSM850 (GPRS class 8)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0024	0.0550	PASS
40	Normal Voltage	0.0036	0.0108	
30	Normal Voltage	0.0072	0.0454	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0048	0.0418	
0	Normal Voltage	0.0120	0.0012	
-10	Normal Voltage	0.0143	0.0036	
-20	Normal Voltage	0.0072	0.0562	
-30	Normal Voltage	0.0036	0.0526	
20	Maximum Voltage	0.0036	0.0514	
20	Normal Voltage	0.0048	0.0084	
20	Battery End Point	0.0407	0.0574	

Test Conditions	Middle Channel	GSM1900 (GPRS class 10)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0367	0.0053	PASS
40	Normal Voltage	0.0037	0.0250	
30	Normal Voltage	0.0027	0.0027	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0032	0.0064	
0	Normal Voltage	0.0021	0.0032	
-10	Normal Voltage	0.0048	0.0271	
-20	Normal Voltage	0.0271	0.0351	
-30	Normal Voltage	0.0309	0.0016	
20	Maximum Voltage	0.0005	0.0261	
20	Normal Voltage	0.0011	0.0016	
20	Battery End Point	0.0016	0.0277	

Note:

1. Normal Voltage = 3.85V. ；Battery End Point (BEP) = 3.6 V.；Maximum Voltage =4.35 V
2. The frequency fundamental emissions stay within the authorized frequency block.

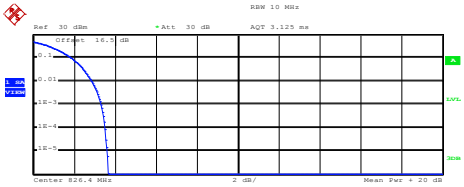
A2. WCDMA

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	3.32	3.00	3.24	PASS
Middle CH	3.88	3.52	3.12	
Highest CH	3.16	3.00	2.52	

WCDMA Band V (RMC 12.2Kbps)

Lowest Channel



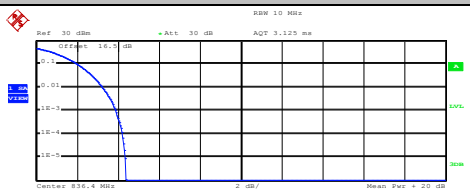
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 19.95 dBm
Peak 23.62 dBm
Crest 3.68 dB

10 % 1.88 dB
1 % 2.84 dB
.1 % 3.32 dB
.01 % 3.52 dB

Date: 3.AUG.2015 11:44:14

Middle Channel



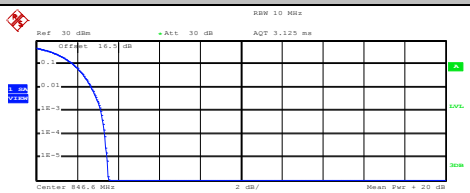
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 19.66 dBm
Peak 24.05 dBm
Crest 4.38 dB

10 % 2.04 dB
1 % 3.24 dB
.1 % 3.88 dB
.01 % 4.20 dB

Date: 3.AUG.2015 11:44:29

Highest Channel



Complementary Cumulative Distribution Function (100000 samples)

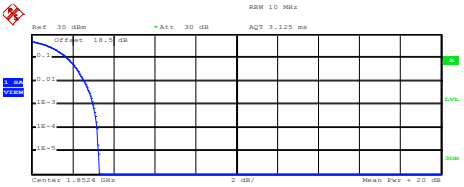
Trace 1
Mean 20.45 dBm
Peak 23.97 dBm
Crest 3.52 dB

10 % 1.80 dB
1 % 2.68 dB
.1 % 3.16 dB
.01 % 3.36 dB

Date: 3.AUG.2015 11:45:24

WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



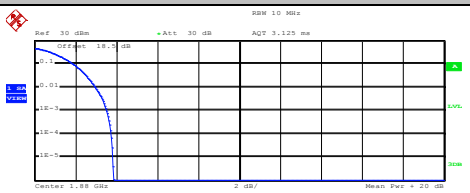
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 20.96 dBm
Peak 24.26 dBm
Crest 3.30 dB

10 % 1.72 dB
1 % 2.56 dB
.1 % 3.00 dB
.01 % 3.20 dB

Date: 3.AUG.2015 11:58:43

Middle Channel



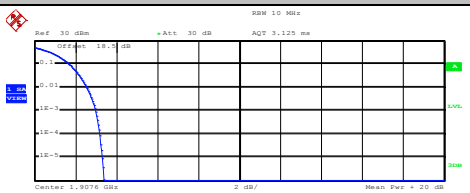
Complementary Cumulative Distribution Function (100000 samples)

Trace 1
Mean 21.83 dBm
Peak 25.67 dBm
Crest 3.84 dB

10 % 1.92 dB
1 % 2.96 dB
.1 % 3.52 dB
.01 % 3.76 dB

Date: 3.AUG.2015 11:58:53

Highest Channel



Complementary Cumulative Distribution Function (100000 samples)

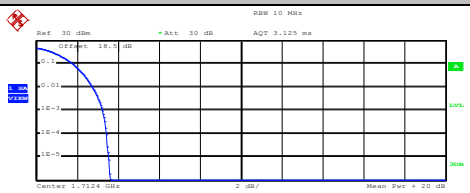
Trace 1
Mean 21.30 dBm
Peak 24.68 dBm
Crest 3.38 dB

10 % 1.68 dB
1 % 2.56 dB
.1 % 3.00 dB
.01 % 3.20 dB

Date: 3.AUG.2015 11:59:03

WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel

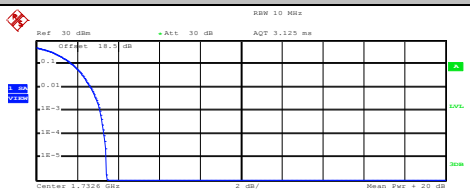


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	23.47 dBm
Peak	27.08 dBm
Crest	3.61 dB
10 %	1.80 dB
1 %	2.76 dB
.1 %	3.24 dB
.01 %	3.44 dB

