APPLICATION CERTIFICATION
On Behalf of
SHENZHEN QI SHENGLONG INDUSTRIALIST CO., LTD.

Bluetooth stereo sports headphones
Model No.: DC-816-1

FCC ID: Y56QSLDC8161

Prepared for	:	SHENZHEN QI SHENGLONG INDUSTRIALIST CO., LTD.
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Report Number	:	ATE20130923
Date of Test	:	May 7- May 14, 2013
Date of Report	:	May 14, 2013

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Test Report Certification

Applicant	:	SHENZHEN QI SHENGLONG INDUSTRIALIST CO., LTD.
Manufacturer	:	DONGGUAN FEIHAO INDUSTRIALIST CO., LTD.
EUT Description	:	Bluetooth stereo sports headphones

(A) MODEL NO.: DC-816-1

(B) SERIAL NO.: N/A

(C) POWER SUPPLY: DC 3.7V (Li-polymer battery) & DC 5V (PC input)

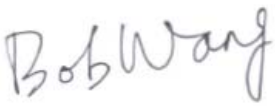
Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.4- 2009

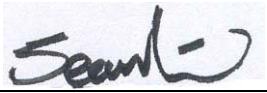
The device described above is tested by ACCURATE TECHNOLOGY CO. LTD to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C Section 15.247 limits. The measurement results are contained in this test report and ACCURATE TECHNOLOGY 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 ACCURATE TECHNOLOGY CO. LTD.

Date of Test : May 7- May 14, 2013

Prepared by : 

(Engineer)

Approved & Authorized Signer : 

(Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Bluetooth stereo sports headphones
Model Number	:	DC-816-1
Frequency Band	:	2402MHz-2480MHz
Number of Channels	:	79
Modulation type	:	GFSK
Antenna Gain	:	0dBi
Power Supply	:	DC 3.7V (Li-polymer battery) & DC 5V (PC input)
Applicant	:	SHENZHEN QI SHENGLONG INDUSTRIALIST CO., LTD.
Address	:	5F., Blk 6A, Jing Nan Industry, Bai Ge long, Buji, Shenzhen, China
Manufacturer	:	DONGGUAN FEIHAO INDUSTRIALIST CO., LTD
Address	:	No. 8, Fengyi Road, Dakan Village, Huangjiang, DongGuan, China
Date of sample received	:	May 7, 2013
Date of Test	:	May 7- May 14, 2013

1.2.Description of Test Facility

EMC Lab	:	Accredited by TUV Rheinland Shenzhen Listed by FCC The Registration Number is 752051 Listed by Industry Canada The Registration Number is 5077A-2 Accredited by China National Accreditation Committee for Laboratories The Certificate Registration Number is L3193
Name of Firm	:	ACCURATE TECHNOLOGY CO. LTD
Site Location	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China

1.3.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

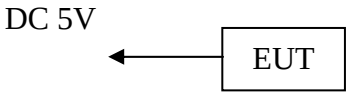
Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 12, 2013	Jan. 11, 2014
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 12, 2013	Jan. 11, 2014
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 12, 2013	Jan. 11, 2014
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 12, 2013	Jan. 11, 2014
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Feb. 06, 2013	Feb. 05, 2014
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Feb. 06, 2013	Feb. 05, 2014
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Feb. 06, 2013	Feb. 05, 2014
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Feb. 06, 2013	Feb. 05, 2014
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 12, 2013	Jan. 11, 2014
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 12, 2013	Jan. 11, 2014

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



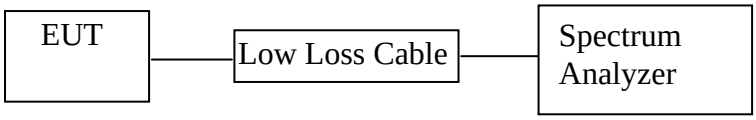
(EUT: Bluetooth stereo sports headphones)

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 stereo sports headphones)

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 following 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.

5.3.1.Bluetooth stereo sports headphones (EUT)

Model Number	**:**	DC-816-1
Serial Number	**:**	N/A
Manufacturer	**:**	DONGGUAN FEIHAO INDUSTRIALIST CO., LTD

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.

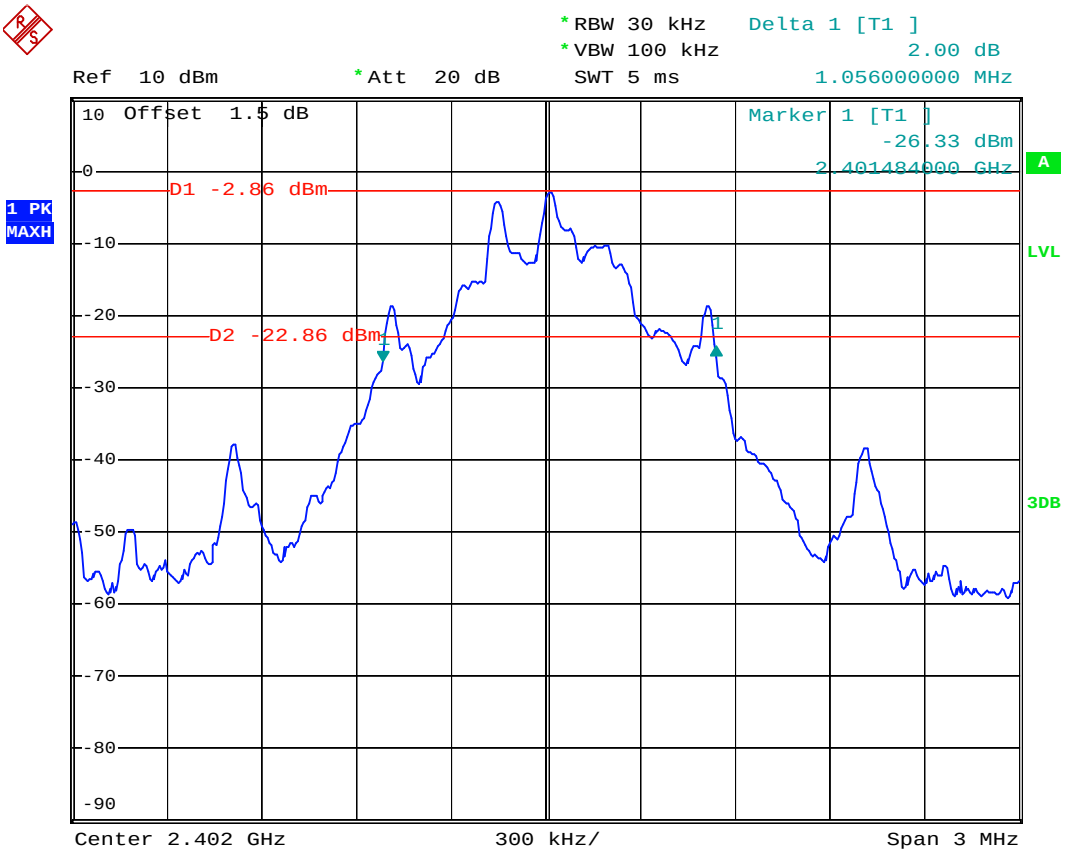
5.6. Test Result

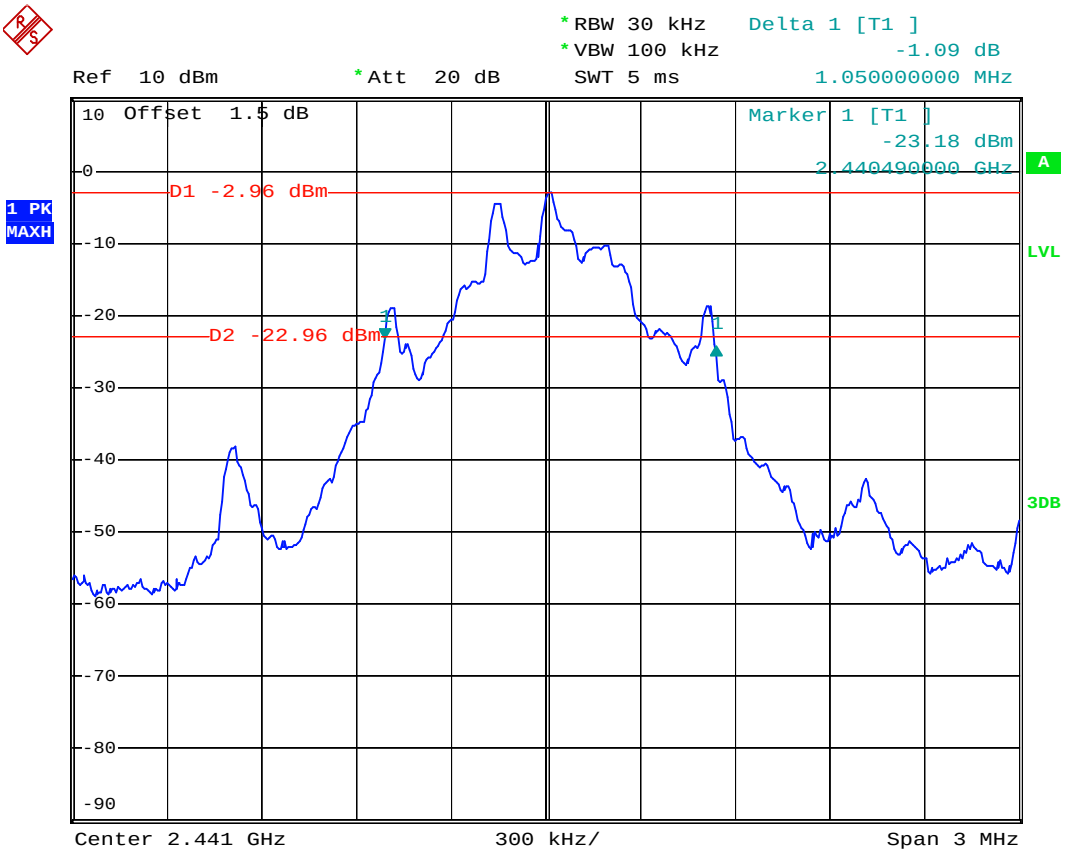
PASS.

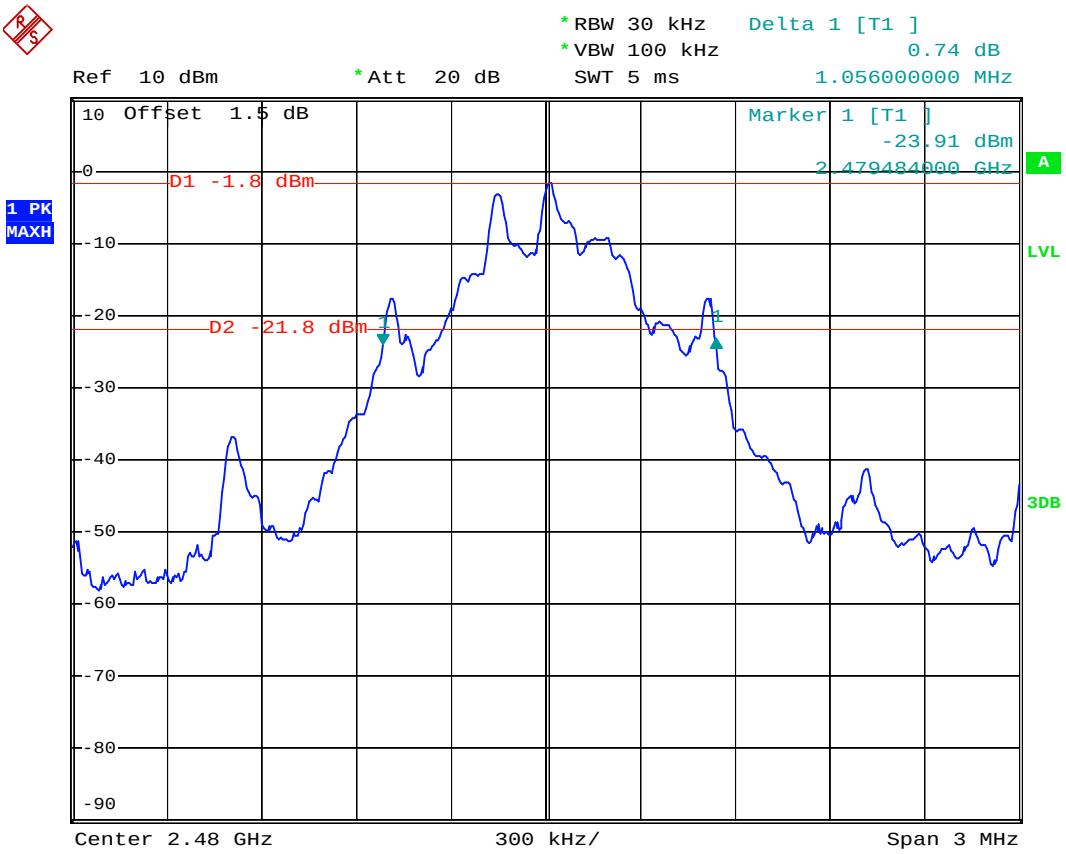
Date of Test:	May 8, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX	Test Engineer:	Rickey

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
Low	2402	1.056	---
Middle	2441	1.050	---
High	2480	1.056	---

The spectrum analyzer plots are attached as below.

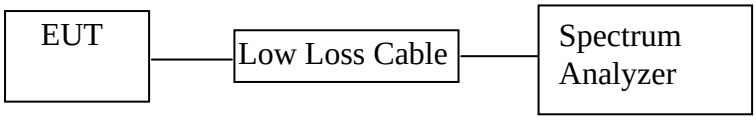

*RBW 30 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 5 ms
Delta 1 [T1]
2.00 dB
1.056000000 MHz
10 Offset 1.5 dB
Marker 1 [T1]
-26.33 dBm
2.401484000 GHz
D1 -2.86 dBm
D2 -22.86 dBm
1 PK MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.402 GHz
300 kHz/
Span 3 MHz


*RBW 30 kHz
*VBW 100 kHz
Ref 10 dBm
*Att 20 dB
SWT 5 ms
Delta 1 [T1]
-1.09 dB
1.050000000 MHz
10 Offset 1.5 dB
Marker 1 [T1]
-23.18 dBm
2.440490000 GHz
D1 -2.96 dBm
D2 -22.96 dBm
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.441 GHz
300 kHz/
Span 3 MHz


*RBW 30 kHz
*VBW 100 kHz
Delta 1 [T1]
0.74 dB
1.056000000 MHz
Ref 10 dBm
*Att 20 dB
SWT 5 ms
10 Offset 1.5 dB
Marker 1 [T1]
-23.91 dBm
2.479484000 GHz
D1 -1.8 dBm
D2 -21.8 dBm
1 PK MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.48 GHz
300 kHz/
Span 3 MHz

6. CARRIER FREQUENCY SEPARATION TEST

6.1.Block Diagram of Test Setup



(EUT: Bluetooth stereo sports headphones)

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 following 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.

6.3.1.Bluetooth stereo sports headphones (EUT)

Model Number	**:**	DC-816-1
Serial Number	**:**	N/A
Manufacturer	**:**	DONGGUAN FEIHAO INDUSTRIALIST CO., LTD

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 100 kHz and VBW to 300 kHz. Adjust Span to 3 MHz.

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

6.5.4.Measurement the channel separation

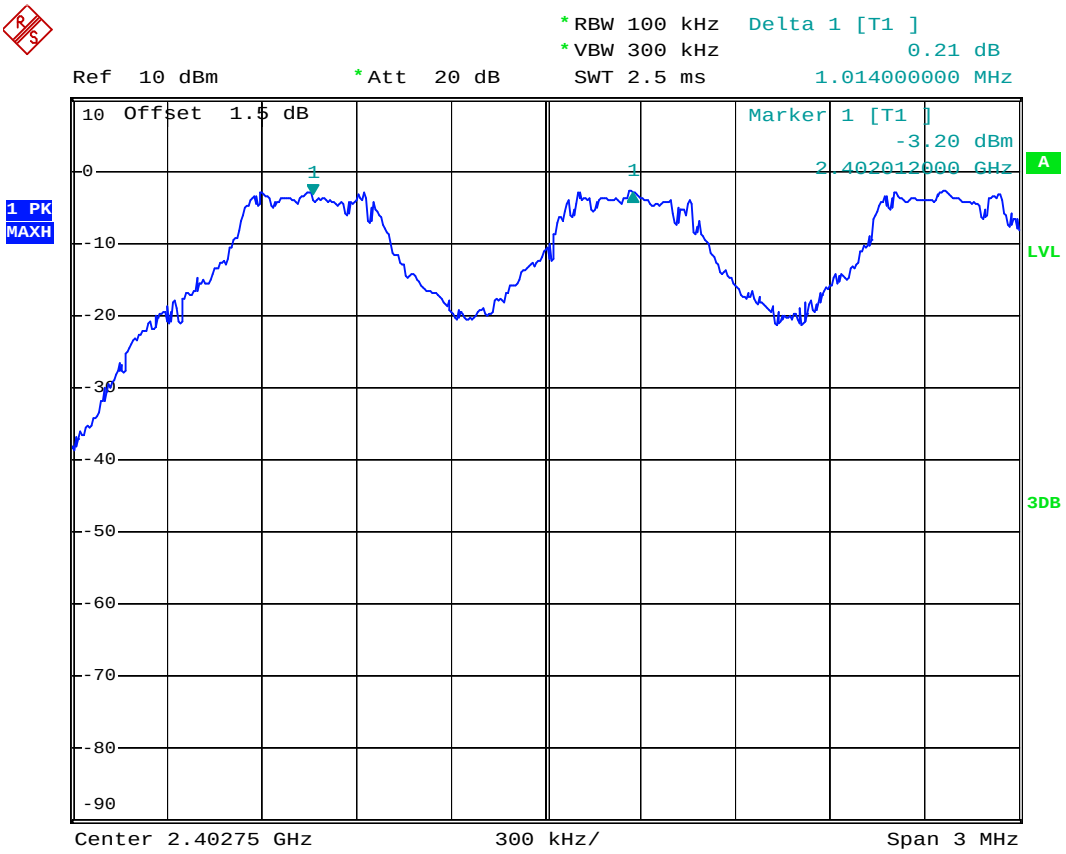
6.6.Test Result

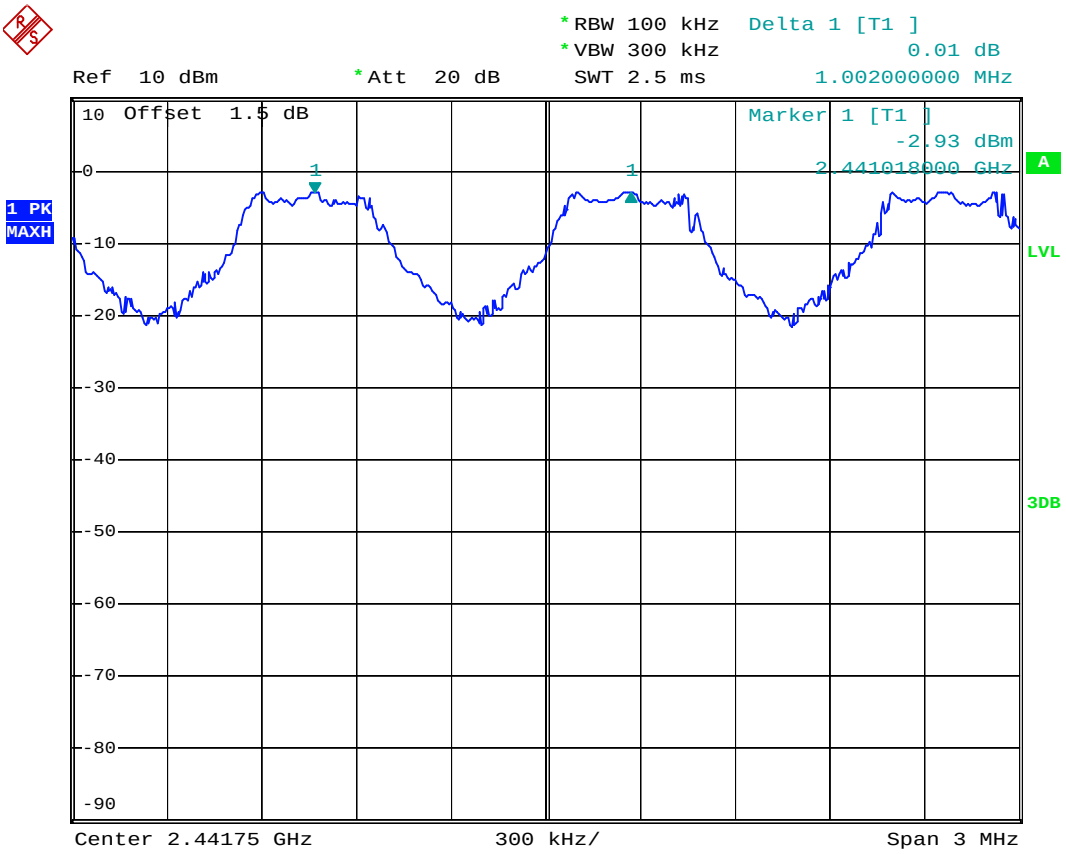
PASS.

