



IC Test Report

APPLICANT : Nokia Corporation
EQUIPMENT : Internet Stick
BRAND NAME : Nokia
MODEL NAME : CS-17
TYPE DESIGNATION : RD-13
MARKETING NAME : Nokia Internet Stick CS-17
IC : 661V-RD13
STANDARD : ICES-003 Issue 4

The product sample received on Mar. 09, 2010 and completely tested on Mar. 19, 2010. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

Roy Wu / Manager



SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
CI030921	Rev. 01	Initial issue of report	Apr. 21, 2010



SUMMARY OF TEST RESULT

Report Section	IC Rule	Description	Limit	Result	Remark
3.1	7.2.2	AC Conducted Emission	CAN/CSA-CEI/IEC CISPR 22:02	Pass	Under limit 12.5 dB At 1.558 MHz
3.2	7.2.3.2	Radiated Emission	CAN/CSA-CEI/IEC CISPR 22:02	Pass	Under limit 6.82 dB At 187.42 MHz



1. General Description of Equipment under Test

1.1 Applicant

Nokia Corporation
Keilalahdentie 2-4
02150 ESPOO
FINLAND

1.2 Manufacturer

Nokia Corporation
Keilalahdentie 2-4
02150 ESPOO
FINLAND

1.3 Feature of Equipment under Test

Product Feature & Specification	
EUT Type	Internet Stick
Trade Name	Nokia
Model Name	CS-17
Type Designation	RD-13
Marketing Name	Nokia Internet Stick CS-17
IC	661V-RD13
IMEI Code	004402130210911
Tx Frequency Range	GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~ 1910 MHz WCDMA Band II : 1850 MHz ~ 1910 MHz
Rx Frequency Range	GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz WCDMA Band II : 1930 MHz ~ 1990 MHz
Antenna Type	Fixed Internal Antenna
HW Version	1.2
SW Version	2.11.1
ME Version	3.1
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK WCDMA : QPSK HSDPA : QPSK / 16QAM HSUPA : BPSK
EUT Stage	Production Unit

List of Accessory:

Specification of Accessory		
USB Cable	Brand Name	Nokia
	Model Name	CA-175D
	Signal Line Type	0.22 meter shielded cable without ferrite core
	HW Version	1.0
	Mechanical Version	1.0

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. For accessories equipped with this EUT, please refer to the appendix of the external photo.



1.4 Test Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C TEL: +886-3-327-3456 FAX: +886-3-328-4978			
Test Site No.	Sporton Site No.			FCC / IC Registration No.
	CO05-HY	10CH02-HY	03CH06-HY	TW1022 / 4086B-1

1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- IC ICES-003 Issue 4
- CAN/CSA-CEI/IEC CISPR 22 : 02

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	LCD Monitor	Lenovo	6135-AB1	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
4.	iPod	Apple	A1199	FCC DoC	Unshielded, 1.0 m	N/A
5.	iPod	Apple	A1285	FCC DoC	Unshielded, 1.0 m	N/A



2. Test Configuration of Equipment Under Test

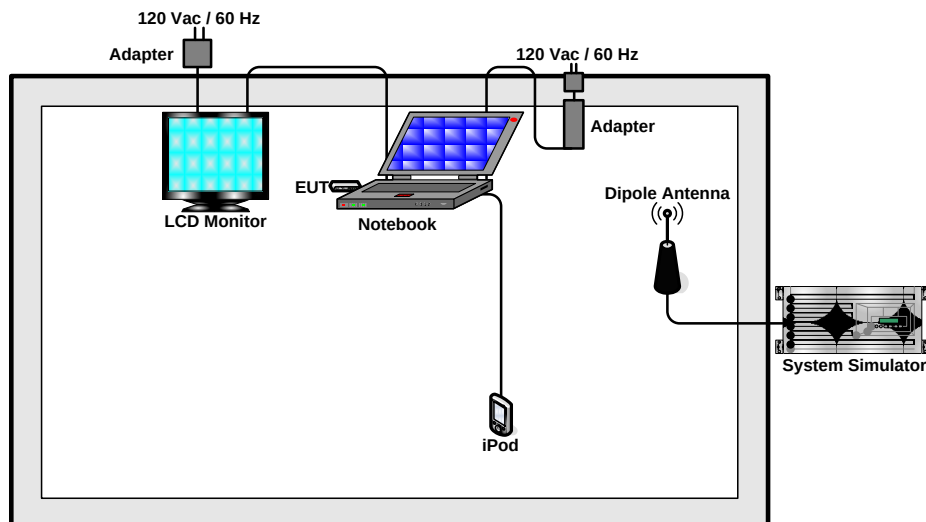
2.1 Test Manner

Frequency range was investigated: Conducted emission test: from 150 kHz to 30 MHz; Radiated emission test: from 30 MHz to 1000 MHz.

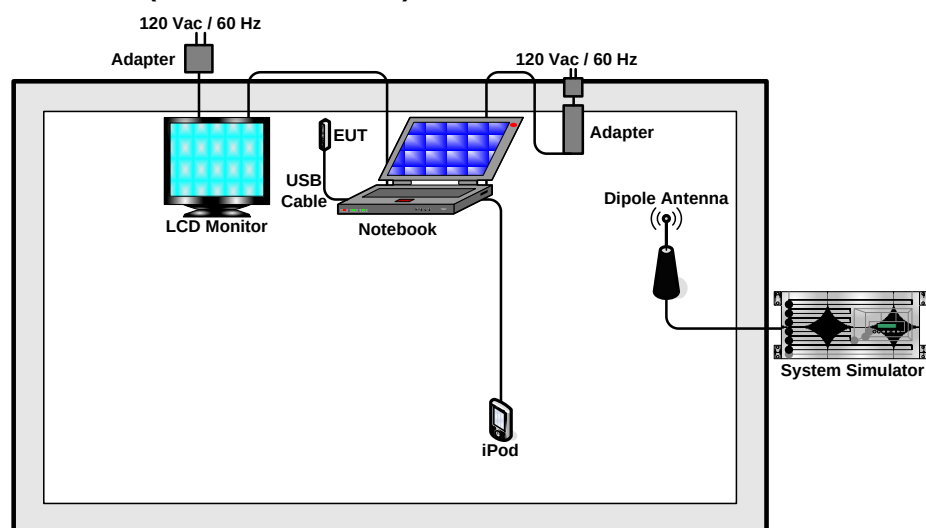
Test Item
Conducted Emission
Mode 1 : GSM850 Idle + USB Cable (Link with Notebook)
Mode 2 : GSM1900 Idle + USB Cable (Link with Notebook)
Mode 3 : EDGE1900 Idle + USB Cable (Link with Notebook)
Mode 4 : WCDMA Band II Idle + USB Cable (Link with Notebook)
Mode 5 : GSM850 Idle + Notebook
Radiated Emission
Mode 1 : GSM850 Idle + USB Cable (Link with Notebook)
Mode 2 : GSM1900 Idle + USB Cable (Link with Notebook)
Mode 3 : EDGE1900 Idle + USB Cable (Link with Notebook)
Mode 4 : WCDMA Band II Idle + USB Cable (Link with Notebook)
Mode 5 : GSM850 Idle + Notebook
Remark: The test mode 1 of radiated emission was the worst case from pretest which was tested in 10m chamber; the other modes were pretested in 3m chamber.

2.2 Connection Diagram of Test System

<EUT with Notebook Mode>



<EUT with USB Cable (Link with Notebook) Mode>



2.3 Test Software

The EUT was linked with the notebook via USB cable or plugged into the notebook directly during the testing. The EUT has 3G modem function only. Therefore, the EUT was controlled by the software, "Nokia Internet Modem". Execute the program, "Nokia Internet Modem" under WINXP installed in notebook to drive EUT and synchronized with system simulator. The notebook was continuously receiving BCCH signal data from system simulator via EUT during radiated emission and conducted emission testing.



3. Test Results

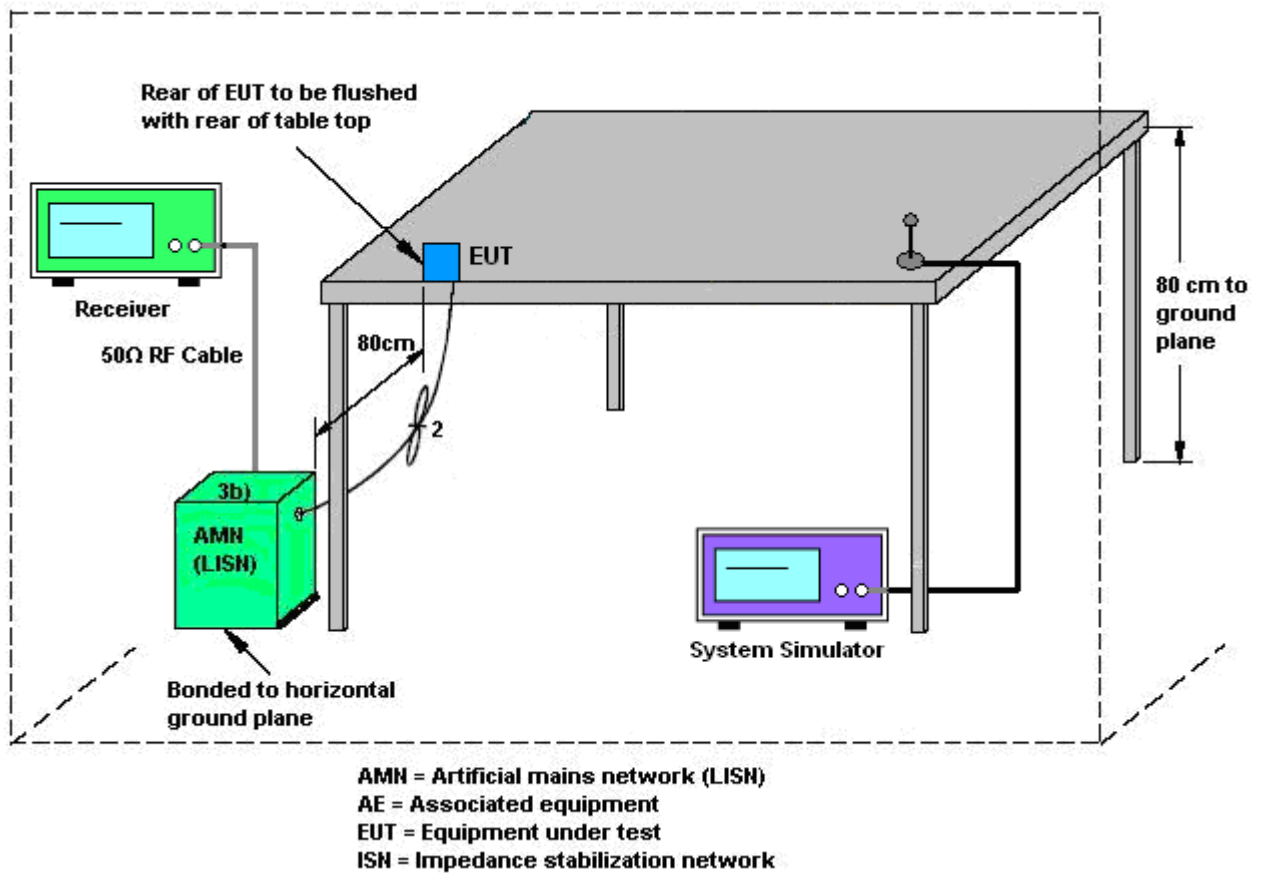
3.1 Test of Conducted Powerline

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 CAN/CSA-CEI/IEC CISPR 22:02. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 3.1.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position producing maximum conducted emissions.

3.1.1 Test Procedures

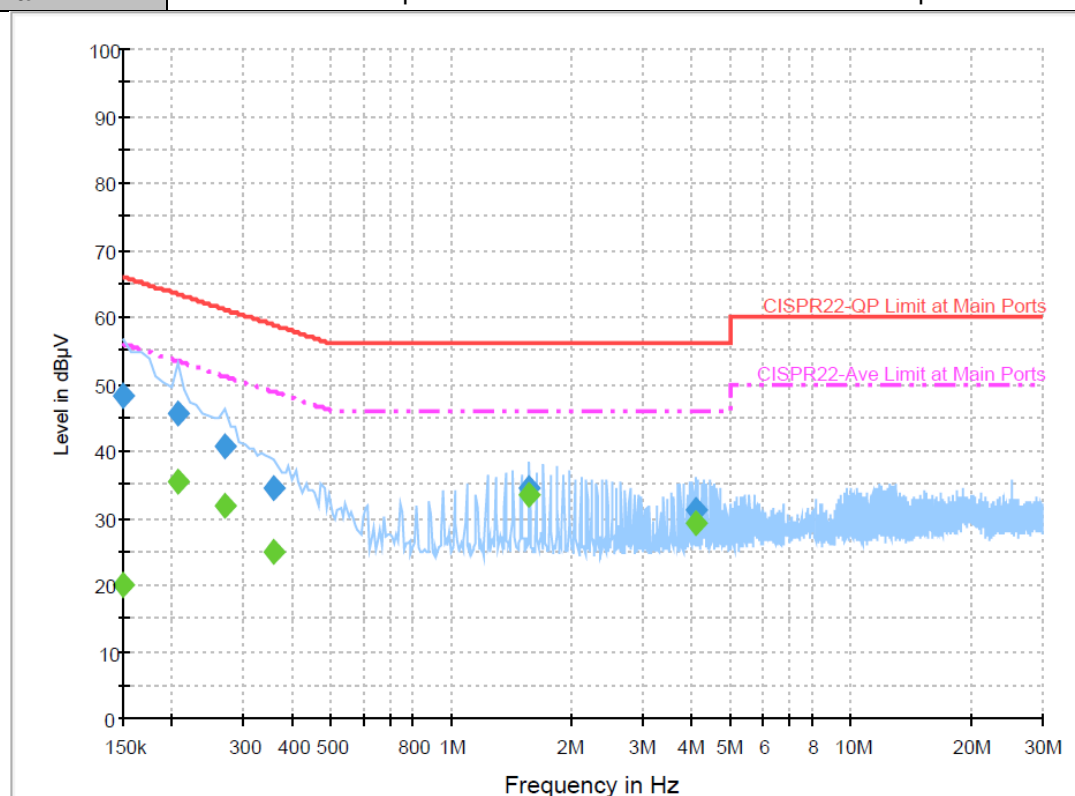
- a. The EUT was placed on a desk 0.8 meters height from the metal ground plane and 0.4 meter from the conducting wall of the shielding room and it was kept at least 0.8 meters from any other grounded conducting surface.
- b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- c. All the support units are connecting to the other LISN.
- d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- e. The CISPR 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 scanned.
- h. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.1.2 Test Setup