Date: 3.AUG.2015 13:49:03

Middle Channel

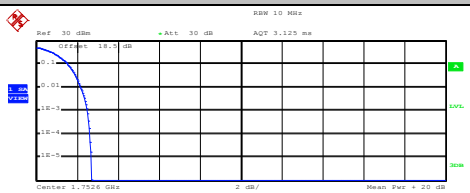


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	23.22 dBm
Peak	26.66 dBm
Crest	3.44 dB
10 %	1.76 dB
1 %	2.64 dB
.1 %	3.12 dB
.01 %	3.32 dB

Date: 3.AUG.2015 13:50:15

Highest Channel



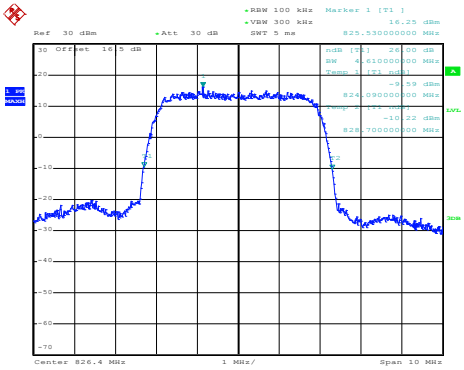
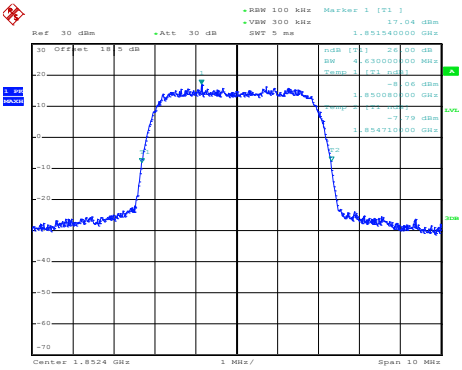
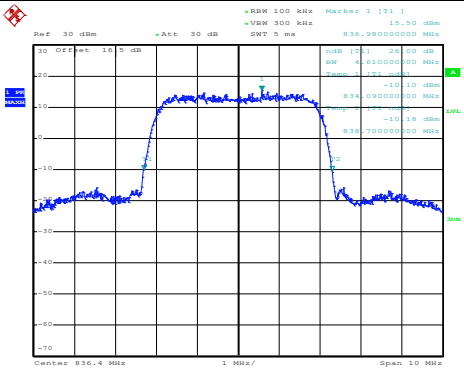
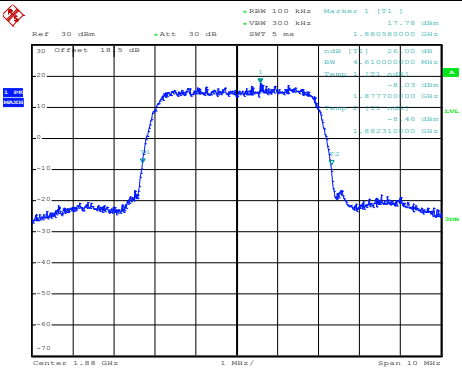
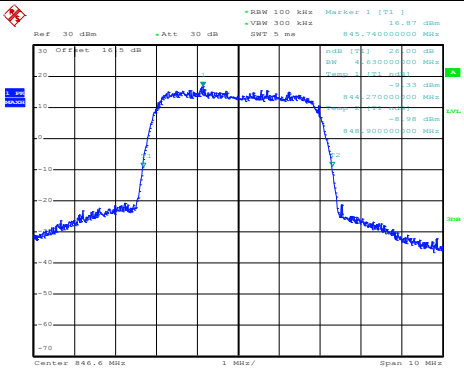
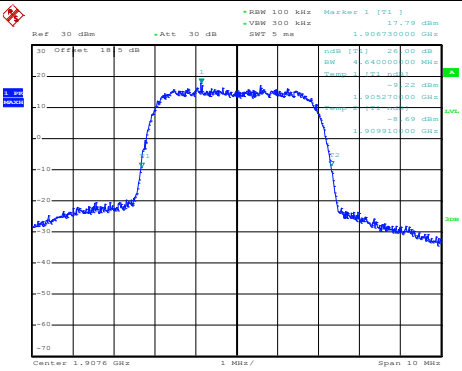
Complementary Cumulative Distribution Function (100000 samples)

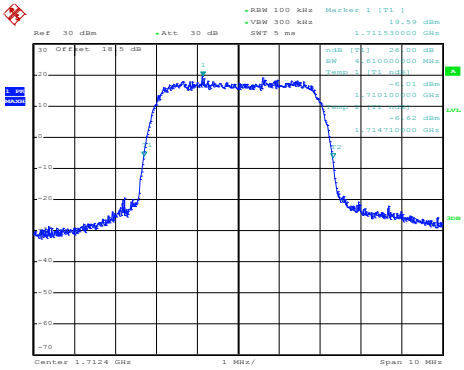
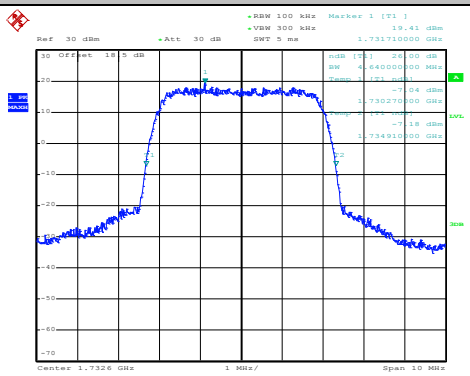
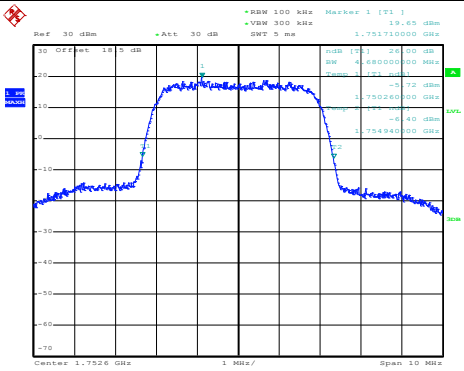
	Trace 1
Mean	23.46 dBm
Peak	26.16 dBm
Crest	2.71 dB
10 %	1.56 dB
1 %	2.16 dB
.1 %	2.52 dB
.01 %	2.64 dB

