TEST REPORT

FCC PART 15 SUBPART C 15.249

Test report
On Behalf of
FUZHOU ZHENHONG ELECTRONIC CO., LTD.

For
WIRELESS MICROPHONE

Model No.: TW-820, TW-820 Plus, TW820, TW-830

FCC ID: 2AU9Y-TW82N

Prepared for :	**FUZHOU ZHENHONG ELECTRONIC CO., LTD.** **4th Floor, B Building, No.1, Cha Shan Road, Mawei District, Fuzhou, Fujian, China**
Prepared By :	**Shenzhen HUAK Testing Technology Co., Ltd.** **1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park, Fuhai Street, Bao'an District, Shenzhen City, China**
Date of Test:	**Nov. 28, 2019 ~ Dec. 21, 2019**
Date of Report:	**Dec. 21, 2019**
Report Number:	**HK1912033082-E**

TEST RESULT CERTIFICATION

Applicant's name	:	FUZHOU ZHENHONG ELECTRONIC CO., LTD.
Address	:	4th Floor, B Building, No.1, Cha Shan Road, Mawei District, Fuzhou, Fujian, China
Manufacture's Name	:	FUZHOU ZHENHONG ELECTRONIC CO., LTD.
Address	:	4th Floor, B Building, No.1, Cha Shan Road, Mawei District, Fuzhou, Fujian, China

Product description

Trade Mark	:	N/A
Product name	:	WIRELESS MICROPHONE
Model and/or type reference	:	TW-820, TW-820 Plus, TW820, TW-830
Standards	:	FCC Rules and Regulations Part 15 Subpart C Section 15.249

Date of Test	:	
Date (s) of performance of tests	:	Nov. 28, 2019 ~ Dec. 21, 2019
Date of Issue	:	Dec. 21, 2019
Test Result	:	**Pass**

Prepared by: Gary Qian
Project Engineer

Reviewed by: Eden Hu
Project Supervisor

Approved by: Jason Zhou
Technical Director

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1. SUMMARY

1.1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.249: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHZ, and 24.0-24.25 GHz.

ANSI C63.10: 2013: American National Standard for Testing Unlicensed Wireless Devices

ANSI C63.4: 2014: American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40GHz

1.2. Test Description

FCC PART 15.249		
FCC Part 15.215(c)	20dB Bandwidth	PASS
FCC Part 15.207(d)	Spurious RF Conducted Emission	N/A
FCC Part 15.249(a)	Field Strength of Fundamental	PASS
FCC Part 15.205/15.209	Radiated Emissions and Band Edge	PASS

1.3. Test Facility

1.3.1 Address of the test laboratory

Shenzhen HUAK Testing Technology Co., Ltd.
Add.:1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park,Heping Community, Fuhai Street, Bao'an District, Shenzhen, China

There is one 3m semi-anechoic chamber and two line conducted labs for final test. The Test Sites meet the requirements in documents ANSI C63.4 and CISPR 32/EN 55032 requirements.

1.3.2 Laboratory accreditation

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

IC Registration No.: 21210

The 3m alternate test site of Shenzhen HUAK Testing Technology Co., Ltd. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration No.: 21210 on May 24, 2016.

1.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen HUAK Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for HUAK laboratory is reported:

Test	Measurement Uncertainty	Notes
Transmitter power conducted	±0.57 dB	(1)
Transmitter power Radiated	±2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	±2.20 dB	(1)
Occupied Bandwidth	±0.01ppm	(1)
Radiated Emission 30~1000MHz	±4.10dB	(1)
Radiated Emission Above 1GHz	±4.32dB	(1)
Conducted Disturbance0.15~30MHz	±3.20dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2. GENERAL INFORMATION

2.1. Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

2.2. General Description of EUT

Product Name:	WIRELESS MICROPHONE
Model/Type reference:	TW-820
Serial Model:	TW-820 Plus, TW820, TW-830
Model Difference	All model's the function, software and electric circuit are the same, only model named different. Test sample model: TW-820
Trade Mark	N/A
FCC ID	2AU9Y-TW82N
Hardware Version:	V1.2
Software Version:	V1.0.12
Modulation:	FM
Operation frequency:	902.8MHz~926.8MHz
Channel number:	30CH
Channel separation:	0.8MHz
Antenna type:	Spring antenna
Antenna gain:	-2.0dBi
Power supply:	DC 3.0V from AA*2 Battery

Note: For more details, refer to the user's manual of the EUT.

2.3. Description of Test Modes and Test Frequency

The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing.

The product has two modes A and B, each mode has 15 channels, the gray frequency is the representative of the selected test.

Operation Frequency：

A mode: Channel	Frequency (MHz)	A mode :Channel(B)	Frequency (MHz)
1	902.80	16	915.60
2	903.60	17	916.40
3	904.40	18	917.20
4	905.20	19	918.00
5	906.00	20	918.80
6	906.80	21	919.60
7	907.60	22	920.40
8	908.40	23	921.20
9	909.20	24	922.00
10	910.00	25	922.80
11	910.80	26	923.60
12	911.60	27	924.40
13	912.40	28	925.20
14	913.20	29	926.00
15	914.00	30	926.80

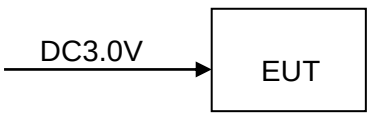
Note: The line display in grey were the channel selected for testing

2.4. Operation of EUT During Testing

Operating Mode
The mode is used: **Transmitting mode**
Low Channel: 902.8MHz
Middle Channel: 914MHz
High Channel: 926.8MHz

2.5. Description Of Test Setup

Operation of EUT during Radiation and above1GHz Radiation testing:



2.6. Modifications

No modifications were implemented to meet testing criteria.

