



FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

Applicant : RC Model Fun Ltd.

**Address : No.61, Tingkeng Rd, Tingshan, Houjie, Dongguan,
Guangdong, China**

Product Name : Remote Control

Model Name : SKY2.4G

Brand Name : SKYARTEC

FCC ID : WKN-SKY24G

Report No. : SZSTS090617F1

Date of Issue : July 27, 2009

Issued by : Shenzhen Super Test Service Technology Co., Ltd.

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1. VERIFICATION OF CONFORMITY

Equipment Under Test: Remote Control
Brand Name: SKYARTEC
Model Number: SKY2.4G
FCC ID: WKN-SKY24G
Applicant: RC Model Fun Ltd.
No.61,Tingkeng Rd, Tingshan, Houjie, Dongguan, Guangdong, China
Manufacturer: RC Model Fun Ltd.
No.61,Tingkeng Rd, Tingshan, Houjie, Dongguan, Guangdong, China
Technical Standards: 47 CFR Part 15 Subpart C
File Number: SZSTS090617F1
Date of test: June 27 to July 27, 2009
Deviation: None
Condition of Test Sample: Normal
Test Result: PASS

The above equipment was tested by Shenzhen Super Test Service Technology Co., Ltd. for compliance with the requirements set forth in FCC rules and the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.

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

Tested by (+ signature): Petter Ring 2009.7.27
Petter Ring July 27, 2009
Review by (+ signature): [Signature] 27
July Wen July 27, 2009
Approved by (+ signature): Terry Yang July 20, 2007
Terry Yang July 27, 2009



2. GENERAL INFORMATION

2.1 Product Information

Product	Remote Control
Brand Name	SKYARTEC
Model Number	SKY2.4G
Series Model Name:	N/A
Series Model Difference description:	N/A
Power Supply	DC 12 V
Frequency Range	2410 MHz-2472 MHz
Antenna Gain	0 dBi
Modulation Technique	FSK
Temperature Range	-20°C-55°C

NOTE:

1. Please refer to Appendix 2 for the photographs of the EUT. For a more detailed features description about the EUT, please refer to User's Manual.
2. The EUT antenna is a fixed and unique coupling to the intentional radiator shall be considered sufficient to comply with section 15.203 of the FCC Part 15.

2.2 Objective

The objective of the report is to perform tests according to 47 CFR Part 15 Subpart C for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 15 (10-1-05 Edition)	Radio Frequency Devices

2.3 Test Standards and Results

Test items and the results are as bellow:

No.	Section	Description	Result	Date of Test
1	15.249	Spurious Emission	PASS	2009-06-30
2	15.207	Conducted Emission	Not Applicable	2009-06-30

Note: 1. the test result judgment is decided by the limit of measurement standard
2. The information of measurement uncertainty is available upon the customer's request.

2.4 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

3. TEST FACILITY

Test Site:	Most Technology Service Co.,ltd
Location:	Add: No.5, Nangshan 2nd Rd., North Hi-Tech Industrial park , Nanshan Shenzhen, Guangdong ,China
Description:	There is one 3m semi-anechoic an area test sites and two line conducted labs for final test. The Open Area Test Sites and the Line Conducted labs are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4 and CISPR 16 requirements. The FCC Registration Number is 490827 .
Site Filing:	The site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046.
Instrument Tolerance:	All measuring equipment is in accord with ANSI C63.4 and CISPR 16 requirements that meet industry regulatory agency and accreditation agency requirement.
Ground Plane:	Two conductive reference ground planes were used during the Line Conducted Emission, one in vertical and the other in horizontal. The dimensions of these ground planes are as below. The vertical ground plane was placed distancing 40 cm to the rear of the wooden test table on where the EUT and the support equipment were placed during test. The horizontal ground plane projected 50 cm beyond the footprint of the EUT system and distanced 80 cm to the wooden test table. For Radiated Emission Test, one horizontal conductive ground plane extended at least 1m beyond the periphery of the EUT and the largest measuring antenna, and covered the entire area between the EUT and the antenna. It has no holes or gaps having longitudinal dimensions larger than one-tenth of a wavelength at the highest frequency of measurement up to 1GHz.

