Compliance Test Report

For FCC Part 22H Certification

Product Name	: CDMA 2000 1xRTT Mobile Phone
Model No.	: RM-376
FCC ID.	: QMNRM-376
Max. Output Power	: 0.22W(23.47dBm) ERP Cellular CDMA
Tx Frequency Range	: 824.7 - 848.31 MHz (Cellular CDMA)
FCC Rule Part(s)	: FCC CFR Title 47 Part 2 ; 22(H)
FCC Classification	: Licensed Non-Broadcast Transmitter Held to Ear(TNE)
Filing Type	: Certification
Emission Designator	: Cellular CDMA: 1M27F9W
Test Procedure	: ANSI/TIA/EIA-603-C-2004

Applicant	: Nokia Inc.
Address	: 12278 Scripps Summit Dr. San Diego CA 92131 USA

Date of Receipt	: May. 22, 2008
Issued Date	: Jun. 25, 2008
Report No.	: 086115R-HPUSP04V01
Report Version	: V1.2

Test Report Certification

Issued Date : Jun. 24, 2008
Report No.: 086115R-HPUSP04V01

Accredited by NIST (NVLAP)
NVLAP Lab Code: 200533-0

Product Name	:	CDMA 2000 1xRTT Mobile Phone
Applicant	:	Nokia Inc.
Address	:	12278 Scripps Summit Dr. San Diego CA 92131 USA
Manufacturer	:	Foxconn International Holdings Limited
Manufacturer Address	:	No.2, 2nd Donghuan Road, 10th Yousong Industrial District, Longhua, Baoan, Shenzhen, China
Model No.	:	RM-376
Rated Voltage	:	AC 100-240V/50-60 Hz
EUT Voltage	:	DC 3.7V
Trade Name	:	Nokia
Applicable Standard	:	FCC CFR Title 47 Part 2; 22(H) ANSI/TIA/EIA-603-C-2004
Test Result	:	Complied

NVLAP Lab Code: 200533-0

Test results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of Quie Tek Corporation.
This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Nicole Huang
(Engineering Adm. Assistant / Nicole Huang)

Tested By : Paddy Chen
(Engineer / Paddy Chen)

Approved By :
(Deputy Manager /Vincent Lin)

Testing Laboratory 0914

History of Test Report

Date	Version	Description
Jun, 18. 2008	V1.0	The First Version
Jun, 24. 2008	V1.1	Add Manufacturer Address
Jun, 25. 2008	V1.2	Refresh Max Output Power

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Description Page

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	CDMA 2000 1xRTT Mobile Phone
Model No.	RM-376
MEID	A0000001407719
TX Frequency	Cellular CDMA : 824.7 ~ 848.31MHz
Rx Frequency	Cellular CDMA：869.7 ~ 893.31MHz
Type of Emission	Cellular CDMA: 1M27F9W
Antenna Type	Fixed Internal
Hardware version	2200
Software version	SH_0000T_GEN_151
Battery Pack	DC 3.7V

1.2. Operational Description

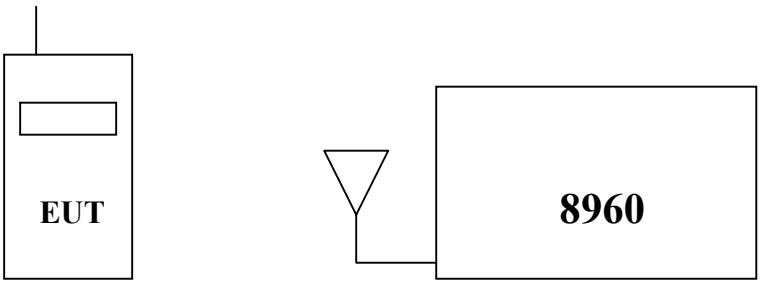
The information contained within this report is intended to show compliance of the Cellular CDMA phone to the requirements of 47CFR2, 22.

For Part 22, all of CDMA measurements were conducted with Agilent 8960 as a base station simulator. The base station simulator establishes a CDMA link with the test device.

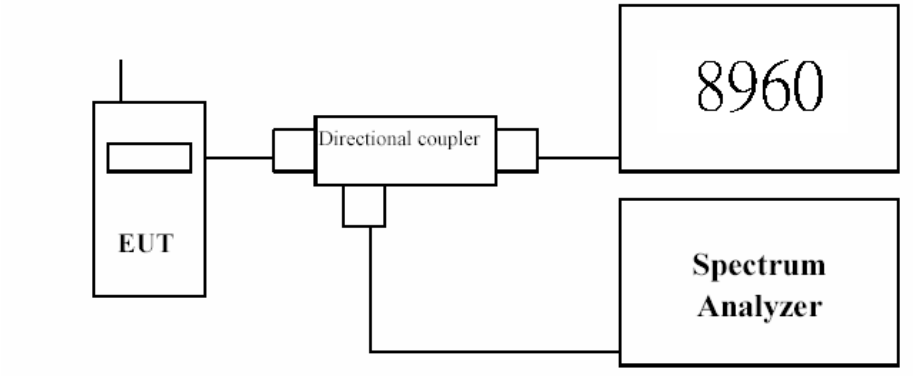
Quie Tek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode:	Mode 1: CDMA2000 1xRTT Cellular 850

1.3. Configuration of tested System



(a)



(b)

Fig. 1-1 Configuration of (a) Radiated (b) Conducted Emission measurement.

1.4. EUT Setup Procedures

(1) Setup the EUT and simulators as shown on Fig. 1-1.

(2) Turn on the power of all equipments.

(3) The EUT was tested while the base station simulator, Agilent 8960, established a CDMA link with it (The EUT was set to transmit on maximum power).

(4) To justify on the selection of applicable modes, the EUT was pre-test under all R.C.s and S.O.s operation modes to find the worst case.

1.5. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: File on

Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
FCC Registration Number :92195

Certification and Engineering Bureau
3701 Carling Ave., Building 94
P.O. Box 11490, Station "H"
Ottawa, Ontario K2H 8S2
IC Recognized No. : 4075A

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

Site Name: Quie Tek Corporation

Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin Kou Shiang, Taipei 244 Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

1.6. EMI Reduction Method During Compliance Testing

No modification was made during testing

1.7. Summary of Test Results

Product Name : CDMA 2000 1xRTT Mobile Phone
Model No. : RM-376
MEID : A0000001407719
FCC ID : QMNRM-376
FCC Classification : Licensed Non-Broadcast Transmitter Held to Ear(TNE)
Type of Emission : Cellular CDMA: 1M27F9W

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
2.1046, 22.913(a)(2),	RF output power (ERP)	< 7Watts Max. ERP	Radiated	Pass	Section 2.6
2.1049 22.917(b)	Occupied Bandwidth	N/A	Conducted	Pass	Section 3.6
2.1051, 22.917(a)	Band Edge	< 43 + 10 log(P) at Band Edge,	Conducted	Pass	Section 4.6
2.1051, 22.917(a)	Conducted spurious	< 43 + 10 log(P) for all out-of–band emission.	Conducted	Pass	Section 5.6.1
2.1053 22.917(a)	Radiated Undesirable Emission	< 43 + 10 log(P) for all out-of –band emission.	Radiated	Pass	Section 5.6.2
2.1055 22.355	Frequency Stability	< 2.5 ppm	Conducted	Pass	Section 6.6

2. RF Power Output

2.1. Test Equipment

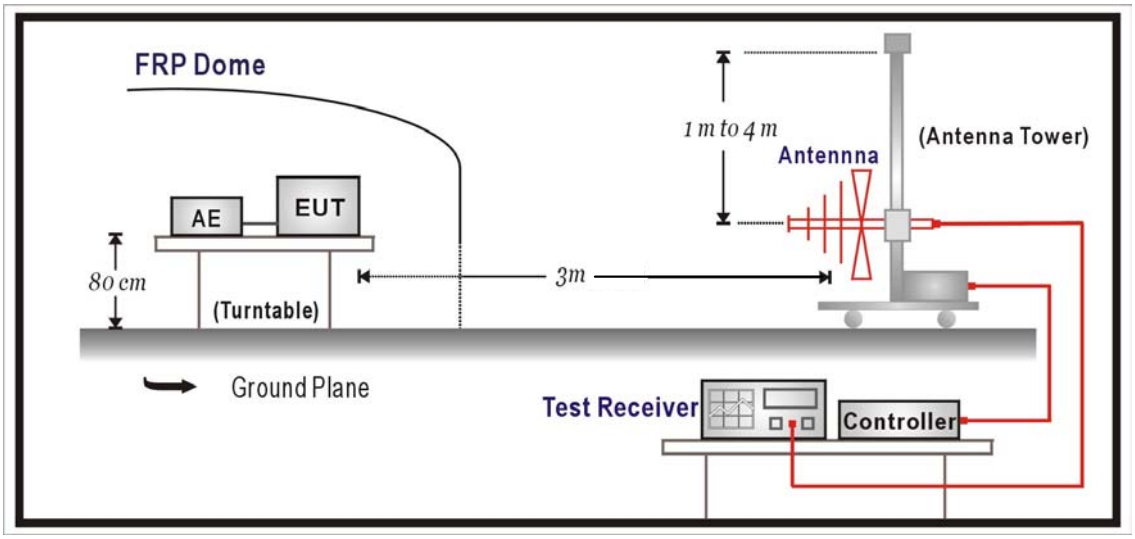
The following test equipments are used during the radiated emission test:

Item	Equipment	Manufacturer	Type No./ Serial No	Calibration Date	Calibration Due
1	Power Meter	Anritsu	ML2495A/ 6K00003357	May 31, 2007	May 30, 2008
2	Power Sensor	Anritsu	MA2491A/034457	Jun 01 2007	May 31, 2008
3	Dual Directional couple	Agilent	778D-012/50550	Aug 10, 2007	Aug 09, 2008
4	Directional coupler	Agilent	87300C/ MY44300353	Aug 18, 2007	Aug 17, 2008
5	Bilog Antenna	Schaffner Chase	CBL6112B/2921	Aug 10, 2007	Aug 09, 2008
6	Broadband Horn Antenna	Schwarzbeck	BBHA9170/497	Sep 07, 2007	Sep 06, 2008
7	EMI Test Receiver	R&S	ESCS 30/100123	May 06, 2008	May 05, 2009
8	Horn Antenna	Schwarzbeck	BBHA9120D/305	Sep 06, 2007	Sep 05, 2008
9	Pre-Amplifier	QTK	N/A	N/A	
10	Microwave Amplifier (0.5GHZ-26.5GHZ)	Agilent	83017A/ MY39500682	Aug 10, 2007	Aug 09, 2008
11	Spectrum Analyzer	Advantest	R3162/01700040	Nov 13, 2007	Nov 12, 2008
12	Spectrum Analyzer (9K-40GHz)	R&S	FSP40/100339	Nov 06, 2007	Nov 05, 2008
13	Universal Radio Communication Tester	Agilent	8960 / GB47390315	May 02, 2008	May 01, 2009

