



FCC RF Test Report

APPLICANT : Honeywell International Inc.
EQUIPMENT : CN75WAN mobile computer
BRAND NAME : Honeywell
MODEL NAME : CN75WAN
MARKETING NAME : CN75
FCC ID : HD5-CN75WAN
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Dec. 28, 2016 and testing was completed on Jan. 25, 2017. 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.

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Approved by: Jones Tsai / Manager



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG6D2819	Rev. 01	Initial issue of report	Mar. 08, 2017



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	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
3.5	§24.232(d)	Peak-to-Average Ratio	< 13 dB	PASS	-
3.6	§2.1049 §22.917(b) §24.238(b)	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a)	Band Edge Measurement	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a)	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		Within Authorized Band		
4.4	§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	Under limit 22.58 dB at 3763.000 MHz



1 General Description

1.1 Applicant

Honeywell International Inc.

9680 Old Bailes Road, Fort Mill, SC 29707 USA

1.2 Manufacturer

Honeywell International Inc.

9680 Old Bailes Road, Fort Mill, SC 29707 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	CN75WAN mobile computer
Brand Name	Honeywell
Model Name	CN75WAN
Marketing Name	CN75
FCC ID	HD5-CN75WAN
Sample 1	CN75 WWAN-Q5 WWAN_Q5 keypad
Sample 2	CN75 WWAN-N5 WWAN_N5 keypad
Sample 3	CN75E WWAN-N7 WWAN_N7 keypad
Sample 4	CN75E WWAN-Q6 WWAN_Q6 keypad
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA WLAN 11a/b/g/n HT20 Bluetooth BR/EDR/LE
HW Version	v1.1
SW Version	W03.320
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. All the tests were performed with Sample 2.

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 CDMA2000: BC0: 824.70 MHz ~ 848.31 MHz BC1: 1851.25 MHz ~ 1908.75 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 CDMA2000: BC0: 869.70 MHz ~ 893.31 MHz BC1: 1931.25 MHz ~ 1988.75 MHz
Maximum Output Power to Antenna	GSM/GPRS/EDGE: 850: 32.99 dBm 1900: 30.06 dBm WCDMA: Band V: 24.06 dBm Band II: 24.26 dBm CDMA2000: BC0: 24.10 dBm BC1: 23.85 dBm
Antenna Type	PIFA Antenna
Antenna Gain	Cellular Band: 0.12 dBi PCS Band: 1.06 dBi
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: BPSK (Uplink) HSDPA: 16QAM (Uplink) HSUPA: QPSK (Uplink) CDMA2000 1xRTT: QPSK CDMA2000 1xEV-DO: QPSK/8PSK

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	1.2474	0.0120 ppm	246KGXW
Part 22	GSM850 EDGE class 8	8PSK	0.2938	0.0430 ppm	247KG7W
Part 22	WCDMA Band V RMC 12.2Kbps	BPSK	0.1596	0.0060 ppm	4M14F9W
Part 22	CDMA2000 BC0 1xRTT	QPSK	0.1611	0.0108 ppm	1M27F9W
Part 22	CDMA2000 BC0 1xEV-DO Rev. 0	QPSK	0.1607	-	-
Part 24	GSM1900 GPRS class 8	GMSK	1.2942	0.0223 ppm	246KGXW
Part 24	GSM1900 EDGE class 8	8PSK	0.4920	0.0314 ppm	246KG7W
Part 24	WCDMA Band II RMC 12.2Kbps	BPSK	0.3404	0.0309 ppm	4M16F9W
Part 24	CDMA2000 BC1 1xRTT	QPSK	0.3097	0.0202 ppm	1M28F9W
Part 24	CDMA2000 BC1 1xEV-DO Rev. 0	QPSK	0.3090	-	-

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 1 st 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.
	03CH11HY

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)
- 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 and CDMA BC0.
2. 30 MHz to 19100 MHz for GSM1900 and WCDMA Band II and CDMA BC1.

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
CDMA BC0	■ 1xRTT Link	■ 1xRTT Link
CDMA BC1	■ 1xRTT Link	■ 1xRTT 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.	CN75A/CN75E Vehicle dock	intermec technologies corp	1000AV01	FCC DoC	NA	NA
3.	CK75 Vehicle dock	intermec technologies corp	1001AV01	FCC DoC	NA	NA
4.	car charger	intermec technologies corp	852-057-005	Verification	NA	Unshielded, 1.2m
5.	Snap-on(LAN)	intermec technologies corp	1000AA01	FCC DoC	NA	NA
6.	Snap-on(RS232)	intermec technologies corp	1000AA03	FCC DoC	NA	NA
7.	Snap-On (VoCollect)	intermec technologies corp	1000AA05	FCC DoC	NA	NA
8.	Snap-on (USB)	intermec technologies corp	1000AA07	FCC DoC	NA	NA
9.	Snap-on adapter	intermec technologies corp	9001AE01	FCC DoC	NA	AC IP: Unshielded, 1.8m DC OP: Shielded, 1.8m
10.	Earphone	Honeywell	Vocollect SR-20	FCC DoC	1.1 meter, shielded cable	NA
11.	USB Cable	intermec technologies corp	VE011-2018	FCC DoC	NA	1.4 meter, shielded cable, w/t ferrite core
12.	Battery	intermec technologies corp	1000AB02	NA	NA	NA



2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

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

Example :

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

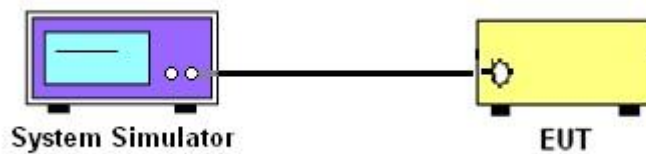
3 Conducted Test Result

3.1 Measuring Instruments

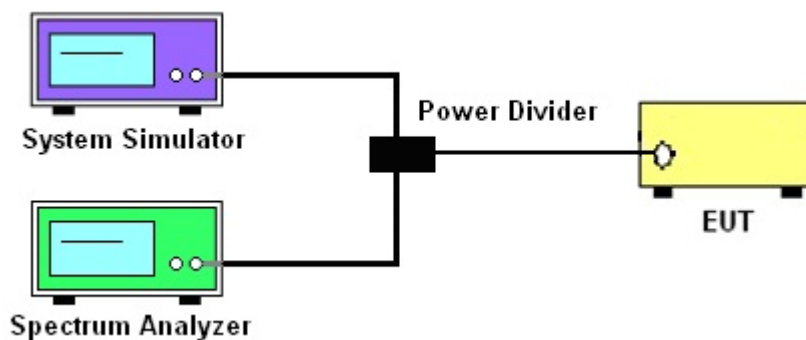
See list of measuring instruments of this test report.

3.2 Test Setup

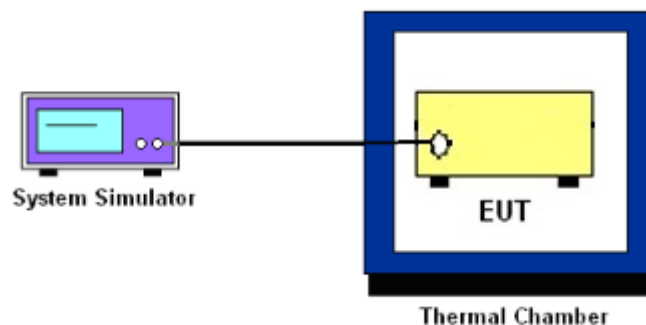
3.2.1 Conducted Output Power



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, WCDMA Band V and CDMA2000 BC0.

The EIRP of mobile transmitters must not exceed 2 Watts for GSM1900, WCDMA Band II and CDMA2000 BC1.

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 $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13\text{dBm}$.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

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

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

3.8.2 Test Procedures

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

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 $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) 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 $20\pm 5^{\circ}\text{C}$ 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.

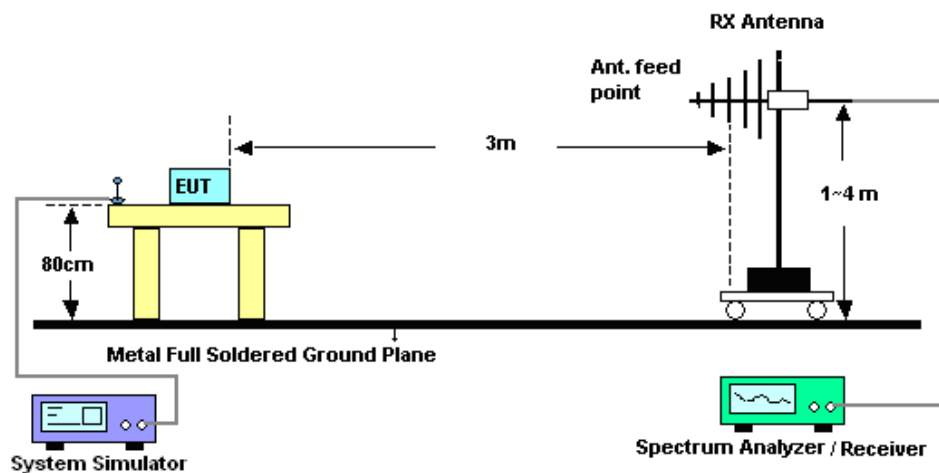
4 Radiated Test Items

4.1 Measuring Instruments

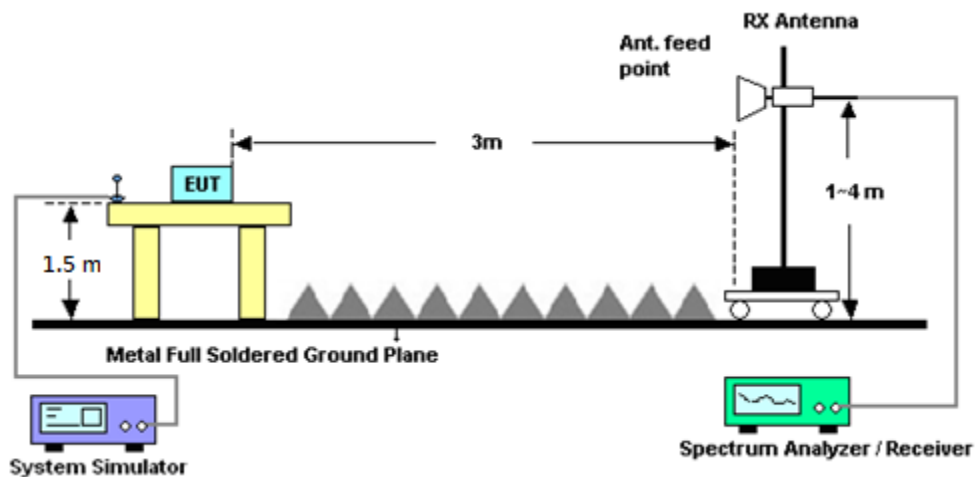
See list of measuring instruments of this test report.

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 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. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
12. $ERP \text{ (dBm)} = EIRP - 2.15$
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$



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. 27, 2016	Jan. 11, 2017 ~ Jan. 17, 2017	Jun. 26, 2017	Conducted (TH03-HY)
Temperature Chamber	ESPEC	SU-641	92013721	-30℃ ~70℃	Nov. 16, 2016	Jan. 11, 2017 ~ Jan. 17, 2017	Nov. 15, 2017	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL883644	Voltage:0~20V;Current:0~5A	Nov. 22, 2016	Jan. 11, 2017 ~ Jan. 17, 2017	Nov. 21, 2017	Conducted (TH03-HY)
Base Station(Measu	Rohde & Schwarz	CMU200	117995	GSM / GPRS / WCDMA / CDMA	Aug. 03, 2016	Jan. 11, 2017 ~ Jan. 17, 2017	Aug. 04, 2017	Conducted (TH03-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 10, 2016	Jan. 07, 2017 ~ Jan. 25, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D&N-6-	35414&AT-N0602	30MHz~1GHz	Oct. 15, 2016	Jan. 07, 2017 ~ Jan. 25, 2017	Oct. 14, 2017	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 07, 2016	Jan. 07, 2017 ~ Jan. 25, 2017	Oct. 06, 2017	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 10, 2016	Jan. 07, 2017 ~ Jan. 25, 2017	Nov. 09, 2017	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Oct. 12, 2016	Jan. 07, 2017 ~ Jan. 25, 2017	Oct. 11, 2017	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Jan. 07, 2017 ~ Jan. 25, 2017	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-450 0-B	N/A	1~4m	N/A	Jan. 07, 2017 ~ Jan. 25, 2017	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Jan. 07, 2017 ~ Jan. 25, 2017	N/A	Radiation (03CH11-HY)
Preamplifier	MITEQ	TTA0204	1872107	2GHz~40GHz	Feb. 15, 2016	Jan. 07, 2017 ~ Jan. 25, 2017	Feb. 14, 2017	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% ($U = 2Uc(y)$)	5.2
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.5
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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	1909.8
GSM	32.96	32.95	32.98	29.8	30.05	29.73
GPRS class 8	32.98	32.96	32.99	29.86	30.06	29.74
GPRS class 10	29.84	29.84	29.9	26.85	26.48	26.7
GPRS class 11	28.08	27.71	27.95	24.92	24.57	24.42
GPRS class 12	26.72	26.34	26.65	23.37	23.14	22.87
EGPRS class 8	26.71	26.47	26.6	25.86	25.59	25.37
EGPRS class 10	23.66	23.39	23.52	22.7	22.5	22.27
EGPRS class 11	22.14	21.8	21.96	21.25	21.05	20.8
EGPRS class 12	21.05	20.78	20.84	19.96	19.59	19.48

Conducted Power (*Unit: dBm)						
Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4182	4233	9262	9400	9538
Frequency	826.4	836.4	846.6	1852.4	1880	1907.6
RMC 12.2K	23.95	24.06	23.978	23.99	24.26	24.1
HSDPA Subtest-1	23.86	24.01	23.93	23.95	24.18	24.06
HSDPA Subtest-2	23.94	24.03	23.9	23.94	24.23	24.01
HSDPA Subtest-3	23.41	23.53	23.64	23.51	23.75	23.63
HSDPA Subtest-4	23.44	23.6	23.52	23.5	23.76	23.59
HSUPA Subtest-1	23.63	23.62	22.74	23.7	23.66	23.4
HSUPA Subtest-2	22.04	22.49	22.35	22	22.5	21.96
HSUPA Subtest-3	22.6	23.09	22.53	23.11	23.22	22.69
HSUPA Subtest-4	22.42	22.5	22.41	22.44	22.48	22.43
HSUPA Subtest-5	23.8	23.92	23.78	23.88	24.17	24.06



