APPLICATION CERTIFICATION
On Behalf of
MEERA INTERNATIONAL LIMITED

Bluetooth Mini Speaker
Model No.: MS300BT, MS-100,MS-200BT,MS-400BT,MS-500BT, MS-600BT,MS-700BT,MS-800BT,NS-100,NS-200BT,NS-300NFC, NS-400BT,NS-500BT,NS-600BT,NS-700BT,NS-800BT

FCC ID: 2AASX-MS300BT

Prepared for	:	MEERA INTERNATIONAL LIMITED
Address	:	301, Kam On Building, 176A-Queens Road Central, HongKong
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	:	ATE20131732
Date of Test	:	Aug 09-Aug 18, 2013
Date of Report	:	Aug 19, 2013

TABLE OF CONTENTS

Description Page

Test Report Certification

Applicant	:	MEERA INTERNATIONAL LIMITED
Manufacturer	:	MEERA INTERNATIONAL LIMITED
EUT Description	:	Bluetooth Mini Speaker

(A) MODEL NO.: MS300BT,MS-100,MS-200BT,MS-400BT, MS-500BT,MS-600BT,MS-700BT,MS-800BT,NS-100, NS-200BT,NS-300NFC,NS-400BT,NS-500BT,NS-600BT, NS-700BT,NS-800BT

(B) SERIAL NO.: N/A

(C) POWER SUPPLY: DC 3.7V (Lithium ion battery) & DC 5V

(D) 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 : Aug 09-Aug 18, 2013

Prepared by : 

(Engineer)

Approved & Authorized Signer : 

(Manager)

1. GENERAL INFORMATION

1.1.Description of Device (EUT)

EUT	:	Bluetooth Mini Speaker
Model Number	:	MS300BT, MS-100,MS-200BT,MS-400BT, MS-500BT, MS-600BT,MS-700BT,MS-800BT, NS-100,NS-200BT,NS-300NFC, NS-400BT, NS-500BT,NS-600BT,NS-700BT,NS-800BT (Note: These samples are same except for the model number is difference. So we prepare the MS300BT for FCC test.)
Frequency Band	:	2402MHz-2480MHz
Number of Channels	:	79
Modulation type	:	GFSK
Antenna Gain	:	0dBi
Antenna type	:	PCB Antenna
Power Supply	:	DC 3.7V&DC 5V
Applicant	:	MEERA INTERNATIONAL LIMITED
Address	:	301, Kam On Building, 176A-Queens Road Central, HongKong
Manufacturer	:	MEERA INTERNATIONAL LIMITED
Address	:	301, Kam On Building, 176A-Queens Road Central, HongKong
Date of sample received	:	Aug 09, 2013
Date of Test	:	Aug 09-Aug 18, 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

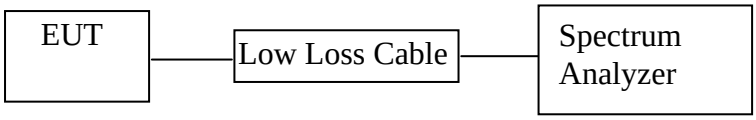
(EUT: Bluetooth Mini Speaker)

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 Mini Speaker)

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

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

5.3.EUT Configuration on Measurement

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

5.4.Operating Condition of EUT

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

5.4.2.Turn on the power of all equipment.

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

5.5.Test Procedure

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

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

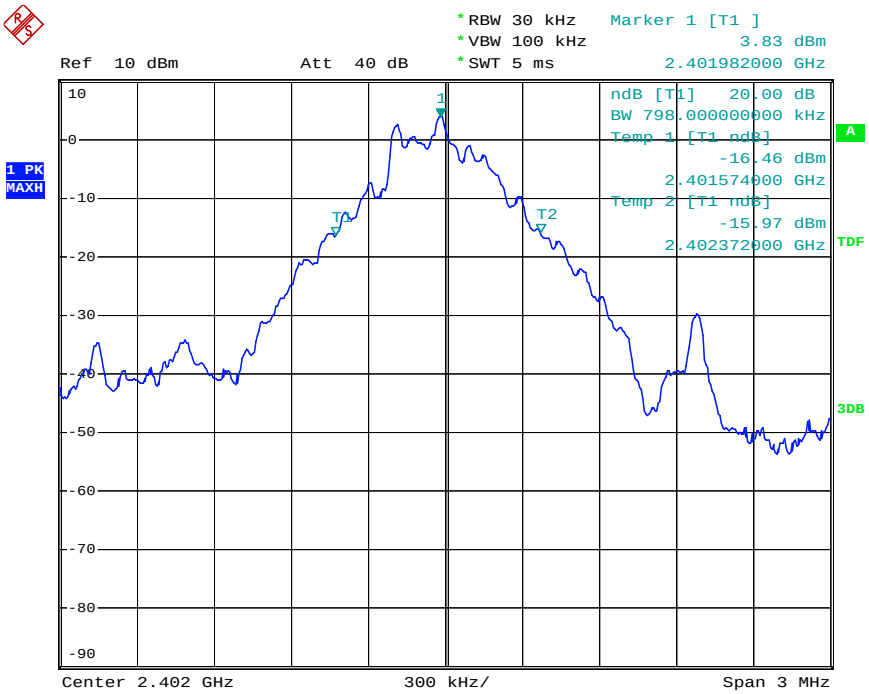
5.5.3.The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

5.6.Test Result

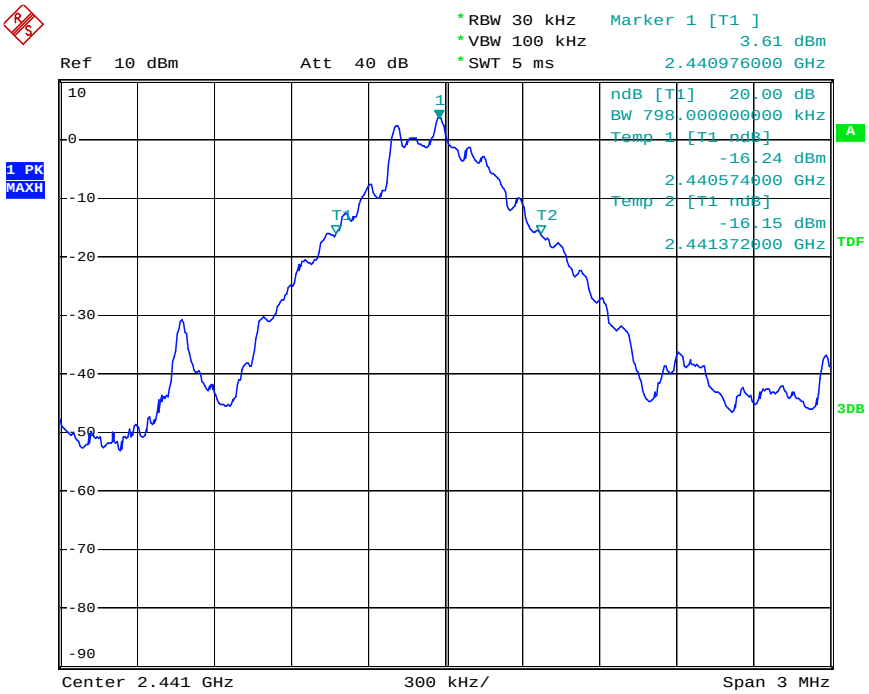
Channel	Frequency (MHz)	20dB Bandwidth (MHz)	Result
Low	2402	0.798	Pass
Middle	2441	0.798	Pass
High	2480	0.798	Pass

The spectrum analyzer plots are attached as below.

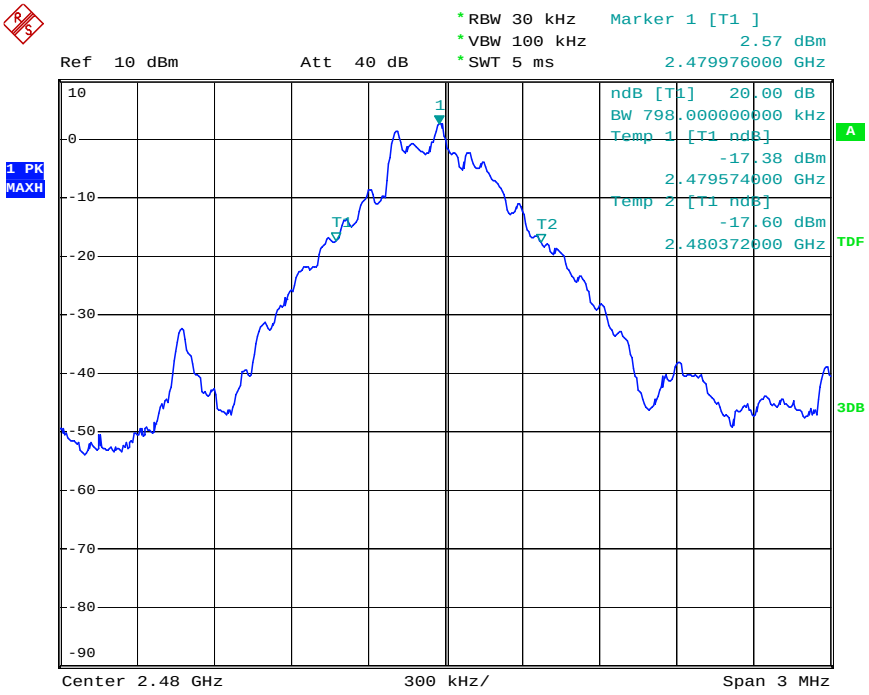
Low channel



Middle channel

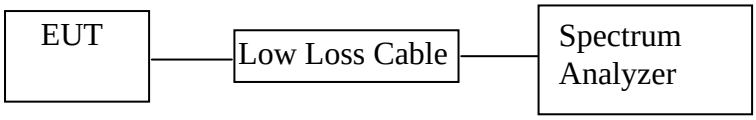


High channel



6. CARRIER FREQUENCY SEPARATION TEST

6.1.Block Diagram of Test Setup



(EUT: Bluetooth Mini Speaker)

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

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

6.3.EUT Configuration on Measurement

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

6.4.Operating Condition of EUT

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

6.4.2.Turn on the power of all equipment.

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

6.5.Test Procedure

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

6.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz. Adjust Span to 2 MHz.

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

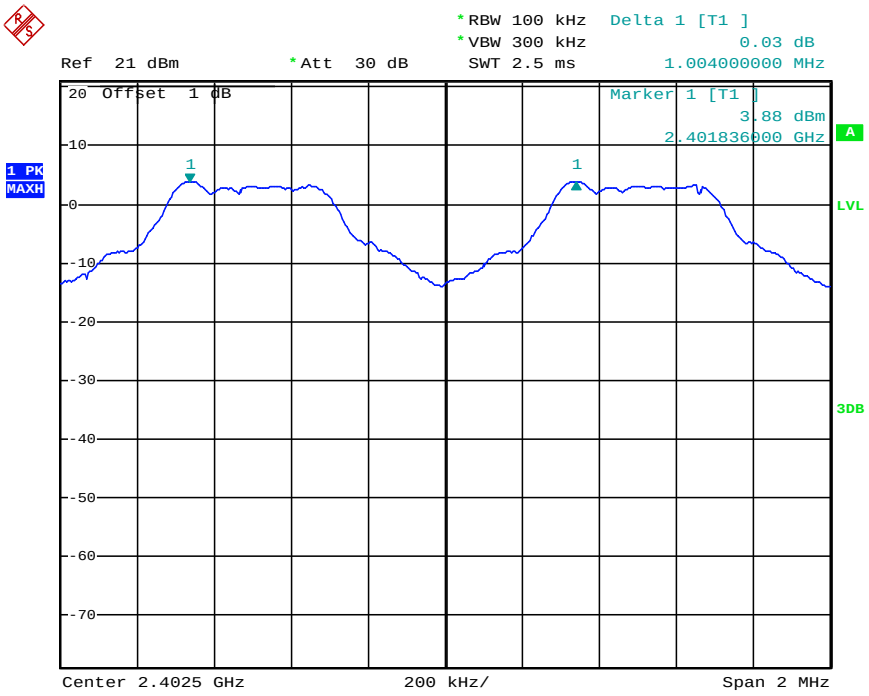
6.5.4.Measurement the channel separation

6.6.Test Result

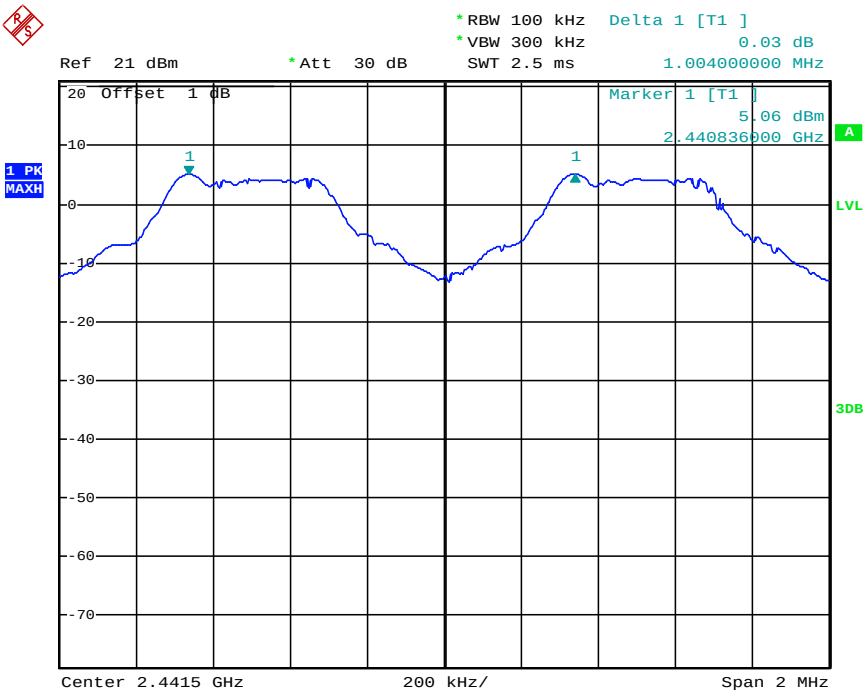
Channel	Frequency (MHz)	Channel Separation(MHz)	Limit (MHz)	Result
Low	2402	1.004	25KHz or 20dB bandwidth	PASS
	2403			
Middle	2440	1.004	25KHz or20dB bandwidth	PASS
	2441			
High	2479	1.004	25KHz or 20dB bandwidth	PASS
	2480			

The spectrum analyzer plots are attached as below.

