#### FCC 47 CFR PART 15 SUBPART C

## **TEST REPORT**

For

RF remote control and dongle

Trade Name / Model AWOX / RCZ160MBLM1 THOMSON / RCT160MBLM1 RCA / RCR160MALM1 SCOTT / RCX160MBLM1

Issued to

Thomson Asia Pacific Holdings Pte. Ltd. 8 Jurong Town Hall Road, #26-01/03 The JTC Summit, Singapore 609434

Issued by

Compliance Certification Services Inc.
No. 81-1, Lane 210, Bade Rd. 2, Luchu Hsiang,
Taoyuan Hsien, (338) Taiwan, R.O.C.
http://www.ccsemc.com.tw
service@tw.ccsemc.com



**Note:** This report shall not be reproduced except in full, without the written approval of Compliance Certification Services Inc. This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document.

# TABLE OF CONTENTS

1. TE	EST RESULT CERTIFICATION	3
2. EU	JT DESCRIPTION	4
3. TE	EST METHODOLOGY	5
3.1	EUT CONFIGURATION	5
3.2	EUT EXERCISE	
3.3	GENERAL TEST PROCEDURES	
3.4	FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS	
3.5	DESCRIPTION OF TEST MODES	6
4. IN	STRUMENT CALIBRATION	7
5. FA	ACILITIES AND ACCREDITATIONS	7
5.1	FACILITIES	8
5.2	EQUIPMENT	
5.3	LABORATORY ACCREDITATIONS AND LISTING	8
5.4	TABLE OF ACCREDITATIONS AND LISTINGS	9
6. SE	TUP OF EQUIPMENT UNDER TEST	9
6.1	SETUP CONFIGURATION OF EUT	10
6.2	SUPPORT EQUIPMENT	10
7. FC	CC PART 15.231 REQUIREMENTS	11
7.1	20 DB BANDWIDTH	11
7.2	LIMIT OF TRANSMISSION TIME	13
7.3	DUTY CYCLE	15
7.4	RADIATED EMISSIONS	18
75	DOWED INE CONDUCTED EMISSIONS	23

# 1. TEST RESULT CERTIFICATION

**Applicant:** Thomson Asia Pacific Holdings Pte. Ltd.

8 Jurong Town Hall Road, #26-01/03 The JTC Summit,

Singapore 609434

**Equipment Under Test:** RF remote control and dongle

Trade Name / Model: AWOX / RCZ160MBLM1

THOMSON / RCT160MBLM1

RCA / RCR160MALM1 SCOTT / RCX160MBLM1

**Date of Test:** February 6, 2006

APPLICABLE STANDARDS		
STANDARD	TEST RESULT	
FCC 47 CFR Part 15 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: 2003 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.207, 15.209 and Part 15.231.

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

*Approved by:* 

Reviewed by:

Gavin Lim Section Manager

Javin. Lim

Compliance Certification Services Inc.

Amanda Wu Section Manager

Compliance Certification Services Inc.

Page 3 Rev. 00

# 2. EUT DESCRIPTION

Product	RF remote control and dongle
Trade Name / Model	AWOX / RCZ160MBLM1 THOMSON / RCT160MBLM1 RCA / RCR160MALM1 SCOTT / RCX160MBLM1
Model Difference	All the above models are identical except for the designation of color, trade names and model numbers.
<b>Power Supply</b> Powered by AA batteries $\times$ 2 (Rating: $2 \times 1.5$ Vdc).	
Frequency Range	433.993 MHz
Modulation Technique	ASK
Antenna Designation	Monopole Antenna / Gain: -4.4 dBi

#### Remark:

- 1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
- 2. This submittal(s) (test report) is intended for FCC ID: <u>SKORCZ1602006243C</u> filing to comply with Section 15.207, 15.209 and 15.231 of the FCC Part 15, Subpart C Rules.

Page 4 Rev. 00

## 3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 (2001) and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.231.

#### 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.

#### 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 maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4.

Page 5 Rev. 00

## 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
<sup>1</sup> 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	$\binom{2}{2}$
13.36 - 13.41	322 - 335.4		

<sup>&</sup>lt;sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

(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 (model: RCZ160MBLM1) had been tested under operating condition.

