Ke Mei Ou Laboratory Co., Ltd.

7A, Jiaxiangge, Jiahuixincheng, No.3027, Shennan Rd., Futian,
Shenzhen, Guangdong, P.R.China. Zip Code: 518033
Tel: + 86 755 83642690 Fax: + 86 755 83297077
www.kmolab.com

Ke Mei Ou Lab Corp.
FEDERAL COMMUNICATIONS COMMISSION
Registration Number: 125782
INDUSTRY CANADA
Registration Number: IC4986

FCC TEST REPORT

Under
FCC 15 Subpart C, Paragraph 15.249: 2004

Prepared For :

Newton Peripherals, LLC

11 Mercer Road, Natick, MA 01760, USA

FCC ID: VZOMG103
EUT: MoGo Dapter
Model: MG103

January 24, 2008

Report Type: Original Report
Test Engineer: Jacky Huang
Test Date: January 21, 2008
Review By: _____ Apollo Liu / Manager

TABLE OF CONTENTS

1. General Information

1. 1 Notes

The test results of this report relate exclusively to the test item specified in 1.5. The KMO Lab does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the KMO Lab.

1. 2 Testing Laboratory

SinTek Laboratory Co., Ltd.
No.7, Xinshidai Induatrial, Guantian Village, Shiyan Town, Bao'an District, Shenzhen, Guangdong China..
Tel: +86 755 27608353 Fax: +86 755 27608359
Site on File with the Federal Communications Commission – United Sates
Registration Number: 963441

1. 3 Details of Applicant

Name : Newton Peripherals, LLC
Address : 11 Mercer Road, Natick, MA 01760, USA
Contact : Mr. Terrence K Jones / Director of Engineering
Tel : +1 (508) 650-0054
Fax : N/A

1. 4 Application Details

Date of Receipt of Application : January 21, 2008
Date of Receipt of Test Item : January 21, 2008
Date of Test : January 21~January 23, 2008

1. 5 Test Item

Manufacturer : Newton Peripherals, LLC
Address : 11 Mercer Road, Natick, MA 01760, USA
Trade Name : MOGO
Model No. : MG103
Description : MoGo Dapter

Additional Information

Frequency : 2400-2483.5MHz
Number of Channels : 79
Power Supply : DC 5V(From Host)
Operation Distance : N/A
Resolution : N/A

1. 6 Test Standards

FCC 15 Subpart C, Paragraph 15.249: 2004

Note: All radiated measurements were made in all three orthogonal planes. The values reported are the maximum values.

2. Technical Test

2. 1 Summary of Test Results

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.203	Antenna Requirement	**PASS**	Complies
FCC Part 15, Paragraph 15.207	Conducted Test	**Not Applicable**	Complies
FCC Part 15 Subpart C Paragraph 15.249(a) and 15.249(b) Limit	Field Strength of Fundamental	**PASS**	Complies
FCC Part 15, Paragraph 15.209	Radiated Test	**PASS**	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Measured Band Edges	**PASS**	Complies.

3. EUT Modifications

No modification by SinTek Laboratory Co., Ltd

4. Conducted Power Line Test

4. 1 Test Equipment

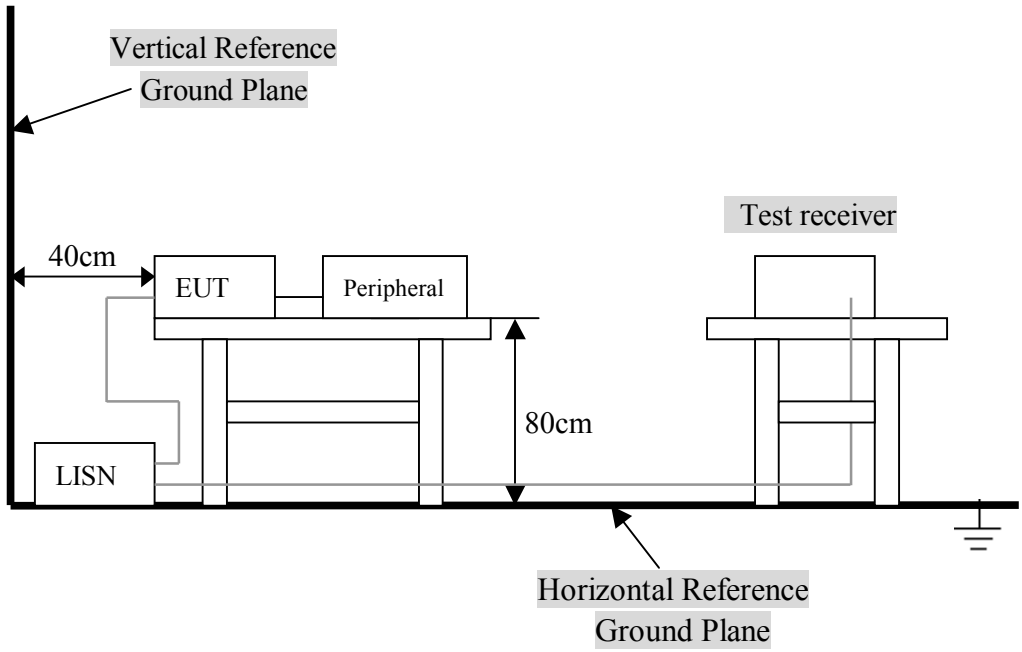
Please refer to Section 10 this report.

4. 2 Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission., the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4:2003 on conducted measurement. Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

4. 3 Test Setup



For the actual test configuration, Please refer to the related items – Photos of Testing.

