FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

Navigation Device

Model: P4240 M10; P4240 M20

Trade Name: MEDION

Issued to

Medion AG
Am Zehnthof 7745307, Essen, Germany

Issued by

Compliance Certification Services Inc.
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Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		June 23, 2009		Initial Issue	ALL	Jill Shiau

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1. TEST RESULT CERTIFICATION

Applicant:	**Medion AG** Am Zehnthof 7745307, Essen, Germany
Equipment Under Test:	Navigation Device
Trade Name:	MEDION
Model:	P4240 M10; P4240 M20
Date of Test:	April 30 ~ May 22, 2009

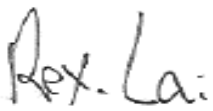
APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart C	No non-compliance noted

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 the requirements of FCC Rules Part 15.207, 15.209, 15.239.

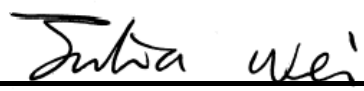
The test results of this report relate only to the tested sample EUT identified in this report.

Approved by:



Rex Lai
Section Manager
Compliance Certification Services Inc.

Reviewed by:



Julia Wei
Senior Specialist
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	Navigation Device		
Trade Name	MEDION		
Model Number	P4240 M10; P4240 M20		
Model Name Discrepancy	1. The all model numbers (list on this report) are identical, just for marketing purpose only. 2. Client consigns only one sample to test (model number: P4240 M10). Therefore, the testing Lab. just guarantees the unit, which has been tested.		
EUT Power Rating	5VDC, 1A		
Power Adapter	PHIHONG	**Model**	PSAA05R-050
Power Adapter Power Rating	I/P: 100-240VAC, 50-60Hz, 0.3A O/P: 5VDC, 1A		
Car Charger	MiTAC	**Model**	CA-051-00U-00
Car Charger Power Rating	I/P: 12/24VDC, 800mA (Max) O/P: 5V, 1A (Max)		
Bluetooth Module	CSR	**Model**	BC41B143A
FM Transmitter Manufacturer	GNS	**Model**	FMT6N
Frequency Range	88.1-107.9 MHz		
Transmit Power	47.81dBuV/m		
Modulation Technique	FM		
Number of Channels	100 Channel		
Antenna Specification	PCB Antenna		

Remark: *The product is a Transmitter. This submittal(s) (test report) is intended for FCC ID:* ***WCE-P4240*** *filing to comply with Section 15.239 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 and FCC CFR 47 Part 15 Subpart C.

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 calibrated antennas used to sample the radiated field strength are mounted on a non-conductive, motorized antenna mast 3 or 10 meters from the leading edge of the turntable.

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 7.1 of ANSI C63.4.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak detector mode.

Radiated Emissions

The EUT is a placed on as turntable, 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

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 (model: P4240 M10) had been tested under operating condition and had been reported as worst case on this test report.

Test program used to control the EUT for staying in continuous transmitting mode was programmed.

Channel Low (88.1 MHz)、Mid (98.1 MHz) and High (107.9 MHz) was chosen for full testing.

For the power line conducted emissions test, the EUT has three charge modes, (USB charge mode, power adapter mode and car charger mode), after the preliminary test, the power adapter mode was found to the worst case and chosen for testing.

Download the audio signal (MP3 songs) to the device, and then play MP3 songs during the 20dB BW test and the volume of audio was tuned to the max during the test.

The tuning controls were manually adjusted to verify maximum tuning range.

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

Conducted Emissions Test Site				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	MY43360131	03/05/2010

3M Semi Anechoic Chamber				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510252	09/10/2009
Test Receiver	Rohde&Schwarz	ESCI	100064	11/30/2009
Switch Controller	TRC	Switch Controller	SC94050010	05/03/2010
4 Port Switch	TRC	4 Port Switch	SC94050020	05/03/2010
Loop Antenna	EMCO	6502	8905/2356	05/30/2009
Horn-Antenna	TRC	HA-0502	06	06/04/2009
Horn-Antenna	TRC	HA-0801	04	06/18/2009
Horn-Antenna	TRC	HA-1201A	01	10/15/2009
Horn-Antenna	TRC	HA-1301A	01	10/15/2009
Bilog- Antenna	Sunol Sciences	JB3	A030205	03/27/2010
Turn Table	Max-Full	MFT-120S	T120S940302	N.C.R.
Antenna Tower	Max-Full	MFA-430	A440940302	N.C.R.
Controller	Max-Full	MF-CM886	CC-C-1F-13	N.C.R.
Site NSA	CCS	N/A	FCC MRA: TW1039 IC: 2324G-1/-2	10/17/2010 11/04/2010
Test S/W	LABVIEW (V 6.1)			

Powerline Conducted Emissions Test Site				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESCS30	845552/030	04/08/2010
LISN	R&S	ENV216	100074	12/09/2009
LISN	FCC	FCC-LISN-50/ 250-16-2-07	06013	10/12/2009
Test S/W	CCS-3A1-CE-Luchu			

4.3 MEASUREMENT UNCERTAINTY

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated in accordance with TR 100 028-1 [2] and shall correspond to an expansion factor (coverage factor) k = 1,96 or k = 2 (which provide confidence levels of respectively 95 % and 95,45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Table 6 is based on such expansion factors.

