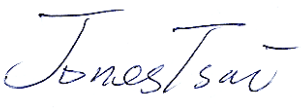
FCC RF Test Report

APPLICANT	:	Acer Incorporated
EQUIPMENT	:	Smart HandHeld
BRAND NAME	:	Acer
MODEL NAME	:	S58, S58A
MARKETING NAME	:	Liquid Jade Primo, Liquid Jade 2
FCC ID	:	HLZEMS58
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 Nov. 03, 2015 and testing was completed on Feb. 04, 2016. 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-D-2010 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

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.

TABLE OF CONTENTS

REVISION HISTORY 3

SUMMARY OF TEST RESULT 4

1 GENERAL DESCRIPTION 6

1.1 Applicant 6
1.2 Manufacturer 6
1.3 Product Feature of Equipment Under Test 6
1.4 Product Specification of Equipment Under Test 7
1.5 Modification of EUT 7
1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator 8
1.7 Testing Location 9
1.8 Applicable Standards 9

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST 10

2.1 Test Mode 10
2.2 Connection Diagram of Test System 11
2.3 Support Unit used in test configuration 11
2.4 Measurement Results Explanation Example 11

3 CONDUCTED TEST RESULT 12

3.1 Measuring Instruments 12
3.2 Test Setup 12
3.3 Test Result of Conducted Test 12
3.4 Conducted Output Power and ERP/EIRP 13
3.5 Peak-to-Average Ratio 14
3.6 99% Occupied Bandwidth and 26dB Bandwidth Measurement 15
3.7 Conducted Band Edge 16
3.8 Conducted Spurious Emission 17
3.9 Frequency Stability 18

4 RADIATED TEST ITEMS 19

4.1 Measuring Instruments 19
4.2 Test Setup 19
4.3 Test Result of Radiated Test 19
4.4 Field Strength of Spurious Radiation Measurement 20

5 LIST OF MEASURING EQUIPMENT 21

6 UNCERTAINTY OF EVALUATION 22

APPENDIX A. TEST RESULTS OF CONDUCTED TEST

APPENDIX B . TEST RESULTS OF RADIATED TEST

APPENDIX C. TEST SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG5N0311A	Rev. 01	Initial issue of report	Mar. 09, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(2)	Effective Radiated Power	< 7 Watts		
	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power	< 1 Watts		
3.5	§24.232(d)	Peak-to-Average Ratio	< 13 dB	PASS	-
3.6	§2.1049 §22.917(b) §24.238(b) §27.53(g)	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Band Edge Measurement	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Emission	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §22.355	Frequency Stability for Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		

Report Section	FCC Rule	Description	Limit	Result	Remark
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(h)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	Under limit 15.88 dB at 15282.000 MHz

1 General Description

1.1 Applicant

Acer Incorporated
8F., No. 88, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 22181, Taiwan (R.O.C)

1.2 Manufacturer

Shanghai Sunrise Simcom Limited
No. 888, Shengli Rd., Qingpu, Shanghai, P.R.China 201700

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smart HandHeld
Brand Name	Acer
Model Name	S58, S58A
Marketing Name	Liquid Jade Primo, Liquid Jade 2
FCC ID	HLZEMS58
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth v4.1 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 of Equipment Under Test

Standards-related Product Specification	
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: 29.78 dBm **WCDMA:** Band V: 23.36 dBm Band II: 22.99 dBm Band IV: 23.20 dBm
Antenna Type	IFA Antenna
Antenna Gain	Cellular Band: -1.45 dBi PCS Band: 0.79 dBi AWS Band: 0.14 dBi
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	1.0827	0.0108 ppm	246KGXW
Part 22	GSM850 EDGE class 8	8PSK	0.2944	0.0060 ppm	246KG7W
Part 22	WCDMA Band V RMC 12.2Kbps	QPSK	0.0864	0.0132 ppm	4M15F9W
Part 24	GSM1900 GPRS class 8	GMSK	1.2584	0.0043 ppm	243KGXW
Part 24	GSM1900 EDGE class 8	8PSK	0.4754	0.0037 ppm	249KG7W
Part 24	WCDMA Band II RMC 12.2Kbps	QPSK	0.2000	0.0016 ppm	4M15F9W
Part 27	WCDMA Band IV RMC 12.2Kbps	QPSK	0.2147	0.0029 ppm	4M18F9W

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.**
	03CH11-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-D-2010
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02
- 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 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:

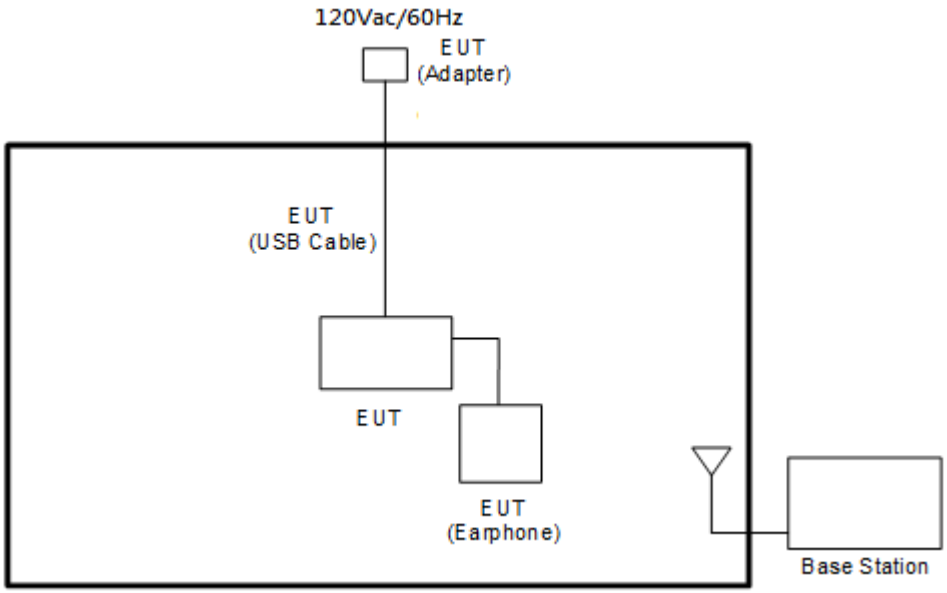
1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
2. 30 MHz to 18000 MHz for WCDMA Band IV.
3. 30 MHz to 19000 MHz for GSM1900 and WCDMA Band II.

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 8 Link ■ EDGE class 8 Link	■ GPRS class 8 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

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.	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)

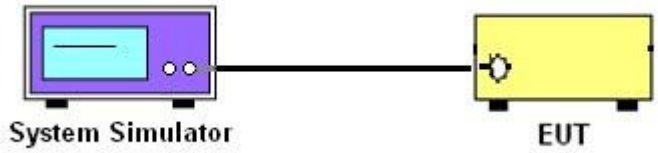
3 Conducted Test Result

3.1 Measuring Instruments

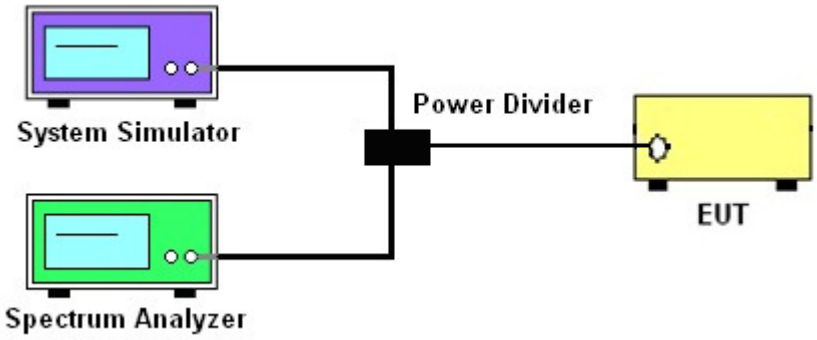
See list of measuring instruments of this test report.

3.2 Test Setup

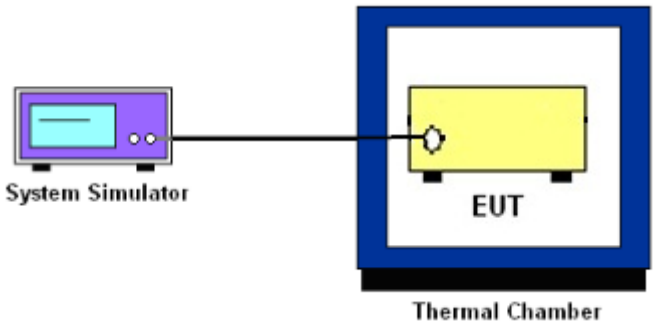
3.2.1 Conducted Output Power



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 and ERP/EIRP

3.4.1 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 GSM850 and WCDMA Band V.

The EIRP of mobile transmitters must not exceed 2 Watts for GSM1900 and 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

3.4.2 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.

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 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.

3.6.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 4.2.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. 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.
4. 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.
5. Set the detection mode to peak, and the trace mode to max hold.
6. 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)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. 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.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

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 10^{th} 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.

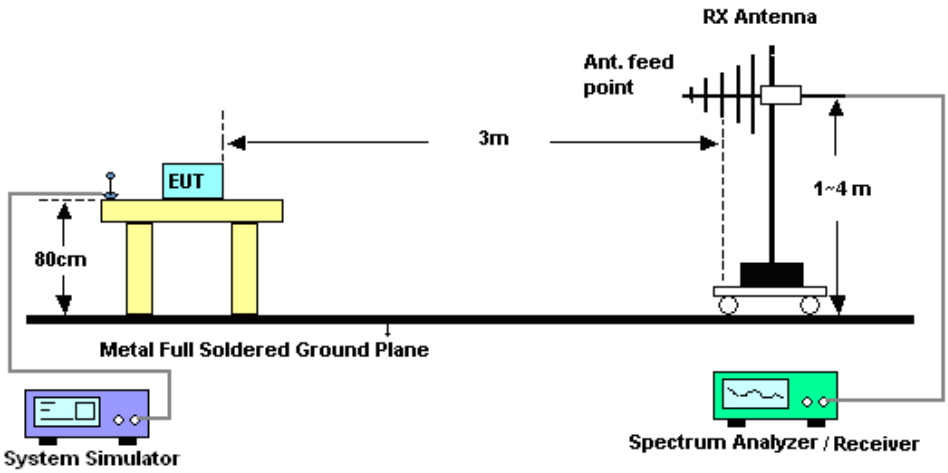
4 Radiated Test Items

4.1 Measuring Instruments

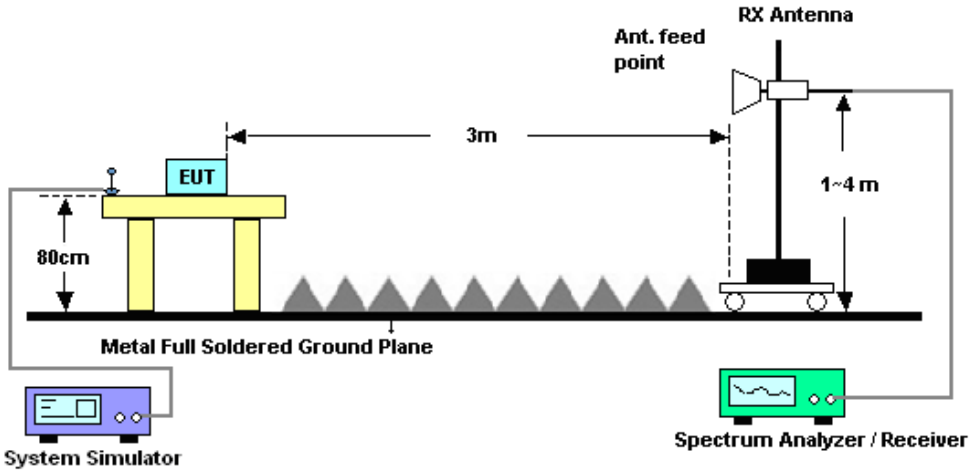
See list of measuring instruments of this test report.

