



# TEST REPORT

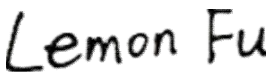
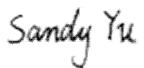
**Report No. :** HST201611-6528-FCC

**Product description:** UHF digital wireless microphone

**Model/Type :** U-5296MM, U-5196MM, U-5298MM, U-5198MM, U-6688MM, U-6788MM, U-7198MM, U-7298MM, U-8198MM, U-8298MM, U-8288MM, U-8188MM, U-9198MM, U-9298MM, U-9188MM, U-9288MM, DW-11, DW-22, DigiCast, DigiCast Duo, U-2200MM, U-2100MM, U-4088MM, U-4288MM, U-4488MM, U-8488MM, EMIC2400A

**Applicant's name:** ENPING SHENGYI ELECTRONIC CO., LTD.



<p align="center"><b>TEST REPORT</b></p> <p align="center"><b>FCC Part 15.249: 2015</b></p> <p align="center"><b>FCC ID: 2ABXZU-5296MM</b></p>		
<b>Report Reference No. ....:</b> HST201611-6528-FCC		
<b>Tested by (+ signature) .....</b>		Lemon Fu
<b>Review by (+ signature) .....</b>		Sandy Yu
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<b>Date of test .....</b> Oct. 25, 2016 to Nov. 10, 2016		
<b>Date of issue .....</b> Nov. 11, 2016		
<b>Total number of pages .....</b> 33 Pages		
<b>Testing Laboratory.....:</b> Guangdong Environment Radiation Monitoring Center (Accredited by CNAS, Accredited Number: L5539) FCC- Registration No: 667318 Renewal on Sep. 12, 2012		
<b>Address .....</b> No. 860, South Guangzhou Avenue, Guangzhou, 510300 China		
<b>Applicant's name .....</b> ENPING SHENGYI ELECTRONIC CO., LTD.		
<b>Address .....</b> fl.2-5, Shi Zi Shi Bldg., Xinping Rd., North, Enping, Guangdong, China		
<b>Manufacturer's name .....</b> ENPING SHENGYI ELECTRONIC CO., LTD.		
<b>Address .....</b> fl.2-5, Shi Zi Shi Bldg., Xinping Rd., North, Enping, Guangdong, China		
<b>Test specification.....:</b> Entrusted testing		
<b>Standard.....:</b> FCC Part 15.249: 2015		
<b>Non-standard test method.....:</b> N/A		
<b>Test item description.....:</b> UHF digital wireless microphone		
<b>Trade Mark.....:</b> N/A		
<b>Model/Type reference .....</b> U-5296MM		
<b>Ratings .....</b> 3.0Vdc 2*AA Batteries		

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## 1 TEST SUMMARY

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission (9kHz to 25GHz)	FCC PART 15.249	ANSI C63.10:2013	In FCC PART 15.249	PASS
Occupied Bandwidth	FCC PART 15.215	ANSI C63.10:2013	In FCC PART 15.215	PASS
Conducted Emissions at Mains Terminals	FCC PART 15.207	ANSI C63.10: 2013: Clause 6.2	In FCC PART 15.207	N/A1
Frequency Stability	FCC PART 15.249	FCC CFR 47 Part 2.1055	In FCC PART 15.249.b)2)	N/A2

Note:

N/A1: Not applicable, since the EUT was solely powered by batteries.

N/A2: Not applicable, since the frequency stability test was only for the “fixed, point-to-point operation is permitted in the 24.05-24.25 GHz band” equipments.

Remark:

Model: U-5296MM, U-5196MM, U-5298MM, U-5198MM, U-6688MM, U-6788MM, U-7198MM, U-7298MM, U-8198MM, U-8298MM, U-8288MM, U-8188MM, U-9198MM, U-9298MM, U-9188MM, U-9288MM, DW-11, DW-22, DigiCast, DigiCast Duo, U-2200MM, U-2100MM, U-4088MM, U-4288MM, U-4488MM, U-8488MM, EMIC2400A

Only tested U-5296MM, since the other models listed above are electric identical with only difference being the model name and appearance ( button's shape and location setting ). “Location setting” means the plastic button may be set on different place.

♣

Channel	Frequency/ MHz
Lowest	902.3
Middle	915.36
Highest	927.7

The tests were carried out on the 3 samples with the typical frequency of lowest/ middle/ highest channels listed above.

## 2 GENERAL INFORMATION

### 2.1 Client Information

Applicant: ENPING SHENGYI ELECTRONIC CO., LTD.  
Address of Applicant: fl.2-5, Shi Zi Shi Bldg., Xinping Rd., North, Enping, Guangdong, China

### 2.2 General Description of E.U.T.

EUT Name: UHF digital wireless microphone  
Item No.: U-5296MM  
Serial No.: Not supplied by client

### 2.3 Details of E.U.T.

Power Supply: 3.0Vdc 2\*AA Batteries  
Main Function: Wireless microphone system with an associated receiver for transmitting voice.  
Oscillating Frequency: Y1: 24.576MHz  
Port: N/A  
Frequency Range: 902.3 MHz to 927.7 MHz for all the models listed in the cover. One channel for each microphone.  
Modulation: FM; Emission designator: 256KF3E  
Occupied bandwidth (99 % BW): 256kHz  
Antenna Number & Type: One & Fixed on PCB; Gained: 0 dBi; Impedance: 50-Ohm;  
Antenna length: 15mm; Antenna min distance to the shell: 20 mm

### 2.4 Description of Support Units

/

### 2.5 Standards Applicable for Testing

The standard used was 47 CFR Part 15.249: 2015

The EUT belongs to low power communication device transmitter, and it's an unlicensed low power auxiliary device.

## **2.6 Test Location**

Guangdong Environment Radiation Monitoring Center

Address: No. 860, South Guangzhou Avenue, Guangzhou, 510300 China

Accredited by CNAS, Accredited Number: L5539

FCC- Registration No: 667318 Renewal on Sep. 12, 2012

## **2.7 Deviation from Standards**

None.

## **2.8 Abnormalities from Standard Conditions**

None.

### 3 TEST RESULTS

#### 3.1 Radiation Interference

Test Requirement: FCC Part15.249, a) & FCC Part15.209  
 Test Method: ANSI C63.10:2013  
 Detector: Peak for pre-scan (The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz up to 1.0GHz and 1.0 MHz with a video BW of 3.0 MHz above 1.0GHz.)  
 Average detector if maximised peak within 6dB of limit

##### 3.1.1 E.U.T. Operation

Operating Environment:

Temperature: 20°C

Humidity:50% RH

Atmospheric Pressure: 103 kPa

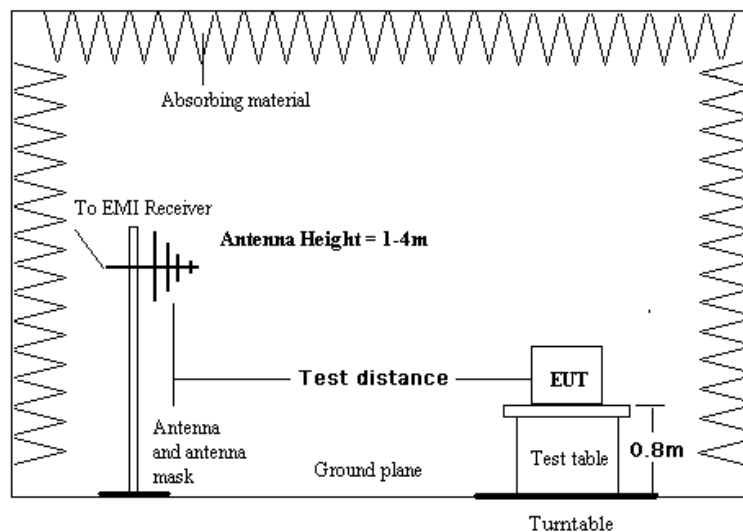
EUT Operation:

In the fundamental test, connecting the EUT to peripheral devices.

