INTERNATIONAL STANDARDS LABORATORY

No. 65, Ku Dai Keng St., Hsichih, Taipei 221, R.O. C. Tel: 886-2-2646-2550 FAX: 886-2-26464641
No. 120, Lane 180, San Ho Tsuen, Hsin Ho Rd. Lung-Tan Hsiang,
Tao Yuan County 325, Taiwan, R.O.C. Tel: 886-3-407-1718 FAX:886-3-407-1738

Certificate

Test Report No.: ISL-06LE121FB
Issue Date: 2006/10/30

Product Name:	Notebook Personal Computer
Model:	**A770;A790**
Responsible Party Address:	**MITAC Technology Corporation** 4F, No.1, R&D Road 2, Hsinchu Science-Based industrial Park, Hsinchu 300 Taiwan,R. O. C.
Contact Person:	Power Shaw
FCC Rule Part(s):	**FCC Rules Part 15 Subpart B Class B** **ANSI C63.4-2003**

We, **International Standards Laboratory**, certify that

The device bearing the trade name and model specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified. (see Test Report if any modifications were made for compliance).

I attest to the accuracy of data and all measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

We certify that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988.21 U.S.C. 853(a)

NVLAP Lab. Code: 200234-0

Eddy Hsiung

Eddy Hsiung/Director
International Standards Laboratory

Declaration of Conformity

This device complies with Part 15 of the FCC Rules. The test result has been shown in the ISL test report with number ISL-06LE121FB. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Product Name:	Notebook Personal Computer
Model:	A770;A790
Name of Responsible Party:	MITAC Technology Corporation
Address of Responsible Party:	4F, No.1, R&D Road 2, Hsinchu Science-Based industrial Park, Hsinchu 300 Taiwan,R. O. C.
Contact Person:	Power Shaw
Phone No.:	03-5782280
Fax No.:	03-5774034

We, MITAC Technology Corporation, hereby declare that the equipment bearing the trade name and model number specified above was tested conforming to the applicable FCC Rules under the most accurate measurement standards possible, and that all the necessary steps have been taken and are in force to assure that production units of the same equipment will continue to comply with the Commissions requirements.

Power Shaw
MITAC Technology Corporation
Issue Date: 2006/10/30

TEST REPORT

FOR

DECLARATION OF CONFORMITY

of

Product Name

Notebook Personal Computer

Model

A770;A790

Applied by:

MITAC Technology Corporation
4F, No.1, R&D Road 2,
Hsinchu Science-Based industrial Park, Hsinchu 300
Taiwan,R. O. C.

Test Performed by:
International Standards Laboratory

(NVLAP Lab. Code: 200234-0)

Hsichih LAB	(V) Lung-Tan LAB
Site Registration No.: (NVLAP Lab. Code: 200234-0)	**Site Registration No.:** (NVLAP Lab. Code: 200234-0)
No. 65, Ku Dai Keng St.	No. 120, Lane 180, San Ho Tsuen, Hsin Ho Rd.
Hsichih, Taipei Hsien 22117	Lung-Tan Hsiang, Tao Yuan County 325
Taiwan, R.O.C.	Taiwan, R.O.C
Tel:(02)2646-2550	Tel:(03)407-1718
Fax:(02)2646-4641	Fax:(03)407-1738

Contents of Report

1. General

1.1 Certification of Accuracy of Test Data

Standards:	ANSI C63.4-2003, CFR 47 Part 15 Subpart B Section 15.107 and 15.109 Industry Canada Interference-Causing Equipment Standard ICES-003 Issue 4: 2004
Equipment Tested:	Notebook Personal Computer
Model:	A770;A790
Applied by	MITAC Technology Corporation
Sample received Date:	2006/08/04
Final test Date :	refer to the date of test data
Test Result:	**PASS**
Report Engineer:	Erin Duan
Test Engineer:	Benson Chen Benson Chen

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory.

The test results contained in this report accurately represent the radiated and power line conducted electromagnetic emissions generated by sample equipment under test at the time of the test.

The sample equipment tested as described in this report is in compliance with the limits of above standards.

Approve & Signature

Eddy Hsiung

Eddy Hsiung/Director

Test results given in this report apply only to the specific sample(s) tested under stated test conditions. This report shall not be reproduced other than in full without the explicit written consent of ISL. This report totally contains 48 pages, including 1 cover page , 1 contents page, and 46 pages for the test description. This report must not be use to claim product endorsement by NVLAP or any agency of the U.S. Government.

This test data shown below is traceable to NIST or national or international standard. International Standards Laboratory certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 853(a).

1.2 Applicant Information

Applicant: MITAC Technology Corporation
4F, No.1, R&D Road 2,
Hsinchu Science-Based industrial Park, Hsinchu 300
Taiwan,R. O. C.

1.3 Operation Environment

Test Site: Chamber 02,Chamber 05(above 1GHz); Conduction 02

Test Distance 10M

Temperature refer to each site test data
Humidity: refer to each site test data

input power: Conduction input power: AC 115 V / 60 Hz
Radiation input power: AC 115 V / 60 Hz

2. Powerline Conducted Emissions

2.1 Configuration and Procedure

2.1.1 EUT Configuration

The EUT was set up on the non-conductive table that is 1.0 by 1.5 meter, 80cm above ground. The wall was 40cm to the rear of the EUT.

Power to the EUT was provided through the LISN. The impedance vs. frequency characteristic of the LISN is complied with the limit of standards used.

Both lines (neutral and hot) were connected to the LISN in series at testing. A coaxial-type connector which provides one 50 ohms impedance termination was connected to the test instrument. The excess length of the power cord was folded back and forth at the center of the lead to form a bundle 30cm to 40cm in length.

Any changes made to the configuration or modifications made to EUT during testing, are noted in the following test record.

If EUT has an extra auxiliary AC outlet which can provide power to an external monitor, all measurements will be made with the monitor power from EUT-mounted AC outlet and then from floor-mounted AC outlet.

2.1.2 Test Procedure

The system was set up as described above, with the EMI diagnostic software running. The main power line conducted EMI tests were run on both hot and neutral conductors of the power cord and the results were recorded. The effect of varying the position of the interface cables has been investigated to find the configuration that produces maximum emission.

At the frequencies where the peak values of the emissions were higher than 6dß below the applicable limits, the emissions were also measured with the quasi-peak detectors. At the frequencies where the quasi-peak values of the emissions were higher than 6dß below the applicable average limits, the emissions were also measured with the average detectors.

The highest emissions were analyzed in details by operating the spectrum analyzer in fixed tuned mode to determine the nature of the emissions and to provide information which could be useful in reducing their amplitude.

2.1.3 EMI Receiver/Spectrum Analyzer Configuration (for the frequencies tested)

Frequency Range:	150KHz~30MHz
Detector Function:	Quasi-Peak / Average Mode
Resolution Bandwidth:	9KHz

2.2 Conduction Test Data: Configuration 1

Table 2.2.1 Power Line Conducted Emissions (Hot)

Operator: Benson Chen
Temperature (C): 25
07:18:13 PM, Wednesday, October 18, 2006 Humidity (%): 58

Frequency	LISN Loss	Cable Loss	QP Corrct.	QP Limit	QP Margin	AVE Corrct.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.15308	0.15	0.02	44.40	65.91	-21.51	14.78	55.91	-41.13
0.15499	0.15	0.02	45.20	65.86	-20.66	13.97	55.86	-41.88
0.6907	0.10	0.07	34.40	56.00	-21.60	31.82	46.00	-14.18
0.8743	0.10	0.07	36.71	56.00	-19.29	35.23	46.00	-10.77
0.9379	0.10	0.07	37.08	56.00	-18.92	34.47	46.00	-11.53
1.128	0.36	0.07	36.93	56.00	-19.07	34.57	46.00	-11.43
1.5031	0.25	0.08	42.01	56.00	-13.99	35.81	46.00	-10.19
1.6907	0.19	0.08	39.08	56.00	-16.92	36.03	46.00	-9.97
2.5014	0.13	0.10	38.63	56.00	-17.37	35.97	46.00	-10.03
2.8134	0.14	0.11	38.47	56.00	-17.53	33.68	46.00	-12.32

Note:
Margin = Corrected Amplitude - Limit
Corrected Amplitude = Receiver Reading + LISN Loss + Cable Loss
A margin of -8dB means that the emission is 8dB below the limit

Table 2.2.2 Power Line Conducted Emissions (Neutral)

Operator: Benson Chen
Temperature (C): 25
07:26:57 PM, Wednesday, October 18, 2006 Humidity (%): 58

Frequency	LISN Loss	Cable Loss	QP Corrct.	QP Limit	QP Margin	AVE Corrct.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.150319	0.10	0.02	46.70	65.99	-19.29	14.52	55.99	-41.47
0.15776	0.10	0.02	45.42	65.78	-20.35	19.40	55.78	-36.37
0.1634	0.10	0.03	45.16	65.62	-20.46	19.96	55.62	-35.65
0.3133	0.10	0.10	37.44	61.33	-23.90	36.01	51.33	-15.32
0.9359	0.10	0.07	32.37	56.00	-23.63	28.86	46.00	-17.14
1.4401	0.16	0.08	36.86	56.00	-19.14	26.31	46.00	-19.69
3.7521	0.10	0.13	38.85	56.00	-17.15	35.52	46.00	-10.48
3.8783	0.10	0.14	38.98	56.00	-17.02	34.22	46.00	-11.78
4.0033	0.10	0.14	39.49	56.00	-16.51	36.24	46.00	-9.76
4.3778	0.11	0.14	39.08	56.00	-16.92	36.19	46.00	-9.81

Note:
Margin = Corrected Amplitude - Limit
Corrected Amplitude = Receiver Reading + LISN Loss + Cable Loss
A margin of -8dB means that the emission is 8dB below the limit

2.3 Conduction Test Data: Configuration 2

Table 2.3.1 Power Line Conducted Emissions (Hot)

Operator: Benson Chen
Temperature (C): 25
11:22:24 PM, Monday, August 21, 2006 Humidity (%): 58

Frequency	LISN Loss	Cable Loss	QP Corrct.	QP Limit	QP Margin	AVE Corrct.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.4349	0.10	0.08	41.99	57.86	-15.87	40.23	47.86	-7.63
0.5604	0.10	0.07	41.18	56.00	-14.82	39.56	46.00	-6.44
0.6208	0.10	0.07	38.88	56.00	-17.12	37.89	46.00	-8.11
0.8706	0.10	0.07	37.83	56.00	-18.17	34.94	46.00	-11.06
1.3048	0.31	0.08	39.26	56.00	-16.74	32.84	46.00	-13.16
1.4909	0.25	0.08	41.20	56.00	-14.80	28.62	46.00	-17.38
1.5542	0.23	0.08	43.50	56.00	-12.50	30.22	46.00	-15.78
1.8048	0.16	0.09	37.12	56.00	-18.88	30.86	46.00	-15.14
1.9919	0.10	0.09	37.69	56.00	-18.31	29.23	46.00	-16.77

Note:
Margin = Corrected Amplitude - Limit
Corrected Amplitude = Receiver Reading + LISN Loss + Cable Loss
A margin of -8dB means that the emission is 8dB below the limit

Table 2.3.2 Power Line Conducted Emissions (Neutral)

Operator: Benson Chen
Temperature (C): 25
11:29:44 PM, Monday, August 21, 2006 Humidity (%): 58

Frequency	LISN Loss	Cable Loss	QP Corrct.	QP Limit	QP Margin	AVE Corrct.	AVE Limit	AVE Margin
MHz	(dB)	(dB)	Amp.(dBuV)	(dBuV)	(dB)	Amp.(dBuV)	(dBuV)	(dB)
0.4371	0.10	0.08	41.03	57.80	-16.77	38.86	47.80	-8.93
0.5595	0.10	0.07	42.17	56.00	-13.83	40.81	46.00	-5.19
0.6228	0.10	0.07	38.55	56.00	-17.45	36.81	46.00	-9.19
0.8088	0.10	0.07	38.21	56.00	-17.79	35.76	46.00	-10.24
1.0574	0.19	0.07	36.14	56.00	-19.86	33.18	46.00	-12.82
1.2443	0.18	0.07	35.04	56.00	-20.96	30.39	46.00	-15.61
1.553	0.14	0.08	44.27	56.00	-11.73	29.85	46.00	-16.15
1.5532	0.14	0.08	44.30	56.00	-11.70	30.12	46.00	-15.88
1.8033	0.12	0.09	38.10	56.00	-17.90	29.88	46.00	-16.12

Note:
Margin = Corrected Amplitude - Limit
Corrected Amplitude = Receiver Reading + LISN Loss + Cable Loss
A margin of -8dB means that the emission is 8dB below the limit

3. Open Field Radiated Emissions

3.1 Configuration and Procedure

3.1.1 EUT Configuration

The equipment under test was set up on a non-conductive table 80cm above ground, on a 10 meter open field or 10 meter chamber. The excess length of the power cord was folded back and forth at the center of the lead to form a bundle 30cm to 40cm in length.

