

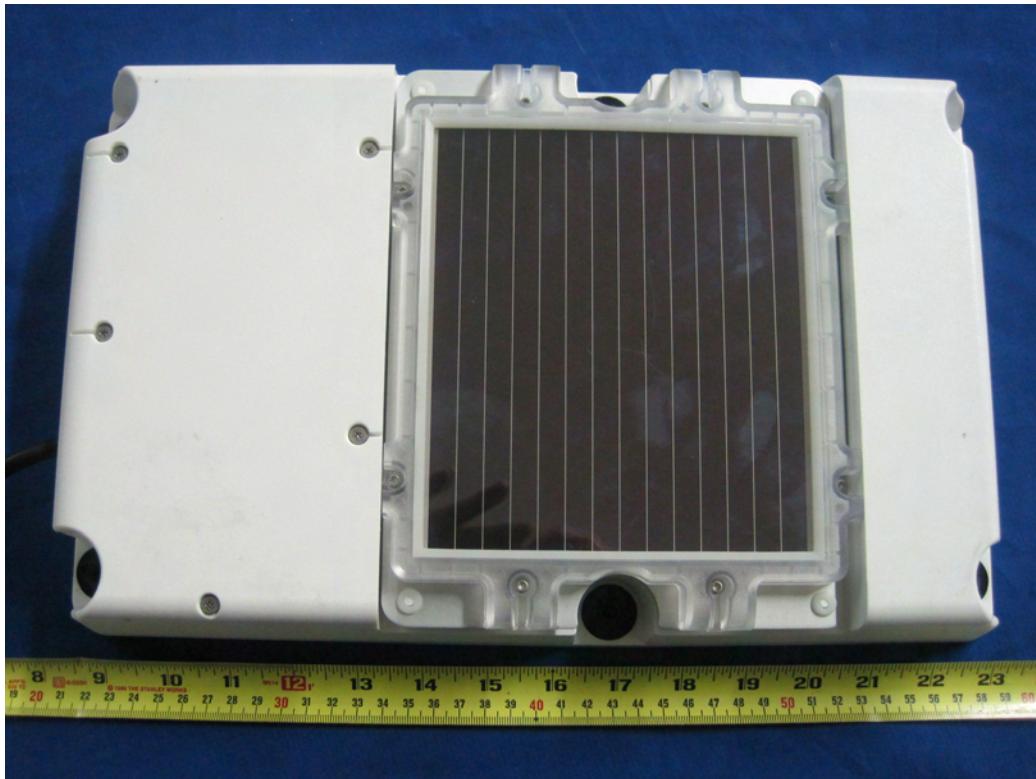
QUALCOMM INCORPORATED

TRAILER TRACKING DEVICE

Model: TT210 3G

January 19th 2012

Report No.: SL11112903-QCM-006_RF(FCC_22,24)
(This report supersedes None)



Modifications made to the product : None

This Test Report is Issued Under the Authority of:

Dan Corona Senior Compliance Engineer	Leslie Bai Director of Certification

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All Test Data Presented in this report is only applicable to presented Test sample.

RF Test Report

To: FCC Part 2, 22(H), 24(E)

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Country/Region	Accreditation Body	Scope
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Canada	IC, A2LA, NIST	EMC, RF/Wireless , Telecom , SAR
Taiwan	BSMI , NCC , NIST	EMC, RF, Telecom , Safety
Hong Kong	OFTA , NIST	RF/Wireless , Telecom
Australia	NATA, NIST	EMC, RF, Telecom , Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF , Telecom, Safety , SAR
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC , RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom , Safety, SAR

Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC , RF , Telecom
Canada	IC FCB , NIST	EMC , RF , Telecom
Singapore	iDA, NIST	EMC , RF , Telecom
EU	NB	EMC & R&TTE Directive
Japan	MIC, (RCB 208)	RF , Telecom
HongKong	OFTA (US002)	RF , Telecom



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1 Executive Summary & EUT information

The purpose of this test programmed was to demonstrate compliance of the Qualcomm Incorporated Model: TT210 3G against the current Stipulated Standards. The Trailer Tracking Device have demonstrated compliance with the FCC 22(H):2011, FCC 24(E):2011, RSS-132 Issue 2 : 2005, RSS-133 Issue 5 : 2009.

The test has demonstrated that this unit complies with stipulated standards.

EUT Information

The Trailer Tracks service is the Qualcomm wireless systems for identifying and locating trailers and containers for the trucking industry. This service provides cost-effective wireless status monitoring and management of trailers and containers.

EUT Description : The TT210 system sends status information over-the-air (OTA) to the customer using dual mode cellular functionality. The Trailer Tracks service is a comprehensive, end-to-end trailer/container identification and location systems, consisting of rugged mobile hardware, reliable network services, robust host software, and extensive data integration capabilities.

The TT210 is a single unit with a WWAN antenna, GPS antenna, solar cell, and digital circuit board. The digital board includes a 3G WWAN module, Bluetooth circuit, a 433 MHz receiver, GPS receiver, and supporting digital circuitry.

Model No	:	TT210 3G																
Serial No	:	121001654																
HW version	:	N/A																
Input Power	:	9VDC – 32 VDC, 500mA																
Maximum Conducted Output Power	:	N/A																
Maximum Radiated ERP/EIRP	:	<table> <tbody> <tr> <td>GSM / GPRS850 :</td> <td>2.30 W (33.62 dBm) / ERP</td> </tr> <tr> <td>GSM / EGPRS850 :</td> <td>1.58 W (31.98 dBm) / ERP</td> </tr> <tr> <td>WCDMA Rel 99 UMTS 850 Band V :</td> <td>0.28 W (24.52 dBm) / ERP</td> </tr> <tr> <td>HSDPA/HSUPA Rel 6 UMTS 850 Band V :</td> <td>0.27 W (24.30 dBm) / ERP</td> </tr> <tr> <td>GSM / GPRS1900 :</td> <td>1.58 W(31.98 dBm) / EIRP</td> </tr> <tr> <td>GSM / EGPRS1900 :</td> <td>1.30 W(31.00 dBm) / EIRP</td> </tr> <tr> <td>WCDMA Rel 99 UMTS 1900 Band II :</td> <td>0.68 W (28.34 dBm) / EIRP</td> </tr> <tr> <td>HSDPA/HSUPA Rel 6 UMTS Band II :</td> <td>0.59 W (27.74 dBm) / EIRP</td> </tr> </tbody> </table>	GSM / GPRS850 :	2.30 W (33.62 dBm) / ERP	GSM / EGPRS850 :	1.58 W (31.98 dBm) / ERP	WCDMA Rel 99 UMTS 850 Band V :	0.28 W (24.52 dBm) / ERP	HSDPA/HSUPA Rel 6 UMTS 850 Band V :	0.27 W (24.30 dBm) / ERP	GSM / GPRS1900 :	1.58 W(31.98 dBm) / EIRP	GSM / EGPRS1900 :	1.30 W(31.00 dBm) / EIRP	WCDMA Rel 99 UMTS 1900 Band II :	0.68 W (28.34 dBm) / EIRP	HSDPA/HSUPA Rel 6 UMTS Band II :	0.59 W (27.74 dBm) / EIRP
GSM / GPRS850 :	2.30 W (33.62 dBm) / ERP																	
GSM / EGPRS850 :	1.58 W (31.98 dBm) / ERP																	
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HSDPA/HSUPA Rel 6 UMTS Band II :	0.59 W (27.74 dBm) / EIRP																	
Classification Per Stipulated Test Standard	:	Mobile Device																



2 TECHNICAL DETAILS

Purpose	Compliance testing of Trailer Tracking Device model TT210 3G with stipulated standard
Applicant / Client	Qualcomm Incorporated
Manufacturer	Qualcomm Incorporated 5775 Morehouse Drive San Diego, CA 92121
Laboratory performing the tests	SIEMIC Laboratories
Test report reference number	SL11112903-QCM-006_RF(FCC_22,24)
Date EUT received	Jan 6 2012
Standard applied	See Page 9
Dates of test (from – to)	Jan 9 - 19 2012
No of Units:	1
Equipment Category:	PCE
Trade Name:	QUALCOMM INCORPORATED
Model Name:	TT210 3G
RF Operating Frequency (ies)	GSM / GPRS850 : 824.2 ~ 848.8 MHz(TX) / 869.2 ~ 893.8 MHz(RX) GSM / GPRS1900 : 1850.2 ~ 1909.8 MHz(TX) / 1930.2 ~ 1989.8 MHz(RX) WCDMA Band V : 826.4 ~ 846.6 MHz(TX) / 871.4 ~ 891.6 MHz(RX) WCDMA Band II : 1852.4 ~ 1907.6 MHz(TX) / 1932.4 ~ 1987.6 MHz(RX)
Number of Channels:	N/A
Modulation:	GSM / GPRS : GMSK GSM / EGPRS : 8PSK WCDMA : QPSK HSDPA: QPSK
FCC ID:	J9CTT210Q1WW2
IC ID:	2723A-TT210Q1WW2

3 MODIFICATION

NONE

4 TEST SUMMARY

The product was tested in accordance with the following specifications. All testing has been performed according to below product classification:

Mobile Device

Test Results Summary

Test Standard		Description	Pass / Fail
FCC 22(H):2011 FCC 24(E):2011	RSS-132 Issue 2 : 2005 RSS-133 Issue 5 : 2009		
2.1046	N/A	Conducted Output Power	N/A
22.913(a)(2) 27.50(d)(2)	RSS-132(4.4) SRSP-503(5.1.3)	Effective Radiated Power	Pass
24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	Equivalent Isotropic Radiated Power	Pass
22.917(a) 24.238(a)	N/A	Occupied Bandwidth	Pass
22.917(a) 24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Band Edge Measurement	Pass
22.917(a) 24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Conducted Spurious Emission	Pass
22.917(a) 24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Radiated Spurious Emission	Pass
22.355 24.235	RSS-132(4.3) RSS-133(6.3)	Frequency Stability	Pass
N/A	RSS-132(4.6) RSS-133(6.6)	Receiver Spurious Emissions	Pass

ANSI C63.4: 2009/ RSS-Gen Issue 2: 2007

PS: All measurement uncertainties are not taken into consideration for all presented test result.

Note : Testing was perform by configuring EUT to maximum output power status, the declared output power class for different

5 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

5.1 Effective Radiated Power and Effective Isotropic Radiated Power

1. Conducted Measurement
EUT was set for low, mid, high channel with modulated mode and highest RF output power.
The spectrum analyzer was connected to the antenna terminal.
2. Conducted Emissions Measurement Uncertainty
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is $\pm 1.5\text{dB}$.
3. Environmental Conditions

Temperature	23°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
4. Test Date : Jan 9 - 19 2012
Tested By :Dan Corona

Standard Requirement: 47 CFR § 22.913(a)(2), §24.232(c), RSS-132(4.4), RSS-133 (6.4).

Procedures:

1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. Measurement was made at a distance of 3 m.
3. The measuring antenna was set to 1 meter away from the ground plain.
4. Maximization of the emissions was carried out by rotating the EUT, and adjusting the antenna azimuth.
5. The test was done in both horizontal and vertical antenna polarizations.
6. The measurement shall be made with the transmitter set to the lowest operating frequency and with the transmitter set to the highest operating frequency.

Sample Calculation: Corrected Amplitude = Raw Amplitude (dB μ V/m) + ACF (dB) + Cable Loss (dB)

Test Result: Pass



GSM (GPRS Mode)

Frequency Band	Channel/Frequency (MHz)	ERP Peak Power	
		Output Power (dBm)	Output Power (mW)
GSM / GPRS850	Low (128) / 824.2	33.11	2047.75
	Mid (189) / 836.4	33.72	2356.55
	High (251) / 848.8	33.62	2302.91
Frequency Band	Channel/Frequency (MHz)	EIRP Peak Power	
		Output Power (dBm)	Output Power (mW)
GSM / GPRS1900	Low (512) / 1850.2	31.82	1520.55
	Mid (661) / 1880.0	31.98	1577.61
	High (810) / 1909.8	30.38	1091.44

GSM (EGPRS Mode)

Frequency Band	Channel/Frequency (MHz)	ERP Peak Power	
		Output Power (dBm)	Output Power (mW)
GSM / EGPRS850	Low (128) / 824.2	30.77	1193.99
	Mid (189) / 836.4	31.82	1520.55
	High (251) / 848.8	30.64	1158.78
Frequency Band	Channel/Frequency (MHz)	EIRP Peak Power	
		Output Power (dBm)	Output Power (mW)
GSM / EGPRS1900	Low (512) / 1850.2	30.79	1199.50
	Mid (661) / 1880.0	31.00	1258.93
	High (810) / 1909.8	30.11	1025.65

UMTS (Rel 99 WCDMA Mode)

Frequency Band	Channel/Frequency (MHz)	ERP Peak Power	
		Output Power (dBm)	Output Power (mW)
UMTS850 (Band V)	Low (4132) / 826.4	24.36	272.90
	Mid (4182) / 836.4	24.52	283.14
	High (4233) / 846.6	24.42	276.70
Frequency Band	Channel/Frequency (MHz)	EIRP Peak Power	
		Output Power (dBm)	Output Power (mW)
UMTS1900 (Band II)	Low (9262) / 1852.4	28.34	682.34
	Mid (9400) / 1880.0	27.35	543.25
	High (9538) / 1907.6	27.11	514.04

UMTS (Rel 6 HSDPA Mode)

Frequency Band	Channel/Frequency (MHz)	ERP Peak Power	
		Output Power (dBm)	Output Power (mW)
UMTS850 (Band V)	Low (4132) / 826.4	23.26	211.84
	Mid (4182) / 836.4	23.02	200.45
	High (4233) / 846.6	24.30	269.15
Frequency Band	Channel/Frequency (MHz)	EIRP Peak Power	
		Output Power (dBm)	Output Power (mW)
UMTS1900 (Band II)	Low (9262) / 1852.4	27.74	594.29
	Mid (9400) / 1880.0	26.25	421.70
	High (9538) / 1907.6	26.51	447.71

5.2 Occupied Bandwidth

1. **Conducted Measurement**

EUT was set for low , mid, high channel with modulated mode and highest RF output power.

The spectrum analyzer was connected to the antenna terminal.

2 Environmental Conditions

Temperature 23°C

Relative Humidity 50%

Atmospheric Pressure 1019mbar

3 Conducted Emissions Measurement Uncertainty

All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is $\pm 1.5\text{dB}$.

4 Test Date : Jan 9 - 19 2012

Tested By :Dan Corona

Requirement(s): 47 CFR § 22.917(a), § 24.238(a)

Procedures:

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The 99% and 26 dB occupied bandwidth (BW) of the low, middle, & highest channel for the highest RF powers

Results: Pass



Cellular Band Test Result

Test Mode	Channel	Occupied Bandwidth	26 dB Bandwidth
GSM / GPRS850	Low (128)	242.49 KHz	320.64 KHz
	Mid (189)	248.50 KHz	320.64 KHz
	High (251)	244.49 KHz	322.65 KHz
GSM / EGPRS850	Low (128)	244.49 KHz	316.63 KHz
	Mid (189)	244.49 KHz	314.63 KHz
	High (251)	244.49 KHz	312.63 KHz
WCDMA850 Rel 99	Low (4132)	4.168 MHz	4.713 MHz
	Mid (4182)	4.184 MHz	4.697 MHz
	High (4233)	4.184 MHz	4.681 MHz
WCDMA850, HSDPA	Low (4132)	4.136 MHz	4.681 MHz
	Mid (4182)	4.200 MHz	4.697 MHz
	High (4233)	4.152 MHz	4.697 MHz

PCS Band Test Result

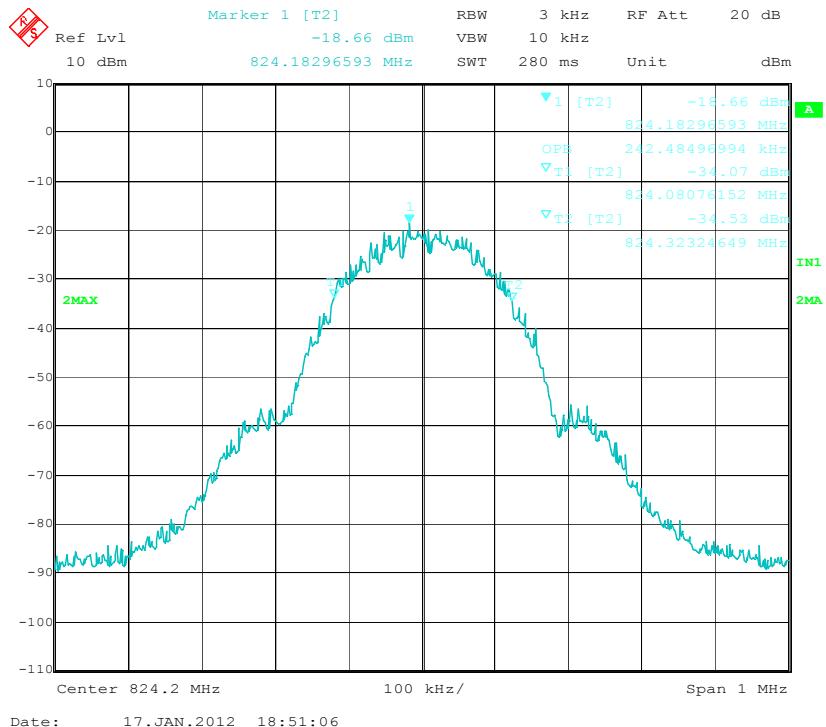
Test Mode	Channel	Occupied Bandwidth	26 dB Bandwidth
GSM / GPRS1900	Low (512)	244.49 KHz	310.62 KHz
	Mid (661)	244.49 KHz	316.63 KHz
	High (810)	244.49 KHz	314.63 KHz
GSM / EGPRS1900	Low (512)	244.49 KHz	314.63 KHz
	Mid (661)	244.49 KHz	318.64 KHz
	High (810)	242.48 KHz	312.63 KHz
WCDMA1900 Rel 99	Low (9262)	4.184 MHz	4.681 MHz
	Mid (9400)	4.168 MHz	4.713 MHz
	High (9538)	4.168 MHz	4.681 MHz
WCDMA1900, HSDPA	Low (9262)	4.168 MHz	4.697 MHz
	Mid (9400)	4.168 MHz	4.681 MHz
	High (9538)	4.152 MHz	4.665 MHz