3.1.3 Test Result

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Novice Jiang	Relative Humidity :	40~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

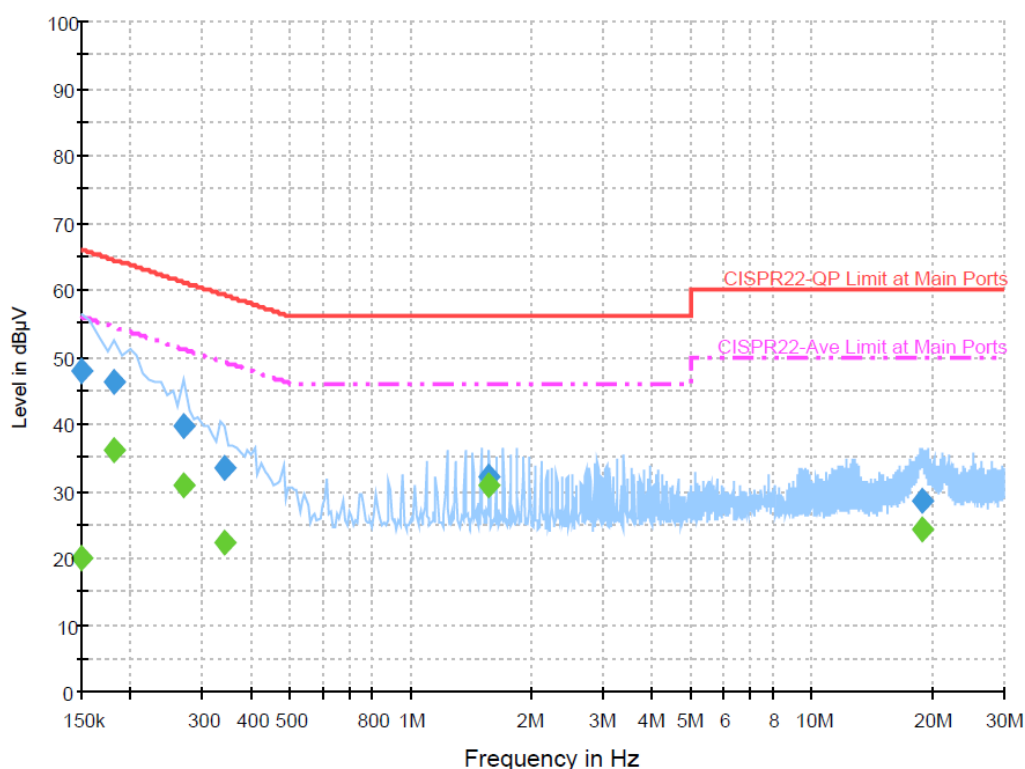
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	48.3	Off	L1	19.5	17.7	66.0
0.206000	45.7	Off	L1	19.6	17.7	63.4
0.270000	40.8	Off	L1	19.4	20.3	61.1
0.358000	34.4	Off	L1	19.5	24.4	58.8
1.558000	34.5	Off	L1	19.5	21.5	56.0
4.070000	31.3	Off	L1	19.6	24.7	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	20.1	Off	L1	19.5	35.9	56.0
0.206000	35.5	Off	L1	19.6	18.0	53.4
0.270000	31.8	Off	L1	19.4	19.3	51.1
0.358000	24.9	Off	L1	19.5	23.9	48.8
1.558000	33.5	Off	L1	19.5	12.5	46.0
4.070000	29.3	Off	L1	19.6	16.7	46.0



Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Novice Jiang	Relative Humidity :	40~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

**Final Result 1**

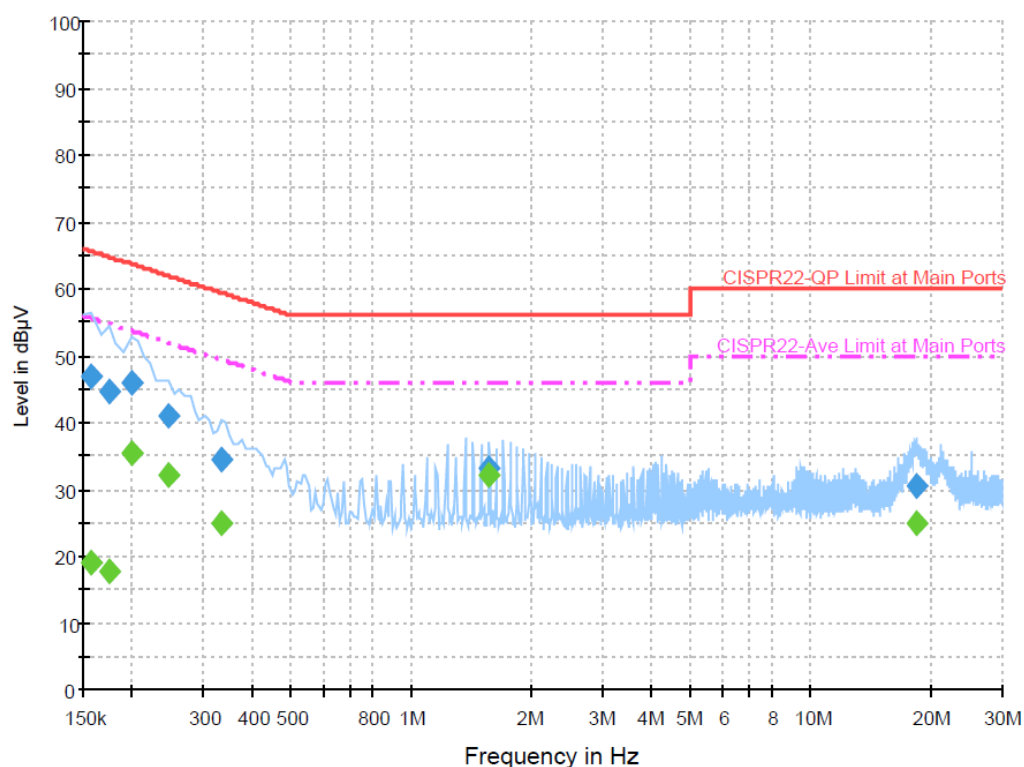
Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	47.7	Off	N	19.5	18.3	66.0
0.182000	46.3	Off	N	19.5	18.1	64.4
0.270000	39.7	Off	N	19.4	21.4	61.1
0.342000	33.3	Off	N	19.4	25.9	59.2
1.558000	32.1	Off	N	19.5	23.9	56.0
18.718000	28.6	Off	N	19.8	31.4	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	20.1	Off	N	19.5	35.9	56.0
0.182000	36.0	Off	N	19.5	18.4	54.4
0.270000	30.7	Off	N	19.4	20.4	51.1
0.342000	22.3	Off	N	19.4	26.9	49.2
1.558000	30.8	Off	N	19.5	15.2	46.0
18.718000	24.1	Off	N	19.8	25.9	50.0



Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Novice Jiang	Relative Humidity :	43~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

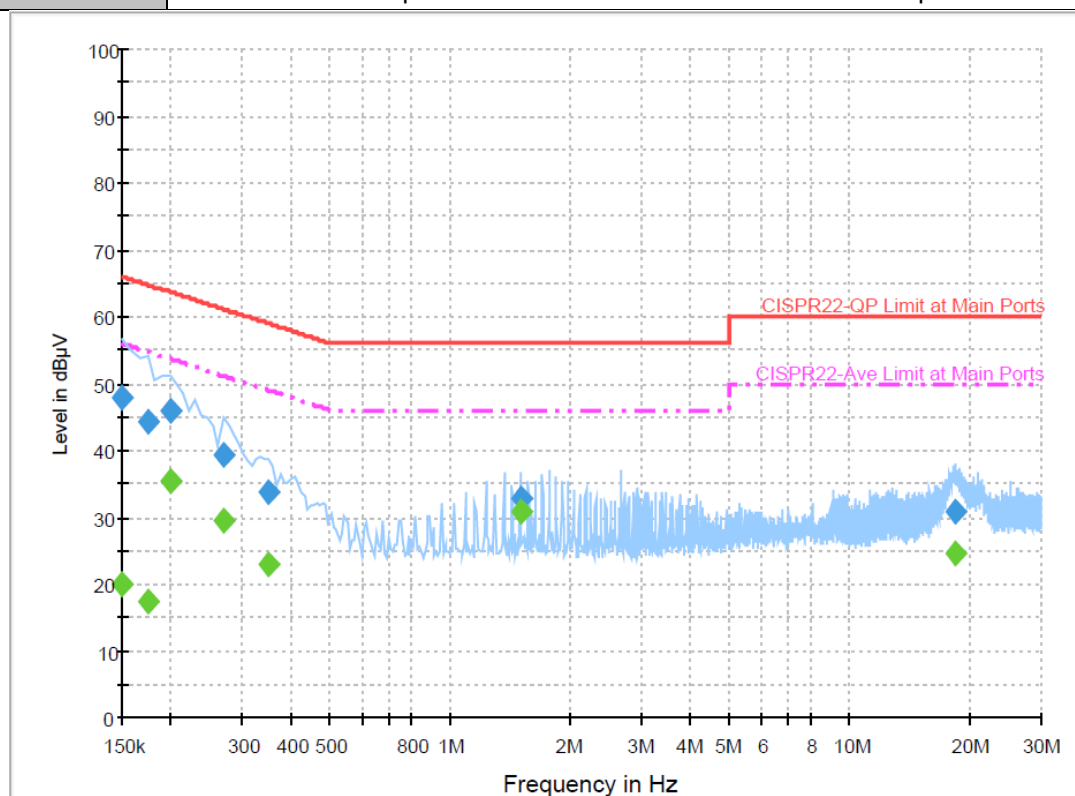
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	46.9	Off	L1	19.5	18.7	65.6
0.174000	44.4	Off	L1	19.5	20.4	64.8
0.198000	46.0	Off	L1	19.6	17.7	63.7
0.246000	41.1	Off	L1	19.5	20.8	61.9
0.334000	34.3	Off	L1	19.5	25.1	59.4
1.558000	33.1	Off	L1	19.5	22.9	56.0
18.254000	30.5	Off	L1	19.7	29.5	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	19.0	Off	L1	19.5	36.6	55.6
0.174000	17.7	Off	L1	19.5	37.1	54.8
0.198000	35.5	Off	L1	19.6	18.2	53.7
0.246000	32.0	Off	L1	19.5	19.9	51.9
0.334000	25.0	Off	L1	19.5	24.4	49.4
1.558000	32.1	Off	L1	19.5	13.9	46.0
18.254000	25.0	Off	L1	19.7	25.0	50.0



Test Mode :	Mode 2	Temperature :	20~22℃
Test Engineer :	Novice Jiang	Relative Humidity :	40~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM1900 Idle + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

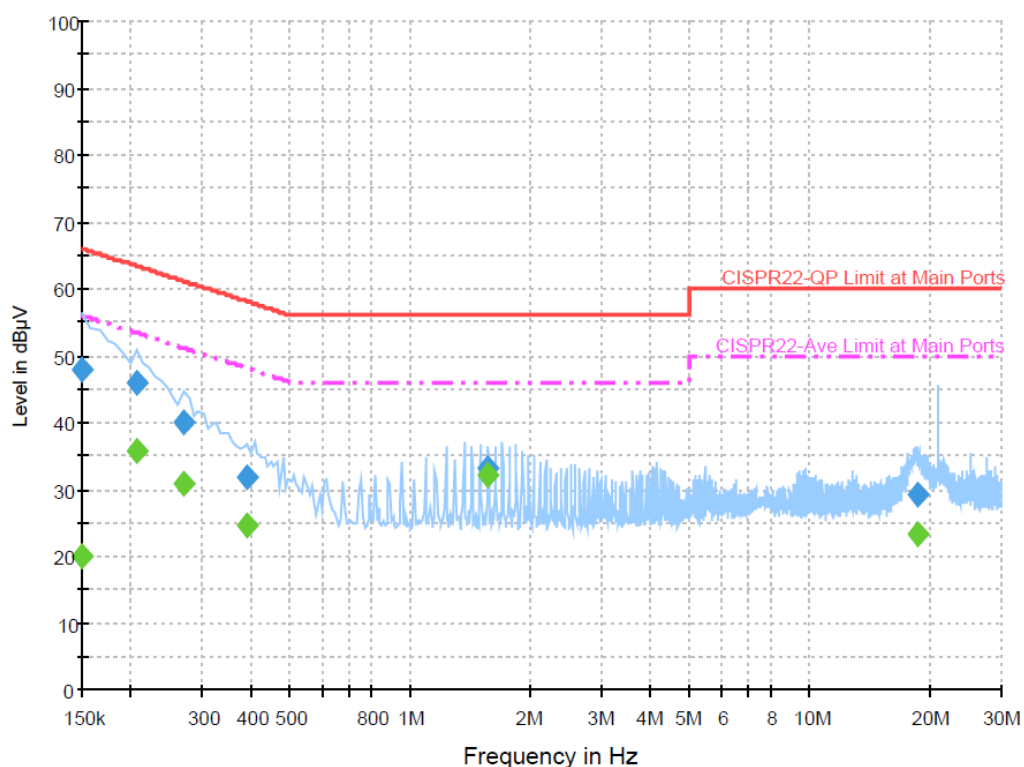
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	47.8	Off	N	19.5	18.2	66.0
0.174000	44.3	Off	N	19.5	20.5	64.8
0.198000	46.0	Off	N	19.5	17.7	63.7
0.270000	39.2	Off	N	19.4	21.9	61.1
0.350000	33.9	Off	N	19.4	25.1	59.0
1.494000	32.9	Off	N	19.5	23.1	56.0
18.246000	31.0	Off	N	19.8	29.0	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	19.9	Off	N	19.5	36.1	56.0
0.174000	17.3	Off	N	19.5	37.5	54.8
0.198000	35.5	Off	N	19.5	18.2	53.7
0.270000	29.4	Off	N	19.4	21.7	51.1
0.350000	23.0	Off	N	19.4	26.0	49.0
1.494000	30.8	Off	N	19.5	15.2	46.0
18.246000	24.8	Off	N	19.8	25.2	50.0



Test Mode :	Mode 3	Temperature :	20~22°C
Test Engineer :	Novice Jiang	Relative Humidity :	43~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	EDGE1900 Idle + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

