FCC Test Report

Report No.: AGC04590190201FE01

APPLICATION PURPOSE	:	Original Equipment
FCC ID	:	2AQWLHP922
PRODUCT DESIGNATION	:	HP922-Noise Reduction Headphone
BRAND NAME	:	N/A
MODEL NAME	:	HP922
CLIENT	:	Haiyan Liangyou Technology Venture Co., Ltd.
DATE OF ISSUE	:	Mar. 12, 2019
STANDARD(S)	:	FCC Part 15 Subpart B
REPORT VERSION	:	V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

CAUTION:
This report shall not be reproduced except in full without the written permission of the test laboratory and shall not be quoted out of context.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Mar. 12, 2019	Valid	Initial release

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

TABLE OF CONTENTS

1. VERIFICATION OF CONFORMITY 4
2. SYSTEM DESCRIPTION 5
3. MEASUREMENT UNCERTAINTY 5
4. SUMMARY OF TEST RESULTS 5
5. PRODUCT INFORMATION 6
6. SUPPORT EQUIPMENT 6
7. TEST FACILITY 7
8. TEST EQUIPMENT LIST 7
9. FCCLINE CONDUCTED EMISSION TEST 7
9.1. LIMITS OF LINE CONDUCTED EMISSION TEST 8
9.2. BLOCK DIAGRAM OF TEST SETUP 8
9.3. PROCEDURE OF LINE CONDUCTED EMISSION TEST 9
9.4. TEST RESULT OF LINE CONDUCTED EMISSION TEST 10
10. FCC RADIATED EMISSION TEST 12
10.1. LIMITS OF RADIATED EMISSION TEST 12
10.2. BLOCK DIAGRAM OF TEST SETUP 13
10.3. PROCEDURE OF RADIATED EMISSION TEST 14
10.4. TEST RESULT OF RADIATED EMISSION TEST 15
APPENDIX A: PHOTOGRAPHS OF TEST SETUP 17
APPENDIX B: PHOTOGRAPHS OF EUT 18

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

1. VERIFICATION OF CONFORMITY

Applicant	Haiyan Liangyou Technology Venture Co., Ltd.
Address	Henggang Industrial Park, Baibu Town, Haiyan County, Jiaxing City, Zhejiang Province, China
Manufacturer	Haiyan Liangyou Technology Venture Co., Ltd.
Address	Henggang Industrial Park, Baibu Town, Haiyan County, Jiaxing City, Zhejiang Province, China
Factory	Haiyan Liangyou Technology Venture Co., Ltd.
Address	Henggang Industrial Park, Baibu Town, Haiyan County, Jiaxing City, Zhejiang Province, China
Product Designation	HP922-Noise Reduction Headphonec
Brand Name	N/A
Test Model	HP922
Date of test	Feb. 27, 2019 to Mar.19, 2019
Deviation	None
Condition of Test Sample	Normal
Report Template	AGCRT-US-IT/AC

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.

Tested By sky dong

Sky Dong(Dong Huihui) Mar. 19, 2019

Reviewed By Bart Xie

Bart Xie(Xie Xiaobin) Mar. 19, 2019

Approved By Forrest Lei

Forrest Lei(Lei Yonggang)
Authorized Officer Mar. 19, 2019

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

2. SYSTEM DESCRIPTION

EUT set up procedure:

1. Connect the EUT with Adapter.
2. Make sure the EUT charging normally during the test.

Test Mode

TEST MODE DESCRIPTION		
NO.	**TEST MODE DESCRIPTION**	**WORST**
1	FM playing	V
2	AUX in playing with charging	
Note: V means EMI worst mode. Only worst case recorded in the test report.		

3. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the "Guide to the Expression of Uncertainty in Measurement" (GUM) published by ISO.

- Uncertainty of Conducted Emission, Uc = ±3.2 dB
- Uncertainty of Radiated Emission, Uc = ±3.9 dB

4. SUMMARY OF TEST RESULTS

FCC Rules	Description Of Test	Result
§15.107	Conduction Emission	Compliant
§15.109	Radiated Emission	Compliant

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

5. PRODUCT INFORMATION

Housing Type	Plastic and Metal
Voltage	DC 3.7V by battery

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

I/O Port of EUT			
I/O Port Type	**Q'TY**	**Cable**	**Tested with**
USB port	1	0	1
AUX in port	1	0	1

6. SUPPORT EQUIPMENT

Device Type	Manufacturer	Model Name	Serial No.	Power Cable
Ipod	Apple	A1367	N/A	N/A
USB Cable	N/A	N/A	N/A	1m unshielded
AUX in Cable	N/A	N/A	N/A	1m unshielded
Adapter	IPRO	NTR-S01	N/A	0

Note: All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

7. TEST FACILITY

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

8. TEST EQUIPMENT LIST

TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
Test Receiver	R&S	ESPI	101206	Jun.12, 2018	Jun.11, 2019
LISN	R&S	ESH2-Z5	100086	Jun.12, 2018	Jun.11, 2019

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun.12, 2018	Jun.11, 2019
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec.07, 2018	Dec.08, 2019
Horn antenna	SCHWARZBECK	BBHA 9170	#768	May.18, 2018	May.17, 2019
preamplifier	ChengYi	EMC184045SE	980508	May.18, 2018	May.17, 2019
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May.18, 2018	May.17, 2019
Broadband Preamplifier	SCHWARZBECK	BBV 9718	9718-205	Jun.12, 2018	Jun.11, 2019
ANTENNA	SCHWARZBECK	VULB9168	D69250	May.18, 2018	May.17, 2019

