FCC RF Test Report

APPLICANT	:	**HMD Global Oy**
EQUIPMENT	:	**Mobile phone**
BRAND NAME	:	**Nokia**
MODEL NAME	:	**TA-1222**
FCC ID	:	**2AJOTTA-1222**
STANDARD	:	**47 CFR Part 2, 22(H), 24(E), 27(L)**
CLASSIFICATION	:	**PCS Licensed Transmitter Held to Ear (PCE)**

The product was received on Dec. 31, 2019 and completely tested on Feb. 22, 2020. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

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

Testing Laboratory 1190

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG9D3107A	Rev. 01	Initial issue of report	Mar. 05, 2020

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)(5)	Effective Radiated Power	< 7 Watts	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power	< 1 Watts	PASS	-
3.5	§24.232(d)	Peak-to-Average Ratio	< 13 dB	PASS	-
3.6	§2.1049	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		
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 29.72 dB at 7403.000 MHz

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

HMD Global Oy
Bertel Jungin aukio 9, 02600 Espoo, Finland

1.2 Manufacturer

HMD Global Oy
Bertel Jungin aukio 9, 02600 Espoo, Finland

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile phone
Brand Name	Nokia
Model Name	TA-1222
FCC ID	2AJOTTA-1222
EUT supports Radios application	GSM /WCDMA/LTE WLAN 2.4GHz 802.11b/g/n HT20 Bluetooth BR/EDR/LE FM Receiver, GNSS
IMEI Code:	Conducted: 355787100002180 Radiation: 355787100003410
HW Version	V1.0
SW Version	00CUS_0_18Q
EUT Stage	Production Unit

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: 32.19 dBm 1900: 29.27 dBm **WCDMA:** Band V: 23.85 dBm Band II: 23.91 dBm Band IV: 23.64 dBm
Antenna Type	Coupling type (LDS) Antenna
Antenna Gain	Cellular Band: 1.28 dBi PCS Band: 2.60 dBi AWS Band: 1.76 dBi
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA : BPSK (Uplink) HSDPA/DC-HSDPA : QPSK (Uplink) HSUPA : QPSK (Uplink) HSPA+ : 16QAM (Uplink) DC-HSDPA : 64QAM

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	1.3552	0.0132 ppm	248KGXW
Part 22	GSM850 EDGE class 8	8PSK	0.4955	0.0024 ppm	249KG7W
Part 22	WCDMA Band V RMC 12.2Kbps	BPSK	0.1986	0.0036 ppm	4M17F9W
Part 24	GSM1900 GPRS class 8	GMSK	1.5382	0.0309 ppm	247KGXW
Part 24	GSM1900 EDGE class 8	8PSK	0.8453	0.0106 ppm	251KG7W
Part 24	WCDMA Band II RMC 12.2Kbps	BPSK	0.4477	0.0048 ppm	4M17F9W
Part 27	WCDMA Band IV RMC 12.2Kbps	BPSK	0.3467	0.0058 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. TW1190 and TW0007.

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

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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.**
	03CH12-HY

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH12-HY	AUDIX	E3	6.2009-8-24

1.9 Applicable Standards

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

- 47 CFR Part 2, 22(H), 24(E), 27(L)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

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

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 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:

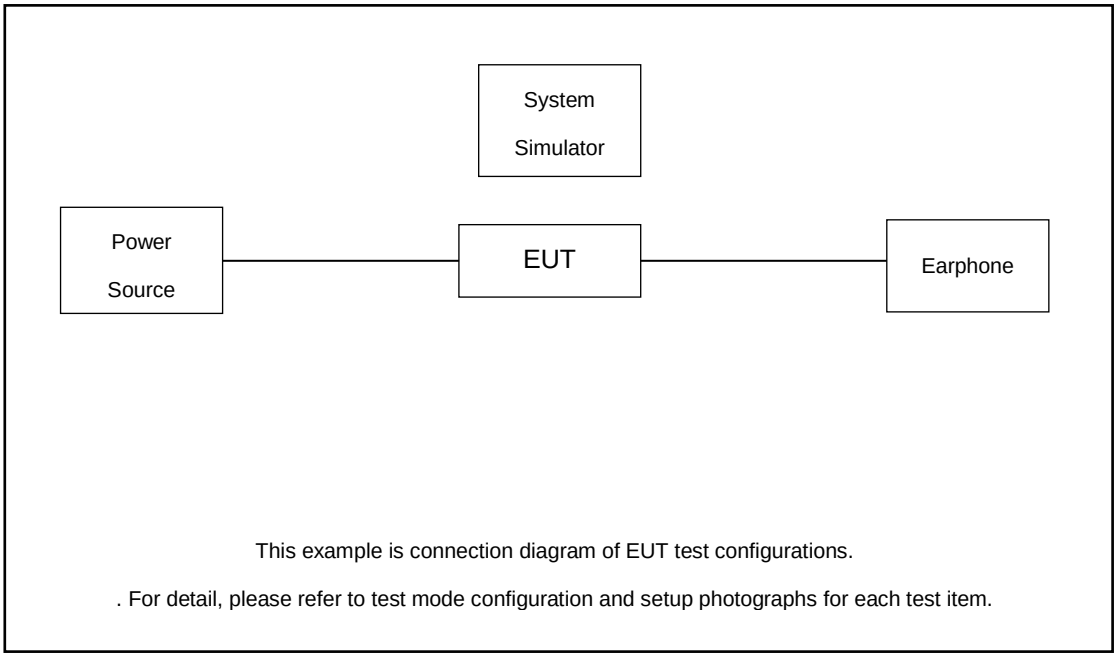
1. 30 MHz to 9000 MHz for GSM850 and WCDMA Band V.
2. 30 MHz to 18000 MHz for WCDMA Band IV.
3. 30 MHz to 19100 MHz for GSM1900 and WCDMA Band II.

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	■ GSM Link ■ EDGE class 8 Link	■ GSM Link ■ EDGE class 8 Link
GSM 1900	■ GSM Link ■ EDGE class 8 Link	■ GSM 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



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Earphone	Apple	A1285	N/A	N/A	N/A
2.	Base Station	Anritsu	MT8820C	N/A	N/A	N/A
3.	Base Station	R&S	CMU 200	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 6.4 dB and a 10dB attenuator.

Example :

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

= 6.4 + 10 = 16.4 (dB)

2.5 Frequency List of Low/Middle/High Channels

Frequency List				
Band	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
GSM850	Channel	128	189	251
	Frequency	824.2	836.4	848.8
WCDMA Band V	Channel	4132	4182	4233
	Frequency	826.4	836.4	846.6
GSM1900	Channel	512	661	810
	Frequency	1850.2	1880.0	1909.8
WCDMA Band II	Channel	9262	9400	9538
	Frequency	1852.4	1880.0	1907.6
WCDMA Band IV	Channel	1312	1413	1513
	Frequency	1712.4	1732.6	1752.6

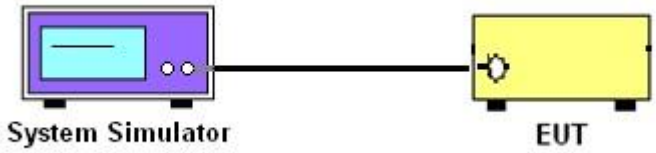
3 Conducted Test Result

3.1 Measuring Instruments

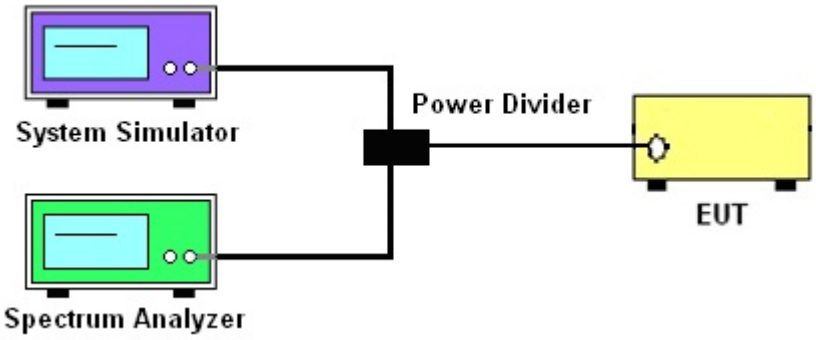
See list of measuring instruments of this test report.

3.2 Test Setup

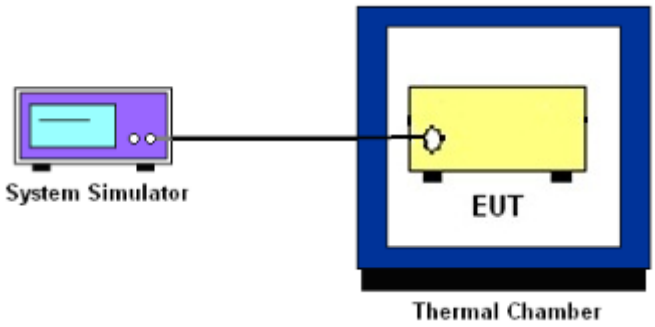
3.2.1 Conducted Output Power



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 testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

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 ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

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 ANSI C63.26 Section 5.4
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 ANSI C63.26 section 5.7
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)

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 ANSI C63.26 section 5.7
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)

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 ANSI C63.26 section 5.6.4
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 step 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 ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±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 for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

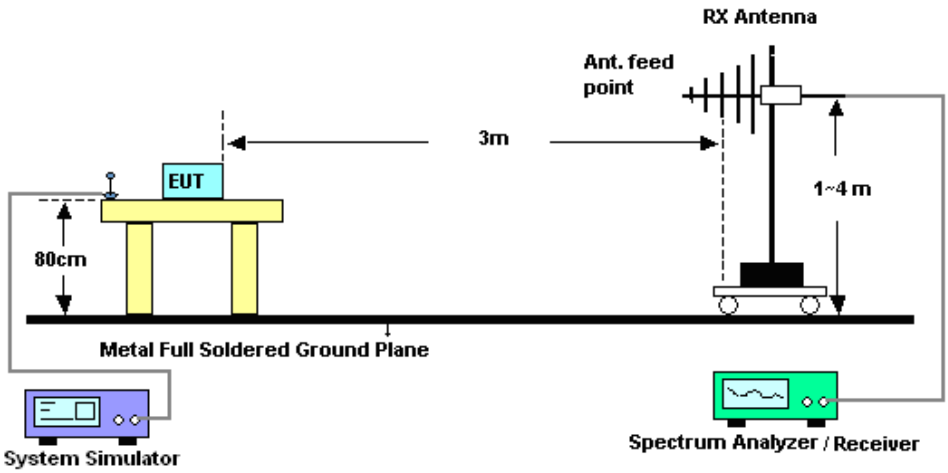
4 Radiated Test Items

4.1 Measuring Instruments

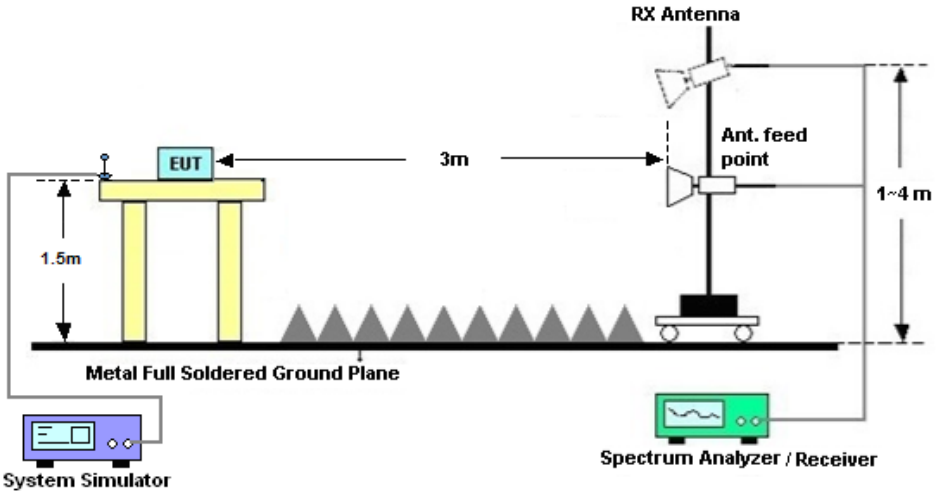
See list of measuring instruments of this test report.

