

# TEST REPORT

**FCC ID: 2AIR3YY-1806**

**Product: Wireless microphone**

**Model No.: YY-1806**

**Additional Model: N/A**

**Trade Mark: N/A**

**Report No.: TCT160602E007**

**Issued Date: Jun. 22, 2016**

Issued for:

**Guangzhou YueYang Electronic Technology co., LTD.**

**No.8 Liulian Road Siqi District Jiang Gao Town Baiyun District Guangzhou  
Guangdong China**

Issued By:

**Shenzhen Tongce Testing Lab.**

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## 1. Test Certification

<b>Product:</b>	Wireless microphone
<b>Model No.:</b>	YY-1806
<b>Additional Model:</b>	N/A
<b>Applicant:</b>	Guangzhou YueYang Electronic Technology co., LTD.
<b>Address:</b>	No.8 Liulian Road Siqi District Jiang Gao Town Baiyun District Guangzhou Guangdong China
<b>Manufacturer:</b>	Guangzhou YueYang Electronic Technology co., LTD.
<b>Address:</b>	No.8 Liulian Road Siqi District Jiang Gao Town Baiyun District Guangzhou Guangdong China
<b>Date of Test:</b>	Jun. 02 – Jun. 21, 2016
<b>Applicable Standards:</b>	FCC CFR Title 47 Part 74 Subpart H Section 74.861(e)

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:



Neil Wong

Date:

Jun. 21, 2016

Reviewed By:



Joe Zhou

Date:

Jun. 22, 2016

Approved By:



Tomsin

Date:

Jun. 22, 2016

## 2. Test Result Summary

Requirement	CFR 47 Section	Result
RF output power	§2.1046(a) §74.861(e)(1)	PASS
Modulation characteristics	§2.1046(a)(b) §74.861(e)(2)	PASS
Frequency tolerance	§2.1055(a)(1)(b) §74.861(e)(4)	PASS
Emission bandwidth & Emission Mask	§2.1049(c) §74.861(e)(5)(6)	PASS
Spurious radiation at the antenna port	§2.1051 §74.861(e)(6)	PASS
Radiated spurious emission	§2.1053 §74.861(e)(6)	PASS

**Note:**

1. PASS: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

### 3. EUT Description

<b>Product Name:</b>	Wireless microphone
<b>Model :</b>	YY-1806
<b>Additional Model:</b>	N/A
<b>Trade Mark:</b>	<b>N/A</b>
<b>Operation Frequency:</b>	202.75MHz
<b>Number of Channel:</b>	1
<b>Modulation Type:</b>	FM
<b>Antenna Type:</b>	Helical Antenna
<b>Antenna Gain:</b>	2.0dBi
<b>Power Supply:</b>	DC 3V
<b>Remark:</b>	N/A

## 4. Genera Information

### 4.1. Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations
<p>The sample was placed 0.8m &amp; 1.5m for the measurement below &amp; above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y &amp; Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.</p>	

### 4.2. 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.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

**Note:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements, the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

## 5. Facilities and Accreditations

### 5.1. Facilities

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

- FCC - Registration No.: 572331

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

- CNAS - Registration No.: CNAS L6165

Shenzhen TCT Testing Technology Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6165.

### 5.2. Location

Shenzhen Tongce Testing Lab

Address: 1F, Leinuo Watch Building, Fuyong Town, Baoan Dist, Shenzhen, China

Tel: 86-755-36638142

### 5.3. Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	$\pm 2.56\text{dB}$
2	RF power, conducted	$\pm 0.12\text{dB}$
3	Spurious emissions, conducted	$\pm 0.11\text{dB}$
4	All emissions, radiated(<1G)	$\pm 3.92\text{dB}$
5	All emissions, radiated(>1G)	$\pm 4.28\text{dB}$
6	Temperature	$\pm 0.1^\circ\text{C}$
7	Humidity	$\pm 1.0\%$

## 6. Test Results and Measurement Data

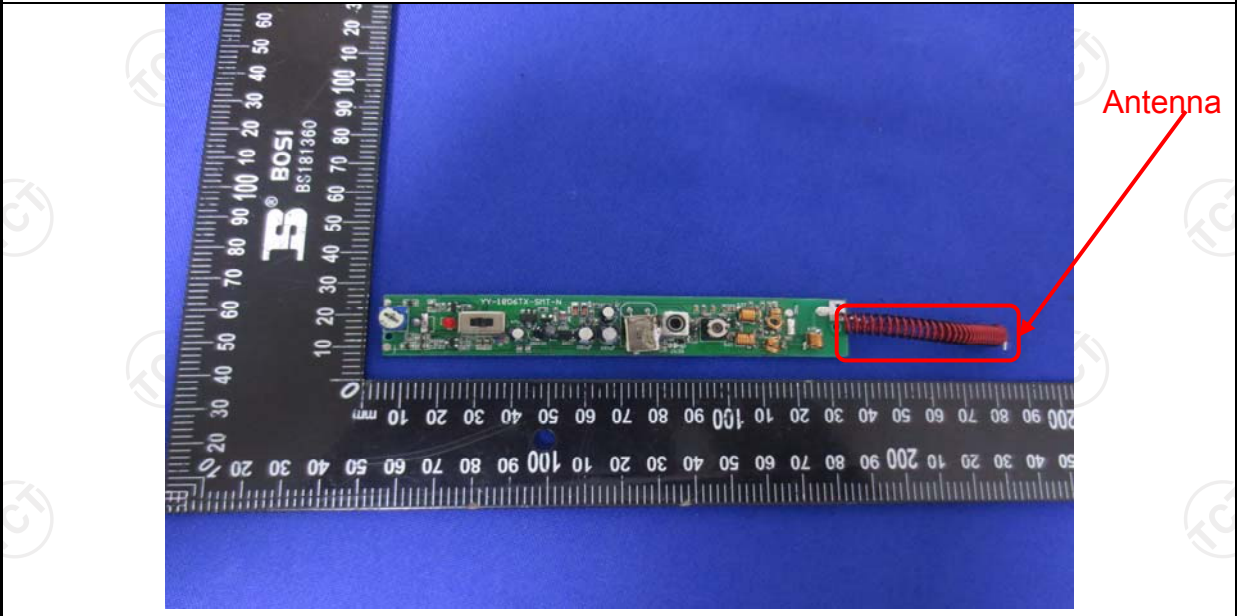
### 6.1. Antenna requirement

<b>Standard requirement:</b>	FCC Part15 C Section 74.22
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The simultaneous use of a common antenna structure by more than one station authorized under this part, or by one or more stations of any other service may be authorized. The owner of each antenna structure is responsible for ensuring that the structure, if required, is painted and/or illuminated in accordance with part 17 of this chapter. In the event of default by the owner, each licensee or permit shall be responsible for ensuring that the structure complies with applicable painting and lighting requirements.