Refer to the attached plots

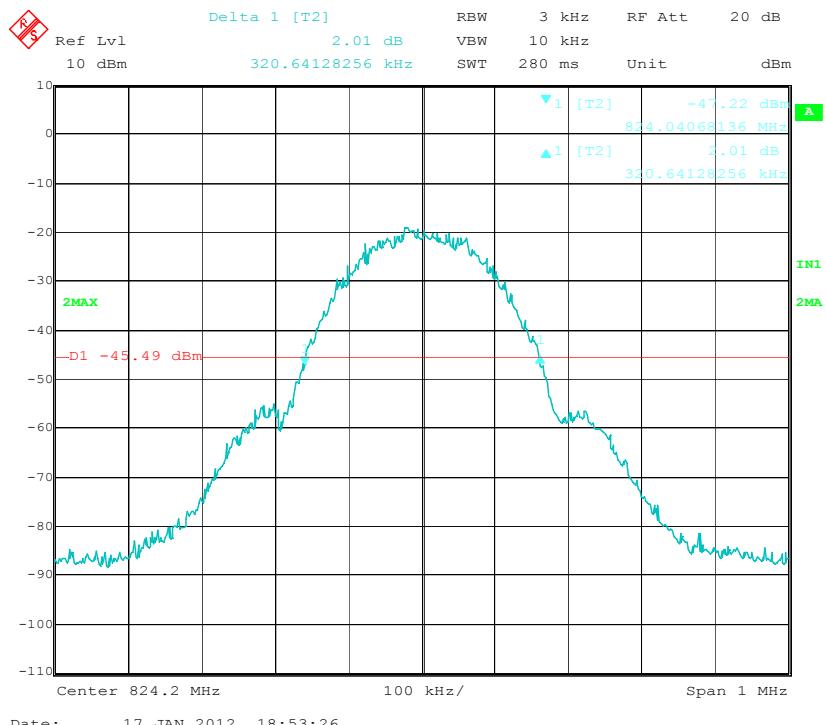


Cellular Band Test Result

99% Occupied Bandwidth – GSM / GPRS850, Channel 128, Low Channel

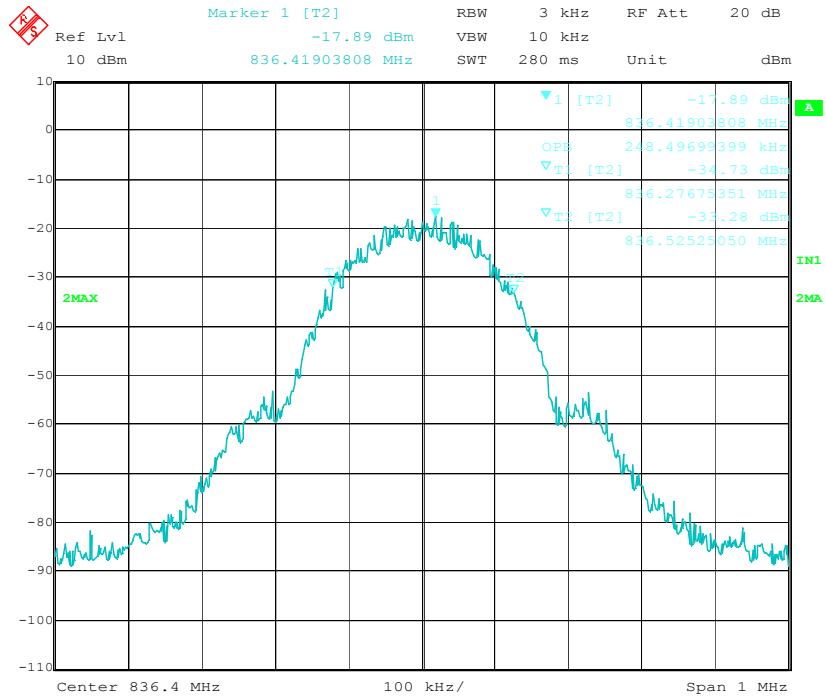


26dB Bandwidth – GSM /GPRS850, Channel 128, Low Channel

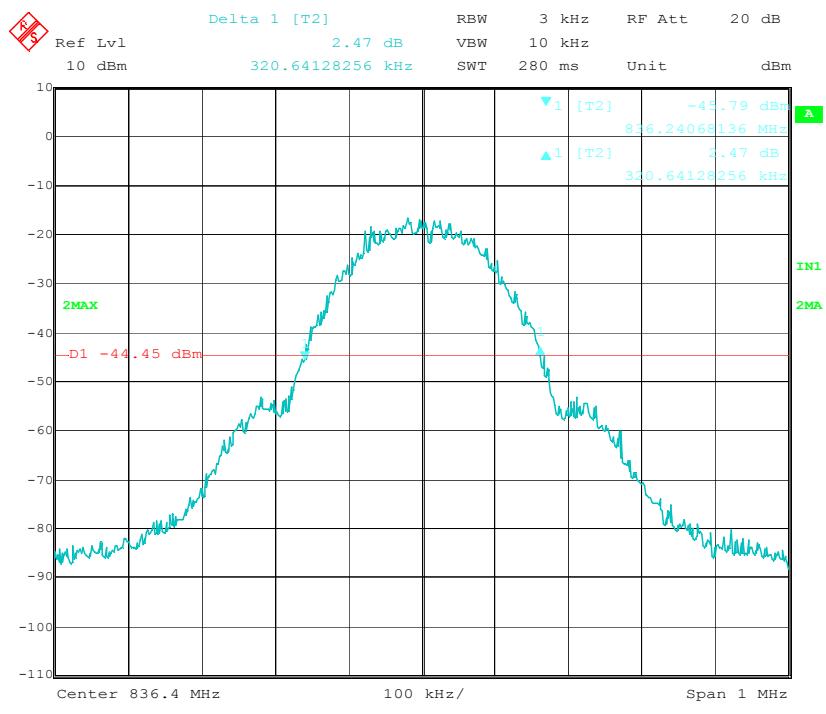




99% Occupied Bandwidth – GSM / GPRS850, Channel 190, Mid Channel

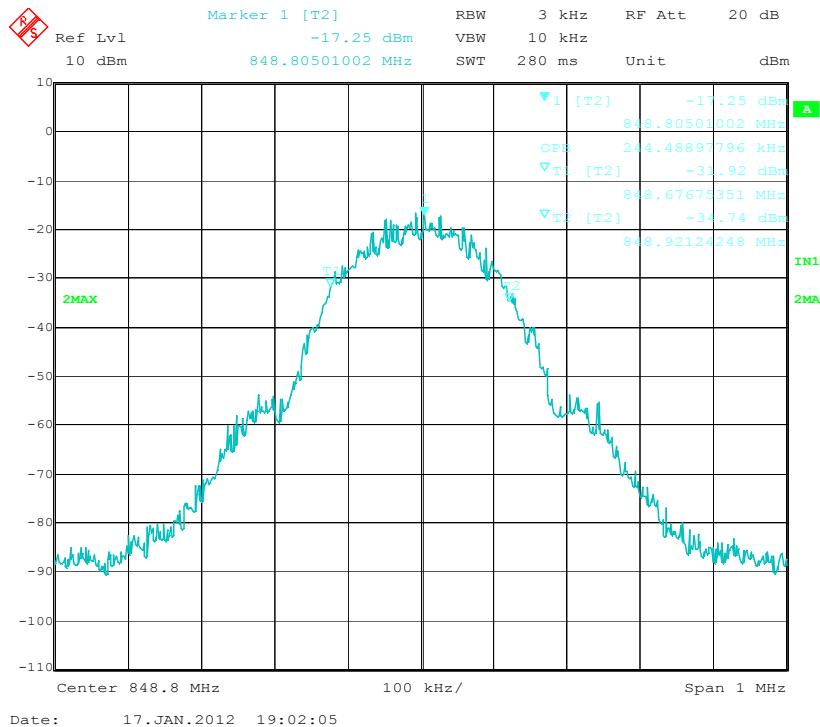


26dB Bandwidth – GSM / GPRS850, Channel 190, Mid Channel

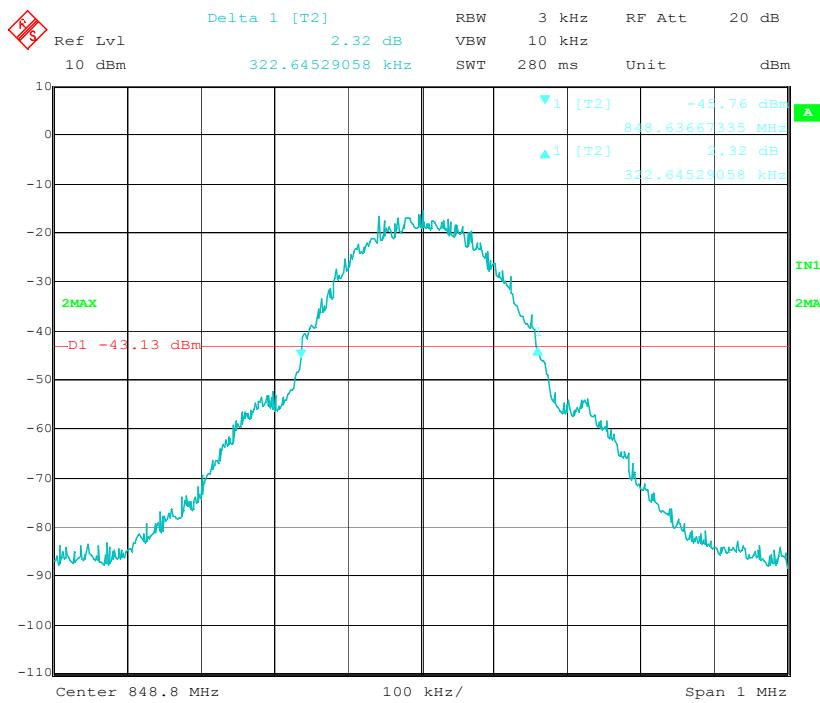




99% Occupied Bandwidth – GSM / GPRS850, Channel 251, High Channel

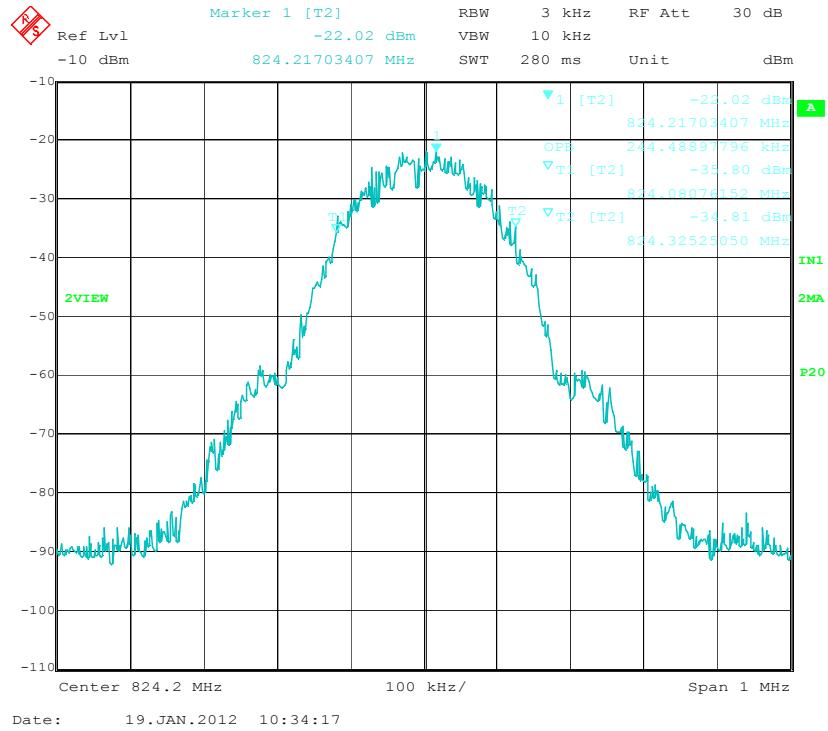


26dB Bandwidth – GSM / GPRS850, Channel 251, High Channel

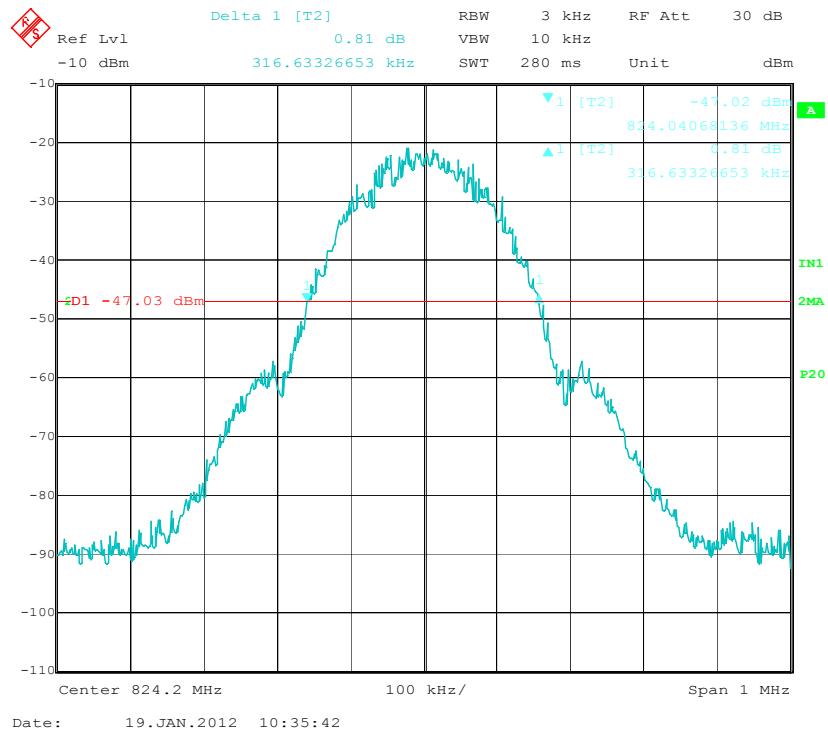




99% Occupied Bandwidth – GSM / EGPRS850, Channel 128, Low Channel

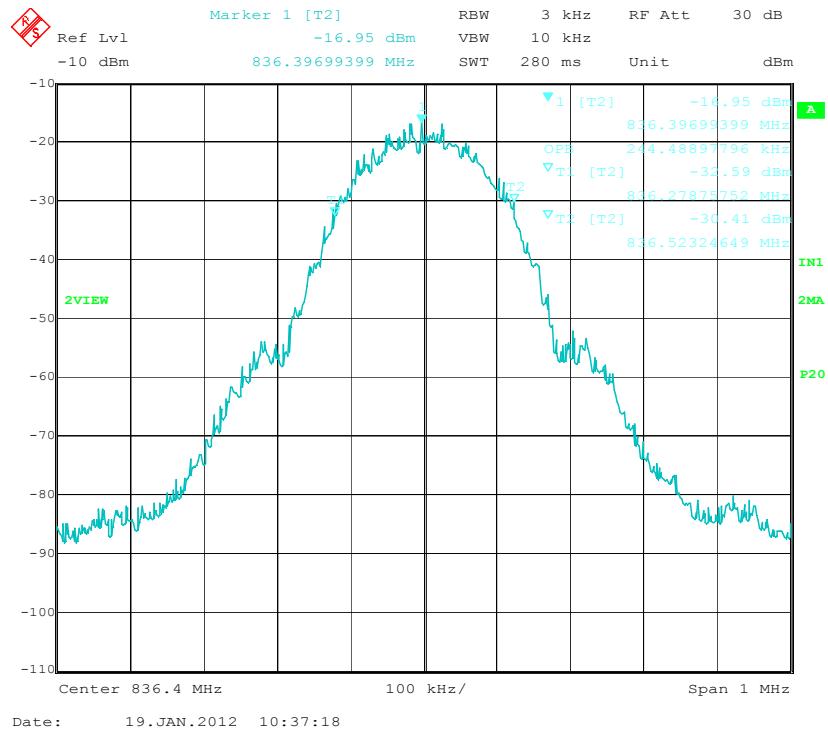


26dB Bandwidth – GSM / EGPRS850, Channel 128, Low Channel

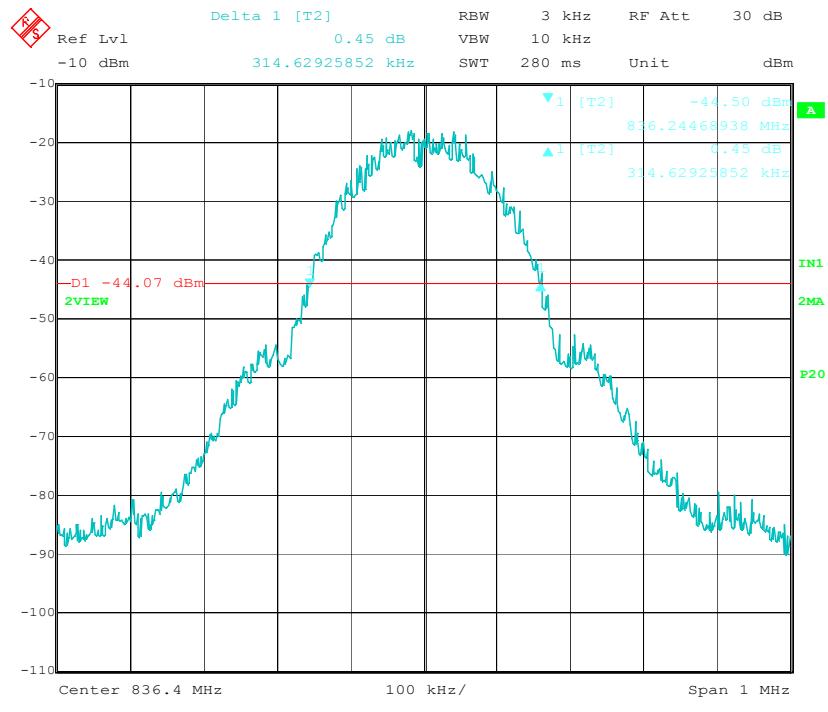




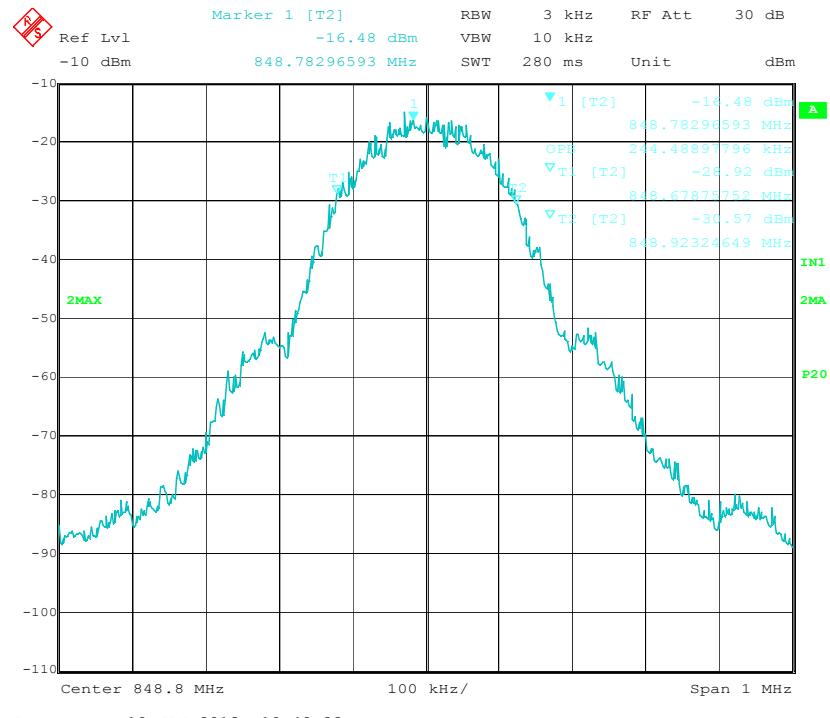
99% Occupied Bandwidth – GSM / EGPRS850, Channel 190, Mid Channel



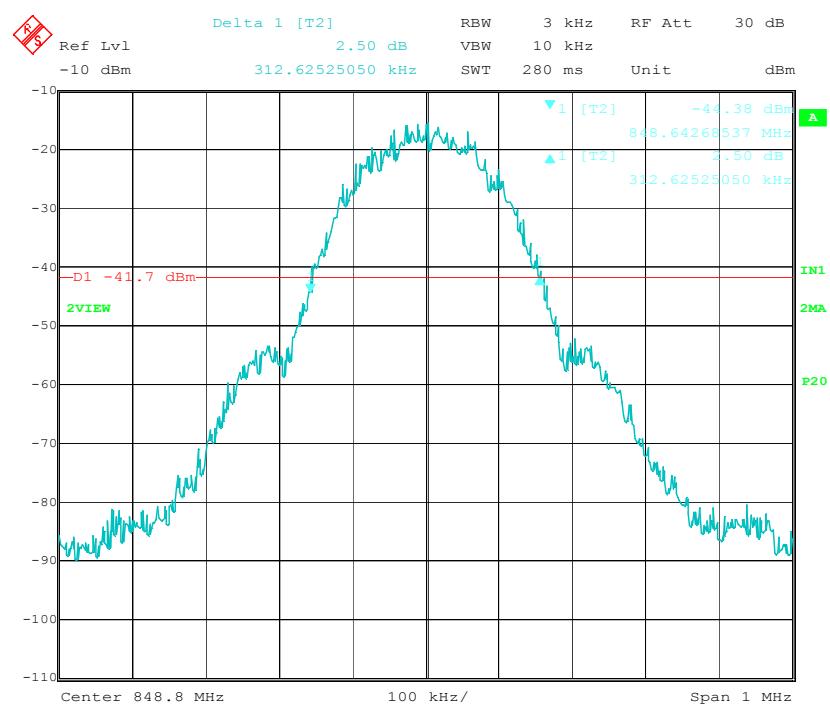
26dB Bandwidth – GSM / EGPRS850, Channel 190, Mid Channel



99% Occupied Bandwidth – GSM / EGPRS850, Channel 251, High Channel

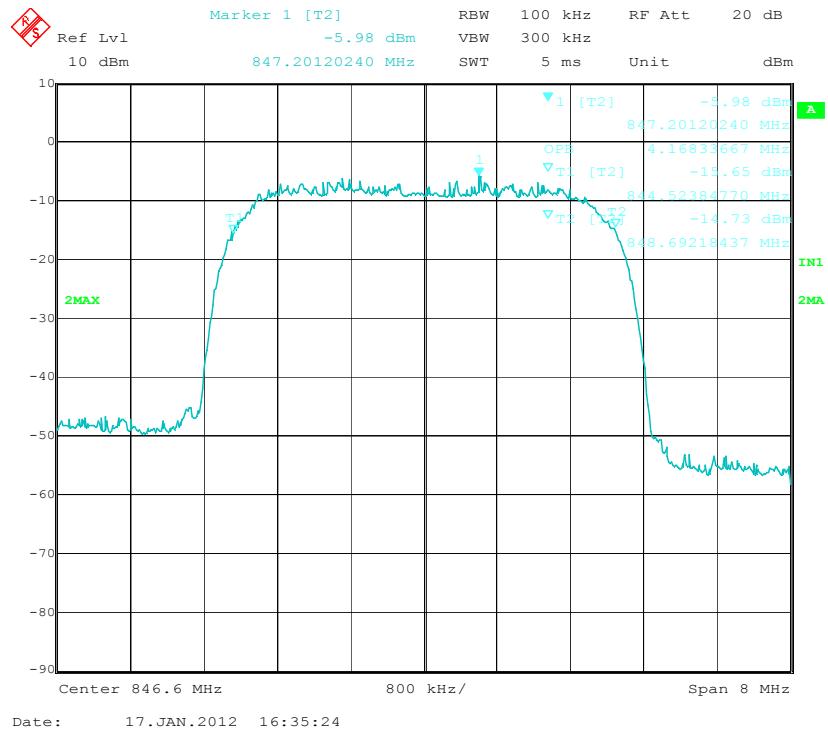


26dB Bandwidth – EGPRS850, Channel 251, High Channel

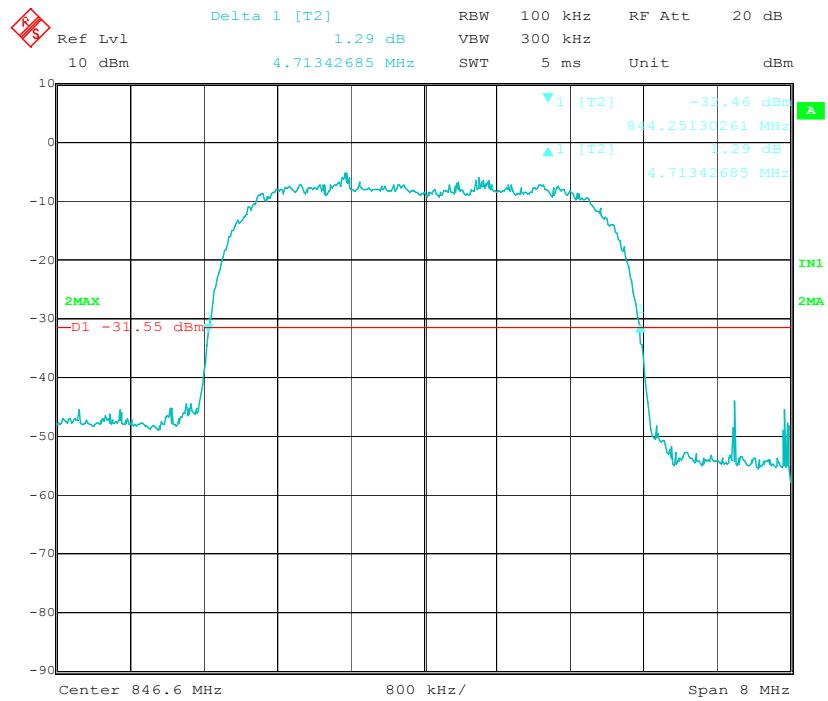




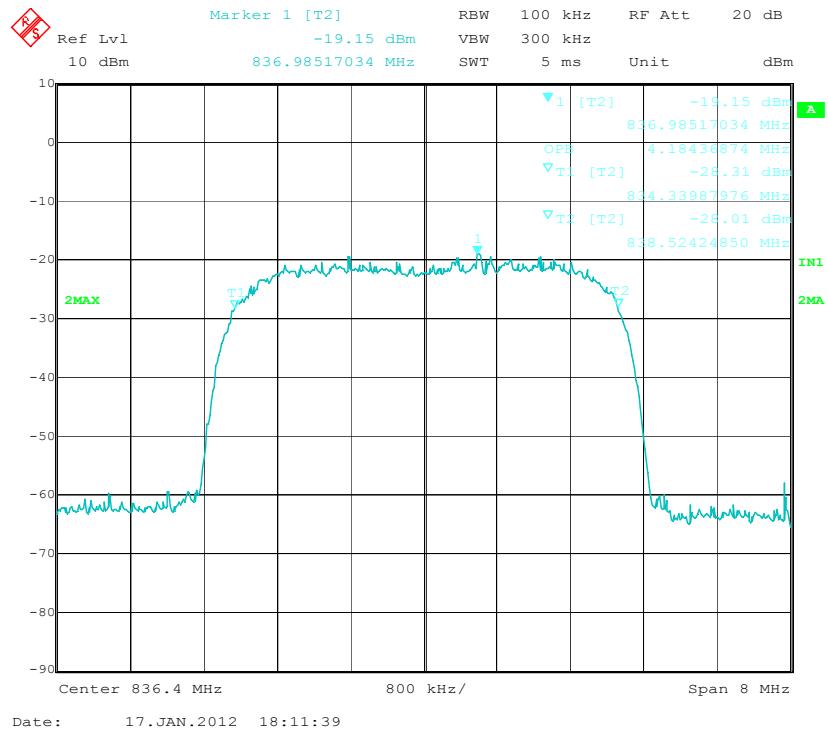
99% Occupied Bandwidth – WCDMA850 Rel 99, Channel 4132, Low Channel



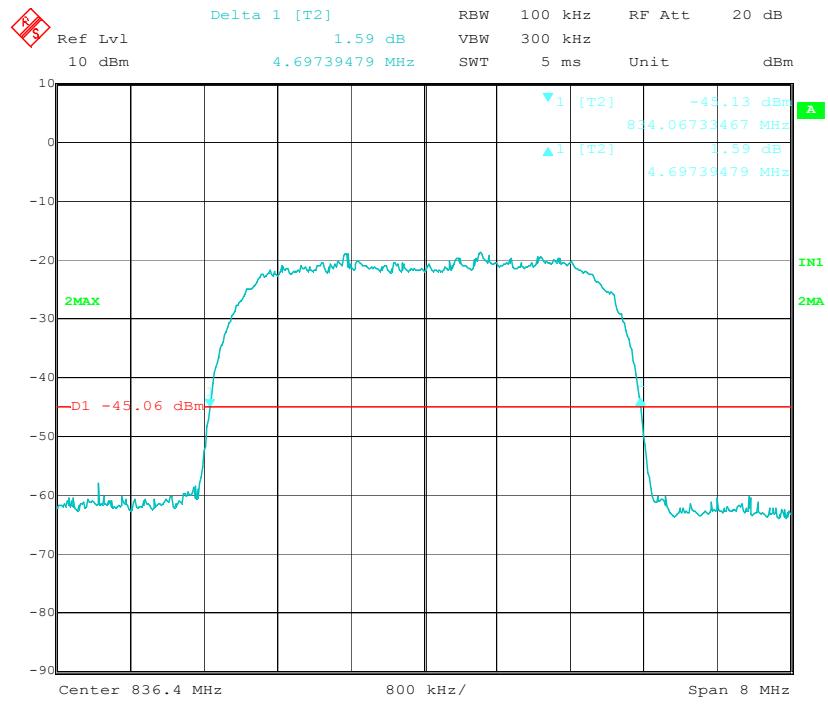
26dB Bandwidth – WCDMA850 Rel 99, Channel 4132, Low Channel



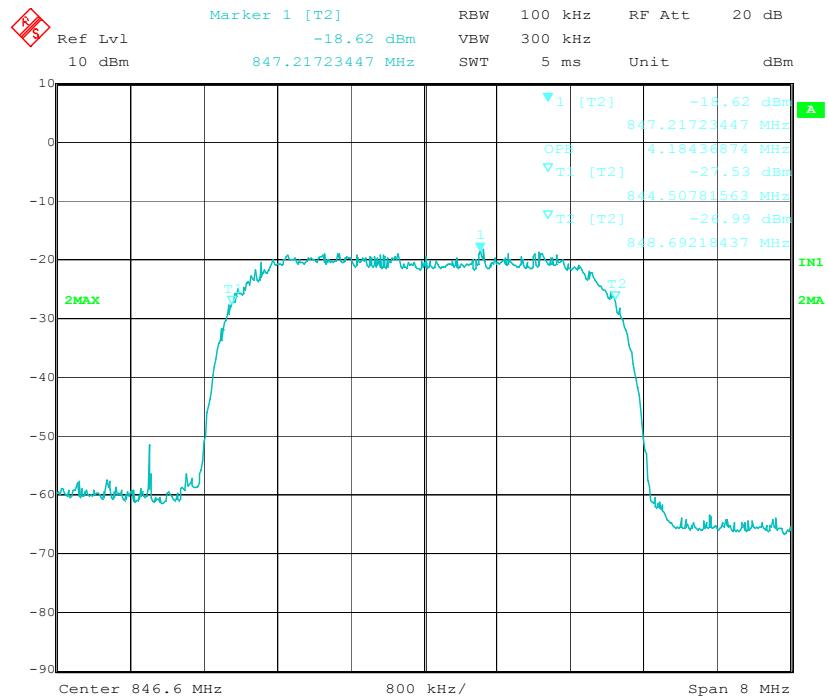
99% Occupied Bandwidth – WCDMA850 Rel 99, Channel 4182, Mid Channel



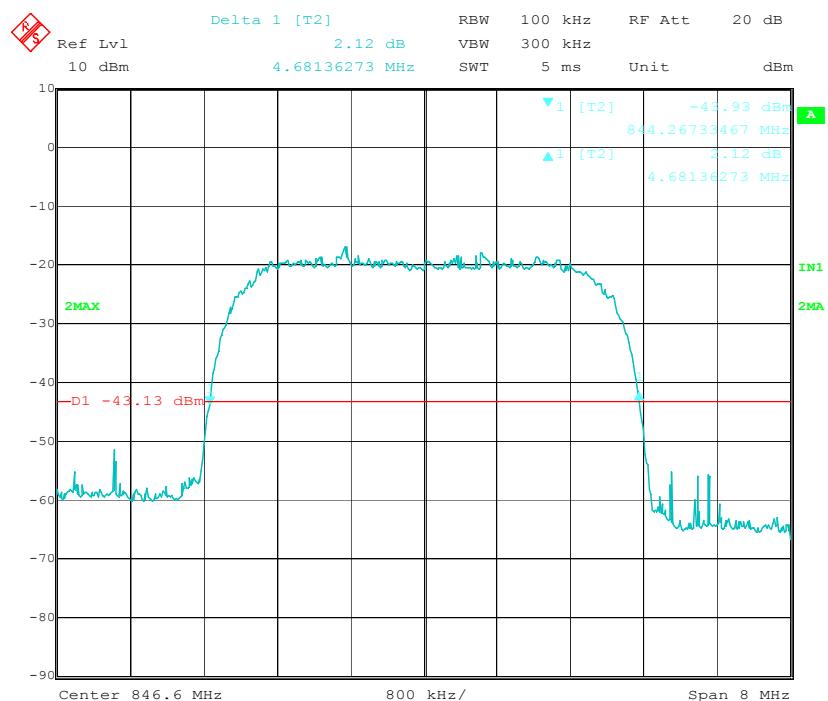
26dB Bandwidth – WCDMA850 Rel 99, Channel 4182, Mid Channel



99% Occupied Bandwidth – WCDMA850 Rel 99, Channel 4233, High Channel

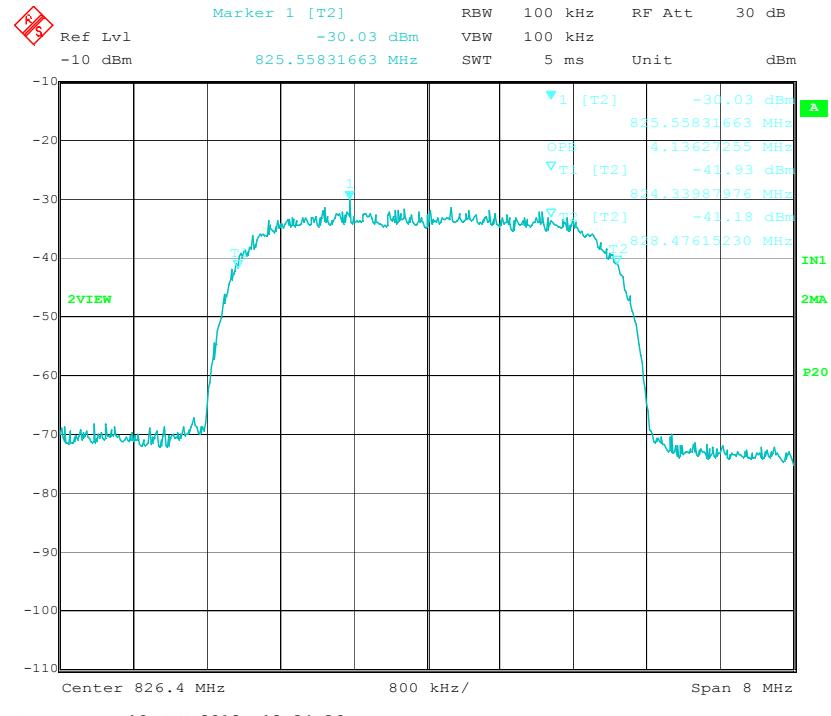


26dB Bandwidth – WCDMA850 Rel 99, Channel 4233, High Channel

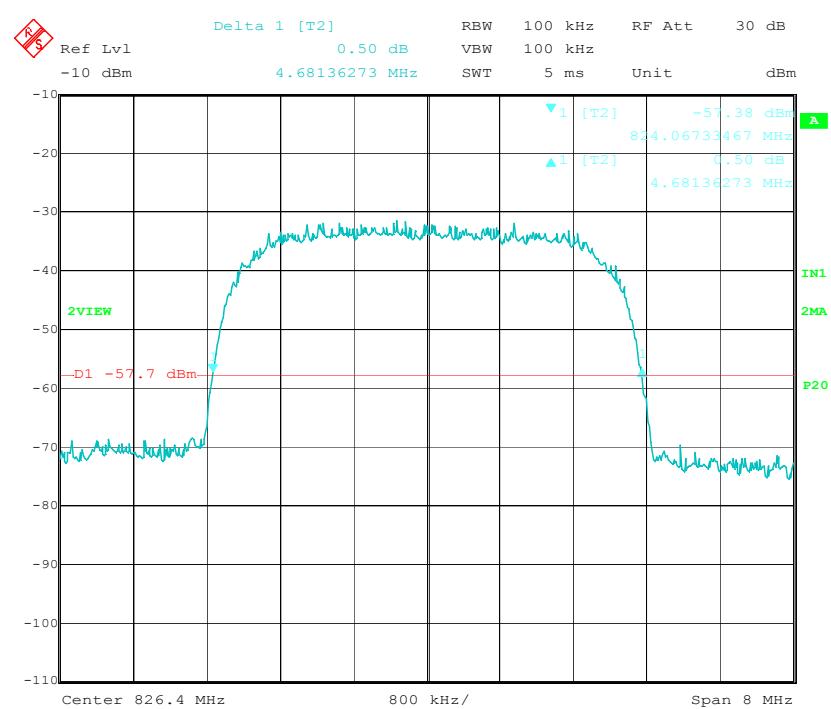




99% Occupied Bandwidth – WCDMA850 HSDPA, Channel 4132, Low Channel

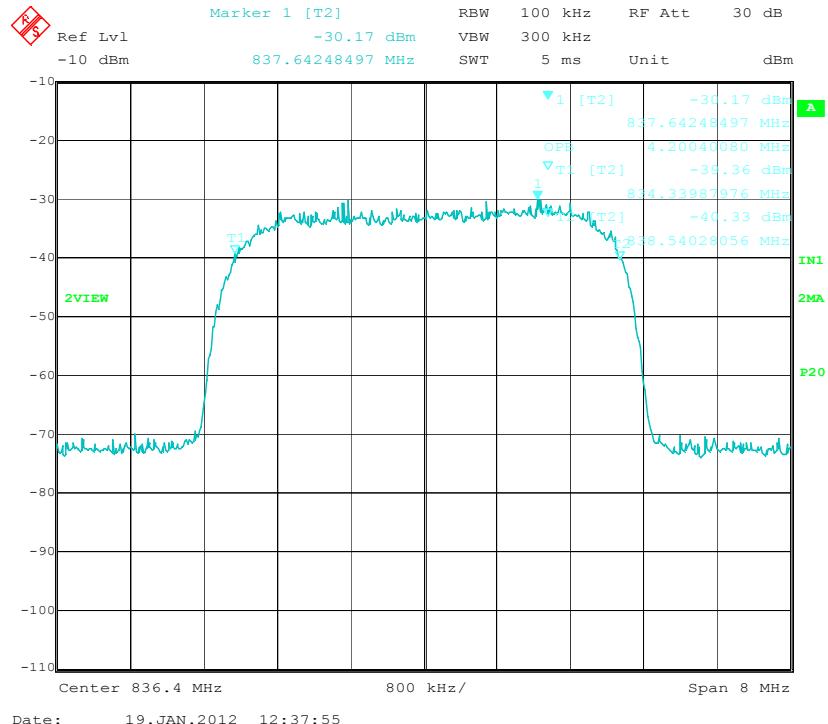


26dB Bandwidth - WCDMA850 HSDPA, Channel 4132, Low Channel

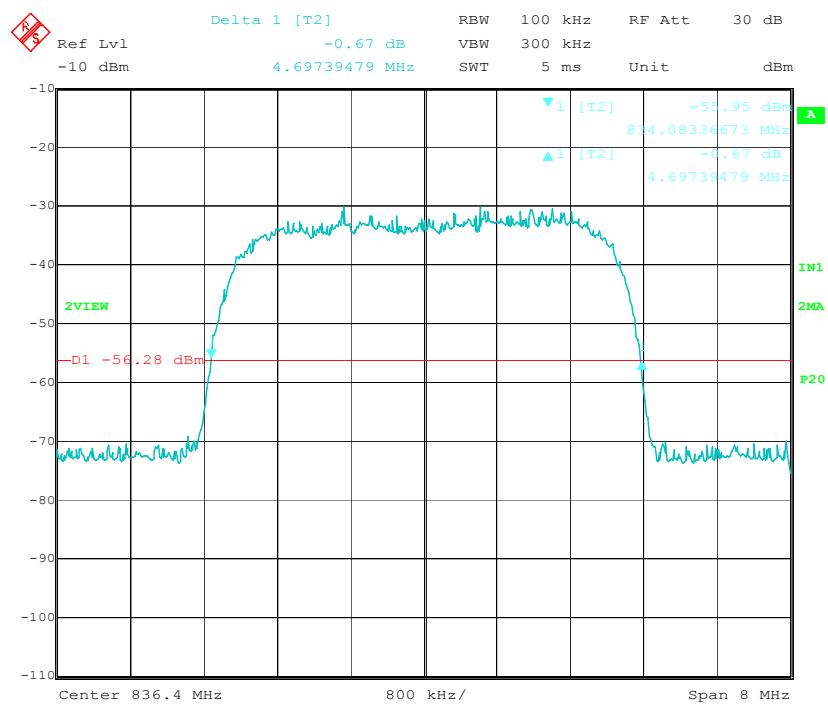




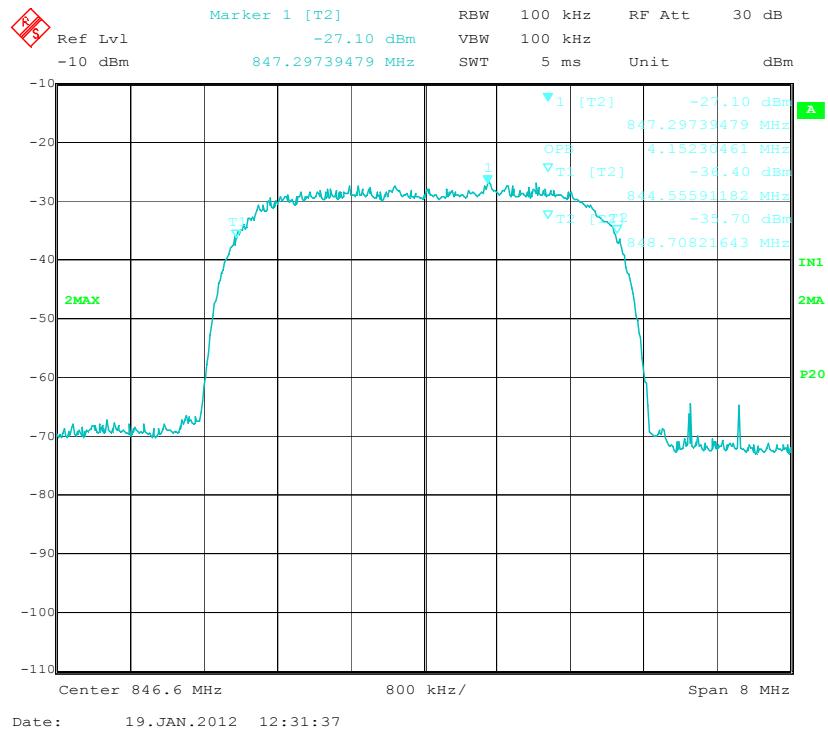
99% Occupied Bandwidth – WCDMA850 HSDPA, Channel 4182, Mid Channel



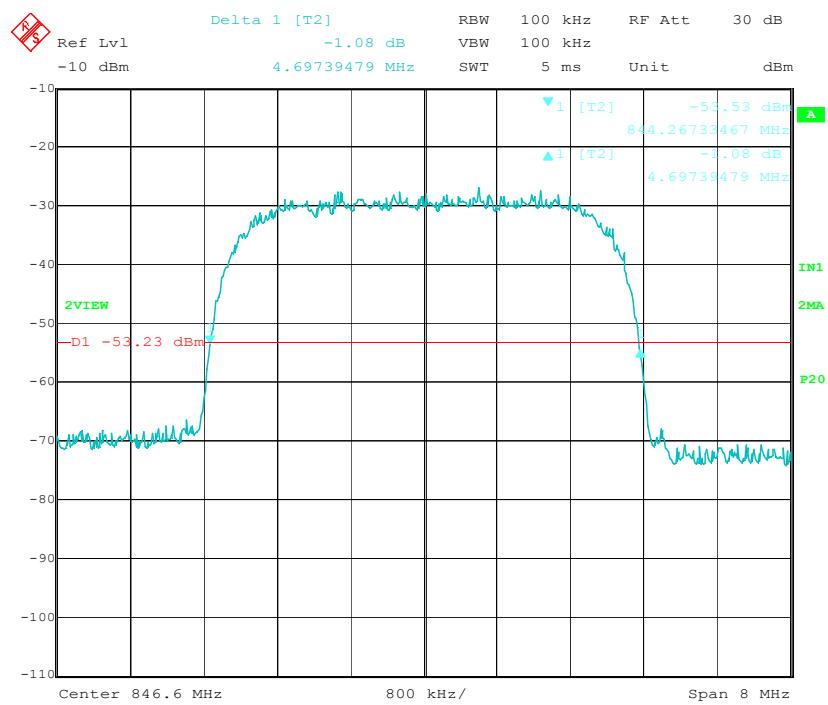
26dB Bandwidth – WCDMA850 HSDPA, Channel 4182, Mid Channel



