



FCC 47 CFR PART 15 Subpart B & Subpart C

TEST REPORT

For

Asoka Incorporation

RF XBOX 1 TO 1 Host

Model: N/A

Trade Name: N/A

Prepared for

Asoka Incorporation

5F., No.9,Kuang Fu N.Rd., Taipei, Taiwan, R.O.C.

Prepared by

Compliance Certification Services (Kunshan) Inc.

10#Weiye Rd, Innovation Park Eco. & Tec. Development Zone

Kunshan city JiangSu, (215300) CHINA

TEL: 86-512-57355888

FAX: 86-512-57370818



Lab. Code: 200581-0

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1. TEST RESULT CERTIFICATION

Applicant: Asoka Incorporation
5F.,NO.9, Kuang Fu N.Rd., Taipei, Taiwan,R.O.C.

Equipment Under Test: RF XBOX 1 TO 1 Host

Trade Name: N/A

Model Number: N/A

Date of Test: April 25, 2005

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC Part 15 Subpart B & Subpart C	No non-compliance noted

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements emission limits of FCC Rules Part 15.107, 15.109,15.207, 15.209 and 15.249.

The test results of this report relate only to the tested sample identified in this report.

Approved by:

Reviewed by:

Denny Yang
Vice General Manager of Kunshan Laboratory
Compliance Certification Services Inc.

Eric Lin
Section Manager of Kunshan Laboratory
Compliance Certification Services Inc.



2. EUT DESCRIPTION

Product	RF XBOX 1 TO 1Host
Trade Name	N/A
Model Number	N/A
Housing Type	Plastic
EUT Power Rating	Receiver: Powered by the XBOX (Host)
Frequency Range	2402MHz - 2482 MHz
Modulation Technique	FSK Modulation
Number of Channels	3 Channels
Antenna Specification	PCB Antenna / Gain: 3dBi(max)

Note: This submittal(s) (test report) is intended for FCC ID: SXJRFOX1TO1 filing to comply with Section 15.107 & 15.109 (FCC Part 15, Subpart B) and Section 15.207, 15.209, 15.249 (FCC Part 15, Subpart C Rules.)



3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.249.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.107 and 15.109 under the FCC Rules Part 15 Subpart B and Section 15.207, 15.209, 15.249 under the FCC Rules Part 15 Subpart C.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4.

3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

- (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	(²)
13.36 - 13.41	322 - 335.4		

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

- (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

3.5 DESCRIPTION OF TEST MODES

The EUT has been tested under engineering test mode condition and the EUT staying in continuous transmitting mode.



4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.



5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at CCS China Kunshan Lab at 10#, Weiye Rd, Innovation Park Eco. & Tec. Development Zone Kunshan city JiangSu, (215300) CHINA.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 , CISPR Publication 22 and other equivalent standards.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3 LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code: 200581-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission (Registration no: 93105 and 90471).

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	NVLAP*	EN 55022, EN 61000-3-2, EN 61000-3-3, EN550024, EN 61000-4-2, EN 61000-4-3, EN61000-4-4, EN 61000-4-5, EN 61000-4-6, IEC 61000-4-8, EN 61000-4-11 ANSI C63.4, CISPR16-1, IEC61000-3-2, IEC61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11	 200581-0
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	 93105, 90471
Japan	VCCI	3/10 meter Sites and conducted test sites to perform radiated/conducted measurements	VCCI R-1600 C-1707
Norway	NEMKO	EN61000-6-1/2/3/4, EN 50082-1/2, IEC 61000-6-1/2/3/4, EN 50091-2, EN 55011, EN 55022, EN 55024, EN 61000-3-2/3, EN 61000-11, IEC 61000-4-2/3/4/5/6/8/11, CISPR16-1/2/3/4	 ELA 105

** No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government.*



6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

Device Type	Brand	Model	FCC ID	Series No.	Data Cable	Power Cord
XBOX	Microsoft	N/A	Nil	5001906 20602	N/A	Shielded, 1.8m
TV	SANYO	CK15F5(S)-00	DoC	62101390	N/A	Un-Shielded, 1.7m

Notes:

- 1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*
- 2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