<b>E.U.T Antenna:</b>	
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The antenna is a Helical antenna which permanently attached, and the best case gain of the antenna is 2.0dBi.





## 6.2. Conducted Output Power

### 6.2.1. Test Specification

<b>Test Requirement:</b>	FCC Part2.1046(a), Part74.861(e)(1)
<b>Method:</b>	ANSI/TIA-603-D 2010
<b>Limit:</b>	50mW
<b>Test Setup:</b>	 <p style="text-align: center;">Spectrum Analyzer                      EUT</p>
<b>Test Mode:</b>	Transmitting mode without modulation
<b>Test Procedure:</b>	<p>Use the following spectrum analyzer settings:                      centered on a selected channel                      Span = 2MHz                      RBW=1MHz                      VBW=3MHz                      Sweep = auto                      Detector function = peak                      Trace = max hold                      Allow the trace to stabilize.                      Use the marker-to-peak function to set the marker to the peak of the emission.</p>
<b>Test Result:</b>	PASS

### 6.2.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 12, 2016
RF Cable	TCT	RE-06	N/A	Sep. 12, 2016
Antenna Connector	TCT	RFC-01	N/A	Sep. 12, 2016

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

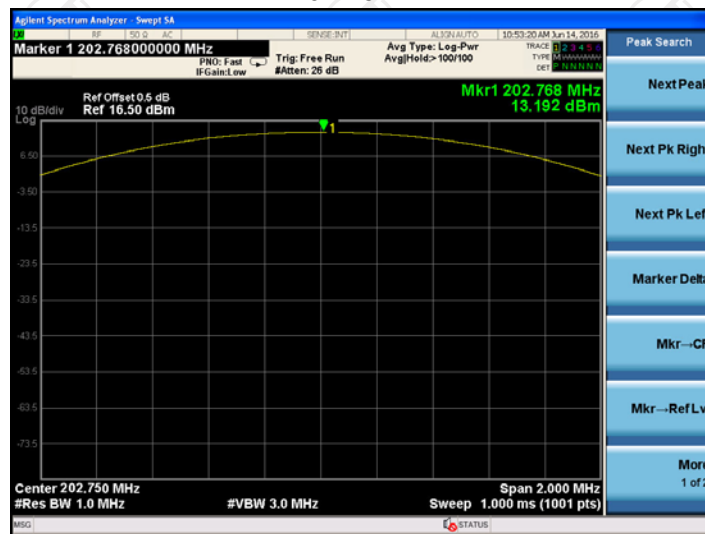
**6.2.3. Test data**

Conducted output power:

Frequency (MHz)	Conducted Output Power (dBm)	Conducted Output Power (mW)	Limit(mW)	Result
202.75MHz	13.192	20.85	50	PASS

Test plots:

202.75MHz



### 6.3. Modulation Characteristics

#### 6.3.1. Test Specification

<b>Test Requirement:</b>	FCC Part74.861(e)(3), Part2.1047(a)
<b>Method:</b>	ANSI/TIA-603-D 2010 section 2.2.3
<b>Test Method:</b>	According to clause 2.2.6.2.2 of TIA 603-D for Audio Frequency response testing According to clause 2.2.3.2 of TIA 603-D for Audio Modulation Limiting testing
<b>Limit:</b>	Low-power auxiliary equipment using Broadband FM may employ a frequency deviation up to a maximum of $\pm 75\text{KHz}$ .
<b>Test Setup:</b>	<pre> graph LR     A[RF Communication Tester] --- RF[RF Cable] --- B[EUT]     A --- Audio[Audio signal cable] --- B     </pre>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. Configure the EUT as shown in Setup.</li> <li>2. Adjust the audio input for 20% of rated system deviation at 1KHz using this level as a reference (0dB).</li> <li>3. Vary the audio frequency from 100Hz to 30KHz and record the frequency deviation.</li> <li>4. Audio Frequency Response = <math>20\log(\text{Deviation of test frequency}/\text{Deviation of 1KHz reference})</math>.</li> </ol>
<b>Test Result:</b>	PASS

#### 6.3.2. Test Instruments

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Audio Signal Generator	HP	8920B	3104A03367	Sep. 12, 2016
RF cable	TCT	RE-06	N/A	Sep. 12, 2016
Antenna Connector	TCT	RFC-01	N/A	Sep. 12, 2016

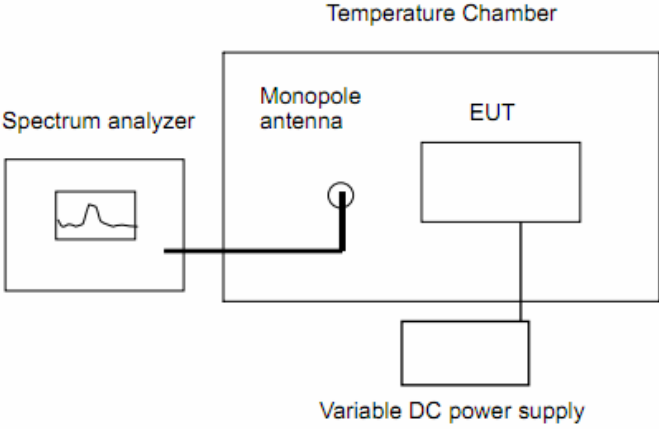
**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

**6.3.3. Test Data**

Frequency (Hz)	Deviation (KHz)
100	7.43
300	9.84
500	12.72
700	13.53
900	14.92
1000	15.26
1400	15.68
1800	16.31
2000	16.49
3000	17.13
4000	17.45
5000	17.72
6000	18.26
7000	18.57
8000	18.83
9000	18.91
10000	16.22
15000	15.86
20000	11.08
25000	8.67
30000	9.23

