TEST REPORT

Applicant	:	Shenzhen Gotron Electronic CO.,LTD.
Product Name	:	Smart Phone
Brand Name	:	ulefone
Model Name	:	GQ5012
Series Model	:	Armor 29 Pro, Armor 29 Ultra, Armor 29, Armor 29T Ultra, Armor 29T Pro, Armor 29 Lite, Armor 29s, Armor 29s Pro
FCC ID	:	2AOWK-5012
Test Standard	:	FCC Part 15 Subpart E §15.407
Date of Receipt	:	2025.02.11
Date of Test	:	2025.02.11~2025.04.11
Issue Date	:	2025.04.29

Report Prepared by : (Jacob Cai)

Report Approved by : (Jason Wu)

Authorized Signatory : (Robinson Luo)

Authorized Signature:

Robinson Luo
Laboratory Manager

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REVISION HISTORY

Rev.	Issue Date	Revisions	Revised by
A0	2025.04.29	Initial Release	N/A

DECLARATION OF REPORT

1. The device has been tested by GTS, and the test results show that the equipment under test (EUT)is in compliance with the requirements of 47 CFR 15.407. And it is applicable only to the tested sample identified in the report.

2. This report shall not be reproduced except in full, without the written approval of GTS, this document only be altered or revised by GTS, personal only, and shall be noted in the revision of the document.

3. The general information of EUT in this report is provided by the customer or manufacture, GTS is only responsible for the test data but not for the information provided by the customer or manufacture.

4. The results in this report is only apply to the sample as tested under conditions. The customer or manufacturer is responsible for ensuring that the additional production units of this model have the same electrical and mechanical components.

5. In this report, '☐' indicates that EUT does not support content after '☐', and '☑' indicates that it supports content after '☑'

SUMMARY OF TEST RESULT

Report Section	Standard Section	Test Item	Result	Remark
3.1	47 CFR 15.407(a)	Emission Bandwidth(26dBm Bandwidth)	PASS	-
3.2	47 CFR 15.407(e)	Emission Bandwidth(6dBm Bandwidth)	PASS	-
3.3	47 CFR 15.407(a)	Maximum Conducted Output Power	PASS	-
3.4	47 CFR 15.407(a)	Power Spectral Density	PASS	-
3.5	47 CFR 15.407(g)	Frequency Stability	PASS	-
3.6	47 CFR 15.407(b) &15.209(a)	Undesirable emission	PASS	-
3.7	47 CFR 15.407(b)/15.209(a)/15.205(a)	Radiated Emissions	PASS	-
3.8	47 CFR 15.407(h)	Dynamic Frequency Selection	N/A	-
3.9	47 CFR 15.203	Antenna Requirement	PASS	-
3.10	47 CFR 15.207(a)	AC Power Conducted Emission	PASS	-

1. General Description

1.1. Applicant

Name	:	Shenzhen Gotron Electronic CO.,LTD.
Address	:	7B01, Building A, Block 1, Anhongji Tianyao Plaza, Longhua District, Shenzhen City, Guangdong Province China

1.2. Manufacturer

Name	:	Shenzhen Gotron Electronic CO.,LTD.
Address	:	7B01, Building A, Block 1, Anhongji Tianyao Plaza, Longhua District, Shenzhen City, Guangdong Province China

1.3. Factory

Name	:	Shenzhen Gotron Electronic CO.,LTD.
Address	:	7B01, Building A, Block 1, Anhongji Tianyao Plaza, Longhua District, Shenzhen City, Guangdong Province China

1.4. General Information of EUT

General Information	
Equipment Name	Smart Phone
Brand Name	ulefone
Model Name	GQ5012
Series Model	Armor 29 Pro, Armor 29 Ultra, Armor 29, Armor 29T Ultra, Armor 29T Pro, Armor 29 Lite, Armor 29s, Armor 29s Pro
Model Difference	All the same except for model name
Antenna Type	PIFA Antenna
Antenna Gain	2.68dBi
Sample No:	202502060001001
Adapter:	Input:100-240V~50/60Hz 1.8AOutput:5.0V⎓ 3.0A 15.0W OR 9.0V⎓ 3.0A 27.0W OR 12.0V⎓ 3.0A 36.0W OR 15.0V⎓ 3.0A 45.0W OR 20.0V⎓ 5.0A 100.0W MAX PPS:3.6V-20.0V⎓ 6.0A 120.0W MAX
Battery	Rated Voltage:7.74V Charge Limit Voltage:8.9V Capacity:10600mAh
Hardware version	N/A
Software version	N/A
Connecting I/O Port(s)	Refer to the remark below.

