

Page 1 of 76

APPLICATION CERTIFICATION FCC Part 15C On Behalf of SHENZHEN SHENGLAI TECHNOLOGY CO., LIMITED

Bluetooth Earphones Model No.: 40012BT

FCC ID: 2AL9B-40012BT

Prepared for

SHENZHEN SHENGLAI TECHNOLOGY CO., LIMITED Address ROOM 709, BLOCK B, XINTIAN CENTURY BUSINESS

CENTRE, FUMING ROAD, FUTIAN DISTRICT, SHENZHEN,

CHINA

Prepared by

Shenzhen Accurate Technology Co., Ltd.

Address

1/F., Building A, Changyuan New Material Port, Science & Industry

Park, Nanshan District, Shenzhen, Guangdong, P.R. China

Tel: (0755) 26503290 Fax: (0755) 26503396

Report No. ATE20180396

Date of Test March 21-March 23, 2018

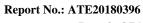
Date of Report March 24, 2018



Page 2 of 76

TABLE OF CONTENTS

| Descri | ption | Page |
|--------------|---|------|
| Test Ro | eport Certification | |
| | OF CONTENTS | |
| | ENERAL INFORMATION | |
| 1.1. | Description of Device (EUT) | |
| 1.1. | Accessory and Auxiliary Equipment | |
| 1.3. | Description of Test Facility | |
| 1.4. | Measurement Uncertainty | |
| | EASURING DEVICE AND TEST EQUIPMENT | |
| | PERATION OF EUT DURING TESTING | |
| 3.1. | Operating Mode | |
| 3.2. | Configuration and peripherals | |
| | ST PROCEDURES AND RESULTS | |
| | DB BANDWIDTH TEST | |
| 5.1. | Block Diagram of Test Setup | |
| 5.2. | The Requirement For Section 15.247(a)(1) | |
| 5.3. | EUT Configuration on Measurement | |
| 5.4. | Operating Condition of EUT | |
| 5.5. | Test Procedure | 10 |
| 5.6. | Test Result | 11 |
| 6. CA | ARRIER FREQUENCY SEPARATION TEST | 10 |
| 6.1. | Block Diagram of Test Setup | |
| 6.2. | The Requirement For Section 15.247(a)(1) | |
| 6.3. | EUT Configuration on Measurement | |
| 6.4. | Operating Condition of EUT | |
| 6.5. | Test Procedure | |
| 6.6. | Test Result | |
| | JMBER OF HOPPING FREQUENCY TEST | |
| 7.1. | Block Diagram of Test Setup | 23 |
| 7.2. | The Requirement For Section 15.247(a)(1)(iii) | |
| 7.3. 7.4. | EUT Configuration on Measurement | |
| 7.4. 7.5. | Test Procedure | |
| 7.5. 7.6. | Test Result | |
| | VELL TIME TEST | |
| 8.1. | Block Diagram of Test Setup | |
| 8.2. | The Requirement For Section 15.247(a)(1)(iii) | |
| 8.3. | EUT Configuration on Measurement | |
| 8.4. | Operating Condition of EUT | |
| 8.5. | Test Procedure | |
| 8.6. | Test Result | 27 |
| 9. MA | AXIMUM PEAK OUTPUT POWER TEST | 33 |
| 9.1. | | |





Page 3 of 76

| 9.2. | The Requirement For Section 15.247(b)(1) | 33 |
|--------|--|-------|
| 9.3. | EUT Configuration on Measurement | 33 |
| 9.4. | Operating Condition of EUT | 33 |
| 9.5. | Test Procedure | 33 |
| 9.6. | Test Result | 34 |
| 10. RA | DIATED EMISSION TEST | 40 |
| 10.1. | Block Diagram of Test Setup. | 40 |
| 10.2. | The Limit For Section 15.247(d) | 41 |
| 10.3. | Restricted bands of operation | 42 |
| 10.4. | Configuration of EUT on Measurement | 42 |
| 10.5. | Operating Condition of EUT | 43 |
| 10.6. | Test Procedure | |
| 10.7. | Data Sample | |
| 10.8. | The Field Strength of Radiation Emission Measurement Results | 44 |
| 11. BA | ND EDGE COMPLIANCE TEST | 57 |
| 11.1. | Block Diagram of Test Setup | |
| 11.2. | The Requirement For Section 15.247(d) | 57 |
| 11.3. | EUT Configuration on Measurement | |
| 11.4. | Operating Condition of EUT | |
| 11.5. | Test Procedure | |
| 11.6. | Test Result | |
| 12. AC | POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207 | (A)69 |
| 12.1. | Block Diagram of Test Setup | 69 |
| 12.2. | Power Line Conducted Emission Measurement Limits | 70 |
| 12.3. | Configuration of EUT on Measurement | |
| 12.4. | Operating Condition of EUT | |
| 12.5. | Test Procedure | |
| 12.6. | Data Sample | |
| 12.7. | Power Line Conducted Emission Measurement Results | |
| 13. AN | TENNA REQUIREMENT | 76 |
| 13.1. | The Requirement | 76 |
| 13.2. | Antenna Construction | 76 |



Page 4 of 76

Test Report Certification

Applicant : SHENZHEN SHENGLAI TECHNOLOGY CO., LIMITED

Manufacturer : SHENZHEN SHENGLAI TECHNOLOGY CO., LIMITED

EUT Description : Bluetooth Earphones

Model No. : 40012BT

Brand Name : N/A

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247: 2018 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: | March 21-March 23, 2018 |
|-------------------------------|--|
| Date of Report: | March 24, 2018 |
| Test Engineer: | Star Yang |
| | (Star Yang, Engineer) |
| Prepared by : | SECHNOLOGICAL STREET, |
| Approved & Authorized Signer: | (St. Approved Approve |
| | (Sean Liu, Manager) |



Page 5 of 76

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

Model Number : 40012BT

Bluetooth version : V 4.2

Frequency Range : 2402MHz-2480MHz

Number of Channels : 79

Antenna Gain(Max) : 0dBi

Antenna type : PCB antenna

Adapter Input Voltage : DC 3.7V (Powered by Lithium battery) or

DC 5V (Powered by USB port)

Modulation mode : GFSK, π /4 DQPSK, 8DPSK

Hardware version : V1.2

Software version : V027

Applicant : SHENZHEN SHENGLAI TECHNOLOGY CO.,

LIMITED

Address : ROOM 709, BLOCK B, XINTIAN CENTURY

BUSINESS CENTRE, FUMING ROAD, FUTIAN

DISTRICT, SHENZHEN, CHINA

Manufacturer : SHENZHEN SHENGLAI TECHNOLOGY CO.,

LIMITED

Address : ROOM 709, BLOCK B, XINTIAN CENTURY

BUSINESS CENTRE, FUMING ROAD, FUTIAN

DISTRICT, SHENZHEN, CHINA

1.2. Accessory and Auxiliary Equipment

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



Page 6 of 76

1.3.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 (ISEDC)

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

1.4. Measurement Uncertainty

Conducted Emission Expanded Uncertainty = 2.23dB, k=2

Radiated emission expanded uncertainty = 3.08dB, k=2

(9kHz-30MHz)

Radiated emission expanded uncertainty = 4.42dB, k=2

(30MHz-1000MHz)

Radiated emission expanded uncertainty = 4.06dB, k=2

(Above 1GHz)



Page 7 of 76



2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

| Kind of equipment | Manufacturer | Туре | 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-10S S | N/A | Jan. 06, 2018 | 1 Year |
| Band Reject Filter | Wainwright Instruments | WRCG2400/2485-2 375/2510-60/11SS | 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 | March 21, 2018 | 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.



Page 8 of 76



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

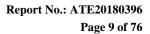
Note: The equipment under test (EUT) was tested under fully-charged battery.

The Bluetooth has been tested under continuous transmission mode.

3.2. Configuration and peripherals

EUT

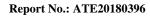
Figure 1 Setup: Transmitting mode





4. TEST PROCEDURES AND RESULTS

| FCC Rules | Description of Test | Result |
|-------------------------------------|-----------------------------------|-----------|
| Section 15.207 | Conducted Emission Test | Compliant |
| Section 15.247(a)(1) | 20dB Bandwidth Test | Compliant |
| Section 15.247(a)(1) | Carrier Frequency Separation Test | Compliant |
| Section 15.247(a)(1)(iii) | Number Of Hopping Frequency Test | Compliant |
| Section 15.247(a)(1)(iii) | Dwell Time Test | Compliant |
| Section 15.247(b)(1) | Maximum Peak Output Power Test | Compliant |
| Section 15.247(d) Section 15.209 | Radiated Emission Test | Compliant |
| Section 15.247(d) | Band Edge Compliance Test | Compliant |
| Section 15.203 | Antenna Requirement | Compliant |

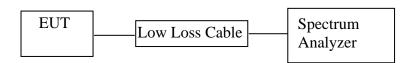


Page 10 of 76



5. 20DB BANDWIDTH TEST

5.1.Block Diagram of Test Setup



(EUT: Bluetooth Earphones)

5.2. The Requirement For Section 15.247(a)(1)

Section 15.247(a)(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

5.3.EUT Configuration on Measurement

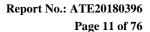
The equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.4. Operating Condition of EUT

- 5.4.1. Setup the EUT and simulator as shown as Section 5.1.
- 5.4.2. Turn on the power of all equipment.
- 5.4.3.Let the EUT work in TX (Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, and 2480MHz TX frequency to transmit.

5.5.Test Procedure

- 5.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 5.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.
- 5.5.3. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.





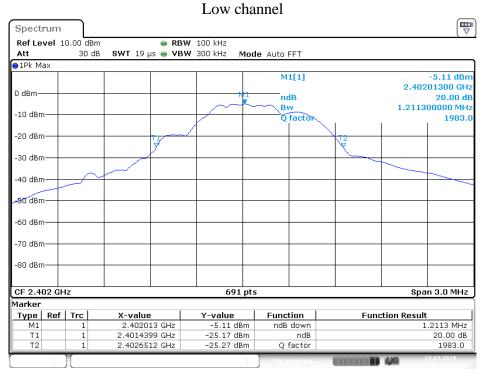
5.6.Test Result

Test Lab: Shielding room Test Engineer: Star

| Channel | Frequency (MHz) | GFSK 20dB Bandwidth (MHz) | ∏/4-DQPSK 20dB Bandwidth (MHz) | 8DPSK 20dB Bandwidth (MHz) | Result |
|---------|-----------------|---------------------------------|--------------------------------------|----------------------------------|--------|
| Low | 2402 | 1.211 | 1.350 | 1.368 | Pass |
| Middle | 2441 | 1.316 | 1.398 | 1.441 | Pass |
| High | 2480 | 1.329 | 1.411 | 1.433 | Pass |

The spectrum analyzer plots are attached as below.