## 6.4. Frequency Tolerance

### 6.4.1. Test Specification

<b>Test Requirement:</b>	FCC Part74.861(e)(4), Part2.1055(d)
<b>Method:</b>	ANSI/TIA-603-D 2010
<b>Limit:</b>	According to FCC Part 74.861(e)(4), the frequency tolerance must be maintained within 0.005%.
<b>Test Setup:</b>	 <p>The diagram shows a test setup within a Temperature Chamber. A Spectrum analyzer is connected to a Monopole antenna. The Monopole antenna is connected to the EUT (Equipment Under Test). The EUT is connected to a Variable DC power supply.</p>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	<p>Frequency Stability Versus Environmental Temperature</p> <ol style="list-style-type: none"> <li>1. Configure as the setup block, frequency measurement inside an environment chamber, install new battery in the EUT.</li> <li>2. Turn on EUT and set SA center frequency to the EUT radiate frequency. Set SA Resolution Bandwidth to 1KHz, Video Resolution Bandwidth to 1KHz, Span to 50KHz. Record this frequency as reference frequency.</li> <li>3. Set the temperature of chamber to 50°C. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. While maintaining a constant temperature inside the chamber, turn the EUT on and measure the EUT operating frequency.</li> <li>4. Repeat step 2 with 10°C decreased per stage until the lowest temperature -30°C is measured, recording all measured frequency on each temperature step.</li> </ol> <p>Frequency Stability Versus Input Voltage</p> <ol style="list-style-type: none"> <li>1. Configure as the setup block, frequency measured at temperature if it is within 15°C to 25°C. Otherwise, an environment chamber set for a temperature of 20°C shall be used. Install new battery in the EUT.</li> <li>2. Set SA center frequency to the EUT radiated frequency. Set SA Resolution Bandwidth to 1KHz and</li> </ol>

	Video Resolution Bandwidth to 1KHz. Record this frequency as reference frequency. 3. For battery operated with device, supply the EUT primary voltage at the operating end point which is specified by manufacturer and record the frequency.
<b>Test Result:</b>	PASS

**6.4.2. Test Instruments**

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 11, 2016
RF cable	TCT	RE-06	N/A	Sep. 12, 2016
Antenna Connector	TCT	RFC-01	N/A	Sep. 12, 2016
Programable tempratuce and humidity chamber	JQ	JQ-2000	N/A	Sep. 12, 2016
DC power supply	Kingrang	KR3005K 30V/5A	19000032	Sep. 12, 2016

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

**6.4.3. Test Data**

		202.75MHz			
Environment Temperature	Power Supply	Frequency deviation measured with time Elapsed (30 minutes)			
		(MHz)	(ppm)	Limit(ppm)	Result
50	DC 3V	202.75138	6.81	±50	PASS
40	DC 3V	202.75203	10.01	±50	PASS
30	DC 3V	202.75186	9.17	±50	PASS
20	DC 3V	202.75162	7.99	±50	PASS
10	DC 3V	202.75267	13.17	±50	PASS
0	DC 3V	202.75343	16.92	±50	PASS
-10	DC 3V	202.75206	10.16	±50	PASS
-20	DC 3V	202.75239	11.79	±50	PASS
-30	DC 3V	202.75212	10.46	±50	PASS

## 6.5. Emission Bandwidth & Emission Mask

### 6.5.1. Test Specification

<b>Test Requirement:</b>	FCC Part74.861(e)(5)(6), Part2.1049(c)
<b>Method:</b>	ANSI/TIA-603-D 2010
<b>Limit:</b>	According to FCC Part 74 Section 74.861(e)(5), the operation bandwidth shall not exceed 200KHz.
<b>Test Setup:</b>	<pre> graph LR     ASG[Audio Signal Generator] -- RF Cable --&gt; EUT[EUT]     EUT -- RF Cable --&gt; SA[Spectrum Analyzer]             </pre>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	<p><b>Emission Bandwidth:</b> The occupied emission bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth, as calculated or measured.</p> <ol style="list-style-type: none"> <li>1. The transmitter shall be operated at its maximum carrier power measured under normal test conditions.</li> <li>2. Make the selected channel frequency as the SA center frequency.</li> <li>3. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.</li> <li>4. The RBW shall be in the range of 1% to 5% of the occupied bandwidth, VBW shall be approximately 3*RBW.</li> <li>5. Record the test signal waveform.</li> <li>6. The EUT transmitting in minimum carrier power level, repeat step 1-5.</li> </ol> <p><b>Emission Mask:</b> The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule: On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25dB; with the following schedule: On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35dB; with the following schedule: On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least 43 + 10log(mean output power in watts)dB;</p> <ol style="list-style-type: none"> <li>1. Center the selected channel on the SA.</li> </ol>

	<ol style="list-style-type: none"> <li>2. Set the SA as follow: RBW=10kHz, VBW=10KHz, span =2MHz, sweep time = auto, trace = max hold, detector=Peak.</li> <li>3. Keep the EUT in high level transmitting without modulation and fix the stability signal.</li> <li>4. Add the modulation signal to EUT. The modulation signal shall be set as 25KHz, the value is 100mV.</li> <li>5. Make the peak point. Then set the limit as description in section 74.861(e)(6)</li> <li>6. Repeat the step in 1-5 and record the signal.</li> </ol>
<b>Test Result:</b>	PASS

**6.5.2. Test Instruments**

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 11, 2016
Audio Signal Generator	HP	8920B	3104A03367	Sep. 12, 2016
RF cable	TCT	RE-06	N/A	Sep. 12, 2016
Antenna Connector	TCT	RFC-01	N/A	Sep. 12, 2016