Date: 3.AUG.2015 13:50:30

26dB Bandwidth

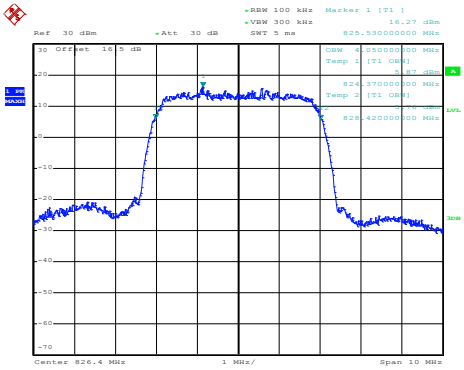
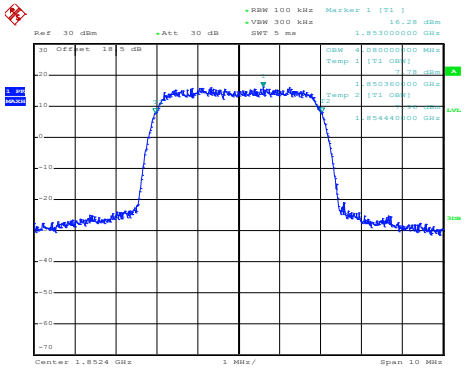
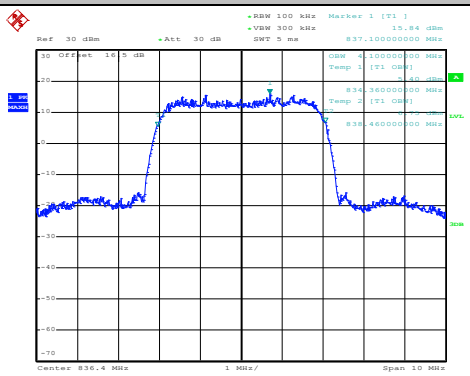
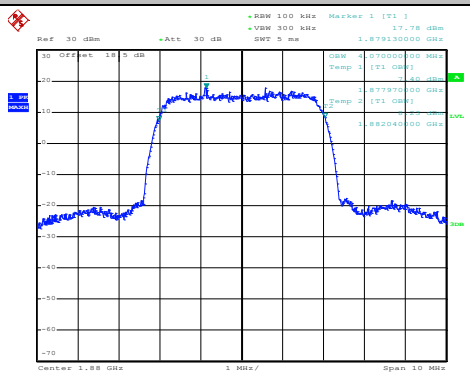
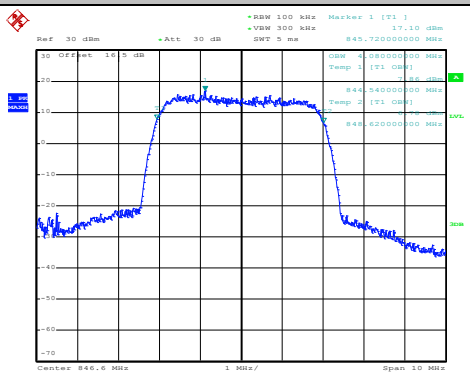
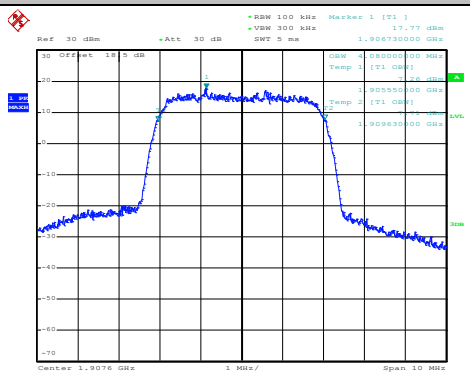
Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.61	4.63	4.61
Middle CH	4.61	4.61	4.64
Highest CH	4.63	4.64	4.68

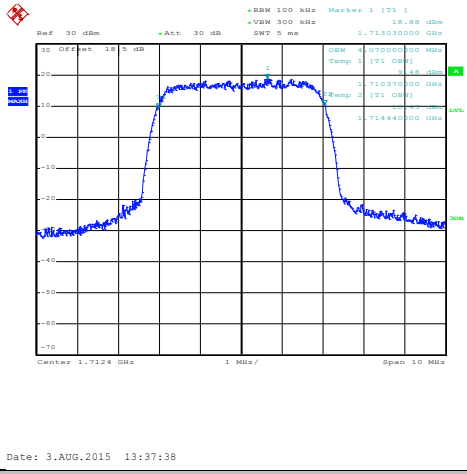
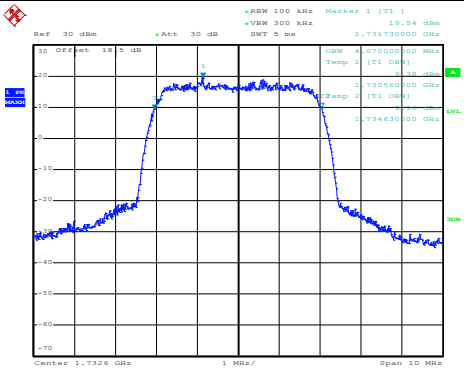
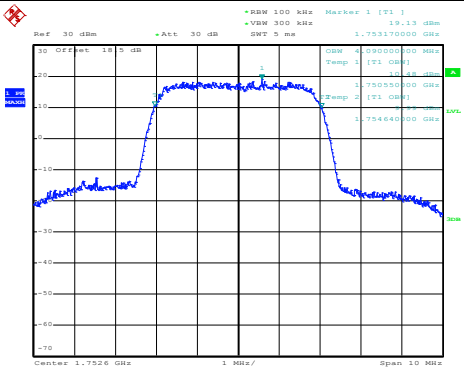
WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Date: 3.AUG.2015 11:34:53	Date: 3.AUG.2015 11:48:05
Middle Channel	**Middle Channel**
	
Date: 3.AUG.2015 11:35:23	Date: 3.AUG.2015 11:48:45
Highest Channel	**Highest Channel**
	
