APPLICATION CERTIFICATION
On Behalf of
KEYSHEEN INDUSTRY (SHANGHAI) CO., LTD.

MUSIC UMBRELLA
Model No.:UUS56MS, UUS56LE, UTS56MS, UUA56MS, UTA56MS, UTS56LE
UUA56LE, UTA56LE

FCC ID: Q8B-UUS56MS

Prepared for	:	KEYSHEEN INDUSTRY (SHANGHAI) CO., LTD
Address	:	NO 707 Songhua Road, Qingpu Industry Zone, Shanghai, China
Prepared by	:	ACCURATE TECHNOLOGY CO. LTD
Address	:	F1, Bldg. A, Changyuan New Material Port, Keyuan Rd. Science & Industry Park, Nanshan, Shenzhen, Guangdong P.R. China Tel: (0755) 26503290 Fax: (0755) 26503396

Report Number	:	ATE20121879
Date of Test	:	Aug 15-Sep 1, 2012
Date of Report	:	Sep 1, 2012

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Description Page

Test Report Certification

Applicant	:	KEYSHEEN INDUSTRY (SHANGHAI) CO., LTD.
Manufacturer	:	KEYSHEEN INDUSTRY (SHANGHAI) CO., LTD.
EUT Description	:	MUSIC UMBRELLA
		(A) MODEL NO.: UUS56MS, UUS56LE, UTS56MS, UUA56MS, UTA56MS, UTS56LE, UUA56LE, UTA56LE
		(B) SERIAL NO.: N/A
		(C) POWER SUPPLY: 6V DC("AAA" batteries 4×)

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247
ANSI C63.4: 2009
ANSI C63.10: 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 : Aug 15-Sep 1, 2012

Prepared by : Terry. Yang

(Engineer)

Approved & Authorized Signer :

(Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	MUSIC UMBRELLA
Model Number	:	UUS56MS, UUS56LE, UTS56MS, UUA56MS, UTA56MS, UTS56LE, UUA56LE, UTA56LE NOTE: These models are identical in interior structure, electrical circuits and components, and just model names are different for the marketing requirement. So we prepare UUS56MS for test only
Frequency Band	:	2400MHz-2483.5MHz
Number of Channels	:	79
Antenna Gain	:	2dBi
Power Supply	:	6V DC
Applicant	:	KEYSHEEN INDUSTRY (SHANGHAI) CO., LTD.
Address	:	NO 707 Songhua Road, Qingpu Industry Zone, Shanghai, China
Manufacturer	:	KEYSHEEN INDUSTRY (SHANGHAI) CO., LTD.
Address	:	NO 707 Songhua Road, Qingpu Industry Zone, Shanghai, China
Date of sample received	:	Aug 15, 2012
Date of Test	:	Aug 15-Sep 1, 2012

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

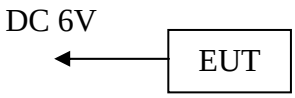
Kind of equipment	Manufacturer	Type	S/N	Calibrated date	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 7, 2012	Jan. 7, 2013
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 7, 2012	Jan. 7, 2013
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 7, 2012	Jan. 7, 2013
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 7, 2012	Jan. 7, 2013
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 7, 2012	Jan. 7, 2013
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 7, 2012	Jan. 7, 2013
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 7, 2012	Jan. 7, 2013
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 7, 2012	Jan. 7, 2013
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 7, 2012	Jan. 7, 2013
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 7, 2012	Jan. 7, 2013

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



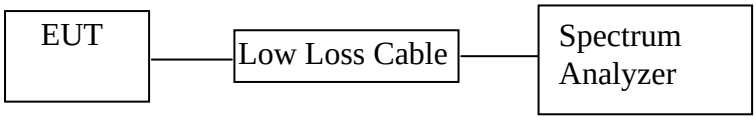
(EUT: MUSIC UMBRELLA)

4. TEST PROCEDURES AND RESULTS

FCC Rules	**Description of Test**	**Result**
Section 15.107	Conducted Emission Test	N/A
Section 15.109	Radiated Emission Test	N/A
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: MUSIC UMBRELLA)

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.MUSIC UMBRELLA (EUT)

Model Number	**:**	UUS56MS
Serial Number	**:**	N/A
Manufacturer	**:**	KEYSHEEN INDUSTRY (SHANGHAI) 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.

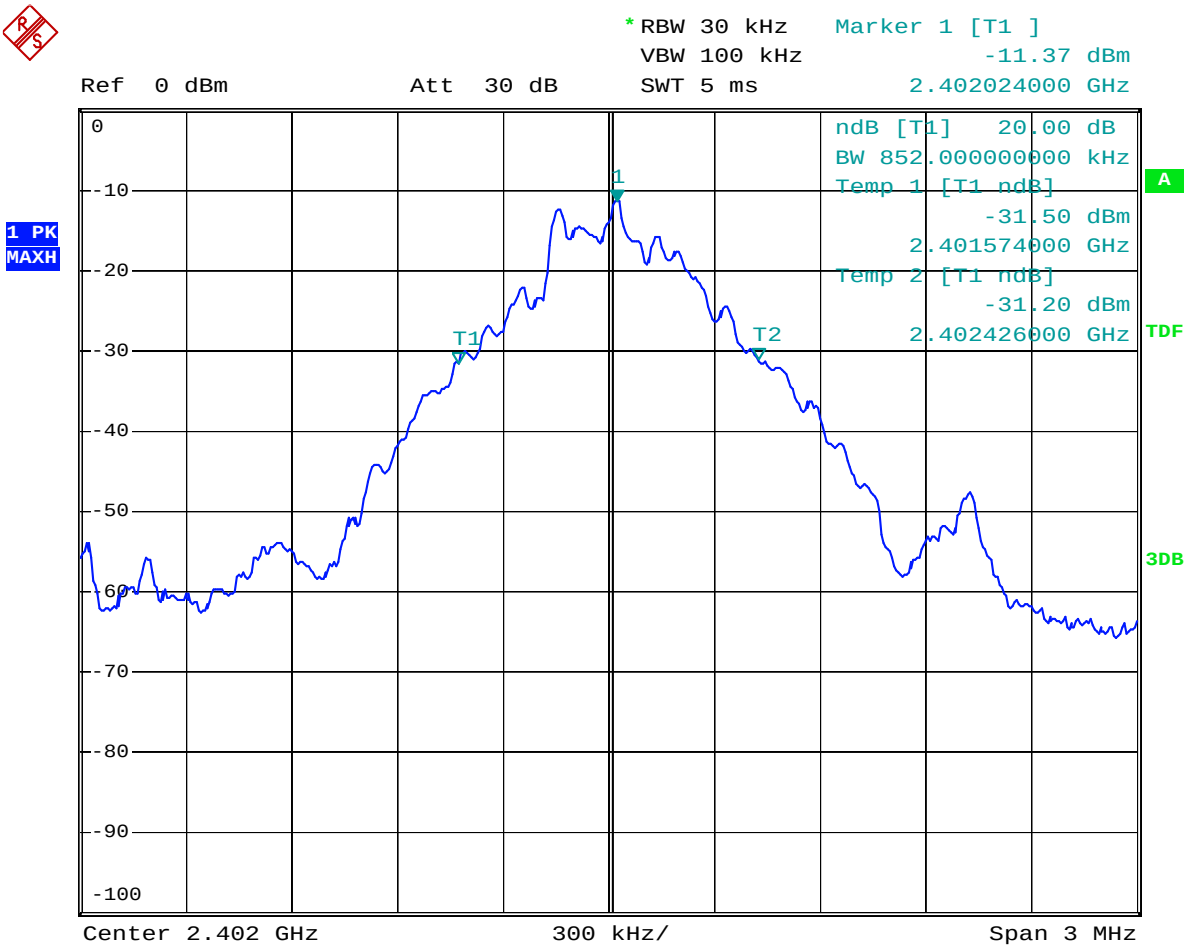
5.6. Test Result

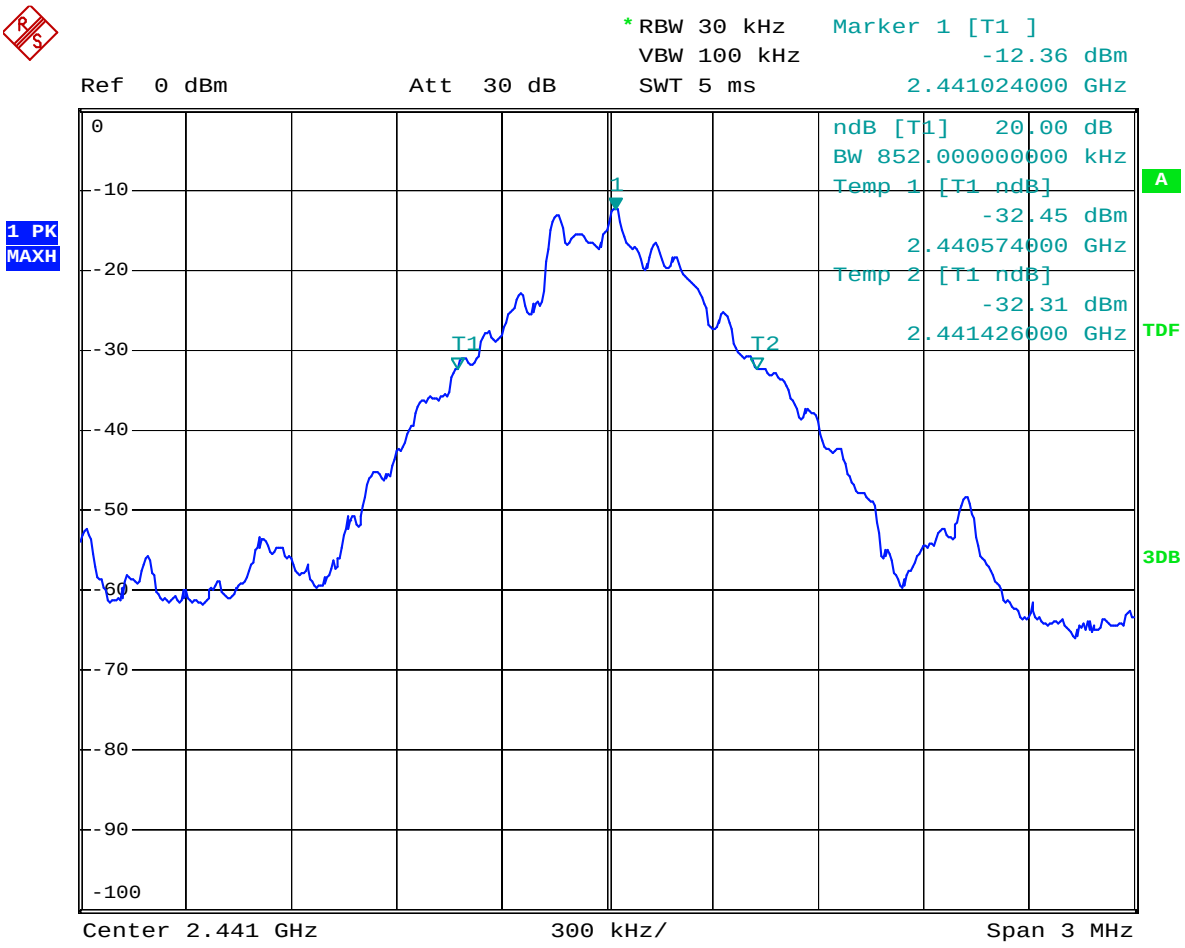
PASS.

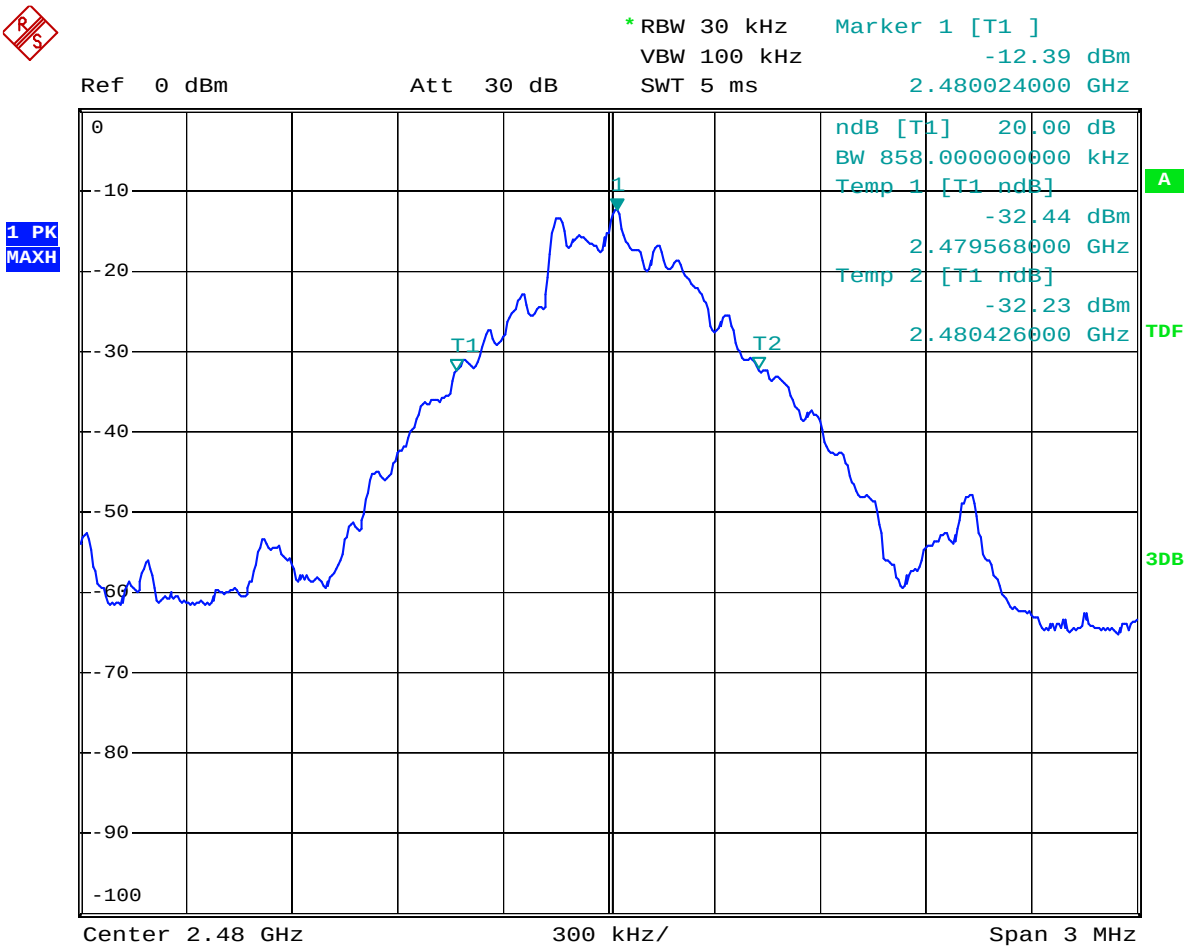
Date of Test:	Aug 16, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 6V
Test Mode:	TX	Test Engineer:	Ricky

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
Low	2402	0.852	---
Middle	2441	0.852	---
High	2480	0.858	---

The spectrum analyzer plots are attached as below.

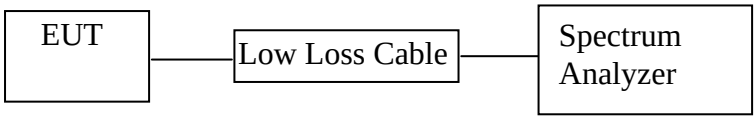

*RBW 30 kHz
VBW 100 kHz
SWT 5 ms
Marker 1 [T1]
-11.37 dBm
2.402024000 GHz
Ref 0 dBm
Att 30 dB
ndB [T1] 20.00 dB
BW 852.000000000 kHz
Temp 1 [T1 ndB]
-31.50 dBm
2.401574000 GHz
Temp 2 [T1 ndB]
-31.20 dBm
2.402426000 GHz
1 PK
MAXH
A
TDF
3DB
T1
T2
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.402 GHz
300 kHz/
Span 3 MHz


*RBW 30 kHz
VBW 100 kHz
SWT 5 ms
Marker 1 [T1]
-12.36 dBm
2.441024000 GHz
Ref 0 dBm
Att 30 dB
ndB [T1] 20.00 dB
BW 852.000000000 kHz
Temp 1 [T1 ndB]
-32.45 dBm
2.440574000 GHz
Temp 2 [T1 ndB]
-32.31 dBm
2.441426000 GHz
1 PK
MAXH
A
TDF
3DB
T1
T2
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.441 GHz
300 kHz/
Span 3 MHz


*RBW 30 kHz
VBW 100 kHz
SWT 5 ms
Marker 1 [T1]
-12.39 dBm
2.480024000 GHz
Ref 0 dBm
Att 30 dB
ndB [T1] 20.00 dB
BW 858.000000000 kHz
Temp 1 [T1 ndB]
-32.44 dBm
2.479568000 GHz
Temp 2 [T1 ndB]
-32.23 dBm
2.480426000 GHz
1 PK
MAXH
A
TDF
3DB
T1
T2
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.48 GHz
300 kHz/
Span 3 MHz

6. CARRIER FREQUENCY SEPARATION TEST

6.1.Block Diagram of Test Setup



(EUT: MUSIC UMBRELLA)

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.MUSIC UMBRELLA (EUT)

Model Number	**:**	UUS56MS
Serial Number	**:**	N/A
Manufacturer	**:**	KEYSHEEN INDUSTRY (SHANGHAI) 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