Conducted Power (*Unit: dBm)						
Band	CDMA 2000 BC0			CDMA 2000 BC1		
Channel	1013	384	777	25	600	1175
Frequency	824.7	836.52	848.31	1851.25	1880	1908.75
1xRTT RC1 SO55	23.93	24.1	23.9	23.65	23.75	23.85
1xRTT RC3 SO55	23.88	24.02	24.06	23.63	23.66	23.74
1xRTT RC3 SO32 (+ F-SCH)	23.86	24	23.79	23.62	23.66	23.7
1xRTT RC3 SO32 (+SCH)	23.86	24	23.82	23.61	23.62	23.73
1xEVDO RTAP 153.6Kbps	23.98	24.09	24.01	23.75	23.75	23.84
1xEVDO RETAP 4096Bits	23.95	24.08	23.96	23.7	23.73	23.83

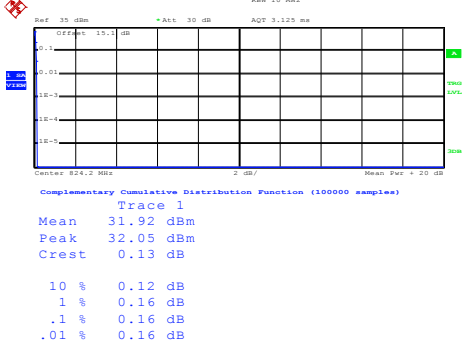
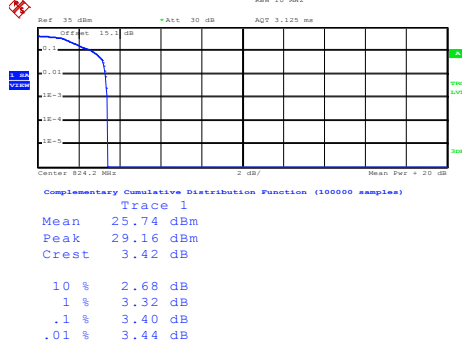
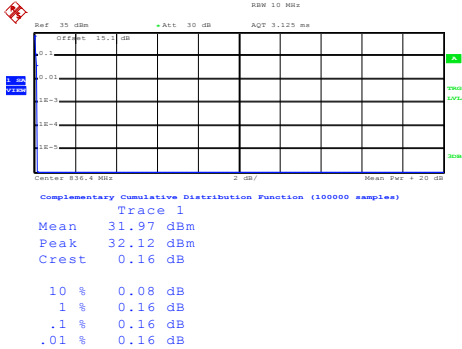
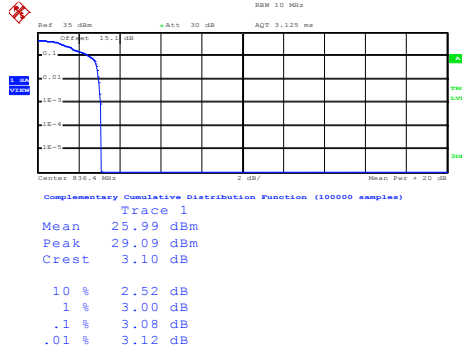
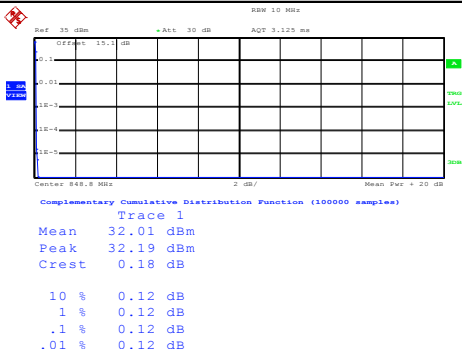
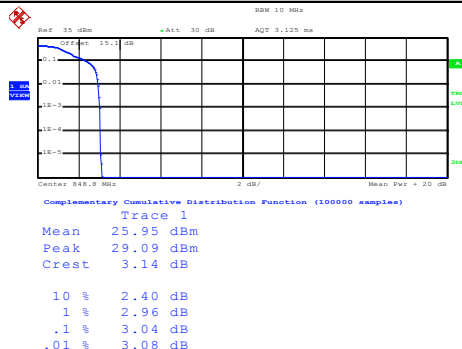
A2. GSM

Peak-to-Average Ratio

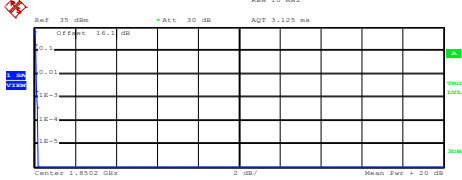
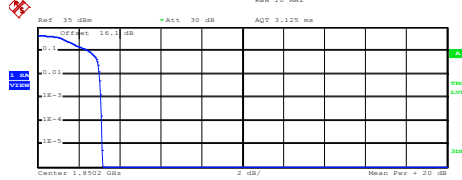
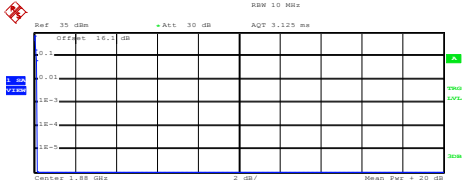
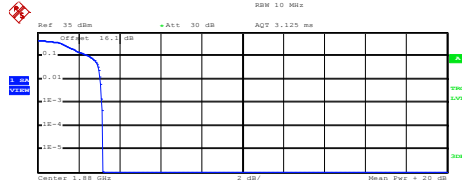
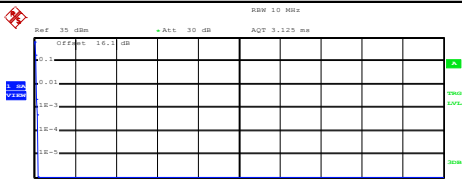
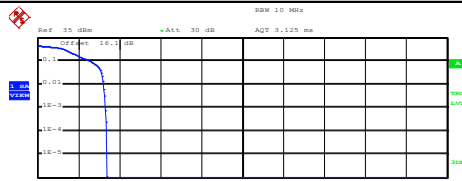
Mode	GSM850		Limit: 13dB
Mod.	GPRS class 8	EDGE class 8	Result
Lowest CH	0.16	3.40	PASS
Middle CH	0.16	3.08	
Highest CH	0.12	3.04	

Mode	GSM1900		Limit: 13dB
Mod.	GPRS class 8	EDGE class 8	Result
Lowest CH	0.16	3.08	PASS
Middle CH	0.16	3.16	
Highest CH	0.16	3.32	



GSM850 (GPRS class 8)		GSM850 (EDGE class 8)	
Lowest Channel		Lowest Channel	
 Ref: 35 dBm Att: 30 dB AGT: 3.125 ms OFF: 15.1 dB ON: 15.1 dB LVL: 15.1 dB LVL: 15.1 dB Center 824.2 MHz 2 dB/ Mean Pwr + 20 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 31.92 dBm Peak 32.05 dBm Crest 0.13 dB 10 % 0.12 dB 1 % 0.16 dB .1 % 0.16 dB .01 % 0.16 dB Date: 11.JAN.2017 18:59:43		 Ref: 35 dBm Att: 30 dB AGT: 3.125 ms OFF: 15.1 dB ON: 15.1 dB LVL: 15.1 dB LVL: 15.1 dB Center 824.2 MHz 2 dB/ Mean Pwr + 20 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 25.74 dBm Peak 29.16 dBm Crest 3.42 dB 10 % 2.68 dB 1 % 3.32 dB .1 % 3.40 dB .01 % 3.44 dB Date: 11.JAN.2017 19:14:12	
Middle Channel		Middle Channel	
 Ref: 35 dBm Att: 30 dB AGT: 3.125 ms OFF: 15.1 dB ON: 15.1 dB LVL: 15.1 dB LVL: 15.1 dB Center 836.4 MHz 2 dB/ Mean Pwr + 20 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 31.97 dBm Peak 32.12 dBm Crest 0.16 dB 10 % 0.08 dB 1 % 0.16 dB .1 % 0.16 dB .01 % 0.16 dB Date: 11.JAN.2017 19:00:18		 Ref: 35 dBm Att: 30 dB AGT: 3.125 ms OFF: 15.1 dB ON: 15.1 dB LVL: 15.1 dB LVL: 15.1 dB Center 836.4 MHz 2 dB/ Mean Pwr + 20 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 25.99 dBm Peak 29.09 dBm Crest 3.10 dB 10 % 2.52 dB 1 % 3.00 dB .1 % 3.08 dB .01 % 3.12 dB Date: 11.JAN.2017 19:14:43	
Highest Channel		Highest Channel	
 Ref: 35 dBm Att: 30 dB AGT: 3.125 ms OFF: 15.1 dB ON: 15.1 dB LVL: 15.1 dB LVL: 15.1 dB Center 848.8 MHz 2 dB/ Mean Pwr + 20 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 32.01 dBm Peak 32.19 dBm Crest 0.18 dB 10 % 0.12 dB 1 % 0.12 dB .1 % 0.12 dB .01 % 0.12 dB Date: 11.JAN.2017 19:00:45		 Ref: 35 dBm Att: 30 dB AGT: 3.125 ms OFF: 15.1 dB ON: 15.1 dB LVL: 15.1 dB LVL: 15.1 dB Center 848.8 MHz 2 dB/ Mean Pwr + 20 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 25.95 dBm Peak 29.09 dBm Crest 3.14 dB 10 % 2.40 dB 1 % 2.96 dB .1 % 3.04 dB .01 % 3.08 dB Date: 11.JAN.2017 19:15:30	

