APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
GOOD EVER TRADING LIMITED

Wireless Light-UP Stereo Headphones

Model No.: 74498, 74499, CB-HT001

FCC ID: 2AM7T-CB-HT001

Prepared for	:	GOOD EVER TRADING LIMITED
Address	:	Rm.1701, Zhuoyue Building, Fuhua Yi Rd., Futian Central Zone, Shenzhen, P.R.China
Prepared by	:	Shenzhen Accurate Technology Co., Ltd.
Address	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China
		Tel: (0755) 26503290 Fax: (0755) 26503396

Report No.	:	ATE20180749
Date of Test	:	May 09-May 28, 2018
Date of Report	:	May 29, 2018

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Test Report Certification

Applicant	:	GOOD EVER TRADING LIMITED
Address	:	Rm.1701, Zhuoyue Building, Fuhua Yi Rd., Futian Central Zone, Shenzhen, P.R.China
Manufacturer	:	GOOD EVER TRADING LIMITED
Address	:	Rm.1701, Zhuoyue Building, Fuhua Yi Rd., Futian Central Zone, Shenzhen, P.R.China
Product	:	Wireless Light-UP Stereo Headphones
Model No.	:	74498, 74499, CB-HT001
Trade name	:	n.a

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247
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 :	May 09, 2018-May 28, 2018
Date of Report:	May 29, 2018
Prepared by :	(Tim Zhang, Engineer)
Approved & Authorized Signer :	(Sean Liu, Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Wireless Light-UP Stereo Headphones
Model Number	:	74498, 74499, CB-HT001 (Note: We hereby state that these models are identical in interior structure, electrical circuits and components, Just model name is different, Therefore, only model 74498 is tested for EMC tests.)
Bluetooth version	:	BT V2.1+EDR mode
Frequency Range	:	2402MHz-2480MHz
Number of Channels	:	79
Antenna Gain(Max)	:	-0.58dBi
Antenna type	:	PCB Antenna
Adapter Input Voltage	:	DC 3.7V (Powered by Lithium battery) or DC 5V (Powered by USB port)
Modulation mode	:	GFSK, π/4 DQPSK, 8DPSK
Trade Mark	:	N/A
Applicant	:	GOOD EVER TRADING LIMITED
Address	:	Rm.1701, Zhuoyue Building, Fuhua Yi Rd., Futian Central Zone, Shenzhen, P.R.China
Manufacturer	:	GOOD EVER TRADING LIMITED
Address	:	Rm.1701, Zhuoyue Building, Fuhua Yi Rd., Futian Central Zone, Shenzhen, P.R.China

1.2.Accessory and Auxiliary Equipment

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

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. 06, 2018	1 Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 06, 2018	1 Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 06, 2018	1 Year
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 06, 2018	1 Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 06, 2018	1 Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 06, 2018	1 Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 06, 2018	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 06, 2018	1 Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 06, 2018	1 Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 06, 2018	1 Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18G-10SS	N/A	Jan. 06, 2018	1 Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2485-2375/2510-60/11SS	N/A	Jan. 06, 2018	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
Note: The Bluetooth has been tested under continuous transmission mode.

3.2.Configuration and peripherals

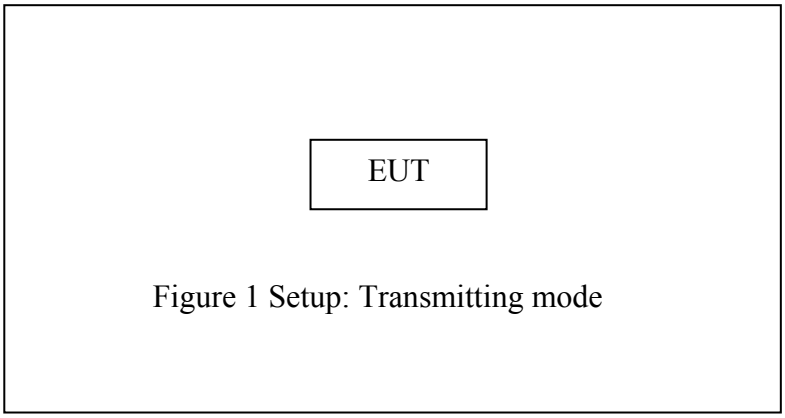


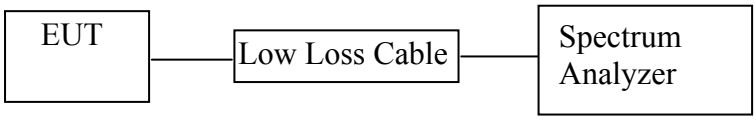
Figure 1 Setup: Transmitting mode

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: Wireless Light-UP Stereo Headphones)

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

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

5.3.EUT Configuration on Measurement

The equipm ent are installed on the em ission m easurement to m eet the com mission requirements and operating regulations in a m anner which tends to m aximize its emission characteristics in normal application.

5.4.Operating Condition of EUT

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

5.4.2.Turn on the power of all equipment.

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

5.5.Test Procedure

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

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

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

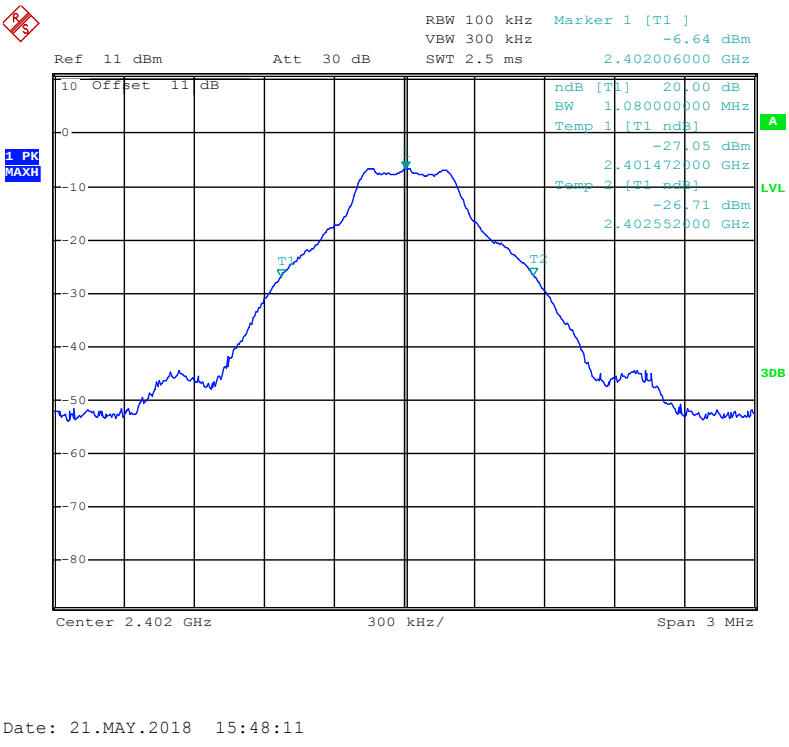
5.6.Test Result

Channel	Frequency (MHz)	GFSK 20dB Bandwidth (MHz)	Π/4-DQPSK 20dB Bandwidth (MHz)	8DPSK 20dB Bandwidth (MHz)	Result
Low	2402	1.080	1.350	1.350	Pass
Middle	2441	1.086	1.356	1.356	Pass
High	2480	1.062	1.356	1.362	Pass

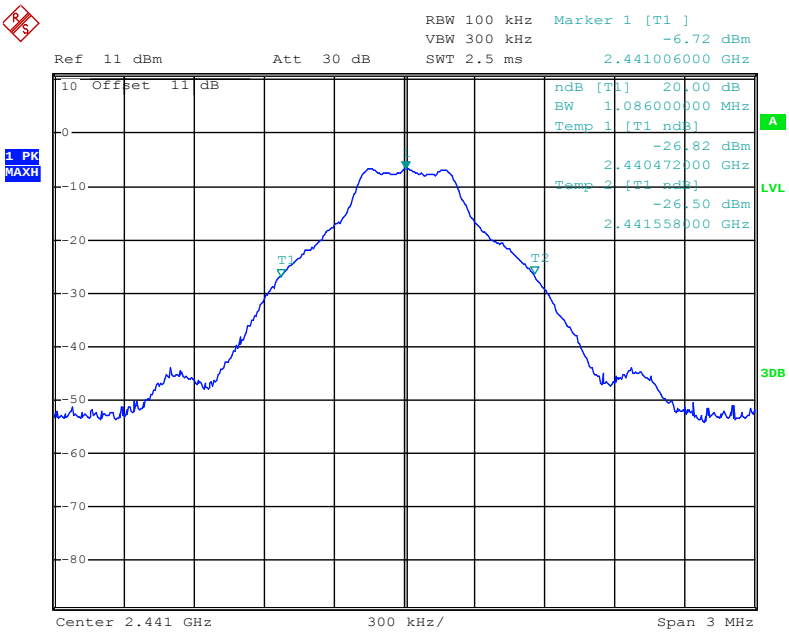
The spectrum analyzer plots are attached as below.

GFSK Mode

Low channel



Middle channel



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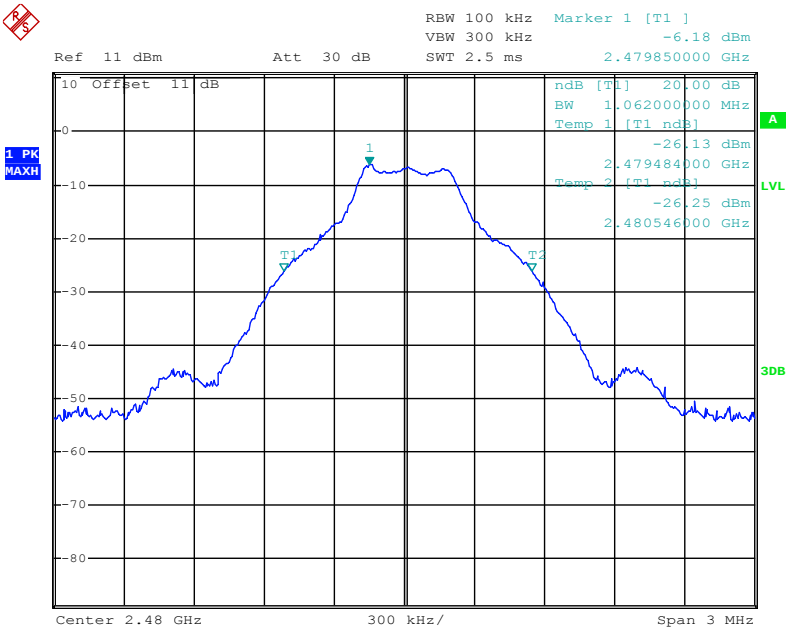
High channel



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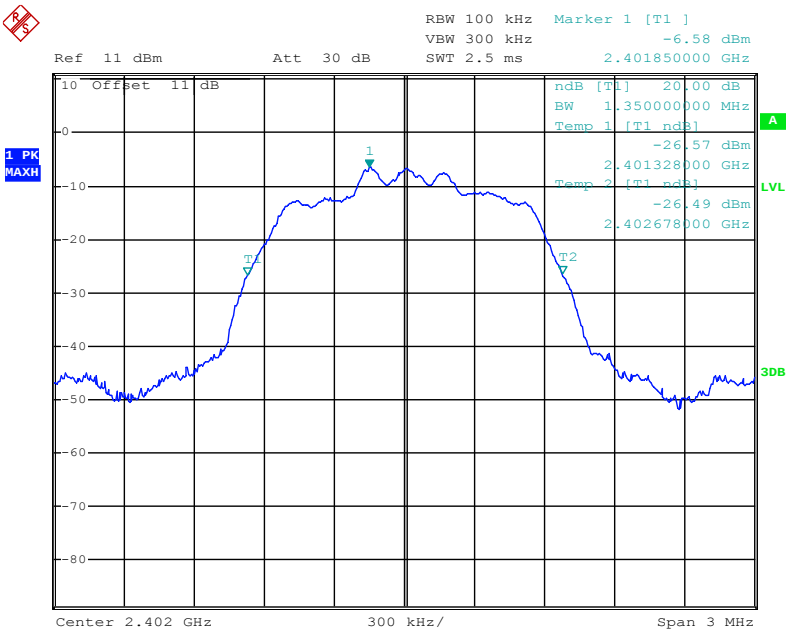
Π/4-DQPSK Mode

Low channel



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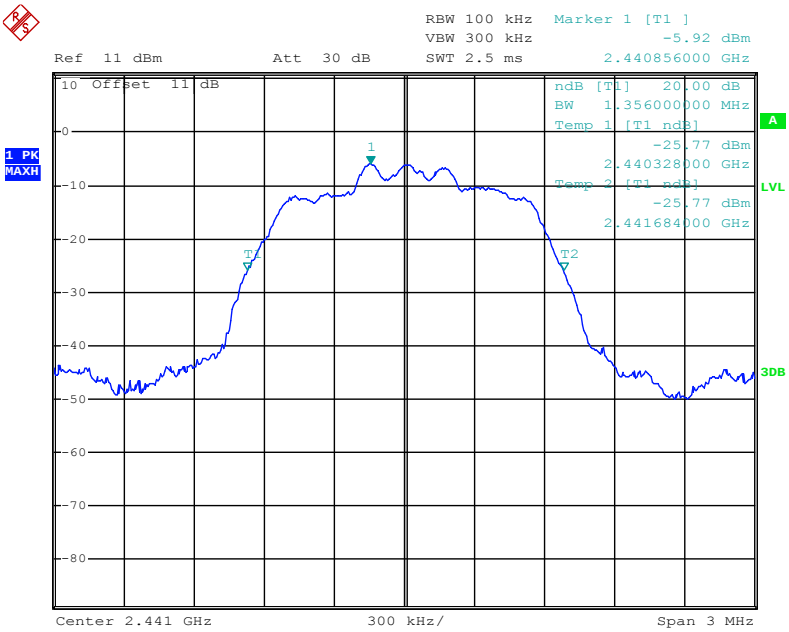
Middle channel



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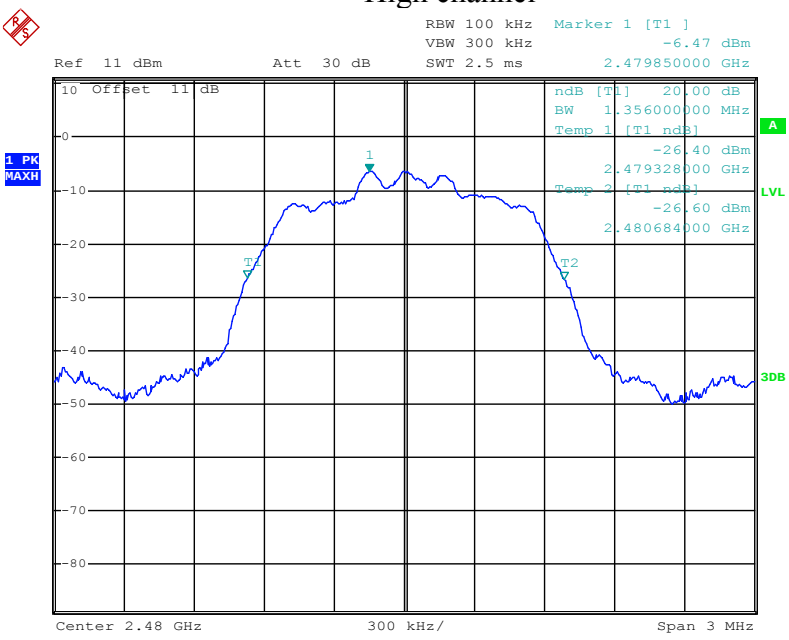
High channel



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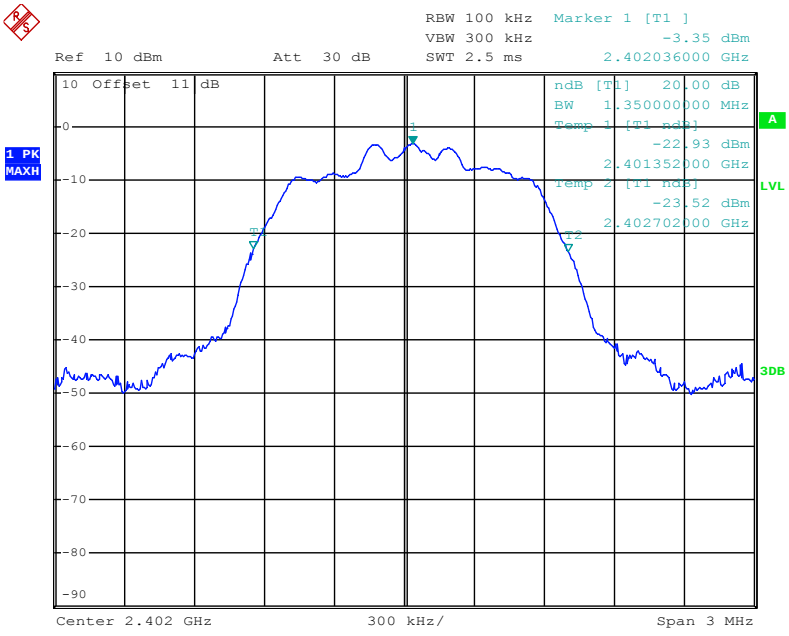
8DPSK Mode

Low channel



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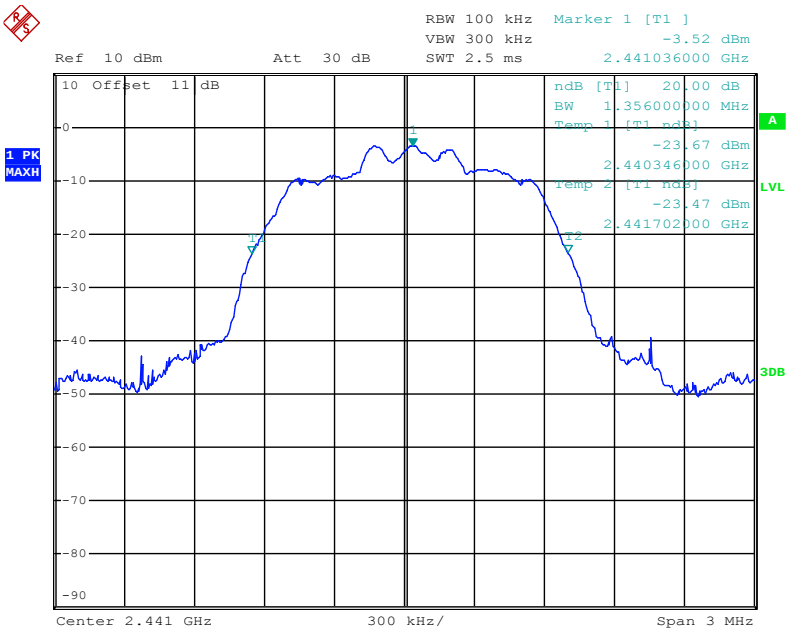
Middle channel



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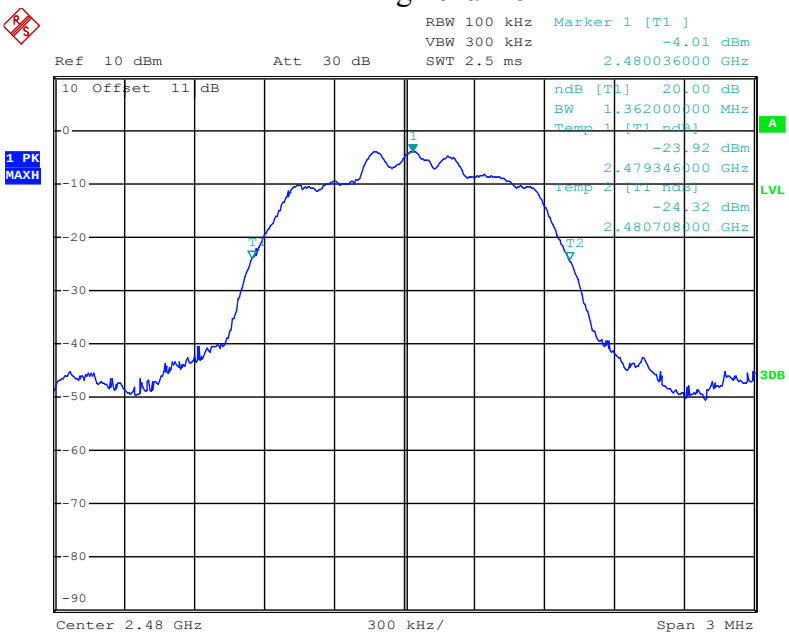
High channel



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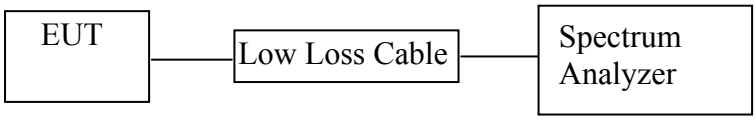
6. CARRIER FREQUENCY SEPARATION TEST

6.1.Block Diagram of Test Setup



(EUT: Wireless Light-UP Stereo Headphones)

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

Section 15.247(a)(1): Frequency hopping syst ems shall have hopping channel carrier frequencies separated by a m inimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternativ ely, frequency hopping system s operating in the 2400-2483.5 MHz band m ay have hopping channel carri er 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 m W. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudorandom ly ordered list of hopping freque ncies. Each frequency m ust be used equally on the average by each transm itter. The system receivers shall have input bandwidths that m atch 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 equipm ent are installed on the em ission m easurement to m eet the com mission requirements and operating regulations in a m anner which tends to m aximize 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	Result
Low	2402	1.009	25KHz or 0.72MHz	PASS
	2403			
Middle	2440	1.008	25KHz or 0.724MHz	PASS
	2441			
High	2479	1.002	25KHz or 0.708MHz	PASS
	2480			

Π/4-DQPSK

Channel	Frequency (MHz)	Channel Separation(MHz)	Limit (MHz)	Result
Low	2402	1.002	25KHz or 0.9MHz	PASS
	2403			
Middle	2440	1.008	25KHz or 0.904MHz	PASS
	2441			
High	2479	1.002	25KHz or 0.904MHz	PASS
	2480			

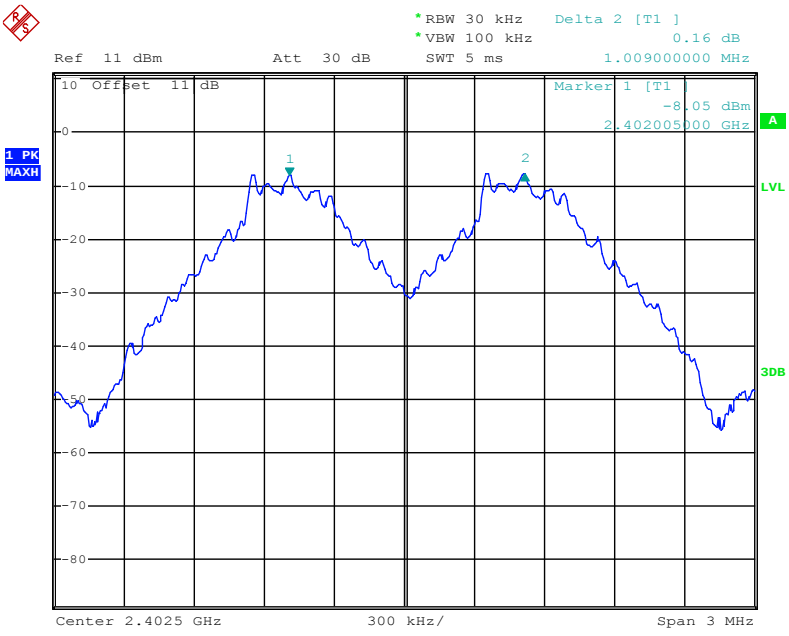
8DPSK

Channel	Frequency (MHz)	Channel Separation(MHz)	Limit (MHz)	Result
Low	2402	1.002	25KHz or 0.9MHz	PASS
	2403			
Middle	2440	1.008	25KHz or 0.904MHz	PASS
	2441			
High	2479	1.002	25KHz or 0.908MHz	PASS
	2480			

The spectrum analyzer plots are attached as below.