4. 4 Configuration of the EUT

The EUT was configured according to ANSI C63.4-2003. EUT was used DC5V. The operation frequency is from 2400MHz~2483.5MHz. Enable the signal transmitted from the external antenna from EUT to receiver. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

Note:

1) Below 1GHz, the channel low, middle, high were pre-tested, The channel high, worst case one, was chosen for conducted and radiated emission test.
2) Above 1GHz, the channel low, middle, high were tested individually.

A. EUT

Device	Manufacturer	Model #	FCC ID
MoGo Dapter	Newton Peripherals, LLC	MG103	VZOMG103

B. Internal Devices

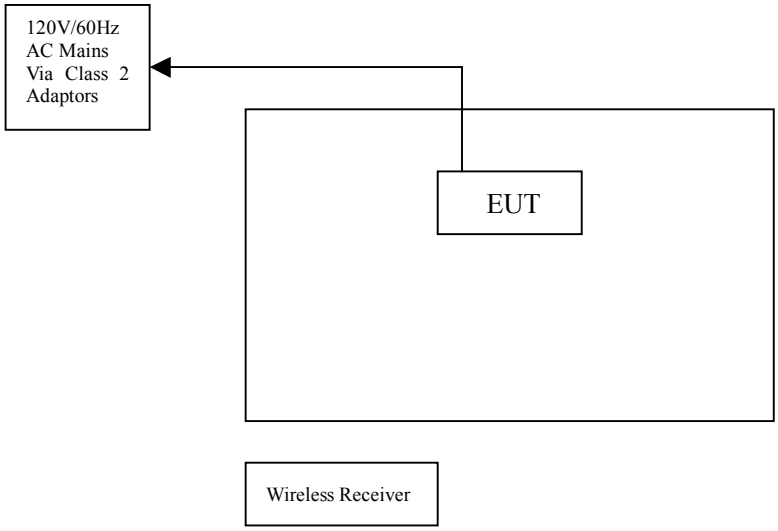
Device	Manufacturer	Model #	FCC ID
N/A			

C. Peripherals

Device	Manufacturer	Model # Serial #	FCC ID/ DoC	Cable
Printer	HP	HP930C	DoC	1.5m unshielded power cord 1.2m unshielded data cable.
Modem	GVC	N/A	DoC	1.5m unshielded power cord 1.2m unshielded data cable.
Notebook	DELL	PP10L	DoC	1.5m unshielded power cord
PC	Dell	2400n	DoC	1.5m unshielded power cord

4. 5 EUT Operating Condition

Operating condition is according to ANSI C63.4 - 2003.
A. Setup the EUT and simulators as shown on follow.
B. Enable RF signal and confirm EUT active.
D. Modulate output capacity of EUT up to specification.



4. 6 Conducted Power Line Emission Limits

FCC Part 15 Paragraph 15.207 (dBuV)		
Frequency Range (MHz)	**Class A QP/AV**	**Class B QP/AV**
0.15 – 0.5	79/66	66-56/56-46
0.5 – 5.0	73/60	56/46
5.0 - 30	73/60	60/50

NOTE ：In the above table, the tighter limit applies at the band edges.

4. 7 Conducted Power Line Test Result

The frequency spectrum from 0.15 MHz to 30 MHz was investigated. All readings are quasi -peak values with a resolution bandwidth of 9 KHz.

- Temperature ： 26 ℃
- Humidity ： 53 % RH
- Result ： **Not Applicable**

EN55022 Class B							
Frequency (MHz)	**Emission (dBuV) QP**	**AV**	**LINE/ NEUTRAL**	**Limit (dBuV) QP**	**AV**	**Margin (dB) QP**	**AV**
-			LINE				
-			NEUTRAL				
-			LINE				
-			NEUTRAL				
-			LINE				
-			NEUTRAL				

Note: NF = No Significant Peak was Found.

Remarks：

1.Uncertainty in conducted emission measured is <+/ -2dB.
2.QP and AV are abbreviations of quasi-peak and average individually.
3.The emission levels of other frequencies were very low against the limit.
4.The Quasi-peak emission level also meets average limit and measurement with the average detector is unnecessary.
5.Margin Value= Emission Level – Limit Value.

