

FCC TEST REPORT

according to

47 CFR Part 15 Subpart B

Equipment : CDMA 2000 1xRTT Mobile Phone
Trade Name : RM-218
Model No. : 6088
FCC ID : QMNRM-218
Filing Type : Certification
Applicant : **Nokia Inc.**
12278 Scripps Summit Dr. San Diego CA 92131 USA

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.
- Report Version: Rev. 02.

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

Report Version: Rev. 02

Table of Contents

History of this test report.....	ii
CERTIFICATE OF COMPLIANCE.....	1
1. General Description of Equipment under Test.....	2
1.1 Applicant.....	2
1.2 Manufacturer	2
1.3 Basic Description of Equipment under Test	2
1.4 Feature of Equipment under Test	3
2. Test Configuration of Equipment under Test.....	4
2.1 Test Manner	4
2.2 Description of Test System	4
2.3 Connection Diagram of Test System	5
3. Test Software	6
4. General Information of Test.....	7
4.1 Test Facility	7
4.2 Test Voltage	7
4.3 Standard for Methods of Measurement.....	7
4.4 Test in Compliance with	7
4.5 Frequency Range Investigated	7
4.6 Test Distance	7
5. List of Measurements and Examinations.....	8
6. Test of Conducted Powerline	9
6.1 Major Measuring Instruments.....	9
6.2 Test Procedures.....	9
6.3 Typical Test Setup Layout of Conducted Powerline	10
6.4 Test Result of AC Powerline Conducted Emission	11
6.5 Photographs of Conducted Powerline Test Configuration	13
7. Test of Radiated Emission.....	15
7.1 Major Measuring Instruments.....	15
7.2 Test Procedures.....	16
7.3 Typical Test Setup Layout of Radiated Emission.....	17
7.4 Test Result of Radiated Emission	18
7.5 Photographs of Radiated Emission Test Configuration	23
8. List of Measuring Equipment Used	24
9. Uncertainty of Evaluation	25
10. Certificate of NVLAP Accreditation	27

History of this test report

Report Issue Date: Mar. 30, 2007

Report No.	Description

CERTIFICATE OF COMPLIANCE

according to

47 CFR Part 15 Subpart B

Equipment : CDMA 2000 1xRTT Mobile Phone
Trade Name : RM-218
Model No. : 6088
FCC ID : QMNRM-218
Filing Type : Certification
Applicant : **Nokia Inc.**
12278 Scripps Summit Dr. San Diego CA 92131 USA

I **HEREBY** CERTIFY THAT:

The measurements shown in this test report were made in accordance with the procedures given in ANSI C63.4 - 2003 and the energy emitted by this equipment was *passed* FCC Part 15 B in both radiated and conducted emission class B limits. Testing was carried out on Mar. 30, 2007 at SPORTON International Inc. LAB.



Technical Reviewer
Jones Tsai / Manager



Report Reviewer
Roy Wu / Deputy Manager

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

1. General Description of Equipment under Test

1.1 Applicant

Nokia Inc.

12278 Scripps Summit Dr. San Diego CA 92131 USA

1.2 Manufacturer

Foxconn International Holdings Limited

No. 2, 2nd DongHuan Road, 10th YouSong Industrial District, Longhua Town, Baoan, Shenzhen, Guangdong, China

1.3 Basic Description of Equipment under Test

Equipment	: CDMA 2000 1xRTT Mobile Phone
Trade Name	: RM-218
Model No.	: 6088
Power Supply Type	: Switching, From battery 3.7V
AC Power Cord	: AC 120V, Wall-mount, 2.0 meter, 2 pin
Adapter	: Nokia, AC-3C
Battery	: Nokia, BL-4C
Earphone	: Nokia, HS-9
USB Cable	: Nokia, DKE-2

1.4 Feature of Equipment under Test

Product Feature & Specification	
1. DUT Type :	CDMA 2000 1xRTT Mobile Phone
2. Trade Name :	RM-218
3. Model No. :	6088
4. FCC ID :	QMNRM-218
5. Phone ESN Number :	02608922391
6. Type of Modulation :	QPSK
7. Tx Frequency :	824~849 MHz
8. Rx Frequency :	869~894 MHz
9. HW ID :	5000
10. SW Version :	TH_UNC_MS02520_V0611
11. Maximum Output Power to Antenna :	24.5 dBm
12. Type of Antenna Connector :	N/A
13. Antenna Type :	Fixed Internal
14. Antenna Gain :	-3.0 dBi

2. Test Configuration of Equipment under Test

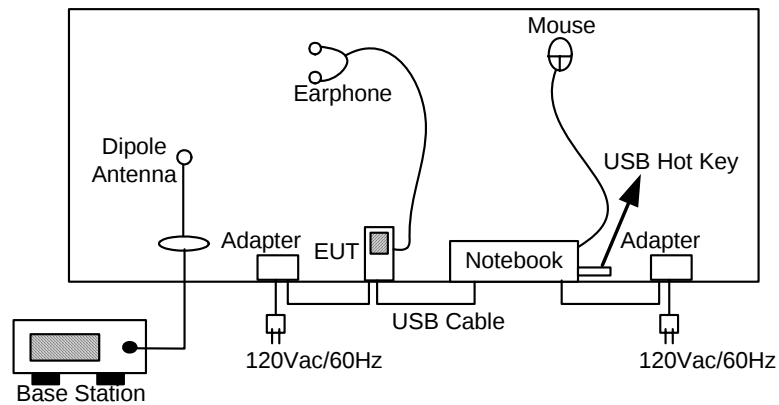
2.1 Test Manner

- a. The EUT has been setup pursuant to ANSI C63.4-2003 and configuration operated in a manner which tended to maximize its emission characteristics in a typical application.
- b. The complete test system refers to 2.2 for EMI test.
- c. The following test modes were tested for conduction test:
Mode 1: CDMA2000 Cellular Idle Mode + USB Link (active) + Earphone + Adapter
- d. The following test modes were tested for radiation test:
Mode 1: CDMA2000 Cellular Idle Mode + USB Link (active) + Earphone + Adapter
- e. Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 5 GHz.

