APPLICATION CERTIFICATION FCC Part 15C
On Behalf of

CLEVER BRIGHT INTERNATIONAL (H.K.) LTD.

BLUETOOTH SPEAKER

Model No.: CB-M001, CB-335091, CB-335092, CB-335093, CB-335092B, CB-HT001, 2BOOM-BT280, 744069, 74522, 74498, 74499

FCC ID: 2AD42-CB-M001

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.
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Report No.	:	ATE20171389
Date of Test	:	July 11-July 20, 2017
Date of Report	:	July 26, 2017

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Description Page

Test Report Certification

Applicant	:	CLEVER BRIGHT INTERNATIONAL (H.K.) LTD.
Manufacturer	:	CLEVER BRIGHT INTERNATIONAL (H.K.) LTD.
EUT Description	:	BLUETOOTH SPEAKER
Model No.	:	CB-M001, CB-335091, CB-335092, CB-33503, CB-33502B, CB-HT001, 2BOOM-BT280, 744069, 74522, 74498, 74499

(Note: We hereby state that these models are identical in interior structure, electrical circuits and components, just model name different. Therefore, only model CB-M001 is tested for EMC tests.)

Measurement Procedure Used:

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

The device described above is tested by Shenzhen Accurate Technology Co., Ltd to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd.

Date of Test : July 11-July 20, 2017
Date of Report: July 26, 2017

Prepared by : Stan Yang
(Stan Yang, Engineer)

Approved & Authorized Signer :
(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

Model Number	:	CB-M001, CB-335091, CB-335092, CB-33503, CB-33502B, CB-HT001, 2BOOM-BT280, 744069, 74522, 74498, 74499 (Note: We hereby state that these models are identical in interior structure, electrical circuits and components, just model appearance and color are different . Therefore, only model CB-M001 is tested for EMC tests.)
Bluetooth version	:	BT V4.2 Single mode This report is for BT classic mode
Frequency Range	:	2402MHz-2480MHz
Number of Channels	:	79 for BT classic mode
Antenna Gain(Max)	:	0dBi
Antenna type	:	PCB Antenna
Trade Name	:	N/A
Adapter Input Voltage	:	DC 3.7V (Power by Lithium battery) or DC 5.0V (Power by USB port)
Modulation mode	:	GFSK, π/4 DQPSK, 8DPSK
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.

1.2.Accessory and Auxiliary Equipment

PC :	Manufacturer: LENOVO M/N: 4290-RT8 S/N: R9-FW93G 11/08

1.3.Description of Test Facility

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

1.4.Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (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. 07, 2017	1 Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 07, 2017	1 Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 07, 2017	1 Year
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 07, 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. 07, 2017	1 Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 07, 2017	1 Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18G-10SS	N/A	Jan. 07, 2017	1 Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2485-2375/2510-60/11SS	N/A	Jan. 07, 2017	1 Year

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: Transmitting mode
Low Channel: 2402MHz
Middle Channel: 2441MHz
High Channel: 2480MHz
Hopping

3.2.Configuration and peripherals

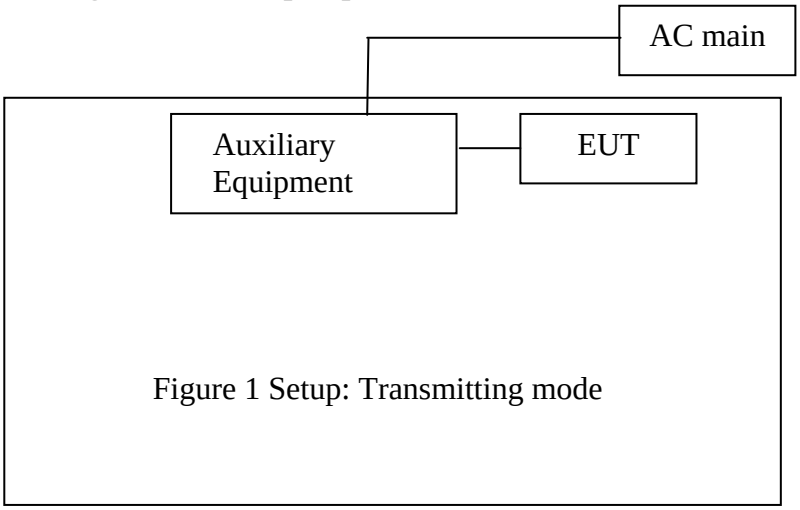


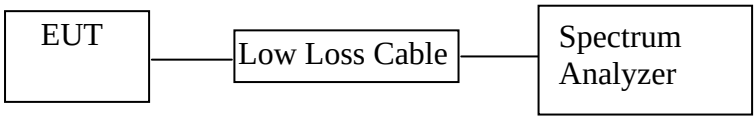
Figure 1 Setup: Transmitting mode

4. TEST PROCEDURES AND RESULTS

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

5. 20DB BANDWIDTH TEST

5.1.Block Diagram of Test Setup



(EUT: BLUETOOTH SPEAKER)

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

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

5.3.EUT Configuration on Measurement

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

5.4.Operating Condition of EUT

5.4.1.Setup the EUT and simulator as shown as Section 5.1.

5.4.2.Turn on the power of all equipment.

5.4.3.Let the EUT work in TX (Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, and 2480MHz TX frequency to transmit.

5.5.Test Procedure

5.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

5.5.2.Set RBW of spectrum analyzer to 30 kHz and VBW to 100 kHz.

5.5.3.The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

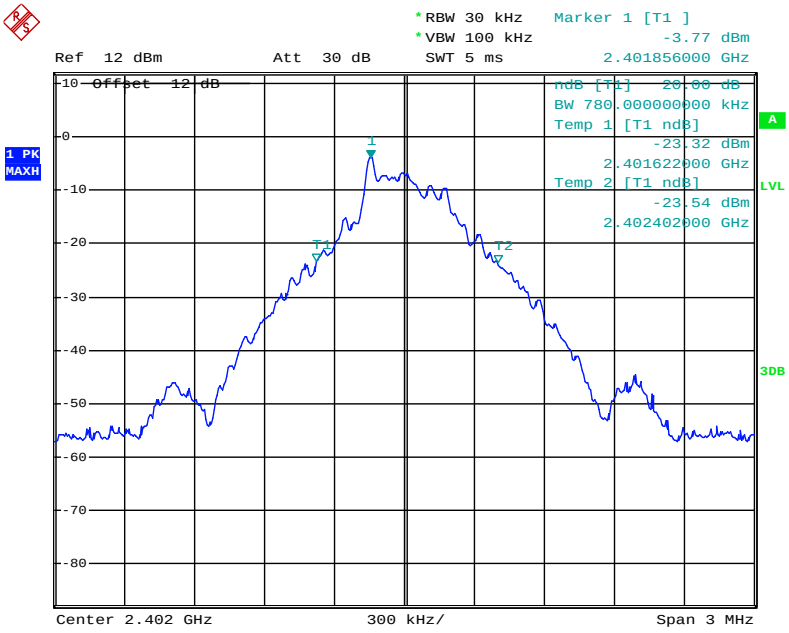
5.6.Test Result

Channel	Frequency (MHz)	GFSK 20dB Bandwidth (MHz)	Π/4-DQPSK 20dB Bandwidth (MHz)	8DPSK 20dB Bandwidth (MHz)	Result
Low	2402	0.780	1.140	1.134	Pass
Middle	2441	0.750	1.140	1.152	Pass
High	2480	0.786	1.134	1.152	Pass

The spectrum analyzer plots are attached as below.

GFSK Mode

Low channel



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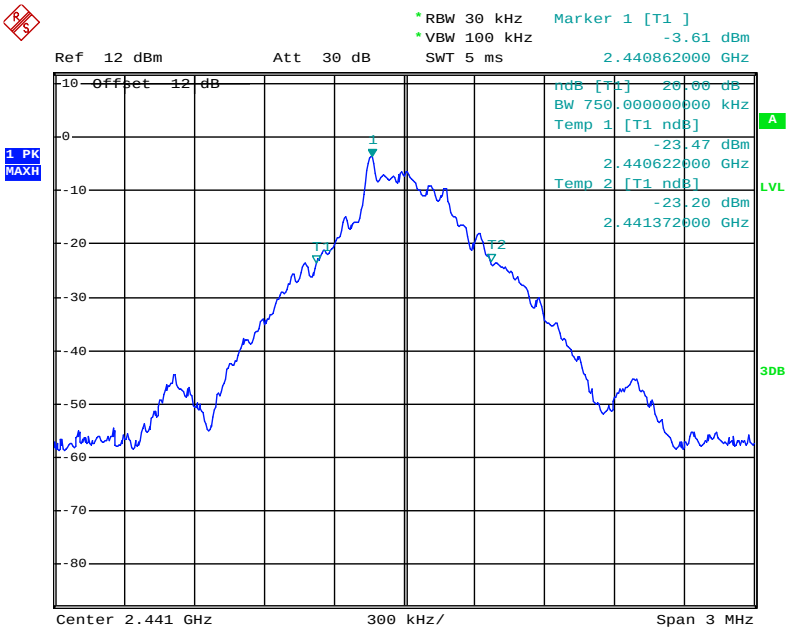
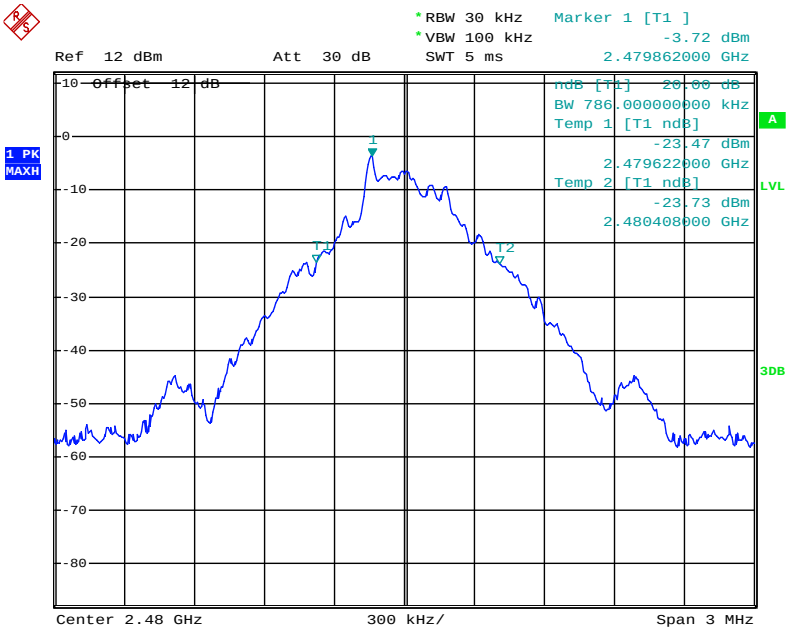
Middle channel



Date: 19.JUL.2017 10:39:24

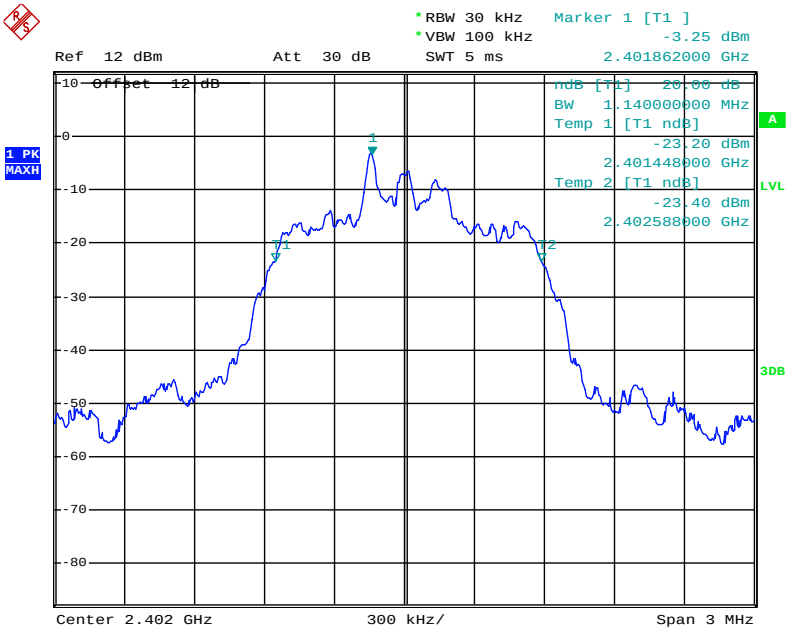
High channel



Date: 19.JUL.2017 10:38:55

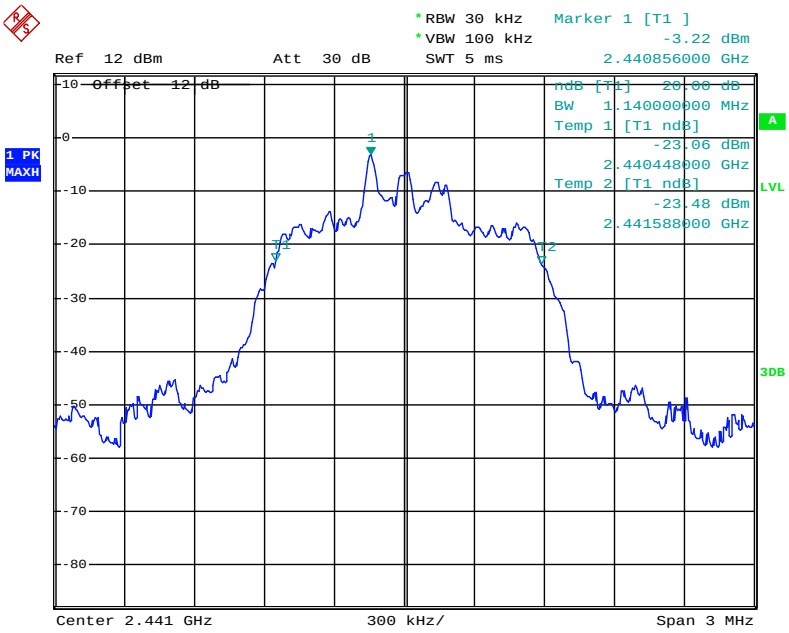
Π/4-DQPSK Mode

Low channel



Date: 19.JUL.2017 10:37:00

Middle channel



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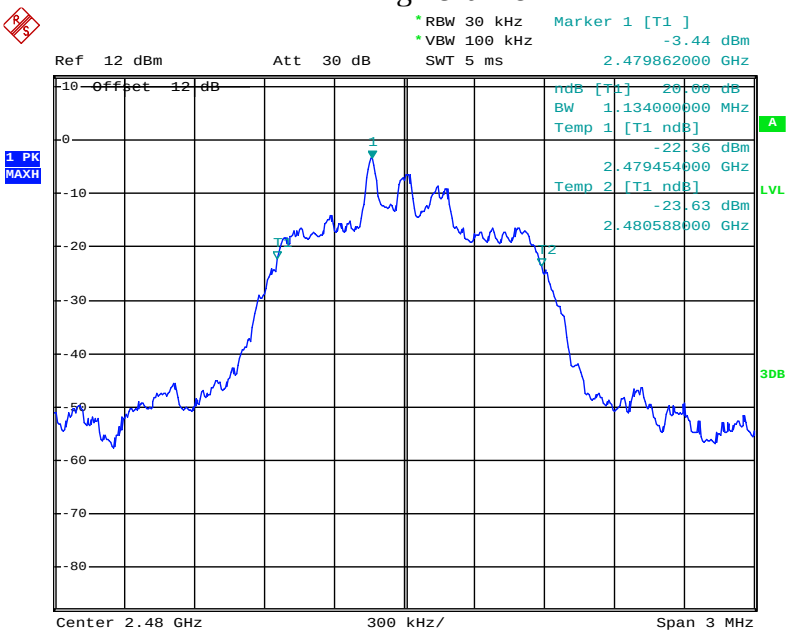
High channel



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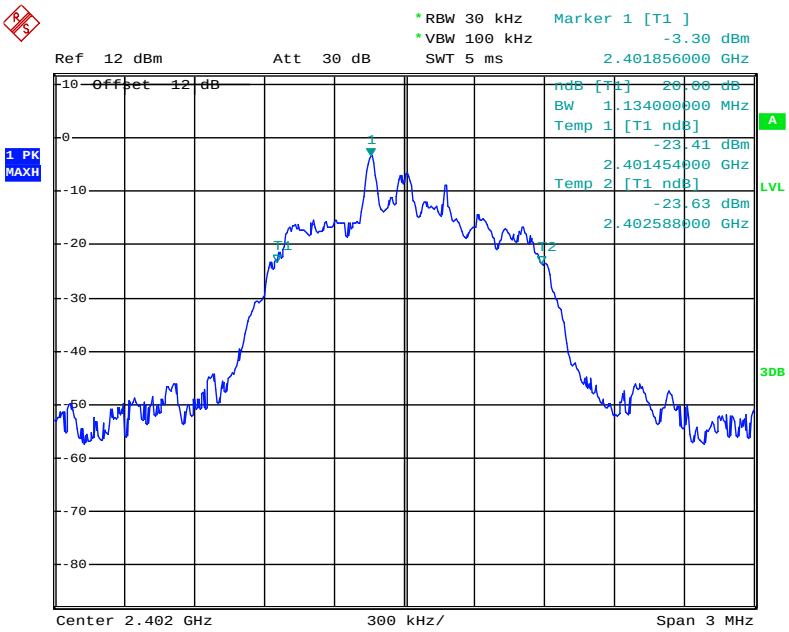
8DPSK Mode

Low channel



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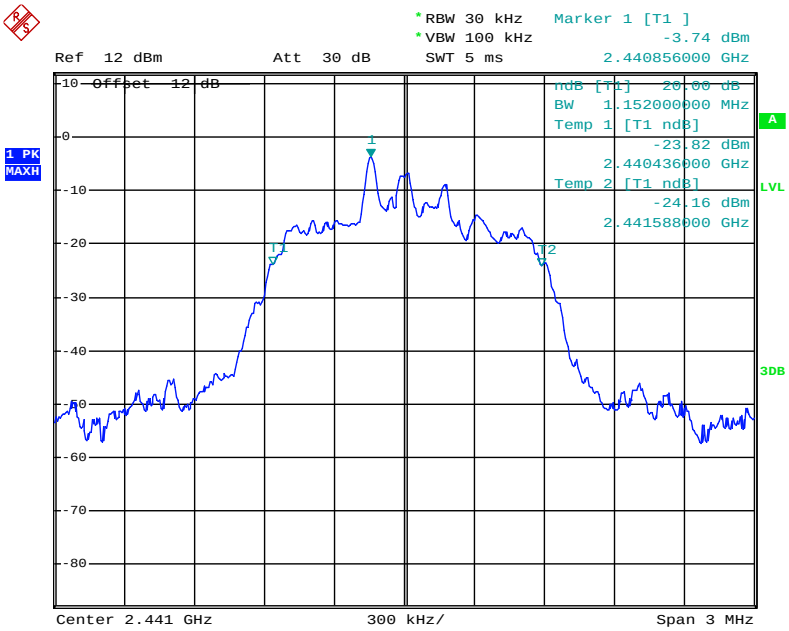
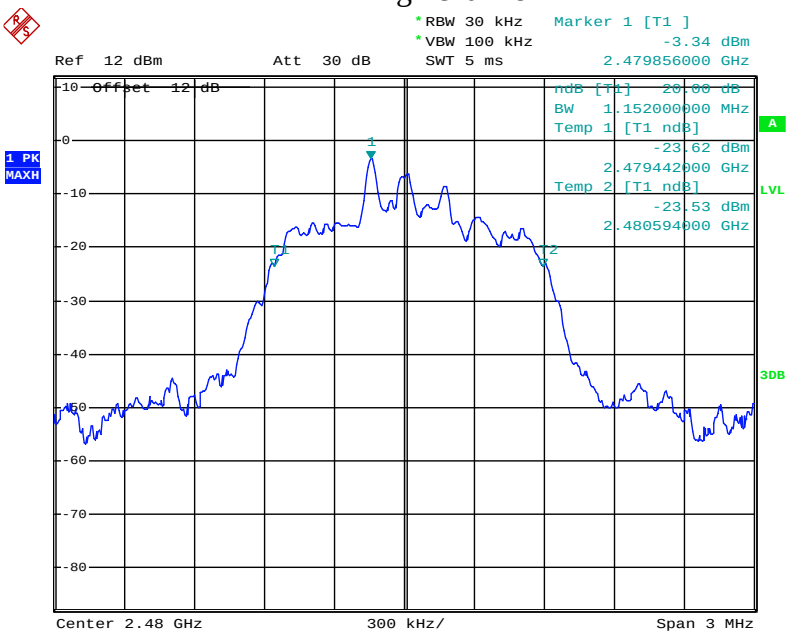
Middle channel



Date: 19.JUL.2017 10:35:52

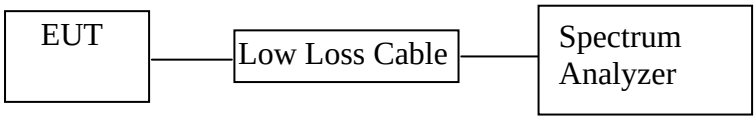
High channel



Date: 19.JUL.2017 10:35:12

6. CARRIER FREQUENCY SEPARATION TEST

6.1.Block Diagram of Test Setup



(EUT: BLUETOOTH SPEAKER)

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

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

6.3.EUT Configuration on Measurement

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

6.4.Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

6.4.2.Turn on the power of all equipment.

6.4.3.Let the EUT work in TX (Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, and 2480MHz TX frequency to transmit.

6.5.Test Procedure

6.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

6.5.2.Set RBW of spectrum analyzer to 30 kHz and VBW to 100 kHz. Adjust Span to 2MHz.

6.5.3.Set the adjacent channel of the EUT Maxhold another trace.

6.5.4.Measurement the channel separation

6.6.Test Result

GFSK

Channel	Frequency (MHz)	Channel Separation(MHz)	Limit (MHz)	Result
Low	2402	1.002	25KHz or 20dB bandwidth	PASS
	2403			
Middle	2440	1.002	25KHz or20dB bandwidth	PASS
	2441			
High	2479	1.002	25KHz or 20dB bandwidth	PASS
	2480			

Π/4-DQPSK

Channel	Frequency (MHz)	Channel Separation(MHz)	Limit (MHz)	Result
Low	2402	1.002	25KHz or 2/3*20dB bandwidth	PASS
	2403			
Middle	2440	1.002	25KHz or 2/3*20dB bandwidth	PASS
	2441			
High	2479	1.002	25KHz or 2/3*20dB bandwidth	PASS
	2480			

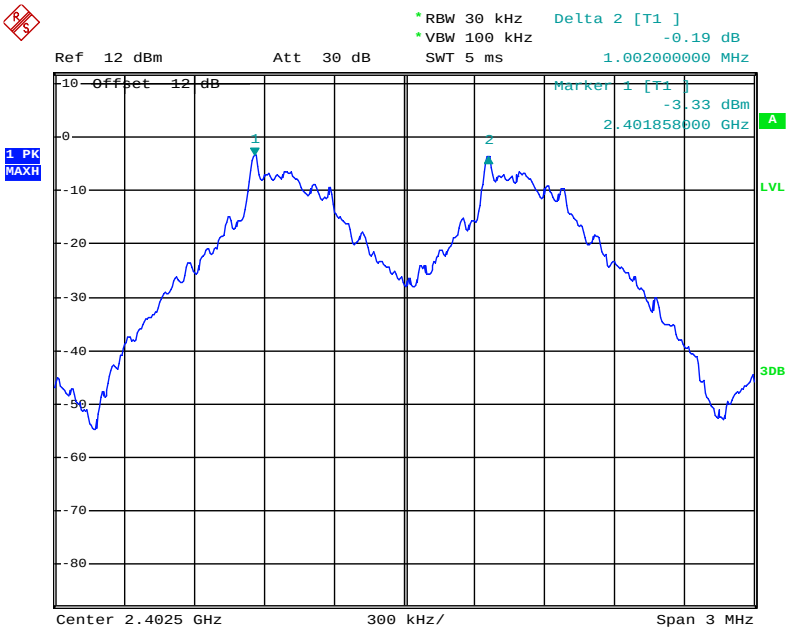
8DPSK

Channel	Frequency (MHz)	Channel Separation(MHz)	Limit (MHz)	Result
Low	2402	1.002	25KHz or 2/3*20dB bandwidth	PASS
	2403			
Middle	2440	1.002	25KHz or 2/3*20dB bandwidth	PASS
	2441			
High	2479	1.002	25KHz or 2/3*20dB bandwidth	PASS
	2480			

The spectrum analyzer plots are attached as below.

GFSK Mode

Low channel



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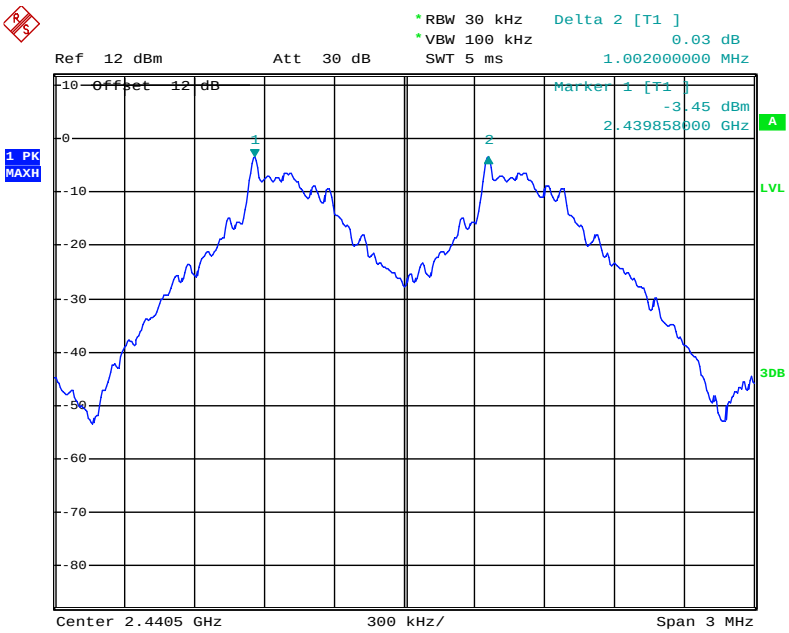
Middle channel



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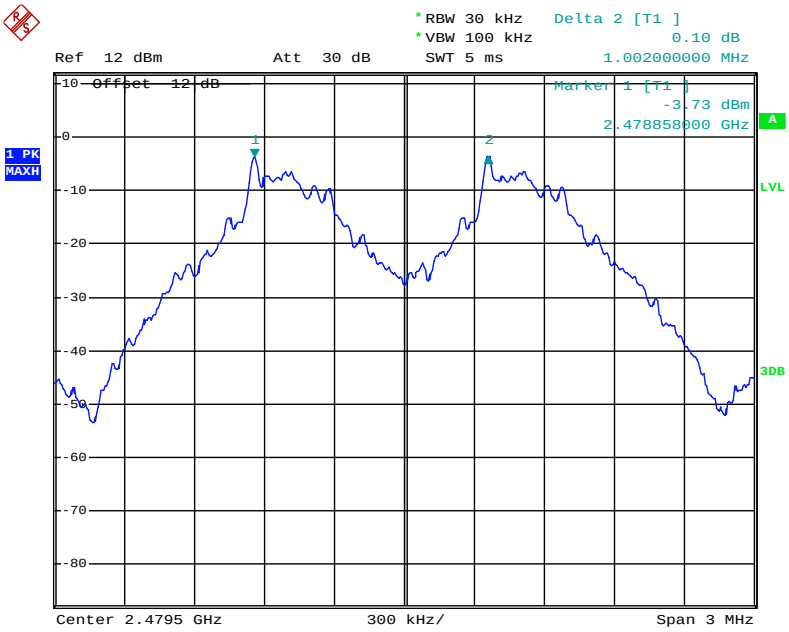
High channel



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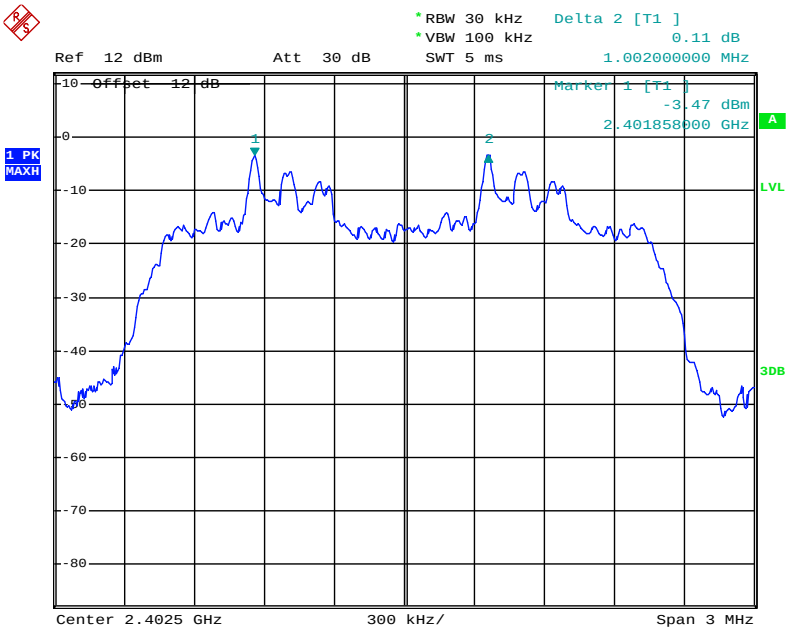
Π/4-DQPSK Mode

Low channel



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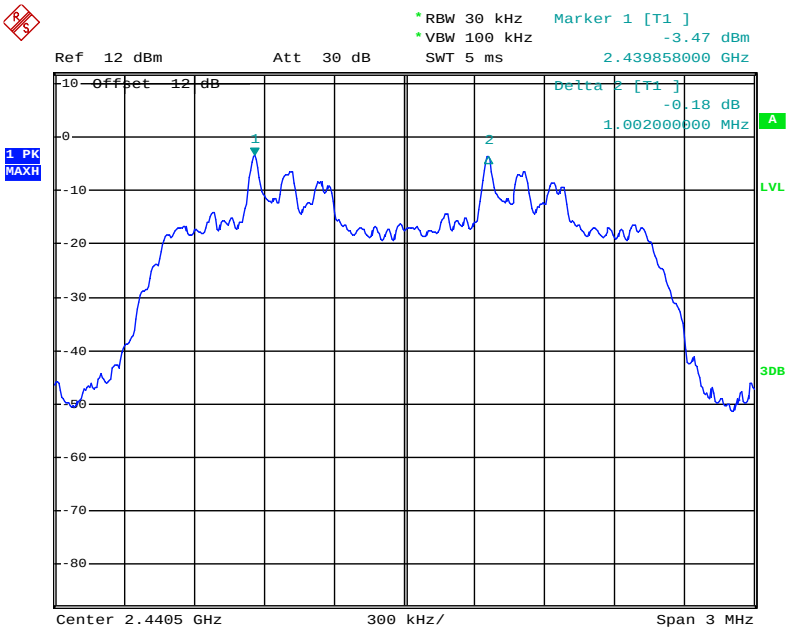
Middle channel



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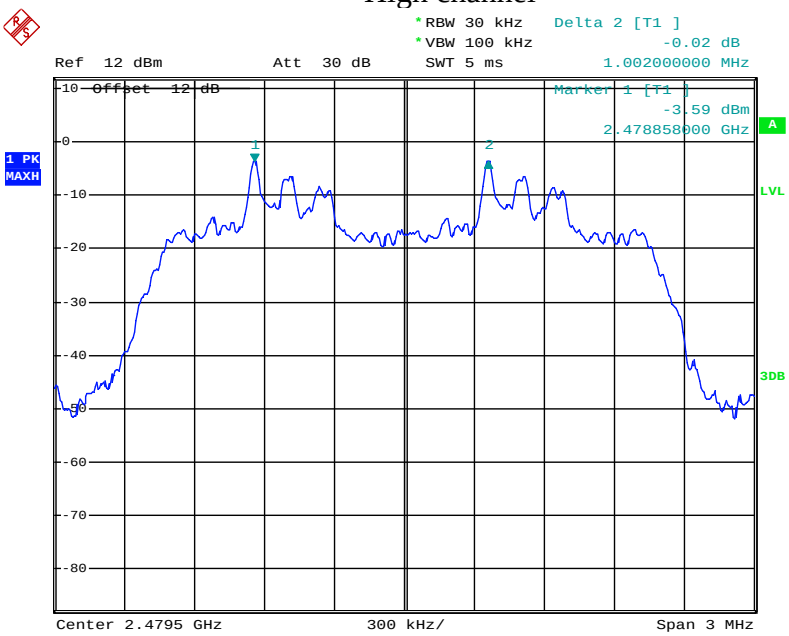
High channel



