

FCC RF Test Report

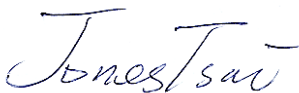
APPLICANT : Motorola Mobility, LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : 5892
FCC ID : IHDT56VC1
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Jul. 25, 2016 and testing was completed on Jul. 29, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-D-2010 and has been in compliance with the applicable technical standards.

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



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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FCC ID : IHDT56VC1

Page Number : 1 of 14

Report Issued Date : Aug. 05, 2016

Report Version : Rev. 01

Report Template No.: BU5-FG22/24/27/90 Version 1.1



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG651612-13A	Rev. 01	This is a variant report. All the test cases were performed base on the worst RSE test cases determined in the original report. Please refer to Sporton Report Number FG651612A in appendix B for the original report.	Aug. 05, 2016



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1053 §22.917(a)	Field Strength of Spurious Radiation	$< 43 + 10 \log_{10}(P[\text{Watts}])$	PASS	Under limit 27.56 dB at 13163.500 MHz



1 General Description

1.1 Applicant

Motorola Mobility, LLC

222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.2 Manufacturer

Motorola Mobility, LLC

222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	5892
FCC ID	IHDT56VC1
IMEI Code	354130070011751
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 Bluetooth v3.0 EDR Bluetooth v4.0 LE
HW Version	DVT2
EUT Stage	Identical Prototype

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

Accessory List	
WPC Cover	Brand Name : INCIPIO
	Model Name : MT-043-CASE

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
Antenna Type	Coupling type (LDS) Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: QPSK (Uplink) HSDPA: QPSK (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 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.
	03CH11-HY

1.7 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
- KDB 648474 D03 Handset Wireless Chargers Battery Covers v01r04

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.

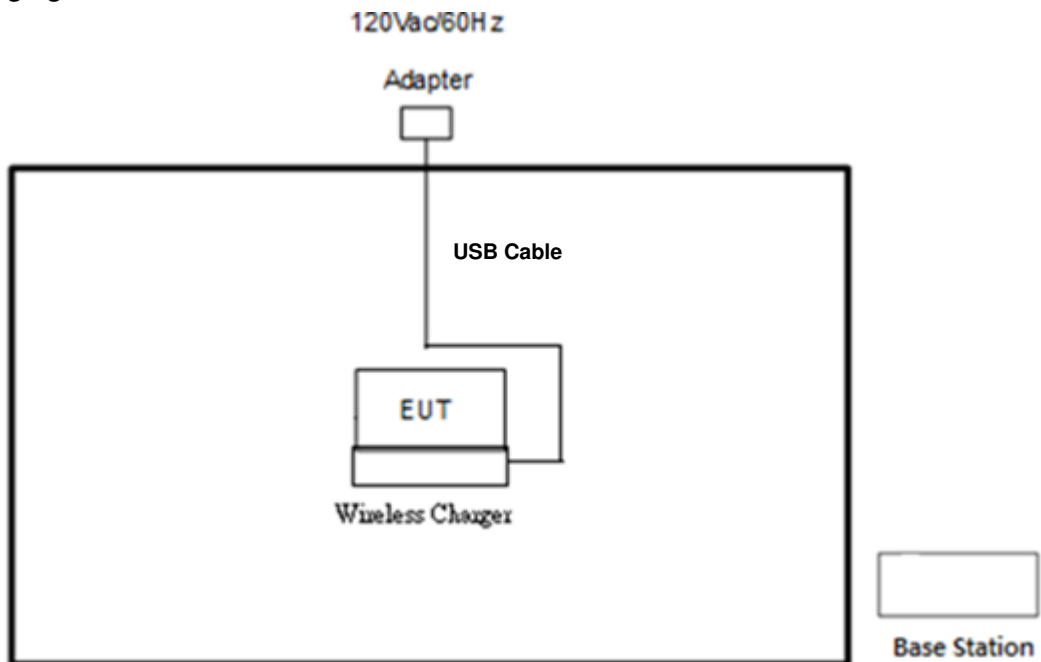
All modes and data rates and positions were investigated.

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

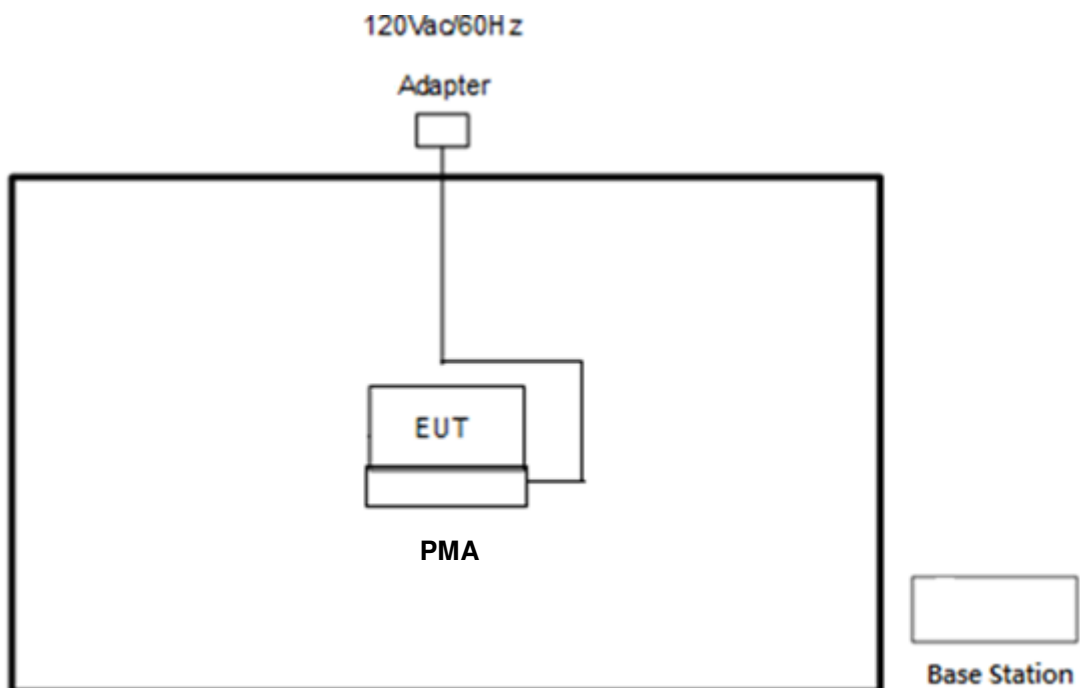
Test Modes	
Band	Radiated TCs
GSM 850	■ GPRS class 8 Link with WPC Charging
	■ GPRS class 8 Link with PMA Charging

2.2 Connection Diagram of Test System

<WPC Charging Mode>



<PMA Charging Mode>





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.	Wireless Charger	LG	WCD-100	FCC DoC	N/A	N/A
3.	PMA	DURACELL	M-018B-518A	FCC DoC	N/A	N/A
4.	USB Cable	Motorola	SKN6473A	N/A	Unshielded, 1.0 m	N/A
5.	Adapter	Motorola	SKN5913A	N/A	N/A	N/A

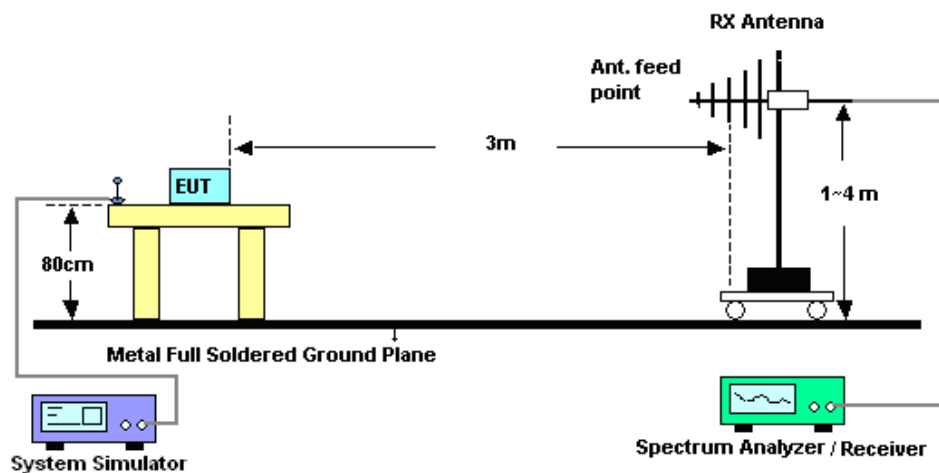
3 Radiated Test Items

3.1 Measuring Instruments

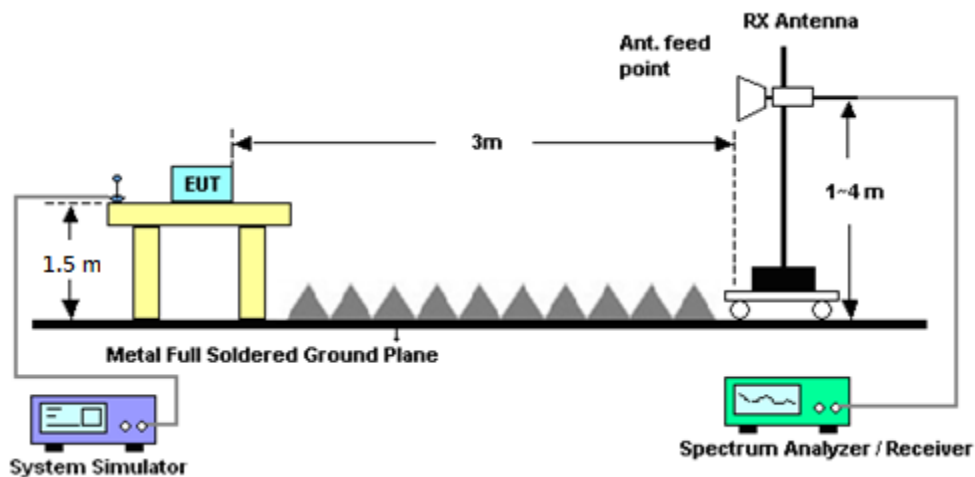
See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 For radiated test from 30MHz to 1GHz



3.2.2 For radiated test above 1GHz



3.3 Test Result of Radiated Test

Please refer to Appendix A.

3.4 Field Strength of Spurious Radiation Measurement

3.4.1 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.

3.4.2 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)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 20, 2015	Jul. 28, 2016 ~ Jul. 29, 2016	Nov. 19, 2016	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D	35414	30MHz~1GHz	Nov. 17, 2015	Jul. 28, 2016 ~ Jul. 29, 2016	Nov. 16, 2016	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz ~ 18GHz	Oct. 08, 2015	Jul. 28, 2016 ~ Jul. 29, 2016	Oct. 07, 2016	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHz	Sep. 24, 2015	Jul. 28, 2016 ~ Jul. 29, 2016	Sep. 23, 2016	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-450 0-B	N/A	1~4m	N/A	Jul. 28, 2016 ~ Jul. 29, 2016	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Jul. 28, 2016 ~ Jul. 29, 2016	N/A	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917057 6	18GHz ~ 40GHz	Apr. 15, 2016	Jul. 28, 2016 ~ Jul. 29, 2016	Apr. 14, 2017	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D	40103	30MHz to 1GHz	Jan. 13, 2016	Jul. 28, 2016 ~ Jul. 29, 2016	Jan. 12, 2017	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1522	1G~18GHz	Mar. 31, 2016	Jul. 28, 2016 ~ Jul. 29, 2016	Mar. 30, 2017	Radiation (03CH11-HY)
Preamplifier	MITEQ	TTA0204	1872107	2GHz~40GHz	Feb. 15, 2016	Jul. 28, 2016 ~ Jul. 29, 2016	Feb. 14, 2017	Radiation (03CH11-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	May 19, 2016	Jul. 28, 2016 ~ Jul. 29, 2016	May 18, 2017	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Sep.02, 2015	Jul. 28, 2016 ~ Jul. 29, 2016	Sep. 01, 2016	Radiation (03CH11-HY)



5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.37
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Appendix A. Test Results of Radiated Test

Radiated Spurious Emission

<WPC Charging Mode>

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	3763	-47.66	-13	-34.66	-72.51	-54.29	1.69	8.32	H
	5639	-47.08	-13	-34.08	-67.03	-54.13	2.71	9.76	H
	13163.5	-40.71	-13	-27.71	-78.49	-50.97	2.97	13.23	H
									H
	3763	-59.82	-13	-46.82	-73.17	-66.45	1.69	8.32	V
	5639	-51.59	-13	-38.59	-70.06	-58.64	2.71	9.76	V
	13163.5	-42.05	-13	-29.05	-76.62	-52.31	2.97	13.23	V
									V

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

<PMA Charging Mode>

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	3763	-60.09	-13	-47.09	-74.83	-66.72	1.69	8.32	H
	5639	-55.15	-13	-42.15	-75.1	-62.2	2.71	9.76	H
	13163.5	-40.56	-13	-27.56	-78.37	-50.82	2.97	13.23	H
									H
	3763	-62.43	-13	-49.43	-76.77	-69.06	1.69	8.32	V
	5639	-56.01	-13	-43.01	-74.47	-63.06	2.71	9.76	V
	13163.5	-41.95	-13	-28.95	-76.52	-52.21	2.97	13.23	V
									V

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



Appendix B. Original Report

Please refer to Sporton report number FG651612A as below.



FCC RF Test Report

APPLICANT : Motorola Mobility, LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : 5892
FCC ID : IHDT56VC1
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on May 16, 2016 and testing was completed on Jun. 19, 2016. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-D-2010 and has been in compliance with the applicable technical standards.

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

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager



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FCC ID : IHDT56VC1

Page Number : 1 of 24

Report Issued Date : Jun. 28, 2016

Report Version : Rev. 01

Report Template No.: BU5-FG22/24 Version 1.1



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APPENDIX B. TEST RESULTS OF RADIATED TEST	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG651612A	Rev. 01	Initial issue of report	Jun. 28, 2016



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	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	§22.913(a)(2)	Effective Radiated Power	< 7 Watts	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
4.5	§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	< 43+10log10(P[Watts])	PASS	Under limit 22.93 dB at 3762.000 MHz



1 General Description

1.1 Applicant

Motorola Mobility, LLC

222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.2 Manufacturer

Motorola Mobility, LLC

222 W Merchandise Mart Plaza, Suite 1800, Chicago, IL 60654, United States

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	5892
FCC ID	IHDT56VC1
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 Bluetooth v3.0 EDR Bluetooth v4.0 LE
HW Version	DVT2
EUT Stage	Identical Prototype

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

Accessory List	
AC Adapter	Brand Name : Motorola
	Model Name : SPN5913A
Earphone	Brand Name : Motorola
	Model Name : SJYN1181B
Battery 1	Brand Name : Motorola
	Model Name : SNN5974A
Battery 2	Brand Name : Motorola
	Model Name : SNN5975A
USB Cable	Brand Name : Motorola
	Model Name : SKN6473A

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
Antenna Type	Coupling type (LDS) Antenna (The antenna peak gain of EUT is less than 6 dBi)
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: QPSK (Uplink) HSDPA: 16QAM (Downlink) 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 GSM	GMSK	1.1722	0.0574 ppm	242KGXW
Part 22	GSM850 EDGE class 8	8PSK	0.1435	0.0060 ppm	248KG7W
Part 22	WCDMA Band V RMC 12.2Kbps	QPSK	0.1138	0.0155 ppm	4M14F9W
Part 22	CDMA2000 BC0 1xRTT	QPSK	0.1169	0.0167 ppm	1M28F9W
Part 22	CDMA2000 BC0 1xEV-DO Rev. 0	QPSK	0.1014	0.0108 ppm	1M27F9W
Part 24	GSM1900 GPRS class 8	GMSK	1.3183	0.0016 ppm	246KGXW
Part 24	GSM1900 EDGE class 8	8PSK	0.4055	0.0149 ppm	246KG7W
Part 24	WCDMA Band II RMC 12.2Kbps	QPSK	0.2360	0.0016 ppm	4M11F9W
Part 24	CDMA2000 BC1 1xRTT	QPSK	0.2655	0.0101 ppm	1M28F9W
Part 24	CDMA2000 BC1 1xEV-DO Rev. A	QPSK	0.2239	0.0011 ppm	1M27F9W

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	03CH07-HY



1.8 Applicable Standards

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

- ♦ 47 CFR Part 2, 22(H), 24(E)
- ♦ ANSI / TIA / EIA-603-D-2010
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02

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 19000 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	■ GSM Link ■ EDGE class 8 Link	■ GSM 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 ■ 1xEV-DO Rev. 0 Link	■ 1xRTT Link ■ 1xEV-DO Rev. 0 Link
CDMA BC1	■ 1xRTT Link ■ 1xEV-DO Rev. A Link	■ 1xRTT Link ■ 1xEV-DO Rev. A Link

Note: The maximum power levels are chosen to test as the worst case configuration as follows:

GSM or GPRS multi-slot class 8 mode for GMSK modulation,

EDGE multi-slot class 8 mode for 8PSK modulation,

RMC 12.2Kbps mode for WCDMA band V,

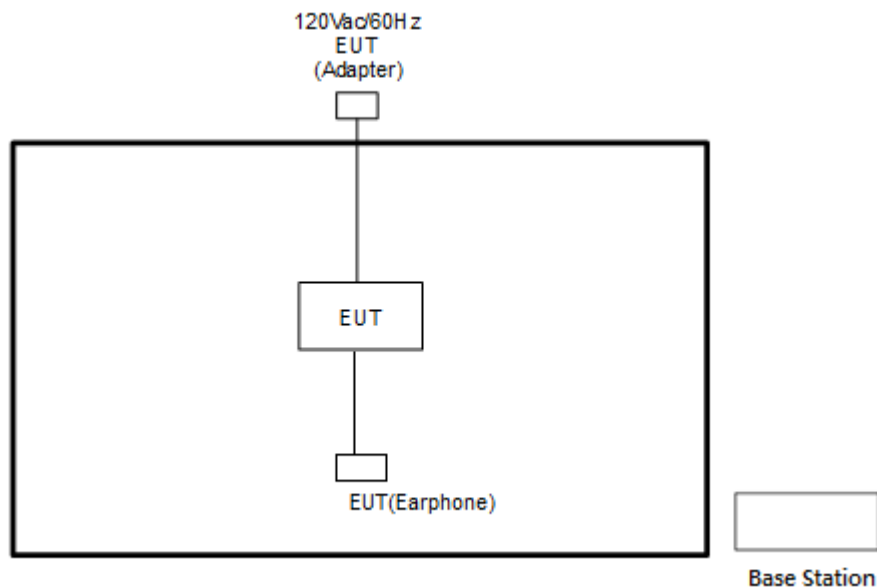
RMC 12.2Kbps mode for WCDMA band II,

1xRTT and 1xEV-DO Rev. 0 mode for CDMA BC0,

1xRTT and 1xEV-DO Rev. A mode for CDMA BC1,

only these modes were used for all tests. In addition to above worst-case test, below investigating on all data rates, and all modes are compliance with each FCC test case which has specific test limits. For spurious emissions at antenna port, the EUT was investigated the band edges on low and high channels, and the unwanted spurious emissions on middle channel for all modes, the results are pass, then only the worst-results were reported in the test report. The Radiated Spurious emissions for CDMA/EV-DO/GSM/GPRS/EGPRS/WCDMA/HSDPA modes were investigated on the middle channel and the passed results were not worst than those data tested from the highest power channels.

