

# Test Report for FCC Part 15 Subpart B & C

*of*

*Product Name*

## Tablet Personal Computer

(Built in Wacom Digitizer, Model: SU5E-12S05; SU5R-12S05)

*Model*

**7762; 7763; 7764; 7767; 7768; 7769**

*Applied by:*

Wistron Corporation  
21th Fl., 88, Sec.1, Hsin Tai Wu Rd.,  
Hsichih, Taipei Hsi  
Taiwan, R.O.C.

*Test Performed by:*

### International Standards Laboratory

No. 120, Lane 180, San Ho Tsuen, Hsin Ho Rd.  
Lung-Tan Hsiang, Tao Yuan County 325  
Taiwan, R.O.C.  
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**Report Number: ISL-07LR017FC**

**Issue Date: 2007/04/09**

HC LAB: NVLAP:200234-0; VCCI: R-341, C-354; NEMKO: ELA 113A; BSMI: SL2-IN-E-0037; SL2-R1-E-0037; CNLA: 1178; IC: IC4067

LT LAB: NVLAP:200234-0; VCCI: R-1435, C-1440; NEMKO: ELA 113B; BSMI: SL2-IN-E-0013; CNLA: 0997; IC: IC4164-1

ISL-T10-R2-3

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# 1. General

## 1.1 Certification of Accuracy of Test Data

**Standards:** CFR 47 Part 15 Subpart B Class B  
CFR 47 Part 15 Subpart C

**Test Procedure:** ANSI C63.4:2003

**Equipment Tested:** Tablet Personal Computer

**Model:** 7762; 7763; 7764; 7767; 7768; 7769

**Applied by:** Wistron Corporation

**Sample received Date:** 2007/03/28

**Final test Date :** 2007/04/02-2007/04/09

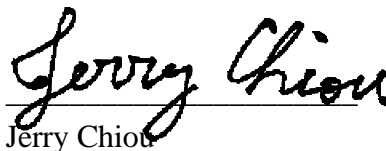
**Test Result** PASS

**Test Site:** Chamber 02, Conduction 02

**Temperature** Refer to each site test data

**Humidity:** Refer to each site test data

**Test Engineer:**

  
Jerry Chiot

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 measurements of the characteristics and the energy 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

  
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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 28 pages, including 1 cover page , 1 contents page, and 26 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).

## 2. Test Results Summary

The device functions of EUT has been tested according to the FCC regulations listed below:

Tested Standards: 47 CFR Part 15 Subpart C			
Standard Section	Test Type	Result	Remarks
15.207	AC Power Line Emissions	Pass	
15.209	Radiated Emissions 9KHz – 1 GHz	Pass	

### 3. Description of Equipment Under Test (EUT)

Description: Tablet Personal Computer  
Model No.: 7762; 7763; 7764; 7767; 7768; 7769  
Digitizer: SU5E-12S05 ; SU5R-12S05 (mode by Wacom)  
Digitizer Power Type : 3.3V DC from the EUT

The operation frequency is listed below:

Frequency(KHz)

531.25

562.5

593.75

CPU: Intel Core2 Duo Genuine 1.6GHz \*2  
Power Supply Type: Lenovo 65W 20V (MODEL: 92P1211)  
Hard Disk Driver: FUJITSU 60GB SATA (MODEL: MHV2060BH PL)  
DDR: HYNIX 1GB (MODEL: HYMP512S64BP8 –Y5 AB)  
Battery SANYO 8cells (MODEL: BTP-B6K8)  
Power In Port: one  
USB Connector: three  
VGA Port: one  
Line Out Port: one  
MIC In Port: one  
Modem Card: MDC 1.5 Foxconn  
LAN Connector: one  
PCMCIA Slot: one  
Modem Connector: one  
SD Card reader: one

Difference list table for Digitizer model name:

Model	SU5E-12S05	SU5R-12S05
Difference		
Protection	Protection Plate	Touch Panel Glass

Test configuration:

configuration	Digitizer	CPU	Adapter Type	Hard Disk	DDR
1	SU5E-12S05	Genuine intel 1.6GHz	Lenovo (MODEL: 92P1211)	FUJITSU (MODEL: MHV2060BH PL)	HYNIX (MODEL: HYMP512S64BP8 -Y 5 AB)
2	SU5R-12S05	Genuine intel 1.6GHz	Lenovo (MODEL: 92P1211)	FUJITSU (MODEL: MHV2060BH PL)	HYNIX (MODEL: HYMP512S64BP8 -Y 5 AB)

All types of Digitizer, CPU, Adapter Type, Hard Disk, DDR with related components have been tested, only shown the worst data using the following configuration in this report.

configuration	Digitizer	CPU	Adapter Type	Hard Disk	DDR
1	SU5E-12S05	Genuine intel 1.6GHz	Lenovo (MODEL: 92P1211)	FUJITSU (MODEL: MHV2060BH PL)	HYNIX (MODEL: HYMP512S64BP8 -Y 5 AB)

## 4. TEST RESULTS

### 4.1 Powerline Conducted Emissions [Section 15.207]

#### 4.1.1 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 of the shielded room was located 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 used.

Both lines (neutral and hot) were connected to the LISN in series at testing. A coaxial-type connector which provides one 50 ohms terminating impedance was provided for connecting the test instrument. The excess length of the power cord was folded back and forth at the center of the lead so as to form a bundle not exceeding 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 the EUT is a Personal Computer or a peripheral of personal computer, and the personal computer has an auxiliary AC outlet which can be used for providing power to an external monitor, then all measurements will be made with the monitor power from first the computer-mounted AC outlet and then a floor-mounted AC outlet.

#### 4.1.2 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 the 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 6dB 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 6dB below the applicable average limits, the emissions were also measured with the average detectors.

