

## CENTRE OF TESTING SERVICE INTERNATIONAL

**OPERATE ACCORDING TO ISO/IEC 17025** 

# FCC ID TEST REPORT

TEST REPORT NUMBER: CGZ3150512-00530-EF



CENTRE OF TESTING SERVICE CO., LTD.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China







	TEST REPORT For FCC ID
Report Reference No	47 CFR PART 15 OCT, 2014
Date of issue	
	. CENTRE OF TESTING SERVICE CO., LTD.
· ·	·
	A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China
Testing location/ procedure	Full application of Harmonised standards ■
	Partial application of Harmonised standards □
	Other standard testing method $\square$
Applicant's name	Shenzhen Hongnanke Communication Equipment Co., Ltd.
Address	No. 16, the Second Industry Park Xiakeng, Tongle, Longgang District Shenzhen, Guangdong, China
Test specification	
Standard	47 CFR PART 15 OCT, 2014
Test Report Form No	. CTSEMC-1.0
TRF Originator	. CENTRE OF TESTING SERVICE CO., LTD.
Master TRF	. Dated 2009-01
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Test item description	; Bluetooth Headset
Trade Mark	ORICORE,Tzumi
Manufacturer	Shenzhen Hongnanke Communication Equipment Co., Ltd.
Model/Type reference	LB-200
Ratings	DC3.7V power supply by Battery
- 	Output: 5V Charging by USB Port
Operating Frequency	. 2402.0MHz ~2480.0MHz
Result	Positive

Compiled by:

Supervised by:

Approved by:

Kate zhang / Fileadministrators

Duke yang / Technique principal

Vincent yao / Manager

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## FCCID-TEST REPORT

**Test Report No. : CGZ3150512-00530-EF**  $\frac{13 \text{ May } 2015}{\text{Date of issue}}$ 

Type / Model	LB-200
EUT	Bluetooth Headset
Applicant	Shenzhen Hongnanke Communication Equipment Co., Ltd.
Address	No. 16, the Second Industry Park Xiakeng, Tongle, Longgang District Shenzhen, Guangdong, China
Telephone	+86-755-33619888
Fax	+86-755-33219520
Contact	Weifeng Bai
Manufacturer	Shenzhen Hongnanke Communication Equipment Co., Ltd.
Address	No. 16, the Second Industry Park Xiakeng, Tongle, Longgang District Shenzhen, Guangdong, China
Telephone	+86-755-33619888
Fax	+86-755-33219520
Contact	Weifeng Bai
Factory	Shenzhen Hongnanke Communication Equipment Co., Ltd.
Address	No. 16, the Second Industry Park Xiakeng, Tongle, Longgang District Shenzhen, Guangdong, China
Telephone	+86-755-33619888
Fax	+86-755-33219520
Contact	Weifeng Bai

## Test Result according to the standards on page 1: PASSED

The test report merely corresponds to the test sample.

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#### 1.TEST STANDARDS

The tests were performed according to following standards:

- 47 CFR PART 15 OCT, 2014
- ANSI C63.4-2009

#### 2.SUMMARY

#### 2.1 GENERAL REMARKS

Date of receipt of test sample	12 May 2015
Testing commenced on	12~13 May 2015
Testing concluded on	13 May 2015

#### 2.2 FINAL ASSESSMENT

The FCC requirements pertaining to the technical standards and tested operation modes are

fulfilled.

□ - **not** fulfilled.

The equipment under test

fulfils the FCC requirements cited on page 1.

#### 3.EQUIPMENT UNDER TEST

## 3.1 Power supply system utilised

Power supply voltage : ■ 3.7V by Battery

■ Charging by Notebook

#### 3.2 Short description of the Equipment under Test (EUT)

Number of tested samples: 1

Serial number: Prototype

#### 3.3 EUT operation mode

The equipment under test was operated during the measurement under the following conditions:

□ - Standby

☐ TX- Y position

☐ TX- Zposition

■ TX- X position

Charging

Operation mode 1:TX-X Position Low (2402MHz), TX-X Position Middle (2440MHz),

TX-X Position High (2480MHz)

Operation mode 2:Charging

Note:Operation mode 1 TX -X position of EUT is the radiated test worst case; so only these test results be recorded in the test report.