99% Occupied Bandwidth – WCDMA850 HSDPA, Channel 4233, High Channel



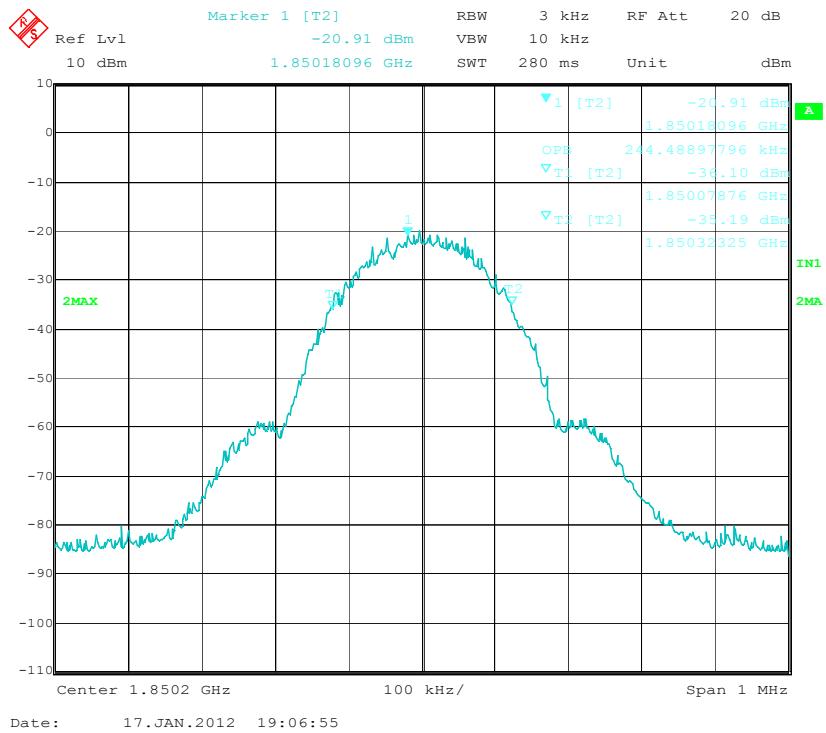
26dB Bandwidth – WCDMA850 HSDPA, Channel 4233, High Channel



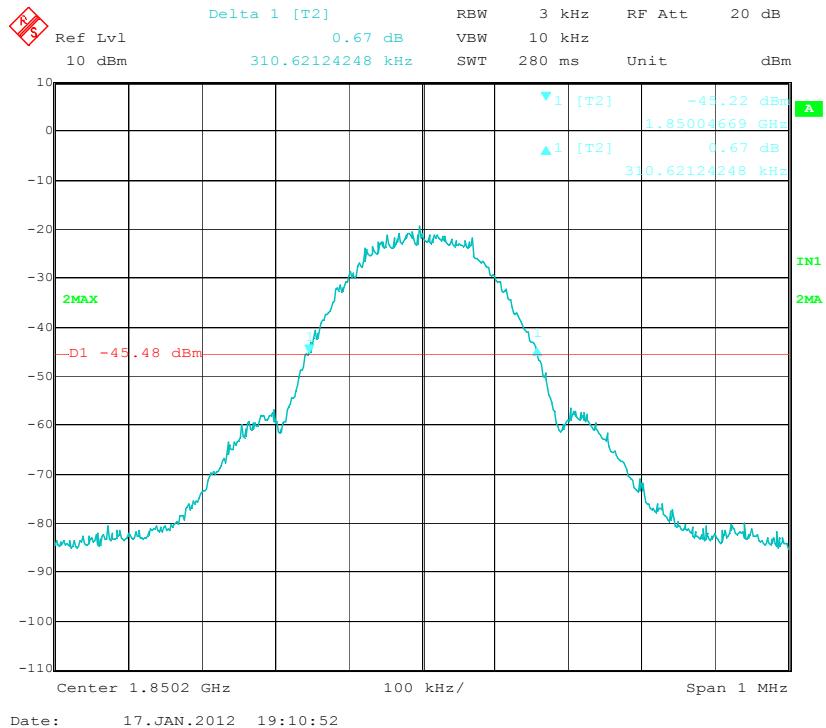


PCS Band Test Result

99% Occupied Bandwidth – GSM / GPRS1900, Channel 512, Low Channel

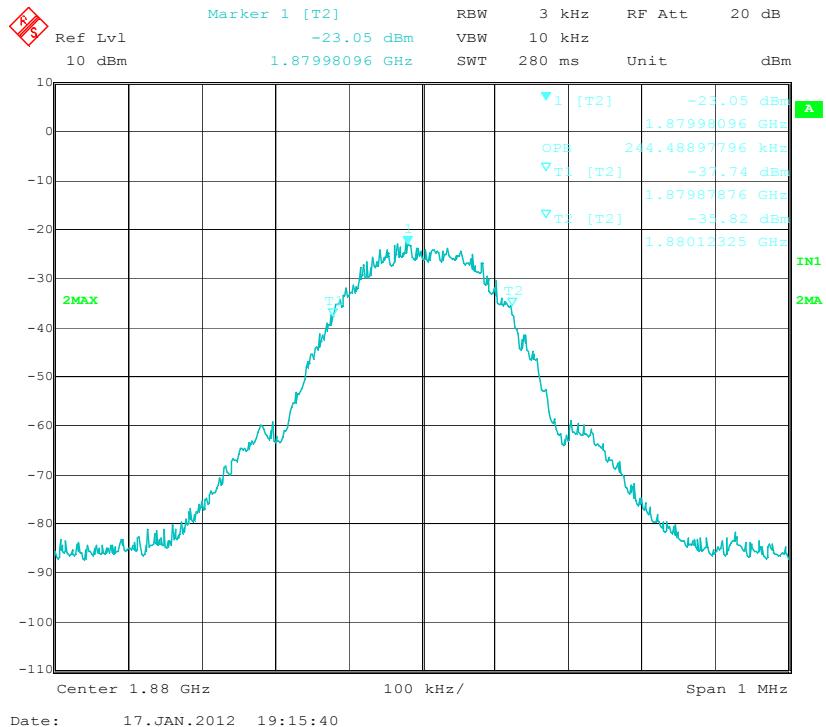


26dB Bandwidth – GSM / GPRS1900, Channel 512, Low Channel

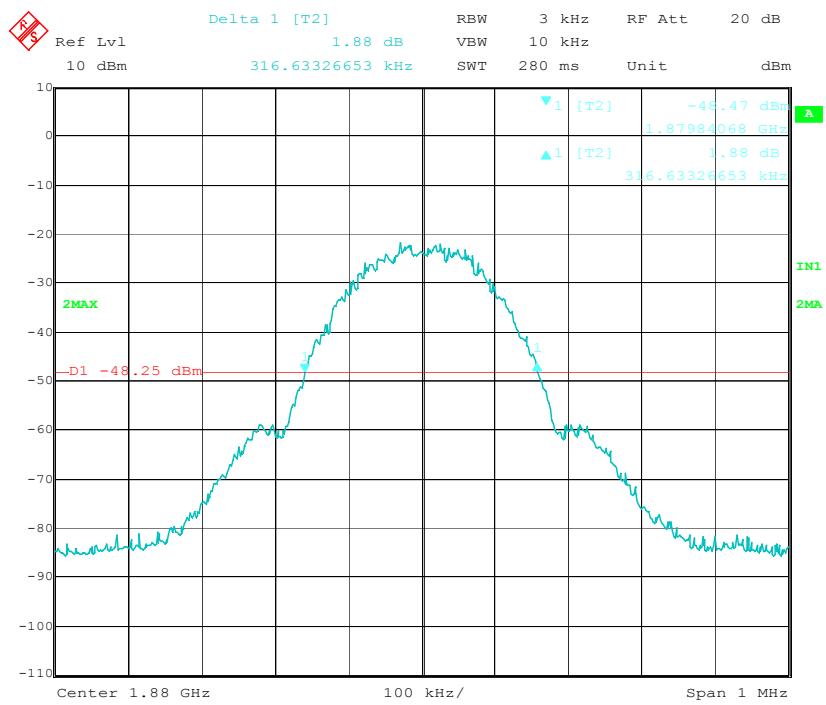




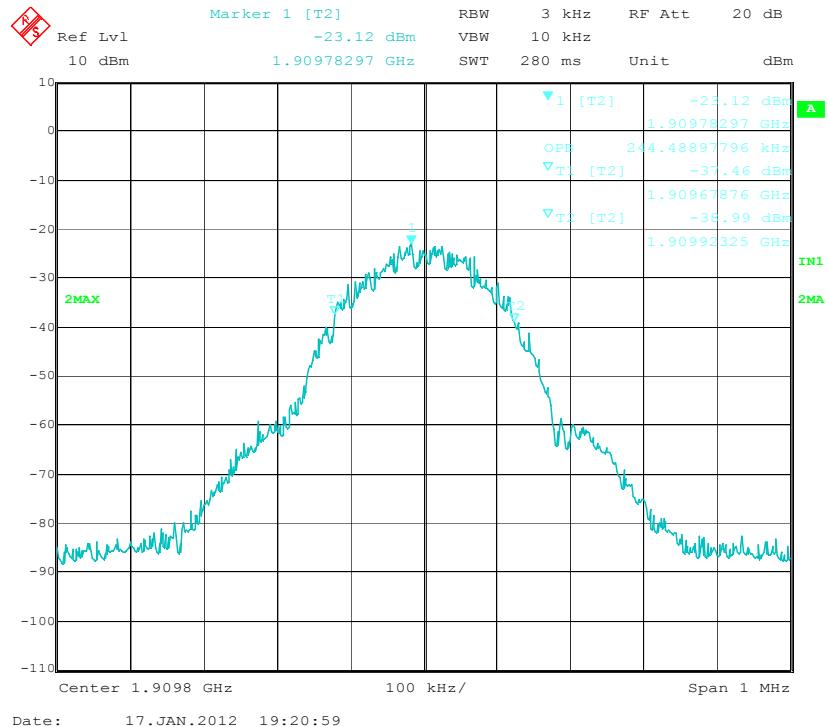
99% Occupied Bandwidth – GSM / GPRS1900, Channel 661, Mid Channel



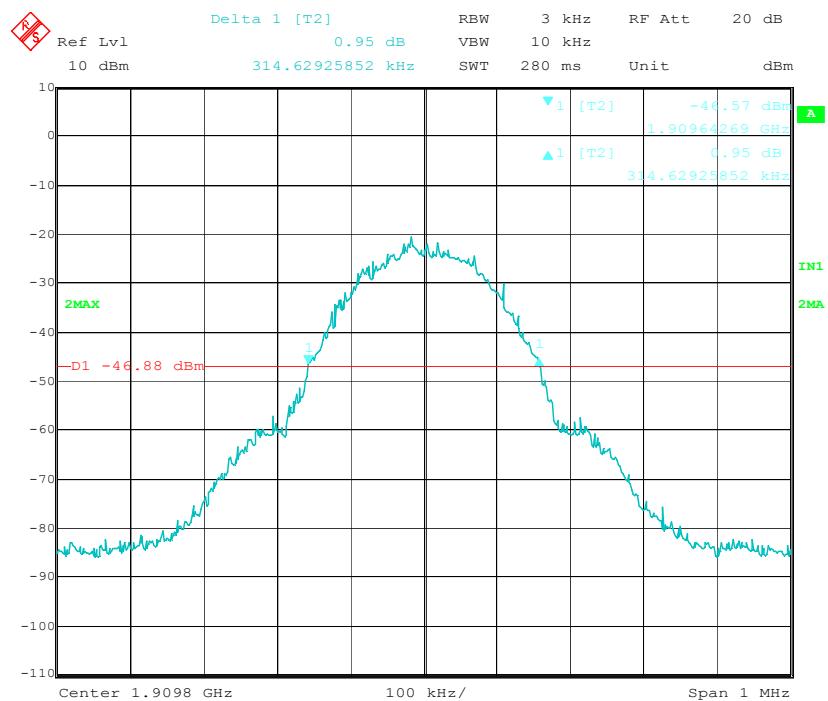
26dB Bandwidth – GSM / GPRS1900, Channel 661, Mid Channel



99% Occupied Bandwidth – GSM / GPRS1900, Channel 810, High Channel

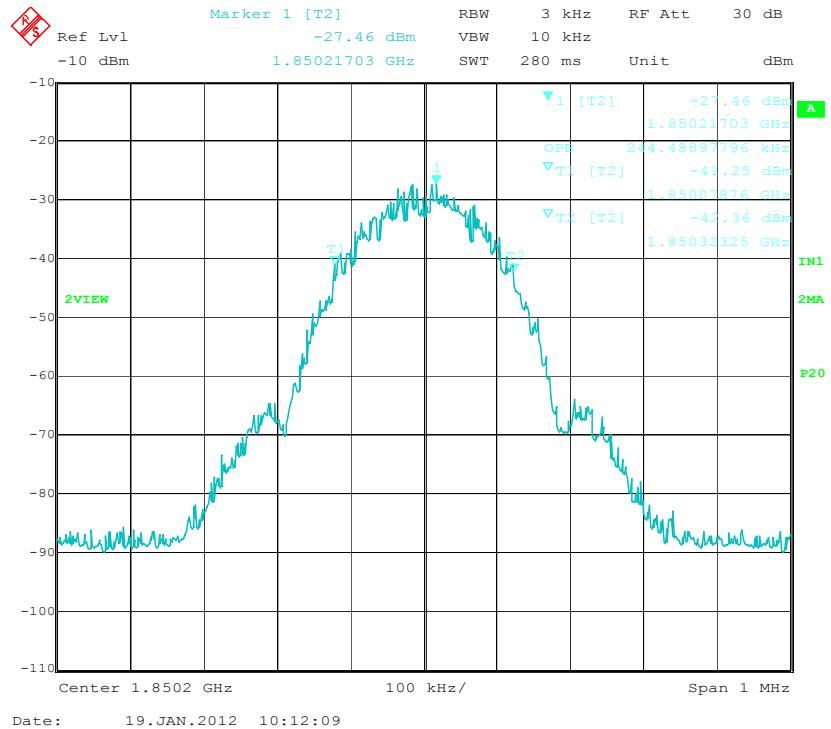


26dB Bandwidth – GSM / GPRS1900, Channel 810, High Channel

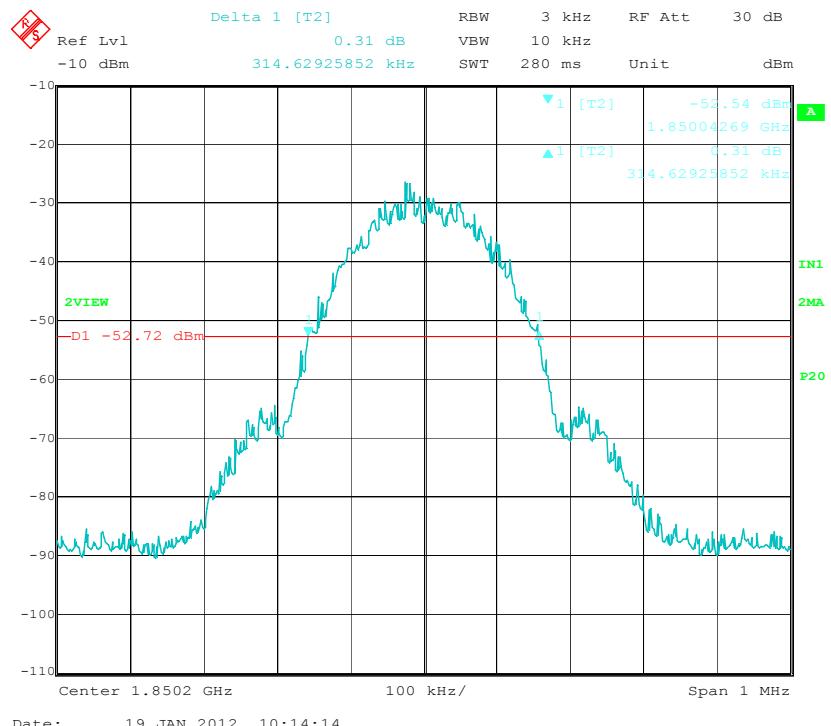




99% Occupied Bandwidth – GSM / EGPRS1900, Channel 512, Low Channel

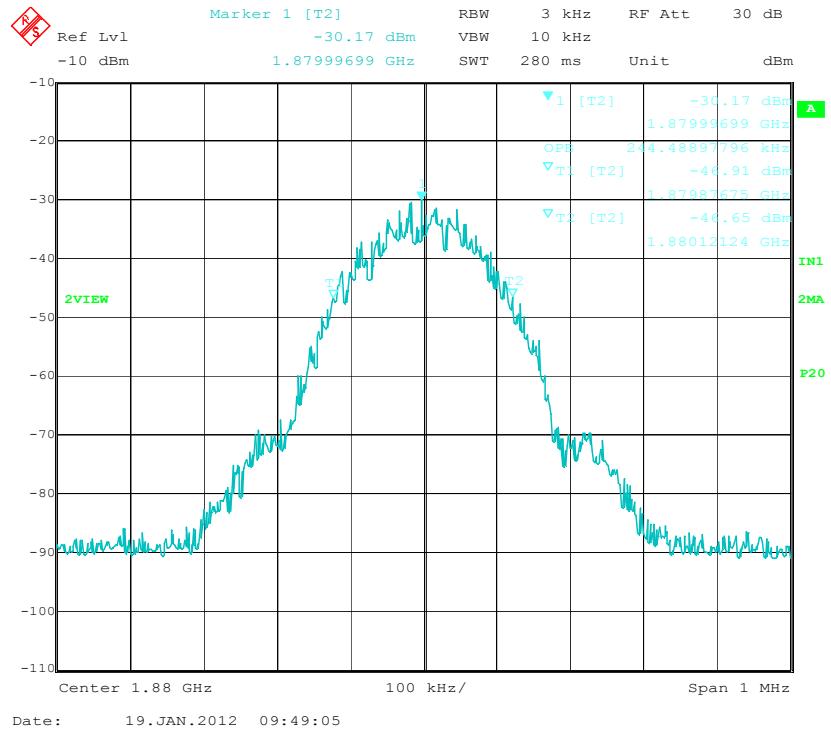


26dB Bandwidth – GSM / EGPRS1900, Channel 512, Low Channel

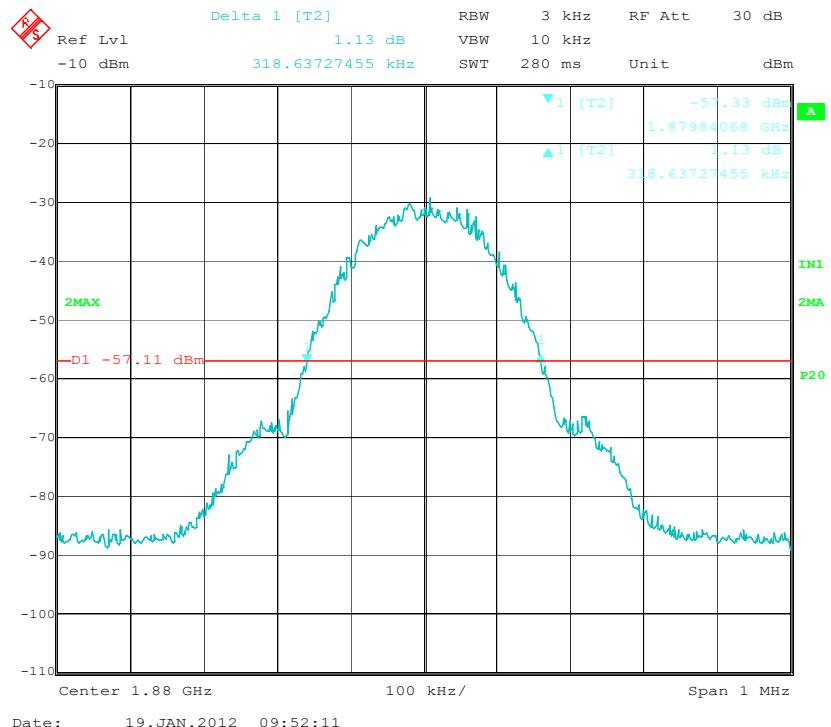




99% Occupied Bandwidth – GSM / EGPRS1900, Channel 661, Mid Channel

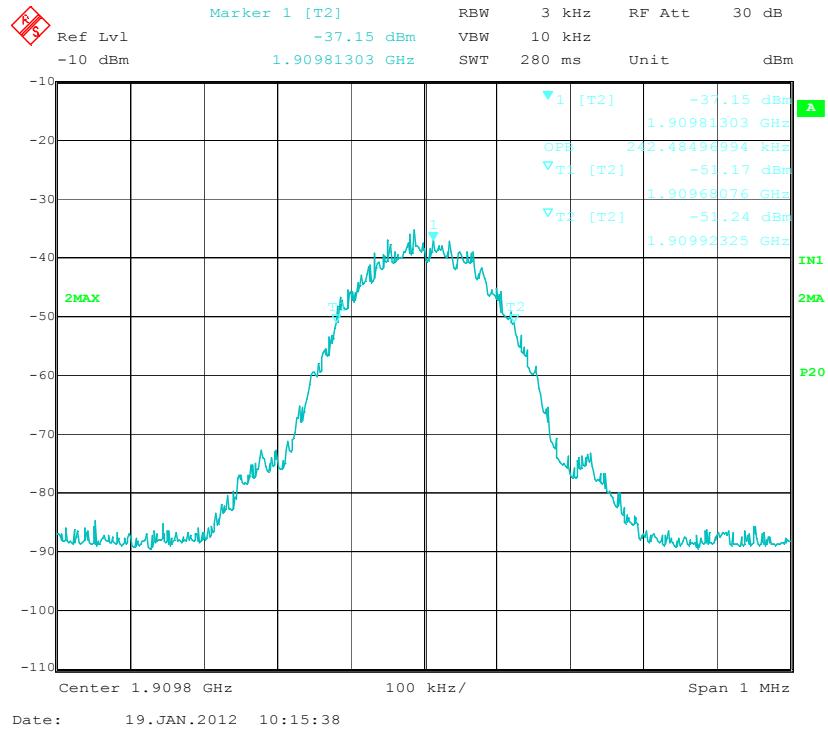


26dB Bandwidth – GSM / EGPRS1900, Channel 661, Mid Channel

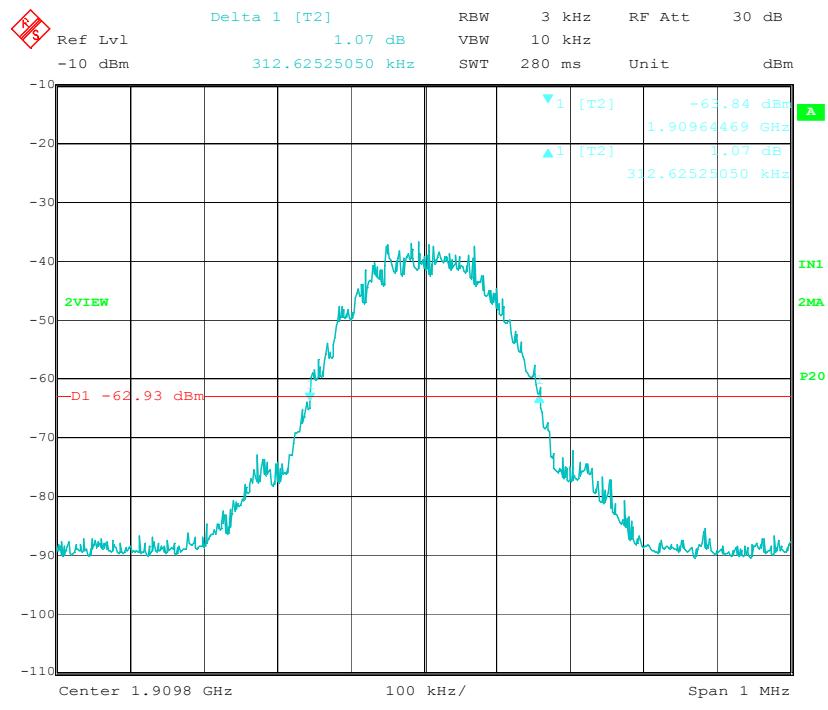




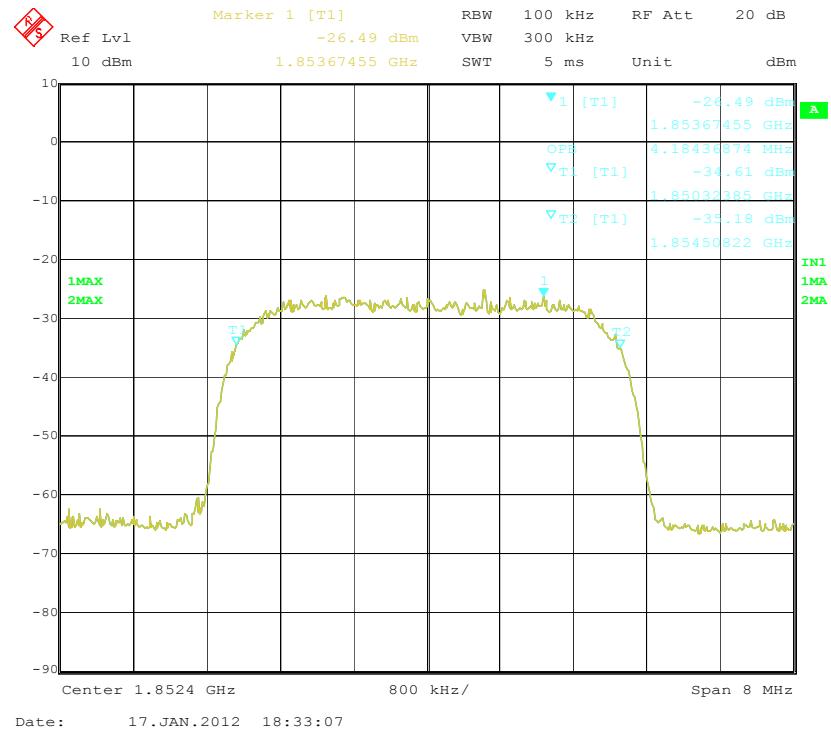
99% Occupied Bandwidth – GSM / EGPRS1900, Channel 810, High Channel



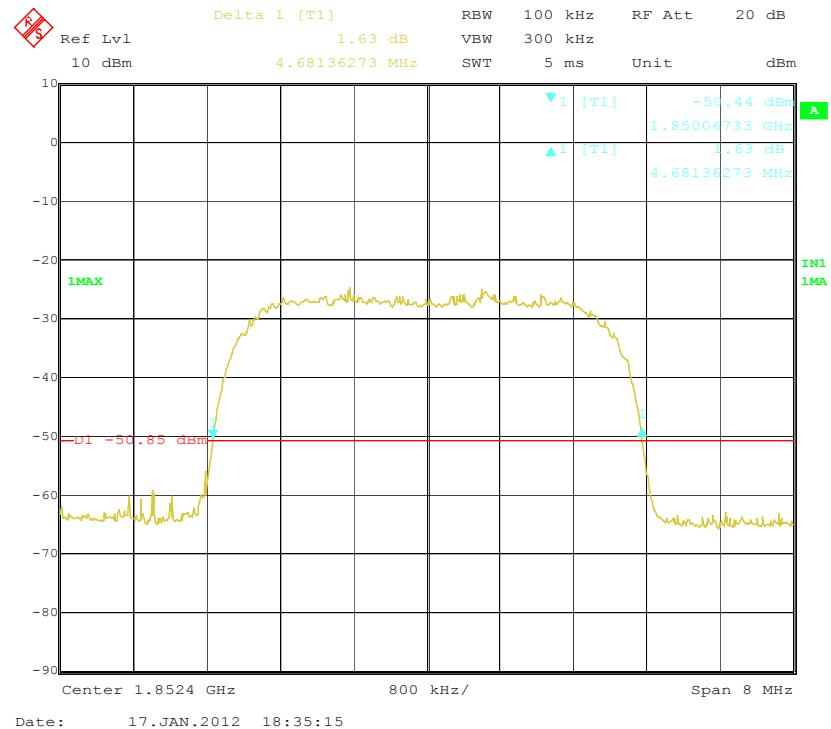
26dB Bandwidth – EGPRS1900, Channel 810, High Channel



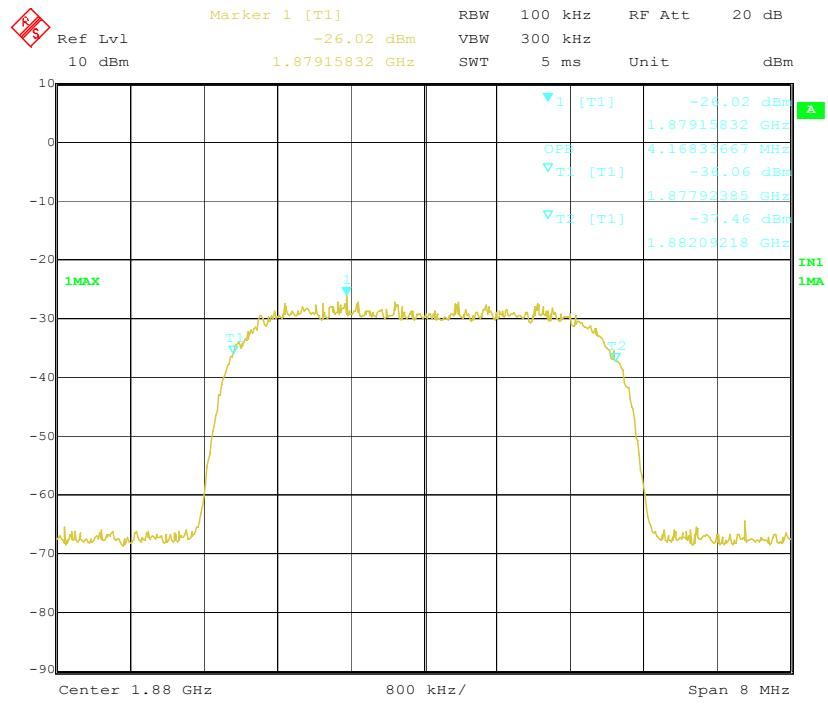
99% Occupied Bandwidth – WCDMA1900 Rel 99, Channel 9262, Low Channel



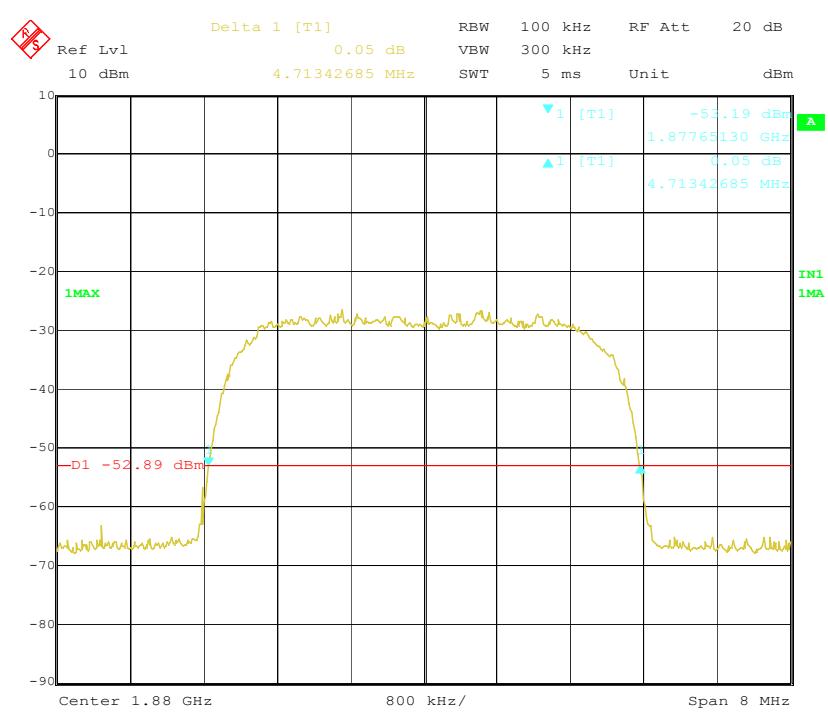
26dB Bandwidth – WCDMA1900 Rel 99, Channel 9262, Low Channel



