FCC Test Report

Report No.: AGC01284220902FE08

FCC ID	:	BBO75AR01
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	CB Radio
BRAND NAME	:	COBRA
MODEL NAME	:	CCBR75AR01
APPLICANT	:	Cobra Electronics Corporation
DATE OF ISSUE	:	Nov. 18, 2022
STANDARD(S)	:	FCC Part 15 Rules
REPORT VERSION	:	V 1.0

*A*ttestation of *G*lobal *C*ompliance (Shenzhen) Co., Ltd

REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Nov. 18, 2022	Valid	Initial Release

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1. VERIFICATION OF COMPLIANCE

Applicant:	Cobra Electronics Corporation
Address:	6500 West Cortland Street Chicago, IL 60707-4013 United States
Manufacturer:	Cobra Electronics Corporation
Address:	6500 West Cortland Street Chicago, IL 60707-4013 United States
Factory:	Cobra Electronics Corporation
Address:	6500 West Cortland Street Chicago, IL 60707-4013 United States
Product Designation:	CB Radio
Brand Name:	COBRA
Test Model:	CCBR75AR01
Measurement Procedure:	ANSI C63.4: 2014
Deviation:	No any deviation from the test method.
Date of receipt of test item	Oct. 26, 2022
Date of Test	Oct. 26, 2022~Nov. 18, 2022
Condition of Test Sample:	Normal
Test Result:	Pass
Report Template；	AGCRT-US-PTT/EMC

The above equipment was tested by Attestation Of Global Compliance (Shenzhen) Co., Ltd. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, the measurement procedure according to ANSI C63.4:2014. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements. The test results of this report relate only to the tested sample identified in this report.

Prepared By	Bibo Zhang (Project Engineer)	Nov. 18, 2022
Reviewed By	Calvin Liu (Reviewer)	Nov. 18, 2022
Approved By	Max Zhang Authorized Officer	Nov. 18, 2022

2. PRODUCT INFORMATION

The EUT is a **CB Radio** designed for voice communication. It is designed by way of utilizing the F3E modulation achieves the system operating.

A major technical description of EUT is described as following:

Communication Type	Voice / Tone only
Modulation	FM/AM
RX Frequency Range	26.965MHz-27.405MHz
Emission Type	F3E & A3E
Antenna Designation	Detachable Antenna
Antenna Gain	0dBi (Typical), 5dBi (Max)
Hardware Version	V1.0
Software Version	V1.0
Power Supply	DC 13.8V

I/O Port Information (☒Applicable ☐Not Applicable)

I/O Port of EUT			
I/O Port Type	**Q'TY**	**Cable**	**Tested with**
Antenna Port	1	-	1
Hand microphone Port	1	0.8m Unshielded	1

3. IDENTIFICATION OF THE RESPONSIBLE TESTING LOCATION

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong,China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

List of Test Equipment:

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	May 09, 2022	May 08, 2023
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 08, 2021	Jan. 07, 2023
ANTENNA	SCHWARZBECK	VULB9168	D69250	Apr. 28, 2021	Apr. 27, 2023
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 01 2022	Aug. 31, 2023
POSITIONING CONTROLLER	MF	MF-7802	MF780208285	--	--
HORN ANTENNA	ETS LINDGREN	3117	00034609	Apr. 23, 2021	Apr. 22, 2023
RF Communication Test Set	HP	8920B	US35010161	Aug. 03, 2022	Aug. 02, 2023
EXA Signal Analyzer	Agilent	N9020A	MY53300860	Jun. 07, 2022	Jun. 06, 2023
Attenuator	Schaffner	58-30-33	ML030	Oct. 26, 2020	Oct. 25, 2021
Attenuator	Schaffner	58-30-33	ML030	Oct. 24, 2021	Oct. 23, 2023
Test software	Tonscend	JS32-RE	Ver.2.5	N/A	N/A

4. SUPPORT EQUIPMENT LIST

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
Hand microphone		-	-	-	0.8m Unshielded

5. SYSTEM DESCRIPTION

EUT TEST PROCEDURE:

1. Connect EUT and peripheral devices.
2. Power on the EUT, the EUT begins to work.
3. Make sure the EUT normal working.

EMC TEST MODE:

No.	TEST MODES
1	Receiving at low channel of 26.965 MHz to 27.405 MHz
2	Receiving at middle channel of 26.965 MHz to 27.405 MHz
3	Receiving at high channel of 26.965 MHz to 27.405 MHz

Note: Only the result of the worst case was recorded in the report.

6. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by CISPR and ANSI.

- Uncertainty of Conducted Emission, Uc = ±3.1 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±4.0 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 Db

7. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.107	Conduction Emission	Not applicable
§15.109	Radiated Emission	Compliant

NOTE: The device under test is a DC power supply device, and the conducted disturbance test is not applicable.

8. FCC RADIATED EMISSION TEST

8.1 PROVISIONS APPLICABLE

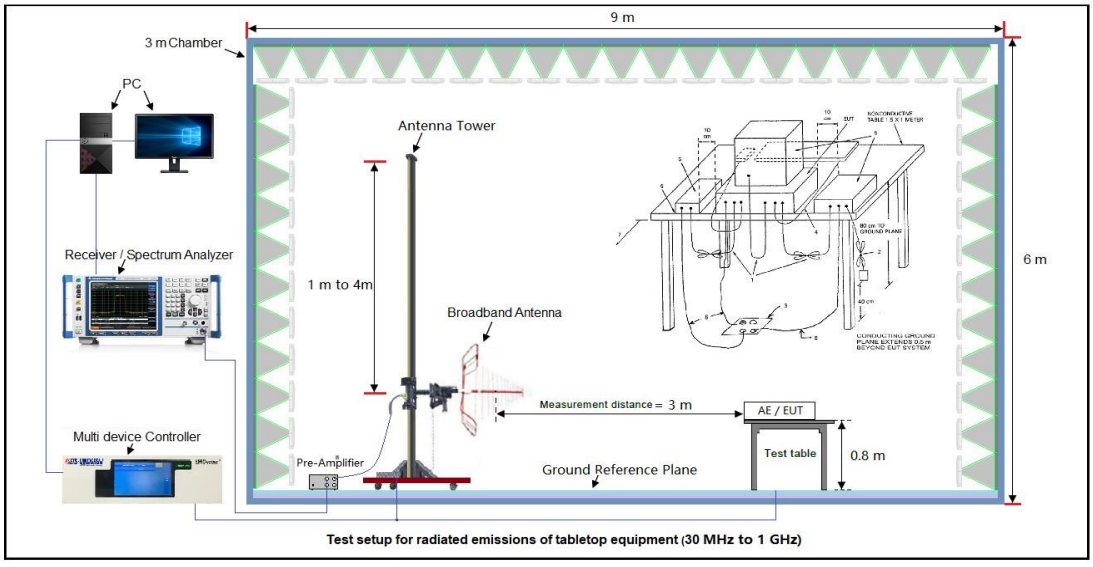
FCC CFR Title 47 Part 15 Subpart B Section 15.109:

Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

Note: The lower limit shall apply at the transition frequency. Because the EUT RX frequency range up to 480 MHz, so the upper the frequency range up to 2 GHz.