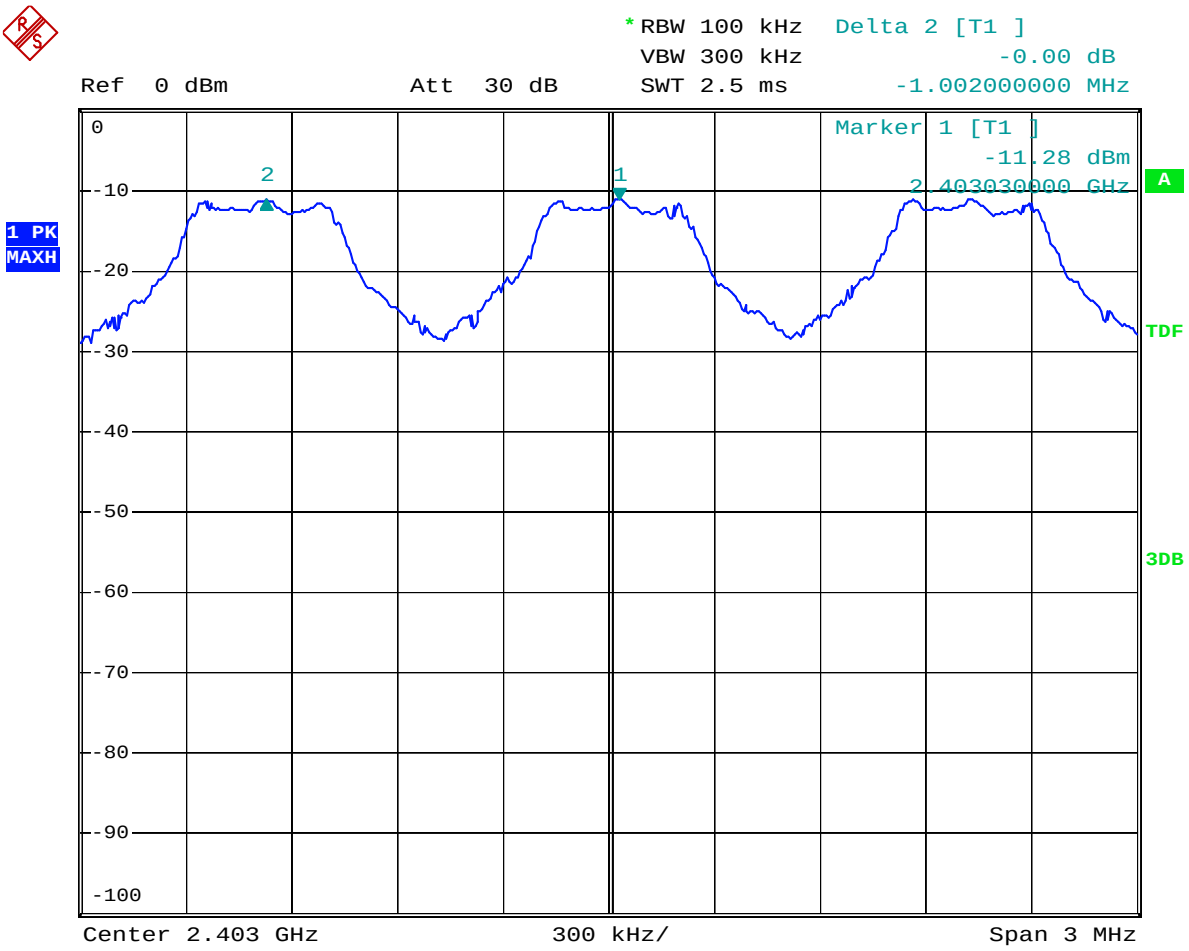
6.6.Test Result

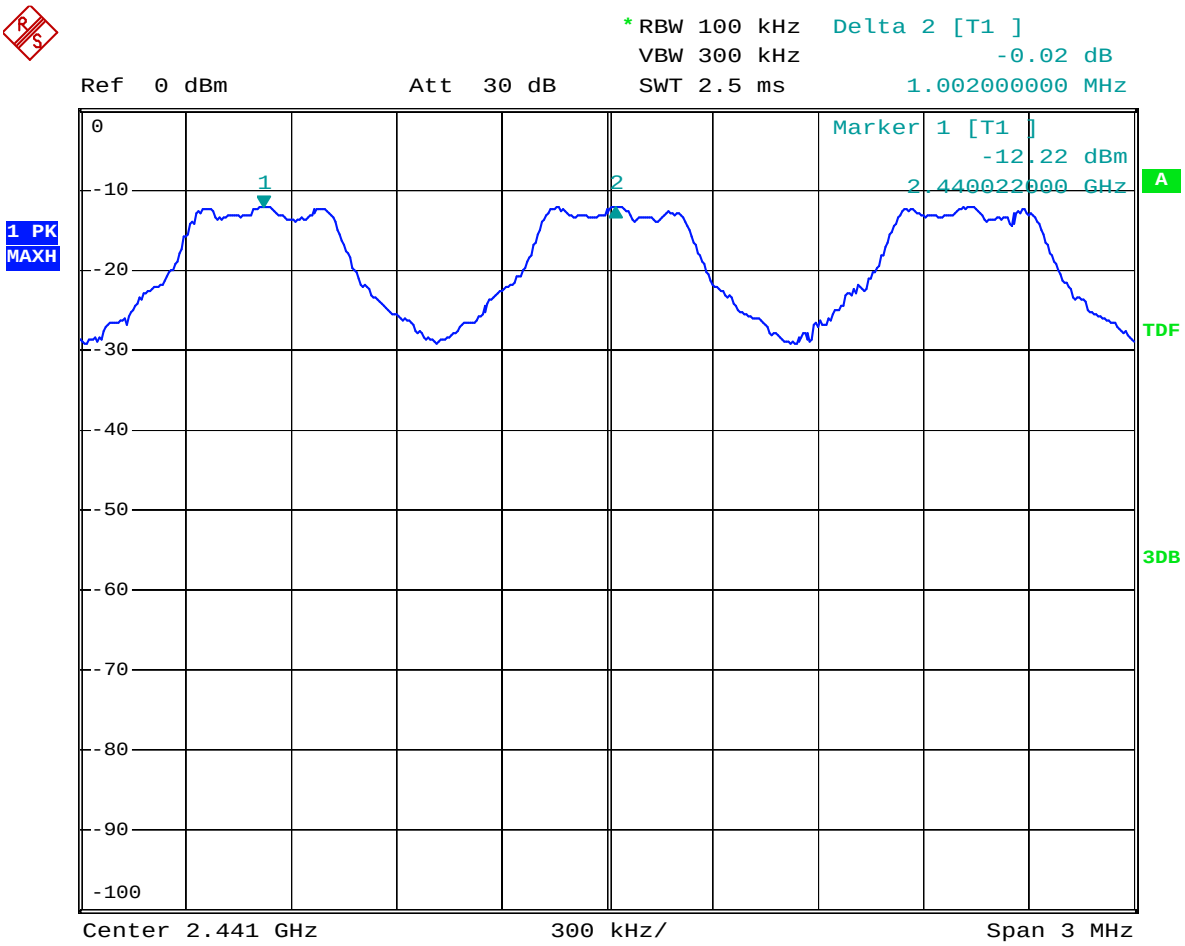
PASS.

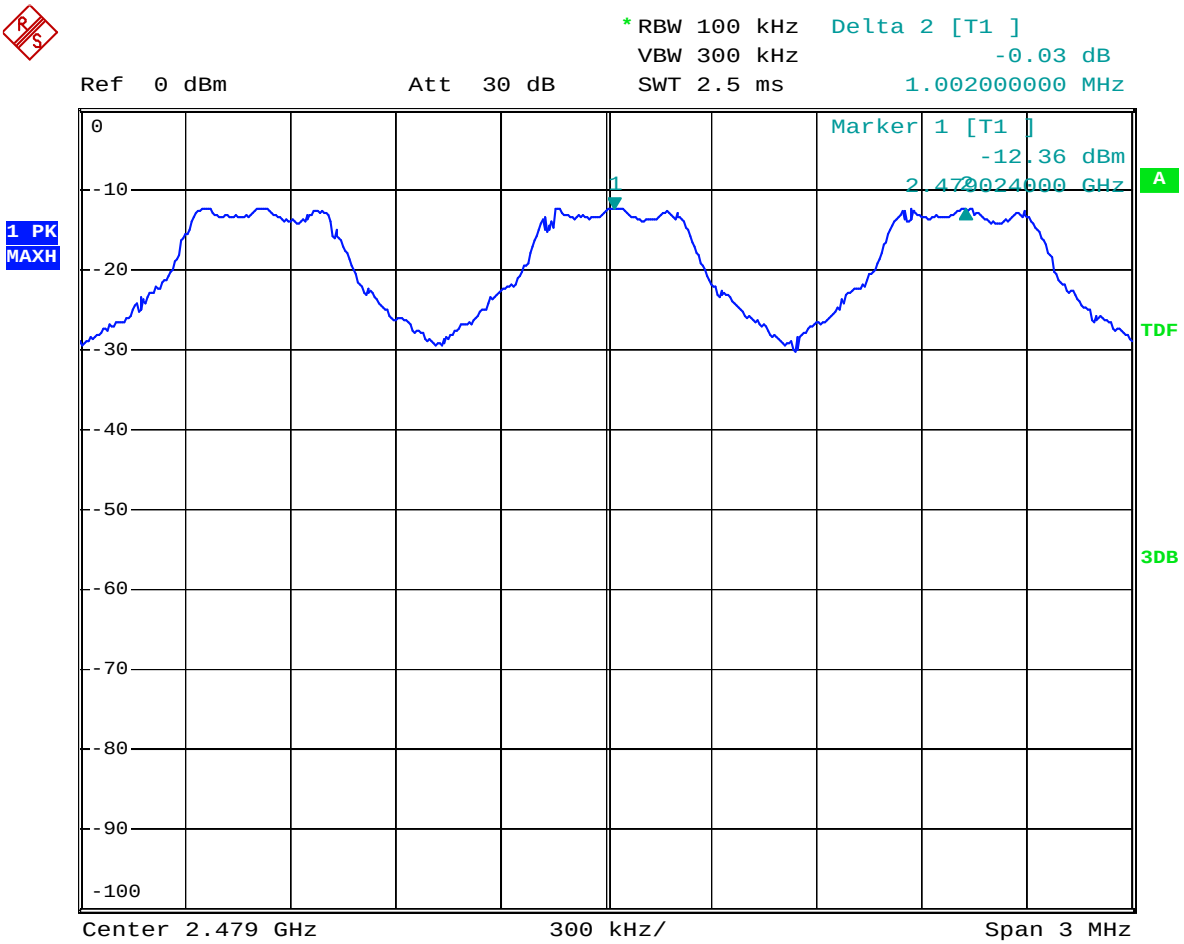
Date of Test:	Aug 16, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 6V
Test Mode:	TX	Test Engineer:	Ricky

Channel	Channel Frequency (MHz)	Channel separation (MHz)	Limit
Low	2402	1.002	0.568
Middle	2441	1.002	0.568
High	2480	1.002	0.572

The spectrum analyzer plots are attached as below.

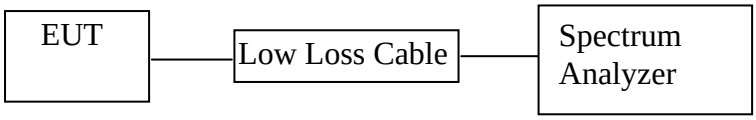

*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
-0.00 dB
-1.002000000 MHz
Ref 0 dBm
Att 30 dB
Marker 1 [T1]
-11.28 dBm
2.403030000 GHz
1 PK
MAXH
A
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.403 GHz
300 kHz/
Span 3 MHz


*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
-0.02 dB
1.002000000 MHz
Ref 0 dBm
Att 30 dB
Marker 1 [T1]
-12.22 dBm
2.440022000 GHz
1 PK
MAXH
A
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.441 GHz
300 kHz/
Span 3 MHz


*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Delta 2 [T1]
-0.03 dB
1.002000000 MHz
Ref 0 dBm
Att 30 dB
Marker 1 [T1]
-12.36 dBm
2.470024000 GHz
1 PK
MAXH
A
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.479 GHz
300 kHz/
Span 3 MHz

7. NUMBER OF HOPPING FREQUENCY TEST

7.1.Block Diagram of Test Setup



(EUT: MUSIC UMBRELLA)

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.MUSIC UMBRELLA (EUT)

Model Number	:	UUS56MS
Serial Number	:	N/A
Manufacturer	:	KEYSHEEN INDUSTRY (SHANGHAI) 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=90MHz, RBW=100 kHz, VBW=300 kHz.

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

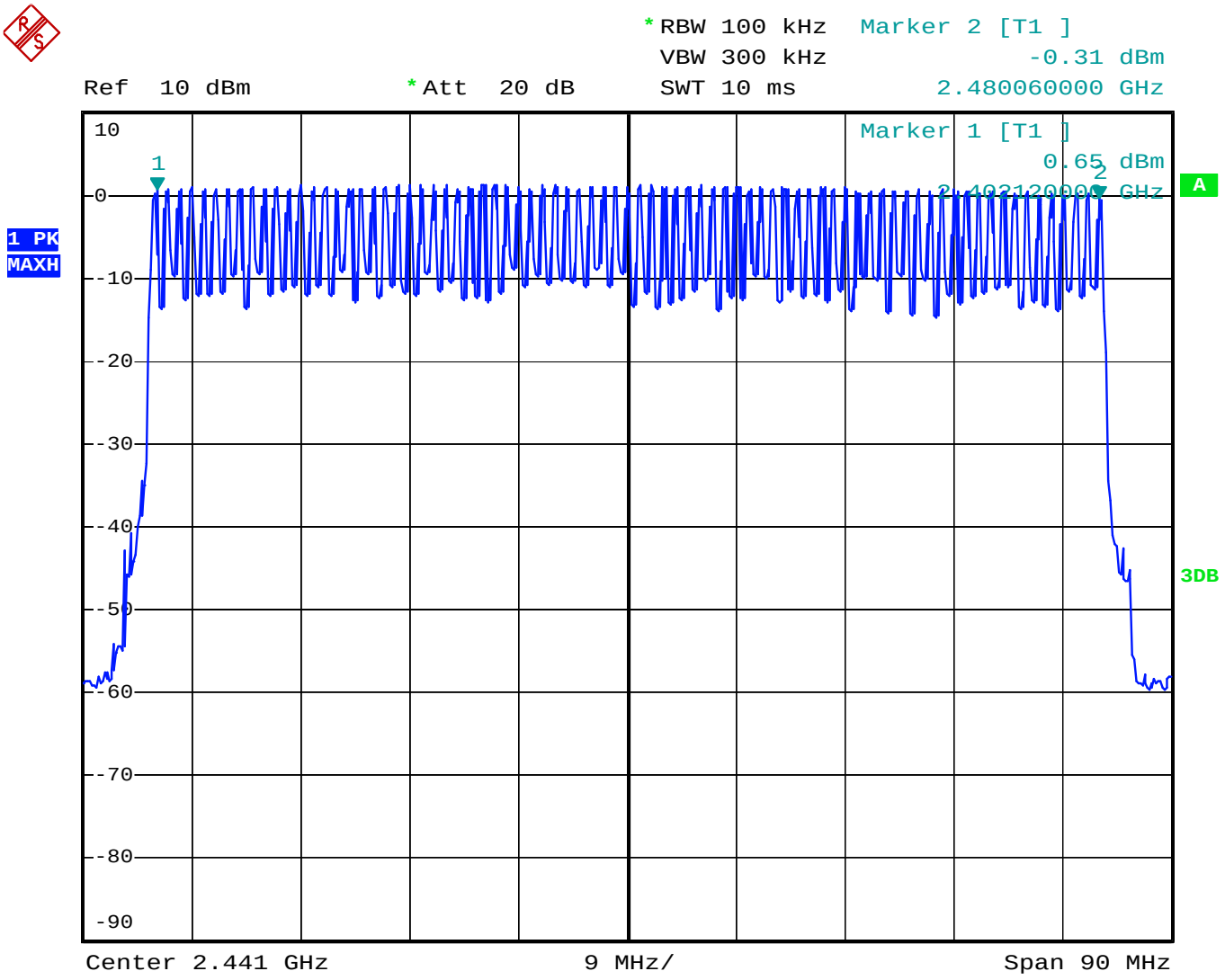
7.6.Test Result

PASS.

Date of Test:	Aug 16, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 6V
Test Mode:	Hopping	Test Engineer:	Ricky

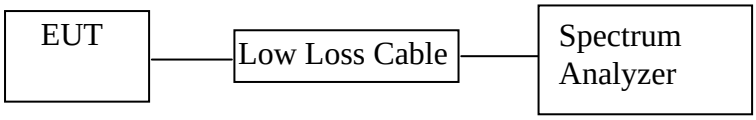
	Measurement result (CH)	Limit (CH)
Total number of hopping channel	79	>15

The spectrum analyzer plots are attached as below.


*RBW 100 kHz
VBW 300 kHz
SWT 10 ms
Marker 2 [T1]
-0.31 dBm
2.480060000 GHz
Ref 10 dBm
*Att 20 dB
Marker 1 [T1]
0.65 dBm
2.402120000 GHz
1 PK
MAXH
A
3DB
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.441 GHz
9 MHz/
Span 90 MHz

8. DWELL TIME TEST

8.1.Block Diagram of Test Setup



(EUT: MUSIC UMBRELLA)

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.MUSIC UMBRELLA (EUT)

Model Number	:	UUS56MS
Serial Number	:	N/A
Manufacturer	:	KEYSHEEN INDUSTRY(SHANGHAI) 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.

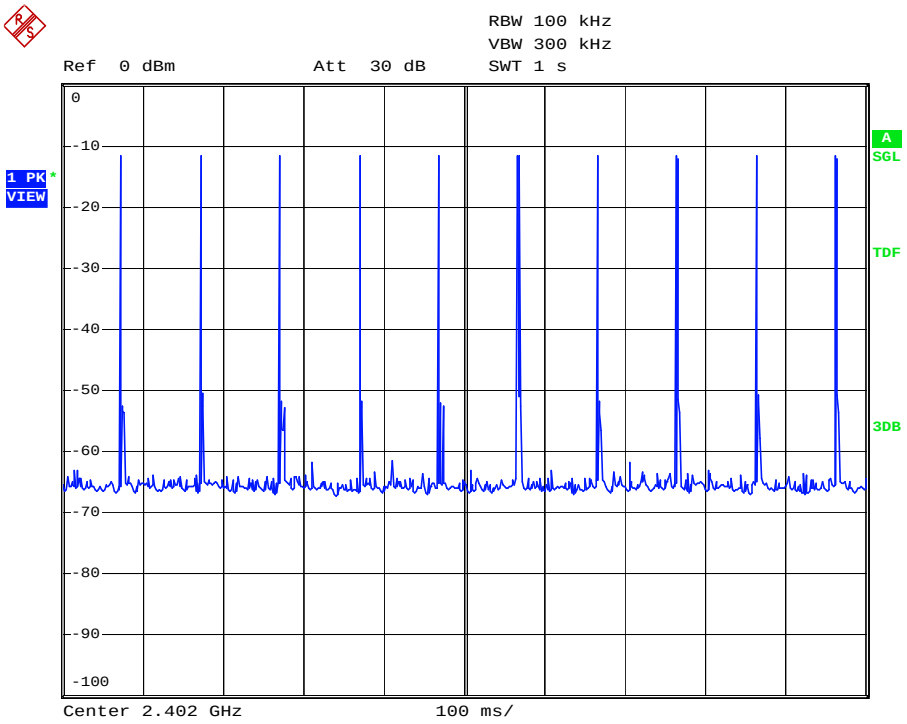
Date of Test:	Aug 16, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 6V
Test Mode:	TX	Test Engineer:	Ricky

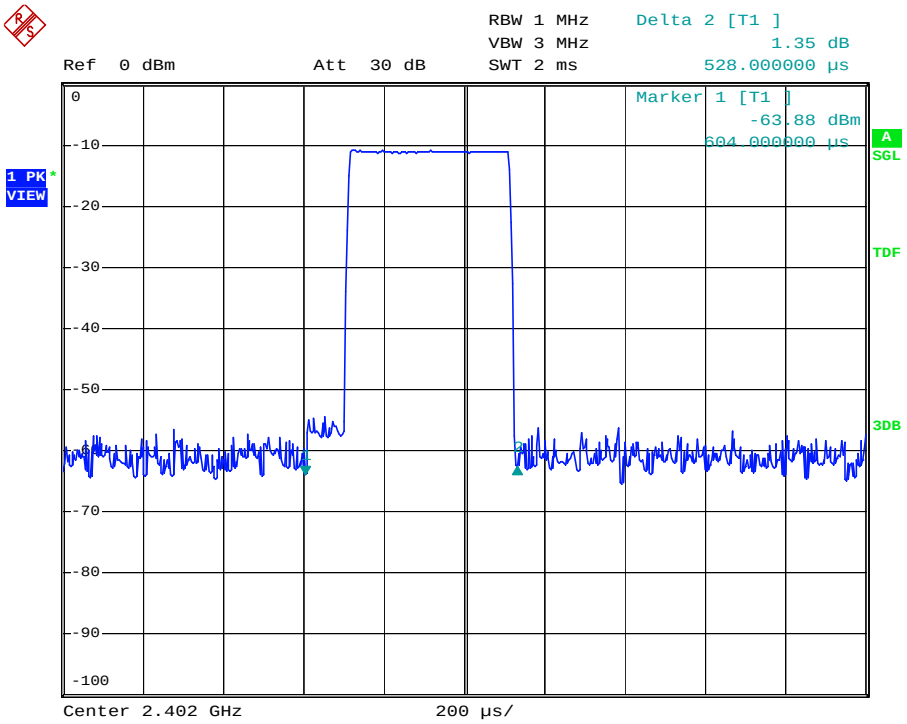
A period transmit time = 0.4 × 79 = 31.6