**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



**6.5.3. Test Data**

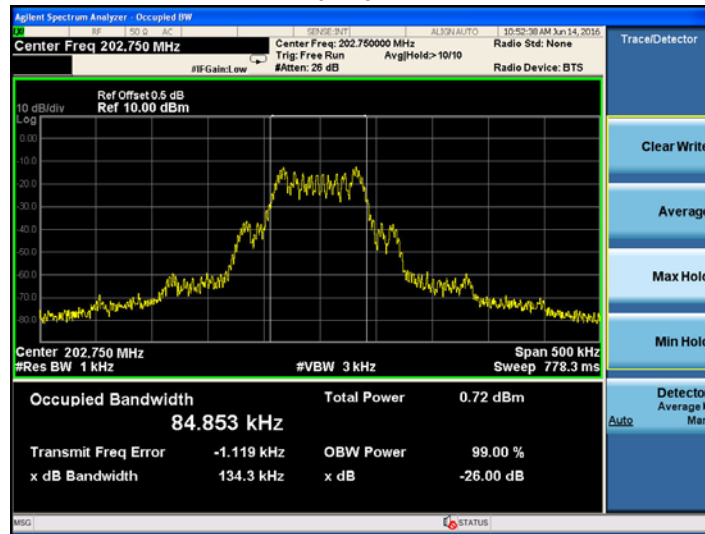
Emission Bandwidth:

Frequency (MHz)	Emission Bandwidth (KHz)	Limit(KHz)	Result
202.75MHz	84.853	200	PASS

Test plots:

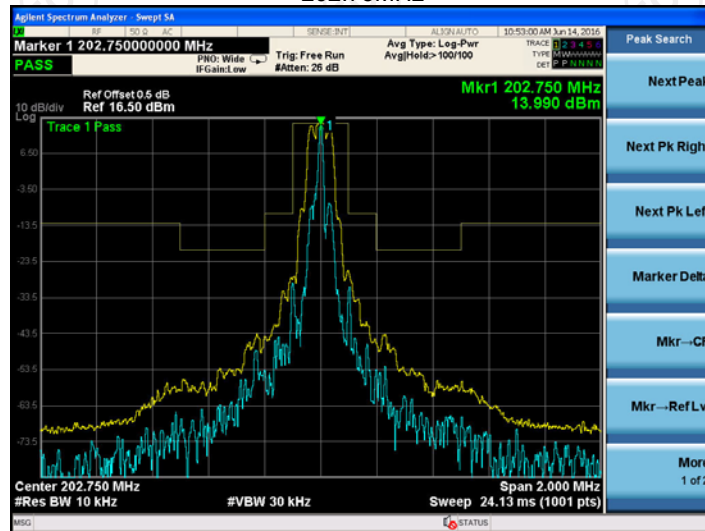
**Emission Bandwidth:**

202.75MHz



**Emission Mask**

202.75MHz



## 6.6. Conducted Spurious Emission Measurement

### 6.6.1. Test Specification

<b>Test Requirement:</b>	FCC Part 74.861(e)(6), Part 2.1051
<b>Method:</b>	ANSI/TIA-603-D 2010 section 2.2.13
<b>Limit:</b>	On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least $43 + 10\log(\text{mean output power in watts})\text{dB}$ .
<b>Test Setup:</b>	<pre> graph LR     ASG[Audio Signal Generator] --&gt; EUT[EUT]     EUT -- RF Cable --&gt; SA[Spectrum Analyzer]             </pre>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.</li> <li>2. The transmitter shall be operated at its maximum carrier power measured under normal test conditions.</li> <li>3. Make the selected channel frequency as the SA center frequency.</li> <li>4. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.</li> <li>5. For frequency below 1GHz, set RBW = 100 kHz, VBW = 300kHz; above 1GHz, set RBW = 1MHz, VBW = 3MHz. Scan up through 10th harmonic</li> <li>6. Set sweep speed less than 2000 Hz including 2000Hz per second. Detector mode as Peak.</li> <li>7. Measure and record the results in the test report.</li> <li>8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.</li> <li>9. Repeat step 2-7, until all the three tested channel in both power level are tested.</li> </ol>
<b>Test Result:</b>	PASS

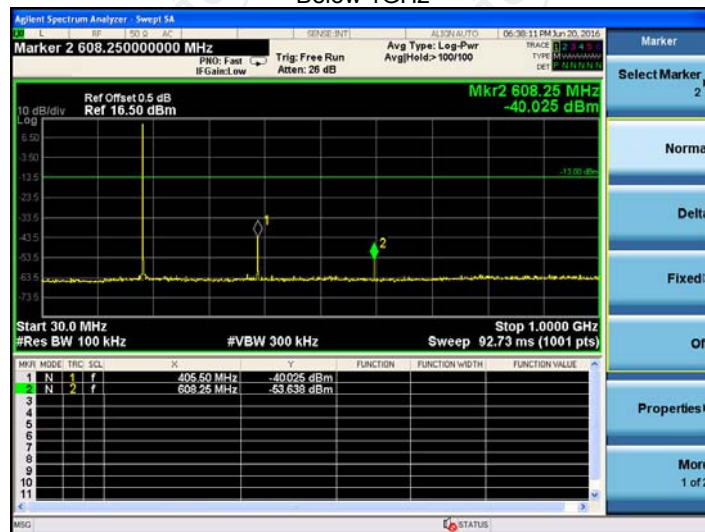
6.6.2. Test Instruments

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 11, 2016
Audio Signal Generator	HP	8920B	3104A03367	Sep. 12, 2016
RF cable	TCT	RE-06	N/A	Sep. 12, 2016
Antenna Connector	TCT	RFC-01	N/A	Sep. 12, 2016

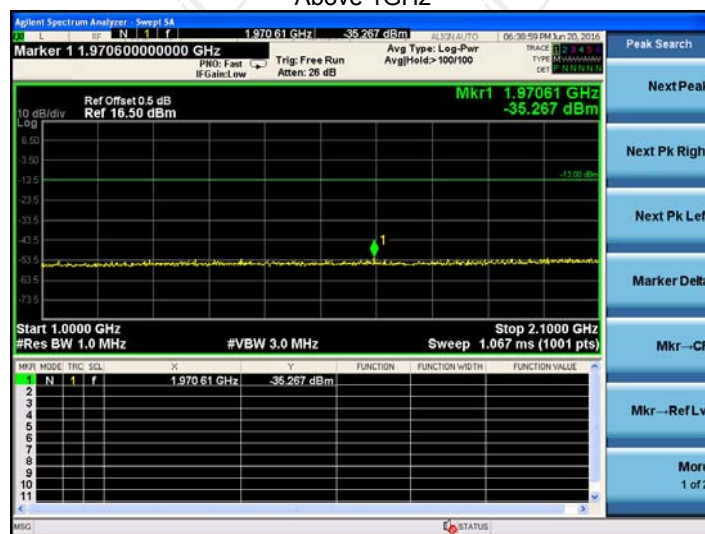
**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