GFSK Mode

Low channel



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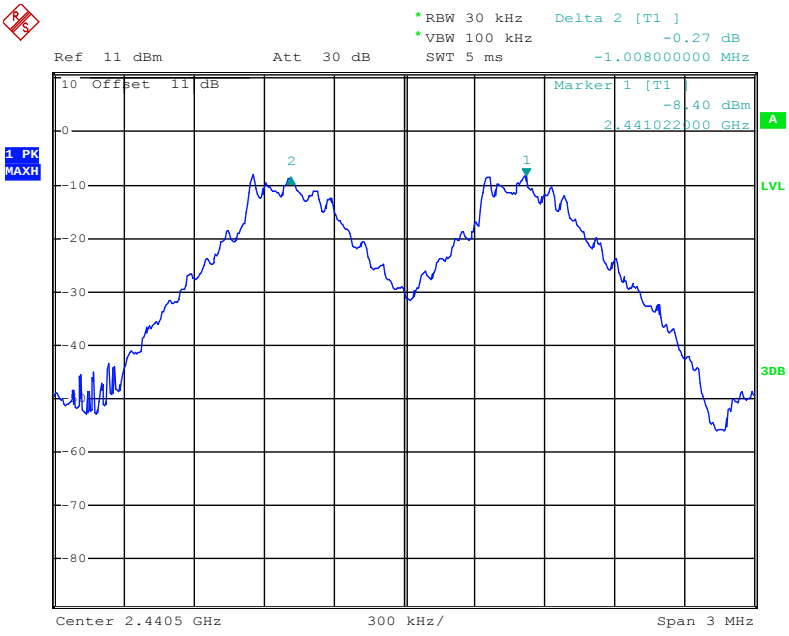
Middle channel



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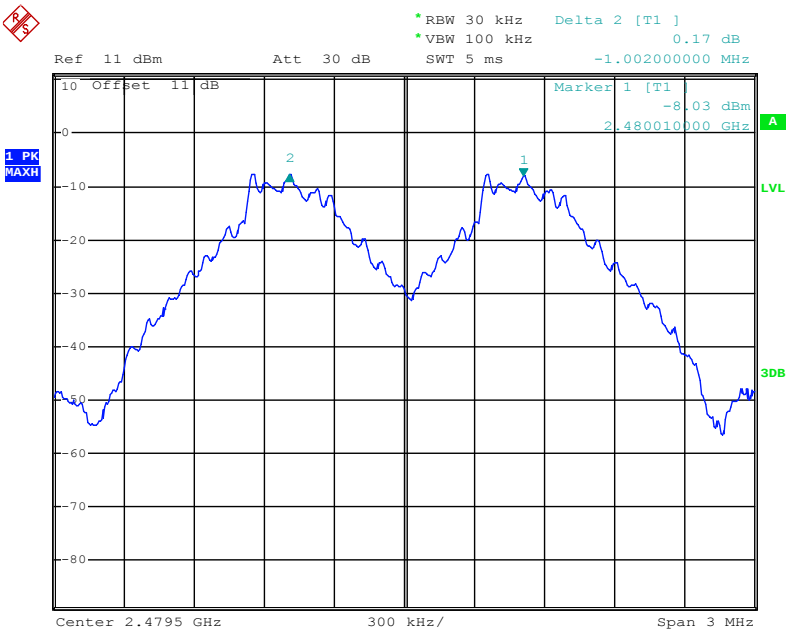
High channel



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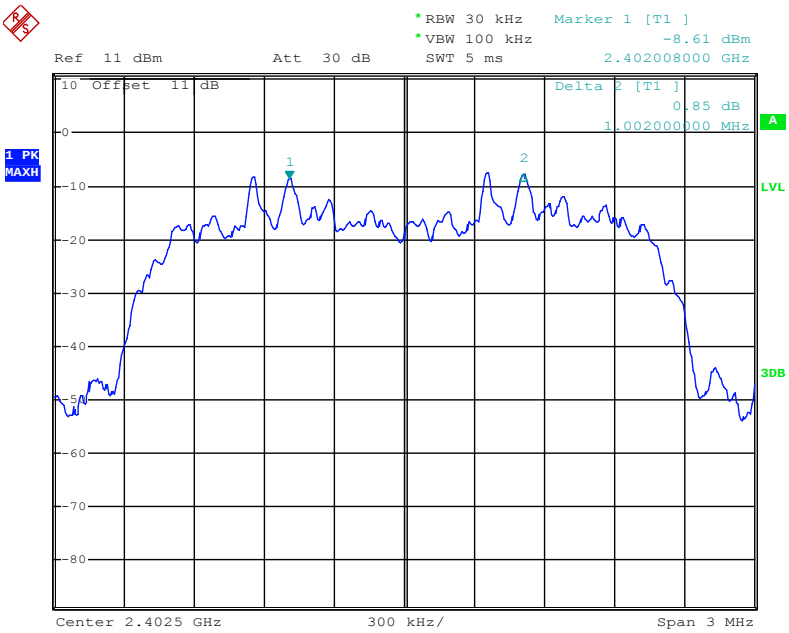
Π/4-DQPSK Mode

Low channel



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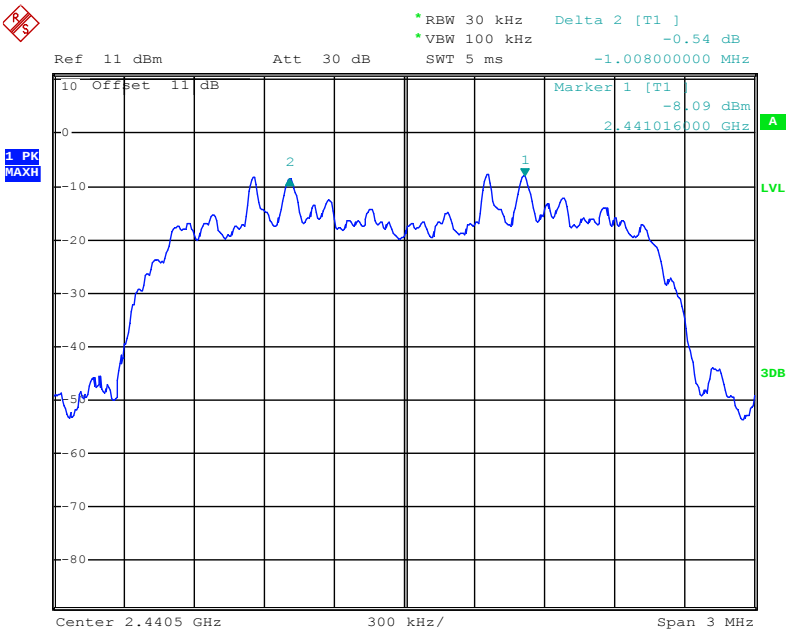
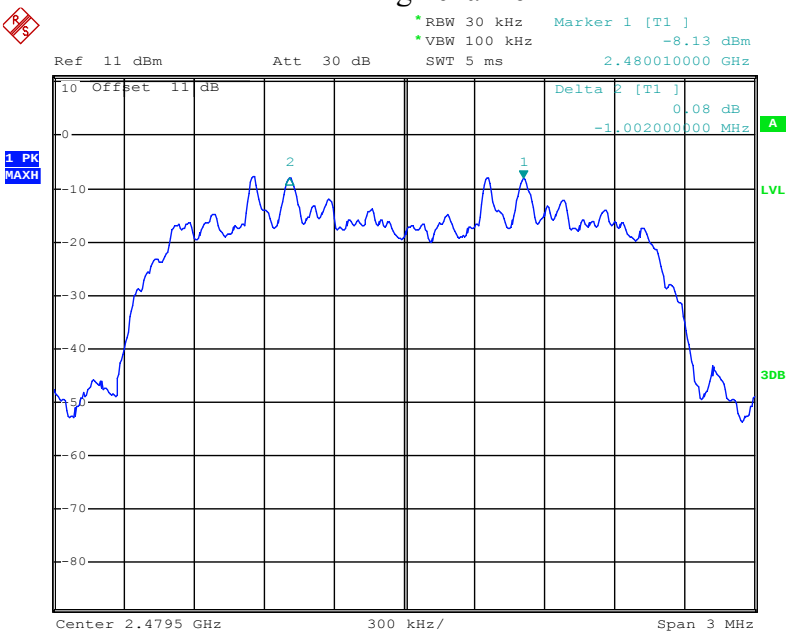
Middle channel



Date: 21.MAY.2018 16:12:22

High channel



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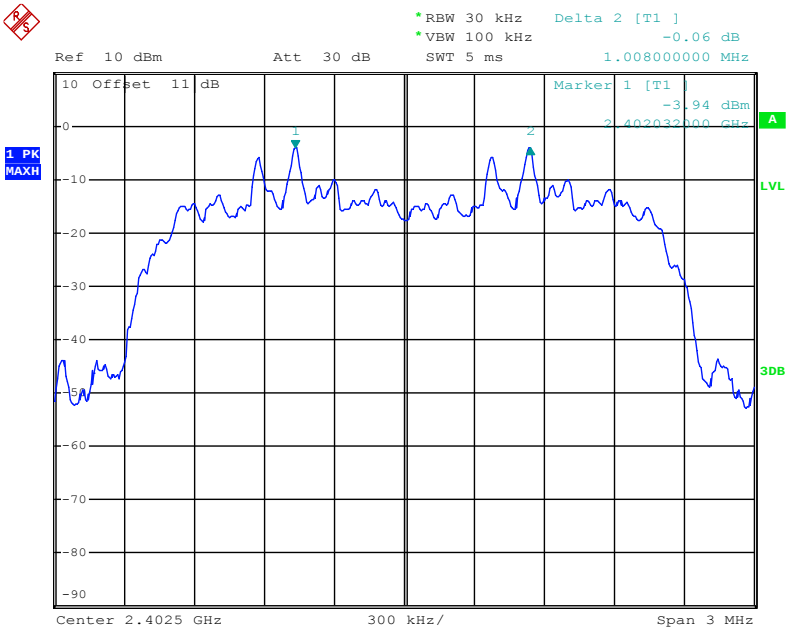
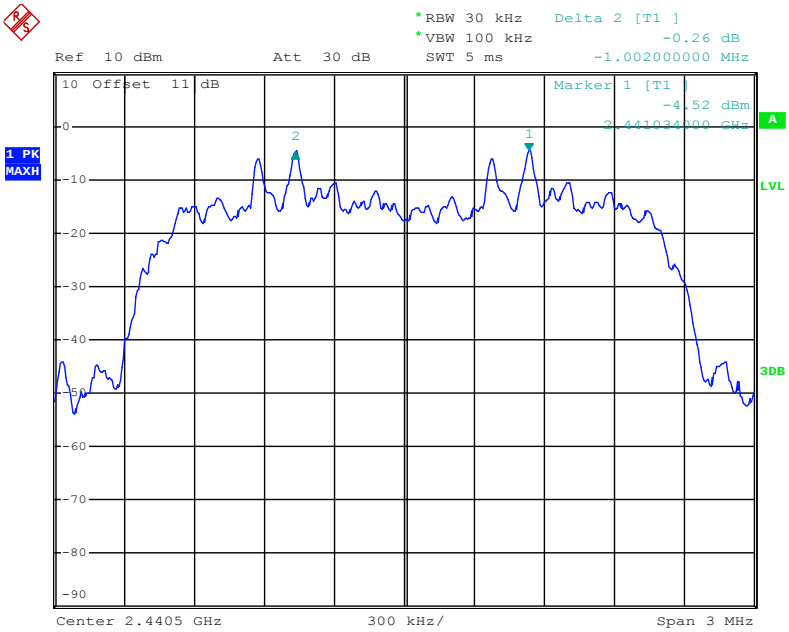
8DPSK Mode

Low channel



Date: 21.MAY.2018 10:42:18

Middle channel



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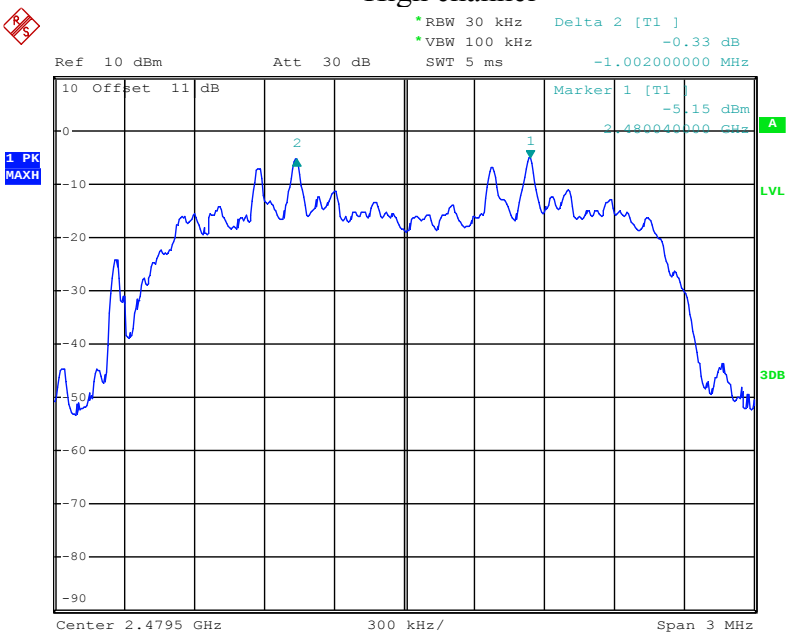
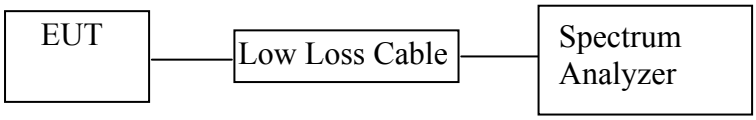
High channel



Date: 21.MAY.2018 10:40:52

7. NUMBER OF HOPPING FREQUENCY TEST

7.1.Block Diagram of Test Setup



(EUT: Wireless Light-UP Stereo Headphones)

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

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

7.3.EUT Configuration on Measurement

The equipm ent are installed on the em ission m easurement to m eet the com mission requirements and operating regulations in a m anner which tends to m aximize 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.

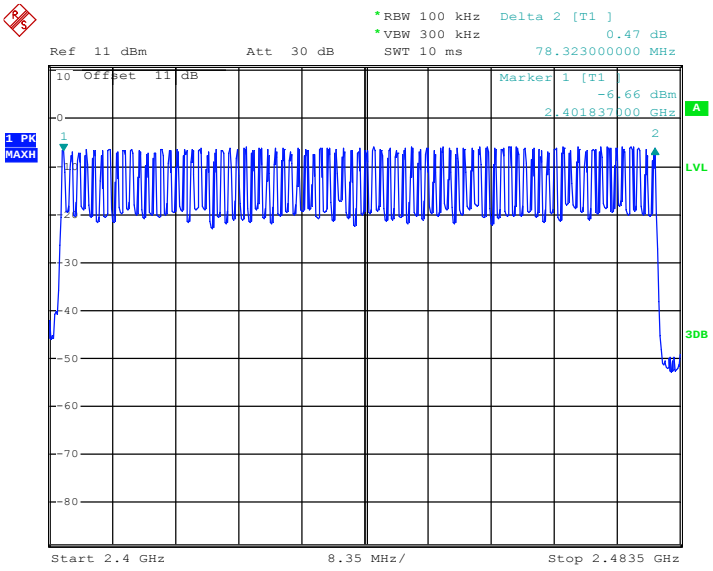
7.5.2.Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz.

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

7.6.Test Result

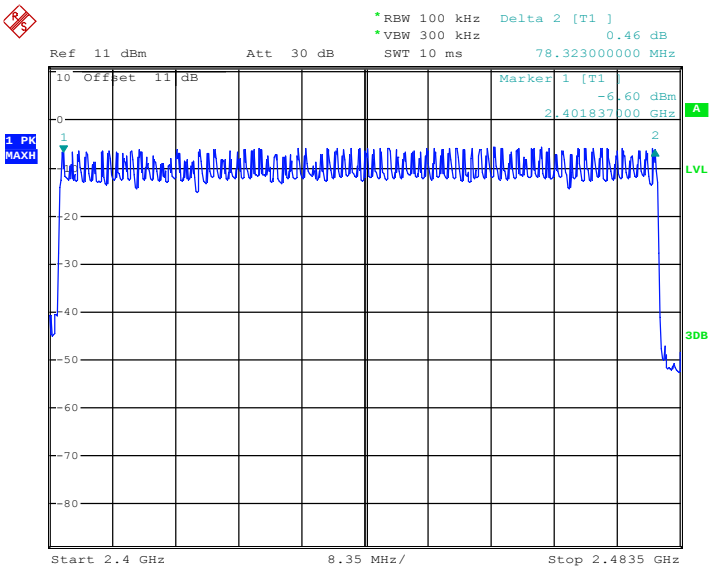
Total number of hopping channel	Measurement result(CH)	Limit(CH)
	79	≥ 15

Number of hopping channels(GFSK)



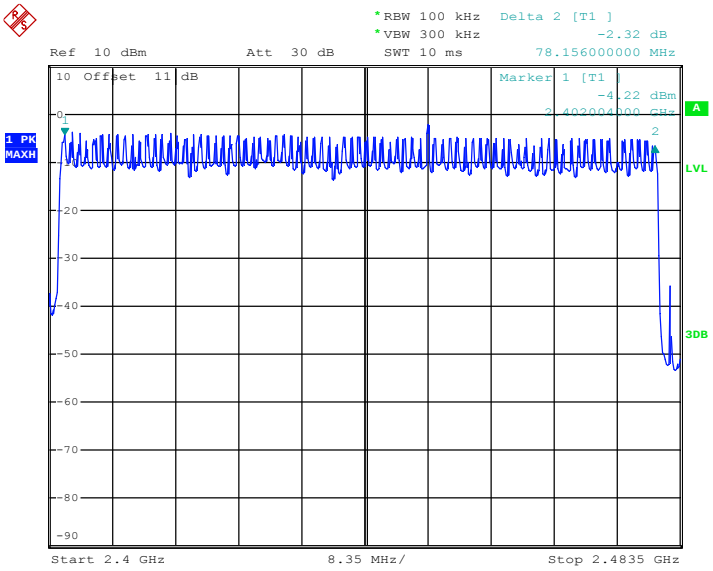
Date: 21.MAY.2018 16:01:40

Number of hopping channels(Π/4-DQPSK)



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

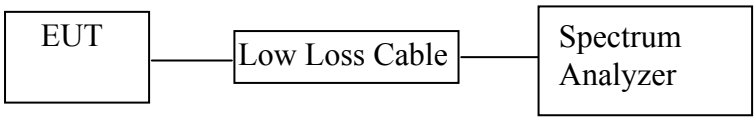
Number of hopping channels(8DPSK Mode)



Date: 21.MAY.2018 10:34:32

8. DWELL TIME TEST

8.1.Block Diagram of Test Setup



(EUT: Wireless Light-UP Stereo Headphones)

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

Section 15.247(a)(1)(iii): Frequency hopping system s 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 m ultiplied by the num ber of hopping channels em ployed. Frequency hoppi ng system s m ay 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 equipm ent are installed on the em ission m easurement to m eet the com mission requirements and operating regulations in a m anner which tends to m aximize 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 2441		0.410	131.20	400
A period transmit time = 0.4 × 79 = 31.6		Dwell time = pulse time × (1600/(2*79))×31.6		
DH3 2441		1.670	267.20	400
A period transmit time = 0.4 × 79 = 31.6		Dwell time = pulse time × (1600/(4*79))×31.6		
DH5 2441		2.930	312.53	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 2441		0.420	134.40	400
A period transmit time = 0.4 × 79 = 31.6		Dwell time = pulse time × (1600/(2*79))×31.6		
DH3 2441		1.690	270.40	400
A period transmit time = 0.4 × 79 = 31.6		Dwell time = pulse time × (1600/(4*79))×31.6		
DH5 2441		2.930	312.53	400
A period transmit time = 0.4 × 79 = 31.6		Dwell time = pulse time × (1600/(6*79))×31.6		

8DPSK Mode

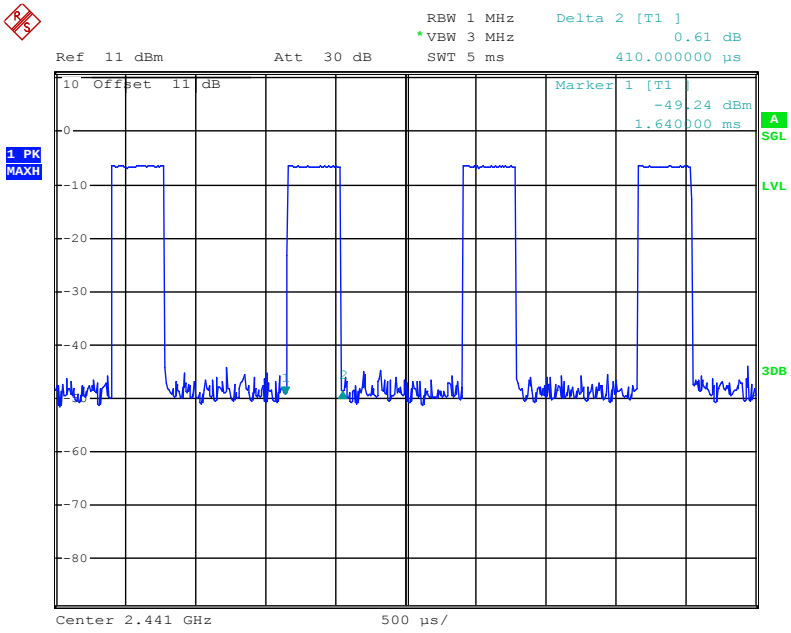
Mode	Channel Frequency (MHz)	Pulse Time (ms)	Dwell Time (ms)	Limit (ms)
DH1 2441		0.440	140.80	400
A period transmit time = 0.4 × 79 = 31.6		Dwell time = pulse time × (1600/(2*79))×31.6		
DH3 2441		1.720	275.20	400
A period transmit time = 0.4 × 79 = 31.6		Dwell time = pulse time × (1600/(4*79))×31.6		
DH5 2441		2.980	317.87	400
A period transmit time = 0.4 × 79 = 31.6		Dwell time = pulse time × (1600/(6*79))×31.6		

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

The spectrum analyzer plots are attached as below.

