CENTRE OF TESTING SERVICE INTERNATIONAL

OPERATE ACCORDING TO ISO/IEC 17025

FCC ID TEST REPORT

TEST REPORT NUMBER : CGZ3131223-01230-EF

CENTRE OF TESTING SERVICE CO., LTD.

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

TEST REPORT For FCC ID

47 CFR PART 15 OCT, 2012

Report Reference No.	CGZ3131223-01230-EF
Date of issue	02 January 2014
**Testing Laboratory Name ..... **	**CETRE OF TESTING SERVICE CO., LTD.**
Address	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 □
**Applicant's name ..... **	KunHuang Technology Co., Ltd.
Address	Suite 1713 Baijin, Baomin Road 1, Baoan Area, Shenzhen, China
**Test specification ..... **	
Standard	**47 CFR PART 15 OCT, 2012**
Test Report Form No.	CTSEMC-1.0
TRF Originator	CENTRE OF TESTING SERVICE CO., LTD.
Master TRF	Dated 2009-01

**Test item description..... **	BT Speaker
Trade Mark.....	eRock
Manufacturer.....	KunHuang Technology Co., Ltd.
Model/Type reference.....	KHBS133
Ratings.....	Battery 3.7V, DC 5V for Charging
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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FCC ID -- T E S T R E P O R T

Test Report No. : CGZ3131223-01230-EF	02 January 2014 Date of issue

Type / Model.....	KHBS133
EUT.....	BT Speaker
Applicant……	KunHuang Technology Co., Ltd.
Address.....	Suite 1713 Baijin, Baomin Road 1, Baoan Area, Shenzhen, China
Telephone.....	+86-755-61156511
Fax.....	+86-755-61156599
Contact.....	Kevin Lu
Manufacturer……	KunHuang Technology Co., Ltd.
Address.....	Suite 1713 Baijin, Baomin Road 1, Baoan Area, Shenzhen, China
Telephone.....	+86-755-61156511
Fax.....	+86-755-61156599
Contact.....	Kevin Lu
Test report holder……	/
Address.....	/
Telephone.....	/
Fax.....	/
Contact.....	/

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

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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TABLE OF CONTENTS

Description **Page**

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1.TEST STANDARDS

The tests were performed according to following standards:

■ **47 CFR PART 15 OCT, 2012**
■ **ANSI C63.4-2009**

2.SUMMARY

2.1 GENERAL REMARKS

Date of receipt of test sample	12 December 2013
Testing commenced on	12 December 2013~02 January 2014
Testing concluded on	02 January 2014

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.
□ - **does not** fulfil the FCC requirements cited on page 1.

3.EQUIPMENT UNDER TEST

3.1 Power supply system utilised

Power supply voltage : ■ 3.7V by Battery

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

Operation mode 1:TX-X Position Low (2402MHz) , TX-X Position Middle (2442MHz),
TX-X Position High (2480MHz)
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	:	BT Speaker
Model Number	:	KHBS133
Operation frequency	:	2402~ 2480 MHz ISM Band
Radio Technology	:	V3.0+EDR
Modulation Technology	:	GFSK, π/4-DQPSK,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	:	/
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

Tel：+86-20-85543113 (32 lines) Fax：+86-20-38780406

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.

4.6 Measurement Uncertainty

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

(1).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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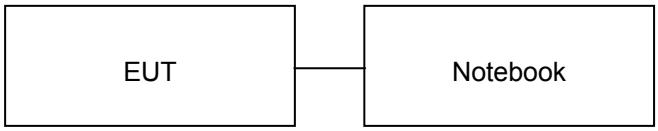
6.Power Line Conducted Emission Test

6.1.Test Equipment

Conducted Disturbance					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESHS10	842884/012	2013/11
2	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/025	2013/11
3	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/026	2013/11
4	Pulse Limiter	ROHDE & SCHWARZ	ESHSZ2	100301	2013/11
5	EMI Test Software	ROHDE & SCHWARZ	ESK1	N/A	2013/11

6.2. Block Diagram of Test Setup



(EUT: BT Speaker***)***

6.3. Power Line Conducted Emission Test Limits

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

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

Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

6.4.Test Procedure

The XBOX Power 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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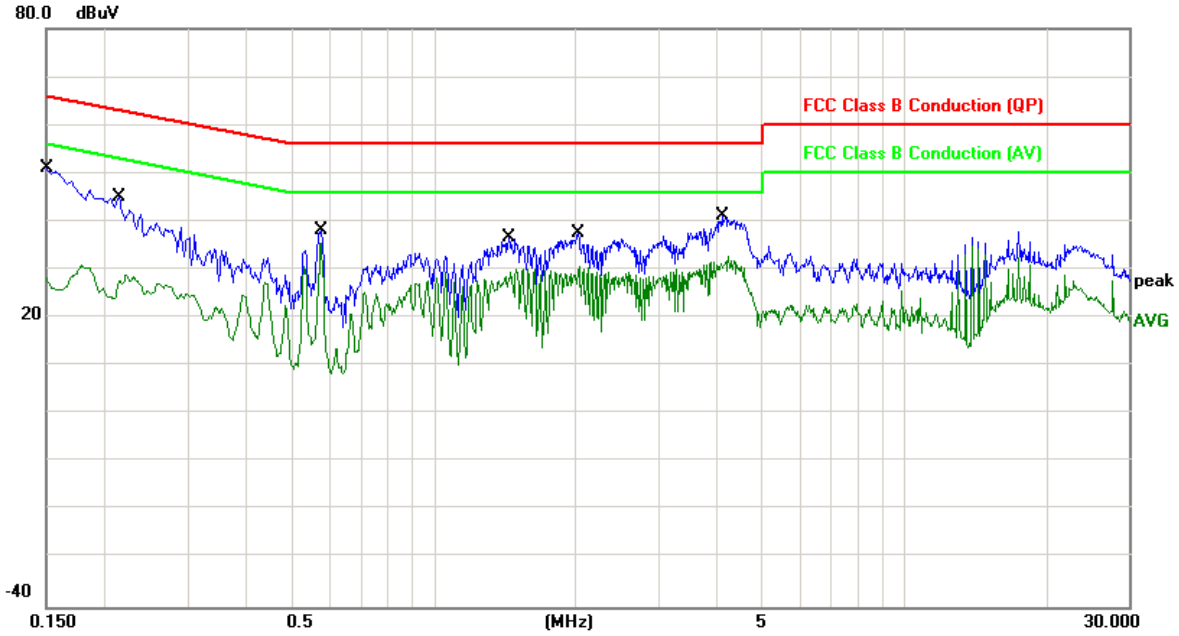
Test point:	L	Result:	■ - passed □ - not passed
Frequency range:	0.15MHz~30MHz		

EUT	BT Speaker
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test Date:	12 December 2013~02 January 2014
Operator	**Duke**
MODEL NO	KHBS133



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	0.1500	9.78	34.20	43.98	66.00	-22.02	QP
2	0.1500	9.78	16.28	26.06	56.00	-29.94	AVG
3	0.2140	9.78	26.33	36.11	63.05	-26.94	QP
4	0.2140	9.78	17.53	27.31	53.05	-25.74	AVG
5	0.5780	9.84	26.43	36.27	56.00	-19.73	QP
6	0.5780	9.84	24.28	34.12	46.00	-11.88	AVG
7	1.4460	9.84	20.15	29.99	56.00	-26.01	QP
8	1.4460	9.84	14.88	24.72	46.00	-21.28	AVG
9	2.0260	9.86	20.45	30.31	56.00	-25.69	QP
10	2.0260	9.86	14.78	24.64	46.00	-21.36	AVG
11	4.0980	9.91	25.12	35.03	56.00	-20.97	QP
12	4.0980	9.91	18.47	28.38	46.00	-17.62	AVG
Remark: Other frequency mini margin all >10 dB of Limit							