4. TEST EQUIPMENT LIST

Instrumentation: The following list contains equipment used at Most for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10 kHz to 1.0 GHz or above.

No.	Equipment	Manufacturer	Model No.	S/N	Calibrator due date
1	Test Receiver	Rohde & Schwarz	ESCI	100492	2010/03/14
2	L.I.S.N.	Rohde & Schwarz	ENV216	100093	2010/03/14
3	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2010/03/14
4	Terminator	Hubersuhner	50Ω	No.1	2010/03/14
5	RF Cable	SchwarzBeck	N/A	No.1	2010/03/14
6	Test Receiver	Rohde & Schwarz	ESPI	101202	2010/03/14
7	Bilog Antenna	Sunol	JB3	A121206	2010/03/14
8	Cable	Resenberger	N/A	NO.1	2010/03/14
9	Cable	SchwarzBeck	N/A	NO.2	2010/03/14
10	Cable	SchwarzBeck	N/A	NO.3	2010/03/14
11	DC Power Filter	DuoJi	DL2×30B	N/A	2010/03/14
12	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	2010/03/14
13	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	2010/03/14
14	Test Receiver	Rohde & Schwarz	ESCI	100492	2010/03/14
15	Absorbing Clamp	Luthi	MDS21	3635	2010/03/14
16	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2010/03/14
17	AC Power Source	Kikusui	AC40MA	LM003232	2010/03/14
18	Test Analyzer	Kikusui	KHA1000	LM003720	2010/03/14
19	Line Impedence Network	Kikusui	LIN40MA-PCR-L	LM002352	2010/03/14
20	ESD Tester	Kikusui	KES4021	LM003537	2010/03/14
21	EMC PRO System	EM Test	UCS-500-M4	V0648102026	2010/03/14
22	Signal Generator	IFR	2032	203002/100	2010/03/14
23	Amplifier	A&R	150W1000	301584	2010/03/14
24	CDN	FCC	FCC-801-M2-25	47	2010/03/14
25	CDN	FCC	FCC-801-M3-25	107	2010/03/14
26	EM Injection Clamp	FCC	F-203I-23mm	403	2010/03/14
27	RF Cable	MIYAZAKI	N/A	No.1/No.2	2010/03/14
28	Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU200	0304789	2010/03/14
29	Telecommunication Antenna	European Antennas	PSA 75301R/170	0304213	2010/03/14
30	Spectrum Analyzer	Agilent	E7405A	US44212671	2010/03/14

NOTE: Equipments listed above have been calibrated and are in the period of validation.

5. 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.

5.1 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.

5.2 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.

5.3 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.

5.4 Setup Configuration of EUT

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

5.5 Support Equipment

Device Type	Brand	Model	FCC ID	Series No.	Data Cable	Power Cord
N/A	N/A	N/A	N/A	N/A	N/A	N/A

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.

5.6 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 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

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.

5.7 Description of Test Modes

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

6. 47 CFR Part 15.249 Requirements

6.1 SPURIOUS EMISSION

6.1.1 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

2. 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.