Date: 3.AUG.2015 11:35:52	Date: 3.AUG.2015 11:49:17

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
 Date: 3.AUG.2015 13:35:30	
Middle Channel	
 Date: 3.AUG.2015 13:36:10	
Highest Channel	
 Date: 3.AUG.2015 13:36:46	

Occupied Bandwidth

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.05	4.08	4.07
Middle CH	4.10	4.07	4.07
Highest CH	4.08	4.08	4.09

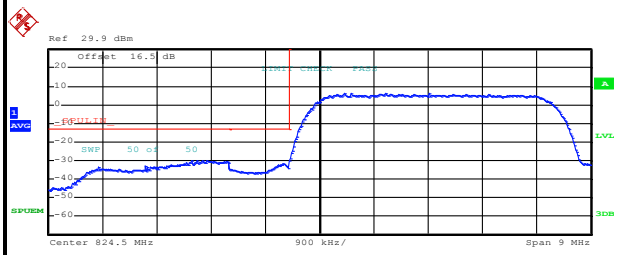
WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
 Date: 3.AUG.2015 11:36:42	 Date: 3.AUG.2015 11:50:03
Middle Channel	**Middle Channel**
 Date: 3.AUG.2015 11:37:13	 Date: 3.AUG.2015 11:50:46
Highest Channel	**Highest Channel**
 Date: 3.AUG.2015 11:38:01	 Date: 3.AUG.2015 11:51:24

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
 Date: 3.AUG.2015 13:37:38	
Middle Channel	
 Date: 3.AUG.2015 13:38:14	
Highest Channel	
 Date: 3.AUG.2015 13:39:20	

Conducted Band Edge

WCDMA Band V (RMC 12.2Kbps)

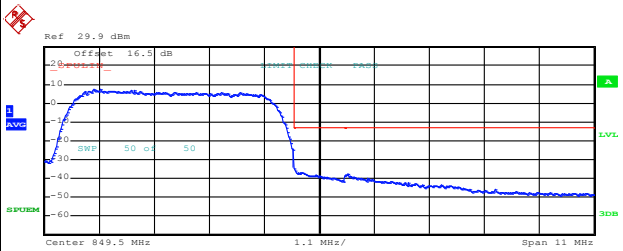
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
820.000 M	823.000 M	100.00 k	822.466000 M	-30.03	-17.03
823.000 M	824.000 M	50.00 k	823.884000 M	-31.79	-18.79
824.000 M	829.000 M	100.00 k	825.590000 M	6.32	-28.68

Date: 3.AUG.2015 11:39:40

Highest Band Edge

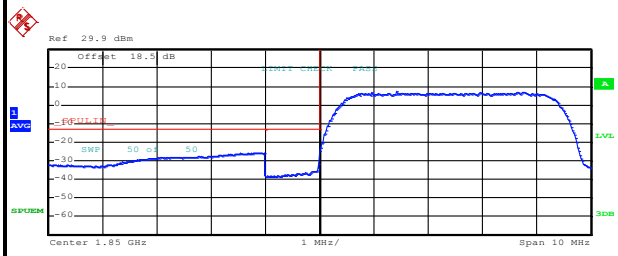


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
844.000 M	849.000 M	100.00 k	845.125000 M	7.50	-27.50
849.000 M	850.000 M	50.00 k	849.004000 M	-34.89	-21.89
850.000 M	855.000 M	100.00 k	850.065000 M	-37.65	-24.65

Date: 3.AUG.2015 11:41:11

WCDMA Band II (RMC 12.2Kbps)

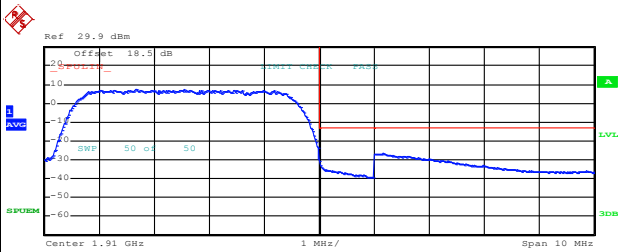
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.845 G	1.849 G	1.00 M	1.848792 G	-25.79	-12.79
1.849 G	1.850 G	50.00 k	1.849992 G	-32.04	-19.04
1.850 G	1.855 G	100.00 k	1.851415 G	7.23	-27.77

Date: 3.AUG.2015 11:53:14

Highest Band Edge

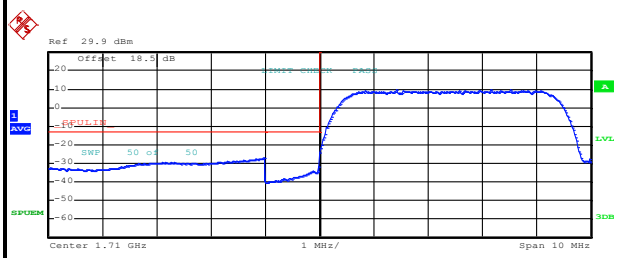


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.905 G	1.910 G	100.00 k	1.906685 G	7.49	-27.51
1.910 G	1.911 G	50.00 k	1.910004 G	-31.19	-18.19
1.911 G	1.915 G	1.00 M	1.911156 G	-26.68	-13.68

Date: 3.AUG.2015 11:55:29

WCDMA Band IV (RMC 12.2Kbps)

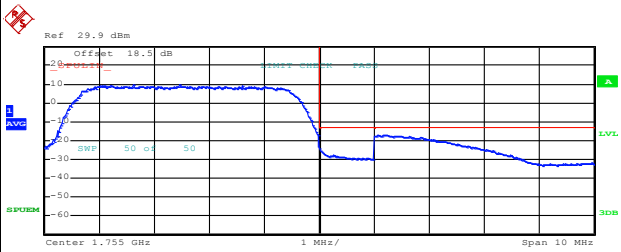
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708952 G	-26.92	-13.92
1.709 G	1.710 G	50.00 k	1.709996 G	-32.86	-19.86
1.710 G	1.715 G	100.00 k	1.713515 G	9.91	-25.09