GFSK Mode

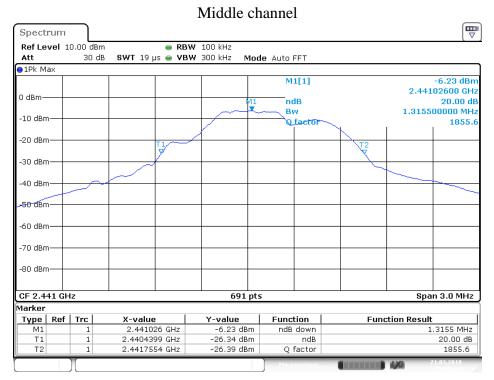


Date: 21.MAR.2018 15:47:54



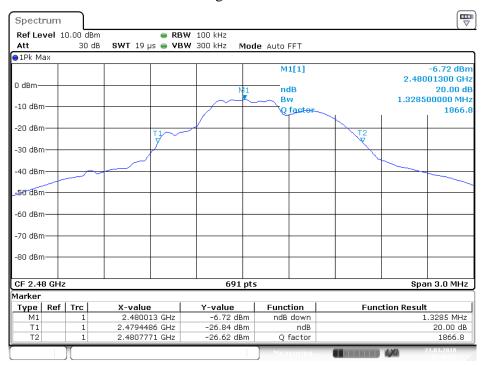


Page 12 of 76



Date: 21.MAR.2018 15:48:25

High channel

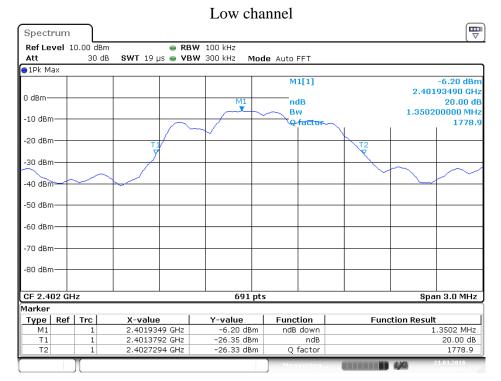


Date: 21.MAR.2018 15:48:51

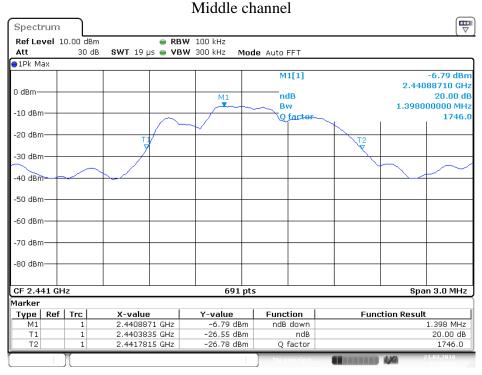
Page 13 of 76



∏/4-DQPSK Mode



Date: 21.MAR.2018 15:50:27

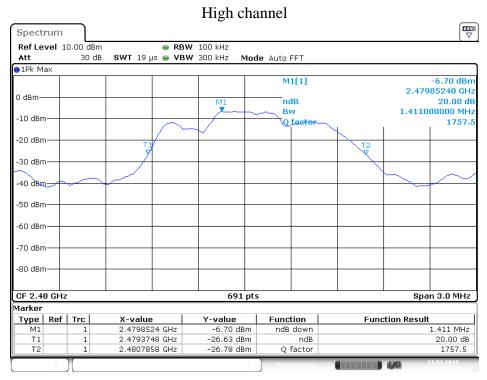


Date: 21.MAR.2018 15:50:03



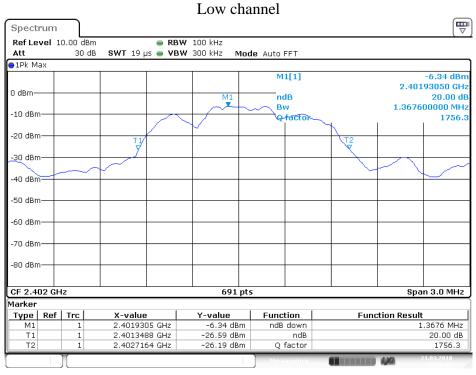


Page 14 of 76



Date: 21.MAR.2018 15:49:16

8DPSK Mode

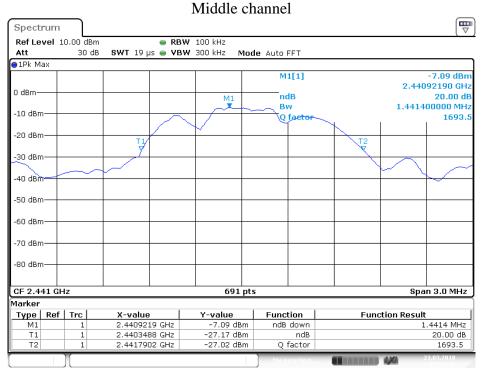


Date: 21.MAR.2018 15:50:49

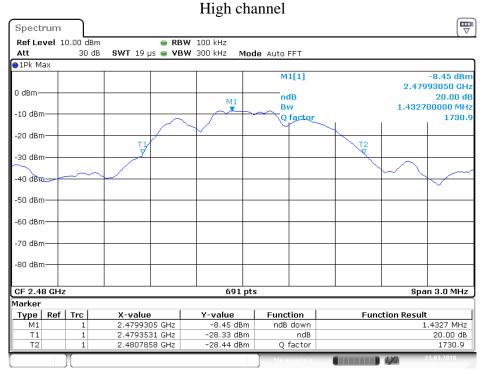




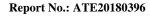
Page 15 of 76



Date: 21.MAR.2018 15:51:31



Date: 21.MAR.2018 15:52:07

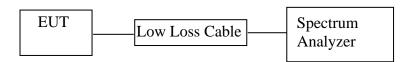


Page 16 of 76



6. CARRIER FREQUENCY SEPARATION TEST

6.1.Block Diagram of Test Setup



(EUT: Bluetooth Earphones)

6.2. The Requirement For Section 15.247(a)(1)

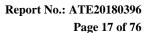
Section 15.247(a)(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudorandomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

6.3.EUT Configuration on Measurement

The equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in 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 TX (Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, and 2480MHz TX frequency to transmit.





6.5. Test Procedure

- 6.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 6.5.2.Set RBW of spectrum analyzer to 30 kHz and VBW to 100 kHz. Adjust Span to 2MHz.
- 6.5.3.Set the adjacent channel of the EUT Maxhold another trace.
- 6.5.4. Measurement the channel separation

6.6.Test Result

Test Lab: Shielding room Test Engineer: Star

GFSK

| OIBIL | | | | |
|---------|-----------|-----------------|-------------------|--------|
| Channel | Frequency | Channel | Limit | Result |
| Chamie | (MHz) | Separation(MHz) | (MHz) | Kesuit |
| Low | 2402 | 1.0029 | 25KHz or 2/3*20dB | DACC |
| Low | 2403 | 1.0029 | bandwidth | PASS |
| Middle | 2440 | 1.0029 | 25KHz or 2/3*20dB | PASS |
| Middle | 2441 | 1.0029 | bandwidth | |
| High | 2479 | 1.0029 | 25KHz or 2/3*20dB | PASS |
| | 2480 | 1.0029 | bandwidth | PASS |

$\Pi/4$ -DQPSK

| Channel | Frequency (MHz) | Channel Separation(MHz) | Limit (MHz) | Result |
|---------|-----------------|----------------------------|--------------------------------|--------|
| Low | 2402 2403 | 1.0029 | 25KHz or 2/3*20dB bandwidth | PASS |
| Middle | 2440 2441 | 1.0029 | 25KHz or 2/3*20dB bandwidth | PASS |
| High | 2479 2480 | 1.0029 | 25KHz or 2/3*20dB bandwidth | PASS |

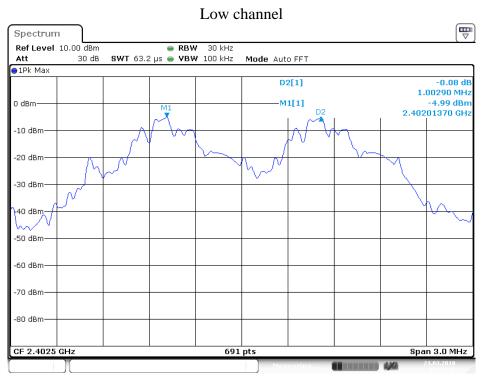
8DPSK

| Channel | Frequency (MHz) | Channel Separation(MHz) | Limit (MHz) | Result |
|---------|-----------------|----------------------------|--------------------------------|--------|
| Low | 2402 2403 | 1.0029 | 25KHz or 2/3*20dB bandwidth | PASS |
| Middle | 2440 2441 | 1.0029 | 25KHz or 2/3*20dB bandwidth | PASS |
| High | 2479 2480 | 1.0029 | 25KHz or 2/3*20dB bandwidth | PASS |

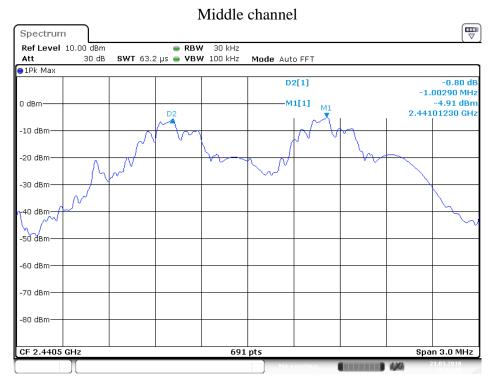
Page 18 of 76



GFSK Mode



Date: 21.MAR.2018 15:37:10



Date: 21.MAR.2018 15:36:30



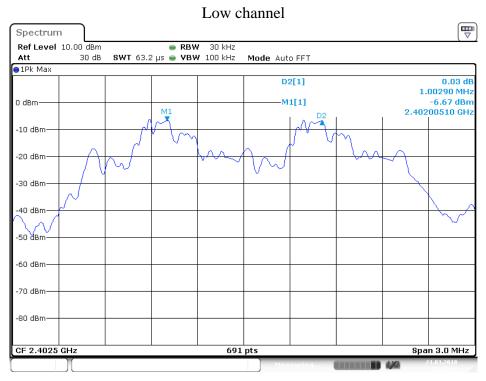
Page 19 of 76



High channel Spectrum **● RBW** 30 kHz **SWT** 63.2 µs **● VBW** 100 kHz Ref Level 10.00 dBm Att 30 dB Mode Auto FFT Att ●1Pk Ma× -0.24 dB -1.00290 MHz -5.32 dBm D2[1] 0 dBm M1[1] 2.48001230 GHz -10 dBm -20 dBm -30 dBm 40 dBm -50 dBm -60 dBm -70 dBm -80 dBm-Span 3.0 MHz CF 2.4795 GHz 691 pts

Date: 21.MAR.2018 15:35:32

$\Pi/4$ -DQPSK Mode

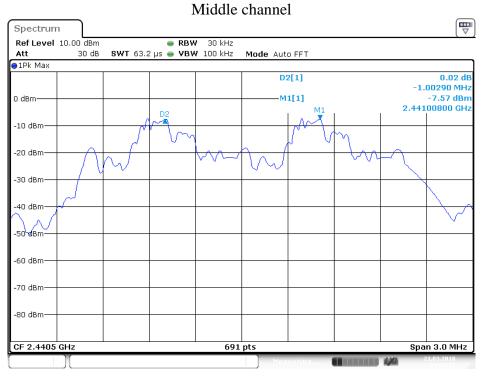


Date: 21.MAR.2018 15:38:55

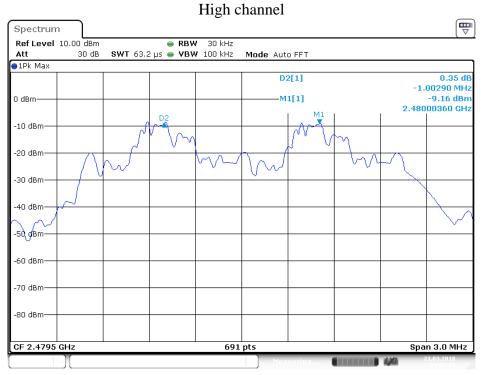




Page 20 of 76



Date: 21.MAR.2018 15:41:37

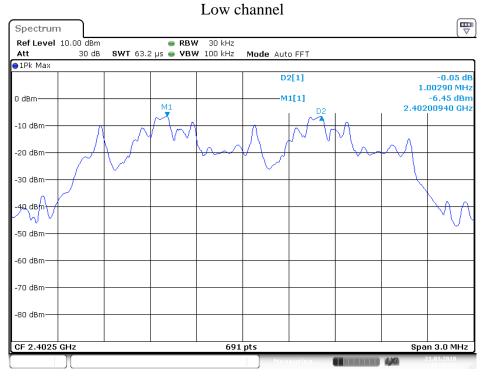


Date: 21.MAR.2018 15:43:05

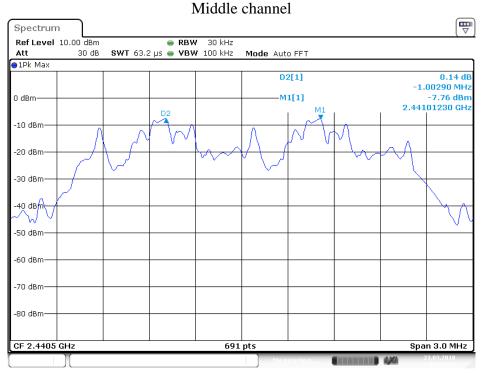
Page 21 of 76



8DPSK Mode



Date: 21.MAR.2018 15:46:23



Date: 21.MAR.2018 15:45:20

Page 22 of 76



High channel Spectrum Ref Level 10.00 dBm Att 30 dB ● RBW 30 kHz SWT 63.2 µs ● VBW 100 kHz Att Mode Auto FFT ●1Pk Max -0.02 dB -1.00290 MHz -9.04 dBm 2.48000360 GHz D2[1] 0 dBm-M1[1] -10 dBm -20 dBm--30 dBm -50 dBm -60 dBm -70 dBm -80 dBm

691 pts

Date: 21.MAR.2018 15:44:20

CF 2.4795 GHz

Span 3.0 MHz

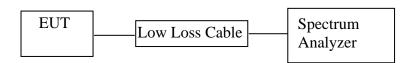


Page 23 of 76



7. NUMBER OF HOPPING FREQUENCY TEST

7.1.Block Diagram of Test Setup



(EUT: Bluetooth Earphones)

7.2. The Requirement For Section 15.247(a)(1)(iii)

Section 15.247(a)(1)(iii): Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

7.3.EUT Configuration on Measurement

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

7.4. Operating Condition of EUT

- 7.4.1. Setup the EUT and simulator as shown as Section 7.1.
- 7.4.2. Turn on the power of all equipment.
- 7.4.3.Let the EUT work in TX (Hopping on) modes measure it.

7.5.Test Procedure

- 7.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 7.5.2.Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz.
- 7.5.3.Max hold, view and count how many channel in the band.



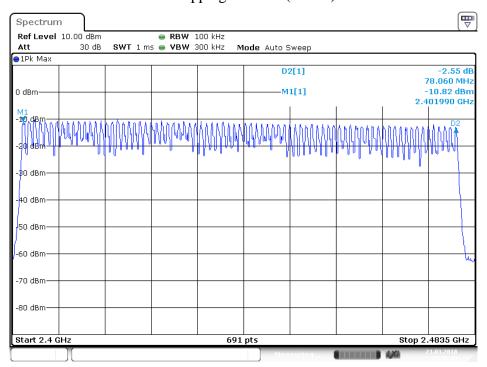
Page 24 of 76

7.6.Test Result

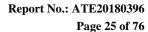
Test Lab: Shielding room Test Engineer: Star

| Total number of | Measurement result(CH) | Limit(CH) |
|-----------------|------------------------|-----------|
| hopping channel | 79 | ≥15 |

Number of hopping channels(GFSK)

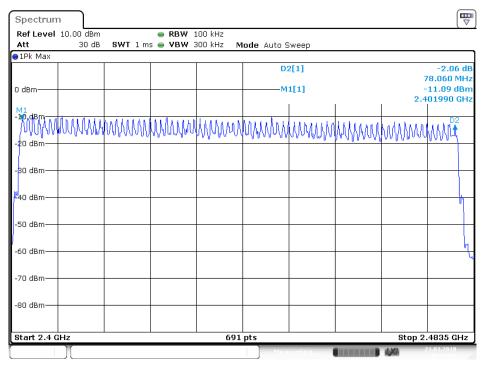


Date: 21.MAR.2018 15:55:45



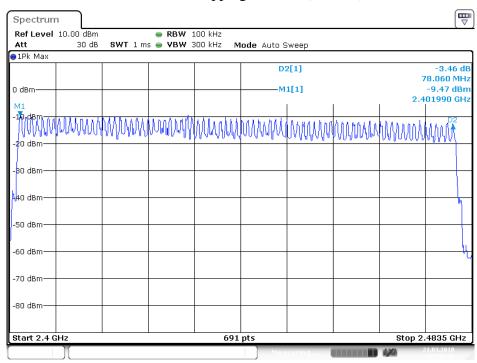


Number of hopping channels($\Pi/4$ -DQPSK)



Date: 21.MAR.2018 15:57:07

Number of hopping channels(8DPSK)



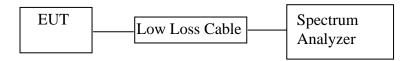
Date: 21.MAR.2018 15:58:36



Page 26 of 76

8. DWELL TIME TEST

8.1.Block Diagram of Test Setup



(EUT: Bluetooth Earphones)

8.2. The Requirement For Section 15.247(a)(1)(iii)

Section 15.247(a)(1)(iii): Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

8.3.EUT Configuration on Measurement

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

8.4. Operating Condition of EUT

- 8.4.1. Setup the EUT and simulator as shown as Section 8.1.
- 8.4.2. Turn on the power of all equipment.
- 8.4.3.Let the EUT work in TX (Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, and 2480MHz TX frequency to transmit.