6.6.3. Test Data

Below 1GHz



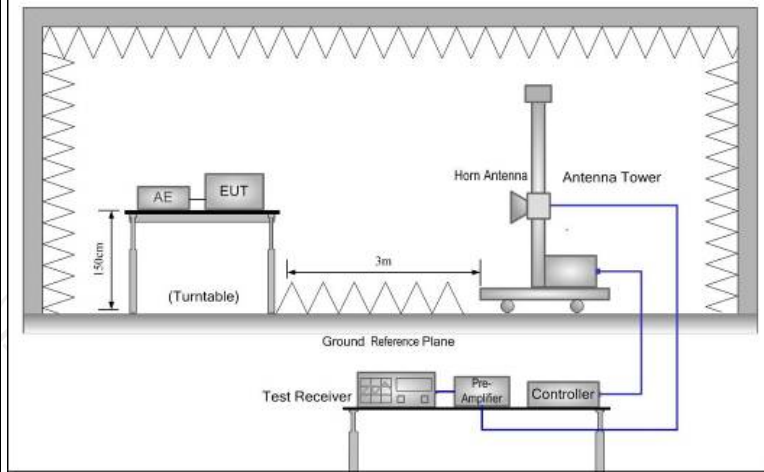
Above 1GHz



## 6.7. Radiated Spurious Emission Measurement

### 6.7.1. Test Specification

<b>Test Requirement:</b>	FCC Part 74.861(e)(6), Part 2.1051																													
<b>Test Method:</b>	ANSI/TIA-603-D 2010 section 2.2.13																													
<b>Frequency Range:</b>	9 kHz to 7 GHz																													
<b>Measurement Distance:</b>	3 m																													
<b>Antenna Polarization:</b>	Horizontal & Vertical																													
<b>Receiver Setup:</b>	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Detector</th> <th>RBW</th> <th>VBW</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>9kHz- 150kHz</td> <td>Quasi-peak</td> <td>200Hz</td> <td>1kHz</td> <td>Quasi-peak Value</td> </tr> <tr> <td>150kHz- 30MHz</td> <td>Quasi-peak</td> <td>9kHz</td> <td>30kHz</td> <td>Quasi-peak Value</td> </tr> <tr> <td>30MHz-1GHz</td> <td>Quasi-peak</td> <td>100KHz</td> <td>300KHz</td> <td>Quasi-peak Value</td> </tr> <tr> <td rowspan="2">Above 1GHz</td> <td>Peak</td> <td>1MHz</td> <td>3MHz</td> <td>Peak Value</td> </tr> <tr> <td>Peak</td> <td>1MHz</td> <td>10Hz</td> <td>Average Value</td> </tr> </tbody> </table>	Frequency	Detector	RBW	VBW	Remark	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value	Above 1GHz	Peak	1MHz	3MHz	Peak Value	Peak	1MHz	10Hz	Average Value
	Frequency	Detector	RBW	VBW	Remark																									
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Value																									
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value																									
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value																									
Above 1GHz	Peak	1MHz	3MHz	Peak Value																										
	Peak	1MHz	10Hz	Average Value																										
<b>Limit:</b>	On any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth: at least $43 + 10\log(\text{mean output power in watts})\text{dB}$ .																													
<b>Test setup:</b>	<p>For radiated emissions below 30MHz</p>																													
	<p>30MHz to 1GHz</p>																													
	<p>Above 1GHz</p>																													



**Test Mode:**

Transmitting mode with modulation

**Test Procedure:**

1. The testing follows the guidelines in Spurious Radiated Emissions of FCC Public Notice DA 00-705 Measurement Guidelines.
2. For the radiated emission test below 1GHz:  
The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level.  
For the radiated emission test above 1GHz:  
Place the measurement antenna on a turntable with 1.5 meter above ground, which is 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.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Use the following spectrum analyzer settings:

	<p>(1) Span shall wide enough to fully capture the emission being measured;</p> <p>(2) Set RBW=100 kHz for <math>f &lt; 1</math> GHz, RBW=1MHz for <math>f &gt; 1</math>GHz ; VBW<math>\geq</math>RBW; Sweep = auto; Detector function = peak; Trace = max hold for peak</p> <p>(3) Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level</p>
<b>Test results:</b>	PASS



**6.7.2. Test Instruments**

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
ESPI Test Receiver	ROHDE&SCHW ARZ	ESVD	100008	Sep. 11, 2016
Spectrum Analyzer	ROHDE&SCHW ARZ	FSEM	848597/001	Sep. 11, 2016
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 12, 2016
Audio Signal Generator	HP	8920B	3104A03367	Sep. 12, 2016
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Sep. 11, 2016
Pre-amplifier	HP	8447D	2727A05017	Sep. 11, 2016
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 13, 2016
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 13, 2016
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 13, 2016
Horn Antenna	Schwarzbeck	BBHA 9170	373	Sep. 13, 2016
Antenna Mast	CCS	CC-A-4M	N/A	N/A
Coax cable	TCT	RE-low-01	N/A	Sep. 11, 2016
Coax cable	TCT	RE-high-02	N/A	Sep. 11, 2016
Coax cable	TCT	RE-low-03	N/A	Sep. 11, 2016
Coax cable	TCT	RE-high-04	N/A	Sep. 11, 2016
EMI Test Software	Shurple Technology	EZ-EMC	N/A	N/A

