

# FCC TEST REPORT

**FCC ID** : 2ABQE-BT65  
**Applicant** : SHENZHEN SAGE HUMAN ELECTRONICS CO.,LTD.  
**Address** : 4 floor,A9 bldg, Silicon Vellay Power, Qinghu Industry Park Longhua, new district, Shenzhen, Guangdong,China  
**Manufacturer** : SHENZHEN SAGE HUMAN ELECTRONICS CO.,LTD.  
**Address** : 4 floor,A9 bldg, Silicon Vellay Power, Qinghu Industry Park Longhua, new district, Shenzhen, Guangdong,China

**Equipment Under Test (EUT) :**

Product Name : Bluetooth FM Transmitter  
Model No. : BT65  
Brand Name : N/A

**Standards** :FCC 15 Subpart C Paragraph 15.239

**Date of Test** : June 20~27, 2014

**Date of Issue** : June 27, 2014

**Test Result** : **PASS**

Remark:

\* The sample described above has been tested to be in compliance with the requirements of ANSI C63.4:2003. The test results have been reviewed and comply with the rules listed above and found to meet their essential requirements.

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company.

The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

**Prepared By:**


Shenzhen ISOTek Standards Technical Services Co.,Ltd.

13/F, HuaFengRui Building, XinHu Rd., XiXiang, Bao'an District,Shenzhen,China

Tel: +86-755-23087378

Fax: +86-755-23087278

Compiled by:



Lisa Huang/ Project Engineer



## 2 Test Summary

Test items	Test Requirement	Test Method	Result
Radiated Emission (30MHz to 1GHz)	FCC PART 15: 2010	FCC PART 15.209&15.239	PASS
Conducted Emission (150KHz to 30MHz)	FCC PART 15: 2010	FCC PART 15.207	PASS
Occupied Bandwidth	FCC PART 15: 2010	FCC PART 15.239a	PASS
Band Edge Measurement	FCC PART 15: 2010	FCC PART 15.239a	PASS

**Note :** denote that for more details of the EUT , please refer to the relating test items as below .

**Remark :** the methods of measurement in all the test items were according to ANSI C63.4: 2003.

## 3 Support Units and Test Methods

Support Equipment	Shield/Unshield	Length	Remark
Audio Cable	UnShield	20cm	N/A

Remark: The audio test signal used is Rock music (chengcheng) played back from the MP3 player at volume of 90%”.

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## 5 General Information

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

<b>Product Name</b>	: Bluetooth FM Transmitter
<b>Model No.</b>	: BT65
<b>Brand Name</b>	: N/A
<b>Model Description</b>	: N/A
<b>Operation Frequency</b>	: 88.1 MHz ~107.9MHz
<b>Modulation</b>	: FM
<b>Oscillator</b>	: Crystal 12MHz for RF module
<b>Antenna installation</b>	: Integrated Antenna
<b>Antenna Gain</b>	: 0 dBi

### 5.2 Details of E.U.T.

<b>Technical Data</b>	: DC12.0-24.0V. The worse case mode was the DC12.0V during test, so the data show was the DC12.0V only in the report.
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### 5.3 Description of Support Units

The EUT has been tested as an independent unit.

### 5.4 Standards Applicable for Testing

The customer requested FCC tests for the EUT. The standards used were FCC 15 Paragraph 15.205, Paragraph 15.207, Paragraph 15.209 and Paragraph 15.239.

## 6 Test Location

All the tests were performed at:  
Waltek Services(Shenzhen) Co., Ltd. at 1/F, Fukangtai Building, West Baima Rd.,Songgang Street, Baoan District, Shenzhen, China

Waltek Services(Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 880581, April 29, 2014.

## 7 Equipment Used during Test

### 7.1 Equipments List

Conducted Emissions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMI Test Receiver	R&S	ESCI	101155	April. 13,2014	April. 12,2015
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	April. 13,2014	April. 12,2015
3.	Cable	LARGE	RF300	EW02014-3	April. 13,2014	April. 12,2015
3m Semi-anechoic Chamber for Radiation Emissions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMC Analyzer	Agilent	E7405A	MY45114943	April. 13,2014	April. 12,2015
2.	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	April. 13,2014	April. 12,2015
3.	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	April. 13,2014	April. 12,2015
4.	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	April. 13,2014	April. 12,2015
5.	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	399	April. 13,2014	April. 12,2015
6.	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	April. 13,2014	April. 12,2015
7.	Broadband Preamplifier	SCHWARZBECK	BBV 9718	9718-148	April. 13,2014	April. 12,2015
8.	Cable	Top	EWO2014-7	-	April. 13,2014	April. 12,2015
9.	Cable	Top	TYPE16(13M)	-	April. 13,2014	April. 12,2015
10	iPod Touch(MP3 Player)	Apple	A1367	-	April. 13,2014	April. 12,2015

### 7.2 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-6}$
Bandwidth	$\pm 1.5 \times 10^{-6}$
RF Power	$\pm 1.0$ dB
RF Power Density	$\pm 2.2$ dB
Temperature	$\pm 1$ °C
DC Source	$\pm 0.05\%$
Radiated Emissions test	$\pm 5.03$ dB (Bilog antenna 30M~1000MHz)
	$\pm 4.74$ dB (Horn antenna 1000M~25000MHz)
Conducted Spurious Emissions test	$\pm 0.5$ dB (9KHz~1000MHz)
	$\pm 1$ dB(1000M~26500MHz)

### 7.3 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

## 8 Conducted Emission

Test Requirement:	FCC CFR 47 Part 15 Section 15.207
Test Method:	ANSI C63.4:2003
Test Result:	N/A
Frequency Range:	150kHz to 30MHz
Class:	Class B
Limit:	66-56 dB $\mu$ V between 0.15MHz & 0.5MHz 56 dB $\mu$ V between 0.5MHz & 5MHz 60 dB $\mu$ V between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximised peak within 6dB of Average Limit

### 8.1 E.U.T. Operation

#### Operating Environment:

Temperature: 25.5 °C

Humidity: 51 % RH

Atmospheric Pressure: 1012 mbar

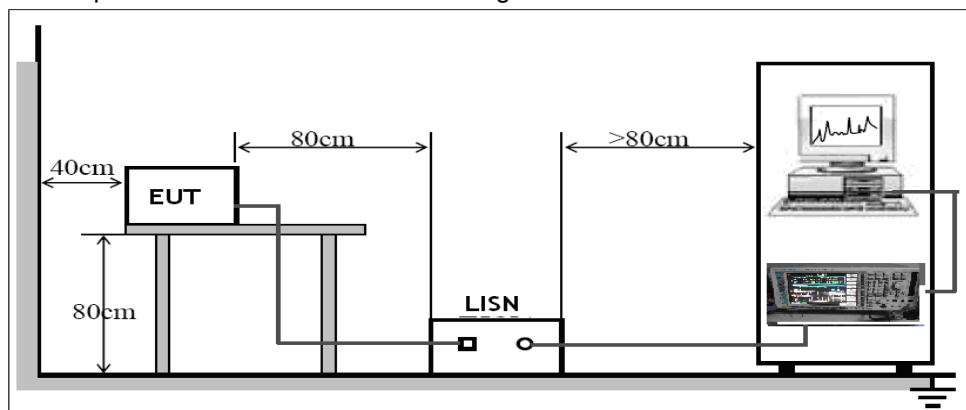
#### EUT Operation:

The EUT used by the DC battery, so the EUT wasn't tested in the report.