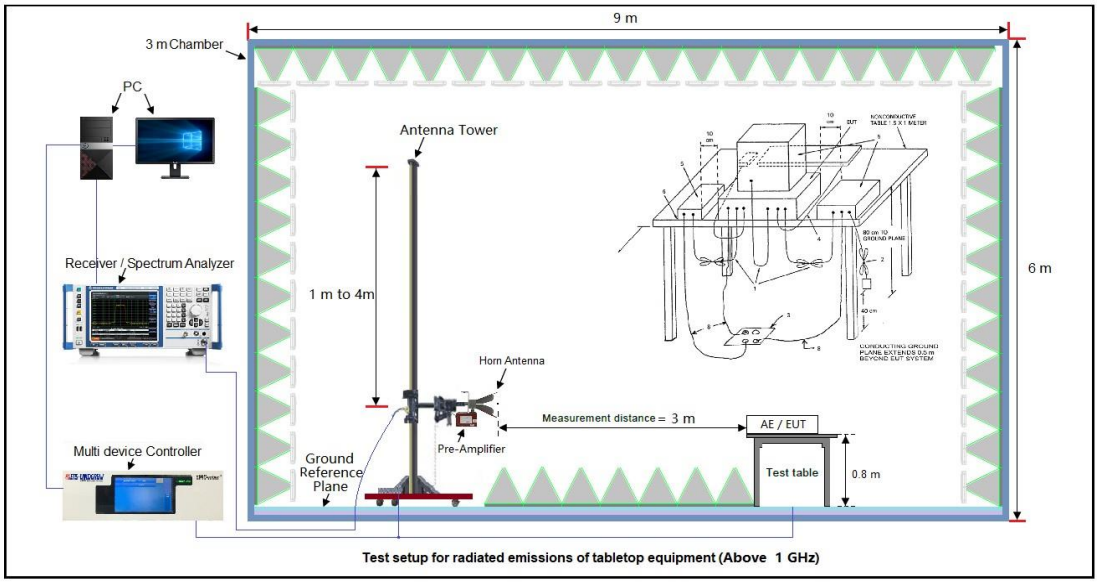
8.2 TEST SETUP BLOCK DIAGRAM

RADIATED EMISSION TEST SETUP 30MHz-1000MHz



Test setup for radiated emissions of tabletop equipment (30 MHz to 1 GHz)

RADIATED EMISSION TEST SETUP ABOVE 1000MHz



EMI TEST RECEIVER SETUP:

During the radiated emission test, the EMI test receiver was set with the following configurations:

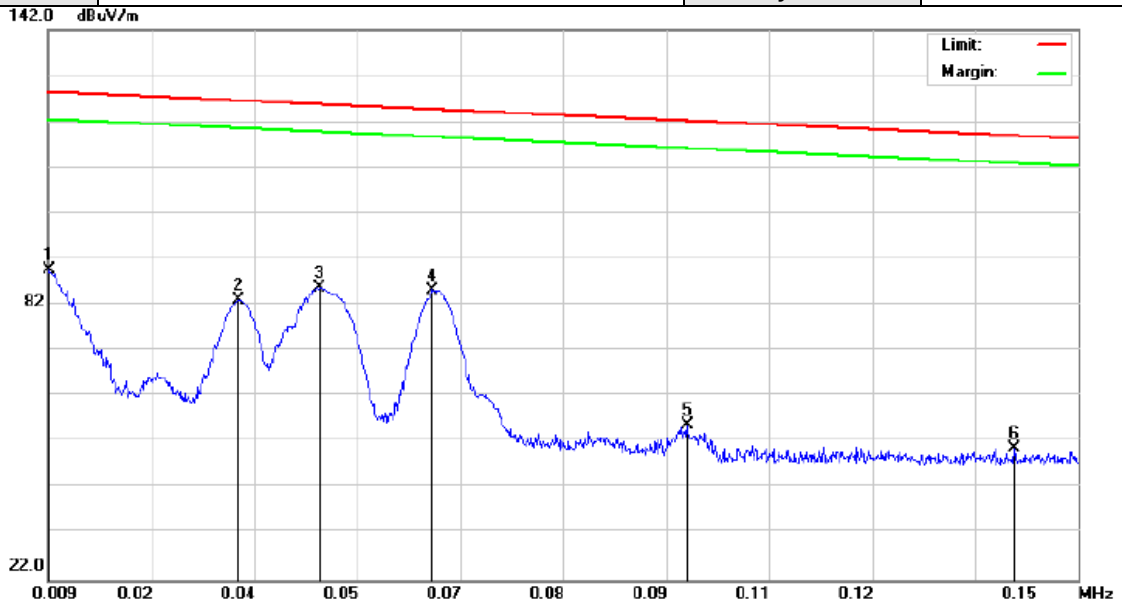
Frequency Range	RBW	Video B/W	IF B/W	Measurment
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave.

8.3 TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.4.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4. The EUT received power by AC 120V/60Hz.
5. The antenna was placed at 3 meter away from the EUT as stated in FCC Part 15. The antenna connected to the Analyzer via a cable and at times a pre-amplifier would be used.
6. The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
7. The test mode(s) were scanned during the test:
8. Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and Q.P./Peak reading is presented. For emissions below 1GHz, use 120KHz RBW and VBW>=3RBW for QP reading.
9. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
10. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
11. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
12. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions 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.
13. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.
14. The test data of the worst case condition (mode 1) was reported on the following Data page.