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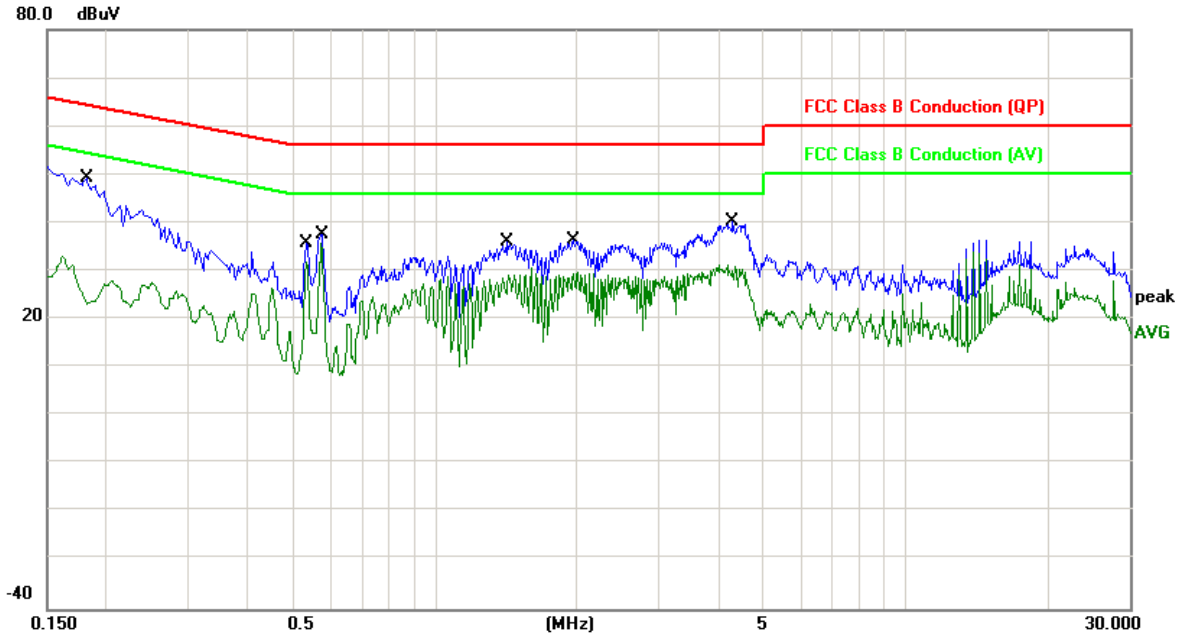
Test point:	N	Result:	■ - passed
Frequency range:	0.15MHz~30MHz		□ - not passed



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	0.1820	9.78	29.59	39.37	64.39	-25.02	QP
2	0.1820	9.78	13.92	23.70	54.39	-30.69	AVG
3	0.5340	9.84	23.01	32.85	56.00	-23.15	QP
4	0.5340	9.84	22.01	31.85	46.00	-14.15	AVG
5	0.5780	9.84	24.43	34.27	56.00	-21.73	QP
6	0.5780	9.84	20.92	30.76	46.00	-15.24	AVG
7	1.4220	9.84	20.91	30.75	56.00	-25.25	QP
8	1.4220	9.84	16.31	26.15	46.00	-19.85	AVG
9	1.9700	9.86	21.03	30.89	56.00	-25.11	QP
10	1.9700	9.86	16.03	25.89	46.00	-20.11	AVG
11	4.3100	9.91	22.95	32.86	56.00	-23.14	QP
12	4.3100	9.91	16.05	25.96	46.00	-20.04	AVG
Remark: Other frequency mini margin all >10 dB of Limit							

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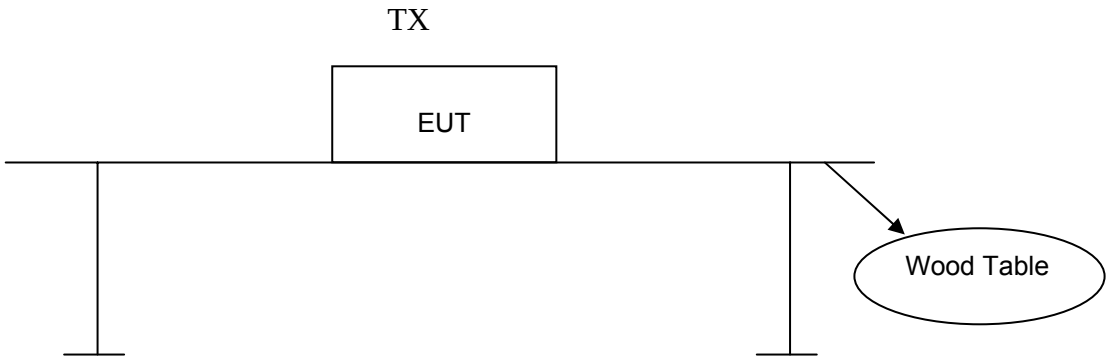
7. Radiated disturbance (electric field)

7.1. Test Equipment

Radiated disturbance (electric field)					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100868	2013/11
2	Biconical Antenna	ROHDE & SCHWARZ	HK116	100221	2013/03
3	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2013/03
4	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2013/03
5	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2013/03
6	Loop Antenna	A.R.A	PLA-1030/B	1030	2013/11

7.2. Block Diagram of Test Setup

7.2.1 Block Diagram of connection between EUT and simulators



(EUT: BT Speaker*)*

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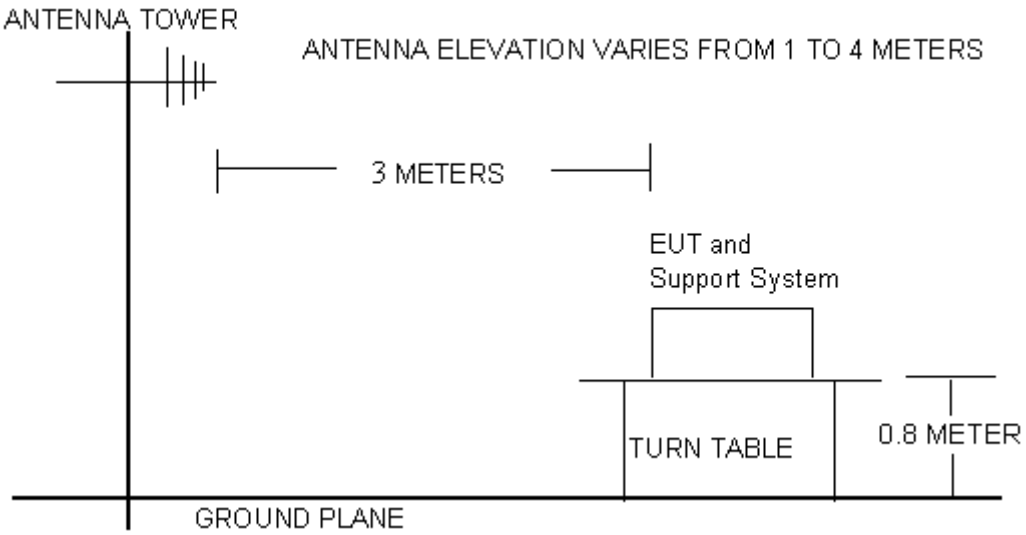
7.2.2 Anechoic Chamber Setup Diagram



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

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		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
Above 1000	3	Other:74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Average)	

Remark： (1) Emission level dBμV = 20 log Emission level μV/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: Frequency range:	TX –X Position Mode 9KHz~30MHz	Result:	■ - passed □ - not passed

No.	Frequency (MHz)	Factor (dB)	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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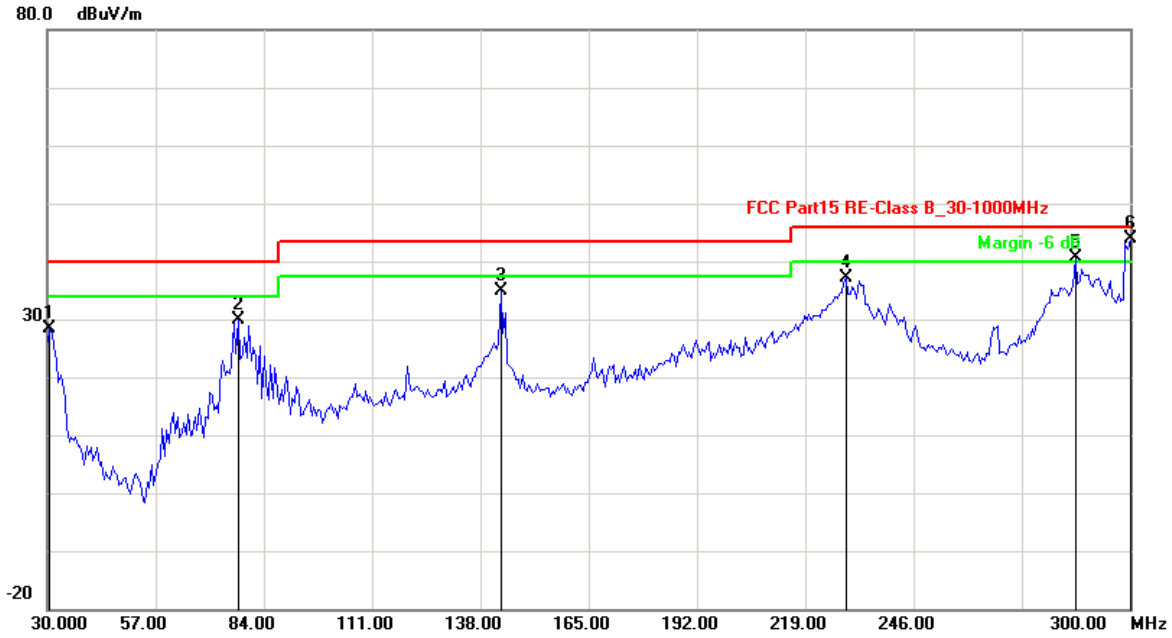
Channel: Test point: Frequency range:	TX –X Position Mode Low 2402MHz Horizontal 30MHz-26.5GHz	Result:	■ - passed ☐ - not passed