2.7. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Description	Information	Manufacturer	Remark	Certificate
/	/	/	/	
/	/	/	/	/

2.8. Equipments Used During Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	R&S	ENV216	HKE-002	Dec. 27, 2018	1 Year
2.	Receiver	R&S	ESCI 7	HKE-010	Dec. 27, 2018	1 Year
3.	RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 27, 2018	1 Year
4.	Spectrum analyzer	R&S	FSP40	HKE-025	Dec. 27, 2018	1 Year
5.	Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 27, 2018	1 Year
6.	Preamplifier	Schwarzbeck	BBV 9743	HKE-006	Dec. 27, 2018	1 Year
7.	EMI Test Receiver	R&S	ESCI 7	HKE-010	Dec. 27, 2018	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	HKE-012	Dec. 27, 2018	1 Year
9.	Loop Antenna	Schwarzbeck	FMZB 1519 B	HKE-014	Dec. 27, 2018	1 Year
10.	Horn Antenna	Schewarzbeck	9120D	HKE-013	Dec. 27, 2018	1 Year
11.	Pre-amplifier	EMCI	EMC051845SE	HKE-015	Dec. 27, 2018	1 Year
12.	Pre-amplifier	Agilent	83051A	HKE-016	Dec. 27, 2018	1 Year
13.	EMI Test Software EZ-EMC	Tonscend	JS1120-B Version	HKE-083	/	N/A
14.	Power Sensor	Agilent	E9300A	HKE-086	Dec. 27, 2018	1 Year
15.	Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 27, 2018	1 Year
16.	Signal generator	Agilent	N5182A	HKE-029	Dec. 27, 2018	1 Year
17.	Signal Generator	Agilent	83630A	HKE-028	Dec. 27, 2018	1 Year
18.	Shielded room	Shiel Hong	4*3*3	HKE-039	Dec. 27, 2018	3 Year
19.	Power Meter	R&S	NRVD	SEL0069	Dec. 27, 2018	1 Year
20	High Gain Antenna	Schewarzbeck	LB-180400KF	HKE-054	Dec. 27, 2018	1 Year
21	RF COMMUNICATION TEST SET	HP	8920A	HKE-129	Dec. 27, 2018	1 Year

The calibration interval was one year

3. TEST RESULTS AND MEASUREMENT DATA

3.1. Conducted Emissions Test

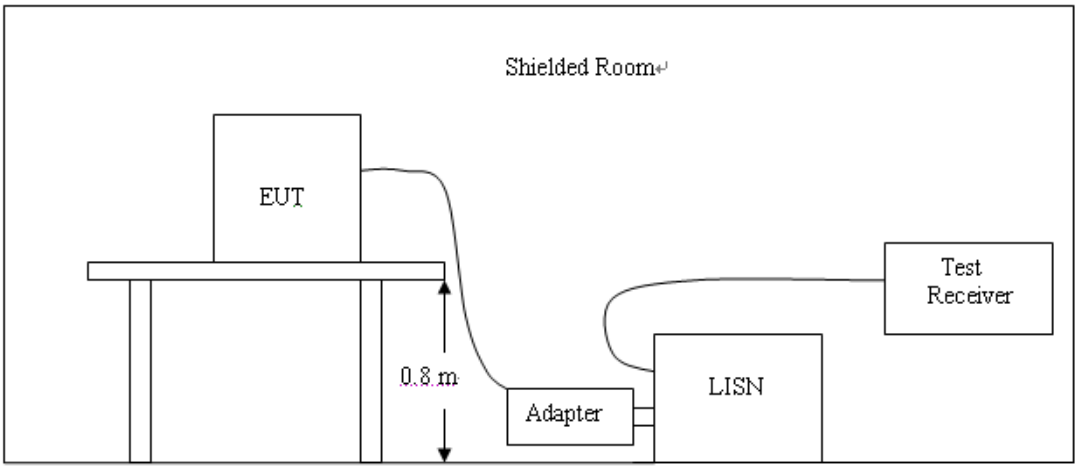
LIMIT

According to FCC CFR Title 47 Part 15 Subpart C Section 15.207 and RSS Gen 8.8, AC Power Line Conducted Emissions Limits for Licence-Exempt Radio Apparatus as below:

Frequency range (MHz)	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.

TEST CONFIGURATION



TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. 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 C63.10:2013.
2. Support equipment, if needed, was placed as per ANSI C63.10:2013
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10:2013.
4. The adapter received AC120V/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.

TEST RESULTS

Not applicable to this device

3.2. Radiated Emissions and Band Edge

Limit

Limit (Field strength of the fundamental signal):

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

Limit (Spurious Emissions):

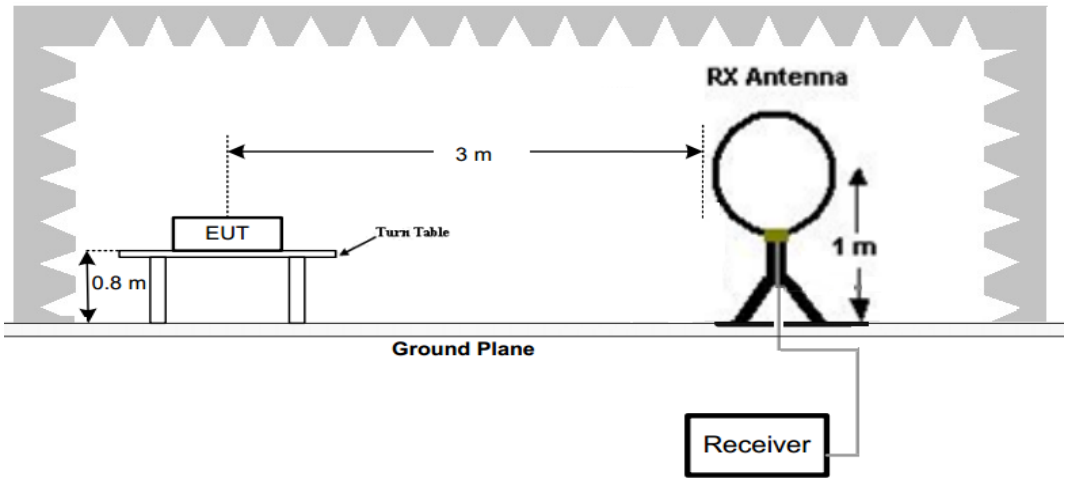
Frequency	Limit(dBuV/m@3m)	Remark
0.009-0.490	2400/F(KHz)	Quasi-peak Value
0.490-1.705	24000/F(KHz)	Quasi-peak Value
1.705-30	30	Quasi-peak Value
30MHz-88MHz	40.0	Quasi-peak Value
88MHz-216MHz	43.5	Quasi-peak Value
216MHz-960MHz	46.0	Quasi-peak Value
960MHz-1GHz	54.0	Quasi-peak Value
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Limit (Band edge):