5. Radiated Emission Test

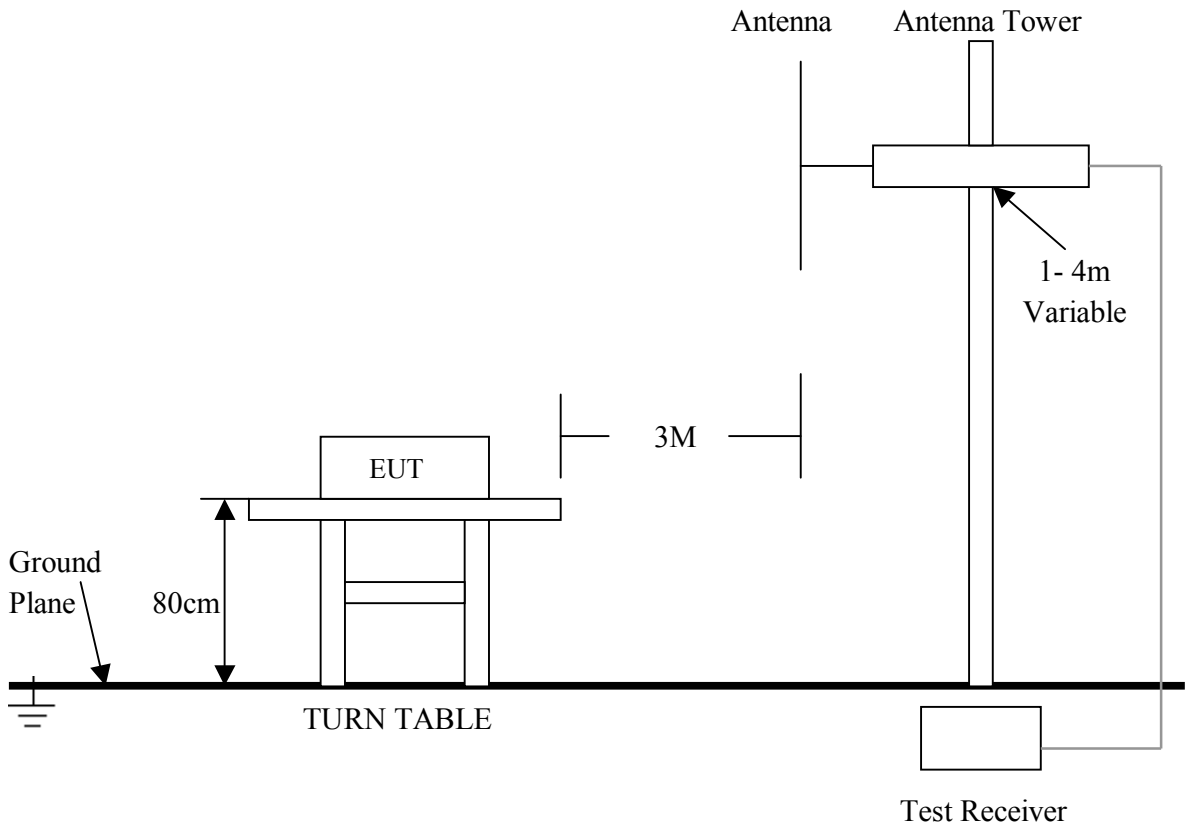
5. 1 Test Equipment

Please refer to Section 10 this report.

5. 2 Test Procedure

1. The EUT was tested according to ANSI C63.4 - 2003.
2. The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2003.
3. The frequency spectrum from 30 MHz to 26 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 KHz. All readings are above 1 GHz , peak values with a resolution bandwidth of 1 MHz . Measurements were made at 3 meters.
4. The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
5. Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "**QP**" in the data table.
6. The antenna polarization: Vertical polarization and Horizontal polarization.

5. 3 Radiated Test Setup



For the actual test configuration, please refer to the related items – Photos of Testing.

5. 4 Configuration of the EUT

Same as section 4.4 of this report

5. 5 EUT Operating Condition

Same as section 4.5 of this report.

5. 6 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below ：

A. FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency (MHz)	Field Strength of Fundamental (3m)			Field Strength of Harmonics (3m)		
	mV/m	dBuV/m		uV/m	dBuV/m	
902~928	50	94(Average)	114(Peak)	500	54(Average)	74(Peak)
2400~2483.5	50	94(Average)	114(Peak)	500	54(Average)	74(Peak)

Note:
(1) RF Voltage (dBuV) = 20 log RF Voltage (uV)
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
(3) The emission limit in this paragraph is based on measurement instrumentation employing an average detector. Measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency (MHz)	Distance (m)	Field Strength (dBuV/m)
30 - 88	3	40.0
88 - 216	3	43.5
216 - 960	3	46.0
ABOVE 960	3	54.0

Note:
(1) RF Voltage (dBuV) = 20 log RF Voltage (uV)
(2) In the Above Table, the tighter limit applies at the band edges.
(3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

5. 7 Radiated Emission Test Result

A. Fundamental Radiated Emission Data

Product	: MoGo Dapter	Test Mode	: CH Low ~ CH High
Test Item	: Fundamental Radiated Emission Data	Temperature	: 25 ℃
Test Voltage	: DC 5V(From Host)	Humidity	: 56%RH
Test Result	: **PASS**		

CH Low

Freq. (GHz)	Emission (dBuV/m) Peak / Average		HORIZ /VERT	Limits (dBuV/m) Peak / Average		Margin (dB) Peak / Average	
2401.92	81.01	75.05	HORIZ	114.00	94.00	-32.99	-18.95
2401.92	73.49	66.91	VERT	114.00	94.00	-40.51	-27.09

CH Mid

Freq. (GHz)	Emission (dBuV/m) Peak / Average		HORIZ /VERT	Limits (dBuV/m) Peak / Average		Margin (dB) Peak / Average	
2439.90	79.24	73.23	HORIZ	114.00	94.00	-34.76	-20.77
2439.90	72.06	67.22	VERT	114.00	94.00	-41.94	-26.78

CH High

Freq. (GHz)	Emission (dBuV/m) Peak / Average		HORIZ /VERT	Limits (dBuV/m) Peak / Average		Margin (dB) Peak / Average	
2479.90	81.49	75.56	HORIZ	114.00	94.00	-32.51	-18.44
2479.90	78.82	72.61	VERT	114.00	94.00	-35.18	-21.39

Note:
(1) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
(2) Emission Level = Reading Level + Probe Factor + Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

B. Harmonics Radiated Emission Data

Product	: MoGo Dapter	Test Mode	: CH Low~ CH High
Test Item	: Fundamental Radiated Emission Data	Temperature	: 25 ℃
Test Voltage	: DC 5V(From Host)	Humidity	: 56%RH
Test Result	: **PASS**		

CH Low

Freq. (MHz)	Emission (dBuV/m) Peak Detector	HORIZ / VERT	Limits (dBuV/m) Peak / Average	Margin (dB)
4804.00	48.22	HORZ	74.0 / 54.0	-25.78
4804.00	47.16	VERT	74.0 / 54.0	-26.84
7206.00	48.91	HORZ	74.0 / 54.0	-25.09
7206.00	47.65	VERT	74.0 / 54.0	-26.35
24040.00	48.29	HORZ	74.0 / 54.0	-25.71
24040.00	47.53	VERT	74.0 / 54.0	-26.47