8.4 TEST RESULT

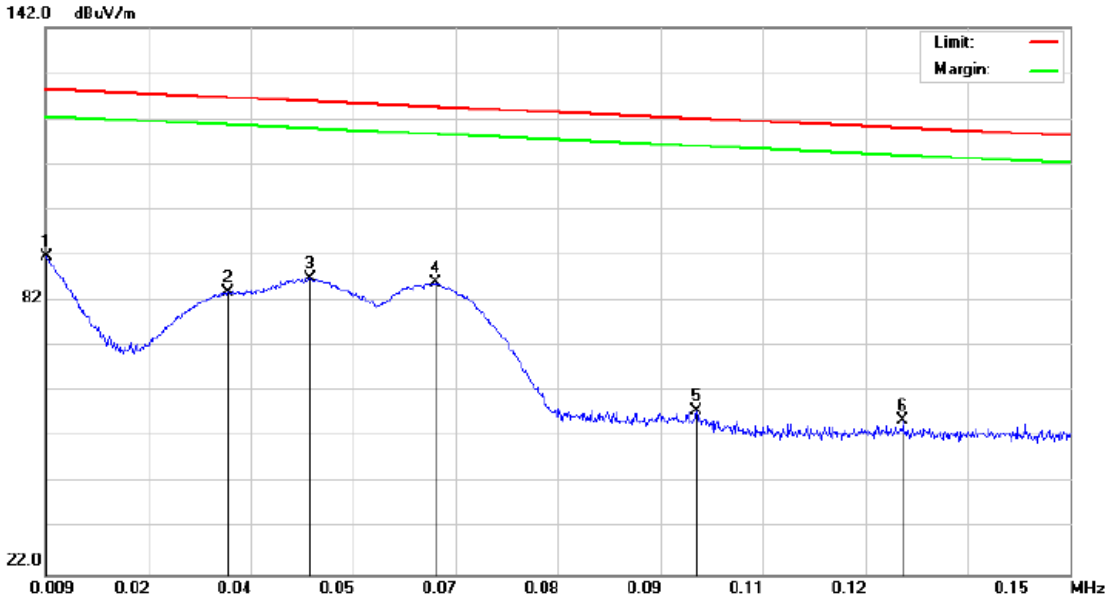
Radiated Emission 9KHz-150KHz Test Result			
Test Mode	Mode 1	Polarity:	Side



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	0.0090	61.24	28.41	89.65	128.51	-38.86	peak
2		0.0351	56.60	26.47	83.07	126.62	-43.55	peak
3		0.0461	60.20	25.64	85.84	125.83	-39.99	peak
4		0.0616	60.81	24.49	85.30	124.71	-39.41	peak
5		0.0964	33.72	21.89	55.61	122.20	-66.59	peak
6		0.1413	29.14	21.54	50.68	118.96	-68.28	peak

RESULT: PASS

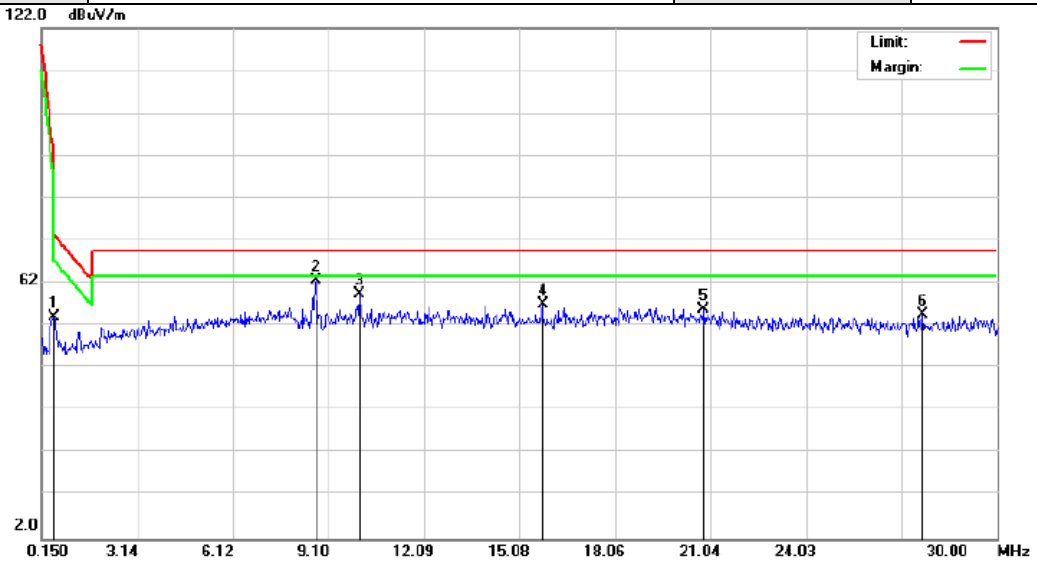
Radiated Emission 9KHz-150KHz Test Result			
Test Mode	Mode 1	Polarity:	Face



