FCC Test Report

Report No.: AGC00739180501FE03

FCC ID	:	ZRIUHF-20HHM
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Wireless Microphone
BRAND NAME	:	Proaudio, PYLE
MODEL NAME	:	UHF-20HHM, PDKWM-HT
CLIENT	:	PROAUDIO ELECTRONICS CO., LIMITED
DATE OF ISSUE	:	Jul. 06, 2018
STANDARD(S) **TEST PROCEDURE(S)**	:	FCC Part 15 Rules
REPORT VERSION	:	V1.0

Attestation of ***G***lobal ***C***ompliance (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	/	Jul. 06, 2018	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 5

2. GENERAL INFORMATION 6

2.1. PRODUCT DESCRIPTION 6

3. MEASUREMENT UNCERTAINTY 7

4. DESCRIPTION OF TEST MODES 8

5. SYSTEM TEST CONFIGURATION 9

5.1. CONFIGURATION OF EUT SYSTEM 9
5.2. EQUIPMENT USED IN EUT SYSTEM 9
5.3. SUMMARY OF TEST RESULTS 9

6. TEST FACILITY 10

7. MAXIMUM RADIATED POWER 11

7.1TEST LIMIT 11
7.2. MEASUREMENT PROCEDURE 11
7.3. TEST SETUP 11
7.4. TEST RESULT 12

8. OCCUPIED BANDWIDTH 13

8.1TEST LIMIT 13
8.2. MEASUREMENT PROCEDURE 13
8.3. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 13
8.4. MEASUREMENT RESULTS 14

9. EMISSIONS WITHIN THE BAND AND OUTSIDE THIS BAND 15

9.1TEST LIMIT 15
9.2. MEASUREMENT PROCEDURE 15
9.3. TEST SETUP 16
9.4. TEST RESULT 17

10. FREQUENCY STABILITY 23

10.1. TEST LIMIT 23
10.2. MEASUREMENT PROCEDURE 23
10.3. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 23
10.4. MEASUREMENT RESULTS 24

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 25

APPENDIX B: PHOTOGRAPHS OF EUT 26

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.

Tel: +86-755 2908 1955 Fax: +86-755 2600 8484 E-mail: agc@agc-cert.com 400 089 2118
Add: 2/F. , Building 2, No.1-4,Chaxi Sanwei Technical Industrial Park,Gushu, Xixiang, Baoan District, Shenzhen, Guangdong China

1. VERIFICATION OF CONFORMITY

Applicant	PROAUDIO ELECTRONICS CO., LIMITED
Address	FLAT 03H 15/F CARNIVAL COMMERCIAL BUILDING 18 JAVA ROAD NORTH POINT HongKong
Manufacturer	PROAUDIO ELECTRONICS CO., LIMITED
Address	FLAT 03H 15/F CARNIVAL COMMERCIAL BUILDING 18 JAVA ROAD NORTH POINT HongKong
Product Designation	Wireless Microphone
Brand Name	Proaudio, PYLE
Test Model	UHF-20HHM
Serial Model	PDKWM-HT
Different Description	All the same except for the brand name.
Date of test	Jun. 25, 2018 to Jul. 06, 2018
Deviation	None
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BR/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with Section 15.236 of the FCC Part 15, Subpart C Rules.

The results of testing in this report apply to the product/system which was tested only.

Tested By	Max Zhang(Zhang Yi)	Jul. 06, 2018
Reviewed By	Bart Xie(Xie Xiaobin)	Jul. 06, 2018
Approved By	Forrest Lei(Lei Yonggang) Authorized Officer	Jul. 06, 2018

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. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

Operation Frequency	517.6MHz or 537.2MHz
Maximum Radiated Power	-15.65dBm
Modulation	FM
Number of channels	Low channel: 517.6MHz High channel: 537.2MHz
Antenna Gain	1dBi
Antenna Designation	Integrated Antenna (Met 15.203 Antenna requirement)
Hardware Version	HES170509V2.1(UHF-SM-LED)
Software Version	1.0
Power Supply	DC3V by Battery

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.

3. 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 Radiated Emission below 1GHz, Uc = ±3.9 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 dB

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.

4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Transmitting mode
Note: For Radiated Emission, 3axis were chosen for testing for each applicable mode.	

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. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure :

5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Mfr/Brand	Model/Type No.	Remark
1	Wireless Microphone	Proaudio	UHF-20HHM	EUT

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.236(d)	Maximum radiated power	Compliant
§15.236(f)(2)	Occupied bandwidth	Compliant
§15.236(f)(3)	Frequency stability	Compliant
§15.236(g)	Emissions within the band and outside this band	Compliant
§15.207(a)	Conducted Emission	N/A

Note: N/A means it’s not applicable to this item.

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.

6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2F., Bldg.2, No.1-4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District B112-B113, Bldg.12, Baoan Bldg Materials Center, No.1 of Xixiang Inner Ring Road, Baoan District, Shenzhen 518012
NVLAP LAB CODE	600153-0
Designation Number	CN5028
FCC Test Firm Registration Number	682566
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by National Voluntary Laboratory Accreditation program, NVLAP Code 600153-0

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.08, 2017	Dec.07, 2018
preamplifier	ChengYi	EMC184045SE	980508	Sep.15, 2017	Sep.14, 2018
Loop Antenna	ZHINAN	ZN30900C	--	Mar. 01, 2018	Feb. 28, 2019
Telecommunication Test Set	HP	8920B	3104A03367	Jun.12, 2018	Jun.11, 2019
H & T CHAMBER	EXPERY	TN-400	TN2007SR038	Jun.12, 2018	Jun.11, 2019
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep.28, 2017	Sep.27, 2018

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. MAXIMUM RADIATED POWER

7.1TEST LIMIT

Standard FCC 15.236

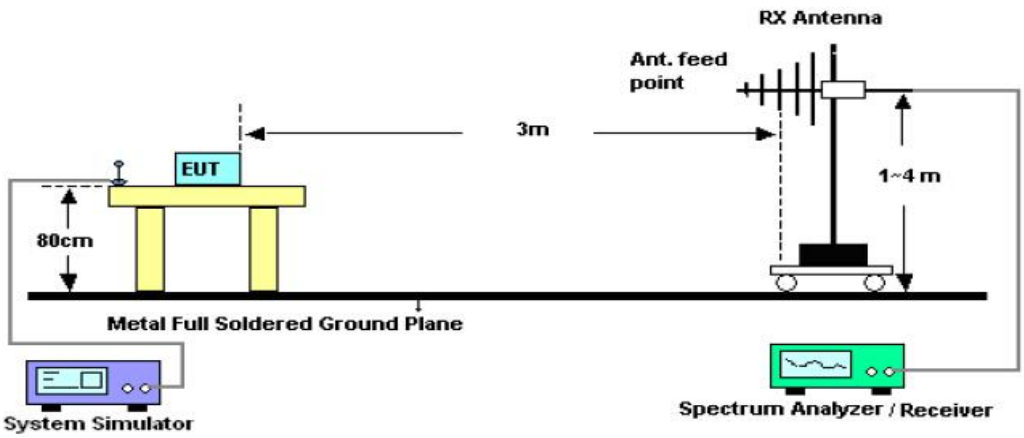
In the bands allocated and assigned for broadcast television and in the 600 MHz service band: 50 mW EIRP; In the 600 MHz guard bands including the duplex gap: 20 mW EIRP

7.2. MEASUREMENT PROCEDURE

1. 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. EIRP[dBm] = E[dB(μV)/m]− 95.2

7.3. TEST SETUP

RADIATED EMISSION TEST SETUP 30MHz-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.

7.4. TEST RESULT

Frequency MHz	Polarization	Reading dBm	Factor dB	Level dBm Peak	Limit dBm Average	Margin dB	Pass/Fail
517.6	Horizontal	-52.46	33.46	-19.00	17.00	36.00	Pass
517.6	Vertical	-49.47	33.46	-16.01	17.00	33.01	Pass
537.2	Horizontal	-51.51	33.85	-17.66	17.00	34.66	Pass
537.2	Vertical	-49.50	33.85	-15.65	17.00	32.65	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.

