FCC PART 15B TEST REPORT
On Behalf of
Pismo Labs Technology Limited

Peplink Balance (Network Router)
Model No.: BPL-210, BPL-310, Balance 310

Prepared for	:	Pismo Labs Technology Limited
Address	:	Room 1703A, 17/F, Park Building 476 Castle Peak Road, Cheung Sha Wan, Kowloon, Hong Kong

Prepared By	:	Anbotek Compliance Laboratory Limited
Address	:	1/F, 1 /Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054, China Tel: (86) 755-26014771 Fax: (86) 755-26014772

Report Number	:	201106795F
Date of Test	:	Jul. 04~14, 2011
Date of Report	:	Jul. 19, 2011

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TEST REPORT VERIFICATION

Applicant	:	Pismo Labs Technology Limited
Manufacturer	:	Pismo Labs Technology Limited
EUT	:	Peplink Balance (Network Router)
Model No.	:	BPL-210, BPL-310, Balance 310
Rating	:	12V⎓, 2.0A
Trade Mark	:	Peplink

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B 2010 & FCC / ANSI C63.4-2009

The device described above is tested by Anbotek Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Anbotek Compliance Laboratory Limited

Date of Test : Jul. 04~14, 2011

Prepared by : Well Wang

(Engineer/ Well Wang)

Reviewer : Coco. Xiang

(Project Manager/ Coco Xiang)

Approved & Authorized Signer : Henry. Yang

(Manager/ Henry Yang)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Peplink Balance (Network Router)
Model Number	:	BPL-210, BPL-310, Balance 310 (Note: All samples are the same except the model number & software of appliances, so we prepare "Balance 310" for EMC test only.)
Test Power Supply	:	120V~, 60Hz for Adapter
Switching Power supply	:	Model: S024EM1200200 Input: 100~240V~ 50/60Hz 600mA Output: 12V⎓ 2000mA
Applicant	:	Pismo Labs Technology Limited
Address	:	Room 1703A, 17/F, Park Building 476 Castle Peak Road, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer	:	Pismo Labs Technology Limited
Address	:	Room 1703A, 17/F, Park Building 476 Castle Peak Road, Cheung Sha Wan, Kowloon, Hong Kong
Date of Sample received	:	Jul. 03, 2011
Date of Test	:	Jul. 04~14, 2011

1.2. Auxiliary Equipment Used during Test

PC	:	Manufacturer: DELL M/N: OPTIPLEX 380 S/N: 1J63X2X CE , FCC: DOC
MONITOR	:	Manufacturer: DELL M/N: E170Sc S/N: CN-00V539-64180-055-0UPS CE , FCC: DOC
KEYBOARD	:	Manufacturer: DELL M/N: SK-8115 S/N: CN-0DJ313-71616-06C-02XN CE , FCC: DOC
MOUSE	:	Manufacturer: DELL M/N: M-UARDEL7 S/N: N/A CE , FCC: DOC
USB Cable	:	0.5m, SHIELD

1.3. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS - LAB Code: L3503
Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of Testing Laboratories.

FCC-Registration No.: 752021
Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, August 20, 2010

IC-Registration No.: 8058A-1
Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, August 30, 2010

Test Location
All Emissions tests were performed
Anbotek Compliance Laboratory Limited. at 1/F, 1 /Build, SEC Industrial Park, No. 4 Qianhai Road, Nanshan District, Shenzhen, 518054, China

1.4. Measurement Uncertainty

Radiation Uncertainty	**:**	Ur = 4.3dB
Conduction Uncertainty	**:**	Uc = 3.4dB

1.5. Test Summary

For the EUT described above. The standards used were FCC Part 15 Subpart B for Emissions.
Table 1 : Tests Carried Out Under FCC Part 15 Subpart B

Standard	Test Items	Status
FCC Part 15 Subpart B	Power Line Conducted Emission Test (150KHz To 30MHz)	√
FCC Part 15 Subpart B	Radiated Emission Test (30MHz To 1000MHz)	√

√ Indicates that the test is applicable
x Indicates that the test is not applicable