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 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

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.8 and ANSI / TIA-603-D-2010 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	Feb. 03, 2016 ~ Feb. 04, 2016	Jun. 23, 2016	Conducted (TH03-HY)
Temperature Chamber	ESPEC	SU-641	92013721	-30℃ ~70℃	Nov. 20, 2015	Feb. 03, 2016 ~ Feb. 04, 2016	Nov. 19, 2016	Conducted (TH03-HY)
Base Station (Measure)	Rohde & Schwarz	CMU200	117995	GSM / GPRS / WCDMA / CDMA	Jul. 26, 2015	Feb. 03, 2016 ~ Feb. 04, 2016	Jul. 25, 2016	Conducted (TH03-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 20, 2015	Jan. 29, 2016 ~ Feb. 02, 2016	Nov. 19, 2016	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D	35414	30MHz~1GHz	Nov. 17, 2015	Jan. 29, 2016 ~ Feb. 02, 2016	Nov. 16, 2016	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 08, 2015	Jan. 29, 2016 ~ Feb. 02, 2016	Oct. 07, 2016	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 19, 2015	Jan. 29, 2016 ~ Feb. 02, 2016	Nov. 18, 2016	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHZ	Sep. 24, 2015	Jan. 29, 2016 ~ Feb. 02, 2016	Sep. 23, 2016	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Jan. 29, 2016 ~ Feb. 02, 2016	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0-360 degree	N/A	Jan. 29, 2016 ~ Feb. 02, 2016	N/A	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 02, 2015	Jan. 29, 2016 ~ Feb. 02, 2016	Nov. 01, 2016	Radiation (03CH11-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	31.73	31.84	32.40	29.35	29.52	29.73
GPRS class 8	31.75	31.86	32.50	29.38	29.59	29.78
GPRS class 10	30.46	30.67	30.89	28.54	28.81	29.00
GPRS class 11	29.38	29.51	29.75	26.46	26.77	27.00
GPRS class 12	27.67	27.80	27.99	25.09	25.40	25.67
EGPRS class 8	26.58	26.66	26.69	25.55	25.70	25.94
EGPRS class 10	26.54	26.55	26.57	25.38	25.63	25.93
EGPRS class 11	26.26	26.42	26.51	25.51	25.57	25.88
EGPRS class 12	26.20	26.17	26.42	25.33	25.26	25.43

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	22.74	23.13	23.36	22.99	22.91	22.70	22.87	23.19	23.20
HSDPA Subtest-1	21.74	22.17	22.34	22.08	21.84	21.66	21.93	22.24	22.22
HSDPA Subtest-2	21.77	22.16	22.37	21.93	21.71	21.47	21.98	22.25	22.24
HSDPA Subtest-3	21.23	21.64	21.84	21.40	21.21	20.99	21.50	21.70	21.70
HSDPA Subtest-4	21.25	21.63	21.83	21.56	21.23	20.94	21.49	21.71	21.72
HSUPA Subtest-1	20.09	20.43	20.67	20.39	20.09	19.86	21.33	20.54	20.52
HSUPA Subtest-2	20.55	20.93	21.16	20.87	20.51	20.39	20.94	20.97	21.02
HSUPA Subtest-3	20.79	21.14	21.37	20.91	20.75	20.38	20.56	21.21	21.20
HSUPA Subtest-4	21.14	21.53	21.75	20.91	20.81	20.35	21.46	21.59	21.60
HSUPA Subtest-5	21.78	22.13	22.27	22.01	21.80	21.63	21.90	22.11	22.20

ERP/EIRP

Channel	Mode	Horizontal		Vertical	
		ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	GSM850 GPRS class 8	18.90	0.0777	30.35	1.0827
Middle		19.01	0.0796	29.62	0.9162
Highest		19.07	0.0806	29.32	0.8544
Lowest	GSM850 EDGE class 8	13.68	0.0233	24.69	0.2944
Middle		13.94	0.0248	24.29	0.2685
Highest		13.72	0.0235	23.48	0.2227
Lowest	WCDMA Band V RMC 12.2Kbps	8.75	0.0075	19.16	0.0825
Middle		9.21	0.0083	19.37	0.0864
Highest		8.87	0.0077	18.87	0.0771
Limit	ERP < 7W	Result		PASS	

Channel	Mode	Horizontal		Vertical	
		EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	GSM1900 GPRS class 8	29.46	0.8826	29.23	0.8380
Middle		29.23	0.8380	29.29	0.8499
Highest		30.05	1.0111	31.00	1.2584
Lowest	GSM1900 EDGE class 8	25.77	0.3773	25.73	0.3745
Middle		25.58	0.3615	26.00	0.3978
Highest		25.90	0.3889	26.77	0.4754
Lowest	WCDMA Band II RMC 12.2Kbps	23.01	0.2000	22.87	0.1936
Middle		22.32	0.1705	22.63	0.1831
Highest		21.83	0.1524	22.91	0.1955
Limit	EIRP < 2W	Result		PASS	

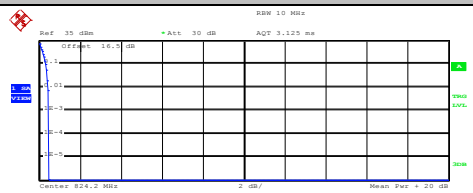
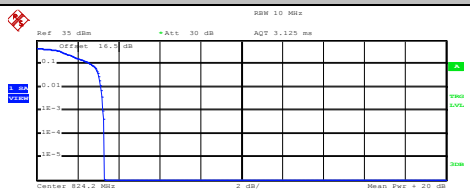
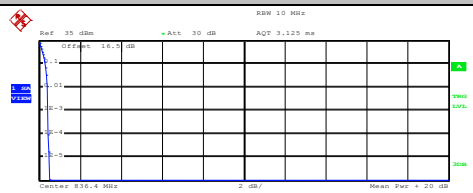
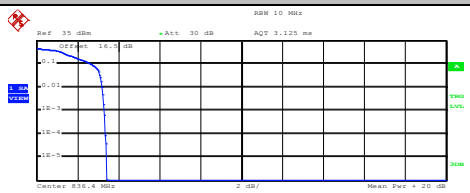
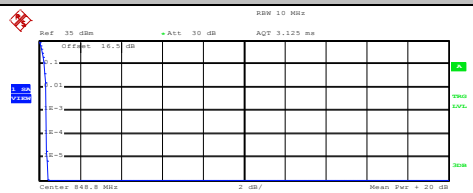
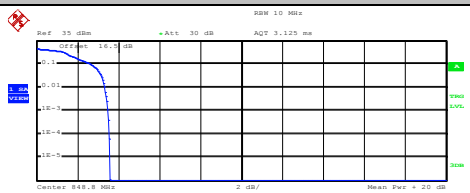
Channel	Mode	Horizontal		Vertical	
		EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	WCDMA Band IV RMC 12.2Kbps	23.32	0.2147	22.16	0.1646
Middle		22.72	0.1872	22.19	0.1655
Highest		22.60	0.1820	22.17	0.1648
Limit	EIRP < 1W	Result		PASS	

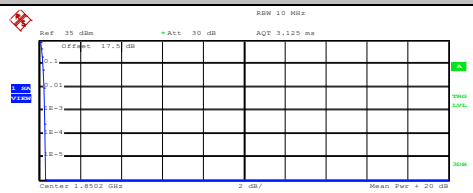
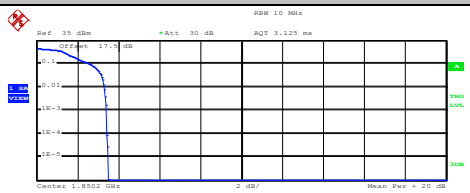
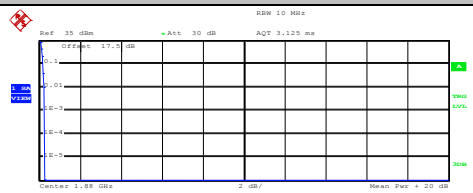
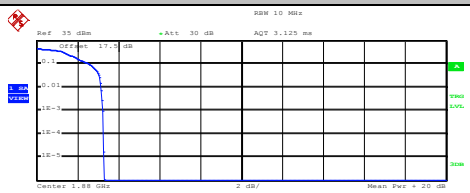
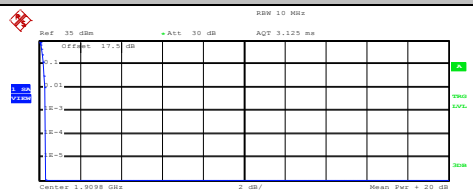
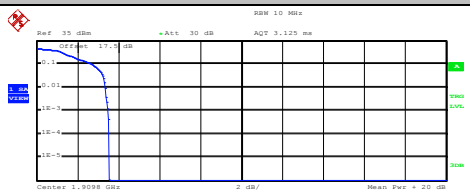
A1. GSM

Peak-to-Average Ratio

Mode	GSM850		Limit: 13dB
Mod.	GPRS class 8	EDGE class 8	Result
Lowest CH	0.48	3.24	PASS
Middle CH	0.44	3.32	
Highest CH	0.36	3.48	

Mode	GSM1900		Limit: 13dB
Mod.	GPRS class 8	EDGE class 8	Result
Lowest CH	0.28	3.40	PASS
Middle CH	0.28	3.24	
Highest CH	0.32	3.48	

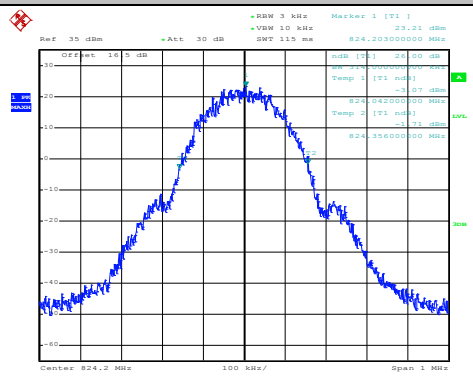
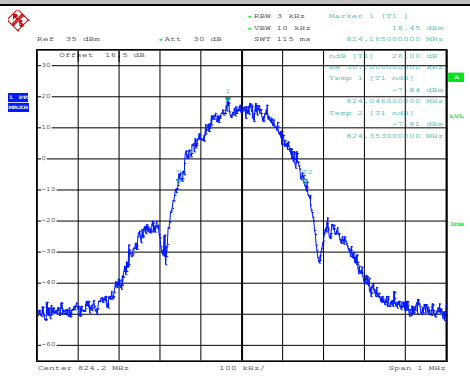
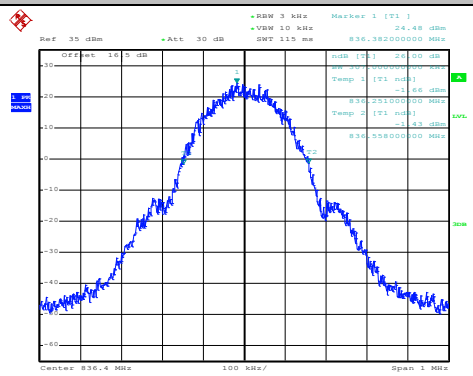
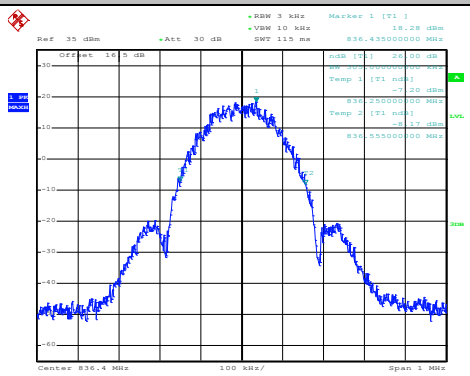
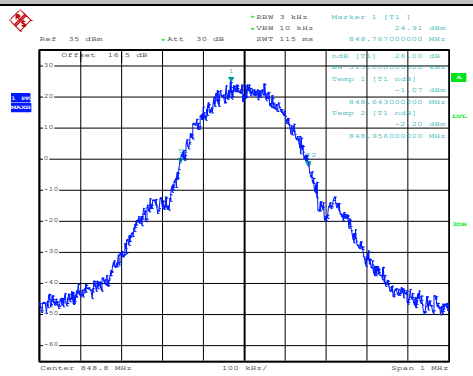
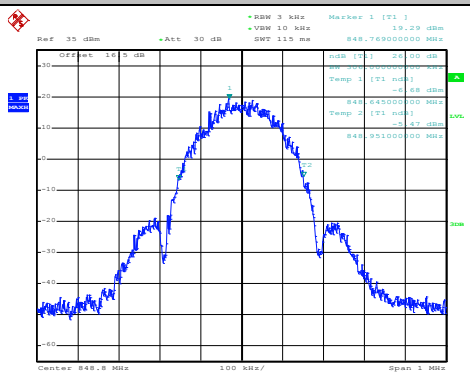
GSM850 (GPRS class 8)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 31.46 dBm Peak 31.94 dBm Crest 0.48 dB 10 % 0.32 dB 1 % 0.44 dB .1 % 0.48 dB .01 % 0.48 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 26.45 dBm Peak 29.75 dBm Crest 3.30 dB 10 % 2.64 dB 1 % 3.16 dB .1 % 3.24 dB .01 % 3.32 dB
Date: 3.FEB.2016 14:54:23	Date: 3.FEB.2016 15:22:30
Middle Channel	**Middle Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 31.45 dBm Peak 31.94 dBm Crest 0.49 dB 10 % 0.28 dB 1 % 0.40 dB .1 % 0.44 dB .01 % 0.44 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 26.32 dBm Peak 29.75 dBm Crest 3.42 dB 10 % 2.68 dB 1 % 3.20 dB .1 % 3.32 dB .01 % 3.36 dB
Date: 3.FEB.2016 14:54:49	Date: 3.FEB.2016 15:22:53
Highest Channel	**Highest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 32.36 dBm Peak 32.78 dBm Crest 0.42 dB 10 % 0.24 dB 1 % 0.32 dB .1 % 0.36 dB .01 % 0.36 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 26.75 dBm Peak 30.31 dBm Crest 3.56 dB 10 % 2.68 dB 1 % 3.32 dB .1 % 3.48 dB .01 % 3.56 dB
Date: 3.FEB.2016 14:55:22	Date: 3.FEB.2016 15:23:11