2.2 Description of Test System

Item	Asset	Trade Name	Model Name	Power Cord	Serial Number
1.	Base Station	R&S	CMU 200	AC 100-240V	N/A
2.	Dipole Antenna	Sporton	N/A	N/A	N/A
3.	Notebook (Remote)	DELL	D400	AC 100-240V	39123548271
4.	USB Mouse	State	MS-303	Weave-shielded, 1.2 m	T33097
5.	USB Cable	N/A	N/A	Weave-shielded, 1.2 m	N/A
6.	Earphone	Nokia	HS-9	N/A	N/A
7.	Adapter	Nokia	AC-3C	AC 100-240V	N/A

2.3 Connection Diagram of Test System



3. Test Software

The executive program, "EMCTest.exe" under WINXP installed in notebook link data which generates a complete line continuously repeating "H" pattern were used as the test software.

The EUT is in CDMA2000 idle mode controlled by Base Station Simulator.

At the same time, the following programs were executed:

-Executed "QXDM" to link with Notebook.

4. General Information of Test

4.1 Test Facility

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-318-0055
Test Site No. : CO01-HY, 03CH06-HY
FCC Reg. Num. : 101377
IC : 4088

4.2 Test Voltage

120V / 60Hz

4.3 Standard for Methods of Measurement

ANSI C63.4-2003

4.4 Test in Compliance with

FCC Part 15 Subpart B

4.5 Frequency Range Investigated

- a. Conduction: from 150 kHz to 30 MHz
- b. Radiation: from 30 MHz to 5000MHz

4.6 Test Distance

The test distance of radiated emission from antenna to EUT is 3m.

5. List of Measurements and Examinations

FCC Rule	DESCRIPTION OF TEST	Result	Section
§15.107	Conducted Limits	Passed	6
§15.109	Radiated Emission Limits	Passed	7

6. Test of Conducted Powerline

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz and return leads of the EUT according to the methods defined in ANSI C63.4-2003 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 6.3. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

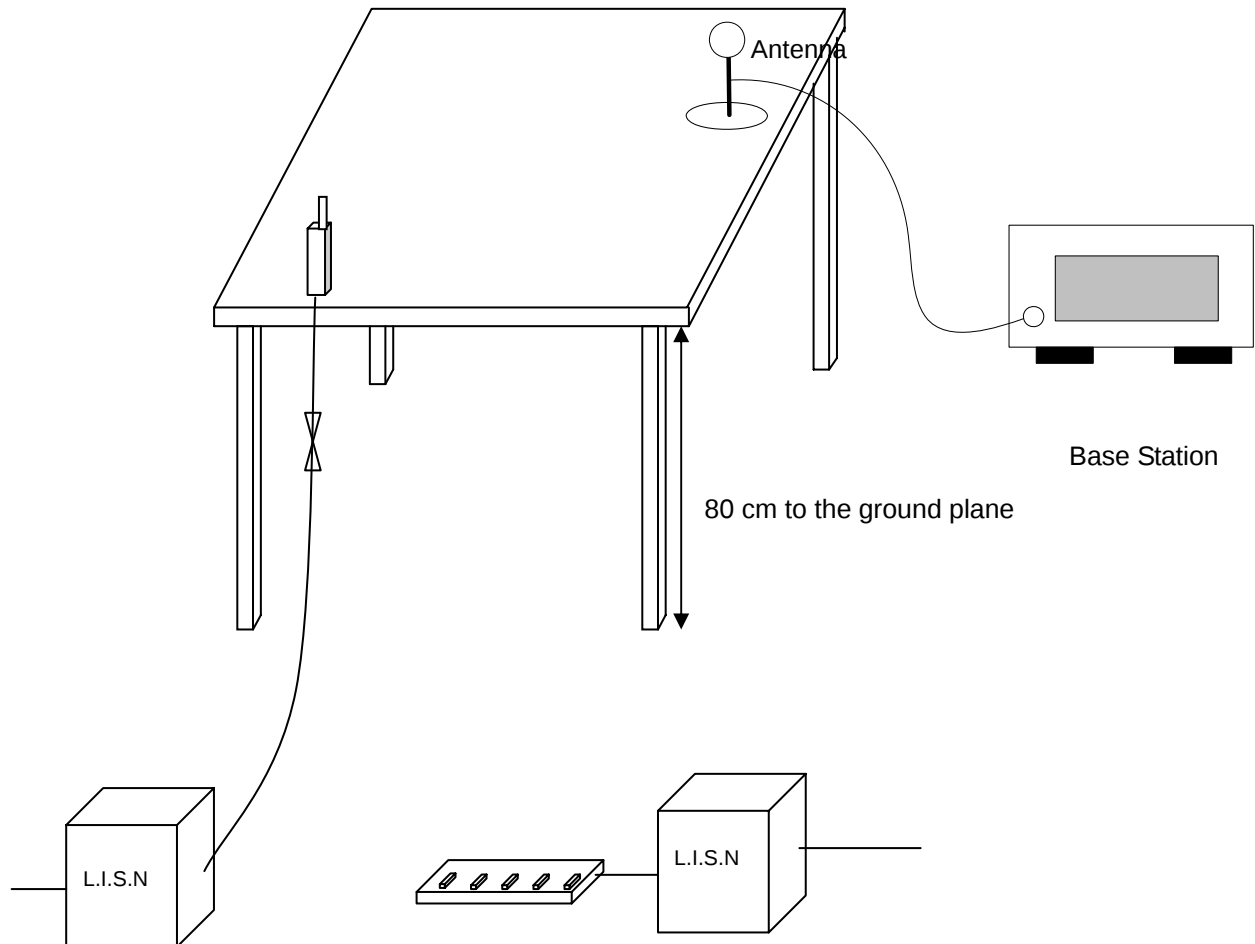
6.1 Major Measuring Instruments

As described in Chapter 8.

