



**FCC 47 CFR PART 15 SUBPART C**

**TEST REPORT**

**For**

**Computer**

**Model:  
HIT-W121**

**Trade Name: ADVANTECH**

*Issued to*

**Advantech Co. Ltd.  
No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District,  
Taipei 114, Taiwan, R.O.C.**

*Issued by*

**Compliance Certification Services Inc.  
No.11, Wugong 6th Rd., Wugu Dist.,  
New Taipei City 248, Taiwan (R.O.C.)  
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Issued Date: June 17, 2011**



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**Revision History**

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	June 17, 2011	Initial Issue	ALL	Angel Cheng



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## 1. TEST RESULT CERTIFICATION

**Applicant:** Advantech Co. Ltd.  
No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District,  
Taipei 114, Taiwan, R.O.C.

**Equipment Under Test:** Computer

**Trade Name:** ADVANTECH

**Model:** HIT-W121

**Date of Test:** March 9 ~ May 16, 2011

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 tested as described in this report is in compliance with the requirements of FCC Rules Part 15.225.

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

*Approved by:*

Jason Lin

Jason Lin  
Section Manager  
Compliance Certification Services Inc.

*Reviewed by:*

Gina Lo

Gina Lo  
Section Manager  
Compliance Certification Services Inc.



## 2. EUT DESCRIPTION

<b>Product</b>	Computer
<b>Trade Name</b>	ADVANTECH
<b>Model Number</b>	HIT-W121
<b>Model Discrepancy</b>	N/A
<b>Received Date</b>	February 21, 2011
<b>Power Adapter</b>	1. FSP Group Inc. / FSP040-RAB I/P: 100-240V, 1.5A, 50-60Hz O/P: 19V, 2.1A 2. FSP Group Inc. / FSP065-RAB I/P: 100-240V, 1.5A, 50-60Hz O/P: 19V, 3.42A 3. SINPRO / MPU50-107 I/P: 100-240V, 47-63Hz, 1.35A O/P: 19V, 2.63A
<b>Frequency Range</b>	13.56MHz
<b>Modulation Technique</b>	ASK
<b>Number of Channels</b>	1 Channel
<b>Antenna Designation</b>	Omni-directional Antenna

**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: **M82-HIT-W121** filing to comply with Section 15.225 of the FCC Part 15, Subpart C Rules.



### **3. TEST METHODOLOGY**

The tests documented in this report were performed in accordance with ANSI C63.4: 2003 and FCC CFR 47 Part 15.207, 15.209 and 15.225.

#### **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: 2003. 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: 2003.



### 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	( <sup>2</sup> )
13.36 - 13.41	322 - 335.4		

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

<sup>2</sup> 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 (model: HIT-W121) comes with three types of power adapter (FSP Group Inc. / FSP040-RAB, FSP Group Inc. / FSP065-RAB, SINPRO / MPU50-107) for sale. After the preliminary test, the power adapter SINPRO / MPU50-107 was found to emit the worst emissions and therefore had been tested under operating condition.

Two displays are supplied: B116XW03 and N116B6-L02 and display B116XW03 was selected for final test and documented after preliminary test.

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





## 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 and Loop Antenna is scheduled for calibration once three years.

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360131	03/02/2012
Power Meter	Anritsu	ML2495A	1012009	03/27/2012
Power Sensor	Anritsu	MA2411B	0917072	03/08/2012

Wugu 966 Chamber A				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510252	11/03/2011
EMI Test Receiver	R&S	ESCI	100064	02/03/2012
Pre-Amplifier	Mini-Circuits	ZFL-1000LN	SF350700823	01/12/2012
Pre-Amplifier	MITEQ	AFS44-00102650-42-10P-44	1415367	11/19/2011
Bilog Antenna	Sunol Sciences	JB3	A030105	10/06/2011
Horn Antenna	EMCO	3117	00055165	01/12/2012
Horn Antenna	EMCO	3116	00026370	10/18/2011
Loop Antenna	EMCO	6502	8905/2356	06/10/2013
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Site NSA	CCS	N/A	N/A	12/26/2011
Test S/W	EZ-EMC (CCS-3A1RE)			