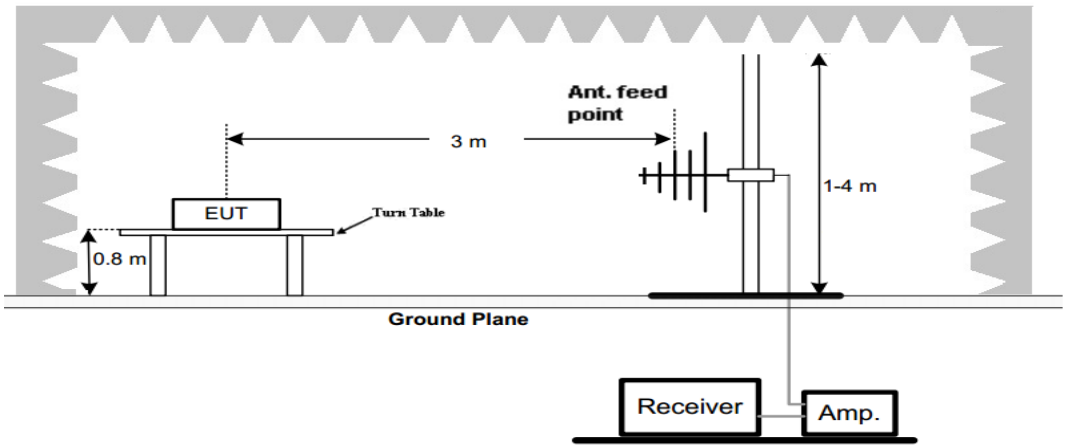
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

TEST CONFIGURATION

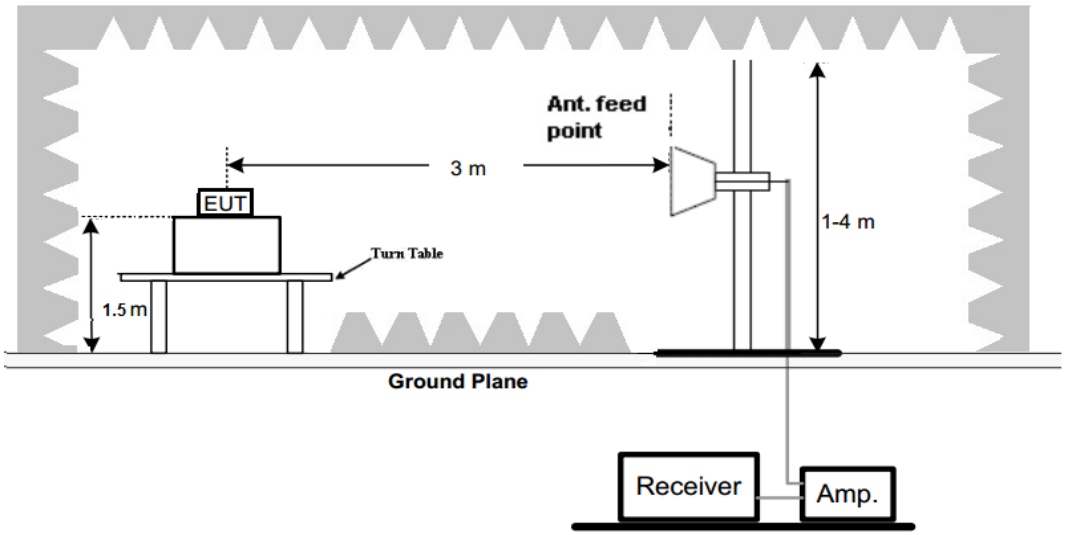
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



Test Procedure

1) Below 1G: The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2) Above 1G: The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.

Note: For the radiated emission test above 1GHz:Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Test the EUT in the lowest channel,the middle channel,the Highest channel
The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.Repeat above procedures until all frequencies measured was complete.

TEST RESULTS

Remark:
1. Radiated Emission measured from 9 KHz to 10th harmonic of fundamental and recorded worst case at Low /Mid/High Channel.
2. There is no emission found except system noise floor in 9 KHz to 30MHz and not recorded in this report(Radiated emission in 9kHz to 30MHz is more than 20dB below the limit).
3. For above 1GHz testing recorded Low /Mid/High Channel.

Field Strength:

Low Channel

Frequency (MHz)	Emission (dBuV/m)	Factor (dB)	Limits PK/AV (dBuV/m)	Margin (dB)	Ant. Pol.
902.8	97.71	-1.76	114	16.29	H
902.8	77.67	-1.76	94	16.33	H
902.8	98.58	-1.76	114	15.42	V
902.8	82.02	-1.76	94	11.98	V

Mid Channel

Frequency (MHz)	Emission (dBuV/m)	Factor (dB)	Limits PK/AV (dBuV/m)	Margin (dB)	Ant. Pol.
914.0	96.44	-1.74	114	17.56	H
914.0	81.28	-1.74	94	12.72	H
914.0	96.45	-1.74	114	17.55	V
914.0	82.00	-1.74	94	12.00	V

High Channel

Frequency (MHz)	Emission (dBuV/m)	Factor (dB)	Limits PK/AV (dBuV/m)	Margin (dB)	Ant. Pol.
926.8	97.73	-1.71	114	16.27	H
926.8	82.83	-1.71	94	11.17	H
926.8	96.66	-1.71	114	17.34	V
926.8	81.63	-1.71	94	12.37	V