7. FCC PART 15.249 REQUIREMENTS

7.1 SPURIOUS EMISSION

LIMIT

1. In the section 15.249(a):

Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field Strength of Fundamental Field Strength (mV/m)	Field Strength of Harmonics (µV/m)
902-928 MHz	50	500
2400 - 2483.5 MHz	50	500
5725 - 5875 MHz	50	500
24.0 - 24.25 GHz	250	2500

1. Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

Note: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

2. In the above emission table, the tighter limit applies at the band edges.

Frequency (Hz)	Field Strength (µV/m at 3-meter)	Field Strength (dBµV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

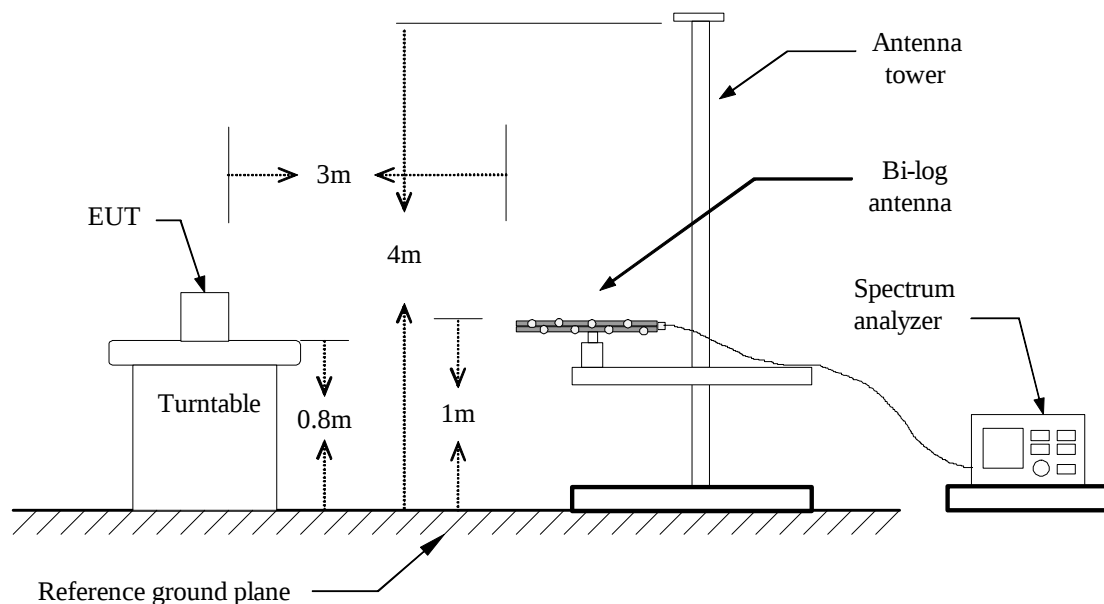
MEASUREMENT EQUIPMENT USED

Test Site A (10m chamber)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	03/05/2006
EMI Test Receiver	R&S	ESI26	100068	02/11/2006
EMC Analyzer	Agilent	E7402A	US41160329	02/11/2006
Bilog Antenna	Schaffner	CBL 6143	5061	12/19/2006
Pre-amplifier	Anritsu	MH648A	M64192	01/27/2006
Horn Antenna	Austriah	BBHA9120D	D:267	02/04/2006
Broadband Preamplifier	Miteq	NSP4000-NF	870731	02/11/2006
System Controller	Sunol	SC99V	121501-1	N/A
Turn Table	Sunol	FM3022HS	N/A	N/A
Antenna Mast	Sunol	TWR 99-4	121501-3	N/A
Coax Switch	Anitsu	MP 598	M 80094	N/A
Site NSA	CCS Lab.	N/A	N/A	02/16/2006