Remark:

The above information of EUT was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.5. Equipment Specification

Equipment Specification			
Frequency Range	5150MHz -5250MHz; 5745MHz-5850MHz		
Maximum Output Power To Antenna	☑802.11a:	14.92dBm (0.03105W)	
	☑802.11n(HT)20:	16.037dBm (0.04015W)	
	☑802.11n(HT)40:	14.75dBm (0.02985W)	
	☑802.11ac(VHT)20:	16.27dBm (0.04236W)	
	☑802.11ac(VHT)40:	15.496dBm (0.03545W)	
	☑802.11ac(VHT)80:	15.16dBm (0.03281W)	
	☑802.11ax(HE)20:	16.895dBm (0.04892W)	
	☑802.11ax(HE)40:	16.428dBm (0.04393W)	
	☑802.11ax(HE)80:	15.327dBm (0.03410W)	
Type of Modulation	☑802.11a/n(HT): OFDM (BPSK/QPSK/16QAM/64QAM)		
	☑802.11ac(VHT): OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)		
	☑802.11ax(HE): OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)		
Antenna Information	☑SISO	Antenna Type:	PIFA
		Antenna 0 Gain:	2.68dBi
		Antenna 1 Gain:	2.68dBi
	☑MIMO	Antenna Type:	PIFA
		Antenna 0 Gain:	2.68dBi
		Antenna 1 Gain:	2.68dBi
TX Power Control (TPC)	☐Supported		
	☑No Supported		
Type of Device	☐Master		
	☑Client Without Radar Detection		
	☐Client With Radar Detection		

Note:

1. The 802.11a mode cannot transmit with dual antennas simultaneously.

1.6. Modification of EUT

No modifications are made to the EUT during all test items.

1.7. Laboratory Information

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC —Registration No.: 381383**

  Designation Number: CN5029

  Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.

- **ISED—Registration No.: 9079A**

  CAB identifier: CN0091

  The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing.

- **NVLAP (LAB CODE:600179-0)**

  Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480

Fax: 0755-27798960

1.8. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

47 CFR Part 15 Subpart E §15.407

FCC KDB789033 D02 General UNII Test Procedures New Rules v02r01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

Remark:

All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of EUT

2.1. Carrier Frequency Channel

Frequency Band	Bandwidth	Channel	Frequency MHz	Channel	Frequency MHz
U-NII-1	20 MHz	36	5180	40	5200
		44	5220	48	5240
	40 MHz	38	5190	46	5230
	80 MHz	42	5210	/	/
U-NII-3	20 MHz	149	5745	153	5765
		157	5785	161	5805
		165	5825	/	/
	40 MHz	151	5755	159	5795
	80 MHz	155	5775	/	/

2.2. Test Modes

Final test modes are considering the modulation and worse data rates as below table.

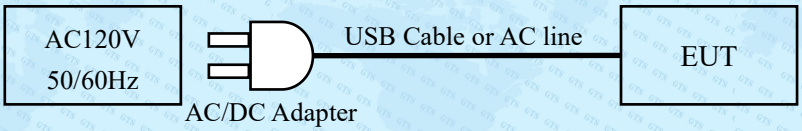
Summary Table of Test Channel			
Test Item	Mode	Frequency Band	Channel
For Conducted and Radiated Test	☑802.11a: ☑802.11n(HT)20: ☑802.11ac(VHT)20: ☑802.11ax(HE)20:	U-NII-1	36, 40 ,48
		U-NII-3	149 ,157 ,165
	☑802.11n(HT)40: ☑802.11ac(VHT)40: ☑802.11ax(HE)40:	U-NII-1	38, 46
		U-NII-3	151 ,159
	☑802.11ac(VHT)80: ☑802.11ax(HE)80:	U-NII-1	42
		U-NII-3	155
For AC Power-line Conducted Emission	802.11ax20_ MIMO_CH44 + USB Cable(Charging fromAdapter)		

