

# Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC145542

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# **FCC Radio Test Report** FCC ID: 2AFNM-JT2692

# **Original Grant**

Report No. TB-FCC145542

Shenzhen Jinruitai Electronics Co.,Ltd **Applicant** 

**Equipment Under Test (EUT)** 

**EUT Name** Sport Bluetooth Speaker

Model No. JT2692

Series No. N/A

**Brand Name** N/A

**Receipt Date** 2015-09-24

2015-09-25 to 2015-10-14 **Test Date** 

**Issue Date** 2015-10-15

FCC Part 15, Subpart C (15.247:2015) **Standards** 

**Test Method** ANSI C63.10: 2013

**Conclusions PASS** 

In the configuration tested, the EUT complied with the standards specified above,

The EUT technically complies with the FCC and IC requirements

**Test/Witness** 

**Engineer** 

Approved&

**Authorized** 

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

TB-RF-074-1.0

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# 1. General Information about EUT

#### 1.1 Client Information

**Applicant**: Shenzhen Jinruitai Electronics Co.,Ltd

Address : 4F, Building A, Taixinglong Industrial Town, Zhongwu Xixiang, Baoan

District, Shenzhen City, GuangDong Province, China

Manufacturer : Shenzhen Jinruitai Electronics Co.,Ltd

Address : 4F, Building A, Taixinglong Industrial Town, Zhongwu Xixiang, Baoan

District, Shenzhen City, GuangDong Province, China

## 1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Sport Bluetooth Speaker					
Models No.	7	JT2692	IT2692				
Model Difference	-	N/A					
Dine		Operation Frequency: 2402MHz~2480MHz					
Dun about		Number of Channel:	Bluetooth 4.0 (BLE): 40 channels see note(3)				
Product Description		RF Output Power:	4.50 dBm Conducted Power				
		Antenna Gain:	-0.46 dBi PCB Antenna				
		Modulation Type:	GFSK				
		Bit Rate of Transmitter:	1Mbps(GFSK)				
Power Supply	:	DC Voltage supplied from DC power by Li-ion Batt	DC Voltage supplied from Host System by USB cable.  DC power by Li-ion Battery.				
Power Rating	:	DC 5.0V by USB cable.					
		DC 3.7V 1800mAh Li-ion Battery.					
Connecting I/O Port(S)		Please refer to the User	Please refer to the User's Manual				

#### Note:

- (1) This Test Report is FCC Part 15.247 for Bluetooth BLE, the test procedure follows the FCC KDB 558074 D01 DTS Meas Guidance v03r03.
- (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- (3) Antenna information provided by the applicant.
- (4) Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	14	2430	28	2458

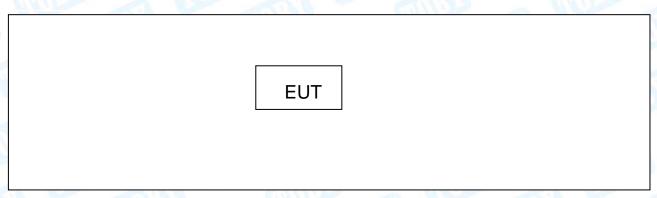


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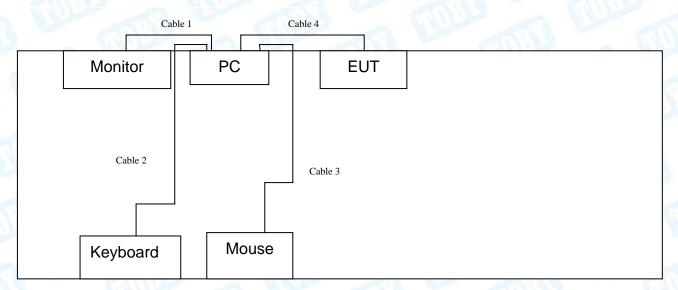
01	2404	15	2432	29	2460
02	2406	16	2434	30	2462
03	2408	17	2436	31	2464
04	2410	18	2438	32	2466
05	2412	19	2440	33	2468
06	2414	20	2442	34	2470
07	2416	21	2444	35	2472
08	2418	22	2446	36	2474
09	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454		
13	2428	27	2456		

# 1.3 Block Diagram Showing the Configuration of System Tested

#### **TX Mode**



# **USB Charging with TX Mode**





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# 1.4 Description of Support Units

Equipment Information						
Name	Model	FCC ID/DOC	Manufacturer	Used "√"		
LCD Monitor	E170Sc	DOC	DELL	1		
PC	OPTIPLEX380	DOC	DELL	<b>√</b>		
Keyboard	L100	DOC	DELL	<b>√</b>		
Mouse	M-UARDEL7	DOC	DELL	<b>√</b>		
		Cable Informa	tion			
Number	Shielded Type	Ferrite Core	Length	Note		
Cable 1	YES	YES	1.5M			
Cable 2	YES	YES	1.5M	7		
Cable 3	YES	NO	1.5M	The same		
Cable 4	YES	NO	0.5M	Provided by the applicant		

## 1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test				
Final Test Mode Description				
Mode 1	USB Charging With TX Mode			

For Radiated Test			
Final Test Mode Description			
Mode 2	USB Charging With TX Mode		
Mode 3	TX Mode (Channel 00/20/39)		

#### Note:

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest,



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middle, lowest available channels, and the worst case data rate as follows: Bluetooth BLE Mode: GFSK Modulation Transmitting mode.