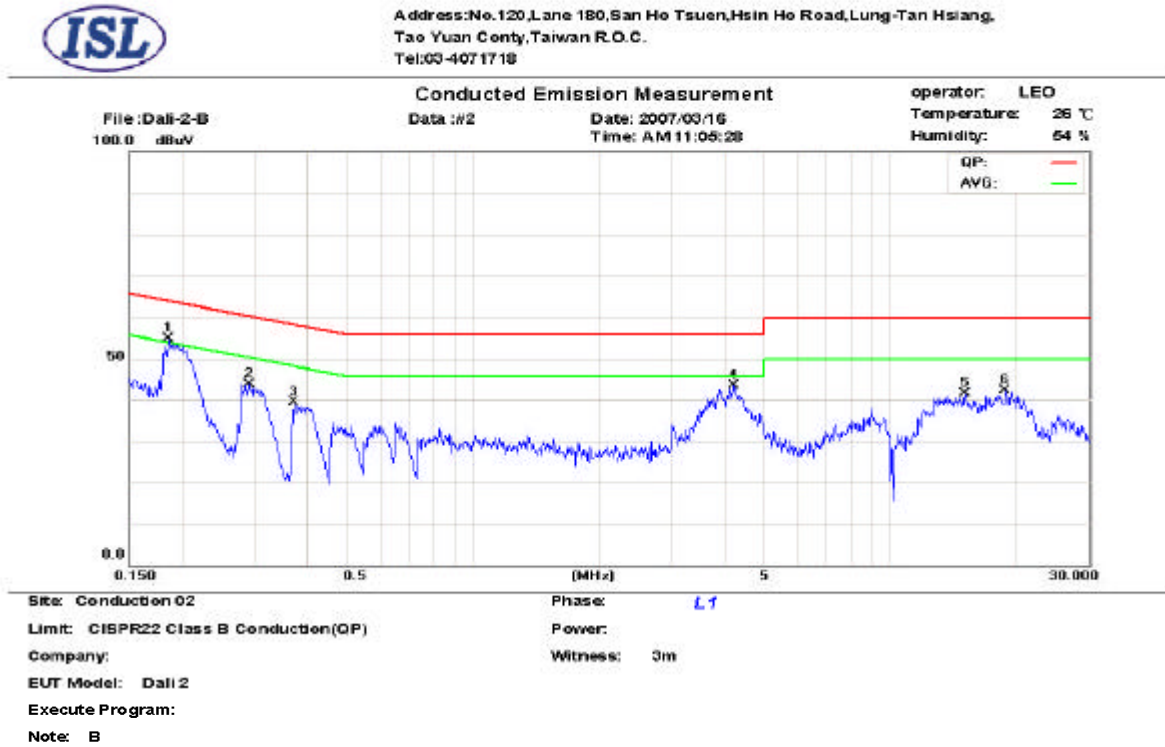
The highest emissions were analyzed in details by operating the spectrum analyzer in fixed tuned mode to determine the nature of the emissions and to provide information which could be useful in reducing their amplitude.

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

Frequency Range	150 KHz--30MHz
Detector Function	Quasi-Peak/Average
Bandwidth (RBW)	9KHz

4.1.4 Test Data:

Power Line Conducted Emissions (Hot)



Frequency MHz	LISN Loss dB	Cable Loss dB	QP Correct. dBuV	QP Limit dBuV	QP Margin dB	AVG Correct. dBuV	AVG Limit dBuV	AVG Margin dB	Note
0.1864	0.1	0.04	47.90	64.1	-16.2	35.50	54.1	-18.6	
0.2893	0.14	0.09	37.90	60.5	-22.6	26.00	50.5	-24.5	
0.3711	0.19	0.09	31.40	58.4	-27.0	29.95	48.4	-18.5	
* 4.2241	0.4	0.14	41.92	56.0	-14.0	40.11	46.0	-5.89	
15.1456	0.9	0.3	41.29	60.0	-18.7	38.48	50.0	-11.5	
18.9205	0.9	0.33	41.21	60.0	-18.7	37.50	50.0	-12.5	

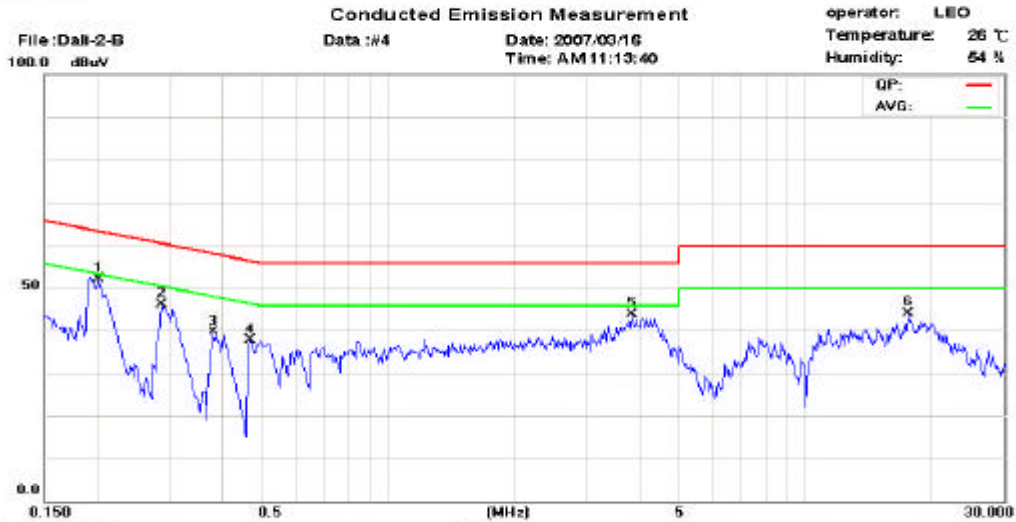
\*:Maximum data x:Over limit



Power Line Conducted Emissions (Neutral)



Address: No. 120, Lane 180, San Ho Tsuen, Hsin Ho Road, Lung-Tan Hsiang,  
Tao Yuan Conty, Taiwan R.O.C.  
Tel: 03-4071718



Site: Conduction 02  
Limit: CISPR22 Class B Conduction(QP)  
Company:  
EUT Model: Dali 2  
Execute Program:  
Note: B

Phase: N  
Power:  
Witness: 3m

Frequency MHz	LISN Loss dB	Cable Loss dB	QP Correct dBuV	QP Limit dBuV	QP Margin dB	AVG Correct dBuV	AVG Limit dBuV	AVG Margin dB	Note
* 0.2014	0.1	0.05	49.20	63.5	-14.3	38.50	53.5	-15.0	
0.2883	0.14	0.09	42.00	60.5	-18.5	29.50	50.5	-21.0	
0.3811	0.19	0.09	34.70	58.2	-23.5	20.90	48.2	-27.3	
0.4686	0.2	0.07	34.30	56.5	-22.2	16.00	46.5	-30.5	
3.8329	0.2	0.14	37.70	56.0	-18.3	22.30	46.0	-23.7	
17.6600	0.45	0.32	35.60	60.0	-24.4	30.10	50.0	-19.9	

\*:Maximum data x:Over limit

\* NOTE: During the test, the EMI receiver was set to Max. Hold then switch the EUT all Channel to get the maximum reading.  
Margin = Amplitude + Insertion Loss- Limit  
A margin of -8dB means that the emission is 8dB below the limit

## 4.2 Radiated Emission Measurement [Section [15.209]

### 4.2.1 EUT Configuration

The equipment under test was set up on the 10 meter chamber with measurement distance of 3 meters. The EUT was placed on a non-conductive table 80cm above ground.

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

### 4.2.2 Test Procedure

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

9KHz to 30MHz: The highest emissions between 9KHz to 30MHz were also analyzed in details by operating the spectrum analyzer and/or EMI receiver in 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 Loop antenna height was fixed in one meters, its angle was varied between 0 ,22.5 ,45 ,67.5 ,90 ,112.5 ,135 and 157.5 ° and the turntable was slowly rotated, to maximize the emission. During test the EMI receiver and spectrum was setup according to *EMI Receiver/Spectrum Analyzer Configuration*.

30MHz to 1GHz: The highest emissions between 30 MHz to 1000 MHz were also 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.