Remark: Margin = Limit –Emission level
Correction factor = Cable lose + LISN insertion loss
Level=Test receiver reading + correction factor

Spurious Emissions:

For 9 kHz-30MHz Test Results:

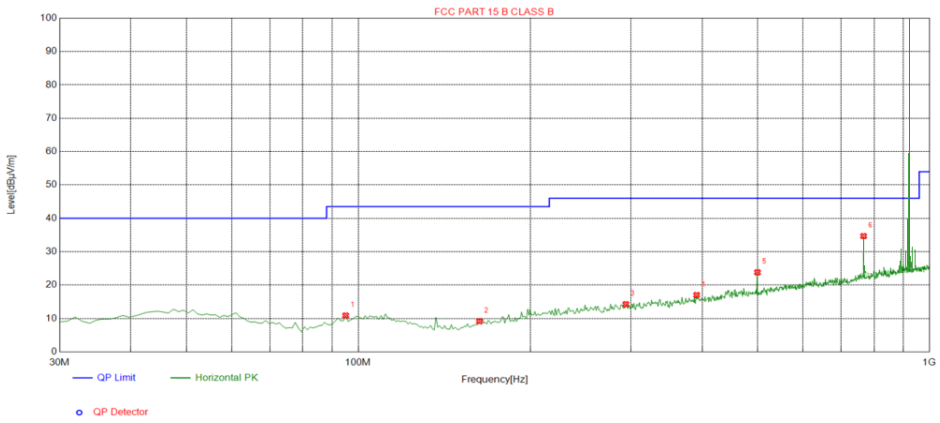
NO.	Frequency (MHz)	Reading (dBm)	Level (dBm)	Limit (dBm)	Margin (dB)	Factor (dB)	Polarity
1	--	--	--	--	--	--	--
2	--	--	--	--	--	--	--

Note:
The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement.

For 30MHz-1GHz Test Results:

Below 1GHz Test Results:
Antenna polarity: H

Test Graph

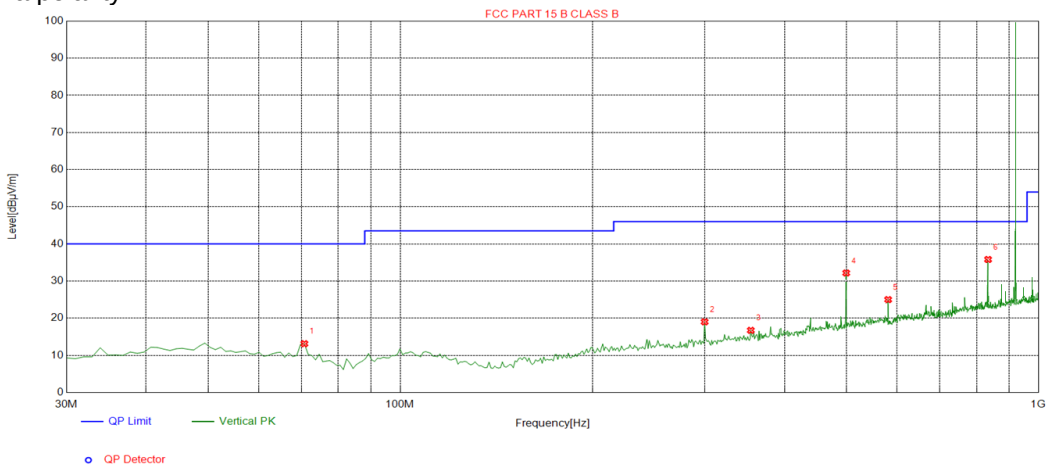


Suspected List

Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	95.0551	-16.23	27.10	10.87	43.50	32.63	100	45	Horizontal
2	163.0230	-17.94	27.09	9.15	43.50	34.35	100	32	Horizontal
3	294.1041	-12.80	27.07	14.27	46.00	31.73	100	19	Horizontal
4	391.2012	-10.62	27.64	17.02	46.00	28.98	100	35	Horizontal
5	499.9500	-8.30	32.11	23.81	46.00	22.19	100	244	Horizontal
6	766.9670	-3.32	37.88	34.56	46.00	11.44	100	157	Horizontal

Remark: Margin = Limit – Level
Correction factor = Cable lose + LISN insertion loss
Level=Test receiver reading + correction factor

Antenna polarity: V



Suspected List

Suspected List									
NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	70.7808	-17.81	30.93	13.12	40.00	26.88	100	274	Vertical
2	299.9299	-12.74	31.75	19.01	46.00	26.99	100	51	Vertical
3	354.3043	-11.54	28.27	16.73	46.00	29.27	100	38	Vertical
4	499.9500	-8.30	41.00	32.70	46.00	13.30	100	64	Vertical
5	581.5115	-6.62	33.04	26.42	46.00	19.58	100	338	Vertical
6	833.9640	-2.49	35.40	32.91	46.00	13.09	100	328	Vertical

Remark: Margin = Limit – Level
Correction factor = Cable lose + LISN insertion loss
Level=Test receiver reading + correction factor

For above 1GHz

Low channel (902.8MHz)

Frequency (MHz)	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	limit (dBμV/m)	Margin (dB)		Ant. Pol.
1805.6	61.78	-4.34	57.44	74	-16.56	Peak	H
1805.6	44.55	-4.34	40.21	54	-13.79	AV	
2708.4	53.22	-0.59	52.63	74	-21.37	Peak	
2708.4	45.29	-0.59	44.70	54	-9.30	AV	
3611.2	53.06	2.16	55.22	74	-18.78	Peak	
3611.2	44.13	2.16	46.29	54	-7.71	AV	
1805.6	60.84	-4.34	56.50	74	-17.50	Peak	V
1805.6	44.17	-4.34	39.83	54	-14.17	AV	
2708.4	52.81	-0.59	52.22	74	-21.78	Peak	
2708.4	43.14	-0.59	42.55	54	-11.45	AV	
3611.2	54.28	2.16	56.44	74	-17.56	Peak	
3611.2	44.31	2.16	46.47	54	-7.53	AV	