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

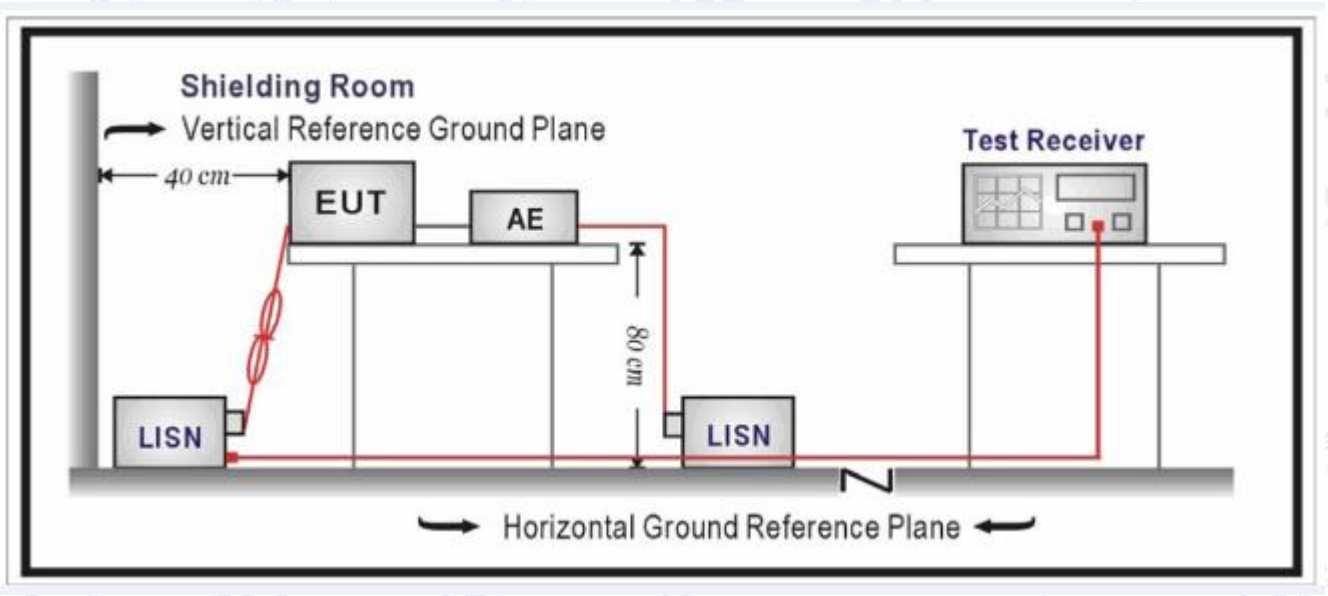
9. FCCLINE CONDUCTED EMISSION TEST

9.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz-500kHz	66-56	56-46
500kHz-5MHz	56	46
5MHz-30MHz	60	50

Note:
1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50MHz.

9.2. BLOCK DIAGRAM OF TEST SETUP



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

9.3. PROCEDURE OF LINE CONDUCTED EMISSION TEST

(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 charging voltage by adapter which receive AC120V/60Hz power from a LISN.

(5) 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.

(6) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.

(7) During the above scans, the emissions were maximized by cable manipulation.

(8) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions.

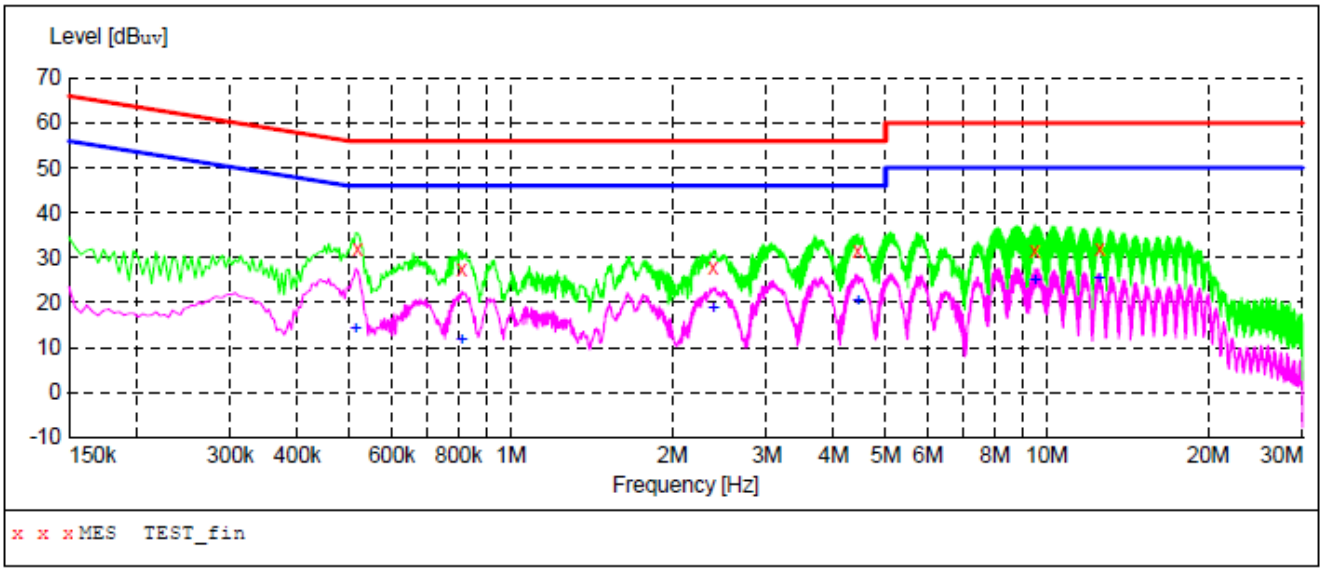
(9) Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