The EUT was tested according to ANSI C63.4:2003. The frequency spectrum from 150kHz to 30MHz was investigated. The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

### 8.2 EUT Setup

The EUT was placed on the test table in shielding room.



### 8.3 Conducted Emission Test Result

An initial pre-scan was performed on the live and neutral lines.

Remark: The EUT uses by the DC battery, so the EUT wasn't tested in the report.

## 9 Spurious Radiated Emissions

Test Requirement:	FCC Part15 Paragraph 15.209&15.239
Test Method:	ANSI C63.4:2003
Test Result:	PASS
Frequency Range:	9.0KHz to 1079MHz
Measurement Distance:	3m
Class:	Class B
Detector:	Peak for pre-scan (120kHz resolution bandwidth) Quasi-Peak if maximised peak within 6dB of limit

### 9.1 Test Equipment

Please refer to section 5 in this report.

### 9.2 Measurement Uncertainty

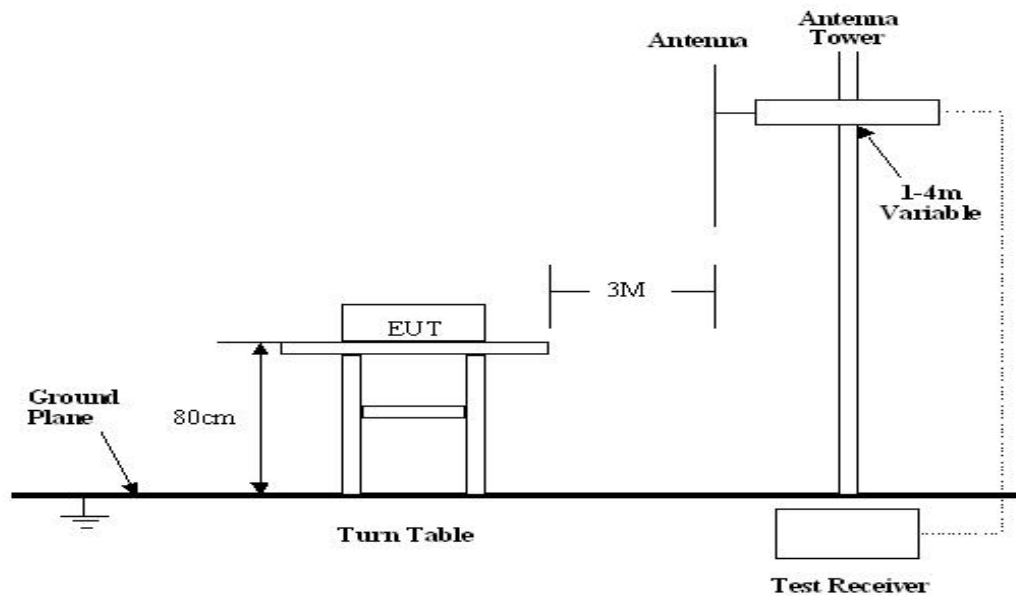
All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Waltek EMC Lab is  $\pm 5.03\text{dB}$ .

### 9.3 EUT Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4:2003, The specification used in this report was the FCC limits.





The EUT was placed on the test table in working mode.

#### 9.4 Spectrum Analyzer Setup

According to FCC Part15 Paragraph 15.209&15.239 Rules, the system was tested 0.009 to 1079MHz.

Start Frequency .....	9.0KHz
Stop Frequency .....	1079MHz
Sweep Speed.....	Auto
IF Bandwidth.....	120 KHz
Video Bandwidth.....	100KHz
Quasi-Peak Adapter Bandwidth .....	120 KHz
Quasi-Peak Adapter Mode .....	Normal
Resolution Bandwidth .....	100KHz

#### 9.5 Test Procedure

1. The DC supply in the equipment under test for radiated emissions test. And the EUT was connected to the MP3 to make the FM Transmitter in normal working mode.
2. This is a handheld device, The radiation emission should be tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.
3. Maximizing procedure was performed on the six (6) highest emissions to ensure EUT is compliant with all installation combinations.
4. All data was recorded in the peak and average detection mode.

5. The EUT was under working mode during the final qualification test and the configuration was used to represent the worst case results. The playing volume was turned to the maximum level during test.
6. The EUT was testing at the frequency points 88.1MHz, 98.1MHz, 107.9 MHz.

## 9.6 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dBμV means the emission is 7dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Class B Limit}$$

## 9.7 Radiated Emissions Limit

At Frequency Range of 9kHz-1000MHz, 20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	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

### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Note: Emission level (dBuV/m)=20log Emission level (uV/m).

Test Frequency :Below 30MHz

Rmark: the test frequency below 30MHz was lower 20dB than the limit,So the data was not showing in the report

## 9.8 Summary of Test Results

According to the data in this section, the EUT complied with the FCC standards.

## 9.9 Radiated Emissions Test Result

Formula of conversion factors:the field strength at 3m was established by adding  
The meter reading of the spectrum analyser (which is set to read in units of dBuV)  
To the antenna correction factor supplied by the antenna manufacturer. The antenna  
Correction factors are stated in terms of dB.The gain of the presselector was accounted  
For in the spectrum analyser meter reading.

Example:

Freq(MHz) Meter Reading +ACF=FS

33 20dBuV+10.36dB=30.36dBuV/m @3m

### EUT Operation

The EUT was operating in the continuously transmit mode.