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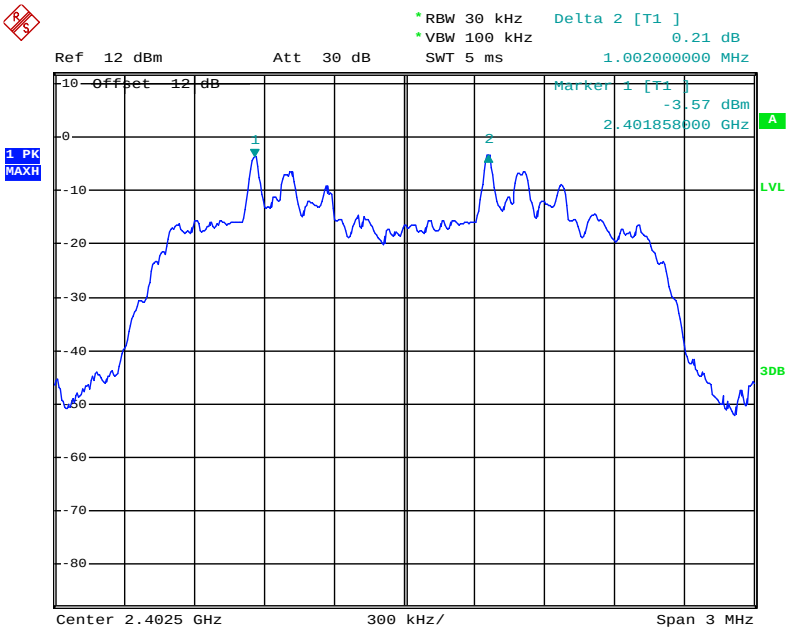
8DPSK Mode

Low channel



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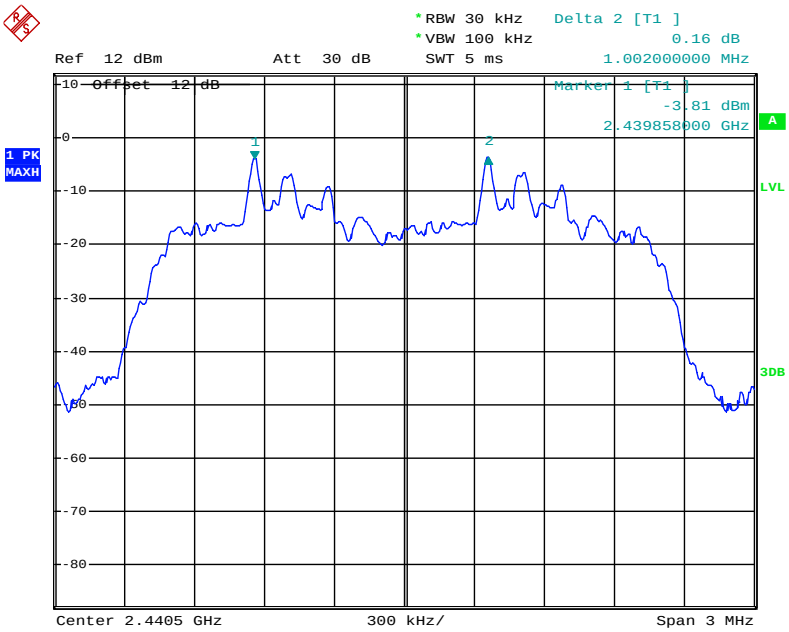
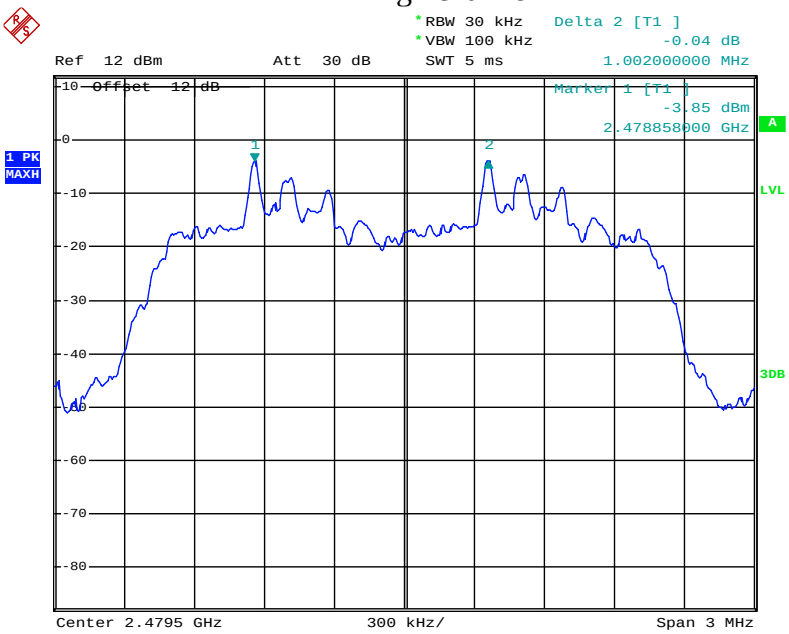
Middle channel



Date: 19.JUL.2017 10:50:12

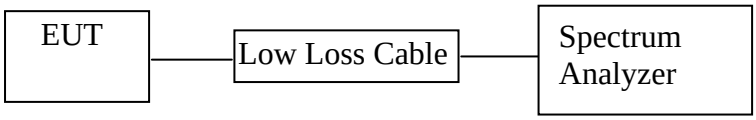
High channel



Date: 19.JUL.2017 10:51:24

7. NUMBER OF HOPPING FREQUENCY TEST

7.1.Block Diagram of Test Setup



(EUT: BLUETOOTH SPEAKER)

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

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

7.3.EUT Configuration on Measurement

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

7.4.Operating Condition of EUT

7.4.1.Setup the EUT and simulator as shown as Section 7.1.

7.4.2.Turn on the power of all equipment.

7.4.3.Let the EUT work in TX (Hopping on) modes measure it.

7.5.Test Procedure

7.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

7.5.2.Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz.

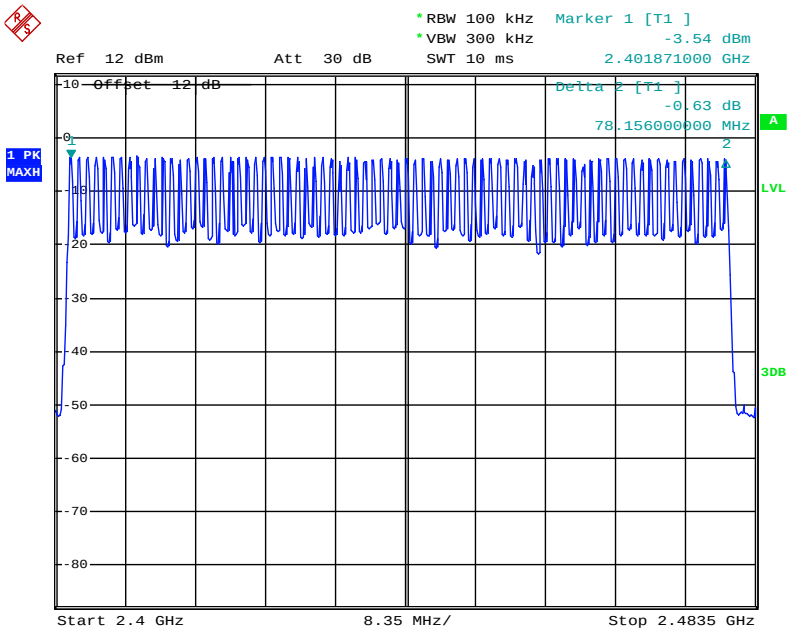
7.5.3.Max hold, view and count how many channel in the band.

7.6.Test Result

Total number of hopping channel	Measurement result(CH)	Limit(CH)
	79	⩾15

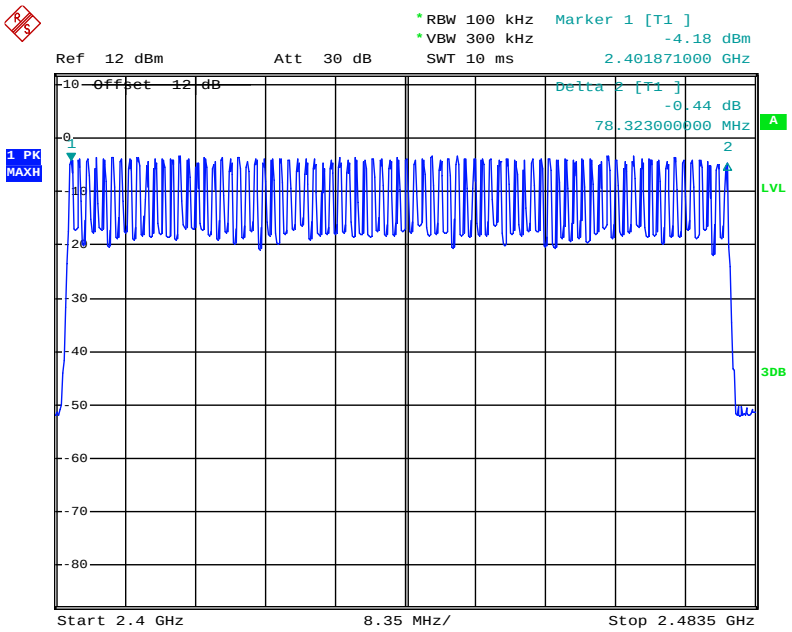
The spectrum analyzer plots are attached as below.

Number of hopping channels(GFSK)



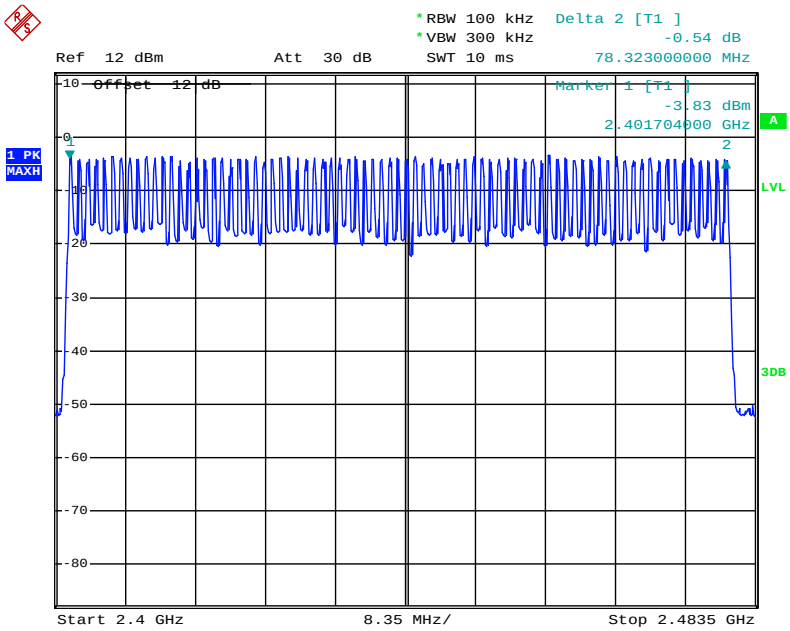
Date: 19.JUL.2017 10:58:38

Number of hopping channels(Π/4-DQPSK)



Date: 19.JUL.2017 10:56:28

Number of hopping channels(8DPSK)



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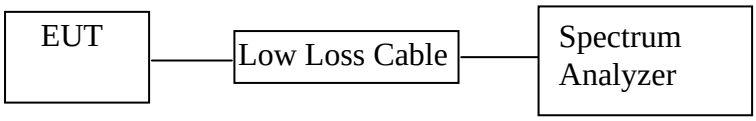
8. DWELL TIME TEST

8.1.Block Diagram of Test Setup



(EUT: BLUETOOTH SPEAKER)

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

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

8.3.EUT Configuration on Measurement

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

8.4.Operating Condition of EUT

8.4.1.Setup the EUT and simulator as shown as Section 8.1.

8.4.2.Turn on the power of all equipment.

8.4.3.Let the EUT work in TX (Hopping on) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, and 2480MHz TX frequency to transmit.

8.5.Test Procedure

8.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

8.5.2.Set center frequency of spectrum analyzer = operating frequency.

8.5.3.Set the spectrum analyzer as RBW=1MHz, VBW=3MHz, Span=0Hz, Adjust Sweep=5ms, 10ms, 15ms. Get the pulse time.

8.5.4.Repeat above procedures until all frequency measured were complete.

8.6.Test Result

GFSK Mode

Mode	Channel Frequency (MHz)	Pulse Time (ms)	Dwell Time (ms)	Limit (ms)
DH1	2402	0.450	144.00	400
	2441	0.450	144.00	400
	2480	0.450	144.00	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(2*79))×31.6				
DH3	2402	1.744	279.04	400
	2441	1.744	279.04	400
	2480	1.744	279.04	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(4*79))×31.6				
DH5	2402	3.024	322.56	400
	2441	3.041	324.37	400
	2480	3.024	322.56	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(6*79))×31.6				

Π/4-DQPSK

Mode	Channel Frequency (MHz)	Pulse Time (ms)	Dwell Time (ms)	Limit (ms)
DH1	2402	0.470	150.40	400
	2441	0.470	150.40	400
	2480	0.470	150.40	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(2*79))×31.6				
DH3	2402	1.761	281.76	400
	2441	1.761	281.76	400
	2480	1.761	281.76	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(4*79))×31.6				
DH5	2402	3.041	324.37	400
	2441	3.041	324.37	400
	2480	3.001	320.11	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(6*79))×31.6				

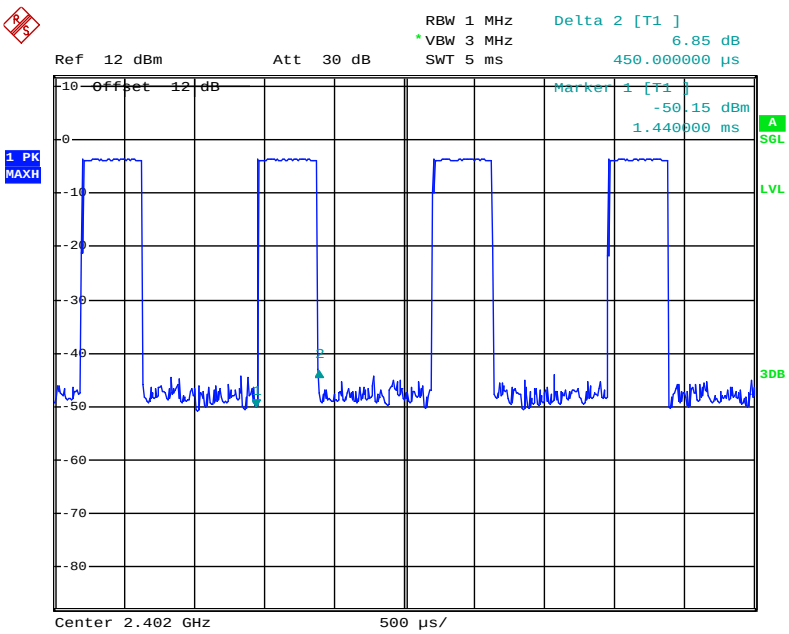
8DPSK Mode

Mode	Channel Frequency (MHz)	Pulse Time (ms)	Dwell Time (ms)	Limit (ms)
DH1	2402	0.470	150.40	400
	2441	0.470	150.40	400
	2480	0.470	150.40	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(2*79))×31.6				
DH3	2402	1.741	278.56	400
	2441	1.741	279.04	400
	2480	1.741	279.04	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(4*79))×31.6				
DH5	2402	3.061	318.51	400
	2441	3.061	318.51	400
	2480	3.061	326.51	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(6*79))×31.6				

The spectrum analyzer plots are attached as below.