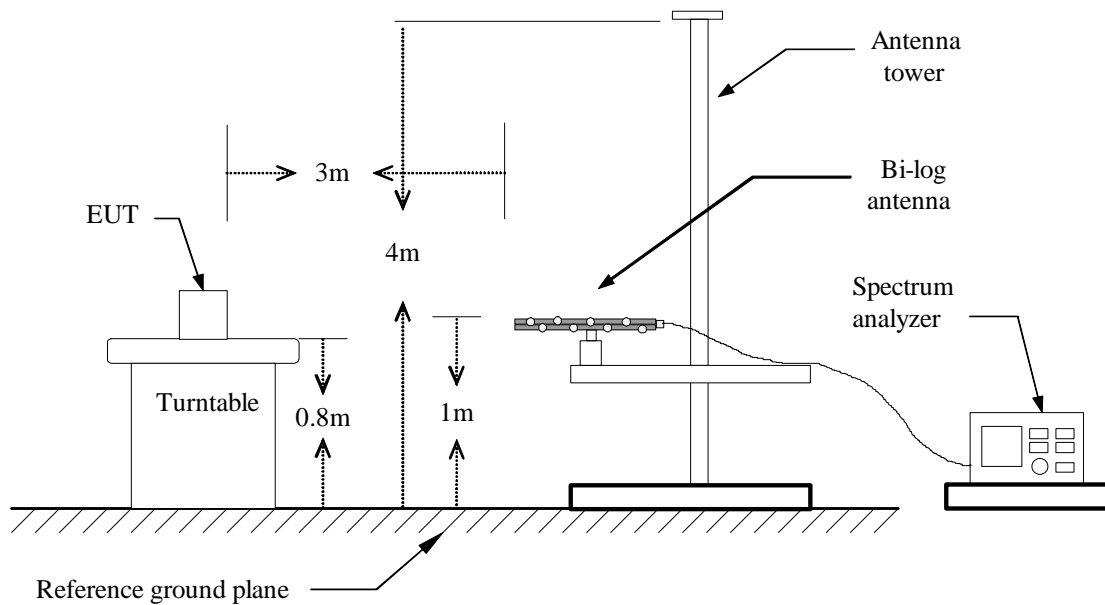
3. In the above emission table, the tighter limit applies at the band edges.

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

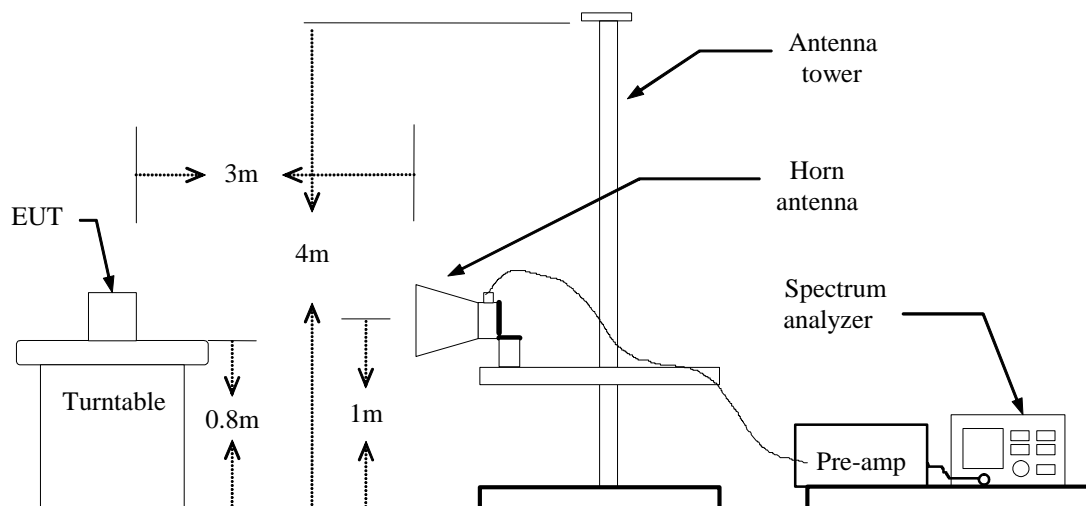
6.1.2 Test Description

A. Test Setup:

Below 1 GHz



Above 1 GHz



6.1.3 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.

6.1.4 Test Result

Operation Mode: TX

Test Date: June 30, 2009

Temperature: 25°C

Tested by: Petter Ping

Humidity: 68% RH

Polarity: Ver. / Hor.

