RF Test Report

Applicant	:	Meter Inc
Product Type	:	Meter wireless access point
Trade Name	:	Meter
Model Number	:	MW03
Applicable Standard	:	FCC 47 CFR PART 15 SUBPART E ANSI C63.10:2013
Received Date	:	May 13, 2020
Test Period	:	May 22, 2020
Issued Date	:	Aug. 03, 2020

Issued by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade District,
Taoyuan City 33465, Taiwan (R.O.C.)
Tel：+86-3-2710188 / Fax：+86-3-2710190

Taiwan Accreditation Foundation accreditation number: 1330
Frequency Range：9 kHz to 40 GHz
Test Firm MRA designation number: TW0010

Note:

1.The test results are valid only for samples provided by customers and under the test conditions described in this report.
2.This report shall not be reproduced except in full, without the written approval of A Test Lab Technology Corporation.
3.The relevant information is provided by customers in this test report. According to the correctness, appropriateness or completeness of the information provided by the customer, if there is any doubt or error in the information which affects the validity of the test results, the laboratory does not take the responsibility.

Revision History

Rev.	Issued Date	Revisions	Revised By
00	Jul. 08, 2020	Initial Issue	Nina Lin
01	Aug. 03, 2020	Update report for Class II Permissive Change required.	Tobey Cheng

Verification of Compliance

Applicant	:	Meter Inc
Product Type	:	Meter wireless access point
Trade Name	:	Meter
Model Number	:	MW03
FCC ID	:	2AVVV-MW03
EUT Rated Voltage	:	DC 12 V, 2 A
Test Voltage	:	120 Vac / 60 Hz
Applicable Standard	:	FCC 47 CFR PART 15 SUBPART E ANSI C63.10:2013
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade District, Taoyuan City 33465, Taiwan (R.O.C.) Tel：+86-3-2710188 / Fax：+86-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By : Fly Lu

(Manager) (Fly Lu)

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1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
15.407(b)(6) 15.207	AC Power Conducted Emission	PASS	---
15.407(b) 15.205 / 15.209	Transmitter Radiated Emissions	PASS	---
15.407(a)	Maximum Conducted Output Power	N/A	N/A
15.407(a)	26 dB RF Bandwidth & 99 % Occupied Bandwidth	N/A	N/A
15.407(e)	6 dB RF Bandwidth	N/A	N/A
15.407(a)	Maximum Power Spectral Density	N/A	N/A
15.407(c)	Automatically discontinue transmission	N/A	N/A
15.407(a) 15.203	Antenna Requirement	N/A	N/A

Note：Transmitter Radiated Emissions is larger than the original report but not out of 3 dBm. After evaluation above, C2PC is applicable.

After the evaluation, AC Power Conducted and Transmitter Radiated Emissions (Below 1 GHz) need to be re-evaluated.

Decision Rule

■ Uncertainty is not included.

□ Uncertainty is included.

Standard	Description
CFR47, Part 15, Subpart C §15.247	Intentional Radiators
ANSI C63. 10: 2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
KDB 558074 D01 v05	GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES

1.2. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conducted Emission	150 kHz ~ 30 MHz	2.68
Radiated Emission	9 kHz ~ 30 MHz	2.14
	30 MHz ~ 1000 MHz	4.99
	1000 MHz ~ 18000 MHz	4.99
	18000 MHz ~ 26500 MHz	4.23
	26500 MHz ~ 40000 MHz	4.39

2 EUT Description

Applicant	Meter Inc 148 Townsend Street, San Francisco, California 94107, United States				
Manufacturer	Meter Inc 148 Townsend Street, San Francisco, California 94107, United States				
Product Type	Meter wireless access point				
Trade Name	Meter				
Model Number	MW03				
FCC ID	2AVVV-MW03				
Class II Permissive Change	1. Change Applicant name, Applicant address, Manufacturer name, Manufacturer address, Product Type, Trade Name, Model Number, appearance. 2. Add 256 MB NAND, watchdog IC, LED. 3. Removed USB Port.				
Operate Frequency	Frequency Band			Frequency Range (MHz)	Number of Channels
	IEEE 802.11a	U-NII Band I		5180 – 5240	4
		U-NII Band III		5745 – 5825	5
	IEEE 802.11n 5 GHz 20 MHz / IEEE 802.11ac 20 MHz	U-NII Band I		5180 – 5240	4
		U-NII Band III		5745 – 5825	5
	IEEE 802.11n 5 GHz 40 MHz / IEEE 802.11ac 40 MHz	U-NII Band I		5190 – 5230	2
		U-NII Band III		5755 – 5795	2
	IEEE 802.11ac 80 MHz	U-NII Band I		5210	1
		U-NII Band III		5775	1
Modulation Type	OFDM				
Equipment Type	Master				
Antenna information	Antenna	Model	Type	Frequency Range (MHz)	Max. Gain (dBi)
	ANT-0	5718A0350300	Metal PIFA Antenna	5150 – 5250	4.78
				5725 – 5850	5.07
	ANT-1	5718A0351300	Metal PIFA Antenna	5150 – 5250	4.61
				5725 – 5850	5.50
	ANT-2	5718A0352300	Metal PIFA Antenna	5150 – 5250	4.31
				5725 – 5850	5.36
	ANT-3	5718A0353300	Metal PIFA Antenna	5150 – 5250	4.15
				5725 – 5850	5.84
Antenna Delivery	Reference section 3.1				
Operate Temp. Range	0 ~ +50 ℃				

Frequency Band		RF Output Power (W)
IEEE 802.11a	U-NII Band I	0.180
	U-NII Band III	0.363
IEEE 802.11n 5 GHz 20 MHz	U-NII Band I	0.263
	U-NII Band III	0.263
IEEE 802.11n 5 GHz 40 MHz	U-NII Band I	0.249
	U-NII Band III	0.239
IEEE 802.11ac 20 MHz	U-NII Band I	0.275
	U-NII Band III	0.276
IEEE 802.11ac 40 MHz	U-NII Band I	0.258
	U-NII Band III	0.245
IEEE 802.11ac 80 MHz	U-NII Band I	0.106
	U-NII Band III	0.266