Any changes made to the configuration, or modifications made to the EUT, during testing are noted in the following test record.

If EUT has an extra auxiliary AC outlet which can provide power to an external monitor, all measurements will be made with the monitor power from EUT-mounted AC outlet and then from floor-mounted AC outlet.

3.1.2 Test Procedure

The system was set up as described above, with the EMI diagnostic software running. The maximum emission was measured by varying the height of antenna and then by rotating the turntable. Both polarization of antenna, horizontal and vertical, were measured.

The highest emissions between 30 MHz to 1000 MHz were analyzed in details by operating the spectrum analyzer and/or EMI receiver in quasi-peak mode to determine the precise amplitude of the emissions. While doing so, the interconnecting cables and major parts of the system were moved around, the antenna height was varied between one and four meters, its polarization was varied between vertical and horizontal, and the turntable was slowly rotated, to maximize the emission. The highest emissions of frequency higher than 1000 MHz was analyzed in peak mode and/or average mode to determine the precise amplitude of the emission.

3.1.3 Spectrum Analyzer Configuration (for the frequencies tested)

Frequency Range:	30MHz--1000MHz
Detector Function:	Quasi-Peak Mode
Resolution Bandwidth:	120KHz

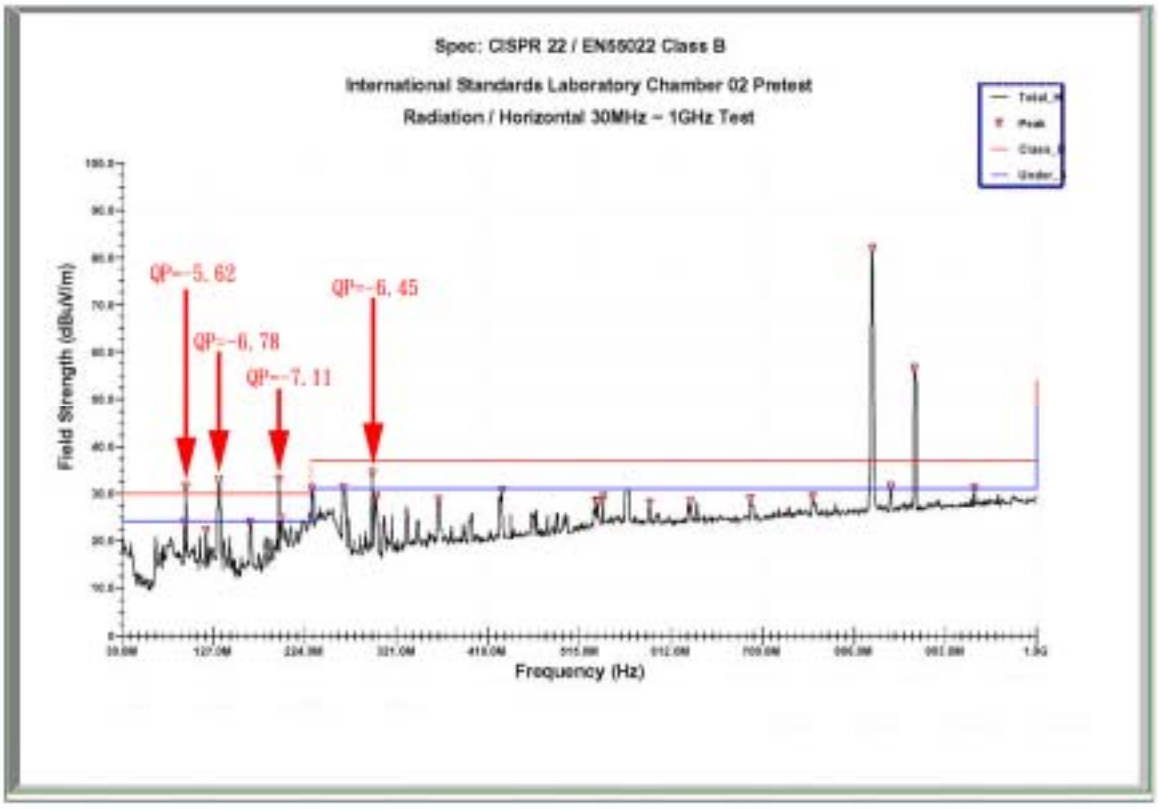
Frequency Range:	Above 1000Mhz
Detector Function:	Peak/Average Mode
Resolution Bandwidth:	1MHz

3.2 Radiation Test Data: Configuration 1

Table 3.2.1 Radiated Emissions (Horizontal)

Operator: Benson Chen
Temperature (C): 22
02:35:41 PM, Friday, October 20, 2006 Humidity (%): 50

Frequency	RX_R	Ant_F	Cab_L	PreAmp	Emission	Limit	Margin	Ant.Pos	Table Pos
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg.
95.96	12.74	9.91	1.54	0.00	24.19	30.00	-5.81	177	208
97.9	12.59	10.24	1.55	0.00	24.38	30.00	-5.62	142	245
119.24	7.93	12.58	1.69	0.00	22.21	30.00	-7.79	210	20
132.82	9.84	11.63	1.75	0.00	23.22	30.00	-6.78	111	134
165.8	12.23	9.75	2.01	0.00	23.99	30.00	-6.01	331	193
195.87	11.54	9.12	2.23	0.00	22.89	30.00	-7.11	335	151
198.78	13.48	9.18	2.21	0.00	24.86	30.00	-5.14	303	80
231.76	18.08	10.51	2.47	0.00	31.06	37.00	-5.94	180	322
264.74	15.15	13.54	2.66	0.00	31.34	37.00	-5.66	177	217
294.81	14.64	13.10	2.81	0.00	30.55	37.00	-6.45	125	232
299.66	13.55	13.19	2.85	0.00	29.59	37.00	-7.41	126	185
365.62	10.84	14.84	3.20	0.00	28.88	37.00	-8.12	146	118
432.55	10.66	16.39	3.55	0.00	30.59	37.00	-6.41	195	257
532.46	6.09	18.44	4.05	0.00	28.58	37.00	-8.42	309	135
534.4	5.80	18.50	4.06	0.00	28.36	37.00	-8.64	317	131
540.22	6.87	18.69	4.08	0.00	29.64	37.00	-7.36	342	120
589.69	5.20	18.76	4.29	0.00	28.25	37.00	-8.75	268	188
632.37	5.03	18.89	4.45	0.00	28.38	37.00	-8.62	205	145
696.39	5.52	18.91	4.71	0.00	29.14	37.00	-7.86	106	111
762.35	4.82	19.82	4.97	0.00	29.62	37.00	-7.38	347	238
825.4	56.74	20.10	5.22	0.00	82.07	37.00	45.07	199	212
844.8	5.92	20.26	5.32	0.00	31.50	37.00	-5.50	200	134
870.02	30.86	20.38	5.48	0.00	56.72	37.00	19.72	242	112
934.04	4.91	20.77	5.63	0.00	31.32	37.00	-5.68	237	108
1662.34	35.25	28.16	2.24	23.75	41.90	54.00	-12.10	100	231
2324.68	32.88	30.94	2.44	24.45	41.80	54.00	-12.20	100	135



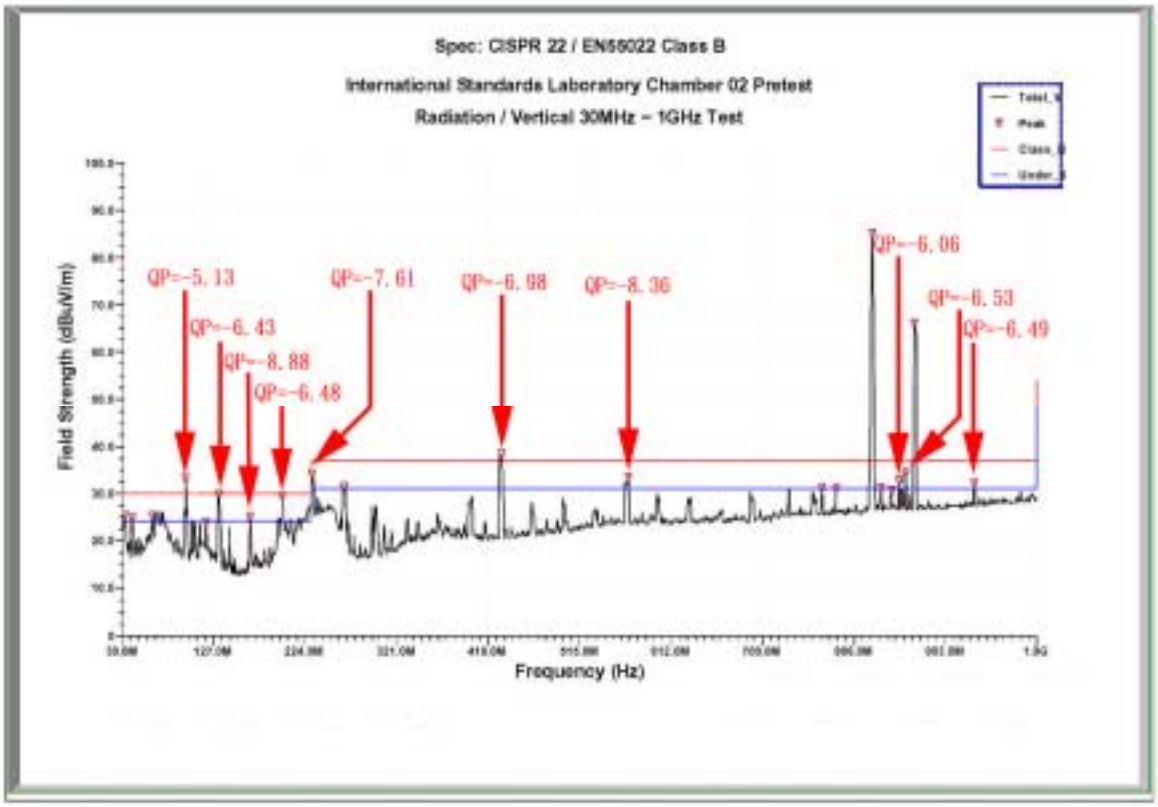
1. The frequency for Reverse channel 825.4MHz of 3G CDAM host signal.
2. The frequency for forward channel 870.02MHz of 3G CDMA host signal.