The test data of the worst case condition (mode 1) was reported on the Summary Data page.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

9.4. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST-L



MEASUREMENT RESULT: "TEST_fin"

2019/3/6 10:33

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.518000	32.10	10.3	56	23.9	QP	L1	FLO
0.810000	27.40	10.4	56	28.6	QP	L1	FLO
2.386000	28.00	10.4	56	28.0	QP	L1	FLO
4.438000	31.70	10.4	56	24.3	QP	L1	FLO
9.482000	31.40	10.7	60	28.6	QP	L1	FLO
12.538000	31.90	10.8	60	28.1	QP	L1	FLO

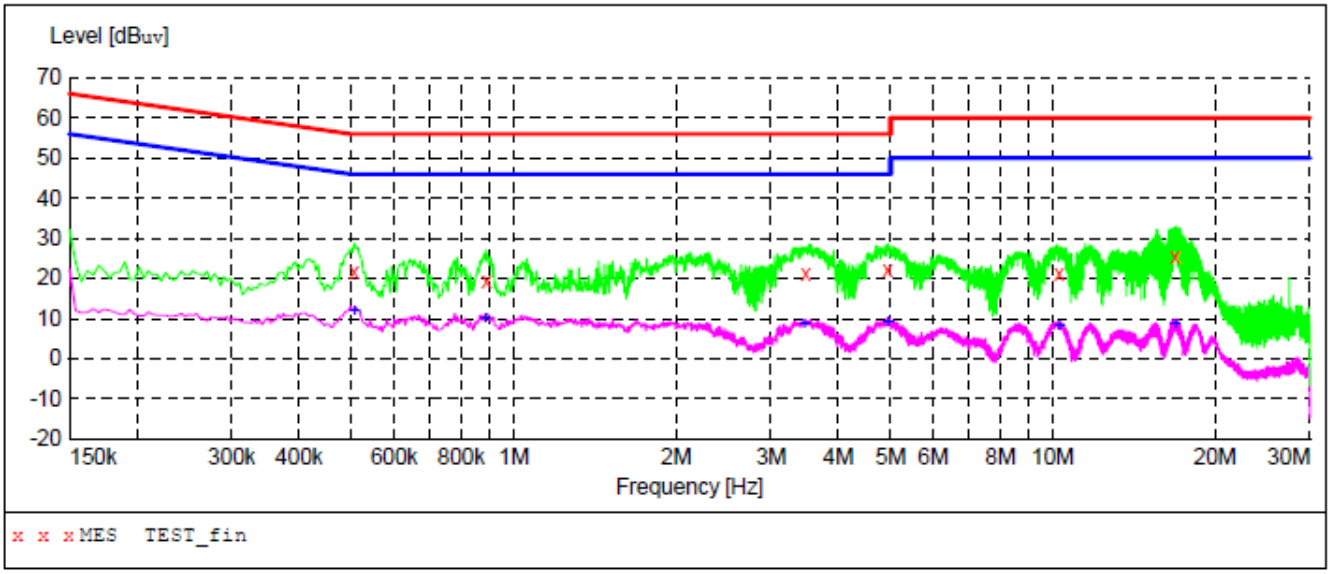
MEASUREMENT RESULT: "TEST_fin2"

2019/3/6 10:37

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.514000	14.00	10.3	46	32.0	AV	L1	FLO
0.810000	11.80	10.4	46	34.2	AV	L1	FLO
2.386000	18.80	10.4	46	27.2	AV	L1	FLO
4.438000	20.20	10.4	46	25.8	AV	L1	FLO
9.482000	25.10	10.7	50	24.9	AV	L1	FLO
12.538000	25.40	10.8	50	24.6	AV	L1	FLO

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

LINE CONDUCTED EMISSION TEST-N



MEASUREMENT RESULT: "TEST_fin"

2019/3/6 10:42

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.506000	21.60	10.3	56	34.4	QP	N	FLO
0.890000	19.10	10.4	56	36.9	QP	N	FLO
3.482000	21.30	10.4	56	34.7	QP	N	FLO
4.938000	21.90	10.4	56	34.1	QP	N	FLO
10.258000	21.20	10.7	60	38.8	QP	N	FLO
16.842000	25.50	10.9	60	34.5	QP	N	FLO

MEASUREMENT RESULT: "TEST_fin2"

2019/3/6 10:42

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.506000	11.90	10.3	46	34.1	AV	N	FLO
0.886000	9.90	10.4	46	36.1	AV	N	FLO
3.462000	8.50	10.4	46	37.5	AV	N	FLO
4.938000	8.90	10.4	46	37.1	AV	N	FLO
10.258000	8.10	10.7	50	41.9	AV	N	FLO
16.842000	8.40	10.9	50	41.6	AV	N	FLO

RESULT: PASS

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

10. FCC RADIATED EMISSION TEST

10.1. LIMITS OF RADIATED EMISSION TEST

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m/ Q.P.)
30~88	3	40.0
88~216	3	43.5
216~960	3	46.0
960~1000	3	54.0
Above 1000	3	Other:74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)

Note: The lower limit shall apply at the transition frequency.