CH Mid

Freq. (MHz)	Emission (dBuV/m) Peak Detector	HORIZ / VERT	Limits (dBuV/m) Peak / Average	Margin (dB)
4880.00	47.86	HORZ	74.0 / 54.0	-26.14
4880.00	46.53	VERT	74.0 / 54.0	-27.47
7320.00	48.64	HORZ	74.0 / 54.0	-25.36
7320.00	47.01	VERT	74.0 / 54.0	-26.99
24400.00	48.55	HORZ	74.0 / 54.0	-25.45
24400.00	47.23	VERT	74.0 / 54.0	-26.77

CH High

Freq. (MHz)	Emission (dBuV/m) Peak Detector	HORIZ / VERT	Limits (dBuV/m) Peak / Average	Margin (dB)
4958.00	48.43	HORZ	74.0 / 54.0	-25.57
4958.00	47.12	VERT	74.0 / 54.0	-26.88
7437.00	48.67	HORZ	74.0 / 54.0	-25.33
7437.00	47.52	VERT	74.0 / 54.0	-26.48
24790.00	48.97	HORZ	74.0 / 54.0	-25.03
24790.00	47.16	VERT	74.0 / 54.0	-26.84

Note:
(1) All Reading Levels below 1GHz are Quasi-Peak, above are peak and average value.
(2) Emission Level = Reading Level + Probe Factor + Cable Loss.
(3) Receiver setting (Peak Detector) : RBW=1MHz; VBW=1MHz; Span=100MHz
(4) Receiver setting (AVG Detector): RBW=1MHz; VBW=30Hz; Span=20MHz
(5) The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

C. General Radiated Emission Data

Product	: MoGo Dapter	Test Mode	: CH Mid
Test Item	: Fundamental Radiated Emission Data	Temperature	: 25 ℃
Test Voltage	: DC 5V(From Host)	Humidity	: 56%RH
Test Result	: **PASS**		

Freq. (MHz)	Emission (dBuV/m) QP Detector	HORIZ / VERT	Limits (dBuV/m)	Margin (dB)
60.00	30.49	HORZ	40.0	-9.51
37.84	36.10	VERT	40.0	-3.90
162.52	29.05	HORZ	43.5	-14.45
60.00	34.80	VERT	40.0	-5.20
204.12	26.84	HORZ	43.5	-16.66
155.64	28.71	VERT	43.5	-14.79

Note:
(1) All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
(2) Emission Level = Reading Level + Probe Factor + Cable Loss.

6. Band Edge and 20 dB Occupied Bandwidth

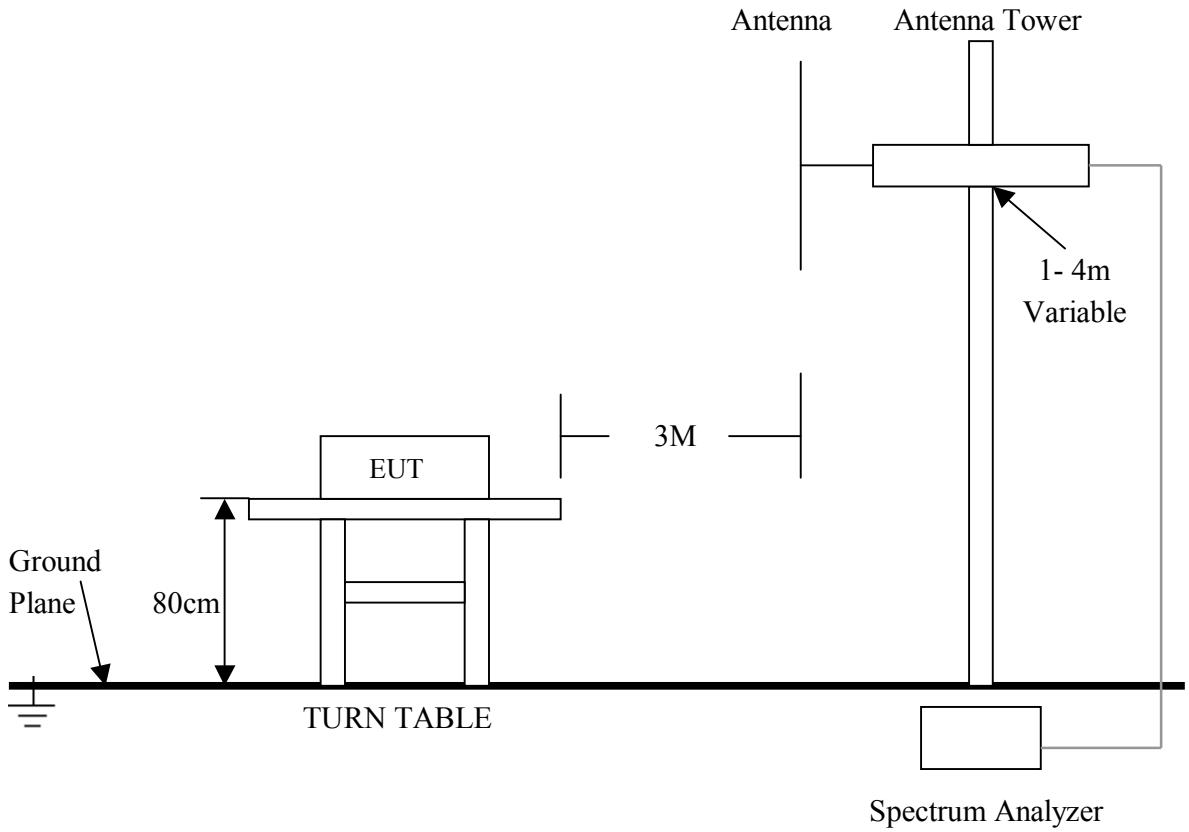
6. 1 Test Equipment

Please refer to Section 10 this report.