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis) and laptop mode. The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

Page 6 Rev. 00

<sup>&</sup>lt;sup>2</sup> Above 38.6

## 4. INSTRUMENT CALIBRATION

## 4.1 MEASURING 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

# 4.2 MEASUREMENT EQUIPMENT USED

#### **Equipment Used for Emissions Measurement**

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

Open Area Test Site # 3				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESVS20	838804/004	01/08/2007
Spectrum Analyzer	R&S	FSP30	100112	09/12/2006
Spectrum Analyzer	Agilent	E4446A	MY43360131	01/10/2007
Pre-Amplifier	MITEC	AFS42-00102650	924206	N.C.R.
Pre-Amplifier	MITEC	AMF-6F-260400	945377	N.C.R.
Bilog Antenna	SCHWAZBECK	VULB9163	145	07/05/2006
Horn Antenna	EMCO	3115	00022250	04/18/2006
Horn Antenna	EMCO	3116	2487	12/08/2006
Turn Table	EMCO	2081-1.21	9709-1885	N.C.R
Antenna Tower	EMCO	2075-2	9707-2060	N.C.R
Controller	EMCO	2090	9709-1256	N.C.R
RF Switch	ANRITSU	MP59B	M53867	N.C.R
Site NSA	C&C	N/A	N/A	09/06/2006
Test S/W	HTBasic (M026C)			

**Remark:** The measurement uncertainty is less than +/- 2.16dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.

Powerline Conducted Emissions Test Site				
Name of Equipment Manufacturer Model Serial Number Calibration				
EMI TEST RECEIVER 9kHz-30MHz	ROHDE & SCHWARZ	ESHS30	828144/003	09/24/2006
TWO-LINE V-NETWORK 9kHz-30MHz	SCHAFFNER	NNB41	03/10013	06/11/2006
LISN 10kHz-100MHz	EMCO	3825/2	9106-1809	02/17/2006
Test S/W	LABVIEW (V 6.1)			

**Remark:** The measurement uncertainty is less than +/- 2.81dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.

Page 7 Rev. 00

## 5. FACILITIES AND ACCREDITATIONS

#### **5.1 FACILITIES**

AII	measurement facilities used to collect the measurement data are located at
	No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C. Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029
	No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045
$\boxtimes$	No.81-1, Lane 210, Bade 2nd Rd., Luchu Hsiang, Taoyuan Hsien 338, Taiwan

Tel: 886-3-324-0332 / Fax: 886-3-324-5235

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

## **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: 200600-0 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).

Page 8 Rev. 00

## 5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	EN 55011, EN 55014-1/2, CISPR 11, CISPR 14-1/2, EN 55022, EN 55015, CISPR 22, CISPR 15, AS/NZS 3548, VCCI V3 (2001), CFR 47, FCC Part 15/18 using ANSI 63.4/1992&2000, CNS 13783-1, CNS 13439, CNS 13438, CNS 13803, CNS 14115, EN 55024, IEC 801-2, IEC 801-3, IEC 801-4, IEC/EN 61000-3-2, EIC/EN 61000-3-3, IEC/EN 61000-4-2/3/4/5/6/8/11, EN 50081-1/EN 61000-6-3, EN 50081-2/EN 61000-6-4, EN 50081-2/EN 61000-6-1: 2001	ACCREDITED 0824-01
USA	FCC	3/10 meter Open Area Test Sites (93105, 90471) / 3M Semi Anechoic Chamber (965860) to perform FCC Part 15/18 measurements	93105, 90471 965860
Japan	VCCI	3/10 meter Open Area Test Sites to perform conducted/radiated measurements	<b>VCCI</b> R-393/1066/725/879 C-402/747/912
Norway	NEMKO	EN 50081-1/2, EN 50082-1/2, IEC 61000-6-1/2, EN 50091-2, EN 50130-4, EN 55011, EN 55013, EN 55014-1/2, EN 55015, EN 55022, EN 55024, EN 61000-3-2/3, EN 61326-1, IEC 61000-4-2/3/4/5/6/8/11, EN 60601-1-2, EN 300 328-2, EN 300 422-2, EN 301 419-1, EN 301 489-01/03/07/08/09/17, EN 301 419-2/3, EN 300 454-2, EN 301 357-2	ELA 124a ELA 124b ELA 124c
Taiwan	TAF	EN 300 328-1, EN 300 328-2, EN 300 220-1, EN 300 220-2, EN 300 220-3, 47 CFR FCC Part 15 Subpart C, EN 61000-3-2, EN 61000-3-3, CNS 13439, CNS 13783-1, CNS 14115, CNS 13438, AS/NZS CISPR 22, CNS 13022-1, IEC 61000-4-2/3/4/5/6/8/11, CNS 13022-2/3	Testing Laboratory 0363
Taiwan	BSMI	CNS 13438, CNS 13783-1, CNS 13439, CNS 14115	SL2-IS-E-0014 SL2-IN-E-0014 SL2-A1-E-0014 SL2-R1-E-0014 SL2-R2-E-0014 SL2-L1-E-0014
Canada	Industry Canada	3/10 meter Open Area Test Sites (IC 3991-3, IC 3991-4) / 3M Semi Anechoic Chamber (IC 6106) to perform RSS 212 Issue 1	Canada IC 3991-3 IC 3991-4 IC 6106