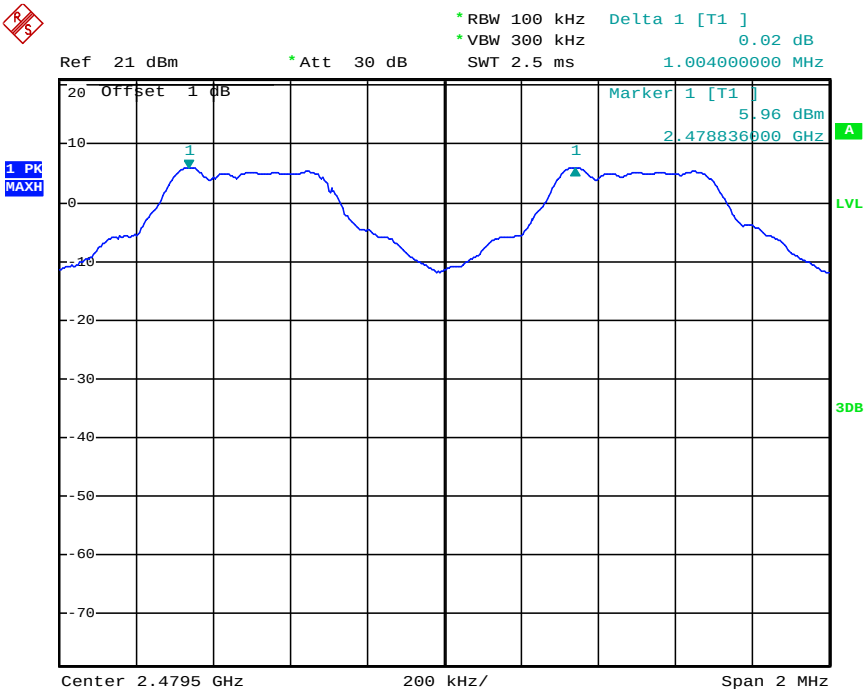
Low channel



Middle channel

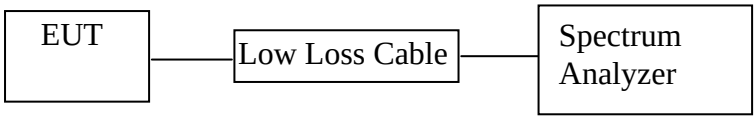


High channel



7. NUMBER OF HOPPING FREQUENCY TEST

7.1.Block Diagram of Test Setup



(EUT: Bluetooth Mini Speaker)

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

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

7.3.EUT Configuration on Measurement

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

7.4.Operating Condition of EUT

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

7.4.2.Turn on the power of all equipment.

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

7.5.Test Procedure

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

7.5.2.Set the spectrum analyzer as Span=83.5MHz, RBW=100 kHz, VBW=300 kHz.

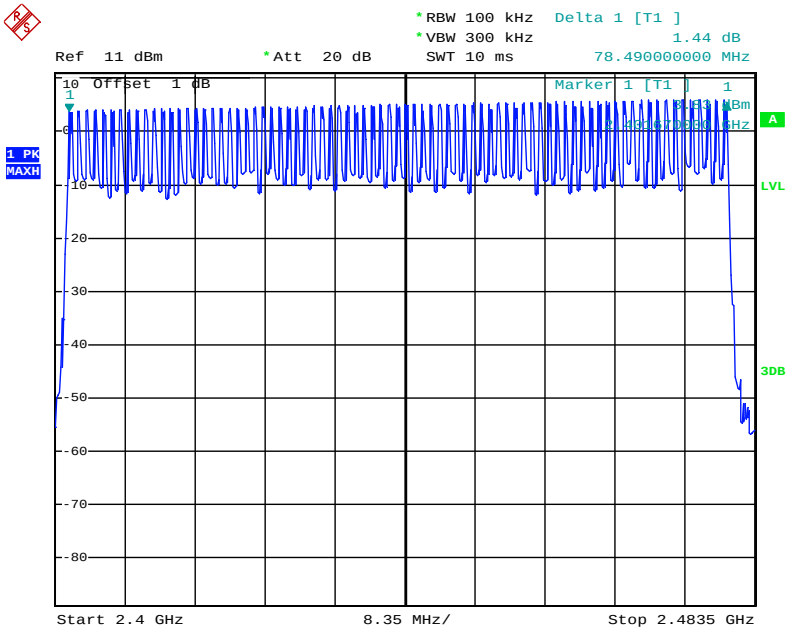
7.5.3.Max hold, view and count how many channel in the band.

7.6.Test Result

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

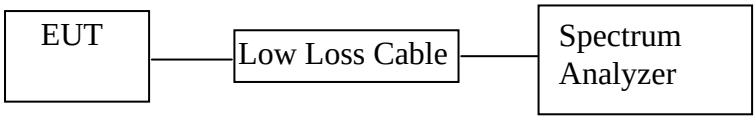
The spectrum analyzer plots are attached as below.

Number of hopping channels



8. DWELL TIME TEST

8.1.Block Diagram of Test Setup



(EUT: Bluetooth Mini Speaker)

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

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

8.3.EUT Configuration on Measurement

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

8.4.Operating Condition of EUT

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

8.4.2.Turn on the power of all equipment.

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

8.5.Test Procedure

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

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

8.5.3.Set the spectrum analyzer as RBW=1MHz, VBW=3MHz, Span=0Hz, Get the pulse time.

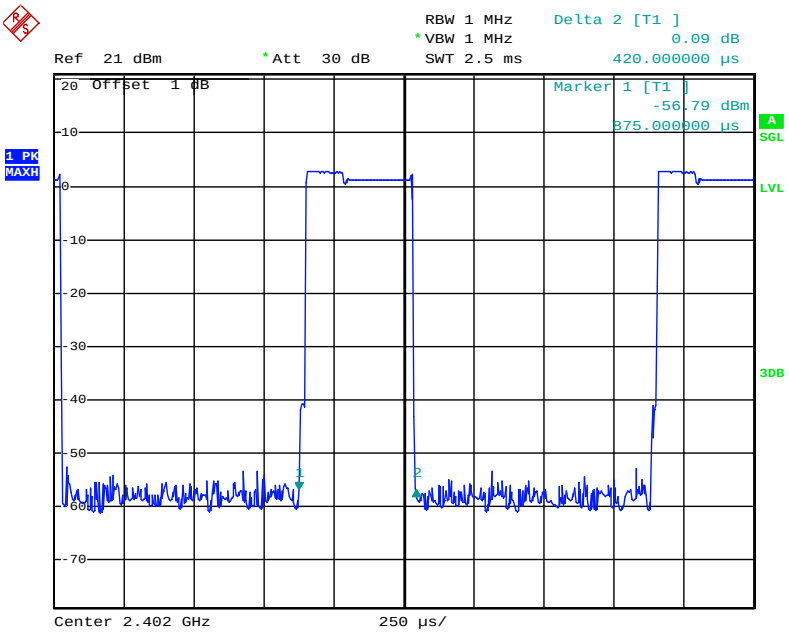
8.5.4.Repeat above procedures until all frequency measured were complete.

8.6.Test Result

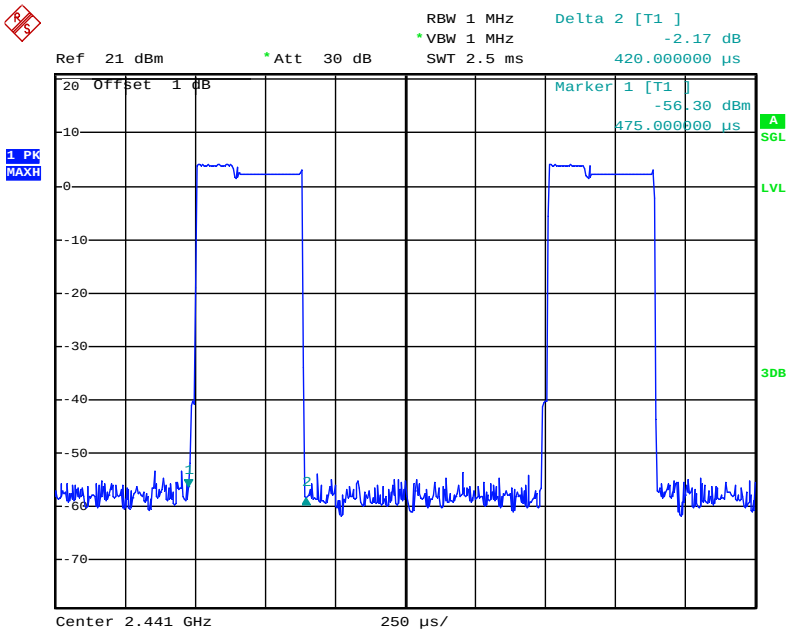
Mode	Channel Frequency (MHz)	Pulse Time (ms)	Dwell Time (ms)	Limit (ms)
DH1	2402	0.420	134.40	400
	2441	0.420	134.40	400
	2480	0.420	134.40	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(2*79))×31.6				
DH3	2402	1.680	268.80	400
	2441	1.680	268.80	400
	2480	1.695	271.20	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(4*79))×31.6				
DH5	2402	2.960	315.73	400
	2441	2.960	315.73	400
	2480	2.960	315.73	400
A period transmit time = 0.4 × 79 = 31.6 Dwell time = pulse time × (1600/(6*79))×31.6				

The spectrum analyzer plots are attached as below.