2. POWER LINE CONDUCTED MEASUREMENT

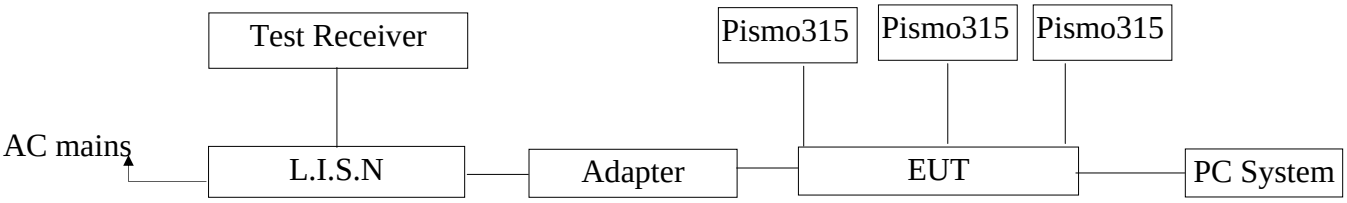
2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2010	1 Year
2.	Two-Line V-network	Rohde & Schwarz	ENV216	10055	May 19, 2011	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 19, 2011	1 Year
4.	EMI Test Software	ES-K1	N/A	N/A	N/A	N/A

2.2. Block Diagram of Test Setup

2.2.1. Block diagram of connection between the EUT and simulators



(EUT: Peplink Balance (Network Router))

2.3. Power Line Conducted Emission Measurement Limits (FCC Part 15 Class B)

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

2.4. Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

EUT	:	Peplink Balance (Network Router)
Model Number	:	Balance310
Applicant	**:**	Pismo Labs Technology Limited

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown as Section 2.2.
2.5.2. Turn on the power of all equipment.
2.5.3. Let the EUT work in test mode (Ping Test) and measure it.

2.6. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.4-2009 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test result are reported on Section 2.7.

2.7. Power Line Conducted Emission Measurement Results

PASS.

The frequency range from 150KHz to 30 MHz is investigated.

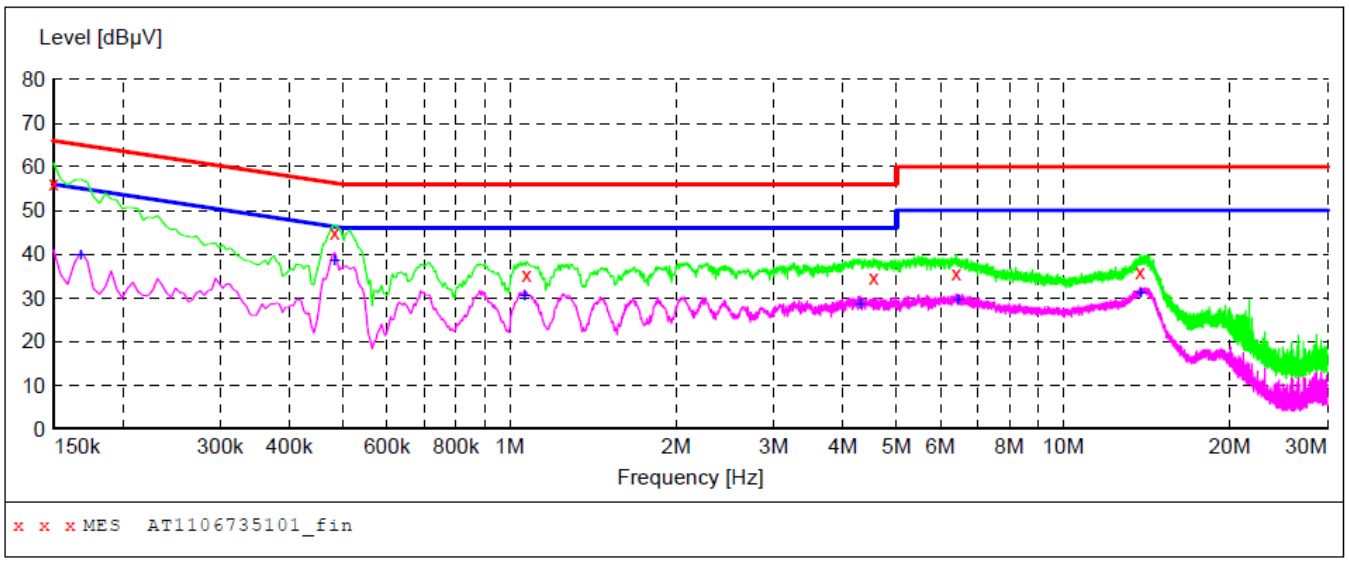
The test curves are shown in the following pages.