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## 3.4 EUT configuration

## 3.4.1. Description of configuration (EUT)

Description	:	Bluetooth Headset
Model Number	:	LB-200
Operation frequency	:	2402~ 2480 MHz ISM Band
Radio Technology	:	V3.0+EDR
Modulation Technology	:	GFSK, ∏/4QPSK, 8DPSK modulation
Antenna	:	PCB antenna, met requirement of FCC 15.203

#### 3.4.2. Tested Supporting System Details

#### 3.4.2.1. Notebook

M/N	:	F83VF
S/N	:	N/A
Manufacturer	:	AUSU
Power Cord	:	1
FCC ID	:	ID

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#### 4.TEST ENVIRONMENT

#### 4.1 Address of the test laboratory

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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#### 4.2 Test facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L3394

CENTRE OF TESTING SERVICE CO., LTD has been assessed and proved to be in compliance with CNAS-CL01: 2006 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

#### IC-Registration No.: 8374A

The 3m Alternate Test Site of CENTRE OF TESTING SERVICE CO., LTD has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 8374A on June 6, 2011.

#### FCC-Registration No.: 971995

CENTRE OF TESTING SERVICE CO., LTD, EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration No.791995, July 13,2012.

#### 4.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35 ° C
Humidity:	25~75 %
Atmospheric pressure:	86~106 kPa

#### 4.4 Definitions of symbols used in this test report

- The black square indicates that the listed condition, standard or equipment is applicable for this report.
- The empty square indicates that the listed condition, standard or equipment is **not** applicable for this report.

#### 4.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the CTS quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

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#### 4.6 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	±1.22dB	(1)
Power disturbance	30MHz~300MHz	±1.38dB	(1)
	30MHz~300MHz	±3.14dB	(1)
Radiation emission (3m)	300MHz~1000MHz	±3.18dB	(1)
	1GHz~26.5GHz	±3.54dB	(1)

<sup>(1).</sup> This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 5. Summary of standards and results

## 5.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item Standard Results			
Conducted Emission Test	FCC Part 15 : 15.207 ANSI C63.4-2009	PASSED	
Radiated Emission Test	FCC Part 15 C: 15.249 FCC Part 15 : 109 ANSI C63.4-2009	PASSED	
Band Edge Compliance Test	FCC Part 15 C: 15.249 ANSI C63.4-2009	PASSED	
N/A is an abbreviation for Not Applicable.			

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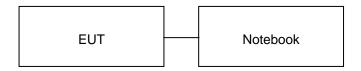


#### 6. Power Line Conducted Emission Test

#### **6.1.Test Equipment**

Conduc	ted Disturbance				
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESHS10	842884/012	2014/11
2	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/025	2014/11
3	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/026	2014/11
4	Pulse Limiter	ROHDE & SCHWARZ	ESHSZ2	100301	2014/11
5	EMI Test Software	ROHDE & SCHWARZ	ESK1	N/A	2014/11

#### 6.2. Block Diagram of Test Setup



(EUT: Bluetooth Headset)

#### 6.3. Power Line Conducted Emission Test Limits

Standard:RSS-Gen:7.2.4,FCC Part 15: 15.207,ANSI C63.4-2009

		Maximum RF Line Voltage	
Frequency		Quasi-Peak Level	Average Level
	,	dB(μV)	dB(μV)
150kHz	~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz	~ 5MHz	56	46
5MHz	~ 30MHz	60	50

Notes: 1. \* Decreasing linearly with logarithm of frequency.

#### **6.4.Test Procedure**

The Notebook connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). This provides a 50 ohm coupling impedance for the EUT. Please refer the block diagram of the test setup and photographs. The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#1). Power on the PC and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. Both sides of AC line 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 FCC Part 15C on Conducted Emission Test.