## 9.10 Radiated Emissions Test Result

### The Fundamental and Harmonic

Frequency (MHz)	Detector	Antenna Polarization	Emission Level (dBuV/m)	C Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Turntable Angle (°)
Low Frequency							
88.10	AV	Vertical	43.49	48.00	4.51	1.1	20
176.20	AV	Vertical	38.26	43.50	4.74	1.1	30
246.30	AV	Vertical	36.44	46.00	7.56	1.0	130
352.40	AV	Vertical	35.31	46.00	10.69	1.1	300
440.50	AV	Vertical	35.01	46.00	10.99	1.0	160
528.60	AV	Vertical	35.01	46.00	10.99	1.0	30
616.70	AV	Vertical	34.85	46.00	11.15	1.1	30
704.80	AV	Vertical	34.00	46.00	12.00	1.2	20
792.90	AV	Vertical	34.00	54.00	12.00	1.0	50
881.00	AV	Vertical	30.92	54.00	23.08	1.0	80
88.10	AV	Horizontal	42.01	48.00	5.99	1.1	10
176.20	AV	Horizontal	38.22	43.50	4.78	1.0	90
246.30	AV	Horizontal	37.44	46.00	8.56	1.2	80
352.40	AV	Horizontal	36.12	46.00	9.88	1.1	140

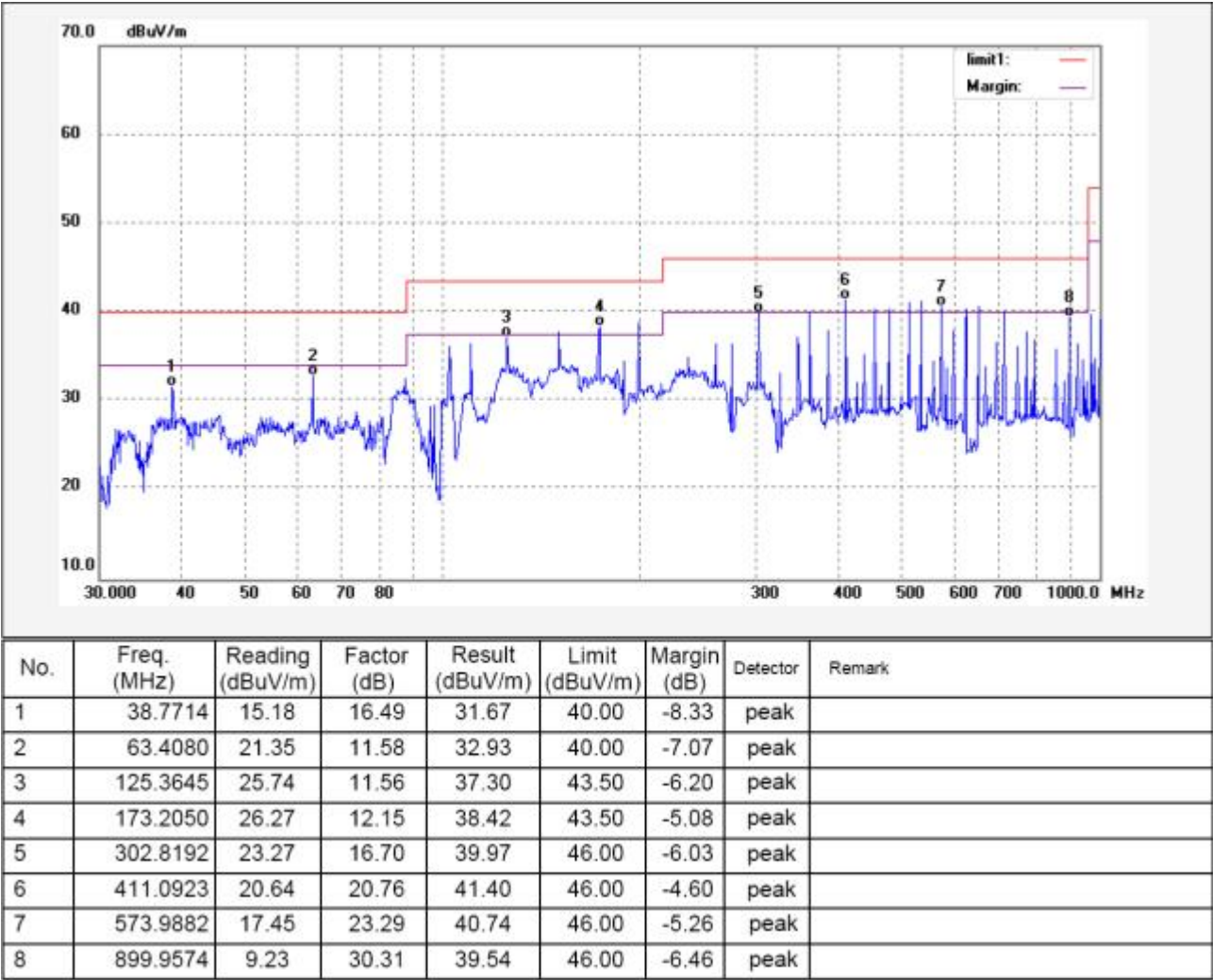
440.50	AV	Horizontal	36.00	46.00	8.00	1.1	15
528.60	AV	Horizontal	35.36	46.00	10.64	1.0	60
616.70	AV	Horizontal	35.00	46.00	11.00	1.1	10
704.80	AV	Horizontal	36.62	46.00	9.38	1.0	20
792.90	AV	Horizontal	34.65	54.00	9.35	1.1	80
881.00	AV	Horizontal	32.25	54.00	11.75	1.0	90
88.10	PK	Vertical	52.41	68.00	15.59	1.1	10
176.20	PK	Vertical	47.89	63.50	15.61	1.1	10
246.30	PK	Vertical	39.33	66.00	26.67	1.1	50
352.40	PK	Vertical	37.42	66.00	28.58	1.0	160
440.50	PK	Vertical	35.63	66.00	30.37	1.0	40
528.60	PK	Vertical	36.22	66.00	29.78	1.0	80
616.70	PK	Vertical	35.89	66.00	30.11	1.0	40
704.80	PK	Vertical	35.67	66.00	30.33	1.2	60
792.90	PK	Vertical	35.20	74.00	38.80	1.1	50
881.00	PK	Vertical	33.82	74.00	40.18	1.2	140
88.10	PK	Horizontal	47.44	68.00	20.56	1.1	10
176.20	PK	Horizontal	45.50	63.50	18.00	1.0	40
246.30	PK	Horizontal	39.69	66.00	27.31	1.1	100
352.40	PK	Horizontal	38.65	66.00	27.35	1.2	190
440.50	PK	Horizontal	36.22	66.00	29.78	1.0	60
528.60	PK	Horizontal	36.35	66.00	29.65	1.1	60
616.70	PK	Horizontal	34.32	66.00	31.68	1.2	110
704.80	PK	Horizontal	33.51	66.00	32.49	1.1	300
792.90	PK	Horizontal	34.23	74.00	39.77	1.0	80
881.00	PK	Horizontal	34.00	74.00	40.00	1.0	80
Middle Frequency							
98.10	AV	Vertical	43.56	48.00	4.44	1.0	60
196.20	AV	Vertical	40.38	43.50	3.62	1.1	40
294.30	AV	Vertical	39.30	46.00	6.70	1.0	60
392.40	AV	Vertical	39.00	46.00	7.00	1.1	10
490.50	AV	Vertical	38.00	46.00	8.00	1.0	120
588.60	AV	Vertical	38.44	46.00	7.56	1.1	100
686.70	AV	Vertical	36.30	46.00	9.70	1.1	105
784.80	AV	Vertical	35.39	46.00	10.61	1.1	20
882.90	AV	Vertical	32.55	54.00	21.45	1.0	70