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 ANSI C63.26 Section 5.5
2. The EUT was placed on a rotatable wooden table 0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz above the ground.
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)

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Hygrometer	Testo	608-H1	34893241	N/A	Mar. 06, 2019	Feb. 18, 2020~ Feb. 22, 2020	Mar. 05, 2020	Conducted (TH03-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101329	9kHz~30GHz	Sep. 04, 2019	Feb. 18, 2020~ Feb. 22, 2020	Sep. 03, 2020	Conducted (TH03-HY)
Temperature Chamber	ESPEC	SU-641	92013721	-30℃ ~70℃	Nov. 26, 2019	Feb. 18, 2020~ Feb. 22, 2020	Nov. 25, 2020	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	1V~20V 0.5A~4A	Oct. 09, 2019	Feb. 18, 2020~ Feb. 22, 2020	Oct. 08, 2020	Conducted (TH03-HY)
Base Station(Measure)	Rohde & Schwarz	CMU200	117995	GSM / GPRS / WCDMA / CDMA	Aug. 23, 2019	Feb. 18, 2020~ Feb. 22, 2020	Aug. 22, 2020	Conducted (TH03-HY)
Power Divider	Warison	WCOU-0.4-26.5S-20	#A	N/A	Nov. 06, 2019	Feb. 18, 2020~ Feb. 22, 2020	Nov. 05, 2020	Conducted (TH03-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Dec. 26, 2019	Feb. 05, 2020~ Feb. 12, 2020	Dec. 25, 2020	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Oct. 12, 2019	Feb. 05, 2020~ Feb. 12, 2020	Oct. 11, 2020	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Nov. 14, 2019	Feb. 05, 2020~ Feb. 12, 2020	Nov. 13, 2020	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1522	1GHz ~ 18GHz	Sep. 19, 2019	Feb. 05, 2020~ Feb. 12, 2020	Sep. 18, 2020	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz ~ 40GHz	Dec. 10, 2019	Feb. 05, 2020~ Feb. 12, 2020	Dec. 09, 2020	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 25, 2019	Feb. 05, 2020~ Feb. 12, 2020	Mar. 24, 2020	Radiation (03CH12-HY)
Preamplifier	Jet-Power	JPA00101800-30-10P	1601180002	1GHz~18GHz	Aug. 01, 2019	Feb. 05, 2020~ Feb. 12, 2020	Jul. 01, 2020	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 13, 2019	Feb. 05, 2020~ Feb. 12, 2020	Dec. 12, 2020	Radiation (03CH12-HY)
Preamplifier	Keysight	83017A	MY53270148	1GHz~26.5GHz	Dec. 20, 2019	Feb. 05, 2020~ Feb. 12, 2020	Dec. 19, 2020	Radiation (03CH12-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101408	10Hz~40GHz	Aug. 13, 2019	Feb. 05, 2020~ Feb. 12, 2020	Aug. 12, 2020	Radiation (03CH12-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	Aug. 27, 2019	Feb. 05, 2020~ Feb. 12, 2020	Aug. 26, 2020	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP161243	N/A	May. 11, 2019	Feb. 05, 2020~ Feb. 12, 2020	May. 10, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30M-18G	Mar. 13, 2019	Feb. 05, 2020~ Feb. 12, 2020	Mar. 12, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Feb. 26, 2019	Feb. 05, 2020~ Feb. 12, 2020	Feb. 25, 2020	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Feb. 26, 2019	Feb. 05, 2020~ Feb. 12, 2020	Feb. 25, 2020	Radiation (03CH12-HY)
Base Station	Anritsu	MT8821C	6201432816	GSM / GPRS /WCDMA / LTE FDD/TDD with 44) /LTE-3CC DLCA,2CC ULCA	May 05, 2019	Feb. 05, 2020~ Feb. 12, 2020	May 04, 2020	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Feb. 05, 2020~ Feb. 12, 2020	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Feb. 05, 2020~ Feb. 12, 2020	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Feb. 05, 2020~ Feb. 12, 2020	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Feb. 05, 2020~ Feb. 12, 2020	N/A	Radiation (03CH12-HY)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.24dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.62dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.06dB**

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	32.13	32.19	32.18	29.27	29.24	29.22
GPRS class 8	32.12	32.18	32.17	29.26	29.23	29.21
GPRS class 10	31.56	31.63	31.64	28.58	28.60	28.59
GPRS class 11	29.99	30.07	30.16	26.85	26.89	26.90
GPRS class 12	28.92	29.04	29.09	25.77	25.82	25.86
EGPRS class 8	27.63	27.66	27.82	26.61	26.60	26.67
EGPRS class 10	26.85	26.50	26.65	25.71	25.72	26.02
EGPRS class 11	24.40	24.35	24.50	23.67	23.65	23.66
EGPRS class 12	23.12	23.00	23.30	22.53	22.53	22.52

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
AMR 12.2K	23.83	23.76	23.79	23.89	23.85	23.89	23.60	23.56	23.54
RMC 12.2K	23.85	23.78	23.81	23.90	23.88	23.91	23.64	23.58	23.56
HSDPA Subtest-1	22.77	22.71	22.66	22.90	22.94	22.81	23.11	23.02	23.13
HSDPA Subtest-2	22.69	22.61	22.61	22.83	22.86	22.69	22.98	22.99	23.01
HSDPA Subtest-3	22.18	22.15	22.12	22.33	22.38	22.16	22.51	22.51	22.54
HSDPA Subtest-4	22.16	22.07	22.07	22.27	22.36	22.12	22.48	22.47	22.51
DC-HSDPA Subtest-1	22.70	22.70	22.65	22.89	22.89	22.88	22.99	23.00	22.80
DC-HSDPA Subtest-2	22.76	22.71	22.69	22.87	22.90	22.89	22.98	22.99	23.01
DC-HSDPA Subtest-3	22.20	22.23	22.21	22.32	22.41	22.31	22.51	22.45	22.46
DC-HSDPA Subtest-4	22.12	22.12	22.12	22.31	22.30	22.21	22.45	22.50	22.45
HSUPA Subtest-1	21.10	21.02	21.18	20.97	20.85	20.89	20.83	20.79	20.76
HSUPA Subtest-2	21.05	21.02	21.07	20.97	20.91	20.93	20.79	20.71	20.69
HSUPA Subtest-3	22.10	22.08	22.13	21.93	21.91	21.81	21.79	21.74	21.73
HSUPA Subtest-4	20.63	20.53	20.63	20.44	20.41	20.36	20.34	20.25	20.22
HSUPA Subtest-5	22.00	22.00	22.00	21.90	22.40	21.97	21.70	21.60	21.70
HSPA+ (16QAM) Subtest-1	21.79	21.76	21.83	21.82	21.74	21.73	21.55	21.53	21.53

ERP/EIRP

Channel	Mode	Conducted		ERP	
		Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	GSM850	32.13	1.6331	31.26	1.3366
Middle	GSM	32.19	1.6558	31.32	1.3552
Highest	(GT - LC = 1.28 dB)	32.18	1.6520	31.31	1.3521
Lowest	GSM850	27.63	0.5794	26.76	0.4742
Middle	EDGE class 8	27.66	0.5834	26.79	0.4775
Highest	(GT - LC = 1.28 dB)	27.82	0.6053	26.95	0.4955

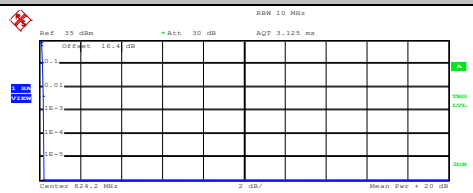
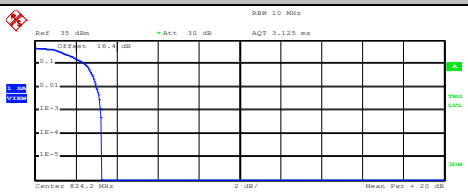
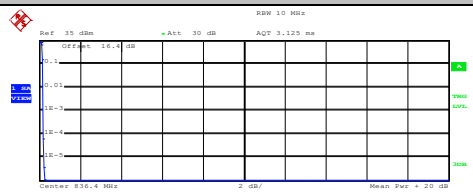
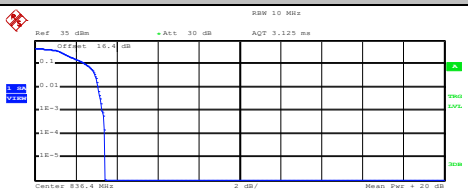
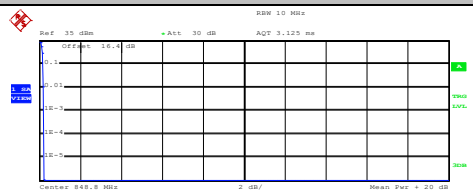
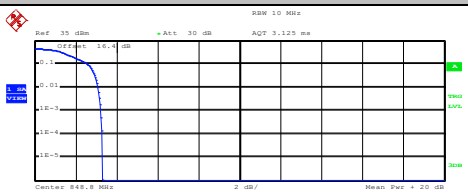
Channel	Mode	Conducted		EIRP	
		Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	GSM1900	29.27	0.8453	31.87	1.5382
Middle	GSM	29.24	0.8395	31.84	1.5276
Highest	(GT - LC = 2.6 dB)	29.22	0.8356	31.82	1.5205
Lowest	GSM1900	26.61	0.4581	29.21	0.8337
Middle	EDGE class 8	26.60	0.4571	29.20	0.8318
Highest	(GT - LC = 2.6 dB)	26.67	0.4645	29.27	0.8453

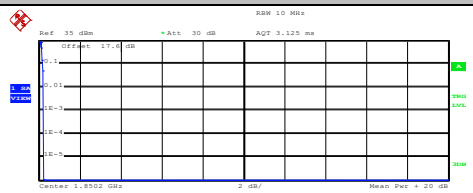
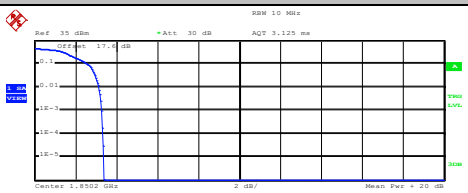
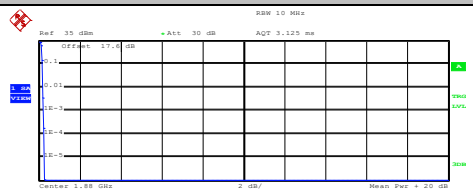
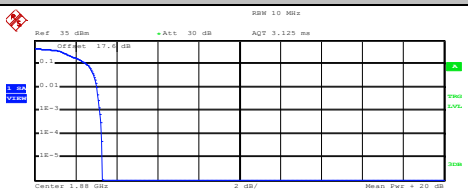
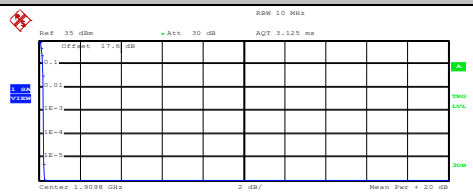
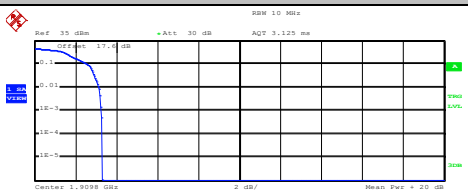
Channel	Mode	Conducted		EIRP	
		Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	WCDMA Band V	23.85	0.2427	22.98	0.1986
Middle	RMC 12.2Kbps	23.78	0.2388	22.91	0.1954
Highest	(GT - LC = 1.28 dB)	23.81	0.2404	22.94	0.1968
Lowest	WCDMA Band II	23.90	0.2455	26.50	0.4467
Middle	RMC 12.2Kbps	23.88	0.2443	26.48	0.4446
Highest	(GT - LC = 2.6 dB)	23.91	0.2460	26.51	0.4477
Lowest	WCDMA Band IV	23.64	0.2312	25.40	0.3467
Middle	RMC 12.2Kbps	23.58	0.2280	25.34	0.3420
Highest	(GT - LC = 1.76 dB)	23.56	0.2270	25.32	0.3404