8.5.Test Procedure

- 8.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 8.5.2.Set center frequency of spectrum analyzer = operating frequency.
- 8.5.3.Set the spectrum analyzer as RBW=1MHz, VBW=3MHz, Span=0Hz, Adjust Sweep=5ms, 10ms, 15ms. Get the pulse time.
- 8.5.4.Repeat above procedures until all frequency measured were complete.



Page 27 of 76

8.6.Test Result

Test Lab: Shielding room Test Engineer: Star

GFSK Mode (Worst case)

| Mode | Channel Frequency (MHz) | Pulse Time (ms) | Dwell Time (ms) | Limit (ms) | |
|--|--|------------------------|-------------------------------|------------|--|
| DH1 | 2441 | 0.514 | 164.48 | 400 | |
| A period to | A period transmit time = $0.4 \times 79 = 31.6$ Dwell time = pulse time $\times (1600/(2*79)) \times 31.6$ | | | | |
| DH3 | 2441 | 1.790 | 286.40 | 400 | |
| A period to | ransmit time = 0.4×79 = | 31.6 Dwell time = pt | ulse time \times (1600/(4*' | 79))×31.6 | |
| DH5 | 2441 | 3.051 | 325.44 | 400 | |
| A period transmit time = $0.4 \times 79 = 31.6$ Dwell time = pulse time $\times (1600/(6*79)) \times 31.6$ | | | | | |

$\Pi/4$ -DQPSK (Worst case)

| Mode | Channel Frequency (MHz) | Pulse Time (ms) | Dwell Time (ms) | Limit (ms) | |
|--|----------------------------------|----------------------|--|------------|--|
| DH1 | 2441 | 0.522 | 167.04 | 400 | |
| A period transmit time = $0.4 \times 79 = 31.6$ Dwell time = pulse time $\times (1600/(2*79)) \times 31.6$ | | | | 79))×31.6 | |
| DH3 | 2441 | 1.783 | 285.28 | 400 | |
| A period transmit time = $0.4 \times 79 = 31.6$ Dwell time = pulse time $\times (1600/(4*79)) \times 31.6$ | | | 79))×31.6 | | |
| DH5 | 2441 | 3.065 | 326.93 | 400 | |
| A period to | ransmit time = $0.4 \times 79 =$ | 31.6 Dwell time = pu | Dwell time = pulse time $\times (1600/(6*79)) \times 31.6$ | | |

8DPSK (Worst case)

| Mode | Channel Frequency (MHz) | Pulse Time (ms) | Dwell Time (ms) | Limit (ms) | |
|--|----------------------------------|------------------------|--|---------------|--|
| DH1 | 2441 | 0.522 | 167.04 | 400 | |
| A period transmit time = $0.4 \times 79 = 31.6$ Dwell time = pulse time $\times (1600/(2*79)) \times 31.6$ | | | | 79))×31.6 | |
| DH3 | 2441 | 1.797 | 287.52 | 400 | |
| A period transmit time = $0.4 \times 79 = 31.6$ Dwell time = pulse time $\times (1600/(4*79)) \times 31.6$ | | | | 79))×31.6 | |
| DH5 | 2441 | 3.036 | 323.84 | 400 | |
| A period to | ransmit time = $0.4 \times 79 =$ | 31.6 Dwell time = pt | Dwell time = pulse time $\times (1600/(6*79)) \times 31.6$ | | |

Note: We tested GFSK mode and $\Pi/4$ -DQPSK & 8DPSK mode the low, middle and high channel and recorded the worst case data for all test mode.

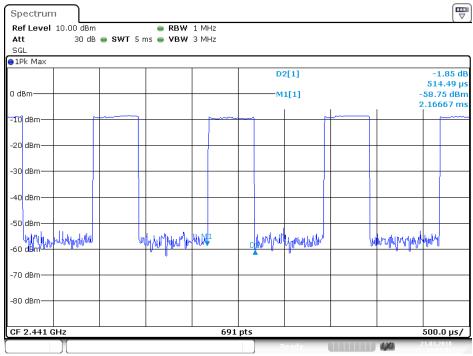
The spectrum analyzer plots are attached as below.

Page 28 of 76



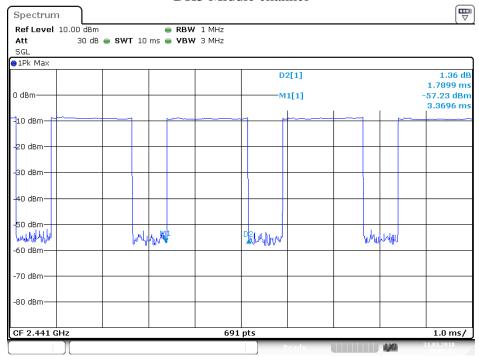
GFSK Mode

DH1 Middle channel



Date: 21.MAR.2018 16:03:42

DH3 Middle channel

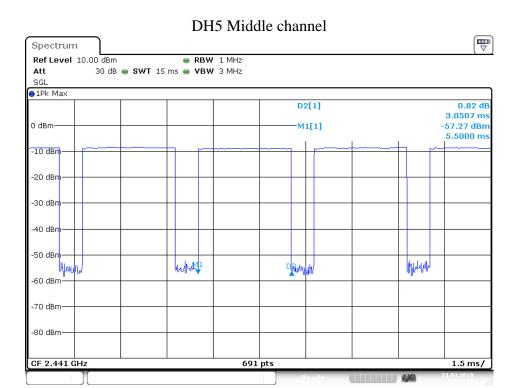


Date: 21.MAR.2018 16:05:13



Page 29 of 76

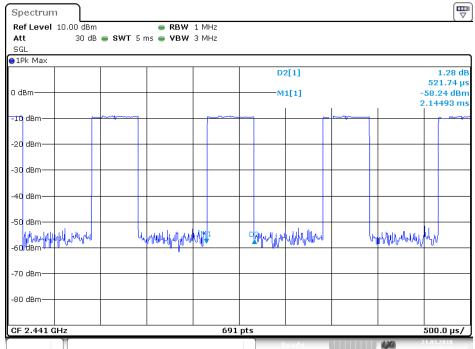




Date: 21.MAR.2018 16:06:28

\prod /4-DQPSK

2DH1 Middle channel

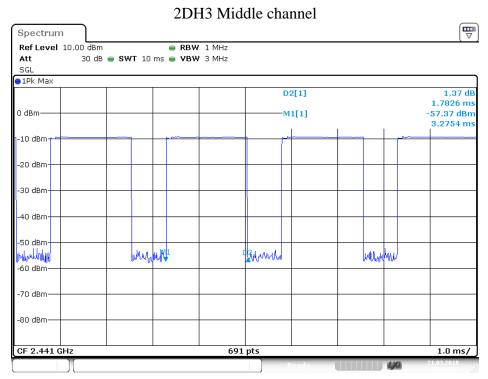


Date: 21.MAR.2018 16:10:20

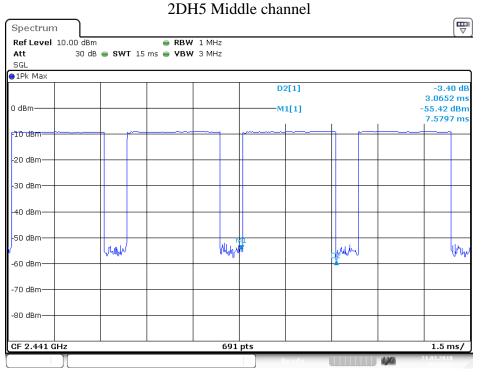




Page 30 of 76



Date: 21.MAR.2018 16:09:34

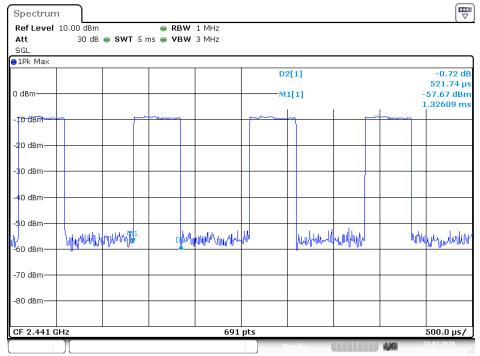


Date: 21.MAR.2018 16:11:24



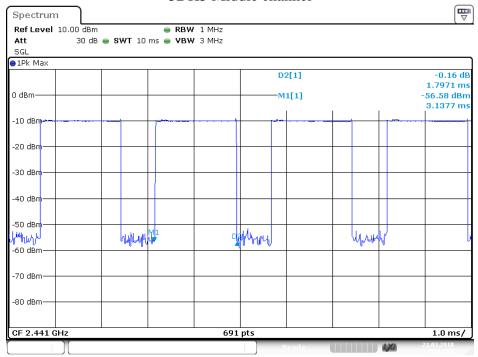
8DPSK

3DH1 Middle channel



Date: 21.MAR.2018 16:12:54

3DH3 Middle channel

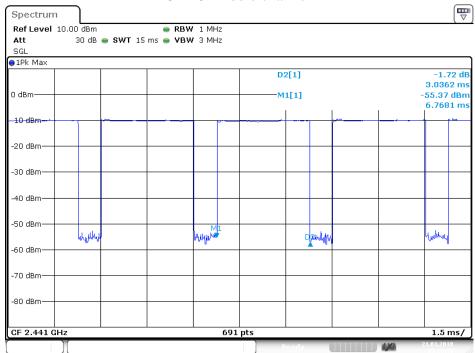


Date: 21.MAR.2018 16:17:55

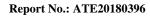


Page 32 of 76

3DH5 Middle channel



Date: 21.MAR.2018 16:19:42



Page 33 of 76



9. MAXIMUM PEAK OUTPUT POWER TEST

9.1.Block Diagram of Test Setup



(EUT: Bluetooth Earphones)

9.2. The Requirement For Section 15.247(b)(1)

Section 15.247(b)(1): For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

9.3.EUT Configuration on Measurement

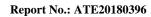
The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

9.4. Operating Condition of EUT

- 9.4.1. Setup the EUT and simulator as shown as Section 9.1.
- 9.4.2. Turn on the power of all equipment.
- 9.4.3.Let the EUT work in TX (Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, and 2480MHz TX frequency to transmit.

9.5.Test Procedure

- 9.5.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.
- 9.5.2.Set RBW of spectrum analyzer to 3MHz and VBW to 3MHz.
- 9.5.3. Measurement the maximum peak output power.



Page 34 of 76



9.6.Test Result

Test Lab: Shielding room Test Engineer: Star

GFSK Mode

| OI DIL 1110GC | | | |
|---------------|-----------------|---------------------------|-------------------|
| Channel | Frequency (MHz) | Peak Output Power (dBm/W) | Limits dBm / W |
| Low | 2402 | -4.66/0.0003 | 21 / 0.125 |
| Middle | 2441 | -4.20/0.0004 | 21 / 0.125 |
| High | 2480 | -4.21/0.0004 | 21 / 0.125 |

∏/4-DQPSK Mode

| Channel | Frequency (MHz) | Peak Output Power (dBm/W) | Limits dBm / W |
|---------|-----------------|---------------------------|-------------------|
| Low | 2402 | -5.38/0.0003 | 21 / 0.125 |
| Middle | 2441 | -5.08/0.0003 | 21 / 0.125 |
| High | 2480 | -4.83/0.0003 | 21 / 0.125 |

8DPSK

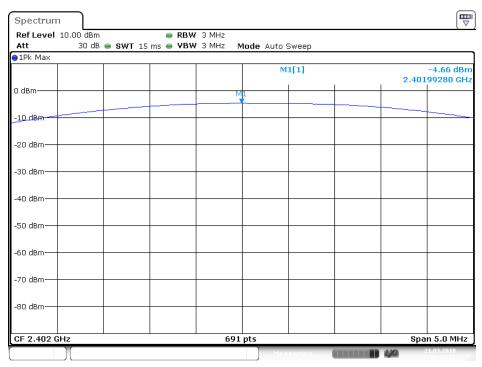
| Channel | Frequency (MHz) | Peak Output Power (dBm/W) | Limits dBm / W |
|---------|-----------------|---------------------------|-------------------|
| Low | 2402 | -4.74/0.0003 | 21 / 0.125 |
| Middle | 2441 | -4.40/0.0004 | 21 / 0.125 |
| High | 2480 | -4.38/0.0004 | 21 / 0.125 |

The spectrum analyzer plots are attached as below.

