SGS-CSTC Standards Technical Services (Shanghai)Co., Ltd.

588 West Jindu Road, Songjiang District, Shanghai, China

Telephone: +86 (0) 21 6191 5666
Fax: +86 (0) 21 6191 5655
Tino.Pan@sgs.com

TEST REPORT

Application No. :	SHEMO10080104805
Applicant:	Celsius X VI II
Address:	Paris Innovation République - Celsius X VI II 18, rue du Faubourg du Temple 75011 Paris - FRANCE
FCC ID:	YVQ2N1
Equipment Under Test (EUT):	
EUT Name:	2N1
Brand Name:	Celsius X VI II
Model No:	2N1
Marketing Name:	LeDIX
Standards:	FCC Part 2, 24E
Date of Receipt:	Aug 16, 2010
Date of Test:	Aug 16, 2010 to Sep 30, 2010
Date of Issue:	Sep 30, 2010
Test Result :	**PASS ***

* In the configuration tested, the EUT detailed in this report complied with the standards specified above. Please refer to section 2 of this report for further details.

Tino Pan
E&E Section Manager
SGS-CSTC(Shanghai) Co., Ltd.

Jack Wu
Project Engineer
SGS-CSTC(Shanghai) Co., Ltd.

2 Test Summary

Description of Test	FCC Rules	Result
RF Power Output	2.1046(a) 24.232(c)	Compliant
Occupied Bandwidth	2.1049(h)	Compliant
Effective Isotropic Radiated Power	2.1046(a) 24.232(c)	Compliant
Out of Band Emissions at antenna Terminals and Band Edge	2.1051 24.238(a)	Compliant
Field Strength of Spurious Emissions	2.1053 24.238(a)	Compliant
Frequency Stability vs. Temperature and Voltage	2.1055(a)&(d)	Compliant

3 Contents

4 General Information

4.1 Client Information

Applicant:	Celsius X VI II
Address of Applicant:	Paris Innovation République - Celsius X VI II 18, rue du Faubourg du Temple 75011 Paris - FRANCE
Manufacturer:	Celsius X VI II
Address of Manufacturer:	Paris Innovation République - Celsius X VI II 18, rue du Faubourg du Temple 75011 Paris - FRANCE

4.2 General Description of E.U.T.

EUT Name:	2N1
Brand Name:	Celsius X VI II
Model No:	2N1
Marketing Name:	LeDIX
Support Frequency Band:	GSM 900/1800/1900
Testing Frequency Band:	GSM 1900
Power Supply:	Model: FS5GU, Reference: PI00200005AA (Input :100-240V~ 50-60 Hz, 75mA, Output : 5.0 VDC, 600mA)
Battery:	Celsius battery DC 3.7V，Reference: PI00200001AA

GSM 1900

	Operating frequency		Rated Power
Cellular phone standards Frequency Range and Power:	GSM/GPRS/E-GPRS 1900	1850MHz-1910MHz	GSM:30dBm
IMEI:	358751030001594		
Hardware Version:	V0x		
Software Version:	EA, V19		

4.3 Test Location

Tests were performed at:

SGS-CSTC Standards Technical Services(Shanghai) Co., Ltd.
588 West Jindu Road, Songjiang District, Shanghai, China
Tel: +86 21 61915666 Fax: +86 21 61915655

4.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2011-07-29.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2012-03-17.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2011-09-29.

4.5 Test Methodogy

Both conducted and radiated testing were performed according to the procedures document on TIA/EIA-603-C-2004 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057.

5 Equipments Used during Test

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due date
1	EMI test receiver	Rohde & Schwarz	ESU40	100109	2010-6-4	2011-6-3
2	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-679	2010-6-4	2011-6-3
3	Horn Antenna	Rohde & Schwarz	HF906	100284	2010-4-11	2011-4-10
4	ANTENNA	SCHWARZBECK	VULB9168	9168-313	2010-6-4	2011-6-3
5	Ultra broadband antenna	Rohde & Schwarz	HL562	100227	2009-10-9	2010-10-8
6	Atmosphere pressure meter	Shanghai ZhongXuan Electronic Co;Ltd	BY－2003P	--	2009-10-15	2010-10-14
7	CLAMP METER	FLUKE	316	86080010	2010-04-27	2011-04-26
8	Thermo-Hygrometer	ZHICHEN	ZC1-2	01050033	2009-10-15	2010-10-14
9	High-low temperature cabinet	Shanghai YuanZhen	GW2050	--	2010-6-18	2011-6-17
10	DC power	KIKUSUI	PMC35－3	NF100260	2010-1-16	2011-1-15
11	Line impedance stabilization network	SCHWARZBECK	NSLK8127	8127-490	2010-5-8	2011-5-7
12	Power meter	Rohde & Schwarz	NRP	101641	2010-5-5	2011-5-4
13	UNIVERSAL RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMU 200	112012	2010-08-25	2011-08-24
14	Tunable Notch Filter	Wainwright instruments Gmbh	WRCT1800.0/2000.0-0.2/40-5SSK	11	2010-1-27	2011-1-26
15	Tunable Notch Filter	Wainwright instruments Gmbh	WRCT800.0/880.0-0.2/40-5SSK	9	2010-1-27	2011-1-26
16	EMI test receiver	Rohde & Schwarz	ESCS30	100086	2010-6-4	2011-6-3

6 Test Results

6.1 E.U.T. test conditions

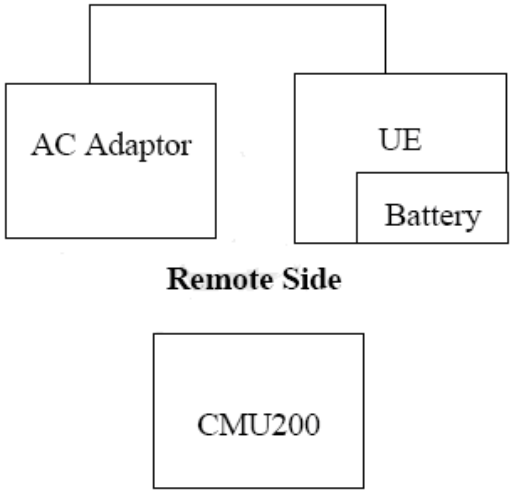
Operating Environment:

Temperature: 20.0 -25.0 °C

Humidity: 38-52% RH

Atmospheric Pressure: 992 -1010 mbar

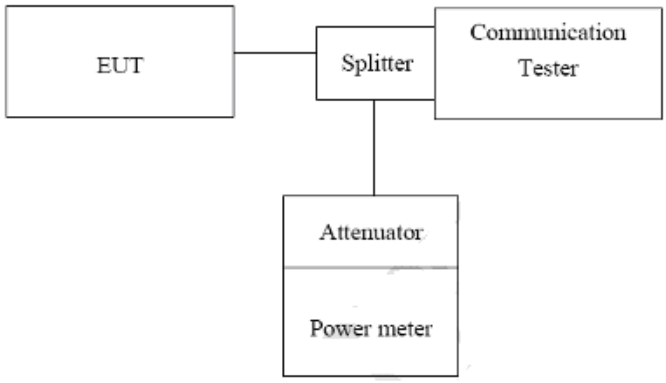
Configuration of Tested System:



6.2 RF Power Output

Test Requirement: 2.1046(a)
24.232(c) Mobile and portable stations are limited to 2 watts

Test Setup



Measurement Setup for testing on Antenna connector.

Test Date: Sep 07, 2010

Test Status: Test lowest, middle, highest channel.

Test Procedure:

The transmitter output was connected to calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power in dBm. The power output at the transmitter antenna port was determined by adding the value of attenuator to the power meter reading.

RF Conducted output power:

PCS 1900(GMSK) Result:

Frequency(MHz)	Channel:	Peak power (dBm)	AV power (dBm)
1850.2	512	29.3	29.1
1880.0	661	29.1	29.0
1909.8	810	29.0	28.9

PCS 1900(8-PSK) Result:

Frequency(MHz)	Channel:	Peak power (dBm)	AV power (dBm)
1850.2	512	28.5	25.4
1880.0	661	28.0	25.0
1909.8	810	28.4	25.4

6.3 Occupied Bandwidth

Test Requirement: 2.1049(h)

Test Date: Sep 07, 2010

Test Status: Test lowest, middle, highest channel.

Test Procedure:

The EUT output RF connector was connected with a short a cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW>=3 times RBW, 99% bandwidth were measured, the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

Test result:

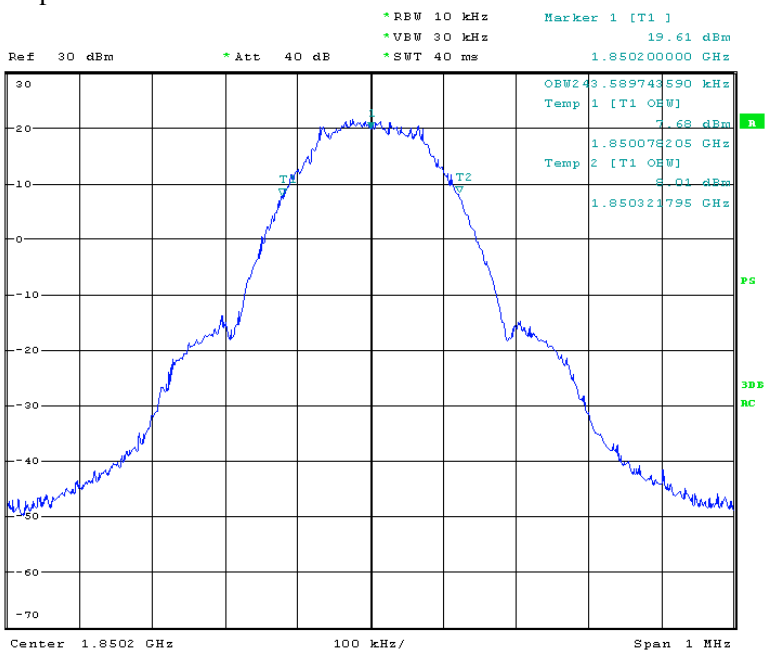
EUT Mode	Frequency (MHz)	CH	99% Bandwidth (kHz)
PCS 1900 GMSK	1850.2	512	243.590
	1880.0	661	243.590
	1909.8	810	243.590
EUT Mode	Frequency (MHz)	CH	99% Bandwidth (kHz)
PCS 1900 8-PSK	1850.2	512	237.180
	1880.0	661	243.590
	1909.8	810	243.590

EUT Mode	Frequency (MHz)	CH	26dB Bandwidth (kHz)
PCS 1900 GMSK	1850.2	512	325.705
	1880.0	661	322.116
	1909.8	810	323.718
EUT Mode	Frequency (MHz)	CH	26dB Bandwidth (kHz)
PCS 1900 8-PSK	1850.2	512	325.705
	1880.0	661	323.718
	1909.8	810	327.308