EUT	BT Speaker
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test distance	3 Meter
Test Date:	12 December 2013~02 January 2014
Operator	**Duke**
MODEL NO	KHBS133

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2402.00	2.81	88.47	91.28	114.00	-22.72	Peak
2	2402.00	2.81	84.13	86.94	94.00	-7.06	AVG



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	30.5411	-18.94	47.25	28.31	40.00	-11.69	QP
2	77.6152	-21.43	51.23	29.80	40.00	-10.20	QP
3	143.0862	-16.68	51.54	34.86	43.50	-8.64	QP
4	229.1182	-12.35	49.38	37.03	46.00	-8.97	QP
5	286.4729	-7.87	48.52	40.65	46.00	-5.35	QP
6	300.0000	-5.57	49.45	43.88	46.00	-2.12	QP
Remark: Other frequency mini margin all >10 dB of Limit							

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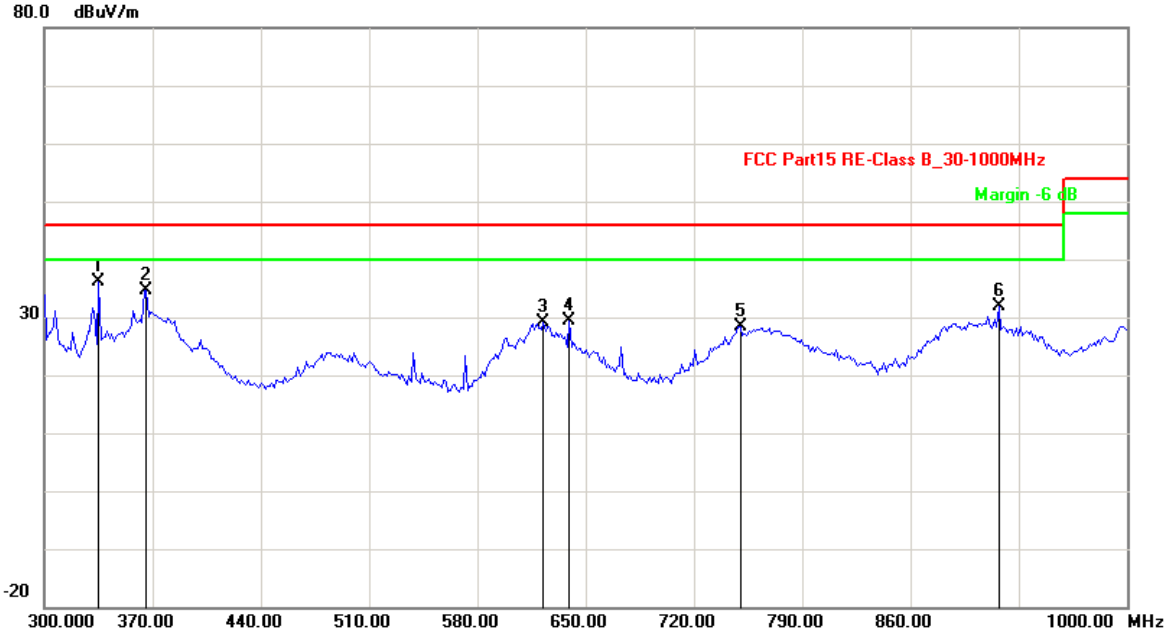

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	335.0701	-14.31	50.37	36.06	46.00	-9.94	QP
2	365.9319	-14.18	48.85	34.67	46.00	-11.33	QP
3	622.6453	-7.14	36.22	29.08	46.00	-16.92	QP
4	639.4790	-7.60	37.02	29.42	46.00	-16.58	QP
5	750.3006	-6.30	34.74	28.44	46.00	-17.56	QP
6	917.2345	-4.44	36.27	31.83	46.00	-14.17	QP
Remark: Other frequency mini margin all >10 dB of Limit							

Above 1GHz

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1595.190	-1.34	44.46	43.12	74.00	-30.88	peak
2	1595.190	-1.34	29.97	28.63	54.00	-25.37	AVG
3	3358.717	7.75	41.44	49.19	74.00	-24.81	peak
4	3358.717	7.75	26.80	34.55	54.00	-19.45	AVG
5	4306.613	10.53	38.14	48.67	74.00	-25.33	peak
6	4306.613	10.53	23.16	33.69	54.00	-20.31	AVG
7	5056.112	12.34	38.01	50.35	74.00	-23.65	peak
8	5056.112	12.34	24.14	36.48	54.00	-17.52	AVG
9	5362.000	13.33	37.03	50.36	74.00	-23.64	peak
10	5362.000	13.33	22.14	35.47	54.00	-18.53	AVG
11	7525.050	18.53	37.40	55.93	74.00	-18.07	peak
12	7525.050	18.53	22.69	41.22	54.00	-12.78	AVG
Remark: Other frequency mini margin all >10 dB of Limit							

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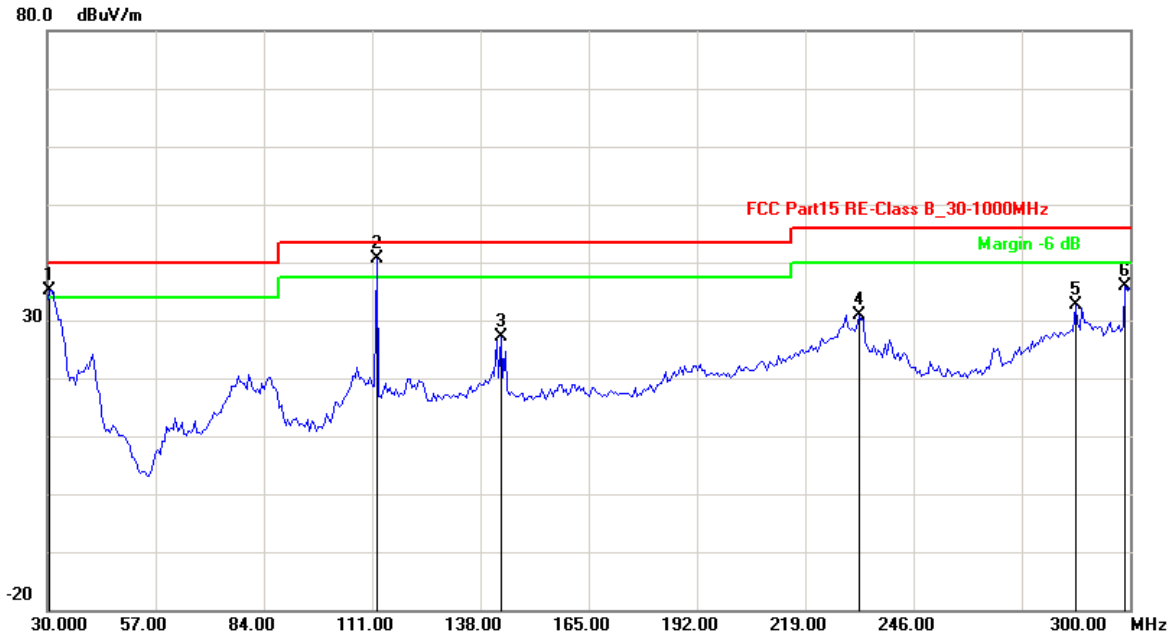
Complaint line：+86-20-85533471 E-mail：cts@cts-lab.com.cn See Reverse For Terms And Conditions of Service

Channel: Test point: Frequency range:	TX –X Position Mode Low 2402MHz Vertical 30MHzHz-26.5GHz	Result:	■ - passed □ - not passed

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2402.00	2.81	91.70	94.51	114.00	-19.49	Peak
2	2402.00	2.81	87.52	90.33	94.00	-3.67	AVG



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	30.5411	-18.94	54.15	35.21	40.00	-4.79	QP
2	112.2445	-20.01	60.58	40.57	43.50	-2.93	QP
3	143.0862	-16.68	43.93	27.25	43.50	-16.25	QP
4	232.3647	-12.53	43.34	30.81	46.00	-15.19	QP
5	286.4729	-7.87	40.44	32.57	46.00	-13.43	QP
6	298.9178	-5.73	41.64	35.91	46.00	-10.09	QP
Remark: Other frequency mini margin all >10 dB of Limit							

