

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

Prepared by : Shenzhen Accurate Technology Co., Ltd.  
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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

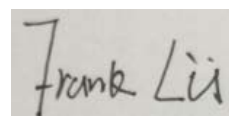
Measurement Procedure Used:

### **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<br>(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<br>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<br>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<br>WISCONSIN 53212 United States                                                                                                                                                                                                                       |
| Manufacturer          | : | Dongguan Baizhenrong Limited                                                                                                                                                                                                                                                                       |
| Address               | : | 3 Xin Yuan Street, Ju-zhou No.2 Industrial Zone, Shijie<br>Town, DongGuan, GuangDong Province, P.R.C                                                                                                                                                                                               |

## 1.2.Accessory and Auxiliary Equipment

|                                                  |   |                              |
|--------------------------------------------------|---|------------------------------|
| AC/DC Power Adapter:<br>(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)<br>The Designation Number is CN1189<br>The Registration Number is 708358<br>Listed by Innovation, Science and Economic Development Canada (ISED)<br>The Registration Number is 5077A-2<br>Accredited by China National Accreditation Service for Conformity Assessment (CNAS)<br>The Registration Number is CNAS L3193<br>Accredited by American Association for Laboratory Accreditation (A2LA)<br>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<br>(9kHz-30MHz)    | = | 3.08dB, k=2 |
| Radiated emission expanded uncertainty<br>(30MHz-1000MHz) | = | 4.42dB, k=2 |
| Radiated emission expanded uncertainty<br>(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