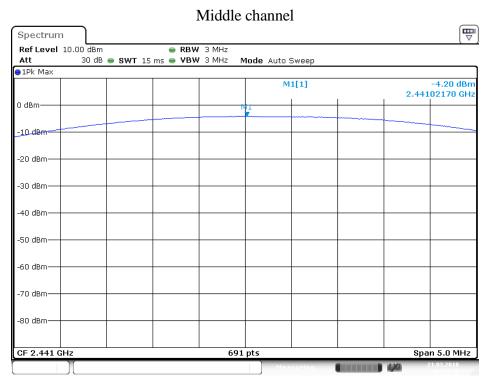


GFSK Mode

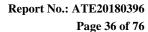
Low channel



Date: 21.MAR.2018 16:33:28

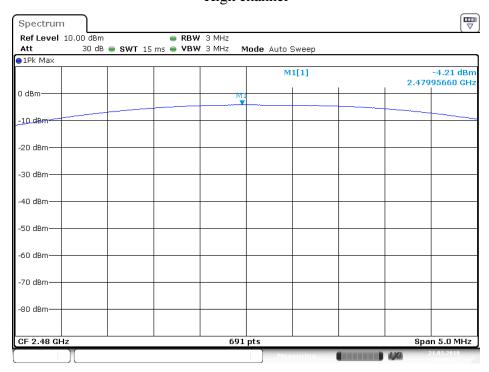


Date: 21.MAR.2018 16:34:30





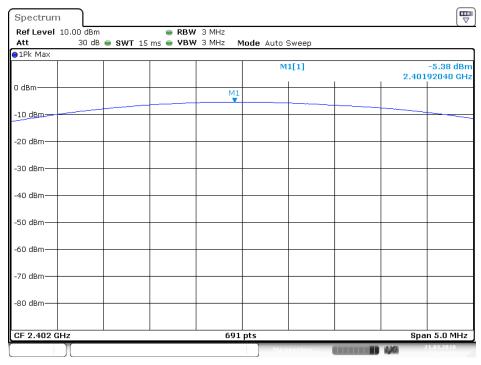
High channel



Date: 21.MAR.2018 16:35:37

$\Pi/4$ -DQPSK Mode

Low channel

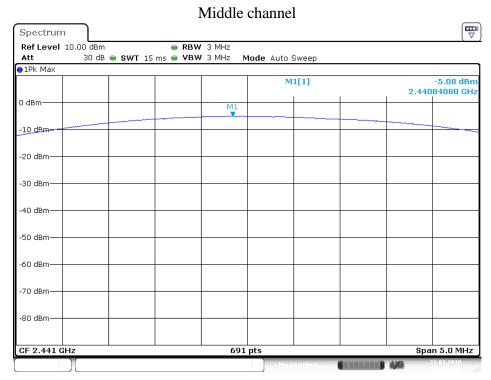


Date: 21.MAR.2018 16:32:24



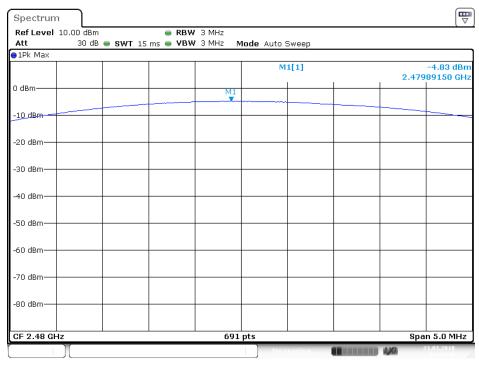


Page 37 of 76



Date: 21.MAR.2018 16:29:46

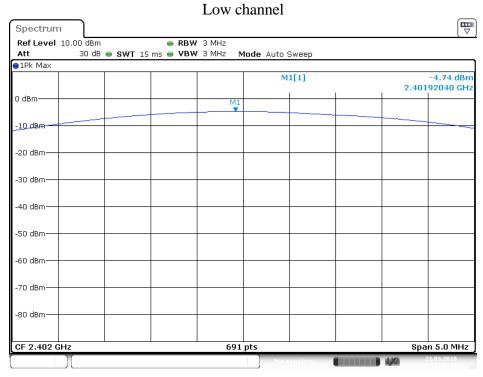
High channel



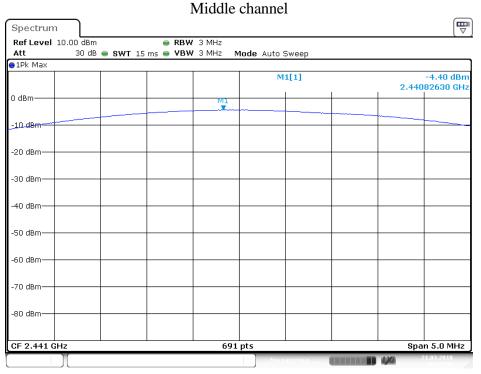
Date: 21.MAR.2018 16:30:48



8DPSK Mode



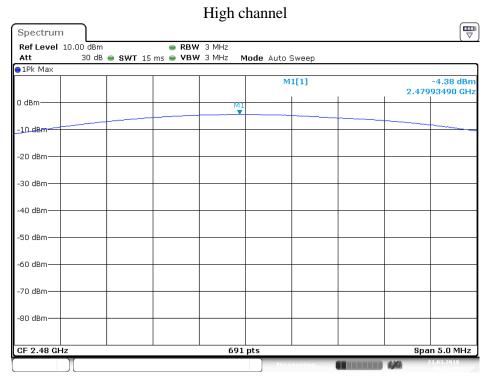
Date: 21.MAR.2018 16:40:08



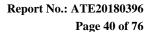
Date: 21.MAR.2018 16:39:08



Page 39 of 76



Date: 21.MAR.2018 16:37:34

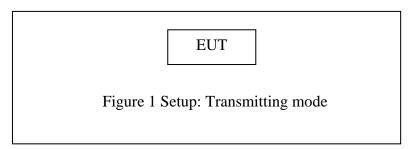




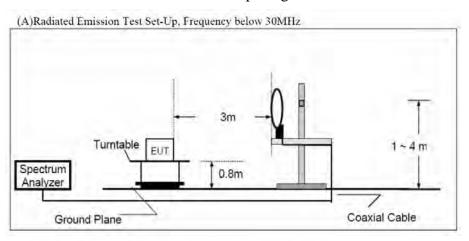
10. RADIATED EMISSION TEST

10.1.Block Diagram of Test Setup

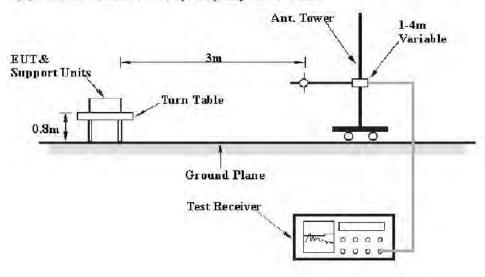
10.1.1.Block diagram of connection between the EUT and peripherals



10.1.2.Semi-Anechoic Chamber Test Setup Diagram

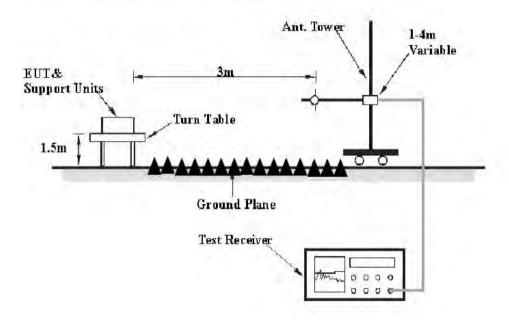


(B)Radiated Emission Test Set-Up, Frequency 30MHz-1GHz





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



10.2. 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).



Page 42 of 76



10.3.Restricted bands of operation

10.3.1.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 |
| ¹ 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 | $\binom{2}{}$ |
| 13.36-13.41 | | | |

¹Until February 1, 1999, this restricted band shall be 0.490-0.510

(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.

10.4. 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.

²Above 38.6



Page 43 of 76



10.5. Operating Condition of EUT

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

10.5.2. Turn on the power of all equipment.

10.5.3.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.

10.6.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.



Page 44 of 76

10.7.Data Sample

| Frequency | Reading | Factor | Result | Limit | Margin | Remark |
|-----------|---------|--------|----------|----------|--------|--------|
| (MHz) | (dBµv) | (dB/m) | (dBµv/m) | (dBµv/m) | (dB) | |
| X.XX | 48.69 | -13.35 | 35.34 | 46 | -10.66 | QP |

Frequency(MHz) = Emission frequency in MHz

Reading($dB\mu\nu$) = 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 μ v/m) - Limit (dB μ 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.

10.8. The Field Strength of Radiation Emission Measurement Results

PASS.

Test Lab: 3m Anechoic chamber

Test Engineer: Star

Note: 1.We tested GFSK mode, $\Pi/4$ -DQPSK & 8DPSK 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 26.5GHz.

The spectrum analyzer plots are attached as below.



Page 45 of 76

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.: STAR2018 #72

Standard: FCC Class C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 % EUT: Bluetooth Earphones

Mode: TX 2402MHz (GFSK)

Model: 40012BT

Manufacturer: SHENGLAI

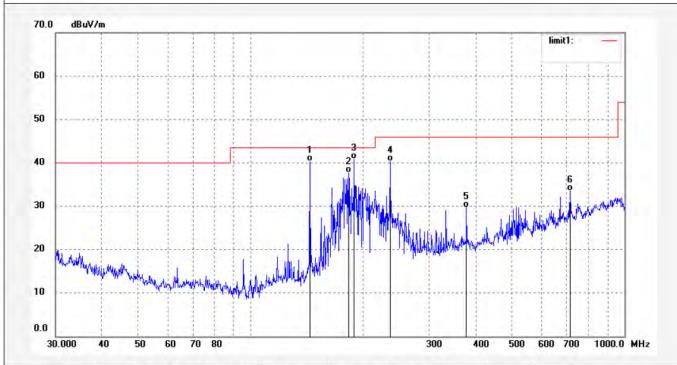
Note: Report No.:ATE20180396

Polarization: Horizontal

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/14/19

Engineer Signature: star



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|------------------|----------------|--------------------|-------------------|----------------|----------|-------------|------------------|--------|
| 1 | 143.7760 | 62.55 | -22.20 | 40.35 | 43.50 | -3.15 | QP | 771 | | |
| 2 | 182.5785 | 57.72 | -20.09 | 37.63 | 43.50 | -5.87 | QP | | 11.7 | |
| 3 | 189.1076 | 60.43 | -19.52 | 40.91 | 43.50 | -2.59 | QP | | | |
| 4 | 235.9622 | 58.54 | -18.28 | 40.26 | 46.00 | -5.74 | QP | | | |
| 5 | 377.8481 | 43.91 | -14.16 | 29.75 | 46.00 | -16.25 | QP | | 1 | |
| 6 | 716.2038 | 41.05 | -7.58 | 33.47 | 46.00 | -12.53 | QP | | 11 | |



Page 46 of 76



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.: STAR2018 #71

Standard: FCC Class C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Bluetooth Earphones
Mode: TX 2402MHz (GFSK)

Model: 40012BT

Manufacturer: SHENGLAI

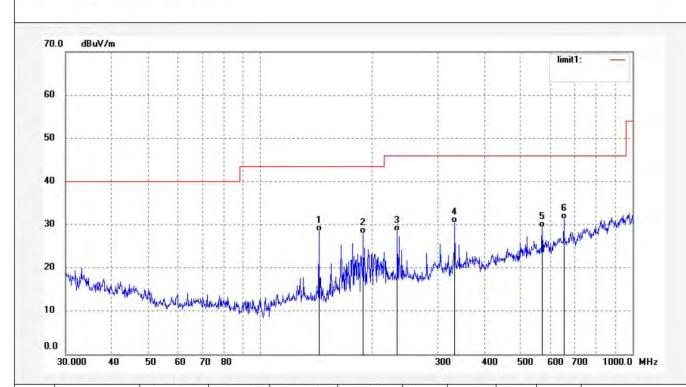
Note: Report No.:ATE20180396

Polarization: Vertical

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/13/09

Engineer Signature: star



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|------------------|----------------|-----------------|-------------------|----------------|----------|-------------|------------------|--------|
| 1 | 143.7760 | 50.68 | -22.20 | 28.48 | 43.50 | -15.02 | QP | | | |
| 2 | 189.1076 | 47.38 | -19.52 | 27.86 | 43.50 | -15.64 | QP | | | |
| 3 | 233.4881 | 46.79 | -18.29 | 28.50 | 46.00 | -17.50 | QP | | | |
| 4 | 332.9536 | 45.59 | -15.22 | 30.37 | 46.00 | -15.63 | QP | | | |
| 5 | 571.9750 | 39.81 | -10.57 | 29.24 | 46.00 | -16.76 | QP | | | |
| 6 | 653.6758 | 39.95 | -8.79 | 31.16 | 46.00 | -14.84 | QP | | | |



Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Page 47 of 76



ACCURATE TECHNOLOGY CO., LTD.