Conducted Emission Room # 4				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI	100782	06/09/2012
LISN	R&S	ENV216	100066	03/30/2012
LISN	R&S	ENV 4200	830326/016	04/26/2012
Test S/W	EZ-EMC			



#### 4.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/- 2.0518
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0606
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9979
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5790
3M Semi Anechoic Chamber / 8G~18G	+/- 2.5928
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7212
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9520

**Remark:** This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .



## 5. FACILITIES AND ACCREDITATIONS

### 5.1 FACILITIES

All 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 Dist., New Taipei City 248, Taiwan (R.O.C.)

Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☒ No.81-1, Lane 210, Bade 2nd Rd., Luchu Hsiang, Taoyuan Hsien 338, Taiwan

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

**Remark:** The powerline conducted emission test items was tested at Compliance Certification Services Inc. (Linkou Lab.) The test equipments were listed in page 9 and the test data, please refer page 23-24.

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 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	 FCC MRA: TW1039
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12.2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method –47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	 Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	 IC 2324G-1 IC 2324G-2

*\* No part of this report may be used to claim or imply product endorsement by A2LA 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 I for the actual connections between EUT and support equipment.

### 6.2 SUPPORT EQUIPMENT

No.	Equipment	Model No.	Serial No.	FCC ID	Trade Name	Data Cable	Power Cord
1.	Modem	DM-1414	304012261	IFAXDM1414	ACEEX	Unshielded, 1.8m	Unshielded, 1.8m
2.	USB Keyboard	6512-UV	21200201-1201867780	FCC DoC	ACER	Unshielded, 1.8m	N/A
3.	USB Mouse	MO19UCA	020509284	FCC DoC	HP	Unshielded, 1.8m	N/A
4.	Multimedia Headset	CJC-5258MV	0507106345	FCC DoC	CJC	Unshielded, 2.0m	N/A
5.	Traveling Disk	LuxMini 720	N/A	FCC DoC	SILICON POWER	Unshielded, 1.0m	N/A
6.	Smart Card	N/A	N/A	N/A	N/A	N/A	N/A
7.	Notebook PC (Remote)	COMPAQ NC 4010	CNU5191L58	FCC DoC	HP	LAN Cable: Unshielded, 10m	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
8.	Wireless Router (Remote)	WL-500g	471GA12838	MSQWL500G	ASUS	N/A	Unshielded, 1.8m

**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.



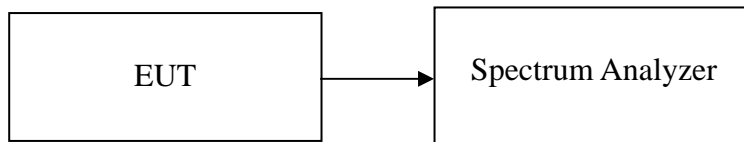
## 7. FCC PART 15.225 REQUIREMENTS

### 7.1 20 DB BANDWIDTH

#### LIMIT

None; for reporting purposes only.

#### Test Configuration



#### TEST PROCEDURE

1. Place the EUT on the table and set it in the 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 the spectrum analyzer as RBW= 3kHz, VBW = 10kHz, Span = 100kHz, Sweep = auto.
4. Mark the peak frequency and 20dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

#### TEST RESULTS

*No non-compliance noted.*



## Test Plot

Agilent 10:20:24 Apr 20, 2011

R T

Δ Mkr2 5.07 kHz

Ref -10 dBm

#Atten 0 dB

-0.08 dB

#Peak

Log  
10  
dB/

DI

-68.1  
dBm

LgAv

V1 S2

Center 13.560 00 MHz

Span 20 kHz

#Res BW 1 kHz

#VBW 3 kHz

Sweep 19.12 ms (601 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	13.560 47 MHz	-48.05 dBm
2R	(1)	Freq	13.558 00 MHz	-68.17 dBm
2Δ	(1)	Freq	5.07 kHz	-0.08 dB