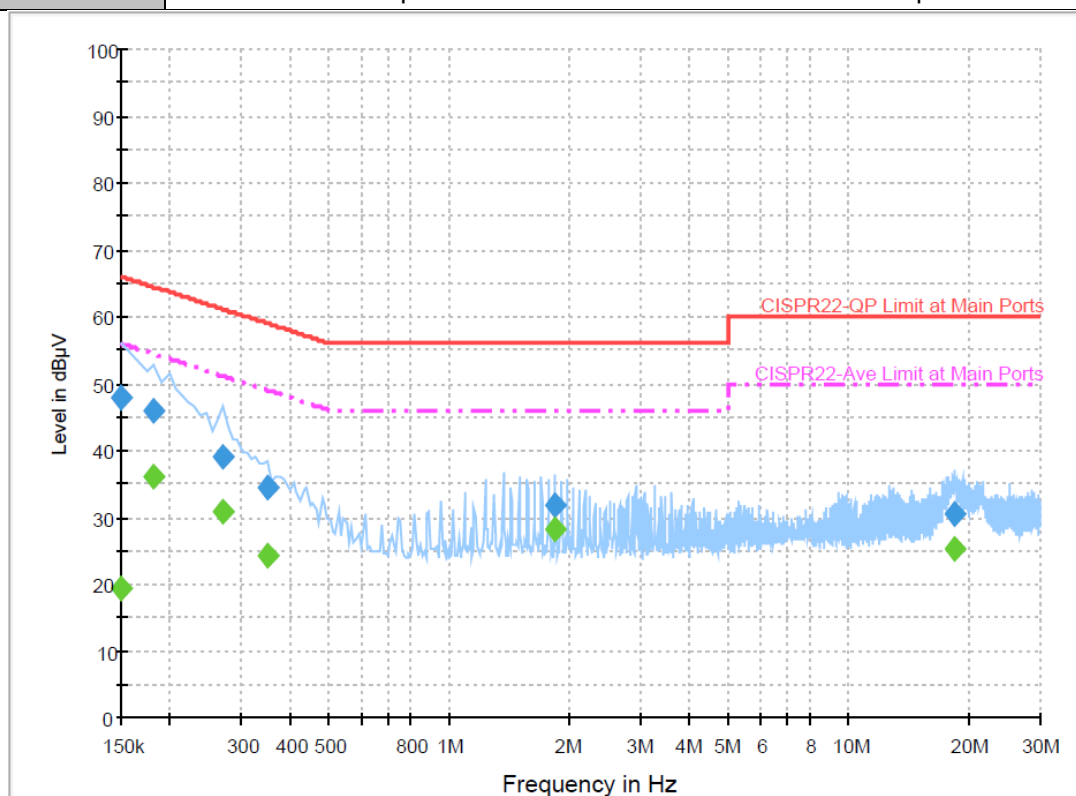
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	47.8	Off	L1	19.5	18.2	66.0
0.206000	46.0	Off	L1	19.6	17.4	63.4
0.270000	40.0	Off	L1	19.4	21.1	61.1
0.390000	31.8	Off	L1	19.5	26.3	58.1
1.558000	33.1	Off	L1	19.5	22.9	56.0
18.454000	29.3	Off	L1	19.7	30.7	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	20.1	Off	L1	19.5	35.9	56.0
0.206000	35.8	Off	L1	19.6	17.6	53.4
0.270000	30.7	Off	L1	19.4	20.4	51.1
0.390000	24.7	Off	L1	19.5	23.4	48.1
1.558000	32.1	Off	L1	19.5	13.9	46.0
18.454000	23.1	Off	L1	19.7	26.9	50.0



Test Mode :	Mode 3	Temperature :	20~22°C
Test Engineer :	Novice Jiang	Relative Humidity :	40~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	EDGE1900 Idle + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

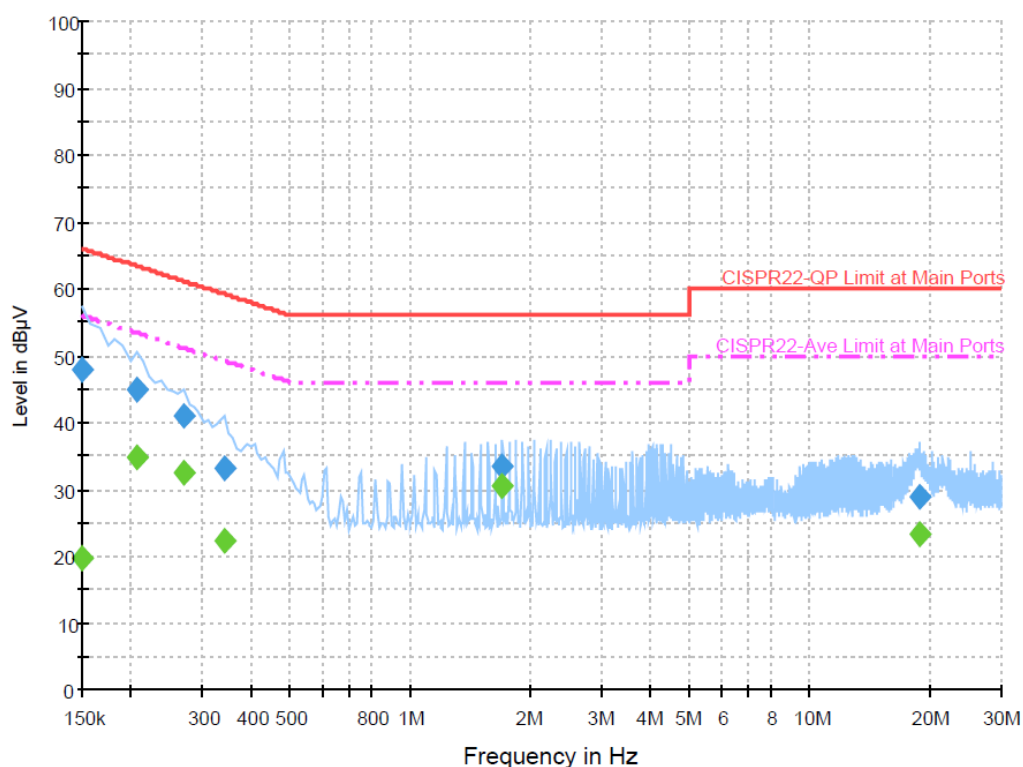
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	47.8	Off	N	19.5	18.2	66.0
0.182000	46.0	Off	N	19.5	18.4	64.4
0.270000	39.0	Off	N	19.4	22.1	61.1
0.350000	34.3	Off	N	19.4	24.7	59.0
1.830000	31.9	Off	N	19.5	24.1	56.0
18.390000	30.4	Off	N	19.8	29.6	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	19.3	Off	N	19.5	36.7	56.0
0.182000	36.0	Off	N	19.5	18.4	54.4
0.270000	30.9	Off	N	19.4	20.2	51.1
0.350000	24.3	Off	N	19.4	24.7	49.0
1.830000	28.3	Off	N	19.5	17.7	46.0
18.390000	25.3	Off	N	19.8	24.7	50.0



Test Mode :	Mode 4	Temperature :	20~22°C
Test Engineer :	Novice Jiang	Relative Humidity :	43~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

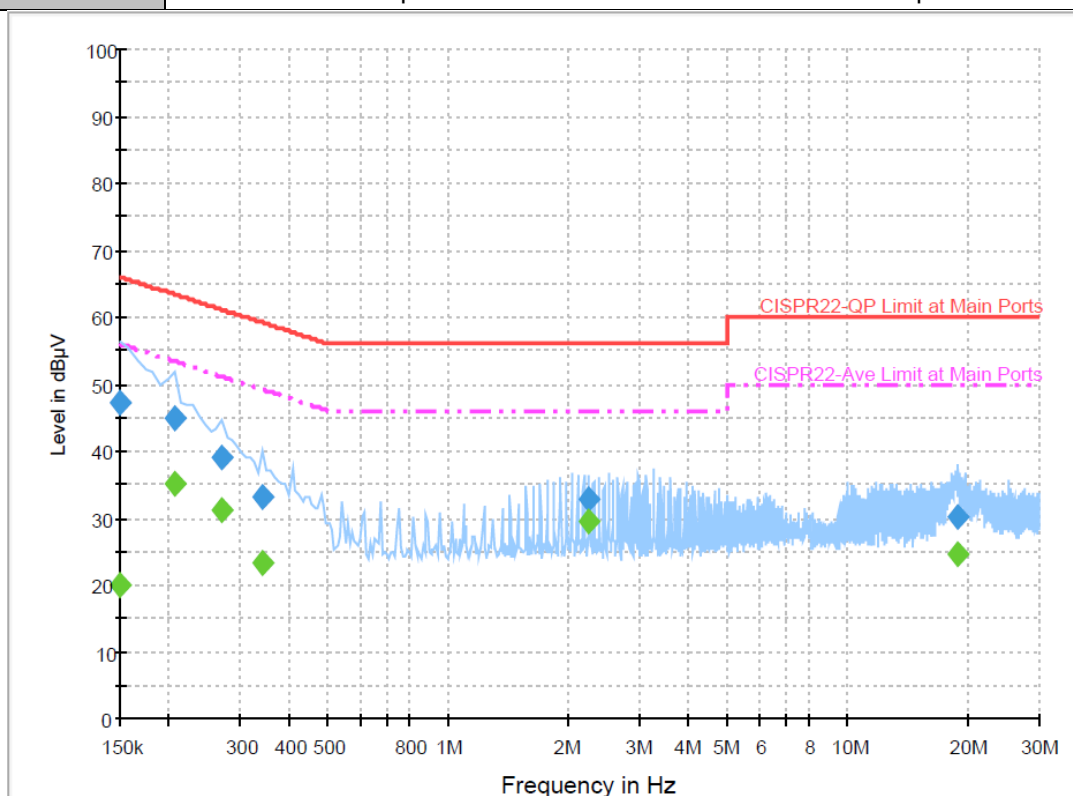
Frequency (MHz)	QuasiPeak (dB μ V)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	47.9	Off	L1	19.5	18.1	66.0
0.206000	44.9	Off	L1	19.6	18.5	63.4
0.270000	40.9	Off	L1	19.4	20.3	61.1
0.342000	33.0	Off	L1	19.5	26.2	59.2
1.694000	33.4	Off	L1	19.5	22.6	56.0
18.662000	28.9	Off	L1	19.7	31.1	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	19.8	Off	L1	19.5	36.2	56.0
0.206000	34.8	Off	L1	19.6	18.6	53.4
0.270000	32.4	Off	L1	19.4	18.7	51.1
0.342000	22.3	Off	L1	19.5	26.9	49.2
1.694000	30.6	Off	L1	19.5	15.4	46.0
18.662000	23.1	Off	L1	19.7	26.9	50.0



Test Mode :	Mode 4	Temperature :	20~22℃
Test Engineer :	Novice Jiang	Relative Humidity :	40~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + USB Cable (Link with Notebook)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

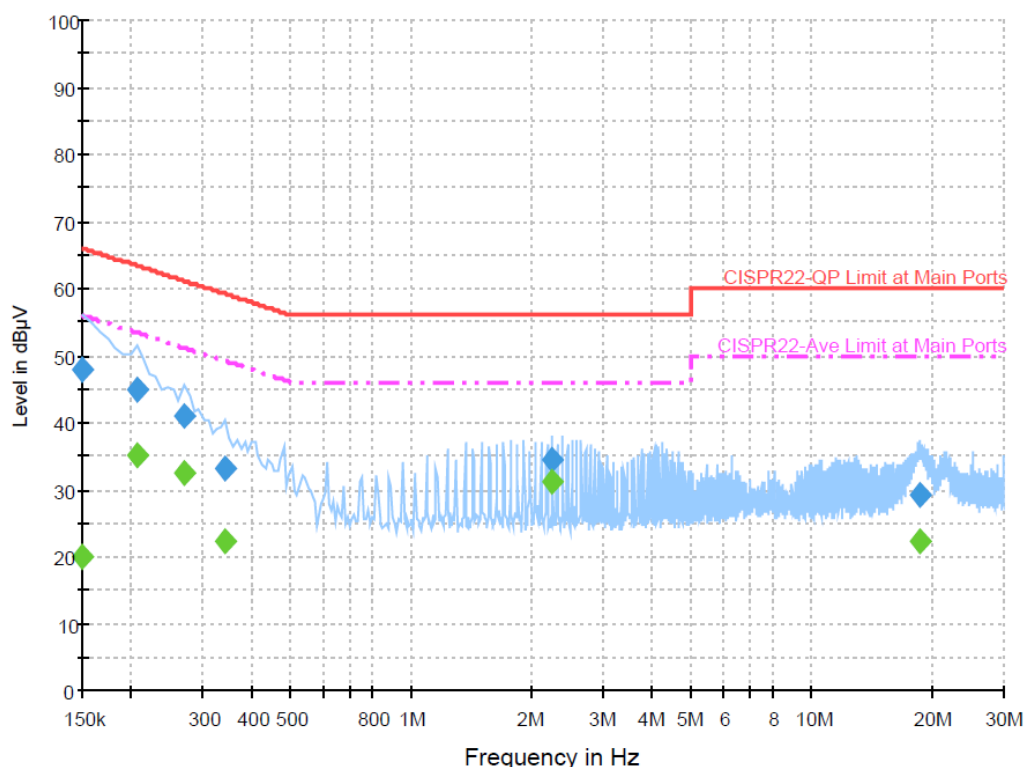
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	47.1	Off	N	19.5	18.9	66.0
0.206000	44.8	Off	N	19.5	18.6	63.4
0.270000	39.2	Off	N	19.4	21.9	61.1
0.342000	33.2	Off	N	19.4	26.0	59.2
2.238000	32.7	Off	N	19.5	23.3	56.0
18.662000	30.1	Off	N	19.8	29.9	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	20.1	Off	N	19.5	35.9	56.0
0.206000	35.1	Off	N	19.5	18.3	53.4
0.270000	31.3	Off	N	19.4	19.8	51.1
0.342000	23.2	Off	N	19.4	26.0	49.2
2.238000	29.4	Off	N	19.5	16.6	46.0
18.662000	24.7	Off	N	19.8	25.3	50.0



Test Mode :	Mode 5	Temperature :	20~22°C
Test Engineer :	Novice Jiang	Relative Humidity :	43~46%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Notebook		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