Date: 3.AUG.2015 13:41:27

Highest Band Edge



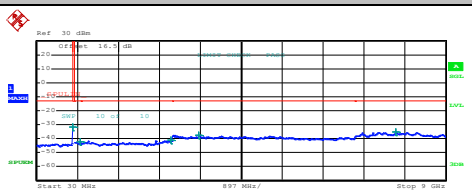
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.751620 G	9.85	-25.15
1.755 G	1.756 G	50.00 k	1.755008 G	-24.65	-11.65
1.756 G	1.760 G	1.00 M	1.756084 G	-17.35	-4.35

Date: 3.AUG.2015 13:43:05

Conducted Spurious Emission

WCDMA Band V (RMC 12.2Kbps)

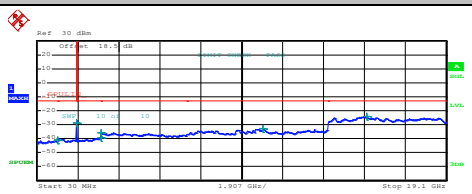
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	819.605000 M	-31.68	-18.66
855.000 M	1.000 G	1.00 M	977.633758 M	-42.49	-29.49
1.000 G	3.000 G	1.00 M	2.978500 G	-41.13	-28.13
3.000 G	7.000 G	1.00 M	3.578000 G	-37.72	-24.72
7.000 G	9.000 G	1.00 M	7.910500 G	-34.95	-21.95

Date: 3.AUG.2015 11:42:24

Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	989.572500 M	-41.00	-28.00
1.000 G	1.845 G	1.00 M	1.844789 G	-28.52	-15.52
1.915 G	3.000 G	1.00 M	2.994304 G	-39.05	-26.05
3.000 G	7.000 G	1.00 M	3.016000 G	-35.95	-22.95
7.000 G	13.600 G	1.00 M	10.553275 G	-32.97	-19.97
13.600 G	19.100 G	1.00 M	15.384063 G	-24.29	-11.29

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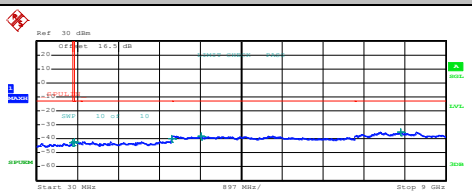
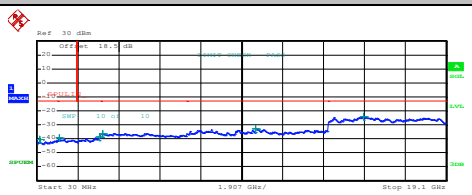
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	818.815000 M	-43.08	-30.08
855.000 M	1.000 G	1.00 M	862.975001 M	-42.29	-29.29
1.000 G	3.000 G	1.00 M	2.984500 G	-39.66	-26.66
3.000 G	7.000 G	1.00 M	3.627000 G	-38.07	-25.07
7.000 G	9.000 G	1.00 M	8.014000 G	-34.97	-21.97

Date: 3.AUG.2015 11:43:05

Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	142.520000 M	-40.70	-27.70
1.000 G	1.845 G	1.00 M	1.074994 G	-39.18	-26.18
1.915 G	3.000 G	1.00 M	2.915641 G	-38.93	-25.93
3.000 G	7.000 G	1.00 M	3.084000 G	-36.12	-23.12
7.000 G	13.600 G	1.00 M	10.224100 G	-32.82	-19.82
13.600 G	19.100 G	1.00 M	15.247250 G	-24.27	-11.27

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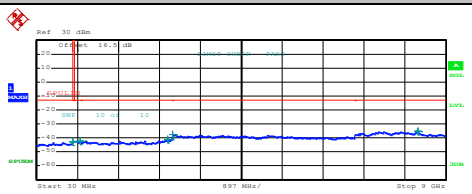
Highest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	811.112500 M	-43.08	-30.08
855.000 M	1.000 G	1.00 M	986.188759 M	-42.33	-29.33
1.000 G	3.000 G	1.00 M	2.905000 G	-40.83	-27.83
3.000 G	7.000 G	1.00 M	3.011000 G	-37.57	-24.57
7.000 G	9.000 G	1.00 M	8.382000 G	-35.40	-22.40

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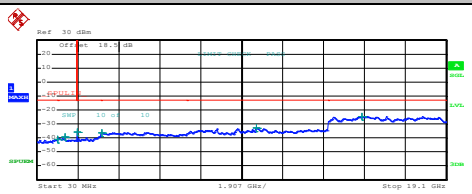
Highest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	966.777500 M	-40.98	-27.98
1.000 G	1.845 G	1.00 M	1.315819 G	-39.56	-26.56
1.915 G	3.000 G	1.00 M	1.915814 G	-35.50	-22.50
3.000 G	7.000 G	1.00 M	3.052000 G	-36.15	-23.15
7.000 G	13.600 G	1.00 M	10.234825 G	-33.09	-20.09
13.600 G	19.100 G	1.00 M	15.179875 G	-24.51	-11.51

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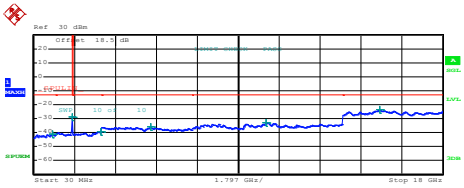
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	844.072500 M	-41.24	-28.24
1.000 G	1.705 G	1.00 M	1.704648 G	-28.70	-15.70
1.760 G	3.000 G	1.00 M	2.994110 G	-39.07	-26.07
3.000 G	7.000 G	1.00 M	5.175000 G	-36.03	-23.03
7.000 G	13.600 G	1.00 M	10.245550 G	-33.02	-20.02
13.600 G	18.000 G	1.00 M	15.248350 G	-23.59	-10.59

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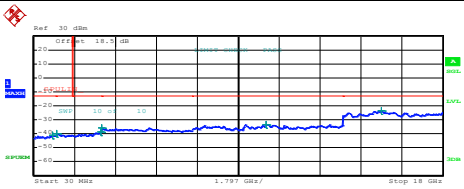
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	863.472500 M	-40.89	-27.89
1.000 G	1.705 G	1.00 M	1.045825 G	-39.64	-26.64
1.760 G	3.000 G	1.00 M	2.992250 G	-38.83	-25.83
3.000 G	7.000 G	1.00 M	3.003000 G	-35.80	-22.80
7.000 G	13.600 G	1.00 M	10.233175 G	-33.21	-20.21
13.600 G	18.000 G	1.00 M	15.320950 G	-23.34	-10.34