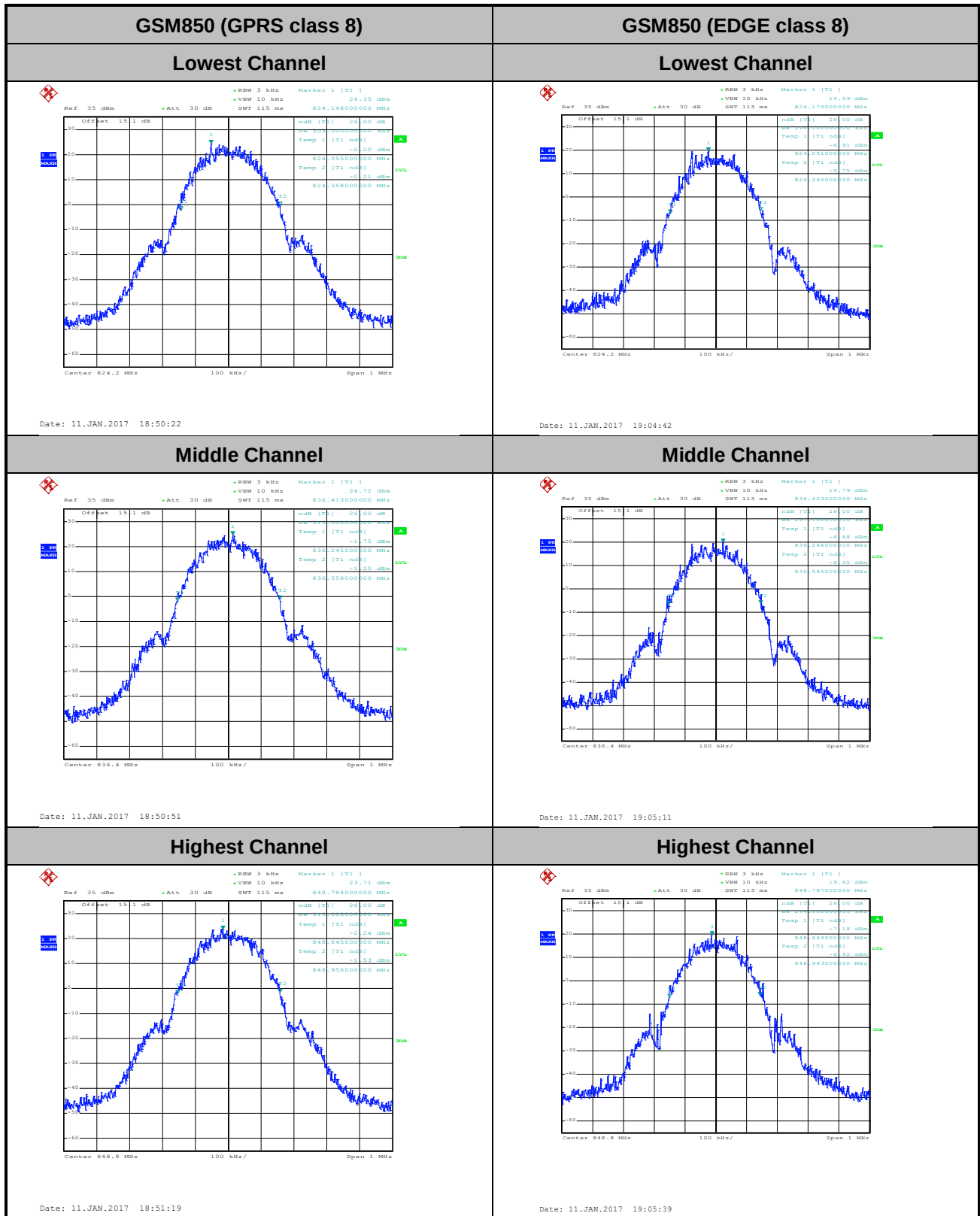


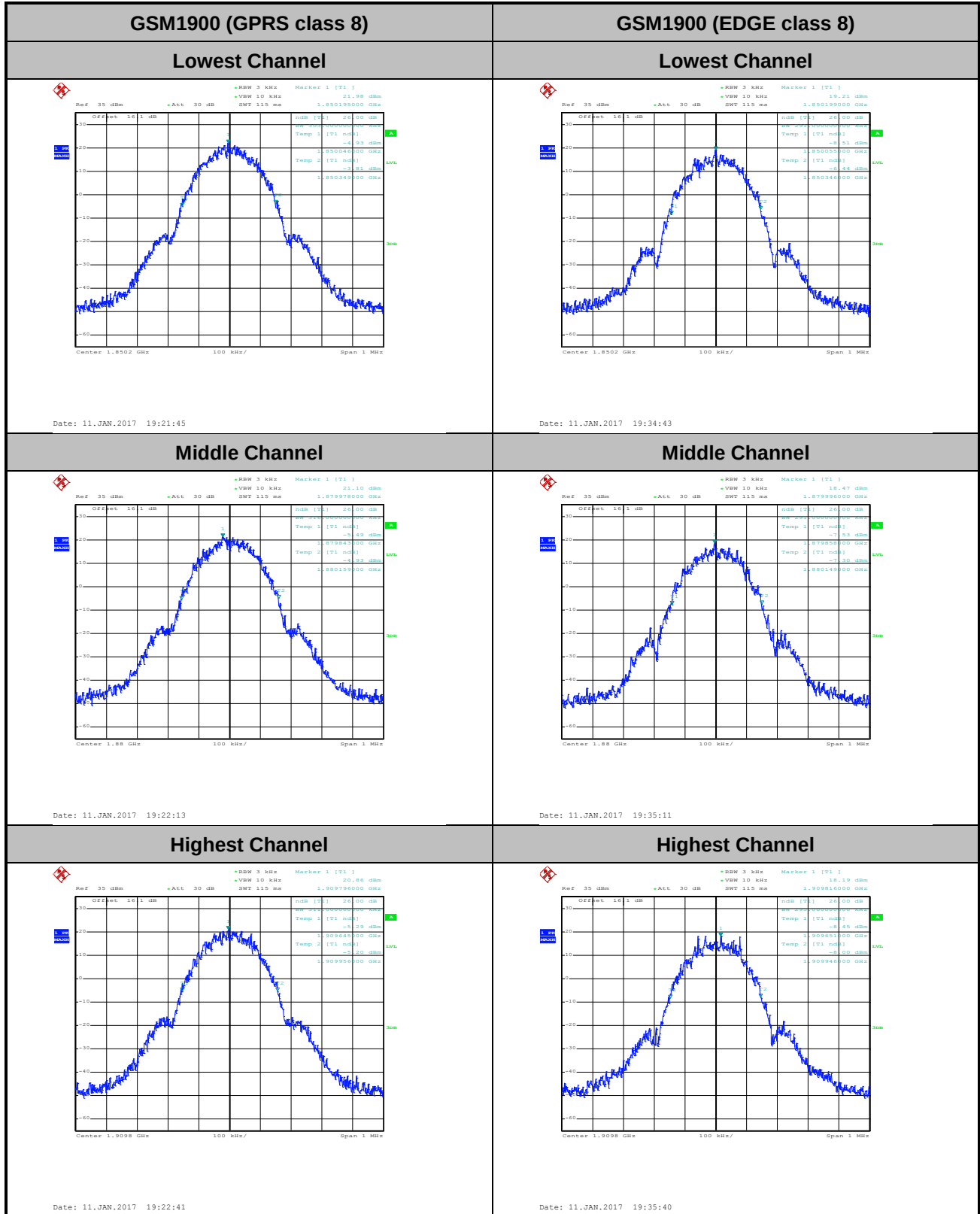
GSM1900 (GPRS class 8)		GSM1900 (EDGE class 8)	
Lowest Channel		Lowest Channel	
 Ref: 35 dBm Offset: 16.1 dB Att: 30 dB AQT: 3.125 ms Center: 1.8502 GHz 2 dB/ Mean: 29.06 dBm Peak: 29.23 dBm Crest: 0.17 dB 10 % 0.08 dB 1 % 0.12 dB .1 % 0.16 dB .01 % 0.20 dB Date: 11.JAN.2017 19:31:04		 Ref: 35 dBm Offset: 16.1 dB Att: 30 dB AQT: 3.125 ms Center: 1.8502 GHz 2 dB/ Mean: 25.37 dBm Peak: 28.52 dBm Crest: 3.16 dB 10 % 2.52 dB 1 % 3.00 dB .1 % 3.08 dB .01 % 3.12 dB Date: 11.JAN.2017 19:43:45	
Middle Channel		Middle Channel	
 Ref: 35 dBm Offset: 16.1 dB Att: 30 dB AQT: 3.125 ms Center: 1.85 GHz 2 dB/ Mean: 29.02 dBm Peak: 29.16 dBm Crest: 0.14 dB 10 % 0.12 dB 1 % 0.16 dB .1 % 0.16 dB .01 % 0.16 dB Date: 11.JAN.2017 19:31:29		 Ref: 35 dBm Offset: 16.1 dB Att: 30 dB AQT: 3.125 ms Center: 1.85 GHz 2 dB/ Mean: 24.93 dBm Peak: 28.10 dBm Crest: 3.17 dB 10 % 2.52 dB 1 % 3.08 dB .1 % 3.16 dB .01 % 3.20 dB Date: 11.JAN.2017 19:44:16	
Highest Channel		Highest Channel	
 Ref: 35 dBm Offset: 16.1 dB Att: 30 dB AQT: 3.125 ms Center: 1.9098 GHz 2 dB/ Mean: 28.85 dBm Peak: 29.02 dBm Crest: 0.17 dB 10 % 0.08 dB 1 % 0.12 dB .1 % 0.16 dB .01 % 0.20 dB Date: 11.JAN.2017 19:32:13		 Ref: 35 dBm Offset: 16.1 dB Att: 30 dB AQT: 3.125 ms Center: 1.9098 GHz 2 dB/ Mean: 24.59 dBm Peak: 27.96 dBm Crest: 3.37 dB 10 % 2.60 dB 1 % 3.24 dB .1 % 3.32 dB .01 % 3.40 dB Date: 11.JAN.2017 19:45:05	

**26dB Bandwidth**

Mode	GSM850	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.303	0.294
Middle CH	0.313	0.297
Highest CH	0.313	0.294

Mode	GSM1900	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.303	0.291
Middle CH	0.316	0.291
Highest CH	0.311	0.295

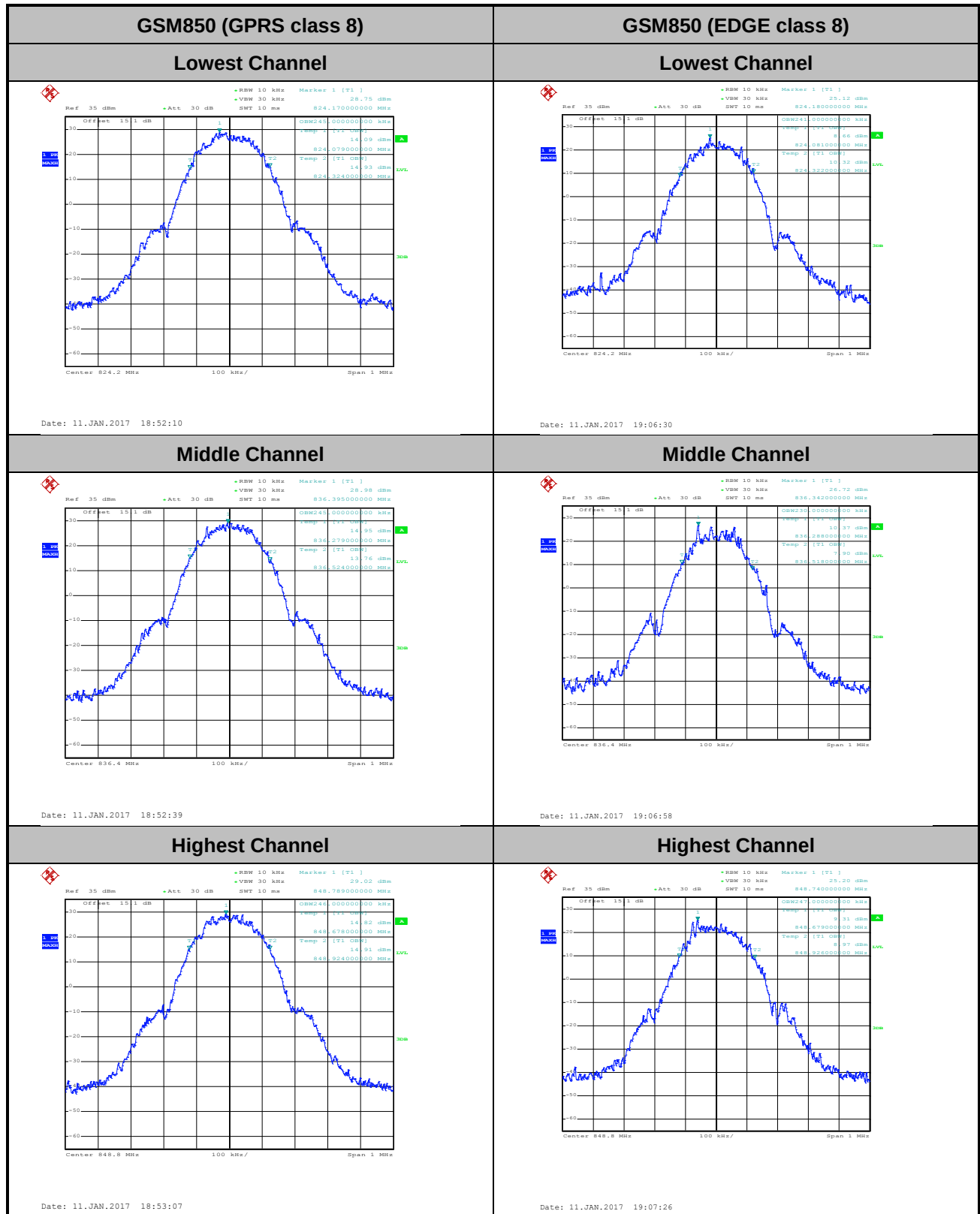


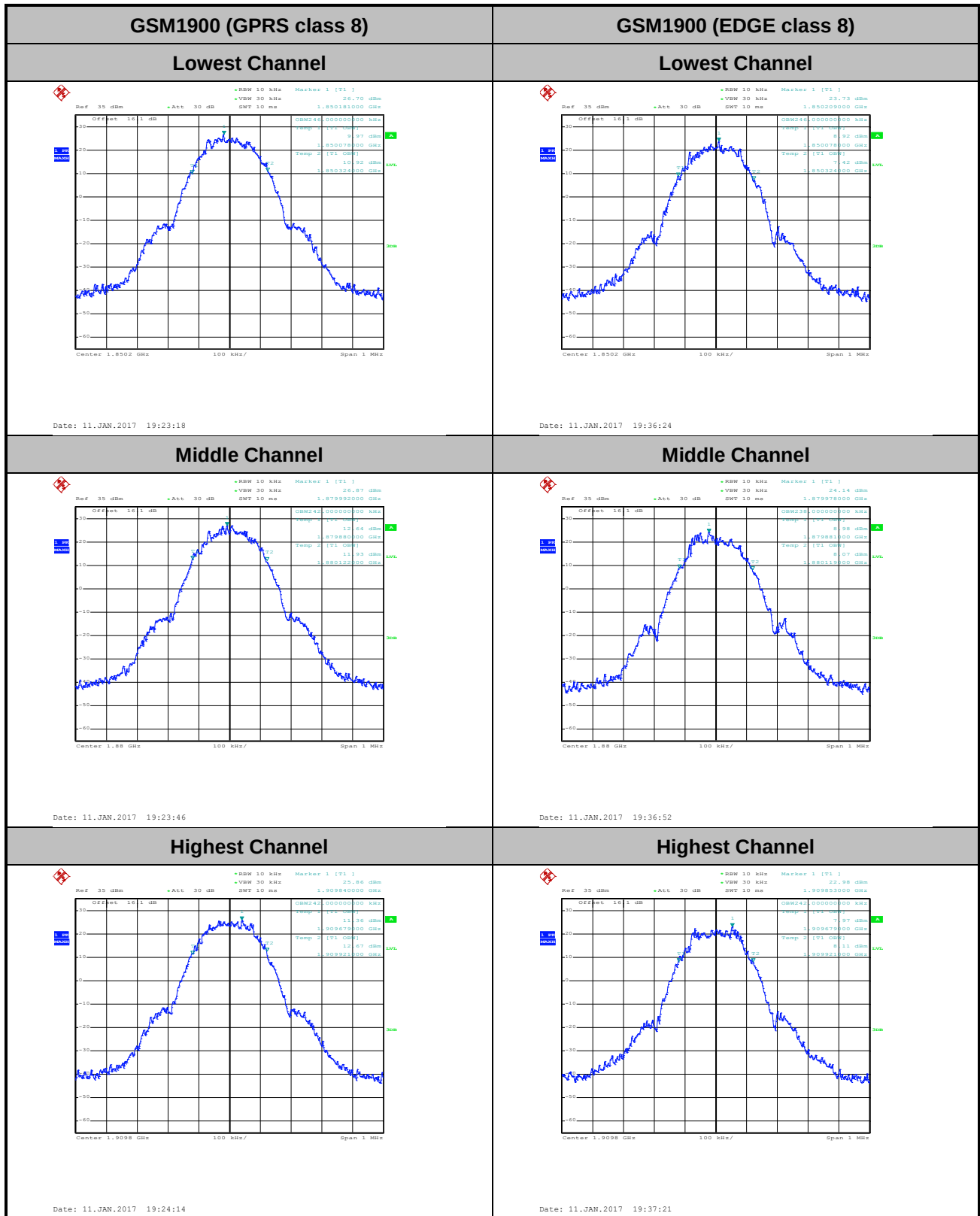


**Occupied Bandwidth**

Mode	GSM850	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.245	0.241
Middle CH	0.245	0.230
Highest CH	0.246	0.247

Mode	GSM1900	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.246	0.246
Middle CH	0.242	0.238
Highest CH	0.242	0.242



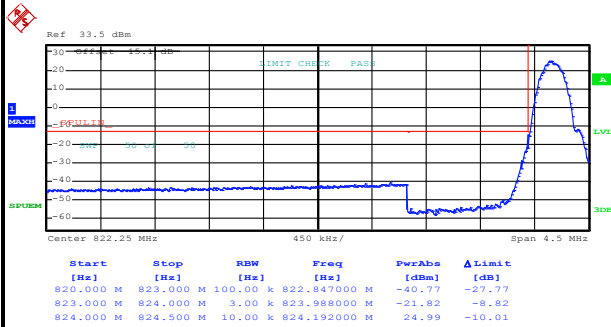




Conducted Band Edge

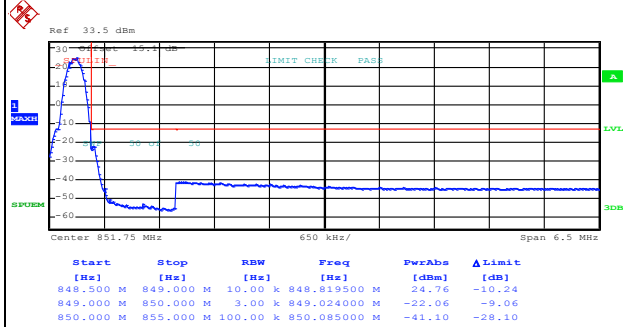
GSM850 (GPRS class 8)