Mid channel (914MHz)

Frequency (MHz)	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	limit (dBμV/m)	Margin (dB)		Ant. Pol.
1828	62.21	-4.31	57.90	74	-16.10	Peak	H
1828	44.68	-4.31	40.37	54	-13.63	AV	
2742	54.36	-0.55	53.81	74	-20.19	Peak	
2742	43.92	-0.55	43.37	54	-10.63	AV	
3656	53.09	2.23	55.32	74	-18.68	Peak	
3656	43.66	2.23	45.89	54	-8.11	AV	
1828	61.83	-4.31	57.52	74	-16.48	Peak	V
1828	45.08	-4.31	40.77	54	-13.23	AV	
2742	53.64	-0.55	53.09	74	-20.91	Peak	
2742	44.42	-0.55	43.87	54	-10.13	AV	
3656	52.31	2.23	54.54	74	-19.46	Peak	
3656	43.17	2.23	45.40	54	-8.60	AV	

High channel (926.8MHz)

Frequency (MHz)	Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	limit (dBμV/m)	Margin (dB)		Ant. Pol.
1853.6	60.80	-4.24	56.56	74	-17.44	Peak	H
1853.6	42.69	-4.24	38.45	54	-15.55	AV	
2780.4	53.07	-0.49	52.58	74	-21.42	Peak	
2780.4	43.86	-0.49	43.37	54	-10.63	AV	
3707.2	51.70	2.46	54.16	74	-19.84	Peak	
3707.2	42.84	2.46	45.30	54	-8.70	AV	
1853.6	61.81	-4.24	57.57	74	-16.43	Peak	V
1853.6	44.12	-4.24	39.88	54	-14.12	AV	
2780.4	52.64	-0.49	52.15	74	-21.85	Peak	
2780.4	45.27	-0.49	44.78	54	-9.22	AV	
3707.2	52.94	2.46	55.40	74	-18.60	Peak	
3707.2	42.40	2.46	44.86	54	-9.14	AV	

Note:
1. Emission Level = Peak Reading + Correction Factor; Correction Factor = Antenna Factor + Cable loss – Pre-amplifier
2. Margin = Emission - Limit
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
5. Data of measurement shown “---“ in the above table mean that the reading of emissions is attenuated more than 20dB below the limits or the field strength is too small to be measured.

Radiated Band Edge Test:

902.8MHz

Frequency (MHz)	Ant. Pol.	QP Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	limit (dBμV/m)	Margin (dB)
897.6	H	39.13	-3.9	35.23	46	-10.77
902	H	36.93	-3.6	33.33	46	-12.67
897.6	V	35.94	-3.9	32.04	46	-13.96
902	V	37.40	-3.6	33.80	46	-12.20

NOTE: fundamental emission=97.71 dBμV/m (H)/98.58 dBμV/m (V) , attenuated by at least 50 dB below the level, limit=47.71 dBμV/m (H)/48.58 dBμV/m (V), general radiated emission=46 dBμV/m, so the limit is 46 dBμV/m lesser

926.8MHz

Frequency (MHz)	Ant. Pol.	QP Reading (dBμV)	Correction Factor (dB/m)	Emission Level (dBμV/m)	limit (dBμV/m)	Margin (dB)
928	H	37.05	-3.4	33.65	46	-12.35
932.9	H	30.30	-3.7	26.60	46	-19.40
928	V	34.56	-3.4	31.16	46	-14.84
932.9	V	37.12	-3.7	33.42	46	-12.58

Note:
1. Emission Level = AV Reading + Correction Factor;
   Correction Factor = Antenna Factor + Cable loss – Pre-amplifier
2. Margin = Limit- Emission
3. The emission levels of other frequencies are very lower than the limit and not show in test report.
4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
5. Data of measurement shown “---“ in the above table mean that the reading of emissions is attenuated more than 20dB below the limits or the field strength is too small to be measured.

3.3. 20dB Bandwidth

Limit

N/A

Test Procedure

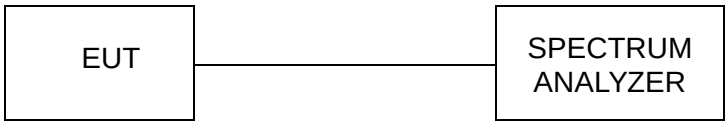
The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 1% to 5% of the OBW RBW and approximately 3 X RBW on VBW.

The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.
The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

RBW=1% to 5% of the OBW
VBW=approximately 3 X RBW
Detector=Peak
Trace Mode: Max Hold

Use the 99% power bandwidth function of the instrument to measure the Occupied Bandwidth and recoded.