2.2. Test Setup

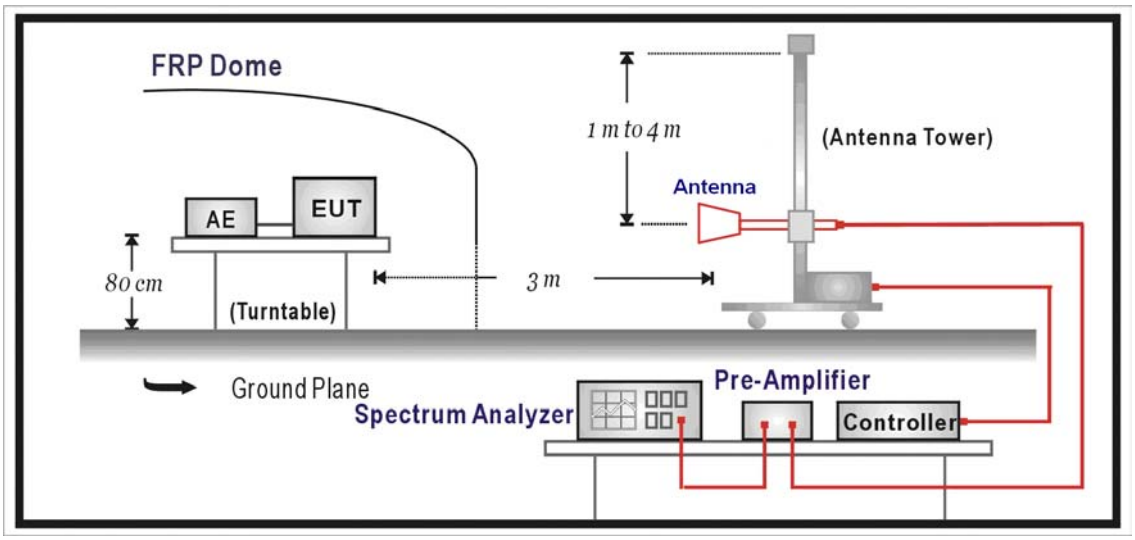
Radiated Power Measurement

Under 1GHz Test Setup



(a)

Above 1GHz Test Setup



(b)

Fig. 2-1(a) (b) Test setup of Radiated Power Measurement

Conducted Power Measurement

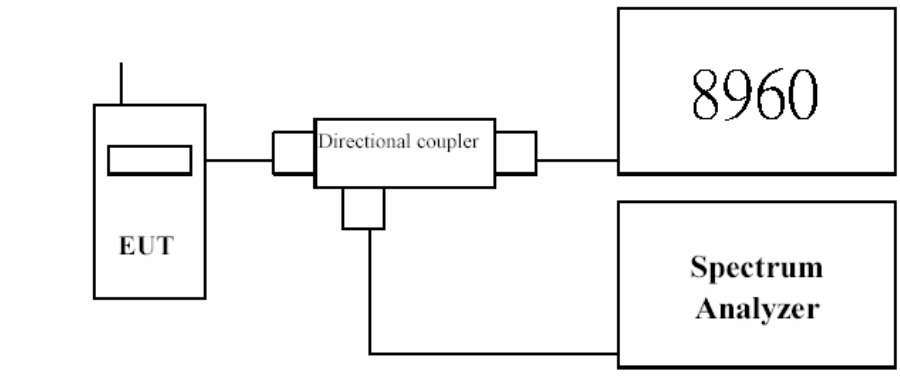


Fig. 2-2 Test Setup of Conducted Power Measurement

2.3. Limits

FCC Part 22.913(a) Limits(ERP)	
Cellular 850	< 7W

2.4. Test Procedure

RF Out Power (Radiated)

The Spectrum Analyzer was tuned to the test frequency. The EUT was placed on a turn table 3-meters from receive antenna. The device was put into Transmit mode then rotated through 360 degrees until the highest power level was observed in both horizontal and vertical polarization. The device was then replaced with a substitution antenna, which input signal was adjusted until the received level matched that of the previously detected emission. For CDMA signals, a peak detector is used, with RBW=VBW=3MHz.

RF Out Power (Conducted)

Using a Power meter, the output power of the EUT was measured at the antenna terminals.

Reference standards : Part 2.1046, 22.913(a).

2.5. Uncertainty

The measurement uncertainty of conducted power output is evaluated as ± 1.036 dB.

Contributions		Probability Distribution	Standard Uncertainty u_i(dB)
Mismatch : Reference leve Measurement	U01	U-shaped	0.04
Mismatch : direct attenuation measurement	U02	U-shaped	0.089
Attenuation measurement reading	U03	Normal	0.29
Attenuator: influence of the ambient temperature	U04	Normal	0
Attenuator: influence of setting the power supply	U05	Normal	0.017
EUT: influence of the ambient temperature	U06	Normal	0.1
EUT: influence of setting the power supply	U07	Normal	0.026
Mismatch on EUT	U08	U-shaped	0.391
Random: System Repeatability	U09	Standard Deviation	0.103
Combined Standard Uncertainty, U			0.518
Expanded Ucertainty (for a 95 % confidence level, k=2)			1.036

The measurement uncertainty of radiated output power is evaluated as ± 4.22 dB (30 – 1000MHz).

Contributions		Probability Distribution	Standard Uncertainty u_i(dB)
Mismatch: receiving part	U_{01}	U-shaped	0.182
Insertion loss: Measurement Antenna cable	U_{02}	Normal	0.50
Gain of the Pre-Amplifier	U_{03}	Rectangular	0.29
Receiving device: absolute level	U_{04}	Rectangular	0.58
EUT: influence of setting the power supply	U_{05}	Normal	0.03
Position of the phase centre: within the EUT volume	U_{06}	Rectangular	0.12
Positioning of the phase centre: within the EUT over the axis of rotation of the turntable	U_{07}	Rectangular	0.08
EUT: influence of the ambient temperature	U_{08}	Normal	0.10
Correction: measurement distance	U_{09}	Normal	0.30
Antenna: gain of the Measurement Antenna	U_{10}	Normal	0.60
Reflectivity of absorbing material: EUT to the test antenna	U_{11}	Normal	0.50
Correction: off boresight angle in the elevation plane	U_{12}	Normal	0.50
EUT: mutual coupling to the power leads	U_{13}	Normal	0.50
Mutual coupling: amplitude effect of the test antenna on the EUT	U_{14}	Normal	0.50
Mutual coupling: EUT to its images in the absorbing material	U_{15}	Normal	0.50
Mutual coupling: EUT to its image in the ground plane	U_{16}	Normal	1.15
Mutual coupling: measuring antenna to its image in the absorbing material	U_{17}	Normal	0.50
Mutual coupling: measuring antenna to its image in the ground plane	U_{18}	Normal	0.58
Mutual coupling: interpolation of mutual coupling and mismatch loss correction factors	U_{19}	Normal	0.17
Random: System Repeatability	U_{20}	Standard Deviation	0.30
Combined Standard Uncertainty, U			2.11
Expanded Ucertainty (for a 95 % confidence level, k=2)			4.22

The measurement uncertainty is evaluated as ± 4.06 dB from 1 GHz to 10 GHz.

Contributions		Probability Distribution	Standard Uncertainty u_i(dB)
Mismatch: receiving part	U_{01}	U-shaped	0.182
Insertion loss: Measurement Antenna cable	U_{02}	Normal	0.50
Gain of the Pre-Amplifier	U_{03}	Rectangular	0.29
Receiving device: absolute level	U_{04}	Rectangular	0.58
EUT: influence of setting the power supply	U_{05}	Normal	0.03
Position of the phase centre: within the EUT volume	U_{06}	Rectangular	0.12
Positioning of the phase centre: within the EUT over the axis of rotation of the turntable	U_{07}	Rectangular	0.08
EUT: influence of the ambient temperature	U_{08}	Normal	0.10
Correction: measurement distance	U_{09}	Normal	1.26
Antenna: gain of the Measurement Antenna	U_{10}	Normal	0.60
Reflectivity of absorbing material: EUT to the test antenna	U_{11}	Normal	0.50
Correction: off boresight angle in the elevation plane	U_{12}	Normal	0.50
EUT: mutual coupling to the power leads	U_{13}	Normal	0.50
Mutual coupling: amplitude effect of the test antenna on the EUT	U_{14}	Normal	0.50
Mutual coupling: EUT to its images in the absorbing material	U_{15}	Normal	0.50
Mutual coupling: EUT to its image in the ground plane	U_{16}	Normal	0.15
Mutual coupling: measuring antenna to its image in the absorbing material	U_{17}	Normal	0.50
Mutual coupling: measuring antenna to its image in the ground plane	U_{18}	Normal	0.15
Mutual coupling: interpolation of mutual coupling and mismatch loss correction factors	U_{19}	Normal	0.00
Random: System Repeatability	U_{20}	Standard Deviation	0.40
Combined Standard Uncertainty, U			2.03
Expanded Ucertainty (for a 95 % confidence level, k=2)			4.06

2.6. Test Results of Peak Power Output

2.6.1 RF Output Power (Conducted)

Product	CDMA 2000 1xRTT Mobile Phone		
Test Condition	RF Output Power (Conducted)	Battery Type	Standard
Date of Test	2008/05/22	Test Site	CB5

Mode	Bands	Test Status	Channel	Frequency (MHz)	Conducted Power. (dBm)	Conducted Power (Watts)	Battery Type
CDMA 1xRTT	Cellular 850	**RC1, SO2**	1013	824.7	24.67	0.29	Standard
			384	836.52	24.26	0.27	Standard
			777	848.31	24.12	0.26	Standard
		RC1, SO55	1013	824.7	24.65	0.29	Standard
			384	836.52	24.42	0.28	Standard
			777	848.31	24.14	0.26	Standard
		RC2, SO9	1013	824.7	24.62	0.29	Standard
			384	836.52	24.24	0.27	Standard
			777	848.31	24.04	0.25	Standard
		RC2, SO55	1013	824.7	24.68	0.29	Standard
			384	836.52	24.40	0.28	Standard
			777	848.31	24.11	0.26	Standard
		RC3, SO9	1013	824.7	24.67	0.29	Standard
			384	836.52	24.19	0.26	Standard
			777	848.31	23.97	0.25	Standard
		RC3, SO55	1013	824.7	24.60	0.29	Standard
			384	836.52	24.27	0.27	Standard
			777	848.31	23.98	0.25	Standard
		RC4, SO2	1013	824.7	24.56	0.29	Standard
			384	836.52	24.21	0.26	Standard
			777	848.31	24.01	0.25	Standard
		RC4, SO55	1013	824.7	24.73	0.30	Standard
			384	836.52	24.26	0.27	Standard
			777	848.31	24.00	0.25	Standard
		RC5, SO9	1013	824.7	24.65	0.29	Standard
			384	836.52	24.24	0.27	Standard
			777	848.31	24.02	0.25	Standard
		RC5, SO55	1013	824.7	24.66	0.29	Standard
			384	836.52	24.27	0.27	Standard
			777	848.31	23.95	0.25	Standard

2.6.2 RF Output Power (Radiated)

Product	CDMA 2000 1xRTT Mobile Phone		
Test Mode	Mode 1: CDMA2000 1xRTT Cellular 850	Battery Type	Standard
Date of Test	2008/06/11	Test Site	OATS 2

Frequency (MHz)	Reading Level (dBm)	Substitution Level (dBm)	Substitution Antenna Gain (dBd)	Cable Loss (dB)	Result ERP (dBm)	Result ERP (W)	Polarization (V/H)
824.70	16.50	19.35	4.45	0.51	23.29	0.21	Horizontal
836.52	16.68	19.53	4.45	0.51	23.47	0.22	Horizontal
848.31	16.57	19.42	4.45	0.51	23.36	0.22	Horizontal

Note:

1. The EUT meets the requirements of FCC CFR 47: Part 22, Section 22.913(a) for Effective Radiated Power.
2. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz.
3. Result ERP = Substitution Level + Substitution Antenna Gain - Cable Loss.