GSM

Peak-to-Average Ratio

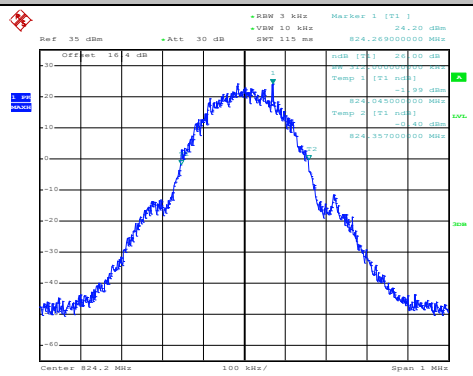
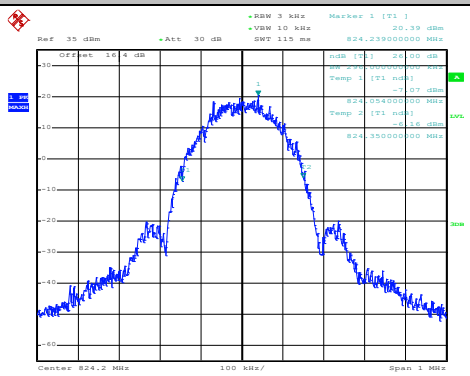
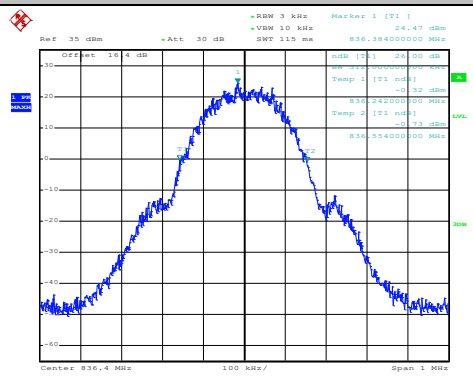
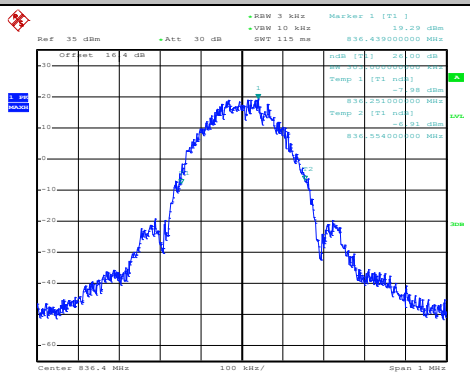
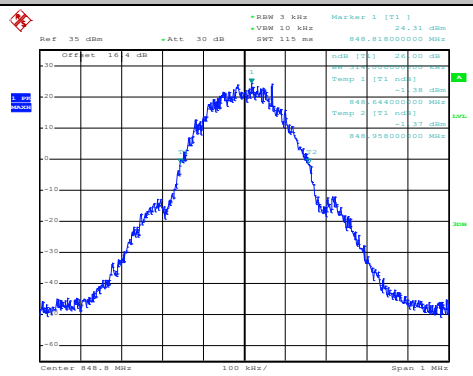
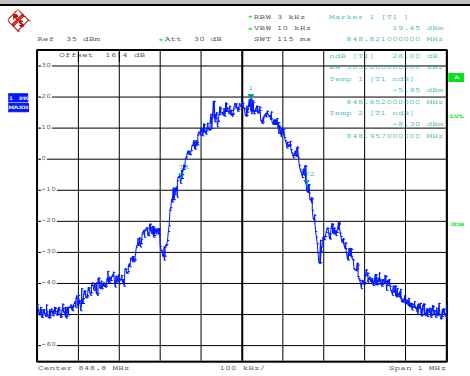
Mode	GSM850		Limit: 13dB
Mod.	GSM	EDGE class 8	Result
Lowest CH	0.24	3.20	PASS
Middle CH	0.20	3.28	
Highest CH	0.24	3.24	
Mode	GSM1900		Limit: 13dB
Mod.	GSM	EDGE class 8	Result
Lowest CH	0.24	3.28	PASS
Middle CH	0.24	3.20	
Highest CH	0.24	3.28	

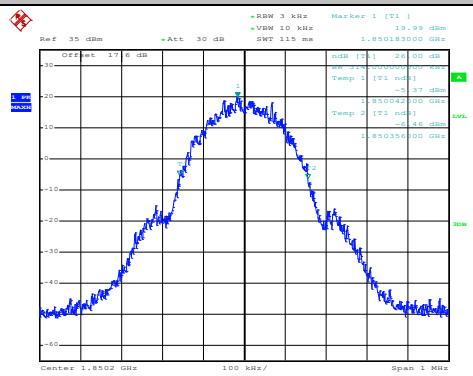
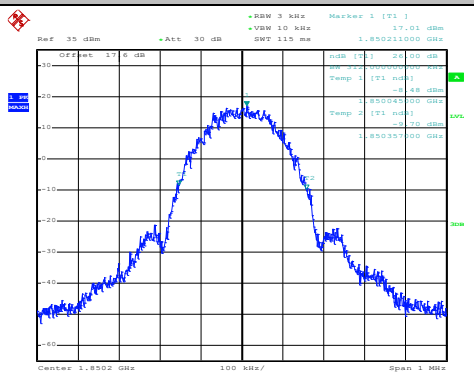
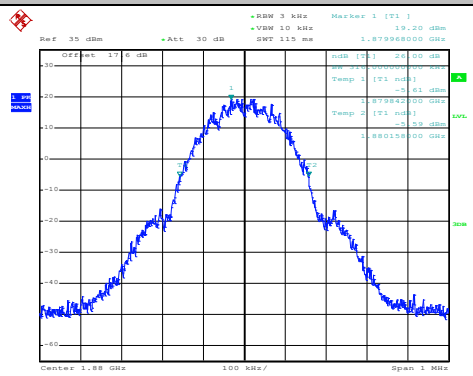
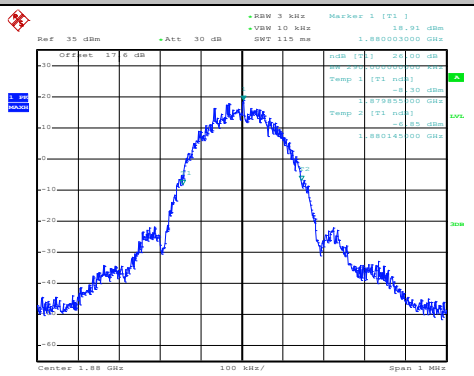
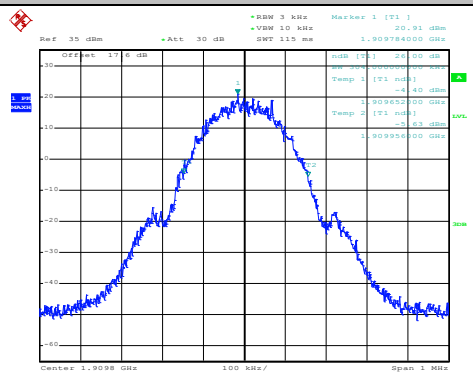
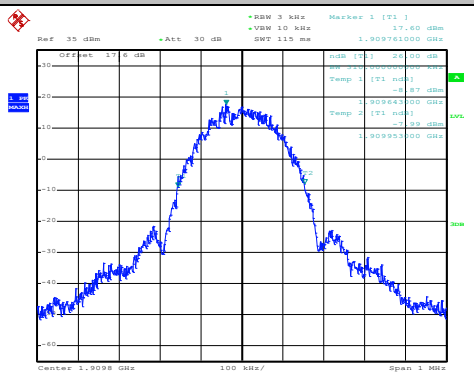
GSM850 (GSM)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 31.46 dBm Peak 31.70 dBm Crest 0.24 dB 10 % 0.16 dB 1 % 0.20 dB .1 % 0.24 dB .01 % 0.24 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 27.37 dBm Peak 30.64 dBm Crest 3.27 dB 10 % 2.44 dB 1 % 3.00 dB .1 % 3.20 dB .01 % 3.28 dB
Date: 18.FEB.2020 20:18:19	Date: 18.FEB.2020 20:42:12
Middle Channel	**Middle Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 31.46 dBm Peak 31.70 dBm Crest 0.24 dB 10 % 0.16 dB 1 % 0.20 dB .1 % 0.20 dB .01 % 0.20 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 27.23 dBm Peak 30.64 dBm Crest 3.41 dB 10 % 2.48 dB 1 % 3.08 dB .1 % 3.28 dB .01 % 3.40 dB
Date: 18.FEB.2020 20:18:37	Date: 18.FEB.2020 20:42:29
Highest Channel	**Highest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 31.50 dBm Peak 31.70 dBm Crest 0.20 dB 10 % 0.20 dB 1 % 0.20 dB .1 % 0.24 dB .01 % 0.24 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 27.26 dBm Peak 30.57 dBm Crest 3.31 dB 10 % 2.56 dB 1 % 3.08 dB .1 % 3.24 dB .01 % 3.28 dB
Date: 18.FEB.2020 20:18:51	Date: 18.FEB.2020 20:42:41

GSM1900 (GSM)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 27.60 dBm Peak 27.82 dBm Crest 0.22 dB 10 % 0.20 dB 1 % 0.24 dB .1 % 0.24 dB .01 % 0.24 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 25.16 dBm Peak 28.52 dBm Crest 3.36 dB 10 % 2.56 dB 1 % 3.12 dB .1 % 3.28 dB .01 % 3.36 dB
Date: 18.FEB.2020 20:06:56	Date: 18.FEB.2020 20:31:09
Middle Channel	**Middle Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 27.65 dBm Peak 27.89 dBm Crest 0.24 dB 10 % 0.16 dB 1 % 0.20 dB .1 % 0.24 dB .01 % 0.24 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 25.31 dBm Peak 28.59 dBm Crest 3.28 dB 10 % 2.56 dB 1 % 3.04 dB .1 % 3.20 dB .01 % 3.28 dB
Date: 18.FEB.2020 20:07:13	Date: 18.FEB.2020 20:31:20
Highest Channel	**Highest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 27.54 dBm Peak 27.82 dBm Crest 0.28 dB 10 % 0.20 dB 1 % 0.24 dB .1 % 0.24 dB .01 % 0.24 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 25.02 dBm Peak 28.31 dBm Crest 3.29 dB 10 % 2.56 dB 1 % 3.12 dB .1 % 3.28 dB .01 % 3.32 dB
Date: 18.FEB.2020 20:07:29	Date: 18.FEB.2020 20:31:37

26dB Bandwidth

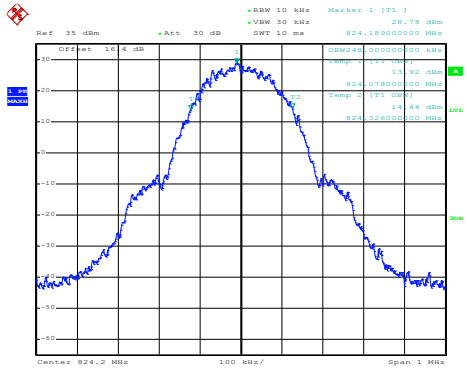
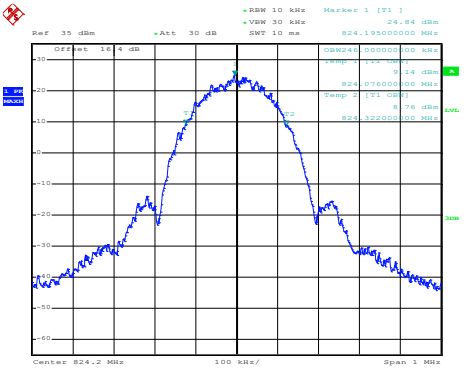
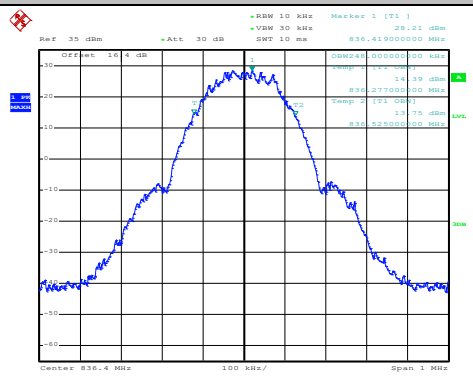
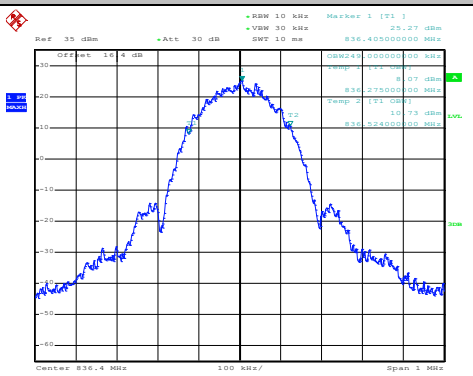
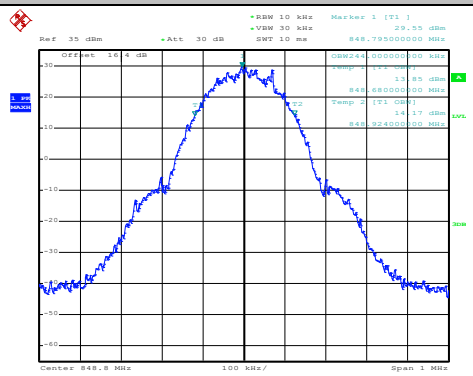
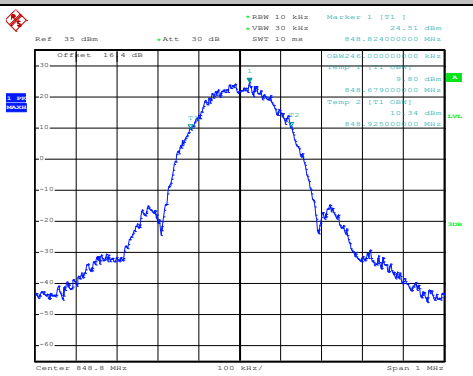
Mode	GSM850	
Mod.	GSM	EDGE class 8
Lowest CH	0.312	0.296
Middle CH	0.310	0.303
Highest CH	0.314	0.305
Mode	GSM1900	
Mod.	GSM	EDGE class 8
Lowest CH	0.314	0.312
Middle CH	0.316	0.290
Highest CH	0.304	0.310