8. OCCUPIED BANDWIDTH

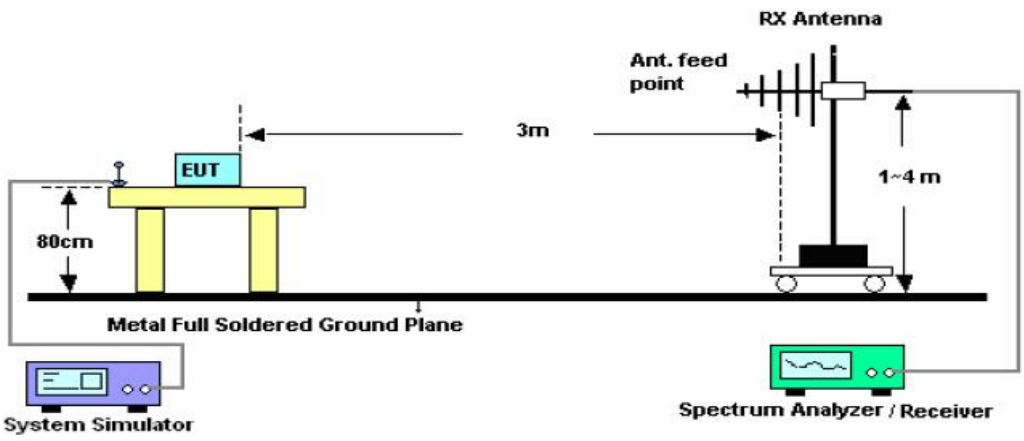
8.1TEST LIMIT

One or more adjacent 25 kHz segments within the assignable frequencies may be combined to form a channel whose maximum bandwidth shall not exceed 200 kHz. The operating bandwidth shall not exceed 200 kHz.

8.2. MEASUREMENT PROCEDURE

1. 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, Set the EUT Work on operation frequency.
3. Set Span = approximately 2 to 5 times the 20 dB bandwidth, centered on a channel
   The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW and video bandwidth (VBW) shall be approximately three times RBW; Sweep = auto; Detector function = peak
4. Set SPA Trace 1 Max hold, then View.

8.3. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

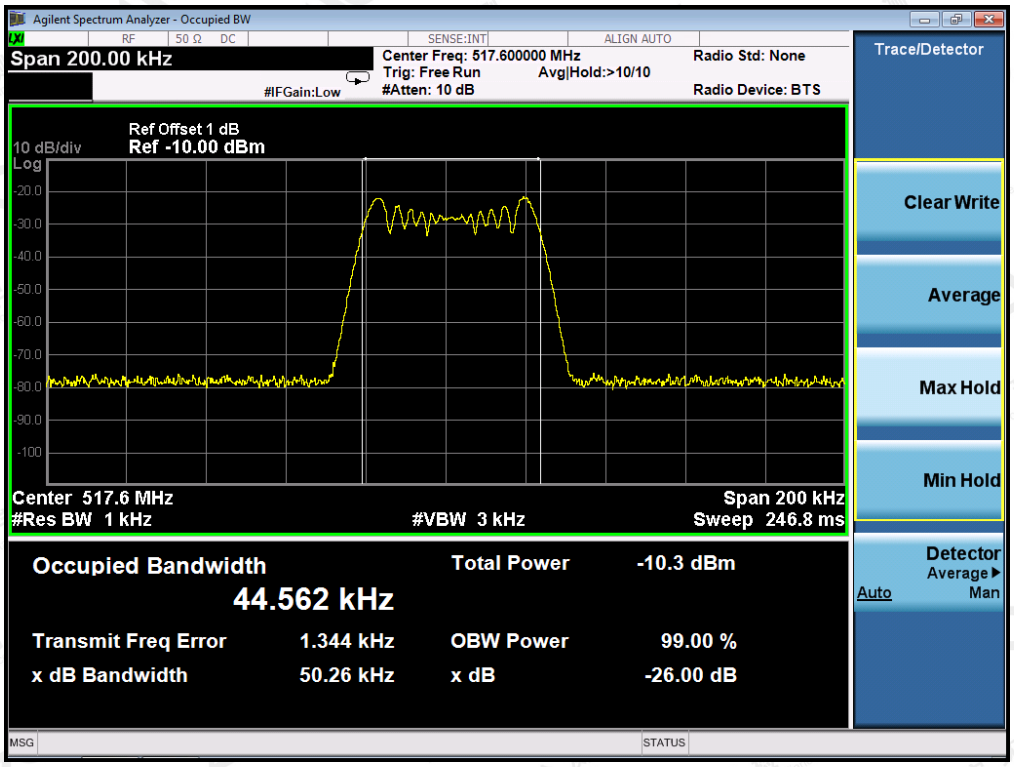


The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of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

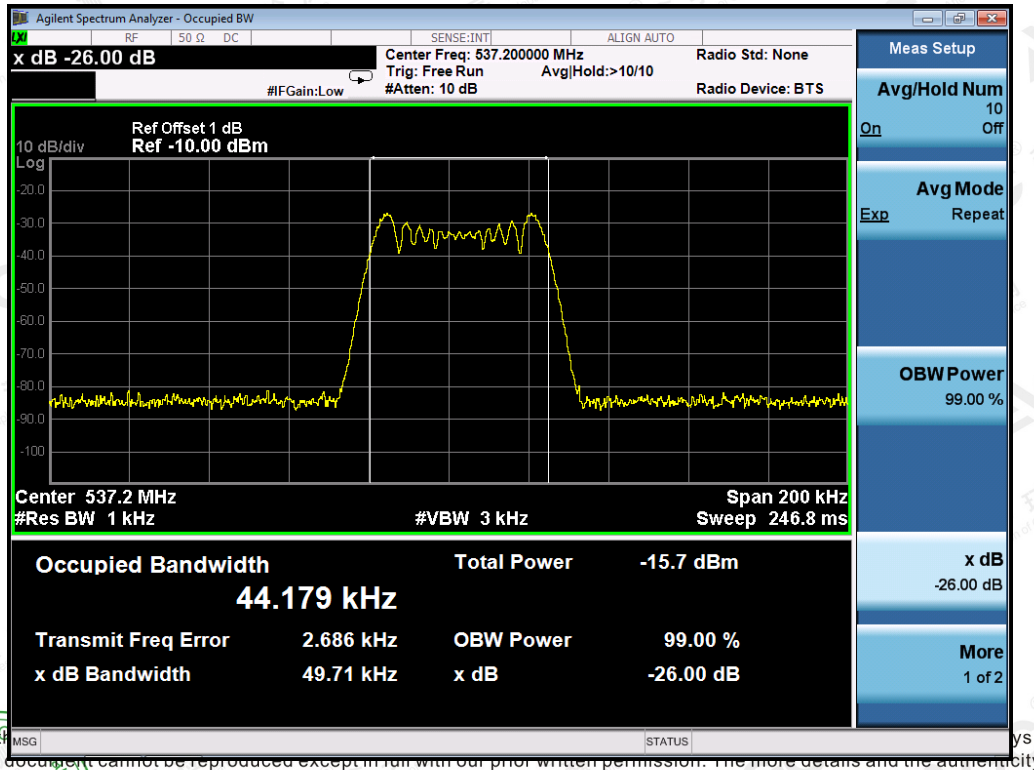
8.4. MEASUREMENT RESULTS

Test Channel	-26dBc EBW (kHz)	99% OBW (kHz)	Limit (kHz)
517.6MHz	50.26	44.562	200
537.2MHz	49.71	44.179	200

TEST PLOT OF BANDWIDTH



TEST PLOT OF BANDWIDTH



The results shown in this report refer only to the sample(s) tested. This 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. EMISSIONS WITHIN THE BAND AND OUTSIDE THIS BAND

9.1TEST LIMIT

Emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in §8.3 of ETSI EN 300 422-1 V1.4.2 (2011-08). Emissions outside of this band shall comply with the limits specified in section 8.4 of ETSI EN 300 422-1 V1.4.2 (2011-08).