3. Occupied Bandwidth

3.1. Test Equipment

The following test equipments are used during the occupied bandwidth tests:

Item	Equipment	Manufacturer	Model No./ Serial No.	Calibration Date	Calibration Due
1	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun 02, 2008	Jun 01, 2009
2	Universal Radio Communication Tester	Agilent	8960 / GB47390315	May 02, 2008	May 01, 2009
3	Dual Directional couple	Agilent	778D-012/ 50550	Aug 10, 2007	Aug 09, 2008
4	Directional coupler	Agilent	87300C/ MY44300353	Aug 18, 2007	Aug 17, 2008

3.2. Test Setup

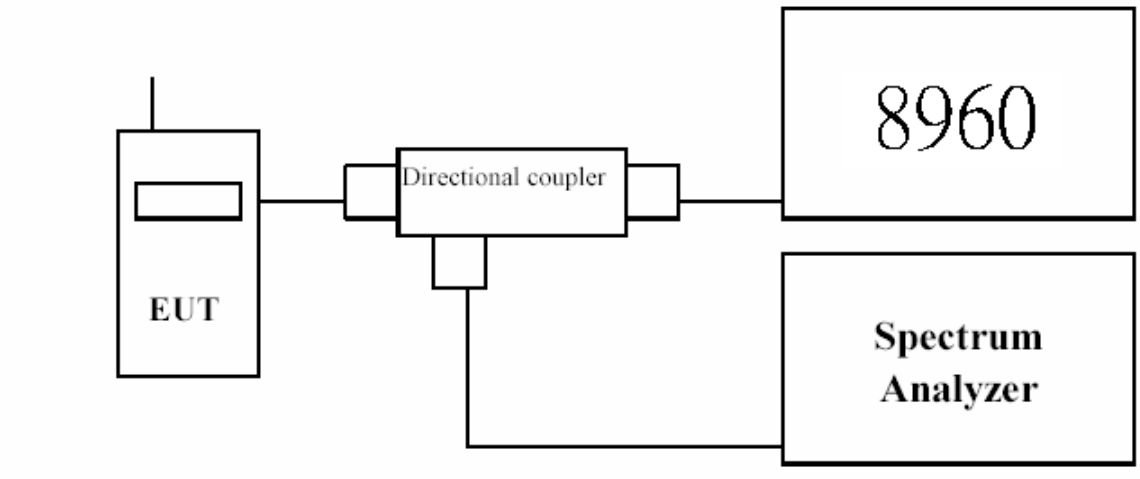


Fig. 3-1 Test setup.

3.3. Test Procedure

The EUT was set to transmit on maximum power.
Using a resolution bandwidth of 30kHz and a video bandwidth of 100kHz, the -26dBc bandwidth and 99% occupied bandwidth were determined.
The plots below show the results display from the Spectrum Analyser.

Reference standard : Part 2.1049, 22.917(b)

3.4. Uncertainty

The measurement uncertainty is evaluated as ± 24.30 kHz.

Contributions		Probability Distribution	Standard Uncertainty u_i(Hz)
Frequency Error	U_{01}	Rectangular	139.2
Frequency readout accuracy	U_{02}	Normal	12149
Combined Standard Uncertainty, U			12150
Expanded Ucertainty (for a 95 % confidence level, k=2)			24.30 kHz

3.5. Test Results of Occupied Bandwidth

Product	CDMA 2000 1xRTT Mobile Phone
Test Condition	Occupied Bandwidth
Battery Type	Standard

Test Mode	Channel & TX Frequency (MHz)	99% Occupied Bandwidth (MHz)	-26 dB bandwidth (MHz)	Required Limit (MHz)	Result	Battery Type
Mode 1: CDMA2000 1xRTT Cellular 850	1013(824.7)	1.2783	1.441	N/A	Pass	Standard
	384(836.52)	1.2692	1.434	N/A	Pass	Standard
	777(848.31)	1.2738	1.442	N/A	Pass	Standard

Product	CDMA 2000 1xRTT Mobile Phone		
Test Mode	Mode 1: CDMA2000 1xRTT Cellular 850	Battery Type	Standard
Date of Test	2008/06/12	Test Site	CB5

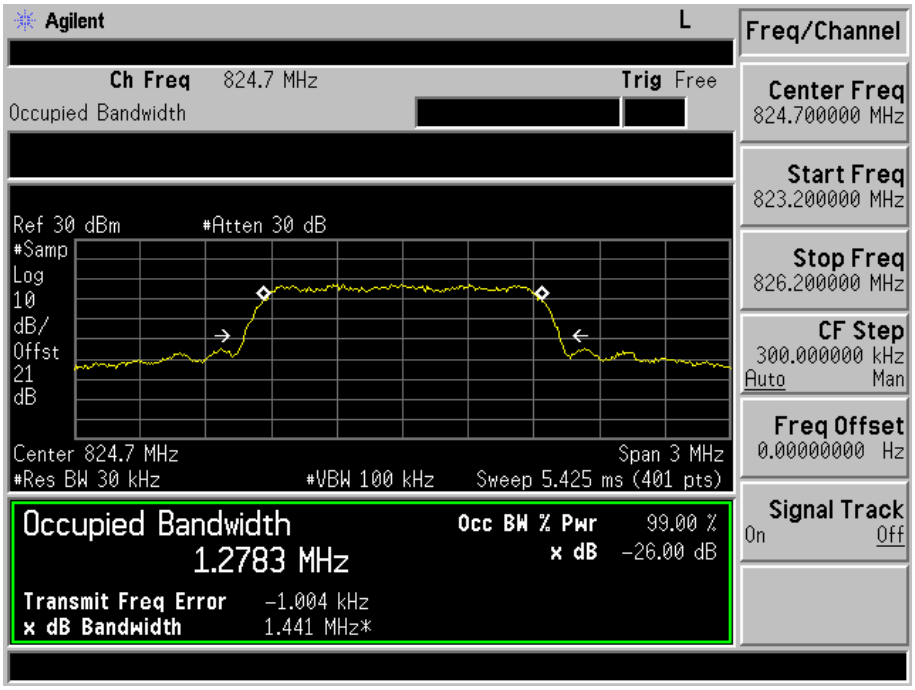


Fig. 3-2 Occupied Bandwidth for mode 1(Ch. 1013).

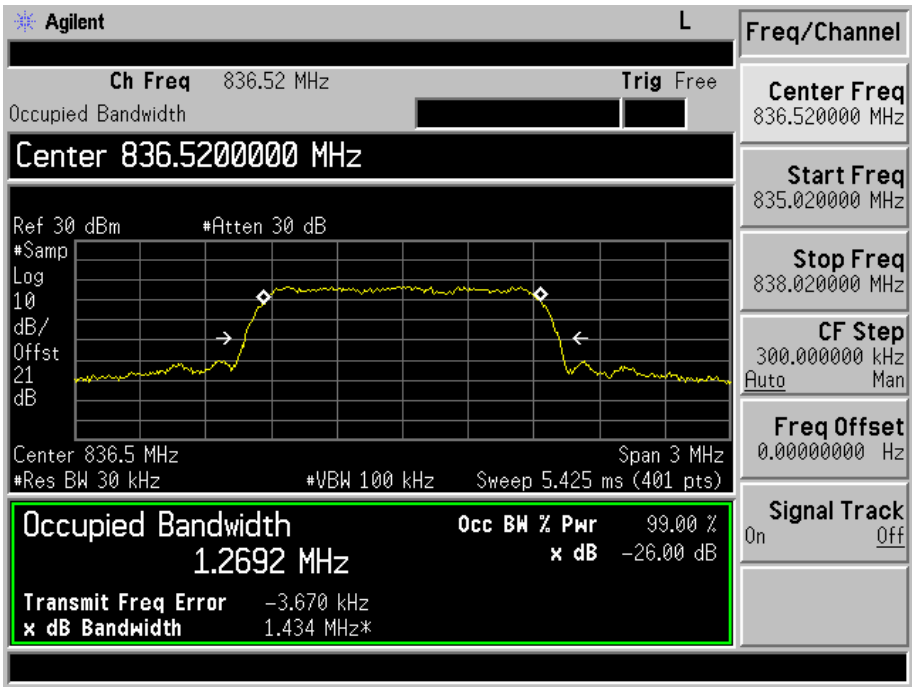


Fig. 3-3 Occupied Bandwidth for mode 1(Ch. 384).

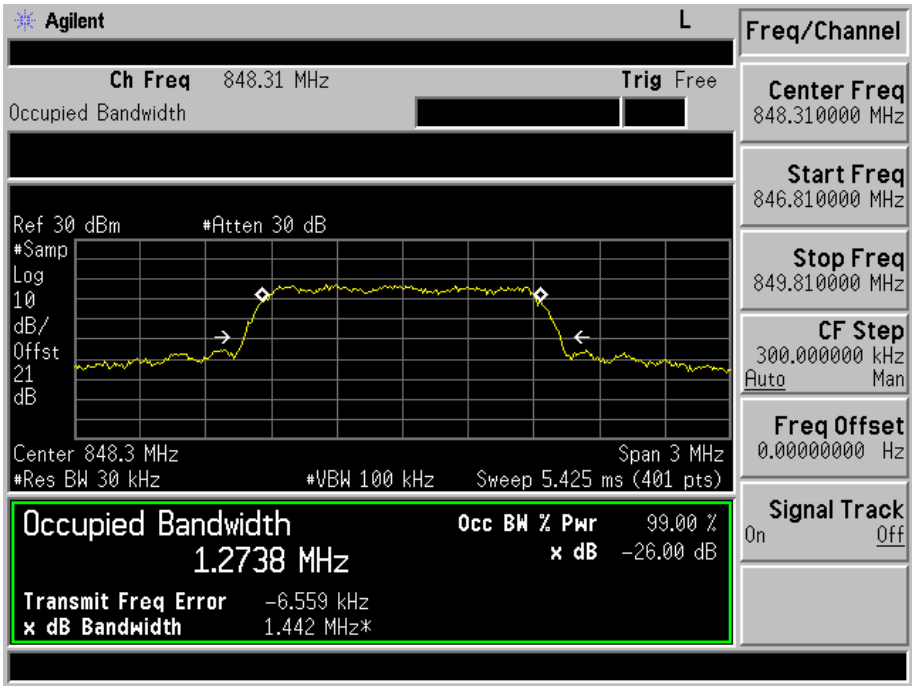


Fig. 3-4 Occupied Bandwidth for mode 1(Ch. 777).