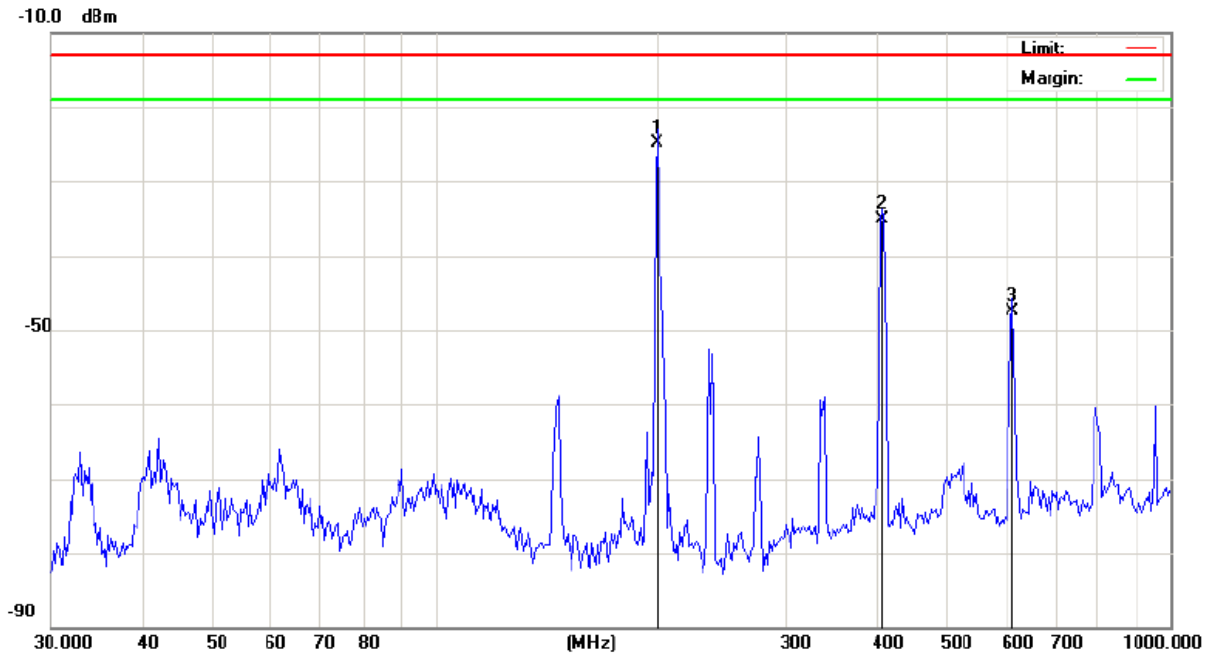
**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

**6.7.3. Test Data**

Please refer to following diagram for individual

Below 1GHz

Horizontal:

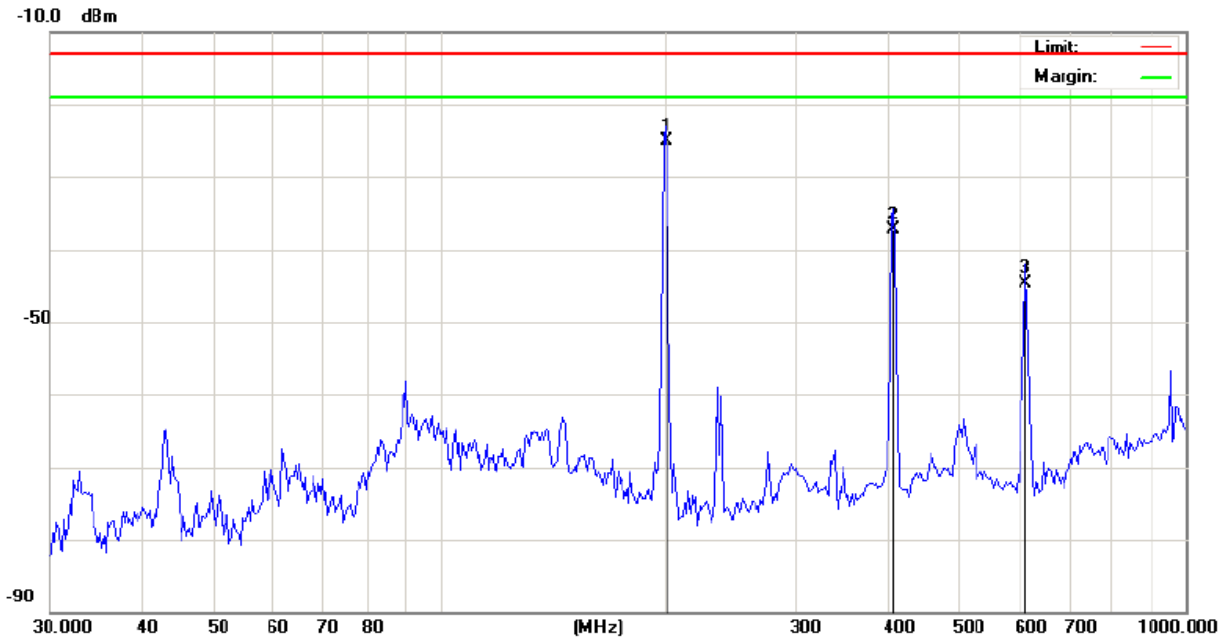


Site: Polarization: **Horizontal** Temperature: 25  
 Limit: part 74 spurious emission <1G Power: AC 230V/50Hz Humidity: 54 %

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	200.4536	-13.26	-11.66	-24.92	-13.0	-11.92	QP	0	
2		406.9287	-29.14	-5.97	-35.11	-13.0	-22.11	QP	0	
3		609.8670	-45.67	-1.73	-47.40	-13.0	-34.40	QP	0	