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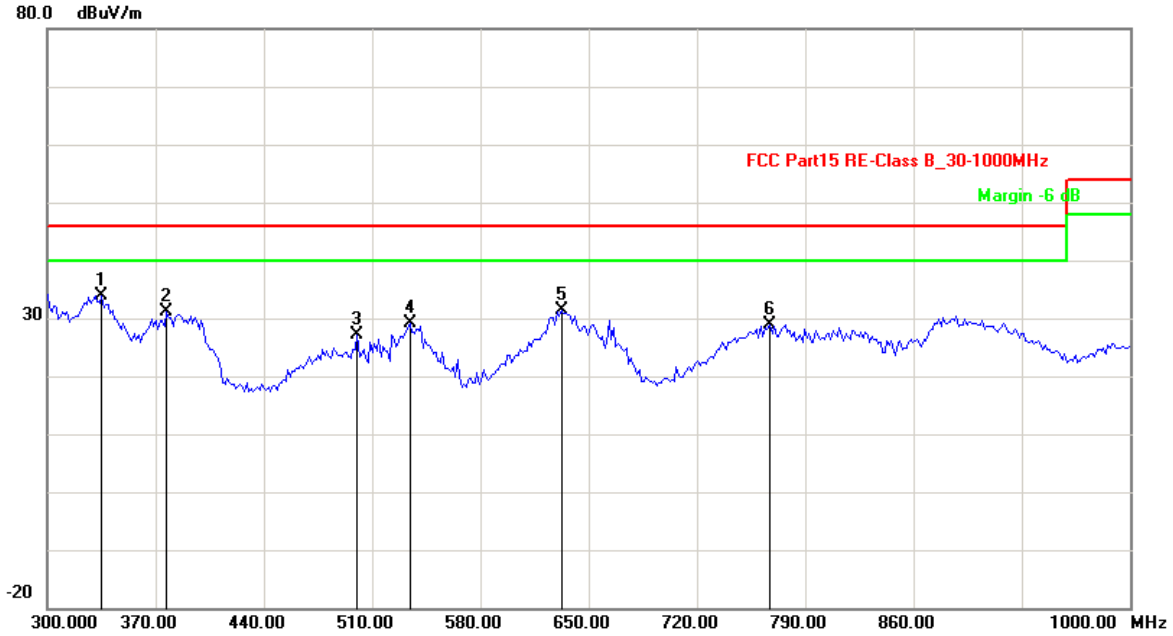

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	335.0701	-14.31	48.26	33.95	46.00	-12.05	QP
2	377.1543	-14.72	45.85	31.13	46.00	-14.87	QP
3	500.6012	-10.26	37.42	27.16	46.00	-18.84	QP
4	534.2685	-14.12	43.22	29.10	46.00	-16.90	QP
5	632.4649	-7.41	38.70	31.29	46.00	-14.71	QP
6	767.1343	-5.65	34.61	28.96	46.00	-17.04	QP
Remark: Other frequency mini margin all >10 dB of Limit							

Above 1GHz

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1573.146	-1.35	45.96	44.61	74.00	-29.39	peak
2	1573.146	-1.35	31.56	30.21	54.00	-23.79	AVG
3	4482.966	10.94	37.47	48.41	74.00	-25.59	peak
4	4482.966	10.94	22.71	33.65	54.00	-20.35	AVG
5	5585.170	14.04	38.29	52.33	74.00	-21.67	peak
6	5585.170	14.04	23.44	37.48	54.00	-16.52	AVG
7	7128.257	17.98	38.39	56.37	74.00	-17.63	peak
8	7128.257	17.98	23.31	41.29	54.00	-12.71	AVG
9	7547.094	18.56	37.36	55.92	74.00	-18.08	peak
10	7547.094	18.56	22.02	40.58	54.00	-13.42	AVG
11	8098.196	19.47	37.73	57.20	74.00	-16.80	peak
12	8098.196	19.47	23.75	43.22	54.00	-10.78	AVG
Remark: Other frequency mini margin all >10 dB of Limit							

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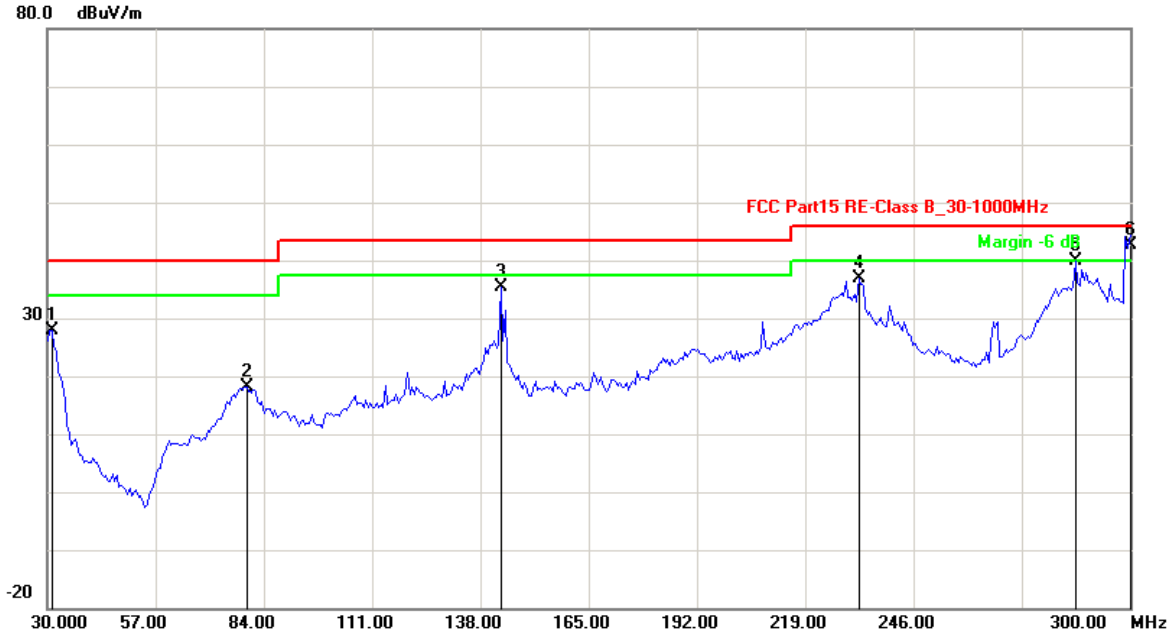
Channel: Test point: Frequency range:	TX –X Position Mode Middle 2442MHz Horizontal 30MHz-26.5GHz	Result:	■ - passed □ - not passed

EUT	BT Speaker
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test distance	3 Meter
Test Date:	12 December 2013~02 January 2014
Operator	**Duke**
MODEL NO	KHBS133

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2442.00	3.18	88.37	91.55	114.00	-22.45	Peak
2	2442.00	3.18	84.03	87.21	94.00	-6.79	AVG



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	31.0822	-19.43	47.32	27.89	40.00	-12.11	QP
2	79.7796	-21.41	39.63	18.22	40.00	-21.78	QP
3	143.0862	-16.68	51.99	35.31	43.50	-8.19	QP
4	232.3647	-12.53	49.31	36.78	46.00	-9.22	QP
5	286.4729	-7.87	47.87	40.00	46.00	-6.00	QP
6	300.0000	-5.57	48.11	42.54	46.00	-3.46	QP
Remark: Other frequency mini margin all >10 dB of Limit							

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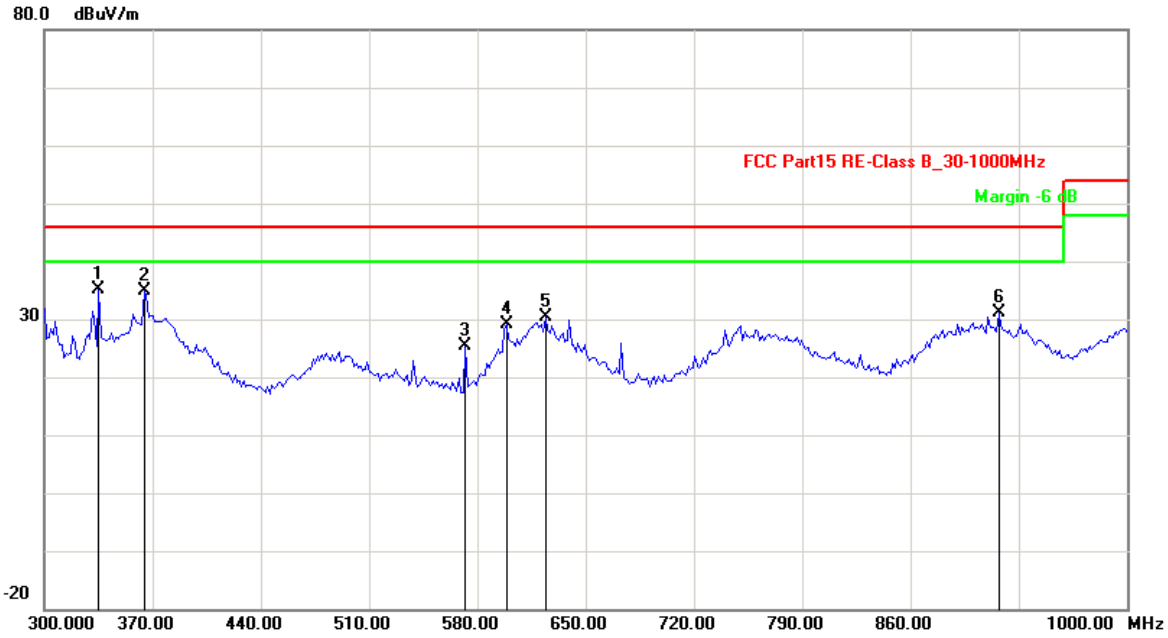