4. Band Edge Compliance

4.1. Test Equipment

The following test equipments are used during the band edge compliance test :

Item	Equipment	Manufacturer	Model No./ Serial No.	Calibration Date	Calibration Due
1	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun 02, 2008	Jun 01, 2009
2	Universal Radio Communication Tester	Agilent	8960 / GB47390315	May 02, 2008	May 01, 2009
3	Dual Directional couple	Agilent	778D-012/ 50550	Aug 10, 2007	Aug 09, 2008
4	Directional coupler	Agilent	87300C/ MY44300353	Aug 18, 2007	Aug 17, 2008

4.2. Test Setup

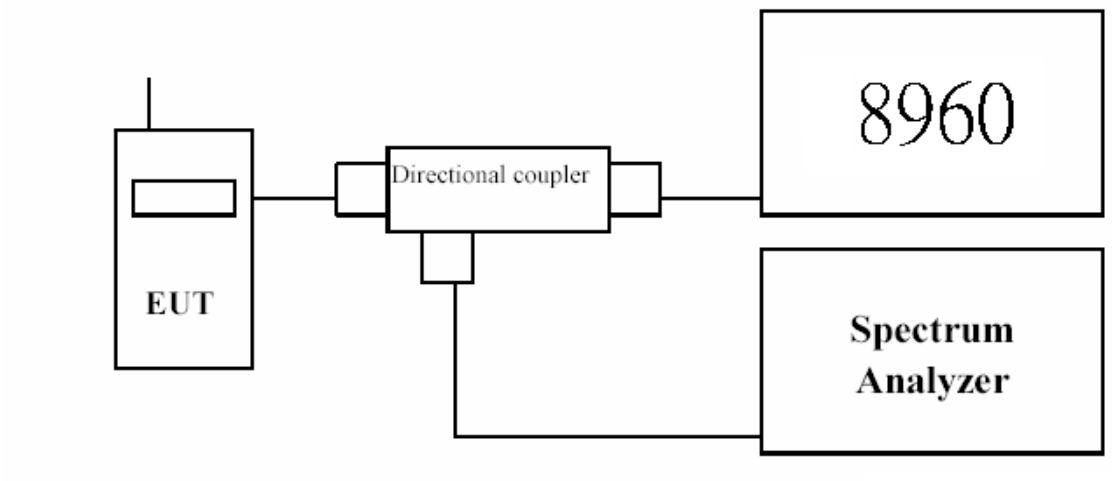


Fig. 4-1 Test setup.

4.3. Limits

FCC Part 2.1051 & 22.917(a)	
Limit	**<-13dBm** (Below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, where P is the power in Watts).

4.4. Test Procedure

In accordance with Part 22.917, at least 1% of the emission bandwidth was used for the resolution and video bandwidths up to 1MHz away from the Block Edge. At greater than 1MHz, the resolution and video bandwidth were increased to 1MHz.
The reference power and path losses of all channels used for testing in each frequency block were measured.

Reference standards : Part 2.1051, 22.917(a)

4.5. Uncertainty

The measurement uncertainty is evaluated as ± 24.30 kHz.

Contributions		Probability Distribution	Standard Uncertainty u_i(Hz)
Frequency Error	U_{01}	Rectangular	38.88
Frequency readout accuracy	U_{02}	Normal	19406
Combined Standard Uncertainty, U			19.406kHz
Expanded Ucertainty (for a 95 % confidence level, k=2)			38.81 kHz

4.6. Band Edge Compliance

Product	CDMA 2000 1xRTT Mobile Phone		
Test Mode	Mode 1: CDMA2000 1xRTT Cellular 850	Battery Type	Standard
Date of Test	2008/06/12	Test Site	CB5

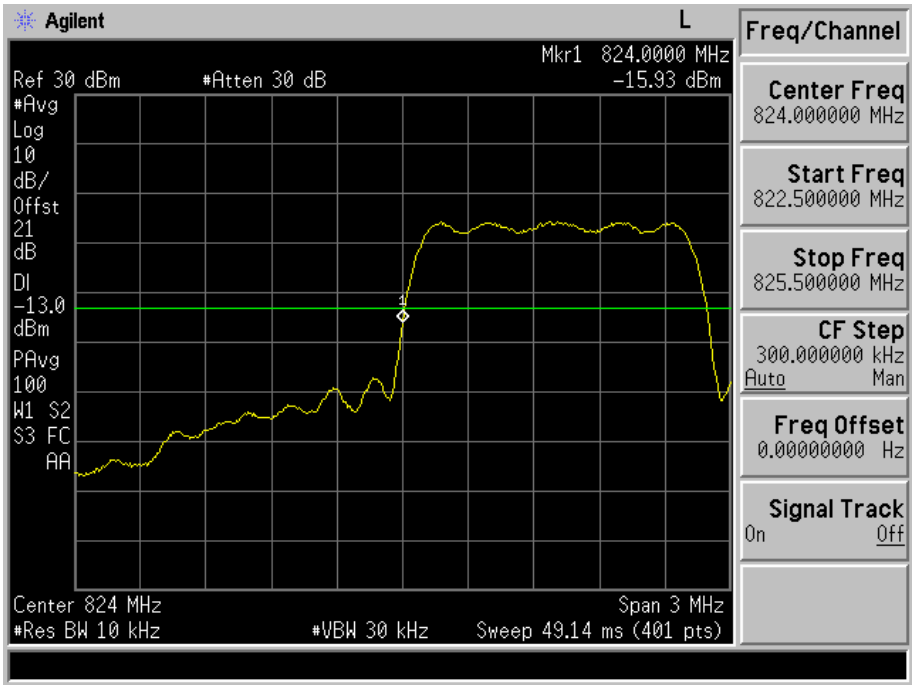


Fig. 4-2 Band edge measurements for mode 1(Ch. 1013).

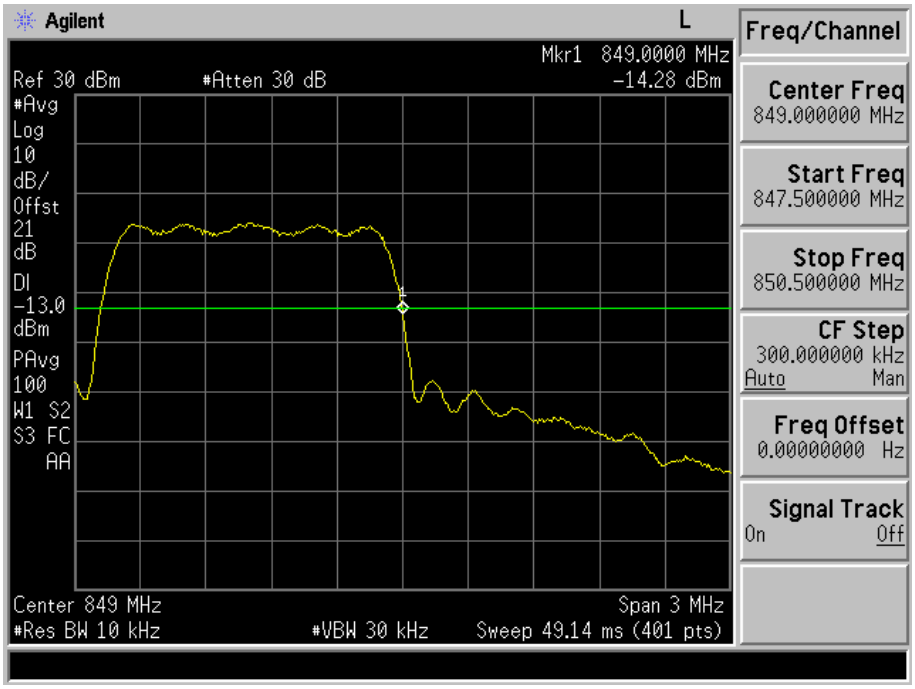


Fig. 4-3 Band edge measurements for mode 1(Ch. 777).

5. Spurious Emission

5.1. Test Equipment

The following test equipments are used during the spurious emission test:

Item	Equipment	Manufacturer	Type No./Serial No	Calibration Date	Calibration Due
1	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun 02, 2008	Jun 01, 2009
2	Dual Directional couple	Agilent	778D-012/50550	Aug 10, 2007	Aug 09, 2008
3	Directional coupler	Agilent	87300C/ MY44300353	Aug 18, 2007	Aug 17, 2008
4	Bilog Antenna	Schaffner Chase	CBL6112B/2921	Aug 10, 2007	Aug 09, 2008
5	Broadband Horn Antenna	Schwarzbeck	BBHA9170/497	Sep 07, 2007	Sep 06, 2008
6	EMI Test Receiver	R&S	ESCS 30/100123	May 06, 2008	May 05, 2009
7	Horn Antenna	Schwarzbeck	BBHA9120D/ 305	Sep 06, 2007	Sep 05, 2008
8	Pre-Amplifier	QTK	N/A	N/A	
9	Microwave Amplifier (0.5GHZ-26.5GHZ)	Agilent	83017A/ MY39500682	Aug 10, 2007	Aug 09, 2008
10	Spectrum Analyzer	Advantest	R3162/01700040	Nov 13, 2007	Nov 12, 2008
11	Spectrum Analyzer (9K-40GHz)	R&S	FSP40/100339	Nov 06, 2007	Nov 05, 2008
12	Universal Radio Communication Tester	Agilent	8960 / GB47390315	May 02, 2008	May 01, 2009

5.2. Test Setup

Spurious emissions at antenna terminals.