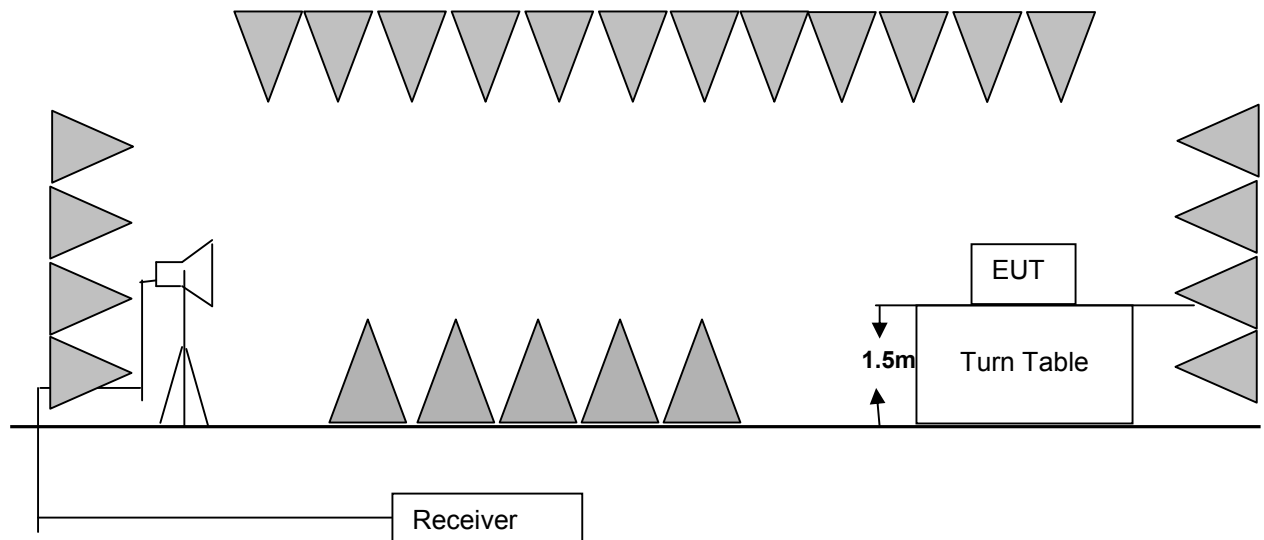
Test the EUT work normally in on mode during the whole test.

##### 3.1.2 Test Setup

30MHz-1GHz emissions:



1 GHz to 40 GHz emissions:



### 3.1.3 Test Procedure

#### **ANSI STANDARD C63.10-2013 6.5 Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz**

An initial pre-scan was performed in the 3m chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical polarities. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes and choose the worst case of X/ Y/ Z orthogonal planes for the final measurement.



### 3.1.4 Measurement Data

Copy from FCC Part 15.249.a)

(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency MHz	Field Strength	
	Fundamental millivolts/meter(mV/m)	Harmonics microvolts/meter(uV/m)
902 - 928	50	500
2400 - 2483.5	50	500
5725 - 5875	50	500
24000 - 24250	250	2500

Quasi-Peak measurement of carrier						
Frequency	Level		Transducer	Limit	Margin	
MHz	dBuV/m		dB	dBuV/m	dB	
	V	H			V	H
902.3 (L)	87.1	75.0	27.6	94	-6.9	-19.0
915.36 (M)	87.2	71.2	27.8	94	-6.2	-22.8
927.7 (H)	87.8	74.3	27.9	94	-5.8	-17.7
<p>Note:</p> <p>50mV/m (94dBuV/m) for QP limit in band (902MHz to 928MHz).</p> <p>The transducer factor = antenna factor + cable loss - preamplifier. In band 902MHz to 928MHz, preamplifier factor = 0 dB.</p> <p>The Level = Read level + transducer factor.</p> <p>H: Antenna polarization horizontal direction. V: Antenna polarization vertical direction.</p> <p>The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes and choose the worst case of X orthogonal plane for the final measurement.</p>						

Peak measurement of harmonics and spurious emission at lowest channel 902.3 MHz						
Frequency	Level		Transducer	Limit	Min. Margin	
MHz	dBuV/m		dB	dBuV/m	dB	
	V	H			V	H
2 <sup>nd</sup> 1804.6	58.5	56.2	-2.6	74dB	-15.5	-17.8
3 <sup>rd</sup> 2706.9	46.1	48.1	-2.1		-27.9	-25.9
4 <sup>th</sup> 3609.2	<50	<50	0.3		< -24	< -24
5 <sup>th</sup> 4511.5	<50	<50	4.1		< -24	< -24
6 <sup>th</sup> 5413.8	<50	<50	1.0		< -24	< -24
7 <sup>th</sup> 6316.1	<50	<50	5.1		< -24	< -24
8 <sup>th</sup> 7218.4	<50	<50	5.0		< -24	< -24
9 <sup>th</sup> 8120.7	<50	<50	6.0		< -24	< -24
10 <sup>th</sup> 9023.0	<50	<50	7.3		< -24	< -24

Average measurement of harmonics and spurious emission at lowest channel 902.3 MHz						
Frequency	Level		Transducer	Limit	Min. Margin	
MHz	dBuV/m		dB	dBuV/m	dB	
	V	H			V	H
2 <sup>nd</sup> 1804.6	44.5	44.0	-2.6	54dB	-9.5	-10.0
3 <sup>rd</sup> 2706.9	<40	<40	-2.1		< -14	< -14
4 <sup>th</sup> 3609.2	<40	<40	0.3		< -14	< -14
5 <sup>th</sup> 4511.5	<40	<40	4.1		< -14	< -14
6 <sup>th</sup> 5413.8	<40	<40	1.0		< -14	< -14
7 <sup>th</sup> 6316.1	<40	<40	5.1		< -14	< -14
8 <sup>th</sup> 7218.4	<40	<40	5.0		< -14	< -14
9 <sup>th</sup> 8120.7	<40	<40	6.0		< -14	< -14
10 <sup>th</sup> 9023.0	<40	<40	7.3		< -14	< -14

**Peak measurement of harmonics and spurious emission at middle channel 915.36 MHz**

Frequency		Level		Transducer	Limit	Min. Margin	
MHz		dBuV/m		dB	dBuV/m	dB	
		V	H			V	H
2 <sup>nd</sup>	1830.72	58.9	56.7	-2.6	74dB	-15.1	-17.3
3 <sup>rd</sup>	2746.08	45.7	48.1	-2.1		-28.3	-25.9
4 <sup>th</sup>	3661.44	<50	45.7	0.3		< -24	-28.3
5 <sup>th</sup>	4576.80	<50	<50	4.1		< -24	< -24
6 <sup>th</sup>	5492.16	<50	<50	1.0		< -24	< -24
7 <sup>th</sup>	6407.52	<50	<50	5.1		< -24	< -24
8 <sup>th</sup>	7322.88	<50	<50	5.0		< -24	< -24
9 <sup>th</sup>	8238.24	<50	<50	6.0		< -24	< -24
10 <sup>th</sup>	9153.60	<50	<50	7.3		< -24	< -24

