



MEASUREMENT REPORT

FCC Part 15B

FCC ID: O9C-BJNGAFB0004

APPLICANT: Hewlett Packard Company

Application Type: Certification

Product: Wireless LAN Access Point

Model No.: BJNGA-FB0004, JG993A

Brand Name: HP

FCC Classification: FCC Class B Digital Device (JBP)

FCC Rule Part(s): FCC Part 15 Subpart B

Test Procedure(s): ANSI C63.4: 2009

Test Date: June 25 ~ July 13, 2014

Reviewed By : Robin Wu
(Robin Wu)

Approved By : Marlin Chen
(Marlin Chen)



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2009. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date
1406RSU03304	Rev. 01	Initial report	07-14-2014
1406RSU03304	Rev. 02	Added some descriptions for EUT and the antenna	07-30-2014

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§2.1033 General Information

Applicant:	Hewlett Packard Company
Applicant Address:	153 Taylor Street Littleton Massachusetts, United States 01460-1407
Manufacturer:	Hewlett Packard Company
Manufacturer Address:	153 Taylor Street Littleton Massachusetts, United States 01460-1407
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
MRT FCC Registration No.:	809388
Model No.:	BJNGA-FB0004, JG993A
FCC ID:	O9C-BJNGAFB0004
Test Device Serial No.:	N/A <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering
FCC Classification:	FCC Class B Digital Device (JBP)
Date(s) of Test:	June 25 ~ July 13, 2014
Test Report S/N:	1406RSU03304

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.
- MRT facility is a FCC registered (MRT Reg. No. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (11384A-1).
- MRT facility is an IC registered (11384A-1) test laboratory with the site description on file at Industry Canada.



1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.

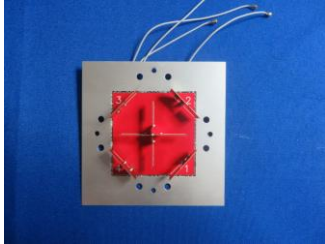



2. PRODUCT INFORMATION

2.1. Equipment Description

Product Name	Wireless LAN Access Point
Model No.	BJNGA-FB0004, JG993A
Power Type	48Vdc, 0.63A (or POE input)
Frequency Range	<u>For 2.4G Band:</u> 802.11b/g/n: 2412 ~ 2462 MHz <u>For 5.0G Band:</u> 802.11a/n/ac: 5150 ~ 5350MHz 5470 ~ 5725MHz 5725 ~ 5850MHz
Type of Modulation	802.11b: DSSS 802.11g/a/n/ac: OFDM
Adapter	Brand Name: DVE M/N: DSA-42D-48 2 480063 P/N: JD055B Input: 100-240V ~ 50/60Hz 1.2A Output: +48V ~ 0.63A

2.2. Description of Available Antennas

Antenna Type	Frequency Band (GHz)	Manufacturer	Model	Tx Paths	Max Peak Gain (dBi)	Directional Gain (dBi)	
						For Power	For PSD
Internal Antenna							
	2.4	Airgain, Inc.	N2465D	2	4	4	7.01
	5.2			2	5	5	8.01
	5.5			2	4.6	4.6	7.61
	5.8			2	4.9	4.9	7.91
External Antenna							
	2.4	Laird Technologies (Beijing) Co., Ltd.	JG696A	2	L1: 4.12 L2: 3.78	6.96	6.96
	5.2			2	H1: 5.65 H2: 6.21	8.94	8.94
	5.5			2	H1: 5.47 H2: 5.86	8.68	8.68
	5.8			2	H1: 5.45 H2: 5.36	8.42	8.42

Note:

1. The four antennas of the internal antenna are all the same, and the four antennas of the external antenna are different.
2. The EUT supports Cyclic Delay Diversity (CDD) mode, and CDD signals are correlated.

2.3. Device Capabilities

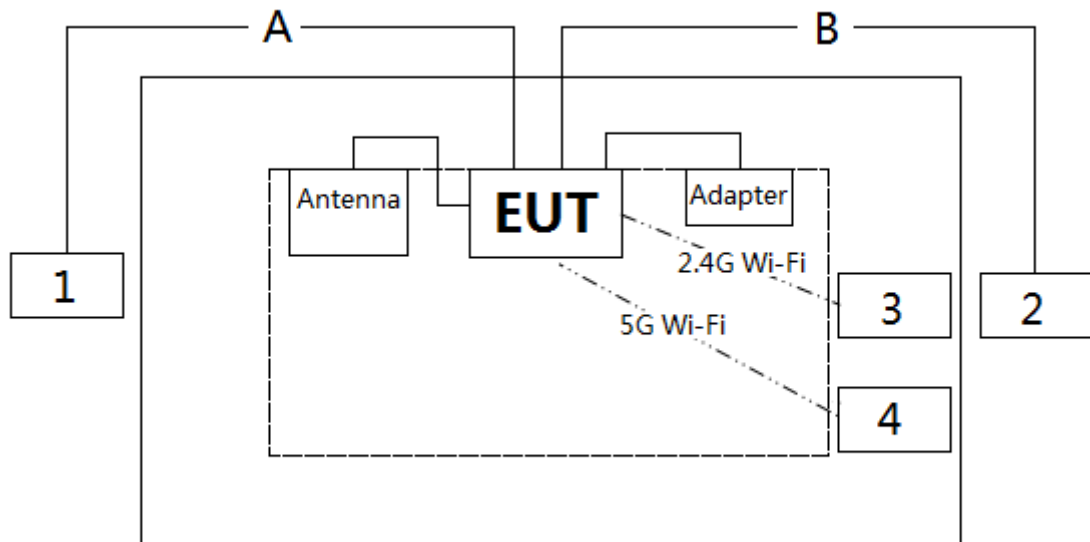
This device contains the following capabilities:

2.4G&5GHz (DTS/UNII)

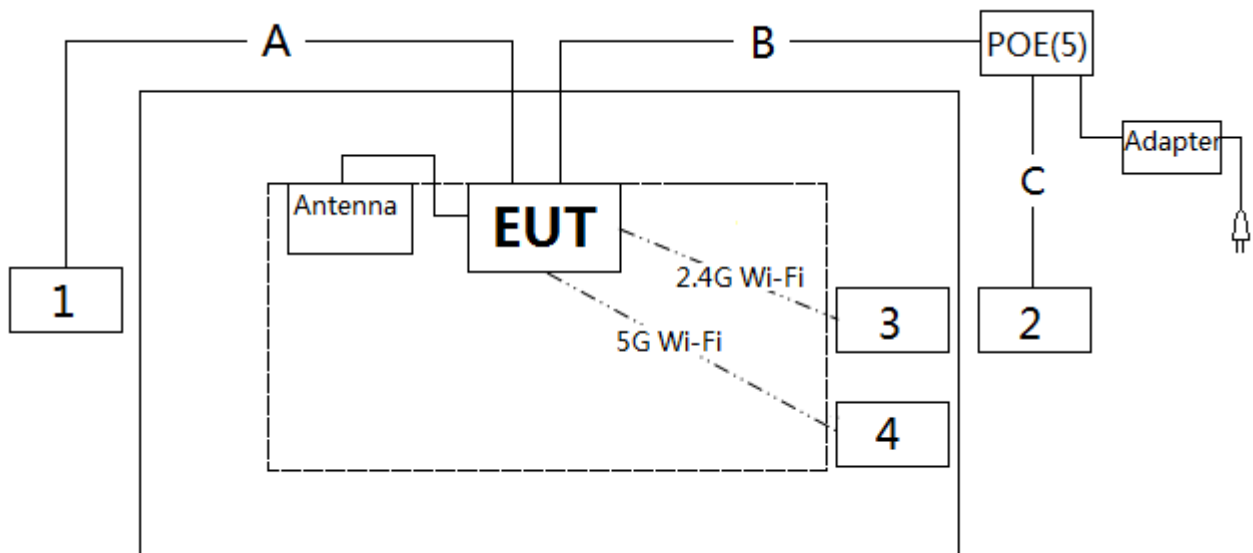
2.4. Test Configuration

The Wireless LAN Access Point FCC ID: O9C-BJNGAFB0004 was tested per the guidance FCC Part 15 Subpart B: 2013 and ANSI C63.4: 2009 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