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a mobile unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

## 1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of RF setting.

Test Software Version	RTL BT Device Auto Check		
Channel	CH 00	CH 20	CH 39
BLE Mode	DEF	DEF	DEF

## 1.7 Measurement Uncertainty

The reported uncertainty of measurement y  $\pm$  U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U <sub>Lab</sub> )	
William Tolland	Level Accuracy:		
Conducted Emission	9kHz~150kHz	±3.42 dB	
	150kHz to 30MHz	±3.42 dB	
Dadistad Emission	Level Accuracy:	. 4 CO dD	
Radiated Emission	9kHz to 30 MHz	±4.60 dB	
Dedicted Emission	Level Accuracy:	. 4 40 dD	
Radiated Emission	30MHz to 1000 MHz	±4.40 dB	
Dadiated Emission	Level Accuracy:	. 4.20 dD	
Radiated Emission	Above 1000MHz	±4.20 dB	



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# 1.8 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

#### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

#### FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

#### IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

May 22, 2014 certificated by TUV Rheinland(China) Co., Ltd. with TUV certificate No.: UA 50282953 0001 and report No.: 17026822 002. The certificate is valid until the next scheduled audit or up to 18 months, at the discretion of TUV Rhineland.



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# 2. Test Summary

Standa	rd Section	Test Item	ludament	Remark
FCC	IC	rest item	Judgment	Remark
15.203	1	Antenna Requirement	PASS	N/A
15.207	RSS-GEN 7.2.4	Conducted Emission	PASS	N/A
15.205	RSS-GEN 7.2.2	Restricted Bands	PASS	N/A
15.247(a)(2)	RSS 247 5.2 (1)	6dB Bandwidth	PASS	N/A
15.247(b)	RSS 247 5.4 (4)	Peak Output Power	PASS	N/A
15.247(e)	RSS 247 5.2 (2)	Power Spectral Density	PASS	N/A
15.247(d)	RSS 247 5.5	Transmitter Radiated Spurious Emission	PASS	N/A

Note: "/" for no requirement for this test item.

N/A is an abbreviation for Not Applicable.



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# 3. Test Equipment

Conducte	d Emission Te	est			
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Aug. 07, 2015	Aug. 06, 2016
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Aug. 07, 2015	Aug. 06, 2016
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 07, 2015	Aug. 06, 2016
LISN	Rohde & Schwarz	ENV216	101131	Aug. 07, 2015	Aug. 06, 2016
Equipment	Wallactarei	Woder No.	Geriai ito.	Last Gai.	Date
F	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
Spectrum		E 110=D	10/45400450		100
Analyzer	Agilent	E4407B	MY45106456	Aug. 29, 2015	Aug. 28, 2016
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 07, 2015	Aug. 06, 2016
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 28, 2015	Mar. 27, 2016
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 28, 2015	Mar. 27, 2016
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 28, 2015	Mar. 27, 2016
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	Sonoma	310N	185903	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	HP	8447B	3008A00849	Mar. 28, 2015	Mar. 27, 2016
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 28, 2015	Mar. 27, 2016
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A



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# 4. Conducted Emission Test

#### 4.1 Test Standard and Limit

4.1.1Test Standard FCC Part 15.207

#### 4.1.2 Test Limit

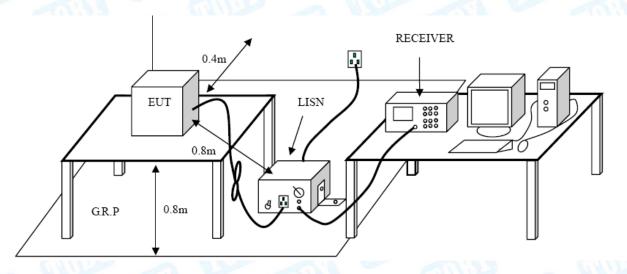
#### **Conducted Emission Test Limit**

	Maximum RF Line Voltage (dBμV)			
Frequency	Quasi-peak Level	Average Level		
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *		
500kHz~5MHz	56	46		
5MHz~30MHz	60	50		

#### Notes:

- (1) \*Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

## 4.2 Test Setup



#### 4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



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I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

# 4.4 EUT Operating Mode

Please refer to the description of test mode.

### 4.5 Test Data

Test data please refer the following pages.