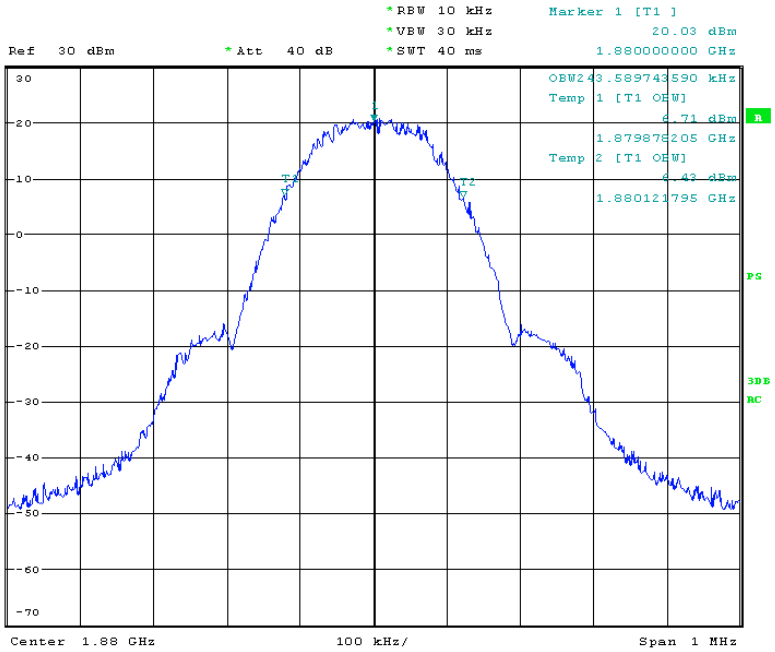
99% bandwidth

GSM 1900 GMSK

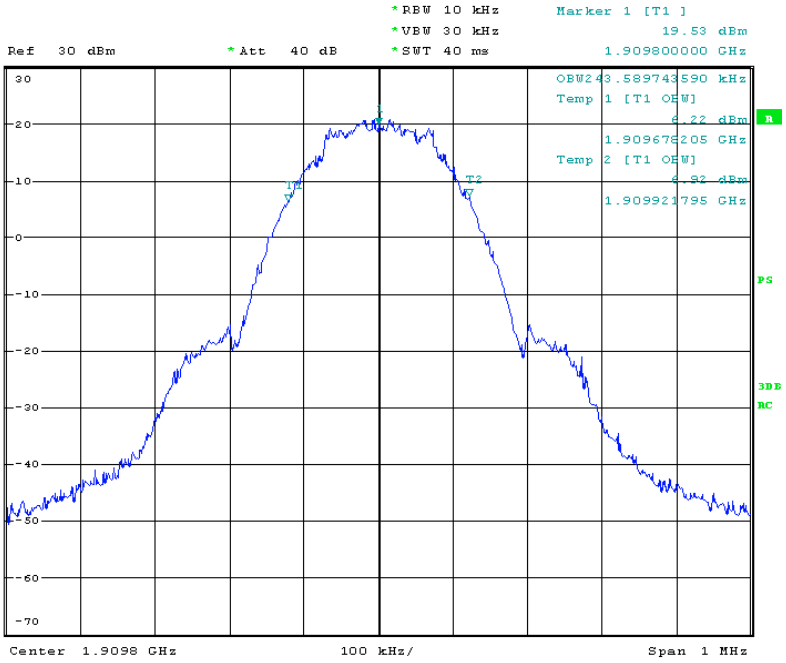
Graph: Channel Low



Channel Middle

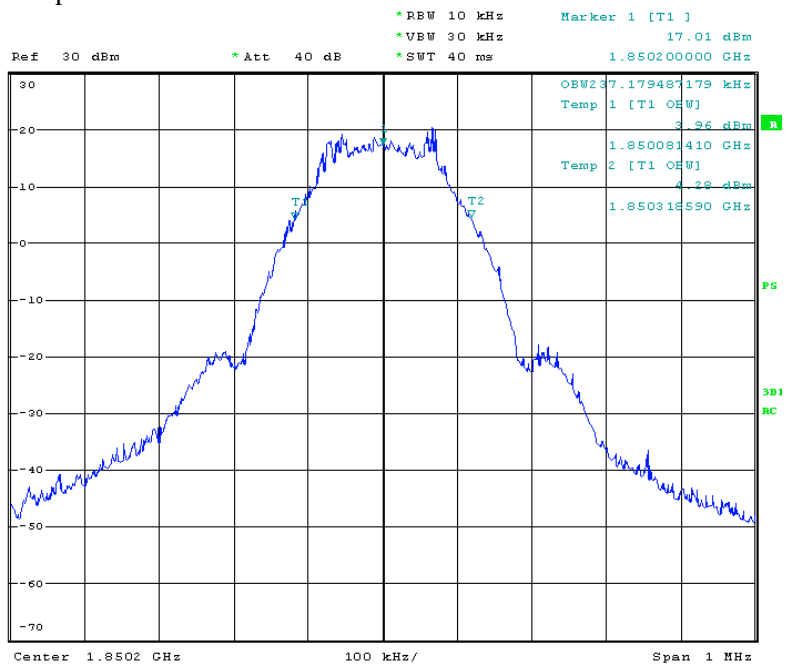


Channel High

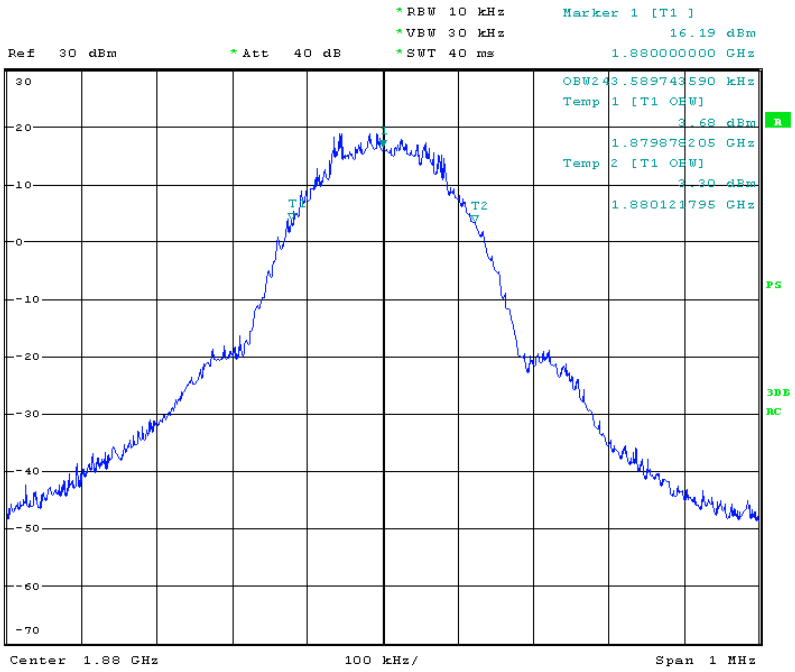


GSM 1900 8-PSK

Graph: Channel Low



Channel Middle



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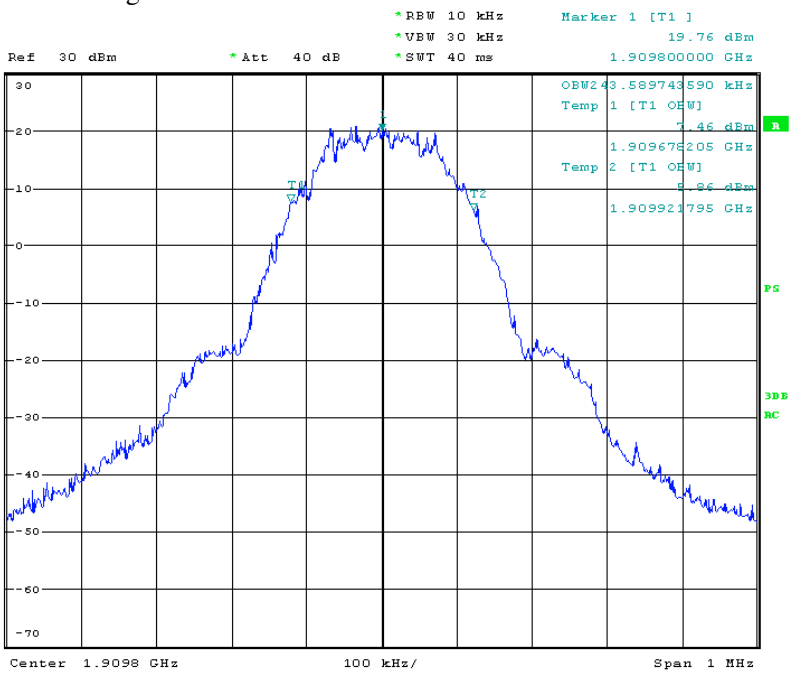
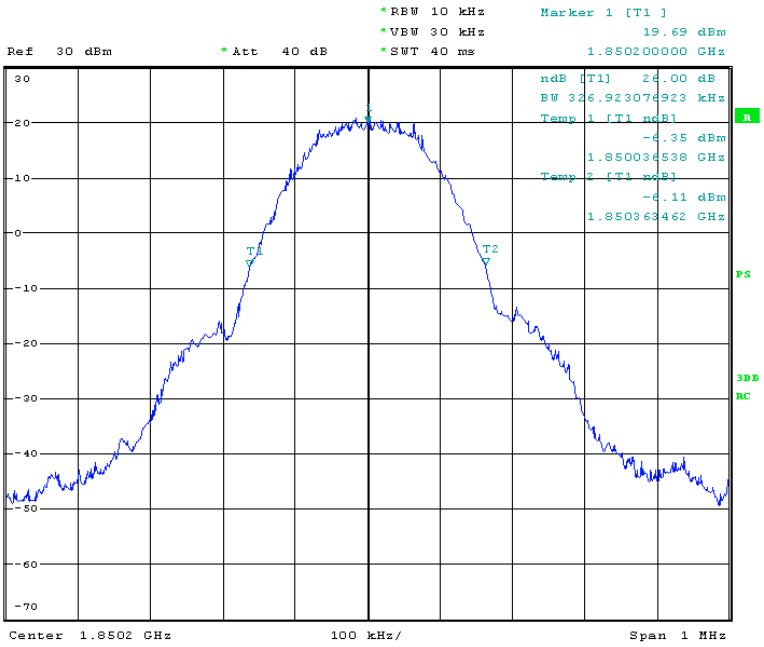