# 6.5. Power Line Conducted Emission Test Results PASSED.

The frequency range from 150KHz~30MHz is investigated. Please see the following pages.

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<sup>2.</sup> The lower limit shall apply at the transition frequencies.

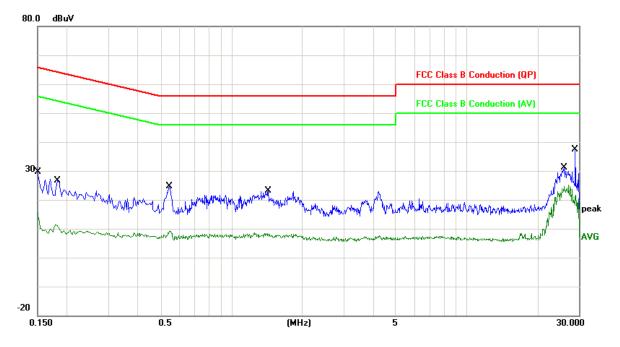






Test point:	L	Result:	■ - passed
Frequency range:	0.15MHz~30MHz		☐ - not passed

EUT	Bluetooth Headset
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test Date:	12~13 May 2015
Operator	Duke
MODEL NO	LB-200



No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.		
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)			
1	0.1500	10.82	14.61	25.43	65.99	-40.56	QP		
2	0.1500	10.82	4.78	15.60	55.99	-40.39	AVG		
3	0.1819	10.83	5.56	16.39	64.39	-48.00	QP		
4	0.1819	10.83	-0.24	10.59	54.39	-43.80	AVG		
5	0.5460	10.91	8.10	19.01	56.00	-36.99	QP		
6	0.5460	10.91	-2.39	8.52	46.00	-37.48	AVG		
7	1.4380	10.92	2.81	13.73	56.00	-42.27	QP		
8	1.4380	10.92	-3.63	7.29	46.00	-38.71	AVG		
9	25.9300	11.16	16.49	27.65	60.00	-32.35	QP		
10	25.9300	11.16	12.05	23.21	50.00	-26.79	AVG		
11	29.0500	11.21	12.70	23.91	60.00	-36.09	QP		
12	29.0500	11.21	8.80	20.01	50.00	-29.99	AVG		
Remark:	Remark: Other frequency mini margin all >6 dB of Limit								

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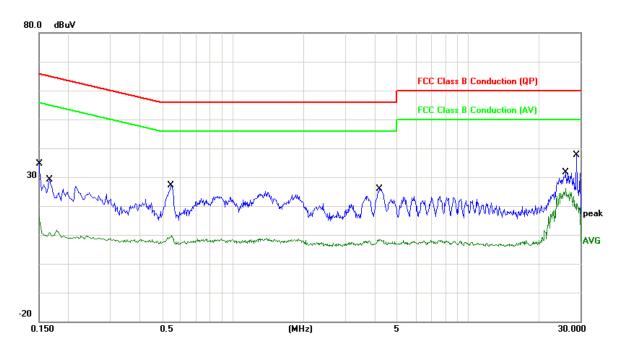
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No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	0.1500	10.80	13.36	24.16	65.99	-41.83	1
2	0.1500	10.80	2.57	13.37	55.99	-42.62	2
3	0.1660	10.80	6.66	17.46	65.15	-47.69	3
4	0.1660	10.80	-1.68	9.12	55.15	-46.03	4
5	0.5460	10.90	9.08	19.98	56.00	-36.02	5
6	0.5460	10.90	-2.10	8.80	46.00	-37.20	6
7	4.2060	11.02	6.04	17.06	56.00	-38.94	7
8	4.2060	11.02	-4.14	6.88	46.00	-39.12	8
9	26.0500	11.11	18.48	29.59	60.00	-30.41	9
10	26.0500	11.11	14.02	25.13	50.00	-24.87	10
11	28.8100	11.15	11.61	22.76	60.00	-37.24	11
12	28.8100	11.15	7.35	18.50	50.00	-31.50	12
Remark:	Other frequen	icy mini ma	rgin all >6 dB	of Limit			·