Connection Diagram (Mode 1: Powered by Adapter)



Connection Diagram (Mode 2: Powered by POE)



Signal Cable Type		Signal cable Description			
A	LAN Cable	Shielding, >10m			
B	LAN Cable	Shielding, >10m			
C	LAN Cable	Shielding, 1.5m			
Product	Manufacturer	Model No.	Serial No.	Power Cord	
1	Personal Computer	DELL	Vostro270	N/A	Non-Shielded, 1.8m
2	Personal Computer	DELL	Vostro270	N/A	Non-Shielded, 1.8m
3	Notebook	Lenovo	E430c	MP-4CFX213/10	Non-Shielded, 1.8m
4	Notebook	Lenovo	X201	3626AM3	Non-Shielded, 1.8m
5	POE	H3C	WA2600 Indoor POE Injector (EWPAM1NPOE)	N/A	N/A

Note 1: For the test mode 1 and mode 2, we were using the external antenna configuration for testing. We had pre-tested the external antenna and internal antenna configurations before testing, and the external antenna configuration was worst-case status.

Note 2: When we configured the EUT set-up, the console port didn't connect some peripherals, which was used to do software upgrade for the professional installers.

Note 3: For the test mode 2, we tested the POE's AC adapter port for conducted emission.

2.5. Test Software

Not applicable.

2.6. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.7. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase.

However, when the device is so small wherein placement of the label with specified statement is not practical, only the trade name and FCC ID must be displayed on the device per Section 15.19(a)(5).

Please see attachment for FCC ID label and label location.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical Equipment in the Range of 9kHz to 40GHz (ANSI C63.4-2009) was used in the measurement of the **Wireless LAN Access Point FCC ID: O9C-BJNGAFB0004**.

Deviation from measurement procedure.....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150 kHz to 30 MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9 kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or resolution, clock or data exchange speed, scrolling H pattern to the EUT and/or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. Line conducted emissions test results are shown in Section 6.2.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GHz absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. An MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30 MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30 MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 0.8 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB beam-width of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. TEST EQUIPMENT CALIBRATION DATA

Conducted Emissions

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	101209	1 year	2014/11/08
Two-Line V-Network	R&S	ENV216	101683	1 year	2014/11/08
Two-Line V-Network	R&S	ENV216	101684	1 year	2014/11/08
Temperature/ Meter Humidity	Anymetre	TH101B	SR2-01	1 year	2014/11/15

Radiated Emission

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	E4447A	MY45300136	1 year	2014/11/18
Preamplifier	MRT	AP01G18	1310002	1 year	2014/10/07
Loop Antenna	Schwarzbeck	FMZB1519	1519-041	1 year	2014/11/24
TRILOG Antenna	Schwarzbeck	VULB9162	9162-047	1 year	2014/11/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1167	1 year	2014/11/24
Broadband Horn Antenna	Schwarzbeck	BBHA9170	9170-549	1 year	2014/12/11
Temperature/Humidity Meter	Anymetre	TH101B	AC1-01	1 year	2014/11/15

5. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

AC Conducted Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 150kHz~30MHz: ± 3.5 dB
Radiated Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): Horizontal: 30MHz~1GHz: 4.07dB 1GHz~18GHz: 4.16 dB Vertical: 30MHz~1GHz: 4.18 dB 1GHz~18GHz: 4.76 dB

6. TEST RESULT

6.1. Summary

Company Name: Hewlett Packard Company
FCC ID: O9C-BJNGAFB0004
FCC Classification: FCC Class B Digital Device (JBP)
Test Mode: Communication

FCC Part Section(s)	Test Description	Test Result
15.107	Conducted Emissions	Pass
15.109	Radiated Emissions	Pass

6.2. Conducted Emission Measurement

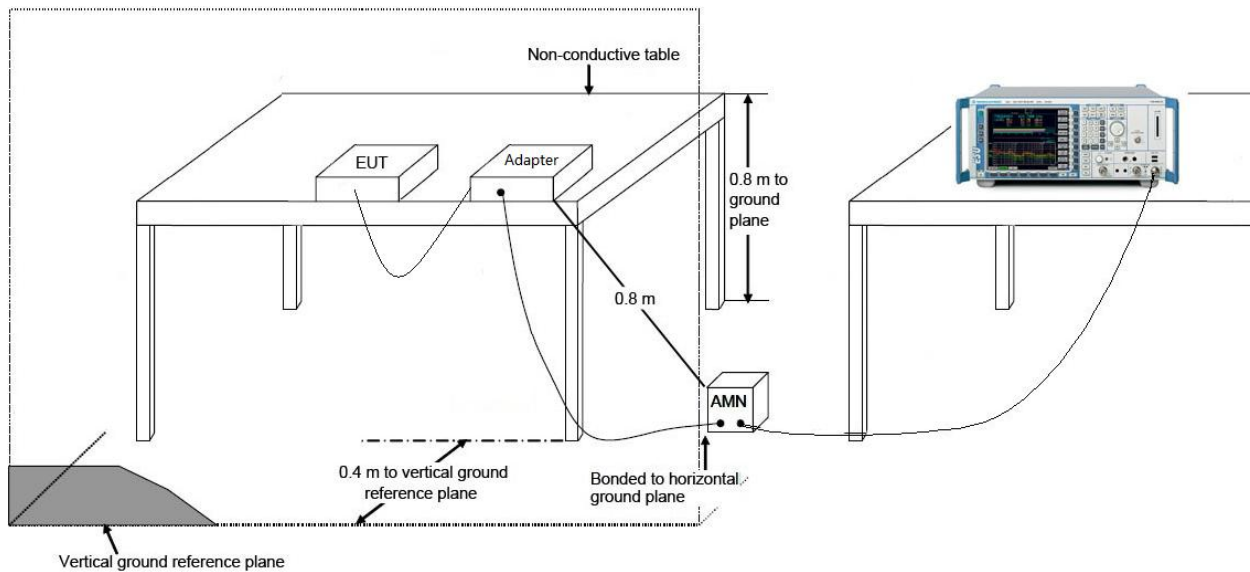
6.2.1. Test Limit

FCC Part 15.107 Limits		
Frequency (MHz)	QP (dB μ V)	AV (dB μ V)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