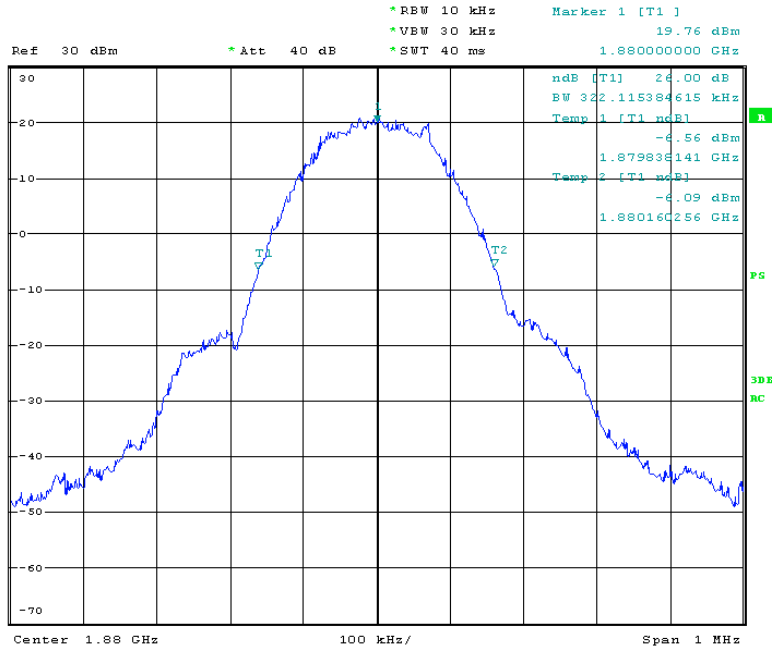
26dB bandwidth

GSM 1900 GMSK

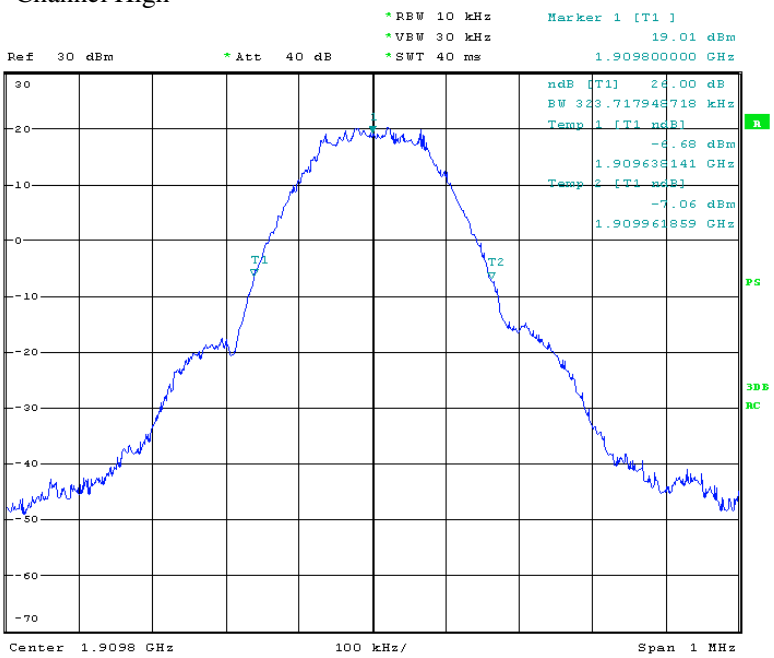
Graph: Channel Low



Channel Middle

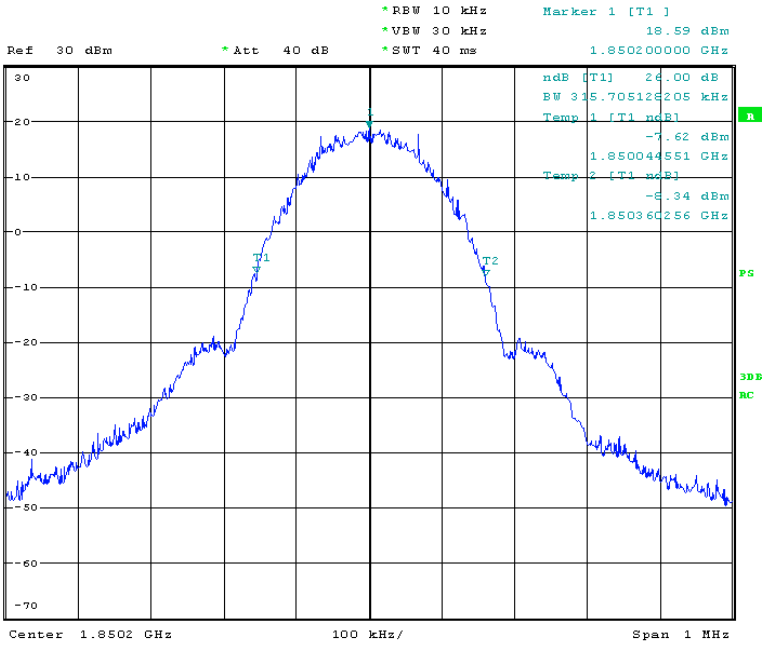


Channel High

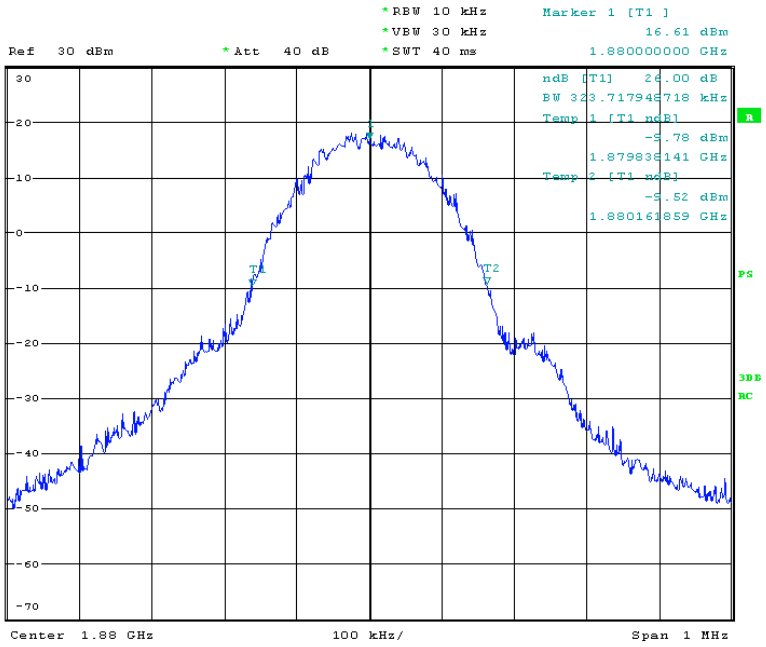


GSM 1900 8-PSK

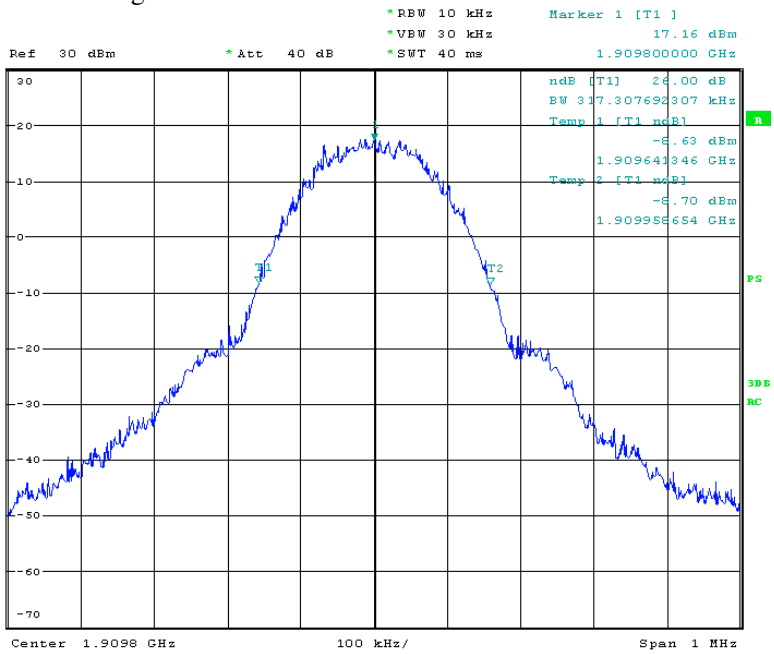
Graph: Channel Low



Channel Middle



Channel High



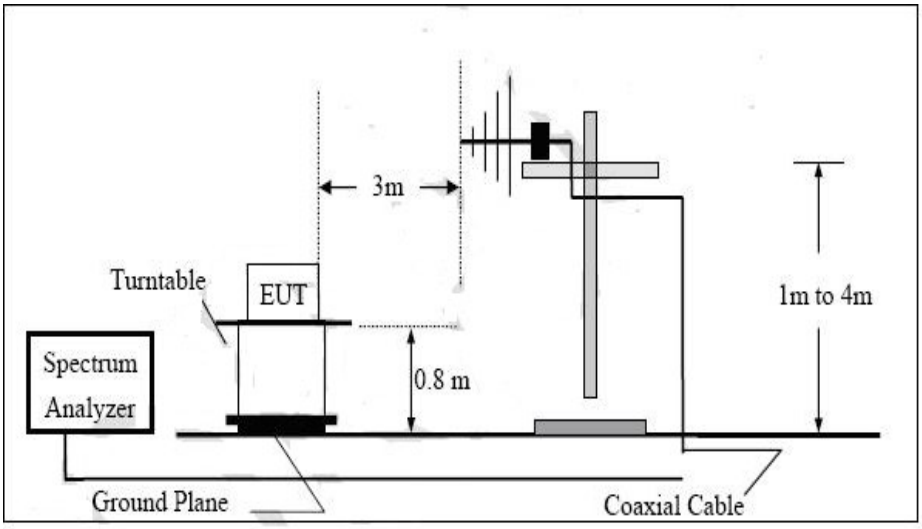
6.4 Effective Isotropic Radiated Power

Test Requirement: 2.1046(a)
24.232(c) Mobile and portable stations are limited to 2 watts

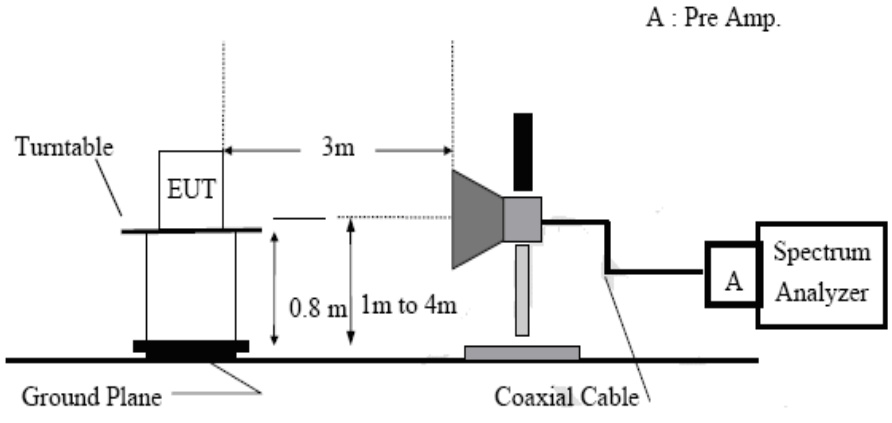
Test Date: Sep 25, 2010

Test Setup:

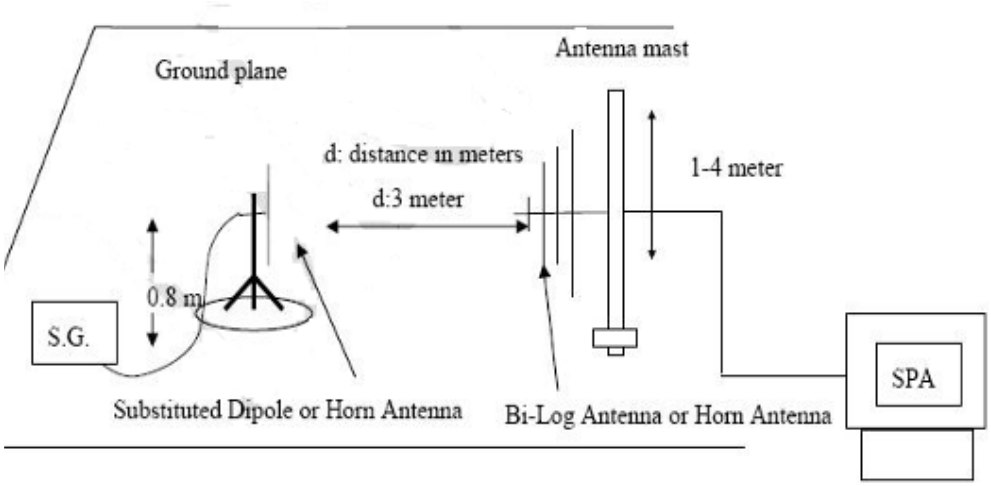
(A) Radiated emission Test setup, Below Frequency 1000MHz:



(B) Radiated emission Test setup frequency over 1GHz:



(C) Substituted Method Test setup:



Test 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 lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.