6.2 Test Procedures

- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- c. All the support units are connect to the other LISN.
- d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- e. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- f. Both sides of AC line were checked for maximum conducted interference.
- g. The frequency range from 150 kHz to 30 MHz was searched.
- h. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

6.3 Typical Test Setup Layout of Conducted Powerline



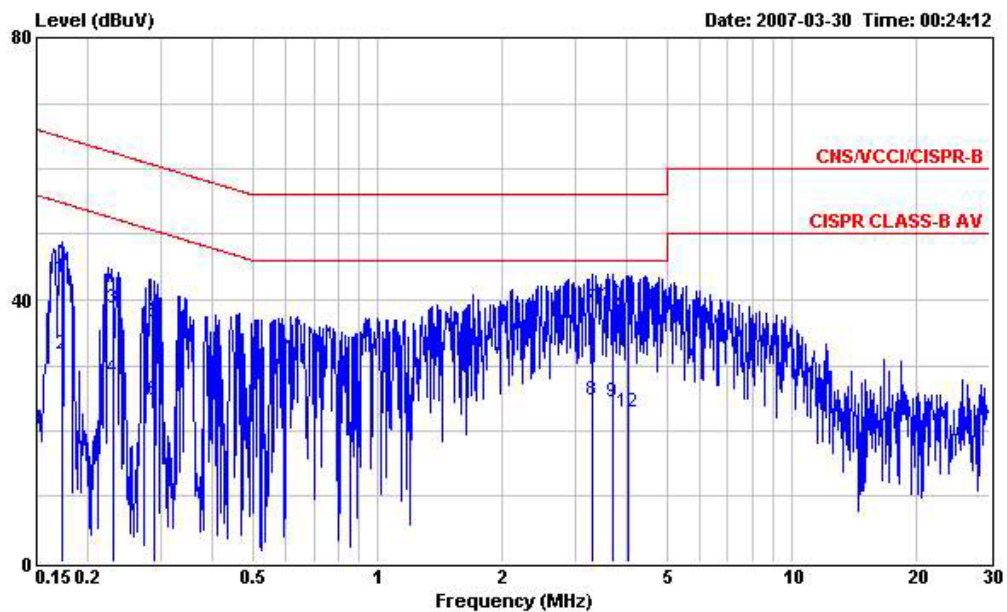
6.4 Test Result of AC Powerline Conducted Emission

6.4.1 Test Mode: Mode 1

- Frequency Range of Test: from 0.15 MHz to 30 MHz
- Temperature: 26°C
- Relative Humidity: 56%
- Test Engineer: Andrew
- All emissions not reported here are more than 10 dB below the prescribed limit.

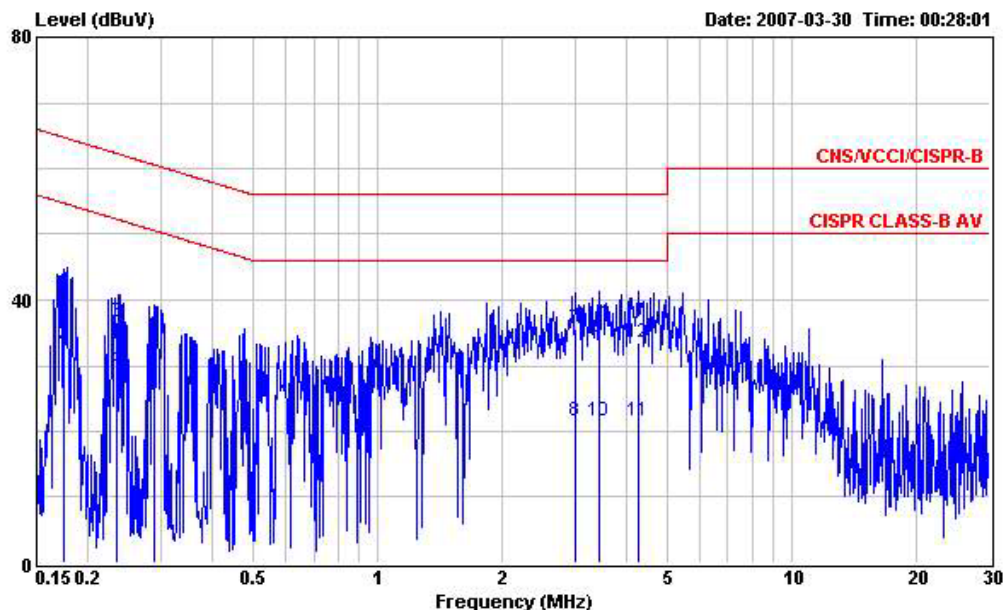
■ The test that passed at the minimum margin was marked by a frame in the following data

RBW: 9KHz VBW: least three time RBW
Sweep Time: 500ms Attenuation: 20dB



Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
EUT : CDMA2000 Mobile Phone
Power : 120V/60Hz
Model : FD732901
Memo : CDMA Cellular Idle + Earphone + USB Link
Memo : + Adapter
Memo :

	Freq	Level	Over	Limit	Read	Cable	Probe	
	MHz	dBuV	Limit	Line	Level	Loss	Factor	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.173	43.28	-21.52	64.80	43.03	0.15	0.10	QP
2	0.173	31.61	-23.19	54.80	31.36	0.15	0.10	Average
3	0.230	38.75	-23.70	62.45	38.46	0.19	0.10	QP
4	0.230	28.00	-24.45	52.45	27.71	0.19	0.10	Average
5	0.288	36.58	-23.99	60.57	36.27	0.21	0.10	QP
6	0.288	24.57	-26.00	50.57	24.26	0.21	0.10	Average
7	3.290	38.61	-17.39	56.00	38.41	0.03	0.17	QP
8	3.290	24.79	-21.21	46.00	24.59	0.03	0.17	Average
9	3.680	24.39	-21.61	46.00	24.16	0.04	0.19	Average
10	3.680	39.20	-16.80	56.00	38.97	0.04	0.19	QP
11	4.010	37.71	-18.29	56.00	37.47	0.04	0.20	QP
12	4.010	22.74	-23.26	46.00	22.50	0.04	0.20	Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : CDMA2000 Mobile Phone
 Power : 120V/60Hz
 Model : FD732901
 Memo : CDMA Cellular Idle + Earphone + USB Link
 Memo : + Adapter
 Memo :