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	0.0090	63.34	28.41	91.75	128.51	-36.76	peak
2		0.0341	57.38	26.54	83.92	126.69	-42.77	peak
3		0.0454	61.40	25.70	87.10	125.88	-38.78	peak
4		0.0626	61.50	24.41	85.91	124.64	-38.73	peak
5		0.0985	36.02	21.73	57.75	122.05	-64.30	peak
6		0.1270	34.05	21.57	55.62	119.99	-64.37	peak

RESULT: PASS

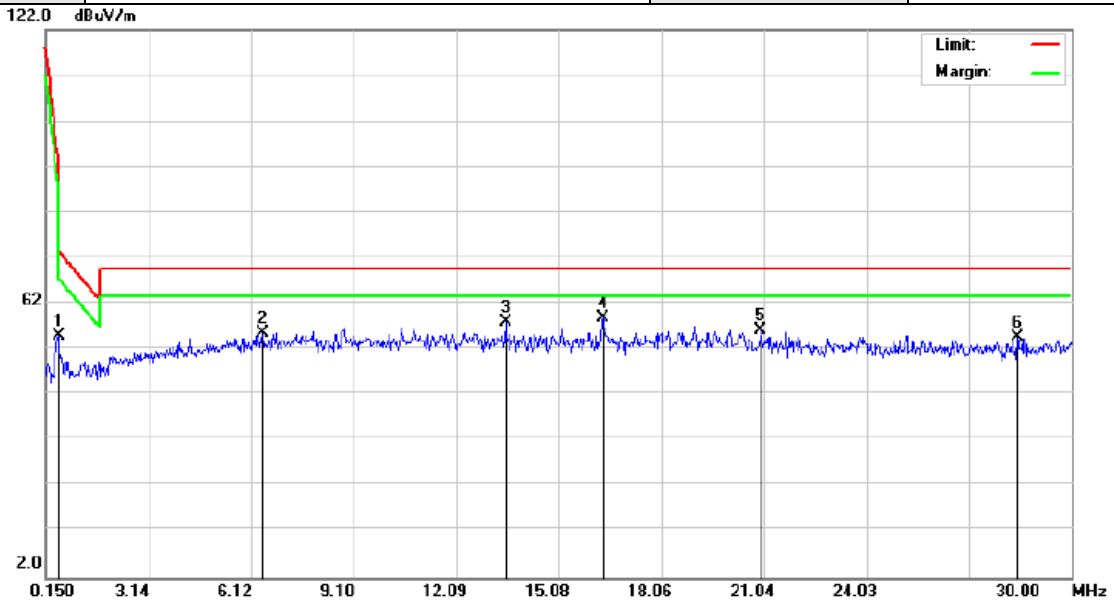
Radiated Emission 150KHz-30MHz Test Result			
Test Mode	Mode 1	Polarity:	Side



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		0.5082	33.26	20.89	54.15	73.64	-19.49	peak
2	*	8.7170	38.71	24.03	62.74	69.54	-6.80	peak
3		10.0901	35.19	24.39	59.58	69.54	-9.96	peak
4		15.7914	32.38	24.80	57.18	69.54	-12.36	peak
5		20.8361	30.74	25.03	55.77	69.54	-13.77	peak
6		27.6717	30.25	24.34	54.59	69.54	-14.95	peak