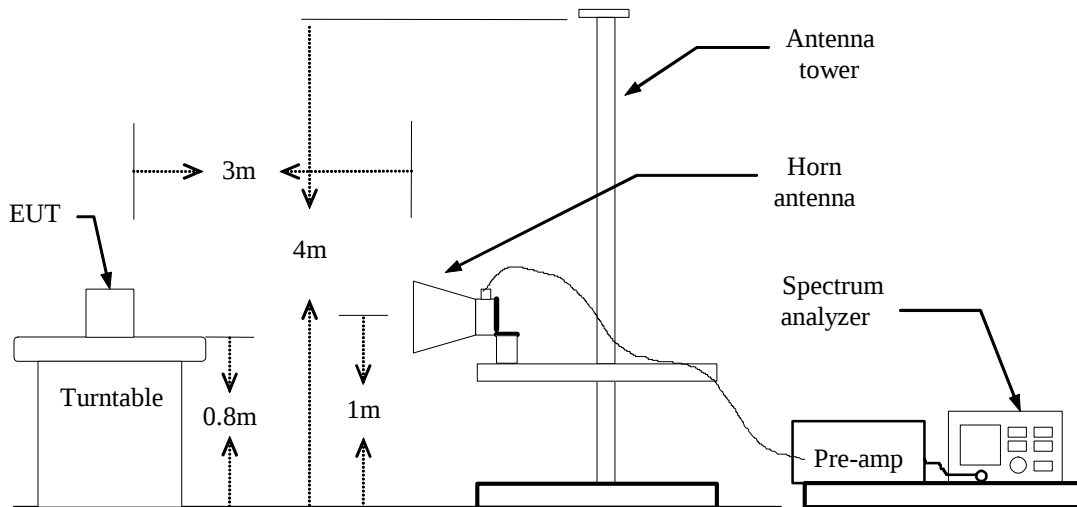
Remark: Each piece of equipment is scheduled for calibration once a year.

Test Configuration

Below 1 GHz



Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.



TEST RESULTS

Below 1 GHz

Operation Mode: Host (CH Low)**Test Date:** April 25, 2005**Temperature:** 25°C**Tested by:** lin**Humidity:** 68% RH**Polarity:** Ver. / Hor.

Freq.	Ant.Pol.	Detector	Reading	Factor	Actual FS	Limit 3m	Safe Margin
(MHz)	H/V	Mode (PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
48.00	V	Peak	57.92	-23.61	34.31	40.00	-5.69
132.60	V	Peak	55.96	-16.95	39.01	43.50	-4.49
366.50	V	Peak	50.23	-12.81	37.42	46.00	-8.58
N/A	V						

78.15	H	Peak	57.29	-23.58	33.71	40.00	-6.29
433.00	H	Peak	51.02	-11.19	39.83	46.00	-6.17
799.33	H	Peak	46.92	-4.65	42.27	46.00	-3.73
N/A	H						

Notes:

1. Measuring frequencies from 30 MHz to the 1GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
3. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz

**Operation Mode:** Host (CH Mid)**Test Date:** April 25, 2005**Temperature:** 25°C**Tested by:** lin**Humidity:** 68% RH**Polarity:** Ver. / Hor.

Freq.	Ant.Pol.	Detector	Reading	Factor	Actual FS	Limit 3m	Safe Margin
(MHz)	H/V	Mode (PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
48.00	V	Peak	56.41	-23.61	32.80	40.00	-7.20
433.00	V	Peak	51.26	-11.19	40.07	46.00	-5.93
750.33	V	Peak	45.14	-5.20	39.94	46.00	-6.06
N/A	V						

78.15	H	Peak	58.01	-23.58	34.43	40.00	-5.57
192.45	H	Peak	53.17	-18.35	34.82	43.50	-8.68
204.60	H	Peak	51.39	-17.43	33.96	43.50	-9.54
N/A	H						

Notes:

1. Measuring frequencies from 30 MHz to the 1GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz

**Operation Mode:** Host (CH High)**Test Date:** April 25, 2005**Temperature:** 25°C**Tested by:** lin**Humidity:** 68% RH**Polarity:** Ver. / Hor.

Freq.	Ant.Pol.	Detector	Reading	Factor	Actual FS	Limit 3m	Safe Margin
(MHz)	H/V	Mode (PK/QP)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
66.00	V	Peak	57.32	-23.44	33.88	40.00	-6.12
156.40	V	Peak	56.13	-17.12	39.01	43.50	-4.49
366.50	V	Peak	51.86	-12.81	39.05	46.00	-6.95
N/A	V						

78.15	H	Peak	58.96	-23.58	35.38	40.00	-4.62
144.75	H	Peak	53.97	-17.20	36.77	43.50	-6.73
192.45	H	Peak	52.96	-18.35	34.61	43.50	-8.89
368.01	H	Peak	50.31	-12.93	37.38	43.50	-6.12
N/A	H						

Notes:

1. Measuring frequencies from 30 MHz to the 1GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
3. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
4. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.