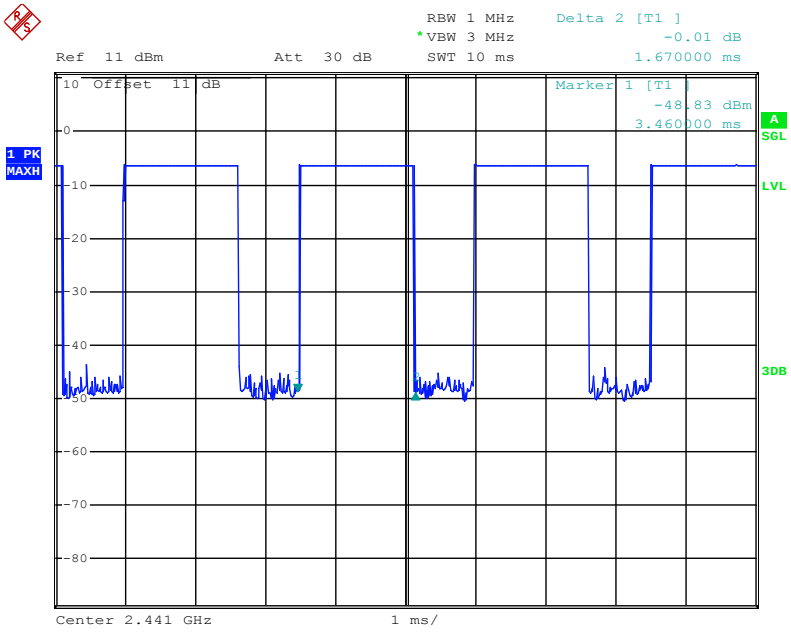
GFSK Mode

DH1 Middle channel



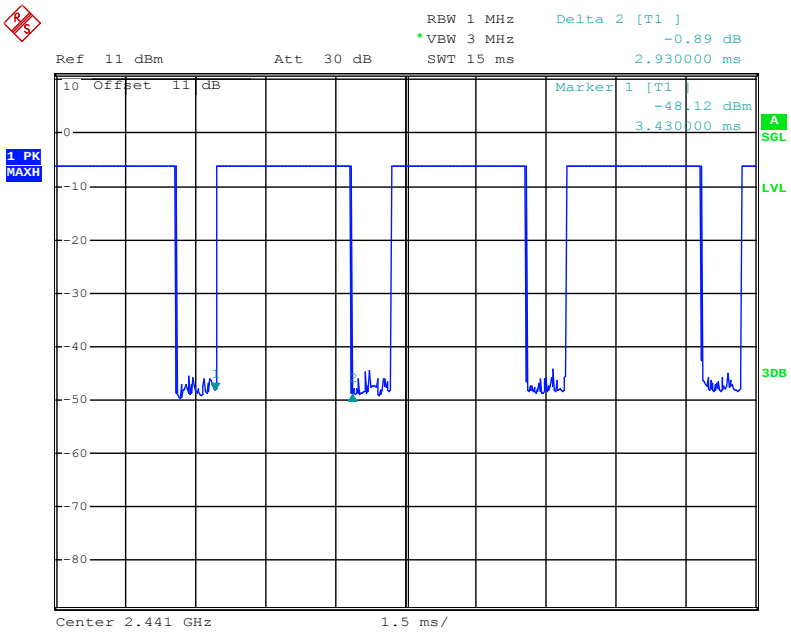
Date: 21.MAY.2018 16:30:08

DH3 Middle channel



Date: 21.MAY.2018 16:31:18

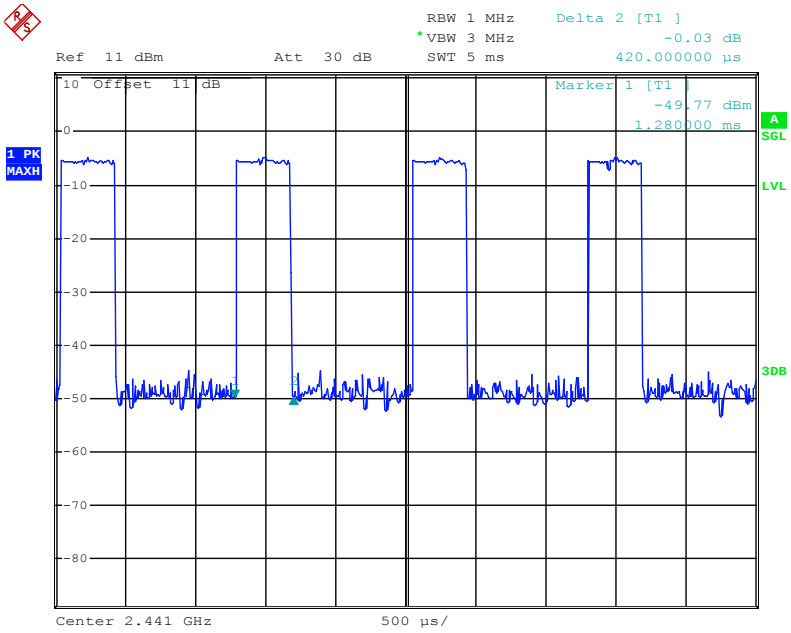
DH5 Middle channel



Date: 21.MAY.2018 16:31:55

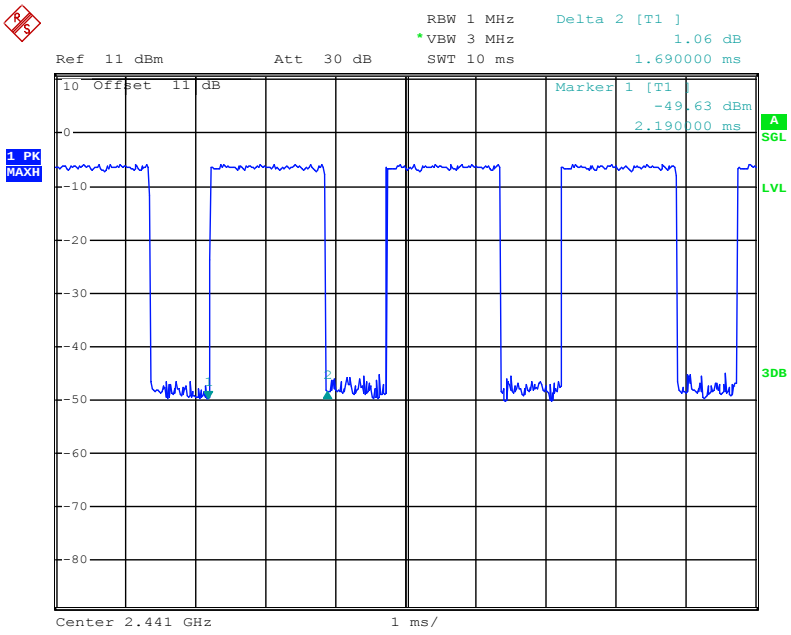
Π/4-DQPSK

2DH1 Middle channel



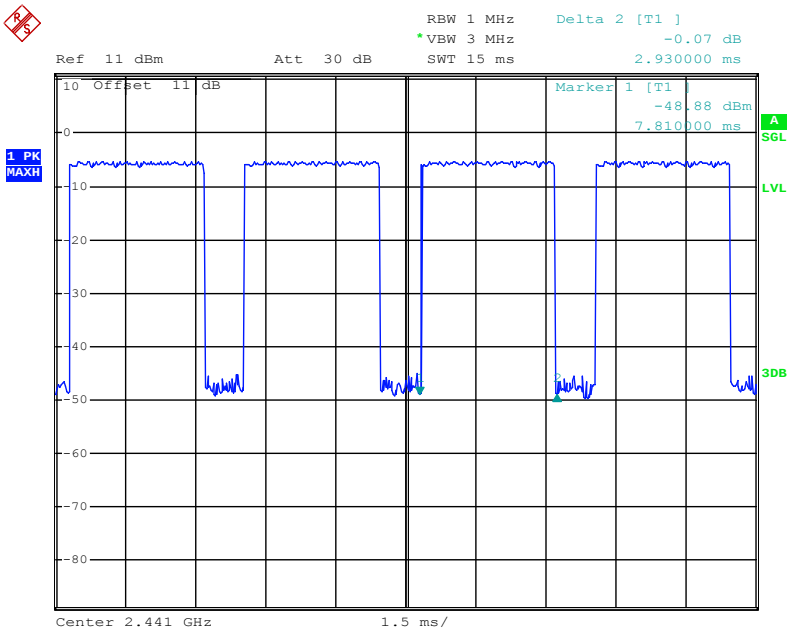
Date: 21.MAY.2018 16:34:30

2DH3 Middle channel



Date: 21.MAY.2018 16:33:42

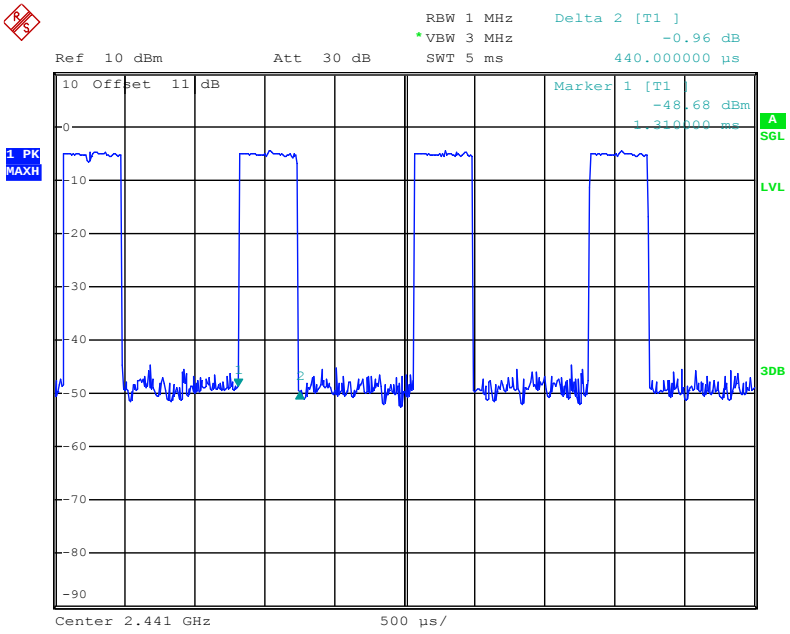
2DH5 Middle channel



Date: 21.MAY.2018 16:32:48

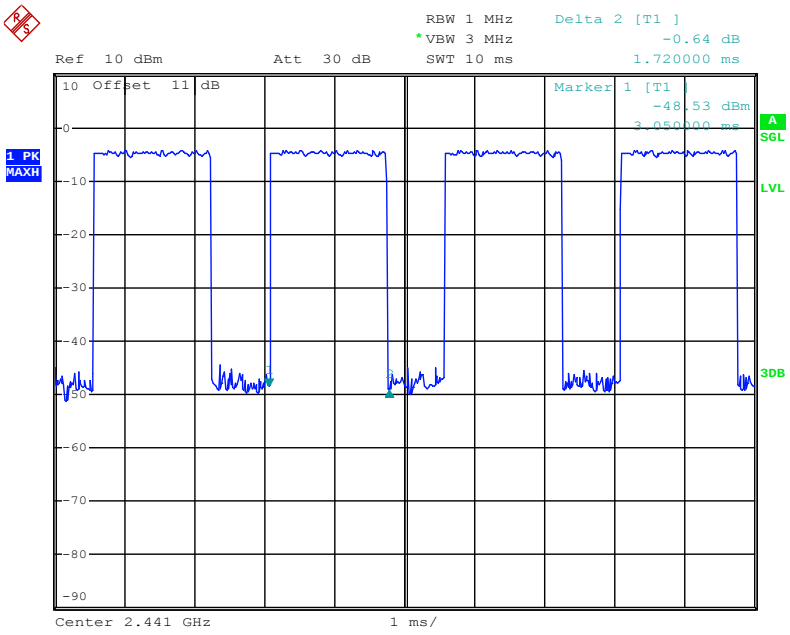
8DPSK

3DH1 Middle channel



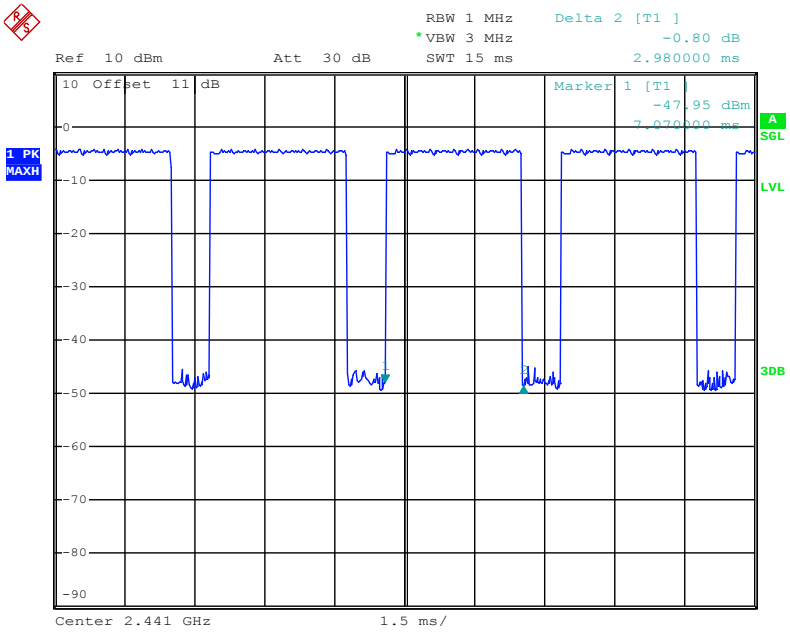
Date: 21.MAY.2018 10:23:45

3DH3 Middle channel



Date: 21.MAY.2018 10:25:13

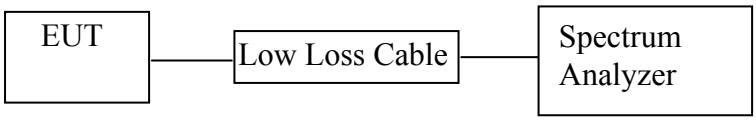
3DH5 Middle channel



Date: 21.MAY.2018 10:25:58

9. MAXIMUM PEAK OUTPUT POWER TEST

9.1.Block Diagram of Test Setup



(EUT: Wireless Light-UP Stereo Headphones)

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

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

9.3.EUT Configuration on Measurement

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

9.4.Operating Condition of EUT

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

9.4.2.Turn on the power of all equipment.

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

9.5.Test Procedure

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

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

9.5.3.Measurement the maximum peak output power.

9.6.Test Result

GFSK Mode

Channel	Frequency (MHz)	Peak Output Power (dBm/W)	Limits dBm / W
Low	2402	-5.00/0.0003	21 / 0.125
Middle	2441	-4.91/0.0003	21 / 0.125
High	2480	-5.29/0.0003	21 / 0.125

Π/4-DQPSK Mode

Channel	Frequency (MHz)	Peak Output Power (dBm/W)	Limits dBm / W
Low	2402	-4.52/0.0004	21 / 0.125
Middle	2441	-4.36/0.0004	21 / 0.125
High	2480	-4.24/0.0004	21 / 0.125

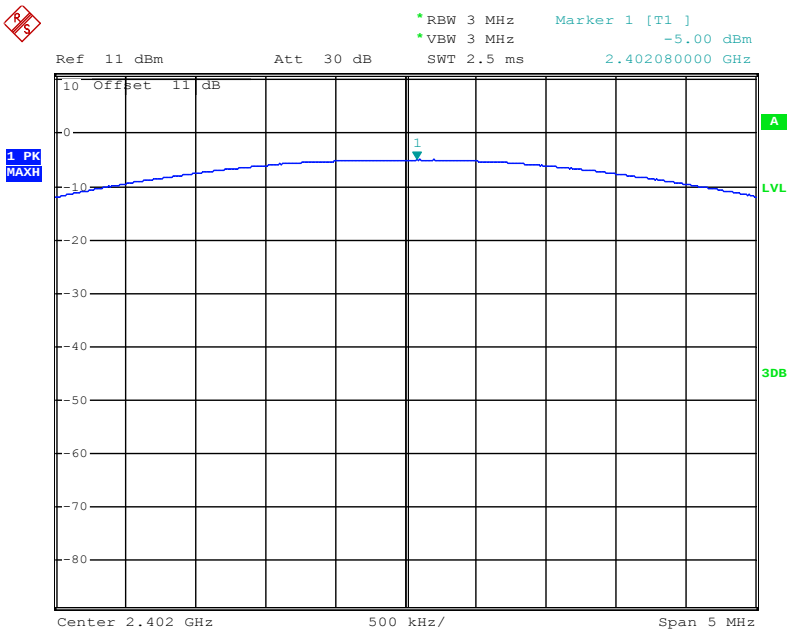
8DPSK Mode

Channel	Frequency (MHz)	Peak Output Power (dBm/W)	Limits dBm / W
Low	2402	-3.07/0.0005	21 / 0.125
Middle	2441	-3.59/0.0004	21 / 0.125
High	2480	-3.53/0.0004	21 / 0.125

The spectrum analyzer plots are attached as below.