**Average measurement of harmonics and spurious emission at middle channel 915.36 MHz**

Frequency		Level		Transducer	Limit	Min. Margin	
MHz		dBuV/m		dB	dBuV/m	dB	
		V	H			V	H
2 <sup>nd</sup>	1830.72	44.3	44.2	-2.6	54dB	-9.7	-9.8
3 <sup>rd</sup>	2746.08	32.7	37.0	-2.1		-21.3	-17.0
4 <sup>th</sup>	3661.44	<40	38.6	0.3		< -14	-15.4
5 <sup>th</sup>	4576.80	<40	<40	4.1		< -14	< -14
6 <sup>th</sup>	5492.16	<40	<40	1.0		< -14	< -14
7 <sup>th</sup>	6407.52	<40	<40	5.1		< -14	< -14
8 <sup>th</sup>	7322.88	<40	<40	5.0		< -14	< -14
9 <sup>th</sup>	8238.24	<40	<40	6.0		< -14	< -14
10 <sup>th</sup>	9153.60	<40	<40	7.3		< -14	< -14

**Peak measurement of harmonics and spurious emission at highest channel 927.7MHz**

Frequency		Level		Transducer	Limit	Min. Margin	
MHz		dBuV/m		dB	dBuV/m	dB	
		V	H			V	H
2 <sup>nd</sup>	1855.4	57.5	56.2	-2.6	74dB	-16.5	-17.8
3 <sup>rd</sup>	2783.1	<50	<50	-2.1		< -24	< -24
4 <sup>th</sup>	3710.8	<50	<50	0.3		< -24	< -24
5 <sup>th</sup>	4638.5	<50	<50	4.1		< -24	< -24
6 <sup>th</sup>	5566.2	<50	<50	1.0		< -24	< -24
7 <sup>th</sup>	6493.9	<50	<50	5.1		< -24	< -24
8 <sup>th</sup>	7421.6	<50	<50	5.0		< -24	< -24
9 <sup>th</sup>	8349.3	<50	<50	6.0		< -24	< -24
10 <sup>th</sup>	9277.0	<50	<50	7.3		< -24	< -24

**Average measurement of harmonics and spurious emission at highest channel 927.7MHz**

Frequency		Level		Transducer	Limit	Min. Margin	
MHz		dBuV/m		dB	dBuV/m	dB	
		V	H			V	H
2 <sup>nd</sup>	1855.4	44.1	44.4	-2.6	54dB	-9.9	-9.6
3 <sup>rd</sup>	2783.1	<40	<40	-2.1		< -14	< -14
4 <sup>th</sup>	3710.8	<40	<40	0.3		< -14	< -14
5 <sup>th</sup>	4638.5	<40	<40	4.1		< -14	< -14
6 <sup>th</sup>	5566.2	<40	<40	1.0		< -14	< -14
7 <sup>th</sup>	6493.9	<40	<40	5.1		< -14	< -14
8 <sup>th</sup>	7421.6	<40	<40	5.0		< -14	< -14
9 <sup>th</sup>	8349.3	<40	<40	6.0		< -14	< -14
10 <sup>th</sup>	9277.0	<40	<40	7.3		< -14	< -14

**Note:**

500 $\mu$ V/m (54dBuV/m) for AVG limit, and Peak limit= AVG limit + 20dB.

The transducer factor = antenna factor + cable loss - preamplifier. In band 1GHz to 18GHz, preamplifier factor = -30dB.

The Level = Read level + transducer factor.

H: Antenna polarization horizontal direction. V: Antenna polarization vertical direction.

The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes and choose the worst case of X orthogonal plane for the final measurement.

**Note:**

The EUT's transmitting frequency range belonged to 902MHz to 928 MHz, and it is complied with the requirements of FCC Part 15.249.a).

The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes and choose the worst case of X orthogonal plane for the final measurement.

### 3.1.5 Radiated outside of the specified frequency bands

Copy from FCC Part 15.249.d)

(d) 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.

Copy from FCC Part 15.209: Radiated emission limits, general requirements

(a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency MHz	Field Strength microvolts/meter(uV/m)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

(d) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

Note:

Since the fundamental emissions peak and average values are shown on section 6.1.4 of this report, the general radiated emission limits in Section 15.209 is the lesser attenuation.

**Limits for the frequency bands of 902 M - 928 MHz**

Frequency	FCC Part 15.209 Radiated limits	
MHz	dBuV/m@3m	
	QP	AVG
30 - 88	40	/
88 - 216	43.5	/
216 - 960	46	/
960 - 1000	54	/
Above 1000	74(PK)	54

Frequency	15.249.d) limits	
MHz	dBuV/m@3m	
	QP	AVG
30 - 88	44	/
88 - 216	44	/
216 - 902	46	/
928-960	46	/
960 - 1000	54	/
1000-9280	74(PK)	54

**Remark:**

1. RF line voltage (dBuV)= 20 log RF line voltage (uV)
2. In the above table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

### 3.1.6 Measurement Data for 15.249.d

Test the EUT work normally in transmitting mode in mains.

#### 1) 9kHz~30MHz Test result

The Low frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not report.

#### 2) 30 MHz~1 GHz Spurious Emissions. Quasi-Peak Measurement

Test curves ( with the Quasi-peak measurement and QP limit), 30M-1GHz, Horizontal & Vertical:

lowest channel 902.3MHz

Quasi-peak measurement: Horizontal

Frequency	Level	Transducer	Limit	Margin
MHz	dBuV/m	dB	dBuV/m	dB
30.0	17.3	17.9	44	26.7
184.2	16.6	8.9	44	27.4
447.4	24.4	16.6	46	21.6
860.1*	29.4	23.0	46	16.6
936.2*	29.8	24.2	46	16.2
972.6	29.0	23.9	54	25.0

Quasi-peak measurement: Vertical

Frequency	Level	Transducer	Limit	Margin
MHz	dBuV/m	dB	dBuV/m	dB
30.0	16.5	17.9	44	27.5
184.1	13.4	8.9	44	30.6
444.2	22.4	18.8	46	23.6
900.4*	30.5	23.9	46	15.5
935.2*	30.5	24.2	46	15.5
981.7	30.3	23.7	54	23.7

Note:

The transducer factor includes antenna factor and cable loss.

\* means the frequency with max Quasi peak value for band-edge (frequency range of 802 MHz to 902MHz and 928 MHz to 1000 MHz, except for harmonics).

middle channel 914.5MHz

Quasi-peak measurement: Horizontal

Frequency	Level	Transducer	Limit	Margin
MHz	dBuV/m	dB	dBuV/m	dB
30.0	17.1	17.9	44	26.9
188.1	13.6	8.9	44	30.4
447.2	21.5	16.6	46	24.5
854.1*	29.1	23.0	46	16.9
935.3*	29.7	24.2	46	16.3
972.8	29.1	23.9	54	24.9

Quasi-peak measurement: Vertical

Frequency	Level	Transducer	Limit	Margin
MHz	dBuV/m	dB	dBuV/m	dB
30.0	16.8	17.9	44	27.2
184.3	13.8	8.9	44	30.2
448.3	26.5	18.8	46	19.5
880.4*	30.3	23.9	46	15.7
937.2*	34.5	24.2	46	11.5
967.7	31.7	23.7	54	22.3

Note:

The transducer factor includes antenna factor and cable loss.