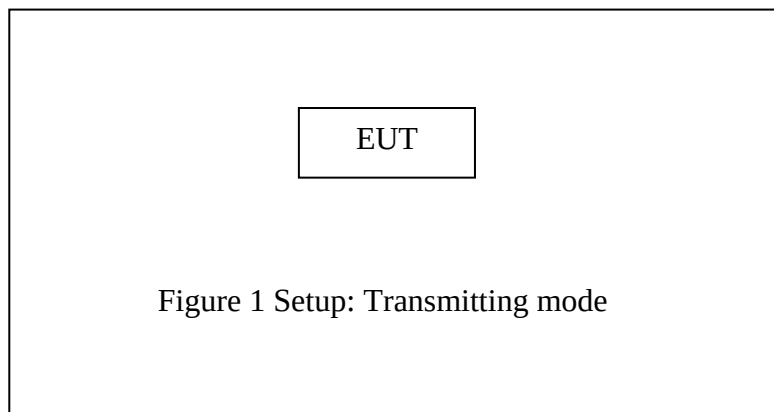
Middle Channel: 2441MHz

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



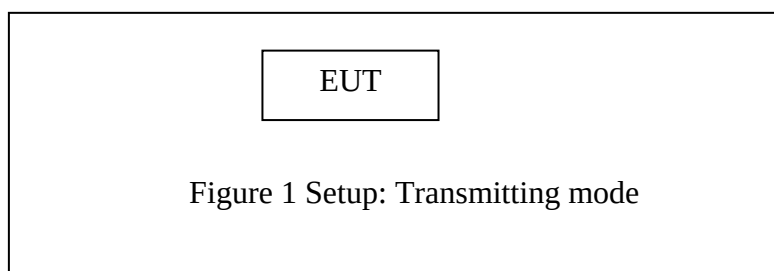
#### 4. TEST PROCEDURES AND RESULTS

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

## 5. RADIATED EMISSION TEST

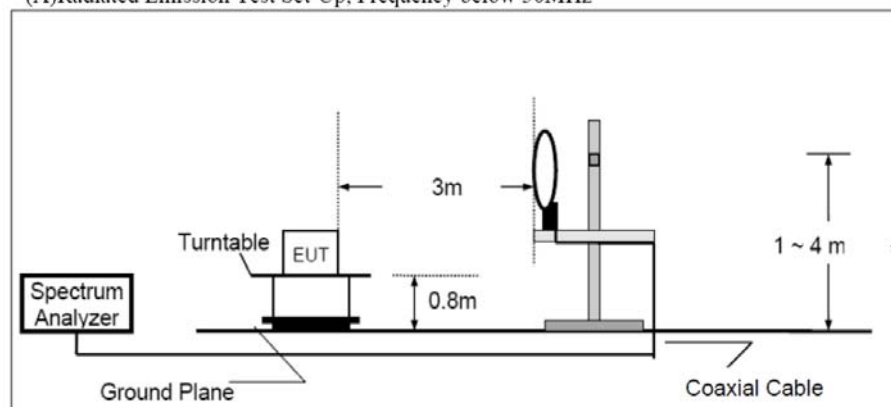
### 5.1. Block Diagram of Test Setup

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

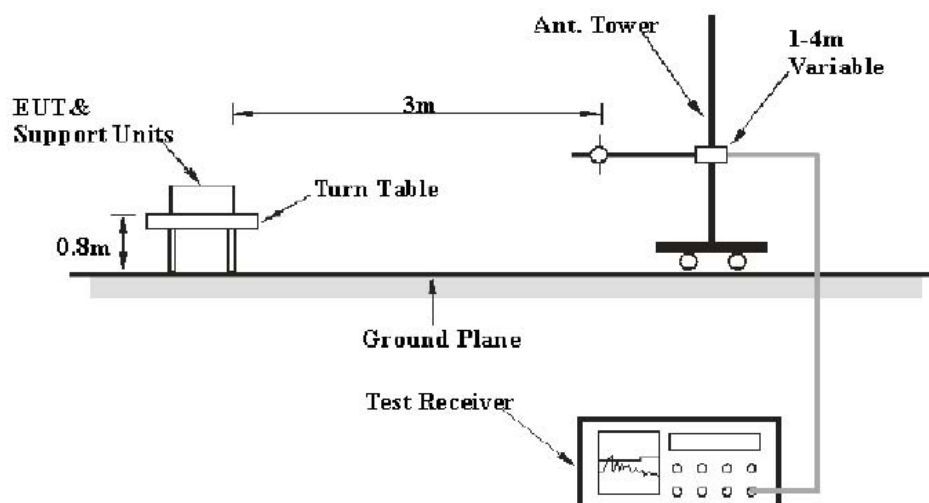


#### 5.1.2. Semi-Anechoic Chamber Test Setup Diagram

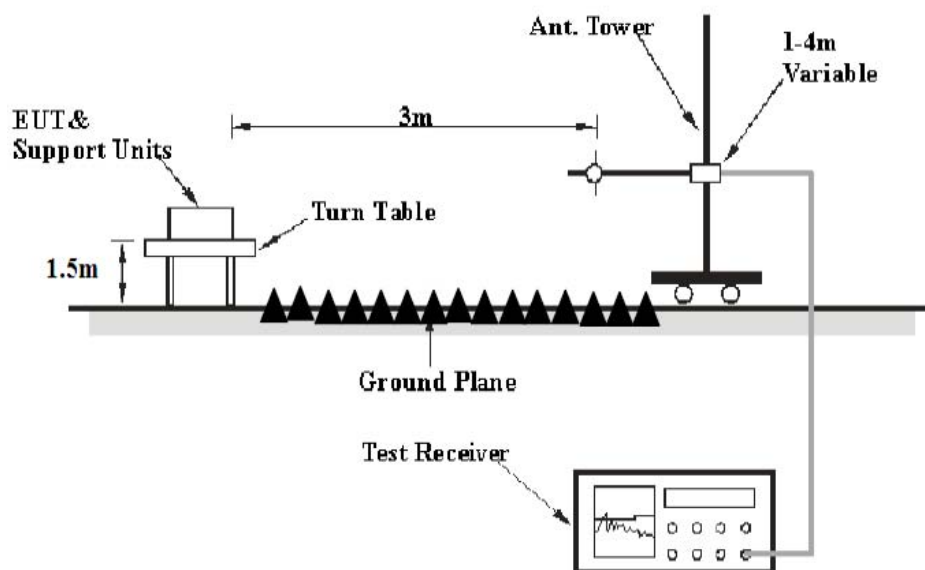
(A) Radiated Emission Test Set-Up, Frequency below 30MHz



(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 Section15.209 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<br>(MHz) | Reading<br>(dB $\mu$ v) | Factor<br>(dB/m) | Result<br>(dB $\mu$ v/m) | Limit<br>(dB $\mu$ v/m) | Margin<br>(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