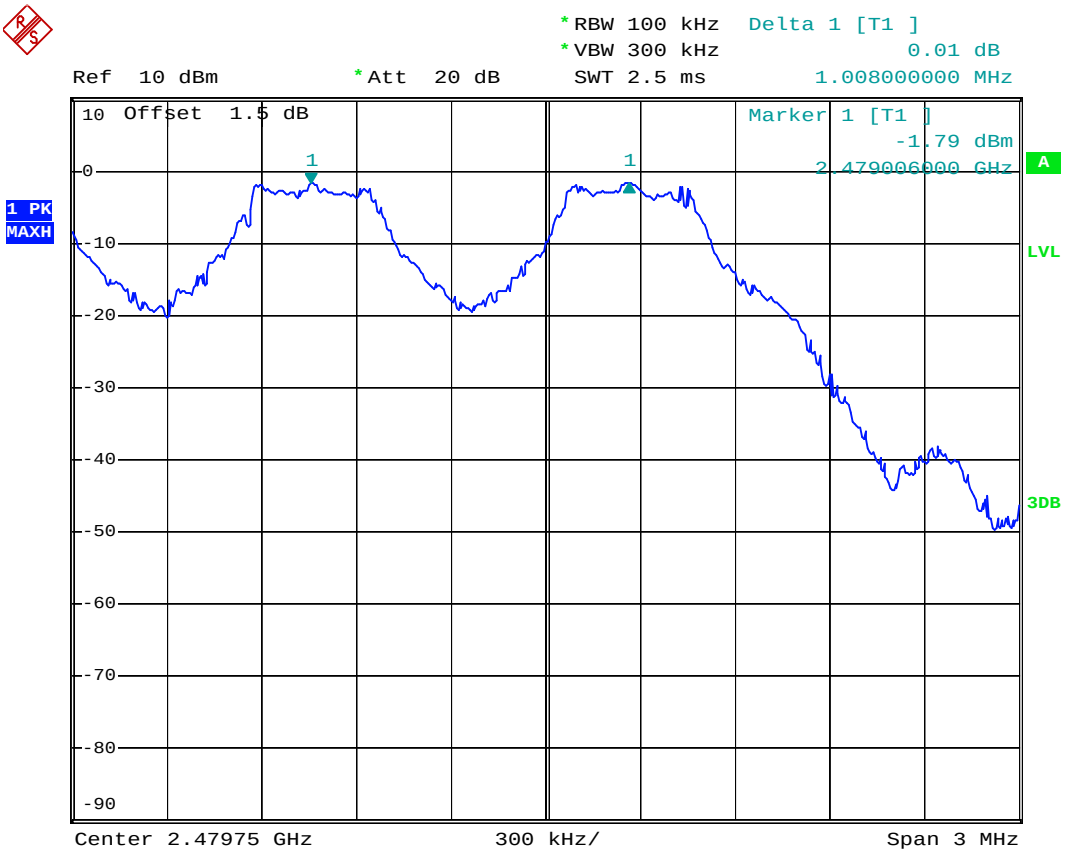
Date of Test:	May 8, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX	Test Engineer:	Rickey

Channel	Channel Frequency (MHz)	Channel separation (MHz)	Limit (MHz)
Low	2402	1.014	0. 704
Middle	2441	1.002	0. 700
High	2480	1.008	0. 704

The spectrum analyzer plots are attached as below.

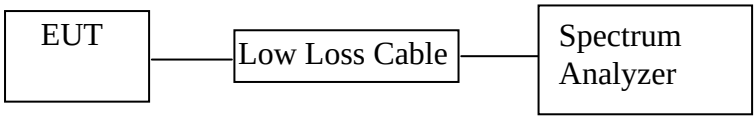

*RBW 100 kHz
*VBW 300 kHz
SWT 2.5 ms
Delta 1 [T1]
0.21 dB
1.014000000 MHz
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-3.20 dBm
2.402012000 GHz
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.40275 GHz
300 kHz/
Span 3 MHz


*RBW 100 kHz
*VBW 300 kHz
SWT 2.5 ms
Delta 1 [T1]
0.01 dB
1.002000000 MHz
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-2.93 dBm
2.441018000 GHz
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.44175 GHz
300 kHz/
Span 3 MHz


*RBW 100 kHz
*VBW 300 kHz
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
Delta 1 [T1]
0.01 dB
1.008000000 MHz
10 Offset 1.5 dB
Marker 1 [T1]
-1.79 dBm
2.479006000 GHz
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.47975 GHz
300 kHz/
Span 3 MHz

7. NUMBER OF HOPPING FREQUENCY TEST

7.1.Block Diagram of Test Setup



(EUT: Bluetooth stereo sports headphones)

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 following 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.

7.3.1.Bluetooth stereo sports headphones (EUT)

Model Number	**:**	DC-816-1
Serial Number	**:**	N/A
Manufacturer	**:**	DONGGUAN FEIHAO INDUSTRIALIST CO., LTD

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 Span=83.5MHz, RBW=100 kHz, VBW=300 kHz.

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

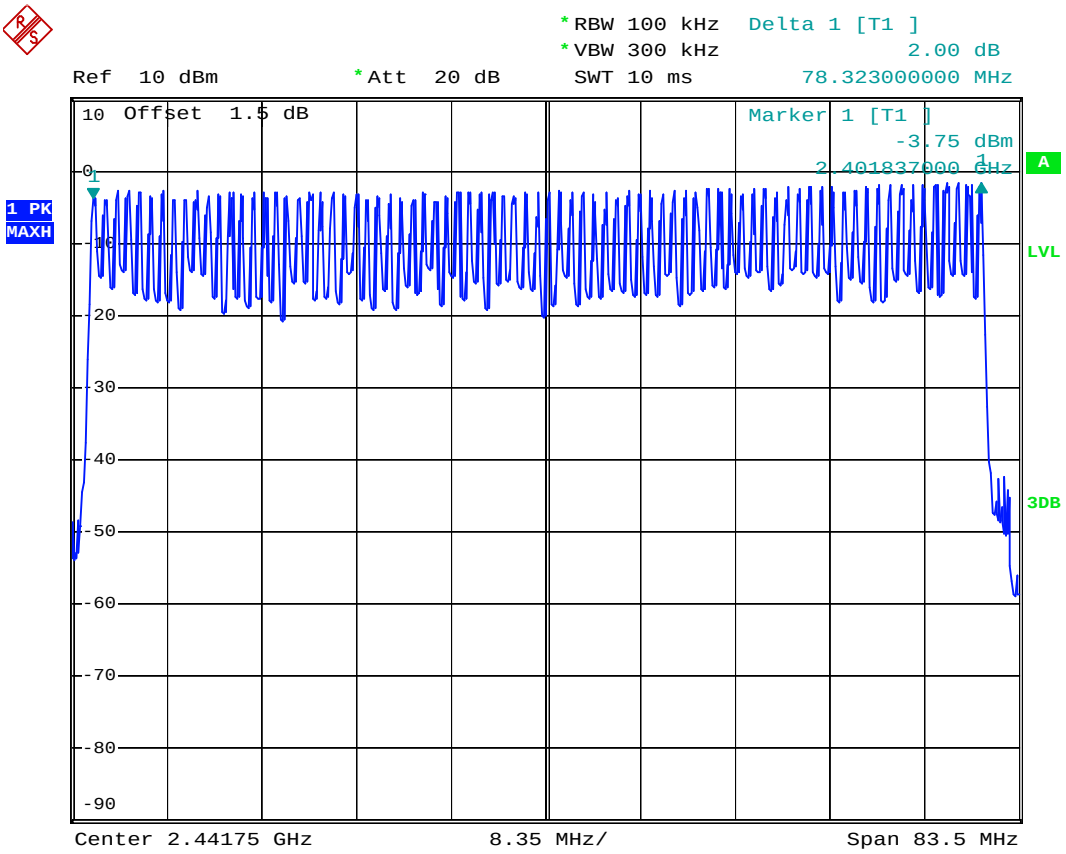
7.6. Test Result

PASS.

Date of Test:	May 8, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	Hopping	Test Engineer:	Rickey

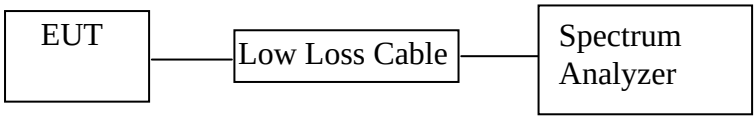
	Measurement result (CH)	Limit (CH)
Total number of hopping channel	79	>15

The spectrum analyzer plots are attached as below.


*RBW 100 kHz
*VBW 300 kHz
SWT 10 ms
Delta 1 [T1]
2.00 dB
78.323000000 MHz
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-3.75 dBm
2.401837000 GHz
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.44175 GHz
8.35 MHz/
Span 83.5 MHz

8. DWELL TIME TEST

8.1.Block Diagram of Test Setup



(EUT: Bluetooth stereo sports headphones)

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 following 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.

8.3.1.Bluetooth stereo sports headphones (EUT)

Model Number	:	DC-816-1
Serial Number	:	N/A
Manufacturer	:	DONGGUAN FEIHAO INDUSTRIALIST CO., LTD

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=100 kHz, VBW=300 kHz, Span=0Hz, Adjust Sweep=1s. Get the burst (in 1 sec.).

8.5.4. Set the spectrum analyzer as RBW=1MHz, VBW=3MHz, Span=0Hz, Adjust Sweep=2ms. Get the pulse time.

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

8.6. Test Result

PASS.

Date of Test:	May 8, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX	Test Engineer:	Rickey

DH1:

A period transmit time = 0.4 × 79 = 31.6

Dwell time = pulse time × (1600/(2*79))×31.6

Channel	Channel Frequency (MHz)	Pulse Time (ms)	Dwell Time (ms)	Limit (ms)
Low	2402	0.534	170.88	400
Middle	2441	0.540	172.80	400
High	2480	0.534	170.88	400

DH3:

A period transmit time = 0.4 × 79 = 31.6

Dwell time = pulse time × (1600/(4*79))×31.6

Channel	Channel Frequency (MHz)	Pulse Time (ms)	Dwell Time (ms)	Limit (ms)
Low	2402	1.797875	287.66	400
Middle	2441	1.815875	290.54	400
High	2480	1.815875	290.54	400

DH5:

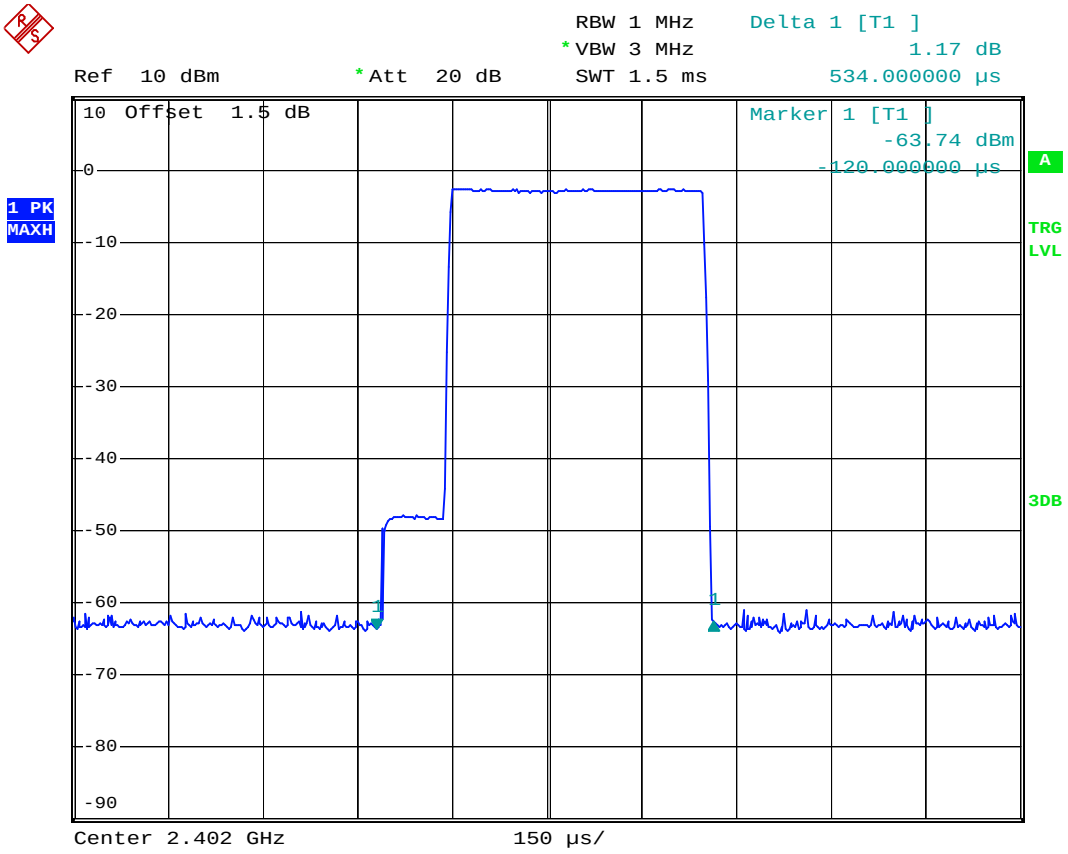
A period transmit time = 0.4 × 79 = 31.6

Dwell time = pulse time × (1600/(6*79))×31.6

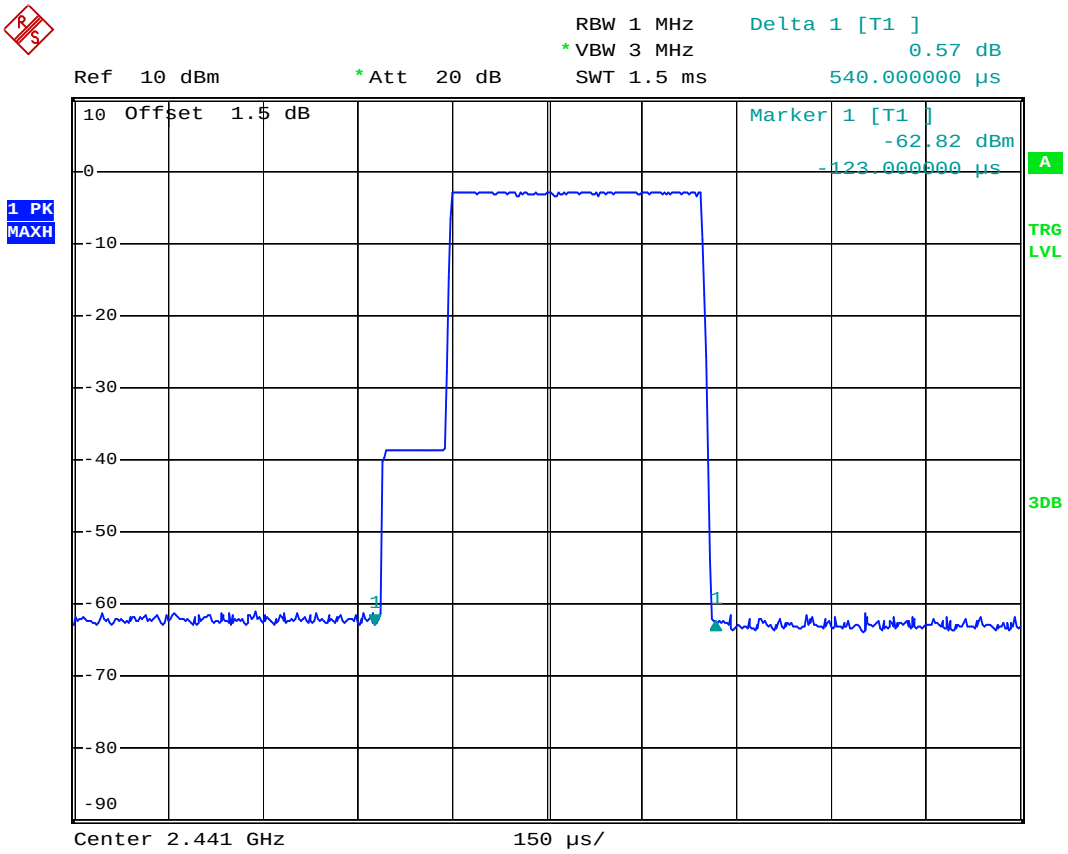
Channel	Channel Frequency (MHz)	Pulse Time (ms)	Dwell Time (ms)	Limit (ms)
Low	2402	3.073	327.7867	400
Middle	2441	3.097	330.3467	400
High	2480	3.081	328.6400	400

The spectrum analyzer plots are attached as below.