10.1.1 The following table is the setting of spectrum analyzer and receiver:

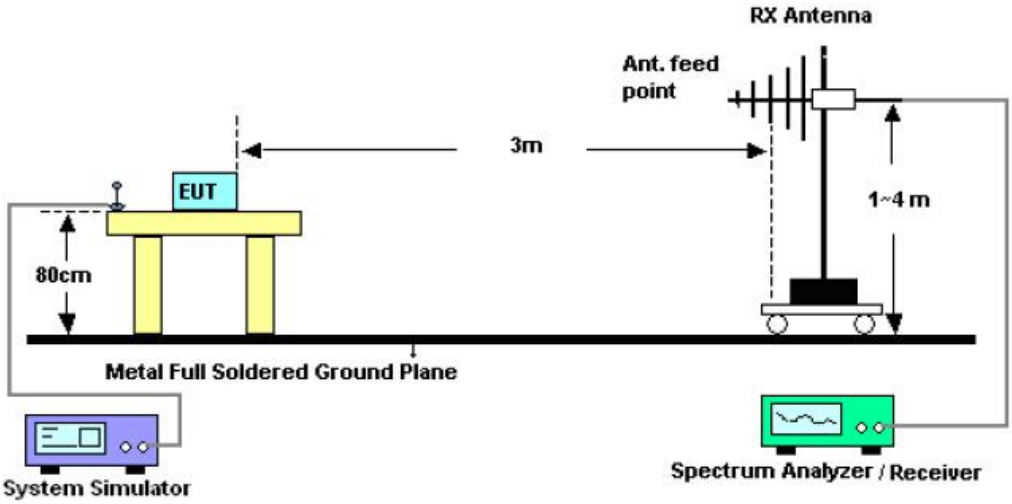
Spectrum Parameter	Setting
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1GHz~13GHz RBW 1MHz/ VBW 3MHz for Peak, RBW 1MHz/ VBW 10Hz for Average

Receiver Parameter	Setting
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

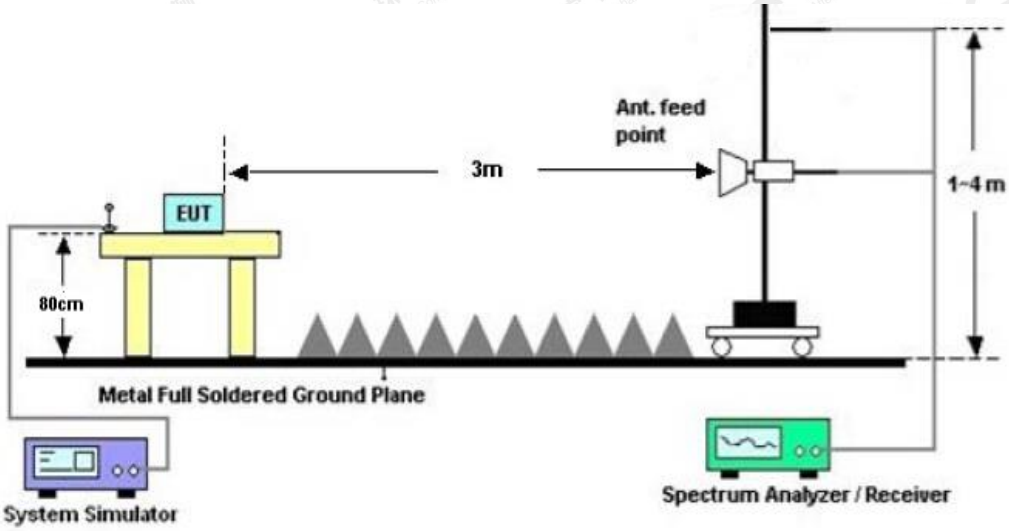
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

10.2. BLOCK DIAGRAM OF TEST SETUP

RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

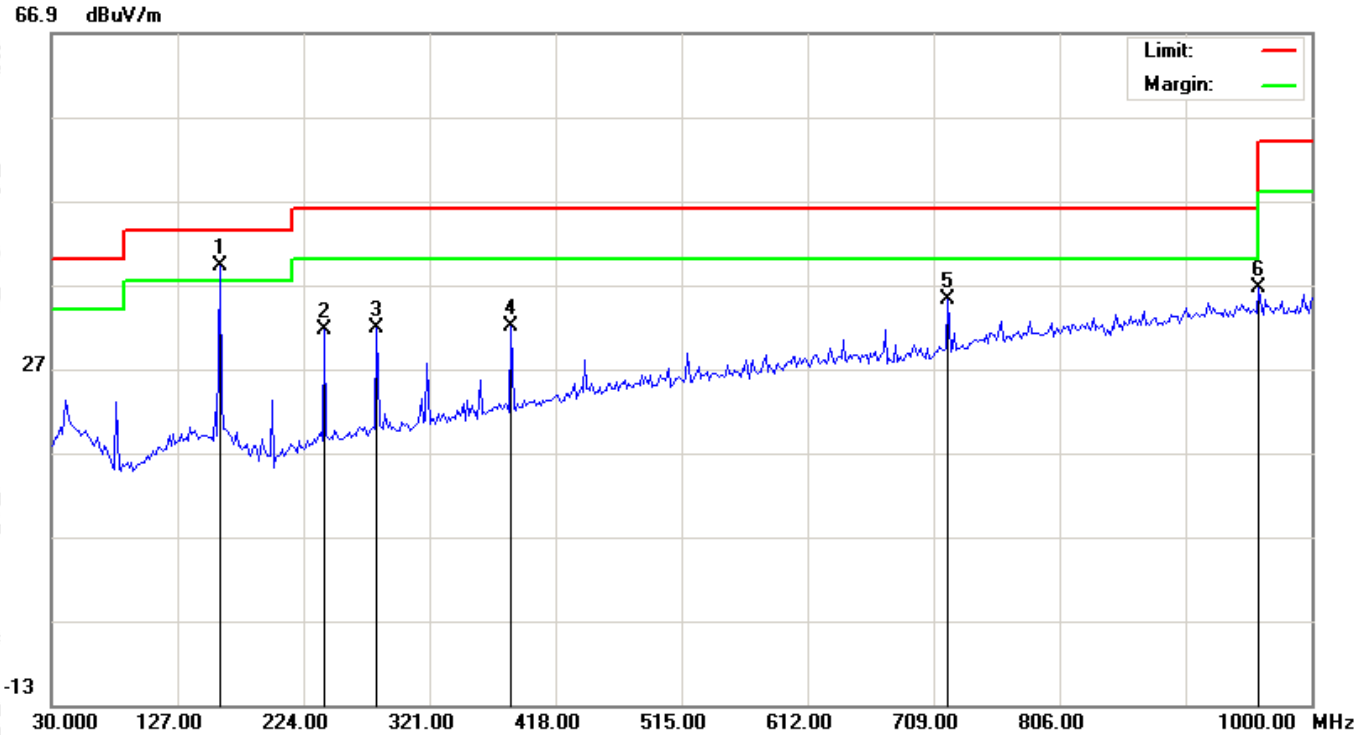
10.3. PROCEDURE OF RADIATED EMISSION TEST