**Above 1 GHz****Operation Mode:** Host (CH Low)**Test Date:** April 25, 2005**Temperature:** 25°C**Tested by:** lin**Humidity:** 68% RH**Polarity:** Ver. / Hor.

Freq (MHz)	Ant.Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF (dB)	Actual		Peak Limint (dBuV/m)	AV Limint (dBuV/m)	Magin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
4808.33	V	45.24	40.19	5.99	51.23	46.18	74.00	54.00	-7.82	AVG
7008.33	V	43.07	34.33	13.08	56.15	47.41	74.00	54.00	-6.59	AVG
2402.33	V	69.29	59.35	1.57	70.86	60.92	74.00	54.00	6.92	AVG
	V						74.00	54.00		Peak
	V						74.00	54.00		Peak
	V						74.00	54.00		Peak
4808.33	H	45.50		5.99	51.49		74.00	54.00	-22.51	Peak
7008.33	H	43.63	33.93	13.08	56.71	47.01	74.00	54.00	-6.99	AVG
2402.33	H	69.21	59.16	1.57	70.78	60.73	74.00	54.00	6.73	AVG
	H						74.00	54.00		Peak
	H						74.00	54.00		Peak
	H						74.00	54.00		Peak

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
 - a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.
 - b. AV Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.

**Operation Mode:** Host (CH Mid)**Test Date:** April 25, 2005**Temperature:** 25°C**Tested by:** lin**Humidity:** 68% RH**Polarity:** Ver. / Hor.

Freq (MHz)	Ant.Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF (dB)	Actual		Peak Limint (dBuV/m)	AV Limint (dBuV/m)	Magin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
4883.33	V	43.09		6.76	49.85		74.00	54.00	-4.15	Peak
7175.00	V	44.89	33.86	13.04	57.03	46.92	74.00	54.00	-7.08	AVG
2440.00	V	68.99	59.03	1.32	70.32	60.35	74.00	54.00	6.35	AVG
	V						74.00	54.00		Peak
	V						74.00	54.00		Peak
	V						74.00	54.00		Peak
4883.33	H	44.21		6.76	50.12		74.00	54.00	-23.88	Peak
7733.33	H	43.52	33.98	10.71	54.23	44.69	74.00	54.00	-9.31	AVG
2440.00	H	68.76	58.92	1.32	70.08	60.24	74.00	54.00	6.24	AVG
	H						74.00	54.00		Peak
	H						74.00	54.00		Peak
	H						74.00	54.00		Peak

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
 - a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.
 - b. AV Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.

**Operation Mode:** Host (CH High)**Test Date:** April 25, 2005**Temperature:** 25°C**Tested by:** lin**Humidity:** 68% RH**Polarity:** Ver. / Hor.

Freq (MHz)	Ant.Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant./CL CF (dB)	Actual		Peak Limint (dBuV/m)	AV Limint (dBuV/m)	Magin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
4800.00	V	43.71		5.91	49.62		74.00	54.00	-24.38	Peak
7243.57	V	44.57	34.06	13.06	57.63	47.12	74.00	54.00	-6.88	AVG
2481.33	V	69.82	59.06	1.29	71.11	60.35	74.00	54.00	6.35	AVG
	V						74.00	54.00		Peak
	V						74.00	54.00		Peak
	V						74.00	54.00		Peak
4800.00	H	44.21		5.91	50.12		74.00	54.00	-23.88	Peak
7441.67	H	42.40	32.33	12.83	55.23	45.16	74.00	54.00	-8.84	AVG
2481.33	H	69.57	58.96	1.29	70.86	60.25	74.00	54.00	6.25	AVG
	H						74.00	54.00		Peak
	H						74.00	54.00		Peak
	H						74.00	54.00		Peak

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Spectrum setting:
 - a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.
 - b. AV Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.



