

# FCC Test Report

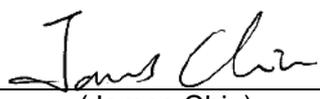
## FCC ID: QISAP7050DE

This report concerns (check one): Original Grant Class I Change Class II Change

**Project No.** : 1604C207A  
**Equipment** : Wireless LAN Access Point  
**Model Name** : AP7050DE  
**Applicant** : Huawei Technologies Co.,Ltd.  
**Address** : Administration Building, Headquarters of Huawei Technologies Co., Ltd.,Bantian, Longgang District, Shenzhen 518129 China

**Date of Receipt** : May 17, 2016  
**Date of Test** : May 17, 2016 ~ Jun. 08, 2016  
**Issued Date** : Jun. 10, 2016  
**Tested by** : BTL Inc.

**Testing Engineer** :   
(Bill Zhang)

**Technical Manager** :   
(James Chiu)

**Authorized Signatory** :   
(Steven Lu)

# **B T L I N C .**

No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

TEL: +86-769-8318-3000 FAX: +86-769-8319-6000



### **Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**BTL's** reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

**BTL's** report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and **BTL-self**, extracts from the test report shall not be reproduced except in full with **BTL's** authorized written approval.

**BTL's** laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

### **Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

<b>Table of Contents</b>	<b>Page</b>
<b>1 . CERTIFICATION</b>	<b>5</b>
<b>2 . SUMMARY OF TEST RESULTS</b>	<b>6</b>
2.1 TEST FACILITY	7
2.2 MEASUREMENT UNCERTAINTY	7
<b>3 . GENERAL INFORMATION</b>	<b>8</b>
3.1 GENERAL DESCRIPTION OF EUT	8
3.2 DESCRIPTION OF TEST MODES	8
3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	9
3.4 DESCRIPTION OF SUPPORT UNITS	11
<b>4 . EMC EMISSION TEST</b>	<b>12</b>
4.1 CONDUCTED EMISSION MEASUREMENT	12
4.1.1 POWER LINE CONDUCTED EMISSION	12
4.1.2 TEST PROCEDURE	12
4.1.3 DEVIATION FROM TEST STANDARD	12
4.1.4 TEST SETUP	13
4.1.5 EUT OPERATING CONDITIONS	13
4.1.6 TEST RESULTS	13
4.2 RADIATED EMISSION MEASUREMENT	14
4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT	14
4.2.2 TEST PROCEDURE	15
4.2.3 DEVIATION FROM TEST STANDARD	15
4.2.4 TEST SETUP	16
4.2.5 EUT OPERATING CONDITIONS	17
4.2.6 TEST RESULTS (30 TO 1000 MHZ)	17
4.2.7 TEST RESULTS (ABOVE 1000 MHZ)	17
<b>5 . MEASUREMENT INSTRUMENTS LIST</b>	<b>18</b>
<b>6 . EUT TEST PHOTO</b>	<b>19</b>
<b>ATTACHMENT A - CONDUCTED EMISSION</b>	<b>25</b>
<b>ATTACHMENT B - RADIATED EMISSION (30MHZ TO 1000MHZ)</b>	<b>30</b>
<b>ATTACHMENT C - RADIATED EMISSION (ABOVE 1000MHZ)</b>	<b>35</b>

### REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCE-1-1604C207A	Original Issue.	Jun. 10, 2016

## 1. CERTIFICATION

Equipment : Wireless LAN Access Point  
Brand Name : N/A  
Model Name : AP7050DE  
Applicant : Huawei Technologies Co.,Ltd.  
Manufacturer : Huawei Technologies Co.,Ltd.  
Address : Administration Building, Huawei Base, Bantian, Longgang District ,Shenzhen  
518129, P.R.China  
Factory : Huawei Technologies Co.,Ltd.  
Address : Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R.China  
Date of Test : May 17, 2016 ~ Jun. 08, 2016  
Test Sample : Engineering Sample  
Standard(s) : FCC Part 15, Subpart B  
ANSI C63.4-2014

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCE-1-1604C207A) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

EMC Emission				
Standard(s)	Test Item	Limit	Judgment	Remark
FCC Part15, Subpart B ANSI C63.4-2014	Conducted Emission	Class B	PASS	
	Radiated emission Below 1 GHz	Class B	PASS	
	Radiated emission Above 1 GHz	Class B	PASS	NOTE (2)

**NOTE:**

- (1) " N/A" denotes test is not applicable to this device.
- (2) The EUT's max operating frequency exceeds 108 MHz, so the test will be performed.

## 2.1 TEST FACILITY

The test facilities used to collect the test data in this report at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

## 2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2  $U_{\text{CISPR}}$  requirement.

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately **95%**.

### A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-C02	CISPR	150 kHz ~ 30MHz	2.32

### B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m)	CISPR	9KHz ~ 30MHz	V	3.79
		9KHz ~ 30MHz	H	3.57
		30MHz ~ 200MHz	V	3.82
		30MHz ~ 200MHz	H	3.78
		200MHz ~ 1,000MHz	V	4.10
		200MHz ~ 1,000MHz	H	4.06

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m)	CISPR	1GHz ~ 18GHz	V	3.12
		1GHz ~ 18GHz	H	3.68
		18GHz ~ 40GHz	V	4.15
		18GHz ~ 40GHz	H	4.14

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless LAN Access Point
Brand Name	N/A
Model Name	AP7050DE
Model Difference	NA
Power Source	#1 DC voltage supplied from AC Adapter. Model: HW-120200U1W #2 Supplied from PoE. Model: PoE35-54A
Power Rating	DC 12V 2A

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

#### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	FULL SYSTEM(Adapter)
Mode 2	FULL SYSTEM(PoE Adapter)

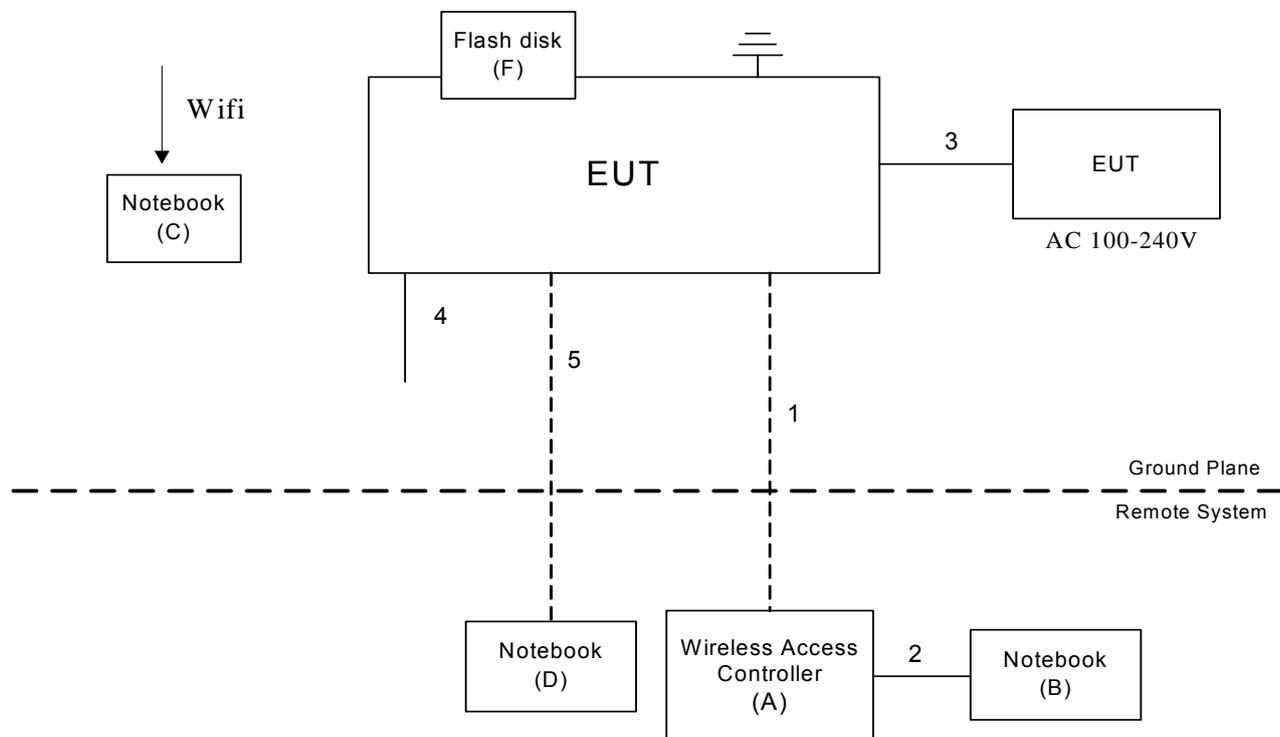
The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 1	FULL SYSTEM(Adapter)
Mode 2	FULL SYSTEM(PoE Adapter)

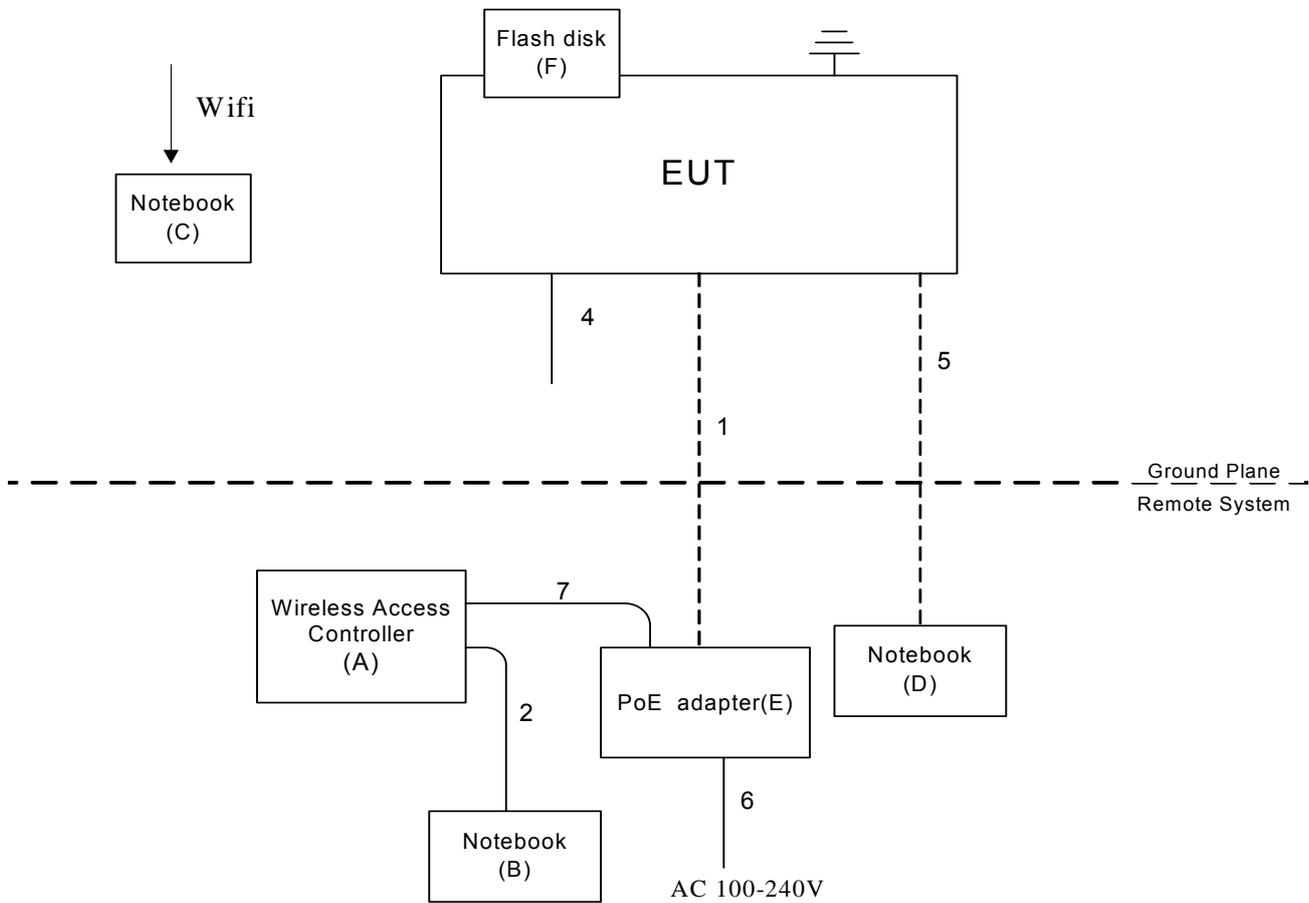
For Radiated Test	
Final Test Mode	Description
Mode 1	FULL SYSTEM(Adapter)
Mode 2	FULL SYSTEM(PoE Adapter)

### 3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

#### Mode 1



### Mode 2



### 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
A	Wireless Access Controller	HUAWEI	AC6605-26-RWP	N/A	N/A
B	notebook	DELL	latitude E5510	DOC	N/A
C	notebook	DELL	latitude E5510	DOC	N/A
D	notebook	Lenovo	E445	NA	MP-05Y56S
E	PoE adapter	HUAWEI	PoE35-54A	N/A	N/A
F	Flash DISK	Kingston	DT101G2/8G	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	10m	RJ45 Cable
2	NO	NO	3m	RJ45 Cable
3	NO	NO	1.5m	DC Cable
4	YES	NO	1.8m	Console Cable
5	NO	NO	10m	RJ45 Cable
6	NO	NO	1.8m	AC Mains cable
7	NO	NO	3m	RJ45 Cable

Note:

- (1) For detachable type I/O cable should be specified the length in m in 『Length』 column.