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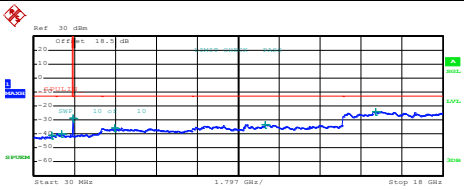
Highest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	827.582500 M	-41.05	-28.05
1.000 G	1.705 G	1.00 M	1.261379 G	-39.99	-26.99
1.760 G	3.000 G	1.00 M	1.760310 G	-28.84	-15.84
3.000 G	7.000 G	1.00 M	3.584000 G	-35.98	-22.98
7.000 G	13.600 G	1.00 M	10.216675 G	-33.40	-20.40
13.600 G	18.000 G	1.00 M	15.061350 G	-23.87	-10.87

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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	0.0120	
30	Normal Voltage	0.0108	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0143	
0	Normal Voltage	0.0132	
-10	Normal Voltage	0.0179	
-20	Normal Voltage	0.0167	
-30	Normal Voltage	0.0215	
20	Maximum Voltage	0.0179	
20	Normal Voltage	0.0096	
20	Battery End Point	0.0060	

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0011	PASS
40	Normal Voltage	0.0016	
30	Normal Voltage	0.0027	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0128	
0	Normal Voltage	0.0106	
-10	Normal Voltage	0.0043	
-20	Normal Voltage	0.0027	
-30	Normal Voltage	0.0011	
20	Maximum Voltage	0.0000	
20	Normal Voltage	0.0090	
20	Battery End Point	0.0037	

Note:

1. Normal Voltage = 3.85V. ；Battery End Point (BEP) = 3.6 V.；Maximum Voltage =4.35 V

2. The frequency fundamental emissions stay within the authorized frequency block.

Test Conditions	Middle Channel	WCDMA Band IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0023	PASS
40	Normal Voltage	0.0144	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0017	
0	Normal Voltage	0.0190	
-10	Normal Voltage	0.0179	
-20	Normal Voltage	0.0035	
-30	Normal Voltage	0.0167	
20	Maximum Voltage	0.0173	
20	Normal Voltage	0.0040	
20	Battery End Point	0.0000	

Note:

1. Normal Voltage = 3.85V. ；Battery End Point (BEP) = 3.6 V.；Maximum Voltage =4.35 V

2. The frequency fundamental emissions stay within the authorized frequency block.

Appendix B. Test Results of Radiated Test

ERP/EIRP

Channel	Mode	Horizontal		Vertical	
		ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	GSM850 GPRS class 8	29.00	0.7941	22.24	0.1674
Middle		28.90	0.7769	22.62	0.1830
Highest		29.02	0.7982	23.25	0.2115
Lowest	GSM850 EDGE class 8	24.29	0.2687	17.76	0.0598
Middle		23.96	0.2489	17.52	0.0565
Highest		23.84	0.2419	18.03	0.0636
Lowest	WCDMA Band V RMC 12.2Kbps	20.25	0.1059	13.57	0.0228
Middle		20.53	0.1131	13.90	0.0245
Highest		20.40	0.1096	14.34	0.0272
Limit	ERP < 7W	Result		PASS	

Channel	Mode	Horizontal		Vertical	
		EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	GSM1900 GPRS class 10	29.45	0.8809	26.43	0.4399
Middle		29.02	0.7987	27.03	0.5052
Highest		28.74	0.7484	28.24	0.6668
Lowest	GSM1900 EDGE class 8	25.81	0.3809	23.11	0.2048
Middle		25.26	0.3355	23.50	0.2236
Highest		25.24	0.3339	24.60	0.2883
Lowest	WCDMA Band II RMC 12.2Kbps	22.86	0.1934	20.05	0.1012
Middle		22.36	0.1721	21.03	0.1268
Highest		22.00	0.1584	21.38	0.1374
Limit	EIRP < 2W	Result		PASS	

Channel	Mode	Horizontal		Vertical	
		EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	WCDMA Band IV RMC 12.2Kbps	19.79	0.0953	16.89	0.0489
Middle		23.15	0.2063	20.13	0.1031
Highest		25.38	0.3455	22.36	0.1723
Limit	EIRP < 1W	Result		PASS	

