

APPLICATION CERTIFICATION FCC Part 15C  
On Behalf of

Koss Corporation

Bluetooth Headset

Model No.: BT115i, BT221i, BT232i, KSC35 Wireless

FCC ID: L76-BT0001

Prepared for : Koss Corporation  
Address : 4129 North Port Washington Avenue Milwaukee WISCONSIN  
53212 United States

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Report No. : ATE20172592 002  
Date of Test : July 18, 2018  
Date of Report REV.1 : December 30, 2017  
Date of Report REV.2 : July 25, 2018

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## Test Report Certification

Applicant : Koss Corporation  
Manufacturer : Dongguan Baizhenrong Limited  
EUT Description : Bluetooth Headset  
Model No. : BT115i, BT221i, BT232i, KSC35 Wireless  
Trade Name : KOSS

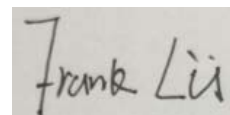
Measurement Procedure Used:

### FCC Rules and Regulations Part 15 Subpart C Section 15.247: 2017 ANSI C63.10: 2013

The device described above is tested by Shenzhen Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

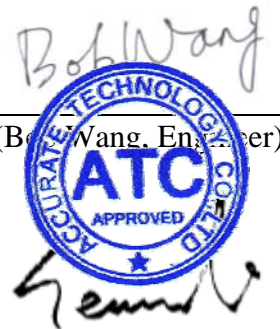
This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd.

Date of Test :	July 18, 2018
Date of Report REV.1:	December 30, 2017
Date of Report REV.2:	July 25, 2018



Test Engineer : \_\_\_\_\_  
(Frank Lü, Engineer)

Prepared by : \_\_\_\_\_  
(Bob Wang, Engineer)



Approved & Authorized Signer : \_\_\_\_\_  
(Sean Liu, Manager)

# 1. GENERAL INFORMATION

## 1.1. Description of Device (EUT)

- Model Number : BT115i, BT221i, BT232i, KSC35 Wireless  
(Note: We hereby state that these models are identical in interior structure, electrical circuits and components, and just model names and earphone-type/shape are different for the marketing requirement. So we prepare KSC35 Wireless for test only.)
- Bluetooth version : V 4.2  
This report is for BT classic mode
- Frequency Range : 2402MHz-2480MHz
- Number of Channels : 79
- Antenna Gain(Max) : 2.0dBi
- Antenna type : Integral Antenna
- Adapter Input Voltage : DC 3.7V (Powered by battery) or DC 5V (Powered by USB port)
- Rated Voltage : DC 3.7V Battery
- Battery Capacity : 100 mAh
- Modulation mode : GFSK,  $\pi/4$  DQPSK, 8DPSK
- Hardware version : BT V4.2
  
- software version : 1522S
  
- Applicant : Koss Corporation
- Address : 4129 North Port Washington Avenue Milwaukee WISCONSIN 53212 United States
  
- Manufacturer : Dongguan Baizhenrong Limited
- Address : 3 Xin Yuan Street, Ju-zhou No.2 Industrial Zone, Shijie Town, DongGuan, GuangDong Province, P.R.C

## 1.2. Accessory and Auxiliary Equipment

AC/DC Power Adapter: (provided by laboratory)	:	Model:TEKA006-0501000UKU
		Input: 100-240V~50/60Hz 0.3A
		Output: DC 5V/1A

### 1.3.Product differentiation Description



Note: Please refer to the above pictures, In addition to the model name and the product appearance is not the same color, the other circuit is exactly the same. After evaluation, We will test the the Conducted Emission and Radiated spurious emission(below 1GHz) for KSC35 Wireless, RF data refer to the original ID report (FCC ID: L76-BT0001). Other projects refer to KSC35 Wireless test data, The original report number is ATE20172592.

#### 1.4. Description of Test Facility

EMC Lab	:	Recognition of accreditation by Federal Communications Commission (FCC) The Designation Number is CN1189 The Registration Number is 708358 Listed by Innovation, Science and Economic Development Canada (ISED) The Registration Number is 5077A-2 Accredited by China National Accreditation Service for Conformity Assessment (CNAS) The Registration Number is CNAS L3193 Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 4297.01
Name of Firm	:	Shenzhen Accurate Technology Co., Ltd.
Site Location	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

#### 1.5. 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. MEASURING DEVICE AND TEST EQUIPMENT

**Table 1: List of Test and Measurement Equipment**

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 06, 2018	1 Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 06, 2018	1 Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 06, 2018	1 Year
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 06, 2018	1 Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 06, 2018	1 Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 06, 2018	1 Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 06, 2018	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 06, 2018	1 Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 06, 2018	1 Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 06, 2018	1 Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18G-10SS	N/A	Jan. 06, 2018	1 Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2485-2375/2510-60/11SS	N/A	Jan. 06, 2018	1 Year
RF COAXIAL CABLE	SUHNER	N-5m(Frequency range:9KHz-26.5GHz)	NO.3	Jan. 06, 2018	1 Year
RF COAXIAL CABLE	SUHNER	N-5m(Frequency range:9KHz-26.5GHz)	NO.4	Jan. 06, 2018	1 Year
RF COAXIAL CABLE	SUHNER	N-1m(Frequency range:9KHz-26.5GHz)	NO.5	Jan. 06, 2018	1 Year
RF COAXIAL CABLE	SUHNER	N-1m(Frequency range:9KHz-26.5GHz)	NO.6	Jan. 06, 2018	1 Year
Temporary antenna connector	NTGS	14AE	N/A	Dec. 20, 2017	N/A

Note: The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

### 3. OPERATION OF EUT DURING TESTING

#### 3.1. Operating Mode

The mode is used: Transmitting mode

Low Channel: 2402MHz

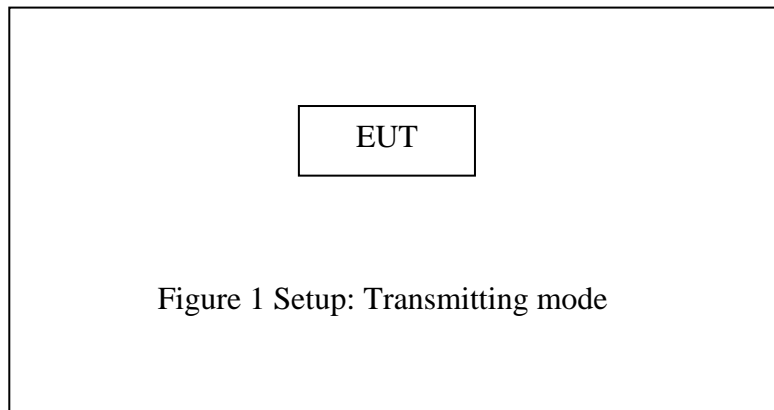
Middle Channel: 2441MHz

High Channel: 2480MHz

Hopping

Note: The equipment under test (EUT) was tested under fully-charged battery.  
The Bluetooth has been tested under continuous transmission mode.