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EUT:	Sport B	luetooth Sp	eaker	Model Nam	ne :	JT269	92
Temperature:	25 ℃	CITIES .	3	Relative Hu	umidity:	55%	Alle
Test Voltage:	AC 120	V/60Hz		1	Call	1133	
Terminal:	Line		AHI.		6	100	
Test Mode:	USB Ch	narging with	TX BLE M	1ode 2402MF	łz	3 N	N. Carrie
Remark:	Only wo	orse case is	reported			35	
80.0 dBuV						QP:	_
						AVG:	
<b>X</b>	* *						
40	/ \\/~\\\	JUMAJAK K		WWW AND I	Ă,		
$\Lambda \Lambda^* \Lambda^*$	4 4	אלארייעיי ואין אין או	vadhuli Mahaha	Mr. M.	MANAGER	Yhen	
$ \backslash$ $\backslash$ $\backslash$ $\backslash$ $\backslash$ $\backslash$ $\backslash$	// MW	What when we wanted	Market Land American		V	and sport suffer	drokensky
V , ,	Λ		4 60 00	V "	y June	Many No.	peak
						~ \	AVG
0.0							
0.0 0.150	0.5		(MHz)	5			30.000
		Reading	(MHz) Correct	Measure-			30.000
0.150		Reading Level			Limit	Over	30.000
0.150 No. Mk.	F	_	Correct	Measure-	<b>Limit</b>	<b>Over</b>	
0.150 No. Mk.	Freq.	Level	Correct Factor	Measure- ment	dBuV		
0.150  No. Mk.  1 0.	Freq. MHz	<b>Level</b> dBuV	Correct Factor	Measure- ment	dBu∨ <b>65.78</b>	dB	Detector <b>QP</b>
0.150  No. Mk.  1 0. 2 0.	Freq. MHz 1539	dBuV 28.82	Correct Factor dB 9.93	Measure- ment dBuV 38.75	dBuV 65.78 55.78	dB -27.03	Detector <b>QP</b>
0.150  No. Mk.  1 0. 2 0. 3 0.	Freq. MHz 1539	dBuV 28.82 18.06	Correct Factor dB 9.93 9.93	Measurement  dBuV  38.75  27.99	dBu√ 65.78 55.78 57.98	dB -27.03 -27.79	Detector QP AVG
0.150  No. Mk.  1 0. 2 0. 3 0. 4 0.	Freq. MHz 1539 1539 3940	Level dBuV 28.82 18.06 30.81	Correct Factor dB 9.93 9.93 10.02	Measure- ment dBuV 38.75 27.99 40.83	dBuV 65.78 55.78 57.98 47.98	dB -27.03 -27.79 -17.15	Detector QP AVG
0.150  No. Mk.  1 0. 2 0. 3 0. 4 0. 5 0.	Freq.  MHz  1539  1539  3940  3940	Level  dBuV  28.82  18.06  30.81  19.07	Correct Factor dB 9.93 9.93 10.02 10.02	Measure- ment  dBuV  38.75  27.99  40.83  29.09	dBuV 65.78 55.78 57.98 47.98 56.00	dB -27.03 -27.79 -17.15 -18.89	Detector QP AVG QP AVG
0.150  No. Mk.  1 0. 2 0. 3 0. 4 0. 5 0. 6 0.	Freq.  MHz  1539  1539  3940  3940  6460  6460	Level  dBuV  28.82  18.06  30.81  19.07  28.07	Correct Factor  dB  9.93  9.93  10.02  10.02  10.09	Measure- ment  dBuV  38.75  27.99  40.83  29.09  38.16  28.39	dBuV 65.78 55.78 57.98 47.98 56.00 46.00	dB -27.03 -27.79 -17.15 -18.89 -17.84	Detector QP AVG QP AVG
0.150  No. Mk.  1 0. 2 0. 3 0. 4 0. 5 0. 6 0. 7 0.	Freq. MHz 1539 1539 3940 3940 6460 6460 9220	Level  dBuV  28.82  18.06  30.81  19.07  28.07  18.30  24.60	Correct Factor  9.93  9.93  10.02  10.02  10.09  10.09	Measurement  dBuV  38.75  27.99  40.83  29.09  38.16  28.39  34.68	dBuV 65.78 55.78 57.98 47.98 56.00 46.00	dB -27.03 -27.79 -17.15 -18.89 -17.84 -17.61 -21.32	Detector  QP  AVG  QP  AVG  QP  AVG
0.150  No. Mk.  1	Freq. MHz 1539 1539 3940 3940 6460 6460 9220	Level  dBuV  28.82  18.06  30.81  19.07  28.07  18.30  24.60  15.22	Correct Factor  9.93  9.93  10.02  10.02  10.09  10.09  10.08	Measurement  dBuV  38.75  27.99  40.83  29.09  38.16  28.39  34.68  25.30	dBuV 65.78 55.78 57.98 47.98 56.00 46.00 56.00	dB -27.03 -27.79 -17.15 -18.89 -17.84 -17.61 -21.32 -20.70	QP AVG QP AVG QP AVG
0.150  No. Mk.  1	Freq.  MHz 1539 1539 3940 3940 6460 6460 9220 9220 8620	Level  dBuV  28.82  18.06  30.81  19.07  28.07  18.30  24.60  15.22  24.73	Correct Factor  9.93  9.93  10.02  10.02  10.09  10.09  10.08  10.08  9.96	Measurement  dBuV  38.75  27.99  40.83  29.09  38.16  28.39  34.68  25.30  34.69	dBuV 65.78 55.78 57.98 47.98 56.00 46.00 56.00	dB -27.03 -27.79 -17.15 -18.89 -17.84 -17.61 -21.32 -20.70 -21.31	QP AVG QP AVG QP AVG QP AVG
0.150  No. Mk.  1	Freq.  MHz  1539  1539  3940  3940  6460  6460  9220  9220  8620  8620	Level  dBuV  28.82  18.06  30.81  19.07  28.07  18.30  24.60  15.22  24.73  19.25	Correct Factor  dB  9.93  9.93  10.02  10.02  10.09  10.08  10.08  9.96  9.96	Measurement  dBuV  38.75  27.99  40.83  29.09  38.16  28.39  34.68  25.30  34.69  29.21	dBuV 65.78 55.78 57.98 47.98 56.00 46.00 56.00 46.00 46.00	dB -27.03 -27.79 -17.15 -18.89 -17.84 -17.61 -21.32 -20.70 -21.31 -16.79	QP AVG QP AVG QP AVG QP AVG
0.150  No. Mk.  1	Freq.  MHz 1539 1539 3940 3940 6460 6460 9220 9220 8620	Level  dBuV  28.82  18.06  30.81  19.07  28.07  18.30  24.60  15.22  24.73	Correct Factor  9.93  9.93  10.02  10.02  10.09  10.09  10.08  10.08  9.96	Measurement  dBuV  38.75  27.99  40.83  29.09  38.16  28.39  34.68  25.30  34.69	dBuV 65.78 55.78 57.98 47.98 56.00 46.00 56.00 46.00 46.00 60.00	dB -27.03 -27.79 -17.15 -18.89 -17.84 -17.61 -21.32 -20.70 -21.31	QP AVG QP AVG QP AVG QP AVG