<sup>\*</sup> No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.

Page 9 Rev. 00

# 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
N/A	N/A	N/A	N/A	N/A	N/A	N/A

#### Remark:

- 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.

Page 10 Rev. 00

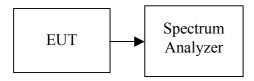
# 7. FCC PART 15.231 REQUIREMENTS

#### 7.1 20 DB BANDWIDTH

## LIMIT

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

#### **Test Configuration**



# **TEST PROCEDURE**

The transmitter output is connected to the spectrum analyzer. The spectrum analyzer center frequency is set to the transmitter frequency. The RBW is set to 10 kHz and VBW is set 30kHz.

## TEST RESULTS

No non-compliance noted.

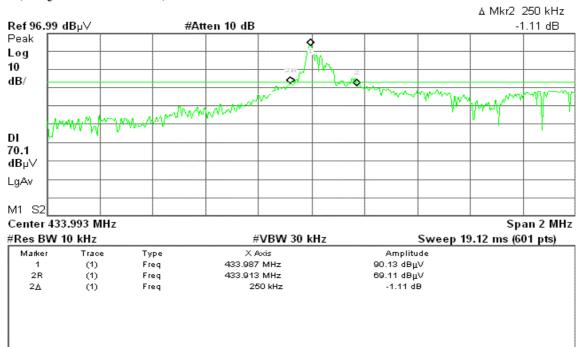
#### **Test Data**

Frequency (MHz)	- v		Result
433.993	250.00	1.0848	PASS

Page 11 Rev. 00

## **Test Plot**

\* Agilent 18:40:57 Feb 6, 2006



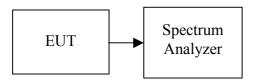
Page 12 Rev. 00

## 7.2 LIMIT OF TRANSMISSION TIME

## **LIMIT**

According to 15.231 (a)(1), a manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

## **Test Configuration**



# **TEST PROCEDURE**

The transmitter output is connected to the spectrum analyzer. The spectrum analyzer center frequency is set to the transmitter frequency. The RBW and VBW are set to 1MHz.

## TEST RESULTS

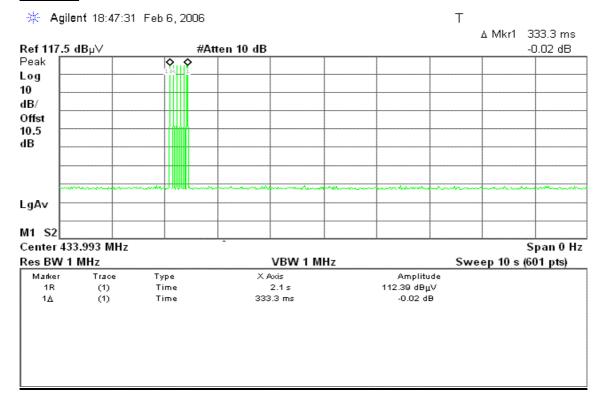
No non-compliance noted

## **Test Data**

Frequency (MHz) Transmission time (ms)		Limit (Second)	Result
433.993	333.30	5.00	PASS

Page 13 Rev. 00

## **Test Plot**



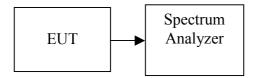
Page 14 Rev. 00

#### 7.3 DUTY CYCLE

## **LIMIT**

Nil (No dedicated limit specified in the Rules)

### **Test Configuration**



## **TEST PROCEDURE**

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set center frequency of spectrum analyzer = operating frequency.
- 4. Set the spectrum analyzer as RBW, VBW=100KHz, Span = 0Hz, Adjust Sweep = 30s.
- 5. Repeat above procedures until all frequency measured were complete.