EIRP in frequency band 1850.5-1909.8MHz 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:

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

ERP/EIRP:GSM/PCS: Below 1GHz was RBW=300KHz, VBW=1MHz; Above 1GHz was RBW=1MHz, VBW=3MHz

Measurement result:
The RBW, VBW of SPA for frequency

Below 1GHz was RBW=300KHz, VBW=1MHz;

Above 1GHz was RBW=1MHz, VBW=3MHz.

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)
PCS 1900 GMSK	1850.2	512	H	V	101.83	18.96	9.15	4.45	23.66	33.00
				H	99.53	16.92	9.15	4.45	21.62	33.00
	1880.0	661	H	V	101.17	18.76	9.22	4.57	23.41	33.00
				H	99.38	16.68	9.22	4.57	21.33	33.00
	1909.8	810	H	V	100.87	17.77	9.25	4.48	22.54	33.00
				H	99.01	16.21	9.25	4.48	20.98	33.00
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)
PCS 1900 8-PSK	1850.2	512	H	V	100.16	17.39	9.15	4.45	22.09	33.00
				H	98.33	15.38	9.15	4.45	20.08	33.00
	1880.0	661	H	V	100.62	17.66	9.22	4.57	22.31	33.00
				H	98.59	15.47	9.22	4.57	20.12	33.00
	1909.8	810	H	V	99.75	17.21	9.25	4.48	21.98	33.00
				H	97.84	15.10	9.25	4.48	19.87	33.00

6.5 Out of band emissions at antenna Terminals

6.5.1 Band edges emissions

Test Requirement: Part 2.1051

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

Test Date: Sep 07, 2010

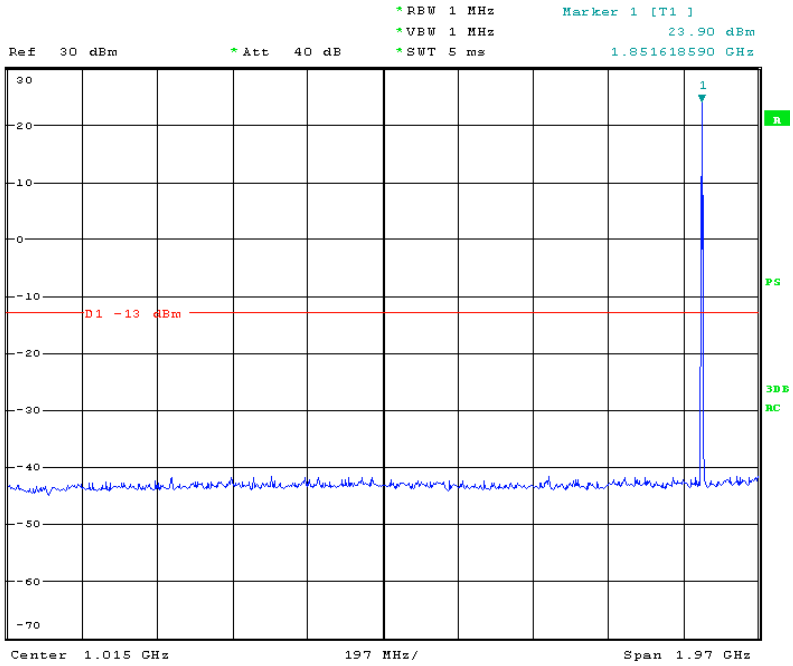
Test Procedure:

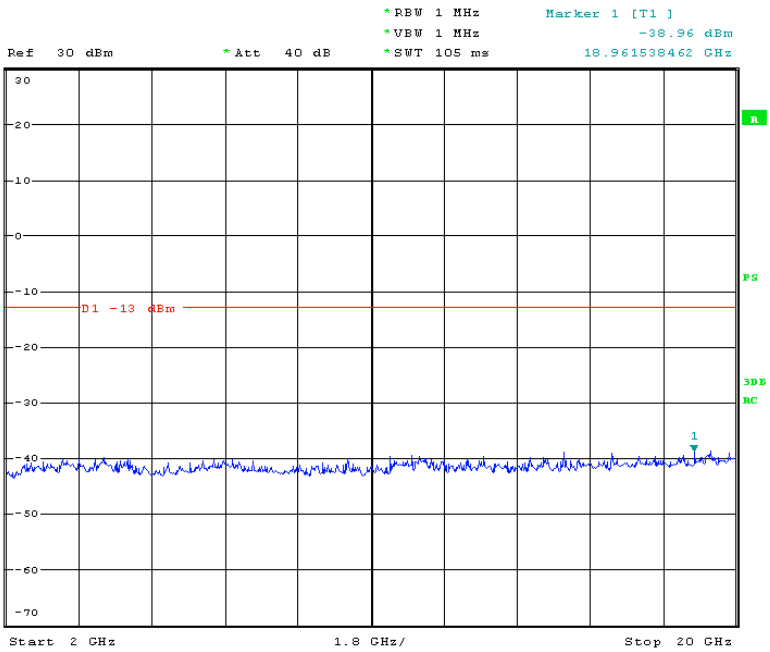
The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emission is any up to 10th harmonic.

For the out of band: set RBW=1MHz, VBW=3MHz, stat=30MHz, stop= 10 th harmonic. Limit= --13dBm Band Edge requirements: In 1MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 % of bandwidth of fundamental emission of the transmitter any be employed to measure the out of band emission. Limit=--13dBm.

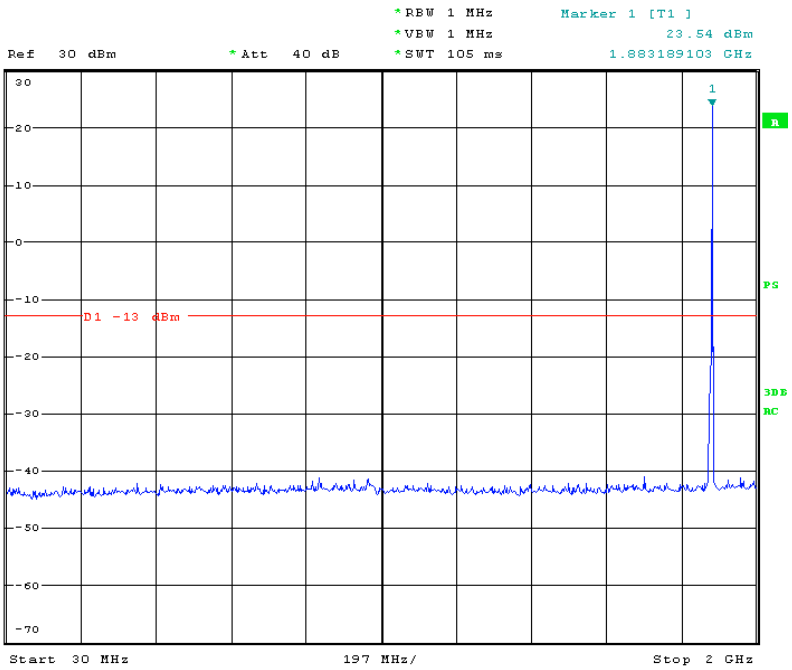
Measurement result: GSM 1900 GMSK:

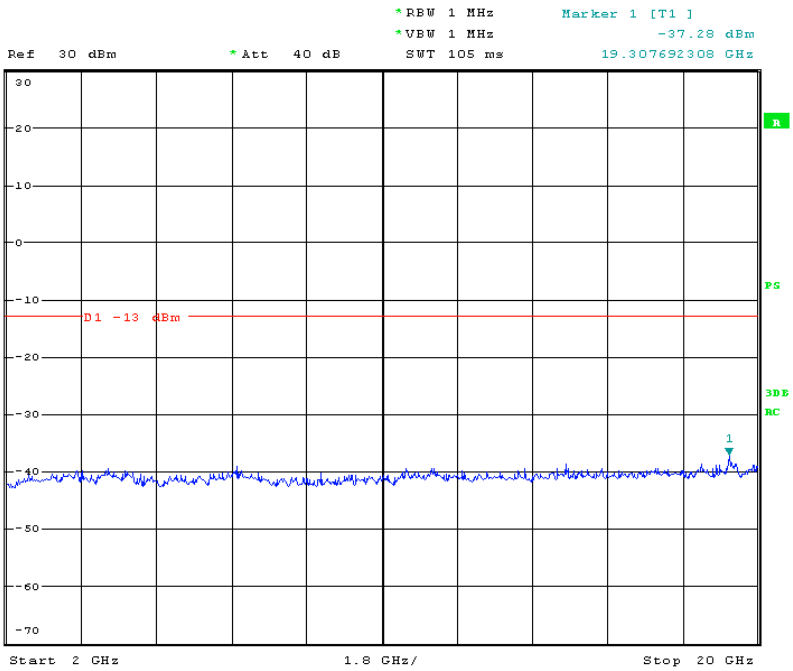
Channel Low



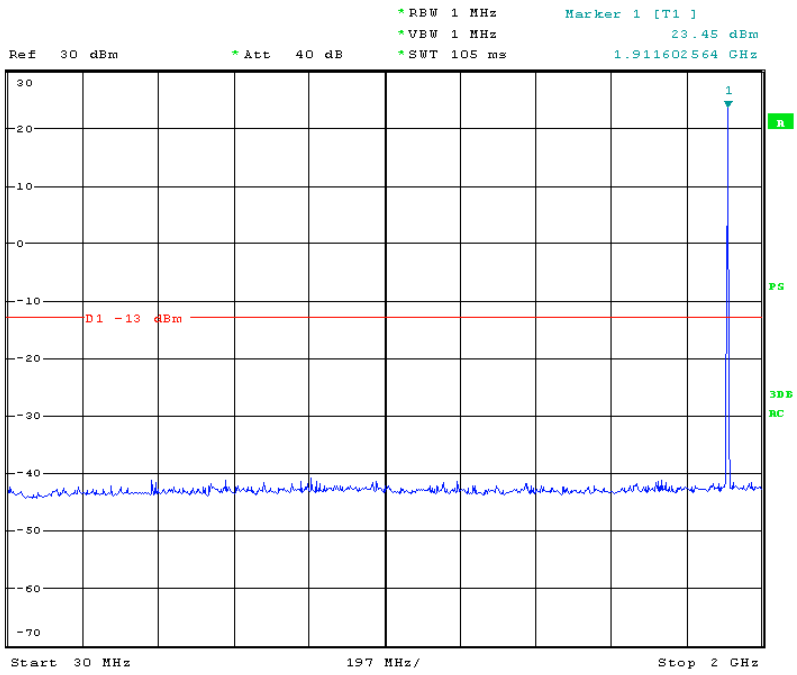


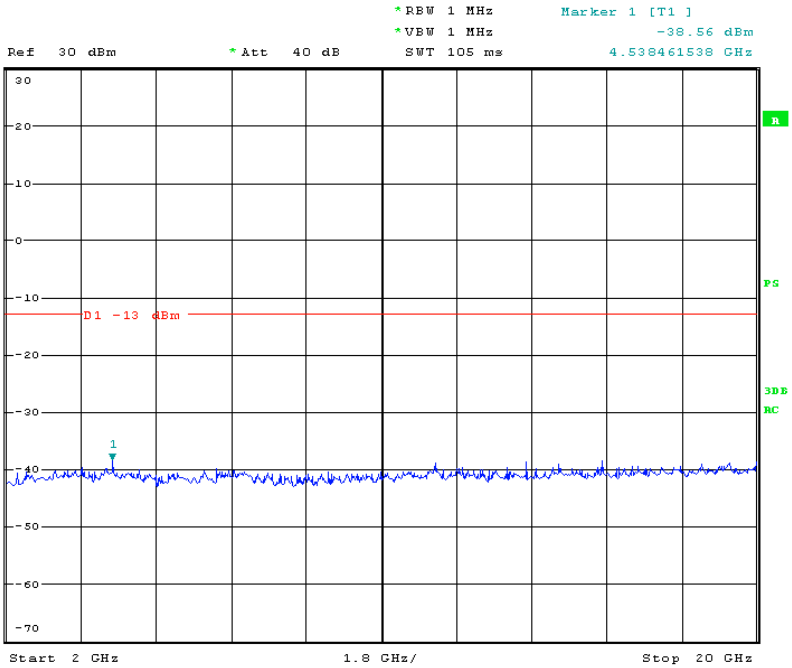
Channel Mid



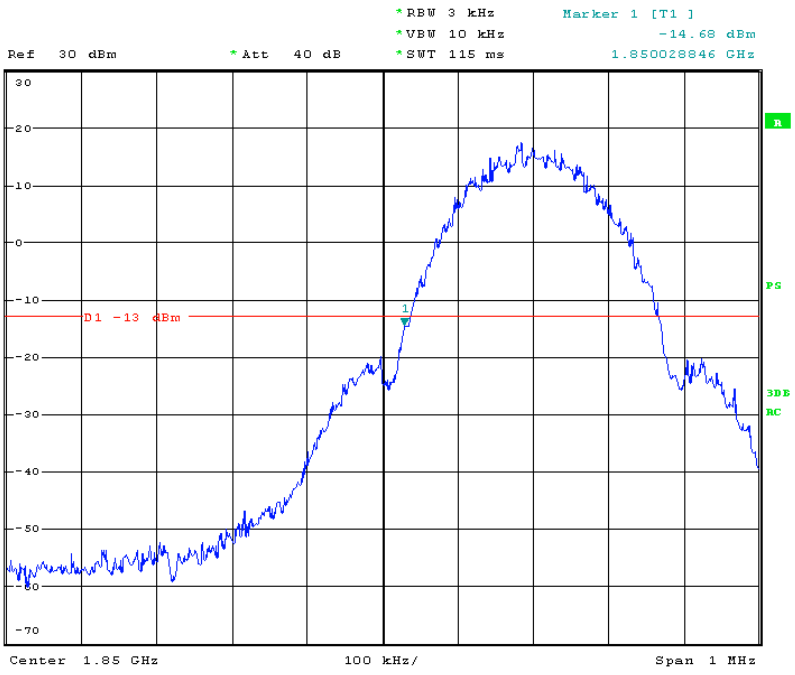


Channel High

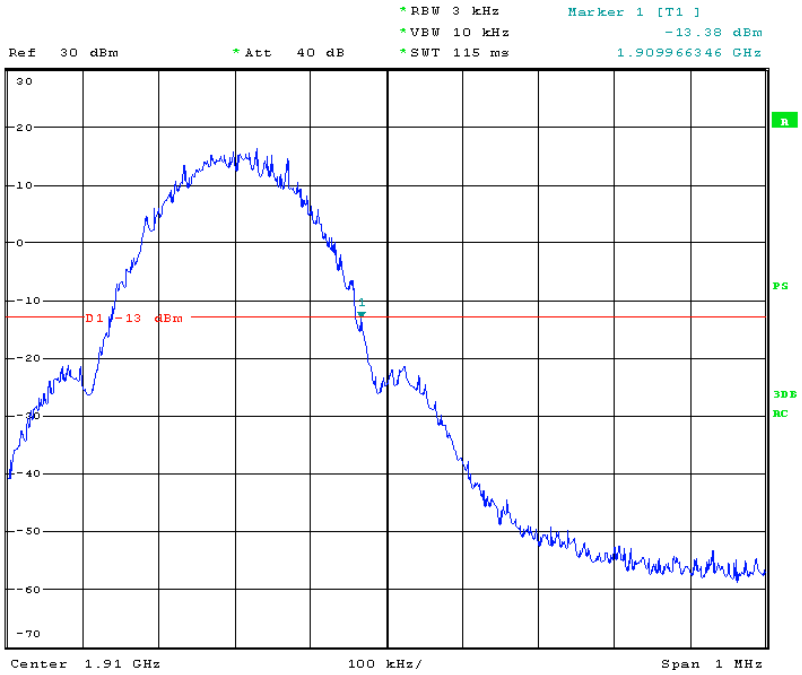




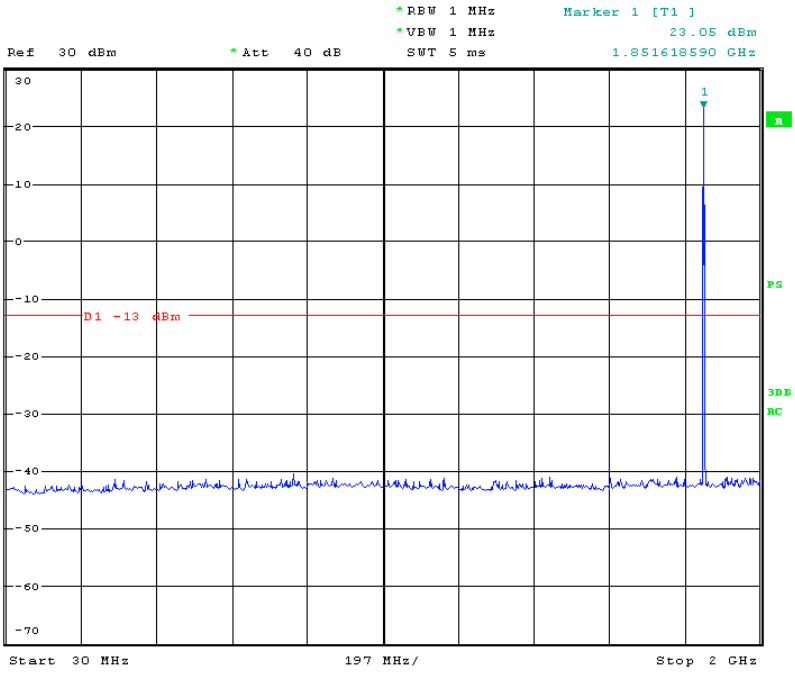
Band Edge emission Channel Low

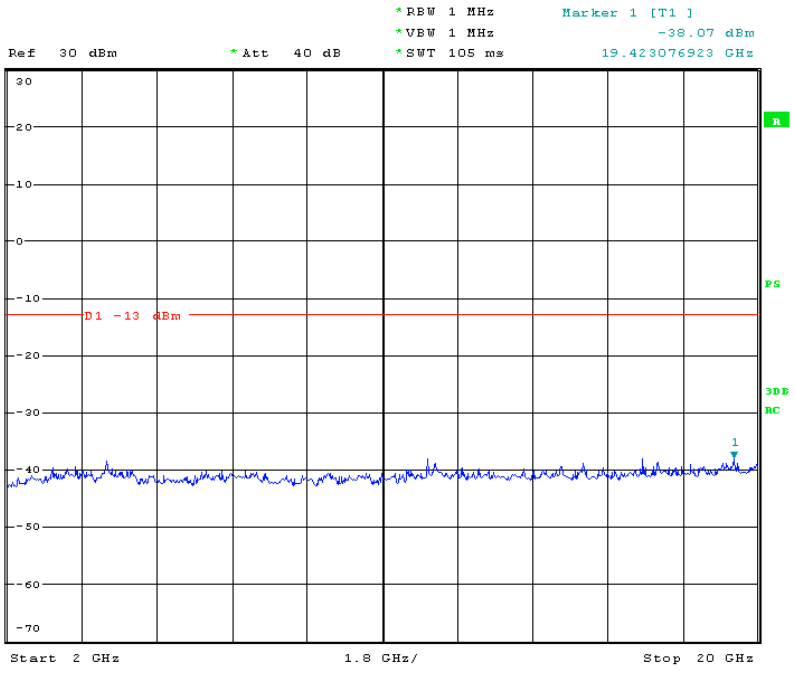


Band Edge emission Channel high

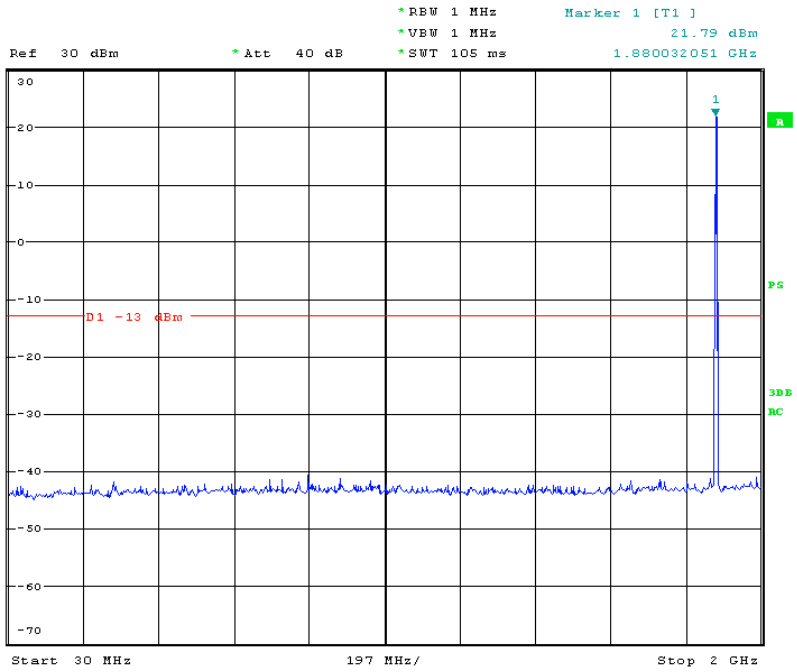


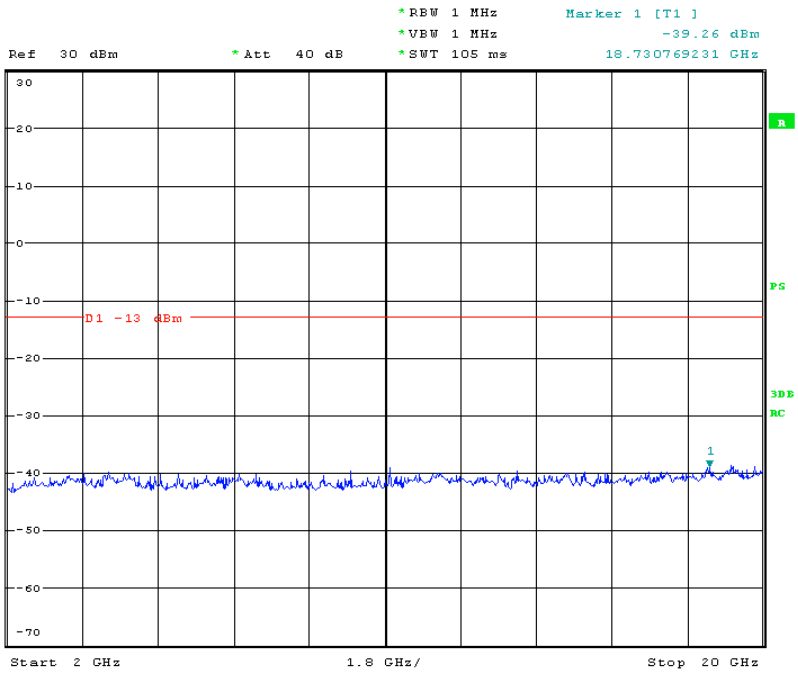
GSM 1900 8-PSK：Channel Low



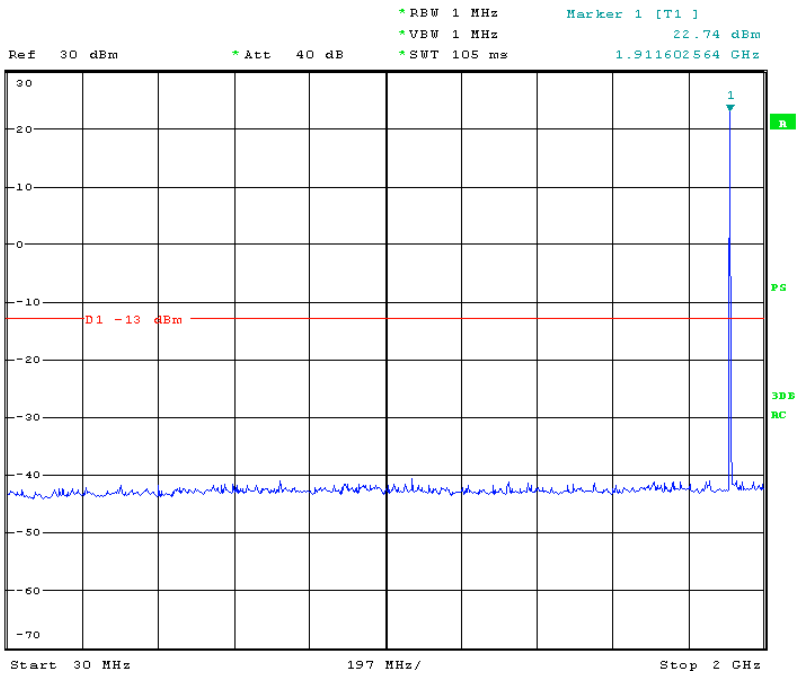


