



# **TEST REPORT**

## **FCC PART 15 SUBPART C 15.239**

### **RSS-210 ISSUE 9 ANNEX B.9**

**Test report**  
**On Behalf of**  
**MAX SALES GROUP**  
**For**  
**Head Phone Transmitter**  
**Model No.: NV-00719**

**FCC ID: 2AHU7-NV-00719**

**Prepared for :** **MAX SALES GROUP**  
**2331 S. Tubeway Ave. Commerce CA 90040, Los Angeles, California 90040,**  
**United States**

**Prepared By :** **Shenzhen HUAKE Testing Technology Co., Ltd.**  
**1F, B2 Building, Junfeng Zhongcheng Zhizao Innovation Park, Fuhai**  
**Street, Bao'an District, Shenzhen City, China**

**Date of Test:** **Apr. 05, 2019 ~ Apr. 12, 2019**

**Date of Report:** **Apr. 12, 2019**

**Report Number:** **HK1904050734-E**



### TEST RESULT CERTIFICATION


**Applicant's name** ..... : MAX SALES GROUP  
 Address..... : 2331 S. Tubeway Ave. Commerce CA 90040, Los Angeles,  
 California 90040, United States  
**Manufacture's Name** ..... : MAX SALES GROUP  
 Address..... : 2331 S. Tubeway Ave. Commerce CA 90040, Los Angeles,  
 California 90040, United States


**Product description**


Trade Mark: N/A  
 Product name..... : Head Phone Transmitter  
 Model and/or type reference .. : NV-00719  
 FCC Rules and Regulations Part 15 Subpart C Section 15.239  
**Standards** ..... : RSS-210 issue 9 Annex B.9  
 ANSI C63.10: 2013

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**Date of Test** .....:  
 Date (s) of performance of tests.....: Apr. 05, 2019 ~ Apr. 12, 2019  
 Date of Issue.....: Apr. 12, 2019  
 Test Result.....: **Pass**

Testing Engineer :   
 \_\_\_\_\_  
 (Gary Qian)

Technical Manager :   
 \_\_\_\_\_  
 (Eden Hu)

Authorized Signatory :   
 \_\_\_\_\_  
 (Jason Zhou)



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## 1. TEST SUMMARY

### 1.1 TEST PROCEDURES AND RESULTS

FCC/IC RULES	DESCRIPTION OF TEST	RESULT
FCC Part 15.239 RSS-210 ISSUE 9 ANNEX B.9	Field Strength of Fundamental and Spurious Emission	Compliant
FCC Part 15.239 RSS-210 ISSUE 9 ANNEX B.9	Bandwidth	Compliant
FCC Part 15.207 RSS-GEN ISSUE 5	Line Conducted Emission	N/A
FCC Part 15.203	ANTENNA REQUIREMENT	Compliant

NOTE: N/A stands for not applicable. The device is only used in the car, so the conducted emission is not applicable.

### 1.2 TEST FACILITY

#### 1.2.1 Address of the test laboratory

Shenzhen HUAKE 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.

#### 1.2.2 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 HUAKE 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.

##### FCC Registration No.: CN1229

Test Firm Registration Number : 616276

### 1.3 MEASUREMENT UNCERTAINTY

Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Radiated emission expanded uncertainty(9kHz-30MHz) = 3.08dB, k=2

Radiated emission expanded uncertainty(30MHz-1000MHz) = 4.42dB, k=2

Radiated emission expanded uncertainty(Above 1GHz) = 4.06dB, k=2



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

<b>Operation Frequency</b>	88.1MHz-107.9MHz
<b>Field Strength(3m)</b>	43.82dBuV/m(AV)@3m
<b>Modulation</b>	FM
<b>Number of channels</b>	199(Channel spacing 100kHz)
<b>Hardware Version</b>	V01
<b>Software Version</b>	V01
<b>Antenna Designation</b>	PCB Antenna
<b>Power Supply</b>	DC3V From Battery