9.2. MEASUREMENT PROCEDURE

1. The EUT was placed on the top of the turntable 0.8 or 1.5 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. EIRP[dBm] = E[dB(μV)/m]− 95.2

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

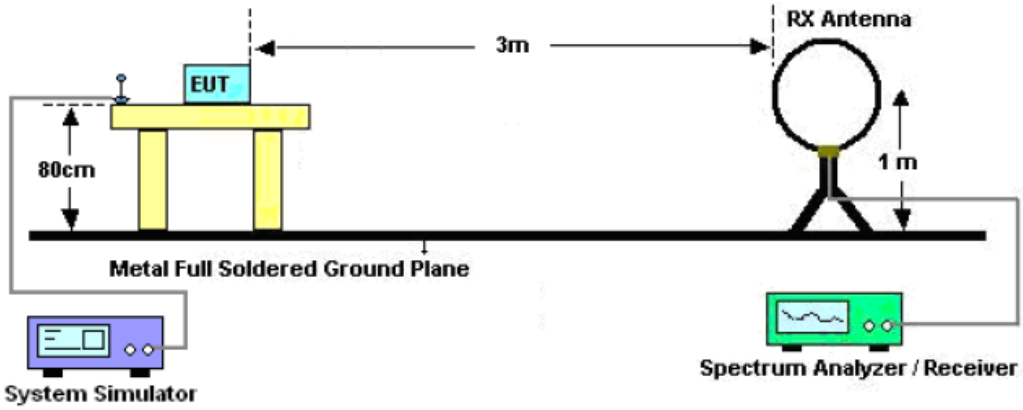
Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1000MHz~6000MHz/RB 1MHz for QP

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1000MHz~6000MHz/RB 1MHz for QP

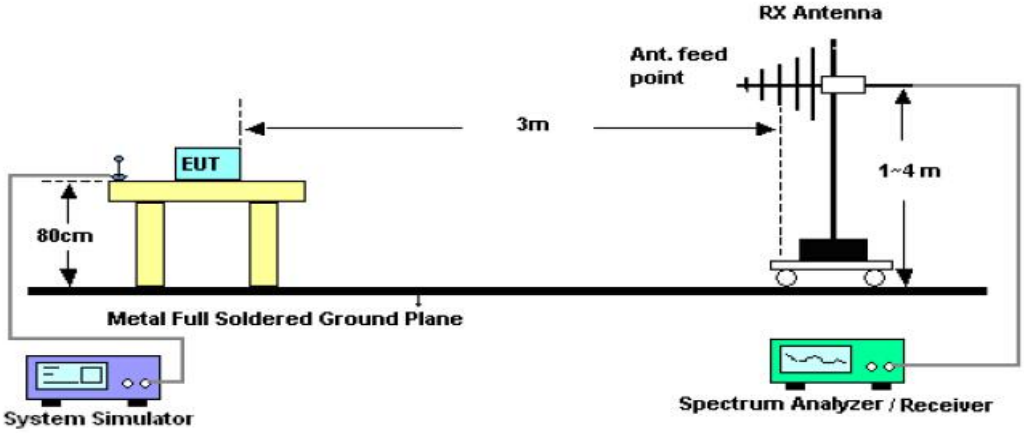
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of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

9.3. TEST SETUP

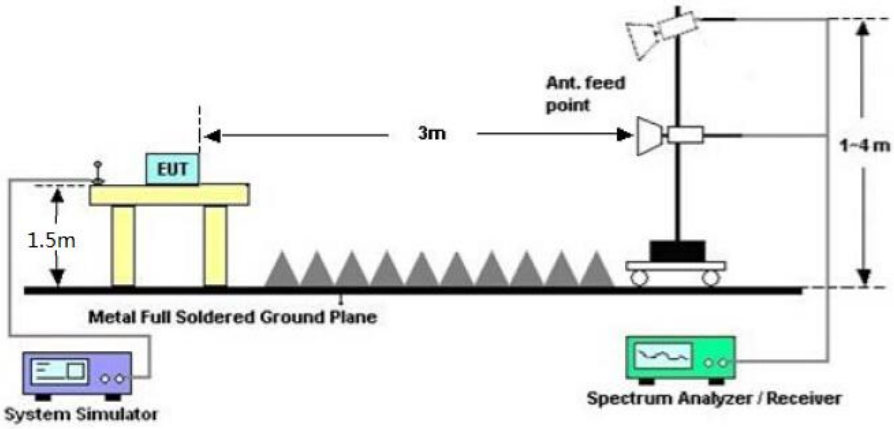
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



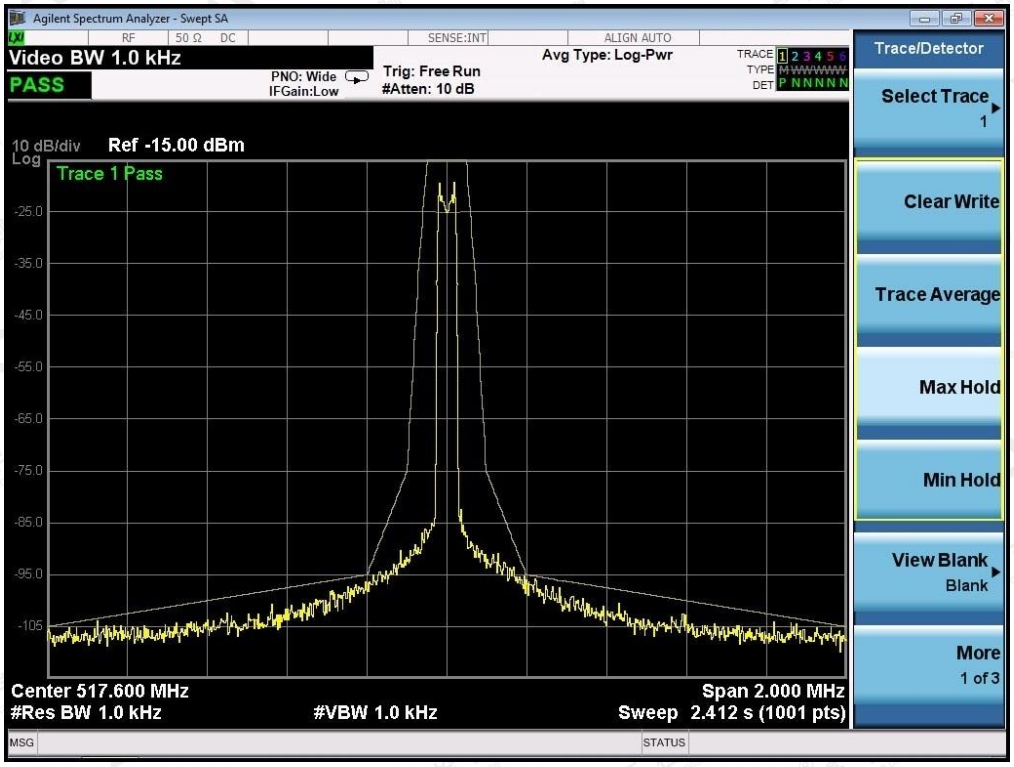
RADIATED EMISSION TEST SETUP ABOVE 1000MHz