CONDUCTED EMISSION TEST DATA

EUT:	Peplink Balance (Network Router) M/N:Balance310
Operating Condition:	Ping Test
Test Site:	1# Shielded Room
Operator:	WELL WANG
Test Specification:	120V~, 60Hz for Adapter
Comment:	L
	Tem:25℃ Hum:50%

SCAN TABLE: "Voltage(150K~30M)FIN"

Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1106735101_fin"

7/4/2011 11:40AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	56.40	10.2	66	9.6	QP	L1	GND
0.483000	45.00	10.2	56	11.3	QP	L1	GND
1.072500	35.30	10.3	56	20.7	QP	L1	GND
4.548000	34.70	10.5	56	21.3	QP	L1	GND
6.406500	35.50	10.6	60	24.5	QP	L1	GND
13.782000	36.10	10.8	60	23.9	QP	L1	GND

MEASUREMENT RESULT: "AT1106735101_fin2"

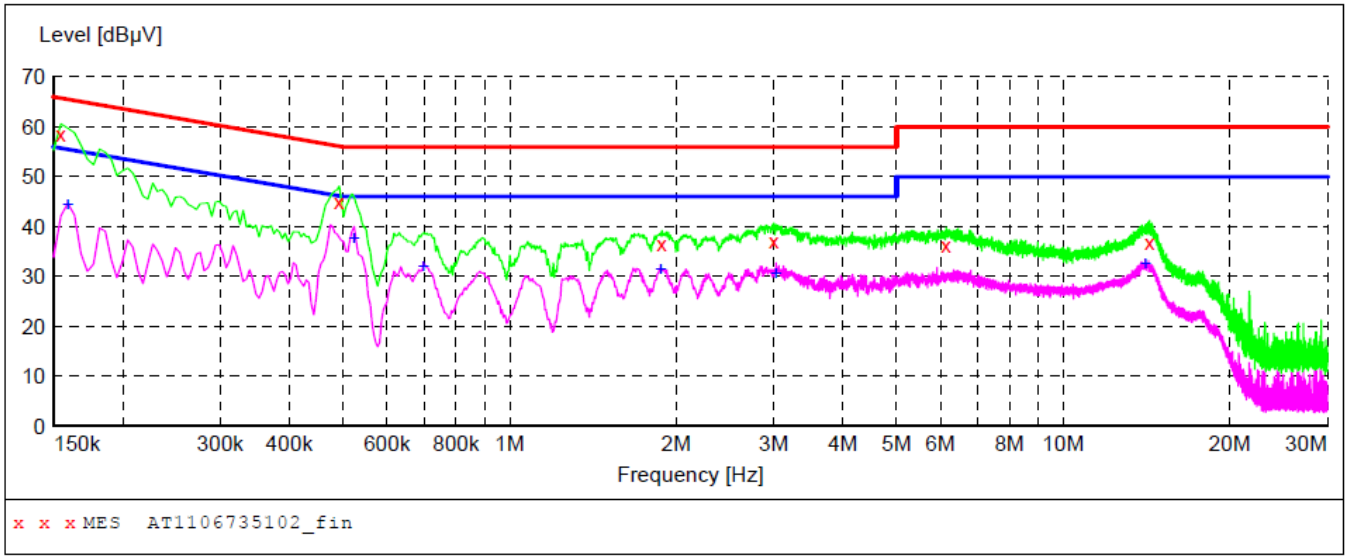
7/4/2011 11:40AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.168000	39.90	10.2	55	15.1	AV	L1	GND
0.483000	38.40	10.2	46	7.9	AV	L1	GND
1.063500	30.50	10.3	46	15.5	AV	L1	GND
4.296000	28.50	10.5	46	17.5	AV	L1	GND
6.460500	29.50	10.6	50	20.5	AV	L1	GND
13.786500	31.10	10.8	50	18.9	AV	L1	GND

CONDUCTED EMISSION TEST DATA

EUT:	Peplink Balance (Network Router) M/N:Balance310
Operating Condition:	Ping Test
Test Site:	1# Shielded Room
Operator:	WELL WANG
Test Specification:	120V~, 60Hz for Adapter
Comment:	N
	Tem:25℃ Hum:50%

SCAN TABLE: "Voltage(150K~30M)FIN"
Short Description: 150K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1106735102_fin"