### ACCURATE TECHNOLOGY CO., LTD.

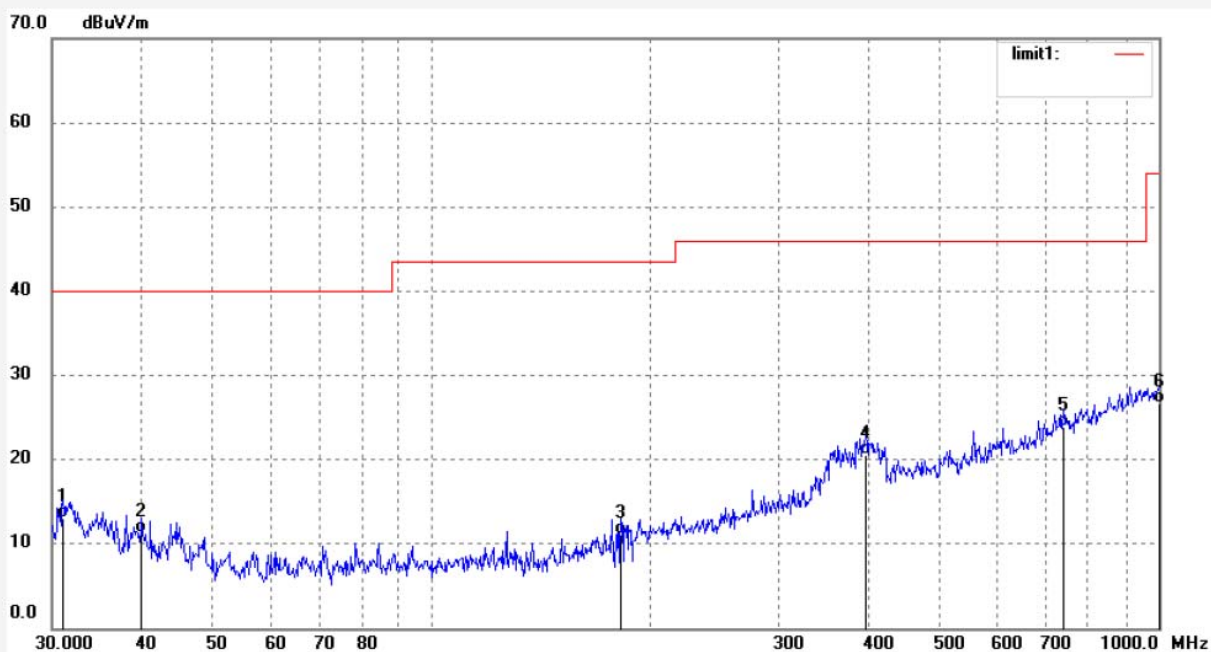
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,  
Science & Industry Park,Nanshan Shenzhen,P.R.China

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

Job No.: yjzh1 #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.<br>(MHz) | Reading<br>(dBuV/m) | Factor<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Detector | Height<br>(cm) | Degree<br>(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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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