1GHz – 25GHz: The highest emissions were also analyzed in details by operating the spectrum analyzer and/or EMI receiver in peak mode to determine the precise amplitude of the emission. 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. During test the EMI receiver and spectrum was setup according to *EMI Receiver/Spectrum Analyzer Configuration*.

For the test of 2<sup>nd</sup> to 10<sup>th</sup> harmonics frequencies , the equipment setup was also refer to *EMI Receiver/Spectrum Analyzer Configuration*. The frequencies were tested using Peak mode first, if the test data is higher than the emissions limit, an additional measurement using Average mode will be performed and the average reading will be compared to the limit and record in test report.

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

Frequency Range Tested: 9KHz~150KHz  
 Detector Function: Peak Mode  
 Resolution Bandwidth (RBW): 300Hz  
 Video Bandwidth (VBW) 300Hz  
 Measurement Distance 10 m

Frequency Range Tested: 150KHz~30MHz  
 Detector Function: Peak Mode  
 Resolution Bandwidth (RBW): 10KHz  
 Video Bandwidth (VBW) 10KHz  
 Measurement Distance 10 m

Frequency Range Tested: 30MHz~1000MHz  
 Detector Function: Quasi-Peak Mode  
 Resolution Bandwidth (RBW): 100KHz  
 Video Bandwidth (VBW) 300KHz  
 Measurement Distance 3 m

**Limit Conversion:  
FCC section 15.209**

Frequency (MHz)	Field Strength (microvolts / meter)	Measurement Distance (meters)
0.490 - 1.705	24000/F(kHz)	30

Ex: Limit of 0.53125 MHz  
 $24000 / 531.25 = 45.176$  (microvolts / meter) =  $20 * \log(45.176)$  dBuV/m = 30.098 dBuV/m

$L2 = L1(D1/D2)$   
 $L2 = 20 \log 24000/F(kHz) + 20 \log(D1/D2) = 42.64$  (dBuV/m)

4.2.4 Test Data:

4.4.4.1 Fundamental Frequency 531.25 KHz

9KHz – 30MHz Open Field Radiated Emissions

Operator: Jerry Chiou  
Temperature (C): 26  
Humidity (%): 54

Frequency MHz	Rx Amp. (dBuV)	Ant Fact (dB/m)	CableLoss (dB)	Corrct. Emi. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
0.53125*	15.51	10.29	0.16	25.96	42.64	-16.68
1.0625	--	10.4	0.2	30.91	36.62	--

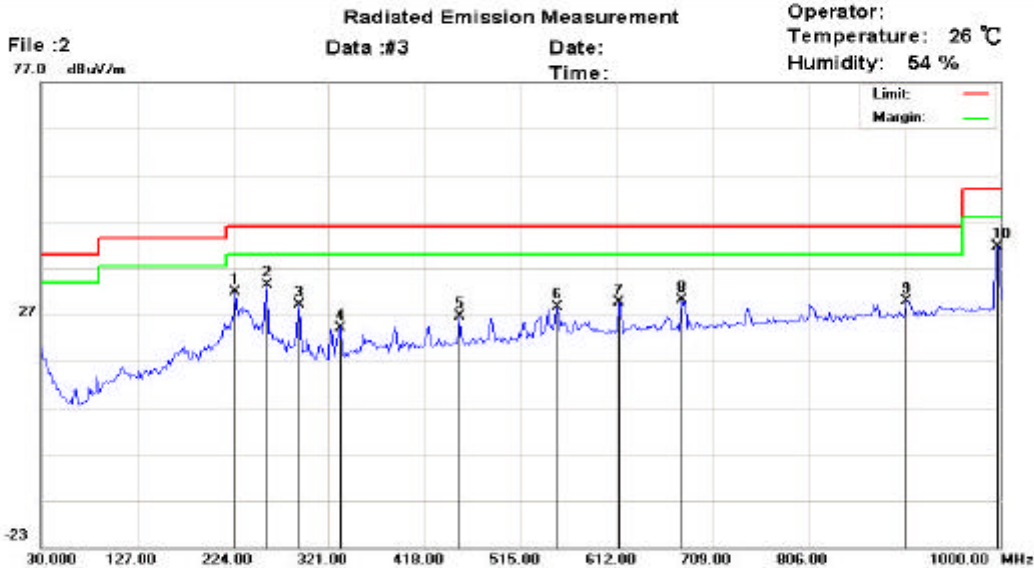
“\*”: Fundamental Frequency

“--” The Emission is too small to be detected

30MHz~1GHz Open Field Radiated Emissions (Horizontal)



Address: No.120, Lane 180, San Ho Tsuen, Hsin Ho Road  
 , Lung-Tan Hsiang, Tao Yuan Conty, Taiwan R.O.C.  
 Tel: 03-4071718



Site : Chamber 02  
 Condition : FCC Class B 3M Radiation  
 Company :  
 EUT Model:  
 Execute Program :  
 Note :

Polarization: *Horizontal*  
 Power :  
 Witness:

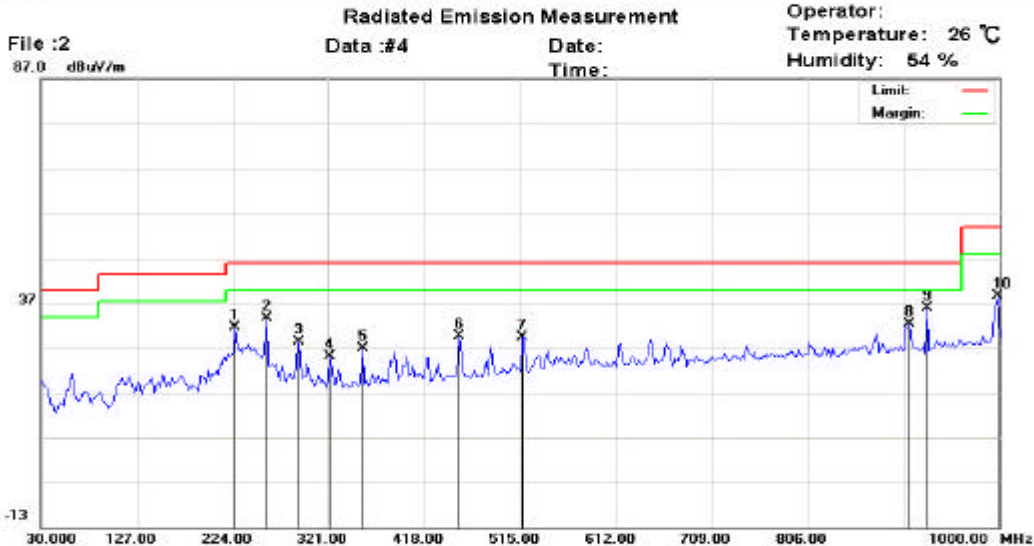
Mk.	Frequency (MHz)	RX_R (dBuV/m)	Ant_F (dB)	Cab_L (dB)	PreAmp (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
	225.9400	19.71	9.81	2.44	0	31.96	46.00	-14.04	243	268	peak
	258.9200	16.78	14.01	2.63	0	33.42	46.00	-12.58	100	126	peak
	291.9000	13.20	13.04	2.87	0	29.11	46.00	-16.89	311	323	peak
	332.6400	7.05	13.98	3.22	0	24.25	46.00	-21.75	249	65	peak
	452.9200	5.98	16.74	3.87	0	26.59	46.00	-19.41	287	153	peak
	551.8600	5.37	18.99	4.37	0	28.73	46.00	-17.27	100	155	peak
	613.9400	6.29	18.78	4.67	0	29.74	46.00	-16.26	317	141	peak
	677.9600	6.23	18.94	4.99	0	30.16	46.00	-15.84	103	15	peak
	904.9400	3.47	20.54	5.95	0	29.96	46.00	-16.04	245	211	peak
*	996.1200	14.02	21.27	6.46	0	41.75	54.00	-12.25	106	212	peak