Beamforming on

Frequency Band		RF Output Power (W)
IEEE 802.11ac 20 MHz	U-NII Band I	0.060
	U-NII Band III	0.060
IEEE 802.11ac 40 MHz	U-NII Band I	0.056
	U-NII Band III	0.055
IEEE 802.11ac 80 MHz	U-NII Band I	0.023
	U-NII Band III	0.059

Equipment Type		
Outdoor access point	point-to-point	---
	point-to-multipoint	---
Indoor access point		V
Fixed point-to-point access points		---
Client devices		---

3 Test Methodology

3.1. Mode of Operation

Decision of Test ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit mode
Mode 2: IEEE 802.11a Continuous TX mode
Mode 3: IEEE 802.11n 5 GHz 20 MHz Continuous TX mode
Mode 4: IEEE 802.11n 5 GHz 40 MHz Continuous TX mode
Mode 5: IEEE 802.11ac 20 MHz Continuous TX mode
Mode 6: IEEE 802.11ac 40 MHz Continuous TX mode
Mode 7: IEEE 802.11ac 80 MHz Continuous TX mode

Final Mode
Mode 1: Transmit mode
Mode 2: IEEE 802.11a Continuous TX mode
Mode 5: IEEE 802.11ac 20 MHz Continuous TX mode

Software used to control the EUT for staying in continuous transmitting mode was programmed.
After verification, all tests were carried out with the worst case test modes.

Note: Investigation has been done on all the possible configurations for searching the worst cases (VHT20/40 covers HT20/40). The table is a list of the test modes show in this test report.

Test Mode	ANT-0	ANT-1	ANT-2	ANT-3	ANT-0+1+2+3
Mode 2	V	V	V	V	V
Mode 3	V	V	V	V	V
Mode 4	V	V	V	V	V
Mode 5	V	V	V	V	V
Mode 6	V	V	V	V	V
Mode 7	V	V	V	V	V

Test Mode	Antenna Delivery	Data Rate (Mbps)	Band	Test Channel
Mode 2	4TX / 4RX (CDD)	6	U-NII Band I	36, 40, 44, 48
			U-NII Band III	149, 153,157, 161, 165
Mode 3	4TX / 4RX (STBC)	26	U-NII Band I	36, 40, 44, 48
			U-NII Band III	149, 153,157, 161, 165
Mode 4	4TX / 4RX (STBC)	54	U-NII Band I	38, 46
			U-NII Band III	151,159
Mode 5	4TX / 4RX (STBC/Beamforming on)	26	U-NII Band I	36, 40, 44, 48
			U-NII Band III	149, 153,157, 161, 165
Mode 6	4TX / 4RX (STBC/Beamforming on)	54	U-NII Band I	38, 46
			U-NII Band III	151,159
Mode 7	4TX / 4RX (STBC/Beamforming on)	117.2	U-NII Band I	42
			U-NII Band III	155

3.2. EUT Test Step

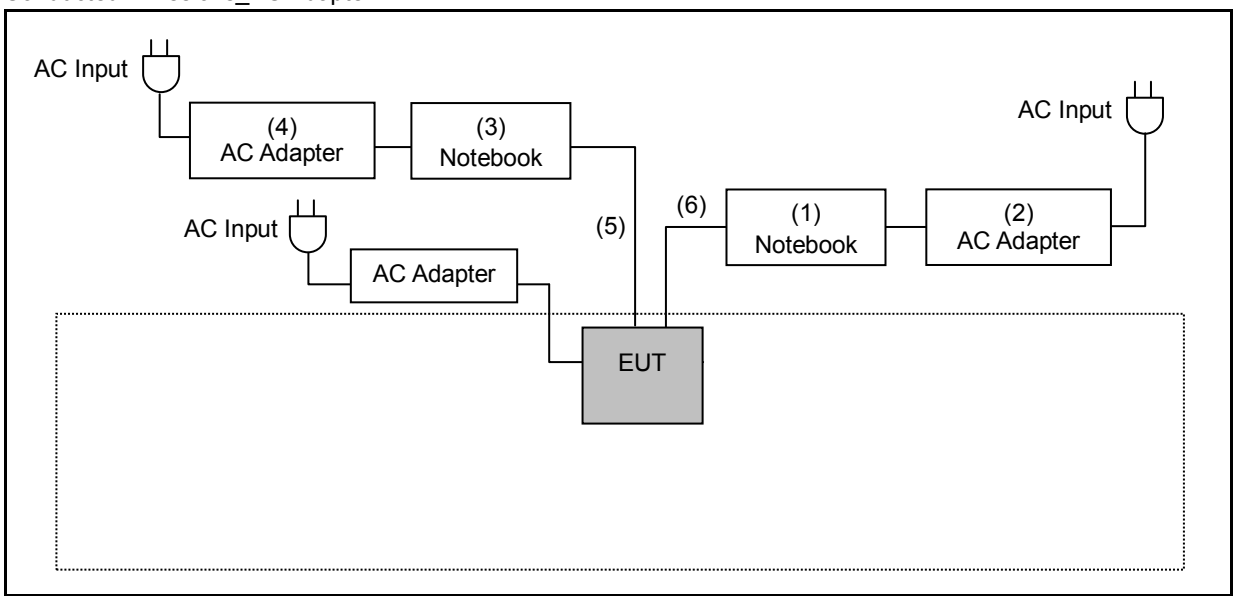
The EUT is operated in the engineering mode to fix the TX frequency for the purposes of measurement. According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

1.	Setup the EUT shown on “Configuration of Test System Details”.
2.	Turn on the power of all equipment.
3.	Turn on TX function.
4.	EUT run test program.

