ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 22 SUBPART H, PART 24 SUBPART E AND INDUSTRY CANADA, RSS-133, RSS-132

OF

Product Name:	**SocketModem CDMA**
Brand Name:	**Multi-Tech Systems, Inc.**
Model Name:	**MTSMC-C1-GP**
Model Difference:	**MTSMC-C1, MTSMC-C1-V, MTSMC-C1-IP**
IC:	**125A-034**
FCC ID:	**AU792U09G17825**
Report No.:	**ER/2009/A0029**
Issue Date:	**Oct. 26, 2009**
FCC Rule Part:	**2 , 22H & 24E**
IC Rule Part:	**RSS 133 Issue 5 /RSS 132 Issue 2/RSS102 Issue 3**
Prepared for:	**Multi-Tech Systems, Inc.** **2205 Woodale Drive.** **Mounds View, MN 55112, USA**
Prepared by:	**SGS Taiwan Ltd.** **Electronics & Communication Laboratory** **No. 134, Wu Kung Rd., Wuku Industrial Zone,** **Taipei County, Taiwan.**

CERTIFICATION OF COMPLIANCE

Applicant:	Multi-Tech Systems, Inc. 2205 Woodale Drive, Mounds View, MN 55112, USA
Manufacturer:	Multi-Tech Systems, Inc. 2205 Woodale Drive, Mounds View, MN 55112, USA
Product Name:	MTSMC-C1-GP
Brand Name:	Multi-Tech Systems, Inc.
IC:	125A-034
FCC ID:	AU792U09G17825
Model No.:	MTSMC-C1-GP
Model Difference:	MTSMC-C1, MTSMC-C1-V, MTSMC-C1-IP
File Number:	ER/2009/A0029
Date of test:	Oct. 12, 2009~Oct. 21, 2009
Date of EUT Received:	Oct. 9, 2009

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in TIA/EIA-603-C-2004, Issue 2 of RSS-Gen and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rule PART 22 subpart H, PART 24 subpart E and IC standards Issue 5 of RSS-133, Issue 2 of RSS-132.

The test results of this report relate only to the tested sample identified in this report.

Test By:	Brian Chang	***Date:***	Oct. 26, 2009
	Brian Chang/ Engineer		
Prepared By:	Alex Chen	***Date:***	Oct. 26, 2009
	Alex Chen/Engineer-P		
Approved By:	Vincent Su	***Date:***	Oct. 26, 2009
	Vincent Su/Manager		

Version

Version No.	Date	Description
00	Oct. 26, 2009	Initial creation of document

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1. GENERAL INFORMATION

1.1 Product Description

General:

Type Name:	Socket Modem CDMA
Brand Name:	Multi-Tech Systems, Inc.
Model Name:	MTSMC-C1-GP
Model Difference:	Refer section 1.2
Power Supply:	5Vdc from external power supply.

CDMA:

DUT Standards And Power:	CDMA2000	Frequency Range		Rated Power
	Cellular	TX:	824 ~ 849 MHz	24 dBm
		RX:	869 ~ 894 MHz	
	PCS	TX:	1850 ~ 1910 MHz	24 dBm
		RX:	1930 ~ 1990 MHz	
Type of Emission		1M25F9W		
MEID_HEX		A1000009.400544		
Software Version		P3a		
Hardware Version		A		
Antenna Type		Dipole Antenna, Peak Gain: 2.0 dBi.		

Final amplifier voltage and current information

Test Mode	DC voltage (V)	DC current (mA)
CDMA 2000 Cellular	5 Vdc	0.7
CDMA 2000 PCS	5 Vdc	0.72

1.2 Model Difference:

The model MTSMC-C1-GP, MTSMC-C1, MTSMC-C1-V and MTSMC-C1-IP have identical RF radio circuitry.

The MTSMC-C1-GP is the base model and represents the MTSMC-C1 product family as the fully loaded model with all the functionality of each device in the product family. The below table shows the model, functionality and comment of change as it would compare to the MTSMC-C1-GP the base or parent model.

Model	Functionality	Comment of change
MTSMC-C1-GP	CDMA, voice, IP and GPS	Base or Parent model
MTSMC-C1	CDMA	1. Voices pins are removed from the Socket-Modem 2. The MultiTech IP stack is not loaded. 3. The GPS module is not integrated onto the MTSMC-C1.
MTSMC-C1-V	CDMA, Voice	1. The MultiTech IP stack is not loaded. 2. The GPS module is not integrated onto the MTSMC-C1.
MTSMC-C1-IP	CDMA, IP	1. Voices pins are removed from the Socket-Modem 2. The GPS module is not integrated onto the MTSMC-C1.

1.3 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: AU792U09G17825** filing to comply with Section Part 22 subpart H , Part 24 subpart E of the FCC CFR 47 Rules. And **IC ID: 125A-034** filing to comply with issue 5 of RSS-133 and issue 2 of RSS-132.

1.4 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on TIA/EIA 603C and FCC 47 CFR 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, issue 2 of RSS-132and issue 5 of RSS-133 and Issue 2 of RSS-Gen

1.5 Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 134, Wu Kung Rd., Wuku Industrial Zone, Taipei Country, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4: 2003. FCC Registration Number are: 990257 and 236194, Canada Registration Number: 4620A-1

The 10 m Open Area Test Sites located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 29, Pau-Tou-Tsuo Valley Chia-Pau Tsuen, Linkou Hsiang, Taipei county, which is constructed and calibrated to meet the CISPR 22/EN 55022 requirements. SGS Site No. 1(3 &10 meters) and FCC Registration Number: 94644.

1.6 Special Accessories

Not available for this EUT intended for grant.

1.7 Equipment Modifications

Not available for this EUT intended for grant.

2. SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The MTSMC-C1-GP was stayed in engineering mode (RC3/SO55)to fix the Tx frequency which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Measurement at Antenna Port:

According to measurement procured TIA/EIA 603C, the EUT is placed on a turn table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

2.3.2 Radiated Emissions (ERP/EIRP):

According to measurement procured TIA/EIA 603C, issue 2 of RSS-Gen and TIA/EIA IS-98 for Mobile stations. The EUT is placed on a turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements.

A standard antenna was used to replace the EUT and connect to the SG. Adjust the SG output level to reach the max emission level which were measured above.

2.4 Configuration of Tested System

Fig. 1-1 Configuration for Radiated Emission

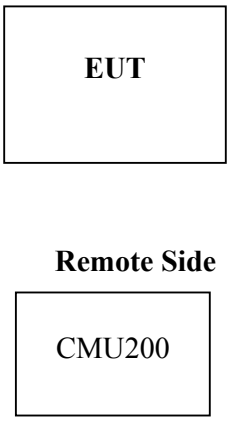


Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	Universal Radio Communication Tester	R&S	CMU200	102189	N/A	Un-shielded

3. SUMMARY OF TEST RESULTS

FCC Rules	IC Rules	Description Of Test	Result
§2.1046(a)	N/A	RF Conducted Power Output	Compliant
§2.1046(a) §22.913(a)(2) §24.232(c)	§4.8 (RSS-Gen) §4.4 (RSS-132) §6.4 (RSS-133)	ERP/ EIRP measurement	Compliant
§2.1049(h)	§4.6.1 (RSS-Gen) §2.3 (RSS-133)	99% Occupied Bandwidth	Compliant
§2.1051 §22.917(a) §24.238(a)	§4.9 (RSS-Gen) §4.5 (RSS-132) §6.5 (RSS-133)	Out of Band Emissions at Antenna Terminals and Band Edge	Compliant
§2.1053 §22.917(a) §24.238(a)	§4.9 (RSS-Gen) §4.5 (RSS-132) §6.5 (RSS-133)	Field Strength of Spurious Radiation (TX)	Compliant
§2.1055(a)(1) §22.355 §24.235	§4.7 (RSS-Gen) §4.3 (RSS-132) §6.3(RSS-133)	Frequency Stability vs. Temperature	Compliant
§2.1055(d)(2) §22.355 §24.235	§4.7 (RSS-Gen) §4.3 (RSS-132) §6.3(RSS-133)	Frequency Stability vs. Voltage	Compliant
N/A	§4.10 (RSS-Gen) §4.6 (RSS-132) §6.6 (RSS-133)	Receiver Spurious Emissions	Compliant

4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition.

Set EUT power control "all up bits" for all test mode through base station.

The Channel Low, Mid and High for each type of bands with rated data rate were chosen for full testing.

The field strength of spurious radiation emission was measured as EUT lie down position (H mode) for CDMA2000 Cellular and PCS bands.

The worse case was the CDMA2000 with RC3/SO55 for Cellular and PCS bands after testing all application configurations declared by the applicant.

5. RF POWER OUTPUT MEASUREMENT

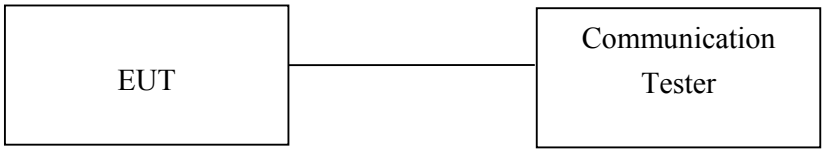
5.1 Standard Applicable

According to FCC §2.1046.

FCC 22.913(a)(2) Mobile station are limited to 7W.

FCC 24.232(c) Mobile station are limited to 2W.

5.2 Test Set-up:



Note: *Measurement setup for testing on Antenna connector*

5.3 Measurement Procedure

The transmitter output was connected to a calibrated Communication Tester by a low lost RF cable. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the reading from tester.

5.4 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Communication Test	R&S	CMU200	102189	05/13/2009	05/12/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	02/13/2009	02/12/2010

5.5 Measurement Result

EUT Mode	Frequency (MHz)	CH	Avg. Power (dBm)
CDMA2000 CELLULAR Band	824.70	1013	23.51
	836.52	384	**23.82**
	848.31	777	23.69

EUT Mode	Frequency (MHz)	CH	Avg. Power (dBm)
CDMA2000 PCS Band	1851.25	25	22.94
	1880.00	600	**22.99**
	1908.75	1175	22.71

6. ERP/EIRP MEASUREMENT

6.1 Standard Applicable

According to FCC §2.1046

FCC 22.913(a)(2) Mobile station are limited to 7W ERP.

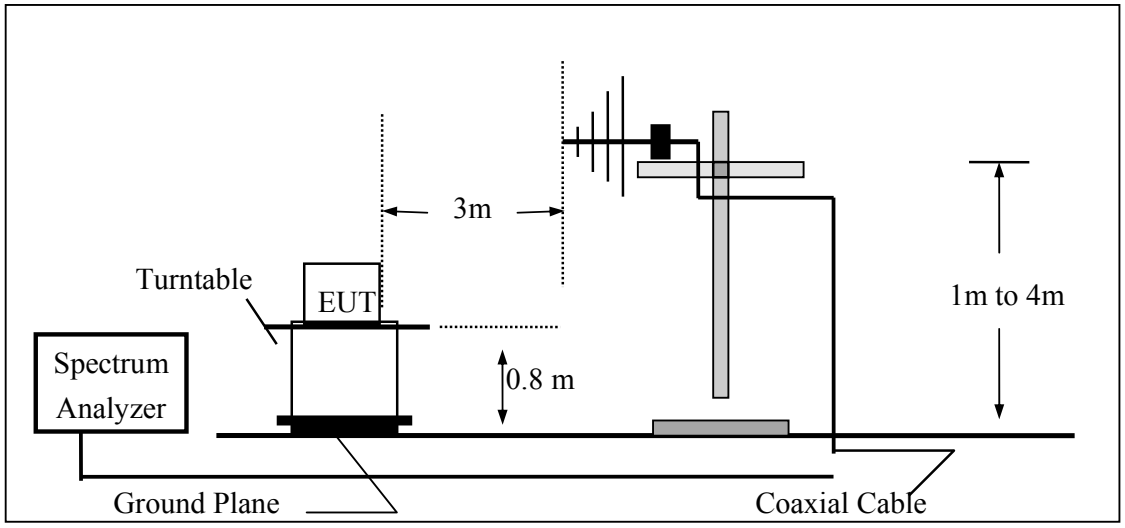
FCC 24.232(c) Mobile station are limited to 2W EIRP.

According to issue 4 of RSS-133 §6.4. The peak e.i.r.p. for transmitters operating in the band 1850-1910 MHz shall not exceed the limits given in SRSP-510.

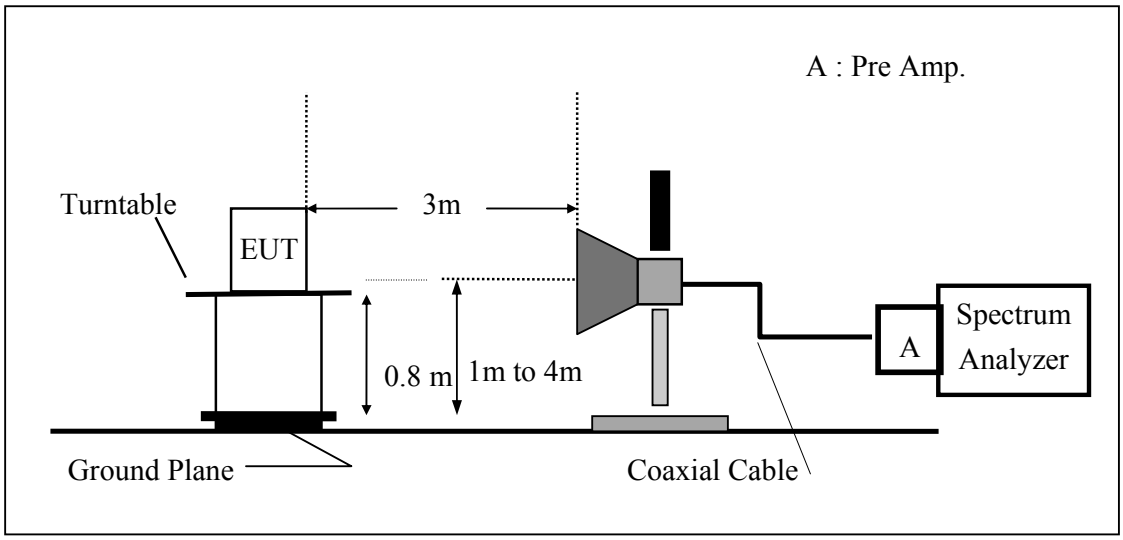
According to issue 2 of RSS 132, section 4.4. The transmitter output power shall not exceed the limits given in SRSP-503.

6.2 Test SET-UP (Block Diagram of Configuration)

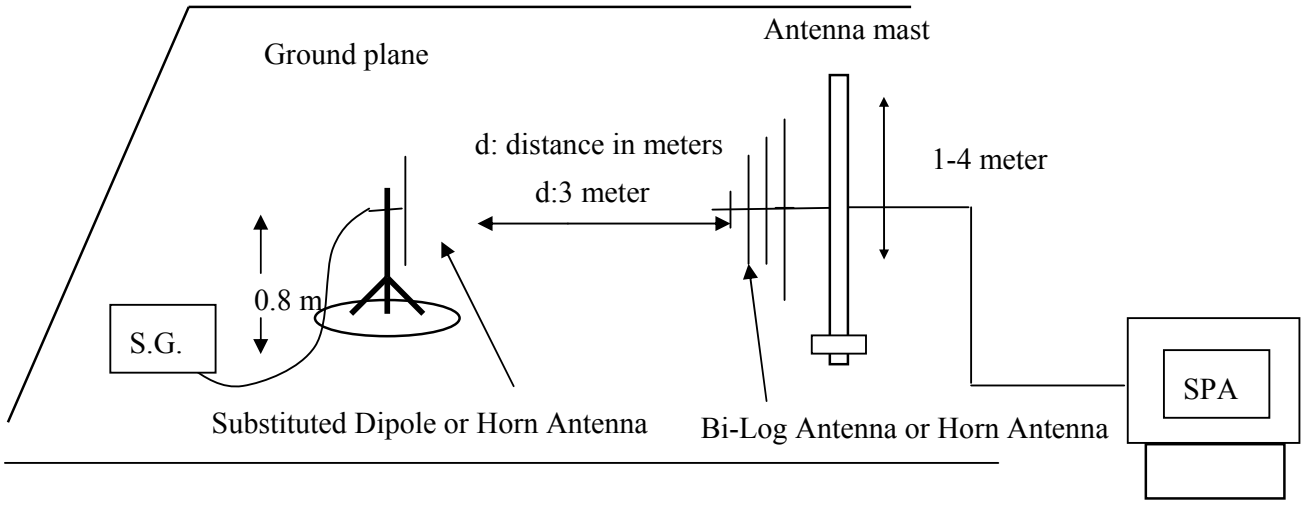
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



(C) Substituted Method Test Set-UP



6.3 Measurement Procedure

The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer.