* Note:
Margin = Corrected Amplitude – Limit
Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss – Pre-Amplifier Gain
A margin of -8dB means that the emission is 8dB below the limit
BILOG Antenna Distance: 10 meter, Frequency: under 1000MHz
Horn Antenna Distance: 3 meter, Frequency: 1000MHz—18GHz

Table 3.2.2 Radiated Emissions (Vertical)

Operator: Benson Chen
Temperature (C): 22
03:14:31 PM, Friday, October 20, 2006 Humidity (%): 50

Frequency	RX_R	Ant_F	Cab_L	PreAmp	Emission	Limit	Margin	Ant.Pos	Table Pos
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg.
32.91	7.84	16.88	1.01	0.00	25.74	30.00	-4.26	138	233
40.67	11.30	12.61	1.01	0.00	24.93	30.00	-5.07	147	158
62.01	17.66	6.50	1.29	0.00	25.45	30.00	-4.55	193	144
97.9	13.08	10.24	1.55	0.00	24.87	30.00	-5.13	142	245
119.24	9.87	12.58	1.69	0.00	24.15	30.00	-5.85	210	20
132.82	10.19	11.63	1.75	0.00	23.57	30.00	-6.43	111	134
165.8	9.36	9.75	2.01	0.00	21.12	30.00	-8.88	331	193
199.75	12.12	9.19	2.20	0.00	23.52	30.00	-6.48	292	56
231.76	16.41	10.51	2.47	0.00	29.39	37.00	-7.61	180	322
265.71	15.45	13.40	2.67	0.00	31.52	37.00	-5.48	167	227
432.55	10.08	16.39	3.55	0.00	30.02	37.00	-6.98	195	257
566.41	5.53	18.90	4.21	0.00	28.64	37.00	-8.36	335	137
772.05	6.55	19.84	4.99	0.00	31.39	37.00	-5.61	309	258
786.6	6.28	19.87	5.07	0.00	31.23	37.00	-5.77	251	287
825.4	59.89	20.10	5.22	0.00	85.22	37.00	48.22	199	212
835.1	5.90	20.18	5.27	0.00	31.35	37.00	-5.65	199	173
845.77	5.32	20.27	5.33	0.00	30.91	37.00	-6.09	200	130
854.5	5.24	20.32	5.38	0.00	30.94	37.00	-6.06	209	113
861.29	4.70	20.35	5.42	0.00	30.47	37.00	-6.53	223	113
870.02	40.27	20.38	5.48	0.00	66.12	37.00	29.12	242	112
934.04	4.10	20.77	5.63	0.00	30.51	37.00	-6.49	237	108
1390.61	31.93	26.30	2.10	23.83	36.49	54.00	-17.51	100	19
1509.49	36.55	26.88	2.20	23.75	41.89	54.00	-12.11	150	284



1. The frequency for Reverse channel 825.4MHz of 3G CDAM host signal.
2. The frequency for forward channel 870.02MHz of 3G CDMA host signal.

* Note:
Margin = Corrected Amplitude – Limit
Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss – Pre-Amplifier Gain
A margin of -8dB means that the emission is 8dB below the limit

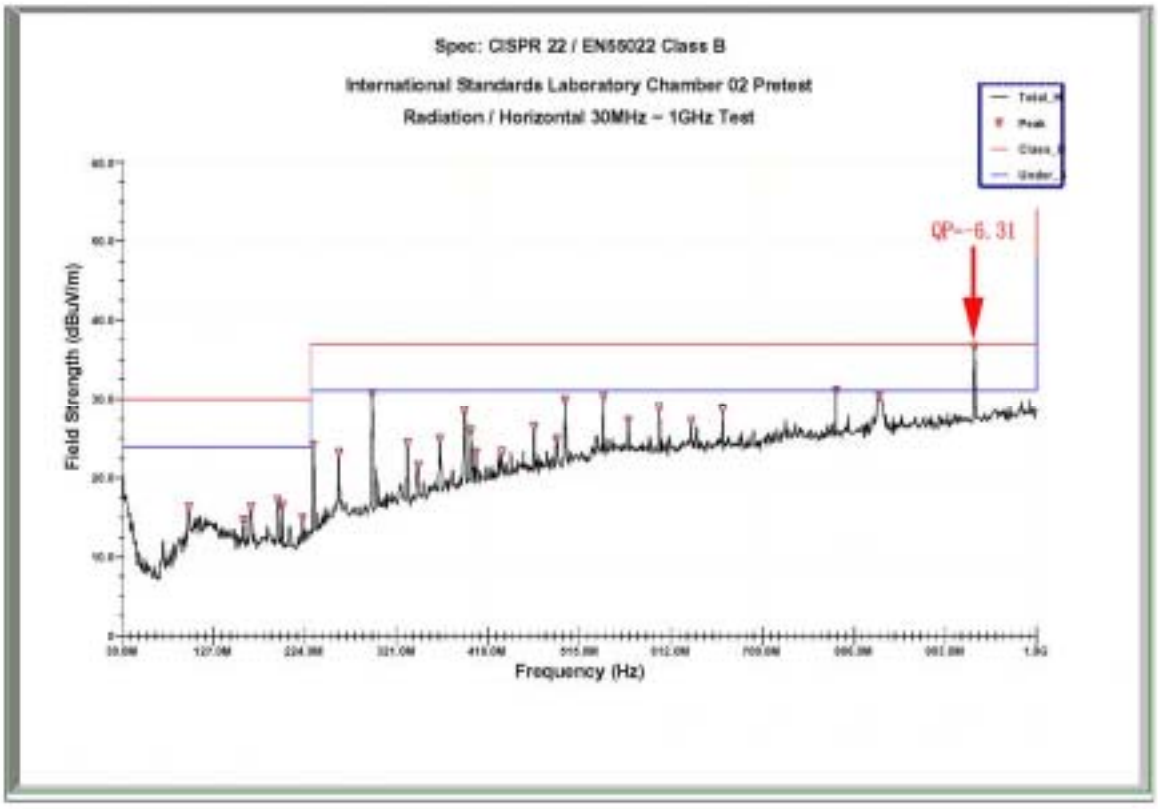
BILOG Antenna	Distance: 10 meter,	Frequency: under 1000MHz
Horn Antenna	Distance: 3 meter,	Frequency: 1000MHz—18GHz

3.3 Radiation Test Data: Configuration 2

Table 3.3.1 Radiated Emissions (Horizontal)

Operator: Benson Chen
Temperature (C): 22
03:49:27 PM, Friday, October 20, 2006 Humidity (%): 50

Frequency	RX_R	Ant_F	Cab_L	PreAmp	Emission	Limit	Margin	Ant.Pos	Table Pos
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg.
100.81	4.00	10.75	1.57	0.00	16.31	30.00	-13.69	105	276
159.01	2.66	10.11	1.98	0.00	14.75	30.00	-15.25	369	263
166.77	4.62	9.69	2.02	0.00	16.34	30.00	-13.66	321	183
194.9	5.95	9.10	2.24	0.00	17.29	30.00	-12.71	346	174
199.75	5.21	9.19	2.20	0.00	16.61	30.00	-13.39	292	56
221.09	3.44	9.23	2.32	0.00	14.99	30.00	-15.01	185	265
232.73	11.08	10.63	2.48	0.00	24.18	37.00	-12.82	171	303
259.89	6.53	14.18	2.62	0.00	23.33	37.00	-13.67	224	166
294.81	14.86	13.10	2.81	0.00	30.77	37.00	-6.23	125	232
332.64	7.49	13.98	2.99	0.00	24.46	37.00	-12.54	136	119
344.28	4.31	14.26	3.06	0.00	21.63	37.00	-15.37	139	96
366.59	7.02	14.86	3.20	0.00	25.08	37.00	-11.92	146	120
392.78	9.61	15.60	3.34	0.00	28.55	37.00	-8.45	154	175
399.57	7.02	15.79	3.37	0.00	26.18	37.00	-10.82	156	189
405.39	3.98	15.90	3.40	0.00	23.28	37.00	-13.72	162	201
432.55	3.48	16.39	3.55	0.00	23.41	37.00	-13.59	195	257
466.5	5.91	16.93	3.68	0.00	26.52	37.00	-10.48	201	261
490.75	4.03	17.27	3.80	0.00	25.10	37.00	-11.90	179	215
499.48	8.62	17.39	3.85	0.00	29.86	37.00	-7.14	171	198
540.22	7.62	18.69	4.08	0.00	30.40	37.00	-6.60	342	120
566.41	4.22	18.90	4.21	0.00	27.33	37.00	-9.67	335	137
599.39	5.95	18.70	4.32	0.00	28.98	37.00	-8.02	240	209
633.34	3.95	18.90	4.46	0.00	27.31	37.00	-9.69	204	143
666.32	5.27	18.97	4.63	0.00	28.87	37.00	-8.13	159	110
786.6	6.18	19.87	5.07	0.00	31.13	37.00	-5.87	251	287
833.16	4.94	20.17	5.26	0.00	30.37	37.00	-6.63	199	181
934.04	4.28	20.77	5.63	0.00	30.69	37.00	-6.31	237	108
2494.51	33.27	30.90	2.51	24.82	41.86	54.00	-12.14	100	192
2936.06	30.68	31.07	2.78	25.24	39.29	54.00	-14.71	100	301

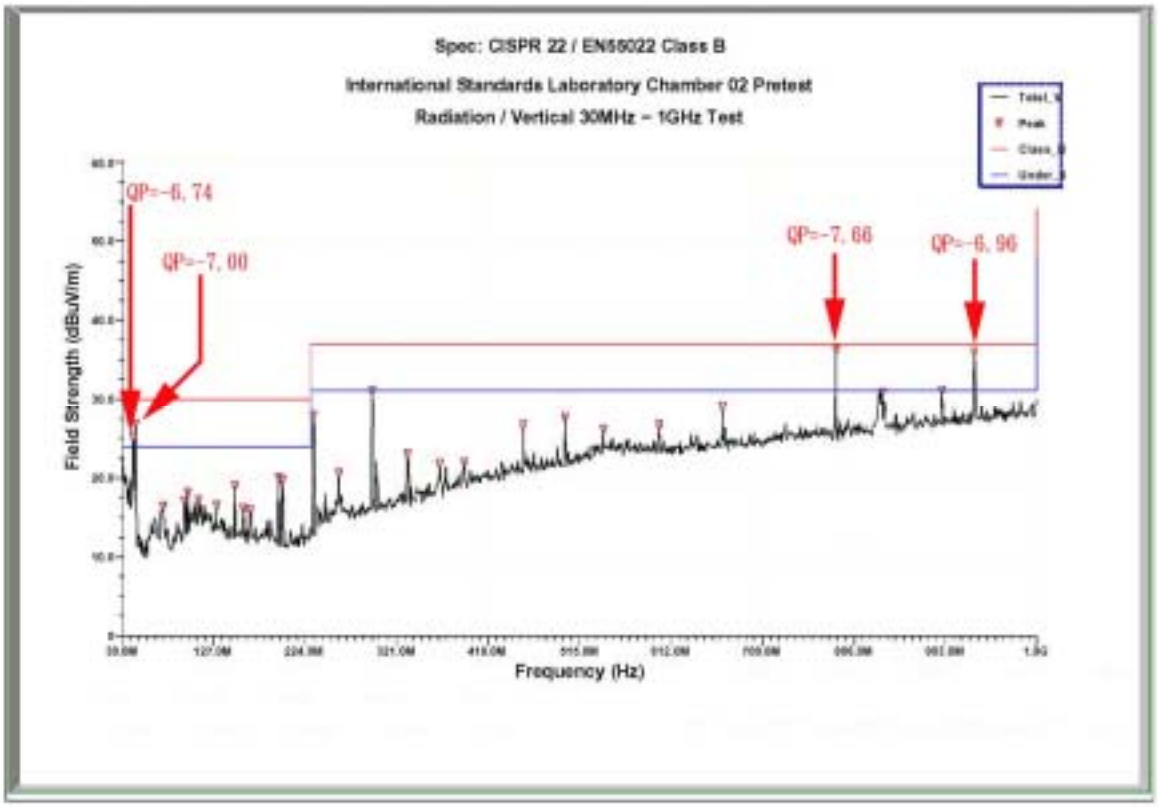


* Note:
Margin = Corrected Amplitude – Limit
Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss – Pre-Amplifier Gain
A margin of -8dB means that the emission is 8dB below the limit
BILOG Antenna Distance: 10 meter, Frequency: under 1000MHz
Horn Antenna Distance: 3 meter, Frequency: 1000MHz—18GHz