Channel List									
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	88.1	41	92.1	81	96.1	121	100.1	161	104.1
2	88.2	42	92.2	82	96.2	122	100.2	162	104.2
3	88.3	43	92.3	83	96.3	123	100.3	163	104.3
4	88.4	44	92.4	84	96.4	124	100.4	164	104.4
5	88.5	45	92.5	85	96.5	125	100.5	165	104.5
6	88.6	46	92.6	86	96.6	126	100.6	166	104.6
7	88.7	47	92.7	87	96.7	127	100.7	167	104.7
8	88.8	48	92.8	88	96.8	128	100.8	168	104.8
9	88.9	49	92.9	89	96.9	129	100.9	169	104.9
10	89.0	50	93.0	90	97.0	130	101.0	170	105.0
11	89.1	51	93.1	91	97.1	131	101.1	171	105.1
12	89.2	52	93.2	92	97.2	132	101.2	172	105.2
13	89.3	53	93.3	93	97.3	133	101.3	173	105.3
14	89.4	54	93.4	94	97.4	134	101.4	174	105.4
15	89.5	55	93.5	95	97.5	135	101.5	175	105.5
16	89.6	56	93.6	96	97.6	136	101.6	176	105.6
17	89.7	57	93.7	97	97.7	137	101.7	177	105.7
18	89.8	58	93.8	98	97.8	138	101.8	178	105.8
19	89.9	59	93.9	99	97.9	139	101.9	179	105.9
20	90.0	60	94.0	100	98.0	140	102.0	180	106.0
21	90.1	61	94.1	101	98.1	141	102.1	181	106.1
22	90.2	62	94.2	102	98.2	142	102.2	182	106.2
23	90.3	63	94.3	103	98.3	143	102.3	183	106.3
24	90.4	64	94.4	104	98.4	144	102.4	184	106.4
25	90.5	65	94.5	105	98.5	145	102.5	185	106.5
26	90.6	66	94.6	106	98.6	146	102.6	186	106.6
27	90.7	67	94.7	107	98.7	147	102.7	187	106.7
28	90.8	68	94.8	108	98.8	148	102.8	188	106.8
29	90.9	69	94.9	109	98.9	149	102.9	189	106.9
30	91.0	70	95.0	110	99.0	150	103.0	190	107.0
31	91.1	71	95.1	111	99.1	151	103.1	191	107.1
32	91.2	72	95.2	112	99.2	152	103.2	192	107.2
33	91.3	73	95.3	113	99.3	153	103.3	193	107.3
34	91.4	74	95.4	114	99.4	154	103.4	194	107.4
35	91.5	75	95.5	115	99.5	155	103.5	195	107.5
36	91.6	76	95.6	116	99.6	156	103.6	196	107.6
37	91.7	77	95.7	117	99.7	157	103.7	197	107.7
38	91.8	78	95.8	118	99.8	158	103.8	198	107.8
39	91.9	79	95.9	119	99.9	159	103.9	199	107.9
40	92.0	80	96.0	120	100.0	160	104.0	/	/



## 2.2 OPERATION OF EUT DURING TESTING

NO.	TEST MODE DESCRIPTION
1	Transmitting mode(Low channel)
2	Transmitting mode(Middle channel)
3	Transmitting mode(High channel)

Note:

1. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
2. All the requirements have been tested by modulating the transmitter with a 2.5 kHz tone at a fixed level which set to the manufacturer's maximum rated input to the modulator.