6. 2 Test Procedure

1. The EUT was tested according to ANSI C63.4 - 2003.
2. The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2003.

6. 3 Radiated Test Setup



For the actual test configuration , please refer to the related items – Photos of Testing

6. 4 Configuration of The EUT

Same as section 4 . 4 of this report

6. 5 EUT Operating Condition

Same as section 4 . 5 of this report.

6. 6 Band Edge FCC 15.249(d) Limit

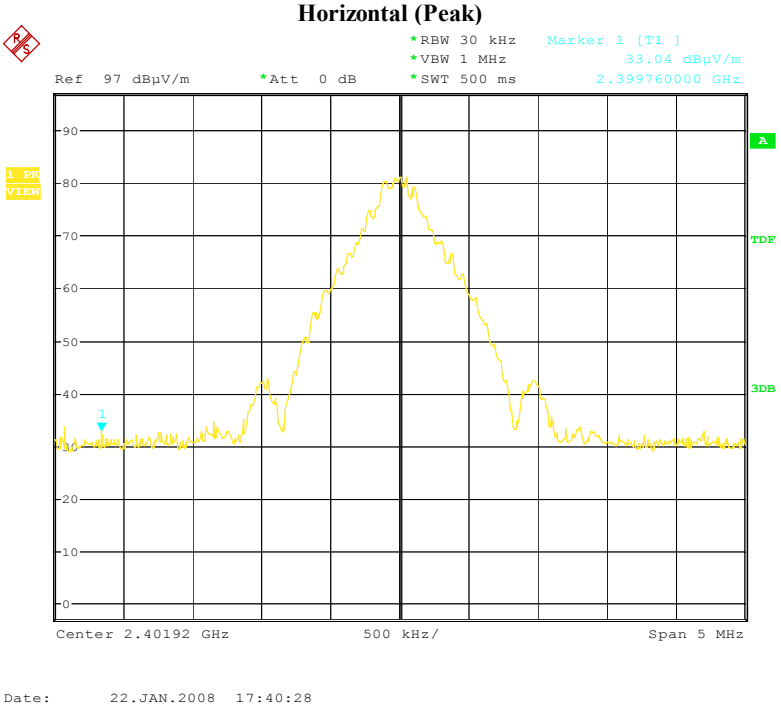
Emission radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to Table 2 limits, whichever is the less stringent.

6. 7 Band Edge Test Result

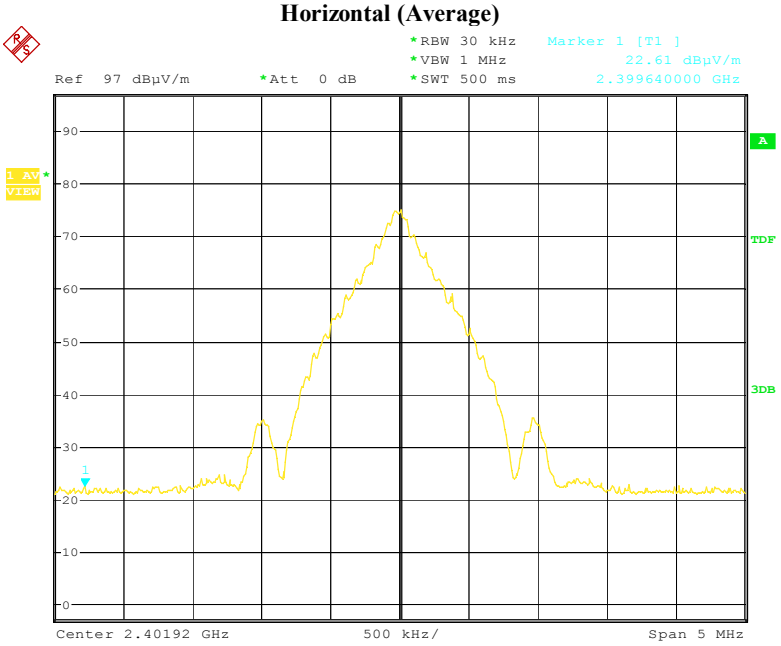
Product	: MoGo Dapter	Test Mode	: CH Low ~ CH High
Test Item	: Fundamental Radiated Emission Data	Temperature	: 25 ℃
Test Voltage	: DC 5V(From Host)	Humidity	: 56%RH
Test Result	: **PASS**		

CH1

Horizontal (Peak)

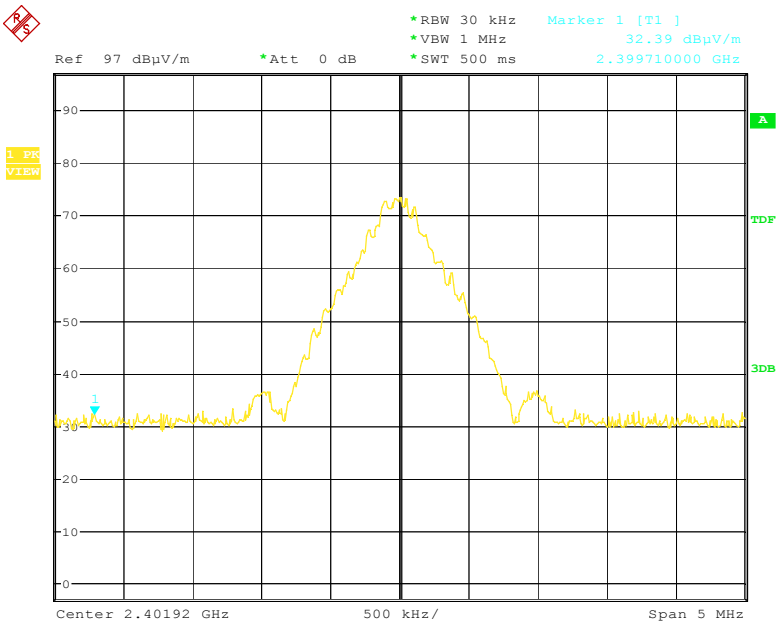


Horizontal (Average)