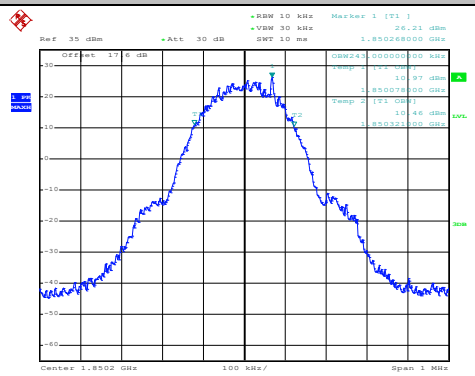
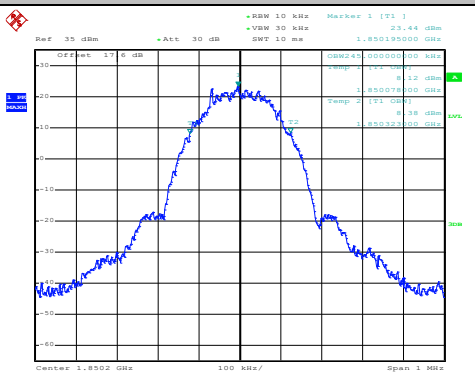
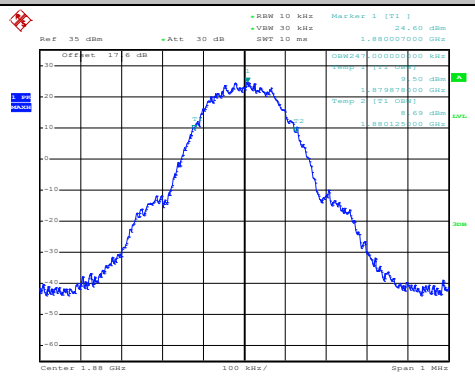
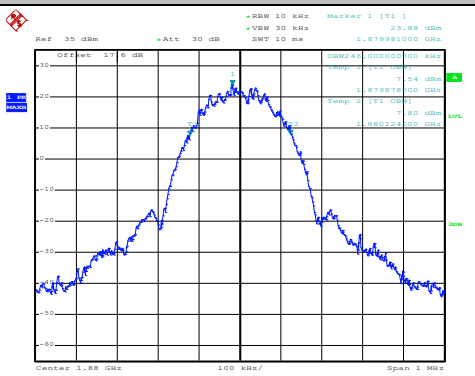
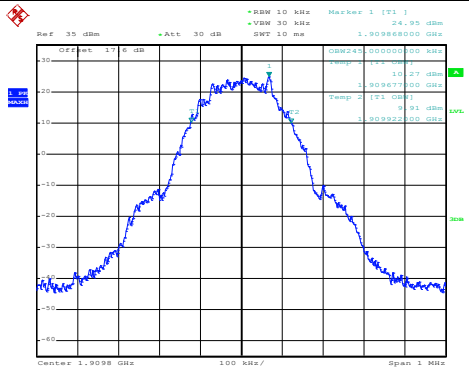
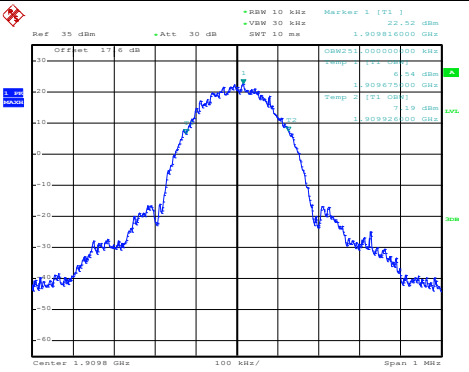
GSM850 (GSM)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Date: 18.FEB.2020 20:09:20	Date: 18.FEB.2020 20:33:05
Middle Channel	**Middle Channel**
	
Date: 18.FEB.2020 20:09:52	Date: 18.FEB.2020 20:33:43
Highest Channel	**Highest Channel**
	
Date: 18.FEB.2020 20:10:24	Date: 18.FEB.2020 20:34:17

GSM1900 (GSM)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Date: 18.FEB.2020 19:56:47	Date: 18.FEB.2020 20:21:45
Middle Channel	**Middle Channel**
	
Date: 18.FEB.2020 19:57:26	Date: 18.FEB.2020 20:22:24
Highest Channel	**Highest Channel**
	
Date: 18.FEB.2020 19:58:00	Date: 18.FEB.2020 20:23:13

Occupied Bandwidth

Mode	GSM850	
Mod.	GSM	EDGE class 8
Lowest CH	0.248	0.246
Middle CH	0.248	0.249
Highest CH	0.244	0.246
Mode	GSM1900	
Mod.	GSM	EDGE class 8
Lowest CH	0.243	0.245
Middle CH	0.247	0.246
Highest CH	0.245	0.251

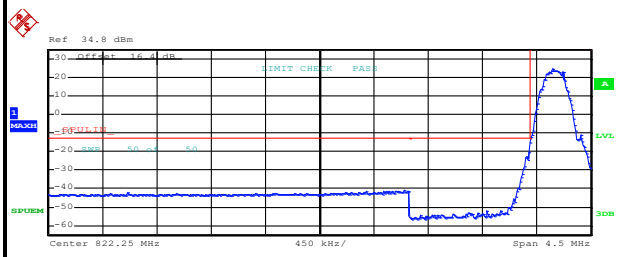
GSM850 (GSM)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Date: 18.FEB.2020 20:11:03	Date: 18.FEB.2020 20:34:56
Middle Channel	**Middle Channel**
	
Date: 18.FEB.2020 20:11:36	Date: 18.FEB.2020 20:35:28
Highest Channel	**Highest Channel**
	
Date: 18.FEB.2020 20:12:10	Date: 18.FEB.2020 20:36:02

GSM1900 (GSM)	GSM1900 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Date: 18.FEB.2020 19:58:38	Date: 18.FEB.2020 20:23:57
Middle Channel	**Middle Channel**
	
Date: 18.FEB.2020 19:59:17	Date: 18.FEB.2020 20:24:30
Highest Channel	**Highest Channel**
	
Date: 18.FEB.2020 19:59:52	Date: 18.FEB.2020 20:25:03

Conducted Band Edge

GSM850 (GSM)

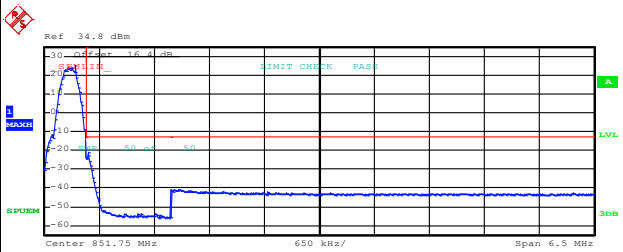
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
820.000 M	823.000 M	100.00 k	822.952000 M	-41.07	-28.07
823.000 M	824.000 M	3.00 k	823.984000 M	-21.36	-8.36
824.000 M	824.500 M	10.00 k	824.185500 M	24.80	-10.20

Date: 18.FEB.2020 20:13:44

Highest Band Edge

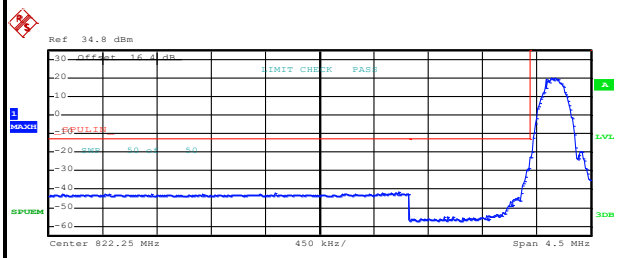


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
848.500 M	849.000 M	10.00 k	848.866500 M	24.86	-10.14
849.000 M	850.000 M	3.00 k	849.016000 M	-21.13	-8.13
850.000 M	855.000 M	100.00 k	850.000000 M	-40.91	-27.91

Date: 18.FEB.2020 20:15:23

GSM850 (EDGE class 8)

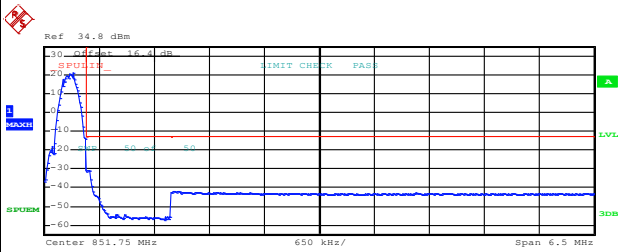
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
820.000 M	823.000 M	100.00 k	822.904000 M	-41.73	-28.73
823.000 M	824.000 M	3.00 k	823.988000 M	-28.93	-15.93
824.000 M	824.500 M	10.00 k	824.180000 M	20.01	-14.99

Date: 18.FEB.2020 20:37:36

Highest Band Edge

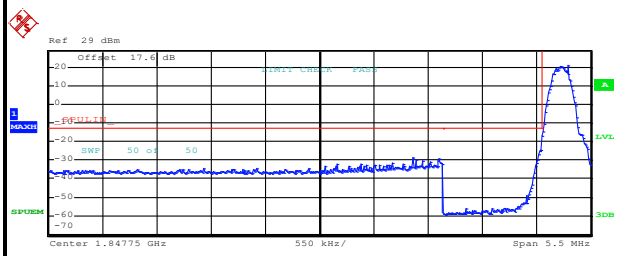


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
848.500 M	849.000 M	10.00 k	848.835000 M	21.06	-13.94
849.000 M	850.000 M	3.00 k	849.024000 M	-29.85	-16.85
850.000 M	855.000 M	100.00 k	850.010000 M	-41.87	-28.87

Date: 18.FEB.2020 20:39:08

GSM1900 (GSM)

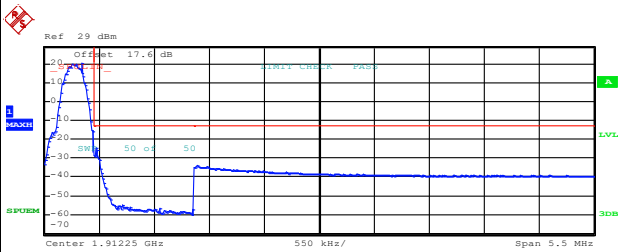
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.845 G	1.849 G	1.00 M	1.848696 G	-28.40	-15.40
1.849 G	1.850 G	3.00 k	1.849984 G	-24.86	-11.86
1.850 G	1.851 G	10.00 k	1.850269 G	21.14	-13.86

Date: 18.FEB.2020 20:01:26

Highest Band Edge

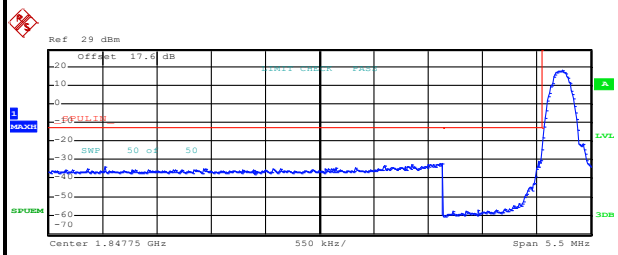


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.910 G	1.910 G	10.00 k	1.909871 G	20.46	-14.54
1.910 G	1.911 G	3.00 k	1.910016 G	-24.41	-11.41
1.911 G	1.915 G	1.00 M	1.911028 G	-34.15	-21.15

Date: 18.FEB.2020 20:03:10

GSM1900 (EDGE class 8)

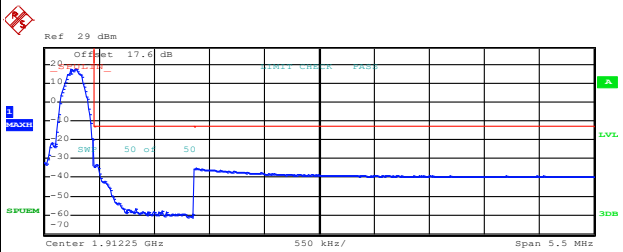
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.845 G	1.849 G	1.00 M	1.848996 G	-32.21	-19.21
1.849 G	1.850 G	3.00 k	1.849988 G	-30.60	-17.60
1.850 G	1.851 G	10.00 k	1.850216 G	18.30	-16.70