During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.

ERP in frequency band 824.2 –848.80.8MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

EIRP in frequency band 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

ERP = S.G. output (dBm) + Antenna Gain (dBd) – Cable Loss (dB)

EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB)

6.4 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2009	07/03/2011
Spectrum Analyzer	R&S	FSP 40	100034	02/22/2009	02/21/2010
Communication Test	R&S	CMU200	102189	05/13/2009	05/12/2010
Bi-log Antenna	SCHWAZBECK	VULB9163	152	06/03/2009	06/02/2010
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	08/16/2009	08/15/2010
Pre-Amplifier	HP	8447D	2944A09469	07/19/2009	07/18/2010
Pre-Amplifier	HP	8494B	3008A00578	02/26/2009	02/25/2010
Signal Generator	R&S	SMR40	100210	02/09/2009	02/10/2010
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	10/09/2009	10/08/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	10/09/2009	10/08/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	10/09/2009	10/08/2010
Site NSA	SGS	966 chamber	N/A	11/17/2009	11/16/2010
Attenuator	Mini-Circuit	BW-S10W5	N/A	09/23/2009	09/22/2010
Dipole Antenna	SCHWAZBECK	VHAP	908/909	06/10/2009	06/11/2010
Dipole Antenna	SCHWAZBECK	UHAP	891/892	06/10/2009	06/11/2010
Horn antenna	SCHWAZBECK	BBHA 9120D	N/A	08/16/2009	08/15/2010

6.5 Measurement Result

Refer to following pages for detail.

6.5.1.Measurement Result:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBd)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
CDMA2000 Cellular	824.70	1013	H	V	115.03	28.67	-7.88	3.63	17.16	38.45
				H	127.24	40.98	-7.88	3.63	29.48	38.45
	836.52	384	H	V	114.62	28.36	-7.88	3.65	16.83	38.45
				H	127.02	40.79	-7.88	3.65	29.26	38.45
	848.31	777	H	V	114.65	28.50	-7.88	3.67	16.95	38.45
				H	127.28	41.08	-7.88	3.67	**29.53**	38.45

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=3MHz, VBW=3MHz.

6.5.2.Measurement Result:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
CDMA2000 PCS	1851.25	25	H	V	118.13	13.74	9.90	5.56	18.08	33.00
				H	125.82	21.64	9.90	5.56	25.98	33.00
	1880.00	600	H	V	118.77	14.41	9.99	5.61	18.79	33.00
				H	126.13	21.99	9.99	5.61	**26.36**	33.00
	1908.75	1175	H	V	117.50	13.17	10.07	5.66	17.59	33.00
				H	125.29	21.18	10.07	5.66	25.59	33.00

Remark：

(1) The RBW,VBW of SPA for frequency

RBW=3MHz, VBW=3MHz.

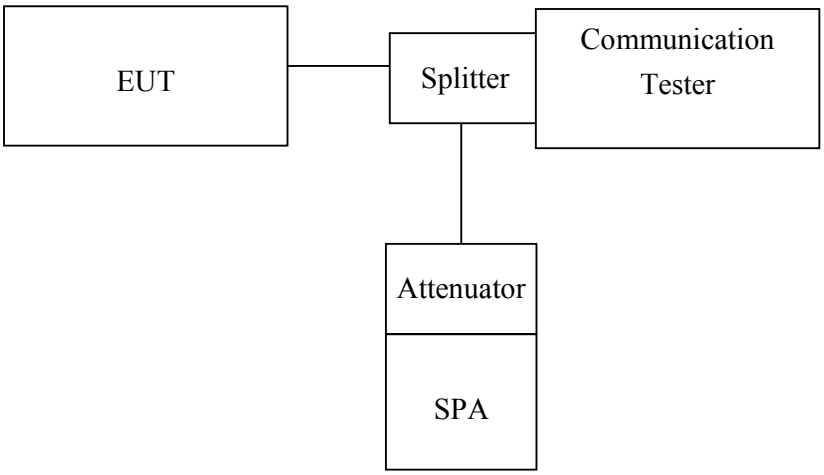
7. 99% OCCUPIED BANDWIDTH MEASUREMENT

7.1 Standard Applicable

According to §FCC 2.1049.

According to issue 4 of RSS-133 §2.3

7.2 Test Set-up:



Note: *Measurement setup for testing on Antenna connector*

7.3 Measurement Procedure

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW (15KHz) was set to about 1% of emission BW, VBW= 3 times RBW(43KHz), -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

7.4 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2009	07/03/2011
Power Sensor	Anritsu	MA2490A	31431	07/07/2009	07/06/2011
Power Meter	Anritsu	ML2487A	6K00002070	05/28/2008	05/27/2010
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	02/13/2009	02/12/2010
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2009	07/04/2010
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2009	07/04/2010
Splitter	Agilent	11636B	51818 / 51820	07/05/2009	07/04/2010
Signal Generator	R&S	SMR40	100210	01/22/2009	01/21/2010
DC Power Supply	Agilent	6038A	2929A-07548	06/27/2009	06/26/2011

7.5 Measurement Result:.

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
CDMA2000 Cellular	824.70	1013	1.2850
	836.52	384	1.2944
	848.31	777	1.2889

EUT Mode	Frequency (MHz)	CH	99% Bandwidth (MHz)
CDMA2000 PCS	1851.25	25	1.2835
	1880.00	600	1.2931
	1908.75	1175	1.3025