Lowest Band Edge



Date: 11.JAN.2017 18:54:41

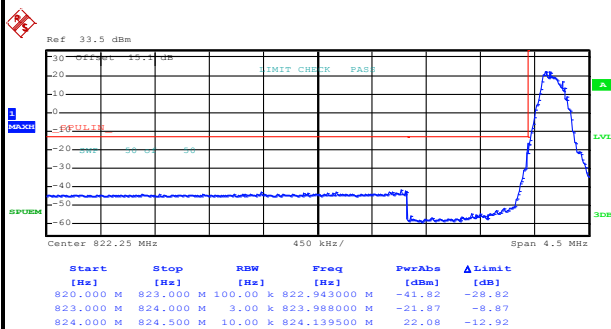
Highest Band Edge



Date: 11.JAN.2017 18:56:08

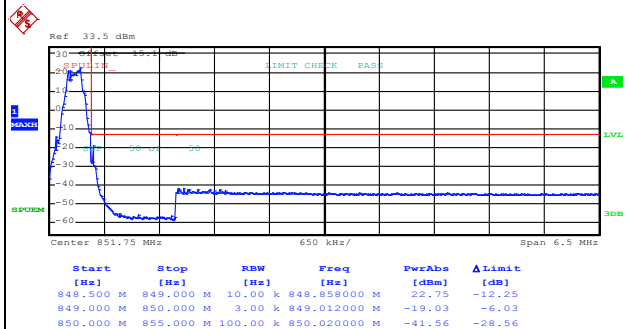
GSM850 (EDGE class 8)

Lowest Band Edge



Date: 11.JAN.2017 19:09:22

Highest Band Edge

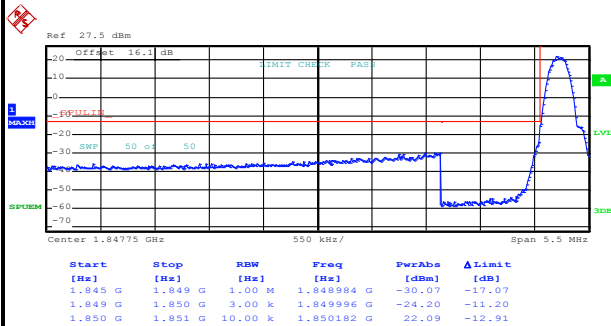


Date: 11.JAN.2017 19:10:50



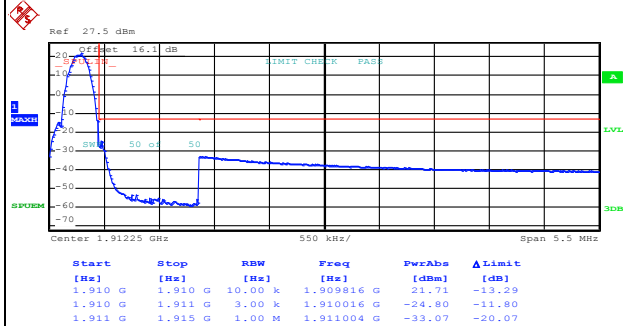
GSM1900 (GPRS class 8)

Lowest Band Edge



Date: 11.JAN.2017 19:25:53

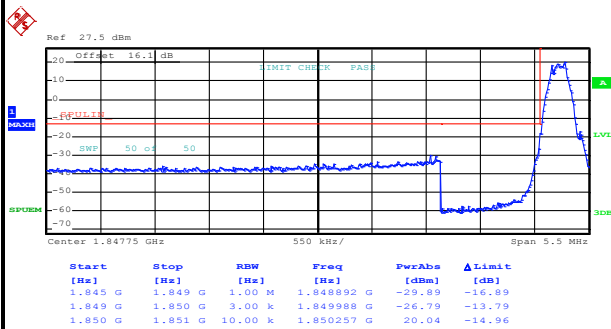
Highest Band Edge



Date: 11.JAN.2017 19:27:20

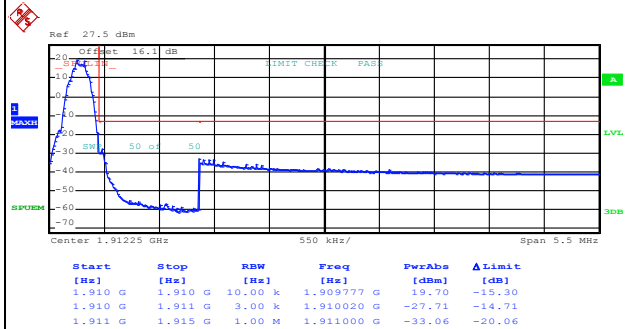
GSM1900 (EDGE class 8)

Lowest Band Edge



Date: 11.JAN.2017 19:38:52

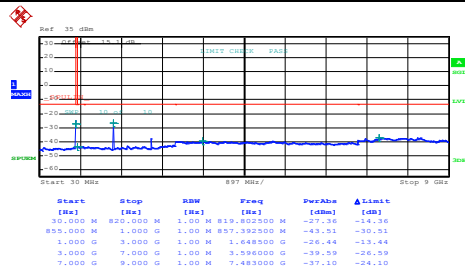
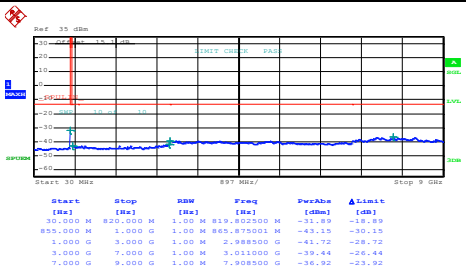
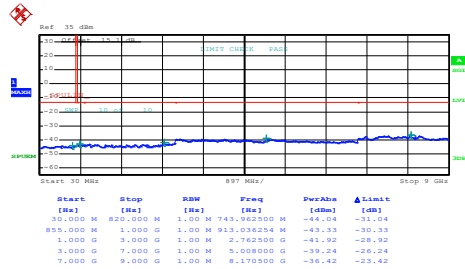
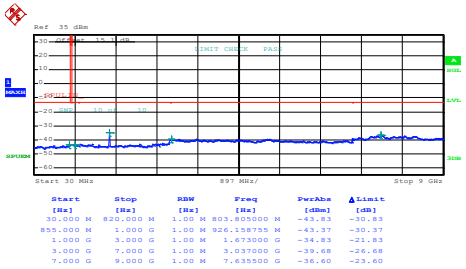
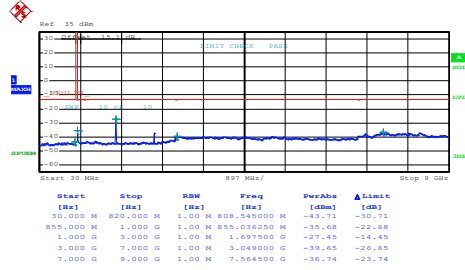
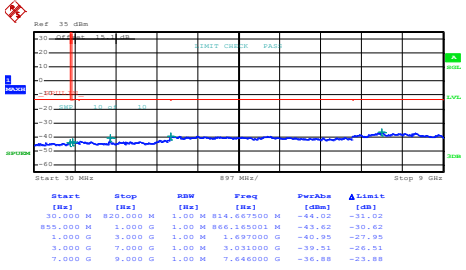
Highest Band Edge

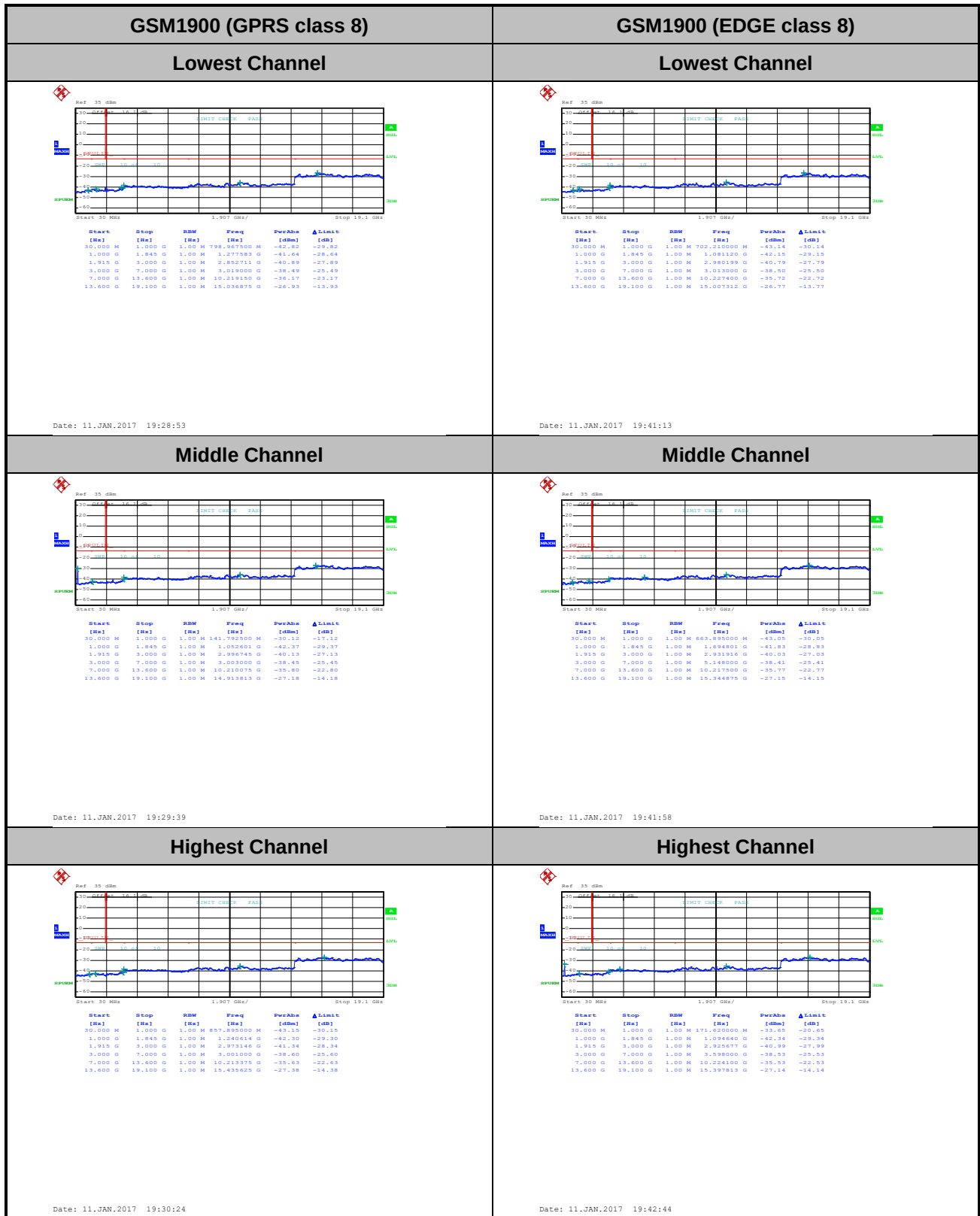


Date: 11.JAN.2017 19:40:19



Conducted Spurious Emission

GSM850 (GPRS class 8)		GSM850 (EDGE class 8)																																																																																					
Lowest Channel		Lowest Channel																																																																																					
 <table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>819,802500 M</td><td>-27,98</td><td>-14,35</td></tr><tr><td>855,000 M</td><td>1,000 G</td><td>1,00 M</td><td>857,392500 M</td><td>-43,51</td><td>-30,51</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>1,648500 G</td><td>-26,44</td><td>-23,44</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,596000 G</td><td>-39,59</td><td>-26,59</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,483000 G</td><td>-37,10</td><td>-24,10</td></tr></table> Date: 11.JAN.2017 18:57:31		Start	Stop	RBW	Freq	PerAbn	ΔLimit	[Hz]	[Hz]	[Hz]	[Hz]	[dBm]	[dB]	30,000 M	820,000 M	1,00 M	819,802500 M	-27,98	-14,35	855,000 M	1,000 G	1,00 M	857,392500 M	-43,51	-30,51	1,000 G	3,000 G	1,00 M	1,648500 G	-26,44	-23,44	3,000 G	7,000 G	1,00 M	3,596000 G	-39,59	-26,59	7,000 G	9,000 G	1,00 M	7,483000 G	-37,10	-24,10	 <table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>819,802500 M</td><td>-31,89</td><td>-18,89</td></tr><tr><td>855,000 M</td><td>1,000 G</td><td>1,00 M</td><td>855,875001 M</td><td>-43,15</td><td>-30,15</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,998500 G</td><td>-41,72</td><td>-28,72</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,011000 G</td><td>-39,44</td><td>-26,44</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,908500 G</td><td>-36,92</td><td>-23,92</td></tr></table> Date: 11.JAN.2017 19:11:46		Start	Stop	RBW	Freq	PerAbn	ΔLimit	[Hz]	[Hz]	[Hz]	[Hz]	[dBm]	[dB]	30,000 M	820,000 M	1,00 M	819,802500 M	-31,89	-18,89	855,000 M	1,000 G	1,00 M	855,875001 M	-43,15	-30,15	1,000 G	3,000 G	1,00 M	2,998500 G	-41,72	-28,72	3,000 G	7,000 G	1,00 M	3,011000 G	-39,44	-26,44	7,000 G	9,000 G	1,00 M	7,908500 G	-36,92	-23,92
Start	Stop	RBW	Freq	PerAbn	ΔLimit																																																																																		
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1,000 G	3,000 G	1,00 M	2,998500 G	-41,72	-28,72																																																																																		
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7,000 G	9,000 G	1,00 M	7,908500 G	-36,92	-23,92																																																																																		
Middle Channel		Middle Channel																																																																																					
 <table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>743,962500 M</td><td>-44,04</td><td>-31,04</td></tr><tr><td>855,000 M</td><td>1,000 G</td><td>1,00 M</td><td>913,036254 M</td><td>-43,33</td><td>-30,33</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>2,762500 G</td><td>-41,92</td><td>-28,92</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>5,008000 G</td><td>-39,24</td><td>-26,24</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>8,170500 G</td><td>-38,42</td><td>-23,42</td></tr></table> Date: 11.JAN.2017 18:58:17		Start	Stop	RBW	Freq	PerAbn	ΔLimit	[Hz]	[Hz]	[Hz]	[Hz]	[dBm]	[dB]	30,000 M	820,000 M	1,00 M	743,962500 M	-44,04	-31,04	855,000 M	1,000 G	1,00 M	913,036254 M	-43,33	-30,33	1,000 G	3,000 G	1,00 M	2,762500 G	-41,92	-28,92	3,000 G	7,000 G	1,00 M	5,008000 G	-39,24	-26,24	7,000 G	9,000 G	1,00 M	8,170500 G	-38,42	-23,42	 <table><tr><th>Start</th><th>Stop</th><th>RBW</th><th>Freq</th><th>PerAbn</th><th>ΔLimit</th></tr><tr><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[Hz]</th><th>[dBm]</th><th>[dB]</th></tr><tr><td>30,000 M</td><td>820,000 M</td><td>1,00 M</td><td>803,805000 M</td><td>-43,83</td><td>-30,83</td></tr><tr><td>855,000 M</td><td>1,000 G</td><td>1,00 M</td><td>826,158755 M</td><td>-43,37</td><td>-30,37</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,00 M</td><td>1,673000 G</td><td>-34,83</td><td>-21,83</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,00 M</td><td>3,037000 G</td><td>-39,68</td><td>-26,68</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,00 M</td><td>7,835500 G</td><td>-36,40</td><td>-23,40</td></tr></table> Date: 11.JAN.2017 19:12:32		Start	Stop	RBW	Freq	PerAbn	ΔLimit	[Hz]	[Hz]	[Hz]	[Hz]	[dBm]	[dB]	30,000 M	820,000 M	1,00 M	803,805000 M	-43,83	-30,83	855,000 M	1,000 G	1,00 M	826,158755 M	-43,37	-30,37	1,000 G	3,000 G	1,00 M	1,673000 G	-34,83	-21,83	3,000 G	7,000 G	1,00 M	3,037000 G	-39,68	-26,68	7,000 G	9,000 G	1,00 M	7,835500 G	-36,40	-23,40
Start	Stop	RBW	Freq	PerAbn	ΔLimit																																																																																		
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[Hz]	[Hz]	[Hz]	[Hz]	[dBm]	[dB]																																																																																		
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Start	Stop	RBW	Freq	PerAbn	ΔLimit																																																																																		
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7,000 G	9,000 G	1,00 M	7,646000 G	-36,88	-23,88																																																																																		