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

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

2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

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

Example :

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

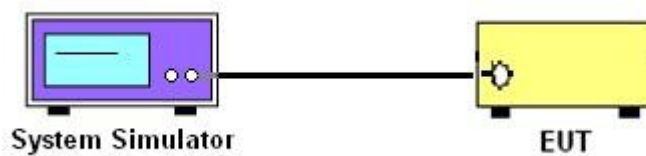
3 Conducted Test Result

3.1 Measuring Instruments

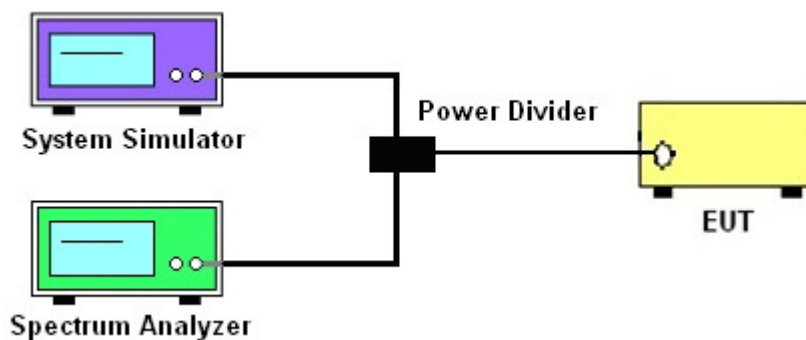
See list of measuring instruments of this test report.

3.2 Test Setup

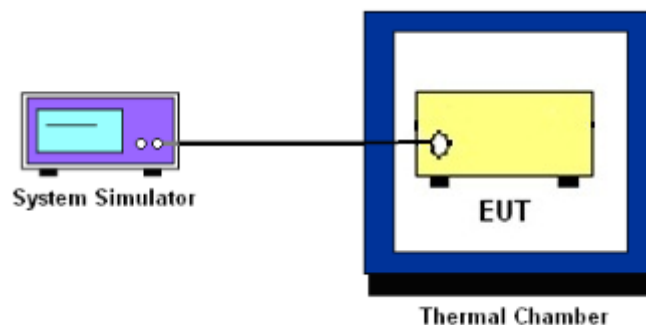
3.2.1 Conducted Output Power



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

3.4.1 Description of the Conducted Output Power

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

3.4.2 Test Procedures

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



3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.7.1.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. Set EUT to transmit at maximum output power.
4. When the duty cycle is less than 98%, then signal gating will be implemented on the spectrum analyzer by triggering from the system simulator.
5. Set the CCDF (Complementary Cumulative Distribution Function) option of the spectrum analyzer.
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)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$

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.

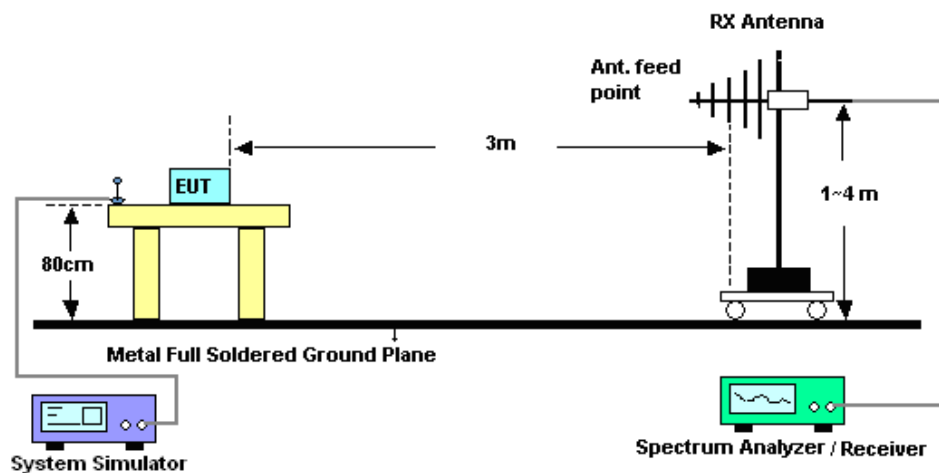
4 Radiated Test Items

4.1 Measuring Instruments

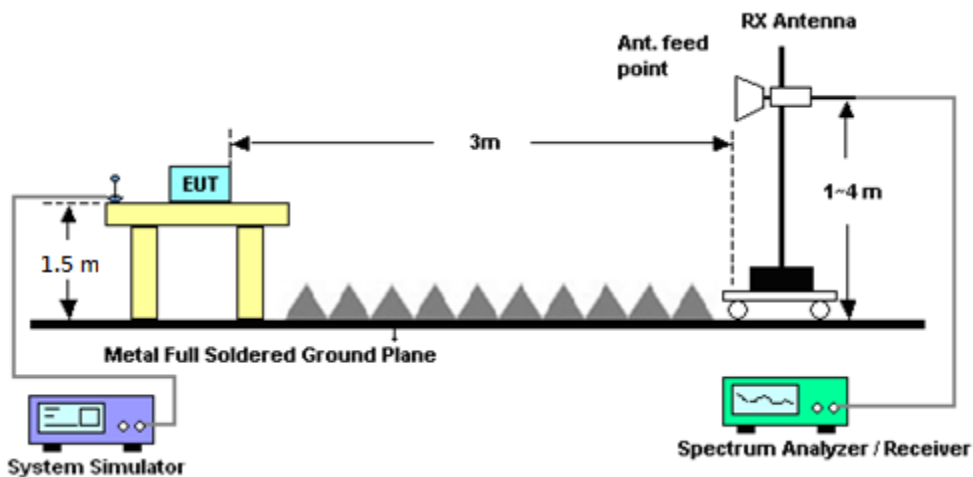
See list of measuring instruments of this test report.

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 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

4.4.1 Description of the ERP/EIRP Measurement

The substitution method, in ANSI / TIA / EIA-603-D-2010, was used for ERP/EIRP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. The ERP of mobile transmitters must not exceed 7 Watts (Cellular Band) and the EIRP of mobile transmitters are limited to 2 Watts (PCS Band).

4.4.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.2.1. (for CDMA/WCDMA), Section 5.2.2.2 (for GSM/GPRS/EDGE) and ANSI / TIA-603-D-2010 Section 2.2.17.
2. The EUT was placed on a non-conductive rotating platform (0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz) in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RMS detector per section 5. of KDB 971168 D01.
3. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
4. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, $EIRP = LVL + \text{Correction factor}$ and $ERP = EIRP - 2.15$. Take the record of the output power at substitution antenna.



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

4.5 Field Strength of Spurious Radiation Measurement

4.5.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.5.2 Test Procedures

1. The testing follows FCC KDB 971168 D01 v02r02 Section 5.8 and ANSI / TIA-603-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. 24, 2015	May 29, 2016 ~ Jun. 07, 2016	Jun. 23, 2016	Conducted (TH03-HY)
Temperature Chamber	ESPEC	SU-641	92013721	-30℃ ~70℃	Nov. 20, 2015	May 29, 2016 ~ Jun. 07, 2016	Nov. 19, 2016	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL883644	Voltage:0~20V;Current:0~5A	Nov. 26, 2015	May 29, 2016 ~ Jun. 07, 2016	Nov. 25, 2016	Conducted (TH03-HY)
Base Station (Measure)	Rohde & Schwarz	CMU200	117995	GSM / GPRS / WCDMA / CDMA	Jul. 26, 2015	May 29, 2016 ~ Jun. 07, 2016	Jul. 25, 2016	Conducted (TH03-HY)
Bilog Antenna	TESEQ	CBL 6111D	35419	30MHz to 1GHz	Jan. 13, 2016	Jun. 15, 2016~ Jun. 19, 2016	Jan. 12, 2017	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 21, 2015	Jun. 15, 2016~ Jun. 19, 2016	Aug. 20, 2016	Radiation (03CH07-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY54130085	20Hz ~ 8.4GHz	Nov. 04, 2015	Jun. 15, 2016~ Jun. 19, 2016	Nov. 03, 2016	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590075	1GHz ~ 18GHz	Apr. 15, 2016	Jun. 15, 2016~ Jun. 19, 2016	Apr. 14, 2017	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz-1GHz	Mar. 18, 2016	Jun. 15, 2016~ Jun. 19, 2016	Mar. 17, 2017	Radiation (03CH07-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Feb. 27, 2016	Jun. 15, 2016~ Jun. 19, 2016	Feb. 26, 2017	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	Jun. 15, 2016~ Jun. 19, 2016	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 Degree	N/A	Jun. 15, 2016~ Jun. 19, 2016	N/A	Radiation (03CH07-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Nov. 02, 2015	Jun. 15, 2016~ Jun. 19, 2016	Nov. 01, 2016	Radiation (03CH07-HY)
Preamplifier	MITEQ	JS44-180040 00-33-8P	1840917	18GHz ~ 40GHz	Jun. 14, 2016	Jun. 15, 2016~ Jun. 19, 2016	Jun. 13, 2017	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917058 4	18GHz- 40GHz	Nov. 02, 2015	Jun. 15, 2016~ Jun. 19, 2016	Nov. 01, 2016	Radiation (03CH07-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	May 19, 2016	Jun. 15, 2016~ Jun. 19, 2016	May 18, 2017	Radiation (03CH07-HY)



6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.60
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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	1880.0	1909.8
GSM	32.71	32.21	32.07	29.62	29.43	29.41
GPRS class 8	32.67	32.22	32.03	29.63	29.44	29.42
GPRS class 10	29.54	29.25	29.06	26.45	26.23	26.50
GPRS class 11	27.63	27.36	27.15	24.50	24.27	24.52
GPRS class 12	26.60	26.07	25.78	23.06	22.91	23.14
EGPRS class 8	26.77	26.43	26.21	25.31	25.13	25.26
EGPRS class 10	26.64	26.35	26.20	25.09	25.01	25.10
EGPRS class 11	25.23	24.94	24.74	23.72	23.55	23.68
EGPRS class 12	23.85	23.58	23.31	22.35	22.20	22.31

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	22.98	22.96	22.59	22.92	22.61	22.90
HSDPA Subtest-1	22.09	22.03	21.62	21.40	21.14	21.44
HSDPA Subtest-2	22.05	22.02	21.61	21.38	21.22	21.52
HSDPA Subtest-3	21.59	21.57	21.10	21.41	21.11	21.44
HSDPA Subtest-4	22.08	21.53	21.15	21.39	21.21	21.55
HSUPA Subtest-1	22.06	22.00	21.59	21.83	21.70	21.98
HSUPA Subtest-2	20.02	20.00	19.51	20.00	19.79	19.97
HSUPA Subtest-3	21.03	21.03	20.65	20.88	20.75	20.98
HSUPA Subtest-4	20.08	20.05	19.50	20.00	19.72	20.04
HSUPA Subtest-5	22.13	22.10	21.66	21.45	21.16	21.44



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	24.25	24.03	23.88	23.66	23.27	23.80
1xRTT RC3 SO55	24.29	24.14	23.92	23.57	23.27	23.73
1xRTT RC3 SO32 (+ F-SCH)	24.31	24.13	23.97	23.67	23.28	23.70
1xRTT RC3 SO32 (+SCH)	24.31	24.12	23.98	23.68	23.28	23.73
1xEVDO RTAP 153.6Kbps	24.29	24.05	23.94	23.63	23.26	23.70
1xEVDO RETAP 4096Bits	24.28	24.18	23.98	23.66	23.29	23.73

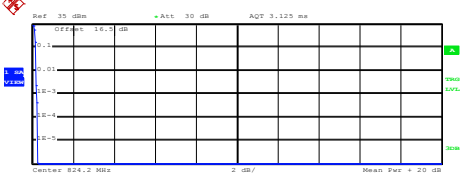
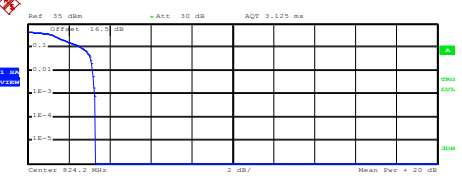
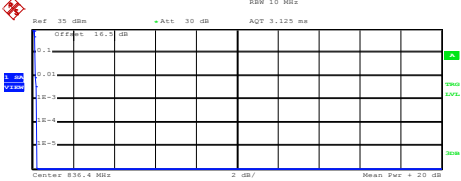
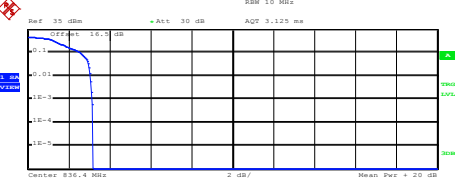
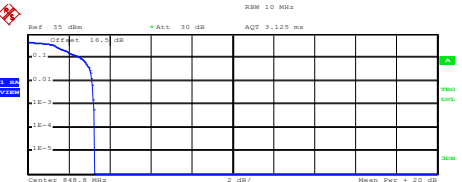


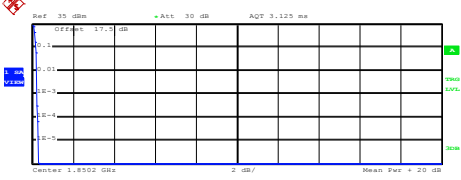
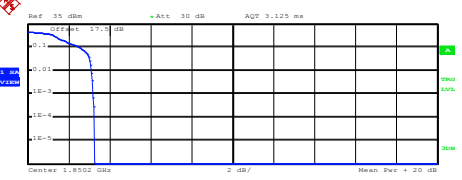
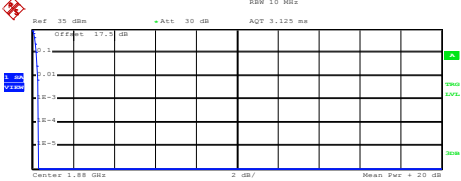
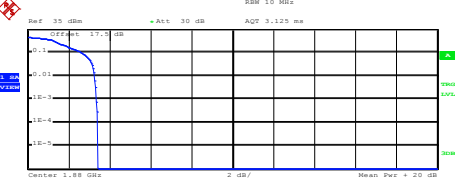
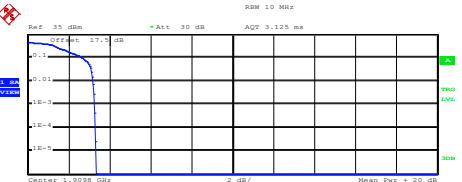
A1. GSM

Peak-to-Average Ratio

Mode	GSM850		Limit: 13dB
Mod.	GSM	EDGE class 8	Result
Lowest CH	0.24	3.28	PASS
Middle CH	0.24	3.16	
Highest CH	0.24	3.24	

Mode	GSM1900		Limit: 13dB
Mod.	GPRS class 8	EDGE class 8	Result
Lowest CH	0.24	3.20	PASS
Middle CH	0.32	3.36	
Highest CH	0.28	3.28	

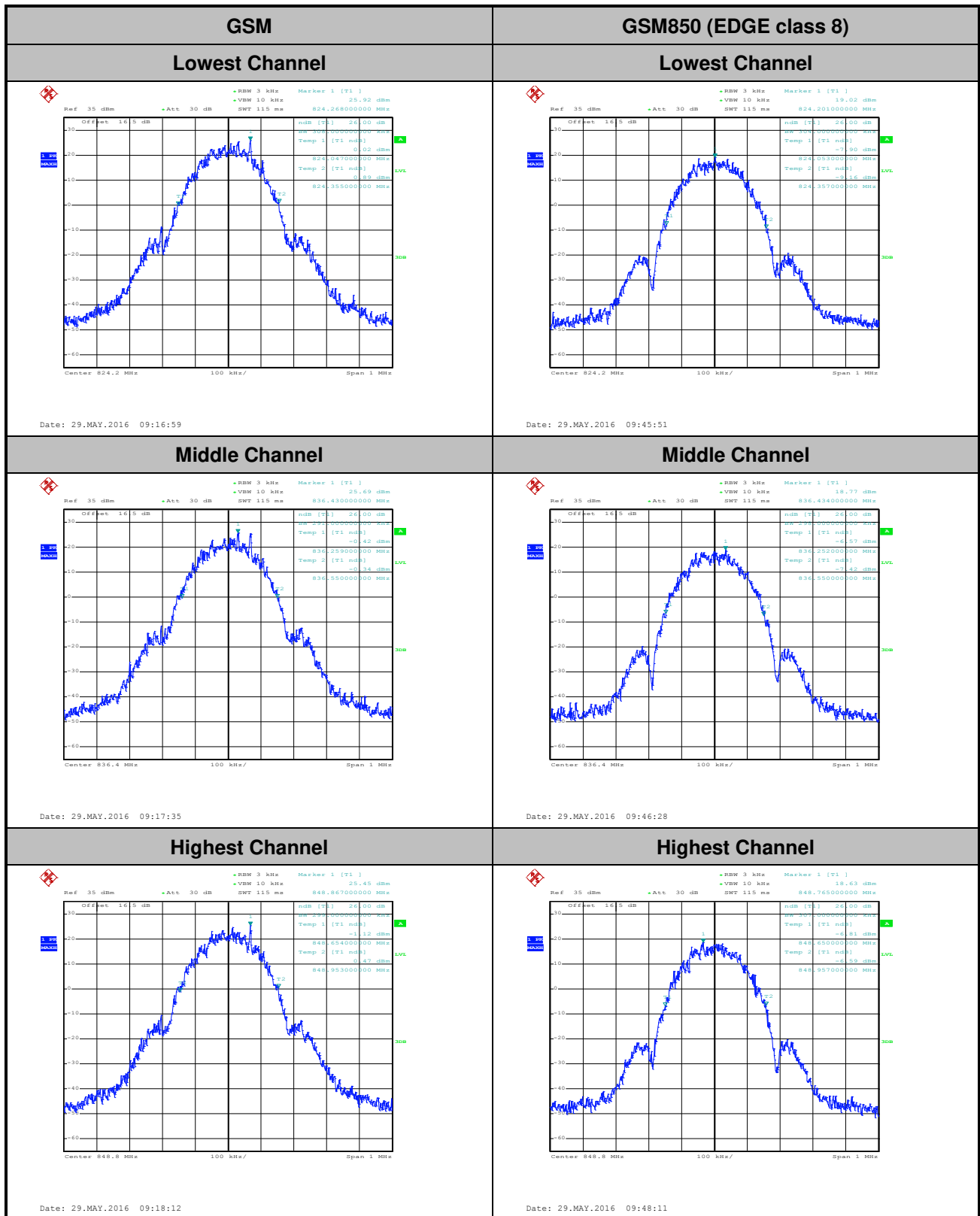
GSM	GSM850 (EDGE class 8)																												
Lowest Channel	Lowest Channel																												
 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 824.2 MHz, Span: 20 dB, Res: 2 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>32.61 dBm</td></tr> <tr><td>Peak</td><td>32.85 dBm</td></tr> <tr><td>Crest</td><td>0.25 dB</td></tr> </table> <table border="1"> <tr><td>10 %</td><td>0.16 dB</td></tr> <tr><td>1 %</td><td>0.20 dB</td></tr> <tr><td>.1 %</td><td>0.24 dB</td></tr> <tr><td>.01 %</td><td>0.28 dB</td></tr> </table> Date: 29.MAY.2016 09:23:54	Mean	32.61 dBm	Peak	32.85 dBm	Crest	0.25 dB	10 %	0.16 dB	1 %	0.20 dB	.1 %	0.24 dB	.01 %	0.28 dB	 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 824.2 MHz, Span: 20 dB, Res: 2 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>26.59 dBm</td></tr> <tr><td>Peak</td><td>29.89 dBm</td></tr> <tr><td>Crest</td><td>3.30 dB</td></tr> </table> <table border="1"> <tr><td>10 %</td><td>2.64 dB</td></tr> <tr><td>1 %</td><td>3.16 dB</td></tr> <tr><td>.1 %</td><td>3.28 dB</td></tr> <tr><td>.01 %</td><td>3.32 dB</td></tr> </table> Date: 29.MAY.2016 09:52:57	Mean	26.59 dBm	Peak	29.89 dBm	Crest	3.30 dB	10 %	2.64 dB	1 %	3.16 dB	.1 %	3.28 dB	.01 %	3.32 dB
Mean	32.61 dBm																												
Peak	32.85 dBm																												
Crest	0.25 dB																												
10 %	0.16 dB																												
1 %	0.20 dB																												
.1 %	0.24 dB																												
.01 %	0.28 dB																												
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Peak	29.89 dBm																												
Crest	3.30 dB																												
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1 %	3.16 dB																												
.1 %	3.28 dB																												
.01 %	3.32 dB																												
Middle Channel	Middle Channel																												
 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 835.4 MHz, Span: 20 dB, Res: 2 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>31.78 dBm</td></tr> <tr><td>Peak</td><td>32.01 dBm</td></tr> <tr><td>Crest</td><td>0.23 dB</td></tr> </table> <table border="1"> <tr><td>10 %</td><td>0.16 dB</td></tr> <tr><td>1 %</td><td>0.16 dB</td></tr> <tr><td>.1 %</td><td>0.24 dB</td></tr> <tr><td>.01 %</td><td>0.24 dB</td></tr> </table> Date: 29.MAY.2016 09:24:09	Mean	31.78 dBm	Peak	32.01 dBm	Crest	0.23 dB	10 %	0.16 dB	1 %	0.16 dB	.1 %	0.24 dB	.01 %	0.24 dB	 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 835.4 MHz, Span: 20 dB, Res: 2 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>26.49 dBm</td></tr> <tr><td>Peak</td><td>29.68 dBm</td></tr> <tr><td>Crest</td><td>3.19 dB</td></tr> </table> <table border="1"> <tr><td>10 %</td><td>2.56 dB</td></tr> <tr><td>1 %</td><td>3.04 dB</td></tr> <tr><td>.1 %</td><td>3.16 dB</td></tr> <tr><td>.01 %</td><td>3.20 dB</td></tr> </table> Date: 29.MAY.2016 09:53:20	Mean	26.49 dBm	Peak	29.68 dBm	Crest	3.19 dB	10 %	2.56 dB	1 %	3.04 dB	.1 %	3.16 dB	.01 %	3.20 dB
Mean	31.78 dBm																												
Peak	32.01 dBm																												
Crest	0.23 dB																												
10 %	0.16 dB																												
1 %	0.16 dB																												
.1 %	0.24 dB																												
.01 %	0.24 dB																												
Mean	26.49 dBm																												
Peak	29.68 dBm																												
Crest	3.19 dB																												
10 %	2.56 dB																												
1 %	3.04 dB																												
.1 %	3.16 dB																												
.01 %	3.20 dB																												
Highest Channel	Highest Channel																												
 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 848.8 MHz, Span: 20 dB, Res: 2 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>31.78 dBm</td></tr> <tr><td>Peak</td><td>32.01 dBm</td></tr> <tr><td>Crest</td><td>0.22 dB</td></tr> </table> <table border="1"> <tr><td>10 %</td><td>0.16 dB</td></tr> <tr><td>1 %</td><td>0.20 dB</td></tr> <tr><td>.1 %</td><td>0.24 dB</td></tr> <tr><td>.01 %</td><td>0.24 dB</td></tr> </table> Date: 29.MAY.2016 09:24:24	Mean	31.78 dBm	Peak	32.01 dBm	Crest	0.22 dB	10 %	0.16 dB	1 %	0.20 dB	.1 %	0.24 dB	.01 %	0.24 dB	 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 848.8 MHz, Span: 20 dB, Res: 2 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>26.27 dBm</td></tr> <tr><td>Peak</td><td>29.54 dBm</td></tr> <tr><td>Crest</td><td>3.27 dB</td></tr> </table> <table border="1"> <tr><td>10 %</td><td>2.60 dB</td></tr> <tr><td>1 %</td><td>3.12 dB</td></tr> <tr><td>.1 %</td><td>3.24 dB</td></tr> <tr><td>.01 %</td><td>3.28 dB</td></tr> </table> Date: 29.MAY.2016 09:53:39	Mean	26.27 dBm	Peak	29.54 dBm	Crest	3.27 dB	10 %	2.60 dB	1 %	3.12 dB	.1 %	3.24 dB	.01 %	3.28 dB
Mean	31.78 dBm																												
Peak	32.01 dBm																												
Crest	0.22 dB																												
10 %	0.16 dB																												
1 %	0.20 dB																												
.1 %	0.24 dB																												
.01 %	0.24 dB																												
Mean	26.27 dBm																												
Peak	29.54 dBm																												
Crest	3.27 dB																												
10 %	2.60 dB																												
1 %	3.12 dB																												
.1 %	3.24 dB																												
.01 %	3.28 dB																												