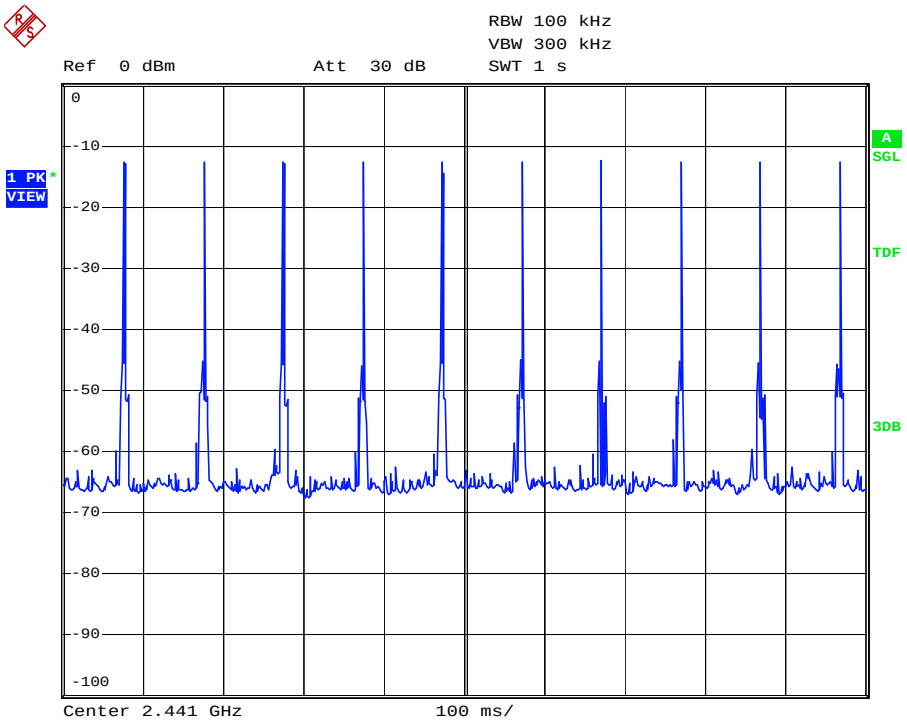
Dwell time = pulse time × burst (in 1 sec.)×31.6

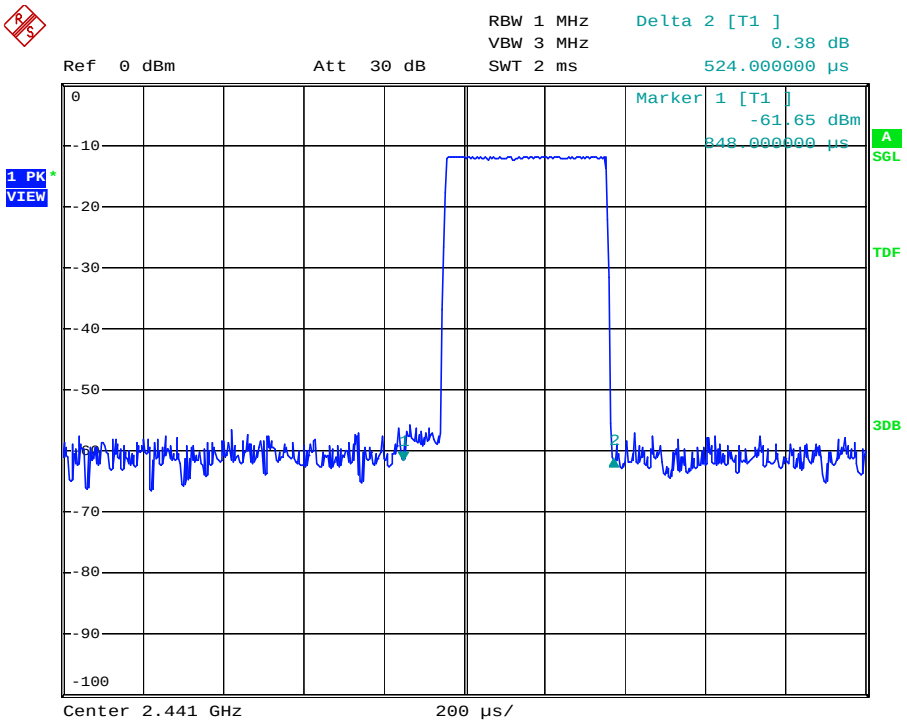
Channel	Channel Frequency (MHz)	Pulse Time (ms)	Burst (in 1 sec.)	Dwell Time (ms)	Limit (ms)
Low	2402	0.528	10	166.85	400
Middle	2441	0.524	10	165.58	400
High	2480	0.528	10	166.85	400

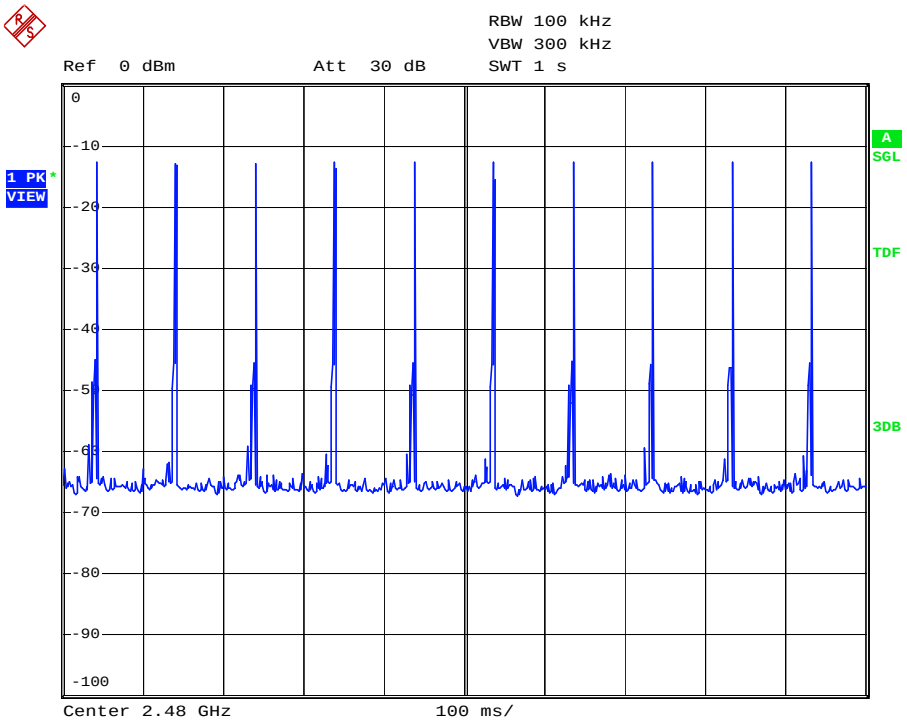
The spectrum analyzer plots are attached as below.

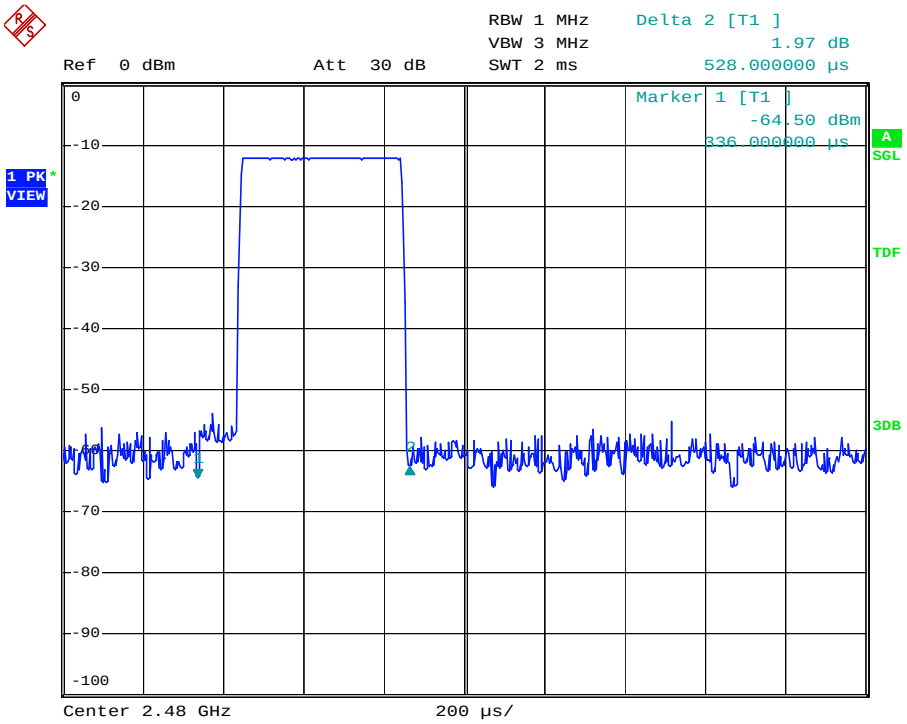

RBW 100 kHz
VBW 300 kHz
Ref 0 dBm
Att 30 dB
SWT 1 s
1 PK
VIEW
A
SGL
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.402 GHz
100 ms/


RBW 1 MHz
VBW 3 MHz
SWT 2 ms
Delta 2 [T1]
1.35 dB
528.000000 µs
Marker 1 [T1]
-63.88 dBm
604.000000 µs
Ref 0 dBm
Att 30 dB
1 PK
VIEW
A
SGL
TDF
3DB
0
-10
-20
-30
-40
-50
-70
-80
-90
-100
Center 2.402 GHz
200 µs/


RBW 100 kHz
VBW 300 kHz
Ref 0 dBm
Att 30 dB
SWT 1 s
1 PK
VIEW
A
SGL
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.441 GHz
100 ms/

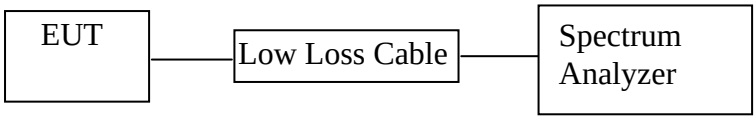

RBW 1 MHz
VBW 3 MHz
SWT 2 ms
Delta 2 [T1]
0.38 dB
524.000000 µs
Marker 1 [T1]
-61.65 dBm
848.000000 µs
Ref 0 dBm
Att 30 dB
1 PK
VIEW
A
SGL
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.441 GHz
200 µs/


RBW 100 kHz
VBW 300 kHz
Ref 0 dBm
Att 30 dB
SWT 1 s
1 PK
VIEW
A
SGL
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.48 GHz
100 ms/


RBW 1 MHz
VBW 3 MHz
SWT 2 ms
Delta 2 [T1]
1.97 dB
528.000000 µs
Marker 1 [T1]
-64.50 dBm
336.000000 µs
Ref 0 dBm
Att 30 dB
1 PK
VIEW
A
SGL
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.48 GHz
200 µs/

9. MAXIMUM PEAK OUTPUT POWER TEST

9.1.Block Diagram of Test Setup



(EUT: MUSIC UMBRELLA)

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.MUSIC UMBRELLA (EUT)

Model Number	**:**	UUS56MS
Serial Number	**:**	N/A
Manufacturer	**:**	KEYSHEEN INDUSTRY(SHANGHAI) 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 1MHz and VBW to 3MHz.

9.5.3. Measurement the maximum peak output power.

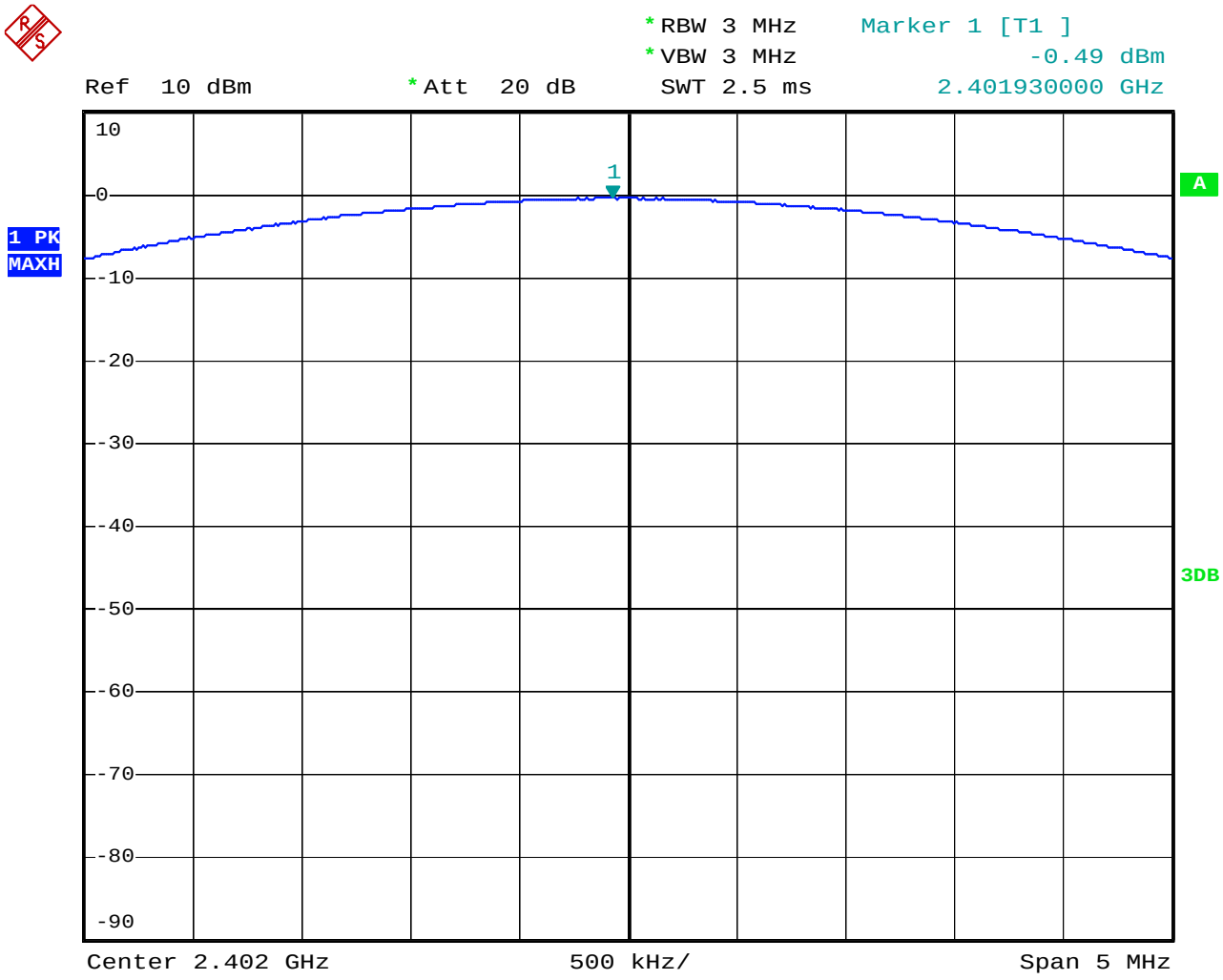
9.6. Test Result

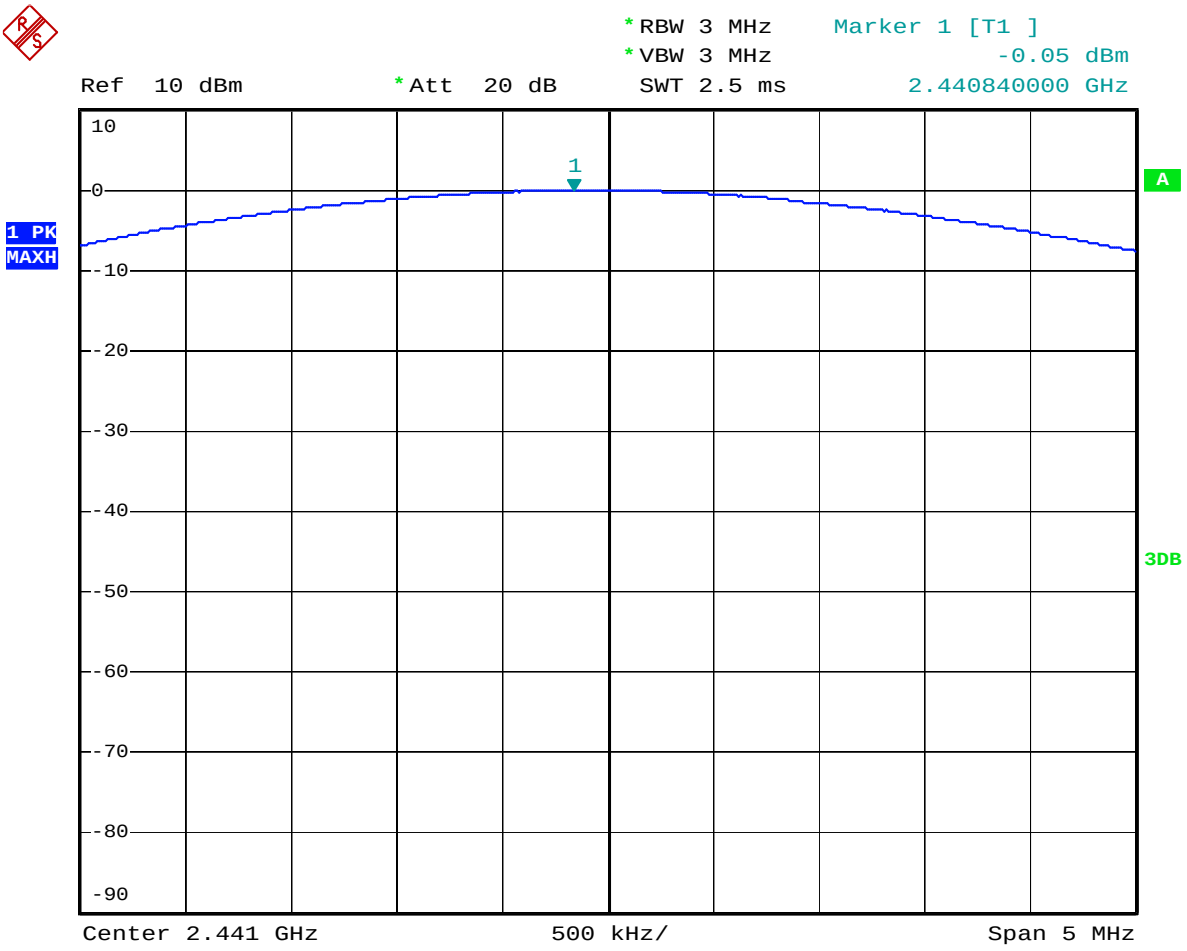
PASS.