Table 6: Maximum measurement uncertainty

Parameter	Uncertainty
RF frequency	+/-1 * 10^{-5}
Total RF power conducted	+/- 1,5 dB
RF power density, conducted	+/- 3 dB
Spurious emissions, conducted	+/- 3 dB
All emissions, radiated	+/- 6 dB
Humidity	+/- 5 %
Temperature	+/- 1°C
DC and low frequency voltages	+/- 3%

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 Industrial Park, Taipei Hsien 248, Taiwan
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☒ No.81-1, Lane 210, Pa-De 2nd Rd., Luchu Hsiang, Taoyuan Shien 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 preselectors 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 LISTINGS

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).

5.4 TABLE PF 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, 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 TESTING CERT #0824.01
USA	FCC	3M Semi Anechoic Chamber (965860 and 898658) to perform FCC Part 15/18 measurements	965860, 898658
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	TAF Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 6106 & IC 6106A-2) to perform RSS 212 Issue 1	Canada IC 6106 IC 6106A-2

Note: *No part of this report may be used to claim or imply product endorsement by A2LA, TAF or other government agency.*

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

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

****No any support equipment during the test.**

Remark: *Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

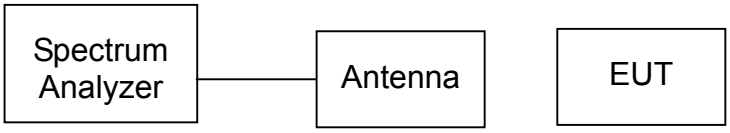
7. FCC PART 15.239 REQUIREMENTS

7.1 20 DB BANDWIDTH

LIMIT

N/A

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=10kHz, VBW = RBW, Span = 1MHz, Sweep = auto.
4. Repeat until all the rest channels are investigated.