\*:Maximum data x:Over limit !:over margin

30MHz~1GHz Open Field Radiated Emissions (Vertical)



Address: No.120, Lane 180, San Ho Tsuen, Hsin Ho Road  
 , Lung-Tan Hsiang, Tao Yuan Conty, Taiwan R.O.C.  
 Tel: 03-4071718



Site : Chamber 02  
 Condition : FCC Class B 3M Radiation  
 Company :  
 EUT Model:  
 Execute Program :  
 Note :

Polarization: Vertical  
 Power :  
 Witness:

Mk.	Frequency (MHz)	RX_R (dBuV/m)	Ant_F (dB)	Cab_L (dB)	PreAmp (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
	225.9400	19.33	9.81	2.44	0	31.58	46.00	-14.42	227	156	peak
	258.9200	16.98	14.01	2.63	0	33.62	46.00	-12.38	100	122	peak
	291.9000	12.52	13.04	2.87	0	28.43	46.00	-17.57	312	183	peak
	322.9400	8.16	13.75	3.16	0	25.07	46.00	-20.93	193	199	peak
	355.9200	8.89	14.57	3.34	0	26.80	46.00	-19.20	100	223	peak
	452.9200	9.05	16.74	3.87	0	29.66	46.00	-16.34	276	116	peak
	516.9400	7.39	17.94	4.15	0	29.48	46.00	-16.52	119	215	peak
	908.8200	5.82	20.57	5.95	0	32.34	46.00	-13.66	100	4	peak
*	926.2800	9.21	20.71	5.95	0	35.87	46.00	-10.13	300	14	peak
	998.0600	10.99	21.28	6.47	0	38.74	54.00	-15.26	370	28	peak

\*:Maximum data x:Over limit !:over margin

NOTE:  
 All frequencies from 30MHz to 1GHz have been tested

**4.4.4.2 Fundamental Frequency 562.5 KHz**

**9KHz – 30MHz Open Field Radiated Emissions**

Operator: Jerry Chiou  
Temperature (C): 26  
Humidity (%): 54

Frequency MHz	Rx Amp. (dBuV)	Ant Fact (dB/m)	CableLoss (dB)	Corrct. Emi. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
0.5625*	11.31	10.39	0.16	21.86	42.14	-20.28
1.125	--	10.43	0.2	31.33	36.12	--

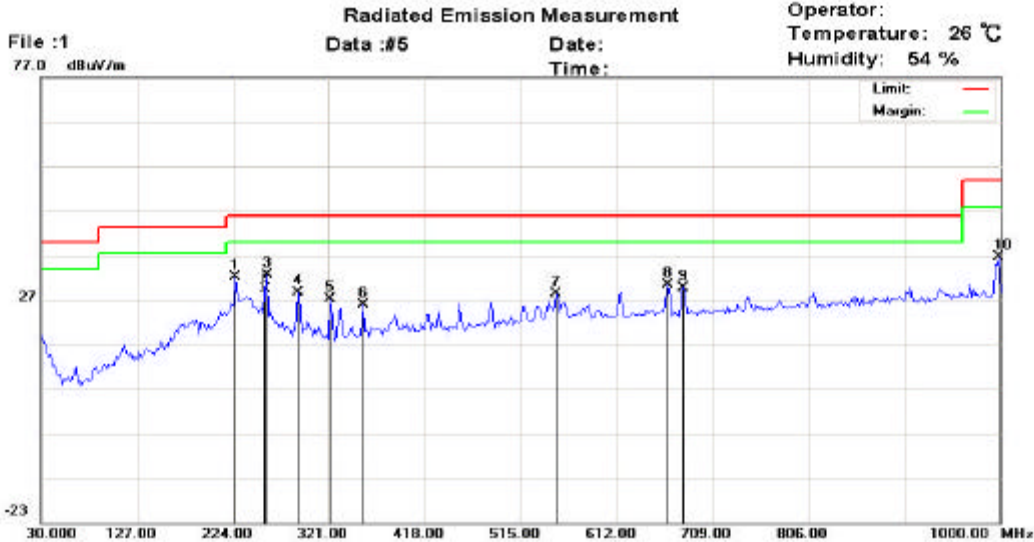
“\*”: Fundamental Frequency

“--” The Emission is too small to be detected

30MHz~1GHz Open Field Radiated Emissions (Horizontal)



Address: No. 120, Lane 180, San Ho Tsuen, Hsin Ho Road  
 Lung-Tan Hsiang, Tao Yuan Conty, Taiwan R.O.C.  
 Tel: 03-4071718



Site : Chamber 02  
 Condition : FCC Class B 3M Radiation  
 Company :  
 EUT Model :  
 Execute Program :  
 Note :

Polarization : *Horizontal*  
 Power :  
 Witness :

Mk.	Frequency (MHz)	RX_R (dBuV/m)	Ant_F (dB)	Cab_L (dB)	PreAmp (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
	225.9400	19.90	9.81	2.44	0	32.15	46.00	-13.85	156	92	peak
	256.9800	13.17	13.66	2.62	0	29.45	46.00	-16.55	169	292	peak
*	258.9200	16.02	14.01	2.63	0	32.66	46.00	-13.34	225	165	peak
	289.9600	12.75	13	2.85	0	28.60	46.00	-17.40	100	326	peak
	322.9400	10.23	13.75	3.16	0	27.14	46.00	-18.86	364	327	peak
	355.9200	8.01	14.57	3.34	0	25.92	46.00	-20.08	100	226	peak
	549.9200	5.06	19	4.36	0	28.42	46.00	-17.58	191	72	peak
	664.3800	6.41	18.97	4.91	0	30.29	46.00	-15.71	315	30	peak
	679.9000	5.82	18.94	4.99	0	29.75	46.00	-16.25	194	127	peak
	998.0600	8.94	21.28	6.47	0	36.69	54.00	-17.31	337	229	peak