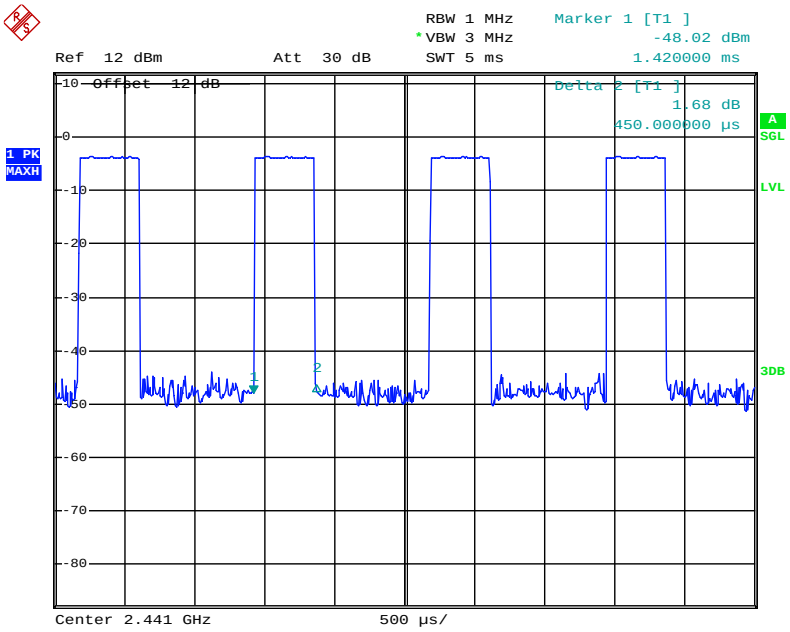
GFSK Mode

DH1 Low channel



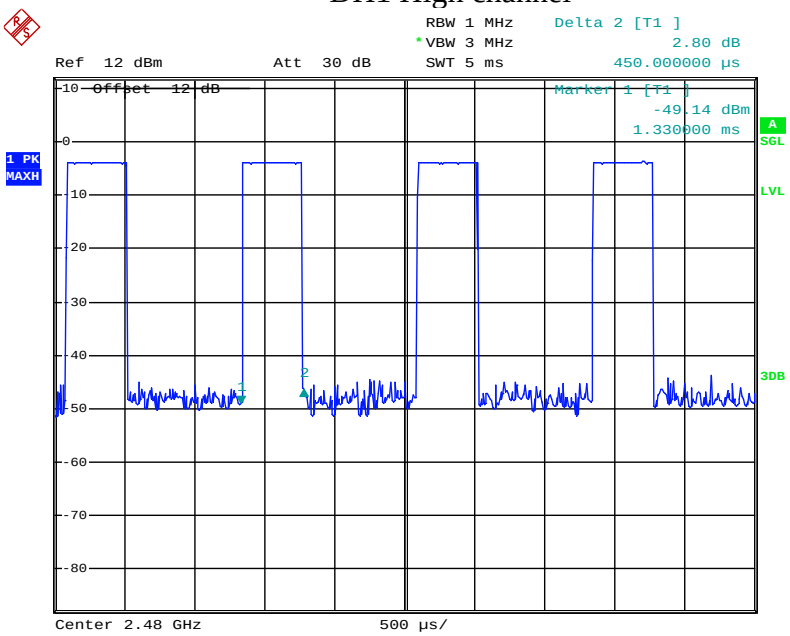
Date: 19.JUL.2017 11:01:32

DH1 Middle channel



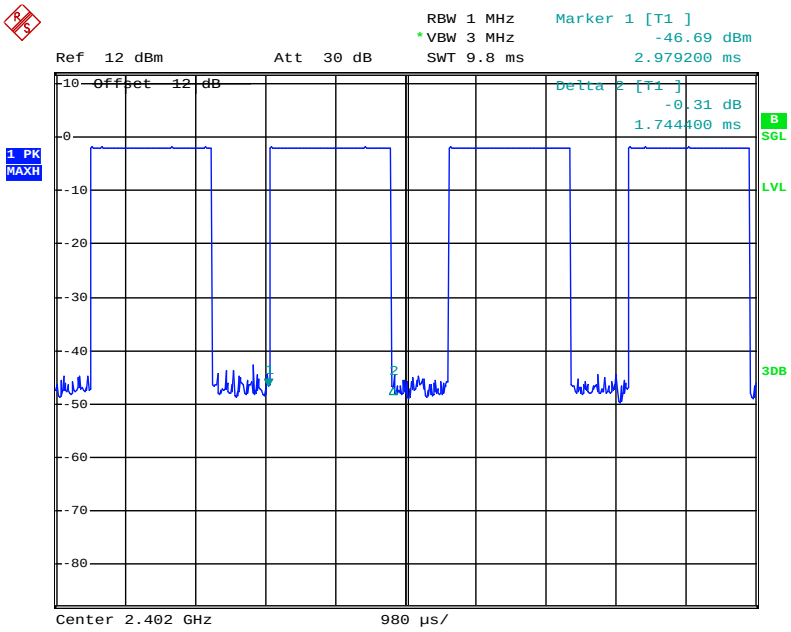
Date: 19.JUL.2017 11:02:09

DH1 High channel



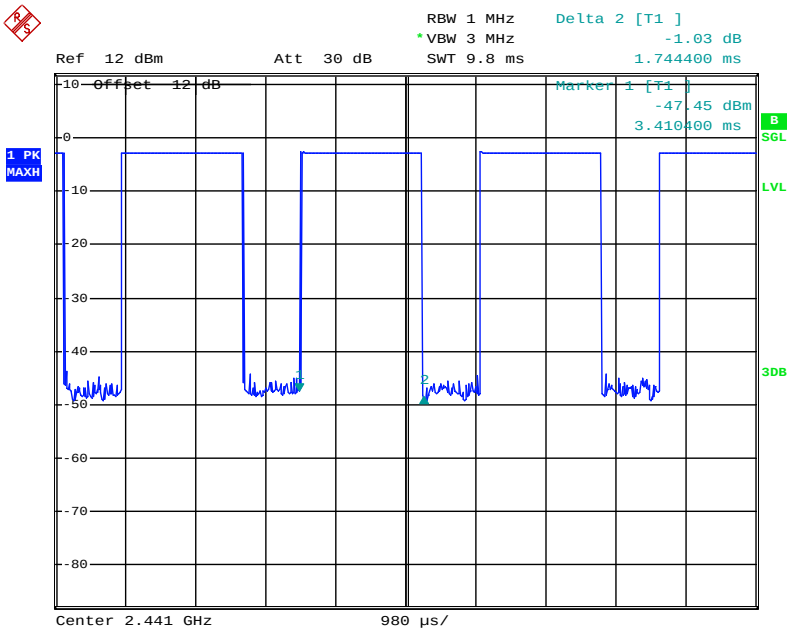
Date: 19.JUL.2017 11:02:58

DH3 Low channel



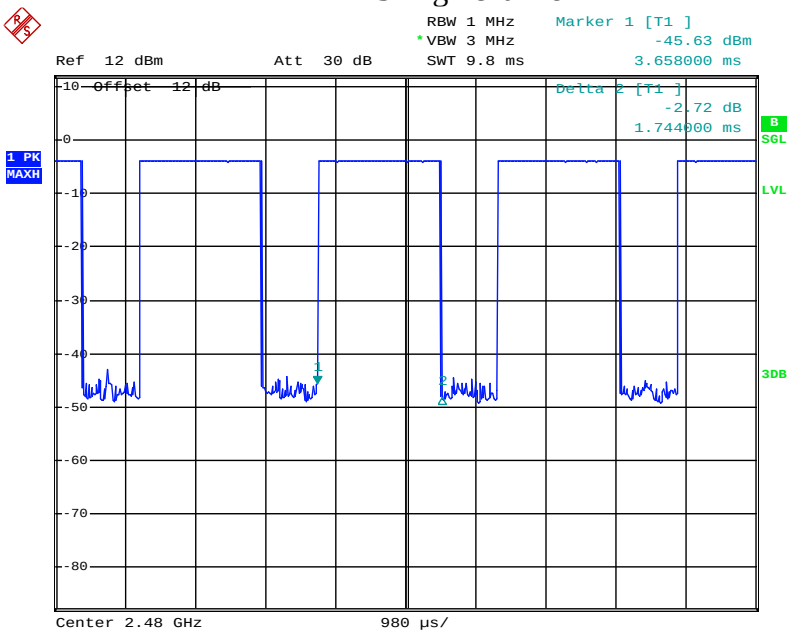
Date: 19.JUL.2017 11:14:45

DH3 Middle channel



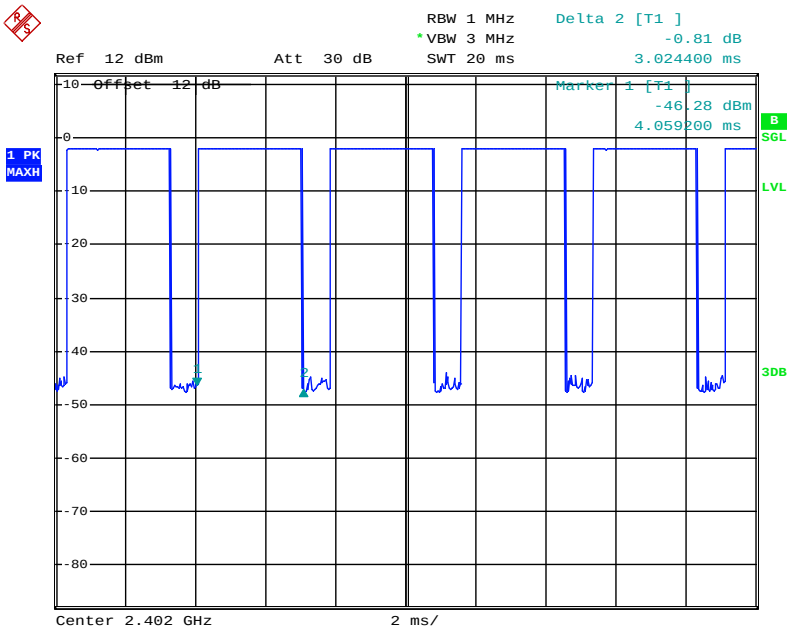
Date: 19.JUL.2017 11:14:12

DH3 High channel



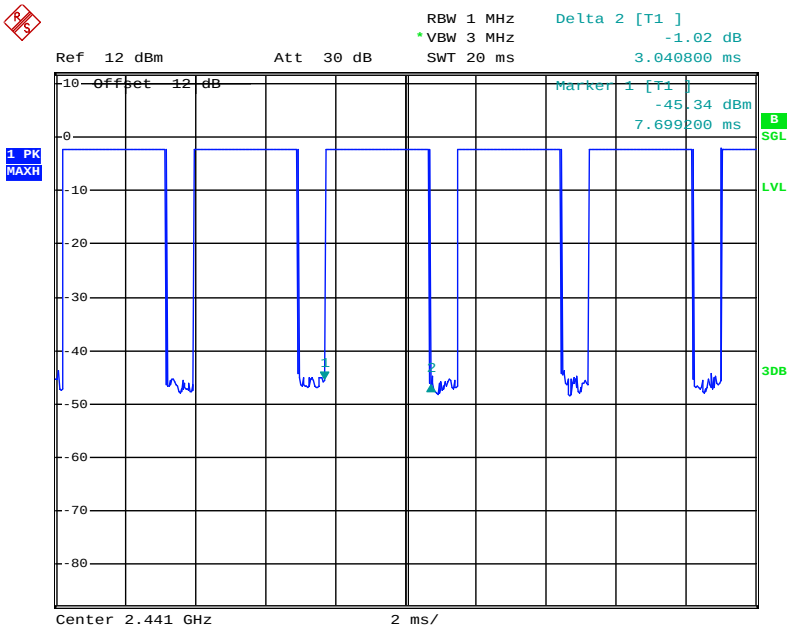
Date: 19.JUL.2017 11:13:25

DH5 Low channel



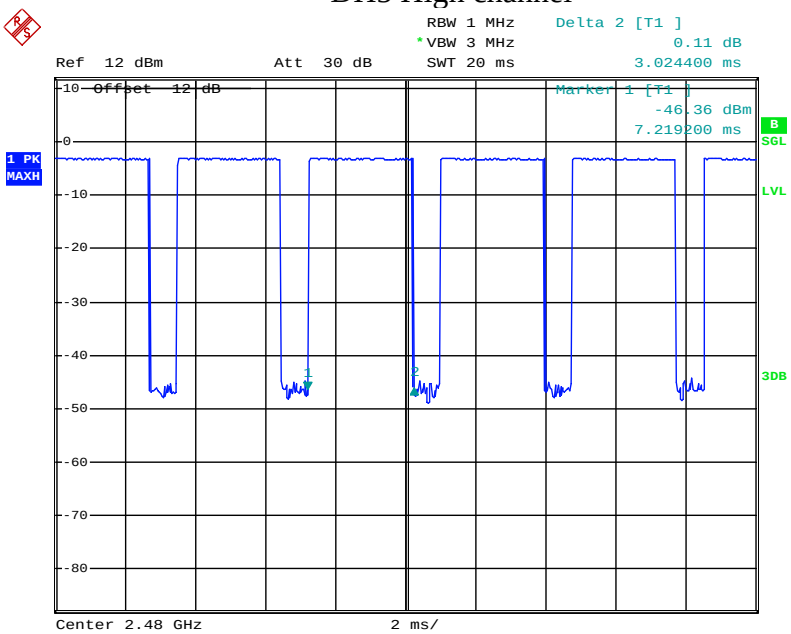
Date: 19.JUL.2017 11:15:21

DH5 Middle channel



Date: 19.JUL.2017 11:18:48

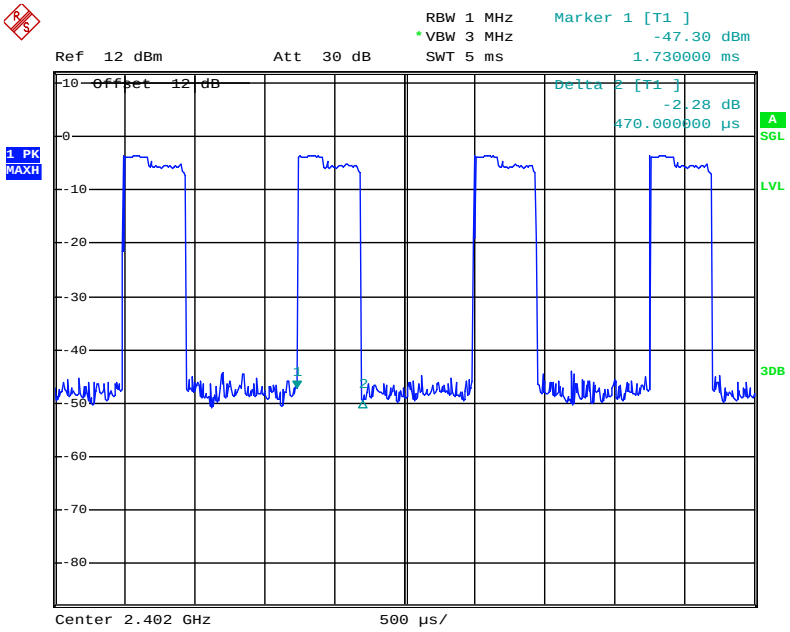
DH5 High channel



Date: 19.JUL.2017 11:16:35

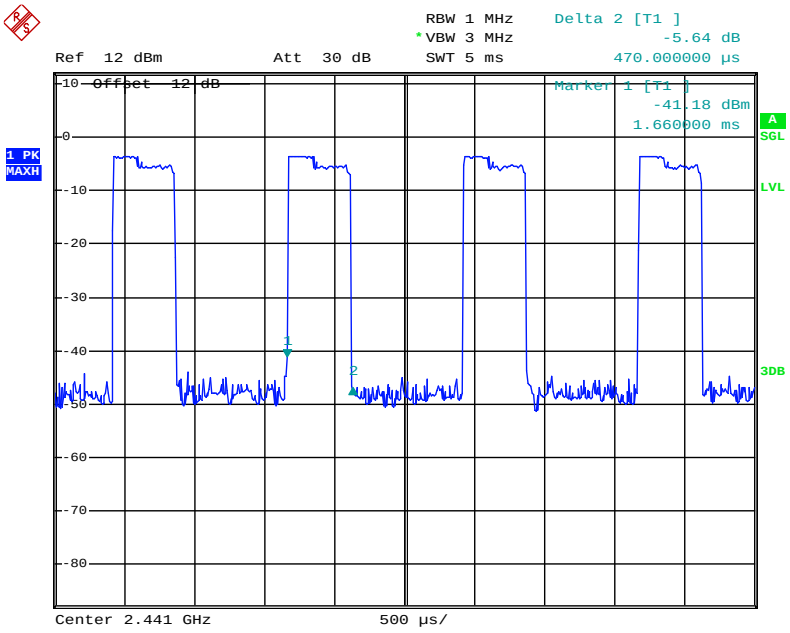
Π/4-DQPSK

2DH1 Low channel



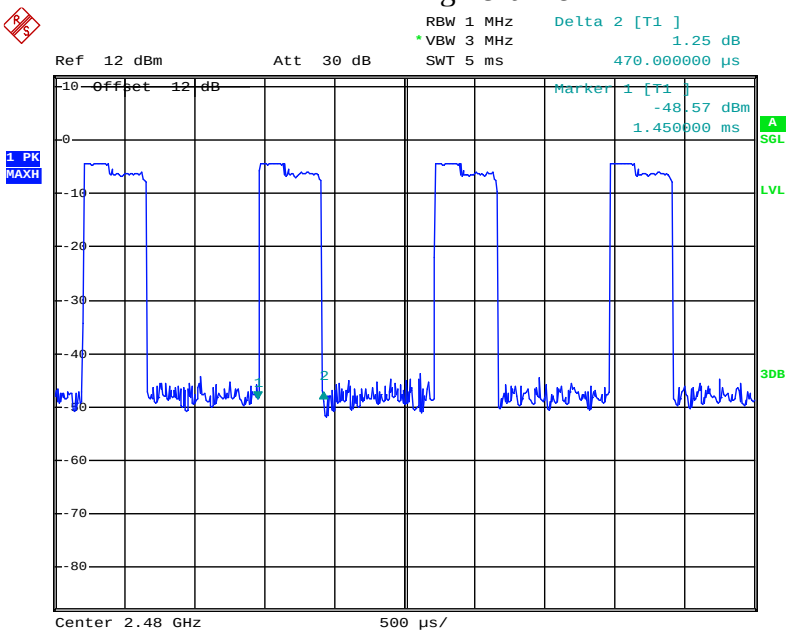
Date: 19.JUL.2017 11:14:58

2DH1 Middle channel



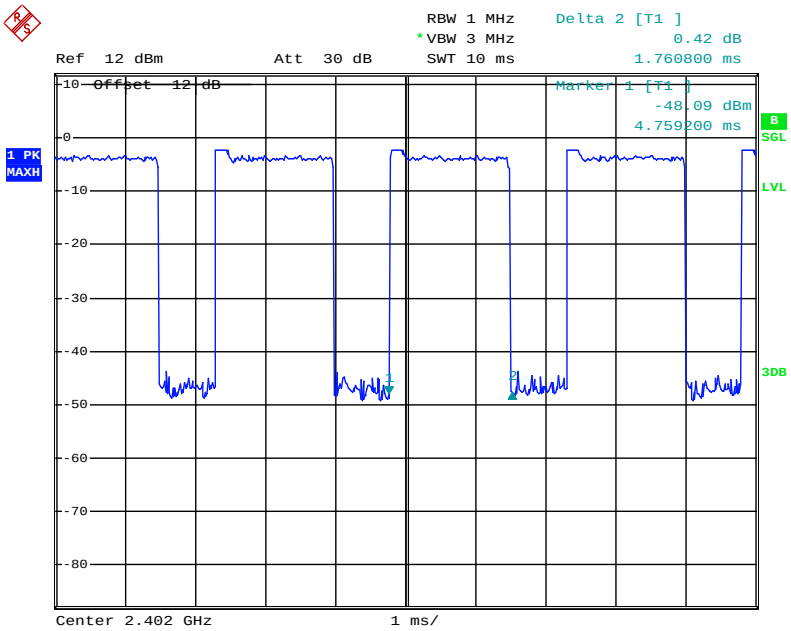
Date: 19.JUL.2017 11:14:25

2DH1 High channel



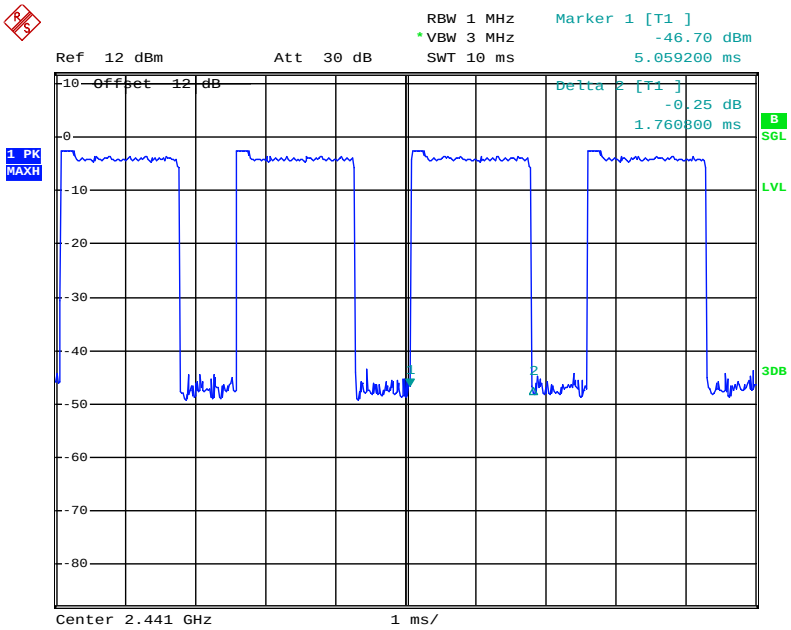
Date: 19.JUL.2017 11:15:40

2DH3 Low channel



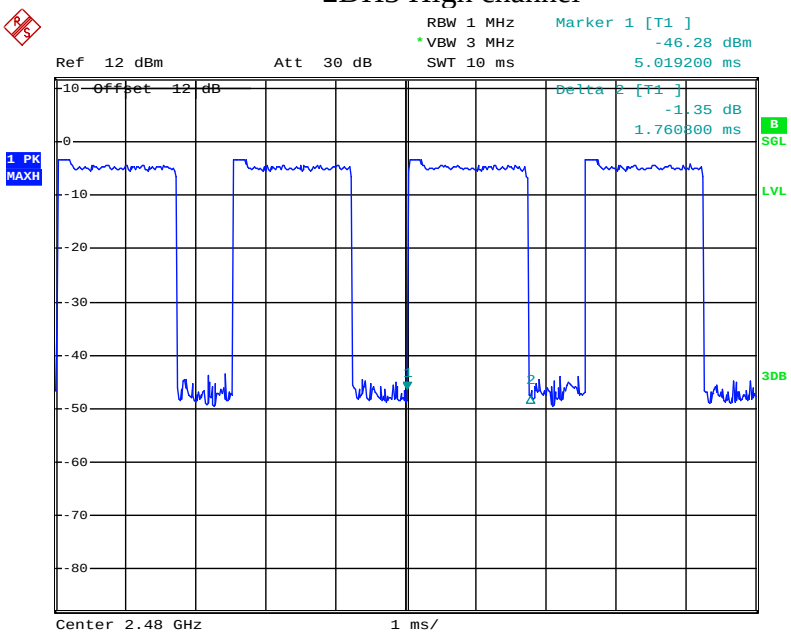
Date: 19.JUL.2017 11:20:26

2DH3 Middle channel



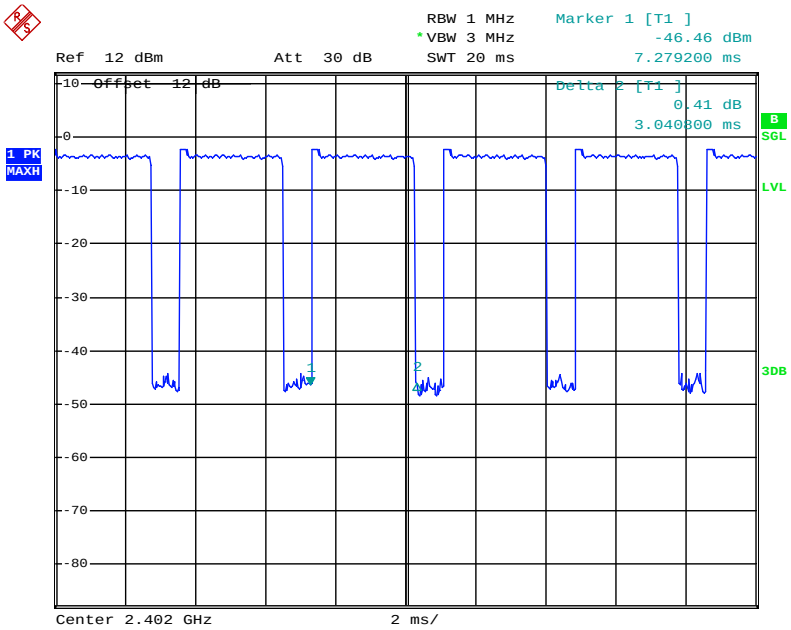
Date: 19.JUL.2017 11:19:27

2DH3 High channel



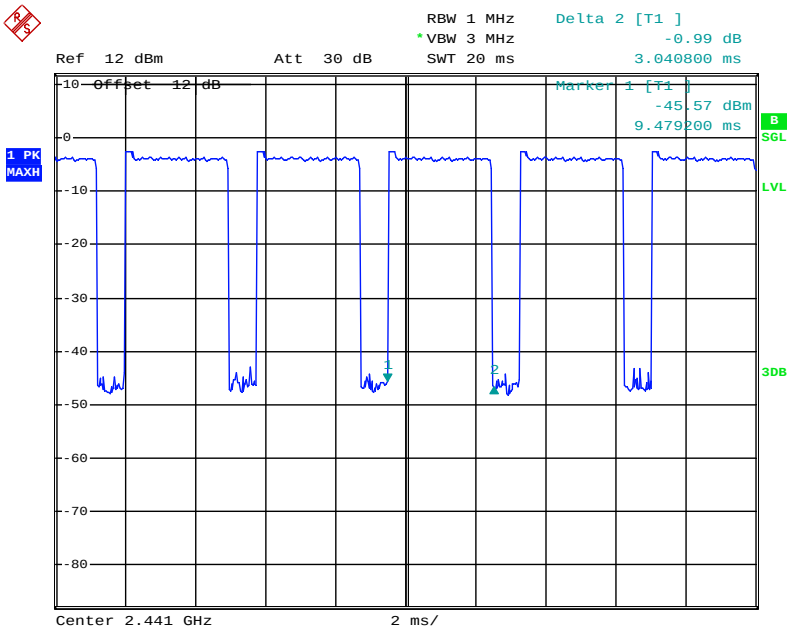
Date: 19.JUL.2017 11:17:16

2DH5 Low channel



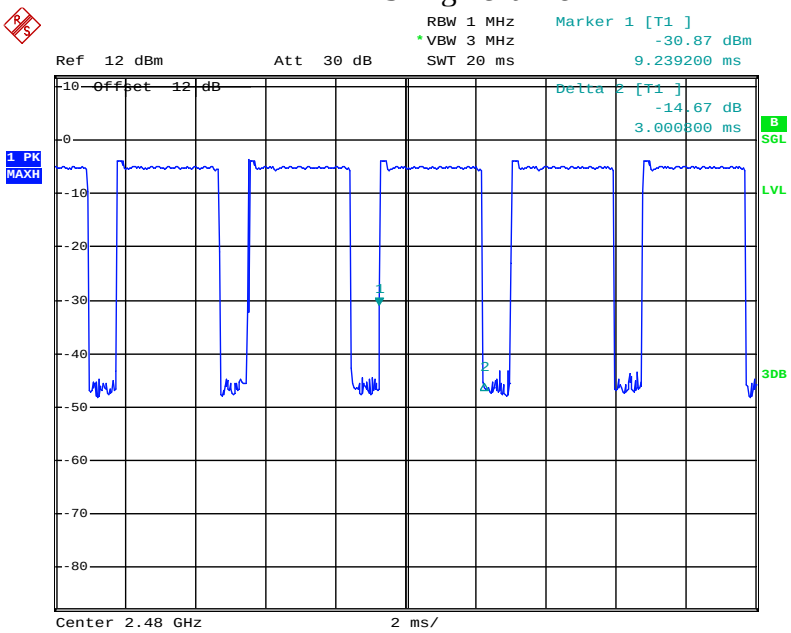
Date: 19.JUL.2017 11:21:05

2DH5 Middle channel



Date: 19.JUL.2017 11:21:43

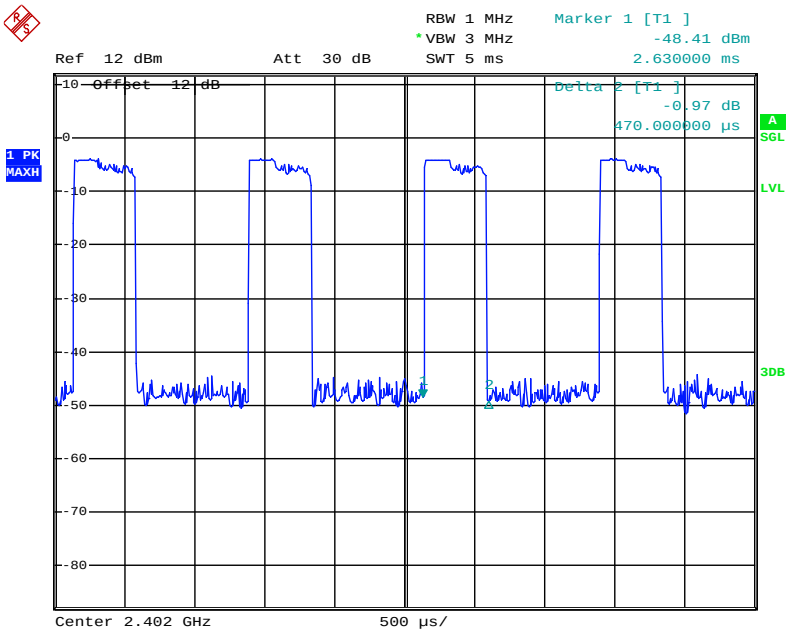
2DH5 High channel



Date: 19.JUL.2017 11:22:23

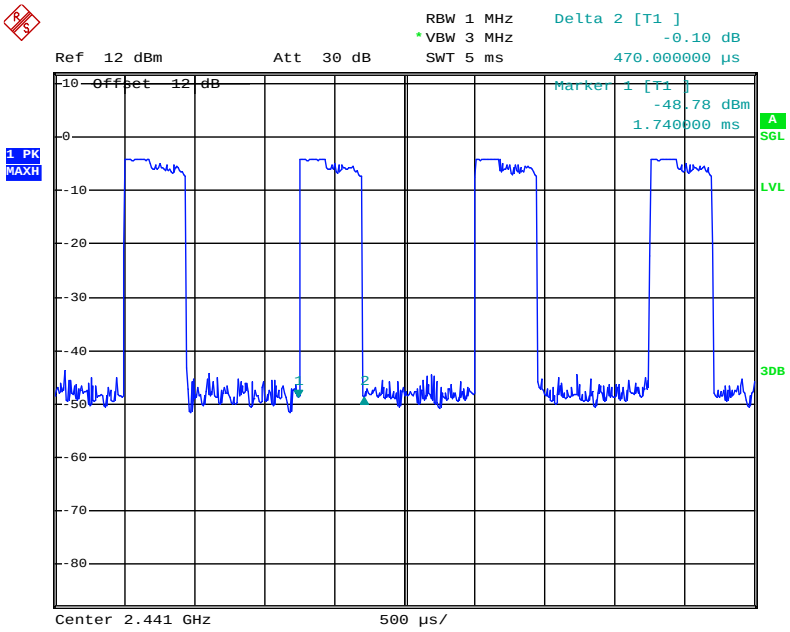
8DPSK Mode

3DH1 Low channel



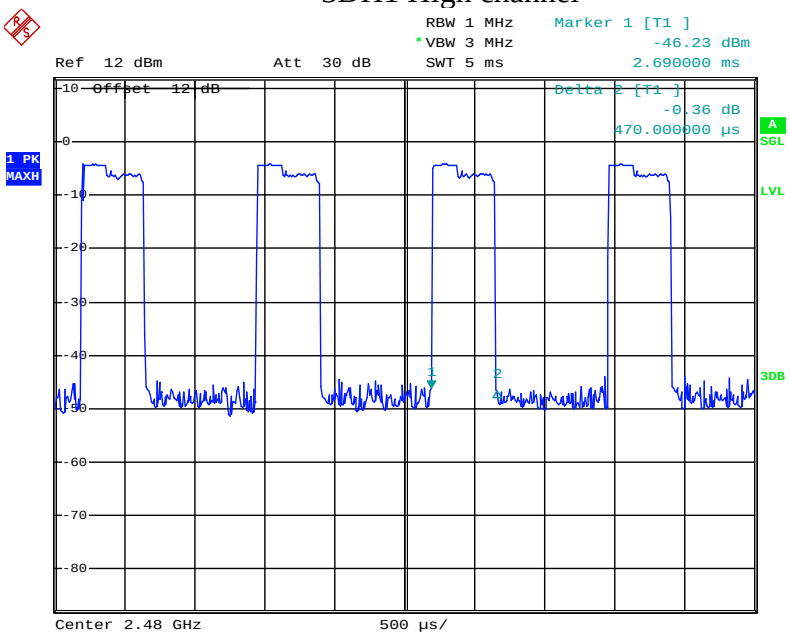
Date: 19.JUL.2017 11:17:47

3DH1 Middle channel



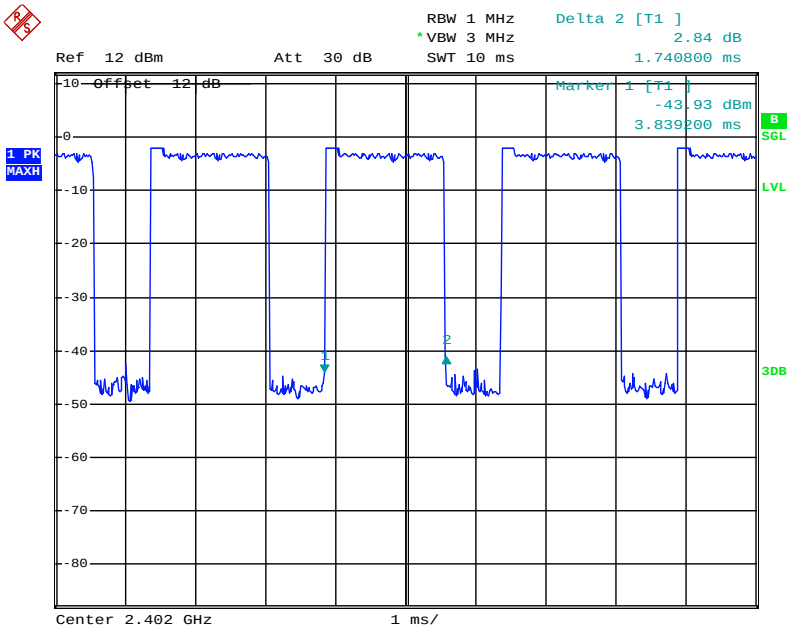
Date: 19.JUL.2017 11:17:06

3DH1 High channel



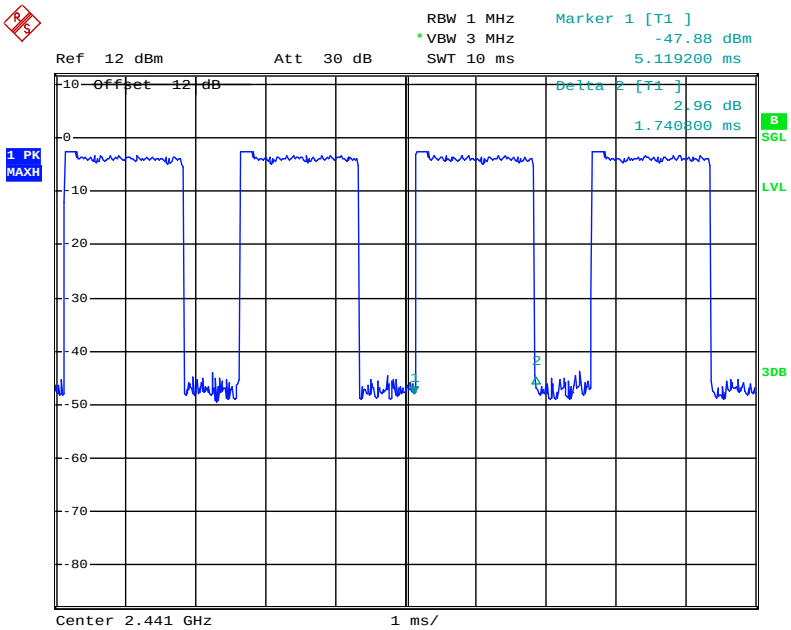
Date: 19.JUL.2017 11:16:20

3DH3 Low channel



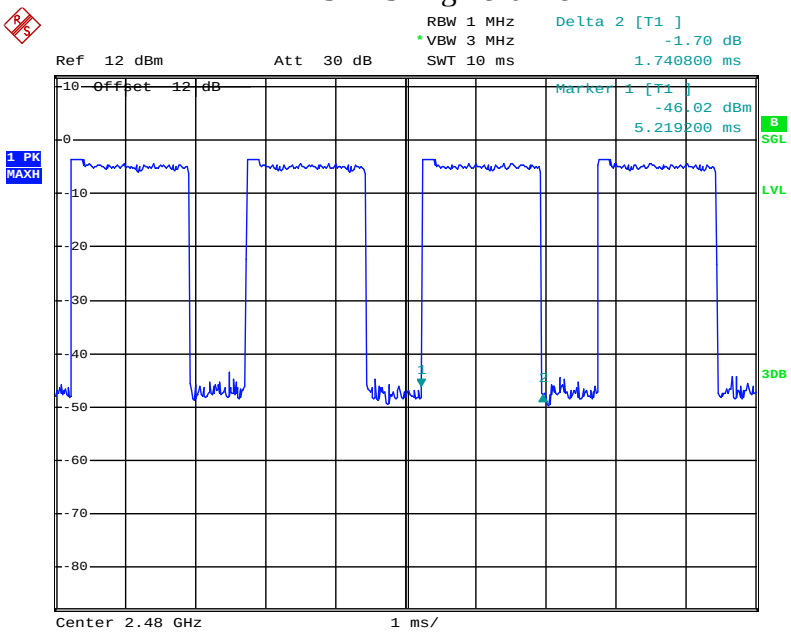
Date: 19.JUL.2017 11:23:56

3DH3 Middle channel



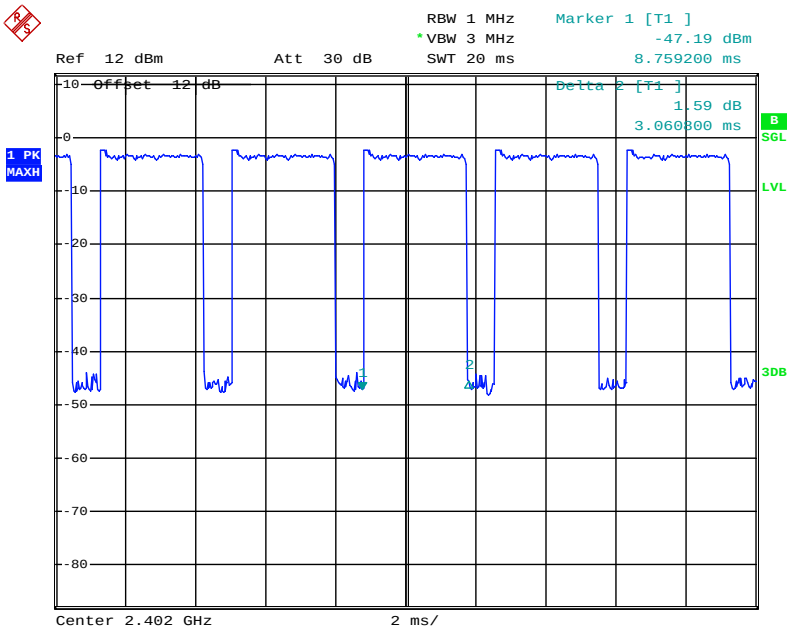
Date: 19.JUL.2017 11:23:30

3DH3 High channel



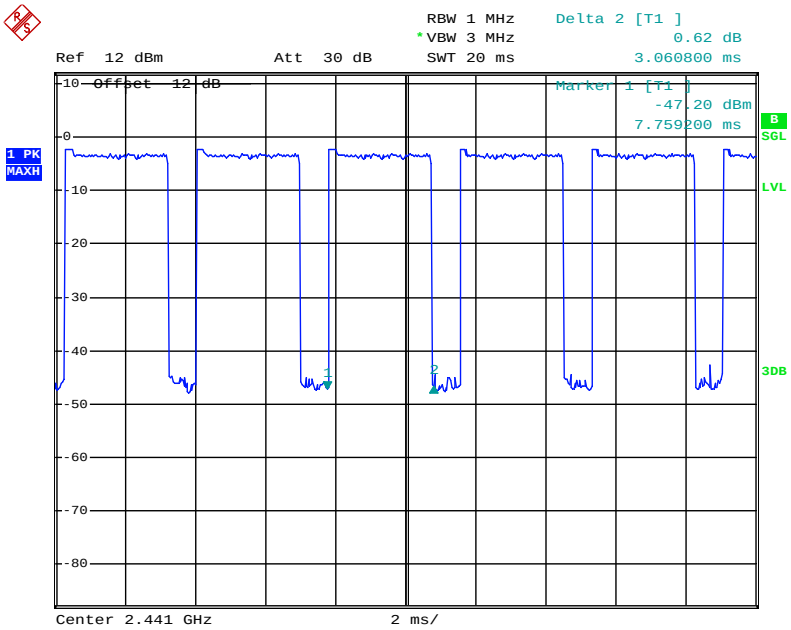
Date: 19.JUL.2017 11:23:05

3DH5 Low channel



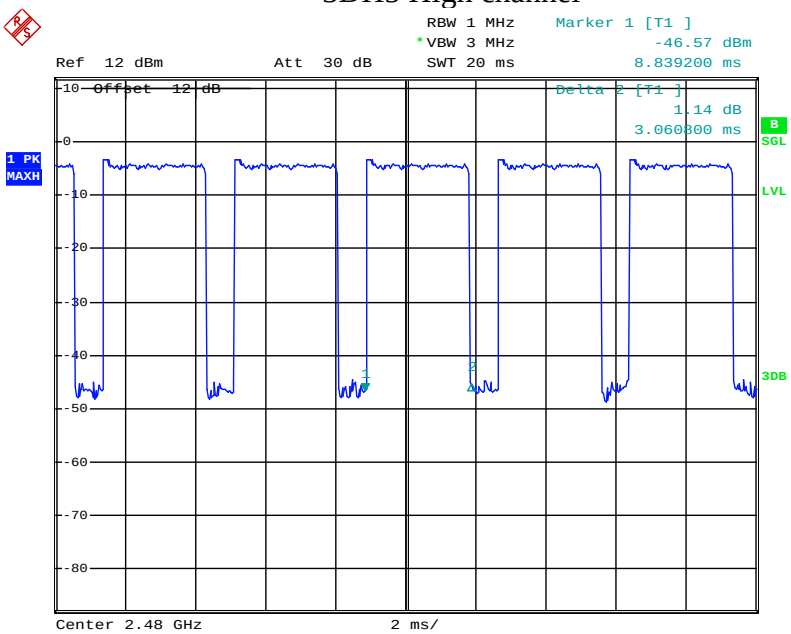
Date: 19.JUL.2017 11:24:38

3DH5 Middle channel



Date: 19.JUL.2017 11:25:09

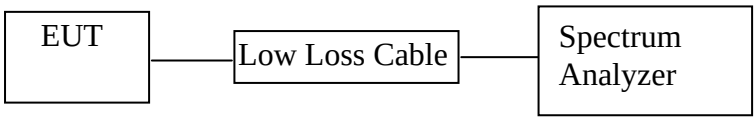
3DH5 High channel



Date: 19.JUL.2017 11:25:30

9. MAXIMUM PEAK OUTPUT POWER TEST

9.1.Block Diagram of Test Setup



(EUT: BLUETOOTH SPEAKER)

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

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

9.3.EUT Configuration on Measurement

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

9.4.Operating Condition of EUT

9.4.1.Setup the EUT and simulator as shown as Section 9.1.

9.4.2.Turn on the power of all equipment.

9.4.3.Let the EUT work in TX (Hopping off) modes measure it. The transmit frequency are 2402-2480MHz. We select 2402MHz, 2441MHz, and 2480MHz TX frequency to transmit.

9.5.Test Procedure

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

9.5.2.Set RBW of spectrum analyzer to 1MHz and VBW to 3MHz for GFSK mode

9.5.3.Set RBW of spectrum analyzer to 3MHz and VBW to 3MHz for other mode

9.5.4.Measurement the maximum peak output power.

9.6.Test Result

GFSK Mode

Channel	Frequency (MHz)	Peak Output Power (dBm/W)	Limits dBm / W
Low	2402	-3.35/0.0005	30 / 1.0
Middle	2441	-3.75/0.0004	30 / 1.0
High	2480	-3.79/0.0004	30 / 1.0

∏/4-DQPSK Mode

Channel	Frequency (MHz)	Peak Output Power (dBm/W)	Limits dBm / W
Low	2402	-3.63/0.0004	21 / 0.125
Middle	2441	-3.65/0.0004	21 / 0.125
High	2480	-3.81/0.0004	21 / 0.125

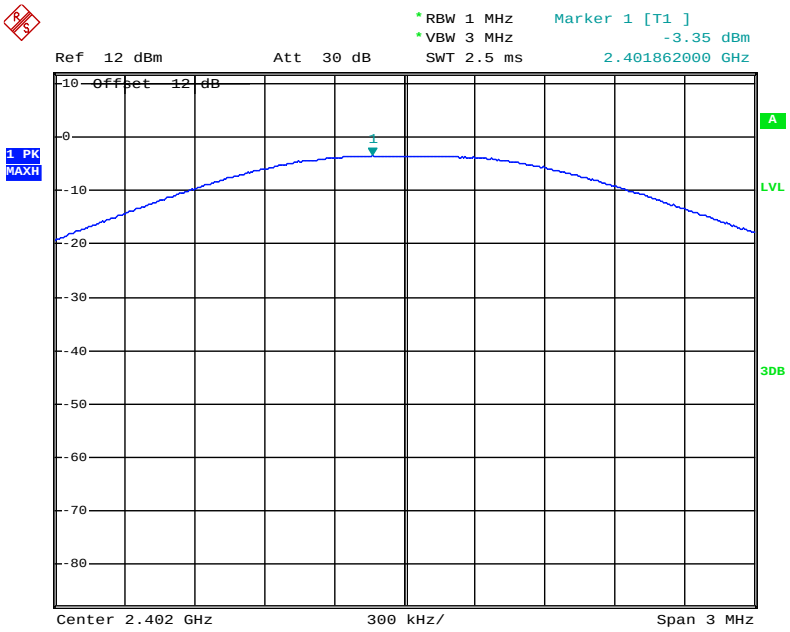
8DPSK Mode

Channel	Frequency (MHz)	Peak Output Power (dBm/W)	Limits dBm / W
Low	2402	-3.12/0.0005	21 / 0.125
Middle	2441	-3.54/0.0004	21 / 0.125
High	2480	-3.87/0.0004	21 / 0.125

The spectrum analyzer plots are attached as below.