## 4. EMC EMISSION TEST

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 POWER LINE CONDUCTED EMISSION (FREQUENCY RANGE 150KHZ-30MHZ)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:  
 Measurement Value = Reading Level + Correct Factor  
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)  
 Margin Level = Measurement Value – Limit Value

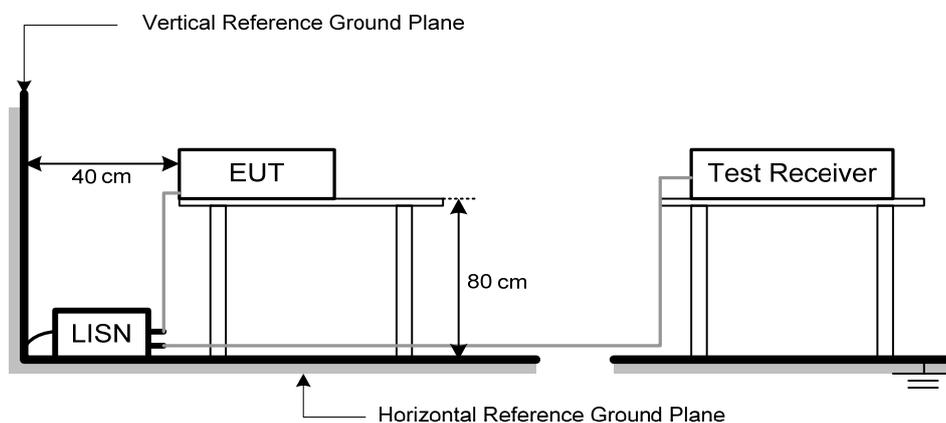
#### 4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

#### 4.1.3 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.4 TEST SETUP



#### 4.1.5 EUT OPERATING CONDITIONS

The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use.  
 Temperature: 24°C Relative Humidity: 60%

#### 4.1.6 TEST RESULTS

Please refer to the Attachment A.

## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Below 1 GHz

Measurement Method and Applied Limits:

**ANSI C63.4:**

Frequency (MHz)	Class A (at 10m)		Class B (at 3m)	
	(uV/m) Field strength	(dBuV/m) Field strength	(uV/m) Field strength	(dBuV/m) Field strength
30 - 88	90	39	100	40
88 - 216	150	43.5	150	43.5
216 - 960	210	46.4	200	46
Above 960	300	49.5	500	54

**CISPR 22 or CAN/CSA-CISPR 22-10:**

Frequency (MHz)	Class A (at 10m)		Class B (at 10m)	
	dBuV/m		dBuV/m	
30 - 230	40		30	
230 - 1000	47		37	

Above 1 GHz

Measurement Method and Applied Limits:

**ANSI C63.4:**

Frequency (MHz)	Class A				Class B	
	(dBuV/m) (at 3m)		(dBuV/m) (at 10m)		(dBuV/m) (at 3m)	
	Peak	Average	Peak	Average	Peak	Average
Above 1000	80	60	69.5	49.5	74	54

### FREQUENCY RANGE OF RADIATED MEASUREMENT (FOR UNINTENTIONAL RADIATORS)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower

NOTE:

- (1) The limit for radiated test was performed according to as following:  
FCC Part 15, Subpart B.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).  
3m Emission level = 10m Emission level + 20log(10m/3m).
- (4) The test result calculated as following:  
Measurement Value = Reading Level + Correct Factor  
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)  
Margin Level = Measurement Value - Limit Value

#### 4.2.2 TEST PROCEDURE

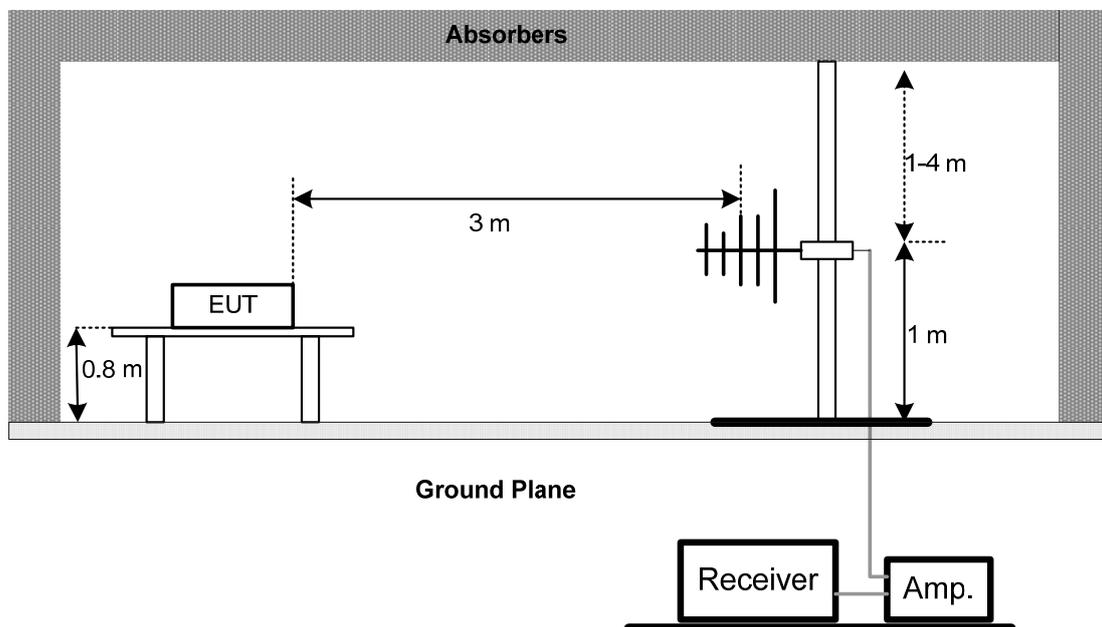
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.
- j. For measurement of frequency 1GHz -40GHz, the EUT was set 3 meters away from the receiver antenna.  
Emission level (dBuV/m)=20log Emission level (uV/m).  
The limits above 18GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1m  
Distance extrapolation factor = 20 log (3m/1m) dB ;  
Limit line = specific limits (dBuV) + 9.5 dB.

#### 4.2.3 DEVIATION FROM TEST STANDARD

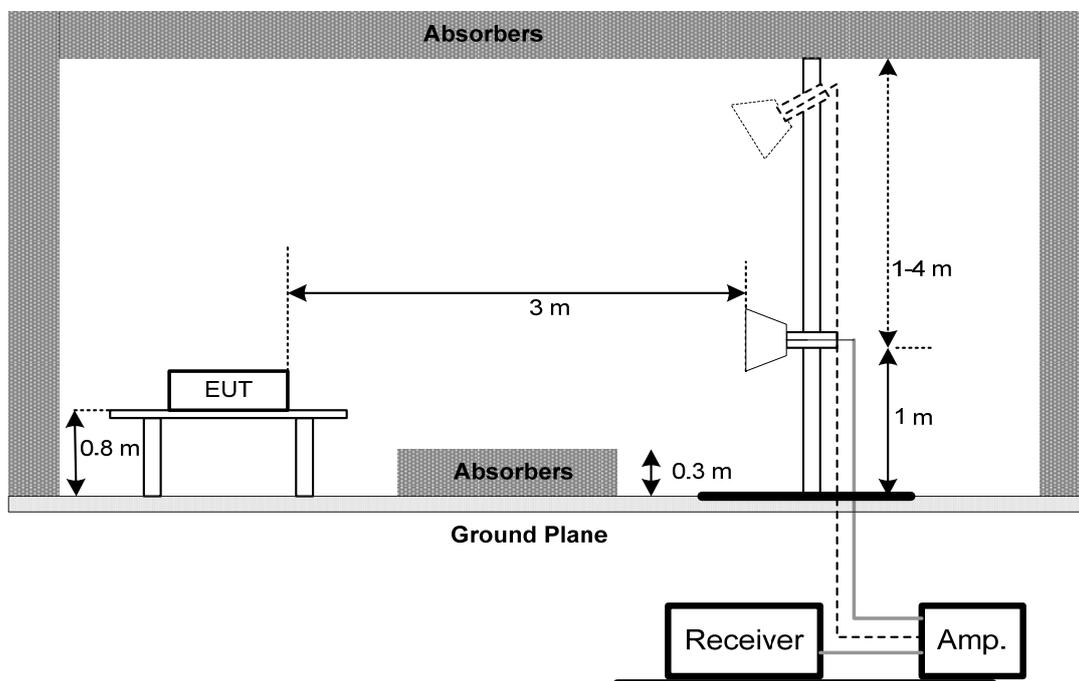
No deviation

#### 4.2.4 TEST SETUP

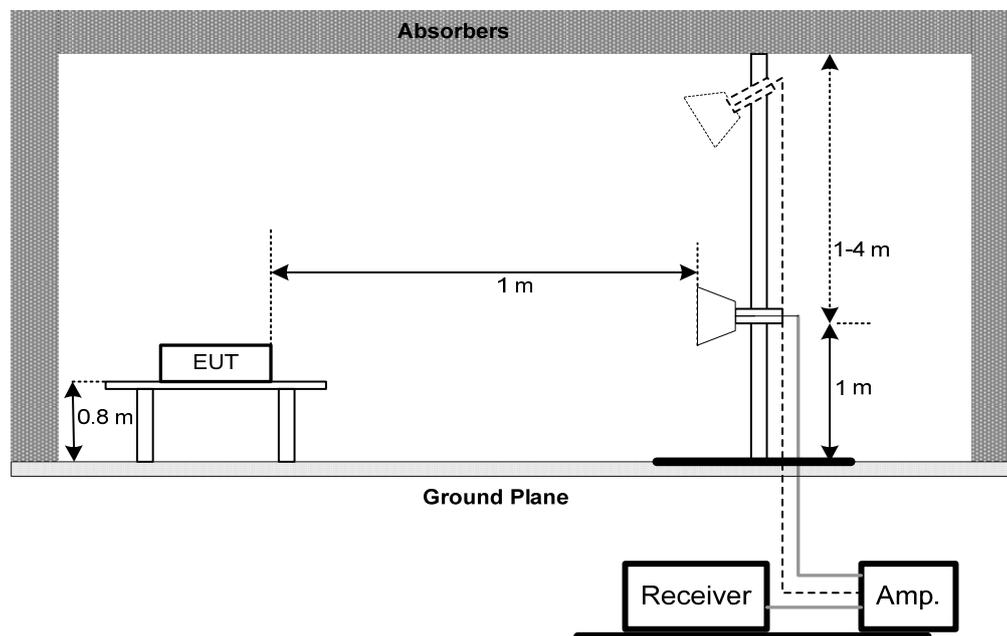
##### (A) Radiated Emission Test Set-Up Frequency Below 1 GHz



##### (B) Radiated Emission Test Set-Up Frequency 1 GHz-18GHz



(C) Radiated Emission Test Set-Up Frequency 18 GHz-40GHz



**4.2.5 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

**4.2.6 TEST RESULTS (30 TO 1000 MHz)**

Please refer to the Attachment B.

Temperature: 24°C Relative Humidity: 52%

**4.2.7 TEST RESULTS (Above 1000 MHz)**

Please refer to the Attachment C.