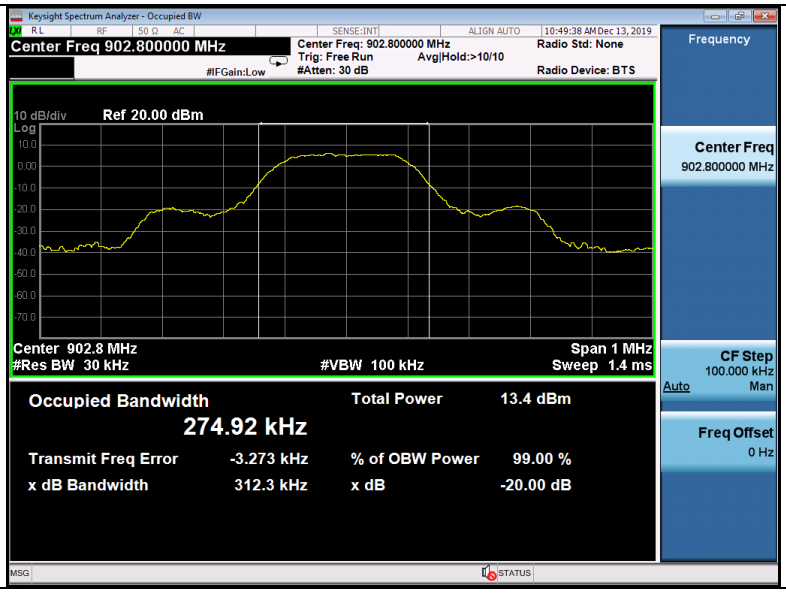
Test Configuration



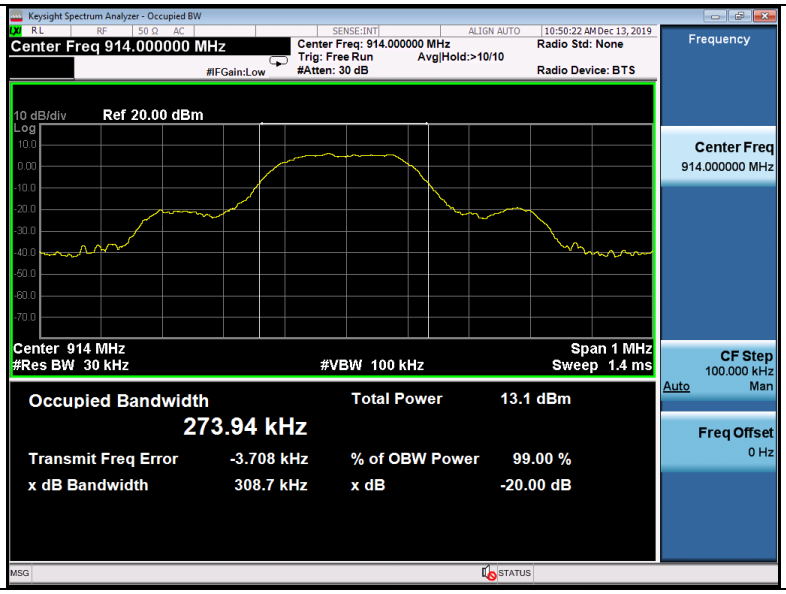
Test Results

Mode	Frequency(MHz)	20dB Bandwidth (KHz)	Limit (kHz)	Results
TX	902.8	312.3	/	PASS
TX	914.0	308.7	/	PASS
TX	926.8	313.2	/	PASS

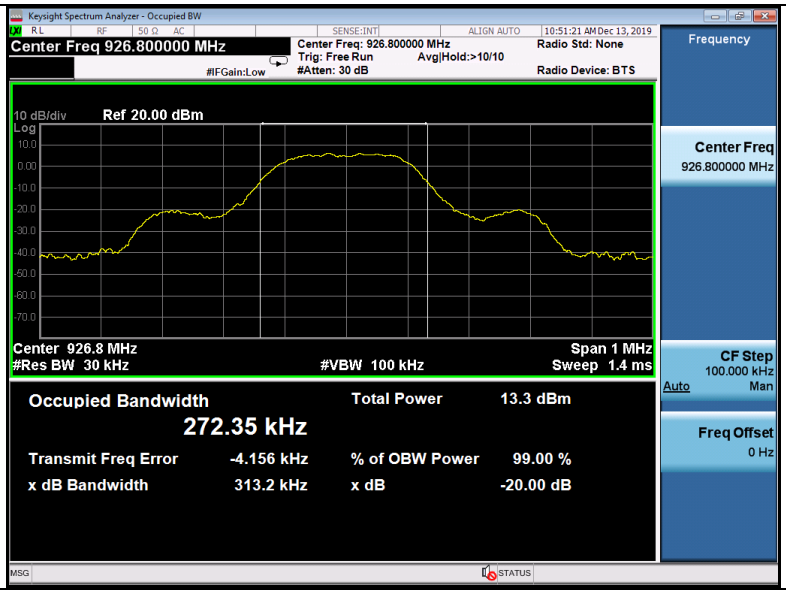
Test plot as follows:



902.8



914.0



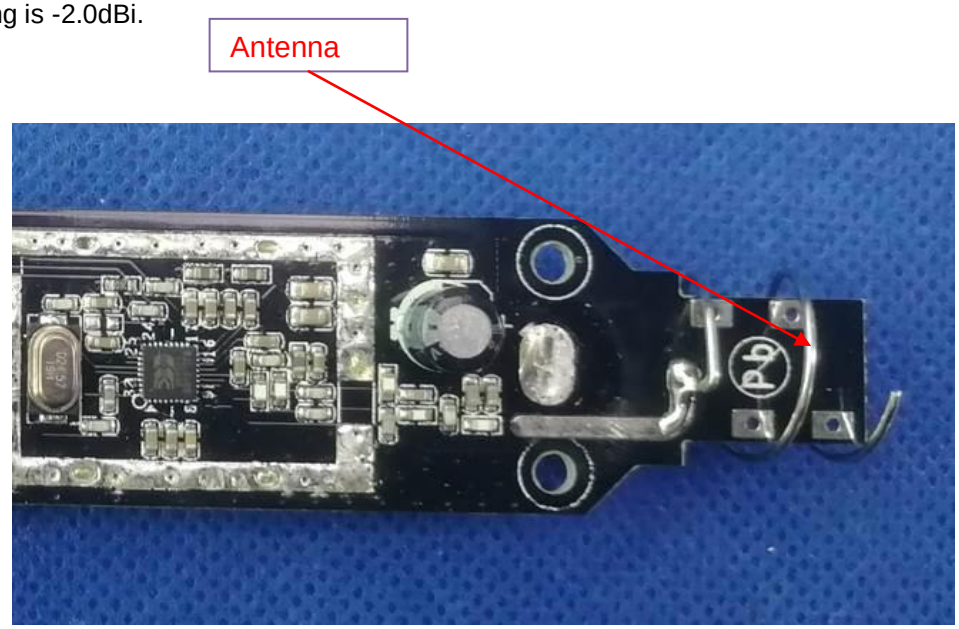
926.8

3.4. ANTENNA REQUIREMENT

Standard Applicable
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

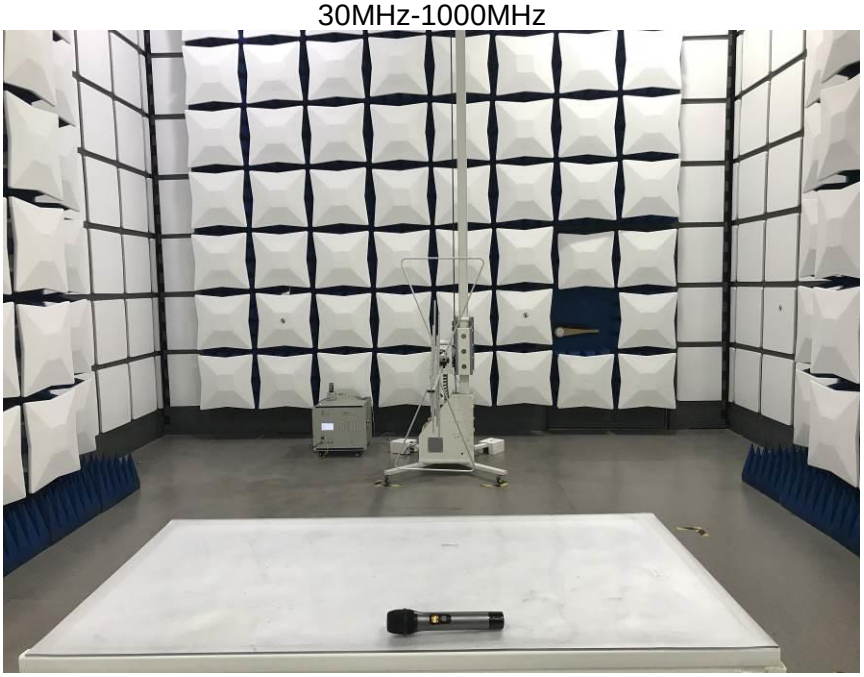
Refer to statement below for compliance.
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction
The antenna used in this product is a Spring antenna, The directional gains of antenna used for transmitting is -2.0dBi.