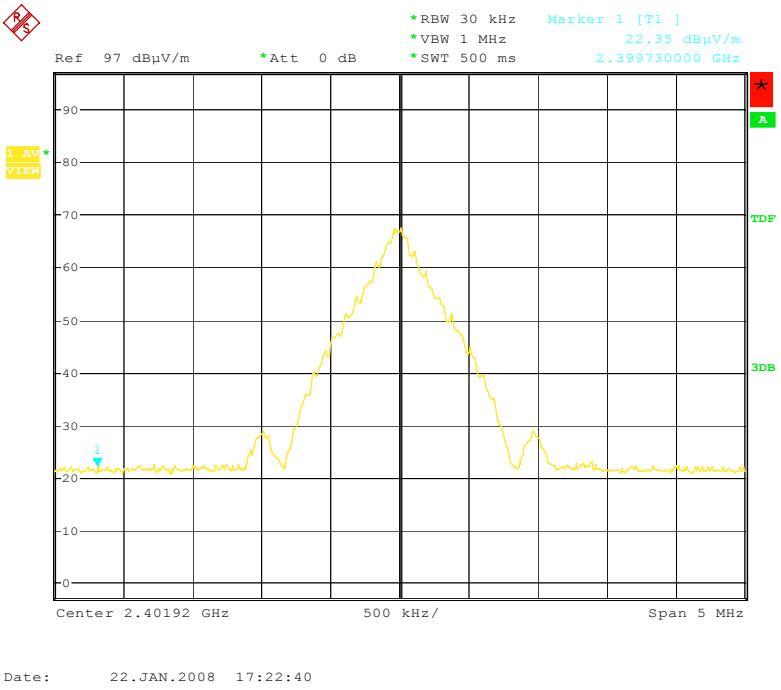
Date: 22.JAN.2008 17:41:08

Vertical (Peak)



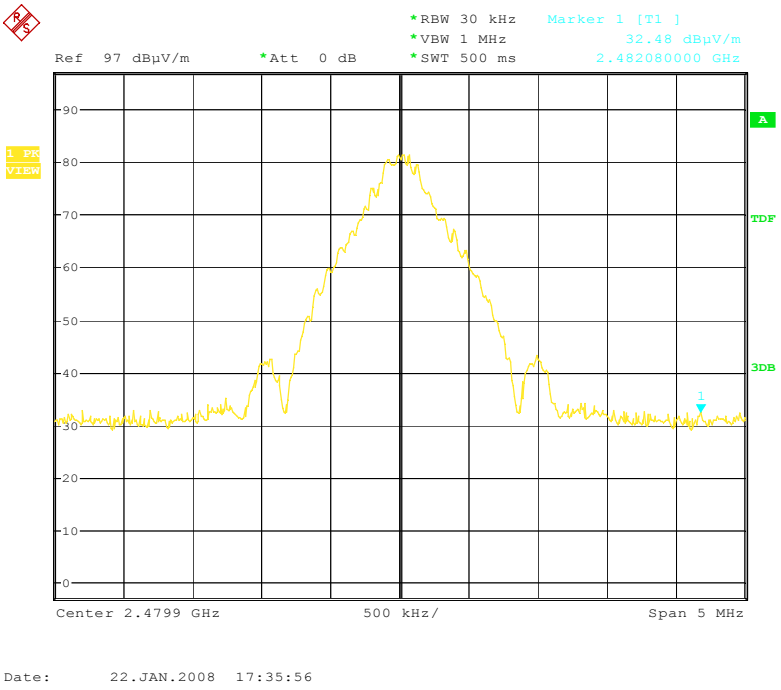
Date: 22.JAN.2008 17:23:41

Vertical (Average)

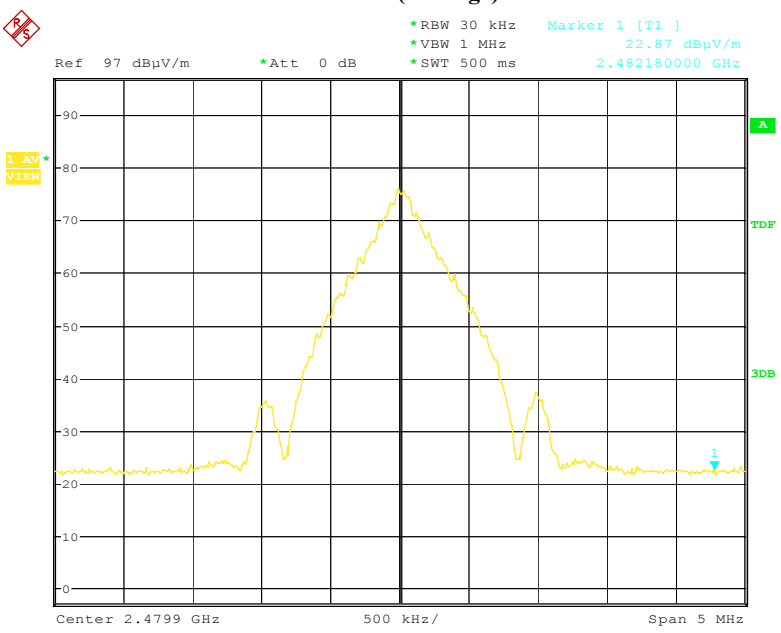


Note:
(1) The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209.
(2) The average measurement was not performed when the peak measured data under the limit of average detection.