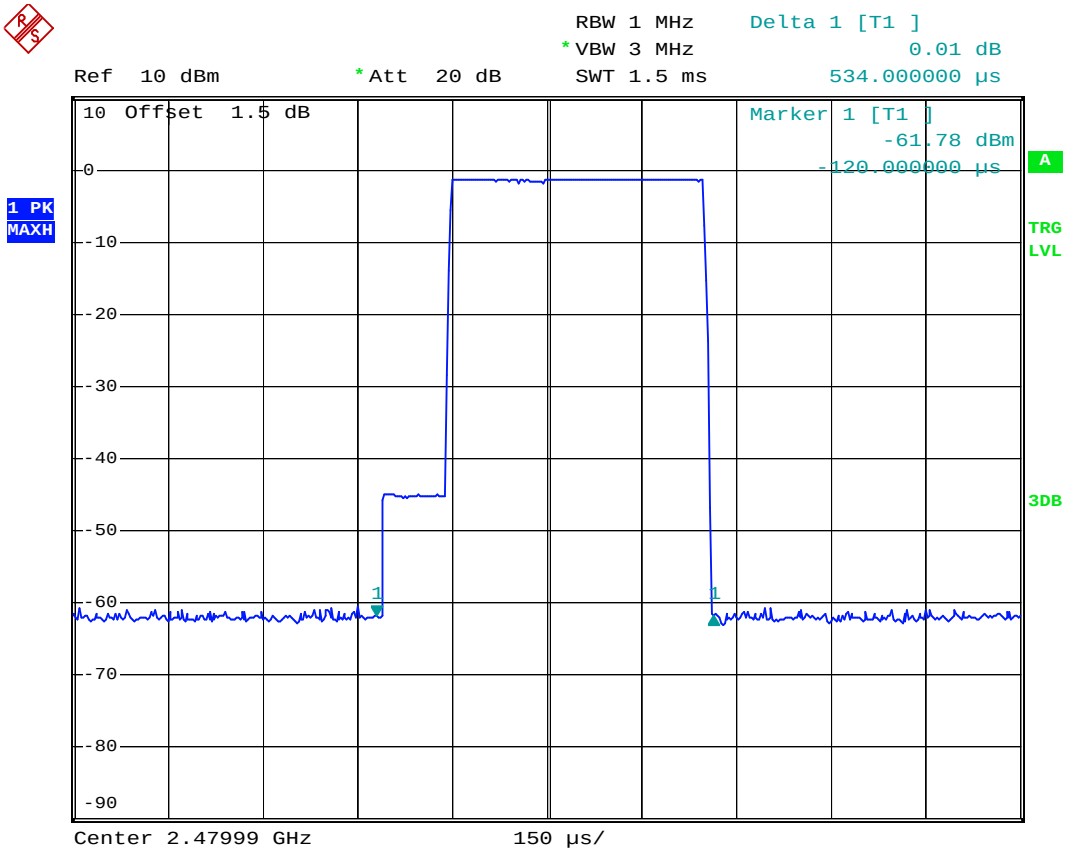
DH1:


RBW 1 MHz
*VBW 3 MHz
SWT 1.5 ms
Delta 1 [T1]
1.17 dB
534.000000 µs
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-63.74 dBm
-120.000000 µs
1 PK
MAXH
A
TRG
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.402 GHz
150 µs/

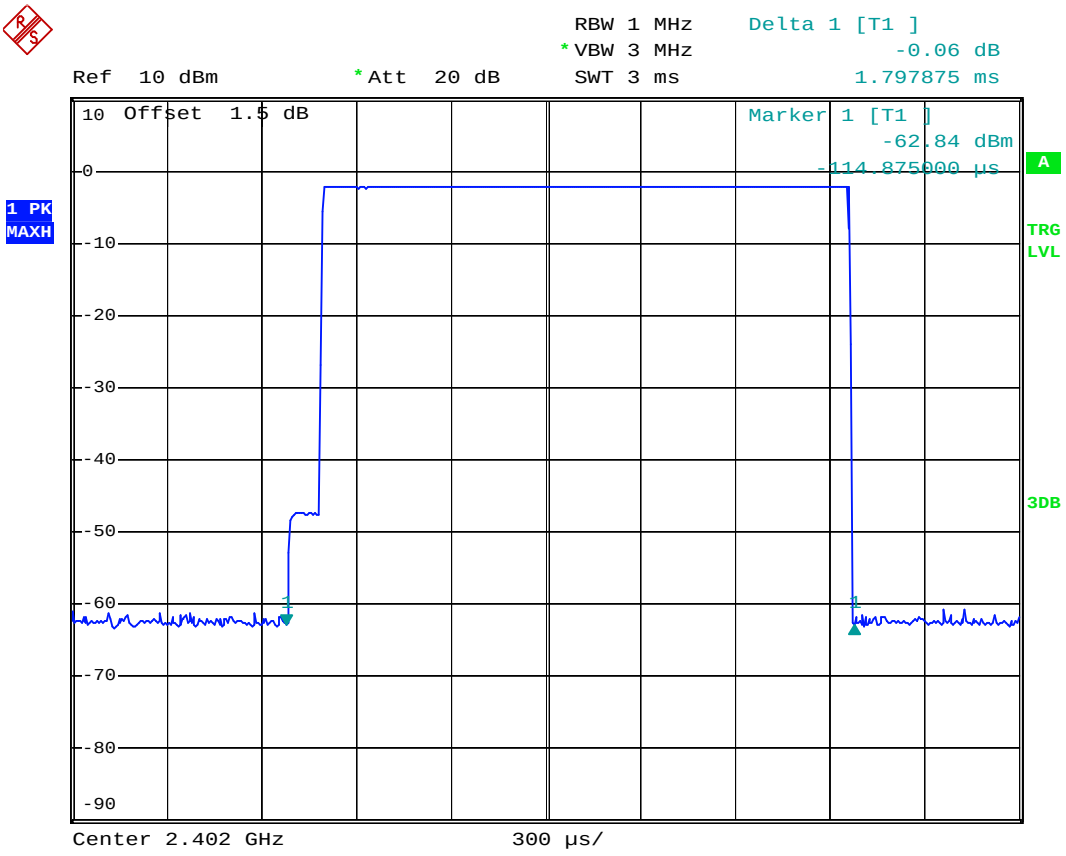
DH1:


RBW 1 MHz
*VBW 3 MHz
SWT 1.5 ms
Delta 1 [T1]
0.57 dB
540.000000 µs
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-62.82 dBm
-123.000000 µs
1 PK
MAXH
A
TRG
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.441 GHz
150 µs/

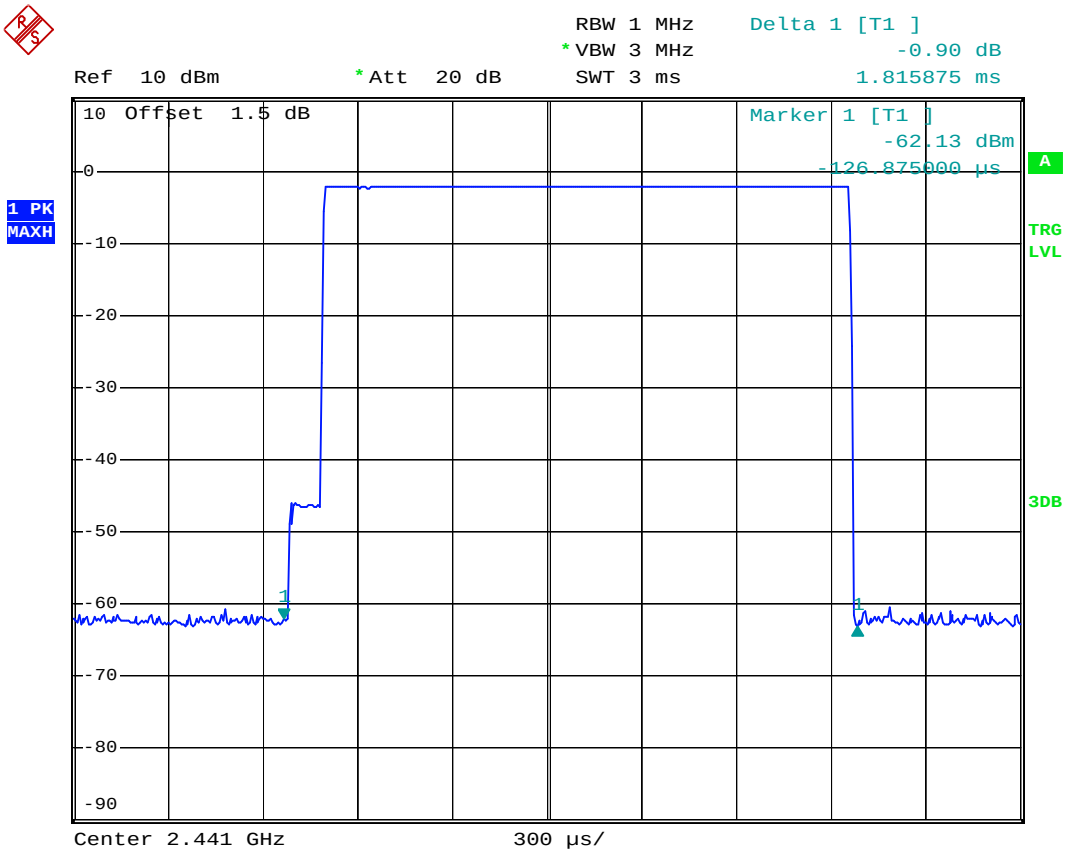
DH1:


RBW 1 MHz
*VBW 3 MHz
SWT 1.5 ms
Delta 1 [T1]
0.01 dB
534.000000 µs
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-61.78 dBm
-120.000000 µs
1 PK
MAXH
A
TRG
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.47999 GHz
150 µs/

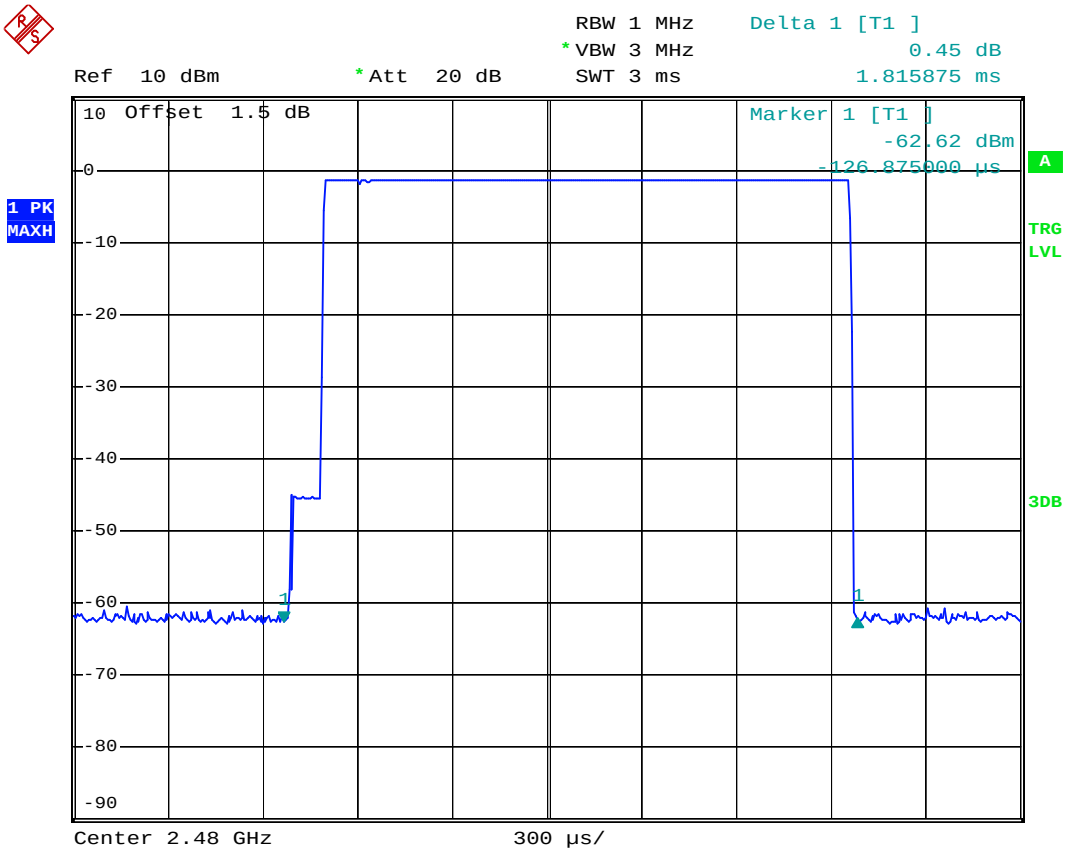
DH3:


RBW 1 MHz
*VBW 3 MHz
SWT 3 ms
Delta 1 [T1]
-0.06 dB
1.797875 ms
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-62.84 dBm
-114.875000 µs
1 PK
MAXH
A
TRG
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.402 GHz
300 µs/

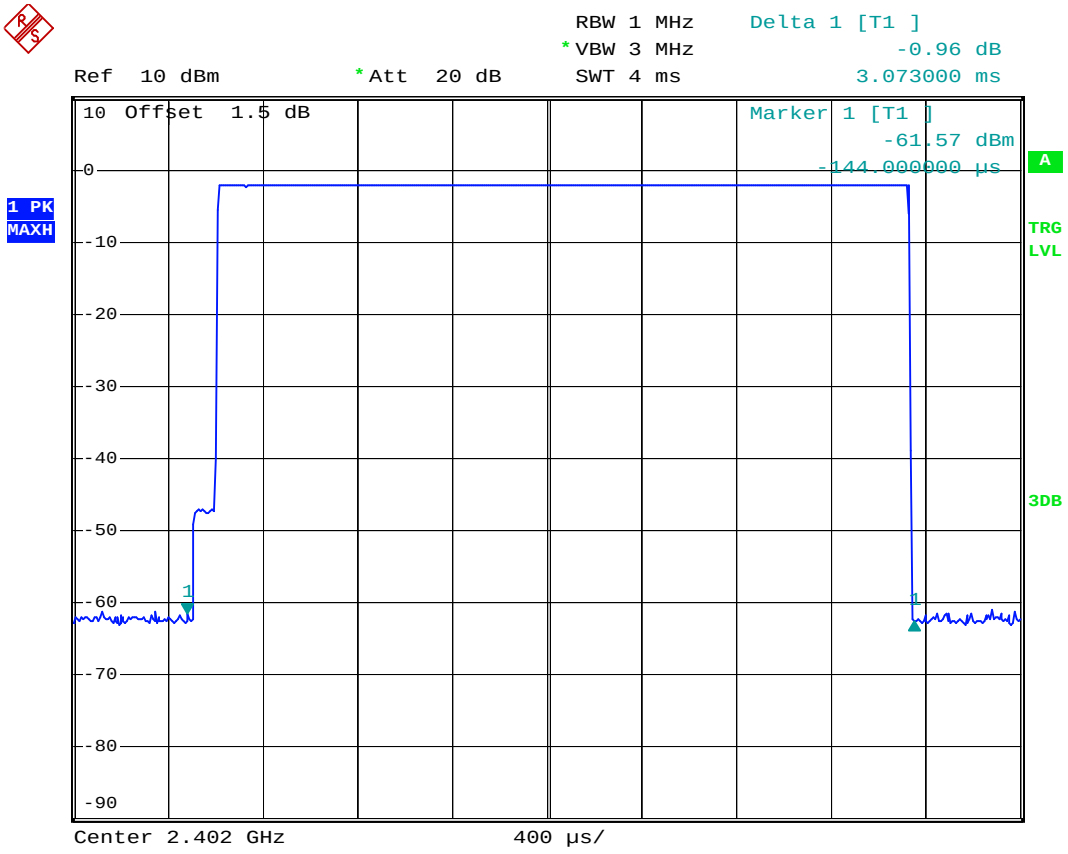
DH3:


RBW 1 MHz
Delta 1 [T1]
*VBW 3 MHz
-0.90 dB
Ref 10 dBm
*Att 20 dB
SWT 3 ms
1.815875 ms
10 Offset 1.5 dB
Marker 1 [T1]
-62.13 dBm
-126.875000 µs
1 PK
MAXH
A
TRG
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.441 GHz
300 µs/

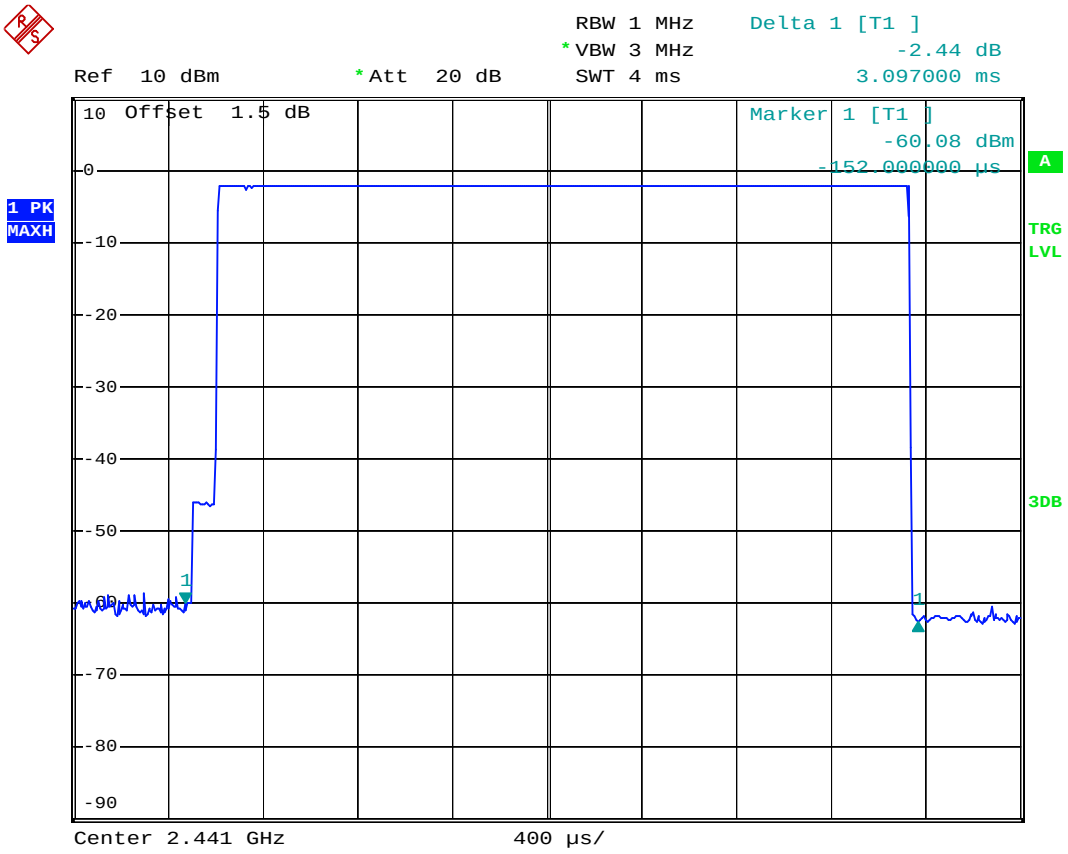
DH3:


RBW 1 MHz
*VBW 3 MHz
SWT 3 ms
Delta 1 [T1]
0.45 dB
1.815875 ms
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-62.62 dBm
-126.875000 µs
1 PK
MAXH
A
TRG
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.48 GHz
300 µs/

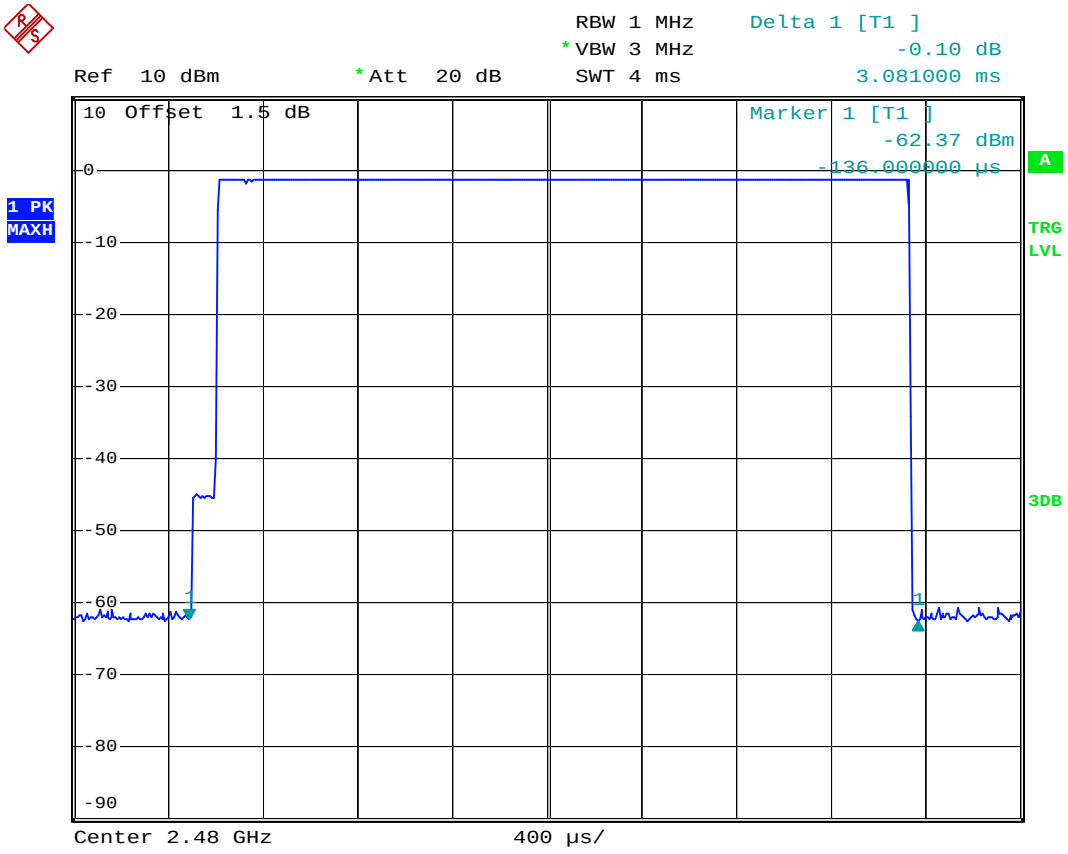
DH5:


RBW 1 MHz
*VBW 3 MHz
SWT 4 ms
Delta 1 [T1]
-0.96 dB
3.073000 ms
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-61.57 dBm
-144.000000 µs
1 PK
MAXH
A
TRG
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.402 GHz
400 µs/

DH5:

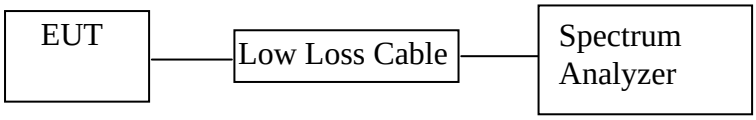

RBW 1 MHz
*VBW 3 MHz
SWT 4 ms
Delta 1 [T1]
-2.44 dB
3.097000 ms
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-60.08 dBm
-152.000000 µs
1 PK
MAXH
A
TRG
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.441 GHz
400 µs/

DH5:


RBW 1 MHz
*VBW 3 MHz
SWT 4 ms
Delta 1 [T1]
-0.10 dB
3.081000 ms
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-62.37 dBm
-136.000000 µs
1 PK
MAXH
A
TRG
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.48 GHz
400 µs/

9. MAXIMUM PEAK OUTPUT POWER TEST

9.1.Block Diagram of Test Setup



(EUT: Bluetooth stereo sports 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 following 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.