TEST RESULTS

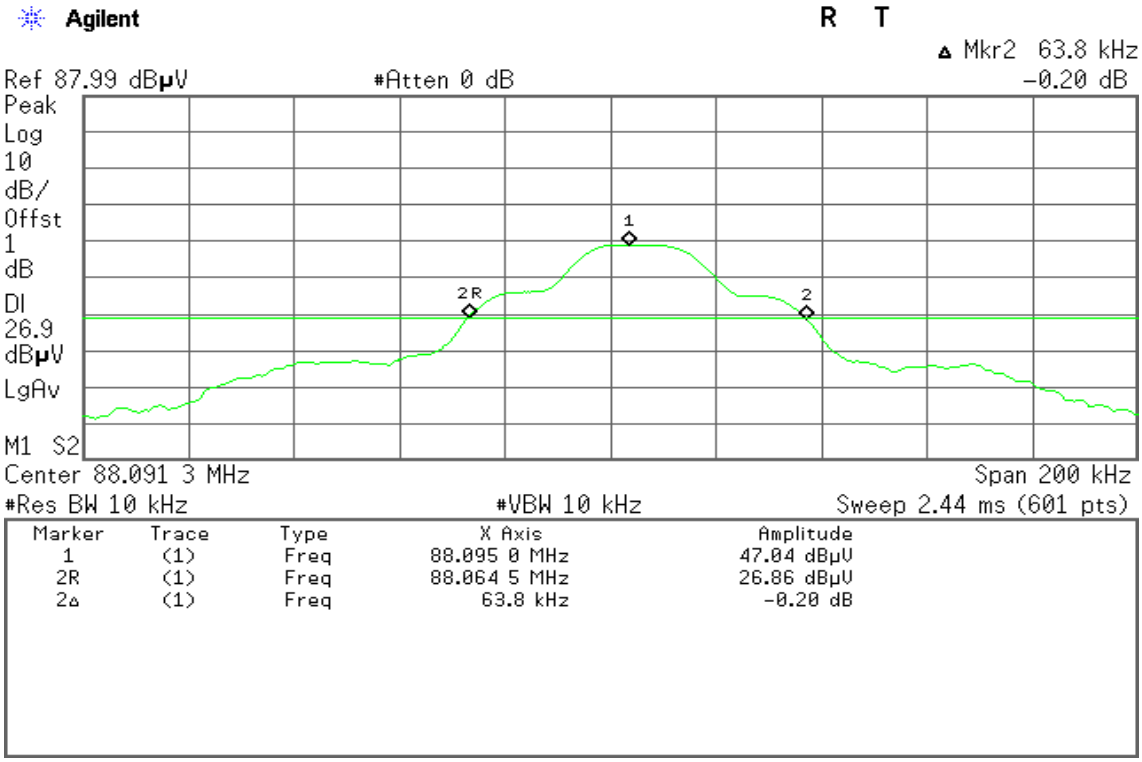
No non-compliance noted

Test Data

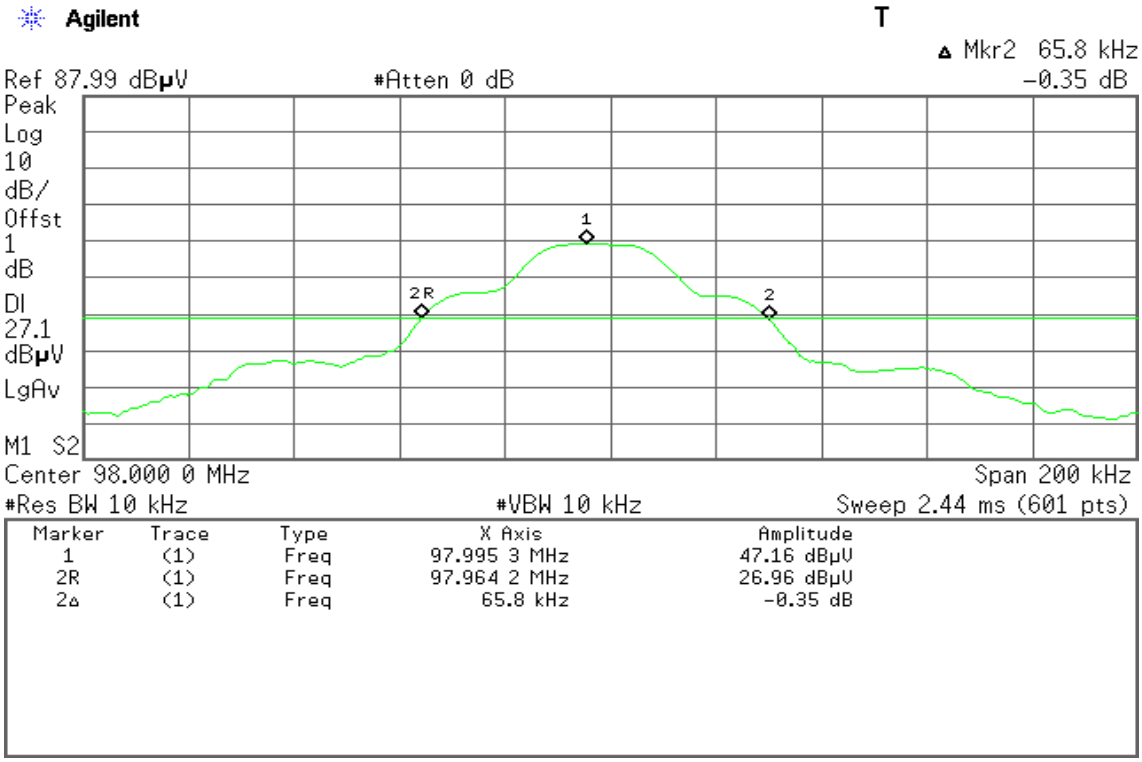
Channel	Frequency (MHz)	Bandwidth (kHz)
Low	88.1	63.80
Mid	98.1	65.80
High	107.9	63.20