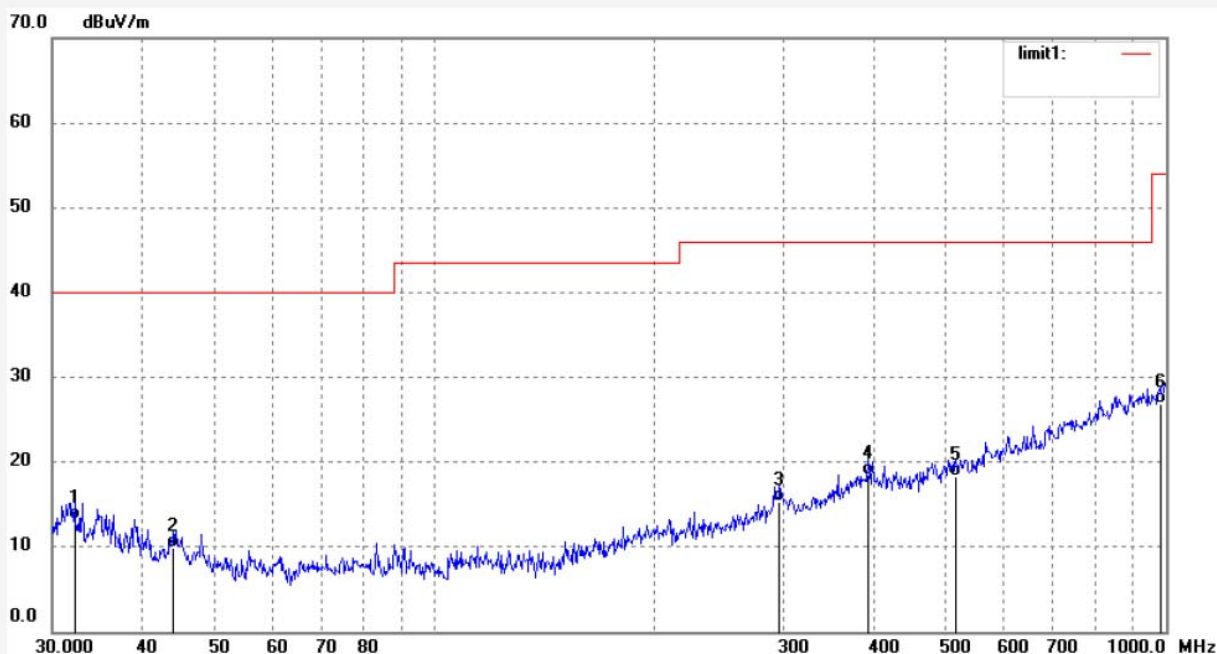
Date: 18/07/18/

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           |        |



## ACCURATE TECHNOLOGY CO., LTD.

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Site: 1# Chamber

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Fax:+86-0755-26503396

Job No.: yjzh1 #183

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: Vertical

Power Source: DC 3.7V

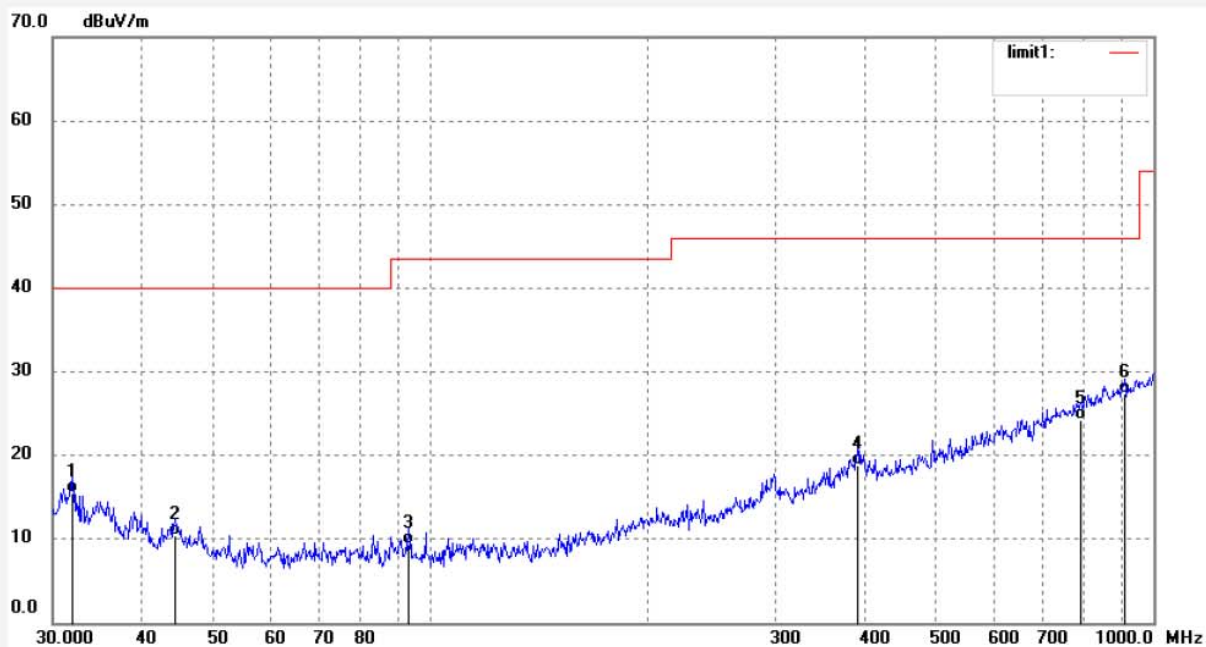
Date: 18/07/18/

Time: 8/35/34

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   | 31.9586     | 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           |        |