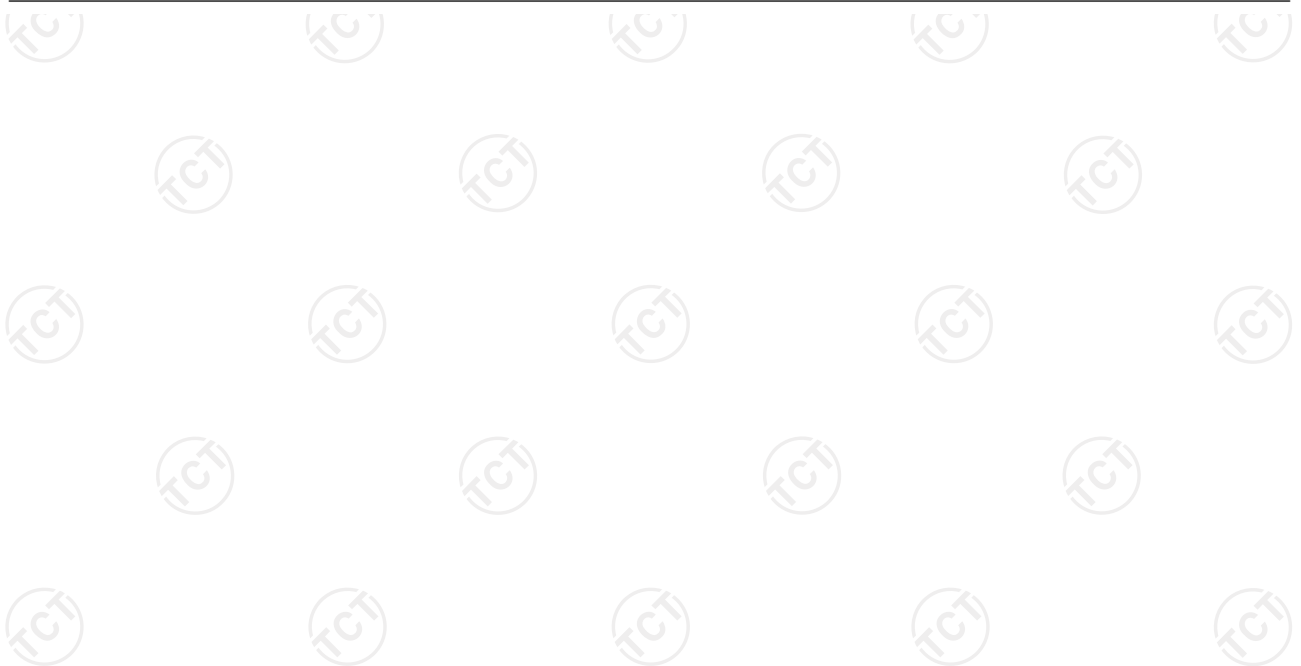


Vertical:



Site: Polarization: **Vertical** Temperature: 25  
 Limit: part 74 spurious emission <1G Power: AC 230V/50Hz Humidity: 54 %

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	*	202.4533	-13.58	-11.59	-25.17	-13.0	-12.17	QP		0	
2		406.9286	-31.26	-5.97	-37.23	-13.0	-24.23	QP		0	
3		609.8668	-42.87	-1.73	-44.60	-13.0	-31.60	QP		0	



**Above 1GHz**

Low channel: 202.75MHz

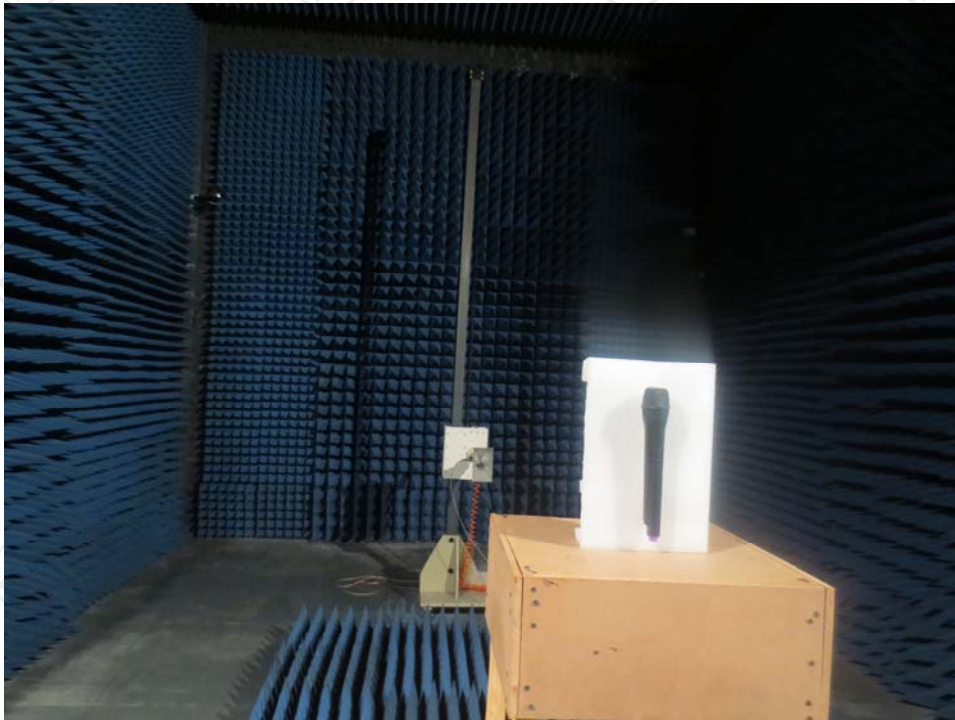
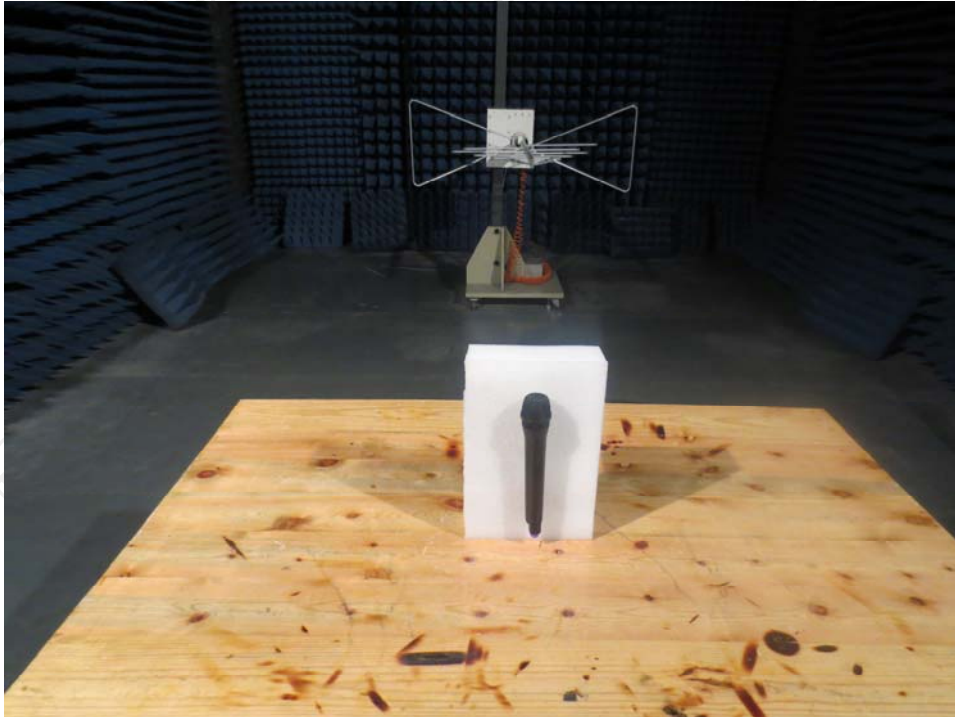
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBm)	Correction Factor (dB)	Peak (dBm)	Peak limit (dBm)	Margin (dB)
1013.75	H	-10.51	-11.78	-21.24	-13	-9.29
1216.5	H	-35.13	-7.57	-43.63	-13	-29.70
2027.5	H	-38.27	1.73	-37.35	-13	-23.54
---	H	---	---	---	---	---
1013.75	V	-9.16	-11.78	-21.13	-13	-7.94
1216.5	V	-37.09	-7.57	-43.62	-13	-31.66
2027.5	V	-39.35	1.73	-37.25	-13	-24.62
---	V	---	---	---	---	---