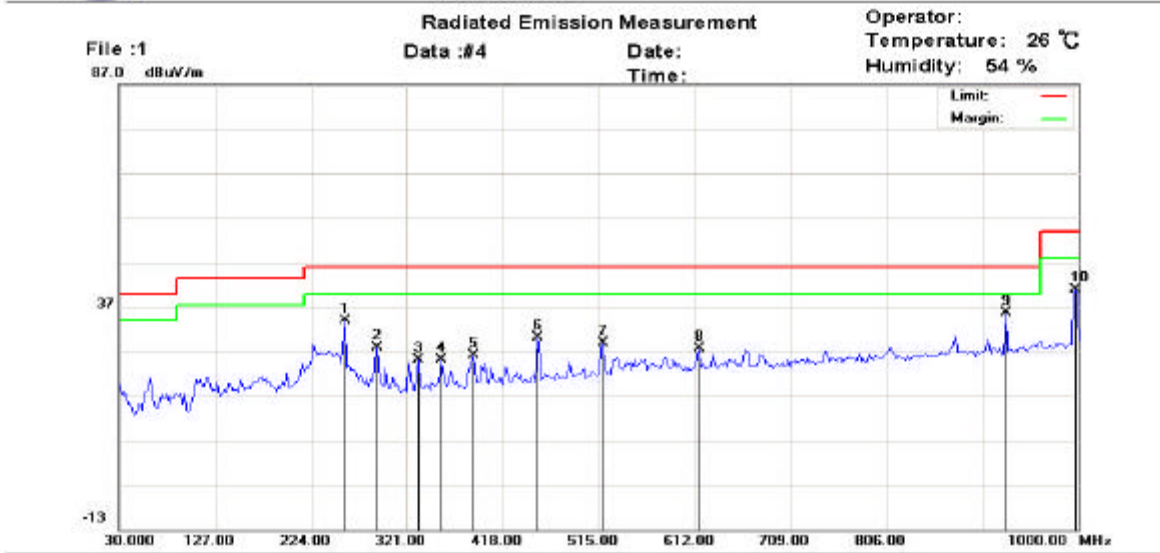
\*:Maximum data    x:Over limit    !:over margin



30MHz~1GHz Open Field Radiated Emissions (Vertical)



Address: No. 120, Lane 180, San Ho Tsuen, Hsin Ho Road  
Lung-Tan Hsiang, Tao Yuan Conty, Taiwan R.O.C.  
Tel: 03-4071718



Site : Chamber 02      Polarization: *Vertical*  
Condition : FCC Class B 3M Radiation      Power :  
Company :      Witness :  
EUT Model :  
Execute Program :  
Note :

Mk.	Frequency (MHz)	RX_R (dBuV/m)	Ant_F (dB)	Cab_L (dB)	PreAmp (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
	258.9200	17.23	14.01	2.63	0	33.87	46.00	-12.13	342	322	peak
	291.9000	11.91	13.04	2.87	0	27.82	46.00	-18.18	215	138	peak
	332.6400	7.84	13.98	3.22	0	25.04	46.00	-20.96	340	251	peak
	355.9200	7.28	14.57	3.34	0	25.19	46.00	-20.81	100	243	peak
	388.9000	7.09	15.49	3.55	0	26.13	46.00	-19.87	184	84	peak
	452.9200	9.51	16.74	3.87	0	30.12	46.00	-15.88	100	221	peak
	518.8800	6.76	18	4.16	0	28.92	46.00	-17.08	237	55	peak
	615.8800	4.07	18.8	4.69	0	27.56	46.00	-18.44	275	335	peak
*	926.2800	8.87	20.71	5.95	0	35.53	46.00	-10.47	179	188	peak
	996.1200	13.24	21.27	6.46	0	40.97	54.00	-13.03	100	88	peak

\*:Maximum data    x:Over limit    !:over margin

NOTE:  
**All frequencies from 30MHz to 1GHz have been tested**

### 4.4.4.3 Fundamental Frequency 593.75 KHz

#### 9KHz – 30MHz Open Field Radiated Emissions

Operator: Jerry Chiou  
Temperature (C): 26  
Humidity (%): 54

Frequency MHz	Rx Amp. (dBuV)	Ant Fact (dB/m)	CableLoss (dB)	Corrct. Emi. (dBuV/m)	Limit (dBuV/m)	Margin (dB)
0.59375*	16.05	10.48	0.17	26.7	41.67	-14.97
1.1875	--	10.46	0.21	31.03	35.66	--

“\*”: Fundamental Frequency

“--” The Emission is too small to be detected

30MHz~1GHz Open Field Radiated Emissions (Horizontal)



Address: No.120, Lane 180, San Ho Tsuen, Hsin Ho Road  
 , Lung-Tan Hsiang, Tao Yuan Conty, Taiwan R.O.C.  
 Tel: 03-4071718

File : 3  
 77.0 dBuV/m  
 Radiated Emission Measurement  
 Data : #4  
 Date:  
 Time:  
 Operator:  
 Temperature: 26 °C  
 Humidity: 54 %



Site : Chamber 02  
 Condition : FCC Class B 3M Radiation  
 Company :  
 EUT Model:  
 Execute Program :  
 Note :  
 Polarization: *Horizontal*  
 Power :  
 Witness:

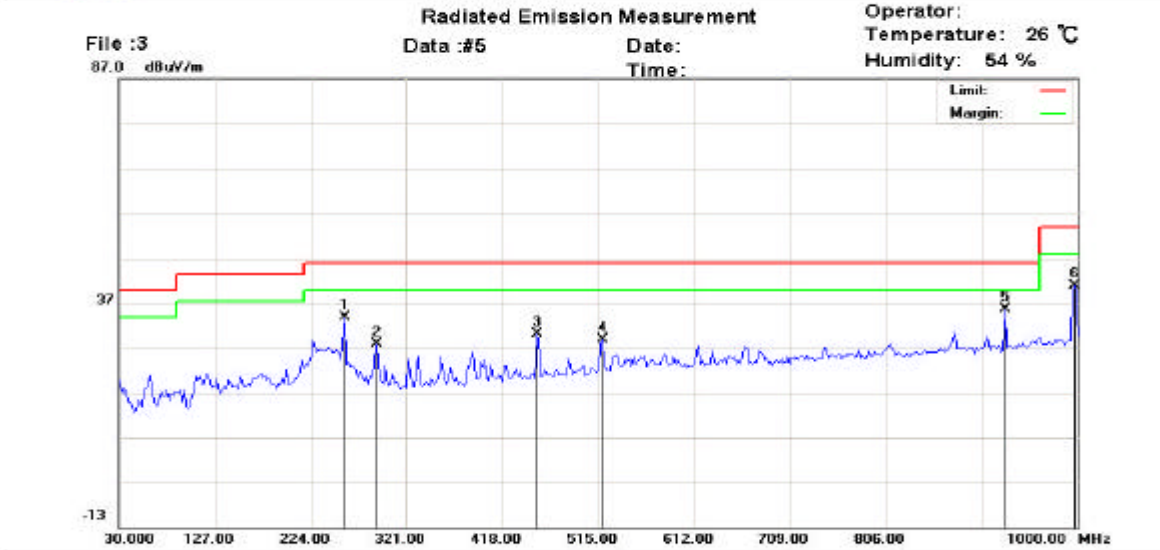
Mk.	Frequency (MHz)	RX_R (dBuV/m)	Ant_F (dB)	Cab_L (dB)	PreAmp (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
	225.9398	19.90	9.81	2.44	0	32.15	46.00	-13.85	117	209	peak
*	258.9200	16.02	14.01	2.63	0	32.66	46.00	-13.34	269	353	peak
	289.9599	12.75	13	2.85	0	28.60	46.00	-17.40	308	280	peak
	549.9198	5.06	19	4.36	0	28.42	46.00	-17.58	173	109	peak
	664.3799	6.41	18.97	4.91	0	30.29	46.00	-15.71	100	94	peak
	679.8999	5.82	18.94	4.99	0	29.75	46.00	-16.25	100	300	peak
	998.0598	8.94	21.28	6.47	0	36.69	54.00	-17.31	208	99	peak