## 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 #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

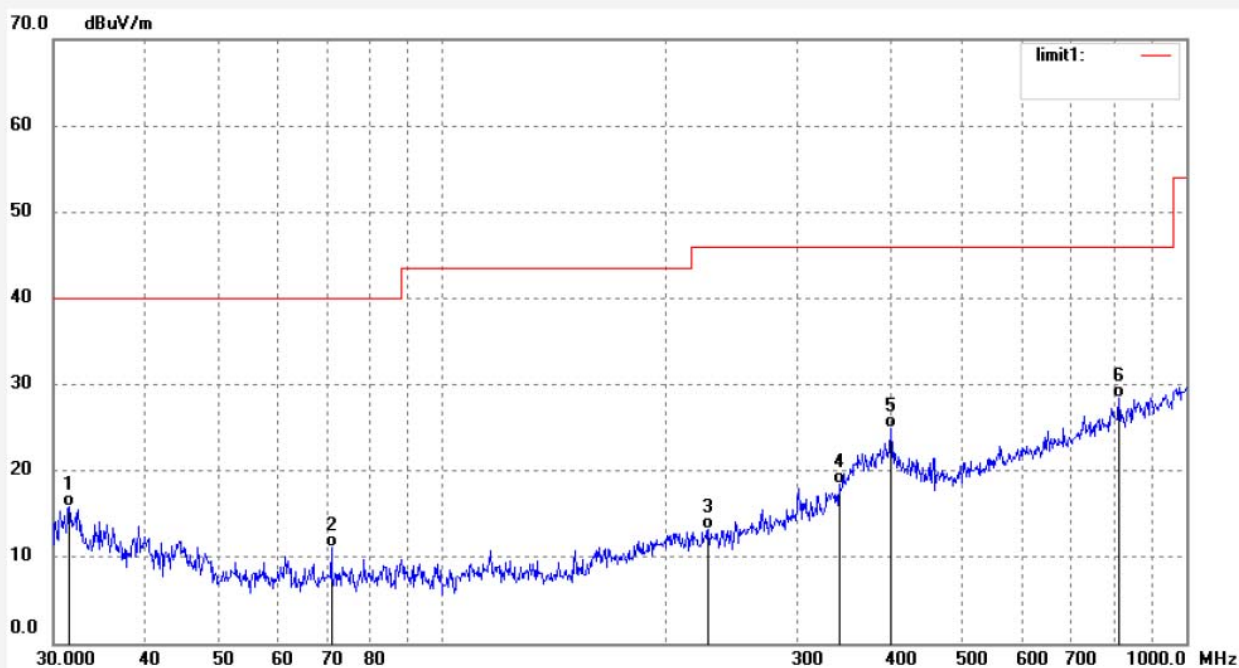
Date: 18/07/18/

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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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

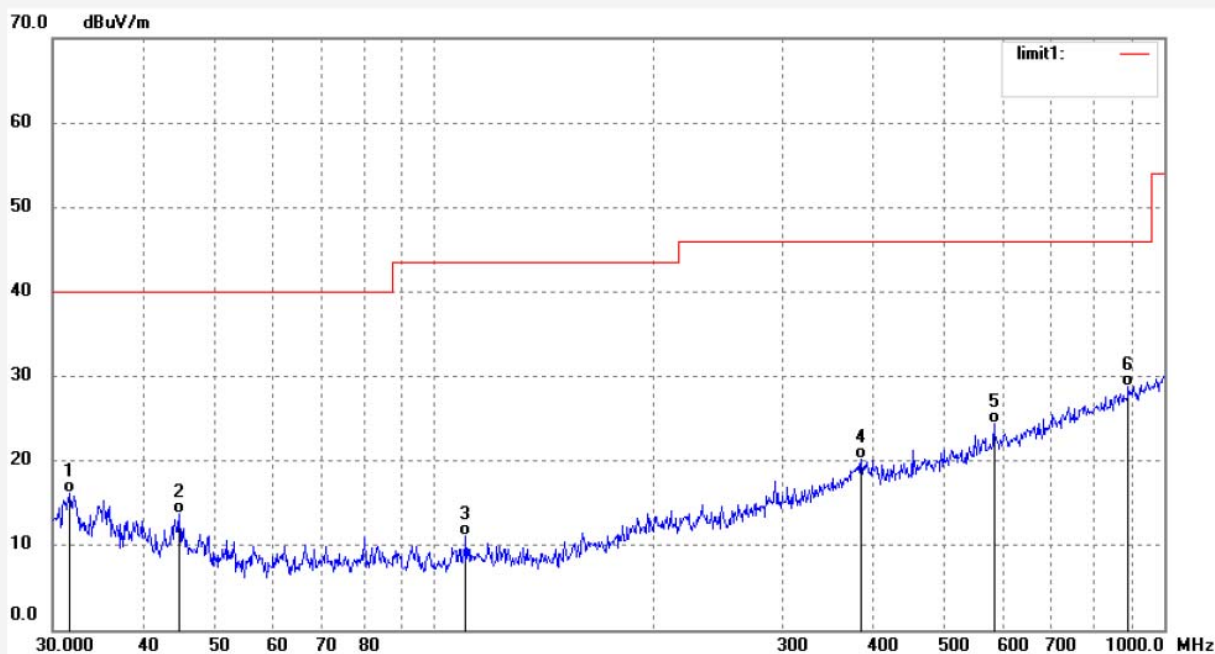
Date: 18/07/18/

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           |        |



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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