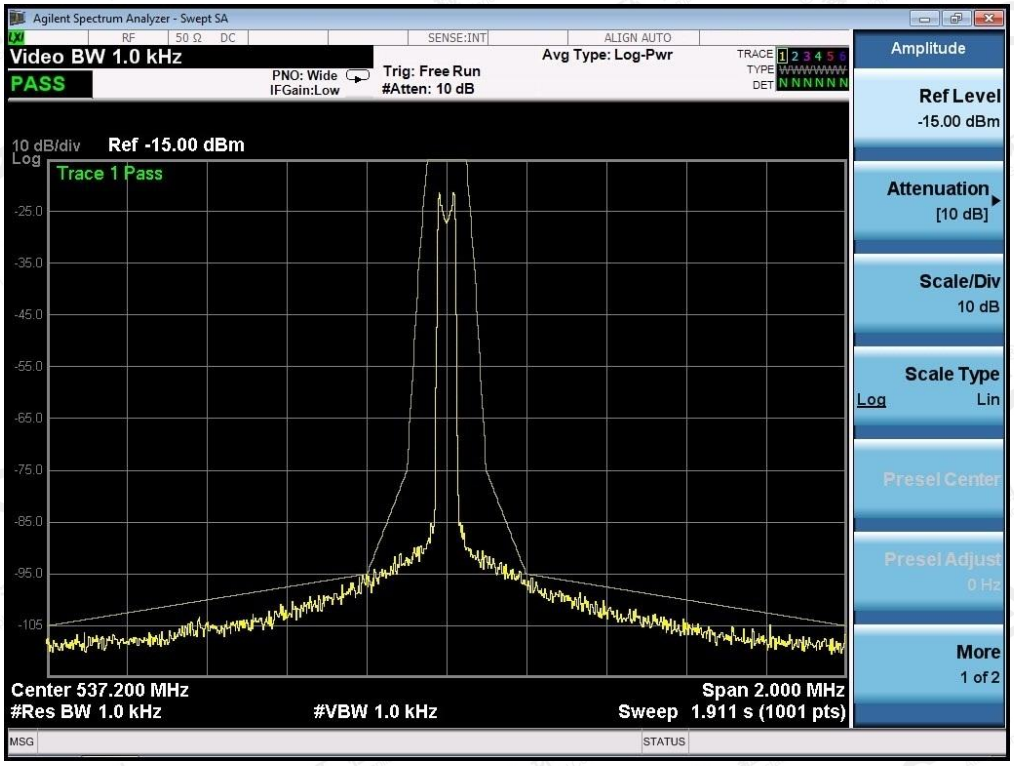


The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of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

9.4. TEST RESULT

EMISSION MASK(Emissions within the band)





Note: The carrier power for 517.6MHz and 537.2MHz are -15dBm, and The factor had been edited in the "Input Correction" of the Spectrum Analyzer.

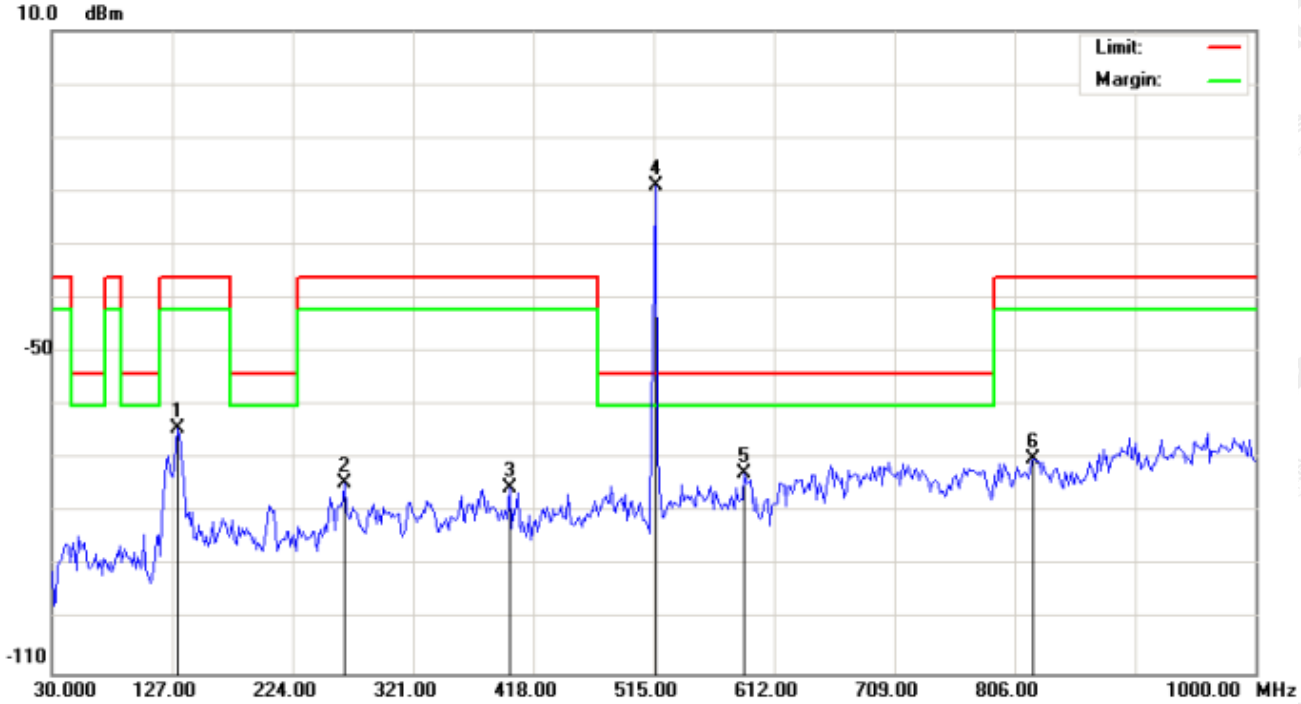
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of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

RADIATED EMISSION BELOW 30MHZ

Note: No other emissions found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION 30MHz- 1GHZ

EUT：	Wireless Microphone	Model Name. ：	UHF-20HHM
Temperature：	20 ℃	Relative Humidtity：	48%
Pressure：	1010 hPa	Test Voltage ：	Normal
Test Mode ：	Transmitting at 517.6MHz	Polarization :	Horizontal

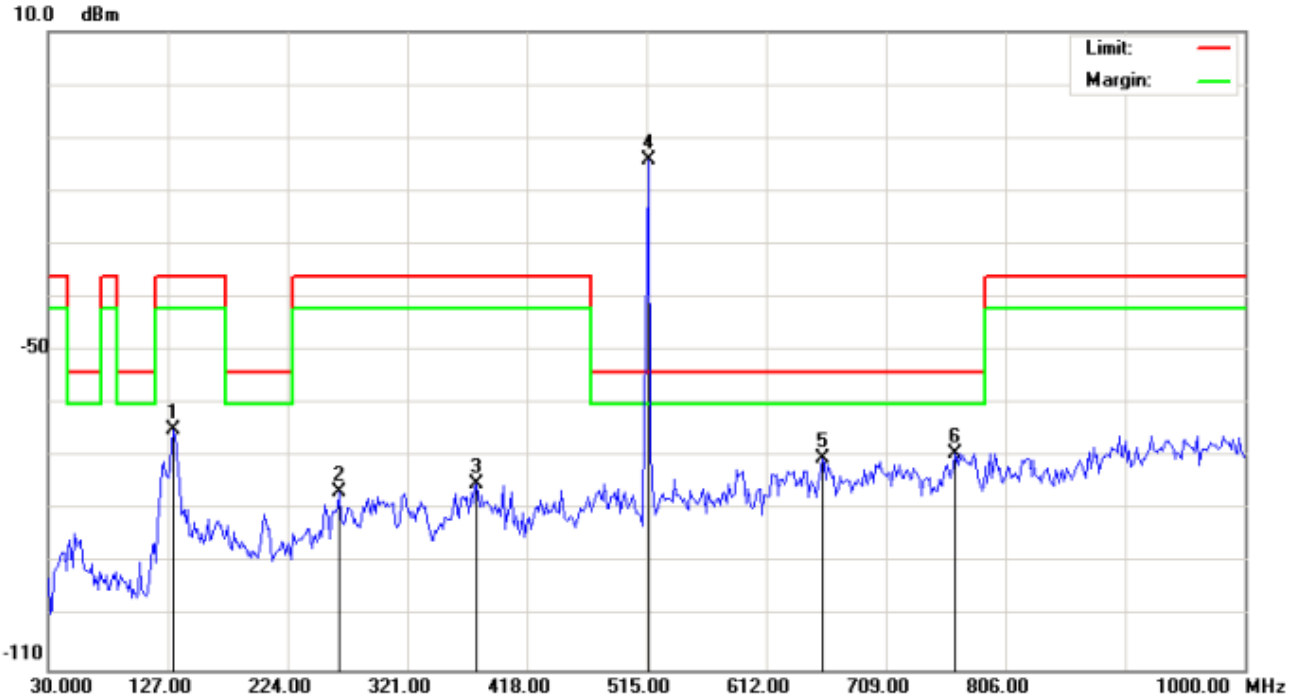


No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBm	dB	dBm	dBm	dB		cm	degree	
1		131.8500	-88.07	23.80	-64.27	-36.00	-28.27	peak			
2		266.0333	-100.78	26.38	-74.40	-36.00	-38.40	peak			
3		398.6000	-106.50	31.05	-75.45	-36.00	-39.45	peak			
4	*	517.6167	-52.46	33.45	-19.01	-54.00	34.99	peak			
5		587.7500	-107.36	34.57	-72.79	-54.00	-18.79	peak			
6		820.5500	-108.48	38.68	-69.80	-36.00	-33.80	peak			

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.