Figure 7-1: CDMA2000 Cellular Channel 1013

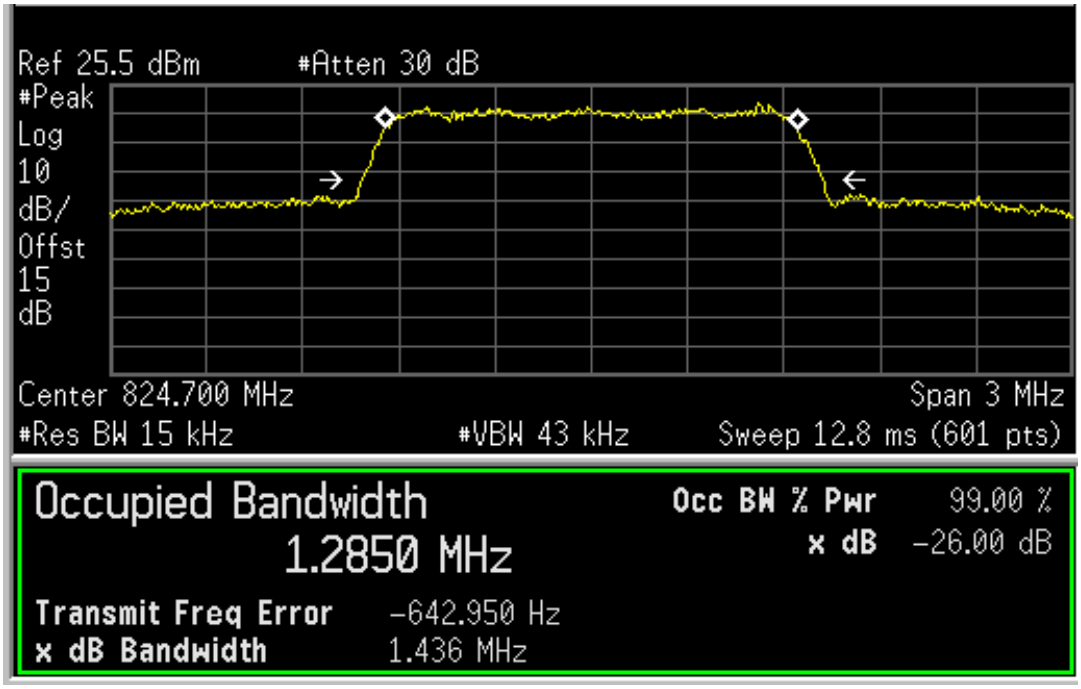


Figure 7-2 CDMA2000 Cellular Channel 384

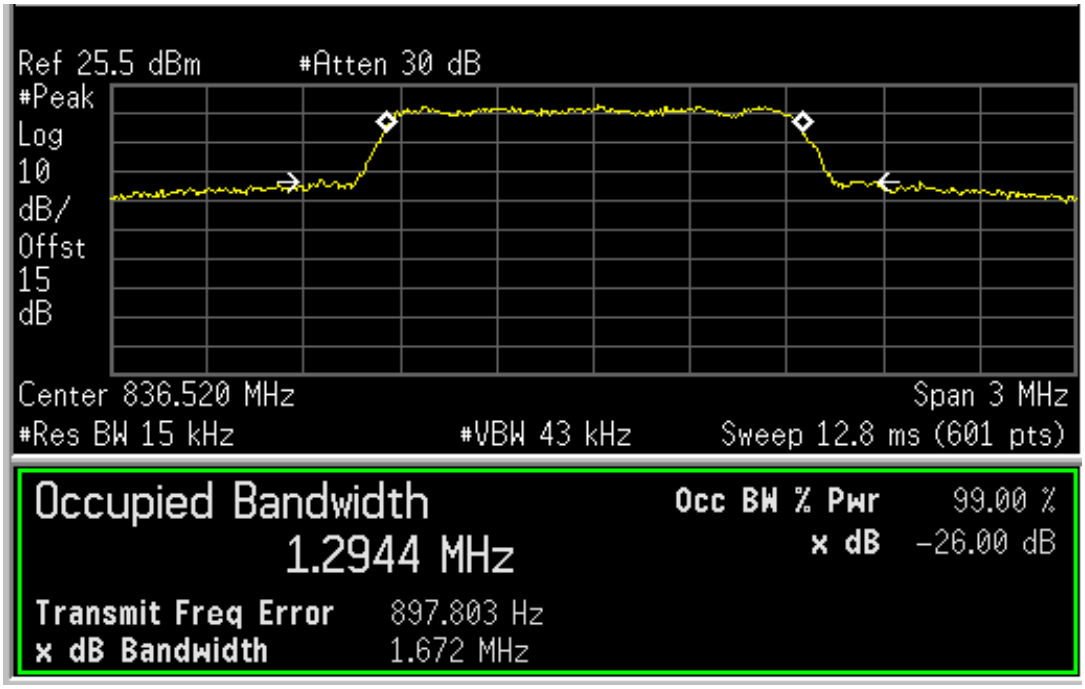


Figure 7-3: CDMA2000 Cellular Channel 777

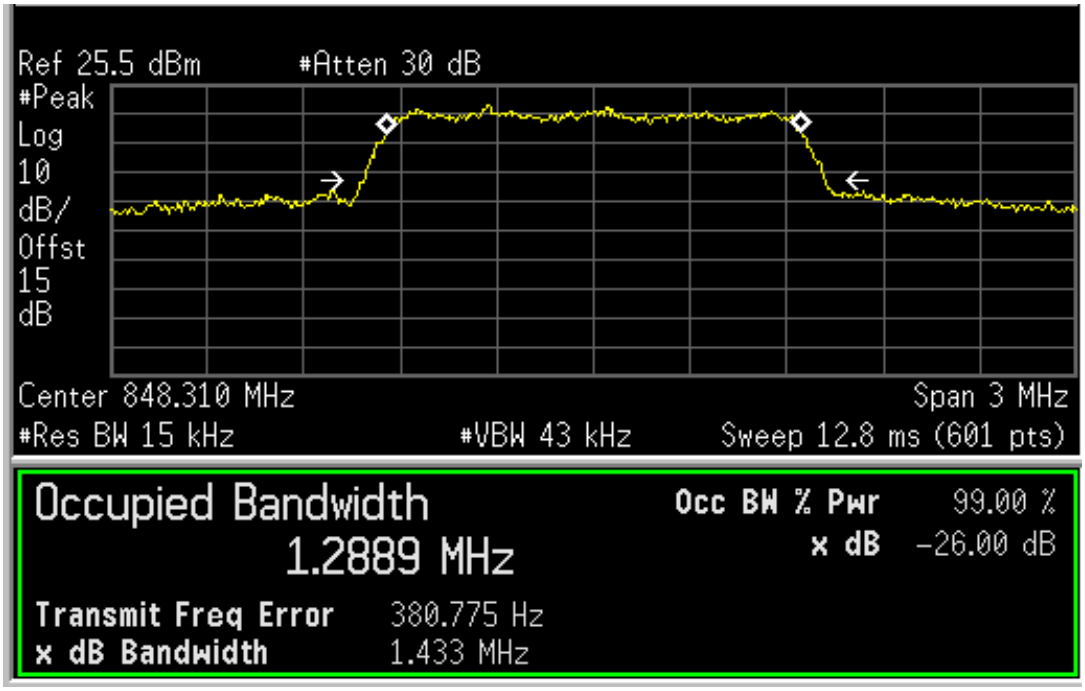


Figure 7-4: CDMA2000 PCS Channel 25

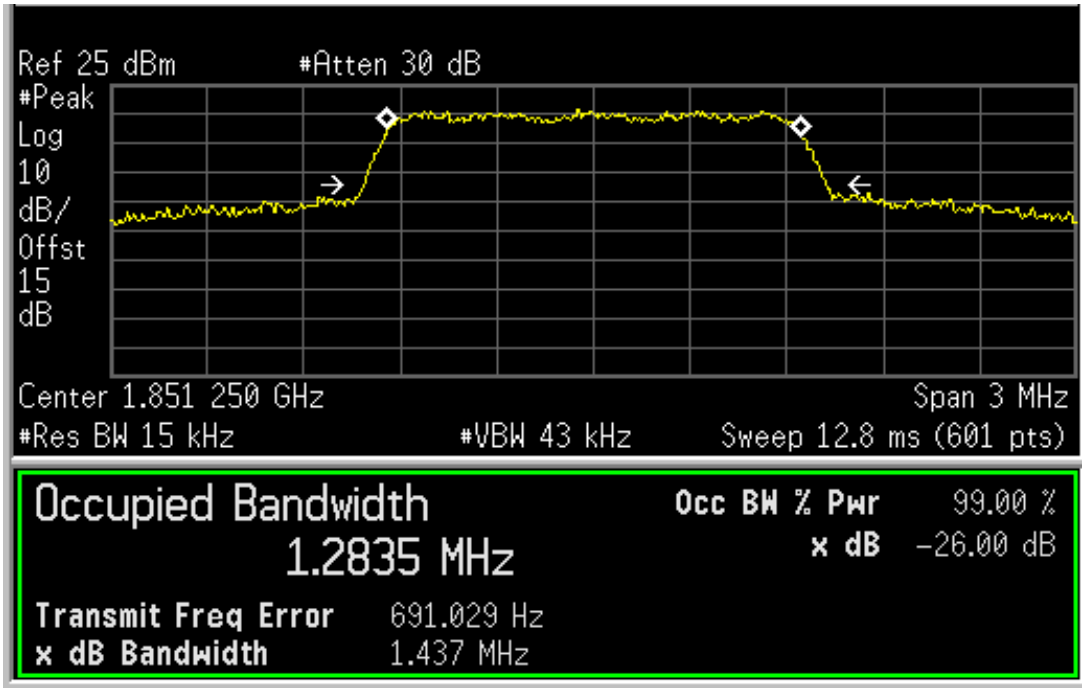


Figure 7-5: CDMA2000 PCS Channel 600

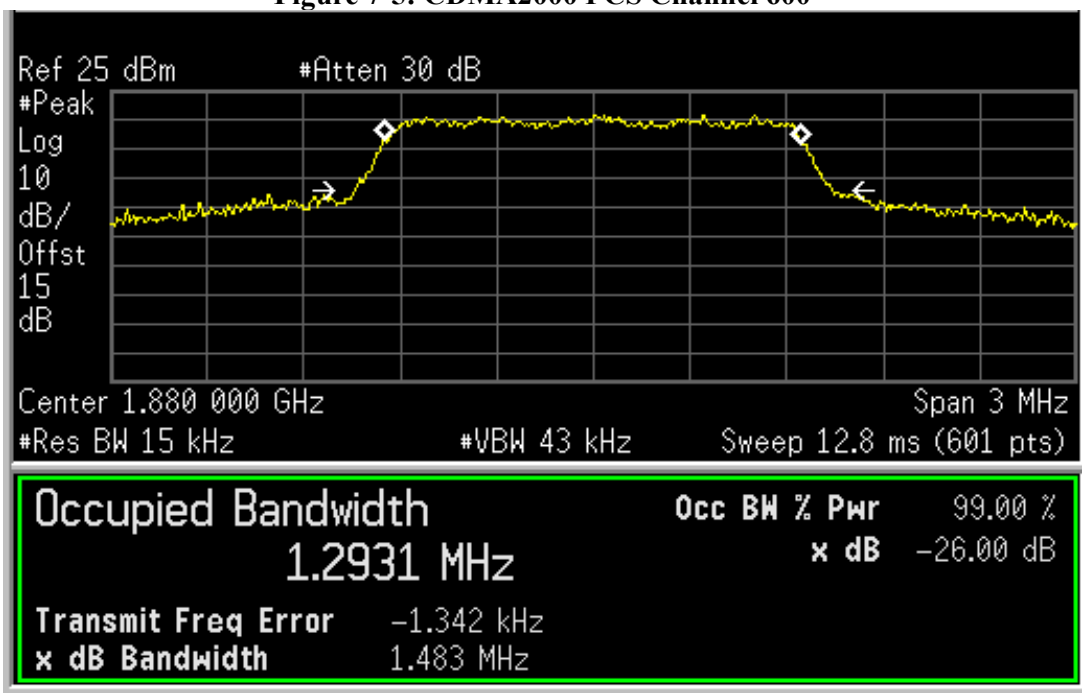
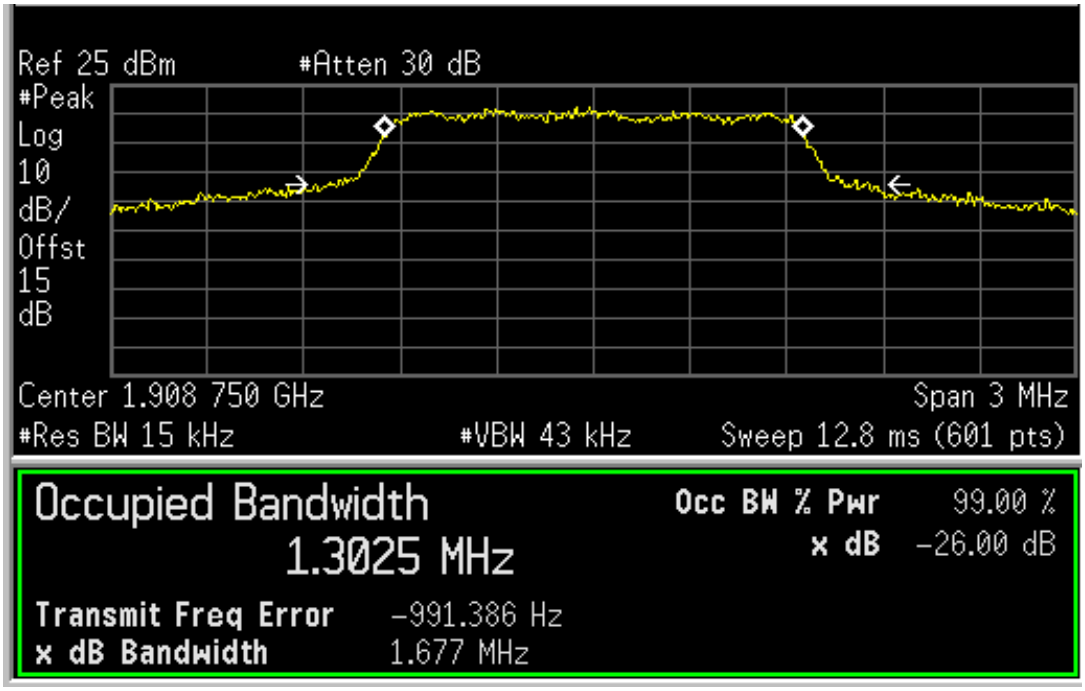


Figure 7-6: CDMA2000 PCS Channel 1175



8. OUT OF BAND EMISSION AT ANTENNA TERMINALS

8.1 Standard Applicable

According to FCC §2.1051.

FCC §22.917(a),§24.238(a) the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm)

According to RSS-133 §6.5
6.5.1 Out-of-Block Emissions

a. Mobile stations must comply with subsection i. below.

In the first 1.0MHz band immediately outside and adjacent to the licensee's frequency block. the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P), dB.

b. After the first 1.0 MHz (for equipment that complies with a.i. of this subsection) or 1.5 MHz (for equipment that complies with all of this subsection), the power of emissions shall be attenuated below the transmitter output power by at least 43 + 10 log (P), dB, per any MHz of bandwidth.

(Note: If the test result using 1% of the emission bandwidth is used, then power integration over 1.0 MHz is required; alternatively, the spectrum analyzer resolution and video bandwidths can be increased to 1.0 MHz for this measurement).

6.5.2 Out-of-Sub-band Emissions

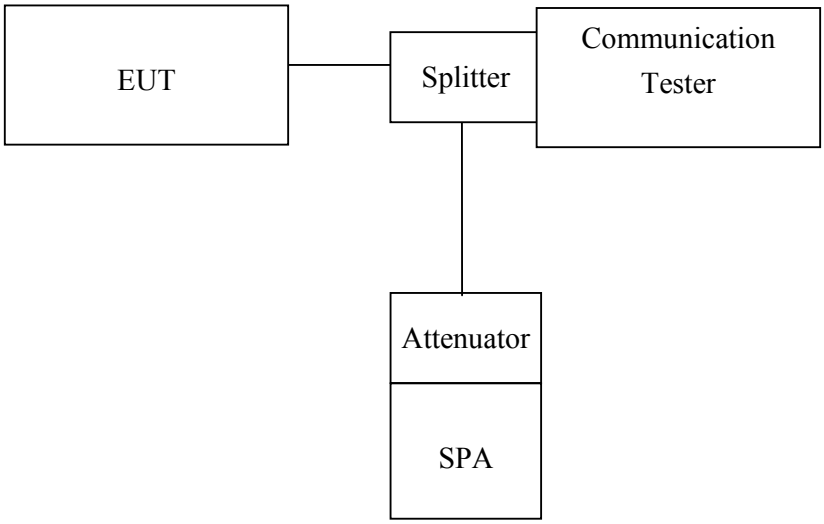
Outside the sub-bands 1850-1910 MHz and 1930-1990 MHz, the attenuation shall be equal to or greater than the out-of-block emission limits in Section 6.5.1.

According to RSS-133 §6.5

(i) In the first 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log10(P), dB.

(ii) After the first 1.0 MHz outside the equipment's operating frequency block, the power of emissions shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log10(P), dB in any 1 MHz bandwidth.

8.2 Test SET-UP



Note: *Measurement setup for testing on Antenna connector*

8.3 Measurement Procedure

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.

For the out of band: Set the RBW, VBW = 1MHz, Start=30MHz, Stop= 10 th harmonic. Limit = -13dBm

Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit, -13dBm.

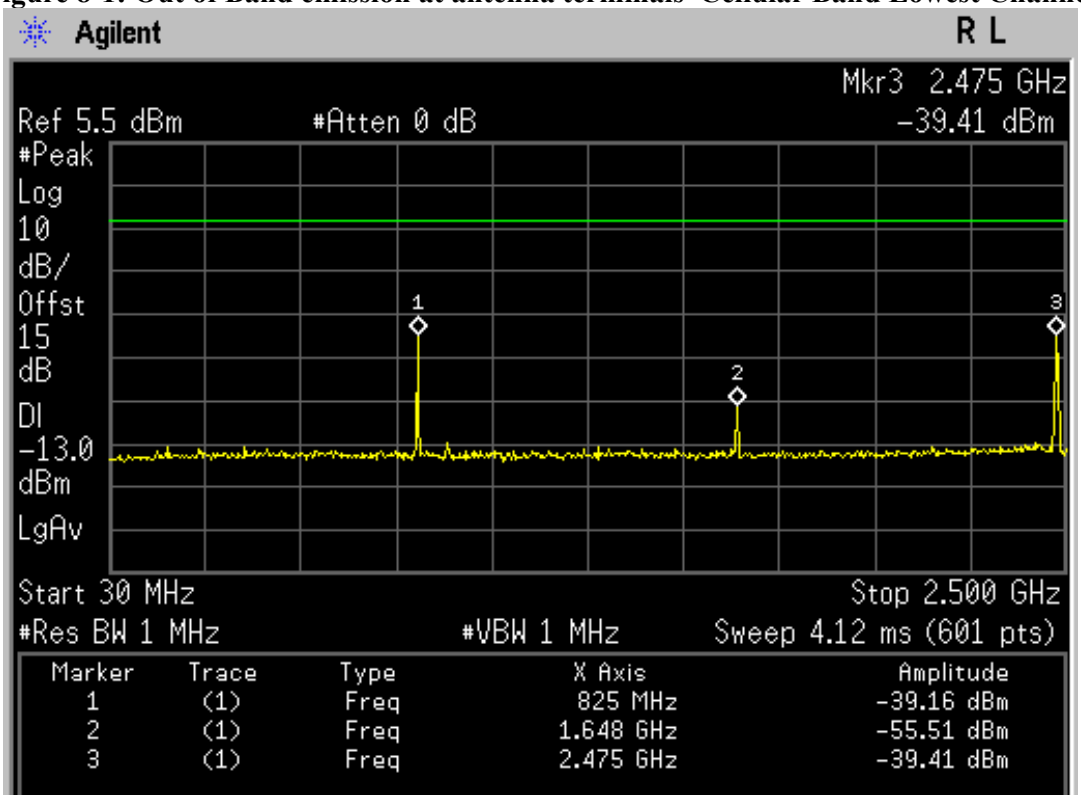
8.4 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2009	07/03/2010
Power Sensor	Anritsu	MA2490A	31431	07/07/2009	07/06/2011
Power Meter	Anritsu	ML2487A	6K00002070	05/28/2008	05/27/2010
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	02/13/2009	02/12/2010
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2009	07/04/2010
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2009	07/04/2010
Splitter	Mini-Circuit	ZFSC-2-10G	N/A	10/07/2009	10/06/2010
Signal Generator	R&S	SMR40	100210	01/22/2009	01/21/2010
DC Power Supply	Agilent	6038A	2929A-07548	07/05/2009	07/04/2010
Band reject filter	Wicro-tronics	BRM13462	001	06/28/2009	06/29/2010

8.5. Measurement Result

Refer to next page for plots.

Figure 8-1: Out of Band emission at antenna terminals–Cellular Band Lowest Channel



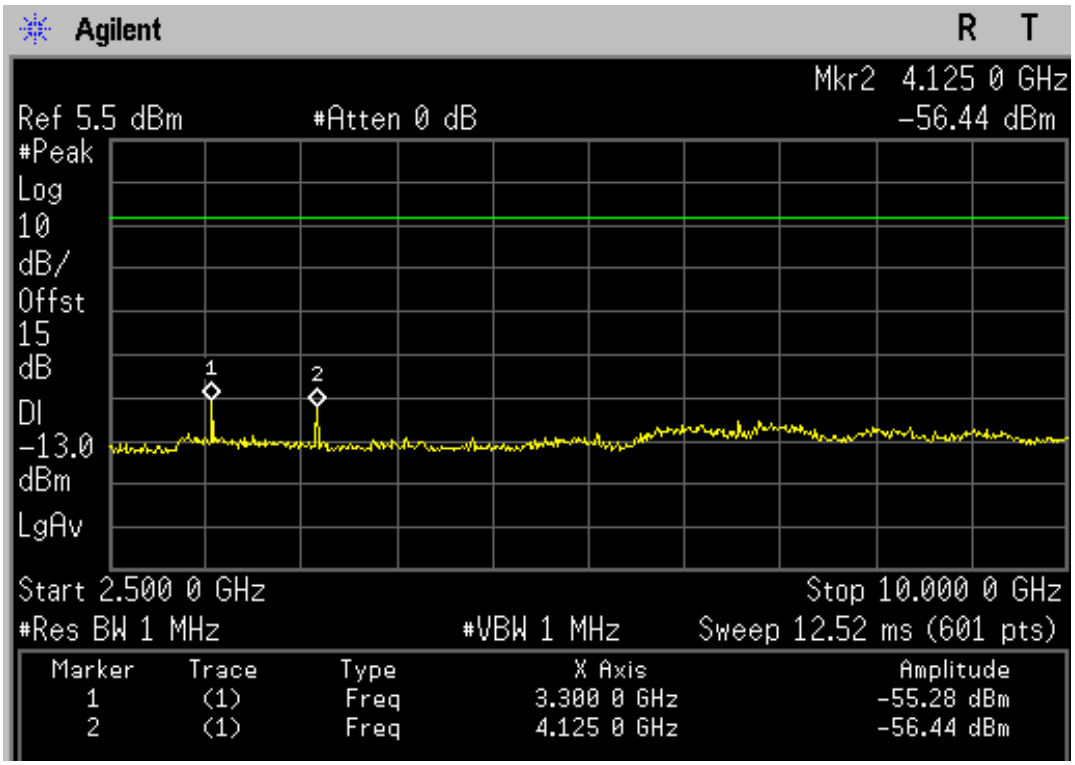
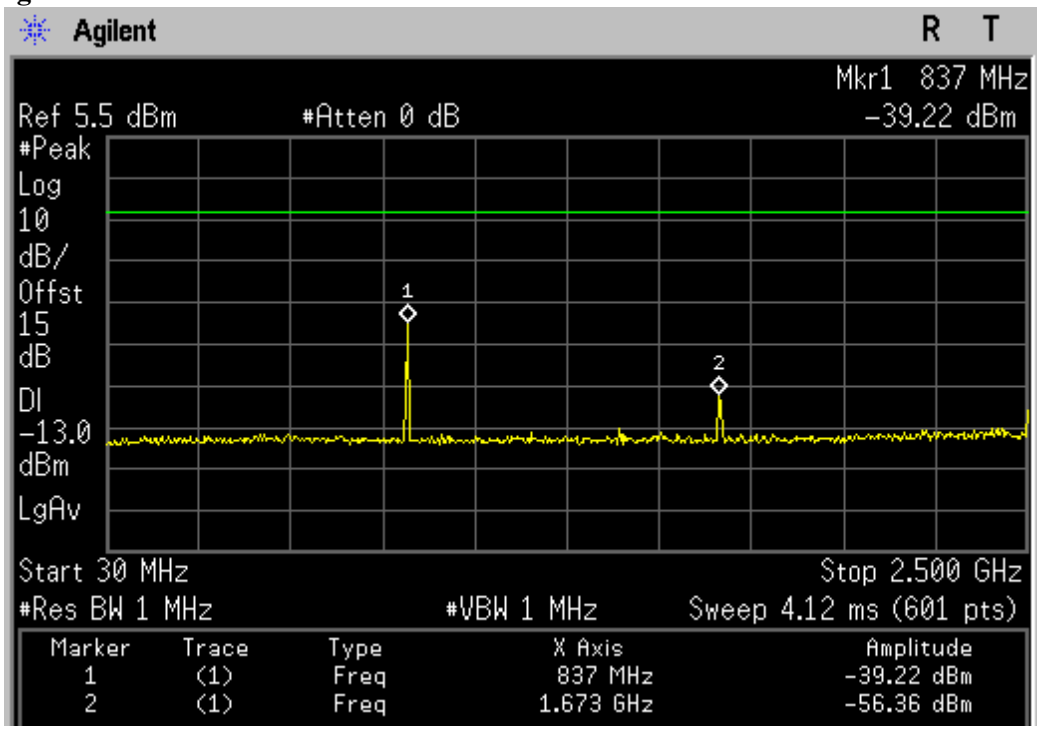