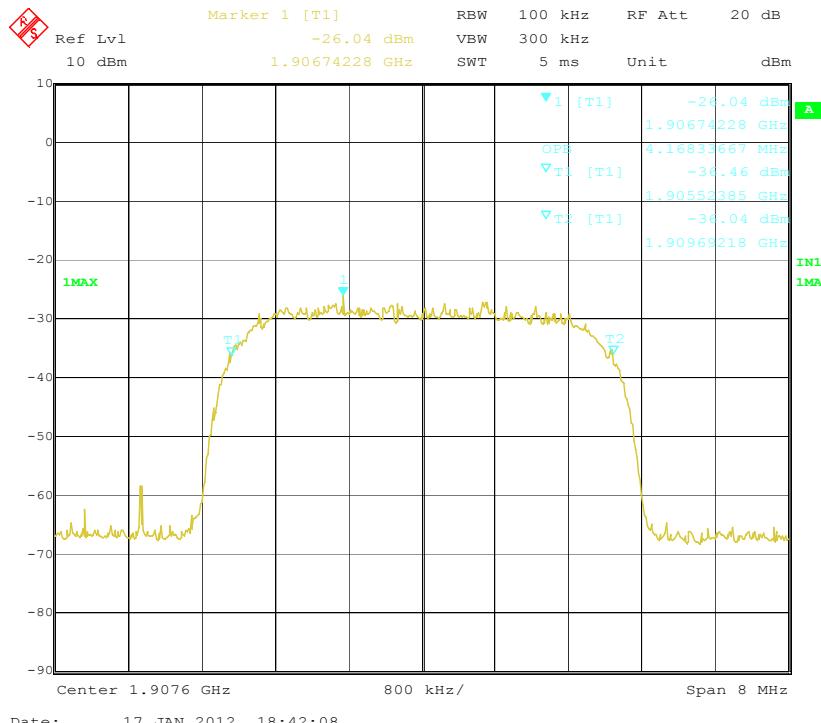
99% Occupied Bandwidth – WCDMA1900 Rel 99, Channel 9400 Mid Channel



26dB Bandwidth – WCDMA1900 Rel 99, Channel 9400 Mid Channel

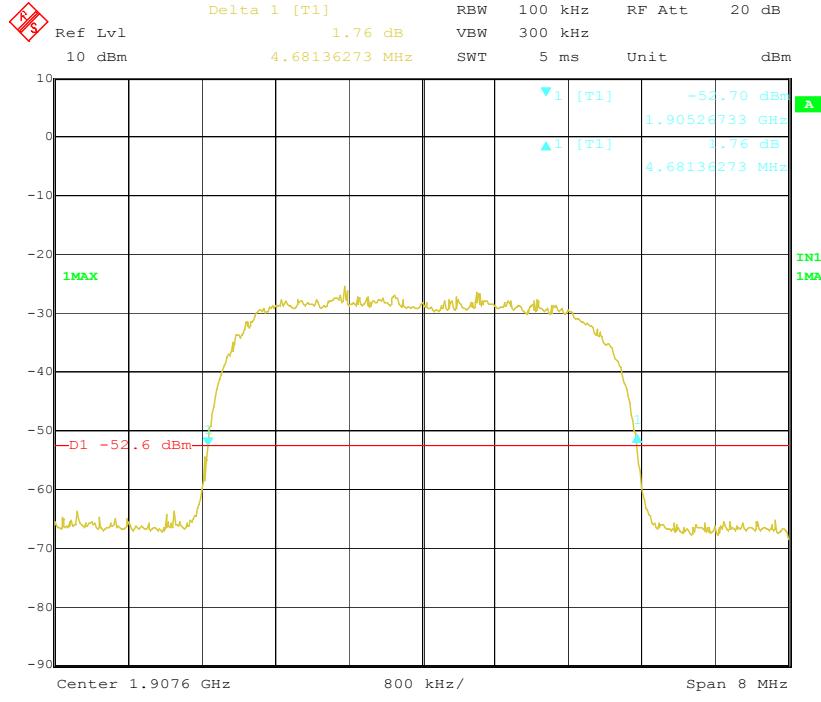


99% Occupied Bandwidth – WCDMA1900 Rel 99, Channel 9538, High Channel



Date: 17.JAN.2012 18:42:08

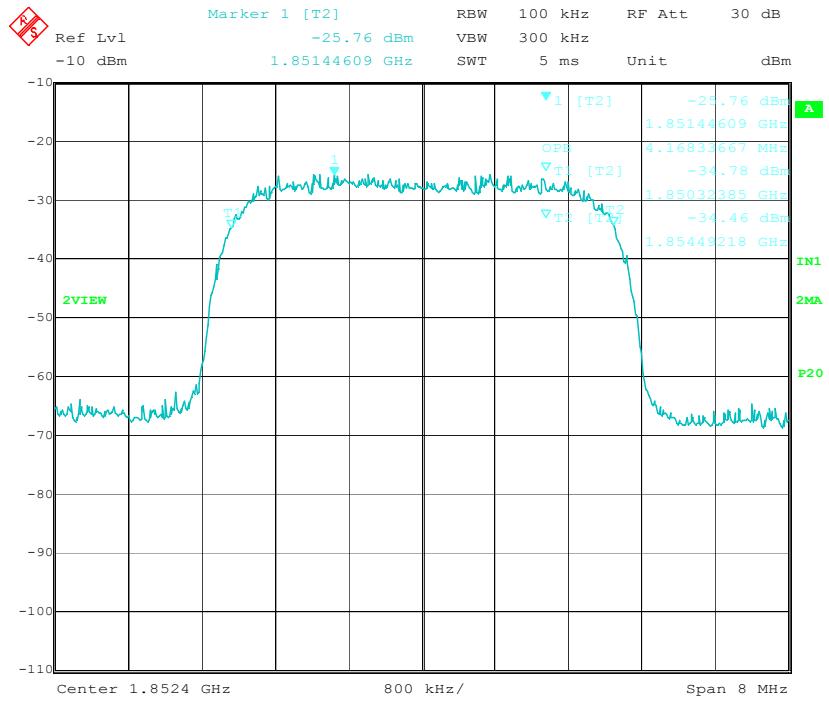
26dB Bandwidth – WCDMA1900 Rel 99, Channel 9538, High Channel



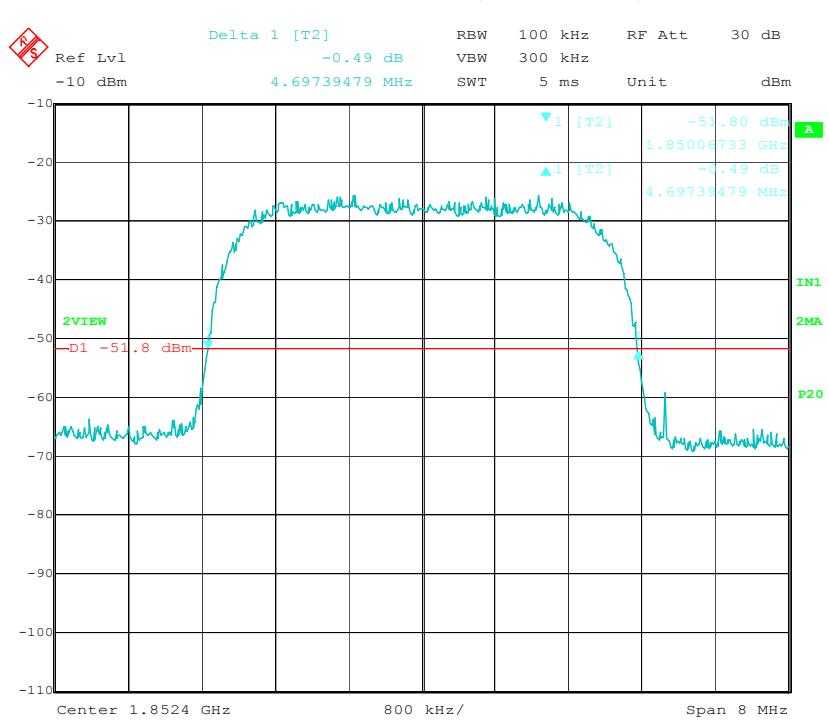
Date: 17.JAN.2012 18:43:30



99% Occupied Bandwidth – WCDMA1900 HSDPA, Channel 9262, Low Channel

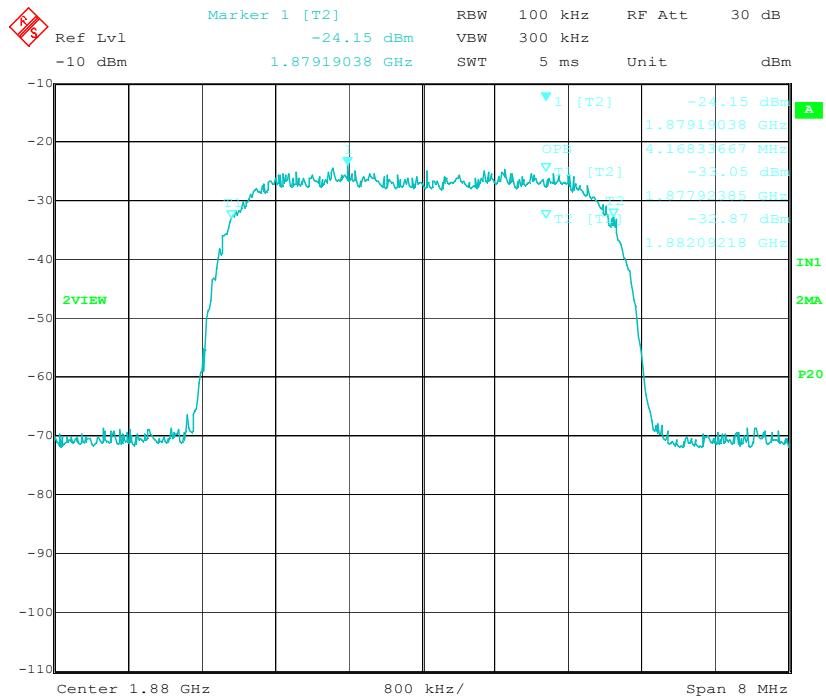


26dB Bandwidth – WCDMA1900 HSDPA, Channel 9262, Low Channel



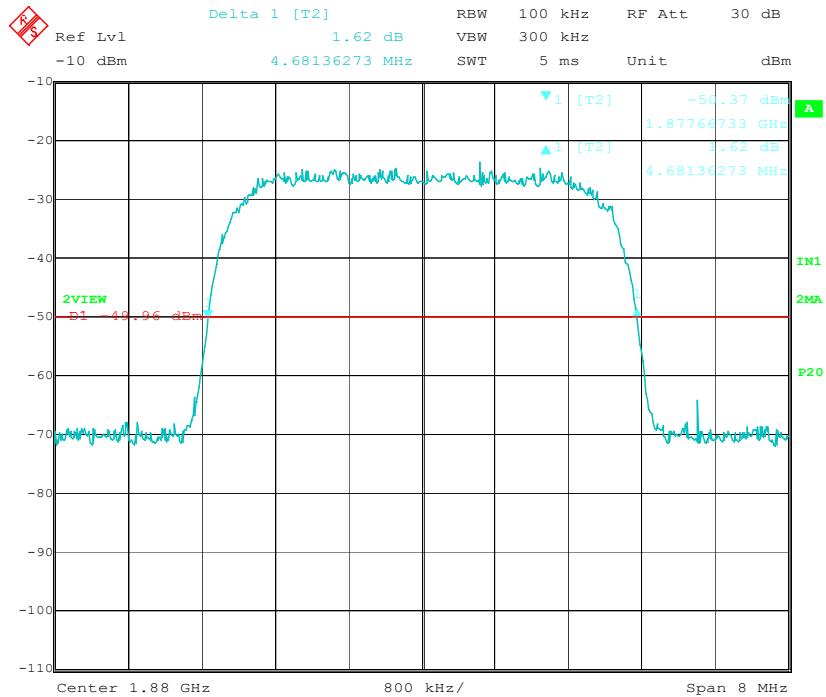


99% Occupied Bandwidth – WCDMA1900 HSDPA, Channel 9400, Mid Channel



Date: 19.JAN.2012 12:52:42

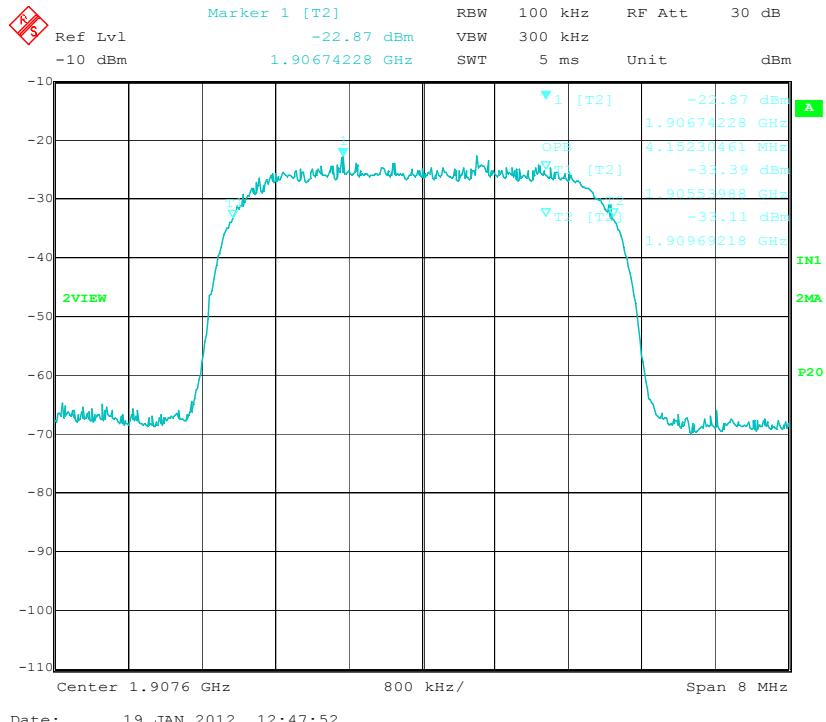
26dB Bandwidth – WCDMA1900 HSDPA, Channel 9400, Mid Channel



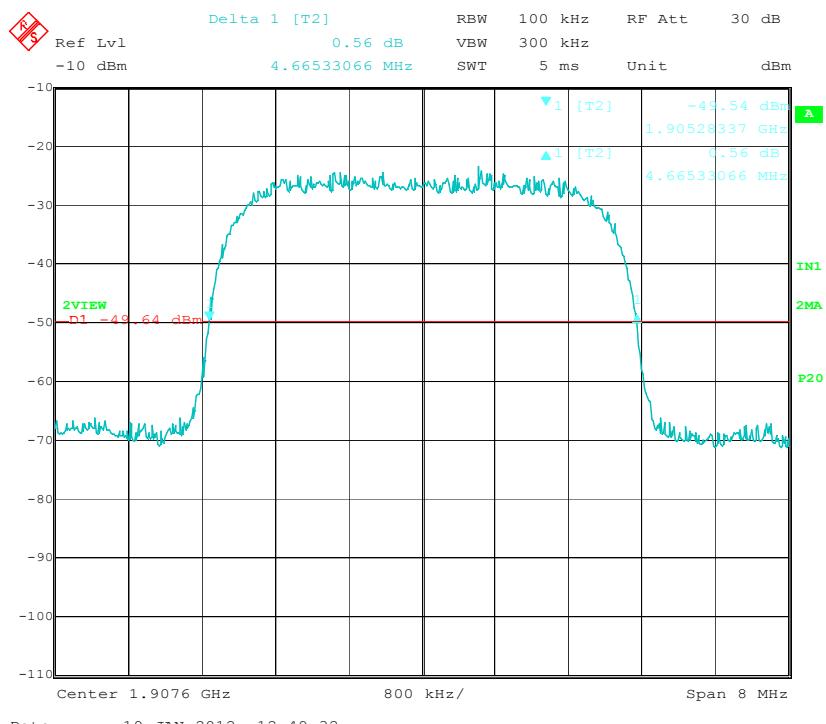
Date: 19.JAN.2012 12:52:16



99% Occupied Bandwidth – WCDMA1900 HSDPA, Channel 9538, High Channel



26dB Bandwidth – WCDMA1900 HSDPA, Channel 9538, High Channel



5.3 Band Edge Test Result

1. Conducted Measurement
EUT was set for low , mid, high channel with modulated mode and highest RF output power.
The spectrum analyzer was connected to the antenna terminal.
2. Conducted Emissions Measurement Uncertainty
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is ± 1.5 dB.
3. Environmental Conditions

Temperature	23°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
4. Test Date : Jan 9 - 19 2012
Tested By :Dan Corona

Standard Requirement: 47 CFR § 22.917(a), § 24.238(a), RSS-132 (4.5.1), RSS-133 (6.5.1).

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.

Procedures:

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The Band Edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly BW/100.

Test Result: Pass

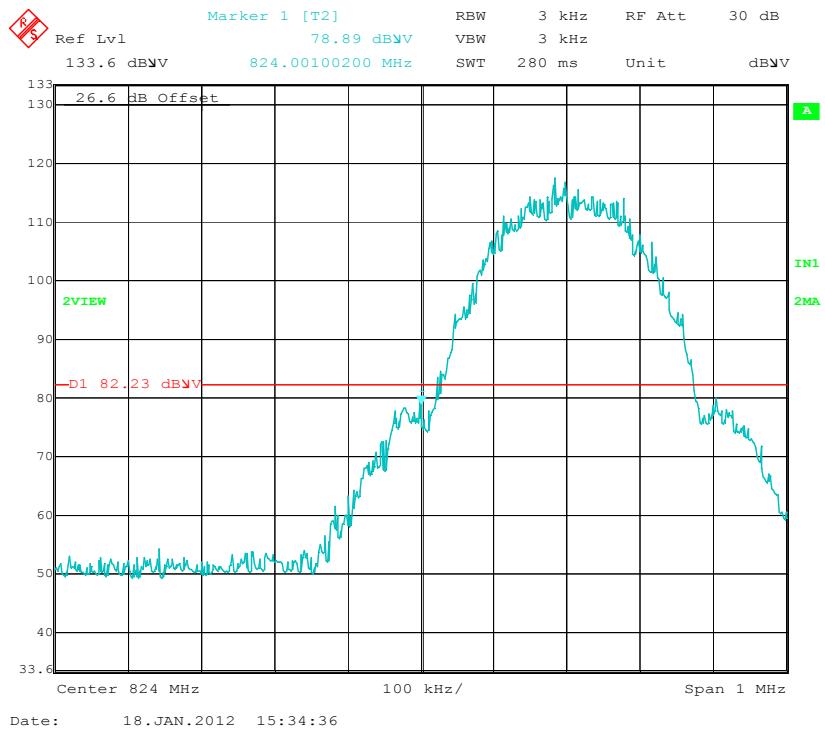
Refer to the attached plots.

Remarks: Limit: -13dBm = 82.23 dBuV/m

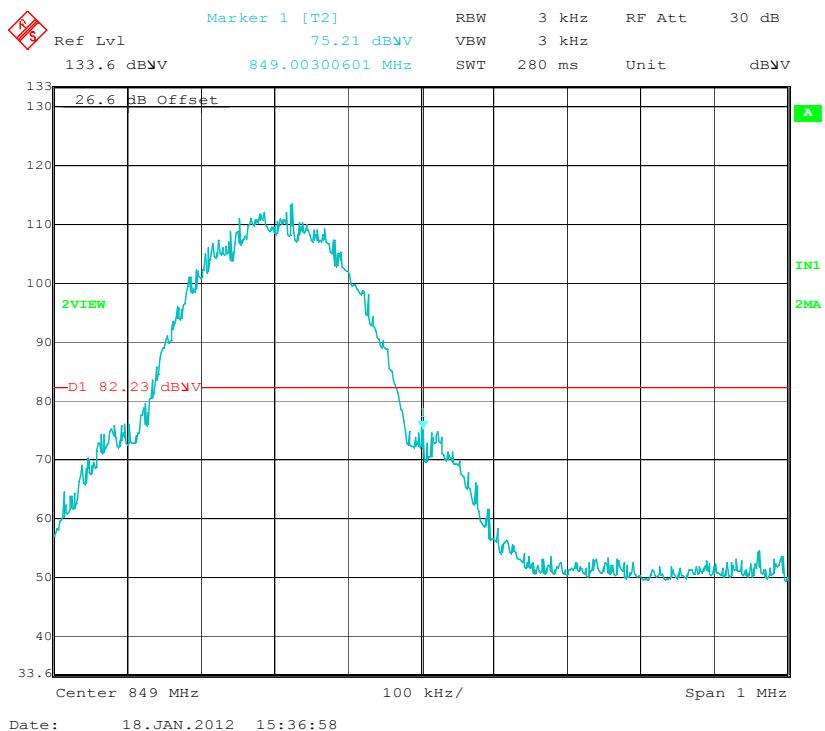


Cellular Band Test Result

Lower Band Edge Plot – GSM / GPRS850, Channel 128, Low Channel

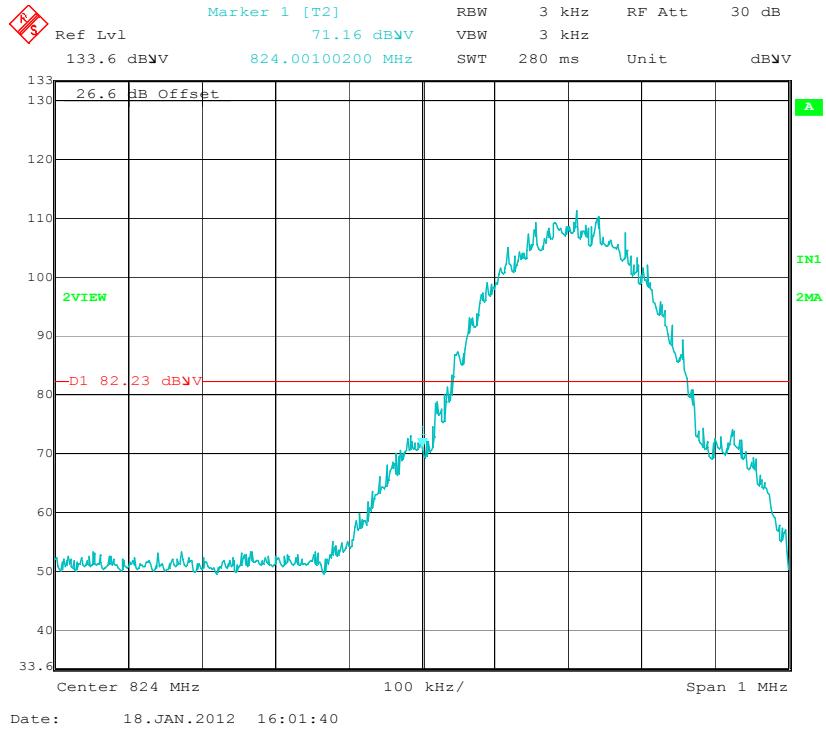


Higher Band Edge Plot – GSM / GPRS850, Channel 251, High Channel

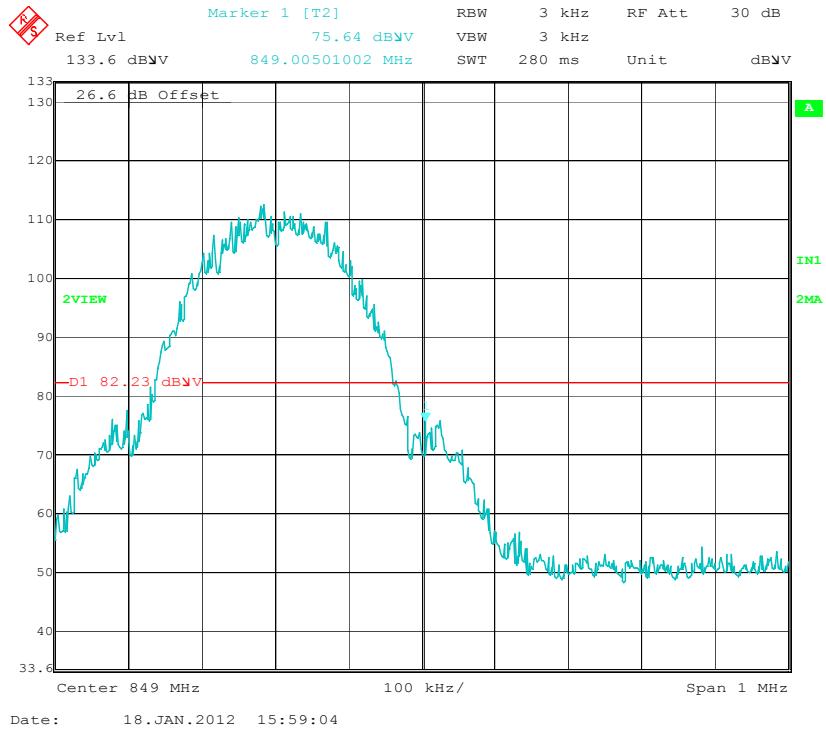




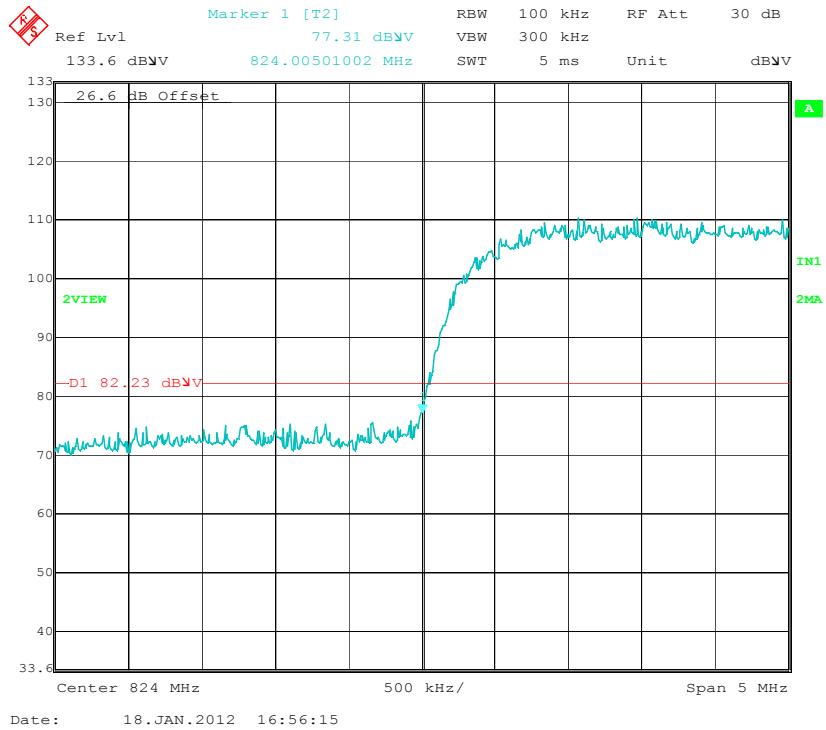
Lower Band Edge Plot – GSM / EGPRS850, Channel 128, Low Channel



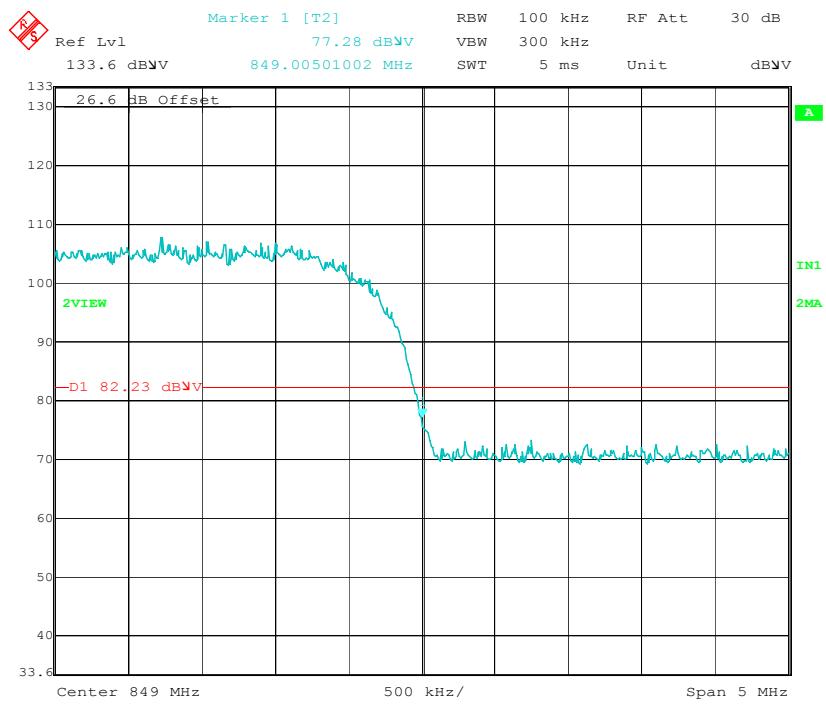
Higher Band Edge Plot – GSM / EGPRS850, Channel 128, High Channel



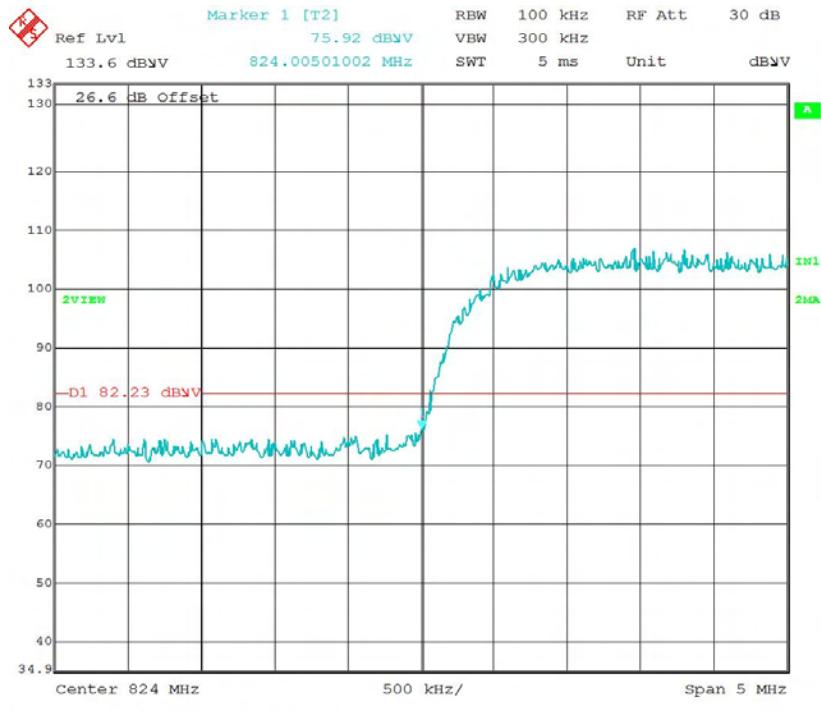
Lower Band Edge Plot – WCDMA850 HSDPA, Channel 4132, Low Channel