Radiated Spurious Emission

GSM850 (GPRS class 8)									
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	1648	-36.56	-13	-23.56	-45.85	-38.32	0.98	4.89	H
	2472	-34.63	-13	-21.63	-47.1	-36.51	1.28	5.32	H
	3296	-55.77	-13	-42.77	-71.73	-59.18	1.54	7.10	H
	4120	-48.35	-13	-35.35	-69.18	-52.99	1.83	8.62	H
	5768	-46.73	-13	-33.73	-70.32	-51.61	2.78	9.81	H
	1648	-38.21	-13	-25.21	-45.5	-39.97	0.98	4.89	V
	2472	-31.40	-13	-18.40	-49.08	-33.28	1.28	5.32	V
	3296	-56.07	-13	-43.07	-70.94	-59.48	1.54	7.10	V
	4120	-48.27	-13	-35.27	-68.02	-52.91	1.83	8.62	V
	4944	-52.58	-13	-39.58	-73.22	-57.71	2.30	9.59	V
	5768	-46.60	-13	-33.60	-69.5	-51.48	2.78	9.81	V
Middle	1672	-51.61	-13	-38.61	-60.64	-53.29	0.99	4.82	H
	2512	-31.74	-13	-18.74	-44.47	-33.71	1.29	5.41	H
	3344	-57.30	-13	-44.30	-73.15	-60.91	1.56	7.31	H
	4184	-48.17	-13	-35.17	-68.34	-52.79	1.87	8.64	H
	5016	-46.42	-13	-33.42	-68.47	-51.62	2.35	9.70	H
	5856	-50.05	-13	-37.05	-74.59	-54.91	2.83	9.84	H
	1672	-53.98	-13	-40.98	-60.86	-55.66	0.99	4.82	V
	2512	-30.62	-13	-17.62	-45.86	-32.59	1.29	5.41	V
	3344	-59.21	-13	-46.21	-74.06	-62.82	1.56	7.31	V
	4184	-50.65	-13	-37.65	-70.37	-55.27	1.87	8.64	V
	5016	-46.26	-13	-33.26	-66.86	-51.46	2.35	9.70	V
Highest	1696	-38.51	-13	-25.51	-47.1	-40.11	1.00	4.75	H
	2544	-34.94	-13	-21.94	-48.51	-36.92	1.30	5.44	H
	3392	-59.06	-13	-46.06	-75.28	-62.86	1.57	7.52	H
	4248	-43.51	-13	-30.51	-64.49	-48.11	1.90	8.65	H
	5096	-52.33	-13	-39.33	74.19	-57.49	2.39	9.70	H
	5944	-50.78	-13	-37.78	-75.06	-55.63	2.88	9.88	H
	8488	-45.50	-13	-32.50	-75.46	-53.47	2.37	12.49	H
	1696	-39.97	-13	-26.97	-48.33	-41.57	1.00	4.75	V
	2544	-31.80	-13	-18.80	-46.72	-33.78	1.30	5.44	V
	3392	-59.87	-13	-46.87	-75.53	-63.67	1.57	7.52	V
	4248	-43.83	-13	-30.83	-63.53	-48.43	1.90	8.65	V
	5096	-50.16	-13	-37.16	-71	-55.32	2.39	9.70	V
	5944	-50.56	-13	-37.56	-74.5	-55.41	2.88	9.88	V
	8488	-44.68	-13	-31.68	-74.32	-52.65	2.37	12.49	V

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

GSM850 (EDGE class 8)									
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	1648	-54.06	-13	-41.06	-63.76	-55.82	0.98	4.89	H
	2472	-53.79	-13	-40.79	-66.86	-55.67	1.28	5.32	H
	3296	-54.69	-13	-41.69	-71.24	-58.1	1.54	7.10	H
	1648	-53.39	-13	-40.39	-60.99	-55.15	0.98	4.89	V
	2472	-48.98	-13	-35.98	-64.21	-50.86	1.28	5.32	V
	3296	-59.18	-13	-46.18	-74.51	-62.59	1.54	7.10	V
Middle	1672	-48.95	-13	-35.95	-58.32	-50.63	0.99	4.82	H
	2512	-46.20	-13	-33.20	-59.48	-48.17	1.29	5.41	H
	3344	-55.27	-13	-42.27	-71.49	-58.88	1.56	7.31	H
	1672	-49.76	-13	-36.76	-56.95	-51.44	0.99	4.82	V
	2512	-44.39	-13	-31.39	-59.69	-46.36	1.29	5.41	V
	3344	-58.20	-13	-45.20	-73.45	-61.81	1.56	7.31	V
Highest	1696	-45.75	-13	-32.75	-55.23	-47.35	1.00	4.75	H
	2544	-45.54	-13	-32.54	-59.24	-47.52	1.30	5.44	H
	3392	-54.54	-13	-41.54	-70.96	-58.34	1.57	7.52	H
	1696	-47.68	-13	-34.68	-55.41	-49.28	1.00	4.75	V
	2544	-44.74	-13	-31.74	-60.18	-48.87	1.30	5.44	V
	3392	-57.68	-13	-44.68	-73.55	-63.63	1.57	7.52	V

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

GSM1900 (GPRS class 10)									
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	3700	-38.25	-13	-25.25	-56.37	-44.82	1.67	8.24	H
	5548	-26.47	-13	-13.47	-49.74	-33.54	2.65	9.72	H
	7403	-37.53	-13	-24.53	-66.7	-46.68	2.46	11.61	H
	9251	-43.25	-13	-30.25	-73.91	-53.31	2.54	12.60	H
	3700	-32.45	-13	-19.45	-50.58	-39.02	1.67	8.24	V
	5548	-35.50	-13	-22.50	-57.44	-42.57	2.65	9.72	V
	7403	-37.96	-13	-24.96	-65.93	-47.11	2.46	11.61	V
	9251	-46.33	-13	-33.33	-76.99	-56.39	2.54	12.60	V
Middle	3763	-49.57	-13	-36.57	-68.27	-56.2	1.69	8.32	H
	5639	-23.19	-13	-10.19	-46.46	-30.24	2.71	9.76	H
	7522	-43.61	-13	-30.61	-72.17	-53	2.42	11.81	H
	3763	-50.71	-13	-37.71	-69.18	-57.34	1.69	8.32	V
	5639	-30.58	-13	-17.58	-52.54	-37.63	2.71	9.76	V
	7522	-41.75	-13	-28.75	-69.74	-51.14	2.42	11.81	V
Highest	3819	-34.90	-13	-21.90	-54.44	-41.58	1.70	8.38	H
	5730	-24.08	-13	-11.08	-48.1	-31.11	2.76	9.79	H
	7641	-38.56	-13	-25.56	-66.82	-48.06	2.38	11.88	H
	3819	-38.37	-13	-25.37	-57.01	-45.05	1.70	8.38	V
	5730	-32.21	-13	-19.21	-55.32	-39.24	2.76	9.79	V
	7641	-42.32	-13	-29.32	-69.88	-51.82	2.38	11.88	V