**Note:**

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss – Pre-amplifier
2. Margin (dB) = Emission Level (Peak) (dBμV/m)-Average limit (dBμV/m)
3. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
4. Data of measurement shown “---“in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.

## 7. Photograph of Setup

Radiated Emission



## 8. Photograph of EUT

### External Photos

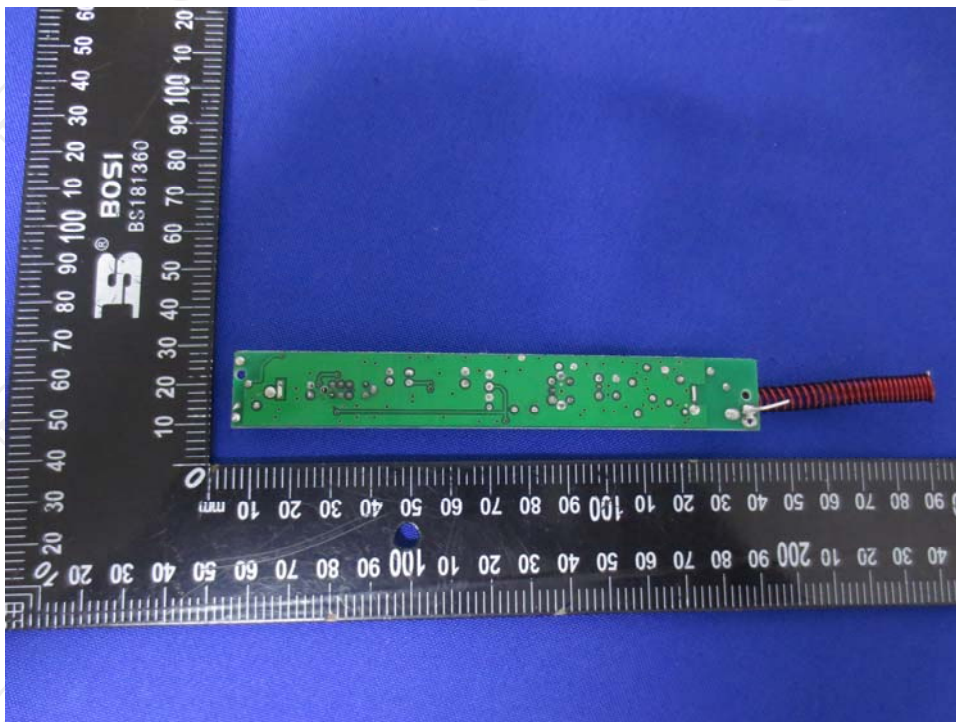
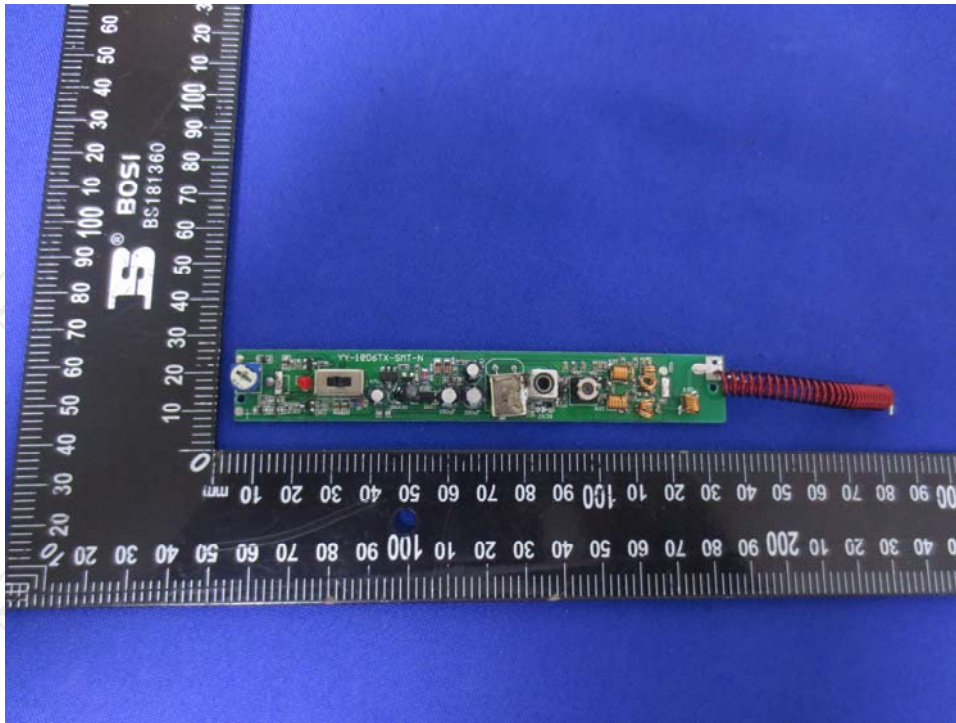






**Internal Photos**





**\*\*\*\*\*END OF REPORT\*\*\*\*\***