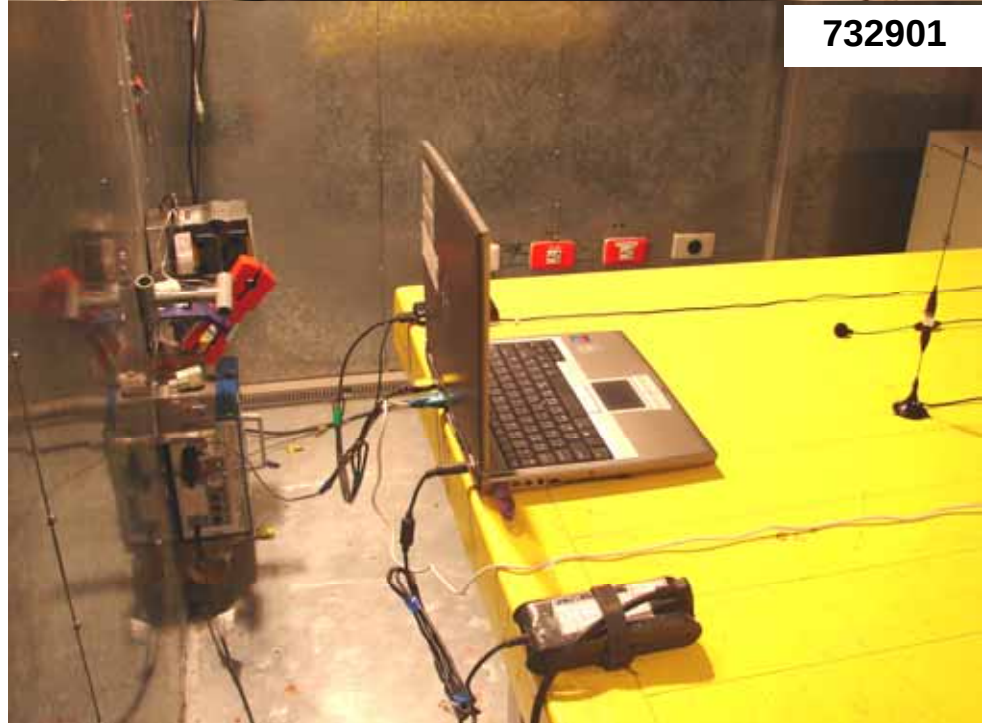
	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.175	40.92	-23.79	64.71	40.67	0.15	0.10	QP
2	0.175	33.22	-21.49	54.71	32.97	0.15	0.10	Average
3	0.235	36.61	-25.66	62.27	36.32	0.19	0.10	QP
4	0.235	29.36	-22.91	52.27	29.07	0.19	0.10	Average
5	0.289	34.20	-26.35	60.55	33.89	0.21	0.10	QP
6	0.289	25.57	-24.98	50.55	25.26	0.21	0.10	Average
7	3.010	35.66	-20.34	56.00	35.53	0.03	0.10	QP
8	3.010	21.52	-24.48	46.00	21.39	0.03	0.10	Average
9	3.420	34.27	-21.73	56.00	34.13	0.04	0.10	QP
10	3.420	21.62	-24.38	46.00	21.48	0.04	0.10	Average
11	4.270	21.57	-24.43	46.00	21.41	0.05	0.11	Average
12	4.270	33.49	-22.51	56.00	33.33	0.05	0.11	QP

6.5 Photographs of Conducted Powerline Test Configuration

Front View



Rear View



Side View



7. Test of Radiated Emission

Radiated emissions from 30 MHz to 5 GHz were measured with a bandwidth of 120 kHz and 1MHz according to the methods defines in ANSI C63.4-2003. The EUT was placed on a nonmetallic stand, 0.8 meter above the ground plane, as shown in section 7.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

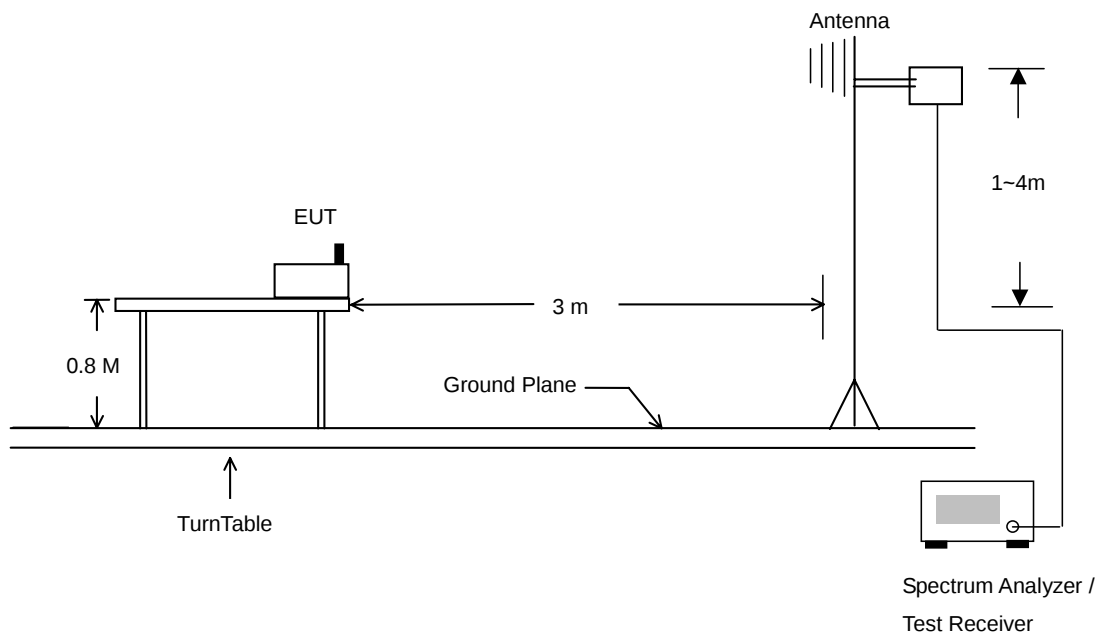
7.1 Major Measuring Instruments

As described in Chapter 8.