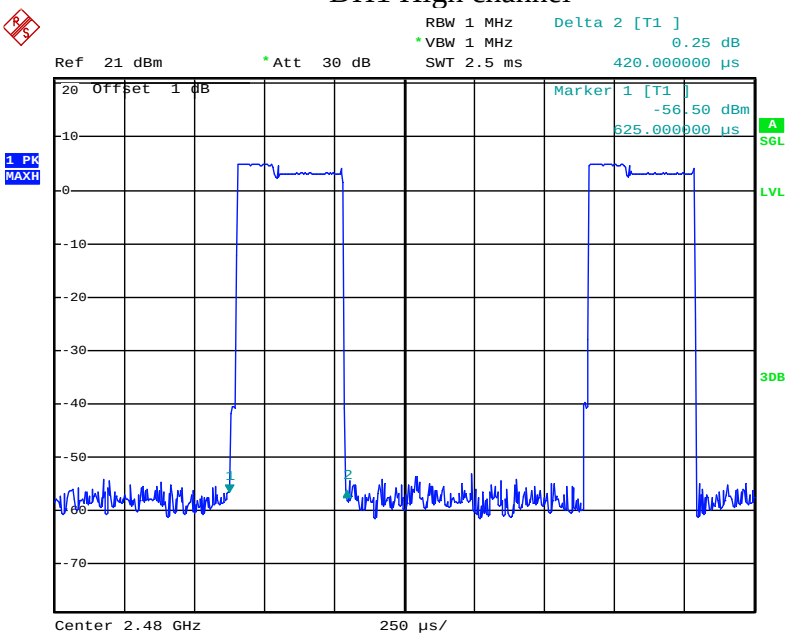
DH1 Low channel



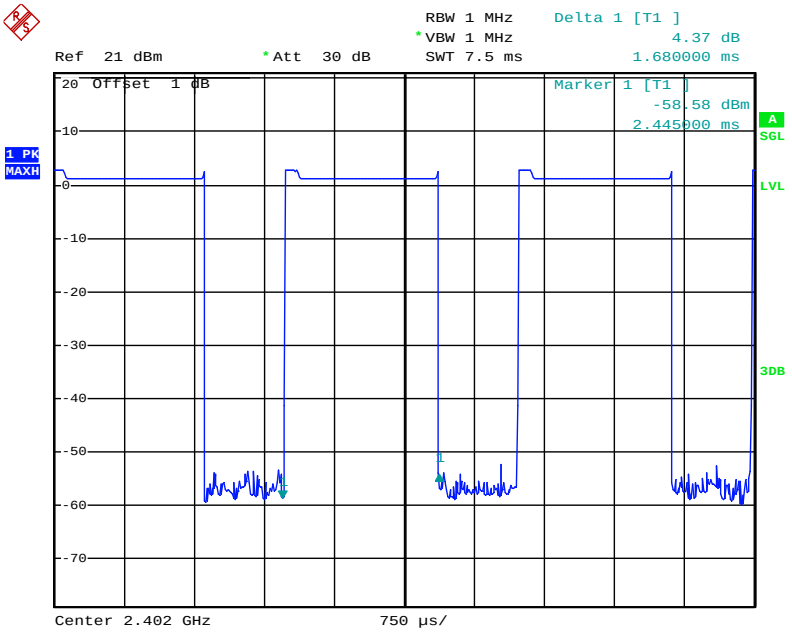
DH1 Middle channel



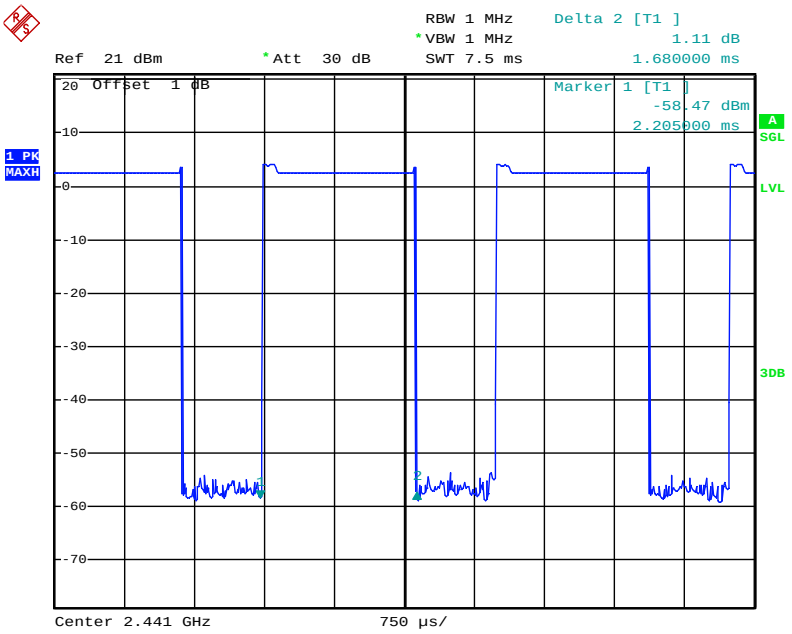
DH1 High channel



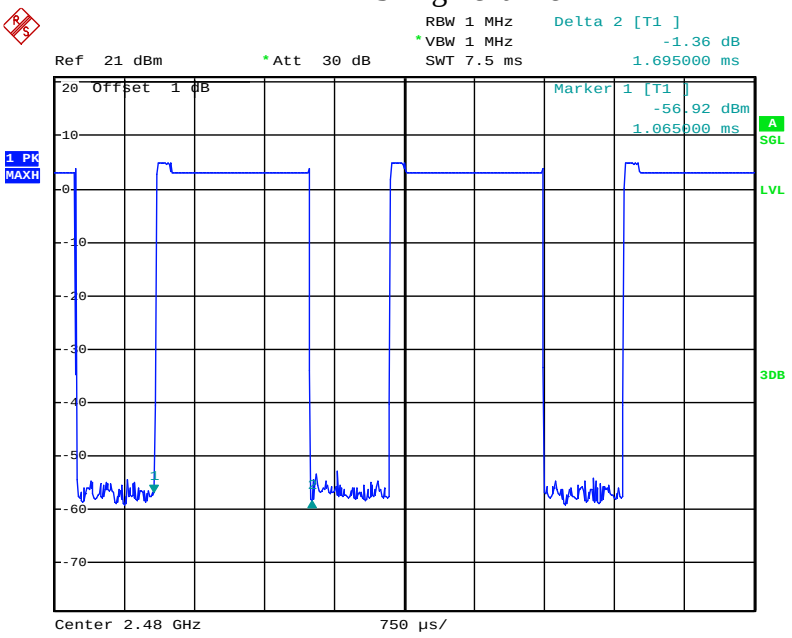
DH3 Low channel



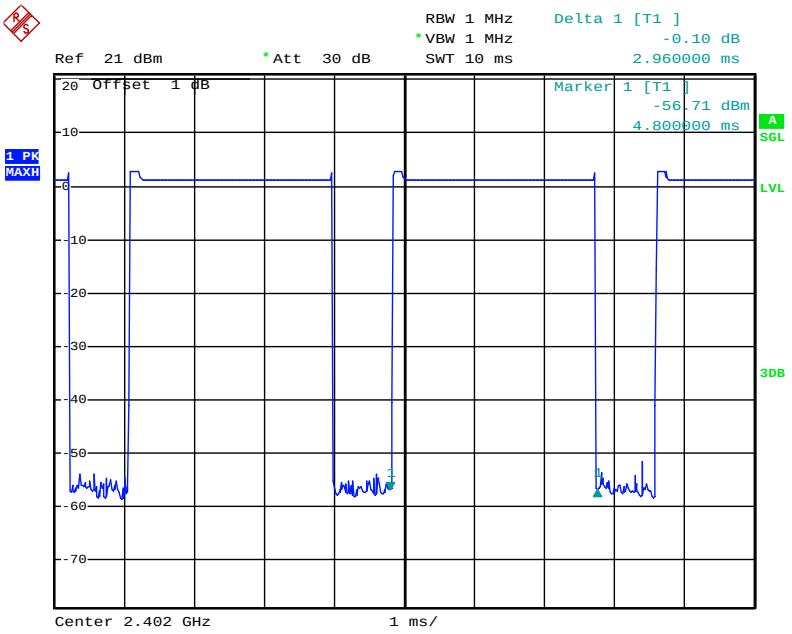
DH3 Middle channel



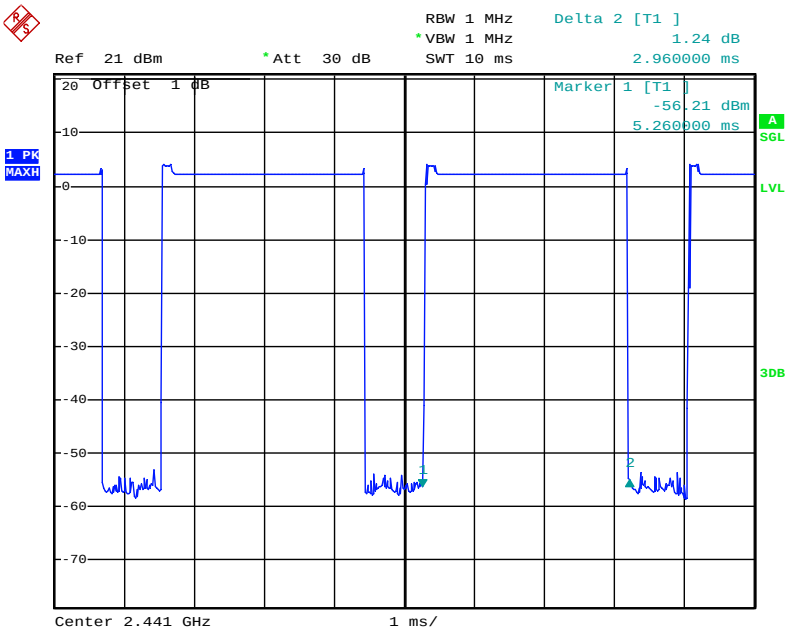
DH3 High channel



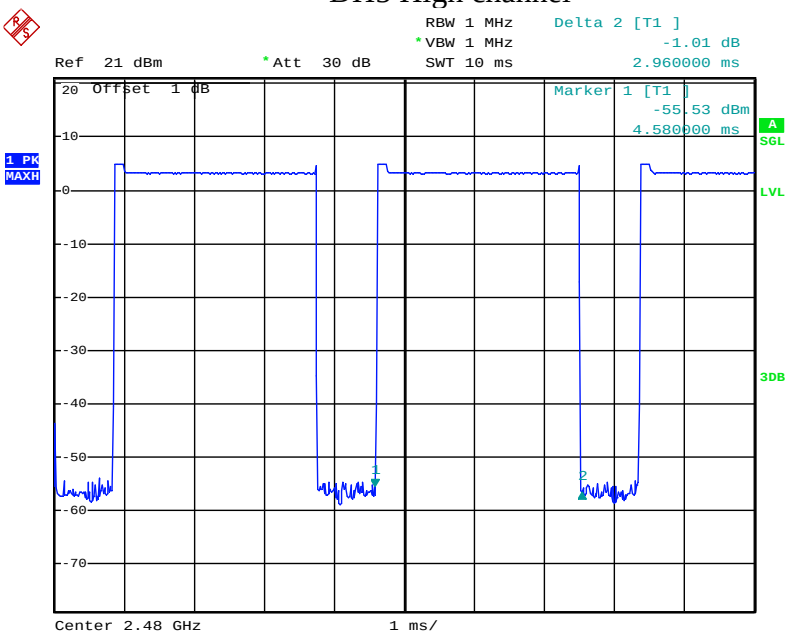
DH5 Low channel



DH5 Middle channel

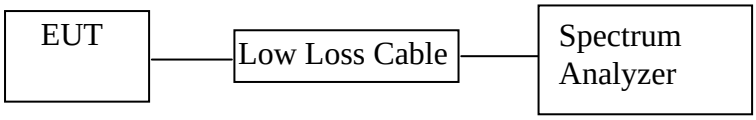


DH5 High channel



9. MAXIMUM PEAK OUTPUT POWER TEST

9.1.Block Diagram of Test Setup



(EUT: Bluetooth Mini Speaker)

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

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

9.3.EUT Configuration on Measurement

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

9.4.Operating Condition of EUT

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

9.4.2.Turn on the power of all equipment.

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

9.5.Test Procedure

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

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

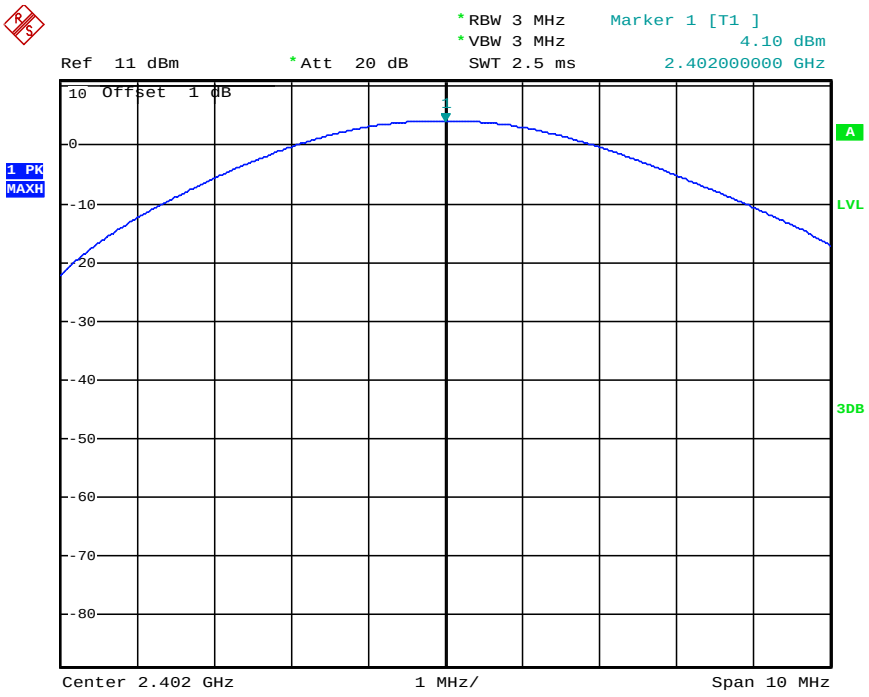
9.5.3.Measurement the maximum peak output power.

9.6.Test Result

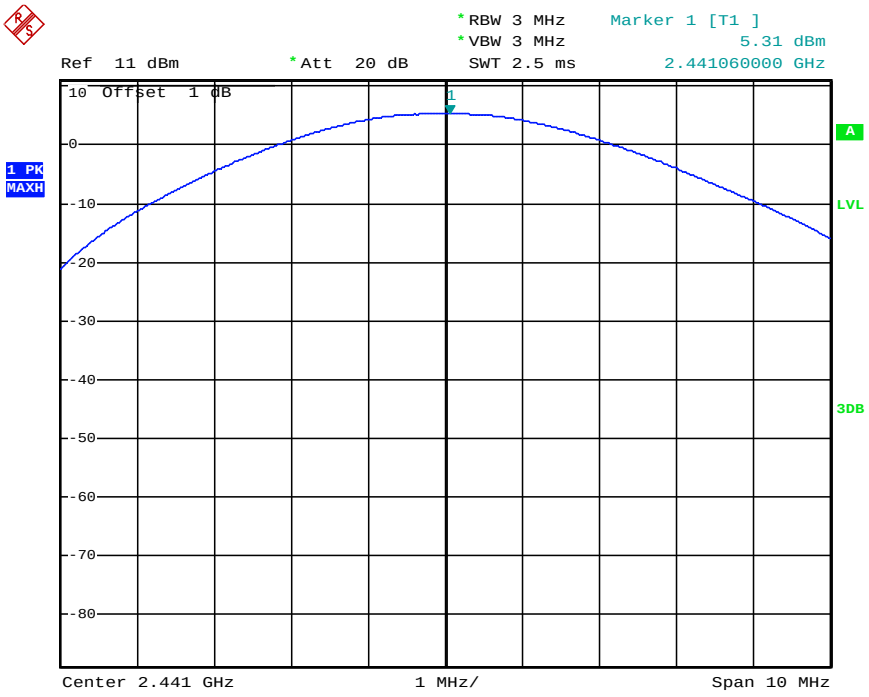
Channel	Frequency (MHz)	Peak Output Power (dBm)	Limits dBm / W
Low	2402	4.10	30/1.0
Middle	2441	5.31	30/1.0
High	2480	6.20	30/1.0

The spectrum analyzer plots are attached as below.

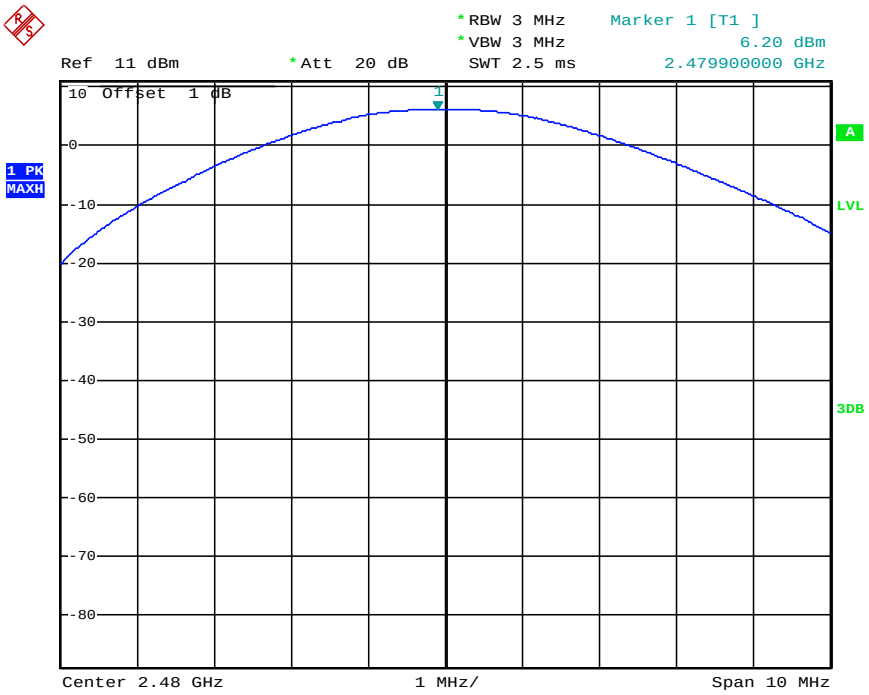
Low channel



Middle channel



High channel

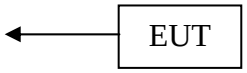


10.RADIATED EMISSION TEST

10.1.Block Diagram of Test Setup

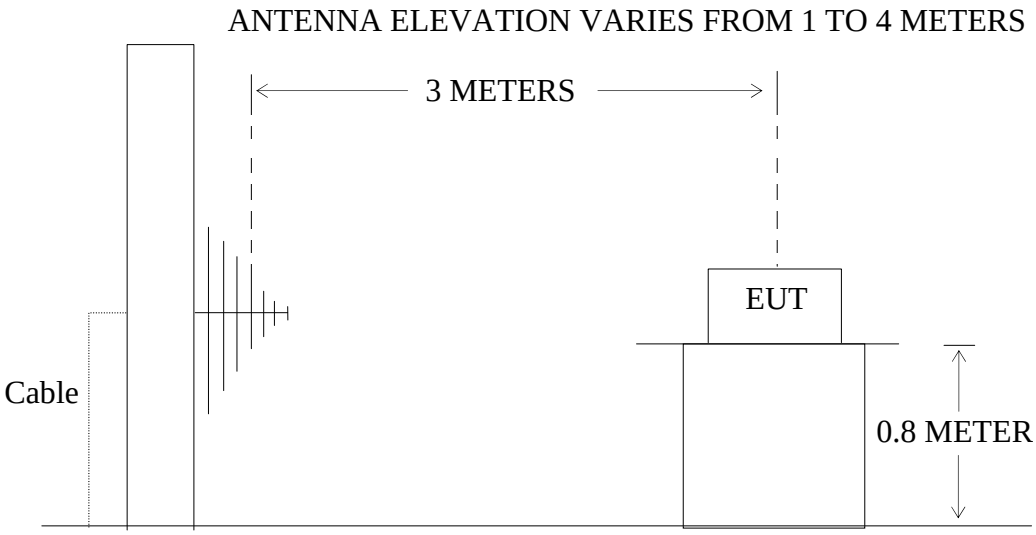
10.1.1.Block diagram of connection between the EUT and simulators

DC 6V



(EUT: Bluetooth Mini Speaker)

10.1.2.Anechoic Chamber Test Setup Diagram



(EUT: Bluetooth Mini Speaker)

10.2.The Limit For Section 15.247(d)

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

10.3.Restricted bands of operation

10.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

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

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

10.4.Configuration of EUT on Measurement

The equipment 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.