\* means the frequency with max Quasi peak value for band-edge (frequency range of 802 MHz to 902MHz and 928 MHz to 1000 MHz, except for harmonics).

highest channel 927.7MHz

Quasi-peak measurement: Horizontal

Frequency	Level	Transducer	Limit	Margin
MHz	dBuV/m	dB	dBuV/m	dB
30.0	17.4	17.9	44	26.6
187.3	13.6	8.9	44	30.4
449.2	21.3	16.6	46	24.7
873.1*	29.0	23.0	46	17.0
936.3*	29.3	24.2	46	16.7
975.2	29.1	23.9	54	24.9

Quasi-peak measurement: Vertical

Frequency	Level	Transducer	Limit	Margin
MHz	dBuV/m	dB	dBuV/m	dB
30.0	17.1	17.9	44	26.9
182.1	18.4	8.9	44	25.6
453.5	31.2	18.8	46	14.8
900.2*	30.2	23.9	46	15.8
947.2*	30.8	24.2	46	15.2
978.7	29.3	23.7	54	24.7

Note:

The transducer factor includes antenna factor and cable loss.

\* means the frequency with max Quasi peak value for band-edge (frequency range of 802 MHz to 902MHz and 928 MHz to 1000 MHz, except for harmonics).



**3) 1 GHz~9.30 GHz Spurious Emissions .Average & PK Measurement**

Horizontal &amp; Vertical:

Average measurement at lowest channel: 902.3 MHz

Frequency	Level		Transducer	Limit	Margin	
GHz	dBuV/m		dB	dBuV/m	dB	
	Horizontal	Vertical			Horizontal	Vertical
1.136	39.5	38.1	-5.2	54	-14.5	-15.9
2.393	<40	<40	-3.4		< -14	< -14
2.562	<40	<40	-3.2		< -14	< -14
5.243	<40	<40	3.1		< -14	< -14
7.458	<40	<40	5.9		< -14	< -14
9.217	<40	<40	7.5		< -14	< -14
Note: The transducer factor includes antenna factor and cable loss.						

Peak measurement at lowest channel: 902.3 MHz

Frequency	Level		Transducer	Limit	Margin	
GHz	dBuV/m		dB	dBuV/m	dB	
	Horizontal	Vertical			Horizontal	Vertical
1.136	43.3	43.2	-5.2	74	-30.7	-30.8
2.393	<50	<50	-3.4		< -24	< -24
2.562	<50	<50	-3.2		< -24	< -24
5.243	<50	<50	3.1		< -24	< -24
7.458	<50	<50	5.9		< -24	< -24
9.217	<50	<50	7.5		< -24	< -24
Note: The transducer factor includes antenna factor and cable loss.						

## Average measurement at middle channel: 915.36 MHz

Frequency	Level		Transducer	Limit	Margin	
GHz	dBuV/m		dB	dBuV/m	dB	
	Horizontal	Vertical			Horizontal	Vertical
1.087	39.1	38.9	-5.2	54	-14.9	-15.1
2.391	<40	<40	-3.4		< -14	< -14
2.614	<40	<40	-3.2		< -14	< -14
5.158	<40	<40	3.1		< -14	< -14
7.462	<40	<40	5.9		< -14	< -14
9.168	<40	<40	7.5		< -14	< -14
Note: The transducer factor includes antenna factor and cable loss.						

## Peak measurement at middle channel: 915.36 MHz

Frequency	Level		Transducer	Limit	Margin	
GHz	dBuV/m		dB	dBuV/m	dB	
	Horizontal	Vertical			Horizontal	Vertical
1.087	43.6	43.7	-5.2	74	-30.4	-30.3
2.391	<50	<50	-3.4		< -24	< -24
2.614	<50	<50	-3.2		< -24	< -24
5.158	<50	<50	3.1		< -24	< -24
7.462	<50	<50	5.9		< -24	< -24
9.168	<50	<50	7.5		< -24	< -24
Note: The transducer factor includes antenna factor and cable loss.						

## Average measurement at highest channel: 927.7 MHz

Frequency	Level		Transducer	Limit	Margin	
GHz	dBuV/m		dB	dBuV/m	dB	
	Horizontal	Vertical			Horizontal	Vertical
1.064	39.2	38.3	-5.2	54	-14.8	-15.7
2.391	<40	<40	-3.4		< -14	< -14
2.612	<40	<40	-3.2		< -14	< -14
5.324	<40	<40	3.1		< -14	< -14
7.462	<40	<40	5.9		< -14	< -14
9.266	<40	<40	7.5		< -14	< -14
Note: The transducer factor includes antenna factor and cable loss.						

## Peak measurement at highest channel: 927.7 MHz

Frequency	Level		Transducer	Limit	Margin	
GHz	dBuV/m		dB	dBuV/m	dB	
	Horizontal	Vertical			Horizontal	Vertical
1.064	43.4	43.3	-5.2	74	-30.6	-30.7
2.391	<50	<50	-3.4		< -24	< -24
2.612	<50	<50	-3.2		< -24	< -24
5.324	<50	<50	3.1		< -24	< -24
7.462	<50	<50	5.9		< -24	< -24
9.266	<50	<50	7.5		< -24	< -24
Note: The transducer factor includes antenna factor and cable loss.						

## Note:

The EUT's transmitting frequency range belonged to 902MHz to 928 MHz, and it is complied with the requirements of FCC Part 15.249.d).

The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes and choose the worst case of X orthogonal plane for the final measurement.

### 3.2 Occupied Bandwidth

Test Requirement: FCC Part15.215  
 Test Method: ANSI C63.10: 2013  
 Detector: Peak for scan (The resolution bandwidth was 30kHz and the video bandwidth was 10kHz, span was 2MHz)  
 maximised peak hold

#### 3.2.1 E.U.T. Operation

Operating Environment:

Temperature: 25°C

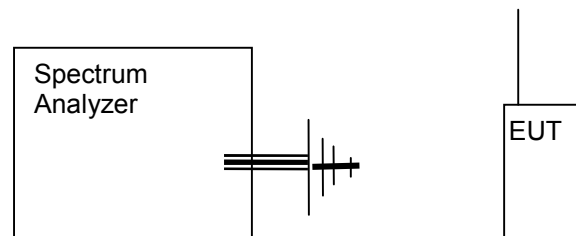
Humidity:45% RH

Atmospheric Pressure: 1020mBar

EUT Operation:

Pre-test the EUT with 1k to 20kHz sine wave signal input(level: 0.3 Vp-p). And the max 99%BW was measured as the EUT with 20 kHz sine wave signal input.