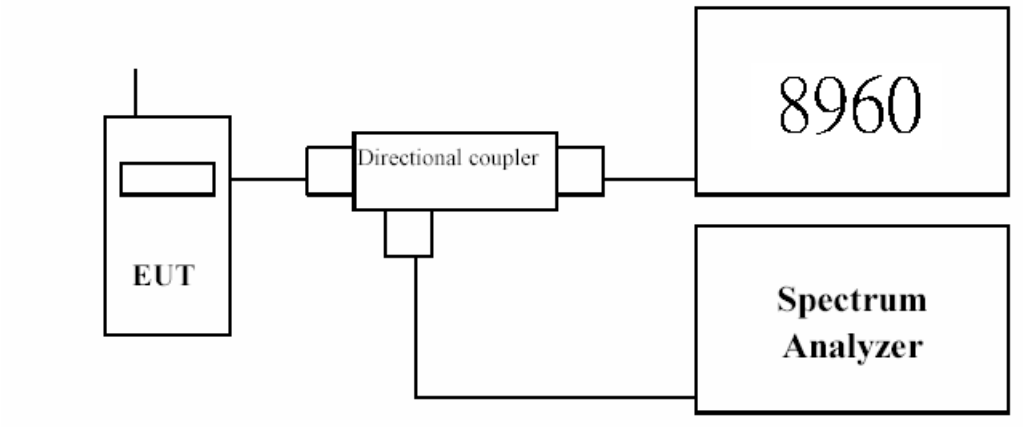
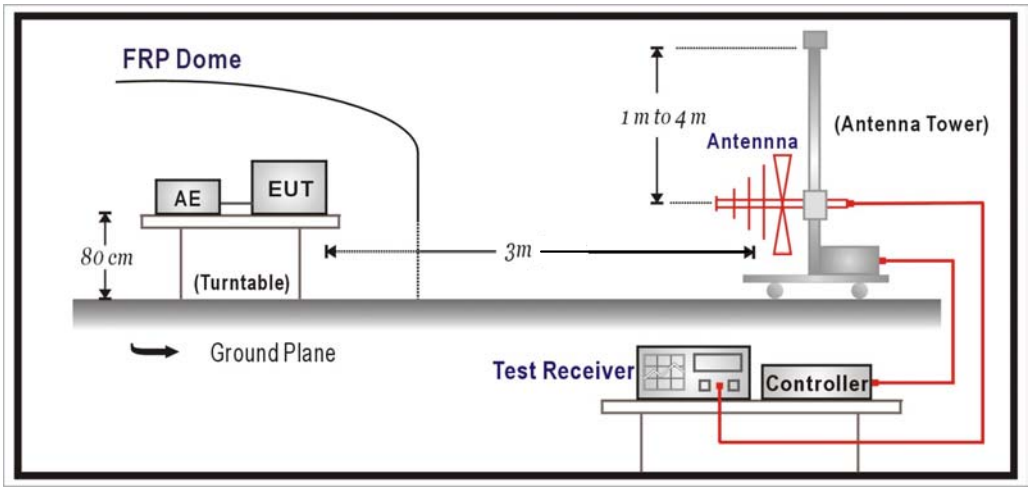


Fig. 5-1 Test setup for conducted spurious measurements.

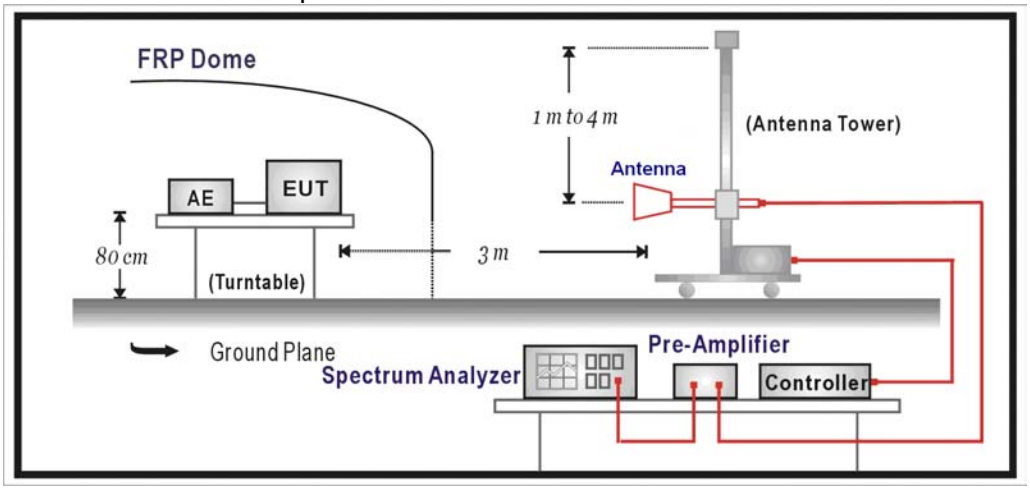
(a) Field strength of spurious radiation.

Under 1GHz Test Setup



(a)

Above 1GHz Test Setup



(b)

Fig. 5-2 (a) (b) Test setup for radiated spurious measurements.

5.3. Limits

FCC Part 2.1051 & 2.1053 & 22.917(a)	
Limit	<-13dBm Below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, where P is the power in Watts

5.4. Test Procedure

In accordance with Part 2.1051, the spurious emissions from the antenna terminal were measured. The EUT was set to transmit on full power, and the EUT was tested on low, middle and top channels. Compliance with FCC Part 22.917 is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater, so the resolution and video bandwidth was set to 1MHz and 3MHz respectively, and the spectrum analyzer detector was set to Max Hold. In addition, measurements were made up to the 10^{th} harmonic of the fundamental.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas. The EUT was set to transmit on full power, and the EUT was tested on low, middle and top channels. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna are set on measurement. The resolution and video bandwidth was set to 3MHz and 3MHz respectively and measurements were made up to the 10^{th} harmonic of the fundamental. In order to find the maximum emission, all of the interface cables must be manipulated according to TIA/EIA 603-C on radiated measurement.

Reference Standard : Part 2.1051, 2.1053, 22.917(a).

5.5. Uncertainty

The measurement uncertainty of conducted power output is defined as ± 1.036 dB.
The measurement uncertainty of radiated output power is evaluated as ± 4.22 dB (30 – 1000 MHz).
The measurement uncertainty is evaluated as ± 4.06 dB from 1 GHz to 10 GHz.
The detail evaluations of each contribution are shown on the tables in Sec. 2.5.

5.6. Test Results of Spurious Emission

5.6.1 Conducted Spurious Emission

Product	CDMA 2000 1xRTT Mobile Phone		
Test Condition	Conducted Spurious Emission	Battery Type	Standard
Test Mode	Mode 1: CDMA2000 1xRTT Cellular 850	Test Site	CB5
Date of Test	2008/06/12	Test Range	30MHz~10GHz

CH. 1013(824.7 MHz)			CH.384 (836.52 MHz)			CH. 777(848.31)		
Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)	Frequency (MHz)	Emission Level (dBm)	Limit (dBm)
1649.4	-29.40	-13	1673.04	-25.74	-13	1696.62	-31.78	-13
2474.1	-27.24	-13	2509.56	-36.19	-13	2544.93	-31.13	-13
3298.8	-27.83	-13	3346.08	-29.31	-13	3393.24	-29.92	-13
4123.5	-55.66	-13	4182.6	-56.30	-13	4241.55	-56.17	-13
4948.2	-52.77	-13	5019.12	-54.59	-13	5089.86	-52.65	-13
5772.9	-56.39	-13	5855.64	-50.76	-13	5938.17	-59.91	-13
6597.6	-54.82	-13	6692.16	-53.61	-13	6786.48	-56.01	-13
7422.3	-53.61	-13	7528.68	-51.85	-13	7634.79	-56.12	-13
8247.0	-43.61	-13	8365.20	-42.30	-13	8483.10	-46.70	-13

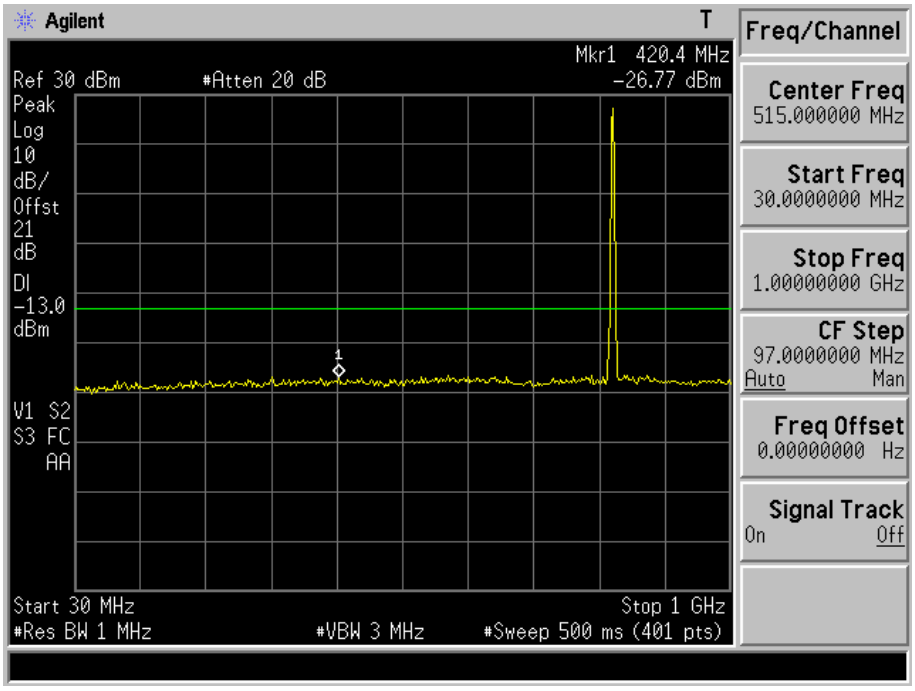


Fig. 5-3(a) Conducted spurious emission for mode 1(Ch. 1013).

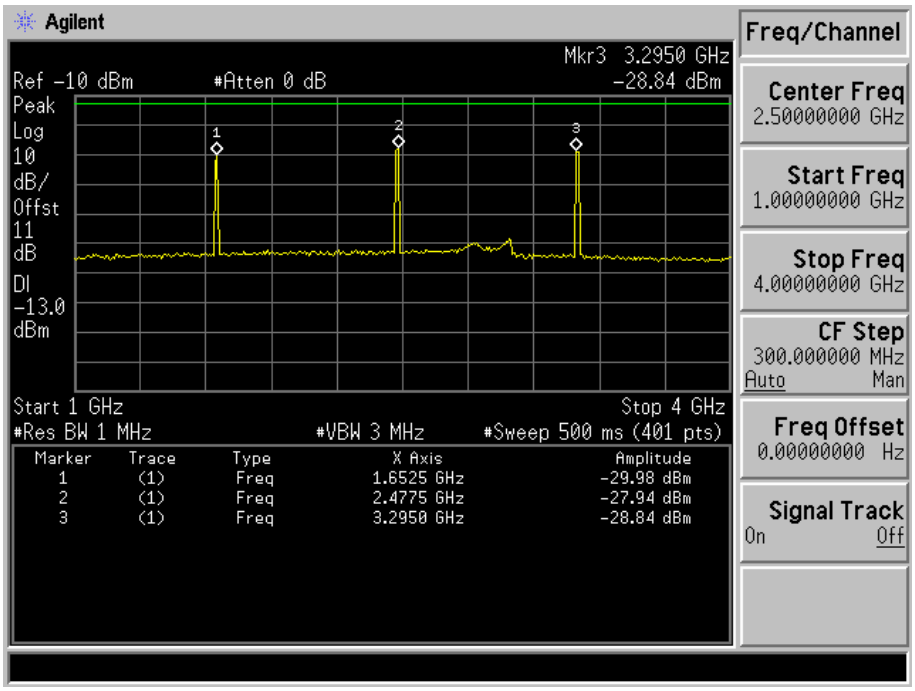


Fig. 5-3(b) Conducted spurious emission for mode 1(Ch. 1013).