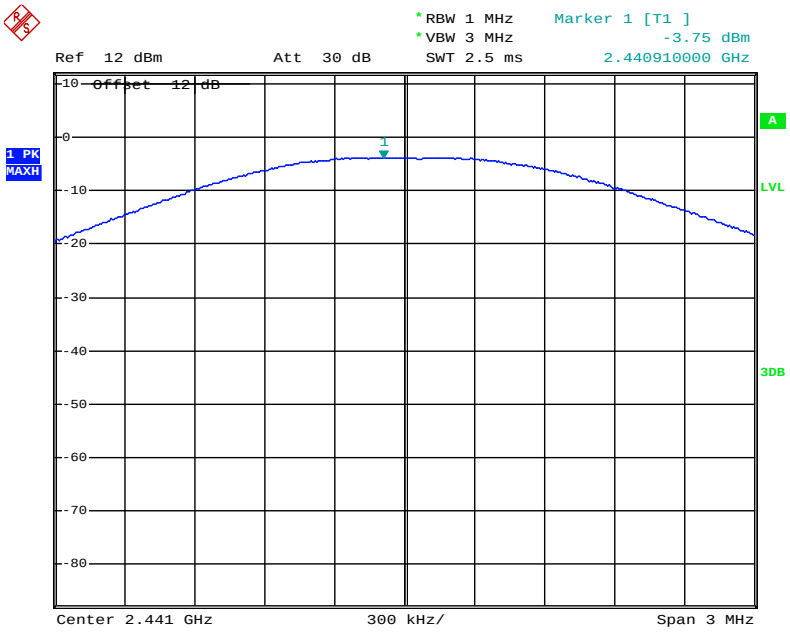
GFSK Mode

Low channel



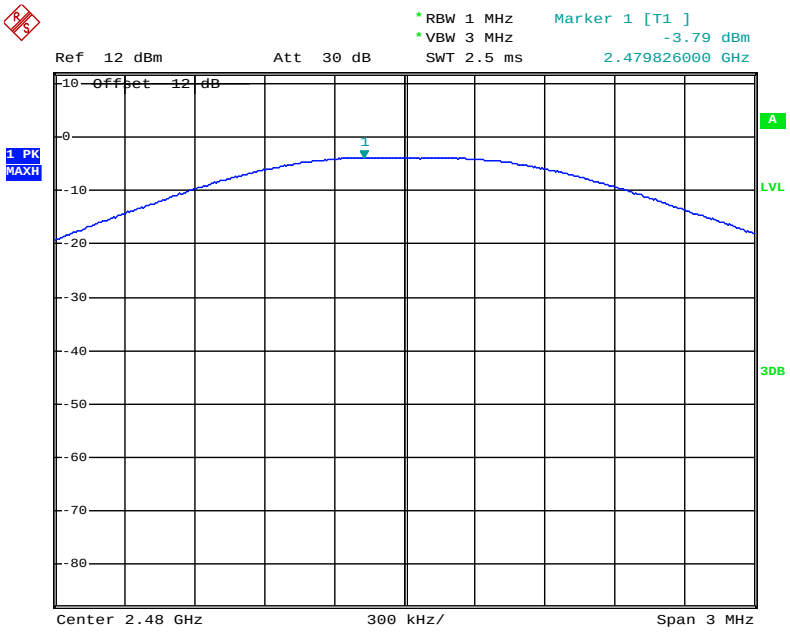
Date: 19.JUL.2017 11:47:16

Middle channel



Date: 19.JUL.2017 11:47:52

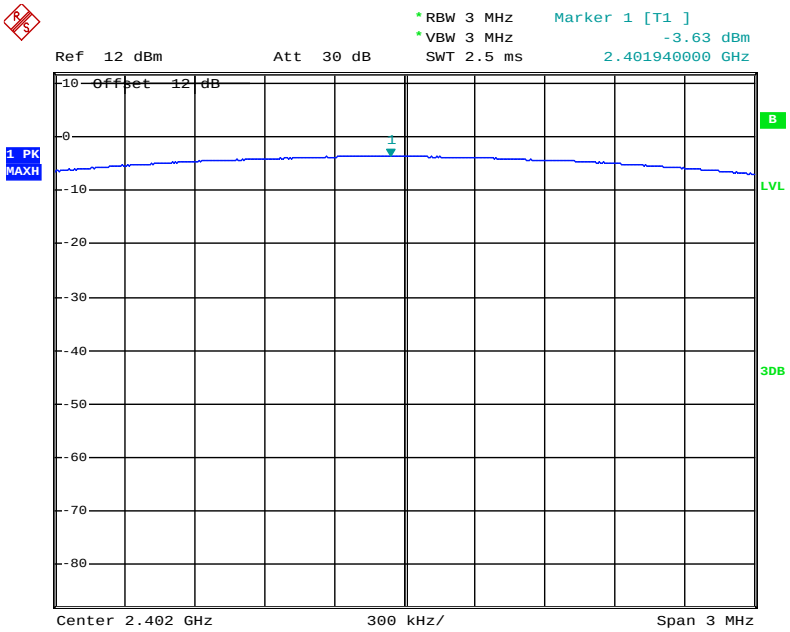
High channel



Date: 19.JUL.2017 11:49:31

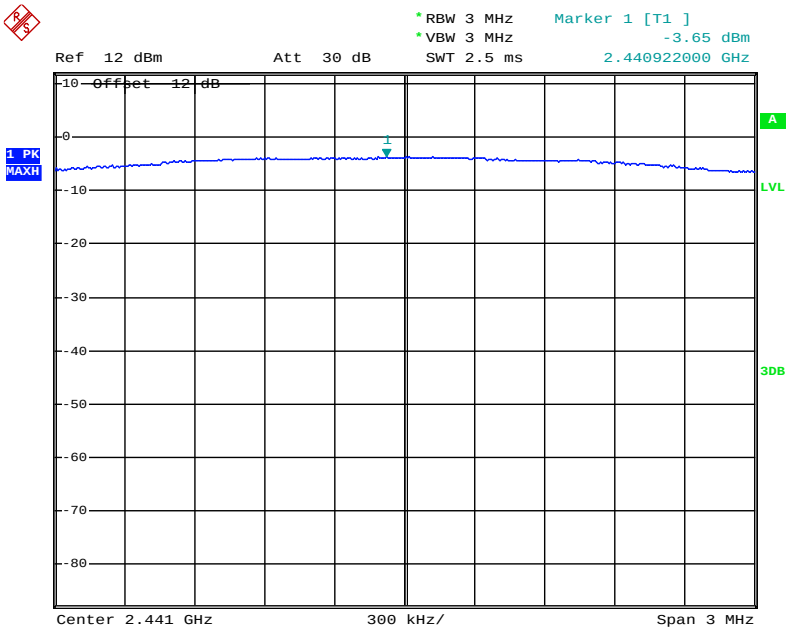
Π/4-DQPSK Mode

Low channel



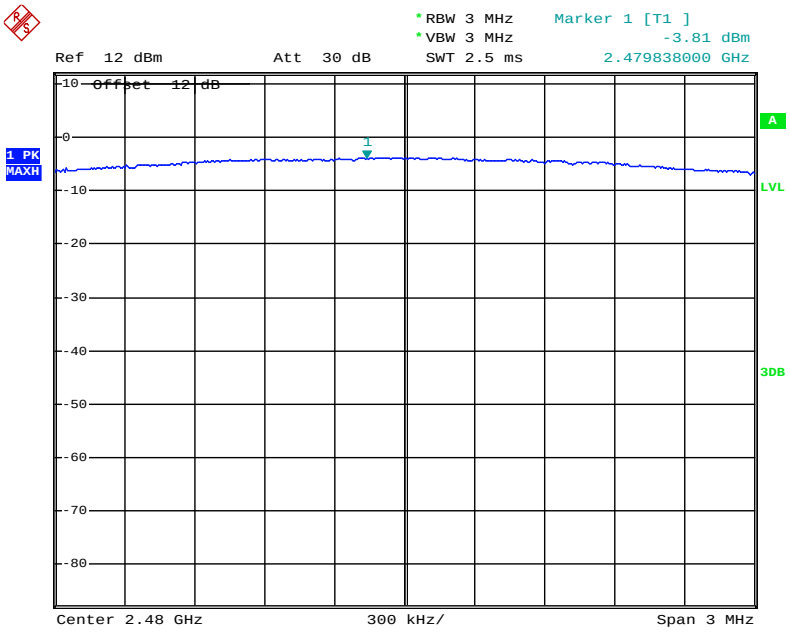
Date: 19.JUL.2017 11:01:35

Middle channel



Date: 19.JUL.2017 11:45:28

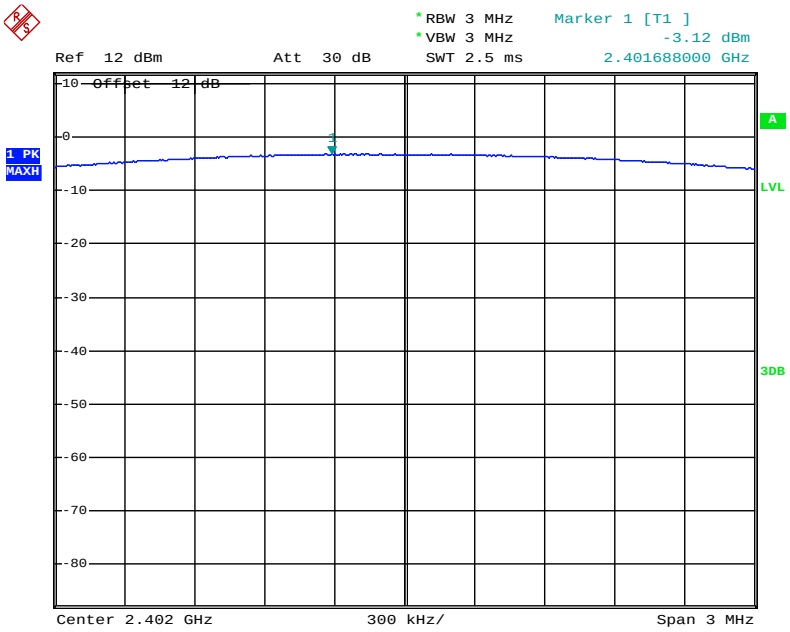
High channel



Date: 19.JUL.2017 11:44:40

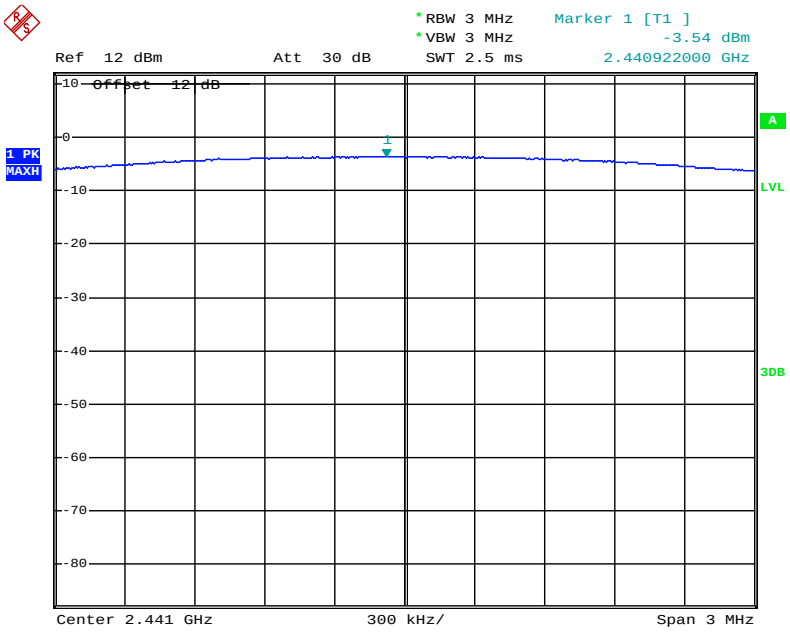
8DPSK Mode

Low channel



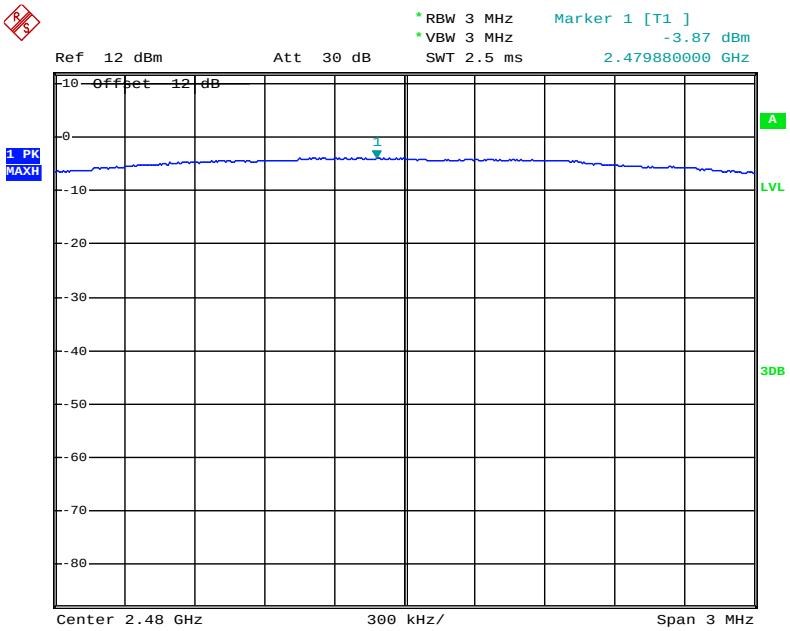
Date: 19.JUL.2017 11:41:33

Middle channel



Date: 19.JUL.2017 11:42:04

High channel



Date: 19.JUL.2017 11:43:40

10. RADIATED EMISSION TEST

10.1. Block Diagram of Test Setup

10.1.1. Block diagram of connection between the EUT and peripherals

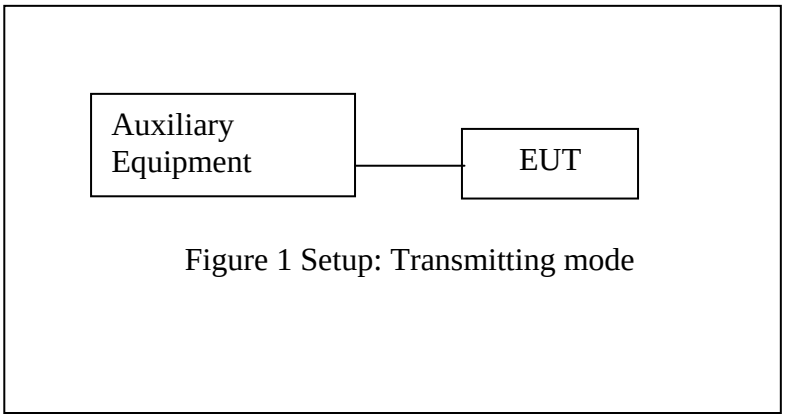
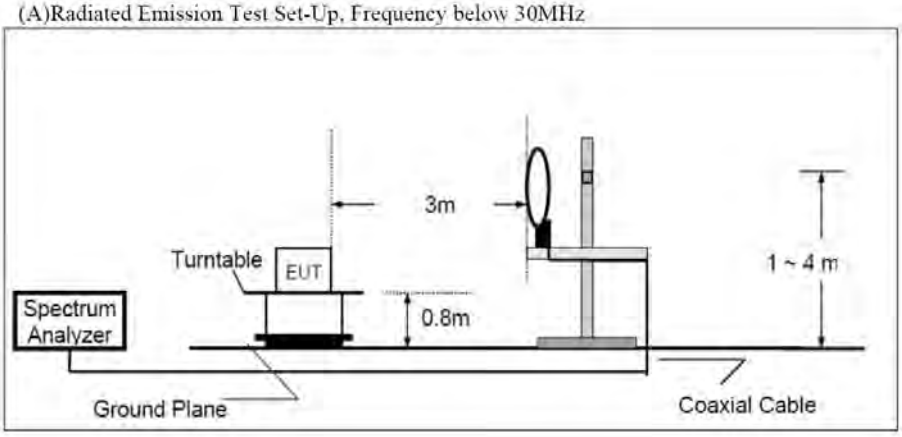


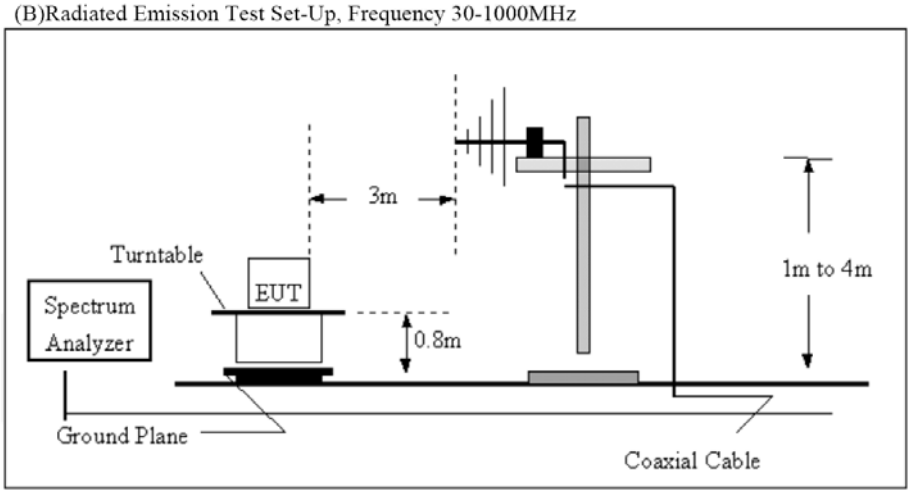
Figure 1 Setup: Transmitting mode

10.1.2. Semi-Anechoic Chamber Test Setup Diagram

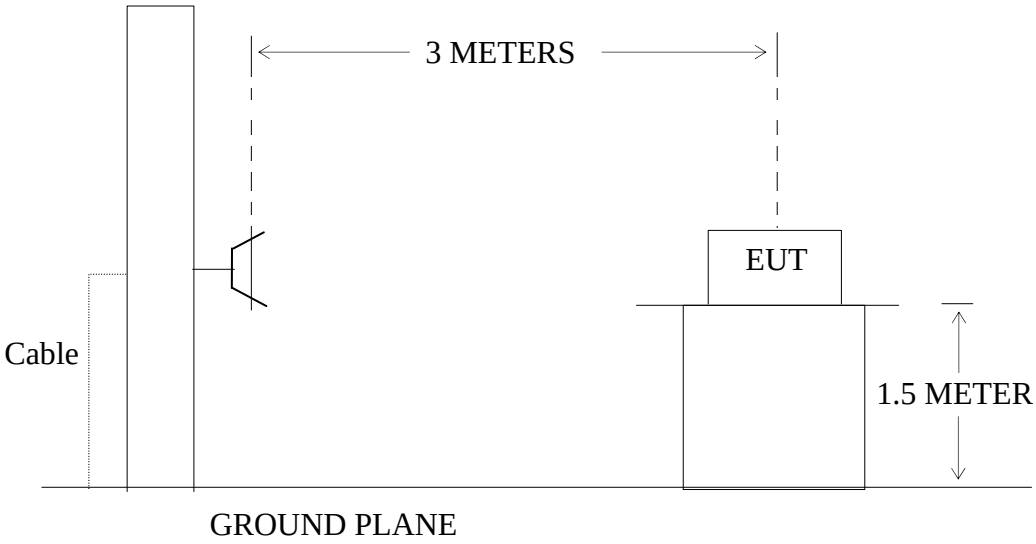
(A)Radiated Emission Test Set-Up, Frequency below 30MHz



(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			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510
[2]Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

10.4.Configuration of EUT on Measurement

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

10.5.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.

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

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

10.6.The Field Strength of Radiation Emission Measurement Results

Note: 1.We tested GFSK mode, Π/4-DQPSK Mode & 8QPSK mode and recorded the worst case data (GFSK mode) for all test mode.

2. The test frequency is from 30MHz to 25GHz, The 18-25GHz emissions are not reported, because the levels are too low against the limit.

Below 1GHz

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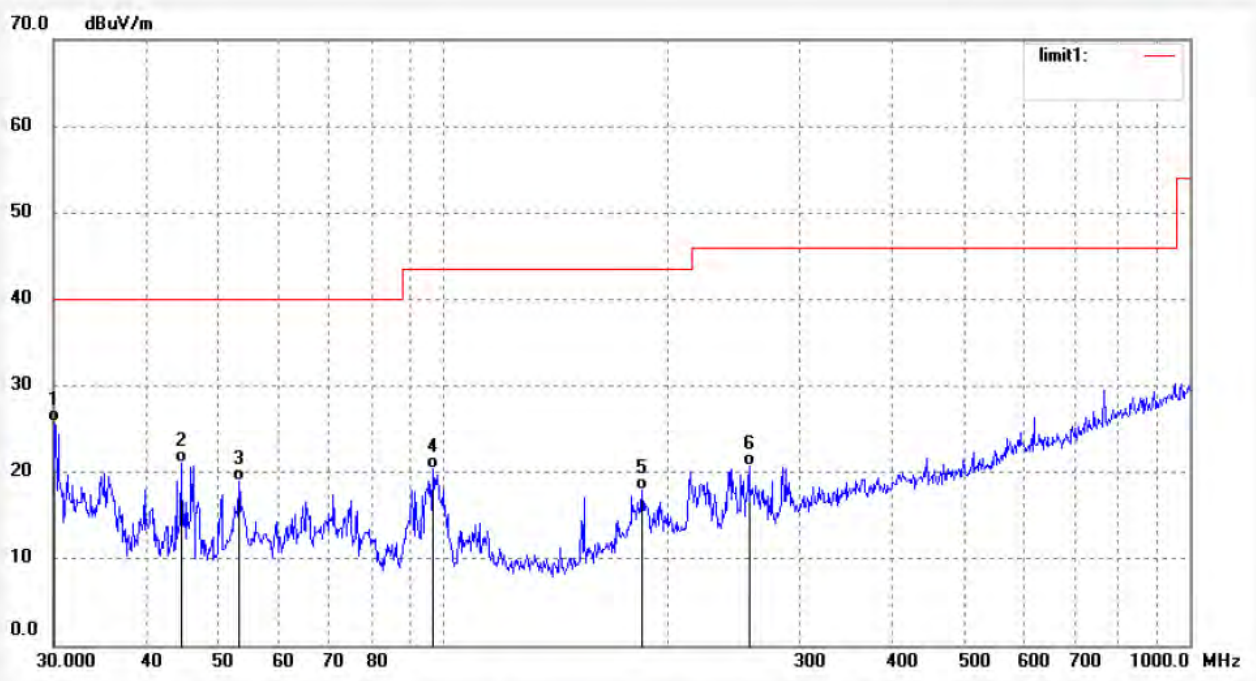
Job No.: DING11 #1829
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2402MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/19/
Time: 16/58/20
Engineer Signature: DING
Distance: 3m

Note: Report NO:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.0000	40.58	-14.70	25.88	40.00	-14.12	QP	200	188	
2	44.4657	39.92	-18.84	21.08	40.00	-18.92	QP	200	255	
3	53.1922	40.27	-21.32	18.95	40.00	-21.05	QP	100	103	
4	96.6621	42.59	-22.14	20.45	43.50	-23.05	QP	100	172	
5	184.5132	37.85	-19.89	17.96	43.50	-25.54	QP	200	122	
6	256.7230	38.52	-17.75	20.77	46.00	-25.23	QP	200	153	

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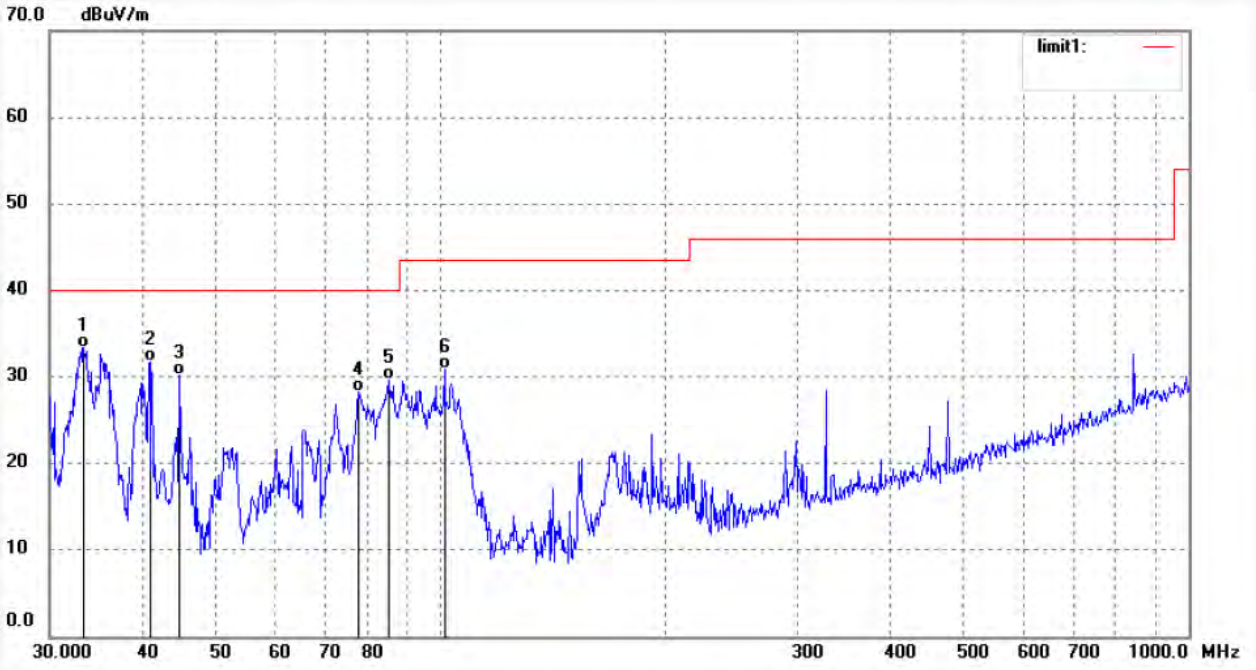
Job No.: DING11 #1830
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2402MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/19/
Time: 17/09/46
Engineer Signature: DING
Distance: 3m

Note: Report NO:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.3349	48.89	-15.53	33.36	40.00	-6.64	QP	100	140	
2	40.8699	49.92	-18.23	31.69	40.00	-8.31	QP	100	296	
3	44.7793	49.01	-18.88	30.13	40.00	-9.87	QP	100	253	
4	77.7407	50.39	-22.14	28.25	40.00	-11.75	QP	100	227	
5	85.1771	51.69	-21.97	29.72	40.00	-10.28	QP	100	156	
6	101.1797	53.48	-22.64	30.84	43.50	-12.66	QP	100	231	

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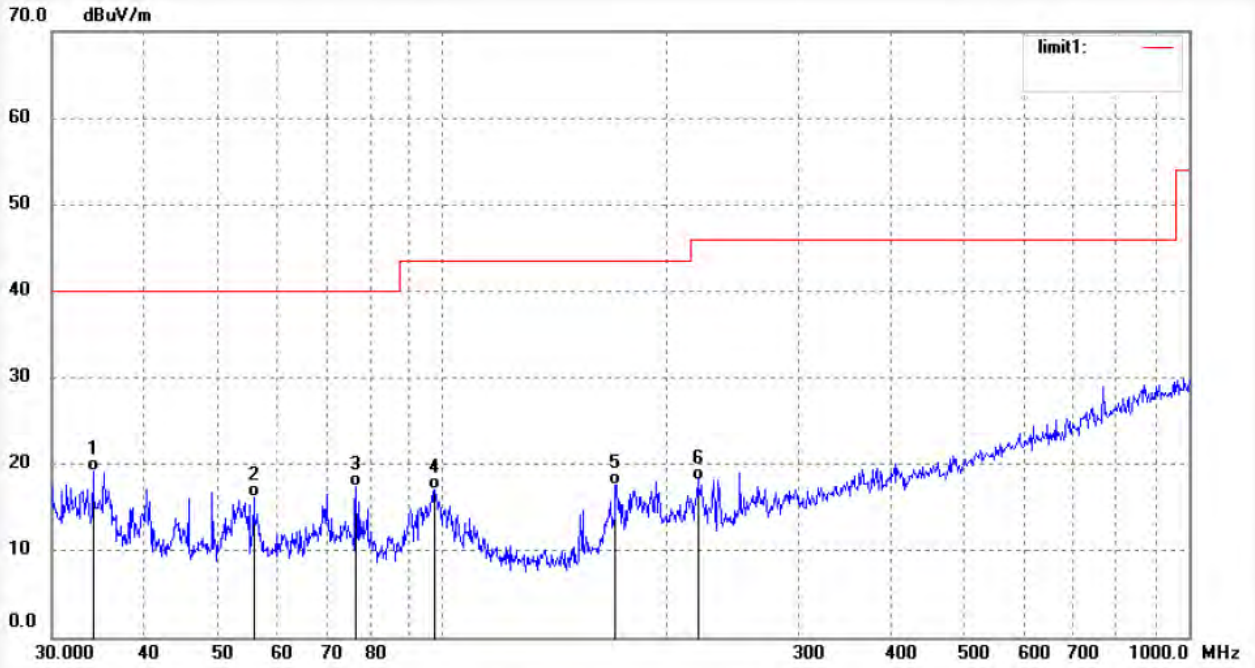
Job No.: DING11 #1832
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2441MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/19/
Time: 17/33/17
Engineer Signature: DING
Distance: 3m

Note: Report NO:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.0451	34.95	-15.72	19.23	40.00	-20.77	QP	200	346	
2	55.8742	37.79	-21.64	16.15	40.00	-23.85	QP	200	108	
3	76.6557	39.65	-22.20	17.45	40.00	-22.55	QP	200	270	
4	97.6864	39.33	-22.28	17.05	43.50	-26.45	QP	100	255	
5	170.7878	38.05	-20.38	17.67	43.50	-25.83	QP	200	136	
6	219.9500	36.60	-18.40	18.20	46.00	-27.80	QP	200	247	

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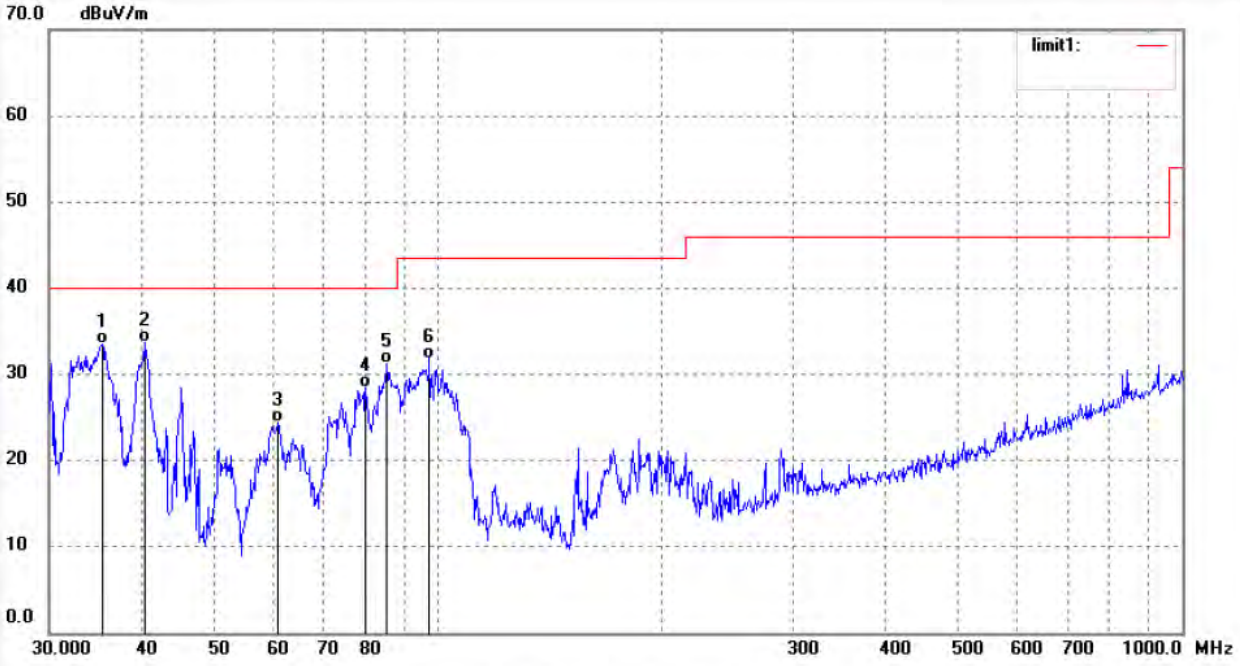
Job No.: DING11 #1831
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2441MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/19/
Time: 17/21/29
Engineer Signature: DING
Distance: 3m

Note: Report NO:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	35.3867	49.67	-16.12	33.55	40.00	-6.45	QP	100	241	
2	40.2995	51.90	-18.15	33.75	40.00	-6.25	QP	100	174	
3	60.7902	46.31	-21.81	24.50	40.00	-15.50	QP	100	213	
4	79.9569	50.38	-22.00	28.38	40.00	-11.62	QP	100	149	
5	85.4769	53.12	-21.96	31.16	40.00	-8.84	QP	100	234	
6	97.3437	54.09	-22.24	31.85	43.50	-11.65	QP	100	330	

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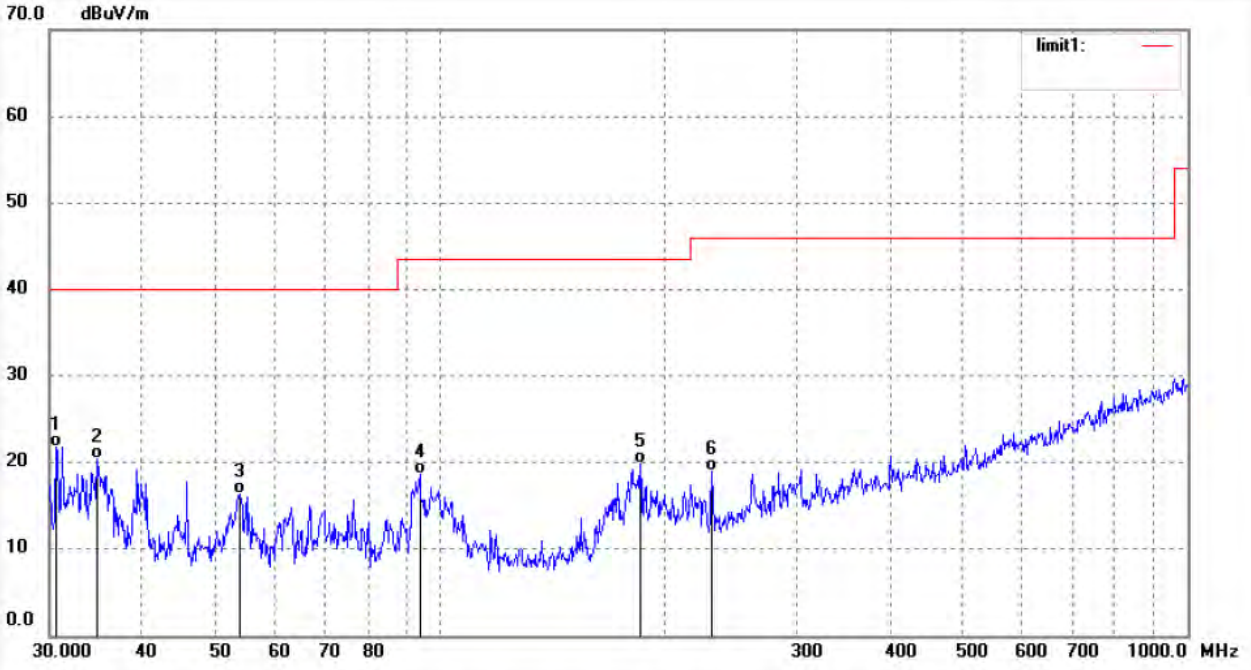
Job No.: DING11 #1833
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/19/
Time: 17/44/14
Engineer Signature: DING
Distance: 3m

Note: Report NO:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.6392	36.69	-14.86	21.83	40.00	-18.17	QP	200	243	
2	34.7705	36.35	-15.89	20.46	40.00	-19.54	QP	200	176	
3	53.9451	37.86	-21.44	16.42	40.00	-23.58	QP	100	149	
4	93.9829	40.59	-21.92	18.67	43.50	-24.83	QP	200	207	
5	185.1626	39.70	-19.83	19.87	43.50	-23.63	QP	100	155	
6	231.0399	37.18	-18.27	18.91	46.00	-27.09	QP	200	341	