980.00	AV	Vertical	30.98	54.00	23.02	1.1	70
98.10	AV	Horizontal	44.33	48.00	3.67	1.1	100
196.20	AV	Horizontal	39.98	43.50	3.58	1.0	120
294.30	AV	Horizontal	39.21	46.00	6.79	1.2	60
392.40	AV	Horizontal	38.36	46.00	7.64	1.0	40
490.50	AV	Horizontal	38.70	46.00	7.30	1.2	120
588.60	AV	Horizontal	38.70	46.00	7.30	1.0	60
686.70	AV	Horizontal	37.70	46.00	8.30	1.3	10
784.80	AV	Horizontal	36.62	46.00	9.38	1.0	90
882.90	AV	Horizontal	34.61	54.00	9.39	1.0	60
980.00	AV	Horizontal	32.76	54.00	11.24	1.0	10
98.10	PK	Vertical	50.99	68.00	17.01	1.1	40
196.20	PK	Vertical	46.13	63.50	17.37	1.1	70
294.30	PK	Vertical	43.00	66.00	23.00	1.2	120
392.40	PK	Vertical	39.99	66.00	26.01	1.1	120
490.50	PK	Vertical	38.63	66.00	27.37	1.0	180
588.60	PK	Vertical	36.22	66.00	29.78	1.5	20
686.70	PK	Vertical	35.89	66.00	30.11	1.0	120
784.80	PK	Vertical	34.63	66.00	31.37	1.2	30
882.90	PK	Vertical	33.22	74.00	40.78	1.1	10
980.00	PK	Vertical	32.02	74.00	41.98	1.2	20
98.10	PK	Horizontal	47.99	68.00	20.01	1.1	70
196.20	PK	Horizontal	41.30	63.50	32.20	1.2	40
294.30	PK	Horizontal	38.28	66.00	27.72	1.1	100
392.40	PK	Horizontal	37.22	66.00	28.78	1.0	90
490.50	PK	Horizontal	36.19	66.00	29.81	1.0	60
588.60	PK	Horizontal	35.63	66.00	30.37	1.1	0
686.70	PK	Horizontal	33.73	66.00	32.27	1.2	10
784.80	PK	Horizontal	33.57	66.00	32.43	1.1	30
882.90	PK	Horizontal	31.12	74.00	42.88	1.0	90
980.00	PK	Horizontal	31.16	74.00	42.84	1.1	50
High Frequency							
107.90	AV	Vertical	44.34	48.00	3.66	1.0	90
215.80	AV	Vertical	40.11	43.50	3.89	1.1	140
323.70	AV	Vertical	39.25	46.00	6.76	1.1	70
431.60	AV	Vertical	40.40	46.00	5.60	1.1	60