Blow 1 GHz

Low Channel/ 2410 MHz

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
43.06	V	Peak	12.37	14.06	26.43	40.00	-13.57
224.38	V	Peak	13.77	10.99	24.76	46.00	-21.24
368.23	V	Peak	12.12	10.88	23.00	46.00	-23.00
567.48	V	Peak	12.04	16.96	29.00	46.00	-17.00
678.28	V	Peak	6.07	28.19	34.26	46.00	-11.74
N/A							
43.06	H	Peak	3.87	13.97	17.84	40.00	-22.16
224.38	H	Peak	19.64	11.35	30.99	46.00	-15.01
368.23	H	Peak	13.87	15.83	29.70	46.00	-16.30
567.48	H	Peak	11.68	16.47	28.15	46.00	-17.85
678.28	H	Peak	5.74	28.19	33.93	46.00	-12.07
N/A							

Middle Channel/ 2441 MHz

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
43.16	V	Peak	13.15	14.08	27.23	40.00	-12.77
225.05	V	Peak	12.69	11.10	23.79	46.00	-22.21
368.35	V	Peak	12.87	11.06	23.93	46.00	-22.07
568.10	V	Peak	12.26	16.98	29.24	46.00	-16.76
678.69	V	Peak	6.15	28.23	34.38	46.00	-11.62
N/A							
43.16	H	Peak	8.11	13.99	22.10	40.00	-17.90
225.05	H	Peak	18.26	11.38	29.64	46.00	-16.36
368.35	H	Peak	14.15	15.85	30.00	46.00	-16.00
568.10	H	Peak	12.41	16.51	28.56	46.00	-17.44
678.69	H	Peak	5.69	28.23	33.92	46.00	-12.08
N/A							

High Channel/ 2472 MHz

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
44.21	V	Peak	11.51	14.35	25.86	40.00	-14.14
230.06	V	Peak	12.85	12.15	25.00	46.00	-21.00
370.11	V	Peak	13.62	12.69	26.31	46.00	-19.69
570.25	V	Peak	13.25	17.36	30.61	46.00	-15.39
679.22	V	Peak	7.11	29.68	36.79	46.00	-9.21
N/A							
44.21	H	Peak	6.21	14.17	20.38	40.00	-19.62
230.06	H	Peak	17.53	11.79	29.32	46.00	-16.68
370.11	H	Peak	14.17	16.36	30.53	46.00	-15.47
570.25	H	Peak	13.01	17.54	30.55	46.00	-15.45
679.22	H	Peak	6.59	29.68	36.27	46.00	-9.73
N/A							

Above 1 GHz**Low Channel/ 2410 MHz**

Freq. (MHz)	Ant.Pol. H/V	Reading (dBuV)		Factor (dB)	Actual (dBuV/m)		Limit 3m (dBuV/m)		Safe Margin (dB)
		Peak	AV		Peak	AV	Peak	AV	
2410.26	V	100.31	87.98	2.58	102.89	90.56	114.00	94.00	-3.44
4816.19	V	58.56	--	6.69	65.25	--	74.00	54.00	-8.75
7260.08	V	53.66	--	9.51	63.17	--	74.00	54.00	-10.83
9640.21	V	50.37	--	10.32	60.69	--	74.00	54.00	-13.31
N/A									
2410.26	H	97.29	84.63	2.58	99.87	87.21	114.00	94.00	-6.79
4816.19	H	53.77	--	6.69	60.46	--	74.00	54.00	-13.54
7260.08	H	50.62	--	9.51	60.13	--	74.00	54.00	-13.87
9640.21	H	48.24	--	10.32	58.56	--	74.00	54.00	-15.44
N/A									