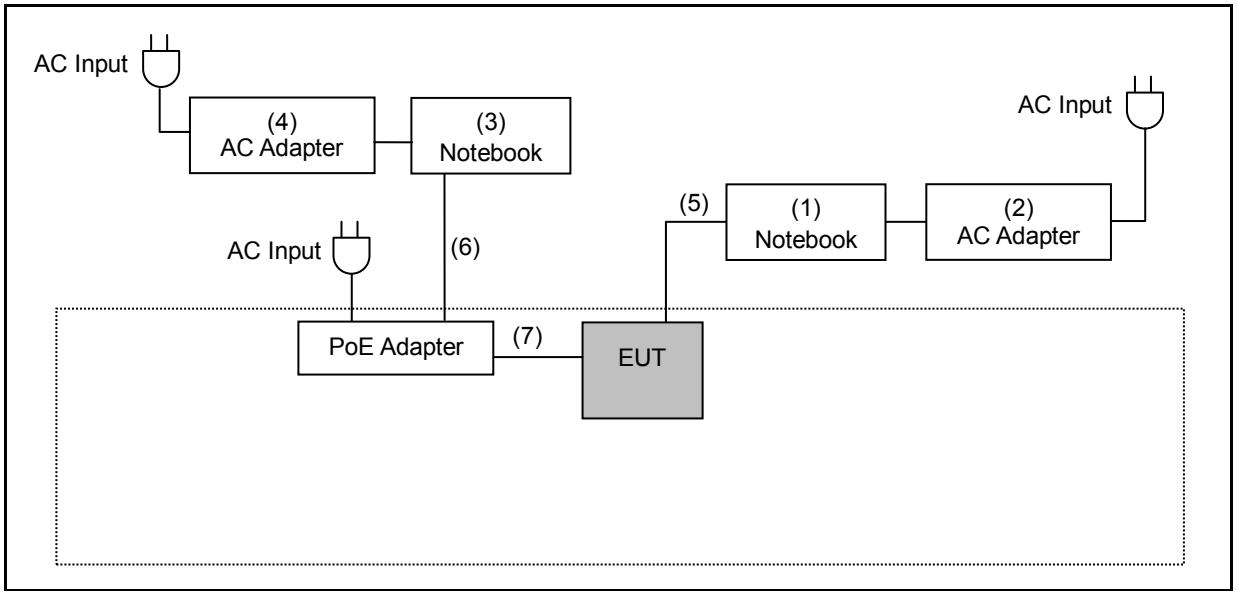
Measurement Software			
No.	Description	Software	Version
1	Conducted Emission	EZ EMC	1.1.4.3
2	Radiated Emission	EZ EMC	1.1.4.4

3.3. Configuration of Test System Details

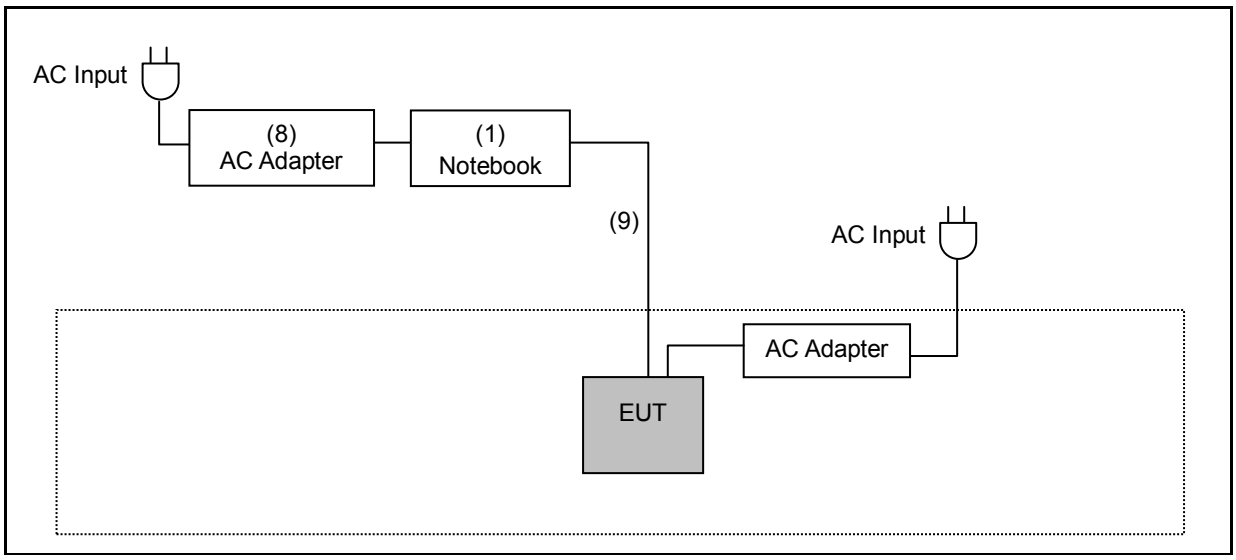
Conducted Emissions_AC Adapter



Conducted Emissions_PoE Adapter



Radiated Emission



Devices Description					
Product		Manufacturer	Model Number	Serial Number	Power Cord
(1)	Notebook	DELL	LATITUDE E6440	5HZBD72	---
(2)	AC Adapter	DELL	HA65NM130	---	Non-Shielded, 1.7 m
(3)	Notebook	DELL	LATITUDE E6440	48GBD72	---
(4)	AC Adapter	DELL	HA65NM130	---	Non-Shielded, 1.7 m
(5)	RJ45 Cable	HUAWEI	UL2464	---	---
(6)	RJ45 Cable	HUAWEI	UL2464	---	---
(7)	RJ45 Cable	HUAWEI	UL2464	---	---
(8)	AC Adapter	DELL	HA65NM130	---	Non-Shielded, 0.8 m
(9)	LAN Cable	TATUNG	CAT5E	---	---