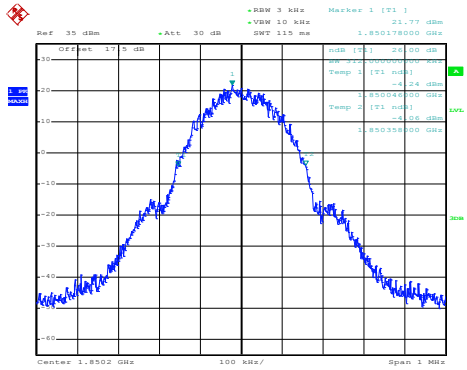
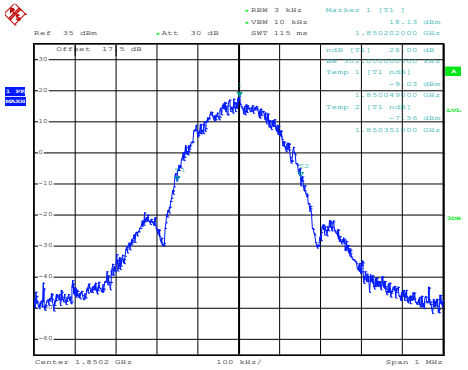
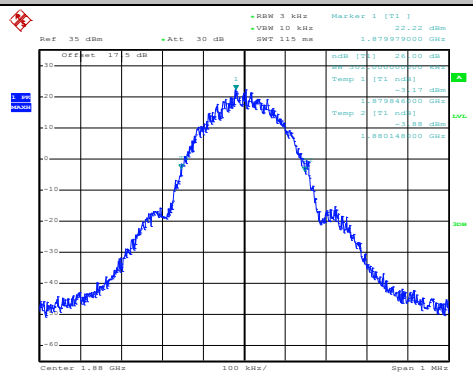
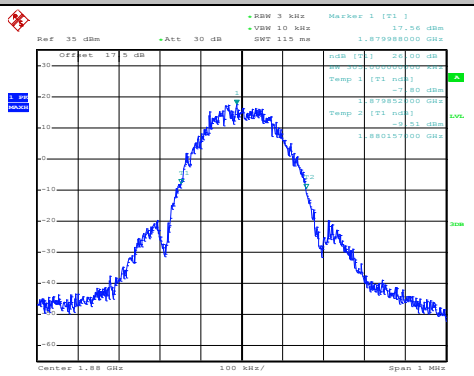
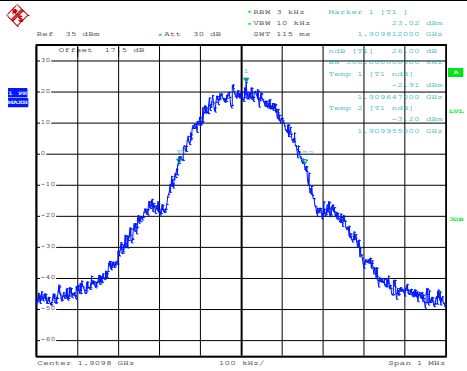
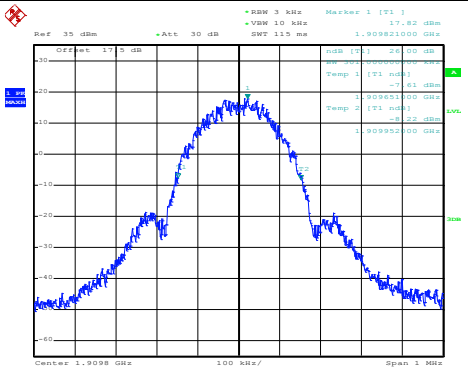
GSM1900 (GPRS class 8)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 29.26 dBm Peak 29.54 dBm Crest 0.28 dB 10 % 0.20 dB 1 % 0.24 dB .1 % 0.28 dB .01 % 0.32 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 25.34 dBm Peak 28.83 dBm Crest 3.49 dB 10 % 2.64 dB 1 % 3.32 dB .1 % 3.40 dB .01 % 3.44 dB
Date: 3.FEB.2016 15:51:19	Date: 3.FEB.2016 16:17:51
Middle Channel	**Middle Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 28.98 dBm Peak 29.25 dBm Crest 0.27 dB 10 % 0.20 dB 1 % 0.24 dB .1 % 0.28 dB .01 % 0.28 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 25.35 dBm Peak 28.62 dBm Crest 3.27 dB 10 % 2.60 dB 1 % 3.16 dB .1 % 3.24 dB .01 % 3.28 dB
Date: 3.FEB.2016 15:51:41	Date: 3.FEB.2016 16:18:15
Highest Channel	**Highest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 29.79 dBm Peak 30.10 dBm Crest 0.32 dB 10 % 0.20 dB 1 % 0.28 dB .1 % 0.32 dB .01 % 0.32 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 25.86 dBm Peak 29.40 dBm Crest 3.54 dB 10 % 2.72 dB 1 % 3.36 dB .1 % 3.48 dB .01 % 3.56 dB
Date: 3.FEB.2016 15:52:05	Date: 3.FEB.2016 16:18:38

26dB Bandwidth

Mode	GSM850	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.314	0.307
Middle CH	0.307	0.305
Highest CH	0.313	0.306

Mode	GSM1900	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.312	0.302
Middle CH	0.302	0.305
Highest CH	0.308	0.301

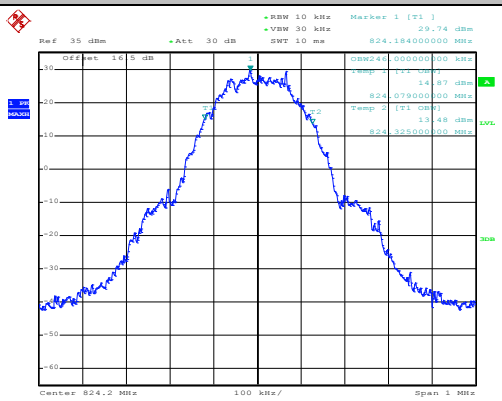
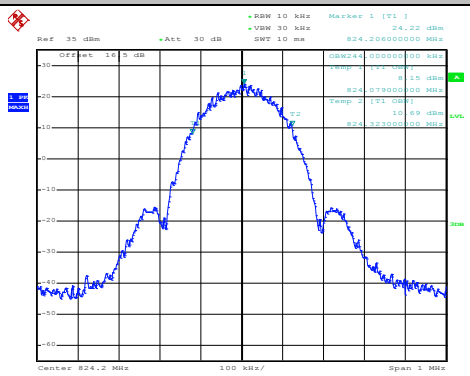
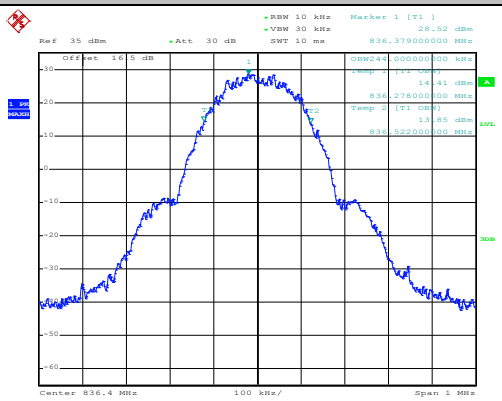
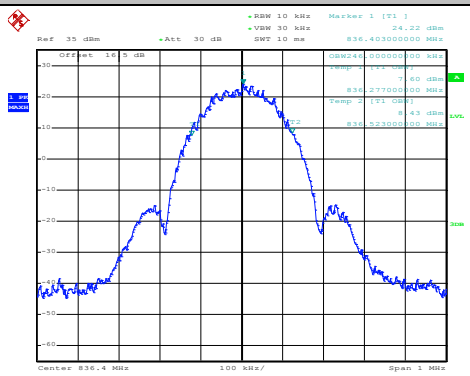
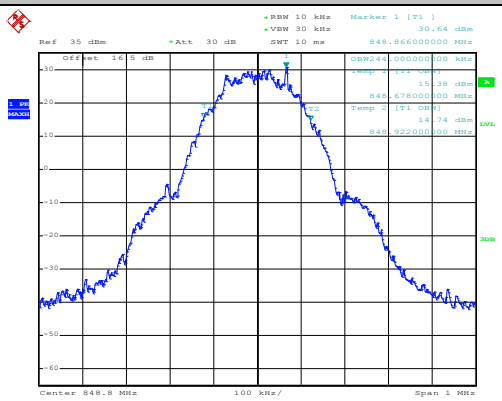
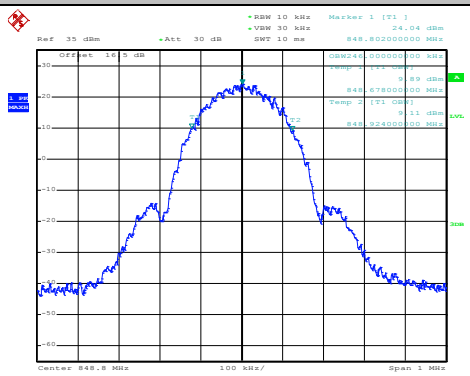
GSM850 (GPRS class 8)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Date: 3.FEB.2016 14:31:56	Date: 3.FEB.2016 15:05:24
Middle Channel	**Middle Channel**
	
Date: 3.FEB.2016 14:33:09	Date: 3.FEB.2016 15:06:31
Highest Channel	**Highest Channel**
	
Date: 3.FEB.2016 14:33:54	Date: 3.FEB.2016 15:08:09

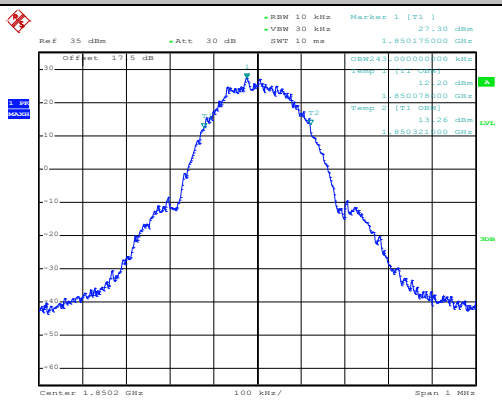
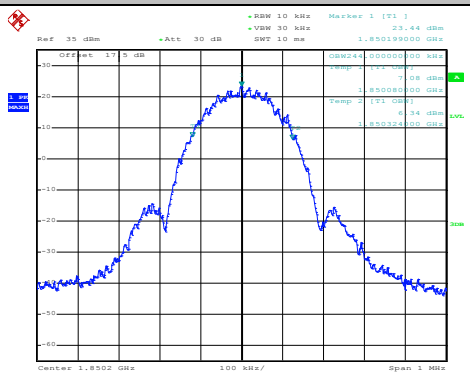
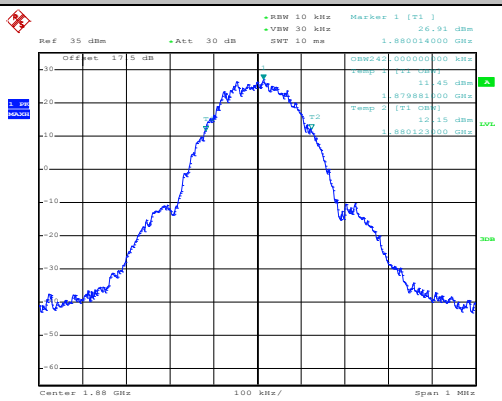
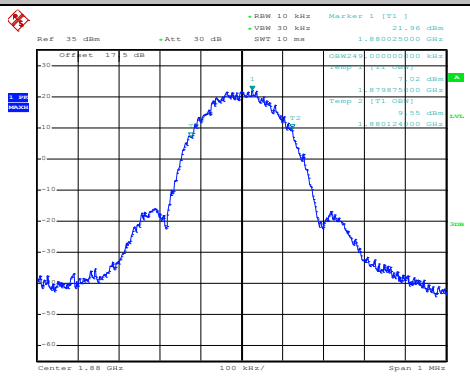
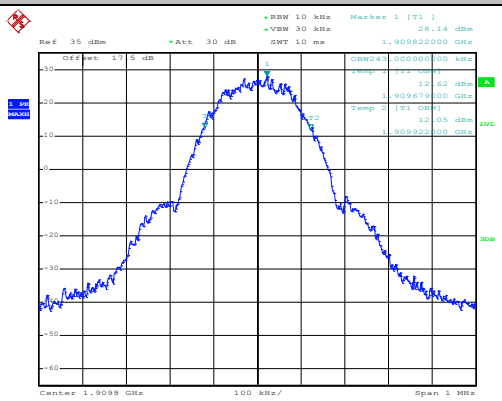
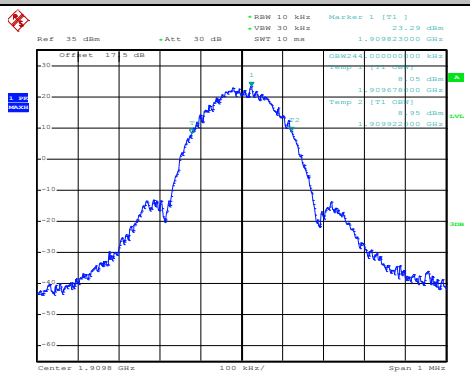
GSM1900 (GPRS class 8)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Date: 3.FEB.2016 15:30:21	Date: 3.FEB.2016 16:02:16
Middle Channel	**Middle Channel**
	
Date: 3.FEB.2016 15:30:55	Date: 3.FEB.2016 16:02:51
Highest Channel	**Highest Channel**
	
Date: 3.FEB.2016 15:31:29	Date: 3.FEB.2016 16:03:29

Occupied Bandwidth

Mode	GSM850	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.246	0.244
Middle CH	0.244	0.246
Highest CH	0.244	0.246

Mode	GSM1900	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.243	0.244
Middle CH	0.242	0.249
Highest CH	0.243	0.244

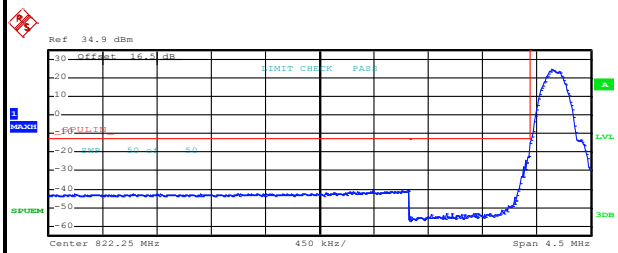
GSM850 (GPRS class 8)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Date: 3.FEB.2016 14:39:10	Date: 3.FEB.2016 15:10:36
Middle Channel	**Middle Channel**
	
Date: 3.FEB.2016 14:39:52	Date: 3.FEB.2016 15:11:13
Highest Channel	**Highest Channel**
	
Date: 3.FEB.2016 14:41:03	Date: 3.FEB.2016 15:11:48

GSM1900 (GPRS class 8)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Date: 3.FEB.2016 15:39:45	Date: 3.FEB.2016 16:04:57
Middle Channel	**Middle Channel**
	
Date: 3.FEB.2016 15:40:19	Date: 3.FEB.2016 16:05:32
Highest Channel	**Highest Channel**
	
Date: 3.FEB.2016 15:44:01	Date: 3.FEB.2016 16:08:18

Conducted Band Edge

GSM850 (GPRS class 8)