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

GSM1900 (EDGE class 8)									
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	-53.06	-13	-40.06	-71.36	-59.64	1.67	8.24	H
	5556	-37.95	-13	-24.95	-61.48	-45.02	2.66	9.72	H
	7400	-48.98	-13	-35.98	-77.71	-58.12	2.46	11.60	H
	3704	-49.99	-13	-36.99	-68.65	-56.57	1.67	8.24	V
	5556	-43.24	-13	-30.24	-65.3	-50.31	2.66	9.72	V
	7400	-49.83	-13	-36.83	-77.56	-58.97	2.46	11.60	V
Middle	3764	-49.48	-13	-36.48	-68.32	-56.11	1.69	8.32	H
	5644	-36.57	-13	-23.57	-59.96	-43.62	2.71	9.76	H
	7520	-48.95	-13	-35.95	-77.75	-58.34	2.42	11.81	H
	3764	-50.23	-13	-37.23	-68.9	-56.86	1.69	8.32	V
	5644	-44.29	-13	-31.29	-66.47	-51.34	2.71	9.76	V
	7524	-48.48	-13	-35.48	-76.64	-57.87	2.42	11.81	V
Highest	3824	-44.56	-13	-31.56	-64.03	-51.24	1.71	8.39	H
	5732	-37.03	-13	-24.03	-60.92	-44.06	2.76	9.79	H
	7644	-47.04	-13	-34.04	-75.57	-56.54	2.38	11.89	H
	3824	-48.93	-13	-35.93	-67.34	-55.61	1.71	8.39	V
	5732	-44.62	-13	-31.62	-67.91	-51.65	2.76	9.79	V
	7644	-48.22	-13	-35.22	-76.07	-57.72	2.38	11.89	V

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

WCDMA Band V (RMC 12.2Kbps)									
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	1656	-51.54	-13	-38.54	-61.04	-53.27	0.98	4.86	H
	2480	-54.51	-13	-41.51	-67.48	-56.42	1.28	5.34	H
	3312	-59.64	-13	-46.64	-76.14	-63.12	1.55	7.17	H
	1656	-52.55	-13	-39.55	-59.94	-54.28	0.98	4.86	V
	2480	-54.53	-13	-41.53	-69.68	-56.44	1.28	5.34	V
	3312	-60.70	-13	-47.70	-76.03	-64.18	1.55	7.17	V
Middle	1672	-51.98	-13	-38.98	-61.24	-53.66	0.99	4.82	H
	2512	-54.19	-13	-41.19	-67.46	-56.16	1.29	5.41	H
	3344	-59.50	-13	-46.50	-75.72	-63.11	1.56	7.31	H
	1672	-52.96	-13	-39.96	-60.16	-54.64	0.99	4.82	V
	2512	-51.46	-13	-38.46	-66.78	-53.43	1.29	5.41	V
	3344	-60.21	-13	-47.21	-75.46	-63.82	1.56	7.31	V
Highest	1688	-47.26	-13	-34.26	-56.66	-48.89	1.00	4.77	H
	2544	-54.72	-13	-41.72	-68.43	-56.7	1.30	5.44	H
	3376	-59.47	-13	-46.47	-75.84	-63.21	1.57	7.45	H
	1688	-49.16	-13	-36.16	-56.3	-50.79	1.00	4.77	V
	2544	-52.80	-13	-39.80	-68.09	-54.78	1.30	5.44	V
	3376	-60.29	-13	-47.29	-75.94	-64.03	1.57	7.45	V

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

WCDMA Band II (RMC 12.2Kbps)									
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	3707	-54.17	-13	-41.17	-72.35	-60.75	1.67	8.25	H
	5562	-45.36	-13	-32.36	-68.96	-52.42	2.66	9.72	H
	7410	-47.90	-13	-34.90	-76.71	-57.06	2.46	11.62	H
	3707	-52.01	-13	-39.01	-70.21	-58.59	1.67	8.25	V
	5562	-50.35	-13	-37.35	-72.35	-57.41	2.66	9.72	V
	7410	-48.44	-13	-35.44	-76.44	-57.6	2.46	11.62	V
Middle	3756	-51.99	-13	-38.99	-70.82	-58.61	1.68	8.31	H
	5646	-48.19	-13	-35.19	-71.86	-55.24	2.71	9.76	H
	7515	-46.01	-13	-33.01	-74.6	-55.39	2.42	11.81	H
	3756	-49.92	-13	-36.92	-68.37	-56.54	1.68	8.31	V
	5639	-51.61	-13	-38.61	-73.68	-58.66	2.71	9.76	V
	7515	-47.63	-13	-34.63	-75.59	-57.01	2.42	11.81	V
Highest	3812	-52.57	-13	-39.57	-71.82	-59.24	1.70	8.37	H
	5730	-45.02	-13	-32.02	-68.76	-52.05	2.76	9.79	H
	7627	-47.14	-13	-34.14	-75.53	-56.63	2.39	11.88	H
	3812	-49.44	-13	-36.44	-67.8	-56.11	1.70	8.37	V
	5723	-45.26	-13	-32.26	-68.7	-52.3	2.75	9.79	V
	7627	-47.44	-13	-34.44	-75.47	-56.93	2.39	11.88	V

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

WCDMA Band IV (RMC 12.2Kbps)									
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	3428	-50.14	-13	-37.14	-66.77	-56.24	1.58	7.68	H
	5144	-45.40	-13	-32.40	-68.26	-52.68	2.42	9.70	H
	6856	-42.31	-13	-29.31	-69.1	-50.3	2.64	10.63	H
	3428	-50.27	-13	-37.27	-66.62	-56.37	1.58	7.68	V
	5144	-44.01	-13	-31.01	-65.89	-51.29	2.42	9.70	V
	6852	-43.43	-13	-30.43	-69.9	-51.41	2.64	10.62	V
Middle	3468	-51.86	-13	-38.86	-68.85	-58.12	1.59	7.86	H
	5200	-43.95	-13	-30.95	-66.62	-51.2	2.45	9.70	H
	6936	-41.47	-13	-28.47	-68.6	-49.58	2.61	10.72	H
	3468	-52.59	-13	-39.59	-69.26	-58.85	1.59	7.86	V
	5200	-41.32	-13	-28.32	-63.42	-48.57	2.45	9.70	V
	6932	-42.29	-13	-29.29	-69.29	-50.4	2.61	10.72	V
Highest	3508	-49.16	-13	-36.16	-66.78	-55.56	1.61	8.01	H
	5264	-43.39	-13	-30.39	-65.78	-50.6	2.49	9.70	H
	7016	-42.96	-13	-29.96	-70.47	-51.21	2.59	10.83	H
	3508	-51.11	-13	-38.11	-69.01	-57.51	1.61	8.01	V
	5260	-40.61	-13	-27.61	-63.25	-47.82	2.49	9.70	V
	7012	-43.08	-13	-30.08	-70.47	-51.32	2.59	10.82	V

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