**Final Result 1**

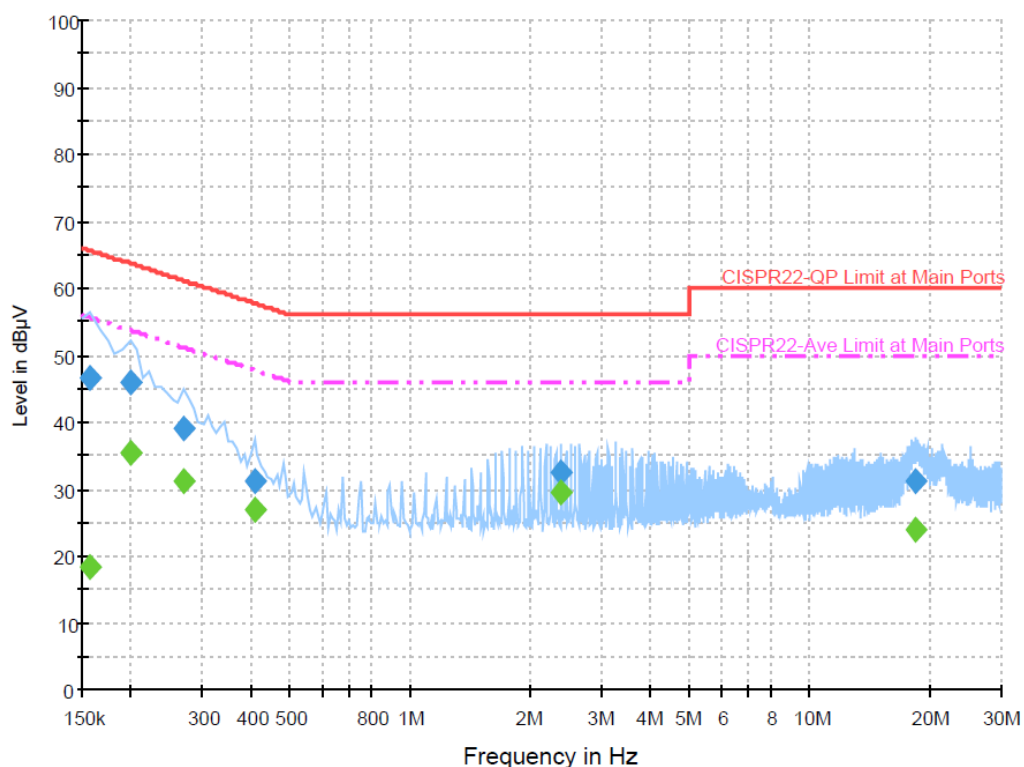
Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	47.9	Off	L1	19.5	18.1	66.0
0.206000	45.0	Off	L1	19.6	18.4	63.4
0.270000	41.0	Off	L1	19.4	20.1	61.1
0.342000	33.1	Off	L1	19.5	26.1	59.2
2.238000	34.3	Off	L1	19.5	21.7	56.0
18.494000	29.1	Off	L1	19.7	30.9	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	20.1	Off	L1	19.5	35.9	56.0
0.206000	34.9	Off	L1	19.6	18.5	53.4
0.270000	32.4	Off	L1	19.4	18.7	51.1
0.342000	22.3	Off	L1	19.5	27.0	49.2
2.238000	31.2	Off	L1	19.5	14.8	46.0
18.494000	22.4	Off	L1	19.7	27.6	50.0



Test Mode :	Mode 5	Temperature :	20~22°C
Test Engineer :	Novice Jiang	Relative Humidity :	40~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Notebook		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

**Final Result 1**

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	46.6	Off	N	19.5	19.0	65.6
0.198000	46.0	Off	N	19.5	17.7	63.7
0.270000	39.1	Off	N	19.4	22.0	61.1
0.406000	31.1	Off	N	19.4	26.6	57.7
2.374000	32.6	Off	N	19.5	23.4	56.0
18.318000	31.3	Off	N	19.8	28.7	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	18.5	Off	N	19.5	37.1	55.6
0.198000	35.5	Off	N	19.5	18.2	53.7
0.270000	31.2	Off	N	19.4	19.9	51.1
0.406000	26.8	Off	N	19.4	20.9	47.7
2.374000	29.6	Off	N	19.5	16.4	46.0
18.318000	24.0	Off	N	19.8	26.0	50.0

3.1.4 Setup Photographs

Mode 1~4

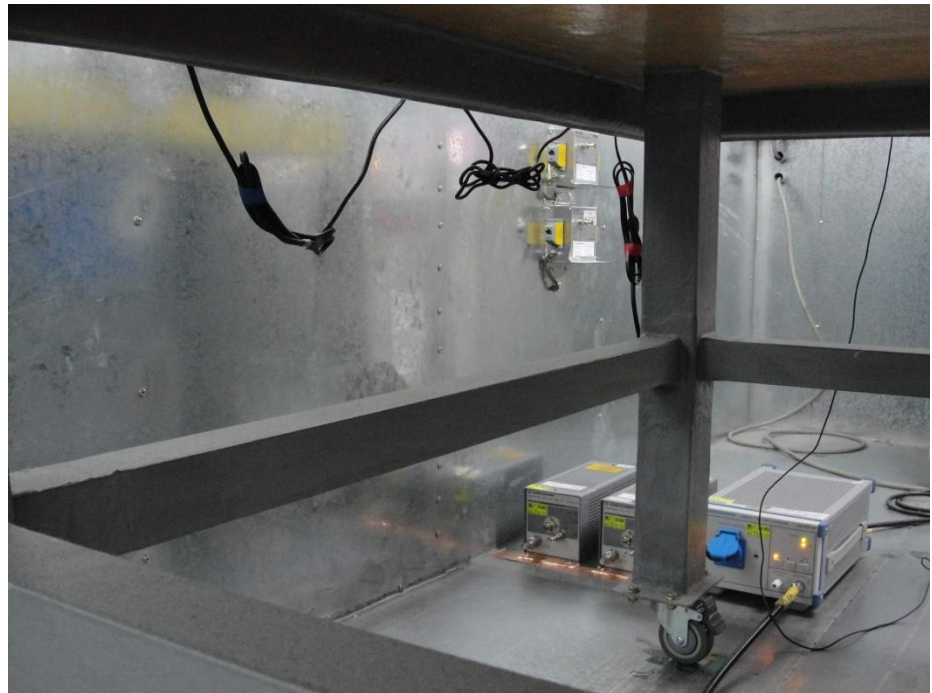
Front View



Rear View



Side View



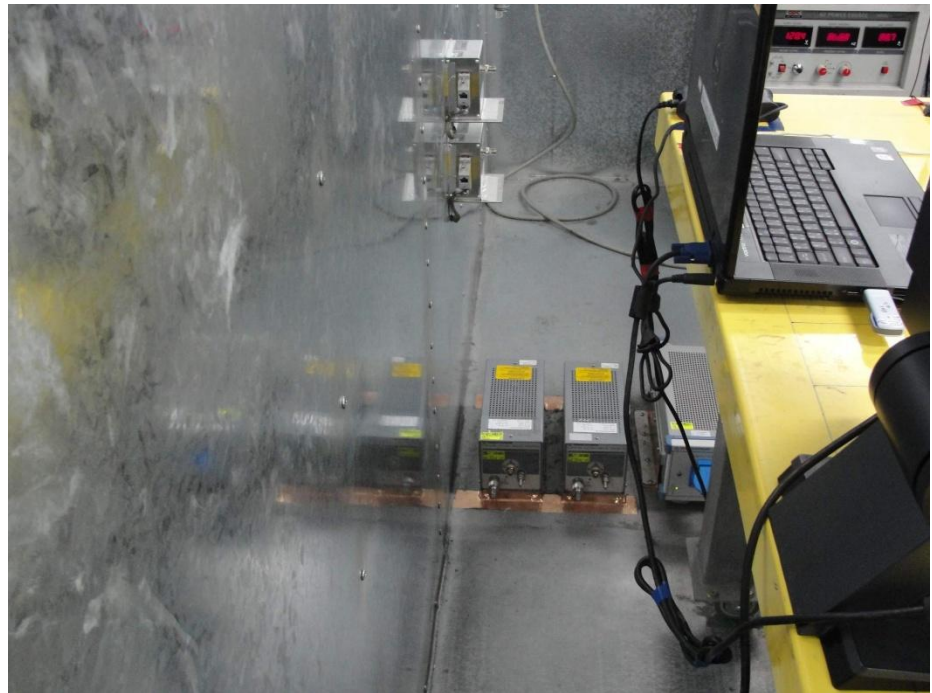
Mode 5

Front View

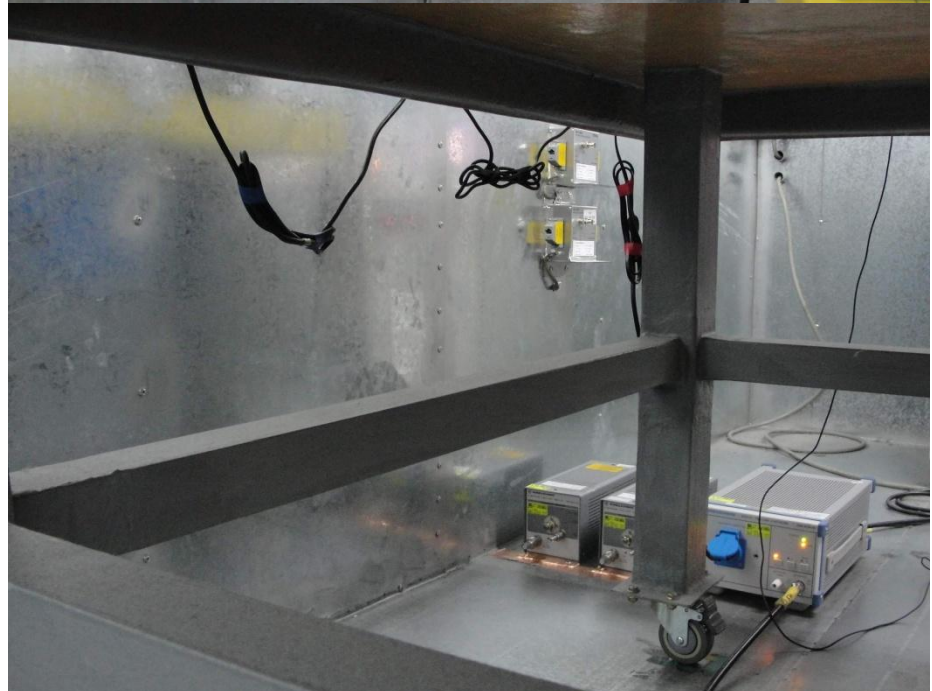




Rear View



Side View



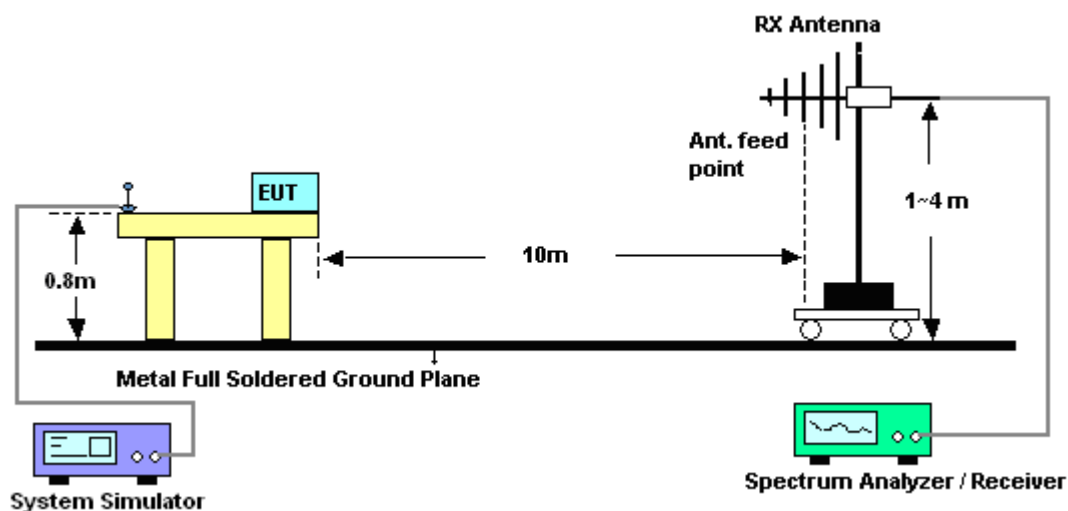
3.2 Test of Radiated Emission

Radiated emissions from 30 MHz to 1000 MHz were measured with a bandwidth of 120 kHz according to the methods defines in CAN/CSA-CEI/IEC CISPR 22:02. The EUT was placed on a nonmetallic stand, 0.8 meter above the ground plane, as shown in section 3.2.2. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

3.2.1 Test Procedures

- The EUT was placed on a rotatable table top 0.8 meter above ground.
- The EUT was set 10 meters from the receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the antenna is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- 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.
- Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
- 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.