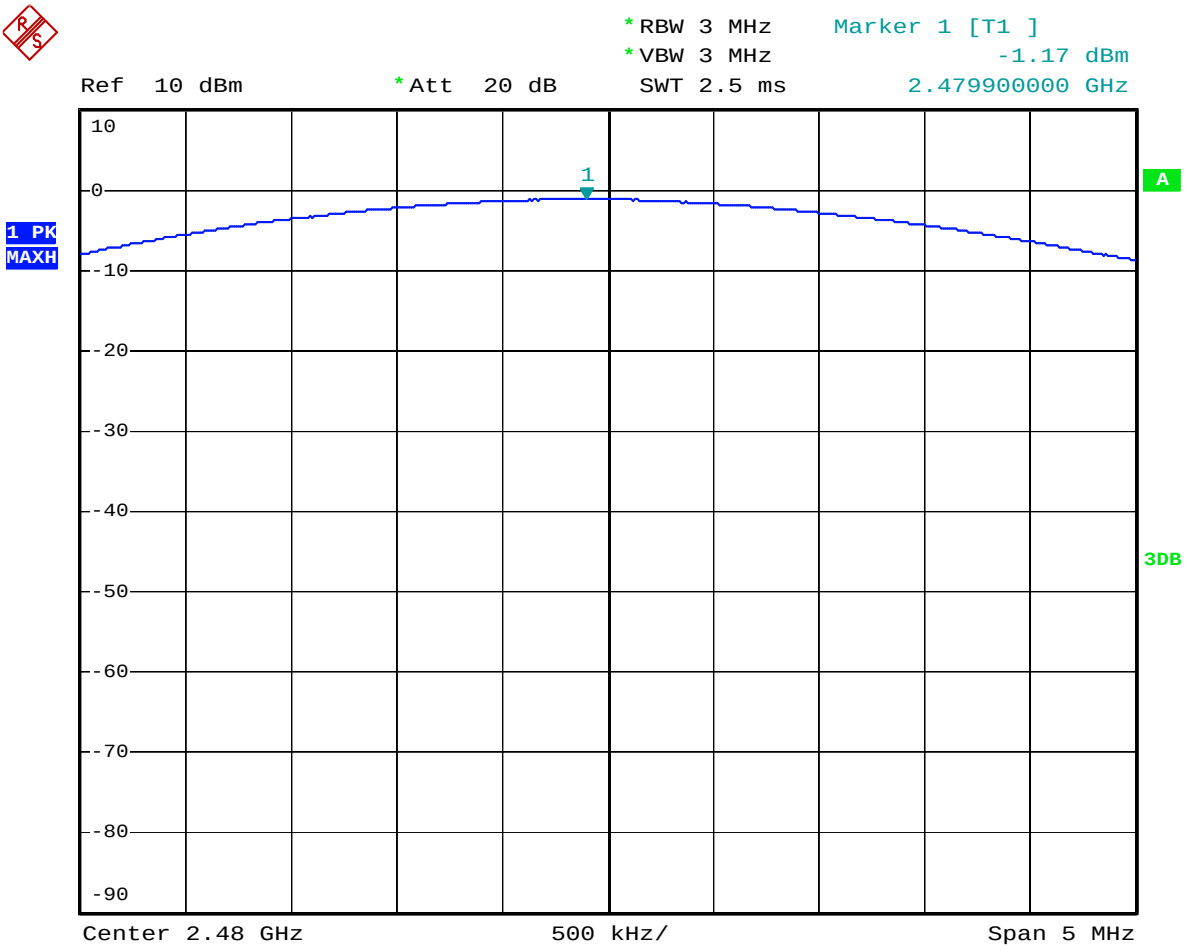
Date of Test:	Aug 16, 2012	Temperature:	25°C
EUT:	MUSIC UMBRALLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 6V
Test Mode:	TX	Test Engineer:	Ricky

Channel	Frequency (MHz)	Peak Output Power (dBm)	Peak Output Power (mW)	Limits dBm / W
Low	2402	-0.49	0.893	30 dBm / 1 W
Middle	2441	-0.05	0.989	30 dBm / 1 W
High	2480	-1.17	0.764	30 dBm / 1 W

The spectrum analyzer plots are attached as below.


*RBW 3 MHz
*VBW 3 MHz
Marker 1 [T1]
-0.49 dBm
2.401930000 GHz
Ref 10 dBm
*Att 20 dB
SWT 2.5 ms
1 PK
MAXH
A
3DB
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.402 GHz
500 kHz/
Span 5 MHz

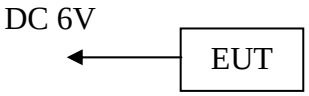

*RBW 3 MHz
*VBW 3 MHz
SWT 2.5 ms
Marker 1 [T1]
-0.05 dBm
2.440840000 GHz
Ref 10 dBm
*Att 20 dB
1 PK
MAXH
A
3DB
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.441 GHz
500 kHz/
Span 5 MHz


*RBW 3 MHz
*VBW 3 MHz
SWT 2.5 ms
Marker 1 [T1]
-1.17 dBm
2.479900000 GHz
Ref 10 dBm
*Att 20 dB
1 PK
MAXH
A
3DB
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.48 GHz
500 kHz/
Span 5 MHz

10.RADIATED EMISSION TEST

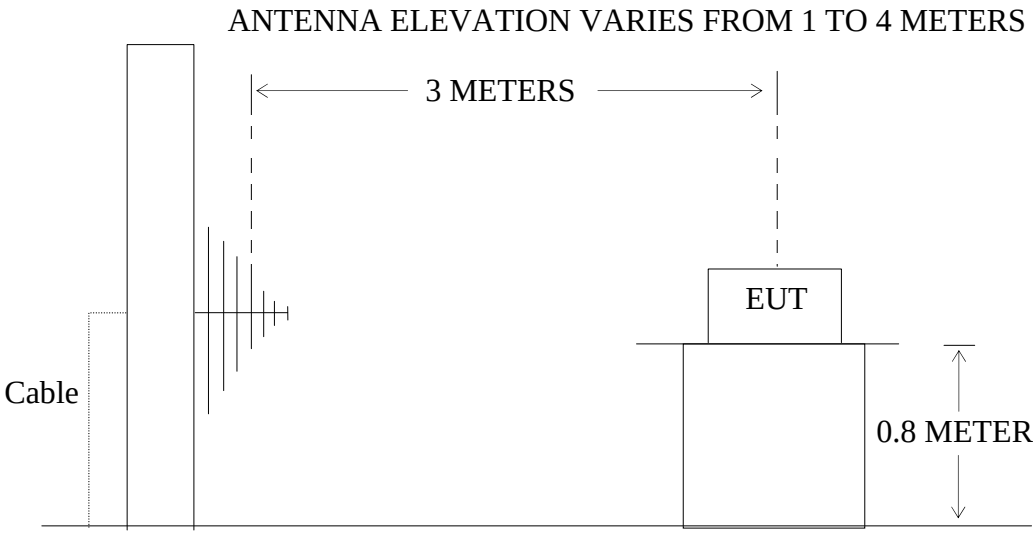
10.1.Block Diagram of Test Setup

10.1.1.Block diagram of connection between the EUT and simulators



(EUT: MUSIC UMBRELLA)

10.1.2.Anechoic Chamber Test Setup Diagram



(EUT: MUSIC UMBRALLE)

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.MUSIC UMBRELLA (EUT)

Model Number : UUS56MS
Serial Number : N/A
Manufacturer : KEYSHEEN INDUSTRY(SHANGHAI) CO., LTD

10.5.Test 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:	Aug 31, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 6V
Test Mode:	TX (2402MHz)	Test Engineer:	Ricky

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	
46.0557	25.07	14.45	39.52	40.00	-0.48	Vertical
53.5673	23.38	13.47	36.85	40.00	-3.15	Vertical
88.8452	15.21	13.79	29.00	43.50	-14.50	Vertical
46.3806	23.42	14.44	37.86	40.00	-2.14	Horizontal
56.0707	25.62	12.86	38.84	40.00	-1.52	Horizontal
89.1577	23.53	13.81	37.34	43.50	-6.16	Horizontal

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	
4804.000	47.90	52.70	-0.30	47.60	52.40	54	74	-6.40	-21.60	Vertical
4804.000	42.60	46.93	-0.30	42.30	46.63	54	74	-11.70	-27.37	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.

Date of Test:	Aug 31, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 12V
Test Mode:	TX (2441MHz)	Test Engineer:	Ricky

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	
46.0557	24.07	14.45	38.52	40.00	-1.48	Vertical
55.2882	23.16	13.01	36.17	40.00	-3.83	Vertical
93.32474	15.99	14.02	30.01	43.50	-13.49	Vertical
46.0557	24.32	14.45	38.77	40.00	-1.23	Horizontal
55.4829	23.71	12.98	36.69	40.00	-3.31	Horizontal
89.1577	23.03	13.81	36.84	43.50	-6.66	Horizontal

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	
4882.000	50.36	54.72	0.14	50.50	54.86	54	74	-3.50	-19.14	Vertical
4882.000	47.96	52.10	0.14	48.10	52.24	54	74	-5.90	-21.76	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.

Date of Test:	Aug 31, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 6V
Test Mode:	TX (2480MHz)	Test Engineer:	Ricky

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	
46.0557	25.12	14.45	39.57	40.00	-0.43	Vertical
55.4829	23.21	12.98	36.19	40.00	-3.81	Vertical
89.1577	23.03	13.81	36.84	43.50	-6.66	Vertical
46.0557	24.07	14.45	38.52	40.00	-1.48	Horizontal
54.7085	23.41	13.15	36.56	40.00	-3.44	Horizontal
94.3135	14.87	14.07	28.94	43.50	-14.56	Horizontal

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	
4960.000	49.68	54.59	0.52	50.20	55.11	54	74	-3.80	-18.89	Vertical
4960.000	45.68	50.97	0.52	46.20	51.49	54	74	-7.80	-22.51	Horizontal

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

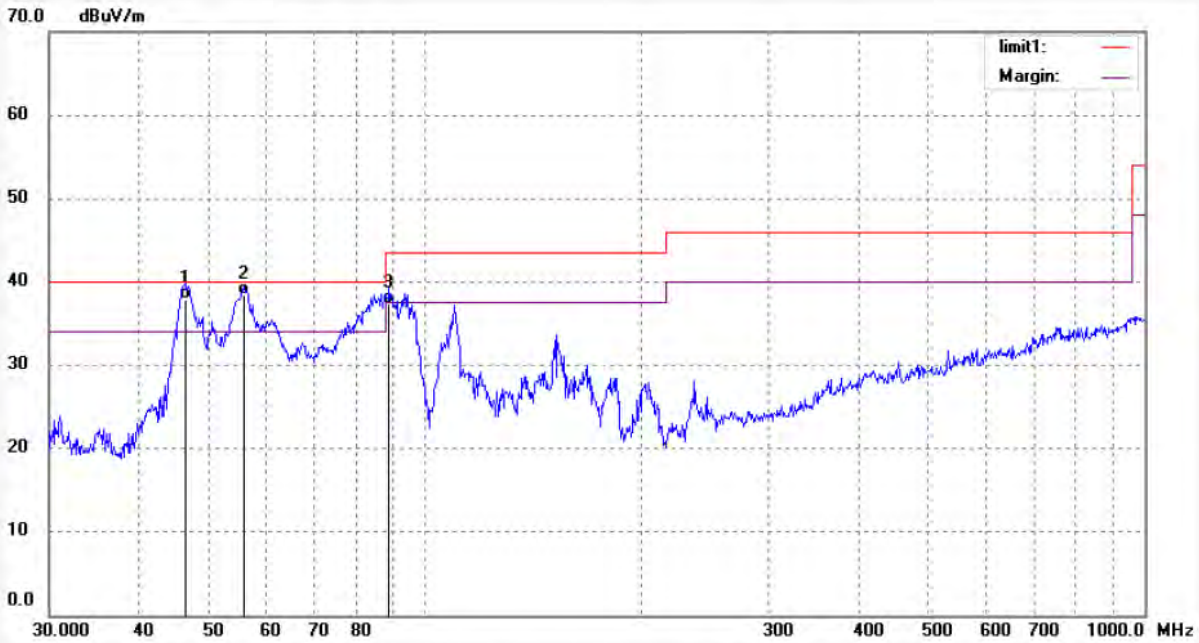
2. *: Denotes restricted band of operation.

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RUCKY2 #1
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Music umbrella
Mode: TX 2402
Model: UUS56CE
Manufacturer: KEYSHEEN INDUSTRY (SHENZHEN) CO., LTD

Polarization: Horizontal
Power Source: DC 6V
Date: 12/08/31/
Time: 8/16/53
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	46.3806	23.42	14.44	37.86	40.00	-2.14	QP			
2	56.0707	25.62	12.86	38.48	40.00	-1.52	QP			
3	89.1577	23.53	13.81	37.34	43.50	-6.16	QP			

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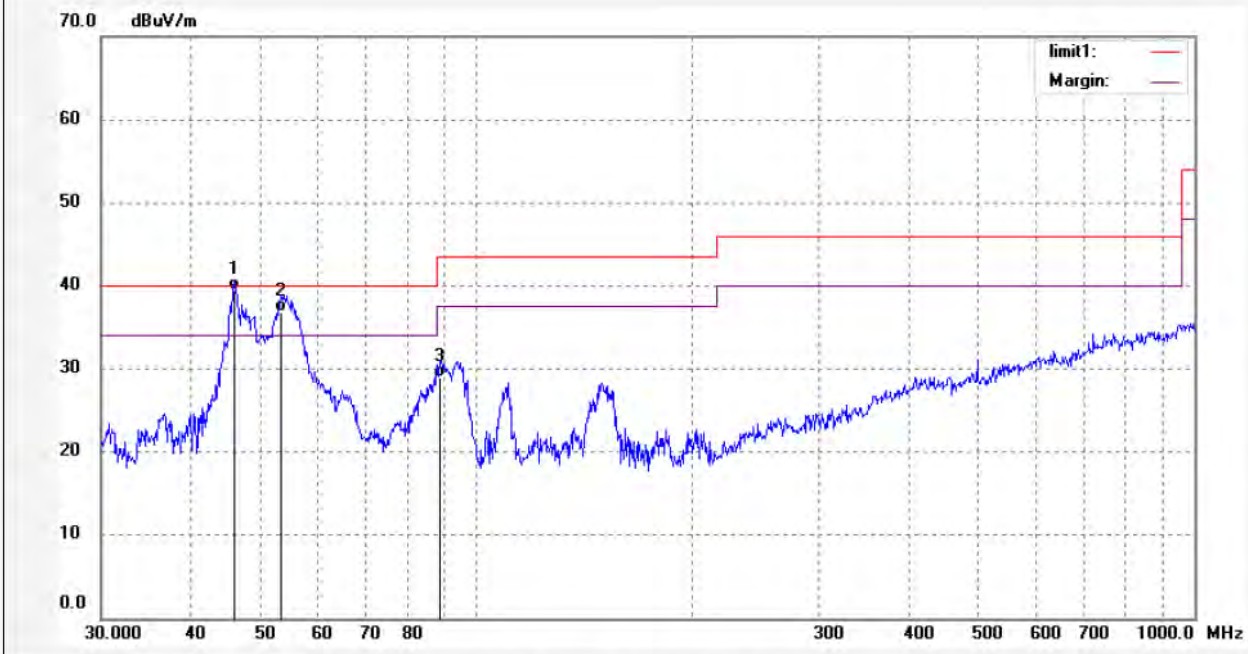
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RUCKY2 #2	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 12/08/31/
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 8/18/52
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2402	Distance: 3m
Model: UUS56CE	
Manufacturer: KEYSHEEN INDUSTRY (SHENZHEN) CO., LTD	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	46.0557	25.07	14.45	39.52	40.00	-0.48	QP			
2	53.5673	23.38	13.47	36.85	40.00	-3.15	QP			
3	88.8452	15.21	13.79	29.00	43.50	-14.50	QP			

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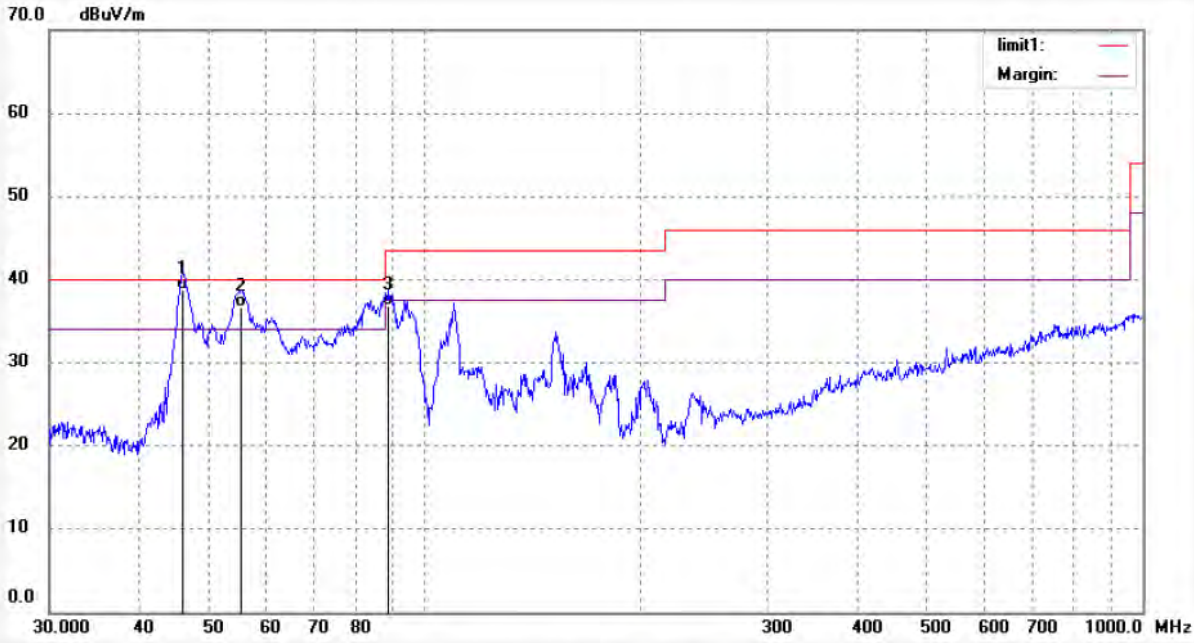
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RUCKY2 #3	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 12/08/31/
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 8/20/22
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2441	Distance: 3m
Model: UUS56CE	
Manufacturer: KEYSHEEN INDUSTRY (SHENZHEN) CO., LTD	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	46.0557	24.32	14.45	38.77	40.00	-1.23	QP			
2	55.4829	23.71	12.98	36.69	40.00	-3.31	QP			
3	89.1577	23.03	13.81	36.84	43.50	-6.66	QP			

ACCURATE TECHNOLOGY CO., LTD.
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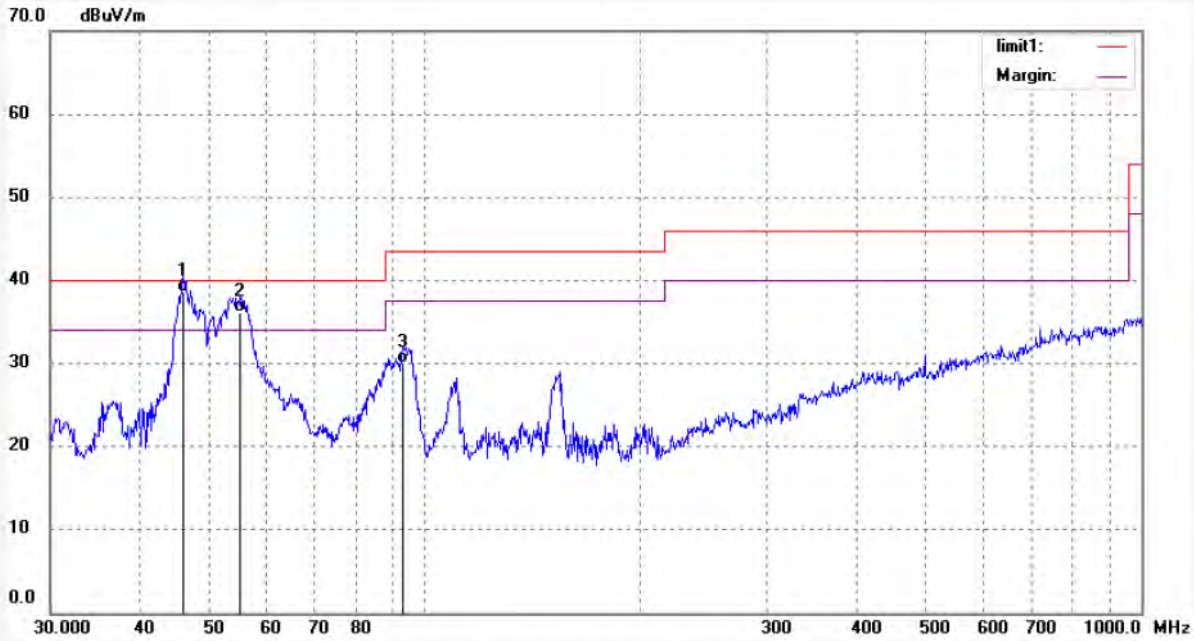
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RUCKY2 #4
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Music umbrella
Mode: TX 2441
Model: UUS56CE
Manufacturer: KEYSHEEN INDUSTRY (SHENZHEN) CO., LTD

Polarization: Vertical
Power Source: DC 6V
Date: 12/08/31/
Time: 8/23/01
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	46.0557	24.07	14.45	38.52	40.00	-1.48	QP			
2	55.2882	23.16	13.01	36.17	40.00	-3.83	QP			
3	93.3247	15.99	14.02	30.01	43.50	-13.49	QP			