CH4
Horizontal (Peak)

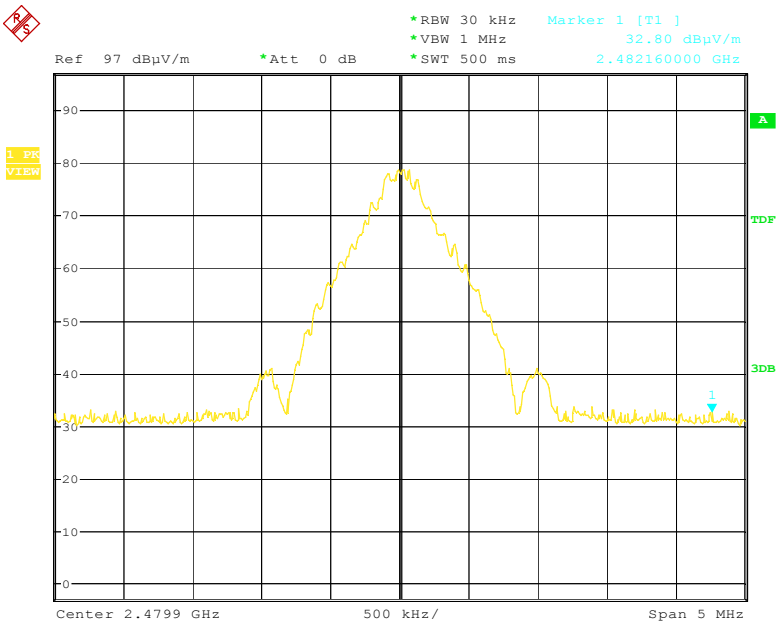


Horizontal (Average)



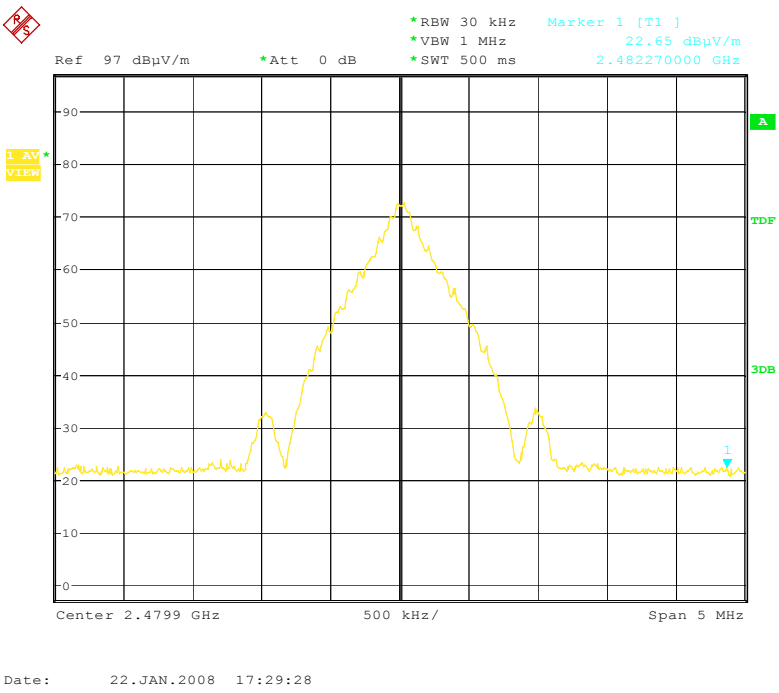
Date: 22.JAN.2008 17:33:08

Vertical (Peak)



Date: 22.JAN.2008 17:28:24

Vertical (Average)



Note: (1) The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209.
(2) The average measurement was not performed when the peak measured data under the limit of average detection.

7. Antenna Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

The EUT no antenna connector for printed antenna. Therefore the EUT complies with Section 15.203 of the FCC rules.