# **TEST RESULTS**

No non-compliance noted

#### **Test Data**

Tp = 63.29ms

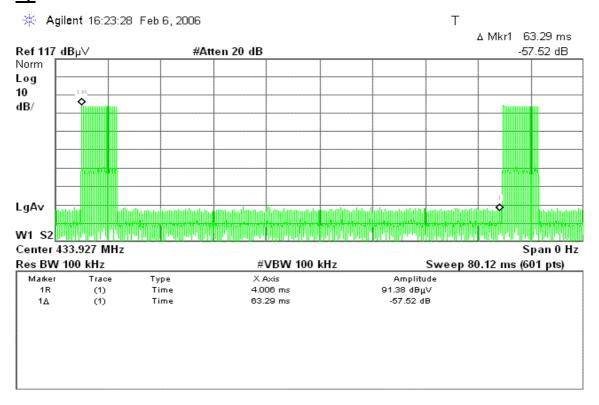
Ton = 
$$0.04167 * 25 + 0.09667 * 1 = 1.138$$
 (ms)

Duty Cycle Factor=  $20\log(\text{Ton / Tp}) = 20\log(1.138/63.29) = -34.90$ 

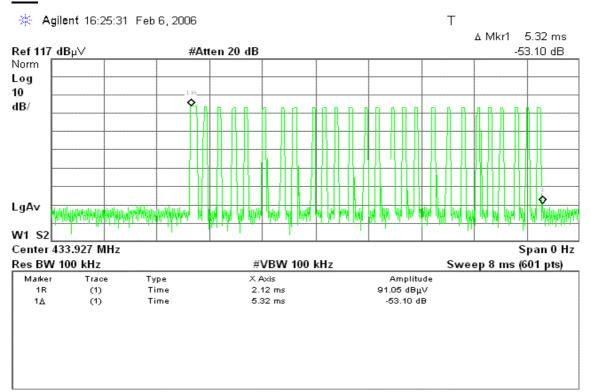
Page 15 Rev. 00

## **Test Plot**

## <u>Tp</u>

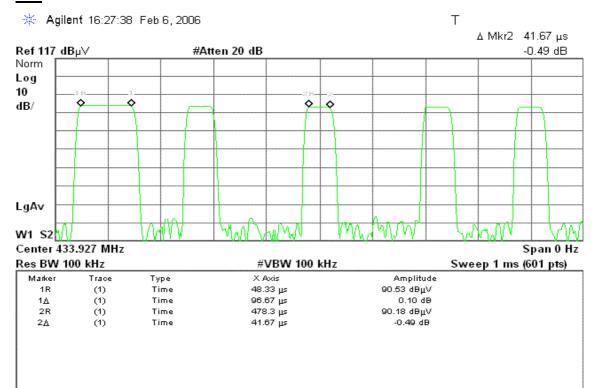


#### **Ton**



Page 16 Rev. 00

## **Ton**



Page 17 Rev. 00

## 7.4 RADIATED EMISSIONS

## LIMIT

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 (mV/m)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

**Remark:** 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.

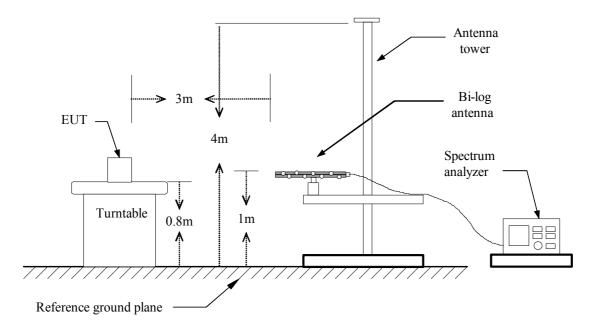
2. In the above emission table, the tighter limit applies at the band edges.