## 2.3 DESCRIPTION OF TEST SETUP

Operation of EUT during Radiation and Above1GHz Radiation testing:



**2.4 MEASUREMENT INSTRUMENTS LIST**

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	Rohde & Schwarz	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	Schwarzbeck	9120D	HKE-013	Dec. 27, 2018	1 Year
11.	Pre-amplifier	EMCI	EMC05184 5SE	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	Dec. 27, 2018	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





### 3. RADIATED EMISSION

#### 3.1. MEASUREMENT PROCEDURE

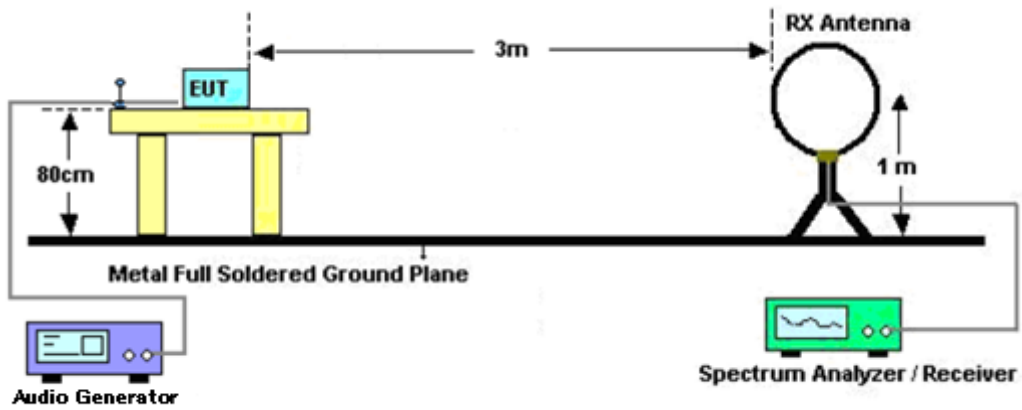
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground and opposite the horn antenna. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power 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. For emissions below 1GHz, use 120KHz RBW and VBW $\geq$ 3RBW for QP reading.
7. 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.
8. Only the worst case is reported.

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

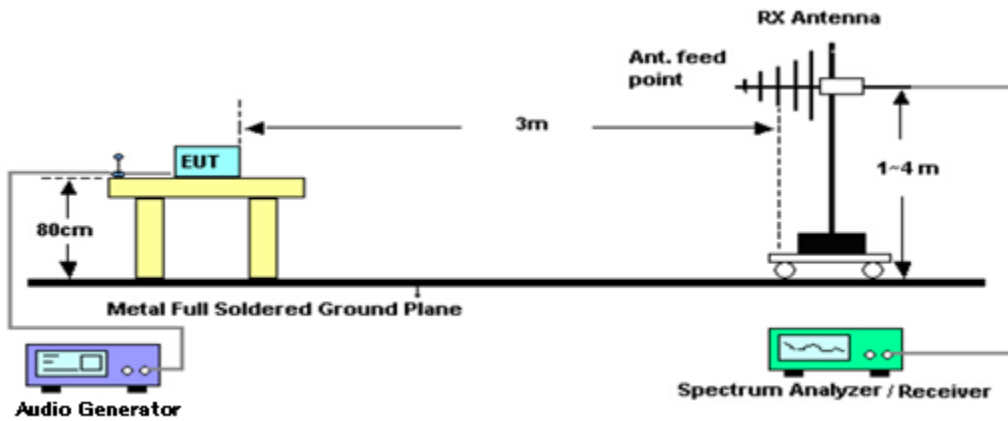
Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RBW 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RBW 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RBW 120KHz for QP

### 3.2. TEST SETUP

Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



**3.3. TEST RESULT FOR FIELD STRENGTH OF FUNDAMENTAL**

Frequency MHz	Polarization	Level dB(uV/m) PK	Limit dB(uV/m) PK	Margin dB	Pass/Fail	Detector
88.100	H	40.49	67.96	-27.47	Pass	PK
88.100	V	44.18	67.96	-23.78	Pass	PK
98.000	H	40.92	67.96	-27.04	Pass	PK
98.000	V	43.94	67.96	-24.02	Pass	PK
107.900	H	42.31	67.96	-25.65	Pass	PK
107.900	V	44.79	67.96	-23.17	Pass	PK
Frequency MHz	Polarization	Level dB(uV/m) AV	Limit dB(uV/m) AV	Margin dB	Pass/Fail	Detector
88.100	H	39.61	47.96	-8.35	Pass	AV
88.100	V	42.88	47.96	-5.08	Pass	AV
98.000	H	41.04	47.96	-6.92	Pass	AV
98.000	V	42.61	47.96	-5.35	Pass	AV
107.900	H	42.26	47.96	-5.70	Pass	AV
107.900	V	43.82	47.96	-4.14	Pass	AV