8. Photos of Testing

8. 1 EUT Test Photographs

Radiated emission test view

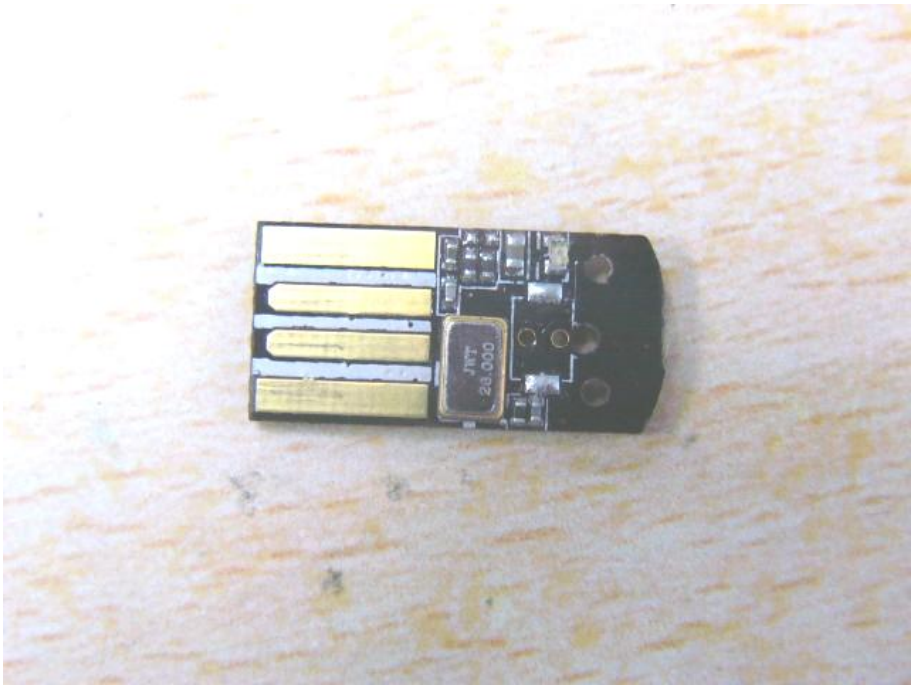
8. 2 EUT Detailed Photographs

EUT top view

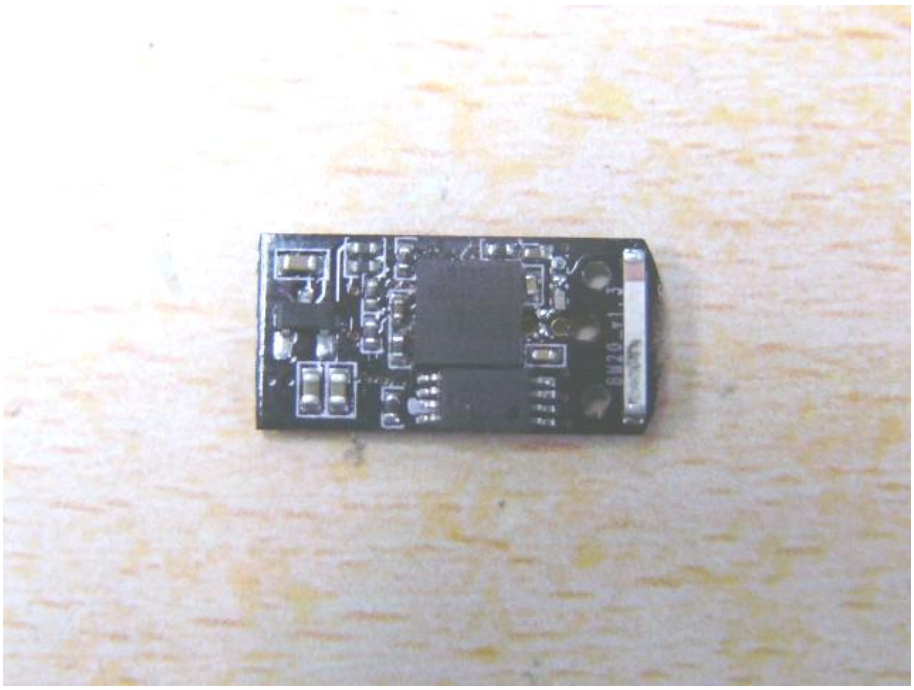
EUT bottom view

EUT inside whole view

Main board component side



Main board solder side



9. FCC ID Label

FCC ID: VZOMG103

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The Label must not be a stick-on paper label. The Label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Proposed Label Location on EUT

EUT Bottom View/Proposed FCC ID Label Location

10. Test Equipment

The following test equipments were used during the radiated & conducted emission test:

Equipment/ Facilities	Manufacturer	Model #	Serial No.	Date of Cal.	Due Date
Turntable	SinTek	N/A	N/A	NCR	NCR
Antenna Tower	SinTek	N/A	N/A	NCR	NCR
OATS	SinTek	N/A	N/A	Oct. 9, 2007	Oct. 9, 2010
EMI Test Receiver	Rohde & Schwarz	ESPI7	100013	July 9, 2007	July 9, 2008
Spectrum Analyzer	Rohde & Schwarz	FSP40	100273	Sep.18, 2007	Sep.18, 2008
Signal Generator	FLUKE	PM5418+Y/C	LO747012	Feb.10, 2007	Feb.10, 2008
Signal Generator	FLUKE	PM5418TX	LO738007	Feb.10, 2007	Feb.10, 2008
Loop Antenna	SCHWARZBECK	FMZB1516	113	Jan. 30, 2007	Jan. 30, 2008
Loop Antenna	Rohde & Schwarz	HFH2-Z2	872096/16	Jan. 30, 2007	Jan. 30, 2008
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	9161-4079	Sep.18, 2007	Sep.18, 2008
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	9161-4080	Sep.18, 2007	Sep.18, 2008
Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-564	Sep.18, 2007	Sep.18, 2008
Broad-Band Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-565	Sep.18, 2007	Sep.18, 2008
AMN	Rohde & Schwarz	ESH3-Z5	100196	Oct. 23, 2007	Oct. 23, 2008
AMN	Rohde & Schwarz	ESH3-Z5	100197	Oct. 23, 2007	Oct. 23, 2008
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	N/A	N/A	N/A
Absorbing Clamp	Rohde & Schwarz	MDS-21	N/A	Oct. 29, 2007	Oct. 29, 2008
KMO Shielded Room	KMO	KMO-001	N/A	N/A	N/A
Coaxial Cable with N-Connectors	SCHWARZBECK	AK9515H	95549	Sep.18, 2007	Sep.18, 2008
Power Meter	Rohde & Schwarz	NRVD	100041	Feb.10, 2007	Feb.10, 2008
Radio Communication Test Set	Rohde & Schwarz	CMS 54	846621/024	Feb.10, 2007	Feb.10, 2008
Modulation Analyzer	Hewlett-Packard	8901B	2303A00362	Feb.10, 2007	Feb.10, 2008
Communication Analyzer	Wavetek Stabilock	4032	N/A	Feb. 01, 2007	Feb.01, 2008
Storage Oscilloscope	Tektronix	TDS3052	N/A	Feb. 01, 2007	Feb.01, 2008
Attenuator	Schwarzbeck	20dB	N/A	Feb. 01, 2007	Feb.01, 2008
Attenuator	Rohde & Schwarz	10dB	N/A	Feb. 01, 2007	Feb.01, 2008
SOHO Telephone Switching System	IKE	2000-108C	N/A	Feb.10, 2007	Feb.10, 2008
Temperature Chamber	TABAI	PSL-4GTW	N/A	Feb.10, 2007	Feb.10, 2008