EUT：	Wireless Microphone	Model Name. ：	UHF-20HHM
Temperature：	20 ℃	Relative Humidtity：	48%
Pressure：	1010 hPa	Test Voltage ：	Normal
Test Mode ：	Transmitting at 517.6MHz	Polarization :	Vertical

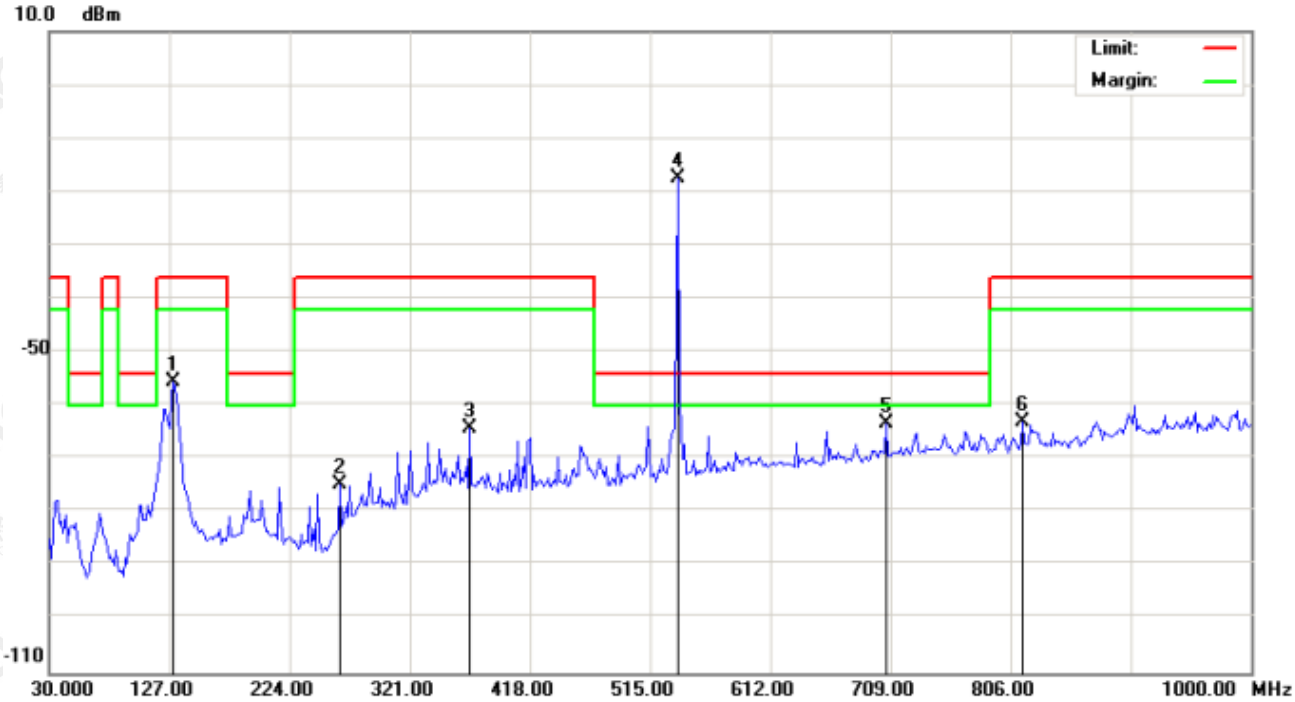


No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBm	dB	dBm	dBm	dB		cm	degree	
1		131.8500	-88.57	23.80	-64.77	-36.00	-28.77	peak			
2		266.0333	-102.78	26.38	-76.40	-36.00	-40.40	peak			
3		377.5833	-105.95	30.77	-75.18	-36.00	-39.18	peak			
4	*	517.6167	-49.47	33.46	-16.01	-54.00	37.99	peak			
5		657.2667	-106.27	36.04	-70.23	-54.00	-16.23	peak			
6		765.5833	-108.14	38.94	-69.20	-54.00	-15.20	peak			

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.

EUT：	Wireless Microphone	Model Name. ：	UHF-20HHM
Temperature：	20 ℃	Relative Humidtity：	48%
Pressure：	1010 hPa	Test Voltage ：	Normal
Test Mode ：	Transmitting at 537.2MHz	Polarization :	Horizontal

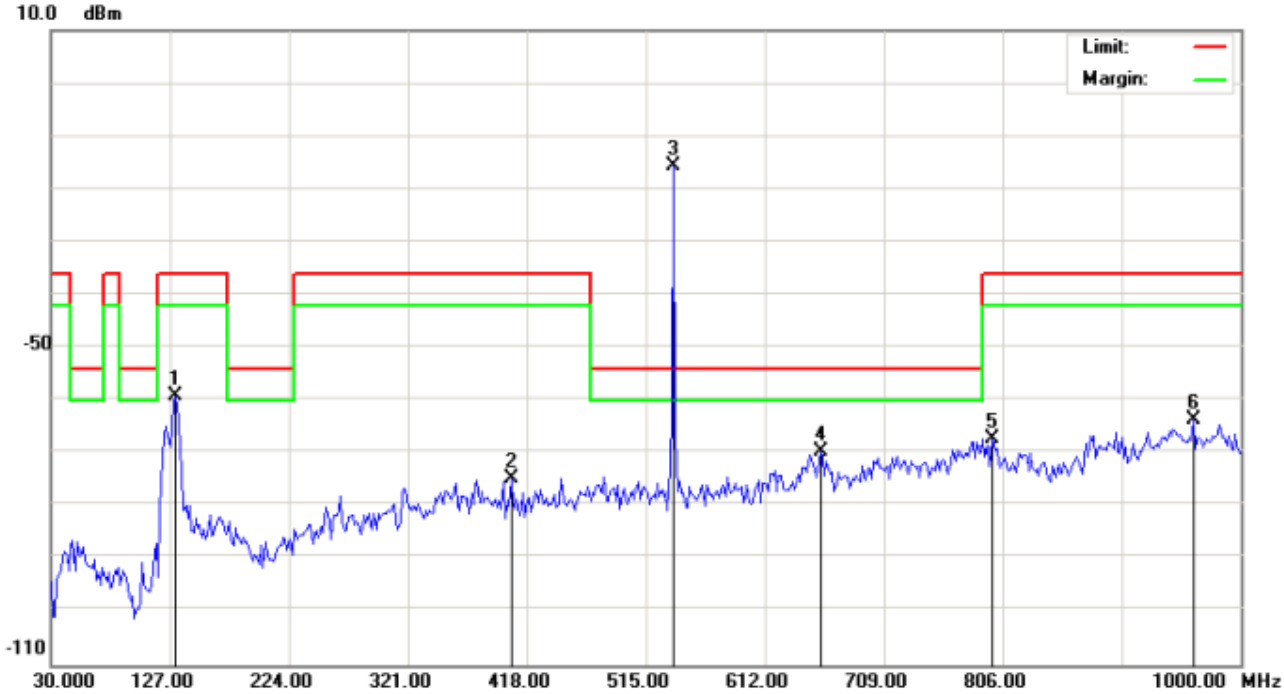


No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBm	dB	dBm	dBm	dB		cm	degree	
1		130.2333	-83.07	27.52	-55.55	-36.00	-19.55	peak			
2		264.4167	-96.07	21.35	-74.72	-36.00	-38.72	peak			
3		369.5000	-95.02	30.87	-64.15	-36.00	-28.15	peak			
4	*	537.2333	-51.51	33.85	-17.66	-54.00	36.34	peak			
5		705.7667	-100.83	37.36	-63.47	-54.00	-9.47	peak			
6		815.7000	-102.47	39.32	-63.15	-36.00	-27.15	peak			

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.