#### 3.2.2 Test Setup



#### 3.2.3 Test Procedure

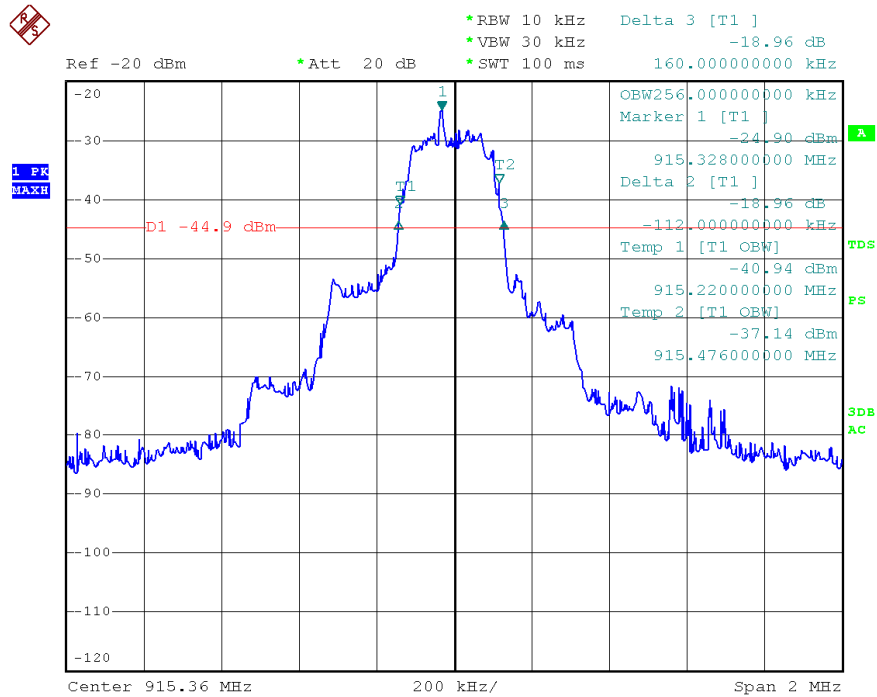
##### **ANSI STANDARD C63.10-2013 6.9 Occupied bandwidth tests:**

An initial pre-scan was performed in the 3m chamber using the spectrum analyzer in peak detection mode. Average measurements were conducted based on the peak sweep graph. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical polarities.

### 3.2.4 Measurement Data

Test for the EUT with switch ON. Input with 20 kHz AF, 50% modulation + 16dB.

#### Maximum Peak hold measurement for 915.36 MHz



Date: 11.NOV.2016 09:46:46

Frequency/ MHz	$\Delta FL^-$ / kHz	$\Delta FL^+$ / kHz	-20dB Bandwidth/ kHz	Occupied Bandwidth ( 99% of total power)/ kHz
915.36	-112	160	272	256