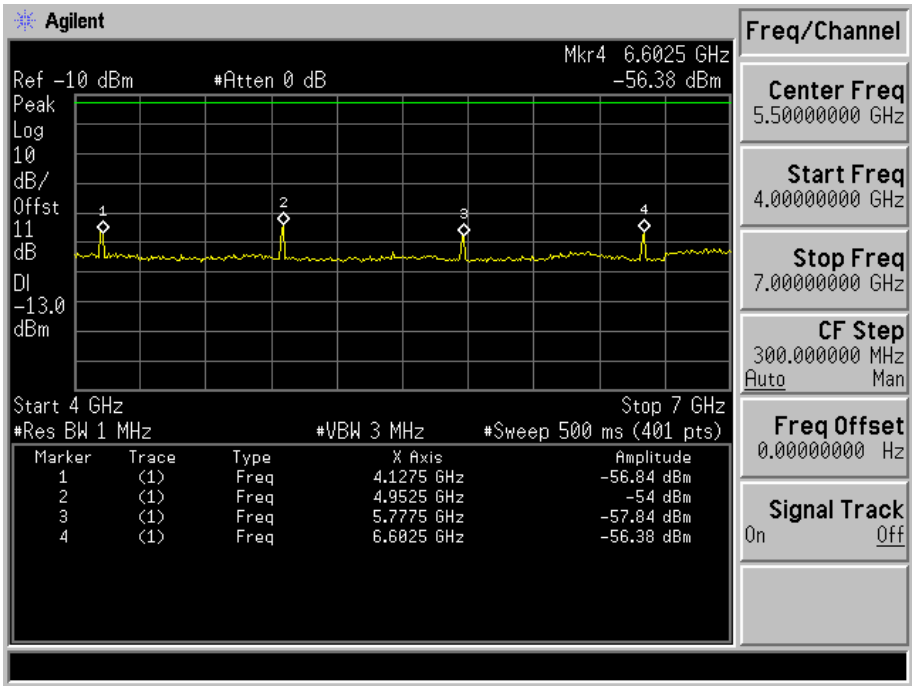


Fig. 5-3(c) Conducted spurious emission for mode 1(Ch. 1013).

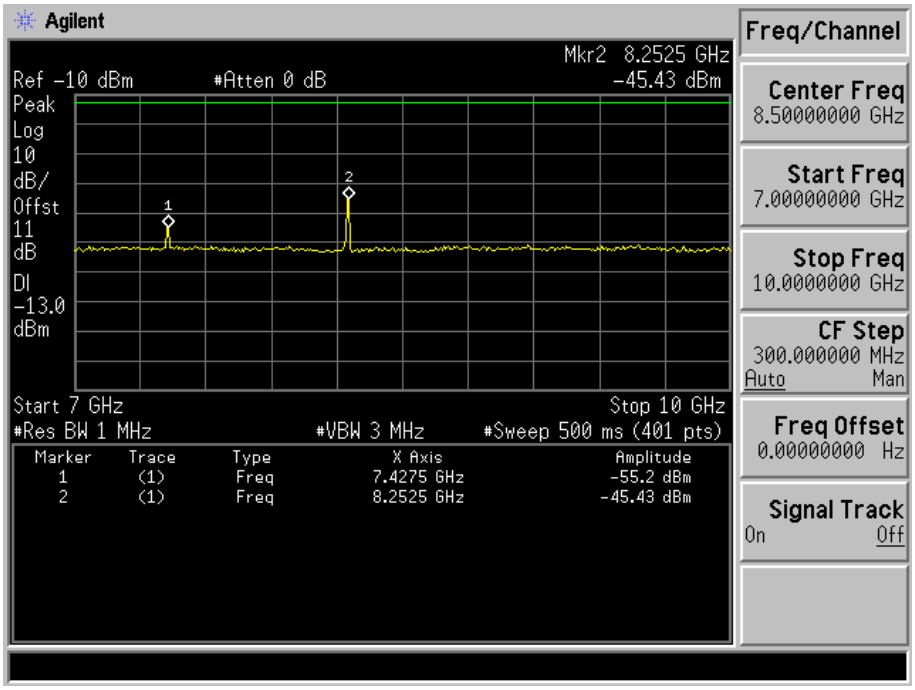


Fig. 5-3(d) Conducted spurious emission for mode 1(Ch. 1013).

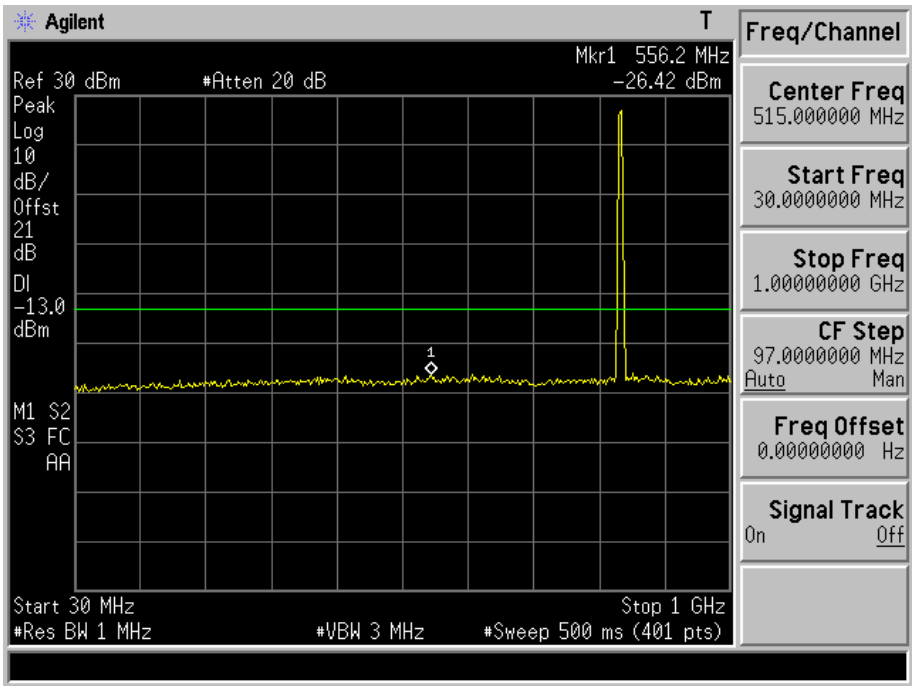


Fig. 5-4(a) Conducted spurious emission for mode 1(Ch. 384).

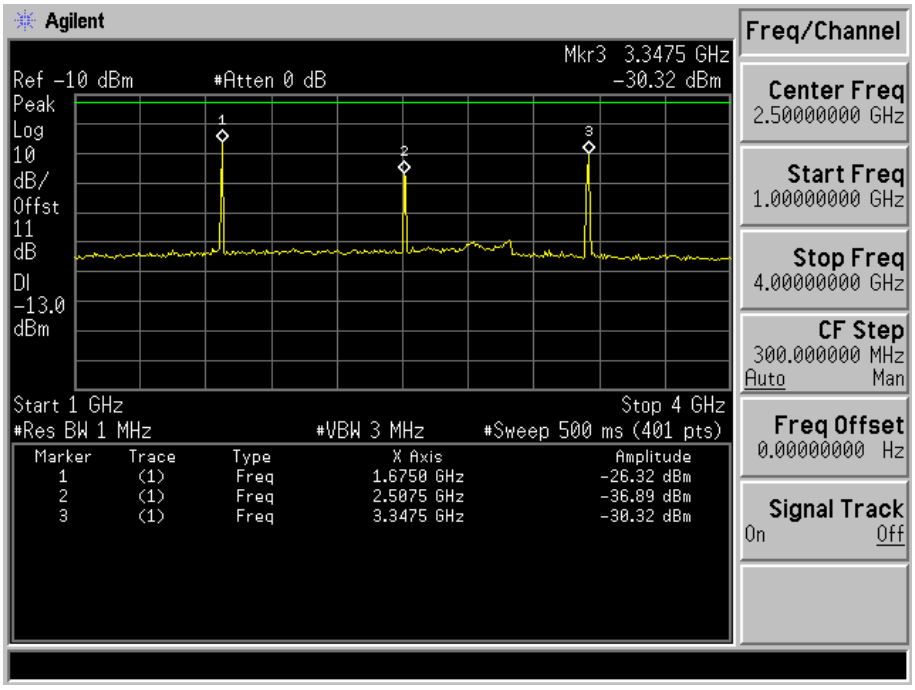


Fig. 5-4(b) Conducted spurious emission for mode 1(Ch. 384).

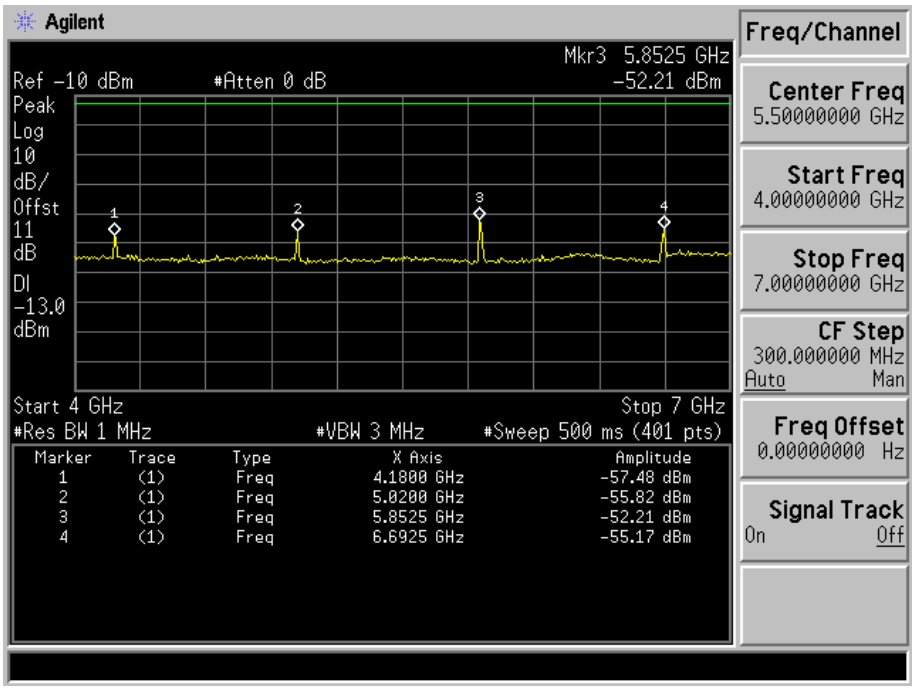


Fig. 5-4(c) Conducted spurious emission for mode 1(Ch. 384).