7.2 POWERLINE CONDUCTED EMISSIONS

LIMIT

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

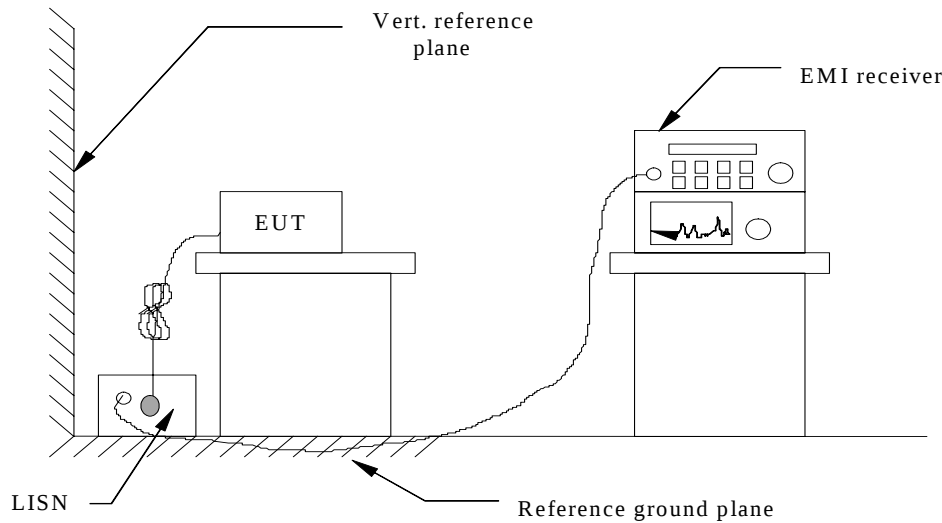
Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

MEASUREMENT EQUIPMENT USED

Conducted Emission Test Site A (10m chamber)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESI26	100068	02/11/2006
EMC Analyzer	Agilent	E7402A	US41160329	02/11/2006
LISN	FCC	FCC-LISN-50-50-2-M	01067	02/11/2006
LISN (EUT)	FCC	FCC-LISN-50-50-2-M	01068	02/11/2006
4-WIRE ISN	R&S	ENY41	830663/024	04/9/2006
TRANSIENT LIMITER	SCHAFFNER	CFL9206	1710	03/15/2006
Double 2-Wire ISN	R&S	ENY22	830661/027	04/9/2006
EMI Monitor control box	FCC	0-SVDC	N/A	N/A

Remark: Each piece of equipment is scheduled for calibration once a year.

Test Configuration



See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

**Model:** N/A**Test Mode:** Mode 1**Temperature:** 25°C**Humidity:** 62% RH**Tested by:** Lin**Test Results:** Pass

(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	Peak Amptd (dBuV)	Q.P. Amptd (dBuV)	AVG Amptd (dBuV)	Q.P. Limit (dBuV)	AVG Limit (dBuV)	Margin (dB)	Factor (dB)	Remark
0.187	58.37	50.93	44.63	64.94	54.94	-10.31	10.31	Line
0.461	51.34	46.32	41.37	57.10	47.10	-5.73	10.34	Line
0.558	51.46	45.64	41.06	56.00	46.00	-4.94	10.37	Line
1.485	52.67	41.41	38.53	56.00	46.00	-7.47	10.53	Line
1.948	52.76	41.07	36.01	56.00	46.00	-9.99	10.58	Line
17.96	51.65	47.59	40.37	60.00	50.00	-9.63	12.49	Line
0.187	56.46	50.43	43.93	64.94	54.94	-11.01	10.4	Neutral
0.280	36.07	---	---	62.29	52.29	-16.22	10.38	Neutral
0.832	37.50	---	---	56.00	46.00	-8.50	10.54	Neutral
1.110	37.36	---	---	56.00	46.00	-8.64	10.58	Neutral
1.855	38.57	---	---	56.00	46.00	-7.43	10.68	Neutral
18.056	50.35	45.16	38.53	60.00	50.00	-11.47	12.39	Neutral

Remark:

1. The measuring frequencies range between 0.15 MHz and 30 MHz.
2. The emissions measured in the frequency range between 0.15 MHz and 30MHz were made with an instrument using Quasi-peak detector and Average detector.
3. “---” denotes the emission level was or more than 2dB below the Average limit, and no re-check was made.
4. The IF bandwidth of SPA between 0.15MHz and 30MHz was 10KHz. The IF bandwidth of Test Receiver between 0.15MHz and 30MHz was 9kHz.