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	0.0060	0.0012	PASS
40	Normal Voltage	0.0036	0.0048	
30	Normal Voltage	0.0036	0.0060	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0012	0.0239	
0	Normal Voltage	0.0060	0.0407	
-10	Normal Voltage	0.0120	0.0323	
-20	Normal Voltage	0.0084	0.0383	
-30	Normal Voltage	0.0108	0.0430	
20	Maximum Voltage	0.0000	0.0096	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0084	0.0024	

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	0.0048	0.0005	PASS
40	Normal Voltage	0.0037	0.0021	
30	Normal Voltage	0.0043	0.0032	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0186	0.0282	
0	Normal Voltage	0.0191	0.0239	
-10	Normal Voltage	0.0197	0.0298	
-20	Normal Voltage	0.0186	0.0282	
-30	Normal Voltage	0.0223	0.0314	
20	Maximum Voltage	0.0021	0.0032	
20	Normal Voltage	0.0000	0.0000	
20	Battery End Point	0.0000	0.0021	

Note:

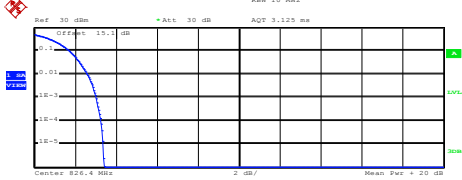
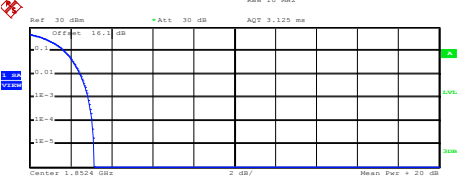
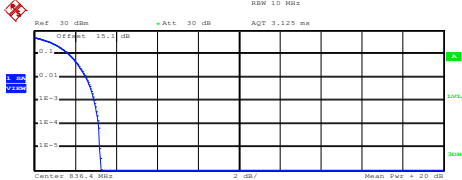
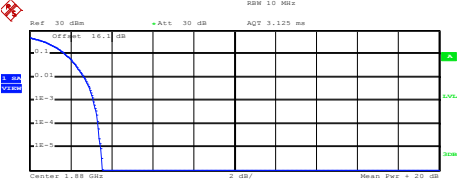
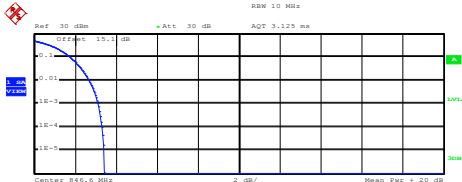
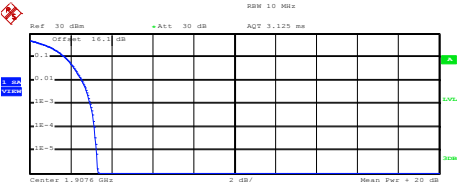
1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage =4.3 V
2. The frequency fundamental emissions stay within the authorized frequency block.
3. The dummy battery has 0.1V loss when providing power from power supply to EUT by customer declared.



A3. WCDMA

Peak-to-Average Ratio

Mode	WCDMA Band V	WCDMA Band II	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	3.04	2.84	PASS
Middle CH	2.92	3.12	
Highest CH	3.12	2.96	

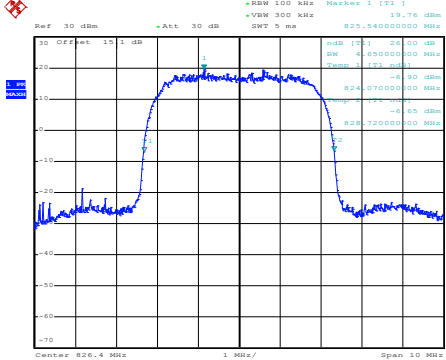
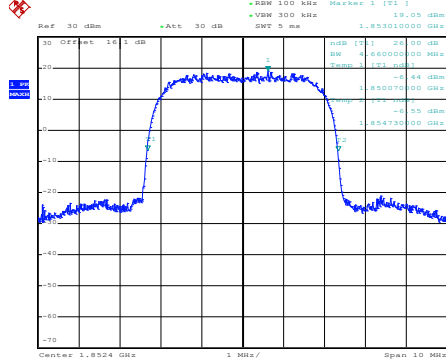
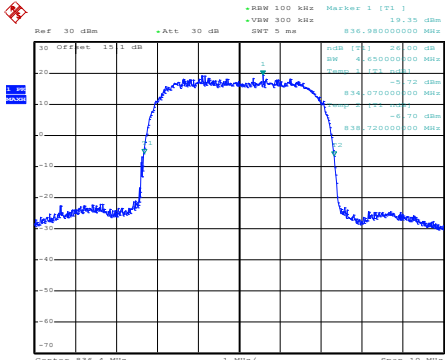
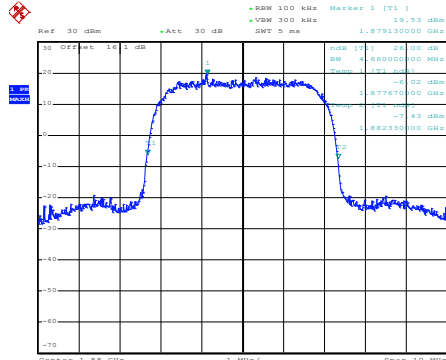
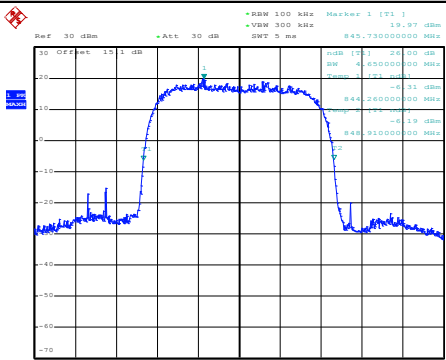
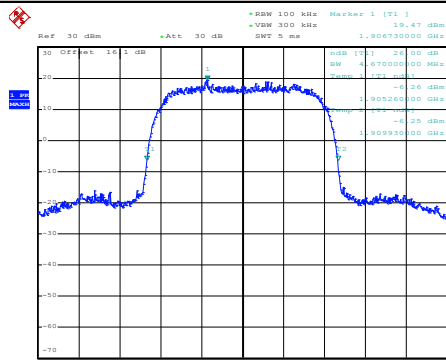
WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	Lowest Channel
 Center 826.4 MHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.37 dBm Peak 26.77 dBm Crest 3.40 dB 10 % 1.72 dB 1 % 2.60 dB .1 % 3.04 dB .01 % 3.28 dB Date: 11.JAN.2017 20:20:46	 Center 1.8524 GHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.20 dBm Peak 26.35 dBm Crest 3.15 dB 10 % 1.72 dB 1 % 2.48 dB .1 % 2.84 dB .01 % 3.04 dB Date: 11.JAN.2017 20:06:09
Middle Channel	Middle Channel
 Center 830.4 MHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.37 dBm Peak 26.63 dBm Crest 3.26 dB 10 % 1.68 dB 1 % 2.52 dB .1 % 2.92 dB .01 % 3.16 dB Date: 11.JAN.2017 20:21:13	 Center 1.85 GHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.16 dBm Peak 26.70 dBm Crest 3.54 dB 10 % 1.72 dB 1 % 2.68 dB .1 % 3.12 dB .01 % 3.32 dB Date: 11.JAN.2017 20:06:19
Highest Channel	Highest Channel
 Center 846.6 MHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.28 dBm Peak 26.70 dBm Crest 3.42 dB 10 % 1.76 dB 1 % 2.68 dB .1 % 3.12 dB .01 % 3.32 dB Date: 11.JAN.2017 20:21:22	 Center 1.9076 GHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.16 dBm Peak 26.49 dBm Crest 3.33 dB 10 % 1.72 dB 1 % 2.56 dB .1 % 2.96 dB .01 % 3.16 dB Date: 11.JAN.2017 20:06:29



26dB Bandwidth

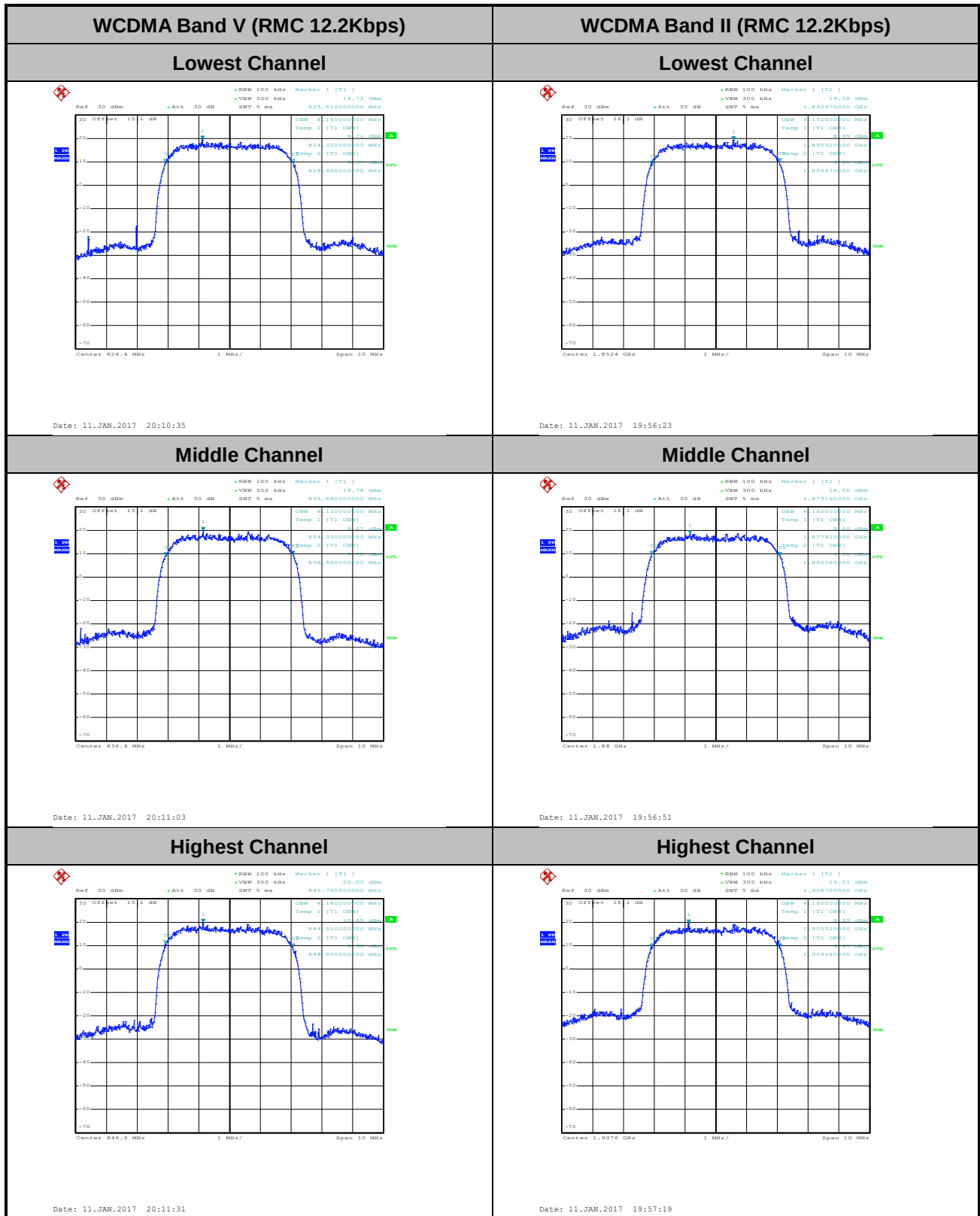
Mode	WCDMA Band V	WCDMA Band II
Mod.	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.65	4.66
Middle CH	4.65	4.66
Highest CH	4.65	4.67



WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	Lowest Channel
 Date: 11.JAN.2017 20:08:37	 Date: 11.JAN.2017 19:54:35
Middle Channel	Middle Channel
 Date: 11.JAN.2017 20:09:05	 Date: 11.JAN.2017 19:55:03
Highest Channel	Highest Channel
 Date: 11.JAN.2017 20:09:33	 Date: 11.JAN.2017 19:55:31

**Occupied Bandwidth**

Mode	WCDMA Band V	WCDMA Band II
Mod.	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.14	4.15
Middle CH	4.13	4.16
Highest CH	4.14	4.16