1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. 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.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

10.4. TEST RESULT OF RADIATED EMISSION TEST

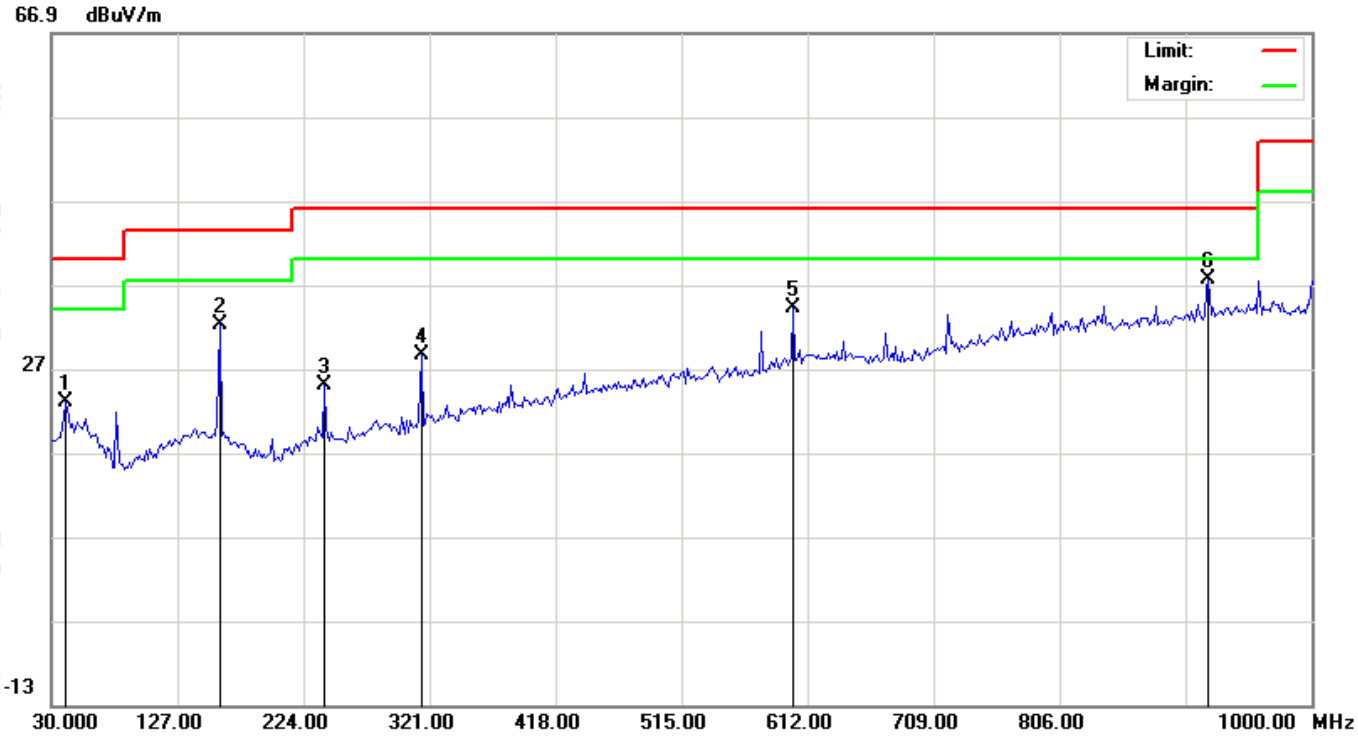
Radiated Emission Test at 3m Distance-Horizontal



No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	159.3333	19.98	19.19	39.17	43.50	-4.33	peak			
2		240.1667	13.02	18.66	31.68	46.00	-14.32	peak			
3		280.5833	11.95	19.93	31.88	46.00	-14.12	peak			
4		384.0500	9.49	22.42	31.91	46.00	-14.09	peak			
5		720.3167	6.59	28.61	35.20	46.00	-10.80	peak			
6		959.5833	4.41	32.21	36.62	46.00	-9.38	peak			

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

Radiated Emission Test at 3m Distance-Vertical



No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		41.3167	2.91	20.04	22.95	40.00	-17.05	peak			
2		159.3333	12.93	19.19	32.12	43.50	-11.38	peak			
3		240.1667	6.29	18.66	24.95	46.00	-21.05	peak			
4		314.5333	8.62	19.98	28.60	46.00	-17.40	peak			
5		600.6833	7.33	26.96	34.29	46.00	-11.71	peak			
6	*	920.7833	5.76	31.88	37.64	46.00	-8.36	peak			

RESULT: PASS

Note: Measurement = Reading + Factor, Over = Measurement – Limit.