## 7.2 RADIATED EMISSIONS

### LIMIT

According to §15.225,

- (a) The field strength of any emissions within the band 13.553 – 13.567 MHz shall not exceed 15,848 microvolts / meter at 30 meters.
- (b) Within the bands 13.410 – 13.553 MHz and 13.567 -13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts / meter at 30 meters.
- (c) Within the bands 13.110 – 13.410 MHz and 13.710 – 14.010 MHz the field strength of any emissions shall not exceed 106 microvolts / meter at 30 meters.
- (d) The field strength of any emissions appearing outside of the 13.110 – 14.010 MHz and shall not exceed the general radiated emission limits in §15.209.

According to §15.225(a), 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 ( $\mu$ V/m at meter)	Measurement Distance (meter)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 - 88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

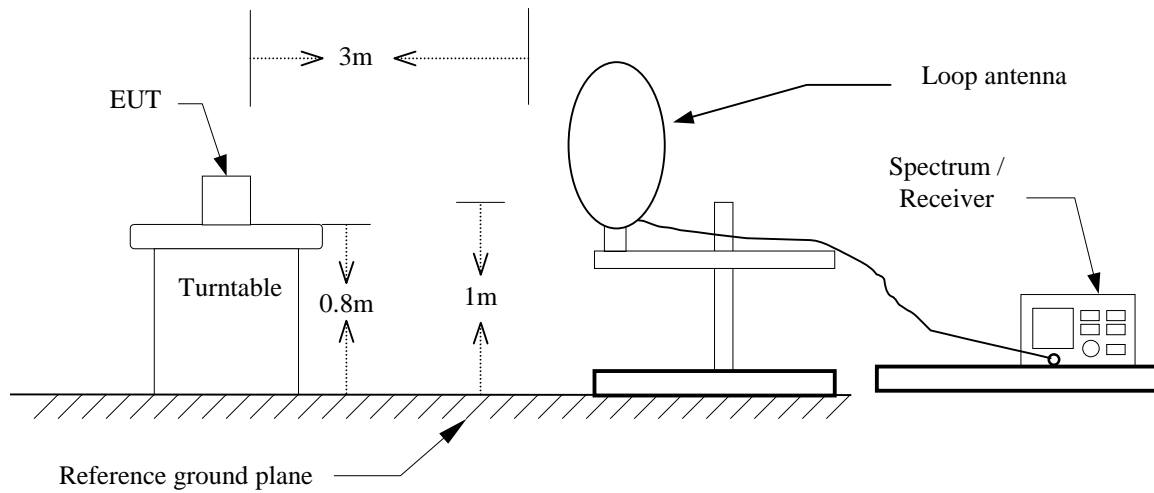
*\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this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