7/4/2011 11:44AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154500	58.60	10.2	66	7.2	QP	N	GND
0.492000	45.10	10.2	56	11.0	QP	N	GND
1.882500	36.50	10.4	56	19.5	QP	N	GND
3.000000	37.00	10.4	56	19.0	QP	N	GND
6.145500	36.20	10.6	60	23.8	QP	N	GND
14.317500	36.90	10.8	60	23.1	QP	N	GND

MEASUREMENT RESULT: "AT1106735102_fin2"

7/4/2011 11:47AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.159000	44.50	10.2	56	11.5	AV	N	GND
0.523500	37.60	10.2	46	8.4	AV	N	GND
0.699000	31.90	10.2	46	14.1	AV	N	GND
1.873500	31.40	10.4	46	14.6	AV	N	GND
3.027000	30.50	10.4	46	15.5	AV	N	GND
14.083500	32.50	10.8	50	17.5	AV	N	GND

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

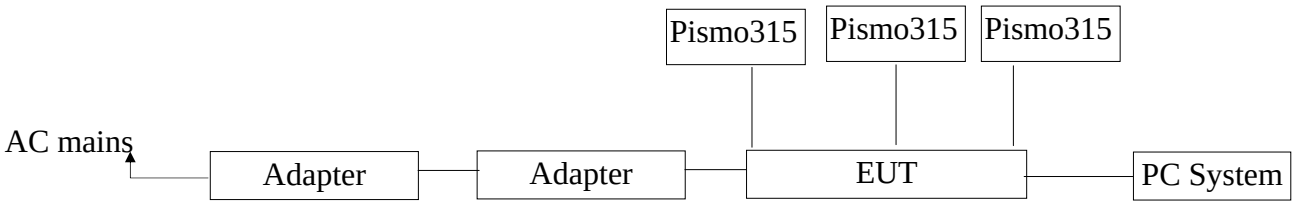
The following test equipments are used during the radiated emission measurement:

3.1.1. For Anechoic Chamber

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2010	1 Year
2	Bilog Broadband Antenna	Schwarzbeck	VULB9163	100015	May 17, 2011	1 Year
3	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 19, 2011	1 Year
4	EMI Test Software	ES-K1	N/A	N/A	N/A	N/A

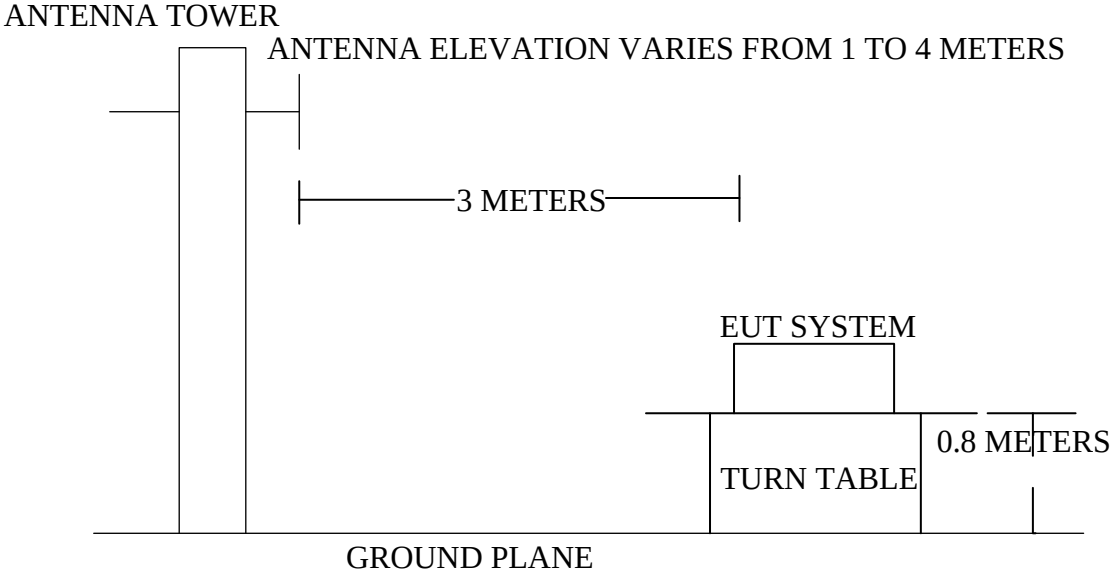
3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: Peplink Balance (Network Router))

3.2.2. Anechoic Chamber Test Setup Diagram



(EUT: Peplink Balance (Network Router))

3.3. Radiated Emission Limit (Subpart B Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
30~88	3	100	40.0
88~216	3	150	43.5
216~960	3	200	46.0
960~1000	3	500	54.0

Remark： (1) Emission level (dB)μV = 20 log Emission level μV/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

3.4. EUT Configuration on Measurement

The following equipments are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

EUT	**:**	Peplink Balance (Network Router)
Model Number	**:**	Balance310
Applicant	**:**	Nanjing Panda Information Industry Co., Ltd.