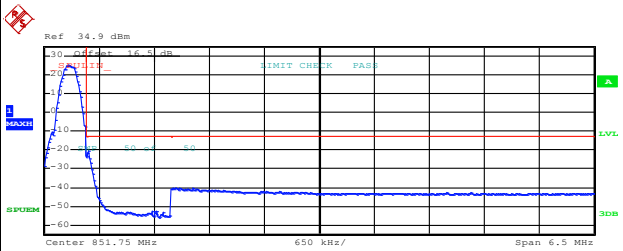
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
820.000 M	823.000 M	100.00 k	822.928000 M	-40.93	-27.93
823.000 M	824.000 M	3.00 k	823.988000 M	-22.65	-9.65
824.000 M	824.500 M	10.00 k	824.177000 M	24.84	-10.16

Date: 3.FEB.2016 14:35:49

Highest Band Edge

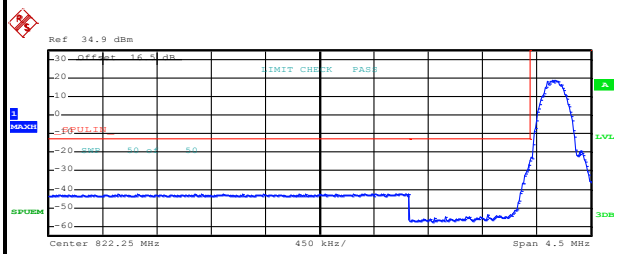


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
848.500 M	849.000 M	10.00 k	848.784500 M	25.10	-9.90
849.000 M	850.000 M	3.00 k	849.020000 M	-20.45	-7.45
850.000 M	855.000 M	100.00 k	850.050000 M	-40.09	-27.09

Date: 3.FEB.2016 14:37:26

GSM850 (EDGE class 8)

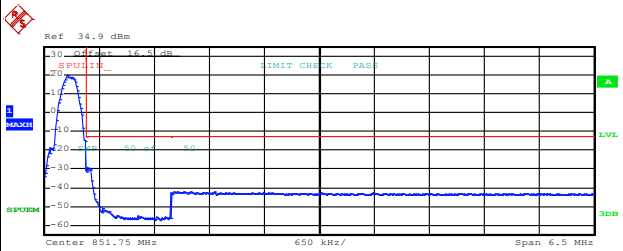
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
820.000 M	823.000 M	100.00 k	822.763000 M	-42.39	-29.39
823.000 M	824.000 M	3.00 k	823.988000 M	-26.78	-13.78
824.000 M	824.500 M	10.00 k	824.199000 M	18.85	-16.15

Date: 3.FEB.2016 15:14:16

Highest Band Edge

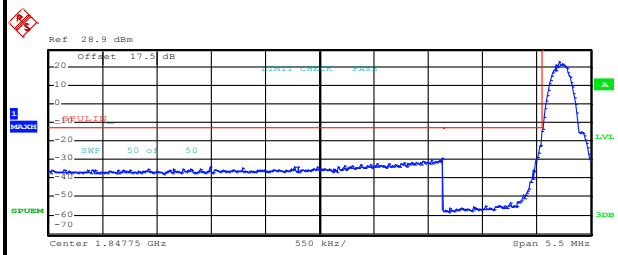


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
848.500 M	849.000 M	10.00 k	848.773500 M	19.85	-15.15
849.000 M	850.000 M	3.00 k	849.008000 M	-29.12	-16.12
850.000 M	855.000 M	100.00 k	850.030000 M	-42.06	-29.06

Date: 3.FEB.2016 15:16:08

GSM1900 (GPRS class 8)

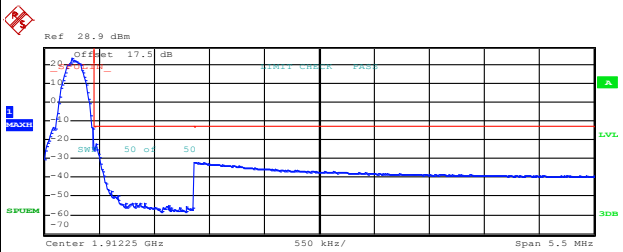
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.845 G	1.849 G	1.00 M	1.848992 G	-29.52	-16.52
1.849 G	1.850 G	3.00 k	1.849980 G	-23.05	-10.05
1.850 G	1.851 G	10.00 k	1.850181 G	22.85	-12.15

Date: 3.FEB.2016 15:36:26

Highest Band Edge

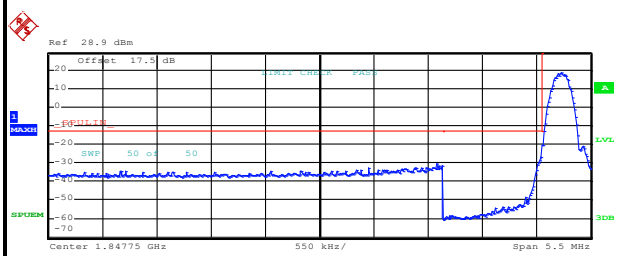


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.910 G	1.910 G	10.00 k	1.909776 G	23.22	-11.78
1.910 G	1.911 G	3.00 k	1.910012 G	-22.37	-9.37
1.911 G	1.915 G	1.00 M	1.911012 G	-31.98	-18.98

Date: 3.FEB.2016 15:38:03

GSM1900 (EDGE class 8)

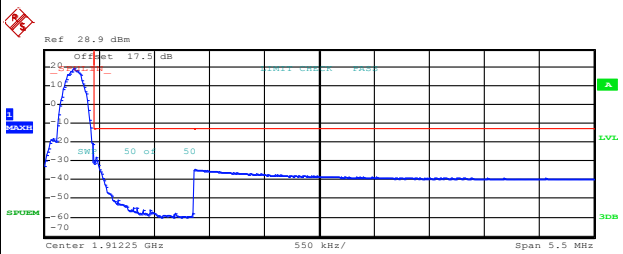
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.845 G	1.849 G	1.00 M	1.848932 G	-30.52	-17.52
1.849 G	1.850 G	3.00 k	1.849992 G	-27.16	-14.16
1.850 G	1.851 G	10.00 k	1.850205 G	18.81	-16.19

Date: 3.FEB.2016 16:11:28

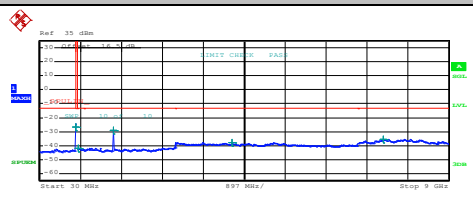
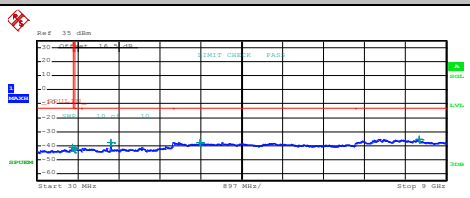
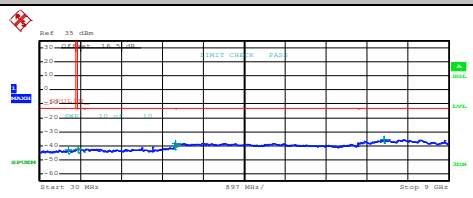
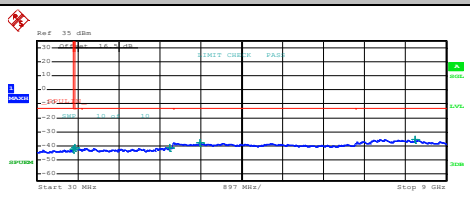
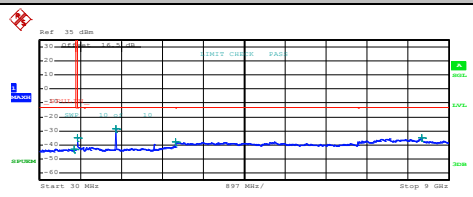
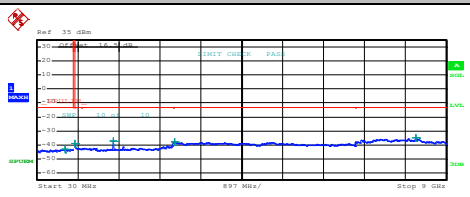
Highest Band Edge

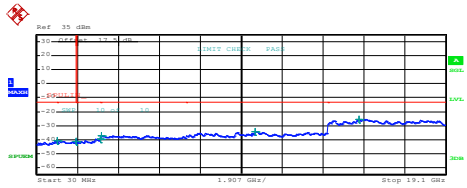
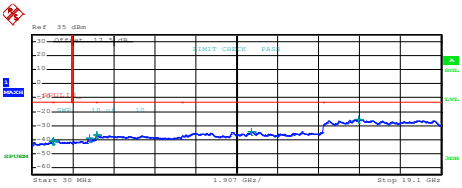
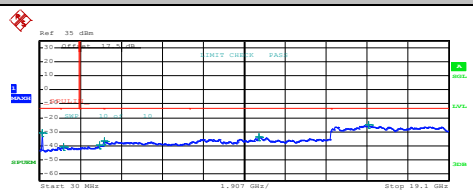
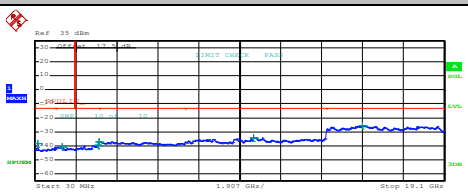
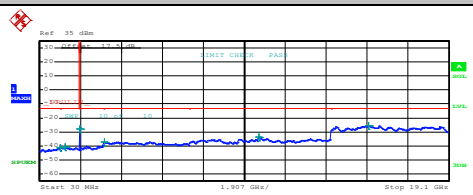
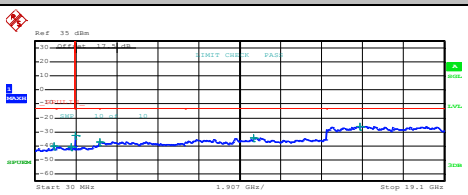


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.910 G	1.910 G	10.00 k	1.909796 G	19.08	-15.92
1.910 G	1.911 G	3.00 k	1.910008 G	-27.91	-14.91
1.911 G	1.915 G	1.00 M	1.911004 G	-34.73	-21.73

Date: 3.FEB.2016 16:13:08

Conducted Spurious Emission

GSM850 (GPRS class 8)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Start 30 MHz / 897 MHz/ Stop 9 GHz Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 820.000 M / 1.00 M / 819.802500 M / -26.81 / -13.81 855.000 M / 1.000 G / 1.00 M / 869.463751 M / -41.99 / -28.99 1.000 G / 3.000 G / 1.00 M / 1.648500 G / -29.09 / -16.09 3.000 G / 7.000 G / 1.00 M / 4.251000 G / -37.92 / -24.92 7.000 G / 9.000 G / 1.00 M / 7.568000 G / -35.30 / -22.30	Start 30 MHz / 897 MHz/ Stop 9 GHz Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 820.000 M / 1.00 M / 805.187500 M / -41.51 / -28.51 855.000 M / 1.000 G / 1.00 M / 861.815000 M / -42.19 / -29.19 1.000 G / 3.000 G / 1.00 M / 1.648500 G / -37.61 / -24.61 3.000 G / 7.000 G / 1.00 M / 3.601000 G / -37.55 / -24.55 7.000 G / 9.000 G / 1.00 M / 8.408500 G / -35.35 / -22.35
Date: 3.FEB.2016 14:48:55	Date: 3.FEB.2016 15:18:46
Middle Channel	**Middle Channel**
	
Start 30 MHz / 897 MHz/ Stop 9 GHz Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 820.000 M / 1.00 M / 655.087500 M / -43.01 / -30.01 855.000 M / 1.000 G / 1.00 M / 877.366252 M / -42.20 / -29.20 1.000 G / 3.000 G / 1.00 M / 2.983000 G / -40.09 / -27.09 3.000 G / 7.000 G / 1.00 M / 3.011000 G / -38.21 / -25.21 7.000 G / 9.000 G / 1.00 M / 7.574000 G / -35.24 / -22.24	Start 30 MHz / 897 MHz/ Stop 9 GHz Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 820.000 M / 1.00 M / 815.260000 M / -42.75 / -29.75 855.000 M / 1.000 G / 1.00 M / 855.145000 M / -41.51 / -28.51 1.000 G / 3.000 G / 1.00 M / 2.936500 G / -41.15 / -28.15 3.000 G / 7.000 G / 1.00 M / 3.608000 G / -37.99 / -24.99 7.000 G / 9.000 G / 1.00 M / 8.323500 G / -35.50 / -22.50
Date: 3.FEB.2016 14:49:52	Date: 3.FEB.2016 15:20:54
Highest Channel	**Highest Channel**
	
Start 30 MHz / 897 MHz/ Stop 9 GHz Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 820.000 M / 1.00 M / 791.165000 M / -42.86 / -29.86 855.000 M / 1.000 G / 1.00 M / 855.036250 M / -34.85 / -21.85 1.000 G / 3.000 G / 1.00 M / 1.698000 G / -28.61 / -15.61 3.000 G / 7.000 G / 1.00 M / 3.010000 G / -37.93 / -24.93 7.000 G / 9.000 G / 1.00 M / 8.413000 G / -34.96 / -21.96	Start 30 MHz / 897 MHz/ Stop 9 GHz Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 820.000 M / 1.00 M / 630.992500 M / -42.97 / -29.97 855.000 M / 1.000 G / 1.00 M / 855.072500 M / -38.93 / -25.93 1.000 G / 3.000 G / 1.00 M / 1.697500 G / -36.97 / -23.97 3.000 G / 7.000 G / 1.00 M / 3.051000 G / -38.00 / -25.00 7.000 G / 9.000 G / 1.00 M / 8.343500 G / -34.86 / -21.86
Date: 3.FEB.2016 14:50:46	Date: 3.FEB.2016 15:21:46