Temperature: 24°C Relative Humidity: 52%

## 5. MEASUREMENT INSTRUMENTS LIST

Conducted Emission					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	0052765	Mar. 27, 2017
2	LISN	R&S	ENV216	101447	Mar. 27, 2017
3	Test Cable	emci	RG223(9KHz-30 MHz)	C_17	Mar. 10, 2017
4	EMI Test Receiver	R&S	ESCI	100382	Mar. 27, 2017
5	50Ω Terminator	SHX	TF2-3G-A	08122901	Mar. 27, 2017
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

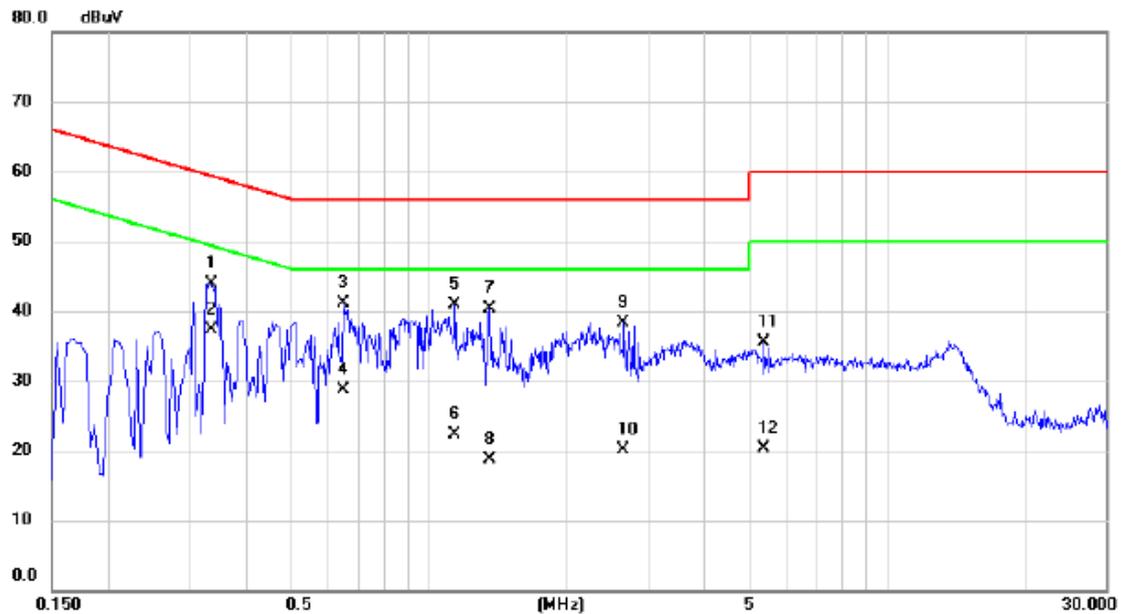
Radiated Emission					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 27, 2017
2	Amplifier	HP	8447D	2944A09673	Nov. 09, 2016
3	Receiver	AGILENT	N9038A	MY52130039	Oct. 11, 2016
4	Test Cable	emci	LMR-400(30MHz-1GHz)	C-01	Jun. 28, 2016
5	Antenna	ETS	3115	00075789	Mar. 27, 2017
6	Amplifier	Agilent	8449B	3008A02274	Nov. 01, 2016
7	Receiver	AGILENT	N9038A	MY52130039	Oct. 11, 2016
8	Test Cable	emci	EMC104-SM-SM-10000(1GHz – 26.5GHz)	C-68	Jun. 28, 2016
9	Controller	CT	SC100	N/A	N/A
10	Position Control	MF	MF-7802	MF780208416	N/A
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Apr. 23, 2017
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 27, 2017
13	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Remark: "N/A" denotes no model name, serial no. or calibration specified.  
All calibration period of equipment list is one year.

## ATTACHMENT A - CONDUCTED EMISSION

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

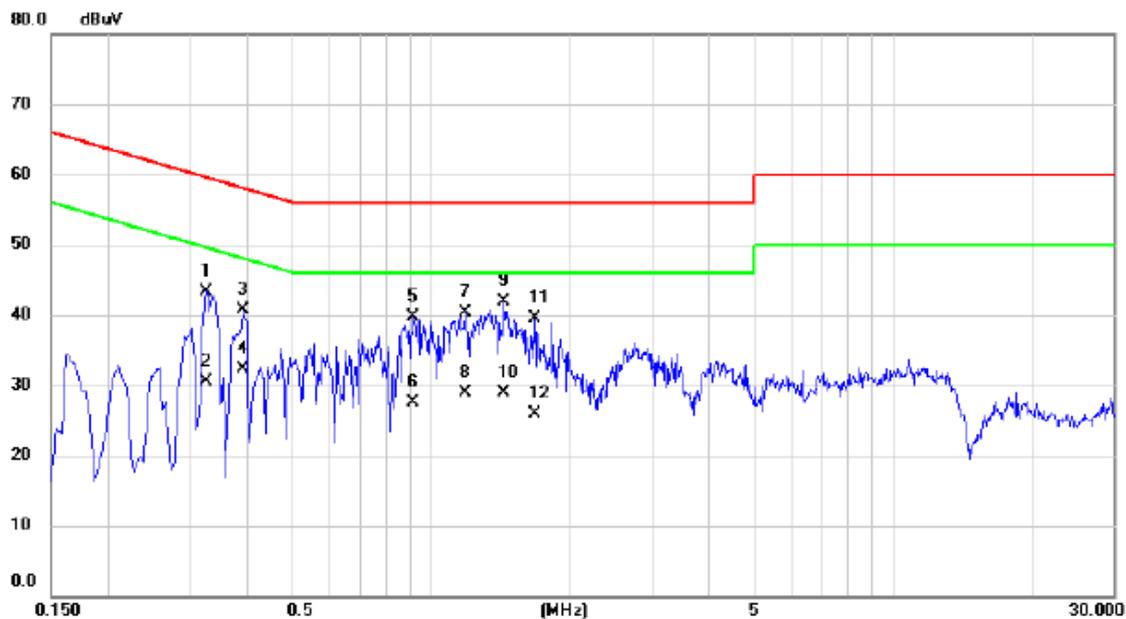
### Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.3340	34.47	9.53	44.00	59.35	-15.35	QP	
2	*	0.3340	27.80	9.53	37.33	49.35	-12.02	AVG	
3		0.6500	31.53	9.64	41.17	56.00	-14.83	QP	
4		0.6500	19.00	9.64	28.64	46.00	-17.36	AVG	
5		1.1380	31.07	9.76	40.83	56.00	-15.17	QP	
6		1.1380	12.50	9.76	22.26	46.00	-23.74	AVG	
7		1.3500	30.54	9.82	40.36	56.00	-15.64	QP	
8		1.3500	8.80	9.82	18.62	46.00	-27.38	AVG	
9		2.6580	28.21	10.09	38.30	56.00	-17.70	QP	
10		2.6580	10.10	10.09	20.19	46.00	-25.81	AVG	
11		5.3660	25.51	10.02	35.53	60.00	-24.47	QP	
12		5.3660	10.20	10.02	20.22	50.00	-29.78	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

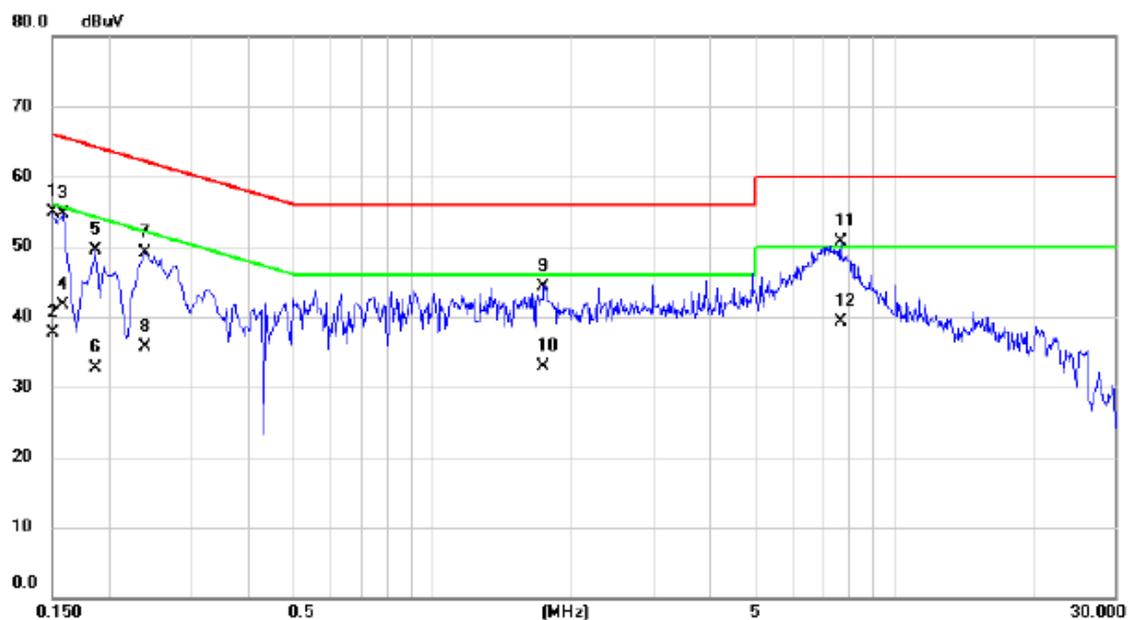
## Neutral



No.	Mk.	Freq.	Reading	Correct	Measurement	Limit	Margin		
		MHz	dBuV	Factor	dBuV	dBuV	dB	Detector	Comment
1		0.3260	33.87	9.53	43.40	59.55	-16.15	QP	
2		0.3260	20.90	9.53	30.43	49.55	-19.12	AVG	
3		0.3900	31.17	9.46	40.63	58.06	-17.43	QP	
4		0.3900	22.90	9.46	32.36	48.06	-15.70	AVG	
5		0.9140	30.14	9.66	39.80	56.00	-16.20	QP	
6		0.9140	17.80	9.66	27.46	46.00	-18.54	AVG	
7		1.1820	30.55	9.67	40.22	56.00	-15.78	QP	
8		1.1820	19.20	9.67	28.87	46.00	-17.13	AVG	
9	*	1.4380	32.30	9.67	41.97	56.00	-14.03	QP	
10		1.4380	19.30	9.67	28.97	46.00	-17.03	AVG	
11		1.6740	29.92	9.68	39.60	56.00	-16.40	QP	
12		1.6740	16.20	9.68	25.88	46.00	-20.12	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

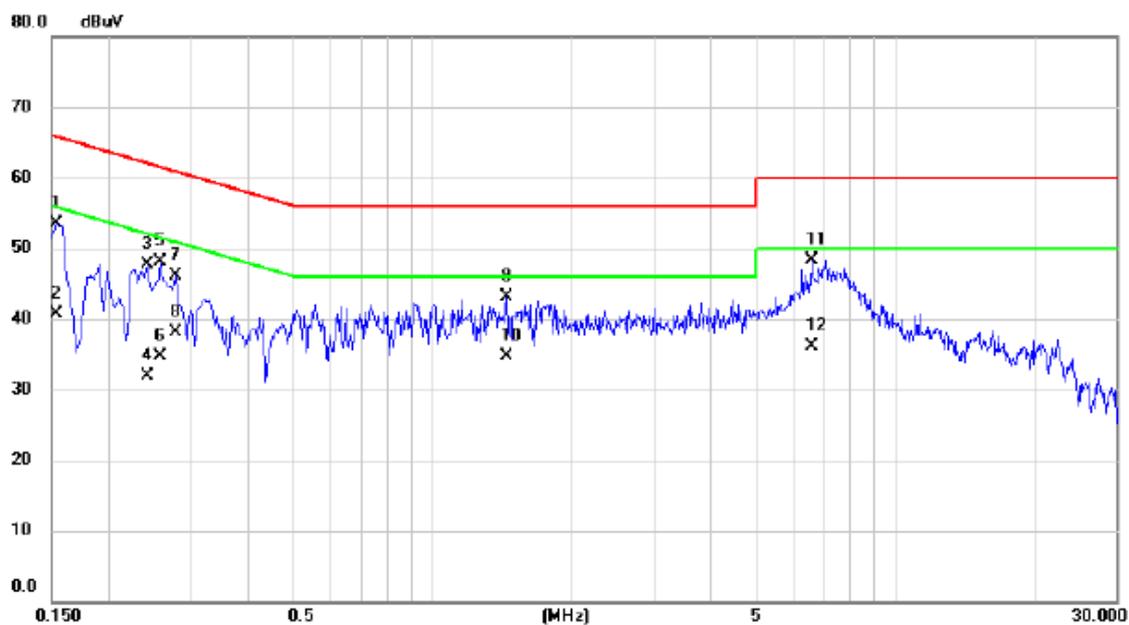
### Line



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	dBuV	Factor	ment	dBuV	dB	Detector	Comment
1		0.1500	45.29	9.52	54.81	66.00	-11.19	QP	
2		0.1500	28.20	9.52	37.72	56.00	-18.28	AVG	
3		0.1580	45.16	9.52	54.68	65.57	-10.89	QP	
4		0.1580	32.10	9.52	41.62	55.57	-13.95	AVG	
5		0.1860	39.89	9.53	49.42	64.21	-14.79	QP	
6		0.1860	23.20	9.53	32.73	54.21	-21.48	AVG	
7		0.2380	39.64	9.53	49.17	62.17	-13.00	QP	
8		0.2380	26.20	9.53	35.73	52.17	-16.44	AVG	
9		1.7380	34.50	9.88	44.38	56.00	-11.62	QP	
10		1.7380	23.10	9.88	32.98	46.00	-13.02	AVG	
11	*	7.6260	40.55	10.17	50.72	60.00	-9.28	QP	
12		7.6260	29.10	10.17	39.27	50.00	-10.73	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