3.5. Operating Condition of EUT

3.5.1. Setup the EUT as shown in Section 3.2.

3.5.2. Let the EUT work in test mode (Ping Test) and measure it.

3.6. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (Trilog Broadband Antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2009 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESCI) is set at 120kHz.

The frequency range from 30MHz to 1000MHz is checked.

The test mode (Ping Test) is tested in chamber and all the test results are listed in Section 3.7.

3.7. Radiated Emission Measurement Results

PASS.

The test curves are shown in the following pages.

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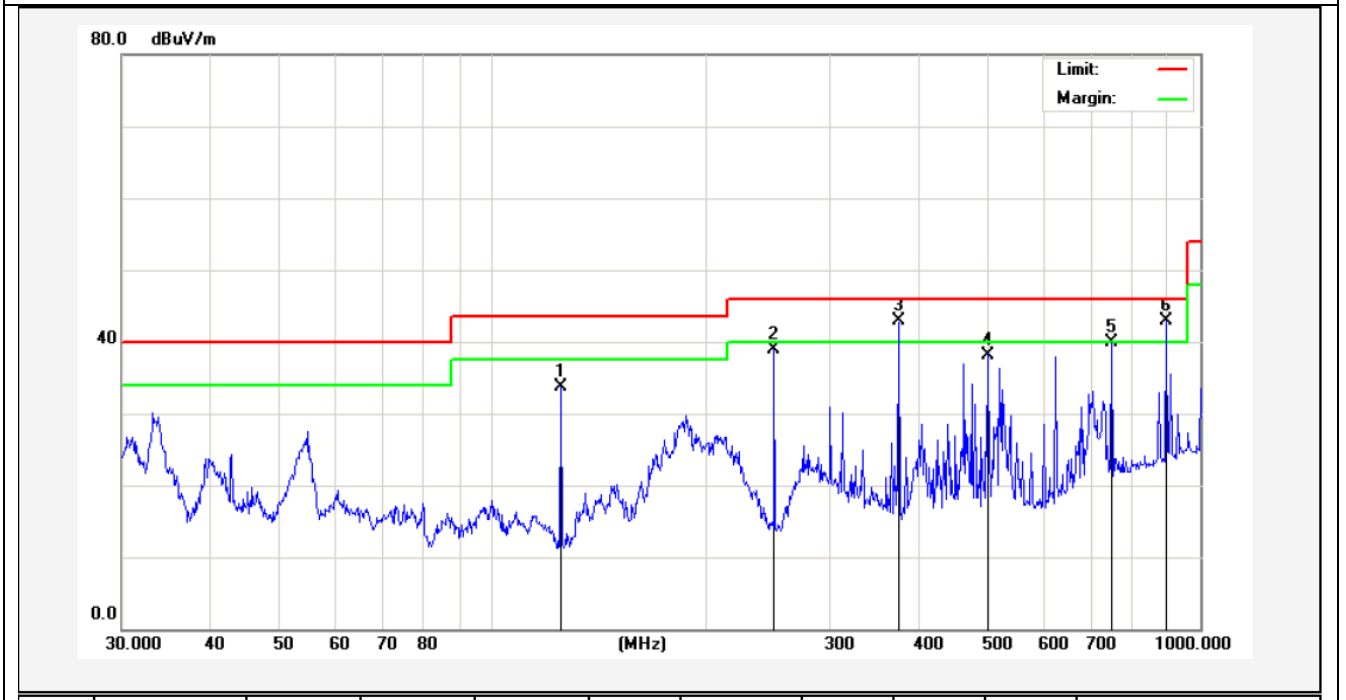
Job No.:	**AT1106735F**	**Polarziation:**	**Horizontal**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**AC 120V,60Hz for Adapter**
Test item:	**Radiation Test**	**Date:**	**2011/07/04**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**9:20:24**
EUT:	**Peplink Balance (Network Router)**	**Test By:**	**Well Wang**
Model:	**Balance310**	**Distance:**	**3m**
Mode:	**Ping Test**		
Note:			