3.4. Test Instruments

For Conducted Emission
Test Period: May 22, 2020
Testing Engineer: Paul Chiu

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Test Receiver	R&S	ESCI	100367	05/23/2019	1 year
LISN	R&S	ENV216	101040	03/23/2020	1 year
LISN	R&S	ENV216	101041	04/06/2020	1 year
RF Cable	Woken	00100D1380194M	TE-02-03	05/23/2019	1 year

For Radiated Emissions
Test Period: May 22, 2020
Testing Engineer: Ricky Liu

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer (10 Hz~44 GHz)	Keysight	N9010A	MY52221312	01/13/2020	1 year
Pre Amplifier (100 kHz~1.3 GHz)	Agilent	8447D	2944A11119	01/15/2020	1 year
Broadband Antenna	Schwarzbeck	VULB9168	416	10/23/2019	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	03/27/2020	1 year
RF Cable	EMCI	EMC104-N-N-6000	TE01-1	02/20/2020	1 year
Microwave Cable	EMCI	EMC104-SM-SM-13000	170814	10/29/2019	1 year
Microwave Cable	EMCI	EMC102-KM-KM-14000	151001	02/20/2020	1 year

Note: N.C.R. = No Calibration Request.

3.5. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	20-30
Humidity (%RH)	25-75	45-75

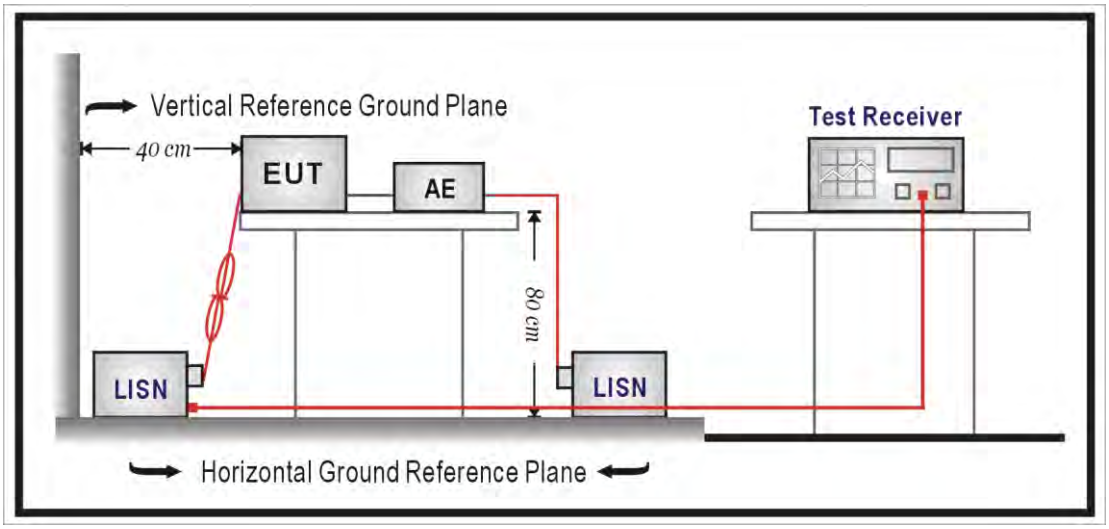
4 Measurement Procedure

4.1. AC Power Conducted Emission Measurement

■ **Limit**

Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

■ **Test Setup**



■ **Test Procedure**

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

Tabletop device shall be placed on a non-conducting platform, of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The wall of screened room shall be located 40 cm to the rear of the EUT. Other surfaces of tabletop or floor standing EUT shall be at least 80 cm from any other ground conducting surface including one or more LISNs. For floor-standing device shall be placed under the EUT with a 12 mm insulating material.

Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a resolution bandwidth of 9 kHz. The equipment under test (EUT) shall be meet the limits in section 4.1, as applicable, including the average limit and the quasi-peak limit when using respectively, an average detector and quasi-peak detector measured in accordance with the methods described of related standard. When all of peak value were complied with quasi-peak and average limit from 150 kHz to 30 MHz then quasi-peak and average measurement was unnecessary.

The AMN shall be placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for AMNs mounted on top of the ground reference plane. This distance is between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8 m from the AMN. If the mains power cable is longer than 1 m then the cable shall be folded back and forth at the centre of the lead to form a bundle no longer than 0.4 m. All of 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 cm to 40 cm long. All of EUT and AE shall be separate place more than 0.1 m. All 50 Ω ports of the LISN shall be resistively terminated into 50 Ω loads when not connected to the measuring instrument.

If the reading of the measuring receiver shows fluctuations close to the limit, the reading shall be observed for at least 15 s at each measurement frequency; the higher reading shall be recorded with the exception of any brief isolated high reading which shall be ignored

4.2. Transmitter Radiated Emissions Measurement

■ **Limit**

(1)Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(a)For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(b)For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(c)For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(d)For transmitters operating in the 5.725-5.85 GHz band:

(i)All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(2)Limits of Radiated Emission Measurement

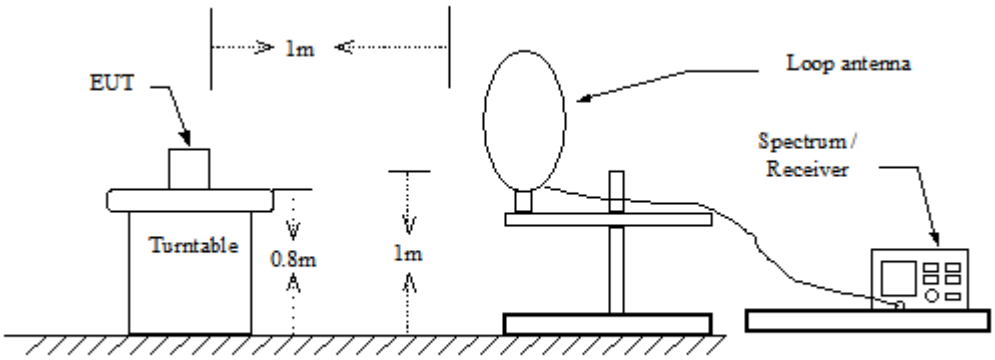
Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequency Range (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	10	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