#### 3.2. Configuration and peripherals





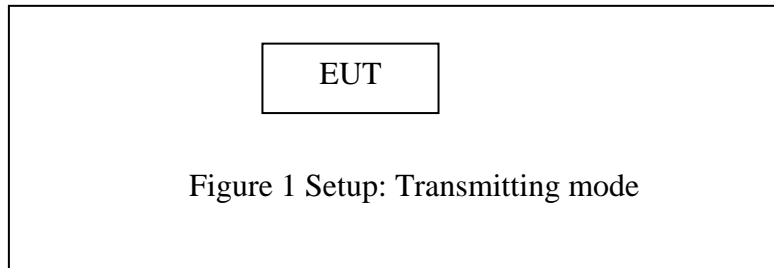
#### 4. TEST PROCEDURES AND RESULTS

<b>FCC Rules</b>	<b>Description of Test</b>	<b>Result</b>
Section 15.207	Conducted Emission Test	Compliant
Section 15.247(d) Section 15.209	Radiated Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

## 5. RADIATED EMISSION TEST

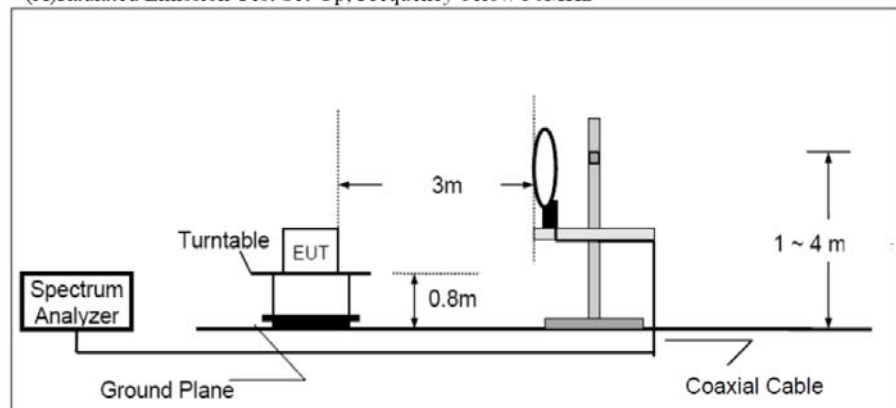
### 5.1. Block Diagram of Test Setup

#### 5.1.1. Block diagram of connection between the EUT and peripherals

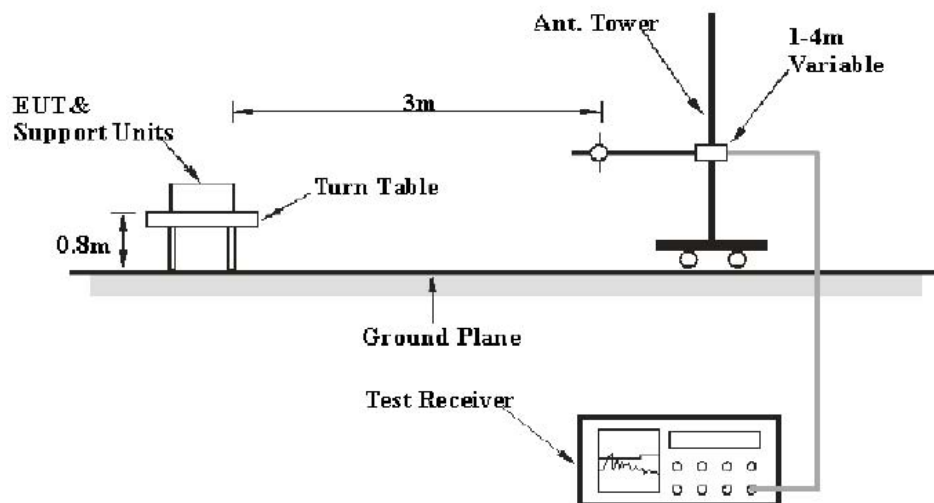


#### 5.1.2. Semi-Anechoic Chamber Test Setup Diagram

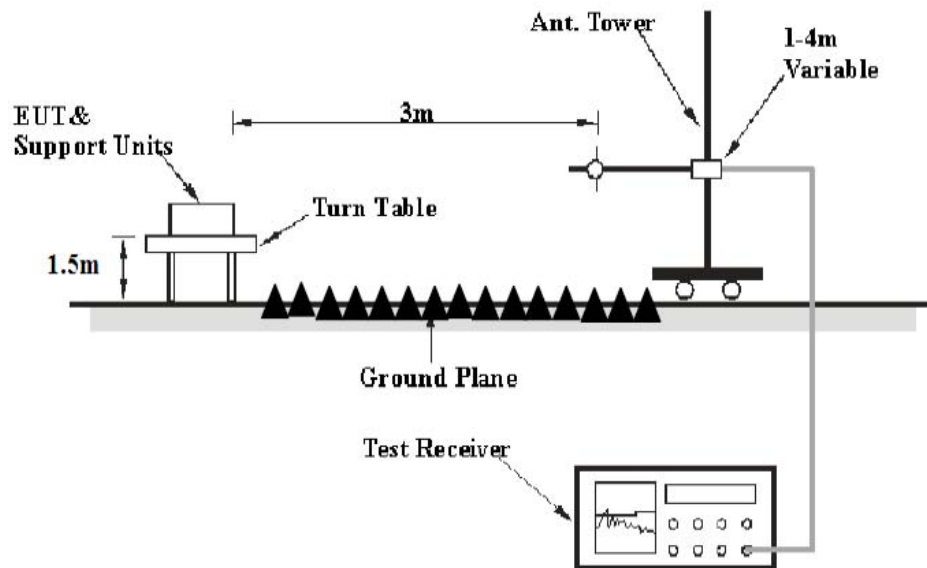
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



(B) Radiated Emission Test Set-Up, Frequency 30MHz-1GHz



(C) Radiated Emission Test Set-Up, Frequency above 1GHz



## 5.2. The Limit For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

### 5.3.Restricted bands of operation

#### 5.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )
13.36-13.41			

<sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510

<sup>2</sup>Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

### 5.4.Configuration of EUT on Measurement

The equipment is installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

## 5.5. Operating Condition of EUT

5.5.1. Setup the EUT and simulator as shown as Section 10.1.

5.5.2. Turn on the power of all equipment.

5.5.3. Let the EUT work in TX modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, and 2480MHz TX frequency to transmit.