## 4 PHOTOGRAPHS

### 4.1 Radiated Emission Test Setup

9kHz - 30MHz

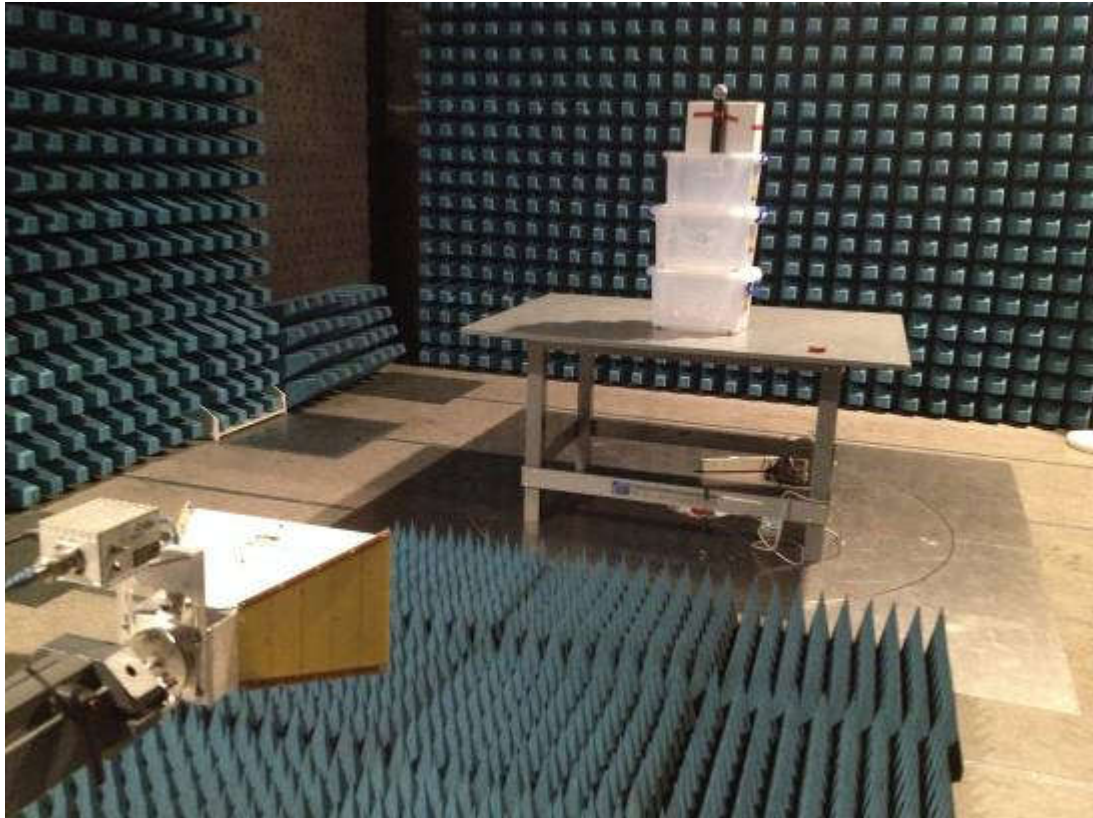


30MHz – 1GHz





1GHz – 9.3GHz



## 4.2 EUT Constructional Details

U-5296MM

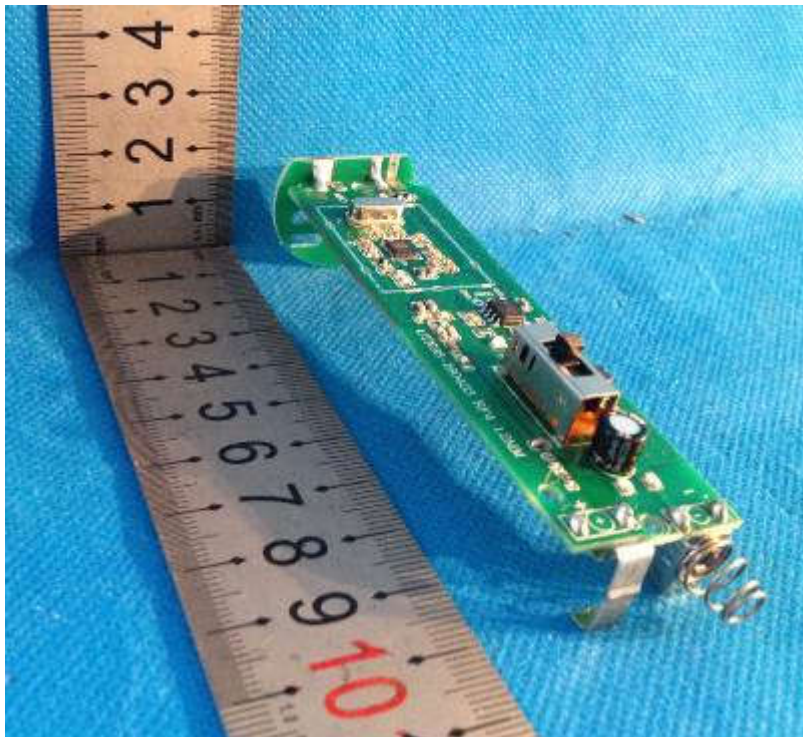


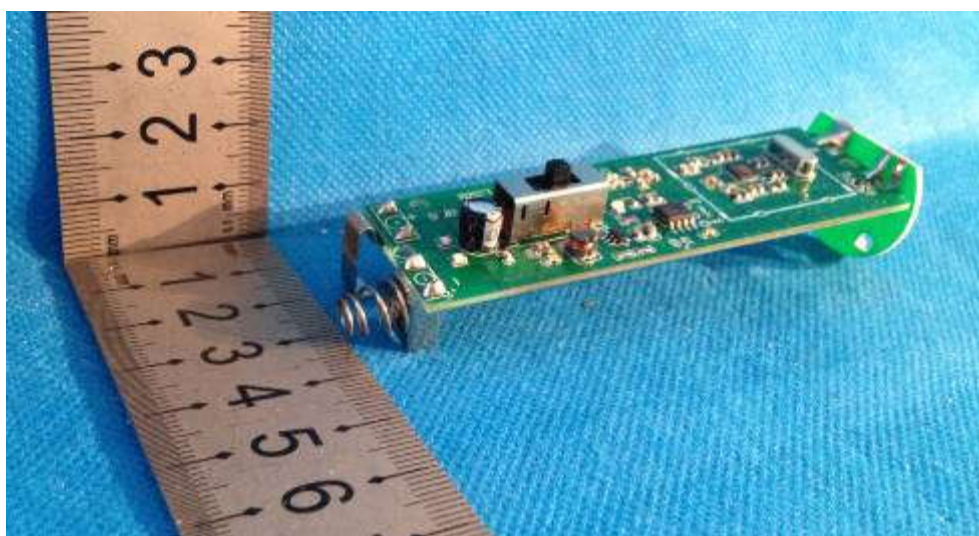
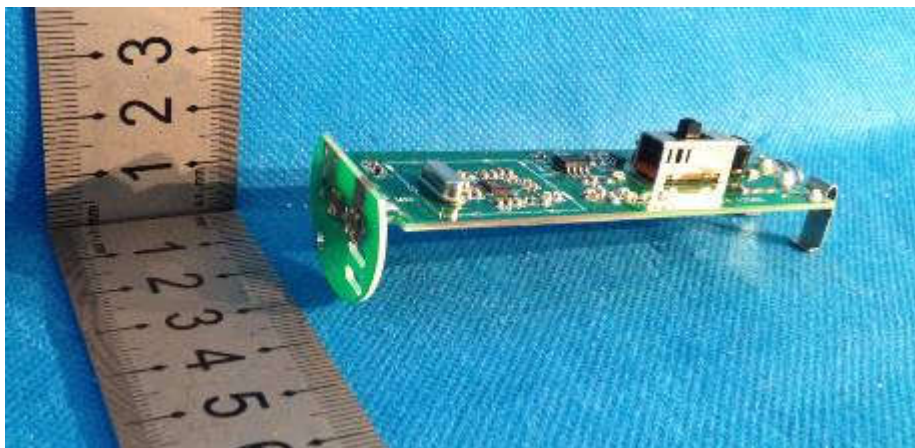
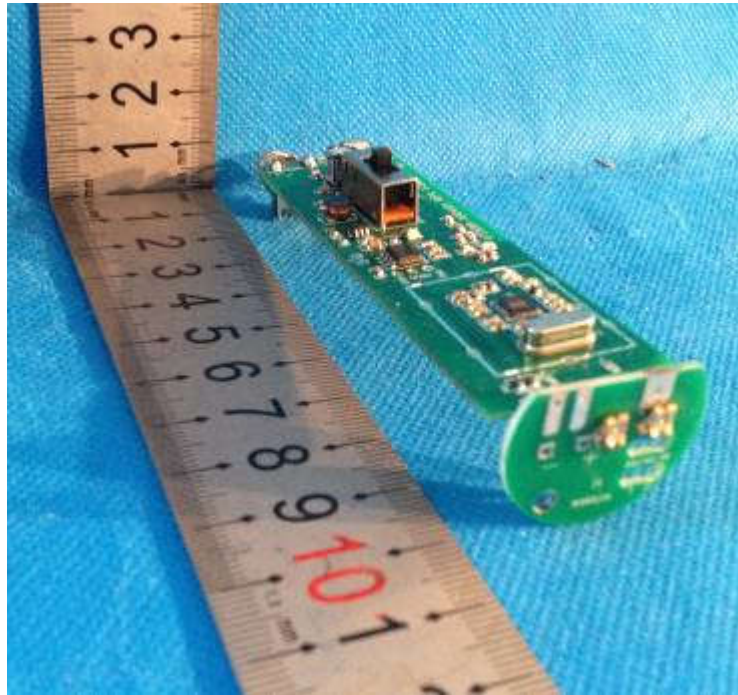




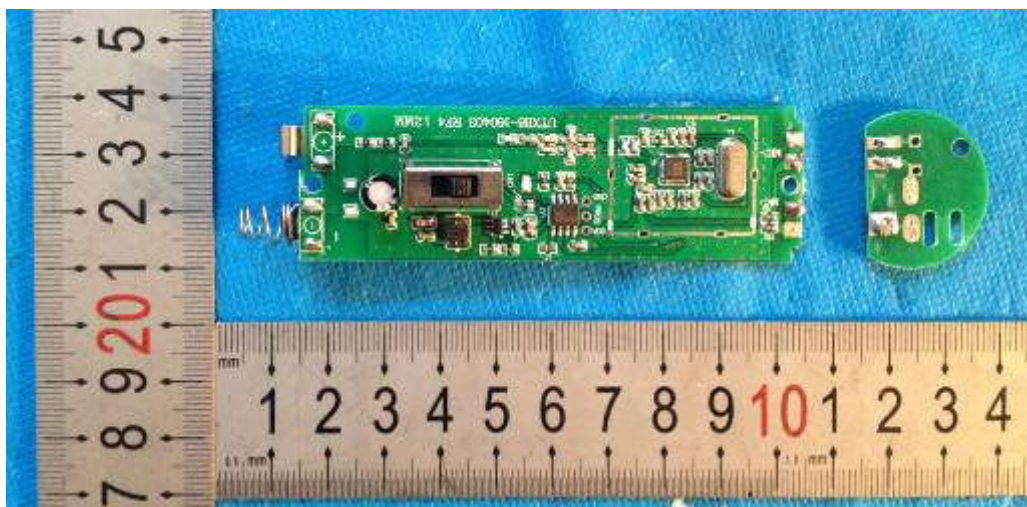
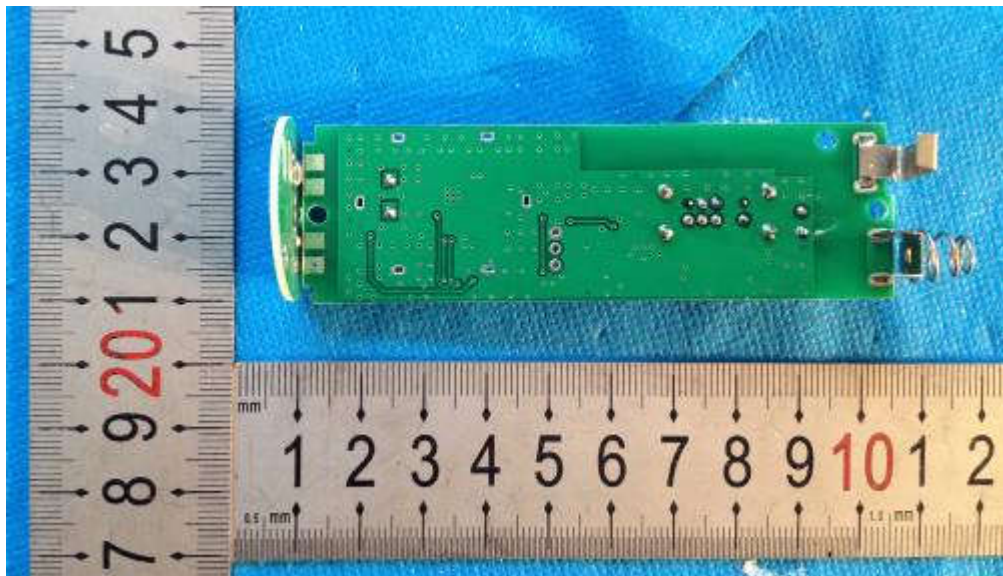
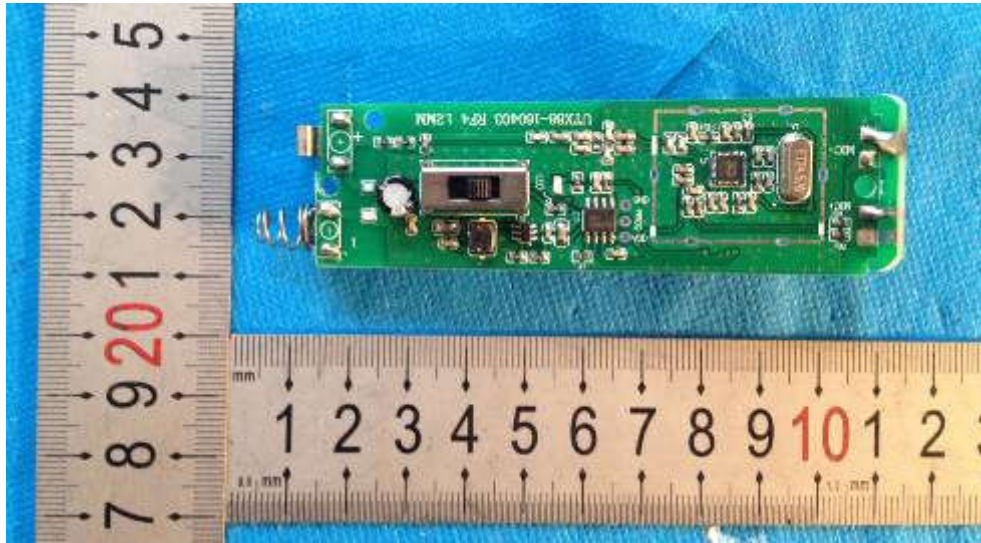


