

APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
CLEVER BRIGHT INTERNATIONAL (H.K.) LTD.

Bluetooth Stereo Earbuds with Mic

Model No.: CB-BE154, 2199579, BE-24/0991, CB-BE174, 2199580, BE-24/0993

FCC ID: 2AD42-CB-BE154

Prepared for : CLEVER BRIGHT INTERNATIONAL (H.K.) LTD.
Address : Rm 1701, Zhuoyue Building, Fuhua Yi Rd., Futian Central Zone,
Shenzhen, P.R.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. : ATE20172115
Date of Test : October 30-November 4, 2017
Date of Report : November 6, 2017

TABLE OF CONTENTS

Description	Page
Test Report Certification	
1. GENERAL INFORMATION	5
1.1. Description of Device (EUT).....	5
1.2. Special Accessory and Auxiliary Equipment	5
1.3. Carrier Frequency of Channels	6
1.4. Description of Test Facility	7
1.5. Measurement Uncertainty	7
2. MEASURING DEVICE AND TEST EQUIPMENT	8
3. OPERATION OF EUT DURING TESTING	9
3.1. Operating Mode	9
3.2. Configuration and peripherals	9
4. TEST PROCEDURES AND RESULTS	10
5. POWER LINE CONDUCTED MEASUREMENT	11
5.1. Block Diagram of Test	11
5.2. Power Line Conducted Emission Measurement Limits	12
5.3. Configuration of EUT on Measurement	12
5.4. Operating Condition of EUT	12
5.5. Test Procedure	12
5.6. Data Sample	13
5.7. Power Line Conducted Emission Measurement Results	14
6. 6DB BANDWIDTH MEASUREMENT	17
6.1. Block Diagram of Test Setup.....	17
6.2. The Requirement For Section 15.247(a)(2)	17
6.3. EUT Configuration on Measurement	17
6.4. Operating Condition of EUT	17
6.5. Test Procedure	17
6.6. Test Result	18
7. MAXIMUM PEAK OUTPUT POWER	20
7.1. Block Diagram of Test Setup.....	20
7.2. The Requirement For Section 15.247(b)(3)	20
7.3. EUT Configuration on Measurement	20
7.4. Operating Condition of EUT	20
7.5. Test Procedure	20
7.6. Test Result	21
8. POWER SPECTRAL DENSITY MEASUREMENT	23
8.1. Block Diagram of Test Setup.....	23
8.2. The Requirement For Section 15.247(e)	23
8.3. EUT Configuration on Measurement	23
8.4. Operating Condition of EUT	23
8.5. Test Procedure	24
8.6. Test Result	25
9. BAND EDGE COMPLIANCE TEST	27
9.1. Block Diagram of Test Setup.....	27
9.2. The Requirement For Section 15.247(d)	27
9.3. EUT Configuration on Measurement	27

9.4.	Operating Condition of EUT	27
9.5.	Test Procedure	28
9.6.	Test Result	28
10.	RADIATED SPURIOUS EMISSION TEST	35
10.1.	Block Diagram of Test Setup.....	35
10.2.	The Limit For Section 15.247(d)	36
10.3.	Restricted bands of operation	37
10.4.	Configuration of EUT on Measurement	37
10.5.	Operating Condition of EUT	37
10.6.	Test Procedure	38
10.7.	Data Sample.....	38
10.8.	The Field Strength of Radiation Emission Measurement Results	39
11.	ANTENNA REQUIREMENT.....	51
11.1.	The Requirement	51
11.2.	Antenna Construction	51
12.	PHOTOGRAPHS.....	52
12.1.	Photo of Power Line Conducted Emission Measurement	52
12.2.	Photo of Radiation Emission Measurement.....	52
12.3.	Photo of EUT	54

Test Report Certification

Applicant : CLEVER BRIGHT INTERNATIONAL (H.K.) LTD.
 Manufacturer : CLEVER BRIGHT INTERNATIONAL (H.K.) LTD.
 EUT Description : Bluetooth Stereo Earbuds with Mic
 Model No. : CB-BE154, 2199579, BE-24/0991, CB-BE174, 2199580,
 BE-24/0993
 Trade Mark : n.a.

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247: 2016 ANSI C63.10: 2013

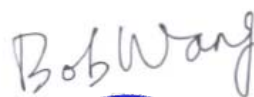
The EUT was tested according to DTS test procedure of Apr 05, 2017 KDB558074 D01 DTS Meas Guidance v04 for compliance to FCC 47CFR 15.247 requirements

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 : October 30-November 4, 2017
 Date of Report: November 6, 2017

Prepared by :



 (Bob Wang, Engineer)

Approved & Authorized Signer :


 (Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Bluetooth Stereo Earbuds with Mic
Model Number	:	CB-BE154, 2199579, BE-24/0991, CB-BE174, 2199580, BE-24/0993
(Note: We hereby state that these models are identical in interior structure, electrical circuits and components, and just model names are different for the marketing requirement. So we prepare the CB-BE154 for test.)		
Trade Mark	:	n.a.
Bluetooth version	:	BT V4.0
Frequency Range	:	2402MHz-2480MHz
Number of Channels	:	40
Antenna Gain	:	1dBi
Antenna type	:	PCB Antenna
Power Supply	:	DC 3.7V & DC 5V(Power by USB port)
Modulation mode	:	GFSK
Applicant	:	CLEVER BRIGHT INTERNATIONAL (H.K.) LTD.
Address	:	Rm 1701, Zhuoyue Building, Fuhua Yi Rd., Futian Central Zone, Shenzhen, P.R.China.
Manufacturer	:	CLEVER BRIGHT INTERNATIONAL (H.K.) LTD.
Address	:	Rm 1701, Zhuoyue Building, Fuhua Yi Rd., Futian Central Zone, Shenzhen, P.R.China.
Date of sample received	:	October 26, 2017
Date of Test	:	October 30-November 4, 2017
Sample No.	:	1701429

1.2. Special Accessory and Auxiliary Equipment

Adapter:	Model:BEK-QC-001
	INPUT: 120V~60Hz
	OUTPUT:5V/1A

1.3.Carrier Frequency of Channels

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

1.4. Description of Test Facility

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

1.5. Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	=	4.06dB, k=2

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 7, 2017	1 Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 7, 2017	1 Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 7, 2017	1 Year
Pre-Amplifier	Rohde&Schwarz	CBLU118354 0-01	3791	Jan. 7, 2017	1 Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 13, 2017	1 Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 13, 2017	1 Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 13, 2017	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 13, 2017	1 Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 7, 2017	1 Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 7, 2017	1 Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18 G-10SS	N/A	Jan. 7, 2017	1 Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2 485-2375/2510 -60/11SS	N/A	Jan. 7, 2017	1 Year

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

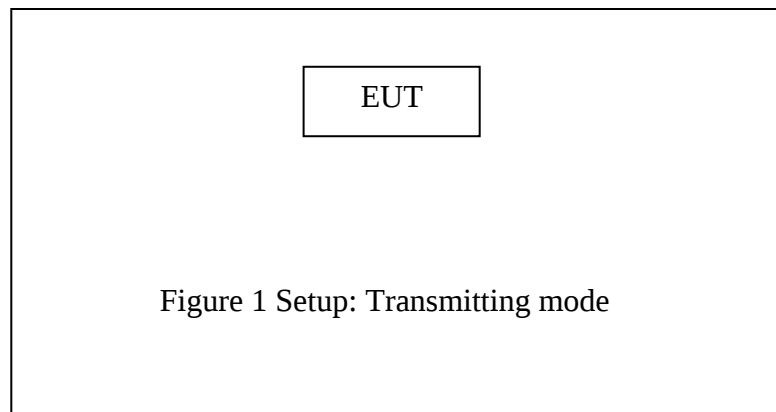
The mode is used: **BLE Transmitting mode**

Low Channel: 2402MHz

Middle Channel: 2440MHz

High Channel: 2480MHz

3.2.Configuration and peripherals



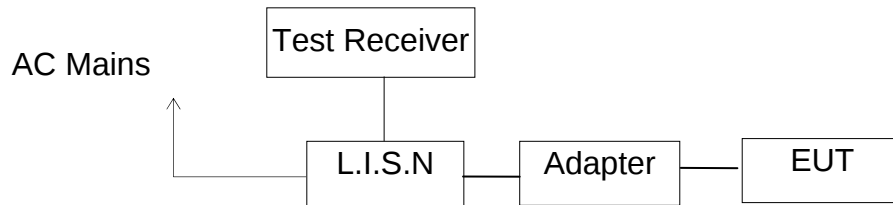
4. TEST PROCEDURES AND RESULTS

FCC Rules	Description of Test	Result
Section 15.247(a)(2)	6dB Bandwidth Test	Compliant
Section 15.247(e)	Power Spectral Density Test	Compliant
Section 15.247(b)(3)	Maximum Peak Output Power Test	Compliant
Section 15.247(d)	Band Edge Compliance Test	Compliant
Section 15.247(d) Section 15.209	Radiated Spurious Emission Test	Compliant
Section 15.207	AC Power Line Conducted Emission Test	Compliant
Section 15.203	Antenna Requirement	Compliant

5. POWER LINE CONDUCTED MEASUREMENT

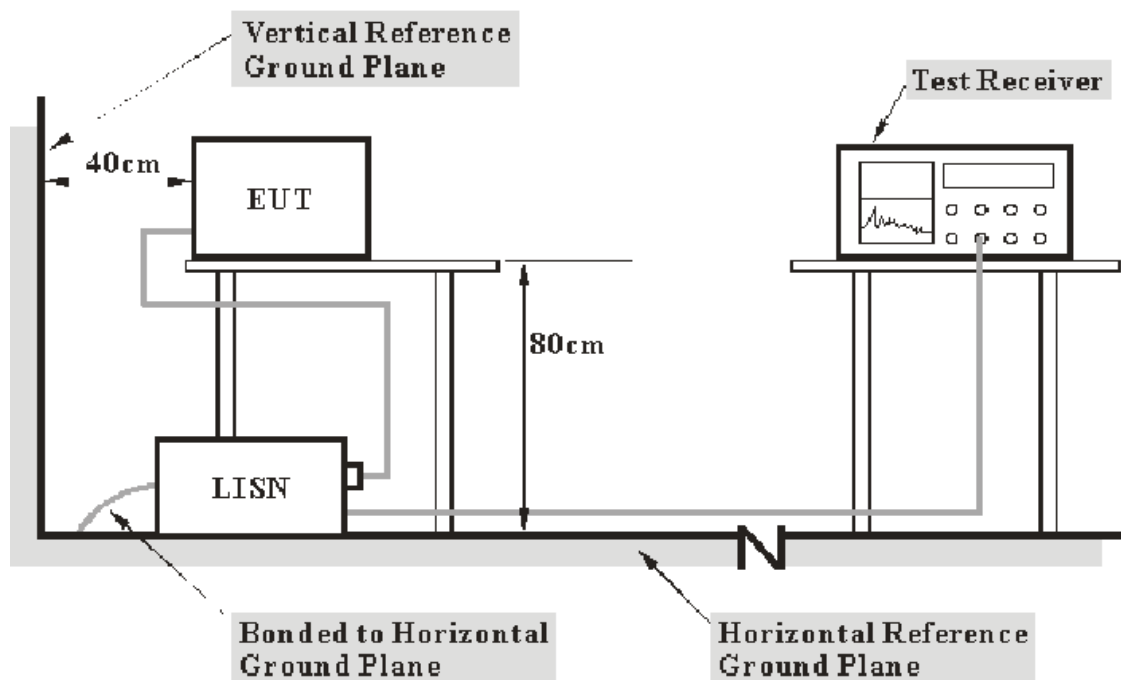
5.1. Block Diagram of Test

5.1.1. Block diagram of connection between the EUT and simulators



(EUT: Color Changing BT Speaker)

5.1.2. Test System Setup



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

5.2.Power Line Conducted Emission Measurement Limits

Frequency (MHz)	Limit dB(μ V)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0
NOTE1: The lower limit shall apply at the transition frequencies.		
NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.		

5.3.Configuration of EUT on Measurement

The following 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.

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 test mode and measure it.

5.5.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 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.

5.6.Data Sample

Frequency (MHz)	Transducer value (dB)	QuasiPeak Level (dB μ V)	Average Level (dB μ V)	QuasiPeak Limit (dB μ V)	Average Limit (dB μ V)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
2.145	11.3	28.5	23.2	56.0	46.0	-27.5	-22.8	Pass

Frequency(MHz) = Emission frequency in MHz

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

Level(dB μ V) = Quasi-peak Reading/Average Reading + Transducer value

Limit (dB μ V) = Limit stated in standard

Margin = Limit (dB μ V) - Level (dB μ V)

Calculation Formula:

Margin = Limit (dB μ V) - Level (dB μ V)

5.7.Power Line Conducted Emission Measurement Results

PASS.

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

Test mode : Charging(AC 120V/60Hz)								
EUT mode : CB-BE154								
MEASUREMENT RESULT: "2115-4_fin"								
2017-10-30 10:50								
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE	
0.352000	29.70	10.9	59	29.2	QP	L1	GND	
0.718000	30.30	11.1	56	25.7	QP	L1	GND	
1.548000	32.30	11.2	56	23.7	QP	L1	GND	
2.165000	28.40	11.3	56	27.6	QP	L1	GND	
5.360000	20.60	11.5	60	39.4	QP	L1	GND	
18.185000	16.00	11.7	60	44.0	QP	L1	GND	
MEASUREMENT RESULT: "2115-4_fin2"								
2017-10-30 10:50								
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE	
0.354000	24.50	10.9	49	24.4	AV	L1	GND	
0.776000	31.50	11.1	46	14.5	AV	L1	GND	
1.800000	26.90	11.2	46	19.1	AV	L1	GND	
2.150000	22.90	11.3	46	23.1	AV	L1	GND	
5.825000	14.30	11.5	50	35.7	AV	L1	GND	
18.410000	7.90	11.7	50	42.1	AV	L1	GND	
MEASUREMENT RESULT: "2115-3_fin"								
2017-10-30 10:46								
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE	
0.344000	30.20	10.9	59	28.9	QP	N	GND	
0.782000	31.90	11.1	56	24.1	QP	N	GND	
1.324000	32.40	11.2	56	23.6	QP	N	GND	
2.145000	28.50	11.3	56	27.5	QP	N	GND	
6.990000	23.30	11.5	60	36.7	QP	N	GND	
17.855000	20.30	11.7	60	39.7	QP	N	GND	
MEASUREMENT RESULT: "2115-3_fin2"								
2017-10-30 10:46								
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE	
0.358000	24.90	10.9	49	23.9	AV	N	GND	
0.776000	31.40	11.1	46	14.6	AV	N	GND	
1.800000	27.10	11.2	46	18.9	AV	N	GND	
2.145000	23.20	11.3	46	22.8	AV	N	GND	
6.030000	18.00	11.5	50	32.0	AV	N	GND	
19.470000	11.70	11.7	50	38.3	AV	N	GND	

Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.

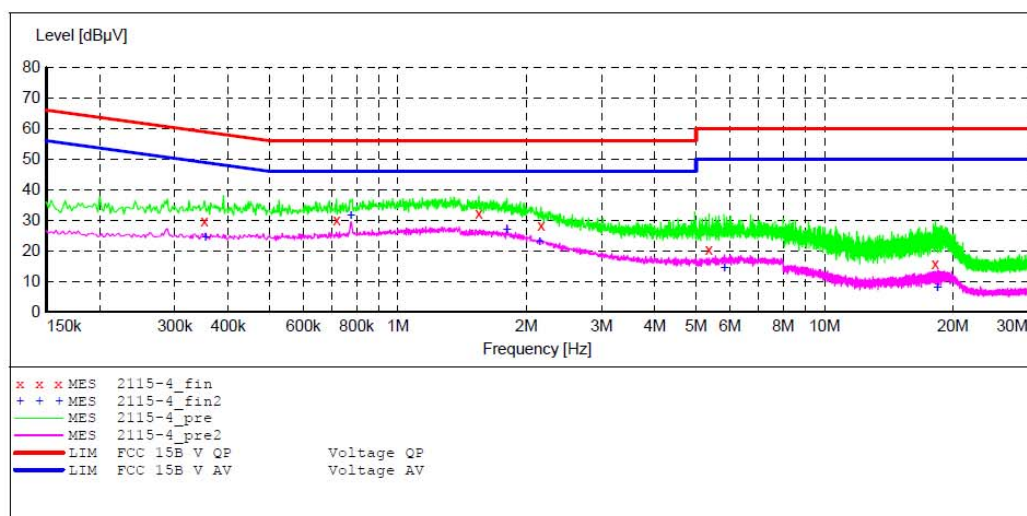
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART15 B

EUT: Bluetooth Stereo Earbuds with Mic M/N:CB-BE154
 Manufacturer: CLEVER BRIGHT
 Operating Condition: Charging
 Test Site: 1#Shielding Room
 Operator: Frank
 Test Specification: L 120V/60Hz
 Comment: Report NO.:ATE20172115
 Start of Test: 2017-10-30 / 10:47:16

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "2115-4_fin"

2017-10-30 10:50

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.352000	29.70	10.9	59	29.2	QP	L1	GND
0.718000	30.30	11.1	56	25.7	QP	L1	GND
1.548000	32.30	11.2	56	23.7	QP	L1	GND
2.165000	28.40	11.3	56	27.6	QP	L1	GND
5.360000	20.60	11.5	60	39.4	QP	L1	GND
18.185000	16.00	11.7	60	44.0	QP	L1	GND

MEASUREMENT RESULT: "2115-4_fin2"

2017-10-30 10:50

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.354000	24.50	10.9	49	24.4	AV	L1	GND
0.776000	31.50	11.1	46	14.5	AV	L1	GND
1.800000	26.90	11.2	46	19.1	AV	L1	GND
2.150000	22.90	11.3	46	23.1	AV	L1	GND
5.825000	14.30	11.5	50	35.7	AV	L1	GND
18.410000	7.90	11.7	50	42.1	AV	L1	GND

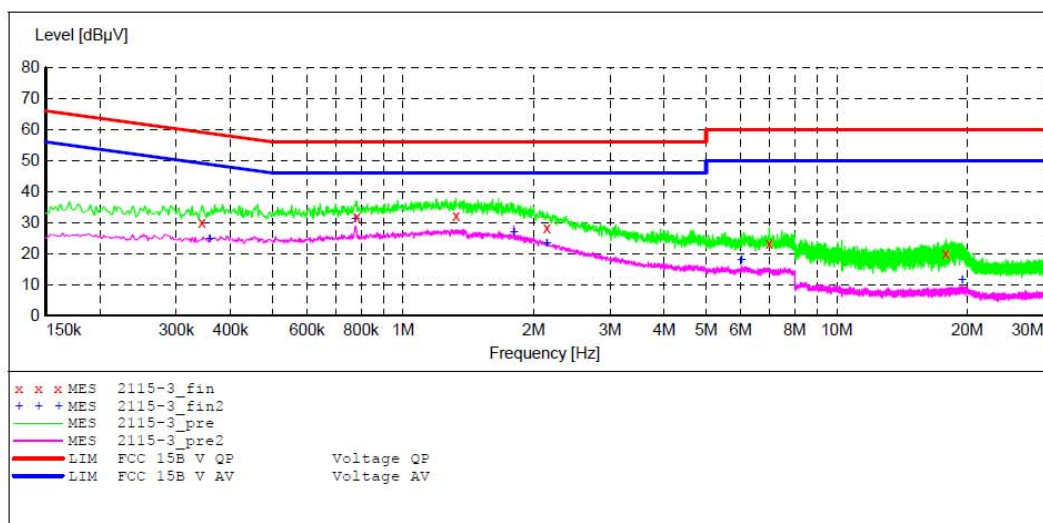
ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART15 B

EUT: Bluetooth Stereo Earbuds with Mic M/N:CB-BE154
 Manufacturer: CLEVER BRIGHT
 Operating Condition: Charging
 Test Site: 1#Shielding Room
 Operator: Frank
 Test Specification: N 120V/60Hz
 Comment: Report NO.:ATE20172115
 Start of Test: 2017-10-30 / 10:44:31

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB STD VTERM2 1.70
 Start Stop Step Detector Meas. IF Transducer
 Frequency Frequency Width Time Bandw.
 150.0 kHz 30.0 MHz 4.5 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008
 Average



MEASUREMENT RESULT: "2115-3_fin"

2017-10-30 10:46

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.344000	30.20	10.9	59	28.9	QP	N	GND
0.782000	31.90	11.1	56	24.1	QP	N	GND
1.324000	32.40	11.2	56	23.6	QP	N	GND
2.145000	28.50	11.3	56	27.5	QP	N	GND
6.990000	23.30	11.5	60	36.7	QP	N	GND
17.855000	20.30	11.7	60	39.7	QP	N	GND

MEASUREMENT RESULT: "2115-3_fin2"

2017-10-30 10:46

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.358000	24.90	10.9	49	23.9	AV	N	GND
0.776000	31.40	11.1	46	14.6	AV	N	GND
1.800000	27.10	11.2	46	18.9	AV	N	GND
2.145000	23.20	11.3	46	22.8	AV	N	GND
6.030000	18.00	11.5	50	32.0	AV	N	GND
19.470000	11.70	11.7	50	38.3	AV	N	GND

6. 6DB BANDWIDTH MEASUREMENT

6.1. Block Diagram of Test Setup



(EUT: Bluetooth Stereo Earbuds with Mic)

6.2. The Requirement For Section 15.247(a)(2)

Section 15.247(a)(2): Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

6.3. EUT Configuration on Measurement

The equipment is 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 modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, 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 100 kHz and VBW to 300 kHz.

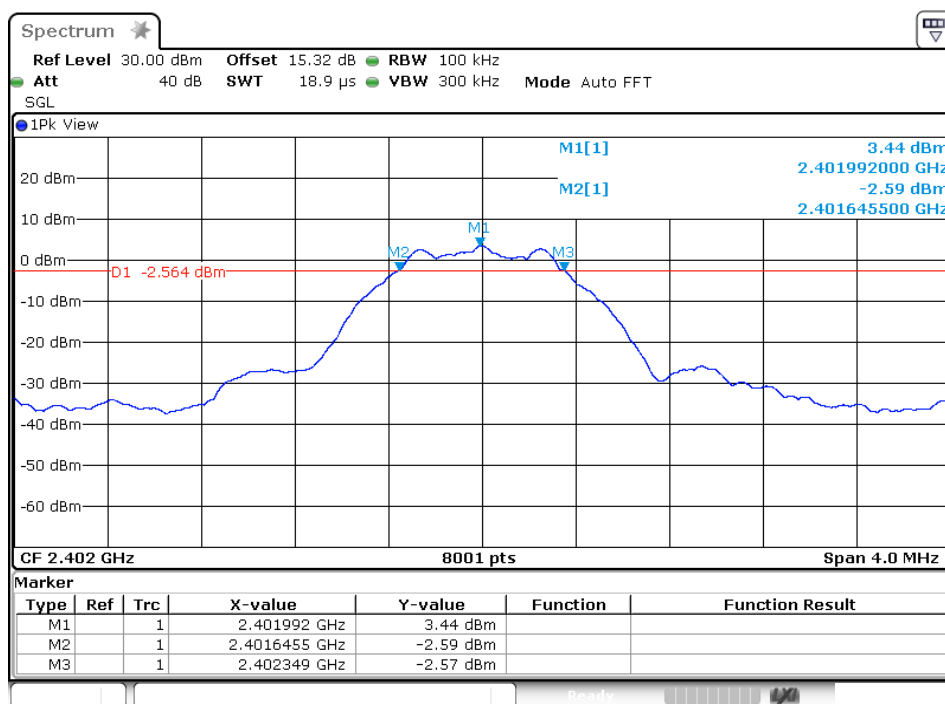
6.5.3. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

6.6.Test Result

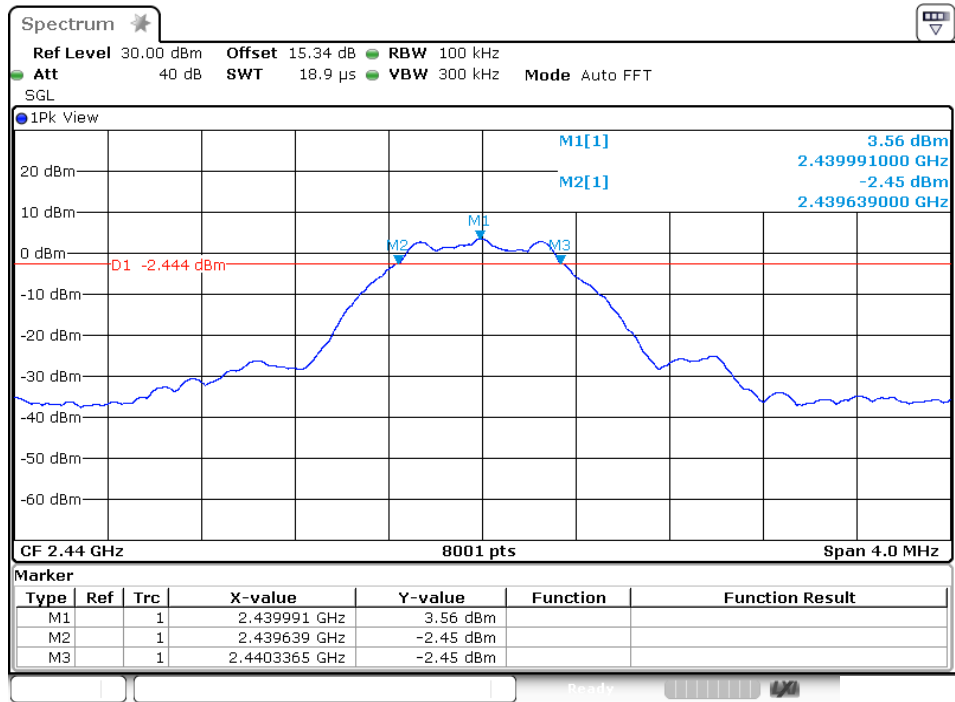
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit(MHz)	PASS/FAIL
0	2402	0.704	0.5	PASS
19	2440	0.697	0.5	PASS
39	2480	0.686	0.5	PASS

The spectrum analyzer plots are attached as below.

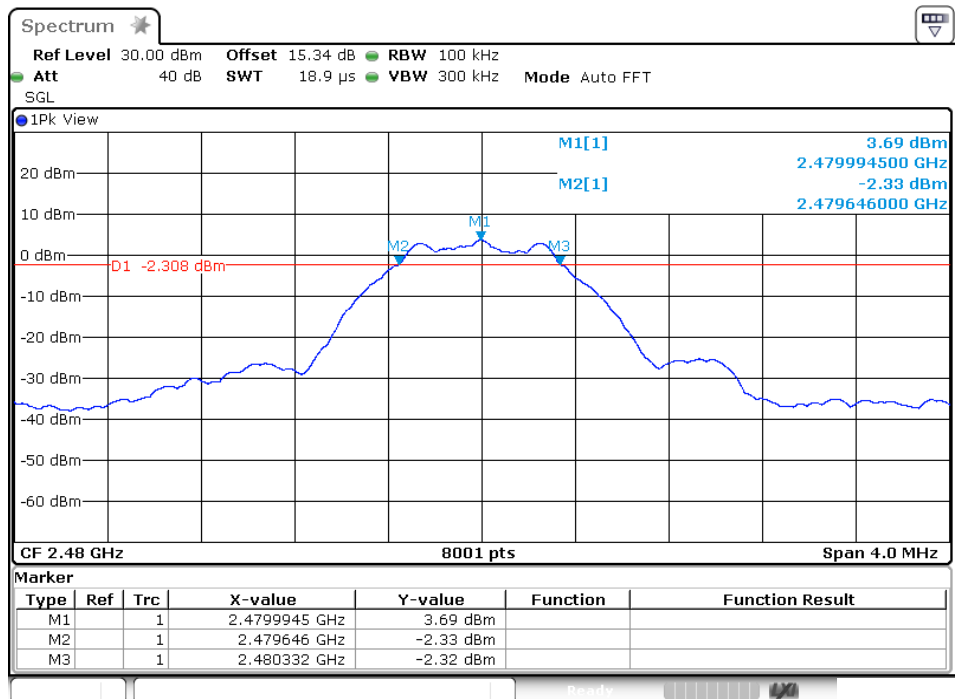
channel 0



channel 19



channel 39



7. MAXIMUM PEAK OUTPUT POWER

7.1. Block Diagram of Test Setup



(EUT: Bluetooth Stereo Earbuds with Mic)

7.2. The Requirement For Section 15.247(b)(3)

Section 15.247(b)(3): For systems using digital modulation in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands: 1 Watt.

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 modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2440MHz, and 2480MHz TX frequency to transmit.

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 RBW of spectrum analyzer to 3 MHz and VBW to 3 MHz.

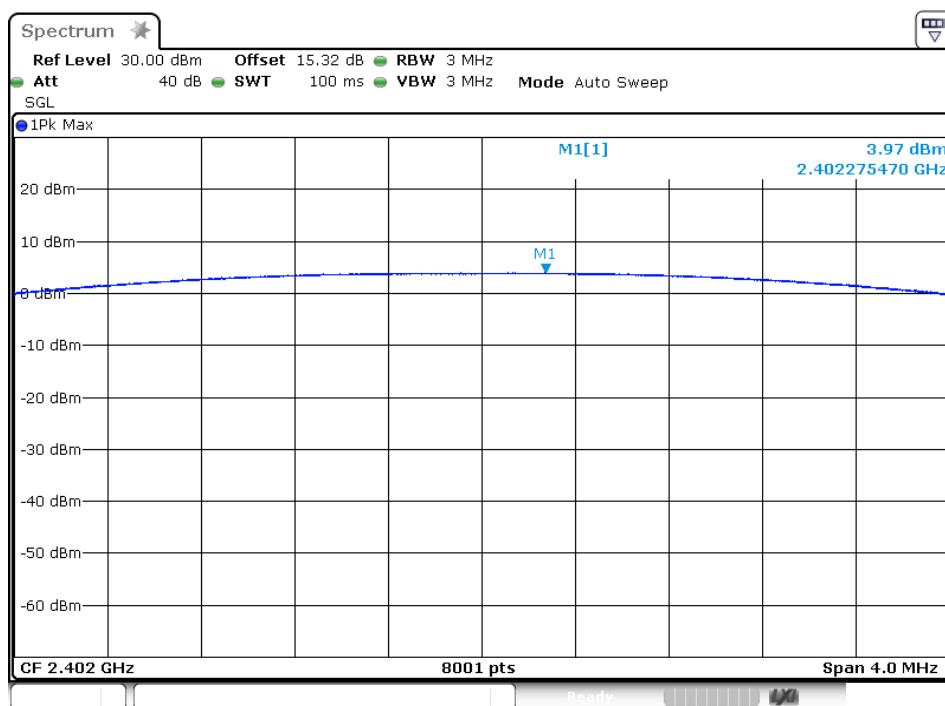
7.5.3. Measurement the maximum peak output power.

7.6.Test Result

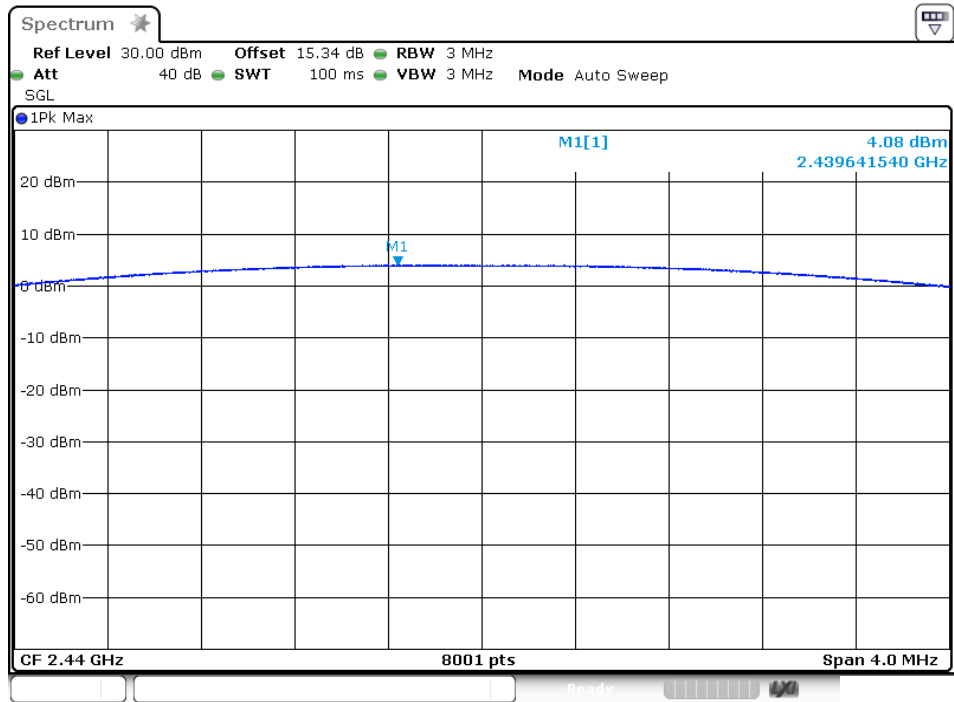
Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
0	2402	3.97	30	PASS
19	2440	4.08	30	PASS
39	2480	4.16	30	PASS

The spectrum analyzer plots are attached as below.

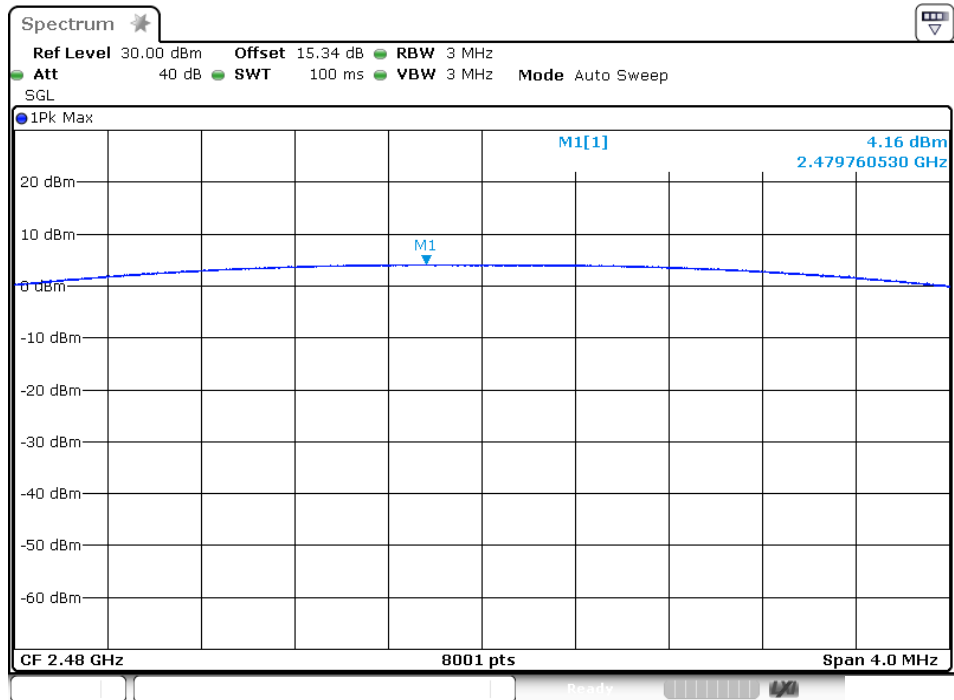
channel 0



channel 19



channel 39



8. POWER SPECTRAL DENSITY MEASUREMENT

8.1. Block Diagram of Test Setup



(EUT: Bluetooth Stereo Earbuds with Mic)

8.2. The Requirement For Section 15.247(e)

Section 15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

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 modes measure it. The transmit frequency are 2402-2480. We select 2402MHz, 2440MHz, 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. Measurement Procedure PKPSD:

8.5.3. This procedure must be used if maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit, and is optional if the maximum (average) conducted output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

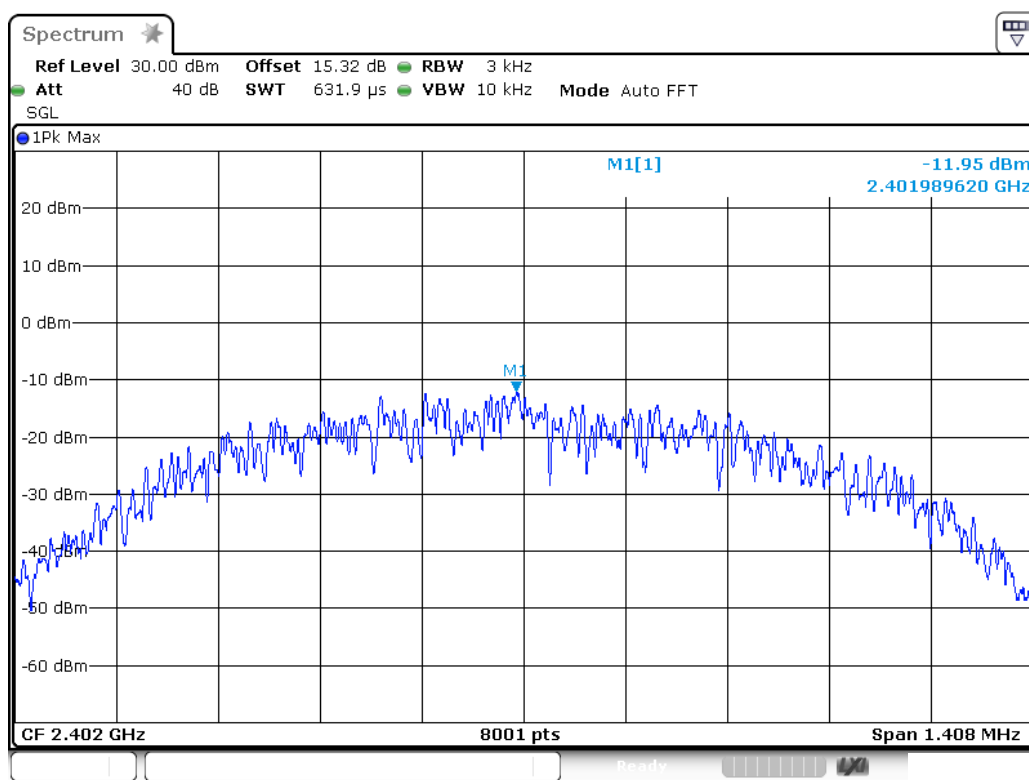
8.5.4. Measurement the maximum power spectral density.

8.6.Test Result

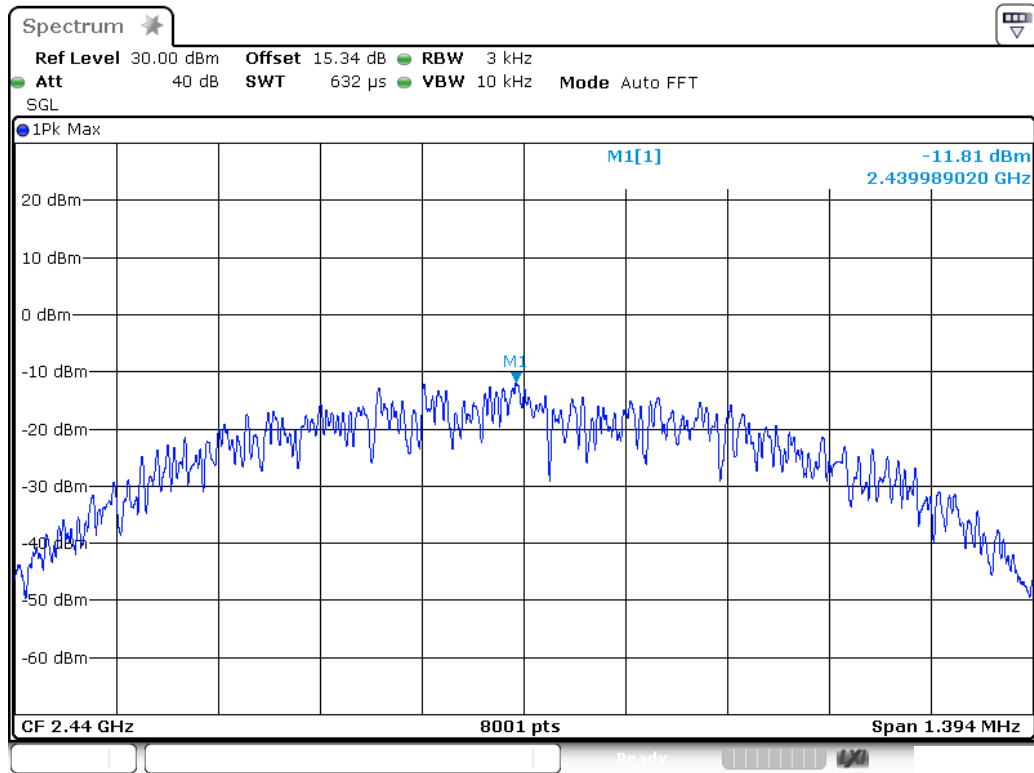
CHANNEL NUMBER	FREQUENCY (MHz)	PSD (dBm/3KHz)	LIMIT (dBm/3KHz)	PASS/FAIL
0	2402	-11.95	8	PASS
19	2440	-11.81	8	PASS
39	2480	-11.70	8	PASS

The spectrum analyzer plots are attached as below.

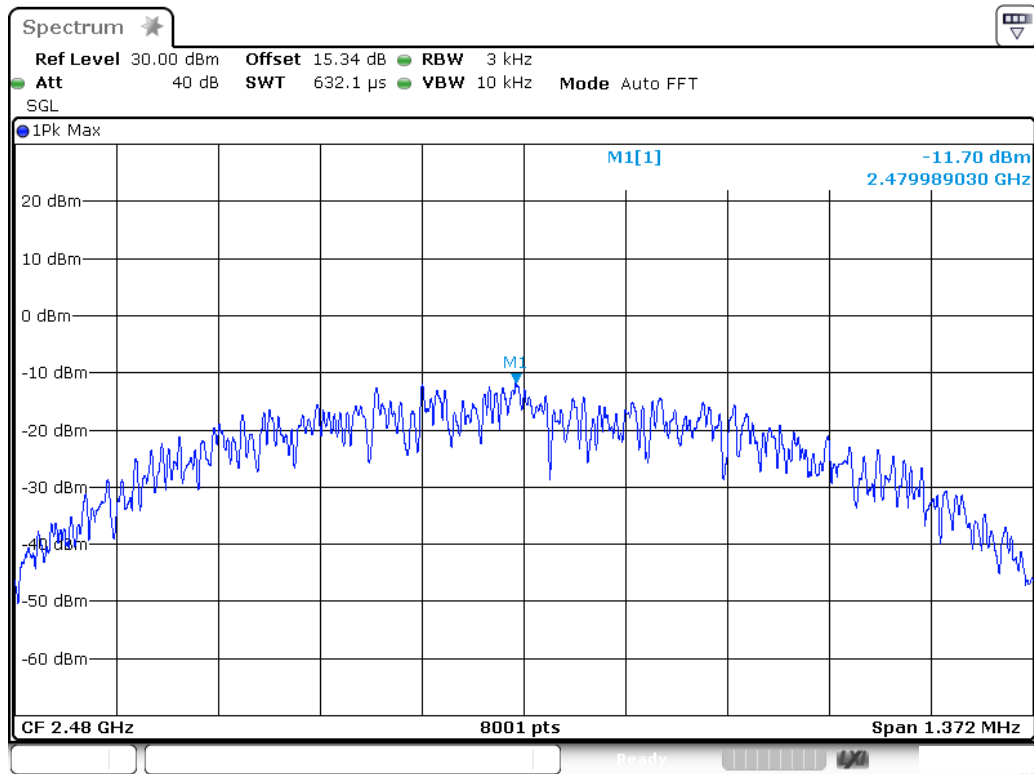
channel 0



channel 19



channel 39



9. BAND EDGE COMPLIANCE TEST

9.1. Block Diagram of Test Setup



(EUT: Bluetooth Stereo Earbuds with Mic)

9.2. 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).

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 modes measure it. The transmit frequency are 2402-2480 MHz. We select 2402MHz, 2480MHz TX frequency to transmit.

9.5. Test Procedure

Conducted Band Edge:

9.5.1. The transmitter output was connected to the spectrum analyzer via a low loss cable.

9.5.2. Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.

9.5.3. Radiate Band Edge:

9.5.4. The EUT is placed on a turntable, which is 0.8m above the ground plane and worked at highest radiated power.

9.5.5. The turntable was rotated for 360 degrees to determine the position of maximum emission level.

9.5.6. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

9.5.7. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

9.5.8. RBW=100kHz, VBW=300kHz

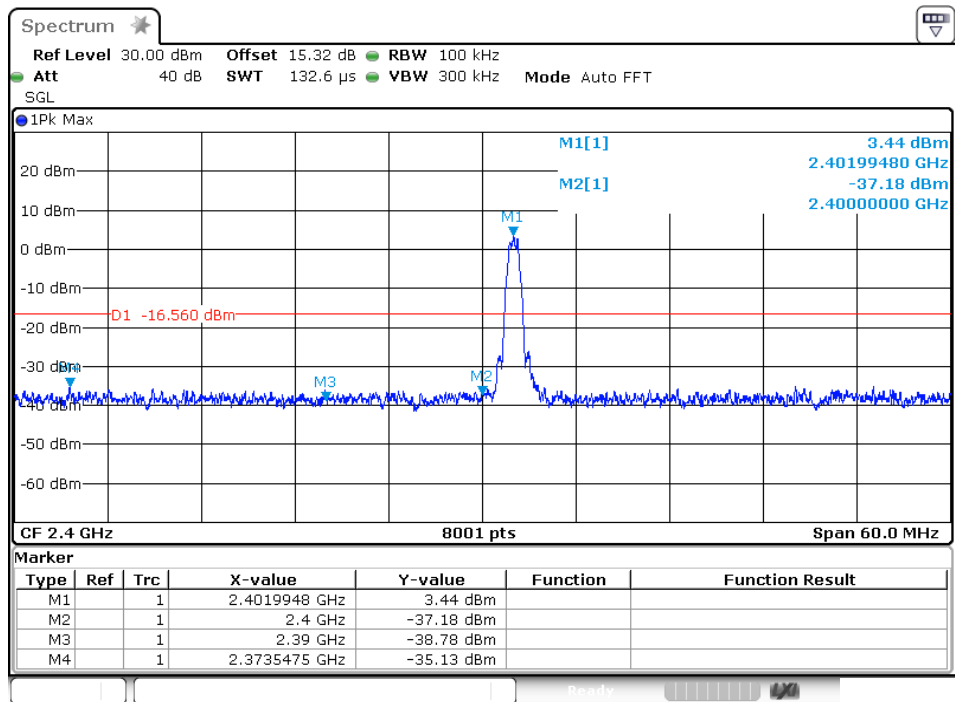
9.5.9. The band edges were measured and recorded.

9.6. Test Result

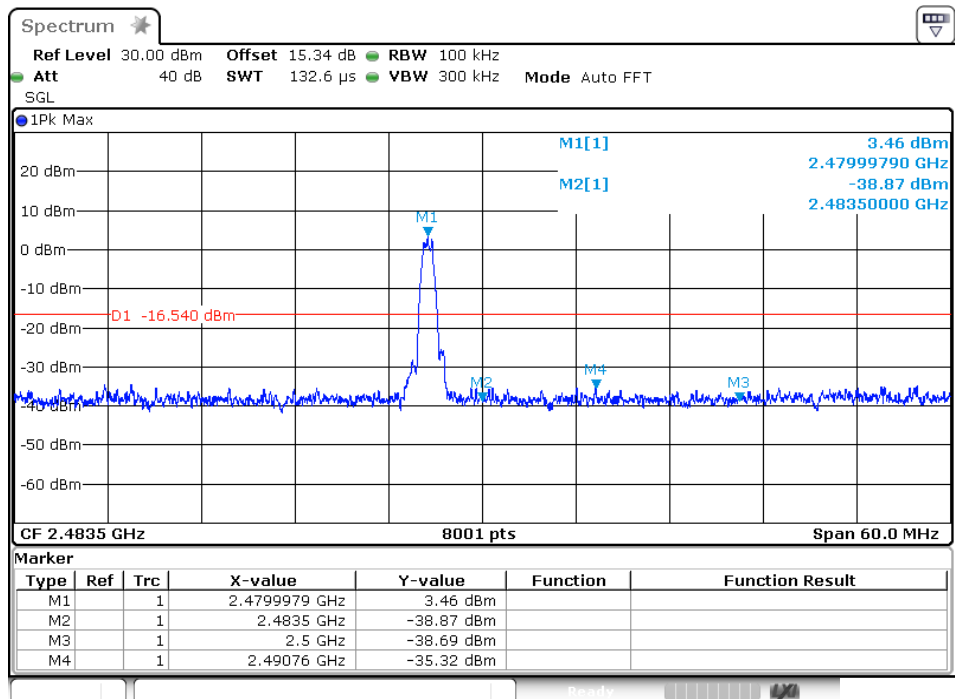
Pass

Channel	Frequency	Delta peak to band emission	Limit(dBc)
0	2.4GHz	33.74	20
39	2.4835GHz	35.41	20

channel 0



channel 39



Radiated Band Edge Result

Date of Test:	November 4, 2017	Temperature:	25°C
EUT:	Bluetooth Stereo Earbuds with Mic	Humidity:	50%
Model No.:	CB-BE154	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2402MHz) GFSK	Test Engineer:	Frank

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2390.000	33.15	37.92	-3.96	29.19	33.96	54.00	74.00	-24.81	-40.04	Vertical
2400.000	34.15	41.89	-3.91	30.24	37.98	54.00	74.00	-23.76	-36.02	Vertical
2390.000	33.15	37.92	-3.96	29.19	33.96	54.00	74.00	-24.81	-40.04	Horizontal
2400.000	35.15	41.89	-3.91	31.24	37.98	54.00	74.00	-22.76	-36.02	Horizontal

Date of Test:	November 4, 2017	Temperature:	25°C
EUT:	Bluetooth Stereo Earbuds with Mic	Humidity:	50%
Model No.:	CB-BE154	Power Supply:	AC 120V/60Hz
Test Mode:	TX (2480MHz) GFSK	Test Engineer:	Frank

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	33.18	41.55	-3.50	29.68	38.05	54.00	74.00	-24.32	-35.95	Vertical
2500.000	32.48	39.70	-3.42	29.06	36.28	54.00	74.00	-24.94	-37.72	Vertical
2483.500	34.15	41.55	-3.50	30.65	38.05	54.00	74.00	-23.35	-35.95	Horizontal
2500.000	32.15	39.70	-3.42	28.73	36.28	54.00	74.00	-25.27	-37.72	Horizontal

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.

Job No.: frank2017 #1418

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2402MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

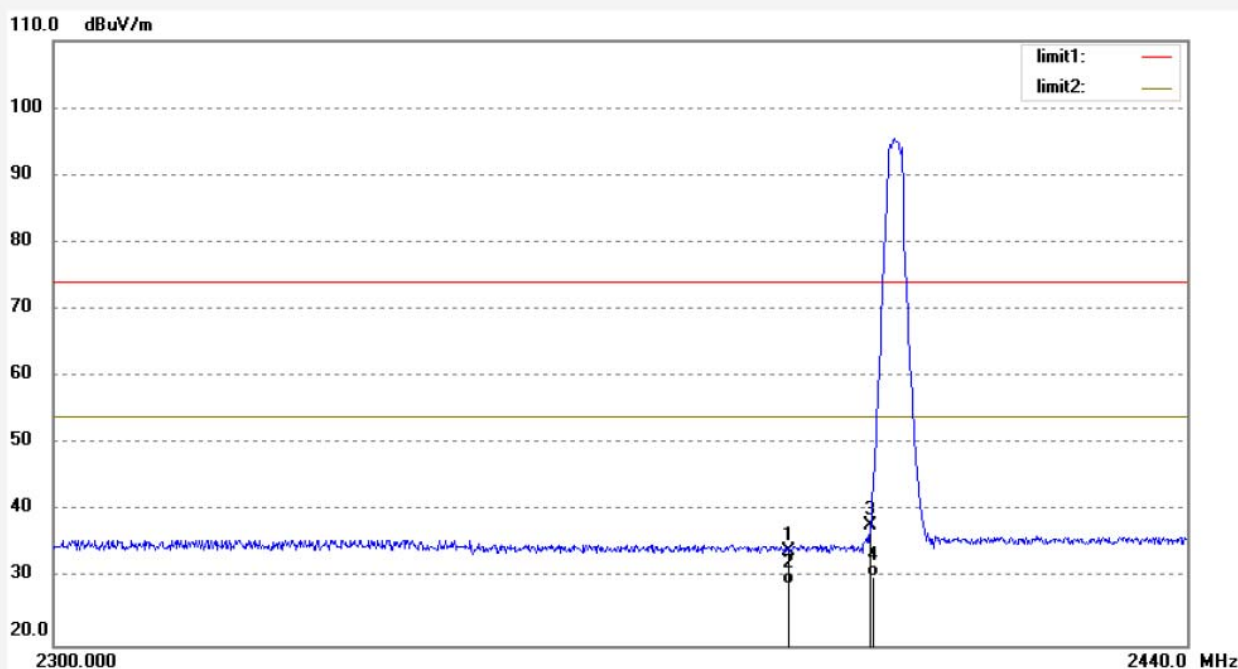
Date: 17/11/04/

Time: 9/35/10

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



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	37.92	-3.96	33.96	74.00	-40.04	peak	200	155	
2	2390.000	33.15	-3.96	29.19	54.00	-24.81	AVG	200	155	
3	2400.000	41.89	-3.91	37.98	74.00	-36.02	peak	200	127	
4	2400.000	34.15	-3.91	30.24	54.00	-23.76	AVG	200	127	



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.: frank2017 #1419

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2402MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

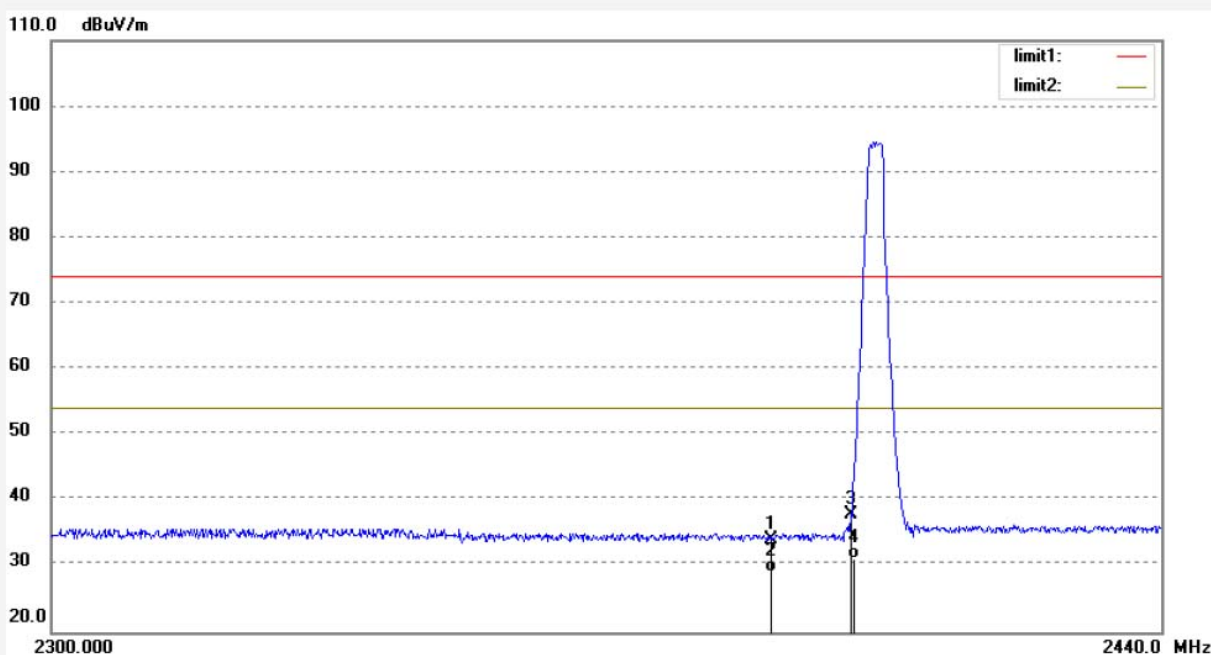
Date: 17/11/04/

Time: 9/35/10

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



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	37.92	-3.96	33.96	74.00	-40.04	peak	300	123	
2	2390.000	33.15	-3.96	29.19	54.00	-24.81	AVG	300	123	
3	2400.000	41.89	-3.91	37.98	74.00	-36.02	peak	250	175	
4	2400.000	35.15	-3.91	31.24	54.00	-22.76	AVG	250	175	



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.: frank2017 #1420

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2480MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

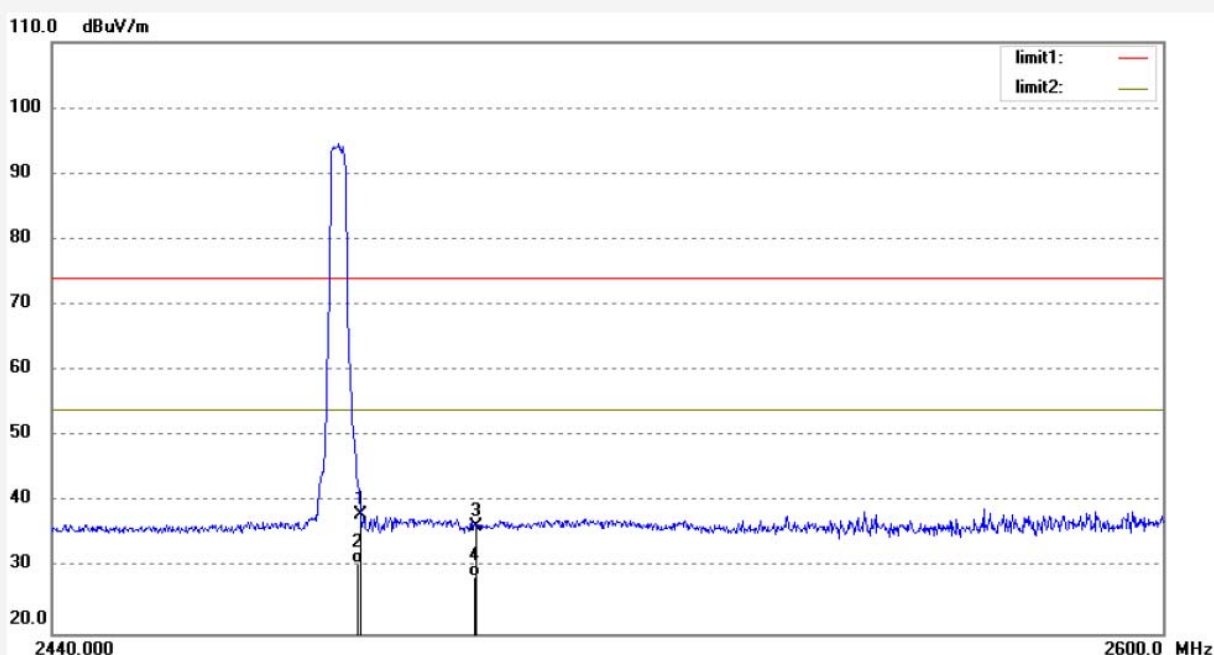
Date: 17/11/04/

Time: 9/39/02

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	41.55	-3.50	38.05	74.00	-35.95	peak	300	158	
2	2483.500	34.15	-3.50	30.65	54.00	-23.35	AVG	300	158	
3	2500.000	39.70	-3.42	36.28	74.00	-37.72	peak	300	79	
4	2500.000	32.15	-3.42	28.73	54.00	-25.27	AVG	300	79	

Job No.: frank2017 #1421

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2480MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

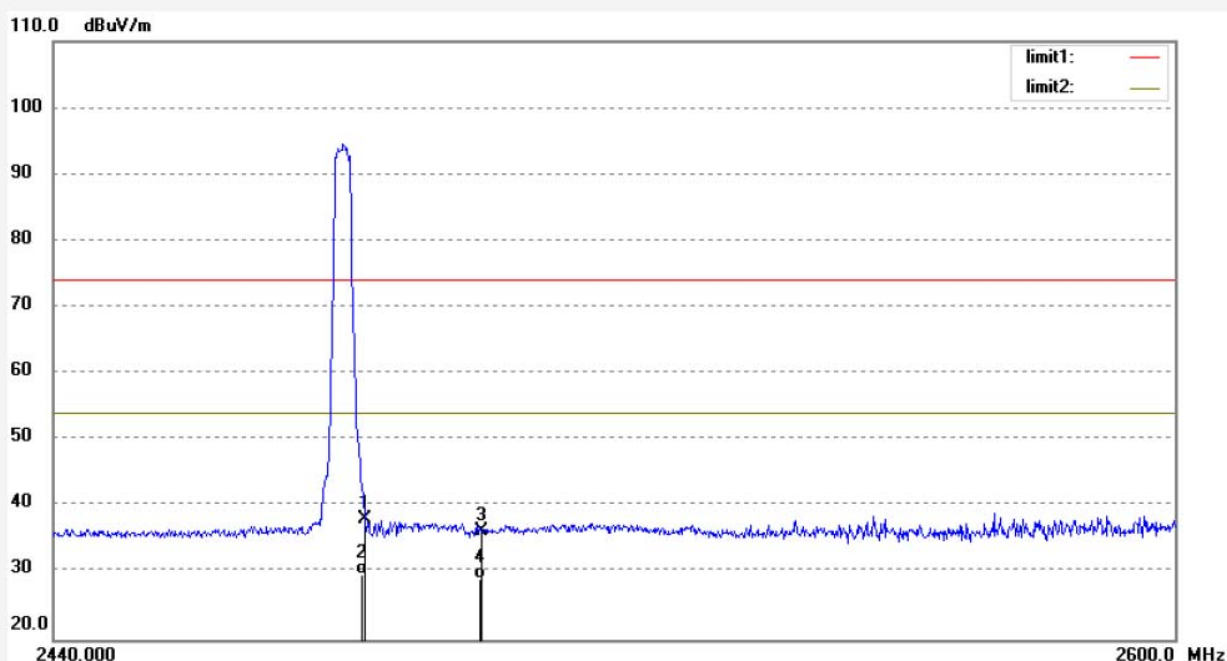
Date: 17/11/04/

Time: 9/39/02

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	41.55	-3.50	38.05	74.00	-35.95	peak	250	348	
2	2483.500	33.18	-3.50	29.68	54.00	-24.32	AVG	250	348	
3	2500.000	39.70	-3.42	36.28	74.00	-37.72	peak	250	138	
4	2500.000	32.48	-3.42	29.06	54.00	-24.94	AVG	250	138	

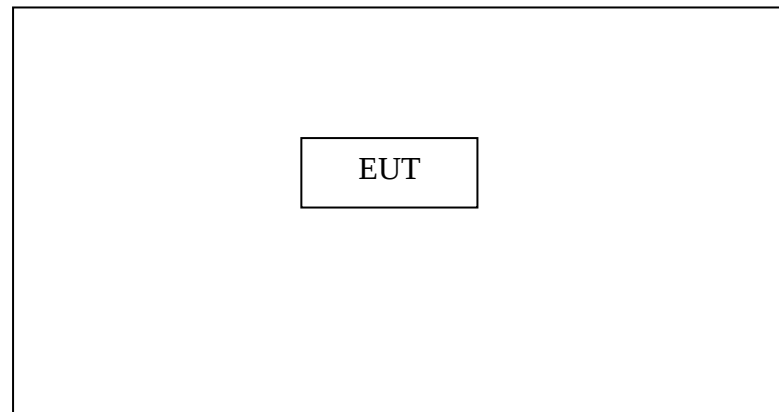
Note:

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.

10.RADIATED SPURIOUS EMISSION TEST

10.1.Block Diagram of Test Setup

10.1.1.Block diagram of connection between the EUT and peripherals

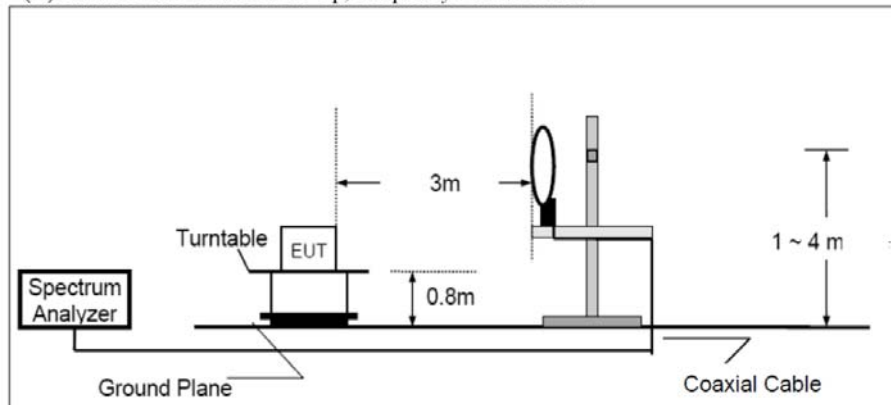


Setup: Transmitting mode

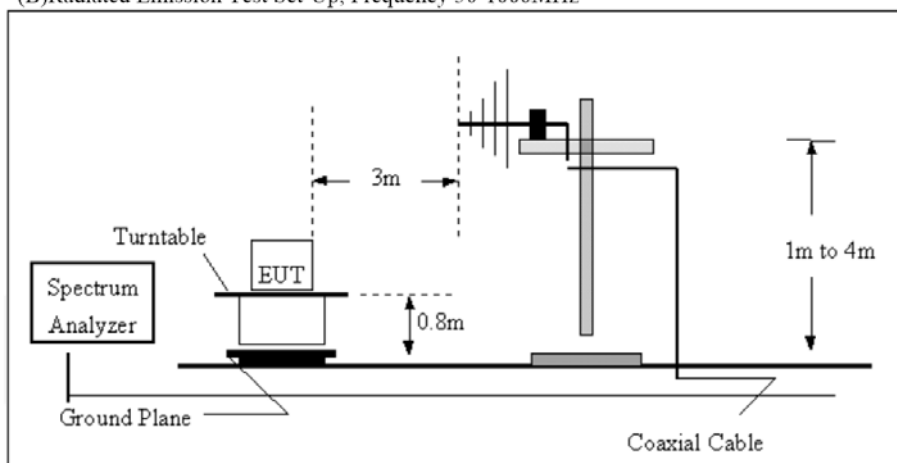
(EUT: Bluetooth Stereo Earbuds with Mic)

10.1.2.Semi-Anechoic Chamber Test Setup Diagram

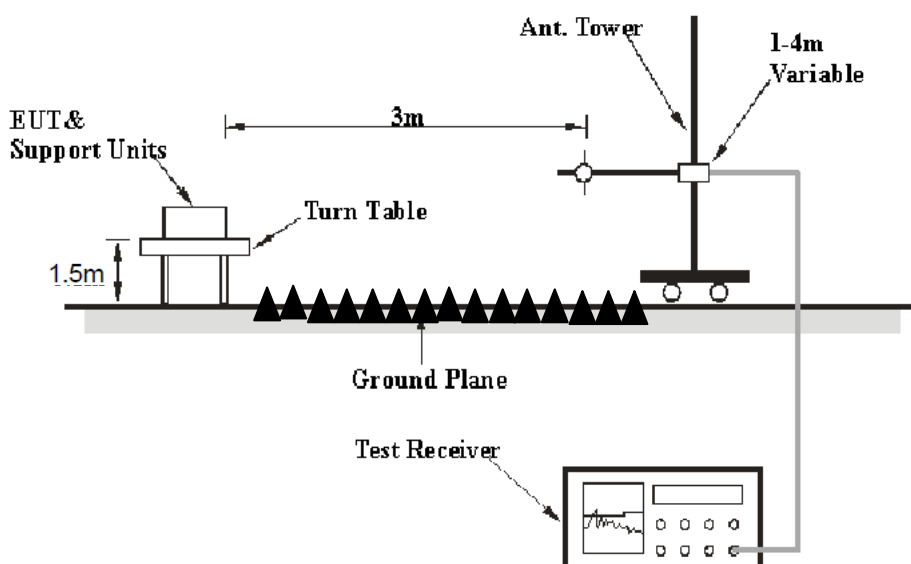
(A)Radiated Emission Test Set-Up, Frequency below 30MHz



(B) Radiated Emission Test Set-Up, Frequency 30-1000MHz



(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).

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	(²)
13.36-13.41			

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

²Above 38.6

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

10.4.Configuration of EUT on Measurement

The equipment are 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.

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, 2440MHz, 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. The EUT was tested in 3 orthogonal planes.

The bandwidth of test receiver is set at 9 kHz in below 30MHz. and set at 120 kHz in 30-1000MHz, and 1MHz in above 1000MHz.

The frequency range from 9 kHz to 25GHz is checked.

The final measurement in band 9-90 kHz, 110-490 kHz and above 1000MHz is performed with Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

The field strength is calculated by adding the antenna factor, and cable loss, and subtracting the amplifier gain from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

Where Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

10.7.Data Sample

Frequency (MHz)	Reading (dB μ v)	Factor (dB/m)	Result (dB μ v/m)	Limit (dB μ v/m)	Margin (dB)	Remark
35.3866	35.57	-16.12	19.45	40.00	-20.55	QP

Frequency(MHz) = Emission frequency in MHz

Reading(dB μ v) = Uncorrected Analyzer/Receiver reading

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

Result(dB μ v/m) = Reading(dB μ v) + Factor(dB/m)

Limit (dB μ 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 μ V/m)–Limit(dB μ V/m)

Result(dB μ V/m)= Reading(dB μ 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.

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

3. The radiation emissions from 18-25GHz are not reported, because the test values lower than the limits of 20dB.



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.: frank2017 #1405

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2402MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

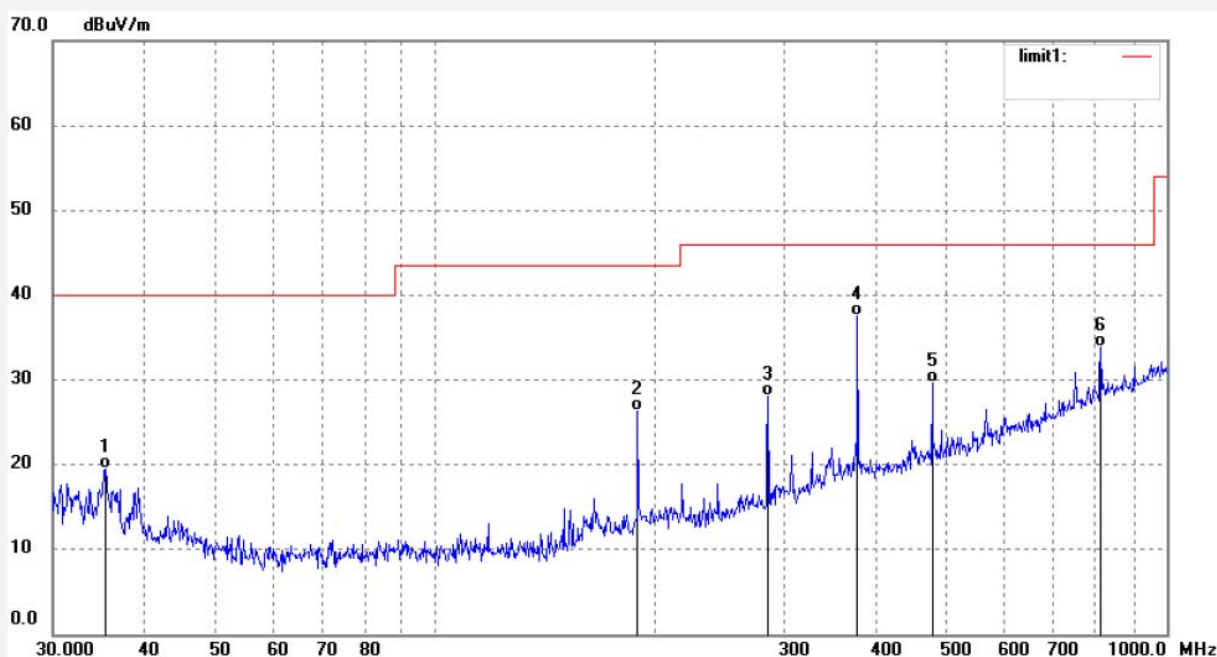
Date: 2017/11/03

Time: 17:25:14

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.3866	35.57	-16.12	19.45	40.00	-20.55	QP	200	155	
2	189.1074	45.79	-19.49	26.30	43.50	-17.20	QP	200	41	
3	285.2610	44.46	-16.37	28.09	46.00	-17.91	QP	200	347	
4	377.8480	50.72	-13.26	37.46	46.00	-8.54	QP	200	25	
5	478.1394	40.91	-11.25	29.66	46.00	-16.34	QP	200	360	
6	812.7744	37.80	-3.91	33.89	46.00	-12.11	QP	200	30	

Job No.: frank2017 #1406

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2402MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

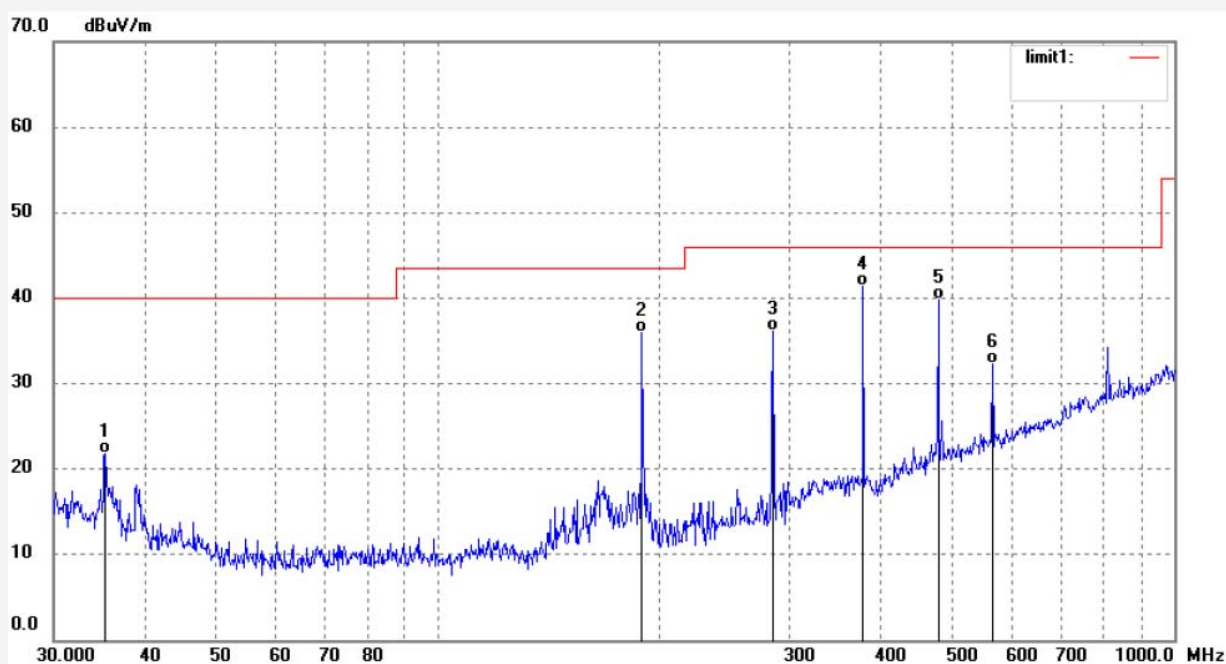
Date: 2017/11/03

Time: 17:26:06

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.2625	37.84	-16.05	21.79	40.00	-18.21	QP	200	327	
2	189.1075	55.43	-19.49	35.94	43.50	-7.56	QP	200	125	
3	285.2611	52.55	-16.37	36.18	46.00	-9.82	QP	200	360	
4	377.8480	54.72	-13.26	41.46	46.00	-4.54	QP	200	245	
5	478.1394	51.02	-11.25	39.77	46.00	-6.23	QP	200	1	
6	565.9776	41.63	-9.29	32.34	46.00	-13.66	QP	200	123	



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.: frank2017 #1407

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2440MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

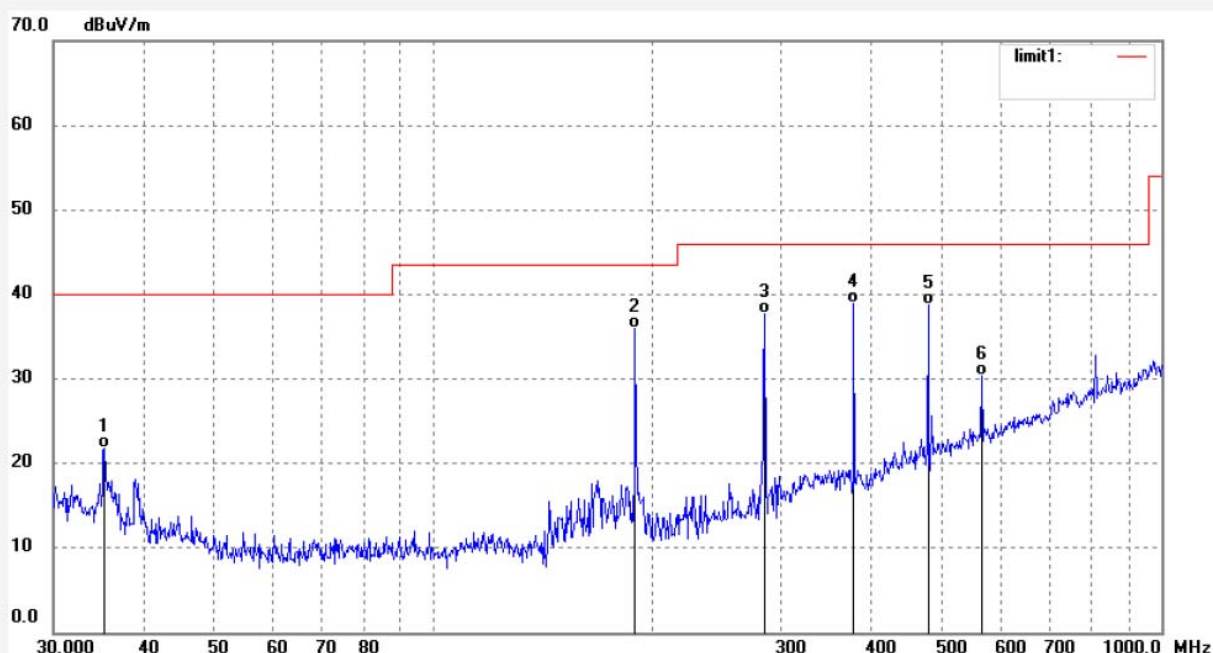
Date: 2017/11/03

Time: 17:26:06

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.2625	37.84	-16.05	21.79	40.00	-18.21	QP	200	132	
2	189.1074	55.43	-19.49	35.94	43.50	-7.56	QP	200	122	
3	285.2610	54.05	-16.37	37.68	46.00	-8.32	QP	200	352	
4	377.8480	52.22	-13.26	38.96	46.00	-7.04	QP	200	87	
5	478.1394	50.02	-11.25	38.77	46.00	-7.23	QP	200	154	
6	565.9776	39.63	-9.29	30.34	46.00	-15.66	QP	200	132	

Job No.: frank2017 #1408

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2440MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

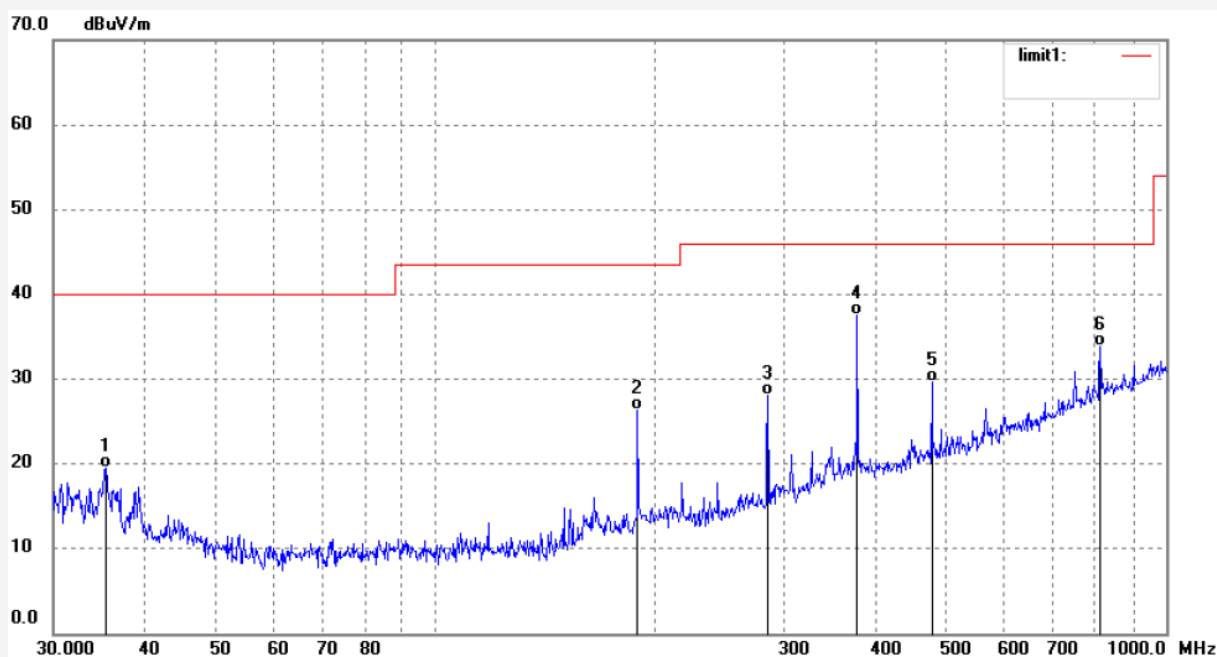
Date: 2017/11/03

Time: 17:25:14

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.3866	35.57	-16.12	19.45	40.00	-20.55	QP	100	170	
2	189.1074	45.79	-19.49	26.30	43.50	-17.20	QP	100	244	
3	285.2610	44.46	-16.37	28.09	46.00	-17.91	QP	100	0	
4	377.8480	50.72	-13.26	37.46	46.00	-8.54	QP	100	10	
5	478.1394	40.91	-11.25	29.66	46.00	-16.34	QP	100	360	
6	812.7744	37.80	-3.91	33.89	46.00	-12.11	QP	100	15	

Job No.: frank2017 #1409

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2480MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

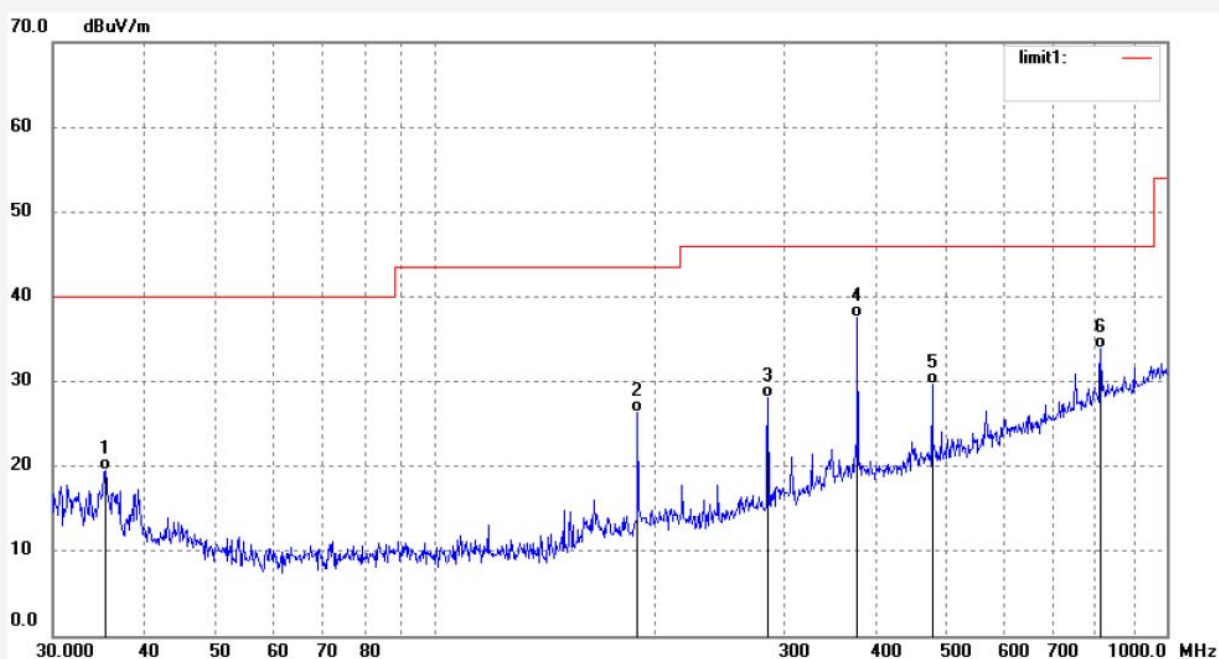
Date: 2017/11/03

Time: 17:25:14

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.3866	35.57	-16.12	19.45	40.00	-20.55	QP	100	157	
2	189.1074	45.79	-19.49	26.30	43.50	-17.20	QP	100	141	
3	285.2610	44.46	-16.37	28.09	46.00	-17.91	QP	100	324	
4	377.8480	50.72	-13.26	37.46	46.00	-8.54	QP	100	252	
5	478.1394	40.91	-11.25	29.66	46.00	-16.34	QP	100	342	
6	812.7744	37.80	-3.91	33.89	46.00	-12.11	QP	100	248	



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.: frank2017 #1410

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2480MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

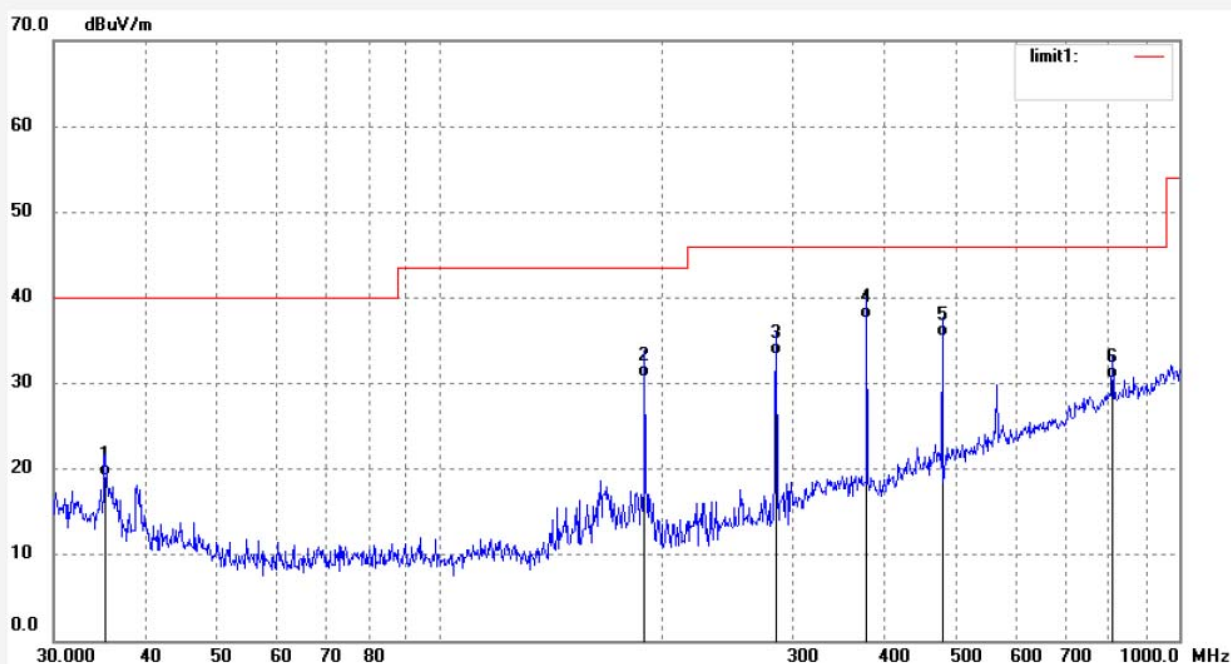
Date: 2017/11/03

Time: 17:26:06

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.2625	35.15	-16.05	19.10	40.00	-20.90	QP	200	248	
2	189.1074	50.12	-19.49	30.63	43.50	-12.87	QP	200	147	
3	285.2610	49.67	-16.37	33.30	46.00	-12.70	QP	200	159	
4	377.8480	50.78	-13.26	37.52	46.00	-8.48	QP	200	248	
5	478.1394	46.72	-11.25	35.47	46.00	-10.53	QP	200	323	
6	812.7744	34.48	-3.91	30.57	46.00	-15.43	QP	200	157	

Job No.: frank2017 #1417

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2402MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

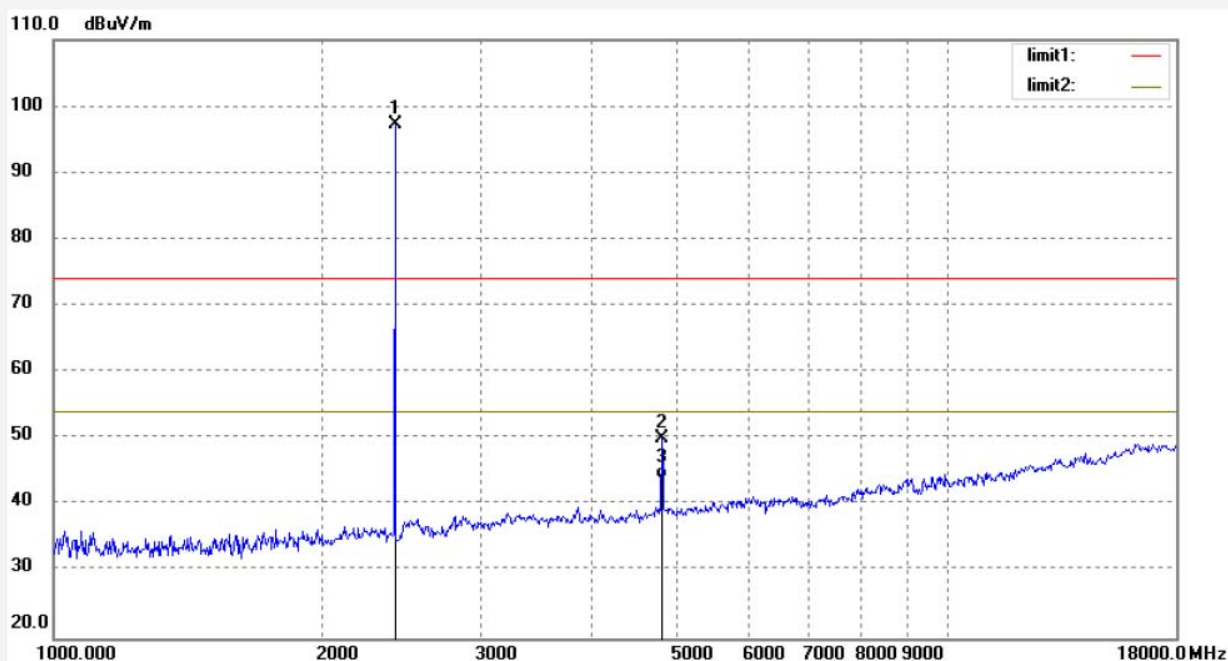
Date: 17/11/04/

Time: 9/07/58

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	101.15	-3.87	97.28			peak	150	135	
2	4804.000	46.26	3.70	49.96	74.00	-24.04	peak	150	156	
3	4804.000	40.15	3.70	43.85	54.00	-10.15	AVG	150	156	



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.: frank2017 #1416

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2402MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

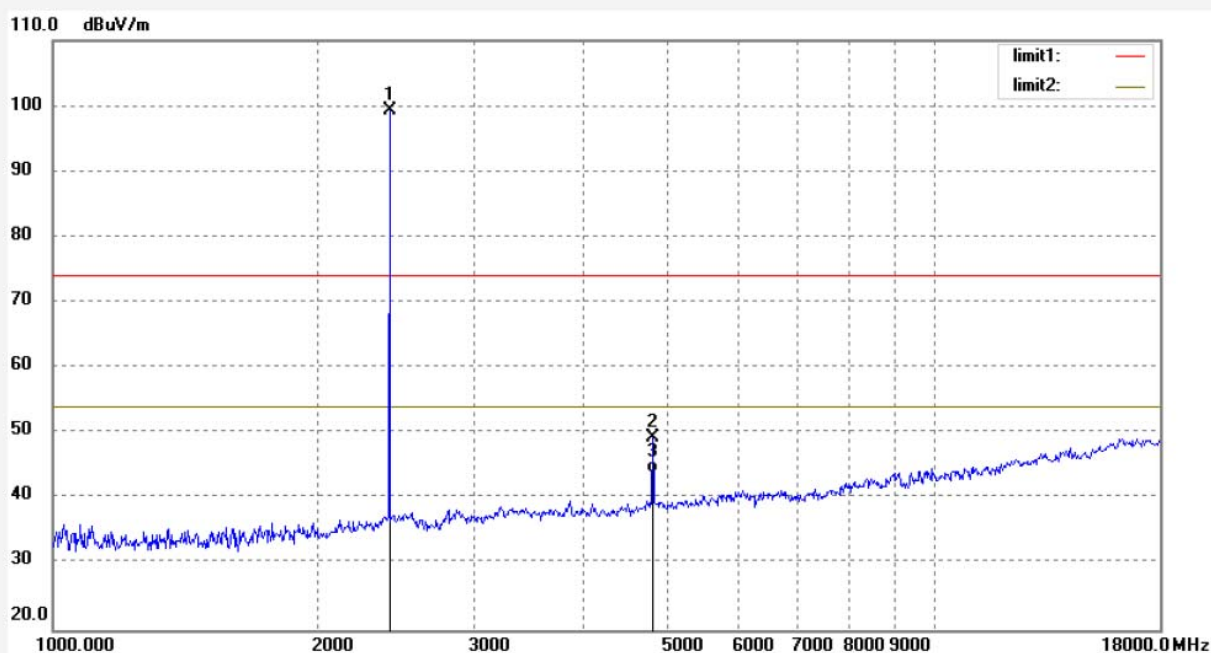
Date: 17/11/04/

Time: 9/07/58

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	103.15	-3.87	99.28			peak	250	110	
2	4804.000	45.76	3.70	49.46	74.00	-24.54	peak	250	111	
3	4804.000	40.15	3.70	43.85	54.00	-10.15	AVG	250	111	



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.: frank2017 #1415

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2440MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

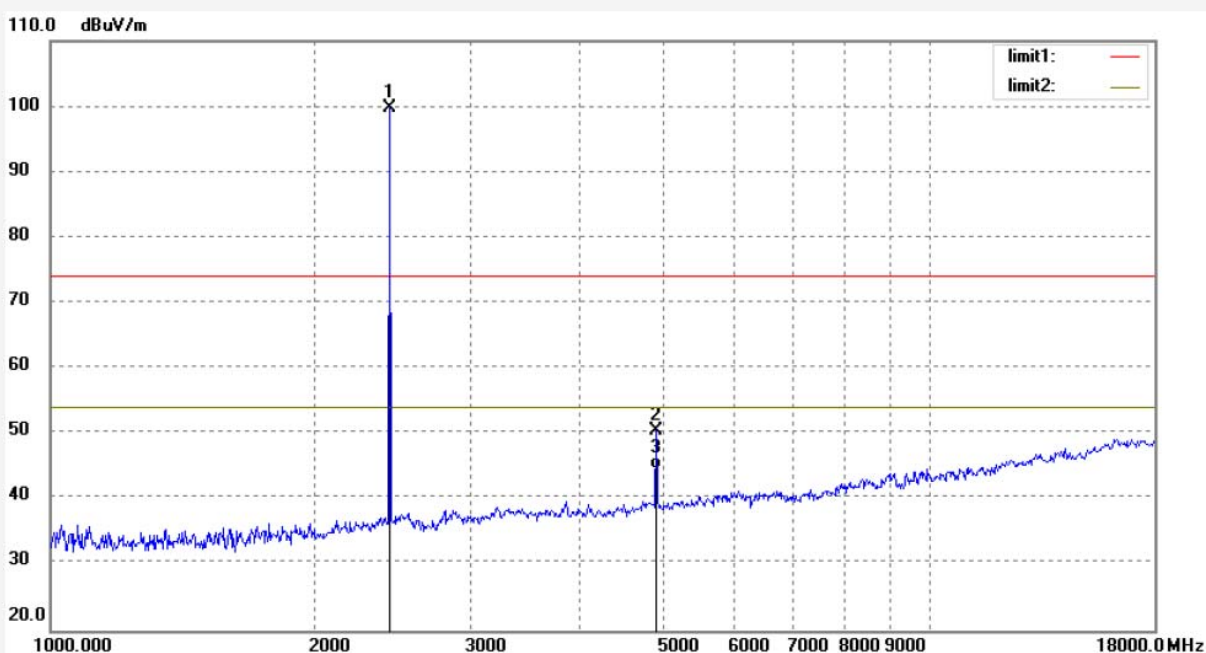
Date: 17/11/04/

Time: 9/07/58

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	103.61	-3.77	99.84			peak	300	132	
2	4880.000	46.35	4.11	50.46	74.00	-23.54	peak	300	147	
3	4880.000	40.59	4.11	44.70	54.00	-9.30	AVG	300	147	



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.: frank2017 #1414

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2440MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

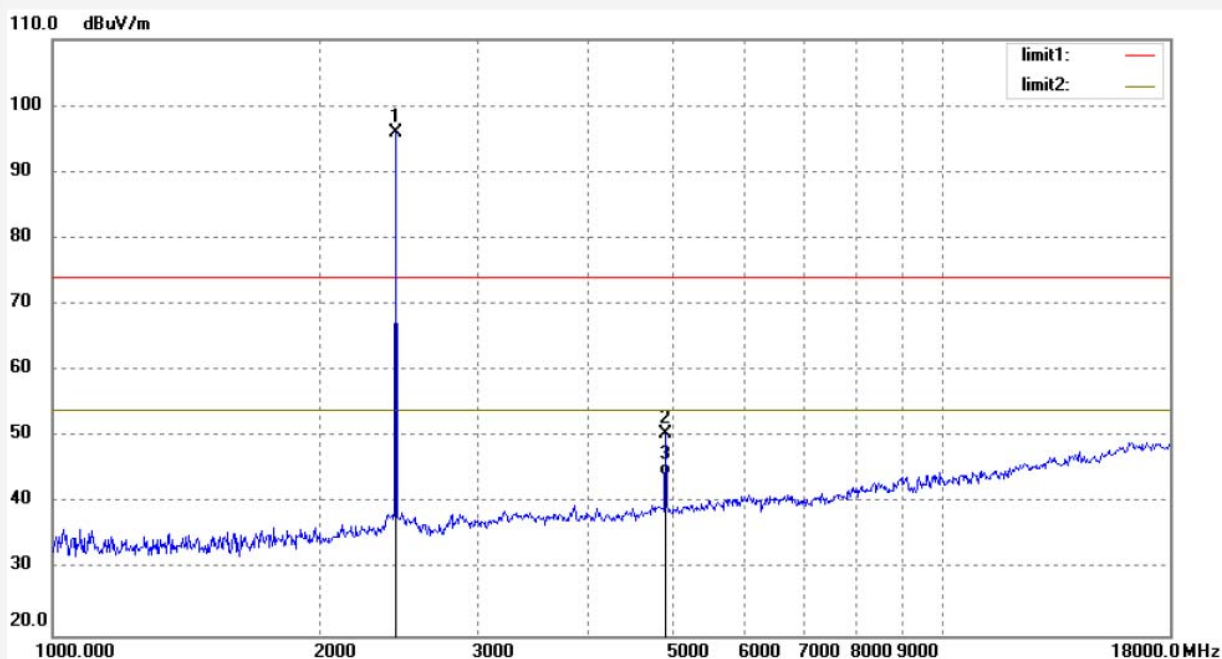
Date: 17/11/04/

Time: 9/07/58

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2440.000	99.61	-3.77	95.84			peak	300	87	
2	4880.000	46.35	4.11	50.46	74.00	-23.54	peak	300	117	
3	4880.000	40.18	4.11	44.29	54.00	-9.71	AVG	300	117	



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.: frank2017 #1413

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2480MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Vertical

Power Source: DC 3.7V

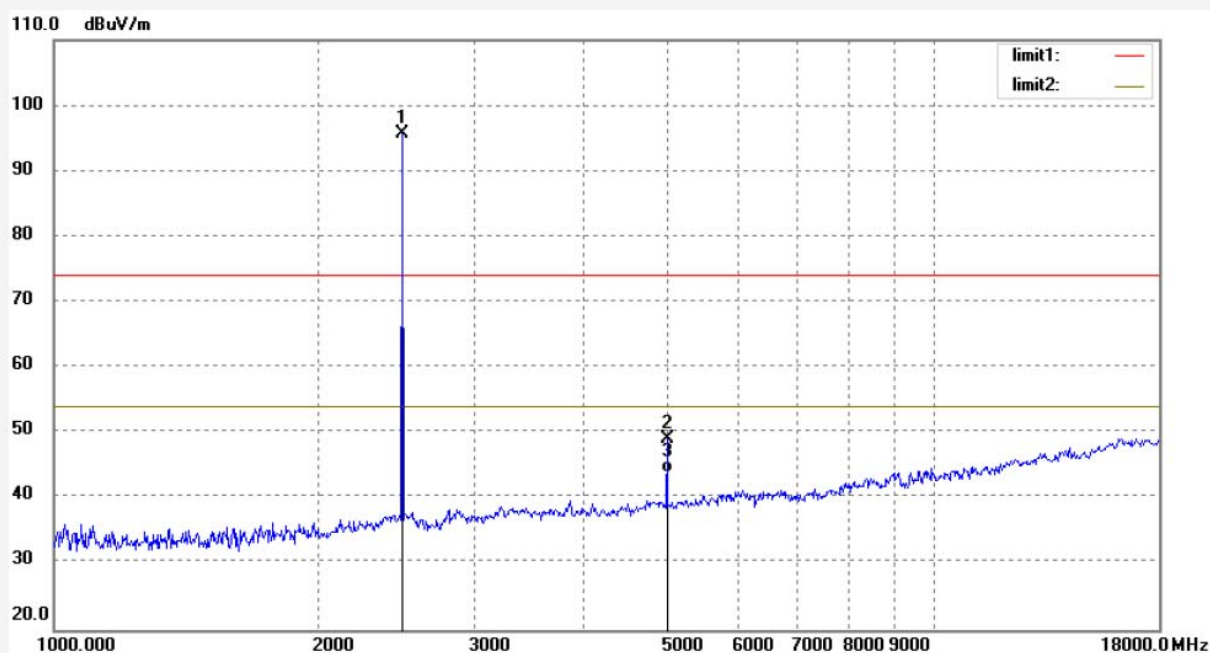
Date: 17/11/04/

Time: 9/07/58

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	99.20	-3.48	95.72			peak	300	100	
2	4960.000	44.66	4.49	49.15	74.00	-24.85	peak	300	125	
3	4960.000	39.46	4.49	43.95	54.00	-10.05	AVG	300	125	

Job No.: frank2017 #1411

Standard: FCC PK

Test item: Radiation Test

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

EUT: Bluetooth Stereo Earbuds with Mic

Mode: TX2480MHz

Model: CB-BE154

Manufacturer: CLEVER BRIGHT

Polarization: Horizontal

Power Source: DC 3.7V

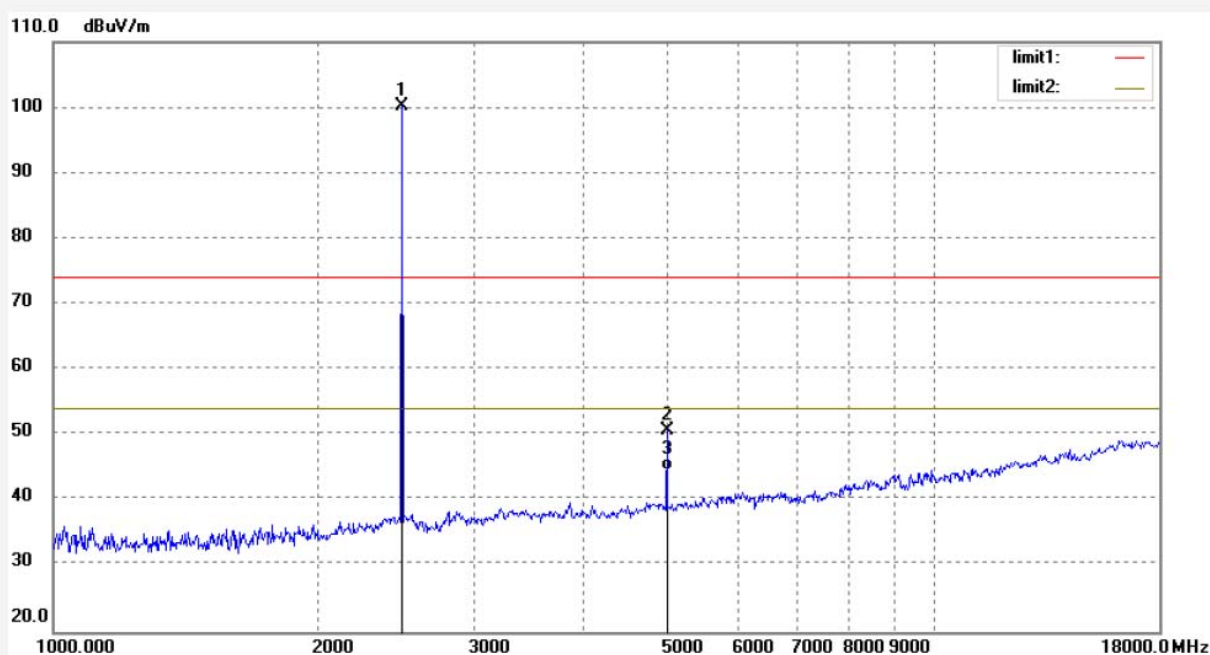
Date: 17/11/04/

Time: 9/07/58

Engineer Signature: Frank

Distance: 3m

Note: Report NO.:ATE20172115



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.000	103.70	-3.48	100.22			peak	300	120	
2	4960.000	46.16	4.49	50.65	74.00	-23.35	peak	300	156	
3	4960.000	40.15	4.49	44.64	54.00	-9.36	AVG	300	156	

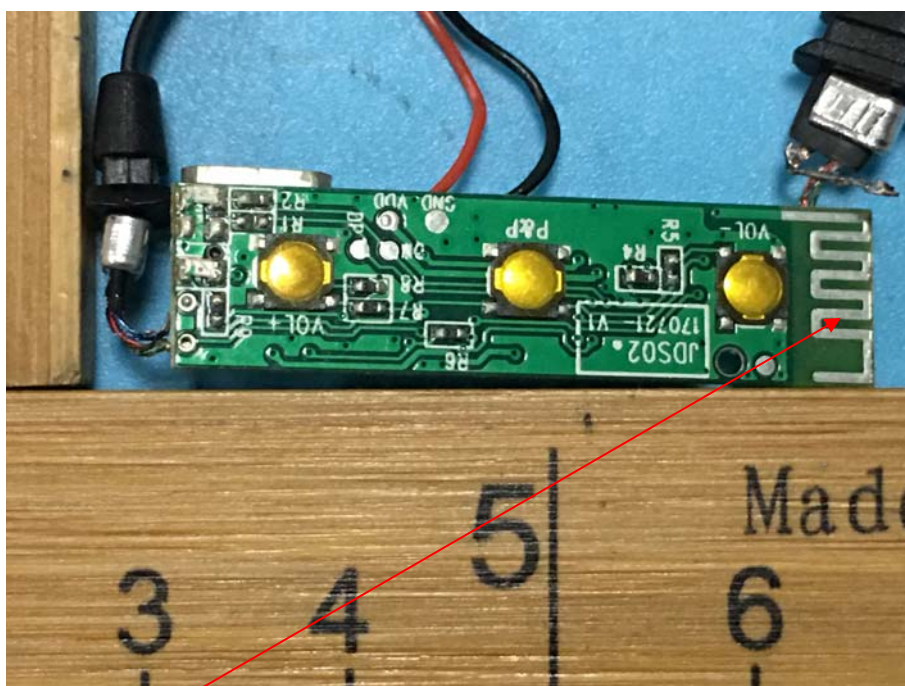
11.ANTENNA REQUIREMENT

11.1.The Requirement

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

11.2.Antenna Construction

Device is equipped with external Antenna, which isn't displaced by other antenna. The Antenna gain of EUT is 1.0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



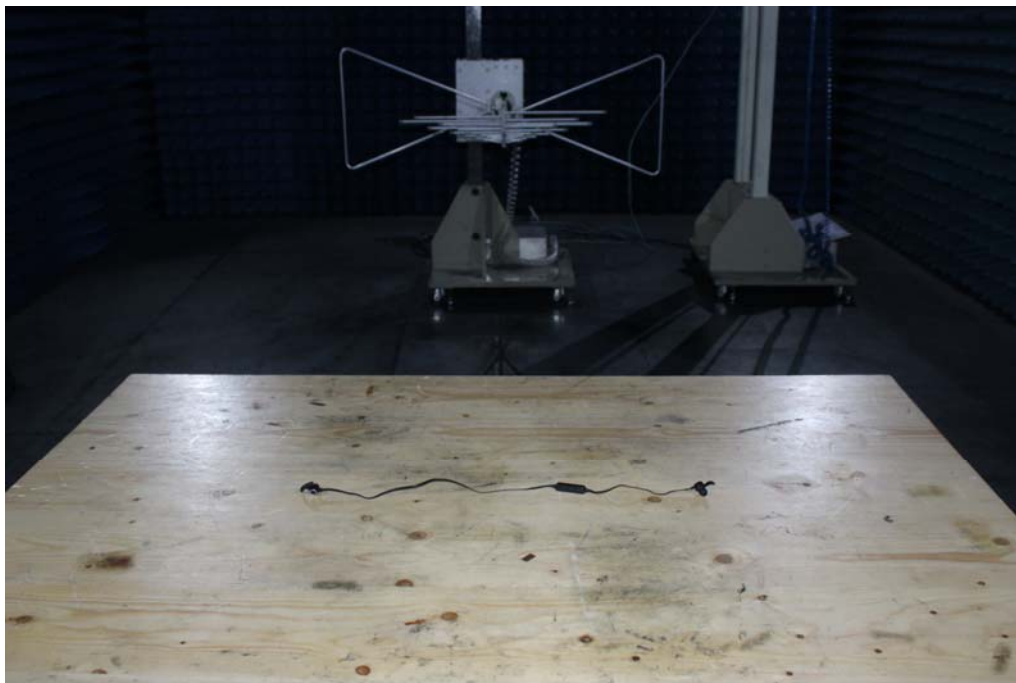
Antenna

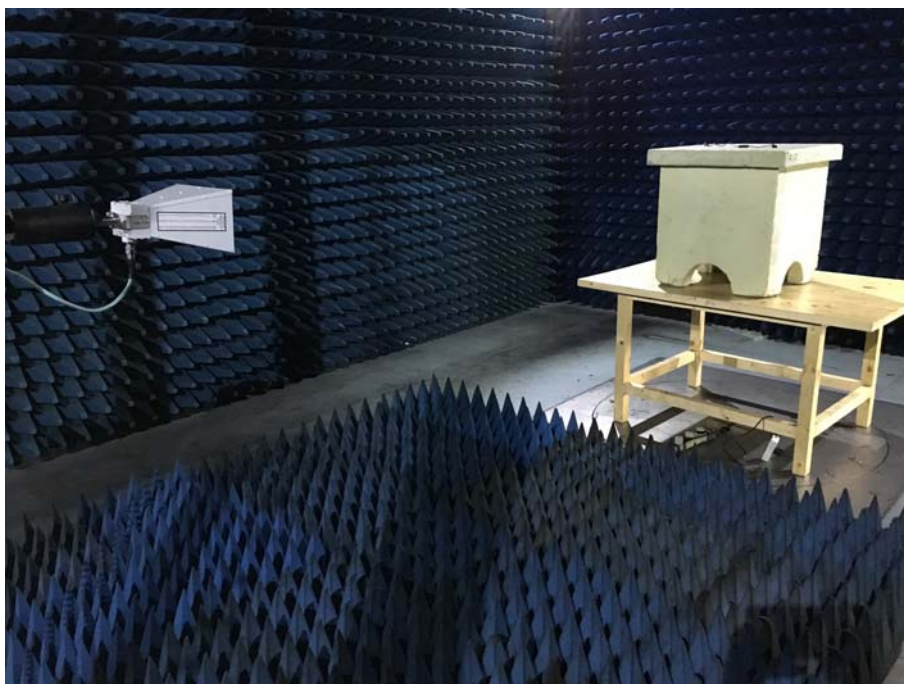
12.PHOTOGRAPHS

12.1.Photo of Power Line Conducted Emission Measurement



12.2.Photo of Radiation Emission Measurement





12.3.Photo of EUT