10.5.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

Note:

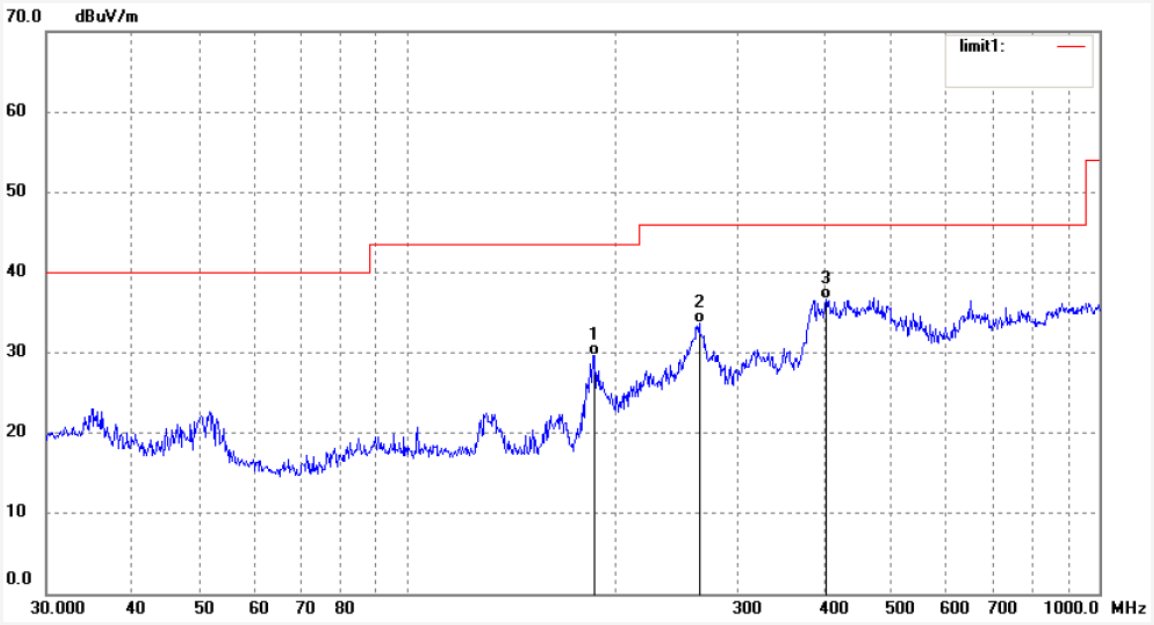
1. The fundamental radiated emissions were reduced by 2.4G Band Reject Filter in the attached plots.

2. The 18-25GHz emissions are not reported, because the levels are too low against the limit.

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #1	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12:09:13
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732

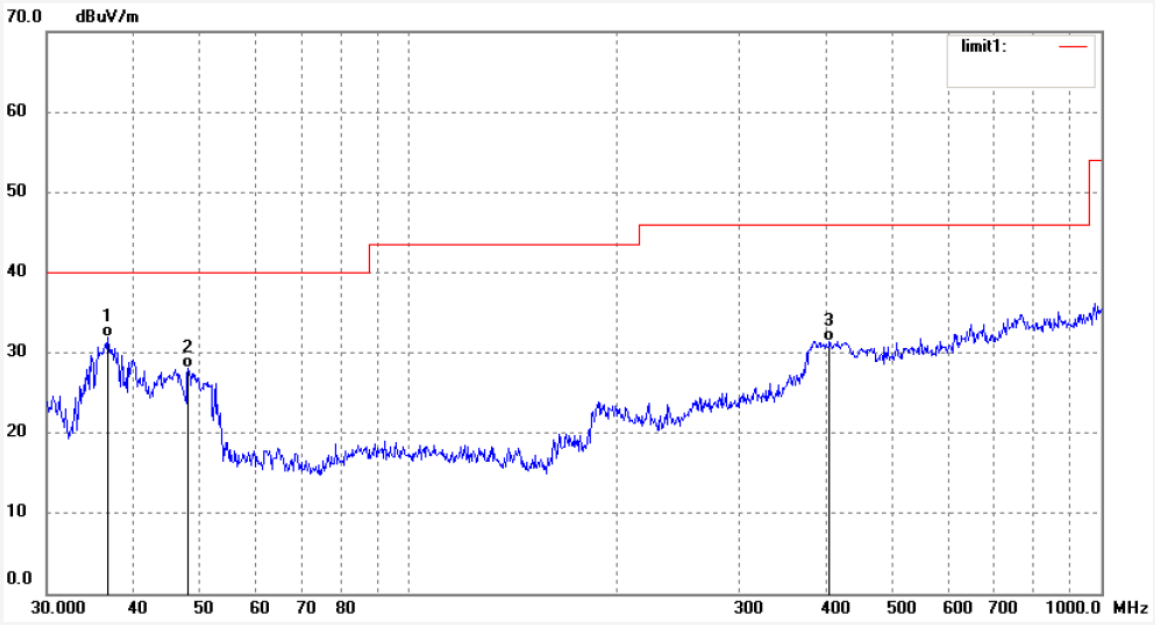


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	186.4684	15.90	13.84	29.74	43.50	-13.76	QP			
2	264.0416	14.95	18.66	33.61	46.00	-12.39	QP			
3	402.5167	14.30	22.39	36.69	46.00	-9.31	QP			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #2	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12:10:43
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732



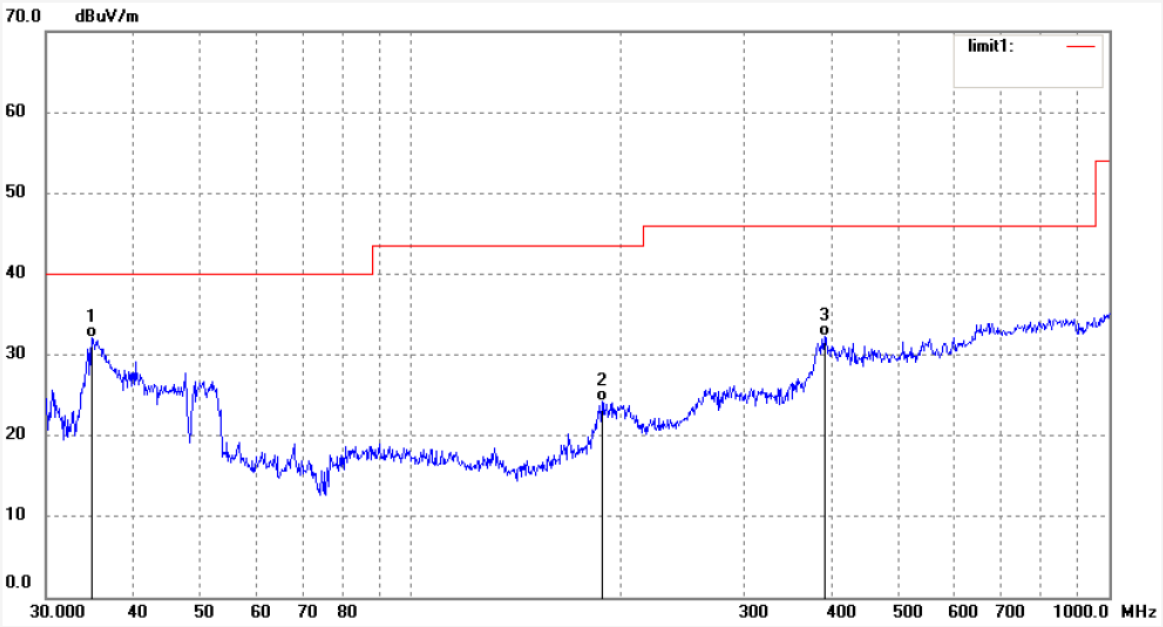
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	36.7811	16.66	15.28	31.94	40.00	-8.06	QP			
2	48.0392	13.67	14.45	28.12	40.00	-11.88	QP			
3	405.3551	8.85	22.61	31.46	46.00	-14.54	QP			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #3
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Bluetooth Mini Speaker
Mode: TX 2441MHz
Model: MS300BT
Manufacturer: MEERA

Polarization: Vertical
Power Source: DC 5V
Date: 2013/08/13
Time: 12:12:27
Engineer Signature: Ricky
Distance: 3m

Note: Report No:ATE20131732

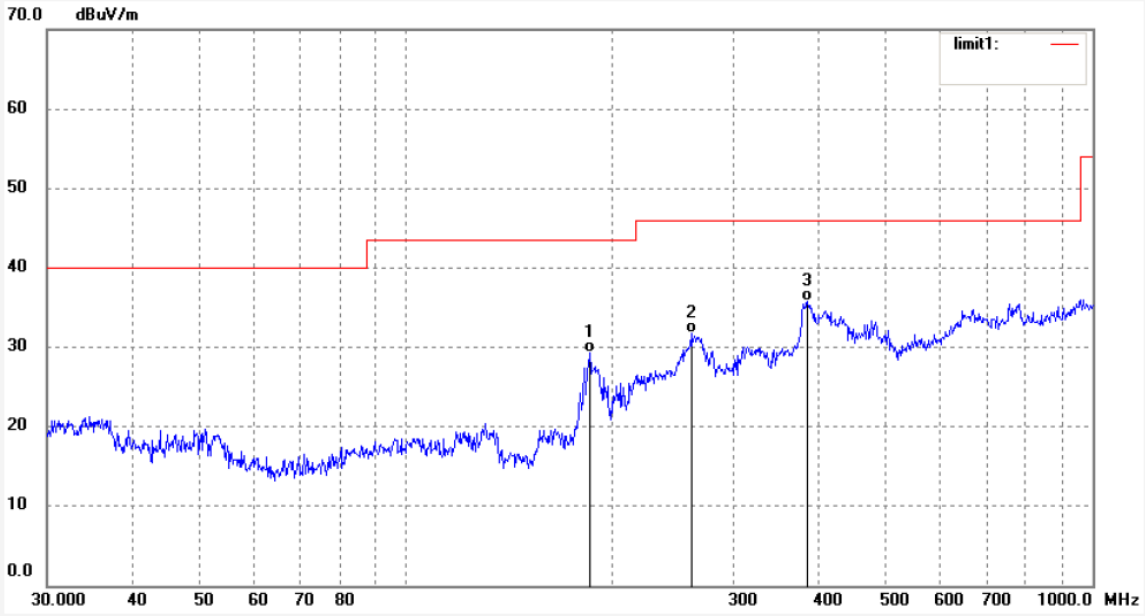


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	34.8928	16.33	15.70	32.03	40.00	-7.97	QP			
2	187.7829	10.47	13.85	24.32	43.50	-19.18	QP			
3	391.3599	10.34	21.93	32.27	46.00	-13.73	QP			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #4	Polarization: Horizontal
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12:13:23
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732



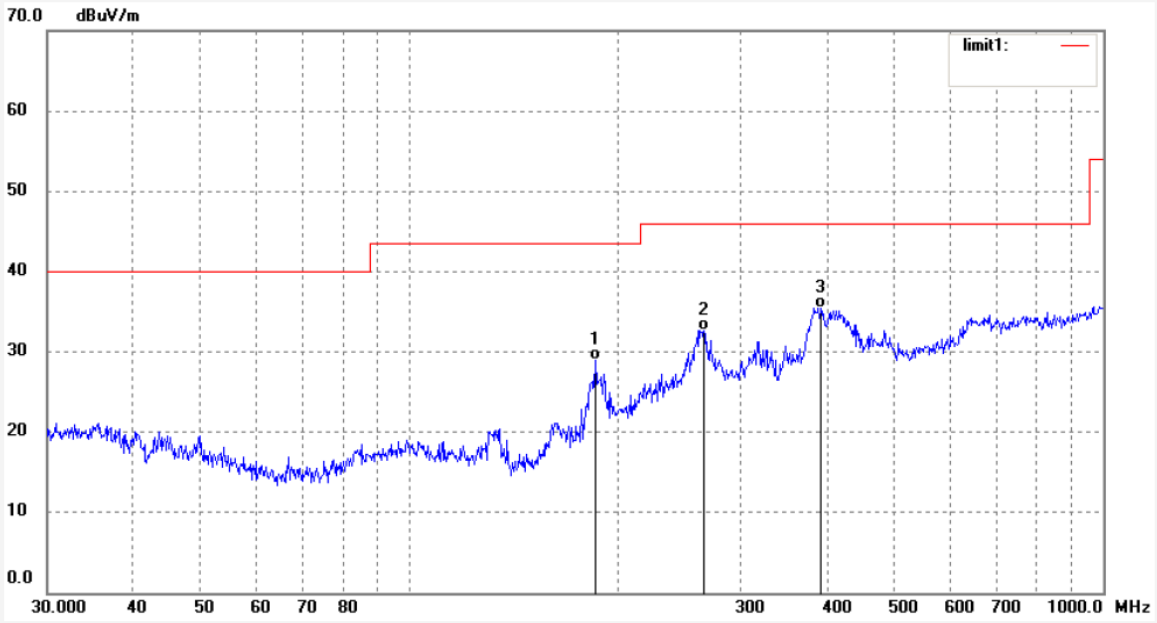
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	185.1622	15.51	13.83	29.34	43.50	-14.16	QP			
2	260.3566	13.25	18.60	31.85	46.00	-14.15	QP			
3	384.5446	14.03	21.69	35.72	46.00	-10.28	QP			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #5
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Bluetooth Mini Speaker
Mode: TX 2480MHz
Model: MS300BT
Manufacturer: MEERA

Polarization: Horizontal
Power Source: DC 5V
Date: 2013/08/13
Time: 12:14:44
Engineer Signature: Ricky
Distance: 3m