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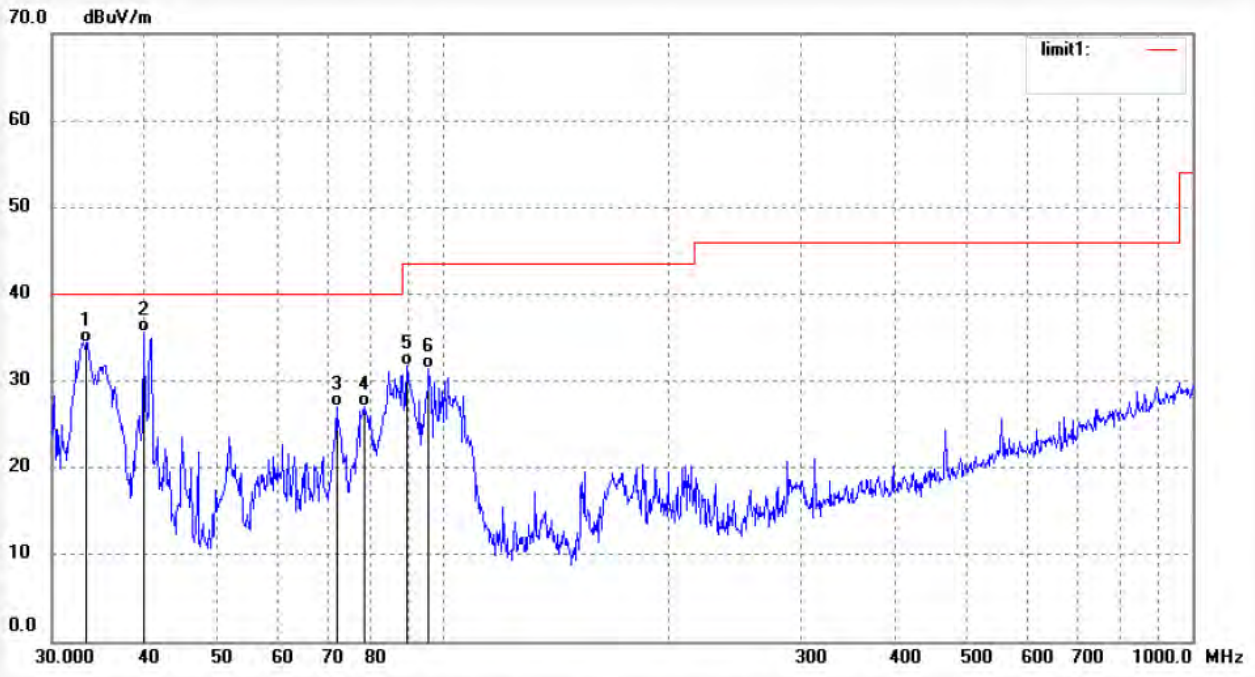
Job No.: DING11 #1834
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/19/
Time: 17/55/20
Engineer Signature: DING
Distance: 3m

Note: Report NO:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	33.3349	49.94	-15.53	34.41	40.00	-5.59	QP	100	241	
2	39.7371	53.58	-17.99	35.59	40.00	-4.41	QP	100	347	
3	71.9578	49.25	-22.17	27.08	40.00	-12.92	QP	100	226	
4	78.2888	49.06	-22.10	26.96	40.00	-13.04	QP	100	149	
5	89.4717	53.69	-21.92	31.77	43.50	-11.73	QP	100	172	
6	95.6485	53.47	-21.99	31.48	43.50	-12.02	QP	100	148	

Above 1GHz

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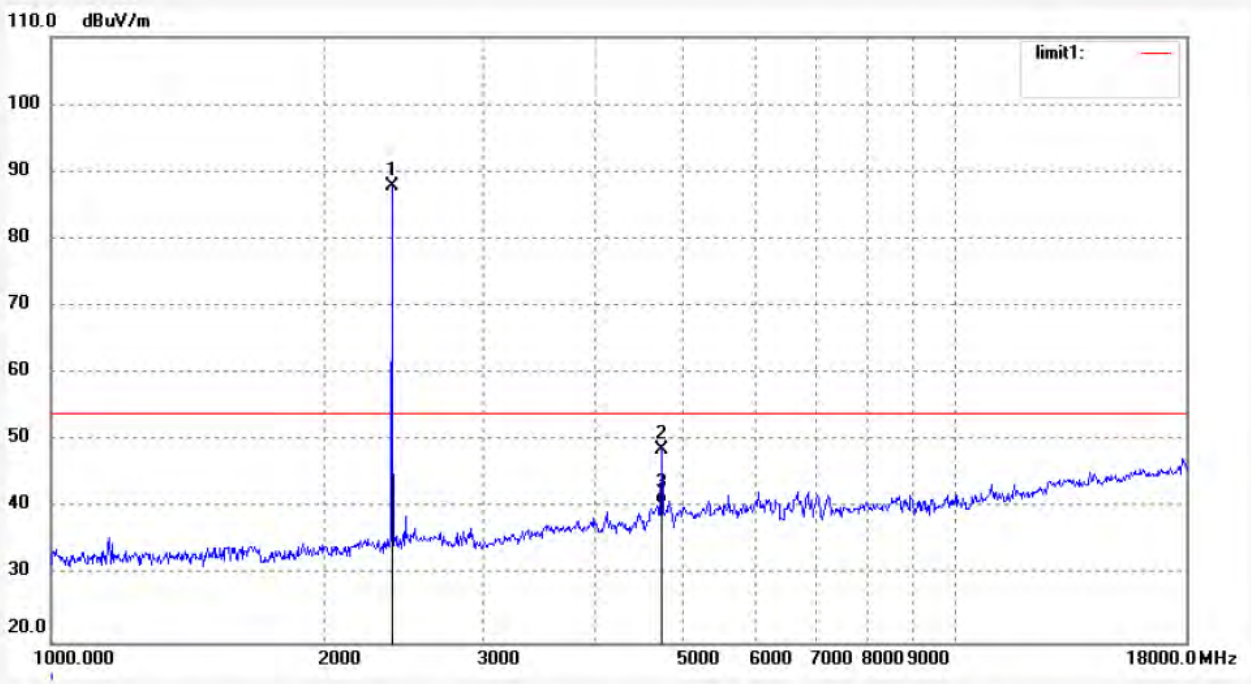
Job No.: DING11 #1836	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 17/07/20/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 9/19/52
EUT: BLUETOOTH SPEAKER	Engineer Signature: DING
Mode: TX 2402MHz(GFSK)	Distance: 3m
Model: CBM001	
Manufacturer: CLEVER BRIGHT	

Note: Report NO.:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.719	94.23	-6.37	87.86			peak			
2	4804.957	47.95	0.70	48.65	74.00	-25.35	peak			
3	4804.957	39.81	0.70	40.51	54.00	-13.49	AVG	300	175	

Note: Average measurement with peak detection at No.3

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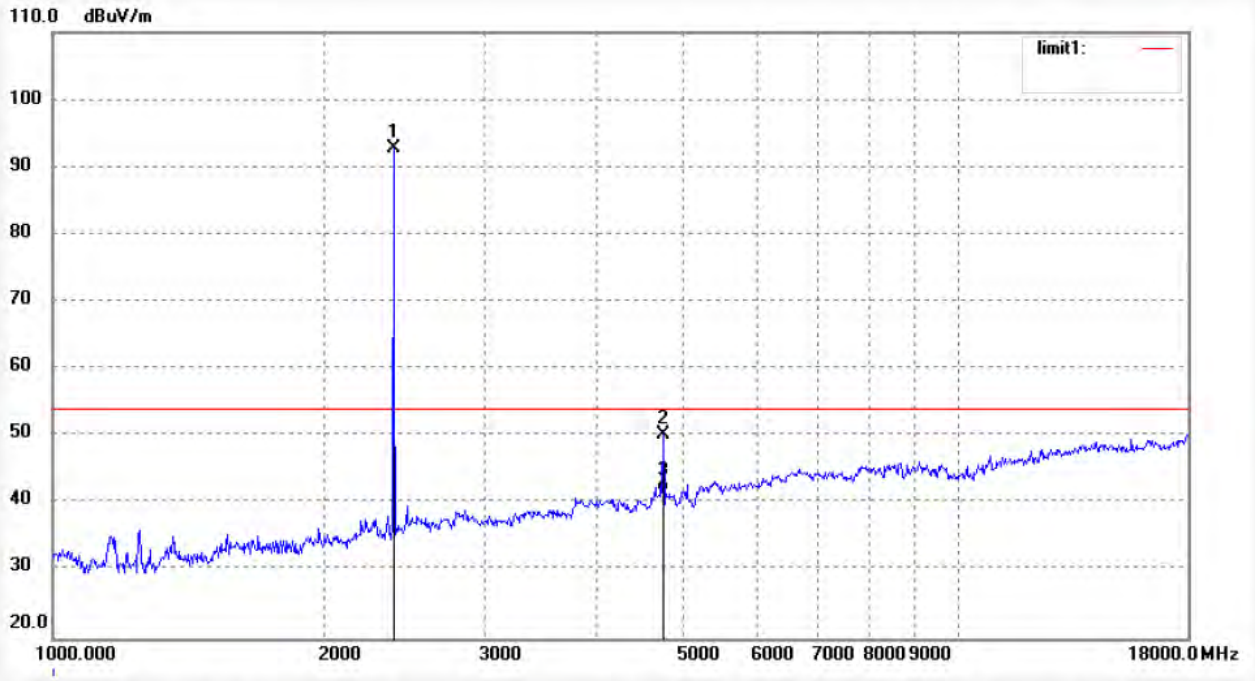
Job No.: DING11 #1835
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2402MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 9/17/55
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.719	99.15	-6.37	92.78			peak			
2	4804.957	49.57	0.70	50.27	74.00	-23.73	peak			
3	4804.957	40.94	0.70	41.64	54.00	-12.36	AVG	300	256	

Note: Average measurement with peak detection at No.3

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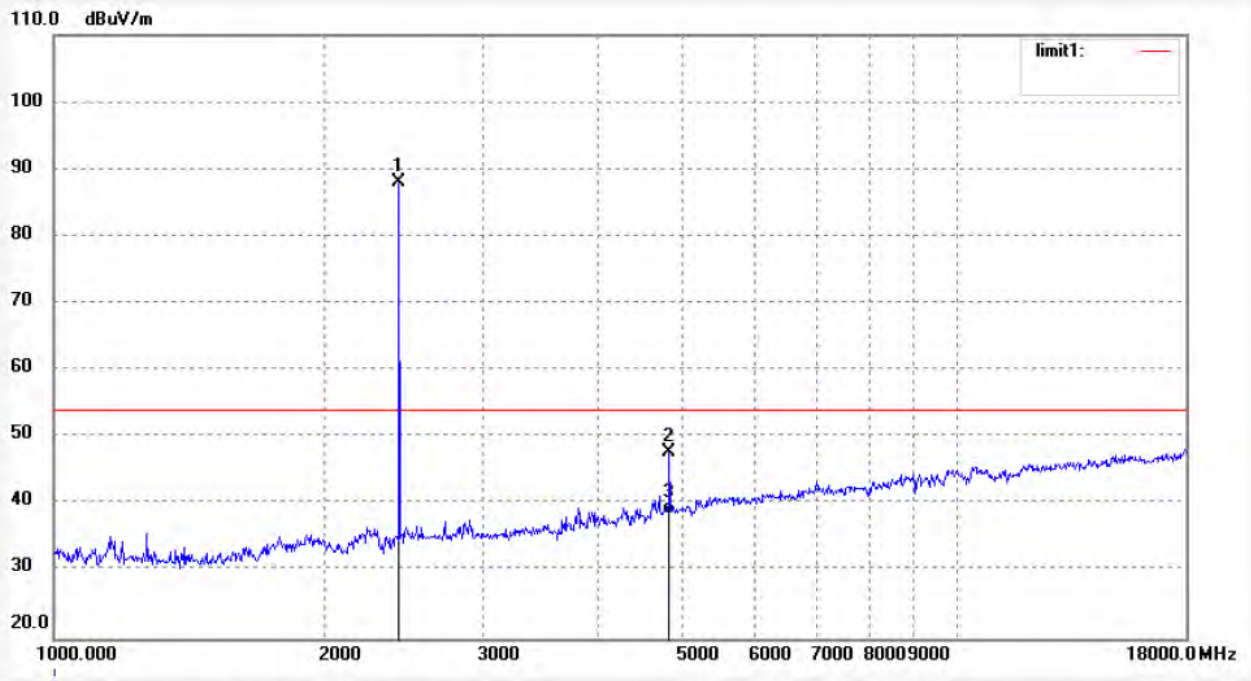
Job No.: DING11 #1837
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2441MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 9/24/28
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.621	94.19	-6.20	87.99			peak			
2	4883.324	46.64	1.07	47.71	74.00	-26.29	peak			
3	4883.324	37.49	1.07	38.56	54.00	-15.44	AVG	300	247	

Note: Average measurement with peak detection at No.3

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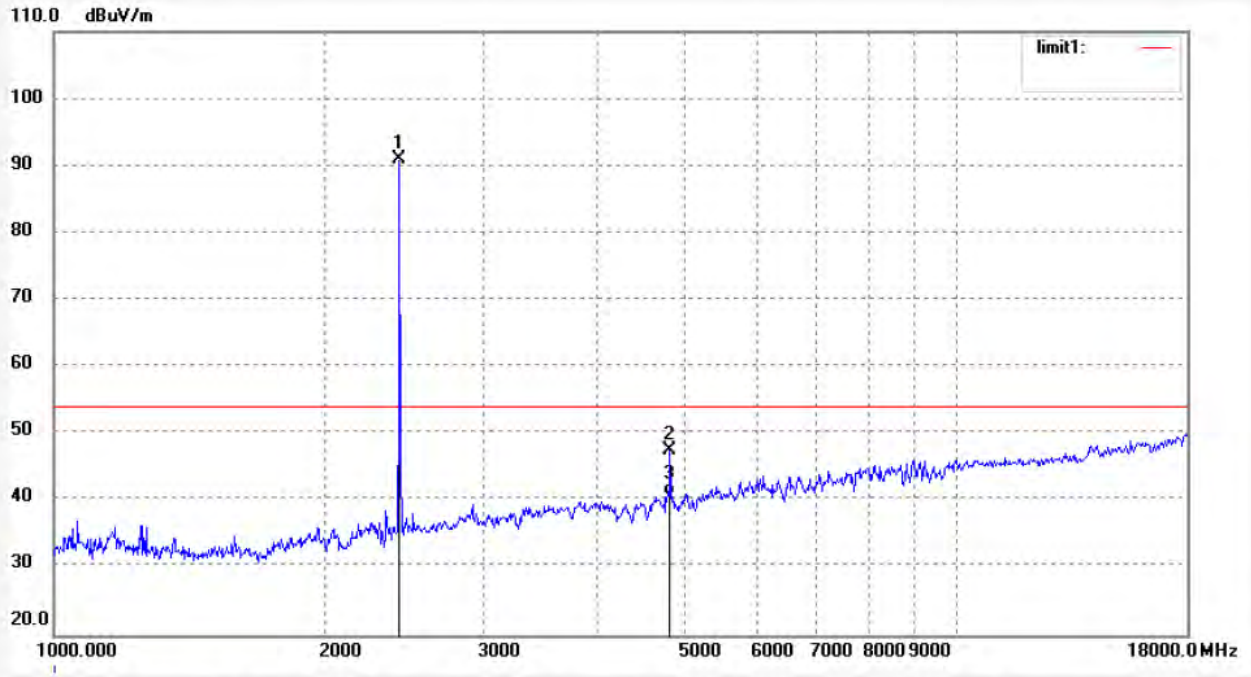
Job No.: DING11 #1838
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2441MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 9/27/28
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.621	97.22	-6.20	91.02			peak			
2	4883.324	46.48	1.07	47.55	74.00	-26.45	peak			
3	4883.324	39.76	1.07	40.83	54.00	-13.17	AVG	300	172	

Note: Average measurement with peak detection at No.3

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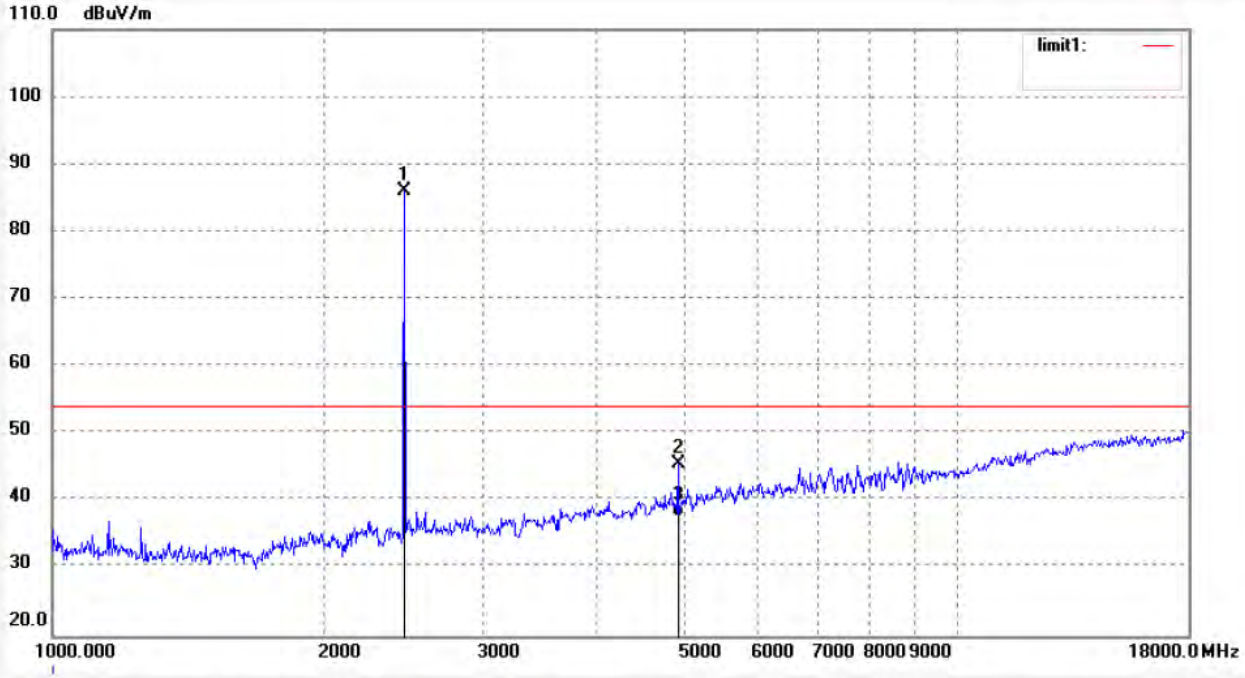
Job No.: DING11 #1840
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 9/36/39
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.034	92.18	-6.04	86.14			peak			
2	4960.444	43.93	1.50	45.43	74.00	-28.57	peak			
3	4960.444	36.13	1.50	37.63	54.00	-16.37	AVG	300	174	

Note: Average measurement with peak detection at No.3

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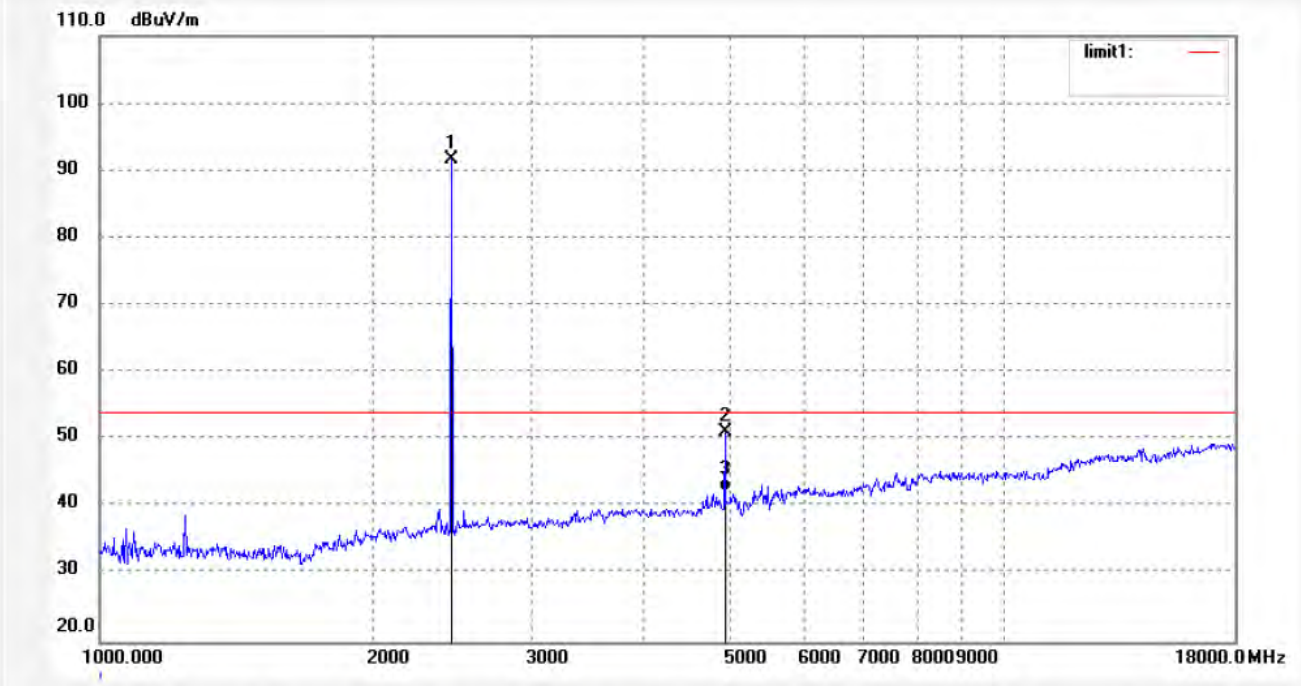
Job No.: DING11 #1839
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(GFSK)
Model: CBM001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 9/35/24
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389

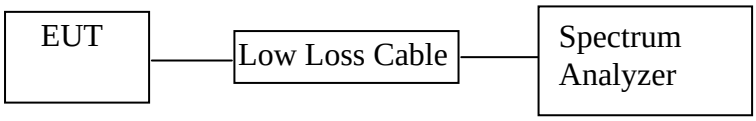


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2480.034	97.74	-6.04	91.70			peak			
2	4960.444	49.77	1.50	51.27	74.00	-22.73	peak			
3	4960.444	40.84	1.50	42.34	54.00	-11.66	AVG	300	231	

Note: Average measurement with peak detection at No.3

11.BAND EDGE COMPLIANCE TEST

11.1.Block Diagram of Test Setup



(EUT: BLUETOOTH SPEAKER)

11.2.The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

11.3.EUT Configuration on Measurement

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

11.4.Operating Condition of EUT

11.4.1.Setup the EUT and simulator as shown as Section 11.1.

11.4.2.Turn on the power of all equipment.

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

11.5.Test Procedure

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

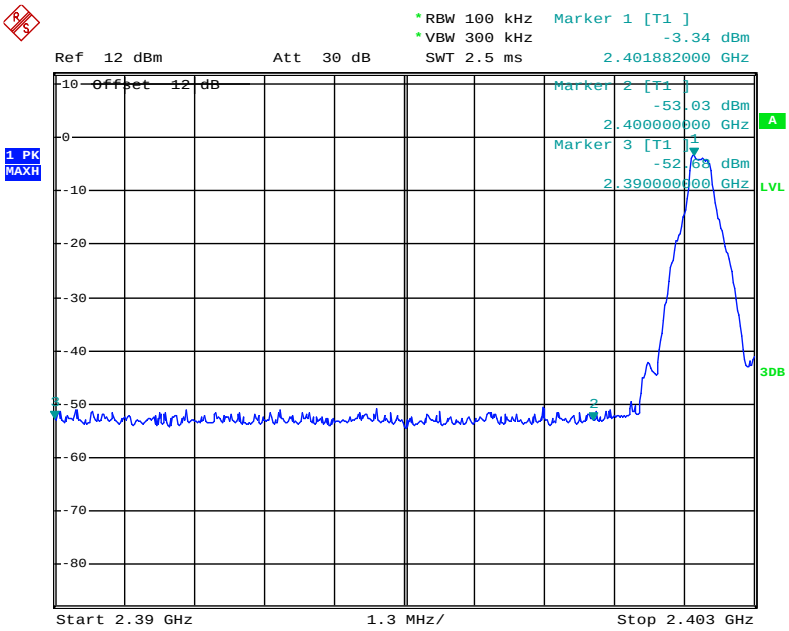
11.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz with convenient frequency span including 100 kHz bandwidth from band edge.

11.5.3.The band edges was measured and recorded.

11.6.Test Result

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
GFSK		
2400.00	49.69	> 20dBc
2483.50	48.53	> 20dBc
Π/4-DQPSK Mode		
2400.00	44.30	> 20dBc
2483.50	49.56	> 20dBc
8DPSK		
2400.00	43.98	> 20dBc
2483.50	48.55	> 20dBc

GFSK



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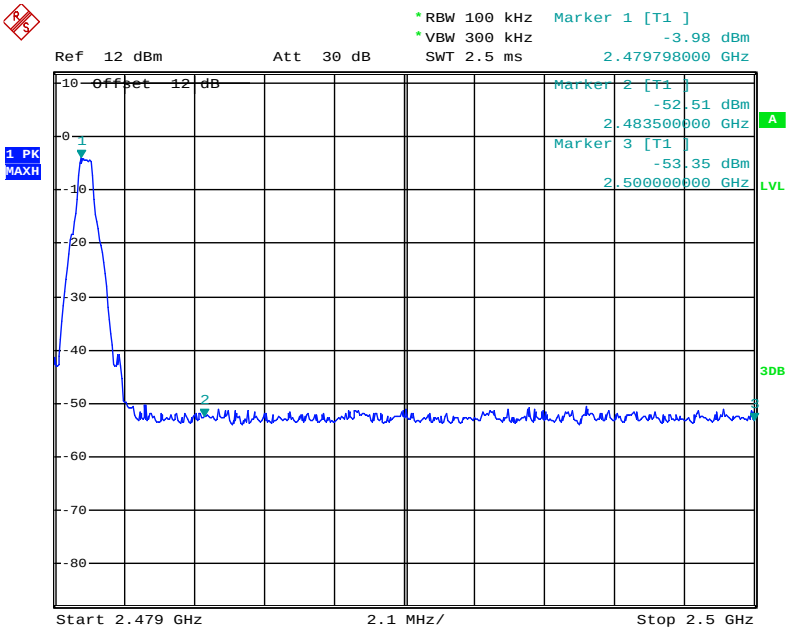

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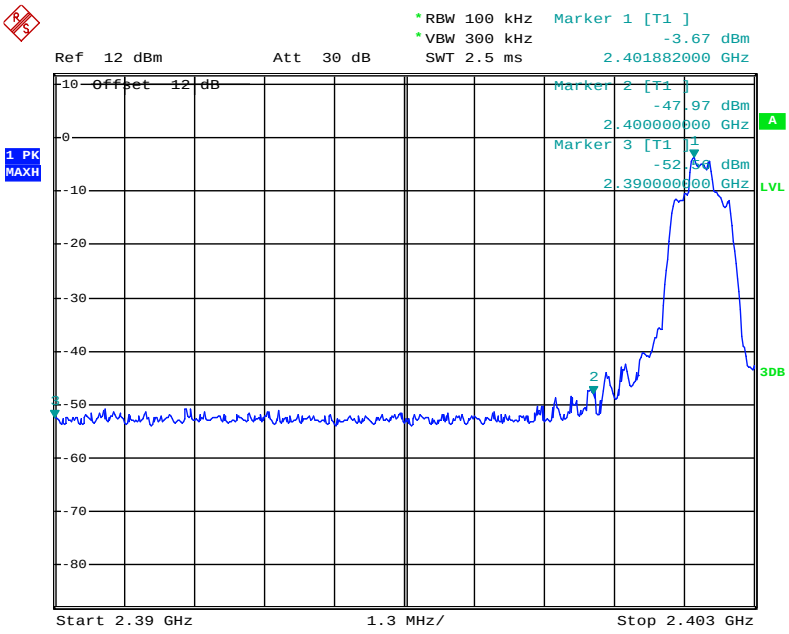
Π/4-DQPSK Mode



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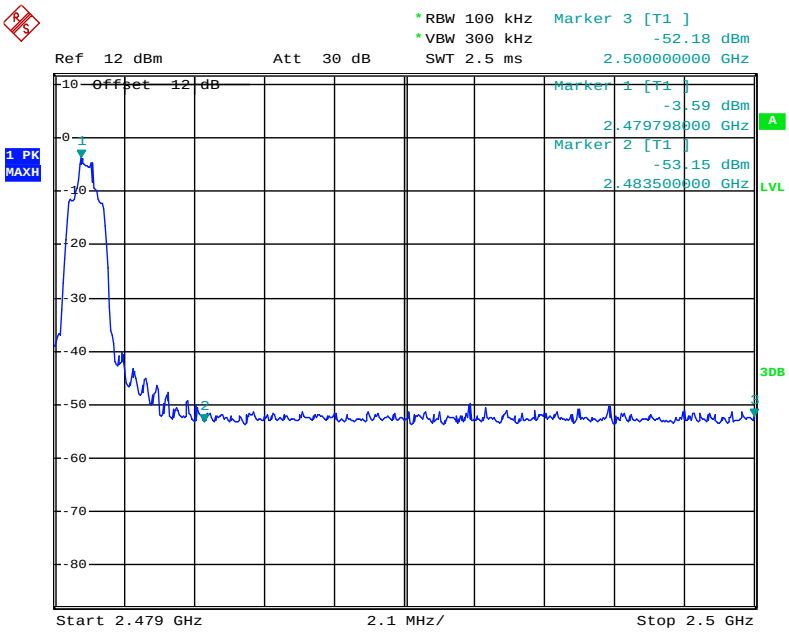

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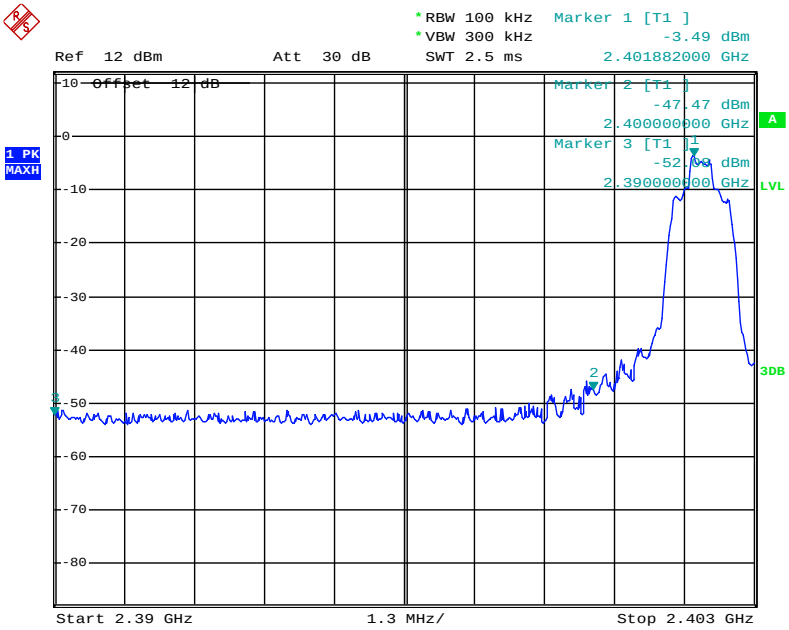
8DPSK



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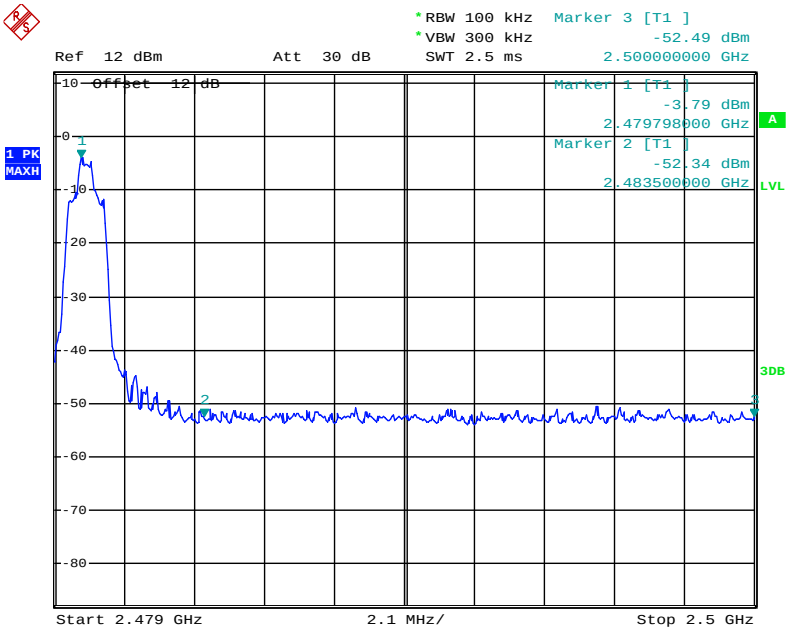

Date: 19.JUL.2017 12:08:01

Radiated Band Edge Result

Note:

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

   Result = Reading + Corrected Factor
3. Display the measurement of peak values.

Test Procedure:

The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground(Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. The EUT was tested in 3 orthogonal planes.

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

During the radiated emission test, the spectrum analyzer was set with the following configurations:
1.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
2.The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
3.All modes of operation were investigated and the worst-case emissions are reported.