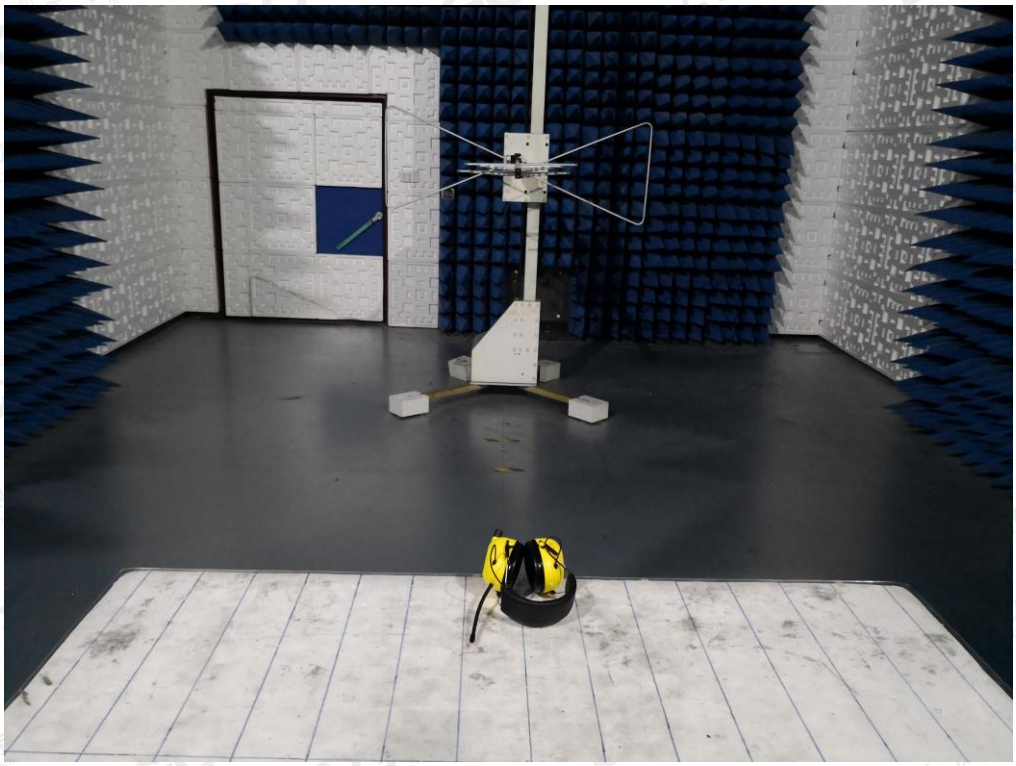
1~13GHz at least have 20dB margin. No recording in the test report.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP

FCC RADIATED EMISSION TEST SETUP



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

APPENDIX B: PHOTOGRAPHS OF EUT

TOP VIEW OF EUT

BOTTOM VIEW OF EUT

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

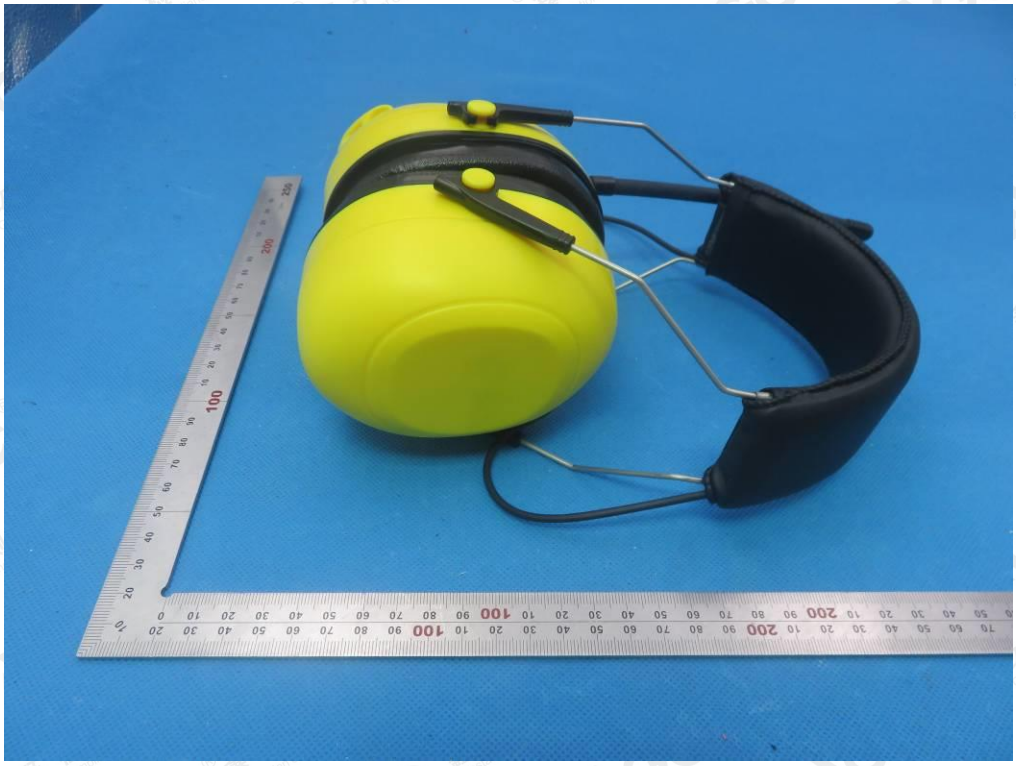
FRONT VIEW OF EUT

BACK VIEW OF EUT

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

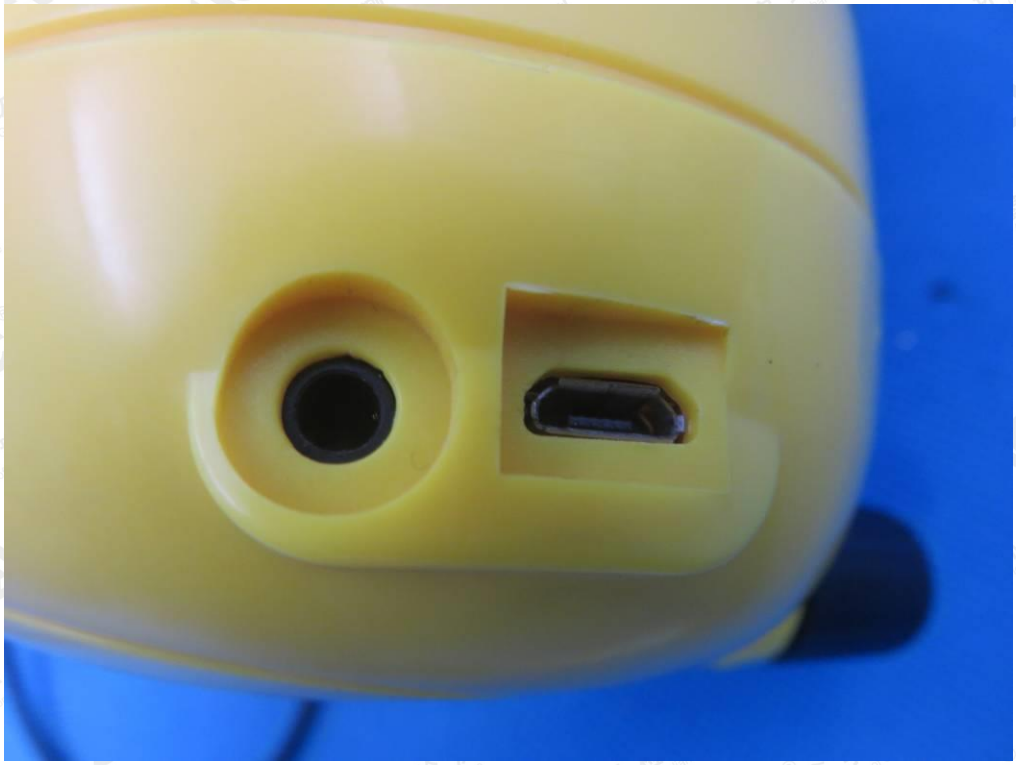
LEFT VIEW OF EUT

RIGHT VIEW OF EUT



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

VIEW OF EUT (PORT)