**3.4. TEST RESULT FOR FIELD STRENGTH OF BAND EDGE EMISSION**

Frequency MHz	Polarization	Level dB(uV/m) QP	Limit dB(uV/m) QP	Margin dB	Pass/Fail	Detector
88.000	H	31.31	40.00	-8.69	Pass	QP
88.000	V	32.12	40.00	-7.88	Pass	QP
108.000	H	34.23	43.50	-9.27	Pass	QP
108.000	V	35.24	43.50	-8.26	Pass	QP

Note: The above two frequencies are the worst case for the band edge emission test.

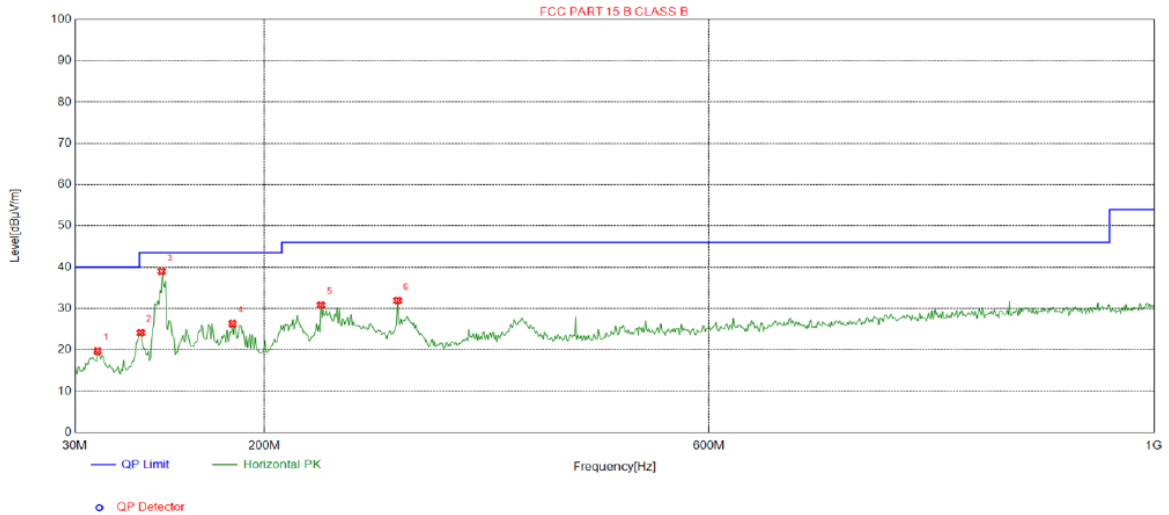


### 3.5. TEST RESULT FOR SPURIOUS EMISSION

#### RADIATED EMISSION BELOW 30MHz

No emission found between lowest internal used/generated frequencies to 30MHz.