Non-hopping mode

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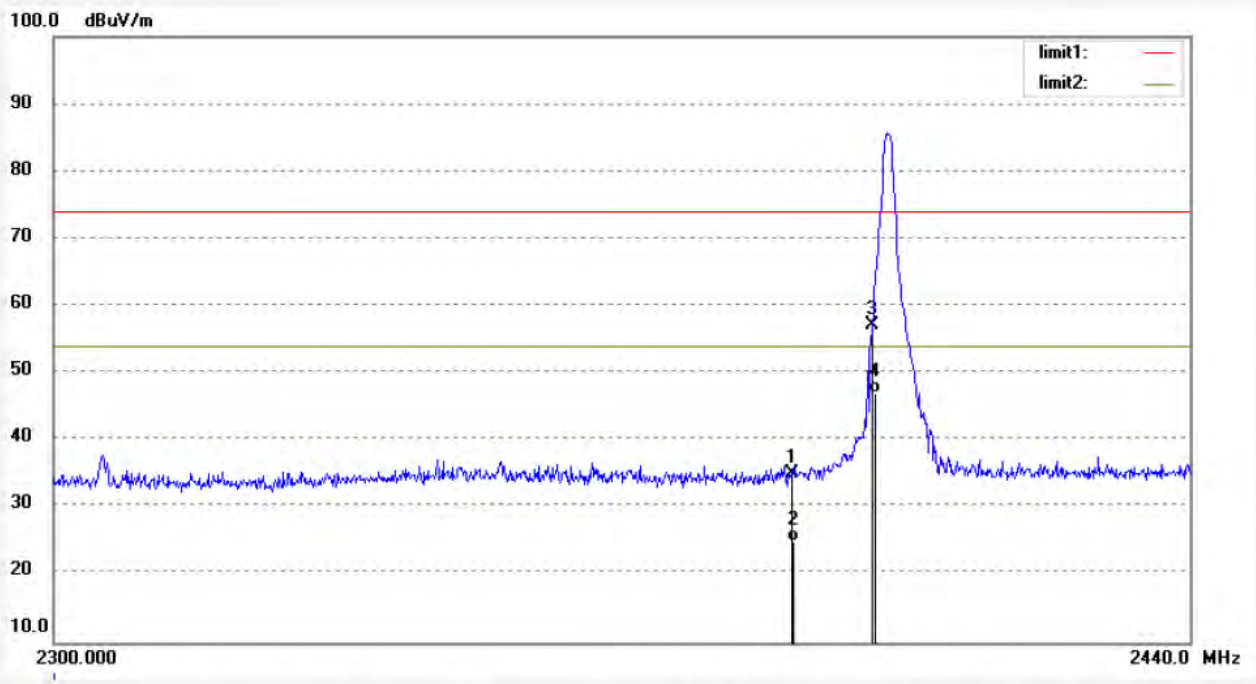
Job No.: DING11 #1864
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2402MHz(GFSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/42/04
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	40.93	-5.89	35.04	74.00	-38.96	peak			
2	2390.000	30.93	-5.89	25.04	54.00	-28.96	AVG	300	174	
3	2400.000	62.97	-5.80	57.17	74.00	-16.83	peak			
4	2400.000	52.87	-5.80	47.07	54.00	-6.93	AVG	300	109	

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

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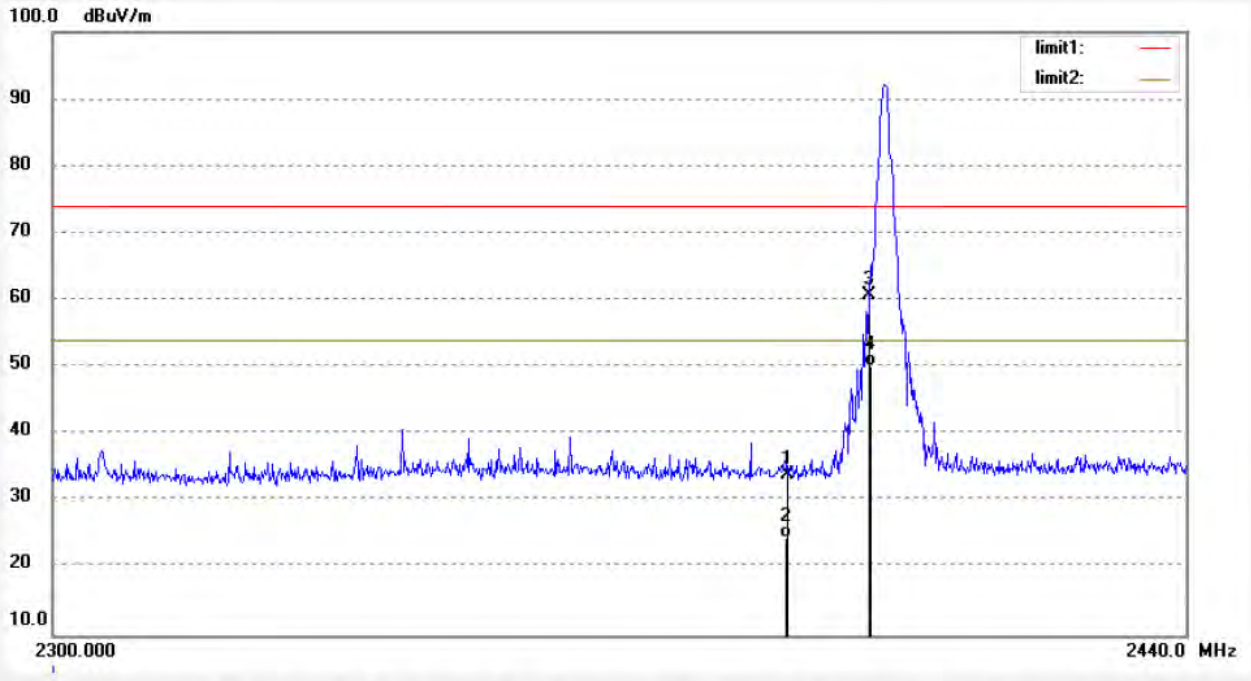
Job No.: DING11 #1863
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2402MHz(GFSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/39/33
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	39.87	-5.89	33.98	74.00	-40.02	peak			
2	2390.000	30.46	-5.89	24.57	54.00	-29.43	AVG	300	94	
3	2400.000	66.62	-5.80	60.82	74.00	-13.18	peak			
4	2400.000	56.01	-5.80	50.21	54.00	-3.79	AVG	300	225	

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

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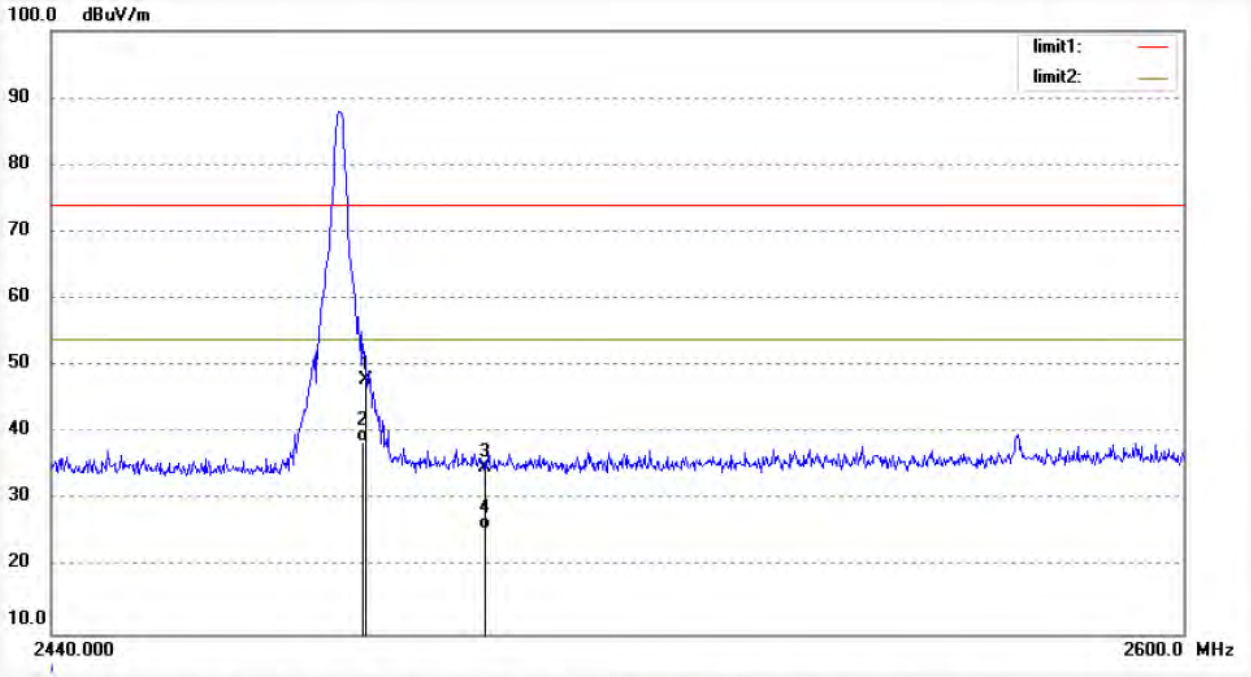
Job No.: DING1 1#1861
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(GFSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/33/55
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	53.42	-5.51	47.91	74.00	-26.09	peak			
2	2483.500	44.15	-5.51	38.64	54.00	-15.36	AVG	300	192	
3	2500.000	40.35	-5.50	34.85	74.00	-39.15	peak			
4	2500.000	31.22	-5.50	25.72	54.00	-28.28	AVG	300	139	

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

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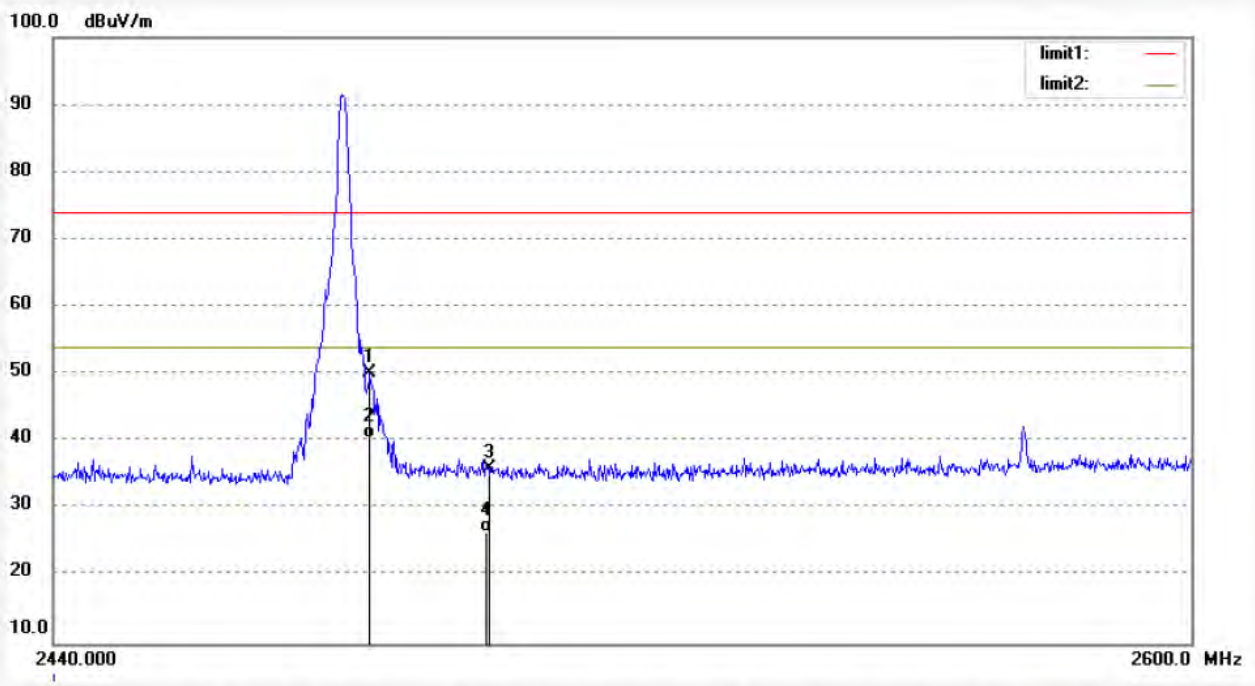
Job No.: DING11 #1862
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(GFSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/36/27
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	55.73	-5.51	50.22	74.00	-23.78	peak			
2	2483.500	45.91	-5.51	40.40	54.00	-13.60	AVG	300	243	
3	2500.000	41.48	-5.50	35.98	74.00	-38.02	peak			
4	2500.000	32.03	-5.50	26.53	54.00	-27.47	AVG	300	64	

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

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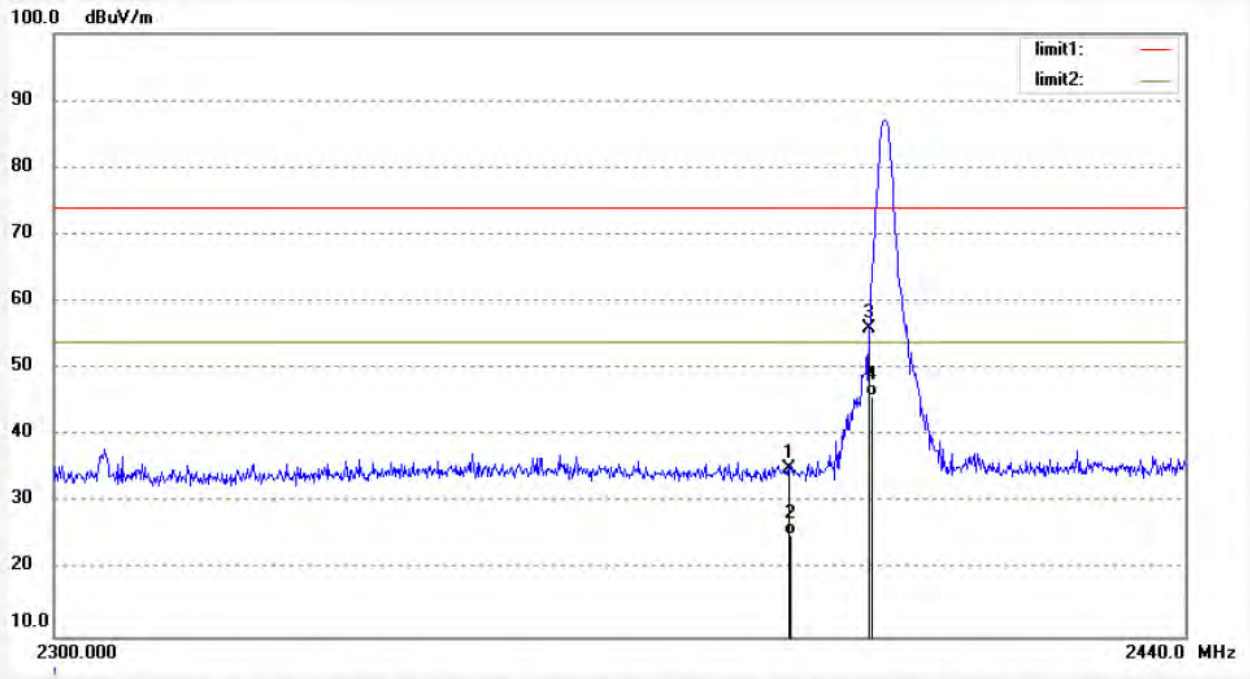
Job No.: DING11 #1857
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2402MHz(∏/4-DQPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/23/37
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	41.05	-5.89	35.16	74.00	-38.84	peak			
2	2390.000	31.06	-5.89	25.17	54.00	-28.83	AVG	300	242	
3	2400.000	61.86	-5.80	56.06	74.00	-17.94	peak			
4	2400.000	51.73	-5.80	45.93	54.00	-8.07	AVG	300	112	

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

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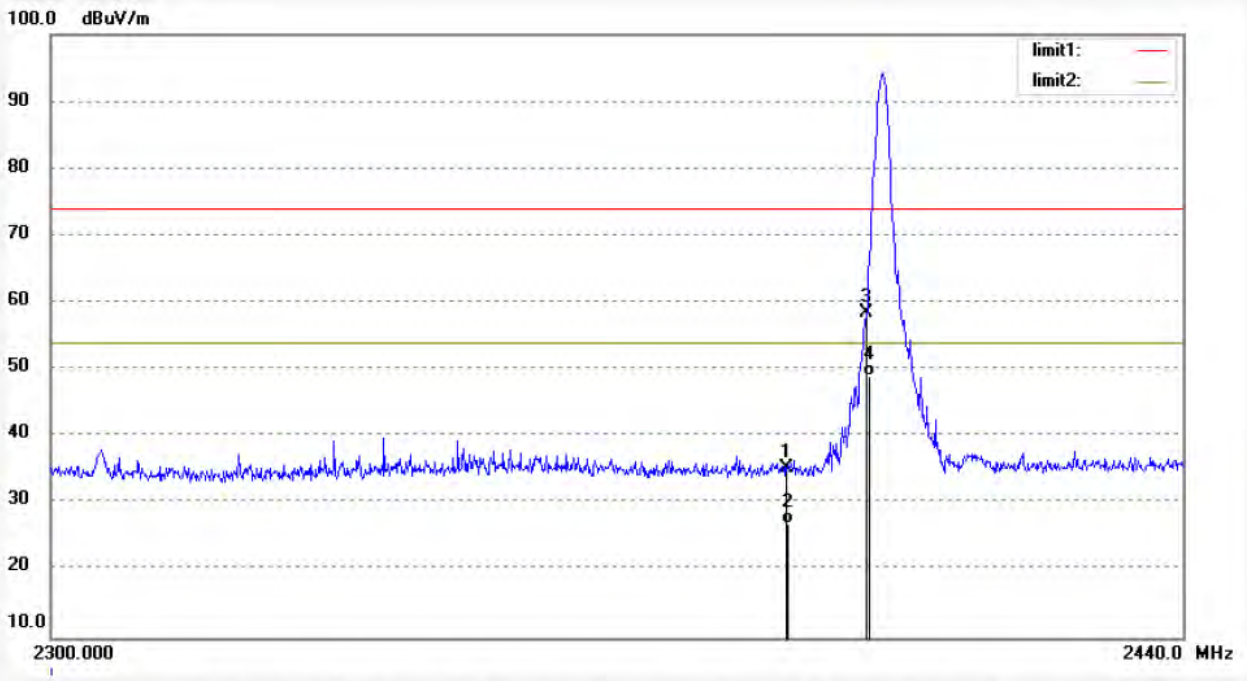
Job No.: DING11 #1858
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2402MHz(∏/4-DQPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/25/22
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	41.23	-5.89	35.34	74.00	-38.66	peak			
2	2390.000	32.79	-5.89	26.90	54.00	-27.10	AVG	300	157	
3	2400.000	64.36	-5.80	58.56	74.00	-15.44	peak			
4	2400.000	54.82	-5.80	49.02	54.00	-4.98	AVG	300	341	

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

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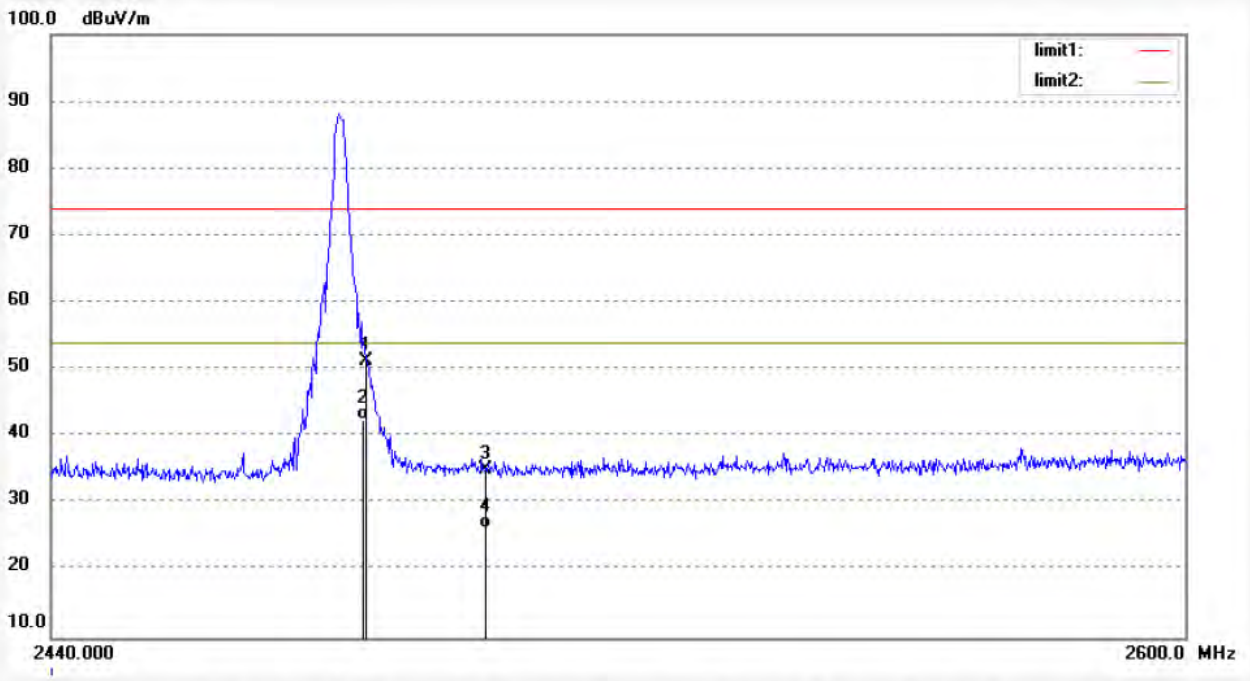
Job No.: DING11 #1860
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(∏/4-DQPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/30/35
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	56.89	-5.51	51.38	74.00	-22.62	peak			
2	2483.500	47.95	-5.51	42.44	54.00	-11.56	AVG	300	168	
3	2500.000	40.51	-5.50	35.01	74.00	-38.99	peak			
4	2500.000	31.79	-5.50	26.29	54.00	-27.71	AVG	300	276	

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

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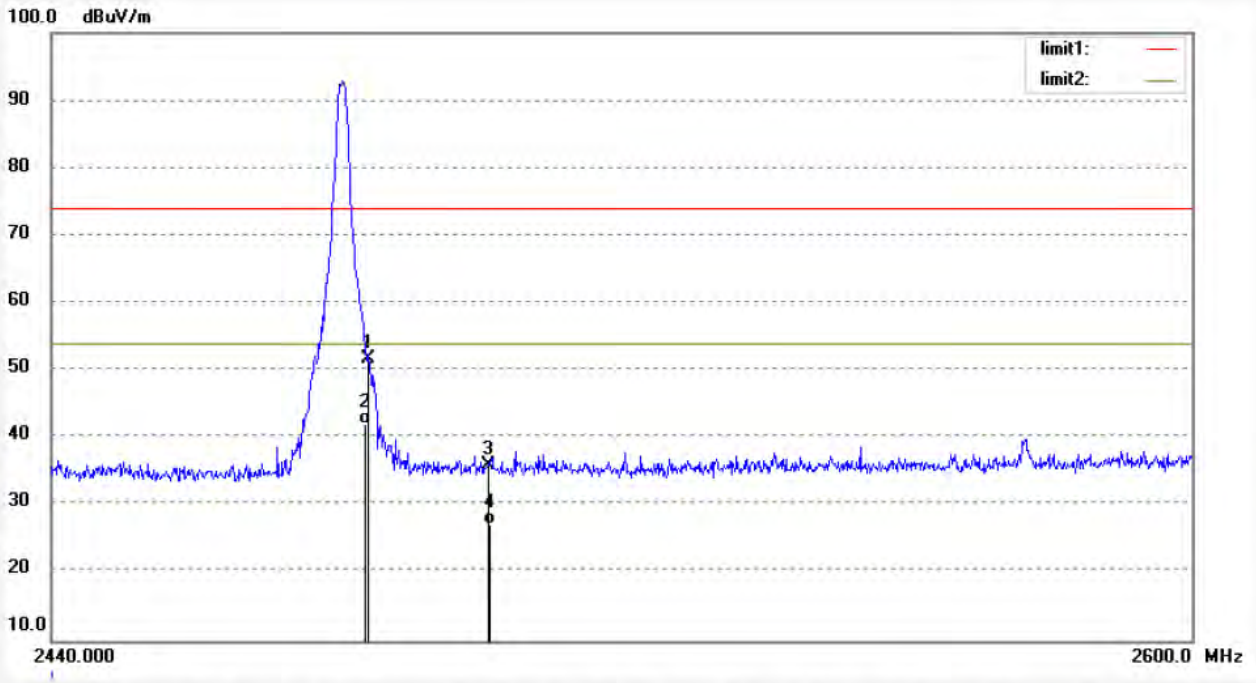
Job No.: DING11 #1859
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(∏/4-DQPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/28/49
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	57.34	-5.51	51.83	74.00	-22.17	peak			
2	2483.500	47.62	-5.51	42.11	54.00	-11.89	AVG	300	172	
3	2500.000	41.56	-5.50	36.06	74.00	-37.94	peak			
4	2500.000	32.74	-5.50	27.24	54.00	-26.76	AVG	300	241	

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

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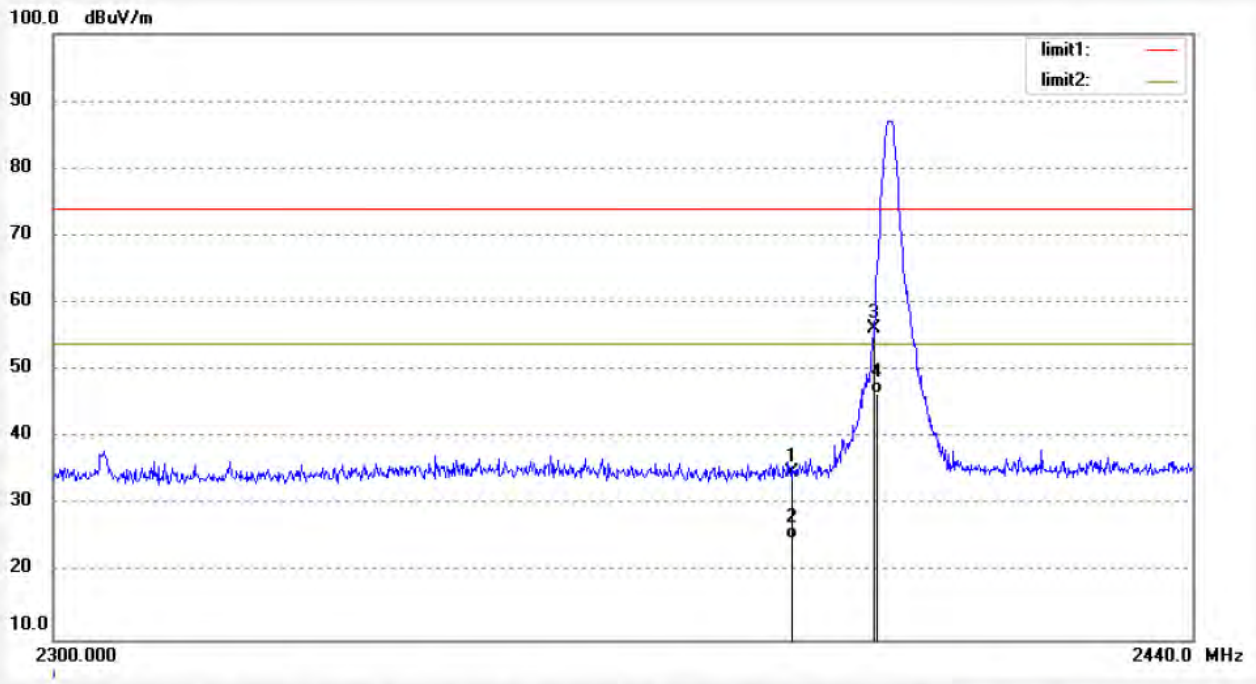
Job No.: DING11 #1856
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2402MHz(8DPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/19/56
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	40.69	-5.89	34.80	74.00	-39.20	peak			
2	2390.000	30.95	-5.89	25.06	54.00	-28.94	AVG	300	216	
3	2400.000	62.06	-5.80	56.26	74.00	-17.74	peak			
4	2400.000	52.34	-5.80	46.54	54.00	-7.46	AVG	300	98	

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

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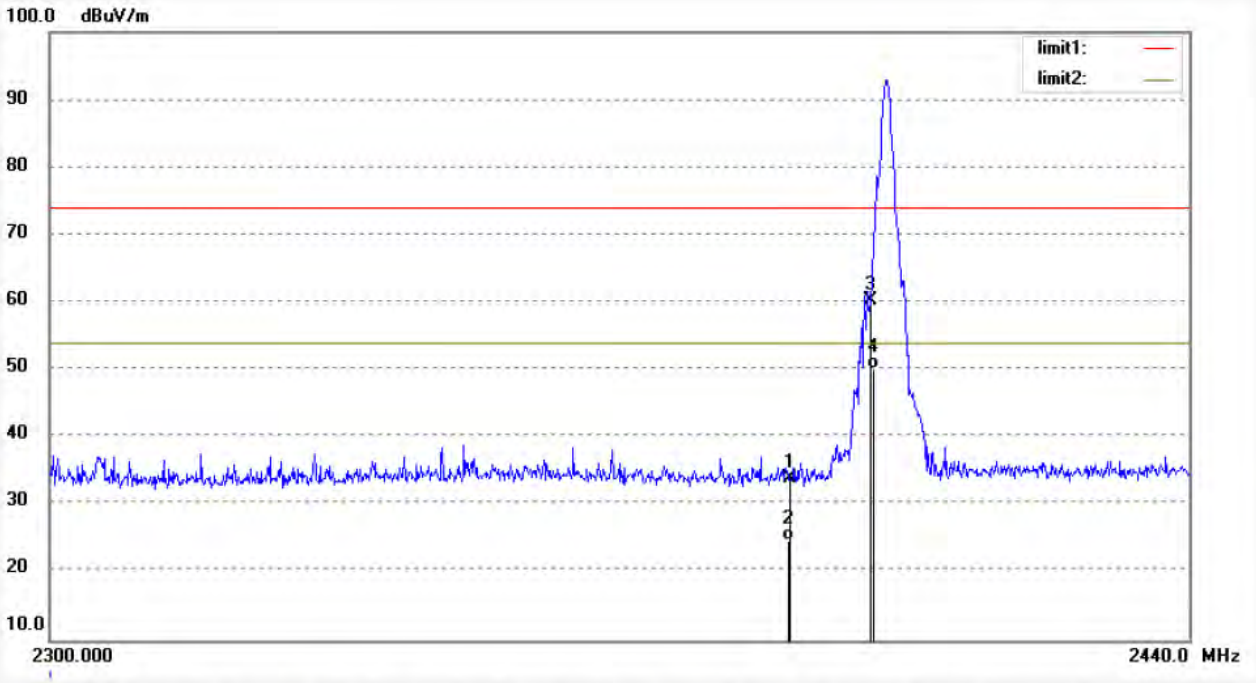
Job No.: DING11 #1855
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2402MHz(8DPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/17/10
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	39.95	-5.89	34.06	74.00	-39.94	peak			
2	2390.000	30.64	-5.89	24.75	54.00	-29.25	AVG	300	247	
3	2400.000	66.04	-5.80	60.24	74.00	-13.76	peak			
4	2400.000	56.02	-5.80	50.22	54.00	-3.78	AVG	300	159	

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

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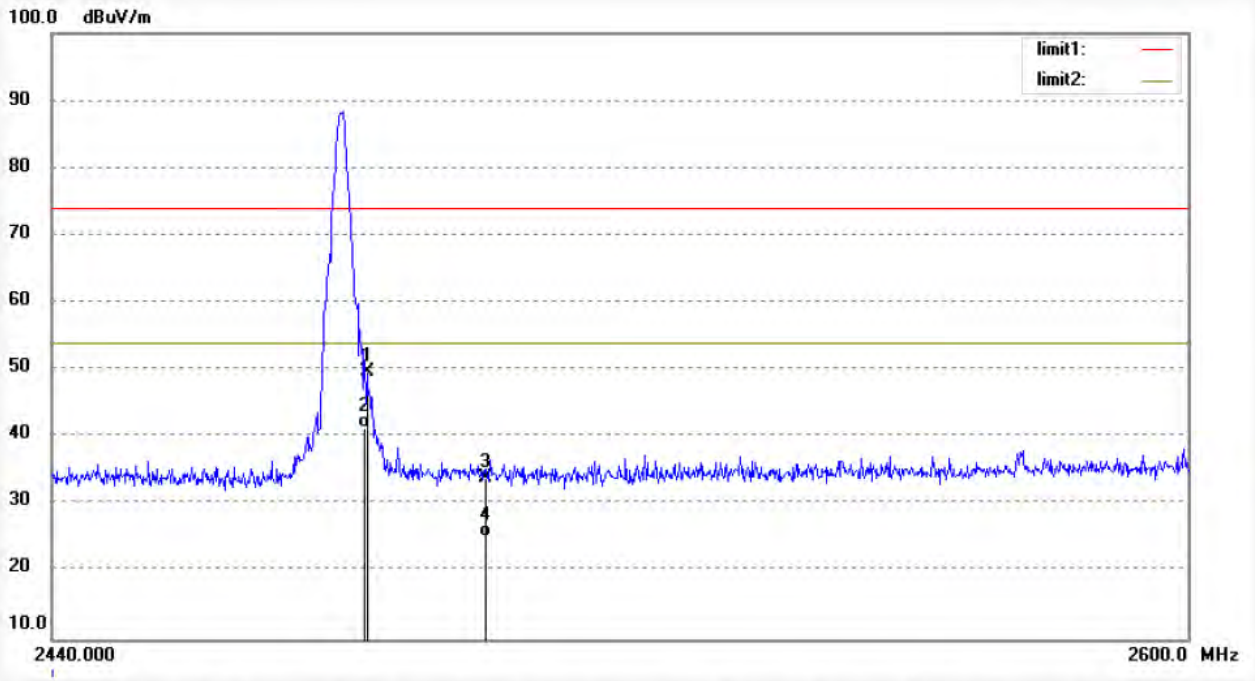
Job No.: DING11 #1853
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(8DPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/12/12
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	55.29	-5.51	49.78	74.00	-24.22	peak			
2	2483.500	46.83	-5.51	41.32	54.00	-12.68	AVG	300	258	
3	2500.000	39.41	-5.50	33.91	74.00	-40.09	peak			
4	2500.000	30.67	-5.50	25.17	54.00	-28.83	AVG	300	143	