## 5.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground (Below 1GHz). The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground (Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

### 5.7.Data Sample

Frequency (MHz)	Reading (dB $\mu$ v)	Factor (dB/m)	Result (dB $\mu$ v/m)	Limit (dB $\mu$ v/m)	Margin (dB)	Remark
X.XX	28.66	-15.19	13.47	40.0	-26.53	QP

Frequency(MHz) = Emission frequency in MHz

Reading(dB $\mu$ v) = Uncorrected Analyzer/Receiver reading

Factor (dB/m) = Antenna factor + Cable Loss – Amplifier gain

Result(dB $\mu$ v/m) = Reading(dB $\mu$ v) + Factor(dB/m)

Limit (dB $\mu$ v/m) = Limit stated in standard

Margin (dB) = Result(dB $\mu$ v/m) - Limit (dB $\mu$ v/m)

QP = Quasi-peak Reading

Calculation Formula:

Margin(dB) = Result (dB $\mu$ V/m)–Limit(dB $\mu$ V/m)

Result(dB $\mu$ V/m)= Reading(dB $\mu$ V)+ Factor(dB/m)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

### 5.8.The Field Strength of Radiation Emission Measurement Results

Test Lab: 3m Anechoic chamber

Test Engineer: Frank

**PASS.**

Note: 1.We tested GFSK mode,  $\Pi/4$ -DQPSK Mode & 8QPSK mode and recorded the worst case data (GFSK mode) for all test mode.

2. Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 3th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

The measurements greater than 20dB below the limit from 9kHz to 30MHz and 18 to 25GHz.

The spectrum analyzer plots are attached as below.

Below 1GHz



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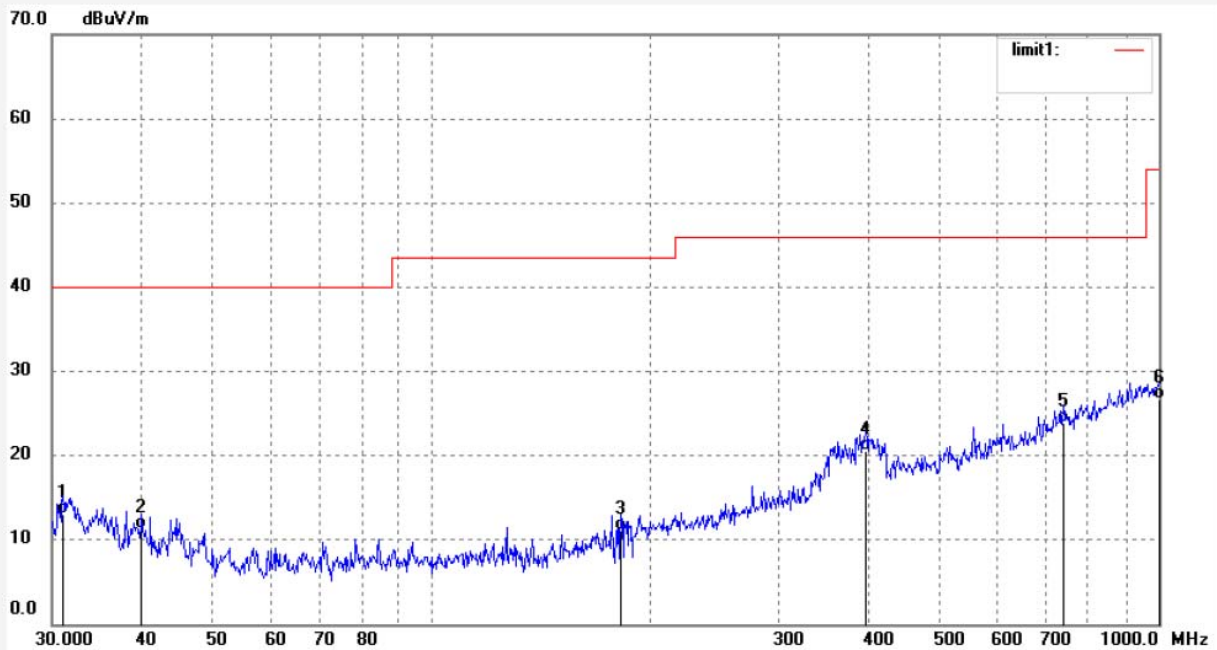
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: yjzh1 #181  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: Bluetooth Headset  
Mode: TX 2402MHz(GFSK)  
Model: KSC35 Wireless  
Manufacturer: Dongguan Baizhenrong Limited

Polarization: Horizontal  
Power Source: DC 3.7V  
Date: 18/07/18/  
Time: 8/32/38  
Engineer Signature: Frank  
Distance: 3m

Note: Report NO.:ATE20172592 002



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.0728	28.05	-14.97	13.08	40.00	-26.92	QP	200	250	
2	39.8769	29.32	-18.04	11.28	40.00	-28.72	QP	200	251	
3	181.9381	31.23	-20.14	11.09	43.50	-32.41	QP	200	248	
4	395.5071	33.59	-13.07	20.52	46.00	-25.48	QP	200	252	
5	739.2136	29.33	-5.39	23.94	46.00	-22.06	QP	200	253	
6	1000.0000	26.90	-0.20	26.70	54.00	-27.30	QP	200	251	