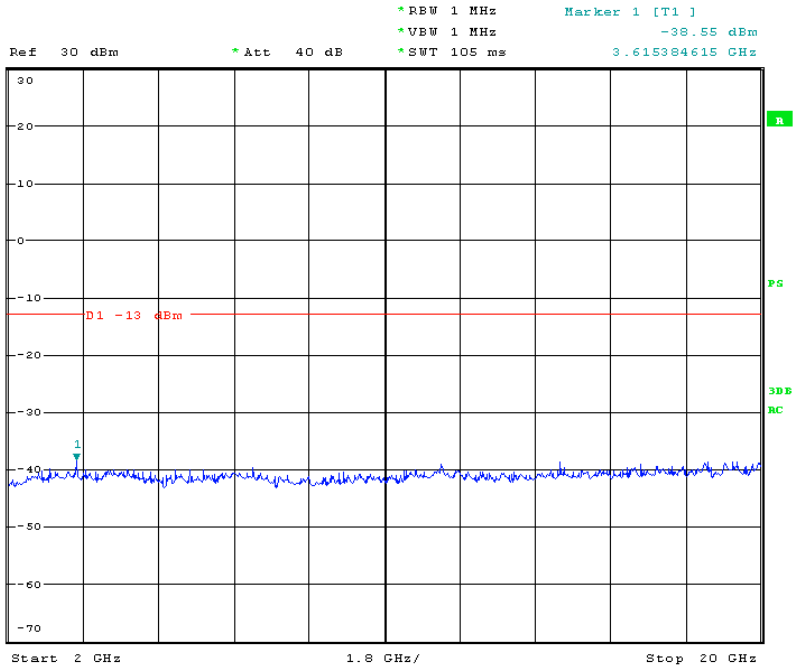
Channel Mid



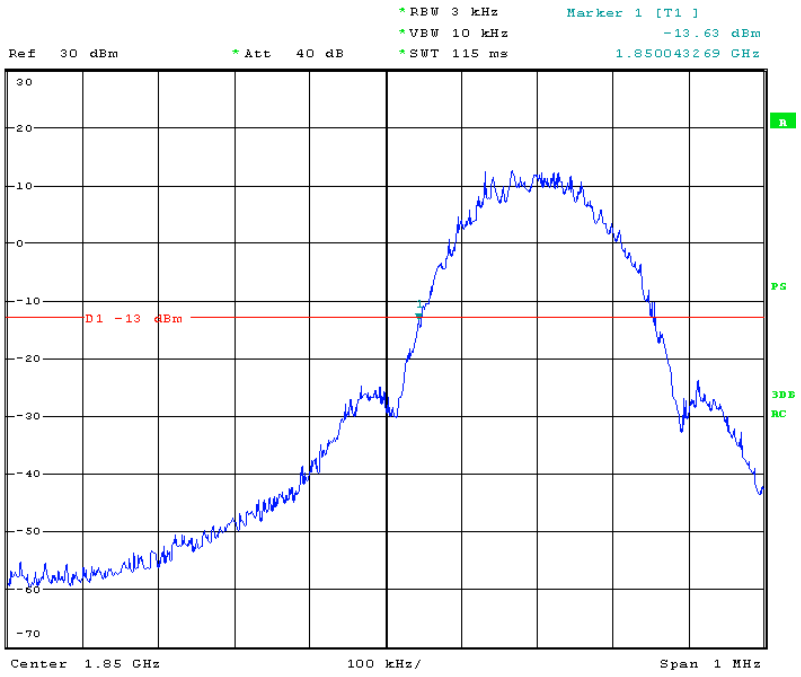


Channel High

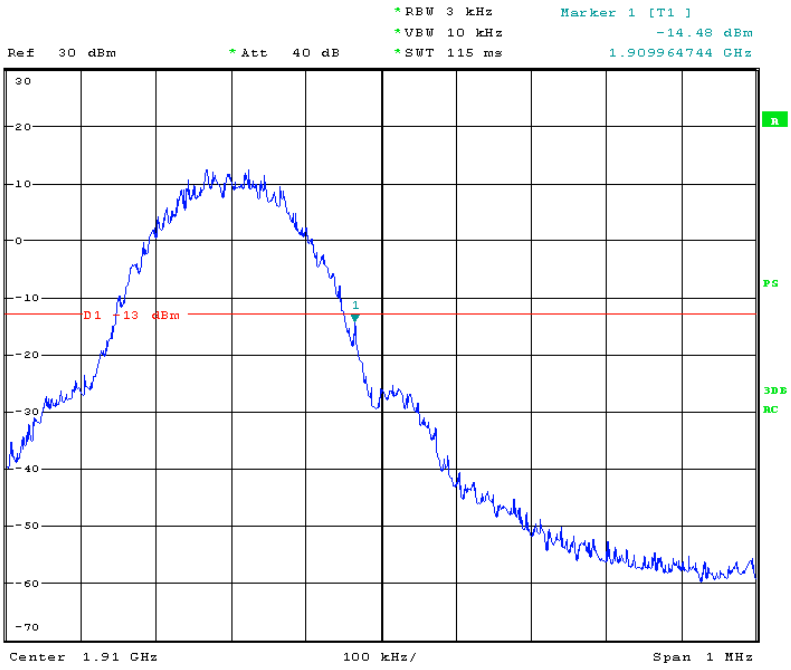




Band Edge emission Channel Low



Band Edge emission Channel high



6.6 Field Strength of Radiated Spurious Emissions

Test Requirement: Part 2.1051

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

Test Date: Sep 27, 2010 to Sep 28, 2010

Test Procedure:

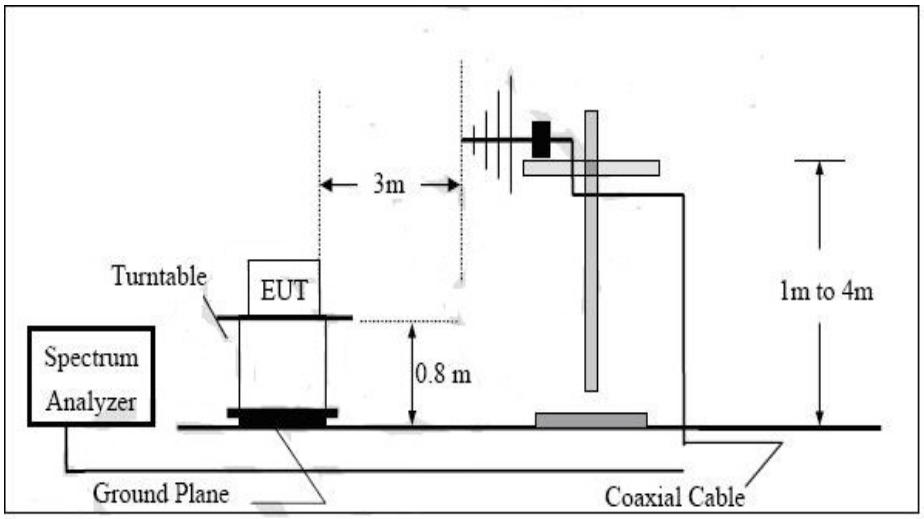
The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emission is any up to 10th harmonic.