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

Polarization: Horizontal Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/16/32

Engineer Signature: star

Distance: 3m

Job No.: STAR2018 #73

Standard: FCC Class C 3M Radiated

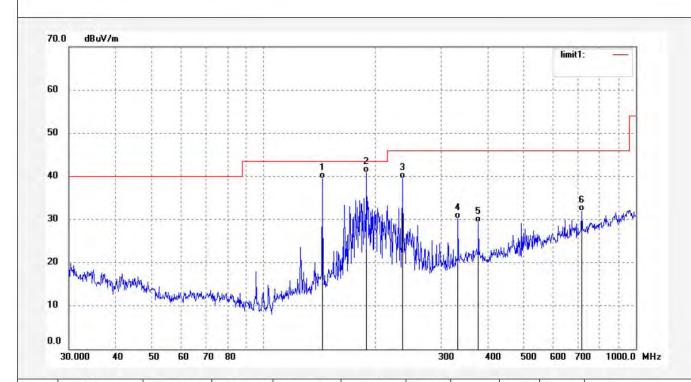
Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 % EUT: Bluetooth Earphones Mode: TX 2441MHz (GFSK)

Model: 40012BT

Manufacturer: SHENGLAI

Note: Report No.:ATE20180396



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|---------------------|-------------|--------------------|-------------------|----------------|----------|----------------|------------------|--------|
| 1 | 143.7760 | 61.72 | -22.20 | 39.52 | 43.50 | -3.98 | QP | | | |
| 2 | 189.1075 | 60.35 | -19.52 | 40.83 | 43.50 | -2.67 | QP | | | |
| 3 | 235.9621 | 57.74 | -18.28 | 39.46 | 46.00 | -6.54 | QP | | | |
| 4 | 332.9534 | 45.40 | -15.22 | 30.18 | 46.00 | -15.82 | QP | | | |
| 5 | 377.8480 | 43.47 | -14.16 | 29.31 | 46.00 | -16.69 | QP | | | |
| 6 | 716.2038 | 39.47 | -7.58 | 31.89 | 46.00 | -14.11 | QP | | | |



Page 48 of 76



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.: STAR2018 #74

Standard: FCC Class C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Bluetooth Earphones

Mode: TX 2441MHz (GFSK)

Model: 40012BT

Manufacturer: SHENGLAI

Note: Report No.:ATE20180396

Polarization: Vertical

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/17/32

Engineer Signature: star

Distance: 3m

| | | | 1 | | limit1: |
|----|------|---|-----|----|-------------------------------|
| 50 | | | | ļļ | |
| 50 | | *************************************** | | | |
| 10 | | | | | |
| 80 | | 1 3 | 4.5 | 6 | golden have golden with which |

| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|------------------|----------------|-----------------|-------------------|----------------|----------|-------------|------------------|--------|
| 1 | 143.7760 | 50.52 | -22.20 | 28.32 | 43.50 | -15.18 | QP | | | |
| 2 | 176.8951 | 47.45 | -20.62 | 26.83 | 43.50 | -16.67 | QP | | | |
| 3 | 189.1074 | 48.40 | -19.52 | 28.88 | 43.50 | -14.62 | QP | | | |
| 4 | 223.0629 | 46.70 | -18.37 | 28.33 | 46.00 | -17.67 | QP | | | |
| 5 | 235.9620 | 46.08 | -18.28 | 27.80 | 46.00 | -18.20 | QP | | | |
| 6 | 312.5482 | 46.41 | -15.99 | 30.42 | 46.00 | -15.58 | QP | | | |

70 80

60

10

30.000

600 700

1000.0 MHz



Page 49 of 76



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.: STAR2018 #76

Standard: FCC Class C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Bluetooth Earphones Mode: TX 2480MHz (GFSK)

Model: 40012BT

Manufacturer: SHENGLAI

Note: Report No.:ATE20180396

Polarization: Horizontal

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/20/07

Engineer Signature: star

| | | | | | | 1 | į. | | 1 | limit1 | = |
|----|---------------------|----------------|----------|----------------|--------------|-----|--------------|----------------------|------------|--------|-------------------|
| 60 | | | | | | - | | | - | | |
| 50 | | | | | | | | | | | |
| 40 | | | | | 1 02 0 | 3 4 | | | | 1 | |
| 30 | | | | | | | 5 | 6 | | الطهرا | not an orande and |
| 20 | myorkandan makahana | | | | | | MANAGANA MAR | workling double such | MIN (Now.) | MAY TO | |
| | Tolha cable in | 4 million wine | MANAMANA | Mary My Markey | W. | 1 | | | 1 | 1 1 | |

| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|------------------|----------------|--------------------|-------------------|----------------|----------|-------------|------------------|--------|
| 1 | 143.7760 | 61.68 | -22.20 | 39.48 | 43.50 | -4.02 | QP | | | |
| 2 | 178.7697 | 56.64 | -20.45 | 36.19 | 43.50 | -7.31 | QP | | | |
| 3 | 189.1076 | 59.83 | -19.52 | 40.31 | 43.50 | -3.19 | QP | | 11 | |
| 4 | 235.9622 | 59.32 | -18.28 | 41.04 | 46.00 | -4.96 | QP | | 11 | |
| 5 | 332.9536 | 44.52 | -15.22 | 29.30 | 46.00 | -16.70 | QP | | | |
| 6 | 377.8481 | 44.05 | -14.16 | 29.89 | 46.00 | -16.11 | QP | | | |



Page 50 of 76



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.: STAR2018 #75

Standard: FCC Class C 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 % EUT: Bluetooth Earphones Mode: TX 2480MHz (GFSK)

Model: 40012BT

Manufacturer: SHENGLAI

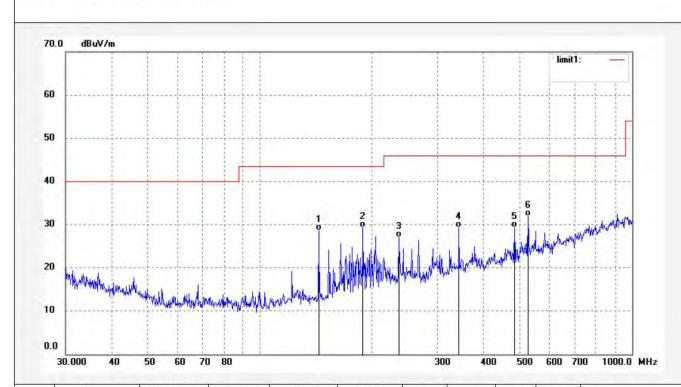
Note: Report No.:ATE20180396

Polarization: Vertical

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/18/21

Engineer Signature: star



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|------------------|----------------|-----------------|-------------------|----------------|----------|-------------|------------------|--------|
| 1 | 143.7760 | 50.77 | -22.20 | 28.57 | 43.50 | -14.93 | QP | | | |
| 2 | 189.1075 | 48.75 | -19.52 | 29.23 | 43.50 | -14.27 | QP | | | |
| 3 | 235.9621 | 45.29 | -18.28 | 27.01 | 46.00 | -18.99 | QP | | | |
| 4 | 342.4452 | 44.24 | -14.92 | 29.32 | 46.00 | -16.68 | QP | | | |
| 5 | 483.2060 | 41.68 | -12.43 | 29.25 | 46.00 | -16.75 | QP | | | |
| 6 | 525.7201 | 43.58 | -11.65 | 31.93 | 46.00 | -14.07 | QP | | | |



Page 51 of 76

Above 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.: STAR2018 #78 Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 % EUT: **Bluetooth Earphones** Mode: TX 2402MHz (GFSK)

40012BT Model:

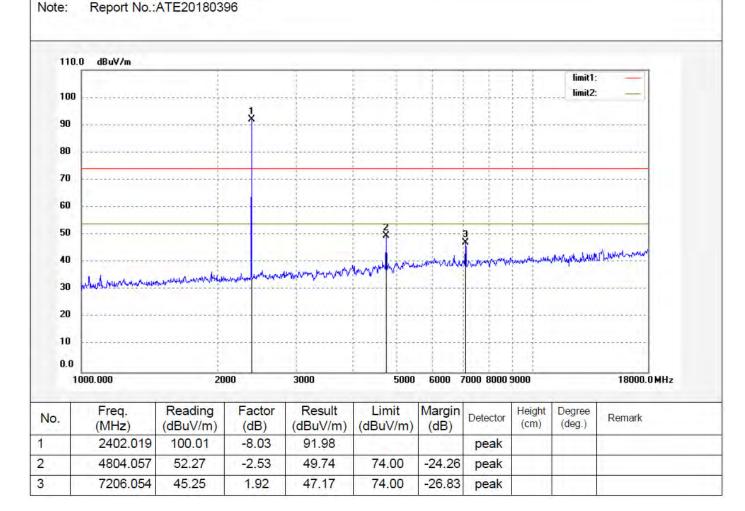
Manufacturer: SHENGLAI

Polarization: Horizontal

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/28/02

Engineer Signature: star





Page 52 of 76



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.: STAR2018 #77

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: **Bluetooth Earphones** Mode: TX 2402MHz (GFSK)

Report No.:ATE20180396

Model: 40012BT

Note:

Manufacturer: SHENGLAI

Polarization: Vertical

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/24/47

Engineer Signature: star

| 110.0 | 0 dBuV/m | | | | | | |
|-------|---|--------------------------|-------------------|--|-------|---------------|--|
| | | | | | | | limit1: — |
| 100 | | 1 | | | | | limit2: |
| 90 | | | | | | | *********** |
| 30 | | | | | | | 4422444 |
| 70 | | | | | | | .,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, |
| 60 | | | | ļ | | 4 | |
| 50 | | | ***** | 3 | | 3 | ******** |
| 10 | | | | The state of the s | www.h | maracamajarun | Marchingwoodsphosphosphosphosphosphosphosphosphospho |
| 30 | Assertance and well-war good have good from | should introduced broken | how-white and the | Month | | | ******** |
| 20 | | | , | | | | |
| 0 | | | | ļ | | | |
| 0.0 | | | | | 1 | | |

| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|------------------|-------------|--------------------|-------------------|----------------|----------|-------------|------------------|--------|
| 1 | 2402.019 | 105.67 | -8.03 | 97.64 | | | peak | | | |
| 2 | 4804.057 | 47.86 | -2.53 | 45.33 | 74.00 | -28.67 | peak | | | |
| 3 | 7206.054 | 43.51 | 1.92 | 45.43 | 74.00 | -28.57 | peak | | | |



Page 53 of 76



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.: STAR2018 #79 Polarization: Horizontal Standard: FCC PK Power Source: DC 3.7V

Test item: Radiation Test Date: 18/03/23/
Temp.(C)/Hum.(%) 25 C / 55 % Time: 11/29/55

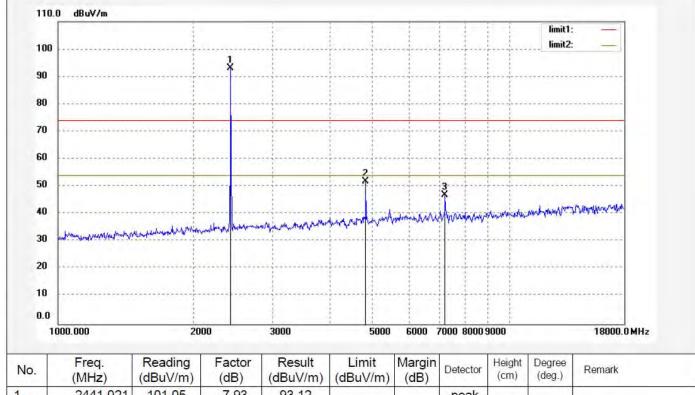
EUT: Bluetooth Earphones Engineer Signature: star

Mode: TX 2441MHz (GFSK) Distance: 3m

Model: 40012BT

Manufacturer: SHENGLAI

Note: Report No.:ATE20180396



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|------------------|----------------|-----------------|-------------------|----------------|----------|-------------|------------------|--------|
| 1 | 2441.021 | 101.05 | -7.93 | 93.12 | | | peak | | | |
| 2 | 4882.324 | 54.03 | -2.25 | 51.78 | 74.00 | -22.22 | peak | | | |
| 3 | 7323.096 | 44.87 | 2.11 | 46.98 | 74.00 | -27.02 | peak | | | |



Page 54 of 76



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.: STAR2018 #80 Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 % EUT: Bluetooth Earphones Mode: TX 2441MHz (GFSK)

Model: 40012BT

Manufacturer: SHENGLAI

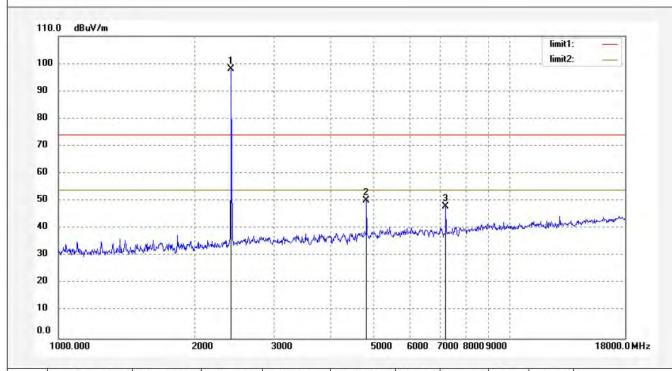
Polarization: Vertical Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/31/45

Engineer Signature: star

Distance: 3m

Report No.:ATE20180396 Note:



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark | |
|-----|----------------|------------------|----------------|-----------------|-------------------|----------------|----------|-------------|------------------|--------|--|
| 1 | 2441.021 | 106.00 | -7.93 | 98.07 | | 111 | peak | | | | |
| 2 | 4882.324 | 52.39 | -2.25 | 50.14 | 74.00 | -23.86 | peak | | | | |
| 3 | 7323.096 | 45.84 | 2.11 | 47.95 | 74.00 | -26.05 | peak | | |] 2 | |



Page 55 of 76



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.: STAR2018 #82 Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Bluetooth Earphones
Mode: TX 2480MHz (GFSK)

Model: 40012BT

Manufacturer: SHENGLAI

ote: Report No :ATF20180396

Polarization: Horizontal

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/35/24

Engineer Signature: star

Distance: 3m

| 10.0 dBuV/m | | | | |
|---------------------|--|--|----------------------------|--|
| 00 | | | | limit1: — |
| 00 | Ţ | | | |
| 90 | ······ | | | -4 |
| 80 | | | | |
| 70 | | | | |
| 50 | | | | |
| 10 | | 2 | | |
| 10 | | * | 3 | sharplegue de martine |
| Lay backgrown | moderne proportion and make the market on | month of the same | Wileyandadad | |
| 10 shraphytradhrann | noblem of the second of the se | my m | ana atama aphotospolahelan | Alandar of the form of the state of the stat |

| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|------------------|-------------|--------------------|-------------------|----------------|----------|-------------|------------------|--------|
| 1 | 2480.034 | 100.91 | -7.84 | 93.07 | | | peak | | | |
| 2 | 4960.144 | 49.58 | -1.92 | 47.66 | 74.00 | -26.34 | peak | | | |
| 3 | 7440.246 | 42.71 | 2.33 | 45.04 | 74.00 | -28.96 | peak | | | |

0.0

1000.000

18000.0 MHz



Page 56 of 76



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.: STAR2018 #81 Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 % EUT: Bluetooth Earphones

Mode: TX 2480MHz (GFSK) Model: 40012BT

Manufacturer: SHENGLAI

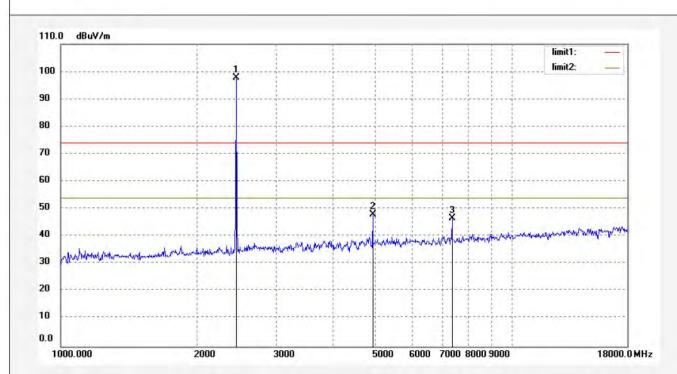
Polarization: Vertical Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/33/21

Engineer Signature: star

Distance: 3m

Note: Report No.:ATE20180396



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark |
|-----|----------------|------------------|----------------|-----------------|-------------------|----------------|----------|-------------|------------------|--------|
| 1 | 2480.034 | 105.61 | -7.84 | 97.77 | | | peak | | 3 | |
| 2 | 4960.044 | 49.78 | -1.92 | 47.86 | 74.00 | -26.14 | peak | | | |
| 3 | 7440.246 | 44.27 | 2.33 | 46.60 | 74.00 | -27.40 | peak | | | |



Page 57 of 76



11.BAND EDGE COMPLIANCE TEST

11.1.Block Diagram of Test Setup



(EUT: Bluetooth Earphones)

11.2. The Requirement 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).

11.3.EUT Configuration on Measurement

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

11.4. Operating Condition of EUT

- 11.4.1. Setup the EUT and simulator as shown as Section 11.1.
- 11.4.2. Turn on the power of all equipment.
- 11.4.3.Let the EUT work in TX (Hopping off, Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2480MHz TX frequency to transmit.



Page 58 of 76



11.5.Test Procedure

- 11.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.
- 11.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz with convenient frequency span including 100 kHz bandwidth from band edge.
- 11.5.3. The band edges was measured and recorded.

11.6.Test Result

Test Lab: Shielding room Test Engineer: Star

Note: Both hopping-on mode and hopping-off mode had been pre-tested, and only the worst case was recorded in the test report.

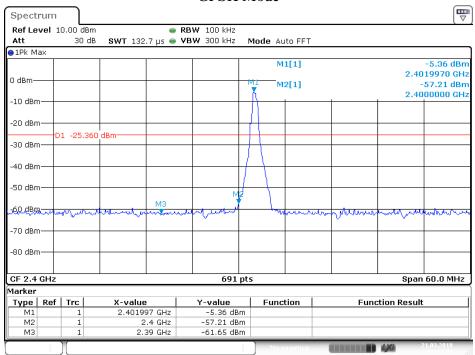
| Frequency (MHz) | Result of Band Edge (dBc) | Limit of Band Edge (dBc) |
|--------------------|------------------------------|-----------------------------|
| ` , | ` , , | ` , |
| | GFSK Mode | |
| 2400.00 | 51.86 | > 20dBc |
| 2483.50 | 56.72 | > 20dBc |
| | П/4-DQPSK Mode | |
| 2400.00 | 50.03 | > 20dBc |
| 2483.50 | 55.36 | > 20dBc |
| | 8DPSK Mode | |
| 2400.00 | 47.79 | > 20dBc |
| 2483.50 | 54.85 | > 20dBc |

The spectrum analyzer plots are attached as below.

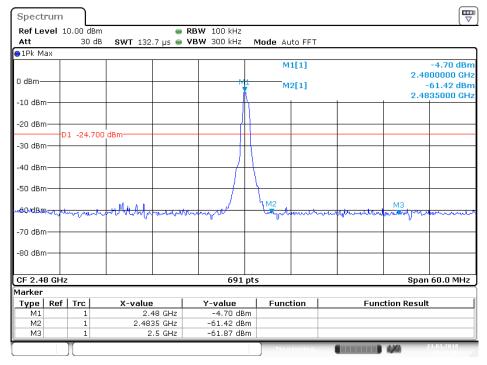
Page 59 of 76



GFSK Mode



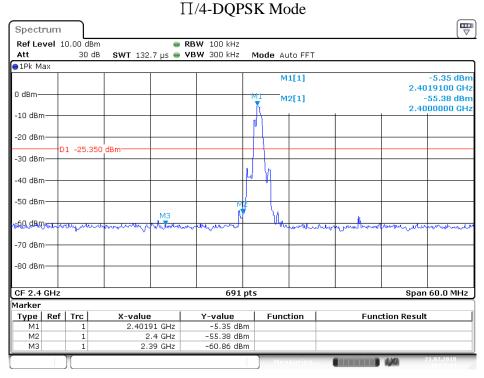
Date: 21.MAR.2018 16:44:19



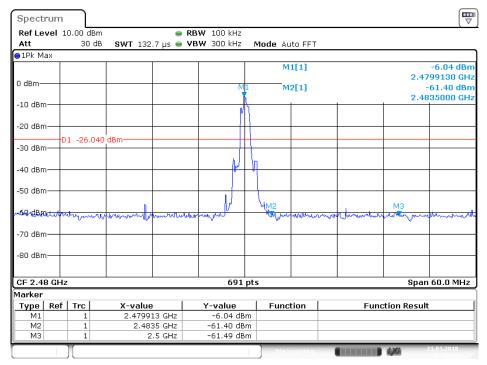
Date: 21.MAR.2018 16:47:00



Page 60 of 76



Date: 21.MAR.2018 16:52:14

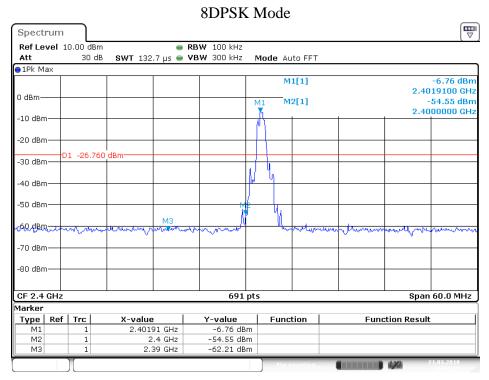


Date: 21.MAR.2018 16:48:43

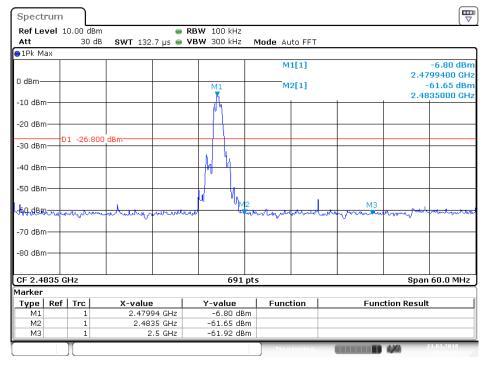




Page 61 of 76



Date: 21.MAR.2018 16:54:25



Date: 21.MAR.2018 16:55:59



Page 62 of 76

Radiated Band Edge Result

Note:

- 1. Emissions attenuated more than 20 dB below the permissible value are not reported.
- 2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

3. Display the measurement of peak values.

Test Procedure:

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. The EUT was tested in 3 orthogonal planes.

Let the EUT work in TX (Hopping off, Hopping on) modes measure it. We select 2402MHz, 2480MHz TX frequency to transmit(Hopping off mode). We select 2402-2480MHz TX frequency to transmit(Hopping on mode).

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

- 1.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.
- 2. 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.
- 3.All modes of operation were investigated and the worst case (GFSK mode) emissions are reported.

Test Lab: 3m Anechoic chamber

Test Engineer: Star



Page 63 of 76



Non-hopping mode 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.: STAR2018 #86 Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 % EUT: Bluetooth Earphones

Mode: TX 2402MHz (GFSK)

Model: 40012BT

Manufacturer: SHENGLAI

Sto territoria (E.S.)

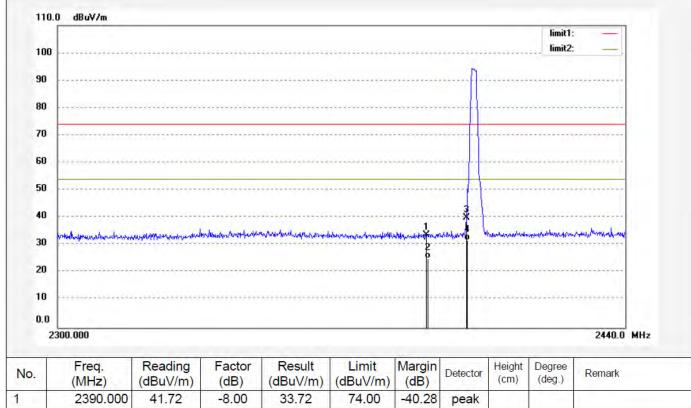
Polarization: Horizontal Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/43/45

Engineer Signature: star

Distance: 3m

Note: Report No.:ATE20180396



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark | |
|-----|----------------|------------------|----------------|--------------------|-------------------|----------------|----------|-------------|------------------|--------|--|
| 1 | 2390.000 | 41.72 | -8.00 | 33.72 | 74.00 | -40.28 | peak | | | | |
| 2 | 2390.000 | 33.25 | -8.00 | 25.25 | 54.00 | -28.75 | AVG | | | | |
| 3 | 2400.000 | 47.96 | -7.97 | 39.99 | 74.00 | -34.01 | peak | | | | |
| 4 | 2400.000 | 39.71 | -7.97 | 31.74 | 54.00 | -22.26 | AVG | | | | |

Note: Average measurement with peak detection at No.2&4



Page 64 of 76



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.: STAR2018 #85

Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Bluetooth Earphones
Mode: TX 2402MHz (GFSK)

Model: 40012BT

Note:

Manufacturer: SHENGLAI

Report No.:ATE20180396

Polarization: Vertical

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/42/32

Engineer Signature: star

Distance: 3m

| | | | | | | | | | limit1: | | |
|----------------------------------|---------------------------------------|--|--|--------------------------------|---|--|---------------|------------------|----------------------------|------------------------|-----|
| 100 | | | | | | | | | limit2: | | |
| 90 | | | | | | | A | | | | |
| 80 | | | | | | | | | ****** | | |
| 70 | | | | | | ******* | | ****** | ******* | ********* | |
| 60 | | | | | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | | | -4444 | .,,,,,,,,,,, | | |
| 50 | ********* | | | | | | | | | ********* | |
| | | | | | | | * \ | | | | |
| 40 | ************ | *********** | | | | | E I | ******* | | | |
| | red by which is the property of the | ideleggenergeelderen | shower done or the best of | and white the same | traliberaphia propriation | water the state of | mu | hanna trobagaj | ersignation, and harbolish | and an appropriately | |
| 30 | ggoldustristiskopunusiisisest | identimentaldinen | abandan direce Makeda | allowed with the washes | rad Markhetallyrature | | men 6 | hannen-brokensky | ersepers-weekerhele | a down showed he | |
| 30 20 | ggd have her is a payment and | and the second control of the second control | ademperature de la production de la prod | pathwish-stry i-Haymoreswi | haalisprasklesisgdenessaad | 1 1 2 3 | 44. i.) 6 | harman berkengap | ursignistrum gelle och de | and and an alternative | |
| 30 20 10 | ggdbyrnaturidglygrangigaga | hilanginanginkhinan | akendern bereit in bestellt | allowhering-layon sows | trafternegatesprepriensprening | The state of the s | AMALIA S | harren beskerap | erzigiakon nobentula. | and and any office | |
| 30 20 10 0.0 | 300.000 | uhterrongerheren | akentundroethalisell | allowed had in the house seems | ten literatus propries aparame | 1 | nun) | hannon-hodosopp | wysignist work which de | 2440.0 M | 4Hz |
| 30 20 10 0.0 2 | | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | | Height (cm) | Degree (deg.) | 2440.0 M | 4Hz |
| 30 20 10 0.0 2 | 300.000 Freq. | Reading | | | | | Detector | Height | Degree | | 4Hz |
| 40 30 20 10 0.0 2 | 300.000 Freq. (MHz) | Reading (dBuV/m) | (dB) | (dBuV/m) | (dBuV/m) | (dB) | Detector peak | Height | Degree | | ИНz |
| 30 20 10 0.0 2 | 300.000 Freq. (MHz) 2390.000 | Reading (dBuV/m) 41.82 | (dB) -8.00 | (dBuV/m) 33.82 | (dBuV/m) 74.00 | (dB) -40.18 | Detector peak | Height | Degree | | ИНz |

Note: Average measurement with peak detection at No.2&4



Page 65 of 76



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.: STAR2018 #83 Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 % EUT: Bluetooth Earphones Mode: TX 2480MHz (GFSK)

Report No.:ATE20180396

Model: 40012BT

Note:

Manufacturer: SHENGLAI

Polarization: Horizontal Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/39/54

Engineer Signature: star

Distance: 3m

| 110. | .0 dBuV/m | | | | | | | | | |
|----------------------------|--|---|----------------------|--|---|---------------------|------------------|---|----------------------|--|
| | | | | | | | | | limit1: | |
| 100 | | | | | | | | | limit2: | |
| 90 | | | | | | | | | | |
| 90 | | *************************************** | | | | | | | | ********* |
| 80 | | ************ | | | | | | | ******* | ********* |
| 70 | Succession Contra | | Cunton | O PARLO A DEPART | a. a | Ozna II. za | | 1.15.11.11 | 11/25/25/25 | 157601116 |
| | 7,7,300.000,000 | | | | | | | | | |
| 60 | | | | | | | | | | ********* |
| 50 | | | | | | | | | | ********* |
| | | | | | | | | | | |
| 40 | | 1 | | | | | | | | |
| 40 | ************************************** | | L | 3 | ماليان الماليان | Laundba and | Mhaba ing an | Lar mard | Carda Andrea | and the state of t |
| | a thirthean was objected in the face | hacaristanhaindheanachail | Sommer with | Half war to the | feldlikensom felferbesset | forspections | Material | has proper property | swimmer Ward | artises, a debelor, as a |
| 30 | entrature, mineral physical drebus | horasistro hatellina Jacke | Seminarion of | of a second | felologia o o o o o o o o o o o o o o o o o o o | hypertrunger | Managenturanes | happyn propertydd a'r daeth y barnell a'r daeth y barnell a'r daeth y barnell a'r daeth y barnell a'r daeth y | www.rellowe | garderetes, and the State Stat |
| 30 20 | entertransportus de placements des | hreadistry hydridd saw frach o | Manufacture of the | nteligramente man | feldige through played a good | hopethone | Malapaintena | hander tweeterf | sinteriority | and a strange of the state of t |
| 40 30 20 10 | a destructive selective se | house the house of the second | Sear-Low working the | orbeit frestrature terran | foldler on April Wast | hapadaara | Managawa | hante parent | harlest, trall broke | garderstern, and Albert Andrews |
| 30 20 10 0.0 | | Locarites Autobles and such | How-more day | of the state of th | f-dulter-von Neiderberort | hopedrane | Managaraneana | hampanan da | and and and | and a section of the |
| 30 20 10 0.0 | u.#v.t-a _{r-} ,-n _e j-d _e p _t -w.a.drc _t -en 2440.000 | haranistra haisidhisma aischal | Sampanada | statistics of the state of the | philippes on Agrifus beauth | terprediction regal | Managaman | in the second | minumellan | 2600.0 MH: |
| 30 20 10 0.0 2 | | Reading | Factor | Result | Limit | | | Height | Degree | |
| 30 20 10 0.0 2 | 2440.000 | ********* | * | | | Margin (dB) | Detector | | | 2600.0 MH: |
| 30 20 10 0.0 2 | 2440.000 Freq. | Reading | Factor | Result | Limit | Margin | | Height | Degree | |
| 30 20 10 0.0 | 2440.000 Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector peak | Height | Degree | |

Note: Average measurement with peak detection at No.2&4



Page 66 of 76



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.: STAR2018 #84 Standard: FCC PK

Test item: Radiation Test

Temp.(C)/Hum.(%) 25 C / 55 %

EUT: Bluetooth Earphones Mode: TX 2480MHz (GFSK)

Report No.:ATE20180396

Model: 40012BT

Note:

Manufacturer: SHENGLAI

Polarization: Vertical

Power Source: DC 3.7V

Date: 18/03/23/ Time: 11/41/01

Engineer Signature: star

Distance: 3m

| 110 | .0 dBuV/m | | | | | | | | | | |
|-----------------------|---|---|------------------|---|---|--|----------------------------------|--------------------|--|----------------------|-------------|
| | | | | | | | | | limit1: | _ | |
| 100 | | | | | | ******** | | | limit2: | _ | |
| 90 | | | | | | | | | | | |
| Ju | | | | | | | | | | | |
| 80 | | | | | | | | ****** | | ********* | |
| 70 | | | | | | | ******** | | | (0)-(0)- | |
| | | | | | | | | | | | |
| 60 | | | | | | | | ***** | | | |
| 50 | | | | | | ****** | | | | | |
| | | (| | | | | | | | | |
| 40 | | | | | | | | | | | |
| | Agrandon - Trunco Hacker | warmen to the reserve | Jaronden Market | Maria Maria Maria | - with frequency of france | was pradapharate spen | enyrosols, weller, we st. | undinadayasa | white | Mayorbasadirahaur | |
| | Arranghyrosorthulaurthicher | when we described the second | January 1 | Marin | -udoli (to salar en est of to some | wantedaylar digen | espectation problem | uralburaphan/assa | whytherend | Mayor Marchadowy | |
| 30 | Angerphysonorpoporthechy | and an apply and a fight ration of | Service Marketon | HANGER WAR HOUSE AND | -addition of the second | , ran fe d'aphor de sigle . | engreeds while you had | und mineral | natify American M | ham/paudraheur | |
| 30 20 | Margaretarion | whenevel and of the comme | Servent to | Magazilet war diwa | | now, to a higher way to | itayetasila jadalara japa silkis | with administra | whyman | Magantipasachincheau | |
| 10 | *************************************** | and an apply and a state of the continues | Serventure. | Hoperson William Alban | -with the salar weight | was parket by have being a | engeryte yn hender yd acht. | erakuraylan (erak | MANA MANAGAMAN | Magantipasachindraco | |
| 30 20 10 0.0 | *************************************** | and an applicate of the forest and | Arrodulos. | Market war franc | majekir franskrev e e e franskrev e e e franskrev e e | and the state of t | engraphy water parties and the | walkani ng ng kaba | Marine Ma | | wu. |
| 30 20 10 0.0 | *************************************** | whereaste what the content | pro-landa N | Mary Mary Alexand | water francisco was francis | non testaphoresissen | engraph wedge general w | walkandani wa | est planet and | 2600.0 | М Нz |
| 30 20 10 0.0 | *************************************** | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit | Margin | | Height (cm) | Degree (deg.) | | MHz |
| 30 20 10 0.0 | 2440.000 Freq. | | Factor | Result | | Margin | Detector | Height | Degree | 2600.0 | MHz |
| 30 20 10 0.0 | 2440.000 Freq. (MHz) | (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector peak | Height | Degree | 2600.0 | MHz |

54.00

-28.66

AVG

Note: Average measurement with peak detection at No.2&4

-7.71

25.34

33.05

4

2500.000



Site: 1# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Page 67 of 76



ATC[®]

ACCURATE TECHNOLOGY CO., LTD.

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

> Polarization: Horizontal Power Source: DC 3.7V

Date: 18/03/23/ Time: 13/47/15

Engineer Signature: star

Distance: 3m

Job No.: STAR2018 #88 Standard: FCC PK Test item: Radiation Test

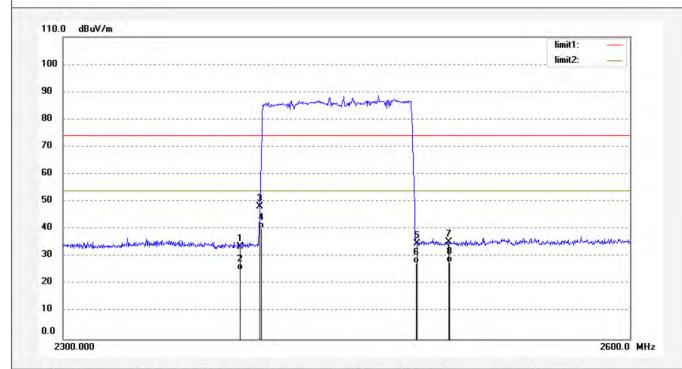
Temp.(C)/Hum.(%) 25 C / 55 % EUT: Bluetooth Earphones

Mode: Hopping (GFSK)

Manufacturer: SHENGLAI

Model: 40012BT

Note: Report No.:ATE20180396



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark | |
|-----|----------------|------------------|----------------|--------------------|-------------------|----------------|----------|-------------|------------------|--------|--|
| 1 | 2390.000 | 41.74 | -8.00 | 33.74 | 74.00 | -40.26 | peak | | | | |
| 2 | 2390.000 | 33.28 | -8.00 | 25.28 | 54.00 | -28.72 | AVG | | | | |
| 3 | 2400.000 | 56.18 | -7.97 | 48.21 | 74.00 | -25.79 | peak | | | | |
| 4 | 2400.000 | 48.13 | -7.97 | 40.16 | 54.00 | -13.84 | AVG | | | | |
| 5 | 2483.500 | 42.48 | -7.76 | 34.72 | 74.00 | -39.28 | peak | | | | |
| 6 | 2483.500 | 35.48 | -7.76 | 27.72 | 54.00 | -26.28 | AVG | | | | |
| 7 | 2500.000 | 43.12 | -7.71 | 35.41 | 74.00 | -38.59 | peak | | | | |
| 8 | 2500.000 | 35.52 | -7.71 | 27.81 | 54.00 | -26.19 | AVG | - 11 | | | |

Note: Average measurement with peak detection at No.2&4&6&8



Page 68 of 76



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.: STAR2018 #87 Polarization: Vertical

Standard: FCC PK Power Source: DC 3.7V

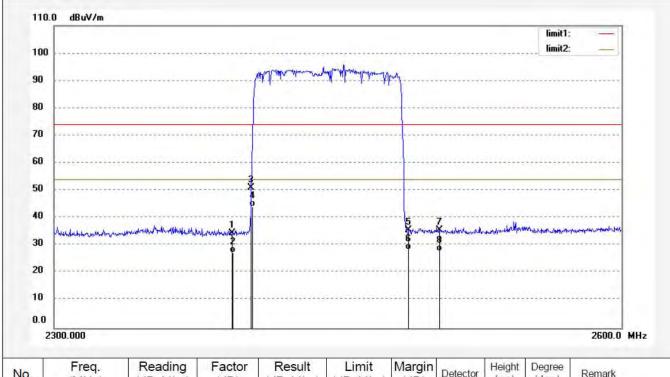
Test item: Radiation Test Date: 18/03/23/
Temp.(C)/Hum.(%) 25 C / 55 % Time: 13/42/47

EUT: Bluetooth Earphones Engineer Signature: star

Mode: Hopping (GFSK) Distance: 3m Model: 40012BT

Manufacturer: SHENGLAI

Note: Report No.:ATE20180396



| No. | Freq. (MHz) | Reading (dBuV/m) | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Degree (deg.) | Remark | |
|-----|----------------|------------------|----------------|--------------------|-------------------|----------------|----------|-------------|------------------|--------|----|
| 1 | 2390.000 | 42.62 | -8.00 | 34.62 | 74.00 | -39.38 | peak | | | | |
| 2 | 2390.000 | 35.36 | -8.00 | 27.36 | 54.00 | -26.64 | AVG | | | | |
| 3 | 2400.000 | 59.01 | -7.97 | 51.04 | 74.00 | -22.96 | peak | | | | |
| 4 | 2400.000 | 52.09 | -7.97 | 44.12 | 54.00 | -9.88 | AVG | | | | |
| 5 | 2483.500 | 43.36 | -7.76 | 35.60 | 74.00 | -38.40 | peak | | | | |
| 6 | 2483.500 | 36.14 | -7.76 | 28.38 | 54.00 | -25.62 | AVG | | | | |
| 7 | 2500.000 | 43.27 | -7.71 | 35.56 | 74.00 | -38.44 | peak | | | | |
| 8 | 2500.000 | 35.62 | -7.71 | 27.91 | 54.00 | -26.09 | AVG | | | | 77 |

Note: Average measurement with peak detection at No.2&4&6&8

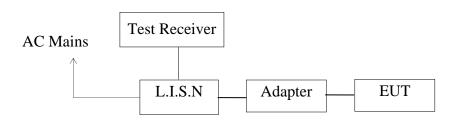


12.AC POWER LINE CONDUCTED EMISSION FOR FCC PART

15 SECTION 15.207(A)

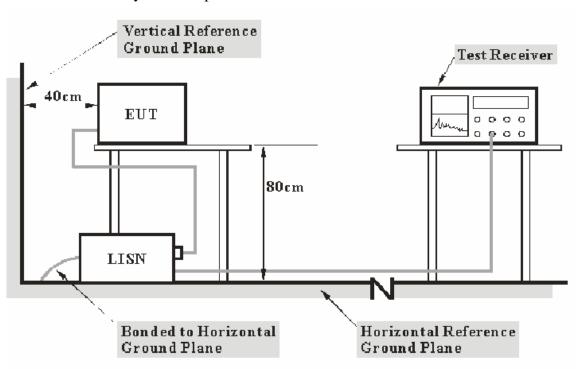
12.1.Block Diagram of Test Setup

12.1.1.Block diagram of connection between the EUT and simulators



(EUT: Bluetooth Earphones)

12.1.2.Test System Setup



Note: 1. Support units were connected to second LISN.

2. Both of LISNs (AMIN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.



Page 70 of 76

12.2. Power Line Conducted Emission Measurement Limits

| Frequency | Limit $dB(\mu V)$ | | | | |
|--------------|-------------------|---------------|--|--|--|
| (MHz) | 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.

12.3. 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.

12.4. Operating Condition of EUT

- 12.4.1. Setup the EUT and simulator as shown as Section 12.1.
- 12.4.2. Turn on the power of all equipment.
- 12.4.3.Let the EUT work in test mode and measure it.

12.5.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.



Page 71 of 76

12.6.Data Sample

| Frequency | Transducer | QuasiPeak | Average | QuasiPeak | Average | QuasiPeak | Average | Remark |
|-----------|------------|-----------|---------|-----------|---------|-----------|---------|-------------|
| (MHz) | value | Level | Level | Limit | Limit | Margin | Margin | (Pass/Fail) |
| | (dB) | (dBµV) | (dBµV) | (dBµV) | (dBµV) | (dB) | (dB) | |
| X.XX | 10.5 | 51.1 | 34.2 | 56.0 | 46.0 | 4.9 | 11.8 | Pass |

$$\begin{split} & Frequency(MHz) = Emission \ frequency \ in \ MHz \\ & Transducer \ value(dB) = Insertion \ loss \ of \ LISN + Cable \ Loss \\ & Level(dB\mu V) = Quasi-peak \ Reading/Average \ Reading + Transducer \ value \\ & Limit \ (dB\mu V) = Limit \ stated \ in \ standard \end{split}$$

Calculation Formula:

Margin = Limit ($dB\mu V$) - Level ($dB\mu V$)

Margin = Limit ($dB\mu V$) - Level ($dB\mu V$)

12.7. Power Line Conducted Emission Measurement Results

PASS.