9.3.1.Bluetooth stereo sports headphones (EUT)

Model Number	**:**	DC-816-1
Serial Number	**:**	N/A
Manufacturer	**:**	DONGGUAN FEIHAO INDUSTRIALIST CO., LTD

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.

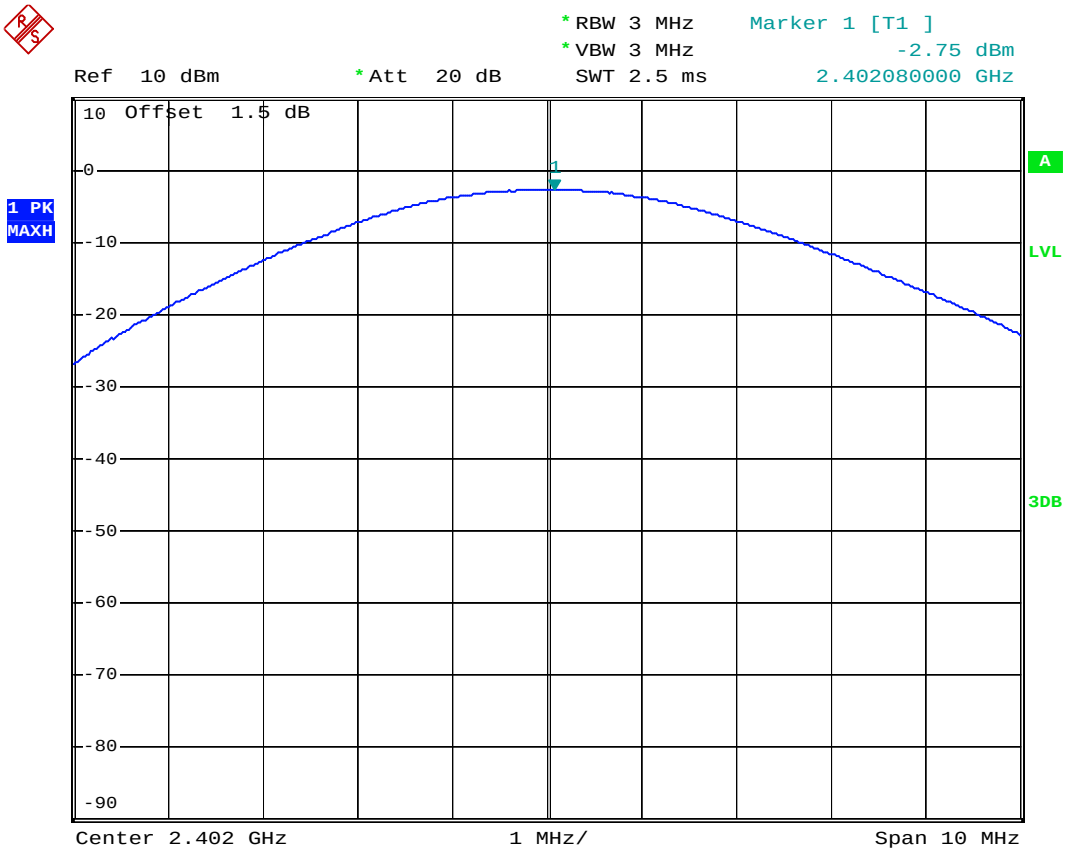
9.6. Test Result

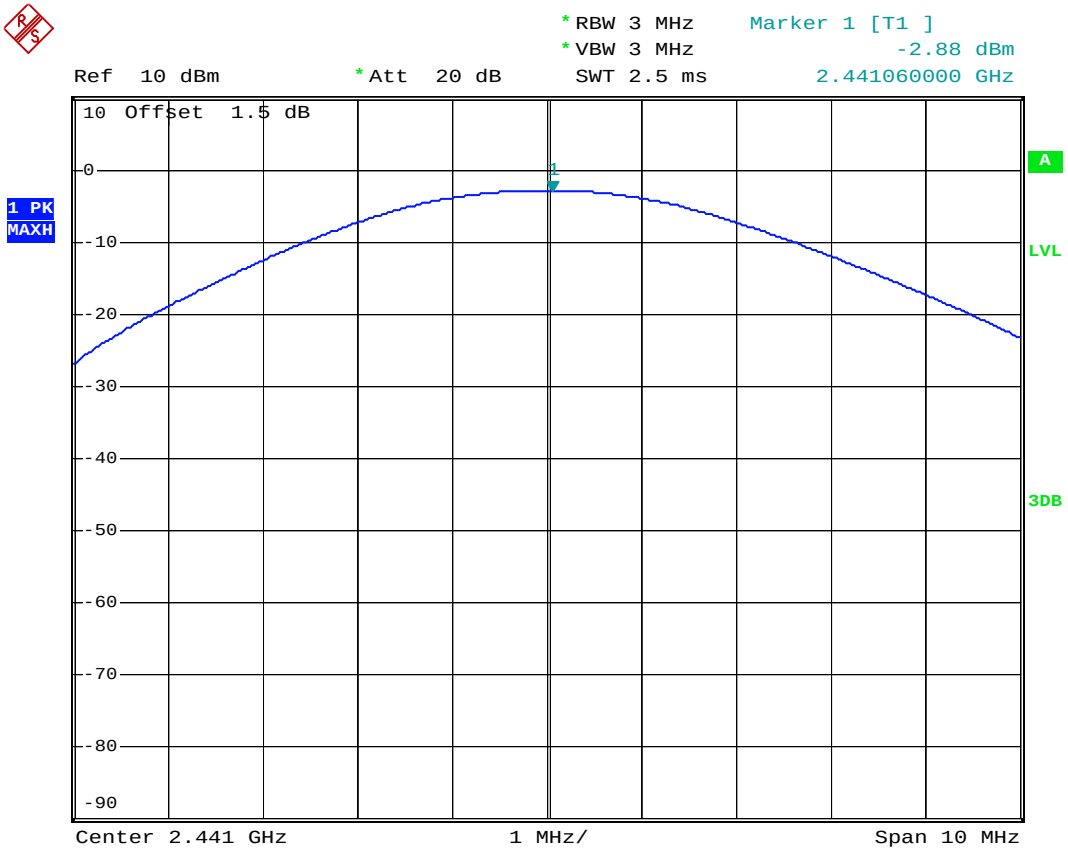
PASS.

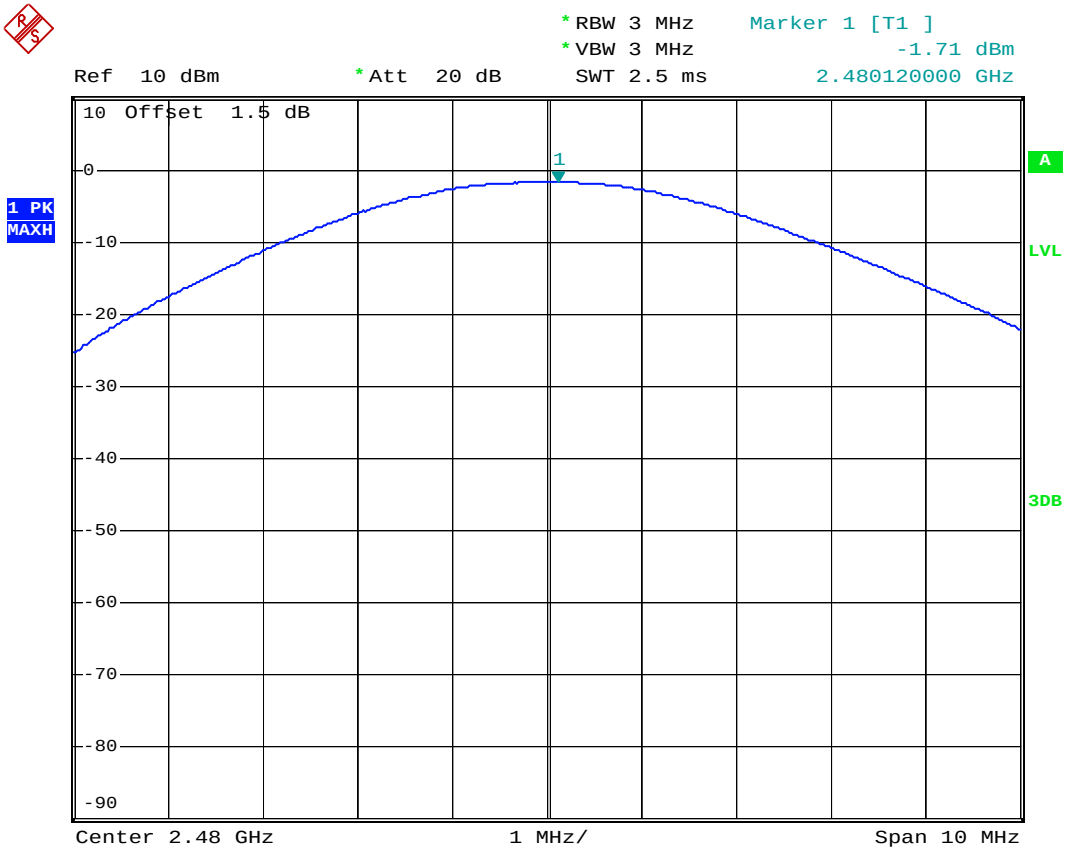
Date of Test:	May 8, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX	Test Engineer:	Rickey

Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Limits dBm / W
Low	2402	-2.75	0.531	21 / 0.125
Middle	2441	-2.88	0.515	21 / 0.125
High	2480	-1.71	0.675	21 / 0.125

The spectrum analyzer plots are attached as below.


*RBW 3 MHz
Marker 1 [T1]
*VBW 3 MHz
-2.75 dBm
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
2.402080000 GHz
10 Offset 1.5 dB
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.402 GHz
1 MHz/
Span 10 MHz

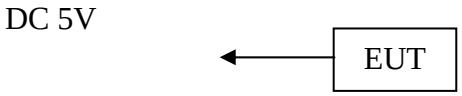

*RBW 3 MHz
*VBW 3 MHz
Marker 1 [T1]
-2.88 dBm
2.441060000 GHz
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
10 Offset 1.5 dB
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.441 GHz
1 MHz/
Span 10 MHz


*RBW 3 MHz
*VBW 3 MHz
SWT 2.5 ms
Marker 1 [T1]
-1.71 dBm
2.480120000 GHz
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.48 GHz
1 MHz/
Span 10 MHz

10.RADIATED EMISSION TEST

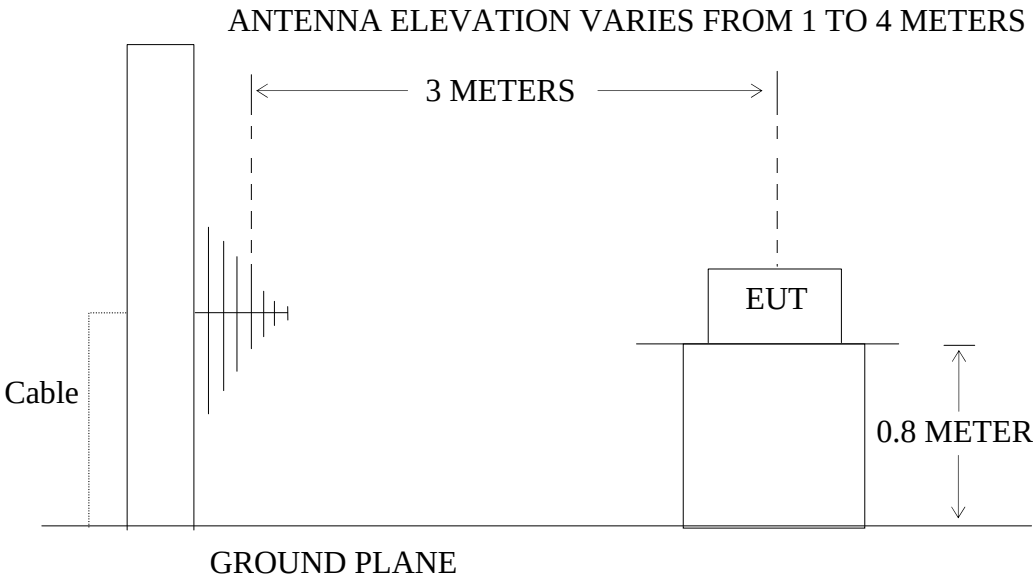
10.1.Block Diagram of Test Setup

10.1.1.Block diagram of connection between the EUT and simulators



(EUT: Bluetooth stereo sports headphones)

10.1.2.Anechoic Chamber Test Setup Diagram



(EUT: Bluetooth stereo sports headphones)

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

10.4.1.Bluetooth stereo sports headphones (EUT)

Model Number : DC-816-1
Serial Number : N/A
Manufacturer : DONGGUAN FEIHAO INDUSTRIALIST CO., LTD

10.5.est Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. 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 bilog 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 interface cables must be manipulated according to ANSI C63.4- 2009 on radiated emission measurement.

The bandwidth of test receiver (R&S ESI26) is set at 120 KHz in 30-1000MHz. and set at 1MHz in above 1000MHz.

The frequency range from 30MHz to 25000MHz is checked.

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

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

Result = Reading + Corrected Factor

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

10.6.The Field Strength of Radiation Emission Measurement Results

PASS.

Date of Test:	May 11, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX (2402MHz)	Test Engineer:	Rickey

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Factor Corr. (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
102.3597	44.96	-23.82	21.14	43.50	-22.36	Horizontal
374.6225	45.26	-15.82	29.44	46.50	-17.06	Horizontal
962.1623	41.12	-5.23	35.89	46.50	-10.61	Horizontal
102.3597	40.25	-21.74	18.51	43.50	-24.99	Vertical
375.9385	48.56	-15.50	33.06	46.50	-13.44	Vertical
654.2318	45.89	-10.58	35.31	46.50	-11.19	Vertical

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dBμV/m)		Factor Corr. (dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
-	-	-	-	-	-	-	-	-	-	Vertical
-	-	-	-	-	-	-	-	-	-	Horizontal

Note: 1.The emission emitted by the EUT is too low to be measured except the emission listed above.

2. *: Denotes restricted band of operation.

3. The fundamental radiated emissions were reduced by 2.4G Band Reject Filter in the attached plots.

Date of Test:	May 11, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX (2441MHz)	Test Engineer:	Rickey

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Factor Corr. (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
102.7192	44.69	-23.84	20.85	43.50	-22.65	Horizontal
127.6645	42.51	-23.94	18.60	43.50	-24.90	Horizontal
375.9385	42.86	-15.81	27.05	46.50	-19.45	Horizontal
103.0800	41.78	-21.75	20.03	43.50	-23.47	Vertical
374.6225	48.52	-15.54	32.98	46.50	-13.52	Vertical
932.2715	40.83	-5.63	35.20	46.50	-11.30	Vertical

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dBμV/m)		Factor Corr. (dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
-	-	-	-	-	-	-	-	-	-	Vertical
-	-	-	-	-	-	-	-	-	-	Horizontal

Note: 1.The emission emitted by the EUT is too low to be measured except the emission listed above.

2. *: Denotes restricted band of operation.

3. The fundamental radiated emissions were reduced by 2.4G Band Reject Filter in the attached plots.

Date of Test:	May 11, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX (2480MHz)	Test Engineer:	Rickey

For 30MHz-1000MHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading (dBμV/m)	Factor Corr. (dB)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Polarization
	QP		QP	QP	QP	
102.3597	43.99	-23.82	20.17	43.50	-23.33	Horizontal
374.6225	46.46	-15.82	30.63	46.50	-15.87	Horizontal
962.1623	41.48	-5.23	36.25	46.50	-10.25	Horizontal
102.7192	42.43	-21.75	20.68	43.50	-22.82	Vertical
374.6225	48.80	-15.54	33.26	46.50	-13.24	Vertical
962.1623	37.59	-5.23	32.36	46.50	-14.14	Vertical

For 1GHz-25GHz

Corrected Factor = Antenna Factor + Cable Loss – Amplifier Gain

Frequency (MHz)	Reading(dBμV/m)		Factor Corr. (dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dBμV/m)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
-	-	-	-	-	-	-	-	-	-	Vertical
-	-	-	-	-	-	-	-	-	-	Horizontal

Note: 1.The emission emitted by the EUT is too low to be measured except the emission listed above.

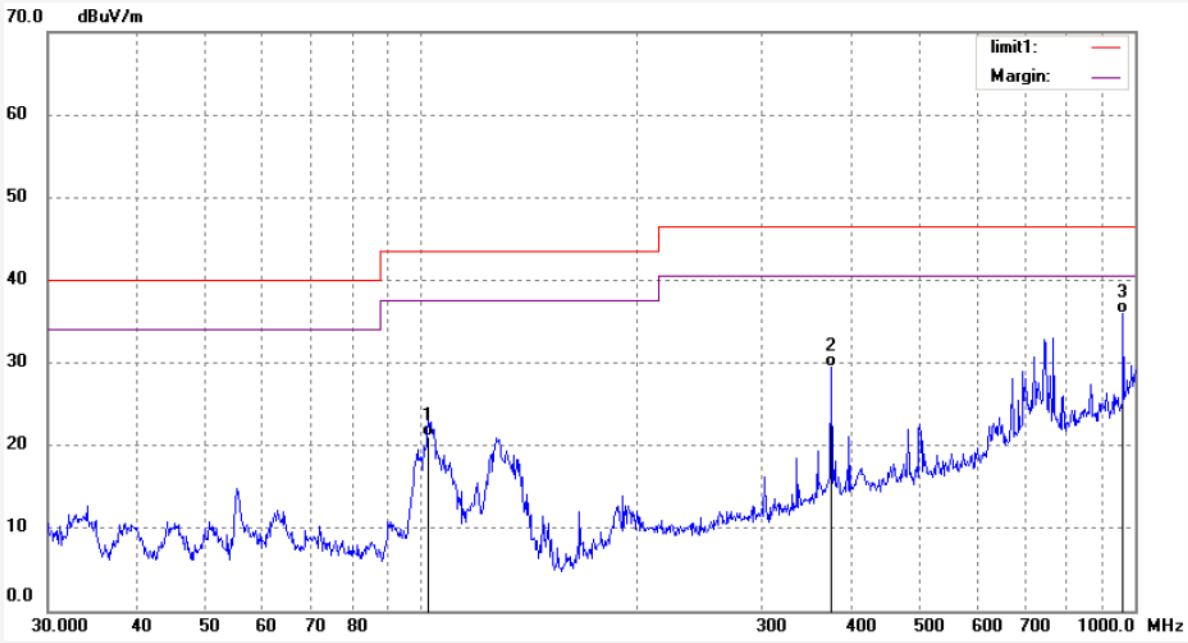
2. *: Denotes restricted band of operation.