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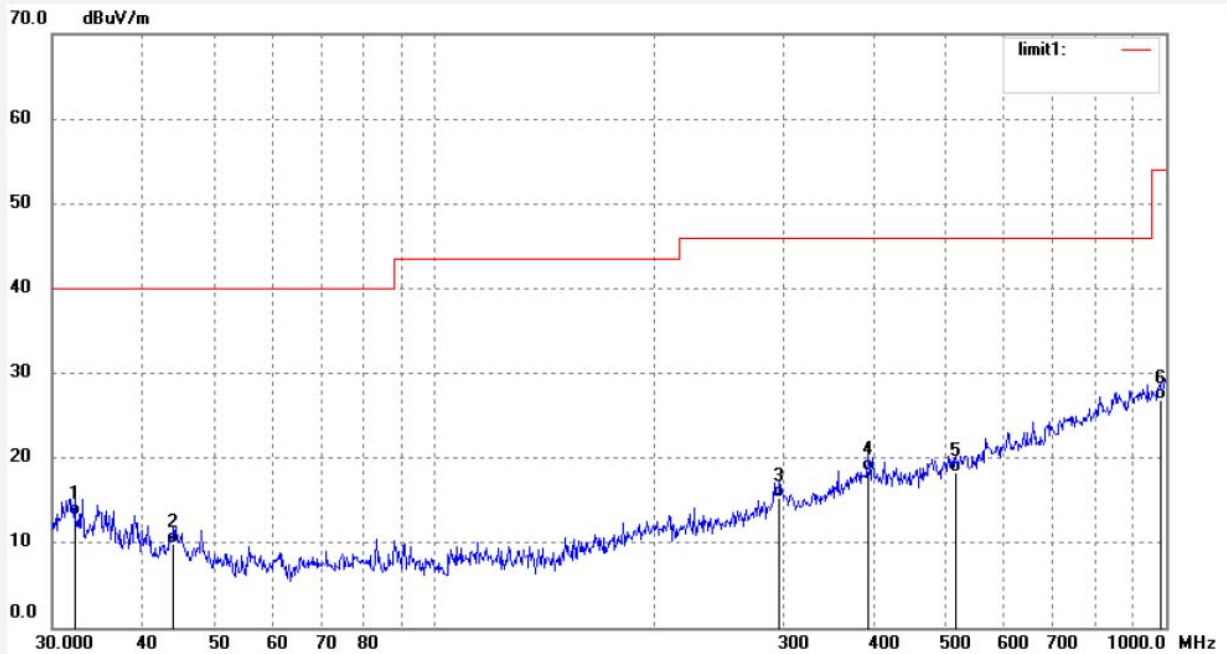
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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber  
Tel:+86-0755-26503290  
Fax:+86-0755-26503396

Job No.: yjzh1 #182  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: Bluetooth Headset  
Mode: TX 2402MHz(GFSK)  
Model: KSC35 Wireless  
Manufacturer: Dongguan Baizhenrong Limited

Polarization: Vertical  
Power Source: DC 3.7V  
Date: 18/07/18/  
Time: 8/34/21  
Engineer Signature: Frank  
Distance: 3m

Note: Report NO.:ATE20172592 002



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	32.1840	28.53	-15.24	13.29	40.00	-26.71	QP	100	248	
2	43.9995	28.60	-18.76	9.84	40.00	-30.16	QP	100	252	
3	296.5023	31.17	-15.86	15.31	46.00	-30.69	QP	100	255	
4	391.3601	31.54	-13.12	18.42	46.00	-27.58	QP	100	251	
5	516.5651	28.77	-10.50	18.27	46.00	-27.73	QP	100	252	
6	982.5855	27.56	-0.65	26.91	54.00	-27.09	QP	100	253	





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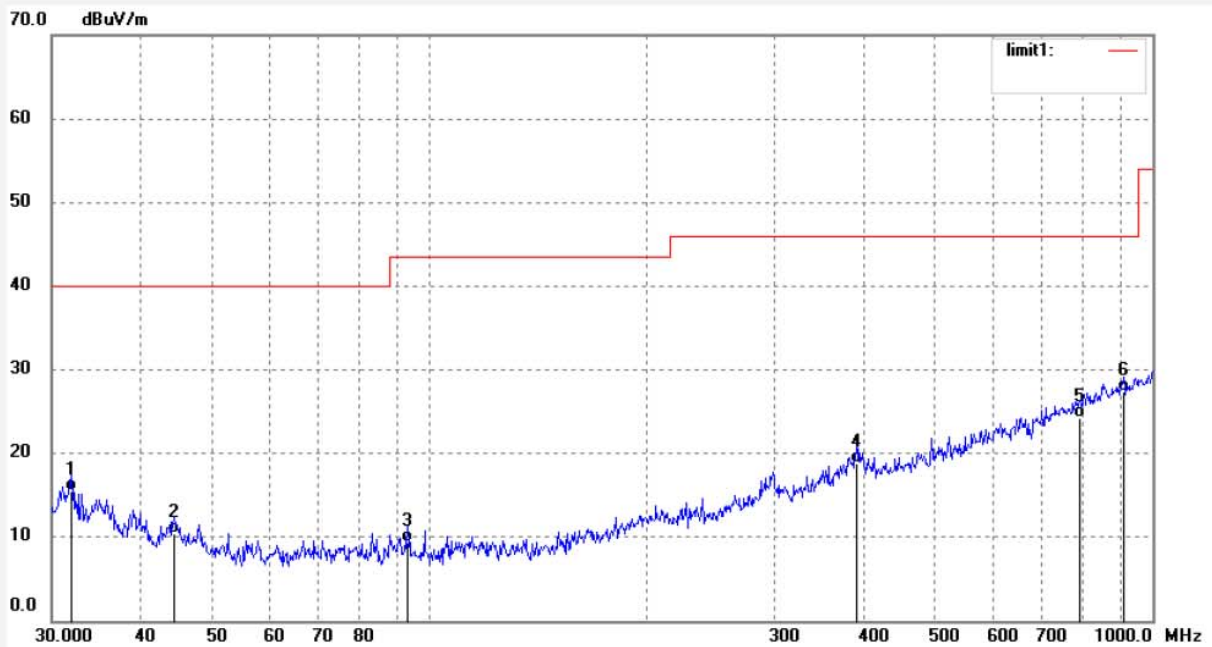
Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: yjzh1 #183	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 18/07/18/
Temp.( C)/Hum.(%) 25 C / 55 %	Time: 8/35/34
EUT: Bluetooth Headset	Engineer Signature: Frank
Mode: TX 2440MHz(GFSK)	Distance: 3m
Model: KSC35 Wireless	
Manufacturer: Dongguan Baizhenrong Limited	