EUT：	Wireless Microphone	Model Name. ：	UHF-20HHM
Temperature：	20 ℃	Relative Humidtity：	48%
Pressure：	1010 hPa	Test Voltage ：	Normal
Test Mode ：	Transmitting at 537.2MHz	Polarization :	Vertical



No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBm	dB	dBm	dBm	dB		cm	degree	
1		131.8500	-83.07	23.80	-59.27	-36.00	-23.27	peak			
2		405.0667	-105.83	31.22	-74.61	-36.00	-38.61	peak			
3	*	537.2333	-49.50	33.85	-15.65	-54.00	38.35	peak			
4		657.2667	-105.77	36.04	-69.73	-54.00	-15.73	peak			
5		797.9167	-106.91	39.59	-67.32	-36.00	-31.32	peak			
6		961.2000	-105.69	42.12	-63.57	-36.00	-27.57	peak			

RESULT: PASS

Note:

Factor=Antenna Factor + Cable loss, Margin=Result-Limit.

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

The emission signal at the 516.7MHz and 537.2MHz above the limit is the fundamental wave.

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 ABOVE 1GHZ

EUT	Wireless Microphone	**Model Name.**	UHF-20HHM
Temperature	25°C	**Relative Humidity**	55.4%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	Transmitting at 517.6MHz	**Antenna**	Horizontal/ Vertical

Frequency (MHz)	Meter Reading (dBm)	Factor (dB)	Emission Level (dBm)	Limits (dBm)	Margin (dB)	Value Type
1035.200	-42.32	4.24	-38.08	-30	-8.08	Horizontal
1035.200	-43.58	4.24	-39.34	-30	-9.34	Vertical
1552.800	-46.74	5.87	-40.87	-30	-10.87	Horizontal
1552.800	-47.66	5.87	-41.79	-30	-11.79	Vertical
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Wireless Microphone	**Model Name.**	UHF-20HHM
Temperature	25°C	**Relative Humidity**	55.4%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	Transmitting at 537.2MHz	**Antenna**	Horizontal/ Vertical

Frequency (MHz)	Meter Reading (dBm)	Factor (dB)	Emission Level (dBm)	Limits (dBm)	Margin (dB)	Value Type
1074.400	-41.13	4.24	-36.89	-30	-6.89	Horizontal
1074.400	-42.52	4.24	-38.28	-30	-8.28	Vertical
1611.600	-46.41	5.87	-40.54	-30	-10.54	Horizontal
1611.600	-47.28	5.87	-41.41	-30	-11.41	Vertical
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RESULT: PASS

Note:

Other emissions from 1G to 6 GHz are considered as ambient noise. No recording in the test report.

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

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. FREQUENCY STABILITY

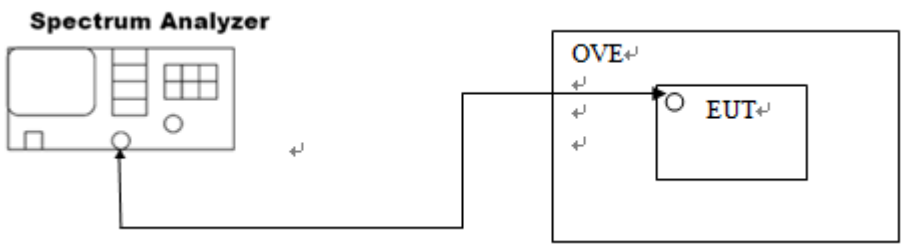
10.1. TEST LIMIT

The frequency tolerance of the carrier signal shall be maintained within ±0.005% of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

10.2. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the operation frequency.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 1 KHz, VBW⩾3×RBW.
4. Set SPA Trace 1 Max hold, then View.
5. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
6. Extreme temperature rule is -20°C~50°C.

10.3. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



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. MEASUREMENT RESULTS

Test frequency: 517.6MHz

Voltage vs. Frequency Stability (Test Temperature: 20℃)

Voltage(V)	Measurement Frequency (MHz)	Max. Deviation (MHz)	Limit(MHz)	Conclusion
2.55	517.6088	0.0088	0.02588	PASS
3.00	517.6087			
3.45	517.6088			

Temperature vs. Frequency Stability (Test Voltage: 3.00V)

Temperature	Measurement Frequency (MHz)	Max. Deviation (MHz)	Limit(MHz)	Conclusion
- 20℃	517.6087	0.0089	0.02588	PASS
-10℃	517.6087			
0℃	517.6087			
10℃	517.6089			
20℃	517.6087			
30℃	517.6087			
40℃	517.6084			
50℃	517.6085			

Test frequency: 537.2MHz

Voltage vs. Frequency Stability (Test Temperature: 20℃)

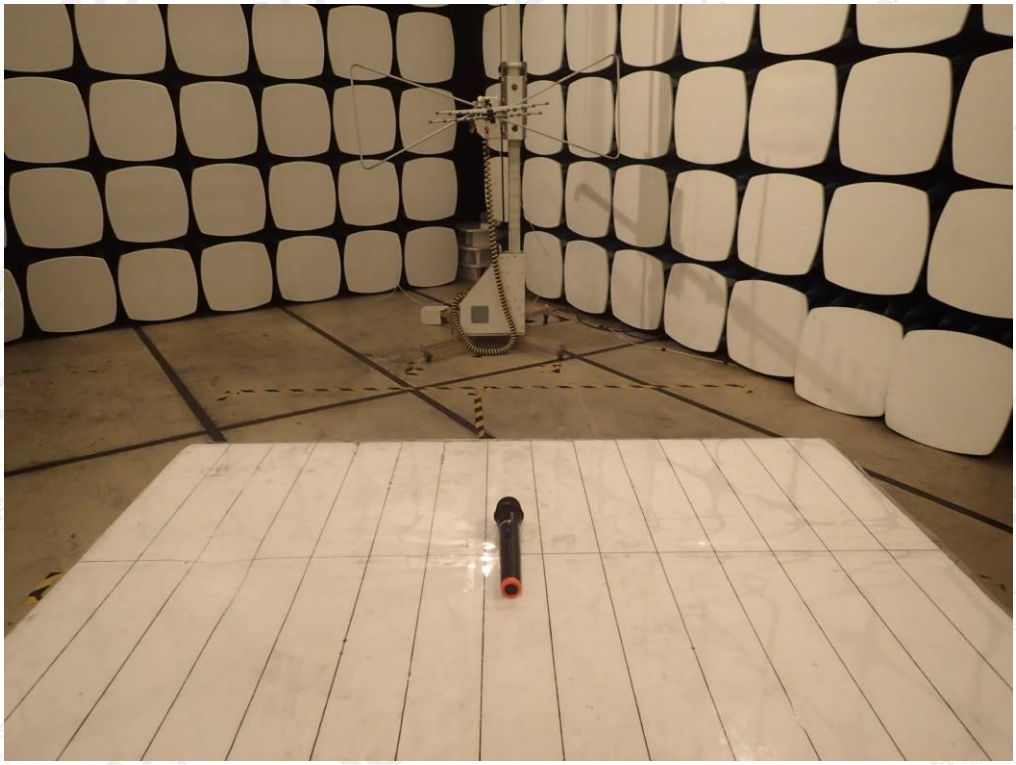
Voltage(V)	Measurement Frequency (MHz)	Max. Deviation (MHz)	Limit(MHz)	Conclusion
2.55	537.2091	0.0091	0.02686	PASS
3.00	537.2088			
3.45	537.2090			