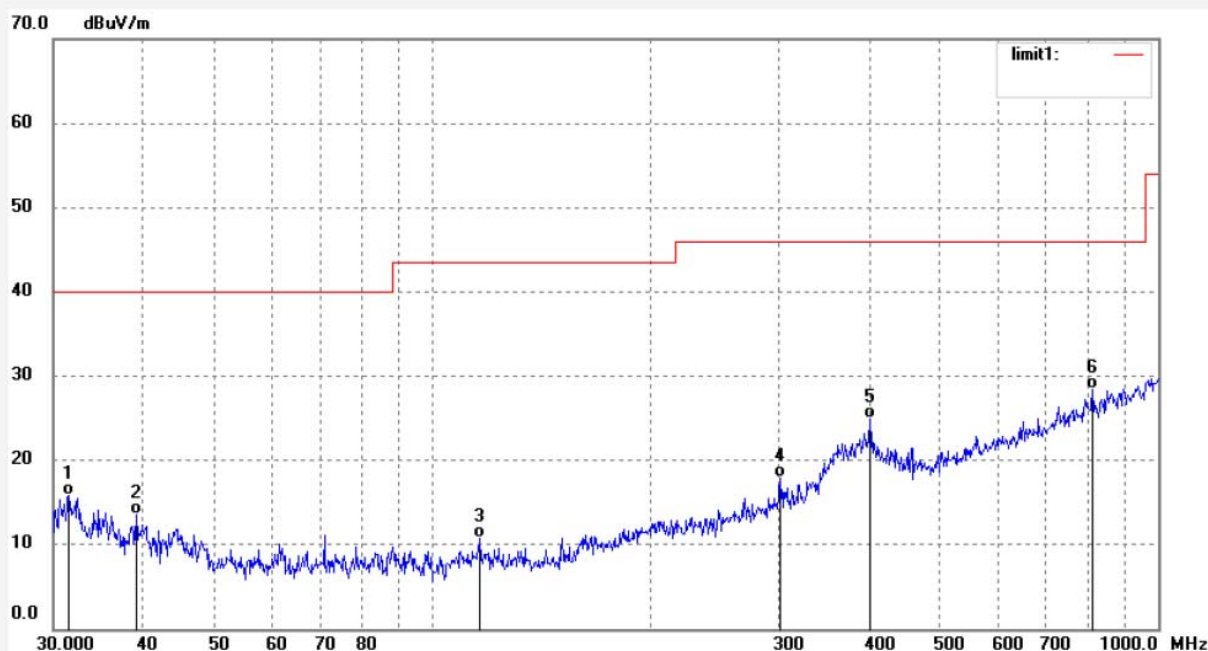
Date: 18/07/18/

Time: 8/42/25

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172592 002

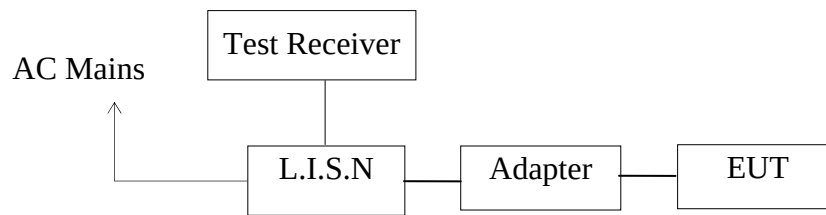


| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|-------------|------------------|-------------|-----------------|----------------|-------------|----------|-------------|---------------|--------|
| 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)