Frequency (MHz)	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

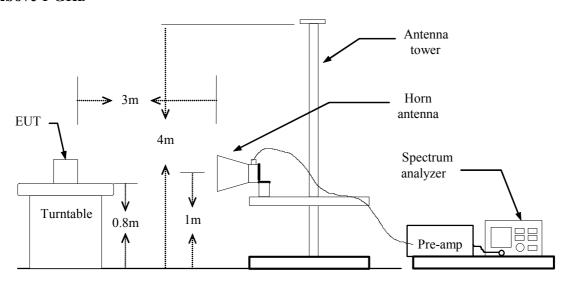
Page 18 Rev. 00

## **Test Configuration**

## **Below 1 GHz**



## **Above 1 GHz**



Page 19 Rev. 00

## **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. Set the spectrum analyzer in the following setting as:

Below 1GHz:

RBW=100kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz:

(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

7. Repeat above procedures until the measurements for all frequencies are complete.

Page 20 Rev. 00

# **TEST RESULTS**

Below 1 GHz

**Operation Mode:** Tx **Test Date:** February 6, 2006

**Temperature:** 22°C **Tested by:** Chris Hsieh

**Humidity:** 65 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant. Pol (H/V)	Reading (Peak) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Duty Cycle Correction Factor (dBuV)	Result (Average) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)
433.952	V	78.79	17.90	96.69	-34.90	61.79	80.86	-19.07
N/A								
433.958	Н	62.47	17.90	80.37	-34.90	45.47	80.86	-35.39
N/A								

#### Remark:

- 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. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, 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.

Page 21 Rev. 00

## **Above 1 GHz**

**Operation Mode:** Tx **Test Date:** February 6, 2006

Temperature:22°CTested by:Chris HsiehHumidity:65 % RHPolarity:Ver. / Hor.

Freq.	Ant. Pol	Peak	AV	Ant. / CL	Actual Fs		Peak	AV	Margin	
(MHz)	(H/V)	Reading (dBuV)	Reading (dBuV)	CF (dB/m)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit (dBuV/m)	(dB)	Remark
1735.82	V	58.11		-5.56	52.55		74.00	54.00	-1.45	Peak
2169.86	V	62.91	39.89	-4.27	58.64	35.62	74.00	54.00	-18.38	AVG
2603.75	V	62.25	41.28	-2.94	59.31	38.34	74.00	54.00	-15.66	AVG
3037.74	V	50.04		-2.51	47.53		74.00	54.00	-6.47	Peak
3471.67	V	52.22		-2.60	49.62		74.00	54.00	-4.38	Peak
3905.68	V	49.97		-0.48	49.49		74.00	54.00	-4.51	Peak
1735.82	Н	54.48		-6.93	47.55		74.00	54.00	-6.45	Peak
2169.86	Н	65.82	33.05	-5.09	60.73	27.96	74.00	54.00	-26.04	AVG
2603.75	Н	65.67	33.07	-4.59	61.08	28.48	74.00	54.00	-25.52	AVG
3037.74	Н	59.34		-1.86	57.48		80.00	60.00	-2.52	Peak
3471.67	Н	49.25		-2.60	46.65		74.00	54.00	-7.35	Peak
3905.68	Н	54.27		-0.14	54.13		80.00	60.00	-5.87	Peak

#### Remark:

- 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/quasi-peak detector mode.
- 3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.
- 4. 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.
- 5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, 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.
- 6. Margin(dB) = Remark result(dBuV/m) Quasi-peak limit(dBuV/m).

Page 22 Rev. 00

#### 7.5 POWERLINE CONDUCTED EMISSIONS

## **LIMIT**

According to  $\S15.207(a)$ , except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that 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 the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range	Limits (dBµV)				
(MHz)	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			

<sup>\*</sup> Decreases with the logarithm of the frequency.

## **Test Configuration**

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

## **Test Procedure**

Not applicable (Since the EUT is powered by battery)

## **TEST RESULTS**

Not applicable (Since the EUT is powered by battery)

Page 23 Rev. 00