Note: Report No:ATE20131732

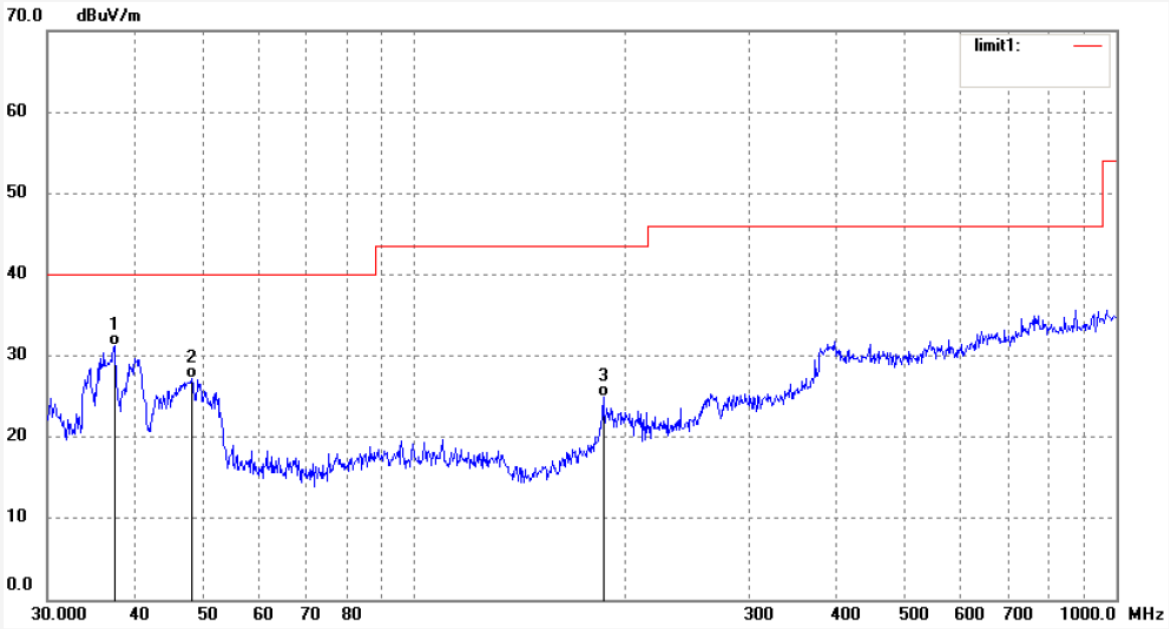


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	185.1622	15.08	13.83	28.91	43.50	-14.59	QP			
2	265.9035	14.03	18.59	32.62	46.00	-13.38	QP			
3	391.3599	13.52	21.93	35.45	46.00	-10.55	QP			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #6	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12:15:52
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732



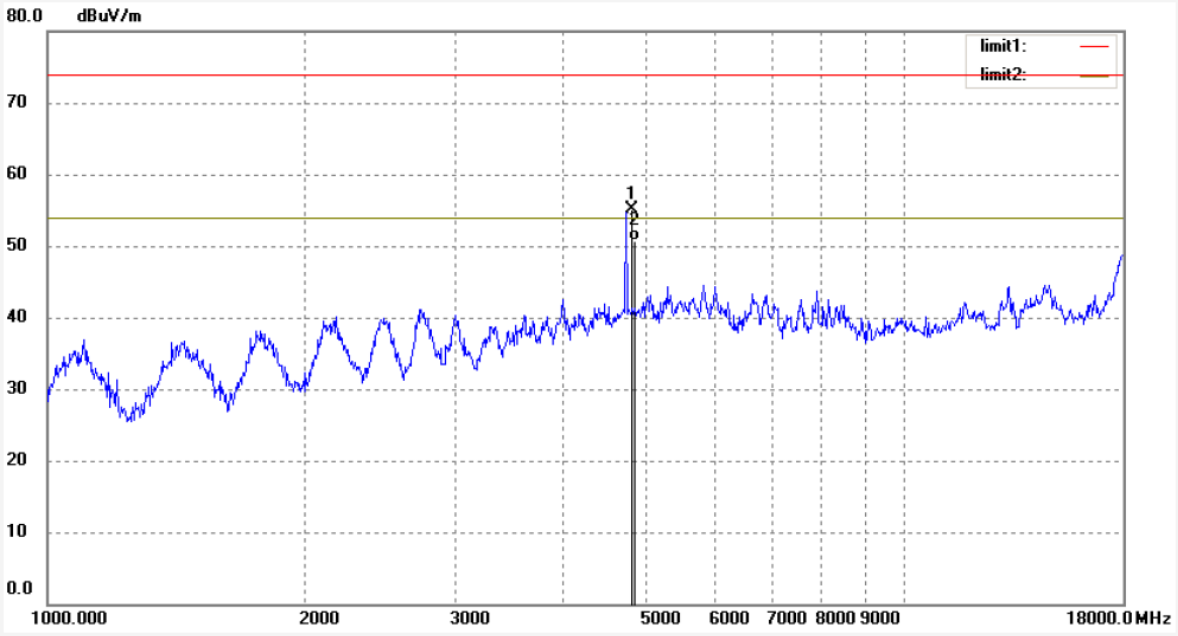
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	37.4328	16.14	15.13	31.27	40.00	-8.73	QP			
2	48.2083	12.82	14.45	27.27	40.00	-12.73	QP			
3	185.8143	11.04	13.83	24.87	43.50	-18.63	QP			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #7
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Bluetooth Mini Speaker
Mode: TX 2402MHz
Model: MS300BT
Manufacturer: MEERA

Polarization: Vertical
Power Source: DC 5V
Date: 2013/08/13
Time: 12:35:56
Engineer Signature: Ricky
Distance: 3m

Note: Report No:ATE20131732

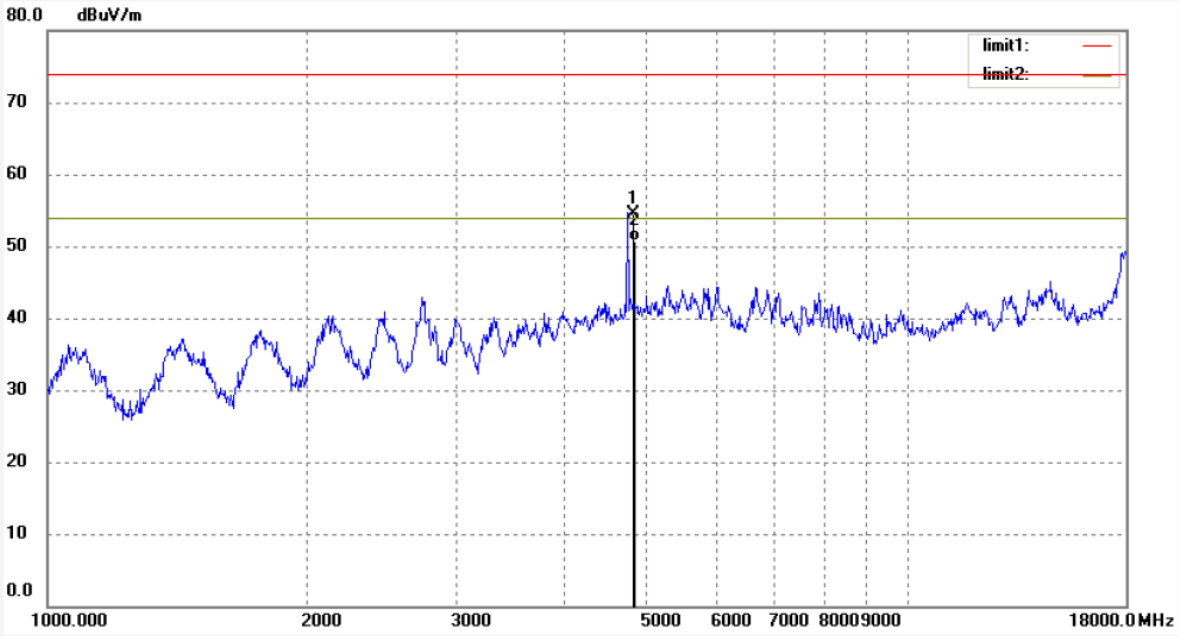


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4804.000	55.46	-0.30	55.16	74.00	-18.84	peak			
2	4804.000	51.00	-0.30	50.70	54.00	-3.30	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #8	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12:38:36
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732

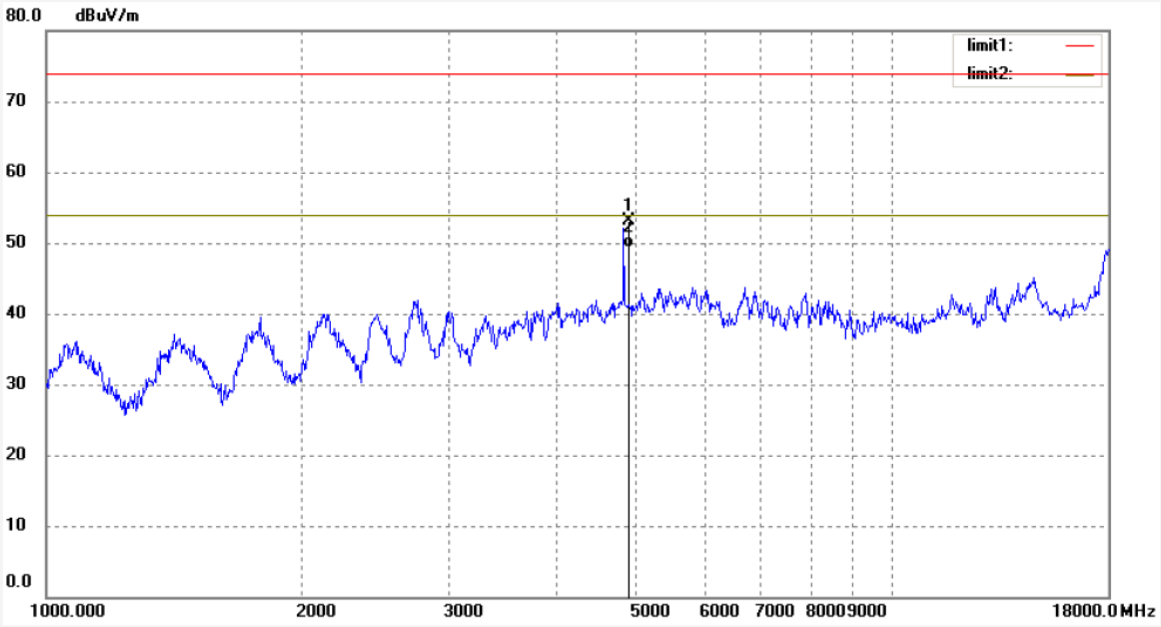


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4804.000	54.87	-0.30	54.57	74.00	-19.43	peak			
2	4804.000	51.10	-0.30	50.80	54.00	-3.20	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #9	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12:42:50
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732

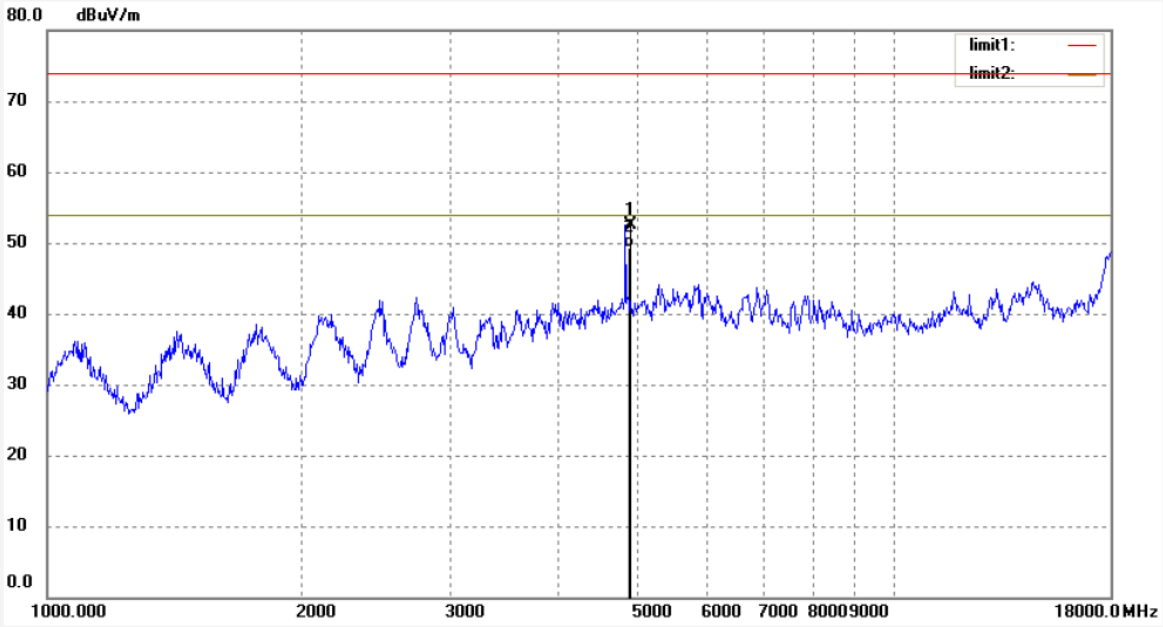


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4882.000	52.98	0.14	53.12	74.00	-20.88	peak			
2	4882.000	49.16	0.14	49.30	54.00	-4.70	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #10	Polarization: Vertical
Standard: FCC 15C PK	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12:44:45
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2441MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732



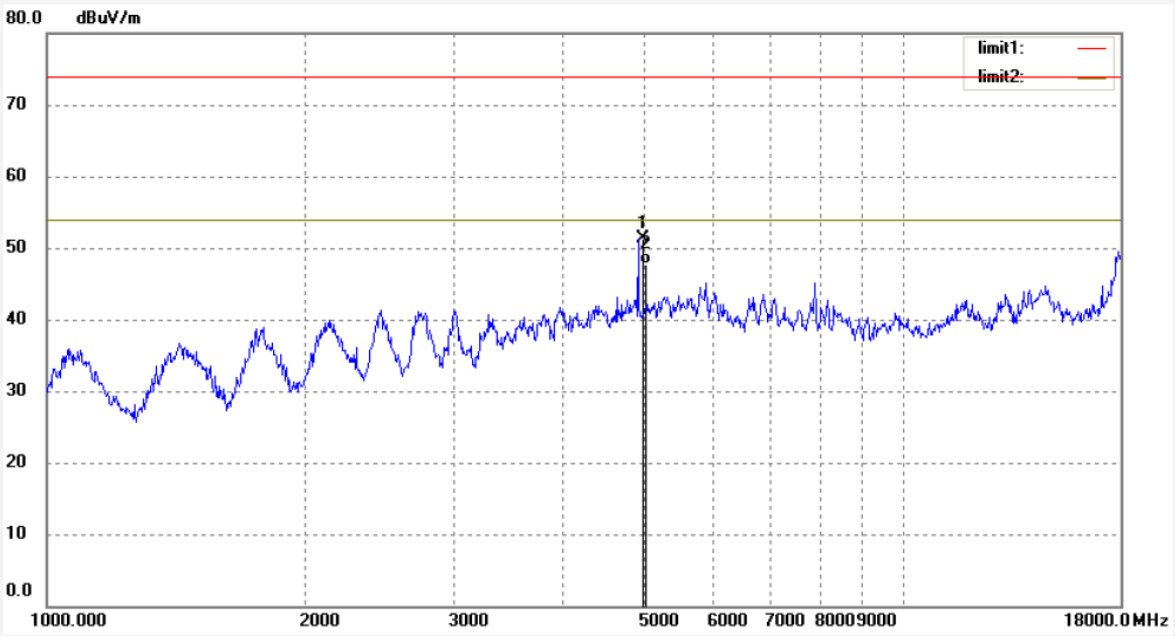
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4882.000	52.34	0.14	52.48	74.00	-21.52	peak			
2	4882.000	49.20	0.14	49.34	54.00	-4.66	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #11
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Bluetooth Mini Speaker
Mode: TX 2480MHz
Model: MS300BT
Manufacturer: MEERA