Remark:

1.All the test modes of Radiated Spurious Emission (RSE) were tested at the worst data rate; only the worse data shown in report.
2. The worst test data below 1GHz is 802.11ax20_ MIMO_CH44.
3. The worst test data above 1GHz is the 802.11a mode antenna 0, and 802.11n/ac is the MIMO mode

2.3. Block Diagram of Test System

2.3.1. For AC Power-Line Conducted Emission



2.3.2. For Radiated Spurious Emission

2.3.3. For Conducted Test

2.4. Description of Support Units

NO.	Unit	Brand	Model	Description
1	ROUTER	NETGEAR	R7000	N/A
2	PC	Redmi G	2021 Ryzen	N/A

2.5. Test Software and Power Level

During the test, the channel and power control software provided by the customer is used to control the operation channel and output power level.

2.6. EUT Operating Conditions

For AC power-line conducted emission, the EUT was connected under the large package sizes transmission.

For radiated spurious emission and conducted test, the engineering test program was provided and make the EUT to continuous transmit/receive.

2.7. Equipment List

2.7.1. For AC Power-Line Conducted Emission

Equipment Name	Manufacturer	Model	Serial No.	Calibration Date	Calibration Due Date
Test Receiver	R&S	ESPI	101679	2024.05.22	2025.05.21
LISN	R&S	ENV216	100300	2024.05.22	2025.05.21
LISN	R&S	ENV216	100333	2024.05.22	2025.05.21
Thermometer	DeLi	N/A	N/A	2024.09.22	2025.09.21
Test Software	FALA	EZ-EMC	N/A	N/A	N/A

2.7.2. For Radiated Emission

Equipment Name	Manufacturer	Model	Serial No.	Calibration Date	Calibration Due Date
Signal analyzer	Agilent	N9020A	MY50200811	2024.05.22	2025.05.21
Amplifier	JPT	JPA0118-55-303A	1910001800055000	2024.05.22	2025.05.21
Amplifier	JPT	JPA-10M1G32	21010100035001	2024.05.22	2025.05.21
Antenna/Turn table Controller	Brilliant	N/A	N/A	N/A	N/A
Loop Antenna	Daze	ZN30900C	20077	2024.05.22	2025.05.21
Bilog Antenna	SCHWARZBECK	VULB 9168	01174	2024.05.22	2025.05.21
Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120D	02334	2024.05.22	2025.05.21
Horn Antenna	COM-POWER	AH-1840	10100008	2024.05.22	2025.05.21
Thermometer	DeLi	N/A	N/A	2024.09.22	2025.09.21
Test Software	FALA	EMC-RI	N/A	N/A	N/A
Cable	Lyle Microwave	SMAM	RG142	/	/
Vector signal generator	Keysight	N5182B	MY50200811	2025.05.21	2026.05.20
Horn Antenna	Schwarzbeck	BBHA 9120D	2802	2024-08-11	2025-08-10