7.2 Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a Bi-Log antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both for horizontal polarization and vertical polarization of the antenna.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.

7.3 Typical Test Setup Layout of Radiated Emission



7.4 Test Result of Radiated Emission

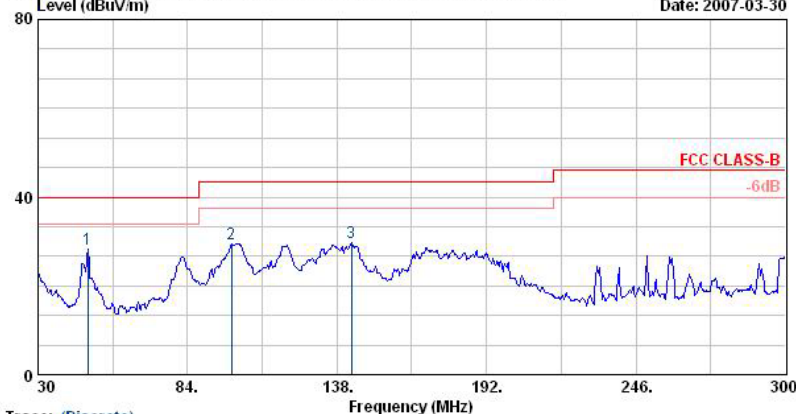
7.4.1 Test Mode: Mode 1

- Test Distance: 3m
- Temperature: 25
- Relative Humidity: 54%
- Emission level (dBuV/m) = 20 log Emission level (uV/m)
- Test Engineer: Andrew
- Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamplifier Factor = Level

■ The test that passed at the minimum margin was marked by a frame in the following data

30MHz ~ 1000MHz
RBW: 120KHz VBW: 300KHz
Sweep Time: 500ms Attenuation: 10dB

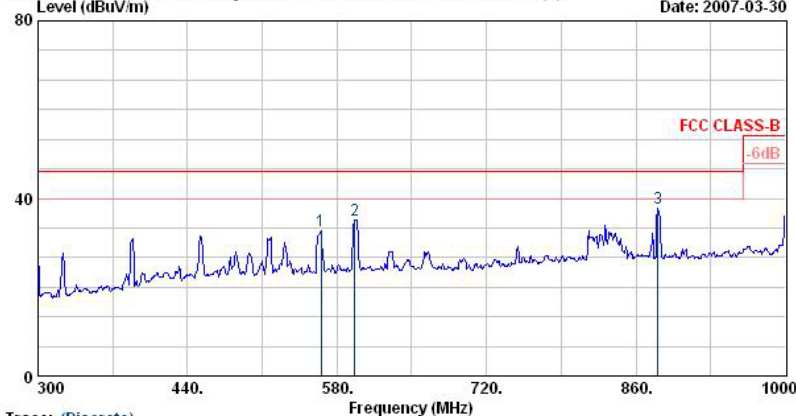
Data: 1 File: D:\Project\2007Q1\富士康V32901\Part15B.EMI (8) Date: 2007-03-30



Trace: (Discrete)
Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : CDMA2000 Mobile Phone
Power : 120Vac/60Hz
Model : FD 732901
Memo : CDMA Cellular Idle + Earphone + USB Link
Memo : + Adaptor

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preampl	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	48.09	28.26	-11.74	40.00	49.38	9.06	0.94	31.11	---	Peak
2 @	99.93	29.43	-14.07	43.50	48.19	10.99	1.41	31.16	---	Peak
3 @	143.13	29.71	-13.79	43.50	48.68	10.30	1.77	31.05	---	Peak

Data: 2 File: D:\Project\2007Q1\富士康V32901\Part15B.EMI (8) Date: 2007-03-30



Trace: (Discrete)
Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : CDMA2000 Mobile Phone
Power : 120Vac/60Hz
Model : FD 732901
Memo : CDMA Cellular Idle + Earphone + USB Link
Memo : + Adaptor

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preampl	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	565.30	32.73	-13.27	46.00	41.56	18.11	3.77	30.71	---	Peak
2 @	596.80	35.04	-10.96	46.00	43.41	18.43	3.86	30.67	100	204 Peak
3 @	880.30	37.71			42.96	20.39	4.75	30.39	---	Peak

Remark:

1. #3: BS Signal.

1000MHz ~ 5000MHz

RBW: 1MHz

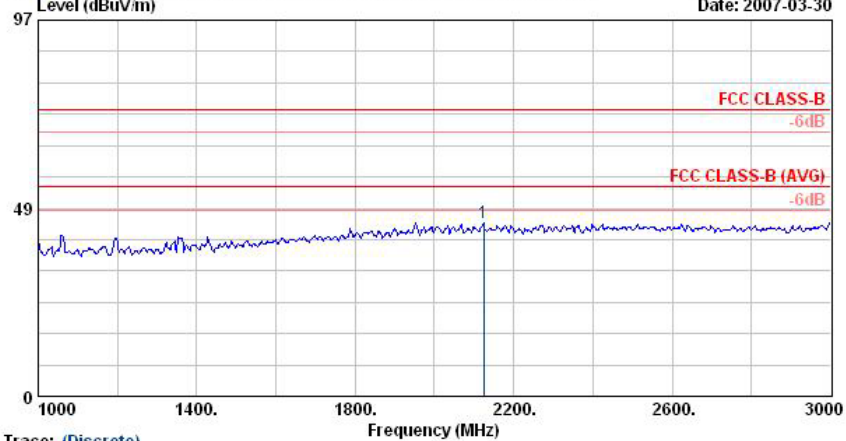
VBW: 1MHz (Peak), 10Hz (Average)

Sweep Time: 500ms

Attenuation: 10dB

Data: 3 File: D:\Project\2007Q1\富士康732901\Part15B.EMI (8)

Date: 2007-03-30



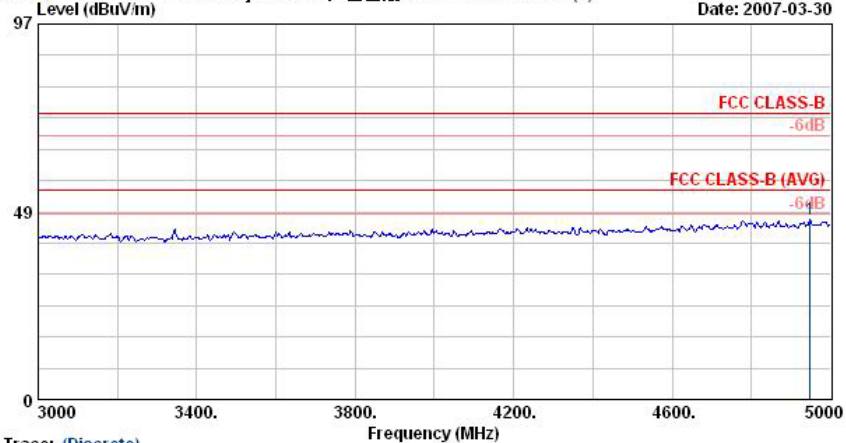
Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : CDMA2000 Mobile Phone
Power : 120Vac/60Hz
Model : FD 732901
Memo : CDMA Cellular Idle + Earphone + USB Link
+ Adaptor

	Freq	Level	Over	Limit	ReadAntenna		Cable	Preamp	Ant	Table	Remark
					Level	Factor					
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2124.00	44.72	-29.28	74.00	46.38	30.15	3.45	35.26	---	---	Peak

Data: 4 File: D:\Project\2007Q1\富士康732901\Part15B.EMI (8)

Date: 2007-03-30

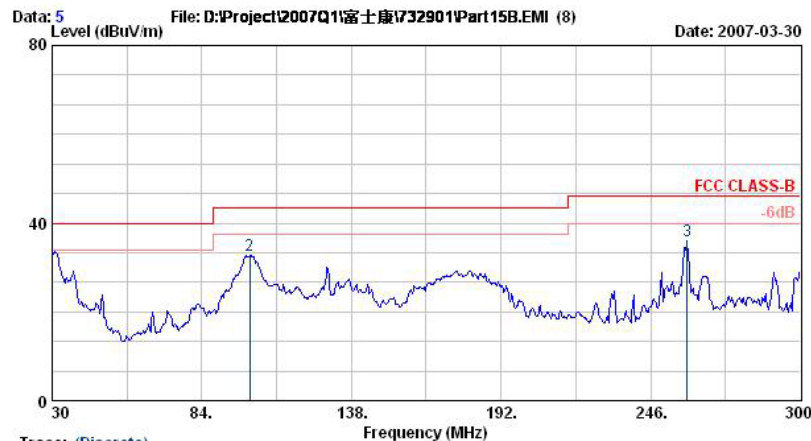


Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : CDMA2000 Mobile Phone
Power : 120Vac/60Hz
Model : FD 732901
Memo : CDMA Cellular Idle + Earphone + USB Link
+ Adaptor

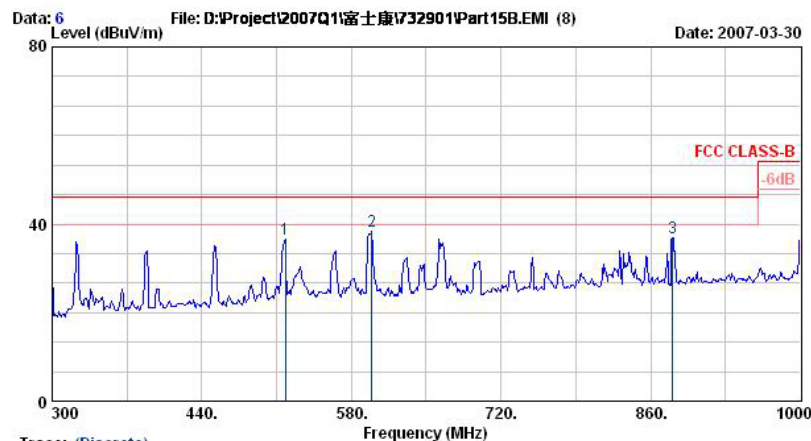
	Freq	Level	Over	Limit	ReadAntenna		Cable	Preamp	Ant	Table	Remark
					Level	Factor					
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	4948.00	46.59	-27.41	74.00	43.48	33.40	5.93	36.23	---	---	Peak

30MHz ~ 1000MHz
 RBW: 120KHz VBW: 300KHz
 Sweep Time: 500ms Attenuation: 10dB



Trace: (Discrete)
 Site : 03CH06-HY
 Condition : LF-ANT(951121) VERTICAL
 EUT : CDMA2000 Mobile Phone
 Power : 120Vac/60Hz
 Model : FD 732901
 Memo : CDMA Cellular Idle + Earphone + USB Link
 : + Adaptor

	Freq	Level	Over	Limit	ReadAntenna	Cable Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level Factor	Loss Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm deg
1 @	30.00	33.63	-6.37	40.00	44.59	19.66	0.84	31.46	100 330 Peak
2 @	101.28	32.70	-10.80	43.50	51.36	11.07	1.42	31.15	--- --- Peak
3 @	259.23	36.02	-9.98	46.00	52.06	12.44	2.47	30.95	--- --- Peak



Trace: (Discrete)
 Site : 03CH06-HY
 Condition : LF-ANT(951121) VERTICAL
 EUT : CDMA2000 Mobile Phone
 Power : 120Vac/60Hz
 Model : FD 732901
 Memo : CDMA Cellular Idle + Earphone + USB Link
 : + Adaptor

	Freq	Level	Over	Limit	ReadAntenna	Cable Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level Factor	Loss Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm deg
1 @	518.40	36.68	-9.32	46.00	46.23	17.62	3.59	30.77	--- --- Peak
2 @	598.90	38.33	-7.67	46.00	46.67	18.45	3.86	30.66	--- --- Peak
3 @	880.30	36.81			42.06	20.39	4.75	30.39	--- --- Peak

Remark:
 1. #3: BS Signal.

1000MHz ~ 5000MHz

RBW: 1MHz

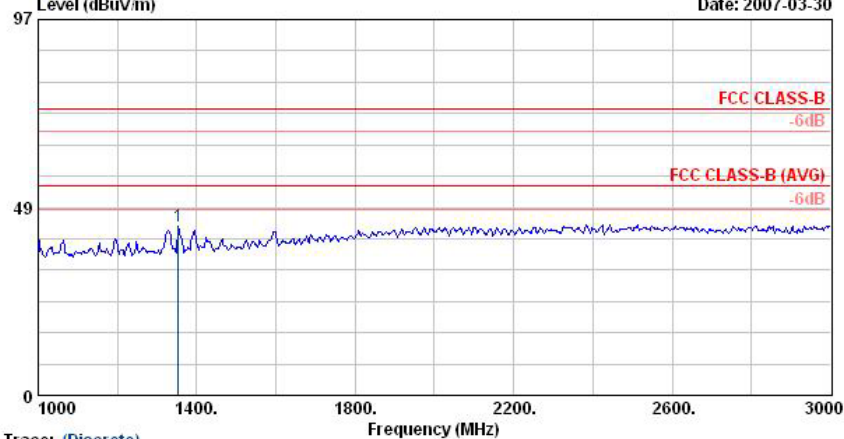
VBW: 1MHz (Peak), 10Hz (Average)

Sweep Time: 500ms

Attenuation: 10dB

Data: 7 File: D:\Project\2007Q1\富士康732901\Part15B.EMI (8)

Date: 2007-03-30



Site
Condition
EUT
Power
Model
Memo
Memo

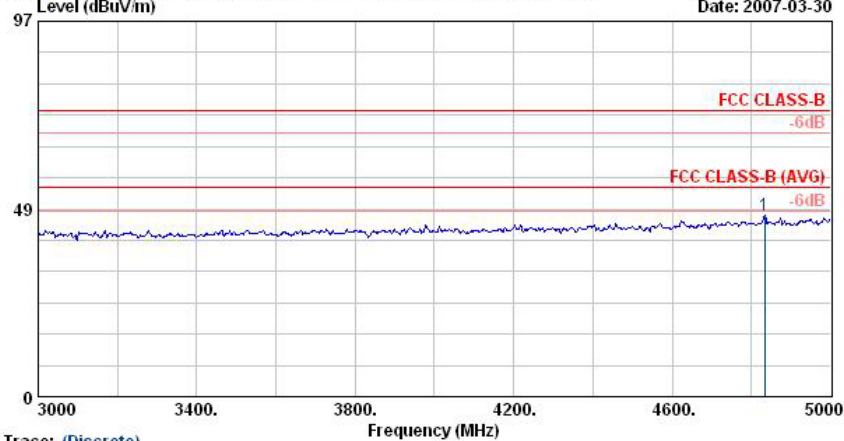
Trace: (Discrete)

: 03CH06-HY
: HF-ANT-060410 VERTICAL
: CDMA2000 Mobile Phone
: 120Vac/60Hz
: FD 732901
: CDMA Cellular Idle + Earphone + USB Link
: + Adaptor

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	1354.00	43.66	-30.34	74.00	51.22	25.58	2.82	35.96	---	---
										Peak

Data: 8 File: D:\Project\2007Q1\富士康732901\Part15B.EMI (8)

Date: 2007-03-30



Site
Condition
EUT
Power
Model
Memo
Memo

Trace: (Discrete)

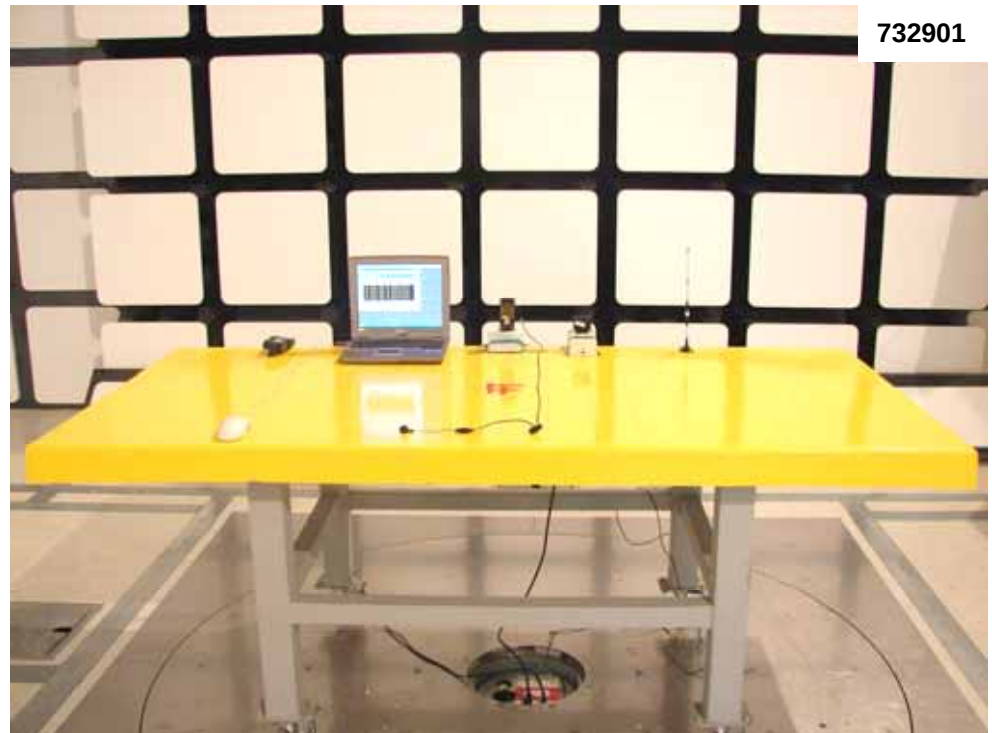
: 03CH06-HY
: HF-ANT-060410 VERTICAL
: CDMA2000 Mobile Phone
: 120Vac/60Hz
: FD 732901
: CDMA Cellular Idle + Earphone + USB Link
: + Adaptor

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	4834.00	46.72	-27.28	74.00	43.98	33.01	5.85	36.12	---	---
										Peak

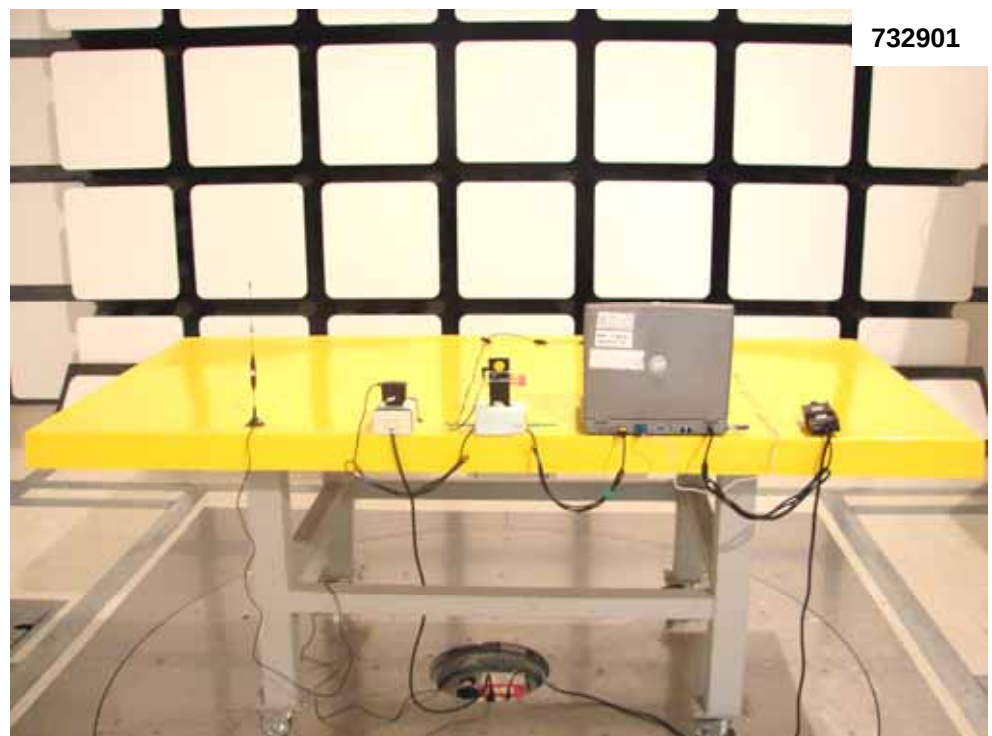
Remark: There's no more obvious spurious emission except the listings above.

7.5 Photographs of Radiated Emission Test Configuration

FRONT VIEW



REAR VIEW



8. List of Measuring Equipment Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100132	9kHz – 2.75GHz	July. 04, 2006	July. 04, 2007	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/004	9kHz – 30MHz	Apr. 28, 2006	Apr. 28, 2007	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz – 30MHz	Apr. 19, 2006	Apr. 19, 2007	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0 – 60Hz	N/A	N/A	Conduction (CO01-HY)
RF Cable-CON	Suhner Switzerland	RG223/U	CB029	9kHz – 30MHz	Dec. 04, 2006	Dec. 04, 2007	Conduction (CO01-HY)
Spectrum analyzer	Agilent	E4408B	MY44211030	9KHz-26.5GHz	Oct. 05, 2006	Oct. 04, 2007	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 13, 2006	Jul. 12, 2007	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Nov. 20, 2006	Nov. 19, 2007	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Com-Power	AH118	10094	1G~18G	Dec. 26, 2006	Dec. 25, 2007	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-249	14G - 40G	Nov. 20, 2006	Nov. 19, 2008	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1G - 26.5G	Nov. 15, 2006	Nov. 14, 2007	Radiation (03CH06-HY)
Pre Amplifier	Mini Circuits	ZKL-2	D092004-1	10~2500MHz	Nov. 15, 2006	Nov. 14, 2007	Radiation (03CH06-HY)
Base Station Simulator	R & S	CMU200	106656	WCDMA	Nov. 20, 2006	Nov. 19, 2007	Radiation (03CH06-HY)
Controller	INN-CO	CO2000	N/A	N/A	N/A	N/A	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0 ~ 360 degree	N/A	N/A	Radiation (03CH06-HY)
Antenna Mast	INN-CO	MM3000	114/8000604/L	1 m - 4 m	N/A	N/A	Radiation (03CH06-HY)

9. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.10	Normal(k=2)	0.05
Cable loss	0.10	Normal(k=2)	0.05
AMN insertion loss	2.50	Rectangular	0.63
Receiver Spec	1.50	Rectangular	0.43
Site imperfection	1.39	Rectangular	0.80
Mismatch	+0.34/-0.35	U-shape	0.24
combined standard uncertainty Uc(y)	1.13		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	2.26		

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

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.41	Normal(k=2)	0.21
Antenna factor calibration	0.83	Normal(k=2)	0.42
Cable loss calibration	0.25	Normal(k=2)	0.13
Pre Amplifier Gain calibration	0.27	Normal(k=2)	0.14
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.43	Rectangular	0.83
Mismatch	+0.39/-0.41	U-shaped	0.28
combined standard uncertainty Uc(y)	1.27		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	2.54		

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Contribution	Uncertainty of x_i		$u(x_i)$	C_i	$C_i * u(x_i)$
	dB	Probability Distribution			
Receiver reading	±0.10	Normal(k=1)	0.10	1	0.10
Antenna factor calibration	±1.70	Normal(k=2)	0.85	1	0.85
Cable loss calibration	±0.50	Normal(k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\log(1 - \Gamma_1 * \Gamma_2 * \Gamma_3)$	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty $U_c(y)$	2.36				
Measuring uncertainty for a level of confidence of 95% $U = 2U_c(y)$	4.72				

10. Certificate of NVLAP Accreditation

United States Department of Commerce
National Institute of Standards and Technology

NVLAP[®]

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200079-0

Sporton International, Inc. Hwa Ya EMC Laboratory
Tao Yuan Hsien 333
TAIWAN

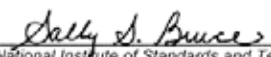
*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated 18 June 2005).*

2007-01-01 through 2007-12-31
Effective dates




For the National Institute of Standards and Technology

NVLAP-01C (REV. 2006-09-13)