#### RADIATED EMISSION BELOW 1GHZ-Horizontal

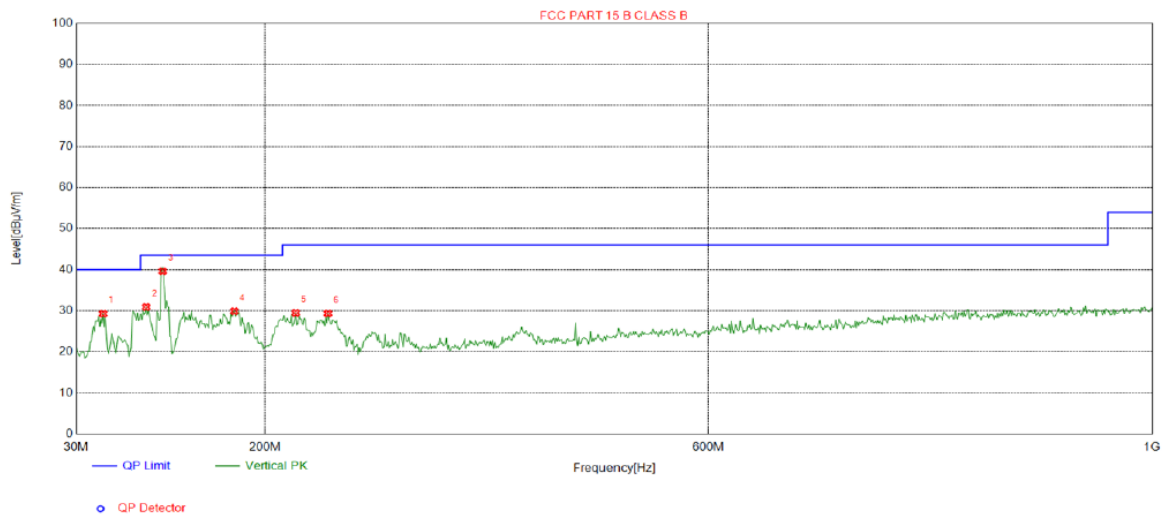


Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	50.3700	19.67	-13.71	40.00	20.33	100	300	Horizontal
2	89.1700	24.12	-17.27	43.50	19.38	100	72	Horizontal
3	107.900	39.00	-15.43	43.50	4.50	100	359	Horizontal
4	171.620	26.34	-17.23	43.50	17.16	100	28	Horizontal
5	251.160	30.81	-13.41	46.00	15.19	100	230	Horizontal
6	320.030	31.95	-12.10	46.00	14.05	100	137	Horizontal

RESULT: PASS



### RADIATED EMISSION BELOW 1GHZ-Vertical



Suspected List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	54.2500	29.27	-14.29	40.00	10.73	100	2	Vertical
2	93.0500	30.90	-16.56	43.50	12.60	100	54	Vertical
3	107.900	39.64	-15.43	43.50	3.86	100	106	Vertical
4	172.590	29.88	-17.18	43.50	13.62	100	122	Vertical
5	227.880	29.48	-14.37	46.00	16.52	100	102	Vertical
6	256.980	29.34	-13.48	46.00	16.66	100	266	Vertical

### RESULT: PASS

Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain, Margin=Measurement-Limit.
2. The "Factor" value can be calculated automatically by software of measurement system.
3. All test modes had been tested. The High channel is the worst case and recorded in the report.



## 4. BANDWIDTH

### 4.1. MEASUREMENT PROCEDURE

1. Set the parameters of SPA as below:

Centre frequency = Operation Frequency

RBW=3KHz

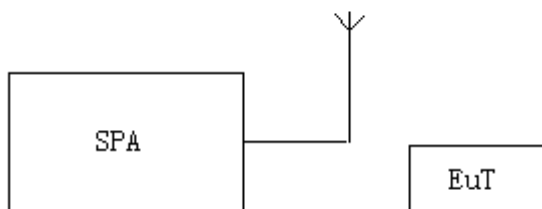
VBW=10KHz

Span: 300kHz

Sweep time: Auto

2. Set the EUT to continue transmitting mode. Allow the trace to stabilize. Use the “N dB down” function of SPA to define the bandwidth.
3. Record the plots and Reported.