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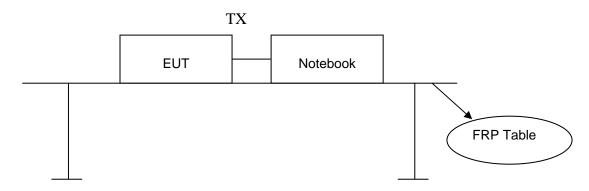
## 7. Radiated disturbance (electric field)

## 7.1.Test Equipment

Radia	Radiated disturbance (electric field)								
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.				
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100868	2014/11				
2	Biconical Antenna	ROHDE & SCHWARZ	HK116	100221	2015/03				
3	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2015/03				
4	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2015/03				
5	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2015/03				
6	Loop Antenna	A.R.A	PLA-1030/B	1030	2014/11				

## 7.2.Block Diagram of Test Setup

#### 7.2.1 Block Diagram of connection between EUT and simulators



(EUT: Bluetooth Headset)

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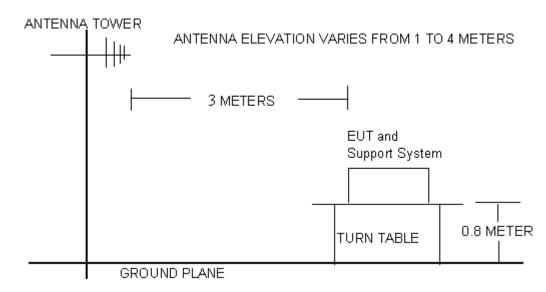
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#### 7.2.2 Anechoic Chamber Setup Diagram



#### 7.3. Radiated Emission Limit:

Standard: FCC 15.249, FCC 15.209.

Except as provided in paragraph (a) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (mV/m)	Field Strength of Harmonics (µV/m)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

FRE	FREQUENCY		DISTANCE	FIELD STREN	GTHS LIMIT
	MHz		Meters	μV/m	dB(μV)/m
0.009	~	0.490	300	2400/F(kHz)	
0.490	~	1.705	30	24000/F(kHz)	
1.705	~	30	30	30	
30	~	88	3	100	40.0
88	~	216	3	150	43.5
216	~	960	3	200	46.0
960	~	1000	3	500	54.0
۸۱	Above 1000		3	Other:74.0 dB(μV)/m (Peak)	
Ai			3	54.0 dB(μV)/m (Average)	

Remark:

- (1) Emission level  $dB\mu V = 20 log Emission level <math>\mu V/m$
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

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#### 7.4.Test Procedure

The EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2009on radiated emission Test.

The frequency range from 30MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 120kHz RBW below 1GHz and a Peak and Average detector with 2MHz RBW above 1GHz,

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 300kHz VBW below 1GHz and a Peak detector with1MHz VBW above 1GHz, A average detector with 10Hz VBW above 1GHz

Pretest x, y, z position of EUT, final, select the worst case x position test and record the test results in the report.

The test modes (TX Mode) is tested in Anechoic Chamber and all the scanning waveforms are reported on section 7.5

#### 7.5. Radiated Emission Test Results

#### PASSED.

The frequency range from 9KHz~30MHz,30MHz to 230MHz, 230MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

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Test Mode: TX −X Position Mode Result: □ - passed Frequency range: 9KHz~30MHz □ - not passed

No.	Frequency (MHz)		Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
Remark: The test result reading value is to low, margin all > 10dB of the limit.								