3. The fundamental radiated emissions were reduced by 2.4G Band Reject Filter in the attached plots.

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.: rucky8 #20	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/13
Temp.(C)/Hum.(%) 26 C / 55 %	Time: 10:32:48
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	102.3597	44.96	-23.82	21.14	43.50	-22.36	QP			
2	374.6225	45.26	-15.82	29.44	46.50	-17.06	QP			
3	962.1623	41.12	-5.23	35.89	46.50	-10.61	QP			

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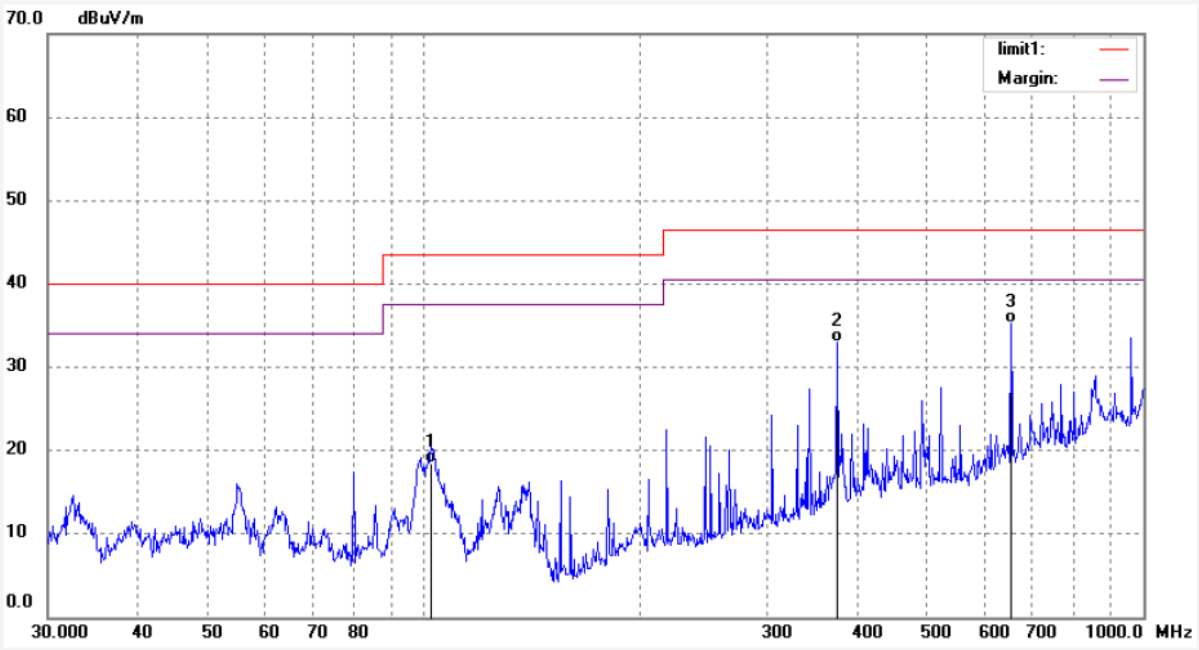
Job No.: rucky8 #19	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/13
Temp.(C)/Hum.(%) 26 C / 55 %	Time: 10:31:03
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	102.3597	40.25	-21.74	18.51	43.50	-24.99	QP			
2	375.9385	48.56	-15.50	33.06	46.50	-13.44	QP			
3	654.2318	45.89	-10.58	35.31	46.50	-11.19	QP			

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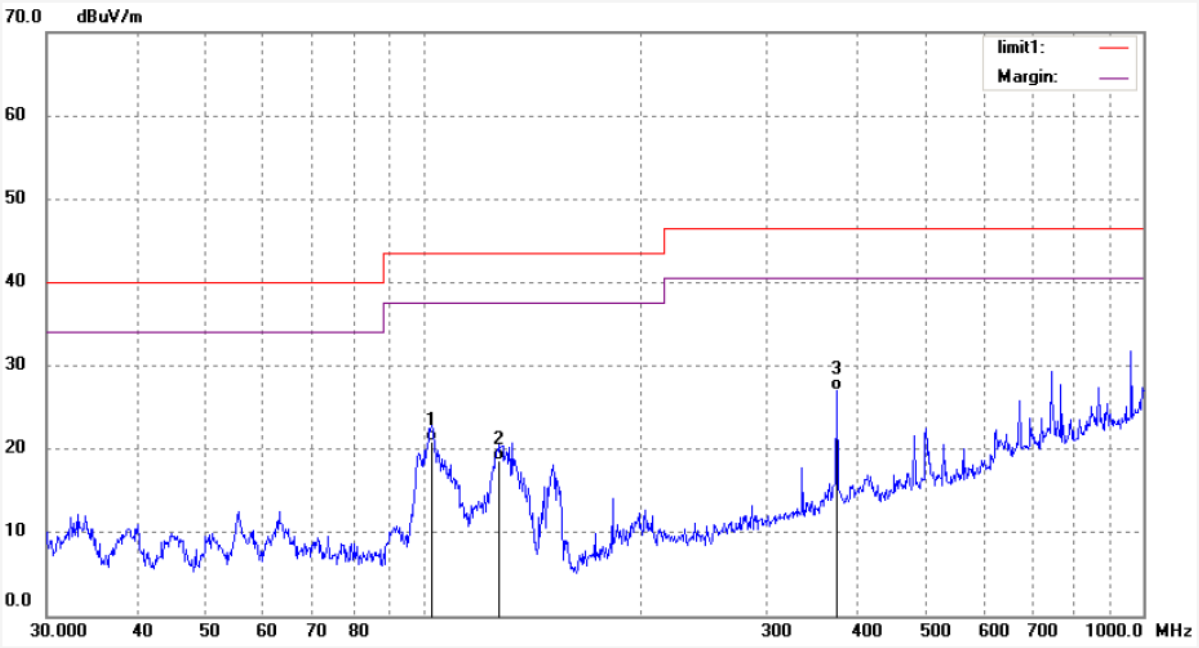
Job No.: rucky8 #21	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/13
Temp.(C)/Hum.(%) 26 C / 55 %	Time: 10:34:12
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	102.7192	44.69	-23.84	20.85	43.50	-22.65	QP			
2	127.6645	42.51	-23.91	18.60	43.50	-24.90	QP			
3	375.9385	42.86	-15.81	27.05	46.50	-19.45	QP			

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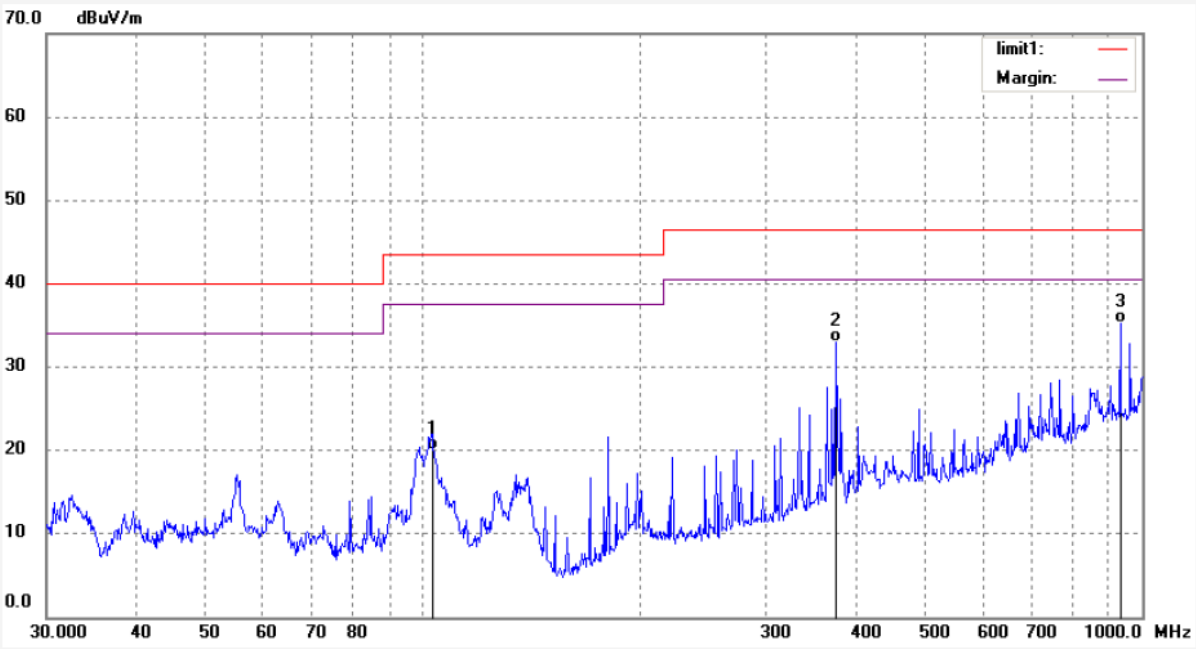
Job No.: rucky8 #22	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/13
Temp.(C)/Hum.(%) 26 C / 55 %	Time: 10:36:52
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	103.0800	41.78	-21.75	20.03	43.50	-23.47	QP			
2	374.6225	48.52	-15.54	32.98	46.50	-13.52	QP			
3	932.2715	40.83	-5.63	35.20	46.50	-11.30	QP			

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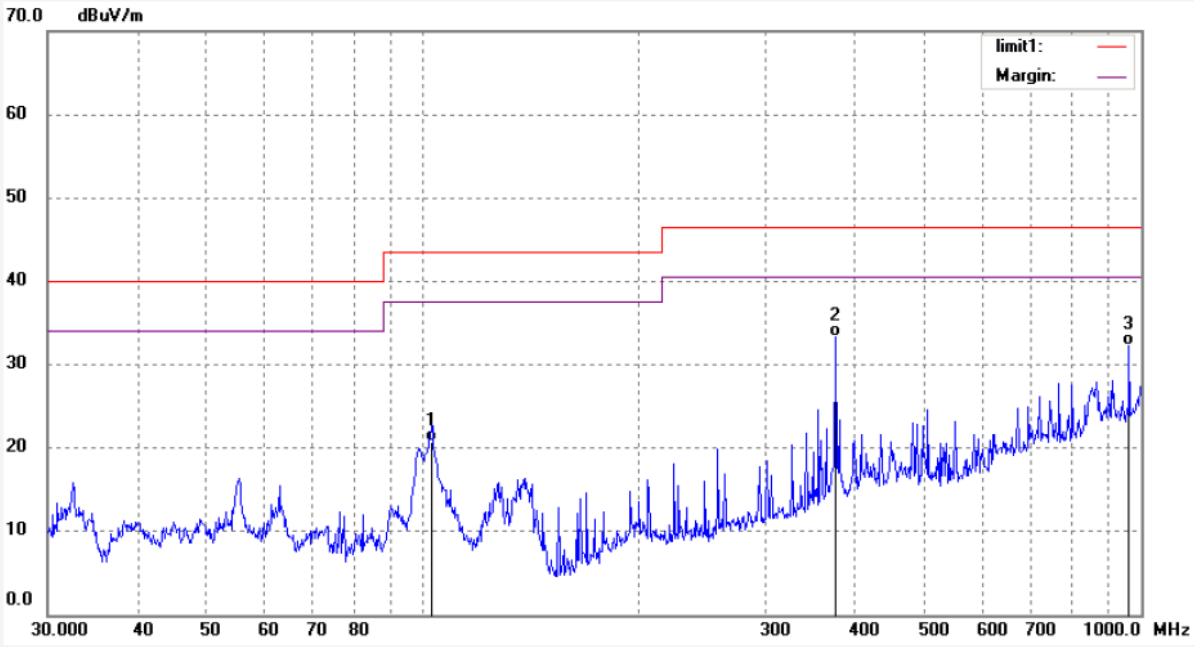
Job No.: rucky8 #23	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/13
Temp.(C)/Hum.(%) 26 C / 55 %	Time: 10:38:20
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	102.7192	42.43	-21.75	20.68	43.50	-22.82	QP			
2	374.6225	48.80	-15.54	33.26	46.50	-13.24	QP			
3	962.1623	37.59	-5.23	32.36	46.50	-14.14	QP			

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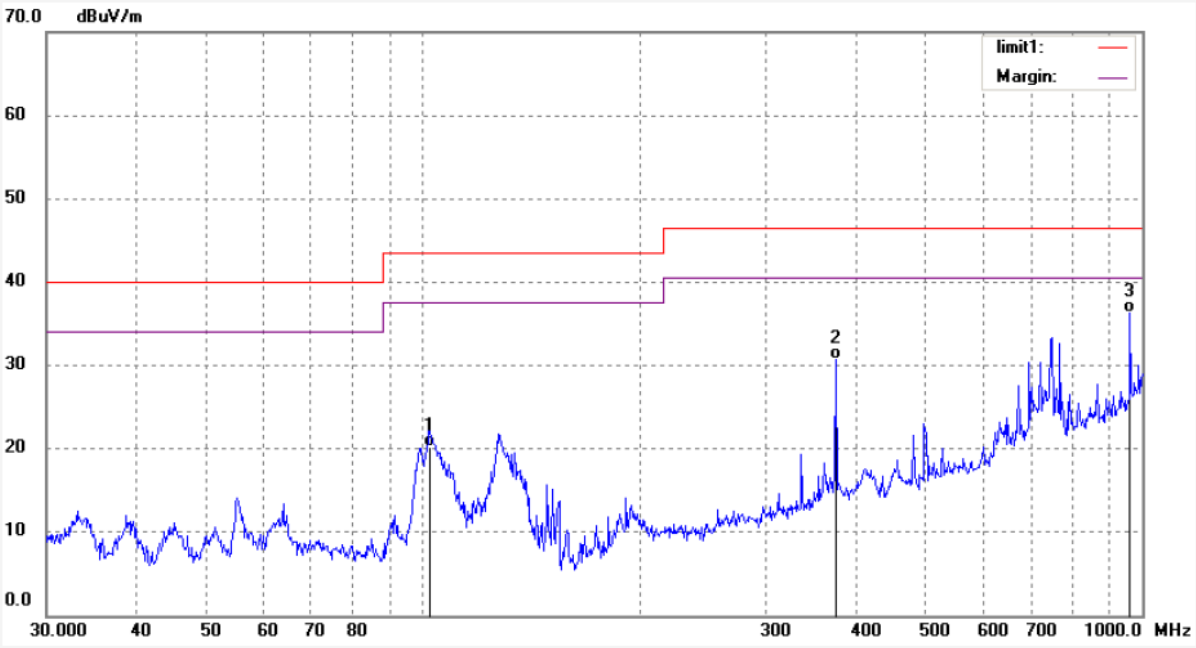
Job No.: rucky8 #24	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/13
Temp.(C)/Hum.(%) 26 C / 55 %	Time: 10:40:58
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	102.3597	43.99	-23.82	20.17	43.50	-23.33	QP			
2	374.6225	46.45	-15.82	30.63	46.50	-15.87	QP			
3	962.1623	41.48	-5.23	36.25	46.50	-10.25	QP			