\*:Maximum data    x:Over limit    !:over margin

30MHz~1GHz Open Field Radiated Emissions (Vertical)



Address: No. 120, Lane 180, San Ho Tsuen, Hsin Ho Road,  
Lung-Tan Hsiang, Tao Yuan Conty, Taiwan R.O.C.  
Tel: 03-4071718



Site : Chamber 02  
Condition : FCC Class B 3M Radiation      Polarization: Vertical  
Company :      Power :  
EUT Model:      Witness:  
Execute Program :  
Note :

Mk.	Frequency (MHz)	RX_R (dBuV/m)	Ant_F (dB)	Cab_L (dB)	PreAmp (dB)	Emission (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Ant.Pos (cm)	Tab.Pos (deg.)	Detector
	258.9200	17.23	14.01	2.63	0	33.87	46.00	-12.13	129	101	peak
	291.8999	11.91	13.04	2.87	0	27.82	46.00	-18.18	392	43	peak
	452.9200	9.51	16.74	3.87	0	30.12	46.00	-15.88	396	64	peak
	518.8799	6.76	18	4.16	0	28.92	46.00	-17.08	202	127	peak
*	926.2798	8.87	20.71	5.95	0	35.53	46.00	-10.47	191	158	peak
	996.1200	13.24	21.27	6.46	0	40.97	54.00	-13.03	281	318	peak

\*:Maximum data    x:Over limit    !:over margin

NOTE:  
**All frequencies from 30MHz to 1GHz have been tested**

## 5. Appendix

### 5.1 Appendix A: Test Equipment

#### 5.1.1 Test Equipment List

Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conduction	Coaxial Cable 1F-C2	Harbourindustries	RG400	1F-C2	05/20/2006	05/20/2007
Conduction	EMI Receiver 03	HP	85460A	3448A00209	04/01/2007	04/01/2008
Conduction	LISN 04	EMCO	3810/2	9604-1429	12/30/2006	12/30/2007
Conduction	LISN 06	R&S	ESH3-Z5	828874/009	12/13/2006	12/13/2007
Radiation	BILOG Antenna 08	Schaffner	CBL6112B	2756	06/12/2006	06/12/2007
Radiation	EMI Receiver 02	HP	85460A	3448A00183	10/01/2006	10/01/2007
Radiation	Loop Antenna 03	Com-Power	AL-130	17101	05/10/2006	05/10/2007
Radiation	Spectrum Analyzer 13	Advantest	R3132	121200411	02/17/2007	02/17/2008
Radiation	Spectrum Analyzer 14	Advantest	R3182	140600028	11/21/2006	11/21/2007
Radiation	Preamplifier 09	MITEQ	AFS44-00102 650-40-10P-44	858687	04/02/2007	04/02/2008
Radiation	Preamplifier 10	MITEQ	JS-26004000-27-5A	818471	12/28/2006	12/27/2007
Radiation	Horn Antenna 02	Com-Power	AH-118	10088	12/28/2006	12/27/2007
Radiation	Horn Antenna 04	Com-Power	AH-826	081-001	03/24/2007	03/23/2008
Radiation	Horn Antenna 05	Com-Power	AH-640	100A	11/16/2006	11/15/2007

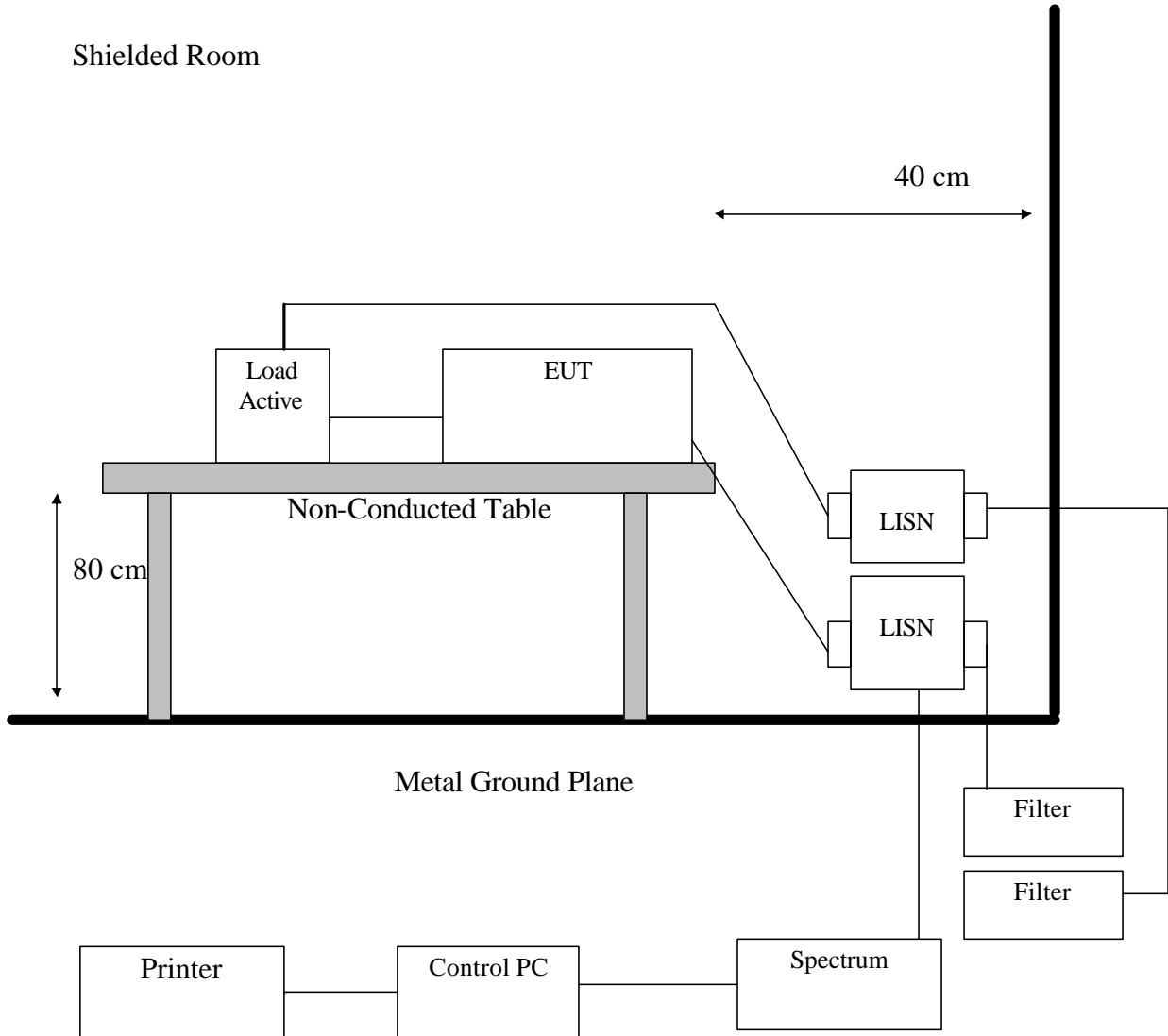
Note: Calibration is traceable to NIST or national or international standards.