Table 3.3.2 Radiated Emissions (Vertical)

Operator: Benson Chen
Temperature (C): 22
04:24:33 PM, Friday, October 20, 2006 Humidity (%): 50

Frequency	RX_R	Ant_F	Cab_L	PreAmp	Emission	Limit	Margin	Ant.Pos	Table Pos
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	cm	deg.
41.64	10.19	12.05	1.02	0.00	23.26	30.00	-6.74	181	155
43.58	11.02	10.92	1.05	0.00	23.00	30.00	-7.00	249	151
73.65	8.80	6.39	1.35	0.00	16.54	30.00	-13.46	284	174
95.96	5.73	9.91	1.54	0.00	17.18	30.00	-12.82	177	208
99.84	6.07	10.57	1.57	0.00	18.21	30.00	-11.79	107	282
110.51	3.30	12.41	1.62	0.00	17.34	30.00	-12.66	121	168
129.91	3.10	11.81	1.72	0.00	16.63	30.00	-13.37	115	164
149.31	6.91	10.27	1.95	0.00	19.13	30.00	-10.87	189	335
159.01	4.08	10.11	1.98	0.00	16.17	30.00	-13.83	369	263
165.8	4.23	9.75	2.01	0.00	16.00	30.00	-14.00	331	193
195.87	8.84	9.12	2.23	0.00	20.19	30.00	-9.81	335	151
199.75	8.32	9.19	2.20	0.00	19.72	30.00	-10.28	292	56
232.73	14.89	10.63	2.48	0.00	27.99	37.00	-9.01	171	303
259.89	3.86	14.18	2.62	0.00	20.66	37.00	-16.34	224	166
294.81	15.27	13.10	2.81	0.00	31.18	37.00	-5.82	125	232
332.64	6.11	13.98	2.99	0.00	23.08	37.00	-13.92	136	119
366.59	3.87	14.86	3.20	0.00	21.93	37.00	-15.07	146	120
392.78	3.09	15.60	3.34	0.00	22.02	37.00	-14.98	154	175
455.83	6.44	16.78	3.64	0.00	26.86	37.00	-10.14	211	282
499.48	6.49	17.39	3.85	0.00	27.73	37.00	-9.27	171	198
540.22	3.50	18.69	4.08	0.00	26.27	37.00	-10.73	342	120
599.39	3.77	18.70	4.32	0.00	26.80	37.00	-10.20	240	209
666.32	5.50	18.97	4.63	0.00	29.10	37.00	-7.90	159	110
786.6	4.40	19.87	5.07	0.00	29.34	37.00	-7.66	251	287
836.07	5.42	20.19	5.28	0.00	30.89	37.00	-6.11	199	169
900.09	5.16	20.50	5.55	0.00	31.21	37.00	-5.79	304	111
934.04	3.64	20.77	5.63	0.00	30.04	37.00	-6.96	237	108
1883.12	34.76	30.02	2.29	23.75	43.32	54.00	-10.68	100	159
1985.01	31.25	30.87	2.32	23.75	40.69	54.00	-13.31	100	259



* Note:
Margin = Corrected Amplitude – Limit
Corrected Amplitude = Radiated Amplitude + Antenna Correction Factor + Cable Loss – Pre-Amplifier Gain
A margin of -8dB means that the emission is 8dB below the limit
BILOG Antenna Distance: 10 meter, Frequency: under 1000MHz
Horn Antenna Distance: 3 meter, Frequency: 1000MHz—18GHz

4. Appendix

4.1 Appendix A: Warning Labels

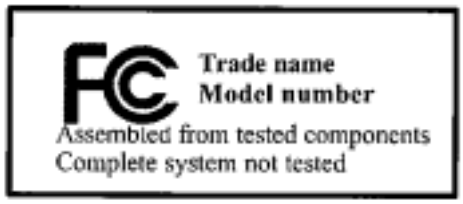
Label Requirements

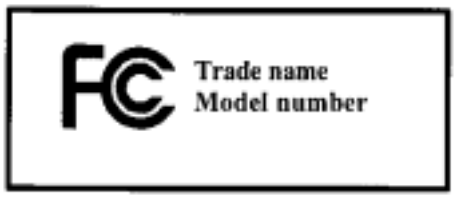
A Class B digital device subject to Declaration of Conformity of FCC shall carry a label which includes the following statement:

*** * * W A R N I N G * * ***

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The sample label shown shall be permanently affixed at a conspicuous location on the device and be readily visible to the user at the time of purchase.





4.2 Appendix B: Warning Statement

Statement Requirements

The operators manual for a Class B digital device shall contain the following statements or their equivalent:

*** * * W A R N I N G * * ***

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

Notice: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equivalent.

*** * * * * * * * * ***

If the EUT was tested with special shielded cables the operators manual for such product shall also contain the following statements or their equivalent:

Shielded interface cables and/or AC power cord, if any, must be used in order to comply with the emission limits.

4.3 Appendix C: Measurement Procedure for Powerline Conducted Emissions

The measurements are performed in a 3.5m x 3.4m x 2.5m shielded room, which referred as Conduction 01 test site, or a 3m x 3m x 2.3m test site, which referred as Conduction 02 test site. The EUT was placed on non-conduction 1.0m x 1.5m table, which is 0.8 meters above an earth-grounded.

Power to the EUT was provided through the LISN which has the Impedance (50ohm/50uH) vs. Frequency Characteristic in accordance with the standard. Power to the LISNs were filtered to eliminate ambient signal interference and these filters were bonded to the ground plane. Peripheral equipment required to provide a functional system (support equipment) for EUT testing was powered from the second LISN through a ganged, metal power outlet box which is bonded to the ground plane at the LISN.

If the EUT is supplied with a flexible power cord, the power cord length in excess of the distance separating the EUT from the LISN shall be folded back and forth at the center of the lead so as to form a bundle not exceeding 40cm in length. If the EUT is provided with a permanently coiled power cord, bundling of the cord is not required. If the EUT is supplied without a power cord, the EUT shall be connected to the LISN by a power cord of the type specified by the manufacturer which shall not be longer than 1 meter. The excess power cord shall be bundled as described above. If a non-flexible power cord is provided with the EUT, it shall be cut to the length necessary to attach the EUT to the LISN and shall not be bundled.

The interconnecting cables were arranged and moved to get the maximum measurement. Both the line of power cord, hot and neutral, were measured.

The highest emissions were analyzed in details by operating the spectrum analyzer in fixed tuned mode to determine the nature of the emissions and to provide information which could be useful in reducing their amplitude.

4.4 Appendix D: Test Procedure for Radiated Emissions

Preliminary Measurements in the Anechoic Chamber

The radiated emissions are initially measured in the anechoic chamber at a measurement distance of 3 meters. Desktop EUT are placed on a wooden stand 0.8 meter in height. The measurement antenna is 3 meters from the EUT. The test setup in anechoic chamber is the same as open site. The turntable rotated 360°C. The antenna height is varied from 1-2.5m. The primary objective of the radiated measurements in the anechoic chamber is to identify the frequency spectrum in the absence of the electromagnetic environment existing on the open test site. The frequencies can then be pre-selected on the open test site to obtain the corresponding amplitude. The initial scan is made with the spectrum analyzer in automatic sweep mode. The spectrum peaks are then measured manually to determine the exact frequencies.

Measurements on the Open Site or 10m EMC Chamber

The radiated emissions test will then be repeated on the open site or 10m EMC chamber to measure the amplitudes accurately and without the multiple reflections existing in the shielded room. The EUT and support equipment are set up on the turntable of one of 3 or 10 meter open field sites. Desktop EUT are set up on a wooden stand 0.8 meter above the ground.

For the initial measurements, the receiving antenna is varied from 1-4 meter height and is changed in the vertical plane from vertical to horizontal polarization at each frequency. Both reading are recorded with the quasi-peak detector with 120KHz bandwidth. For frequency between 30 MHz and 1000MHz, the reading is recorded with peak detector or quasi-peak detector. For frequency above 1 GHz, the reading is recorded with peak detector or average detector with 1 MHz bandwidth.

At the highest amplitudes observed, the EUT is rotated in the horizontal plane while changing the antenna polarization in the vertical plane to maximize the reading. The interconnecting cables were arranged and moved to get the maximum measurement. Once the maximum reading is obtained, the antenna elevation and polarization will be varied between specified limits to maximize the readings.