Note:

Freq. = Emission frequency in KHz

Factor (dB) = cable loss + Insertion loss of LISN+ Insertion loss of TRANSIENT LIMITER (The TRANSIENT LIMITER included 10 dB ATTENUATION)

Amptd dBuV = Uncorrected Analyzer/Receiver reading + cable loss + Insertion loss of LISN+ Insertion loss of TRANSIENT LIMITER, if it > 0.5 dB

Limit dBuV = Limit stated in standard

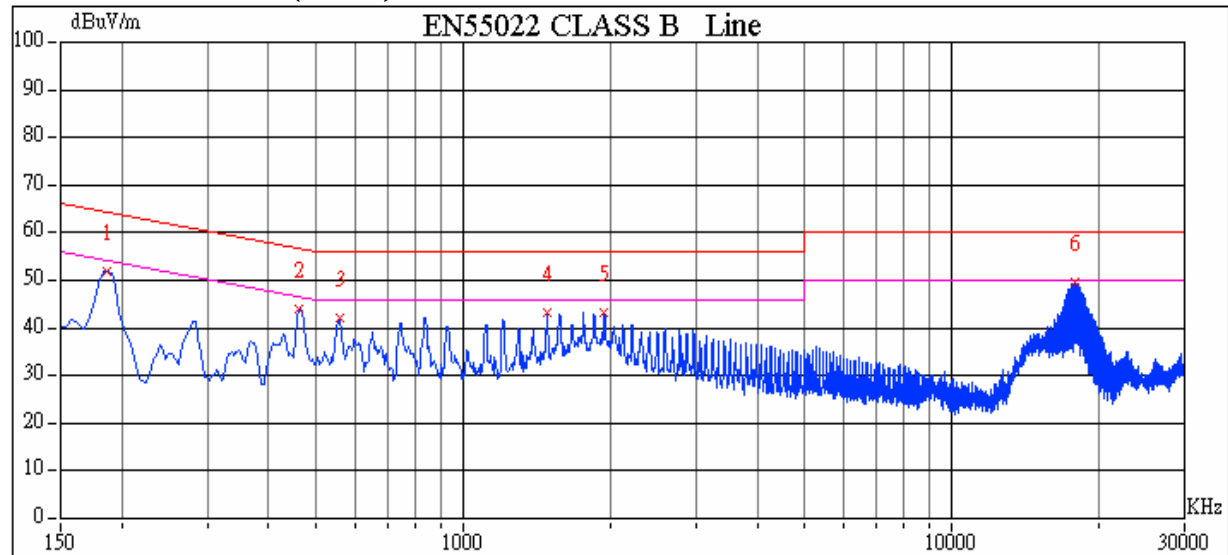
Margin dB = Reading in reference to limit

Calculation Formula

Margin (dB) = Amptd (dBuV) – Limit (dBuV)