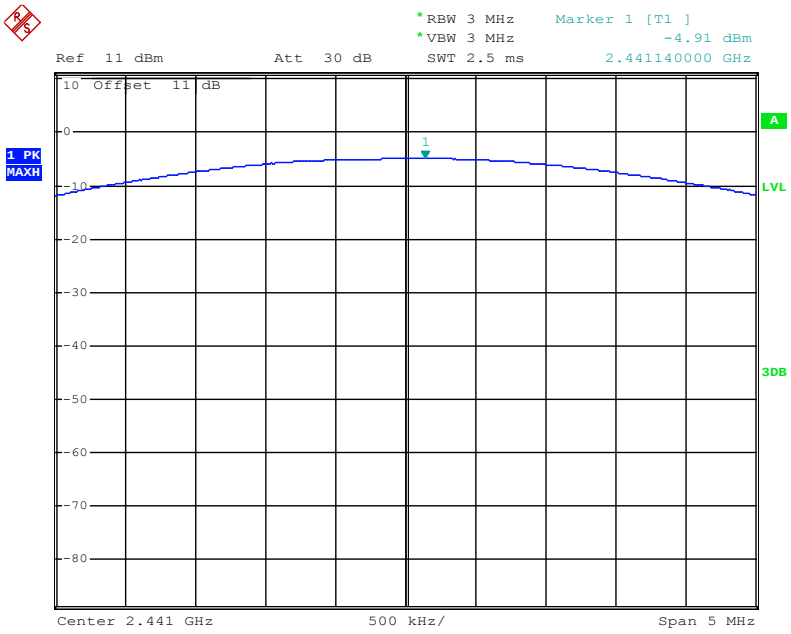
GFSK Mode

Low channel



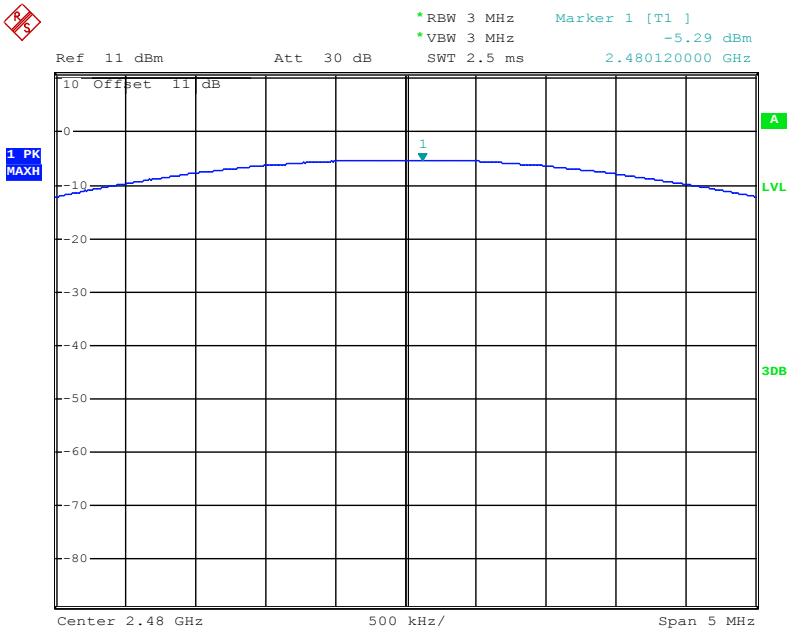
Date: 21.MAY.2018 16:20:47

Middle channel



Date: 21.MAY.2018 16:21:46

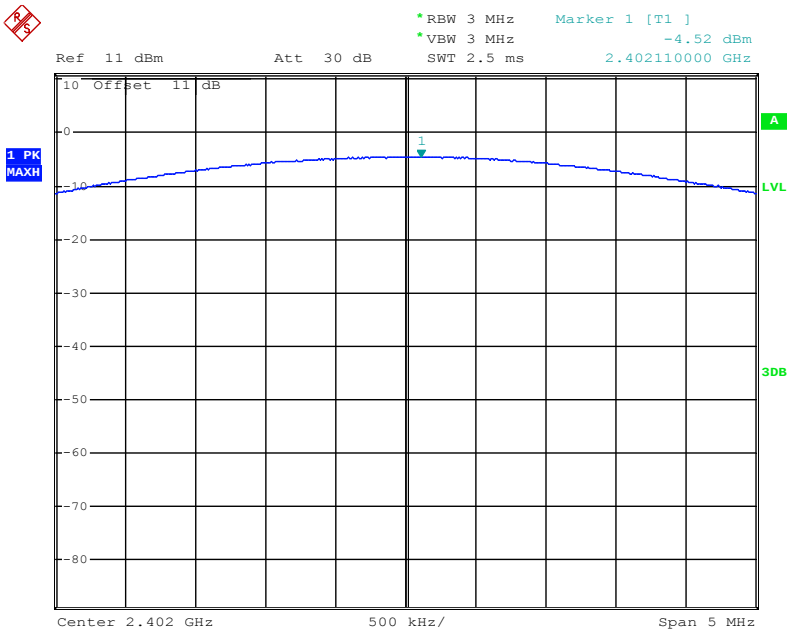
High channel



Date: 21.MAY.2018 16:22:27

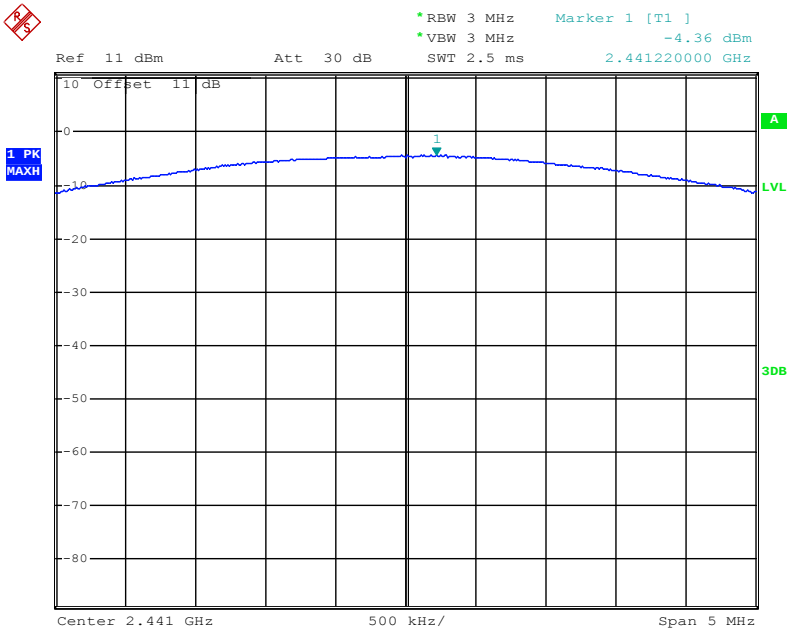
Π/4-DQPSK Mode

Low channel



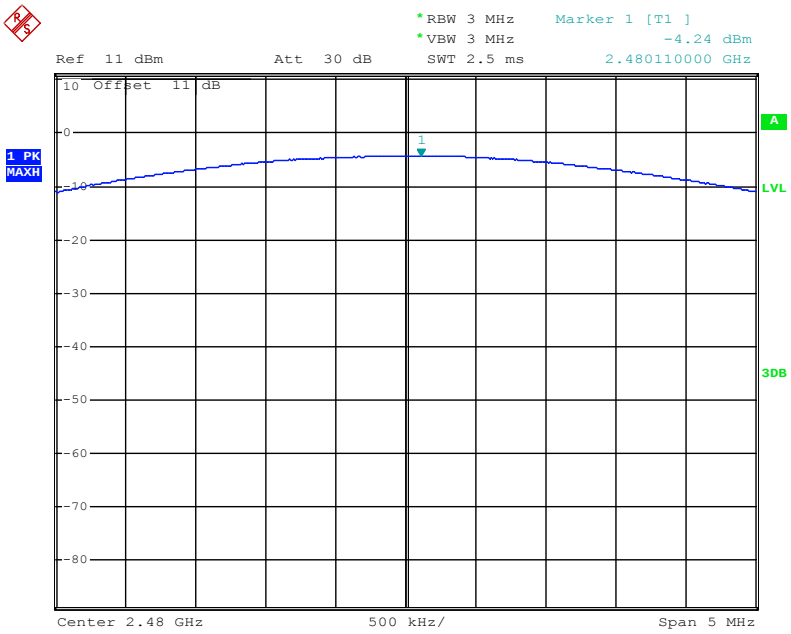
Date: 21.MAY.2018 16:26:33

Middle channel



Date: 21.MAY.2018 16:25:10

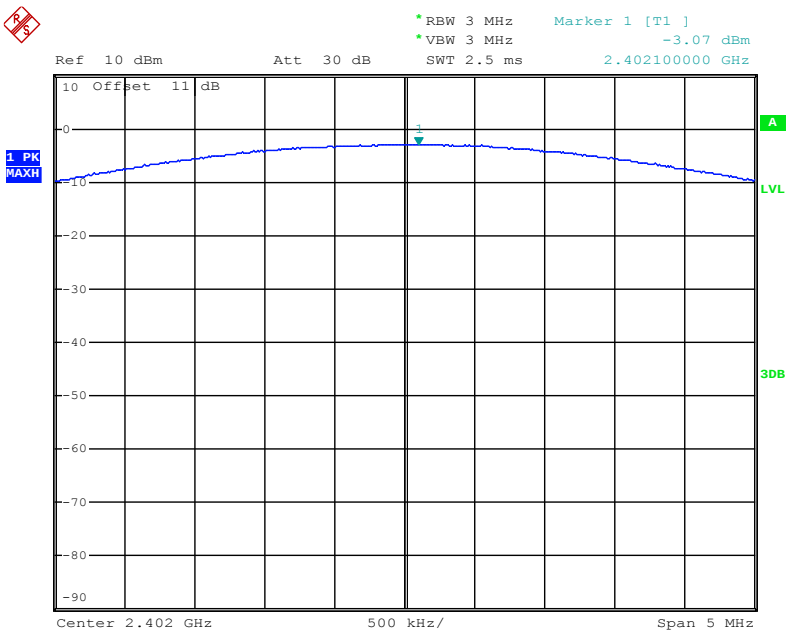
High channel



Date: 21.MAY.2018 16:23:33

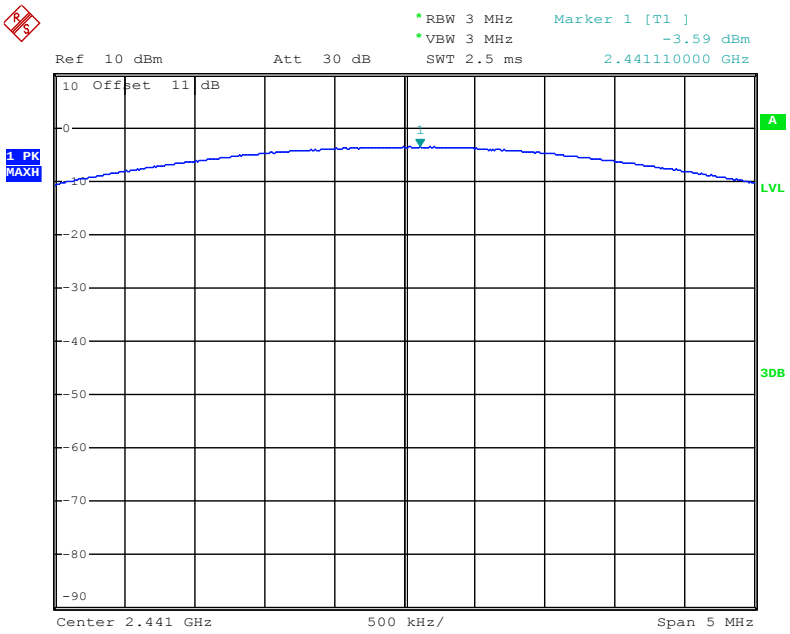
8DPSK Mode

Low channel



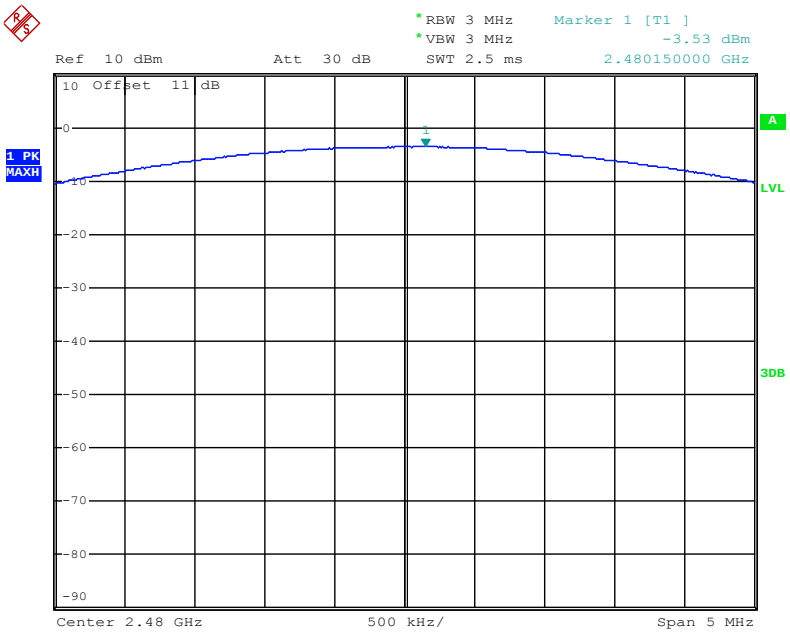
Date: 21.MAY.2018 10:48:09

Middle channel



Date: 21.MAY.2018 10:46:36

High channel



Date: 21.MAY.2018 10:45:46

10. RADIATED EMISSION TEST

10.1. Block Diagram of Test Setup

10.1.1. Block diagram of connection between the EUT and peripherals

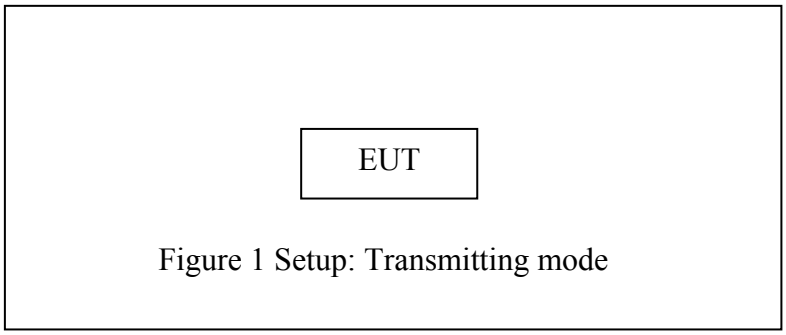
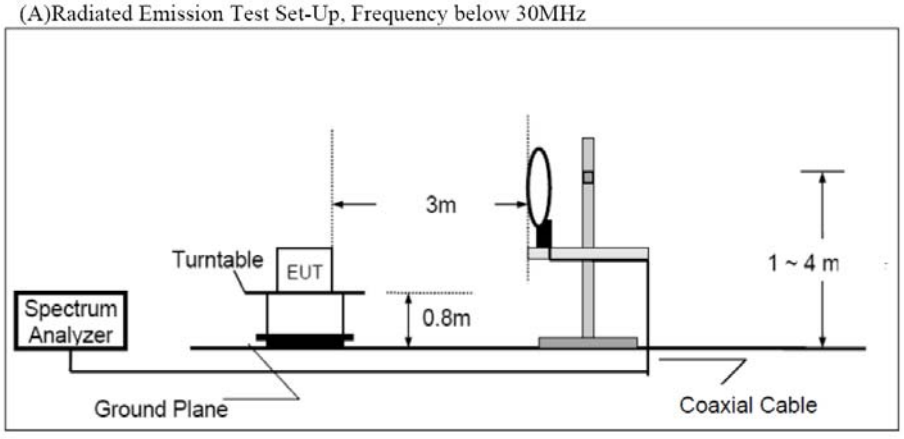


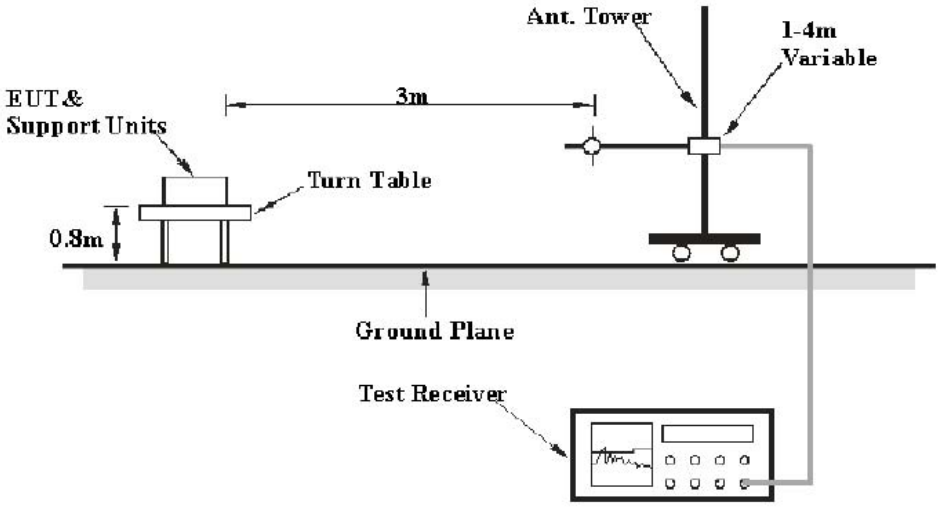
Figure 1 Setup: Transmitting mode

10.1.2. Semi-Anechoic Chamber Test Setup Diagram

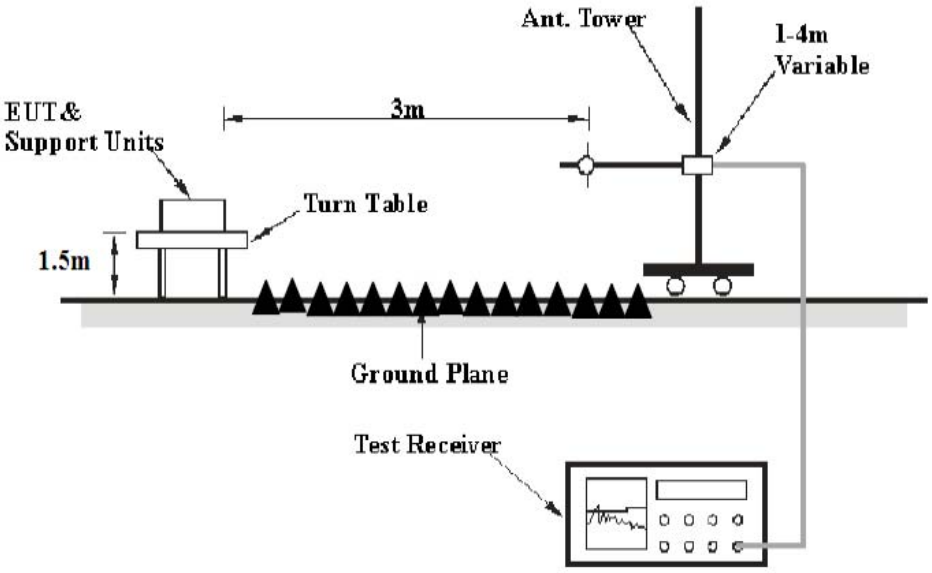
(A)Radiated Emission Test Set-Up, Frequency below 30MHz



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



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



10.2.The Limit For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth out side the frequency band in which the spread spectrum or digitally m odulated in tentional 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 ba nd that contains the highest level of the desired power, based on either an RF conducte d or a radiated measurement, provided the transmitter dem onstrates com pliance with the peak conducted power lim its. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a tim e interval, as perm itted under paragr aph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general lim its 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), m ust 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 Em ission Measurement to m eet the com mission requirements and operating regulations in a m anner which tends to m aximize its emission characteristics in normal application.

10.5.Test Procedure

The EUT and its sim ulators are placed on a turntable, which is 0.8 m eter 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 m aximum emission level. EUT is set 3.0 m eters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 m eter and 4 m eters to find out the m aximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on m easurement. In order to find the m aximum em ission levels, all of the EUT location m ust be m anipulated according to ANSI C63.10:2013 on radiated em ission m easurement. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

During the radiated em ission test, the spect rum analyzer was set with the f ollowing 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 re ceiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak m easurement with peak detector at frequency above 1GHz.
3. The resolution bandwidth of test re ceiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average m easurement with peak detection at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case em issions are reported.

10.6.Data Sample

Frequency (MHz)	Reading (dBμv)	Factor (dB/m)	Result (dBμv/m)	Limit (dBμv/m)	Margin (dB)	Remark
X.XX 28.66		-15.19	13.47	40.0	-26.53	QP

Frequency(MHz) = Emission frequency in MHz
Reading(dBμv) = Uncorrected Analyzer/Receiver reading
Factor (dB/m) = Antenna factor + Cable Loss – Amplifier gain
Result(dBμv/m) = Reading(dBμv) + Factor(dB/m)
Limit (dBμv/m) = Limit stated in standard
Margin (dB) = Result(dBμv/m) - Limit (dBμv/m)
QP = Quasi-peak Reading

Calculation Formula:
Margin(dB) = Result (dBμV/m)–Limit(dBμV/m)
Result(dBμV/m)= Reading(dBμV)+ Factor(dB/m)

The "Margin" colum n of the following data tables i ndicates the degree of com pliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

10.7.The Field Strength of Radiation Emission Measurement Results

PASS.

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

2. The test frequency is from 30MHz to 26.5GHz, The 18-26.5GHz emissions are not reported, because the levels are too low against the limit.

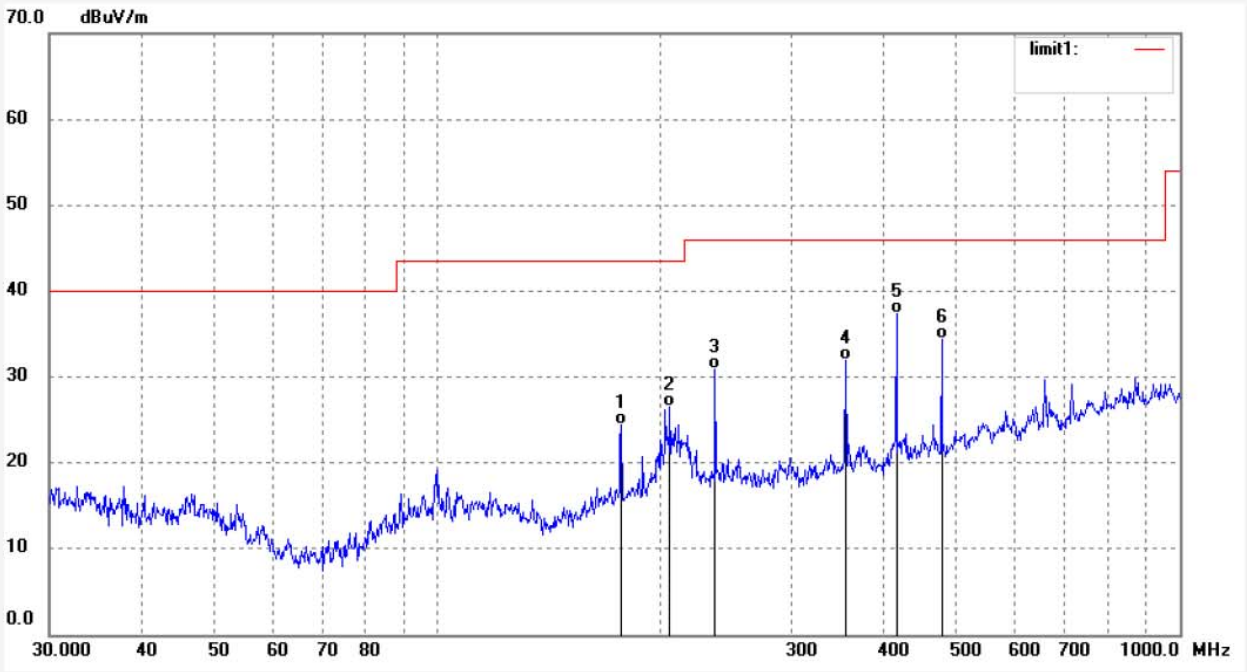
Below 1GHz

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #120
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2402MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2018/05/28
Time: 11:06:55
Engineer Signature:
Distance:

Note: Report NO.:ATE20180749

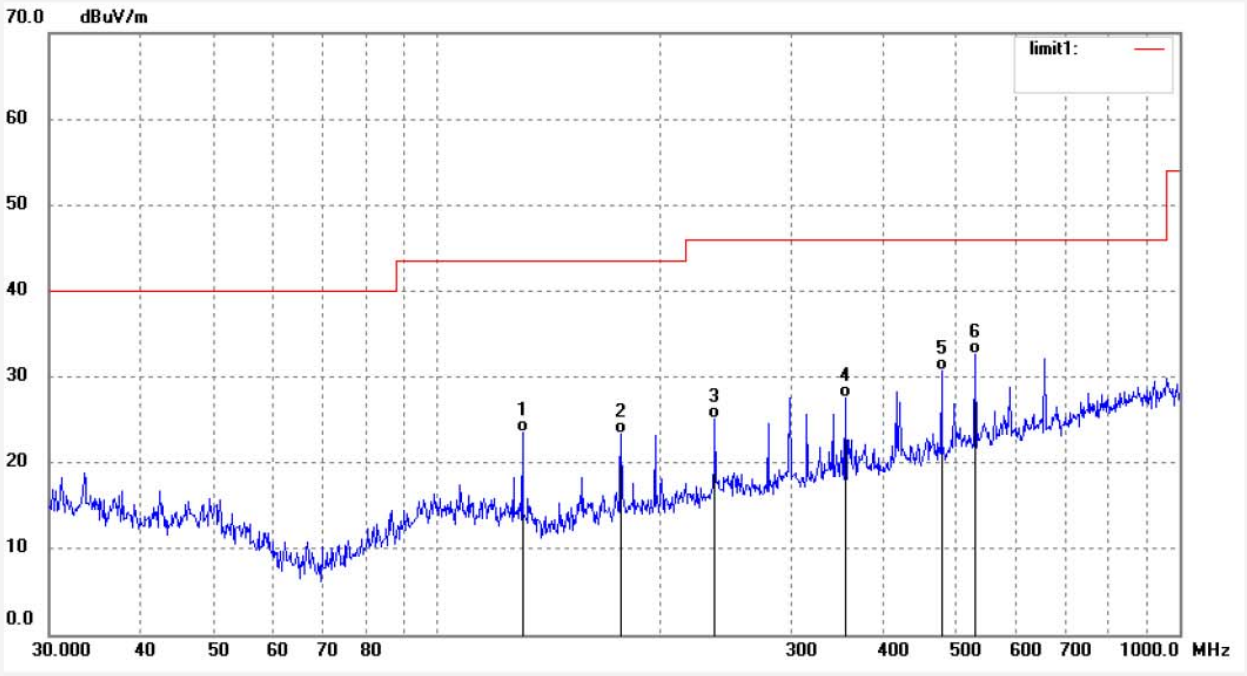


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	176.8952	44.41	-20.02	24.39	43.50	-19.11	QP	200	351	
2	205.7458	45.48	-18.98	26.50	43.50	-17.00	QP	200	265	
3	236.7927	48.82	-17.92	30.90	46.00	-15.10	QP	200	141	
4	354.6911	46.85	-14.93	31.92	46.00	-14.08	QP	200	48	
5	415.4485	51.11	-13.76	37.35	46.00	-8.65	QP	200	24	
6	478.1394	47.13	-12.67	34.46	46.00	-11.54	QP	200	301	

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #119	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2018/05/28
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 11:06:06
EUT: Wirelrss Light-UP Stereo Headphones	Engineer Signature:
Mode: TX 2402MHz(GFSK)	Distance:
Model: 74498	
Manufacturer: GOOD EVER TRADING LIMITED	

Note: Report NO.:ATE20180749

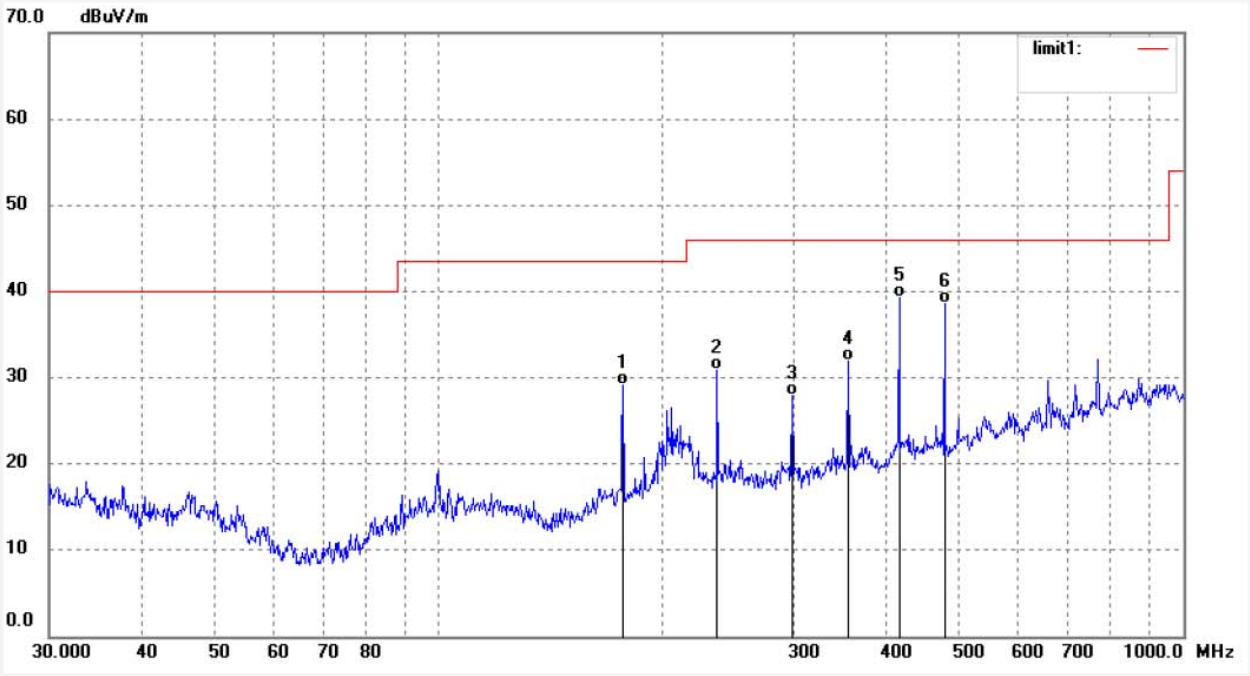


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	130.3048	43.71	-20.22	23.49	43.50	-20.01	QP	100	103	
2	176.8952	43.46	-20.02	23.44	43.50	-20.06	QP	100	85	
3	236.7927	43.10	-17.92	25.18	46.00	-20.82	QP	100	139	
4	354.6911	42.54	-14.93	27.61	46.00	-18.39	QP	100	54	
5	478.1394	43.39	-12.67	30.72	46.00	-15.28	QP	100	111	
6	531.2910	44.14	-11.46	32.68	46.00	-13.32	QP	100	224	

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #121	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2018/05/28
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 11:07:15
EUT: Wirelrss Light-UP Stereo Headphones	Engineer Signature:
Mode: TX 2441MHz(GFSK)	Distance:
Model: 74498	
Manufacturer: GOOD EVER TRADING LIMITED	

Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	176.8951	49.09	-20.02	29.07	43.50	-14.43	QP	200	162	
2	236.7926	48.82	-17.92	30.90	46.00	-15.10	QP	200	102	
3	298.5932	44.48	-16.62	27.86	46.00	-18.14	QP	200	196	
4	354.6911	46.85	-14.93	31.92	46.00	-14.08	QP	200	52	
5	415.4485	53.11	-13.76	39.35	46.00	-6.65	QP	200	132	
6	478.1394	51.28	-12.67	38.61	46.00	-7.39	QP	200	201	

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Site: 1# Chamber
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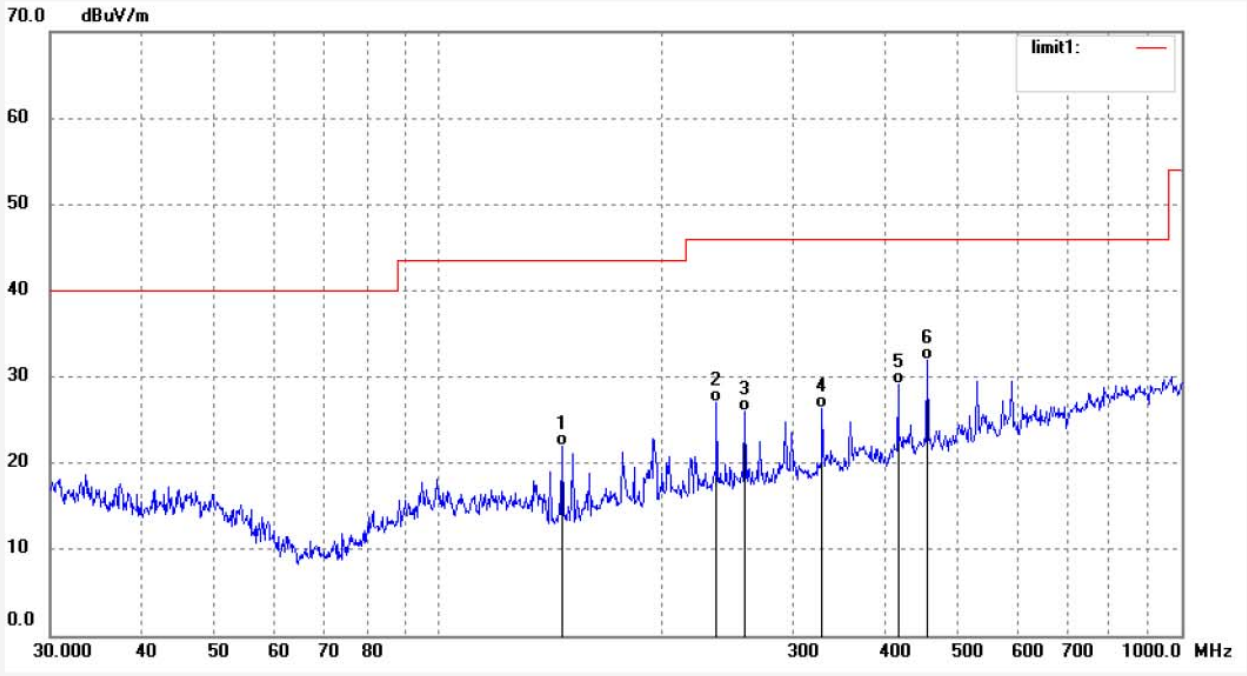
Fax:+86-0755-26503396

Job No.: FRANK2018A #122	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2018/05/28
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 11:10:01
EUT: Wirelrss Light-UP Stereo Headphones	Engineer Signature:
Mode: TX 2441MHz(GFSK)	Distance:
Model: 74498	
Manufacturer: GOOD EVER TRADING LIMITED	

Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	146.8392	43.44	-21.47	21.97	43.50	-21.53	QP	100	167	
2	236.7927	44.96	-17.92	27.04	46.00	-18.96	QP	100	201	
3	258.5333	43.79	-17.82	25.97	46.00	-20.03	QP	100	254	
4	328.3068	41.96	-15.68	26.28	46.00	-19.72	QP	100	41	
5	415.4485	42.85	-13.76	29.09	46.00	-16.91	QP	100	158	
6	455.1888	44.97	-13.01	31.96	46.00	-14.04	QP	100	320	

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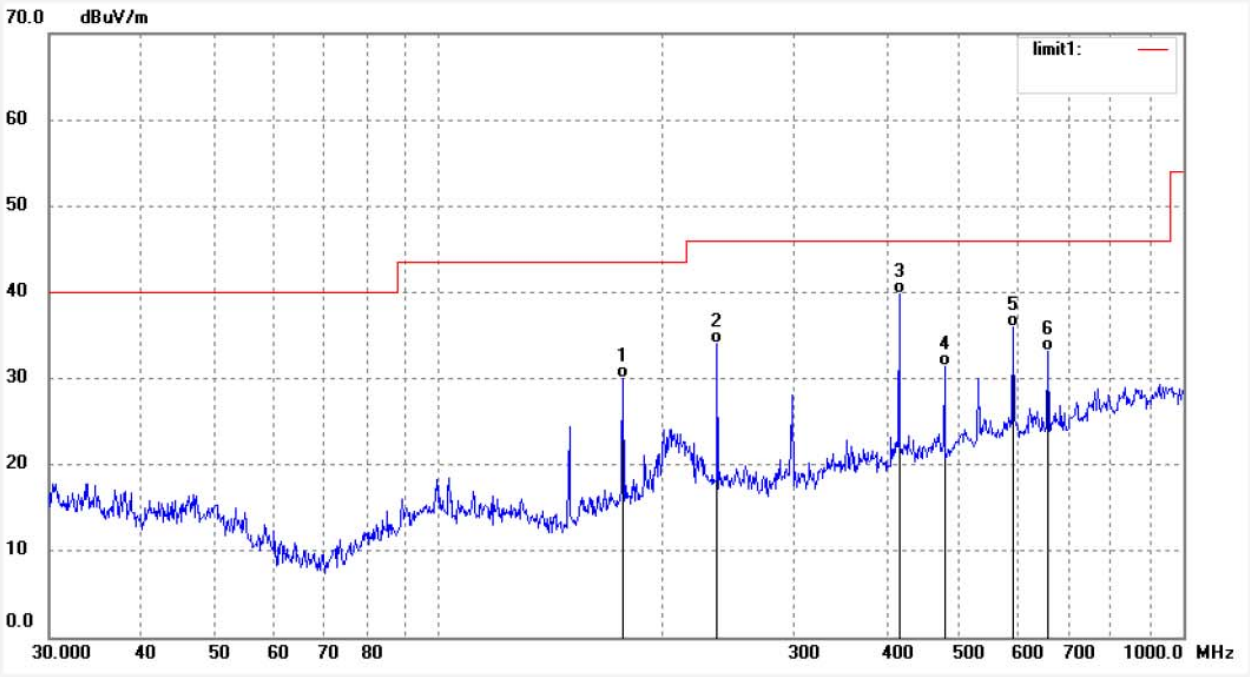
Fax:+86-0755-26503396

Job No.: FRANK2018A #124
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2480MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2018/05/28
Time: 11:11:36
Engineer Signature:
Distance:

Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	176.8952	49.98	-20.02	29.96	43.50	-13.54	QP	200	56	
2	236.7927	51.88	-17.92	33.96	46.00	-12.04	QP	200	234	
3	415.4485	53.54	-13.76	39.78	46.00	-6.22	QP	200	41	
4	478.1394	44.00	-12.67	31.33	46.00	-14.67	QP	200	145	
5	590.3510	46.21	-10.33	35.88	46.00	-10.12	QP	200	210	
6	658.2854	42.59	-9.46	33.13	46.00	-12.87	QP	200	136	

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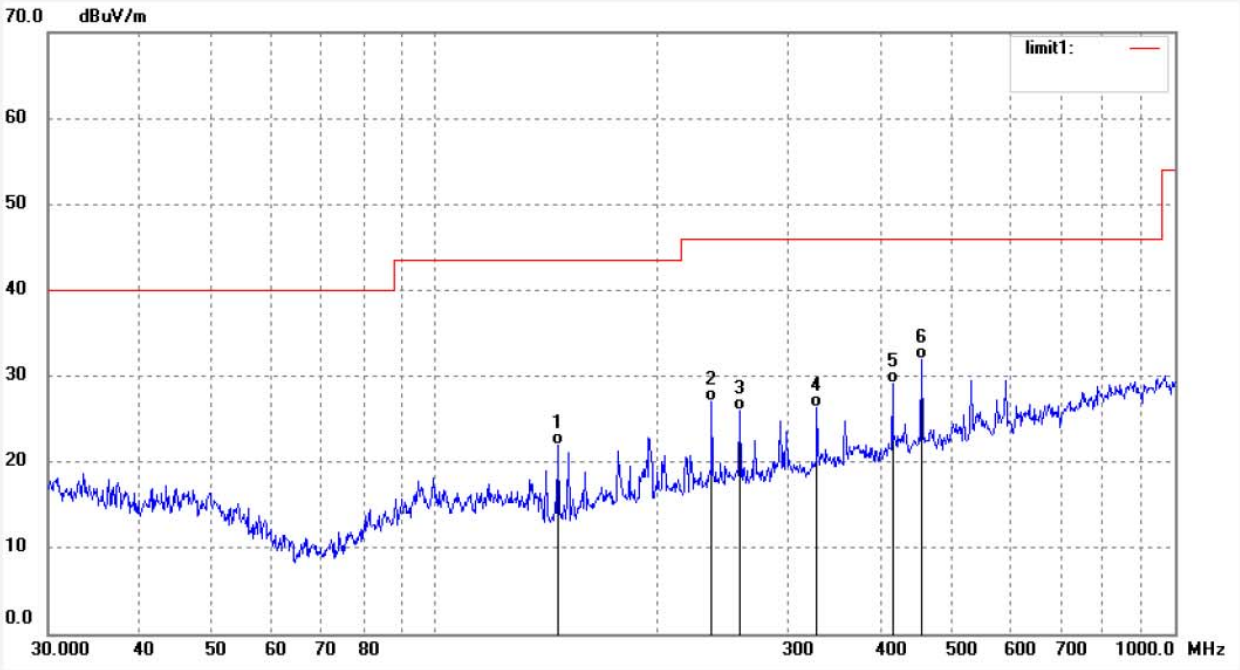
Fax:+86-0755-26503396

Job No.: FRANK2018A #123
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2480MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Vertical
Power Source: DC 3.7V
Date: 2018/05/28
Time: 11:10:33
Engineer Signature:
Distance:

Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	146.8392	43.44	-21.47	21.97	43.50	-21.53	QP	100	320	
2	236.7927	44.96	-17.92	27.04	46.00	-18.96	QP	100	104	
3	258.5333	43.79	-17.82	25.97	46.00	-20.03	QP	100	210	
4	328.3068	41.96	-15.68	26.28	46.00	-19.72	QP	100	258	
5	415.4485	42.85	-13.76	29.09	46.00	-16.91	QP	100	15	
6	455.1888	44.97	-13.01	31.96	46.00	-14.04	QP	100	118	

Above 1GHz

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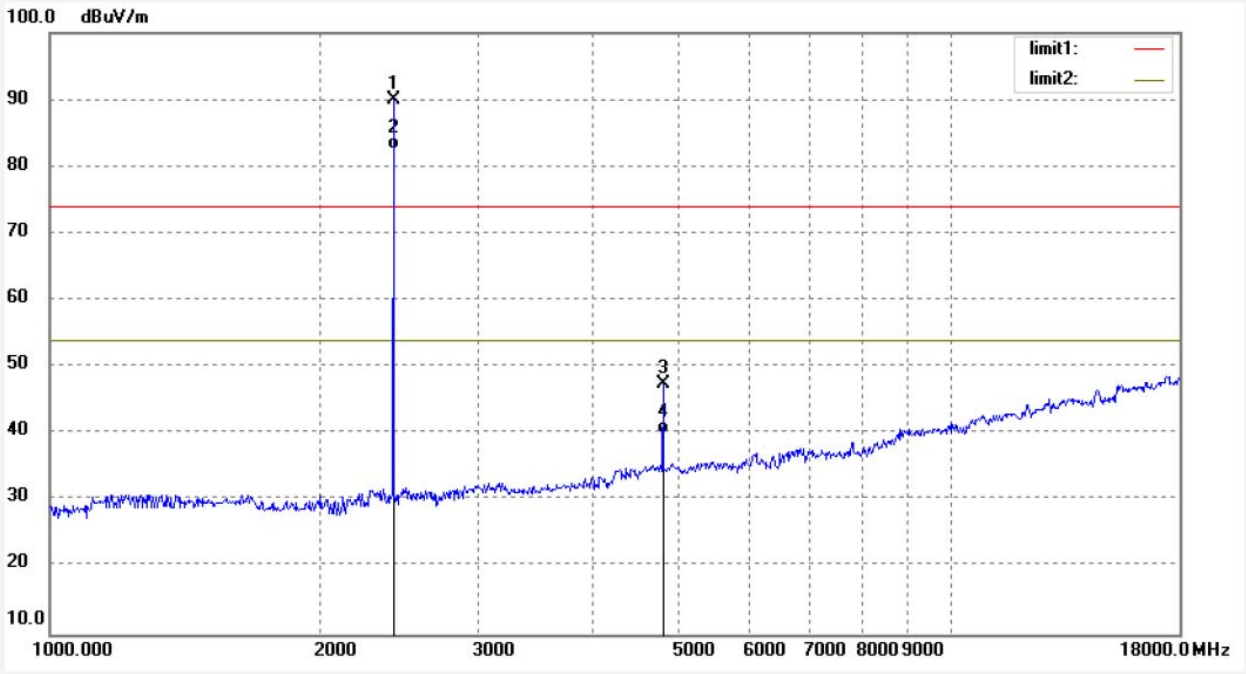
Fax:+86-0755-26503396

Job No.: FRANK2018A #139
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2402MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2018/05/28
Time: 11:29:34
Engineer Signature:
Distance:

Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.100	98.84	-7.96	90.88			peak	200	122	
2	2402.100	90.56	-7.96	82.60			AVG	250	341	
3	4804.328	49.87	-2.30	47.57	74.00	-26.43	peak	200	125	
4	4804.328	41.29	-2.30	38.99	54.00	-15.01	AVG	200	46	

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Site: 1# Chamber
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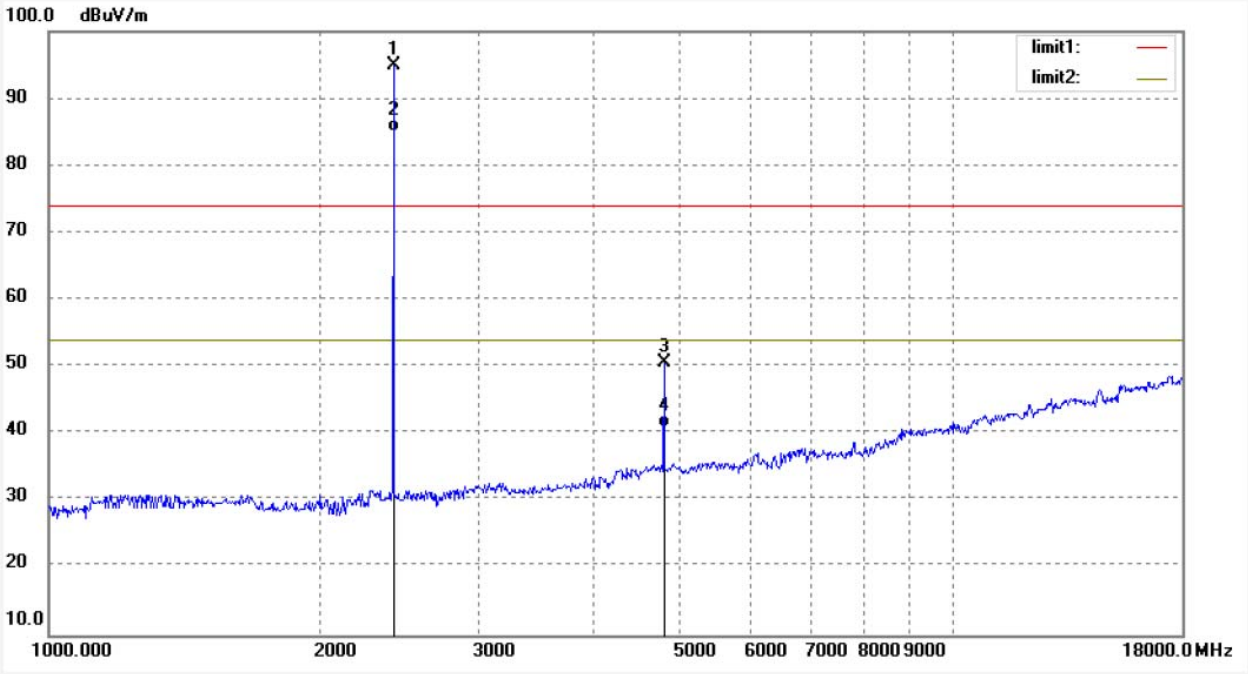
Fax:+86-0755-26503396