ACCURATE TECHNOLOGY CO., LTD.
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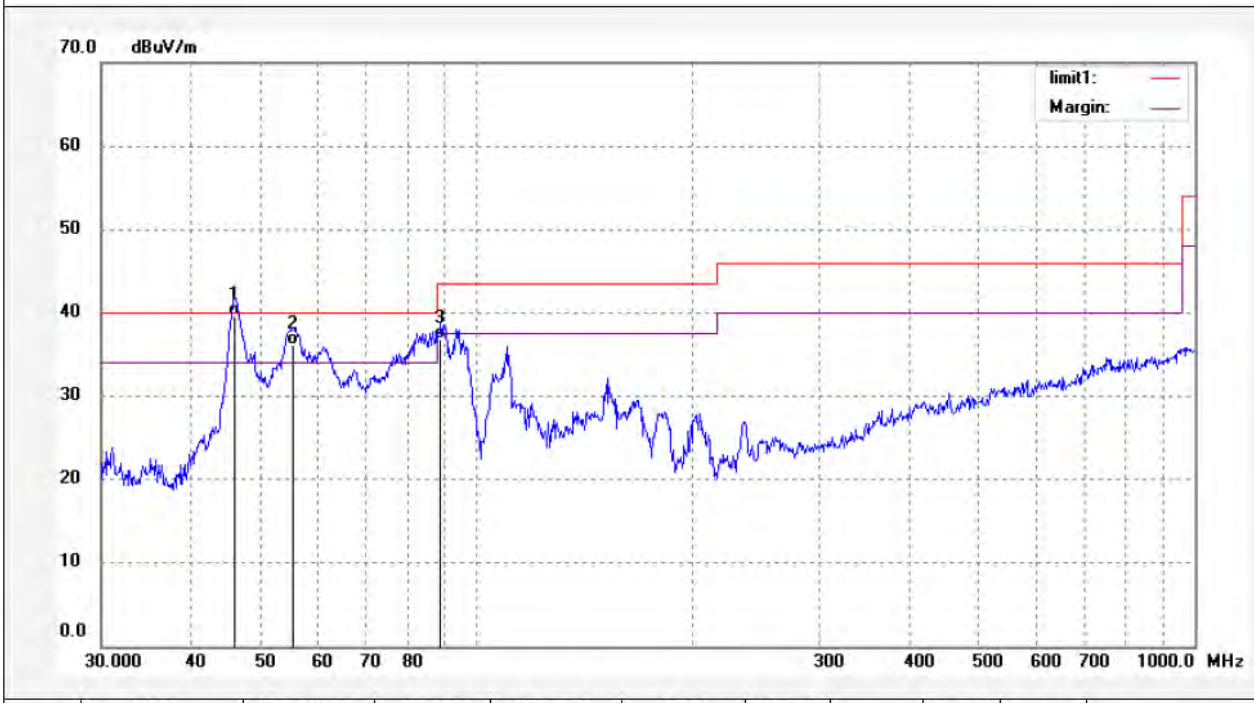
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: RUCKY2 #5	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 12/08/31/
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 8/25/18
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2480	Distance: 3m
Model: UUS56CE	
Manufacturer: KEYSHEEN INDUSTRY (SHENZHEN) CO., LTD	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	46.0557	25.12	14.45	39.57	40.00	-0.43	QP			
2	55.4829	23.21	12.98	36.19	40.00	-3.81	QP			
3	89.1577	23.03	13.81	36.84	43.50	-6.66	QP			

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Site: 966 chamber
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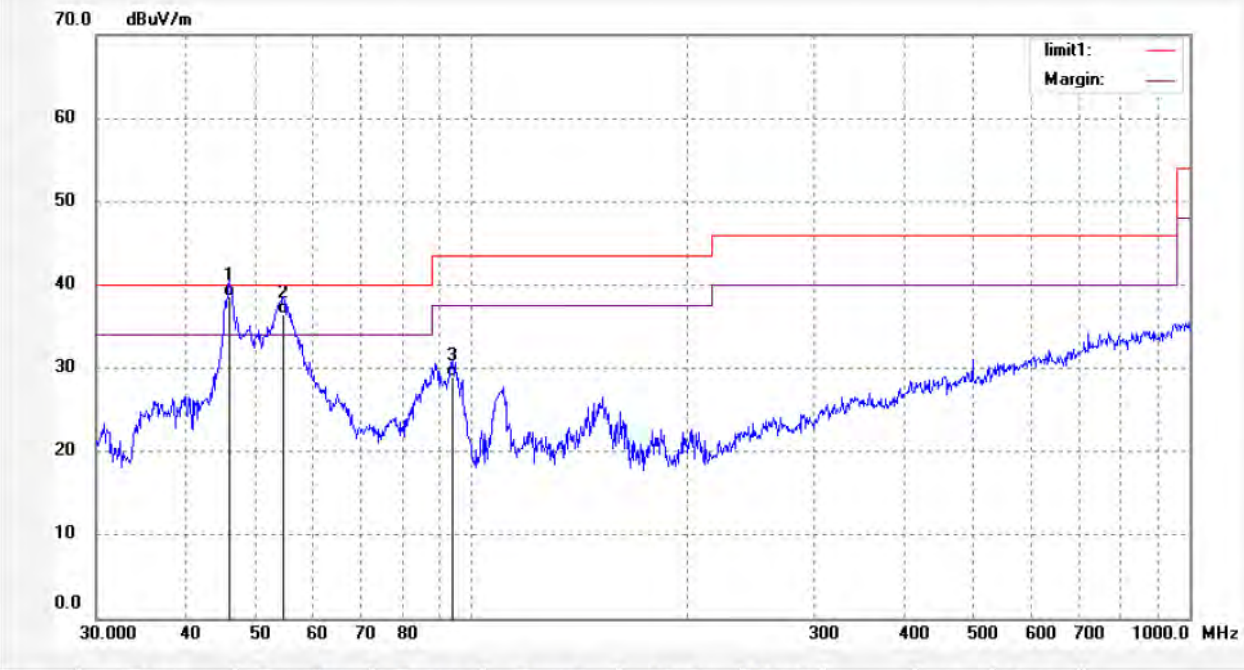
Fax:+86-0755-26503396

Job No.: RUCKY2 #6
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Music umbrella
Mode: TX 2480
Model: UUS56CE
Manufacturer: KEYSHEEN INDUSTRY (SHENZHEN) CO., LTD

Polarization: Vertical
Power Source: DC 6V
Date: 12/08/31/
Time: 8/28/45
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	46.0557	24.07	14.45	38.52	40.00	-1.48	QP			
2	54.7085	23.41	13.15	36.56	40.00	-3.44	QP			
3	94.3135	14.87	14.07	28.94	43.50	-14.56	QP			

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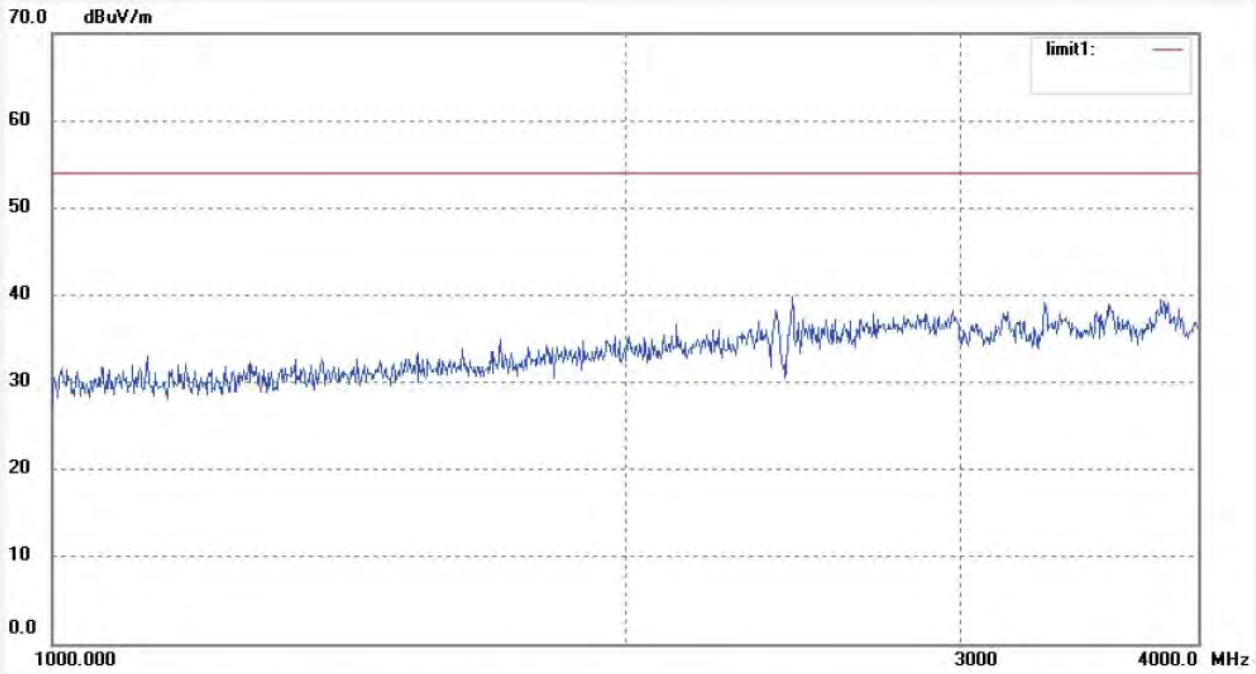
Job No.: p #7	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 22:19:17
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

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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Site: 966 chamber
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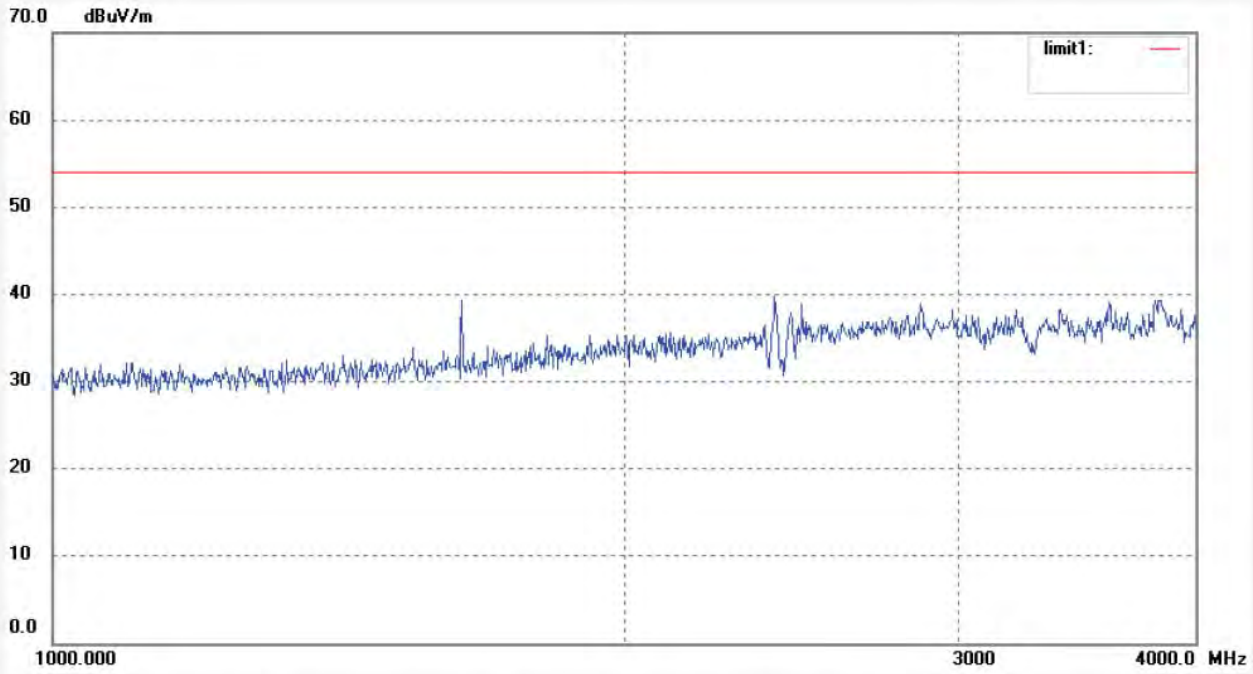
Fax:+86-0755-26503396

Job No.: p#8	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 22:26:57
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:



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

ACCURATE TECHNOLOGY CO., LTD.
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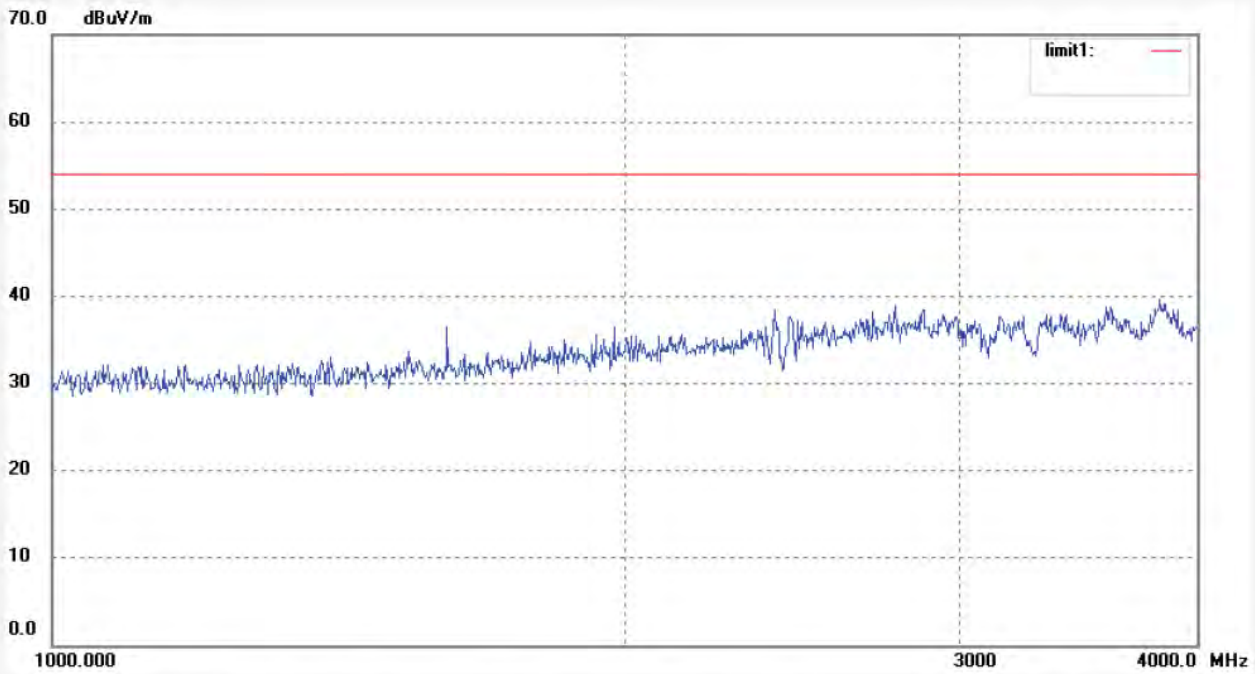
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: p#9	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 22:33:05
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:



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

ACCURATE TECHNOLOGY CO., LTD.
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Site: 966 chamber
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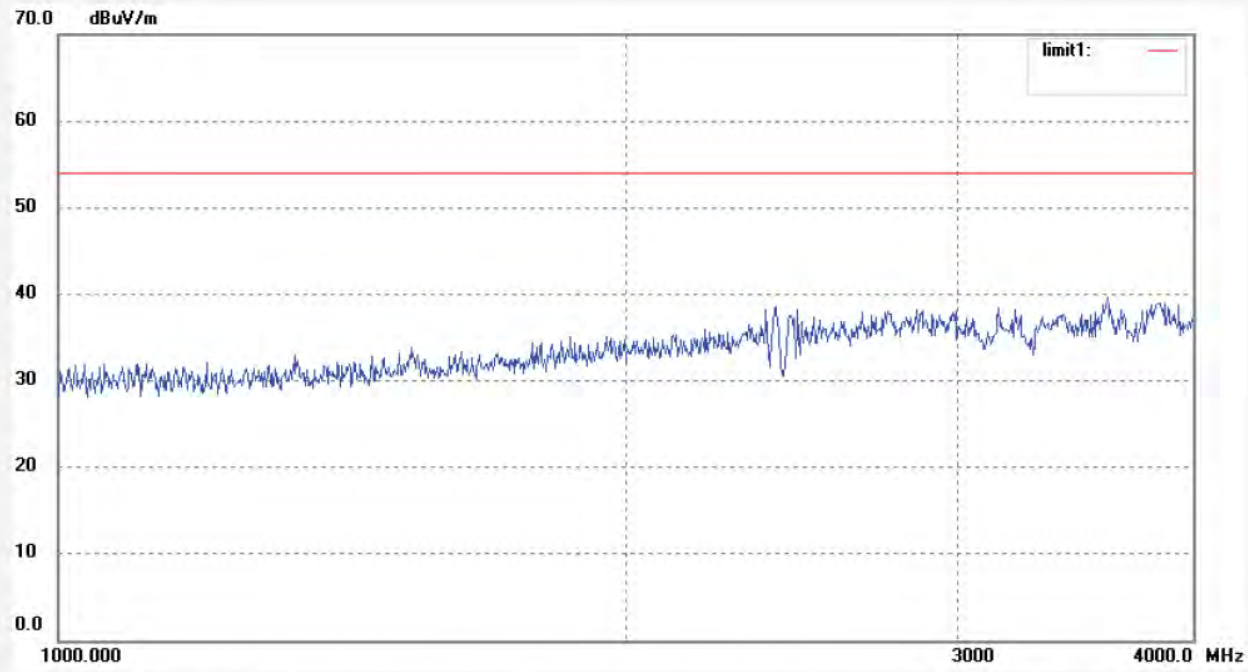
Fax:+86-0755-26503396

Job No.: p #10	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 22:41:44
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:



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

ACCURATE TECHNOLOGY CO., LTD.
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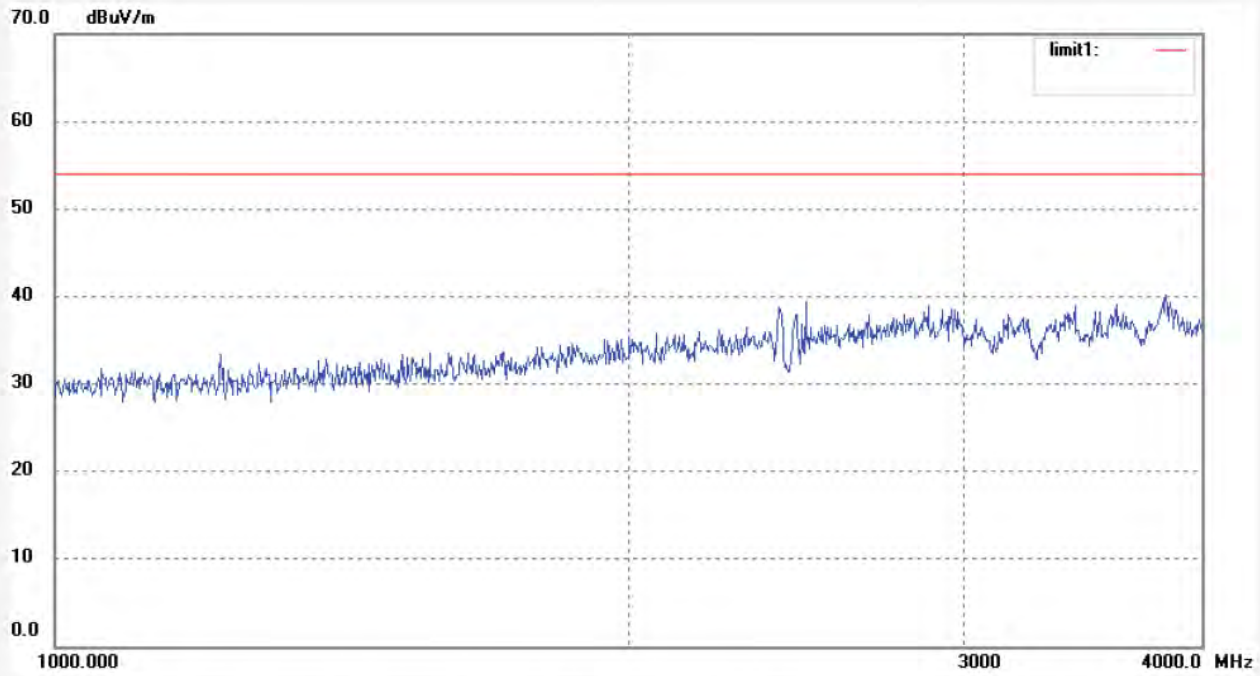
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: p #11	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 22:48:45
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:



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

ACCURATE TECHNOLOGY CO., LTD.
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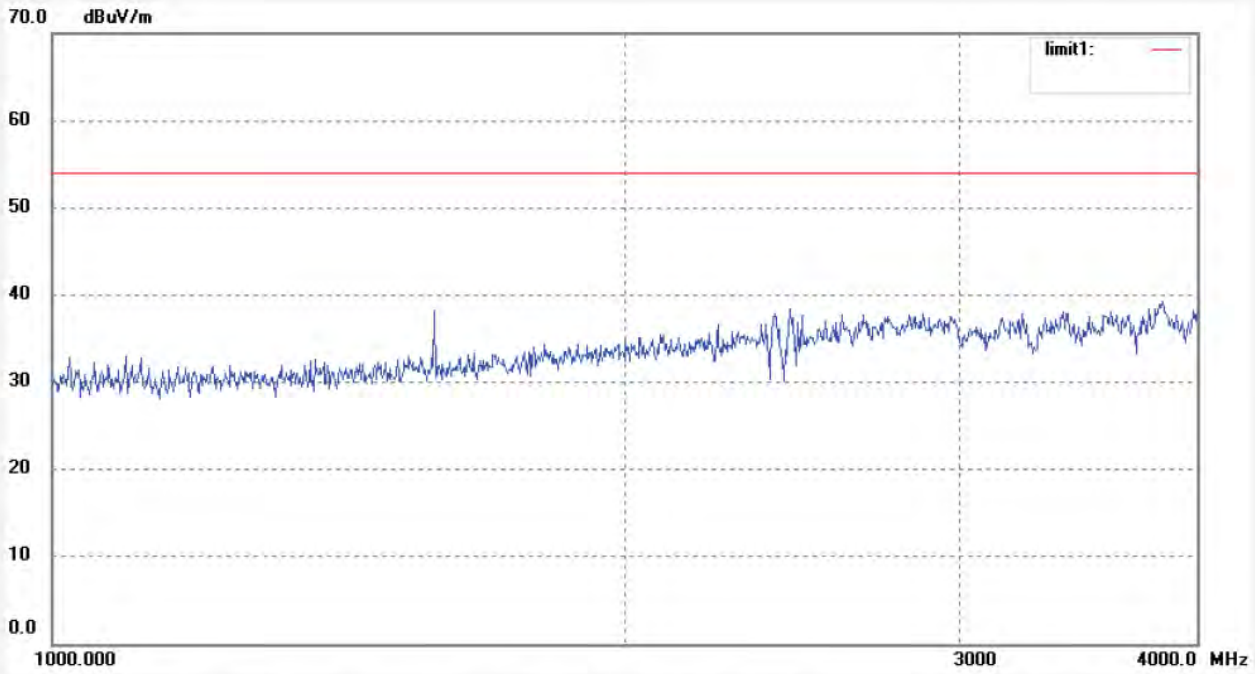
Site: 966 chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: p#12	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/04/25
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 22:55:21
EUT: Bluetooth Stereo Headset	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

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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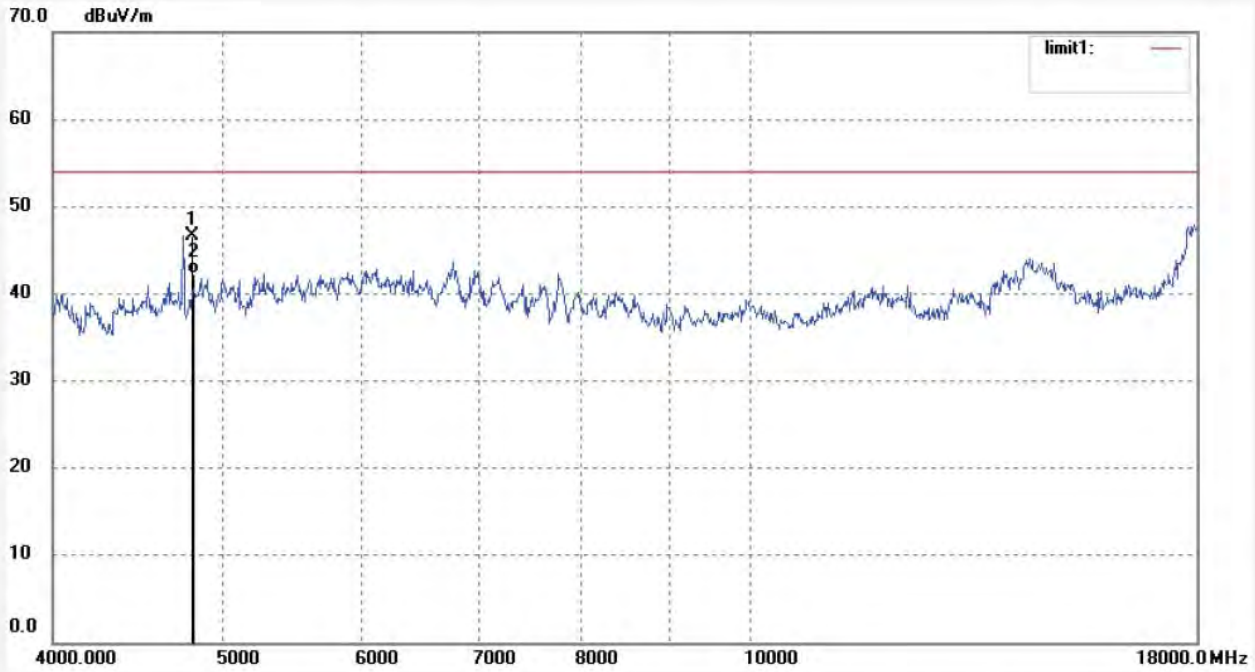
Fax:+86-0755-26503396

Job No.: p#13
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Music umbrella
Mode: TX 2402MHz
Model: UUS56MS
Manufacturer: KEYSHEEN

Polarization: Horizontal
Power Source: DC 6V
Date: 2012/08/30
Time: 21:31:46
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	4804.000	46.93	-0.30	46.63	74.00	-27.37	peak			
2	4804.000	42.60	-0.30	42.30	54.00	-11.70	AVG			

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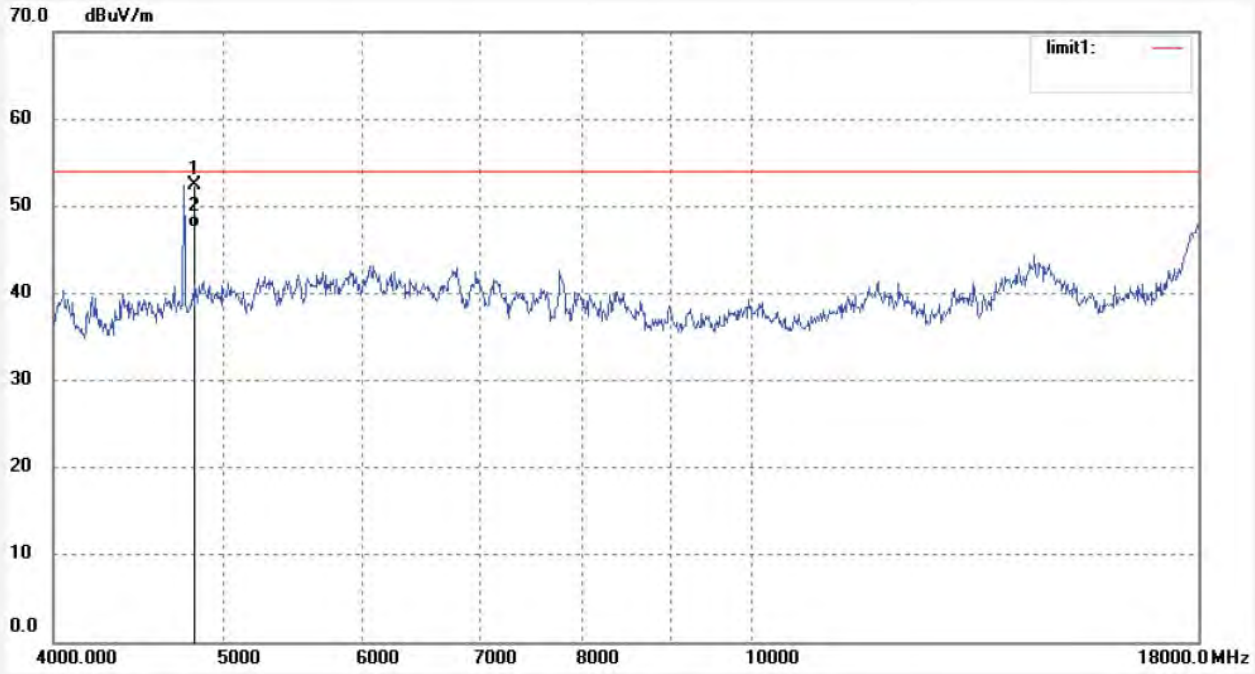
Fax:+86-0755-26503396

Job No.: p#14
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Music umbrella
Mode: TX 2402MHz
Model: UUS56MS
Manufacturer: KEYSHEEN

Polarization: Vertical
Power Source: DC 3.7V
Date: 2012/08/30
Time: 21:39:13
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	4804.000	52.70	-0.30	52.40	74.00	-21.60	peak			
2	4804.000	47.90	-0.30	47.60	54.00	-6.40	AVG			

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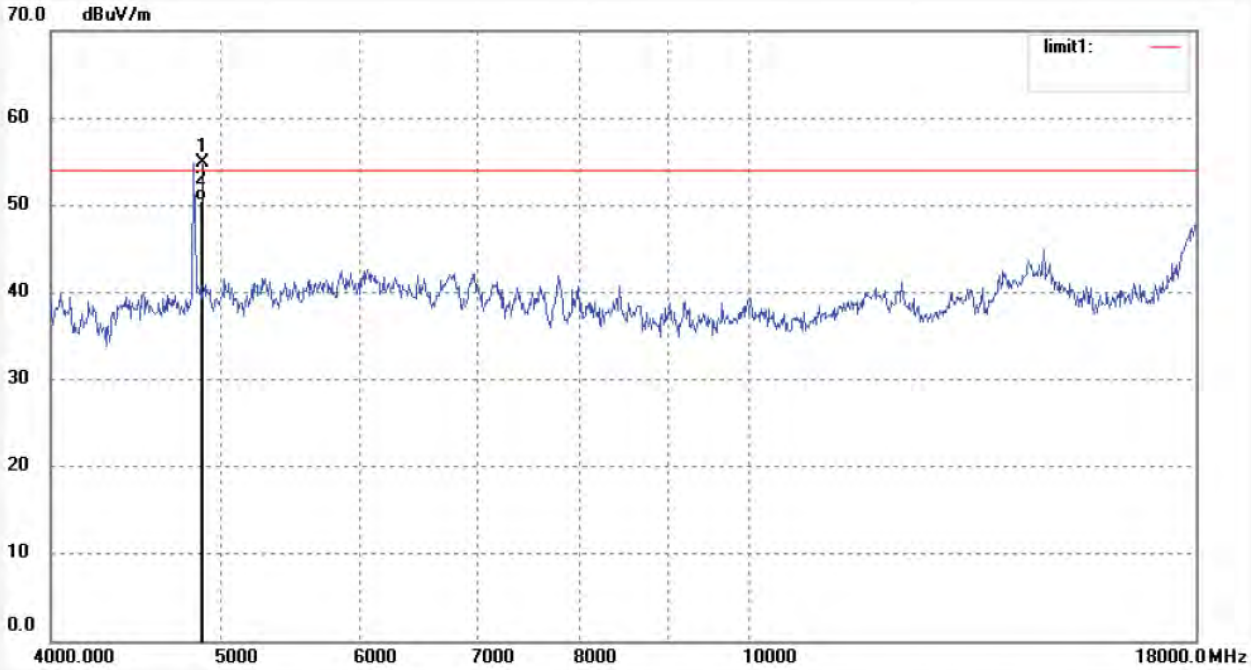
Fax:+86-0755-26503396

Job No.: p#15	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 3.7V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 21:47:20
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4882.000	54.72	0.14	54.86	74.00	-19.14	peak			
2	4882.000	50.36	0.14	50.50	54.00	-3.50	AVG			

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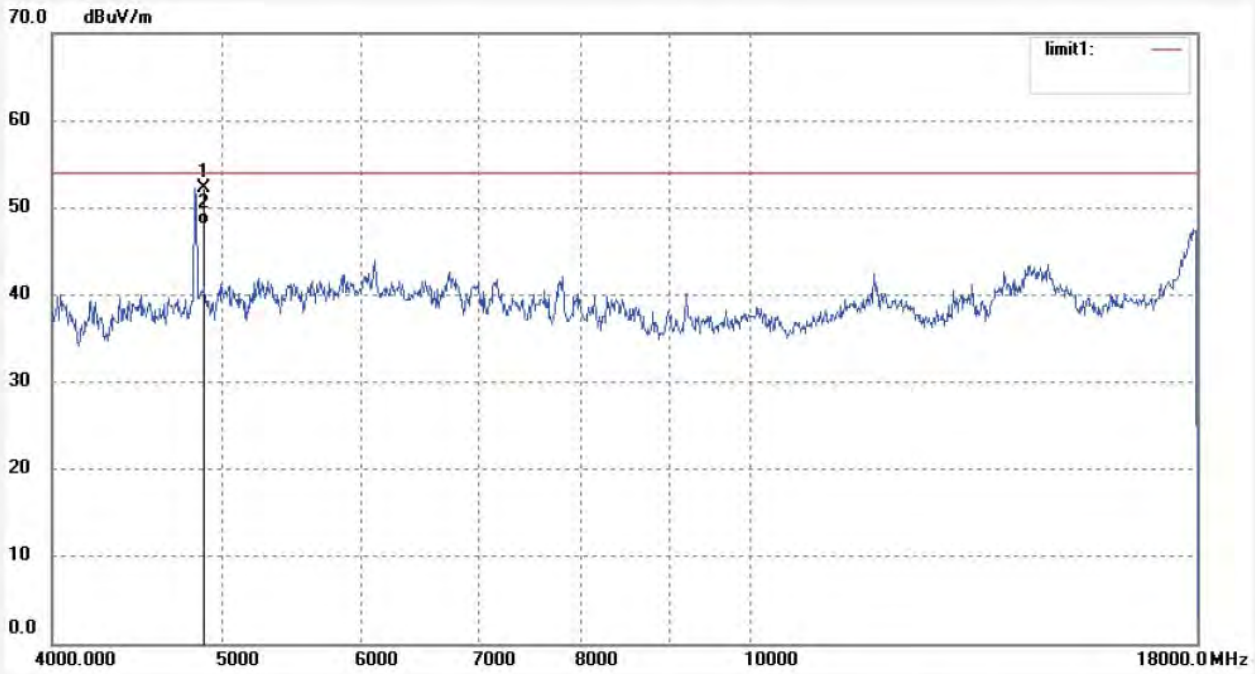
Fax:+86-0755-26503396

Job No.: p#16	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 21:54:56
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4882.000	52.10	0.14	52.24	74.00	-21.76	peak			
2	4882.000	47.96	0.14	48.10	54.00	-5.90	AVG			

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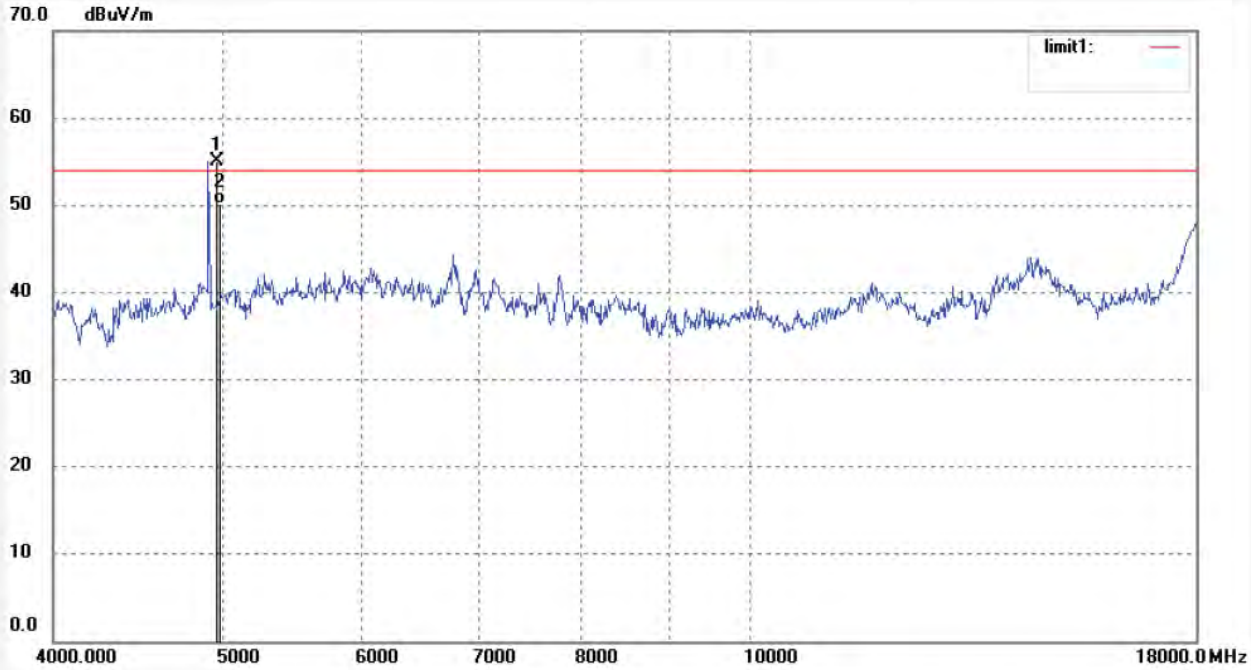
Fax:+86-0755-26503396

Job No.: p#17
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Music umbrella
Mode: TX 2480MHz
Model: UUS56MS
Manufacturer: KEYSHEEN

Polarization: Vertical
Power Source: DC 6V
Date: 2012/08/30
Time: 22:02:46
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	4960.000	54.59	0.52	55.11	74.0	-18.89	peak			
2	4960.000	49.68	0.52	50.20	54.00	-3.80	AVG			