### Neutral

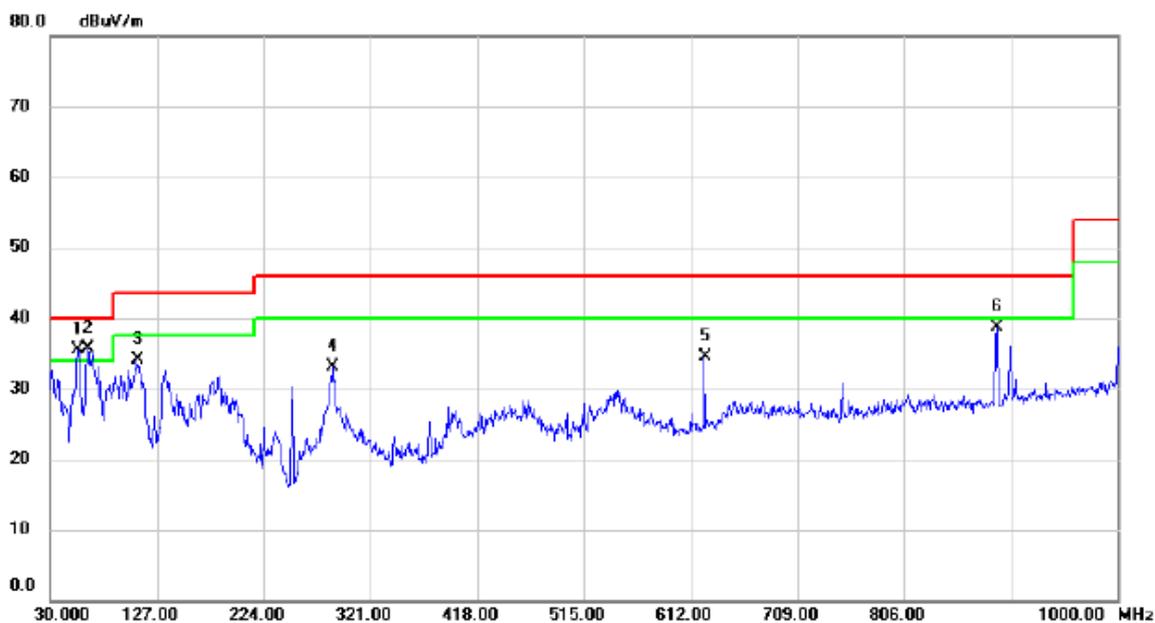


No.	Mk.	Freq.	Reading	Correct	Measurement	Limit	Margin		
		MHz	dBuV	Factor	dBuV	dBuV	dB	Detector	Comment
1		0.1540	43.99	9.50	53.49	65.78	-12.29	QP	
2		0.1540	31.20	9.50	40.70	55.78	-15.08	AVG	
3		0.2420	38.09	9.53	47.62	62.03	-14.41	QP	
4		0.2420	22.30	9.53	31.83	52.03	-20.20	AVG	
5		0.2580	38.49	9.53	48.02	61.50	-13.48	QP	
6		0.2580	25.10	9.53	34.63	51.50	-16.87	AVG	
7		0.2780	36.65	9.53	46.18	60.88	-14.70	QP	
8		0.2780	28.50	9.53	38.03	50.88	-12.85	AVG	
9		1.4420	33.46	9.67	43.13	56.00	-12.87	QP	
10	*	1.4420	25.10	9.67	34.77	46.00	-11.23	AVG	
11		6.5740	38.30	9.96	48.26	60.00	-11.74	QP	
12		6.5740	26.20	9.96	36.16	50.00	-13.84	AVG	

## **ATTACHMENT B - RADIATED EMISSION (30MHZ TO 1000MHZ)**

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

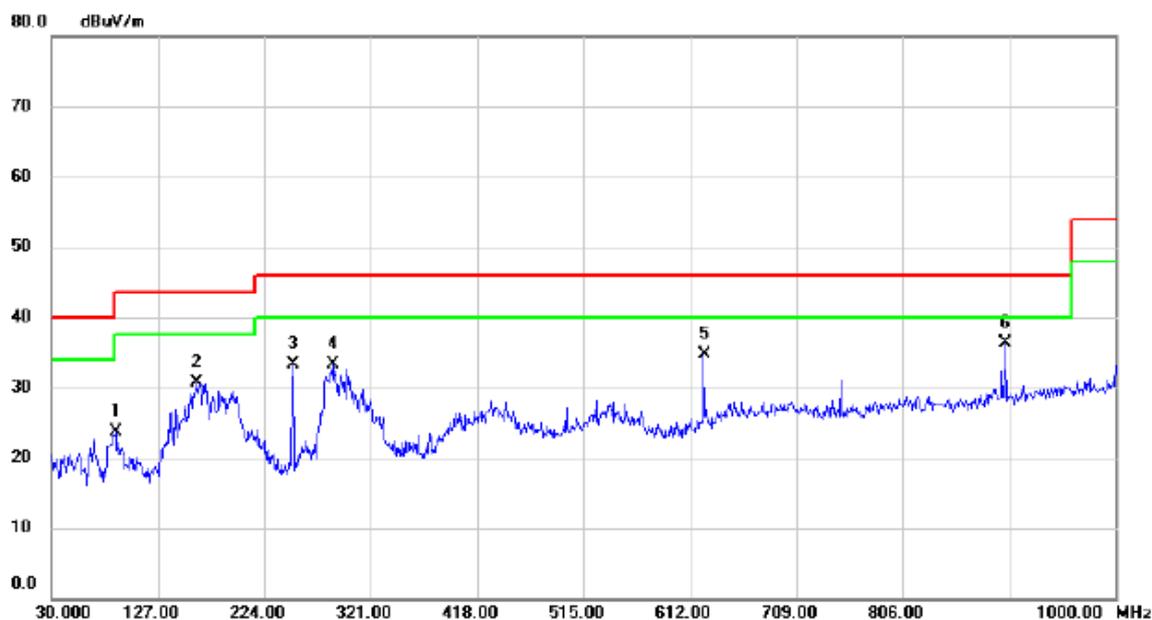
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	!	55.7050	35.48	0.00	35.48	40.00	-4.52	QP	
2	*	63.9500	35.64	0.00	35.64	40.00	-4.36	QP	
3		109.0550	34.05	0.00	34.05	43.50	-9.45	QP	
4		286.0800	33.08	0.00	33.08	46.00	-12.92	QP	
5		625.0950	34.41	0.00	34.41	46.00	-11.59	QP	
6		890.3900	38.72	0.00	38.72	46.00	-7.28	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

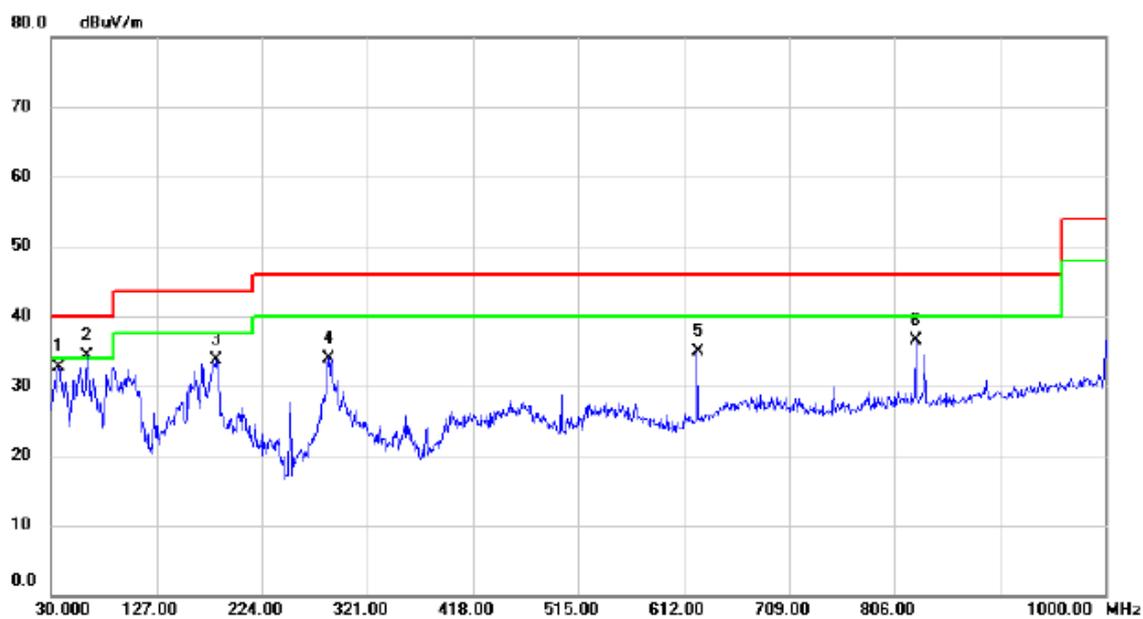
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		88.6850	23.79	0.00	23.79	43.50	-19.71	QP	
2		162.8900	30.61	0.00	30.61	43.50	-12.89	QP	
3		250.1900	33.36	0.00	33.36	46.00	-12.64	QP	
4		287.0500	33.34	0.00	33.34	46.00	-12.66	QP	
5		625.0950	34.64	0.00	34.64	46.00	-11.36	QP	
6	*	899.6050	36.30	0.00	36.30	46.00	-9.70	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

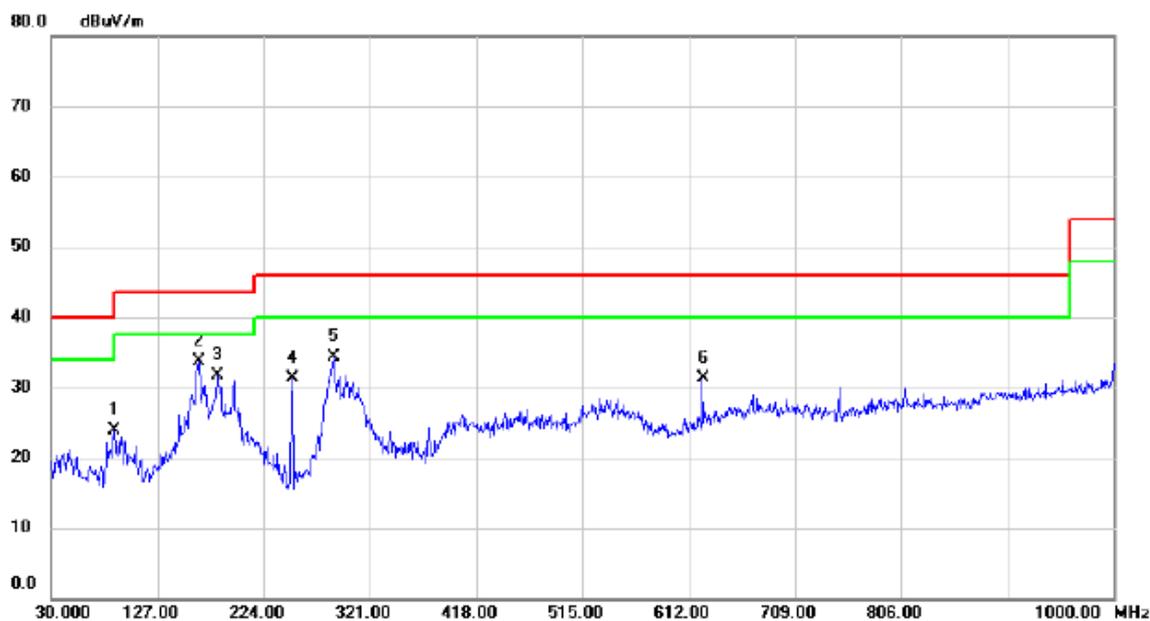
### Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		37.2750	32.64	0.00	32.64	40.00	-7.36	QP	
2	*	63.4650	34.37	0.00	34.37	40.00	-5.63	QP	
3		182.2900	33.62	0.00	33.62	43.50	-9.88	QP	
4		285.5950	34.00	0.00	34.00	46.00	-12.00	QP	
5		625.0950	34.81	0.00	34.81	46.00	-11.19	QP	
6		825.8850	36.41	0.00	36.41	46.00	-9.59	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