4.5 Appendix E: Test Equipment

4.5.1 Test Equipment List

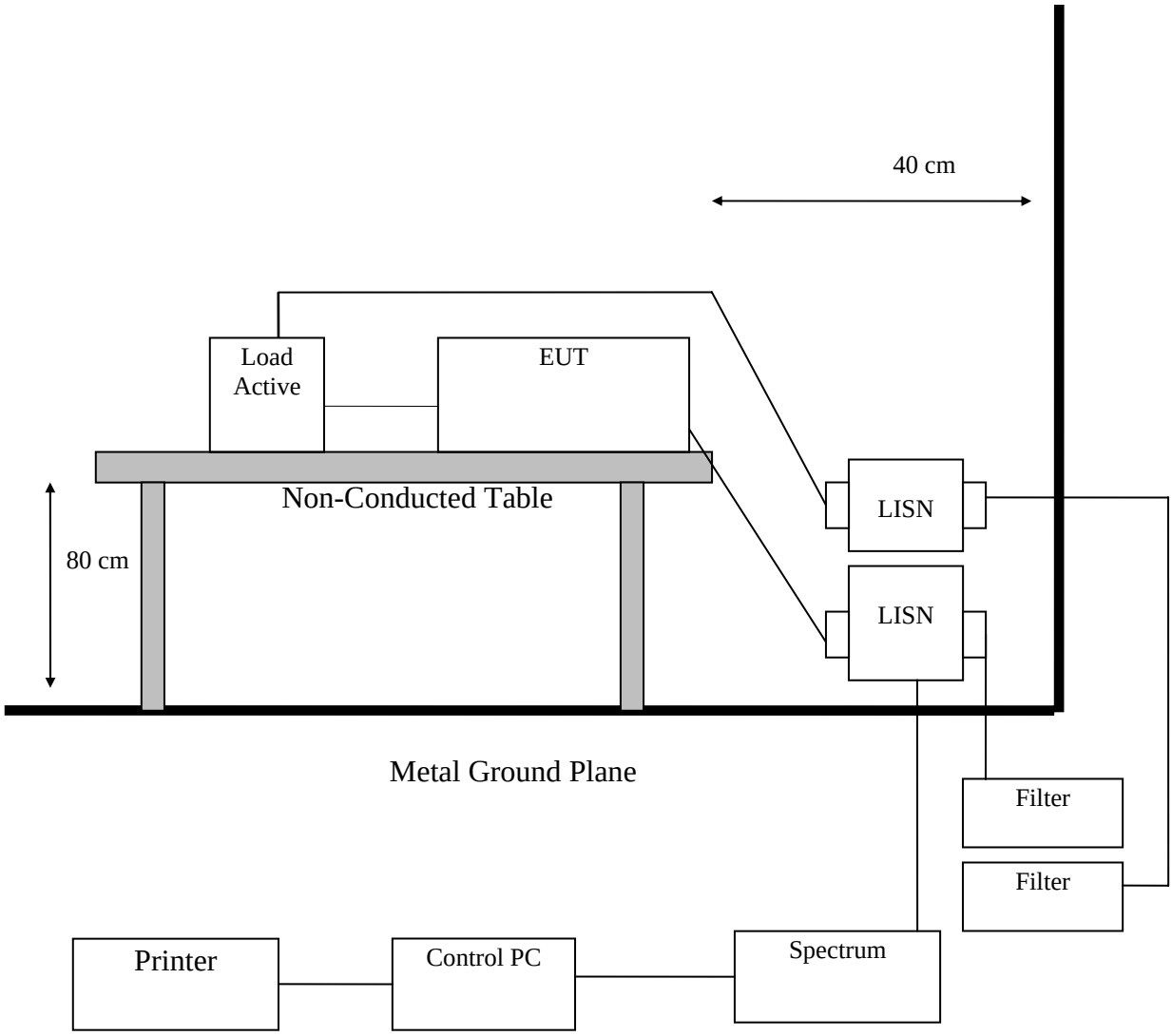
Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conduction	Capacitive Voltage Probe	FCC Inc.	F-CVP-1	68	07/11/2006	07/11/2007
Conduction	Current Probe	Schaffner	SMZ 11	18030	01/24/2006	01/24/2007
Conduction	Digital Hygro-Thermometer Conduct	MicroLife	HT-2126G	ISL-Conductio n02	11/30/2004	11/30/2006
Conduction	EMI Receiver 03	HP	85460A	3448A00209	03/24/2006	03/24/2007
Conduction	ISN T4	Schaffner	ISN T400	16593	12/29/2005	12/29/2006
Conduction	ISN T4 02	FCC	F-CMISN-CA T5	02003	12/29/2005	12/29/2006
Conduction	LISN 04	EMCO	3810/2	9604-1429	12/30/2005	12/30/2006
Conduction	LISN 06	R&S	ESH3-Z5 831.5518.52	828874/009	12/13/2005	12/13/2006
Radiation	BILOG Antenna 08	Schaffner	CBL6112B	2756	06/12/2006	06/12/2007
Radiation	Coaxial Cable Chmb 02-10M	MIYAZAKI	8D-FB	Chmb 02-10M	07/12/2006	07/12/2007
Radiation	Digital Hygro-Thermometer Chmb 02	MicroLife	HT-2126G	Chmb 02	11/30/2004	11/30/2006
Radiation	EMI Receiver 02	HP	85460A	3448a00183	10/05/2006	10/05/2007
Radiation	Loop Antenna 01	R&S	HFH2-Z2	881056/46	02/25/2006	02/25/2007
Radiation	Spectrum Analyzer 13	Advantest	R3182	121200411	02/17/2006	02/17/2007
Rad. Above 1Ghz	Horn Antenna 02	Com-Power	AH-118	10088	07/22/2006	07/22/2007
Rad. Above 1Ghz	Horn Antenna 04	Com-Power	AH-826	081-001	03/24/2006	03/24/2007
Rad. Above 1Ghz	Horn Antenna 05	Com-Power	AH-640	100A	09/30/2006	09/30/2007
Rad. Above 1Ghz	Microwave Cable RF SK-01	HUBER+SUH NER AG.	Sucoflex 102	22139 /2	10/17/2006	10/17/2007
Rad. Above 1Ghz	Preamplifier 02	MITEQ	AFS44-00102 650-40-10P-44	728229	11/28/2005	11/28/2006
Rad. Above 1Ghz	Preamplifier 10	MITEQ	JS-26004000-2 7-5A	818471	N/A	N/A
Rad. Above 1Ghz	Spectrum Analyzer 07	Advantest	R3182	110600649	04/20/2006	04/20/2007

4.5.2 Software for Controlling Spectrum/Receiver and Calculating Test Data

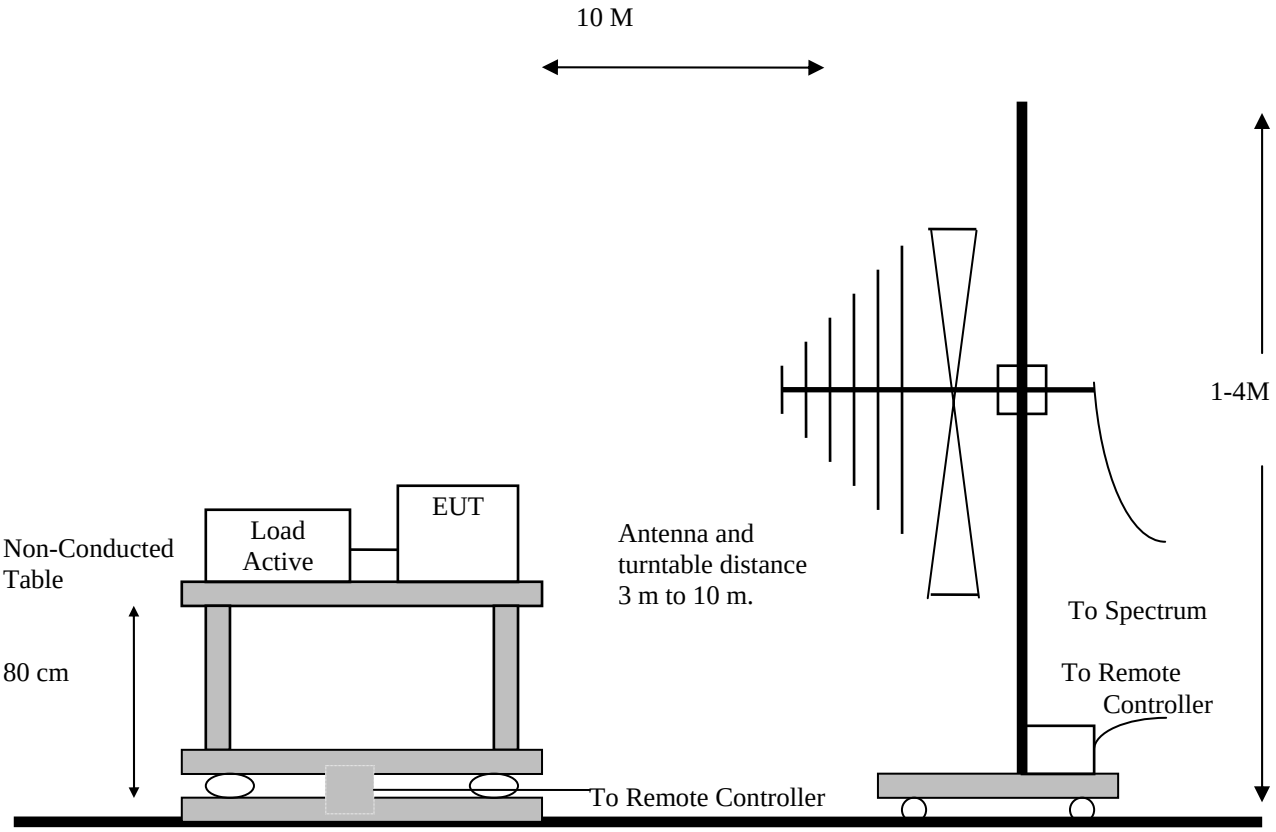
Radiation/Conduction	Filename	Version	Issued Date
Hsichih Conduction	Tile.exe	2.0.P	2/12/2002
Hsichih Radiation	Tile.exe	2.0.P	2/12/2002
Lung_Tan Conduction	Tile.exe	2.3.B	12/30/2003
Lung_Tan Radiation	Tile.exe	2.3.B	12/30/2003

4.6 Appendix F: Layout of EUT and Support Equipment

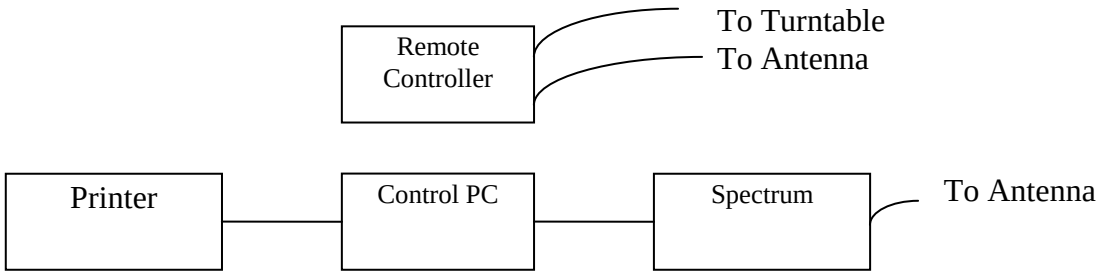
4.6.1 General Conducted Test Configuration



4.6.2 General Radiation Test Configuration



Metal Full Soldered Ground Plane



4.7 Appendix G: Description of Support Equipment

4.7.1 Description of Support Equipment

SUPPORT UNIT 1

Description:	DELL Notebook Personal Computer
Model:	Latitude D400
Serial Number:	N/A
CPU:	Pentium M- 1.5GHz(FSB 400 MHz)
A/C Adapter Type:	HIPRO 65W(Model:HP-OQ065B83)3 Pins
Hard Disk Driver:	Toshiba (Model: MK4019GAX) 40 GB
MDC Modem:	Conexant (Model: RD01-D480)
VGA Connector:	One 15 Pins
Serial Connector:	One 9 Pins
RJ11 Connector:	One 2 Pins
RJ45 Connector:	One 8 Pins
USB Connector:	Two 4 Pins
1394 Connector:	One 4 Pins
Smart Card Slot:	One
PCMCIA Slot:	One
Earphone Port:	One
Microphone Port:	One
Power In Port:	One
Battery:	Sanyo 6-cell (Model: 6T087)
RAM:	Nanya DDR 256MB x 1
LCD Panel and Inverter:	Toshiba 12.1”XGA (Model: LTM12C505D)； RICOH KEIKI Inverter (Model: K3E19T5 0090)
Power Cord:	Non-shielded, Detachable

SUPPORT UNIT 2

Description:	24” LCD Monitor
Manufacturer :	DELL
Model Number:	2405FPW
Serial Number	N/A
Power Supply Type:	AC 100~240V 50~60Hz
DC Output Port:	one
VGA Port:	one
DVI Port:	one
Power In:	one
USB Port:	five
Video Port:	one
S-Video In:	one
Y/PB/PR Port:	one
CF Port:	one
SM Port:	one
MS Port:	one
SD/MMC Port:	one
FCC ID:	N/A
Power Cable:	Non-shielded, Detachable

SUPPORT UNIT 3

Description:	External HDD
Model:	F12-UF
Serial Number:	NA
Power Adaptor:	YHI(Model:YS-1015U12)
1394 Port:	one 6-Pins
USB:	one 4-Pins
Power In:	one
Power Cable:	Non-shielded, Detachable, (Can Dismantle)