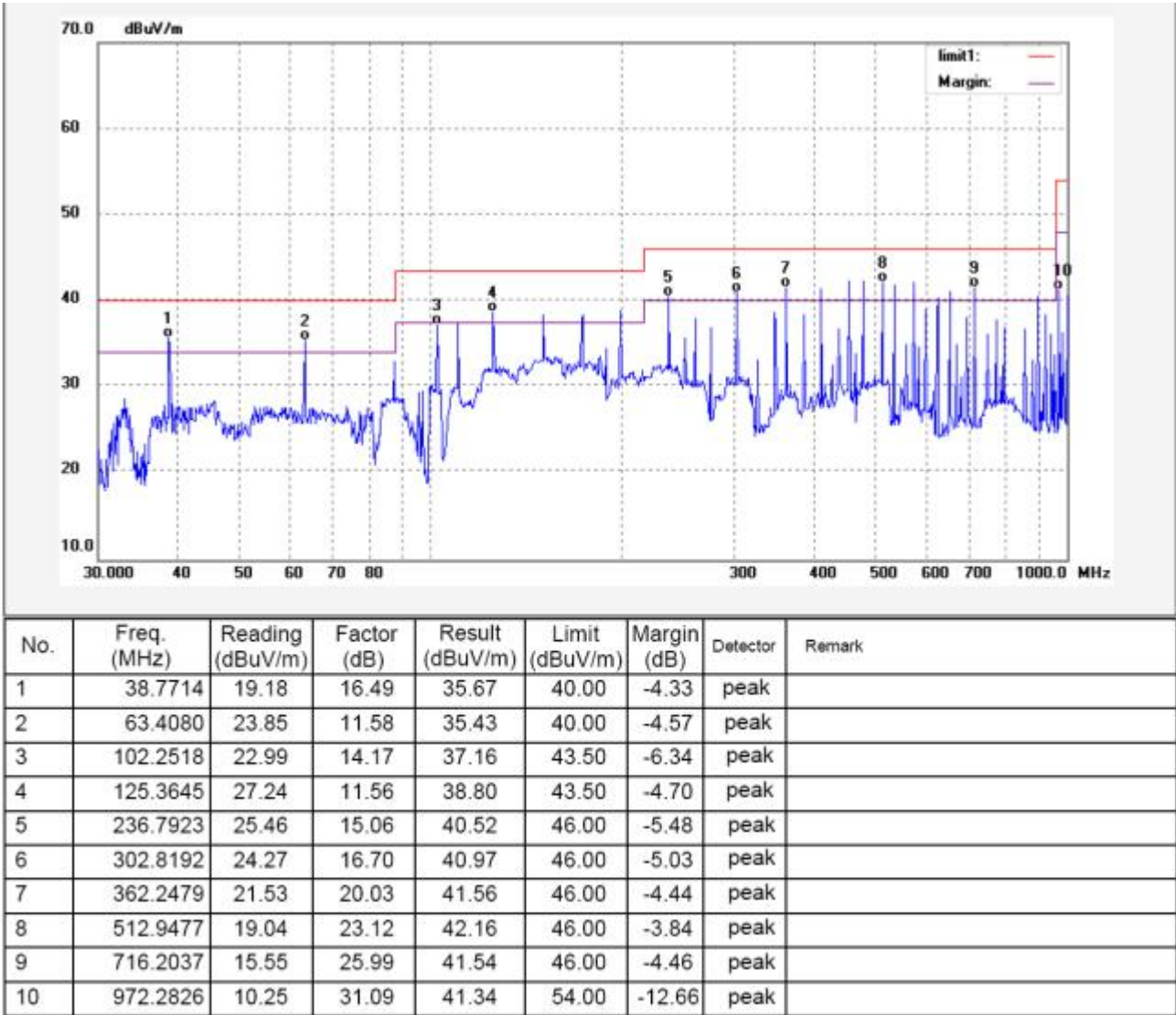
539.50	AV	Vertical	40.70	46.00	5.30	1.1	120
647.40	AV	Vertical	38.42	46.00	7.58	1.2	90
755.30	AV	Vertical	36.30	46.00	9.70	1.2	10
863.20	AV	Vertical	35.39	46.00	10.61	1.0	120
971.10	AV	Vertical	32.68	54.00	21.32	1.1	100
1079.0	AV	Vertical	29.22	54.00	24.78	1.1	60
107.90	AV	Horizontal	41.25	48.00	6.75	1.1	100
215.80	AV	Horizontal	39.24	43.50	4.26	1.1	10
323.70	AV	Horizontal	37.25	46.00	8.75	1.0	60
431.60	AV	Horizontal	38.36	46.00	7.64	1.0	40
539.50	AV	Horizontal	38.70	46.00	7.30	1.2	45
647.40	AV	Horizontal	38.70	46.00	7.30	1.0	60
755.30	AV	Horizontal	37.70	46.00	8.30	1.2	10
863.20	AV	Horizontal	36.62	46.00	9.38	1.0	90
971.10	AV	Horizontal	34.61	54.00	9.39	1.1	60
1079.0	AV	Horizontal	32.75	54.00	11.25	1.0	70
107.90	PK	Vertical	49.87	68.00	18.13	1.2	60
215.80	PK	Vertical	46.00	63.50	17.50	1.1	80
323.70	PK	Vertical	38.01	66.00	27.99	1.2	120
431.60	PK	Vertical	37.42	66.00	28.58	1.2	120
539.50	PK	Vertical	35.63	66.00	30.37	1.0	180
647.40	PK	Vertical	36.22	66.00	29.78	1.1	10
755.30	PK	Vertical	35.89	66.00	30.11	1.0	120
863.20	PK	Vertical	38.64	66.00	27.36	1.1	0
971.10	PK	Vertical	38.71	74.00	35.29	1.1	80
1079.0	PK	Vertical	33.02	74.00	40.98	1.2	50
107.90	PK	Horizontal	46.80	68.00	21.20	1.0	50
215.80	PK	Horizontal	41.26	63.50	32.74	1.2	40
323.70	PK	Horizontal	34.52	66.00	31.48	1.1	100
431.60	PK	Horizontal	36.54	66.00	29.46	1.1	40
539.50	PK	Horizontal	33.19	66.00	32.81	1.0	50
647.40	PK	Horizontal	33.62	66.00	32.38	1.1	80
755.30	PK	Horizontal	30.73	66.00	35.27	1.3	80
863.20	PK	Horizontal	33.57	66.00	32.43	1.3	30
971.10	PK	Horizontal	34.15	74.00	39.85	1.1	20
1079.0	PK	Horizontal	35.33	74.00	38.67	1.0	80

The EUT was connecting the USB and the audio input to determine if this affects radiated field strength and radiated spurious and the worse case was the audio input mode, and show the worse case mode only, so the data show as the following:

Antenna Polarity : Horizontal



Antenna Polarity : Vertical



Remark: Below 30MHz the test data lower 20db compare with the limit of the section 15.209.



## **10 Antenna Requirement.**

According to the FCC 15.239, 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. The use of a permanently attached antenna to the intentional radiator shall be considered sufficient to comply with the provisions of this section. This product has a permanent fixed antenna, which may be built in, designed as an indispensable part of the equipment, fulfil the requirement of this section.

## 11 Occupied Bandwidth

Test Requirement:	FCC Part15 Paragraph 15.209&15.239
Test Method:	ANSI C63.4:2003
Limit:	The occupied bandwidth shall not exceed 200 kHz.
Test Result:	PASS

### 11.1 Test Equipment

Please refer to Section 5 this report.

### 11.2 Test Procedure

- 1.The EUT, peripherals were put on the turntable which table size is 1m \* 1.5m, table high 0.8m. All set up is according to ANSI C63.4:2003.
- 2.The antenna high were varied from 1m to 4m high to find the maximum emission for each frequency.
3. Connect the device to EUT using the supplied 3.5 mm jack. The FM Transmitter will play music through the EUT.
4. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz
- 5.The market sample was tested for frequency testing at 88.1 MHz, 98.1 MHz, 107.9 MHz.

### 11.3 Test Data

Frequency (MHz)	Occupied Bandwidth (kHz)	Limit (kHz)	Result
88.1	196.53	200	PASS
98.1	193.52	200	PASS
107.9	193.82	200	PASS
Remark: for more details of the test data,please refer to the section 12.3 of the report. And the occupied bandwidth was tested using peak-hold mode on the analyzer			

## 12 Band Edge Measurement

Test requirement:	FCC Part15 Paragraph 15.209&15.239
Test Method:	ANSI C63.4:2003
Limit:	Outside the 200 kHz band (as well as outside the 88-108 MHz band), the general field strength limits listed in RSS-Gen apply.
Test Result:	PASS

### 12.1 Test Equipment

Please refer to Section 5 this report.