Note: Report NO.:ATE20172592 002



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.9586	30.63	-15.19	15.44	40.00	-24.56	QP	100	250	
2	44.3098	29.26	-18.81	10.45	40.00	-29.55	QP	100	252	
3	93.3248	31.36	-21.92	9.44	43.50	-34.06	QP	100	247	
4	389.9874	31.98	-13.15	18.83	46.00	-27.17	QP	100	253	
5	793.0281	28.51	-4.27	24.24	46.00	-21.76	QP	100	255	
6	912.6953	29.54	-2.08	27.46	46.00	-18.54	QP	100	250	



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Site: 1# Chamber

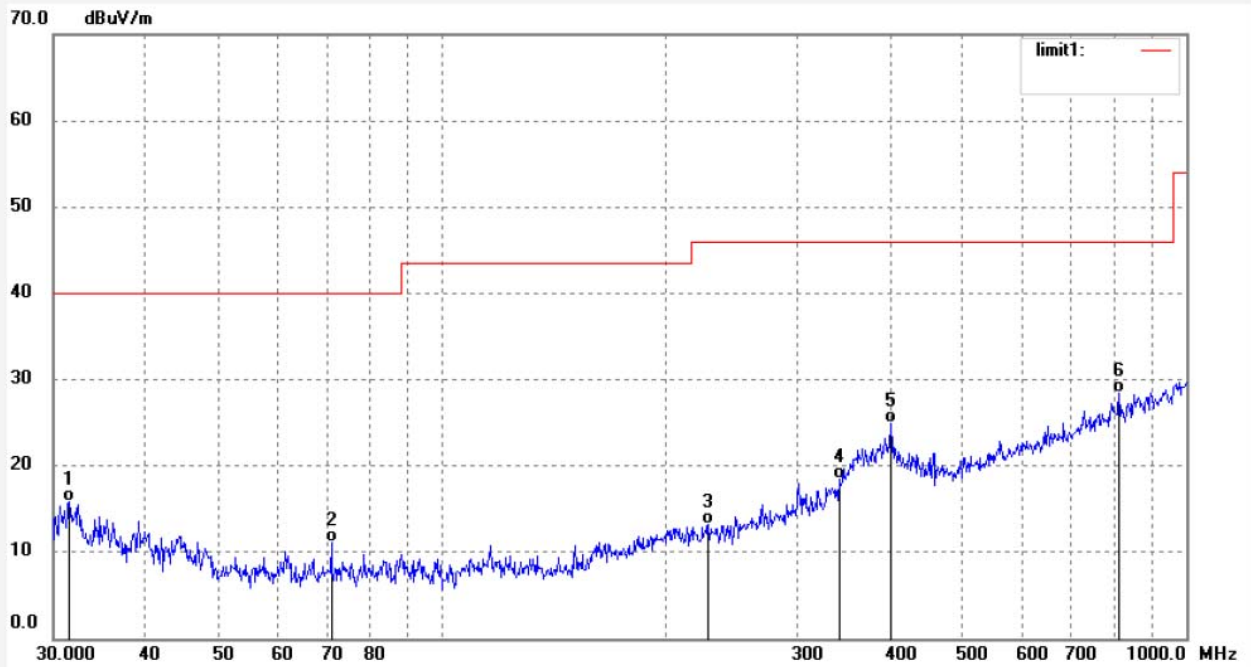
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: yjzh1 #184  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: Bluetooth Headset  
Mode: TX 2440MHz(GFSK)  
Model: KSC35 Wireless  
Manufacturer: Dongguan Baizhenrong Limited

Polarization: Horizontal  
Power Source: DC 3.7V  
Date: 18/07/18/  
Time: 8/37/35  
Engineer Signature: Frank  
Distance: 3m

Note: Report NO.:ATE20172592 002



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.5126	30.91	-15.07	15.84	40.00	-24.16	QP	200	248	
2	70.9536	33.24	-22.12	11.12	40.00	-28.88	QP	200	242	
3	227.8155	31.56	-18.30	13.26	46.00	-32.74	QP	200	251	
4	341.2442	32.64	-14.19	18.45	46.00	-27.55	QP	200	249	
5	401.1050	37.89	-13.00	24.89	46.00	-21.11	QP	200	252	
6	812.7745	32.43	-3.91	28.52	46.00	-17.48	QP	200	253	



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Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

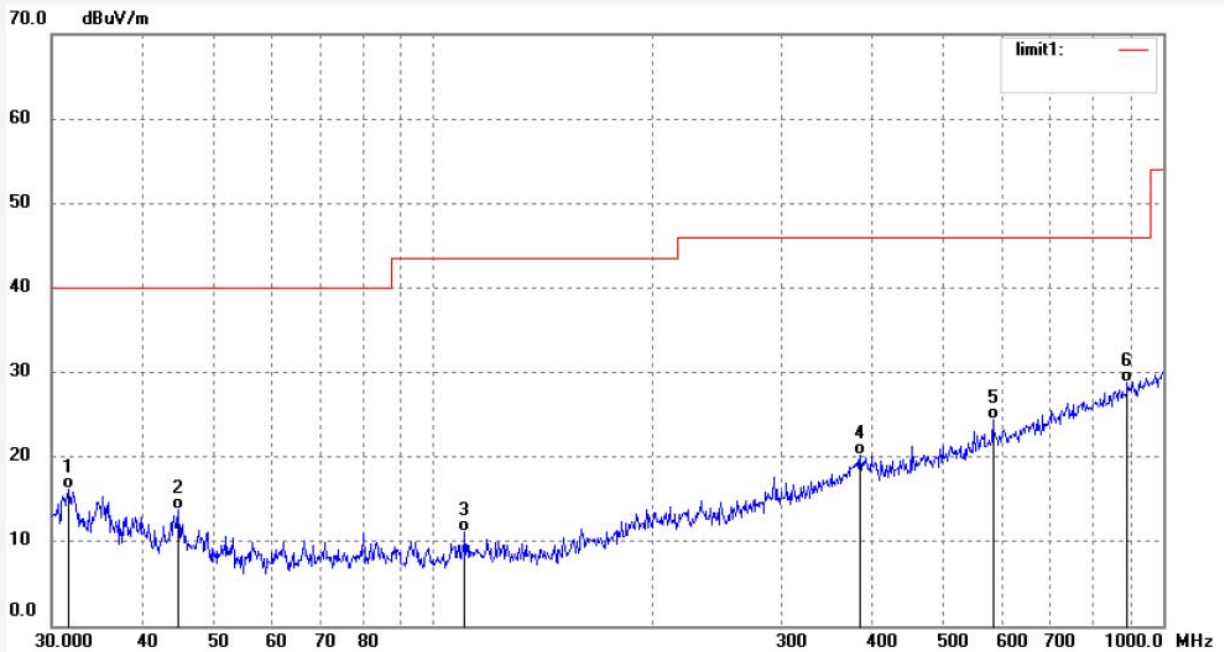
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: yjzh1 #186  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: Bluetooth Headset  
Mode: TX 2480MHz(GFSK)  
Model: KSC35 Wireless  
Manufacturer: Dongguan Baizhenrong Limited