Higher Band Edge Plot – WCDMA850 HSDPA, Channel 4233, High Channel

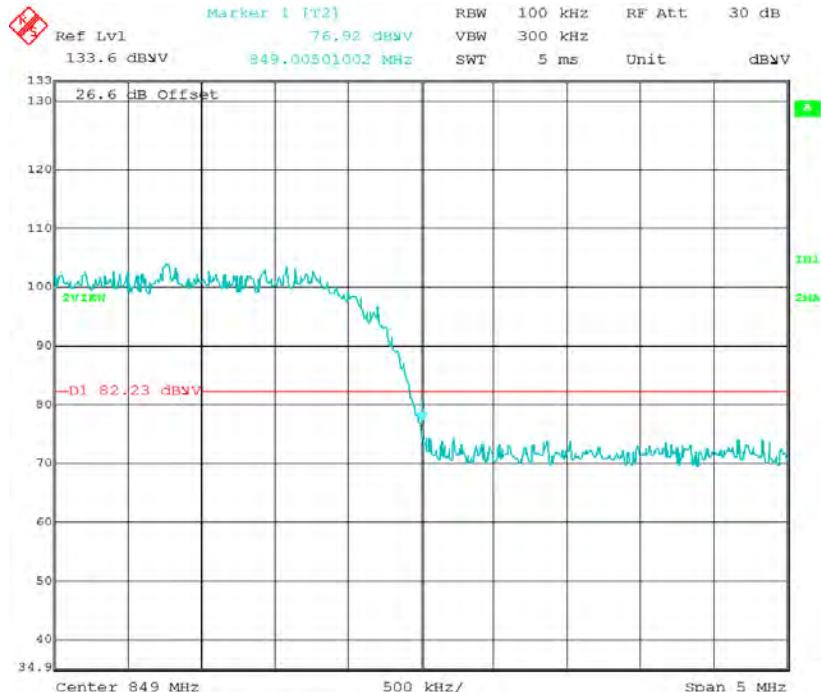


Lower Band Edge Plot – WCDMA850 Rel 99, Channel 4132, Low Channel



Date: 18.JAN.2012 17:44:39

Higher Band Edge Plot – WCDMA850 Rel 99, Channel 4233, High Channel

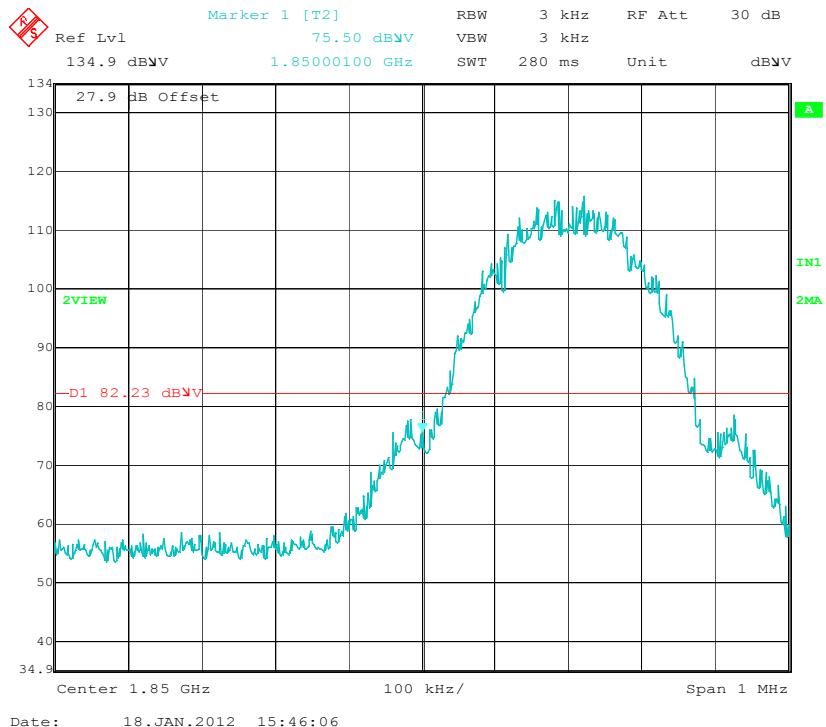


Date: 18.JAN.2012 17:46:25

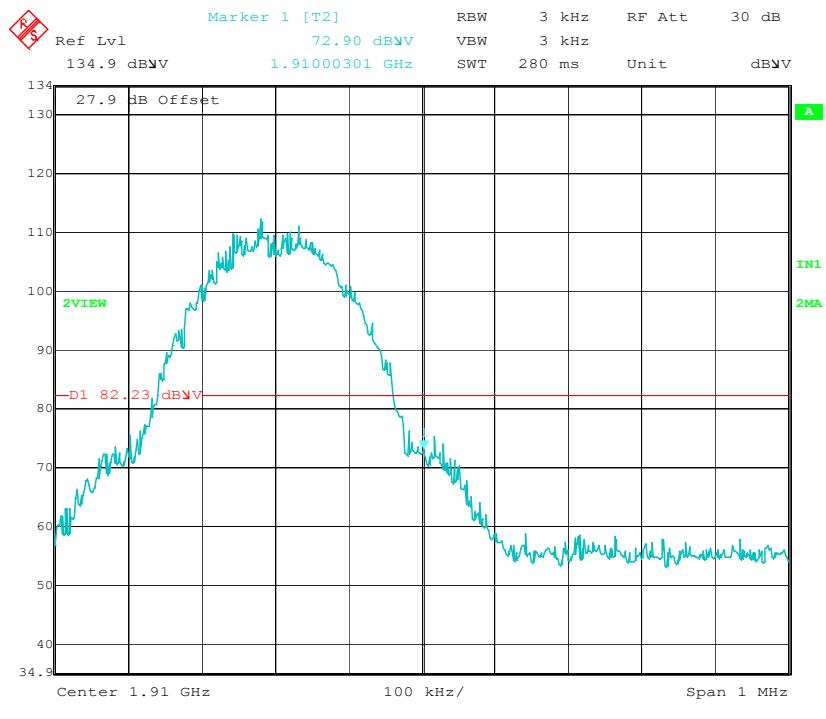


PCS Band Test Result

Lower Band Edge Plot – GSM / GPRS1900, Channel 512, Low Channel

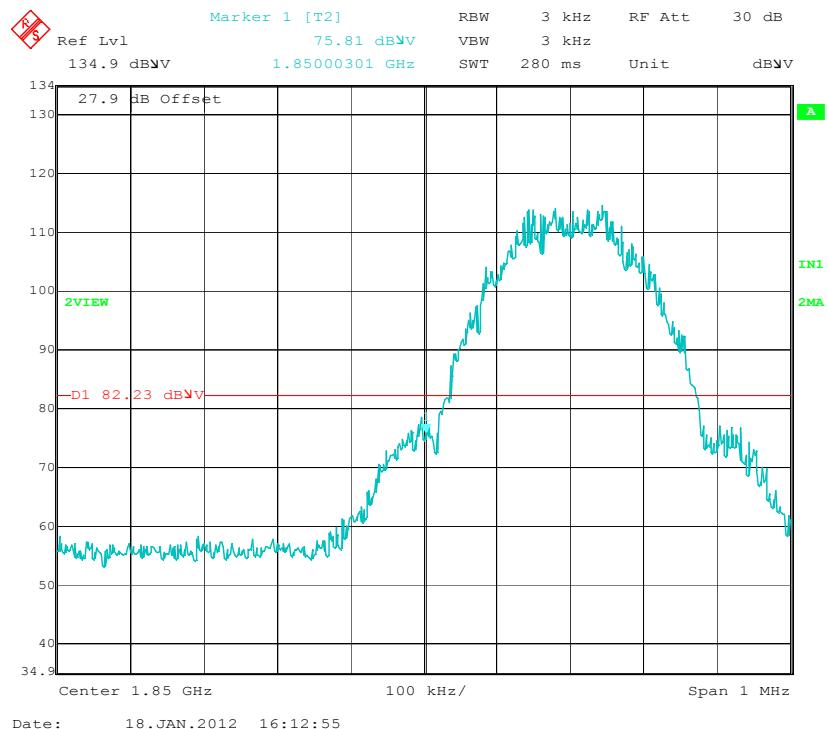


Higher Band Edge Plot – GSM / GPRS1900, Channel 810, High Channel

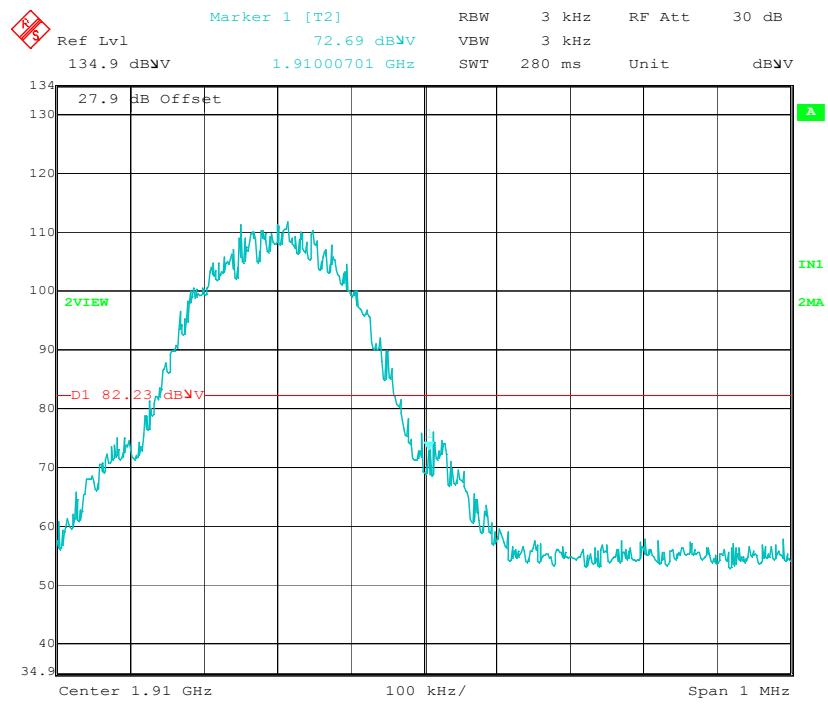




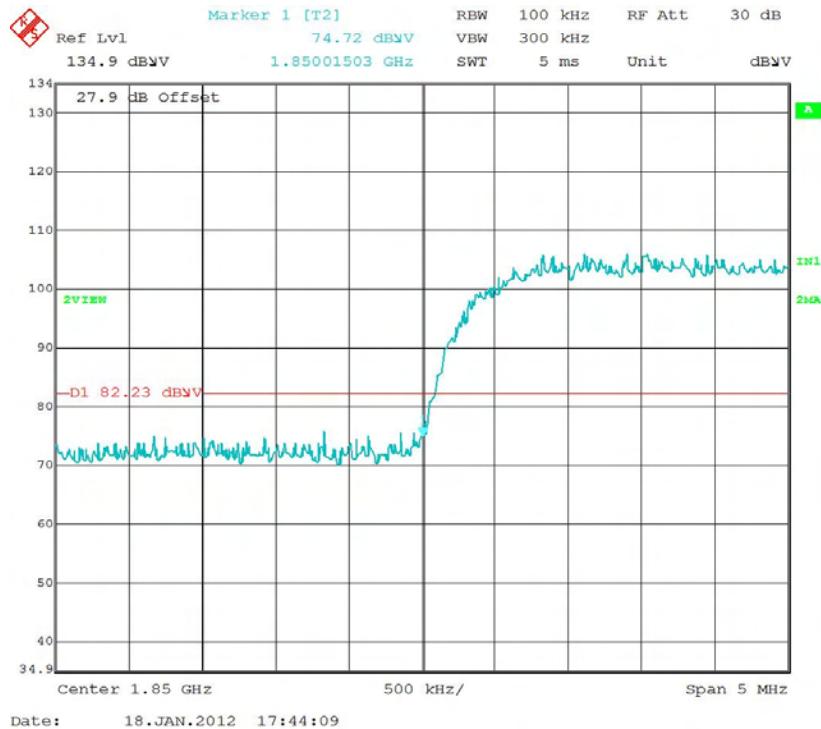
Lower Band Edge Plot –GSM / EGPRS1900, Channel 512, Low Channel



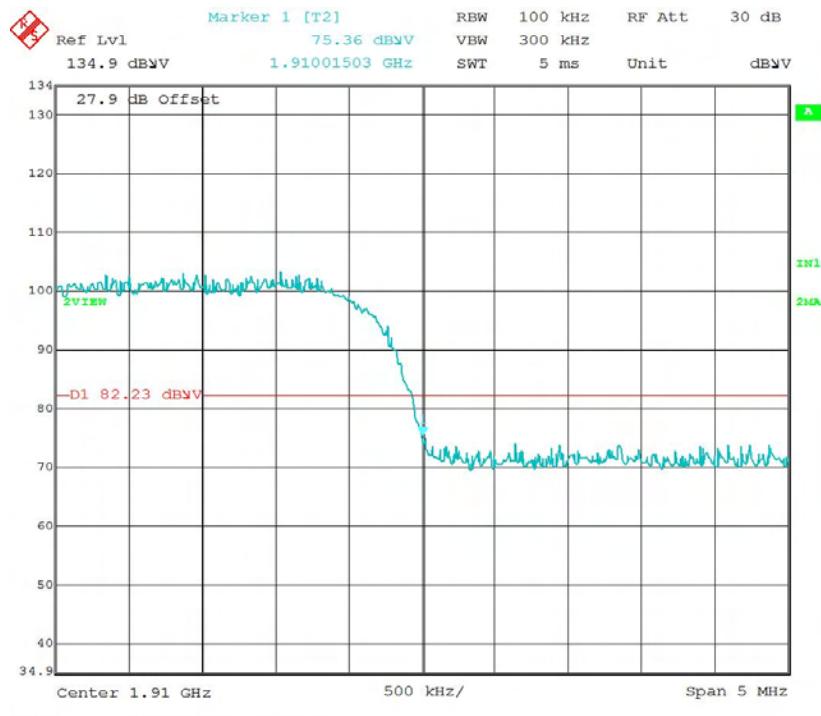
Higher Band Edge Plot – GSM / EGPRS1900, Channel 810, High Channel



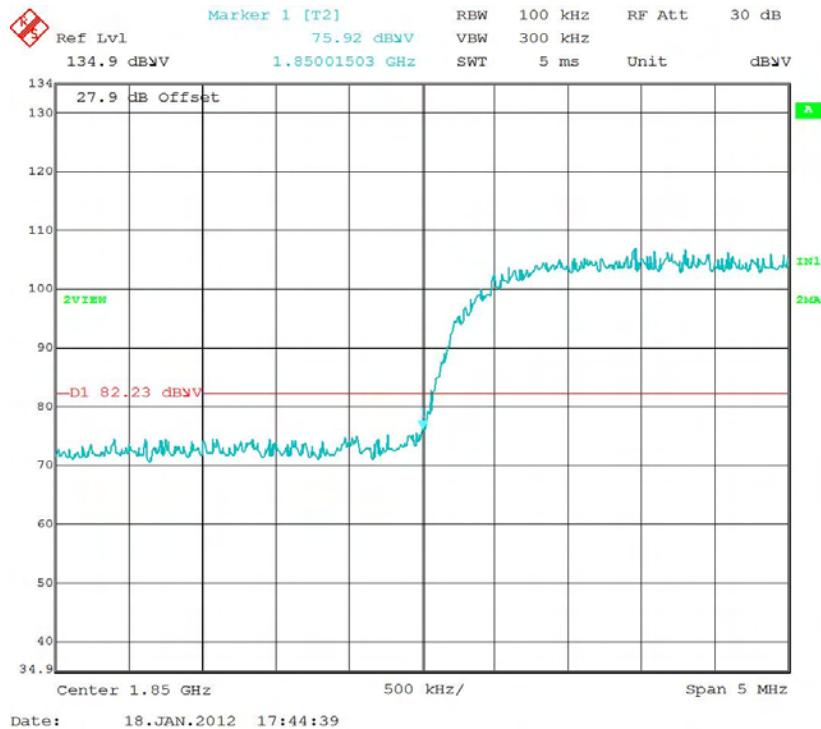
Lower Band Edge Plot – WCDMA1900 HSDPA, Channel 9262, Low Channel



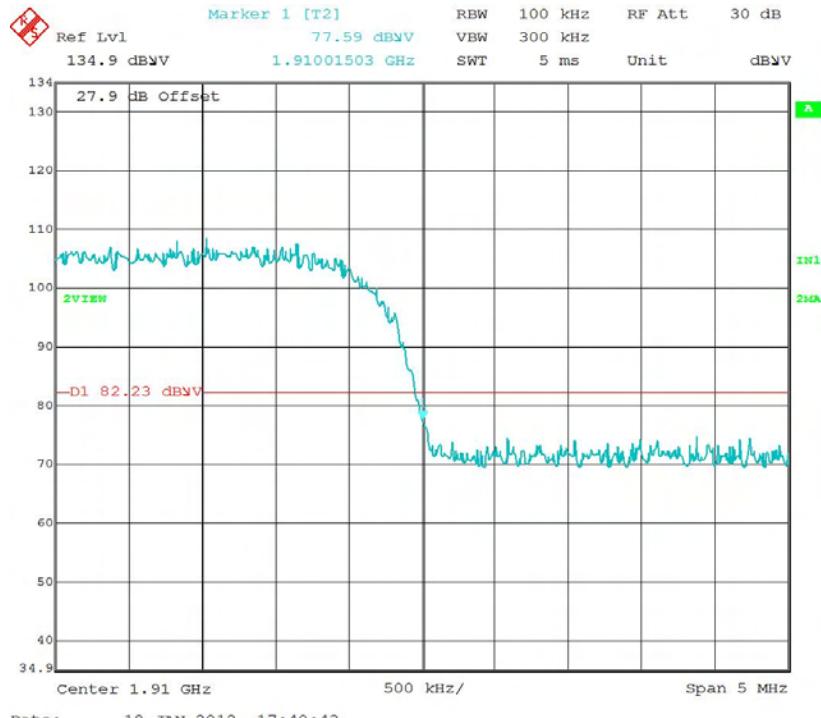
Higher Band Edge Plot – WCDMA1900 HSDPA, Channel 9538, High Channel



Lower Band Edge Plot – WCDMA1900 Rel 99, Channel 9262, Low Channel



Higher Band Edge Plot – WCDMA1900 Rel 99, Channel 9538, High Channel



5.4 Radiated Spurious Emissions

1. All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR detectors, are reported. All other emissions were relatively insignificant.
2. A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
3. Radiated Emissions Measurement Uncertainty
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 1GHz – 40GHz is +6.0dB (for EUTs < 0.5m X 0.5m X 0.5m).
4. Environmental Conditions
Temperature 23°C
Relative Humidity 50%
Atmospheric Pressure 1019mbar

Test Date : Jan 9 - 19 2012

Tested By :Dan Corona

Standard Requirement: 47 CFR § 22.917(a), § 24.238(a), RSS-132 (4.5.1), RSS-133 (6.5.1).

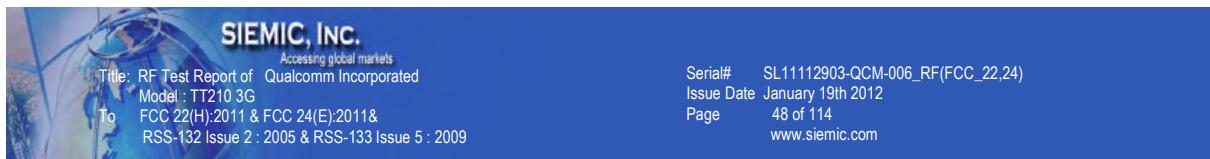
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

Procedures: Equipment was setup in a semi-anechoic chamber. For measurements above 1 GHz an average measurement was taken with a 10Hz video bandwidth. The EUT was tested at low, mid and high with the highest output power. An emission was scan up to 10th harmonic of the operating frequency.

Sample Calculation:

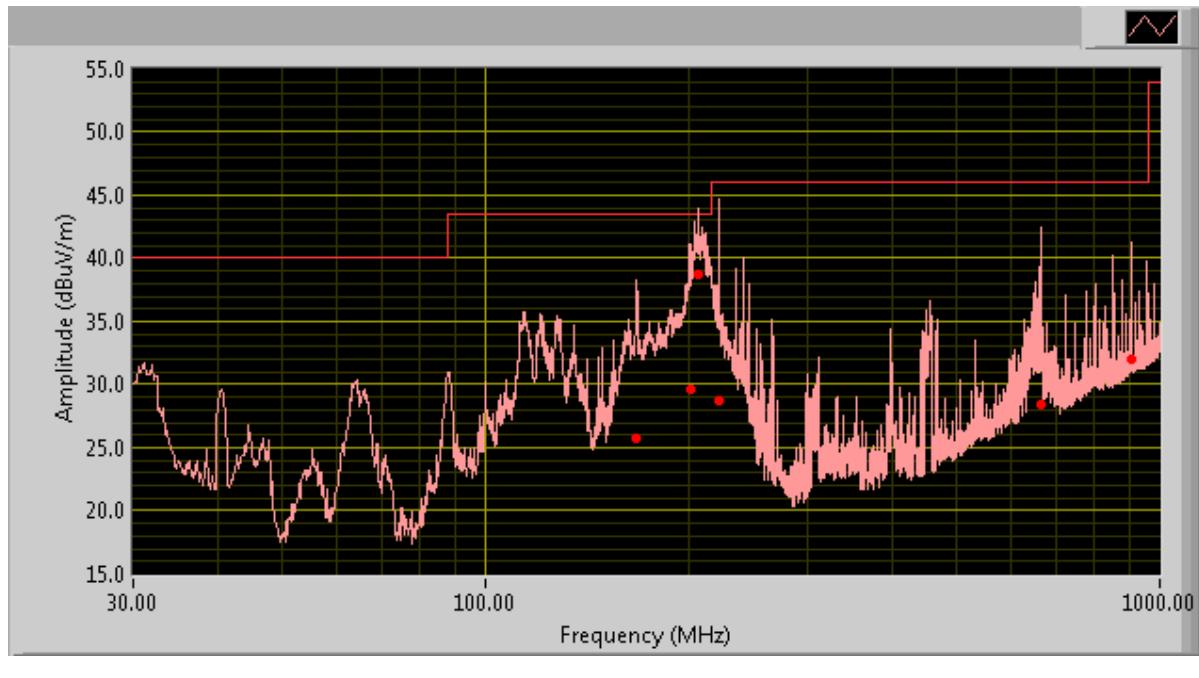
EUT Field Strength = Raw Amplitude (dB μ V/m) – Amplifier Gain (dB) + Antenna Factor (dB) + Cable Loss (dB) + Filter Attenuation (dB, if used)

Test Result: Pass



Radiated Emissions

Below 1 GHz



30MHz ~1000MHz Result @ 3m

Frequency (MHz)	Corrected Quasi-Peak (dB μ V/m) @ 3m	Turntable position (deg)	Polarity	Antenna height (cm)	Limit (dB μ V/m)	Margin (dB)
206.36	38.76	222.00	H	156.00	43.50	-4.74
221.76	28.80	154.00	H	140.00	46.00	-17.20
201.52	29.56	227.00	H	157.00	43.50	-13.94
667.02	28.39	168.00	H	386.00	46.00	-17.61
905.40	31.97	123.00	V	125.00	46.00	-14.03
167.63	25.75	284.00	H	207.00	43.50	-17.75

Note: The presented radiated emission data below 1GHz is a worst-case data (GSM / GPRRS850).

Cellular Band Test Result

Above 1 GHz

Configuration Mode: GSM / GPRS850 - Low Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.648	62.97	160	1.0	V	25.70	2.16	31.98	-32.26	-13	-19.26
1.648	65.72	178	1.3	H	25.70	2.16	31.98	-29.51	-13	-16.51
2.473	62.88	140	1.0	V	27.50	2.5	32.04	-32.35	-13	-19.35
2.473	65.33	143	1.0	H	27.50	2.5	32.04	-29.9	-13	-16.9
3.297	63.86	190	1.1	V	30.30	2.94	32.34	-31.37	-13	-18.37
3.297	64.57	271	1.7	H	30.30	2.94	32.34	-30.66	-13	-17.66

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: GSM / GPRS850 - Middle Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.673	64.36	200	1.0	V	25.70	2.16	31.98	-30.87	-13	-17.87
1.673	65.38	187	1.2	H	25.70	2.16	31.98	-29.85	-13	-16.85
2.510	62.73	271	1.0	V	28.80	2.72	32.08	-32.50	-13	-19.5
2.510	66.29	159	1.0	H	28.80	2.72	32.08	-28.94	-13	-15.94
3.346	63.88	190	1.1	V	30.30	2.94	32.34	-31.35	-13	-18.35
3.346	63.74	271	1.7	H	30.30	2.94	32.34	-31.49	-13	-18.49

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: GSM / GPRS850 - High Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.698	64.02	24	1.0	V	25.70	2.16	31.98	-31.21	-13	-18.21
1.698	66.08	102	1.0	H	25.70	2.16	31.98	-29.15	-13	-16.15
2.546	65.46	115	1.1	V	28.80	2.72	32.08	-29.77	-13	-16.77
2.546	64.47	235	1.7	H	28.80	2.72	32.08	-30.76	-13	-17.76
3.395	63.63	190	1.1	V	30.30	2.94	32.34	-31.60	-13	-18.6
3.395	64.30	271	1.7	H	30.30	2.94	32.34	-30.93	-13	-17.93

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit



Configuration Mode: GSM / EGPRS850 - Low Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.648	62.00	160	1.0	V	25.7	2.16	31.98	-33.23	-13	-20.23
1.648	64.69	178	1.3	H	25.7	2.16	31.98	-30.54	-13	-17.54
2.473	61.88	140	1.0	V	27.5	2.5	32.04	-33.35	-13	-20.35
2.473	64.17	143	1.0	H	27.5	2.5	32.04	-31.06	-13	-18.06
3.297	62.51	190	1.1	V	30.3	2.94	32.34	-32.72	-13	-19.72
3.297	63.14	271	1.7	H	30.3	2.94	32.34	-32.09	-13	-19.09

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: GSM / EGPRS850 - Middle Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.673	63.16	200	1.0	V	25.7	2.16	31.98	-32.07	-13	-19.07
1.673	64.36	187	1.2	H	25.7	2.16	31.98	-30.87	-13	-17.87
2.510	61.63	271	1.0	V	28.8	2.72	32.08	-33.6	-13	-20.6
2.510	63.69	159	1.2	H	28.8	2.72	32.08	-31.54	-13	-18.54
3.346	62.22	190	1.1	V	30.3	2.94	32.34	-33.01	-13	-20.01
3.346	61.74	271	1.7	H	30.3	2.94	32.34	-33.49	-13	-20.49

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: GSM / EGPRS850 - High Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.698	63.00	24	1.0	V	25.7	2.16	31.98	-32.23	-13	-19.23
1.698	64.26	102	1.0	H	25.7	2.16	31.98	-30.97	-13	-17.97
2.546	64.76	115	1.1	V	28.8	2.72	32.08	-30.47	-13	-17.47
2.546	63.65	235	1.7	H	28.8	2.72	32.08	-31.58	-13	-18.58
3.395	62.63	190	1.1	V	30.3	2.94	32.34	-32.6	-13	-19.6
3.395	63.04	271	1.7	H	30.3	2.94	32.34	-32.19	-13	-19.19

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA850 Rel 99, Low Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.653	57.00	37	1.0	V	25.70	2.16	31.98	-38.23	-13	-25.23
1.653	58.03	81	1.7	H	25.70	2.16	31.98	-37.20	-13	-24.20
2.479	63.05	154	2.1	V	27.50	2.50	32.04	-32.18	-13	-19.18
2.479	66.06	85	1.9	H	27.50	2.50	32.04	-29.17	-13	-16.17
3.306	63.42	113	1.7	V	30.30	2.94	32.34	-31.81	-13	-18.81
3.306	64.53	57	1.4	H	30.30	2.94	32.34	-30.7	-13	-17.7

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA850 Rel 99, Middle Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.673	58.17	154	1.9	V	25.70	2.16	31.98	-37.06	-13	-24.06
1.673	59.73	71	1.4	H	25.70	2.16	31.98	-35.5	-13	-22.5
2.509	66.58	271	1.0	V	28.80	2.72	32.08	-28.65	-13	-15.65
2.509	68.94	170	1.1	H	28.80	2.72	32.08	-26.29	-13	-13.29
3.346	62.55	149	1.8	V	30.30	2.94	32.34	-32.68	-13	-19.68
3.346	63.07	227	1.2	H	30.30	2.94	32.34	-32.16	-13	-19.16

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA850 Rel 99, High Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.693	59.03	62	1.7	V	25.70	2.16	31.98	-36.20	-13	-23.20
1.693	59.74	90	1.7	H	25.70	2.16	31.98	-35.49	-13	-22.49
2.540	64.57	119	1.1	V	28.80	2.72	32.08	-30.66	-13	-17.66
2.540	63.64	158	1.6	H	28.80	2.72	32.08	-31.59	-13	-18.59
3.386	61.22	142	1.1	V	30.30	2.94	32.34	-34.01	-13	-21.01
3.386	62.50	75	1.3	H	30.30	2.94	32.34	-32.73	-13	-19.73

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA850 HSDPA, Low Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.653	57.44	37	1.0	V	25.7	2.16	31.98	-37.79	-13	-24.79
1.653	60.12	81	1.7	H	25.7	2.16	31.98	-35.11	-13	-22.11
2.479	62.16	154	2.1	V	27.5	2.5	32.04	-33.07	-13	-20.07
2.479	65.19	85	1.9	H	27.5	2.5	32.04	-30.04	-13	-17.04
3.306	62.42	113	1.7	V	30.3	2.94	32.34	-32.81	-13	-19.81
3.306	63.25	57	1.4	H	30.3	2.94	32.34	-31.98	-13	-18.98

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA850 HSDPA, Middle Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.673	57.11	154	1.9	V	25.7	2.16	31.98	-38.12	-13	-25.12
1.673	58.41	71	1.4	H	25.7	2.16	31.98	-36.82	-13	-23.82
2.509	65.76	271	1.0	V	28.8	2.72	32.08	-29.47	-13	-16.47
2.509	67.59	170	1.1	H	28.8	2.72	32.08	-27.64	-13	-14.64
3.346	61.52	149	1.8	V	30.3	2.94	32.34	-33.71	-13	-20.71
3.346	62.22	227	1.2	H	30.3	2.94	32.34	-33.01	-13	-20.01

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA850 HSDPA, High Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
1.693	58.40	0	1.7	V	25.7	2.16	31.98	-36.83	-13	-23.83
1.693	58.52	85	1.7	H	25.7	2.16	31.98	-36.71	-13	-23.71
2.540	63.76	115	1.1	V	28.8	2.72	32.08	-31.47	-13	-18.47
2.540	62.76	156	1.6	H	28.8	2.72	32.08	-32.47	-13	-19.47
3.386	59.55	140	1.1	V	30.3	2.94	32.34	-35.68	-13	-22.68
3.386	61.22	77	1.3	H	30.3	2.94	32.34	-34.01	-13	-21.01

Note: Emission was scanned up to 10GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit



PCS Band Test Result

Configuration Mode: GSM / GPRS1900, Low Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.700	67.19	37	1.0	V	31.20	3.44	32.37	-28.04	-13	-15.04
3.700	69.64	81	1.7	H	31.20	3.44	32.37	-25.59	-13	-12.59
5.551	72.57	154	2.1	V	33.40	4.56	32.48	-22.66	-13	-9.66
5.551	75.32	85	1.9	H	33.40	4.56	32.48	-19.91	-13	-6.91
7.401	70.89	113	1.7	V	35.10	5.22	32.39	-24.34	-13	-11.34
7.401	71.60	57	1.4	H	35.10	5.22	32.39	-23.63	-13	-10.63

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: GSM / GPRS1900, Middle Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.760	65.56	154	1.9	V	31.20	3.44	32.37	-29.67	-13	-16.67
3.760	69.12	71	1.4	H	31.20	3.44	32.37	-26.11	-13	-13.11
5.640	73.96	271	1.0	V	33.40	4.56	32.48	-21.27	-13	-8.27
5.640	74.98	170	1.1	H	33.40	4.56	32.48	-20.25	-13	-7.25
7.520	72.00	149	1.8	V	36.10	5.39	32.47	-23.23	-13	-10.23
7.520	71.86	227	1.2	H	36.10	5.39	32.47	-23.37	-13	-10.37

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: GSM / GPRS1900, High Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.820	68.29	0	1.7	V	31.20	3.44	32.37	-26.94	-13	-13.94
3.820	67.30	85	1.7	H	31.20	3.44	32.37	-27.93	-13	-14.93
5.730	73.62	115	1.1	V	33.40	4.56	32.48	-21.61	-13	-8.61
5.730	75.68	156	1.6	H	33.40	4.56	32.48	-19.55	-13	-6.55
7.640	71.75	140	1.1	V	36.10	5.39	32.47	-23.48	-13	-10.48
7.640	72.42	77	1.3	H	36.10	5.39	32.47	-22.81	-13	-9.81

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit



Configuration Mode: GSM / EGPRS1900, Low Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.700	65.385	37	1.0	V	31.2	3.435	32.37	-29.845	-13	-16.84
3.700	65.385	81	1.7	H	31.2	3.435	32.37	-29.845	-13	-16.84
5.551	71.68	154	2.1	V	33.4	4.56	32.48	-23.55	-13	-10.55
5.551	73.90	85	1.9	H	33.4	4.56	32.48	-21.33	-13	-8.33
7.401	69.56	113	1.7	V	35.1	5.22	32.39	-25.67	-13	-12.67
7.401	70.05	57	1.4	H	35.1	5.22	32.39	-25.18	-13	-12.18