Date: 18.FEB.2020 20:26:37

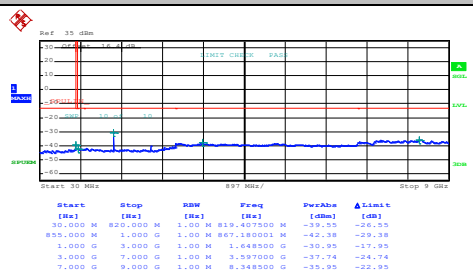
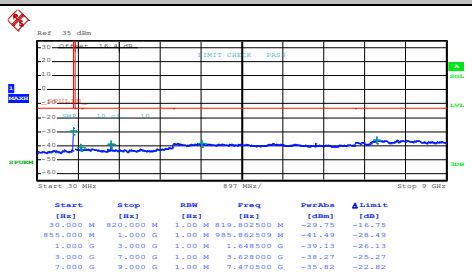
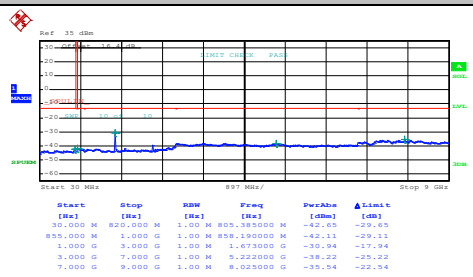
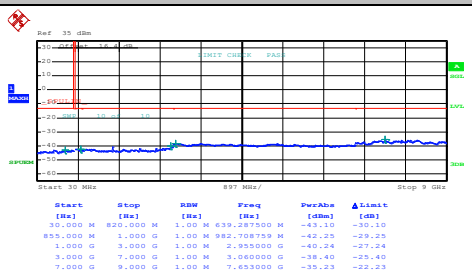
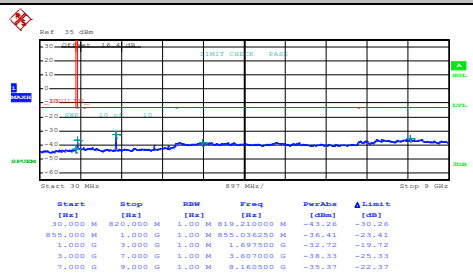
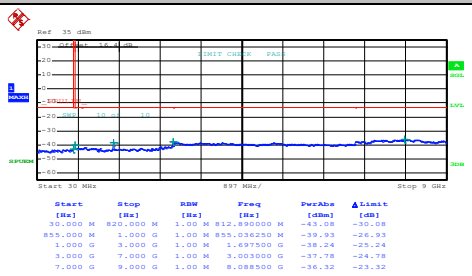
Highest Band Edge

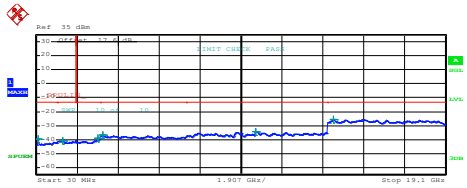
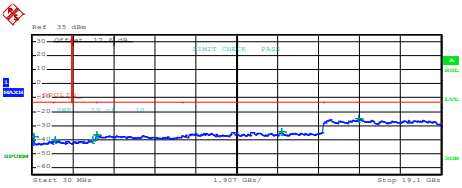
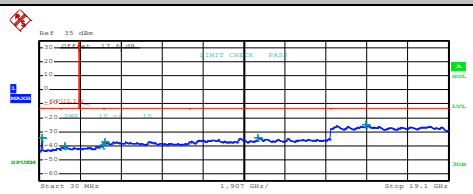
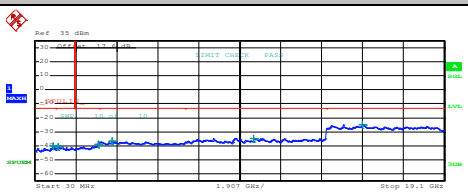
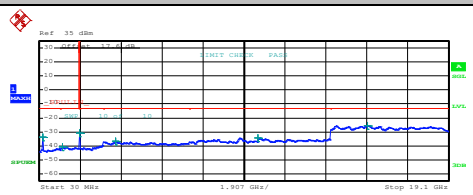
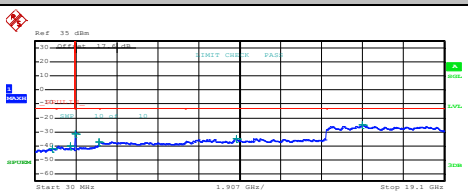


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.910 G	1.910 G	10.00 k	1.909765 G	17.81	-17.19
1.910 G	1.911 G	3.00 k	1.910036 G	-32.98	-19.98
1.911 G	1.915 G	1.00 M	1.911016 G	-35.31	-22.31

Date: 18.FEB.2020 20:28:12

Conducted Spurious Emission

GSM850 (GSM)	GSM850 (EDGE class 8)
Lowest Channel	**Lowest Channel**
	
Date: 18.FEB.2020 20:16:16	Date: 18.FEB.2020 20:40:06
Middle Channel	**Middle Channel**
	
Date: 18.FEB.2020 20:17:09	Date: 18.FEB.2020 20:40:56
Highest Channel	**Highest Channel**
	
Date: 18.FEB.2020 20:18:00	Date: 18.FEB.2020 20:41:48

GSM1900 (GSM)	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 / 111.965000 M / -39.45 / -26.45 1.000 G / 1.845 G / 1.00 M / 1.257091 G / -40.47 / -27.47 1.915 G / 3.000 G / 1.00 M / 2.891229 G / -39.19 / -26.19 3.000 G / 7.000 G / 1.00 M / 3.104000 G / -36.91 / -23.91 7.000 G / 13.600 G / 1.00 M / 10.233175 G / -34.52 / -21.52 13.600 G / 19.100 G / 1.00 M / 13.872250 G / -25.58 / -12.58	Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 1.000 G / 1.00 M / 111.965000 M / -38.07 / -25.07 1.000 G / 1.845 G / 1.00 M / 1.099076 G / -40.40 / -27.40 1.915 G / 3.000 G / 1.00 M / 2.838878 G / -39.91 / -26.91 3.000 G / 7.000 G / 1.00 M / 3.045000 G / -36.72 / -23.72 7.000 G / 13.600 G / 1.00 M / 11.643925 G / -34.51 / -21.51 13.600 G / 19.100 G / 1.00 M / 15.248625 G / -25.13 / -12.13
Date: 18.FEB.2020 20:04:10	Date: 18.FEB.2020 20:29:05
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 / -34.51 / -21.51 1.000 G / 1.845 G / 1.00 M / 1.230896 G / -40.12 / -27.12 1.915 G / 3.000 G / 1.00 M / 2.995600 G / -39.30 / -26.30 3.000 G / 7.000 G / 1.00 M / 3.074000 G / -37.23 / -24.23 7.000 G / 13.600 G / 1.00 M / 10.231525 G / -34.19 / -21.19 13.600 G / 19.100 G / 1.00 M / 15.245875 G / -24.90 / -11.90	Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 1.000 G / 1.00 M / 855.955000 M / -40.16 / -27.16 1.000 G / 1.845 G / 1.00 M / 1.113864 G / -40.79 / -27.79 1.915 G / 3.000 G / 1.00 M / 2.979314 G / -39.26 / -26.26 3.000 G / 7.000 G / 1.00 M / 3.605000 G / -36.92 / -23.92 7.000 G / 13.600 G / 1.00 M / 10.215025 G / -34.59 / -21.59 13.600 G / 19.100 G / 1.00 M / 15.270625 G / -25.10 / -12.10
Date: 18.FEB.2020 20:05:21	Date: 18.FEB.2020 20:29:55
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 / 171.620000 M / -33.54 / -20.54 1.000 G / 1.845 G / 1.00 M / 1.105203 G / -40.81 / -27.81 1.915 G / 3.000 G / 1.00 M / 1.915271 G / -31.08 / -18.08 3.000 G / 7.000 G / 1.00 M / 3.595000 G / -36.67 / -23.67 7.000 G / 13.600 G / 1.00 M / 10.221625 G / -34.35 / -21.35 13.600 G / 19.100 G / 1.00 M / 15.311188 G / -25.24 / -12.24	Start [Hz] / Stop [Hz] / RBW [Hz] / Freq [Hz] / PwrAbs [dBm] / ΔLimit [dB] 30.000 M / 1.000 G / 1.00 M / 829.522500 M / -41.68 / -28.68 1.000 G / 1.845 G / 1.00 M / 1.684239 G / -40.25 / -27.25 1.915 G / 3.000 G / 1.00 M / 1.915271 G / -31.12 / -18.12 3.000 G / 7.000 G / 1.00 M / 3.005000 G / -37.33 / -24.33 7.000 G / 13.600 G / 1.00 M / 9.396625 G / -34.73 / -21.73 13.600 G / 19.100 G / 1.00 M / 15.267188 G / -25.21 / -12.21
Date: 18.FEB.2020 20:06:28	Date: 18.FEB.2020 20:30:46

Frequency Stability

Test Conditions	Middle Channel	GSM850 (GSM)	GSM850 (EDGE class 8)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0000	0.0024	PASS
40	Normal Voltage	0.0012	0.0000	
30	Normal Voltage	0.0024	0.0012	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0048	0.0000	
0	Normal Voltage	0.0000	0.0012	
-10	Normal Voltage	0.0012	0.0000	
-20	Normal Voltage	0.0132	0.0012	
-30	Normal Voltage	0.0143	0.0012	
20	Maximum Voltage	0.0012	0.0000	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0012	0.0000	

Test Conditions	Middle Channel	GSM1900 (GSM)	GSM1900 (EDGE class 8)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		Result
50	Normal Voltage	0.0011	0.0048	PASS
40	Normal Voltage	0.0016	0.0032	
30	Normal Voltage	0.0005	0.0011	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0005	0.0021	
0	Normal Voltage	0.0239	0.0005	
-10	Normal Voltage	0.0277	0.0043	
-20	Normal Voltage	0.0309	0.0106	
-30	Normal Voltage	0.0303	0.0096	
20	Maximum Voltage	0.0005	0.0011	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0005	0.0005	

Note:

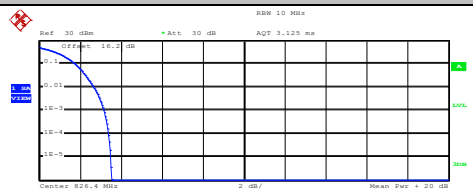
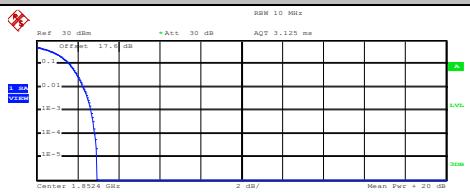
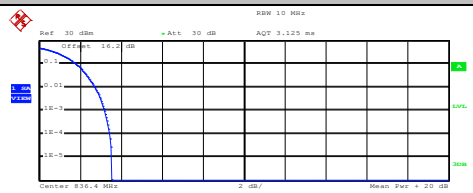
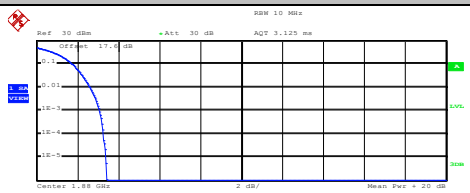
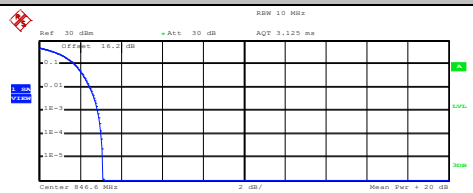
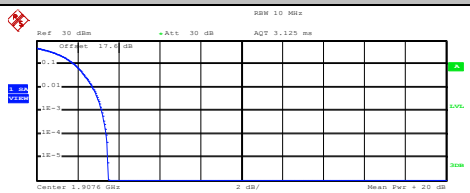
1. Normal Voltage = 4V. ; Battery End Point (BEP) = 3.7 V. ; Maximum Voltage =4.3 V

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

WCDMA

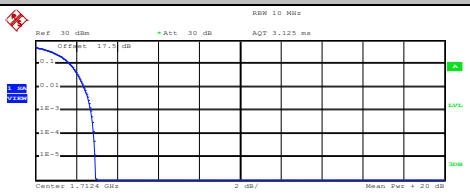
Peak-to-Average Ratio

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	3.16	2.64	2.72	PASS
Middle CH	3.20	3.08	3.08	
Highest CH	2.84	3.20	3.12	

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 22.47 dBm Peak 25.99 dBm Crest 3.52 dB 10 % 1.76 dB 1 % 2.68 dB .1 % 3.16 dB .01 % 3.40 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 22.42 dBm Peak 25.36 dBm Crest 2.94 dB 10 % 1.60 dB 1 % 2.28 dB .1 % 2.64 dB .01 % 2.84 dB
Date: 18.FEB.2020 21:26:24	Date: 18.FEB.2020 20:59:15
Middle Channel	**Middle Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 22.23 dBm Peak 25.78 dBm Crest 3.55 dB 10 % 1.80 dB 1 % 2.72 dB .1 % 3.20 dB .01 % 3.44 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 22.44 dBm Peak 25.85 dBm Crest 3.41 dB 10 % 1.76 dB 1 % 2.60 dB .1 % 3.08 dB .01 % 3.28 dB
Date: 18.FEB.2020 21:26:34	Date: 18.FEB.2020 20:59:26
Highest Channel	**Highest Channel**
	
Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 22.38 dBm Peak 25.50 dBm Crest 3.12 dB 10 % 1.72 dB 1 % 2.48 dB .1 % 2.84 dB .01 % 3.04 dB	Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 22.37 dBm Peak 25.85 dBm Crest 3.48 dB 10 % 1.84 dB 1 % 2.72 dB .1 % 3.20 dB .01 % 3.40 dB
Date: 18.FEB.2020 21:26:43	Date: 18.FEB.2020 20:59:35

WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel

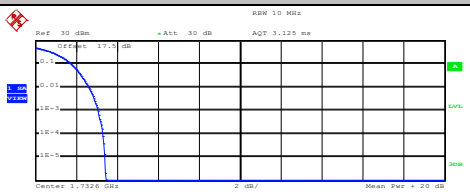


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	22.47 dBm
Peak	25.43 dBm
Crest	2.96 dB
10 %	1.68 dB
1 %	2.36 dB
.1 %	2.72 dB
.01 %	2.84 dB

Date: 18.FEB.2020 21:13:03

Middle Channel

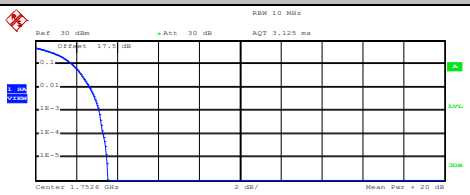


Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	22.27 dBm
Peak	25.71 dBm
Crest	3.44 dB
10 %	1.76 dB
1 %	2.60 dB
.1 %	3.08 dB
.01 %	3.32 dB

Date: 18.FEB.2020 21:13:11

Highest Channel



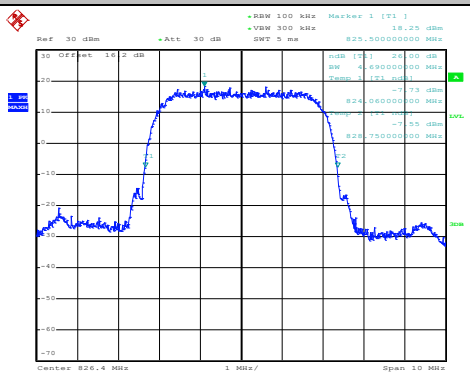
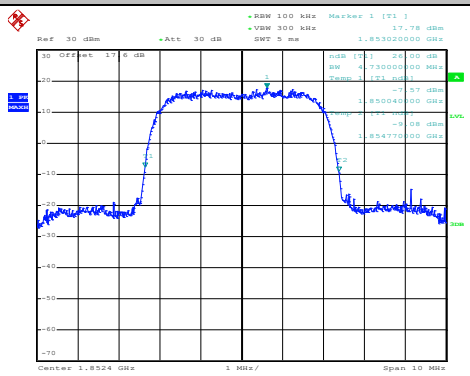
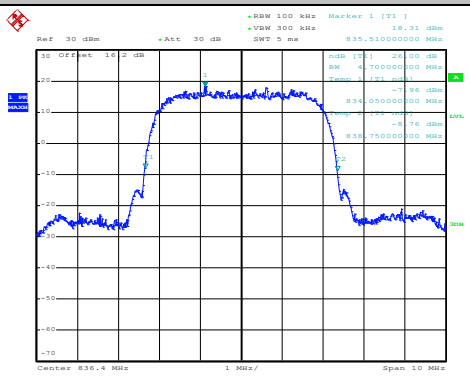
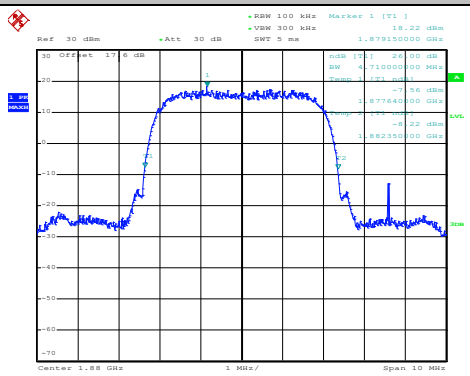
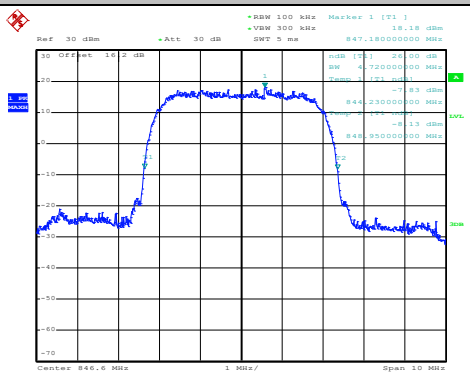
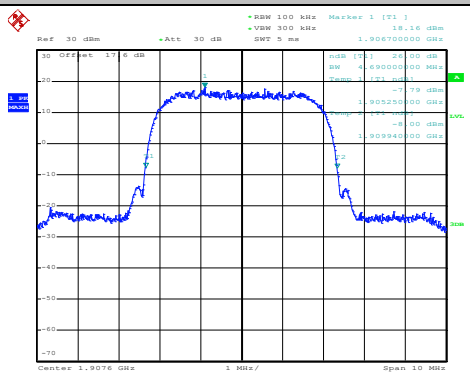
Complementary Cumulative Distribution Function (100000 samples)

	Trace 1
Mean	22.16 dBm
Peak	25.71 dBm
Crest	3.55 dB
10 %	1.80 dB
1 %	2.68 dB
.1 %	3.12 dB
.01 %	3.32 dB

Date: 18.FEB.2020 21:13:22

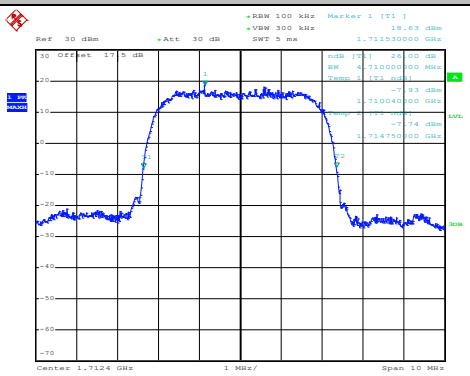
26dB Bandwidth

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.69	4.73	4.71
Middle CH	4.70	4.71	4.72
Highest CH	4.72	4.69	4.71

WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Date: 18.FEB.2020 21:14:34	Date: 18.FEB.2020 20:47:01
Middle Channel	**Middle Channel**
	
Date: 18.FEB.2020 21:15:11	Date: 18.FEB.2020 20:47:51
Highest Channel	**Highest Channel**
	
Date: 18.FEB.2020 21:15:43	Date: 18.FEB.2020 20:48:32

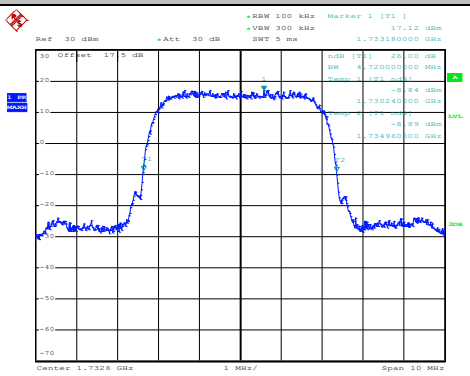
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



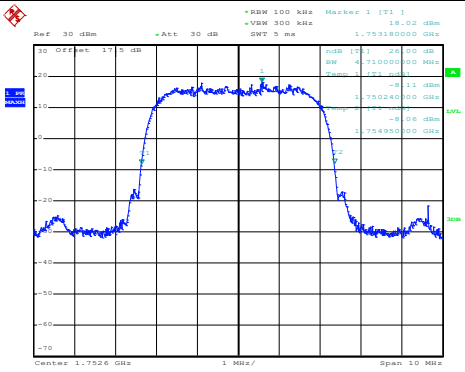
Date: 18.FEB.2020 21:01:28

Middle Channel



Date: 18.FEB.2020 21:02:08

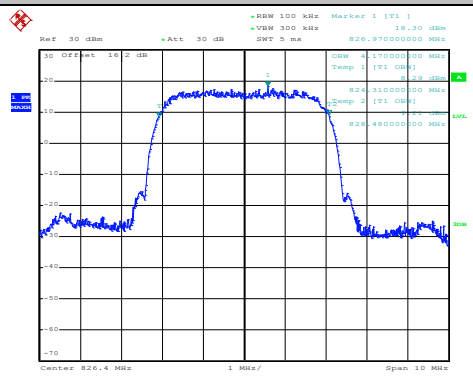
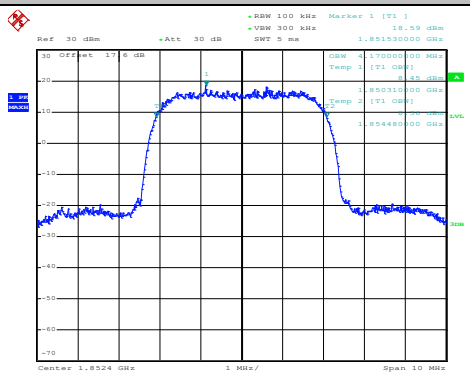
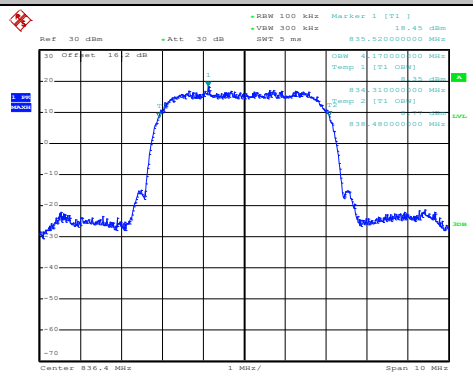
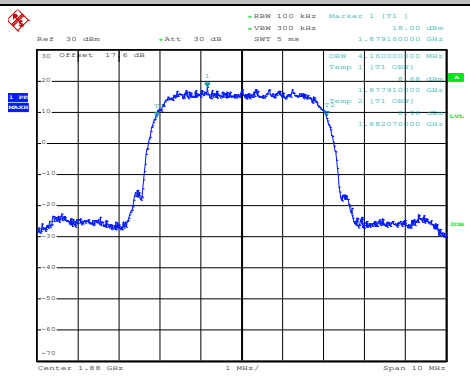
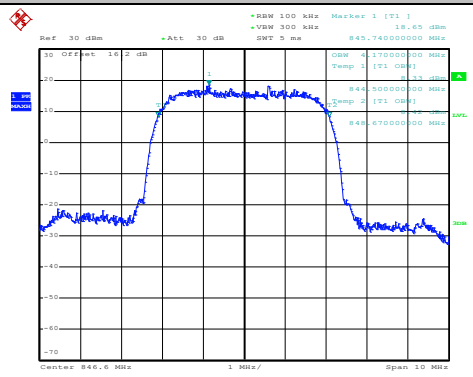
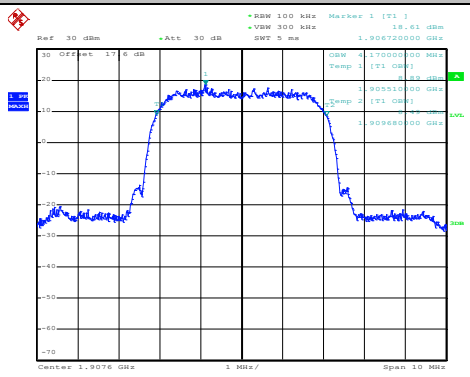
Highest Channel



Date: 18.FEB.2020 21:02:44

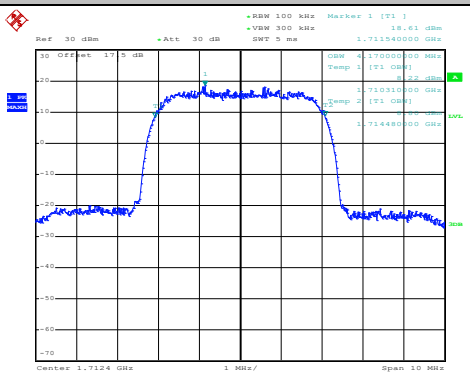
Occupied Bandwidth

Mode	WCDMA Band V	WCDMA Band II	WCDMA Band IV
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.17	4.17	4.17
Middle CH	4.17	4.16	4.17
Highest CH	4.17	4.17	4.18

WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	**Lowest Channel**
	
Date: 18.FEB.2020 21:16:16	Date: 18.FEB.2020 20:49:16
Middle Channel	**Middle Channel**
	
Date: 18.FEB.2020 21:16:52	Date: 18.FEB.2020 20:49:57
Highest Channel	**Highest Channel**
	
Date: 18.FEB.2020 21:17:24	Date: 18.FEB.2020 20:50:37

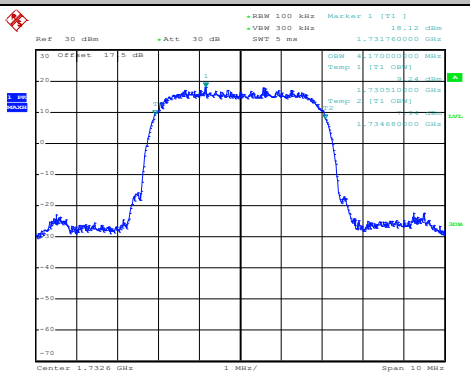
WCDMA Band IV (RMC 12.2Kbps)