Polarization: Vertical  
Power Source: DC 3.7V  
Date: 18/07/18/  
Time: 8/39/18  
Engineer Signature: Frank  
Distance: 3m

Note: Report NO.:ATE20172592 002



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.6235	31.31	-15.10	16.21	40.00	-23.79	QP	100	251	
2	44.7793	32.66	-18.88	13.78	40.00	-26.22	QP	100	240	
3	110.4693	32.88	-21.82	11.06	43.50	-32.44	QP	100	245	
4	384.5447	33.38	-13.21	20.17	46.00	-25.83	QP	100	249	
5	584.1611	33.22	-8.79	24.43	46.00	-21.57	QP	100	252	
6	893.6557	31.25	-2.42	28.83	46.00	-17.17	QP	100	253	





## ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 1# Chamber

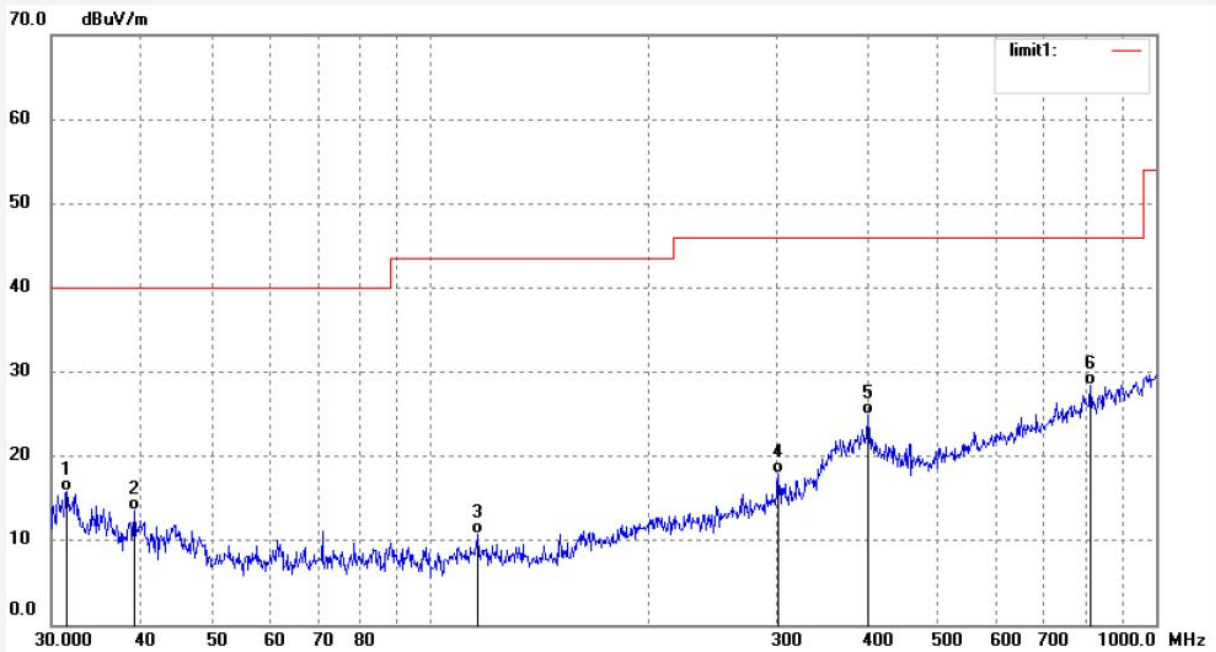
Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: yjzh1 #187  
Standard: FCC Class B 3M Radiated  
Test item: Radiation Test  
Temp.( C)/Hum.(%) 25 C / 55 %  
EUT: Bluetooth Headset  
Mode: TX 2480MHz(GFSK)  
Model: KSC35 Wireless  
Manufacturer: Dongguan Baizhenrong Limited

Polarization: Horizontal  
Power Source: DC 3.7V  
Date: 18/07/18/  
Time: 8/42/25  
Engineer Signature: Frank  
Distance: 3m

Note: Report NO.:ATE20172592 002

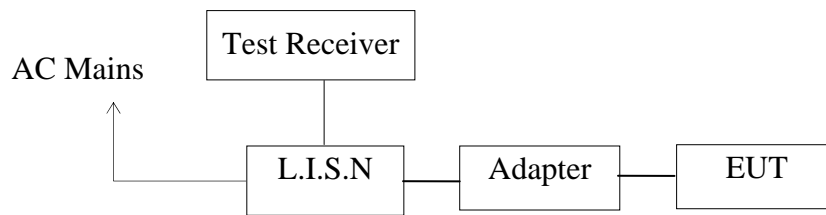


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	31.5124	30.91	-15.07	15.84	40.00	-24.16	QP	200	245	
2	39.0449	31.26	-17.69	13.57	40.00	-26.43	QP	200	252	
3	116.0391	32.70	-21.88	10.82	43.50	-32.68	QP	200	255	
4	301.7572	33.53	-15.67	17.86	46.00	-28.14	QP	200	251	
5	401.1050	37.89	-13.00	24.89	46.00	-21.11	QP	200	249	
6	812.7744	32.43	-3.91	28.52	46.00	-17.48	QP	200	253	