Test Plot

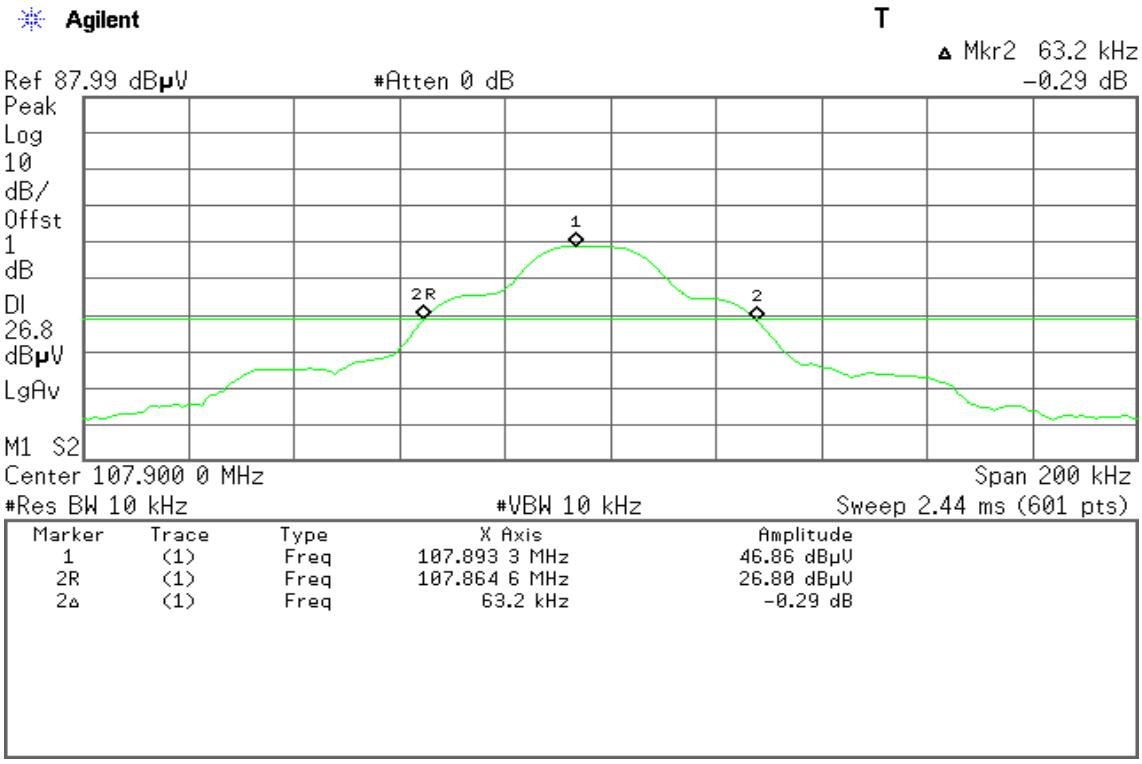
CH Low



CH Mid



CH High



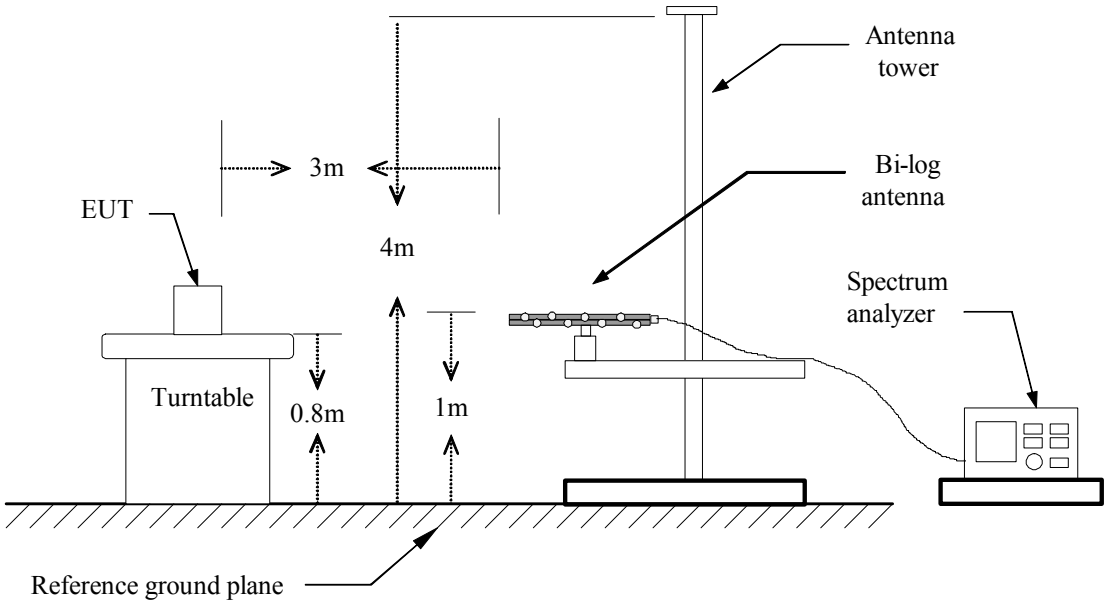
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	107.893 3 MHz	46.86 dBµV
2R	(1)	Freq	107.864 6 MHz	26.80 dBµV
2Δ	(1)	Freq	63.2 kHz	-0.29 dB

7.2 BAND EDGES MEASUREMENT

LIMIT

According to §15.239(a), emissions from the intentional radiator shall be confined within a band 200kHz wide centered on the operating frequency. The 200kHz band shall lie wholly within the frequency range of 88-108MHz.

TEST CONFIGURATION



TEST PROCEDURE

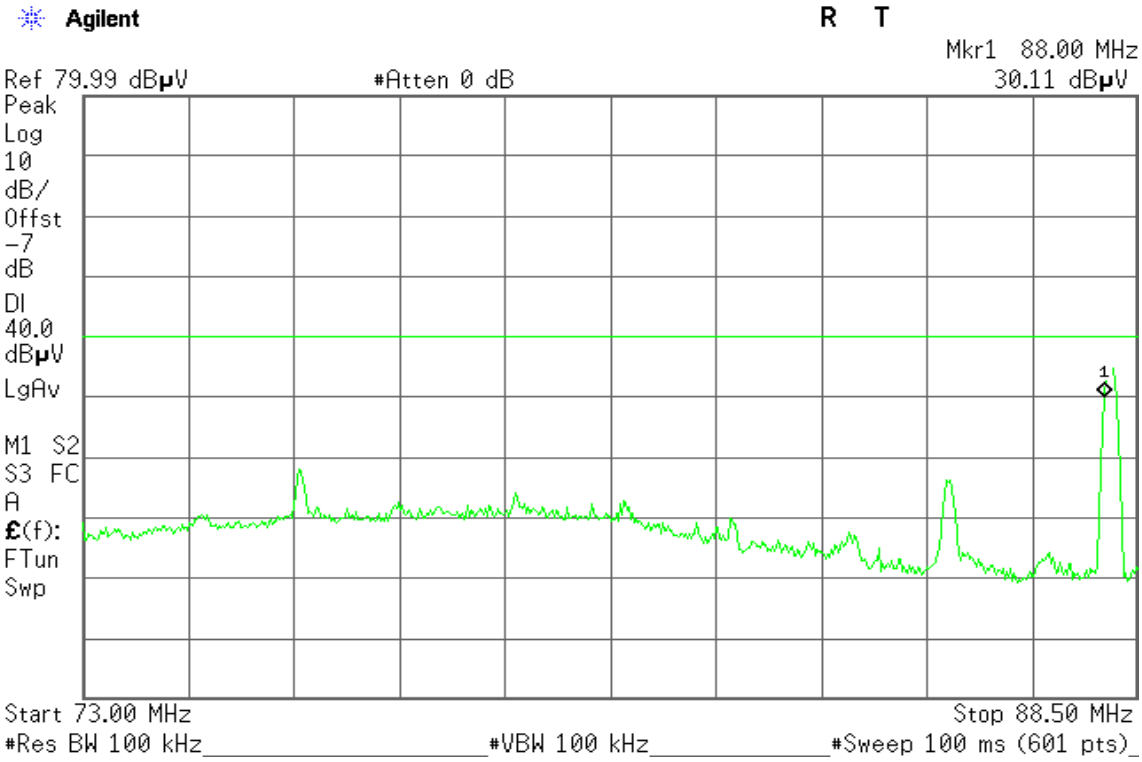
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal form an external generator.
2. Position the EUT as shown in figure 1 and measurement the turn on the EUT. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 10kHz and 100kHz respectively with a convenient frequency span including 200kHz bandwidth of the emission.
4. Mark the bandwidth of 200kHz points and plot the graph on spectrum analyzer.
5. Repeat the procedures until all measured frequencies were complete.