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: GSM / EGPRS1900, Middle Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.760	64.585	154	1.9	V	31.2	3.435	32.37	-30.645	-13	-17.645
3.760	67.825	71	1.4	H	31.2	3.435	32.37	-27.405	-13	-14.405
5.640	72.62	271	1.0	V	33.4	4.56	32.48	-22.61	-13	-9.61
5.640	73.93	170	1.1	H	33.4	4.56	32.48	-21.30	-13	-8.3
7.520	70.755	149	1.8	V	36.1	5.385	32.47	-24.475	-13	-11.475
7.520	71.655	227	1.2	H	36.1	5.385	32.47	-23.575	-13	-10.575

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: GSM / EGPRS1900, High Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.8196	67.40	271	1.7	V	31.2	3.435	32.37	-27.835	-13	-14.84
3.8196	66.62	170	1.7	H	31.2	3.435	32.37	-28.615	-13	-15.62
5.7294	72.80	115	1.1	V	33.4	4.56	32.48	-22.43	-13	-9.43
5.7294	73.91	156	1.6	H	33.4	4.56	32.48	-21.32	-13	-8.32
7.6392	70.345	140	1.1	V	36.1	5.385	32.47	-24.885	-13	-11.885
7.6392	71.155	77	1.3	H	36.1	5.385	32.47	-24.075	-13	-11.075

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit



Configuration Mode: WCDMA1900 Rel 99, Low Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.700	65.50	37	1	V	31.2	3.435	32.37	-29.73	-13	-16.73
3.700	67.69	81	1.7	H	31.2	3.435	32.37	-27.54	-13	-14.54
5.551	68.69	154	2.1	V	33.4	4.56	32.48	-26.54	-13	-13.54
5.551	71.19	85	1.9	H	33.4	4.56	32.48	-24.04	-13	-11.04
7.401	69.57	113	1.7	V	35.1	5.22	32.39	-25.66	-13	-12.66
7.401	70.54	57	1.4	H	35.1	5.22	32.39	-24.69	-13	-11.69

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA1900 Rel 99, Middle Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.760	64.50	154	1.9	V	31.2	3.44	32.37	-30.73	-13	-17.73
3.760	67.84	71	1.4	H	31.2	3.44	32.37	-27.39	-13	-14.39
5.640	71.58	271	1.0	V	33.4	4.56	32.48	-23.65	-13	-10.65
5.640	73.78	170	1.1	H	33.4	4.56	32.48	-21.45	-13	-8.45
7.520	70.37	149	1.8	V	36.1	5.39	32.47	-24.86	-13	-11.86
7.520	71.34	227	1.2	H	36.1	5.39	32.47	-23.89	-13	-10.89

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA1900 Rel 99, High Channel

Frequency (GHz)	Final FS@ 3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.820	66.29	12	1.7	V	31.2	3.44	32.37	-29.02	-13	-16.02
3.820	68.59	76	1.7	H	31.2	3.44	32.37	-26.72	-13	-13.72
5.730	72.80	115	1.1	V	33.4	4.56	32.48	-22.50	-13	-9.50
5.730	74.84	156	1.6	H	33.4	4.56	32.48	-20.46	-13	-7.46
7.640	70.65	140	1.1	V	36.1	5.39	32.47	-24.66	-13	-11.66
7.640	71.37	80	1.3	H	36.1	5.39	32.47	-23.94	-13	-10.94

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA1900 HSDPA, Low Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.700	64.90	37	1	V	31.2	3.44	32.37	-30.33	-13	-17.33
3.700	66.59	81	1.7	H	31.2	3.44	32.37	-28.64	-13	-15.64
5.551	67.49	154	2.1	V	33.4	4.56	32.48	-27.74	-13	-14.74
5.551	70.12	85	1.9	H	33.4	4.56	32.48	-25.11	-13	-12.11
7.401	68.38	113	1.7	V	35.1	5.22	32.38	-26.85	-13	-13.85
7.401	69.06	57	1.4	H	35.1	5.22	32.39	-26.17	-13	-13.17

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA1900 HSDPA, Middle Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.760	64.95	154	1.9	V	31.2	3.44	32.37	-30.28	-13	-17.28
3.760	66.57	71	1.4	H	31.2	3.44	32.37	-28.66	-13	-15.66
5.640	70.79	271	1.0	V	33.4	4.56	32.48	-24.44	-13	-11.44
5.640	72.9	170	1.1	H	33.4	4.56	32.48	-22.33	-13	-9.33
7.520	69.55	149	1.8	V	36.1	5.39	32.47	-25.68	-13	-12.68
7.520	70.26	227	1.2	H	36.1	5.39	32.47	-24.97	-13	-11.97

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit

Configuration Mode: WCDMA1900 HSDPA, High Channel

Frequency (GHz)	Final FS@3m (dBuV)	Direction (degree)	Height (m)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	EUT Final EIRP (dBm)	Limit (dBm)	Margin (dB)
3.820	65.62	12	1.7	V	31.2	3.44	32.37	-29.61	-13	-16.61
3.820	67.84	56	1.7	H	31.2	3.44	32.37	-27.39	-13	-14.39
5.730	71.84	118	1.1	V	33.4	4.56	32.48	-23.39	-13	-10.39
5.730	74.11	165	1.6	H	33.4	4.56	32.48	-21.12	-13	-8.12
7.640	69.35	143	1.1	V	36.1	5.39	32.47	-25.88	-13	-12.88
7.640	70.37	86	1.3	H	36.1	5.39	32.47	-24.86	-13	-11.86

Note: Emission was scanned up to 20GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit



5.5 Frequency Stability

Requirement(s): 47 CFR §22.355, §22.235, RSS-132(4.3), RSS-133(6.3).

Procedures: A communication link was established between EUT and base station. The frequency error was monitored and measured by base station under variation of ambient temperature and variation of primary supply voltage.

Limit: The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

Environmental Conditions	Temperature	-10 ~ 50°C
	Relative Humidity	50%
	Atmospheric Pressure	1019mbar

Test Date : Jan 17 2012

Tested By : Dan Corona

Results: Pass



Frequency Stability versus Temperature: The Frequency tolerance of the carrier signal shall be maintained within $\pm 0.00025\%$ of the operating frequency over a temperature variation of -10°C to $+50^{\circ}\text{C}$ at normal supply voltage.

Test Result for GSM / GPRS850, Channel 189 (mid channel)

Temperature ($^{\circ}\text{C}$)	Freq. Drift (Hz)	Freq. Deviation (Limit: ppm)	Pass/Fail
50	-66	<2.5	Pass
40	-63	<2.5	Pass
30	-26	<2.5	Pass
20	30	<2.5	Pass
10	29	<2.5	Pass
0	-54	<2.5	Pass
-10	23	<2.5	Pass
-20	-53	<2.5	Pass
-30	46	<2.5	Pass

Note: Manufacturer declares that operating temperature range of EUT is $-10 \sim +50^{\circ}\text{C}$.

Frequency Stability versus Input Voltage: The Frequency tolerance of the carrier signal shall be maintained within $\pm 0.00025\%$ of the operating frequency , the frequency of the transmitter was measured at 85% and at 115% of the rated power supply voltage at 20°C environmental temperature.

Measured Voltage $\pm 15\%$ of nominal (DC)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
12.0	-51	<2.5	Pass
10.2	-33	<2.5	Pass
13.8	-53	<2.5	Pass



Test Result for GSM / EGPRS850, Channel 189 (mid channel)

Temperature (°C)	Freq. Drift (Hz)	Freq. Deviation (Limit: ppm)	Pass/Fail
50	-80	<2.5	Pass
40	-86	<2.5	Pass
30	-85	<2.5	Pass
20	-46	<2.5	Pass
10	32	<2.5	Pass
0	33	<2.5	Pass
-10	-63	<2.5	Pass
-20	-40	<2.5	Pass
-30	-28	<2.5	Pass

Note: Manufacturer declares that operating temperature range of EUT is -10 ~ +50°C.

Frequency Stability versus Input Voltage: The Frequency tolerance of the carrier signal shall be maintained within $\pm 0.00025\%$ of the operating frequency , the frequency of the transmitter was measured at 85% and at 115% of the rated power supply voltage at 20°C environmental temperature.

Measured Voltage ±15% of nominal (DC)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
12.0	-50	<2.5	Pass
10.2	-33	<2.5	Pass
13.8	-54	<2.5	Pass

Test Result for GSM / GPRS1900, Channel 661 (mid channel)

Temperature (°C)	Freq. Drift (Hz)	Freq. Deviation (Limit: ppm)	Pass/Fail
50	36	<2.5	Pass
40	37	<2.5	Pass
30	-36	<2.5	Pass
20	-34	<2.5	Pass
10	-29	<2.5	Pass
0	36	<2.5	Pass
-10	24	<2.5	Pass
-20	35	<2.5	Pass
-30	-34	<2.5	Pass

Note: Manufacturer declares that operating temperature range of EUT is -10 ~ +50°C.

Frequency Stability versus Input Voltage: The Frequency tolerance of the carrier signal shall be maintained within $\pm 0.00025\%$ of the operating frequency , the frequency of the transmitter was measured at 85% and at 115% of the rated power supply voltage at 20°C environmental temperature.

Measured Voltage ±15% of nominal (DC)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
12.0	-90	<2.5	Pass
10.2	-88	<2.5	Pass
13.8	-95	<2.5	Pass



Test Result for GSM / EGPRS1900, Channel 661 (mid channel)

Temperature (°C)	Freq. Drift (Hz)	Freq. Deviation (Limit: ppm)	Pass/Fail
50	-82	<2.5	Pass
40	-85	<2.5	Pass
30	-83	<2.5	Pass
20	-43	<2.5	Pass
10	31	<2.5	Pass
0	32	<2.5	Pass
-10	-60	<2.5	Pass
-20	-42	<2.5	Pass
-30	-29	<2.5	Pass

Note: Manufacturer declares that operating temperature range of EUT is -10 ~ +50°C.

Frequency Stability versus Input Voltage: The Frequency tolerance of the carrier signal shall be maintained within $\pm 0.00025\%$ of the operating frequency , the frequency of the transmitter was measured at 85% and at 115% of the rated power supply voltage at 20°C environmental temperature.

Measured Voltage ±15% of nominal (DC)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
12.0	-75	<2.5	Pass
10.2	-88	<2.5	Pass
13.8	-90	<2.5	Pass



Test Result for WCDMA 850 Rel99, Channel 4182 (mid channel)

Temperature (°C)	Freq. Drift (Hz)	Freq. Deviation (Limit: ppm)	Pass/Fail
50	-79	<2.5	Pass
40	-84	<2.5	Pass
30	-81	<2.5	Pass
20	-43	<2.5	Pass
10	31	<2.5	Pass
0	30	<2.5	Pass
-10	-61	<2.5	Pass
-20	-39	<2.5	Pass
-30	-27	<2.5	Pass

Note: Manufacturer declares that operating temperature range of EUT is -10 ~ +50°C.

Frequency Stability versus Input Voltage: The Frequency tolerance of the carrier signal shall be maintained within $\pm 0.00025\%$ of the operating frequency , the frequency of the transmitter was measured at 85% and at 115% of the rated power supply voltage at 20°C environmental temperature.

Measured Voltage ±15% of nominal (DC)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
12.0	-73	<2.5	Pass
10.2	-86	<2.5	Pass
13.8	-87	<2.5	Pass

Test Result for WCDMA 850 HSDPA, Channel 4182 (mid channel)

Temperature (°C)	Freq. Drift (Hz)	Freq. Deviation (Limit: ppm)	Pass/Fail
50	-80	<2.5	Pass
40	-85	<2.5	Pass
30	-83	<2.5	Pass
20	-45	<2.5	Pass
10	32	<2.5	Pass
0	33	<2.5	Pass
-10	-66	<2.5	Pass
-20	-41	<2.5	Pass
-30	-29	<2.5	Pass

Note: Manufacturer declares that operating temperature range of EUT is -10 ~ +50°C.

Frequency Stability versus Input Voltage: The Frequency tolerance of the carrier signal shall be maintained within $\pm 0.00025\%$ of the operating frequency , the frequency of the transmitter was measured at 85% and at 115% of the rated power supply voltage at 20°C environmental temperature.

Measured Voltage ±15% of nominal (DC)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
12.0	-71	<2.5	Pass
10.2	-82	<2.5	Pass
13.8	-84	<2.5	Pass



Test Result for WCDMA 1900 Rel 99, Channel 9400 (mid channel)

Temperature (°C)	Freq. Drift (Hz)	Freq. Deviation (Limit: ppm)	Pass/Fail
50	38	<2.5	Pass
40	39	<2.5	Pass
30	-36	<2.5	Pass
20	-38	<2.5	Pass
10	-30	<2.5	Pass
0	38	<2.5	Pass
-10	26	<2.5	Pass
-20	37	<2.5	Pass
-30	-36	<2.5	Pass

Note: Manufacturer declares that operating temperature range of EUT is -10 ~ +50°C.

Frequency Stability versus Input Voltage: The Frequency tolerance of the carrier signal shall be maintained within $\pm 0.00025\%$ of the operating frequency , the frequency of the transmitter was measured at 85% and at 115% of the rated power supply voltage at 20°C environmental temperature.

Measured Voltage ±15% of nominal (DC)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
12.0	-72	<2.5	Pass
10.2	-80	<2.5	Pass
13.8	-85	<2.5	Pass

Test Result for WCDMA 1900 HSDPA, Channel 9400 (mid channel)

Temperature (°C)	Freq. Drift (Hz)	Freq. Deviation (Limit: ppm)	Pass/Fail
50	36	<2.5	Pass
40	35	<2.5	Pass
30	-34	<2.5	Pass
20	-33	<2.5	Pass
10	-31	<2.5	Pass
0	32	<2.5	Pass
-10	24	<2.5	Pass
-20	35	<2.5	Pass
-30	-33	<2.5	Pass

Note: Manufacturer declares that operating temperature range of EUT is -10 ~ +50°C.

Frequency Stability versus Input Voltage: The Frequency tolerance of the carrier signal shall be maintained within $\pm 0.00025\%$ of the operating frequency , the frequency of the transmitter was measured at 85% and at 115% of the rated power supply voltage at 20°C environmental temperature.

Measured Voltage ±15% of nominal (DC)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
12.0	39	<2.5	Pass
10.2	38	<2.5	Pass
13.8	43	<2.5	Pass

5.6 Receiver Spurious Emissions

1. Conducted Measurement
EUT was set for low , mid, high channel with modulated mode and highest RF output power.
The spectrum analyzer was connected to the antenna terminal.
2. Conducted Emissions Measurement Uncertainty
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is $\pm 1.5\text{dB}$.
3.

Environmental Conditions	Temperature	23°C
	Relative Humidity	50%
	Atmospheric Pressure	1019mbar
4. Test Date : Jan 9 - 19 2012
Tested By :Dan Corona

Standard Requirement: RSS-Gen (4.8), RSS-Gen 7.2.2

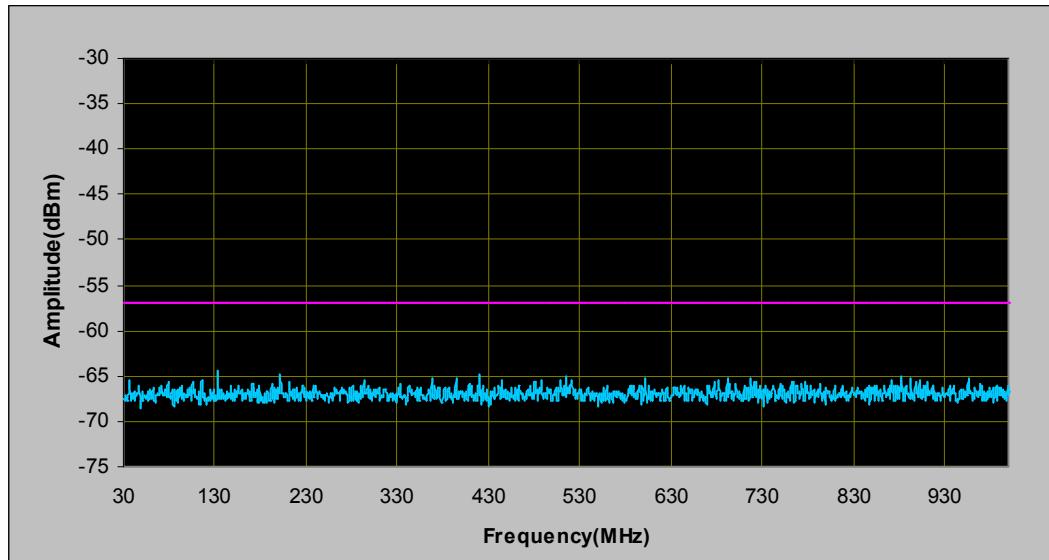
Procedures: The conducted spurious emissions were measured using a spectrum analyzer at mid channels. the search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (e.g. local oscillator, intermediate or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tuneable or local oscillator frequency, whichever is the higher, without exceeding 40 GHz. Receiver spurious emissions at any discrete frequency shall not exceed 2 nanowatts in the band 30-1000 MHz, or 5 nanowatts above 1 GHz..

Test Result: Pass

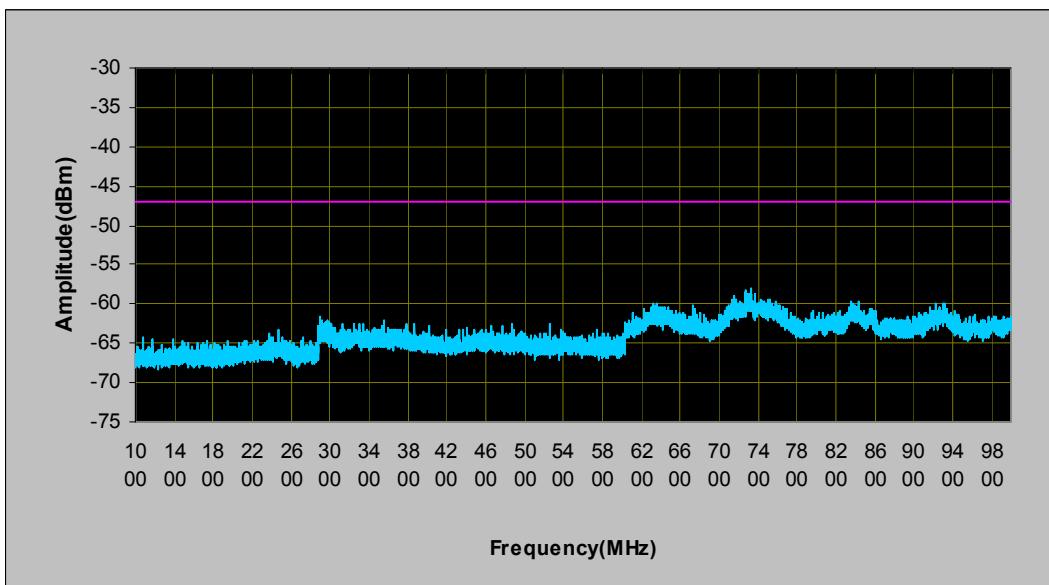
Note : All test modes were verified, but only the worst cast test results measured under GPRS850 (mid channel) and WCDMA Band II (mid channel) mode were shown.



Configuration mode: GSM / GPRS850, channel 189



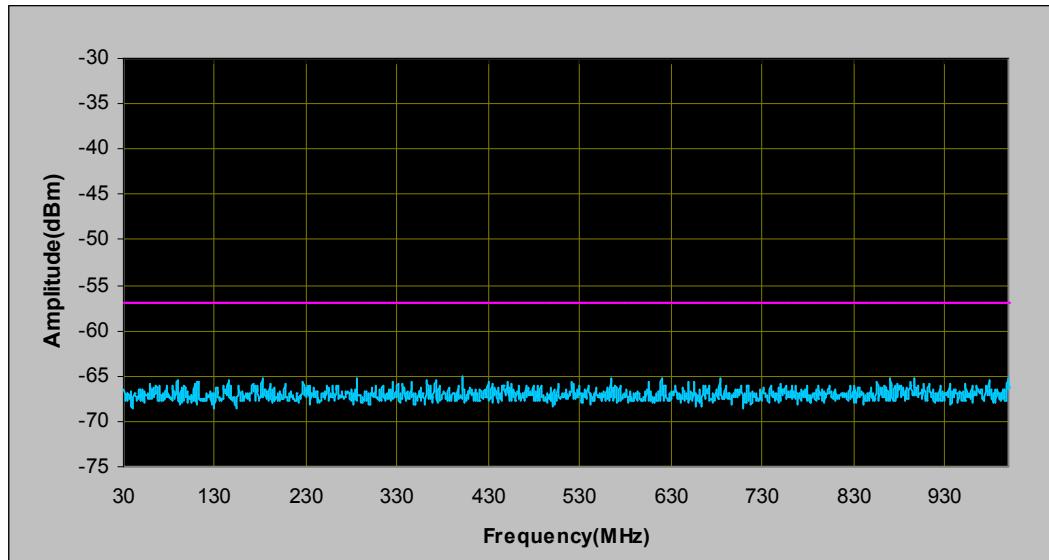
Receiver Spurious Emission (GSM / GPRS850, channel 189) Plot- 1



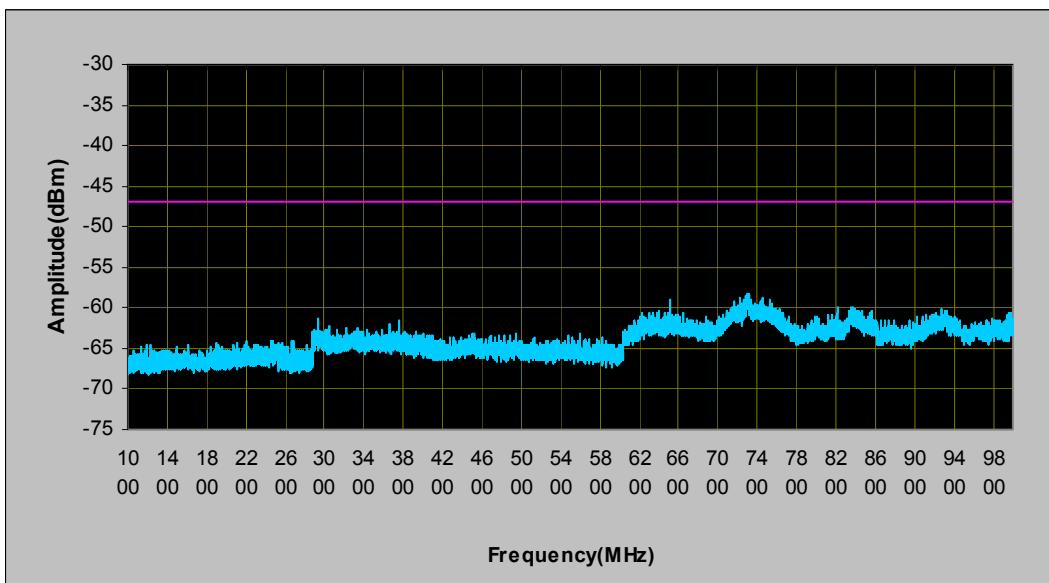
Receiver Spurious Emission (GPRS850, channel 189) Plot- 2



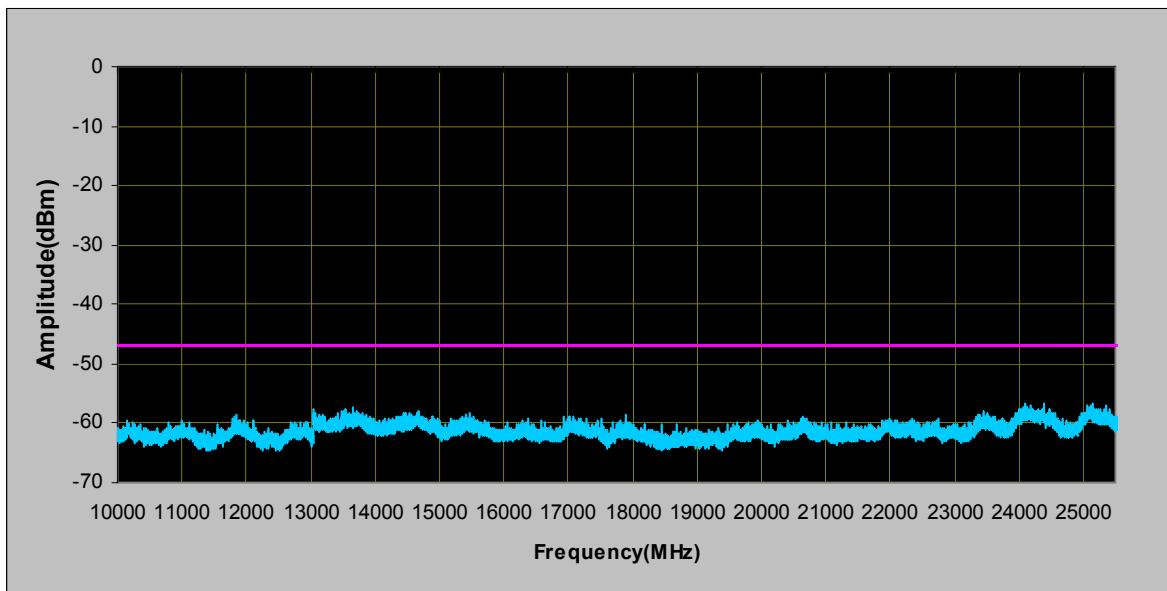
Configuration mode : WCDMA Band II, channel 9400



Receiver Spurious Emission (WCDMA Band II, channel 9400) Plot- 1



Receiver Spurious Emission (WCDMA Band II, channel 9400) Plot- 2



Receiver Spurious Emission (WCDMA Band II, channel 9400) Plot- 3

5.7 Power Line Conducted Emission Test Result

Note:

Test date : Jan 9 - 19 2012

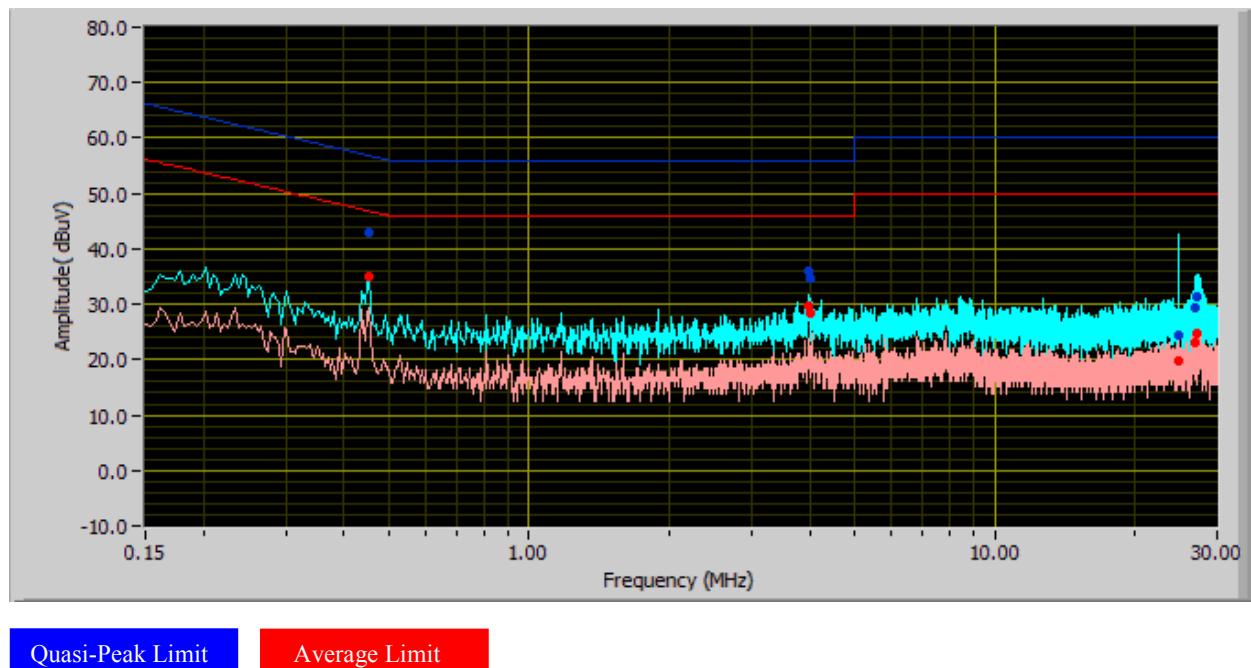
Tested by : Dan Corona

Test Result: Pass

Note: Conducted emission test results is for reference only.

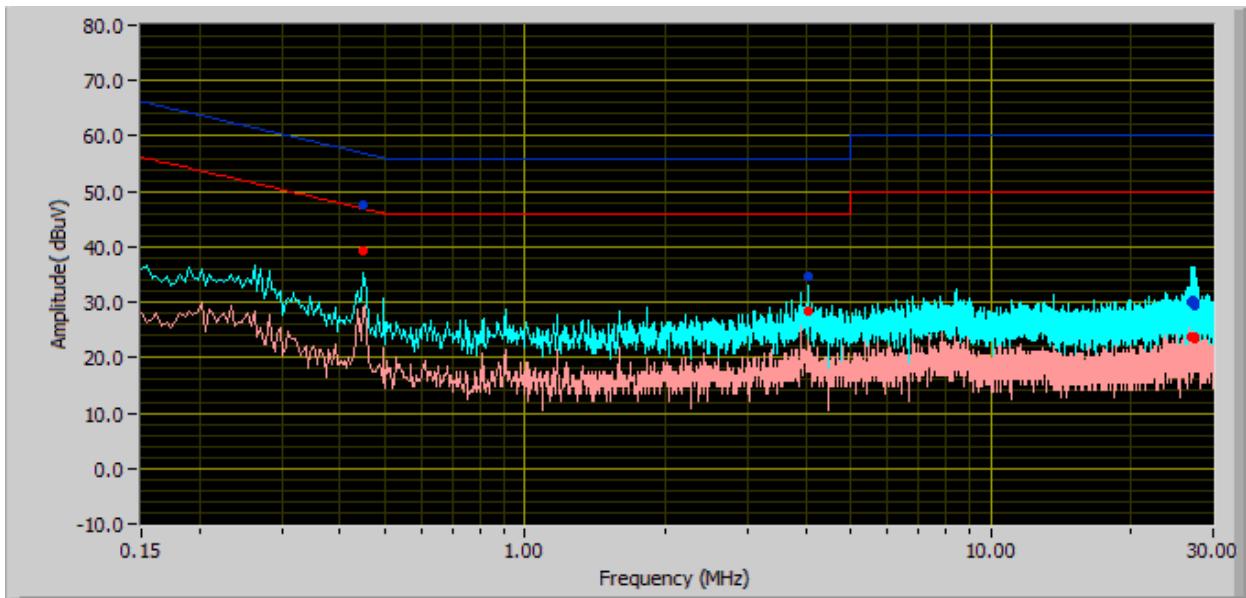
5.7.1.1 Power Line Conducted Emission Test Result

DC Power Supply



Phase Line Plot at 120VAC

Frequency (MHz)	QP Value (dB μ V)	Class B Limit (dB)	Pass / Fail	Margin (dB)	Avg Value (dB μ V)	Class B Limit (dB)	Pass / Fail	Margin (dB)	Line
24.83	24.41	60.00	Pass	-35.59	19.84	50.00	Pass	-30.16	Phase
0.45	42.90	56.81	Pass	-13.92	35.02	46.81	Pass	-11.79	Phase
3.99	35.95	56.00	Pass	-20.05	29.74	46.00	Pass	-16.26	Phase
27.24	31.46	60.00	Pass	-28.54	24.72	50.00	Pass	-25.28	Phase
4.03	34.82	56.00	Pass	-21.18	28.47	46.00	Pass	-17.53	Phase
26.83	29.32	60.00	Pass	-30.68	23.08	50.00	Pass	-26.92	Phase



Quasi-Peak Limit

Average Limit

Neutral Line Plot at 120VAC

Frequency (MHz)	QP Value (dBμV)	Class B Limit (dB)	Pass / Fail	Margin (dB)	Avg Value (dBμV)	Class B Limit (dB)	Pass / Fail	Margin (dB)	Line
0.45	47.55	56.89	Pass	-9.34	39.23	46.89	Pass	-7.66	Neutral
4.04	34.63	56.00	Pass	-21.37	28.28	46.00	Pass	-17.72	Neutral
26.98	30.11	60.00	Pass	-29.89	23.89	50.00	Pass	-26.11	Neutral
27.27	30.31	60.00	Pass	-29.69	23.88	50.00	Pass	-26.12	Neutral
27.36	29.90	60.00	Pass	-30.10	23.88	50.00	Pass	-26.12	Neutral
27.44	29.47	60.00	Pass	-30.53	23.45	50.00	Pass	-26.55	Neutral

Note: The presented power line conducted emission is a worst-case data (GPRS850).