## 6. AC POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)

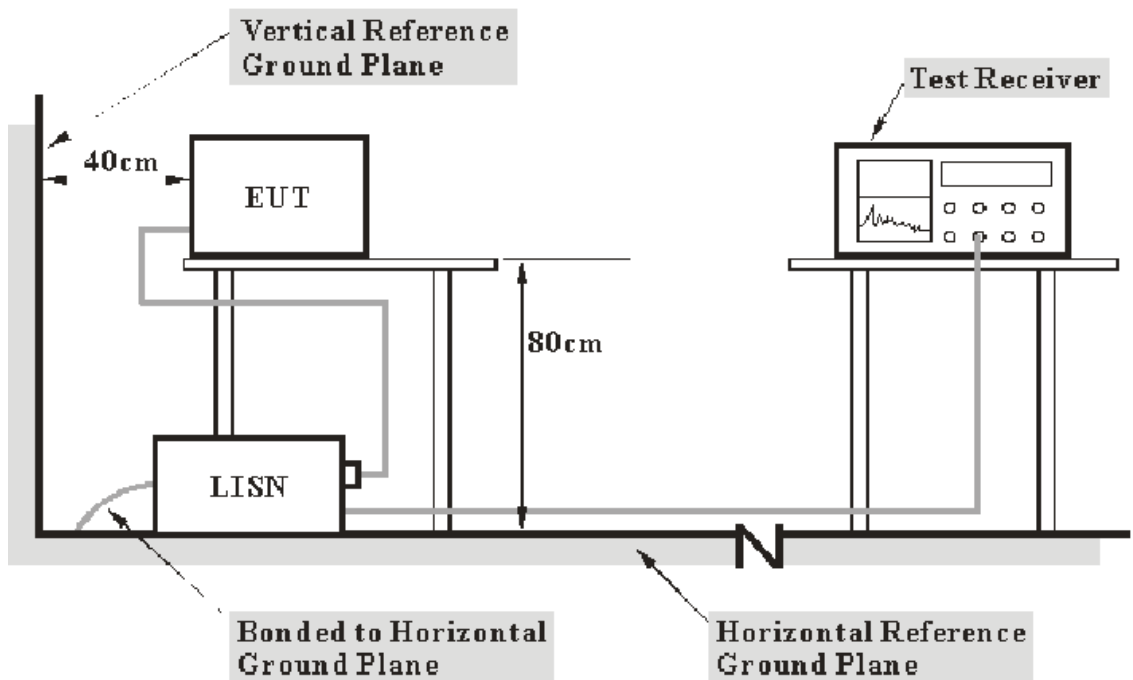
### 6.1. Block Diagram of Test Setup

#### 6.1.1. Block diagram of connection between the EUT and simulators



(EUT: Bluetooth Headset)

#### 6.1.2. Test System Setup



- Note: 1. Support units were connected to second LISN.  
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

## 6.2. Power Line Conducted Emission Measurement Limits

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0

NOTE1: The lower limit shall apply at the transition frequencies.  
 NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

## 6.3. Configuration of EUT on Measurement

The equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

## 6.4. Operating Condition of EUT

- 6.4.1. Setup the EUT and simulator as shown as Section 6.1.
- 6.4.2. Turn on the power of all equipment.
- 6.4.3. Let the EUT work in test mode and measure it.

## 6.5. Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Measurement. The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

### 6.6.Data Sample

Frequency (MHz)	Transducer value (dB)	QuasiPeak Level (dBμV)	Average Level (dBμV)	QuasiPeak Limit (dBμV)	Average Limit (dBμV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XX	10.6	25.3	17.0	59.0	49.0	33.4	31.7	Pass

Frequency(MHz) = Emission frequency in MHz

Transducer value(dB) = Insertion loss of LISN + Cable Loss

Level(dBμV) = Quasi-peak Reading/Average Reading + Transducer value

Limit (dBμV) = Limit stated in standard

Margin = Limit (dBμV) - Level (dBμV)

Calculation Formula:

Margin = Limit (dBμV) - Level (dBμV)

### 6.7.Power Line Conducted Emission Measurement Results

**PASS.**

Test Lab: Shielding room

Test Engineer: Frank

The frequency range from 150kHz to 30MHz is checked.

Maximizing procedure was performed on the six (6) highest emissions of the EUT. Emissions attenuated more than 20 dB below the permissible value are not reported.

All data was recorded in the Quasi-peak and average detection mode.

The spectral diagrams are attached as below.

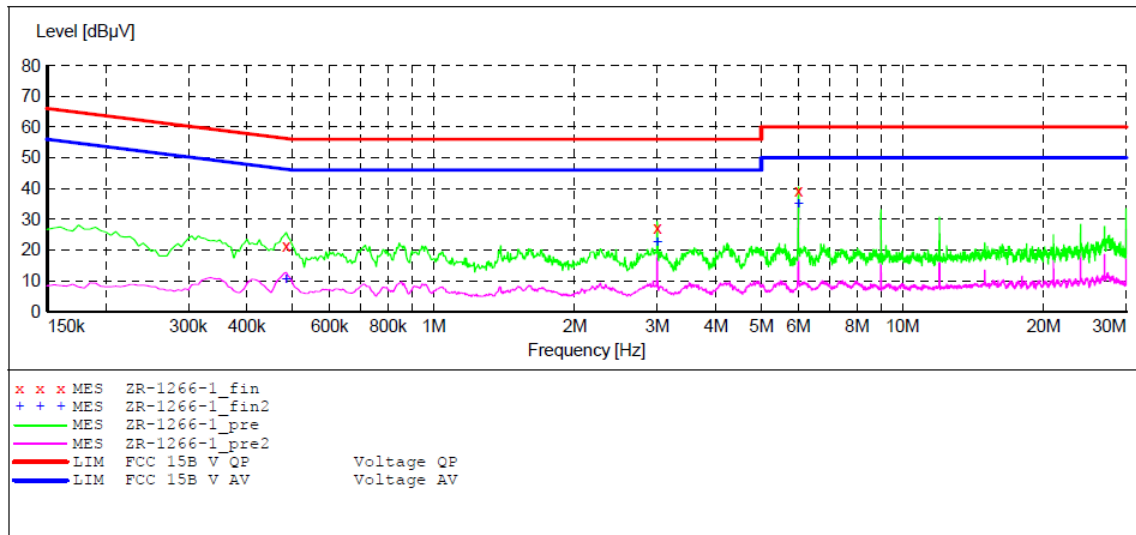
**ACCURATE TECHNOLOGY CO., LTD**

**CONDUCTED EMISSION STANDARD FCC PART 15B**

EUT: Bluetooth Headset M/N:KSC35 Wireless  
 Manufacturer: Dongguan Baizhenrong Limited  
 Operating Condition: BT Communication  
 Test Site: 1#Shielding Room  
 Operator: Frank  
 Test Specification: L 120V/60Hz  
 Comment: Report NO.:ATE20172592 002  
 Start of Test: 7/18/2018 / 9:48:18AM

**SCAN TABLE: "V 9K-30MHz fin"**

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	Average			
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008
			Average			