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Report No.: CGZ3150512-00530-EF

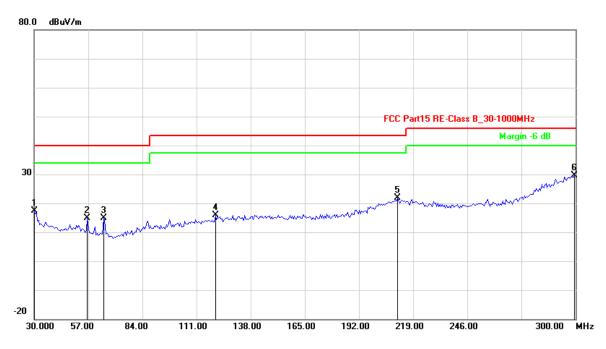






Channel:	TX –X Position	Result:	■ - passed
Test point:	Horizontal		☐ - not passed
Frequency range:	30MHz-1GHz		

EUT	Bluetooth Headset
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test distance	3 Meter
Test Date:	12~13 May 2015
Operator	Duke
MODEL NO	LB-200



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	30.0000	-16.04	33.45	17.41	40.00	-22.59	QP	
2	56.5130	-19.32	34.09	14.77	40.00	-25.23	QP	
3	64.6293	-20.19	34.95	14.76	40.00	-25.24	QP	
4	120.3607	-16.70	32.55	15.85	43.50	-27.65	QP	
5	211.2625	-10.28	32.07	21.79	43.50	-21.71	QP	
6	299.4589	-1.56	31.21	29.65	46.00	-16.35	QP	
Remark:	Remark: Other frequency mini margin all >6 dB of Limit							

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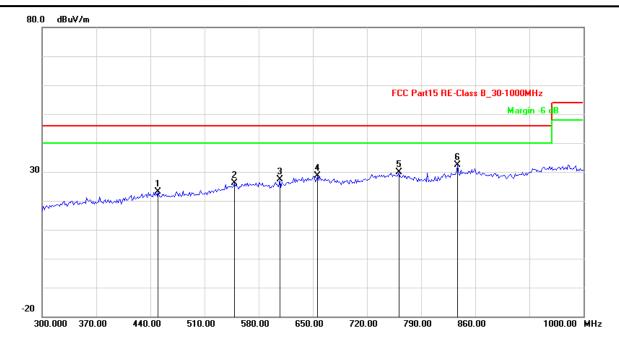
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No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	450.1002	-8.46	31.68	23.22	46.00	-22.78	QP	
2	548.2966	-5.76	31.83	26.07	46.00	-19.93	QP	
3	607.2144	-5.22	32.51	27.29	46.00	-18.71	QP	
4	656.3126	-3.29	31.88	28.59	46.00	-17.41	QP	
5	761.5230	-1.98	31.75	29.77	46.00	-16.23	QP	
6	837.2745	-1.05	33.43	32.38	46.00	-13.62	QP	
Remark	Remark: Other frequency mini margin all >6 dB of Limit							

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Channel:	TX –X Position Low CH	Result:	■ - passed
Test point:	Horizontal		☐ - not passed
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2402.00	-6.84	94.40	87.56	114.00	-26.44	Peak
2	2402.00	-6.84	91.87	85.03	94.00	-8.97	AVG

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	2300.601	-7.44	41.09	33.65	74.00	-40.35	peak	
2	2300.601	-7.44	27.45	20.01	54.00	-33.99	AVG	
3	4306.613	0.91	38.26	39.17	74.00	-34.83	peak	
4	4306.613	0.91	24.72	25.63	54.00	-28.37	AVG	
Remark	Remark: Other frequency mini margin all >6 dB of Limit							

Channel:	TX –X Position Middle CH	Result:	■ - passed
Test point:	Horizontal		☐ - not passed
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2440.00	-6.62	94.30	87.68	114.00	-26.32	Peak
2	2440.00	-6.62	91.86	85.24	94.00	-8.76	AVG

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	3336.673	-2.24	37.12	34.88	74.00	-39.12	peak	
2	3336.673	-2.24	22.60	20.36	54.00	-33.64	AVG	
3	5496.994	4.73	39.40	44.13	74.00	-29.87	peak	
4	5496.994	4.73	26.01	30.74	54.00	-23.26	AVG	
Remark:	Remark: Other frequency mini margin all >6 dB of Limit							