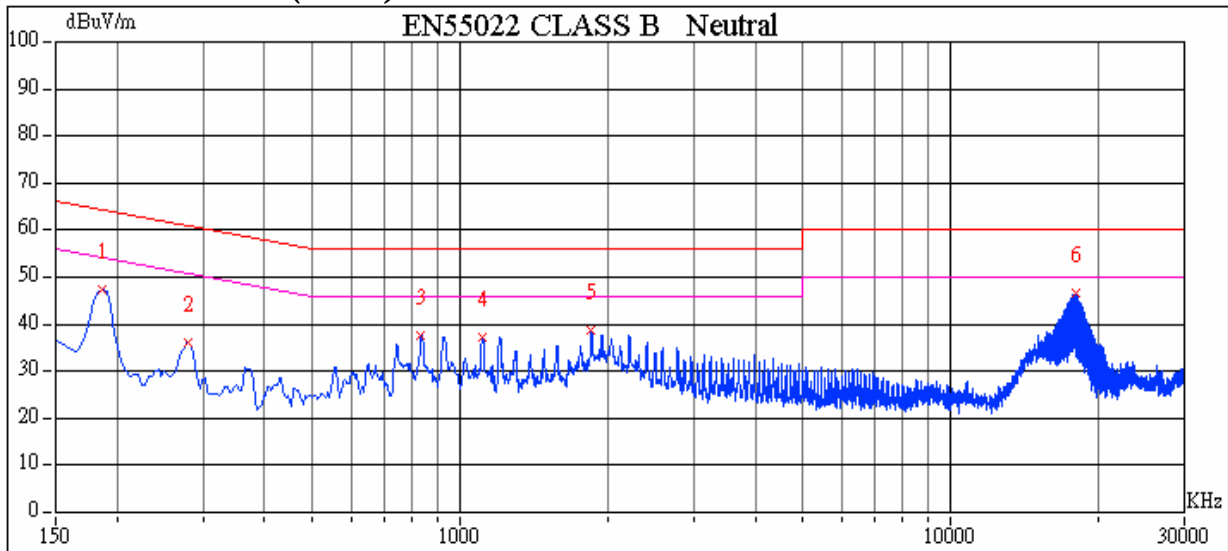
Test Plot

Conducted emissions (Line 1)



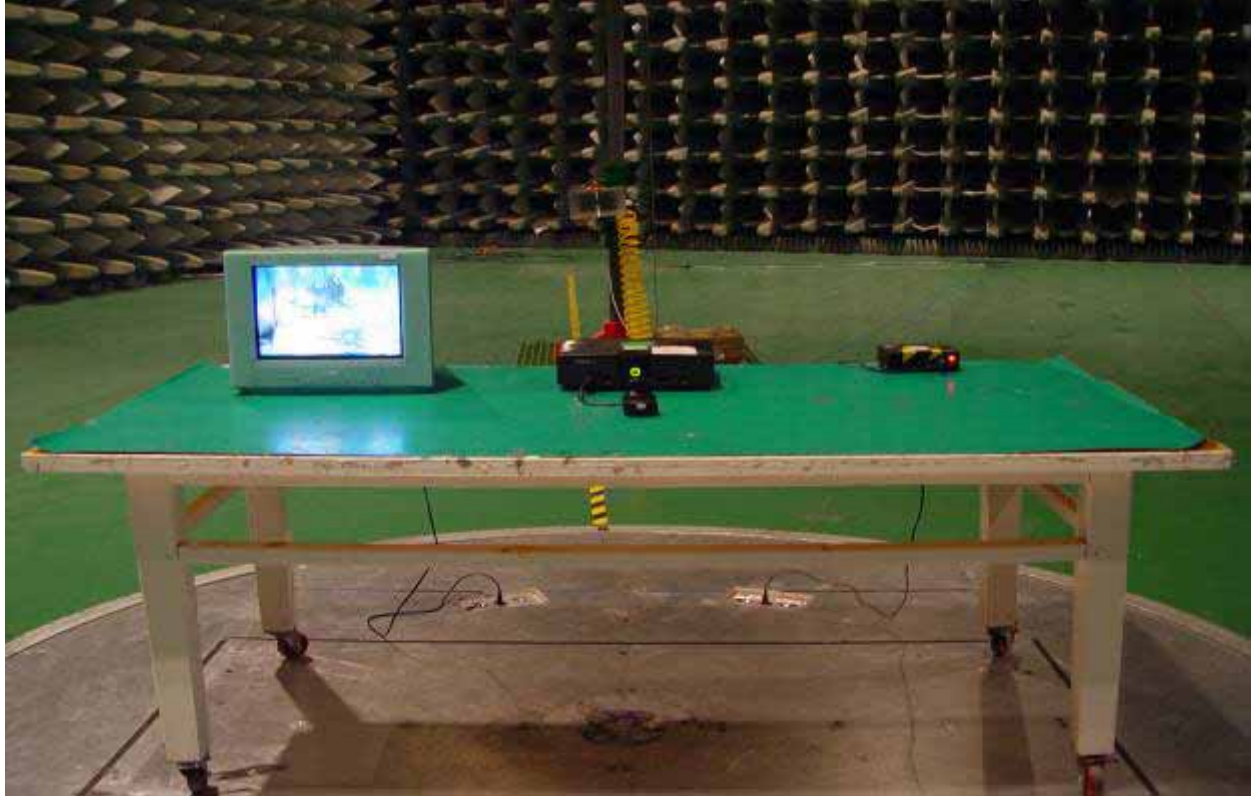
Test Plot

Conducted emissions (Line 2)



1. APPENDIX 1 PHOTOGRPHS OF TEST SETUP

Radiated Emission Set up Photos (Receiver)



Powerline Conducted Emission