4. Test Setup Photos of the EUT

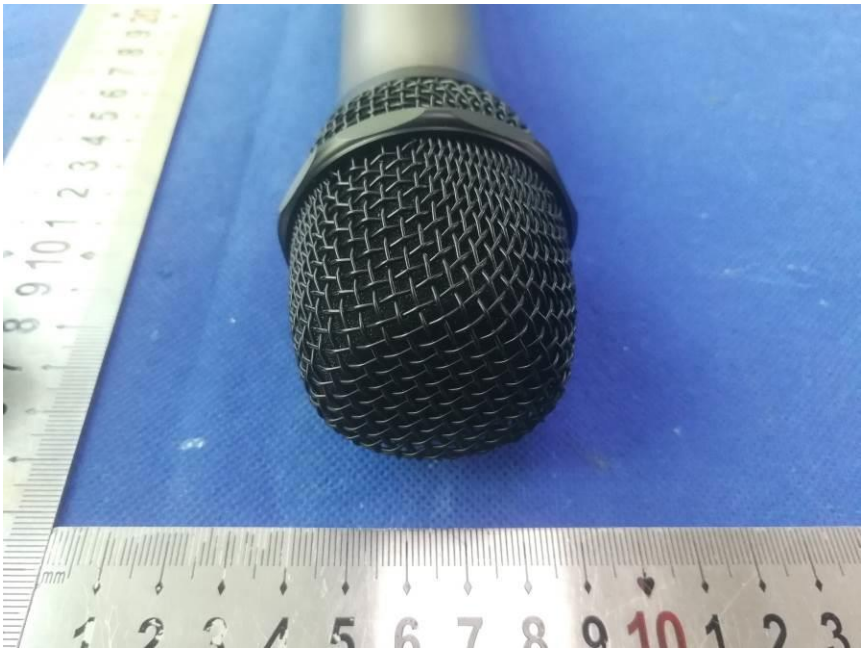
30MHz-1000MHz

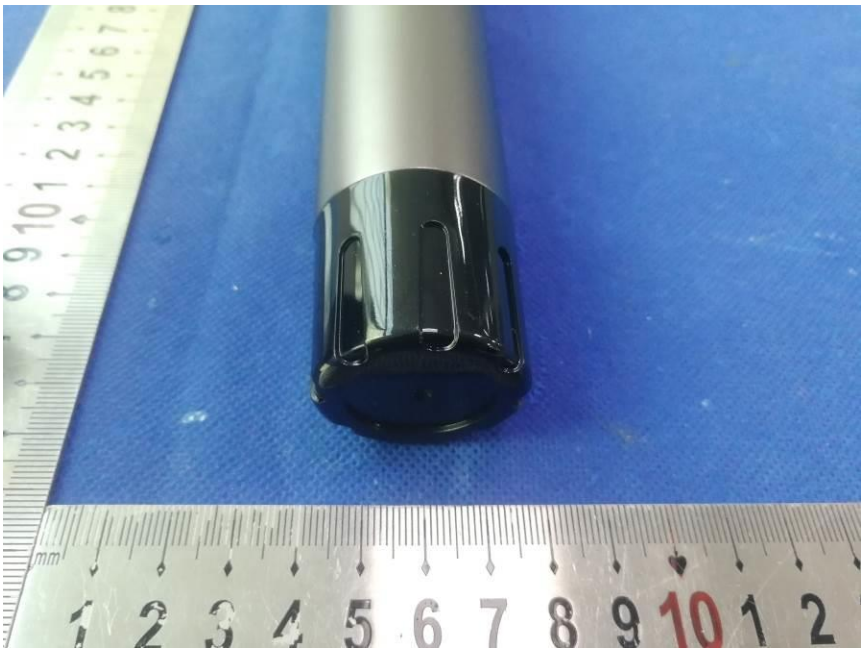


Above 1000MHz

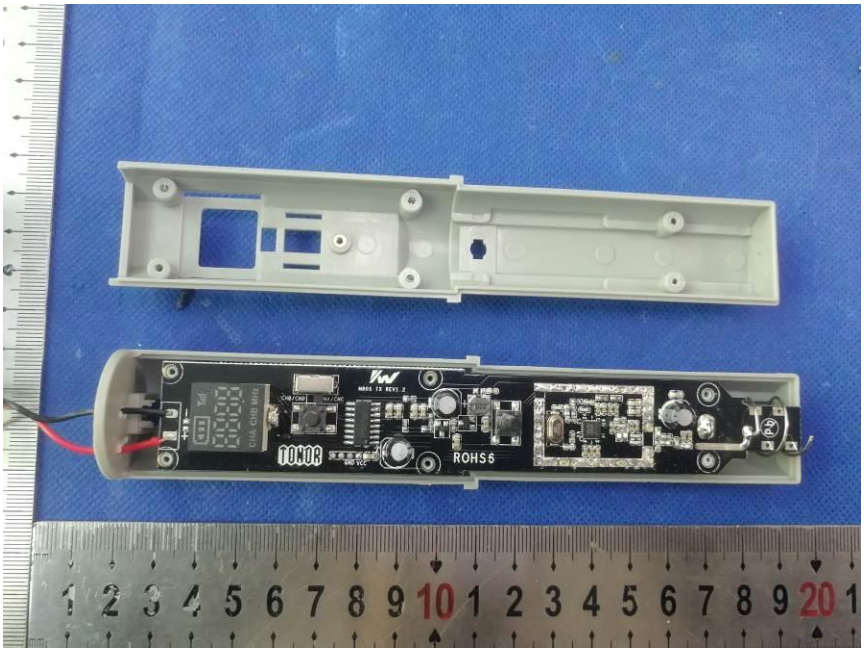
5. PHOTOS OF THE EUT

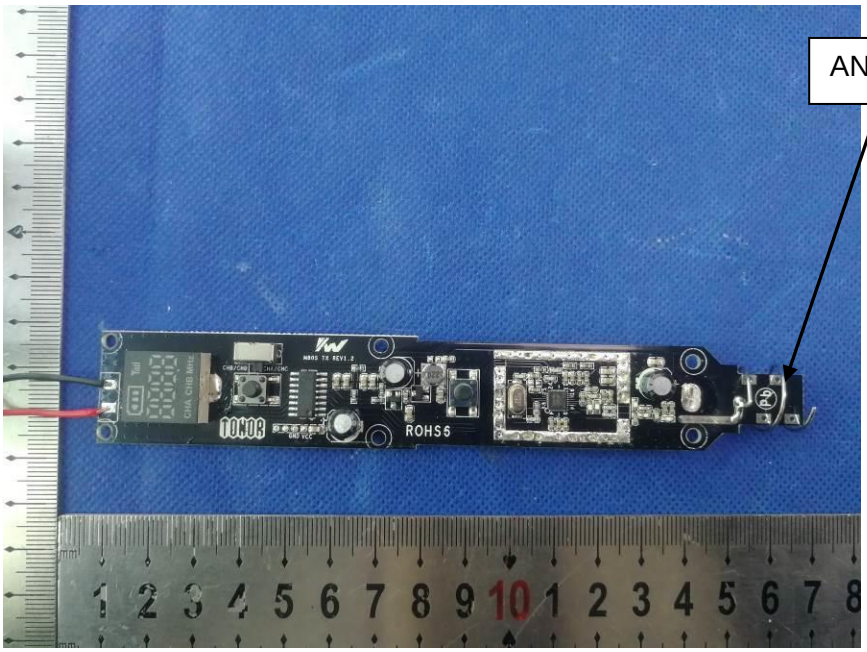
External photos

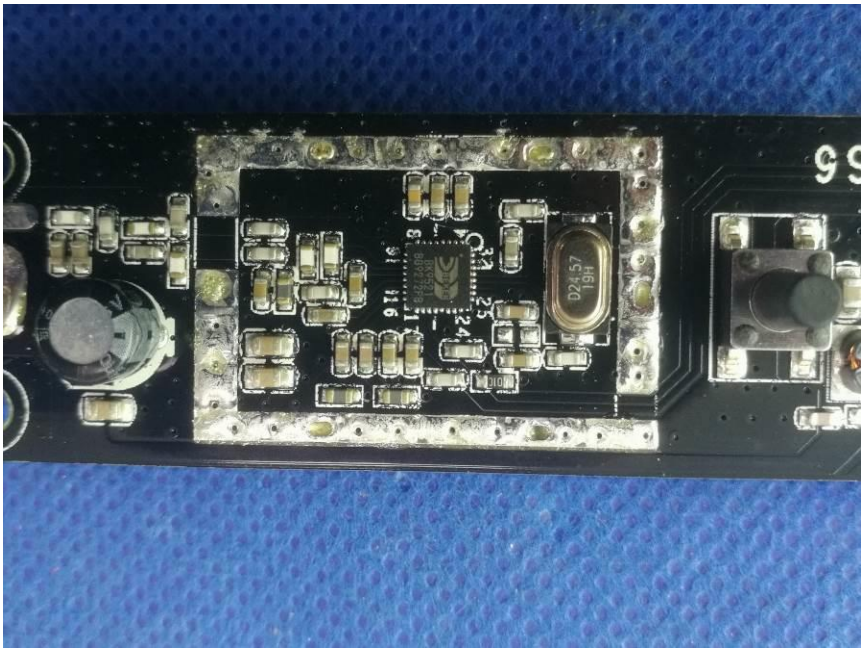




Internal photos


TONOR
ROHS6


ANTENNA
TONOR
ROHS6



END