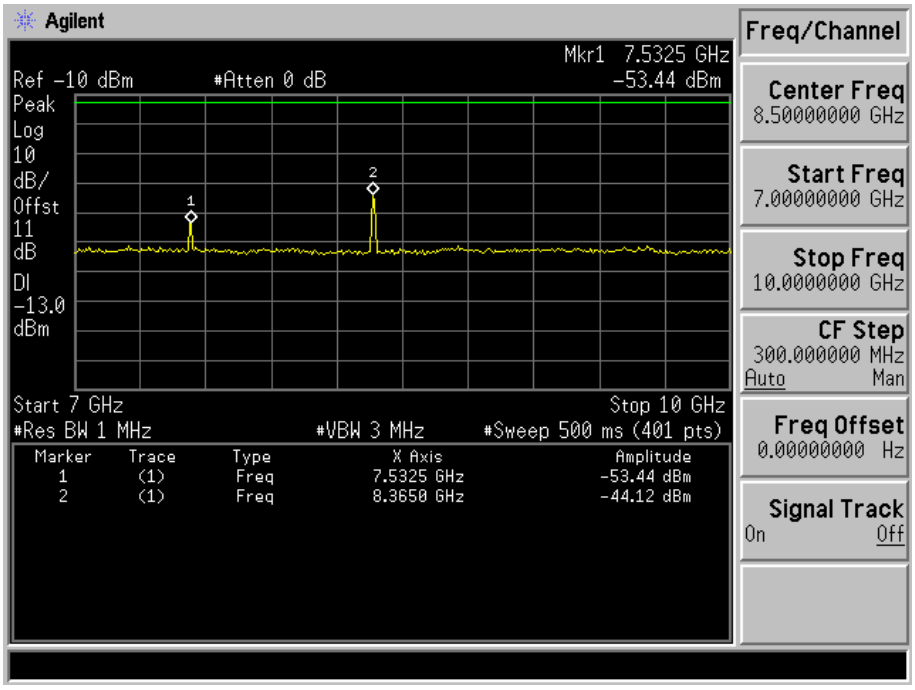


Fig. 5-4(d) Conducted spurious emission for mode 1(Ch. 384).

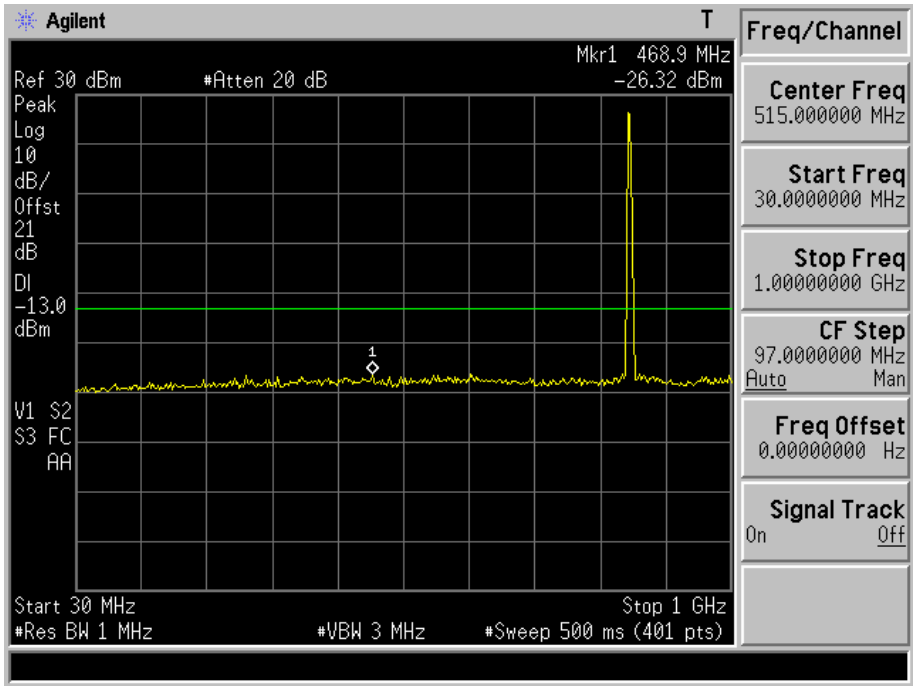


Fig. 5-5(a) Conducted spurious emission for mode 1(Ch. 777).

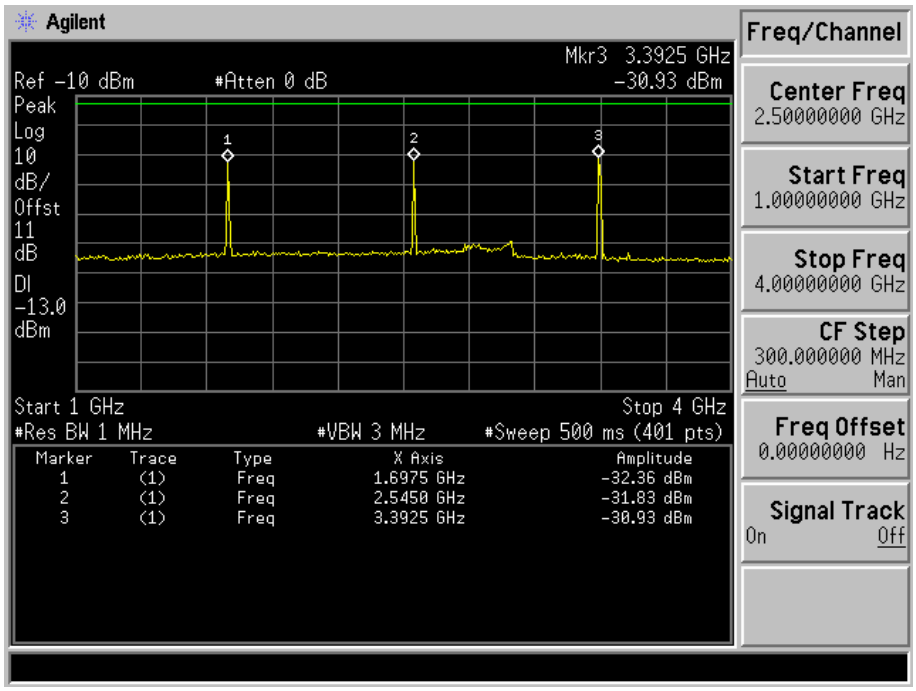


Fig. 5-5(b) Conducted spurious emission for mode 1(Ch. 777).

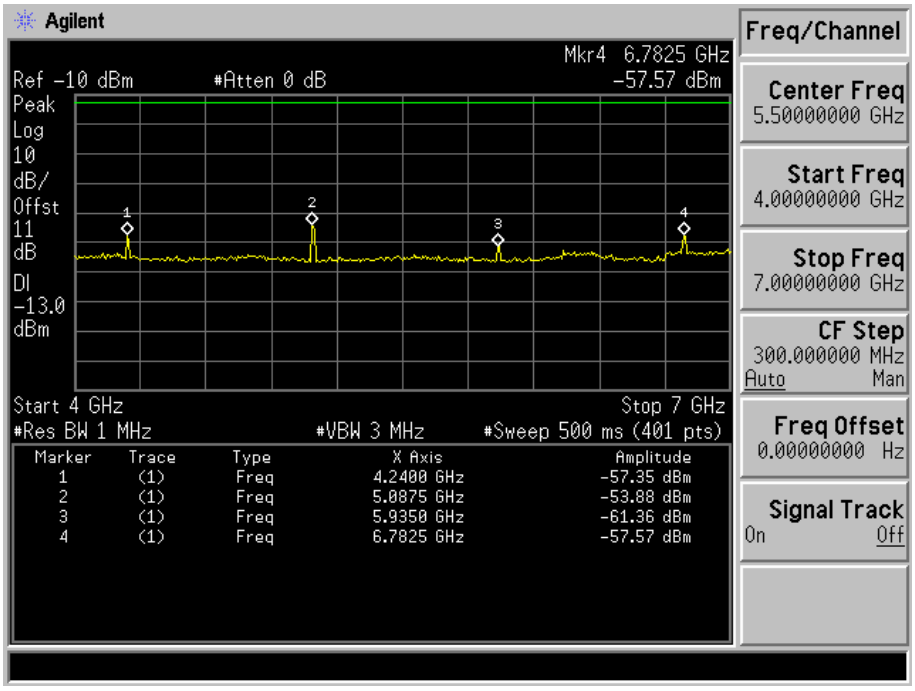


Fig. 5-5(c) Conducted spurious emission for mode 1(Ch. 777).

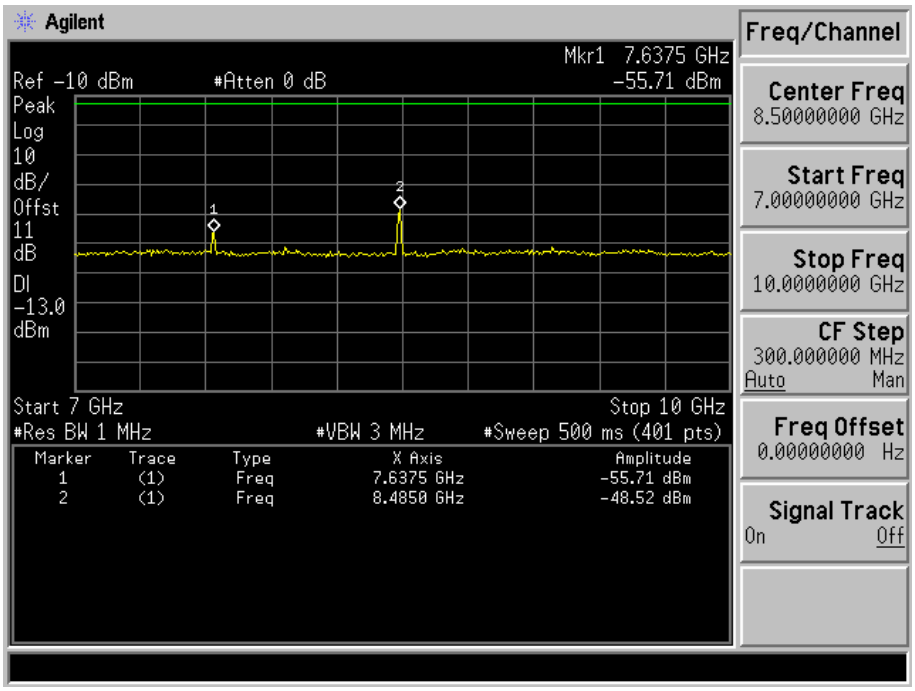


Fig. 5-5(d) Conducted spurious emission for mode 1(Ch. 777).