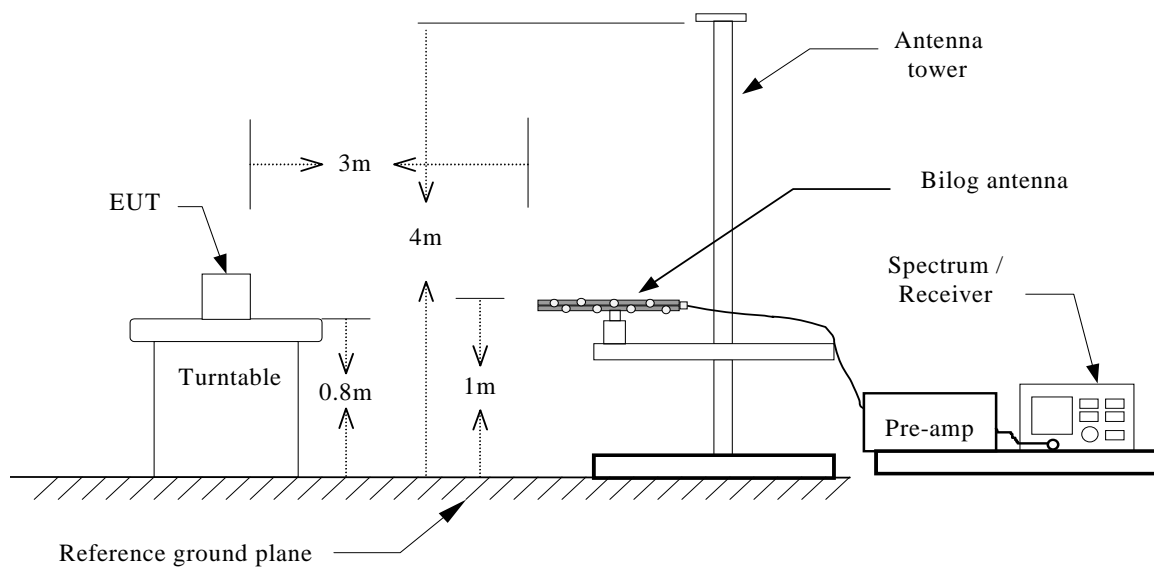


## Test Configuration

**9kHz ~ 30MHz**



**30MHz ~ 1GHz**





## **TEST PROCEDURE**

### **For 9kHz~30MHz**

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, The center of the loop shall be 1 m above the ground then 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 rotated of receiving antenna axis
6. Set the spectrum analyzer in the following setting as: RBW=10kHz / VBW=30kHz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.

### **For 30MHz~1GHz**

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 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: RBW=100kHz / VBW=300kHz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.



**Operation Mode:** TX mode      **Test Date:** May 16, 2011  
**Temperature:** 24°C      **Tested by:** Ali Hsu  
**Humidity:** 41 % RH      **Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit 3m (dBuV/m)	Margin(dB)	Detector Mode (PK/QP/AVG)
13.56	39.66	5.73	45.39	124.00	-78.61	Peak
133.47	48.58	-9.79	38.79	43.50	-4.71	Peak
186.82	49.56	-11.05	38.51	43.50	-4.99	QP
204.60	47.55	-10.28	37.27	43.50	-6.23	QP
285.43	46.22	-9.40	36.82	46.00	-9.18	QP
642.72	42.30	-3.06	39.24	46.00	-6.76	Peak
713.85	43.05	-2.34	40.71	46.00	-5.29	Peak

**Remark:**

1. Measuring frequencies from 9kHz to the 1GHz.
2. Radiated emissions measured were made with an instrument using peak/quasi-peak/average 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.
4. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m).
5. 13.56MHz Limit is  $(20 \log (15848)) + (40 \log (30/10)) = 84 + 40 = 124 \text{ dBuV/m}$