GSM1900 (GPRS class 8)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 1.000 G / 1.00 M / 989.330000 M / -40.49 / -27.49 1.000 G / 1.845 G / 1.00 M / 1.844789 G / -41.16 / -28.16 1.915 G / 3.000 G / 1.00 M / 2.992134 G / -39.45 / -26.45 3.000 G / 7.000 G / 1.00 M / 3.032000 G / -37.14 / -24.14 7.000 G / 13.600 G / 1.00 M / 10.224100 G / -34.02 / -21.02 13.600 G / 19.100 G / 1.00 M / 15.075375 G / -25.62 / -12.62	Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 1.000 G / 1.00 M / 997.817500 M / -41.45 / -28.45 1.000 G / 1.845 G / 1.00 M / 1.009506 G / -40.80 / -27.80 1.915 G / 3.000 G / 1.00 M / 2.698641 G / -38.94 / -25.94 3.000 G / 7.000 G / 1.00 M / 3.054000 G / -36.90 / -23.90 7.000 G / 13.600 G / 1.00 M / 10.235650 G / -34.17 / -21.17 13.600 G / 19.100 G / 1.00 M / 15.232125 G / -25.24 / -12.24
Date: 3.FEB.2016 15:47:18	Date: 3.FEB.2016 16:14:20
Middle Channel	**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 / -30.96 / -17.96 1.000 G / 1.845 G / 1.00 M / 1.119779 G / -40.86 / -27.86 1.915 G / 3.000 G / 1.00 M / 2.809854 G / -39.37 / -26.37 3.000 G / 7.000 G / 1.00 M / 3.035000 G / -36.69 / -23.69 7.000 G / 13.600 G / 1.00 M / 10.236475 G / -33.96 / -20.96 13.600 G / 19.100 G / 1.00 M / 15.361375 G / -24.78 / -11.78	Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 1.000 G / 1.00 M / 142.035000 M / -38.19 / -25.19 1.000 G / 1.845 G / 1.00 M / 1.276526 G / -40.71 / -27.71 1.915 G / 3.000 G / 1.00 M / 2.951989 G / -39.28 / -26.28 3.000 G / 7.000 G / 1.00 M / 3.016000 G / -37.11 / -24.11 7.000 G / 13.600 G / 1.00 M / 10.208425 G / -34.11 / -21.11 13.600 G / 19.100 G / 1.00 M / 15.281625 G / -25.38 / -12.38
Date: 3.FEB.2016 15:48:10	Date: 3.FEB.2016 16:15:10
Highest Channel	**Highest Channel**
	
Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 1.000 G / 1.00 M / 999.757500 M / -41.23 / -28.23 1.000 G / 1.845 G / 1.00 M / 1.223502 G / -40.56 / -27.56 1.915 G / 3.000 G / 1.00 M / 1.915271 G / -28.01 / -15.01 3.000 G / 7.000 G / 1.00 M / 3.046000 G / -37.02 / -24.02 7.000 G / 13.600 G / 1.00 M / 10.248025 G / -33.85 / -20.85 13.600 G / 19.100 G / 1.00 M / 15.375813 G / -25.56 / -12.56	Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 1.000 G / 1.00 M / 890.147500 M / -40.40 / -27.40 1.000 G / 1.845 G / 1.00 M / 1.720574 G / -40.50 / -27.50 1.915 G / 3.000 G / 1.00 M / 1.915271 G / -32.44 / -19.44 3.000 G / 7.000 G / 1.00 M / 3.030000 G / -37.00 / -24.00 7.000 G / 13.600 G / 1.00 M / 10.207600 G / -34.47 / -21.47 13.600 G / 19.100 G / 1.00 M / 15.168875 G / -25.84 / -12.84
Date: 3.FEB.2016 15:49:22	Date: 3.FEB.2016 16:17:11

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	0.0108	0.0000	PASS
40	Normal Voltage	0.0060	0.0024	
30	Normal Voltage	0.0072	0.0060	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0036	0.0012	
0	Normal Voltage	0.0060	0.0048	
-10	Normal Voltage	0.0048	0.0012	
-20	Normal Voltage	0.0096	0.0012	
-30	Normal Voltage	0.0084	0.0036	
20	Maximum Voltage	0.0072	0.0024	
20	Normal Voltage	0.0024	0.0012	
20	Battery End Point	0.0048	0.0060	

Note:

1. Normal Voltage = 3.85 V. ；Battery End Point (BEP) = 3.65 V.；Maximum Voltage =4.4 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Test Conditions	Middle Channel	GSM1900 (GPRS class 8)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0021	0.0037	PASS
40	Normal Voltage	0.0043	0.0016	
30	Normal Voltage	0.0016	0.0027	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0011	0.0027	
0	Normal Voltage	0.0011	0.0005	
-10	Normal Voltage	0.0016	0.0032	
-20	Normal Voltage	0.0005	0.0011	
-30	Normal Voltage	0.0005	0.0016	
20	Maximum Voltage	0.0016	0.0000	
20	Normal Voltage	0.0005	0.0016	
20	Battery End Point	0.0027	0.0011	

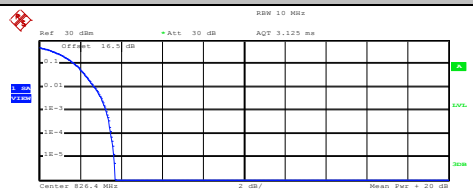
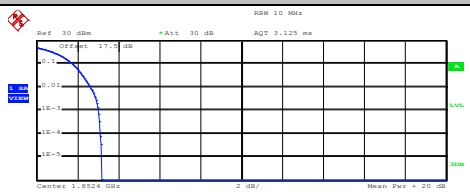
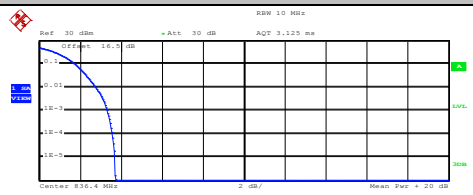
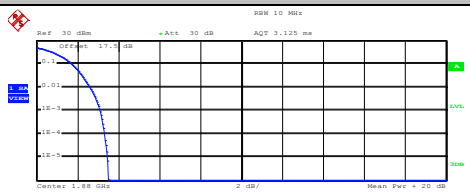
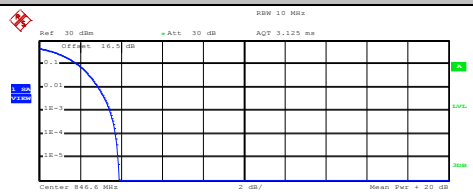
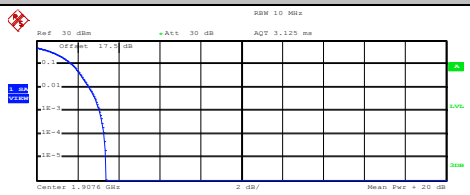
Note:

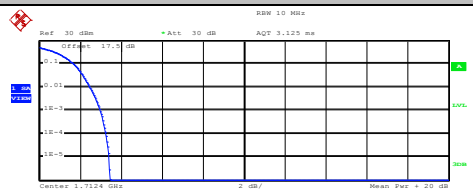
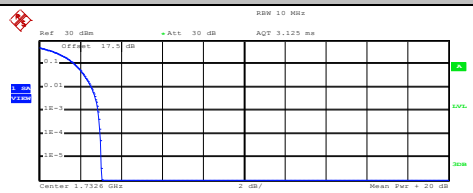
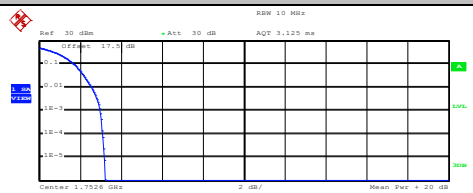
1. Normal Voltage = 3.85 V. ；Battery End Point (BEP) = 3.65 V.；Maximum Voltage =4.4 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

A2. WCDMA

Peak-to-Average Ratio

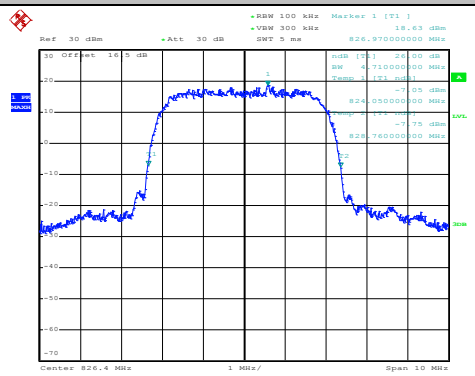
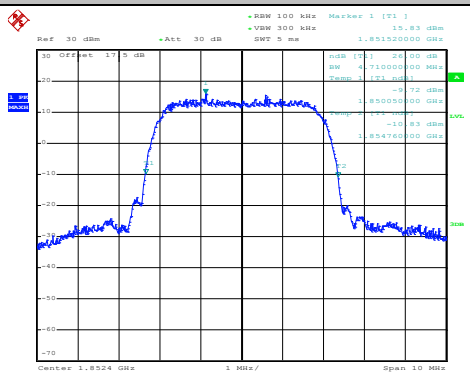
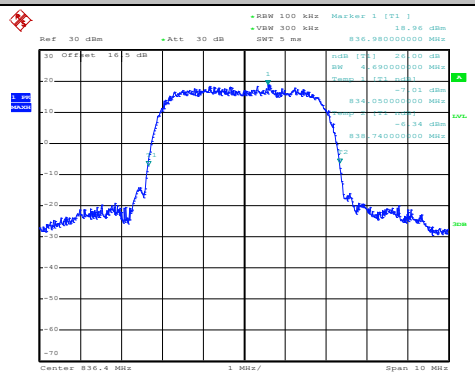
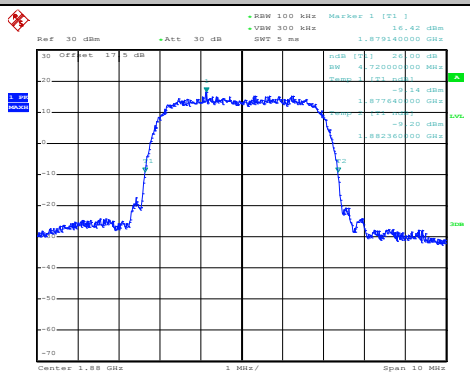
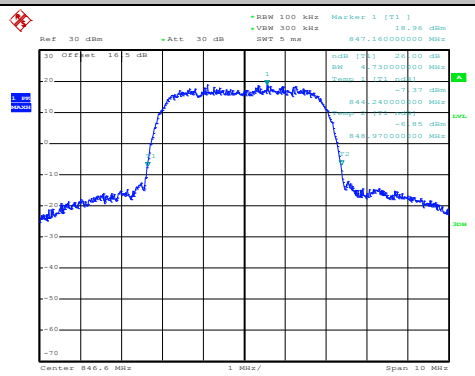
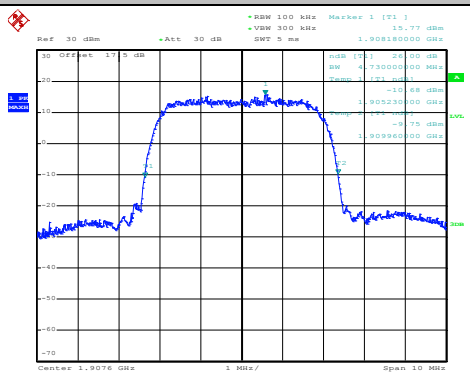
Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	3.28	3.04	3.00	PASS
Middle CH	3.32	3.12	2.88	
Highest CH	3.44	3.08	3.00	

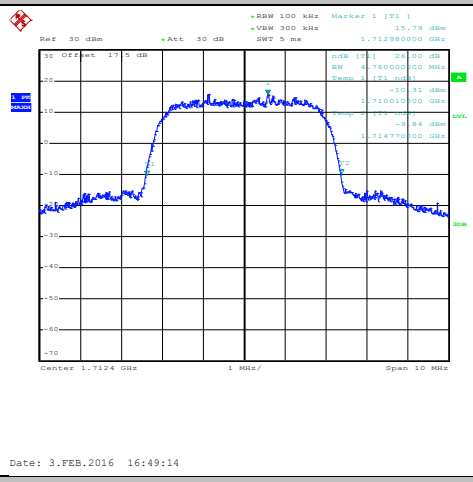
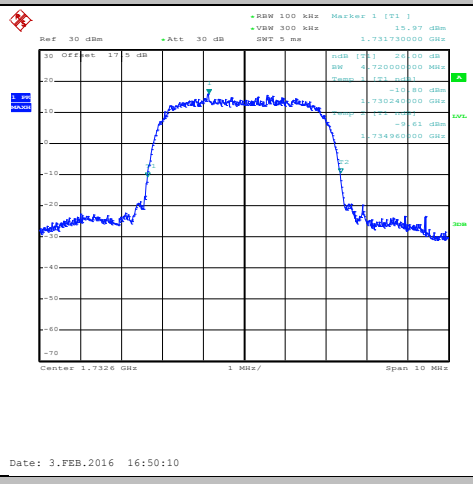
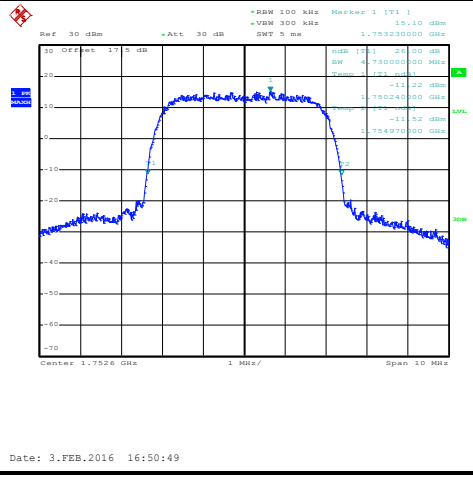
WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 22.66 dBm Peak 26.37 dBm Crest 3.71 dB 10 % 1.72 dB 1 % 2.72 dB .1 % 3.28 dB .01 % 3.52 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 19.66 dBm Peak 22.84 dBm Crest 3.18 dB 10 % 1.76 dB 1 % 2.64 dB .1 % 3.04 dB .01 % 3.12 dB
Date: 3.FEB.2016 18:08:54	Date: 3.FEB.2016 16:43:51
Middle Channel	**Middle Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.01 dBm Peak 26.72 dBm Crest 3.72 dB 10 % 1.76 dB 1 % 2.76 dB .1 % 3.32 dB .01 % 3.56 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 20.33 dBm Peak 23.83 dBm Crest 3.50 dB 10 % 1.72 dB 1 % 2.60 dB .1 % 3.12 dB .01 % 3.32 dB
Date: 3.FEB.2016 18:09:17	Date: 3.FEB.2016 16:44:10
Highest Channel	**Highest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.17 dBm Peak 27.08 dBm Crest 3.91 dB 10 % 1.88 dB 1 % 2.88 dB .1 % 3.44 dB .01 % 3.72 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 19.95 dBm Peak 23.34 dBm Crest 3.39 dB 10 % 1.72 dB 1 % 2.56 dB .1 % 3.08 dB .01 % 3.28 dB
Date: 3.FEB.2016 18:09:34	Date: 3.FEB.2016 16:44:28