TEST RESULTS

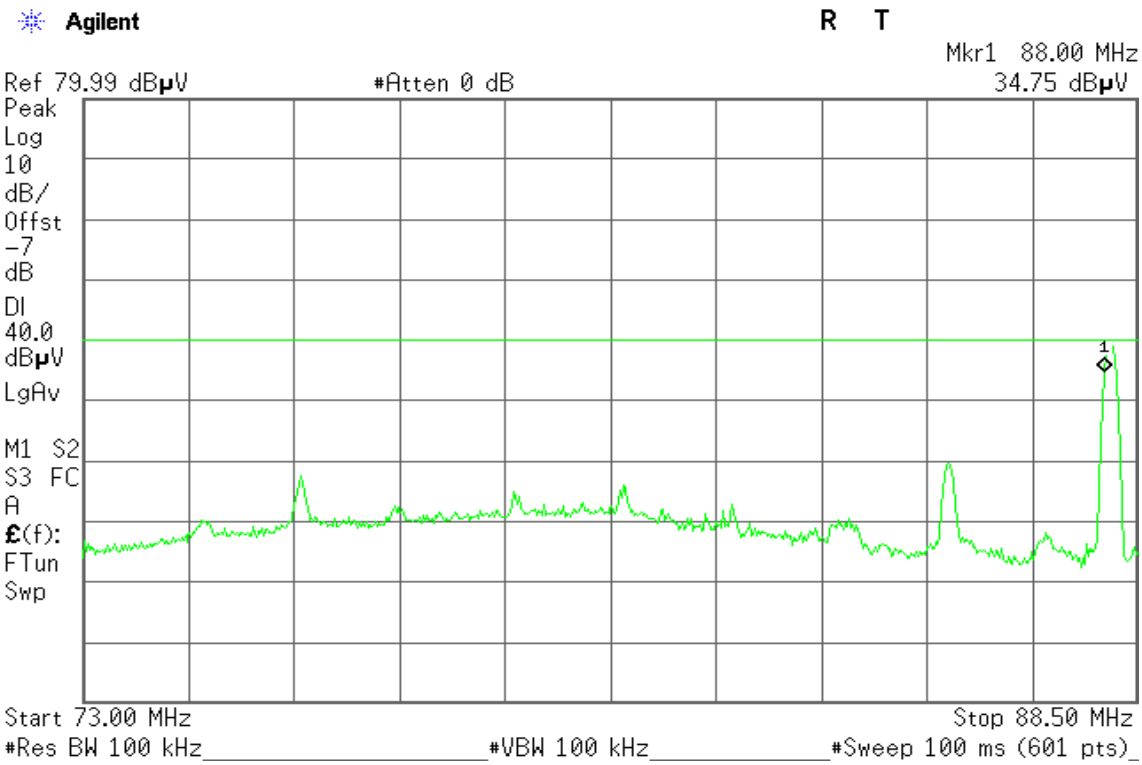
Refer to attach spectrum analyzer data chart.

Band Edges (CH Low)