Job No.: FRANK2018A #138
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2402MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Vertical
Power Source: DC 3.7V
Date: 2018/05/28
Time: 11:29:34
Engineer Signature:
Distance:

Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.100	102.84	-7.96	94.88			peak	200	164	
2	2402.100	93.00	-7.96	85.04			AVG	150	215	
3	4804.328	52.87	-2.30	50.57	74.00	-23.43	peak	200	214	
4	4804.328	43.15	-2.30	40.85	54.00	-13.15	AVG	150	327	

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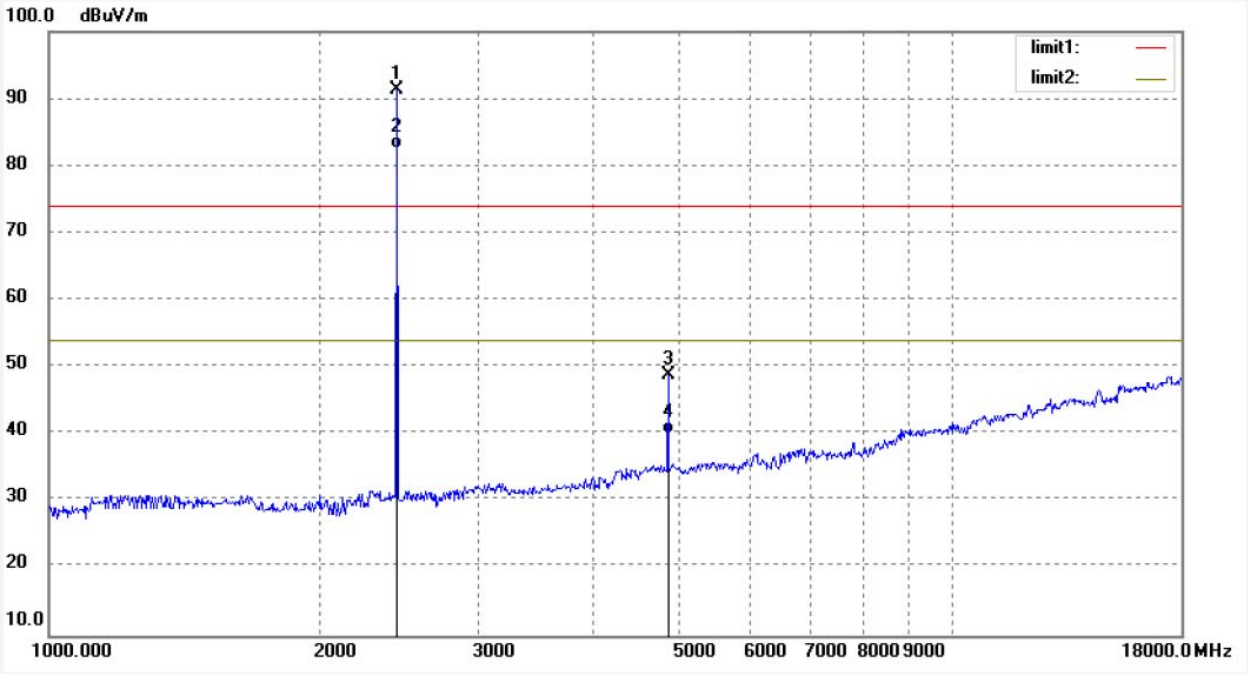
Fax:+86-0755-26503396

Job No.: FRANK2018A #140
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2441MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2018/05/28
Time: 11:29:34
Engineer Signature:
Distance:

Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.224	99.16	-7.90	91.26			peak	250	147	
2	2441.224	90.54	-7.90	82.64			AVG	200	154	
3	4882.557	50.99	-2.10	48.89	74.00	-25.11	peak	200	94	
4	4882.557	42.15	-2.10	40.05	54.00	-13.95	AVG	200	211	

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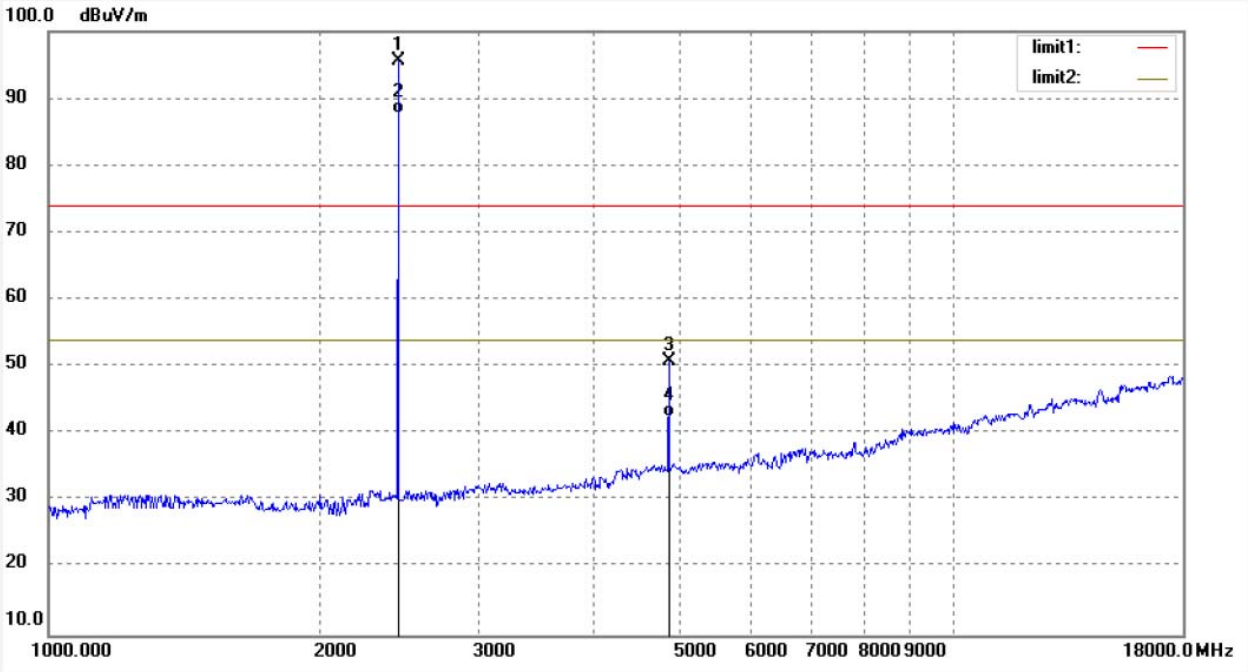
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #141
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2441MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Vertical
Power Source: DC 3.7V
Date: 2018/05/28
Time: 11:29:34
Engineer Signature:
Distance:

Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.107	103.44	-7.88	95.56			peak	150	154	
2	2441.107	95.65	-7.88	87.77			AVG	200	46	
3	4882.557	52.99	-2.10	50.89	74.00	-23.11	peak	150	212	
4	4882.557	44.65	-2.10	42.55	54.00	-11.45	AVG	150	175	

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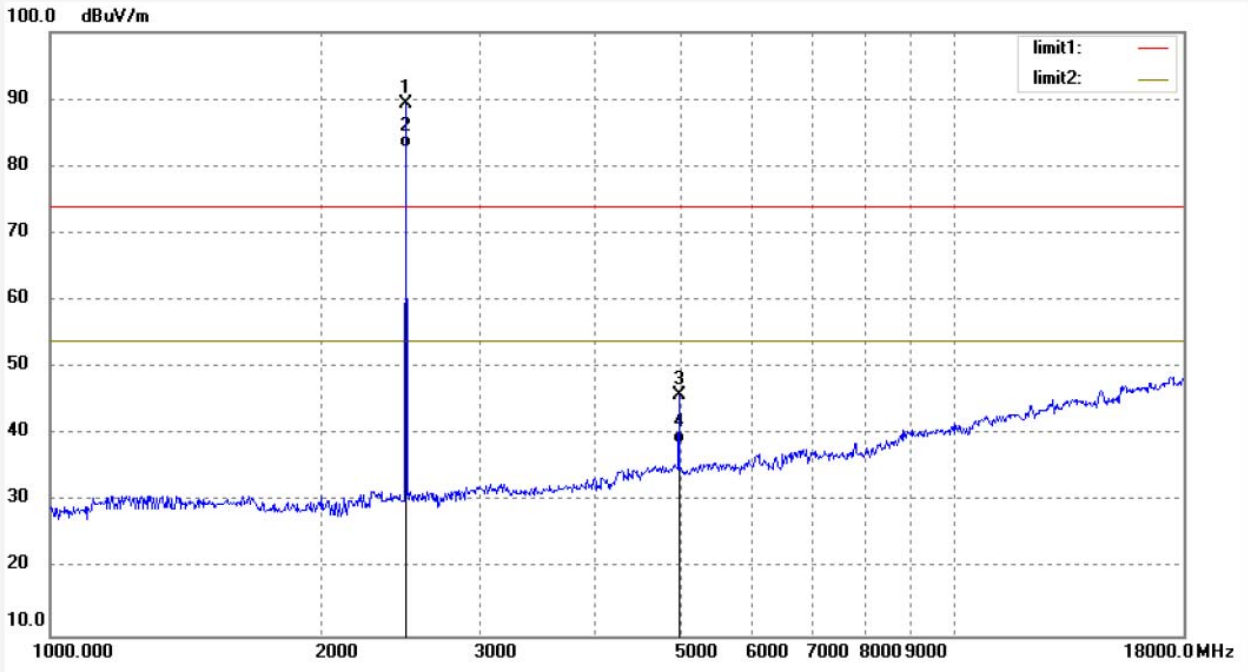
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #143
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2480MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2018/05/28
Time: 11:29:34
Engineer Signature:
Distance:

Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2479.738	97.02	-7.76	89.26			peak	200	165	
2	2479.738	90.45	-7.76	82.69			AVG	200	42	
3	4960.997	48.60	-1.72	46.88	74.00	-27.12	peak	250	110	
4	4960.997	40.42	-1.72	38.70	54.00	-15.30	AVG	200	157	

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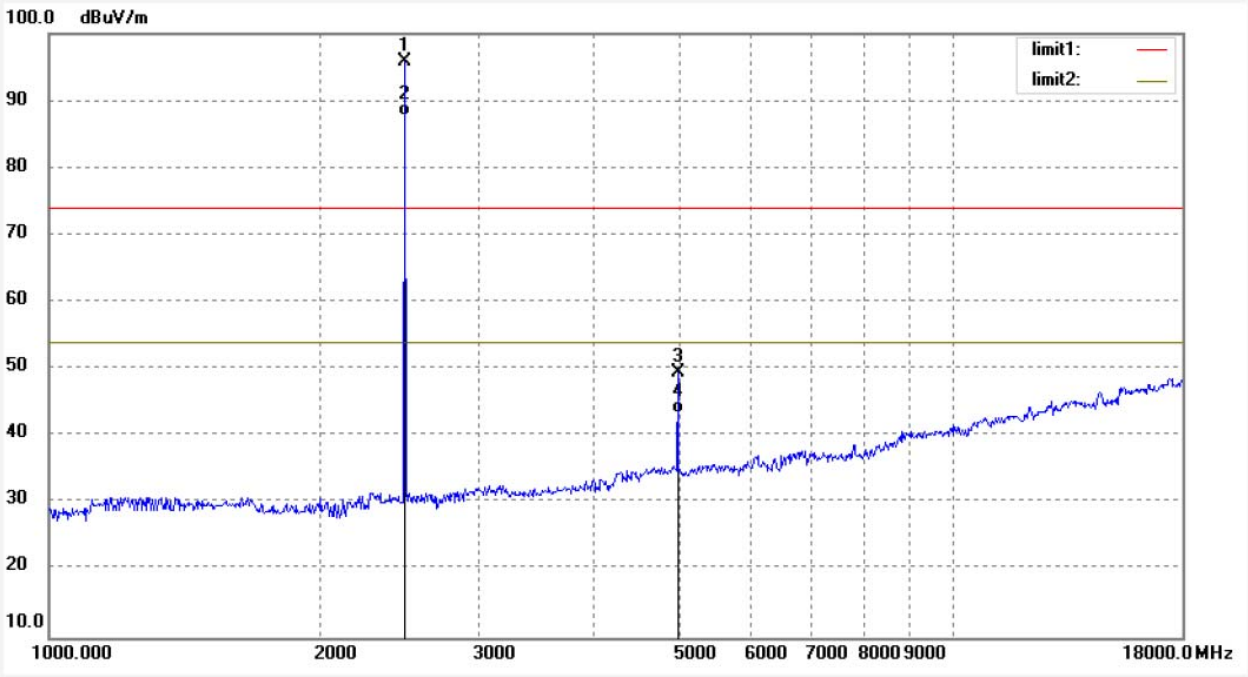
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #142
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2480MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Vertical
Power Source: DC 3.7V
Date: 2018/05/28
Time: 11:29:34
Engineer Signature:
Distance:

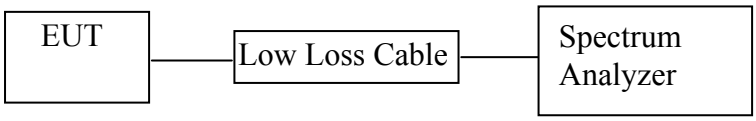
Note: Report NO.:ATE20180749



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2479.738	103.52	-7.76	95.76			peak	200		
2	2479.738	95.42	-7.76	87.66			AVG	200		
3	4960.997	51.10	-1.72	49.38	74.00	-24.62	peak	200		
4	4960.997	44.15	-1.72	42.43	54.00	-11.57	AVG	150		

11.BAND EDGE COMPLIANCE TEST

11.1.Block Diagram of Test Setup



(EUT: Wireless Light-UP Stereo Headphones)

11.2.The Requirement For Section 15.247(d)

Section 15.247(d): In any 100 kHz bandwidth out side the frequency band in which the spread spectrum or digitally m odulated in tentional 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 ba nd that contains the highest level of the desired power, based on either an RF conducte d or a radiated m easurement, provided the transmitter dem onstrates com pliance with the peak conducted power lim its. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a tim e interval, as perm itted under paragr aph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general lim its 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), m ust also comply with the radiated emission limits specified in Section 15.209(a).

11.3.EUT Configuration on Measurement

The equipm ent are installed on the em ission Measurem ent to m eet the com mission requirements and operating regulations in a m anner which tends to m aximize 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.

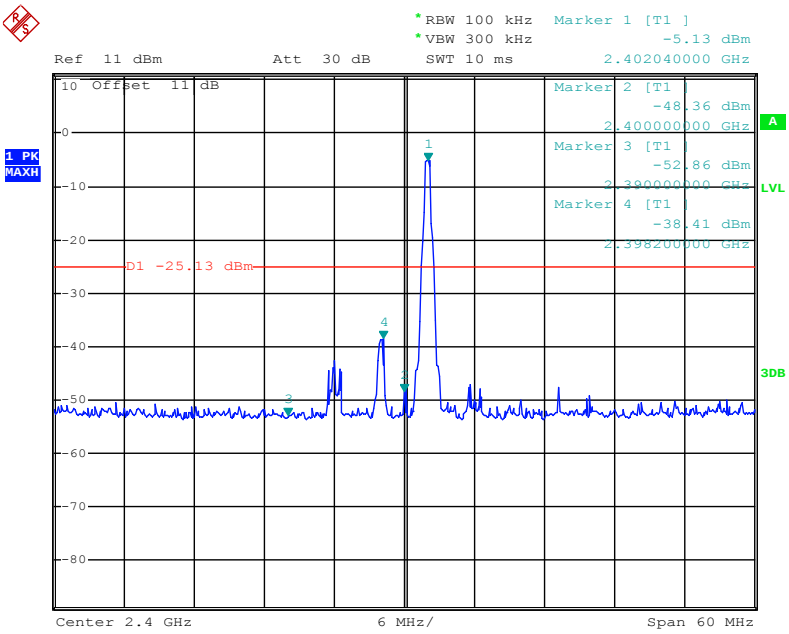
11.6.Test Result

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
GFSK Mode		
2400.00 43.23		> 20dBc
2483.50 42.25		> 20dBc
Π/4-DQPSK Mode		
2400.00 46.89		> 20dBc
2483.50 42.37		> 20dBc
8DPSK Mode		
2400.00 39.15		> 20dBc
2483.50 46.72		> 20dBc

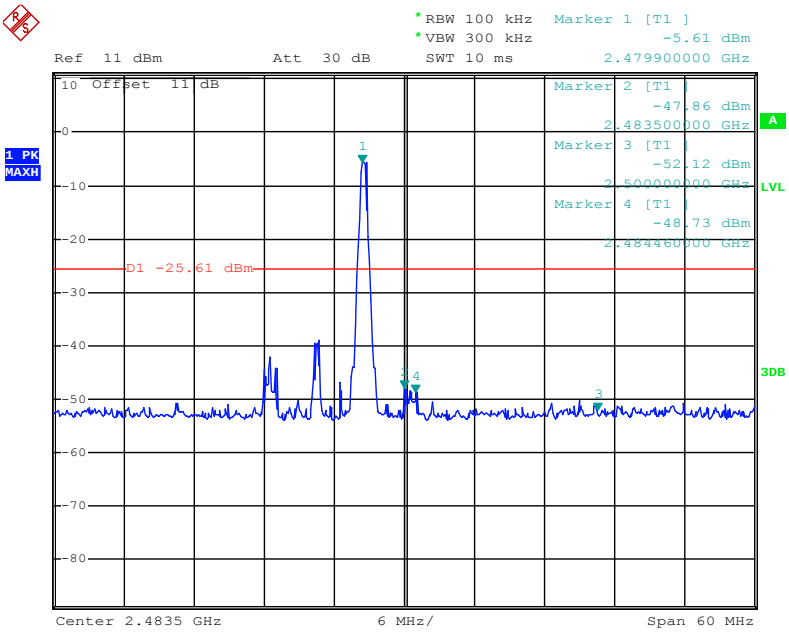
Note: Both hopping-on mode and hopping-off mode had been pre-tested, and only the worst case was recorded in the test report.

The spectrum analyzer plots are attached as below.