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	125.0066	64.38	-30.77	33.61	43.50	-9.89	peak			
2	250.3012	65.99	-27.07	38.92	46.00	-7.08	peak			
3	375.9384	64.90	-21.90	43.00	46.00	-3.00	QP			
4	501.1790	57.47	-19.27	38.20	46.00	-7.80	peak			
5	750.1083	54.42	-14.49	39.93	46.00	-6.07	peak			
6	893.8567	54.66	-11.79	42.87	46.00	-3.13	QP			

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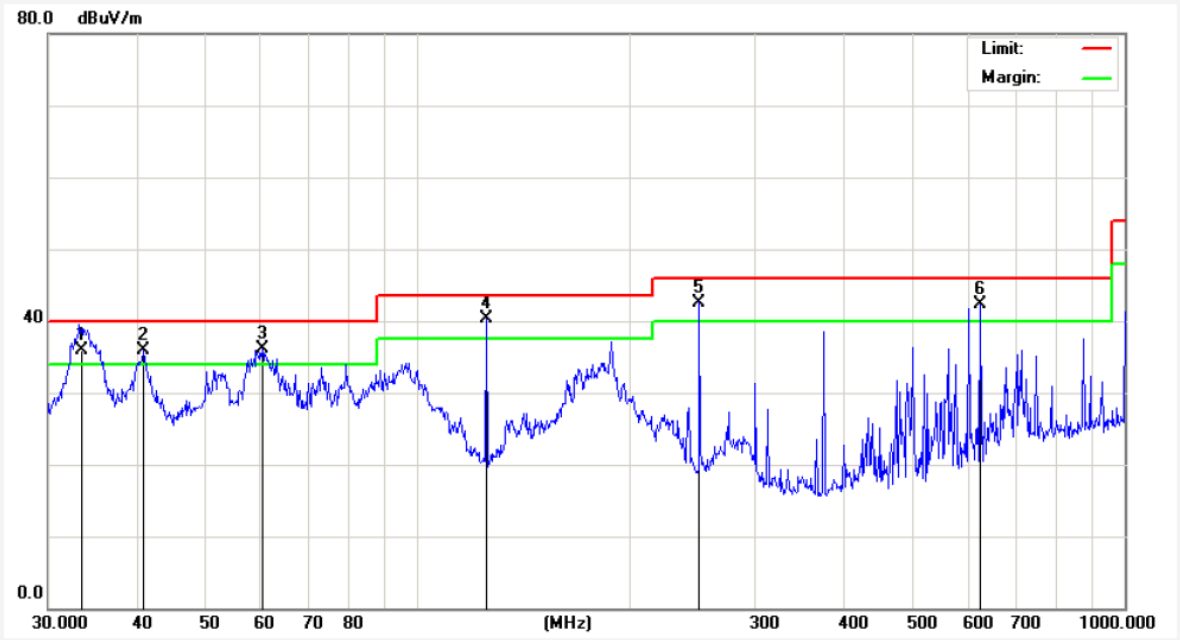
Job No.:	**AT1106735F**	**Polarziation:**	**Vertical**
Standard:	**(RE)FCC PART15 B _3m**	**Power Source:**	**AC 120V,60Hz for Adapter**
Test item:	**Radiation Test**	**Date:**	**2011/07/04**
Temp.(C)/Hum.(%RH):	**24.3(C)/55%RH**	**Time:**	**9:22:39**
EUT:	**Peplink Balance (Network Router)**	**Test By:**	**Well Wang**
Model:	**Balance310**	**Distance:**	**3m**
Mode:	**Ping Test**		
Note:			



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	33.4448	62.20	-26.24	35.96	40.00	-4.04	QP			
2	40.8444	60.75	-24.82	35.93	40.00	-4.07	QP			
3	60.2800	61.55	-25.54	36.01	40.00	-3.99	QP			
4	125.0066	66.15	-25.77	40.38	43.50	-3.12	QP			
5	250.3010	65.15	-22.55	42.60	46.00	-3.40	QP			
6	625.0778	58.66	-16.35	42.31	46.00	-3.69	QP			