**MEASUREMENT RESULT: "ZR-1266-1\_fin"**

7/18/2018 9:51AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.485000	21.00	10.7	56	35.0	QP	L1	GND
3.000000	27.20	11.1	56	28.8	QP	L1	GND
6.000000	39.20	11.2	60	20.8	QP	L1	GND

**MEASUREMENT RESULT: "ZR-1266-1\_fin2"**

7/18/2018 9:51AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.485000	10.50	10.7	46	35.5	AV	L1	GND
3.000000	22.60	11.1	46	23.4	AV	L1	GND
6.000000	35.10	11.2	50	14.9	AV	L1	GND



**ACCURATE TECHNOLOGY CO.,LTD**

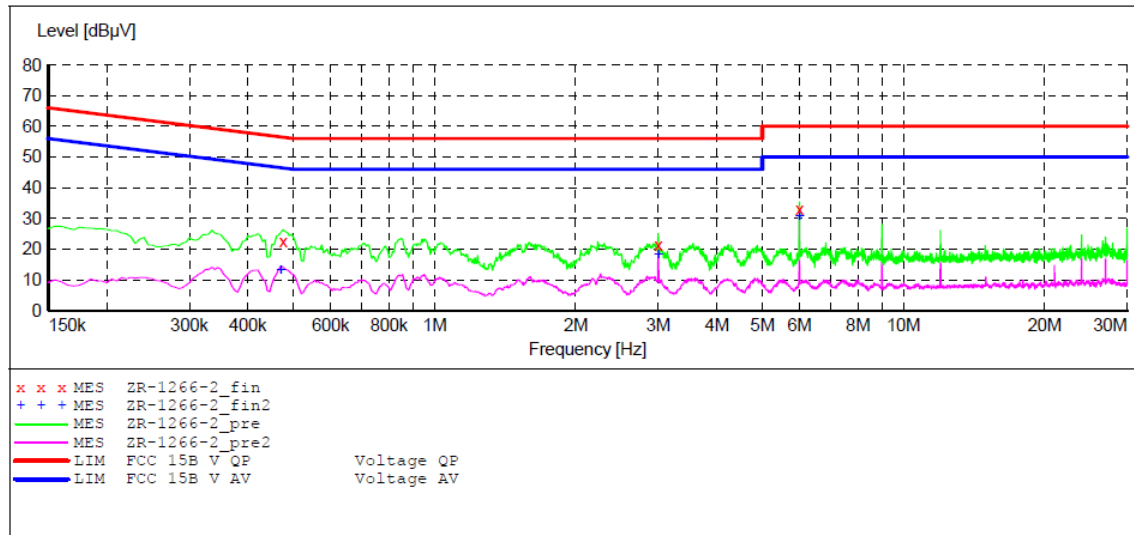
**CONDUCTED EMISSION STANDARD FCC PART 15B**

EUT: Bluetooth Headset M/N:KSC35 Wireless  
 Manufacturer: Dongguan Baizhenrong Limited  
 Operating Condition: BT Communication  
 Test Site: 1#Shielding Room  
 Operator: Frank  
 Test Specification: N 120V/60Hz  
 Comment: Report NO.:ATE20172592 002  
 Start of Test: 7/18/2018 / 9:53:07AM

**SCAN TABLE: "V 9K-30MHz fin"**

Short Description: \_SUB\_STD\_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
9.0 kHz	150.0 kHz	100.0 Hz	QuasiPeak	1.0 s	200 Hz	NSLK8126 2008
150.0 kHz	30.0 MHz	5.0 kHz	QuasiPeak	1.0 s	9 kHz	NSLK8126 2008



**MEASUREMENT RESULT: "ZR-1266-2\_fin"**

7/18/2018 9:56AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.475000	22.00	10.7	56	34.0	QP	N	GND
3.000000	21.30	11.1	56	34.7	QP	N	GND
6.000000	32.90	11.2	60	27.1	QP	N	GND

**MEASUREMENT RESULT: "ZR-1266-2\_fin2"**

7/18/2018 9:56AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.470000	13.60	10.7	47	33.4	AV	N	GND
3.000000	18.20	11.1	46	27.8	AV	N	GND
6.000000	30.70	11.2	50	19.3	AV	N	GND

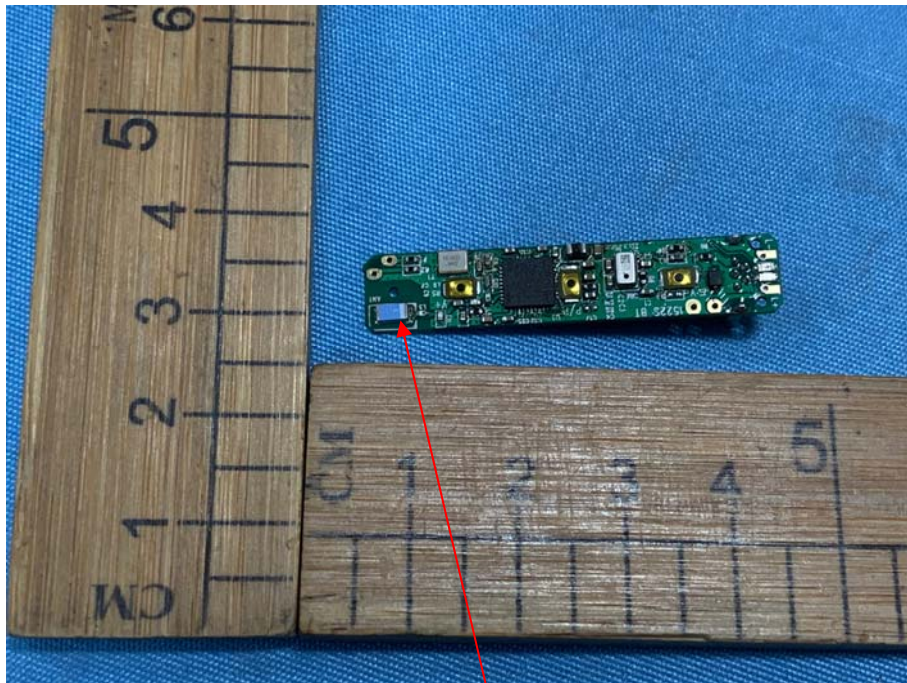
## 7. ANTENNA REQUIREMENT

### 7.1.The Requirement

According to 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.

### 7.2.Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Max Antenna gain of EUT is 2.0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna

\*\*\*\*\* End of Test Report \*\*\*\*\*