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EUT:	Sport	t Bluetooth S	Speaker	Model Nam	ne :	JT26	92	
Temperature	: 25 °C		33	Relative Hu	umidity:	55%	Albert	
Test Voltage:	AC 1	20V/60Hz		11	60	11:30		
Terminal:	Neut	Neutral						
Test Mode:	USB	USB Charging with TX BLE Mode 2402MHz						
Remark:	Only	worse case	is reported		CINI)	33		
80.0 dBuV								
						QP: AVG:		
*	+							
\ <sub>\</sub> \\  \	- Mr Jul	×		,				
40 1 1	/\\/\\\\	A LANDARA	of the day of the state of	MARCHINE PART				
		W.A	Amy Mahhaham.	The state of the s	M. Primer	magle 11		
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	- 0			V		Contraction 1	pe	
				V		Contractor		
	U			V				
0.0				V				
0.0	0.5		(MHz)	5			30.000	
0.150	0.5	Reading	Correct	5 Measure-			AI	
	o.5	Reading Level			Limit	Over	A	
0.150		_	Correct	Measure-			30.000	
0.150	Freq.	Level	Correct Factor	Measure- ment	<b>Limit</b> dBu∨	Over	30.000	
0.150 No. Mk.	Freq.	<b>Level</b> dBuV	Correct Factor	Measure- ment	Limit dBu√ 65.99	Over dB	30.000  Detector	
0.150 No. Mk.	Freq. MHz 0.1500	dBuV 31.80	Correct Factor	Measure- ment dBuV 41.92	dBu∀ 65.99 55.99	Over  dB -24.07	30.000  Detector	
0.150  No. Mk.	Freq. MHz 0.1500 0.1500	dBuV 31.80 21.27	Correct Factor dB 10.12	Measurement  dBuV  41.92  31.39	dBuV 65.99 55.99 57.98	Over  dB  -24.07  -24.60	30.000  Detecto  QP  AVC	
0.150  No. Mk.  1 2 3	Freq. MHz 0.1500 0.1500 0.3940	31.80 21.27 30.25	Correct Factor  dB  10.12  10.12  10.06	Measure- ment  dBuV  41.92  31.39  40.31	Limit  dBu√  65.99  55.99  57.98  47.98	Over  dB  -24.07  -24.60  -17.67	30.000  Detector  QP  AVG	
0.150  No. Mk.  1 2 3 4	Freq. MHz 0.1500 0.1500 0.3940 0.3940	ABuV 31.80 21.27 30.25 18.99	Correct Factor  dB  10.12  10.12  10.06	Measure- ment  dBuV  41.92  31.39  40.31  29.05	Limit  dBu√  65.99  55.99  57.98  47.98  56.00	Over  dB  -24.07  -24.60  -17.67  -18.93	Detector QP AVG QP AVG	
0.150  No. Mk.  1 2 3 4 5 6	Freq.  MHz  0.1500  0.1500  0.3940  0.3940  0.6580  0.6580	ABuV 31.80 21.27 30.25 18.99 27.61 17.47	Correct Factor  dB  10.12  10.12  10.06  10.06  10.02	Measurement  dBuV  41.92  31.39  40.31  29.05  37.63  27.49	Limit  dBu√  65.99  55.99  57.98  47.98  56.00  46.00	Over  dB -24.07 -24.60 -17.67 -18.93 -18.37 -18.51	Detector QP AVG QP AVG	
0.150  No. Mk.  1 2 3 4 5	Freq.  MHz  0.1500  0.1500  0.3940  0.3940  0.6580	Level  dBu√  31.80  21.27  30.25  18.99  27.61	Correct Factor  dB  10.12  10.12  10.06  10.06  10.02	Measurement  dBuV  41.92  31.39  40.31  29.05  37.63	Limit  dBuV  65.99  57.98  47.98  56.00  46.00  56.00	Over  dB  -24.07  -24.60  -17.67  -18.93  -18.37	Detector QP AVG QP AVG	

3.1260

5.6660

5.6660

10

11

12

**Emission Level= Read Level+ Correct Factor** 

18.35

24.20

18.76

10.06

10.06

10.06

28.41

34.26

28.82

AVG

QP AVG

46.00 -17.59

60.00 -25.74

50.00 -21.18

x:Over limit !:over margin



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	KY.
J.	$\mathbf{n}_{\mathbf{T}}$
	J.

UT:	Sport	Bluetooth Speal	ker	Model Nam	e :	JT26	92
emperature:	25 ℃	CTH'ILL		Relative Hu	midity:	55%	Albert
Test Voltage:	AC 2	40V/60Hz	1		(61)	11:39	
Terminal:	Line		His		16	400	
Test Mode:	USB	Charging with T	X BLE M	Mode 2402M	Hz	O A	MARKET
Remark:	Only	worse case is re	ported			30	
80.0 dBuV							
40		AND THE PROPERTY OF THE PARTY O	Martin Martin Control of Martin Control			QP: AVG:	pe.
0.0	0.5		(MHz)	5			30.000
	Freq.	Reading Co	orrect actor	Measure- ment	Limit	Over	30.000
0.150 No. Mk.	Freq.	Reading Co Level F	orrect actor	Measure- ment	dBu∨	dB	30.000
0.150 No. Mk.	Freq. MHz 0.1539	Reading Co Level F dBuV 47.04	orrect actor dB 9.93	Measure- ment dBuV 56.97	dBu∨ <b>65.78</b>	dB -8.81	30.000  Detector  QP
0.150  No. Mk.  1 (2 * (	Freq. MHz 0.1539 0.1539	Reading Co Level F dBuV 47.04 9 42.41 9	orrect actor dB 9.93	Measurement dBuV 56.97 52.34	dBu∀ 65.78 55.78	-8.81 -3.44	Detector  QP  AVG
0.150  No. Mk.  1 (2 * (3 )	Freq. MHz 0.1539 0.1539 0.2260	Reading Conference	orrect actor dB 9.93 9.93	Measure- ment dBuV 56.97 52.34 45.44	dBu√ 65.78 55.78 62.59	dB -8.81 -3.44 -17.15	30.000  Detector  QP  AVG
0.150  No. Mk.  1 (2 * (3 4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (4 (	Freq. MHz 0.1539 0.1539	Reading Conference	orrect actor dB 9.93	Measurement dBuV 56.97 52.34	dBuV 65.78 55.78 62.59 52.59	-8.81 -3.44	Detector  QP  AVG
0.150  No. Mk.  1 (2 * (3 4 (4 5 (4 5 (4 5 (4 5 (4 5 (4 5 (4 5	Freq. MHz 0.1539 0.1539 0.2260	Reading Contact	orrect actor dB 9.93 9.93 0.02	Measure- ment  dBuV  56.97  52.34  45.44  39.53	dBuV 65.78 55.78 62.59 52.59 56.00	-8.81 -3.44 -17.15 -13.06	30.000  Detector  QP  AVG
0.150  No. Mk.  1	Freq.  MHz  0.1539  0.1539  0.2260  0.2260  0.5260	Reading Level F  dBuV  47.04 9  42.41 9  35.42 10  29.51 10  34.84 10  23.57 10	orrect actor dB 9.93 9.93 0.02 0.02	Measurement  dBuV  56.97  52.34  45.44  39.53  44.87	dBuV 65.78 55.78 62.59 52.59 56.00	-8.81 -3.44 -17.15 -13.06 -11.13	30.000  Detector  QP  AVG  QP  QP
0.150  No. Mk.  1 (2 * (3 4 6 6 6 6 7 6 7 6 6 7 6 6 7 6 6 7 6	Freq. MHz 0.1539 0.1539 0.2260 0.2260 0.5260 0.5260	Reading Level F  dBuV  47.04 9  42.41 9  35.42 10  29.51 10  34.84 10  23.57 10  35.19 10	orrect actor dB 9.93 9.93 0.02 0.02 0.03	Measurement  dBuV  56.97  52.34  45.44  39.53  44.87  33.60	dBuV 65.78 55.78 62.59 52.59 56.00 46.00	-8.81 -3.44 -17.15 -13.06 -11.13 -12.40 -10.70	30.000  Detector  QP  AVG  QP  AVG
0.150  No. Mk.  1	Freq.  MHz  0.1539  0.1539  0.2260  0.2260  0.5260  0.5260  0.6740	Reading Level F  dBuV  47.04 9  42.41 9  35.42 10  34.84 10  23.57 10  35.19 10  20.87 10	orrect factor dB 9.93 9.93 0.02 0.02 0.03 0.03	Measurement  dBuV  56.97  52.34  45.44  39.53  44.87  33.60  45.30	dBuV 65.78 55.78 62.59 52.59 56.00 46.00 46.00	-8.81 -3.44 -17.15 -13.06 -11.13 -12.40 -10.70	30.000  Detector  QP  AVG  QP  AVG  QP  QP
0.150  No. Mk.  1 (2 * (3 ) (4 ) (5 ) (6 ) (7 ) (7 ) (8 ) (9 ) (9 ) (9 ) (9 ) (9 ) (9 ) (9	Freq. MHz 0.1539 0.1539 0.2260 0.2260 0.5260 0.5260 0.6740 0.6740	Reading Level F  dBuV  47.04 9  42.41 9  35.42 10  29.51 10  34.84 10  23.57 10  35.19 10  20.87 10  33.85 10	orrect actor dB 9.93 9.93 0.02 0.02 0.03 0.03 0.11	Measurement  dBuV  56.97  52.34  45.44  39.53  44.87  33.60  45.30  30.98	dBuV 65.78 55.78 62.59 52.59 56.00 46.00 56.00	-8.81 -3.44 -17.15 -13.06 -11.13 -12.40 -10.70 -15.02	30.000  Detector  QP  AVG  QP  AVG
0.150  No. Mk.  1	Freq.  MHz  0.1539  0.1539  0.2260  0.2260  0.5260  0.5260  0.6740  0.6740  0.7940	Reading Level F  dBuV  47.04 9  42.41 9  35.42 10  29.51 10  34.84 10  23.57 10  35.19 10  20.87 10  33.85 10  22.50 10	orrect actor dB 9.93 9.93 0.02 0.02 0.03 0.03 0.11 0.11	Measurement  dBuV  56.97  52.34  45.44  39.53  44.87  33.60  45.30  30.98  43.95	dBuV 65.78 55.78 62.59 52.59 56.00 46.00 56.00	-8.81 -3.44 -17.15 -13.06 -11.13 -12.40 -10.70 -15.02 -12.05	OP AVG



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UT:	Sport Bluetooth	Speaker	Model Name	<b>)</b> :	JT26	92
Temperature:	25 ℃	10	Relative Hui	midity:	55%	A British
Test Voltage:	AC 240V/60Hz	- Part	88	6.11	11:30	
Terminal:	Neutral	Alto		1		
Test Mode:	USB Charging	with TX BLE	Mode 2402MI	Ηz	0 N	MARKET
Remark:	Only worse cas	e is reported			33	
80.0 dBuV						
40		May be reported the self			QP: AVG:	
0.0	0.5	(MHz)	5		agent of	AVG
0.150	0.5  Reading Freq. Level		Measure- ment	Limit	Over	AVG
0.150 No. Mk. F	Reading	Correct	Measure-	<b>Limit</b> dBuV	<b>Over</b>	
0.150 No. Mk. F	Reading Freq. Le∨el	Correct Factor	Measure- ment			30.000
No. Mk. F	Reading Freq. Level MHz dBuV	Correct Factor	Measure- ment	dBu∀	dB	30.000
0.150  No. Mk. F  1 0. 2 * 0. 3 0.:	Reading Level MHz dBuV 1500 46.19 1500 41.00 2220 34.25	Correct Factor dB 10.12	Measure- ment dBuV 56.31	dBu∨ <b>65.99</b>	dB -9.68	30.000  Detector
0.150  No. Mk. F  1 0. 2 * 0. 3 0.:	Reading Freq. Level  MHz dBuV  1500 46.19  1500 41.00	Correct Factor dB 10.12	Measure- ment dBuV 56.31 51.12	dBu√ 65.99 55.99 62.74	-9.68 -4.87	30.000  Detector  QP  AVG
0.150  No. Mk. F  1 0. 2 * 0. 3 0.: 4 0.:	Reading Level MHz dBuV 1500 46.19 1500 41.00 2220 34.25	Correct Factor dB 10.12 10.12 10.11 10.11	Measurement  dBuV  56.31  51.12  44.36  38.21  45.83	dBuV 65.99 55.99 62.74 52.74 56.17	-9.68 -4.87 -18.38 -14.53 -10.34	John Java Java Java Java Java Java Java Jav
0.150  No. Mk. F  1	Reading Level MHz dBuV 1500 46.19 1500 41.00 2220 34.25 2220 28.10 4900 35.81	Correct Factor dB 10.12 10.12 10.11 10.11 10.02 10.02	Measurement  dBuV  56.31  51.12  44.36  38.21  45.83  32.21	dBuV 65.99 55.99 62.74 52.74 56.17 46.17	-9.68 -4.87 -18.38 -14.53 -10.34 -13.96	John Java Java Java Java Java Java Java Jav
0.150  No. Mk. F  1	Reading Level  MHz dBuV  1500 46.19  1500 41.00  2220 34.25  2220 28.10  4900 35.81  4900 22.19  6700 33.97	Correct Factor dB 10.12 10.12 10.11 10.11 10.02 10.02	Measure- ment  dBuV  56.31  51.12  44.36  38.21  45.83  32.21  43.99	dBuV 65.99 55.99 62.74 52.74 56.17 46.17 56.00	-9.68 -4.87 -18.38 -14.53 -10.34 -13.96 -12.01	John Java Java Java Java Java Java Java Jav
0.150  No. Mk. F  1	Reading Level MHz dBuV 1500 46.19 1500 41.00 2220 34.25 2220 28.10 4900 35.81	Correct Factor dB 10.12 10.12 10.11 10.11 10.02 10.02	Measurement  dBuV  56.31  51.12  44.36  38.21  45.83  32.21  43.99  30.15	dBuV 65.99 55.99 62.74 52.74 56.17 46.17 56.00	-9.68 -4.87 -18.38 -14.53 -10.34 -13.96	John Java Java Java Java Java Java Java Jav
0.150  No. Mk. F  1	Reading Level  MHz dBuV  1500 46.19  1500 41.00  2220 34.25  2220 28.10  4900 35.81  4900 22.19  6700 33.97	Correct Factor dB 10.12 10.12 10.11 10.11 10.02 10.02	Measure- ment  dBuV  56.31  51.12  44.36  38.21  45.83  32.21  43.99	dBuV 65.99 55.99 62.74 56.17 46.17 56.00 46.00	-9.68 -4.87 -18.38 -14.53 -10.34 -13.96 -12.01	Java Java Java Java Java Java Java Java
0.150  No. Mk. F  1	Reading Level  MHz dBuV  1500 46.19  1500 41.00  2220 34.25  2220 28.10  4900 35.81  4900 22.19  6700 33.97	Correct Factor dB 10.12 10.12 10.11 10.11 10.02 10.02 10.02	Measurement  dBuV  56.31  51.12  44.36  38.21  45.83  32.21  43.99  30.15	dBuV 65.99 55.99 62.74 52.74 56.17 46.17 56.00 46.00	-9.68 -4.87 -18.38 -14.53 -10.34 -13.96 -12.01 -15.85	John Java Java Java Java Java Java Java Jav
0.150  No. Mk. F  1	Reading Level MHz dBuV 1500 46.19 1500 41.00 2220 34.25 2220 28.10 4900 35.81 4900 22.19 6700 33.97 6700 20.13	Correct Factor  dB 10.12 10.12 10.11 10.11 10.02 10.02 10.02 10.02 10.07	Measure- ment  dBuV  56.31  51.12  44.36  38.21  45.83  32.21  43.99  30.15  41.28	dBuV 65.99 55.99 62.74 56.17 46.17 56.00 46.00 46.00	-9.68 -4.87 -18.38 -14.53 -10.34 -13.96 -12.01 -15.85 -14.72	Java Java Java Java Java Java Java Java



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# 5. Radiated Emission Test

## 5.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209

5.1.2 Test Limit

### Radiated Emission Limits (9kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/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
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

## Radiated Emission Limit (Above 1000MHz)

Frequency	Class A (dBuV	/m)(at 3 M)	Class B (dBuV/m)(at 3 N		
(MHz)	Peak	Average	Peak	Average	
Above 1000	80	60	74	54	

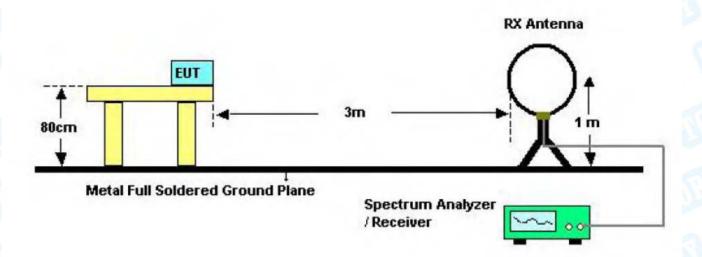
#### Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

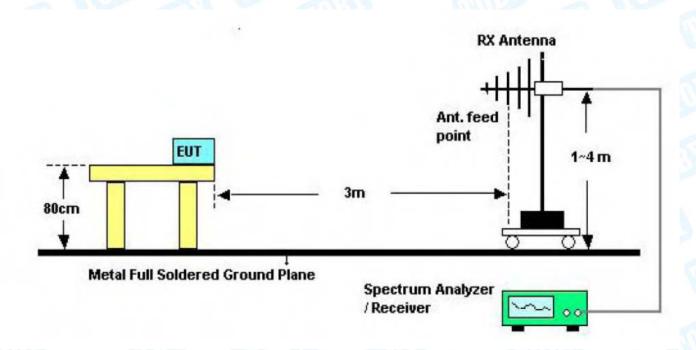


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# 5.2 Test Setup



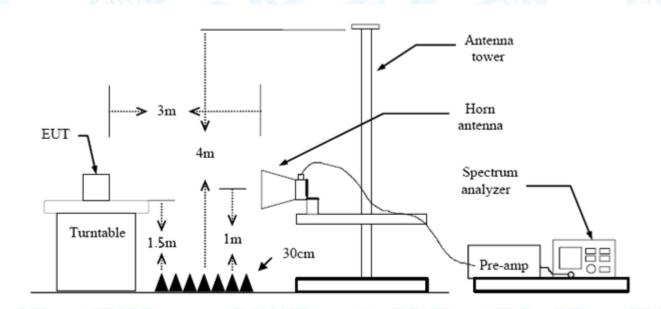
Below 30MHz Test Setup



Below 1000MHz Test Setup



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Above 1GHz Test Setup

#### 5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) 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.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.



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# 5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

### 5.5 Test Data

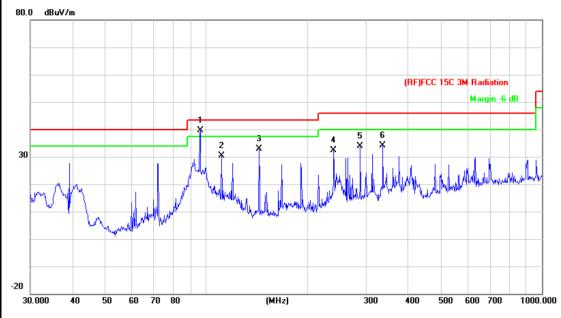
Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=1 kHz with Peak Detector for Average Values.

Test data please refer the following pages.



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EUT:	Sport Bluetooth Speaker	Model:	JT2692						
Temperature:	25 ℃	Relative Humidity:	55%						
Test Voltage:	DC 5V								
Ant. Pol.	Horizontal								
Test Mode:	BLE TX 2402 Mode		A Alton						
Remark:	Only worse case is reported		3 0						
80.0 dBuV/m									



N	lo. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	96.0986	61.68	-22.16	39.52	43.50	-3.98	peak
2		111.3468	52.43	-21.95	30.48	43.50	-13.02	peak
3		143.8295	54.48	-21.67	32.81	43.50	-10.69	peak
4		239.9874	50.99	-18.59	32.40	46.00	-13.60	peak
5		287.9904	51.16	-17.32	33.84	46.00	-12.16	peak
6		336.0352	49.57	-15.46	34.11	46.00	-11.89	peak

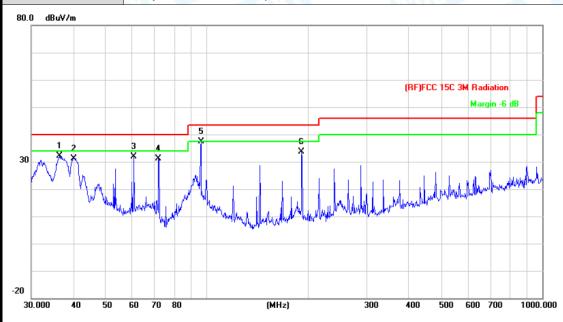
<sup>\*:</sup>Maximum data x:Over limit !:over margin



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EUT:	Sport Bluetooth Speaker	Model:	JT2692
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 5V		33
Ant. Pol.	Vertical		
Test Mode:	BLE TX 2402 Mode	MILES -	HILL

Remark: Only worse case is reported



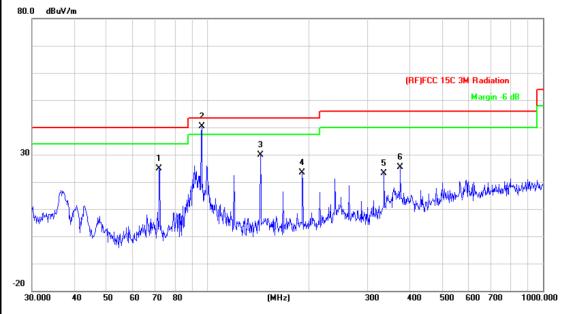
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		36.3814	49.95	-17.91	32.04	40.00	-7.96	peak
2		40.1347	51.38	-20.22	31.16	40.00	-8.84	peak
3		60.7044	56.31	-24.46	31.85	40.00	-8.15	peak
4		71.8320	54.62	-23.56	31.06	40.00	-8.94	peak
5	*	96.0986	59.60	-22.16	37.44	43.50	-6.06	peak
6		191.7450	54.40	-20.81	33.59	43.50	-9.91	peak