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	335.0701	-14.31	49.44	35.13	46.00	-10.87	QP
2	364.5291	-14.11	49.10	34.99	46.00	-11.01	QP
3	572.1443	-15.21	40.49	25.28	46.00	-20.72	QP
4	598.7976	-11.21	40.26	29.05	46.00	-16.95	QP
5	624.0481	-7.18	37.56	30.38	46.00	-15.62	QP
6	917.2345	-4.44	35.67	31.23	46.00	-14.77	QP
Remark: Other frequency mini margin all >10 dB of Limit							

Above 1GHz

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1573.146	-1.35	45.59	44.24	74.00	-29.76	peak
2	1573.146	-1.35	31.47	30.12	54.00	-23.88	AVG
3	2388.778	2.68	44.29	46.97	74.00	-27.03	peak
4	2388.778	2.68	28.58	31.26	54.00	-22.74	AVG
5	3292.585	7.54	41.29	48.83	74.00	-25.17	peak
6	3292.585	7.54	26.20	33.74	54.00	-20.26	AVG
7	4416.834	10.79	38.57	49.36	74.00	-24.64	peak
8	4416.834	10.79	23.80	34.59	54.00	-19.41	AVG
9	5276.553	13.05	37.61	50.66	74.00	-23.34	peak
10	5276.553	13.05	22.23	35.28	54.00	-18.72	AVG
11	7370.742	18.32	36.07	54.39	74.00	-19.61	peak
12	7370.742	18.32	21.84	40.16	54.00	-13.84	AVG
Remark: Other frequency mini margin all >10 dB of Limit							

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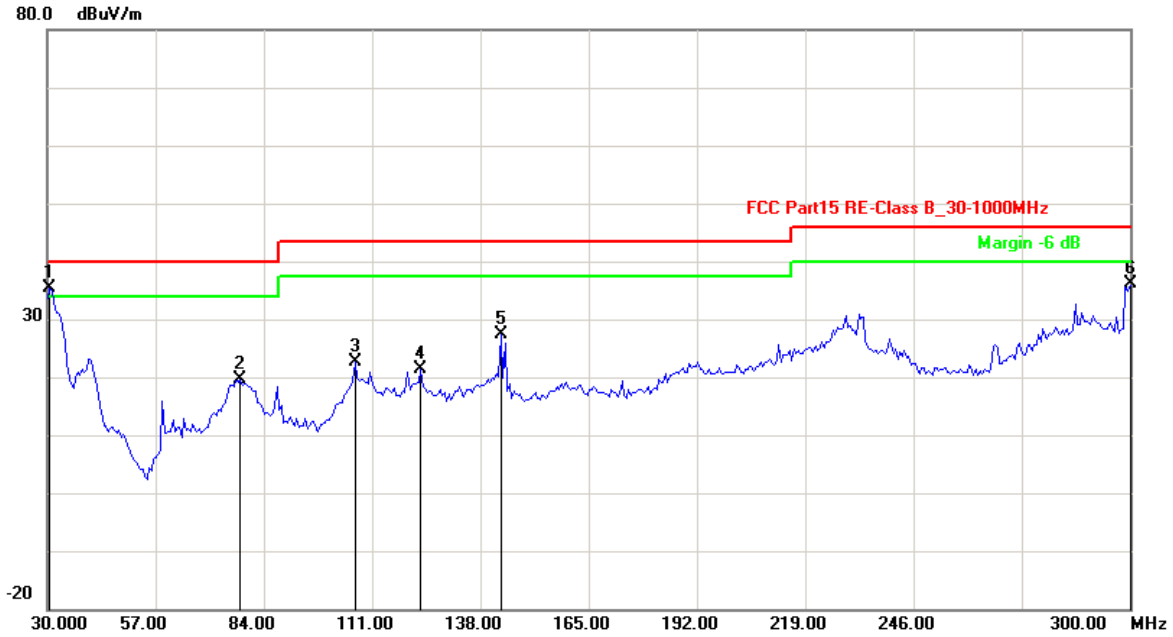
Channel: Test point: Frequency range:	TX –X Position Mode Middle 2442MHz Vertical 30MHzHz-26.5GHz	Result:	■ - passed ☐ - not passed

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2442.00	3.18	91.24	94.42	114.00	-22.94	Peak
2	2442.00	3.18	86.99	90.17	94.00	-3.83	AVG



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	30.5411	-18.94	54.21	35.27	40.00	-4.73	QP
2	78.1563	-21.42	41.15	19.73	40.00	-20.27	QP
3	106.8337	-21.37	43.92	22.55	43.50	-20.95	QP
4	123.0661	-17.80	39.24	21.44	43.50	-22.06	QP
5	143.0862	-16.68	44.16	27.48	43.50	-16.02	QP
6	300.0000	-5.57	41.63	36.06	46.00	-9.94	QP
Remark: Other frequency mini margin all >10 dB of Limit							

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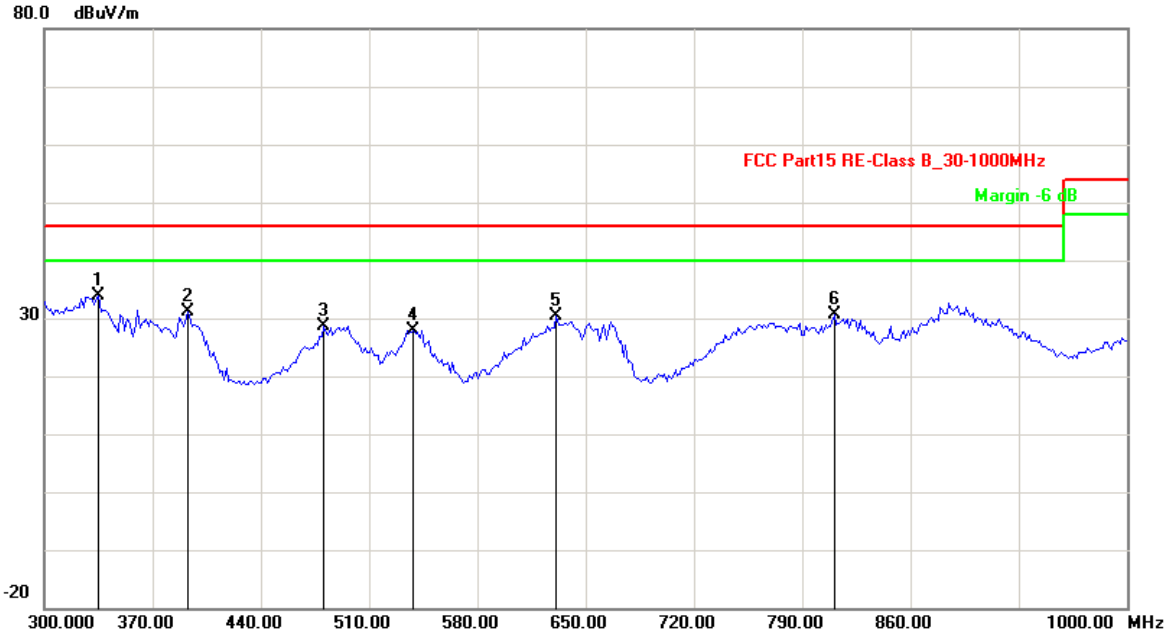

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	335.0701	-14.31	48.22	33.91	46.00	-12.09	QP
2	392.5852	-14.97	46.09	31.12	46.00	-14.88	QP
3	480.9619	-9.71	38.42	28.71	46.00	-17.29	QP
4	538.4770	-14.41	42.40	27.99	46.00	-18.01	QP
5	631.0621	-7.37	37.64	30.27	46.00	-15.73	QP
6	810.6212	-9.19	39.71	30.52	46.00	-15.48	QP
Remark: Other frequency mini margin all >10 dB of Limit							

Above 1GHz

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1595.190	-1.34	45.14	43.80	74.00	-30.20	peak
2	1595.190	-1.34	29.99	28.65	54.00	-25.35	AVG
3	2234.469	1.16	40.68	41.84	74.00	-32.16	peak
4	2234.469	1.16	25.17	26.33	54.00	-27.67	AVG
5	2873.748	5.89	42.43	48.32	74.00	-25.68	peak
6	2873.748	5.89	27.32	33.21	54.00	-20.79	AVG
7	4240.481	10.38	37.50	47.88	74.00	-26.12	peak
8	4240.481	10.38	22.58	32.96	54.00	-21.04	AVG
9	5408.818	13.48	37.42	50.90	74.00	-23.10	peak
10	5408.818	13.48	22.66	36.14	54.00	-17.86	AVG
11	7238.477	18.13	36.05	54.18	74.00	-19.82	peak
12	7238.477	18.13	22.00	40.13	54.00	-13.87	AVG
Remark: Other frequency mini margin all >10 dB of Limit							