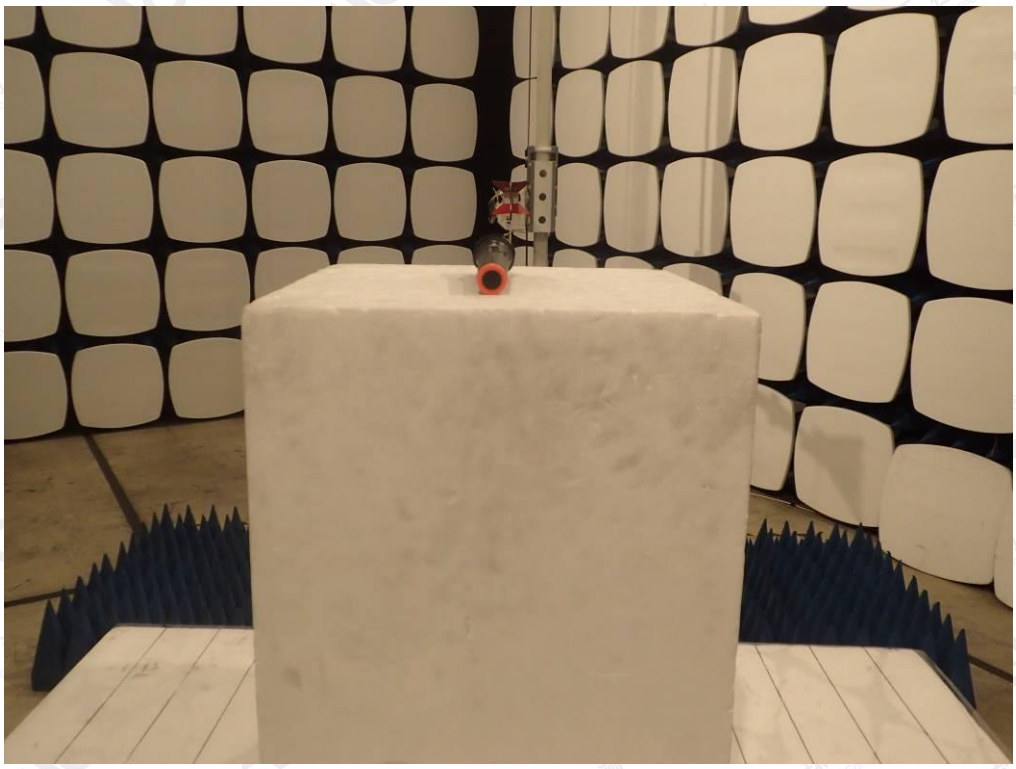
Temperature vs. Frequency Stability (Test Voltage: 3.00V)

Temperature	Measurement Frequency (MHz)	Max. Deviation (MHz)	Limit(MHz)	Conclusion
- 20℃	537.2091	0.0092	0.02686	PASS
-10℃	537.2089			
0℃	537.2092			
10℃	537.2094			
20℃	537.2088			
30℃	537.2092			
40℃	537.2091			
50℃	537.2088			

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





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

TOTAL VIEW OF EUT

TOP 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.

BOTTOM VIEW OF EUT

FRONT 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.

BACK VIEW OF EUT

LEFT VIEW OF EUT

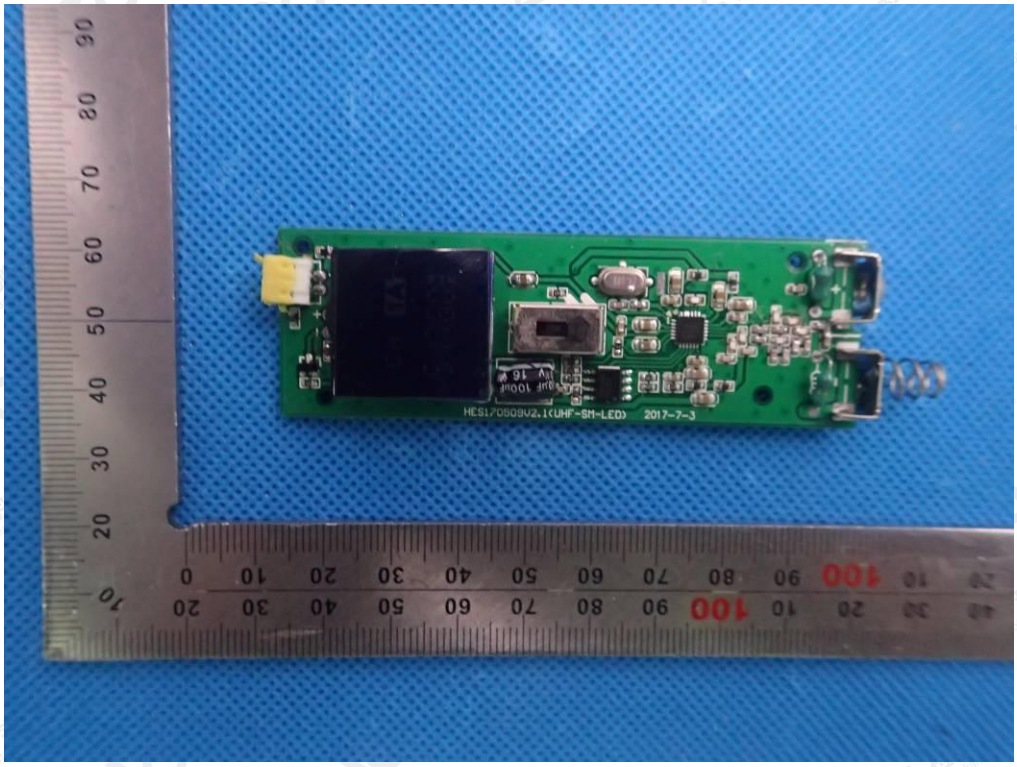
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of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

RIGHT VIEW OF EUT

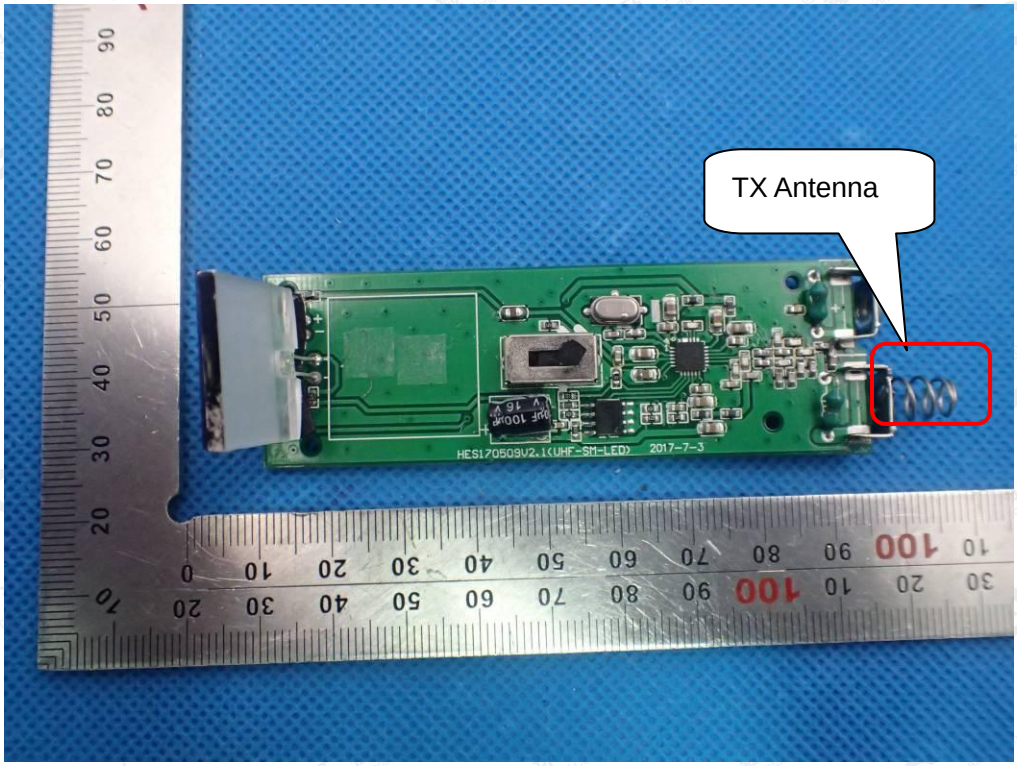
OPEN VIEW OF EUT

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.