SUPPORT UNIT 4

Description:	External HDD
Model:	F12-UF
Serial Number:	NA
Power Adaptor:	YHI(Model:YS-1015U12)
1394 Port:	one 6-Pins
USB:	one 4-Pins
Power In:	one
Power Cable:	Non-shielded, Detachable, (Can Dismantle)

SUPPORT UNIT 5

Description:	External HDD
Model:	F12-UF
Serial Number:	NA
Power Adaptor:	YHI(Model:YS-1015U12)
1394 Port:	one 6-Pins
USB:	one 4-Pins
Power In:	one
Power Cable:	Non-shielded, Detachable, (Can Dismantle)

SUPPORT UNIT 6

Description:	Aceex Modem (for serial interface port)
Model Number:	DM1414
Serial Number:	0301000558
Power Supply Type:	Linear, Power Adapter (AC to AC Xfmr, Wall Mounted Type)
Power Cord:	Nonshielded, Without Grounding Pin
FCC ID:	IFAXDM1414

SUPPORT UNIT 7

Description:	HP Printer (for parallel interface port)
Model Number:	C2642A
Serial Number:	TH84T1N3J3
Power Supply Type:	AC Adaptor (HP Model: C2175A)
Power Cord:	Non-shielded, Detachable
Data Cable:	Shielded, Detachable, With Metal Hood
FCC ID:	B94C2642X

SUPPORT UNIT 8

Description:	ATA Microphone and HeadSet
Model Number:	1221K
Serial Number:	N/A
Power Supply Type:	N/A
Power Cord:	N/A
FCC ID:	N/A

SUPPORT UNIT 9

Description:	ATA Flash Card
Model Number:	VIKING 32MB
Serial Number:	N/A
Power Supply Type:	N/A
Power Cord:	N/A
FCC ID:	N/A (Comply with FCC DOC)

SUPPORT UNIT 10

Description：	Wireless LAN/Broadband/ISDN Router
Model：	914I
Serial Number：	N/A
AC-AC Adaptor：	OEM (Model: AA-091ABM) 2-pin
Power Cord：	Non-shielded, Detachable

SUPPORT UNIT 11

Description:	Bluetooth Access Point with Broadband Router
Model**:**	Billionton
FCC ID:	NLF-APBTCS1
Serial Number:	06042600001
AC-AC Adaptor:	SPEC LIN (Model: SL05A106-U) 2-pin
Power Cord：	Non-shielded, Detachable

SUPPORT UNIT 12

Description:	ATA Flash Card
Model Number:	VIKING 32MB
Serial Number:	N/A
Power Supply Type:	N/A
Power Cord:	N/A
FCC ID:	N/A (Comply with FCC DOC)

1.

4.7.2 Software for Controlling Support Unit

Test programs exercising various part of EUT were used. The programs were executed as follows:

1. Send H pattern to the displays.(Monitor).
2. Read and write data the EUT hard disk.
3. Read and write data the external hard disk through EUT USB port.
4. Read and write data the PCMCIA Card through PCMCIA Slot.
5. Send signal to the parallel port.(printer)
6. Send signal to the serial port.(Modem)
7. Send audio signal to the Microphone and HeadSet through Headphone Port.
8. Receive audio signal from Microphone and HeadSet through Microphone Port.
9. Play movie file from optic drive(DVD-ROM).
10. Receive and transmit package of EUT to the NB through LAN port.
11. Receive and transmit packet of EUT to wireless router through wireless LAN.
12. Receive and transmit signal of EUT to the NB through exchanger and modem port.
13. Receive and transmit signal of EUT to Bluetooth Access Point with Broadband Router.
14. Receive and transmit packet to EUT through 3G CDMA card.
15. Repeat the steps above.

	Filename	Issued Date
Monitor	EMITEST.EXE	5/1/1990
External Hard Disk Case	Winthrax.exe	5/21/1996
Optical Driver	Windows Media player.exe	2002/12/26
Hard Disk	Winthrax.exe	5/21/1996
Printer	EMITEST.EXE	5/1/1990
Modem	EMITEST.EXE	5/1/1990
Microphone and HeadSet	Windows Media player.exe	2002/12/26
LAN	Ping.exe	
Telephone	Hypertrm.exe	06/08/2000
Wireless LAN/Broadband/ISDN Router	Ping.exe	
Bluetooth Access Point with Broadband Router	Ping.exe	
PCMCIA Card	Winthrax.exe	5/21/1996
3G CDMA card	Sierra Wireless Watcher.exe	8/22/2006

4.7.3 I/O Cable Condition of EUT and Support Units

Description	Path	Cable Length	Cable Type	Connector Type
AC Power Cable	110V (~240V) to EUT SPS	1.8M	Nonshielded, Detachable	Plastic Head
Telephone Data Cable	EUT RJ 11 to NB RJ 11 Port	33 feet	Non-shielded, Detachable	RJ-11, Plastic Head
LAN Data Cable	EUT LAN Port to NB LAN Port	33 feet	Shielded, Detachable(with core)	RJ-45, Plastic Head
Monitor Data Cable	Monitor D-SUB Port to EUT VGA Port	1.8M	Shielded, Detachable(with core)	Metal Head
Printer Data Cable	Printer to EUT parallel Port	1.8M	Shielded, Detachable	Metal Head
Audio Data Cable	Microphone and HeadSet to EUT Line In Port and Line Out Port	2.0M	Non-shielded, Un-Detachable	Plastic Head
USB Data Cable *2	USB external hard disk to EUT USB Port	1.8M	Shielded, Un-detachable	Metal Head
1394B Data Cable(for A790)	USB external hard disk to EUT 1394B Port	1.2M	Shielded, Un-detachable(with core)	Metal Head
1394 Data Cable(for A770)	USB external hard disk to EUT 1394 Port	1.8M	Shielded, Un-detachable	Metal Head
Modem Data Cable	Modem to EUT serial Port	1.8M	Shielded, Detachable	Metal Head

4.8 Appendix H: Description of Equipment Under Test

EUT

Description:	Notebook Personal Computer
Condition:	Pre-Production
Model:	A770;A790
Serial Number:	N/A
CPU:	Pentium processor,1.6GHZ or Intel YONAH,1.667GHZ
Adapter Type:	Auto Switching AC Adapter 100-240V,1.2A 50-60Hz EPS (Model: F10903-A)
Hard Disk Driver:	Toshiba (Model:MK6025GAX) 60G or Toshiba (Model:MK8032GAX) 80G or Toshiba (Model:MK8032GSX) 80G or Toshiba (Model:MK1234GSX) 120G or Toshiba (Model:MK1234GAX) 120G
DVD Dual:	Panasonic (Model:UJ-840) or Panasonic (Model:UJ-850) or MATSHITA(Model:UJDA770)
Modem Card:	Conexant (Model: RD-02-D330)
Wireless LAN Card:	Intel(Model:WM3945ABG) (for A790) Intel(Model:WM3B2200BG) (for A770)
3G CDMA card:	Sierra Wireless(Model:MC5720)
Bluetooth Module:	Billionton(Model:GUBTCR42M)
USB Connector:	two 4 pin
RJ11 Connector:	one 2 pin
Serial Port:	one 9 pin
RJ45 Connector:	one 8 pin
Parallel Port:	one 25 pin
VGA Port:	one
Line out Port:	one
Line-in Port:	one
PCMCIA Slot:	two
DC IN Port:	one
1394 Port:	one(for A770)
1394B Port:	one(for A790)
Battery:	Mitac(Model: BP-LC2400/34-01S1), 11.1Vdc, 9600mAh
LCD:	Toshiba(Model: LTD141ECGA) or Toshiba(Model: LTD121EC5S)
DDR:	Maplin(Model:PC2-2700S-2533-1-Z) 512M*2 or Infineon(Model:PC2-4200S-444-11-A0) 512M*2
Power Cord:	Non-shielded, Detachable

Test configuration:

configuration	Model	LCD	LAN speed	CPU	Adapter Type	Hard Disk	DVD Dual	Modem Card	Wireless LAN Card	Battery	DDR
1	A770	Toshiba(Model: LTD141ECGA)	100 Mbps	Pentium processor,1.6GHZ	EPS (Model: F10903-A)	Toshiba (Model: MK8032GAX) 80G	Panasonic (Model:UJ-840)	Conexant (Model: RD-02-D330)	N/A	MITAC (Model: BP-LC2400/34-01S1)	Maplin(Model:PC2-2700S-2533-1-Z)
2	A770	Toshiba(Model: LTD121EC5S)	100 Mbps	Pentium processor,1.6GHZ	EPS (Model: F10903-A)	Toshiba (Model: MK8032GSX) 80G	Panasonic (Model:UJ-850)	Conexant (Model: RD-02-D330)	N/A	MITAC (Model: BP-LC2400/34-01S1)	Maplin(Model:PC2-2700S-2533-1-Z)
3	A790	Toshiba(Model: LTD141ECGA)	1 Gbps	Intel YONAH, 1.667GHZ	EPS (Model: F10903-A)	Toshiba (Model: MK1234GSX) 120G	MATSHITA(Model:UJDA770)	Conexant (Model: RD-02-D330)	Intel(Model:WM3945ABG)	MITAC (Model: BP-LC2400/34-01S1)	Infineon(Model:PC2-4200S-444-11-A0)
4	A790	Toshiba(Model: LTD121EC5S)	1 Gbps	Intel YONAH, 1.667GHZ	EPS (Model: F10903-A)	Toshiba (Model: MK1234GAX) 120G	Panasonic (Model:UJ-850)	Conexant (Model: RD-02-D330)	Intel(Model:WM3945ABG)	MITAC (Model: BP-LC2400/34-01S1)	Infineon(Model:PC2-4200S-444-11-A0)
5	A790	Toshiba(Model: LTD141ECGA)	1 Gbps	Intel YONAH, 1.667GHZ	EPS (Model: F10903-A)	Toshiba (Model: MK6025GAX) 60G	MATSHITA(Model:UJDA770)	Conexant (Model: RD-02-D330)	Intel(Model:WM3B2200BG)	MITAC (Model: BP-LC2400/34-01S1)	Infineon(Model:PC2-4200S-444-11-A0)

All types of LCD、LAN speed、CPU、Adapter Type、Hard Disk、DVD Dual、Modem Card、Wireless LAN Card、Battery、DDR with related components have been tested, only shown the worst data using the following configuration in this report.

configuration	Model	LCD	LAN speed	CPU	Adapter Type	Hard Disk	DVD Dual	Modem Card	Wireless LAN Card	Battery	DDR
1	A790	Toshiba(Model: LTD141ECGA)	1 Gbps	Intel YONAH, 1.667 GHZ	EPS (Model: F10903-A)	Toshiba (Model: MK1234GSX) 120G	MATSHITA(Model:UJDA770)	Conexant (Model: RD-02-D330)	Intel(Model:WM3945ABG)	MITAC(Model: BP-LC2400/34-01S1)	Infineon(Model:PC2-4200S-444-11-A0)
2	A770	Toshiba(Model: LTD141ECGA)	100 Mbps	Pentium processor,1.6GHZ	EPS (Model: F10903-A)	Toshiba (Model: MK8032GAX) 80G	Panasonic (Model:UJ-840)	Conexant (Model: RD-02-D330)	N/A	MITAC(Model: BP-LC2400/34-01S1)	Maplin(Model:PC2-2700S-2533-1-Z)

Differentiation :