### 4.2. TEST SETUP

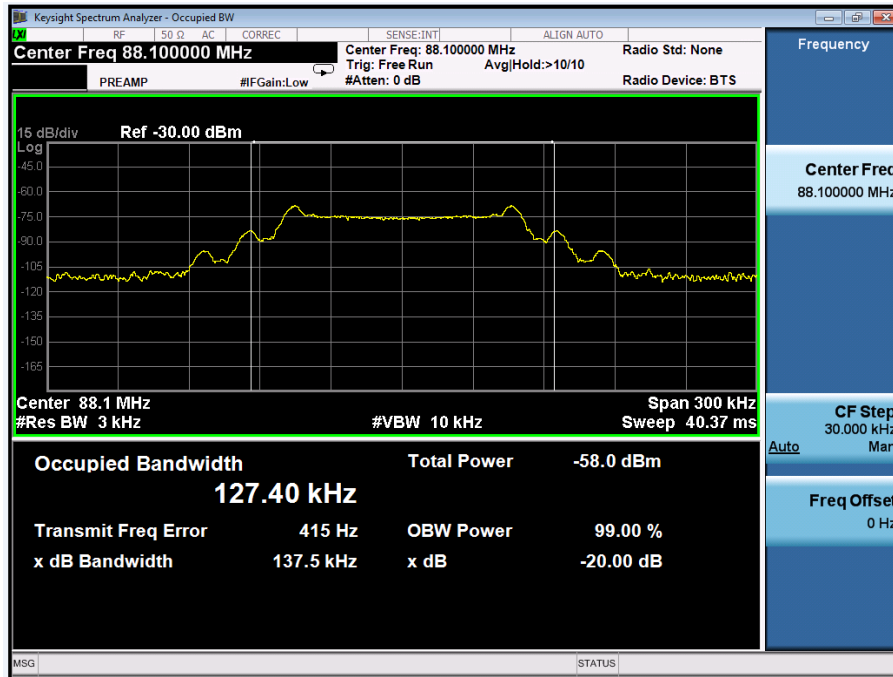




### 4.3. TEST RESULT

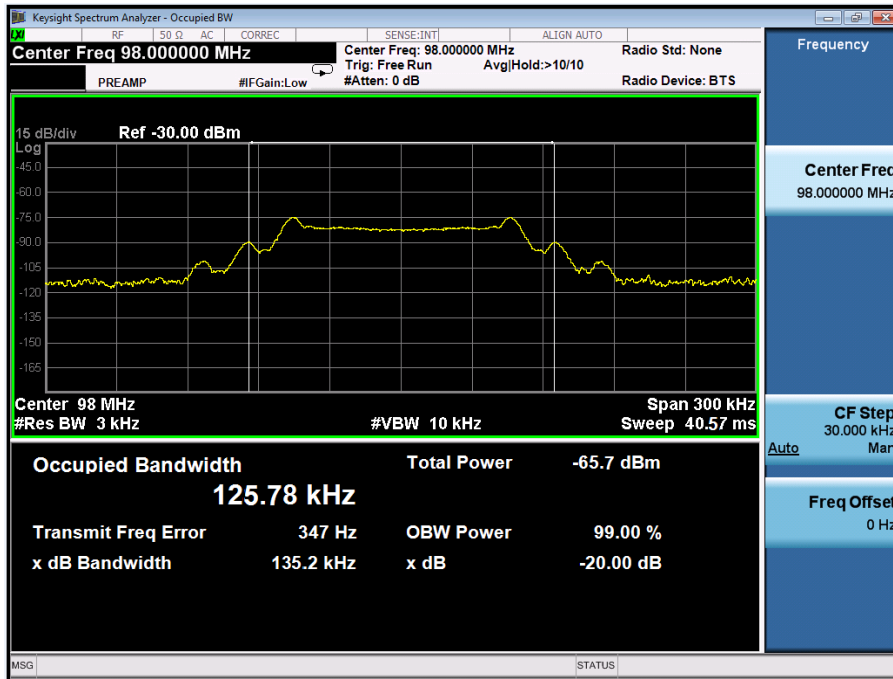
Channel	Channel Frequency(MHz)	-20dB bandwidth (kHz)	99% bandwidth (kHz)	Limit(kHz)
Low	88.1	137.5	127.40	200
Middle	98.0	135.2	125.78	200
High	107.9	137.1	124.21	200