For the out of band: set RBW, VBW=1MHz, stat=30MHz, stop= 10 th harmonic. Limit= --13dBm.

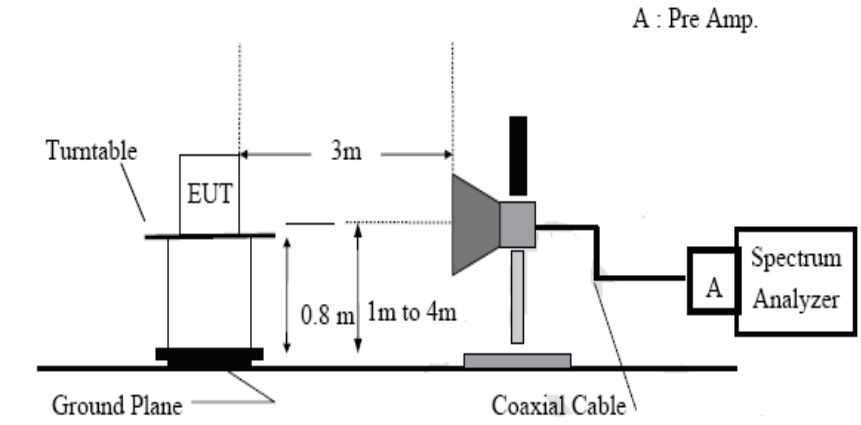
Band Edge requirements: In 1MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 % of bandwidth of fundamental emission of the transmitter any be employed to measure the out of band emission. Limit=--13dBm.

Test Setup:

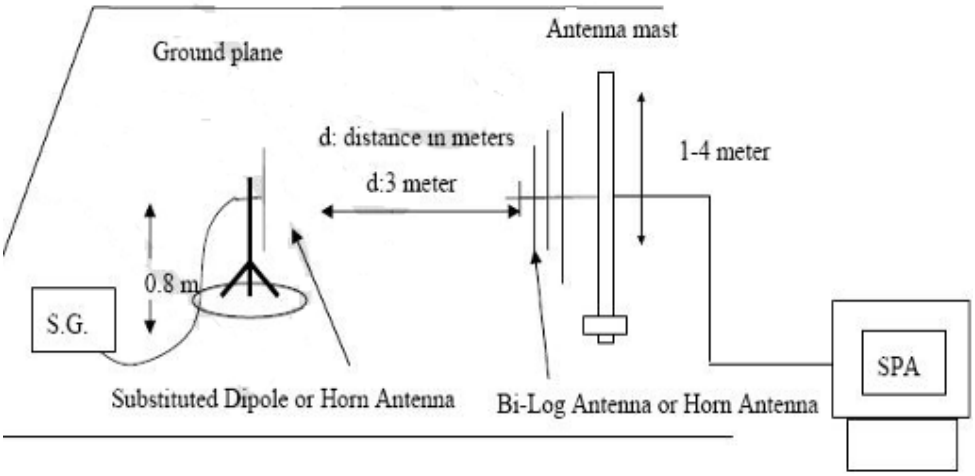
(A) Radiated emission Test setup, Below Frequency 1000MHz:



(B) Radiated emission Test setup frequency over 1GHz:



(C) Substituted Method Test setup:



Test 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 lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.

EIRP in frequency band 1850.5-1909.8MHz 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:

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

Radiated spurious Emission Measurement Result: PCS 1900 mode

Operation mode: TX CH Low mode

Fundamental Frequency: 1850.2MHz

Frequency (MHz)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBi)	Cable Loss (dBm)	EIRP (dBm)	Limit (dBm)	Safe Margin (dB)
100.0	H	-55.95	2.6	1	-54.35	-13	41.35
200.0	H	-56.90	9.1	1.42	-49.22	-13	36.22
800.0	H	-55.60	8.7	2.86	-49.76	-13	36.76
1800.0	H	-50.93	7	4.38	-48.31	-13	35.31
3700.4	H	-42.83	8.35	6.77	-41.25	-13	28.25
5550.6	H	-43.46	9.55	8.1	-42.01	-13	29.01
7400.8	H	-48.35	9.75	9.51	-48.11	-13	35.11
9251.0	H	-46.86	10.55	11.08	-47.39	-13	34.39
100.0	V	-55.57	2.6	1	-53.97	-13	40.97
200.0	V	-56.35	9.1	1.42	-48.67	-13	35.67
800.0	V	-55.00	8.7	2.86	-49.16	-13	36.16
1800.0	V	-50.39	7	4.38	-47.77	-13	34.77
3700.4	V	-44.05	8.35	6.77	-42.47	-13	29.47
5550.6	V	-46.07	9.55	8.1	-44.62	-13	31.62
7400.8	V	-47.80	9.75	9.51	-47.56	-13	34.56
9251.0	V	-46.30	10.55	11.08	-46.83	-13	33.83

Remark:

1 emission behaviors belong to narrowband spurious emission.

2 The result basic equation calculation is as follow:

ERP/EIRP(dBm)=S.G. Output(dBm) + Antenna Gain(dBd/dBi)-Cable Loss

Radiated spurious Emission Measurement Result: PCS 1900 mode

Operation mode: TX CH mid mode

Fundamental Frequency: 1880.0MHz

Frequency (MHz)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBi)	Cable Loss (dBm)	EIRP (dBm)	Limit (dBm)	Safe Margin (dB)
100	H	-56.71	2.6	1	-55.11	-13	42.11
200	H	-57.25	9.1	1.42	-49.57	-13	36.57
800	H	-55.21	8.7	2.86	-49.37	-13	36.37
1800	H	-50.77	7	4.38	-48.15	-13	35.15
3760.0	H	-43.05	8.42	6.84	-41.47	-13	28.47
5640.0	H	-45.52	9.5	8.31	-44.33	-13	31.33
7520.0	H	-48.97	9.78	9.6	-48.79	-13	35.79
9400.0	H	-47.45	10.61	11.32	-48.16	-13	35.16
100.0	V	-55.89	2.6	1	-54.29	-13	41.29
200.0	V	-56.45	9.1	1.42	-48.77	-13	35.77
800.0	V	-55.10	8.7	2.86	-49.26	-13	36.26
1800.0	V	-50.11	7	4.38	-47.49	-13	34.49
3760.0	V	-48.79	8.42	6.84	-47.21	-13	34.21
5640.0	V	-43.69	9.5	8.31	-42.50	-13	29.50
7520.0	V	-47.05	9.78	9.6	-46.87	-13	33.87
9400.0	V	-46.73	10.61	11.32	-47.44	-13	34.44

Remark:

1 emission behaviors belong to narrowband spurious emission.

2 The result basic equation calculation is as follow:

ERP/EIRP(dBm)=S.G. Output(dBm) + Antenna Gain(dBd/dBi)-Cable Loss

Radiated spurious Emission Measurement Result: PCS 1900 mode

Operation mode: TX CH High mode

Fundamental Frequency: 1909.8MHz

Frequency (MHz)	Ant.Pol. H/V	S.G Output (dBm)	Antenna Gain (dBi)	Cable Loss (dBm)	EIRP (dBm)	Limit (dBm)	Safe Margin (dB)
100.0	H	-56.47	2.6	1	-54.87	-13	41.87
200.0	H	-56.79	9.1	1.42	-49.11	-13	36.11
800.0	H	-54.07	8.7	2.86	-48.23	-13	35.23
1800.0	H	-50.61	7	4.38	-47.99	-13	34.99
3981.6	H	-49.41	8.42	6.88	-47.87	-13	34.87
5972.4	H	-45.56	9.5	8.48	-44.54	-13	31.54
7963.2	H	-48.74	9.78	9.7	-48.66	-13	35.66
9954	H	-47.40	10.61	11.64	-48.43	-13	35.43
100.0	V	-54.98	2.6	1	-53.38	-13	40.38
200.0	V	-55.37	9.1	1.42	-47.69	-13	34.69
800.0	V	-53.67	8.7	2.86	-47.83	-13	34.83
1800.0	V	-49.93	7	4.38	-47.31	-13	34.31
3981.6	V	-46.73	8.42	6.88	-45.19	-13	32.19
5972.4	V	-46.02	9.5	8.48	-45.00	-13	32.00
7963.2	V	-47.76	9.78	9.7	-47.68	-13	34.68
9954.0	V	-46.19	10.61	11.64	-47.22	-13	34.22

Remark:

1 emission behaviors belong to narrowband spurious emission.

2 The result basic equation calculation is as follow:

ERP/EIRP(dBm)=S.G. Output(dBm) + Antenna Gain(dBd/dBi)-Cable Loss

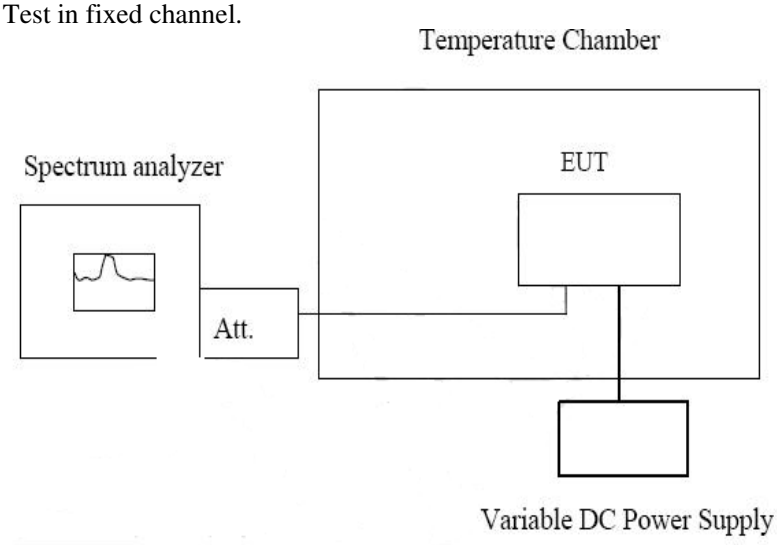
6.7 Frequency Stability V.S. TEMPERATURE MEASUREMENT

Test Requirement: Part 2.1055(a)(1)

Test Date: Sep 09, 2010

Test Status: Test in fixed channel.

Test Setup:



Note: Measurement setup for testing On antenna connector.

Test 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 degree operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30 degree. After the temperature stabilized for approximately 30 minutes record the frequency. Repeat step measure with 10 degree per stage until the highest temperature of 50 degree reached.