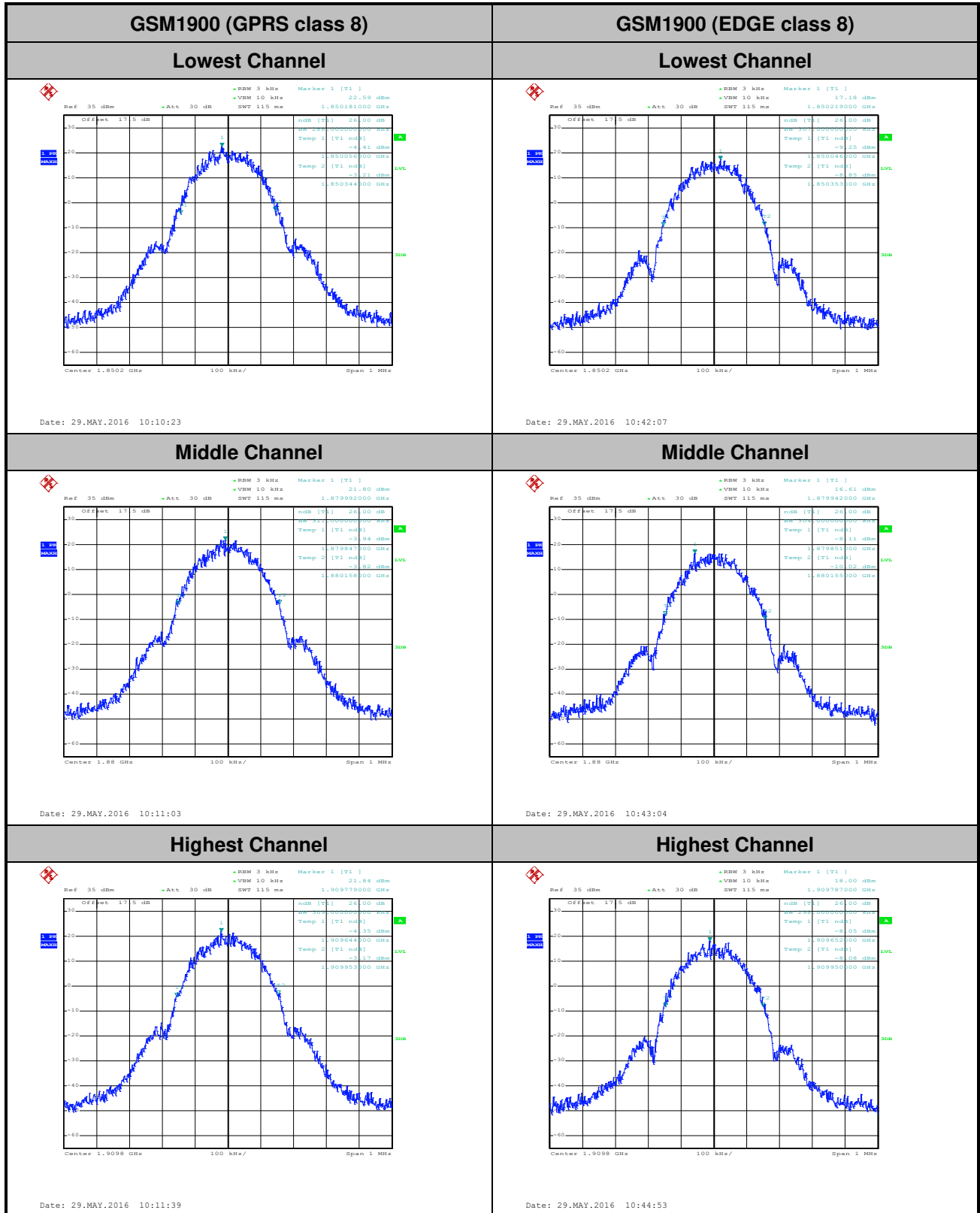
GSM1900 (GPRS class 8)	GSM1900 (EDGE class 8)																												
Lowest Channel	Lowest Channel																												
 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 1.8502 GHz, Span: 2 dB, Mean: 29.46 dBm, Peak: 29.75 dBm, Crest: 0.29 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>29.46 dBm</td></tr> <tr><td>Peak</td><td>29.75 dBm</td></tr> <tr><td>Crest</td><td>0.29 dB</td></tr> <tr><td>10 %</td><td>0.20 dB</td></tr> <tr><td>1 %</td><td>0.24 dB</td></tr> <tr><td>.1 %</td><td>0.24 dB</td></tr> <tr><td>.01 %</td><td>0.28 dB</td></tr> </table> Date: 29.MAY.2016 10:22:15	Mean	29.46 dBm	Peak	29.75 dBm	Crest	0.29 dB	10 %	0.20 dB	1 %	0.24 dB	.1 %	0.24 dB	.01 %	0.28 dB	 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 1.8502 GHz, Span: 2 dB, Mean: 25.01 dBm, Peak: 28.27 dBm, Crest: 3.26 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>25.01 dBm</td></tr> <tr><td>Peak</td><td>28.27 dBm</td></tr> <tr><td>Crest</td><td>3.26 dB</td></tr> <tr><td>10 %</td><td>2.56 dB</td></tr> <tr><td>1 %</td><td>3.12 dB</td></tr> <tr><td>.1 %</td><td>3.20 dB</td></tr> <tr><td>.01 %</td><td>3.28 dB</td></tr> </table> Date: 29.MAY.2016 10:50:24	Mean	25.01 dBm	Peak	28.27 dBm	Crest	3.26 dB	10 %	2.56 dB	1 %	3.12 dB	.1 %	3.20 dB	.01 %	3.28 dB
Mean	29.46 dBm																												
Peak	29.75 dBm																												
Crest	0.29 dB																												
10 %	0.20 dB																												
1 %	0.24 dB																												
.1 %	0.24 dB																												
.01 %	0.28 dB																												
Mean	25.01 dBm																												
Peak	28.27 dBm																												
Crest	3.26 dB																												
10 %	2.56 dB																												
1 %	3.12 dB																												
.1 %	3.20 dB																												
.01 %	3.28 dB																												
Middle Channel	Middle Channel																												
 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 1.88 GHz, Span: 2 dB, Mean: 28.89 dBm, Peak: 29.19 dBm, Crest: 0.29 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>28.89 dBm</td></tr> <tr><td>Peak</td><td>29.19 dBm</td></tr> <tr><td>Crest</td><td>0.29 dB</td></tr> <tr><td>10 %</td><td>0.20 dB</td></tr> <tr><td>1 %</td><td>0.28 dB</td></tr> <tr><td>.1 %</td><td>0.32 dB</td></tr> <tr><td>.01 %</td><td>0.32 dB</td></tr> </table> Date: 29.MAY.2016 10:23:14	Mean	28.89 dBm	Peak	29.19 dBm	Crest	0.29 dB	10 %	0.20 dB	1 %	0.28 dB	.1 %	0.32 dB	.01 %	0.32 dB	 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 1.88 GHz, Span: 2 dB, Mean: 24.36 dBm, Peak: 27.77 dBm, Crest: 3.42 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>24.36 dBm</td></tr> <tr><td>Peak</td><td>27.77 dBm</td></tr> <tr><td>Crest</td><td>3.42 dB</td></tr> <tr><td>10 %</td><td>2.64 dB</td></tr> <tr><td>1 %</td><td>3.28 dB</td></tr> <tr><td>.1 %</td><td>3.36 dB</td></tr> <tr><td>.01 %</td><td>3.44 dB</td></tr> </table> Date: 29.MAY.2016 10:50:45	Mean	24.36 dBm	Peak	27.77 dBm	Crest	3.42 dB	10 %	2.64 dB	1 %	3.28 dB	.1 %	3.36 dB	.01 %	3.44 dB
Mean	28.89 dBm																												
Peak	29.19 dBm																												
Crest	0.29 dB																												
10 %	0.20 dB																												
1 %	0.28 dB																												
.1 %	0.32 dB																												
.01 %	0.32 dB																												
Mean	24.36 dBm																												
Peak	27.77 dBm																												
Crest	3.42 dB																												
10 %	2.64 dB																												
1 %	3.28 dB																												
.1 %	3.36 dB																												
.01 %	3.44 dB																												
Highest Channel	Highest Channel																												
 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 1.9098 GHz, Span: 2 dB, Mean: 28.81 dBm, Peak: 29.12 dBm, Crest: 0.30 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>28.81 dBm</td></tr> <tr><td>Peak</td><td>29.12 dBm</td></tr> <tr><td>Crest</td><td>0.30 dB</td></tr> <tr><td>10 %</td><td>0.20 dB</td></tr> <tr><td>1 %</td><td>0.24 dB</td></tr> <tr><td>.1 %</td><td>0.28 dB</td></tr> <tr><td>.01 %</td><td>0.32 dB</td></tr> </table> Date: 29.MAY.2016 10:23:36	Mean	28.81 dBm	Peak	29.12 dBm	Crest	0.30 dB	10 %	0.20 dB	1 %	0.24 dB	.1 %	0.28 dB	.01 %	0.32 dB	 Ref: 35 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz, Center: 1.9098 GHz, Span: 2 dB, Mean: 24.57 dBm, Peak: 27.92 dBm, Crest: 3.35 dB Complementary Cumulative Distribution Function (100000 samples) Trace 1 <table border="1"> <tr><td>Mean</td><td>24.57 dBm</td></tr> <tr><td>Peak</td><td>27.92 dBm</td></tr> <tr><td>Crest</td><td>3.35 dB</td></tr> <tr><td>10 %</td><td>2.68 dB</td></tr> <tr><td>1 %</td><td>3.20 dB</td></tr> <tr><td>.1 %</td><td>3.28 dB</td></tr> <tr><td>.01 %</td><td>3.32 dB</td></tr> </table> Date: 29.MAY.2016 10:51:12	Mean	24.57 dBm	Peak	27.92 dBm	Crest	3.35 dB	10 %	2.68 dB	1 %	3.20 dB	.1 %	3.28 dB	.01 %	3.32 dB
Mean	28.81 dBm																												
Peak	29.12 dBm																												
Crest	0.30 dB																												
10 %	0.20 dB																												
1 %	0.24 dB																												
.1 %	0.28 dB																												
.01 %	0.32 dB																												
Mean	24.57 dBm																												
Peak	27.92 dBm																												
Crest	3.35 dB																												
10 %	2.68 dB																												
1 %	3.20 dB																												
.1 %	3.28 dB																												
.01 %	3.32 dB																												

**26dB Bandwidth**

Mode	GSM850	
Mod.	GSM	EDGE class 8
Lowest CH	0.308	0.304
Middle CH	0.291	0.298
Highest CH	0.299	0.307

Mode	GSM1900	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.288	0.307
Middle CH	0.311	0.304
Highest CH	0.309	0.298

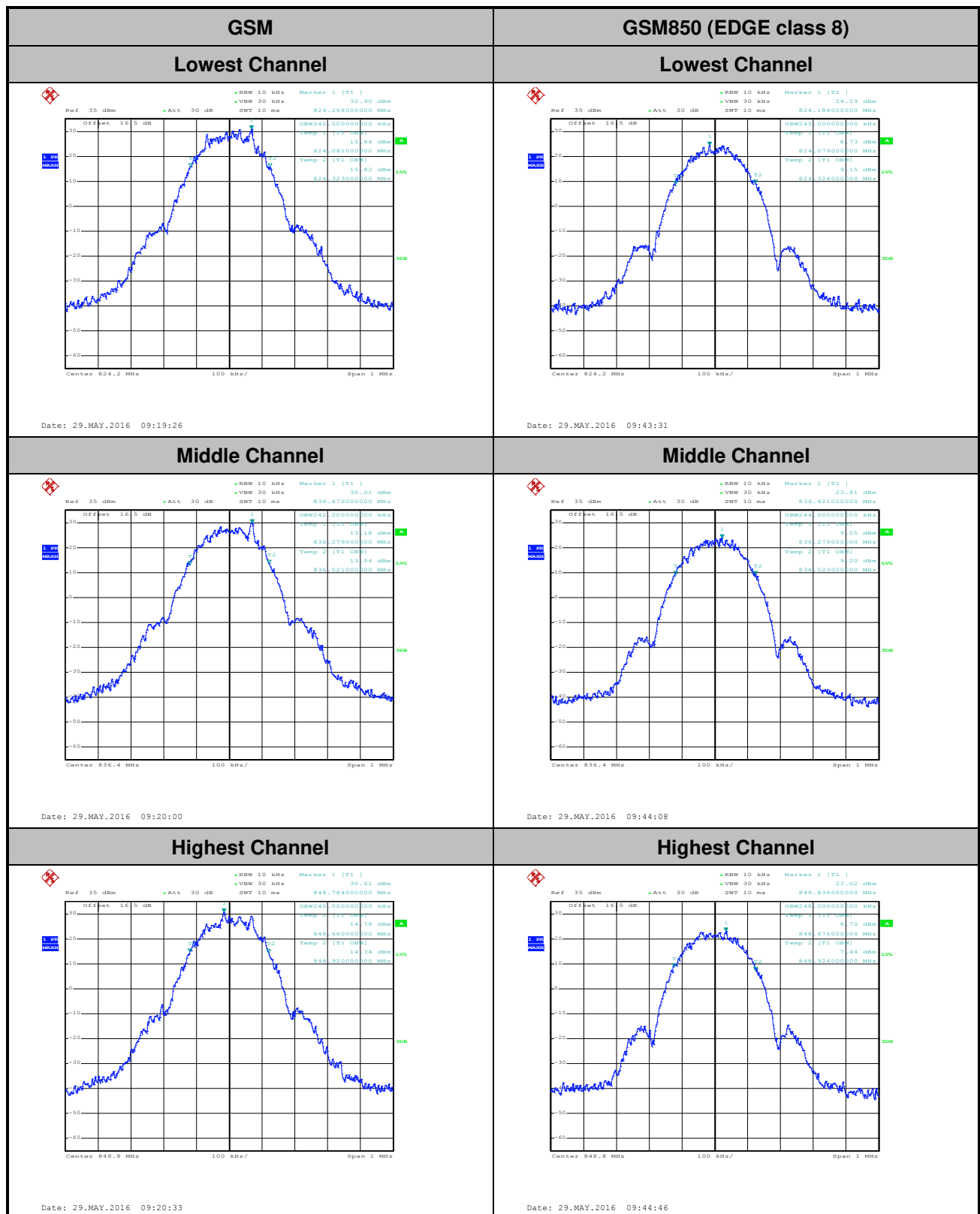




**Occupied Bandwidth**

Mode	GSM850	
Mod.	GSM	EDGE class 8
Lowest CH	0.242	0.245
Middle CH	0.242	0.244
Highest CH	0.240	0.248

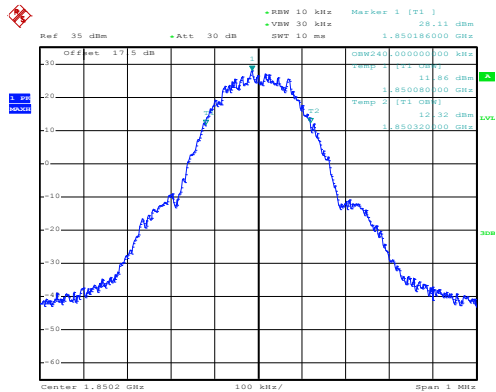
Mode	GSM1900	
Mod.	GPRS class 8	EDGE class 8
Lowest CH	0.240	0.246
Middle CH	0.246	0.242
Highest CH	0.243	0.244





GSM1900 (GPRS class 8)