2.7.3. For Conducted Test

Equipment Name	Manufacturer	Model	Serial No.	Calibration Date	Calibration Due Date
Power meter	Anritsu	ML2496A	1935001	2024.09.29	2025.09.28
Power sensor	Anritsu	MA2411B	1911006	2024.09.29	2025.09.28
Power sensor	DARE	RPR3006W	16I00054SN016	2024.09.29	2025.09.28
Power sensor	DARE	RPR3006W	RPR6W-2001005	2024.09.29	2025.09.28
Power sensor	Rediteq	RPR3006W	RPR6W-2201002	2024.11.15	2025.11.14
Power sensor	Rediteq	RPR3006W	RPR6W-2201003	2024.11.15	2025.11.14
Power sensor	Keysight	U2021XA	MY59120004	2024.08.14	2025.08.13
Adjustable Attenuator	Agilent	8494B	MY42144015	2024.09.29	2025.09.28
Adjustable Attenuator	Agilent	8496B	MY42143776	2024.09.29	2025.09.28
Environmental Test Chamber	KSON	THS-B6C-150	9159K	2024.01.18	2025.01.17
Signal analyzer	Keysight	N9020A	MY50510136	2024.09.29	2025.09.28
Vector signal generator	Keysight	N5182B	MY57300196	2024.09.29	2025.09.28
Vector signal generator	Agilent	N5182A	MY50143555	2024.01.18	2025.07.17
Analog signal generator	Keysight	N5173B	MY60403026	2024.01.18	2025.07.17
Wideband radio communication tester	R&S	CMW500	101331	2024.09.29	2025.09.28
Spectrum analyzer	R&S	FSV40-N	101761	2024.08.23	2025.08.22
Switch Box	N/A	RFSW3003328	RFSW201019	N/A	N/A
Thermometer	DeLi	N/A	N/A	2024.09.22	2025.09.21
Test Software	FALA	LZ-RF	N/A	N/A	N/A

2.8. Measurement Uncertainty

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

No.	Item	Uncertainty
1	Power Port Conducted	±3.12dB
2	All emissions, radiated 30MHz-1GHz	±6.10dB
3	All emissions, radiated 1GHz-6GHz	±4.7dB
4	All emissions, radiated 6GHz-18GHz	±4.84dB

3. Test Result

3.1. Emission Bandwidth And 99% Occupied Bandwidth

3.1.1. Limit

N/A

3.1.2. Test Procedure

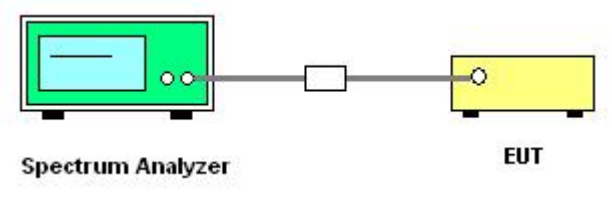
Emission Bandwidth:

1. Set resolution bandwidth (RBW) = approximately 1 % of the EBW.
2. Set the video bandwidth (VBW) > RBW.
3. Detector = Peak.
4. Trace mode = Max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW / EBW ratio is approximately 1 %.

99% Occupied Bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1% to 5% of the OBW
4. Set VBW ≥ 3 RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall
6. be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
7. Use the 99% power bandwidth function of the instrument (if available). If the instrument does not have a 99% power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5% of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

3.1.3. Test Setup



3.1.4. Test Result of Emission Bandwidth And 99% Occupied Bandwidth

Please refer to the Appendix D.

3.2. Minimum Emission Bandwidth

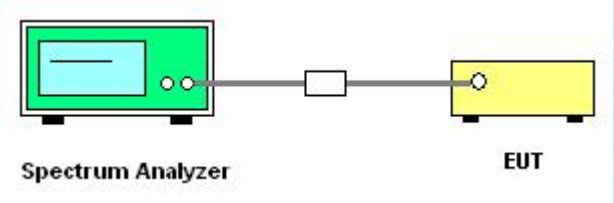
3.2.1. Limit

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 kHz for the band 5.725-5.85 GHz

3.2.2. Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth 3 x RBW.
3. Detector = Peak.
4. Trace mode = Max hold.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

3.2.3. Test Setup



3.2.4. Test Result of Minimum Emission Bandwidth

Please refer to the Appendix D.

3.3. Maximum Conducted Average Output Power

3.3.1. Limit

For the band 5.15-5.25 GHz

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

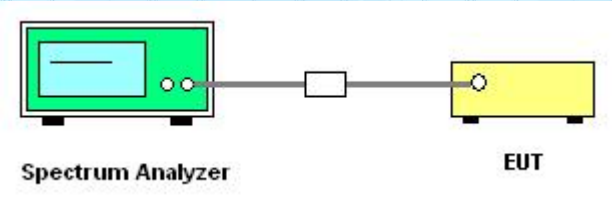
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

3.3.2. Test Procedure

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum.

3.3.3. Test Setup



3.3.4. Test Result of Maximum Conducted Average Output Power

Please refer to the Appendix D.