5.6.2 Radiated Spurious Emission

Product	CDMA 2000 1xRTT Mobile Phone		
Test Condition	Radiated Spurious Emission	Battery Type	Standard
Test Mode	Mode 1: CDMA2000 1xRTT Cellular 850	Test Site	OATS 3
Date of Test	2008/06/12	Test Range	30MHz~10GHz
TX Channel	CH. 1013(824.7MHz)		

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	ERP Value	Limit
(MHz)	(dBm)	(dBm)	(dB)	(dBd)	(dBm)	(dBm)
Horizontal Emissions						
1649.4	-54.93	-58.74	1.41	7.65	-52.5	-13
2474.1	-50.74	-48.27	1.56	8.45	-41.38	-13
3298.8	-48.81	-44.61	2.01	10.15	-36.47	-13
4123.5	-60.00	-58.49	2.74	10.45	-50.78	-13
4948.2	-61.10	-56.95	2.64	10.55	-49.04	-13
5772.9	-60.37	-54.37	2.36	10.85	-45.88	-13
6597.6	-60.35	-52.47	3.16	9.95	-45.68	-13
7422.3	-60.10	-47.89	3.3	9.35	-41.84	-13
8247	-60.08	-48.04	3.16	9.35	-41.85	-13
Vertical Emissions						
1649.4	-58.49	-64.26	1.41	7.65	-58.02	-13
2474.1	-57.64	-59.00	1.56	8.45	-52.11	-13
3298.8	-56.47	-55.73	2.01	10.15	-47.59	-13
4123.5	-60.35	-59.45	2.74	10.45	-51.74	-13
4948.2	-61.25	-57.78	2.64	10.55	-49.87	-13
5772.9	-60.41	-53.97	2.36	10.85	-45.48	-13
6597.6	-61.13	-57.58	3.16	9.95	-50.79	-13
7422.3	-60.08	-49.84	3.3	9.35	-43.79	-13
8247	-60.12	-48.59	3.16	9.35	-42.4	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. ERP Value = Signal Generator Level + Antenna Gain - Cable Loss

Product	CDMA 2000 1xRTT Mobile Phone		
Test Condition	Radiated Spurious Emission	Battery Type	Standard
Test Mode	Mode 1: CDMA2000 1xRTT Cellular 850	Test Site	OATS 3
Date of Test	2008/06/12	Test Range	30MHz~10GHz
TX Channel	CH. 384(836.52MHz)		

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	ERP Value	Limit
(MHz)	(dBm)	(dBm)	(dB)	(dBd)	(dBm)	(dBm)
Horizontal Emissions						
1673.04	-48.42	-48.96	1.41	7.65	-44.87	-13
2509.56	-50.95	-48.54	1.56	8.45	-43.8	-13
3346.08	-50.17	-46.35	2.01	10.15	-40.36	-13
4182.6	-60.46	-59.48	2.74	10.45	-53.92	-13
5019.12	-61.16	-57.07	2.64	10.55	-51.31	-13
5855.64	-60.53	-54.73	2.36	10.85	-48.39	-13
6692.16	-60.16	-52.12	3.16	9.95	-47.48	-13
7528.68	-60.31	-48.29	3.3	9.35	-44.39	-13
8365.2	-60.01	-47.91	3.16	9.35	-43.87	-13
Vertical Emissions						
1673.04	-53.43	-56.15	1.41	7.65	-52.06	-13
2509.56	-55.47	-55.43	1.56	8.45	-50.69	-13
3346.08	-56.97	-56.64	2.01	10.15	-50.65	-13
4182.6	-60.48	-59.70	2.74	10.45	-54.14	-13
5019.12	-61.13	-57.50	2.64	10.55	-51.74	-13
5855.64	-61.56	-56.67	2.36	10.85	-50.33	-13
6692.16	-60.78	-56.33	3.16	9.95	-51.69	-13
7528.68	-60.10	-49.89	3.3	9.35	-45.99	-13
8365.2	-59.97	-48.35	3.16	9.35	-44.31	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3 MHz; VBW:3MHz
2. ERP Value = Signal Generator Level + Antenna Gain - Cable Loss

Product	CDMA 2000 1xRTT Mobile Phone		
Test Condition	Radiated Spurious Emission	Battery Type	Standard
Test Mode	Mode 1: CDMA2000 1xRTT Cellular 850	Test Site	OATS 3
Date of Test	2008/06/12	Test Range	30MHz~10GHz
TX Channel	CH. 777(848.31MHz)		

Frequency	Reading Level	Signal Generator Level	Cable Loss	Antenna Gain	ERP Value	Limit
(MHz)	(dBm)	(dBm)	(dB)	(dBd)	(dBm)	(dBm)
Horizontal Emissions						
1696.62	-54.30	-57.73	1.41	7.65	-49.34	-13
2544.93	-50.85	-48.41	1.56	8.45	-39.37	-13
3393.24	-45.41	-40.59	2.01	10.15	-30.30	-13
4241.55	-59.96	-58.41	2.74	10.45	-48.55	-13
5089.86	-60.16	-55.17	2.64	10.55	-45.11	-13
5938.17	-60.62	-54.94	2.36	10.85	-44.30	-13
6786.48	-60.75	-53.23	3.16	9.95	-44.29	-13
7634.79	-59.99	-47.68	3.3	9.35	-39.48	-13
8483.1	-60.07	-48.02	3.16	9.35	-39.68	-13
Vertical Emissions						
1696.62	-58.18	-63.76	1.41	7.65	-55.37	-13
2544.93	-56.61	-57.31	1.56	8.45	-48.27	-13
3393.24	-51.43	-48.49	2.01	10.15	-38.20	-13
4241.55	-61.40	-61.02	2.74	10.45	-51.16	-13
5089.86	-60.89	-56.93	2.64	10.55	-46.87	-13
5938.17	-59.66	-52.69	2.36	10.85	-42.05	-13
6786.48	-61.01	-57.16	3.16	9.95	-48.22	-13
7634.79	-60.11	-49.92	3.3	9.35	-41.72	-13
8483.1	-60.04	-48.47	3.16	9.35	-40.13	-13

Note:

1. Receiver setting (Peak Detector) : RBW:3MHz; VBW:3MHz
2. ERP Value = Signal Generator Level + Antenna Gain - Cable Loss

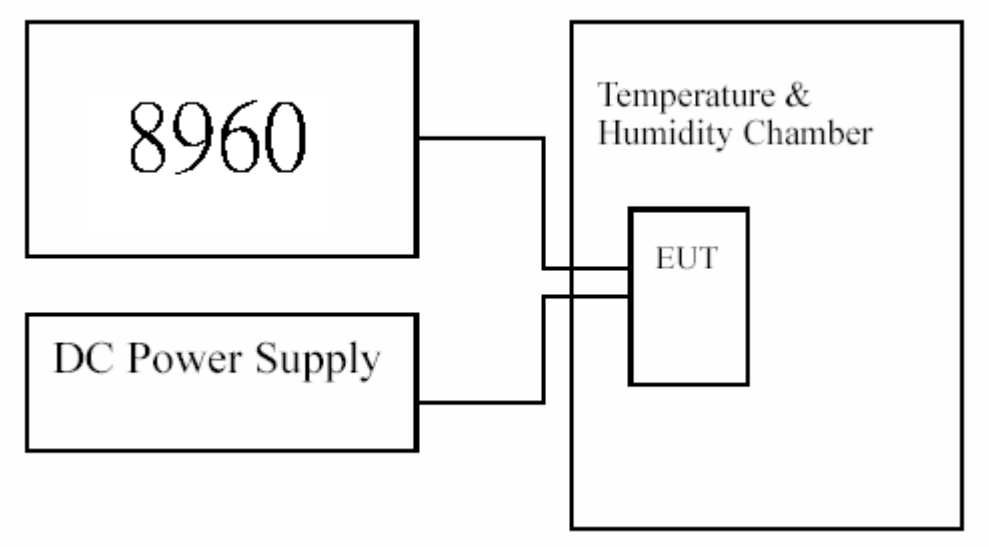
6. Frequency Stability Under Temperature & Voltage Variations

6.1. Test Equipment

The following test equipments are used during the frequency stability test:

Item	Equipment	Manufacturer	Type No./Serial No	Calibration Date	Calibration Due
1	Universal Radio Communication Tester	Agilent	8960 / GB47390315	May 02, 2008	May 01, 2009
2	Standard Temperature & Humidity Chamber	WIT	TH-1S-B / 108210	Aug 16, 2007	Aug 15, 2008
3	DC Power Supply	Agilent	E3610A / MY40009845	Apr 30, 2007	Apr 29, 2008

6.2. Test Setup



6.3. Limits

FCC Part 2.1055 & 22.355	
Limit	±2.5 ppm

6.4. Test Procedure

The frequency stability of transmitter is measured by:

(a) **Temperature:** The temperature is varied from -30°C to 50°C in 10°C increament using a standard temperature & Humidity chamber.

(b) **Primary Supply Voltage:** The primary supply voltage is varied 85% to 115% of the nominal value for non hand-carried equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating endpoint which shall be specified by the manufacturer.

Reference Standard : Part 2.1055 & 22.355

6.5. Uncertainty

The measurement uncertainty is evaluated as Hz.

Contributions		Probability Distribution	Standard Uncertainty u_i(Hz)
Time base uncertainty	U_{01}	Rectangular	33.08
Counter uncertainty	U_{02}	Rectangular	2.9
Ambient temperature uncertainty	U_{03}	Normal	20.21
Combined Standard Uncertainty, U			38.87
Expanded Ucertainty (for a 95 % confidence level, k=2)			77.74

6.6. Test Result of Frequency Stability Under Temperature Variations

Product	CDMA 2000 1xRTT Mobile Phone		
Test Condition	Frequency Stability Under Temperature Variations & Voltage Variations		
Test Mode	Mode 1: CDMA2000 1xRTT Cellular 850	Test Site	CB4
Date of Test	2008/06/12	Test Range	-30℃~+50℃, 85%~115% DC Voltage
TX Channel	CH. 384(836.52 MHz)		

Temperature Interval(℃)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
-30	0.836	-31	±2.0913
-20	0.836	-28	±2.0913
-10	0.836	-32	±2.0913
0	0.836	-20	±2.0913
10	0.836	-24	±2.0913
20	0.836	21	±2.0913
30	0.836	-19	±2.0913
40	0.836	-25	±2.0913
50	0.836	-17	±2.0913

DC Voltage (V)	Test Frequency (GHz)	Deviation (Hz)	Limit (KHz)
3.25	0.836	24	±2.0913
3.7	0.836	-20	±2.0913
4.255	0.836	-29	±2.0913