Middle Channel/ 2441 MHz

Freq. (MHz)	Ant.Pol. H/V	Reading (dBuV)		Factor (dB)	Actual (dBuV/m)		Limit 3m (dBuV/m)		Safe Margin (dB)
		Peak	AV		Peak	AV	Peak	AV	
2441.82	V	100.39	88.50	2.76	103.15	91.26	114.00	94.00	-2.74
4916.49	V	60.90	43.37	6.78	67.68	50.15	74.00	54.00	-3.85
7368.74	V	57.66	--	9.54	67.20	--	74.00	54.00	-6.78
9725.21	V	55.39	--	10.38	65.77	--	74.00	54.00	-8.21
N/A									
2441.82	H	97.35	85.81	2.76	100.11	88.57	114.00	94.00	-5.43
4916.49	H	54.54	--	6.78	61.32	--	74.00	54.00	-12.68
7368.74	H	50.71	--	9.54	60.25	--	74.00	54.00	-13.75
9725.21	H	48.98	--	10.38	59.36	--	74.00	54.00	-14.64
N/A									

High Channel/ 2472 MHz

Freq. (MHz)	Ant.Pol. H/V	Reading (dBuV)		Factor (dB)	Actual (dBuV/m)		Limit 3m (dBuV/m)		Safe Margin (dB)
		Peak	AV		Peak	AV	Peak	AV	
2472.02	V	102.3	87.45	2.81	105.11	90.26	114.00	94.00	-3.74
4944.19	V	58.33	--	6.92	65.25	--	74.00	54.00	-8.75
7416.24	V	55.38	--	9.71	65.09	--	74.00	54.00	-8.91
9888.18	V	52.15	--	10.56	62.71	--	74.00	54.00	-11.29
N/A									
2472.02	H	97.65	86.82	2.81	100.46	89.63	114.00	94.00	-4.37
4944.19	H	53.45	--	6.92	60.37	--	74.00	54.00	-13.63
7416.24	H	50.41	--	9.71	60.12	--	74.00	54.00	-13.88
9888.18	H	48.95	--	10.56	59.51	--	74.00	54.00	-14.49
N/A									

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.

6.2 POWERLINE CONDUCTED EMISSIONS

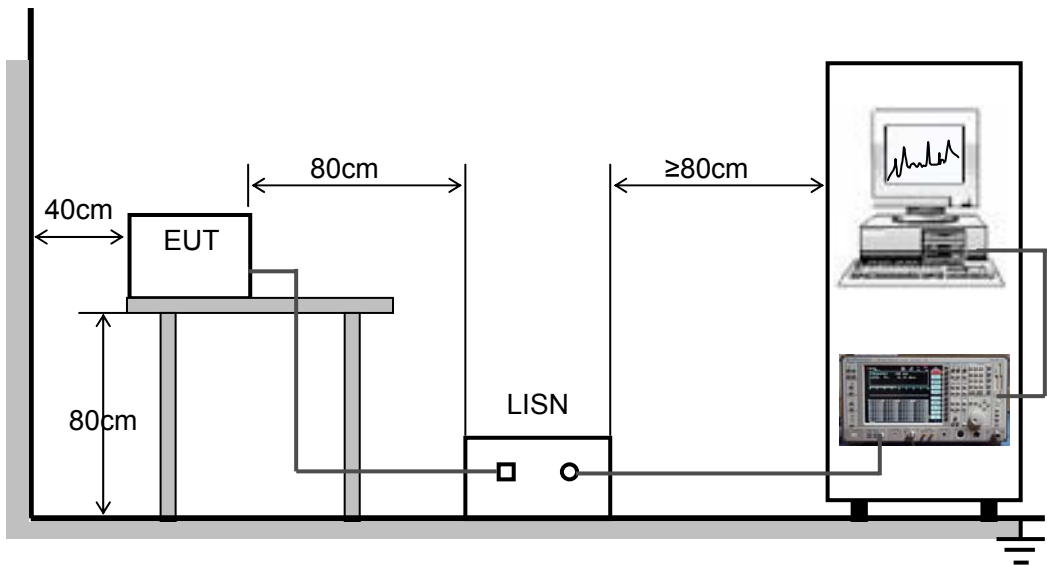
6.2.1 Limit

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 microvolt (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 are listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	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.

6.2.2 Test Description



6.2.3 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 was complete.

6.2.4 Test Results

Not Applicable (The EUT Power is Battery)