GFSK Mode

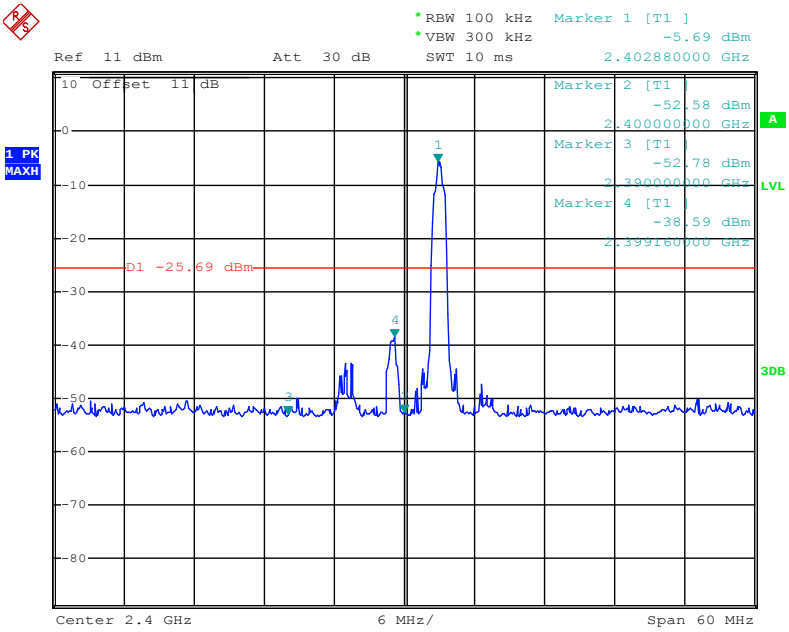


Date: 21.MAY.2018 16:19:24

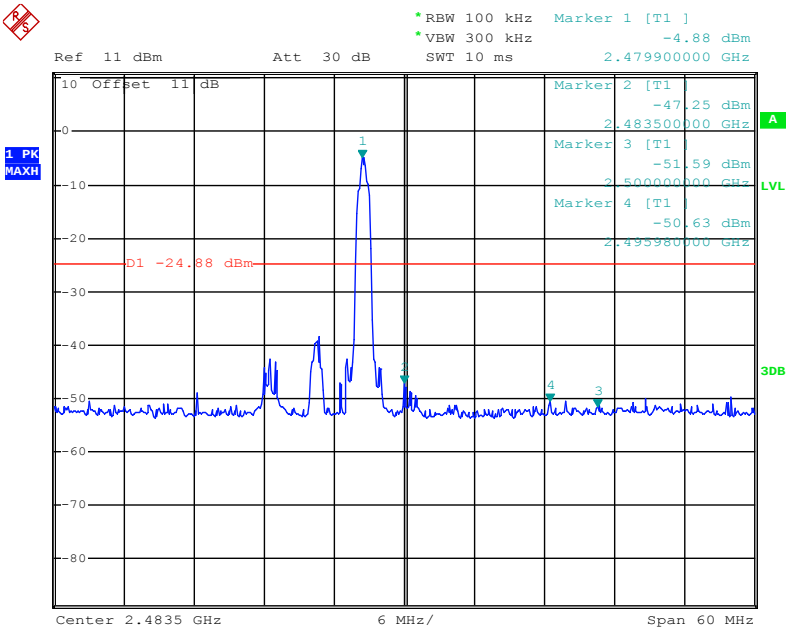


Date: 21.MAY.2018 16:18:05

Π/4-DQPSK Mode

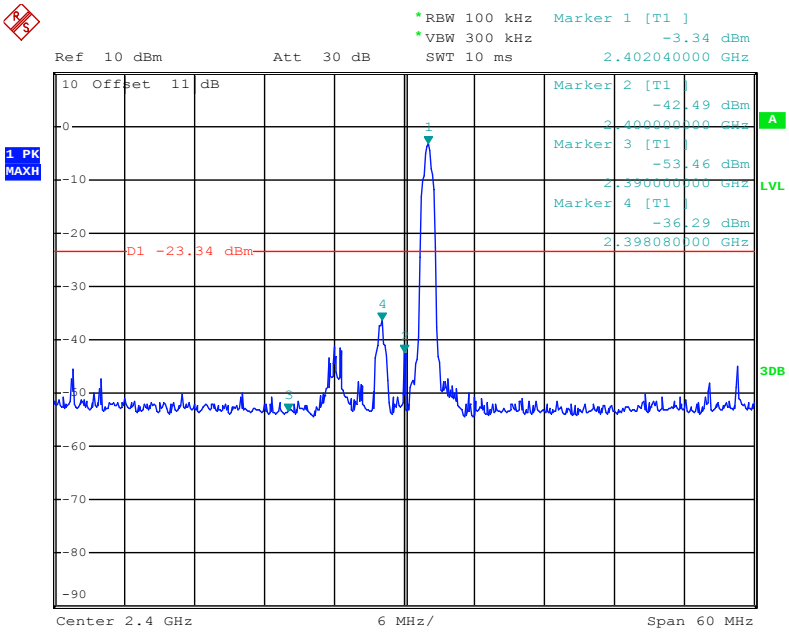


Date: 21.MAY.2018 16:15:22

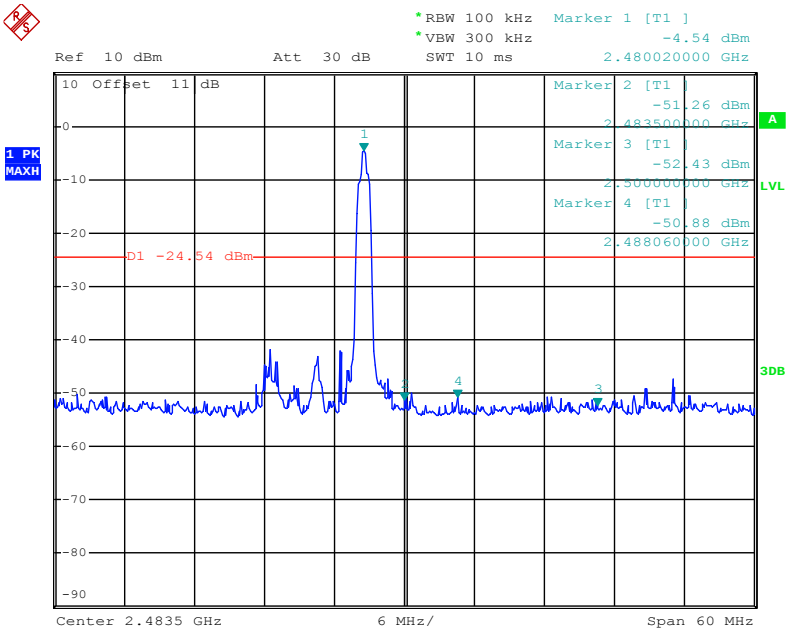


Date: 21.MAY.2018 16:17:02

8DPSK Mode



Date: 21.MAY.2018 10:31:51



Date: 21.MAY.2018 10:30:35

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. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

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

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

The spectrum analyzer plots are attached as below.

Non-hopping mode

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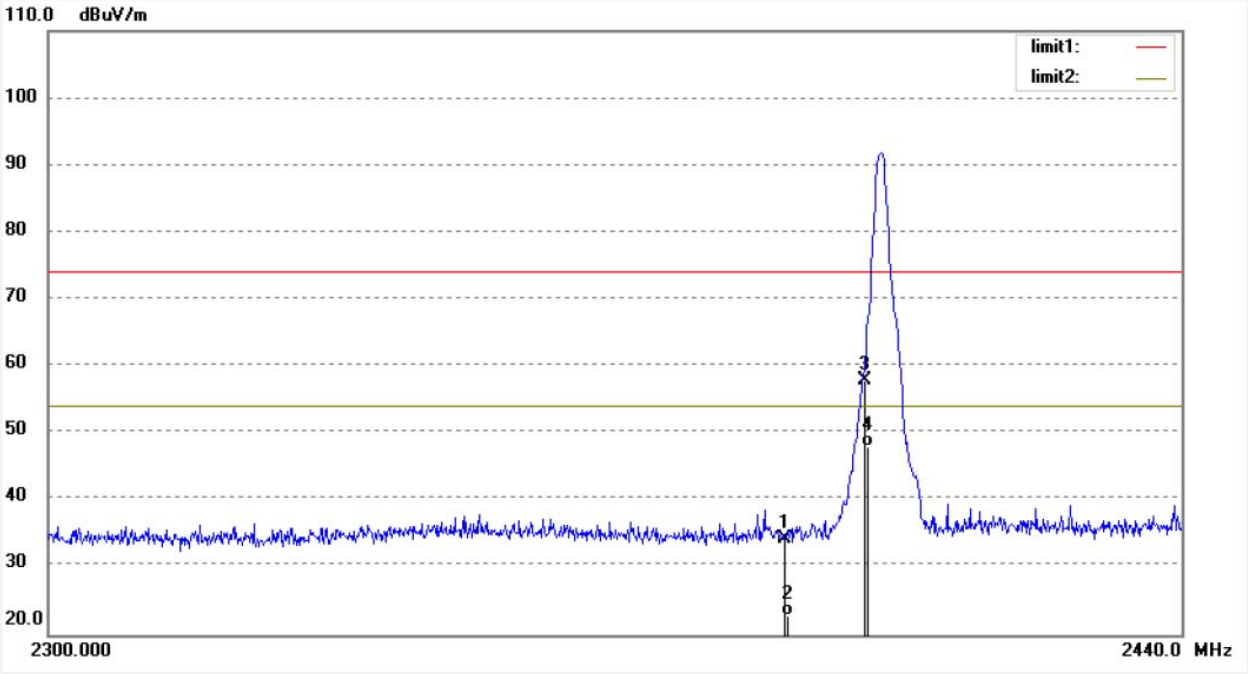
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #160
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2402MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2018/05/28
Time: 13:41:35
Engineer Signature: Frank
Distance: 3m

Note: Report NO.:ATE20180749



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	38.70	-4.32	34.38	74.00	-39.62	peak	250	132	
2	2390.000	27.15	-4.32	22.83	54.00	-31.17	AVG	250	97	
3	2400.000	62.15	-4.27	57.88	74.00	-16.12	peak	250	45	
4	2400.000	52.18	-4.27	47.91	54.00	-6.09	AVG	250	102	

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

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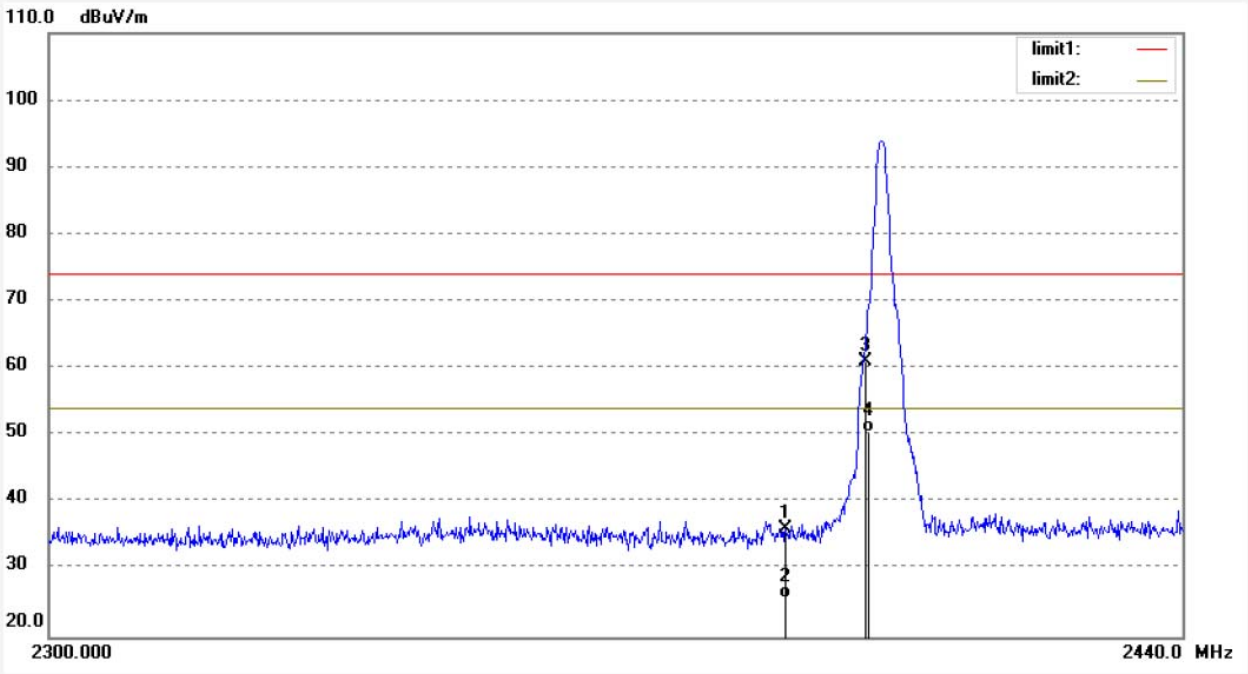
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #161	Polarization: Vertical
Standard: FCC PK	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2018/05/28
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 13:42:28
EUT: Wirelrss Light-UP Stereo Headphones	Engineer Signature: Frank
Mode: TX 2402MHz(GFSK)	Distance: 3m
Model: 74498	
Manufacturer: GOOD EVER TRADING LIMITED	

Note: Report NO.:ATE20180749



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	40.31	-4.32	35.99	74.00	-38.01	peak	250	132	
2	2390.000	30.12	-4.32	25.80	54.00	-28.20	AVG	250	185	
3	2400.000	65.35	-4.27	61.08	74.00	-12.92	peak	250	58	
4	2400.000	54.78	-4.27	50.51	54.00	-3.49	AVG	250	241	

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

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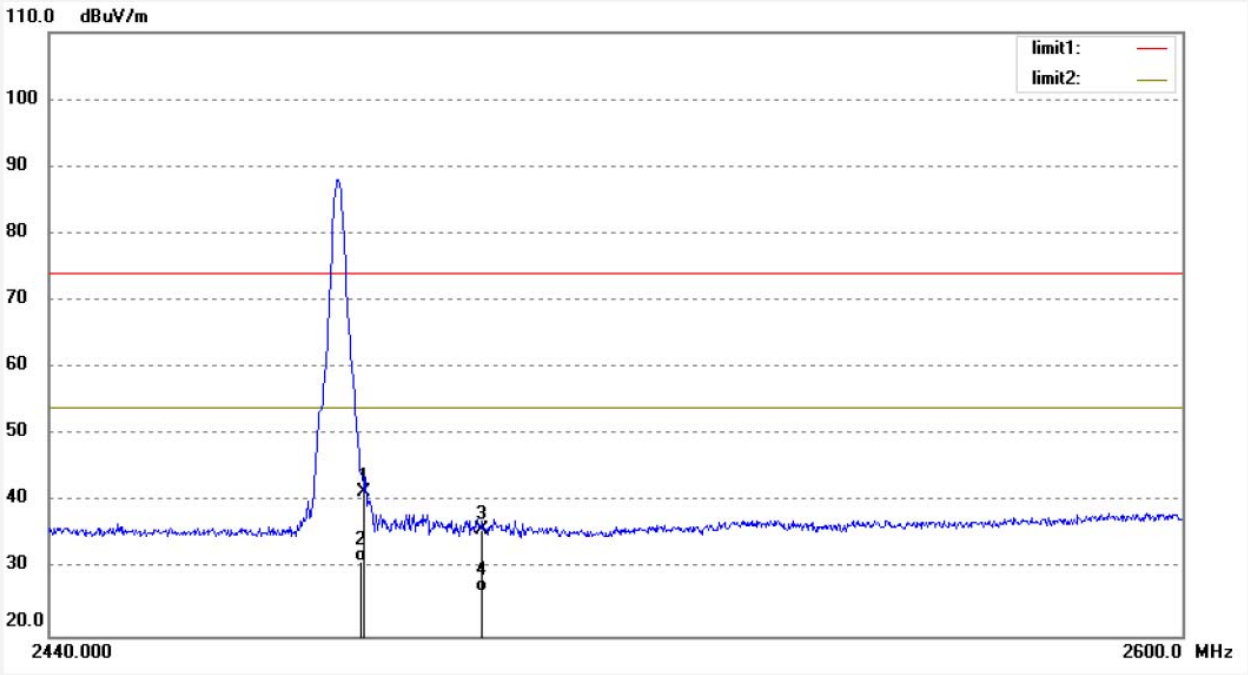
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #163	Polarization: Horizontal
Standard: FCC PK	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2018/05/28
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 13:44:56
EUT: Wirelrss Light-UP Stereo Headphones	Engineer Signature: Frank
Mode: TX 2480MHz(GFSK)	Distance: 3m
Model: 74498	
Manufacturer: GOOD EVER TRADING LIMITED	

Note: Report NO.:ATE20180749



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	45.27	-3.89	41.38	74.00	-32.62	peak	250	121	
2	2483.500	35.12	-3.89	31.23	54.00	-22.77	AVG	250	321	
3	2500.000	39.66	-3.81	35.85	74.00	-38.15	peak	250	94	
4	2500.000	30.45	-3.81	26.64	54.00	-27.36	AVG	250	204	

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

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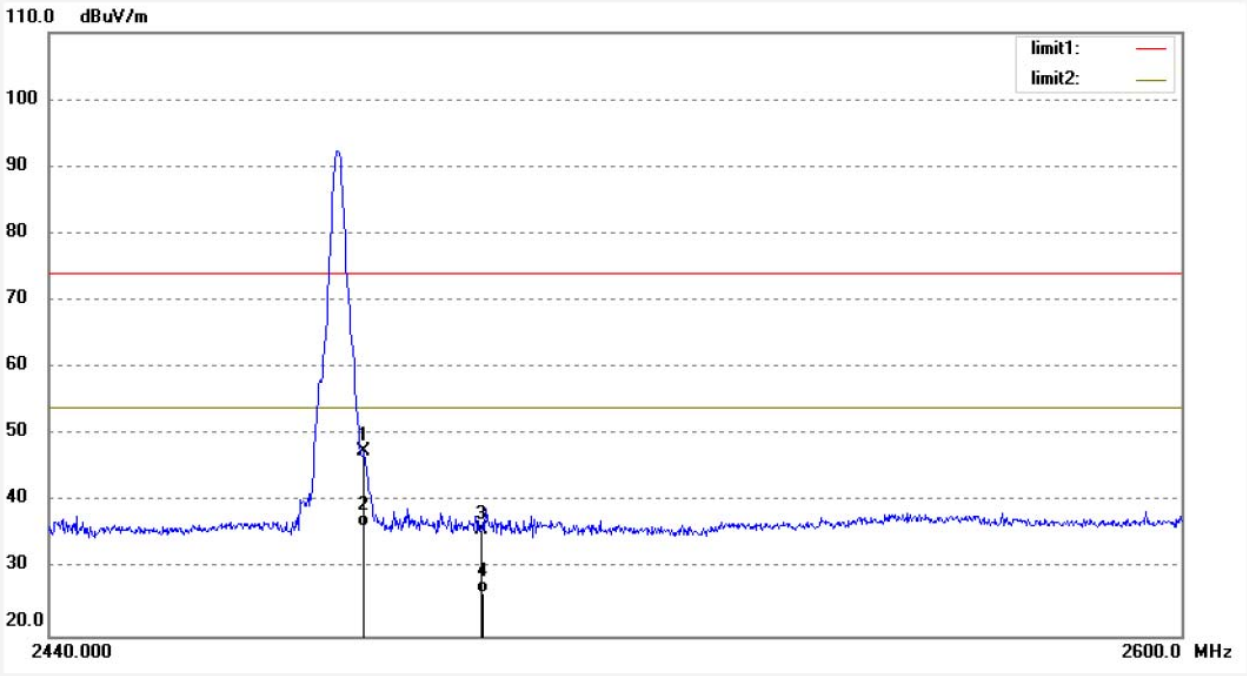
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #162
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: TX 2480MHz(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Vertical
Power Source: DC 3.7V
Date: 2018/05/28
Time: 13:43:51
Engineer Signature: Frank
Distance: 3m

Note: Report NO.:ATE20180749



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	51.44	-3.89	47.55	74.00	-26.45	peak	250	194	
2	2483.500	40.30	-3.89	36.41	54.00	-17.59	AVG	250	259	
3	2500.000	39.66	-3.81	35.85	74.00	-38.15	peak	250	94	
4	2500.000	30.12	-3.81	26.31	54.00	-27.69	AVG	250	267	

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

Hopping mode

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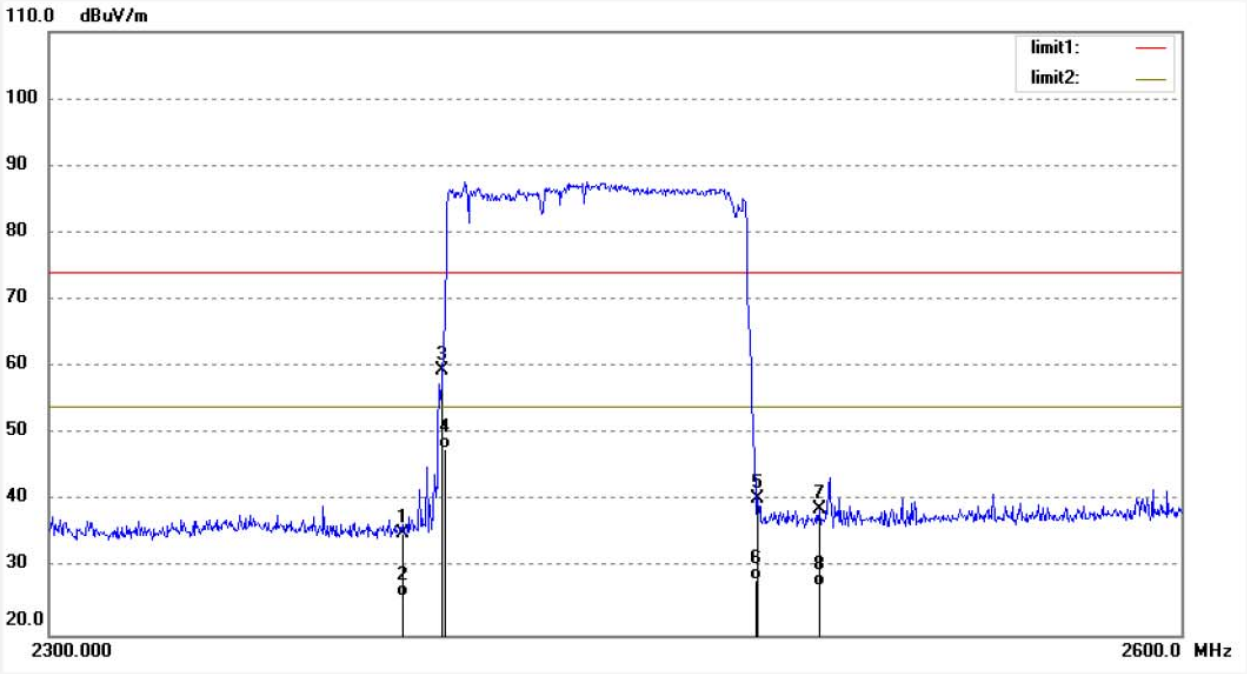
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #169
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: HOPPING(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Horizontal
Power Source: DC 3.7V
Date: 2018/05/28
Time: 13:55:13
Engineer Signature: Frank
Distance: 3m

Note: Report NO.:ATE20180749



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	39.40	-4.32	35.08	74.00	-38.92	peak	200	138	
2	2390.000	30.12	-4.32	25.80	54.00	-28.20	AVG	200	94	
3	2400.000	63.70	-4.27	59.43	74.00	-14.57	peak	200	251	
4	2400.000	52.12	-4.27	47.85	54.00	-6.15	AVG	200	103	
5	2483.500	44.19	-3.89	40.30	74.00	-33.70	peak	250	158	
6	2483.500	32.12	-3.89	28.23	54.00	-25.77	AVG	250	149	
7	2500.000	42.57	-3.81	38.76	74.00	-35.24	peak	250	201	
8	2500.000	31.15	-3.81	27.34	54.00	-26.66	AVG	200	321	

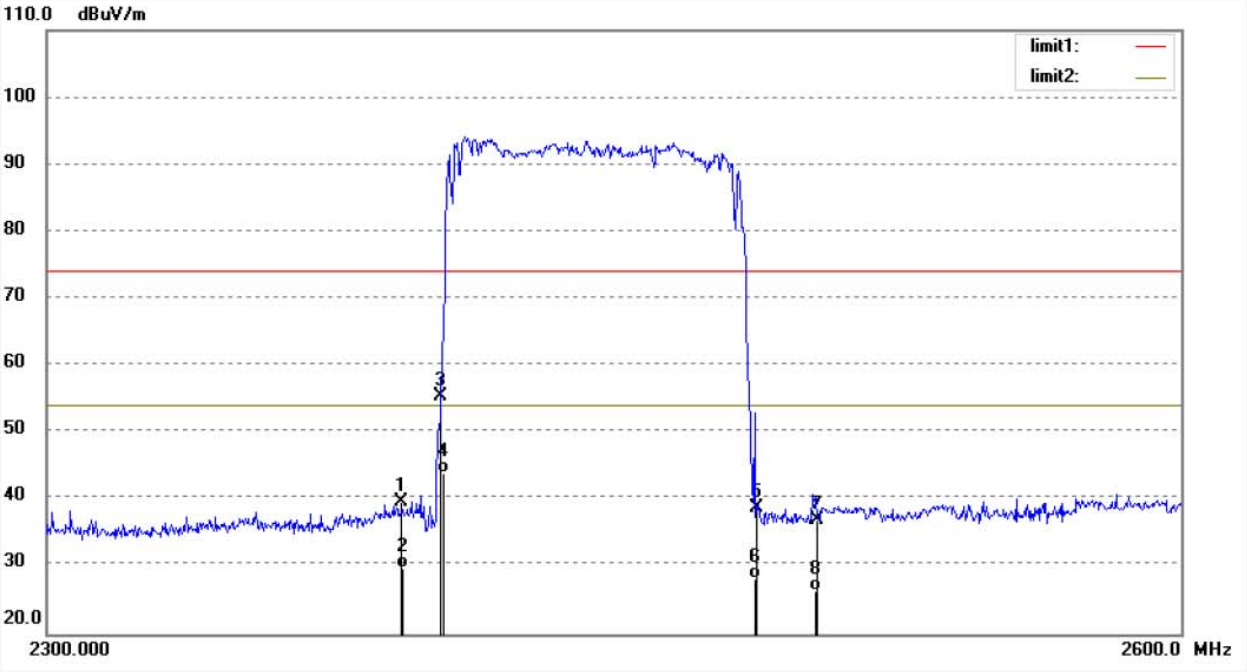
Note: Average measurement with peak detection at No.2&4&6&8