Model	CPU	Bluetooth Module	1394 Port	Wireless LAN Card
A770	Pentium processor,1.6GHZ	N/A	1394	Intel(Model:WM3B2200BG)
A790	Intel YONAH,1.667GHZ	Billionton(Model:GUBTCR42M)	1394B	Intel(Model:WM3945ABG)

EMI Noise Source:

For A770:
PCMCIA Board Crystal: 24.576MHz(X2),24.576MHz(X1)
I/O board Crystal: 25MHz(X500)
Main board Crystal:14.318MHz(X1),16MHz(X2)
Clock Generator: U3

For A790:
PCMCIA Board Crystal:98.304MHz(X5)
Module Board Crystal:24MHz(X1),12MHz(X2)
Main Board Crystal:10MHz(X501),32.768KHz(X3),14.318MHz(X1)
I/O board Crystal:25MHz(X501)
Clock Generator:U2

EMI Solution:

1. Adding Core on Keyboard Signal cable (A5 FP 49.6*3.25*12*K)(whether if photograph report enclosure page 9 getting red arrow 1 point show)
2. Adding Gasket on LAN Port and USB Port (whether if photograph report enclosure page 10 getting red arrow 2,3 point show)
3. Adding Gasket on PCMCIA Board(whether if photograph report enclosure page 10 getting red arrow 4 point show)
4. Adding Gasket on Line out Port and Line-in Port (whether if photograph report enclosure page 10 getting red arrow 5 point show)
5. Adding Gasket on Main board(whether if photograph report enclosure page 24 getting red arrow 6,7 point show)
6. Adding shielded tape on LCD Signal cable with LCD Panel Connector(whether if photograph report enclosure page 50 getting red arrow 8 point show)
7. Adding shielded tape on LCD Signal cable(whether if photograph report enclosure page 50 getting red arrow 9 point show)
8. Adding shielded tape on Inverter Signal cable(whether if photograph report enclosure page 50 getting red arrow 10 point show)
9. Adding shielded tape on Inverter Signal cable with case (whether if photograph report enclosure page 50 getting red arrow 11 point show)
10. Adding Gasket on HD Box(whether if photograph report enclosure page 63 getting red arrow 12,13 point show)
11. Adding core(K5B RH 14.2*28.5*8) on 1394B data cable (whether if photograph report enclosure page 84 getting red arrow 14,15 point show)
12. Adding Gasket on 3G CDMA antenna*2 (whether if photograph report enclosure page 85,87 getting red arrow 16,17 point show)

4.9 Appendix I: Uncertainty of Measurement

The measurement uncertainties mentioned below refer to CISPR 16-4: 2002 Uncertainty in EMC measurements.

Test Site: Conduction 02

Item	Source of Uncertainty	Probability Distribution	Total Uncertainties (dB)		Standard Uncertainty (dB)	
1	Random Effects: (Assessment from 20 random observations; 1 reading on EUT)	Normal	k=2	0.031	k=1	0.015
2	Receiver: Sine wave voltage	Normal	k=2	0.800	k=2	0.400
3	LISN Loss Calibration	Normal	k=2	1.200	k=1	0.600
4	Cable Loss Calibration	Normal	k=2	1.027	k=1	0.514
5	Combined Standard Uncertainty Uc(y)	Normal			k=1	0.885
6	Total Uncertainty @95% mim. Confidence Level	Normal			k=2	1.771

Measurement Uncertainty Calculations:

$Uc(y) = \text{square root}\ (\ u_1(y)^2 + u_2(y)^2 + \ldots\ldots\ldots + u_n(y)^2\ )$

$U = 2 * Uc(y)$

Test Site: Chamber 02-10M (30M~1GHz)

Item	Source of Uncertainty	Probability Distribution	Total Uncertainties (dB)		Standard Uncertainty (dB)	
			k	(dB)	k	(dB)
1	Random Effects: (Assessment from 20 random observations; 1 reading on EUT)	Normal	2	0.345	1	0.172
2	Antenna Factor Calibration	Normal	2	1.400	1	0.700
3	Receiver: Sine wave voltage	Normal	2	0.800	1	0.400
4	Mismatch: antenna-receiver	U-shaped	1.5	1.000	1	0.667
5	Antenna: AF freq. Interpolation	Rectangular	1.73	0.300	1	0.173
6	Antenna: Directivity diffrence	Rectangular	1.73	1.000	1	0.578
7	Antenna: Balance	Rectangular	1.73	0.300	1	0.173
8	Site separation distance	Rectangular	1.73	0.300	1	0.173
9	Cable Loss Calibration	Normal	2	1.027	1	0.514
10	Combined Standard Uncertainty Uc(y)	Normal			1.000	1.346
11	Total Uncertainty @95% mim. Confidence Level	Normal			2.000	2.692

Measurement Uncertainty Calculations:

Uc (y) = square root ($u_1 (y)^2 + u_2 (y)^2 + ...+u_n (y)^2$)

U = 2 * Uc (y)

Test Site: Chamber 02-3M (30M~1Ghz)

Item	Source of Uncertainty	Probability Distribution	Total Uncertainties (dB)		Standard Uncertainty (dB)	
			k	(dB)	k	(dB)
1	Random Effects: (Assessment from 20 random observations; 1 reading on EUT)	Normal	2	0.345	1	0.172
2	Antenna Factor Calibration	Normal	2	1.400	1	0.700
3	Receiver: Sine wave voltage	Normal	2	0.800	1	0.400
4	Mismatch: antenna-receiver	U-shaped	1.5	1.000	1	0.667
5	Antenna: AF freq. Interpolation	Rectangular	1.73	0.300	1	0.173
6	Antenna: Directivity difference	Rectangular	1.73	1.000	1	0.578
7	Antenna: Balance	Rectangular	1.73	0.300	1	0.173
8	Site separation distance	Rectangular	1.73	0.300	1	0.173
9	Cable Loss Calibration	Normal	2	2.108	1	1.054
10	Combined Standard Uncertainty Uc(y)	Normal			1.000	1.631
11	Total Uncertainty @95% mim. Confidence Level	Normal			2.000	3.262

Measurement Uncertainty Calculations:

Uc (y) = square root ($u_1 (y)^2 + u_2 (y)^2 + ...+u_n (y)^2$)

U = 2 * Uc (y)

Test Site: Chamber 02-3M (1G~18Ghz)

Item	Source of Uncertainty	Probability Distribution	Total Uncertainties (dB)		Standard Uncertainty (dB)	
			k	(dB)	k	(dB)
1	Random Effects: (Assessment from 20 random observations; 1 reading on EUT)	Normal	2	0.345	1	0.172
2	Antenna Factor Calibration	Normal	2	1.700	1	0.850
3	Receiver: Sine wave voltage	Normal	2	0.800	1	0.400
4	Mismatch: antenna-receiver	U-shaped	1.5	1.000	1	0.667
5	Antenna: AF freq. Interpolation	Rectangular	1.73	0.300	1	0.173
6	Antenna: Directivity difference	Rectangular	1.73	1.000	1	0.578
7	Antenna: Balance	Rectangular	1.73	0.300	1	0.173
8	Site separation distance	Rectangular	1.73	0.300	1	0.173
9	Cable Loss Calibration	Normal	2	2.108	1	1.054
10	Combined Standard Uncertainty Uc(y)	Normal			1.000	1.701
11	Total Uncertainty @95% mim. Confidence Level	Normal			2.000	3.401

Measurement Uncertainty Calculations:

Uc (y) = square root ($u_1 (y)^2 + u_2 (y)^2 + ...+u_n (y)^2$)

U = 2 * Uc (y)

Test Site: Chamber 02-3M (18G~26Ghz)

Item	Source of Uncertainty	Probability Distribution	Total Uncertainties (dB)		Standard Uncertainty (dB)	
			k	(dB)	k	(dB)
1	Random Effects: (Assessment from 20 random observations; 1 reading on EUT)	Normal	2	0.188	1	0.094
2	Antenna Factor Calibration	Normal	2	2.000	1	1.000
3	Receiver: Sine wave voltage	Normal	2	0.800	1	0.400
4	Mismatch: antenna-receiver	U-shaped	1.5	1.000	1	0.667
5	Antenna: AF freq. Interpolation	Rectangular	1.73	0.300	1	0.173
6	Antenna: Directivity diffrence	Rectangular	1.73	1.000	1	0.578
7	Antenna: Balance	Rectangular	1.73	0.300	1	0.173
8	Site separation distance	Rectangular	1.73	0.300	1	0.173
9	Cable Loss Calibration	Normal	2	2.108	1	1.054
10	Combined Standard Uncertainty Uc(y)	Normal			1.000	1.774
11	Total Uncertainty @95% mim. Confidence Level	Normal			2.000	3.549

Measurement Uncertainty Calculations:

Uc (y) = square root ($u_1 (y)^2 + u_2 (y)^2 + ...+u_n (y)^2$)

U = 2 * Uc (y)

Test Site: Chamber 02-3M (26G~40Ghz)

Item	Source of Uncertainty	Probability Distribution	Total Uncertainties (dB)		Standard Uncertainty (dB)	
			k	(dB)	k	(dB)
1	Random Effects: (Assessment from 20 random observations; 1 reading on EUT)	Normal	2	0.179	1	0.089
2	Antenna Factor Calibration	Normal	2	2.000	1	1.000
3	Receiver: Sine wave voltage	Normal	2	0.800	1	0.400
4	Mismatch: antenna-receiver	U-shaped	1.5	1.000	1	0.667
5	Antenna: AF freq. Interpolation	Rectangular	1.73	0.300	1	0.173
6	Antenna: Directivity difference	Rectangular	1.73	1.000	1	0.578
7	Antenna: Balance	Rectangular	1.73	0.300	1	0.173
8	Site separation distance	Rectangular	1.73	0.300	1	0.173
9	Cable Loss Calibration	Normal	2	2.108	1	1.054
10	Combined Standard Uncertainty Uc(y)	Normal			1.000	1.774
11	Total Uncertainty @95% mim. Confidence Level	Normal			2.000	3.548

Measurement Uncertainty Calculations:

Uc (y) = square root ($u_1 (y)^2 + u_2 (y)^2 + ...+u_n (y)^2$)

U = 2 * Uc (y)

4.10 Appendix J: Photographs of EUT Configuration Test Set Up

The measurement results along with the appropriate limits for comparison shall be presented in tabular form. If an alternate test method is used, the test report must identify that method and justification for its use shall be provided. Instrumentation, instrument attenuator and bandwidth settings, detector function, EUT arrangements, a sample calculation with all conversion factors and all other pertinent details shall be included along with the measurement results. When automatic scan techniques are used, an explanation of how each emission from the EUT was maximized shall be included in the test report along with the scan rate used to obtain each level.