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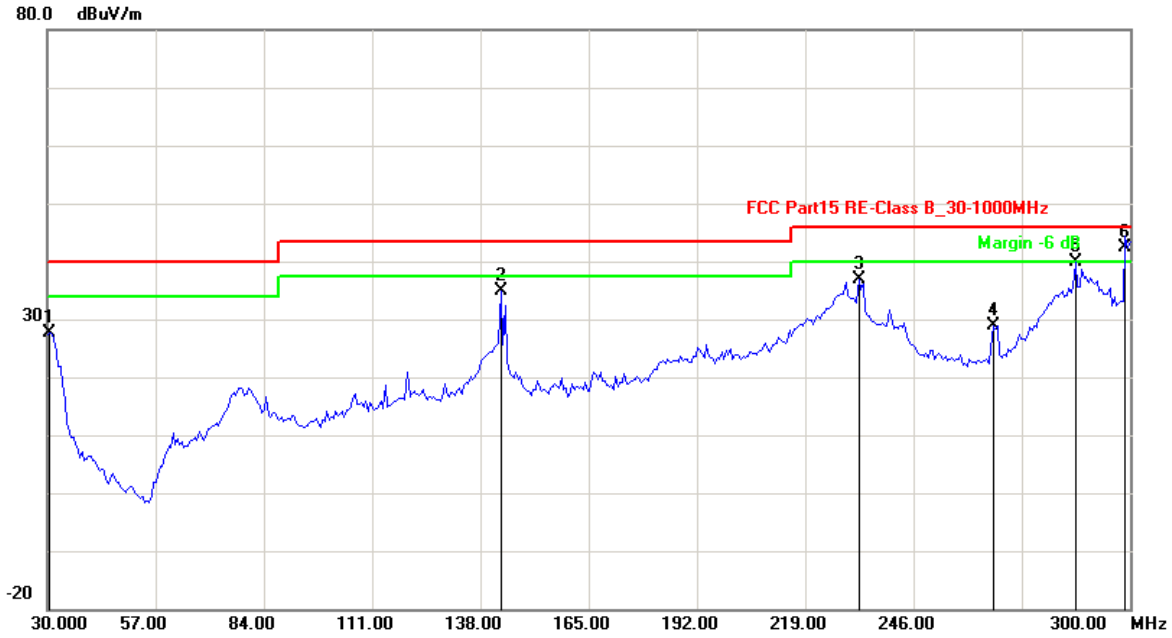
Channel: Test point: Frequency range:	TX –X Position Mode High 2480MHz Horizontal 30MHz-26.5GHz	Result:	■ - passed ☐ - not passed

EUT	BT Speaker
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test distance	3 Meter
Test Date:	12 December 2013~02 January 2014
Operator	**Duke**
MODEL NO	KHBS133

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2480.00	3.57	86.39	89.96	114.00	-24.04	Peak
2	2480.00	3.57	82.87	86.44	94.00	-7.56	AVG



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	30.5411	-18.94	46.45	27.51	40.00	-12.49	QP
2	143.0862	-16.68	51.46	34.78	43.50	-8.72	QP
3	232.3647	-12.53	49.42	36.89	46.00	-9.11	QP
4	265.9118	-12.11	41.02	28.91	46.00	-17.09	QP
5	286.4729	-7.87	47.69	39.82	46.00	-6.18	QP
6	298.9178	-5.73	48.09	42.36	46.00	-3.64	QP
Remark: Other frequency mini margin all >10 dB of Limit							

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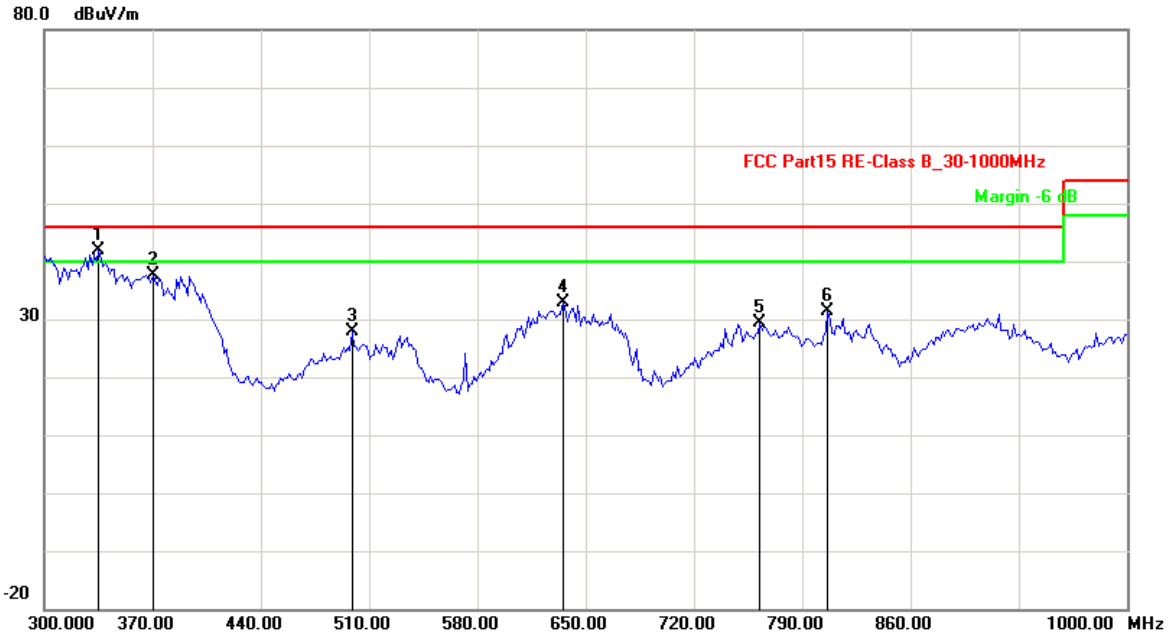

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	335.0701	-14.31	56.12	41.81	46.00	-4.19	QP
2	370.1403	-14.38	52.11	37.73	46.00	-8.27	QP
3	499.1984	-10.15	38.09	27.94	46.00	-18.06	QP
4	635.2705	-7.48	40.36	32.88	46.00	-13.12	QP
5	762.9259	-5.56	35.06	29.50	46.00	-16.50	QP
6	806.4128	-8.92	40.29	31.37	46.00	-14.63	QP
Remark: Other frequency mini margin all >10 dB of Limit							

Above 1GHz

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1595.190	-1.34	43.37	42.03	74.00	-31.97	peak
2	1595.190	-1.34	28.60	27.26	54.00	-26.74	AVG
3	2697.395	4.89	41.75	46.64	74.00	-27.36	peak
4	2697.395	4.89	26.40	31.29	54.00	-22.71	AVG
5	4174.349	10.22	37.86	48.08	74.00	-25.92	peak
6	4174.349	10.22	23.40	33.62	54.00	-20.38	AVG
7	5254.509	12.98	37.15	50.13	74.00	-23.87	peak
8	5254.509	12.98	22.50	35.48	54.00	-18.52	AVG
9	7238.477	18.13	36.13	54.26	74.00	-19.74	peak
10	7238.477	18.13	22.00	40.13	54.00	-13.87	AVG
11	8098.196	19.47	36.91	56.38	74.00	-17.62	peak
12	8098.196	19.47	21.81	41.28	54.00	-12.72	AVG
Remark: Other frequency mini margin all >10 dB of Limit							