Polarization: Vertical
Power Source: DC 5V
Date: 2013/08/13
Time: 12:47:04
Engineer Signature: Ricky
Distance: 3m

Note: Report No:ATE20131732

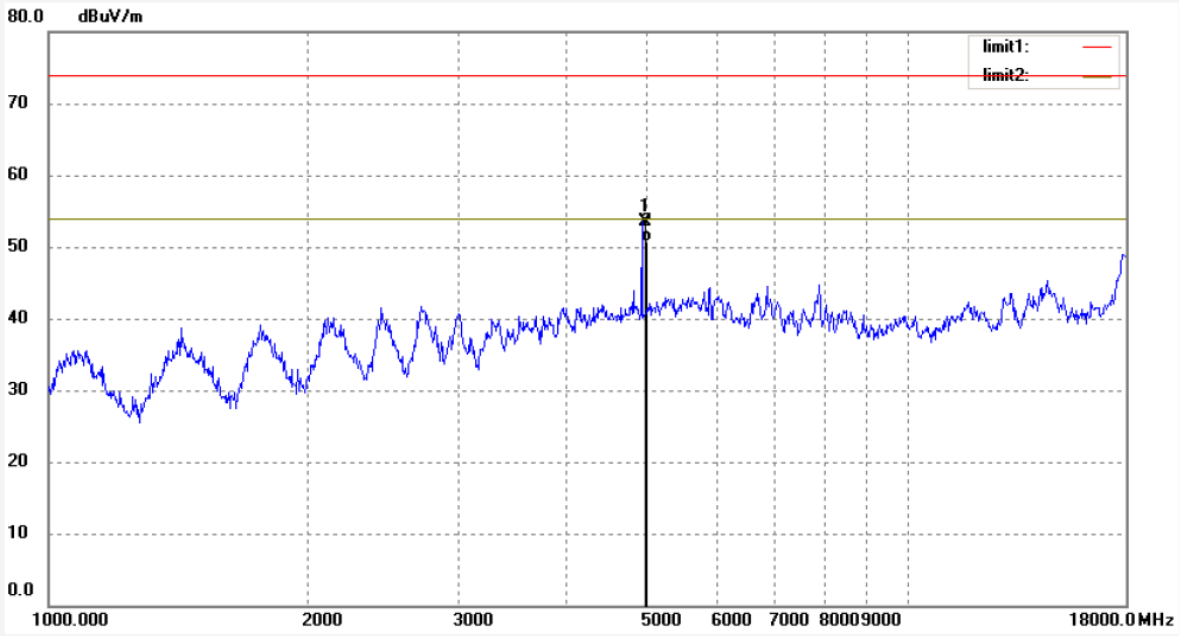


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	4960.000	50.78	0.52	51.30	74.00	-22.70	peak			
2	4960.000	47.15	0.52	47.67	54.00	-6.33	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #12	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 12:48:12
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

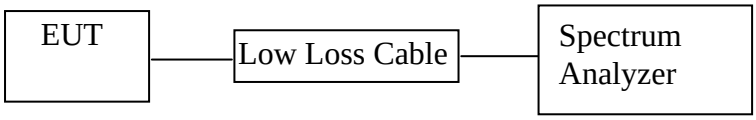
Note: Report No:ATE20131732



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	52.96	0.52	53.48	74.00	-20.52	peak			
2	4960.000	50.21	0.52	50.73	54.00	-3.27	AVG			

11.BAND EDGE COMPLIANCE TEST

11.1.Block Diagram of Test Setup



(EUT: Bluetooth Mini Speaker)

11.2.The Requirement For Section 15.247(d)

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

11.3.EUT Configuration on Measurement

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

11.4.Operating Condition of EUT

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

11.4.2.Turn on the power of all equipment.

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

11.5.Test Procedure

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

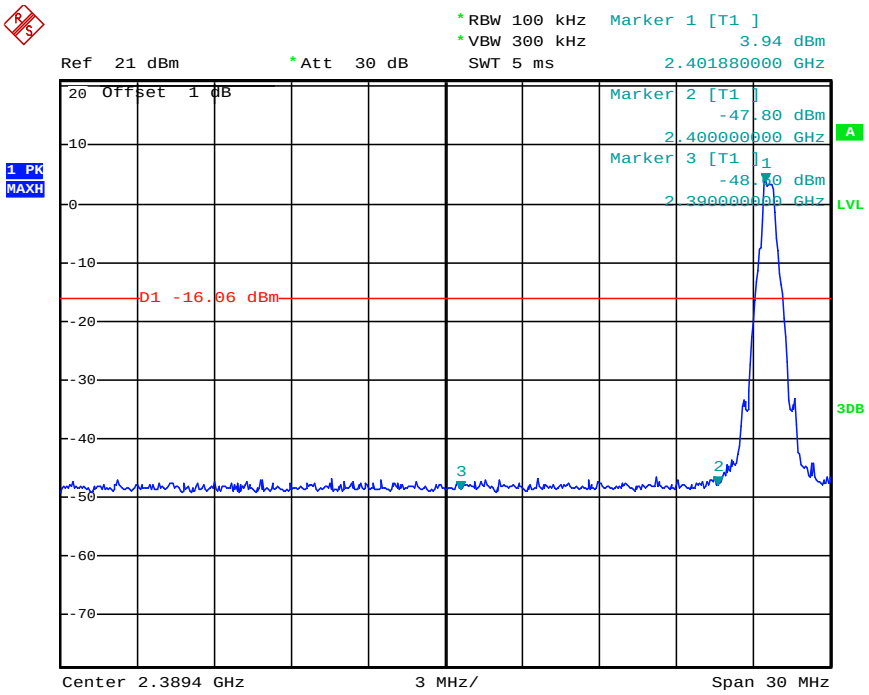
11.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz with convenient frequency span including 100 kHz bandwidth from band edge.

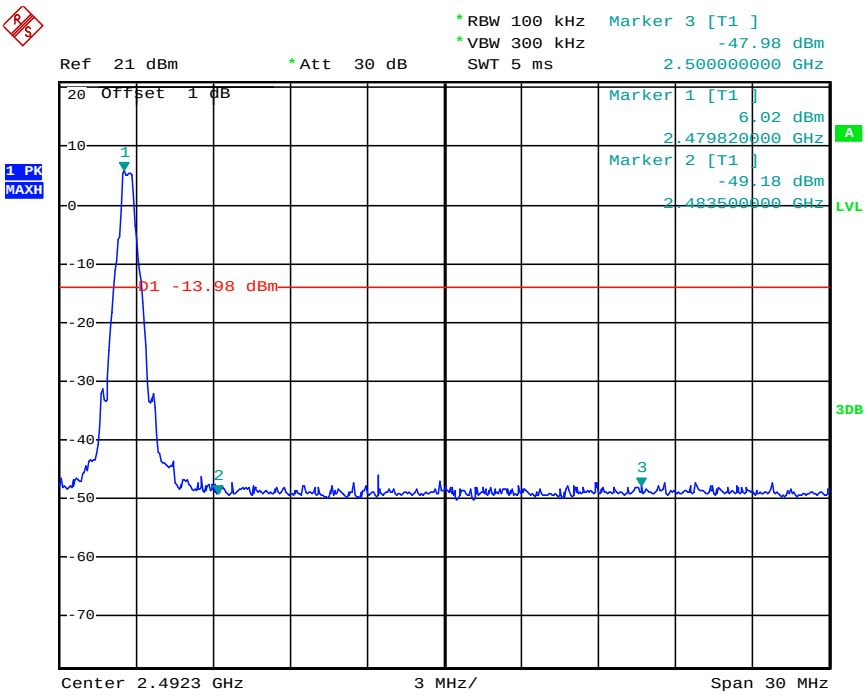
11.5.3.The band edges was measured and recorded.

11.6.Test Result

Frequency (MHz)	Result of Band Edge (dBc)	Limit of Band Edge (dBc)
2390.00	52.44	> 20dBc
2483.50	55.20	> 20dBc

The spectrum analyzer plots are attached as below.




RBW 100 kHz
VBW 300 kHz
SWT 5 ms
Marker 3 [T1]
-47.98 dBm
2.500000000 GHz
Ref 21 dBm
Att 30 dB
Offset 1 dB
Marker 1 [T1]
6.02 dBm
2.479820000 GHz
Marker 2 [T1]
-49.18 dBm
2.483500000 GHz
1 PK
MAXH
A
LVL
3DB
D1 -13.98 dBm
Center 2.4923 GHz
3 MHz/
Span 30 MHz

Radiated Band Edge Result

Note:

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

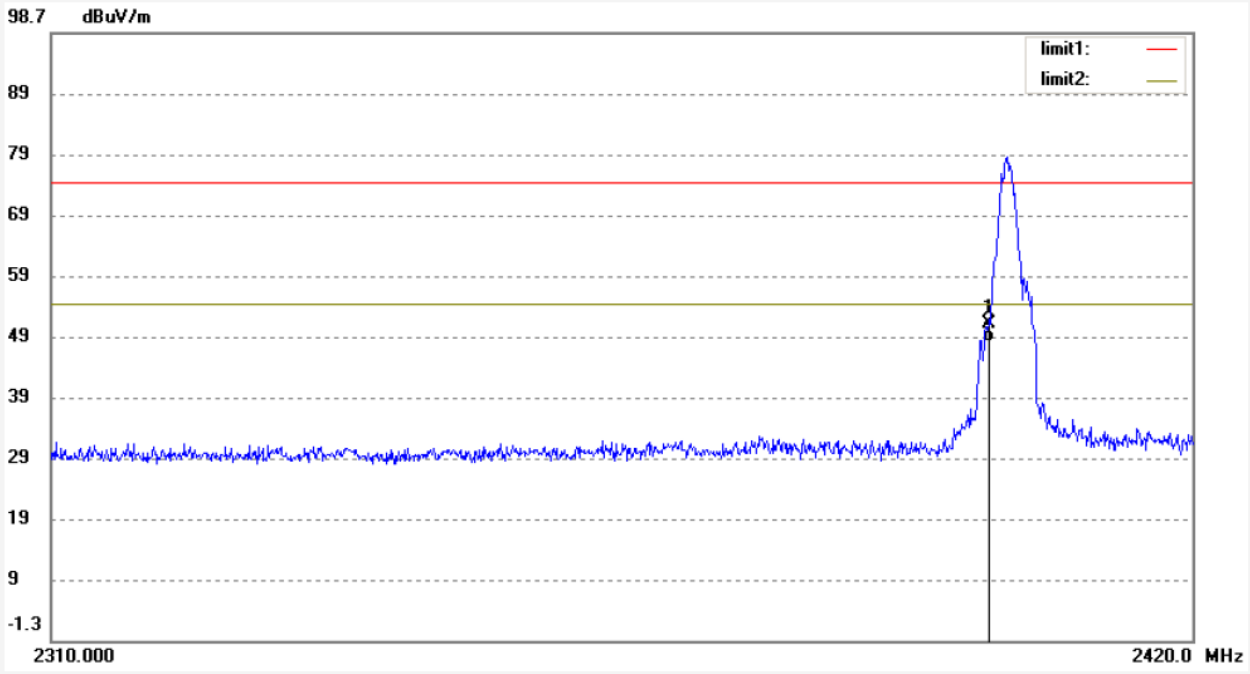
   Result = Reading + Corrected Factor
3. Display the measurement of peak values.

Non-hopping mode

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #15	Polarization: Vertical
Standard: FCC 15C PK	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 14:57:26
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732

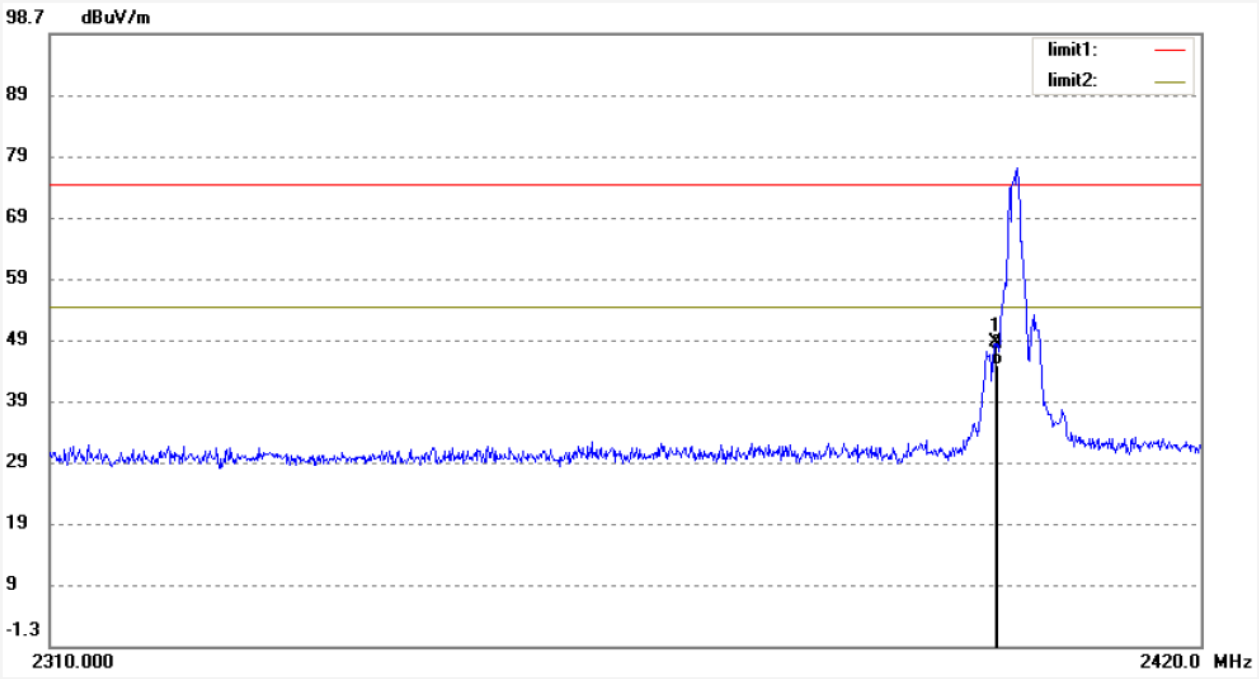


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	58.33	-7.46	50.87	74.00	-23.13	peak			
2	2400.000	55.26	-7.46	47.80	54.00	-6.20	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #16	Polarization: Horizontal
Standard: FCC 15C PK	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 15:01:20
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2402MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732