Figure 8-2: Out of Band emission at antenna terminals –Cellular Band Mid Channel



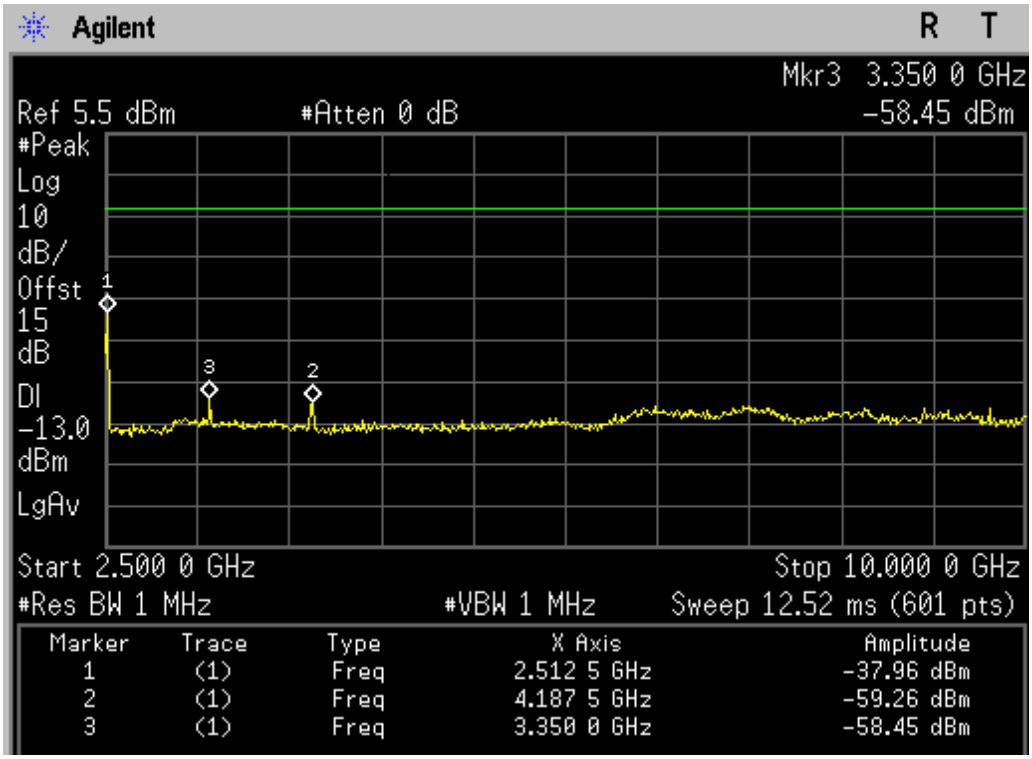
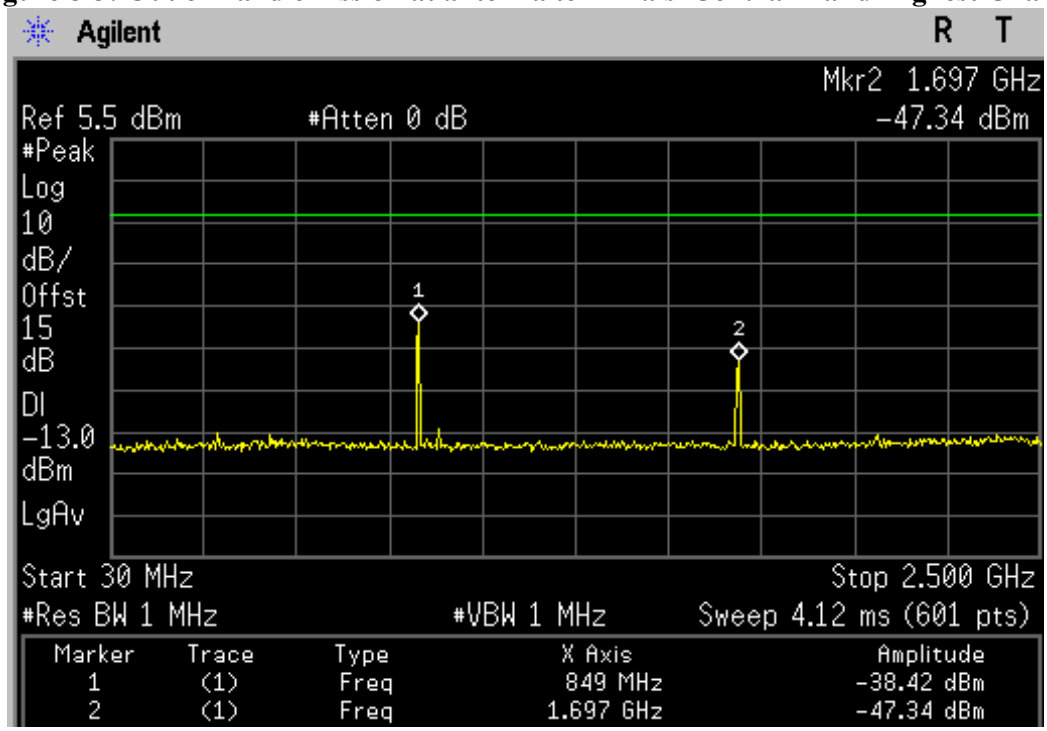


Figure 8-3: Out of Band emission at antenna terminals–Cellular Band Highest Channel



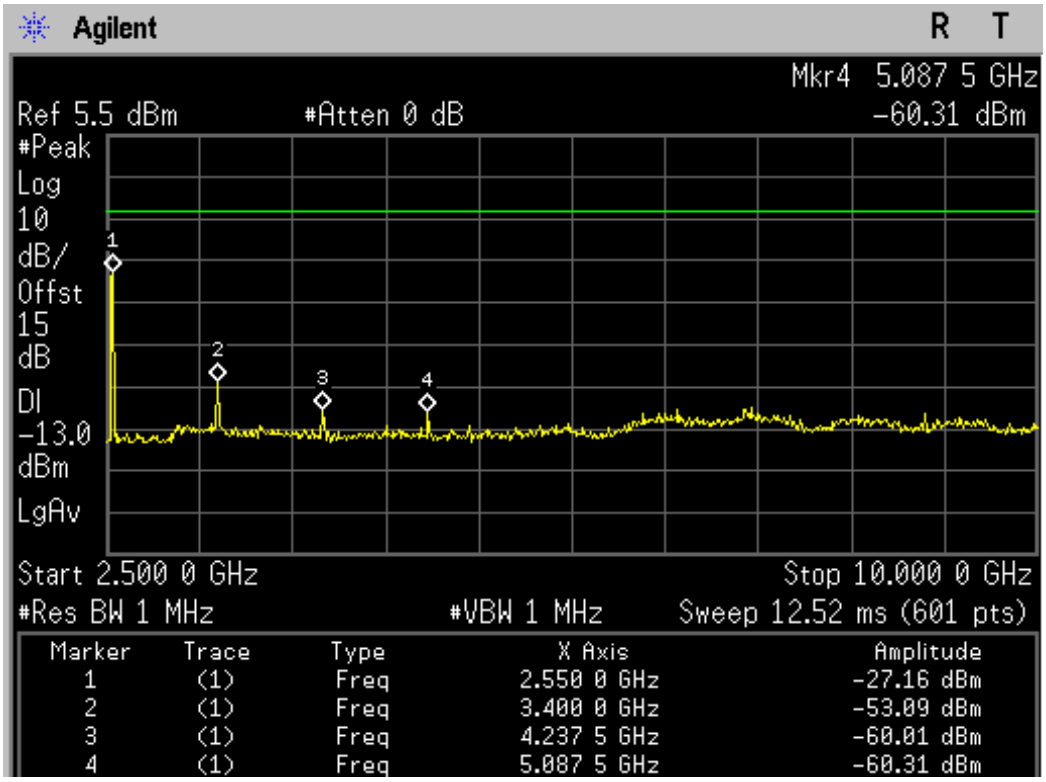


Figure 8-4: Band edge emission at antenna terminals –Cellular Band Channel Lowest

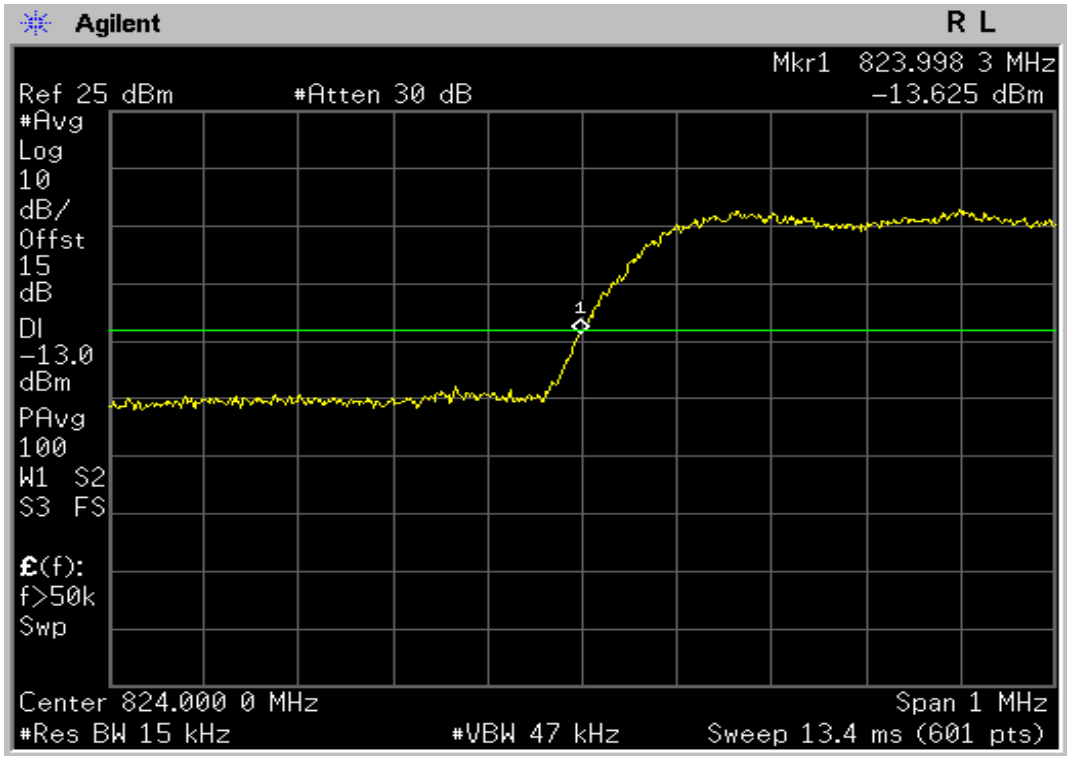


Figure 8-5: Band edge emission at antenna terminals –Cellular Band Channel Highest

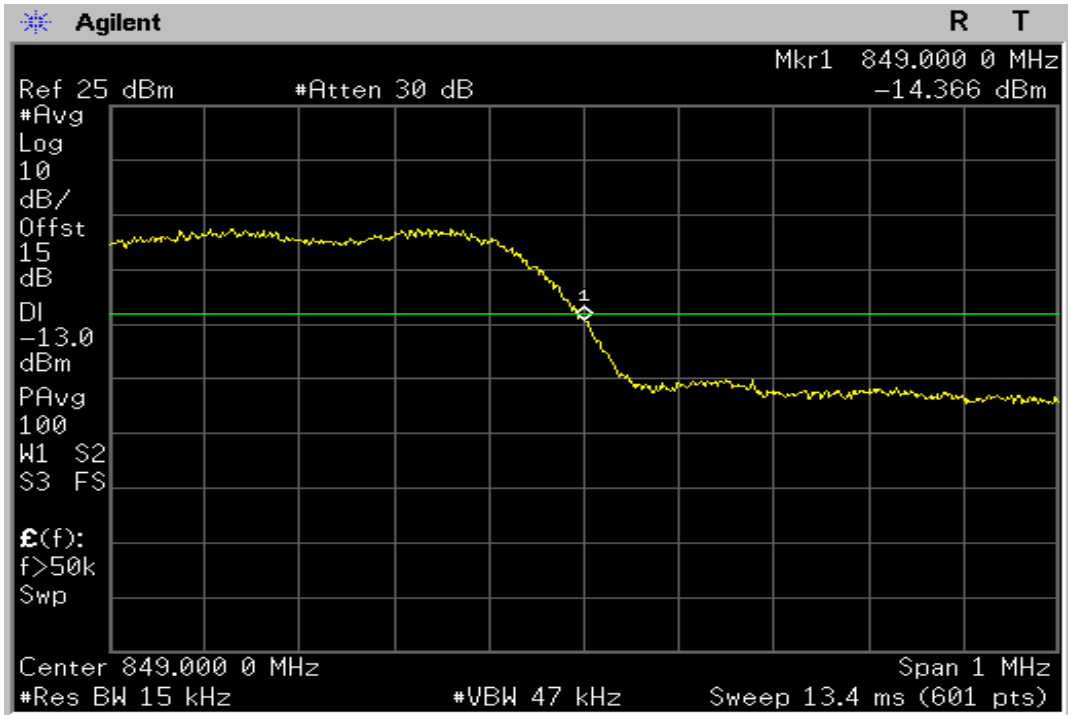
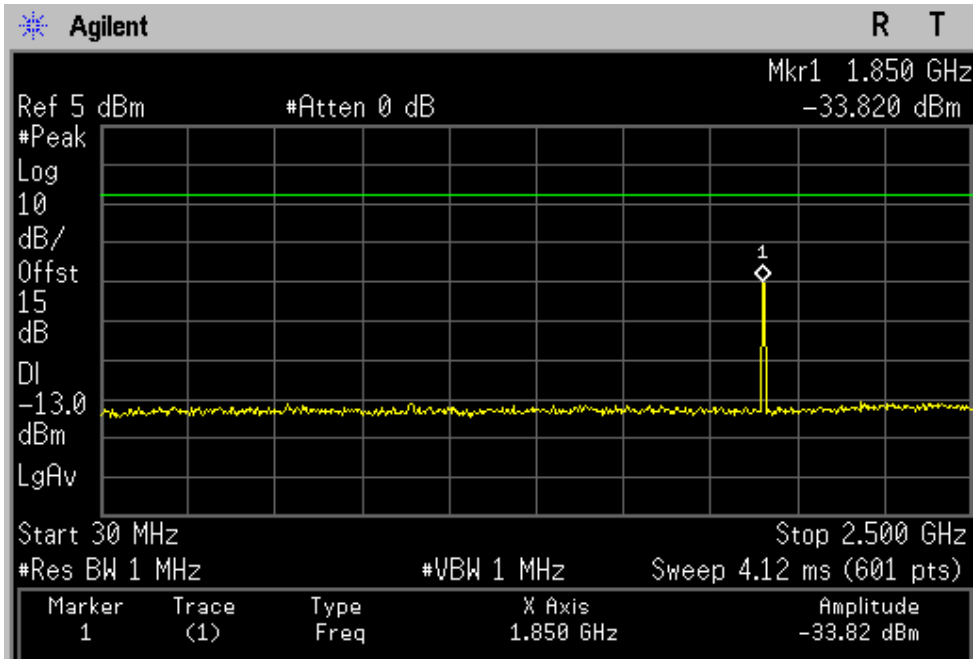