Test Lab: Shielding room Test Engineer: Star

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.



Report No.: ATE20180396 Page 72 of 76

ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15C

EUT: Bluetooth Earphones M/N:40012BT

Manufacturer: SHENGLAI

Operating Condition: BT Communication Test Site: 2#Shielding Room

star Operator:

Test Specification: N 240V/60Hz

Comment: Report No.:ATE20180396 Start of Test: 2018-3-23 / 16:17:17

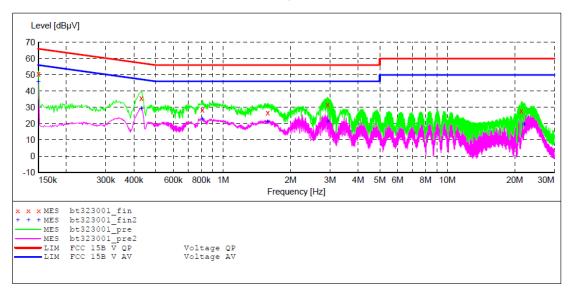
SCAN TABLE: "V 150K-30MHz fin"
Short Description: _SUB_S _____SUB_STD_VTERM2 1.70

Step ΙF Start Stop Detector Meas. Transducer

Frequency Frequency Width 150.0 kHz 30.0 MHz 4.5 kHz Time Bandw.

QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



MEASUREMENT RESULT: "bt323001 fin"

| 3-23 16 : 1 | L9 | | | | | | |
|--------------------|---------------|--|---|---|--|---|---|
| equency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
| 150000 | 50.60 | 10.8 | 66 | 15.4 | QP | N | GND |
| 432000 | 35.70 | 11.0 | 57 | 21.5 | QP | N | GND |
| .808000 | 28.50 | 11.1 | 56 | 27.5 | QP | N | GND |
| 580000 | 26.90 | 11.2 | 56 | 29.1 | QP | N | GND |
| 930000 | 31.90 | 11.3 | 56 | 24.1 | QP | N | GND |
| 420000 | 27.70 | 11.7 | 60 | 32.3 | QP | N | GND |
| | equency | MHz dBμV 150000 50.60 432000 35.70 808000 28.50 580000 26.90 930000 31.90 | equency MHz Level dBμV Transd dB .150000 50.60 10.8 .432000 35.70 11.0 .808000 28.50 11.1 .580000 26.90 11.2 .930000 31.90 11.3 | equency MHz Level dBμV Transd dB dBμV Limit dB dBμV .150000 50.60 10.8 66 .432000 35.70 11.0 57 .808000 28.50 11.1 56 .580000 26.90 11.2 56 .930000 31.90 11.3 56 | equency MHz Level dBμV Transd dB dBμV Limit dB dBμV Margin dB .150000 50.60 10.8 66 15.4 .432000 35.70 11.0 57 21.5 .808000 28.50 11.1 56 27.5 .580000 26.90 11.2 56 29.1 .930000 31.90 11.3 56 24.1 | equency MHz Level dBμV Transd dB dBμV Limit dB dBμV Margin dB Detector dB .150000 50.60 10.8 66 15.4 QP .432000 35.70 11.0 57 21.5 QP .808000 28.50 11.1 56 27.5 QP .580000 26.90 11.2 56 29.1 QP .930000 31.90 11.3 56 24.1 QP | Equency MHz Level dBμV Transd dB dBμV Limit dB dBμV Margin dB Detector Line dB dBμV .150000 50.60 10.8 66 15.4 QP N .432000 35.70 11.0 57 21.5 QP N .808000 28.50 11.1 56 27.5 QP N .580000 26.90 11.2 56 29.1 QP N .930000 31.90 11.3 56 24.1 QP N |

MEASUREMENT RESULT: "bt323001 fin2"

| 20 | 18-3-23 16: | 19 | | | | | | |
|----|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| | Frequency MHz | Level dBuV | Transd dB | Limit dBuV | Margin dB | Detector | Line | PE |
| | MITZ | αвμν | αь | αвμν | QБ | | | |
| | 0.150000 | 45.60 | 10.8 | 56 | 10.4 | AV | N | GND |
| | 0.432000 | 29.40 | 11.0 | 47 | 17.8 | AV | N | GND |
| | 0.808000 | 22.80 | 11.1 | 46 | 23.2 | AV | N | GND |
| | 1.580000 | 21.20 | 11.2 | 46 | 24.8 | AV | N | GND |
| | 2.930000 | 21.30 | 11.3 | 46 | 24.7 | AV | N | GND |
| | 22.025000 | 19.60 | 11.7 | 50 | 30.4 | AV | N | GND |





Page 73 of 76

ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15C

EUT: M/N:40012BT Bluetooth Earphones

Manufacturer: SHENGLAI

Operating Condition: BT Communication 2#Shielding Room Test Site:

Operator: star

Test Specification: L 240V/60Hz

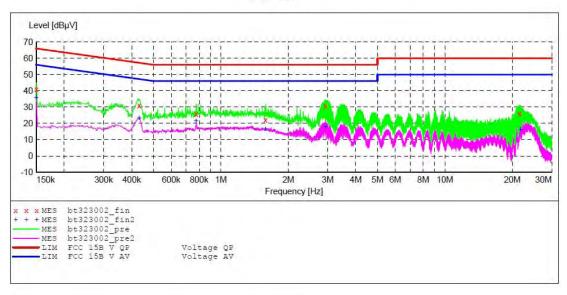
Report No.:ATE20180396 2018-3-23 / 16:20:15 Comment: Start of Test:

SCAN TABLE: "V 150K-30MHz fin"
Short Description: SUB S _SUB_STD_VTERM2 1.70

Detector Meas. Time Stop Step IF Start Transducer Bandw.

Frequency Frequency Width 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



MEASUREMENT RESULT: "bt323002 fin"

| 2 | 018-3-23 16: | 22 | | | | | | |
|---|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| | Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
| | 0.150000 | 41.00 | 10.8 | 66 | 25.0 | QP | L1 | GND |
| | 0.432000 | 30.90 | 11.0 | 57 | 26.3 | QP | L1 | GND |
| | 0.776000 | 25.60 | 11.1 | 56 | 30.4 | QP | L1 | GND |
| | 1.582000 | 22.20 | 11.2 | 56 | 33.8 | QP | L1 | GND |
| | 2.930000 | 30.50 | 11.3 | 56 | 25.5 | QP | L1 | GND |
| | 21.575000 | 26.20 | 11.7 | 60 | 33.8 | QP | L1 | GND |
| | | | | | | | | |

MEASUREMENT RESULT: "bt323002 fin2"

| 20 | 18-3-23 16: | 22 | | | | | | |
|----|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| | Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
| | 0.150000 | 35.70 | 10.8 | 56 | 20.3 | AV | L1 | GND |
| | 0.432000 | 23.30 | 11.0 | 47 | 23.9 | AV | L1 | GND |
| | 0.776000 | 21.50 | 11.1 | 46 | 24.5 | AV | L1 | GND |
| | 1.582000 | 16.50 | 11.2 | 46 | 29.5 | AV | L1 | GND |
| | 2.930000 | 17.90 | 11.3 | 46 | 28.1 | AV | L1 | GND |
| | 21.795000 | 16.10 | 11.7 | 50 | 33.9 | AV | L1 | GND |





Page 74 of 76

ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15C

EUT: Bluetooth Earphones M/N:40012BT

Manufacturer: SHENGLAI

Operating Condition: BT Communication Test Site: 2#Shielding Room

Operator: star

Test Specification: N 120V/60Hz

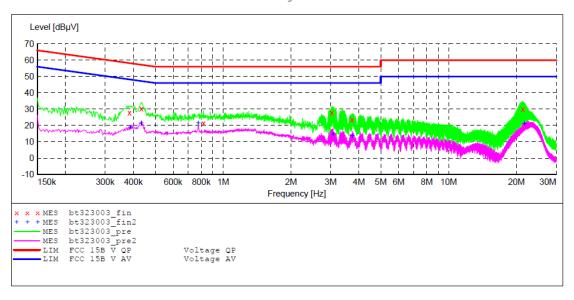
Report No.:ATE20180396 2018-3-23 / 16:22:52 Comment: Start of Test:

SCAN TABLE: "V 150K-30MHz fin"
Short Description: _SUB_S _SUB_STD_VTERM2 1.70

Start Stop Step Detector Meas. ΙF Transducer

Frequency Frequency Width 150.0 kHz 30.0 MHz 4.5 kHz Time Bandw. QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



MEASUREMENT RESULT: "bt323003 fin"

| 2 | 018-3-23 16: | 24 | | | | | | |
|---|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| | Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
| | 0.384000 | 27.70 | 10.9 | 58 | 30.5 | OP | N | GND |
| | 0.434000 | 30.40 | 11.0 | 57 | 26.8 | QP | N | GND |
| | 0.818000 | 21.60 | 11.1 | 56 | 34.4 | QP | N | GND |
| | 3.040000 | 27.70 | 11.3 | 56 | 28.3 | QP | N | GND |
| | 3.735000 | 23.50 | 11.4 | 56 | 32.5 | QP | N | GND |
| | 21.345000 | 30.00 | 11.7 | 60 | 30.0 | QP | N | GND |

MEASUREMENT RESULT: "bt323003 fin2"

| 2018-3-23 16 | :24 | | | | | | |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
| 0.388000 | 18.80 | 11.0 | 48 | 29.3 | ΔV | N | GND |
| 0.434000 | 21.40 | 11.0 | 47 | 25.8 | AV | N | GND |
| 0.776000 | 21.50 | 11.1 | 46 | 24.5 | AV | N | GND |
| 3.075000 | 14.60 | 11.3 | 46 | 31.4 | AV | N | GND |
| 3.735000 | 13.60 | 11.4 | 46 | 32.4 | AV | N | GND |
| 21.655000 | 20.90 | 11.7 | 50 | 29.1 | AV | N | GND |



Page 75 of 76

ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15C

EUT: Bluetooth Earphones M/N:40012BT

Manufacturer: SHENGLAI

Operating Condition: BT Communication Test Site: 2#Shielding Room

Operator: star

Test Specification: L 120V/60Hz

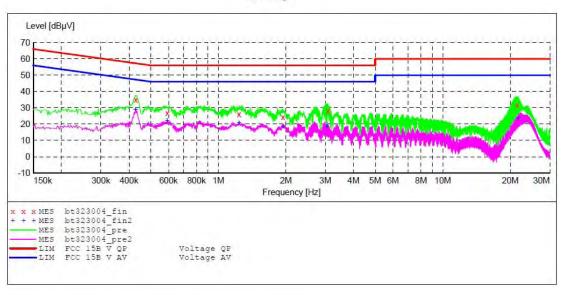
Report No.:ATE20180396 Comment: Start of Test: 2018-3-23 / 16:25:18

SCAN TABLE: "V 150K-30MHz fin"
Short Description: _SUB_S SUB_STD_VTERM2 1.70

Stop Step Detector Meas. IF
Time Bandw. Start Transducer

Frequency Frequency Width 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



MEASUREMENT RESULT: "bt323004 fin"

| 20 | 018-3-23 16: | 27 | | | | | | |
|----|--------------|-------|--------|-------|--------|----------|------|-----|
| | Frequency | Level | Transd | Limit | Margin | Detector | Line | PE |
| | MHz | dΒμV | dB | dΒμV | dB | | | |
| | 0.428000 | 34.80 | 11.0 | 57 | 22.5 | OP | L1 | GND |
| | 0.592000 | 26.90 | 11.0 | 56 | 29.1 | QP | L1 | GND |
| | 1.236000 | 26.10 | 11.2 | 56 | 29.9 | QP | L1 | GND |
| | 1.942000 | 24.30 | 11.3 | 56 | 31.7 | QP | L1 | GND |
| | 3.080000 | 28.30 | 11.3 | 56 | 27.7 | QP | L1 | GND |
| | 21.455000 | 31.90 | 11.7 | 60 | 28.1 | QP | L1 | GND |

MEASUREMENT RESULT: "bt323004 fin2"

| 2018-3-23 16 | :27 | | | | | | |
|------------------|---------------|--------------|---------------|--------------|----------|------|-----|
| Frequency MHz | Level dBµV | Transd dB | Limit dBµV | Margin dB | Detector | Line | PE |
| 0.428000 | 29.00 | 11.0 | 47 | 18.3 | AV | L1 | GND |
| 0.592000 | 22.10 | 11.0 | 46 | 23.9 | AV | L1 | GND |
| 1.236000 | 20.70 | 11.2 | 46 | 25.3 | AV | L1 | GND |
| 1.942000 | 18.70 | 11.3 | 46 | 27.3 | AV | L1 | GND |
| 3.045000 | 18.60 | 11.3 | 46 | 27.4 | AV | L1 | GND |
| 21.660000 | 23.40 | 11.7 | 50 | 26.6 | AV | L1 | GND |

Page 76 of 76



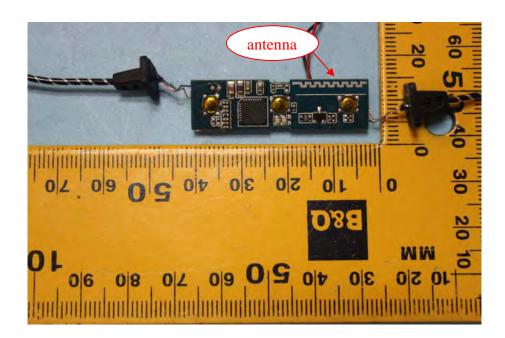
13.1.The Requirement

13.ANTENNA 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.

13.2.Antenna Construction

Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The Max Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



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