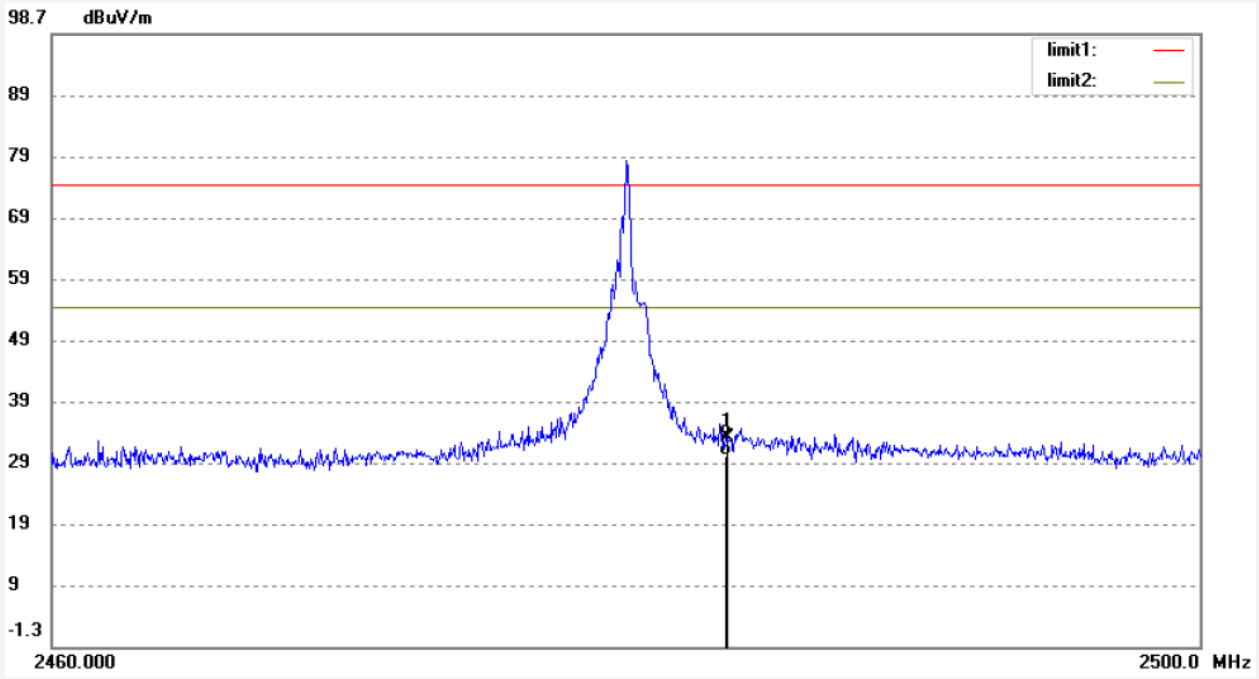
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.004	55.78	-7.46	48.32	74.00	-25.68	peak			
2	2400.004	52.14	-7.46	44.68	54.00	-9.32	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #14
Standard: FCC 15C PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 49 %
EUT: Bluetooth Mini Speaker
Mode: TX 2480MHz
Model: MS300BT
Manufacturer: MEERA

Polarization: Horizontal
Power Source: DC 5V
Date: 2013/08/13
Time: 14:52:53
Engineer Signature: Ricky
Distance: 3m

Note: Report No:ATE20131732

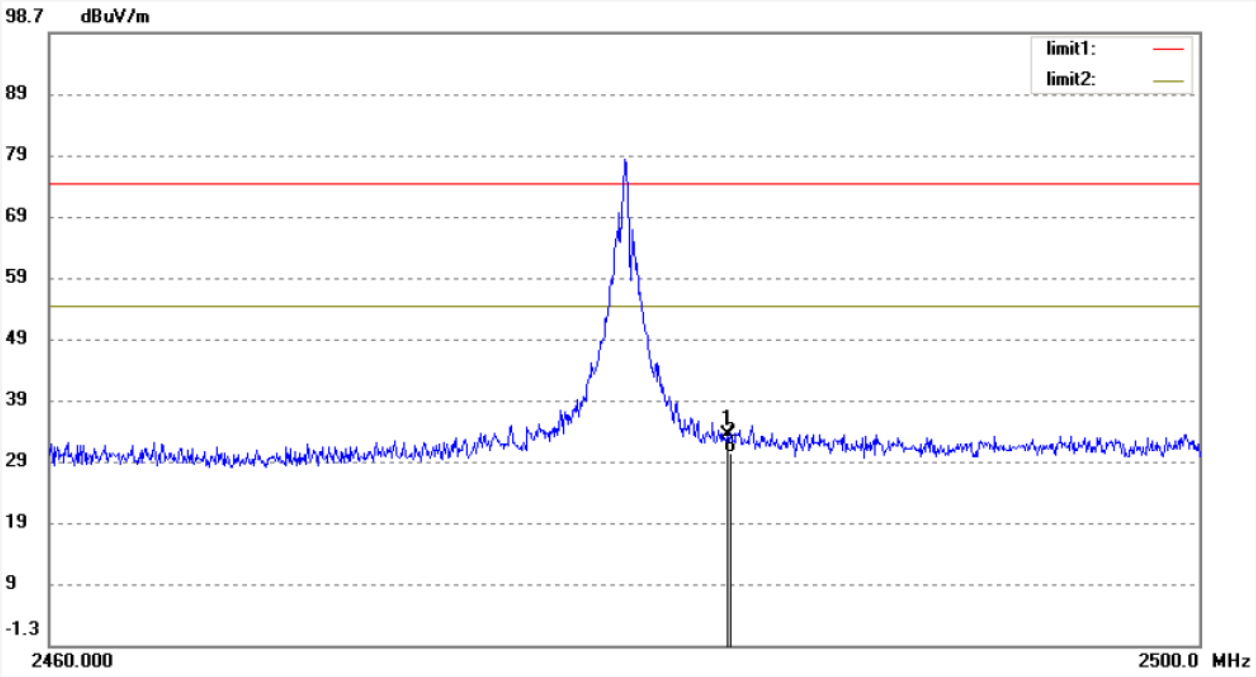


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.529	40.18	-7.37	32.81	74.00	-41.19	peak			
2	2483.529	37.23	-7.37	29.86	54.00	-24.14	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: rucky6 #13	Polarization: Vertical
Standard: FCC 15C PK	Power Source: DC 5V
Test item: Radiation Test	Date: 2013/08/13
Temp.(C)/Hum.(%) 23 C / 49 %	Time: 14:50:31
EUT: Bluetooth Mini Speaker	Engineer Signature: Ricky
Mode: TX 2480MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No:ATE20131732



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.529	40.56	-7.37	33.19	74.00	-40.81	peak			
2	2483.529	37.51	-7.37	30.14	54.00	-23.86	AVG			

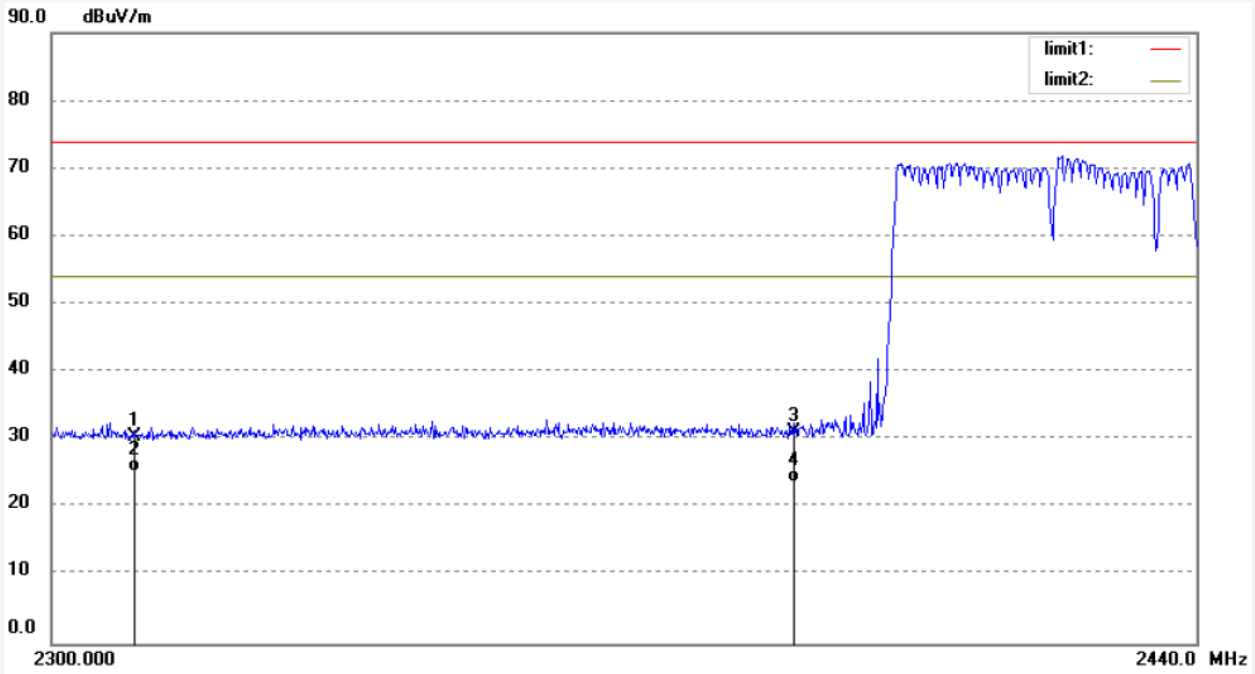
Hopping mode

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #5031
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Mini Speaker
Mode: TX 2402MHz
Model: MS300BT
Manufacturer: MEERA

Polarization: Vertical
Power Source: DC 5V
Date: 13/08/13/
Time: 11/36/29
Engineer Signature:
Distance: 3m

Note: Report No.:ATE201231732



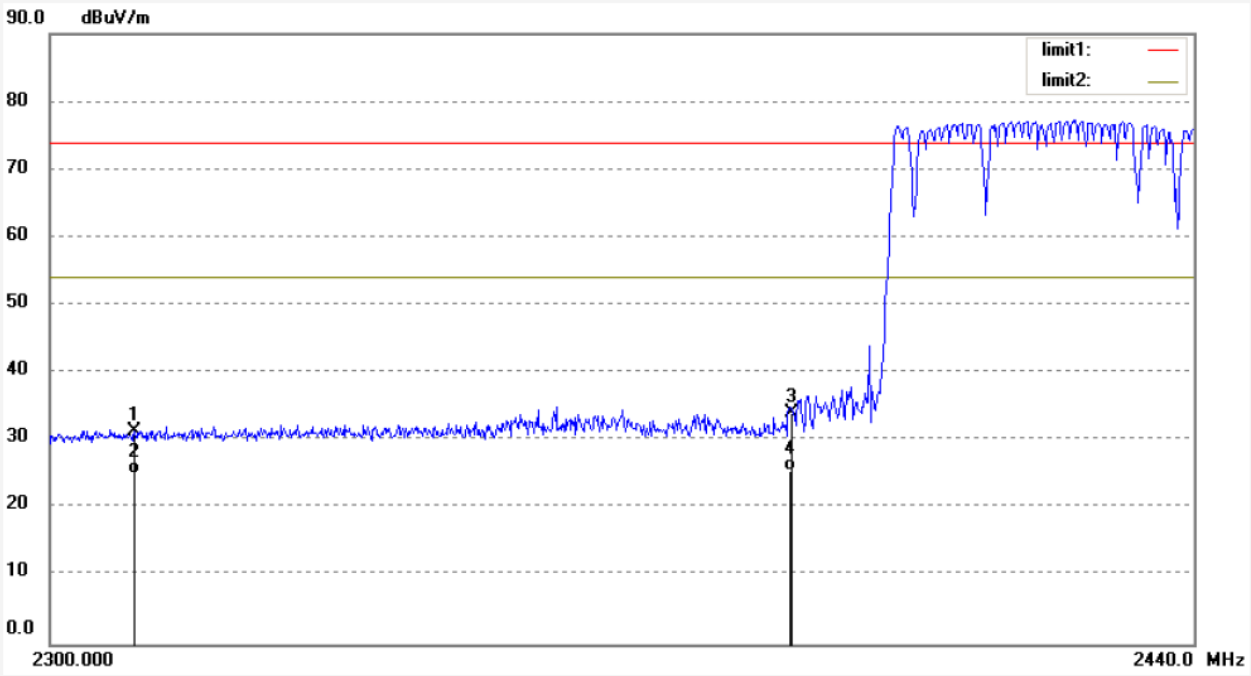
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	38.37	-7.81	30.56	74.00	-43.44	peak			
2	2310.000	33.20	-7.81	25.39	54.00	-28.61	AVG			
3	2390.000	38.74	-7.53	31.21	74.00	-42.79	peak			
4	2390.000	31.30	-7.53	23.77	54.00	-30.23	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #5033
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Mini Speaker
Mode: TX 2402MHz
Model: MS300BT
Manufacturer: MEERA

Polarization: Horizontal
Power Source: DC 5V
Date: 13/08/13/
Time: 11/41/57
Engineer Signature:
Distance: 3m