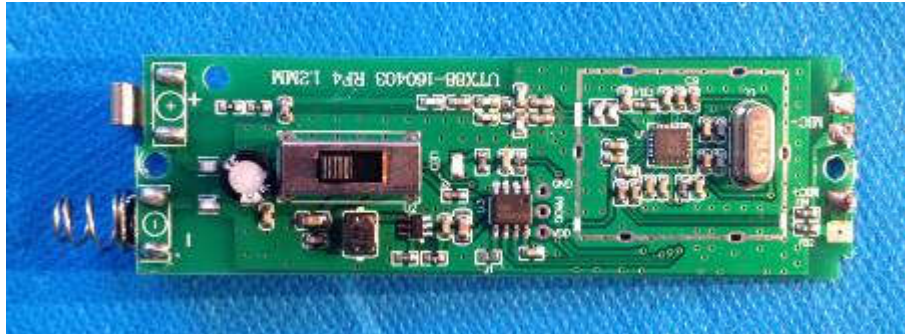
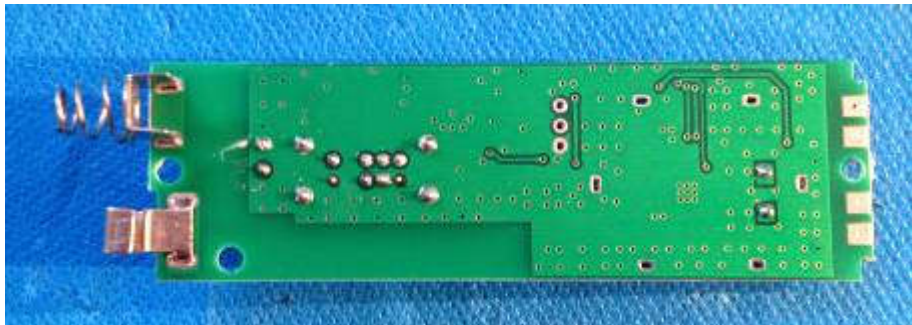
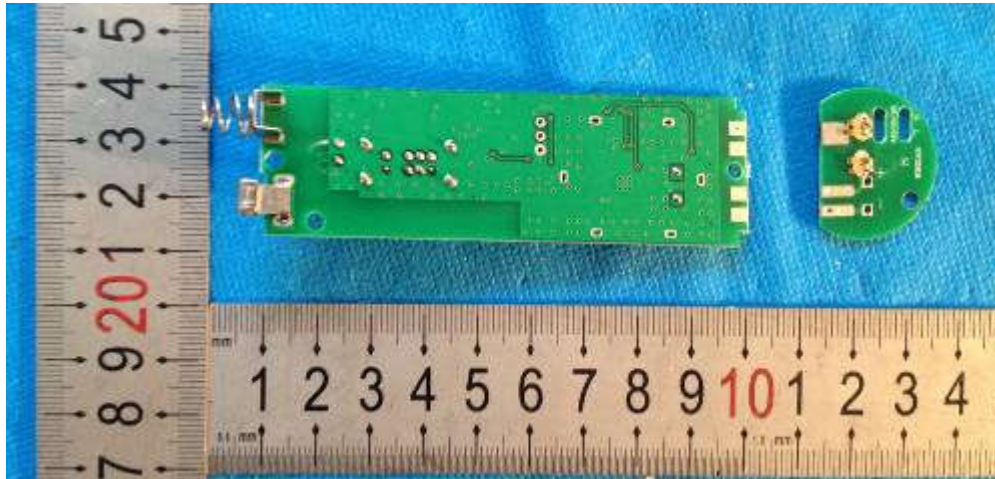