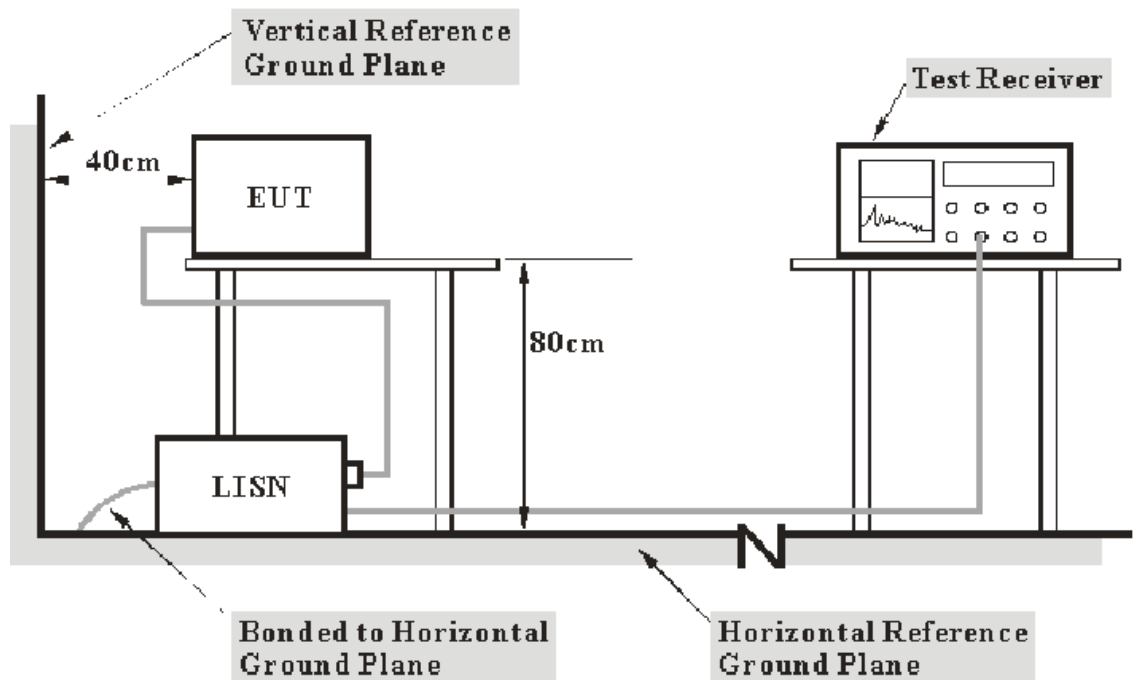
### 6.1. Block Diagram of Test Setup

#### 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<br>(MHz)                                                                                       | Limit dB( $\mu$ V) |               |
|----------------------------------------------------------------------------------------------------------|--------------------|---------------|
|                                                                                                          | 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<br>(MHz) | Transducer<br>value<br>(dB) | QuasiPeak<br>Level<br>(dBμV) | Average<br>Level<br>(dBμV) | QuasiPeak<br>Limit<br>(dBμV) | Average<br>Limit<br>(dBμV) | QuasiPeak<br>Margin<br>(dB) | Average<br>Margin<br>(dB) | Remark<br>(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.

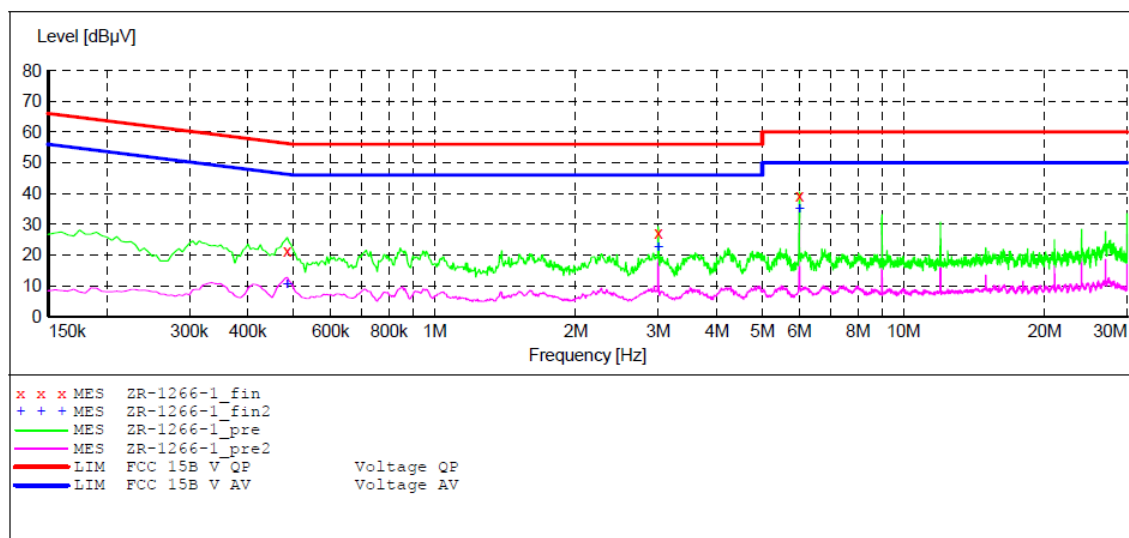
## ACCURATE TECHNOLOGY CO.,LTD

### 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"

|                    |           |                      |           |            |           |               |  |
|--------------------|-----------|----------------------|-----------|------------|-----------|---------------|--|
| Short Description: |           | _SUB_STD_VTERM2 1.70 |           |            |           |               |  |
| Start              | Stop      | Step                 | 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   | 1.0 s      | 9 kHz     | NSLK8126 2008 |  |