Lowest Channel



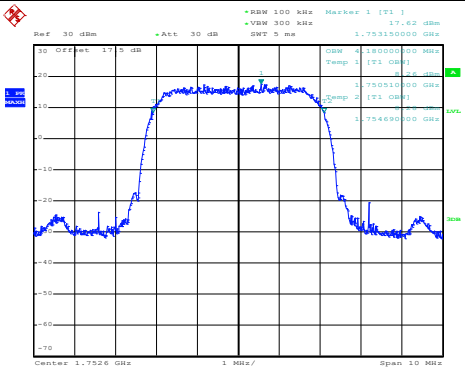
Date: 18.FEB.2020 21:03:21

Middle Channel



Date: 18.FEB.2020 21:03:53

Highest Channel

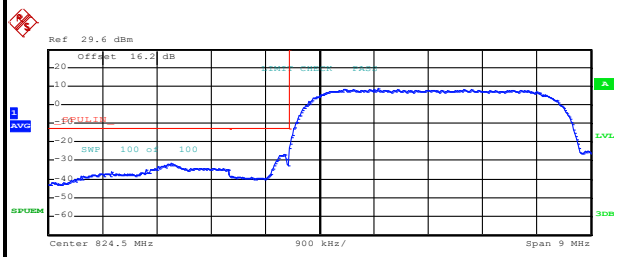


Date: 18.FEB.2020 21:04:27

Conducted Band Edge

WCDMA Band V (RMC 12.2Kbps)

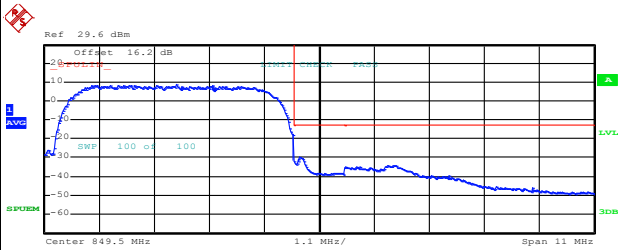
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
820.000 M	823.000 M	100.00 k	822.040000 M	-31.77	-18.77
823.000 M	824.000 M	50.00 k	823.896000 M	-26.82	-13.82
824.000 M	829.000 M	100.00 k	825.475000 M	8.61	-26.39

Date: 18.FEB.2020 21:20:13

Highest Band Edge

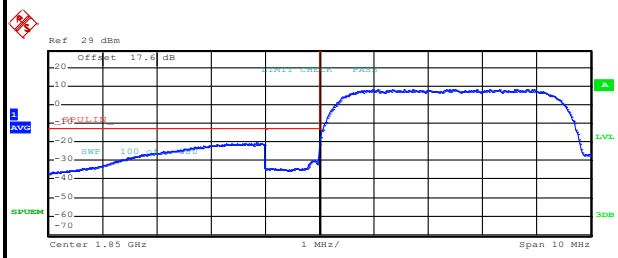


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
844.000 M	849.000 M	100.00 k	846.625000 M	8.63	-26.37
849.000 M	850.000 M	50.00 k	849.108000 M	-30.03	-17.03
850.000 M	855.000 M	100.00 k	850.865000 M	-34.42	-21.42

Date: 18.FEB.2020 21:23:03

WCDMA Band II (RMC 12.2Kbps)

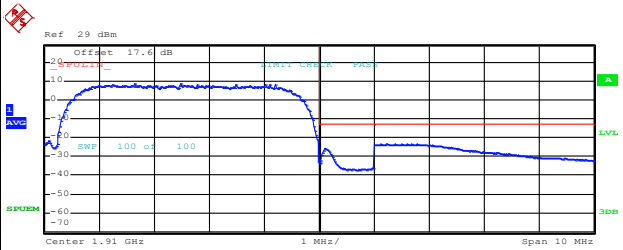
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.845 G	1.849 G	1.00 M	1.848832 G	-20.70	-7.70
1.849 G	1.850 G	50.00 k	1.849996 G	-28.84	-15.84
1.850 G	1.855 G	100.00 k	1.853820 G	8.39	-26.61

Date: 18.FEB.2020 20:53:29

Highest Band Edge

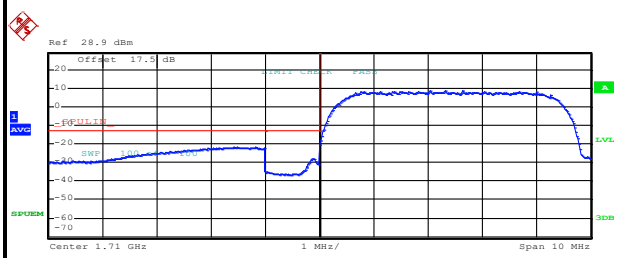


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.905 G	1.910 G	100.00 k	1.907470 G	8.74	-26.26
1.910 G	1.911 G	50.00 k	1.910104 G	-25.85	-12.85
1.911 G	1.915 G	1.00 M	1.911488 G	-23.43	-10.43

Date: 18.FEB.2020 20:56:21

WCDMA Band IV (RMC 12.2Kbps)

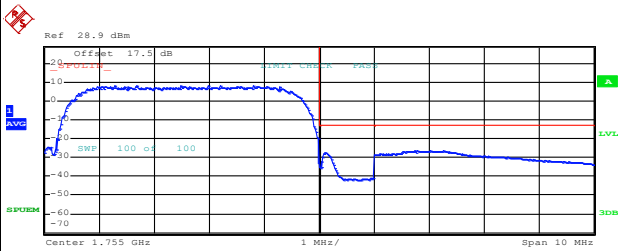
Lowest Band Edge



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708476 G	-21.76	-8.76
1.709 G	1.710 G	50.00 k	1.709900 G	-27.91	-14.91
1.710 G	1.715 G	100.00 k	1.712315 G	8.95	-26.05

Date: 18.FEB.2020 21:07:16

Highest Band Edge



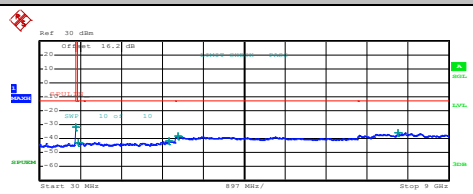
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.751670 G	8.25	-26.75
1.755 G	1.756 G	50.00 k	1.755096 G	-27.66	-14.66
1.756 G	1.760 G	1.00 M	1.756744 G	-26.47	-13.47

Date: 18.FEB.2020 21:10:08

Conducted Spurious Emission

WCDMA Band V (RMC 12.2Kbps)

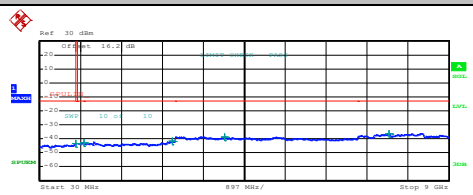
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	819.802500 M	-31.54	-18.54
855.000 M	1.000 G	1.00 M	879.577502 M	-43.02	-30.02
1.000 G	3.000 G	1.00 M	2.866500 G	-41.82	-28.82
3.000 G	7.000 G	1.00 M	3.057000 G	-38.19	-25.19
7.000 G	9.000 G	1.00 M	7.888000 G	-35.99	-22.99

Date: 18.FEB.2020 21:23:55

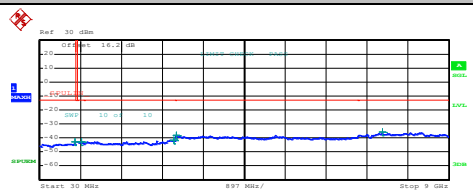
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	819.210000 M	-43.50	-30.50
855.000 M	1.000 G	1.00 M	994.018760 M	-42.80	-29.80
1.000 G	3.000 G	1.00 M	2.938000 G	-41.54	-28.54
3.000 G	7.000 G	1.00 M	4.086000 G	-38.63	-25.63
7.000 G	9.000 G	1.00 M	7.683000 G	-36.17	-23.17

Date: 18.FEB.2020 21:25:12

Highest Channel

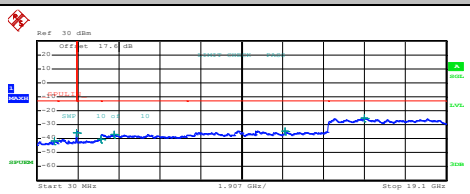


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	803.410000 M	-43.01	-30.01
855.000 M	1.000 G	1.00 M	941.021256 M	-43.07	-30.07
1.000 G	3.000 G	1.00 M	2.965000 G	-41.55	-28.55
3.000 G	7.000 G	1.00 M	3.027000 G	-38.13	-25.13
7.000 G	9.000 G	1.00 M	7.549500 G	-35.87	-22.87

Date: 18.FEB.2020 21:26:04

WCDMA Band II (RMC 12.2Kbps)

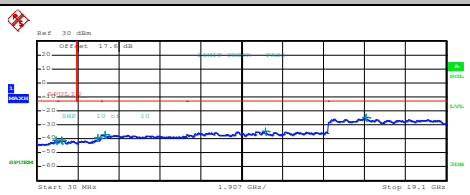
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	826.370000 M	-41.77	-28.77
1.000 G	1.845 G	1.00 M	1.844789 G	-35.50	-22.50
1.915 G	3.000 G	1.00 M	2.997559 G	-40.25	-27.25
3.000 G	7.000 G	1.00 M	3.610000 G	-36.79	-23.79
7.000 G	13.600 G	1.00 M	11.595250 G	-34.42	-21.42
13.600 G	19.100 G	1.00 M	15.296063 G	-25.14	-12.14

Date: 18.FEB.2020 20:57:16

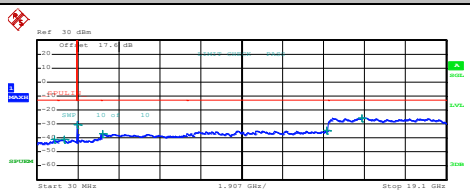
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	925.795000 M	-41.27	-28.27
1.000 G	1.845 G	1.00 M	1.189914 G	-41.31	-28.31
1.915 G	3.000 G	1.00 M	2.848643 G	-39.39	-26.39
3.000 G	7.000 G	1.00 M	3.180000 G	-37.21	-24.21
7.000 G	13.600 G	1.00 M	10.653100 G	-34.54	-21.54
13.600 G	19.100 G	1.00 M	15.361375 G	-24.70	-11.70

Date: 18.FEB.2020 20:58:06

Highest Channel

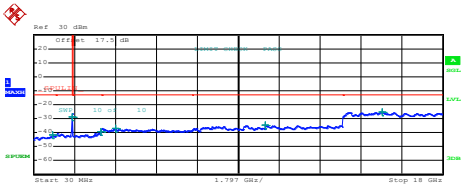


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	847.225000 M	-41.30	-28.30
1.000 G	1.845 G	1.00 M	1.275470 G	-40.99	-27.99
1.915 G	3.000 G	1.00 M	1.915271 G	-30.57	-17.57
3.000 G	7.000 G	1.00 M	3.075000 G	-37.14	-24.14
7.000 G	13.600 G	1.00 M	13.539775 G	-34.67	-21.67
13.600 G	19.100 G	1.00 M	15.171625 G	-25.56	-12.56

Date: 18.FEB.2020 20:58:57

WCDMA Band IV (RMC 12.2Kbps)

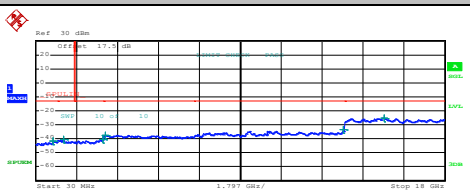
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	870.505000 M	-41.82	-28.82
1.000 G	1.705 G	1.00 M	1.704471 G	-28.65	-15.65
1.760 G	3.000 G	1.00 M	2.987290 G	-39.55	-26.55
3.000 G	7.000 G	1.00 M	3.617000 G	-36.98	-23.98
7.000 G	13.600 G	1.00 M	10.216675 G	-34.55	-21.55
13.600 G	18.000 G	1.00 M	15.342400 G	-25.09	-12.09

Date: 18.FEB.2020 21:11:00

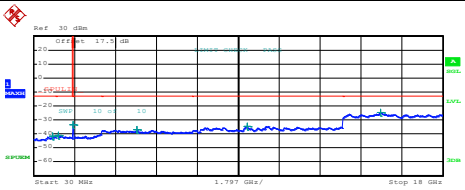
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	799.695000 M	-41.74	-28.74
1.000 G	1.705 G	1.00 M	1.237937 G	-40.32	-27.32
1.760 G	3.000 G	1.00 M	2.970240 G	-40.60	-27.60
3.000 G	7.000 G	1.00 M	3.080000 G	-37.30	-24.30
7.000 G	13.600 G	1.00 M	13.557100 G	-33.69	-20.69
13.600 G	18.000 G	1.00 M	15.326450 G	-25.04	-12.04