Polarity: Vertical

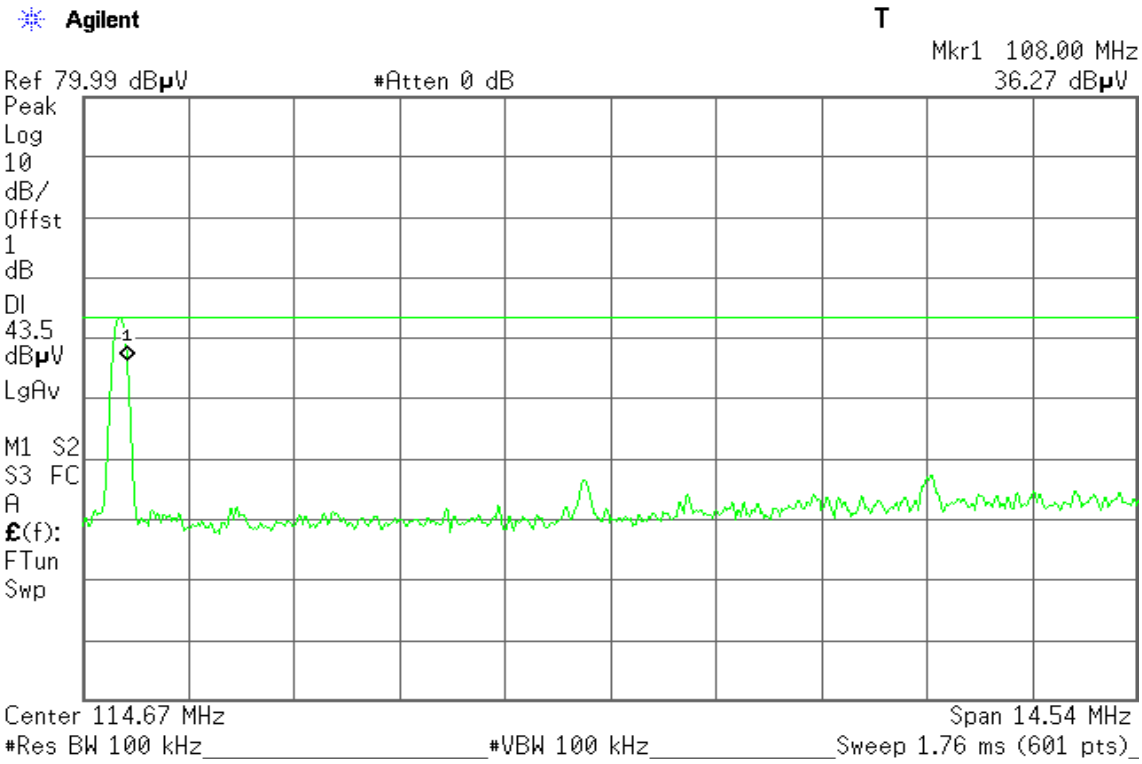


Polarity: Horizontal

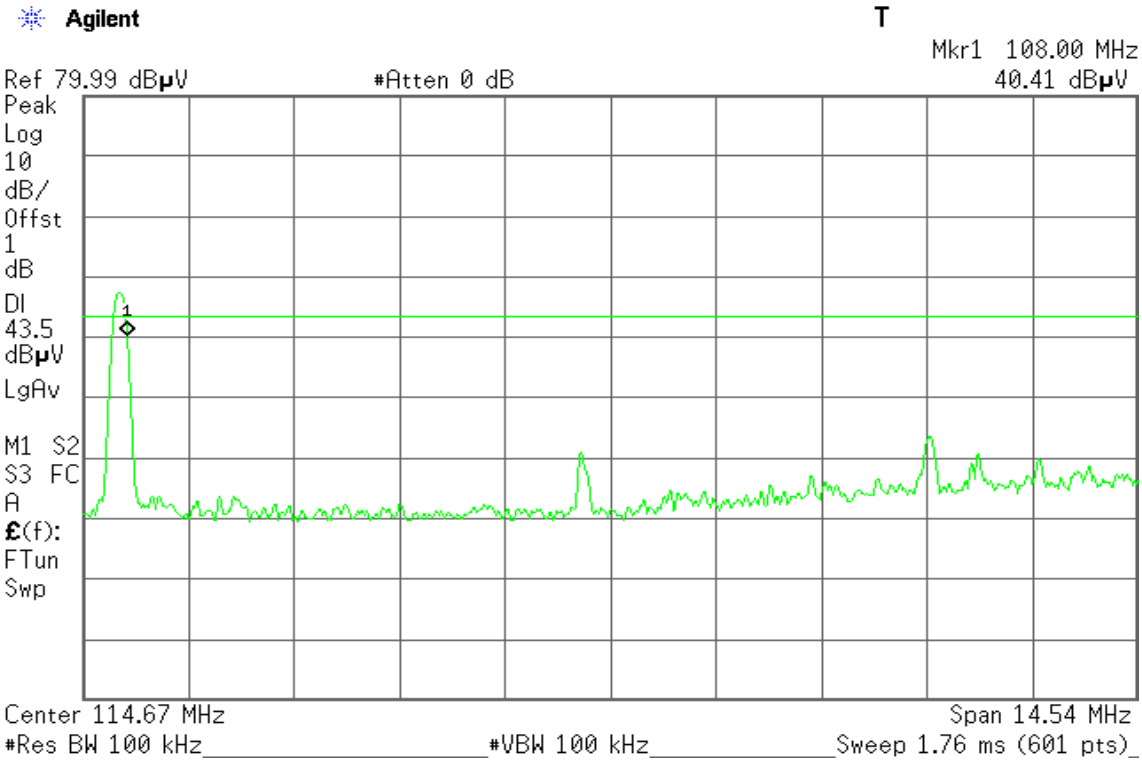


Band Edges (CH High)

Polarity: Vertical



Polarity: Horizontal



7.3 RADIATED EMISSIONS

LIMIT

1. The field strength of any emission within this band (section 15.239 frequency between 88 MHz –108 MHz) shall not exceed 250 microvolts /meter at 3 meters. (48dBμV/m at 3m) The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in section 15.35 for limiting peak emissions apply.

   The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in section 15.209(Intentional Radiators general limit), as below.

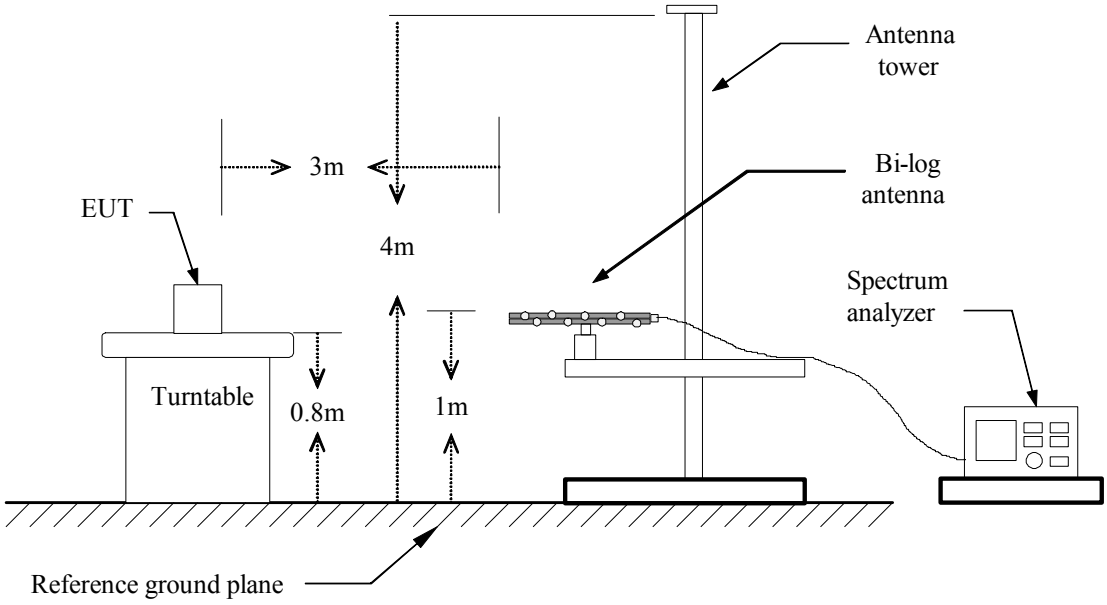
Frequency (MHz)	Field Strength (mV/m)	Measurement Distance (m)
1.705-30	30	30
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