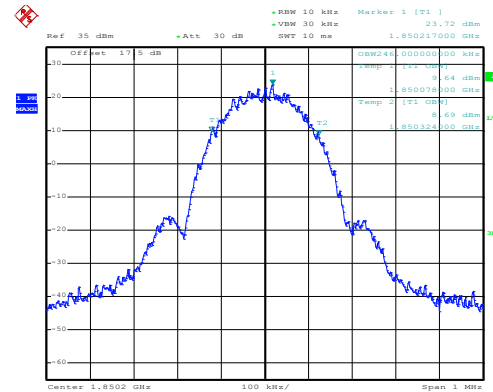
Lowest Channel



Date: 29.MAY.2016 10:12:42

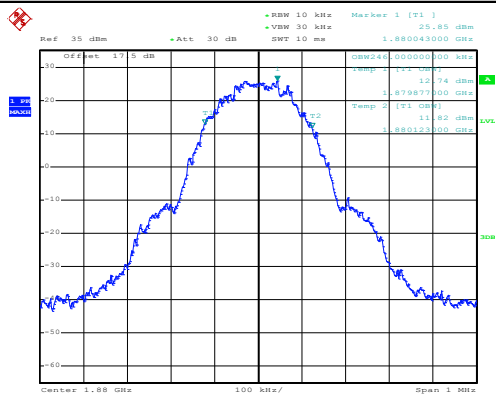
GSM1900 (EDGE class 8)

Lowest Channel



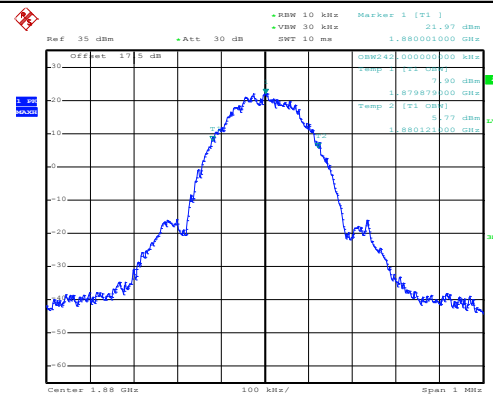
Date: 29.MAY.2016 10:45:42

Middle Channel



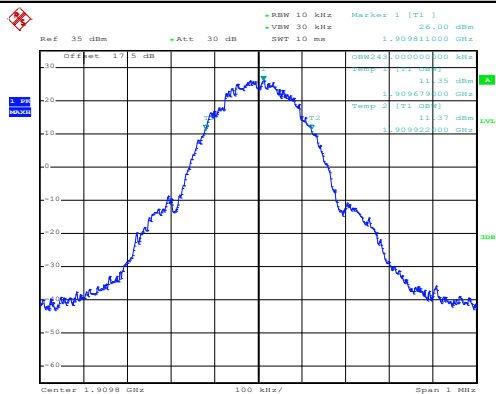
Date: 29.MAY.2016 10:13:15

Middle Channel



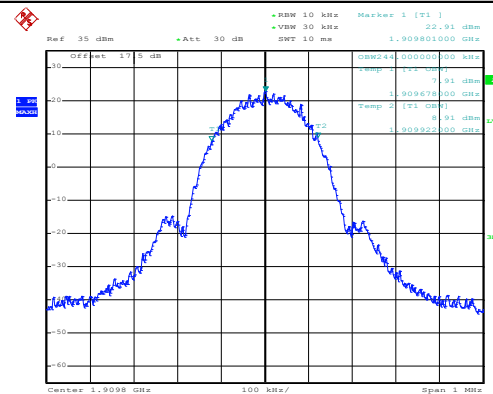
Date: 29.MAY.2016 10:46:26

Highest Channel



Date: 29.MAY.2016 10:13:48

Highest Channel



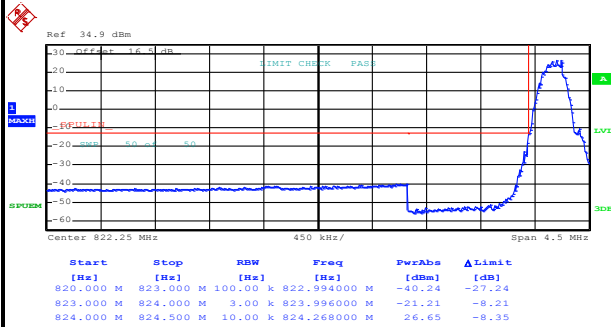
Date: 29.MAY.2016 10:47:00



Conducted Band Edge

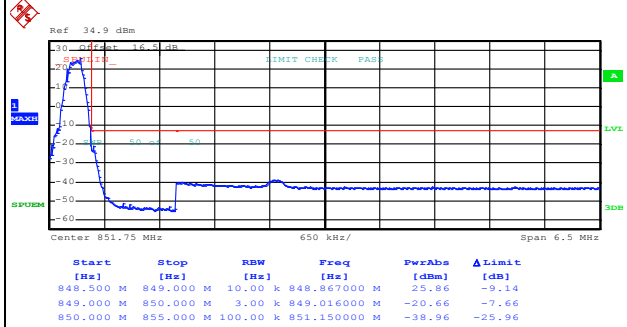
GSM

Lowest Band Edge



Date: 29.MAY.2016 09:26:20

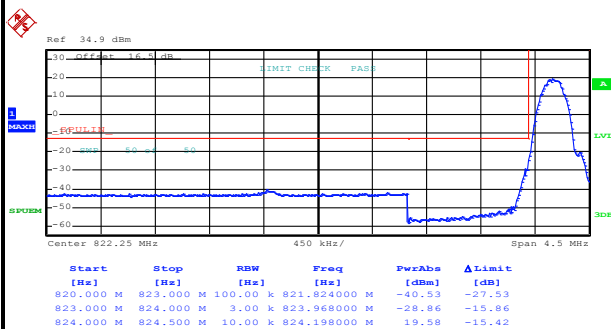
Highest Band Edge



Date: 29.MAY.2016 09:30:10

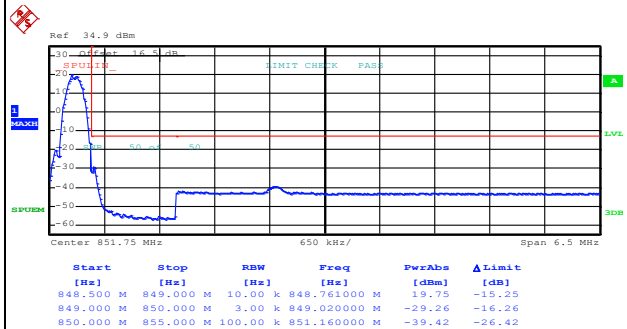
GSM850 (EDGE class 8)

Lowest Band Edge



Date: 29.MAY.2016 09:55:25

Highest Band Edge

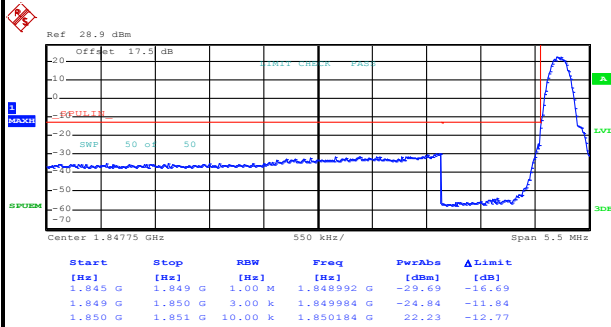


Date: 29.MAY.2016 09:57:05



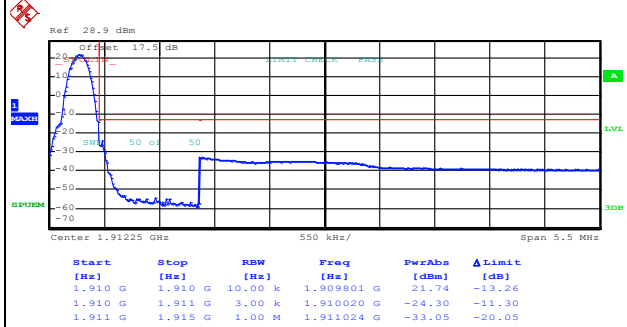
GSM1900 (GPRS class 8)

Lowest Band Edge



Date: 29.MAY.2016 10:27:55

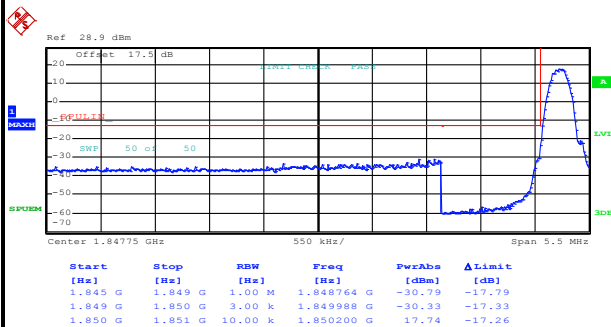
Highest Band Edge



Date: 29.MAY.2016 10:29:28

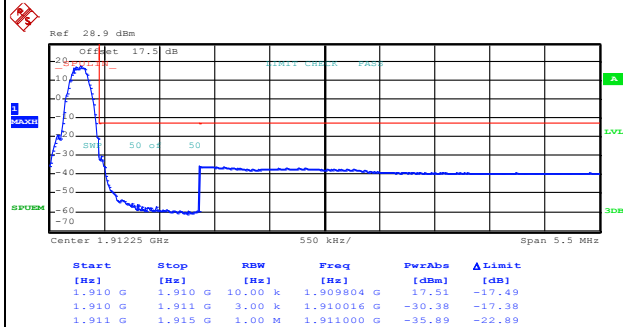
GSM1900 (EDGE class 8)

Lowest Band Edge



Date: 29.MAY.2016 10:53:24

Highest Band Edge

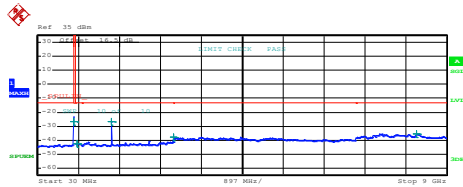


Date: 29.MAY.2016 10:55:15

Conducted Spurious Emission

GSM

Lowest Channel

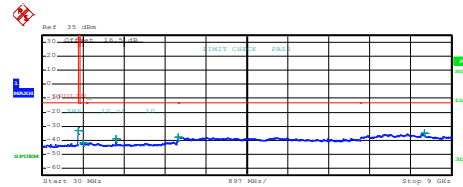


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PerAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	819.802500 M	-28.76	-13.76
855.000 M	1.000 G	1.00 M	887.262500 M	-42.50	-29.50
1.000 G	3.000 G	1.00 M	1.648000 G	-26.68	-23.68
3.000 G	7.000 G	1.00 M	3.002000 G	-37.82	-24.82
7.000 G	9.000 G	1.00 M	8.331500 G	-35.57	-22.57

Date: 29.MAY.2016 09:21:36

GSM850 (EDGE class 8)

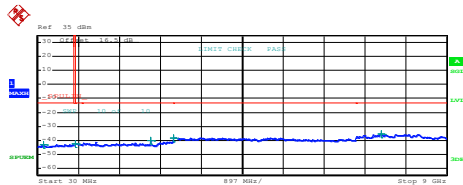
Lowest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PerAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	819.802500 M	-28.17	-20.17
855.000 M	1.000 G	1.00 M	933.481250 M	-42.07	-29.07
1.000 G	3.000 G	1.00 M	1.648000 G	-28.77	-25.77
3.000 G	7.000 G	1.00 M	3.003000 G	-37.84	-24.84
7.000 G	9.000 G	1.00 M	8.404000 G	-34.92	-21.92

Date: 29.MAY.2016 09:50:17

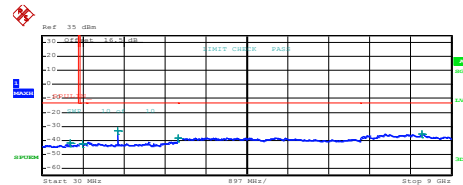
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PerAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	147.012500 M	-42.79	-29.79
855.000 M	1.000 G	1.00 M	897.800000 M	-42.23	-29.23
1.000 G	3.000 G	1.00 M	2.009500 G	-40.20	-27.20
3.000 G	7.000 G	1.00 M	3.008000 G	-38.13	-25.13
7.000 G	9.000 G	1.00 M	7.387000 G	-35.53	-22.53

Date: 29.MAY.2016 09:22:29

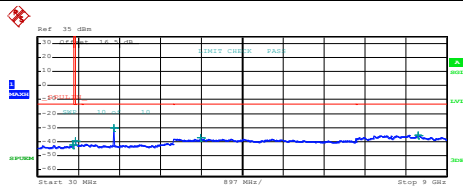
Middle Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PerAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	641.607500 M	-42.03	-29.03
855.000 M	1.000 G	1.00 M	912.528750 M	-42.22	-29.22
1.000 G	3.000 G	1.00 M	1.673000 G	-38.24	-20.24
3.000 G	7.000 G	1.00 M	3.017000 G	-38.11	-25.11
7.000 G	9.000 G	1.00 M	8.358000 G	-35.52	-22.52

Date: 29.MAY.2016 09:51:14

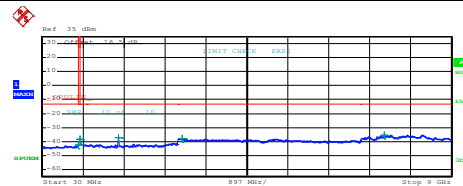
Highest Channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PerAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	805.780000 M	-42.60	-29.60
855.000 M	1.000 G	1.00 M	855.398750 M	-39.33	-26.33
1.000 G	3.000 G	1.00 M	1.698000 G	-30.37	-17.37
3.000 G	7.000 G	1.00 M	3.598000 G	-37.51	-24.51
7.000 G	9.000 G	1.00 M	8.365000 G	-35.27	-22.27

Date: 29.MAY.2016 09:23:21

Highest Channel



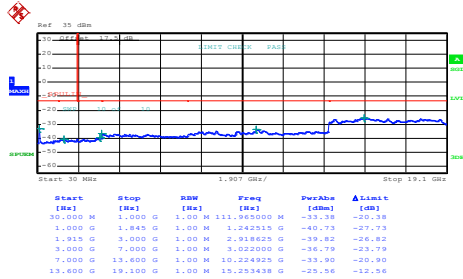
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PerAbs [dBm]	ΔLimit [dB]
30.000 M	820.000 M	1.00 M	815.655000 M	-42.73	-29.73
855.000 M	1.000 G	1.00 M	855.036250 M	-38.24	-25.24
1.000 G	3.000 G	1.00 M	1.698000 G	-36.97	-23.97
3.000 G	7.000 G	1.00 M	3.100000 G	-37.92	-24.92
7.000 G	9.000 G	1.00 M	7.530500 G	-35.37	-22.37

Date: 29.MAY.2016 09:52:07



GSM1900 (GPRS class 8)

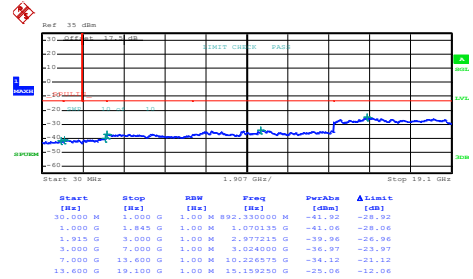
Lowest Channel



Date: 29.MAY.2016 10:16:49

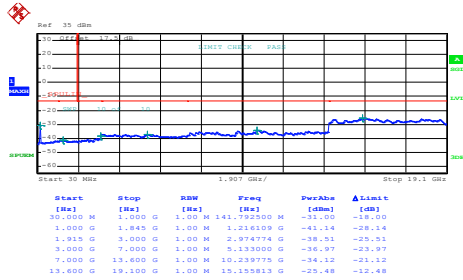
GSM1900 (EDGE class 8)

Lowest Channel



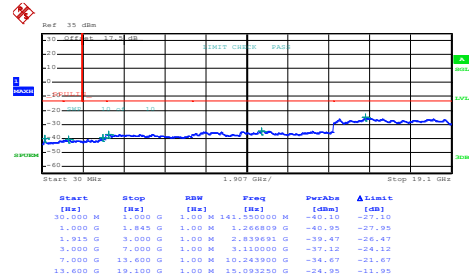
Date: 29.MAY.2016 10:48:12

Middle Channel



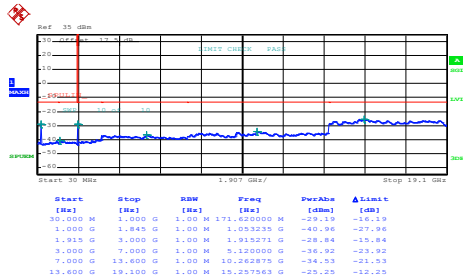
Date: 29.MAY.2016 10:17:40

Middle Channel



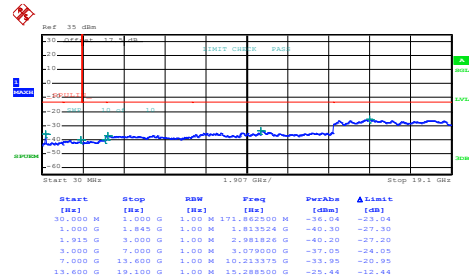
Date: 29.MAY.2016 10:49:05

Highest Channel



Date: 29.MAY.2016 10:19:07

Highest Channel



Date: 29.MAY.2016 10:49:59

Frequency Stability

Test Conditions	Middle Channel	GSM850 (GSM)	GSM850 (EDGE class 8)	Limit
Temperature (°C)	Voltage (Volt)	Deviation (ppm)		2.5ppm
50	Normal Voltage	0.0012	0.0036	PASS
40	Normal Voltage	0.0060	0.0048	
30	Normal Voltage	0.0574	0.0024	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0036	0.0012	
0	Normal Voltage	0.0012	0.0036	
-10	Normal Voltage	0.0466	0.0024	
-20	Normal Voltage	0.0502	0.0060	
-30	Normal Voltage	0.0024	0.0012	
20	Maximum Voltage	0.0430	0.0000	
20	Normal Voltage	0.0407	0.0024	
20	Battery End Point	0.0454	0.0036	

Note:

1. Normal Voltage = 3.9V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage =4.35 V
2. The frequency fundamental emissions stay within the authorized frequency block.

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	0.0005	0.0149	PASS
40	Normal Voltage	0.0011	0.0016	
30	Normal Voltage	0.0005	0.0005	
20(Ref.)	Normal Voltage	0.0000	0.0000	
10	Normal Voltage	0.0011	0.0011	
0	Normal Voltage	0.0016	0.0005	
-10	Normal Voltage	0.0005	0.0016	
-20	Normal Voltage	0.0005	0.0149	
-30	Normal Voltage	0.0011	0.0027	
20	Maximum Voltage	0.0016	0.0000	
20	Normal Voltage	0.0005	0.0005	
20	Battery End Point	0.0005	0.0011	

Note:

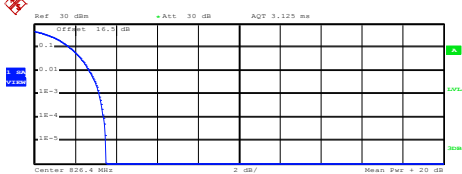
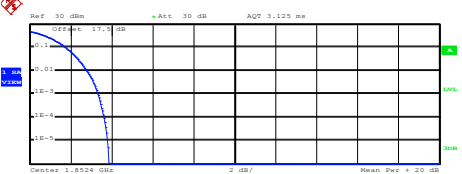
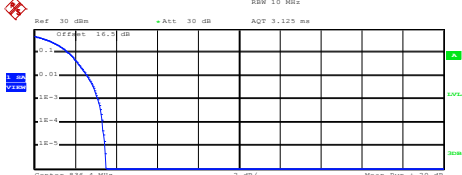
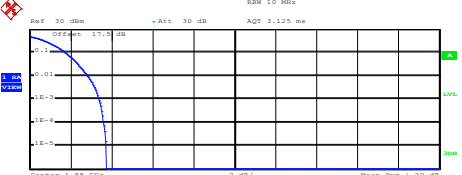
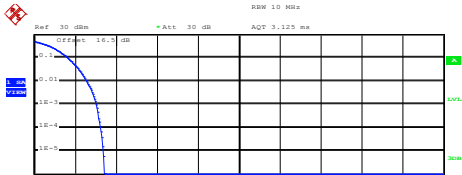
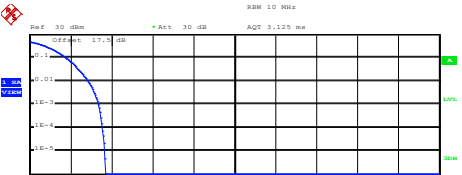
3. Normal Voltage = 3.9V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage =4.35 V
4. The frequency fundamental emissions stay within the authorized frequency block.