Frequency Tolerance: +/-2.5ppm

PCS1900:

Reference Frequency: PCS channel 1850.2MHz@ 25 degree				
Limit: +/- 2.5ppm = 4700Hz				
Power Supply	Environment	Frequency	Delta	Limit
Vdc	Temperature(degree)	(MHz)	(Hz)	(Hz)
3.9	-30	1850.200055	55	4700
3.9	-20	1850.200046	46	4700
3.9	-10	1850.200019	19	4700
3.9	10	1850.200010	10	4700
3.9	20	1850.200008	8	4700
3.9	30	1850.200011	11	4700
3.9	40	1850.200020	20	4700
3.9	50	1850.200034	34	4700

Reference Frequency: PCS channel 1880MHz@ 25 degree				
Limit: +/- 2.5ppm = 4700Hz				
Power Supply	Environment	Frequency	Delta	Limit
Vdc	Temperature(degree)	(MHz)	(Hz)	(Hz)
3.9	-30	1880.000044	44	4700
3.9	-20	1880.000040	40	4700
3.9	-10	1880.000026	26	4700
3.9	10	1880.000015	15	4700
3.9	20	1880.000006	6	4700
3.9	30	1880.000022	22	4700
3.9	40	1880.000018	18	4700
3.9	50	1880.000029	29	4700

Reference Frequency: PCS channel 1909.8MHz@ 25 degree				
Limit: +/- 2.5ppm = 4700Hz				
Power Supply	Environment	Frequency	Delta	Limit
Vdc	Temperature(degree)	(MHz)	(Hz)	(Hz)
3.9	-30	1909.799976	24	4700
3.9	-20	1909.799978	22	4700
3.9	-10	1909.800018	18	4700
3.9	10	1909.800009	9	4700
3.9	20	1909.800006	6	4700
3.9	30	1909.800017	17	4700
3.9	40	1909.800022	22	4700
3.9	50	1909.800031	31	4700

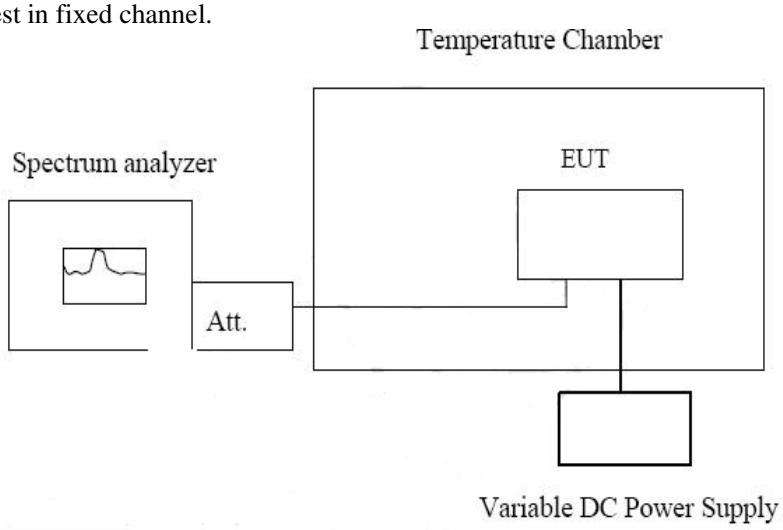
6.8 Frequency Stability V.S. VOLTAGE MEASUREMENT

Test Requirement: Part 2.1055(d)

Test Date: Sep 10, 2010

Test Status: Test in fixed channel.

Test Setup:



Note: Measurement setup for testing On antenna connector.

Test procedure:

Set chamber temperature to 25 degree. Use a variable AC power/ DC power supply to power the EUT and set the Voltage to rated voltage. Set the spectrum analyzer RBW 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.

PCS1900:

Reference Frequency: PCS channel 1850.2MHz@ 25 degree				
Limit: +/- 2.5ppm = 4700Hz				
Power Supply	Environment	Frequency	Delta	Limit
Vdc	Temperature(degree)	(MHz)	(Hz)	(Hz)
4.1	25	1850.199965	35	4700
4.0	25	1850.199987	13	4700
3.9	25	1850.199997	3	4700
3.8	25	1850.199983	17	4700
3.7	25	1850.199975	25	4700
3.65	25	1850.199976	24	4700

Reference Frequency: PCS channel 1880MHz@ 25 degree				
Limit: +/- 2.5ppm = 4700Hz				
Power Supply	Environment	Frequency	Delta	Limit
Vdc	Temperature(degree)	(MHz)	(Hz)	(Hz)
4.1	25	1879.999982	18	4700
4.0	25	1879.999989	11	4700
3.9	25	1879.999997	3	4700
3.8	25	1879.999994	6	4700
3.7	25	1879.999986	14	4700
3.65	25	1879.999984	16	4700

Reference Frequency: PCS channel 1909.8MHz@ 25 degree				
Limit: +/- 2.5ppm = 4700Hz				
Power Supply	Environment	Frequency	Delta	Limit
Vdc	Temperature(degree)	(MHz)	(Hz)	(Hz)
4.1	25	1909.799975	25	4700
4.0	25	1909.799985	15	4700
3.9	25	1909.799994	6	4700
3.8	25	1909.799991	9	4700
3.7	25	1909.799989	11	4700
3.65	25	1909.799984	16	4700

Note: The High voltage is DC 4.1V, the normal voltage is DC 3.9V,and the low voltage is DC 3.65V.

6.9 Conducted Emissions Mains Terminals, 150 kHz to 30MHz

Test Requirement: Part 15.207

Test Method: ANSI C63.4:2003

Test Date: Aug 27, 2010

Frequency Range: 150KHz to 30MHz

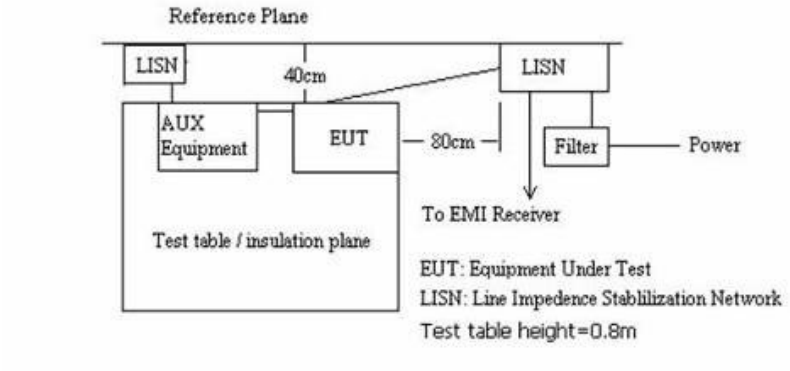
Detector: Peak for pre-scan (9kHz Resolution Bandwidth)
Quasi-Peak if maximised peak within 6dB of Quasi-Peak limit

EUT Operation:

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Plan View of Test Setup

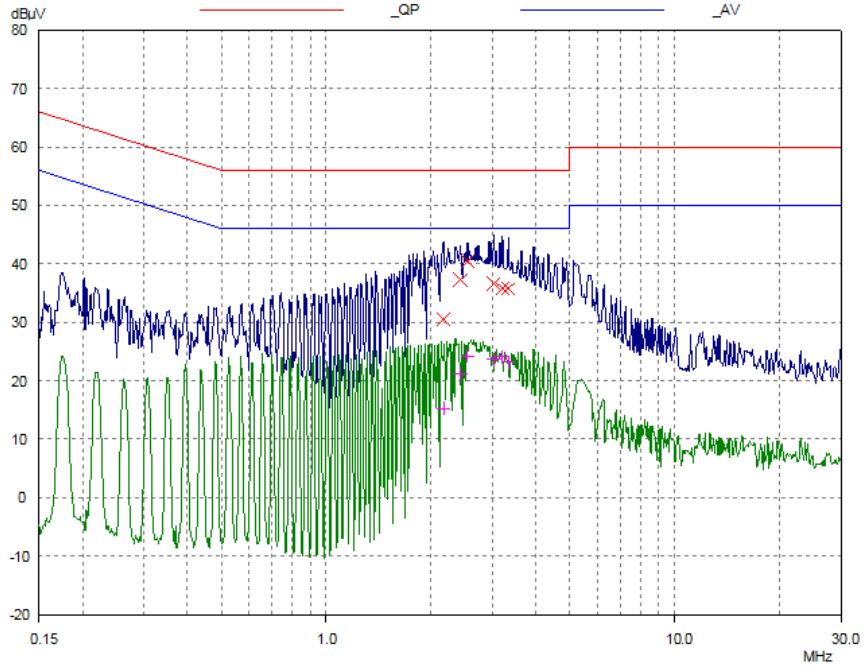


Limit:

Frequency range MHz	Limits dB(uV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note 1.The lower limit shall apply at the transition frequencies 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

GSM 1900 connected mode:

Live Line:

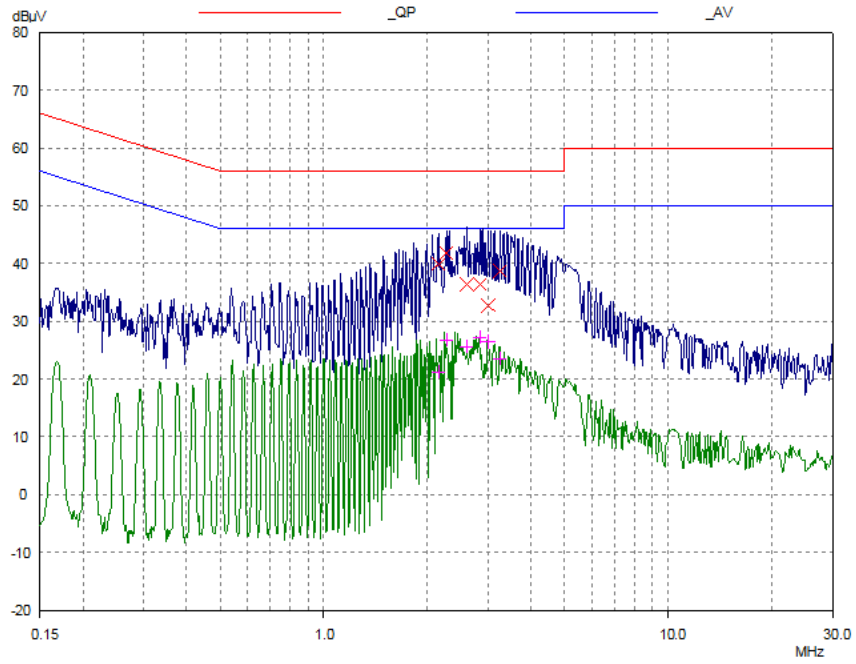


Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB
2.16455	30.59	56.00	25.41
2.42	37.19	56.00	18.81
2.53851	40.35	56.00	15.65
3.0249	36.67	56.00	19.33
3.19842	35.71	56.00	20.29
3.32842	35.79	56.00	20.21

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB
2.16455	15.23	46.00	30.77
2.42	21.09	46.00	24.91
2.53851	24.24	46.00	21.76
3.0249	23.58	46.00	22.42
3.19842	24.17	46.00	21.83
3.32842	23.12	46.00	22.88

N Line:



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB
2.14738	39.87	56.00	16.13
2.27055	41.79	56.00	14.21
2.59993	36.31	56.00	19.69
2.83809	36.33	56.00	19.67
3.00089	32.79	56.00	23.21
3.2498	38.75	56.00	17.25

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB
2.14738	21.26	46.00	24.74
2.27055	26.77	46.00	19.23
2.59993	25.54	46.00	20.46
2.83809	27.18	46.00	18.82
3.00089	26.40	46.00	19.60
3.2498	23.51	46.00	22.49

~End of Report~