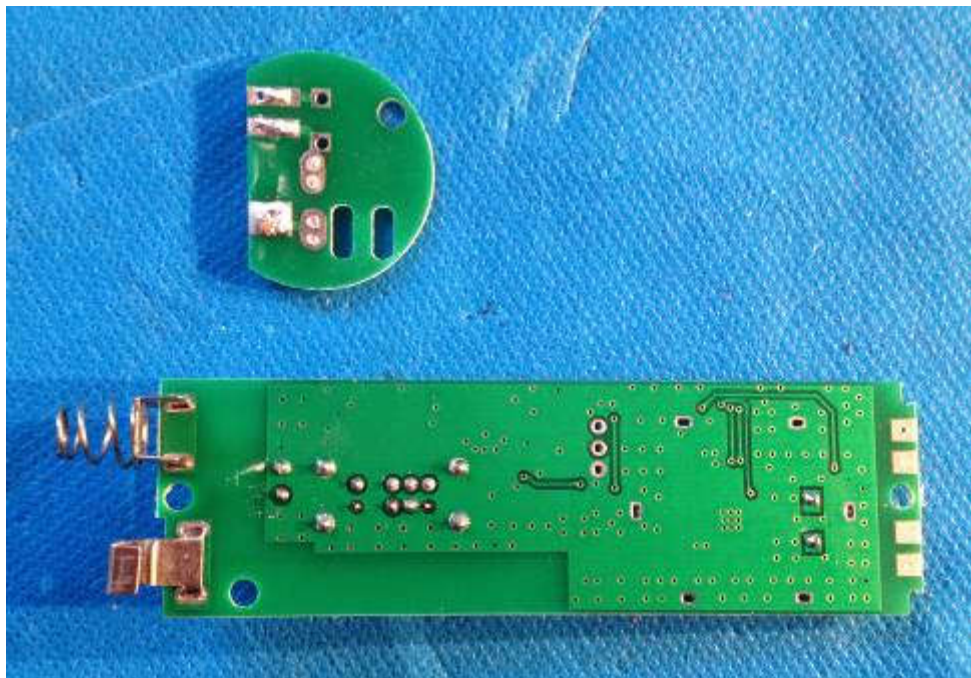
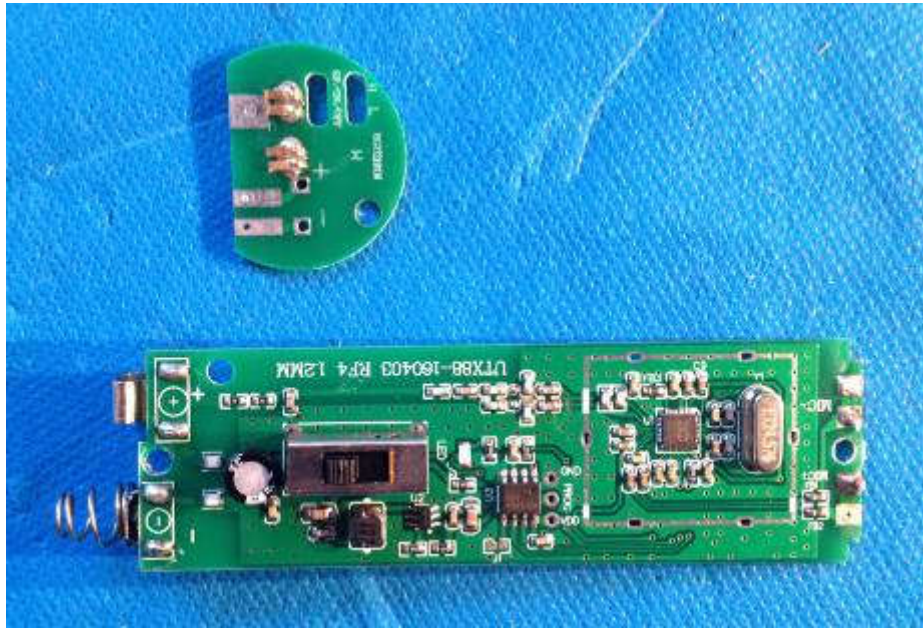






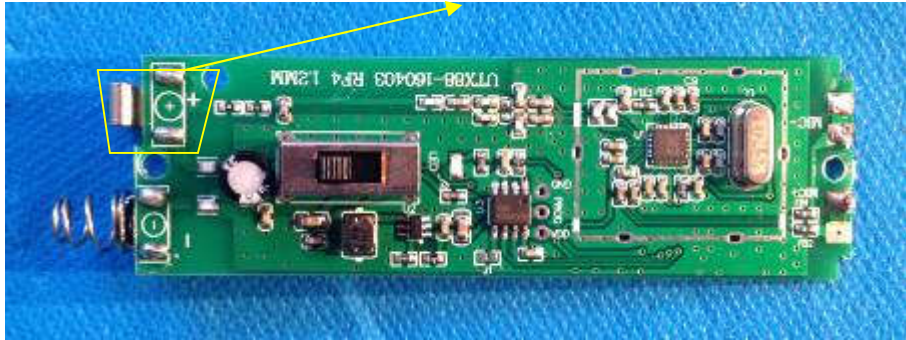






### 4.3 Antenna Photo

Antenna: Positive electrode of battery



Note:

The EUT was used permanently attached antenna, and it's complied with the requirements of section 15.203: antenna requirement.



## 5 EQUIPMENTS USED DURING TEST

Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date	Cal. Due date
1	RF Generator	Rohde & Schwarz	SMB100A-B106	1.031	2016-5-10	2017-5-10
2	Spectrum Analyzer	Rohde & Schwarz	FSP30	EMC0001	2016-3-24	2017-3-24
3	EMI Test Receiver	Rohde & Schwarz	ESCI	EMC1002	2016-3-24	2017-3-24
4	2-Channel Power Meter	Rohde & Schwarz	NRP2	1.033	2016-5-10	2017-5-10
5	Audio Analyzer	Hewlett Packard	8903B	EMC0011	2015-11-5 2016-11-5	2016-11-5 2017-11-5
6	Power Sensor	Rohde & Schwarz	NRP-Z91	1.034	2016-5-10	2017-5-10
7	Power Sensor	Rohde & Schwarz	NRP-Z91	1.035	2016-5-10	2017-5-10
8	Temperature Chamber	Gongwen	GDS-250	SFT0009	2015-11-5 2016-11-5	2016-11-5 2017-11-5
9	D.C. Power Supply	KIKUSUI	PAN35-10A	SFT0319	2015-11-5 2016-11-5	2016-11-5 2017-11-5
10	Temperature Chamber	Gongwen	GDS-250	SFT0009	2015-11-5 2016-11-5	2016-11-5 2017-11-5
11	D.C. Power Supply	KIKUSUI	PAN35-10A	SFT0319	2015-11-5 2016-11-5	2016-11-5 2017-11-5
12	Humidity/ Temperature Meter	Anymetre	TH101B	SFT0063	2015-11-5 2016-11-5	2016-11-5 2017-11-5
13	Barometer	ChangChun	DYM3	SEL0088	2016-6-8	2017-6-8
14	Multimeter	UNI-T	UT70A	EMC0017	2015-11-5 2016-11-5	2016-11-5 2017-11-5
15	Monopole Antenna	HST	N/A	EMC0089	2015-11-5 2016-11-5	2016-11-5 2017-11-5
16	Low loss coaxial cable	HST	2 m	EMC1008	2015-11-5 2016-11-5	2016-11-5 2017-11-5
17	Monopole Antenna	HST	N/A	N/A	2015-11-5 2016-11-5	2016-11-5 2017-11-5
18	Noise Generator	Ningbo Zhongce	DF1681	EMC0009	2015-11-5 2016-11-5	2016-11-5 2017-11-5
19	Semi-Anechoic chamber	ETS•Lindgren	FACT3 2.0	ITL-100	2016-6-17	2019-6-17
20	EMI Test receiver	R&S	ESVS10	ITL-111	2016-1-19	2017-1-19
21	EXA Spectrum Analyzer	Agilent Technologies	N9010A	ITL-114	2016-1-19	2017-1-19
22	Biconilog Antenna	ETS•Lindgren	3142D	ITL-105	2015-1-24	2018-1-24
23	Pre Amplifier	HP	8447F	ITL-116	2016-1-19	2017-1-19
24	Wideband Amplifier Super Ultra	Mini-circuits	ZVA-183-S+	ITL-117	2016-1-19	2017-1-19
25	Horn Antenna	A-INFOMW	JXTXLB-10180-N	ITL-110	2015-1-24	2018-1-24
26	Software	Audix	E3	ITL-109	/	/
27	Loop Antenna	BJ 2nd Factory	ZN30900A	EMC6001	2016-7-29	2019-7-29

\*\*\*End of report\*\*\*