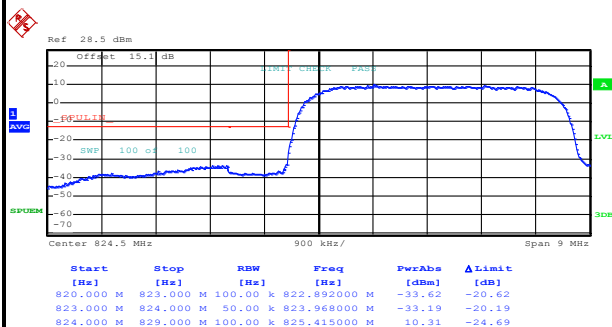




Conducted Band Edge

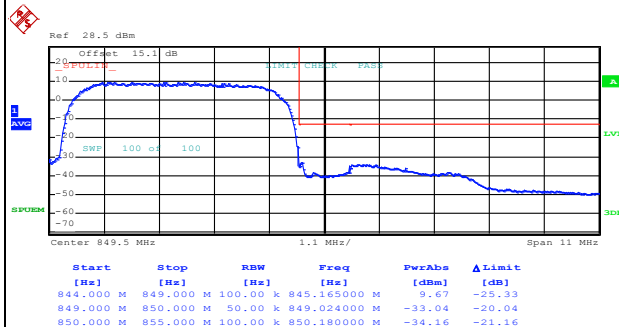
WCDMA Band V (RMC 12.2Kbps)

Lowest Band Edge



Date: 11.JAN.2017 20:15:00

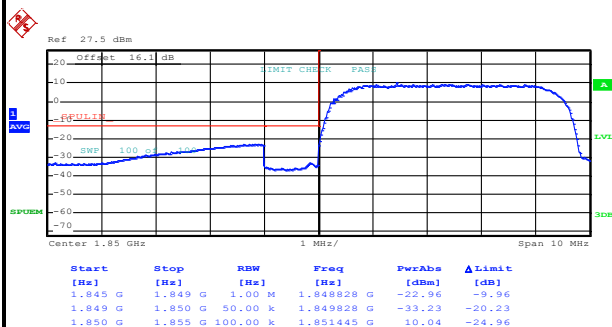
Highest Band Edge



Date: 11.JAN.2017 20:17:42

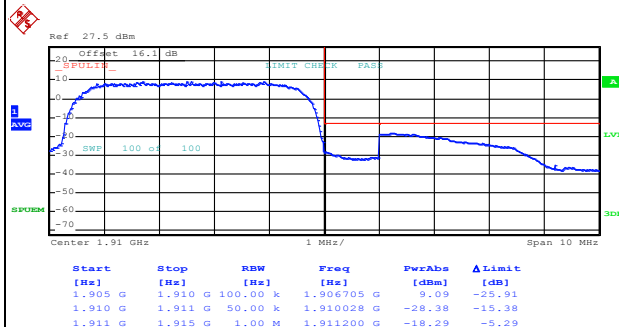
WCDMA Band II (RMC 12.2Kbps)

Lowest Band Edge



Date: 11.JAN.2017 20:00:21

Highest Band Edge



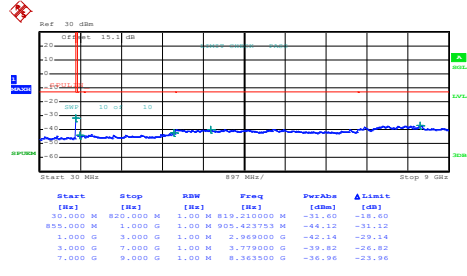
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Conducted Spurious Emission

WCDMA Band V (RMC 12.2Kbps)

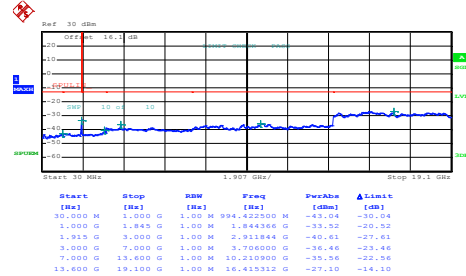
Lowest Channel



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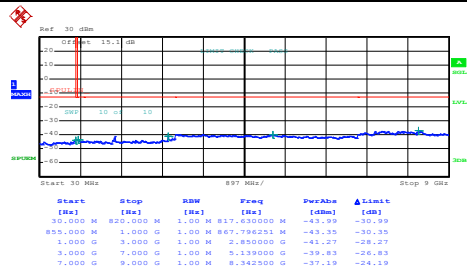
WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



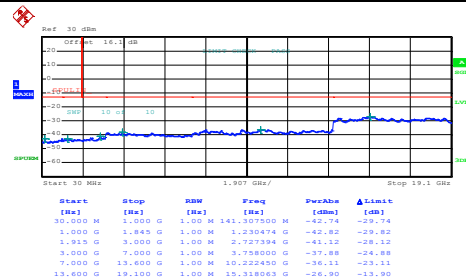
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Middle Channel



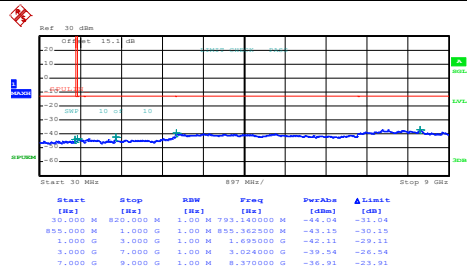
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Middle Channel



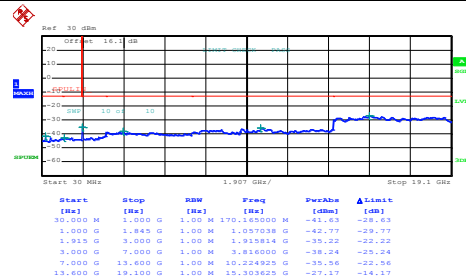
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Highest Channel



Date: 11.JAN.2017 20:20:27

Highest Channel



Date: 11.JAN.2017 20:05:23

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

Test Conditions	Middle Channel	WCDMA Band II (RMC 12.2Kbps)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0053	PASS
40	Normal Voltage	0.0037	
30	Normal Voltage	0.0032	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0027	
0	Normal Voltage	0.0255	
-10	Normal Voltage	0.0282	
-20	Normal Voltage	0.0309	
-30	Normal Voltage	0.0293	
20	Maximum Voltage	0.0096	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0021	

Note:

1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage =4.3 V
2. The frequency fundamental emissions stay within the authorized frequency block.
3. The dummy battery has 0.1V loss when providing power from power supply to EUT by customer declared

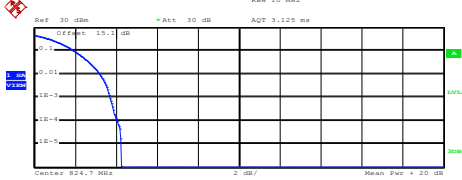
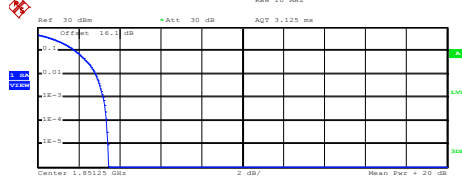
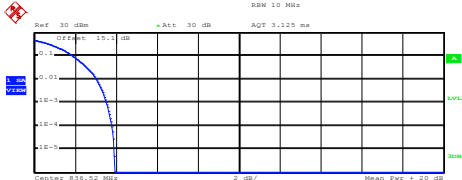
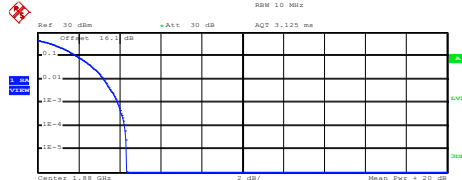
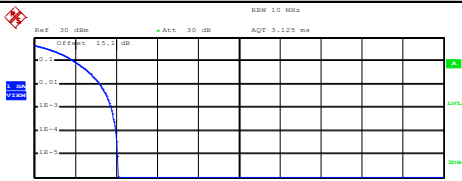
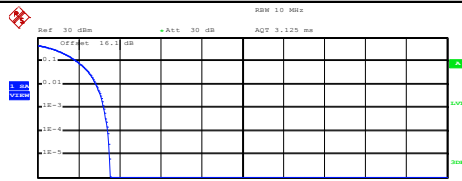


A4. CDMA

Peak-to-Average Ratio

Mode	CDMA BC0	CDMA BC1	Limit: 13dB
Mod.	1xRTT	1xRTT	Result
Lowest CH	3.72	3.20	PASS
Middle CH	3.52	3.92	
Highest CH	3.76	3.24	



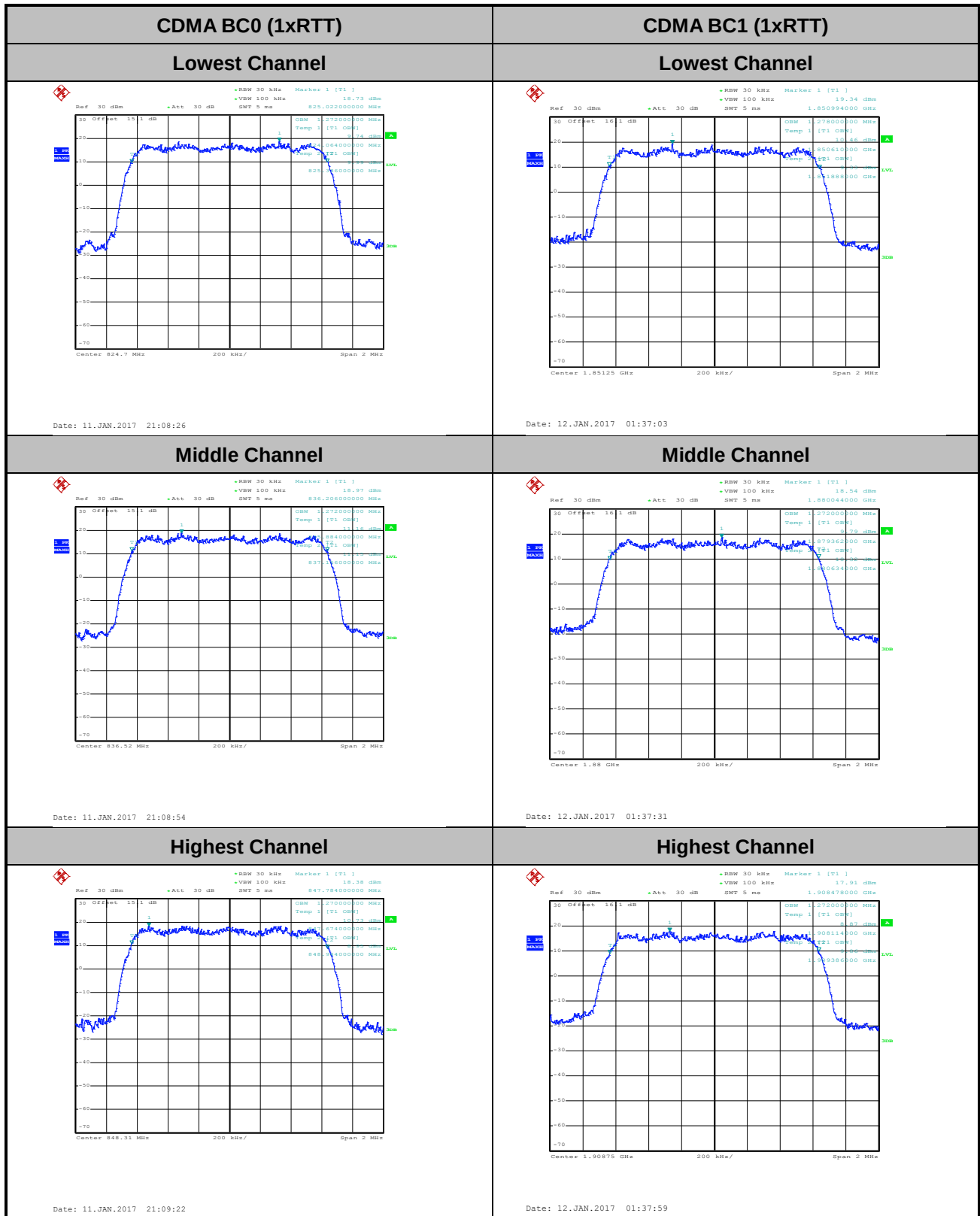
CDMA BC0 (1xRTT)	CDMA BC1 (1xRTT)																												
Lowest Channel	Lowest Channel																												
 Ref: 30 dBm, Att: 30 dB, AQT: 3.125 ms, RSW: 10 MHz, Center: 824.7 MHz, Mean: 23.15 dBm, Peak: 27.40 dBm, Crest: 4.26 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table><tr><td>Mean</td><td>23.15 dBm</td></tr><tr><td>Peak</td><td>27.40 dBm</td></tr><tr><td>Crest</td><td>4.26 dB</td></tr></table> <table><tr><td>10 %</td><td>1.96 dB</td></tr><tr><td>1 %</td><td>3.20 dB</td></tr><tr><td>.1 %</td><td>3.72 dB</td></tr><tr><td>.01 %</td><td>4.08 dB</td></tr></table> Date: 11.JAN.2017 21:19:17	Mean	23.15 dBm	Peak	27.40 dBm	Crest	4.26 dB	10 %	1.96 dB	1 %	3.20 dB	.1 %	3.72 dB	.01 %	4.08 dB	 Ref: 30 dBm, Att: 30 dB, AQT: 3.125 ms, RSW: 10 MHz, Center: 1.85125 GHz, Mean: 23.11 dBm, Peak: 26.56 dBm, Crest: 3.45 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table><tr><td>Mean</td><td>23.11 dBm</td></tr><tr><td>Peak</td><td>26.56 dBm</td></tr><tr><td>Crest</td><td>3.45 dB</td></tr></table> <table><tr><td>10 %</td><td>1.84 dB</td></tr><tr><td>1 %</td><td>2.84 dB</td></tr><tr><td>.1 %</td><td>3.20 dB</td></tr><tr><td>.01 %</td><td>3.36 dB</td></tr></table> Date: 12.JAN.2017 01:55:10	Mean	23.11 dBm	Peak	26.56 dBm	Crest	3.45 dB	10 %	1.84 dB	1 %	2.84 dB	.1 %	3.20 dB	.01 %	3.36 dB
Mean	23.15 dBm																												
Peak	27.40 dBm																												
Crest	4.26 dB																												
10 %	1.96 dB																												
1 %	3.20 dB																												
.1 %	3.72 dB																												
.01 %	4.08 dB																												
Mean	23.11 dBm																												
Peak	26.56 dBm																												
Crest	3.45 dB																												
10 %	1.84 dB																												
1 %	2.84 dB																												
.1 %	3.20 dB																												
.01 %	3.36 dB																												
Middle Channel	Middle Channel																												
 Ref: 30 dBm, Att: 30 dB, AQT: 3.125 ms, RSW: 10 MHz, Center: 835.52 MHz, Mean: 22.99 dBm, Peak: 26.91 dBm, Crest: 3.92 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table><tr><td>Mean</td><td>22.99 dBm</td></tr><tr><td>Peak</td><td>26.91 dBm</td></tr><tr><td>Crest</td><td>3.92 dB</td></tr></table> <table><tr><td>10 %</td><td>1.92 dB</td></tr><tr><td>1 %</td><td>3.04 dB</td></tr><tr><td>.1 %</td><td>3.52 dB</td></tr><tr><td>.01 %</td><td>3.80 dB</td></tr></table> Date: 11.JAN.2017 21:19:28	Mean	22.99 dBm	Peak	26.91 dBm	Crest	3.92 dB	10 %	1.92 dB	1 %	3.04 dB	.1 %	3.52 dB	.01 %	3.80 dB	 Ref: 30 dBm, Att: 30 dB, AQT: 3.125 ms, RSW: 10 MHz, Center: 1.88 GHz, Mean: 22.93 dBm, Peak: 27.26 dBm, Crest: 4.34 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table><tr><td>Mean</td><td>22.93 dBm</td></tr><tr><td>Peak</td><td>27.26 dBm</td></tr><tr><td>Crest</td><td>4.34 dB</td></tr></table> <table><tr><td>10 %</td><td>1.92 dB</td></tr><tr><td>1 %</td><td>3.24 dB</td></tr><tr><td>.1 %</td><td>3.92 dB</td></tr><tr><td>.01 %</td><td>4.24 dB</td></tr></table> Date: 12.JAN.2017 01:55:28	Mean	22.93 dBm	Peak	27.26 dBm	Crest	4.34 dB	10 %	1.92 dB	1 %	3.24 dB	.1 %	3.92 dB	.01 %	4.24 dB
Mean	22.99 dBm																												
Peak	26.91 dBm																												
Crest	3.92 dB																												
10 %	1.92 dB																												
1 %	3.04 dB																												
.1 %	3.52 dB																												
.01 %	3.80 dB																												
Mean	22.93 dBm																												
Peak	27.26 dBm																												
Crest	4.34 dB																												
10 %	1.92 dB																												
1 %	3.24 dB																												
.1 %	3.92 dB																												
.01 %	4.24 dB																												
Highest Channel	Highest Channel																												
 Ref: 30 dBm, Att: 30 dB, AQT: 3.125 ms, RSW: 10 MHz, Center: 848.31 MHz, Mean: 22.97 dBm, Peak: 27.05 dBm, Crest: 4.08 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table><tr><td>Mean</td><td>22.97 dBm</td></tr><tr><td>Peak</td><td>27.05 dBm</td></tr><tr><td>Crest</td><td>4.08 dB</td></tr></table> <table><tr><td>10 %</td><td>1.96 dB</td></tr><tr><td>1 %</td><td>3.20 dB</td></tr><tr><td>.1 %</td><td>3.76 dB</td></tr><tr><td>.01 %</td><td>4.00 dB</td></tr></table> Date: 11.JAN.2017 21:19:38	Mean	22.97 dBm	Peak	27.05 dBm	Crest	4.08 dB	10 %	1.96 dB	1 %	3.20 dB	.1 %	3.76 dB	.01 %	4.00 dB	 Ref: 30 dBm, Att: 30 dB, AQT: 3.125 ms, RSW: 10 MHz, Center: 1.90875 GHz, Mean: 22.68 dBm, Peak: 26.20 dBm, Crest: 3.52 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table><tr><td>Mean</td><td>22.68 dBm</td></tr><tr><td>Peak</td><td>26.20 dBm</td></tr><tr><td>Crest</td><td>3.52 dB</td></tr></table> <table><tr><td>10 %</td><td>1.92 dB</td></tr><tr><td>1 %</td><td>2.84 dB</td></tr><tr><td>.1 %</td><td>3.24 dB</td></tr><tr><td>.01 %</td><td>3.44 dB</td></tr></table> Date: 12.JAN.2017 01:55:53	Mean	22.68 dBm	Peak	26.20 dBm	Crest	3.52 dB	10 %	1.92 dB	1 %	2.84 dB	.1 %	3.24 dB	.01 %	3.44 dB
Mean	22.97 dBm																												
Peak	27.05 dBm																												
Crest	4.08 dB																												
10 %	1.96 dB																												
1 %	3.20 dB																												
.1 %	3.76 dB																												
.01 %	4.00 dB																												
Mean	22.68 dBm																												
Peak	26.20 dBm																												
Crest	3.52 dB																												
10 %	1.92 dB																												
1 %	2.84 dB																												
.1 %	3.24 dB																												
.01 %	3.44 dB																												

