FCC Test Report

FCC ID: QISAP4050DN-HD

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

Project No.	:	1605C043A
Equipment	:	Wireless LAN Access Point
Model Name	:	AP4050DN-HD
Applicant	:	Huawei Technologies Co.,Ltd.
Address	:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District Shenzhen China

Date of Receipt	:	May. 18, 2016
Date of Test	:	May. 18, 2016 ~ Jun. 22, 2016
Issued Date	:	Jun. 23, 2016
Tested by	:	BTL Inc.

Testing Engineer : _____
(Bill Zhang)

Technical Manager : _____
(James Chiu)

Authorized Signatory : _____
(Steven Lu)

BTL INC.

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Testing Laboratory 2640

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).

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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.

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCE-1-1605C043A	Original Issue.	Jun. 23, 2016

1. CERTIFICATION

Equipment	:	Wireless LAN Access Point
Brand Name	:	HUAWEI
Model Name	:	AP4050DN-HD
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. 18, 2016 ~ Jun. 22, 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-1-1605C043A) 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_{cispr} requirement.

The reported uncertainty of measurement **y** ± **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	HUAWEI
Model Name	AP4050DN-HD
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)

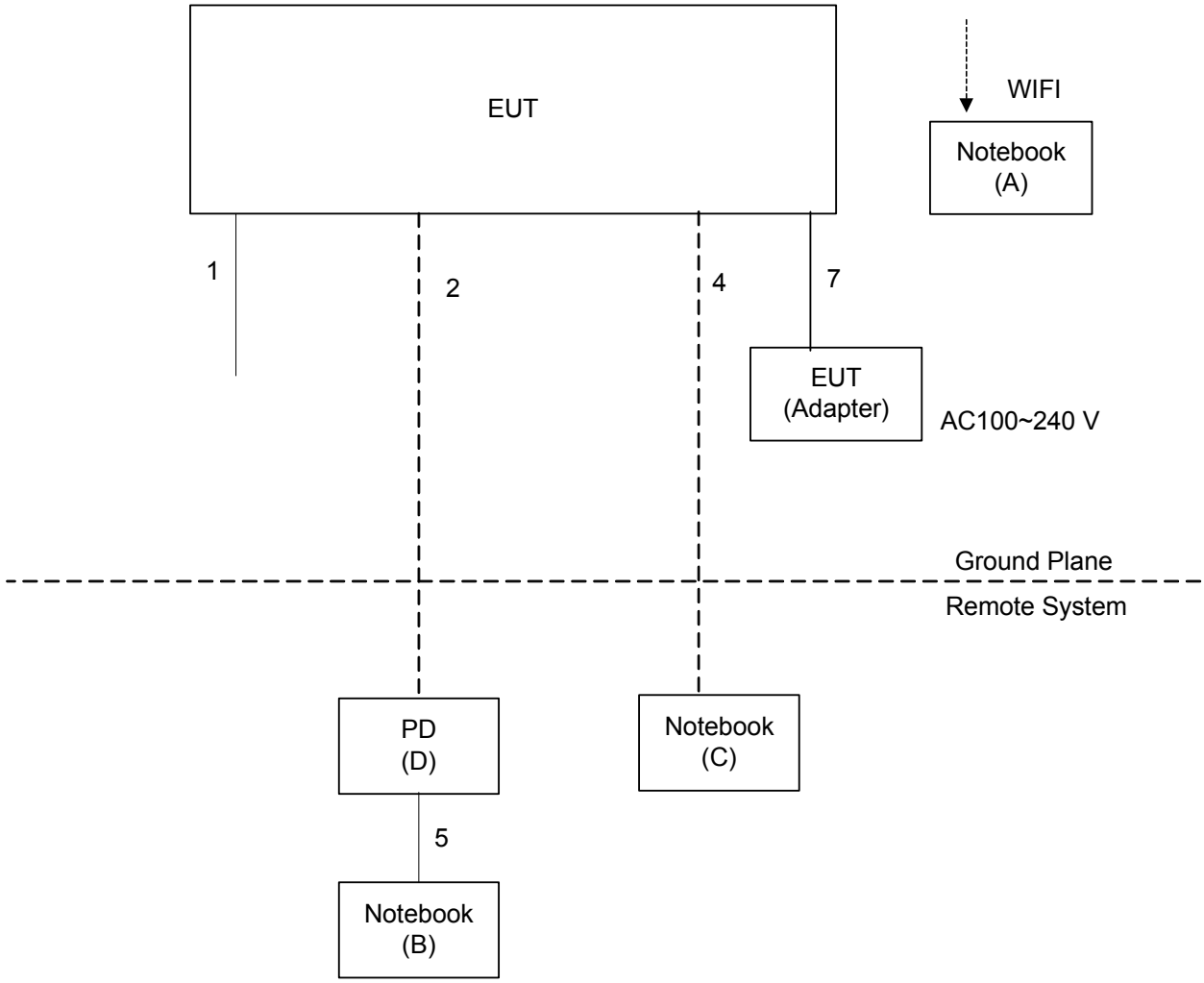
The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

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

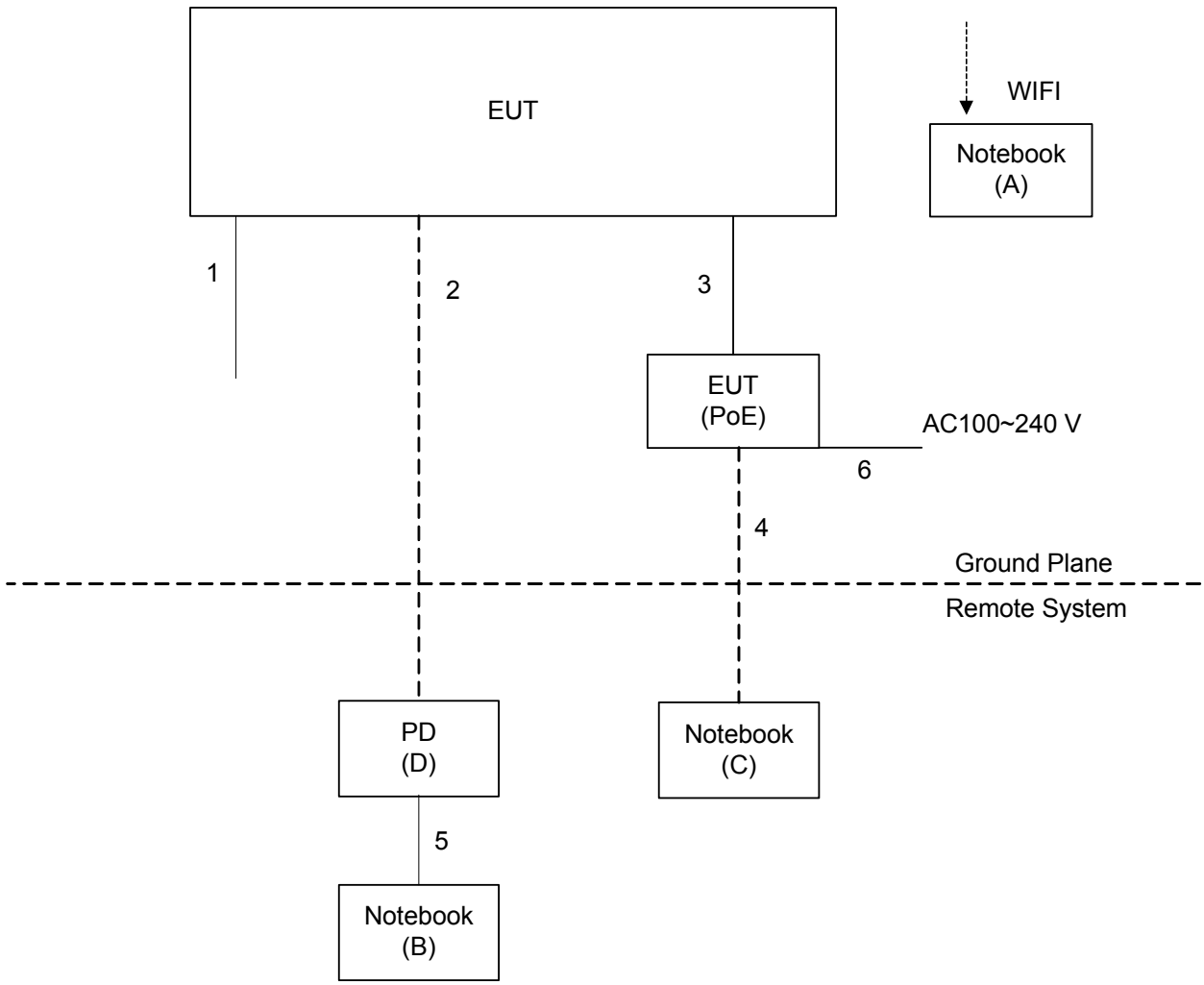
For Radiated Test	
Final Test Mode	Description
Mode 1	FULL SYSTEM(Adapter)
Mode 2	FULL SYSTEM(PoE Adapter)

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Mode 1



Mode 2


EUT
WIFI
Notebook
(A)
1
2
3
EUT
(PoE)
AC100~240 V
6
4
Ground Plane
Remote System
PD
(D)
Notebook
(C)
5
Notebook
(B)

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	Notebook	hp	hstnn-169c-3	DOC	CNU02203XG
B	Notebook	Lenovo	E445	DOC	MP-05Y56S
C	Notebook	Lenovo	E445	DOC	MP-05Y3X6
D	PD	N/A	N/A	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.8m	RS232 Cable
2	NO	NO	15m	RJ45 Cable
3	NO	NO	1.5m	RJ45 Cable
4	NO	NO	15m	RJ45 Cable
5	NO	NO	1.5m	RJ45 Cable
6	NO	NO	1.8m	AC Cable
7	NO	NO	1.5m	DC 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.

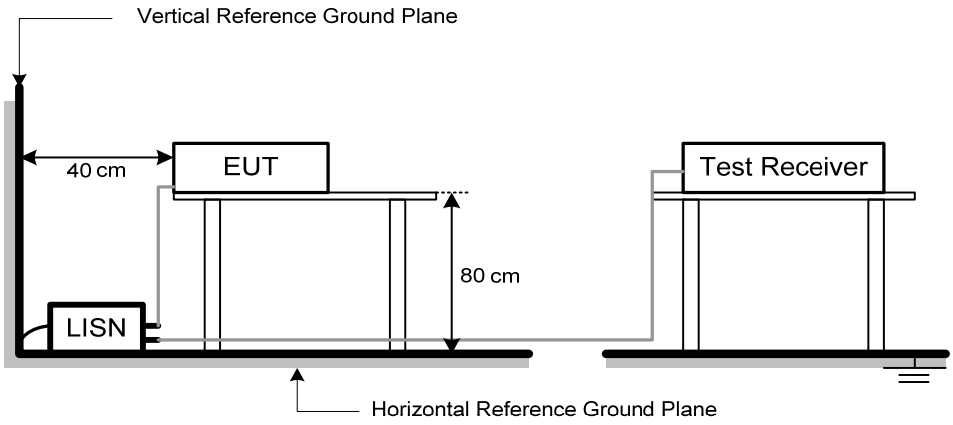
d. LISN at least 80 cm from nearest part of EUT chassis.

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	5th 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

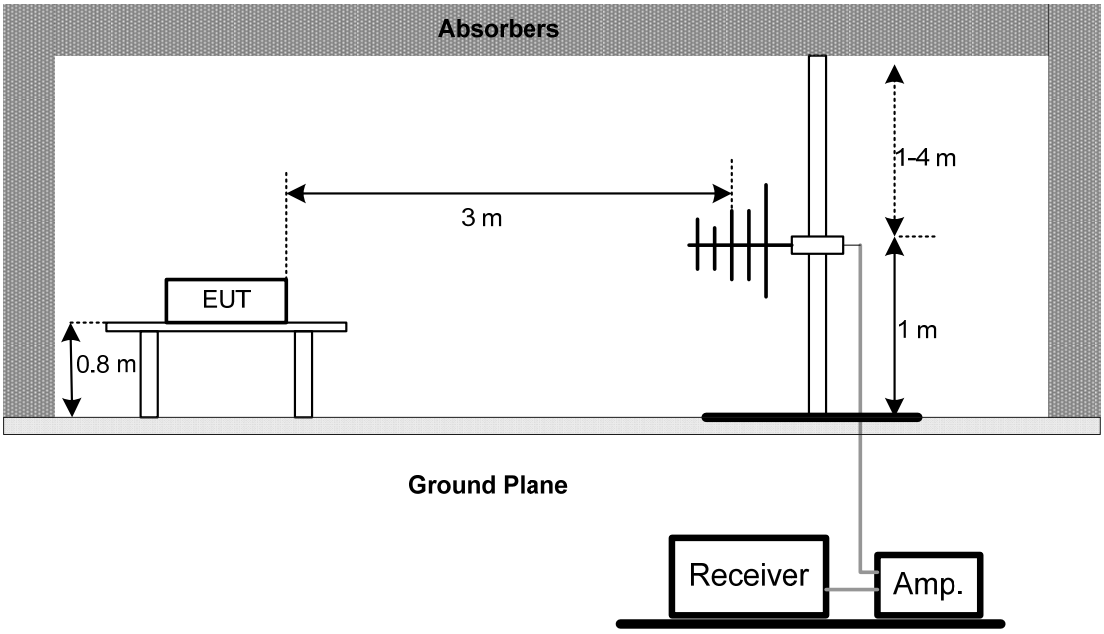
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
b. The measuring distance 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 3 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

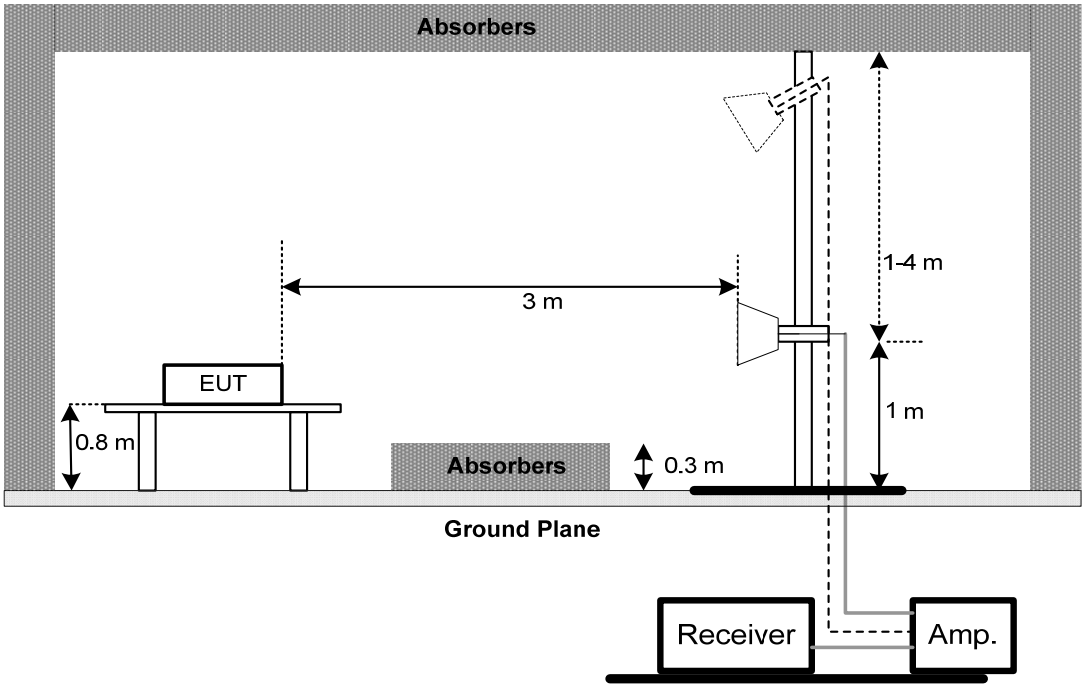
No deviation

4.2.4 TEST SETUP

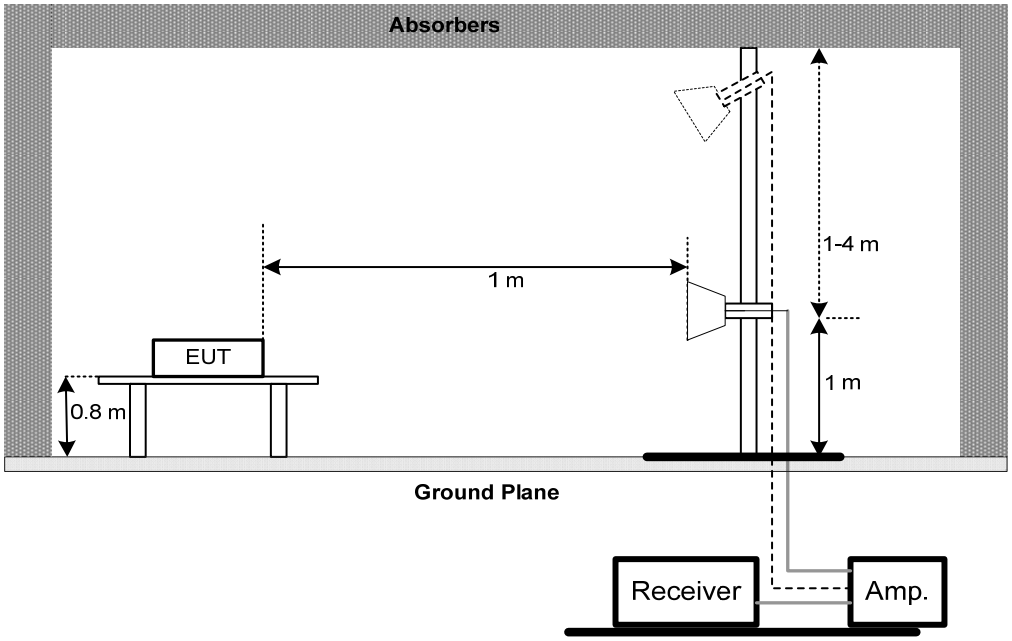
(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(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

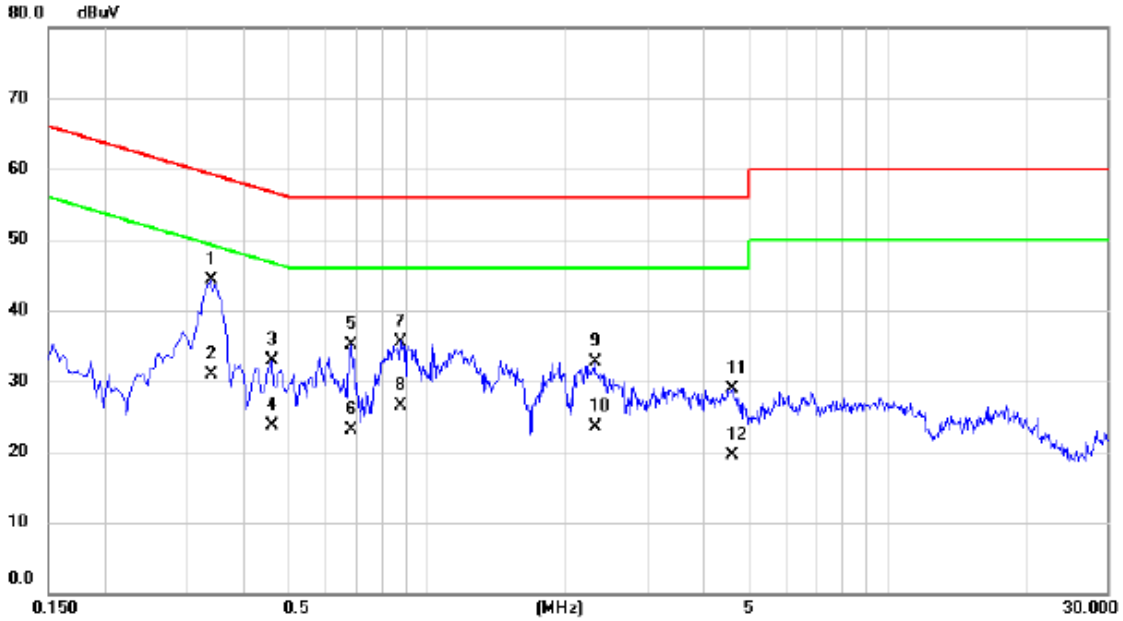
Radiated Emission					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 27, 2017
2	Amplifier	HP	8447D	2944A09673	Nov. 09, 2016
3	Receiver	AGILENT	N9038A	MY52130039	Oct. 11, 2016
4	Test Cable	emci	LMR-400(30MHz-1GHz)	C-01	Jun. 28, 2016
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)

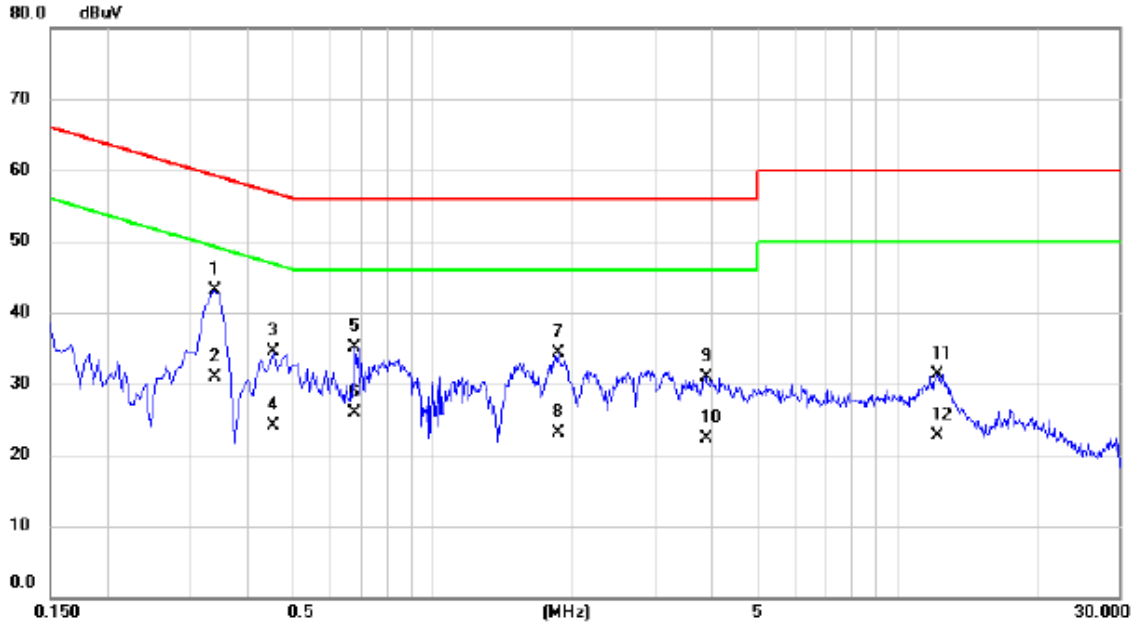
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.3380	34.82	9.53	44.35	59.25	-14.90	QP	
2		0.3380	21.40	9.53	30.93	49.25	-18.32	AVG	
3		0.4580	23.38	9.60	32.98	56.73	-23.75	QP	
4		0.4580	14.20	9.60	23.80	46.73	-22.93	AVG	
5		0.6820	25.39	9.65	35.04	56.00	-20.96	QP	
6		0.6820	13.50	9.65	23.15	46.00	-22.85	AVG	
7		0.8740	25.85	9.75	35.60	56.00	-20.40	QP	
8		0.8740	16.80	9.75	26.55	46.00	-19.45	AVG	
9		2.3100	22.63	10.01	32.64	56.00	-23.36	QP	
10		2.3100	13.50	10.01	23.51	46.00	-22.49	AVG	
11		4.5820	18.76	10.07	28.83	56.00	-27.17	QP	
12		4.5820	9.50	10.07	19.57	46.00	-26.43	AVG	

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

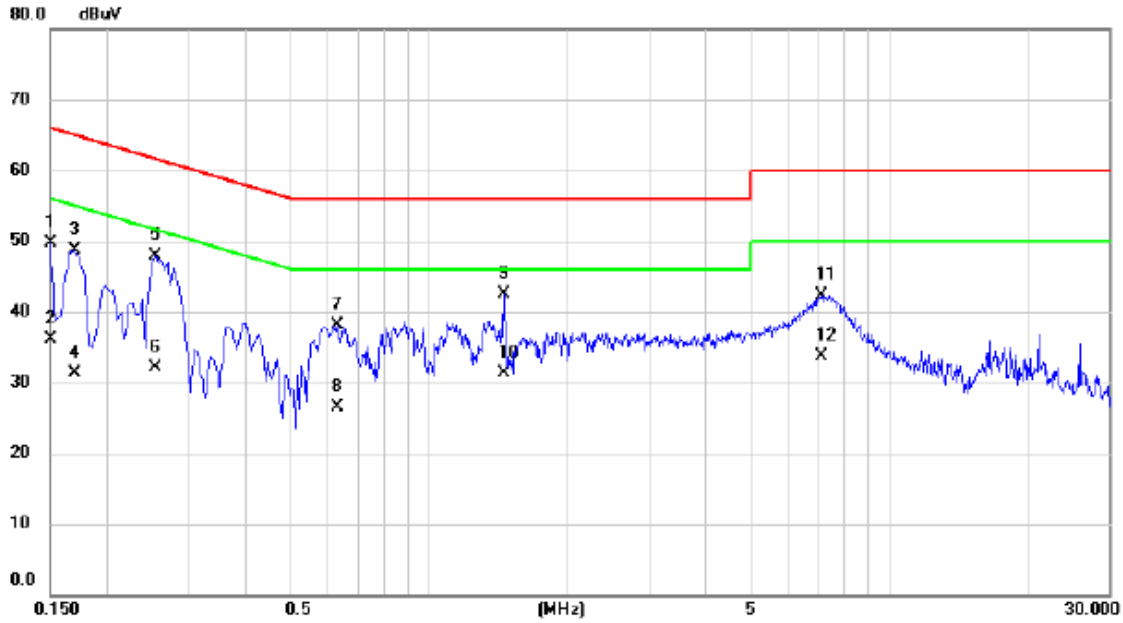
Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.3380	33.65	9.53	43.18	59.25	-16.07	QP	
2		0.3380	21.40	9.53	30.93	49.25	-18.32	AVG	
3		0.4540	25.03	9.44	34.47	56.80	-22.33	QP	
4		0.4540	14.70	9.44	24.14	46.80	-22.66	AVG	
5		0.6780	25.75	9.45	35.20	56.00	-20.80	QP	
6		0.6780	16.50	9.45	25.95	46.00	-20.05	AVG	
7		1.8620	24.56	9.69	34.25	56.00	-21.75	QP	
8		1.8620	13.50	9.69	23.19	46.00	-22.81	AVG	
9		3.8740	21.01	9.88	30.89	56.00	-25.11	QP	
10		3.8740	12.50	9.88	22.38	46.00	-23.62	AVG	
11		12.1740	20.91	10.33	31.24	60.00	-28.76	QP	
12		12.1740	12.40	10.33	22.73	50.00	-27.27	AVG	

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

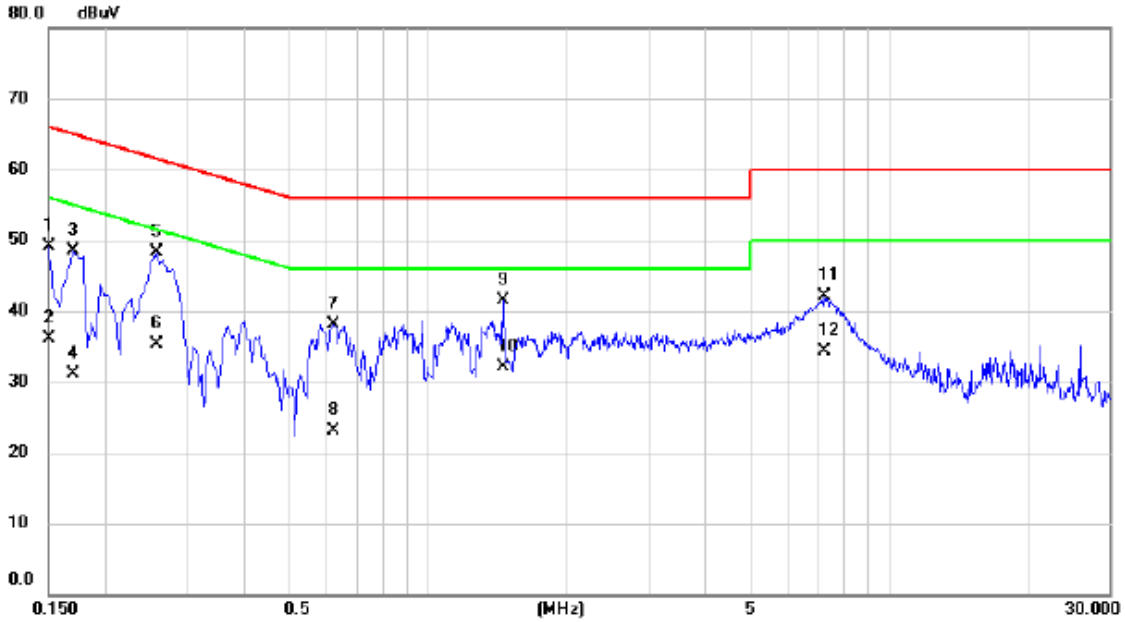
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	40.17	9.52	49.69	66.00	-16.31	QP	
2		0.1500	26.50	9.52	36.02	56.00	-19.98	AVG	
3		0.1700	39.15	9.52	48.67	64.96	-16.29	QP	
4		0.1700	21.70	9.52	31.22	54.96	-23.74	AVG	
5		0.2540	38.30	9.53	47.83	61.63	-13.80	QP	
6		0.2540	22.50	9.53	32.03	51.63	-19.60	AVG	
7		0.6300	28.56	9.64	38.20	56.00	-17.80	QP	
8		0.6300	16.80	9.64	26.44	46.00	-19.56	AVG	
9	*	1.4540	32.74	9.85	42.59	56.00	-13.41	QP	
10		1.4540	21.40	9.85	31.25	46.00	-14.75	AVG	
11		7.1260	32.14	10.15	42.29	60.00	-17.71	QP	
12		7.1260	23.50	10.15	33.65	50.00	-16.35	AVG	

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

Neutral

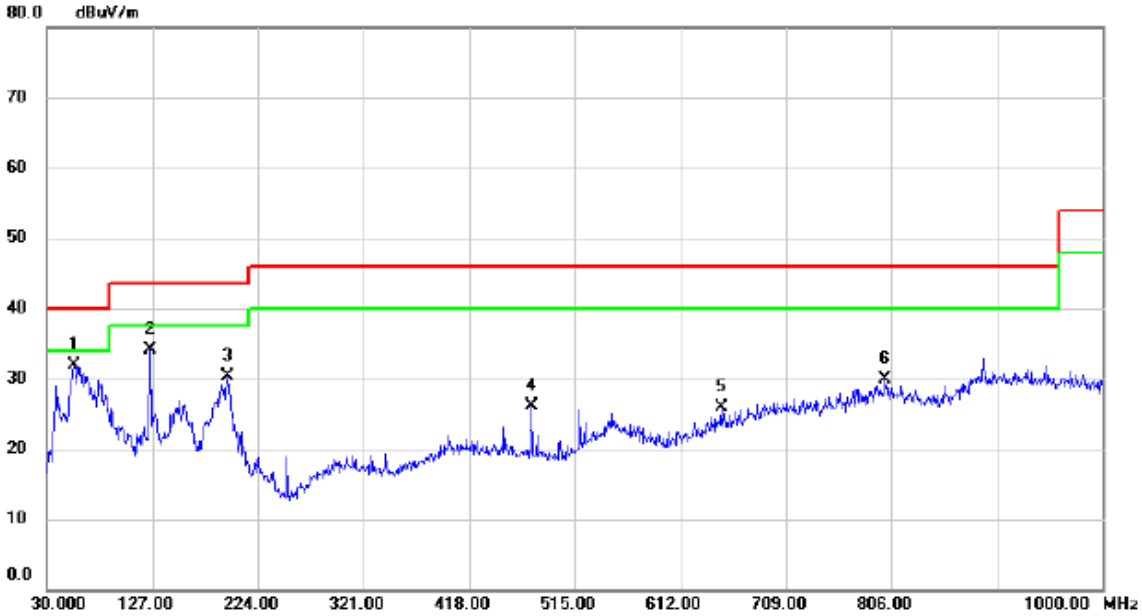


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1500	39.65	9.52	49.17	66.00	-16.83	QP	
2		0.1500	26.50	9.52	36.02	56.00	-19.98	AVG	
3		0.1700	39.15	9.42	48.57	64.96	-16.39	QP	
4		0.1700	21.70	9.42	31.12	54.96	-23.84	AVG	
5	*	0.2580	38.69	9.53	48.22	61.50	-13.28	QP	
6		0.2580	25.70	9.53	35.23	51.50	-16.27	AVG	
7		0.6220	28.71	9.44	38.15	56.00	-17.85	QP	
8		0.6220	13.60	9.44	23.04	46.00	-22.96	AVG	
9		1.4540	31.83	9.67	41.50	56.00	-14.50	QP	
10		1.4540	22.50	9.67	32.17	46.00	-13.83	AVG	
11		7.2020	32.20	9.98	42.18	60.00	-17.82	QP	
12		7.2020	24.40	9.98	34.38	50.00	-15.62	AVG	

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

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

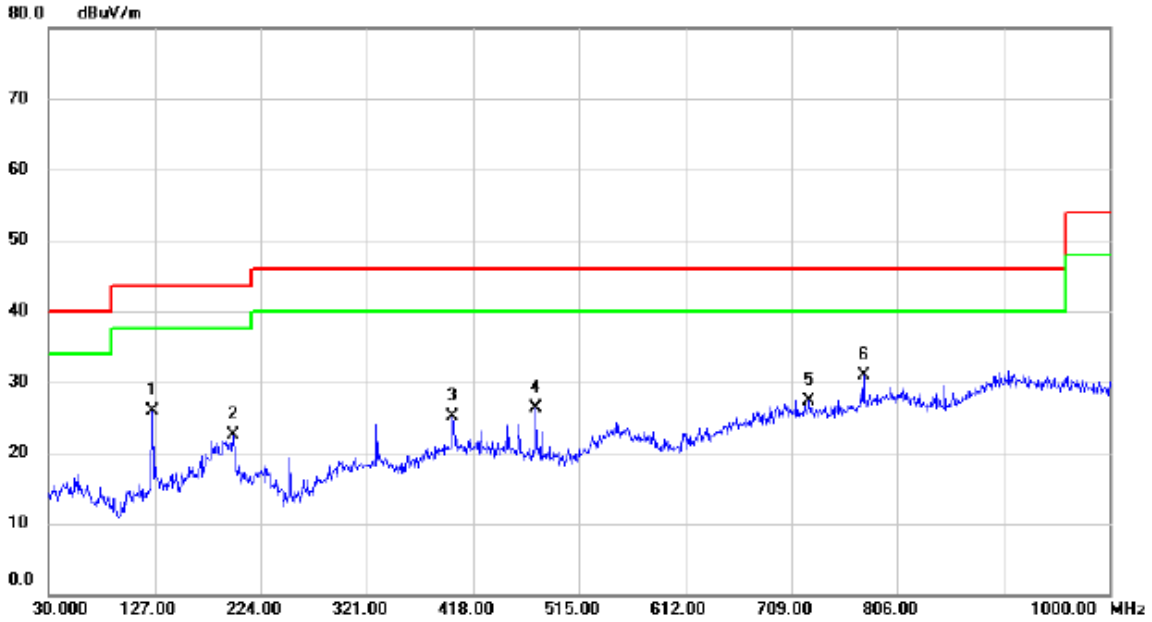
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	55.2200	45.22	-13.34	31.88	40.00	-8.12	QP	
2		125.0600	46.96	-12.89	34.07	43.50	-9.43	QP	
3		195.8700	44.57	-14.33	30.24	43.50	-13.26	QP	
4		475.2300	35.53	-9.48	26.05	46.00	-19.95	QP	
5		649.8300	31.01	-5.05	25.96	46.00	-20.04	QP	
6		800.1800	30.61	-0.75	29.86	46.00	-16.14	QP	

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

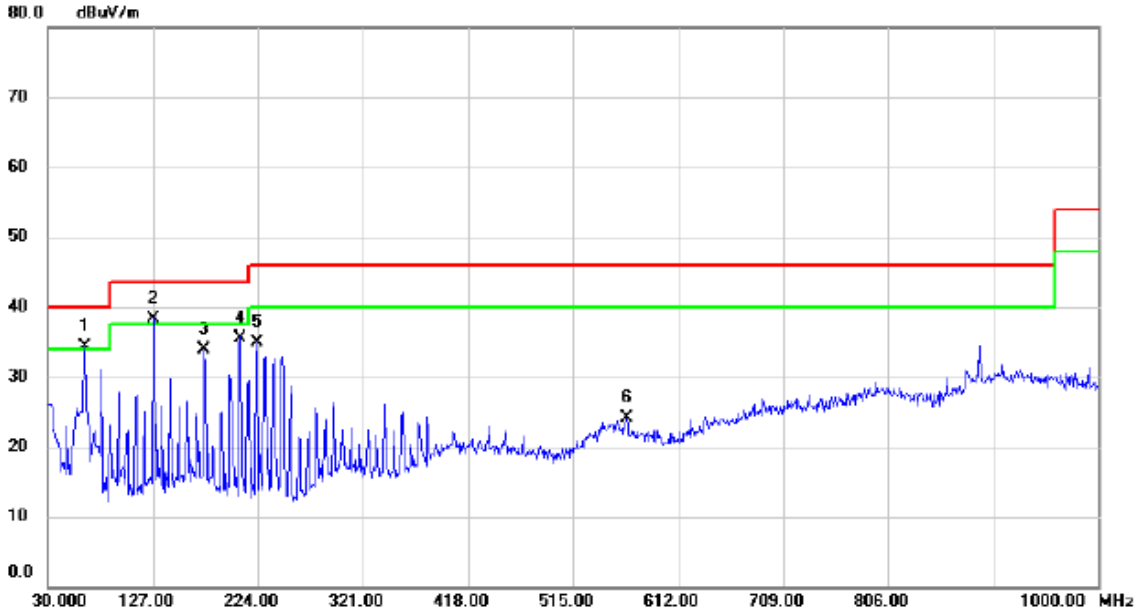
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		125.0600	38.70	-12.89	25.81	43.50	-17.69	QP	
2		198.7800	36.89	-14.48	22.41	43.50	-21.09	QP	
3		399.5700	33.39	-8.30	25.09	46.00	-20.91	QP	
4		475.2300	35.78	-9.48	26.30	46.00	-19.70	QP	
5		725.4900	30.27	-2.96	27.31	46.00	-18.69	QP	
6	*	774.9600	32.72	-1.84	30.88	46.00	-15.12	QP	

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

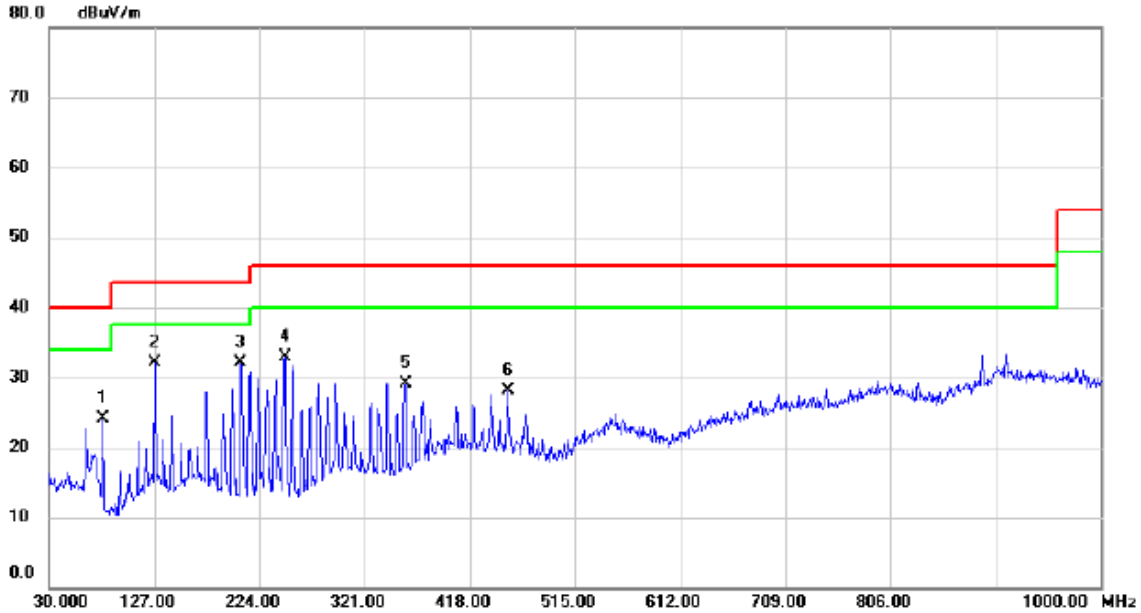
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	!	63.9500	49.11	-14.81	34.30	40.00	-5.70	QP	
2	*	127.0000	50.90	-12.68	38.22	43.50	-5.28	QP	
3		174.5300	46.42	-12.58	33.84	43.50	-9.66	QP	
4		207.5100	50.31	-14.71	35.60	43.50	-7.90	QP	
5		223.0300	49.05	-14.14	34.91	46.00	-11.09	QP	
6		564.4700	30.07	-6.03	24.04	46.00	-21.96	QP	

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

Horizontal

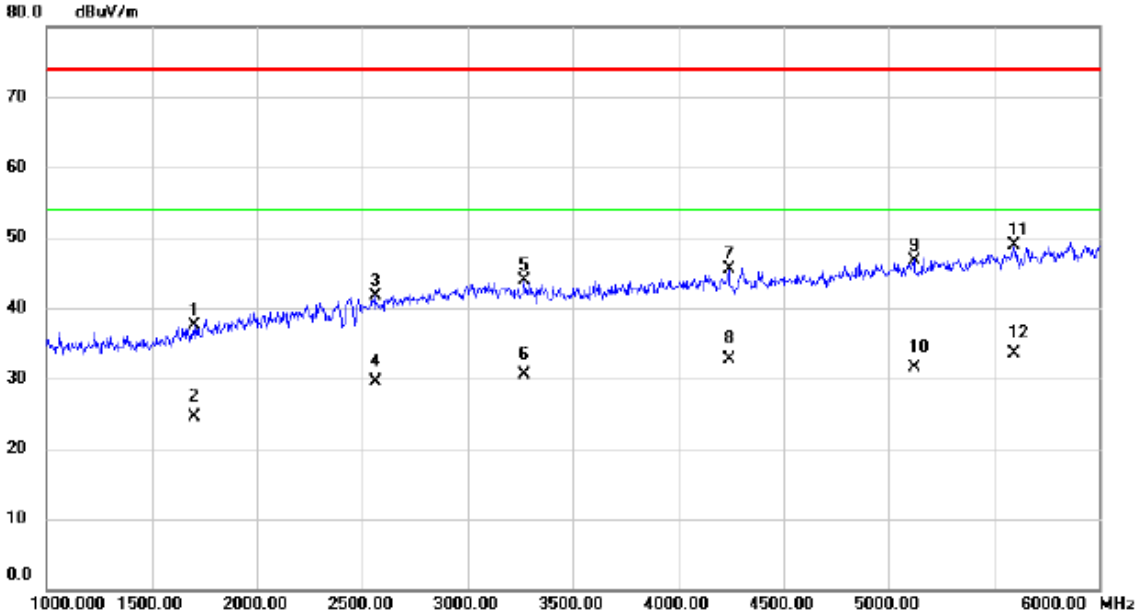


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		79.4700	40.10	-16.04	24.06	40.00	-15.94	QP	
2	*	127.0000	44.87	-12.68	32.19	43.50	-11.31	QP	
3		206.5400	46.89	-14.70	32.19	43.50	-11.31	QP	
4		247.2800	47.10	-14.28	32.82	46.00	-13.18	QP	
5		358.8300	40.17	-11.02	29.15	46.00	-16.85	QP	
6		452.9200	36.74	-8.68	28.06	46.00	-17.94	QP	

ATTACHMENT C - RADIATED EMISSION (ABOVE 1000MHZ)

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

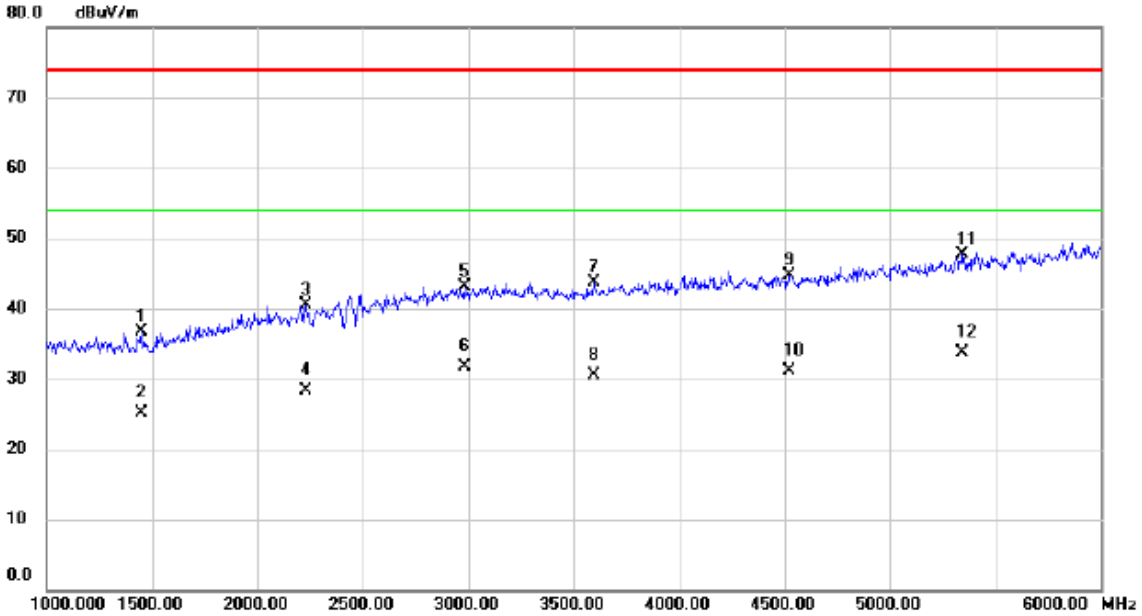
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1705.000	42.77	-5.30	37.47	74.00	-36.53	peak	
2		1705.000	29.90	-5.30	24.60	54.00	-29.40	AVG	
3		2560.000	42.69	-0.93	41.76	74.00	-32.24	peak	
4		2560.000	30.43	-0.93	29.50	54.00	-24.50	AVG	
5		3270.000	42.74	1.17	43.91	74.00	-30.09	peak	
6		3270.000	29.43	1.17	30.60	54.00	-23.40	AVG	
7		4240.000	42.36	3.11	45.47	74.00	-28.53	peak	
8		4240.000	29.59	3.11	32.70	54.00	-21.30	AVG	
9		5120.000	41.02	5.78	46.80	74.00	-27.20	peak	
10		5120.000	25.72	5.78	31.50	54.00	-22.50	AVG	
11		5595.000	41.60	7.30	48.90	74.00	-25.10	peak	
12	*	5595.000	26.30	7.30	33.60	54.00	-20.40	AVG	

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

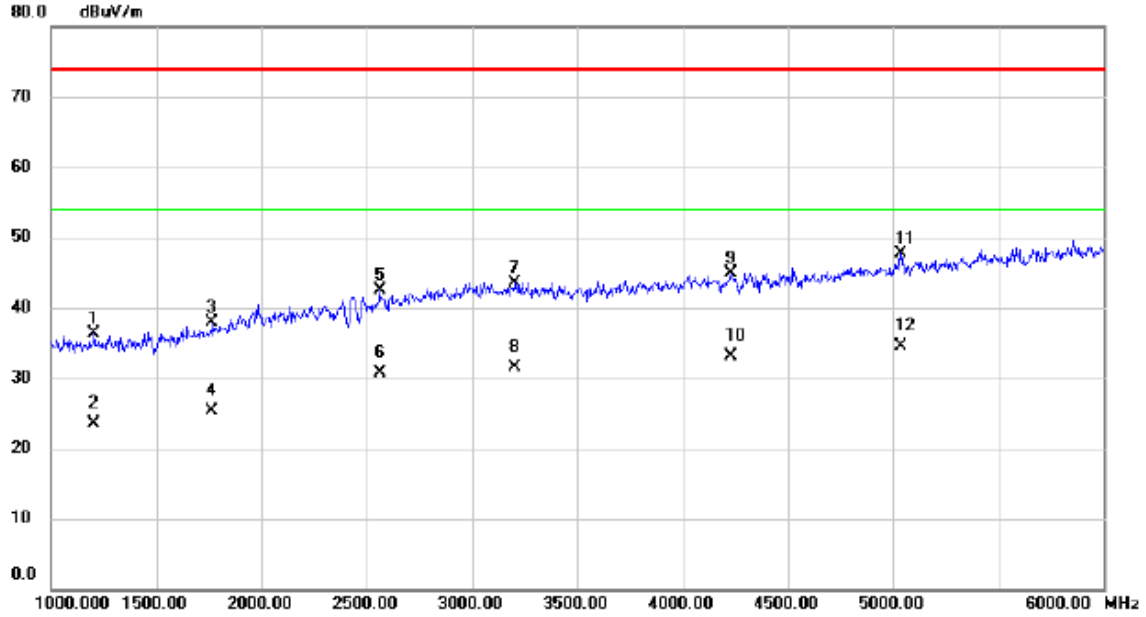
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1450.000	43.68	-7.00	36.68	74.00	-37.32	peak	
2		1450.000	32.10	-7.00	25.10	54.00	-28.90	AVG	
3		2230.000	42.66	-2.20	40.46	74.00	-33.54	peak	
4		2230.000	30.60	-2.20	28.40	54.00	-25.60	AVG	
5		2980.000	41.99	1.12	43.11	74.00	-30.89	peak	
6		2980.000	30.68	1.12	31.80	54.00	-22.20	AVG	
7		3595.000	42.24	1.46	43.70	74.00	-30.30	peak	
8		3595.000	29.14	1.46	30.60	54.00	-23.40	AVG	
9		4525.000	41.25	3.54	44.79	74.00	-29.21	peak	
10		4525.000	27.66	3.54	31.20	54.00	-22.80	AVG	
11		5345.000	41.17	6.51	47.68	74.00	-26.32	peak	
12	*	5345.000	27.29	6.51	33.80	54.00	-20.20	AVG	

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

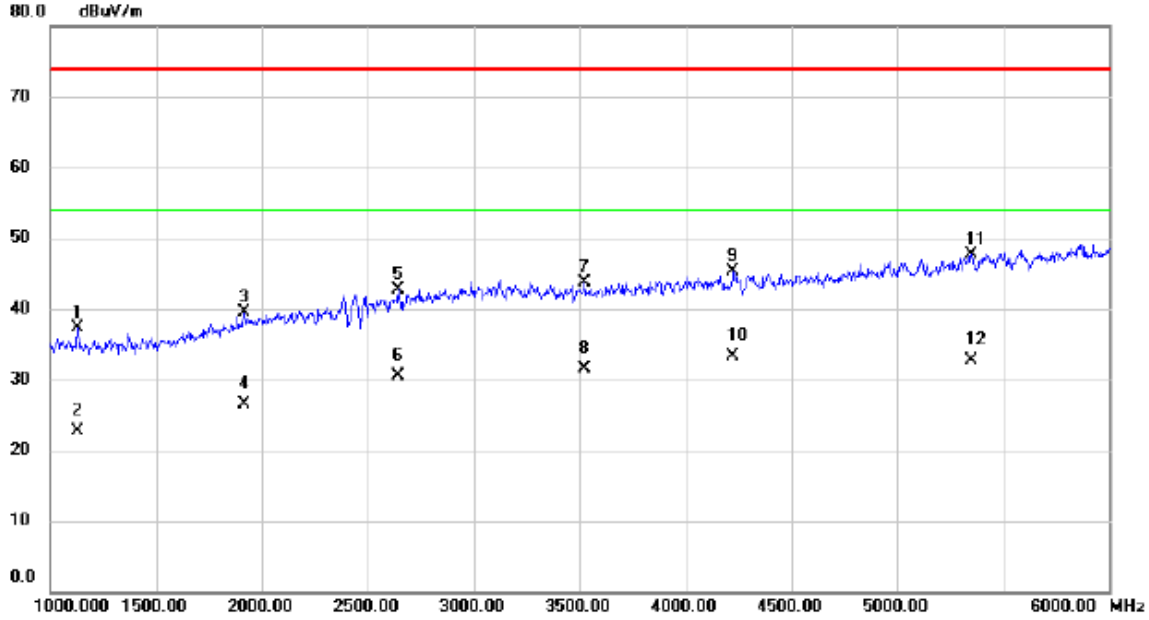
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1205.000	44.06	-7.66	36.40	74.00	-37.60	peak	
2		1205.000	31.26	-7.66	23.60	54.00	-30.40	AVG	
3		1765.000	42.75	-4.84	37.91	74.00	-36.09	peak	
4		1765.000	30.24	-4.84	25.40	54.00	-28.60	AVG	
5		2560.000	43.41	-0.93	42.48	74.00	-31.52	peak	
6		2560.000	31.63	-0.93	30.70	54.00	-23.30	AVG	
7		3200.000	42.40	1.18	43.58	74.00	-30.42	peak	
8		3200.000	30.32	1.18	31.50	54.00	-22.50	AVG	
9		4230.000	41.89	3.09	44.98	74.00	-29.02	peak	
10		4230.000	30.11	3.09	33.20	54.00	-20.80	AVG	
11		5035.000	42.15	5.49	47.64	74.00	-26.36	peak	
12	*	5035.000	29.11	5.49	34.60	54.00	-19.40	AVG	

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

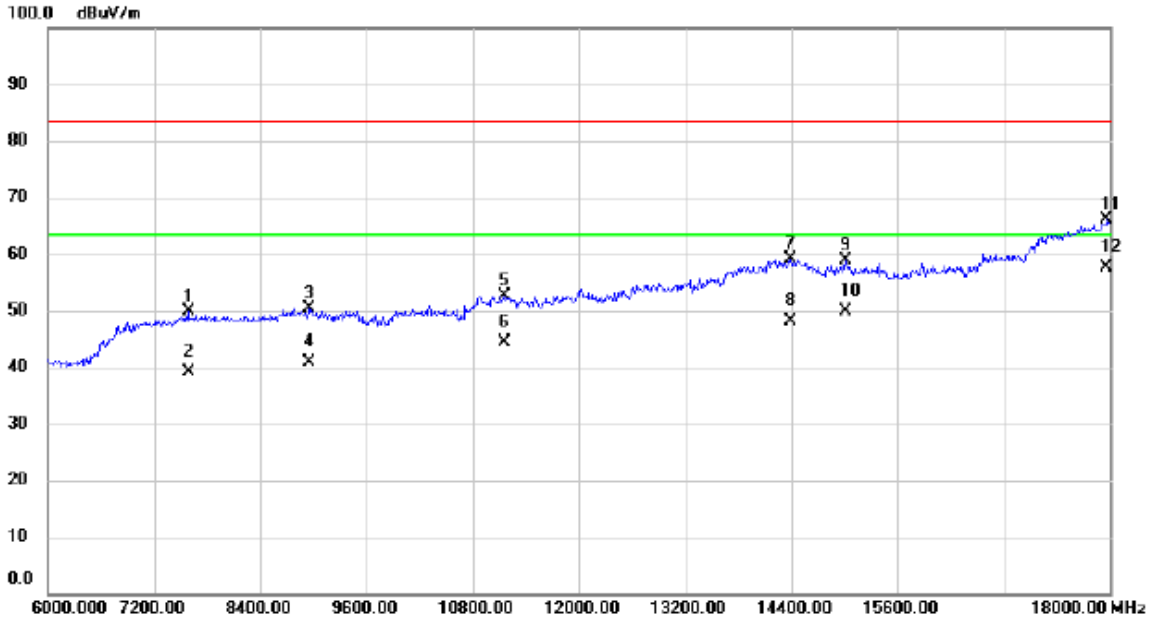
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		1130.000	45.22	-7.86	37.36	74.00	-36.64	peak	
2		1130.000	30.66	-7.86	22.80	54.00	-31.20	AVG	
3		1915.000	43.28	-3.70	39.58	74.00	-34.42	peak	
4		1915.000	30.20	-3.70	26.50	54.00	-27.50	AVG	
5		2640.000	43.34	-0.54	42.80	74.00	-31.20	peak	
6		2640.000	31.14	-0.54	30.60	54.00	-23.40	AVG	
7		3525.000	42.40	1.22	43.62	74.00	-30.38	peak	
8		3525.000	30.28	1.22	31.50	54.00	-22.50	AVG	
9		4225.000	42.13	3.08	45.21	74.00	-28.79	peak	
10	*	4225.000	30.32	3.08	33.40	54.00	-20.60	AVG	
11		5350.000	41.11	6.53	47.64	74.00	-26.36	peak	
12		5350.000	26.17	6.53	32.70	54.00	-21.30	AVG	

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

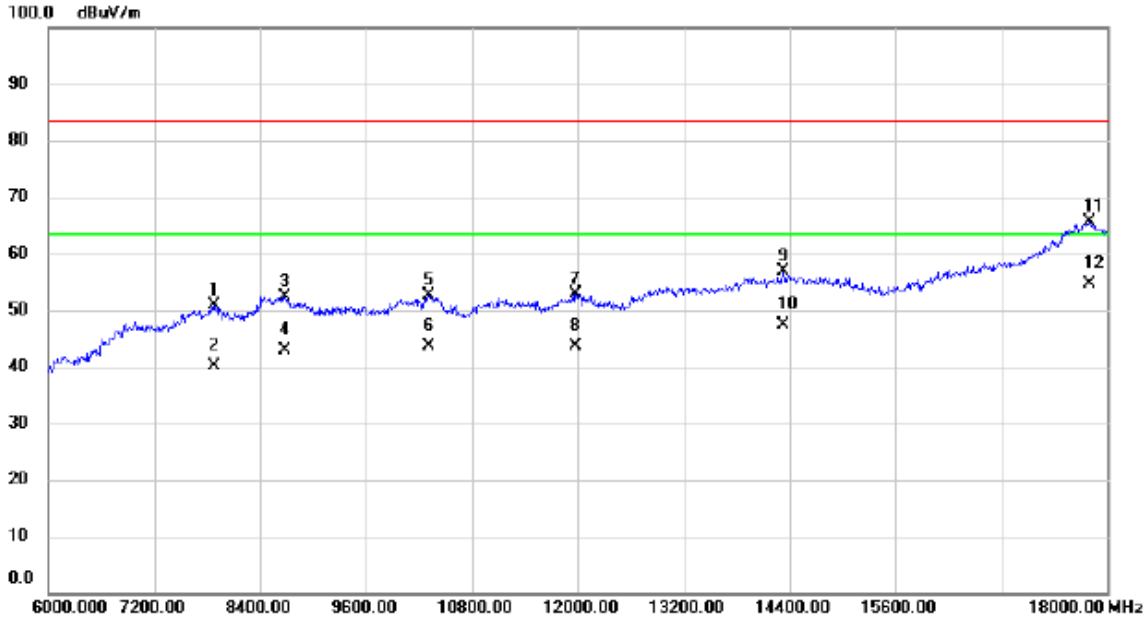
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7584.000	36.00	13.84	49.84	83.50	-33.66	peak	
2		7584.000	25.36	13.84	39.20	63.50	-24.30	AVG	
3		8952.000	35.91	14.57	50.48	83.50	-33.02	peak	
4		8952.000	26.35	14.57	40.92	63.50	-22.58	AVG	
5		11160.000	34.00	18.67	52.67	83.50	-30.83	peak	
6		11160.000	25.71	18.67	44.38	63.50	-19.12	AVG	
7		14388.000	37.17	21.89	59.06	83.50	-24.44	peak	
8		14388.000	26.35	21.89	48.24	63.50	-15.26	AVG	
9		15012.000	38.13	20.68	58.81	83.50	-24.69	peak	
10		15012.000	29.25	20.68	49.93	63.50	-13.57	AVG	
11		17964.000	37.05	29.06	66.11	83.50	-17.39	peak	
12	*	17964.000	28.62	29.06	57.68	63.50	-5.82	AVG	

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

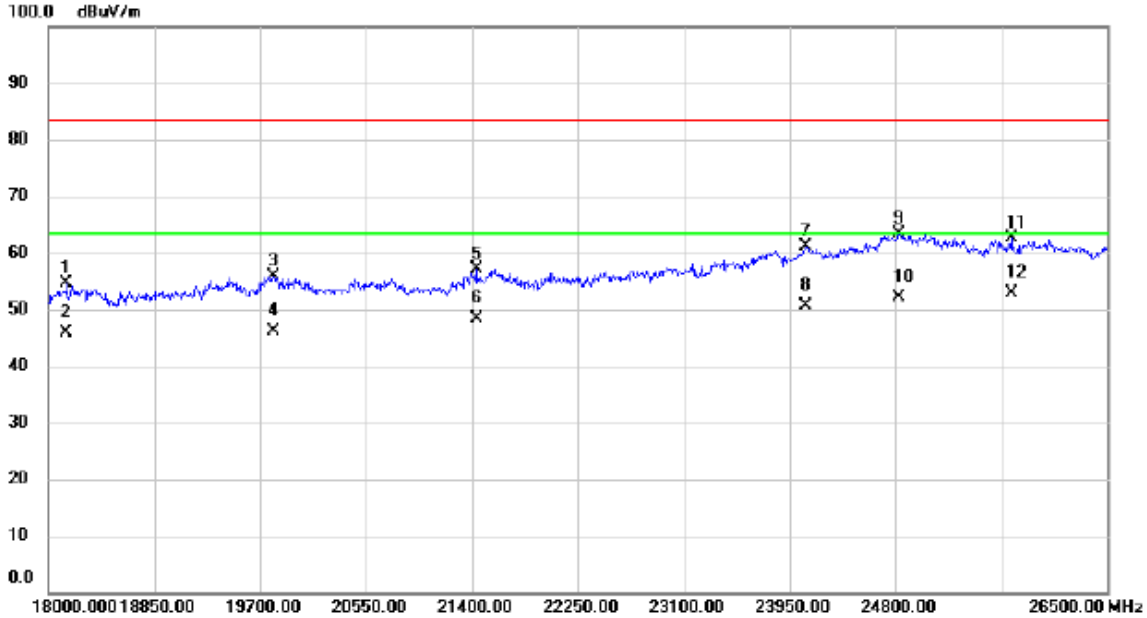
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		7872.000	37.18	13.70	50.88	83.50	-32.62	peak	
2		7872.000	26.35	13.70	40.05	63.50	-23.45	AVG	
3		8676.000	37.99	14.49	52.48	83.50	-31.02	peak	
4		8676.000	28.36	14.49	42.85	63.50	-20.65	AVG	
5		10308.00	35.85	16.68	52.53	83.50	-30.97	peak	
6		10308.00	26.91	16.68	43.59	63.50	-19.91	AVG	
7		11976.00	34.56	18.42	52.98	83.50	-30.52	peak	
8		11976.00	25.32	18.42	43.74	63.50	-19.76	AVG	
9		14328.00	34.61	22.17	56.78	83.50	-26.72	peak	
10		14328.00	25.32	22.17	47.49	63.50	-16.01	AVG	
11		17796.00	37.32	28.36	65.68	83.50	-17.82	peak	
12	*	17796.00	26.35	28.36	54.71	63.50	-8.79	AVG	

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

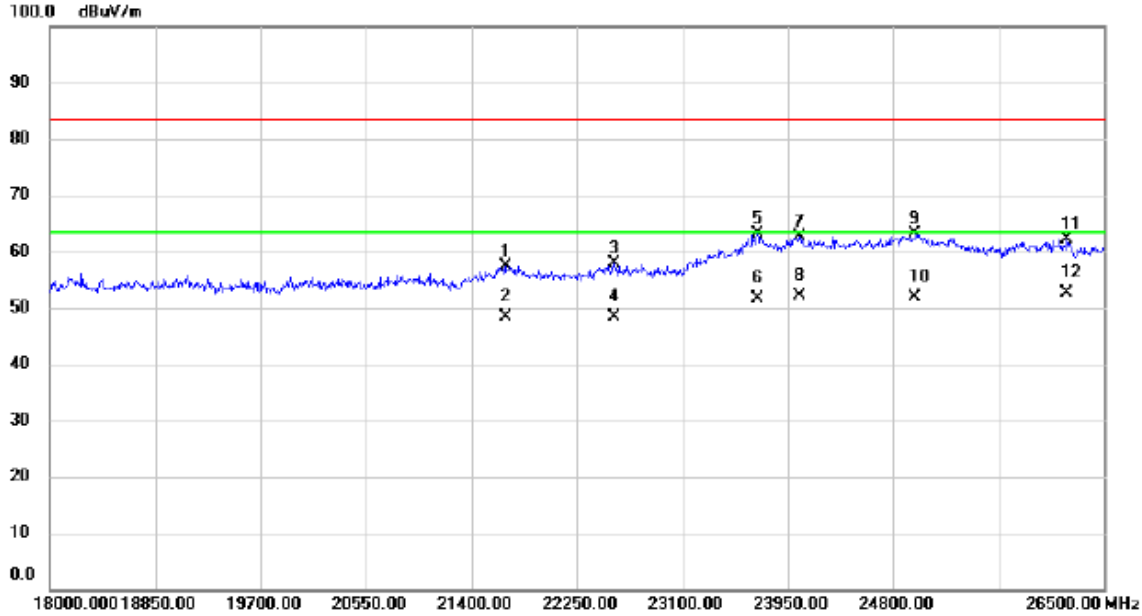
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		18144.50	34.26	20.25	54.51	83.50	-28.99	peak	
2		18144.50	25.63	20.25	45.88	63.50	-17.62	AVG	
3		19806.25	34.88	21.02	55.90	83.50	-27.60	peak	
4		19806.25	25.14	21.02	46.16	63.50	-17.34	AVG	
5		21438.25	35.25	21.97	57.22	83.50	-26.28	peak	
6		21438.25	26.35	21.97	48.32	63.50	-15.18	AVG	
7		24081.75	36.00	25.08	61.08	83.50	-22.42	peak	
8		24081.75	25.62	25.08	50.70	63.50	-12.80	AVG	
9		24829.75	37.63	25.71	63.34	83.50	-20.16	peak	
10		24829.75	26.51	25.71	52.22	63.50	-11.28	AVG	
11		25730.75	36.35	26.23	62.58	83.50	-20.92	peak	
12	*	25730.75	26.71	26.23	52.94	63.50	-10.56	AVG	

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

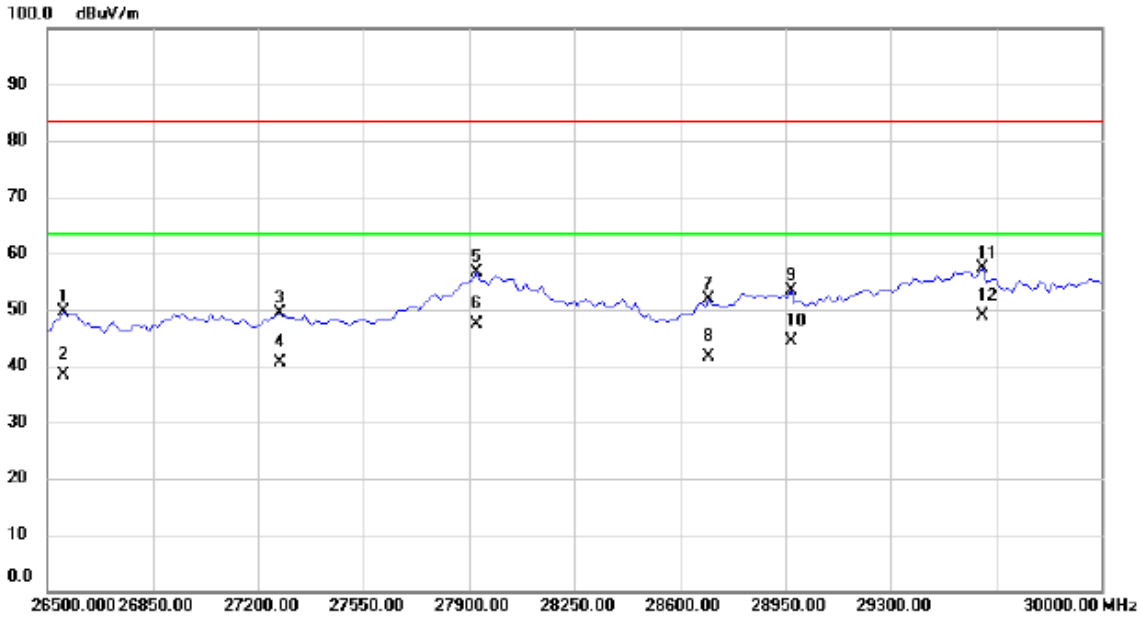
Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		21676.25	35.34	22.12	57.46	83.50	-26.04	peak	
2		21676.25	26.35	22.12	48.47	63.50	-15.03	AVG	
3		22547.50	34.92	22.84	57.76	83.50	-25.74	peak	
4		22547.50	25.62	22.84	48.46	63.50	-15.04	AVG	
5		23707.75	38.41	24.74	63.15	83.50	-20.35	peak	
6		23707.75	26.81	24.74	51.55	63.50	-11.95	AVG	
7		24043.50	37.60	25.04	62.64	83.50	-20.86	peak	
8		24043.50	27.02	25.04	52.06	63.50	-11.44	AVG	
9		24978.50	37.42	25.79	63.21	83.50	-20.29	peak	
10		24978.50	26.00	25.79	51.79	63.50	-11.71	AVG	
11		26194.00	35.75	26.42	62.17	83.50	-21.33	peak	
12	*	26194.00	26.14	26.42	52.56	63.50	-10.94	AVG	

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

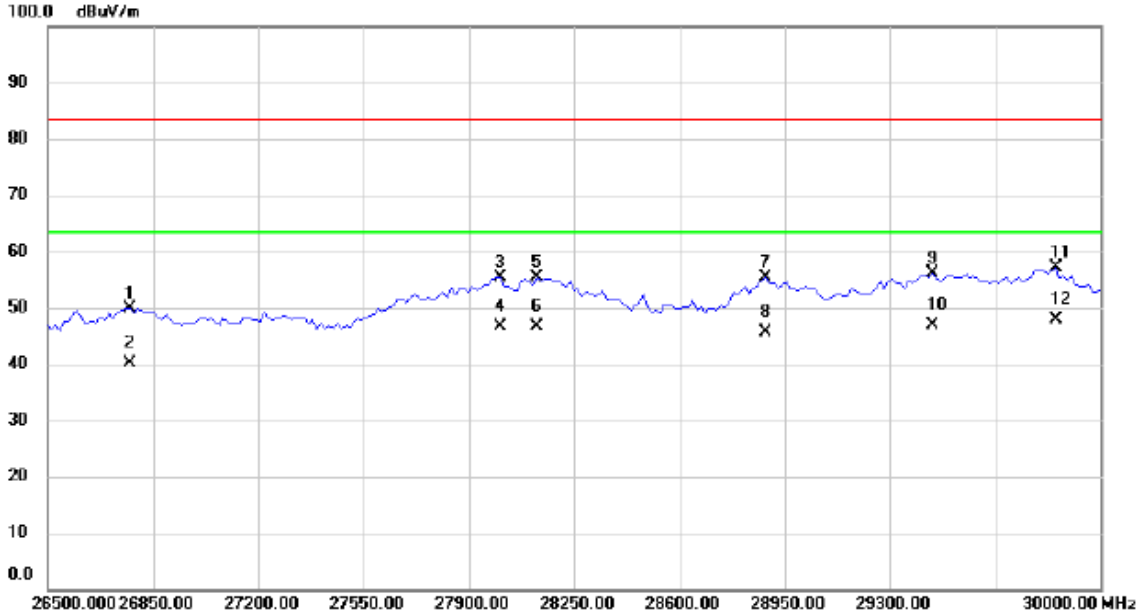
Polarization: Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26554.26	43.93	5.66	49.59	83.50	-33.91	peak	
2		26554.26	32.62	5.66	38.28	63.50	-25.22	AVG	
3		27273.25	44.17	5.31	49.48	83.50	-34.02	peak	
4		27273.25	35.25	5.31	40.56	63.50	-22.94	AVG	
5		27924.41	45.42	11.16	56.58	83.50	-26.92	peak	
6		27924.41	36.25	11.16	47.41	63.50	-16.09	AVG	
7		28697.67	43.82	8.10	51.92	83.50	-31.58	peak	
8		28697.67	33.52	8.10	41.62	63.50	-21.88	AVG	
9		28968.99	43.32	10.02	53.34	83.50	-30.16	peak	
10		28968.99	34.25	10.02	44.27	63.50	-19.23	AVG	
11		29606.58	42.04	15.26	57.30	83.50	-26.20	peak	
12	*	29606.58	33.62	15.26	48.88	63.50	-14.62	AVG	

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

Polarization: Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26771.31	43.94	5.97	49.91	83.50	-33.59	peak	
2		26771.31	34.25	5.97	40.22	63.50	-23.28	AVG	
3		28005.81	43.15	12.27	55.42	83.50	-28.08	peak	
4		28005.81	34.25	12.27	46.52	63.50	-16.98	AVG	
5		28127.90	44.49	10.91	55.40	83.50	-28.10	peak	
6		28127.90	35.61	10.91	46.52	63.50	-16.98	AVG	
7		28887.59	45.97	9.45	55.42	83.50	-28.08	peak	
8		28887.59	36.23	9.45	45.68	63.50	-17.82	AVG	
9		29443.79	41.47	14.71	56.18	83.50	-27.32	peak	
10		29443.79	32.21	14.71	46.92	63.50	-16.58	AVG	
11		29850.77	41.82	15.22	57.04	83.50	-26.46	peak	
12	*	29850.77	32.61	15.22	47.83	63.50	-15.67	AVG	