### 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

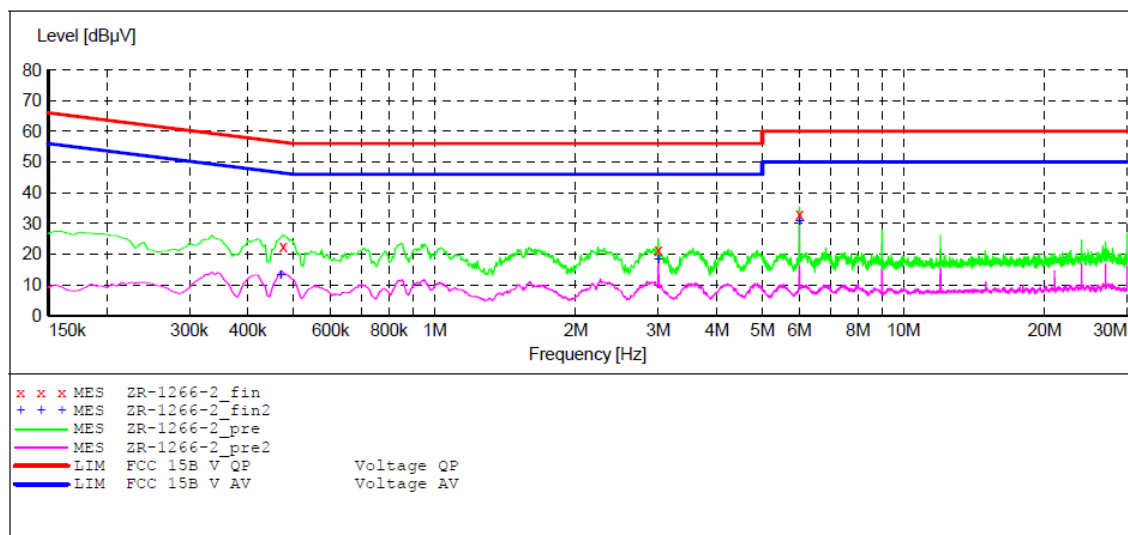
### CONDUCTED EMISSION STANDARD FCC PART 15B

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 Average | 1.0 s      | 200 Hz    | NSLK8126 2008 |
| 150.0 kHz       | 30.0 MHz       | 5.0 kHz    | QuasiPeak Average | 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 |

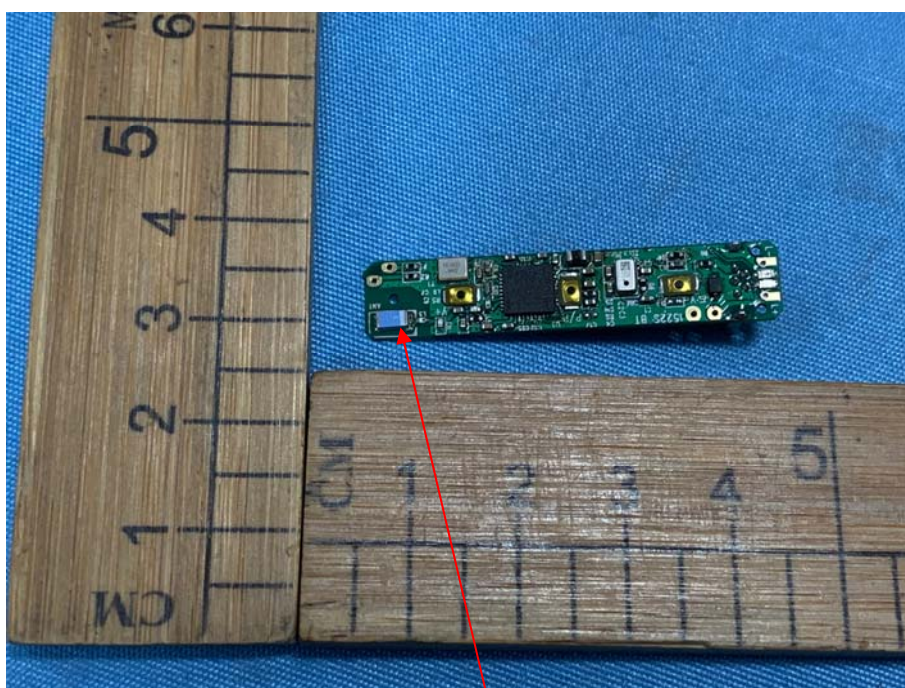
## 7. ANTENNA REQUIREMENT

### 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 \*\*\*\*\*