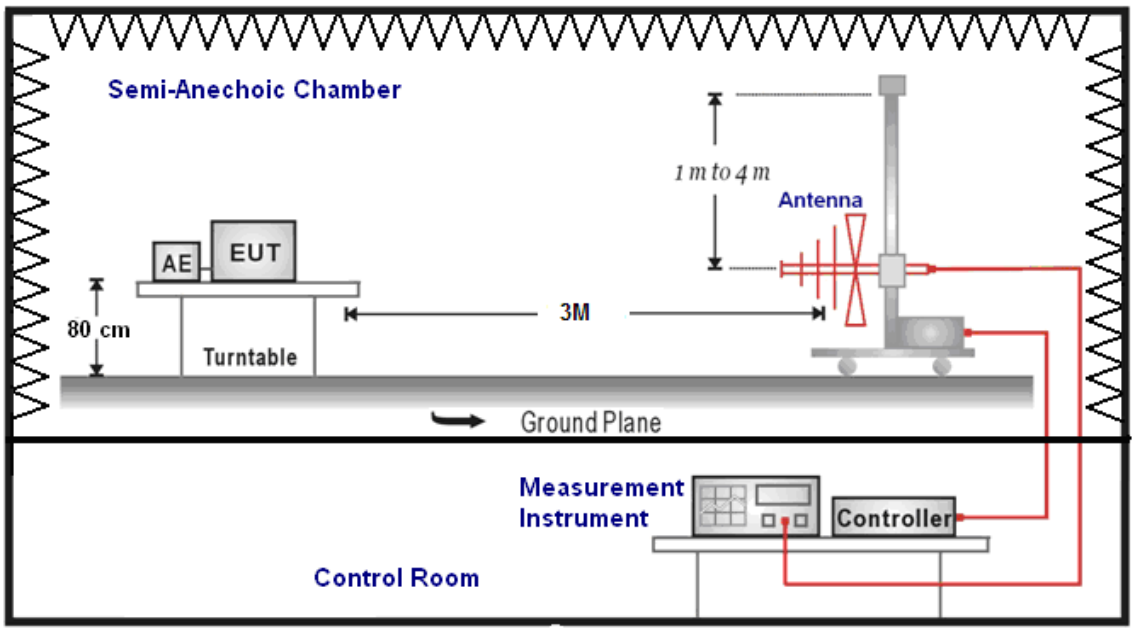
Note: 1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

■ **Setup**

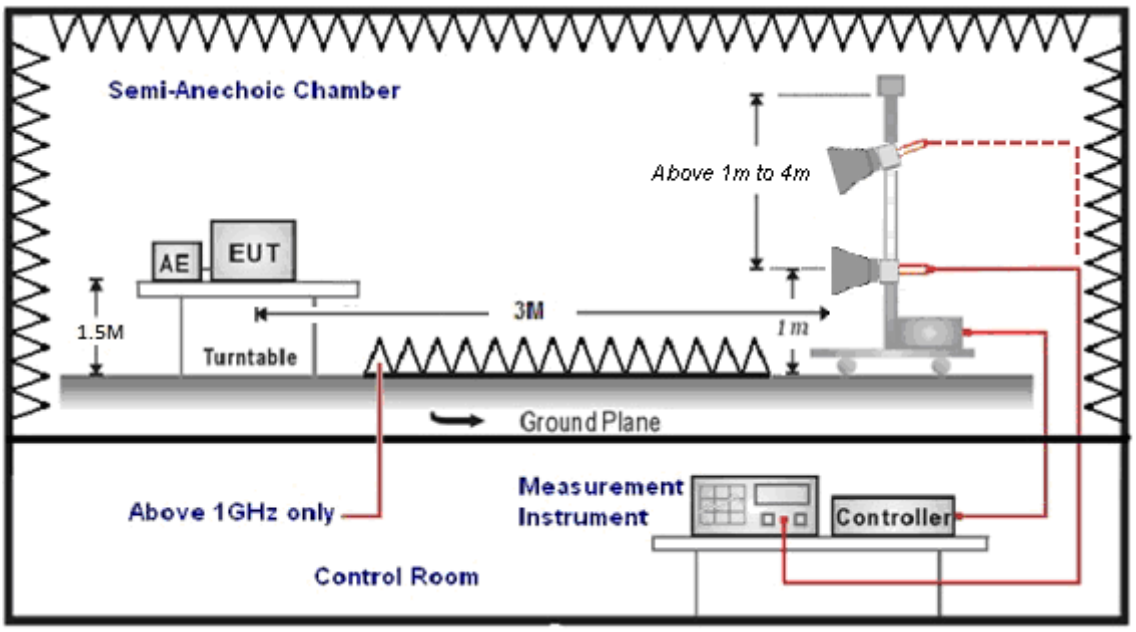
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz


Semi-Anechoic Chamber
Above 1m to 4m
AE
EUT
1.5M
3M
1m
Turntable
Ground Plane
Above 1GHz only
Measurement
Instrument
Controller
Control Room

■ **Test Procedure**

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 or 1.5 meters height(below 1 GHz use 0.8 m turntable / above 1 GHz use 1.5 m turntable), top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 40 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For restricted measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements and 10 Hz for average measurements when Duty cycle > 0.98 / 1/T for average measurements when Duty cycle < 0.98.

For out of band measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 3 MHz for peak measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on tree orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Trilog-Broadband Antenna at 3 Meter and the ETS-Lindgren Double-Ridged Waveguide Horn antnna Schwarzbeck Mess-Elektronik Broadband Horn Antenna was used in frequencies 1 – 40 GHz at a distance of 3 meter. The antenna at an angle toward the source of the emission.All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20 dB/decade).

For testing above 1 GHz, the emission level of the EUT in peak mode was 20 dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro colts per meter (dBuV/m).

The actual field is intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) Amplitude (dBuV/m) = FI (dBuV) +AF (dBuV) +CL (dBuV)-Gain (dB)
FI= Reading of the field intensity.
AF= Antenna factor.
CL= Cable loss.
P.S Amplitude is auto calculate in spectrum analyzer.

(2) Actual Amplitude (dBuV/m) = Amplitude (dBuV)-Dis(dB)
The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:
(a) For fundamental frequency : Transmitter Output < +30 dBm
(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

Measuring Instruments and setting

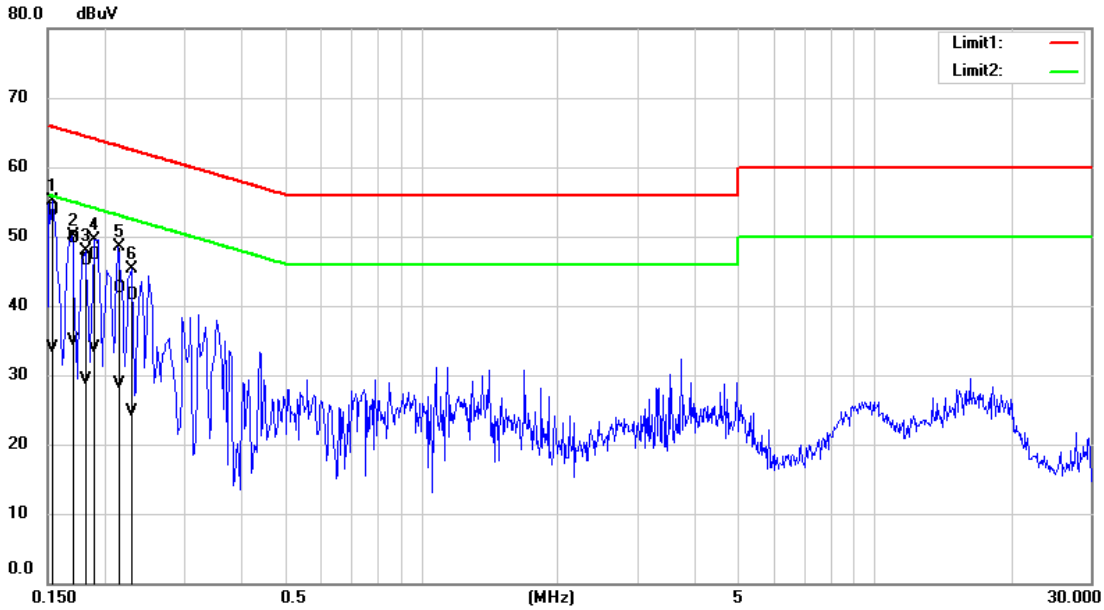
The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW/VBW(Emission in restricted band)	1 MHz / 3 MHz for Peak 1 MHz / (1/T) for Average
RBW/VBW(Emission in non-restricted band)	1 MHz / 3 MHz for Peak

5 Test Results

Annex A. Conducted Emission

Standard:	FCC Part 15.247	Line:	L1
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Description:	AC Adapter		

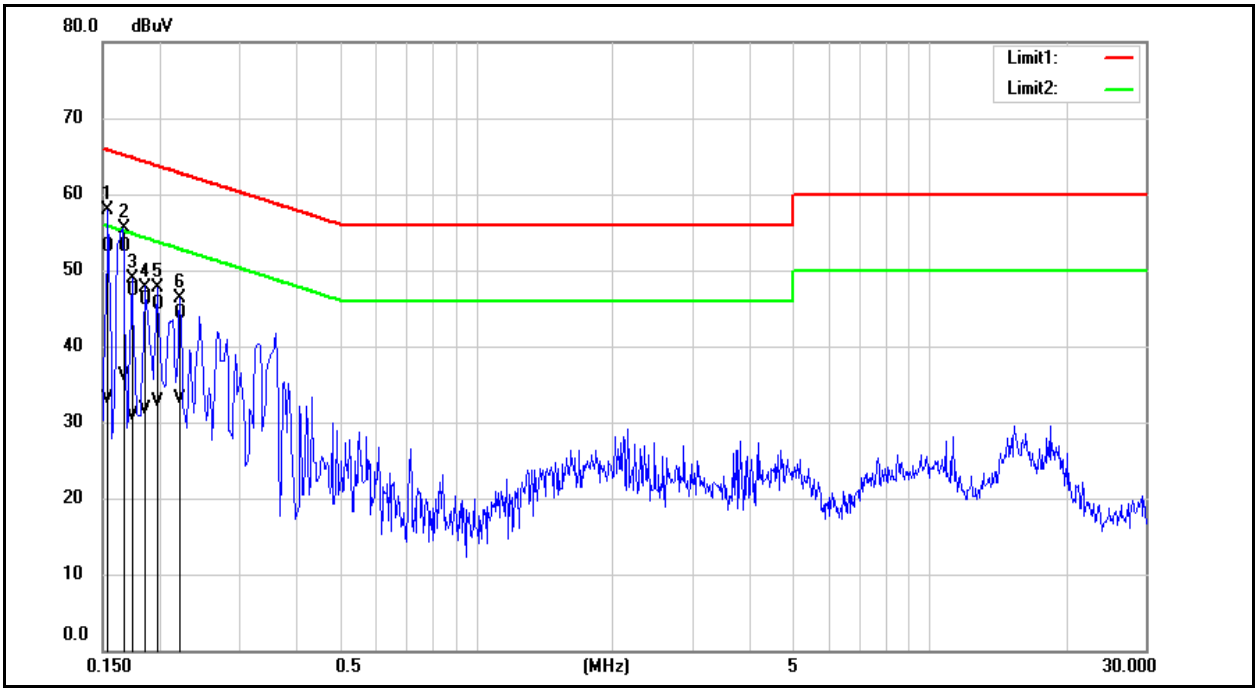


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1532	44.09	24.29	9.65	53.74	33.94	65.82	55.82	-12.08	-21.88	Pass
2	0.1700	40.14	25.20	9.65	49.79	34.85	64.96	54.96	-15.17	-20.11	Pass
3	0.1820	36.88	19.70	9.64	46.52	29.34	64.39	54.39	-17.87	-25.05	Pass
4	0.1900	37.71	24.25	9.64	47.35	33.89	64.04	54.04	-16.69	-20.15	Pass
5	0.2140	32.87	19.02	9.64	42.51	28.66	63.05	53.05	-20.54	-24.39	Pass
6	0.2300	31.79	15.08	9.64	41.43	24.72	62.45	52.45	-21.02	-27.73	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Standard:	FCC Part 15.247	Line:	N
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Description:	AC Adapter		

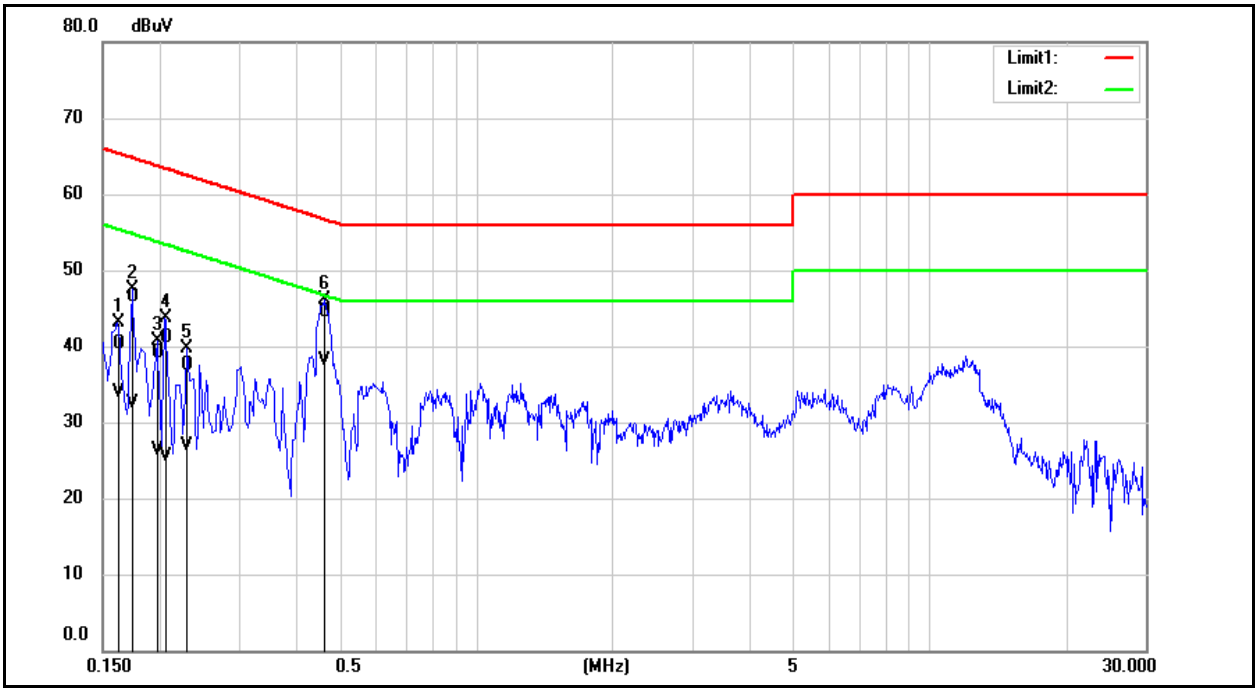


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1540	43.48	23.43	9.68	53.16	33.11	65.78	55.78	-12.62	-22.67	Pass
2	0.1660	43.49	26.47	9.68	53.17	36.15	65.16	55.16	-11.99	-19.01	Pass
3	0.1740	37.72	21.23	9.68	47.40	30.91	64.77	54.77	-17.37	-23.86	Pass
4	0.1860	36.41	21.99	9.67	46.08	31.66	64.21	54.21	-18.13	-22.55	Pass
5	0.1980	35.74	23.06	9.67	45.41	32.73	63.69	53.69	-18.28	-20.96	Pass
6	0.2220	34.65	23.41	9.67	44.32	33.08	62.74	52.74	-18.42	-19.66	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Standard:	FCC Part 15.247	Line:	L1
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Description:	PoE Adapter		