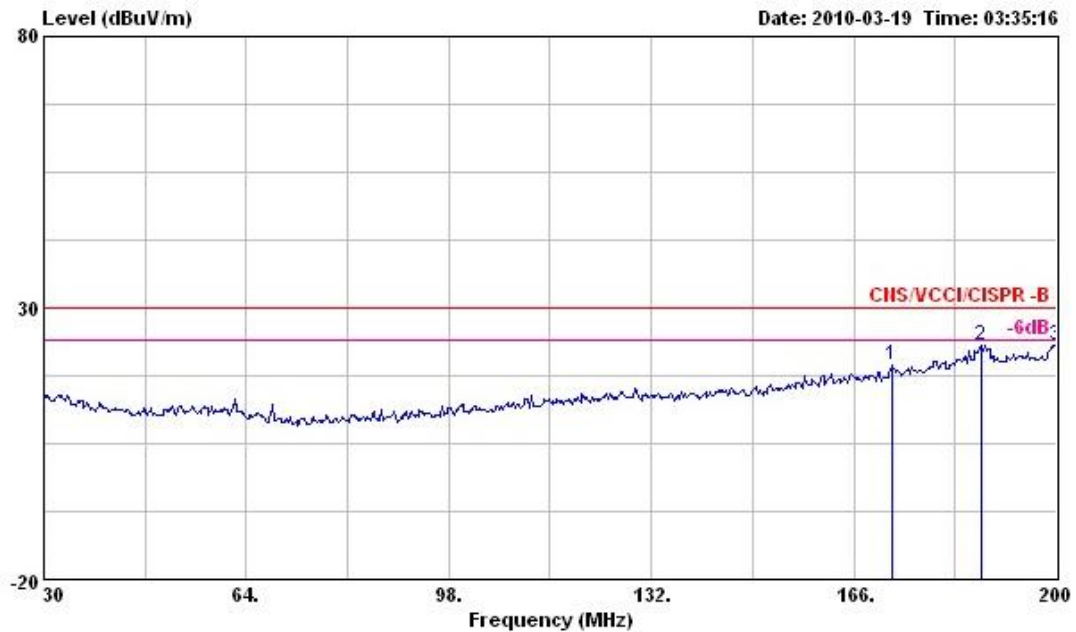
3.2.2 Test Setup





3.2.3 Test Result

Test Mode :	Mode 1	Temperature :	23~24°C
Test Engineer :	Mac Lin	Relative Humidity :	45~46%
Test Distance :	10m	Polarization :	Horizontal
Function Type :	GSM850 Idle + USB Cable (Link with Notebook)		



Site : 10CH02-HY

Condition : CNS/VCCI/CISPR -B 10m BICO-VHBB9124 HORIZONTAL

Power : From System

Project : CI030921

Memo : Mode 1

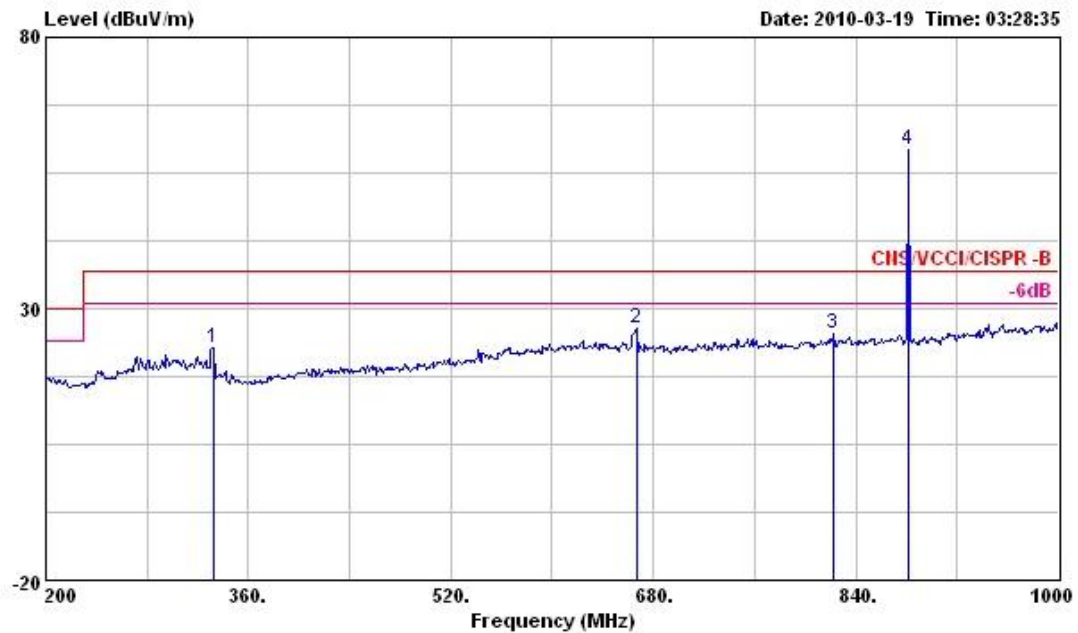
Temp : 23 °C

Humidity : 45 %

	Freq	Level	Over Limit	Limit Line	Read Level	Preamp Factor	Cable Loss	Antenna Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB/m		cm	deg
1	172.460	19.45	-10.55	30.00	30.78	27.74	3.11	13.30	Peak	---	---
2	187.420	23.18	-6.82	30.00	33.17	27.66	3.23	14.44	Peak	400	133
3	200.000	23.12	-6.88	30.00	31.98	27.60	3.37	15.37	Peak	---	---



Test Mode :	Mode 1	Temperature :	23~24°C
Test Engineer :	Mac Lin	Relative Humidity :	45~46%
Test Distance :	10m	Polarization :	Horizontal
Function Type :	GSM850 Idle + USB Cable (Link with Notebook)		
Remark :	#4 is System Simulator Signal which can be ignored.		

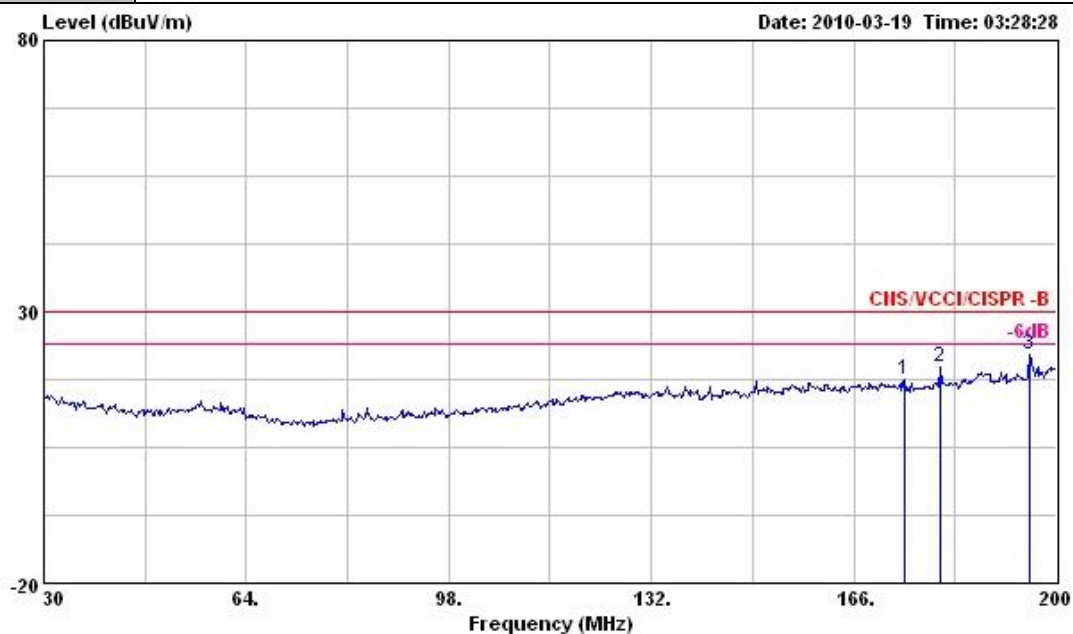


Site : 10CH02-HY
Condition : CNS/VCCI/CISPR -B 10m LOG-9111-207 HORIZONTAL
Power : From System
Project : CI030921
Memo : Mode 1
Temp : 23 °C
Humidity : 45 %

	Freq	Level	Over	Limit	Read	Preamp	Cable	Antenna		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB	dB	dB/m		cm	deg
1	332.800	22.89	-14.11	37.00	33.16	27.57	3.29	14.01	Peak	---	---
2	666.400	26.25	-10.75	37.00	29.82	28.38	4.53	20.28	Peak	---	---
3	822.400	25.28	-11.72	37.00	27.32	27.97	5.16	20.77	Peak	---	---
4 X	880.800	59.12			60.42	27.77	5.50	20.97	Peak	---	---



Test Mode :	Mode 1	Temperature :	23~24°C
Test Engineer :	Mac Lin	Relative Humidity :	45~46%
Test Distance :	10m	Polarization :	Vertical
Function Type :	GSM850 Idle + USB Cable (Link with Notebook)		

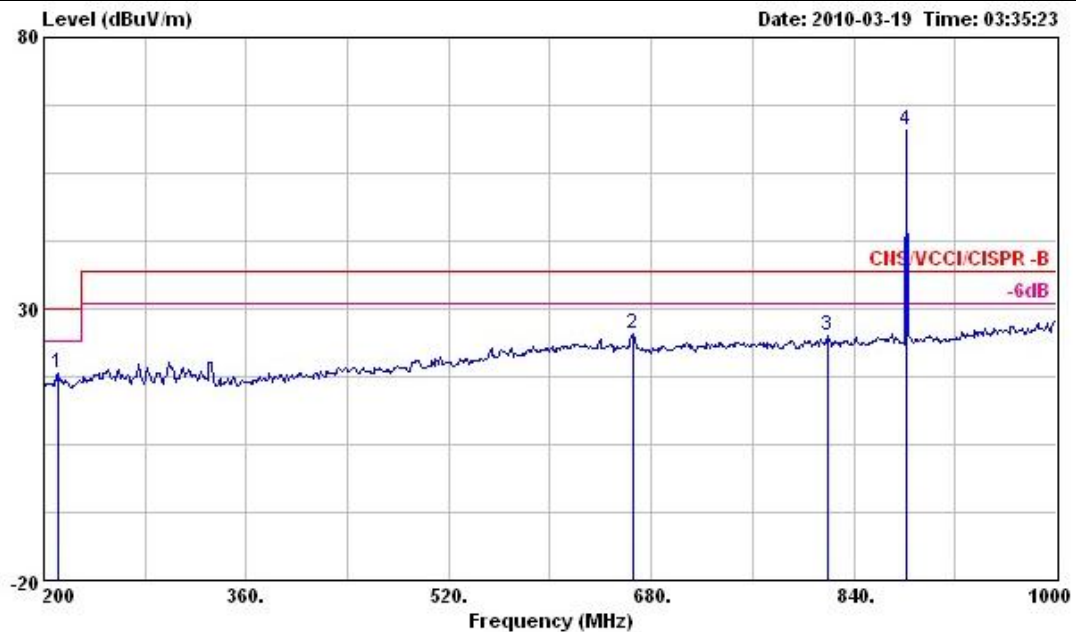


Site : 10CH02-HY
 Condition : CNS/VCCI/CISPR -B 10m BICO-VHBB9124 VERTICAL
 Power : From System
 Project : CI030921
 Memo : Mode 1
 Temp : 23 °C
 Humidity : 45 %

	Freq	Level	Over Limit	Limit Line	Read Level	Preamp Factor	Cable Loss	Antenna Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB/m		cm	deg
1	174.500	17.39	-12.61	30.00	28.69	27.73	3.13	13.30	Peak	---	---
2	180.620	19.84	-10.16	30.00	30.43	27.70	3.18	13.93	Peak	---	---
3	195.580	22.09	-7.91	30.00	31.38	27.63	3.31	15.03	Peak	100	45



Test Mode :	Mode 1	Temperature :	23~24°C
Test Engineer :	Mac Lin	Relative Humidity :	45~46%
Test Distance :	10m	Polarization :	Vertical
Function Type :	GSM850 Idle + USB Cable (Link with Notebook)		
Remark :	#4 is System Simulator Signal which can be ignored.		