INTERNAL VIEW OF EUT-1

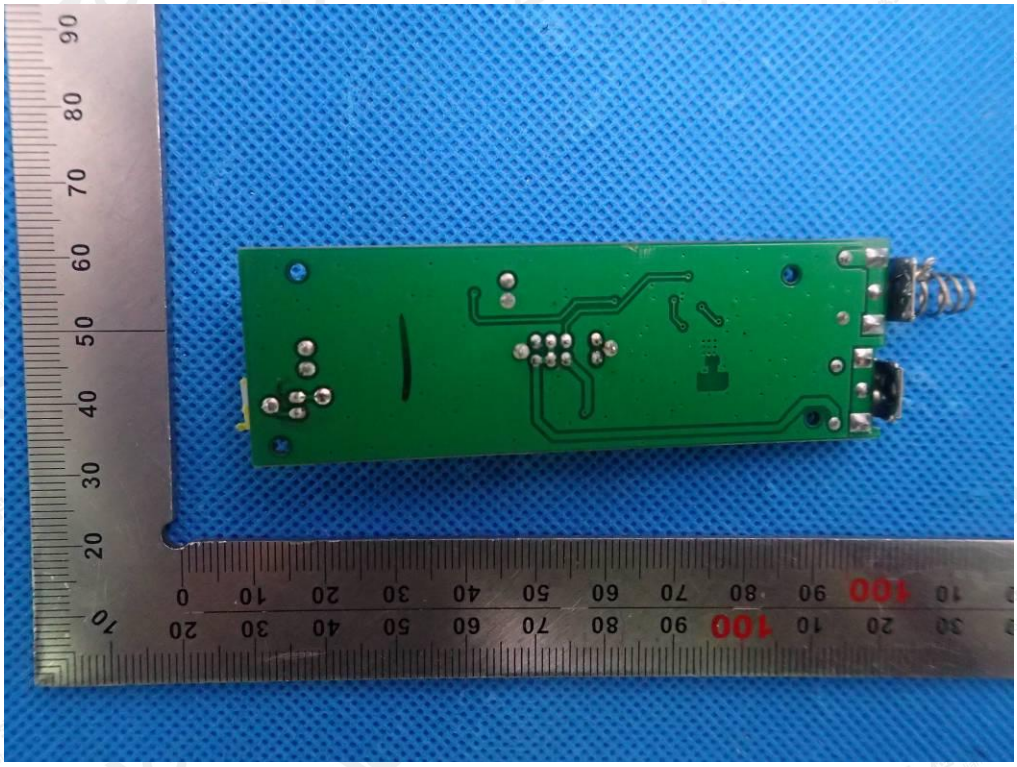


INTERNAL VIEW OF EUT-2

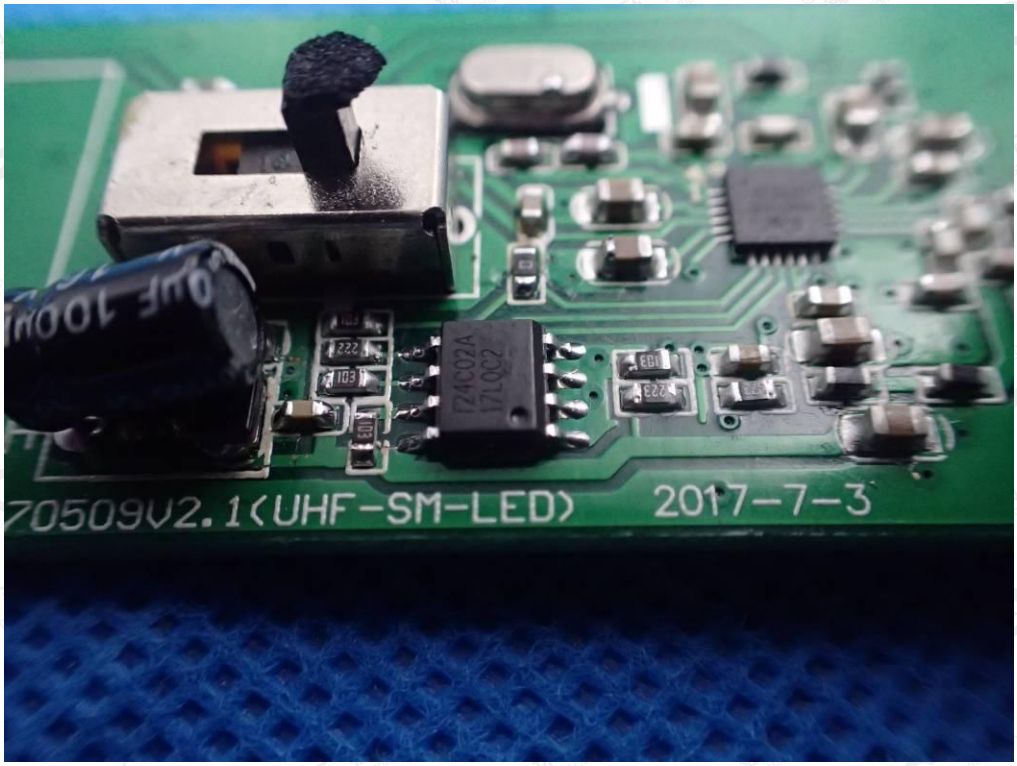


The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 30 days only. The document is issued by AGC, this document cannot be reproduced except in full with our prior written permission. The more details and the authenticity of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

INTERNAL VIEW OF EUT-3

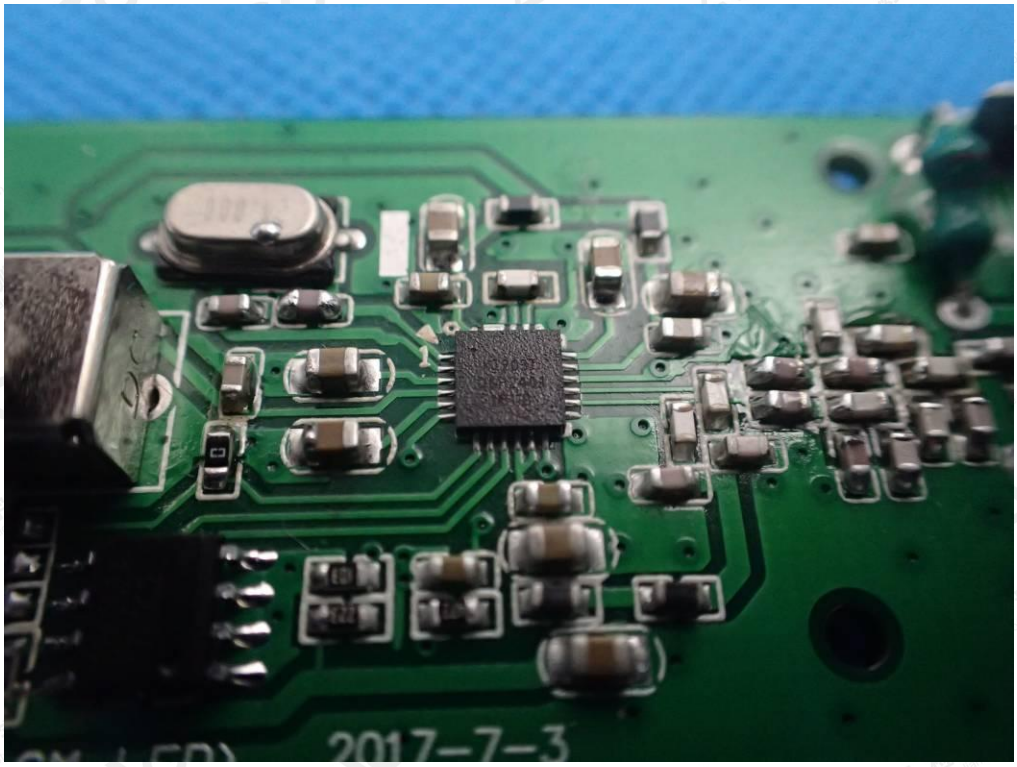


INTERNAL VIEW OF EUT-4



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-5



----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.