   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.*

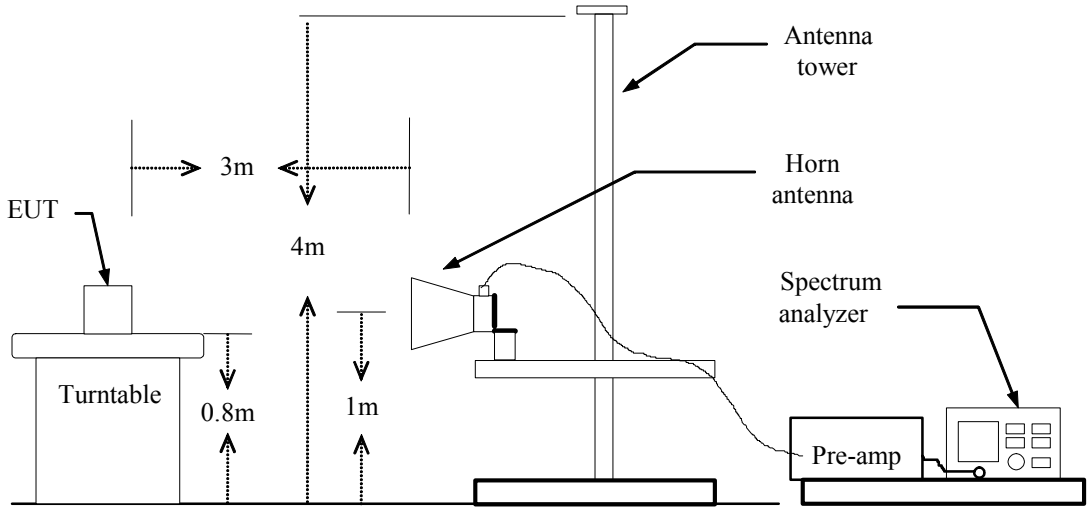
2. In the above emission table, the tighter limit applies at the band edges.

Frequency (Hz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
1.705-30	30	69.54
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

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. 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.

TEST RESULTS

Test Data

Operation Mode: CH Low **Test Date:** May 22, 2009

Temperature: 23°C **Tested by:** Mimic Yang

Humidity: 53 % RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
88.10	V	57.80	-15.61	42.19	48.00	-5.81	AVG
44.55	V	41.66	-10.83	30.84	40.00	-9.16	Peak
123.77	V	40.56	-8.93	31.62	43.50	-11.88	Peak
133.47	V	38.12	-9.01	29.11	43.50	-14.39	Peak
143.17	V	38.56	-9.28	29.28	43.50	-14.22	Peak
177.12	V	39.94	-10.99	28.95	43.50	-14.55	Peak
340.40	V	36.46	-7.95	28.50	46.00	-17.50	Peak
666.97	V	31.53	-2.20	29.33	46.00	-16.67	Peak
88.08	H	61.95	-15.61	46.34	48.00	-1.66	AVG
123.77	H	41.23	-8.93	32.30	43.50	-11.20	Peak
143.17	H	41.42	-9.28	32.14	43.50	-11.36	Peak
177.12	H	43.89	-10.99	32.90	43.50	-10.60	Peak
241.78	H	39.30	-9.80	29.50	46.00	-16.50	Peak
269.27	H	38.09	-9.08	29.00	46.00	-17.00	Peak
343.63	H	44.19	-7.91	36.28	46.00	-9.72	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 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:	CH Mid	**Test Date:**	May 22, 2009
Temperature:	23°C	**Tested by:**	Mimic Yang
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant. Pol (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
97.99	97.99	57.09	-13.77	43.32	48.00	-4.68	AVG
44.55	V	40.90	-10.83	30.08	40.00	-9.92	Peak
123.77	V	38.91	-8.93	29.98	43.50	-13.52	Peak
133.47	V	39.00	-9.01	29.99	43.50	-13.51	Peak
143.17	V	37.95	-9.28	28.67	43.50	-14.83	Peak
170.65	V	41.54	-10.77	30.77	43.50	-12.73	Peak
340.40	V	38.13	-7.95	30.17	46.00	-15.83	Peak
97.98	H	60.44	-13.78	46.66	48.00	-1.34	AVG
143.17	H	41.85	-9.28	32.58	43.50	-10.92	Peak
143.17	H	41.85	-9.28	32.58	43.50	-10.92	Peak
177.12	H	43.76	-10.99	32.77	43.50	-10.73	Peak
241.78	H	40.01	-9.80	30.21	46.00	-15.79	Peak
266.03	H	38.21	-9.18	29.03	46.00	-16.97	Peak
343.63	H	44.28	-7.91	36.37	46.00	-9.63	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 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:	CH High	**Test Date:**	May 22, 2009
Temperature:	23°C	**Tested by:**	Mimic Yang
Humidity:	53 % RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant. Pol (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
107.88	V	53.97	-11.58	42.39	48.00	-5.61	AVG
44.55	V	40.70	-10.83	29.87	40.00	-10.13	Peak
123.77	V	38.12	-8.93	29.19	43.50	-14.31	Peak
133.47	V	37.45	-9.01	28.44	43.50	-15.06	Peak
143.17	V	38.14	-9.28	28.86	43.50	-14.64	Peak
173.88	V	41.40	-10.88	30.52	43.50	-12.98	Peak
345.25	V	36.72	-7.89	28.83	46.00	-17.17	Peak
107.89	H	58.55	-11.58	46.97	48.00	-1.03	AVG
123.77	H	40.96	-8.93	32.02	43.50	-11.48	Peak
133.47	H	39.50	-9.01	30.49	43.50	-13.01	Peak
143.17	H	41.87	-9.28	32.59	43.50	-10.91	Peak
173.88	H	43.31	-10.88	32.43	43.50	-11.07	Peak
243.40	H	39.41	-9.78	29.63	46.00	-16.37	Peak
351.72	H	44.25	-7.77	36.47	46.00	-9.53	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 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.*

7.4 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 (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.