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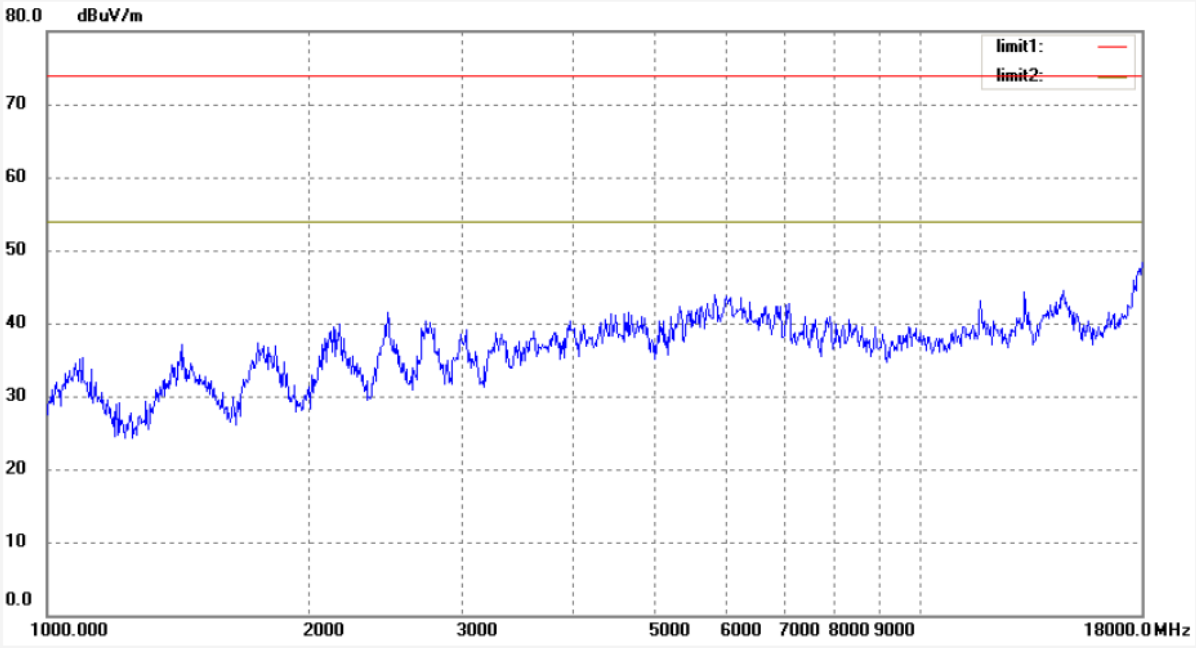
Job No.: rucky8 #13	Polarization: Horizontal
Standard: FCC PART 15B (PK)	Power Source: DC 5V
Test item: Radiation Test	Date: 13/05/11/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 14/25/18
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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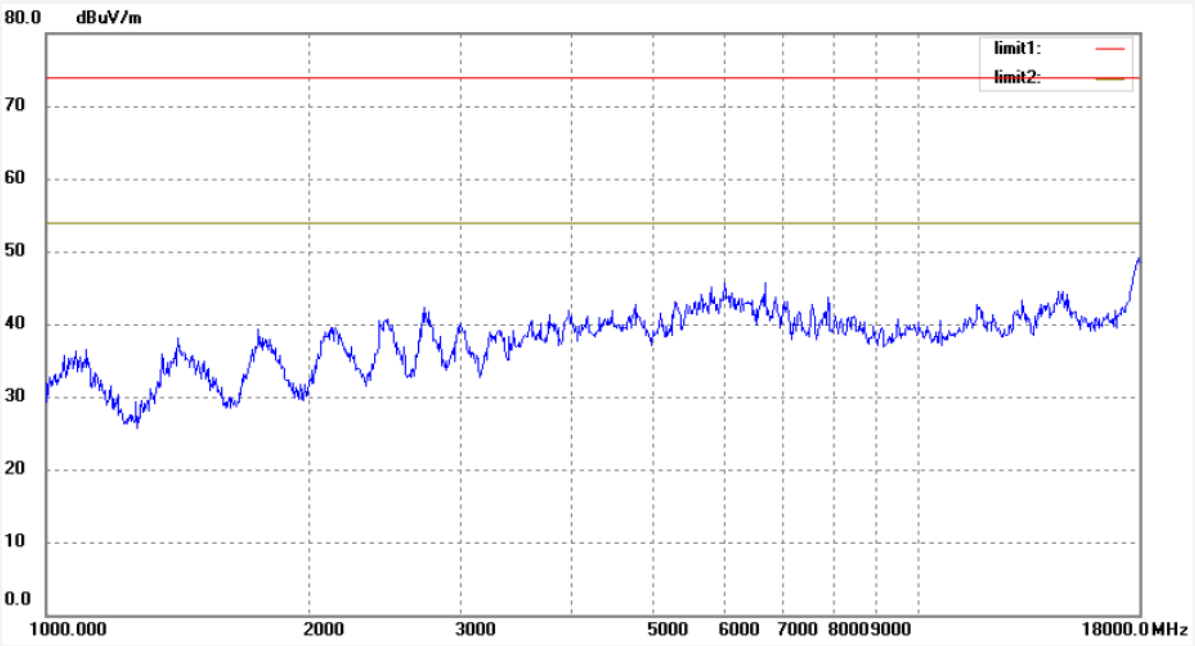
Job No.: rucky8 #14	Polarization: Vertical
Standard: FCC PART 15B (PK)	Power Source: DC 5V
Test item: Radiation Test	Date: 13/05/11/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 14/28/10
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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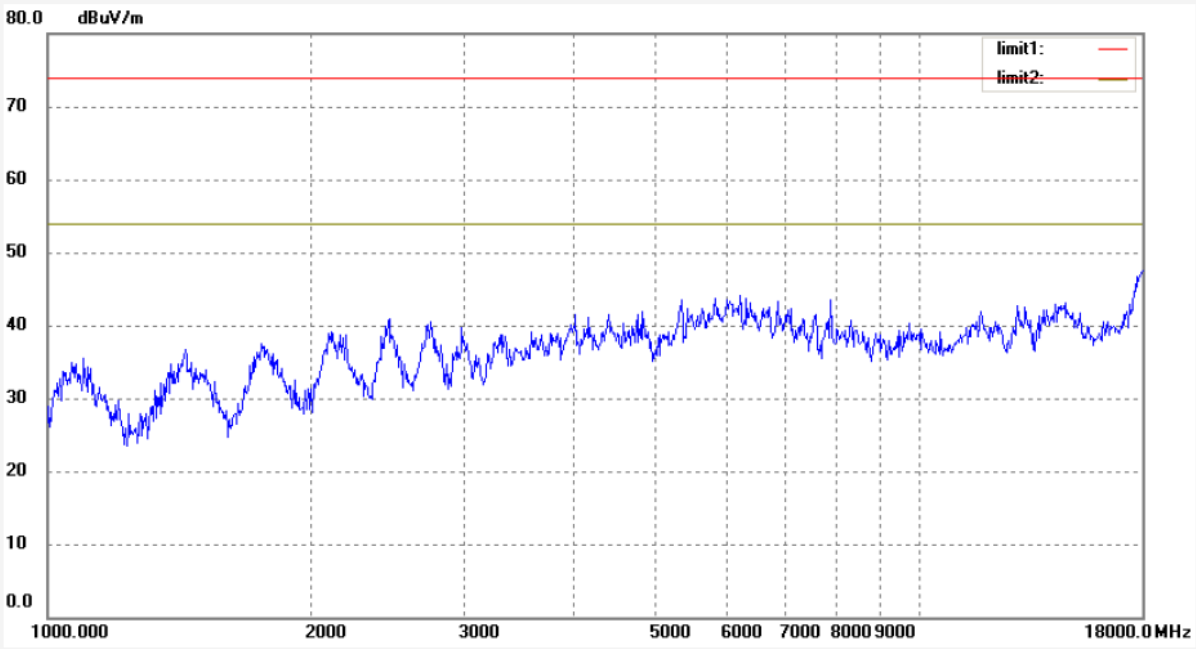
Job No.: rucky8 #15	Polarization: Horizontal
Standard: FCC PART 15B (PK)	Power Source: DC 5V
Test item: Radiation Test	Date: 13/05/11/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 14/31/54
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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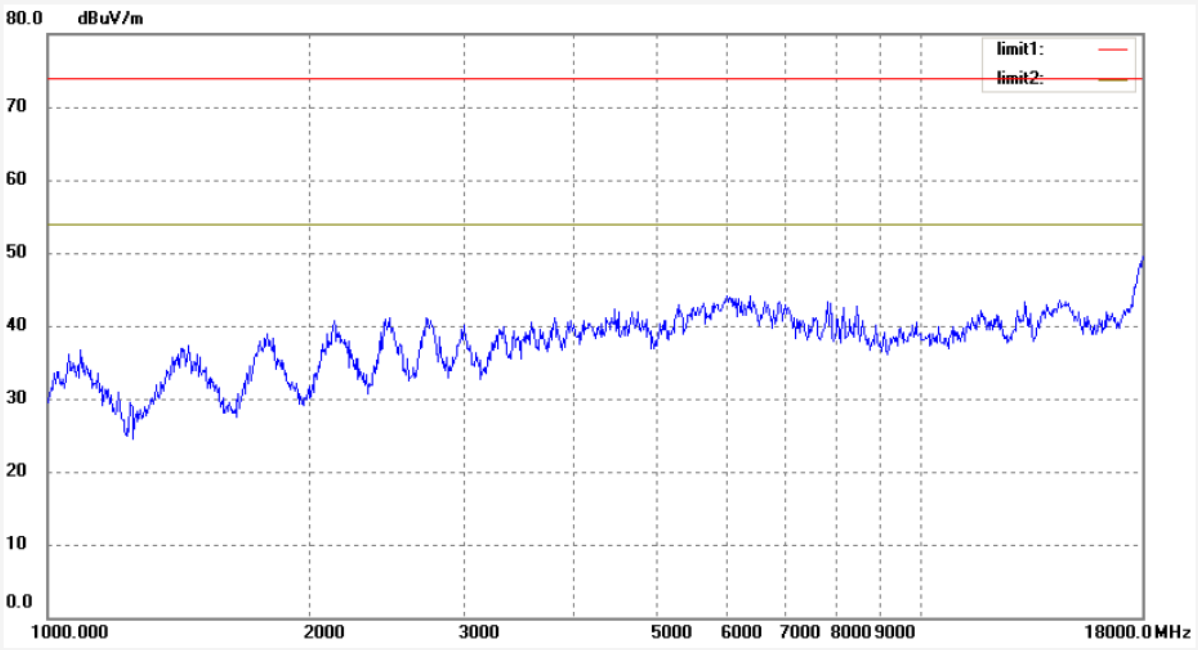
Job No.: rucky8 #16	Polarization: Vertical
Standard: FCC PART 15B (PK)	Power Source: DC 5V
Test item: Radiation Test	Date: 13/05/11/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 14/34/27
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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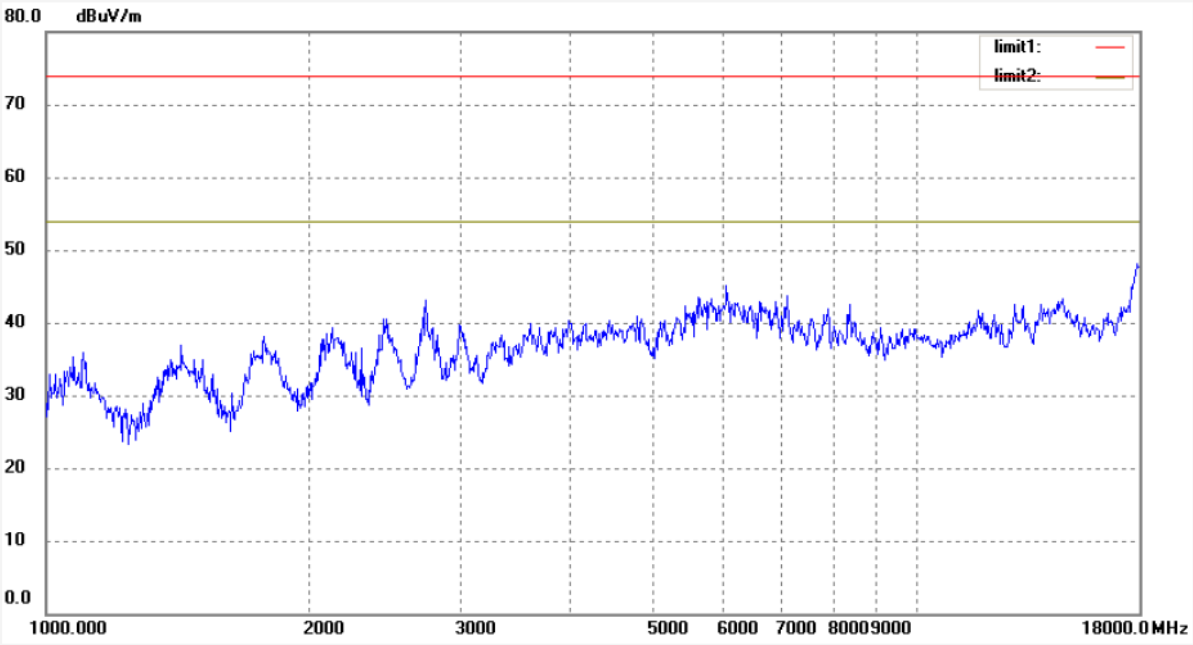
Job No.: rucky8 #17	Polarization: Vertical
Standard: FCC PART 15B (PK)	Power Source: DC 5V
Test item: Radiation Test	Date: 13/05/11/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 14/37/33
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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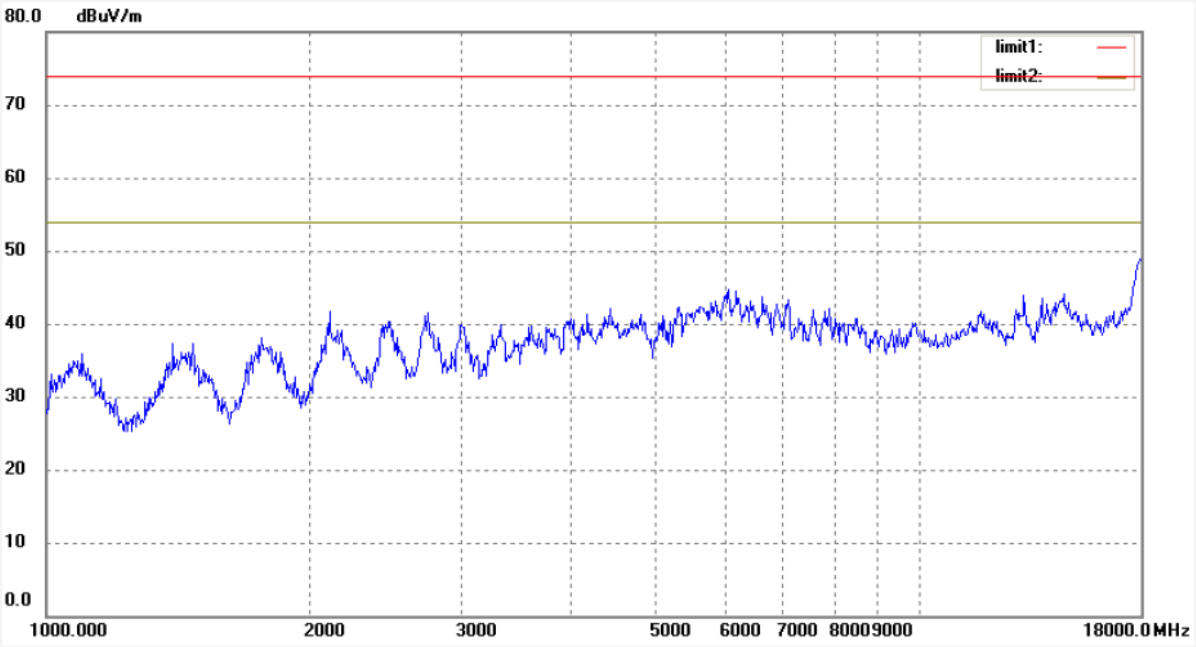
Job No.: rucky8 #18	Polarization: Horizontal
Standard: FCC PART 15B (PK)	Power Source: DC 5V
Test item: Radiation Test	Date: 13/05/11/
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 14/42/19
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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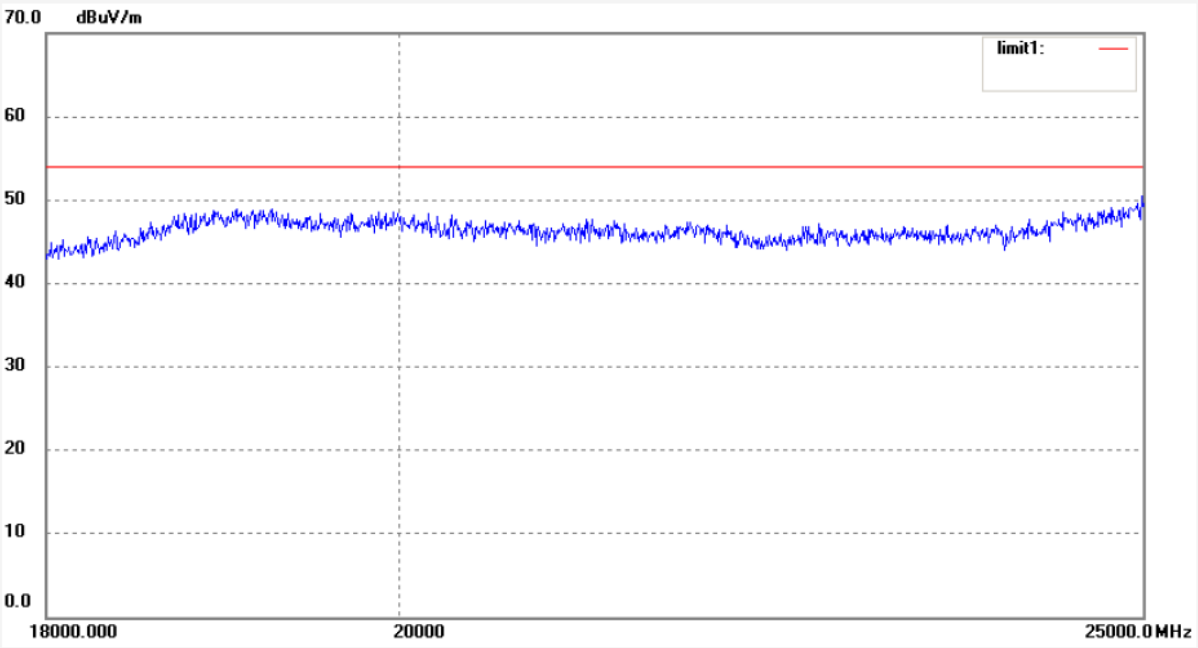
Job No.: Ricky #894	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:03:22
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX2480MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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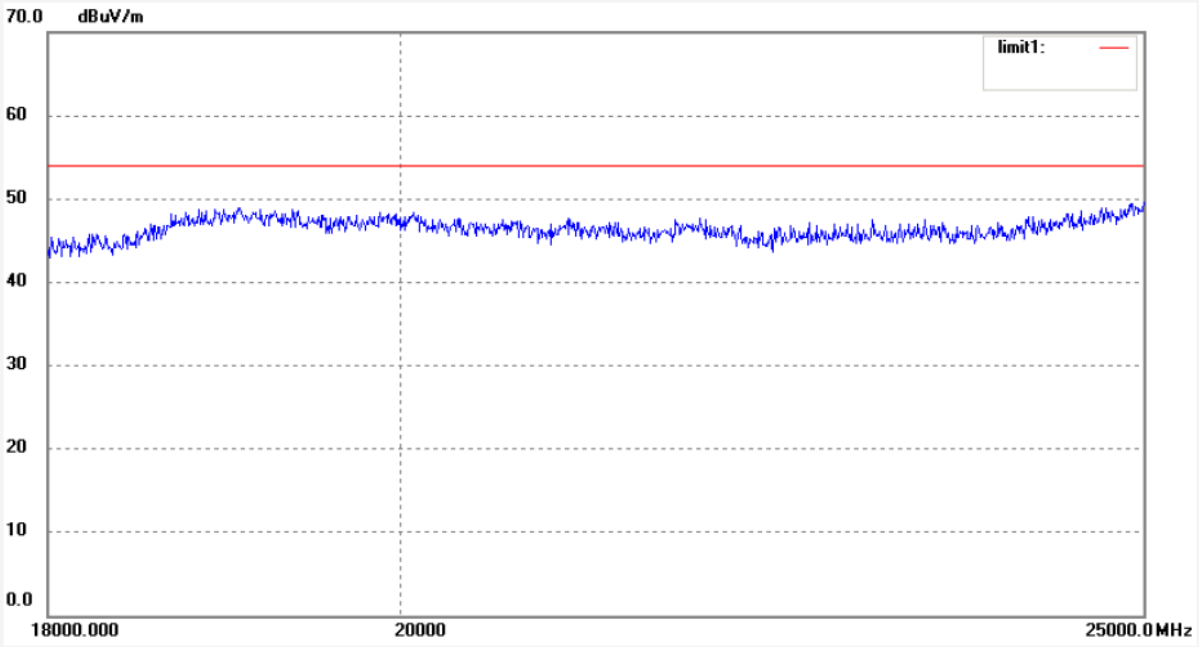
Job No.: Ricky #895	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:07:25
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX2480MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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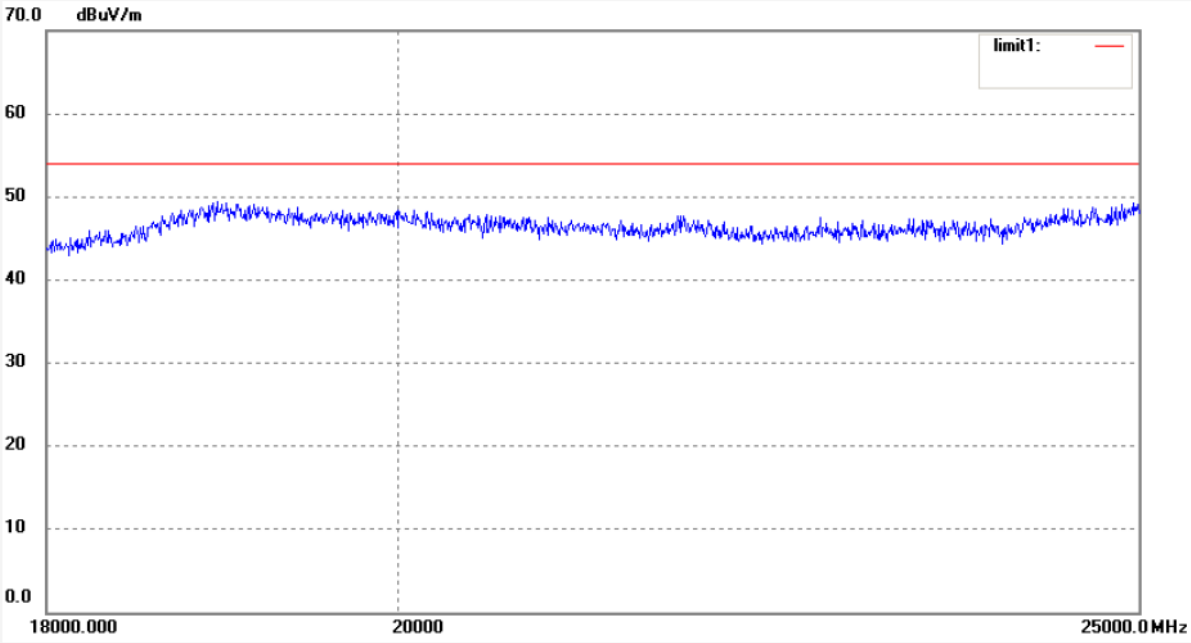
Job No.: Ricky #896	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:09:52
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX2441MHz)	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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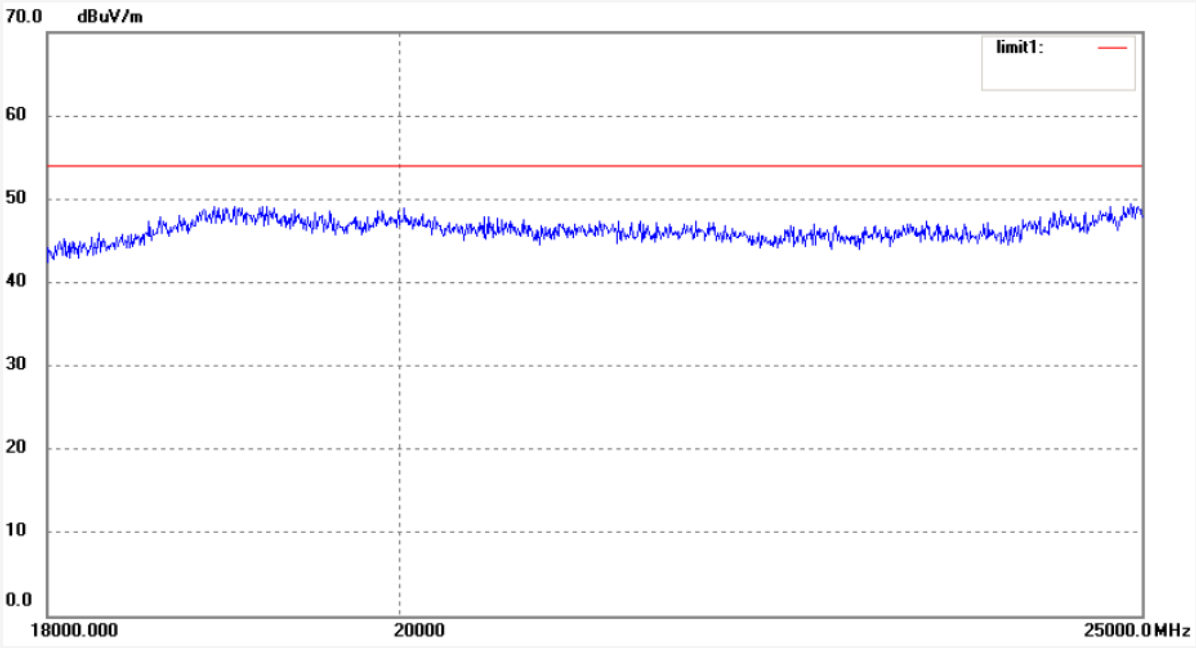
Job No.: Ricky #897	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:13:41
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX2441MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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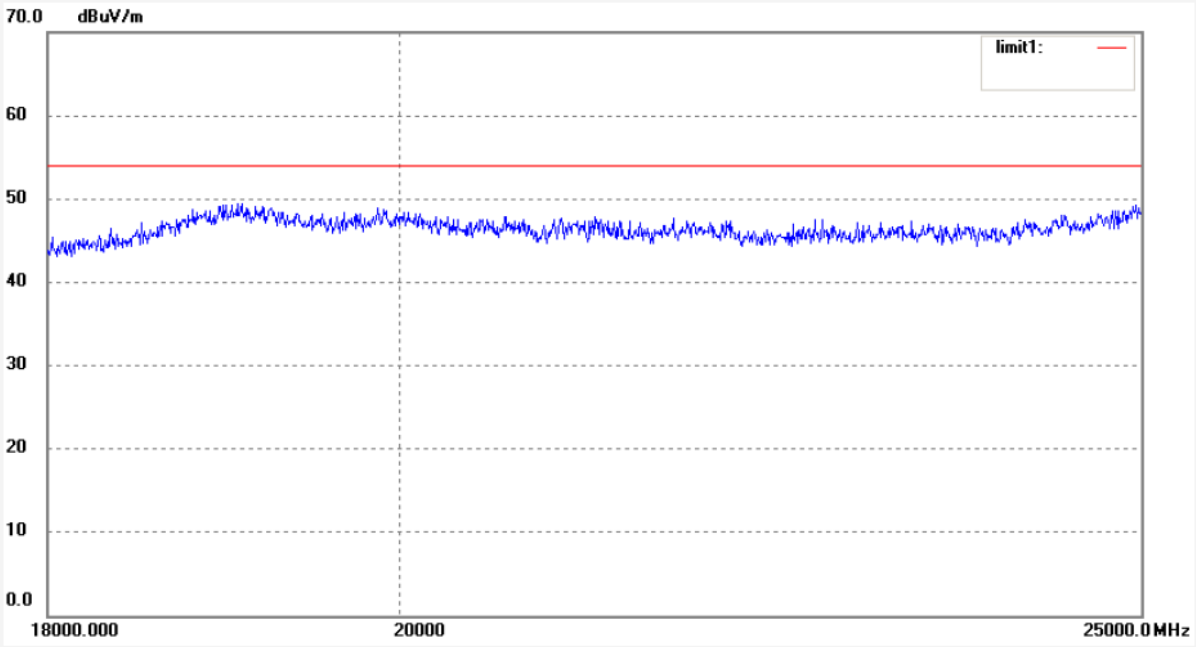
Job No.: Ricky #898	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:16:33
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX2402MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