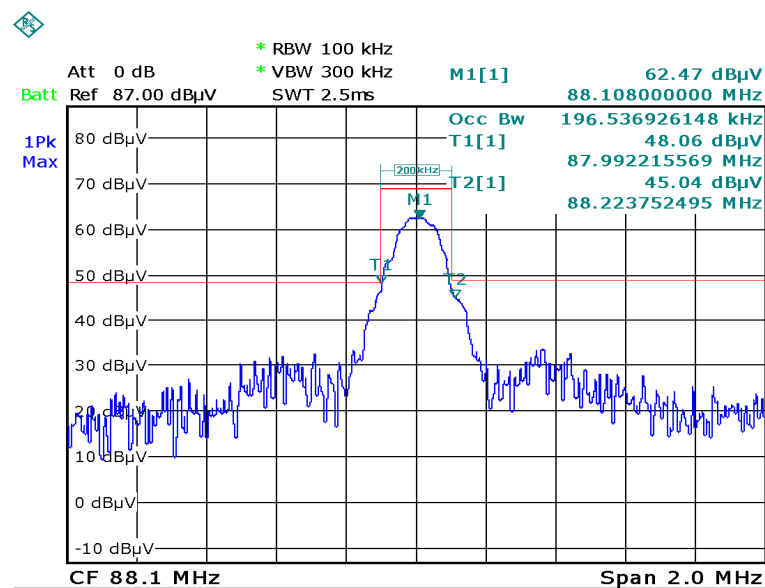
### 12.2 Test Procedure

- 1.The EUT, peripherals were put on the turntable which table size is 1m \* 1.5m, table high 0.8m. All set up is according to ANSI C63.4:2003.
- 2.The antenna high were varied from 1m to 4m high to find the maximum emission for each frequency.
3. Connect the device to EUT using the supplied 3.5 mm jack. The FM Transmitter will play music through the EUT.
4. The field strength of any emissions radiated on any frequency outside of the specified 200KHz band shall not exceed the general radiated emission limits in Section 15.209.
5. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz
6. The market sample was tested for frequency testing at 88.1 MHz, 98.1 MHz, 107.9 MHz.

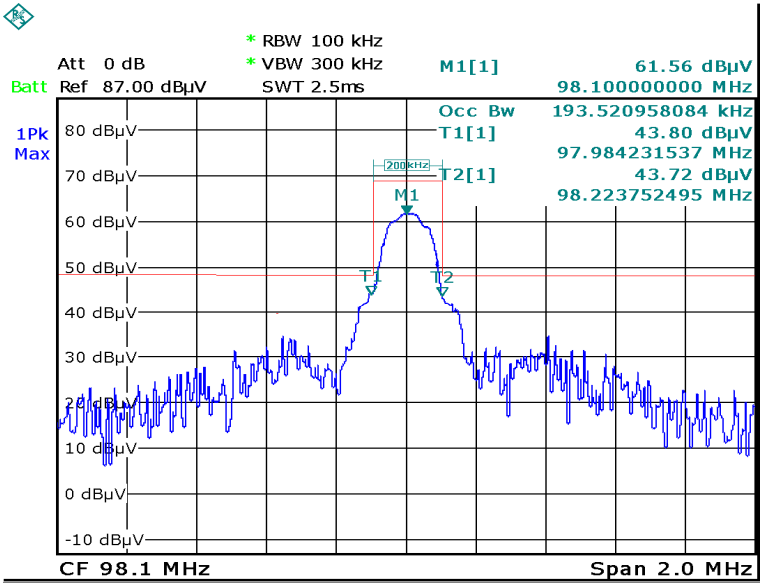
### 12.3 Test Data

Test plots:

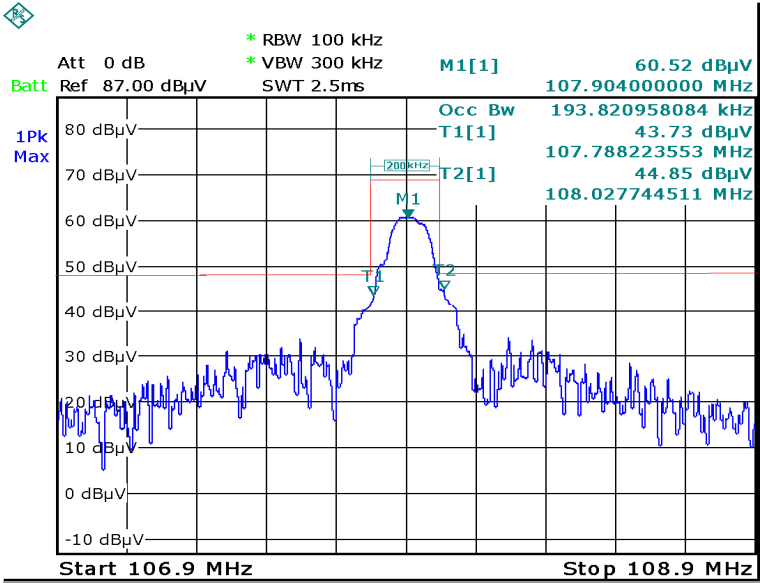
Frequency: 88.1MHz



Frequency: 98.1MHz



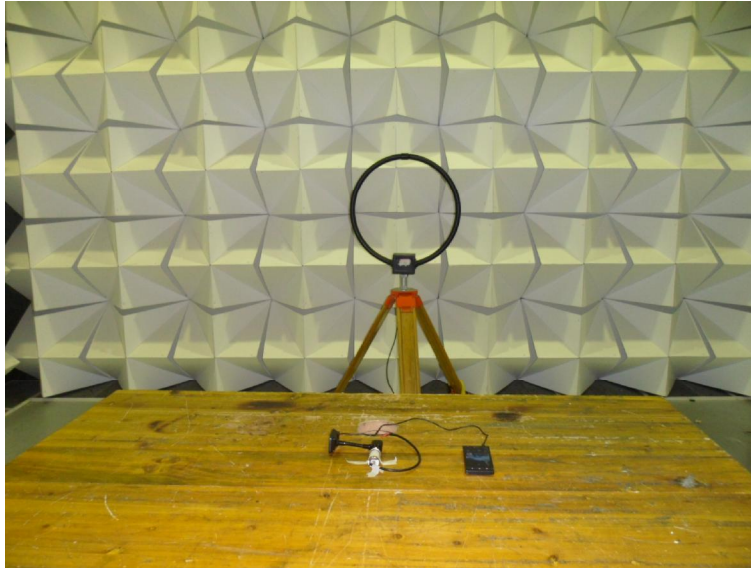
Frequency: 107.9MHz



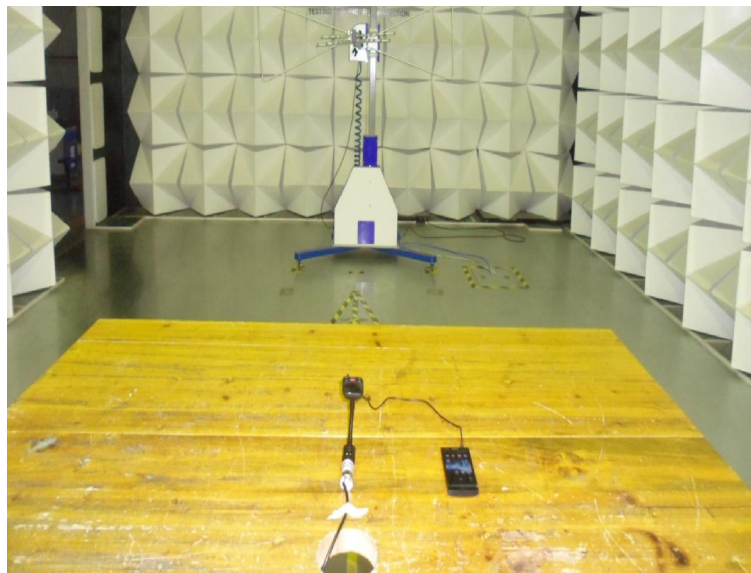
## 13 Photographs – Test Setup

### 13.1 Radiated Emissions

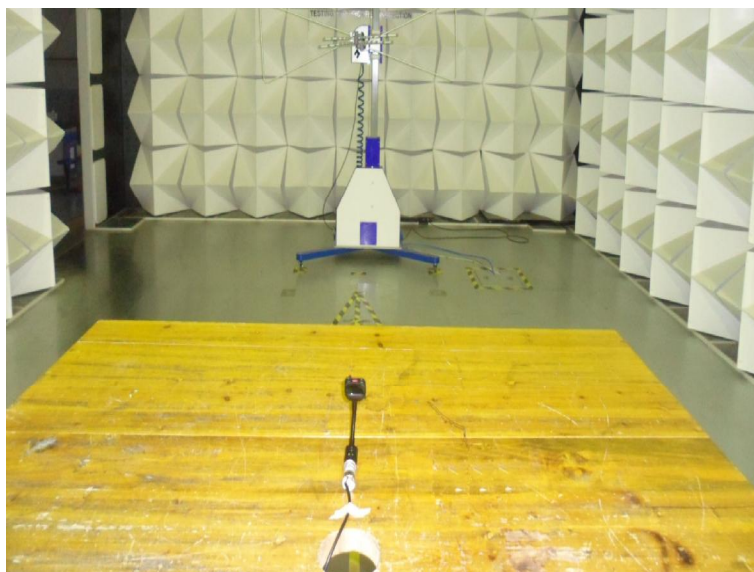
Test Mode Audio Play Below 30MHz



Test Mode Audio Play From 30-1000MHz



Test Mode FM Transmitter From 30-1000MHz





## 14 Photographs - Constructional Details

### 14.1 EUT – External View(1)



### 14.2 