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.

Test Data

Operation Mode:	Power Adapter Charging	**Test Date:**	April 30, 2009
Temperature:	25°C	**Tested by:**	Stan Lin
Humidity:	57% RH	**Test**	

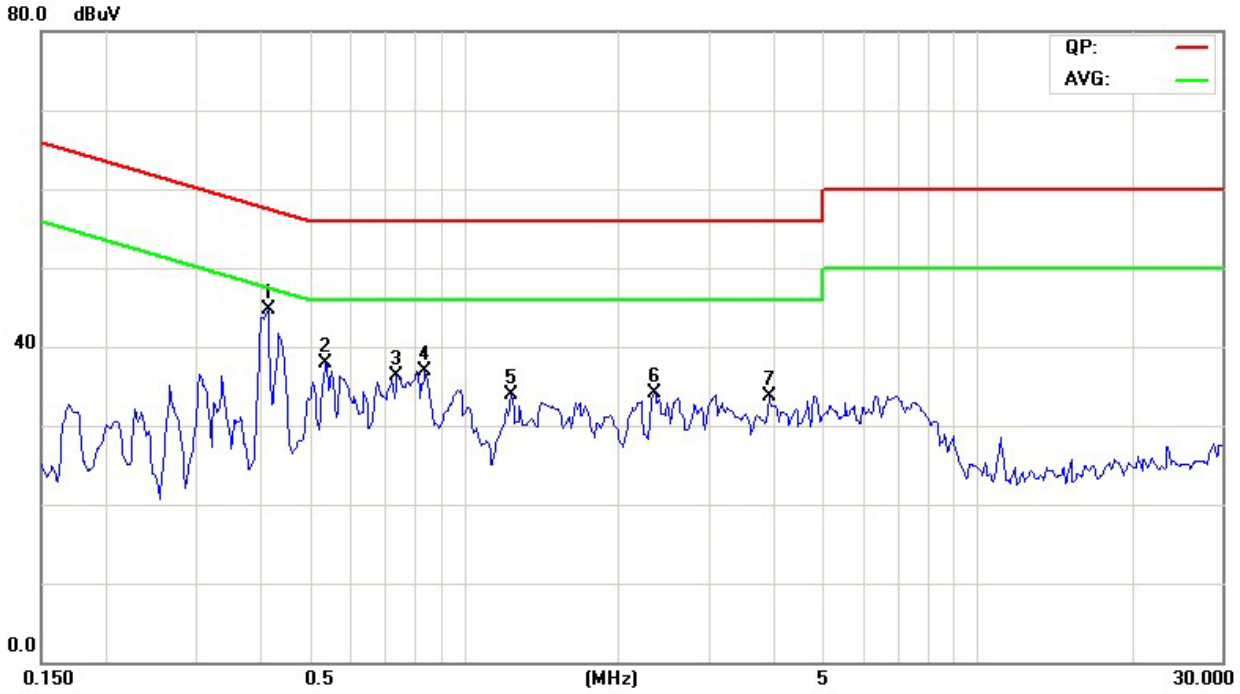
Freq. (MHz)	QP Reading	AV Reading	Corr. factor	QP Result	AV Result	QP Limit	AV Limit	QP Margin	AV Margin	Note
0.4156	32.44	20.64	9.66	42.10	30.30	57.54	47.54	-15.44	-17.24	L1
0.5406	26.12	17.02	9.58	35.70	26.60	56.00	46.00	-20.30	-19.40	L1
0.7398	23.11	14.31	9.59	32.70	23.90	56.00	46.00	-23.30	-22.10	L1
0.8414	23.21	12.51	9.59	32.80	22.10	56.00	46.00	-23.20	-23.90	L1
1.2398	19.39	11.09	9.61	29.00	20.70	56.00	46.00	-27.00	-25.30	L1
2.3570	19.20	10.10	9.70	28.90	19.80	56.00	46.00	-27.10	-26.20	L1
3.9312	17.09	8.19	9.71	26.80	17.90	56.00	46.00	-29.20	-28.10	L1
0.4078	29.12	18.82	9.68	38.80	28.50	57.69	47.69	-18.89	-19.19	L2
0.5797	21.41	10.41	9.59	31.00	20.00	56.00	46.00	-25.00	-26.00	L2
0.7906	16.90	5.90	9.60	26.50	15.50	56.00	46.00	-29.50	-30.50	L2
1.3453	17.37	4.47	9.63	27.00	14.10	56.00	46.00	-29.00	-31.90	L2
2.1852	15.50	3.40	9.70	25.20	13.10	56.00	46.00	-30.80	-32.90	L2
4.4781	14.02	3.02	9.78	23.80	12.80	56.00	46.00	-32.20	-33.20	L2
7.3883	13.39	3.89	9.91	23.30	13.80	60.00	50.00	-36.70	-36.20	L2

Remark:

1. *Measuring frequencies from 0.15 MHz to 30MHz.*
2. *The emissions measured in frequency range from 0.15 MHz to 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*
4. *The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;*
5. *L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)*

Test Plots

Conducted emissions (Line 1)



Conducted emissions (Line 2)