Figure 8-6: Out of Band emission at antenna terminals–PCS Band Lowest Channel



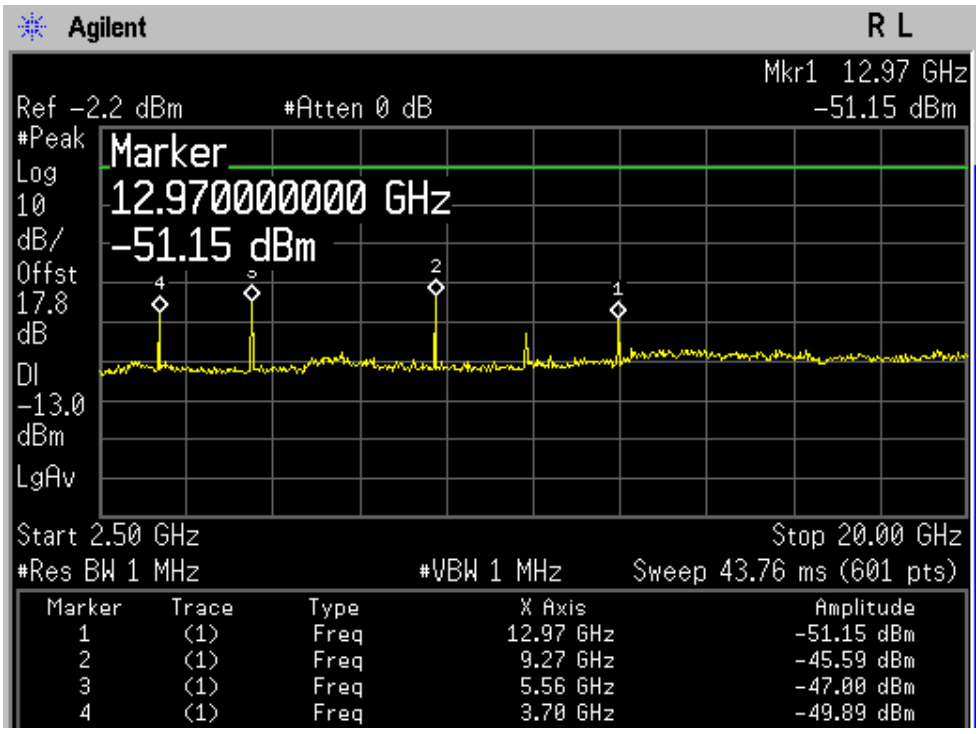
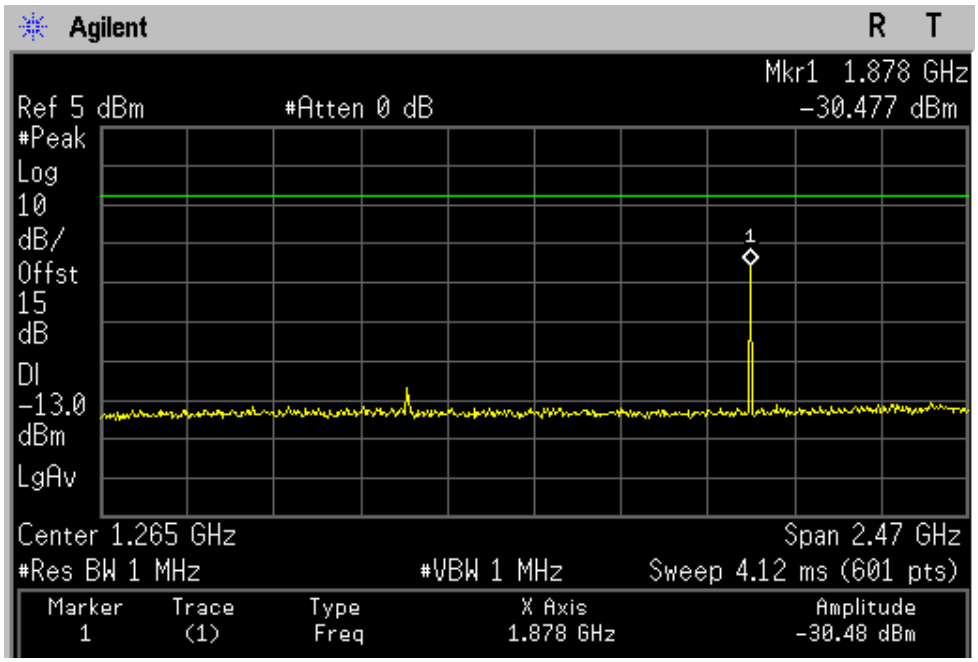


Figure 8-7: Out of Band emission at antenna terminals –PCS Band Mid Channel



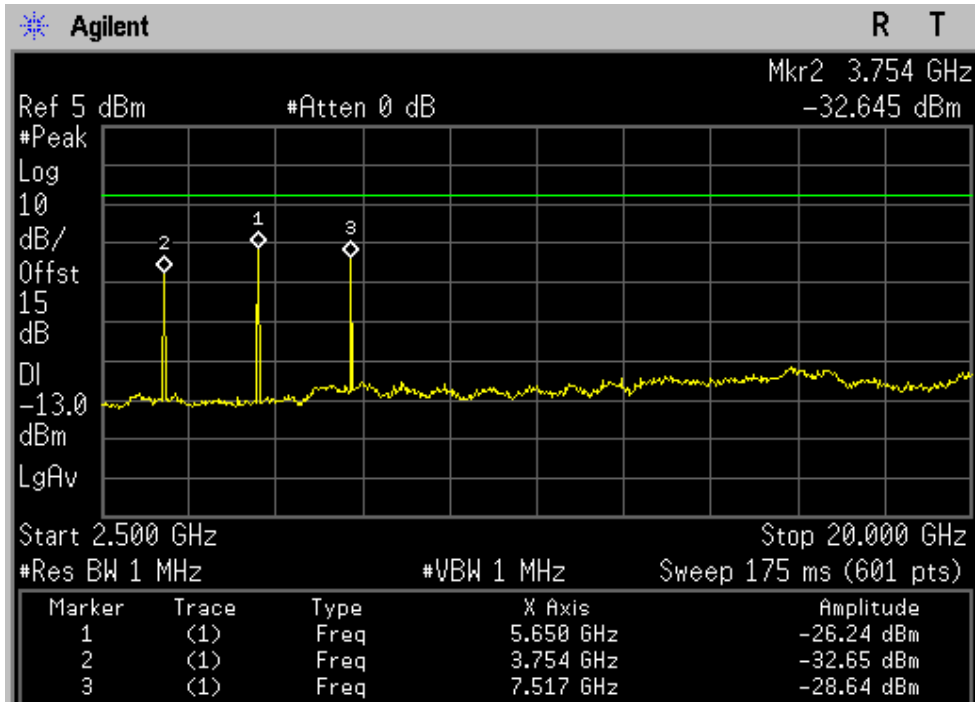
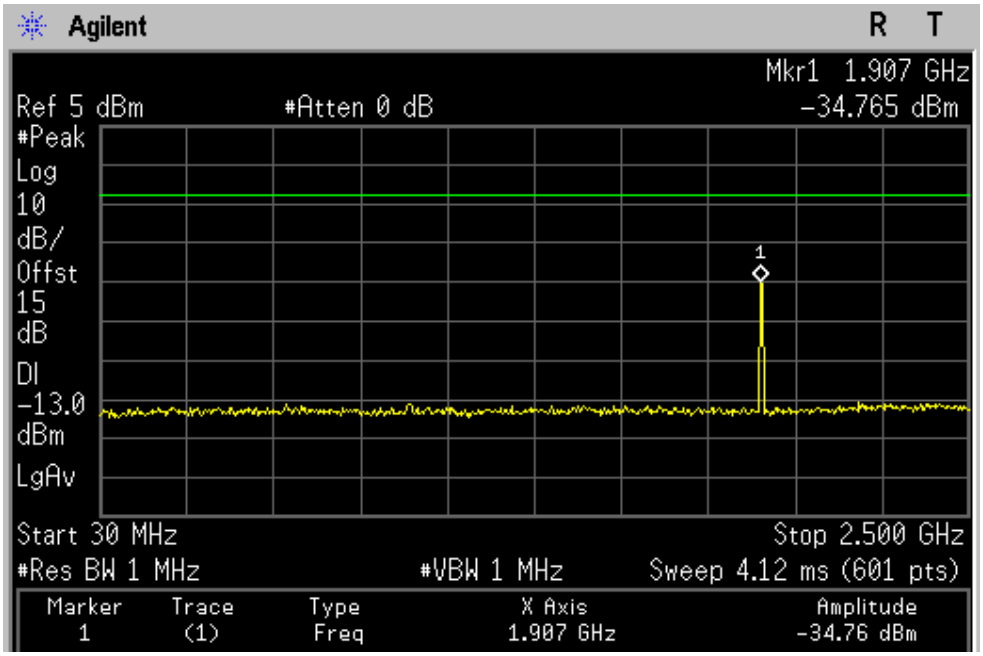


Figure 8-8: Out of Band emission at antenna terminals–PCS Band Highest Channel



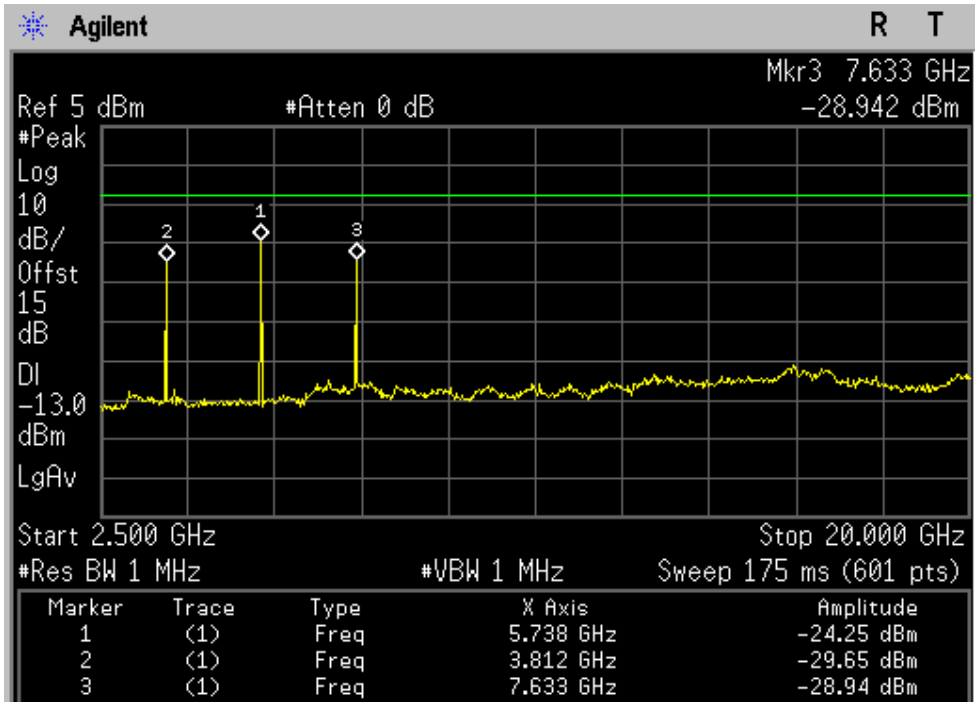


Figure 8-9: Band edge emission at antenna terminals –PCS Band Lowest Channel

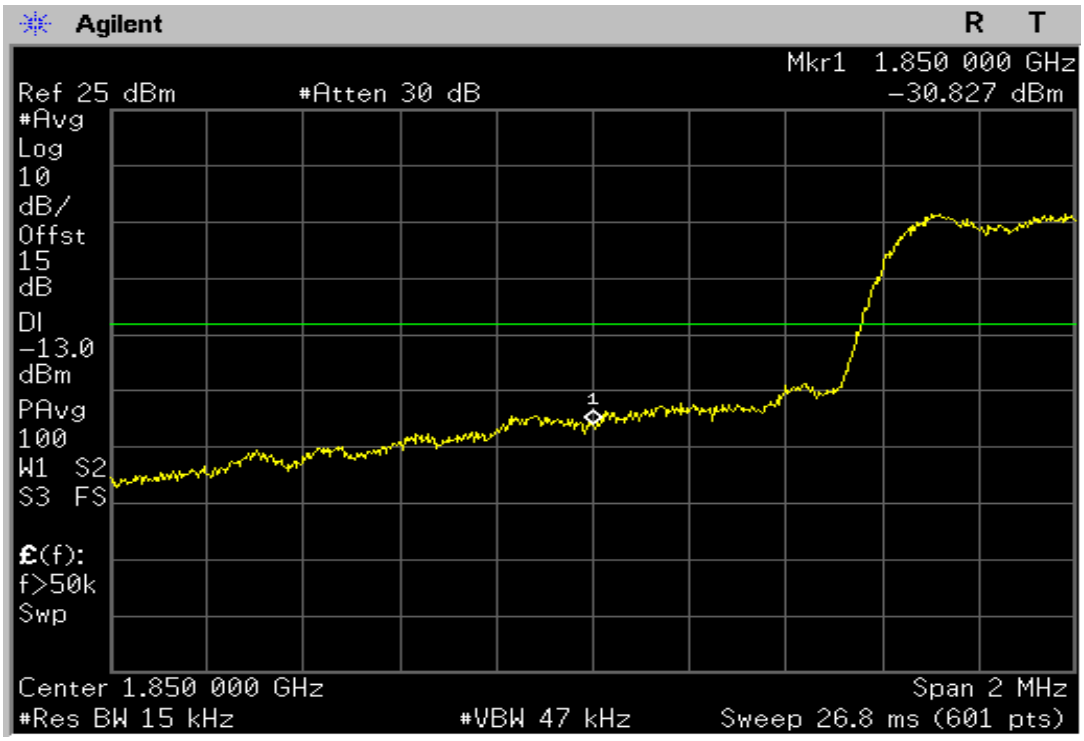
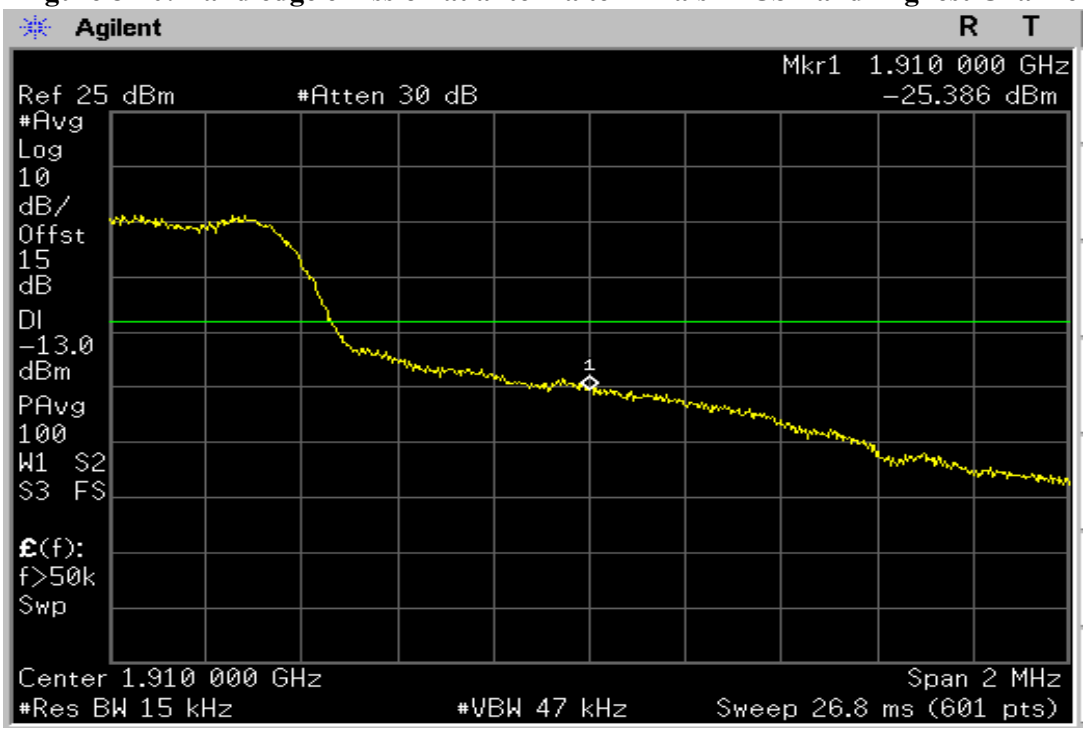


Figure 8-10: Band edge emission at antenna terminals –PCS Band Highest Channel



9. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT(TX)

9.1 Standard Applicable

According to FCC §2.1053,

FCC §22.917(a),§24.238(a) the magnitude of each spurious and harmonic emission that can be detected when the equipment is operated under the conditions specified in the instruction manual and/ or alignment procedure, shall not be less than 43 + 10 log (mean output power in watts) dBc below the mean power output outside a license's frequency block (-13dBm)

According to RSS-132 §4.5

4.5.1 Out-of-block Emissions

Mobile and base station equipment with emission bandwidth less than or equal to 4 MHz shall comply with 4.5.1.1. Mobile station equipment with emission bandwidth greater than 4 MHz shall comply with 4.5.1.2. Base station equipment with emission bandwidth greater than 4 MHz shall comply with either 4.5.1.2 or 4.5.1.3.

4.5.1.1 In the first 1.0 MHz band immediately outside and adjacent to the licensee's frequency block, the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P), dB. After the first 1.0 MHz, the power of emissions shall be attenuated below the transmitter output power by at least

43 + 10 log (P), dB, in any 100 kHz bandwidth.

4.5.1.2 In the first 1.0 MHz band immediately outside and adjacent to the licensee's frequency block, the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P), dB. After the first 1.0 MHz, the power of emissions shall be attenuated below the transmitter output power by at least

43 + 10 log (P), dB, in any 1 MHz bandwidth

According to RSS-133 §6.5

6.5.1 Out-of-Block Emissions

a. Mobile stations must comply with subsection i. below.

In the first 1.0MHz band immediately outside and adjacent to the licensee's frequency block. the power of emissions per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in watts) by at least 43 + 10 log (P), dB.

b. After the first 1.0 MHz (for equipment that complies with a.i. of this subsection) or 1.5 MHz (for equipment that complies with a.ii.of this subsection), the power of emissions shall be attenuated below the transmitter output power by at least 43 + 10 log (P), dB, per any MHz of bandwidth.