RESULT: PASS

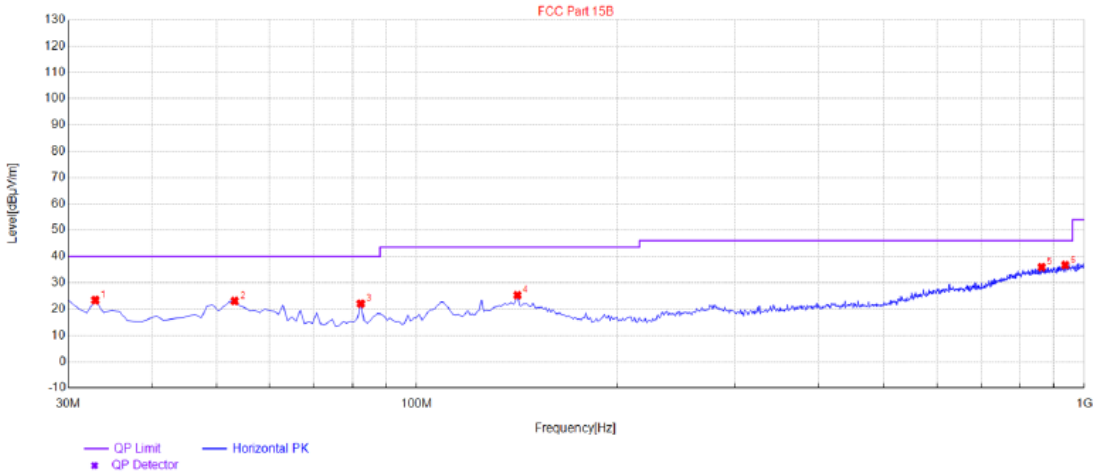
Radiated Emission 150KHz-30MHz Test Result			
Test Mode	Mode 1	Polarity:	Face



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		0.5082	33.92	20.89	54.81	73.64	-18.83	peak
2		6.4484	32.15	23.41	55.56	69.54	-13.98	peak
3		13.5228	33.38	24.64	58.02	69.54	-11.52	peak
4	*	16.3586	34.01	24.84	58.85	69.54	-10.69	peak
5		20.9555	31.16	25.01	56.17	69.54	-13.37	peak
6		28.4180	30.24	24.27	54.51	69.54	-15.03	peak

RESULT: PASS

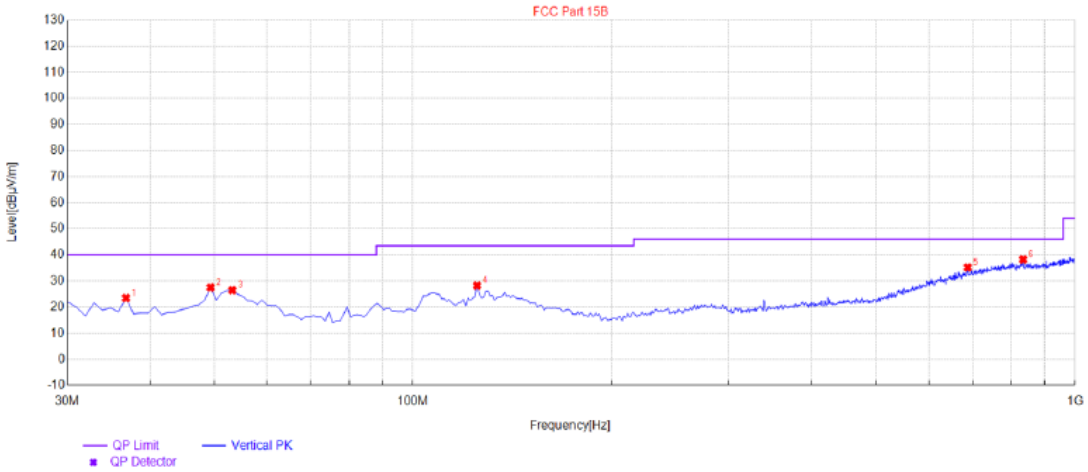
Radiated Emission 30MHz-1GHz Test Result			
Test Mode	Mode 1	Polarity:	Horizontal