#### 5.1.2 Software for Controlling Spectrum/Receiver and Calculating Test Data

Radiation/Conduction	Filename	Version	Issued Date
Conduction	Tile.exe	1.12E	7/7/2000
Radiation	Tile.exe	1.12C	6/16/2000

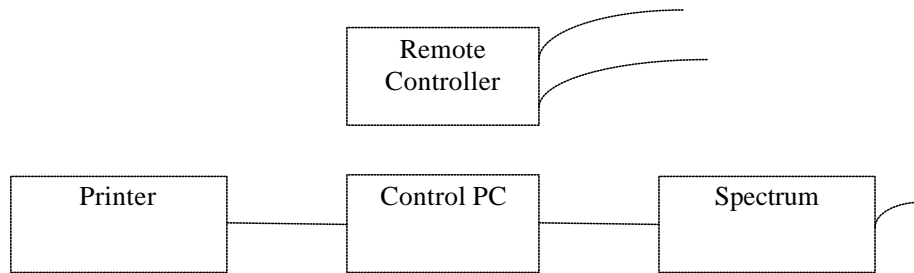
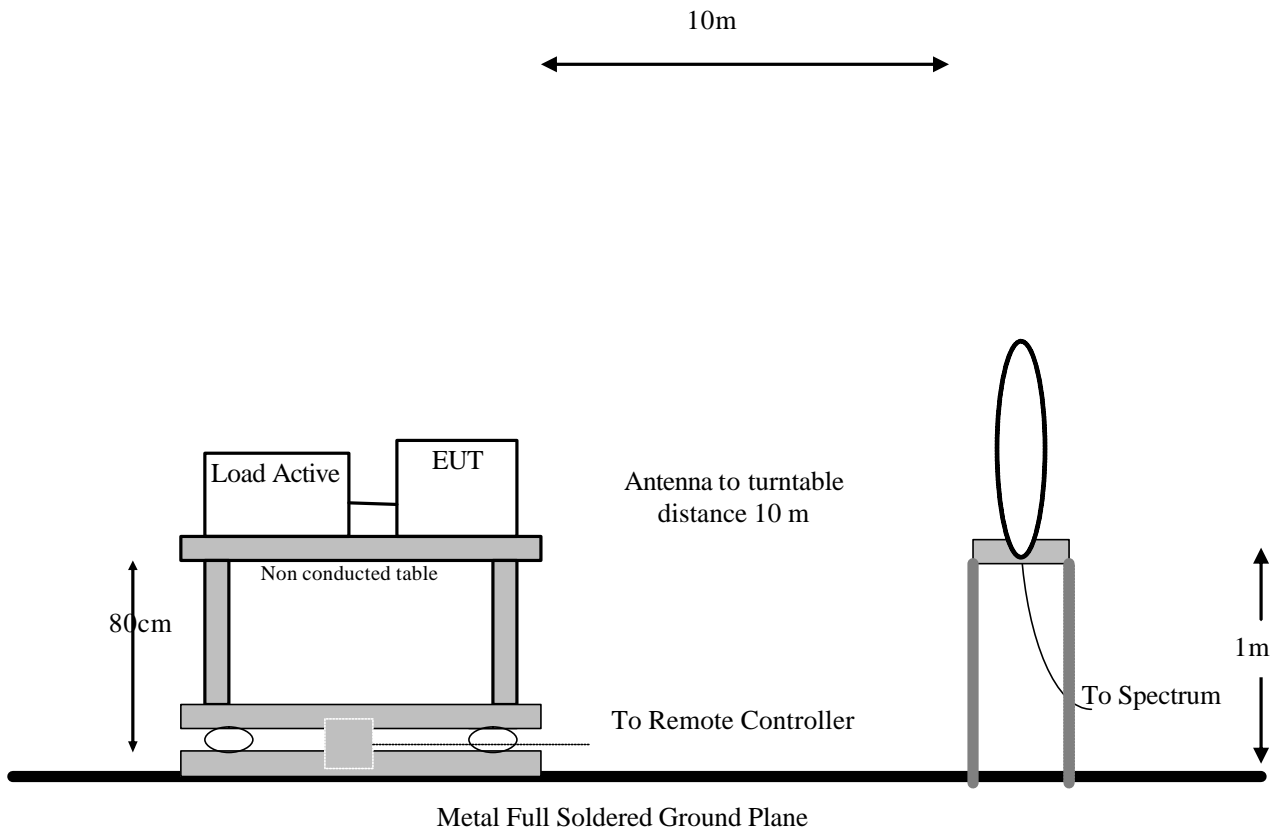
## 5.2 Appendix B: Layout of EUT and Support Equipment