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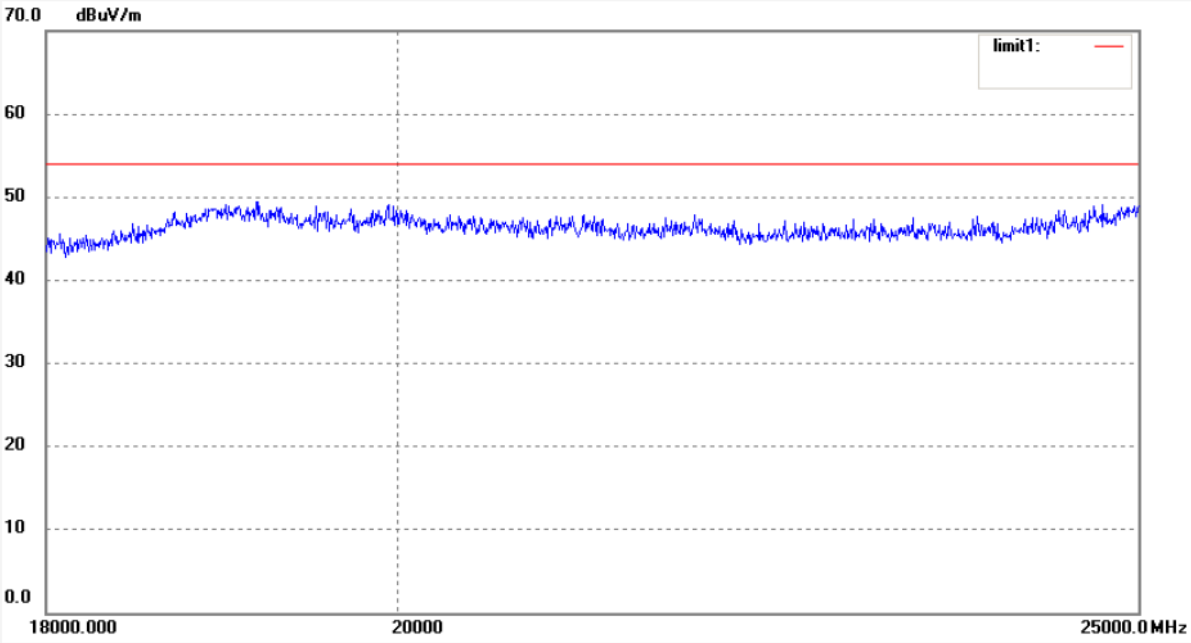
Job No.: Ricky #899	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/14
Temp.(C)/Hum.(%) 25 C / 50 %	Time: 9:19:37
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX2402MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

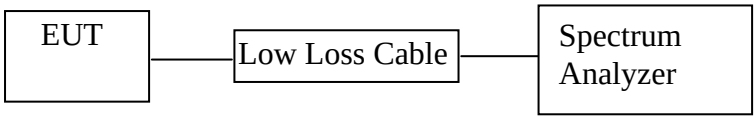
Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark

11.BAND EDGE COMPLIANCE TEST

11.1.Block Diagram of Test Setup



(EUT: Bluetooth stereo sports headphones)

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 following 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.

11.3.1.Bluetooth stereo sports headphones (EUT)

Model Number	:	DC-816-1
Serial Number	:	N/A
Manufacturer	:	DONGGUAN FEIHAO INDUSTRIALIST CO., LTD

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

Pass

Date of Test:	May 8, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX 2402MHz	Test Engineer:	Rickey

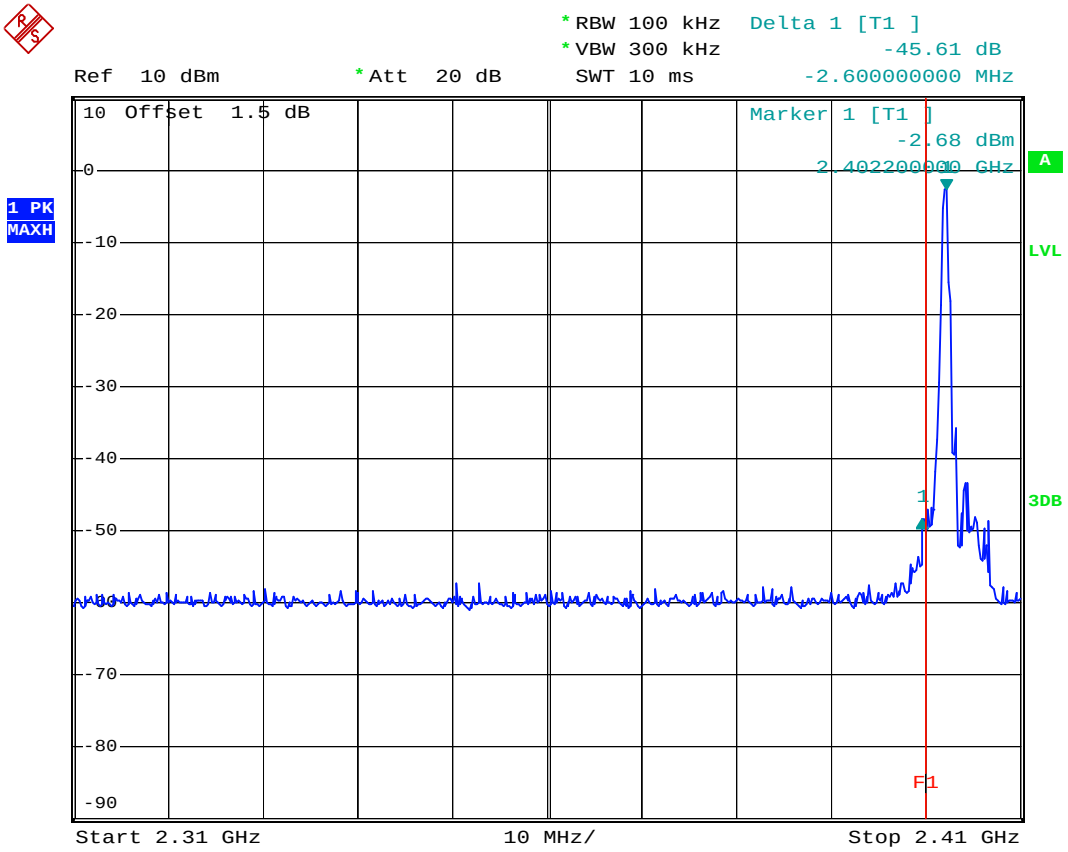
Conducted test

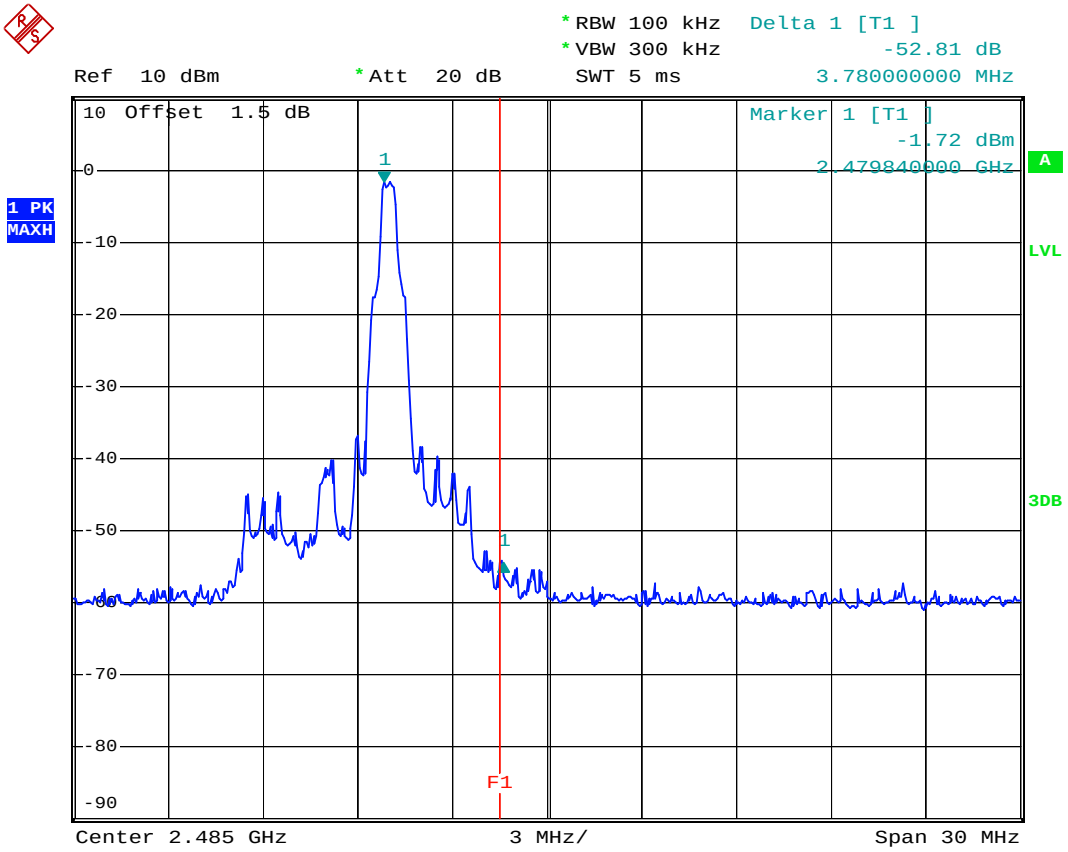
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2399.600	45.61	> 20dBc

Date of Test:	May 8, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX 2480MHz	Test Engineer:	Ricky

Conducted test

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2483.620	52.81	> 20dBc


*RBW 100 kHz
*VBW 300 kHz
Delta 1 [T1]
-45.61 dB
-2.600000000 MHz
Ref 10 dBm
*Att 20 dB
SWT 10 ms
10 Offset 1.5 dB
Marker 1 [T1]
-2.68 dBm
2.402200000 GHz
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
1
F1
Start 2.31 GHz
10 MHz/
Stop 2.41 GHz


*RBW 100 kHz
*VBW 300 kHz
SWT 5 ms
Delta 1 [T1]
-52.81 dB
3.780000000 MHz
Ref 10 dBm
*Att 20 dB
10 Offset 1.5 dB
Marker 1 [T1]
-1.72 dBm
2.479840000 GHz
1 PK
MAXH
A
LVL
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
F1
Center 2.485 GHz
3 MHz/
Span 30 MHz

Radiated Band Edge Result

Date of Test:	May 13, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX (2402MHz)	Test Engineer:	Rickey

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2400.000	59.44	68.58	-7.46	51.98	61.12	54.00	74.00	-2.02	-12.88	Vertical
2400.000	59.65	70.50	-7.46	52.19	63.04	54.00	74.00	-1.81	-10.96	Horizontal

Note:

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

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

Date of Test:	May 13, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	TX (2480MHz)	Test Engineer:	Rickey

Frequency (MHz)	Reading(dBμV/m)		Factor(dB) Corr.	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
	AV	PEAK		AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	49.35	53.62	-7.37	41.98	46.25	54.00	74.00	-12.02	-27.75	Vertical
2483.500	49.49	53.37	-7.37	42.12	46.00	54.00	74.00	-11.88	-28.00	Horizontal

Note:

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

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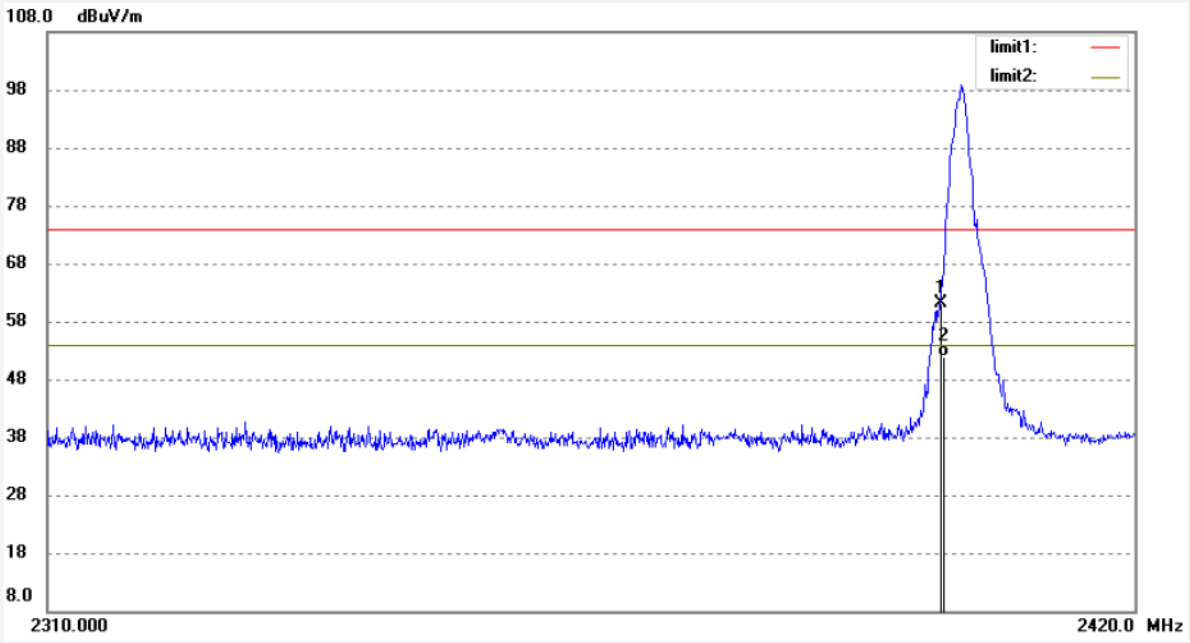
Fax:+86-0755-26503396

Job No.: rucky8 #41	Polarization: Vertical
Standard: FCC PART 15B (PK)	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 11/19/28
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	68.58	-7.46	61.12	74.00	-12.88	peak			
2	2400.000	59.44	-7.46	51.98	54.00	-2.02	AVG			