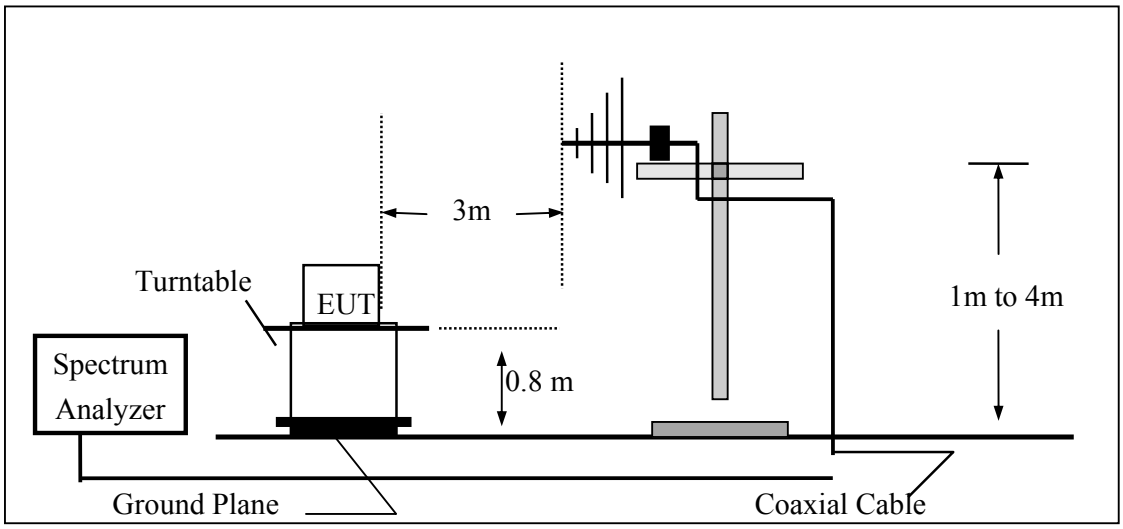
(Note: If the test result using 1% of the emission bandwidth is used, then power integration over 1.0 MHz is required; alternatively, the spectrum analyser resolution and video bandwidths can be increased to 1.0 MHz for this measurement).

6.5.2 Out-of-Sub-band Emissions

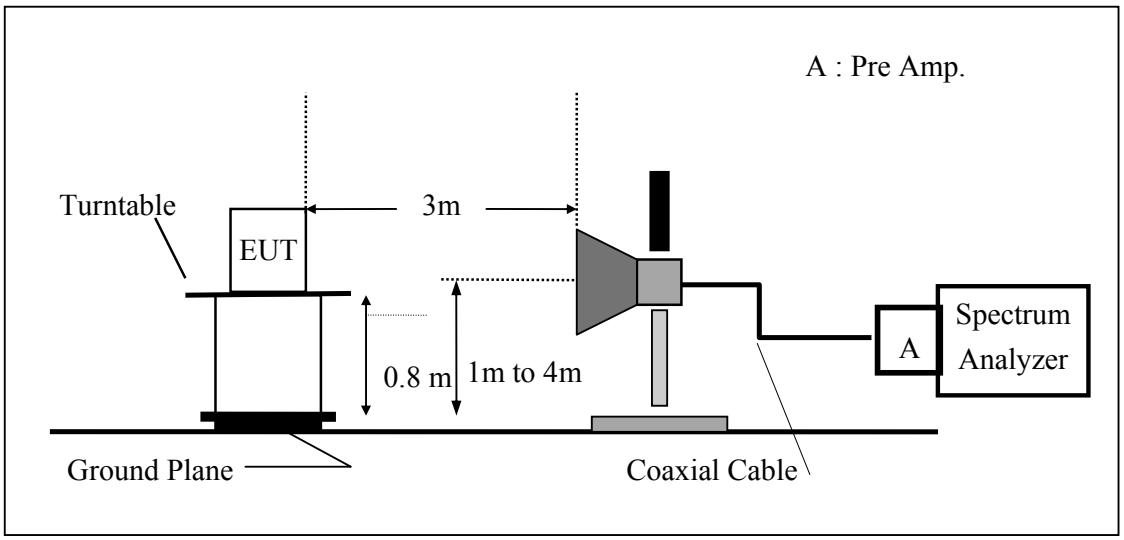
Outside the sub-bands 1850-1910 MHz and 1930-1990 MHz, the attenuation shall be equal to or greater than the out-of-block emission limits in Section 6.5.1.

9.2 EUT Setup (Block Diagram of Configuration)

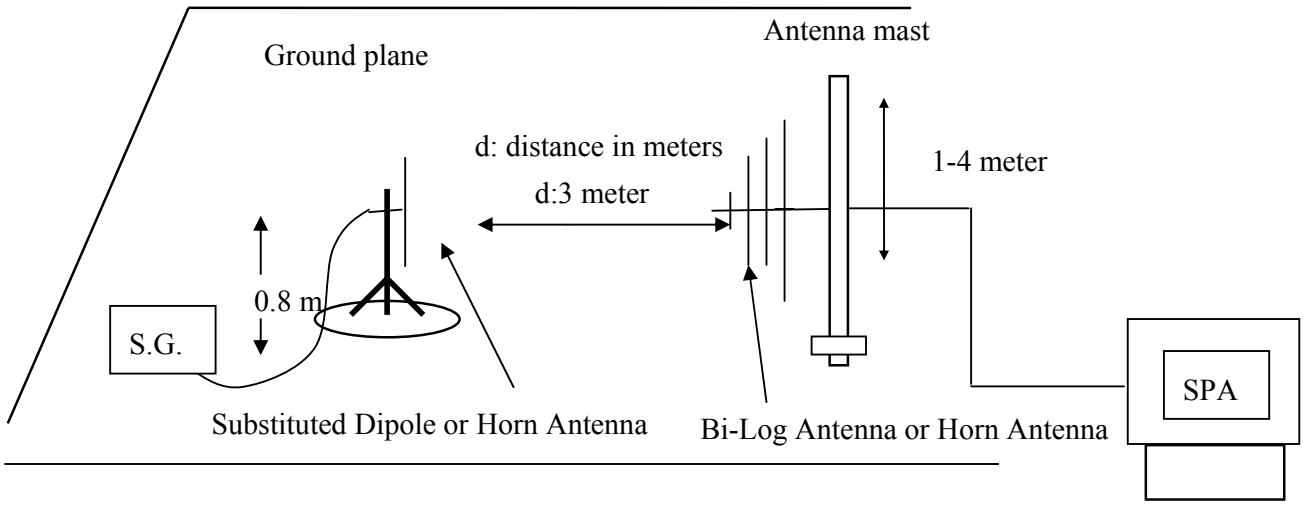
(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



(C) Substituted Method Test Set-UP



9.3 Measurement Procedure

The EUT was placed on a non-conductive, The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission were identified, the power of the emission was determined using the substitution method.

ERP in frequency band 824.2 –848.80.8MHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:

EIRP in frequency band 1850.2 –1909.8MHz were measured using a substitution method. The EUT was replaced by a horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP = S.G. output (dBm) + Antenna Gain(dBd) – Cable Loss (dB)

EIRP = S.G. output (dBm) + Antenna Gain(dBi) – Cable Loss (dB)

9.4 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2009	07/03/2010
Bi-log Antenna	SCHWAZBECK	VULB9160	3224	11/29/2008	11/28/2009
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	03/14/2009	03/13/2010
Pre-Amplifier	HP	8447F	3113A06892	01/05/2009	01/04/2010
Pre-Amplifier	HP	8449B	3008A01973	01/05/2009	01/04/2010
Signal Generator	R&S	SMR40	100210	01/22/2009	01/21/2010
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	02/13/2009	02/12/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	02/13/2009	02/12/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	02/13/2009	02/12/2010
Site NSA	SGS	966 chamber	N/A	11/17/2008	11/16/2009
Site NSA	SGS	10m Open-Site	N/A	10/02/2009	10/01/2010
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2009	07/04/2010
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Dipole Antenna	SCHWAZBECK	VHAP	908/909	07/10/2008	07/10/2010
Dipole Antenna	SCHWAZBECK	UHAP	891/892	07/10/2008	07/10/2010

9.5 Measurement Result

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result: CDMA2000 Cellular Mode

Operation Mode	: TX CH 1013 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 824.70 MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	42.80	V	-59.37	-3.25	0.90	-63.51	-13.00	-50.51
56.19	40.88	V	-68.78	-0.51	1.09	-70.39	-13.00	-57.39
90.14	42.11	V	-61.07	-7.75	1.27	-70.09	-13.00	-57.09
104.69	38.71	V	-62.78	-7.76	1.38	-71.92	-13.00	-58.92
153.19	32.79	V	-64.79	-7.80	1.60	-74.19	-13.00	-61.19
644.98	31.50	V	-57.49	-7.81	3.15	-68.44	-13.00	-55.44
824.00	83.30	V	-3.09	-7.87	3.62	-14.59	-13.00	-1.59
1649.40	38.58	V	-66.00	9.29	5.23	-61.94	-13.00	-48.94
2474.10	42.49	V	-58.51	10.08	6.53	-54.96	-13.00	-41.96
3298.80	42.79	V	-56.08	12.17	7.72	-51.62	-13.00	-38.62
3478.00	44.89	V	-53.94	12.56	8.00	-49.38	-13.00	-36.38
4123.50	---	V		12.61	8.86		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 Cellular Mode

Operation Mode	: TX CH 1013 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 824.70 MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	43.92	H	-59.27	-3.25	0.90	-63.42	-13.00	-50.42
58.13	40.58	H	-69.85	-0.49	1.08	-71.42	-13.00	-58.42
94.99	43.26	H	-60.11	-7.75	1.31	-69.18	-13.00	-56.18
140.58	34.04	H	-64.72	-7.79	1.55	-74.05	-13.00	-61.05
744.89	31.07	H	-64.95	-7.87	3.45	-76.28	-13.00	-63.28
824.00	84.40	H	-1.87	-7.87	3.62	-13.37	-13.00	-0.37
1649.40	36.58	H	-67.82	9.29	5.23	-63.76	-13.00	-50.76
2474.10	42.33	H	-58.57	10.08	6.53	-55.03	-13.00	-42.03
3298.80	38.14	H	-60.95	12.17	7.72	-56.50	-13.00	-43.50
3478.00	41.83	H	-57.14	12.56	8.00	-52.57	-13.00	-39.57
4123.50	---	H		12.61	8.86		-13.00	
4948.20	---	H		12.65	9.74		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 Cellular Mode

Operation Mode : TX CH 384 H Mode
Fundamental Frequency : 836.52 MHz
Temperature : 25℃
Humidity : 65%

Test Date: Oct. 20, 2009
Test By: Brian
Pol: Ver

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	43.34	V	-58.83	-3.25	0.90	-62.97	-13.00	-49.97
90.14	40.93	V	-62.25	-7.75	1.27	-71.27	-13.00	-58.27
104.69	39.11	V	-62.38	-7.76	1.38	-71.52	-13.00	-58.52
153.19	32.66	V	-64.92	-7.80	1.60	-74.32	-13.00	-61.32
740.04	32.14	V	-55.43	-7.87	3.43	-66.74	-13.00	-53.74
1673.04	37.24	V	-67.32	9.36	5.27	-63.23	-13.00	-50.23
2509.56	41.07	V	-59.71	10.09	6.58	-56.21	-13.00	-43.21
3346.08	39.51	V	-59.35	12.27	7.79	-54.87	-13.00	-41.87
3513.00	46.65	V	-52.12	12.61	8.05	-47.56	-13.00	-34.56
4182.60	---	V		12.62	8.93		-13.00	
5019.12	---	V		12.67	9.81		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belongs to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 Cellular Mode

Operation Mode : TX CH 384 H Mode
Fundamental Frequency : 836.52 MHz
Temperature : 25℃
Humidity : 65%

Test Date: Oct. 20, 2009
Test By: Brian
Pol: Hor

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	44.09	H	-59.10	-3.25	0.90	-63.25	-13.00	-50.25
58.13	40.97	H	-69.46	-0.49	1.08	-71.03	-13.00	-58.03
92.08	40.33	H	-63.26	-7.75	1.29	-72.30	-13.00	-59.30
138.64	34.09	H	-64.87	-7.79	1.54	-74.20	-13.00	-61.20
732.28	31.61	H	-62.06	-7.87	3.41	-73.33	-13.00	-60.33
1673.04	35.72	H	-68.66	9.36	5.27	-64.56	-13.00	-51.56
2509.56	39.84	H	-60.86	10.09	6.58	-57.36	-13.00	-44.36
3346.08	35.27	H	-63.79	12.27	7.79	-59.31	-13.00	-46.31
3513.00	41.88	H	-57.01	12.61	8.05	-52.45	-13.00	-39.45
4182.60	---	H		12.62	8.93		-13.00	
5019.12	---	H		12.67	9.81		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 Cellular Mode

Operation Mode	: TX CH 777 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 848.31 MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	42.52	V	-59.65	-3.25	0.90	-63.79	-13.00	-50.79
56.19	40.12	V	-69.54	-0.51	1.09	-71.15	-13.00	-58.15
90.14	41.09	V	-62.09	-7.75	1.27	-71.11	-13.00	-58.11
104.69	40.90	V	-60.59	-7.76	1.38	-69.73	-13.00	-56.73
613.94	32.54	V	-56.85	-7.80	3.07	-67.71	-13.00	-54.71
849.00	83.46	V	-2.66	-7.88	3.68	-14.22	-13.00	-1.22
1696.62	42.31	V	-62.23	9.43	5.31	-58.10	-13.00	-45.10
2544.93	57.99	V	-42.66	10.19	6.63	-39.10	-13.00	-26.10
3393.24	42.20	V	-56.65	12.38	7.86	-52.14	-13.00	-39.14
3569.00	46.61	V	-51.91	12.61	8.13	-47.43	-13.00	-34.43
4241.55	---	V		12.63	9.00		-13.00	
5089.86	---	V		12.74	9.88		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 Cellular Mode

Operation Mode	: TX CH 777 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 848.31 MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	44.13	H	-59.06	-3.25	0.90	-63.21	-13.00	-50.21
58.13	40.99	H	-69.44	-0.49	1.08	-71.01	-13.00	-58.01
94.99	39.94	H	-63.43	-7.75	1.31	-72.50	-13.00	-59.50
138.64	33.52	H	-65.44	-7.79	1.54	-74.77	-13.00	-61.77
732.28	31.56	H	-62.11	-7.87	3.41	-73.38	-13.00	-60.38
849.00	84.44	H	-1.75	-7.88	3.68	-13.31	-13.00	-0.31
1696.62	42.51	H	-61.84	9.43	5.31	-57.71	-13.00	-44.71
2544.93	54.42	H	-46.18	10.19	6.63	-42.62	-13.00	-29.62
3393.24	37.31	H	-61.72	12.38	7.86	-57.20	-13.00	-44.20
3569.00	41.50	H	-57.14	12.61	8.13	-52.65	-13.00	-39.65
4241.55	---	H		12.63	9.00		-13.00	
5089.86	---	H		12.74	9.88		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 PCS Mode

Operation Mode	: TX CH 25 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 1851.25MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	43.44	V	-58.73	-3.25	0.90	-62.87	-13.00	-49.87
56.19	41.20	V	-68.46	-0.51	1.09	-70.07	-13.00	-57.07
90.14	42.19	V	-60.99	-7.75	1.27	-70.01	-13.00	-57.01
104.69	38.99	V	-62.50	-7.76	1.38	-71.64	-13.00	-58.64
177.44	35.91	V	-63.84	-7.82	1.66	-73.32	-13.00	-60.32
880.69	32.63	V	-52.65	-7.92	3.75	-64.32	-13.00	-51.32
1850.00	67.92	V	-36.47	9.90	5.56	-32.13	-13.00	-19.13
3702.50	49.70	V	-48.22	12.61	8.31	-43.92	-13.00	-30.92
5553.75	47.10	V	-43.73	13.23	10.33	-40.83	-13.00	-27.83
7405.00	50.26	V	-30.96	11.50	12.09	-31.55	-13.00	-18.55
9256.25	---	V		11.92	13.50		-13.00	
11107.50	---	V		11.67	15.12		-13.00	
12958.75	---	V		13.62	16.61		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 PCS Mode