Channel:	TX –X Position High CH	Result:	■ - passed
Test point:	Horizontal		☐ - not passed
Frequency range:	1GHz-26.5GHz		υ μ

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2480.00	-6.38	93.57	87.19	114.00	-26.81	Peak
2	2480.00	-6.38	91.41	85.03	94.00	-8.97	AVG

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	3050.100	-3.36	38.97	35.61	74.00	-38.39	peak	
2	3050.100	-3.36	24.38	21.02	54.00	-32.98	AVG	
3	5320.641	4.22	37.73	41.95	74.00	-32.05	peak	
4	5320.641	4.22	23.25	27.47	54.00	-26.53	AVG	
Remark:	Remark: Other frequency mini margin all >6 dB of Limit							

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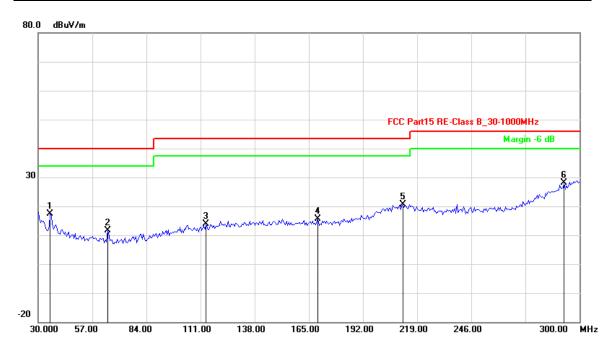




 Channel:
 TX –X Position
 Result:
 ■ - passed

 Test point:
 Vertical
 □ - not passed

 Frequency range:
 30MHz-1GHz



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	35.9519	-16.81	34.09	17.28	40.00	-22.72	QP	
2	64.6293	-20.19	31.89	11.70	40.00	-28.30	QP	
3	113.8677	-17.08	30.99	13.91	43.50	-29.59	QP	
4	169.5992	-15.98	31.61	15.63	43.50	-27.87	QP	
5	211.8036	-10.32	30.95	20.63	43.50	-22.87	QP	
6	292.4248	-3.43	31.55	28.12	46.00	-17.88	QP	
Remark:	Remark: Other frequency mini margin all >6 dB of Limit							

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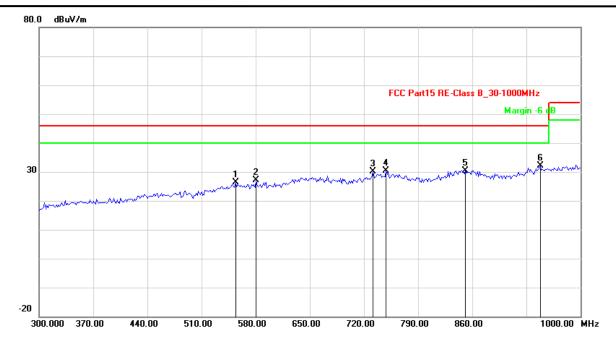
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No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	
1	553.9078	-5.67	31.98	26.31	46.00	-19.69	QP	
2	580.5611	-5.60	32.64	27.04	46.00	-18.96	QP	
3	732.0641	-2.36	32.46	30.10	46.00	-15.90	QP	
4	748.8978	-1.65	32.10	30.45	46.00	-15.55	QP	
5	851.3026	-0.33	30.78	30.45	46.00	-15.55	QP	
6	948.0962	0.34	31.90	32.24	46.00	-13.76	QP	
Remark:	Remark: Other frequency mini margin all >6 dB of Limit							

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Channel:	TX –X Position Low CH	Result:	■ - passed
Test point:	Vertical		□ - not passed
Frequency range:	1GHz-26.5GHz		=

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2402.00	-6.84	91.96	85.12	114.00	-28.88	Peak
2	2402.00	-6.84	90.65	83.81	94.00	-10.19	AVG