3.4. Power Spectral Density

3.4.1. Limit

For the band 5.15-5.25 GHz.(Note1 Note2)

For an outdoor access point operating in the band 5.15 - 5.25 GHz, the maximum power spectral density shall not exceed 17dBm in any 1 MHz band.note1

(ii) For an indoor access point operating in the band 5.15 - 5.25 GHz, the maximum power spectraldensityshall not exceed 17dBm in any 1 MHz band.note1

(iii) For fixed point-to-point access points operating in the band 5.15 - 5.25 GHz, transmitters that employ a directional antenna gain greater than 23dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23dBi.

(iv) For mobile and portable client devices in the 5.15 - 5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 MHz band. note1

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands.(Note1 Note2)

The maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

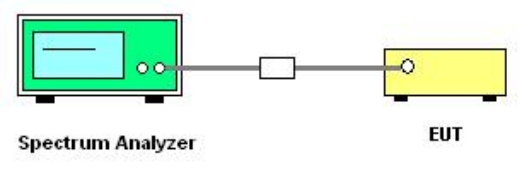
Note1: If transmitting antennas of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note2: Fixed point - to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information.

3.4.2. Test Procedure

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW = 1MHz for U-NII 1, U-NII 2A, U-NII C band and 510KHz for U-NII 3 band.
3. Set the VBW ≥ 3× RBW.
4. Set the span to encompass the entire RMS.
5. Detector = Average.
6. Sweep time = 1ms.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum power level.

3.4.3. Test Setup



3.4.4. Test Result of Power Spectral Density

Please refer to the Appendix D.

3.5. Frequency Stability

3.5.1. Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

3.5.2. Test Procedure

Frequency Stability under Temperature Variations:

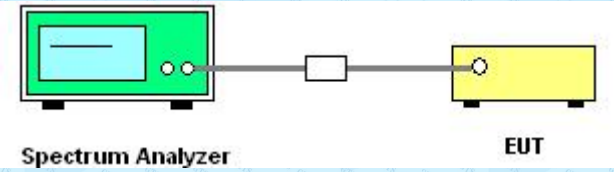
The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20℃ operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached.

Frequency Stability under Voltage Variations:

Set chamber temperature to 20℃. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (±15%) and endpoint, record the maximum frequency change.

3.5.3. Test Setup



3.5.4. Test Result of Frequency Stability

Please refer to the Appendix D.

3.6. Conducted Spurious Emission

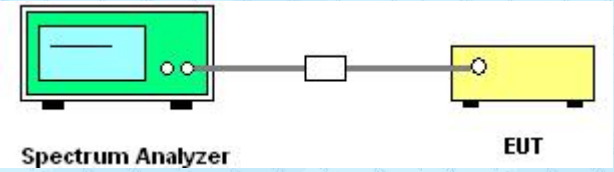
3.6.1. Limit

47 CFR 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

3.6.2. Test Procedure

1. The testing follows *ANSI C63.10-2013 clause 7.8.8*.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW = 300kHz, scan up through 10th harmonic. All harmonics / spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.6.3. Test Setup



3.6.4. Test Result of Conducted Spurious Emission

No need for testing. The radiation method was tested.

3.7. Radiated Spurious Emission and Restricted Band

3.7.1. Limit

47 CFR 15.407(b):The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

1. 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.

2. 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.

3. 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.

4. For transmitters operating in the 5.725-5.85 GHz band: 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.

47 CFR 15.209(a): The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (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	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

3.7.2. Test Procedure

1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.

3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Pre-amp Factor = Level.

6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.