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

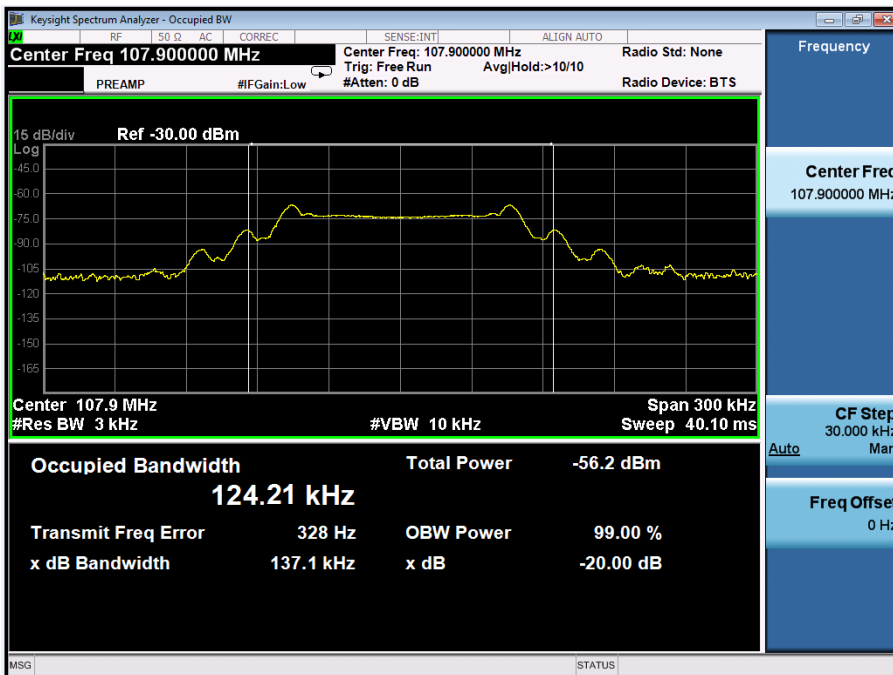




### TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



### TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL





## 5. 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.

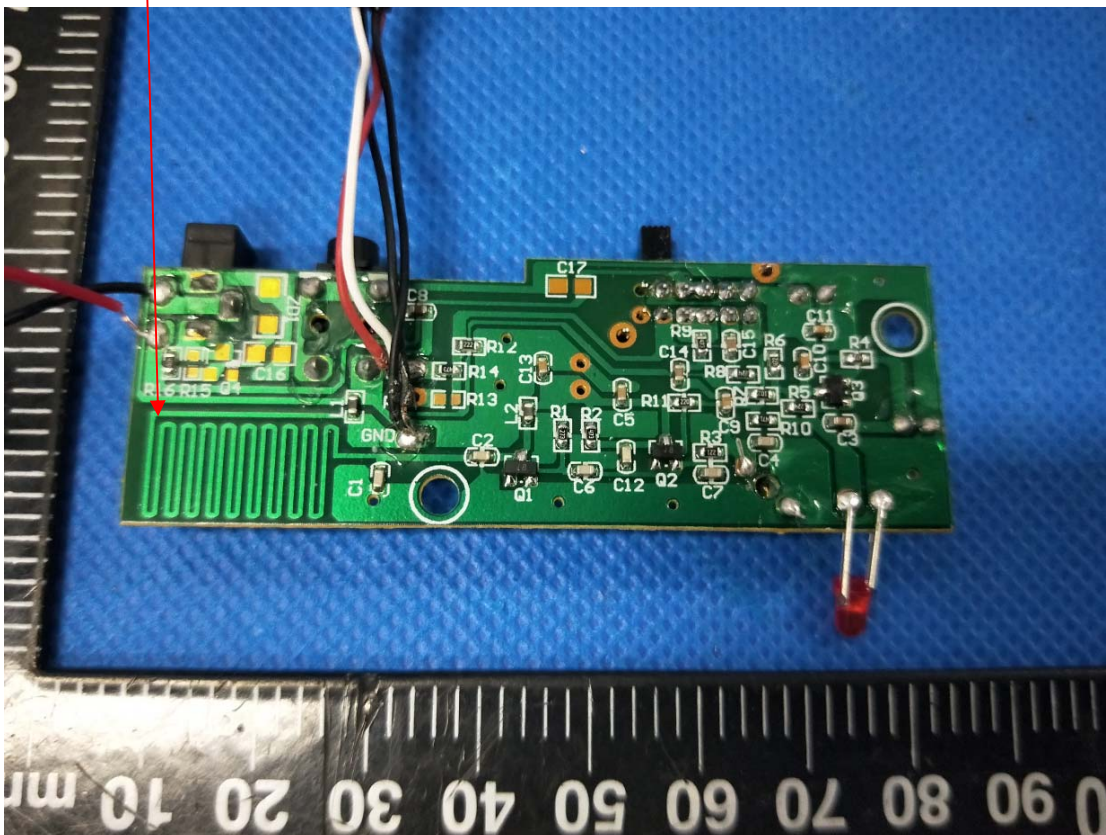
### Refer to statement below for compliance.