A2. WCDMA

Peak-to-Average Ratio

Mode	WCDMA Band V	WCDMA Band II	Limit: 13dB
Mod.	RMC 12.2Kbps	RMC 12.2Kbps	Result
Lowest CH	3.16	3.36	PASS
Middle CH	3.12	3.40	
Highest CH	3.04	3.36	

WCDMA Band V (RMC 12.2Kbps)	WCDMA Band II (RMC 12.2Kbps)
Lowest Channel	Lowest Channel
 Ref: 30 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz Center: 826.4 MHz, 2 dB/ Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean: 20.20 dBm Peak: 23.69 dBm Crest: 3.49 dB 10 %: 1.76 dB 1 %: 2.68 dB .1 %: 3.16 dB .01 %: 3.40 dB Date: 29.MAY.2016 11:48:15	 Ref: 30 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz Center: 1.6524 GHz, 2 dB/ Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean: 19.40 dBm Peak: 23.27 dBm Crest: 3.87 dB 10 %: 1.76 dB 1 %: 2.80 dB .1 %: 3.36 dB .01 %: 3.64 dB Date: 29.MAY.2016 11:30:42
Middle Channel	Middle Channel
 Ref: 30 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz Center: 836.4 MHz, 2 dB/ Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean: 19.85 dBm Peak: 23.34 dBm Crest: 3.49 dB 10 %: 1.68 dB 1 %: 2.60 dB .1 %: 3.12 dB .01 %: 3.32 dB Date: 29.MAY.2016 11:48:24	 Ref: 30 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz Center: 1.68 GHz, 2 dB/ Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean: 20.03 dBm Peak: 23.76 dBm Crest: 3.73 dB 10 %: 1.76 dB 1 %: 2.84 dB .1 %: 3.40 dB .01 %: 3.60 dB Date: 29.MAY.2016 11:30:52
Highest Channel	Highest Channel
 Ref: 30 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz Center: 846.6 MHz, 2 dB/ Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean: 20.61 dBm Peak: 24.04 dBm Crest: 3.44 dB 10 %: 1.64 dB 1 %: 2.56 dB .1 %: 3.04 dB .01 %: 3.24 dB Date: 29.MAY.2016 11:48:36	 Ref: 30 dBm, Att: 30 dB, AGT: 3.125 ms, RBW: 10 MHz Center: 1.9076 GHz, 2 dB/ Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean: 19.94 dBm Peak: 23.62 dBm Crest: 3.68 dB 10 %: 1.80 dB 1 %: 2.84 dB .1 %: 3.36 dB .01 %: 3.56 dB Date: 29.MAY.2016 11:31:01

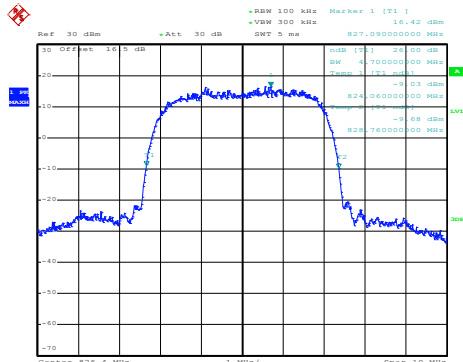
**26dB Bandwidth**

Mode	WCDMA Band V	WCDMA Band II
Mod.	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.70	4.68
Middle CH	4.71	4.69
Highest CH	4.72	4.68



WCDMA Band V (RMC 12.2Kbps)

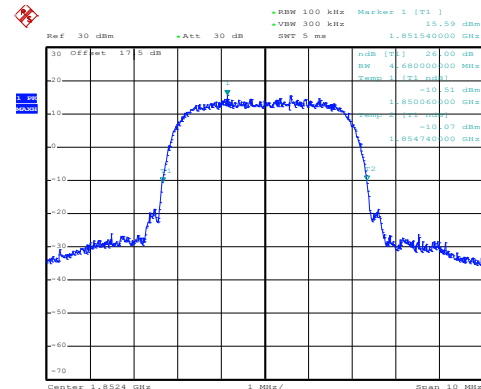
Lowest Channel



Date: 29.MAY.2016 11:34:17

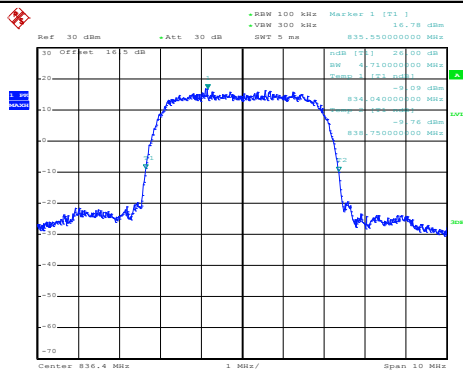
WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



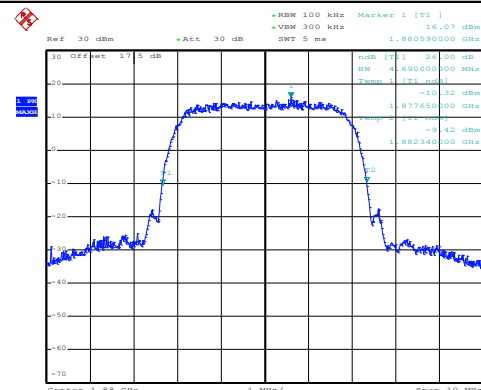
Date: 29.MAY.2016 11:17:11

Middle Channel



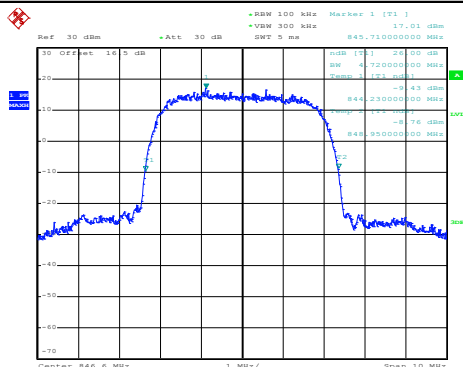
Date: 29.MAY.2016 11:34:45

Middle Channel



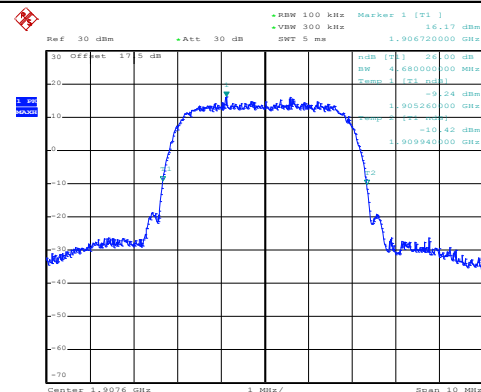
Date: 29.MAY.2016 11:17:39

Highest Channel



Date: 29.MAY.2016 11:35:13

Highest Channel



Date: 29.MAY.2016 11:18:07

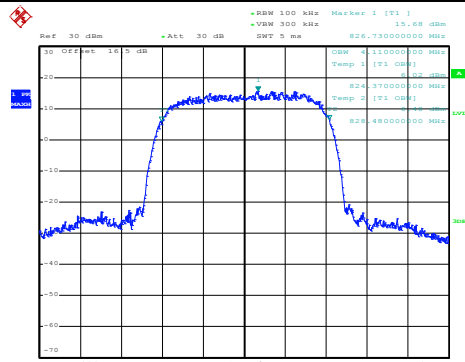
**Occupied Bandwidth**

Mode	WCDMA Band V	WCDMA Band II
Mod.	RMC 12.2Kbps	RMC 12.2Kbps
Lowest CH	4.11	4.12
Middle CH	4.14	4.11
Highest CH	4.13	4.10



WCDMA Band V (RMC 12.2Kbps)

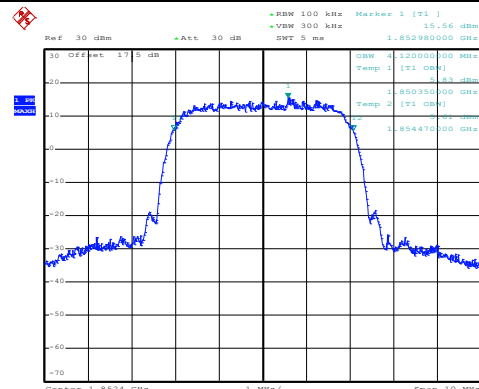
Lowest Channel



Date: 29.MAY.2016 11:43:14

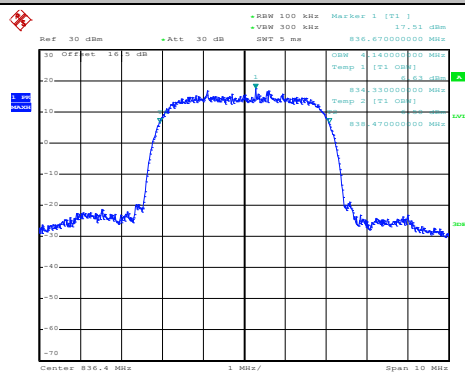
WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



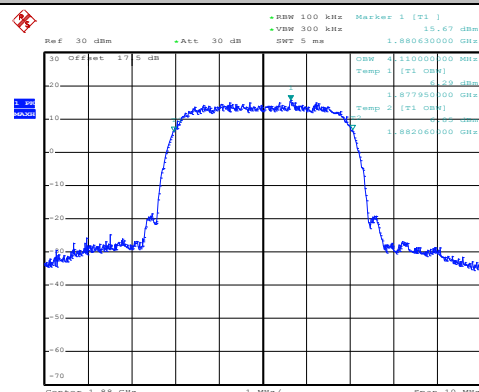
Date: 29.MAY.2016 11:18:51

Middle Channel



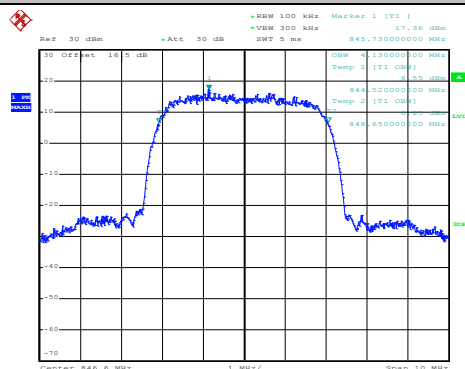
Date: 29.MAY.2016 11:43:42

Middle Channel



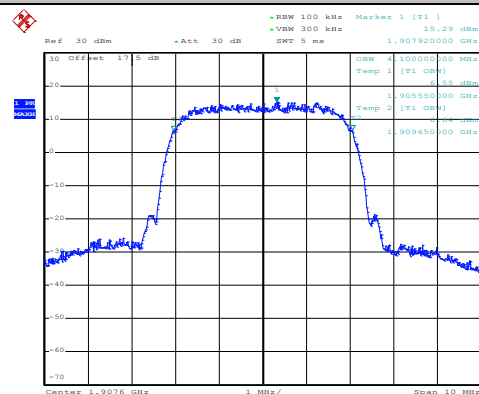
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Highest Channel



Date: 29.MAY.2016 11:44:10

Highest Channel



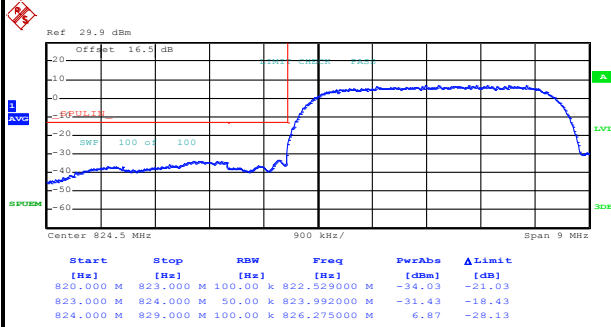
Date: 29.MAY.2016 11:19:47



Conducted Band Edge

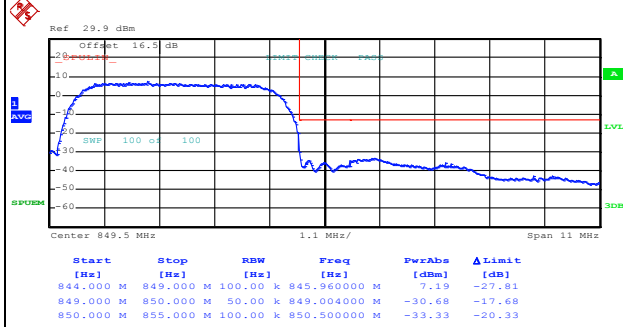
WCDMA Band V (RMC 12.2Kbps)

Lowest Band Edge



Date: 29.MAY.2016 11:52:05

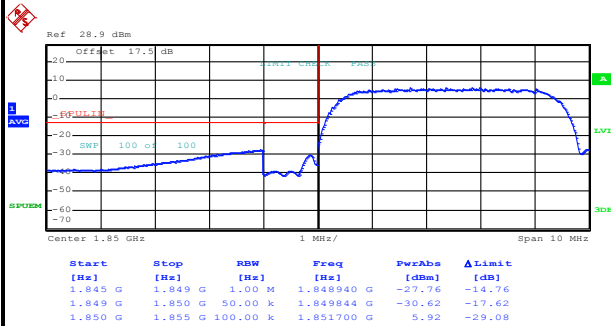
Highest Band Edge



Date: 29.MAY.2016 11:54:48

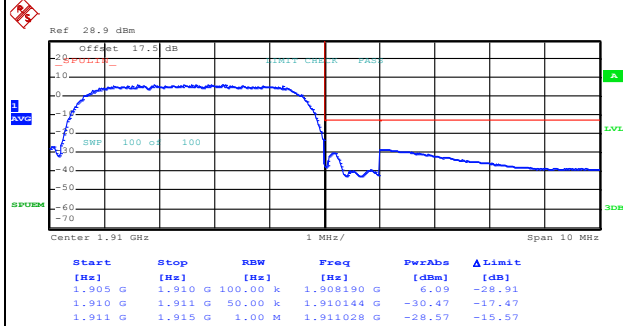
WCDMA Band II (RMC 12.2Kbps)

Lowest Band Edge



Date: 29.MAY.2016 11:22:58

Highest Band Edge

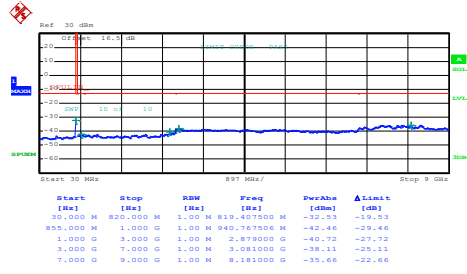


Date: 29.MAY.2016 11:25:41

Conducted Spurious Emission

WCDMA Band V (RMC 12.2Kbps)

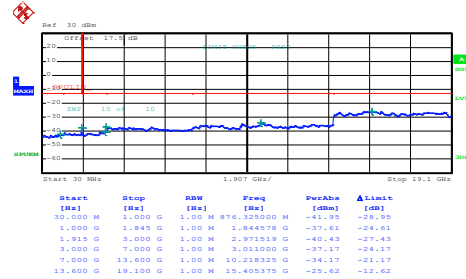
Lowest Channel



Date: 29.MAY.2016 11:45:47

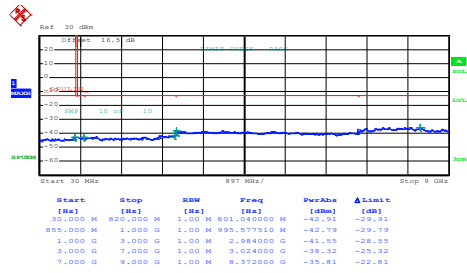
WCDMA Band II (RMC 12.2Kbps)

Lowest Channel



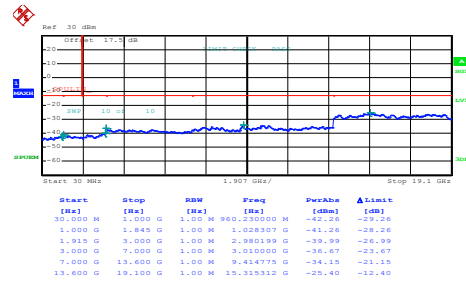
Date: 29.MAY.2016 11:28:43

Middle Channel



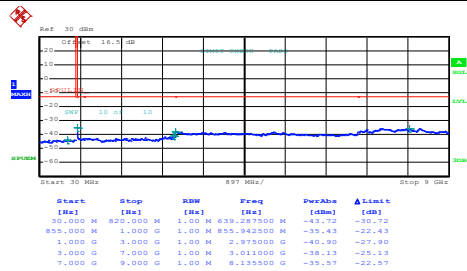
Date: 29.MAY.2016 11:46:33

Middle Channel



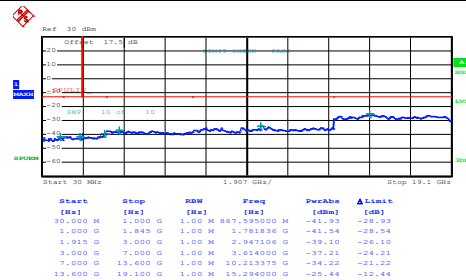
Date: 29.MAY.2016 11:29:29

Highest Channel



Date: 29.MAY.2016 11:47:19

Highest Channel



Date: 29.MAY.2016 11:30:14

Frequency Stability

Test Conditions	Middle Channel	WCDMA Band V (RMC 12.2Kbps)	Limit
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	2.5ppm
50	Normal Voltage	0.0132	PASS
40	Normal Voltage	0.0012	
30	Normal Voltage	0.0143	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0012	
0	Normal Voltage	0.0108	
-10	Normal Voltage	0.0120	
-20	Normal Voltage	0.0012	
-30	Normal Voltage	0.0155	
20	Maximum Voltage	0.0108	
20	Normal Voltage	0.0120	
20	Battery End Point	0.0012	

Note:

1. Normal Voltage = 3.9V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage =4.35 V
2. The frequency fundamental emissions stay within the authorized frequency block.



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

Note:

3. Normal Voltage = 3.9V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage =4.35 V
4. The frequency fundamental emissions stay within the authorized frequency block.