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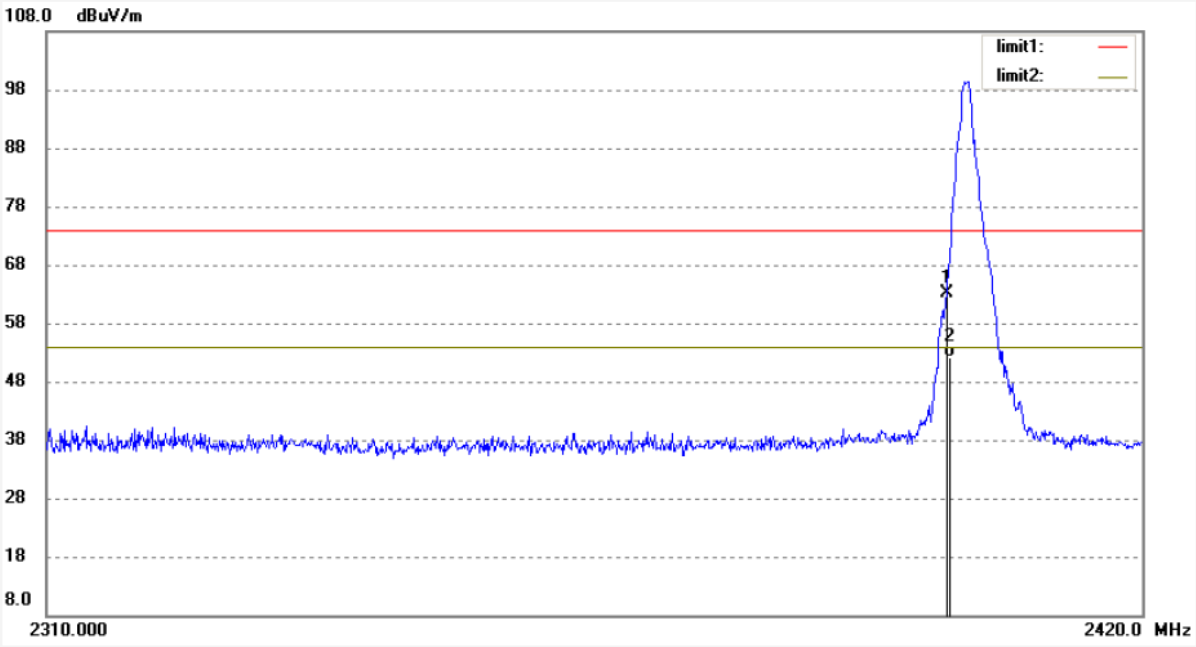
Job No.: rucky8 #42
Standard: FCC PART 15B (PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Bluetooth stereo sports headphones
Mode: TX 2402MHz
Model: DC-816-1
Manufacturer: FEIHAO

Polarization: Horizontal
Power Source: DC 5V
Date: 2013/05/13
Time: 11/22/22
Engineer Signature: Ricky
Distance: 3m

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	70.50	-7.46	63.04	74.00	-10.96	peak			
2	2400.000	59.65	-7.46	52.19	54.00	-1.81	AVG			

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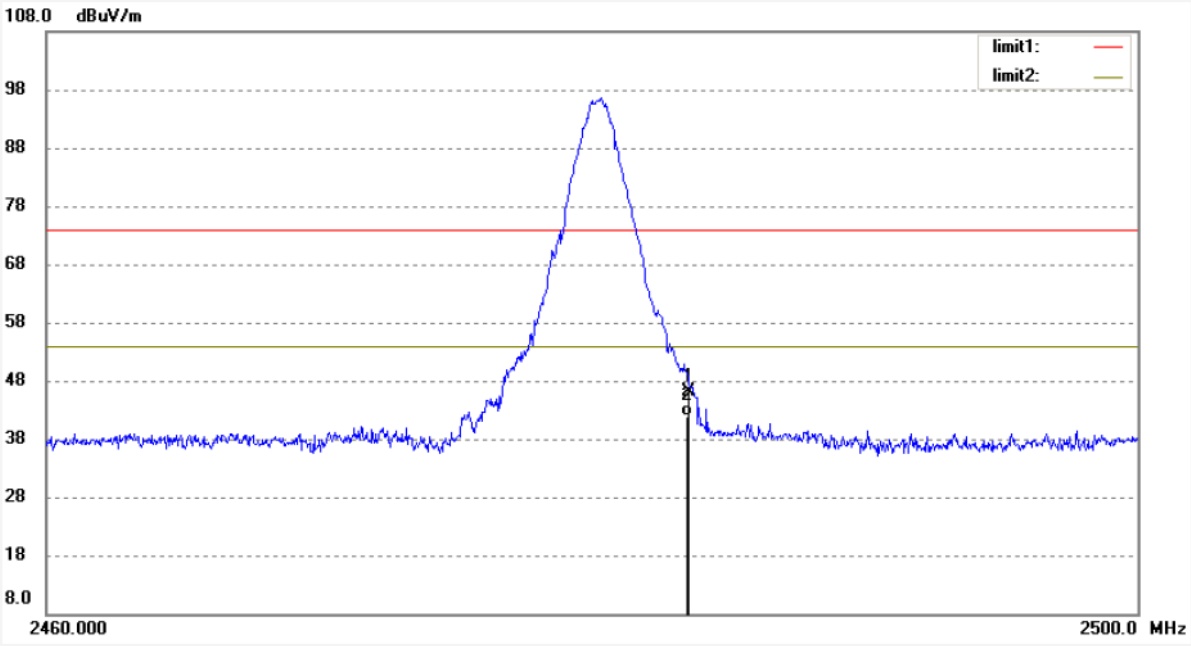
Job No.: rucky8 #37	Polarization: Vertical
Standard: FCC PART 15B (PK)	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/05/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 11/08/55
EUT: Bluetooth stereo sports headphones	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: DC-816-1	
Manufacturer: FEIHAO	

Note:



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	53.62	-7.37	46.25	74.00	-27.75	peak			
2	2483.500	49.35	-7.37	41.98	54.00	-12.02	AVG			

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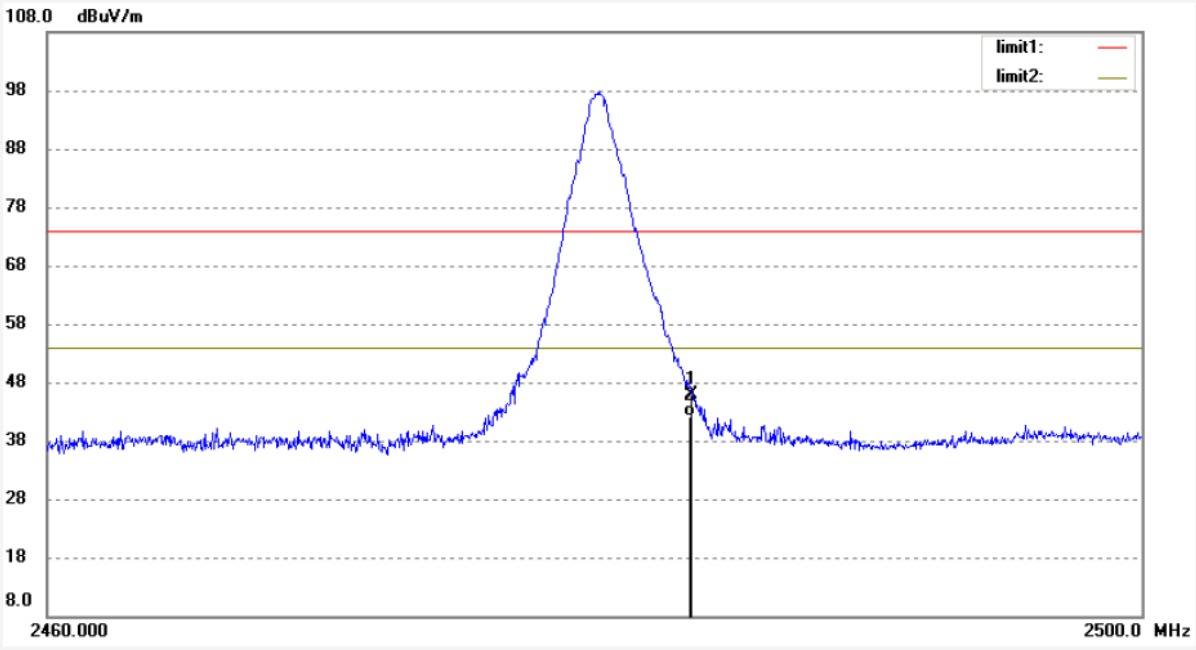
Job No.: rucky8 #38
Standard: FCC PART 15B (PK)
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Bluetooth stereo sports headphones
Mode: TX 2402MHz
Model: DC-816-1
Manufacturer: FEIHAO

Polarization: Horizontal
Power Source: DC 5V
Date: 2013/05/13
Time: 11/10/46
Engineer Signature: Ricky
Distance: 3m

Note:

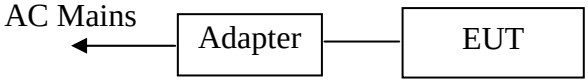


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	53.37	-7.37	46.00	74.00	-28.00	peak			
2	2483.500	49.49	-7.37	42.12	54.00	-11.88	AVG			

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

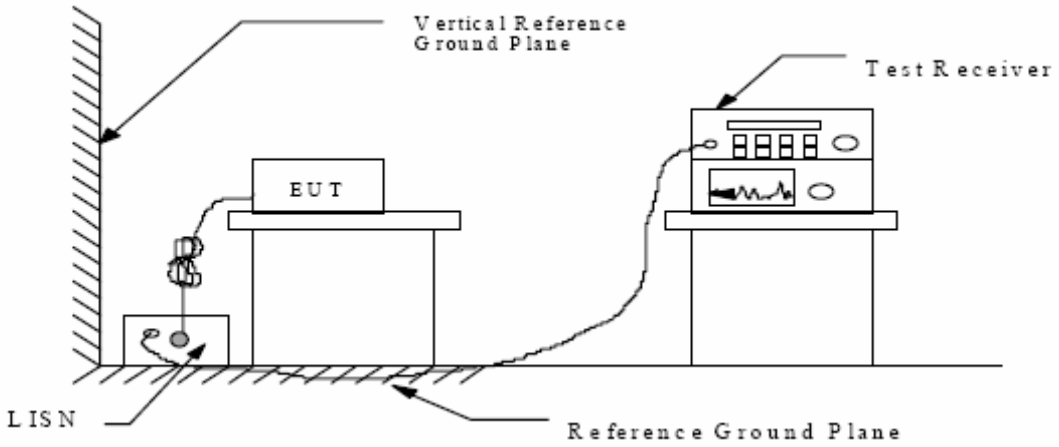
12.1. Block Diagram of Test Setup

12.1.1. Block diagram of connection between the EUT and simulators



(EUT: Bluetooth stereo sports headphones)

12.1.2. Shielding Room Test Setup Diagram



(EUT: Bluetooth stereo sports headphones)

12.2. The Emission Limit

12.2.1. Conducted Emission Measurement Limits According to Section 15.207(a)

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

* Decreases with the logarithm of the frequency.

12.3.Configuration of EUT on Measurement

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

12.3.1. Bluetooth stereo sports headphones (EUT)

Model Number	**:**	DC-816-1
Serial Number	**:**	N/A
Manufacturer	**:**	DONGGUAN FEIHAO INDUSTRIALIST CO., LTD

12.4.Operating Condition of EUT

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

12.4.2.Turn on the power of all equipment.

12.4.3.Let the EUT work in TX (Operation) mode 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 C63.4- 2009 on Conducted Emission Measurement.

The bandwidth of test receiver (R & S ESCS30) is set at 9 kHz.

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

12.6.Power Line Conducted Emission Measurement Results

PASS.

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

Date of Test:	May 14, 2013	Temperature:	25°C
EUT:	Bluetooth stereo sports headphones	Humidity:	50%
Model No.:	DC-816-1	Power Supply:	DC 5V
Test Mode:	operation	Test Engineer:	Rickey

Frequency (MHz)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector	Line
0.169760	43.30	65	21.7	QP	Neutral
0.279609	30.30	61	30.5	QP	
3.006835	43.10	56	12.9	QP	
0.169084	35.50	55	19.5	AV	
0.279609	22.90	51	27.9	AV	
3.018862	31.20	46	14.8	AV	
0.167071	43.60	65	21.5	QP	Live
3.006835	39.80	56	16.2	QP	
19.868073	31.80	60	28.2	QP	
0.167071	35.40	55	19.7	AV	
2.994855	31.50	46	14.5	AV	
19.868073	23.30	50	26.7	AV	

Emissions attenuated more than 20 dB below the permissible value are not reported.
The spectral diagrams are attached as below.

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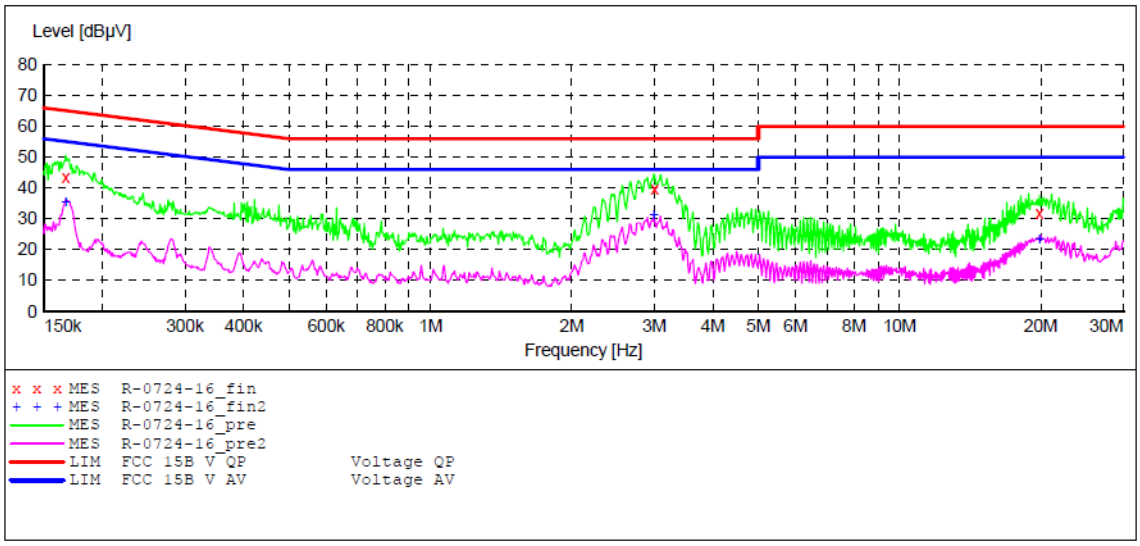
CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Bluetooth stereo sports headphones M/N:DC-816-1
Manufacturer: FEIHAO
Operating Condition: Operation
Test Site: 1#Shielding Room
Operator: Ricky
Test Specification: L 120V/60Hz
Comment: 5/14/2013 / 9:44:51PM
Start of Test:

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

Short Description: SUB STD VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	0.8 %	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "R-0514-16_fin"

5/14/2013 9:47PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.167071	43.60	11.1	65	21.5	QP	L1	GND
3.006835	39.80	11.6	56	16.2	QP	L1	GND
19.868073	31.80	11.1	60	28.2	QP	L1	GND

MEASUREMENT RESULT: "R-0514-16_fin2"

5/14/2013 9:47PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.167071	35.40	11.1	55	19.7	AV	L1	GND
2.994855	31.50	11.6	46	14.5	AV	L1	GND
19.868073	23.30	11.1	50	26.7	AV	L1	GND

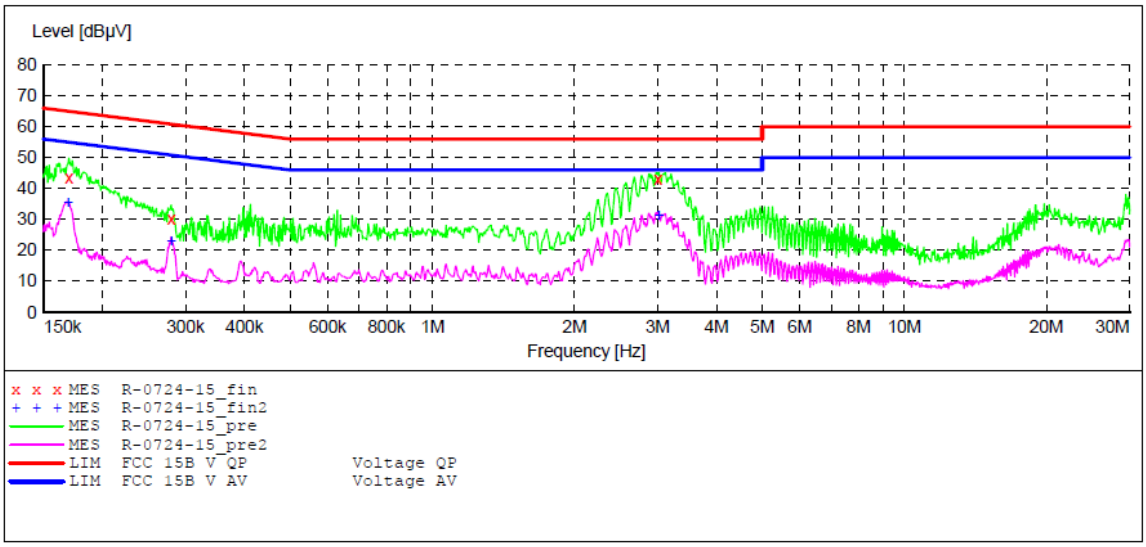
ACCURATE TECHNOLOGY CO.,LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

```
EUT:                    Bluetooth stereo sports headphones  M/N:DC-816-1
Manufacturer:           FEIHAO
Operating Condition:    Operation
Test Site:              1#Shielding Room
Operator:               Ricky
Test Specification:     N  120V/60Hz
Comment:                5/14/2013 / 9:39:24PM
Start of Test:
```

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    0.8 %     QuasiPeak 1.0 s     9 kHz    NSLK8126 2008
                                    Average
```



MEASUREMENT RESULT: "R-0514-15_fin"

5/14/2013 9:41PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.169760	43.30	11.1	65	21.7	QP	N	GND
0.279609	30.30	11.5	61	30.5	QP	N	GND
3.006835	43.10	11.6	56	12.9	QP	N	GND

MEASUREMENT RESULT: "R-0514-15_fin2"

5/14/2013 9:41PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.169084	35.50	11.1	55	19.5	AV	N	GND
0.279609	22.90	11.5	51	27.9	AV	N	GND
3.018862	31.20	11.6	46	14.8	AV	N	GND

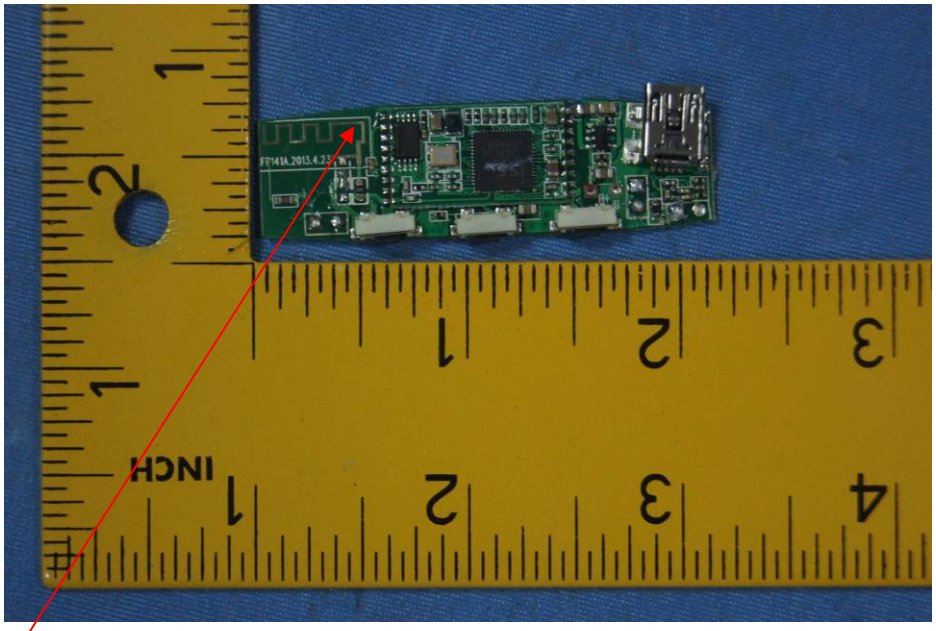
13. ANTENNA REQUIREMENT

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

The antenna is PCB Layout antenna, no consideration of replacement. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna