RF Test Report

Applicant	:	Getac Technology Corporation
Product Type	:	Wireless LAN Adapter
Trade Name	:	Getac
Model Number	:	9260NGW
Test Specification	:	FCC 47 CFR PART 15 SUBPART C ANSI C63.10:2013
Receive Date	:	Mar. 06, 2019
Test Period	:	Apr. 03 ~ Apr. 12, 2019
Issue Date	:	May 10, 2019

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330
Test Firm MRA designation number: TW0010

Revision History

Rev.	Issue Date	Revisions	Revised By
00	Apr. 17, 2019	Initial Issue	Janet Chao
01	May 08, 2019	Page 7 Revised Class II Permissive Change description.	Tobey Cheng
02	May 10, 2019	Page 7 Revised Antenna Type. Page 22~25 Revised Conducted Emission Note: 1	Tobey Cheng

Verification of Compliance

Issued Date: May 10, 2019

Applicant	:	Getac Technology Corporation
Product Type	:	Wireless LAN Adapter
Trade Name	:	Getac
Model Number	:	9260NGW
FCC ID	:	QYL9260NG
EUT Rated Voltage	:	DC 3.7 V
Test Voltage	:	120 Vac / 60 Hz
Applicable Standard	:	FCC 47 CFR PART 15 SUBPART C 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：+886-3-2710188 / Fax：+886-3-2710190 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	Reviewed By	:	Eric Ou Yang
(Manager)		(Fly Lu)	(Testing Engineer)		(Eric Ou Yang)

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1 General Information

1.1. Summary of Test Result

Standard	Item	Result	Remark
FCC			
15.207	AC Power Conducted Emission	PASS	-----
15.203	Antenna Requirement	PASS	-----
15.247(b)(1)	Max. Output Power	PASS	-----
15.247(d)	Transmitter Radiated Emissions	PASS (Note2)	-----
15.247(a)(1)	20 dB RF Bandwidth	N/A (Note1)	-----
15.247(a)(1)	Carrier Frequency Separation	N/A (Note1)	-----
15.247(a)(1)(iii)	Number of Hopping	N/A (Note1)	-----
15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	N/A (Note1)	-----
15.247(d)	Out of Band Conducted Spurious Emission	N/A (Note1)	-----

The test results of this report relate only to the tested sample(s) identified in this report.

Note1: Class II permissive change. No need for verification.

Note2: Transmitter Radiated Emissions in above 1 GHz use the worst Max. Output Power to do the test.

Standard	Description
CFR47, Part 15, Subpart C	Intentional Radiators
ANSI C63. 10: 2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
DA 00-705	Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems

1.2. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conducted Emission	9 kHz ~ 150 kHz	2.7
	150 kHz ~ 30 MHz	2.7
Radiated Emission	9 kHz ~ 30 MHz	1.7
	30 MHz ~ 1000 MHz	5.7
	1000 MHz ~ 18000 MHz	5.5
	18000 MHz ~ 26500 MHz	4.8
	26500 MHz ~ 40000 MHz	4.8
Conducted Output Power	+0.27 dB / -0.28 dB	

2 EUT Description

Applicant	Getac Technology Corporation 5F.,Building A,No.209,Sec.1 Nangang.,Rd., Taipei City, 11568, Taiwan	
Manufacturer	Intel Mobile Communications 100 Center Point Circle, Suite 200, Columbia, South Carolina 29210, USA	
Product	Wireless LAN Adapter	
Trade Name	Getac	
Model Number	9260NGW	
FCC ID	QYL9260NG	
Class II Permissive Change	This is to request a Class II permissive change for FCC ID: QYL9260NG, originally granted on 2019/3/26 The major change filed under this application is: Change #1: Additional Chassis added, Getac, model number: UX10 #2: Addition one antenna, the antenna type is same, the 2.4 GHz antenna gain is higher than the original application and the 5 GHz antenna gain is low than the original application. Therefore, 2.4 GHz band RSE verification will be executed and the RF report will be submitted afterwards.	
Host Information	Product Type: Tablet Trade Name: Getac Model Name: UX10	
Frequency Range	2402 ~ 2480 MHz	
Modulation Type	GFSK for 1 Mbps	
	π/4-DQPSK for 2 Mbps	
	8DPSK for 3 Mbps	
Operate Temp. Range	0 ~ +80 ℃	
Antenna information	Type	Max. Gain (dBi)
	PIFA Antenna	0.36
RF Output Power (Conducted)	GFSK for 1 Mbps 0.01057 W π/4-DQPSK for 2 Mbps 0.00676 W 8DPSK for 3 Mbps 0.00705 W	

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:

Pre-Test Mode
Mode 1: Transmit mode
Mode 2: GFSK Continuous TX mode
Mode 3: π/4-DQPSK Continuous TX mode
Mode 4: 8DPSK Continuous TX mode

After verification, all tests were carried out with the worst case test modes.

By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that “X axis” position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

Final-Test Mode
Mode 1: Transmit mode
Mode 2: GFSK Continuous TX mode

Description of Test Modes

Preliminary tests were performed in different modulation to find the worst case. The modulation has shown the worst-case in section 4.5. Investigation has been done on all the possible configurations for searching the worst cases.

Decision of Test Mode		V	V
Description	Remarks	SYSTEM 2 Full	SYSTEM 1 Basic
Main Board	---	V	V
CPU	i7 4.60 GHz	V	
	i5 3.90 GHz		V
Memory	8 GB		V
	16 GB	V	
HDD	256 GB		V
	512 GB	V	
LCM	Digitizer	V	
Upside Option	NXP RFID		V
	SE4710	V	
STD Battery (Optional)	11.1 VDC, 4200 mAh		V
Large Battery (Optional)	10.8 VDC, 9240 mAh	V	
Bridge Battery (Optional)	7.4 VDC, 2100 mAh	V	
Fingerprint CrossMatch	Right Expansion Bay	V	
MSR Reader		V	
Module	WLAN/BT	V	V
	WWAN / GPS	V	
	GPS/GNS		V
Capacitive Pen	---		V
AC Adapter (1)	INPUT: 100-240 VAC, 50-60 Hz, 1.5 A OUTPUT: 19 VDC, 3.42 A Non-Shielded,1.5 m, with one core	V	V
AC Adapter (2)	INPUT: 100-240 VAC, 50-60 Hz, 1.5 A OUTPUT: 19 VDC, 4.74 A Non-Shielded,1.55 m		
Power Cord (1)	3 pin Non-Shielded,1.75 m	V	V
Power Cord (2)	3 pin Non-Shielded,1.75 m With AC Adapter model: ADM-9019M		
Digitizer Pen (Optional)	---	V	

Note: SYSTEM 2 Full is the worst case in Transmitter Radiated Emissions.

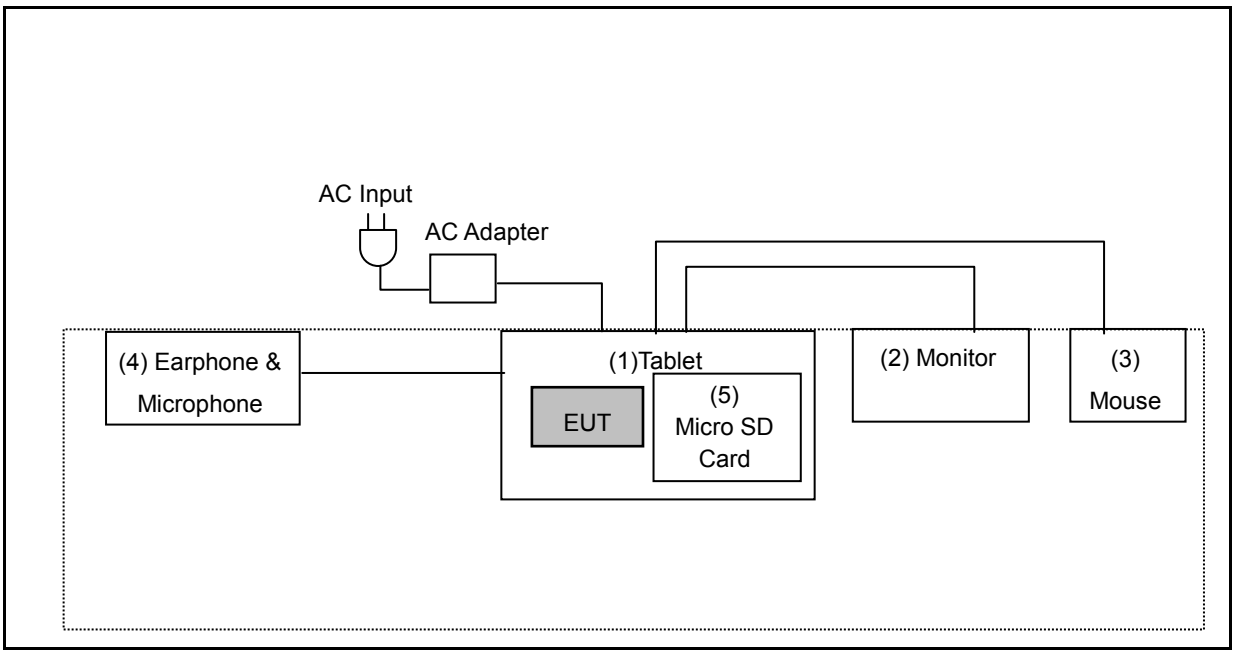
3.2. EUT Test Step

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.

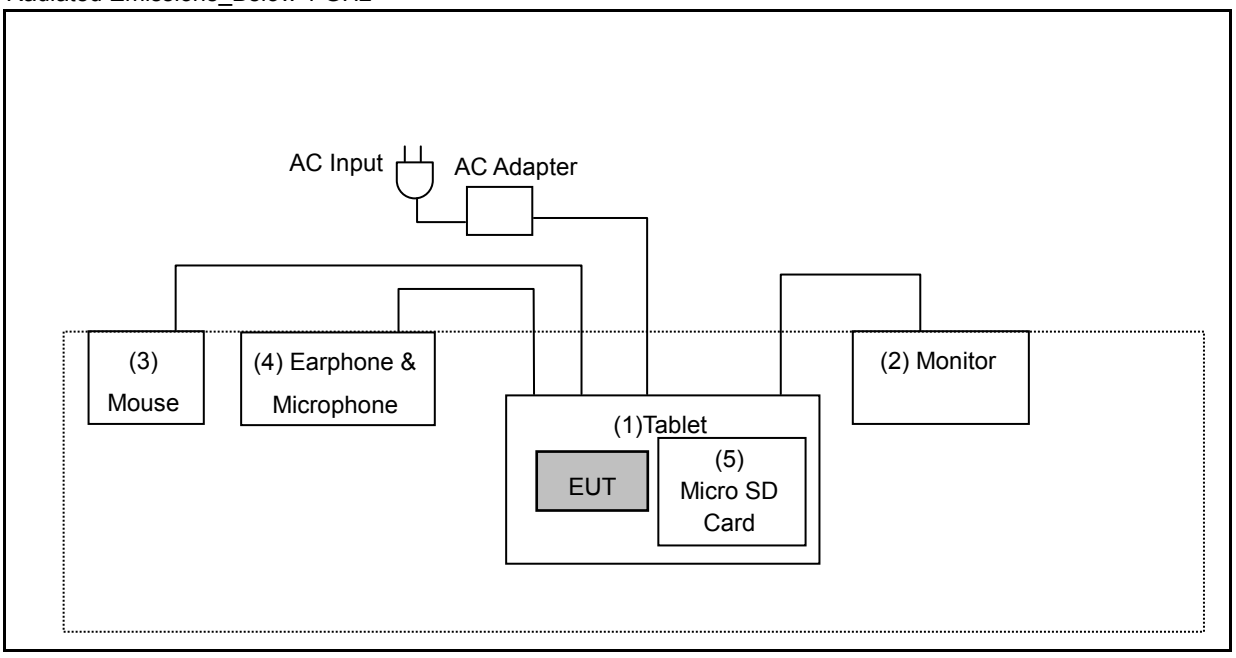
Measurement Software			
No.	Description	Software	Version
1	Conducted Emission	EZ EMC	1.1.4.3
2	Radiated Emission	EZ EMC	1.1.4.4

3.3. Configuration of Test System Details

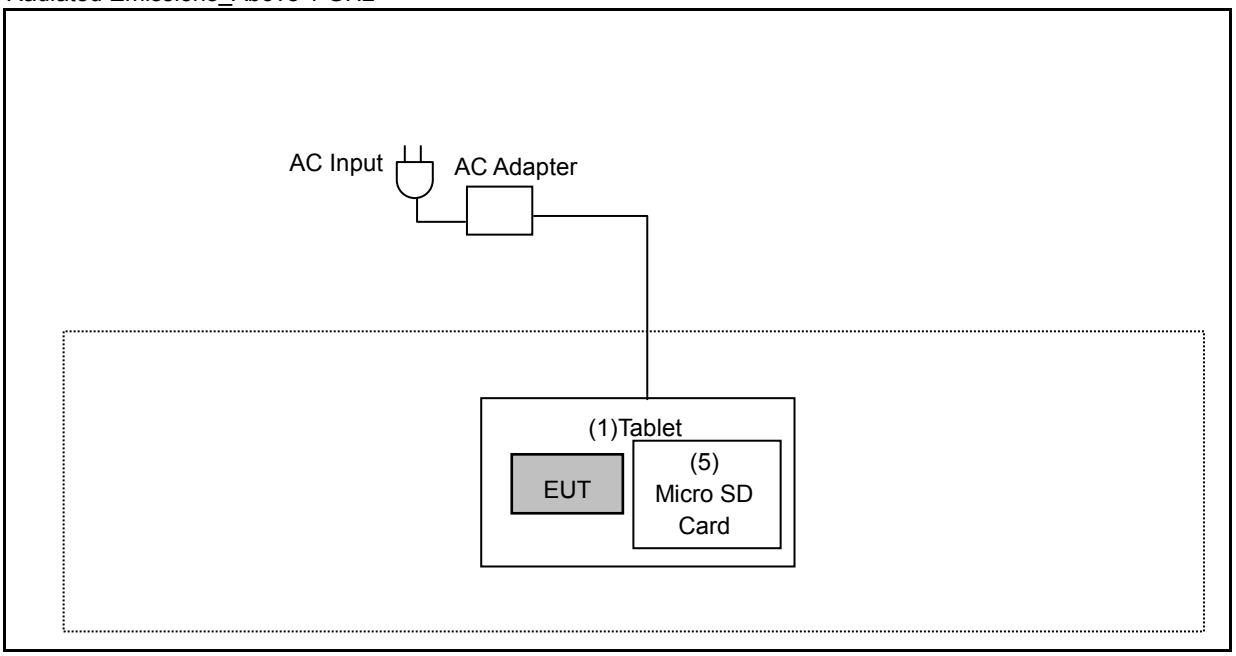
Conducted Emission



Radiated Emissions_Below 1 GHz



Radiated Emissions_Above 1 GHz



Devices Description					
Product		Manufacturer	Model Number	Serial Number	Power Cord
(1)	Tablet	Getac	UX10	---	---
(2)	Monitor	DELL	P2415Qb	CN-0D3C8Y-74261-523-0HUL	---
(3)	Mouse	Logitech	M-UAG96B	---	---
(4)	Earphone & Microphone	HTC	---	---	---
(5)	Micro SD Card	Transcend	---	---	---

3.4. Test Instruments

For Conducted Emission

Test Period: Apr. 09 ~ Apr. 10, 2019

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Test Receiver	R&S	ESCI	100367	05/21/2018	1 year
LISN	R&S	ENV216	101040	04/11/2018	1 year
LISN	R&S	ENV216	101041	03/28/2019	1 year
RF Cable	Woken	00100D1380194M	TE-02-03	05/17/2018	1 year

For Radiated Emissions

Test Period: Apr. 03, 2019

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
EXA Signal Analyzer (10 Hz~44 GHz)	Keysight	N9010A	MY52221312	01/14/2019	1 year
Pre Amplifier (1~26.5 GHz)	Agilent	8449B	3008A02237	10/16/2018	1 year
Pre Amplifier (100 kHz~1.3 GHz	Agilent	8447D	2944A11119	01/14/2019	1 year
Trilog Broadband Antenna	Schwarzbeck Mess-Elektronik	VULB9168	416	10/23/2018	1 year
Horn Antenna (1~18 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	08/23/2018	1 year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	08/07/2018	1 year
Loop Antenna	Electro-Metrics	EMCI-LPA600	277	04/19/2018	1 year
RF Cable	EMCI	EMC104-N-N-6000	TE01-1	02/20/2019	1 year
Microwave Cable	EMCI	EMC104-SM-SM-13000	170814	10/30/2018	1 year
Microwave Cable	EMCI	EMC102-KM-KM-14000	151001	02/20/2019	1 year

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

For Conducted
Test Period: Apr. 12, 2019

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer (20 Hz~26.5 GHz)	Agilent	N9020A	US47520902	09/25/2018	1 year
Power Sensor	Anritsu	MA2411B	1126022	08/29/2018	1 year
Power Meter	Anritsu	ML2495A	1135009	08/29/2018	1 year
Microwave Cable	EMCI	EMC102-SM-SM1500	001	11/21/2018	1 year

3.5. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	990

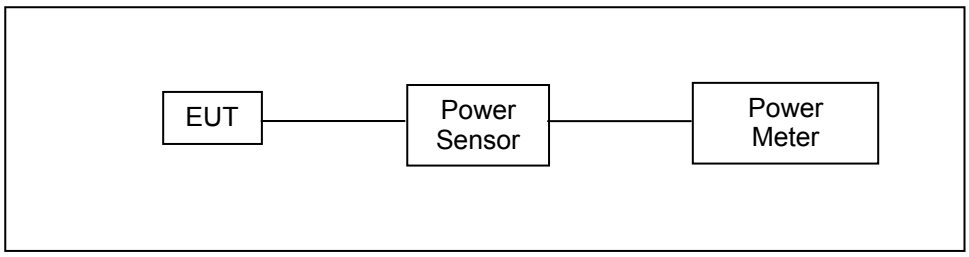
4 Measurement Procedure

4.1. Maximum Conducted Output Power Measurement

- **Limit**

For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels < 0.125 watt.

- **Test Setup**



- **Test Procedure**

Testing must be done according to this procedure, FCC Public Notice DA 00-705 - Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems. This is the only method recognized by the FCC. The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor. The maximum peak output power shall not exceed 1 watt.

Use a direct connection between the antenna port of transmitter and the power sensor, for prevent the power sensor input attenuation 40-50 dB. Set the RBW Bandwidth of the emission or use a channel power meter mode.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to (GAIN - 6)/3 dBm.

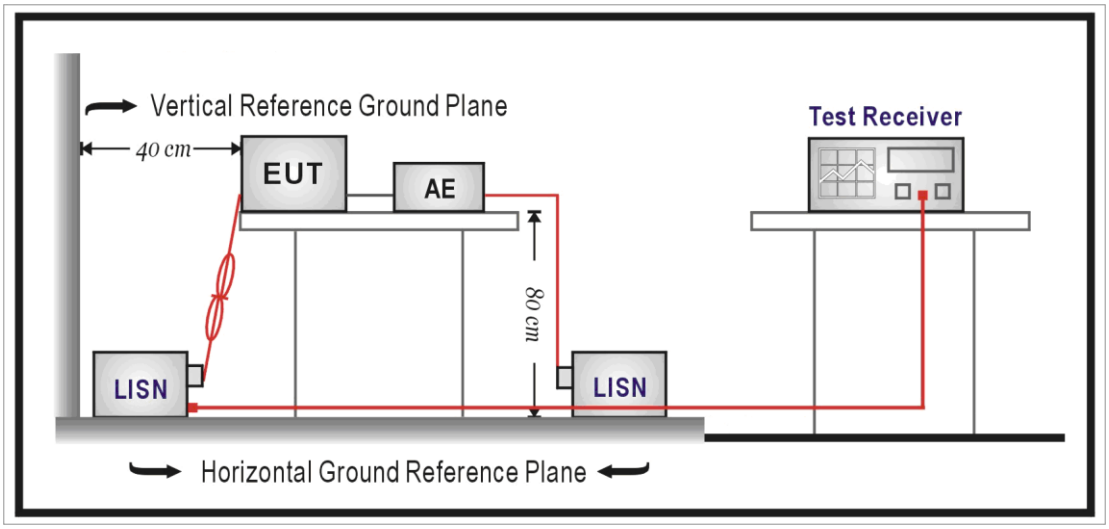
The antenna port of the EUT was connected to the input of a power sensor. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

4.2. AC Power Line 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.

4.3. Radiated Emission Measurement

■ **Limit**

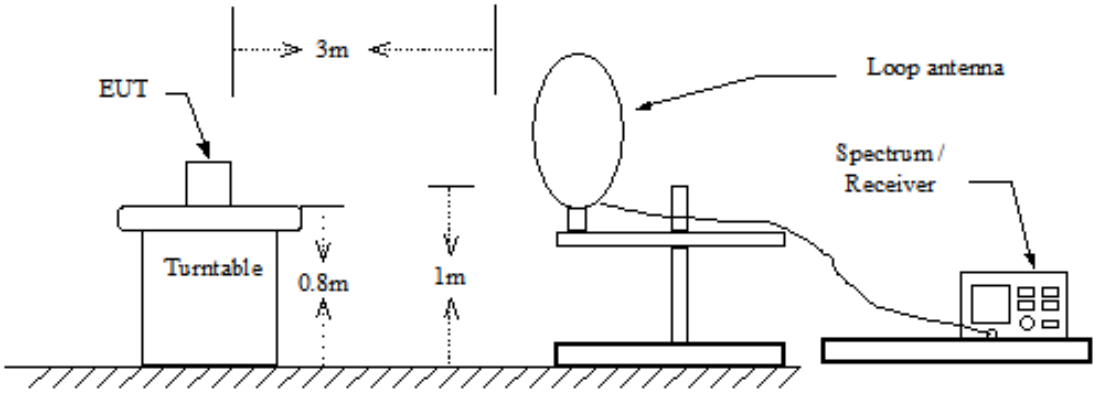
According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (μV/m at 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	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

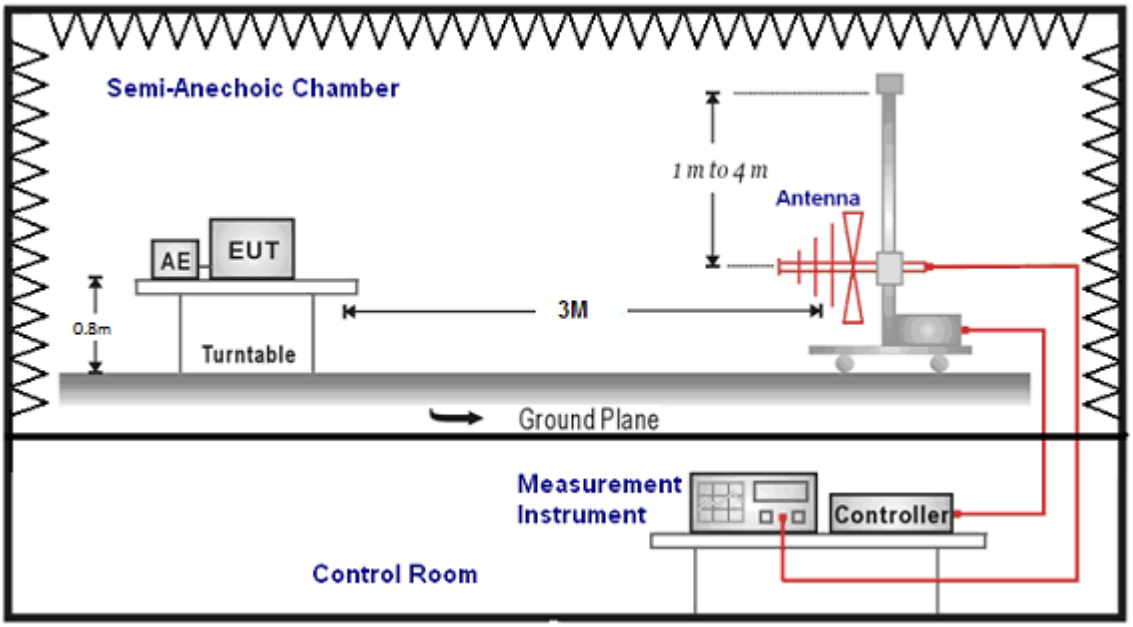
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

■ **Setup**

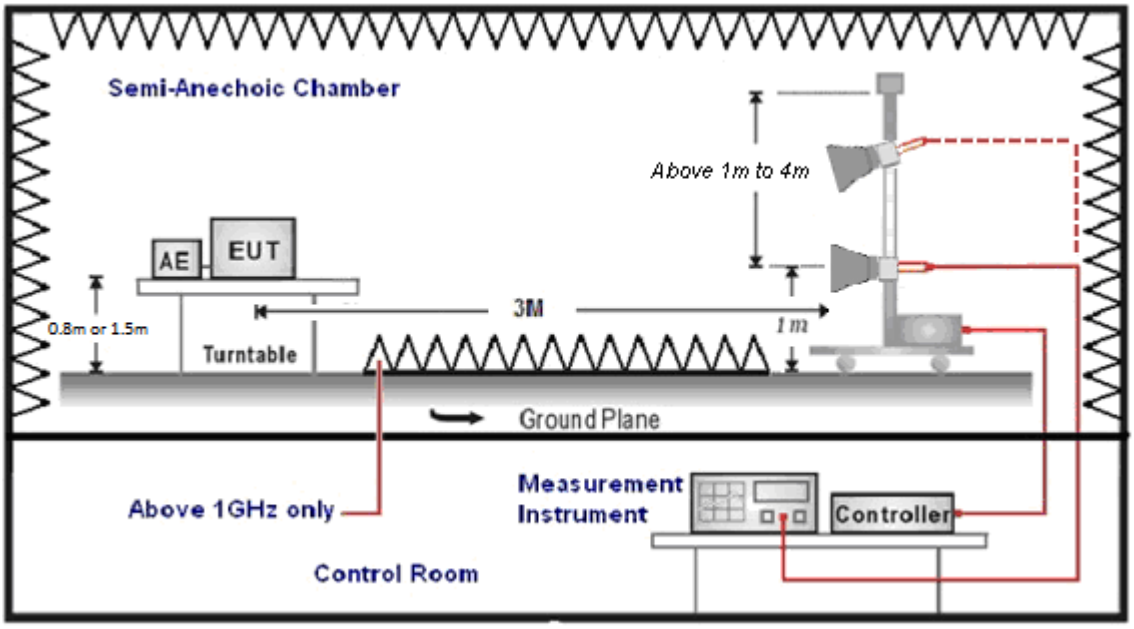
9 kHz ~ 30 MHz



Below 1 GHz



Above 1 GHz



■ **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, 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 26.5 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 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 >98 % / 1/T for average measurements when Duty cycle <98 %. 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 Biconilog Antenna at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. 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

Data of measurement within this frequency range without mark in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.

4.4. Antenna Measurement

- **Limit**

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And According to 15.247 (b)(4), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

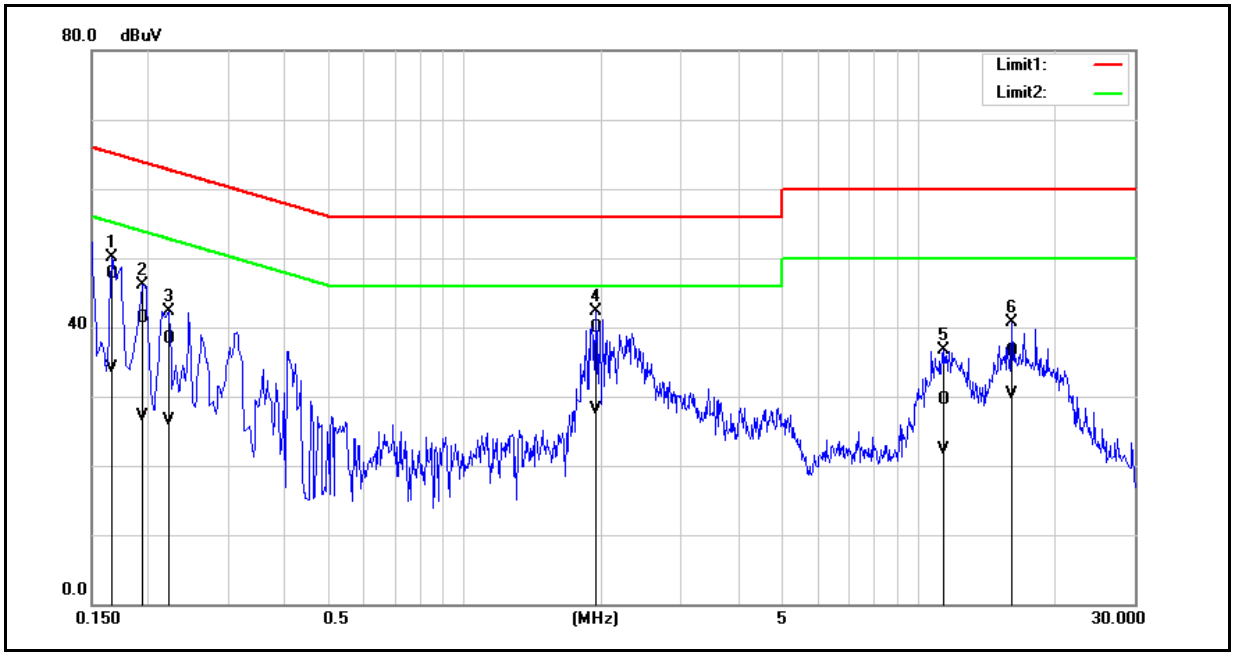
- **Antenna Connector Construction**

See section 2 – antenna information.

5 Test Results

Annex A. Conducted Emission

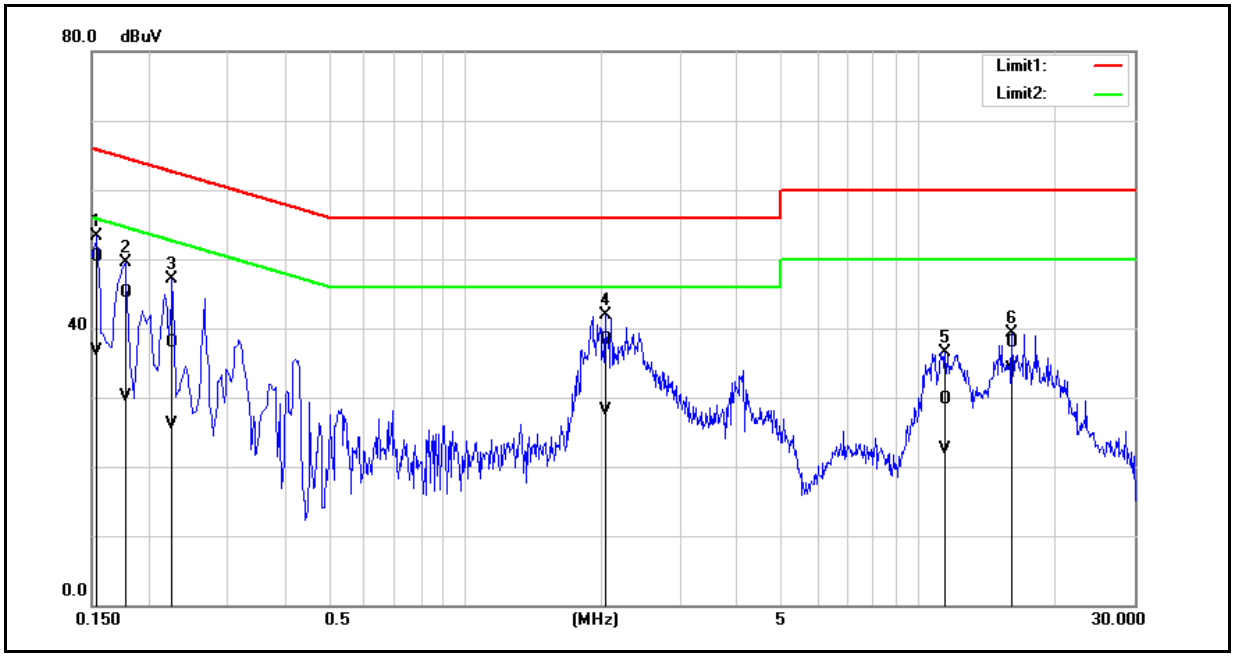
SYSTEM 2 Full			
Standard:	FCC Part 15.247	Line:	L1
Test item:	Conducted Emission	Power:	AC 120 V/60 Hz
Test Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Description:			



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	0.1660	38.11	24.55	9.52	47.63	34.07	65.16	55.16	-17.53	-21.09	Pass
2	0.1940	31.81	17.65	9.52	41.33	27.17	63.86	53.86	-22.53	-26.69	Pass
3	0.2220	28.75	17.06	9.52	38.27	26.58	62.74	52.74	-24.47	-26.16	Pass
4	1.9420	30.28	18.42	9.60	39.88	28.02	56.00	46.00	-16.12	-17.98	Pass
5	11.4180	19.79	12.50	9.78	29.57	22.28	60.00	50.00	-30.43	-27.72	Pass
6	16.1100	26.63	20.40	9.83	36.46	30.23	60.00	50.00	-23.54	-19.77	Pass

Note: 1. Result (dBuV) = Correct 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
Test Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Description:			



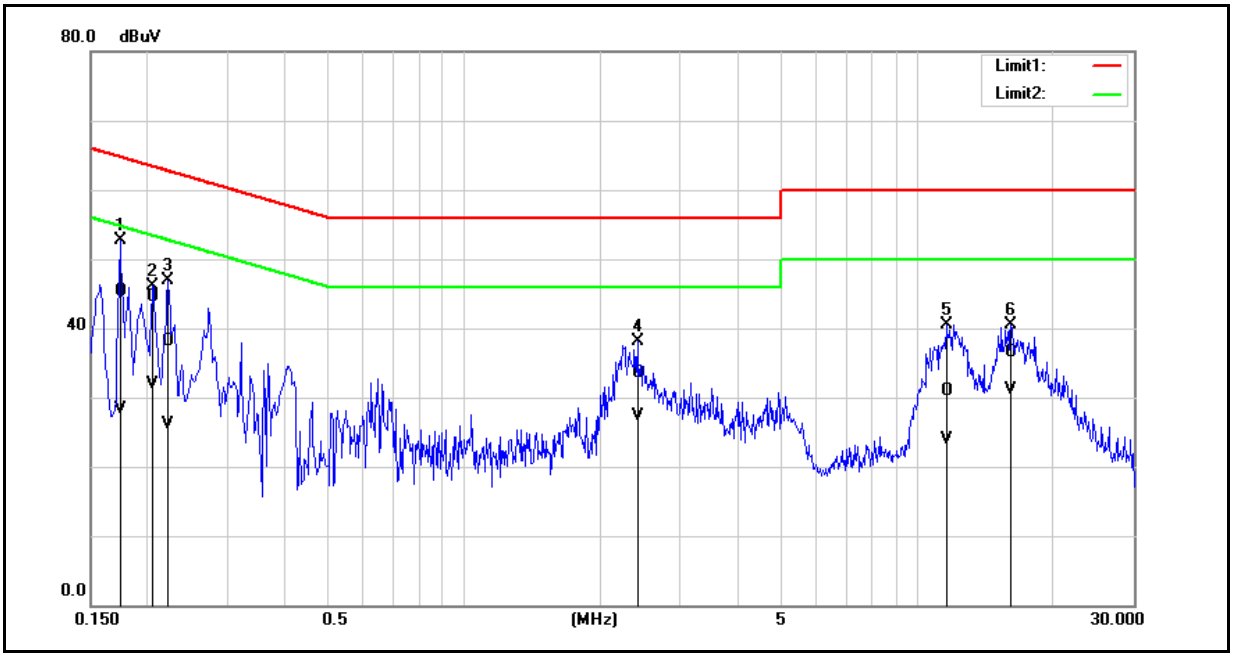
No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1540	40.76	27.11	9.60	50.36	36.71	65.78	55.78	-15.42	-19.07	Pass
2	0.1780	35.57	20.51	9.59	45.16	30.10	64.58	54.58	-19.42	-24.48	Pass
3	0.2260	28.41	16.59	9.59	38.00	26.18	62.60	52.60	-24.60	-26.42	Pass
4	2.0340	28.57	18.54	9.66	38.23	28.20	56.00	46.00	-17.77	-17.80	Pass
5	11.4500	19.87	12.67	9.88	29.75	22.55	60.00	50.00	-30.25	-27.45	Pass
6	16.1260	28.03	24.23	9.97	38.00	34.20	60.00	50.00	-22.00	-15.80	Pass

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

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

SYSTEM 1 Basic

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

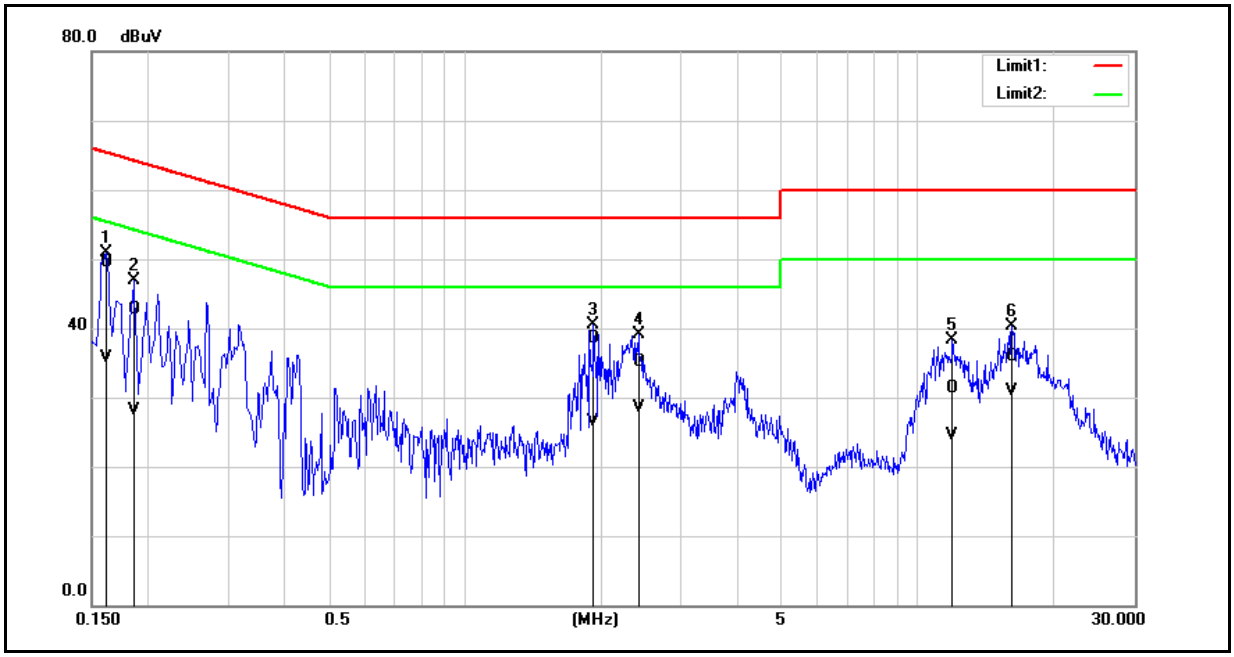


No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1740	35.80	18.87	9.52	45.32	28.39	64.77	54.77	-19.45	-26.38	Pass
2	0.2060	35.04	22.35	9.52	44.56	31.87	63.37	53.37	-18.81	-21.50	Pass
3	0.2220	28.65	16.49	9.52	38.17	26.01	62.74	52.74	-24.57	-26.73	Pass
4	2.4180	23.82	17.65	9.61	33.43	27.26	56.00	46.00	-22.57	-18.74	Pass
5	11.6020	21.07	14.16	9.78	30.85	23.94	60.00	50.00	-29.15	-26.06	Pass
6	16.1300	26.73	21.19	9.83	36.56	31.02	60.00	50.00	-23.44	-18.98	Pass

Note: 1. Result (dBuV) = Correct 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
Test Mode:	Mode 1	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Description:			



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	39.88	26.01	9.60	49.48	35.61	65.36	55.36	-15.88	-19.75	Pass
2	0.1860	33.13	18.54	9.59	42.72	28.13	64.21	54.21	-21.49	-26.08	Pass
3	1.9260	28.82	16.75	9.66	38.48	26.41	56.00	46.00	-17.52	-19.59	Pass
4	2.4180	25.43	18.84	9.67	35.10	28.51	56.00	46.00	-20.90	-17.49	Pass
5	11.8700	21.44	14.61	9.88	31.32	24.49	60.00	50.00	-28.68	-25.51	Pass
6	16.1340	25.96	20.91	9.97	35.93	30.88	60.00	50.00	-24.07	-19.12	Pass

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

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

Annex B. Conducted Test Results

Maximum Conducted Output Power Measurement

Test Mode	Frequency (MHz)	Packet Type	Average Power		Peak Power		Limit (W)
			(dBm)	(W)	(dBm)	(W)	
Mode 2	2402	DH1	9.04	0.00802	9.28	0.00847	≤ 0.125
		DH3	9.13	0.00818	9.32	0.00855	≤ 0.125
		DH5	9.17	0.00826	9.38	0.00867	≤ 0.125
	2441	DH1	9.59	0.00910	9.81	0.00957	≤ 0.125
		DH3	9.62	0.00916	9.85	0.00966	≤ 0.125
		DH5	9.73	0.00940	9.91	0.00979	≤ 0.125
	2480	DH1	10.01	0.01002	10.17	0.01040	≤ 0.125
		DH3	10.12	0.01028	10.21	0.01050	≤ 0.125
		DH5	10.16	0.01038	**10.24**	**0.01057**	≤ 0.125
Mode 3	2402	2DH1	5.60	0.00363	7.68	0.00586	≤ 0.125
		2DH3	5.67	0.00369	7.73	0.00593	≤ 0.125
		2DH5	5.72	0.00373	7.79	0.00601	≤ 0.125
	2441	2DH1	5.84	0.00384	7.99	0.00630	≤ 0.125
		2DH3	5.93	0.00392	8.07	0.00641	≤ 0.125
		2DH5	5.99	0.00397	8.11	0.00647	≤ 0.125
	2480	2DH1	6.02	0.00400	8.19	0.00659	≤ 0.125
		2DH3	6.07	0.00405	8.25	0.00668	≤ 0.125
		2DH5	6.14	0.00411	**8.30**	**0.00676**	≤ 0.125
Mode 4	2402	3DH1	5.61	0.00364	7.89	0.00615	≤ 0.125
		3DH3	5.68	0.00370	7.96	0.00625	≤ 0.125
		3DH5	5.74	0.00375	8.02	0.00634	≤ 0.125
	2441	3DH1	5.89	0.00388	8.05	0.00638	≤ 0.125
		3DH3	5.96	0.00394	8.12	0.00649	≤ 0.125
		3DH5	6.02	0.00400	8.18	0.00658	≤ 0.125
	2480	3DH1	6.09	0.00406	8.31	0.00678	≤ 0.125
		3DH3	6.13	0.00410	8.35	0.00684	≤ 0.125
		3DH5	6.20	0.00417	**8.48**	**0.00705**	≤ 0.125

Note: The relevant measured result has the offset with cable loss already.

Annex C. Radiated Emission Measurement

Harmonic

SYSTEM 2 Full

Below 1 GHz

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	2480 MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 2		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
106.6300	41.39	-9.73	31.66	43.50	-11.84	QP	H
216.2400	43.07	-7.38	35.69	46.00	-10.31	QP	H
337.4900	38.05	-3.20	34.85	46.00	-11.15	QP	H
482.9900	36.01	0.00	36.01	46.00	-9.99	QP	H
561.5600	36.48	1.43	37.91	46.00	-8.09	QP	H
862.2600	32.00	7.20	39.20	46.00	-6.80	QP	H
156.1000	39.90	-5.43	34.47	43.50	-9.03	QP	V
295.7800	37.16	-3.89	33.27	46.00	-12.73	QP	V
338.4600	36.76	-3.19	33.57	46.00	-12.43	QP	V
487.8400	34.18	0.05	34.23	46.00	-11.77	QP	V
563.5000	35.96	1.49	37.45	46.00	-8.55	QP	V
788.5400	32.32	6.17	38.49	46.00	-7.51	QP	V

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

Example: 31.66 = -9.73+41.39

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.

SYSTEM 1 Basic

Below 1 GHz

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	2480 MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Test Mode:	Mode 2		

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
216.2400	42.92	-7.38	35.54	46.00	-10.46	QP	H
329.7300	38.57	-3.31	35.26	46.00	-10.74	QP	H
482.9900	35.64	0.00	35.64	46.00	-10.36	QP	H
640.1300	34.76	3.10	37.86	46.00	-8.14	QP	H
746.8300	32.42	5.44	37.86	46.00	-8.14	QP	H
857.4100	31.67	7.11	38.78	46.00	-7.22	QP	H
150.2800	40.77	-5.67	35.10	43.50	-8.40	QP	V
295.7800	39.16	-3.89	35.27	46.00	-10.73	QP	V
394.7200	36.76	-1.88	34.88	46.00	-11.12	QP	V
562.5300	37.11	1.46	38.57	46.00	-7.43	QP	V
769.1400	29.92	5.84	35.76	46.00	-10.24	QP	V
939.8600	31.00	8.50	39.50	46.00	-6.50	QP	V

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

Example: 35.54 = -7.38+42.92

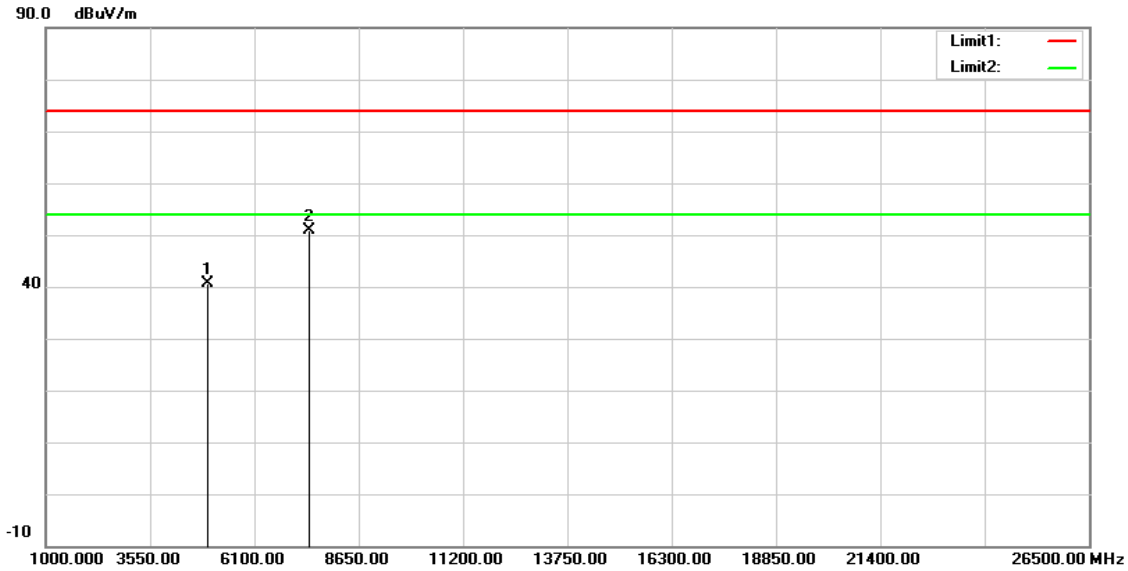
2.Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).

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

SYSTEM 2 Full

Above 1 GHz

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	2480 MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4960.000	34.87	5.64	40.51	74.00	-33.49	peak
2	7440.000	38.26	12.53	50.79	74.00	-23.21	peak

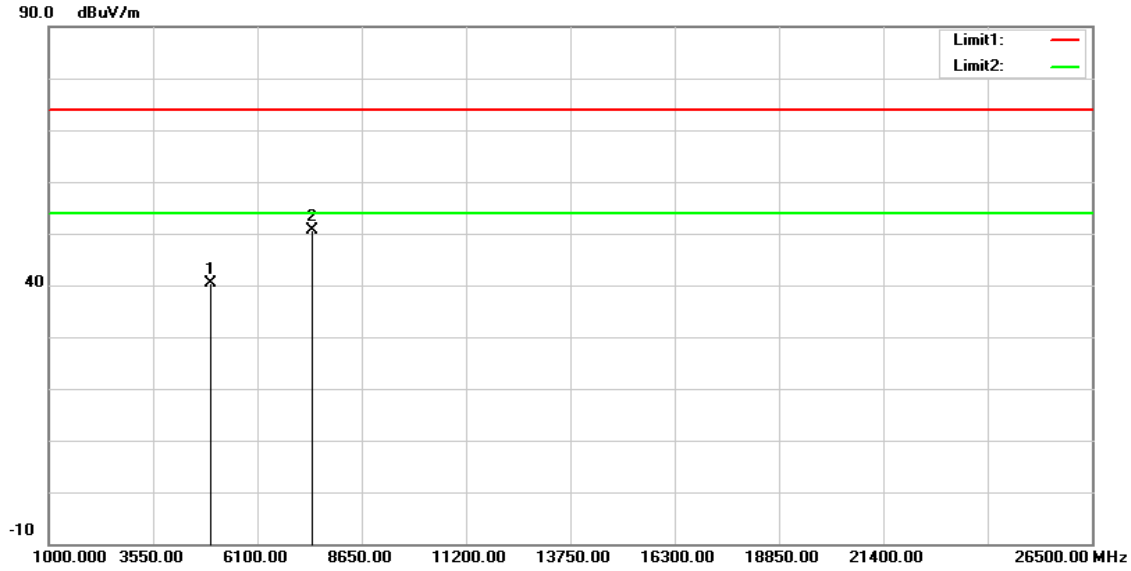
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: 40.51 = 5.64+34.87

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.

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	2480 MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4960.000	34.86	5.64	40.50	74.00	-33.50	peak
2	7440.000	38.02	12.53	50.55	74.00	-23.45	peak

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

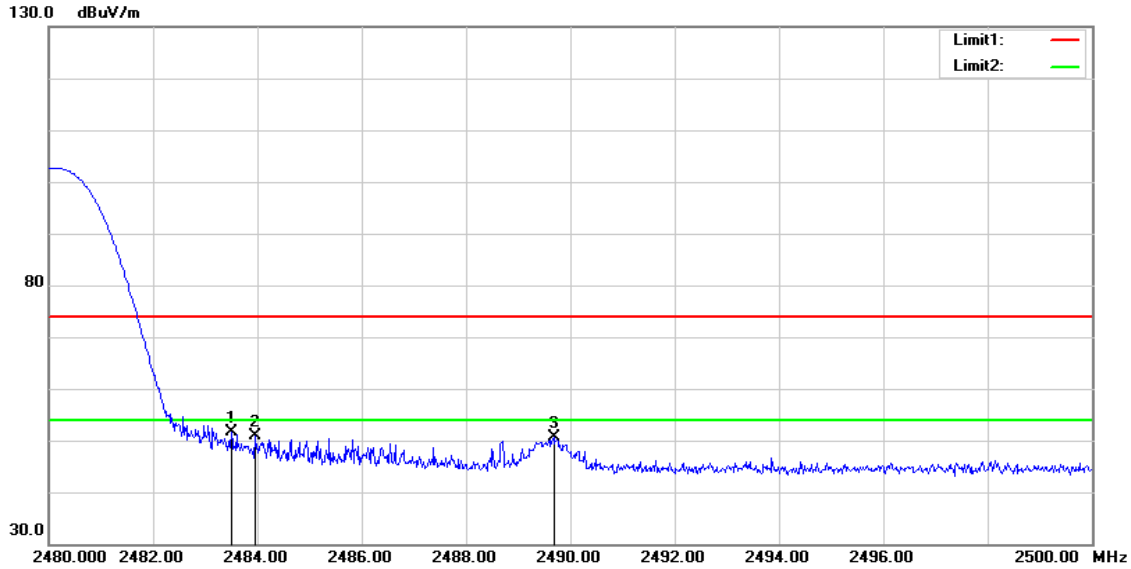
Example: 40.50 = 5.64+34.86

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.

Band Edge

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	2480 MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	52.55	-0.82	51.73	74.00	-22.27	peak
2	2483.960	51.68	-0.82	50.86	74.00	-23.14	peak
3	2489.680	51.32	-0.80	50.52	74.00	-23.48	peak

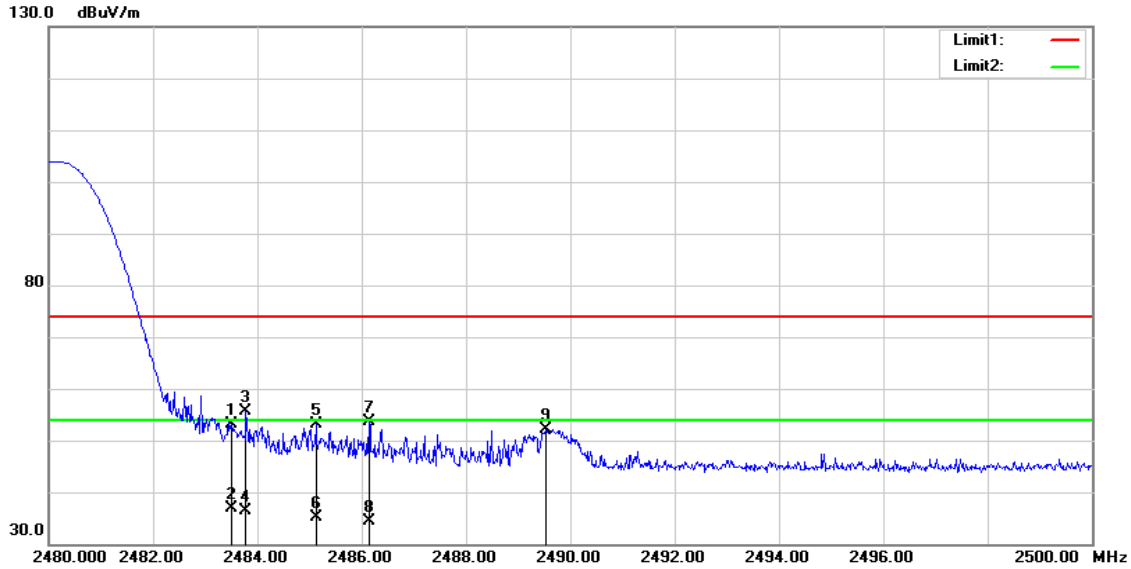
Note:1.Result (dBuV/m) = Correct Factor (dB/m) + Reading(dBuV).

Example: 51.73 = -0.82+52.55

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.

Standard:	FCC Part 15.247	Test Distance:	3 m
Test item:	Band edge	Power:	AC 120 V/60 Hz
Frequency:	2480 MHz	Temp.(℃)/Hum.(%RH):	26(℃)/60 %RH
Mode:	Mode 2		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	53.94	-0.82	53.12	74.00	-20.88	peak
2	2483.500	37.65	-0.82	36.83	54.00	-17.17	AVG
3	2483.780	56.45	-0.82	55.63	74.00	-18.37	peak
4	2483.780	37.32	-0.82	36.50	54.00	-17.50	AVG
5	2485.120	54.00	-0.82	53.18	74.00	-20.82	peak
6	2485.120	35.97	-0.82	35.15	54.00	-18.85	AVG
7	2486.140	54.46	-0.82	53.64	74.00	-20.36	peak
8	2486.140	35.29	-0.82	34.47	54.00	-19.53	AVG
9	2489.540	53.03	-0.80	52.23	74.00	-21.77	peak

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

Example: 53.12 = -0.82+53.94

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.