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
 RBW 10 MHz Ref 30 dBm Att 30 dB AQT 3.125 ms Offset 17.5 dB Center 1.7124 GHz 2 dB/ Mean Pwr + 20 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 19.54 dBm Peak 22.98 dBm Crest 3.44 dB 10 % 1.68 dB 1 % 2.48 dB .1 % 3.00 dB .01 % 3.24 dB Date: 3.FEB.2016 17:18:06	
Middle Channel	
 RBW 10 MHz Ref 30 dBm Att 30 dB AQT 3.125 ms Offset 17.5 dB Center 1.7326 GHz 2 dB/ Mean Pwr + 20 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 19.67 dBm Peak 22.70 dBm Crest 3.04 dB 10 % 1.72 dB 1 % 2.56 dB .1 % 2.88 dB .01 % 3.00 dB Date: 3.FEB.2016 17:18:25	
Highest Channel	
 RBW 10 MHz Ref 30 dBm Att 30 dB AQT 3.125 ms Offset 17.5 dB Center 1.7526 GHz 2 dB/ Mean Pwr + 20 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 19.70 dBm Peak 22.91 dBm Crest 3.21 dB 10 % 1.72 dB 1 % 2.56 dB .1 % 3.00 dB .01 % 3.12 dB Date: 3.FEB.2016 17:19:04	

26dB Bandwidth

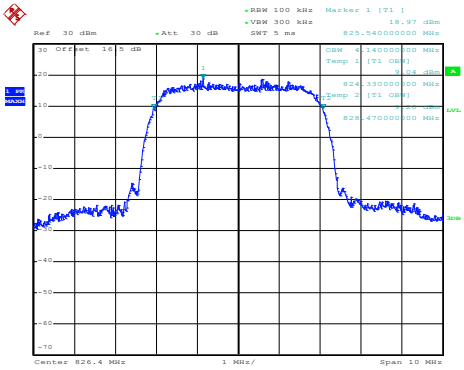
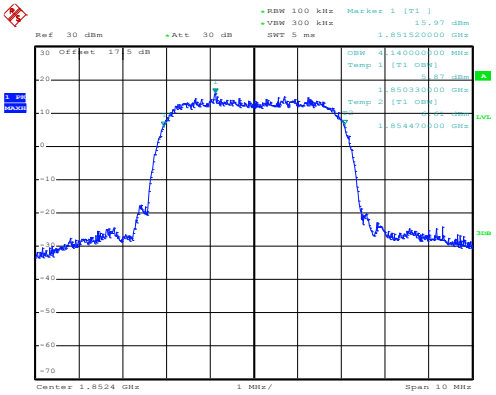
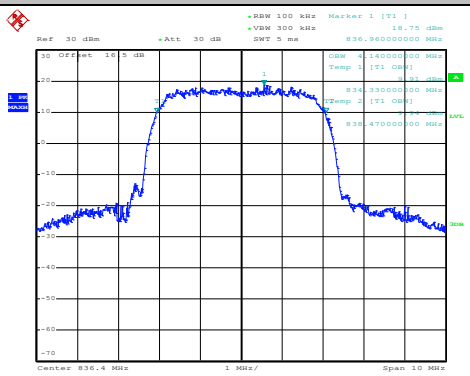
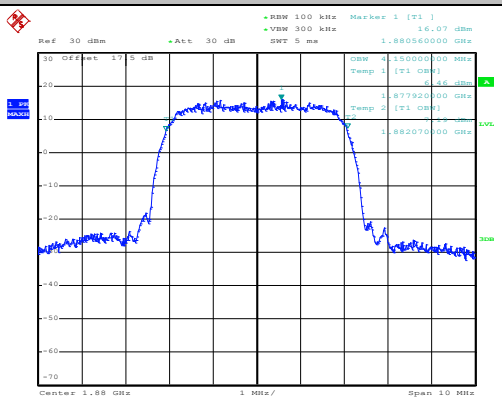
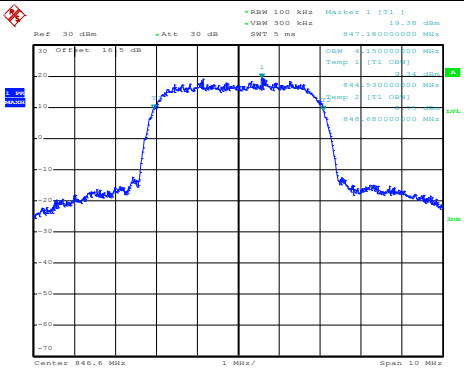
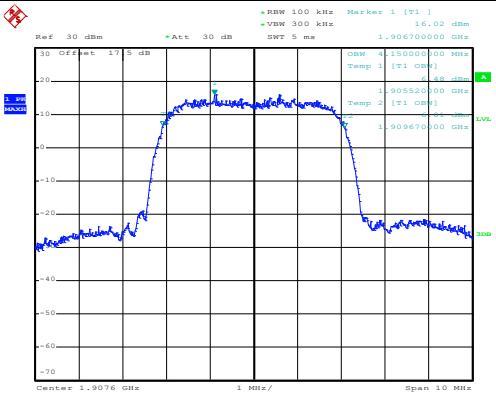
Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.71	4.71	4.76
Middle CH	4.69	4.72	4.72
Highest CH	4.73	4.73	4.73

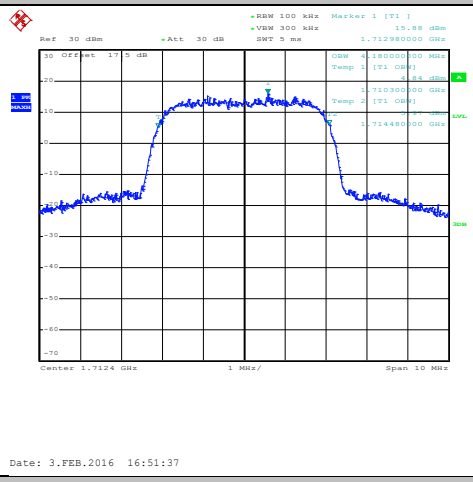
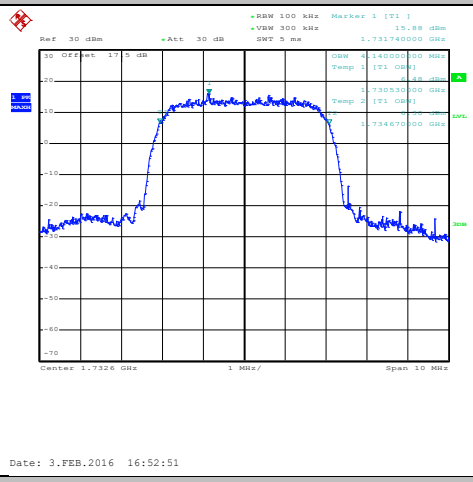
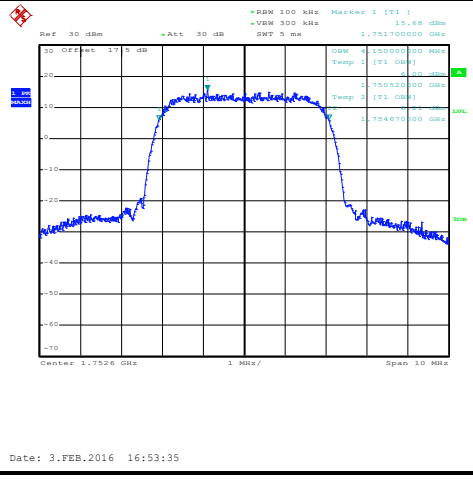
WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Date: 3.FEB.2016 17:32:24	Date: 3.FEB.2016 16:26:16
Middle Channel	**Middle Channel**
	
Date: 3.FEB.2016 17:32:59	Date: 3.FEB.2016 16:26:53
Highest Channel	**Highest Channel**
	
Date: 3.FEB.2016 17:33:39	Date: 3.FEB.2016 16:27:29

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

Occupied Bandwidth

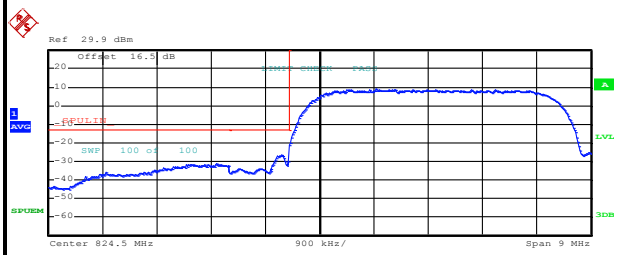
Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.14	4.14	4.18
Middle CH	4.14	4.15	4.14
Highest CH	4.15	4.15	4.15

WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Date: 3.FEB.2016 17:51:00	Date: 3.FEB.2016 16:37:38
Middle Channel	**Middle Channel**
	
Date: 3.FEB.2016 17:51:37	Date: 3.FEB.2016 16:38:25
Highest Channel	**Highest Channel**
	
Date: 3.FEB.2016 17:52:14	Date: 3.FEB.2016 16:39:36

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
 Date: 3.FEB.2016 16:51:37	
Middle Channel	
 Date: 3.FEB.2016 16:52:51	
Highest Channel	
 Date: 3.FEB.2016 16:53:35	

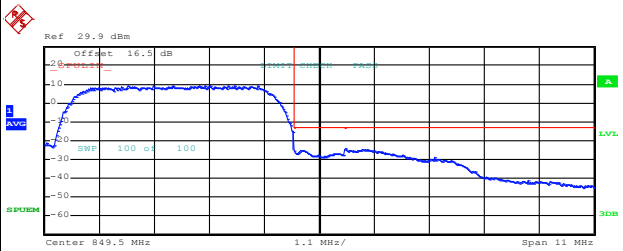
Conducted Band Edge

WCDMA Band V (RMC 12.2Kbps)	
Lowest Band Edge	**Highest Band Edge**



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
820.000 M	823.000 M	100.00 k	822.793000 M	-31.47	-18.47
823.000 M	824.000 M	50.00 k	823.868000 M	-26.65	-13.65
824.000 M	829.000 M	100.00 k	825.440000 M	9.31	-25.69

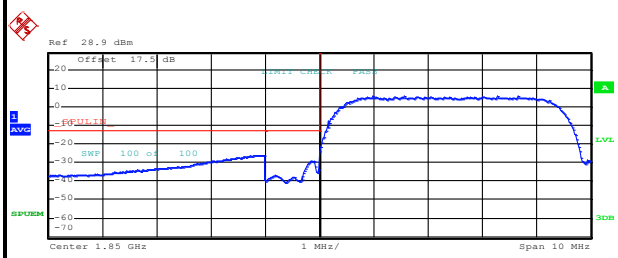
Date: 3.FEB.2016 17:56:38



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
844.000 M	849.000 M	100.00 k	845.670000 M	9.34	-25.66
849.000 M	850.000 M	50.00 k	849.172000 M	-25.23	-12.23
850.000 M	855.000 M	100.00 k	850.020000 M	-24.48	-11.48

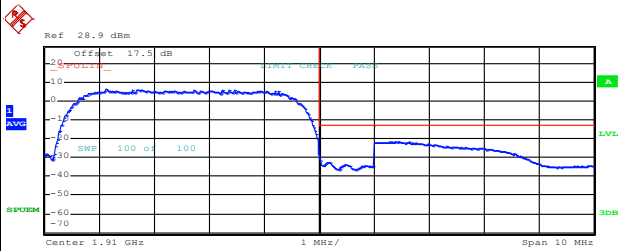
Date: 3.FEB.2016 18:03:36

WCDMA Band II (RMC 12.2Kbps)	
Lowest Band Edge	**Highest Band Edge**



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.845 G	1.849 G	1.00 M	1.848892 G	-26.30	-13.30
1.849 G	1.850 G	50.00 k	1.849844 G	-29.29	-16.29
1.850 G	1.855 G	100.00 k	1.851560 G	5.88	-29.12

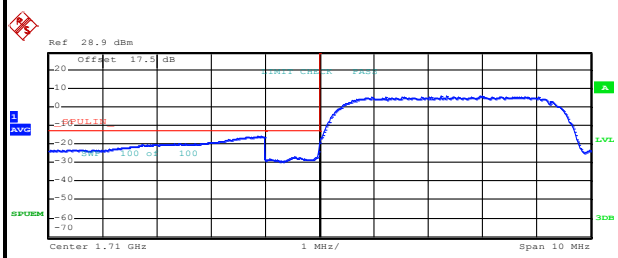
Date: 3.FEB.2016 16:32:04



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.905 G	1.910 G	100.00 k	1.906125 G	6.14	-28.86
1.910 G	1.911 G	50.00 k	1.910004 G	-29.24	-16.24
1.911 G	1.915 G	1.00 M	1.911268 G	-21.75	-8.75