Site : 10CH02-HY

Condition : CNS/VCCI/CISPR -B 10m LOG-9111-207 VERTICAL

Power : From System

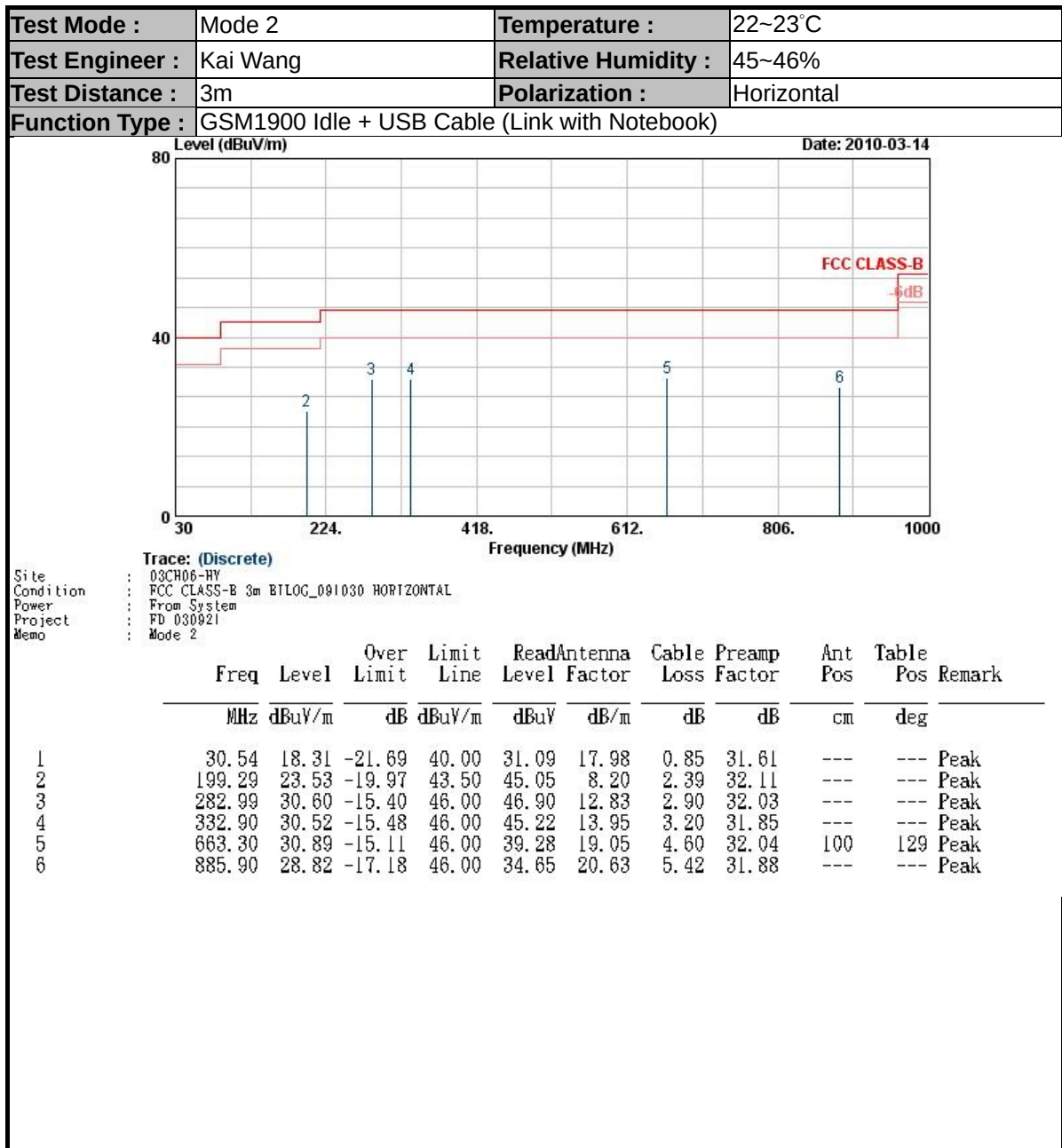
Project : CI030921

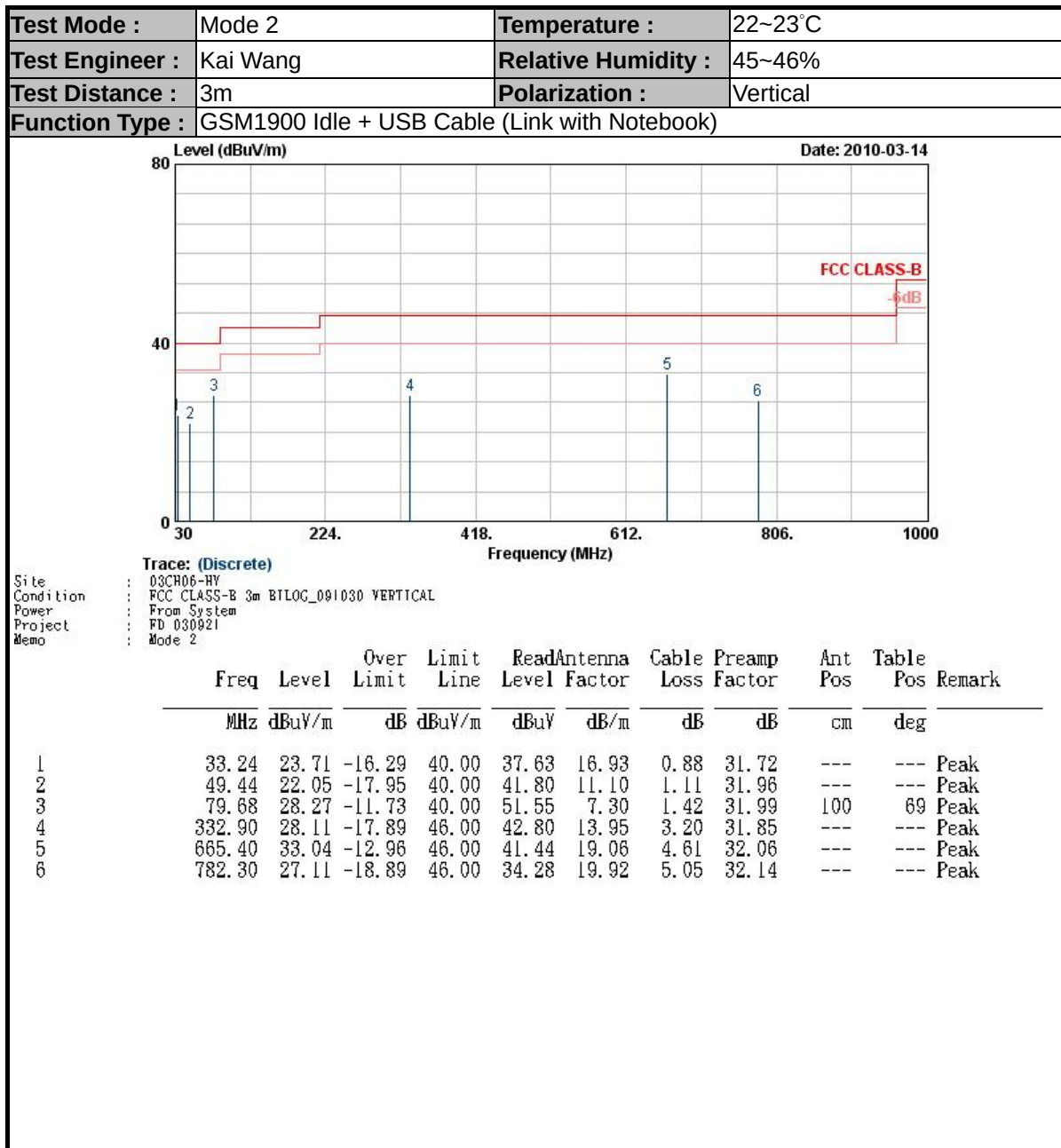
Memo : Mode 1

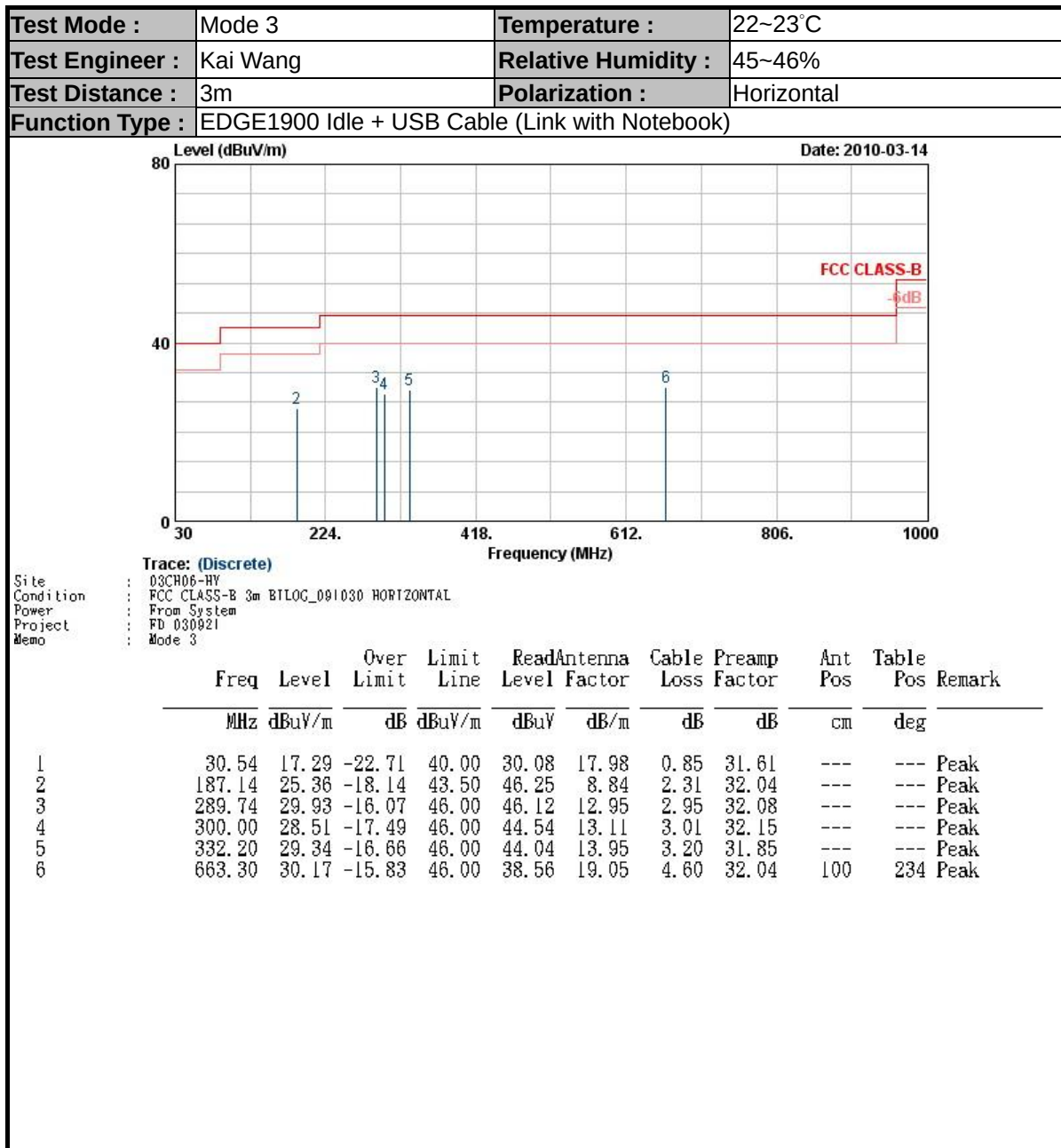
Temp : 23 °C

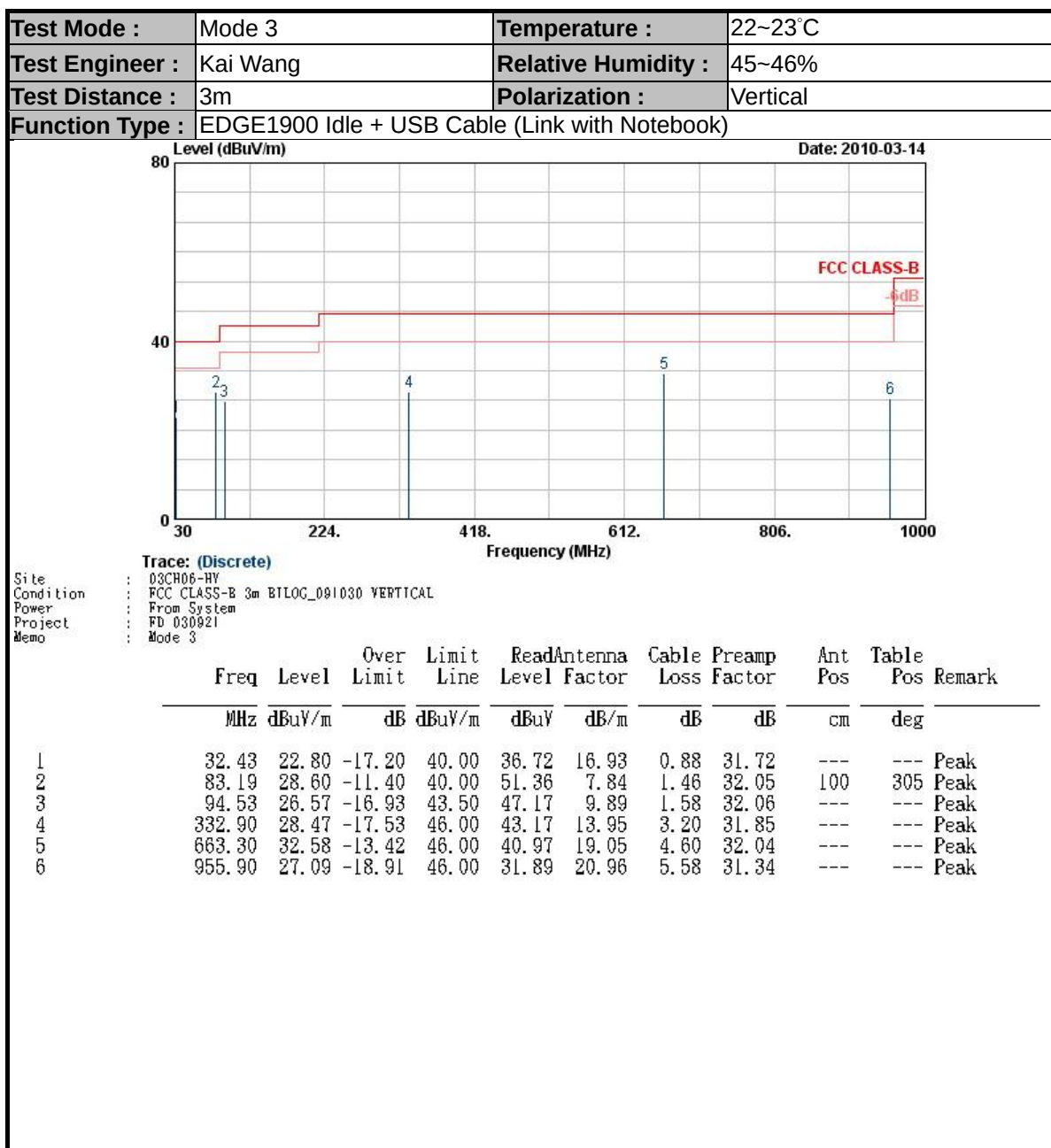
Humidity : 45 %

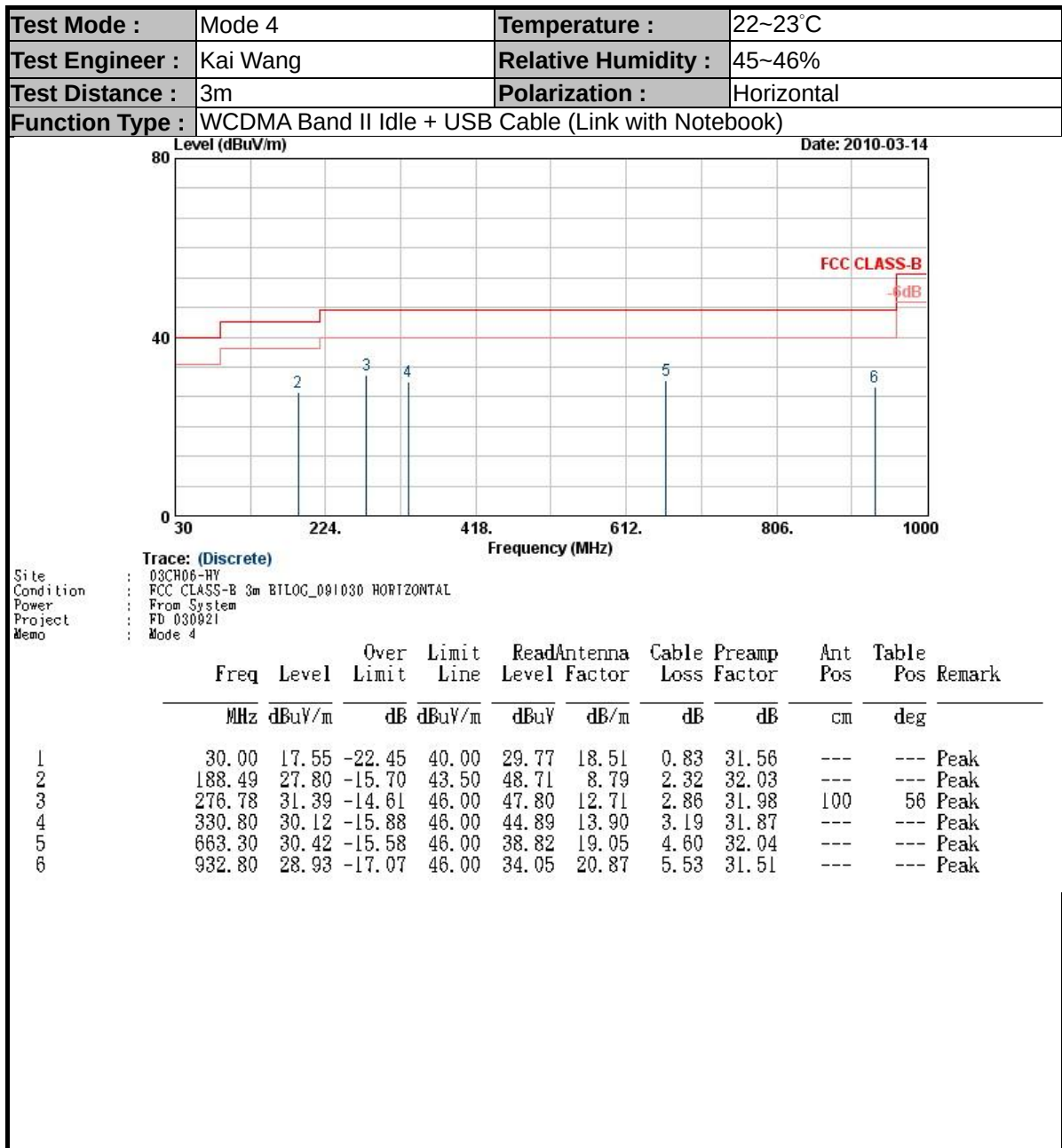
	Freq	Level	Over	Limit	Read	Preamp	CableAntenna		Ant	Table
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss Factor	Remark	Pos	Pos
			dB	dBuV/m	dBuV	dB	dB	dB/m	cm	deg
1	211.200	18.07	-11.93	30.00	28.31	27.54	2.62	14.68 Peak	---	---
2	665.600	25.28	-11.72	37.00	28.85	28.38	4.52	20.29 Peak	---	---
3	820.000	25.06	-11.94	37.00	27.12	27.98	5.16	20.76 Peak	---	---
4 @	880.800	62.92			64.22	27.77	5.50	20.97 Peak	---	---