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

ACCURATE TECHNOLOGY CO., LTD.
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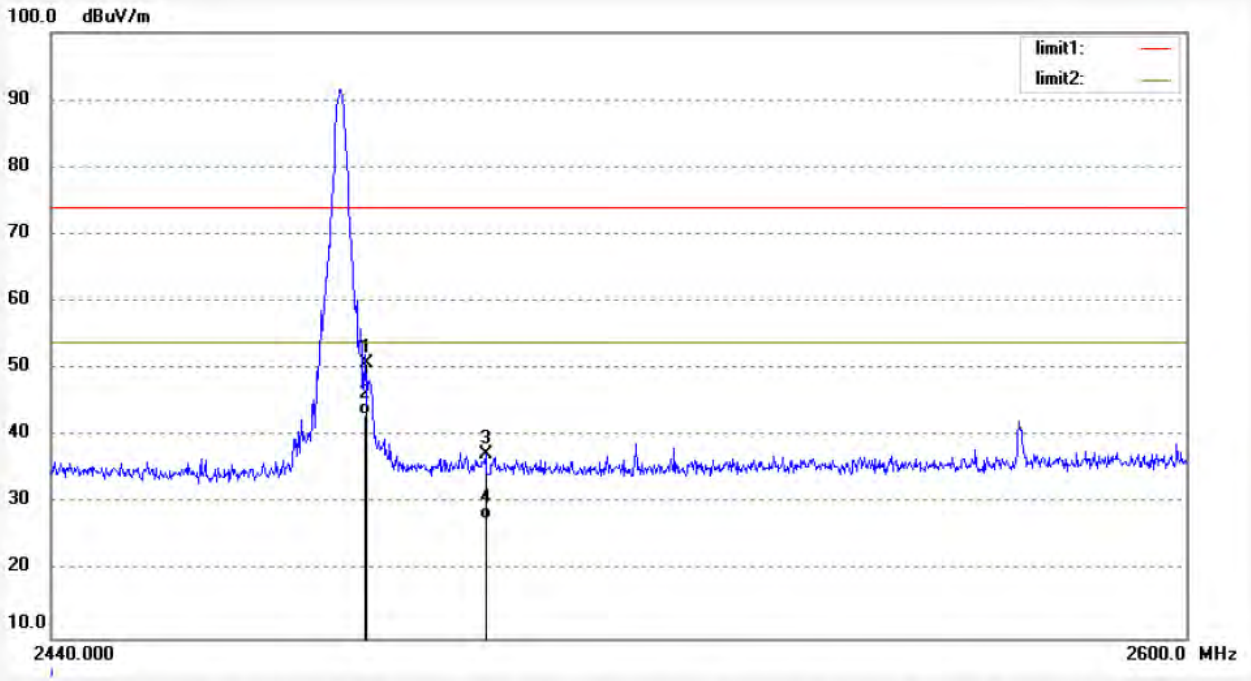
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: DING11 #1854
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: TX 2480MHz(8DPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/14/21
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	56.31	-5.51	50.80	74.00	-23.20	peak			
2	2483.500	48.72	-5.51	43.21	54.00	-10.79	AVG	300	246	
3	2500.000	42.85	-5.50	37.35	74.00	-36.65	peak			
4	2500.000	33.16	-5.50	27.66	54.00	-26.34	AVG	300	155	

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

Hopping mode

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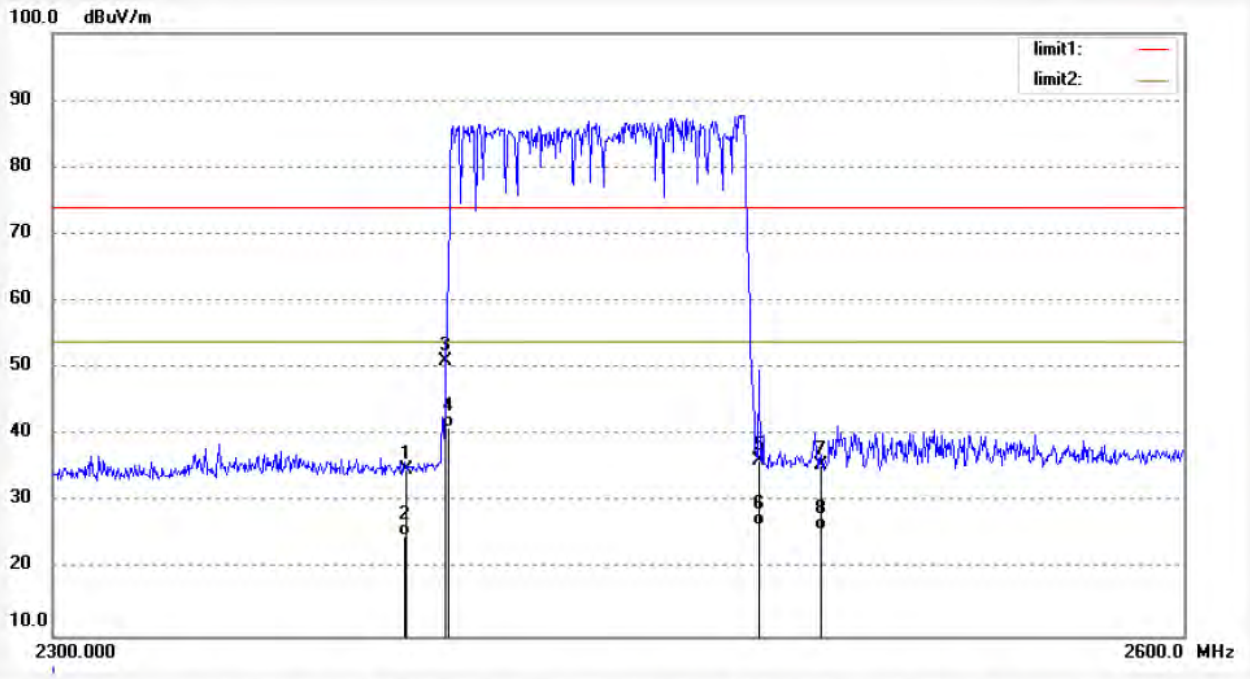
Job No.: DING11 #1865
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: HOPPING(GFSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/48/30
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	40.83	-5.89	34.94	74.00	-39.06	peak			
2	2390.000	30.85	-5.89	24.96	54.00	-29.04	AVG	300	142	
3	2400.000	56.88	-5.80	51.08	74.00	-22.92	peak			
4	2400.000	46.91	-5.80	41.11	54.00	-12.89	AVG	300	276	
5	2483.500	41.74	-5.51	36.23	74.00	-37.77	peak			
6	2483.500	32.03	-5.51	26.52	54.00	-27.48	AVG	300	137	
7	2500.000	40.99	-5.50	35.49	74.00	-38.51	peak			
8	2500.000	31.42	-5.50	25.92	54.00	-28.08	AVG	300	172	

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

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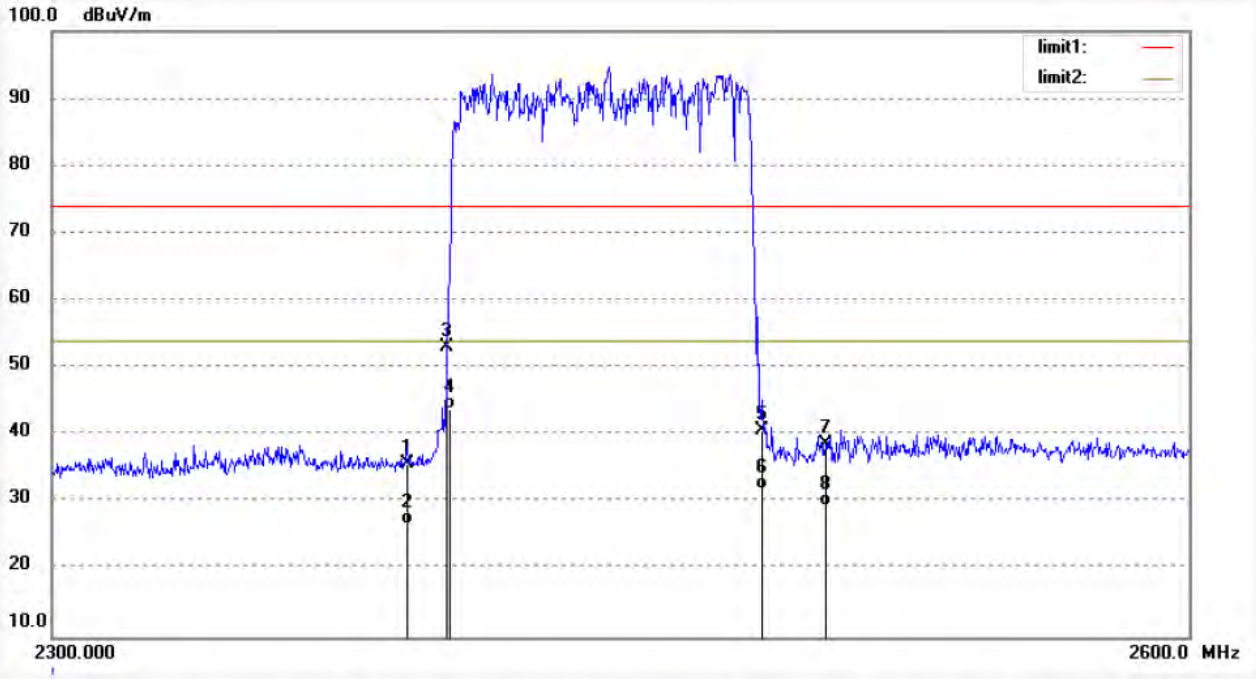
Fax:+86-0755-26503396

Job No.: DING11 #1866
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: HOPPING(GFSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/51/54
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	41.58	-5.89	35.69	74.00	-38.31	peak			
2	2390.000	32.75	-5.89	26.86	54.00	-27.14	AVG	300	193	
3	2400.000	58.85	-5.80	53.05	74.00	-20.95	peak			
4	2400.000	49.61	-5.80	43.81	54.00	-10.19	AVG	300	276	
5	2483.500	46.24	-5.51	40.73	74.00	-33.27	peak			
6	2483.500	37.43	-5.51	31.92	54.00	-22.08	AVG	300	154	
7	2500.000	44.27	-5.50	38.77	74.00	-35.23	peak			
8	2500.000	34.86	-5.50	29.36	54.00	-24.64	AVG	300	86	

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

ACCURATE TECHNOLOGY CO., LTD.
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Site: 1# Chamber
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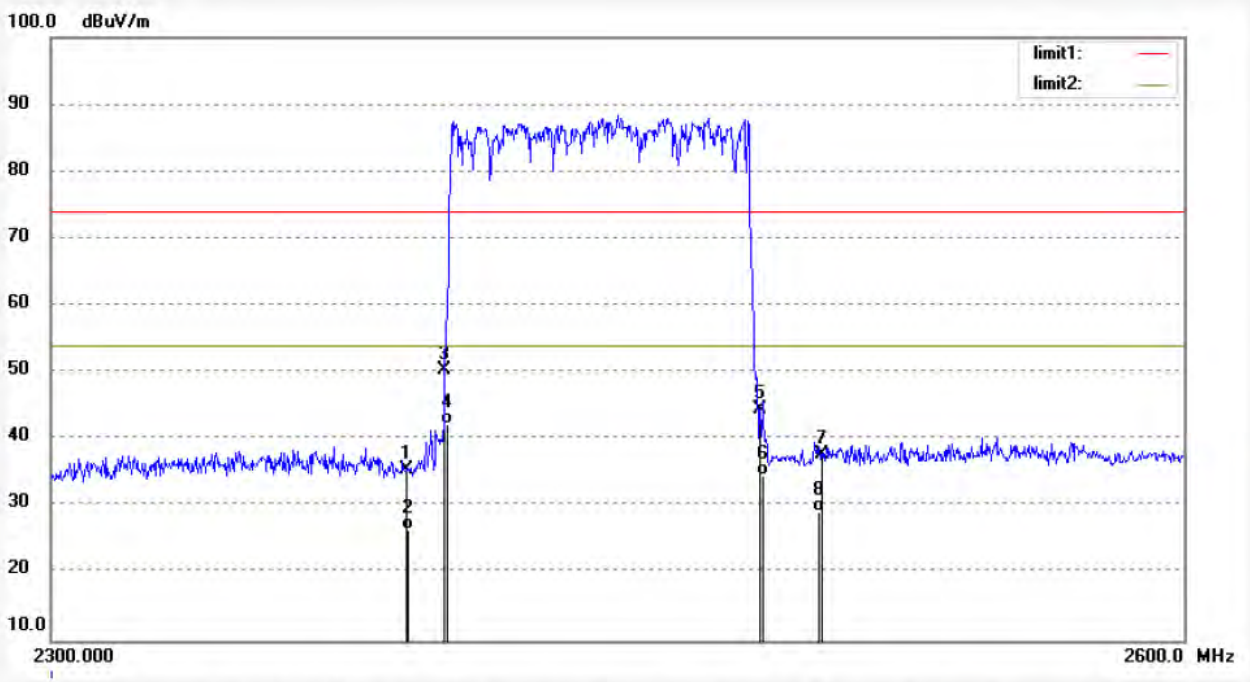
Fax:+86-0755-26503396

Job No.: DING11 #1868
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: HOPPING(∏/4-DQPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 14/06/08
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	41.49	-5.89	35.60	74.00	-38.40	peak			
2	2390.000	32.46	-5.89	26.57	54.00	-27.43	AVG	300	132	
3	2400.000	56.27	-5.80	50.47	74.00	-23.53	peak			
4	2400.000	48.17	-5.80	42.37	54.00	-11.63	AVG	300	233	
5	2483.500	49.96	-5.51	44.45	74.00	-29.55	peak			
6	2483.500	40.22	-5.51	34.71	54.00	-19.29	AVG	300	170	
7	2500.000	43.30	-5.50	37.80	74.00	-36.20	peak			
8	2500.000	34.64	-5.50	29.14	54.00	-24.86	AVG	300	326	

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

ACCURATE TECHNOLOGY CO., LTD.
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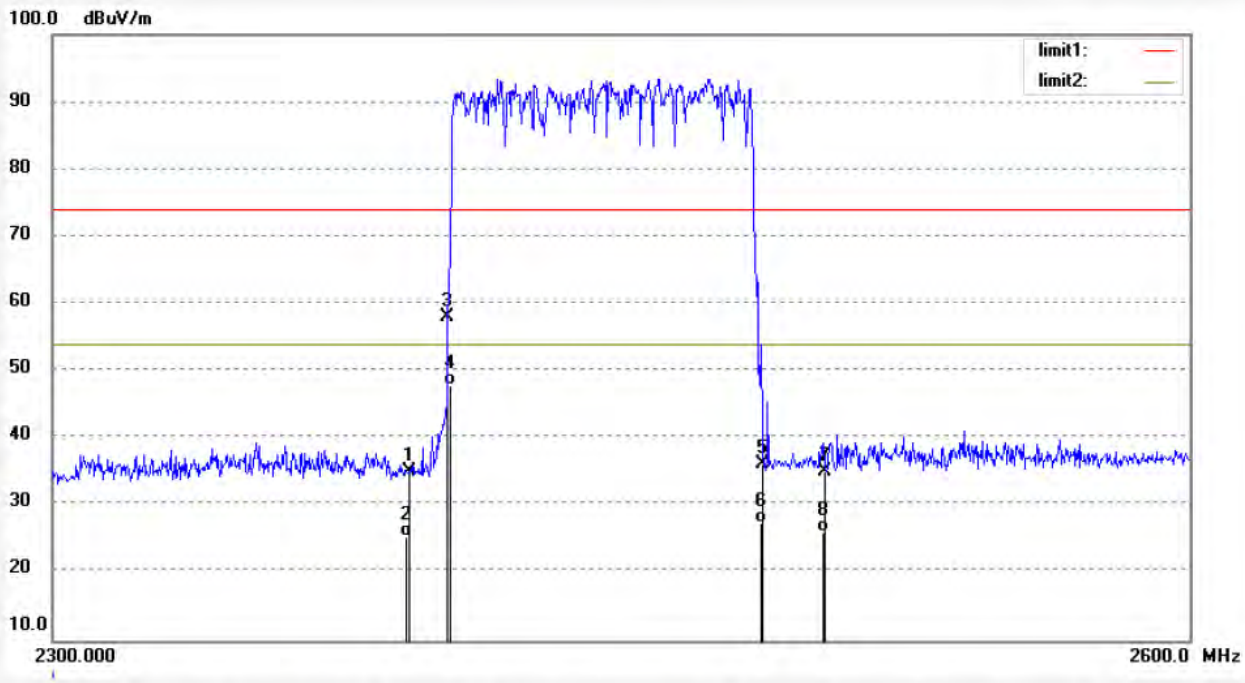
Fax:+86-0755-26503396

Job No.: DING11 #1867
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: HOPPING(∏/4-DQPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 13/56/24
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	40.92	-5.89	35.03	74.00	-38.97	peak			
2	2390.000	31.25	-5.89	25.36	54.00	-28.64	AVG	300	102	
3	2400.000	63.94	-5.80	58.14	74.00	-15.86	peak			
4	2400.000	53.76	-5.80	47.96	54.00	-6.04	AVG	300	151	
5	2483.500	41.73	-5.51	36.22	74.00	-37.78	peak			
6	2483.500	32.87	-5.51	27.36	54.00	-26.64	AVG	300	245	
7	2500.000	40.67	-5.50	35.17	74.00	-38.83	peak			
8	2500.000	31.56	-5.50	26.06	54.00	-27.94	AVG	300	307	

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

ACCURATE TECHNOLOGY CO., LTD.
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Site: 1# Chamber
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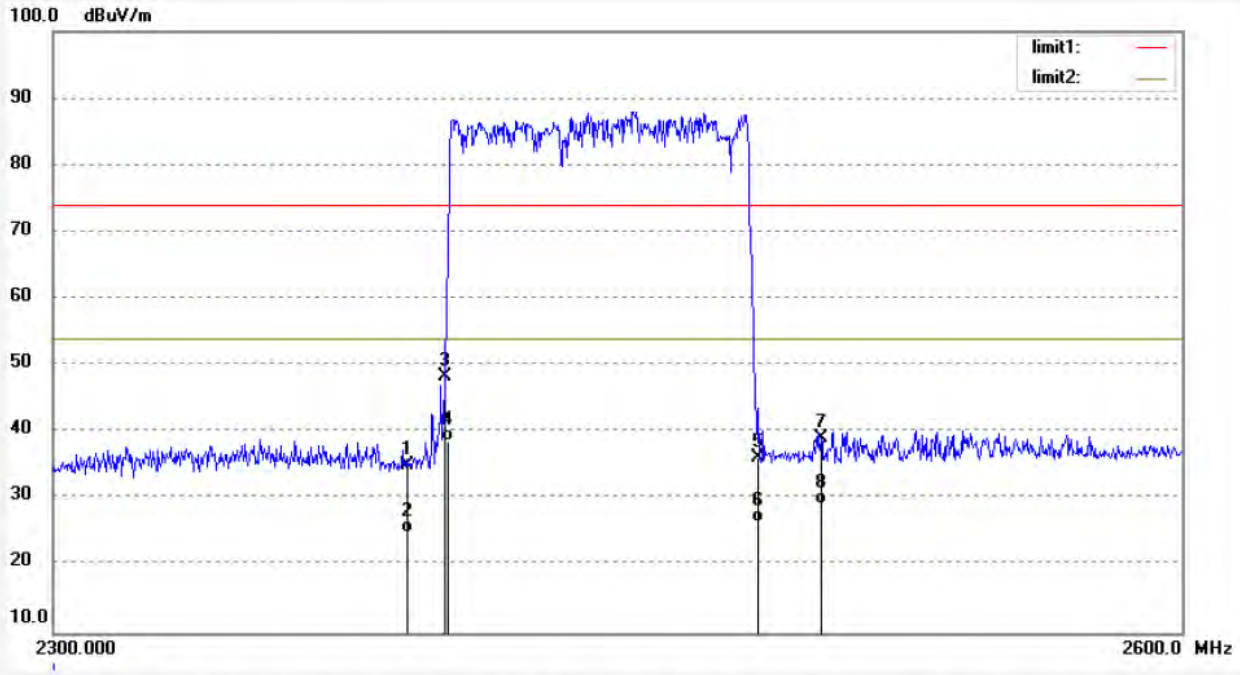
Fax:+86-0755-26503396

Job No.: DING11 #1869
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: HOPPING(8DPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Horizontal
Power Source: DC 3.7V
Date: 17/07/20/
Time: 14/13/06
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389



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	40.95	-5.89	35.06	74.00	-38.94	peak			
2	2390.000	30.84	-5.89	24.95	54.00	-29.05	AVG	300	194	
3	2400.000	54.09	-5.80	48.29	74.00	-25.71	peak			
4	2400.000	44.56	-5.80	38.76	54.00	-15.24	AVG	300	274	
5	2483.500	41.82	-5.51	36.31	74.00	-37.69	peak			
6	2483.500	32.01	-5.51	26.50	54.00	-27.50	AVG	300	357	
7	2500.000	44.71	-5.50	39.21	74.00	-34.79	peak			
8	2500.000	34.83	-5.50	29.33	54.00	-24.67	AVG	300	109	

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

ACCURATE TECHNOLOGY CO., LTD.
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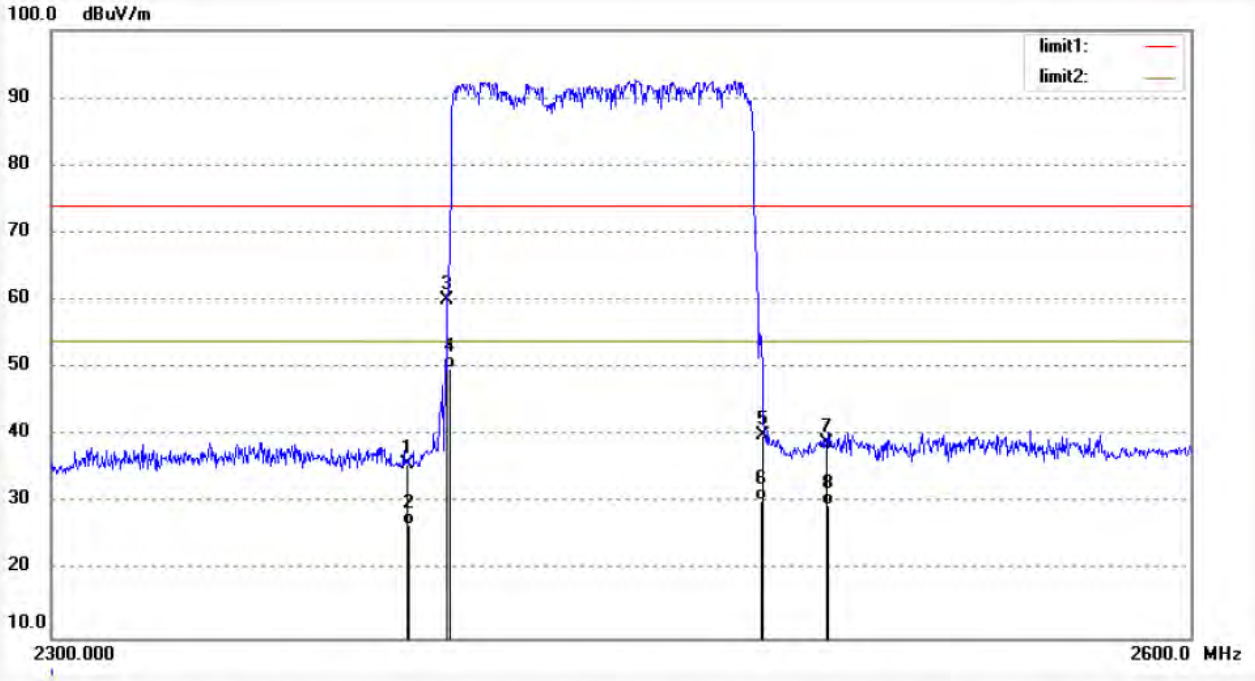
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: DING11 #1870
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: BLUETOOTH SPEAKER
Mode: HOPPING(8DPSK)
Model: CB-M001
Manufacturer: CLEVER BRIGHT

Polarization: Vertical
Power Source: DC 3.7V
Date: 17/07/20/
Time: 14/22/17
Engineer Signature: DING
Distance: 3m

Note: Report NO.:ATE20171389

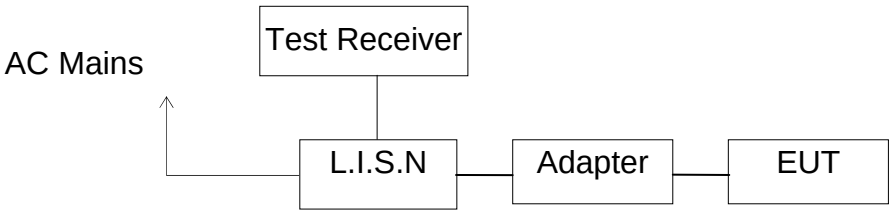


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	41.75	-5.89	35.86	74.00	-38.14	peak			
2	2390.000	32.74	-5.89	26.85	54.00	-27.15	AVG	300	152	
3	2400.000	65.77	-5.80	59.97	74.00	-14.03	peak			
4	2400.000	55.69	-5.80	49.89	54.00	-4.11	AVG	300	208	
5	2483.500	45.45	-5.51	39.94	74.00	-34.06	peak			
6	2483.500	35.98	-5.51	30.47	54.00	-23.53	AVG	300	193	
7	2500.000	44.33	-5.50	38.83	74.00	-35.17	peak			
8	2500.000	35.27	-5.50	29.77	54.00	-24.23	AVG	300	241	

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

12. AC POWER LINE CONDUCTED EMISSION FOR FCC PART 15 SECTION 15.207(A)

12.1. Block Diagram of Test Setup



(EUT: BLUETOOTH SPEAKER)

12.2. Power Line Conducted Emission Measurement Limits

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

12.3. Configuration of EUT on Measurement

The 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.

12.4. Operating Condition of EUT

12.4.1. Setup the EUT and simulator as shown as Section 12.1.

12.4.2. Turn on the power of all equipment.

12.4.3. Let the EUT work in test mode and measure it.

12.5.Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Measurement.
The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

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

12.6.Power Line Conducted Emission Measurement Results

PASS.

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

Test mode : BT communicating(AC 120V/60Hz)

MEASUREMENT RESULT: "CB-0711-03_fin"

2017-7-11 9:33

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.152000	38.40	10.8	66	27.5	QP	L1	GND
0.386000	25.70	11.0	58	32.4	QP	L1	GND
1.898000	24.00	11.3	56	32.0	QP	L1	GND
2.655000	22.70	11.3	56	33.3	QP	L1	GND
5.705000	22.00	11.5	60	38.0	QP	L1	GND
12.570000	17.40	11.6	60	42.6	QP	L1	GND

MEASUREMENT RESULT: "CB-0711-03_fin2"

2017-7-11 9:33

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.170000	21.10	10.8	55	33.9	AV	L1	GND
0.386000	25.60	11.0	48	22.5	AV	L1	GND
1.156000	17.90	11.2	46	28.1	AV	L1	GND
3.420000	16.50	11.4	46	29.5	AV	L1	GND
5.340000	12.70	11.5	50	37.3	AV	L1	GND
13.355000	13.60	11.6	50	36.4	AV	L1	GND

MEASUREMENT RESULT: "CB-0711-04_fin"

2017-7-11 9:36

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.176000	36.60	10.8	65	28.1	QP	N	GND
0.382000	36.20	10.9	58	22.0	QP	N	GND
1.912000	23.10	11.3	56	32.9	QP	N	GND
2.305000	19.10	11.3	56	36.9	QP	N	GND
5.735000	23.30	11.5	60	36.7	QP	N	GND
13.045000	12.10	11.6	60	47.9	QP	N	GND

MEASUREMENT RESULT: "CB-0711-04_fin2"

2017-7-11 9:36

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	22.50	10.8	56	33.5	AV	N	GND
0.382000	29.20	10.9	48	19.0	AV	N	GND
1.150000	16.40	11.2	46	29.6	AV	N	GND
3.445000	12.90	11.4	46	33.1	AV	N	GND
5.735000	13.20	11.5	50	36.8	AV	N	GND
12.630000	15.30	11.6	50	34.7	AV	N	GND

Test mode : BT communicating(AC 240V/60Hz)

MEASUREMENT RESULT: "CB-0711-01_fin"

2017-7-11 9:25

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.176000	39.10	10.8	65	25.6	QP	N	GND
0.386000	36.50	11.0	58	21.6	QP	N	GND
1.930000	25.40	11.3	56	30.6	QP	N	GND
4.665000	19.30	11.4	56	36.7	QP	N	GND
7.360000	17.00	11.5	60	43.0	QP	N	GND
12.770000	11.90	11.6	60	48.1	QP	N	GND

MEASUREMENT RESULT: "CB-0711-01_fin2"

2017-7-11 9:25

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.304000	17.80	10.9	50	32.3	AV	N	GND
0.386000	30.40	11.0	48	17.7	AV	N	GND
1.160000	18.60	11.2	46	27.4	AV	N	GND
2.715000	16.40	11.3	46	29.6	AV	N	GND
5.655000	20.70	11.5	50	29.3	AV	N	GND
12.775000	14.40	11.6	50	35.6	AV	N	GND

MEASUREMENT RESULT: "CB-0711-02_fin"

2017-7-11 9:29

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.158000	35.40	10.8	66	30.2	QP	L1	GND
0.396000	24.30	11.0	58	33.6	QP	L1	GND
1.158000	21.50	11.2	56	34.5	QP	L1	GND
2.710000	17.00	11.3	56	39.0	QP	L1	GND
9.660000	13.90	11.6	60	46.1	QP	L1	GND
17.805000	10.00	11.7	60	50.0	QP	L1	GND

MEASUREMENT RESULT: "CB-0711-02_fin2"

2017-7-11 9:29

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.288000	16.80	10.9	51	33.8	AV	L1	GND
0.388000	17.40	11.0	48	30.7	AV	L1	GND
1.162000	13.50	11.2	46	32.5	AV	L1	GND
2.710000	11.00	11.3	46	35.0	AV	L1	GND
5.420000	17.60	11.5	50	32.4	AV	L1	GND
22.075000	14.90	11.7	50	35.1	AV	L1	GND

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

The spectral diagrams are attached as below.