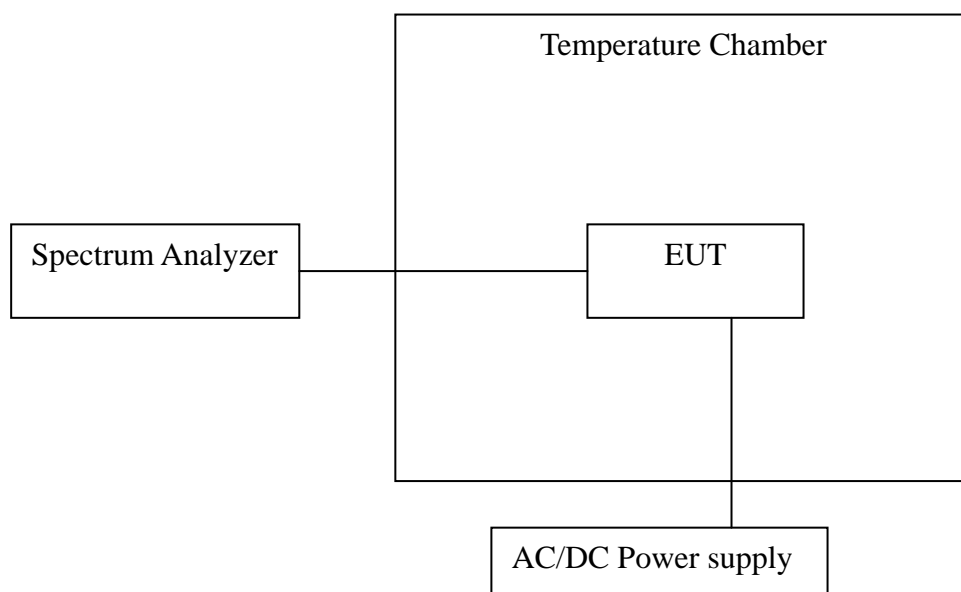
## 7.3 FREQUENCY STABILITY

### LIMIT

According to §15.225(e), the frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$  of the operating frequency over a temperature variation of  $-20$  degrees to  $+50$  degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

### Test Configuration

**Temperature and Voltage Measurement (under normal and extreme test conditions)**



### TEST PROCEDURE

1. Place the EUT on the table and set it in the 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 the environment into appropriate environment.
4. Set the spectrum analyzer as RBW=1kHz, VBW = RBW, Span = 200kHz, Sweep = auto.
5. Mark the peak frequency and measure the frequency tolerance using frequency counter function.
6. Repeat until all the results are investigated.



## **TEST RESULTS**

*No non-compliance noted.*

### **Temperature Variations**

Temp. (°C)	Voltage (V)	Measured Frequency (MHz)	Delta Frequency (Hz)	Limit (Hz)	Result (Pass/Fail)	Margin (Hz)
-20	120	13.56045	452	±1356	Pass	904
-10		13.56046	459	±1356	Pass	897
0		13.56041	410	±1356	Pass	946
10		13.56026	260	±1356	Pass	1096
20		13.56045	450	±1356	Pass	906
30		13.56016	160	±1356	Pass	1196
40		13.56014	140	±1356	Pass	1216
50		13.56034	340	±1356	Pass	1016

### **Voltage Variations**

Temp. (°C)	Voltage (V)	Measured Frequency (MHz)	Delta Frequency (Hz)	Limit (Hz)	Result (Pass/Fail)	Margin (Hz)
20	99	13.56040	400	±1356	Pass	956
	110	13.56040	400	±1356	Pass	956
	121	13.56040	400	±1356	Pass	956

*Remark: 13.56 MHz +/- 0.01% = 1356 Hz*



## 7.4 POWERLINE CONDUCTED EMISSIONS

### LIMIT

According to §15.207(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 (MHz)	Limits (dB $\mu$ 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

\* Decreases with the logarithm of the frequency.

### 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.

**Operation Mode:** Normal Link

**Test Date:** March 9, 2011

**Temperature:** 22°C

**Tested by:** Moore Cheng

**Humidity:** 45% RH

Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB)	QP Result (dBuV)	AV Result (dBuV)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.1891	37.90	25.30	9.70	47.60	35.00	64.08	54.08	-16.48	-19.08	L1
0.2867	26.50	12.20	9.70	36.20	21.90	60.62	50.62	-24.42	-28.72	L1
0.5875	27.36	16.06	9.44	36.80	25.50	56.00	46.00	-19.20	-20.50	L1
0.6070	29.07	17.37	9.43	38.50	26.80	56.00	46.00	-17.50	-19.20	L1
0.6773	26.43	14.83	9.37	35.80	24.20	56.00	46.00	-20.20	-21.80	L1
0.8063	25.74	13.74	9.26	35.00	23.00	56.00	46.00	-21.00	-23.00	L1
0.1930	37.39	25.79	9.71	47.10	35.50	63.91	53.91	-16.81	-18.41	L2
0.3023	25.49	11.59	9.71	35.20	21.30	60.18	50.18	-24.98	-28.88	L2
0.5914	27.19	16.19	9.61	36.80	25.80	56.00	46.00	-19.20	-20.20	L2
0.6422	30.49	17.49	9.61	40.10	27.10	56.00	46.00	-15.90	-18.90	L2
0.7398	24.38	10.38	9.62	34.00	20.00	56.00	46.00	-22.00	-26.00	L2
1.0250	21.18	6.98	9.62	30.80	16.60	56.00	46.00	-25.20	-29.40	L2