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: FRANK2018A #168
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wirelrss Light-UP Stereo Headphones
Mode: HOPPING(GFSK)
Model: 74498
Manufacturer: GOOD EVER TRADING LIMITED

Polarization: Vertical
Power Source: DC 3.7V
Date: 2018/05/28
Time: 13:52:55
Engineer Signature: Frank
Distance: 3m

Note: Report NO.:ATE20180749



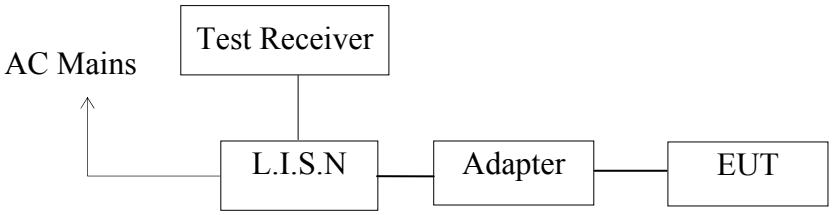
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2390.000	43.95	-4.32	39.63	74.00	-34.37	peak	250	121	
2	2390.000	34.12	-4.32	29.80	54.00	-24.20	AVG	250	13	
3	2400.000	59.68	-4.27	55.41	74.00	-18.59	peak	250	101	
4	2400.000	48.15	-4.27	43.88	54.00	-10.12	AVG	200	127	
5	2483.500	42.62	-3.89	38.73	74.00	-35.27	peak	200	195	
6	2483.500	32.15	-3.89	28.26	54.00	-25.74	AVG	200	125	
7	2500.000	40.83	-3.81	37.02	74.00	-36.98	peak	200	111	
8	2500.000	30.12	-3.81	26.31	54.00	-27.69	AVG	250	320	

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

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

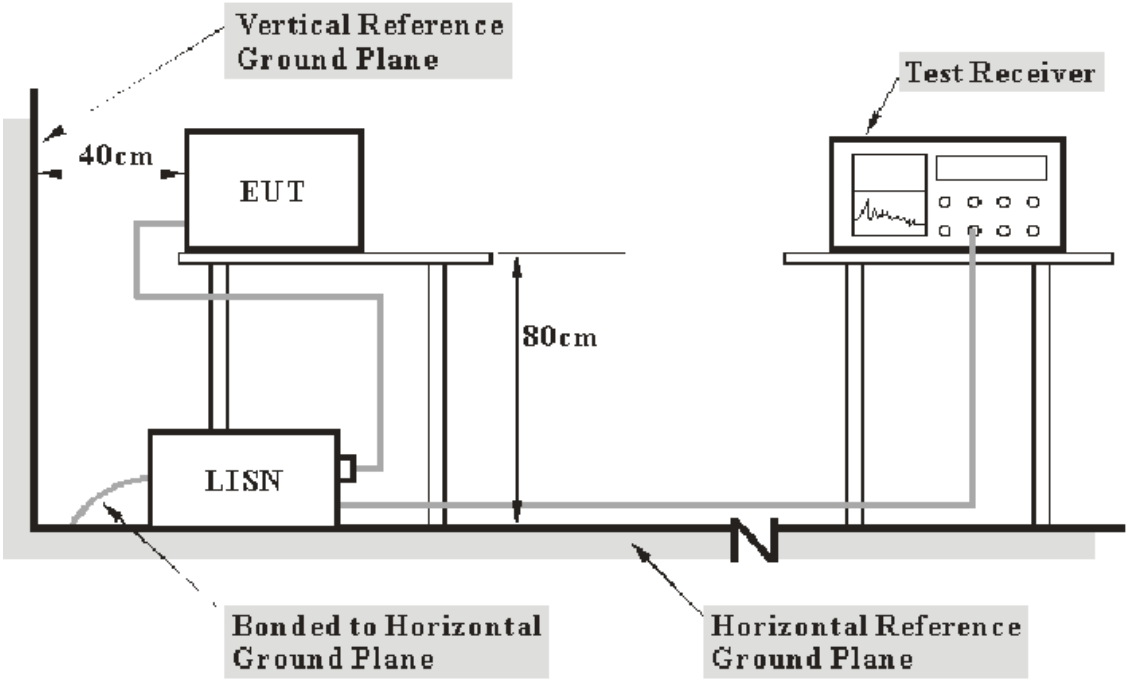
12.1. Block Diagram of Test Setup

12.1.1. Block diagram of connection between the EUT and simulators



(EUT: Wireless Light-UP Stereo Headphones)

12.1.2. Test System Setup



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

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 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.Data Sample

Frequency (MHz)	Transducer value (dB)	QuasiPeak Level (dBμV)	Average Level (dBμV)	QuasiPeak Limit (dBμV)	Average Limit (dBμV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XX	10.6	25.3	17.0 59.0		49.0	33.4	31.7 Pass	

Frequency(MHz) = Emission frequency in MHz
Transducer value(dB) = Insertion loss of LISN + Cable Loss
Level(dBμV) = Quasi-peak Reading/Average Reading + Transducer value
Limit (dBμV) = Limit stated in standard
Margin = Limit (dBμV) - Level (dBμV)

Calculation Formula:
Margin = Limit (dBμV) - Level (dBμV)

12.7.Power Line Conducted Emission Measurement Results

PASS.

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

Maximizing procedure was performed on the six (6) highest emissions of the EUT.
Emissions attenuated more than 20 dB below the permissible value are not reported.

All data was recorded in the Quasi-peak and average detection mode.

The spectral diagrams are attached as below.

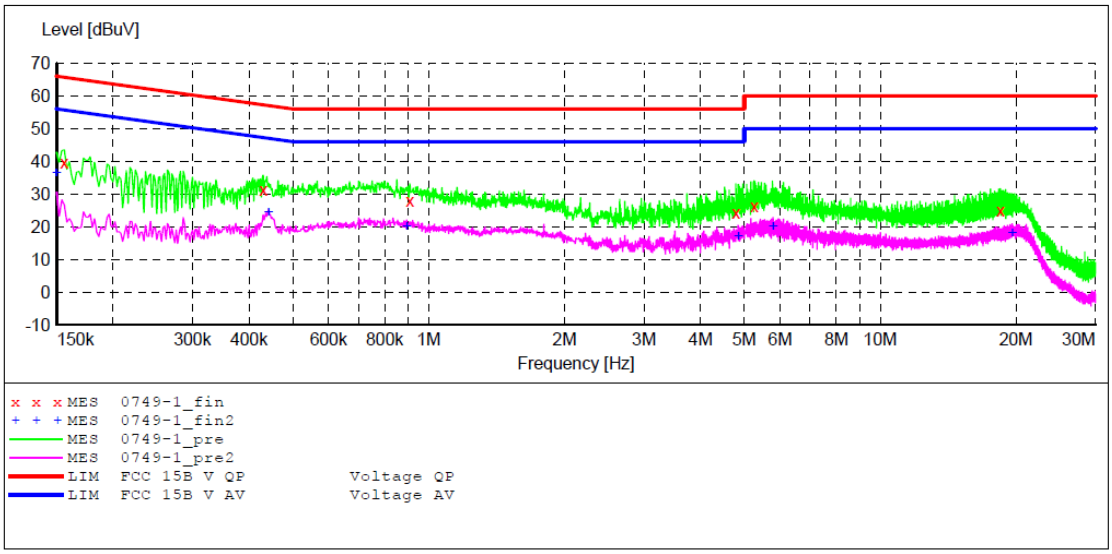
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  Wirelrss Light-UP Stereo Headphones  M/N:74498
Manufacturer:         GOOD EVER TRADING LIMITED
Operating Condition:  CHARGING
Test Site:            2#Shielding Room
Operator:             Frank
Test Specification:   L   120V/60Hz
Comment:              Report NO.:ATE20180749
Start of Test:        2018-5-28 / 10:03:13
```

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: "0749-1_fin"

2018-5-28 10:04

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.156000	39.60	10.8	66	26.1	QP	L1	GND
0.430000	31.20	11.0	57	26.1	QP	L1	GND
0.908000	27.80	11.1	56	28.2	QP	L1	GND
4.790000	24.40	11.4	56	31.6	QP	L1	GND
5.255000	26.40	11.4	60	33.6	QP	L1	GND
18.460000	24.90	11.7	60	35.1	QP	L1	GND

MEASUREMENT RESULT: "0749-1_fin2"

2018-5-28 10:04

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.150000	36.60	10.8	56	19.4	AV	L1	GND
0.442000	24.60	11.0	47	22.4	AV	L1	GND
0.894000	20.40	11.1	46	25.6	AV	L1	GND
4.845000	17.40	11.4	46	28.6	AV	L1	GND
5.790000	20.20	11.5	50	29.8	AV	L1	GND
19.600000	18.40	11.7	50	31.6	AV	L1	GND

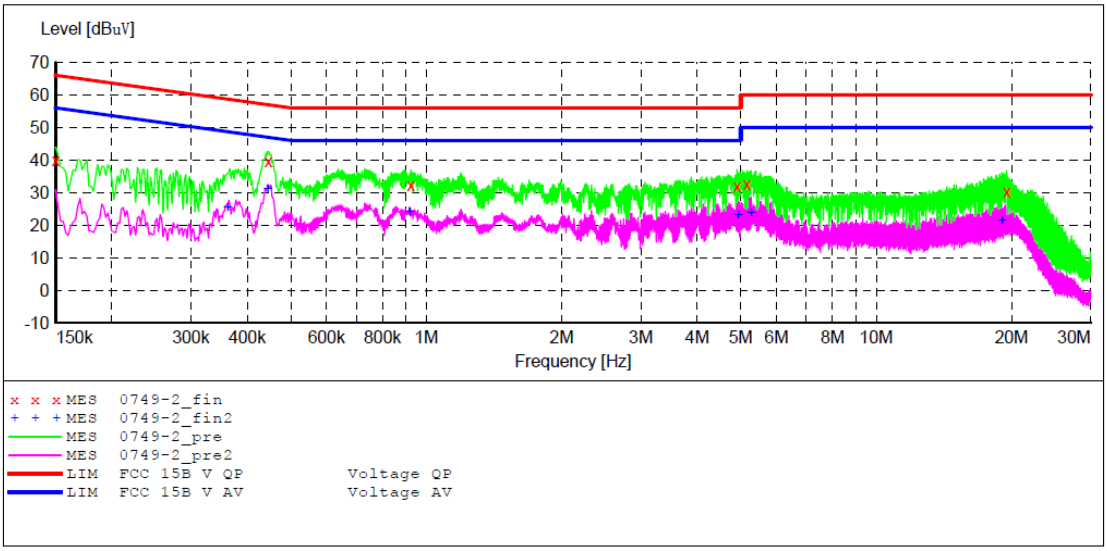
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  Wirelrss Light-UP Stereo Headphones  M/N:74498
Manufacturer:         GOOD EVER TRADING LIMITED
Operating Condition:  CHARGING
Test Site:            2#Shielding Room
Operator:             Frank
Test Specification:   N   120V/60Hz
Comment:              Report NO.:ATE20180749
Start of Test:        2018-5-28 / 10:06:15
```

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: "0749-2_fin"

2018-5-28 10:08

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.150000	39.80	10.8	66	26.2	QP	N	GND
0.446000	39.60	11.0	57	17.3	QP	N	GND
0.924000	32.30	11.1	56	23.7	QP	N	GND
4.905000	31.90	11.4	56	24.1	QP	N	GND
5.170000	32.70	11.4	60	27.3	QP	N	GND
19.505000	30.40	11.7	60	29.6	QP	N	GND

MEASUREMENT RESULT: "0749-2_fin2"

2018-5-28 10:08

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.362000	25.50	10.9	49	23.2	AV	N	GND
0.444000	31.30	11.0	47	15.7	AV	N	GND
0.918000	24.20	11.1	46	21.8	AV	N	GND
4.925000	23.20	11.4	46	22.8	AV	N	GND
5.270000	23.90	11.4	50	26.1	AV	N	GND
19.035000	21.70	11.7	50	28.3	AV	N	GND

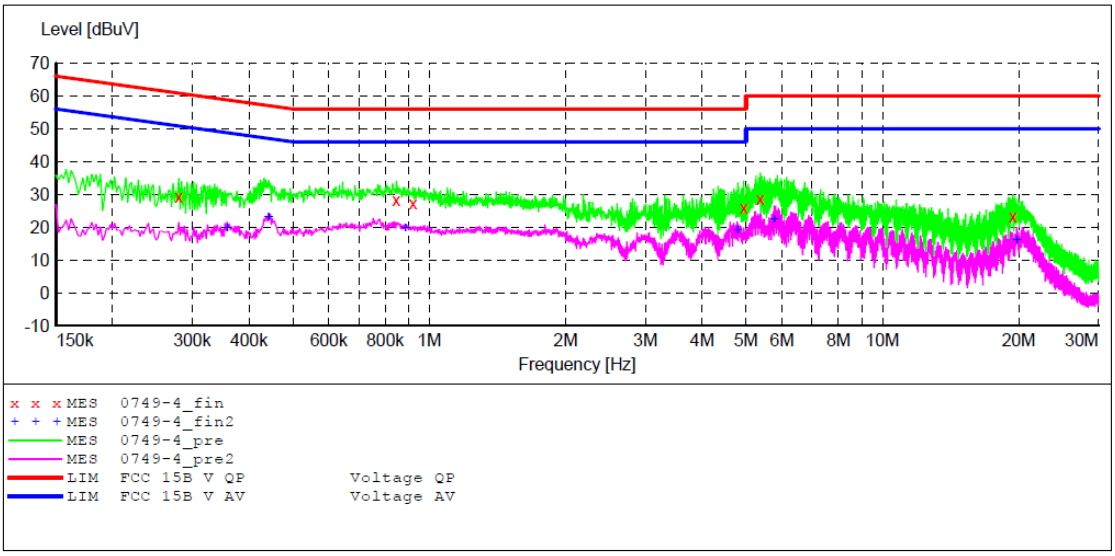
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  Wirelrss Light-UP Stereo Headphones  M/N:74498
Manufacturer:         GOOD EVER TRADING LIMITED
Operating Condition:  CHARGING
Test Site:            2#Shielding Room
Operator:             Frank
Test Specification:   L   240V/60Hz
Comment:              Report NO.:ATE20180749
Start of Test:        2018-5-28 / 10:11:16
```

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

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



MEASUREMENT RESULT: "0749-4_fin"

2018-5-28 10:13

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.280000	29.10	10.9	61	31.7	QP	L1	GND
0.846000	28.40	11.1	56	27.6	QP	L1	GND
0.920000	27.30	11.1	56	28.7	QP	L1	GND
4.945000	25.80	11.4	56	30.2	QP	L1	GND
5.380000	28.60	11.5	60	31.4	QP	L1	GND
19.395000	23.10	11.7	60	36.9	QP	L1	GND

MEASUREMENT RESULT: "0749-4_fin2"

2018-5-28 10:13

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.358000	19.80	10.9	49	29.0	AV	L1	GND
0.442000	23.30	11.0	47	23.7	AV	L1	GND
0.886000	20.00	11.1	46	26.0	AV	L1	GND
4.785000	19.20	11.4	46	26.8	AV	L1	GND
5.765000	22.50	11.5	50	27.5	AV	L1	GND
19.785000	16.30	11.7	50	33.7	AV	L1	GND

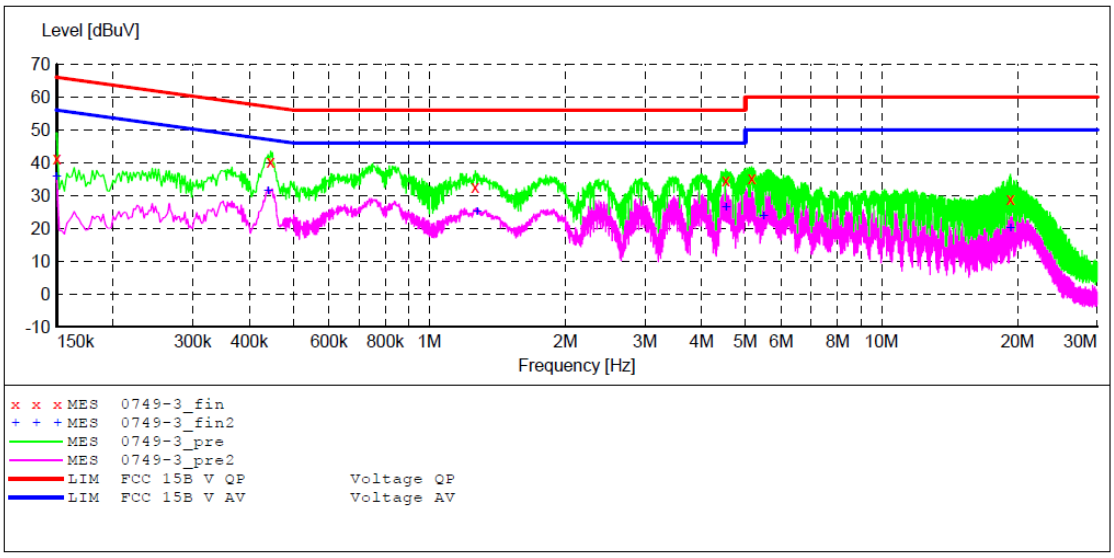
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15B

```
EUT:                  Wirelrss Light-UP Stereo Headphones  M/N:74498
Manufacturer:         GOOD EVER TRADING LIMITED
Operating Condition:  CHARGING
Test Site:            2#Shielding Room
Operator:             Frank
Test Specification:   N   240V/60Hz
Comment:              Report NO.:ATE20180749
Start of Test:        2018-5-28 / 10:08:54
```

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: "0749-3_fin"

2018-5-28 10:10

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.150000	41.40	10.8	66	24.6	QP	N	GND
0.446000	40.20	11.0	57	16.7	QP	N	GND
1.264000	32.60	11.2	56	23.4	QP	N	GND
4.525000	34.50	11.4	56	21.5	QP	N	GND
5.165000	35.20	11.4	60	24.8	QP	N	GND
19.285000	29.00	11.7	60	31.0	QP	N	GND

MEASUREMENT RESULT: "0749-3_fin2"

2018-5-28 10:10

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.150000	36.00	10.8	56	20.0	AV	N	GND
0.440000	31.50	11.0	47	15.6	AV	N	GND
1.276000	25.20	11.2	46	20.8	AV	N	GND
4.530000	26.70	11.4	46	19.3	AV	N	GND
5.475000	23.90	11.5	50	26.1	AV	N	GND
19.300000	20.10	11.7	50	29.9	AV	N	GND

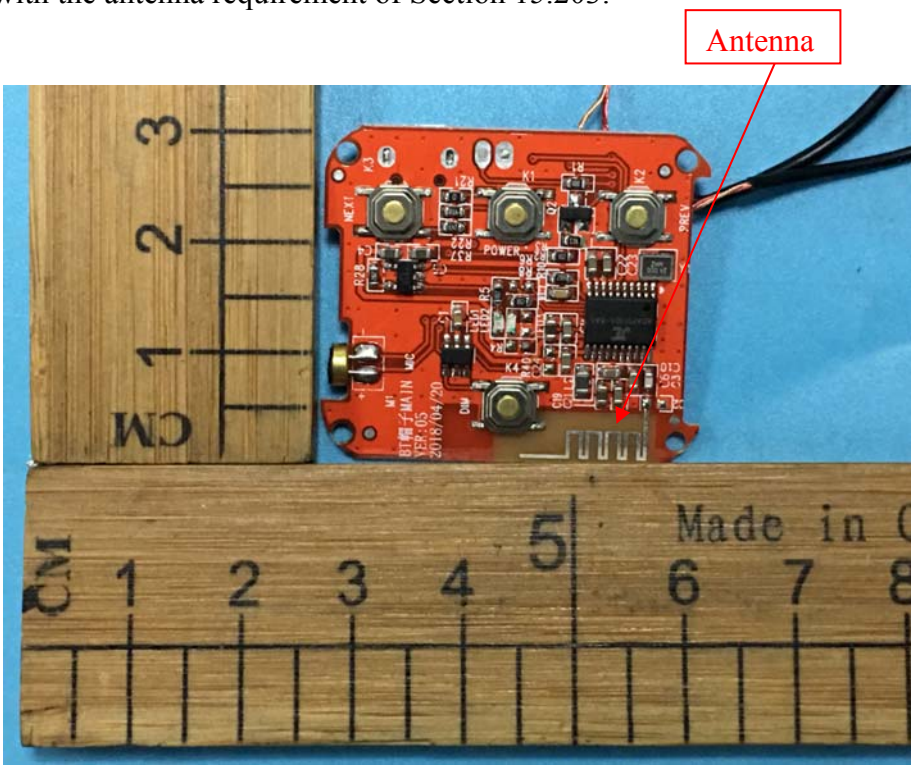
13. ANTENNA REQUIREMENT

13.1. The Requirement

According to Section 15.203, an intentional radi ator 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 -0.58dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



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