

CFR 47 FCC PART 15 SUBPART C

TEST REPORT

For

Portable Wireless Speaker

MODEL NUMBER: BTS13

Trademark: Tribit

REPORT NUMBER: E01A23070804F00101

ISSUE DATE: August 18, 2023

FCC ID:2ALNA-BTS13

Prepared for

**Shenzhen Thousandshores Technology Co., Ltd
Room 1101, Building B, Lotus Plaza, No. 3186 Nanshan Avenue, Majialong
Community, Nantou Street, Nanshan District, Shenzhen, China**

Prepared by

Dong Guan Anci Electronic Technology Co., Ltd.

**1-2 Floor, Building A, No.11, Headquarters 2 Road, Songshan, Lake Hi-
tech Industrial Development Zone, Dongguan City, Guangdong Pr.,
China.**

**This report shall not be reproduced, except in full, without the written approval of
Dong Guan Anci Electronic Technology Co., Ltd.**

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
<u>V0</u>	<u>August 18, 2023</u>	<u>Initial Issue</u>	<u>Poal Chen</u>

Summary of Test Results

Summary of Test Results			
Test Item	Clause	Limit/Requirement	Result
Antenna Requirement	N/A	FCC Part 15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	ANSI C63.10-2013 Clause 6.2	FCC Part 15.207	Pass
Conducted Output Power	ANSI C63.10-2013 Clause 7.8.5	FCC Part 15.247 (b)(1)	Pass
20 dB Bandwidth and 99% Occupied Bandwidth	ANSI C63.10-2013 Clause 6.9.2	FCC Part 15.247 (a)(1)	Pass
Carrier Hopping Channel Separation	ANSI C63.10-2013 Clause 7.8.2	FCC Part 15.247 (a)(1)	Pass
Number of Hopping Frequency	ANSI C63.10-2013 Clause 7.8.3	FCC Part 15.247 (b)(1)	Pass
Time of Occupancy (Dwell Time)	ANSI C63.10-2013 Clause 7.8.4	FCC Part 15.247 (a)(1)	Pass
Conducted Bandedge and Spurious Emission	ANSI C63.10-2013 Clause 6.10.4 & Clause 7.8.8	FCC Part 15.247(d)	Pass
Radiated Band edge and Spurious Emission	ANSI C63.10-2013 Clause 6.3 & 6.5 & 6.6	FCC Part 15.205/15.209	Pass
Duty Cycle	ANSI C63.10-2013, Clause 11.6	None; for reporting purposes only.	Pass

*The measurement result for the sample received is <Pass> according to <CFR 47 FCC PART 15 SUBPART C> when <Accuracy Method> decision rule is applied.

CONTENTS

1. ATTESTATION OF TEST RESULTS	5
2. TEST METHODOLOGY	6
3. FACILITIES AND ACCREDITATION	6
4. CALIBRATION AND UNCERTAINTY	7
4.1. <i>MEASURING INSTRUMENT CALIBRATION</i>	<i>7</i>
4.2. <i>MEASUREMENT UNCERTAINTY</i>	<i>7</i>
5. EQUIPMENT UNDER TEST	8
5.1. <i>DESCRIPTION OF EUT</i>	<i>8</i>
5.2. <i>CHANNEL LIST</i>	<i>8</i>
5.3. <i>Maximum Peak Output Power</i>	<i>8</i>
5.4. <i>TEST CHANNEL CONFIGURATION</i>	<i>9</i>
5.5. <i>THE WORSE CASE POWER SETTING PARAMETER</i>	<i>9</i>
5.6. <i>DESCRIPTION OF AVAILABLE ANTENNAS</i>	<i>10</i>
5.7. <i>SUPPORT UNITS FOR SYSTEM TEST</i>	<i>10</i>
5.8. <i>SETUP DIAGRAM</i>	<i>10</i>
6. MEASURING EQUIPMENT AND SOFTWARE USED	11
7. ANTENNA PORT TEST RESULTS	13
7.1. <i>Conducted Output Power</i>	<i>13</i>
7.2. <i>20 dB Bandwidth and 99% Occupied Bandwidth</i>	<i>15</i>
7.3. <i>Carrier Hopping Channel Separation</i>	<i>16</i>
7.4. <i>Number of Hopping Frequency</i>	<i>18</i>
7.5. <i>Time of Occupancy (Dwell Time)</i>	<i>20</i>
7.6. <i>Conducted Bandedge and Spurious Emission</i>	<i>22</i>
8. RADIATED TEST RESULTS	24
9. ANTENNA REQUIREMENT	44
10. AC POWER LINE CONDUCTED EMISSION	45
APPENDIX: PHOTOGRAPHS OF TEST CONFIGURATION	51
APPENDIX: PHOTOGRAPHS OF THE EUT	52

1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Shenzhen Thousandshores Technology Co., Ltd
 Address: Room 1101, Building B, Lotus Plaza, No. 3186 Nanshan Avenue, Majialong Community, Nantou Street, Nanshan District, Shenzhen, China

Manufacturer Information

Company Name: Shenzhen Thousandshores Technology Co., Ltd
 Address: Room 1101, Building B, Lotus Plaza, No. 3186 Nanshan Avenue, Majialong Community, Nantou Street, Nanshan District, Shenzhen, China

EUT Information

EUT Name: Portable Wireless Speaker
 Model: BTS13
 Series Model: /
 Brand: Tribit
 Sample Received Date: July 27, 2023
 Sample Status: Normal
 Sample ID: A23070804 001
 Date of Tested: July 27, 2023 to August 12, 2023

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 FCC PART 15 SUBPART C	Pass

Prepared By:

Paul Chen

Paul Chen

Project Engineer

Approved By:

Tiger Xu

Tiger Xu

Laboratory Supervisor

Checked By:

Dyson Dai

Dyson Dai

Project Engineer

2. TEST METHODOLOGY

All tests were performed in accordance with the standard CFR 47 FCC PART 15 SUBPART C

3. FACILITIES AND ACCREDITATION

Site Description

Name of Firm : Dong Guan Anci Electronic Technology Co., Ltd.
Site Location : 1-2 Floor, Building A, No.11, Headquarters 2 Road, Songshan,
Lake Hi-tech Industrial Development Zone, Dongguan
City, evelopment Zone, Dongguan City, Guangdong Pr., China.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Items	k	Uncertainty
DTS Bandwidth	1.96	±9.2 PPM
20dB Emission Bandwidth	1.96	±9.2 PPM
Carrier Frequency Separation	1.96	±9.2 PPM
Number of Hopping Channel	1.96	±9.2 PPM
Time of Occupancy	1.96	±0.57%
Maximum Conducted Output Power	1.96	± 0.73 dB
Max Peak Conducted Output Power	1.96	±1.5 dB
Maximum Power Spectral Density Level	1.96	±1.9 dB
Band-edge Compliance	1.96	±9.2 PPM
Unwanted Emissions In Non-restricted Freq Bands	1.96	9 kHz-30 MHz: ± 0.95 dB 30 MHz-1 GHz: ± 1.5 dB 1GHz-12.75GHz: ± 1.8 dB 12.75 GHz-26.5 GHz: ± 2.1dB
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.		

Test Item	Measurement Frequency Range	K	U(dB)
Conducted emissions from the AC mains power ports (AMN)	150 kHz ~ 30 MHz	2	3.37
Radiated emissions	30 MHz ~ 1 GHz	2	3.79
Radiated emissions	1 GHz ~ 18 GHz	2	5.62
Radiated emissions	18 GHz ~ 40 GHz	2	5.54
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.			

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name		Portable Wireless Speaker
Model		BTS13
Series Model		/
EUT Classification		Class B
Battery1 Ratings		Model:WLY 18650 Nominal Voltage:3.7Vdc Rated Capacity:5200mAh,19.24Wh
Battery2 Ratings		Model:INR1865026E Nominal Voltage:3.65Vdc Rated Capacity:4800mAh,17.52Wh
Power Supply	DC	5V
	Battery	3.7V/3.65V

5.2. CHANNEL LIST

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	20	2422	40	2442	60	2462
01	2403	21	2423	41	2443	61	2463
02	2404	22	2424	42	2444	62	2464
03	2405	23	2425	43	2445	63	2465
04	2406	24	2426	44	2446	64	2466
05	2407	25	2427	45	2447	65	2467
06	2408	26	2428	46	2448	66	2468
07	2409	27	2429	47	2449	67	2469
08	2410	28	2430	48	2450	68	2470
09	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	78	2480
19	2421	39	2441	59	2461	/	/

5.3. MAXIMUM PEAK OUTPUT POWER

Test Mode	Frequency (MHz)	Channel Number	Maximum Peak Output Power (dBm)
GFSK	2402 ~ 2480	0-78[79]	4.92
8DPSK	2402 ~ 2480	0-78[79]	4.97

5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
GFSK	CH 0(Low Channel), CH 39(MID Channel), CH 78(High Channel)	2402 MHz, 2441 MHz, 2480 MHz
8DPSK	CH 0(Low Channel), CH 39(MID Channel), CH 78(High Channel)	2402 MHz, 2441 MHz, 2480 MHz

Note: The hop is hopping mode.

PACKET TYPE CONFIGURATION

Test Mode	Packet Type	Setting (Packet Length)
GFSK	DH1	27
	DH3	183
	DH5	339
$\pi/4$ -DQPSK	2-DH1	54
	2-DH3	367
	2-DH5	679
8DPSK	3-DH1	83
	3-DH3	552
	3-DH5	1021

5.5. THE WORSE CASE POWER SETTING PARAMETER

WORST-CASE CONFIGURATIONS

Bluetooth Mode	Modulation Technology	Modulation Type	Data Rate (Mbps)
BR	FHSS	GFSK	1Mbit/s
EDR	FHSS	8DPSK	3Mbit/s

Note: Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates.

The Worst Case Power Setting Parameter under 2400 ~ 2483.5MHz Band				
Test Software		Actions FCC Tool V2.22		
Modulation Type	Transmit Antenna Number	Test Software setting value		
		CH 00	CH 39	CH 78
GFSK	1	8	8	8
8DPSK	1	8	8	8

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2402-2480	PCB	0.994

Test Mode	Transmit and Receive Mode	Description
GFSK	☒ 1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.
8DPSK	☒ 1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.

5.7. SUPPORT UNITS FOR SYSTEM TEST

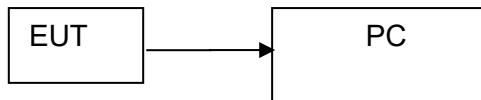
Equipment	Manufacturer	Model No.
Adapter	Lulian	CD170
PC	Lenovo	T14
Test board	/	/

5.8. SETUP DIAGRAM

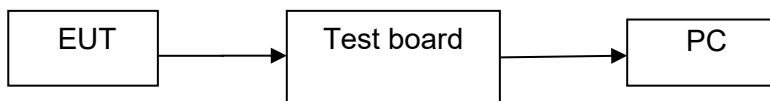
AC conducted emission :



Radiated Emission:



RF conducted:



6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Conducted RF					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Spectrum Analyzer	KEYSIGHT	N9020A	MY51281878	2022/10/29	2023/10/8
RF Test Software	MWRF-test	MTS 8310	N/A	N/A	N/A
Radio Frequency control box	MWRF-test	MW200-RFCB	MW220111ANCI	2023/5/10	2024/5/9
Radio Frequency control box	MWRF-test	MW200-RFCB 2#	/	2023/5/10	2024/5/9

Test Equipment of Radiated emissions below 1GHz					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	100302	2023/5/10	2024/5/9
Bilog Antenna	Schwarzbeck	VULB9163	VULB9163-1290	2022/12/12	2023/12/11
RF Cable	ZKJC	ZT06S-NJ-NJ-11M	19060398	2023/5/10	2024/5/9
RF Cable	ZKJC	ZT06S-NJ-NJ-0.5M	19060400	2023/5/10	2024/5/9
RF Cable	ZKJC	ZT06S-NJ-NJ-2.5M	19060404	2023/5/10	2024/5/9
EMI Test Receiver	ROHDE&SCHWARZ	ESPI7	100502	2022/10/8	2023/10/7
3m Semi-anechoic Chamber	Keysight	9m*6m*6m	N/A	2021/11/13	2024/11/12

Test Equipment of Radiated emissions above 1GHz					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Low noise Amplifiers	A-INFO	LA1018N4009	J1013130524001	2023/5/10	2024/5/9
Horn antenna	A-INFO	LB-10180-SF	J2031090612123	2023/5/10	2024/5/9
RF Cable	ZKJC	ZT26-NJ-NJ-11M	19060401	2023/5/10	2024/5/9
RF Cable	ZKJC	ZT26-NJ-NJ-2.5M	19060402	2023/5/10	2024/5/9
RF Cable	ZKJC	ZT26-NJ-NJ-0.5M	19060403	2023/5/10	2024/5/9
Spectrum Analyzer	Rohde & Schwarz	FSV40	US40240623	2022/10/29	2023/10/28
3m Semi-anechoic Chamber	Keysight	9m*6m*6m	N/A	2021/11/13	2024/11/12
Test Software	Farad	EZ-EMC (Ver.FA-03A2	N/A	N/A	N/A

		RE)			
Test Equipment of Conducted emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	ROHDE&SCHWARZ	ESCI	101358	2023/5/10	2024/5/9
1# Shielded Room	chengyu	8m*4m*3.3m	N/A	2022/11/22	2025/11/21
LISN	ROHDE&SCHWARZ	ENV216	101413	2022/10/8	2023/10/7
Test Software	Farad	EZ-EMC (Ver.ANCI-3A1)	N/A	N/A	N/A
RF Cable	N/A	ZT06S-NJ-NJ-2.5M	19044022	2023/5/10	2024/5/9

7. ANTENNA PORT TEST RESULTS

7.1. CONDUCTED OUTPUT POWER

LIMITS

CFR 47 FCC Part15 (15.247), Subpart C		
Section	Test Item	Limit
CFR 47 FCC §15.207 (a)	Conducted output power	no greater than 125 mW

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 7.8.5.

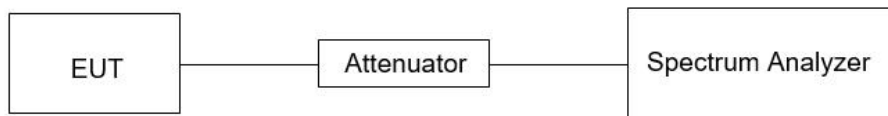
Connect the EUT to the spectrum Analyzer and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	>20 dB bandwidth of the emission being measured
VBW	≥RBW
Span	Approximately five times the 20 dB bandwidth, centered on a hopping channel.
Trace	Max hold
Sweep time	Auto

Allow trace to stabilize.

Use the marker-to-peak function to set the marker to the peak of the emission.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.1°C	Relative Humidity	43%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070804F00102 - Appendix A .

7.2. 20 DB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

LIMITS

CFR 47FCC Part15 (15.247) Subpart C			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247 (a) (1)	20 dB Bandwidth	None; for reporting purposes only.	2400-2483.5

TEST PROCEDURE

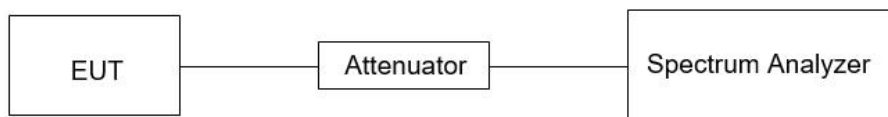
Refer to ANSI C63.10-2013 clause 6.9.2.

Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	For 20 dB Bandwidth: 1 % to 5 % of the 20 dB bandwidth For 99 % Occupied Bandwidth: 1 % to 5 % of the occupied bandwidth
VBW	For 20 dB Bandwidth: approximately 3×RBW For 99 % Occupied Bandwidth: $\geq 3 \times \text{RBW}$
Span	Approximately 2 to 3 times the 20dB bandwidth
Trace	Max hold
Sweep	Auto couple

a) Use the occupied bandwidth function of the instrument, allow the trace to stabilize and report the measured 99 % occupied bandwidth and 20 dB Bandwidth.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.1°C	Relative Humidity	43%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070804F00102 - Appendix B and Appendix C .

7.3. CARRIER HOPPING CHANNEL SEPARATION

LIMITS

CFR 47 FCC Part15 (15.247),			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247 (a) (1)	Carrier Frequency Separation	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.	2400-2483.5

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 7.8.2.

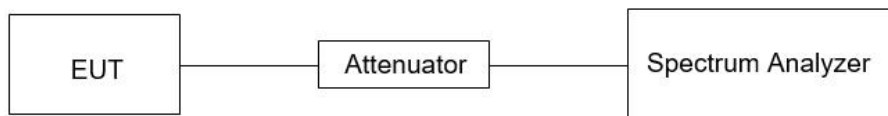
Connect the EUT to the spectrum analyzer and use the following settings:

Center Frequency	The center frequency of the channel under test
Span	wide enough to capture the peaks of two adjacent channels
Detector	Peak
RBW	Start with the RBW set to approximately 30 % of the channel spacing; adjust as necessary to best identify the center of each individual channel.
VBW	≥RBW
Trace	Max hold
Sweep time	Auto couple

Allow the trace to stabilize and use the marker-delta function to determine the separation between the peaks of the adjacent channels.

Compliance of an EUT with the appropriate regulatory limit shall be determined.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.1°C	Relative Humidity	43%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070804F00102 - Appendix D .

7.4. NUMBER OF HOPPING FREQUENCY

LIMITS

CFR 47 FCC Part15 (15.247), Subpart C		
Section	Test Item	Limit
CFR 47 15.247 (a) (1) III	Number of Hopping Frequency	at least 15 hopping channels

TEST PROCEDURE

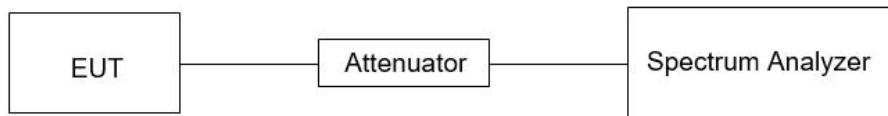
Refer to ANSI C63.10-2013 clause 7.8.3.

Connect the EUT to the spectrum Analyzer and use the following settings:

Detector	Peak
RBW	To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.
VBW	≥RBW
Span	The frequency band of operation. Depending on the number of channels the device supports, it may be necessary to divide the frequency range of operation across multiple spans, to allow the individual channels to be clearly seen.
Trace	Max hold
Sweep time	Auto couple

Set EUT to transmit maximum output power and switch on frequency hopping function. then set enough count time (larger than 5000 times) to get all the hopping frequency channel displayed on the screen of spectrum analyzer, count the quantity of peaks to get the number of hopping channels.

TEST SETUP



TEST ENVIRONMENT

Temperature	24.1°C	Relative Humidity	43%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070804F00102 - Appendix E .

7.5. TIME OF OCCUPANCY (DWELL TIME)

LIMITS

CFR 47 FCC Part15 (15.247), Subpart C		
Section	Test Item	Limit
CFR 47 15.247 (a) (1) III	Time of Occupancy (Dwell Time)	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.

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 7.8.4.

Connect the EUT to the spectrum Analyzer and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1 MHz
VBW	≥RBW
Span	Zero span, centered on a hopping channel
Trace	Max hold
Sweep time	As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel

Use the marker-delta function to determine the transmit time per hop (Burst Width). If this value varies with different modes of operation (data rate, modulation format, number of hopping channels, etc.), then repeat this test for each variation in transmit time.

For FHSS Mode (79 Channel):

DH1/3DH1 Dwell Time: $\text{Burst Width} * (1600/2) * 31.6 / (\text{channel number})$

DH3/3DH3 Dwell Time: $\text{Burst Width} * (1600/4) * 31.6 / (\text{channel number})$

DH5/3DH5 Dwell Time: $\text{Burst Width} * (1600/6) * 31.6 / (\text{channel number})$

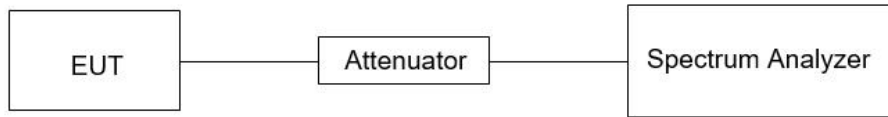
For AFHSS Mode (20 Channel):

DH1/3DH1 Dwell Time: $\text{Burst Width} * (1600/2) * 8 / (\text{channel number})$

DH3/3DH3 Dwell Time: $\text{Burst Width} * (1600/4) * 8 / (\text{channel number})$

DH5/3DH5 Dwell Time: $\text{Burst Width} * (1600/6) * 8 / (\text{channel number})$

TEST SETUP



TEST ENVIRONMENT

Temperature	24.1°C	Relative Humidity	43%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070804F00102 - Appendix F .

7.6. CONDUCTED BANDEDGE AND SPURIOUS EMISSION

LIMITS

CFR 47 FCC Part15 (15.247), Subpart C		
Section	Test Item	Limit
CFR 47 FCC §15.247 (d)	Conducted Spurious Emission	at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 7.8.6 and 7.8.8.

Connect the EUT to the spectrum analyser and use the following settings for reference level measurement:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	100 kHz
VBW	$\geq 3 \times \text{RBW}$
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

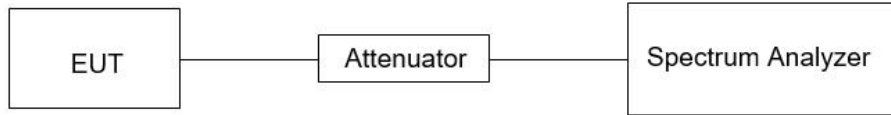
Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level.

Change the settings for emission level measurement:

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100 kHz
VBW	$\geq 3 \times \text{RBW}$
measurement points	$\geq \text{span}/\text{RBW}$
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum

TEST SETUP



TEST ENVIRONMENT

Temperature	24.1°C	Relative Humidity	43%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

Test results refer to report E01A23070804F00102 - Appendix G, Appendix H and Appendix I .

8. RADIATED TEST RESULTS

Radiated Band edge and Spurious Emission LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209.

Radiation Disturbance Test Limit for FCC (Class B) (9 kHz-1 GHz)

Emissions radiated outside of the specified frequency bands above 30 MHz		
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
		Quasi-Peak
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54
Above 1000	500	Peak
		Average
		74
		54

FCC Emissions radiated outside of the specified frequency bands below 30 MHz		
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30

FCC Restricted bands of operation refer to FCC §15.205 (a):

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			

Note: ¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6c

TEST PROCEDURE

Below 30 MHz

The setting of the spectrum analyser

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.4.
2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.
5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz Radiated emission limits in these three bands are based on measurements employing an average detector.
6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.
7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.
8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω . For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to $Y-51.5 = Z$ dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Below 1 GHz and above 30 MHz

The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.5.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 80 cm above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

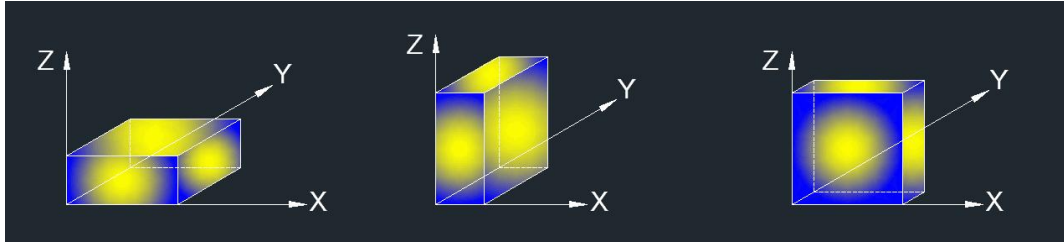
Above 1 GHz

The setting of the spectrum analyser

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013 clause 6.6.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
3. The EUT was placed on a turntable with 1.5 m above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 7.1.ON TIME AND DUTY CYCLE.

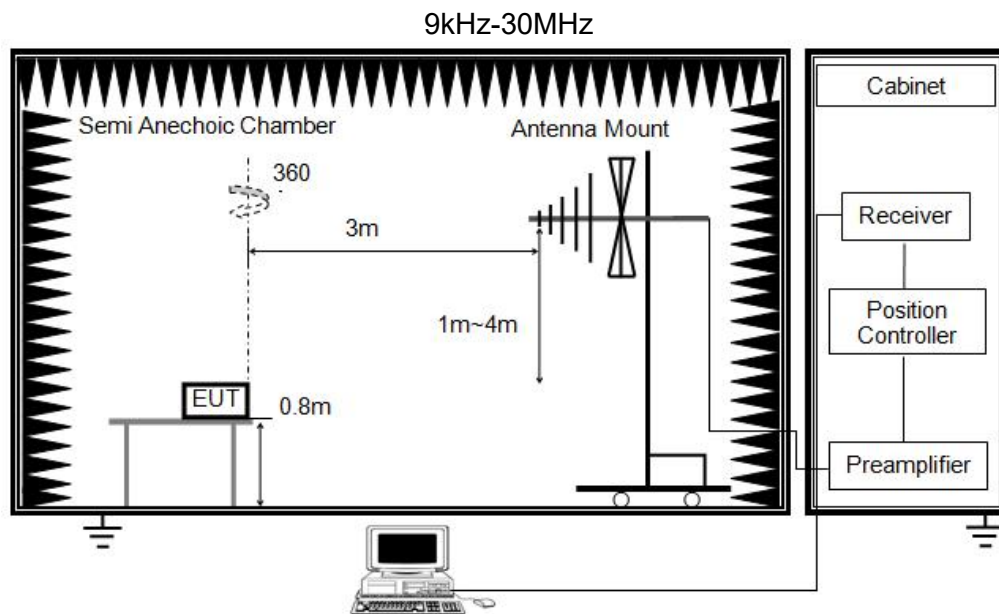
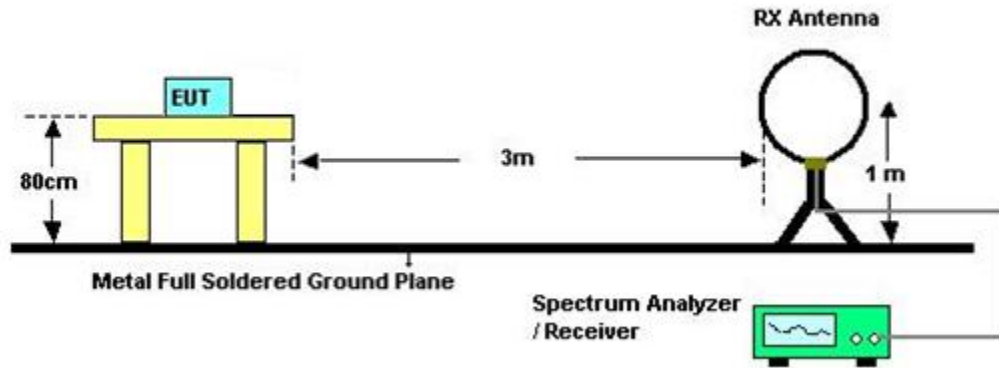
X axis, Y axis, Z axis positions:



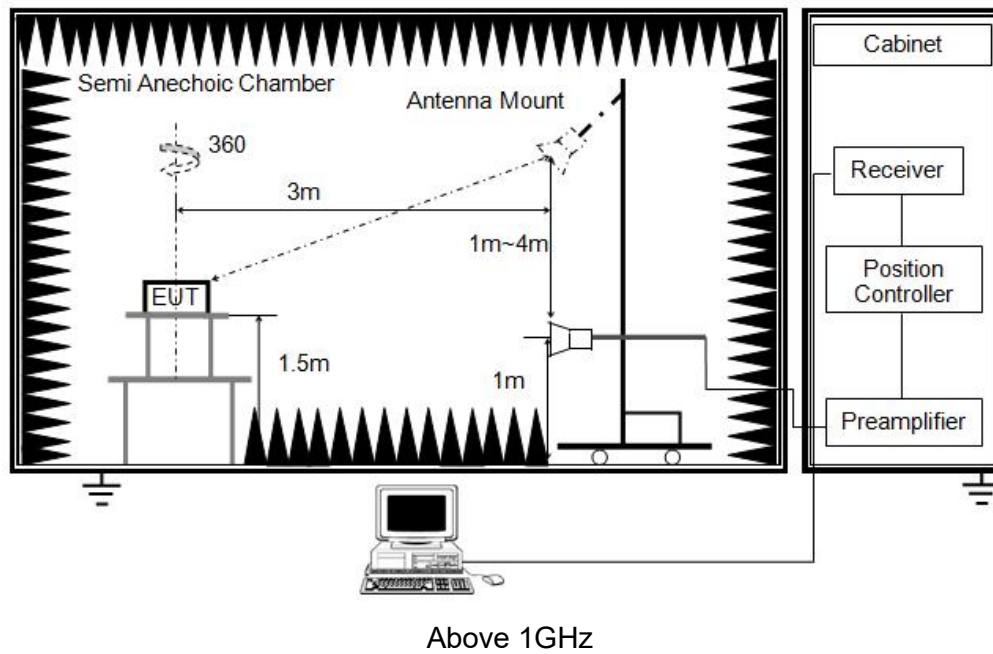
Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

Note 2: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

TEST SETUP



30MHz-1GHz



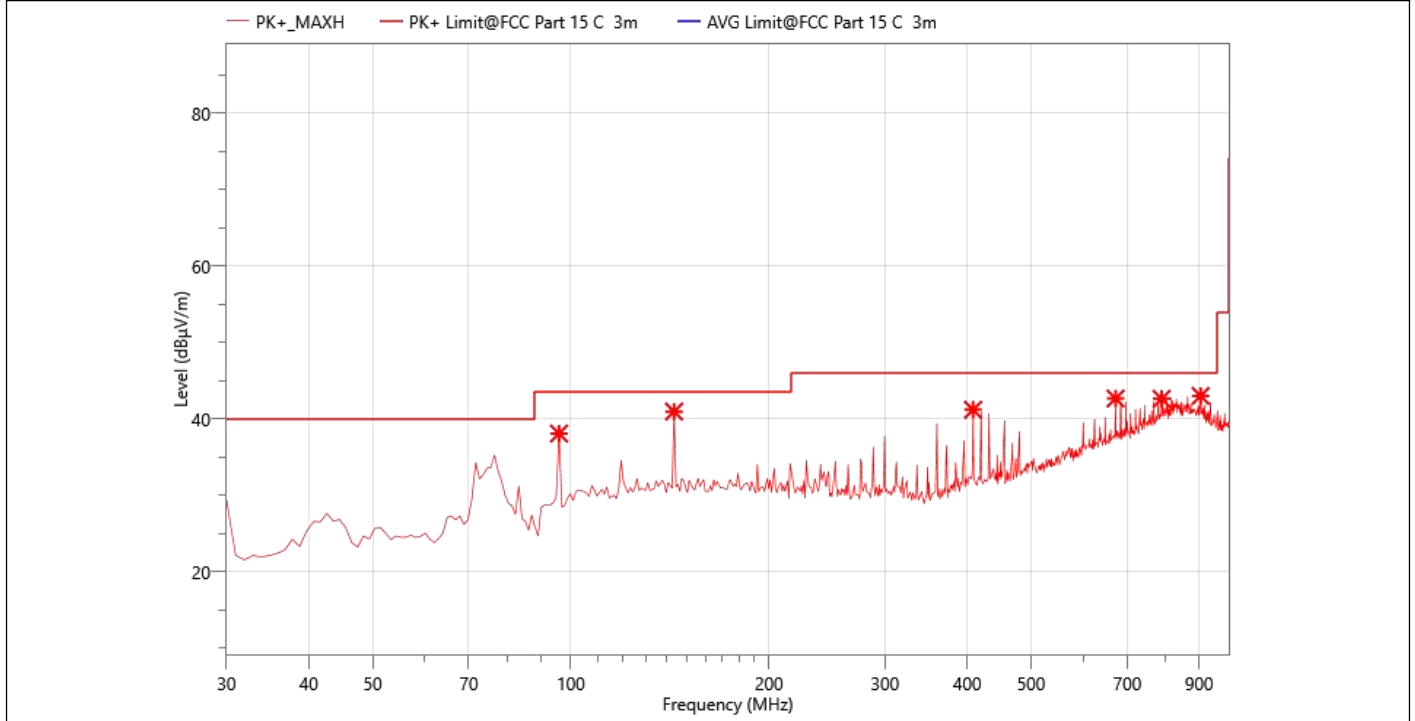
TEST ENVIRONMENT

Temperature	24.5°C	Relative Humidity	55%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

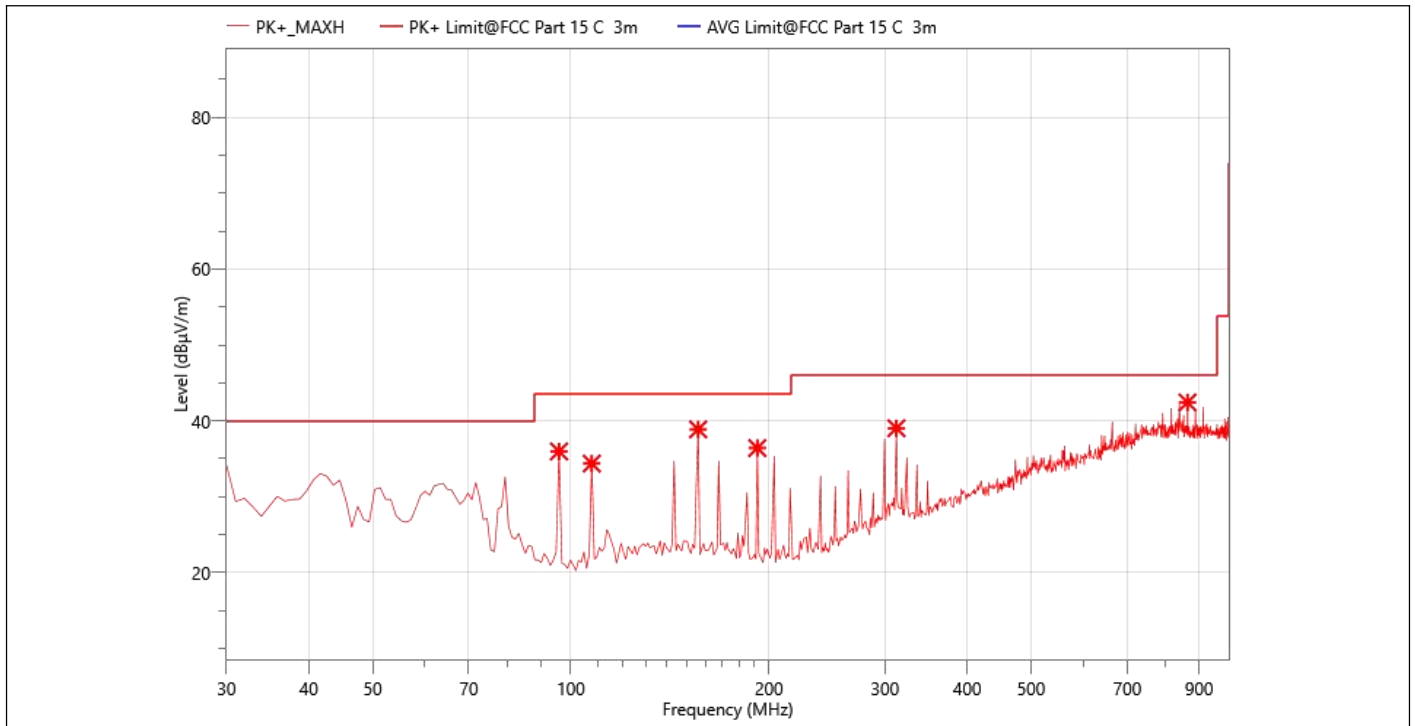
- Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)

The worst result as bellow:
 Battery(WLY 18650)



EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2402MHz	Power Rating:	DC 3.7V
Test Engineer:	Berny	Test Time:	2023-08-03

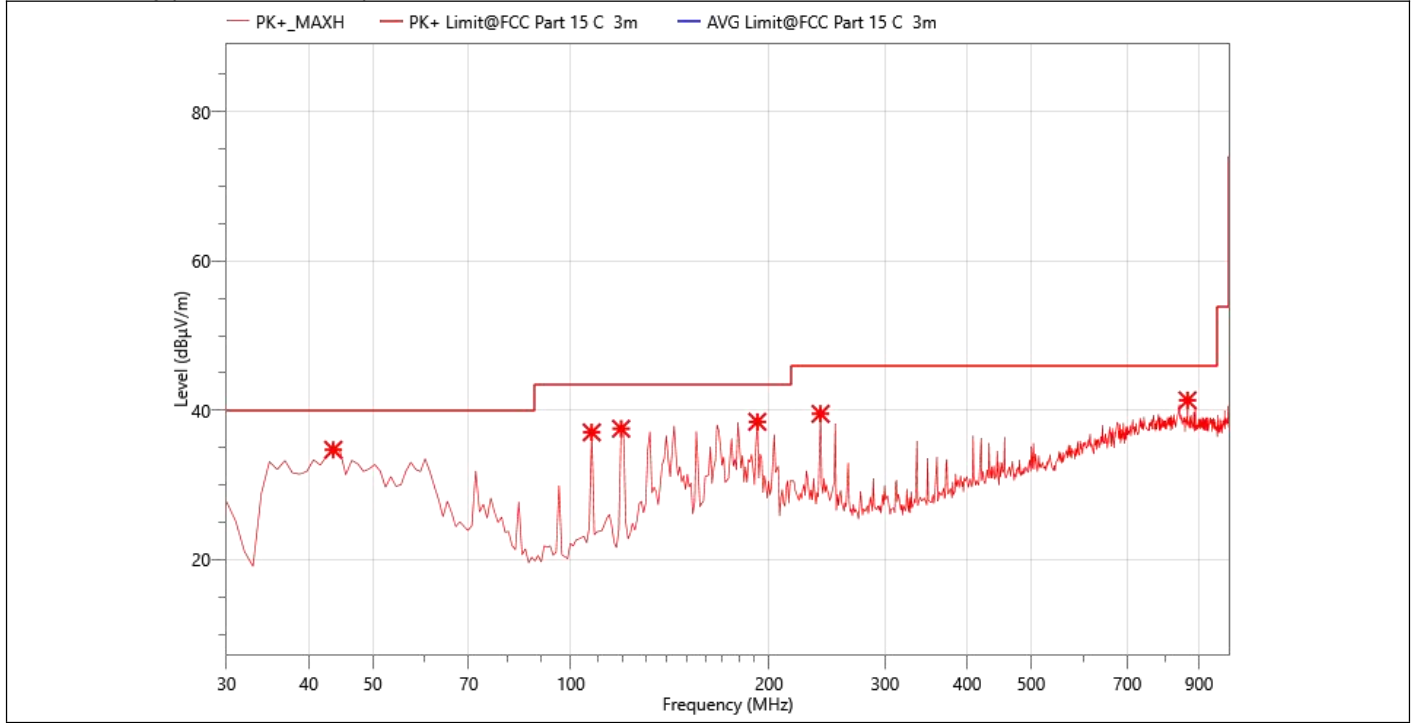
No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	95.960	44.24	38.05	43.50	5.45	PK+	100.0	H	182.1	-6.19
2	143.490	46.58	40.93	43.50	2.57	PK+	100.0	H	182.1	-5.65
3	408.300	37.99	41.17	46.00	4.83	PK+	100.0	H	182.1	3.18
4	672.140	33.24	42.64	46.00	3.36	PK+	100.0	H	182.1	9.4
5	789.510	30.37	42.61	46.00	3.39	PK+	100.0	H	182.1	12.24
6	904.940	30.37	42.97	46.00	3.03	PK+	100.0	H	182.1	12.6



EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2402MHz	Power Rating:	DC 3.7V
Test Engineer:	Berny	Test Time:	2023-08-03

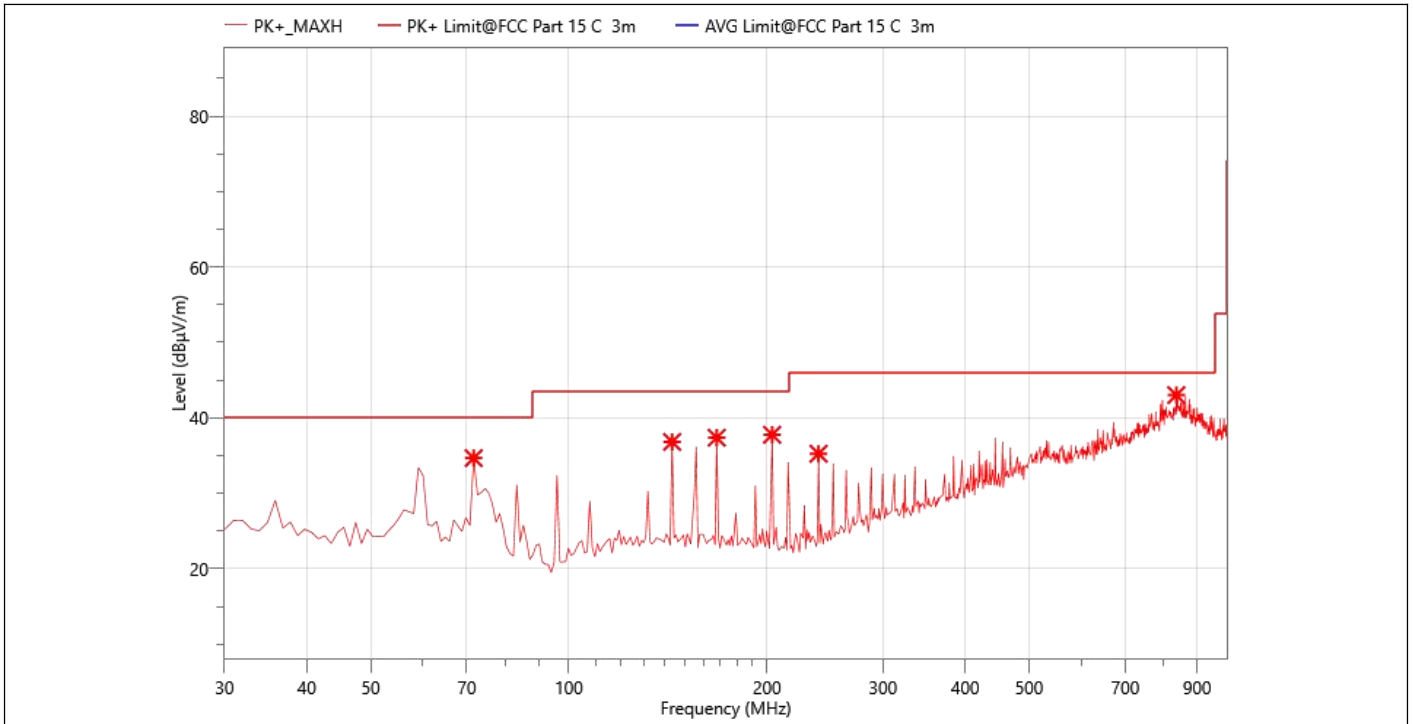
No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	95.960	42.17	35.98	43.50	7.52	PK+	100.0	V	182.1	-6.19
2	107.600	40.09	34.38	43.50	9.12	PK+	100.0	V	182.1	-5.71
3	156.100	44.41	38.88	43.50	4.62	PK+	100.0	V	182.1	-5.53
4	191.990	41.20	36.42	43.50	7.08	PK+	100.0	V	182.1	-4.78
5	312.270	39.53	39.03	46.00	6.97	PK+	100.0	V	182.1	-0.5
6	864.200	29.13	42.44	46.00	3.56	PK+	100.0	V	182.1	13.31

Battery(INR1865026E)



EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2402MHz	Power Rating:	DC 3.65V
Test Engineer:	Berny	Test Time:	2023-08-03

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	43.580	39.02	34.72	40.00	5.28	PK+	100.0	H	182.1	-4.3
2	107.600	42.76	37.05	43.50	6.45	PK+	100.0	H	182.1	-5.71
3	119.240	43.41	37.54	43.50	5.96	PK+	100.0	H	182.1	-5.87
4	191.990	43.24	38.46	43.50	5.04	PK+	100.0	H	182.1	-4.78
5	239.520	43.35	39.53	46.00	6.47	PK+	100.0	H	182.1	-3.82
6	864.200	28.03	41.34	46.00	4.66	PK+	100.0	H	182.1	13.31

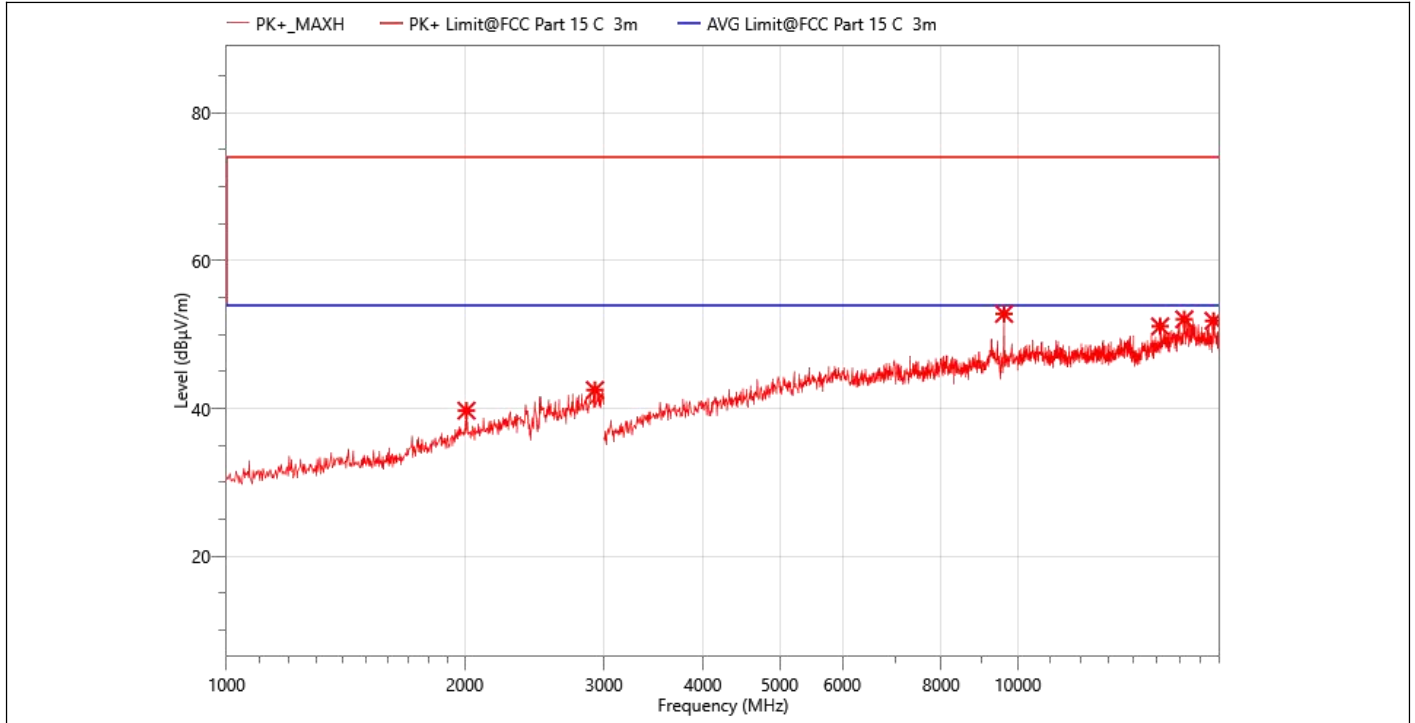


EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2402MHz	Power Rating:	DC 3.65V
Test Engineer:	Berny	Test Time:	2023-08-03

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	71.710	39.74	34.67	40.00	5.33	PK+	100.0	V	182.1	-5.07
2	143.490	42.46	36.81	43.50	6.69	PK+	100.0	V	182.1	-5.65
3	167.740	42.70	37.37	43.50	6.13	PK+	100.0	V	182.1	-5.33
4	203.630	42.87	37.76	43.50	5.74	PK+	100.0	V	182.1	-5.11
5	239.520	39.06	35.24	46.00	10.76	PK+	100.0	V	182.1	-3.82
6	837.040	29.29	43.02	46.00	2.98	PK+	100.0	V	182.1	13.73

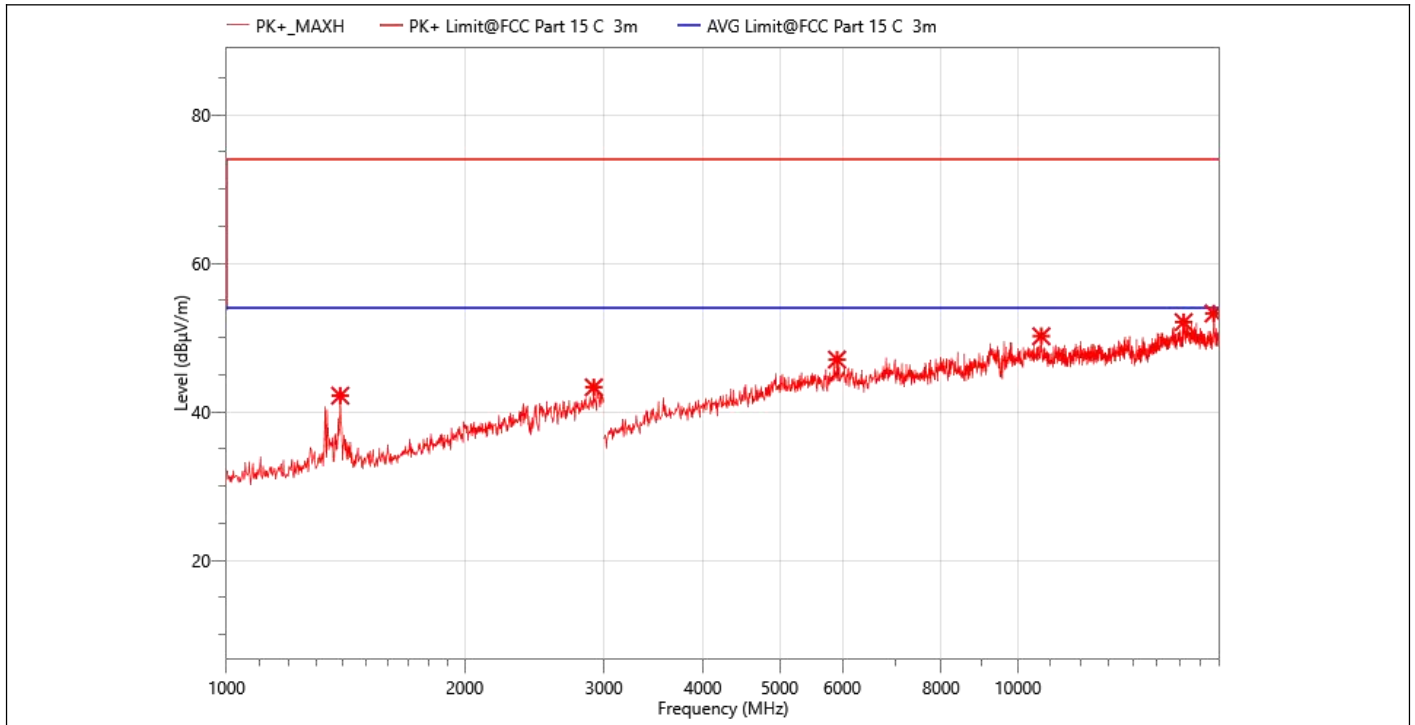
● Undesirable radiated Spurious Emission Above 1GHz (1GHz to 26.5GHz)

All modes has been tested and the worst result (3-DH5) recorded as below:



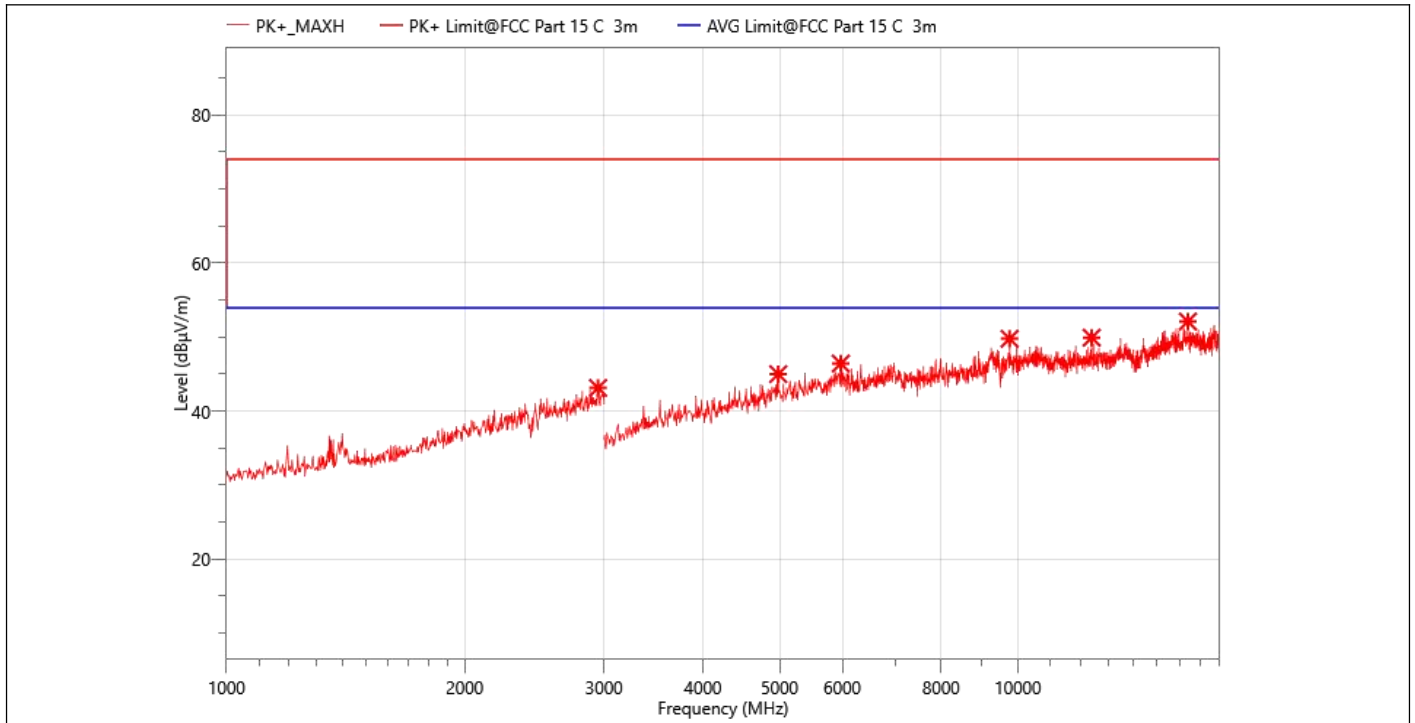
EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2402MHz	Power Rating:	DC 3.7V
Test Engineer:	Berny	Test Time:	2023-08-03

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	2010.000	53.16	39.71	74.00	34.29	PK+	150.0	H	182.1	-13.45
2	2922.000	52.63	42.50	74.00	31.50	PK+	150.0	H	182.1	-10.13
3	9610.000	54.09	52.79	74.00	21.21	PK+	150.0	H	182.1	-1.3
4	15135.000	48.56	51.11	74.00	22.89	PK+	150.0	H	182.1	2.55
5	16235.000	47.79	52.06	74.00	21.94	PK+	150.0	H	182.1	4.27
6	17680.000	46.85	51.86	74.00	22.14	PK+	150.0	H	182.1	5.01



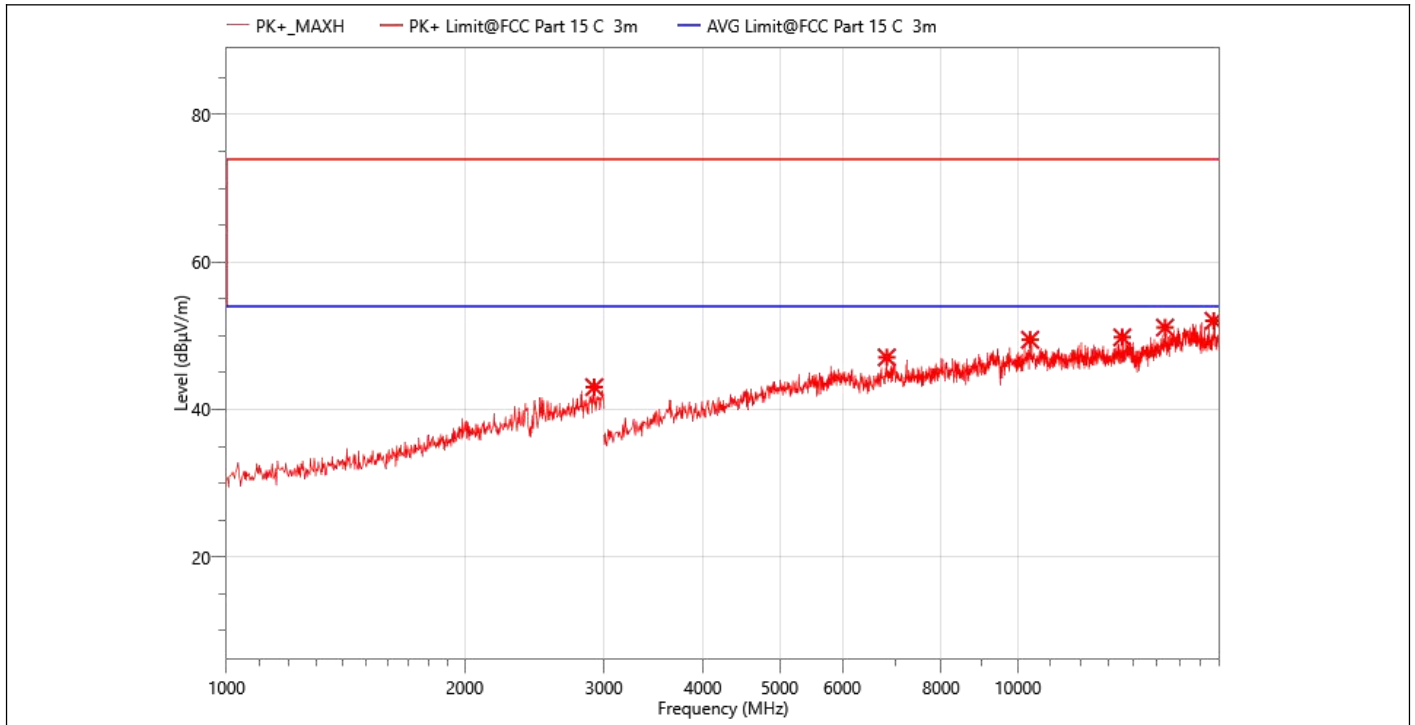
EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2402MHz	Power Rating:	DC 3.7V
Test Engineer:	Berny	Test Time:	2023-08-03

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	1392.000	60.09	42.18	74.00	31.82	PK+	150.0	V	182.1	-17.91
2	2912.000	53.51	43.30	74.00	30.70	PK+	150.0	V	182.1	-10.21
3	5910.000	52.55	47.04	74.00	26.96	PK+	150.0	V	182.1	-5.51
4	10710.000	49.81	50.19	74.00	23.81	PK+	150.0	V	182.1	0.38
5	16205.000	47.73	52.09	74.00	21.91	PK+	150.0	V	182.1	4.36
6	17685.000	48.27	53.26	74.00	20.74	PK+	150.0	V	182.1	4.99



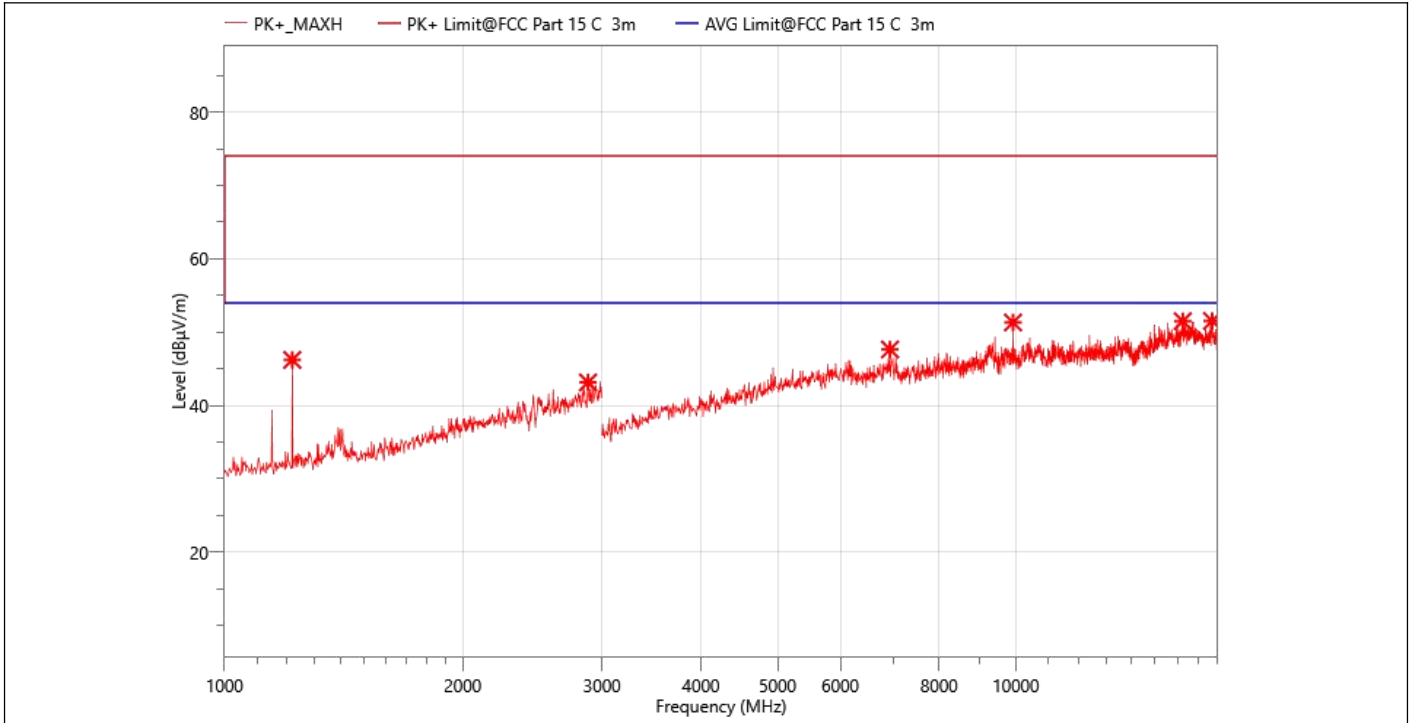
EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2441MHz	Power Rating:	DC 3.7V
Test Engineer:	Berny	Test Time:	2023-08-03

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	2948.000	52.97	43.13	74.00	30.87	PK+	150.0	H	182.1	-9.84
2	4980.000	53.82	44.99	74.00	29.01	PK+	150.0	H	182.1	-8.83
3	5975.000	52.09	46.42	74.00	27.58	PK+	150.0	H	182.1	-5.67
4	9765.000	50.71	49.77	74.00	24.23	PK+	150.0	H	182.1	-0.94
5	12400.000	50.00	49.91	74.00	24.09	PK+	150.0	H	182.1	-0.09
6	16405.000	47.90	52.10	74.00	21.90	PK+	150.0	H	182.1	4.2



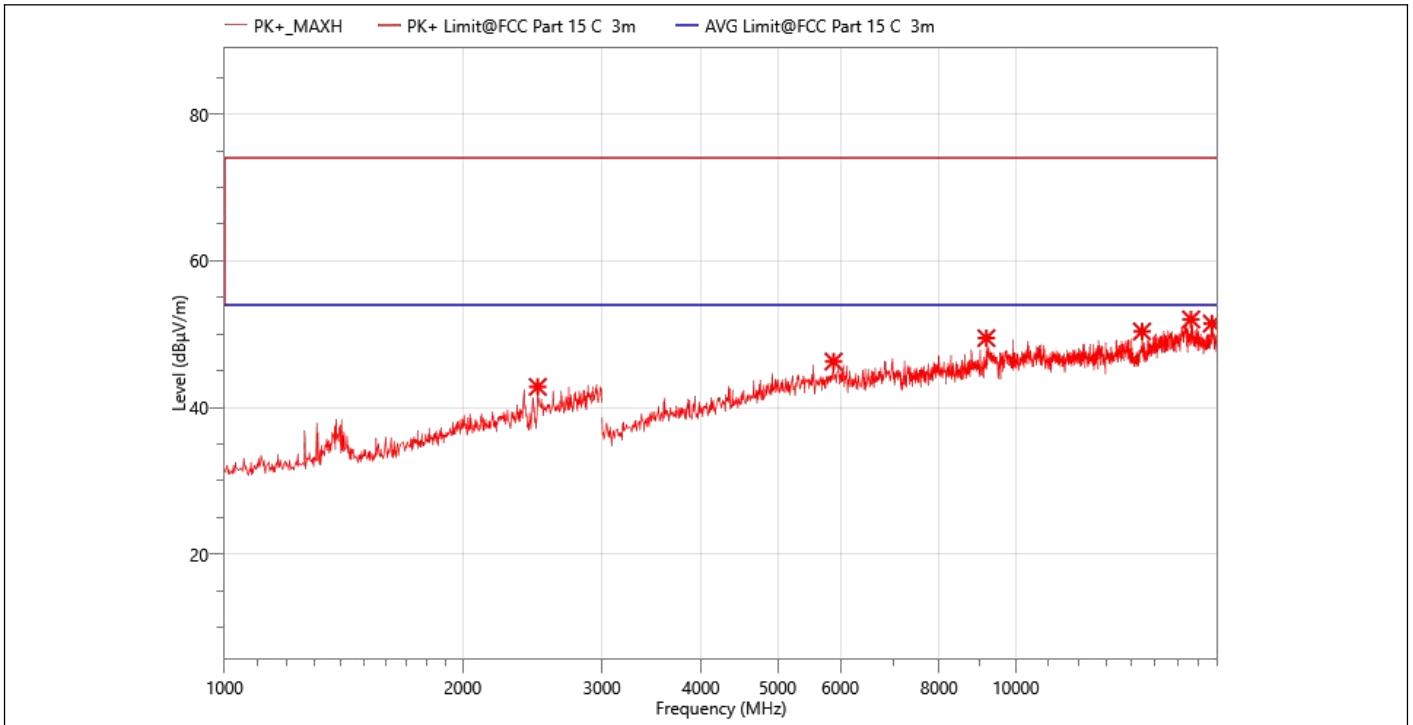
EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2441MHz	Power Rating:	DC 3.7V
Test Engineer:	Berny	Test Time:	2023-08-03

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	2916.000	53.27	43.04	74.00	30.96	PK+	150.0	V	182.1	-10.23
2	6830.000	50.83	47.07	74.00	26.93	PK+	150.0	V	182.1	-3.76
3	10365.000	49.78	49.46	74.00	24.54	PK+	150.0	V	182.1	-0.32
4	13555.000	48.17	49.80	74.00	24.20	PK+	150.0	V	182.1	1.63
5	15350.000	48.38	51.12	74.00	22.88	PK+	150.0	V	182.1	2.74
6	17685.000	47.04	52.03	74.00	21.97	PK+	150.0	V	182.1	4.99



EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2480MHz	Power Rating:	DC 3.7V
Test Engineer:	Berny	Test Time:	2023-08-03

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	1218.000	65.24	46.22	74.00	27.78	PK+	150.0	H	182.1	-19.02
2	2880.000	53.65	43.15	74.00	30.85	PK+	150.0	H	182.1	-10.5
3	6935.000	51.07	47.65	74.00	26.35	PK+	150.0	H	182.1	-3.42
4	9920.000	52.74	51.33	74.00	22.67	PK+	150.0	H	182.1	-1.41
5	16255.000	47.30	51.51	74.00	22.49	PK+	150.0	H	182.1	4.21
6	17705.000	46.88	51.54	74.00	22.46	PK+	150.0	H	182.1	4.66

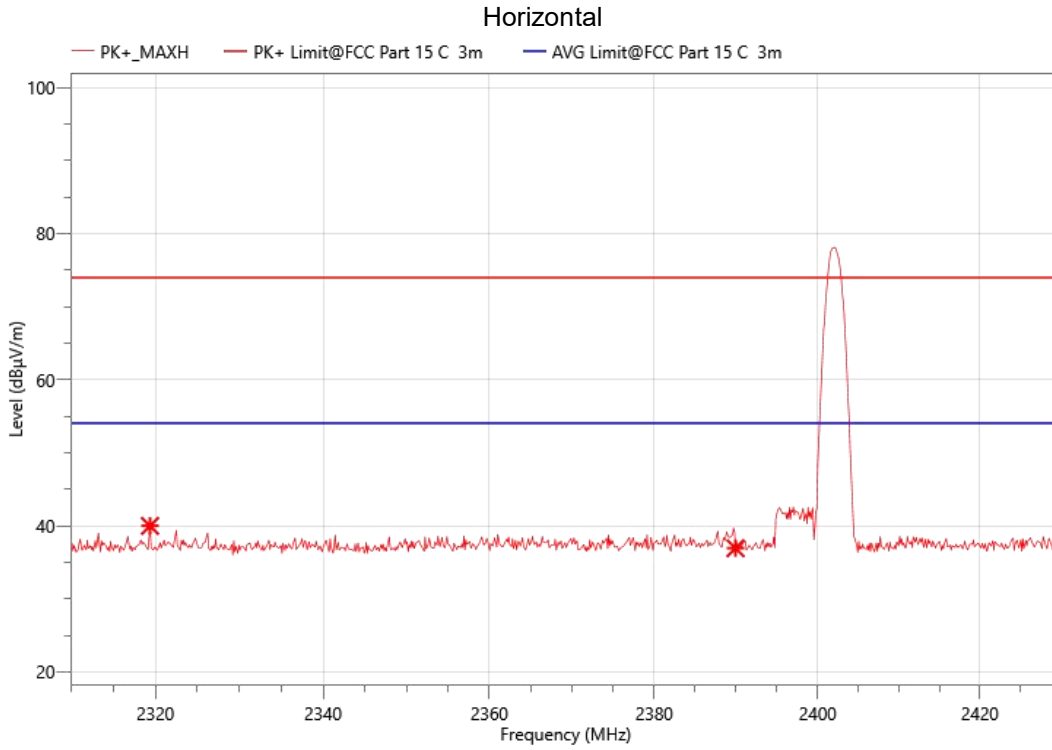


EUT:	Portable Wireless Speaker	Temperature:	24.5°C
M/N.:	BTS13	Humidity:	55%RH
Mode:	3-DH5 2480MHz	Power Rating:	DC 3.7V
Test Engineer:	Berny	Test Time:	2023-08-03

No.	Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
1	2488.000	53.87	42.82	74.00	31.18	PK+	150.0	V	182.1	-11.05
2	5885.000	51.76	46.27	74.00	27.73	PK+	150.0	V	182.1	-5.49
3	9180.000	50.36	49.47	74.00	24.53	PK+	150.0	V	182.1	-0.89
4	14440.000	48.57	50.38	74.00	23.62	PK+	150.0	V	182.1	1.81
5	16655.000	47.68	52.01	74.00	21.99	PK+	150.0	V	182.1	4.33
6	17695.000	46.62	51.45	74.00	22.55	PK+	150.0	V	182.1	4.83

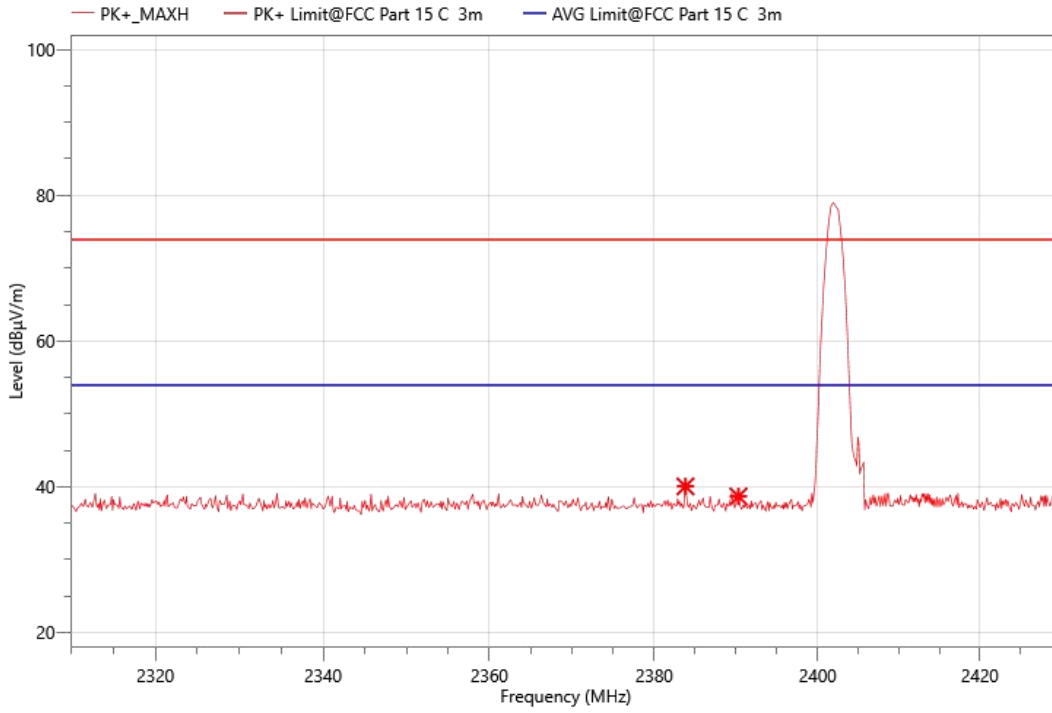
Note: 1. All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
 2. Emission Level= Reading Level+Probe Factor +Cable Loss.
 3. EIRP[dBm] = E[dBµV/m] + 20 log(d[meters]) - 104.77
 d is the measurement distance in 3 meters

- Band Edge
 3-DH5 2402MHz



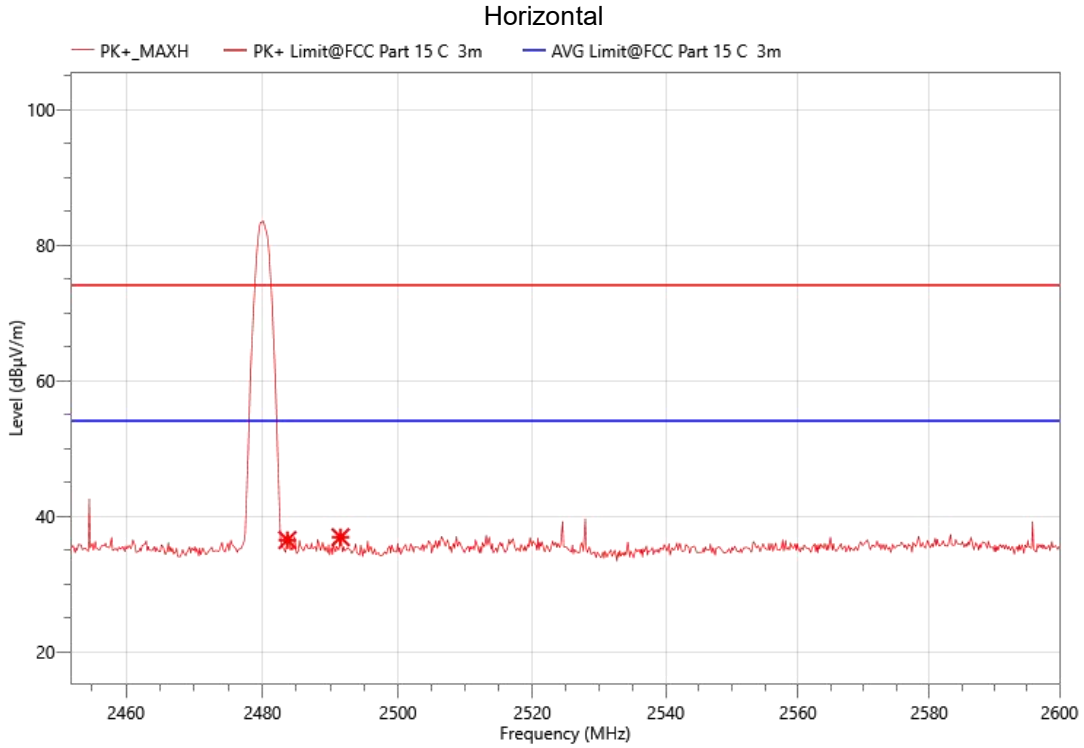
Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
2319.360	61.03	39.99	74.00	34.01	PK+	150.0	H	182.1	-21.04
2389.920	57.66	36.93	74.00	37.07	PK+	150.0	H	182.1	-20.73

Vertical



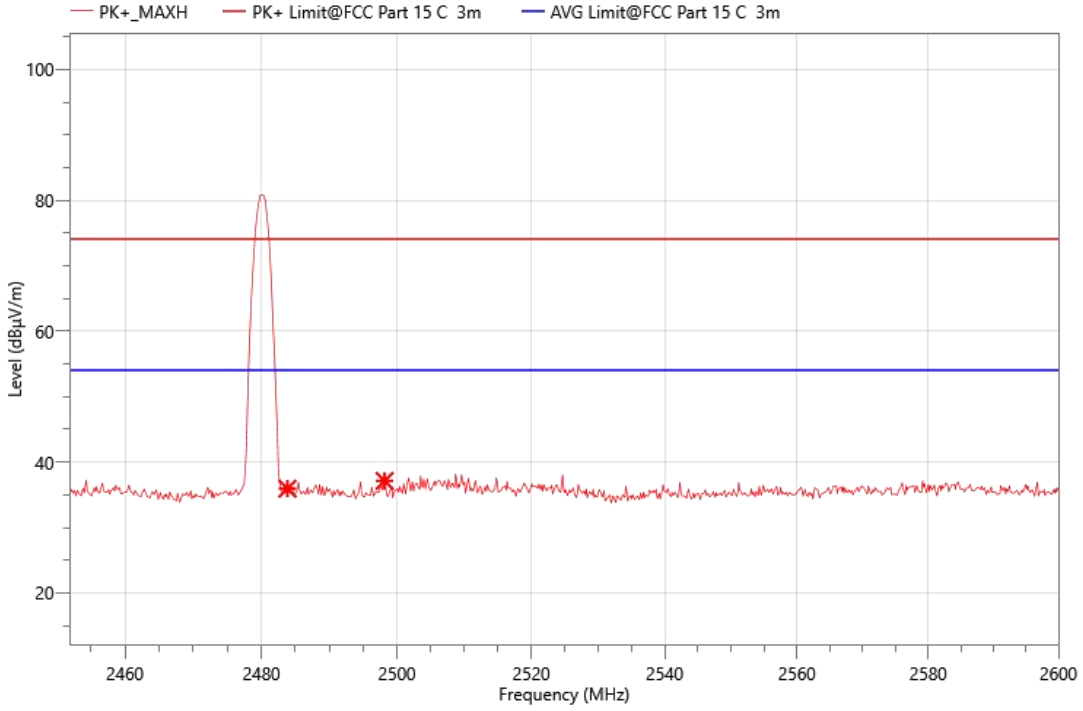
Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
2383.800	60.79	40.05	74.00	33.95	PK+	150.0	V	182.1	-20.74
2390.280	59.41	38.68	74.00	35.32	PK+	150.0	V	182.1	-20.73

3-DH5 2480MHz



Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
2483.672	56.78	36.48	74.00	37.52	PK+	150.0	H	182.1	-20.3
2491.516	57.17	36.90	74.00	37.10	PK+	150.0	H	182.1	-20.27

Vertical



Freq. (MHz)	Reading (dBµV)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dBµV/m)	Det.	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)
2483.820	56.23	35.93	74.00	38.07	PK+	150.0	V	182.1	-20.3
2498.176	57.38	37.12	74.00	36.88	PK+	150.0	V	182.1	-20.26

Note:1.DH5, 2-DH5, 3-DH5, all has been tested, the worst case is 3-DH5,only shown the worst case.

9. ANTENNA REQUIREMENT

REQUIREMENT

Please refer to FCC §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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC §15.247(b)(4)

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DESCRIPTION

Pass

10. AC POWER LINE CONDUCTED EMISSION

LIMITS

CFR 47 FCC Part15 Subpart C				
FREQUENCY (MHz)	Class A (dB μ V)		Class B (dB μ V)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46*
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

TEST PROCEDURE

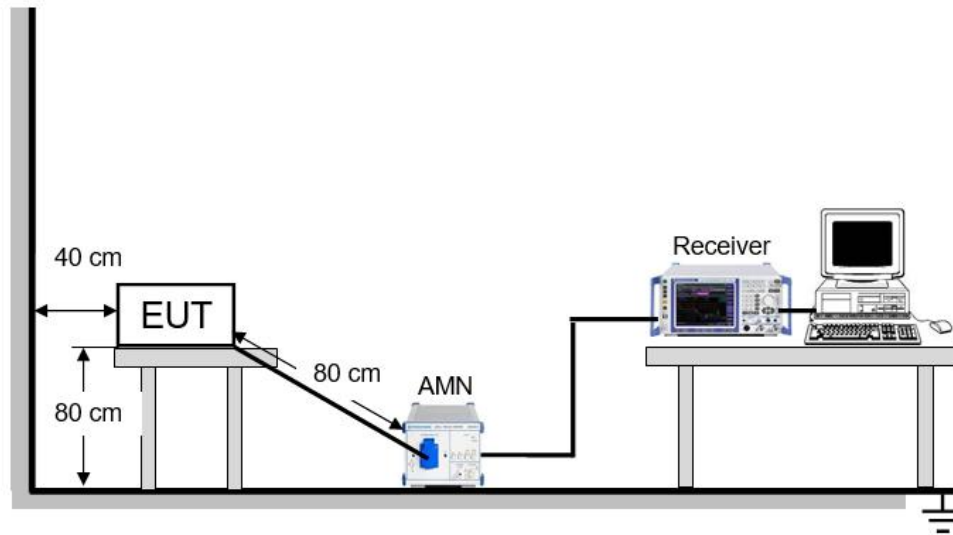
TEST SETUP AND PROCEDURE

Refer to ANSI C63.10-2013 clause 6.2.

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST SETUP



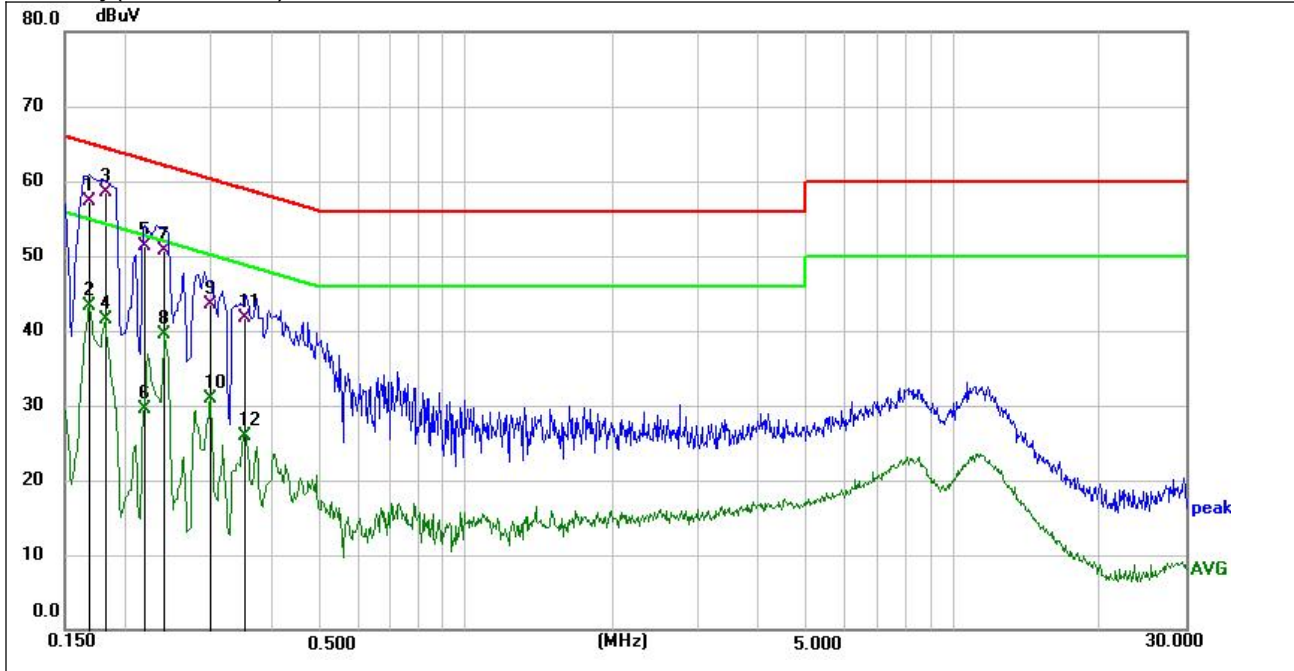
TEST ENVIRONMENT

Temperature	26°C	Relative Humidity	54%RH
Atmosphere Pressure	101kPa		

TEST RESULTS

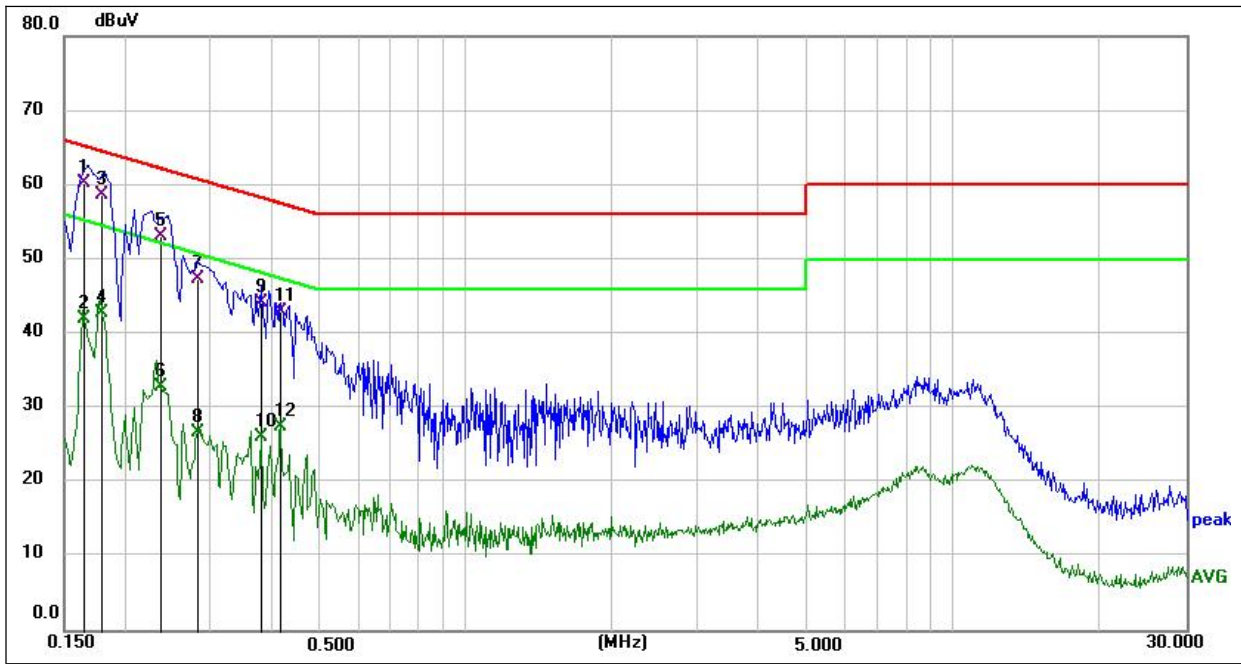
All the modes have been tested, only the worst data was recorded in the report (3-DH5 2402MHz).

Battery(WLY 18650)



EUT:	Portable Wireless Speaker	Phase:	L1
M/N.:	BTS13	Temperature:	26°C
Mode:	3-DH5 2402MHz	Humidity:	54%RH
Test Engineer:	Aiden	Power Rating:	AC120V/60Hz
Test Time:	2023-08-12		

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measurement(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1680	47.53	9.77	57.30	65.06	-7.76	QP
2	0.1680	33.54	9.77	43.31	55.06	-11.75	AVG
3	0.1815	48.80	9.80	58.60	64.42	-5.82	QP
4	0.1815	31.65	9.80	41.45	54.42	-12.97	AVG
5	0.2175	41.64	9.76	51.40	62.91	-11.51	QP
6	0.2175	19.82	9.76	29.58	52.91	-23.33	AVG
7	0.2400	41.14	9.66	50.80	62.10	-11.30	QP
8	0.2400	29.76	9.66	39.42	52.10	-12.68	AVG
9	0.2985	33.70	9.90	43.60	60.28	-16.68	QP
10	0.2985	21.00	9.90	30.90	50.28	-19.38	AVG
11	0.3520	31.93	9.87	41.80	58.92	-17.12	QP
12	0.3520	15.95	9.87	25.82	48.92	-23.10	AVG

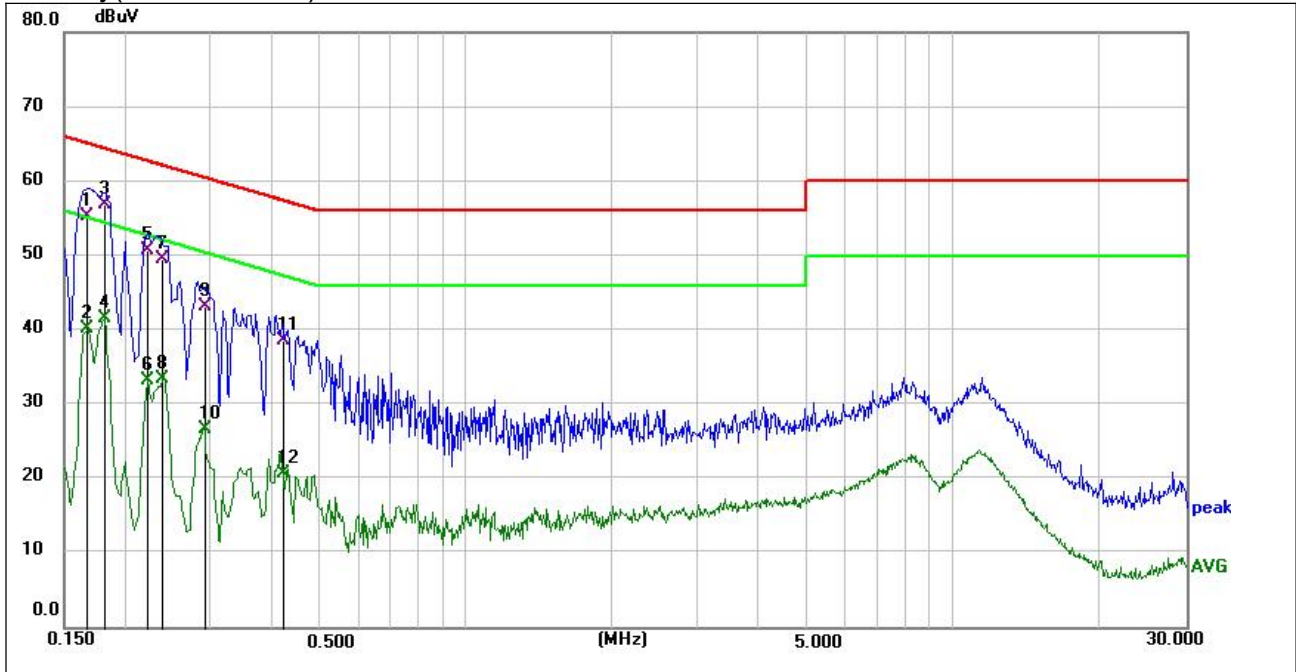


EUT:	Portable Wireless Speaker	Phase:	N
M/N.:	BTS13	Temperature:	26°C
Mode:	3-DH5 2402MHz	Humidity:	54%RH
Test Engineer:	Aiden	Power Rating:	AC120V/60Hz
Test Time:	2023-08-12		

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measurement(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1650	50.58	9.72	60.30	65.21	-4.91	QP
2	0.1650	32.25	9.72	41.97	55.21	-13.24	AVG
3	0.1796	48.95	9.75	58.70	64.50	-5.80	QP
4	0.1796	32.99	9.75	42.74	54.50	-11.76	AVG
5	0.2355	43.38	9.82	53.20	62.25	-9.05	QP
6	0.2355	22.95	9.82	32.77	52.25	-19.48	AVG
7	0.2805	37.65	9.75	47.40	60.80	-13.40	QP
8	0.2805	16.93	9.75	26.68	50.80	-24.12	AVG
9	0.3795	34.45	9.75	44.20	58.29	-14.09	QP
10	0.3795	16.37	9.75	26.12	48.29	-22.17	AVG
11	0.4155	33.13	9.77	42.90	57.54	-14.64	QP
12	0.4155	17.79	9.77	27.56	47.54	-19.98	AVG

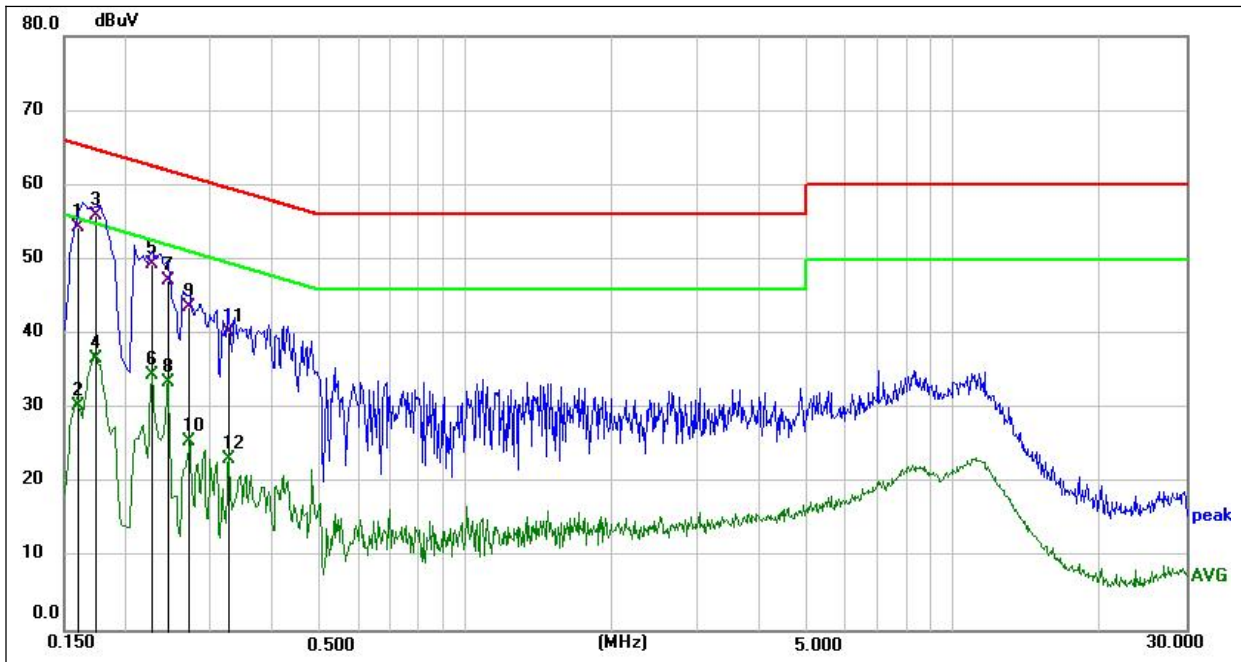
- Note: 1. Result = Reading + Correct Factor.
 2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
 4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

All the modes have been tested, only the worst data was recorded in the report (3-DH5 2402MHz).
 Battery(INR1865026E)



EUT:	Portable Wireless Speaker	Phase:	L1
M/N.:	BTS13	Temperature:	26°C
Mode:	3-DH5 2402MHz	Humidity:	54%RH
Test Engineer:	Aiden	Power Rating:	AC120V/60Hz
Test Time:	2023-08-12		

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measurement(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1677	45.53	9.77	55.30	65.07	-9.77	QP
2	0.1677	30.33	9.77	40.10	55.07	-14.97	AVG
3	0.1815	47.00	9.80	56.80	64.42	-7.62	QP
4	0.1815	31.85	9.80	41.65	54.42	-12.77	AVG
5	0.2220	40.96	9.74	50.70	62.74	-12.04	QP
6	0.2220	23.49	9.74	33.23	52.74	-19.51	AVG
7	0.2378	39.93	9.67	49.60	62.17	-12.57	QP
8	0.2378	23.74	9.67	33.41	52.17	-18.76	AVG
9	0.2895	33.35	9.85	43.20	60.54	-17.34	QP
10	0.2895	16.88	9.85	26.73	50.54	-23.81	AVG
11	0.4200	28.78	9.92	38.70	57.45	-18.75	QP
12	0.4200	10.85	9.92	20.77	47.45	-26.68	AVG



EUT:	Portable Wireless Speaker	Phase:	N
M/N.:	BTS13	Temperature:	26°C
Mode:	3-DH5 2402MHz	Humidity:	54%RH
Test Engineer:	Aiden	Power Rating:	AC120V/60Hz
Test Time:	2023-08-12		

No.	Frequency (MHz)	Reading Level(dBuV)	Factor (dB)	Measurement(dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1607	44.50	9.70	54.20	65.43	-11.23	QP
2	0.1607	20.65	9.70	30.35	55.43	-25.08	AVG
3	0.1749	46.16	9.74	55.90	64.72	-8.82	QP
4	0.1749	26.84	9.74	36.58	54.72	-18.14	AVG
5	0.2265	39.49	9.81	49.30	62.58	-13.28	QP
6	0.2265	24.61	9.81	34.42	52.58	-18.16	AVG
7	0.2445	37.36	9.84	47.20	61.94	-14.74	QP
8	0.2445	23.64	9.84	33.48	51.94	-18.46	AVG
9	0.2714	33.82	9.78	43.60	61.07	-17.47	QP
10	0.2714	15.73	9.78	25.51	51.07	-25.56	AVG
11	0.3255	30.37	9.73	40.10	59.57	-19.47	QP
12	0.3255	13.41	9.73	23.14	49.57	-26.43	AVG

- Note: 1. Result = Reading + Correct Factor.
 2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
 3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).
 4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

APPENDIX: PHOTOGRAPHS OF TEST CONFIGURATION

Please refer to report E01A23070804F00103.

APPENDIX: PHOTOGRAPHS OF THE EUT

Please refer to report E01A23070804F00104.

--- END OF REPORT---