### 5.2.1 General Conducted Test Configuration

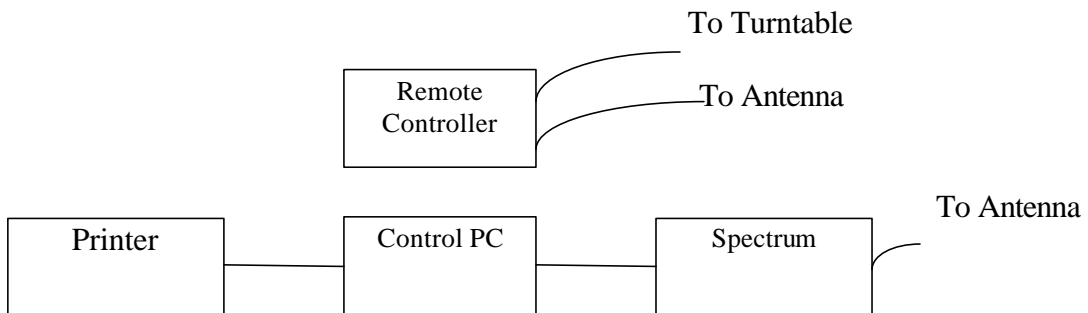
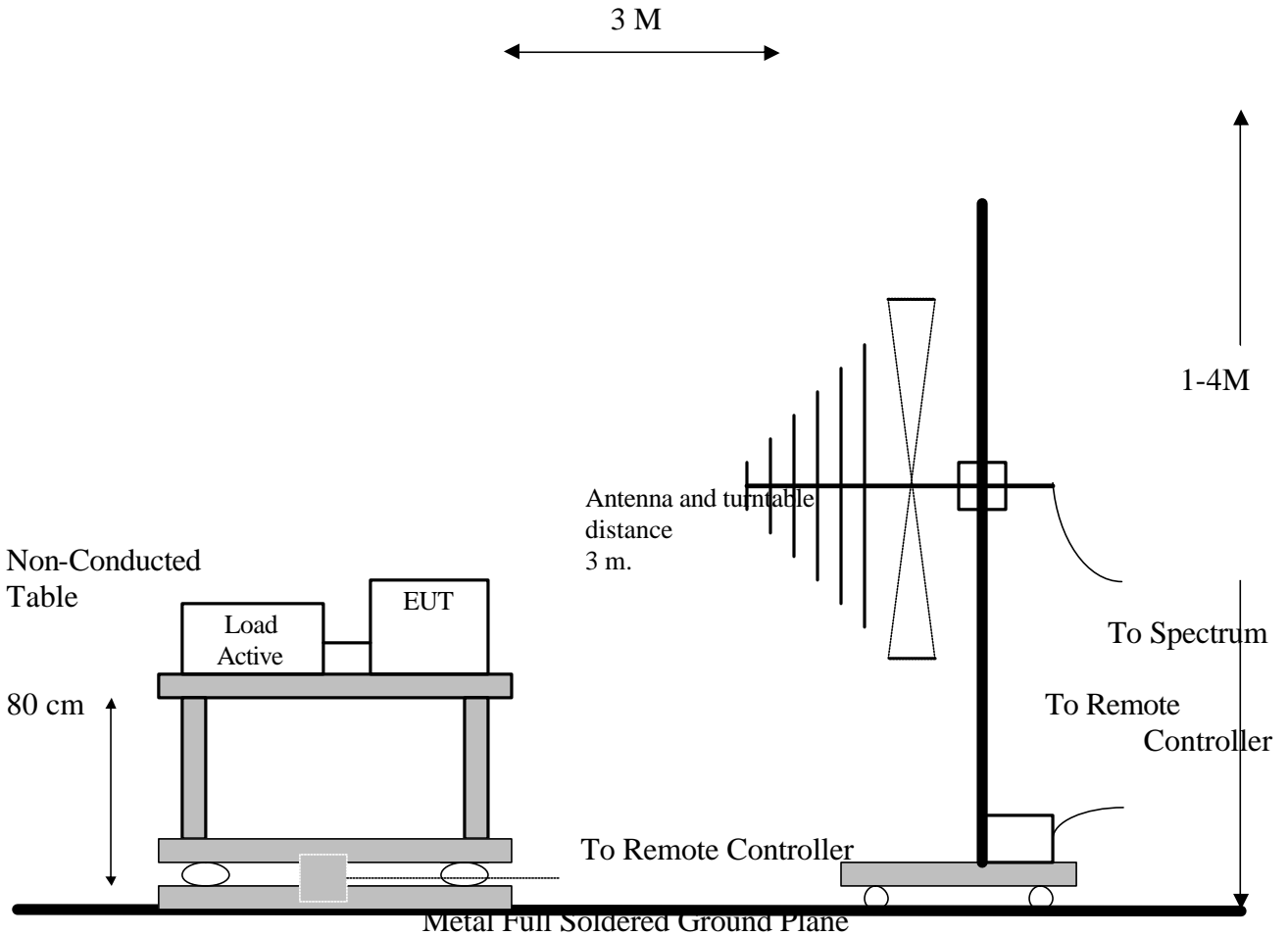


### 5.2.2 General Radiation Test Configuration

#### 5.2.2.1 9KHz-30MHz



5.2.2.2 30MHz-1GHz





### 5.3 Appendix C: Description of Support Equipment

#### 5.3.1 Description of Support Equipment

NA

#### 5.3.2 I/O Cable Condition of EUT and Support Units

Description	Path	Cable Length	Cable Type	Connector Type
AC Power Cord	110V (~240V) to AC Power Cord Inlet (3-pin)	1.8M	Nonshielded, Detachable	Plastic Head

**5.4 Appendix D: Accuracy of Measurement**

Test Site: Conduction 02

Item	Source of Uncertainty	Probability Distribution	Total Uncertainties (dB)		Standard Uncertainty (dB)	
1	Systematic Effects: (Assessment from 20 repeat observation; 1 reading on EUT)	Normal	k=2	0.104	k=1	0.052
2	Random Effects: (Assessment from 20 random observations; 1 reading on EUT)	Normal	k=2	0.330	k=1	0.165
3	Receiver Calibration	Rectangular	k=1.73	1.000	k=1	0.577
4	LISN Factor Calibration	Normal	k=2	1.200	k=1	0.600
5	Cable Loss Calibration	Normal	k=2	1.000	k=1	0.500
6	Combined Standard Uncertainty Uc(y)	Normal			k=1	0.850
7	<b>Total Uncertainty @95% mim. Confidence Level</b>	<b>Normal</b>	<b>k=2</b>	<b>1.701</b>		

Measurement Uncertainty Calculations:

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

$$U = 2 * Uc (y)$$

Note: The measurement Uncertainties mentioned above also refer to NIS 81-1994 of NAMAS : The treatment of Uncertainty in EMC Measurement.

Test Site: Chamber 02-3M

Item	Source of Uncertainty	Probability Distribution	Total Uncertainties (dB)		Standard Uncertainty (dB)	
1	Systematic Effects: (Assessment from 20 repeat observation; 1 reading on EUT)	Normal	k=2	0.067	k=1	0.034
2	Random Effects: (Assessment from 20 random observations; 1 reading on EUT)	Normal	k=2	0.103	k=1	0.052
3	Receiver Calibration	Rectangular	k=1.73	1.000	k=1	0.577
4	Antenna Factor Calibration	Normal	k=2	1.700	k=1	0.850
5	Cable Loss Calibration	Normal	k=2	1.000	k=1	0.500
6	Combined Standard Uncertainty Uc(y)	Normal			k=1	1.029
7	<b>Total Uncertainty @95% mim. Confidence Level</b>	<b>Normal</b>	<b>k=2</b>	<b>2.059</b>		

Measurement Uncertainty Calculations:

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

$$U = 2 * Uc(y)$$

Note: The measurement Uncertainties mentioned above also refer to NIS 81-1994 of NAMAS : The treatment of Uncertainty in EMC Measurement.

## 5.5 Appendix E: Photographs of EUT Configuration Test Set Up

Refer to the attachment