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

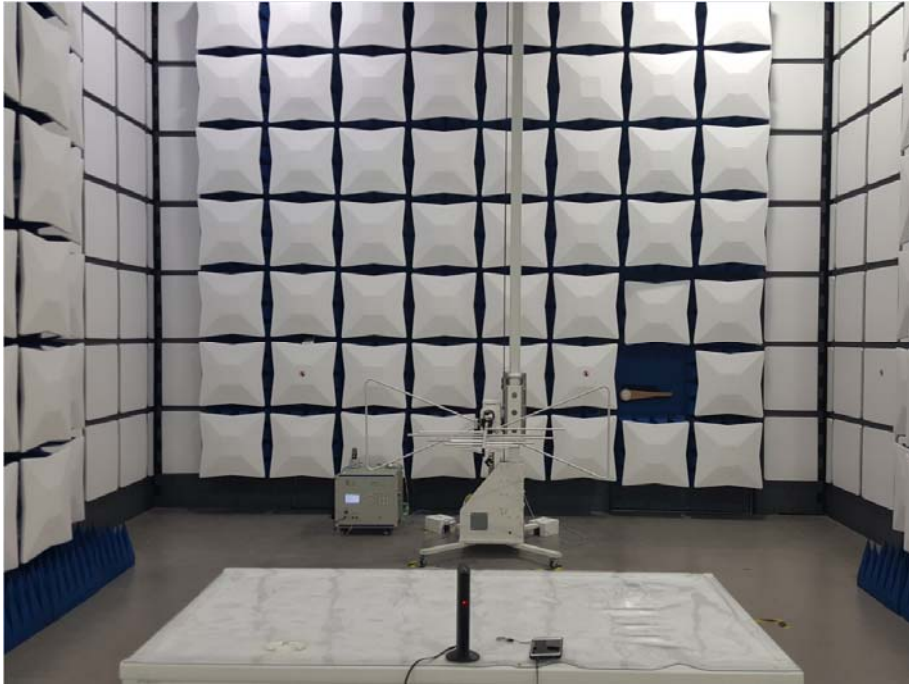
The antenna used in this product is a PCB Antenna, The directional gains of antenna used for transmitting is 0dBi.

### ANTENNA



## 6. PHOTOGRAPH OF TEST

### Radiated Emission



## 7 PHOTOGRAPH OF EUT

Reference to the reporter : ANNEX A of external photos and ANNEX B of internal photos

-----End of test report-----