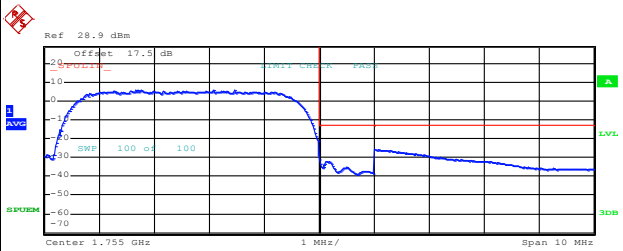
Date: 3.FEB.2016 16:36:32

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Band Edge	**Highest Band Edge**



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708852 G	-15.93	-2.93
1.709 G	1.710 G	50.00 k	1.709996 G	-24.35	-11.35
1.710 G	1.715 G	100.00 k	1.712235 G	5.79	-29.21

Date: 3.FEB.2016 16:56:37



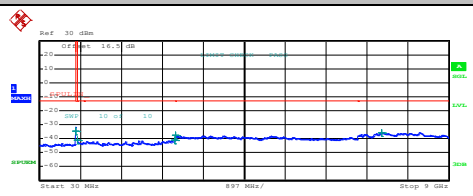
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.751655 G	5.73	-29.27
1.755 G	1.756 G	50.00 k	1.755004 G	-30.66	-17.66
1.756 G	1.760 G	1.00 M	1.756072 G	-25.67	-12.67

Date: 3.FEB.2016 17:10:48

Conducted Spurious Emission

WCDMA Band V (RMC 12.2Kbps)

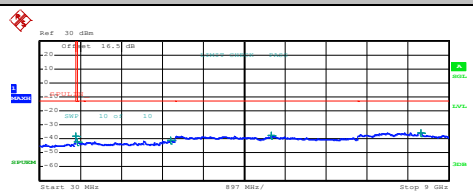
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	819.605000 M	-36.29	-21.39
855.000 M	1.000 G	1.00 M	863.700001 M	-41.16	-28.16
1.000 G	3.000 G	1.00 M	2.983000 G	-40.93	-27.93
3.000 G	7.000 G	1.00 M	3.001000 G	-37.30	-24.30
7.000 G	9.000 G	1.00 M	7.526500 G	-35.54	-22.54

Date: 3.FEB.2016 18:06:35

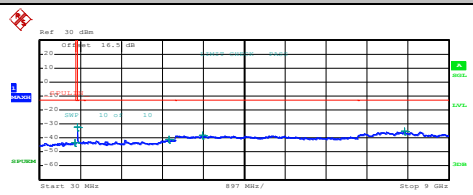
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	819.210000 M	-38.42	-25.42
855.000 M	1.000 G	1.00 M	856.015000 M	-42.29	-29.29
1.000 G	3.000 G	1.00 M	2.908000 G	-41.14	-28.14
3.000 G	7.000 G	1.00 M	5.108000 G	-37.67	-24.67
7.000 G	9.000 G	1.00 M	8.387000 G	-35.68	-22.68

Date: 3.FEB.2016 18:07:28

Highest Channel

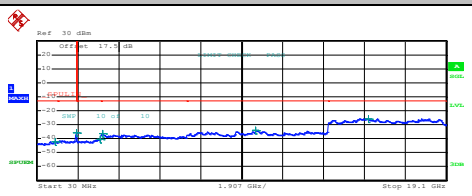


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	794.720000 M	-43.30	-30.30
855.000 M	1.000 G	1.00 M	855.108750 M	-32.00	-19.00
1.000 G	3.000 G	1.00 M	2.858000 G	-41.31	-28.31
3.000 G	7.000 G	1.00 M	3.601000 G	-37.91	-24.91
7.000 G	9.000 G	1.00 M	8.030000 G	-35.44	-22.44

Date: 3.FEB.2016 18:08:21

WCDMA Band II (RMC 12.2Kbps)

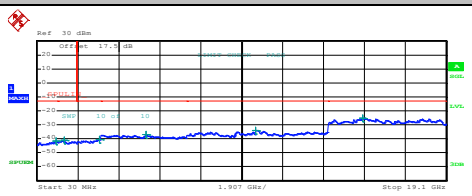
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	853.530000 M	-42.03	-29.03
1.000 G	1.845 G	1.00 M	1.843099 G	-35.91	-22.91
1.915 G	3.000 G	1.00 M	2.982911 G	-40.36	-27.36
3.000 G	7.000 G	1.00 M	3.087000 G	-36.17	-23.17
7.000 G	13.600 G	1.00 M	10.219150 G	-34.27	-21.27
13.600 G	19.100 G	1.00 M	15.459000 G	-25.66	-12.66

Date: 3.FEB.2016 16:41:34

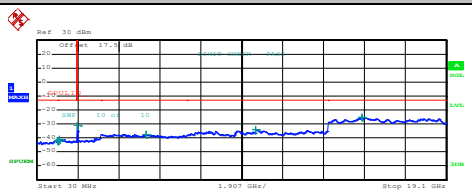
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	923.127500 M	-41.54	-28.54
1.000 G	1.845 G	1.00 M	1.283498 G	-41.20	-28.20
1.915 G	3.000 G	1.00 M	2.925677 G	-40.22	-27.22
3.000 G	7.000 G	1.00 M	5.108000 G	-37.06	-24.06
7.000 G	13.600 G	1.00 M	10.215025 G	-34.05	-21.05
13.600 G	19.100 G	1.00 M	15.211500 G	-25.17	-12.17

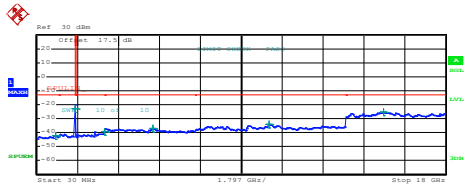
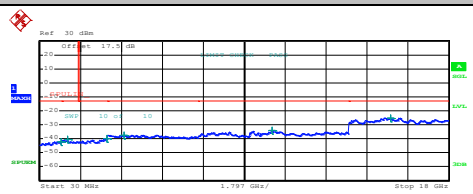
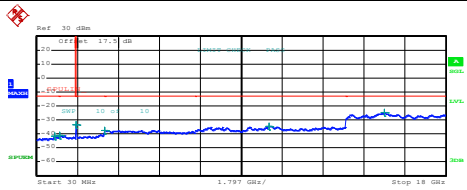
Date: 3.FEB.2016 16:42:26

Highest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	972.112500 M	-42.17	-29.17
1.000 G	1.845 G	1.00 M	1.076684 G	-40.99	-27.99
1.915 G	3.000 G	1.00 M	1.915542 G	-30.97	-17.97
3.000 G	7.000 G	1.00 M	5.093000 G	-37.31	-24.31
7.000 G	13.600 G	1.00 M	10.221625 G	-34.31	-21.31
13.600 G	19.100 G	1.00 M	15.173688 G	-25.30	-12.30

Date: 3.FEB.2016 16:43:20

WCDMA Band IV (RMC 12.2Kbps)	
Lowest Channel	
 Start 30 MHz 1.797 GHz/ Stop 18 GHz Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M – 1.000 G / 1.00 M / 846.497500 M / -42.22 / -29.22 1.000 G – 1.705 G / 1.00 M / 1.704824 G / -22.83 / -9.83 1.760 G – 3.000 G / 1.00 M / 2.996590 G / -39.12 / -26.12 3.000 G – 7.000 G / 1.00 M / 5.143000 G / -36.88 / -23.88 7.000 G – 13.600 G / 1.00 M / 10.230700 G / -34.28 / -21.28 13.600 G – 18.000 G / 1.00 M / 15.267600 G / -25.11 / -12.11 Date: 3.FEB.2016 17:21:29	
Middle Channel	
 Start 30 MHz 1.797 GHz/ Stop 18 GHz Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M – 1.000 G / 1.00 M / 955.380000 M / -41.98 / -28.98 1.000 G – 1.705 G / 1.00 M / 1.240581 G / -40.71 / -27.71 1.760 G – 3.000 G / 1.00 M / 2.981090 G / -40.13 / -27.13 3.000 G – 7.000 G / 1.00 M / 3.746000 G / -37.40 / -24.40 7.000 G – 13.600 G / 1.00 M / 10.234825 G / -33.99 / -20.99 13.600 G – 18.000 G / 1.00 M / 15.440850 G / -25.07 / -12.07 Date: 3.FEB.2016 17:22:23	
Highest Channel	
 Start 30 MHz 1.797 GHz/ Stop 18 GHz Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M – 1.000 G / 1.00 M / 808.910000 M / -41.62 / -28.62 1.000 G – 1.705 G / 1.00 M / 1.048645 G / -41.19 / -28.19 1.760 G – 3.000 G / 1.00 M / 1.760620 G / -33.69 / -20.69 3.000 G – 7.000 G / 1.00 M / 3.004000 G / -37.34 / -24.34 7.000 G – 13.600 G / 1.00 M / 10.226575 G / -34.34 / -21.34 13.600 G – 18.000 G / 1.00 M / 15.307750 G / -24.72 / -11.72 Date: 3.FEB.2016 17:23:17	

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	0.0012	PASS
40	Normal Voltage	0.0012	
30	Normal Voltage	0.0132	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0024	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0048	
-30	Normal Voltage	0.0024	
20	Maximum Voltage	0.0036	
20	Normal Voltage	0.0024	
20	Battery End Point	0.0024	

Note:

1. Normal Voltage = 3.85 V. ；Battery End Point (BEP) = 3.65 V.；Maximum Voltage =4.4 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0000	PASS
40	Normal Voltage	0.0005	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0005	
-10	Normal Voltage	0.0005	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0011	
20	Maximum Voltage	0.0005	
20	Normal Voltage	0.0005	
20	Battery End Point	0.0016	

Note:

1. Normal Voltage = 3.85 V. ；Battery End Point (BEP) = 3.65 V.；Maximum Voltage =4.4 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Test Conditions	Middle Channel	WCDMA Band IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0017	PASS
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0006	
0	Normal Voltage	0.0006	
-10	Normal Voltage	0.0017	
-20	Normal Voltage	0.0012	
-30	Normal Voltage	0.0029	
20	Maximum Voltage	0.0017	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage = 3.85 V. ；Battery End Point (BEP) = 3.65 V.；Maximum Voltage =4.4 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

Appendix B. Test Results of Radiated Test

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	-63.12	-13	-50.12	-67.84	-64.88	0.98	4.89	H
	2472	-56.16	-13	-43.16	-65.46	-58.04	1.28	5.32	H
	3296	-60.48	-13	-47.48	-72.99	-63.89	1.54	7.10	H
	1648	-64.47	-13	-51.47	-67.79	-66.23	0.98	4.89	V
	2472	-56.55	-13	-43.55	-66.94	-58.43	1.28	5.32	V
	3296	-59.14	-13	-46.14	-70.55	-62.55	1.54	7.10	V
Middle	1672	-61.55	-13	-48.55	-66.16	-63.23	0.99	4.82	H
	2512	-51.87	-13	-38.87	-61.4	-53.84	1.29	5.41	H
	3344	-62.23	-13	-49.23	-74.37	-65.84	1.56	7.31	H
	1672	-65.74	-13	-52.74	-68.8	-67.42	0.99	4.82	V
	2512	-63.03	-13	-50.03	-64.11	-65	1.29	5.41	V
	3344	-63.51	-13	-50.51	-74.94	-67.12	1.56	7.31	V
Highest	1696	-58.24	-13	-45.24	-62.99	-59.84	1.00	4.75	H
	2544	-51.89	-13	-38.89	-61.49	-53.87	1.30	5.44	H
	3392	-58.40	-13	-45.40	-70.68	-62.2	1.57	7.52	H
	1696	-61.12	-13	-48.12	-64.9	-62.72	1.00	4.75	V
	2544	-55.12	-13	-42.12	-65.38	-57.1	1.30	5.44	V
	3392	-59.32	-13	-46.32	-71.13	-63.12	1.57	7.52	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	-64.62	-13	-51.62	-68.83	-66.38	0.98	4.89	H
	2472	-57.26	-13	-44.26	-66.56	-59.14	1.28	5.32	H
	3296	-64.47	-13	-51.47	-76.73	-67.88	1.54	7.10	H
	1648	-65.29	-13	-52.29	-69.19	-67.05	0.98	4.89	V
	2472	-59.94	-13	-46.94	-69.55	-61.82	1.28	5.32	V
	3296	-64.10	-13	-51.10	-76.5	-67.51	1.54	7.10	V
Middle	1672	-63.92	-13	-50.92	-68.56	-65.6	0.99	4.82	H
	2512	-61.55	-13	-48.55	-71.12	-63.52	1.29	5.41	H
	3344	-64.21	-13	-51.21	-76.42	-67.82	1.56	7.31	H
	1672	-66.21	-13	-53.21	-69.29	-67.89	0.99	4.82	V
	2512	-54.31	-13	-41.31	-64.57	-56.28	1.29	5.41	V
	3344	-65.02	-13	-52.02	-76.45	-68.63	1.56	7.31	V
Highest	1696	-62.68	-13	-49.68	-67.27	-64.28	1.00	4.75	H
	2544	-60.96	-13	-47.96	-70.29	-62.94	1.30	5.44	H
	3393	-64.52	-13	-51.52	-76.64	-68.33	1.57	7.53	H
	1696	-62.85	-13	-49.85	-66.51	-64.45	1.00	4.75	V
	2544	-63.41	-13	-50.41	-73.69	-67.54	1.30	5.44	V
	3393	-64.53	-13	-51.53	-76.22	-70.49	1.57	7.53	V