Date: 18.FEB.2020 21:11:49

Highest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
30.000 M	1.000 G	1.00 M	845.770000 M	-41.87	-28.87
1.000 G	1.705 G	1.00 M	1.096056 G	-40.91	-27.91
1.760 G	3.000 G	1.00 M	1.760310 G	-33.35	-20.35
3.000 G	7.000 G	1.00 M	4.576000 G	-37.17	-24.17
7.000 G	13.600 G	1.00 M	9.423025 G	-34.84	-21.84
13.600 G	18.000 G	1.00 M	15.256050 G	-24.94	-11.94

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Frequency Stability

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

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0016	PASS
40	Normal Voltage	0.0021	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0005	
0	Normal Voltage	0.0016	
-10	Normal Voltage	0.0037	
-20	Normal Voltage	0.0043	
-30	Normal Voltage	0.0048	
20	Maximum Voltage	0.0005	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0021	

Test Conditions	Middle Channel	WCDMA Band IV (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0006	PASS
40	Normal Voltage	0.0006	
30	Normal Voltage	0.0017	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0029	
-10	Normal Voltage	0.0012	
-20	Normal Voltage	0.0052	
-30	Normal Voltage	0.0058	
20	Maximum Voltage	0.0000	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage =4V. ; Battery End Point (BEP) = 3.7 V. ; Maximum Voltage =4.3 V

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

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

GSM850 (GSM)									
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	-52.90	-13	-39.90	-66.38	-58.49	0.92	8.66	H
	2472	-52.53	-13	-39.53	-70.84	-59.90	1.14	10.66	H
	3296	-54.97	-13	-41.97	-75.13	-63.51	1.32	12.01	H
	1648	-47.26	-13	-34.26	-60.21	-52.85	0.92	8.66	V
	2472	-53.90	-13	-40.90	-72.36	-61.27	1.14	10.66	V
	3296	-54.30	-13	-41.30	-74.93	-62.84	1.32	12.01	V
Middle	1672	-52.41	-13	-39.41	-65.96	-58.09	0.93	8.75	H
	2512	-54.88	-13	-41.88	-73.22	-62.29	1.15	10.71	H
	3344	-55.36	-13	-42.36	-75.4	-64.00	1.33	12.13	H
	1672	-49.90	-13	-36.90	-62.82	-55.58	0.93	8.75	V
	2512	-51.45	-13	-38.45	-69.98	-58.86	1.15	10.71	V
	3344	-54.73	-13	-41.73	-75.22	-63.37	1.33	12.13	V
Highest	1696	-54.81	-13	-41.81	-68.43	-60.57	0.94	8.84	H
	2544	-50.76	-13	-37.76	-69.1	-58.20	1.16	10.75	H
	3395	-55.16	-13	-42.16	-75.09	-63.92	1.34	12.25	H
	1696	-50.97	-13	-37.97	-63.88	-56.73	0.94	8.84	V
	2544	-50.95	-13	-37.95	-69.4	-58.39	1.16	10.75	V
	3395	-54.93	-13	-41.93	-75.3	-63.69	1.34	12.25	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	-58.95	-13	-45.95	-72.43	-64.54	0.92	8.66	H
	2472	-56.70	-13	-43.70	-75.01	-64.07	1.14	10.66	H
	3296	-54.99	-13	-41.99	-75.15	-63.53	1.32	12.01	H
	1648	-54.99	-13	-41.99	-67.94	-60.58	0.92	8.66	V
	2472	-56.52	-13	-43.52	-74.98	-63.89	1.14	10.66	V
	3296	-54.35	-13	-41.35	-74.98	-62.89	1.32	12.01	V
Middle	1672	-58.31	-13	-45.31	-71.86	-63.99	0.93	8.75	H
	2512	-56.66	-13	-43.66	-75	-64.07	1.15	10.71	H
	3344	-54.84	-13	-41.84	-74.88	-63.48	1.33	12.13	H
	1672	-56.26	-13	-43.26	-69.18	-61.94	0.93	8.75	V
	2512	-56.48	-13	-43.48	-75.01	-63.89	1.15	10.71	V
	3344	-54.81	-13	-41.81	-75.3	-63.45	1.33	12.13	V
Highest	1696	-60.68	-13	-47.68	-74.3	-66.44	0.94	8.84	H
	2544	-56.61	-13	-43.61	-74.95	-64.05	1.16	10.75	H
	3392	-55.21	-13	-42.21	-75.15	-63.96	1.34	12.24	H
	1696	-57.17	-13	-44.17	-70.08	-62.93	0.94	8.84	V
	2544	-55.43	-13	-42.43	-73.88	-62.87	1.16	10.75	V
	3395	-54.83	-13	-41.83	-75.2	-63.59	1.34	12.25	V

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

GSM1900 (GSM)									
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	-52.28	-13	-39.28	-75.03	-63.49	1.41	12.62	H
	5548	-47.00	-13	-34.00	-74.73	-58.56	1.74	13.30	H
	7403	-42.72	-13	-29.72	-73.65	-52.04	1.94	11.26	H
	3700	-51.89	-13	-38.89	-74.78	-63.10	1.41	12.62	V
	5548	-45.18	-13	-32.18	-72.42	-56.74	1.74	13.30	V
	7403	-42.96	-13	-29.96	-73.73	-52.28	1.94	11.26	V
Middle	3763	-51.43	-13	-38.43	-74.4	-62.66	1.43	12.66	H
	5639	-44.23	-13	-31.23	-71.94	-55.80	1.73	13.30	H
	7522	-43.52	-13	-30.52	-73.83	-52.63	1.99	11.10	H
	3763	-51.27	-13	-38.27	-74.46	-62.50	1.43	12.66	V
	5639	-42.95	-13	-29.95	-70.26	-54.52	1.73	13.30	V
	7522	-43.37	-13	-30.37	-73.64	-52.48	1.99	11.10	V
Highest	3819	-51.58	-13	-38.58	-74.73	-62.83	1.44	12.69	H
	5730	-46.71	-13	-33.71	-74.82	-58.28	1.73	13.30	H
	7641	-44.35	-13	-31.35	-74.19	-53.47	2.01	11.13	H
	3819	-51.47	-13	-38.47	-74.86	-62.72	1.44	12.69	V
	5730	-44.21	-13	-31.21	-71.68	-55.78	1.73	13.30	V
	7641	-44.52	-13	-31.52	-74.26	-53.64	2.01	11.13	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	-51.89	-13	-38.89	-74.64	-63.10	1.41	12.62	H
	5548	-47.58	-13	-34.58	-75.31	-59.14	1.74	13.30	H
	7403	-42.78	-13	-29.78	-73.71	-52.10	1.94	11.26	H
	3700	-51.97	-13	-38.97	-74.86	-63.18	1.41	12.62	V
	5548	-47.79	-13	-34.79	-75.03	-59.35	1.74	13.30	V
	7403	-43.06	-13	-30.06	-73.83	-52.38	1.94	11.26	V
Middle	3763	-51.95	-13	-38.95	-74.92	-63.18	1.43	12.66	H
	5639	-47.27	-13	-34.27	-74.98	-58.84	1.73	13.30	H
	7522	-43.04	-13	-30.04	-73.35	-52.15	1.99	11.10	H
	3763	-51.76	-13	-38.76	-74.95	-62.99	1.43	12.66	V
	5639	-47.88	-13	-34.88	-75.19	-59.45	1.73	13.30	V
	7522	-43.29	-13	-30.29	-73.56	-52.40	1.99	11.10	V
Highest	3819	-51.87	-13	-38.87	-75.02	-63.12	1.44	12.69	H
	5730	-47.15	-13	-34.15	-75.26	-58.72	1.73	13.30	H
	7641	-44.36	-13	-31.36	-74.2	-53.48	2.01	11.13	H
	3819	-51.58	-13	-38.58	-74.97	-62.83	1.44	12.69	V
	5730	-47.50	-13	-34.50	-74.97	-59.07	1.73	13.30	V
	7641	-44.64	-13	-31.64	-74.38	-53.76	2.01	11.13	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	1652	-60.28	-13	-47.28	-73.77	-65.89	0.92	8.68	H
	2480	-55.88	-13	-42.88	-74.2	-63.26	1.15	10.67	H
	3304	-54.81	-13	-41.81	-74.94	-63.36	1.32	12.03	H
	1656	-61.20	-13	-48.20	-74.14	-66.82	0.92	8.69	V
	2480	-56.55	-13	-43.55	-75.04	-63.93	1.15	10.67	V
	3304	-54.39	-13	-41.39	-74.99	-62.94	1.32	12.03	V
Middle	1672	-59.34	-13	-46.34	-72.89	-65.02	0.93	8.75	H
	2509	-54.11	-13	-41.11	-72.45	-61.52	1.15	10.71	H
	3344	-54.14	-13	-41.14	-74.18	-62.78	1.33	12.13	H
	1672	-60.19	-13	-47.19	-73.11	-65.87	0.93	8.75	V
	2509	-55.26	-13	-42.26	-73.79	-62.67	1.15	10.71	V
	3344	-53.63	-13	-40.63	-74.12	-62.27	1.33	12.13	V
Highest	1696	-59.62	-13	-46.62	-73.24	-65.38	0.94	8.84	H
	2536	-53.45	-13	-40.45	-71.79	-60.88	1.16	10.74	H
	3384	-54.09	-13	-41.09	-74.03	-62.82	1.34	12.22	H
	1696	-60.50	-13	-47.50	-73.41	-66.26	0.94	8.84	V
	2536	-55.46	-13	-42.46	-73.93	-62.89	1.16	10.74	V
	3384	-53.66	-13	-40.66	-74.05	-62.39	1.34	12.22	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	-51.98	-13	-38.98	-74.75	-63.19	1.41	12.62	H
	5555	-46.98	-13	-33.98	-74.69	-58.54	1.74	13.30	H
	7410	-42.99	-13	-29.99	-73.88	-52.29	1.94	11.24	H
	3707	-51.93	-13	-38.93	-74.85	-63.14	1.41	12.62	V
	5555	-47.99	-13	-34.99	-75.23	-59.55	1.74	13.30	V
	7410	-43.06	-13	-30.06	-73.8	-52.36	1.94	11.24	V
Middle	3763	-51.38	-13	-38.38	-74.35	-62.61	1.43	12.66	H
	5639	-47.37	-13	-34.37	-75.08	-58.94	1.73	13.30	H
	7520	-43.44	-13	-30.44	-73.76	-52.55	1.99	11.10	H
	3763	-51.62	-13	-38.62	-74.81	-62.85	1.43	12.66	V
	5639	-47.44	-13	-34.44	-74.75	-59.01	1.73	13.30	V
	7522	-43.54	-13	-30.54	-73.82	-52.65	1.99	11.10	V
Highest	3812	-51.58	-13	-38.58	-74.7	-62.83	1.44	12.69	H
	5723	-47.03	-13	-34.03	-75.12	-58.60	1.73	13.30	H
	7627	-44.46	-13	-31.46	-74.3	-53.58	2.01	11.13	H
	3812	-51.54	-13	-38.54	-74.91	-62.79	1.44	12.69	V
	5723	-47.33	-13	-34.33	-74.79	-58.90	1.73	13.30	V
	7627	-44.46	-13	-31.46	-74.22	-53.58	2.01	11.13	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	3424	-53.64	-13	-40.64	-74.5	-64.61	1.35	12.32	H
	5137	-48.51	-13	-35.51	-74.97	-59.66	1.65	12.79	H
	6849	-44.33	-13	-31.33	-73.96	-54.70	1.74	12.11	H
	3424	-53.35	-13	-40.35	-74.63	-64.32	1.35	12.32	V
	5137	-48.34	-13	-35.34	-74.55	-59.49	1.65	12.79	V
	6849	-44.40	-13	-31.40	-73.63	-54.77	1.74	12.11	V
Middle	3465	-53.61	-13	-40.61	-74.88	-64.67	1.35	12.42	H
	5197	-48.63	-13	-35.63	-75.13	-59.84	1.66	12.88	H
	6930	-44.05	-13	-31.05	-74.03	-54.32	1.73	12.00	H
	3465	-53.28	-13	-40.28	-74.94	-64.34	1.35	12.42	V
	5197	-48.69	-13	-35.69	-75.02	-59.90	1.66	12.88	V
	6930	-44.10	-13	-31.10	-73.63	-54.37	1.73	12.00	V
Highest	3505	-53.15	-13	-40.15	-74.79	-64.29	1.36	12.50	H
	5257	-48.38	-13	-35.38	-75.07	-59.66	1.68	12.96	H
	7010	-43.58	-13	-30.58	-73.89	-53.74	1.73	11.88	H
	3505	-52.72	-13	-39.72	-74.7	-63.86	1.36	12.50	V
	5257	-48.80	-13	-35.80	-75.26	-60.08	1.68	12.96	V
	7010	-43.79	-13	-30.79	-73.62	-53.95	1.73	11.88	V

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