## Horizontal

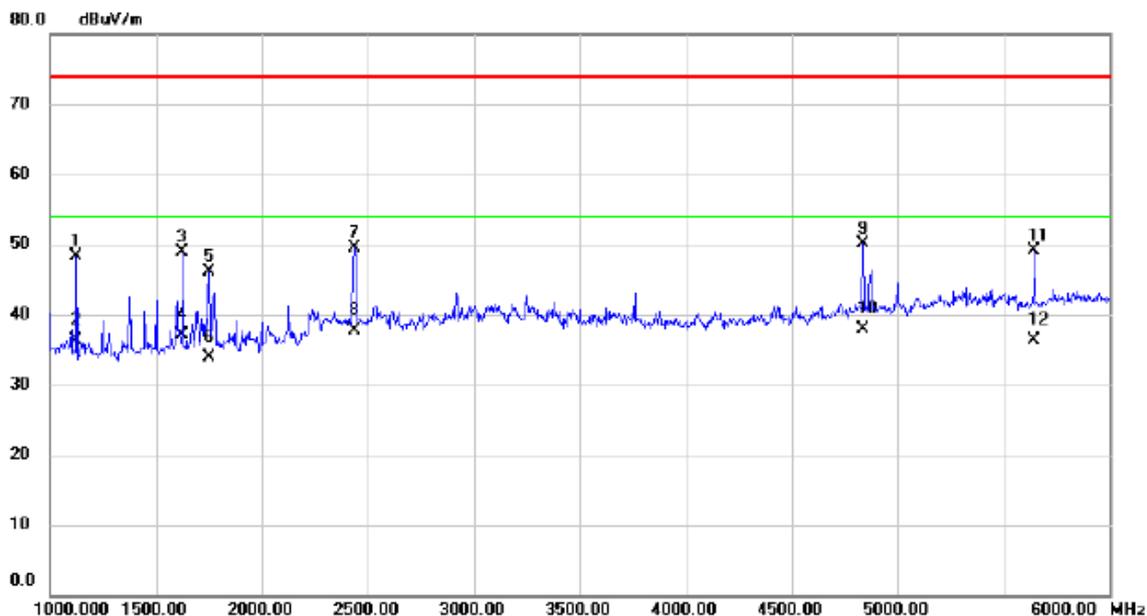


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		87.7150	23.92	0.00	23.92	40.00	-16.08	QP	
2	*	164.8300	33.79	0.00	33.79	43.50	-9.71	QP	
3		181.3200	31.69	0.00	31.69	43.50	-11.81	QP	
4		250.1900	31.35	0.00	31.35	46.00	-14.65	QP	
5		288.5050	34.23	0.00	34.23	46.00	-11.77	QP	
6		625.0950	31.26	0.00	31.26	46.00	-14.74	QP	

## **ATTACHMENT C - RADIATED EMISSION (ABOVE 1000MHZ)**

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

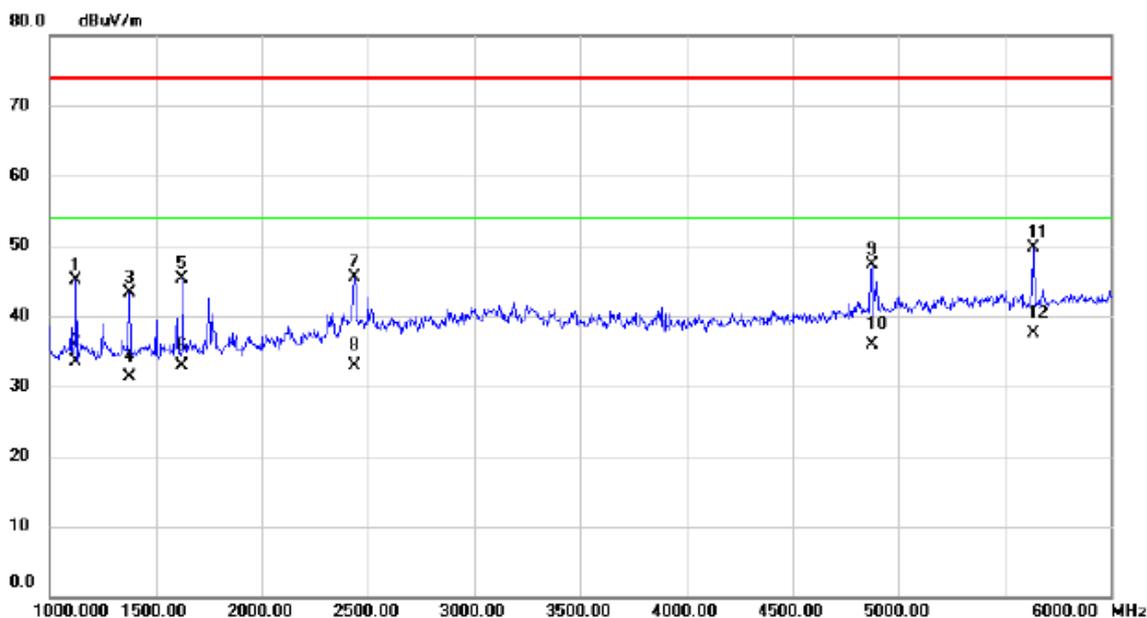
**Polarization: Vertical**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1125.000	56.17	-7.86	48.31	74.00	-25.69	peak	
2		1125.000	44.16	-7.86	36.30	54.00	-17.70	AVG	
3		1625.000	54.75	-5.90	48.85	74.00	-25.15	peak	
4		1625.000	42.99	-5.90	37.09	54.00	-16.91	AVG	
5		1750.000	51.11	-4.95	46.16	74.00	-27.84	peak	
6		1750.000	38.94	-4.95	33.99	54.00	-20.01	AVG	
7		2437.500	50.95	-1.45	49.50	74.00	-24.50	peak	
8		2437.500	39.07	-1.45	37.62	54.00	-16.38	AVG	
9		4835.000	45.38	4.74	50.12	74.00	-23.88	peak	
10	*	4835.000	33.20	4.74	37.94	54.00	-16.06	AVG	
11		5645.000	41.67	7.44	49.11	74.00	-24.89	peak	
12		5645.000	28.92	7.44	36.36	54.00	-17.64	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

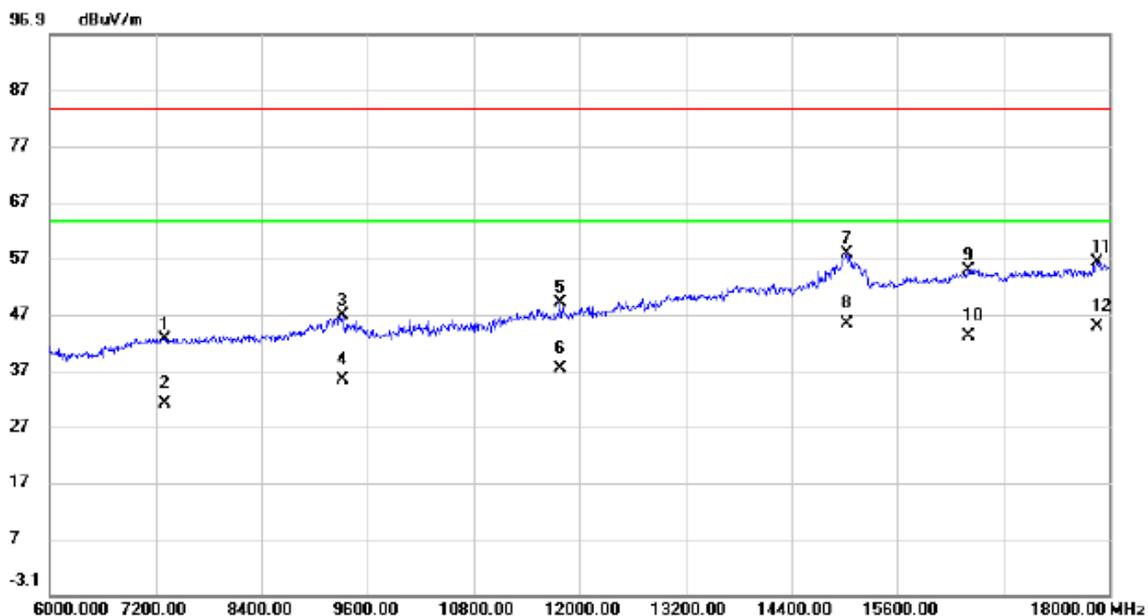
**Polarization: Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1125.000	53.00	-7.86	45.14	74.00	-28.86	peak	
2		1125.000	41.41	-7.86	33.55	54.00	-20.45	AVG	
3		1375.000	50.45	-7.21	43.24	74.00	-30.76	peak	
4		1375.000	38.59	-7.21	31.38	54.00	-22.62	AVG	
5		1625.000	51.11	-5.90	45.21	74.00	-28.79	peak	
6		1625.000	38.79	-5.90	32.89	54.00	-21.11	AVG	
7		2437.500	46.95	-1.45	45.50	74.00	-28.50	peak	
8		2437.500	34.43	-1.45	32.98	54.00	-21.02	AVG	
9		4875.000	42.42	4.89	47.31	74.00	-26.69	peak	
10		4875.000	31.08	4.89	35.97	54.00	-18.03	AVG	
11		5635.000	42.33	7.40	49.73	74.00	-24.27	peak	
12	*	5635.000	30.08	7.40	37.48	54.00	-16.52	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

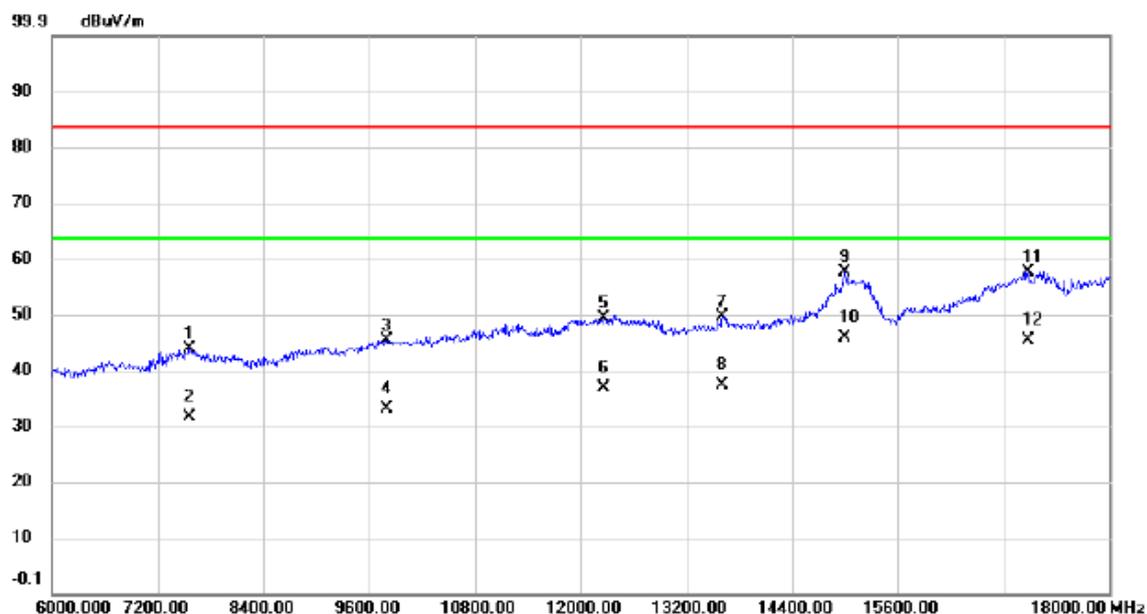
**Polarization: Vertical**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		7308.000	31.87	10.77	42.64	83.50	-40.86	peak	
2		7308.000	20.34	10.77	31.11	63.50	-32.39	AVG	
3		9312.000	34.20	12.47	46.67	83.50	-36.83	peak	
4		9312.000	22.71	12.47	35.18	63.50	-28.32	AVG	
5		11784.00	34.70	14.43	49.13	83.50	-34.37	peak	
6		11784.00	22.83	14.43	37.26	63.50	-26.24	AVG	
7		15024.00	41.13	16.62	57.75	83.50	-25.75	peak	
8	*	15024.00	28.64	16.62	45.26	63.50	-18.24	AVG	
9		16404.00	38.61	16.29	54.90	83.50	-28.60	peak	
10		16404.00	26.71	16.29	43.00	63.50	-20.50	AVG	
11		17868.00	35.20	21.17	56.37	83.50	-27.13	peak	
12		17868.00	23.52	21.17	44.69	63.50	-18.81	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

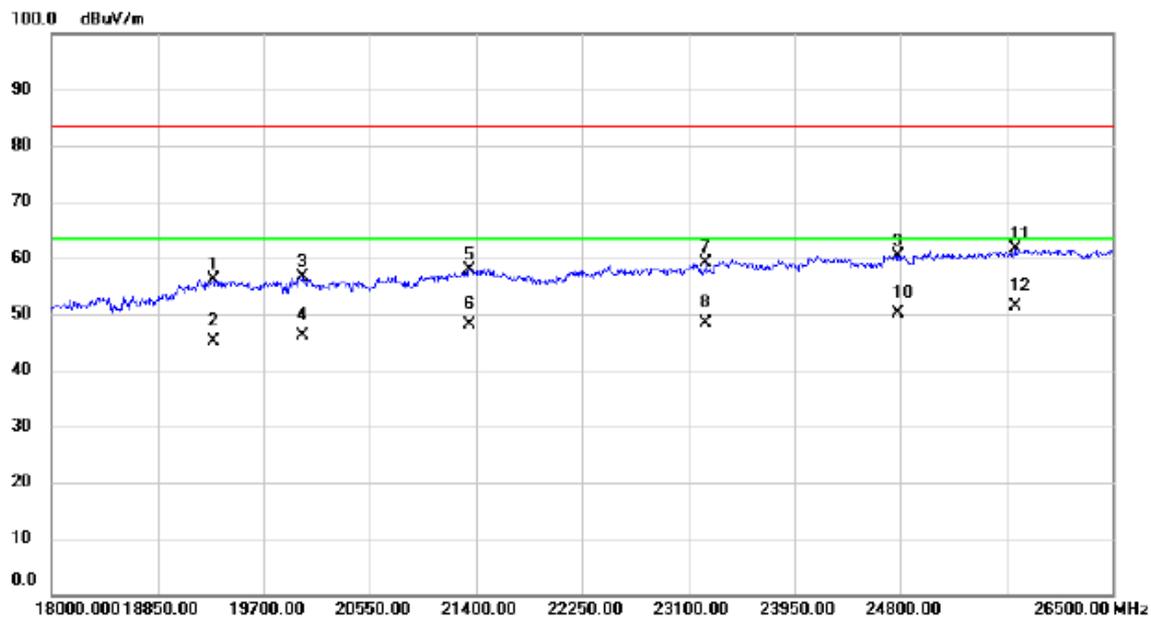
**Polarization: Horizontal**



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	7560.000	32.82	11.06	43.88	83.50	-39.62	peak	
2	7560.000	20.53	11.06	31.59	63.50	-31.91	AVG	
3	9792.000	32.23	13.16	45.39	83.50	-38.11	peak	
4	9792.000	19.79	13.16	32.95	63.50	-30.55	AVG	
5	12264.00	34.51	14.78	49.29	83.50	-34.21	peak	
6	12264.00	22.03	14.78	36.81	63.50	-26.69	AVG	
7	13608.00	31.09	18.45	49.54	83.50	-33.96	peak	
8	13608.00	18.93	18.45	37.38	63.50	-26.12	AVG	
9	15000.00	40.81	16.64	57.45	83.50	-26.05	peak	
10 *	15000.00	29.03	16.64	45.67	63.50	-17.83	AVG	
11	17076.00	38.61	19.01	57.62	83.50	-25.88	peak	
12	17076.00	26.29	19.01	45.30	63.50	-18.20	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