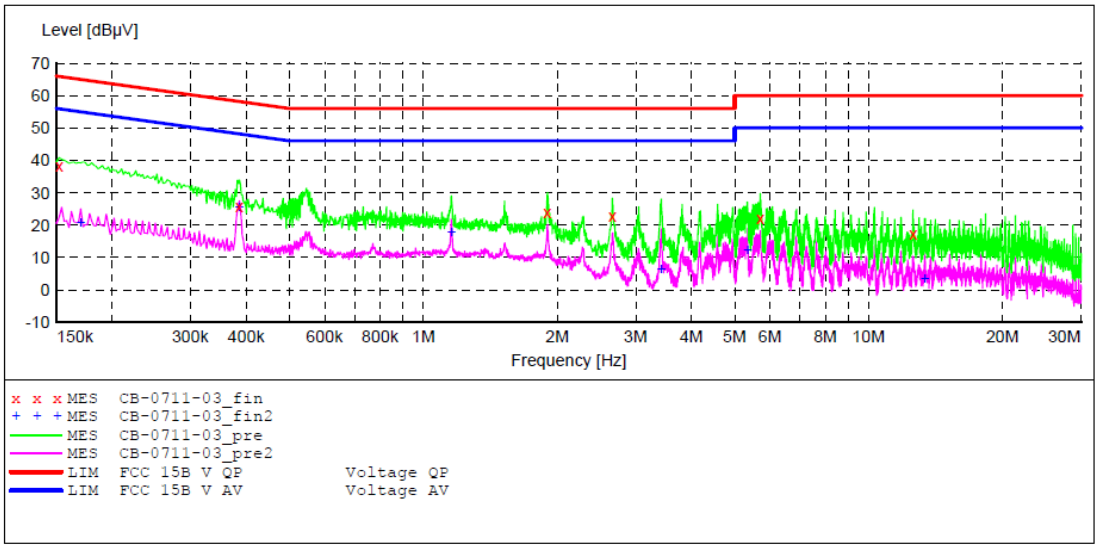
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  BLUETOOTH SPEAKER M/N:CB-M001
Manufacturer:         CLEVER BRIGHT
Operating Condition:  BT communicating
Test Site:            1#Shielding Room
Operator:             DING
Test Specification:   L   120V/60Hz
Comment:              Report NO.:ATE20171389
Start of Test:        2017-7-11 / 9:31:59
```

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: "CB-0711-03_fin"

2017-7-11 9:33

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.152000	38.40	10.8	66	27.5	QP	L1	GND
0.386000	25.70	11.0	58	32.4	QP	L1	GND
1.898000	24.00	11.3	56	32.0	QP	L1	GND
2.655000	22.70	11.3	56	33.3	QP	L1	GND
5.705000	22.00	11.5	60	38.0	QP	L1	GND
12.570000	17.40	11.6	60	42.6	QP	L1	GND

MEASUREMENT RESULT: "CB-0711-03_fin2"

2017-7-11 9:33

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.170000	21.10	10.8	55	33.9	AV	L1	GND
0.386000	25.60	11.0	48	22.5	AV	L1	GND
1.156000	17.90	11.2	46	28.1	AV	L1	GND
3.420000	16.50	11.4	46	29.5	AV	L1	GND
5.340000	12.70	11.5	50	37.3	AV	L1	GND
13.355000	13.60	11.6	50	36.4	AV	L1	GND

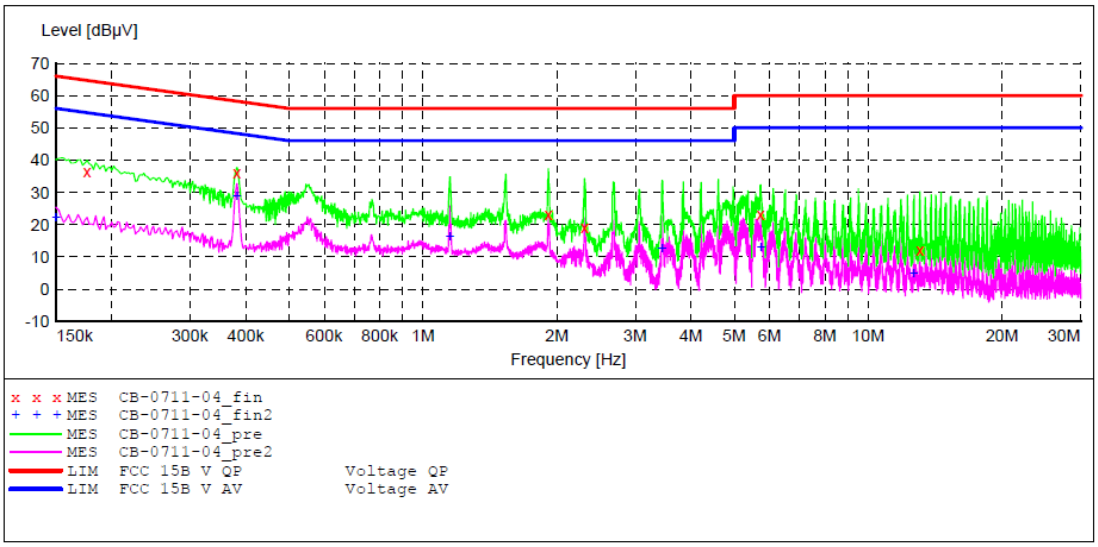
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  BLUETOOTH SPEAKER M/N:CB-M001
Manufacturer:         CLEVER BRIGHT
Operating Condition:  BT communicating
Test Site:            1#Shielding Room
Operator:             DING
Test Specification:   N   120V/60Hz
Comment:              Report NO.:ATE20171389
Start of Test:        2017-7-11 / 9:35:05
```

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: "CB-0711-04_fin"

2017-7-11 9:36

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.176000	36.60	10.8	65	28.1	QP	N	GND
0.382000	36.20	10.9	58	22.0	QP	N	GND
1.912000	23.10	11.3	56	32.9	QP	N	GND
2.305000	19.10	11.3	56	36.9	QP	N	GND
5.735000	23.30	11.5	60	36.7	QP	N	GND
13.045000	12.10	11.6	60	47.9	QP	N	GND

MEASUREMENT RESULT: "CB-0711-04_fin2"

2017-7-11 9:36

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	22.50	10.8	56	33.5	AV	N	GND
0.382000	29.20	10.9	48	19.0	AV	N	GND
1.150000	16.40	11.2	46	29.6	AV	N	GND
3.445000	12.90	11.4	46	33.1	AV	N	GND
5.735000	13.20	11.5	50	36.8	AV	N	GND
12.630000	15.30	11.6	50	34.7	AV	N	GND

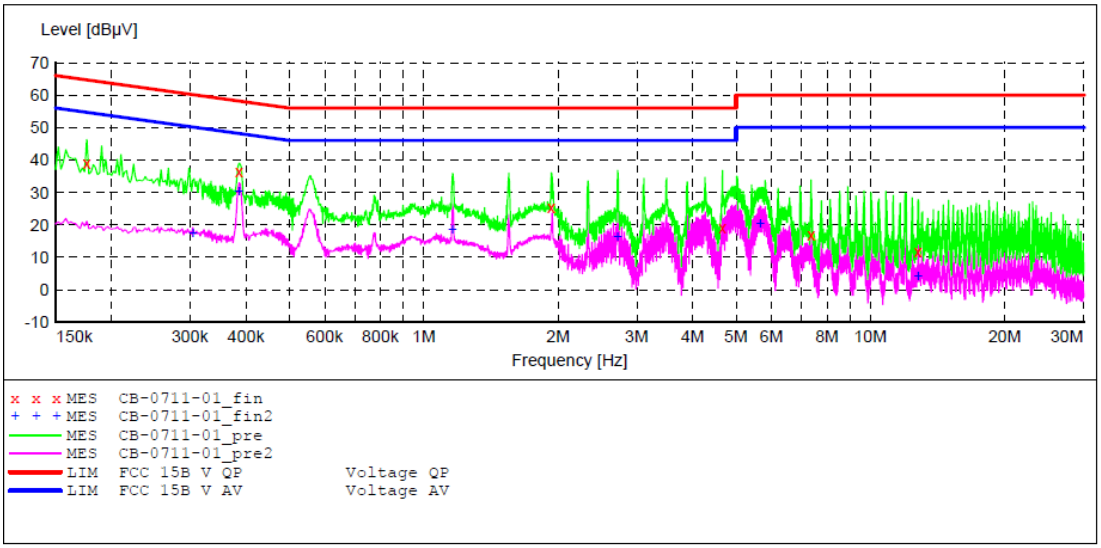
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  BLUETOOTH SPEAKER M/N:CB-M001
Manufacturer:         CLEVER BRIGHT
Operating Condition:  BT communicating
Test Site:            1#Shielding Room
Operator:             DING
Test Specification:   N  240V/60Hz
Comment:              Report NO.:ATE20171389
Start of Test:        2017-7-11 / 9:24:07
```

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: "CB-0711-01_fin"

2017-7-11 9:25

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.176000	39.10	10.8	65	25.6	QP	N	GND
0.386000	36.50	11.0	58	21.6	QP	N	GND
1.930000	25.40	11.3	56	30.6	QP	N	GND
4.665000	19.30	11.4	56	36.7	QP	N	GND
7.360000	17.00	11.5	60	43.0	QP	N	GND
12.770000	11.90	11.6	60	48.1	QP	N	GND

MEASUREMENT RESULT: "CB-0711-01_fin2"

2017-7-11 9:25

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.304000	17.80	10.9	50	32.3	AV	N	GND
0.386000	30.40	11.0	48	17.7	AV	N	GND
1.160000	18.60	11.2	46	27.4	AV	N	GND
2.715000	16.40	11.3	46	29.6	AV	N	GND
5.655000	20.70	11.5	50	29.3	AV	N	GND
12.775000	14.40	11.6	50	35.6	AV	N	GND

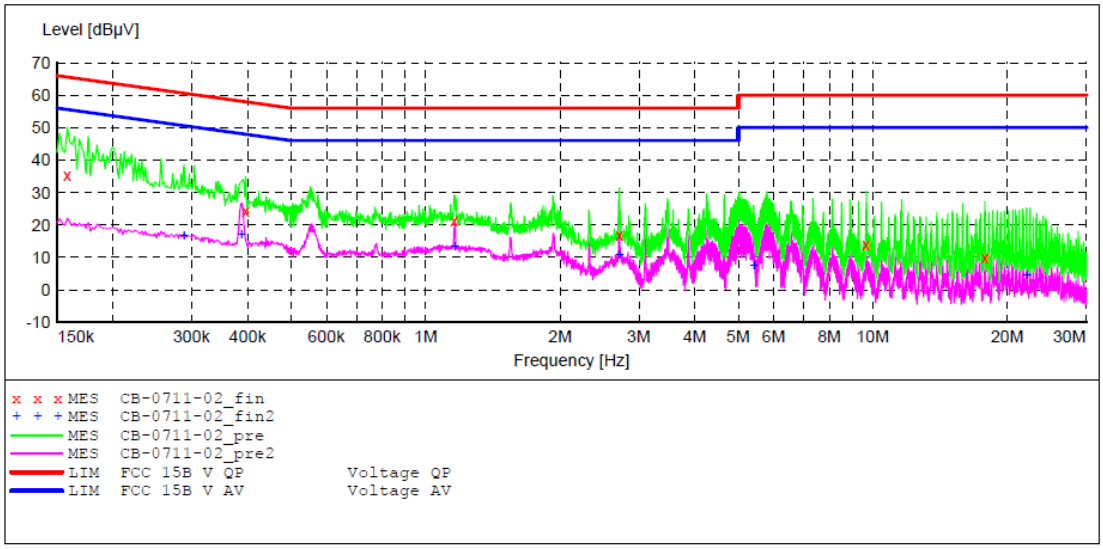
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  BLUETOOTH SPEAKER M/N:CB-M001
Manufacturer:         CLEVER BRIGHT
Operating Condition:  BT communicating
Test Site:            1#Shielding Room
Operator:             DING
Test Specification:   L   240V/60Hz
Comment:              Report NO.:ATE20171389
Start of Test:        2017-7-11 / 9:28:07
```

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: "CB-0711-02_fin"

2017-7-11 9:29

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.158000	35.40	10.8	66	30.2	QP	L1	GND
0.396000	24.30	11.0	58	33.6	QP	L1	GND
1.158000	21.50	11.2	56	34.5	QP	L1	GND
2.710000	17.00	11.3	56	39.0	QP	L1	GND
9.660000	13.90	11.6	60	46.1	QP	L1	GND
17.805000	10.00	11.7	60	50.0	QP	L1	GND

MEASUREMENT RESULT: "CB-0711-02_fin2"

2017-7-11 9:29

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.288000	16.80	10.9	51	33.8	AV	L1	GND
0.388000	17.40	11.0	48	30.7	AV	L1	GND
1.162000	13.50	11.2	46	32.5	AV	L1	GND
2.710000	11.00	11.3	46	35.0	AV	L1	GND
5.420000	17.60	11.5	50	32.4	AV	L1	GND
22.075000	14.90	11.7	50	35.1	AV	L1	GND

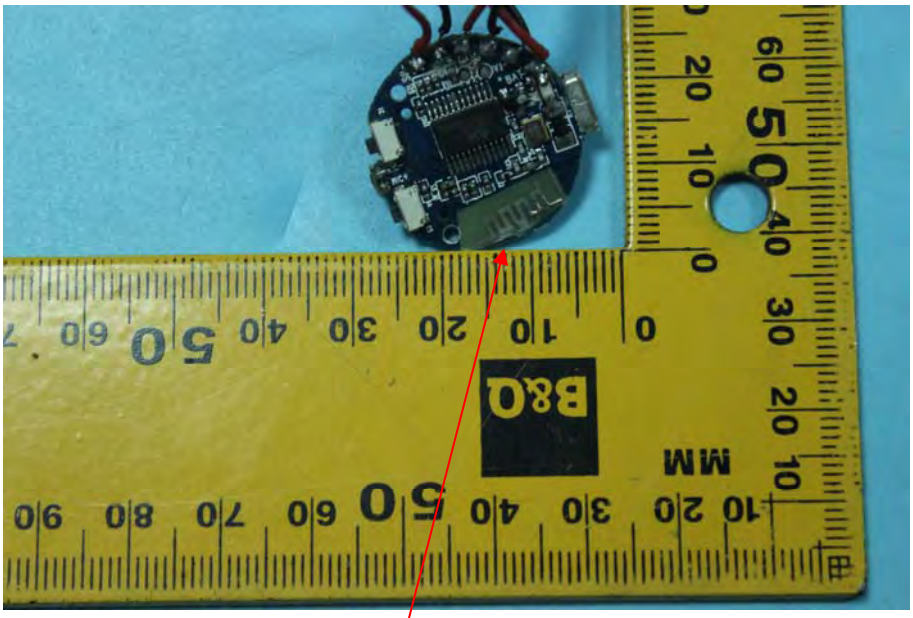
13. ANTENNA REQUIREMENT

13.1. 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.

13.2. Antenna Construction

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

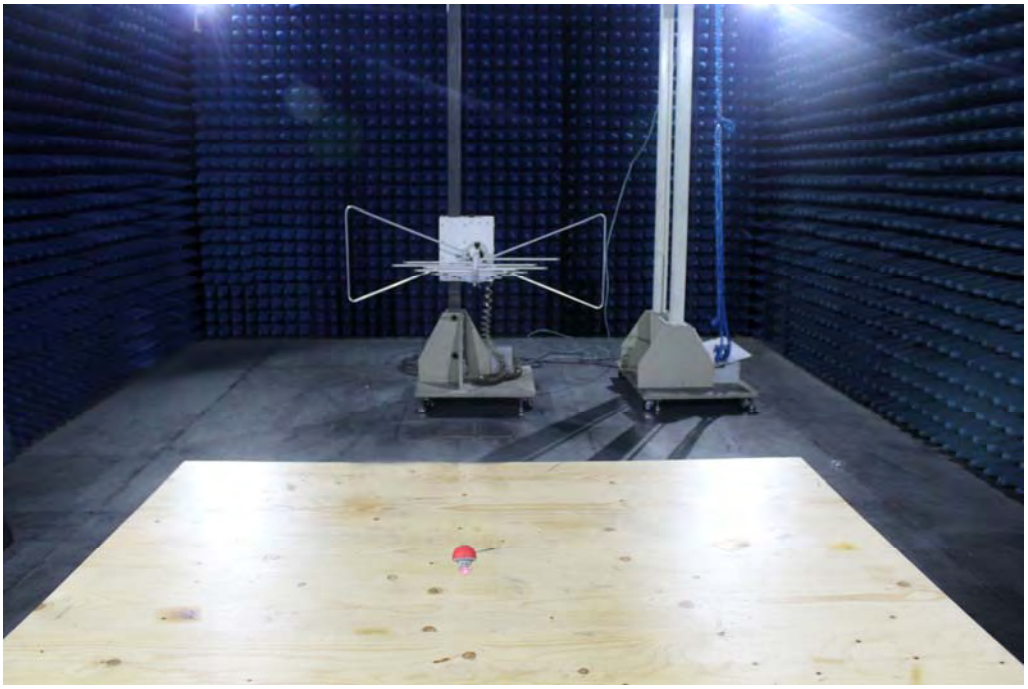


Antenna

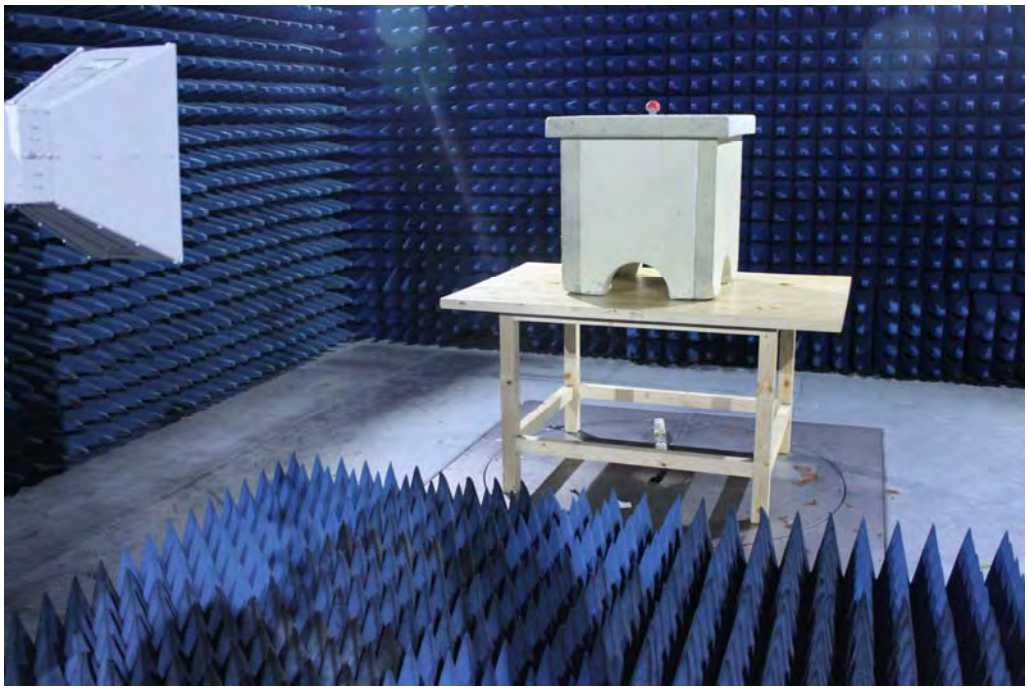
14. TEST PHOTOGRAPHS

14.1.Photograph of set-up for Mains Terminal Disturbance Voltage

14.2.Photograph of set-up for Radiation Measurement Below 1GHz

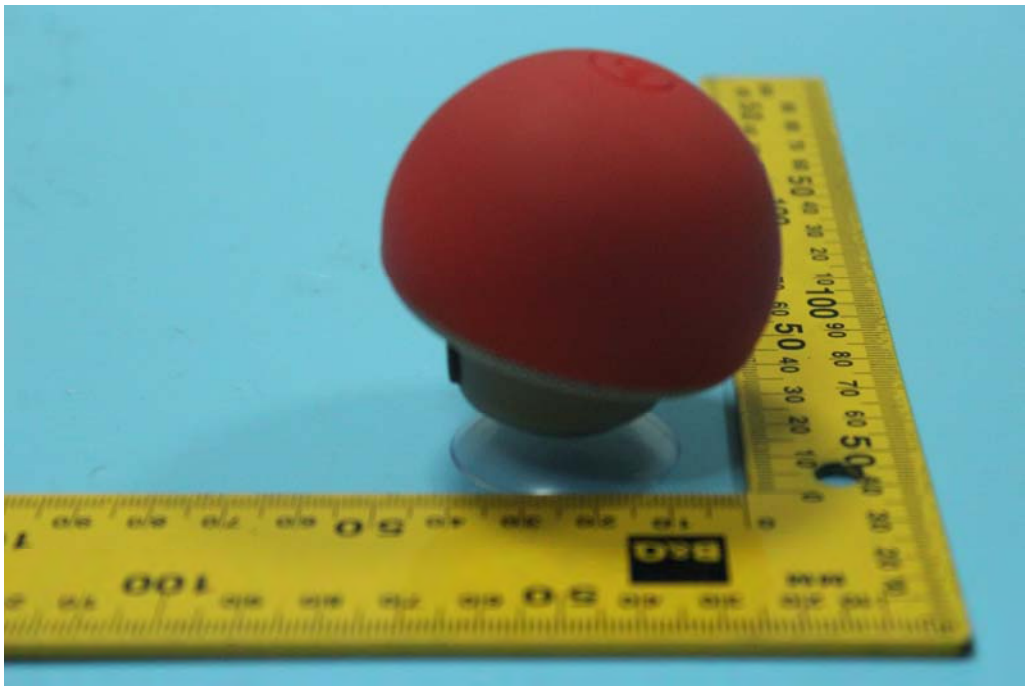


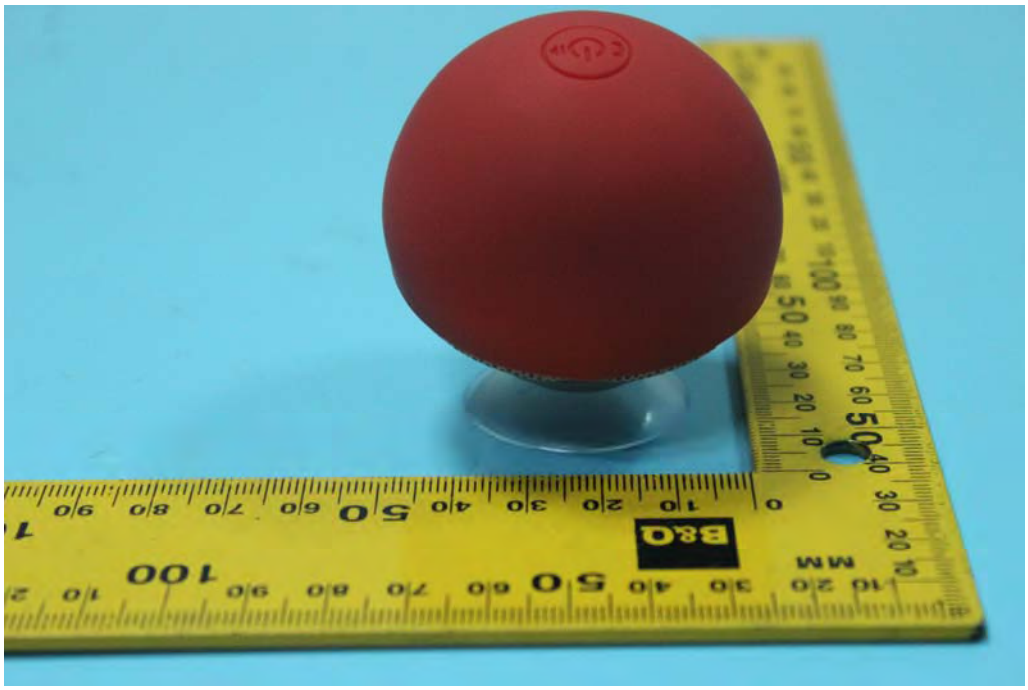
14.3.Photograph of set-up for Radiation Measurement above 1GHz

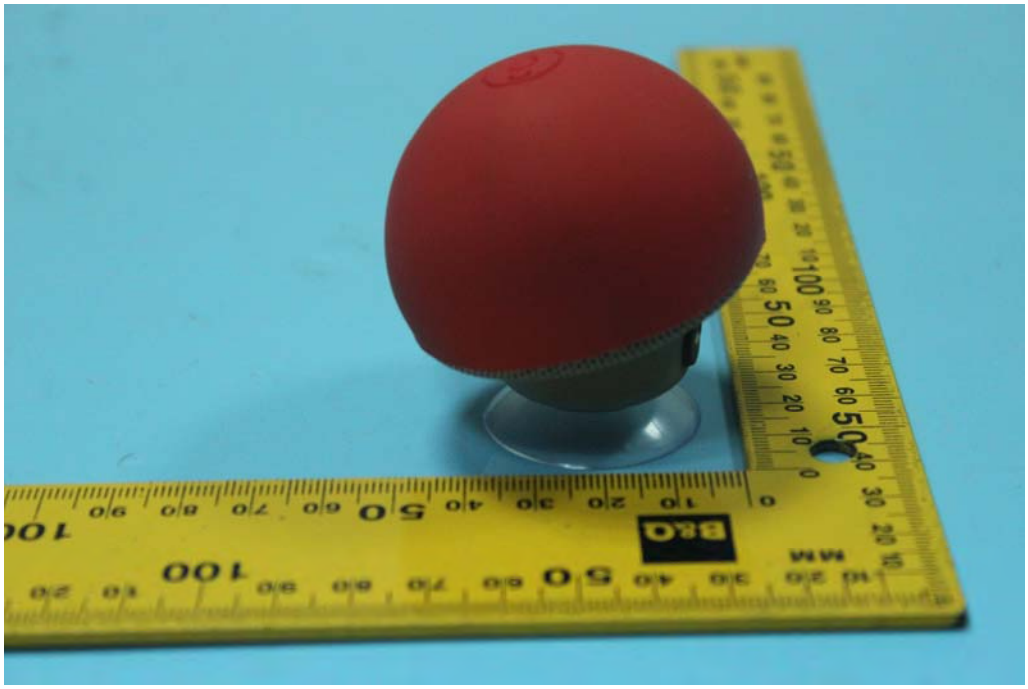


15.EUT PHOTOGRAPHS

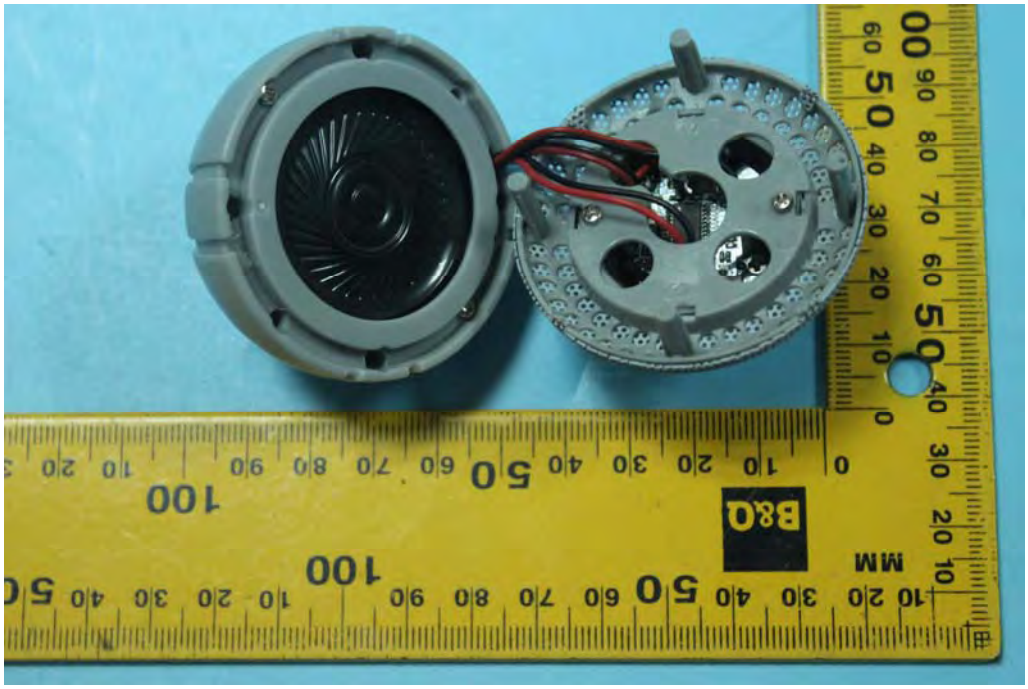
15.1.External Photos

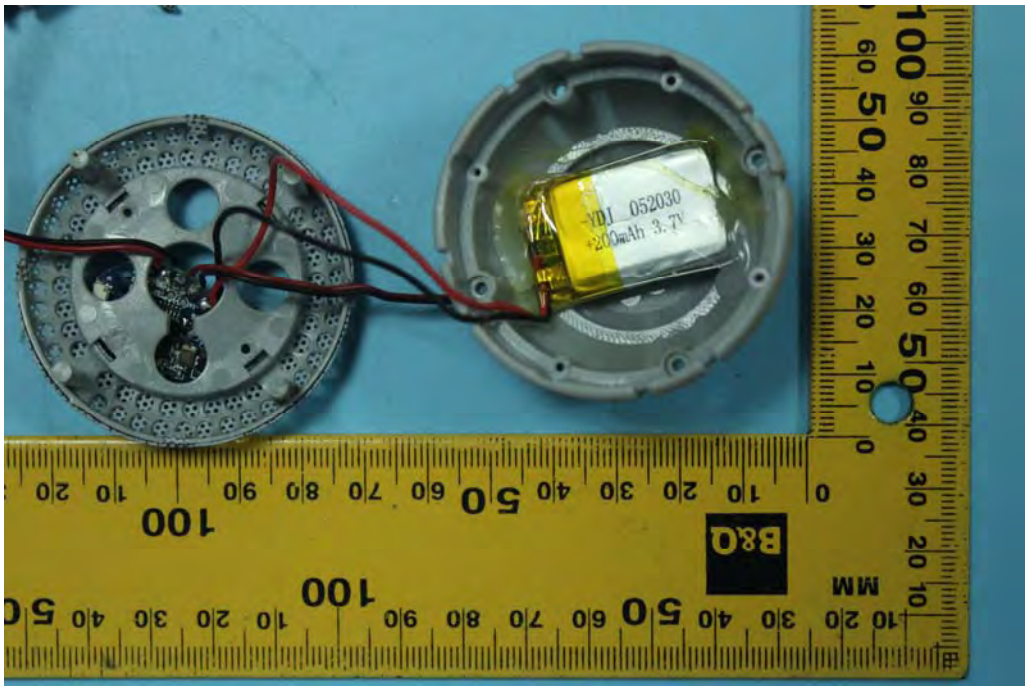


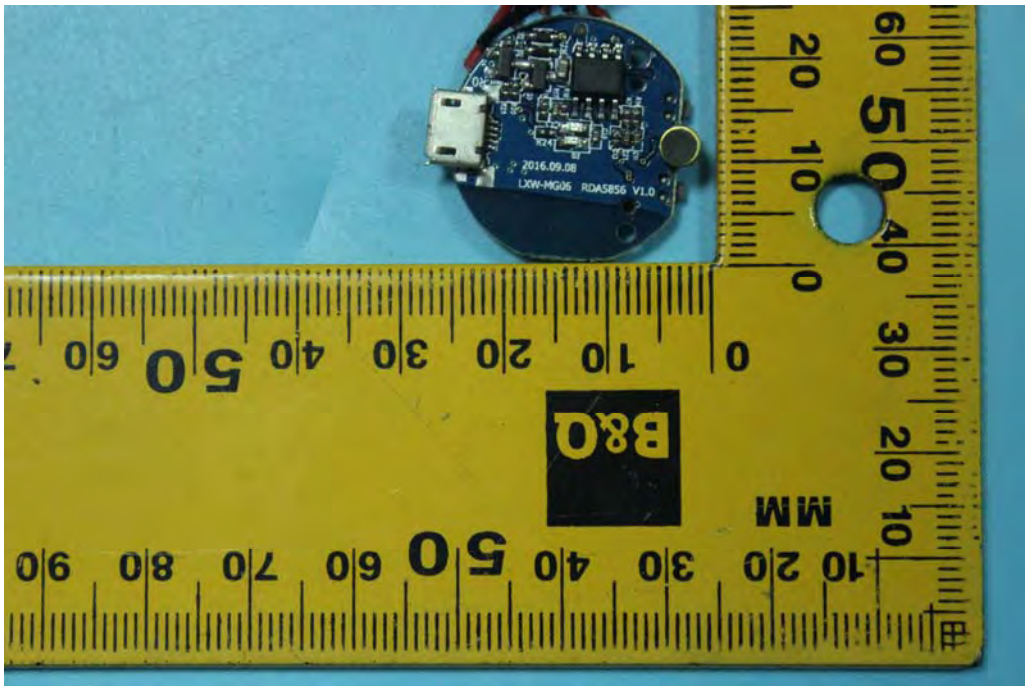


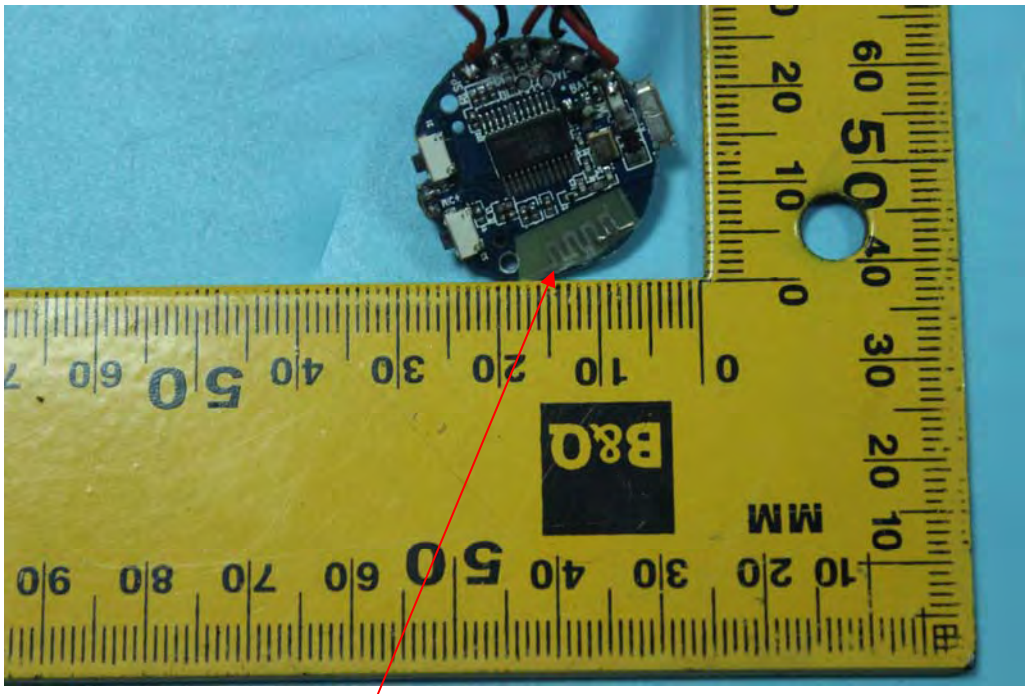


15.2.Internal Photos




YDJ 052030
200mAh 3.7V


2016.09.08
LXW-MG06 RDA5856 V1.0



Antenna