Operation Mode	: TX CH 25 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 1851.25MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	44.29	H	-58.90	-3.25	0.90	-63.05	-13.00	-50.05
56.19	56.19	H	-53.45	-0.51	1.09	-55.05	-13.00	-42.05
94.99	41.32	H	-62.05	-7.75	1.31	-71.12	-13.00	-58.12
135.73	34.61	H	-64.65	-7.79	1.52	-73.97	-13.00	-60.97
793.39	32.28	H	-55.47	-7.87	3.56	-66.89	-13.00	-53.89
926.28	32.18	H	-52.33	-7.98	3.84	-64.15	-13.00	-51.15
1850.00	69.64	H	-34.54	9.90	5.56	-30.20	-13.00	-17.20
3702.50	45.10	H	-52.93	12.61	8.31	-48.64	-13.00	-35.64
5553.75	43.89	H	-47.15	13.23	10.33	-44.25	-13.00	-31.25
7405.00	43.19	H	-38.02	11.50	12.09	-38.61	-13.00	-25.61
9256.25	---	H		11.92	13.50		-13.00	
11107.50	---	H		11.67	15.12		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 PCS Mode

Operation Mode	: TX CH 600 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 1880.00MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	42.71	V	-59.46	-3.25	0.90	-63.60	-13.00	-50.60
56.19	41.07	V	-68.59	-0.51	1.09	-70.20	-13.00	-57.20
90.14	42.92	V	-60.26	-7.75	1.27	-69.28	-13.00	-56.28
104.69	39.33	V	-62.16	-7.76	1.38	-71.30	-13.00	-58.30
633.34	32.61	V	-56.53	-7.80	3.12	-67.45	-13.00	-54.45
890.39	31.75	V	-53.26	-7.94	3.77	-64.97	-13.00	-51.97
3760.00	46.30	V	-51.36	12.60	8.39	-47.14	-13.00	-34.14
5640.00	51.11	V	-39.47	13.36	10.41	-36.52	-13.00	-23.52
7520.00	51.00	V	-29.66	11.45	12.19	-30.40	-13.00	-17.40
9400.00	---	V		11.93	13.61		-13.00	
11280.00	---	V		11.92	15.27		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 PCS Mode

Operation Mode	: TX CH 600 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 1880.00MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	43.72	H	-59.47	-3.25	0.90	-63.62	-13.00	-50.62
56.19	40.85	H	-68.79	-0.51	1.09	-70.39	-13.00	-57.39
92.08	40.66	H	-62.93	-7.75	1.29	-71.97	-13.00	-58.97
114.39	36.42	H	-65.07	-7.77	1.43	-74.27	-13.00	-61.27
769.14	31.48	H	-61.43	-7.87	3.51	-72.81	-13.00	-59.81
509.18	31.74	H	-61.39	-7.73	2.83	-71.95	-13.00	-58.95
3760.00	40.01	H	-57.76	12.60	8.39	-53.55	-13.00	-40.55
5640.00	46.92	H	-43.83	13.36	10.41	-40.88	-13.00	-27.88
7520.00	42.11	H	-38.53	11.45	12.19	-39.28	-13.00	-26.28
9400.00	---	H		11.93	13.61		-13.00	
11280.00	---	H		11.92	15.27		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 PCS Mode

Operation Mode	: TX CH 1175 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 1908.75MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Ver
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	42.76	V	-59.41	-3.25	0.90	-63.55	-13.00	-50.55
56.19	40.64	V	-69.02	-0.51	1.09	-70.63	-13.00	-57.63
90.14	42.33	V	-60.85	-7.75	1.27	-69.87	-13.00	-56.87
104.69	39.48	V	-62.01	-7.76	1.38	-71.15	-13.00	-58.15
609.09	32.86	V	-56.59	-7.79	3.05	-67.44	-13.00	-54.44
837.04	32.03	V	-54.22	-7.88	3.65	-65.75	-13.00	-52.75
1910.00	66.42	V	-37.91	10.08	5.66	-33.49	-13.00	-20.49
3817.50	54.25	V	-43.15	12.60	8.47	-39.02	-13.00	-26.02
5726.25	52.10	V	-38.22	13.49	10.50	-35.23	-13.00	-22.23
7635.00	44.83	V	-35.66	11.41	12.27	-36.53	-13.00	-23.53
9543.75	---	V		11.95	13.73		-13.00	
11452.50	---	V		12.16	15.43		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

Radiated Spurious Emission Measurement Result: CDMA2000 PCS Mode

Operation Mode	: TX CH 1175 H Mode	Test Date:	Oct. 20, 2009
Fundamental Frequency	: 1908.75MHz	Test By:	Brian
Temperature	: 25℃	Pol:	Hor
Humidity	: 65%		

Freq. (MHz)	SPA. Reading (dBuV)	Ant.Pol. H/V	S.G Out-put (dBm)	Antenna Gain (dB/dBi)	Cable Loss (dB)	ERP/ EIRP (dBm)	Limit (dBm)	Safe Margin (dBm)
38.73	44.21	H	-58.98	-3.25	0.90	-63.13	-13.00	-50.13
56.19	40.43	H	-69.21	-0.51	1.09	-70.81	-13.00	-57.81
92.08	40.50	H	-63.09	-7.75	1.29	-72.13	-13.00	-59.13
138.64	34.56	H	-64.40	-7.79	1.54	-73.73	-13.00	-60.73
798.24	31.77	H	-54.94	-7.87	3.57	-66.38	-13.00	-53.38
900.09	32.09	H	-52.76	-7.95	3.79	-64.50	-13.00	-51.50
1910.00	70.05	H	-34.06	10.08	5.66	-29.64	-13.00	-16.64
3817.50	44.78	H	-52.73	12.60	8.47	-48.60	-13.00	-35.60
5726.25	45.49	H	-44.97	13.49	10.50	-41.98	-13.00	-28.98
7635.00	36.77	H	-43.66	11.41	12.27	-44.53	-13.00	-31.53
9543.75	---	H		11.95	13.73		-13.00	
11452.50	---	H		12.16	15.43		-13.00	

Measurement uncertainty	30MHz - 80MHz: 5.04dB
	80MHz -1000MHz: 3.76dB
	1GHz - 13GHz: 4.45dB

Remark：

1 The emission behaviors belong to narrowband spurious emission.

2 Remark"---" means that the emission level is too low to be measured

3 The result basic equation calculation is as follows:

4 ERP/EIRP (dBm) = SG Setting(dBm) + Antenna Gain (dB/dBi) – Cable loss (dB)

10. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

10.1 Standard Applicable

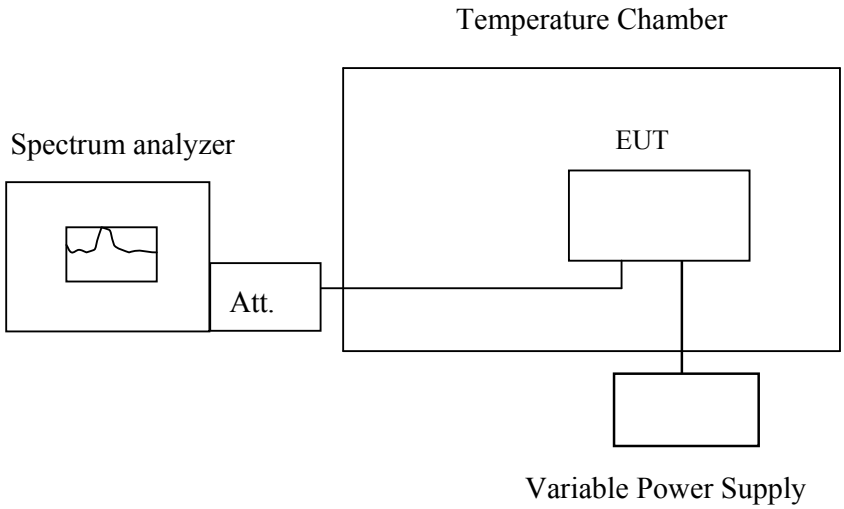
According to FCC §2.1055(a)(1)

Frequency Tolerance: +/- 2.5 ppm

According to RSS-133 §6.3 , RSS-132 §4.3

The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

10.2 Test Set-up:



Note : Measurement setup for testing on Antenna connector

10.3 Measurement Procedure

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

10.4 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2009	07/03/2011
Power Sensor	Anritsu	MA2490A	31431	07/07/2009	07/06/2011
Power Meter	Anritsu	ML2487A	6K00002070	05/28/2008	05/27/2010
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	02/13/2009	02/12/2010
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2009	07/04/2010
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2009	07/04/2010
Splitter	Agilent	11636B	51818 / 51820	07/05/2009	07/04/2010
Signal Generator	R&S	SMR40	100210	01/22/2009	01/21/2010
DC Power Supply	Agilent	6038A	2929A-07548	06/27/2009	06/26/2011

10.5 Measurement Result

Reference Frequency: CDMA2000 Cellular Band Mid Channel 836.52 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5	-30	836.519994	-2.00	2091
5	-20	836.519991	1.00	2091
5	-10	836.519989	3.00	2091
5	0	836.519992	0.00	2091
5	10	836.519995	-3.00	2091
5	20	836.519992	0.00	2091
5	30	836.520004	-12.00	2091
5	40	836.520003	-11.00	2091
5	50	836.520001	-9.00	2091

Reference Frequency: CDMA2000 PCS Band Mid Channel 1880.00 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5	-30	1879.999991	0.00	4700
5	-20	1879.999989	2.00	4700
5	-10	1879.999992	-1.00	4700
5	0	1879.999994	-3.00	4700
5	10	1879.999996	-5.00	4700
5	20	1879.999991	0.00	4700
5	30	1880.000002	-11.00	4700
5	40	1880.000005	-14.00	4700
5	50	1880.000003	-12.00	4700

11. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

11.1 Standard Applicable

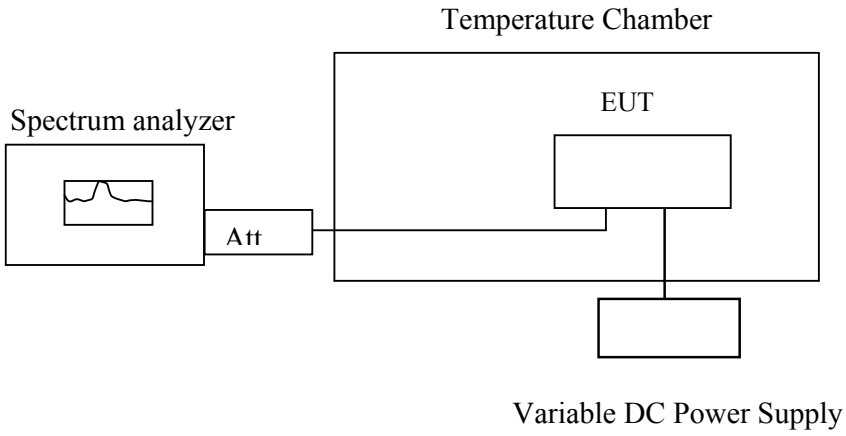
According to FCC §2.1055(d)(2)

Frequency Tolerance: +/- 2.5 ppm

According to RSS-133 §6.3, RSS-132 §4.3

The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

11.2 Test Set-up:



Note: *Measurement setup for testing on Antenna connector*

11.3 Measurement Procedure

Set chamber temperature to 25℃. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specified extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.

11.4 Measurement Equipment Used:

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**LAST CAL.**	**CAL DUE.**
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	7405A	US41160416	07/04/2009	07/03/2011
Power Sensor	Anritsu	MA2490A	31431	07/07/2009	07/06/2011
Power Meter	Anritsu	ML2487A	6K00002070	05/28/2008	05/27/2010
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	02/13/2009	02/12/2010
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2009	07/04/2010
Attenuator	Mini-Circuit	BW-S6W5	N/A	07/05/2009	07/04/2010
Splitter	Agilent	11636B	51818 / 51820	07/05/2009	07/04/2010
Signal Generator	R&S	SMR40	100210	01/22/2009	01/21/2010
DC Power Supply	Agilent	6038A	2929A-07548	06/27/2009	06/26/2011

11.5 Measurement Result

Reference Frequency: CDMA2000 Cellular Band Mid Channel 836.52 MHz @ 25℃				
Limit: +/- 2.5 ppm = 2091 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5.25	25.00	836.520089	-87.00	2091.00
5	25.00	836.520002	0.00	2091.00
4.75	25.00	836.519994	8.00	2091.00
4.65 (End Point)	25.00	836.519995	7.00	2091.00

Reference Frequency: CDMA2000 PCS Band Mid Channel 1880.00 MHz @ 25℃				
Limit: +/- 2.5 ppm = 4700 Hz				
Power Supply	Environment	Frequency	Delta (Hz)	Limit (Hz)
Vdc	Temperature (℃)	(MHz)		
5.25	25	1879.999998	-3.00	4700
5	25	1879.999995	0.00	4700
4.75	25	1879.999993	2.00	4700
4.65 (End Point)	25	1879.999996	-1.00	4700

12. SPURIOUS RADIATED EMISSION TEST (RX)

12.1 Standard Applicable

According to RSS 133 §6.6, Receiver spurious emissions shall comply with the limits specified in RSS-Gen.

According to RSS 132 §4.6, all spurious emissions shall comply with the limits of Table 2. The resolution bandwidth of the spectrum analyzer shall be 100 kHz for spurious emissions measurements below 1.0 GHz, and 1.0 MHz for measurements above 1.0 GHz.

Frequency (MHz)	Field strength μV/m	Distance (m)	Field strength at 3m dBμV/m
30-88	100	3	40
88-216	150	3	43.5
216-960	200	3	46
Above 960	500	3	54

12.2 EUT Setup

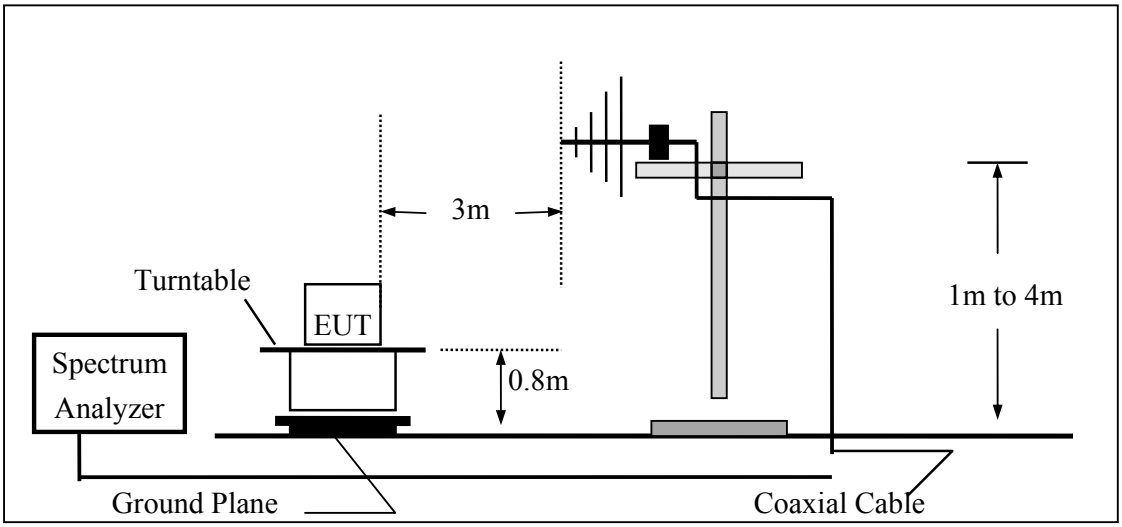
1. The radiated emission tests were performed in the 3 meter open-test site, using the setup in accordance with the ANSI C63.4-2003.
2. The EUT was put in the front of the test table. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
3. The spacing between the peripherals was 10 centimeters.
4. External I/O cables were draped along the edge of the test table and bundle when necessary.
5. The host was connected with 120Vac/60Hz power source.