Annex A. TEST INSTRUMENT & METHOD

Annex A.i. TEST INSTRUMENTATION & GENERAL PROCEDURES

Instrument	Model	Calibration Due
AC Conducted Emissions		
R&S EMI Test Receiver	ESIB40	05/19/2012
R&S LISN	ESH2-Z5	05/18/2012
CHASE LISN	MN2050B	05/18/2012
Universal Radio Communication Tester	CMU200	02/22/2012
Radiated Emissions		
Spectrum Analyzer	8564E	05/19/2012
EMI Receiver	ESIB 40	05/18/2012
R&S LISN	ESH2-Z5	05/18/2012
CHASE LISN	MN2050B	05/19/2012
Antenna(1 ~18GHz)	3115	06/2/2012
Antenna (30MHz~2GHz)	JB1	06/1/2012
Chamber	3m	12/4/2012
Pre-Amplifier(1 ~ 26GHz)	8449	05/17/2012
Horn Antenna (18~40GHz)	AH-840	07/23/2013
Microwave Pre-Amp (18~40GHz)	PA-840	Every 2000 Hours
Universal Radio Communication Tester	CMU200	02/22/2012
Signal Analyzer	FSIQ7	05/5/2012
Temperature/Humidity Chamber	1007H	06/1/2012

Note: Functional Verification

Annex A.ii. CONDUCTED EMISSIONS TEST DESCRIPTION

Test Set-up

1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table, as shown in Annex B.
2. The power supply for the EUT was fed through a $50\Omega/50\mu\text{H}$ EUT LISN, connected to filtered mains.
3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.
4. All other supporting equipments were powered separately from another main supply.

Test Method

1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver.
3. High peaks, relative to the limit line, were then selected.
4. The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 KHz. For FCC tests, only Quasi-peak measurements were made; while for CISPR/EN tests, both Quasi-peak and Average measurements were made.
5. Steps 2 to 4 were then repeated for the LIVE line (for AC mains) or DC line (for DC power).

Sample Calculation Example

At 20 MHz

limit = $250 \mu\text{V} = 47.96 \text{ dB}\mu\text{V}$

Transducer factor of LISN, pulse limiter & cable loss at 20 MHz = 11.20 dB

Q-P reading obtained directly from EMI Receiver = $40.00 \text{ dB}\mu\text{V}$
(Calibrated for system losses)

Therefore, Q-P margin = $47.96 - 40.00 = 7.96$

i.e. **7.96 dB below limit**

Annex A. iii RADIATED EMISSIONS TEST DESCRIPTION

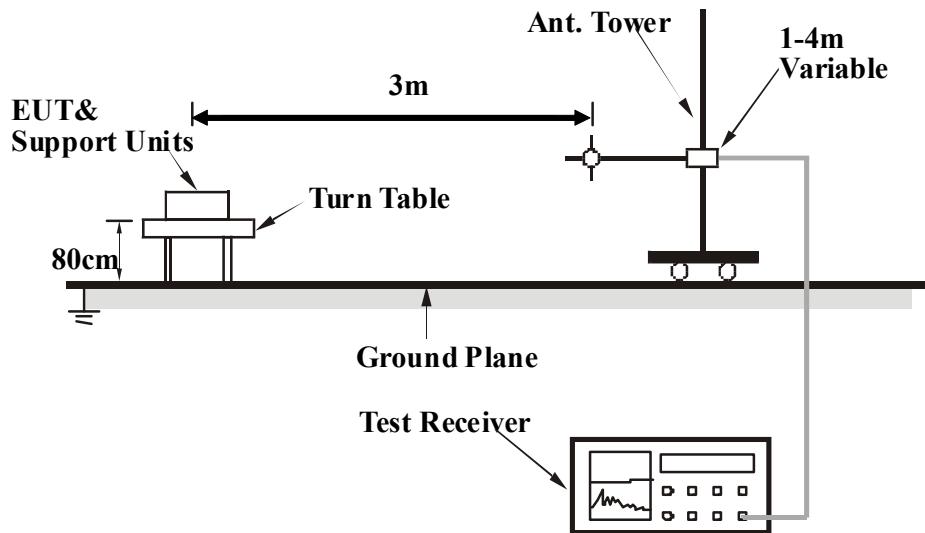
EUT Characterisation

EUT characterisation, over the frequency range from 30MHz to 1GHz (for FCC tests, until the 5th harmonic for operating frequencies \geq 108MHz), was done in order to minimise radiated emissions testing time while still maintaining high confidence in the test results.

The EUT was placed in the chamber, at a height of about 0.8m on a turntable. Its radiated emissions frequency profile was observed, using a spectrum analyzer / receiver with the appropriate broadband antenna placed 3m away from the EUT. Radiated emissions from the EUT were maximised by rotating the turntable manually, changing the antenna polarisation and manipulating the EUT cables while observing the frequency profile on the spectrum analyzer / receiver. Frequency points at which maximum emissions occurred, clock frequencies and operating frequencies were then noted for the formal radiated emissions test at the Open Area Test Site (OATS).

Test Set-up

1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m X 1.0m X 0.8m high, non-metallic table as shown in Annex B.
2. The filtered power supply for the EUT and supporting equipment were tapped from the appropriate power sockets located on the turntable.
3. The relevant broadband antenna was set at the required test distance away from the EUT and supporting equipment boundary.



Test Method

The following procedure was performed to determine the maximum emission axis of EUT:

1. With the receiving antenna is H polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.
2. With the receiving antenna is V polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.
3. Compare the results derived from above two steps. So, the axis of maximum emission from EUT was determined and the configuration was used to perform the final measurement.

Final Radiated Emission Measurement

1. Setup the configuration according to figure 1. Turn on EUT and make sure that it is in normal function.
2. For emission frequencies measured below 1 GHz, a pre-scan is performed in a shielded chamber to determine the accurate frequencies of higher emissions will be checked on a open test site. As the same purpose, for emission frequencies measured above 1 GHz, a pre-scan also be performed with a 1 meter measuring distance before final test.
3. For emission frequencies measured below and above 1 GHz, set the spectrum analyzer on a 100 kHz and 1 MHz resolution bandwidth respectively for each frequency measured in step 2.
4. The search antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0° to 360° with a speed as slow as possible, and keep the azimuth that highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading.
5. Repeat step 4 until all frequencies need to be measured were complete.
6. Repeat step 5 with search antenna in vertical polarized orientations.

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	Peak	100 kHz	100 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

Sample Calculation Example

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. For the limit is employed average value, therefore the peak value can be transferred to average value by subtracting the duty factor. The basic equation with a sample calculation is as follows:

$$\text{Peak} = \text{Reading} + \text{Corrected Factor}$$

Where:

Corr. Factor = Antenna Factor + Cable Factor - Amplifier Gain (if any)

And the average value is

$$\text{Average} = \text{Peak Value} + \text{Duty Factor or}$$

Set RBW = 1MHz, VBW = 10Hz.

Note:

If the measured frequencies are fall in the restricted frequency band, the limit employed must be quasi peak value when frequencies are below or equal to 1 GHz. And the measuring instrument is set to quasi peak detector function.



Annex B EUT AND TEST SETUP PHOTOGRAPHS

Please see the attachment

Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

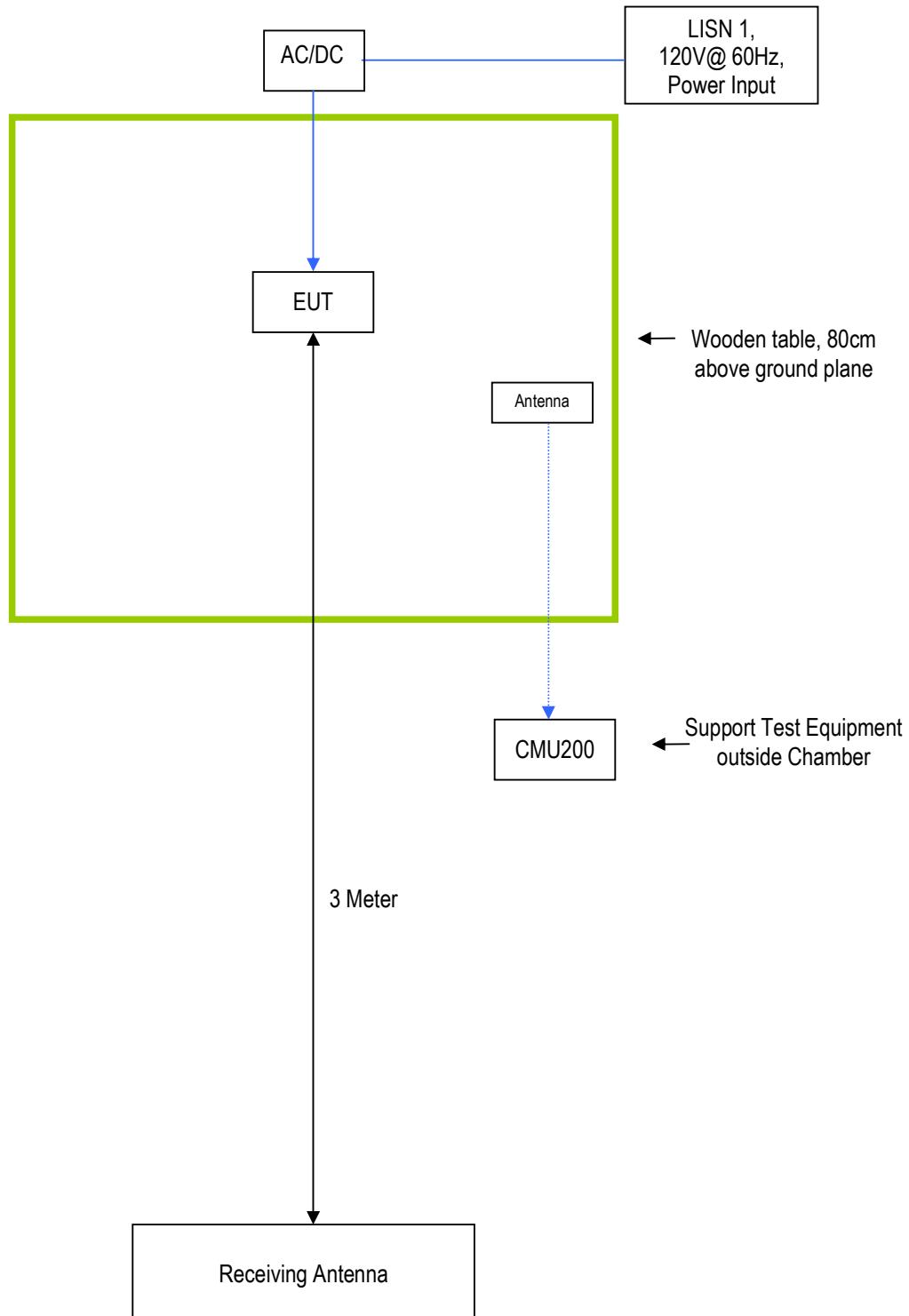
EUT TEST CONDITIONS

Annex C. i. SUPPORTING EQUIPMENT DESCRIPTION

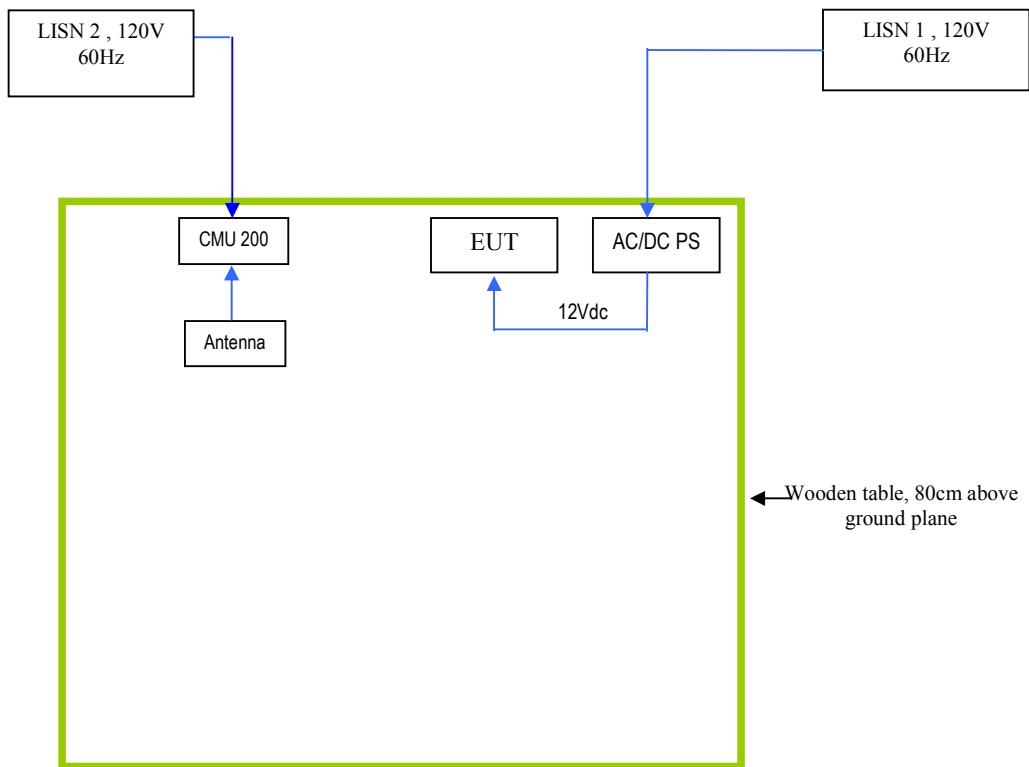
The following is a description of supporting equipment and details of cables used with the EUT.

Equipment Description (Including Brand Name)	Model & Serial Number	Cable Description (List Length, Type & Purpose)
AC/DC Supply		DC cable < 1 meter (From PS to EUT)

Block Configuration Diagram for Radiated Emission



Block Configuration Diagram for Conducted Emission





Annex C.ii. EUT OPERATING CONDITIONS

The following is the description of how the EUT is exercised during testing.

Test	Description Of Operation
Emissions Testing	The EUT is a stand alone device. A Communication Test set is used to link the device under test and set to work at maximum output power.
Others Testing	The EUT is a stand alone device. A Communication Test set is used to link the device under test and set to work at maximum output power.



Annex D User Manual, Block Diagram, Circuit Diagram

Please see attachment



Annex E. SIEMIC ACCREDITATION CERTIFICATES

SIEMIC ACREDITATION DETAILS: A2LA Certificate Number: 2742.01





The American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

SIEMIC LABORATORIES¹

2206 Ringwood Ave.
San Jose, CA 95131

Mr. Leslie Bai Phone: 408 526 1188 Email: leslie.bai@siemic.com
Mr. Snell Leong Phone: 408 526 1188 Email: snell.leong@siemic.com
www.siemic.com

ELECTRICAL

Valid to: September 30, 2012

Certificate Number: 2742.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following EMC, Product Safety, Radio and Telecommunication tests:

Test Description:	Test Method:
EN & IEC – Emissions & Immunity	IEC/CISPR 11; IEC/CISPR 12; EN 55011; IEC/CISPR 22; EN 55022; IEC/CISPR 20; EN 55020; EN 61000-6-1; EN 61000-6-2; EN 61000-6-3; EN 61000-6-4; EN 61204-3; EN 61326, EN 61326-1; EN 61000-3-2; EN 61000-3-3; EN 50081-1, EN 50081-2; EN 50082-1; IEC 61000-4-2; EN 61000-4-2; IEC 61000-4-3 (<i>limited up to 2.7 GHz and 3V/m</i>); EN 61000-4-3; (<i>limited up to 2.7 GHz and 3V/m</i>); IEC 61000-4-4; EN 61000-4-4; IEC 61000-4-5; EN 61000-4-5; IEC 61000-4-6; EN 61000-4-6; IEC 61000-4-8; EN 61000-4-8; IEC 61000-4-11; EN 61000-4-11; IEC/CISPR 24; EN 55024; EN 50412-2-1; EN 50083-2; EN 50090-2-2; EN 50091-2; EN 50130-4; EN 50130-4+A12; IEC 60601-1-2; EN 12184; EN 55015; EN 61547; CISPR 16-1-4
Korea – Emissions & Immunity	KCC Notice 2009-27, Nov. 5, 2009; RRA Announce 2009-9, Dec. 21, 2009; KN 22:2007-12; KCC Notice 2009-27, Nov. 5, 2009; RRA Notice 2009-10, Dec. 21, 2009; KN 24:2008-5; KN 61000-4-2:2008-5; KN 61000-4-3:2008-5; KN 61000-4-4:2008-5; KN 61000-4-5:2008-5; KN 61000-4-6:2008-5; KN 61000-4-8:2008-5; KN 61000-4-11:2008-5; RRL Notice 2008-3; RRL Notice 2008-4; RRL Notice 2005-131; RRL Notice 2007-99; RRL Notice 2007-101; RRL Notice 2008-4; RRA Notice No 2008-11(2008.12.16); RRA Notice No 2008-12(2008.12.16); KN 60601-1-2; KCC Notice 2009-27; KN 301 489-1(2008-05); KN 301 489-7(2008-05); KN 301 489-17(2008-05); KN 301 489-24(2008-05); KN 16-1-1(2008-05); KN 16-1-2(2008-05); KN 16-1-3(2008-05); KN 16-1-4(2008-05); KN 16-1-5(2008-05); KN 16-2-1(2008-05); KN 16-2-2(2008-05); KN 16-2-3(2008-05); KN 16-2-4(2008-05)

(A2LA Certificate No. 2742.01) Revised 01/12/2011

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US / FCC - Emissions	SAE J1113-11, SAE J1113-12; SAE J1113-41; SAE J1113-4; SAE J1113-13; FCC Method 47 CFR Part 18, FCC Report and Order ET Docket 98-153 (FCC 02-48); FCC Method 47 CFR Parts15, including Subpart G, using FCC Order 04-425 ANSI C63.4(2009); ANSI C63.10(2009); ANSI C63.4:2003 ANSI C63.4(2003) with FCC Method 47 CFR Part 11; ANSI C63.4(2003) with FCC Method 47 CFR Part 15, Subpart E; ANSI C63.4(2003) with FCC Method 47 CFR Part 15, Subpart C; ANSI C63.4(2003) and DA 02-2138; ANSI C63.4(2003) with FCC Method 47 CFR Part 15, Subpart B
Canada – Emissions	ICES-001; ICES-002; ICES-003 Issue 4; ICES-003 Issue 4 (2004); ICES-006 Issue 1
Vietnam – Emission & Immunity	TCN 68-193:2003; TCN 68-196:2001; TCVN 7189:2002
Australia / New Zealand – Emissions and Immunity	AS/NZS 1044; AS/NZS 4251.1; AS/NZS 4251.2; AS/NZS CISPR 22; AS/NZS 3548; AS/NZS 2279.3; AS/NZS 61000-3-3; AS/NZS CISPR 11; AS/NZS CISPR 24; AS/NZS 61000.6.3; AS/NZS 61000.6.4; AS/NZS CISPR 14.1; AS/NZS 61000.3.2
Japan – Emissions	JEITA IT-3001; VCCI-V-3:2010.4 (up to 6 GHz)
China – Emissions	GB9254; GB17625.1
Taiwan – Emissions	CNS 13438 (up to 6 GHz); CNS 13783-1; CNS 13803; CNS 13439
Singapore – Emissions & Immunity	IDA TS EMC; CISPR 22; IEC 61000-4-2; IEC 61000-4-3; IEC 61000-4-4; IEC 61000-4-5; IEC 61000-4-6
FCC – Unlicensed Radio A1 to A4	A1: 47 CFR Parts 11 (Emergency Alert System (EAS)), 15 (Radio Frequency Devices) and 18 (Industrial, Scientific, and Medical Equipment); FCC OST/MP-5(1986); ANSI C63.4(2003); ANSI C63.4(2009); ANSI C63.10(2009) A2: 47 CFR Part 15 (Radio Frequency Devices); ANSI C63.4(2003); ANSI C63.4(2009); ANSI C63.10(2009) A3: 47 CFR Part 15 (Radio Frequency Devices); ANSI C63.17:2006; ANSI C63.10(2009); IEEE Std 1528:2003 + Ad1; Std IEEE 1528A:2005 A4: 47 CFR Part 15 (Radio Frequency Devices); ANSI C63.10(2009); IEEE Std 1528:2003 + Ad1; Std IEEE 1528A:2005
FCC – Licensed Radio B1 to B4	B1: 47 CFR Parts 2 (Frequency Allocations and Radio Treaty Matters; General Rules and Regulations), 22 (Public Mobile Services), 24 (Personal Communications Services), 25 (Satellite Communications), and 27 (Miscellaneous Wireless Communications Services); ANSI/TIA-603-C (2004), Land Mobile FM or PM Communications Equipment Measurement and Performance Standard; IEEE Std 1528:2003 + Ad1; Std IEEE 1528A:2005

FCC – Licensed Radio (continued) B1 to B4	B2: 47 CFR Parts 2 (Frequency Allocations and Radio Treaty Matters; General Rules and Regulations), 22 (Public Mobile Services), 74 (Experimental Radio Auxiliary, Special Broadcast and Other Program Distributional Services), 90 (Private Land Mobile Radio Services), 95 (Personal Radio Services), and 97 (Amateur Radio Services); ANSI/TIA-603-C (2004), Land Mobile FM or PM Communications Equipment Measurement and Performance Standard B3: 47 CFR Parts 2 (Frequency Allocations and Radio Treaty Matters; General Rules and Regulations); 80 (Stations in the Maritime Services), 87 (Aviation Services); ANSI/TIA-603-C (2004), Land Mobile FM or PM Communications Equipment Measurement and Performance Standard B4: 47 CFR Parts 2 (Frequency Allocations and Radio Treaty Matters; General Rules and Regulations); 27 (Broadband Radio Services (BRS) and Educational Broadband Services (EBS)), 74 (Experimental Radio Auxiliary, Special Broadcast and Other Program Distributional Services), and 101 (Fixed Microwave Services); ANSI/TIA-603-C (2004), Land Mobile FM or PM Communications Equipment Measurement and Performance Standard
Canada – Radio	RSS 102; RSS 111; RSS 112; RSS 117; RSS 118; RSS 119; RSS 123; RSS 125; RSS 127; RSS 128; RSS 129; RSS 131; RSS 132; RSS 133; RSS 134; RSS 135; RSS 136; RSS 137; RSS 138; RSS 139; RSS 141; RSS 142; RSS 170; RSS 181; RSS 182; RSS 188; RSS 191; RSS 192; RSS 193; RSS 194; RSS 195; RSS 196; RSS 197; RSS 198; RSS 199; RSS 210; RSS 220; RSS 213; RSS 215; RSS 243; RSS 287; RSS 310; RSS Gen
CE – Radio	EN 301 502; EN 301 511; EN 301 526; EN 301 681; EN 301 721; EN 301 751; EN 301 753; EN 301 783-2; EN 301 796; EN 301 797; EN 301 840-2; EN 301 843-1; EN 301 843-4; EN 301 843-5; EN 301 893; EN 301 908-01; EN 301 908-02; EN 301 908-03; EN 301 908-04; EN 301 908-05; EN 301 908-06; EN 301 908-07; EN 301 908-08; EN 301 908-09; EN 301 908-10; EN 301 908-11; EN 301 929-2; EN 301 997-2; EN 302 018-2; EN 302 054-2; EN 302 064-2; EN 302 066-2; EN 302 077-2; EN 302 186; EN 302 195-2; EN 302 217-3; EN 302 245-2; EN 302 288-2; EN 302 291-2; EN 302 296; EN 302 297; EN 302 326-2; EN 302 326-3; EN 302 340; EN 302 372-2; EN 302 426; EN 302 454-2; EN 302 502; EN 302 510-2;
	EN 302 217-4-2; EN 300 224-1; EN 300 279; EN 300 339; EN 300 385; EN 301 839-2; EN 301 843-6; EN 302 017-2; EN 302 208-2; EN 302 217-2-2; ETS 300 329; ETS 300 445; ETS 300 446; ETS 300 683; ETS 300 826; ETS EN 300 328; ETSI EN 300 086-2; EN 302217-1; EN 302217-2-1; EN 302217-4-1; EN 302288-1; EN 302908-12; EN 302326-1; EN 301929-1; EN 301997-1; EN 300224-2; EN 301839-1; EN 301843-1; EN 301843-2; EN 301843-3; EN 301843-4; EN 301843-5; EN 302017-1; EN 302208-1; EN 300086-1; EN 300113-1; EN 300224-1; EN 300341-1; EN 302291-1; EN 302500-1; EN 302500-2; ETSI EN 300 113-2; ETSI EN 300 197; ETSI EN 300 198; ETSI EN 300 219-1; ETSI EN 300 219-2; ETSI EN 300 220-1; ETSI EN 300 220-2; ETSI EN 300 220-3; ETSI EN 300 224-2; ETSI EN 300 296-1; ETSI EN 300 296-2; ETSI EN 300 328-1; ETSI EN 300 328-2; ETSI EN 300 330; ETSI EN 300 330-1; ETSI EN 300 330-2;

CE – Radio (continued)	ETSI EN 300 341-2; ETSI EN 300 373-1; ETSI EN 300 373-2; ETSI EN 300 373-3; ETSI EN 300 390-1; ETSI EN 300 390-2; ETSI EN 300 422-1; ETSI EN 300 422-2; ETSI EN 300 431; ETSI EN 300 440-1; ETSI EN 300 440-2; ETSI EN 300 454-1; ETSI EN 300 454-2; ETSI EN 300 718-2; ETSI EN 301 021; ETSI EN 301 166-1; ETSI EN 301 166-2; ETSI EN 301 178-2; ETSI EN 301 213-1; ETSI EN 301 213-2; ETSI EN 301 213-3; ETSI EN 301 213-4; ETSI EN 301 213-5; ETSI EN 301 357-1; ETSI EN 301 357-2; ETSI EN 301 390; ETSI EN 301 459; ETSI EN 301 489-01(<i>excluding section 9.6</i>); ETSI EN 301 489-02; ETSI EN 301 489-03; ETSI EN 301 489-04; ETSI EN 301 489-05; ETSI EN 301 489-06; ETSI EN 301 489-07; ETSI EN 301 489-08; ETSI EN 301 489-09; ETSI EN 301 489-10; ETSI EN 301 489-11; ETSI EN 301 489-12; ETSI EN 301 489-13; ETSI EN 301 489-14; ETSI EN 301 489-15; ETSI EN 301 489-16; ETSI EN 301 489-17; ETSI EN 301 489-18; ETSI EN 301 489-19; ETSI EN 301 489-20; ETSI EN 301 489-22; ETSI EN 301 489-23; ETSI EN 301 489-24; ETSI EN 301 489-25; ETSI EN 301 489-26; ETSI EN 301 489-27; ETSI EN 301 489-28; ETSI EN 301 489-31; ETSI EN 301 489-32; IEC 60945
IDA – Radio	IDA TS 3G-BS; IDA TS 3G-MT; IDA TS AR; IDA TS CT-CTS; IDA TS GMPCS; IDA TS GSM-BS; IDA TS GSM-MT; IDA TS LMR; IDA TS RPG; IDA TS SRD; IDA TS UWB; IDA TS WBA
Vietnam – Radio	TCN 68-242:2006; TCN 68-243:2006; TCN 68-246:2006
Korea – Radio	KCC Notice 2009-13; KCC Notice 2008-26; RRL Notice 2008-2; RRL Notice 2005-105; RRL Notice 2008-17; RRL Notice 2005-127; RRL Notice 2005-24; RRL Notice 2005-25; RRL Notice 2005-179; RRL Notice 2008-10; RRL Notice 2007-49; RRL Notice 2007-20; RRL Notice 2007-11; RRL Notice 2007-80; RRL Notice 2004-68; KCC Notice 2009-36, Dec. 8, 2009; RRL Notice 2009-6, October 15, 2009; KCC Notice 2010-1; KCC Notice 2010-12; KCC Notice 2010-13
Taiwan – Radio	LP0002; PLMN07; PLMN01; PLMN08
Australia - New Zealand – Radio	AS 2772.2; AS/NZS 4281; AS/NZS 4268; AS/NZS 4280.1; AS/NZS 4583; AS/NZS 4280.2; AS/NZS 4281; AS/NZS 4295; AS/NZS 4582; AS/NZS 4769.1; AS/NZS 4769.2; AS/NZS 4770; AS/NZS 4771
Hong Kong – Radio	HKTA 1002; HKTA 1007; HKTA 1008; HKTA 1010; HKTA 1015; HKTA 1016; HKTA 1020; HKTA 1022; HKTA 1026; HKTA 1027; HKTA 1029; HKTA 1030; HKTA 1031; HKTA 1032; HKTA 1033; HKTA 1034; HKTA 1035; HKTA 1036; HKTA 1037; HKTA 1039; HKTA 1041; HKTA 1042; HKTA 1043; HKTA 1044; HKTA 1046; HKTA 1047; HKTA 1048; HKTA 1049; HKTA 1051; HKTA1052; HKTA1053; HKTA 1054; HKTA 1055

FCC Telephone Terminal Equipment Scope C1	ANSI/TIA-968-A:03; ANSI/TIA-968-A-1:03; ANSI/TIA-968-A-2:04; ANSI/TIA-968-A-3:05; ANSI/TIA-968-A-4:07; ANSI/TIA-968-A-5:07; TIA-968-B; FCC Rule Part 68; 47 CFR Part 68.316; 47 CFR Part 68.317; ANSI/TIA/EIA-464-C; TIA-810-B; T1.TRQ6 (2002); TCB-31-B (1998); TIA-470.110-C; TIA-810-B; TIA-920
Canada – Telecom	CS-03 Part V Issue 9:2009 Amendment 1; CS-03 Part VIII Issue 9:2009 Amendment 4; CS-03 Part I Issue 9:2006 Amendment 3; CS-03 Part II Issue 9:2004; CS-03 Part III Issue 9:2004; CS-03 Part V Issue 9:2004; CS-03 Part VI Issue 9:2004; CS-03 Part VII Issue 9:2006 Amendment 3; CS-03 Part VIII Issue 9:2007 Amendment 3; CS-03 Issue 9:04 + A2(06) + A3(06)
Europe – Telecom	TBR 2: 01-1997; TBR 004 Ed.1.95 + A1 (97); TBR 1; TBR 3; TBR 12; A1 01-1996; TBR 013 ed.1; TBR 024 ed.1; TBR 25; TBR 38 ed.1; ETSI ES 203 021-05 ; ETSI ES 203 021-2 ; ETSI ES 021-3; TBR 021; ETSI EG 201 121; ETSI EN 301 437; ETSI TS 101 270-1; ITU-T Recommendation Q.920; ITU-T Recommendation Q.920 – Amendment 1; ITU-T Recommendation Q.921; ITU-T Recommendation Q.921 – Amendment 1; ITU-T Recommendation Q.931; ITU-T Recommendation Q.931 – Amendment 1; Erratum 1 (02/2003) ITU-T Recommendation Q.931 (05/1998); ISDN User Network Interface Layer 3 Specification for Basic Call Control; ITU-T Recommendation P.300
Australia – Telecom	AS/CA S003.1:2010; AS/CA S003.2:2010; AS/CA S003.3:2010; AS/CA S004:2010; AS/ACIF S006:2008; AS/ACIF S041.1:2009
Australia – Telecom	AS/ACIF S041.2:2009; AS/ACIF S041.3:2009; AS/ACIF S042.1:2008; AS/ACIF S043.2:2008; AS/ACIF S043.3:2008; AS/ACIF S002:05; AS/ACIF S003:06; AS/ACIF S004:06; AS/ACIF S006:01; AS/ACIF S016:01; AS/ACIF S031:01; AS/ACIF S038:01; AS/ACIF S040:01; AS/ACIF S041:05; AS/ACIF S043.2:06; AS ACIF S042.1
New Zealand – Telecom	PTC200:2006; PTC200 Issue No.2:97 + A1(980); PTC220; PTC273:2007; TNA 115; TNA 117
Singapore – Telecom	IDA TS ADSL, Issue 1, Rev. 1 (April 2006); IDA TS DLCN, Issue 1 (July 2005); IDA TS ISDN BA, Issue 1 (July 2005); IDA TS ISDN PRA, Issue 1 (July 2005); IDA TS ISDN 3 (Oct. 2000); IDA TS-PSTN, Issue 1 (March 2007); IDA TS ACLIP 07
Hong Kong – Telecom	HKTA 2011; HKTA 2012; HKTA 2013; HKTA 2014; HKTA 2015; HKTA 2017; HKTA 2018; HKTA 2019; HKTA 2022; HKTA 2023; HKTA 2024; HKTA 2026; HKTA 2027; HKTA 2028; HKTA 2029; HKTA 2030; HKTA 2031; HKTA 2032; HKTA 2033