Note: Report No.:ATE201231732



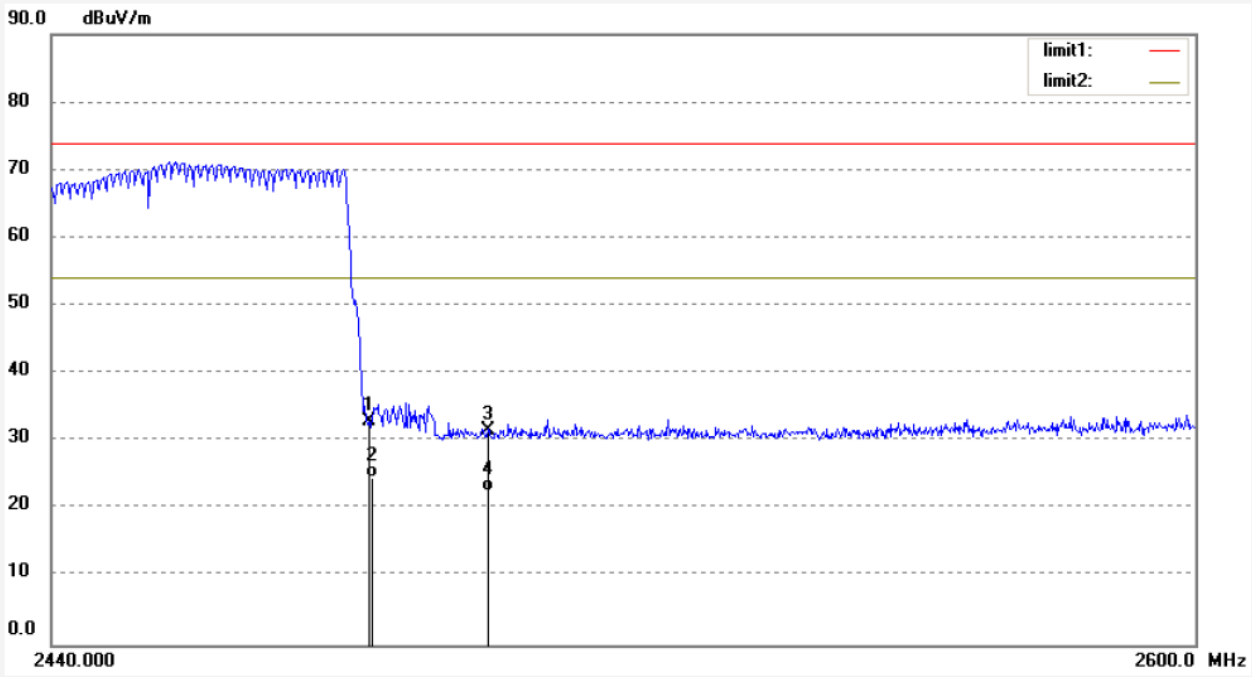
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2310.000	39.11	-7.81	31.30	74.00	-42.70	peak			
2	2310.000	32.83	-7.81	25.02	54.00	-28.98	AVG			
3	2390.000	41.59	-7.53	34.06	74.00	-39.94	peak			
4	2390.000	33.14	-7.53	25.61	54.00	-28.39	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #5040
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 23 C / 48 %
EUT: Bluetooth Mini Speaker
Mode: TX 2480MHz
Model: MS300BT
Manufacturer: MEERA

Polarization: Vertical
Power Source: DC 5V
Date: 13/08/13/
Time: 12/27/42
Engineer Signature:
Distance: 3m

Note: Report No.:ATE201231732

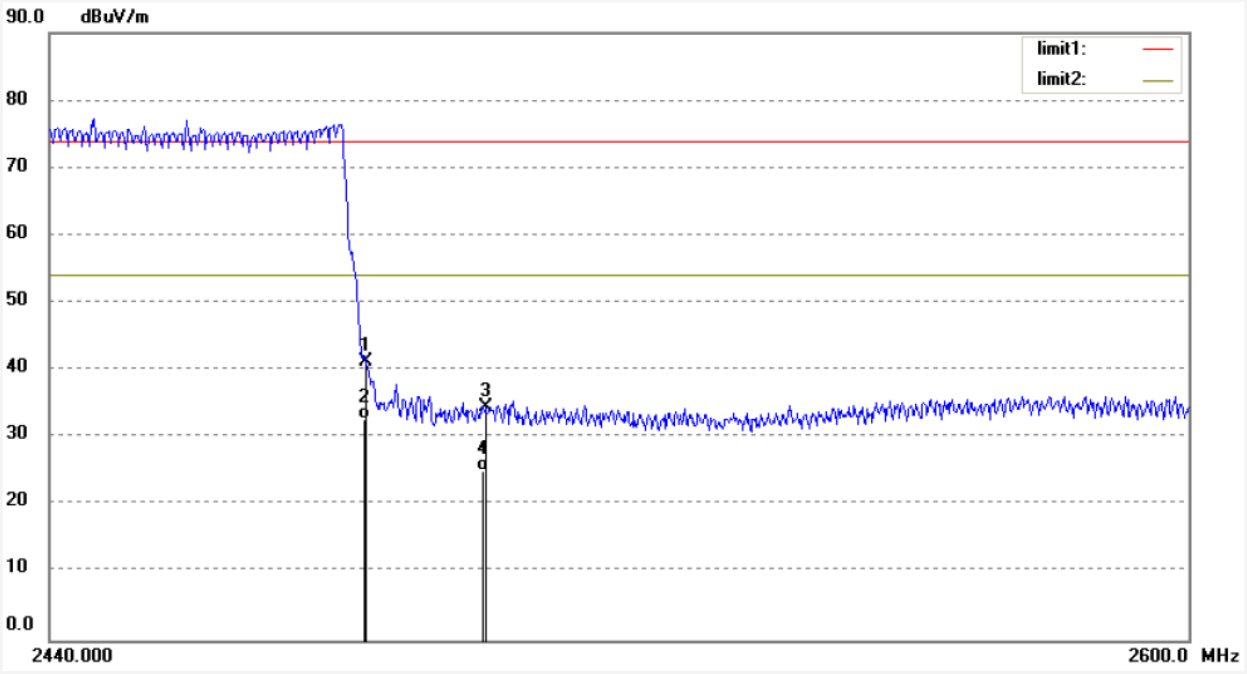


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	40.33	-7.37	32.96	74.00	-41.04	peak			
2	2483.500	32.12	-7.37	24.75	54.00	-29.25	AVG			
3	2500.000	38.94	-7.40	31.54	74.00	-42.46	peak			
4	2500.000	30.10	-7.40	22.70	54.00	-31.30	AVG			

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 2# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star #5042	Polarization: Horizontal
Standard: FCC PK	Power Source: DC 5V
Test item: Radiation Test	Date: 13/08/13/
Temp.(C)/Hum.(%) 23 C / 48 %	Time: 12/52/52
EUT: Bluetooth Mini Speaker	Engineer Signature:
Mode: TX 2480MHz	Distance: 3m
Model: MS300BT	
Manufacturer: MEERA	

Note: Report No.:ATE201231732



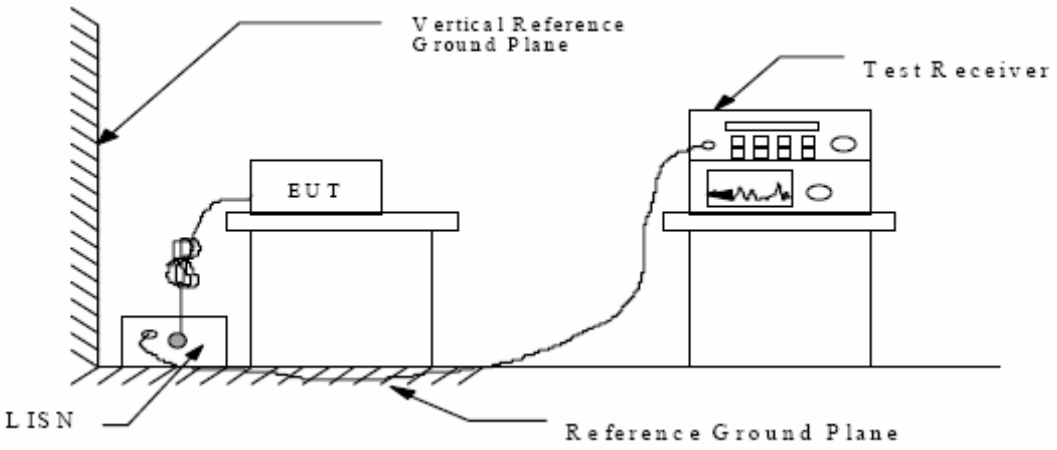
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2483.500	48.61	-7.37	41.24	74.00	-32.76	peak			
2	2483.500	40.00	-7.37	32.63	54.00	-21.37	AVG			
3	2500.000	41.91	-7.40	34.51	74.00	-39.49	peak			
4	2500.000	32.58	-7.40	25.18	54.00	-28.82	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

12.1.2. Shielding Room Test Setup Diagram



(EUT: Bluetooth Mini Speaker)

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 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.

12.4.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

ACCURATE TECHNOLOGY CO.,LTD

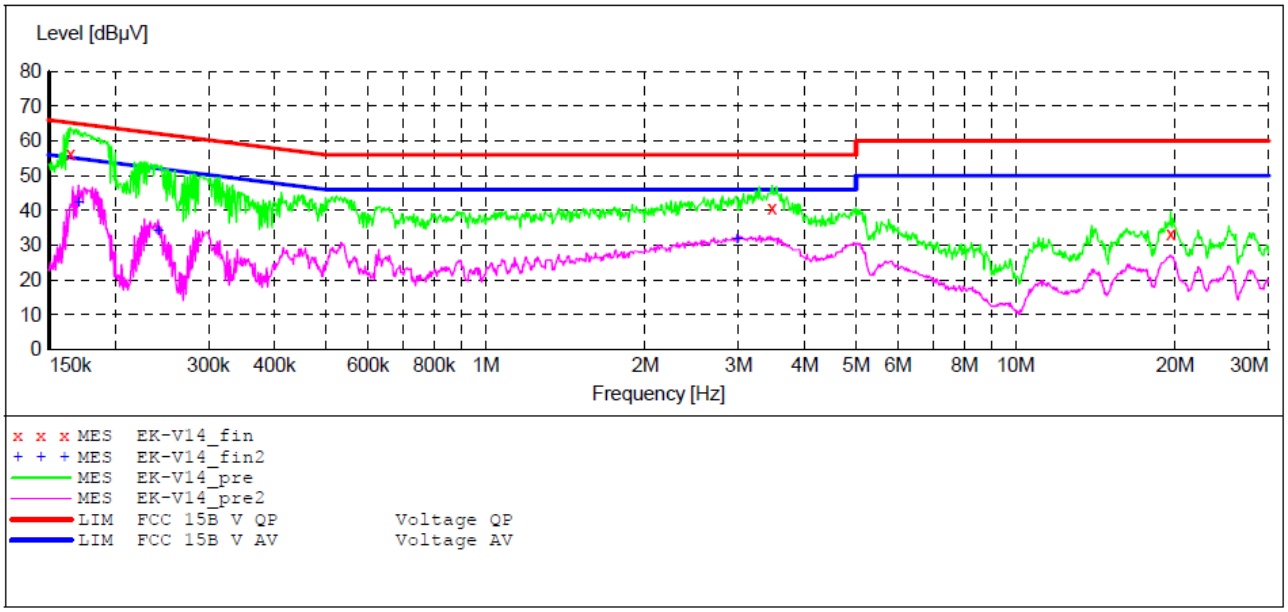
CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Bluetooth Mini Speaker M/N: MS300BT
Manufacturer: MEERA
Operating Condition: Operation
Test Site: 1#Shielding Room
Operator: Ricky
Test Specification: L 120V/60Hz
Comment: Report No:ATE20131732
Start of Test: 2013/08/13 / 3:39:46PM

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: "EK-V14_fin"

2013/08/13 3:41PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.164425	56.40	11.1	65	8.8	QP	L1	GND
3.471549	40.60	11.5	56	15.4	QP	L1	GND
19.631550	33.30	11.1	60	26.7	QP	L1	GND

MEASUREMENT RESULT: "EK-V14_fin2"

2013/08/13 3:41PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.170439	42.10	11.1	55	12.8	AV	L1	GND
0.241214	33.90	11.4	52	18.2	AV	L1	GND
2.982924	31.60	11.6	46	14.4	AV	L1	GND

ACCURATE TECHNOLOGY CO.,LTD

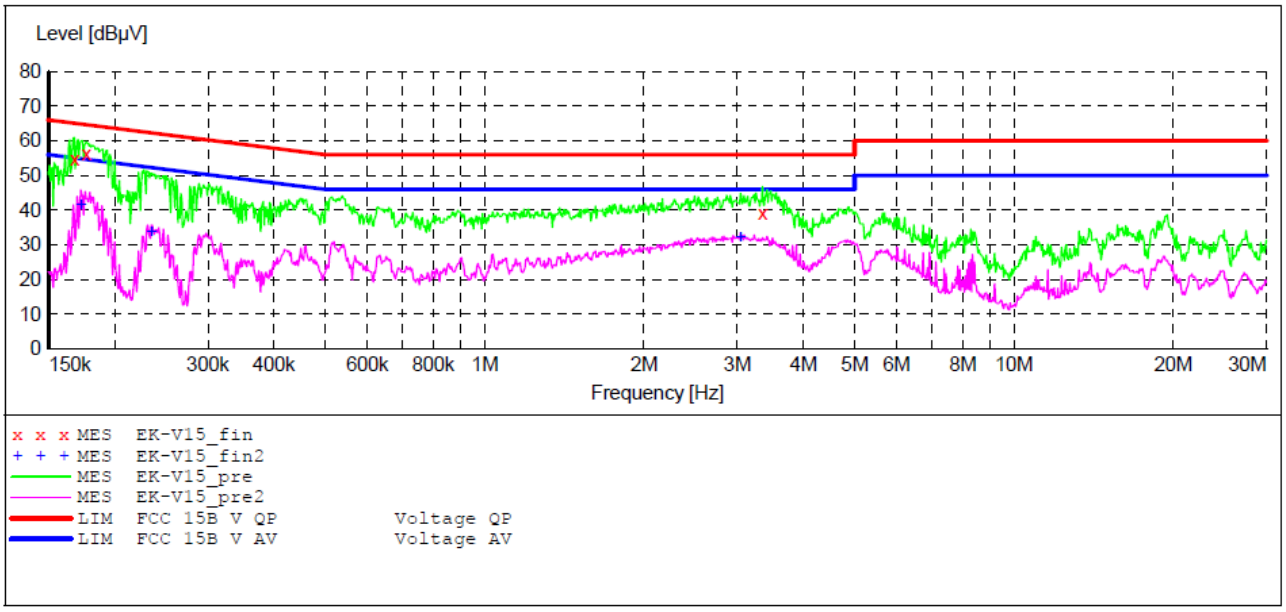
CONDUCTED EMISSION STANDARD FCC PART 15B

EUT: Bluetooth Mini Speaker M/N: MS300BT
Manufacturer: MEERA
Operating Condition: Operation
Test Site: 1#Shielding Room
Operator: Ricky
Test Specification: N 120V/60Hz
Comment: Report No:ATE20131732
Start of Test: 2013/08/13 / 3:42:48PM

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: "EK-V15_fin"

2013/08/13 3:45PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.167739	54.90	11.1	65	10.2	QP	N	GND
0.176674	56.20	11.1	65	8.4	QP	N	GND
3.349036	39.10	11.5	56	16.9	QP	N	GND

MEASUREMENT RESULT: "EK-V15_fin2"

2013/08/13 3:45PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.172493	41.30	11.1	55	13.5	AV	N	GND
0.234567	33.70	11.4	52	18.6	AV	N	GND
3.043061	32.00	11.6	46	14.0	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