**26dB Bandwidth**

Mode	CDMA BC0	CDMA BC1
Mod.	1xRTT	1xRTT
Lowest CH	1.42	1.43
Middle CH	1.42	1.42
Highest CH	1.42	1.43

**Occupied Bandwidth**

Mode	CDMA BC0	CDMA BC1
Mod.	1xRTT	1xRTT
Lowest CH	1.27	1.28
Middle CH	1.27	1.27
Highest CH	1.27	1.27

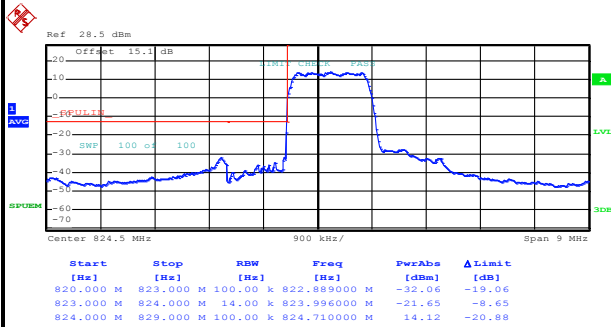




Conducted Band Edge

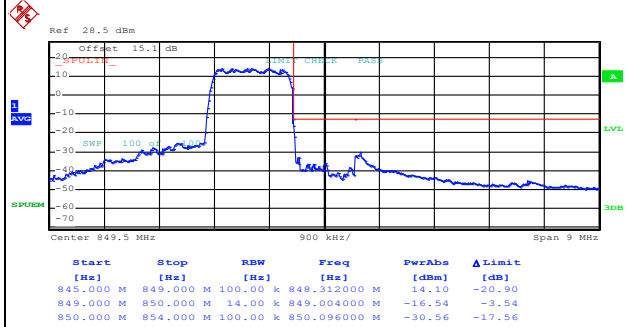
CDMA BC0 (1xRTT)

Lowest Band Edge



Date: 11.JAN.2017 21:13:19

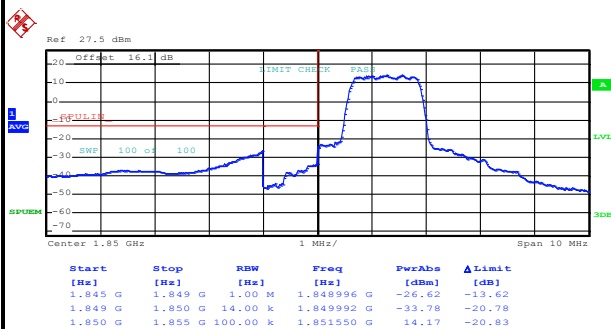
Highest Band Edge



Date: 11.JAN.2017 21:16:01

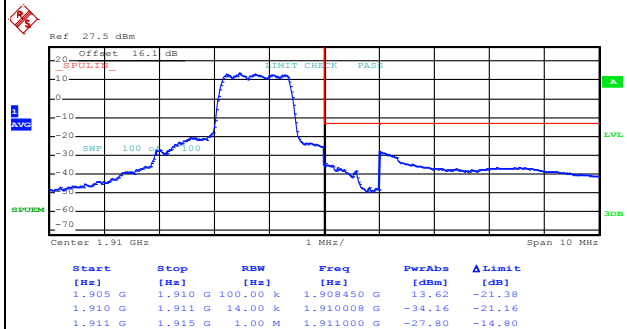
CDMA BC1 (1xRTT)

Lowest Band Edge



Date: 12.JAN.2017 01:46:56

Highest Band Edge



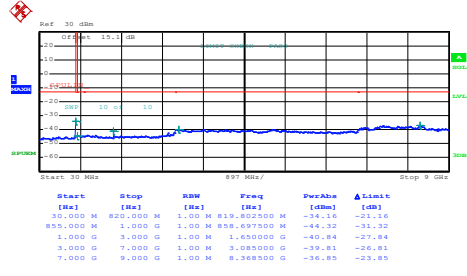
Date: 12.JAN.2017 01:49:44



Conducted Spurious Emission

CDMA BC0 (1xRTT)

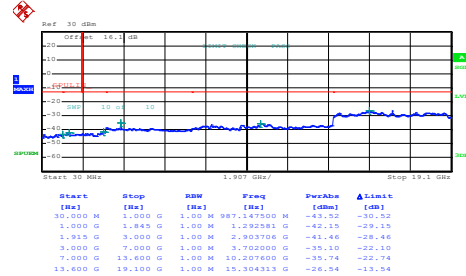
Lowest Channel



Date: 11.JAN.2017 21:17:29

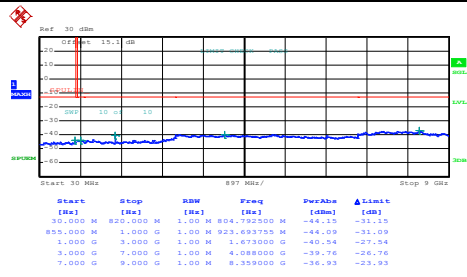
CDMA BC1 (1xRTT)

Lowest Channel



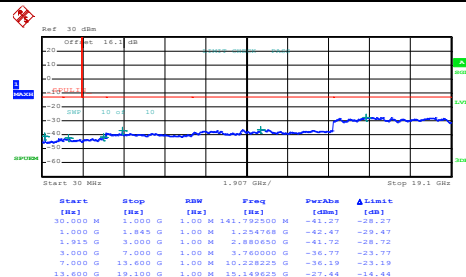
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Middle Channel



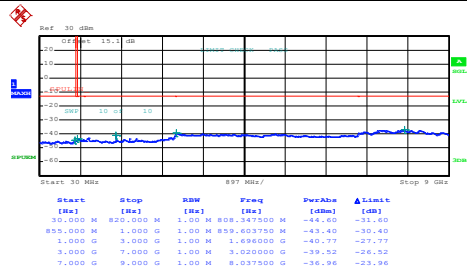
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Middle Channel



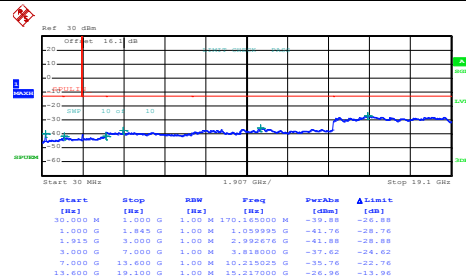
Date: 12.JAN.2017 01:53:07

Highest Channel



Date: 11.JAN.2017 21:18:59

Highest Channel



Date: 12.JAN.2017 01:54:01

Frequency Stability

Test Conditions	Middle Channel	CDMA BC0 (1xRTT)	Limit 2.5ppm
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0012	PASS
40	Normal Voltage	0.0000	
30	Normal Voltage	0.0024	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0024	
0	Normal Voltage	0.0108	
-10	Normal Voltage	0.0096	
-20	Normal Voltage	0.0096	
-30	Normal Voltage	0.0072	
20	Maximum Voltage	0.0024	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0024	

Test Conditions	Middle Channel	CDMA BC1 (1xRTT)	Limit Note 2.
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Result
50	Normal Voltage	0.0027	PASS
40	Normal Voltage	0.0037	
30	Normal Voltage	0.0011	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0059	
0	Normal Voltage	0.0202	
-10	Normal Voltage	0.0176	
-20	Normal Voltage	0.0170	
-30	Normal Voltage	0.0149	
20	Maximum Voltage	0.0053	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0016	

Note:

1. Normal Voltage = 3.8V. ; Battery End Point (BEP) = 3.6 V. ; Maximum Voltage =4.3 V
2. The frequency fundamental emissions stay within the authorized frequency block.
3. The dummy battery has 0.1V loss when providing power from power supply to EUT by customer declared.



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

ERP/EIRP

Channel	Mode	Conducted		ERP	
		Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	GSM850 GPRS class 8 (GT - LC = 0.12 dB)	32.98	1.9861	30.95	1.2445
Middle		32.96	1.9770	30.93	1.2388
Highest		32.99	1.9907	30.96	1.2474
Lowest	GSM850 EDGE class 8 (GT - LC = 0.12 dB)	26.71	0.4688	24.68	0.2938
Middle		26.47	0.4436	24.44	0.2780
Highest		26.60	0.4571	24.57	0.2864
Lowest	WCDMA Band V RMC 12.2Kbps (GT - LC = 0.12 dB)	23.95	0.2483	21.92	0.1556
Middle		24.06	0.2547	22.03	0.1596
Highest		23.98	0.2499	21.95	0.1566
Lowest	CDMA BC0 1xRTT (GT - LC = 0.12 dB)	23.93	0.2472	21.90	0.1549
Middle		24.10	0.2570	22.07	0.1611
Highest		23.90	0.2455	21.87	0.1538
Lowest	CDMA BC0 1xEV-DO (GT - LC = 0.12 dB)	23.98	0.2500	21.95	0.1567
Middle		24.09	0.2564	22.06	0.1607
Highest		24.01	0.2518	21.98	0.1578
Limit	ERP < 7W	Result		PASS	

Channel	Mode	Conducted		EIRP	
		Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	GSM1900 GPRS class 8 (GT - LC = 1.06 dB)	29.86	0.9683	30.92	1.2359
Middle		30.06	1.0139	31.12	1.2942
Highest		29.74	0.9419	30.80	1.2023
Lowest	GSM1900 EDGE class 8 (GT - LC = 1.06 dB)	25.86	0.3855	26.92	0.4920
Middle		25.59	0.3622	26.65	0.4624
Highest		25.37	0.3443	26.43	0.4395
Lowest	WCDMA Band II RMC 12.2Kbps (GT - LC = 1.06 dB)	23.99	0.2506	25.05	0.3199
Middle		24.26	0.2667	25.32	0.3404
Highest		24.10	0.2570	25.16	0.3281
Lowest	CDMA BC1 1xRTT (GT - LC = 1.06 dB)	23.65	0.2317	24.71	0.2958
Middle		23.75	0.2371	24.81	0.3027
Highest		23.85	0.2427	24.91	0.3097
Lowest	CDMA BC1 1xEV-DO (GT - LC = 1.06 dB)	23.75	0.2371	24.81	0.3027
Middle		23.75	0.2371	24.81	0.3027
Highest		23.84	0.2421	24.90	0.3090
Limit	EIRP < 2W	Result		PASS	

**Radiated Spurious Emission**

GSM850 (GPRS class 8)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1648	-56.45	-13	-43.45	-61.19	-58.21	0.98	4.89	H
	2472	-60.48	-13	-47.48	-69.88	-62.36	1.28	5.32	H
	3296	-64.59	-13	-51.59	-77.11	-68	1.54	7.10	H
									H
									H
									H
	1648	-60.13	-13	-47.13	-63.45	-61.89	0.98	4.89	V
	2472	-54.76	-13	-41.76	-65.2	-56.64	1.28	5.32	V
	3296	-65.60	-13	-52.60	-77.21	-69.01	1.54	7.10	V
									V
									V
									V
Middle	1672	-53.42	-13	-40.42	-58.29	-55.1	0.99	4.82	H
	2512	-49.23	-13	-36.23	-58.69	-51.2	1.29	5.41	H
	3345	-65.79	-13	-52.79	-77.41	-69.4	1.56	7.32	H
									H
									H
									H
	1672	-55.92	-13	-42.92	-58.62	-57.6	0.99	4.82	V
	2512	-57.43	-13	-44.43	-67.75	-59.4	1.29	5.41	V
	3344	-66.89	-13	-53.89	-77.4	-70.5	1.56	7.31	V
									V
									V
									V
Highest	1696	-54.41	-13	-41.41	-59.16	-56.01	1.00	4.75	H
	2544	-53.46	-13	-40.46	-63.19	-55.44	1.30	5.44	H
	3392	-65.44	-13	-52.44	-77.75	-69.24	1.57	7.52	H
									H
									H
									H
	1696	-55.04	-13	-42.04	-58.85	-56.64	1.00	4.75	V
	2544	-56.78	-13	-43.78	-67.04	-58.76	1.30	5.44	V
	3392	-65.95	-13	-52.95	-77.81	-69.75	1.57	7.52	V
									V
									V
									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	-62.29	-13	-49.29	-67.01	-64.05	0.98	4.89	H
	2472	-67.06	-13	-54.06	-76.53	-68.94	1.28	5.32	H
	3296	-65.30	-13	-52.30	-77.83	-68.71	1.54	7.10	H
									H
									H
									H
	1648	-65.67	-13	-52.67	-68.94	-67.43	0.98	4.89	V
	2472	-66.01	-13	-53.01	-76.45	-67.89	1.28	5.32	V
	3296	-65.71	-13	-52.71	-77.27	-69.12	1.54	7.10	V
									V
									V
									V
Middle	1672	-60.80	-13	-47.80	-65.47	-62.48	0.99	4.82	H
	2512	-66.47	-13	-53.47	-76.03	-68.44	1.29	5.41	H
	3344	-64.70	-13	-51.70	-76.87	-68.31	1.56	7.31	H
									H
									H
									H
	1672	-61.60	-13	-48.60	-64.62	-63.28	0.99	4.82	V
	2512	-60.10	-13	-47.10	-70.33	-62.07	1.29	5.41	V
	3344	-65.53	-13	-52.53	-76.92	-69.14	1.56	7.31	V
									V
									V
									V
Highest	1696	-60.26	-13	-47.26	-65.04	-61.86	1.00	4.75	H
	2544	-66.80	-13	-53.80	-76.41	-68.78	1.30	5.44	H
	3392	-65.41	-13	-52.41	-77.69	-69.21	1.57	7.52	H
									H
									H
									H
	1696	-61.15	-13	-48.15	-64.97	-62.75	1.00	4.75	V
	2544	-65.78	-13	-52.78	-76.11	-67.76	1.30	5.44	V
	3392	-65.49	-13	-52.49	-77.44	-69.29	1.57	7.52	V
									V
									V
									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	-37.63	-13	-24.63	-51.87	-44.2	1.67	8.24	H
	5548	-40.53	-13	-27.53	-59.91	-47.6	2.65	9.72	H
	7401	-54.96	-13	-41.96	-79.94	-64.1	2.46	11.60	H
									H
									H
									H
	3700	-40.03	-13	-27.03	-54.07	-46.6	1.67	8.24	V
	5548	-49.23	-13	-36.23	-67.41	-56.3	2.65	9.72	V
	7401	-55.56	-13	-42.56	-80	-64.7	2.46	11.60	V
									V
									V
									V
Middle	3763	-35.87	-13	-22.87	-50.38	-42.5	1.69	8.32	H
	5639	-39.05	-13	-26.05	-58.69	-46.1	2.71	9.76	H
	7522	-54.41	-13	-41.41	-78.95	-63.8	2.42	11.81	H
									H
									H
									H
	3763	-37.47	-13	-24.47	-51.13	-44.1	1.69	8.32	V
	5639	-44.65	-13	-31.65	-62.43	-51.7	2.71	9.76	V
	7522	-55.91	-13	-42.91	-79.92	-65.3	2.42	11.81	V
									V
									V
									V
Highest	3819	-40.42	-13	-27.42	-55.01	-47.1	1.70	8.38	H
	5730	-40.17	-13	-27.17	-59.8	-47.2	2.76	9.79	H
	7641	-42.70	-13	-29.70	-77.18	-52.2	2.38	11.88	H
									H
									H
									H
	3819	-41.52	-13	-28.52	-55.37	-48.2	1.70	8.38	V
	5730	-49.17	-13	-36.17	-67.82	-56.2	2.76	9.79	V
	7641	-55.60	-13	-42.60	-79.15	-65.1	2.38	11.88	V
									V
									V
									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	-42.03	-13	-29.03	-56.56	-48.6	1.67	8.24	H
	5548	-44.43	-13	-31.43	-64.23	-51.5	2.65	9.72	H
	7401	-54.56	-13	-41.56	-80	-63.7	2.46	11.60	H
									H
									H
									H
	3700	-43.63	-13	-30.63	-57.23	-50.2	1.67	8.24	V
	5548	-51.13	-13	-38.13	-69.43	-58.2	2.65	9.72	V
	7401	-56.16	-13	-43.16	-80.02	-65.3	2.46	11.60	V
									V
									V
									V
Middle	3763	-35.58	-13	-22.58	-50.37	-42.21	1.69	8.32	H
	5639	-37.69	-13	-24.69	-57.63	-44.74	2.71	9.76	H
	7522	-54.63	-13	-41.63	-79.63	-64.02	2.42	11.81	H
									H
									H
									H
	3763	-37.05	-13	-24.05	-51.36	-43.68	1.69	8.32	V
	5639	-44.74	-13	-31.74	-63.17	-51.79	2.71	9.76	V
	7522	-55.75	-13	-42.75	-79.86	-65.14	2.42	11.81	V
									V
									V
									V
Highest	3819	-45.32	-13	-32.32	-59.97	-52	1.70	8.38	H
	5730	-45.97	-13	-32.97	-65.72	-53	2.76	9.79	H
	7641	-51.70	-13	-38.70	-76.41	-61.2	2.38	11.88	H
									H
									H
									H
	3819	-44.92	-13	-31.92	-58.87	-51.6	1.70	8.38	V
	5730	-50.97	-13	-37.97	-69.83	-58	2.76	9.79	V
	7641	-55.50	-13	-42.50	-79.04	-65	2.38	11.88	V
									V
									V
									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	-60.89	-13	-47.89	-65.67	-62.65	0.98	4.89	H
	2472	-67.01	-13	-54.01	-76.44	-68.89	1.28	5.32	H
	3296	-65.11	-13	-52.11	-77.62	-68.52	1.54	7.10	H
									H
									H
									H
	1648	-63.19	-13	-50.19	-65.55	-64.95	0.98	4.89	V
	2472	-64.74	-13	-51.74	-75.22	-66.62	1.28	5.32	V
	3296	-66.04	-13	-53.04	-77.6	-69.45	1.54	7.10	V
									V
									V
									V
Middle	1672	-58.54	-13	-45.54	-63.2	-60.22	0.99	4.82	H
	2512	-58.55	-13	-45.55	-68.13	-60.52	1.29	5.41	H
	3344	-65.10	-13	-52.10	-77.27	-68.71	1.56	7.31	H
									H
									H
									H
	1672	-59.78	-13	-46.78	-62.9	-61.46	0.99	4.82	V
	2512	-57.85	-13	-44.85	-68.16	-59.82	1.29	5.41	V
	3344	-65.82	-13	-52.82	-77.27	-69.43	1.56	7.31	V
									V
									V
									V
Highest	1696	-62.42	-13	-49.42	-67.16	-64.02	1.00	4.75	H
	2544	-66.66	-13	-53.66	-76.25	-68.64	1.30	5.44	H
	3392	-65.21	-13	-52.21	-77.49	-69.01	1.57	7.52	H
									H
									H
									H
	1696	-64.58	-13	-51.58	-68.37	-66.18	1.00	4.75	V
	2544	-65.53	-13	-52.53	-75.78	-67.51	1.30	5.44	V
	3392	-65.84	-13	-52.84	-77.66	-69.64	1.57	7.52	V
									V
									V
									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	-47.85	-13	-34.85	-62.34	-54.43	1.67	8.25	H
	5555	-52.92	-13	-39.92	-73.04	-59.99	2.66	9.72	H
	7417	-54.35	-13	-41.35	-79.82	-63.53	2.46	11.63	H
									H
									H
									H
	3707	-50.99	-13	-37.99	-65.39	-57.57	1.67	8.25	V
	5555	-56.06	-13	-43.06	-74.74	-63.13	2.66	9.72	V
	7417	-55.94	-13	-42.94	-80.2	-65.12	2.46	11.63	V
									V
									V
									V
Middle	3763	-49.04	-13	-36.04	-63.74	-55.67	1.69	8.32	H
	5646	-54.34	-13	-41.34	-74.24	-61.39	2.71	9.76	H
	7520	-54.61	-13	-41.61	-79.6	-64	2.42	11.81	H
									H
									H
									H
	3763	-51.16	-13	-38.16	-65.43	-57.79	1.69	8.32	V
	5646	-59.25	-13	-46.25	-77.65	-66.3	2.71	9.76	V
	7520	-55.66	-13	-42.66	-79.75	-65.05	2.42	11.81	V
									V
									V
									V
Highest	3819	-50.72	-13	-37.72	-65.5	-57.4	1.70	8.38	H
	5723	-56.43	-13	-43.43	-76.58	-63.47	2.75	9.79	H
	7641	-54.77	-13	-41.77	-79.47	-64.27	2.38	11.88	H
									H
									H
									H
	3819	-52.05	-13	-39.05	-66.18	-58.73	1.70	8.38	V
	5723	-58.27	-13	-45.27	-77.25	-65.31	2.75	9.79	V
	7641	-55.35	-13	-42.35	-79.35	-64.85	2.38	11.88	V
									V
									V
									V

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



CDMA BC0(1xRTT)									
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	-56.74	-13	-43.74	-60.82	-58.5	0.98	4.89	H
	2472	-63.12	-13	-50.12	-71.65	-65	1.28	5.32	H
	3299	-65.48	-13	-52.48	-77.78	-68.9	1.54	7.12	H
									H
									H
									H
	1648	-58.44	-13	-45.44	-61.74	-60.2	0.98	4.89	V
	2472	-63.82	-13	-50.82	-74.03	-65.7	1.28	5.32	V
	3299	-66.08	-13	-53.08	-77.69	-69.5	1.54	7.12	V
									V
									V
									V
Middle	1672	-54.55	-13	-41.55	-59.14	-56.23	0.99	4.82	H
	2512	-50.50	-13	-37.50	-60.06	-52.47	1.29	5.41	H
	3344	-64.74	-13	-51.74	-76.91	-68.35	1.56	7.31	H
									H
									H
									H
	1672	-55.80	-13	-42.80	-58.82	-57.48	0.99	4.82	V
	2512	-48.92	-13	-35.92	-59.15	-50.89	1.29	5.41	V
	3344	-65.58	-13	-52.58	-76.97	-69.19	1.56	7.31	V
									V
									V
									V
Highest	1696	-56.90	-13	-43.90	-61.14	-58.5	1.00	4.75	H
	2544	-63.52	-13	-50.52	-72.96	-65.5	1.30	5.44	H
	3393	-65.79	-13	-52.79	-77.69	-69.6	1.57	7.53	H
									H
									H
									H
	1696	-59.20	-13	-46.20	-62.96	-60.8	1.00	4.75	V
	2544	-61.72	-13	-48.72	-71.75	-63.7	1.30	5.44	V
	3393	-66.19	-13	-53.19	-77.37	-70	1.57	7.53	V
									V
									V
									V

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



CDMA BC1(1xRTT)									
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	-47.53	-13	-34.53	-61.61	-54.1	1.67	8.24	H
	5555	-51.13	-13	-38.13	-71.02	-58.2	2.66	9.72	H
	7405	-54.55	-13	-41.55	-79.65	-63.7	2.46	11.61	H
									H
									H
									H
	3700	-48.53	-13	-35.53	-62.49	-55.1	1.67	8.24	V
	5555	-57.13	-13	-44.13	-75.39	-64.2	2.66	9.72	V
	7405	-55.55	-13	-42.55	-79.5	-64.7	2.46	11.61	V
									V
									V
									V
Middle	3763	-46.49	-13	-33.49	-61.2	-53.12	1.69	8.32	H
	5639	-52.80	-13	-39.80	-72.73	-59.85	2.71	9.76	H
	7520	-54.40	-13	-41.40	-79.47	-63.79	2.42	11.81	H
									H
									H
									H
	3763	-49.31	-13	-36.31	-63.63	-55.94	1.69	8.32	V
	5639	-57.99	-13	-44.99	-76.42	-65.04	2.71	9.76	V
	7520	-55.56	-13	-42.56	-79.69	-64.95	2.42	11.81	V
									V
									V
									V
Highest	3819	-50.42	-13	-37.42	-64.84	-57.1	1.70	8.38	H
	5730	-53.17	-13	-40.17	-72.84	-60.2	2.76	9.79	H
	7635	-54.10	-13	-41.10	-78.49	-63.6	2.39	11.88	H
									H
									H
									H
	3819	-49.52	-13	-36.52	-63.16	-56.2	1.70	8.38	V
	5726	-57.56	-13	-44.56	-76.61	-64.6	2.76	9.79	V
	7635	-55.70	-13	-42.70	-79	-65.2	2.39	11.88	V
									V
									V
									V

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