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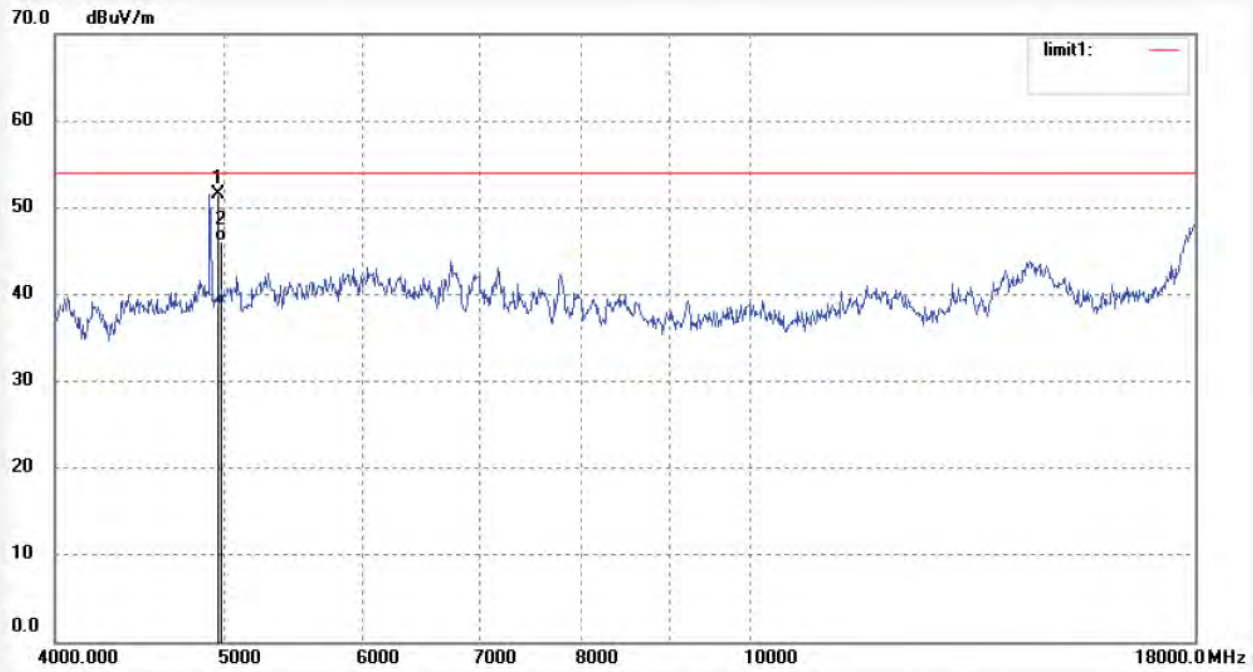
Job No.: p#18
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Music umbrella
Mode: TX 2480MHz
Model: UUS56CE
Manufacturer: KEYSHEEN

Polarization: Horizontal
Power Source: DC 6V
Date: 2012/08/30
Time: 22:10:55
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	4960.000	50.97	0.52	51.49	74.00	-22.51	peak			
2	4960.000	45.68	0.52	46.20	54.00	-7.80	AVG			

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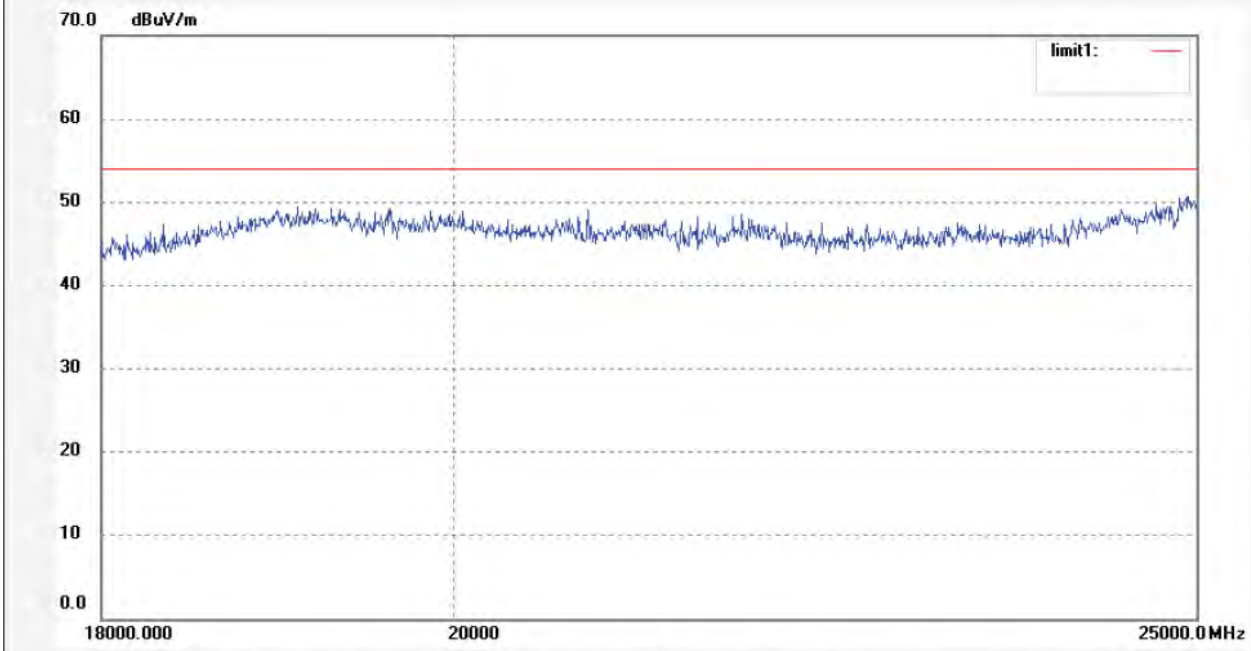
Fax:+86-0755-26503396

Job No.: p #19	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: AC 120V
Test item: Radiation Test	Date: 2012/08/31
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 9:43:40
EUT: Music umbrella	Engineer Signature: Ricky
Mode: Transimitting (2402MHz)	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

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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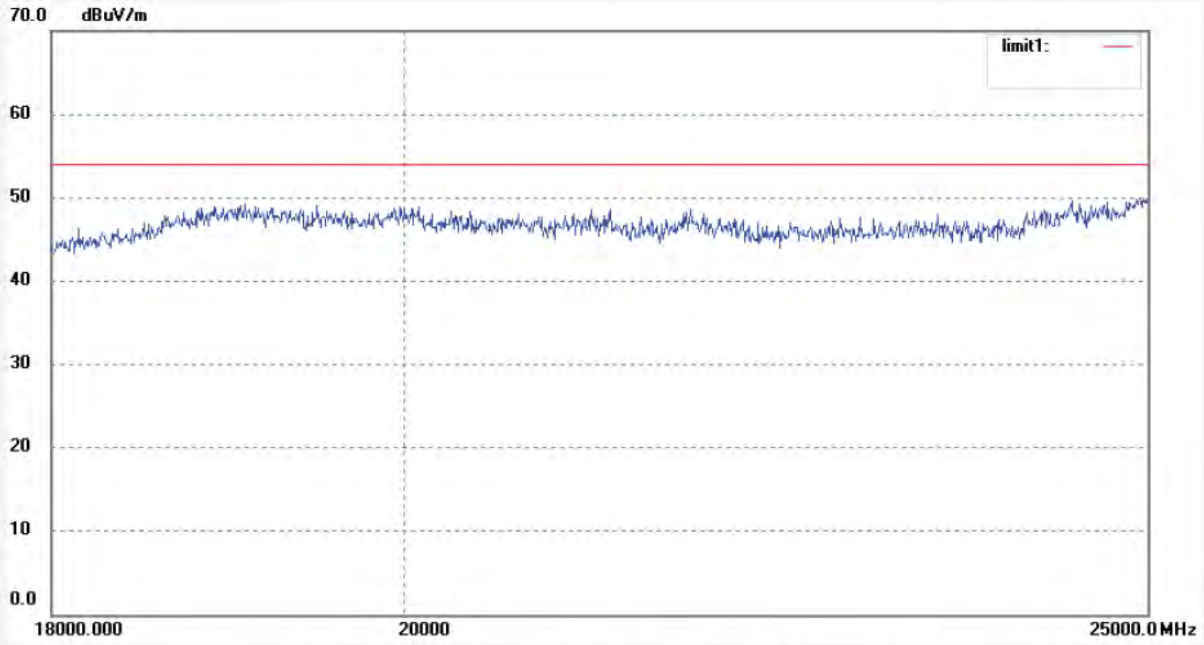
Job No.: p#20	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6 V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 9:52:03
EUT: Music umbrella	Engineer Signature: Ricky
Mode: Transmitting(2402MHz)	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

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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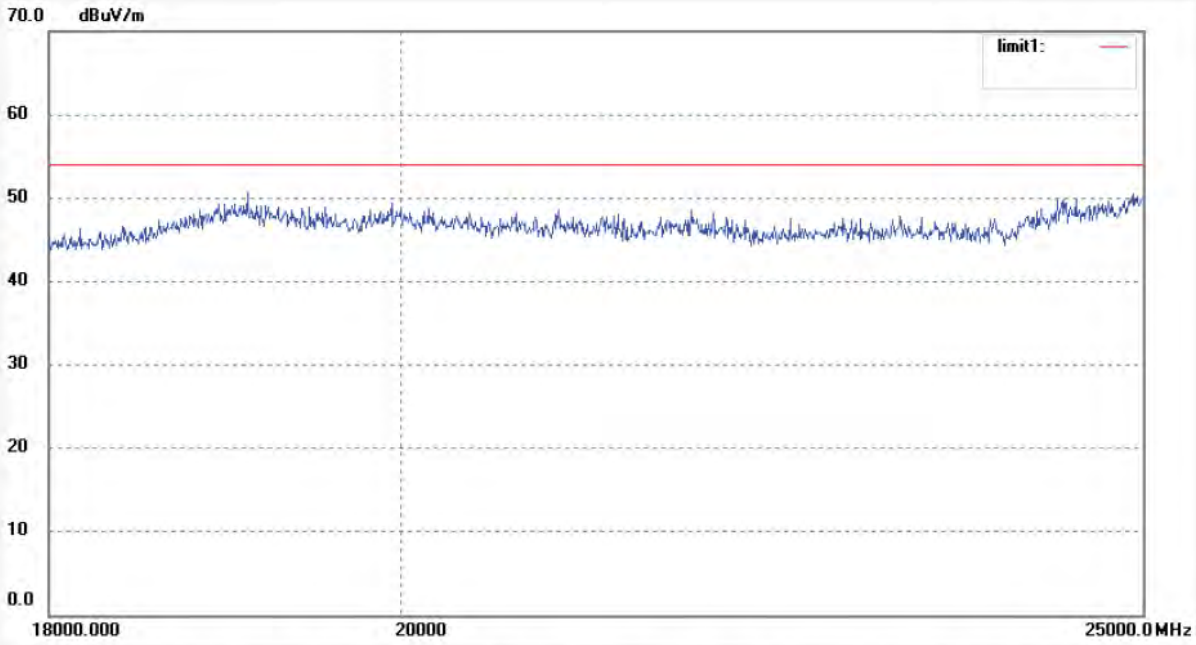
Job No.: p#21	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6 V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 9:59:24
EUT: Music umbrella	Engineer Signature: Ricky
Mode: Transmitting(2442MHz)	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:



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

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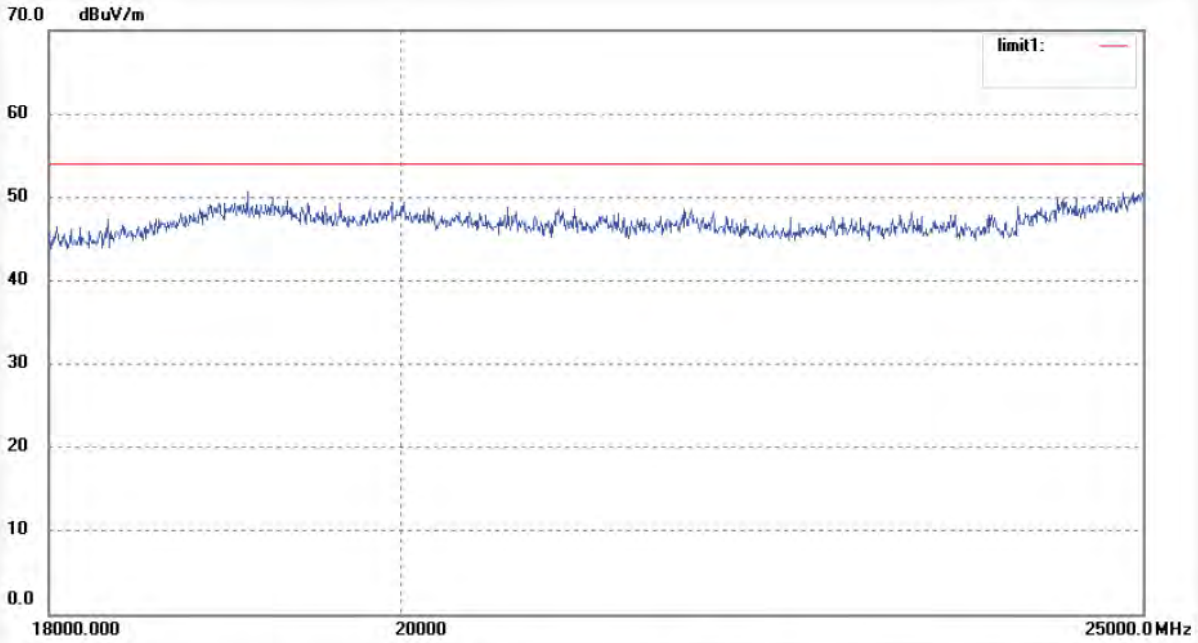
Fax:+86-0755-26503396

Job No.: p #22	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 10:06:37
EUT: Music umbrella	Engineer Signature: Ricky
Mode: Transmitting(2441MHz)	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:



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

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 966 chamber
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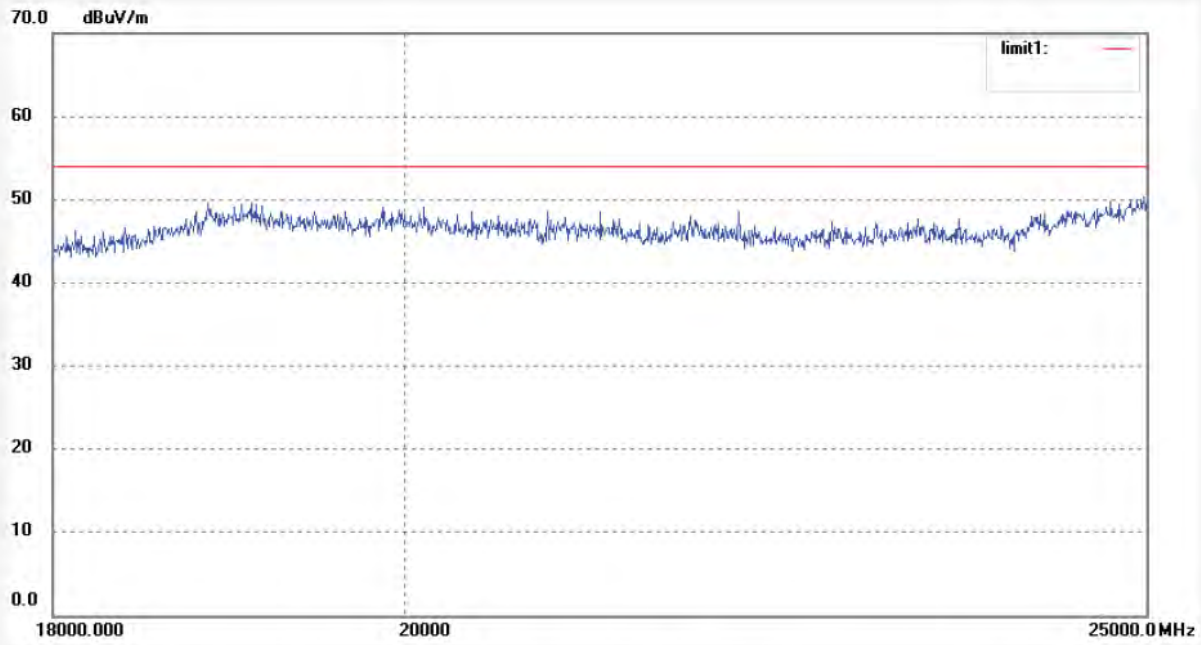
Fax:+86-0755-26503396

Job No.: p#23	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 10:13:57
EUT: Music umbrella	Engineer Signature: Ricky
Mode: Transmitting(2480MHz)	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

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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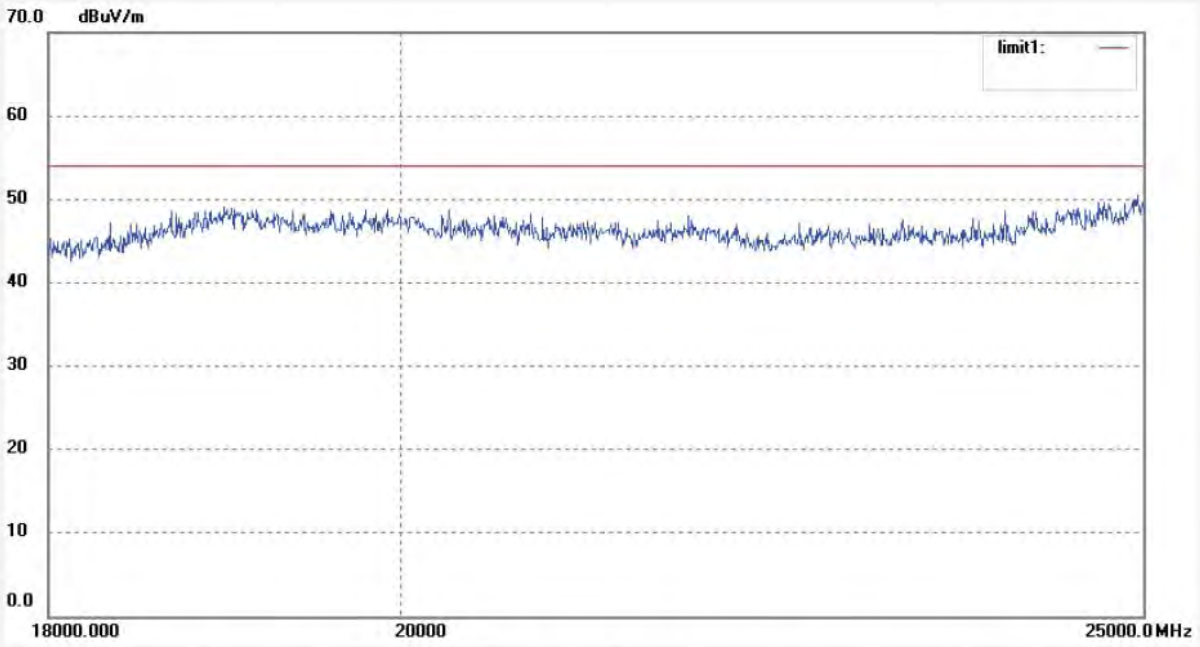
Job No.: p #24	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/08/30
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 10:21:02
EUT: Music umbrella	Engineer Signature: Ricky
Mode: Transmitting(2480MHz)	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

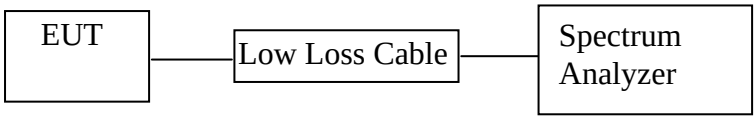
Note:



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: MUSIC UMBRELLA)

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.MUSIC UMBRELLA (EUT)

Model Number	:	UUS56MS
Serial Number	:	N/A
Manufacturer	:	KEYSHEEN INDUSTRY (SHENZHEN) 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:	Aug 16, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 6V
Test Mode:	TX 2402MHz	Test Engineer:	Ricky