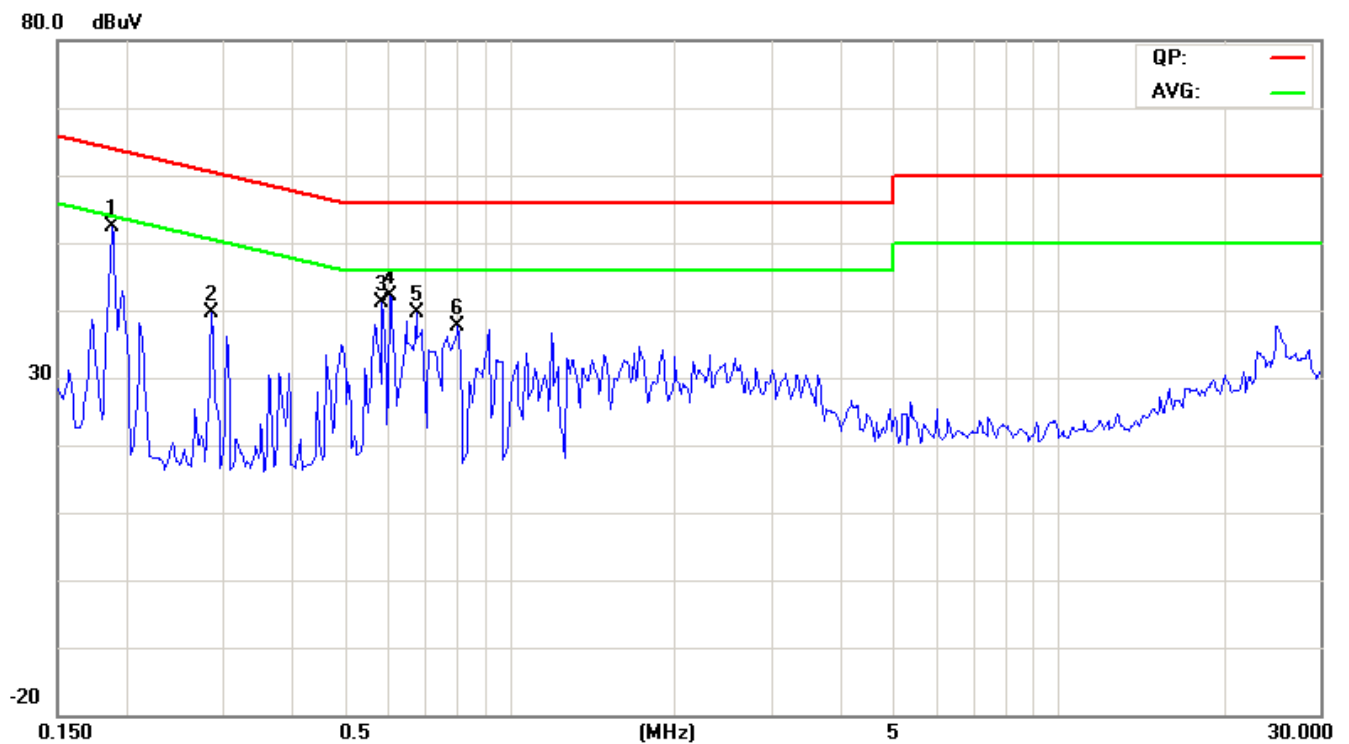
***Remark:***

- The measuring frequencies range between 0.15 MHz and 30 MHz.*
- 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.*
- 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.*
- L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)*
- "-" means Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.*



## Test Plots

### Conducted emissions (Line 1)



### Conducted emissions (Line 2)