EUT – External View(2)



### 14.3 EUT – External View(3)

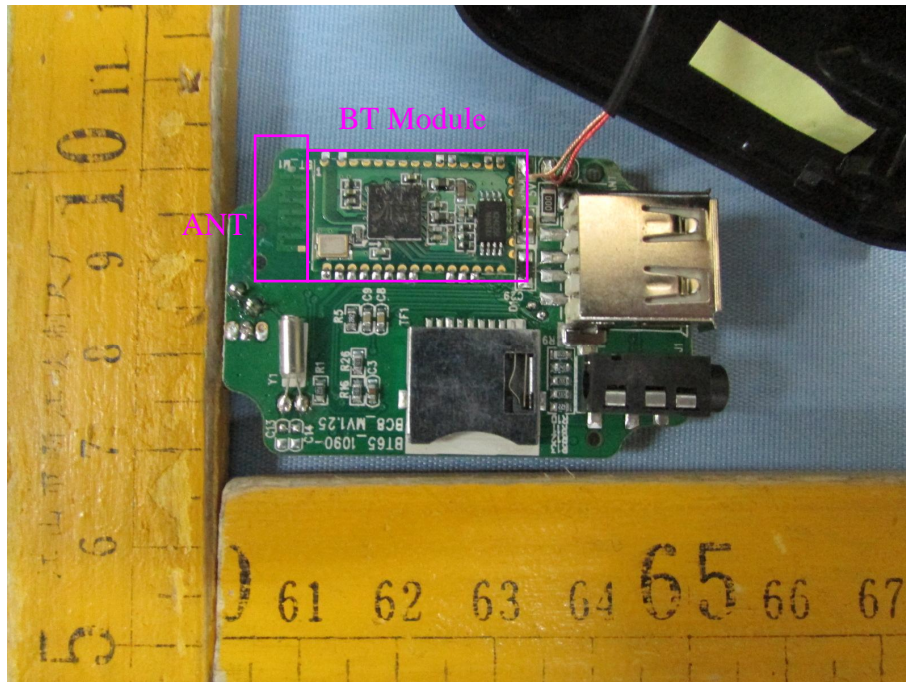


### 14.4 EUT – External View(4)

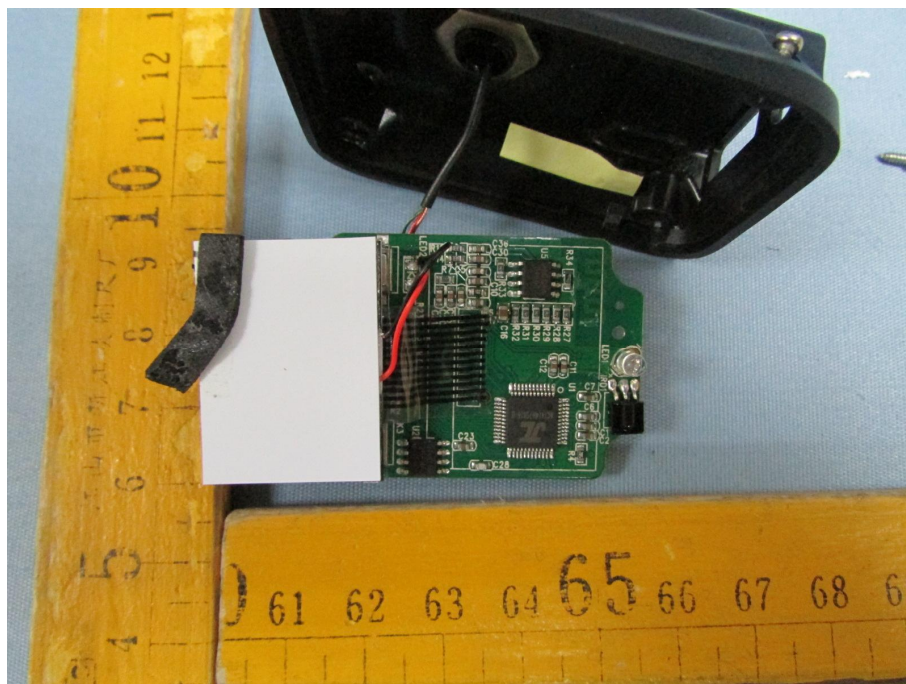


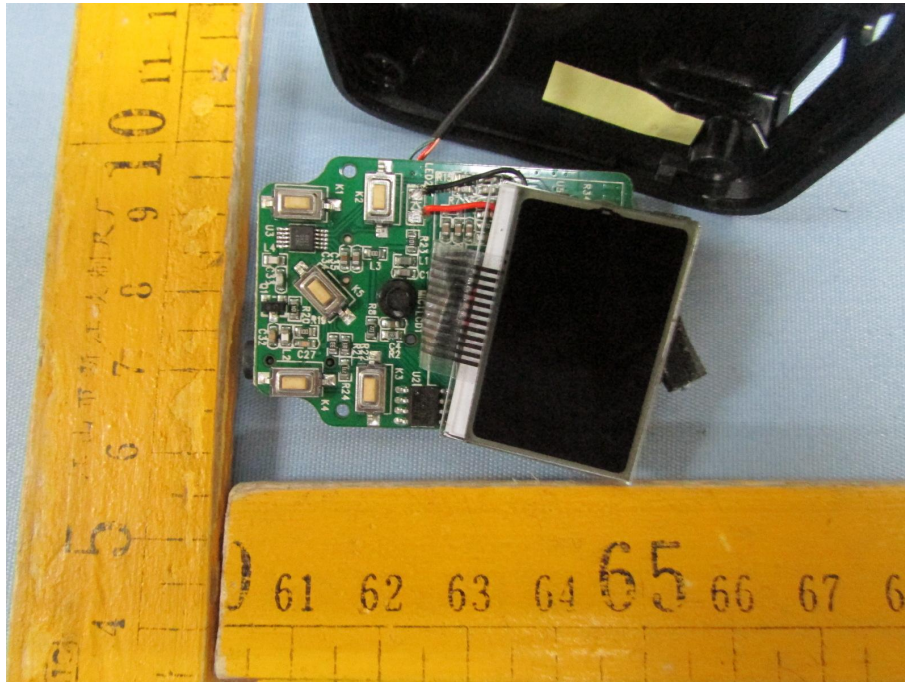
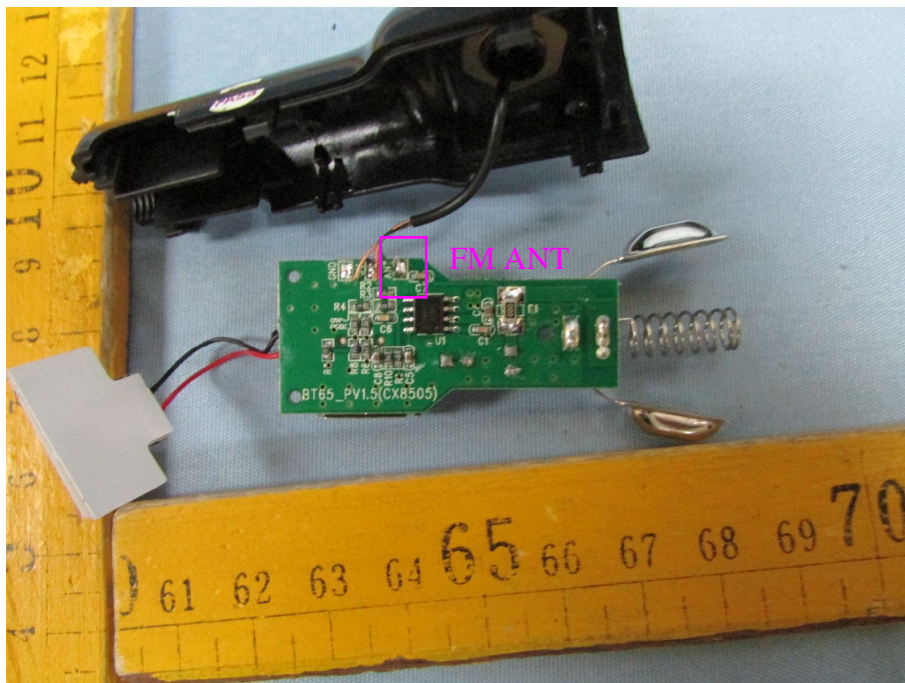


#### 14.5 EUT –Internal View(1)



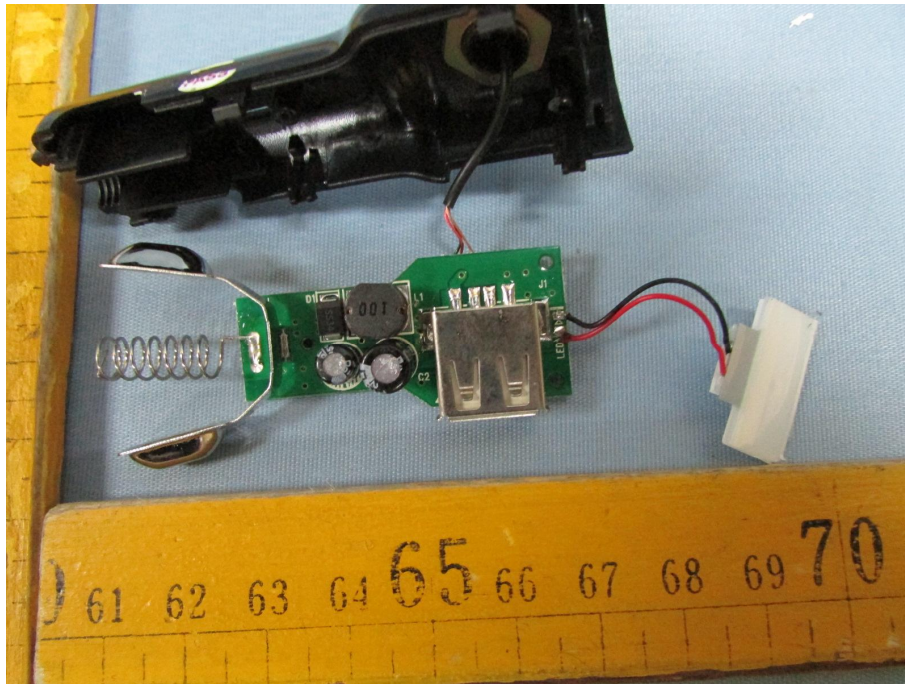
#### 14.6 EUT –Internal View(2)



**14.7 EUT –Internal View(3)****14.8 EUT –Internal View(4)**



#### 14.9 EUT –Internal View(5)



=====End of test report=====