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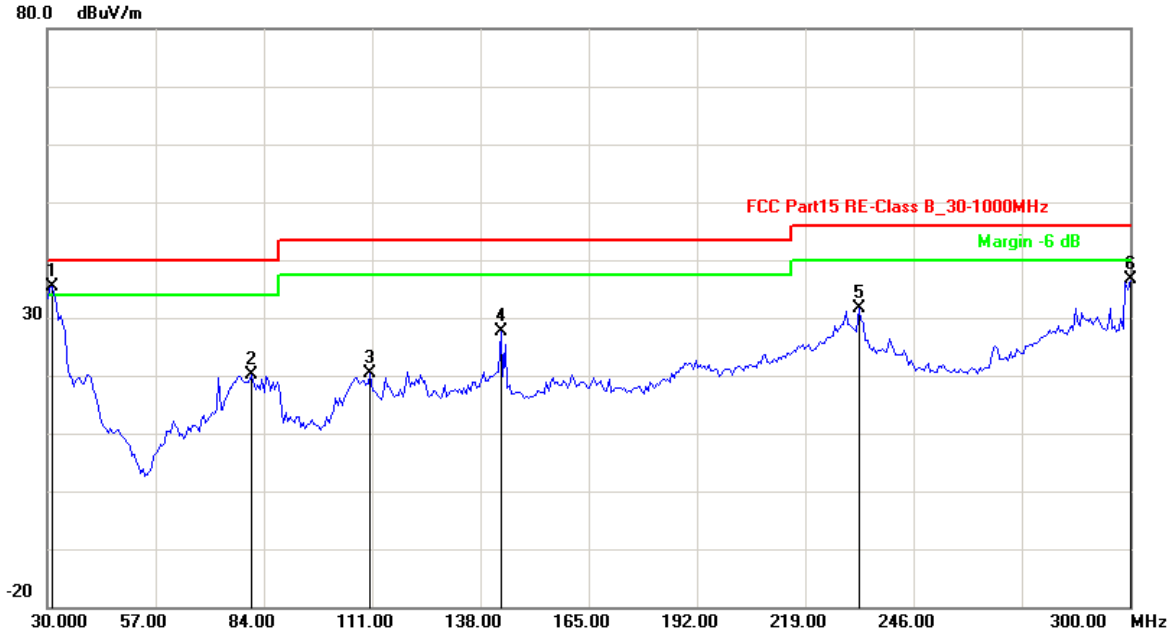
Channel:	TX –X Position Mode High 2480MHz	Result:	■ - passed □ - not passed
Test point:	Vertical		
Frequency range:	30MHzHz-26.5GHz		

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2480.00	3.57	89.79	93.36	114.00	20.64	Peak
2	2480.00	3.57	80.41	89.98	94.00	-4.02	AVG



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	31.0822	-19.43	54.78	35.35	40.00	-4.65	QP
2	80.8617	-21.60	41.65	20.05	40.00	-19.95	QP
3	110.6212	-20.40	40.76	20.36	43.50	-23.14	QP
4	143.0862	-16.68	44.33	27.65	43.50	-15.85	QP
5	232.3647	-12.53	44.06	31.53	46.00	-14.47	QP
6	300.0000	-5.57	42.09	36.52	46.00	-9.48	QP
Remark: Other frequency mini margin all >10 dB of Limit							

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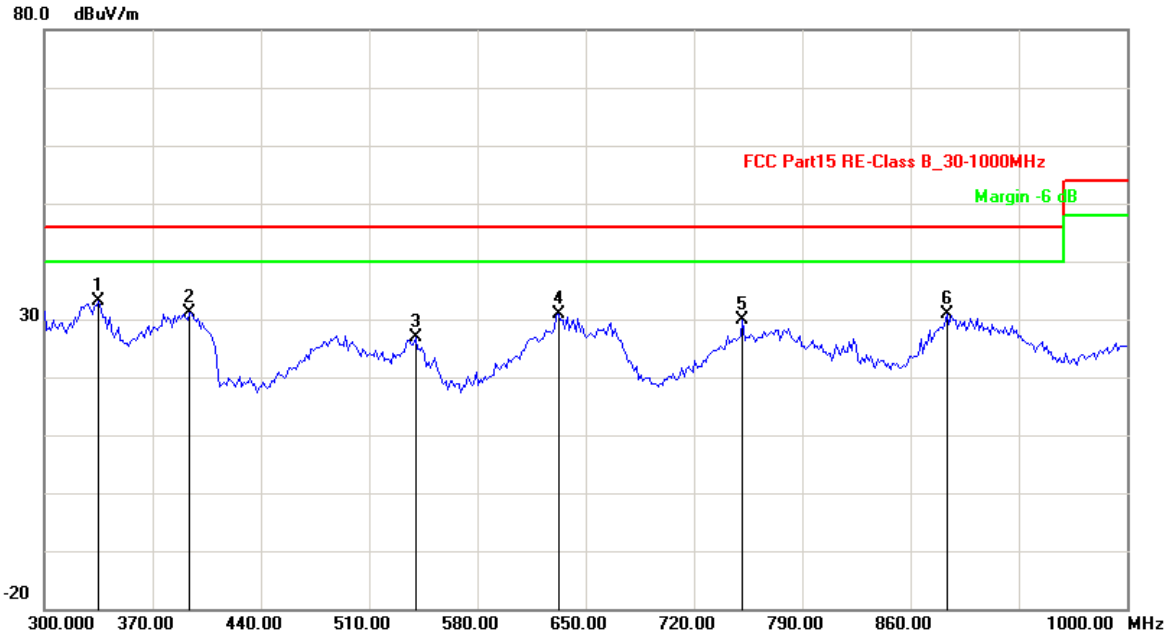

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	335.0701	-14.31	47.55	33.24	46.00	-12.76	QP
2	393.9880	-14.98	46.09	31.11	46.00	-14.89	QP
3	539.8798	-14.50	41.48	26.98	46.00	-19.02	QP
4	632.4649	-7.41	38.17	30.76	46.00	-15.24	QP
5	751.7034	-6.19	36.01	29.82	46.00	-16.18	QP
6	883.5671	-4.76	35.71	30.95	46.00	-15.05	QP
Remark: Other frequency mini margin all >10 dB of Limit							

Above 1GHz

No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1595.190	-1.34	46.03	44.69	74.00	-29.31	peak
2	1595.190	-1.34	31.46	30.12	54.00	-23.88	AVG
3	2344.689	2.24	44.02	46.26	74.00	-27.74	peak
4	2344.689	2.24	29.34	31.58	54.00	-22.42	AVG
5	5408.818	13.48	38.95	52.43	74.00	-21.57	peak
6	5408.818	13.48	23.98	37.46	54.00	-16.54	AVG
7	5871.744	14.97	39.12	54.09	74.00	-19.91	peak
8	5871.744	14.97	25.15	40.12	54.00	-13.88	AVG
9	7326.653	18.25	37.06	55.31	74.00	-18.69	peak
10	7326.653	18.25	22.33	40.58	54.00	-13.42	AVG
11	7569.138	18.59	37.23	55.82	74.00	-18.18	peak
12	7569.138	18.59	22.77	41.36	54.00	-12.64	AVG
Remark: Other frequency mini margin all >10 dB of Limit							

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9.Band Edge Compliance test

9.1. Test Equipment

Band Edge Compliance test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2013/11
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2013/03
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2013/03

9.2. Test Information

EUT	BT Speaker
Test Condition	Ambient Temperature: 25°C Humidity: 56%
Test distance	3 Meter
Test Date:	12 December 2013~02 January 2014
Operator	**Duke**
MODEL NO	KHBS133

9.3. 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=3kHz(1/duty cycle) / Sweep=AUTO

9.4. 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 Marked Frequency	Test Result Highest Emission (dBuv/m)			
		Horizontal		Vertical	
		Peak	Average	Peak	Average
Low Channel	2390MHz	33.51	22.49	36.02	23.08
	2400MHz	69.43	61.22	72.60	64.37
High Channel	2483.5MHz	52.30	46.37	56.37	48.97
	2500MHz	31.67	19.88	32.64	20.81

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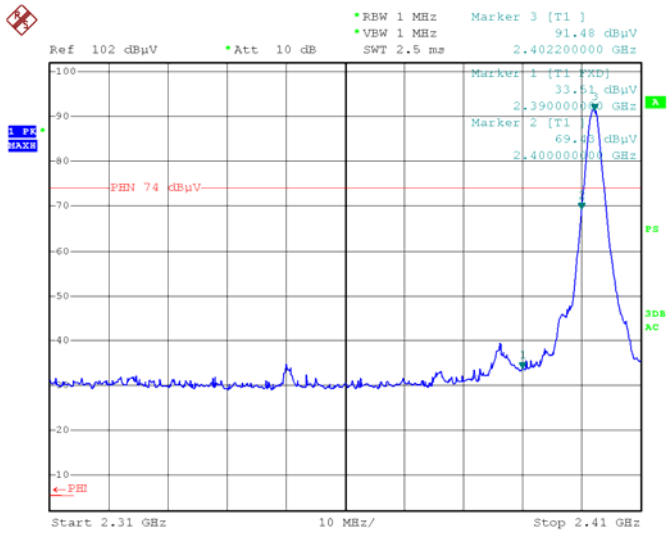
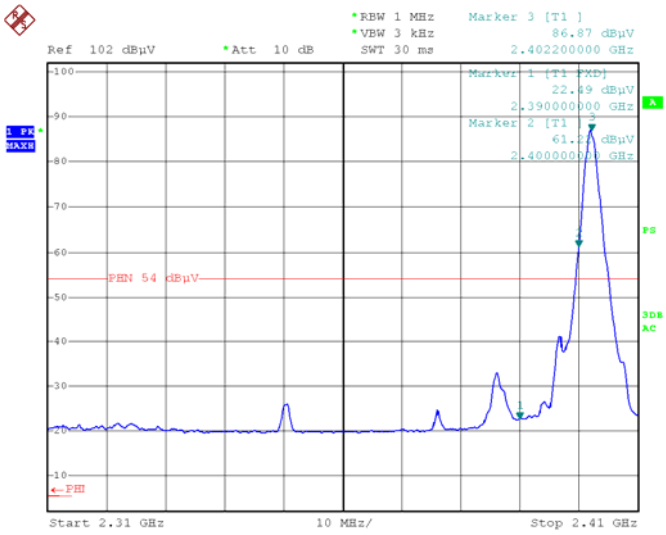
Band Edges(CH Low)
Detector mode:Peak **Polarity:Horizontal**