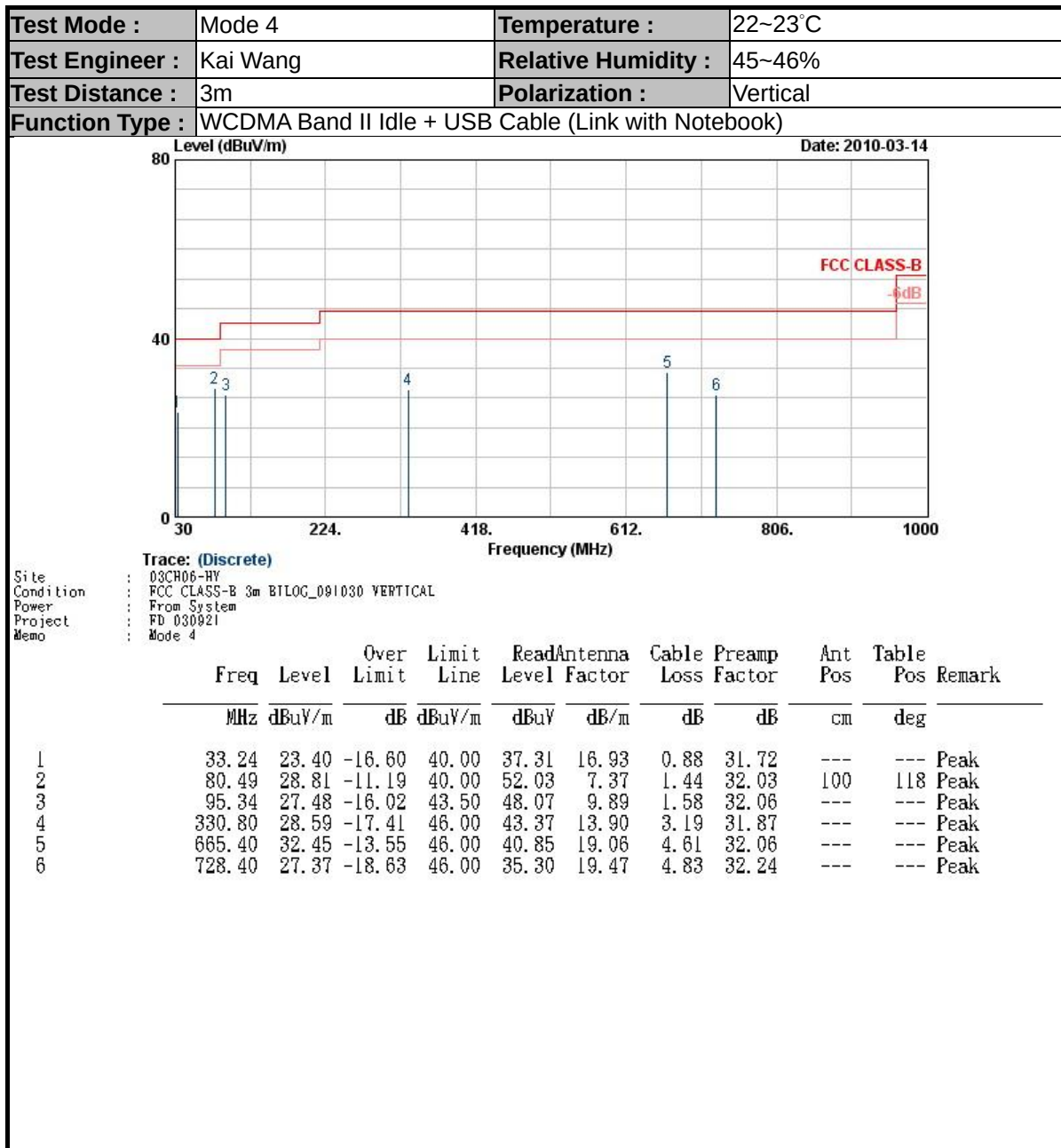






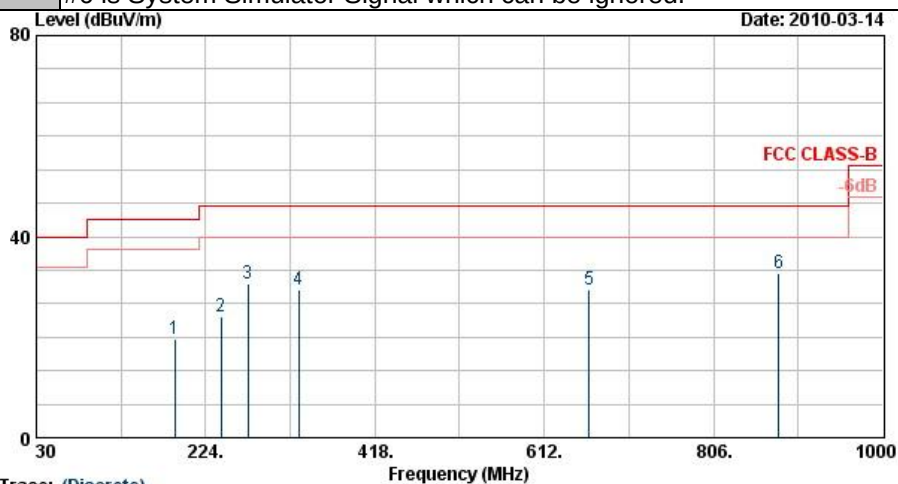








Test Mode :	Mode 5	Temperature :	22~23°C
Test Engineer :	Kai Wang	Relative Humidity :	45~46%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	GSM850 Idle + Notebook		
Remark :	#6 is System Simulator Signal which can be ignored.		



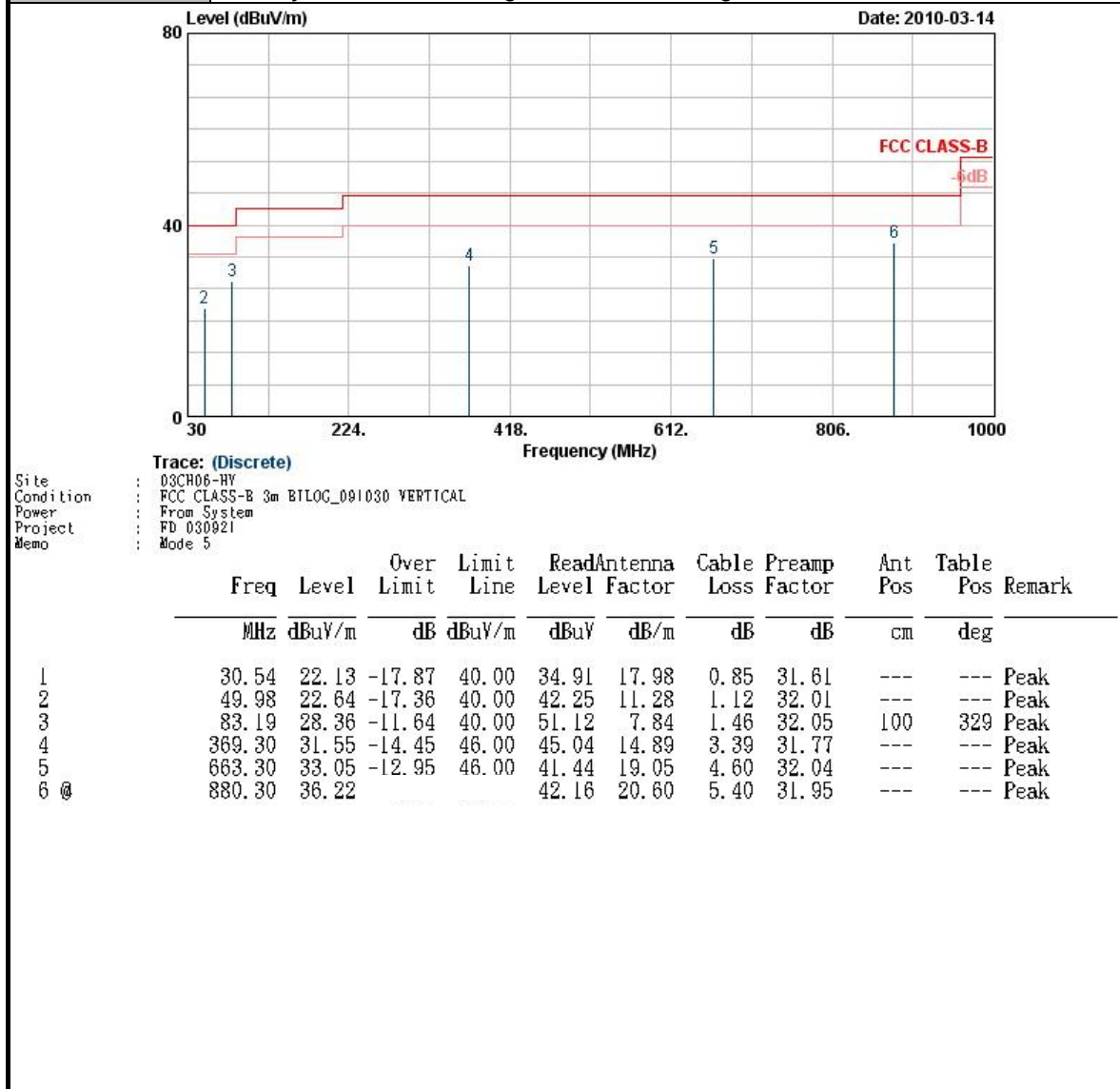
Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m B1LOG_091030 HORIZONTAL
Power : From System
Project : FD 030921
Memo : Mode 5

	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	cm	deg	
1	188.49	19.73	-23.77	43.50	40.65	8.79	2.32	32.03	---	Peak
2	241.68	24.18	-21.82	46.00	42.20	11.19	2.64	31.85	---	Peak
3	272.73	30.74	-15.26	46.00	47.21	12.65	2.83	31.95	100	201 Peak
4	330.80	29.55	-16.45	46.00	44.33	13.90	3.19	31.87	---	Peak
5	663.30	29.47	-16.53	46.00	37.86	19.05	4.60	32.04	---	Peak
6	880.30	32.68	-----	-----	38.62	20.60	5.40	31.95	---	Peak



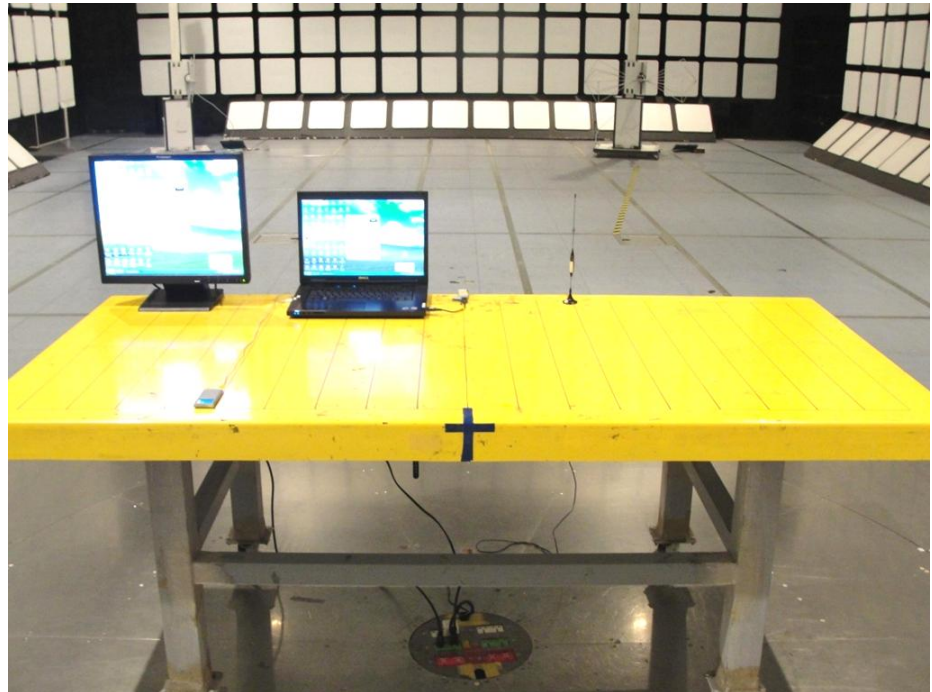
Test Mode :	Mode 5	Temperature :	22~23°C
Test Engineer :	Kai Wang	Relative Humidity :	45~46%
Test Distance :	3m	Polarization :	Vertical
Function Type :	GSM850 Idle + Notebook		
Remark :	#6 is System Simulator Signal which can be ignored.		