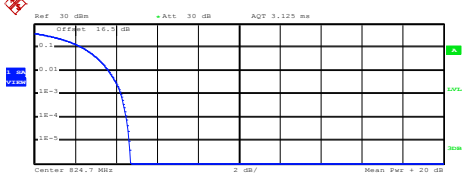
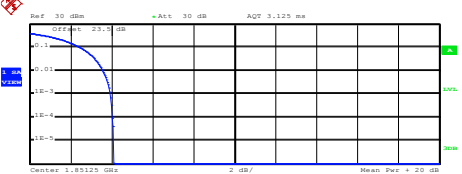
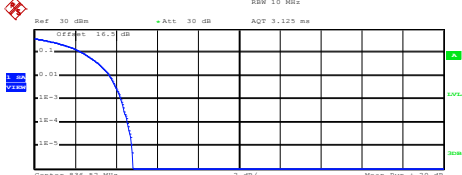
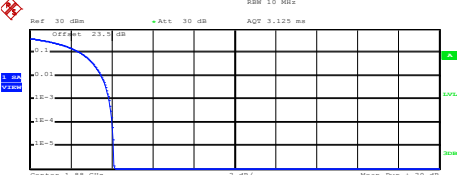
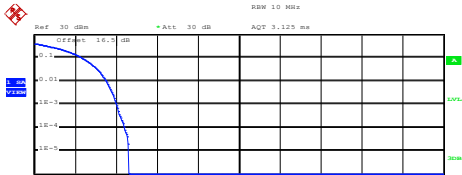
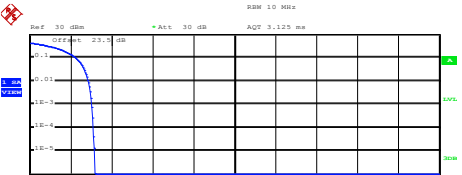


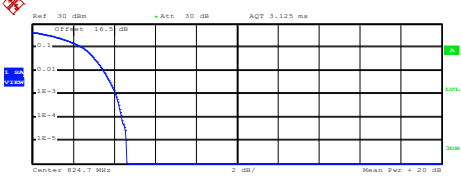
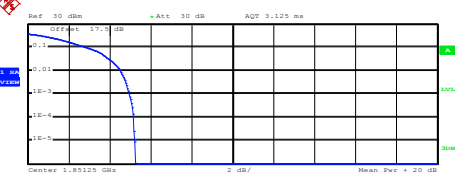
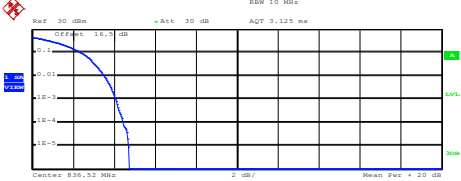
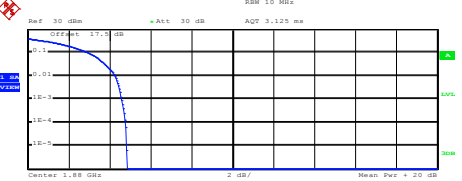
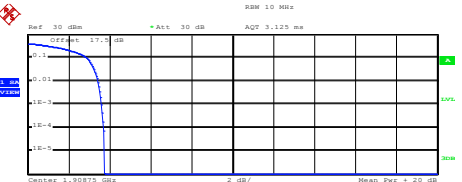
A3. CDMA

Peak-to-Average Ratio

Mode	CDMA BC0	CDMA BC1	Limit: 13dB
Mod.	1xRTT	1xRTT	Result
Lowest CH	4.24	3.92	PASS
Middle CH	4.24	3.88	
Highest CH	4.04	3.04	

Mode	CDMA BC0	CDMA BC1	Limit: 13dB
Mod.	1xEV-DO Rev. 0	1xEV-DO Rev. A	Result
Lowest CH	4.08	4.96	PASS
Middle CH	4.08	4.60	
Highest CH	3.96	3.60	

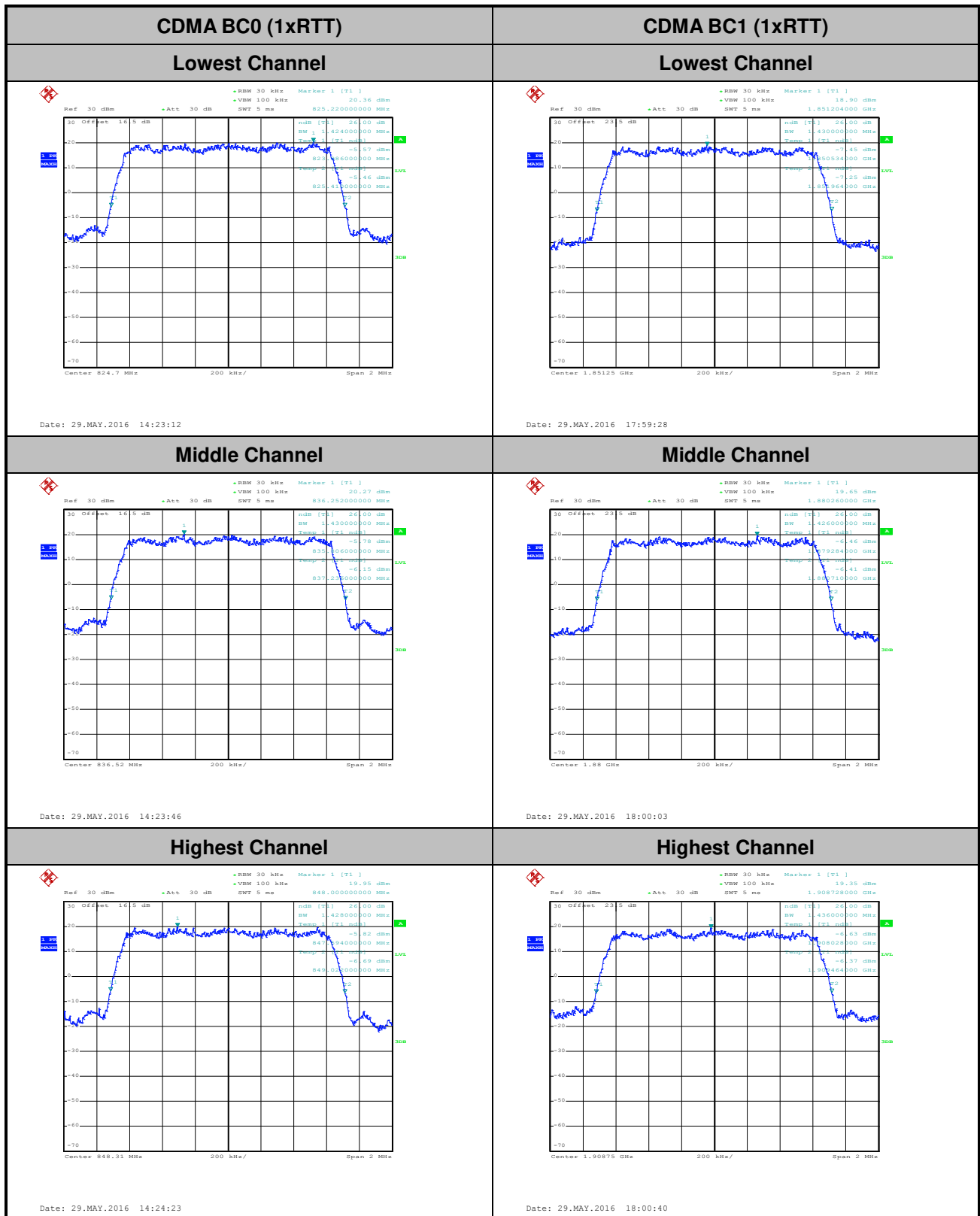
CDMA BC0 (1xRTT)	CDMA BC1 (1xRTT)
Lowest Channel	Lowest Channel
 Center 824.7 MHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 24.92 dBm Peak 29.62 dBm Crest 4.70 dB 10 % 2.36 dB 1 % 3.64 dB .1 % 4.24 dB .01 % 4.52 dB Date: 29.MAY.2016 14:29:28	 Center 1.65123 GHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.77 dBm Peak 27.87 dBm Crest 4.10 dB 10 % 2.48 dB 1 % 3.56 dB .1 % 3.92 dB .01 % 4.04 dB Date: 29.MAY.2016 18:08:22
Middle Channel	Middle Channel
 Center 836.52 MHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 24.65 dBm Peak 29.48 dBm Crest 4.83 dB 10 % 2.36 dB 1 % 3.68 dB .1 % 4.24 dB .01 % 4.56 dB Date: 29.MAY.2016 14:29:40	 Center 1.68 GHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 24.11 dBm Peak 28.23 dBm Crest 4.12 dB 10 % 2.48 dB 1 % 3.48 dB .1 % 3.88 dB .01 % 4.04 dB Date: 29.MAY.2016 18:08:33
Highest Channel	Highest Channel
 Center 848.33 MHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 24.57 dBm Peak 29.19 dBm Crest 4.63 dB 10 % 2.36 dB 1 % 3.52 dB .1 % 4.04 dB .01 % 4.40 dB Date: 29.MAY.2016 14:29:52	 Center 1.90875 GHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 23.77 dBm Peak 26.96 dBm Crest 3.19 dB 10 % 2.24 dB 1 % 2.88 dB .1 % 3.04 dB .01 % 3.12 dB Date: 29.MAY.2016 18:08:47

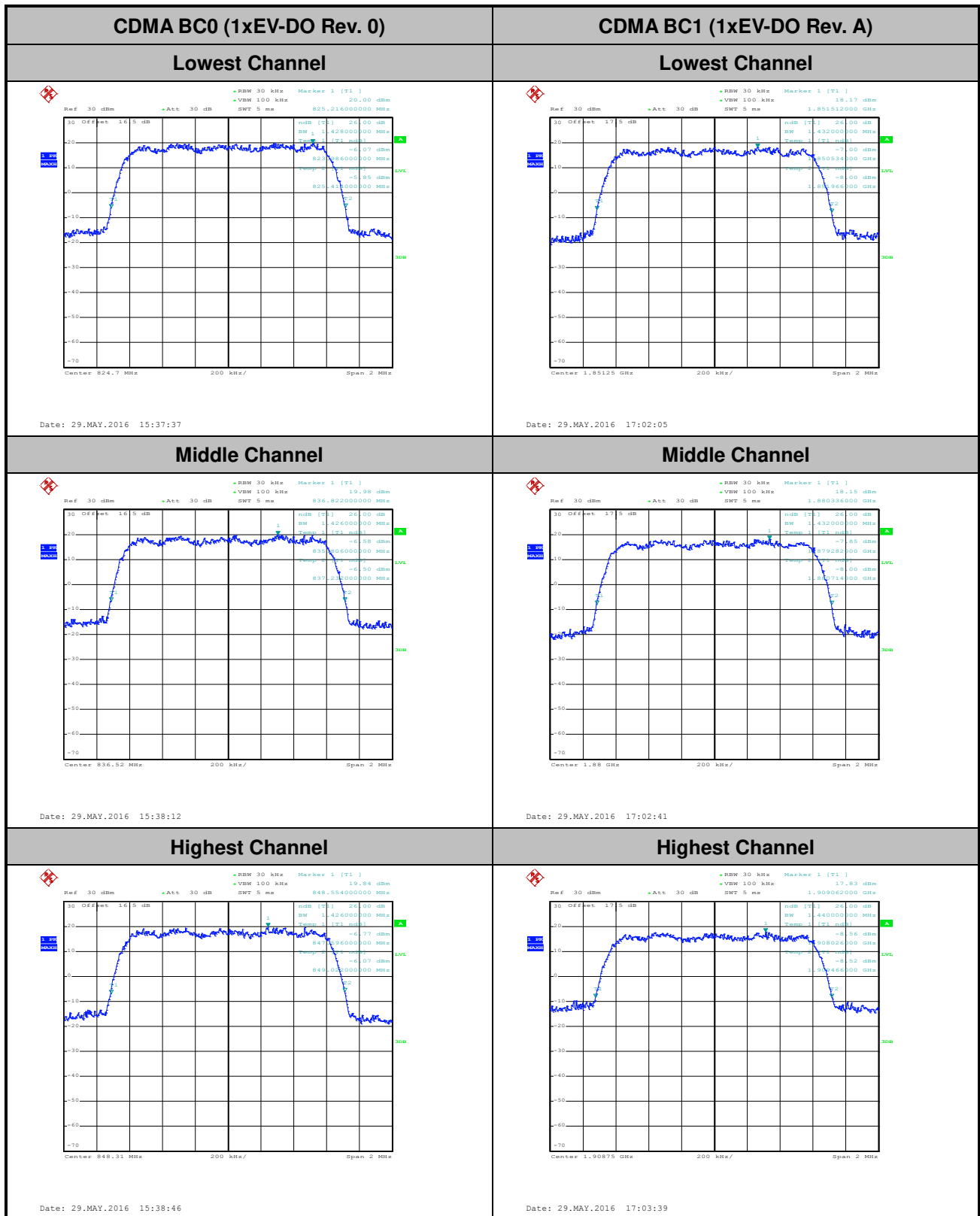
CDMA BC0 (1xEV-DO Rev. 0)	CDMA BC1 (1xEV-DO Rev. A)
Lowest Channel	Lowest Channel
 Center 824.7 MHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 24.93 dBm Peak 29.55 dBm Crest 4.62 dB 10 % 2.48 dB 1 % 3.48 dB .1 % 4.08 dB .01 % 4.36 dB Date: 29.MAY.2016 15:45:26	 Center 1.85123 GHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 22.80 dBm Peak 28.07 dBm Crest 5.26 dB 10 % 2.96 dB 1 % 4.52 dB .1 % 4.96 dB .01 % 5.16 dB Date: 29.MAY.2016 17:09:13
Middle Channel	Middle Channel
 Center 836.52 MHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 24.87 dBm Peak 29.62 dBm Crest 4.74 dB 10 % 2.44 dB 1 % 3.52 dB .1 % 4.08 dB .01 % 4.44 dB Date: 29.MAY.2016 15:45:39	 Center 1.85 GHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 22.74 dBm Peak 27.57 dBm Crest 4.83 dB 10 % 3.00 dB 1 % 4.28 dB .1 % 4.60 dB .01 % 4.80 dB Date: 29.MAY.2016 17:09:24
Highest Channel	Highest Channel
 Center 848.31 MHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 24.72 dBm Peak 29.12 dBm Crest 4.41 dB 10 % 2.48 dB 1 % 3.44 dB .1 % 3.96 dB .01 % 4.24 dB Date: 29.MAY.2016 15:45:52	 Center 1.90873 GHz Complementary Cumulative Distribution Function (100000 samples) Trace 1 Mean 22.48 dBm Peak 26.23 dBm Crest 3.75 dB 10 % 2.88 dB 1 % 3.44 dB .1 % 3.60 dB .01 % 3.72 dB Date: 29.MAY.2016 17:09:39

**26dB Bandwidth**

Mode	CDMA BC0	CDMA BC1
Mod.	1xRTT	1xRTT
Lowest CH	1.42	1.43
Middle CH	1.43	1.43
Highest CH	1.43	1.44

Mode	CDMA BC0	CDMA BC1
Mod.	1xEV-DO Rev. 0	1xEV-DO Rev. A
Lowest CH	1.43	1.43
Middle CH	1.43	1.43
Highest CH	1.43	1.44

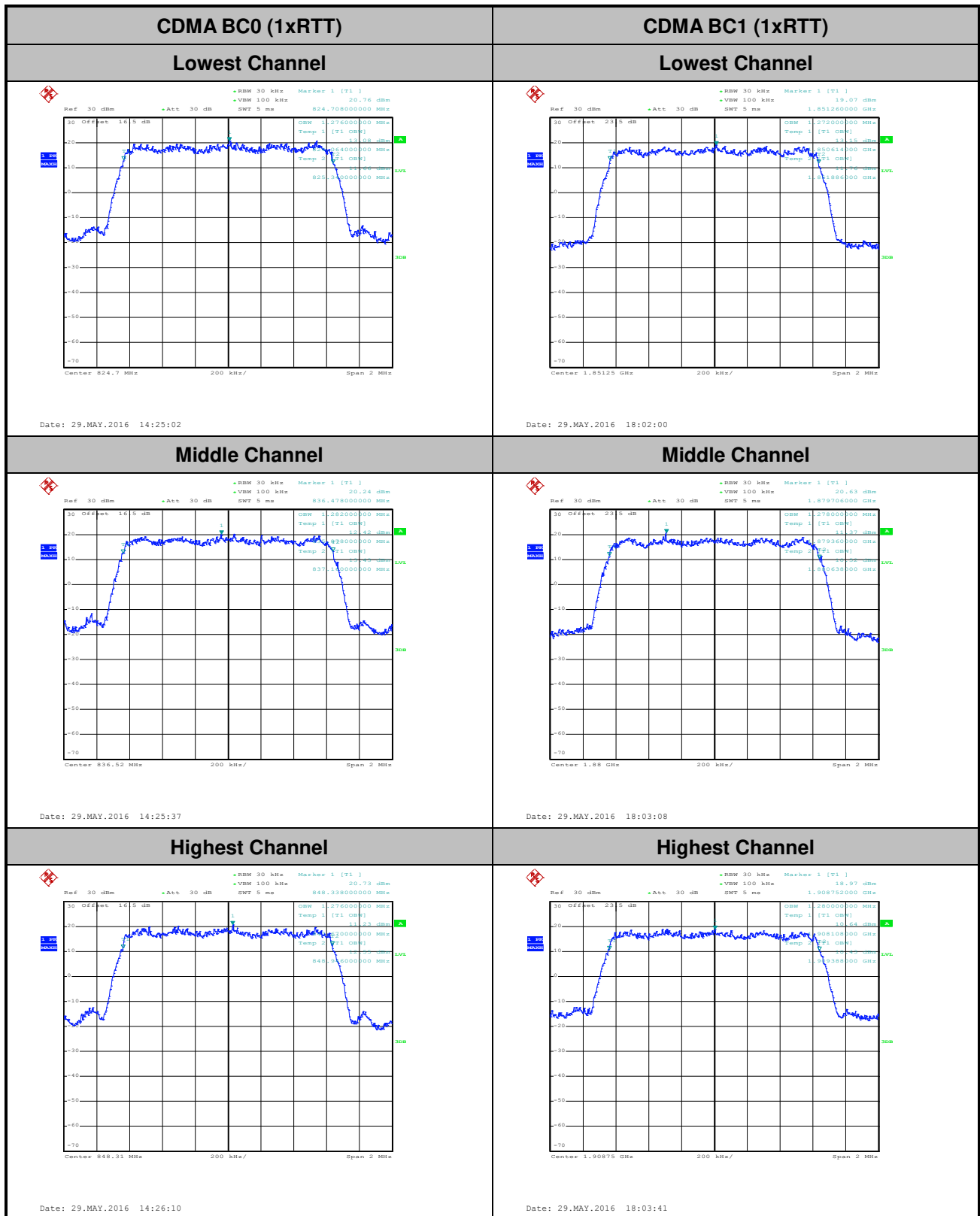


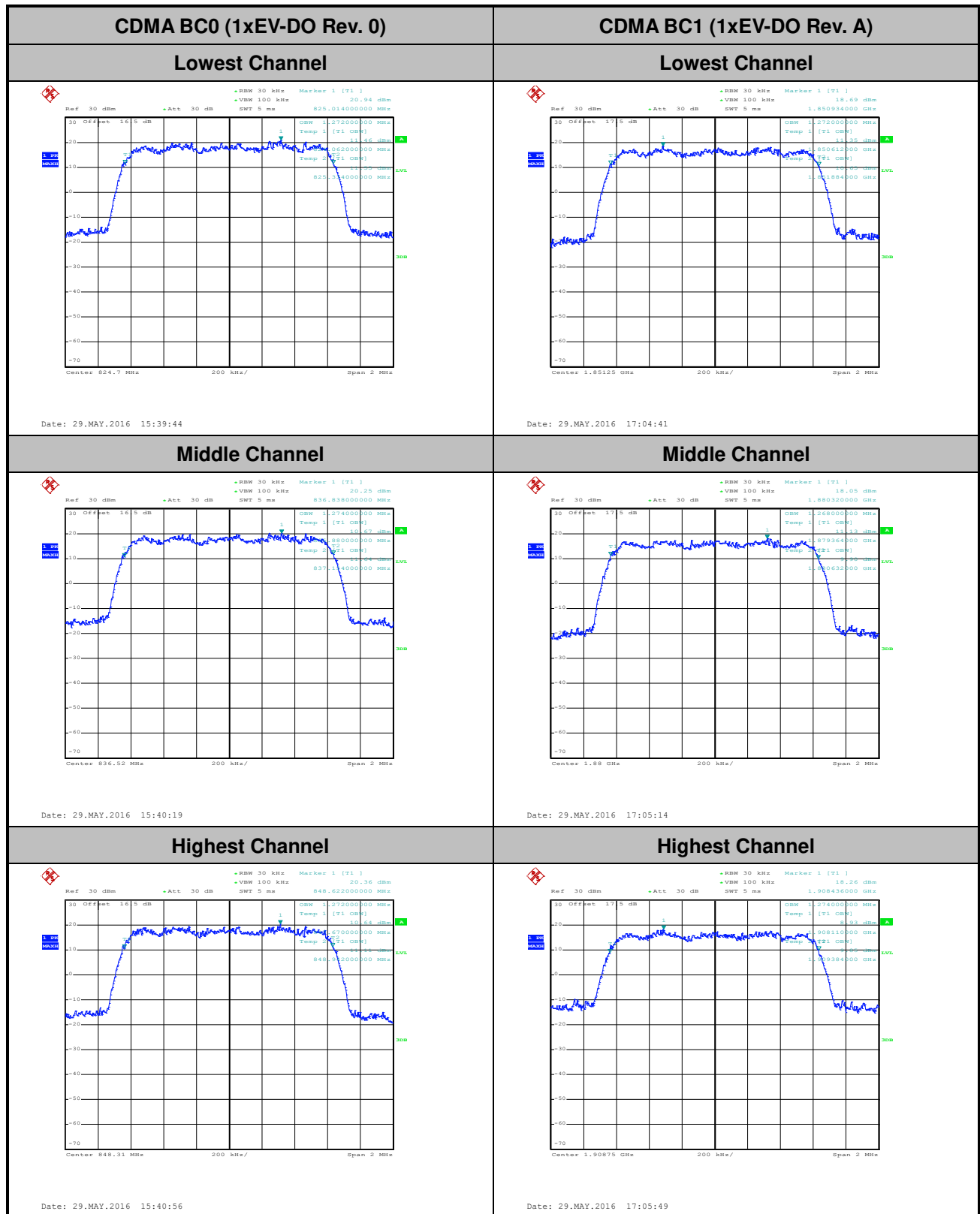


**Occupied Bandwidth**

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

Mode	CDMA BC0	CDMA BC1
Mod.	1xEV-DO Rev. 0	1xEV-DO Rev. A
Lowest CH	1.27	1.27
Middle CH	1.27	1.27
Highest CH	1.27	1.27



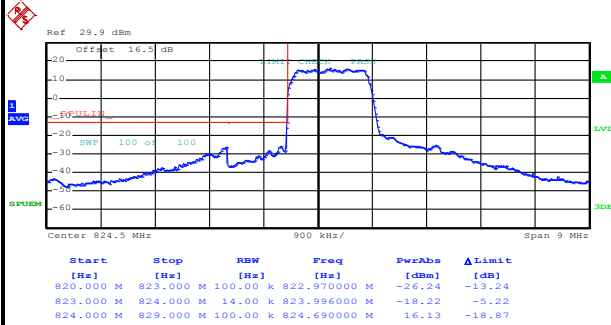




Conducted Band Edge

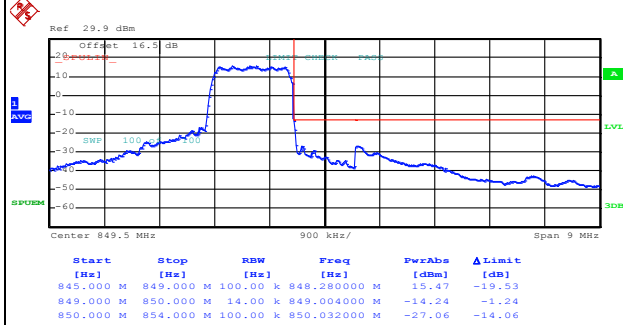
CDMA BC0 (1xRTT)

Lowest Band Edge



Date: 29.MAY.2016 14:32:47

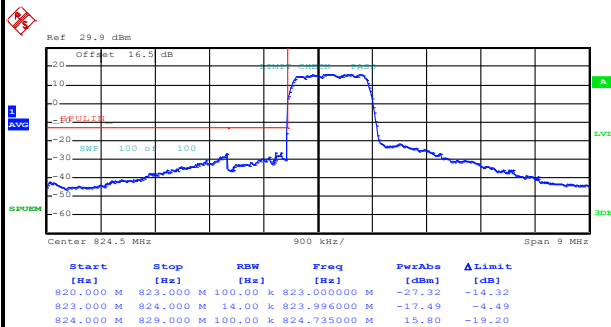
Highest Band Edge



Date: 29.MAY.2016 14:37:01

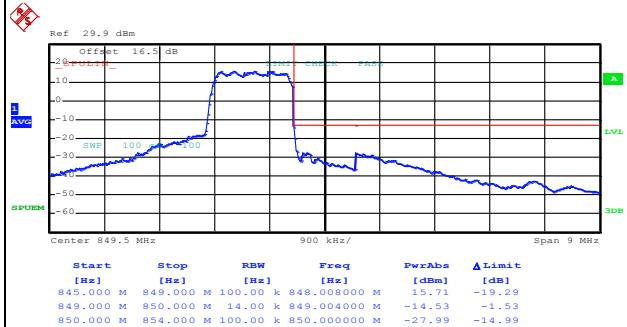
CDMA BC0 (1xEV-DO Rev. 0)

Lowest Band Edge



Date: 29.MAY.2016 15:48:43

Highest Band Edge

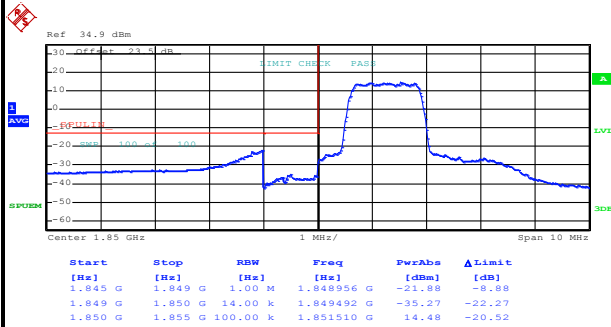


Date: 29.MAY.2016 15:51:30



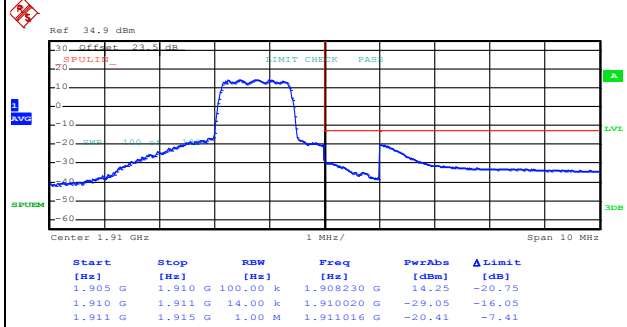
CDMA BC1 (1xRTT)

Lowest Band Edge



Date: 29.MAY.2016 18:11:47

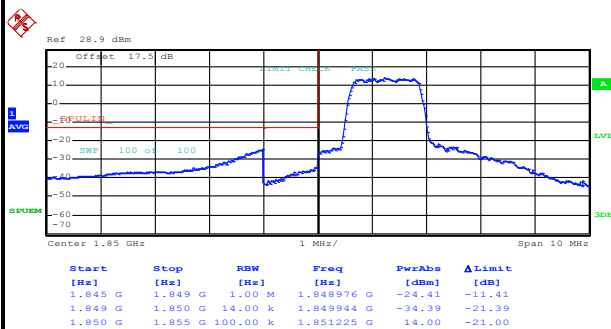
Highest Band Edge



Date: 29.MAY.2016 18:14:39

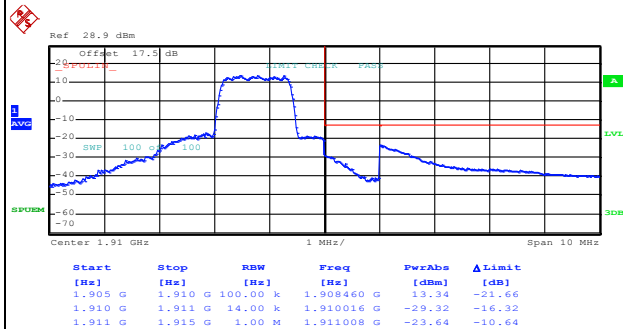
CDMA BC1 (1xEV-DO Rev. A)

Lowest Band Edge



Date: 29.MAY.2016 17:12:37

Highest Band Edge

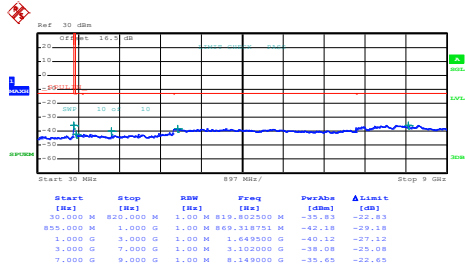


Date: 29.MAY.2016 17:15:24

Conducted Spurious Emission

CDMA BC0 (1xRTT)

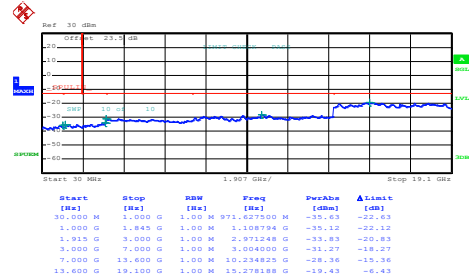
Lowest Channel



Date: 29.MAY.2016 14:27:09

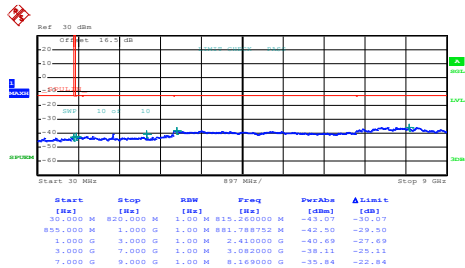
CDMA BC1 (1xRTT)

Lowest Channel



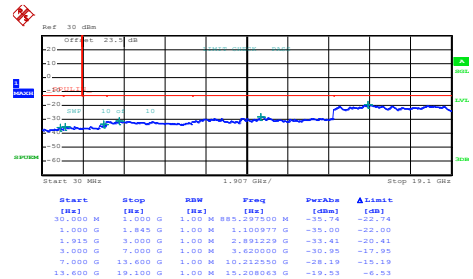
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Middle Channel



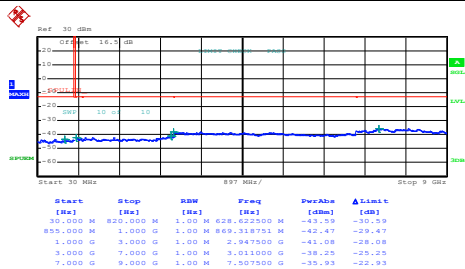
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Middle Channel



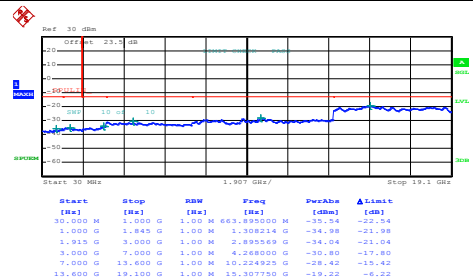
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Highest Channel

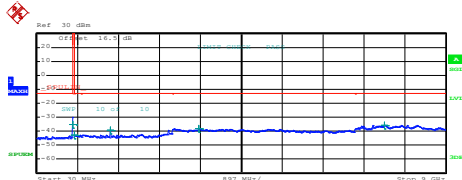
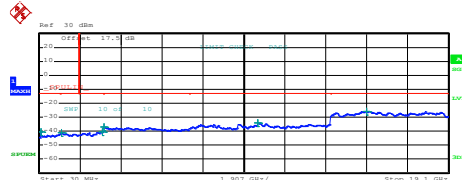
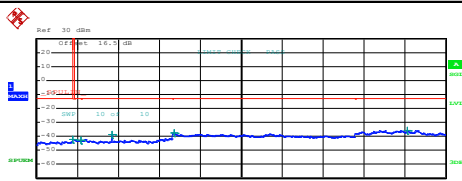
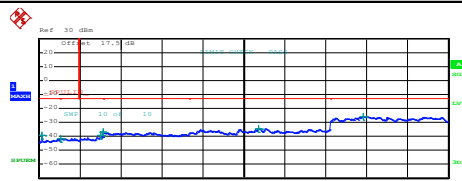
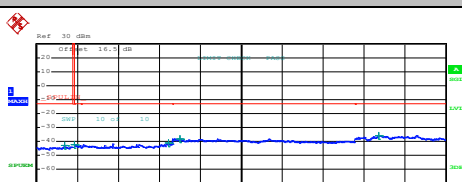
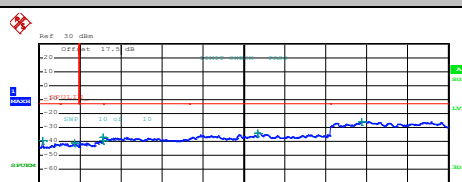


Date: 29.MAY.2016 14:29:13

Highest Channel



Date: 29.MAY.2016 18:07:35

CDMA BC0 (1xEV-DO Rev. 0)	CDMA BC1 (1xEV-DO Rev. A)																																																																														
Lowest Channel	Lowest Channel																																																																														
 Ref: 30 dBm Start 30 MHz Stop 9 GHz <table><thead><tr><th>Start [Hz]</th><th>Stop [Hz]</th><th>RW [Hz]</th><th>Freq [Hz]</th><th>PwrAve [dBm]</th><th>ΔLimit [dB]</th></tr></thead><tbody><tr><td>30,000 M</td><td>820,000 M</td><td>1,000 M</td><td>819,802500 M</td><td>-35.48</td><td>-22.48</td></tr><tr><td>855,000 M</td><td>1,000 G</td><td>1,000 M</td><td>863,917501 M</td><td>-42.52</td><td>-29.52</td></tr><tr><td>1,000 G</td><td>3,000 G</td><td>1,000 M</td><td>1,600,000 G</td><td>-39.58</td><td>-26.58</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,000 M</td><td>3,585000 G</td><td>-38.31</td><td>-25.31</td></tr><tr><td>7,000 G</td><td>9,000 G</td><td>1,000 M</td><td>7,654000 G</td><td>-35.89</td><td>-22.89</td></tr></tbody></table> Date: 29.MAY.2016 15:42:38	Start [Hz]	Stop [Hz]	RW [Hz]	Freq [Hz]	PwrAve [dBm]	ΔLimit [dB]	30,000 M	820,000 M	1,000 M	819,802500 M	-35.48	-22.48	855,000 M	1,000 G	1,000 M	863,917501 M	-42.52	-29.52	1,000 G	3,000 G	1,000 M	1,600,000 G	-39.58	-26.58	3,000 G	7,000 G	1,000 M	3,585000 G	-38.31	-25.31	7,000 G	9,000 G	1,000 M	7,654000 G	-35.89	-22.89	 Ref: 30 dBm Start 30 MHz Stop 19.1 GHz <table><thead><tr><th>Start [Hz]</th><th>Stop [Hz]</th><th>RW [Hz]</th><th>Freq [Hz]</th><th>PwrAve [dBm]</th><th>ΔLimit [dB]</th></tr></thead><tbody><tr><td>30,000 M</td><td>1,000 G</td><td>1,000 M</td><td>112,335000 M</td><td>-40.66</td><td>-27.66</td></tr><tr><td>1,000 G</td><td>1,845 G</td><td>1,000 M</td><td>1,077317 G</td><td>-40.84</td><td>-27.84</td></tr><tr><td>1,915 G</td><td>3,000 G</td><td>1,000 M</td><td>2,955515 G</td><td>-40.49</td><td>-27.49</td></tr><tr><td>3,000 G</td><td>7,000 G</td><td>1,000 M</td><td>3,058000 G</td><td>-36.74</td><td>-23.74</td></tr><tr><td>7,000 G</td><td>13,600 G</td><td>1,000 M</td><td>10,215850 G</td><td>-33.93</td><td>-20.93</td></tr><tr><td>13,600 G</td><td>19,100 G</td><td>1,000 M</td><td>15,291250 G</td><td>-25.87</td><td>-12.87</td></tr></tbody></table> Date: 29.MAY.2016 17:06:58	Start [Hz]	Stop [Hz]	RW [Hz]	Freq [Hz]	PwrAve [dBm]	ΔLimit [dB]	30,000 M	1,000 G	1,000 M	112,335000 M	-40.66	-27.66	1,000 G	1,845 G	1,000 M	1,077317 G	-40.84	-27.84	1,915 G	3,000 G	1,000 M	2,955515 G	-40.49	-27.49	3,000 G	7,000 G	1,000 M	3,058000 G	-36.74	-23.74	7,000 G	13,600 G	1,000 M	10,215850 G	-33.93	-20.93	13,600 G	19,100 G	1,000 M	15,291250 G	-25.87	-12.87
Start [Hz]	Stop [Hz]	RW [Hz]	Freq [Hz]	PwrAve [dBm]	ΔLimit [dB]																																																																										
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**Frequency Stability**

Test Conditions	Middle Channel	CDMA BC0 (EVDO)	Limit
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	2.5ppm
50	Normal Voltage	0.0024	PASS
40	Normal Voltage	0.0012	
30	Normal Voltage	0.0012	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0024	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0084	
-20	Normal Voltage	0.0096	
-30	Normal Voltage	0.0108	
20	Maximum Voltage	0.0012	
20	Normal Voltage	0.0024	
20	Battery End Point	0.0000	

Test Conditions	Middle Channel	CDMA BC1 (EVDO)	Limit
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Note 2.
50	Normal Voltage	0.0000	PASS
40	Normal Voltage	0.0005	
30	Normal Voltage	0.0005	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0011	
0	Normal Voltage	0.0000	
-10	Normal Voltage	0.0005	
-20	Normal Voltage	0.0011	
-30	Normal Voltage	0.0005	
20	Maximum Voltage	0.0000	
20	Normal Voltage	0.0011	
20	Battery End Point	0.05	

Test Conditions	Middle Channel	CDMA BC0 (1xRTT)	Limit
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	2.5ppm
50	Normal Voltage	0.0012	PASS
40	Normal Voltage	0.0024	
30	Normal Voltage	0.0131	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0155	
0	Normal Voltage	0.0012	
-10	Normal Voltage	0.0143	
-20	Normal Voltage	0.0131	
-30	Normal Voltage	0.0167	
20	Maximum Voltage	0.0000	
20	Normal Voltage	0.0024	
20	Battery End Point	0.0012	

Test Conditions	Middle Channel	CDMA BC1 (1xRTT)	Limit
Temperature (°C)	Voltage (Volt)	Deviation (ppm)	Note 2.
50	Normal Voltage	0.0101	PASS
40	Normal Voltage	0.0090	
30	Normal Voltage	0.0096	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0080	
0	Normal Voltage	0.0090	
-10	Normal Voltage	0.0085	
-20	Normal Voltage	0.0101	
-30	Normal Voltage	0.0106	
20	Maximum Voltage	0.0096	
20	Normal Voltage	0.0016	
20	Battery End Point	0.0101	

Note:

1. Normal Voltage = 3.9V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage =4.35 V
2. The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of Radiated Test

ERP/EIRP

Channel	Mode	Horizontal		Vertical	
		ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	GSM850 GSM	27.26	0.5321	29.60	0.9120
Middle		27.37	0.5458	29.58	0.9078
Highest		28.38	0.6887	30.69	1.1722
Lowest	GSM850 EDGE class 8	18.70	0.0741	21.34	0.1361
Middle		18.63	0.0729	20.91	0.1233
Highest		19.10	0.0813	21.57	0.1435
Lowest	WCDMA Band V RMC 12.2Kbps	18.32	0.0679	20.56	0.1138
Middle		18.28	0.0673	20.52	0.1127
Highest		18.11	0.0647	20.34	0.1081
Lowest	CDMA BC0 1xRTT	17.94	0.0622	20.58	0.1143
Middle		17.82	0.0605	20.29	0.1069
Highest		18.03	0.0635	20.68	0.1169
Lowest	CDMA BC0 1xEVDO	16.71	0.0469	19.54	0.0899
Middle		16.42	0.0439	19.20	0.0832
Highest		16.98	0.0499	20.06	0.1014
Limit	ERP < 7W	Result		PASS	



Channel	Mode	Horizontal		Vertical	
		EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	GSM1900 GPRS class 8	28.13	0.6501	30.67	1.1668
Middle		27.81	0.6039	30.90	1.2303
Highest		28.01	0.6324	31.20	1.3183
Lowest	GSM1900 EDGE class 8	23.12	0.2051	25.30	0.3388
Middle		22.19	0.1656	26.08	0.4055
Highest		22.48	0.1770	25.62	0.3648
Lowest	WCDMA Band II RMC 12.2Kbps	20.90	0.1230	23.48	0.2228
Middle		20.49	0.1119	23.53	0.2254
Highest		20.55	0.1135	23.73	0.2360
Lowest	CDMA BC1 1xRTT	21.47	0.1403	23.99	0.2506
Middle		21.11	0.1291	23.88	0.2443
Highest		21.35	0.1365	24.24	0.2655
Lowest	CDMA BC1 1xEVDO	20.73	0.1183	23.25	0.2113
Middle		20.49	0.1119	23.15	0.2065
Highest		20.61	0.1151	23.50	0.2239
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	-64.11	-13	-51.11	-51.69	-65.87	0.98	4.89	H
	2472	-60.55	-13	-47.55	-53.54	-62.43	1.28	5.32	H
	3296	-59.39	-13	-46.39	-54.43	-62.8	1.54	7.10	H
	1648	-63.09	-13	-50.09	-63.83	-64.85	0.98	4.89	V
	2472	-59.69	-13	-46.69	-60.45	-61.57	1.28	5.32	V
	3296	-59.08	-13	-46.08	-59.79	-62.49	1.54	7.10	V
Middle	1672	-67.09	-13	-54.09	-54.97	-68.77	0.99	4.82	H
	2509	-63.29	-13	-50.29	-56.43	-65.25	1.29	5.41	H
	3345	-62.03	-13	-49.03	-57.31	-65.64	1.56	7.32	H
	1672	-66.24	-13	-53.24	-54.56	-67.92	0.99	4.82	V
	2509	-61.78	-13	-48.78	-55.37	-63.74	1.29	5.41	V
	3345	-60.74	-13	-47.74	-56.19	-64.35	1.56	7.32	V
Highest	1696	-63.76	-13	-50.76	-51.77	-65.36	1.00	4.75	H
	2546	-60.59	-13	-47.59	-53.71	-62.57	1.31	5.44	H
	3392	-59.06	-13	-46.06	-54.53	-62.86	1.57	7.52	H
	1696	-64.61	-13	-51.61	-53.02	-66.21	1.00	4.75	V
	2546	-59.98	-13	-46.98	-53.68	-61.96	1.31	5.44	V
	3392	-58.47	-13	-45.47	-54.05	-62.27	1.57	7.52	V

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



GSM850 (EDGE class 8)									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1649	-63.59	-13	-50.59	-51.19	-65.34	0.98	4.88	H
	2474	-60.72	-13	-47.72	-53.71	-62.61	1.28	5.32	H
	3298	-58.77	-13	-45.77	-53.84	-62.19	1.54	7.11	H
	1649	-64.06	-13	-51.06	-52.17	-65.81	0.98	4.88	V
	2474	-58.02	-13	-45.02	-51.52	-59.91	1.28	5.32	V
	3298	-59.12	-13	-46.12	-54.47	-62.54	1.54	7.11	V
Middle	1672	-64.26	-13	-51.26	-52.12	-65.94	0.99	4.82	H
	2509	-60.85	-13	-47.85	-53.99	-62.81	1.29	5.41	H
	3345	-59.31	-13	-46.31	-54.5	-62.92	1.56	7.32	H
	1672	-63.61	-13	-50.61	-51.92	-65.29	0.99	4.82	V
	2509	-59.35	-13	-46.35	-52.93	-61.31	1.29	5.41	V
	3345	-58.69	-13	-45.69	-54.16	-62.3	1.56	7.32	V
Highest	1696	-64.47	-13	-51.47	-52.47	-66.07	1.00	4.75	H
	2544	-60.34	-13	-47.34	-53.4	-62.32	1.30	5.44	H
	3393	-59.27	-13	-46.27	-53.72	-63.08	1.57	7.53	H
	1696	-63.88	-13	-50.88	-52.35	-65.48	1.00	4.75	V
	2544	-60.51	-13	-47.51	-54.17	-62.49	1.30	5.44	V
	3393	-58.84	-13	-45.84	-54.4	-62.65	1.57	7.53	V

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



GSM1900 (GPRS class 8)									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3702	-37.18	-13	-24.18	-33.04	-43.75	1.67	8.24	H
	5550	-43.77	-13	-30.77	-46.47	-50.84	2.65	9.72	H
	7404	-46.75	-13	-33.75	-50.95	-55.9	2.46	11.61	H
	9252	-55.03	-13	-42.03	-61.68	-65.09	2.54	12.60	H
	11100	-57.48	-13	-44.48	-68.63	-67.25	2.69	12.46	H
	12948	-57.32	-13	-44.32	-70.36	-67.34	2.92	12.94	H
	14806.5	-53.11	-13	-40.11	-66.23	-62.96	3.52	13.37	H
	3702	-38.29	-13	-25.29	-34.14	-44.86	1.67	8.24	V
	5550	-50.64	-13	-37.64	-53.31	-57.71	2.65	9.72	V
	7404	-52.24	-13	-39.24	-56.7	-61.39	2.46	11.61	V
	9252	-54.87	-13	-41.87	-61.92	-64.93	2.54	12.60	V
	11100	-58.28	-13	-45.28	-69.3	-68.05	2.69	12.46	V
	12948	-54.48	-13	-41.48	-67.11	-64.5	2.92	12.94	V
	14806.5	-48.35	-13	-35.35	-61.55	-58.2	3.52	13.37	V
Middle	3762	-35.93	-13	-22.93	-31.71	-42.56	1.69	8.31	H
	5640	-43.16	-13	-30.16	-46.29	-50.21	2.71	9.76	H
	7518	-43.15	-13	-30.15	-47.35	-52.54	2.42	11.81	H
	9399	-55.33	-13	-42.33	-62.18	-65.3	2.57	12.54	H
	11278	-53.71	-13	-40.71	-65.54	-63.41	2.68	12.39	H
	13158	-56.75	-13	-43.75	-69.67	-67	2.97	13.22	H
	15037	-47.25	-13	-34.25	-60.34	-57.29	3.61	13.65	H
	3762	-36.58	-13	-23.58	-32.39	-43.21	1.69	8.31	V
	5640	-45.15	-13	-32.15	-48.24	-52.2	2.71	9.76	V
	7518	-46.03	-13	-33.03	-50.47	-55.42	2.42	11.81	V
	9399	-53.75	-13	-40.75	-61.01	-63.72	2.57	12.54	V
	11278	-53.93	-13	-40.93	-65.66	-63.63	2.68	12.39	V
	13158	-56.77	-13	-43.77	-69.48	-67.02	2.97	13.22	V
	15037	-46.80	-13	-33.80	-60.1	-56.84	3.61	13.65	V
Highest	3822	-38.46	-13	-25.46	-34.16	-45.14	1.71	8.39	H
	5730	-42.87	-13	-29.87	-46.41	-49.9	2.76	9.79	H
	7638	-48.32	-13	-35.32	-52.96	-57.82	2.38	11.88	H
	9546	-53.83	-13	-40.83	-60.9	-63.7	2.60	12.47	H
	11457	-55.23	-13	-42.23	-67.69	-64.86	2.68	12.32	H
	13368	-55.83	-13	-42.83	-68.53	-66.32	3.02	13.52	H
	15279	-51.40	-13	-38.40	-65.46	-61.68	3.71	13.99	H
	3822	-38.97	-13	-25.97	-34.7	-45.65	1.71	8.39	V
	5730	-52.69	-13	-39.69	-56.23	-59.72	2.76	9.79	V
	7638	-49.01	-13	-36.01	-53.91	-58.51	2.38	11.88	V
	9546	-55.28	-13	-42.28	-62.68	-65.15	2.60	12.47	V
	11457	-57.87	-13	-44.87	-70.31	-67.5	2.68	12.32	V
	13368	-51.11	-13	-38.11	-63.83	-61.6	3.02	13.52	V
	15279	-48.83	-13	-35.83	-62.95	-59.11	3.71	13.99	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	3702	-47.11	-13	-34.11	-42.98	-53.68	1.67	8.24	H
	5550	-51.44	-13	-38.44	-53.16	-58.51	2.65	9.72	H
	7404	-61.38	-13	-48.38	-65.58	-70.53	2.46	11.61	H
	3702	-49.15	-13	-36.15	-44.99	-55.72	1.67	8.24	V
	5550	-58.93	-13	-45.93	-61.6	-66	2.65	9.72	V
	7404	-61.39	-13	-48.39	-65.79	-70.54	2.46	11.61	V
Middle	3762	-42.83	-13	-29.83	-38.61	-49.46	1.69	8.31	H
	5640	-47.86	-13	-34.86	-51.01	-54.91	2.71	9.76	H
	7518	-55.86	-13	-42.86	-60.05	-65.25	2.42	11.81	H
	3762	-44.45	-13	-31.45	-40.23	-51.08	1.69	8.31	V
	5640	-50.37	-13	-37.37	-53.49	-57.42	2.71	9.76	V
	7518	-56.33	-13	-43.33	-60.77	-65.72	2.42	11.81	V
Highest	3822	-45.62	-13	-32.62	-41.28	-52.3	1.71	8.39	H
	5730	-50.71	-13	-37.71	-54.28	-57.74	2.76	9.79	H
	7638	-61.63	-13	-48.63	-66.27	-71.13	2.38	11.88	H
	3822	-46.75	-13	-33.75	-42.49	-53.43	1.71	8.39	V
	5730	-57.05	-13	-44.05	-60.59	-64.08	2.76	9.79	V
	7638	-61.50	-13	-48.50	-66.39	-71	2.38	11.88	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	1649	-62.94	-13	-49.94	-50.55	-64.69	0.98	4.88	H
	2474	-60.55	-13	-47.55	-53.56	-62.44	1.28	5.32	H
	3298	-59.27	-13	-46.27	-54.36	-62.69	1.54	7.11	H
	1649	-62.77	-13	-49.77	-50.82	-64.52	0.98	4.88	V
	2474	-60.28	-13	-47.28	-53.68	-62.17	1.28	5.32	V
	3298	-58.54	-13	-45.54	-53.94	-61.96	1.54	7.11	V
Middle	1672	-63.07	-13	-50.07	-50.93	-64.75	0.99	4.82	H
	2509	-60.69	-13	-47.69	-53.76	-62.65	1.29	5.41	H
	3345	-59.18	-13	-46.18	-54.43	-62.79	1.56	7.32	H
	1672	-63.56	-13	-50.56	-51.93	-65.24	0.99	4.82	V
	2509	-59.51	-13	-46.51	-53.19	-61.47	1.29	5.41	V
	3345	-59.44	-13	-46.44	-54.9	-63.05	1.56	7.32	V
Highest	1696	-63.59	-13	-50.59	-51.61	-65.19	1.00	4.75	H
	2539	-59.94	-13	-46.94	-53.13	-61.92	1.30	5.43	H
	3386	-58.78	-13	-45.78	-54.23	-62.56	1.57	7.50	H
	1696	-63.66	-13	-50.66	-52.13	-65.26	1.00	4.75	V
	2539	-60.21	-13	-47.21	-53.89	-62.19	1.30	5.43	V
	3386	-59.06	-13	-46.06	-54.61	-62.84	1.57	7.50	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	3708	-61.62	-13	-48.62	-57.48	-68.2	1.67	8.25	H
	5556	-62.23	-13	-49.23	-64.92	-69.3	2.66	9.72	H
	7410	-62.36	-13	-49.36	-66.58	-71.52	2.46	11.62	H
	3708	-61.65	-13	-48.65	-57.5	-68.23	1.67	8.25	V
	5556	-62.20	-13	-49.20	-64.86	-69.27	2.66	9.72	V
	7410	-62.19	-13	-49.19	-66.62	-71.35	2.46	11.62	V
Middle	3762	-59.00	-13	-46.00	-54.77	-65.63	1.69	8.31	H
	5640	-62.19	-13	-49.19	-65.34	-69.24	2.71	9.76	H
	7520	-63.01	-13	-50.01	-67.26	-72.4	2.42	11.81	H
	3762	-57.09	-13	-44.09	-52.89	-63.72	1.69	8.31	V
	5640	-62.28	-13	-49.28	-65.38	-69.33	2.71	9.76	V
	7520	-62.86	-13	-49.86	-67.28	-72.25	2.42	11.81	V
Highest	3816	-61.56	-13	-48.56	-57.25	-68.24	1.70	8.38	H
	5724	-61.69	-13	-48.69	-65.22	-68.73	2.75	9.79	H
	7632	-62.31	-13	-49.31	-66.94	-71.8	2.39	11.88	H
	3816	-60.23	-13	-47.23	-55.97	-66.91	1.70	8.38	V
	5724	-61.86	-13	-48.86	-65.41	-68.9	2.75	9.79	V
	7632	-61.91	-13	-48.91	-66.82	-71.4	2.39	11.88	V

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



CDMA BC0(1xRTT Rev.A)									
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	1649	-60.36	-13	-47.36	-48.05	-62.11	0.98	4.88	H
	2474	-59.99	-13	-46.99	-53.05	-61.88	1.28	5.32	H
	3298	-59.59	-13	-46.59	-54.69	-63.01	1.54	7.11	H
	1649	-60.04	-13	-47.04	-48.29	-61.79	0.98	4.88	V
	2474	-59.22	-13	-46.22	-53.82	-61.11	1.28	5.32	V
	3298	-58.99	-13	-45.99	-54.5	-62.41	1.54	7.11	V
Middle	1672	-63.34	-13	-50.34	-51.37	-65.02	0.99	4.82	H
	2509	-60.48	-13	-47.48	-53.75	-62.44	1.29	5.41	H
	3344	-59.08	-13	-46.08	-54.43	-62.69	1.56	7.31	H
	1672	-63.43	-13	-50.43	-51.98	-65.11	0.99	4.82	V
	2509	-59.37	-13	-46.37	-53.07	-61.33	1.29	5.41	V
	3344	-58.51	-13	-45.51	-54.23	-62.12	1.56	7.31	V
Highest	1696	-63.28	-13	-50.28	-51.35	-64.88	1.00	4.75	H
	2544	-60.57	-13	-47.57	-53.92	-62.55	1.30	5.44	H
	3393	-58.18	-13	-45.18	-53.73	-61.99	1.57	7.53	H
	1696	-62.92	-13	-49.92	-51.53	-64.52	1.00	4.75	V
	2544	-60.24	-13	-47.24	-54.06	-62.22	1.30	5.44	V
	3393	-58.52	-13	-45.52	-54.18	-62.33	1.57	7.53	V

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



CDMA BC0(1xEVDO Rev.A)									
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	1649	-58.27	-13	-45.27	-45.89	-60.02	0.98	4.88	H
	2474	-61.22	-13	-48.22	-54.45	-63.11	1.28	5.32	H
	3298	-59.47	-13	-46.47	-54.56	-62.89	1.54	7.11	H
	1649	-57.47	-13	-44.47	-45.53	-59.22	0.98	4.88	V
	2474	-59.93	-13	-46.93	-53.42	-61.82	1.28	5.32	V
	3298	-59.13	-13	-46.13	-54.62	-62.55	1.54	7.11	V
Middle	1672	-62.21	-13	-49.21	-50.13	-63.89	0.99	4.82	H
	2509	-59.92	-13	-46.92	-53.17	-61.88	1.29	5.41	H
	3345	-59.08	-13	-46.08	-54.45	-62.69	1.56	7.32	H
	1672	-62.34	-13	-49.34	-50.88	-64.02	0.99	4.82	V
	2509	-60.13	-13	-47.13	-53.93	-62.09	1.29	5.41	V
	3345	-58.41	-13	-45.41	-53.94	-62.02	1.56	7.32	V
Highest	1696	-60.62	-13	-47.62	-48.75	-62.22	1.00	4.75	H
	2544	-59.35	-13	-46.35	-52.72	-61.33	1.30	5.44	H
	3393	-58.74	-13	-45.74	-54.33	-62.55	1.57	7.53	H
	1696	-61.17	-13	-48.17	-49.84	-62.77	1.00	4.75	V
	2544	-59.74	-13	-46.74	-53.56	-61.72	1.30	5.44	V
	3393	-59.13	-13	-46.13	-54.55	-62.94	1.57	7.53	V

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



CDMA BC1(1xRTT Rev.A)									
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	3702	-53.43	-13	-40.43	-49.29	-60	1.67	8.24	H
	5556	-60.67	-13	-47.67	-63.37	-67.74	2.66	9.72	H
	7405	-61.95	-13	-48.95	-66.14	-71.1	2.46	11.61	H
	3702	-54.00	-13	-41.00	-49.84	-60.57	1.67	8.24	V
	5556	-61.87	-13	-48.87	-64.58	-68.94	2.66	9.72	V
	7405	-61.56	-13	-48.56	-65.97	-70.71	2.46	11.61	V
Middle	3762	-51.61	-13	-38.61	-47.39	-58.24	1.69	8.31	H
	5640	-57.95	-13	-44.95	-61.07	-65	2.71	9.76	H
	7518	-62.64	-13	-49.64	-66.85	-72.03	2.42	11.81	H
	3762	-49.96	-13	-36.96	-44.76	-56.59	1.69	8.31	V
	5640	-59.45	-13	-46.45	-62.54	-66.5	2.71	9.76	V
	7518	-62.56	-13	-49.56	-67	-71.95	2.42	11.81	V
Highest	3816	-52.48	-13	-39.48	-48.15	-59.16	1.70	8.38	H
	5724	-56.89	-13	-43.89	-60.43	-63.93	2.75	9.79	H
	7632	-61.81	-13	-48.81	-66.45	-71.3	2.39	11.88	H
	3816	-52.32	-13	-39.32	-48.06	-59	1.70	8.38	V
	5724	-59.08	-13	-46.08	-62.64	-66.12	2.75	9.79	V
	7632	-61.26	-13	-48.26	-66.18	-70.75	2.39	11.88	V

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



CDMA BC1(1xEVDO Rev.A)									
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	3702	-53.86	-13	-40.86	-49.73	-60.43	1.67	8.24	H
	5556	-61.53	-13	-48.53	-64.23	-68.6	2.66	9.72	H
	7404	-62.29	-13	-49.29	-66.48	-71.44	2.46	11.61	H
	3702	-55.34	-13	-42.34	-51.21	-61.91	1.67	8.24	V
	5556	-61.78	-13	-48.78	-64.46	-68.85	2.66	9.72	V
	7404	-62.09	-13	-49.09	-66.51	-71.24	2.46	11.61	V
Middle	3762	-50.82	-13	-37.82	-46.6	-57.45	1.69	8.31	H
	5640	-57.63	-13	-44.63	-60.75	-64.68	2.71	9.76	H
	7518	-62.32	-13	-49.32	-66.53	-71.71	2.42	11.81	H
	3762	-48.89	-13	-35.89	-44.7	-55.52	1.69	8.31	V
	5640	-59.48	-13	-46.48	-62.62	-66.53	2.71	9.76	V
	7518	-62.53	-13	-49.53	-66.97	-71.92	2.42	11.81	V
Highest	3816	-52.22	-13	-39.22	-47.89	-58.9	1.70	8.38	H
	5724	-57.61	-13	-44.61	-61.15	-64.65	2.75	9.79	H
	7632	-62.15	-13	-49.15	-66.8	-71.64	2.39	11.88	H
	3816	-52.17	-13	-39.17	-47.93	-58.85	1.70	8.38	V
	5724	-59.63	-13	-46.63	-63.17	-66.67	2.75	9.79	V
	7632	-61.45	-13	-48.45	-66.36	-70.94	2.39	11.88	V

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