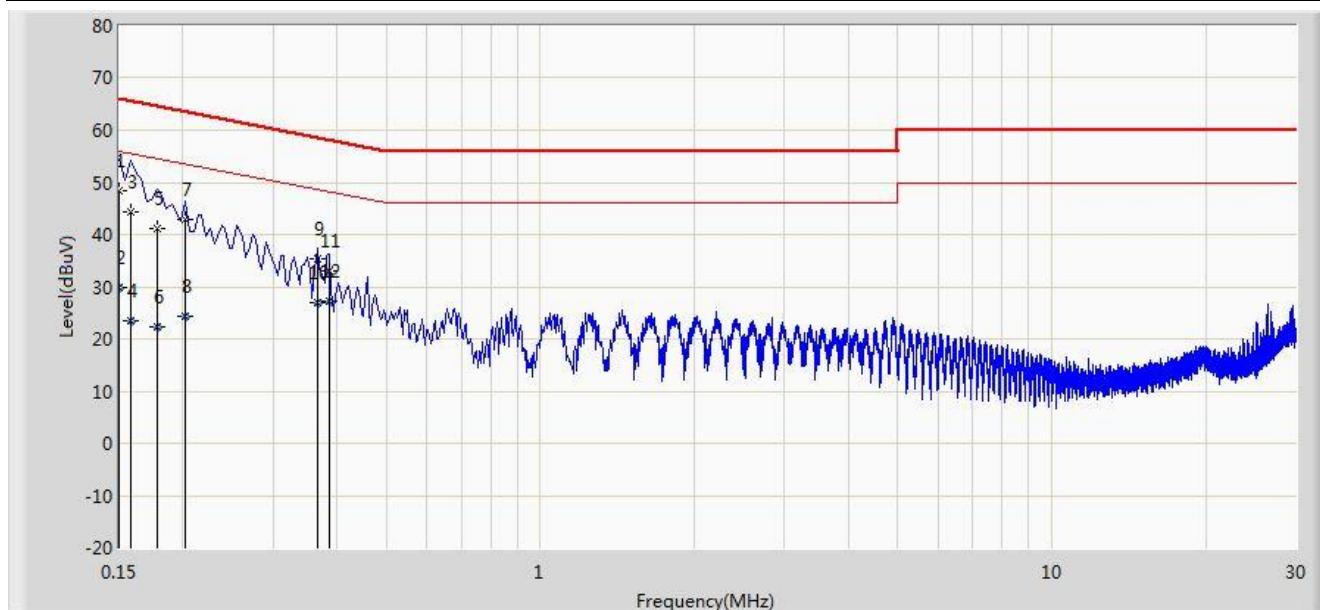
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

6.2.2. Test Setup



6.2.3. Test Result of Conducted Emissions

Engineer: Milo Li	
Site: SR2	Time: 2014/07/11 - 23:30
Limit: FCC_Part15.107_CE_AC Power	Margin: 0
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 1 : Communication (Powered by Adapter)	

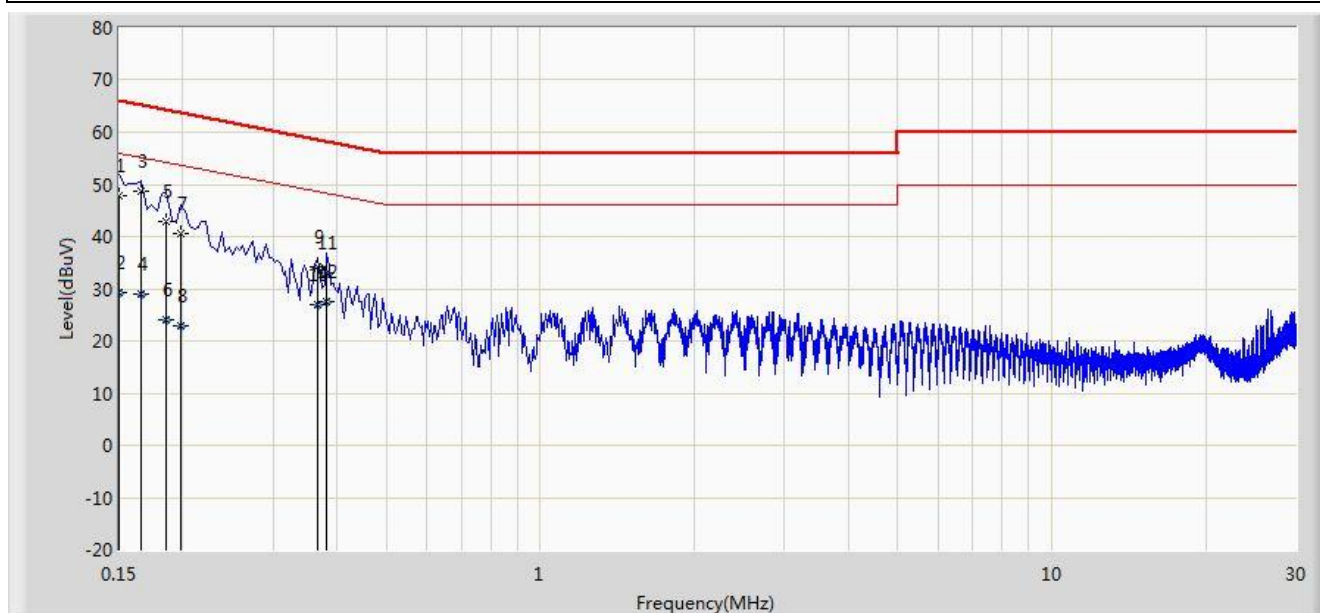


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.150	48.318	37.150	-17.682	66.000	11.168	QP
2			0.150	29.753	18.585	-26.247	56.000	11.168	AV
3			0.158	44.314	34.003	-21.255	65.568	10.311	QP
4			0.158	23.534	13.223	-32.035	55.568	10.311	AV
5			0.178	41.087	31.029	-23.492	64.578	10.058	QP
6			0.178	22.408	12.350	-32.170	54.578	10.058	AV
7			0.202	42.975	32.982	-20.553	63.528	9.993	QP
8			0.202	24.263	14.270	-29.265	53.528	9.993	AV
9			0.366	35.264	25.206	-23.327	58.591	10.058	QP
10			0.366	26.980	16.922	-21.611	48.591	10.058	AV
11			0.386	32.931	22.857	-25.218	58.149	10.074	QP
12			0.386	27.288	17.214	-20.861	48.149	10.074	AV

Note: Measure Level (dBuV) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Engineer: Milo Li	
Site: SR2	Time: 2014/07/11 - 23:40
Limit: FCC_Part15.107_CE_AC Power	Margin: 0
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 1 : Communication (Powered by Adapter)	

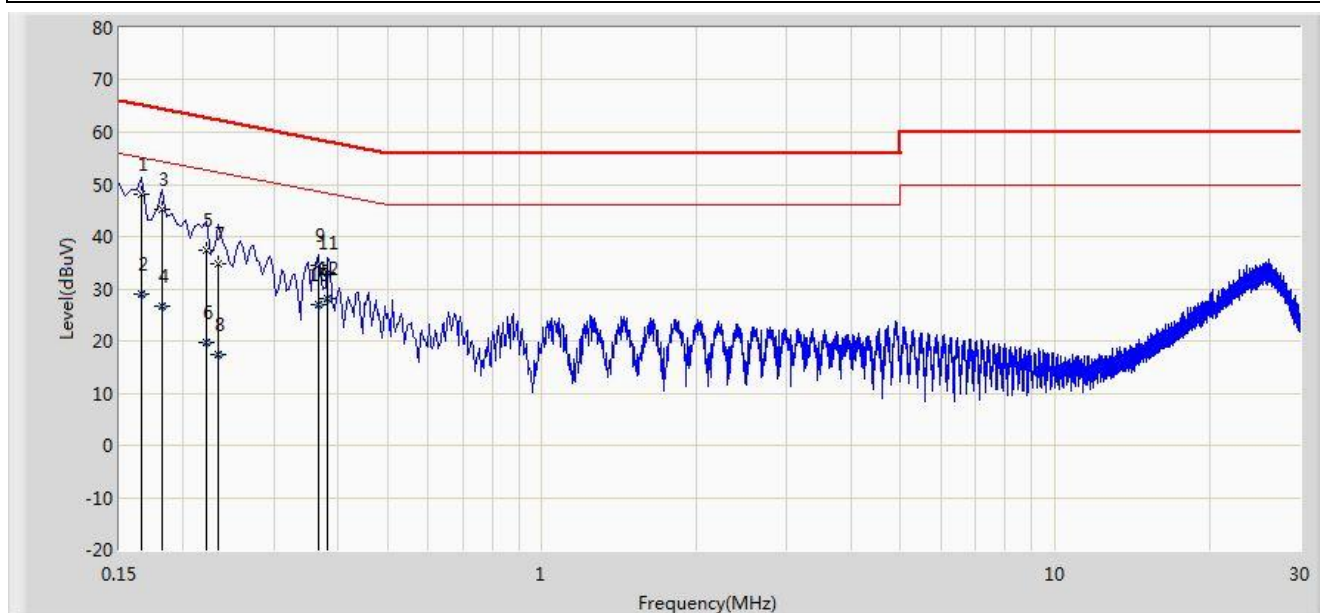


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.150	47.758	36.616	-18.242	66.000	11.142	QP
2			0.150	29.358	18.216	-26.642	56.000	11.142	AV
3		*	0.166	48.618	38.547	-16.540	65.158	10.071	QP
4			0.166	29.028	18.957	-26.130	55.158	10.071	AV
5			0.186	42.846	32.811	-21.367	64.213	10.035	QP
6			0.186	24.189	14.154	-30.024	54.213	10.035	AV
7			0.198	40.553	30.539	-23.141	63.694	10.015	QP
8			0.198	22.798	12.783	-30.896	53.694	10.015	AV
9			0.366	34.187	24.100	-24.404	58.591	10.087	QP
10			0.366	27.042	16.955	-21.549	48.591	10.087	AV
11			0.382	33.035	22.937	-25.200	58.236	10.099	QP
12			0.382	27.633	17.534	-20.602	48.236	10.099	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Engineer: Milo Li	
Site: SR2	Time: 2014/07/11 - 23:46
Limit: FCC_Part15.107_CE_AC Power	Margin: 0
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 2 : Communication (Powered by POE)	

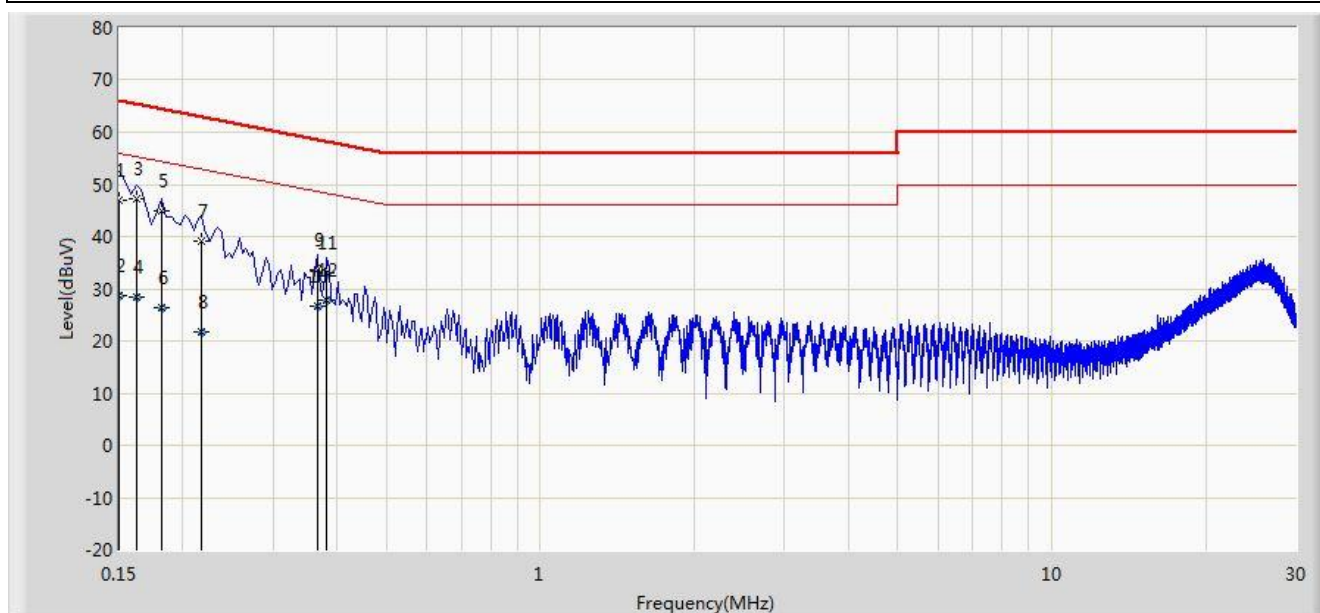


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.166	48.211	38.123	-16.948	65.158	10.087	QP
2			0.166	28.997	18.910	-26.161	55.158	10.087	AV
3			0.182	45.361	35.313	-19.033	64.394	10.048	QP
4			0.182	26.539	16.491	-27.855	54.394	10.048	AV
5			0.222	37.430	27.489	-25.314	62.744	9.941	QP
6			0.222	19.783	9.842	-32.961	52.744	9.941	AV
7			0.234	34.745	24.794	-27.561	62.307	9.951	QP
8			0.234	17.320	7.369	-34.986	52.307	9.951	AV
9			0.366	34.627	24.570	-23.964	58.591	10.058	QP
10			0.366	27.047	16.989	-21.544	48.591	10.058	AV
11			0.382	32.996	22.925	-25.240	58.236	10.071	QP
12			0.382	28.090	18.019	-20.146	48.236	10.071	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Engineer: Milo Li	
Site: SR2	Time: 2014/07/12 - 00:02
Limit: FCC_Part15.107_CE_AC Power	Margin: 0
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 2 : Communication (Powered by POE)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1			0.150	47.025	35.883	-18.975	66.000	11.142	QP
2			0.150	28.610	17.468	-27.390	56.000	11.142	AV
3		*	0.162	47.376	37.298	-17.985	65.361	10.078	QP
4			0.162	28.392	18.314	-26.968	55.361	10.078	AV
5			0.182	45.063	35.021	-19.330	64.394	10.042	QP
6			0.182	26.332	16.289	-28.062	54.394	10.042	AV
7			0.218	39.104	29.122	-23.791	62.895	9.981	QP
8			0.218	21.755	11.774	-31.140	52.895	9.981	AV
9			0.366	33.614	23.527	-24.977	58.591	10.087	QP
10			0.366	26.701	16.614	-21.890	48.591	10.087	AV
11			0.382	32.960	22.861	-25.276	58.236	10.099	QP
12			0.382	27.939	17.840	-20.297	48.236	10.099	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

6.3. Radiated Emission Measurement

6.3.1. Test Limit

FCC Part 15.109 Limits		
Frequency (MHz)	Distance (m)	Level (dB μ V/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

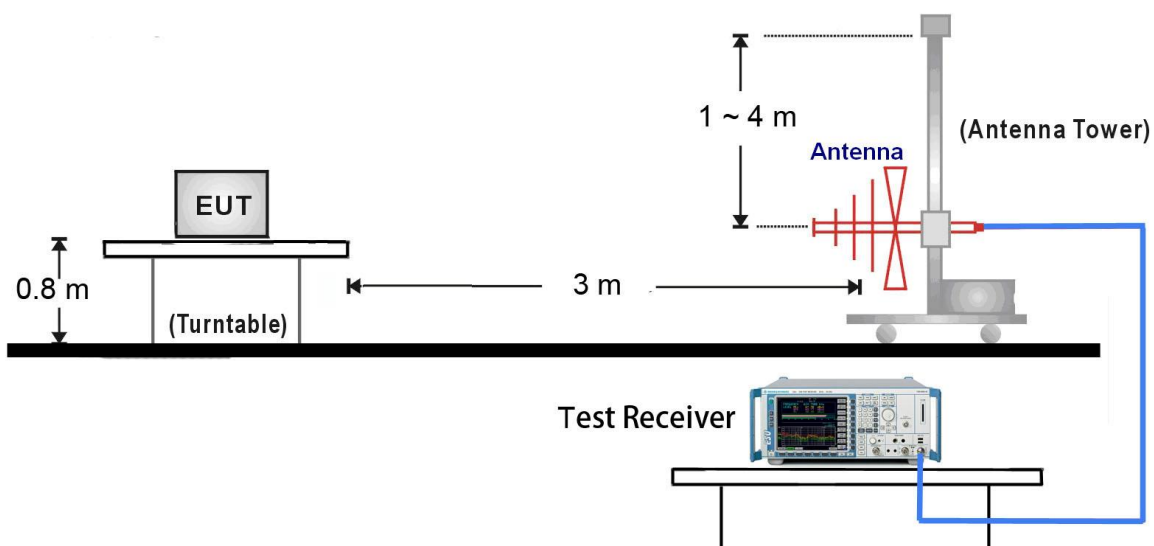
Note 1: The lower limit shall apply at the transition frequency.

Note 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.

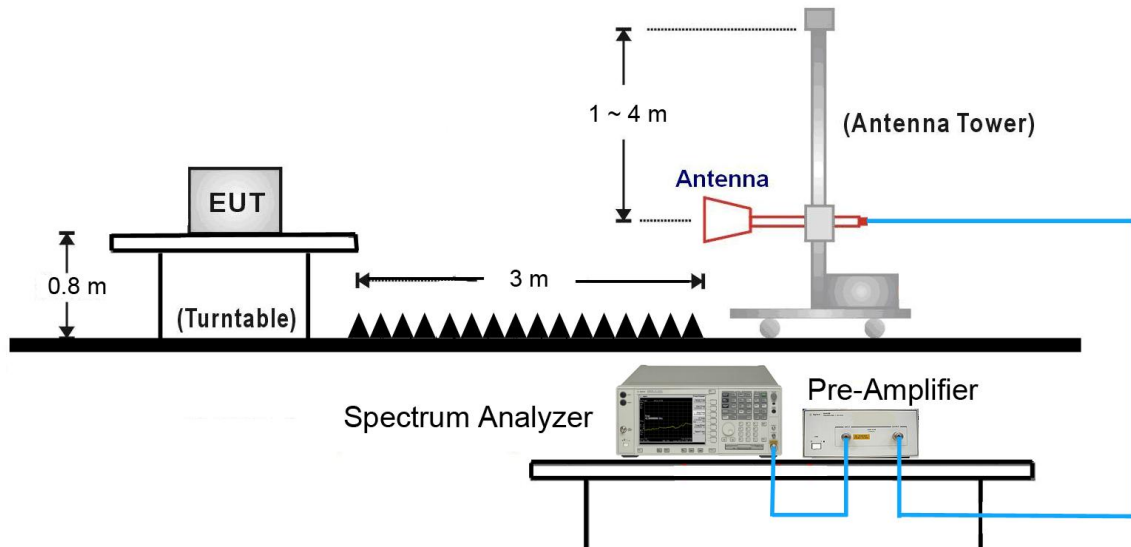
Note 3: E field strength (dB μ V/m) = 20 log E field strength (uV/m)

6.3.2. Test Setup

30MHz ~ 1GHz Test Setup:

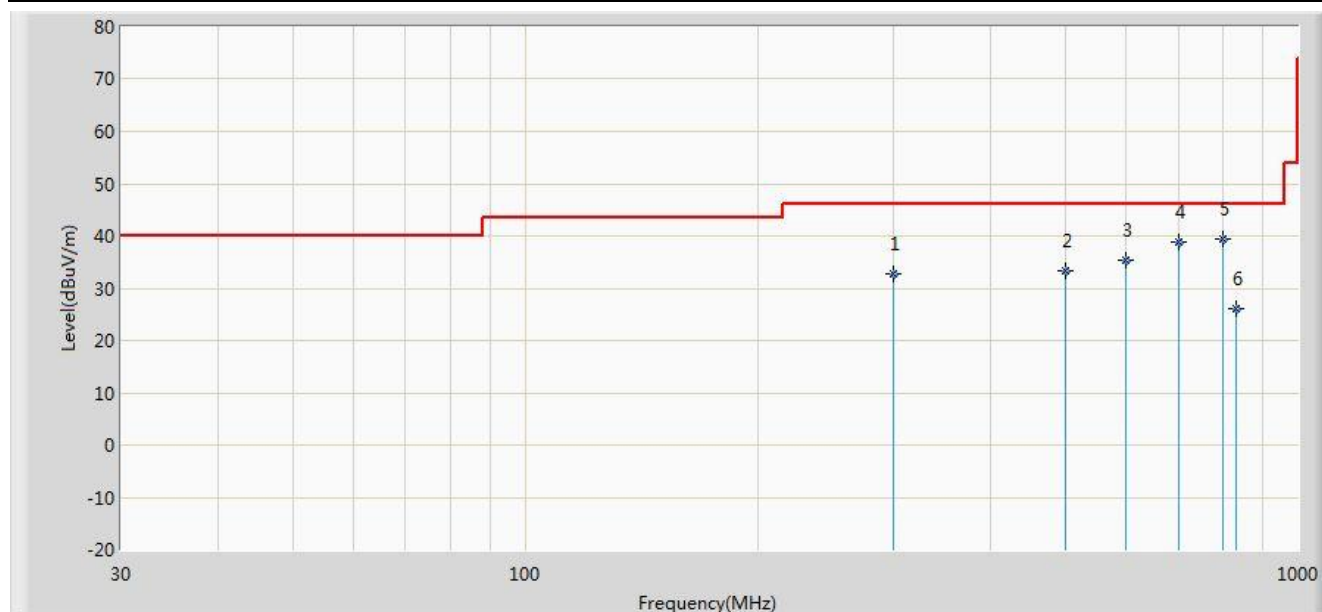


1GHz ~18GHz Test Setup:



6.3.3. Test Result of Radiated Emissions

Engineer: Roy Cheng	
Site: AC1	Time: 2014/07/11 - 20:57
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 1 : Communication (Powered by Adapter)	

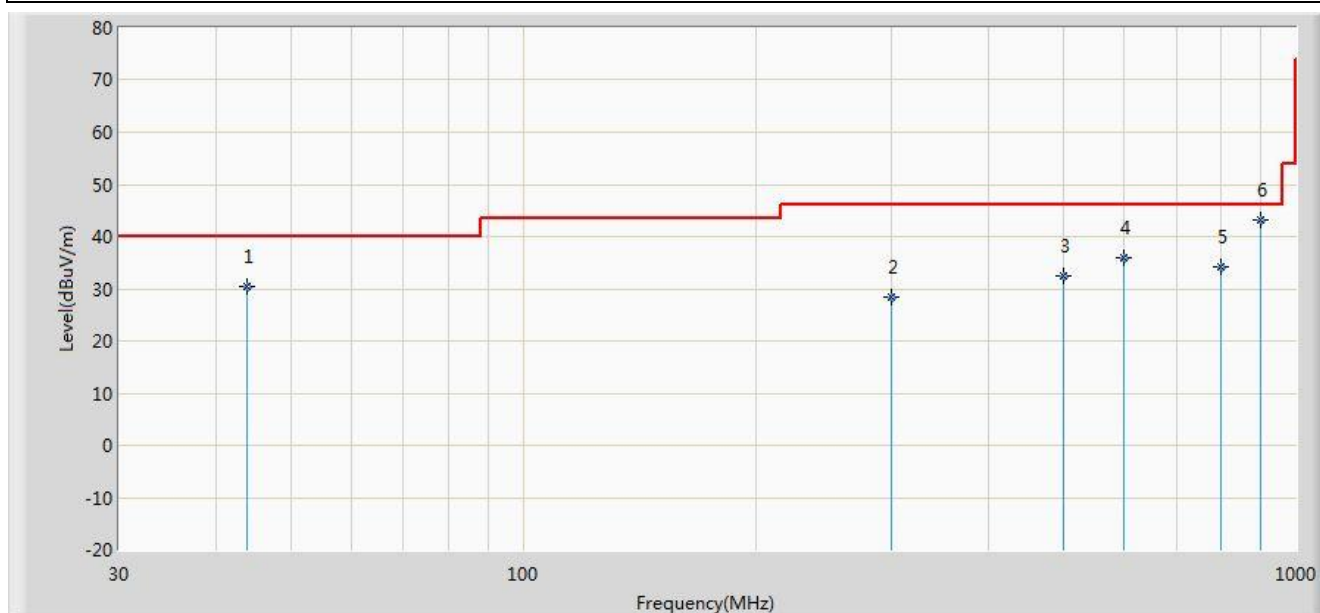


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			300.000	32.825	18.700	-13.175	46.000	14.125	QP
2			500.019	33.342	15.600	-12.658	46.000	17.742	QP
3			600.000	35.240	15.800	-10.760	46.000	19.441	QP
4			700.000	38.886	18.000	-7.114	46.000	20.886	QP
5		*	800.001	39.410	17.300	-6.590	46.000	22.109	QP
6			833.524	25.999	3.400	-20.001	46.000	22.599	QP

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Engineer: Roy Cheng	
Site: AC1	Time: 2014/07/11 - 20:57
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: VULB9162_0.03-8GHz	Polarity: Vertical
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 1 : Communication (Powered by Adapter)	

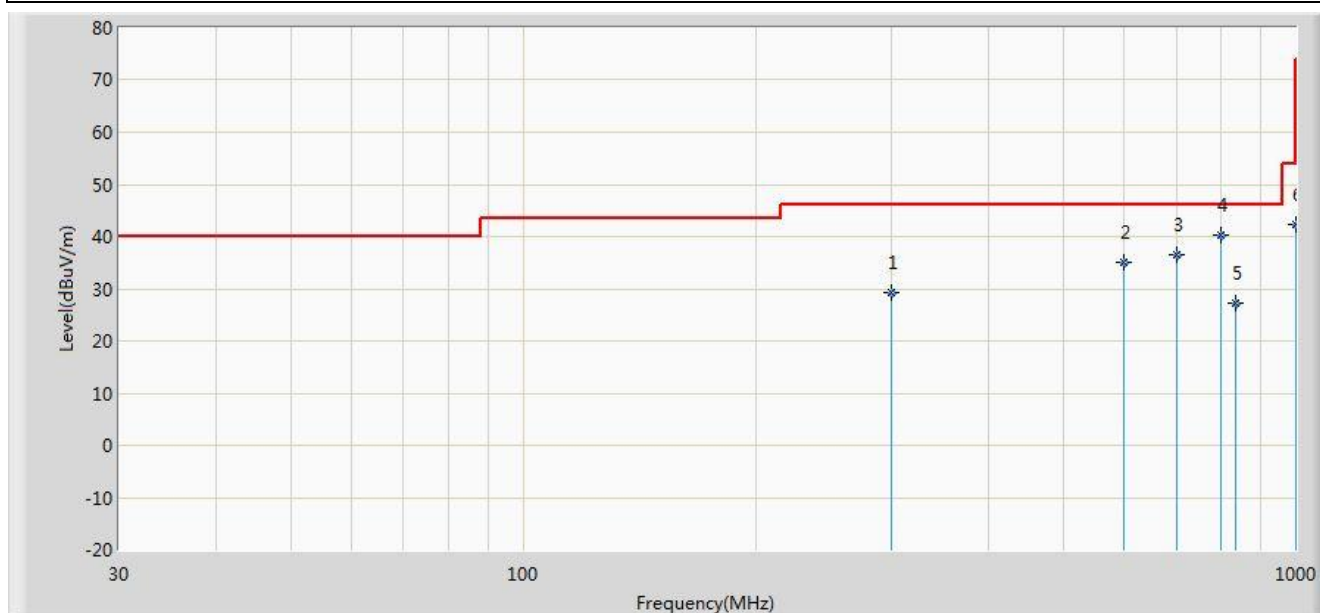


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			43.970	30.354	15.900	-9.646	40.000	14.454	QP
2			300.001	28.425	14.300	-17.575	46.000	14.125	QP
3			500.030	32.342	14.600	-13.658	46.000	17.742	QP
4			599.994	35.840	16.400	-10.160	46.000	19.441	QP
5			800.000	34.110	12.000	-11.890	46.000	22.109	QP
6		*	899.996	43.319	20.000	-2.681	46.000	23.319	QP

Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Engineer: Roy Cheng	
Site: AC1	Time: 2014/07/11 - 20:56
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 2 : Communication (Powered by POE)	

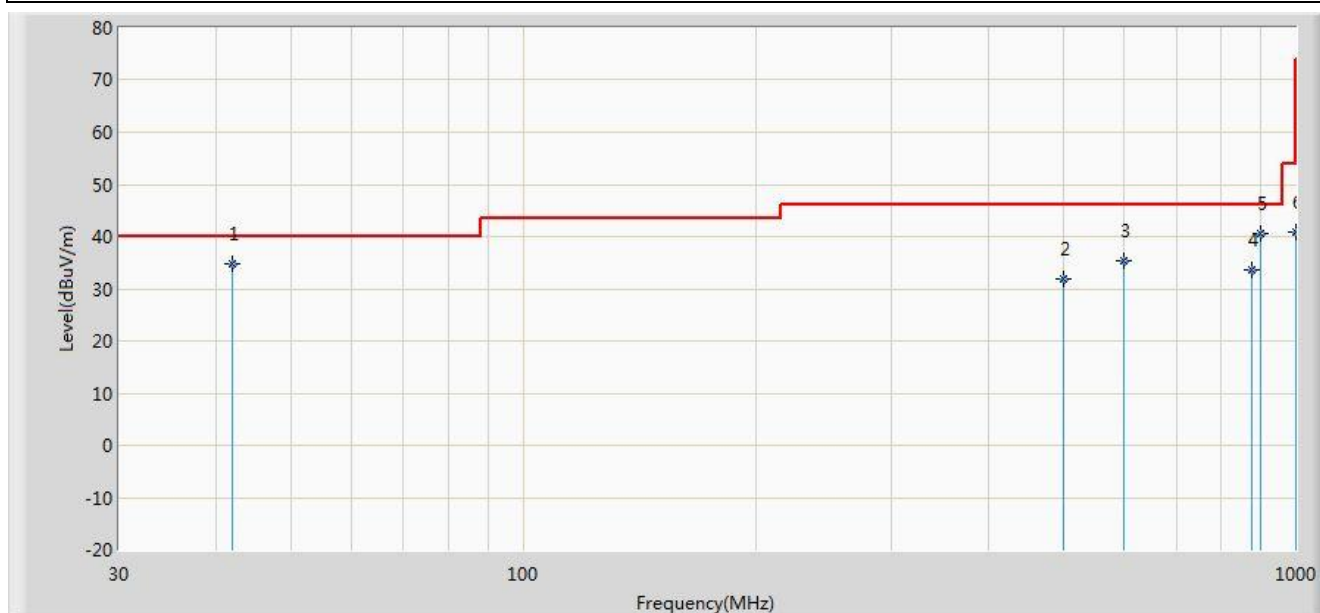


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			300.000	29.225	15.100	-16.775	46.000	14.125	QP
2			600.000	34.940	15.500	-11.060	46.000	19.441	QP
3			700.000	36.486	15.600	-9.514	46.000	20.886	QP
4		*	800.000	40.210	18.100	-5.790	46.000	22.109	QP
5			834.640	27.214	4.600	-18.786	46.000	22.614	QP
6			1000.000	42.228	18.000	-11.772	54.000	24.228	QP

Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Engineer: Roy Cheng	
Site: AC1	Time: 2014/07/11 - 20:57
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: VULB9162_0.03-8GHz	Polarity: Vertical
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 2 : Communication (Powered by POE)	

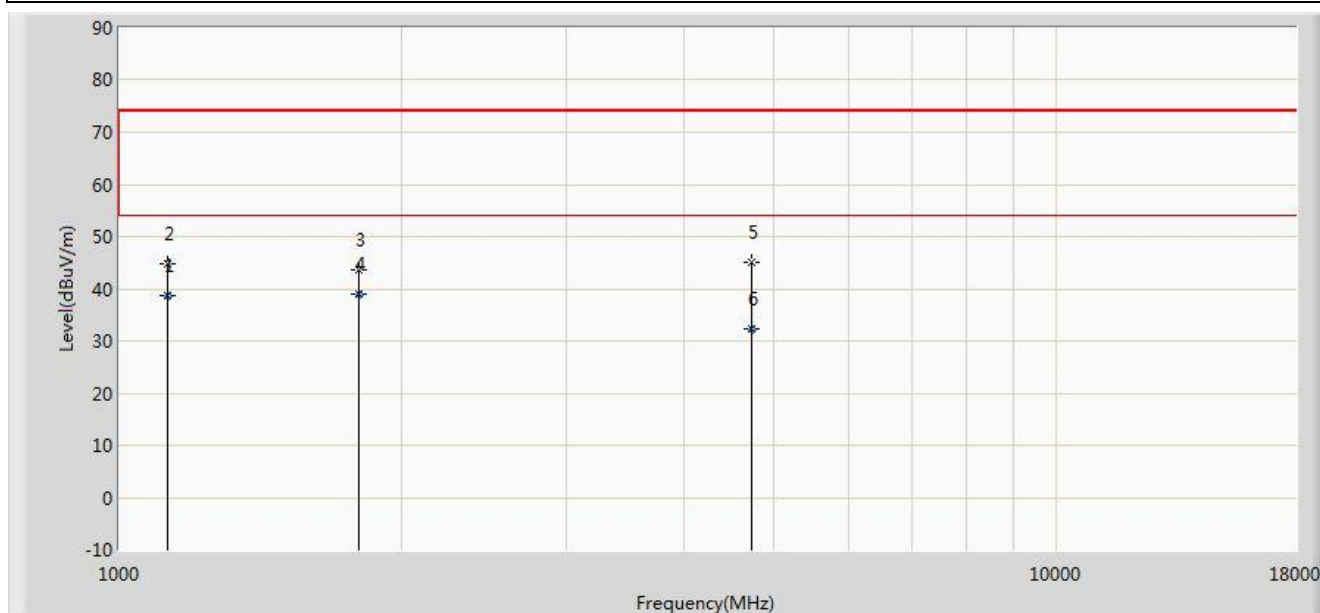


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	41.985	34.788	20.700	-5.212	40.000	14.088	QP
2			500.000	31.942	14.200	-14.058	46.000	17.742	QP
3			600.001	35.240	15.800	-10.760	46.000	19.441	QP
4			875.003	33.637	10.500	-12.363	46.000	23.137	QP
5			900.000	40.519	17.200	-5.481	46.000	23.319	QP
6			999.995	40.728	16.500	-13.272	54.000	24.228	QP

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m).

Engineer: Roy Cheng	
Site: AC1	Time: 2014/07/11 - 21:04
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 1 : Communication (Powered by Adapter)	

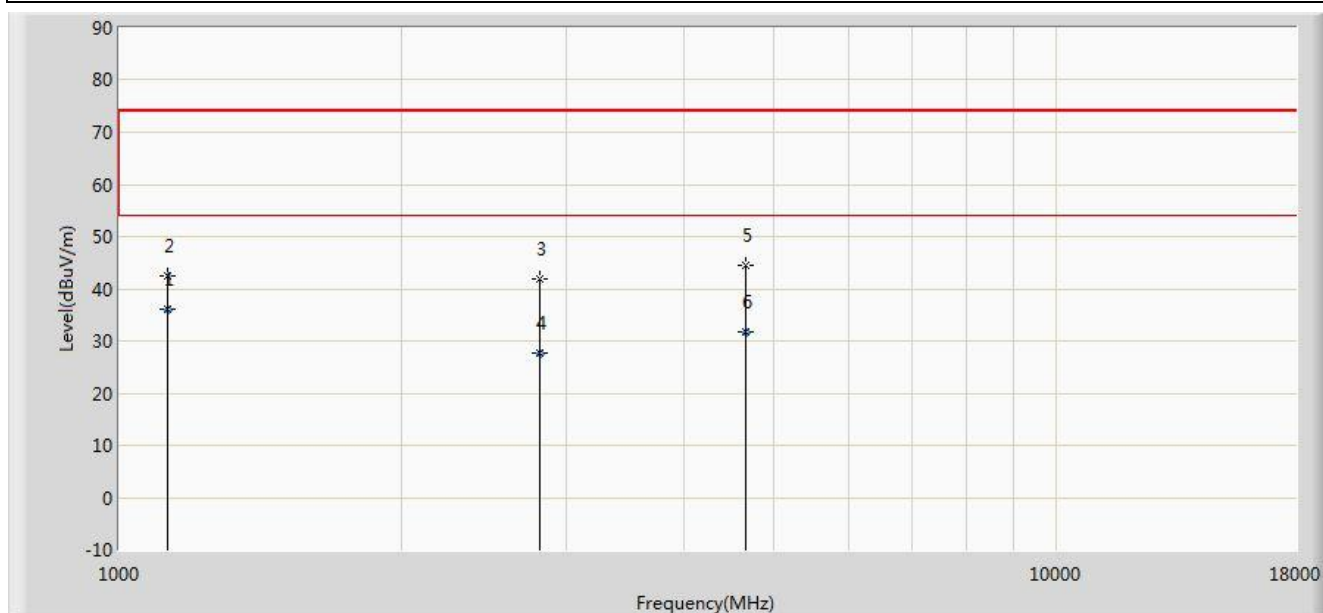


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			1125.043	38.555	41.680	-15.445	54.000	-3.124	AV
2			1127.500	44.899	48.016	-29.101	74.000	-3.117	PK
3			1799.000	43.657	43.809	-30.343	74.000	-0.152	PK
4		*	1800.040	38.988	39.130	-15.012	54.000	-0.142	AV
5			4731.500	45.018	38.967	-28.982	74.000	6.051	PK
6			4731.650	32.351	26.300	-21.649	54.000	6.051	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre_Amplifier Gain (dB).

Engineer: Roy Cheng	
Site: AC1	Time: 2014/07/11 - 21:04
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 1 : Communication (Powered by Adapter)	

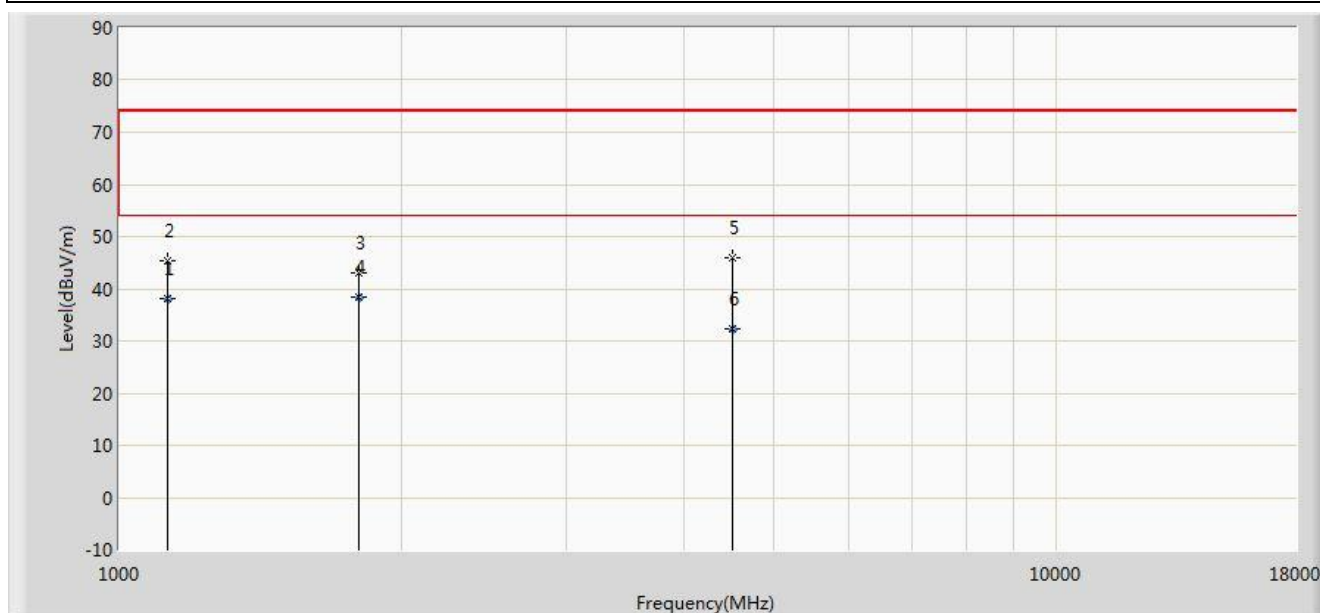


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	1125.045	36.155	39.280	-17.845	54.000	-3.124	AV
2			1127.500	42.416	45.533	-31.584	74.000	-3.117	PK
3			2810.500	41.953	38.637	-32.047	74.000	3.316	PK
4			2812.692	27.815	24.500	-26.185	54.000	3.315	AV
5			4655.000	44.524	38.584	-29.476	74.000	5.940	PK
6			4656.022	31.875	25.932	-22.125	54.000	5.943	AV

Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre_Amplifier Gain (dB).

Engineer: Roy Cheng	
Site: AC1	Time: 2014/07/11 - 21:04
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 2 : Communication (Powered by POE)	

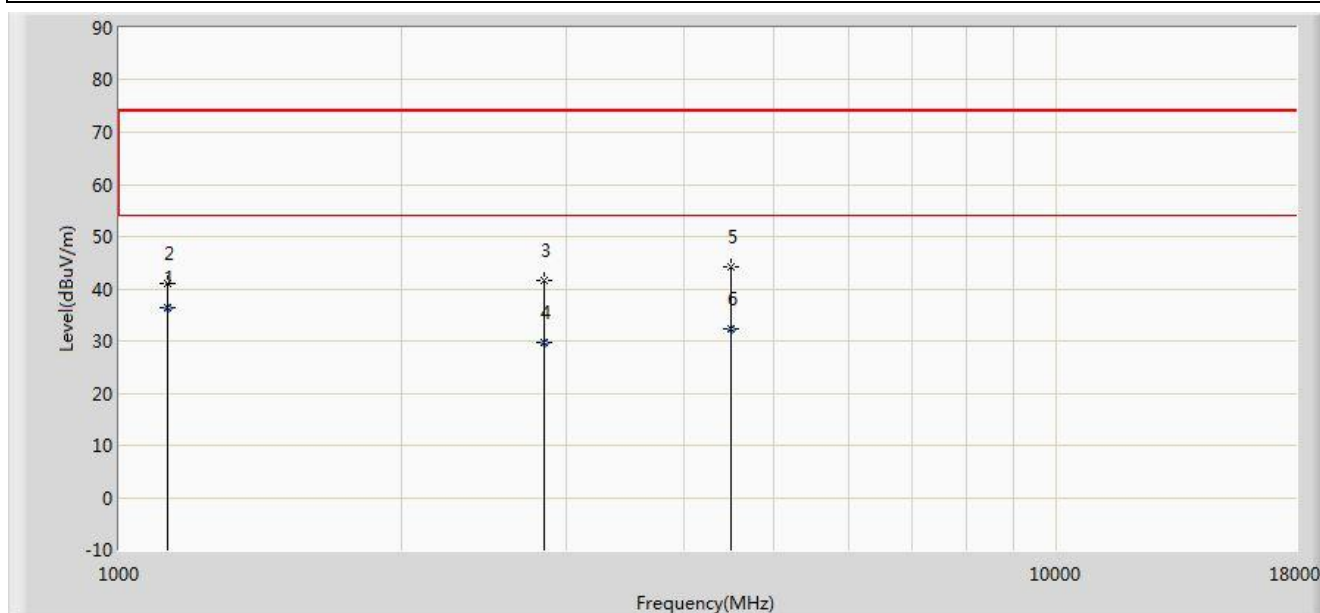


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1			1125.035	38.205	41.330	-15.795	54.000	-3.124	AV
2			1127.500	45.288	48.405	-28.712	74.000	-3.117	PK
3			1799.000	43.017	43.169	-30.983	74.000	-0.152	PK
4		*	1800.030	38.418	38.560	-15.582	54.000	-0.142	AV
5			4510.500	45.803	40.176	-28.197	74.000	5.626	PK
6			4510.652	32.447	26.820	-21.553	54.000	5.626	AV

Note: Measure Level (dBuV/m) = Reading Level (dBuV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre_Amplifier Gain (dB).

Engineer: Roy Cheng	
Site: AC1	Time: 2014/07/11 - 21:05
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Wireless LAN Access Point	Power: AC 120V/60Hz
Mode 2 : Communication (Powered by POE)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		*	1125.065	36.255	39.380	-17.745	54.000	-3.124	AV
2			1127.500	41.082	44.199	-32.918	74.000	-3.117	PK
3			2844.500	41.723	38.428	-32.277	74.000	3.295	PK
4			2844.652	29.815	26.520	-24.185	54.000	3.295	AV
5			4502.000	44.091	38.485	-29.909	74.000	5.606	PK
6			4502.650	32.258	26.650	-21.742	54.000	5.608	AV

Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre_Amplifier Gain (dB).

7. CONCLUSION

The data collected relate only the item(s) tested and show that the **Wireless LAN Access Point FCC ID: O9C-BJNGAFB0004** has been tested to comply with the requirements specified in §15.107 and §15.109 of the FCC Rules.

_____ The End _____