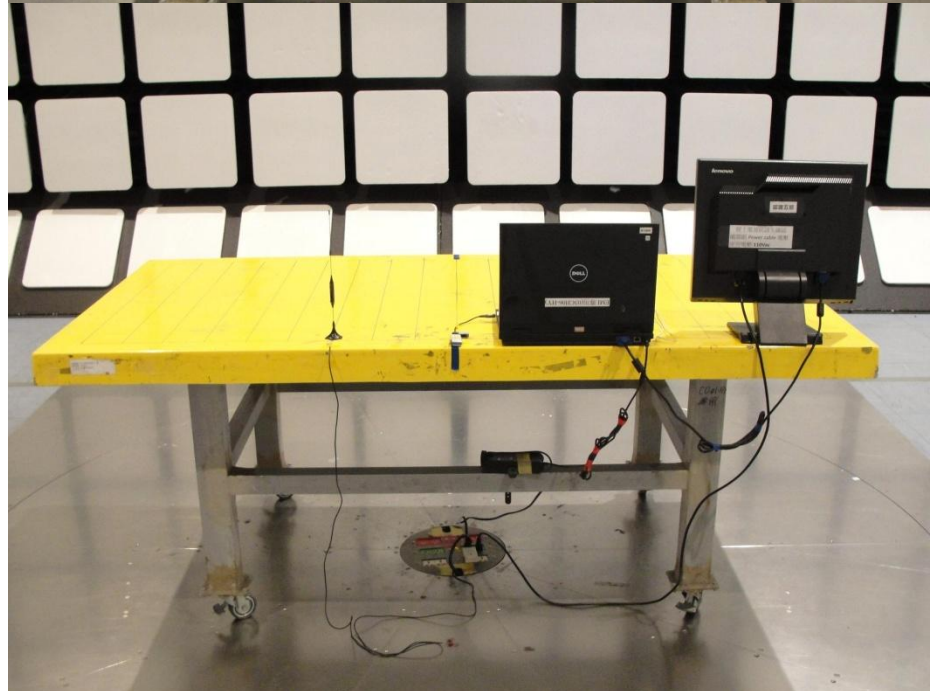
3.2.4 Setup Photographs

Mode 1

Front View

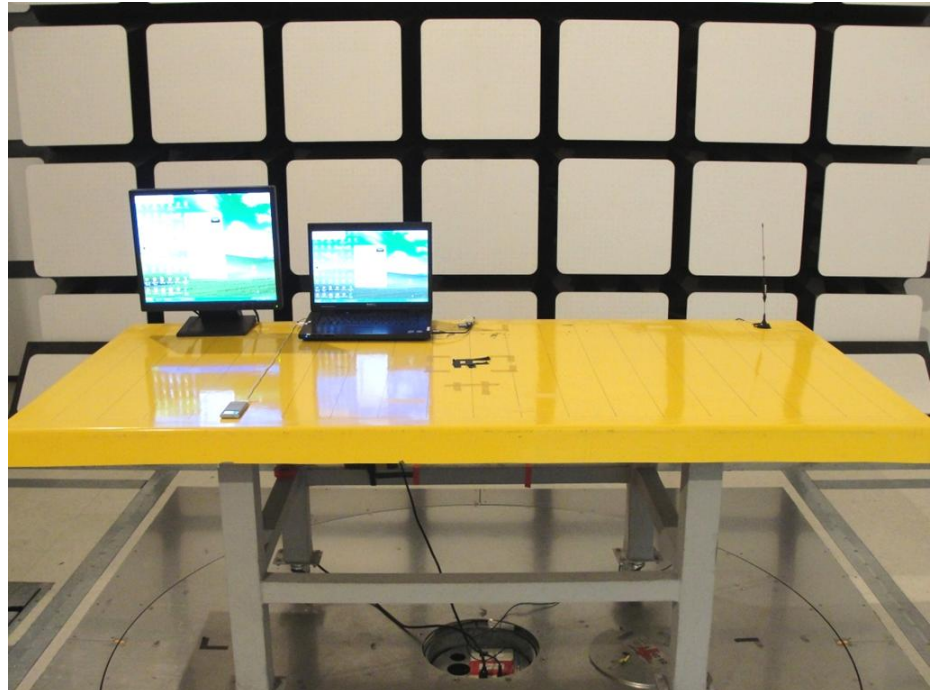


Rear View

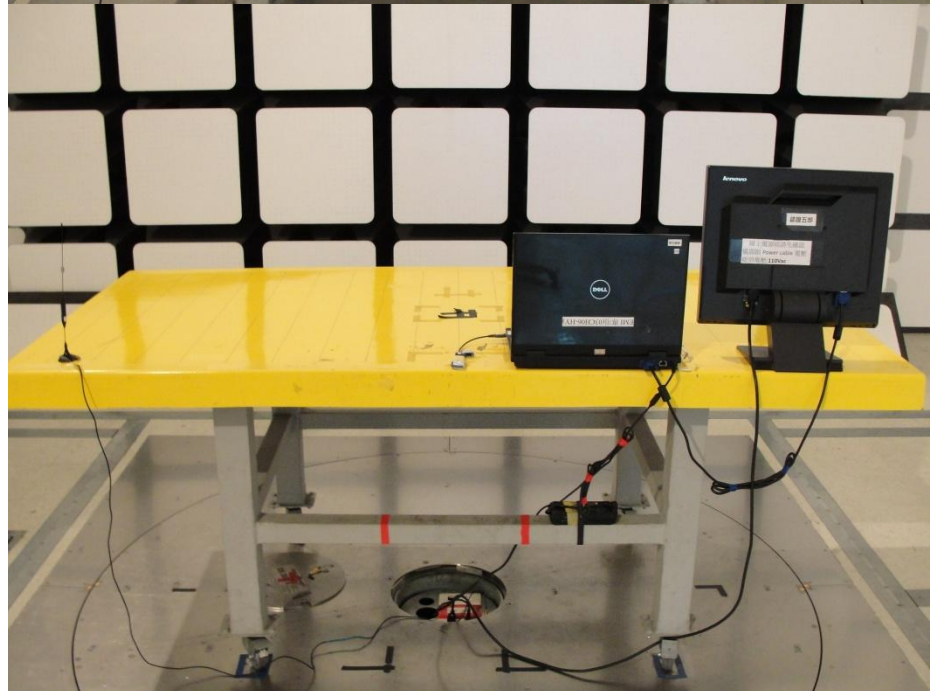


Mode 2~4

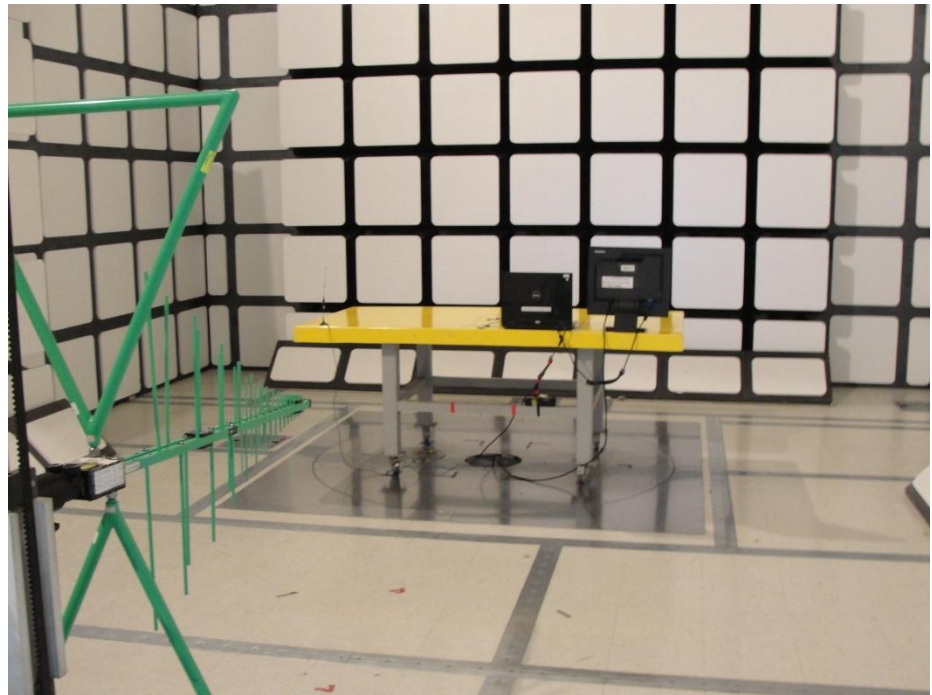
Front View



Rear View

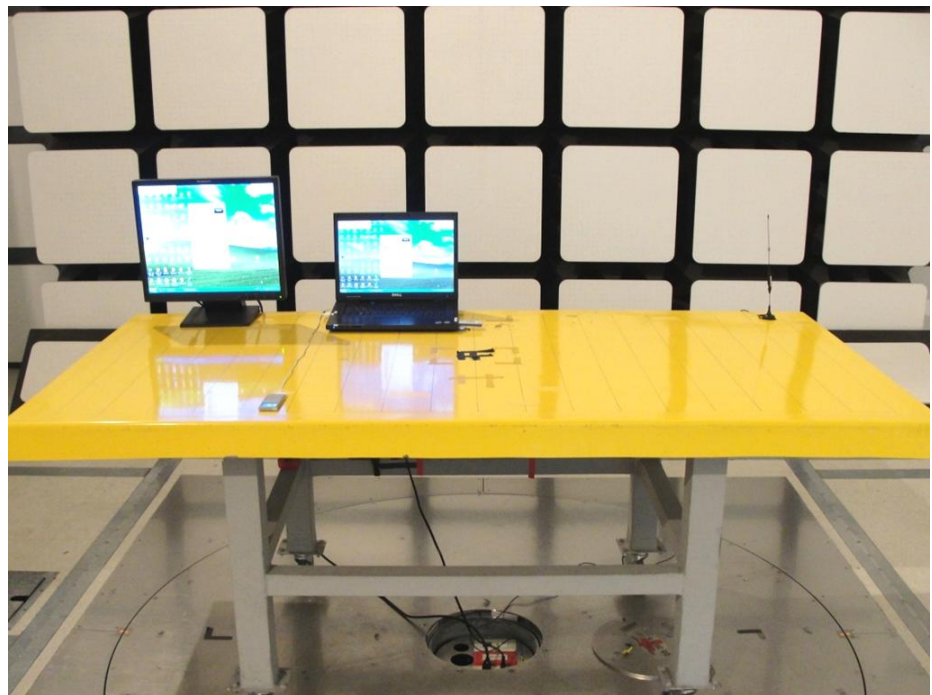


Remote View

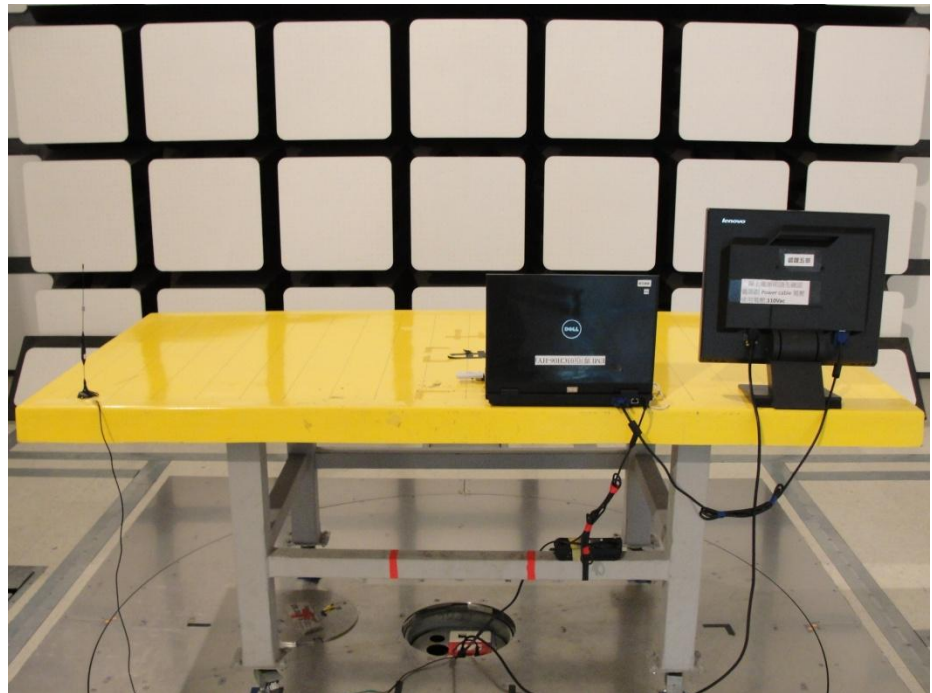


Mode 5

Front View



Rear View



Remote View





4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMI Test Receive	R&S	ESCS 30	100356	9KHz – 2.75GHz	Aug. 05, 2009	Aug. 04, 2010	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9kHz~30MHz	Nov. 30, 2009	Nov. 29, 2010	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9kHz~30MHz	Nov. 23, 2009	Nov. 22, 2010	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
10m Semi Anechoic Chamber	TDK	SAC-10M	10CH02-HY	30MHz~1GHz 10m, 3m	Nov. 29, 2009	Nov. 28, 2010	Radiation (10CH02-HY)
Amplifier	Agilent	8447D	2944A10827	100kHz~1.3GHz	Jun. 04, 2009	Jun. 03, 2010	Radiation (10CH02-HY)
Amplifier	Agilent	8447D	2944A10828	100kHz~1.3GHz	Jun. 10, 2009	Jun. 09, 2010	Radiation (10CH02-HY)
Receiver	R&S	ESI	838496/008	20Hz~7GHz	Apr. 27, 2009	Apr. 26, 2010	Radiation (10CH02-HY)
Spectrum Analyzer	R&S	FSP7	100645	9kHz~7GHz	Aug. 26, 2009	Aug. 25, 2010	Radiation (10CH02-HY)
Biconical Antenna	Schwarzbeck	VHBB 9124	287	30MHz~200MHz	Dec. 21, 2009	Dec. 20, 2010	Radiation (10CH02-HY)
Log Antenna	Schwarzbeck	VUSLP 9111	207	200MHz~1GHz	Dec. 21, 2009	Dec. 20, 2010	Radiation (10CH02-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211030	9KHz-26.5GHz	Oct. 23, 2009	Oct. 22, 2010	Radiation (03CH06-HY)
Spectrum Analyzer	R&S	FSP40	100057	9KHz-40GHz	Oct. 20, 2009	Oct. 19, 2010	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/003	20MHz-1000MHz	Apr. 28, 2009	Apr. 27, 2010	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Oct. 31, 2009	Oct. 30, 2010	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz~18GHz	Aug. 20, 2009	Aug. 19, 2010	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Training Research	AH-0801	95119	8GHz~18GHz	Nov. 02, 2009	Nov. 01, 2010	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 14, 2009	Oct. 13, 2010	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1GHz- 26.5GHz	Nov. 11, 2009	Nov. 10, 2010	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz~1GHz	Apr. 20, 2009	Apr. 19, 2010	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz~30MHz	May 22, 2008	May 21, 2010	Radiation (03CH06-HY)
System Simulator	R&S	CMU200	117591	N/A	Oct. 15, 2008	Oct. 14, 2010	-

5. Uncertainty Measurement

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

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 Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty $U_c(y)$	1.13		
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$)	2.26		

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.07	Normal (k=2)	0.04
Antenna Factor Calibration	0.92	Normal (k=2)	0.46
Cable Loss Calibration	0.19	Normal (k=2)	0.10
Pre-Amplifier Gain Calibration	0.21	Normal (k=2)	0.11
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.54	Rectangular	0.89
Mismatch	+0.24 / -0.24	U-Shape	0.17
Combined Standard Uncertainty $U_c(y)$	1.29		
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$)	2.58		



Appendix A. Photographs of EUT

Please refer to Sporton report number EP030921 as below.