12.3 Measurement Procedure

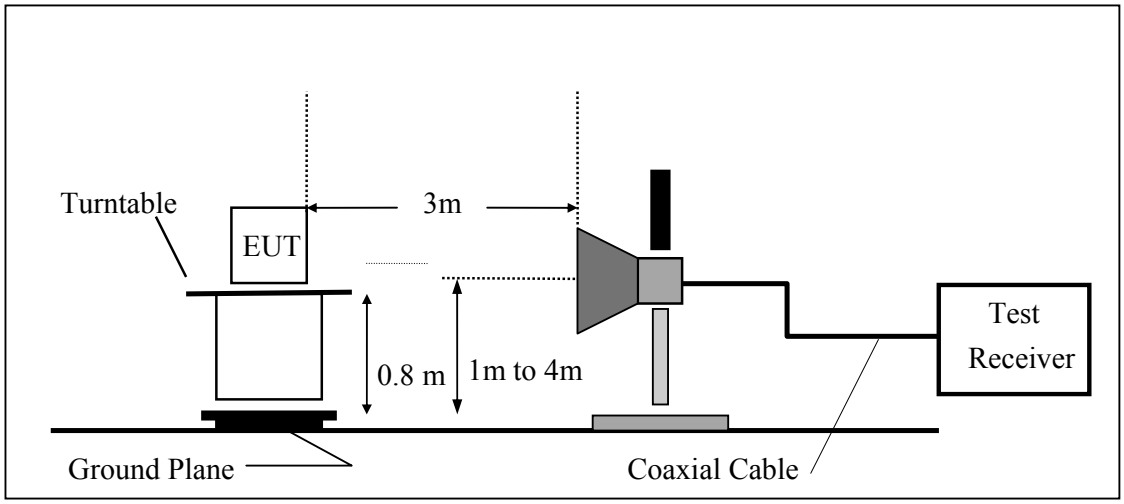
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Repeat above procedures until all frequency measured were complete.

12.4 Test SET-UP (Block Diagram of Configuration)

Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



12.5 Measurement Equipment Used:

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Spectrum Analyzer	Agilent	E4446A	MY43360126	04/19/2008	04/18/2010
Spectrum Analyzer	Agilent	E7405A	US41160416	07/04/2009	07/03/2011
Bi-log Antenna	SCHWAZBECK	VULB9160	3224	11/29/2008	11/28/2009
Horn antenna	SCHWAZBECK	BBHA 9120D	309/320	03/14/2009	03/13/2010
Pre-Amplifier	HP	8447F	3113A06892	01/05/2009	01/04/2010
Pre-Amplifier	HP	8449B	3008A01973	01/05/2009	01/04/2010
Signal Generator	R&S	SMR40	100210	01/22/2009	01/21/2010
Turn Table	HD	DT420	N/A	N.C.R	N.C.R
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R
Controller	HD	HD100	N/A	N.C.R	N.C.R
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-10M	10m	02/13/2009	02/12/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-3M	3m	02/13/2009	02/12/2010
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA-0.5M	0.5m	02/13/2009	02/12/2010
Site NSA	SGS	966 chamber	N/A	11/17/2008	11/16/2009
Attenuator	Mini-Circuit	BW-S10W5	N/A	07/05/2009	07/04/2010
Temperature Chamber	TERCHY	MHG-120LF	911009	04/14/2008	04/13/2010

12.6 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

12.7 Measurement Result

Refer to attach tabular data sheets.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	CDMA2000 Cellular H Plan CH 1013	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Ant./CL/ Amp. CF(dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
56.19	V	Peak	41.58	-4.40	37.18	40.00	-2.82
90.14	V	Peak	41.92	-5.23	36.69	43.50	-6.81
104.69	V	Peak	38.66	-3.58	35.08	43.50	-8.42
160.95	V	Peak	33.46	-0.73	32.73	43.50	-10.77
56.19	H	Peak	41.73	-4.37	37.36	40.00	-2.64
90.14	H	Peak	40.48	-5.76	34.72	43.50	-8.78
732.28	H	Peak	31.76	8.46	40.22	46.00	-5.78
827.34	H	Peak	33.58	9.24	42.82	46.00	-3.18

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	CDMA2000 Cellula H Plan CH 384	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Ant./CL/ Amp. CF(dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
56.19	V	Peak	40.68	-7.89	32.79	40.00	-7.21
90.14	V	Peak	42.82	-7.89	34.93	43.50	-8.57
104.69	V	Peak	37.99	-7.89	30.10	43.50	-13.40
153.19	V	Peak	33.80	-7.89	25.91	43.50	-17.59
761.38	V	Peak	32.72	-7.89	24.83	46.00	-21.17
56.19	H	Peak	42.04	-8.34	33.70	40.00	-6.30
90.14	H	Peak	39.39	-8.34	31.05	43.50	-12.45
138.64	H	Peak	33.94	-8.34	25.60	43.50	-17.90
780.78	H	Peak	32.32	-8.34	23.98	46.00	-22.02

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	CDMA2000 Cellular H Plan CH 777	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Ant./CL/ Amp. CF(dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
53.28	V	Peak	38.41	-3.12	35.29	40.00	-4.71
90.14	V	Peak	41.25	-5.23	36.02	43.50	-7.48
104.69	V	Peak	38.34	-3.58	34.76	43.50	-8.74
800.18	V	Peak	31.69	8.92	40.61	46.00	-5.39
56.19	H	Peak	40.11	-4.37	35.74	40.00	-4.26
90.14	H	Peak	39.34	-5.76	33.58	43.50	-9.92
107.60	H	Peak	35.43	-4.23	31.20	43.50	-12.30
712.88	H	Peak	31.97	8.32	40.29	46.00	-5.71

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 Cellular H Plan CH 1013	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
1649.4	34.75	---	6.51	41.26	---	74.00	54.00	-12.74
2474.1	34.50	---	9.49	43.99	---	74.00	54.00	-10.01
3298.8	--							
3515.5	--							
3918.5	--							
4123.5	--							
4263.0	--							
4948.2	--							
5772.9	--							
6597.6	--							
7422.3	--							
8247.0	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 Cellular H Plan CH 1013	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
1649.4	34.96	---	6.69	41.65	---	74.00	54.00	-12.35
2474.1	34.87	---	9.59	44.46	---	74.00	54.00	-9.54
3298.8	--							
4263.0	--	---						
4123.5	--							
4263.0	--	---						
4948.2	--							
5772.9	--							
6597.6	--							
7422.3	--							
8247.0	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 Cellular H Plan CH 384	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
1673.0	36.36	---	6.60	42.96	---	74.00	54.00	-11.04
2509.6	34.95	---	9.67	44.62	---	74.00	54.00	-9.38
3346.1	--							
3515.5	--							
3918.5	--							
4182.6	--							
4263.0	--							
5019.1	--							
5855.6	--							
6692.2	--							
7528.7	--							
8365.2	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 Cellular H Plan CH 384	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
1673.0	35.35	---	6.78	42.13	---	74.00	54.00	-11.87
2509.6	35.27	---	9.76	45.03	---	74.00	54.00	-8.97
3346.1	--							
3515.5	--							
3918.5	--							
4182.6	--							
4263.0	--							
5019.1	--							
5855.6	--							
6692.2	--							
7528.7	--							
8365.2	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 Cellular H Plan CH 777	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
1696.6	35.89	---	6.62	42.51	---	74.00	54.00	-11.49
2544.9	35.14	---	9.83	44.97	---	74.00	54.00	-9.03
3393.2	--							
3515.5	--							
3918.5	--							
4241.6	--							
5089.9	--							
5938.2	--							
6786.5	--							
7634.8	--							
8483.1	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 Cellular H Plan CH 777	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
1696.6	36.22	---	6.80	43.02	---	74.00	54.00	-10.98
2544.9	34.74	---	9.88	44.62	---	74.00	54.00	-9.38
3393.2	--							
3515.5	--							
3918.5	--							
4241.6	--							
5089.9	--							
5938.2	--							
6786.5	--							
7634.8	--							
8483.1	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	CDMA2000 PCS H Plan CH 25	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Ant./CL/ Amp. CF(dB)	Actual FS (dBuV/m)	Limit3m (dBuV/m)	Safe Margin (dB)
56.19	V	Peak	41.28	-4.40	36.88	40.00	-3.12
90.14	V	Peak	40.84	-5.23	35.61	43.50	-7.89
104.69	V	Peak	38.62	-3.58	35.04	43.50	-8.46
778.84	V	Peak	33.19	8.77	41.96	46.00	-4.04
56.19	H	Peak	41.42	-4.37	37.05	40.00	-2.95
95.99	H	Peak	40.87	-5.50	35.37	43.50	-8.13
732.28	H	Peak	31.46	8.46	39.92	46.00	-6.08
827.34	H	Peak	32.32	9.24	41.56	46.00	-4.44

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz.

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	CDMA2000 PCS H Plan CH 600	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq.	Ant.Pol.	Detector Mode	Reading	Ant./CL/	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	Amp. CF(dB)	(dBuV/m)	(dBuV/m)	(dB)
56.19	V	Peak	41.47	-4.40	37.07	40.00	-2.93
90.14	V	Peak	39.38	-5.23	34.15	43.50	-9.35
153.19	V	Peak	32.97	0.03	33.00	43.50	-10.50
761.38	V	Peak	31.45	8.61	40.06	46.00	-5.94
56.19	H	Peak	41.89	-4.37	37.52	40.00	-2.48
94.99	H	Peak	38.80	-5.50	33.30	43.50	-10.20
138.64	H	Peak	33.52	-1.09	32.43	43.50	-11.07
778.84	H	Peak	33.35	9.01	42.36	46.00	-3.64

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz。

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Radiated Spurious Emission Measurement Result (below 1GHz)

Operation Mode	CDMA2000 PCS H Plan CH 1175	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver./Hor
Humidity	65 %		

Freq.	Ant.Pol.	Detector Mode	Reading	Ant./CL/	Actual FS	Limit3m	Safe Margin
(MHz)	H/V	(PK/QP)	(dBuV)	Amp. CF(dB)	(dBuV/m)	(dBuV/m)	(dB)
56.19	V	Peak	41.58	-4.40	37.18	40.00	-2.82
90.14	V	Peak	41.26	-5.23	36.03	43.50	-7.47
104.69	V	Peak	40.34	-3.58	36.76	43.50	-6.74
649.83	V	Peak	32.78	7.10	39.88	46.00	-6.12
56.19	H	Peak	41.63	-4.37	37.26	40.00	-2.74
94.99	H	Peak	40.03	-5.50	34.53	43.50	-8.97
138.64	H	Peak	34.71	-1.09	33.62	43.50	-9.88
783.69	H	Peak	32.43	9.03	41.46	46.00	-4.54

Remark：

(1) Measuring frequencies from 30 MHz to the 1GHz。

(2) Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak/AV detector mode.

(3) The IF bandwidth of SPA between 30MHz to 1GHz was 100KHz.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 PCS H Plan CH 25	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
3702.5	35.28	---	-8.32	26.96	---	74.00	54.00	-27.04
5553.8	34.41	---	-10.30	24.11	---	74.00	54.00	-29.89
7405.0	--							
9256.3	--							
11107.5	--							
12958.8	--							
14810.0	--							
16661.3	--							
18512.5	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 PCS H Plan CH 25	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
3702.5	35.37	---	-8.32	27.05	---	74.00	54.00	-26.95
5553.8	34.68	---	-10.30	24.38	---	74.00	54.00	-29.62
7405.0	--							
9256.3	--							
11107.5	--							
12958.8	--							
14810.0	--							
16661.3	--							
18512.5	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 PCS H Plan CH 600	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
3760.0	33.44	---	13.53	46.97	---	74.00	54.00	-7.03
3918.5	33.60	---	19.37	52.97	---	74.00	54.00	-1.03
5640.0	--							
7520.0	--							
9400.0	--							
11280.0	--							
13160.0	--							
15040.0	--							
16920.0	--							
18800.0	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 PCS H Plan CH 600	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
3760.0	34.44	---	-8.40	26.04	---	74.00	54.00	-27.96
5640.0	33.35	---	-10.40	22.95	---	74.00	54.00	-31.05
7520.0	--							
9400.0	--							
11280.0	--							
13160.0	--							
15040.0	--							
16920.0	--							
18800.0	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 PCS H Plan CH 1175	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Ver
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
3817.5	34.95	---	-8.47	26.48	---	74.00	54.00	-27.52
5726.3	33.28	---	-10.48	22.80	---	74.00	54.00	-31.20
7635.0	--							
9543.8	--							
11452.5	--							
13361.3	--							
15270.0	--							
17178.8	--							
19087.5	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

Radiated Spurious Emission Measurement Result (above 1GHz)

Operation Mode	CDMA2000 PCS H Plan CH 1175	Test Date	Oct. 20, 2009
Fundamental Frequency	N/A	Test By	Brian
Temperature	25 ℃	Pol	Hor
Humidity	65 %		

Freq. (MHz)	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF(dB)	Actual FS Peak (dBuV/m)	Actual FS AV (dBuV/m)	Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
3817.5	34.52	---	-8.47	26.05	---	74.00	54.00	-27.95
5726.3	34.49	---	-10.48	24.01	---	74.00	54.00	-29.99
7635.0	--							
9543.8	--							
11452.5	--							
13361.3	--							
15270.0	--							
17178.8	--							
19087.5	--							

Remark：

(1) Measuring frequencies from 1GHz to the 10th harmonic of highest fundamental frequency。

(2) Data of measurement within this frequency range shown " - " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(3) Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column。

(4) Spectrum Peak Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 1MHz, Sweep time= 200 ms.

(5) Spectrum AV Setting : 1GHz- 13GHz, RBW= 1MHz, VBW= 10Hz, Sweep time= 200 ms.

13. Maximum Permissible Exposure (MPE)

13.1 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended to comply with Section Part 22, subpart H and Part 24, subpart E of the FCC CFR 47 Rules. For 47 CFR 1.1310 Radio frequency Radiation Exposure requirement.

13.2 Special Accessories

Not available for this EUT intended for grant.

13.3 Equipment Modifications

Not available for this EUT intended for grant.

13.4 Limitation

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-15000	/	/	1.0	30

F = frequency in MHz

* = Plane-wave equipment power density

1.1. Maximum Permissible Exposure (MPE) Evaluation

In this application we seek approval to the MTSMC-C1-GP. Based on the FCC OET Bulletin 65 Supplement C and 47 CFR §2.1091, we have concluded that the MC55i module will comply with the FCC rules on RF exposure for mobile devices in cellular band and PCS band. The following analysis will demonstrate such compliance. The analysis will be done in two US bands.

Operation in cellular band (824 – 849 MHz)

The ERP of MTSMC-C1-GP in cellular band is 29.53dBm max at CDMA2000 mode. The resulted power density at a distance of 20 cm can be deducted as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	ERP (dBm)	Limit (dBm)
CDMA2000 Cellular	824.70	1013	H	V	115.03	28.67	-7.88	3.63	17.16	38.45
				H	127.24	40.98	-7.88	3.63	29.48	38.45
	836.52	384	H	V	114.62	28.36	-7.88	3.65	16.83	38.45
				H	127.02	40.79	-7.88	3.65	29.26	38.45
	848.31	777	H	V	114.65	28.50	-7.88	3.67	16.95	38.45
				H	127.28	41.08	-7.88	3.67	**29.53**	38.45

ERP = 29.53dBm = 897.43mW

Power Density = ERP*Duty Cycle/($4\pi R^2$)

=897.43*1/($4*\pi*20^2$) = 0.17853 mW/cm^2

where Duty Cycle is 1 for CDMA operation (class 10) and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit = 824/1500 = 0.55 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore TD-3261G in cellular band is compliant with the FCC rules on RF exposure.

Operation in PCS band (1850 – 1910 MHz)

The EIRP of MTSMC-C1-GP in PCS band is 26.36 dBm. max. The resulted EIRP can be expressed as follows:

EUT Mode	Frequency (MHz)	CH	EUT Pol.	Antenna Pol.	SPA Reading (dBuV)	S.G. Output (dBm)	Antenna Gain (dBi)	Cable Loss (dB)	EIRP (dBm)	Limit (dBm)
CDMA2000 PCS	1851.25	25	H	V	118.13	13.74	9.90	5.56	18.08	33.00
				H	125.82	21.64	9.90	5.56	25.98	33.00
	1880.00	600	H	V	118.77	14.41	9.99	5.61	18.79	33.00
				H	126.13	21.99	9.99	5.61	**26.36**	33.00
	1908.75	1175	H	V	117.50	13.17	10.07	5.66	17.59	33.00
				H	125.29	21.18	10.07	5.66	25.59	33.00

EIRP = 23.55 dBm = 432.51 mW

Power Density = EIRP*Duty Cycle/($4\pi R^2$)

=432.51*1/(4* π *20^2) = 0.0861 mW/cm^2

where Duty Cycle is 1 for CDMA2000 operation (class 10) and R is 20 cm.

The MPE limit for General Population/Uncontrolled Exposure is shown in the FCC OET Bulletin 65 Supplement C and can be calculated as follows:

MPE limit = 1.0 mW/cm^2

As we can see the resulted power density is below the MPE limit, therefore TD-3261G in PCS band is compliant with the FCC rules on RF exposure.