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

8. Use the following spectrum analyzer settings:

① Span shall wide enough to fully capture the emission being measured;

② When frequency < 1 GHz:

• Set RBW=100 kHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;

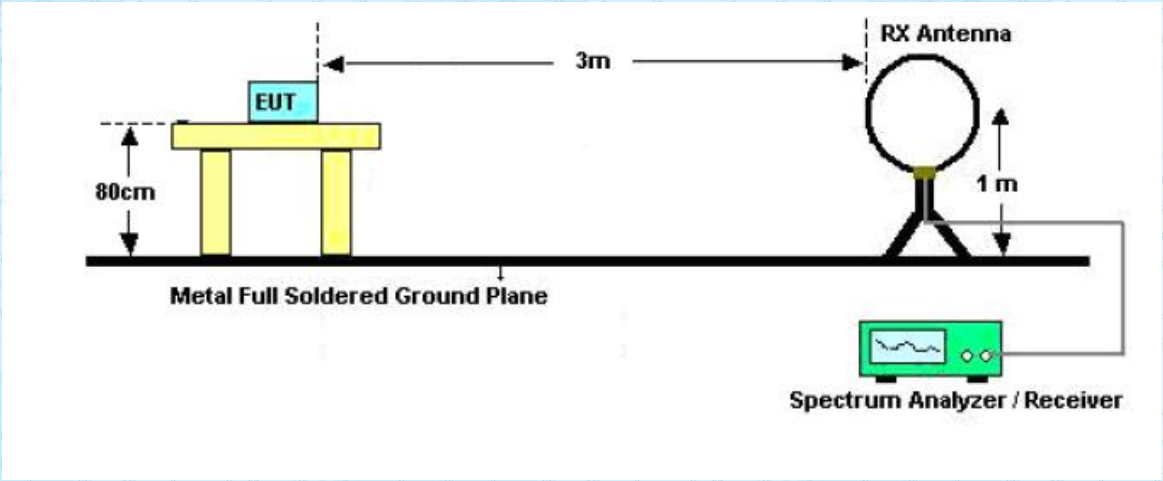
③ When frequency ≥ 1 GHz:

• Set RBW = 1 MHz; VBW = 3 MHz for peak measurement;

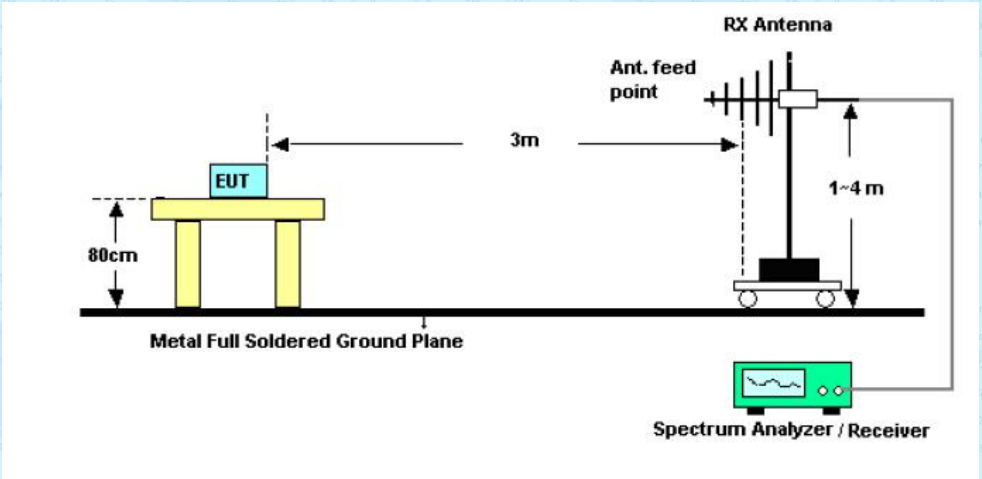
• Set RBW = 1 MHz; VBW = 10 Hz, when duty cycle is no less than 98 percent or VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.7.3. Test Setup