Vietnam – Telecom	TCN 68-188:2000; TCN 68-193:2003; TCN 68-196:2001; TCN 68-143:2003; TCN 68-192:2003; TCN 68-189:2000; TCN 68-221:2004; TCN 68-222:2004; TCN 68-245:2004; TCN 68-223:2004
Korea – Telecom	RRA Notice 2009-38, Sep. 11, 2009; RRA Notice 2009-7 (including attachments 1, 3, 5 ,6); Presidential Decree 21098, RRL Notice 2007-30; RRL Notice 2008-10 (attachments 1, 3, 5, 6); RRL Notice 2009-25; RRL Notice 2008-59
China – Telecom	YD/T 514-1:98; YD/T 1277.1-2003; GB/T 17904.1-1999; GB/T 17904.2-1999; GB/T 17154.1-1997; GB/T 17154.2-1997; YD/T1091-2000; YD/T1006-1999; GB/T 17789-1999
Taiwan – Telecom	PSTN01:03; ADSL01:08; ID0002; IS6100: 93
Japan – Telecom	JATE Blue Book, Green Book; Ministerial Ordinance of the Ministry of Posts and Telecommunications No. 31 of April 1, 1985 (last amended on March 22 2004); Ordinance Concerning Technical Conditions Compliance Approval etc. of Terminal Equipment
South Africa – Telecom	DPT-TE-001; TE-002; TE-003; TE-004; TE-005; TE-006; TE-007; TE-008; TE-009; TE-010; TE-012 (telephone interface); TE-013 (telephone interface); TE-014; TE-015; TE-018; SWS-001; SWS-002; SWS-003; SWS-004; SWS-005; SWS-006; SWS-007; SWS-008; SWS-009; SWS-010
Israel – Telecom	Israel MoC Spe. 23/96
Mexico – Telecom	NOM-151-SCT1-1999; NOM-152-SCT1-1999
Argentina – Telecom	CNC-ST2-44-01
Brazil – Telecom	Resolution 392-2005
International Telecom Union	ITU-T-G.703:01; ITU-T-G.823:93; ITU-T G.824; ITU-T G.825; ITU-T-G.991.2; ITU-T-G.992.1; ITU-T-G.992.3; ITU-T-G.992.5; ITU-T-G.993.1
Product Safety	IEC 60950-1; EN 60950-1; UL 60950-1; IEC 60601-1-1; CAN/CSA 22.2 NO. 60950-1-03; SS-EN 60950-1; AS/NZ 60950-1, <i>(voltage surge testing up to 6kV, excluding Annex A and H)</i> ; CNS 14336, CNS 14408; GB4943; President Notice 20664; RRL Notice 2008-10 (attachment 4); RRA Notice 2009-7 (attachment 4); TCN 68-190:2003; SABS IEC 60950; IEC/EN 61558; IEC/EN 61558-2-7; EN 62115; IEC 60215; EN 60958; EN 60598; IEC 215 (1987) + A1 (1992) + A2 (1994)
Japan - Radio	ARIB STD-T81; ARIB STD-T66; RCR STD-1; RCR STD-29; ARIB STD-T94 Fascicle 1; ARIB STD-T90; ARIB STD-T89; RCR STD-33

SAR & HAC	IEEE P1528:2003 + Ad1; IEEE 1528A:2005; FCC OET Bulletin 65 Supplement C; FCC OET Bulletin 65; ANSI C95; ANSI C63.19; FCC 47 CFR 20.19; H46-2/99-273E; EN 50360; EN 50361; IEC62209-1; IEC 62209-2; EN 50371; EN 50383; EN 50357; EN 50364; RRL 2008-18; RRL 2008-16; KCC 2009-27; RRL 2004-67; CNS 14958-1; CNS 14959; NZS 2772.1; NZS 6609.2; Resolution N 533
Japan – Notification No. 88 of MIC 2004	
Table No 13	CB Radio
Table No 21	Cordless Telephone
Table Nos 22-1 thru 22-17	Low Power Radio Equipment
Table No 36	Low Power Security System
Table No 43	Low Power Data Communication in the 2.4 GHz Band
Table No 44	Low Power Data Communication in the 2.4 GHz Band
Table No 45	Low Power Data Communication in the 5.2, 5.3, 5.6 GHz Bands
Table No 46	Low Power Data Communication in the 25 and 27 GHz Bands
Table No 47	Base Station for 5 GHz Band Wireless Access System
Table No 47	Base Station for 5 GHz Band Wireless Access System (low spurious type)
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System (limited for use in special zones)
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System (limited for use in special zones, low spurious type)
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System (low spurious type)
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System (low power type)
Table No 50	Digital Cordless Telephone
Table No 50	PHS Base Station
Table No 50	PHS Land Mobile Station
Table No 50	PHS Relay Station
Table No 50	PHS Test Station
Table No 64	Mobile Station for Dedicated Short Range Communication Systems
Table No 64	Base Station for Dedicated Short Range Communication Systems
Table No 64	Test Station for Dedicated Short Range Communication Systems
Table No 70	UWB (Ultra Wide Band) Radio System



SIEMIC, INC.

Accessing global markets

Title: RF Test Report of Qualcomm Incorporated

Model : TT210 3G

To FCC 22(H):2011 & FCC 24(E):2011&

RSS-132 Issue 2 : 2005 & RSS-133 Issue 5 : 2009

Serial# SL11112903-QCM-006_RF(FCC_22,24)

Issue Date January 19th 2012

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¹Note: This accreditation covers testing performed at the laboratory listed above and the OATS located at 44366 South Grimmer Blvd., Fremont CA 94538. At this site "Radiated Emissions" are tested at a measurement distance of 10m.

*Limitations for listed standards are indicated by *italics* and Scope excludes protocol sections of applicable standards.



The American Association for Laboratory Accreditation

Accredited Product Certification Body

A2LA has accredited

SIEMIC LABORATORIES

San Jose, CA

for technical competence as a

Product Certification Body

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC Guide 65:1996 *General requirements for bodies operating product certification systems*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system for a Telecommunications Certification Body (TCB) meeting FCC (U.S.), IDA (Singapore), IC (Canada), OFTA (Hong Kong), and Japan (MIC) requirements.

Presented this 23rd day of November 2010.



Peter Ahrey
President & CEO
For the Accreditation Council
Certificate Number 2742.01
Valid to September 30, 2012
Revised December 16, 2010



For the product certification schemes to which this accreditation applies, please refer to the organization's Product Certification Scope of Accreditation.



The American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC GUIDE 65:1996

SIEMIC INC.
2206 Ringwood Ave.
San Jose, CA 95131
Mr. Snell Leong (Authorized Representative) Phone: 408 526 1188
www.siemic.com

PRODUCT CERTIFICATION CONFORMITY ASSESSMENT BODY (CAB)

Valid to: September 30, 2012

Certificate Number: 2742.02

In recognition of the successful completion of the A2LA Certification Body Accreditation Program evaluation, including the US Federal Communications Commission (FCC), Industry Canada (IC), Singapore (IDA) and Hong Kong (OFTA) requirements for the indicated types of product certifications, accreditation is granted to this organization to perform the following product certification schemes:

Economy Scope

Federal Communication Commission - (FCC)

Unlicensed Radio Frequency Devices	A1, A2, A3, A4
Licensed Radio Frequency Devices	B1, B2, B3, B4
Telephone Terminal Equipment	C

**Please refer to FCC TCB Program Roles and Responsibilities, released July 22, 2010 detailing scopes, roles and responsibilities. <http://fajlfof.fcc.gov/oetc/kdb/forms/FTSSearchResultPage.cfm?id=44683&switch=P>*

Industry Canada - (IC)

Radio	Scope 1-Licence-Exempt Radio Frequency Devices; Scope 2-Licensed Personal Mobile Radio Services; Scope 3-Licensed General Mobile & Fixed Radio Services; Scope 4-Licensed Maritime & Aviation Radio Services; Scope 5-Licensed Fixed Microwave Radio Services;
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**Please refer to Industry Canada (IC) website at: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09888.html>*

IDA – Singapore

Line Terminal Equipment	All Technical Specifications for Line Terminal Equipment – Table 1 of IDA MRA Recognition Scheme: 2009, Annex 2
Radio-Communication Equipment	All Technical Specifications for Radio-Communication Equipment – Table 2 of IDA MRA Recognition Scheme: 2009, Annex 2

**Please refer to Info-Communication Development Authority (IDA) Singapore website at: http://www.ida.gov.sg/doc/Policies%20and%20Regulation/Policies_and_Regulation_Level2/20060609145118/MRARecScheme.pdf*

(A2LA Cert. No. 2742.02) Revised 12/16/2010

Page 1 of 2

OFTA – Hong Kong

Radio Equipment

HKTA 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1015, 1016, 1019, 1020, 1022, 1026, 1027, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055

**Please refer to the Office of the Telecommunications Authority's website at:
<http://www.ofta.gov.hk/en/standards/HKTA/Spec/hkta-10xx.html>*

Fixed Network Equipment

HKTA 2001, 2005, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2040, 2041, 2102, 2103, 2104, 2108, 2201, 2202, 2203, 2204

**Please refer to the Office of the Telecommunications Authority's website at:
<http://www.ofta.gov.hk/en/standards/HKTA/Spec/hkta-2xxx.html>*

MIC – Japan

Terminal Equipment

Scope A1 - Terminal Equipment for the Purpose of Calls

Radio Equipment

Scope B1 - Unlicensed Station (all classes of equipment)



SIEMIC ACCREDITATION DETAILS: FCC Test Site Registration No. 783147

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

June 08, 2011

Registration Number: 783147

SIEMIC Laboratories
2206 Ringwood Avenue,
San Jose, CA 95131

Attention: Leslie Bai, Director of Certification

Re: Measurement facility located at San Jose
Anechoic chamber (3 meters)
Date of Renewal: June 08, 2011

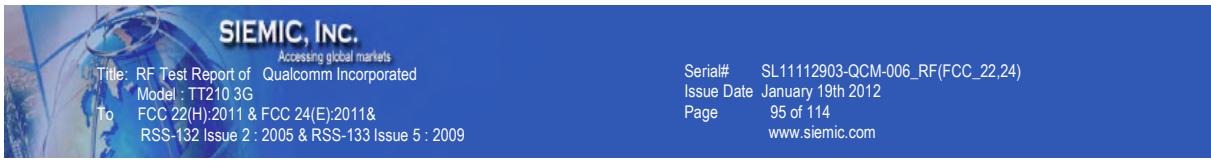
Dear Sir or Madam:

Your request for renewal of the registration of the subject measurement facility has been received. The information submitted has been placed in your file and the registration has been renewed. The name of your organization will remain on the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,

Phyllis Parrish
Industry Analyst



SIEMIC ACREDITATION DETAILS: Industry of Canada CAB ID : US0160

SIEMIC, INC.

Accessing global markets

Title: RF Test Report of Qualcomm Incorporated
Model : TT210 3G
To FCC 22(H):2011 & FCC 24(E):2011&
RSS-132 Issue 2 : 2005 & RSS-133 Issue 5 : 2009

Serial# SL11112903-QCM-006_RF(FCC_22,24)
Issue Date January 19th 2012
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www.siemic.com

**UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology**
Gaithersburg, Maryland 20899

March 4, 2009

Mr. Leslie Bai
SIEMIC, Inc.
2206 Ringwood Avenue
San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by Industry Canada (IC), under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name: SIEMIC, Inc.
Physical Location: 2206 Ringwood Avenue, San Jose, CA 95131 USA
Identification No.: US0160
Recognized Scope: CS-03 Part I, II, V, VI, VII and VIII

You may submit test data to IC to verify that the equipment to be imported into Canada satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements.

Recognized CABs are listed on the NIST website at <http://ts.nist.gov/mra>. Please contact Ms. Ramona Saar at (301) 975-5521 or ramona.saar@nist.gov if you have any questions.

Sincerely,

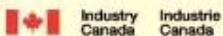
David F. Alderman
Group Leader, Standards Coordination and Conformity Group
Standards Services Division

Enclosure

cc: CAB Program Manager



SIEMIC ACREDITATION DETAILS: Industry of Canada Test Site Registration No. 4842-1



May 27, 2010

OUR FILE: 46405-4842
Submission No: 140856

Siemic Inc.
2206 Ringwood Ave
San Jose, CA, 95131
USA

Attention: Snell Leong

Dear Sir/Madame:

The Bureau has received your application for the renewal of a 3m alternative test site. Be advised that the information received was satisfactory to Industry Canada. The following number(s) is now associated to the site(s) for which registration/renewal was sought (**4842A-1**). Please reference the appropriate site number in the body of test reports containing measurements performed on the site. In addition, please keep for your records the following information:

- Your primary code is: **4842**
- The company number associated to the site(s) located at the above address is: **4842A**

Furthermore, to obtain or renew a unique site number, the applicant shall demonstrate that the site has been accredited to ANSI C63.4-2003 or later. A scope of accreditation indicating the accreditation by a recognized accreditation body to ANSI C63.4-2003 or later shall be accepted. Please indicate in a letter the previous assigned site number if applicable and the type of site (example: 3 metre OATS or 3 metre chamber). If the test facility is not accredited to ANSI C63.4-2003 or later, the test facility shall submit test data demonstrating full compliance with the ANSI standard. The Bureau will evaluate the filing to determine if recognition shall be granted.

The frequency for re-validation of the test site and the information that is required to be filed or retained by the testing party shall comply with the requirements established by the accrediting organization. However, in all cases, test site re-validation shall occur on an interval not to exceed two years. There is no fee or form associated with an OATS filing. OATS submissions are encouraged to be submitted electronically to the Bureau using the following URL:

http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h_t00052e.html

If you have any questions, you may contact the Bureau by e-mail at cetification.bureau@ic.gc.ca. Please reference our file and submission number above for all correspondence.

Yours sincerely,

Deirdre Gill,
For: Wireless Laboratory Manager
Certification and Engineering Bureau
3701 Cartier Ave., Building 94
P.O. Box 11490, Station "E"
Ottawa, Ontario, K2B 8Z3
Email: Deirdre.Gill@ic.gc.ca
Tel. No. (613) 990-0363
Fax. No. (613) 990-4752



SIEMIC ACREDITATION DETAILS: FCC DOC CAB Recognition : US1109

FEDERAL COMMUNICATIONS COMMISSION
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

August 28, 2008

Siemic Laboratories
2206 Ringwood Ave.,
San Jose, CA 95131

Attention: Leslie Bai

Re: Accreditation of Siemic Laboratories
Designation Number: US1109
Test Firm Registration #: 540430

Dear Sir or Madam:

We have been notified by American Association for Laboratory Accreditation that Siemic Laboratories has been accredited as a Conformity Assessment Body (CAB).

At this time Siemic Laboratories is hereby designated to perform compliance testing on equipment subject to Declaration Of Conformity (DOC) and Certification under Parts 15 and 18 of the Commission's Rules.

This designation will expire upon expiration of the accreditation or notification of withdrawal of designation.

Sincerely,

George Tannahill
George Tannahill
Electronics Engineer



SIEMIC ACCREDITATION DETAILS: Australia CAB ID : US0160



UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

November 20, 2008

Mr. Leslie Bai
SIEMIC, Inc.
2206 Ringwood Avenue
San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the Australian Communications and Media Authority (ACMA) under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name: Siemic, Inc.
Physical Location: 2206 Ringwood Avenue, San Jose, CA 95131
Identification No.: US0160
Recognized Scope: EMC: AS/NZS 4251.1 (until 5/31/2009), AS/NZS 4251.2 (until 5/31/2009), AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR 22, AS/NZS 61000.6.3, AS/NZS 61000.6.4
Radiocommunications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771
Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06, AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043.2:06, AS/NZS 60950.1

You may submit test data to ACMA to verify that the equipment to be imported into Australia satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements. Recognized CABs are listed on the NIST website at <http://ts.nist.gov/mra>. Please contact Ms. Ramona Saar, at (301) 975-5521 or ramona.saar@nist.gov if you have questions.

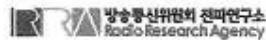
Sincerely,

David F. Alderman
Group Leader, Standards Coordination and Conformity Group
Standards Services Division

Enclosure

cc: Snell Leong, Siemic, Inc.; Ramona Saar, NIST

SIEMIC ACREDITATION DETAILS: Korea CAB ID: US0160



KOREA COMMUNICATIONS COMMISSION
REPUBLIC OF KOREA
1, Wonhyoro-3ga, Yongsan-gu, Seoul, 140-848, Korea

KCC/RRA

Radio Research Agency

Tel: +82 2 710 6610

Fax: +82 2 710 6619

Homepage : www.rra.go.kr14th Jan, 2011

Radio Research Agency
Korea Communications Commission
#1, Wonhyoro-3ga, Yongsan-gu
Seoul Korea 140-848
(Tel) 82-2-710-6610, (Fax) 82-2-710-6619
Jan 14th, 2011

Mr. David F. Alderman
Group Leader, Standards Coordination and Conformity Group
National Institute of Standards and Technology
100 Bureau Drive, Stop 2100
Gaithersburg, Maryland 20899-2100, USA

Dear Mr. David F. Alderman:

This is to confirm the recognition by Radio Research Agency of

SIEMIC, Inc. (US0160)

as an accredited Conformity Assessment Body (CAB) under the terms of Phase I of the APEC TEL MRA. The scope for which this laboratory has been recognized is given below.

Coverage	Standards	Date of Recognition
Current Scope	EMI : KCC Notice 2008-39, RRL Notice 2008-3 and KN22 EMS : KCC Notice 2008-38, RRL Notice 2008-4, KN24, KN 61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11 Radio : RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-11, RRL Notice 2007-80, RRL Notice 2004-68 Telecom : President Notice 20664, RRL Notice 2007-30, 2008-7(1,3,4,5,6)	Jan 14 th , 2011
Updated Scope	SAR : RRA Notice 2008-16, RRA Notice 2008-18, KCC Notice 2009-27	

This recognition is contingent upon the maintenance of this CAB's accreditation status and is limited to the standards listed above.

If you have any inquiries about this recognition, please contact to Certification Division of Radio Research Agency with above address and telephone numbers.

Best Regards,

Ahn, Kun-Young
Director Certification Division

Enclosure

cc: Ramona Saar - NIST,
JungMin Park - RRA



SIEMIC ACREDITATION DETAILS: Taiwan BSMI Accreditation No. SL2-IN-E-1130R



UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20889

May 3, 2006

Mr. Leslie Bai
SIEMIC Laboratories
2206 Ringwood Avenue
San Jose, CA 95131

Dear Mr. Bai:

I am pleased to inform you that your laboratory has been recognized by the Chinese Taipei's Bureau of Standards, Metrology, and Inspection (BSMI) under the Asia Pacific Economic Cooperation (APEC) Mutual Recognition Arrangement (MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. You may submit test data to BSMI to verify that the equipment to be imported into Chinese Taipei satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements. The pertinent designation information is as follows:

- BSMI number: **SL2-IN-E-1130R** (Must be applied to the test reports)
- U.S. Identification No: **US0160**
- Scope of Designation: **CNS 13438**
- Authorized signatory: **Mr. Leslie Bai**

The names of all recognized CABs will be posted on the NIST website at <http://ts.nist.gov/mra>. If you have any questions, please contact Mr. Dhillon at 301-975-5521. We appreciate your continued interest in our international conformity assessment activities.

Sincerely,

A handwritten signature in blue ink.

David F. Alderman
Group Leader, Standards Coordination and Conformity Group

cc: Jogindar Dhillon

NIST



SIEMIC ACREDITATION DETAILS: Taiwan NCC CAB ID: US0160

SIEMIC, INC.

Accessing global markets

Title: RF Test Report of Qualcomm Incorporated

Model : TT210 3G

To FCC 22(H):2011 & FCC 24(E):2011&

RSS-132 Issue 2 : 2005 & RSS-133 Issue 5 : 2009

Serial# SL11112903-QCM-006_RF(FCC_22,24)

Issue Date January 19th 2012

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**UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology**
Gaithersburg, Maryland 20899

March 16, 2009

Mr. LeslieBai
SIEMIC, Inc.
2206 Ringwood Avenue
San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the National Communications Commission (NCC) for the requested scope expansion under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name: SIEMIC, Inc.
Physical Location: 2206 Ringwood Avenue, San Jose, CA 95131
Identification No.: US0160
Current Scope: LP0002, PSTN01, ADSL01, ID0002, IS6100 and CNS 14336
Additional Scope: PLMN07

You may submit test data to NCC to verify that the equipment to be imported into China satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements.

Recognized CABs are listed on the NIST website at <http://ts.nist.gov/mra>. If you have any questions please contact Ramona Saar at (301) 975-5521 or ramona.saar@nist.gov.

Sincerely,

David F. Alderman
Group Leader, Standards Coordination and Conformity Group
Standards Services Division

Enclosure

cc: Ramona Saar

NIST

BỘ THÔNG TIN VÀ TRUYỀN THÔNG CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

Số: 65 /QĐ-BTTTT

Hà Nội, ngày 19 tháng 01 năm 2011

QUYẾT ĐỊNH**Về việc Thừa nhận Phòng đo kiểm****BỘ TRƯỞNG BỘ THÔNG TIN VÀ TRUYỀN THÔNG**

Căn cứ Nghị định số 187/2007/NĐ-CP ngày 25/12/2007 của Chính phủ quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Bộ Thông tin và Truyền thông;

Căn cứ Quyết định số 172/2003/QĐ-BBCVT ngày 29/10/2003 của Bộ trưởng Bộ Bưu chính, Viễn thông (nay là Bộ Thông tin và Truyền thông) quy định về việc thừa nhận các Phòng đo kiểm đã được các Bên tham gia Thoả thuận thừa nhận lẫn nhau về đánh giá hợp chuẩn thiết bị viễn thông với Việt Nam chỉ định;

Theo đề nghị của Vụ trưởng Vụ Khoa học và Công nghệ,

QUYẾT ĐỊNH:

Điều 1. Thừa nhận phòng đo kiểm:

SIEMIC, INC. – US0160

Địa chỉ: 2206 Ringwood Avenue, San Jose, CA 95131 USA

(đã được Viện tiêu chuẩn và công nghệ quốc gia Hoa Kỳ (NIST) chỉ định và đề nghị thừa nhận) đáp ứng đầy đủ các yêu cầu về việc thừa nhận Phòng đo kiểm đã được Bên tham gia Thoả thuận thừa nhận lẫn nhau về đánh giá hợp chuẩn thiết bị viễn thông với Việt Nam chỉ định theo Quyết định số 172/2003/QĐ-BBCVT với phạm vi thừa nhận kèm theo Quyết định này.

Điều 2. Phòng đo kiểm có tên tại Điều 1 có các quyền lợi và nghĩa vụ theo quy định tại Quyết định số 172/2003/QĐ-BBCVT.

Điều 3. Phòng đo kiểm có tên tại Điều 1 và các cơ quan, tổ chức có liên quan chịu trách nhiệm thi hành Quyết định này.

Điều 4. Quyết định này có hiệu lực đến ngày 30/09/2012./.

KT. BỘ TRƯỞNG
 THỦ TRƯỞNG



Nguyễn Thành Hưng

Nơi nhận:

- Như Điều 3;
- Bộ trưởng (để b/c);
- Trung tâm Thông tin (để đăng website);
- Lưu: VT, KHCN.



SIEMIC ACCREDITATION DETAILS: Mexico NOM Recognition

Laboratorio Valentín V. Rivero

CANIEI
CÁMARA NACIONAL
DE LA INDUSTRIA
ELECTRÓNICA, DE
TELECOMUNICACIONES
E INFORMATICA

México D.F., a 16 de octubre de 2006.

LESLIE BAI
DIRECTOR OF CERTIFICATION
SIEMIC LABORATORIES, INC.
ACCESSING GLOBAL MARKETS
P R E S E N T E

En contestación a su escrito de fecha 5 de septiembre del año en curso, le comento que estamos muy interesados en su intención de firmar un Acuerdo de Reconocimiento Mutuo, para lo cual adjunto a este escrito encontrara el Acuerdo en idioma inglés y español lleno de los cuales le pido sea revisado y en su caso corregido, para que si esta de acuerdo poder firmarlo para mandarlo con las autoridades Mexicanas para su visto bueno y así poder ejercer dicho acuerdo.

Aprovecho este escrito para mencionarle que nuestro intermediario gestor será la empresa Isabel de México, S. A. de C. V., empresa que ha colaborado durante mucho tiempo con nosotros en lo relacionado a la evaluación de la conformidad y que cuenta con amplia experiencia en la gestoría de la certificación de cumplimiento con Normas Oficiales Mexicanas de producto en México.

Me despido de usted enviándole un cordial saludo y esperando sus comentarios al Acuerdo que nos ocupa.

Atentamente:


Ing. Faustino González González
Gerente Técnico del Laboratorio de
CANIEI

Culiacán 71
Colonia Condesa
06100 México, D.F.
Tel: 5264-0908 con 12 líneas
Fax 5264 0466
www.caniei.org



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SIEMIC ACREDITATION DETAILS: Hong Kong OFTA CAB ID : US0160



UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

December 8, 2008

Mr. Leslie Bai
SIEMIC, Inc.
2206 Ringwood Avenue
San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the Office of the Telecommunications Authority (OFTA) under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I Procedures**, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name: SIEMIC, Inc.
Physical Location: 2206 Ringwood Avenue, San Jose, California 95131 USA
Identification No.: US0160
Recognized Scope: **Radio:** HKTA 1002, 1007, 1008, 1010, 1015, 1016, 1020, 1022, 1026, 1027, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1039, 1041, 1042, 1043, 1044, 1046, 1047, 1048, 1049, 1051
Telecom: HKTA 2011, 2012, 2013, 2014, 2017, 2018, 2022, 2024, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033

You may submit test data to OFTA to verify that the equipment to be imported into Hong Kong satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements.

Recognized CABs are listed on the NIST website at <http://ts.nist.gov/mra>. If you have any questions please contact Ramona Saar at (301) 975-5521 or ramona.saar@nist.gov.

Sincerely,

A handwritten signature in black ink that reads "David F. Alderman".

David F. Alderman
Group Leader, Standards Coordination and Conformity Group
Standards Services Division

Enclosure

cc: Ramona Saar





SIEMIC ACREDITATION DETAILS: Australia ACMA CAB ID: US0160



UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

November 20, 2008

Mr. Leslie Bai
SIEMIC, Inc.
2206 Ringwood Avenue
San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the Australian Communications and Media Authority (ACMA) under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name:	Siemic, Inc.
Physical Location:	2206 Ringwood Avenue, San Jose, CA 95131
Identification No.:	US0160
Recognized Scope:	<p><u>EMC</u>: AS/NZS 4251.1 (until 5/31/2009), AS/NZS 4251.2 (until 5/31/2009), AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR 22, AS/NZS 61000.6.3, AS/NZS 61000.6.4</p> <p><u>Radiocommunications</u>: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771</p> <p><u>Telecommunications</u>: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06, AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043.2:06, AS/NZS 60950.1</p>

You may submit test data to ACMA to verify that the equipment to be imported into Australia satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements. Recognized CABs are listed on the NIST website at <http://ts.nist.gov/mra>. Please contact Ms. Ramona Saar, at (301) 975-5521 or ramona.saar@nist.gov if you have questions.

Sincerely,

A handwritten signature in black ink that reads "David F. Alderman".

David F. Alderman
Group Leader, Standards Coordination and Conformity Group
Standards Services Division

Enclosure

cc: Snell Leong, Siemic, Inc.; Ramona Saar, NIST

The NIST logo, consisting of the letters "NIST" in a bold, sans-serif font.



SIEMIC ACREDITATION DETAILS: Australia NATA Recognition



Leslie Bai
SIEMIC, Inc.
2206 Ringwood Avenue
San Jose, CA 95131

November 4, 2008

Under Australian government legislation, the Australian Communications and Media Authority (ACMA) has determined the National Association of Testing Authorities, Australia (NATA) as an accreditation body as per Section 409(1) of the Telecommunications Act 1997 (Cth). Pursuant to Section 409(2) of the Telecommunications Act 1997 (Cth), I am pleased to advise that your laboratory has been determined as a Recognised Testing Authority (RTA).

This determination has been made on the basis of your accreditation by A2LA accreditation no. 2742.01 and the Mutual Recognition Agreement between NATA and A2LA. It is effective from 11 July 2008. RTA status applies only to the following standards and is contingent upon their continued inclusion in your laboratory's scope of accreditation.

**AS/ACIF S002, AS/ACIF S003, AS/ACIF S004,
AS/ACIF S006, AS/ACIF S016, AS/ACIF S031,
AS/ACIF S038, AS/ACIF S041 and
AS/ACIF S043.2**

As an RTA, your laboratory has the following obligations.

1. the laboratory shall continue to meet all of the accreditation criteria of A2LA;
2. the authorised representative of the laboratory shall notify NATA of changes to the staff or operations of the laboratory which would affect the performance of the tests for which the laboratory has been determined;
3. compliance of equipment shall be reported on test reports bearing the A2LA logo/endorsement.

Current information on the Australian Communications and Media Authority and regulatory requirements for telecommunications products within Australia can be obtained from the ACMA's web-site at "<http://www.acma.gov.au>". Further information about NATA may be gained by visiting "<http://www.nata.asn.au>".

Please note that AS/ACIF S040 and New Zealand standards do not form part of the RTA scheme.

Your RTA listing will appear on the NATA website shortly.

Kind Regards

Chris Norton,
Senior Scientific Officer
Measurement Science and Technology
National Association of Testing Authorities (NATA)
71-73 Flemington Road
North Melbourne Vic 3051
Australia
Ph: +61 3 9329 1633 Fx: +61 3 9326 5148
E-Mail: Christopher.Norton@nata.asn.au
Internet: www.nata.asn.au

SIEMIC ACREDITATION DETAILS: VCCI Radiated Test Site Registration No. R-3083



SIEMIC, INC.

Accessing global markets

Title: RF Test Report of Qualcomm Incorporated
Model : TT210 3G
To FCC 22(H):2011 & FCC 24(E):2011 &
RSS-132 Issue 2 : 2005 & RSS-133 Issue 5 : 2009

Serial# SL11112903-QCM-006_RF(FCC_22,24)
Issue Date January 19th 2012
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SIEMIC ACREDITATION DETAILS: VCCI Conducted (Main Port) Test Site Registration No. C-3421



SIEMIC, INC.

Accessing global markets

Title: RF Test Report of Qualcomm Incorporated

Model : TT210 3G

To FCC 22(H):2011 & FCC 24(E):2011&

RSS-132 Issue 2 : 2005 & RSS-133 Issue 5 : 2009

Serial# SL11112903-QCM-006_RF(FCC_22,24)

Issue Date January 19th 2012

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SIEMIC ACREDITATION DETAILS: VCCI Conducted (Telecom Port) Test Site Registration No. T-1597