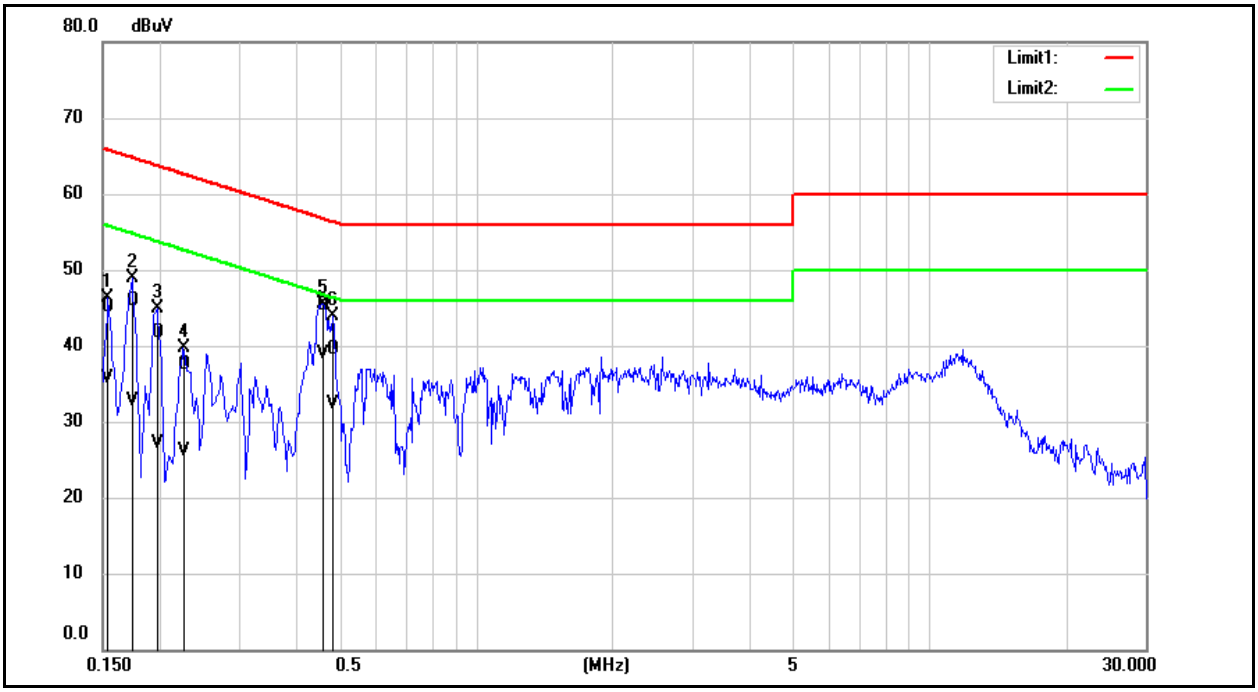


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1620	30.65	24.14	9.68	40.33	33.82	65.36	55.36	-25.03	-21.54	Pass
2	0.1740	36.90	22.85	9.68	46.58	32.53	64.77	54.77	-18.19	-22.24	Pass
3	0.1980	29.50	16.68	9.67	39.17	26.35	63.69	53.69	-24.52	-27.34	Pass
4	0.2060	31.46	15.91	9.67	41.13	25.58	63.37	53.37	-22.24	-27.79	Pass
5	0.2300	27.85	17.27	9.67	37.52	26.94	62.45	52.45	-24.93	-25.51	Pass
6	0.4620	34.85	28.36	9.69	44.54	38.05	56.66	46.66	-12.12	-8.61	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Standard:	FCC Part 15.247	Line:	N
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Description:	PoE Adapter		



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1540	35.43	25.98	9.68	45.11	35.66	65.78	55.78	-20.67	-20.12	Pass
2	0.1740	36.32	23.12	9.68	46.00	32.80	64.77	54.77	-18.77	-21.97	Pass
3	0.1980	32.04	17.44	9.67	41.71	27.11	63.69	53.69	-21.98	-26.58	Pass
4	0.2260	27.91	16.46	9.67	37.58	26.13	62.60	52.60	-25.02	-26.47	Pass
5	0.4580	35.56	29.21	9.69	45.25	38.90	56.73	46.73	-11.48	-7.83	Pass
6	0.4820	29.78	22.69	9.69	39.47	32.38	56.30	46.30	-16.83	-13.92	Pass

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB) = Cable loss (dB) + L.I.S.N. factor (dB).

Annex B. Radiated Emission Measurement

Below 1 GHz

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Radiated Emission	Power:	AC 120 V/60 Hz
Frequency:	5240 MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Mode:	Mode 2		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
135.7300	39.68	-6.72	32.96	43.50	-10.54	QP	H
171.6200	38.86	-5.92	32.94	43.50	-10.56	QP	H
329.7300	38.62	-3.73	34.89	46.00	-11.11	QP	H
521.7900	34.18	0.37	34.55	46.00	-11.45	QP	H
624.6100	30.38	2.70	33.08	46.00	-12.92	QP	H
832.1900	28.81	6.35	35.16	46.00	-10.84	QP	H
109.5400	43.28	-9.29	33.99	43.50	-9.51	QP	V
135.7300	40.89	-6.72	34.17	43.50	-9.33	QP	V
174.5300	40.24	-6.16	34.08	43.50	-9.42	QP	V
378.2300	39.06	-2.66	36.40	46.00	-9.60	QP	V
500.4500	37.59	-0.13	37.46	46.00	-8.54	QP	V
777.8700	31.38	5.55	36.93	46.00	-9.07	QP	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: 32.96=-6.72+39.68.

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

Beamforming on

Standard:	FCC Part 15.407	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	5180 MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 5		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
135.7300	40.55	-6.72	33.83	43.50	-9.67	QP	H
174.5300	38.23	-6.16	32.07	43.50	-11.43	QP	H
329.7300	38.45	-3.73	34.72	46.00	-11.28	QP	H
498.5100	34.98	-0.15	34.83	46.00	-11.17	QP	H
624.6100	30.32	2.70	33.02	46.00	-12.98	QP	H
836.0700	29.29	6.42	35.71	46.00	-10.29	QP	H
112.4500	43.13	-9.04	34.09	43.50	-9.41	QP	V
133.7900	40.20	-6.94	33.26	43.50	-10.24	QP	V
172.5900	38.91	-6.00	32.91	43.50	-10.59	QP	V
329.7300	34.18	-3.73	30.45	46.00	-15.55	QP	V
500.4500	36.03	-0.13	35.90	46.00	-10.10	QP	V
738.1000	29.33	4.91	34.24	46.00	-11.76	QP	V

Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

3.When the peak results are less than average limit, so not need to evaluate the average.

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