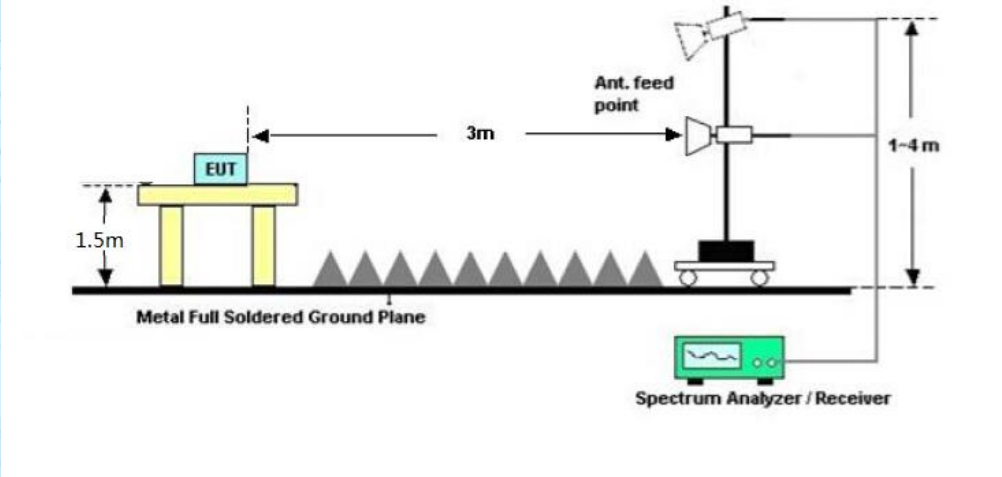
3.7.3.1. For radiated emissions below 30MHz



3.7.3.2. For radiated emissions from 30MHz to 1GHz



3.7.3.3. For radiated emissions above 1GHz



3.7.4. Test Result of Radiated Spurious Emission

3.7.4.1. For 9 kHz ~ 30 MHz

Please refer to the Appendix E.

3.7.4.2. For 30 MHz ~ 1 GHz

Please refer to the Appendix E.

3.7.4.3. For 1 GHz ~ 18GHz

Please refer to the Appendix E.

3.7.4.4. For above 18GHz

Please refer to the Appendix E.

3.7.5. Test Result of Restricted Band

Please refer to the Appendix E.

3.8. AC Power-Line Conducted Emission

3.8.1. Limit

47 CFR 15.207(a): For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table:

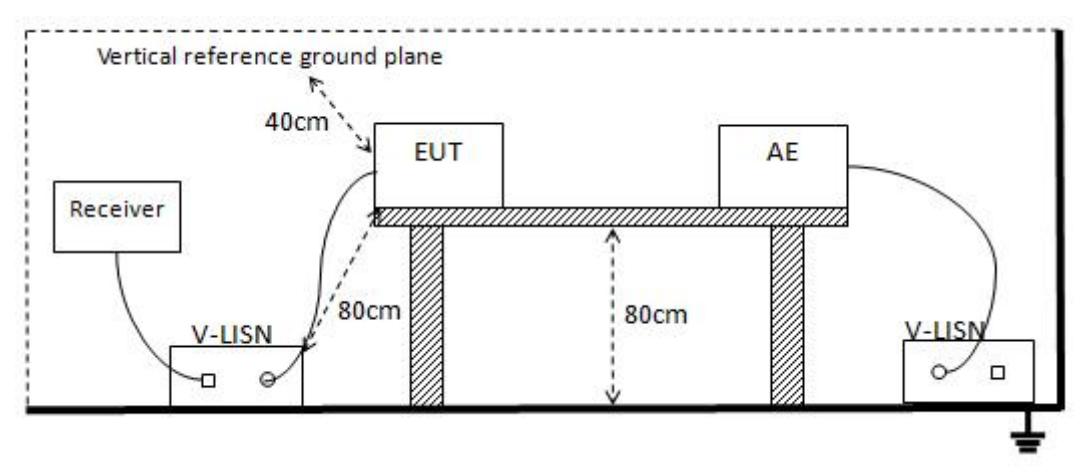
Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

3.8.2. Test Procedure

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9 kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.8.3. Test Setup



3.8.4. Test Result of AC Power-Line Conducted Emission

Please refer to the Appendix E.

3.9. Antenna Requirement

3.9.1. Standard Requirement

According to *47 CFR 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.

3.9.2. EUT Antenna

The antenna used for the EUT is PIFA Antenna, which meets the antenna requirements.

4. Test Setup Photographs

Please refer to the Appendix F.

5. External And Internal Photos of The EUT

External Please refer to the Appendix G.

Internal Please refer to the Appendix H.

※※※※※END OF THE REPORT※※※※※