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	3490.982	-1.64	37.90	36.26	74.00	-37.74	peak		
2	3490.982	-1.64	24.00	22.36	54.00	-31.64	AVG		
3	5695.391	5.47	38.47	43.94	74.00	-30.06	peak		
4	5695.391	5.47	23.00	28.47	54.00	-25.53	AVG		
Remark	Remark: Other frequency mini margin all >6 dB of Limit								

Channel:	TX –X Position Middle CH	Result:	■ - passed
Test point:	Vertical		☐ - not passed
Frequency range:	1GHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2440.00	-6.62	91.94	85.32	114.00	-28.68	Peak
2	2440.00	-6.62	90.06	83.44	94.00	-10.56	AVG

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	3292.585	-2.41	37.79	35.38	74.00	-38.62	peak		
2	3292.585	-2.41	23.77	21.36	54.00	-32.64	AVG		
3	5100.200	3.58	38.31	41.89	74.00	-32.11	peak		
4	5100.200	3.58	23.91	27.49	54.00	-26.51	AVG		
Remark:	Remark: Other frequency mini margin all >6 dB of Limit								

Channel:	TX –X Position High CH	Result:	■ - passed
Test point:	Vertical		☐ - not passed
Frequency range:	1GHz-26.5GHz		,

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2480.00	-6.38	91.68	85.30	114.00	-28.7	Peak
2	2480.00	-6.38	90.20	83.82	94.00	-10.18	AVG

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.		
1	3050.100	-3.36	38.52	35.16	74.00	-38.84	peak		
2	3050.100	-3.36	24.61	21.25	54.00	-32.75	AVG		
3	5452.906	4.60	39.07	43.67	74.00	-30.33	peak		
4	5452.906	4.60	25.26	29.86	54.00	-24.14	AVG		
Remark:	Remark: Other frequency mini margin all >6 dB of Limit								

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## 8. Band Edge Compliance test

## 8.1. Test Equipment

Band Edge Compliance test								
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.			
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2014/11			
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2015/03			
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2015/03			

#### 8.2. Test procedure

- 1. The EUT operates at hopping-off test mode. The lowest or highest channels are tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.
- 2. Max hold the trace of the setp 1,and the EUT operates at hopping-on test mode to verify the largest spurious emissions power.
- 3. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
  - (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
  - (b) AVERAGE: RBW=1MHz; VBW=1/on time(3KHz) / Sweep=AUTO

#### 8.3. Test Results

## PASSED.

The EUT operates at hopping-off test mode. The lowest and highest channels are tested to verify the band edge emissions.

Test Mode	Channel	Test Result Highest Emission (dBuv/m)				
	Marked Frequency	Horizontal		Vertical		
		Peak	Average	Peak	Average	
Low Channel	2390MHz	37.11	24.11	34.55	23.02	
	2400MHz	60.35	57.07	58.01	55.92	
High Channel	2483.5MHz	46.92	44.33	44.91	43.11	
	2500MHz	36.83	25.02	34.85	24.17	

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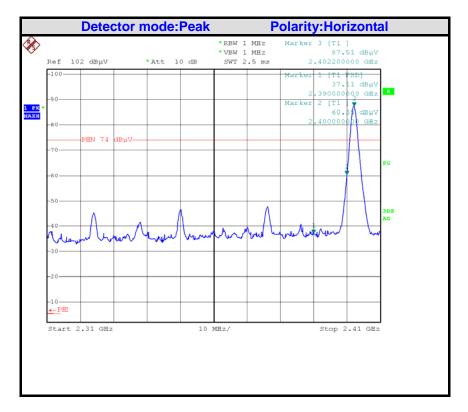
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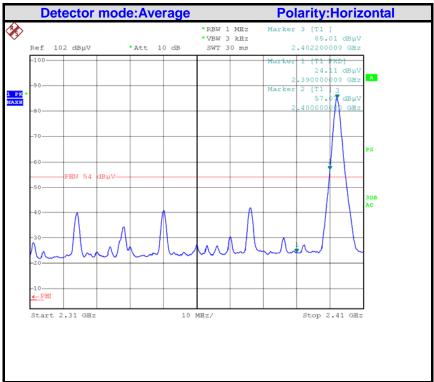
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## **Band Edges (Low)**