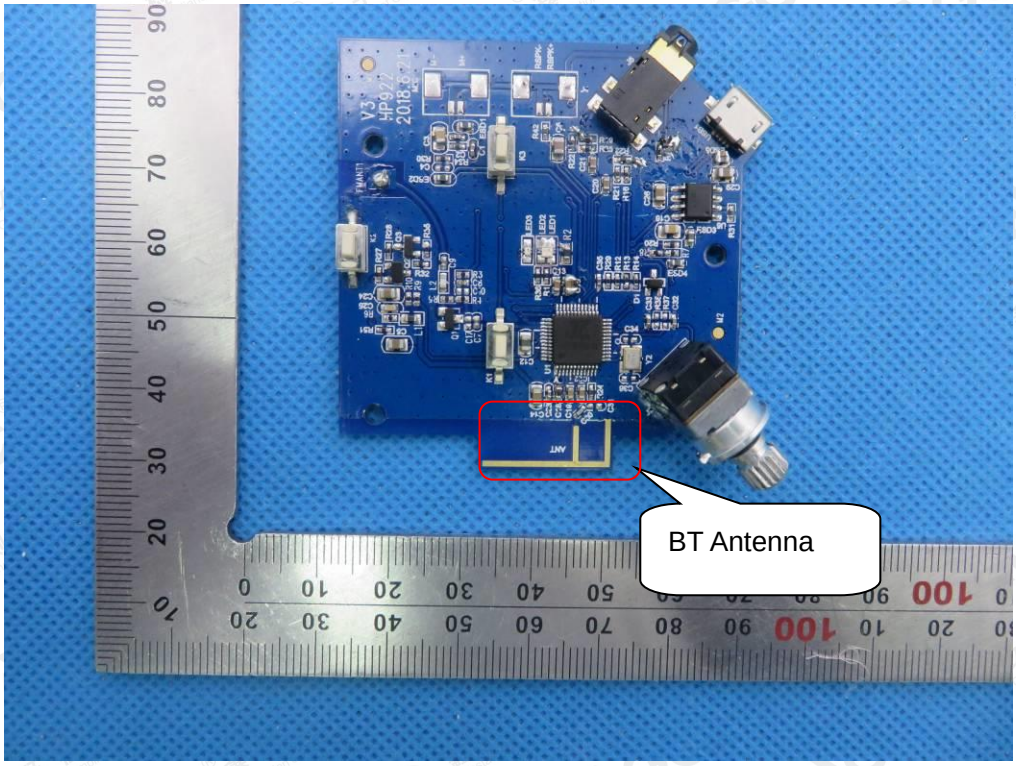


OPEN VIEW OF EUT

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

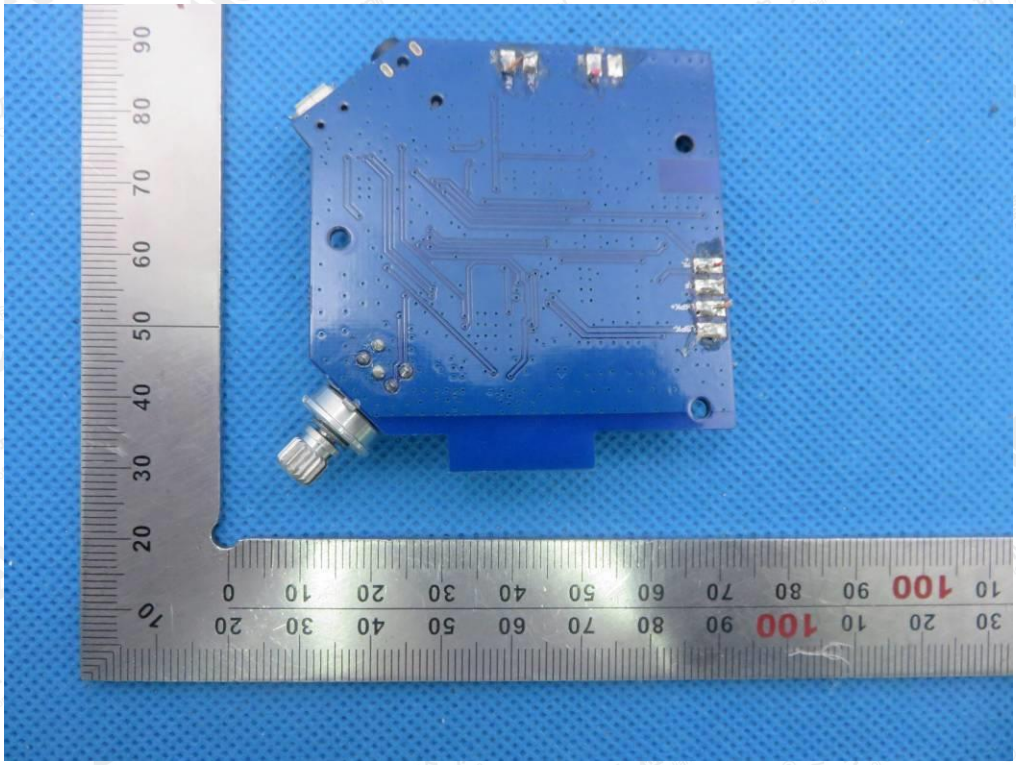
VIEW OF BATTERY

INTERNAL VIEW OF EUT-1

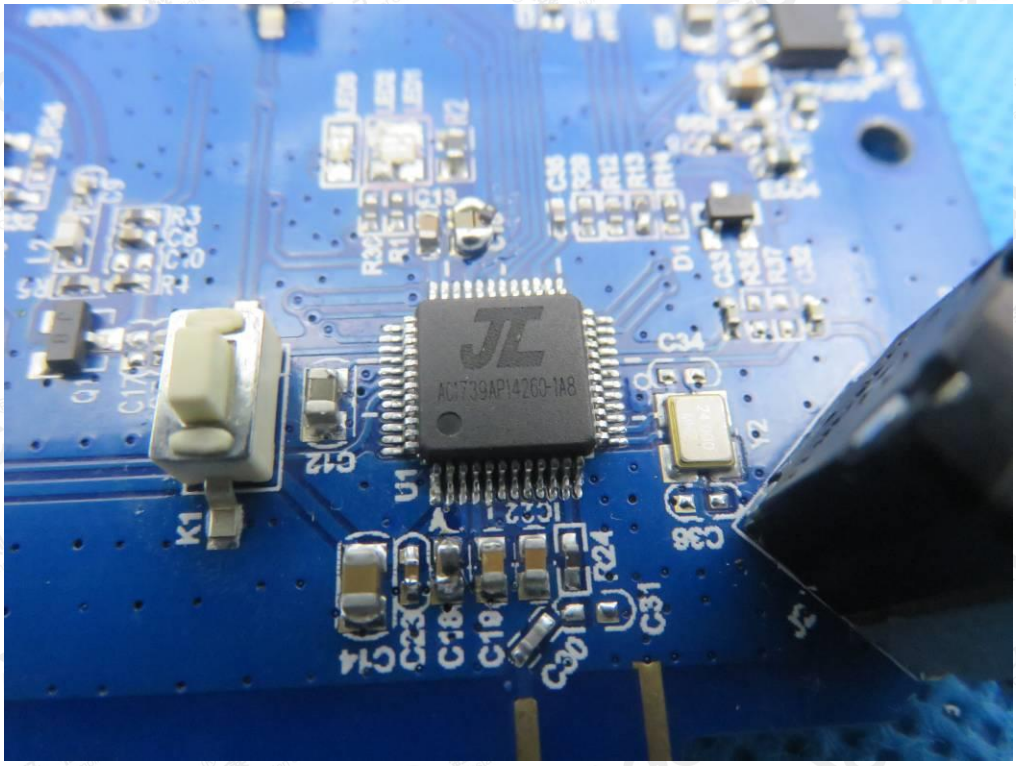


The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.

INTERNAL VIEW OF EUT-2



INTERNAL VIEW OF EUT-3



----END OF REPORT----

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of the report will be confirmed at http://www.agc-cert.com.