Date: 31.DEC.2013 15:33:16

Band Edges(CH Low)
Detector mode: Average

Polarity: Horizontal



Date: 31.DEC.2013 15:26:54

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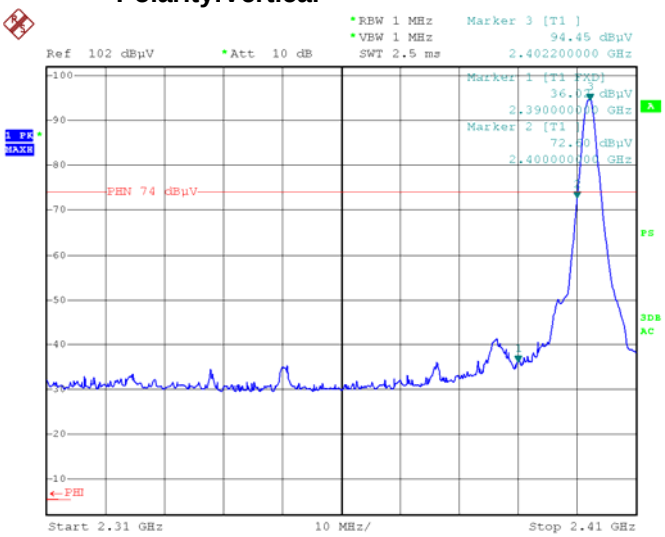
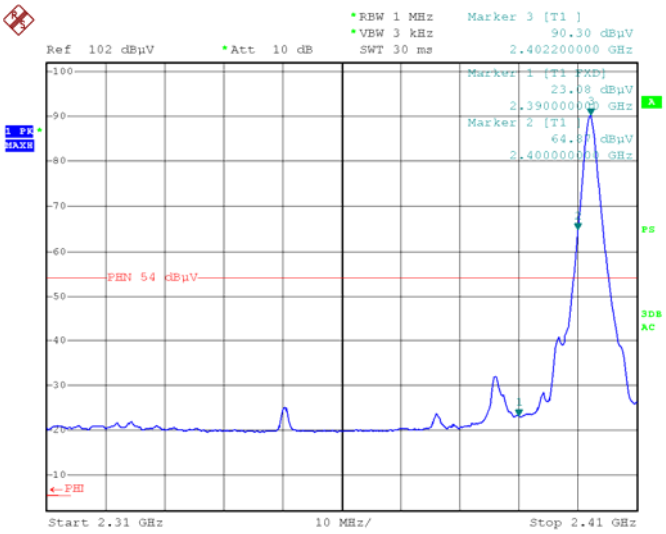
Band Edges(CH Low)
Detector mode:Peak **Polarity:Vertical**



Date: 31.DEC.2013 15:38:10

Band Edges(CH Low)
Detector mode:Average **Polarity:Vertical**



Date: 31.DEC.2013 15:31:55

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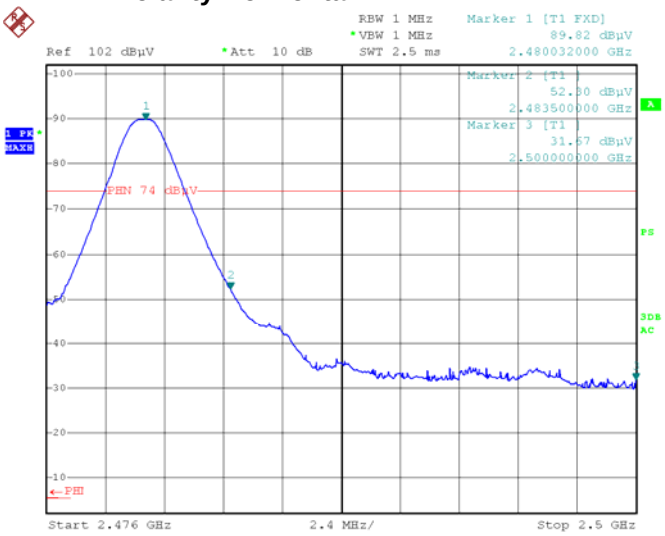
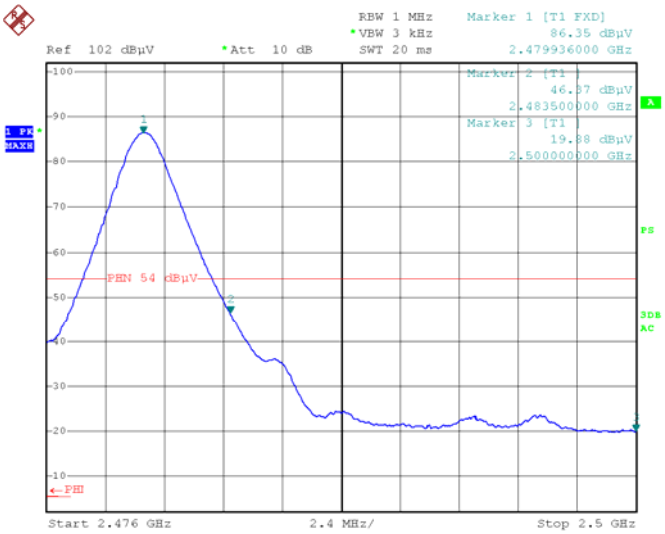
Band Edges(CH High)
Detector mode:Peak **Polarity:Horizontal**



Date: 31.DEC.2013 15:16:42

Band Edges(CH High)
Detector mode:Average **Polarity:Horizontal**



Date: 31.DEC.2013 15:20:51

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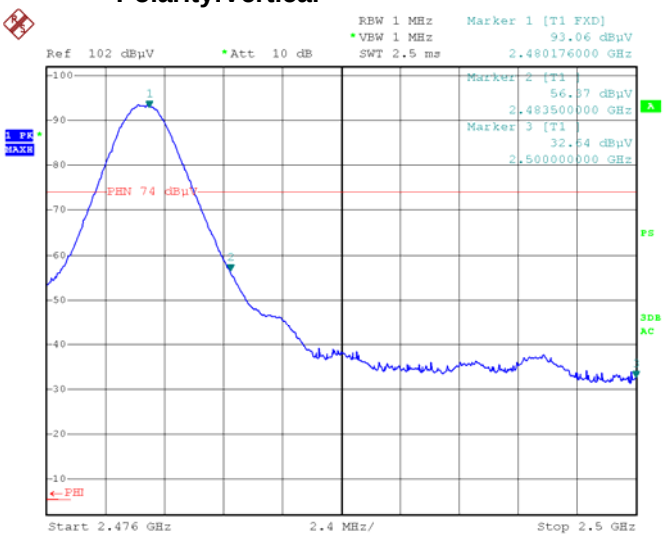
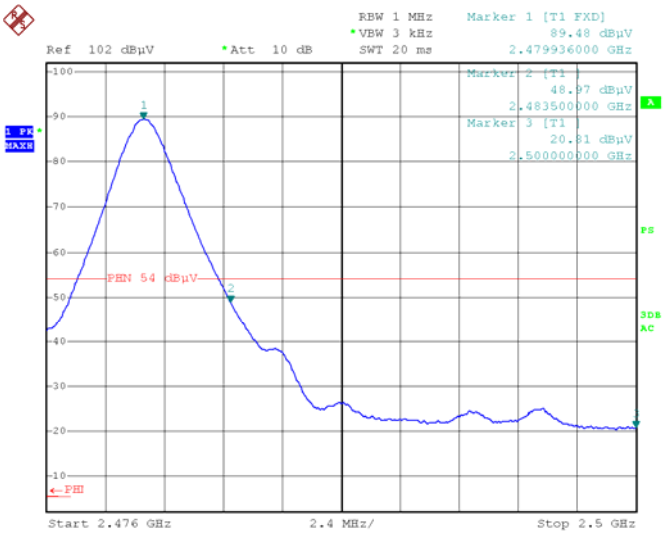
Band Edges(CH High)
Detector mode:Peak **Polarity:Vertical**



Date: 31.DEC.2013 15:13:02

Band Edges(CH High)
Detector mode:Average **Polarity:Vertical**



Date: 31.DEC.2013 15:24:36

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10.Deviation to test specifications

The following identical model(s):

KHBS135, KHBS132, KHBS003

Belong to the tested device:

Product description: **BT Speaker**
Model name: **KHBS133**

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