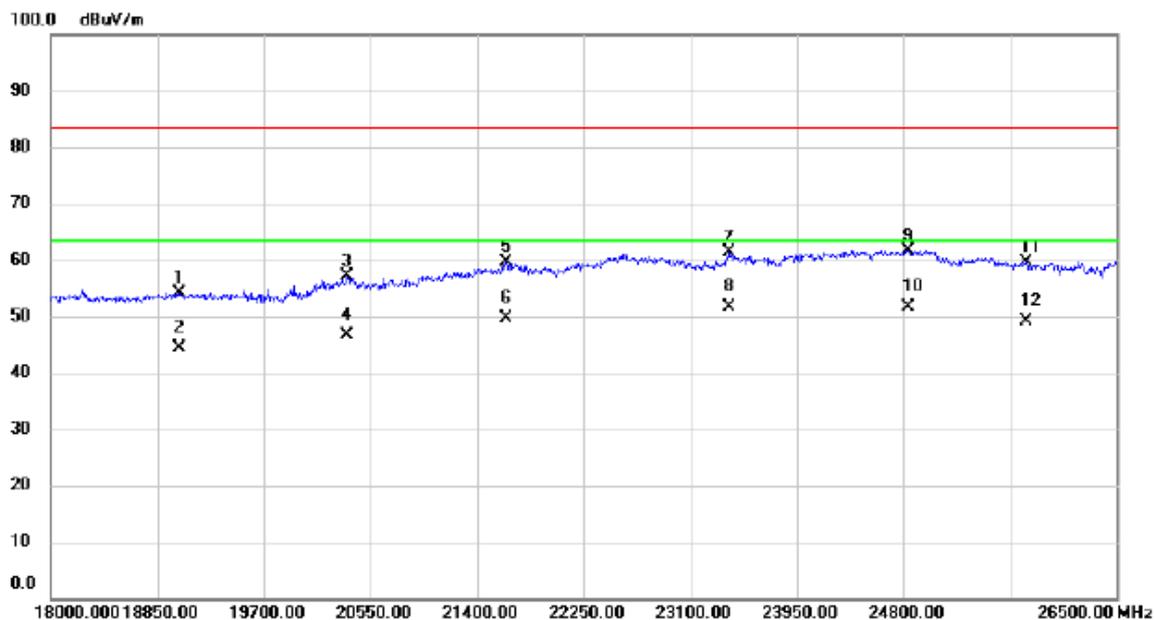
**Polarization: Vertical**



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	19292.00	39.42	16.82	56.24	83.50	-27.26	peak	
2	19292.00	28.40	16.82	45.22	63.50	-18.28	AVG	
3	20014.50	40.70	15.81	56.51	83.50	-26.99	peak	
4	20014.50	30.43	15.81	46.24	63.50	-17.26	AVG	
5	21349.00	39.55	18.23	57.78	83.50	-25.72	peak	
6	21349.00	29.83	18.23	48.06	63.50	-15.44	AVG	
7	23244.50	39.25	19.76	59.01	83.50	-24.49	peak	
8	23244.50	28.72	19.76	48.48	63.50	-15.02	AVG	
9	24783.00	39.64	20.80	60.44	83.50	-23.06	peak	
10	24783.00	29.29	20.80	50.09	63.50	-13.41	AVG	
11	25726.50	40.60	20.98	61.58	83.50	-21.92	peak	
12 *	25726.50	30.47	20.98	51.45	63.50	-12.05	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

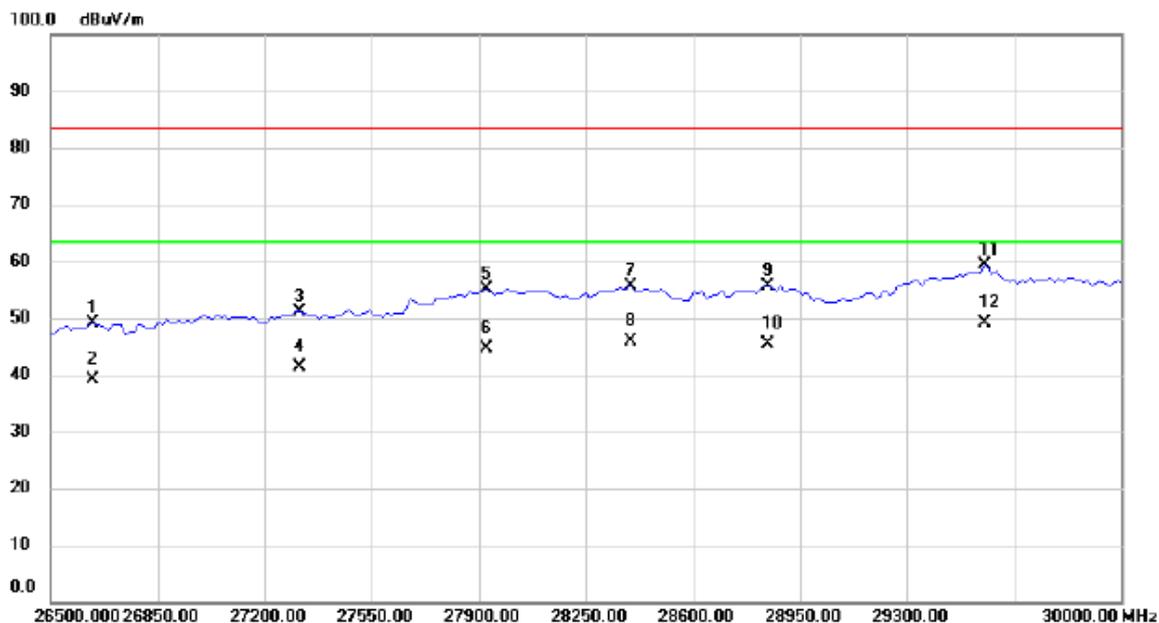
**Polarization: Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		19020.00	37.46	16.58	54.04	83.50	-29.46	peak	
2		19020.00	27.69	16.58	44.27	63.50	-19.23	AVG	
3		20363.00	40.99	16.02	57.01	83.50	-26.49	peak	
4		20363.00	30.61	16.02	46.63	63.50	-16.87	AVG	
5		21629.50	40.95	18.63	59.58	83.50	-23.92	peak	
6		21629.50	31.04	18.63	49.67	63.50	-13.83	AVG	
7		23406.00	41.40	19.95	61.35	83.50	-22.15	peak	
8	*	23406.00	31.69	19.95	51.64	63.50	-11.86	AVG	
9		24834.00	40.75	20.97	61.72	83.50	-21.78	peak	
10		24834.00	30.62	20.97	51.59	63.50	-11.91	AVG	
11		25777.50	38.76	20.90	59.66	83.50	-23.84	peak	
12		25777.50	28.16	20.90	49.06	63.50	-14.44	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

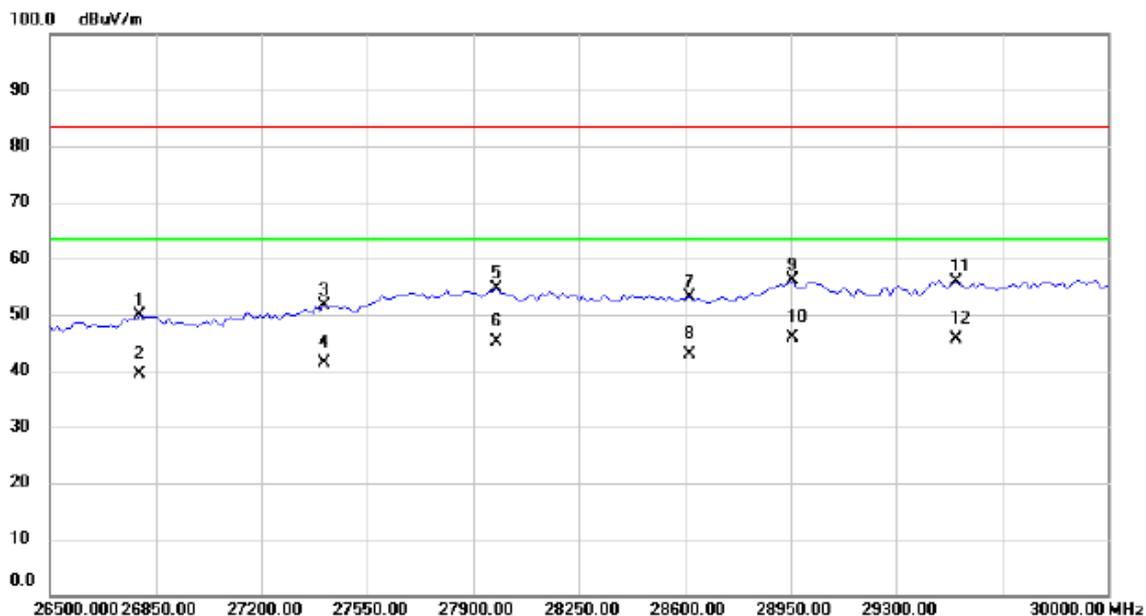
**Polarization: Vertical**



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	26635.65	45.32	3.84	49.16	83.50	-34.34	peak	
2	26635.65	35.38	3.84	39.22	63.50	-24.28	AVG	
3	27313.95	48.01	3.18	51.19	83.50	-32.31	peak	
4	27313.95	38.30	3.18	41.48	63.50	-22.02	AVG	
5	27924.41	50.94	4.14	55.08	83.50	-28.42	peak	
6	27924.41	40.48	4.14	44.62	63.50	-18.88	AVG	
7	28399.22	50.85	4.82	55.67	83.50	-27.83	peak	
8	28399.22	41.18	4.82	46.00	63.50	-17.50	AVG	
9	28846.89	50.36	5.36	55.72	83.50	-27.78	peak	
10	28846.89	40.02	5.36	45.38	63.50	-18.12	AVG	
11	29552.32	53.20	6.12	59.32	83.50	-24.18	peak	
12 *	29552.32	43.03	6.12	49.15	63.50	-14.35	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(Adapter)

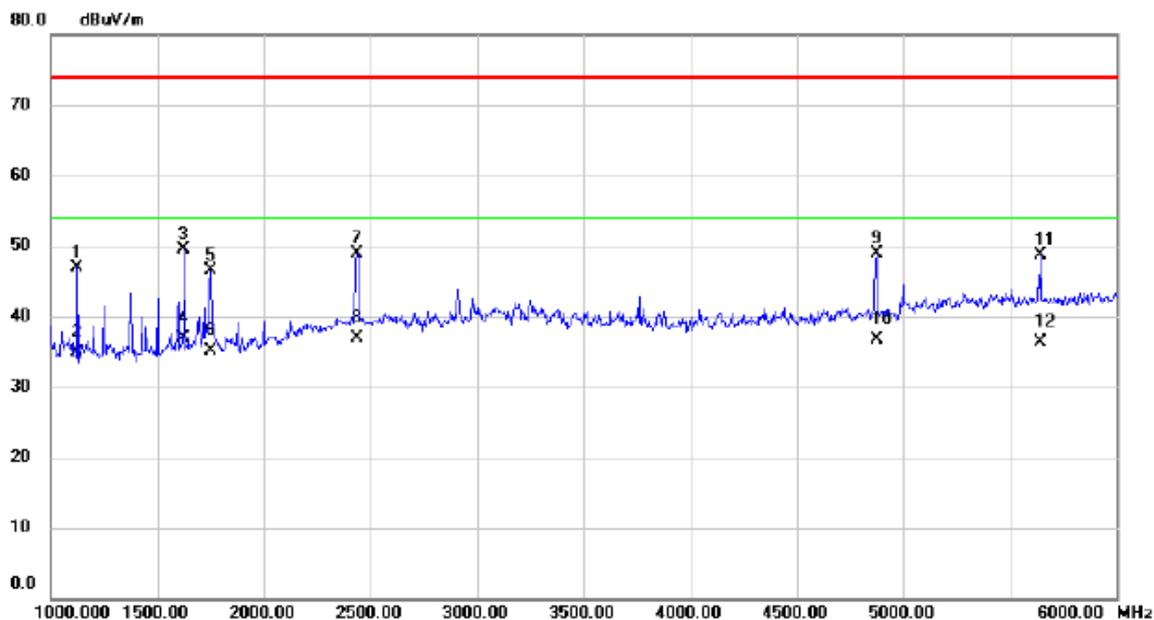
**Polarization: Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		26798.44	45.90	3.97	49.87	83.50	-33.63	peak	
2		26798.44	35.45	3.97	39.42	63.50	-24.08	AVG	
3		27408.91	48.80	2.90	51.70	83.50	-31.80	peak	
4		27408.91	38.47	2.90	41.37	63.50	-22.13	AVG	
5		27978.68	50.18	4.33	54.51	83.50	-28.99	peak	
6		27978.68	40.71	4.33	45.04	63.50	-18.46	AVG	
7		28616.27	48.06	5.07	53.13	83.50	-30.37	peak	
8		28616.27	37.79	5.07	42.86	63.50	-20.64	AVG	
9		28955.42	50.54	5.48	56.02	83.50	-27.48	peak	
10	*	28955.42	40.42	5.48	45.90	63.50	-17.60	AVG	
11		29498.06	49.84	5.96	55.80	83.50	-27.70	peak	
12		29498.06	39.61	5.96	45.57	63.50	-17.93	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

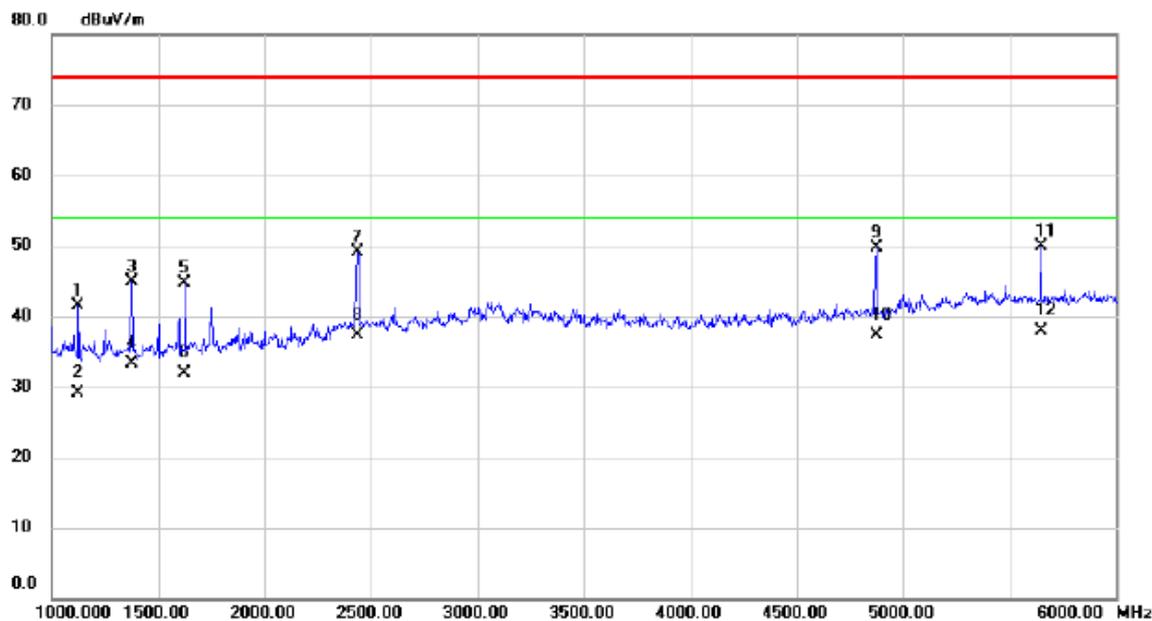
**Polarization: Vertical**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1125.000	54.76	-7.86	46.90	74.00	-27.10	peak	
2		1125.000	42.83	-7.86	34.97	54.00	-19.03	AVG	
3		1625.000	55.36	-5.90	49.46	74.00	-24.54	peak	
4	*	1625.000	42.81	-5.90	36.91	54.00	-17.09	AVG	
5		1750.000	51.40	-4.95	46.45	74.00	-27.55	peak	
6		1750.000	39.97	-4.95	35.02	54.00	-18.98	AVG	
7		2437.500	50.44	-1.45	48.99	74.00	-25.01	peak	
8		2437.500	38.28	-1.45	36.83	54.00	-17.17	AVG	
9		4875.000	43.94	4.89	48.83	74.00	-25.17	peak	
10		4875.000	31.79	4.89	36.68	54.00	-17.32	AVG	
11		5645.000	41.17	7.44	48.61	74.00	-25.39	peak	
12		5645.000	28.95	7.44	36.39	54.00	-17.61	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

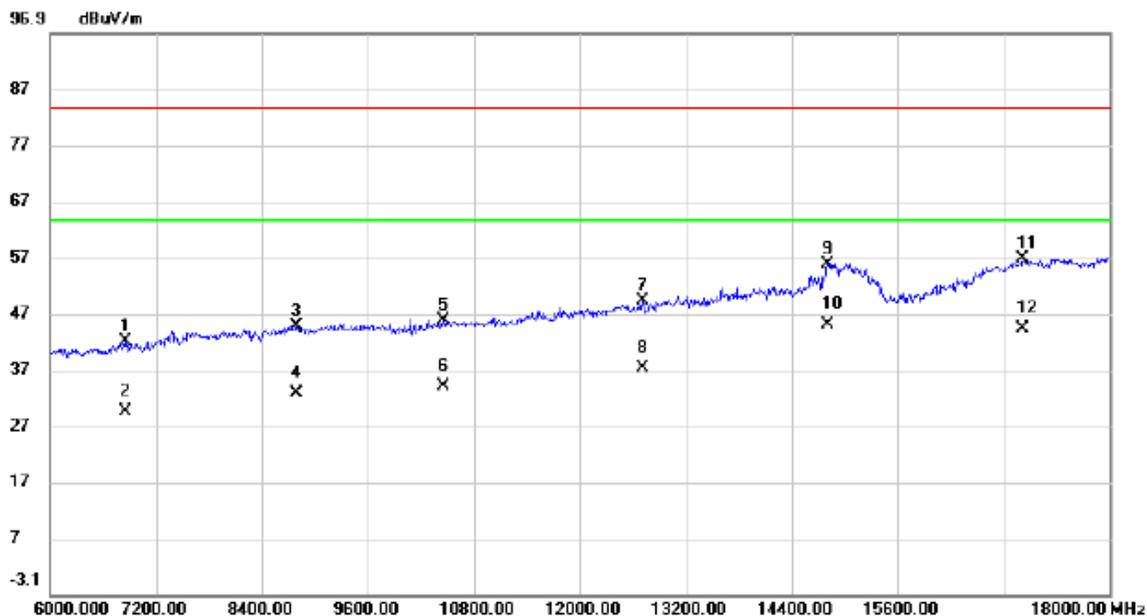
**Polarization: Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1125.000	49.33	-7.86	41.47	74.00	-32.53	peak	
2		1125.000	37.01	-7.86	29.15	54.00	-24.85	AVG	
3		1375.000	52.18	-7.21	44.97	74.00	-29.03	peak	
4		1375.000	40.57	-7.21	33.36	54.00	-20.64	AVG	
5		1625.000	50.59	-5.90	44.69	74.00	-29.31	peak	
6		1625.000	37.86	-5.90	31.96	54.00	-22.04	AVG	
7		2437.500	50.52	-1.45	49.07	74.00	-24.93	peak	
8		2437.500	38.69	-1.45	37.24	54.00	-16.76	AVG	
9		4875.000	44.78	4.89	49.67	74.00	-24.33	peak	
10		4875.000	32.33	4.89	37.22	54.00	-16.78	AVG	
11		5647.500	42.37	7.44	49.81	74.00	-24.19	peak	
12	*	5647.500	30.43	7.44	37.87	54.00	-16.13	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

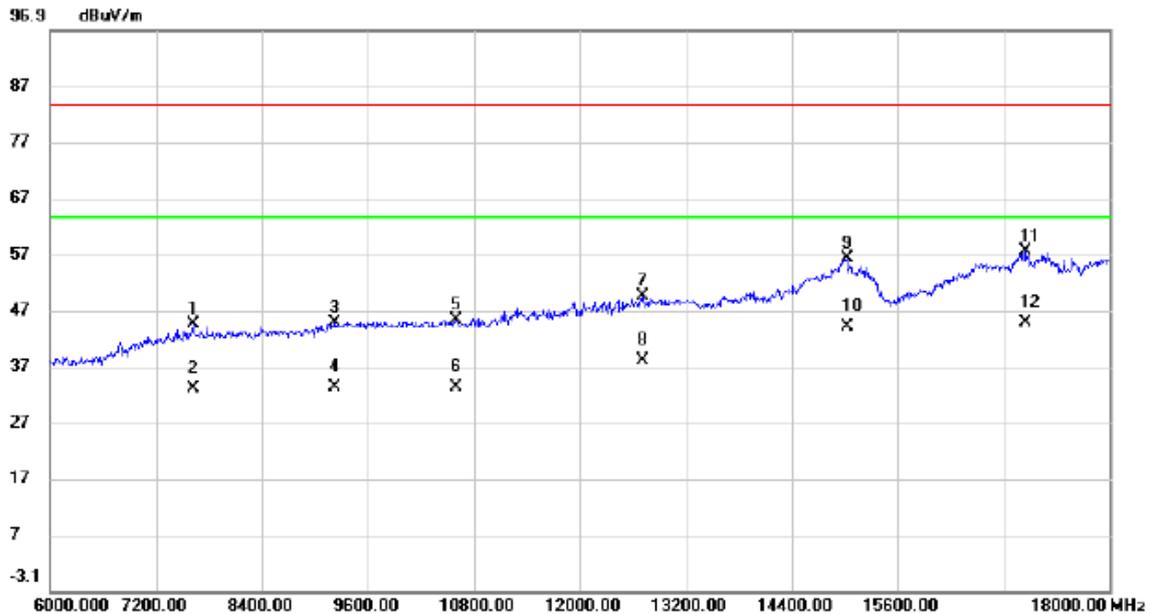
**Polarization: Vertical**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		6852.000	31.79	10.33	42.12	83.50	-41.38	peak	
2		6852.000	19.32	10.33	29.65	63.50	-33.85	AVG	
3		8784.000	32.72	12.06	44.78	83.50	-38.72	peak	
4		8784.000	20.61	12.06	32.67	63.50	-30.83	AVG	
5		10452.000	31.64	14.13	45.77	83.50	-37.73	peak	
6		10452.000	19.92	14.13	34.05	63.50	-29.45	AVG	
7		12708.000	33.50	15.71	49.21	83.50	-34.29	peak	
8		12708.000	21.57	15.71	37.28	63.50	-26.22	AVG	
9		14808.000	38.34	17.54	55.88	83.50	-27.62	peak	
10	*	14808.000	27.59	17.54	45.13	63.50	-18.37	AVG	
11		17016.000	37.90	18.79	56.69	83.50	-26.81	peak	
12		17016.000	25.47	18.79	44.26	63.50	-19.24	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

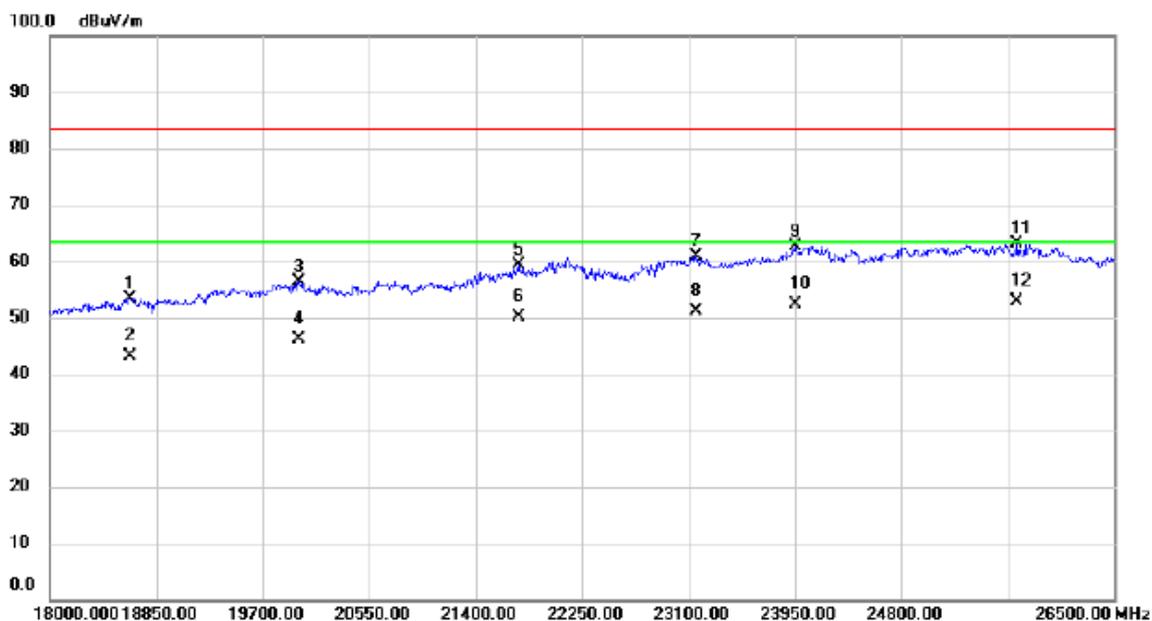
**Polarization: Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		7620.000	33.47	11.05	44.52	83.50	-38.98	peak	
2		7620.000	21.89	11.05	32.94	63.50	-30.56	AVG	
3		9216.000	32.43	12.36	44.79	83.50	-38.71	peak	
4		9216.000	20.90	12.36	33.26	63.50	-30.24	AVG	
5		10596.000	30.88	14.32	45.20	83.50	-38.30	peak	
6		10596.000	18.90	14.32	33.22	63.50	-30.28	AVG	
7		12708.000	33.87	15.71	49.58	83.50	-33.92	peak	
8		12708.000	22.34	15.71	38.05	63.50	-25.45	AVG	
9		15024.000	39.77	16.62	56.39	83.50	-27.11	peak	
10		15024.000	27.51	16.62	44.13	63.50	-19.37	AVG	
11		17040.000	38.63	18.88	57.51	83.50	-25.99	peak	
12	*	17040.000	25.90	18.88	44.78	63.50	-18.72	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

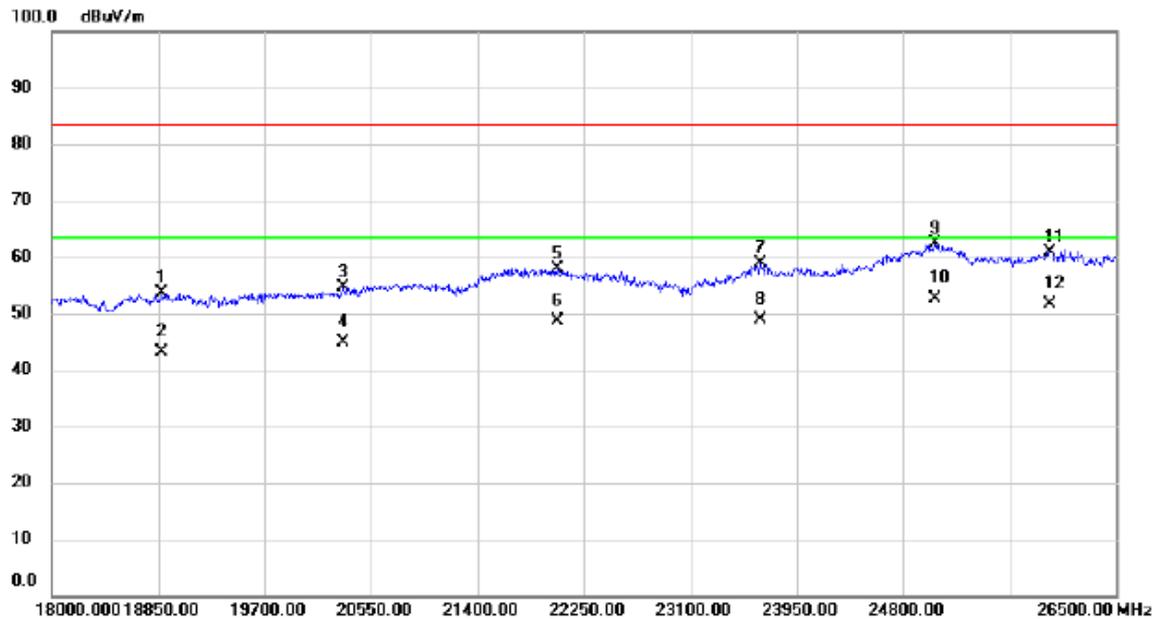
**Polarization: Vertical**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		18637.50	36.70	16.71	53.41	83.50	-30.09	peak	
2		18637.50	26.31	16.71	43.02	63.50	-20.48	AVG	
3		19989.00	40.65	15.82	56.47	83.50	-27.03	peak	
4		19989.00	30.21	15.82	46.03	63.50	-17.47	AVG	
5		21748.50	40.65	18.67	59.32	83.50	-24.18	peak	
6		21748.50	31.41	18.67	50.08	63.50	-13.42	AVG	
7		23159.50	41.31	19.64	60.95	83.50	-22.55	peak	
8		23159.50	31.42	19.64	51.06	63.50	-12.44	AVG	
9		23950.00	43.44	19.11	62.55	83.50	-20.95	peak	
10		23950.00	33.15	19.11	52.26	63.50	-11.24	AVG	
11		25726.50	42.10	20.98	63.08	83.50	-20.42	peak	
12	*	25726.50	31.89	20.98	52.87	63.50	-10.63	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

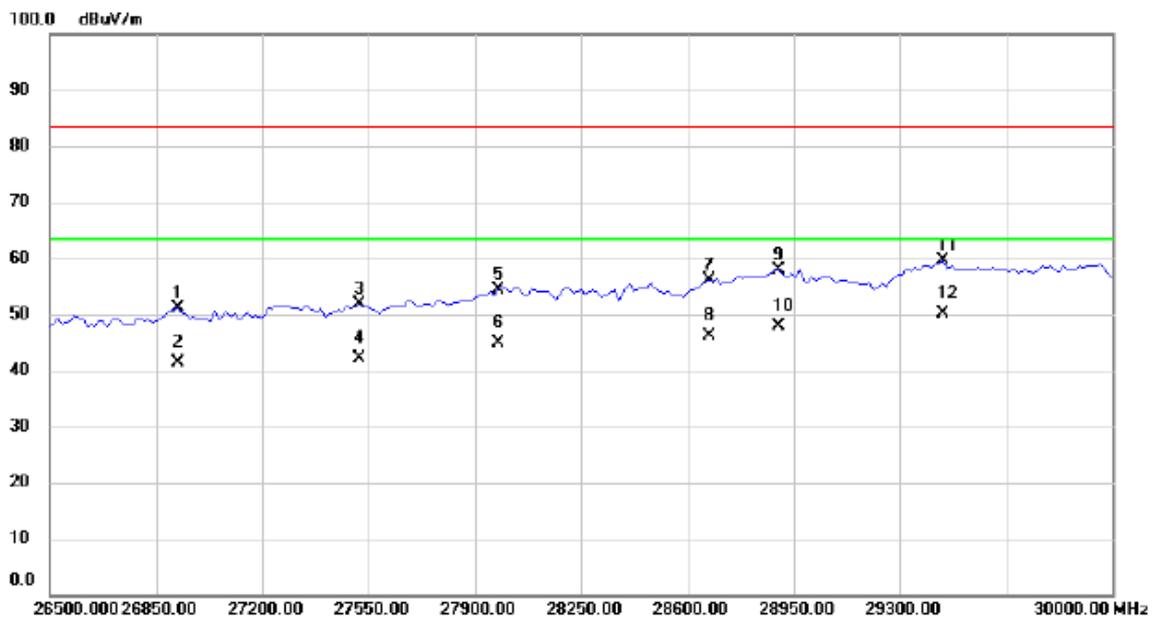
**Polarization: Horizontal**



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	18875.50	36.97	16.62	53.59	83.50	-29.91	peak	
2	18875.50	26.47	16.62	43.09	63.50	-20.41	AVG	
3	20329.00	38.55	16.01	54.56	83.50	-28.94	peak	
4	20329.00	28.77	16.01	44.78	63.50	-18.72	AVG	
5	22037.50	39.17	18.80	57.97	83.50	-25.53	peak	
6	22037.50	29.77	18.80	48.57	63.50	-14.93	AVG	
7	23661.00	39.13	19.73	58.86	83.50	-24.64	peak	
8	23661.00	29.09	19.73	48.82	63.50	-14.68	AVG	
9	25055.00	40.93	21.51	62.44	83.50	-21.06	peak	
10 *	25055.00	31.19	21.51	52.70	63.50	-10.80	AVG	
11	25973.00	40.41	20.58	60.99	83.50	-22.51	peak	
12	25973.00	31.05	20.58	51.63	63.50	-11.87	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

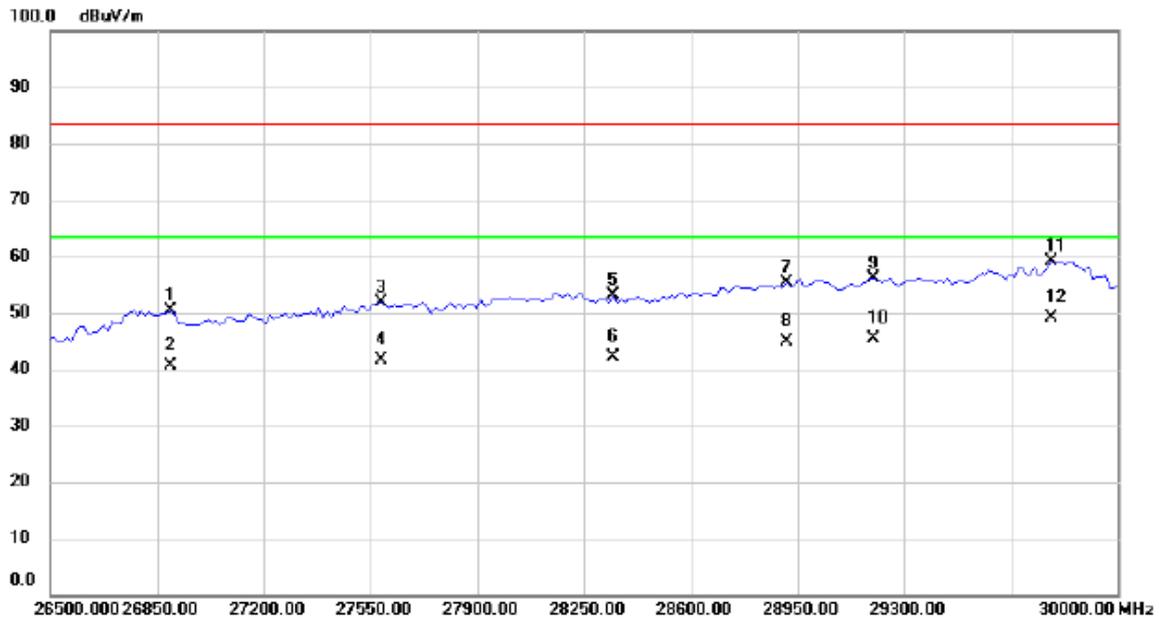
**Polarization: Vertical**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		26920.54	47.07	4.07	51.14	83.50	-32.36	peak	
2		26920.54	37.27	4.07	41.34	63.50	-22.16	AVG	
3		27517.44	49.14	2.68	51.82	83.50	-31.68	peak	
4		27517.44	39.38	2.68	42.06	63.50	-21.44	AVG	
5		27978.68	50.04	4.33	54.37	83.50	-29.13	peak	
6		27978.68	40.51	4.33	44.84	63.50	-18.66	AVG	
7		28670.54	50.93	5.14	56.07	83.50	-27.43	peak	
8		28670.54	40.92	5.14	46.06	63.50	-17.44	AVG	
9		28901.16	52.58	5.42	58.00	83.50	-25.50	peak	
10		28901.16	42.47	5.42	47.89	63.50	-15.61	AVG	
11		29443.79	53.77	5.92	59.69	83.50	-23.81	peak	
12	*	29443.79	44.09	5.92	50.01	63.50	-13.49	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM(PoE Adapter)

**Polarization: Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		26893.41	46.44	4.05	50.49	83.50	-33.01	peak	
2		26893.41	36.48	4.05	40.53	63.50	-22.97	AVG	
3		27585.27	48.92	2.92	51.84	83.50	-31.66	peak	
4		27585.27	38.80	2.92	41.72	63.50	-21.78	AVG	
5		28344.96	48.38	4.77	53.15	83.50	-30.35	peak	
6		28344.96	37.24	4.77	42.01	63.50	-21.49	AVG	
7		28914.72	50.01	5.44	55.45	83.50	-28.05	peak	
8		28914.72	39.46	5.44	44.90	63.50	-18.60	AVG	
9		29199.61	50.53	5.71	56.24	83.50	-27.26	peak	
10		29199.61	39.77	5.71	45.48	63.50	-18.02	AVG	
11		29782.94	52.35	6.88	59.23	83.50	-24.27	peak	
12	*	29782.94	42.24	6.88	49.12	63.50	-14.38	AVG	