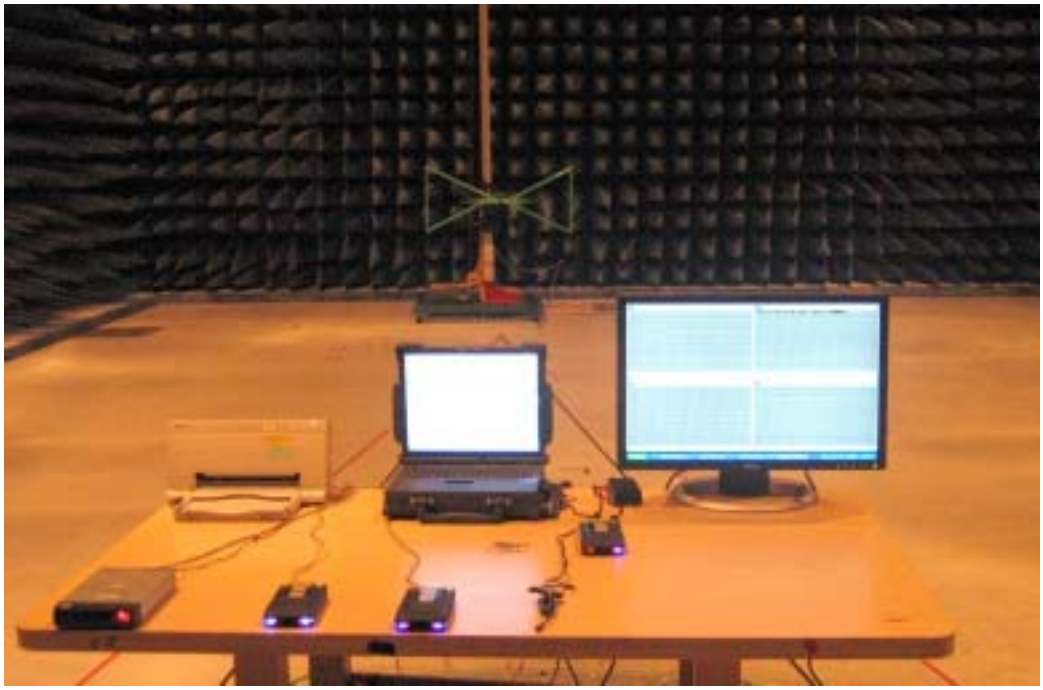
The justification for selecting a particular EUT configuration and particular length of interface cable to produce maximized emissions must be documented in the test report. Photographs clearly showing the test set-up and interface cable arrangement for the highest radiated and line conducted emission measured shall be included.

Configuration 1

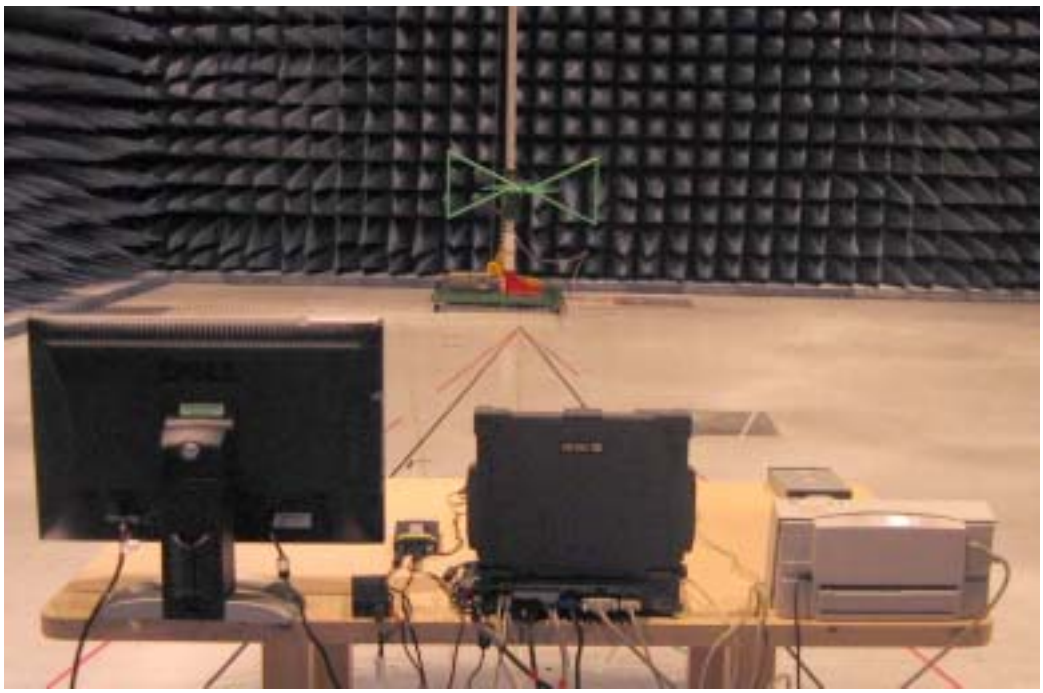
The Front View of Highest Conducted Set-up For EUT

The Back View of Highest Conducted Set-up For EUT

The Front View of Highest Radiated Set-up For EUT

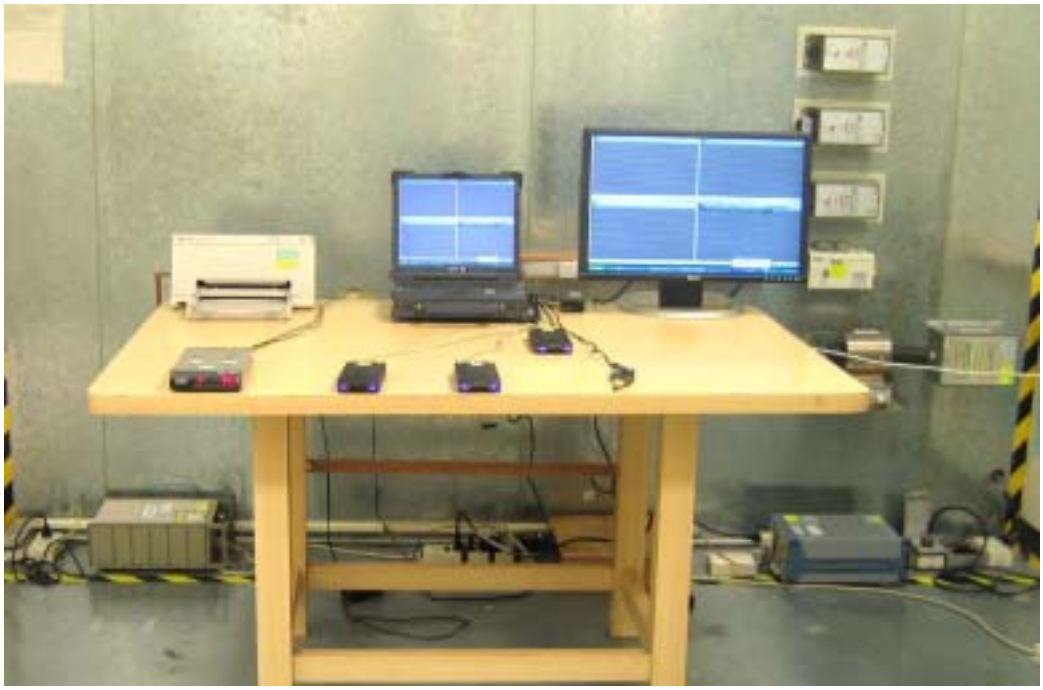


The Back View of Highest Radiated Set-up For EUT



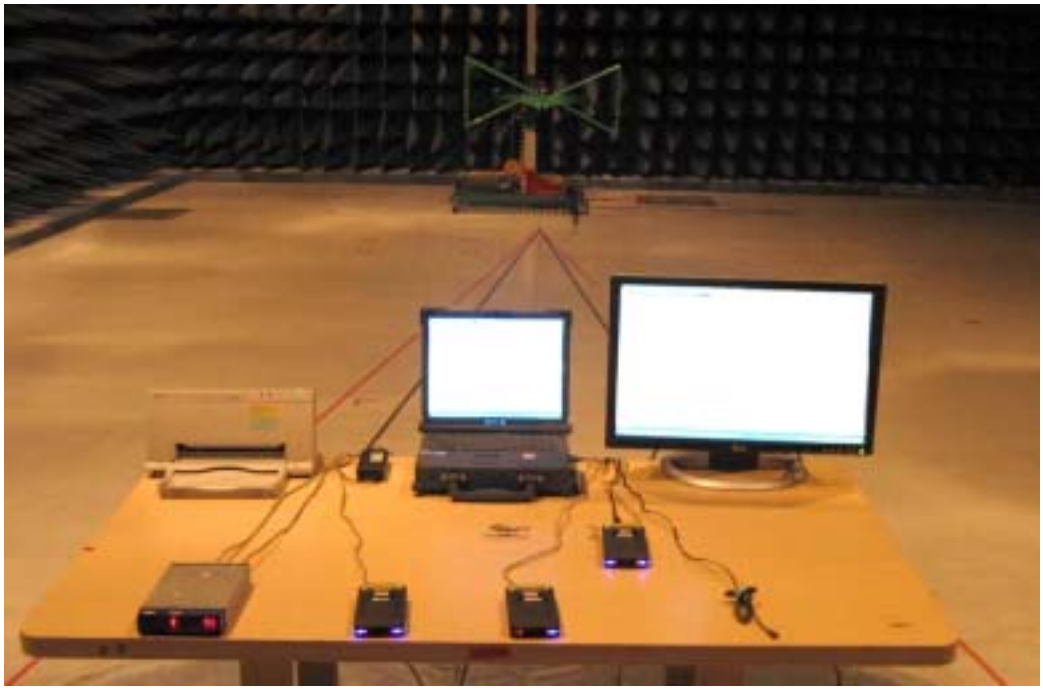
Configuration 2

The Front View of Highest Conducted Set-up For EUT

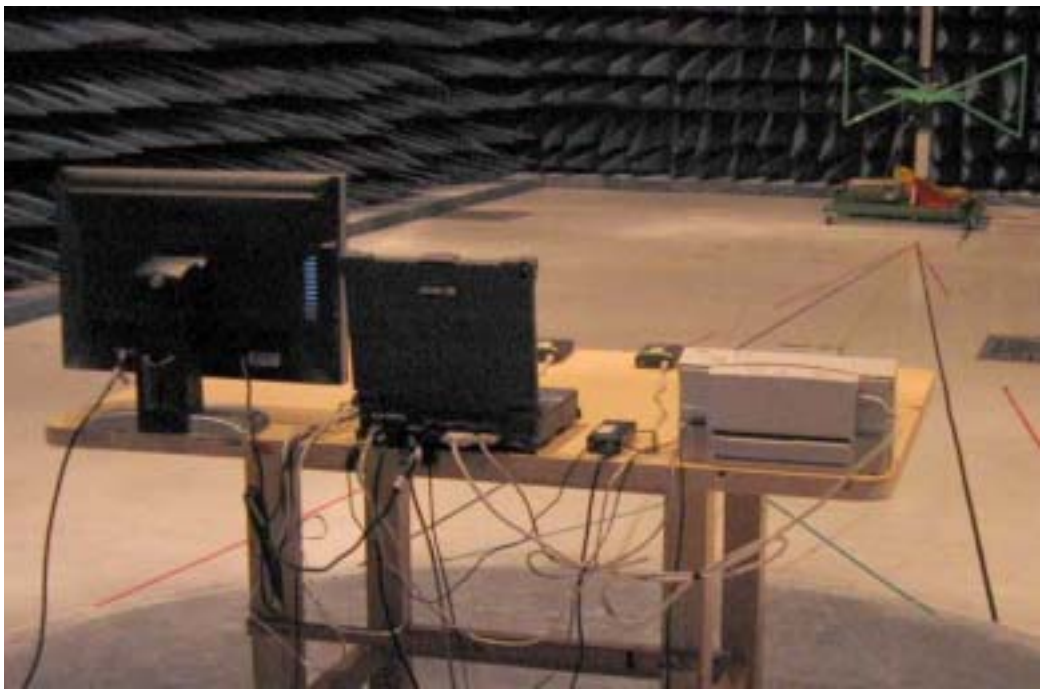


The Back View of Highest Conducted Set-up For EUT

The Front View of Highest Radiated Set-up For EUT



The Back View of Highest Radiated Set-up For EUT



4.11 Appendix K: Photographs of EUT

Please refer to the File of **ISL-*06LE121*P**