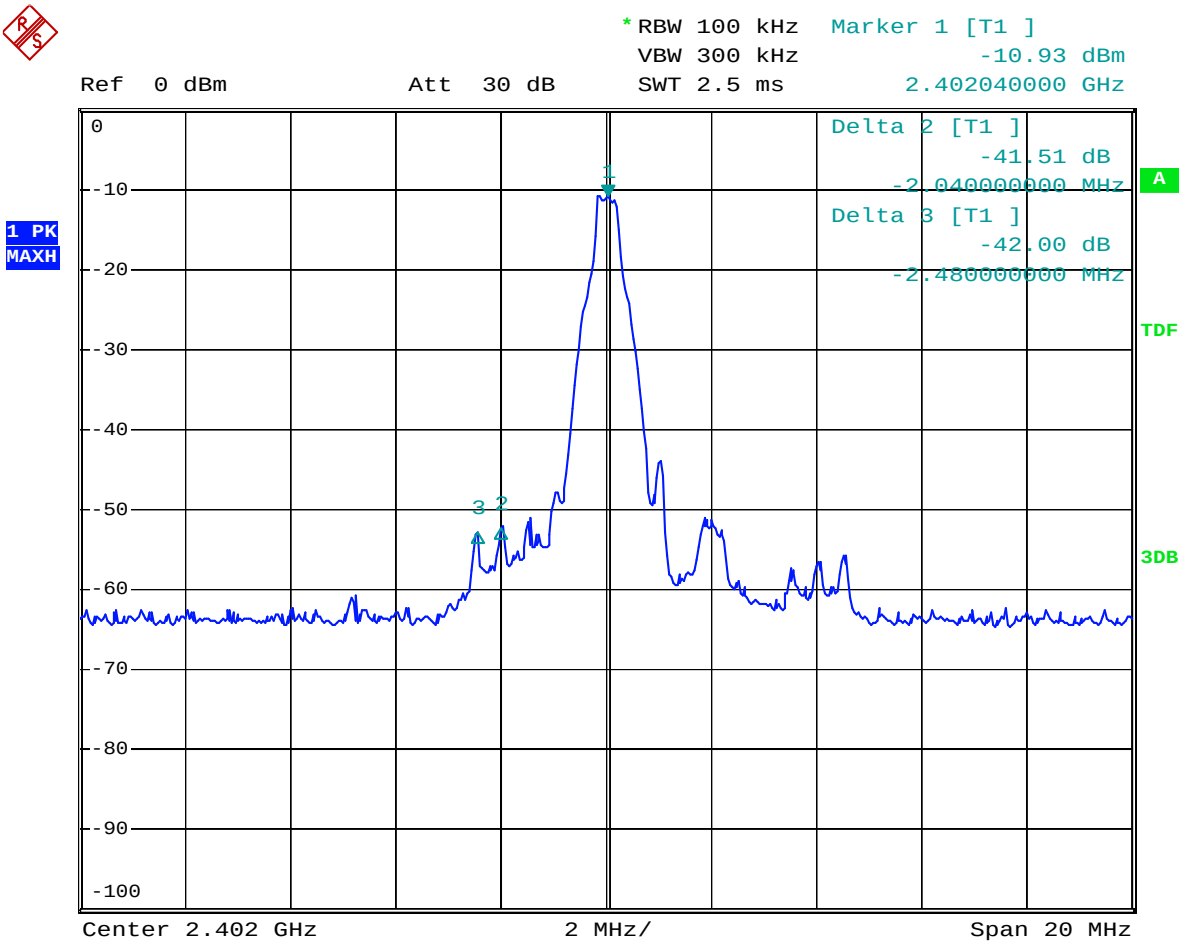
Conducted test

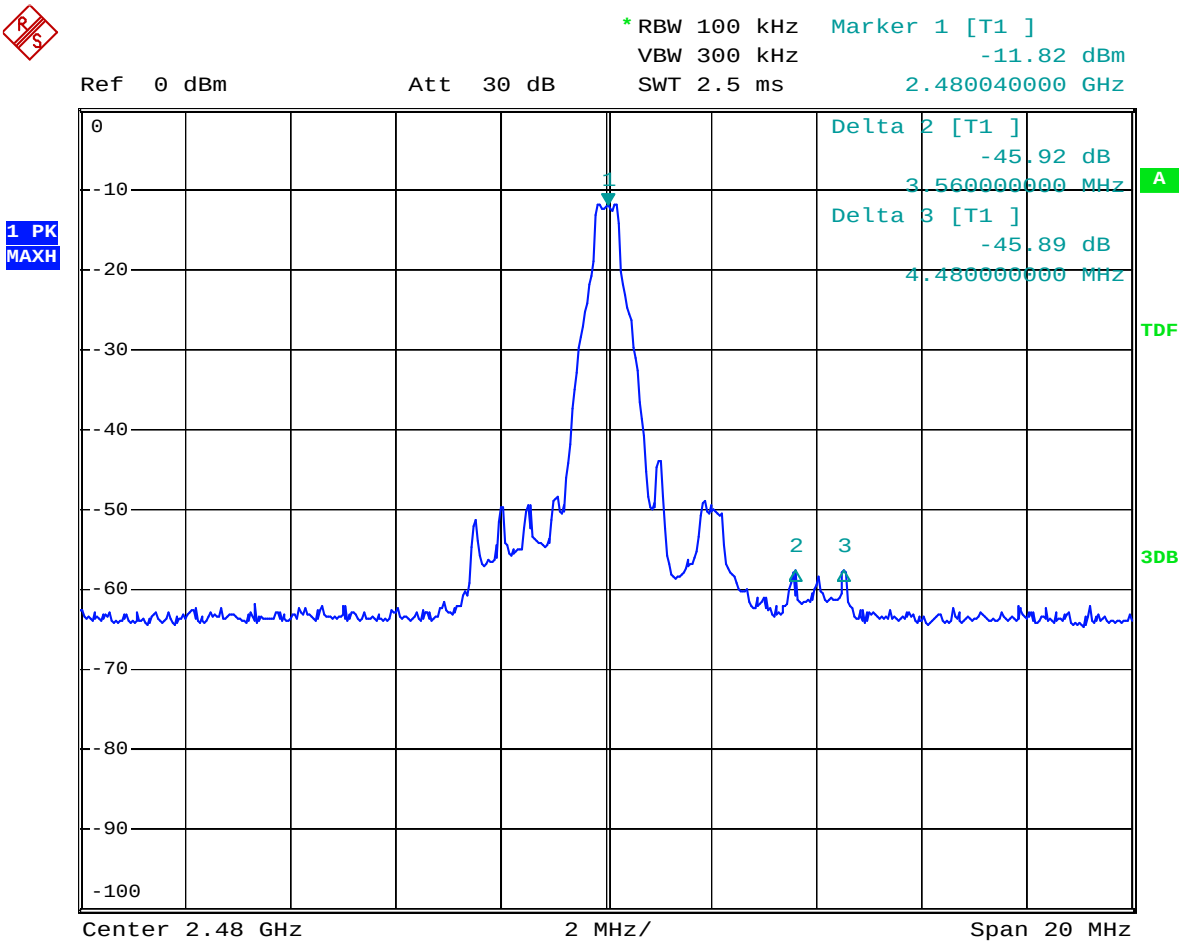
Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2400.000	41.51	> 20dBc
2399.560	42.00	> 20dBc

Date of Test:	Aug 16, 2012	Temperature:	25°C
EUT:	UUS56MS	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 6V
Test Mode:	TX 2480MHz	Test Engineer:	Ricky

Conducted test

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2483.600	45.92	> 20dBc
2484.520	45.89	> 20dBc


*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Marker 1 [T1]
-10.93 dBm
2.402040000 GHz
Ref 0 dBm
Att 30 dB
Delta 2 [T1]
-41.51 dB
-2.040000000 MHz
Delta 3 [T1]
-42.00 dB
-2.480000000 MHz
1 PK
MAXH
A
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.402 GHz
2 MHz/
Span 20 MHz


*RBW 100 kHz
VBW 300 kHz
SWT 2.5 ms
Marker 1 [T1]
-11.82 dBm
2.480040000 GHz
Ref 0 dBm
Att 30 dB
Delta 2 [T1]
-45.92 dB
3.560000000 MHz
Delta 3 [T1]
-45.89 dB
4.480000000 MHz
1 PK
MAXH
A
TDF
3DB
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Center 2.48 GHz
2 MHz/
Span 20 MHz

Radiated Band Edge Result

Date of Test:	Sep 1, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLA	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 3V
Test Mode:	TX (2402MHz)	Test Engineer:	Ricky

Frequency	Reading(dBμV/m)		Factor(dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
2375.987	38.12	48.41	-7.62	30.50	40.79	54.00	74.00	-23.50	-33.21	Vertical
2376.071	38.42	48.94	-7.62	30.80	41.32	54.00	74.00	-23.20	-32.68	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:	Sep 1, 2012	Temperature:	25°C
EUT:	MUSIC UMBRELLS	Humidity:	50%
Model No.:	UUS56MS	Power Supply:	DC 3V
Test Mode:	TX (2480MHz)	Test Engineer:	Ricky

Frequency	Reading(dBμV/m)		Factor(dB)	Result(dBμV/m)		Limit(dBμV/m)		Margin(dB)		Polarization
(MHz)	AV	PEAK	Corr.	AV	PEAK	AV	PEAK	AV	PEAK	
2483.500	46.27	60.97	-7.37	38.90	53.60	54.00	74.00	-15.10	-20.40	Vertical
2483.500	43.87	57.22	-7.37	36.50	49.85	54.00	74.00	-17.50	-24.15	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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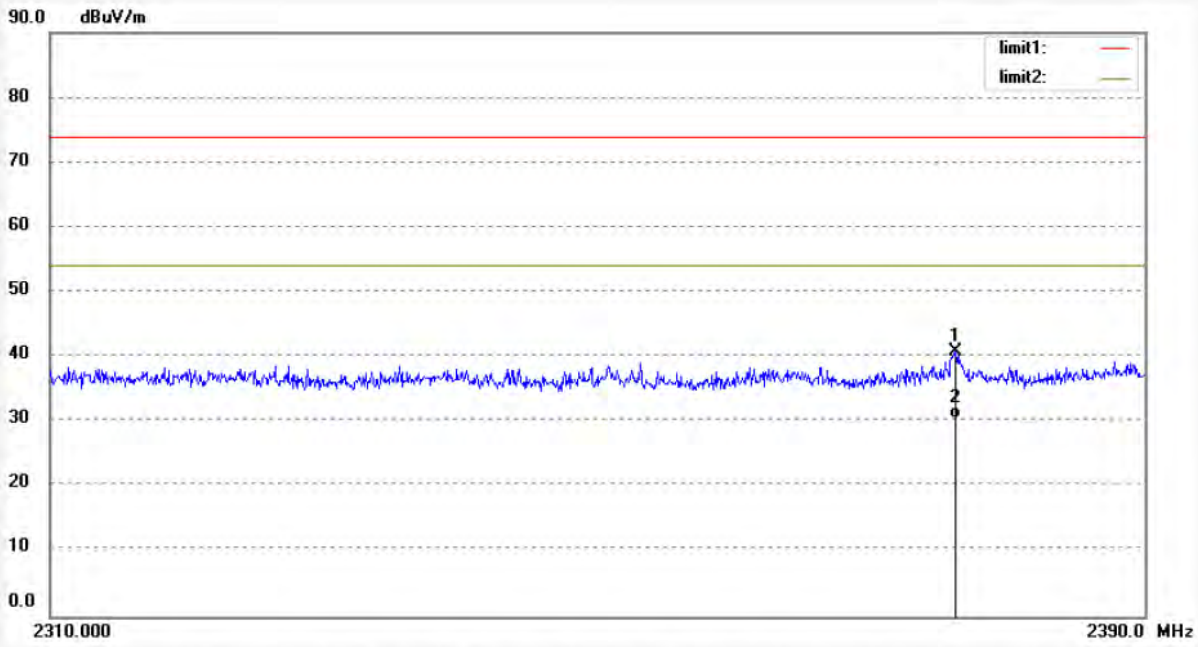
Job No.: p #51	Polarization: Vertical
Standard: FCC Part 15 PEAK 2.4G	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/09/1
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 11:32:17
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2375.984	48.41	-7.62	40.79	74.00	-33.21	peak			
2	2375.984	38.12	-7.62	30.50	54.00	-23.50	AVG			

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Job No.: p #52	Polarization: Horizontal
Standard: FCC Part 15 PEAK 2.4G	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/09/1
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 11:41:08
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

Note:

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2376.071	48.94	-7.62	41.32	74.00	-32.68	peak			
2	2376.071	38.42	-7.62	30.80	54.00	-23.20	AVG			

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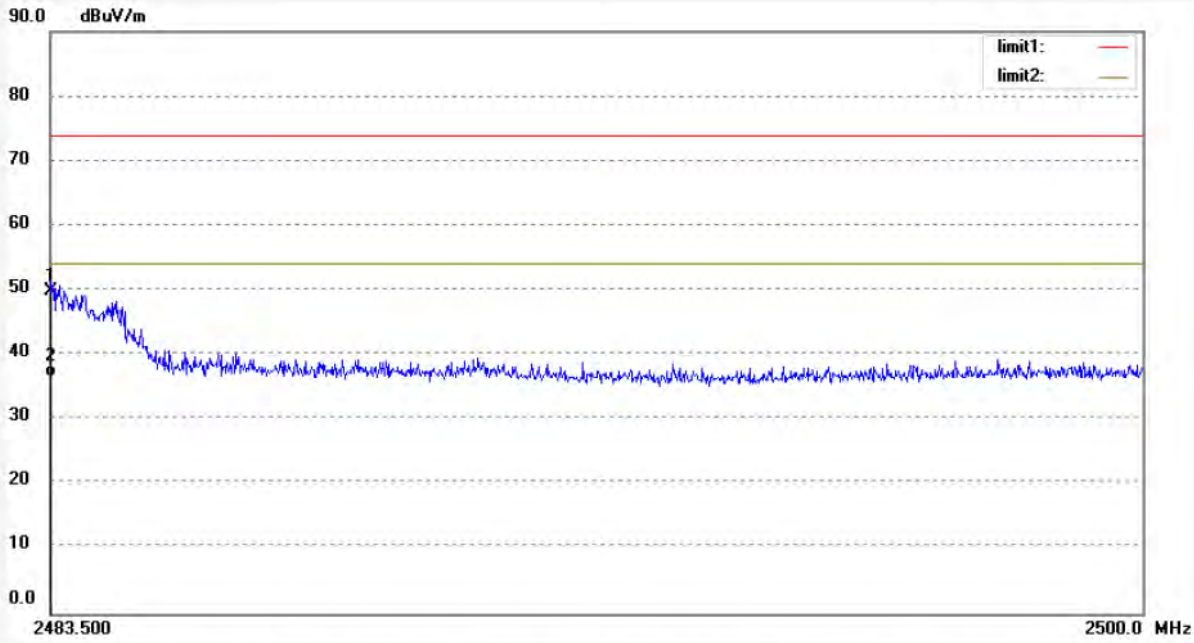
Job No.: p #53
Standard: FCC Part 15 PEAK 2.4G
Test item: Radiation Test
Temp.(C)/Hum.(%) 24 C / 48 %
EUT: Music umbrella
Mode: TX 2480MHz
Model: UUS56MS
Manufacturer: KEYSHEEN

Polarization: Horizontal
Power Source: DC 6V
Date: 2012/09/1
Time: 11:50:39
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	57.22	-7.37	49.85	74.00	-24.15	peak			
2	2483.500	43.87	-7.37	36.50	54.00	-17.50	AVG			

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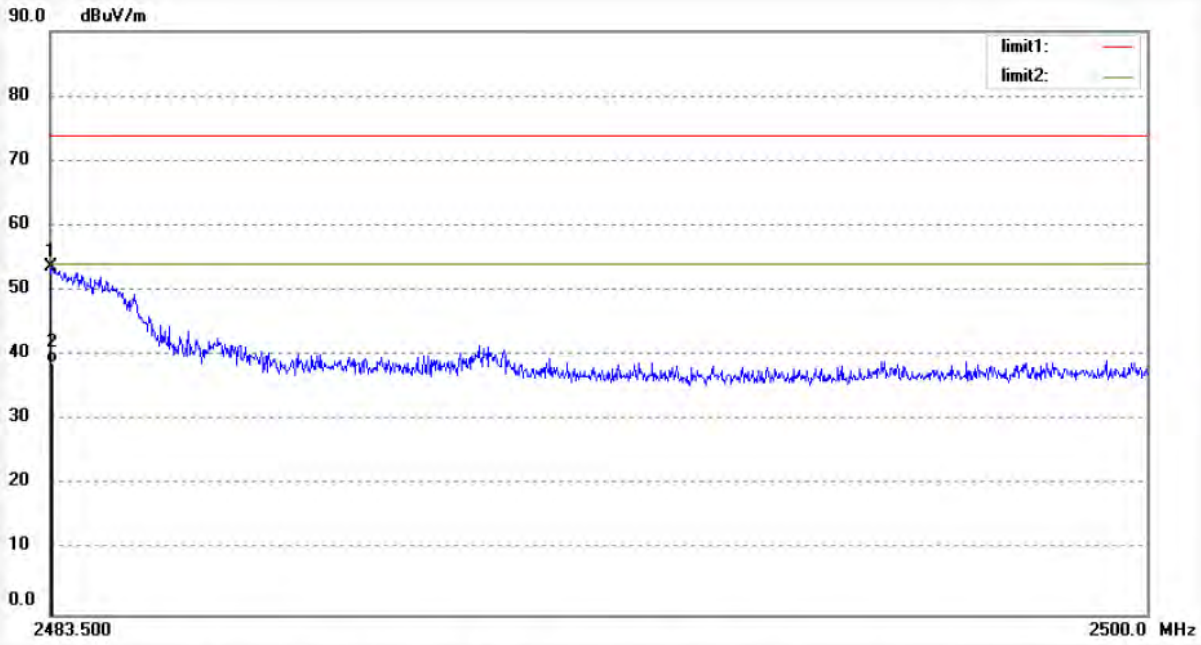
Job No.: p#54	Polarization: Vertical
Standard: FCC Part 15 PEAK 2.4G	Power Source: DC 6V
Test item: Radiation Test	Date: 2012/09/1
Temp.(C)/Hum.(%) 24 C / 48 %	Time: 11:59:43
EUT: Music umbrella	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: UUS56MS	
Manufacturer: KEYSHEEN	

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	60.97	-7.37	53.60	74.00	-20.40	peak			
2	2483.500	46.27	-7.37	38.90	54.00	-15.10	AVG			

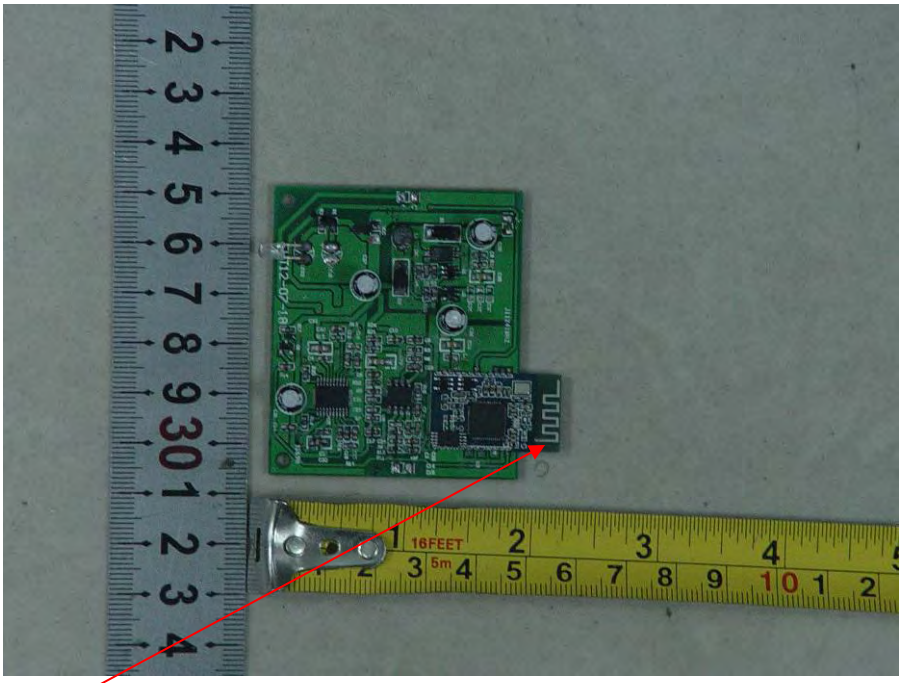
12. ANTENNA REQUIREMENT

12.1. 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.

12.2. 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