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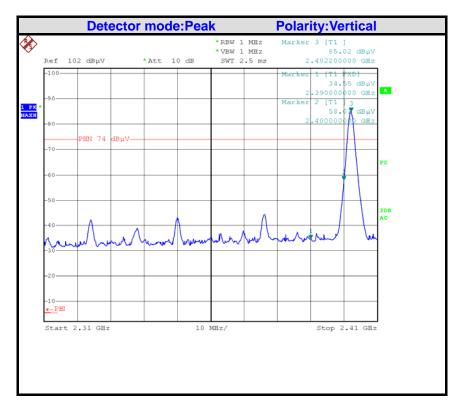
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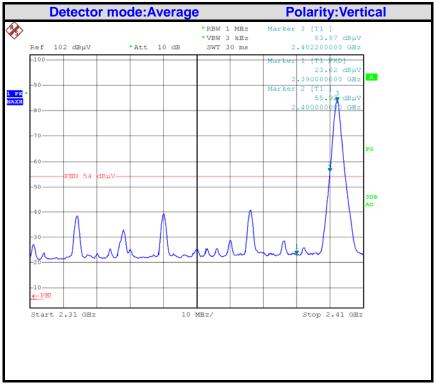
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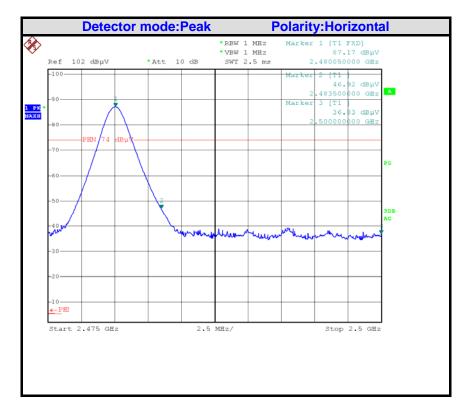
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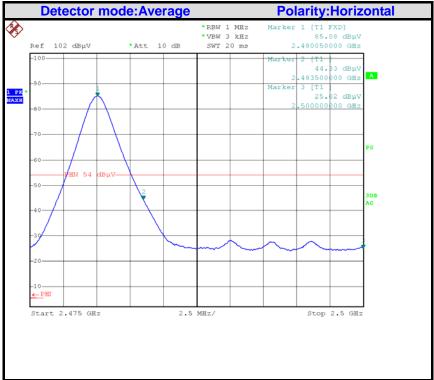
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## **Band Edges (High)**





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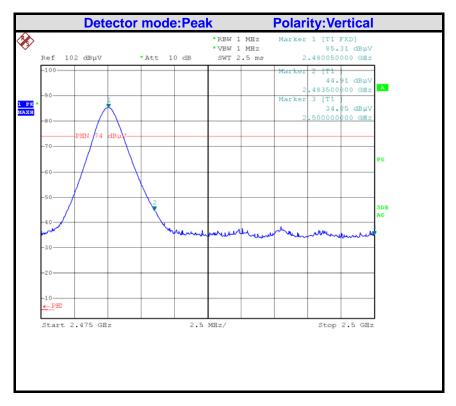
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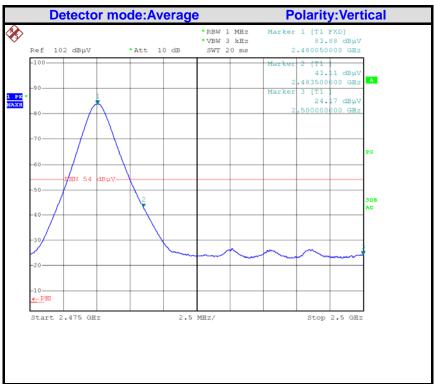
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## 9. Deviation to test specifications

The following identical model(s):

Tzumi Ear-Piece

Belong to the tested device:

Product description: **Bluetooth Headset**Model name: **LB-200** 

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