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.91	23.38	11.62	40.00	16.62	100	284	Horizontal
2	53.28	23.06	11.42	40.00	16.94	100	154	Horizontal
3	82.38	22.03	7.17	4000	17.97	200	352	Horizontal
4	141.55	25.25	17.65	43.50	18.25	200	257	Horizontal
5	862.26	35.94	30.09	46.00	10.06	200	237	Horizontal
6	935.98	36.71	31.19	46.00	9.29	100	360	Horizontal

RESULT: PASS

Radiated Emission 30MHz-1GHz Test Result			
Test Mode	Mode 1	Polarity:	Vertical



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	36.79	23.45	10.70	40.00	16.55	100	0	Vertical
2	49.40	27.53	11.61	40.00	12.47	100	356	Vertical
3	53.28	26.43	11.42	40.00	13.57	100	28	Vertical
4	125.06	28.25	16.57	43.50	15.25	100	2	Vertical
5	687.66	35.20	28.55	46.00	10.80	100	24	Vertical
6	834.13	38.23	31.51	46.00	7.77	100	3	Vertical

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-easurement.

2. The “Factor” value can be calculated automatically by software of measurement system.

9. FCC CONDUCTED EMISSION TEST

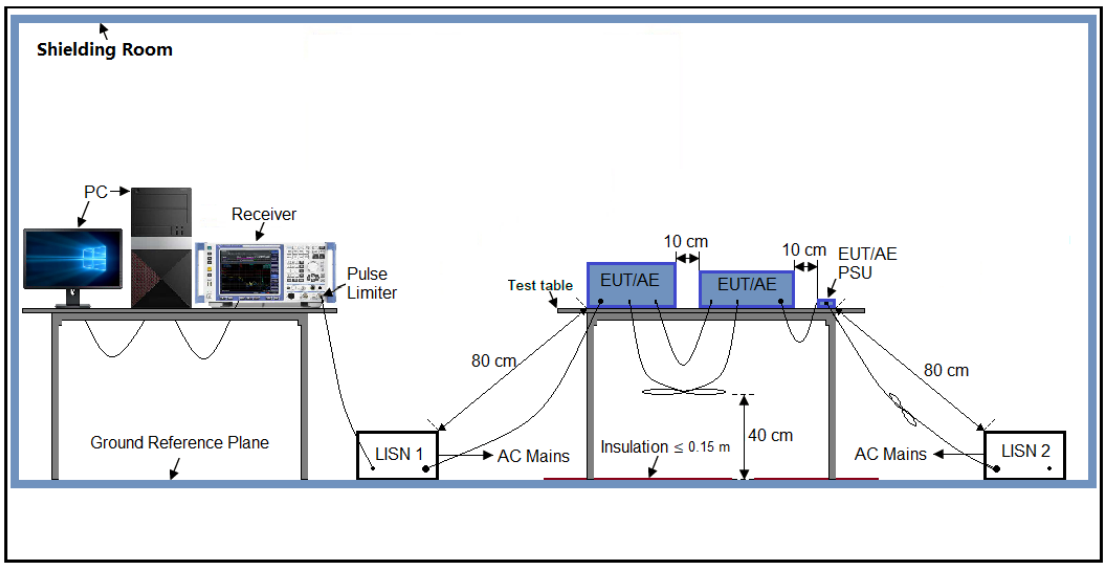
9.1 PROVISIONS APPLICABLE

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the, the radio frequency voltage that is conducted back onto the AC power line on any frequencies within the band 150 KHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50uH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit(dBuV)	
	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.

9.2 TEST SETUP BLOCK DIAGRAM



9.3 TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.4.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4. The EUT received AC 120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test data of the worst case condition (mode 1) was reported on the following Data page.

9.4 TEST RESULT

Note: Not applicable.

APPENDIX I PHOTOGRAPHS OF TEST SETUP

Refer to the Report No.: AGC01284220902AP03

APPENDIX II: PHOTOGRAPHS OF Test EUT

Refer to the Report No.: AGC01284220902AP02

-----END OF REPORT-----

Conditions of Issuance of Test Reports

1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd. (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").
2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3.The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7.Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.
9. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.