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

GSM1900 (GPRS 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	3700	-57.99	-13	-44.99	-72.13	-64.56	1.67	8.24	H
	5548	-42.36	-13	-29.36	-62.73	-49.43	2.65	9.72	H
	7403	-48.57	-13	-35.57	-73.59	-57.72	2.46	11.61	H
	9251	-41.19	-13	-28.19	-69.98	-51.25	2.54	12.60	H
	11102	-49.82	-13	-36.82	-79.71	-59.59	2.69	12.46	H
	12954	-40.04	-13	-27.04	-77.8	-50.07	2.92	12.94	H
	14807	-38.70	-13	-25.70	-73.2	-48.55	3.52	13.37	H
	16656	-37.67	-13	-24.67	-78.17	-46.13	3.93	12.39	H
	3700	-60.24	-13	-47.24	-74.78	-66.81	1.67	8.24	V
	5548	-43.19	-13	-30.19	-62.09	-50.26	2.65	9.72	V
	7403	-52.29	-13	-39.29	-76.28	-61.44	2.46	11.61	V
	9251	-42.71	-13	-29.71	-68.87	-52.77	2.54	12.60	V
	11102	-49.34	-13	-36.34	-79.74	-59.11	2.69	12.46	V
	12954	-40.83	-13	-27.83	-77.99	-50.86	2.92	12.94	V
	14807	-33.22	-13	-20.22	-68.74	-43.07	3.52	13.37	V
	16656	-31.78	-13	-18.78	-72.99	-40.24	3.93	12.39	V
Middle	3763	-56.23	-13	-43.23	-71.15	-62.86	1.69	8.32	H
	5639	-39.16	-13	-26.16	-59.56	-46.21	2.71	9.76	H
	7522	-45.58	-13	-32.58	-70.81	-54.97	2.42	11.81	H
	9398	-39.08	-13	-26.08	-68.65	-49.05	2.57	12.54	H
	11282	-48.41	-13	-35.41	-79.23	-58.11	2.68	12.39	H
	13163	-39.62	-13	-26.62	-77.62	-49.88	2.97	13.23	H
	15044	-31.21	-13	-18.21	-67.54	-41.26	3.62	13.66	H
	16916	-38.90	-13	-25.90	-79.12	-47.71	3.89	12.70	H
	3763	-60.56	-13	-47.56	-74.48	-67.19	1.69	8.32	V
	5639	-41.29	-13	-28.29	-60.15	-48.34	2.71	9.76	V
	7522	-49.76	-13	-36.76	-73.7	-59.15	2.42	11.81	V
	9398	-45.10	-13	-32.10	-71.4	-55.07	2.57	12.54	V
	11282	-51.69	-13	-38.69	-80.42	-61.39	2.68	12.39	V
	13163	-44.57	-13	-31.57	-78.65	-54.83	2.97	13.23	V
	15044	-31.46	-13	-18.46	-67.46	-41.51	3.62	13.66	V
	16916	-36.21	-13	-23.21	-75.7	-45.02	3.89	12.70	V

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

GSM1900 (GPRS 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)
Highest	3819	-54.77	-13	-41.77	-69.49	-61.45	1.70	8.38	H
	5730	-39.25	-13	-26.25	59.9	-46.28	2.76	9.79	H
	7641	-42.54	-13	-29.54	67.69	-52.04	2.38	11.88	H
	9552	-41.05	-13	-28.05	70.84	-50.92	2.60	12.47	H
	11463	-48.58	-13	-35.58	-78.99	-58.21	2.68	12.31	H
	13372	-40.56	-13	-27.56	-77.91	-51.06	3.02	13.52	H
	15282	-32.53	-13	-19.53	-70.08	-42.81	3.72	13.99	H
	17191	-35.03	-13	-22.03	-77.76	-44.51	3.85	13.33	H
	3819	-57.47	-13	-44.47	-71.41	-64.15	1.70	8.38	V
	5730	-45.04	-13	-32.04	-64.56	-52.07	2.76	9.79	V
	7641	-48.61	-13	-35.61	-72.54	-58.11	2.38	11.88	V
	9552	-47.38	-13	-34.38	-73.69	-57.25	2.60	12.47	V
	11463	-49.50	-13	-36.50	-78.89	-59.13	2.68	12.31	V
	13372	-41.57	-13	-28.57	-77.3	-52.07	3.02	13.52	V
	15282	-28.88	-13	-15.88	-64.44	-39.16	3.72	13.99	V
	17191	-33.84	-13	-20.84	-75.83	-43.32	3.85	13.33	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	3700	-61.80	-13	-48.80	-76.12	-68.37	1.67	8.24	H
	5548	-45.21	-13	-32.21	-65.74	-52.28	2.65	9.72	H
	7403	-50.86	-13	-37.86	-76.28	-60.01	2.46	11.61	H
	9251	-47.13	-13	-34.13	-76.08	-57.19	2.54	12.60	H
	11102	-48.34	-13	-35.34	-78.69	-58.11	2.69	12.46	H
	12954	-41.90	-13	-28.90	-78.8	-51.93	2.92	12.94	H
	14807	-42.92	-13	-29.92	-77.69	-52.77	3.52	13.37	H
	16656	-37.78	-13	-24.78	78.69	-46.24	3.93	12.39	H
	3700	-62.38	-13	-49.38	-76.7	-68.95	1.67	8.24	V
	5548	-50.97	-13	-37.97	-69.52	-58.04	2.65	9.72	V
	7403	-54.13	-13	-41.13	-78.48	-63.28	2.46	11.61	V
	9251	-49.67	-13	-36.67	-75.43	-59.73	2.54	12.60	V
	11102	-50.94	-13	-37.94	-79.36	-60.71	2.69	12.46	V
	12954	-45.04	-13	-32.04	-79.23	-55.07	2.92	12.94	V
	14807	-41.96	-13	-28.96	-77.48	-51.81	3.52	13.37	V
	16656	-40.80	-13	-27.80	-78.83	-49.26	3.93	12.39	V
Middle	3763	-60.19	-13	-47.19	-75.43	-66.82	1.69	8.32	H
	5639	-45.03	-13	-32.03	-65.32	-52.08	2.71	9.76	H
	7522	-50.75	-13	-37.75	-75.95	-60.14	2.42	11.81	H
	9398	-43.83	-13	-30.83	-72.61	-53.8	2.57	12.54	H
	11282	-47.83	-13	-34.83	-77.76	-57.53	2.68	12.39	H
	13163	-40.00	-13	-27.00	-78.09	-50.26	2.97	13.23	H
	15044	-40.82	-13	-27.82	-75.96	-50.87	3.62	13.66	H
	16916	-38.58	-13	-25.58	-79.26	-47.39	3.89	12.70	H
	3763	-61.10	-13	-48.10	-75.62	-67.73	1.69	8.32	V
	5639	-47.04	-13	-34.04	-66.01	-54.09	2.71	9.76	V
	7522	-54.47	-13	-41.47	-78.76	-63.86	2.42	11.81	V
	9398	-49.27	-13	-36.27	-74.53	-59.24	2.57	12.54	V
	11282	-51.82	-13	-38.82	-80.18	-61.52	2.68	12.39	V
	13163	-42.81	-13	-29.81	-77.09	-53.07	2.97	13.23	V
	15044	-38.80	-13	-25.80	-74.85	-48.85	3.62	13.66	V
	16916	-39.30	-13	-26.30	-78.84	-48.11	3.89	12.70	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)
Highest	3819	-56.60	-13	-43.60	-70.89	-63.28	1.70	8.38	H
	5730	-45.41	-13	-32.41	-65.31	-52.44	2.76	9.79	H
	7641	-49.43	-13	-36.43	-73.83	-58.93	2.38	11.88	H
	9552	-44.19	-13	-31.19	-73.77	-54.06	2.60	12.47	H
	11463	-48.63	-13	-35.63	-78.39	-58.26	2.68	12.31	H
	13372	-38.83	-13	-25.83	-76.54	-49.33	3.02	13.52	H
	15282	-38.69	-13	-25.69	-75.79	-48.97	3.72	13.99	H
	17191	-36.55	-13	-23.55	-78.34	-46.03	3.85	13.33	H
	3819	-60.15	-13	-47.15	-74.17	-66.83	1.70	8.38	V
	5730	-50.03	-13	-37.03	-68.99	-57.06	2.76	9.79	V
	7641	-52.96	-13	-39.96	-76.1	-62.46	2.38	11.88	V
	9552	-50.50	-13	-37.50	-76.06	-60.37	2.60	12.47	V
	11463	-50.39	-13	-37.39	-79.83	-60.02	2.68	12.31	V
	13372	-43.41	-13	-30.41	-78.63	-53.91	3.02	13.52	V
	15282	-35.00	-13	-22.00	-71.79	-45.28	3.72	13.99	V
	17191	-35.80	-13	-22.80	-77.5	-45.28	3.85	13.33	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	1648	-62.65	-13	-49.65	-67.36	-64.41	0.98	4.89	H
	2472	-65.77	-13	-52.77	-75.27	-67.65	1.28	5.32	H
	3296	-64.12	-13	-51.12	-76.66	-67.53	1.54	7.10	H
	4136	-61.36	-13	-48.36	-77	-66	1.84	8.63	H
	1648	-66.86	-13	-53.86	-70.09	-68.62	0.98	4.89	V
	2472	-65.32	-13	-52.32	-75.66	-67.2	1.28	5.32	V
	3296	-65.27	-13	-52.27	-76.73	-68.68	1.54	7.10	V
	4136	-59.18	-13	-46.18	-77.74	-63.82	1.84	8.63	V
Middle	1672	-59.75	-13	-46.75	-64.34	-61.43	0.99	4.82	H
	2504	-62.35	-13	-49.35	-71.86	-64.31	1.29	5.40	H
	3344	-62.89	-13	-49.89	-75.1	-66.5	1.56	7.31	H
	4176	-59.96	-13	-46.96	-75.75	-64.58	1.86	8.64	H
	1672	-64.35	-13	-51.35	-67.4	-66.03	0.99	4.82	V
	2504	-64.12	-13	-51.12	-74.33	-66.08	1.29	5.40	V
	3344	-64.27	-13	-51.27	-75.64	-67.88	1.56	7.31	V
	4176	-60.70	-13	-47.70	-76.55	-65.32	1.86	8.64	V
Highest	1696	-61.41	-13	-48.41	-66.12	-63.01	1.00	4.75	H
	2536	-63.52	-13	-50.52	-73.09	-65.5	1.30	5.43	H
	3392	-63.41	-13	-50.41	-75.76	-67.21	1.57	7.52	H
	4240	-61.14	-13	-48.14	-77.06	-65.74	1.90	8.65	H
	1696	-65.43	-13	-52.43	-69.25	-67.03	1.00	4.75	V
	2536	-65.43	-13	-52.43	-75.71	-67.41	1.30	5.43	V
	3392	-64.20	-13	-51.20	-75.95	-68	1.57	7.52	V
	4240	-61.72	-13	-48.72	-77.49	-66.32	1.90	8.65	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	-60.24	-13	-47.24	-75.39	-66.82	1.67	8.25	H
	5555	-50.97	-13	-37.97	-70.28	-58.04	2.66	9.72	H
	7410	-53.09	-13	-40.09	-78.97	-62.25	2.46	11.62	H
	3707	-60.64	-13	-47.64	-74.71	-67.22	1.67	8.25	V
	5555	-54.30	-13	-41.30	-72.74	-61.37	2.66	9.72	V
	7410	-55.93	-13	-42.93	-79.75	-65.09	2.46	11.62	V
Middle	3756	-61.63	-13	-48.63	-75.75	-68.25	1.68	8.31	H
	5646	-50.88	-13	-37.88	-70.45	-57.93	2.71	9.76	H
	7522	-54.67	-13	-41.67	-79.03	-64.06	2.42	11.81	H
	3756	-60.67	-13	-47.67	-74.94	-67.29	1.68	8.31	V
	5646	-56.47	-13	-43.47	-75.24	-63.52	2.71	9.76	V
	7522	-55.72	-13	-42.72	-79.41	-65.11	2.42	11.81	V
Highest	3819	-58.50	-13	-45.50	-73.55	-65.18	1.70	8.38	H
	5723	-45.20	-13	-32.20	-65.85	-52.24	2.75	9.79	H
	7630	-54.73	-13	-41.73	-79.05	-64.22	2.39	11.88	H
	3819	-59.84	-13	-46.84	-73.52	-66.52	1.70	8.38	V
	5723	-50.25	-13	-37.25	-69.86	-57.29	2.75	9.79	V
	7630	-55.55	-13	-42.55	-79.34	-65.04	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	3427	-63.33	-13	-50.33	-75.9	-69.43	1.58	7.68	H
	5142	-60.21	-13	-47.21	-79.47	-67.49	2.42	9.70	H
	6850	-49.79	-13	-36.79	-73.01	-57.77	2.64	10.62	H
	3427	-62.58	-13	-49.58	-75.08	-68.68	1.58	7.68	V
	5142	-61.51	-13	-48.51	-79.68	-68.79	2.42	9.70	V
	6850	-52.18	-13	-39.18	-75.06	-60.16	2.64	10.62	V
Middle	3462	-63.79	-13	-50.79	-76.74	-70.03	1.59	7.83	H
	5198	-59.42	-13	-46.42	-78.73	-66.67	2.45	9.70	H
	6934	-50.88	-13	-37.88	-74.35	-58.99	2.61	10.72	H
	3462	-61.93	-13	-48.93	-75.09	-68.17	1.59	7.83	V
	5198	-60.87	-13	-47.87	-79.28	-68.12	2.45	9.70	V
	6934	-52.51	-13	-39.51	-75.74	-60.62	2.61	10.72	V
Highest	3504	-62.42	-13	-49.42	-75.73	-68.82	1.61	8.00	H
	5261	-59.60	-13	-46.60	-78.88	-66.81	2.49	9.70	H
	7018	-50.96	-13	-37.96	-74.62	-59.21	2.58	10.84	H
	3504	-60.38	-13	-47.38	-74.25	-66.78	1.61	8.00	V
	5261	-60.77	-13	-47.77	-79.45	-67.98	2.49	9.70	V
	7018	-52.93	-13	-39.93	-76.49	-61.18	2.58	10.84	V

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