<sup>\*:</sup>Maximum data x:Over limit !:over margin



Report No.: TB-FCC145542 23 of 49 Page:

EUT:	Sport Bluetooth Speaker	Model:	JT2692			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	TIES OF					
Ant. Pol. Horizontal						
Test Mode:	BLE TX 2442 Mode		J. Hilliam			
Remark:	Only worse case is reported		3 _ 0			
80.0 dBuV/m						



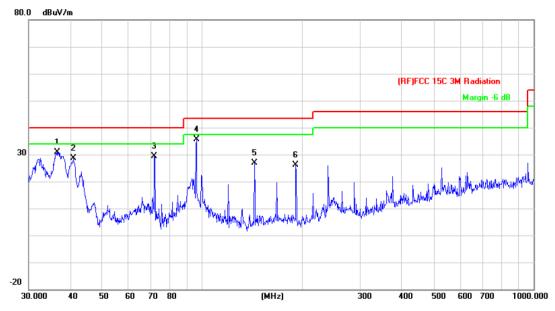
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		71.8320	48.50	-23.56	24.94	40.00	-15.06	peak
2	*	96.0986	62.42	-22.16	40.26	43.50	-3.24	peak
3		143.8295	51.57	-21.67	29.90	43.50	-13.60	peak
4		191.7450	44.14	-20.81	23.33	43.50	-20.17	peak
5		336.0352	38.49	-15.46	23.03	46.00	-22.97	peak
6		375.9385	39.84	-14.40	25.44	46.00	-20.56	peak

x:Over limit !:over margin \*:Maximum data



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EUT:	Sport Bluetooth Speaker	Model:	JT2692						
Temperature:	<b>25</b> ℃	Relative Humidity:	55%						
Test Voltage:	DC 5V	DC 5V							
Ant. Pol.	Vertical		UST						
Test Mode:	BLE TX 2442 Mode	BLE TX 2442 Mode							
Remark:	Only worse case is reported								



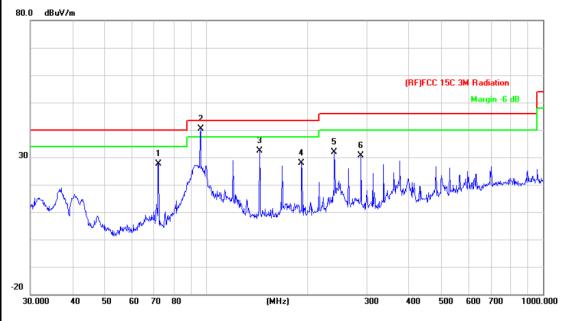
No	o. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		36.6375	48.90	-18.07	30.83	40.00	-9.17	peak
2		40.8445	49.06	-20.52	28.54	40.00	-11.46	peak
3		71.8319	53.02	-23.56	29.46	40.00	-10.54	peak
4	*	96.0986	57.86	-22.16	35.70	43.50	-7.80	peak
5		143.8294	48.43	-21.67	26.76	43.50	-16.74	peak
6		191.7450	46.89	-20.81	26.08	43.50	-17.42	peak

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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EUT:	Sport Bluetooth Speaker	Model:	JT2692						
Temperature:	25 ℃	Relative Humidity:	55%						
Test Voltage:	DC 5V								
Ant. Pol.	Horizontal								
Test Mode:	BLE TX 2480 Mode		A Alban						
Remark:	Remark: Only worse case is reported								
80.0 dBuV/m									



No	. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		72.0843	51.13	-23.54	27.59	40.00	-12.41	peak
2	*	96.0986	62.58	-22.16	40.42	43.50	-3.08	peak
3		143.8295	54.05	-21.67	32.38	43.50	-11.12	peak
4		191.7450	48.57	-20.81	27.76	43.50	-15.74	peak
5		239.9874	50.48	-18.59	31.89	46.00	-14.11	peak
6		287.9904	47.92	-17.32	30.60	46.00	-15.40	peak

<sup>\*:</sup>Maximum data x:Over limit !:over margin



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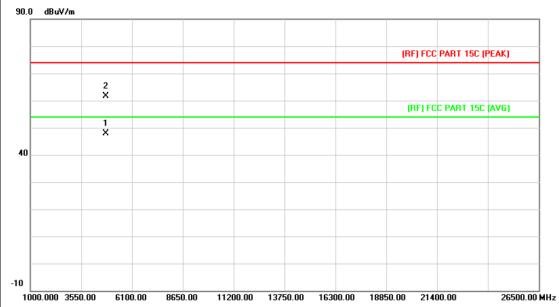
EUT:	Sport Bluetootl	h Speaker	Model:	JT2692 55%			
Temperature:	25 ℃	('A)	Relative Hu				
Test Voltage:	DC 5V						
Ant. Pol.	Vertical	a Wille		62		MIN.	
Test Mode:	BLE TX 2480 I	Mode	THE PERSON		1 11/1	1 less	
Remark:	Only worse ca	se is reported	ed				
80.0 dBuV/m							
30	3 X X X X X X X X X X X X X X X X X X X	E X	Aller Miller and John Mary Color and Assert		E 3M Radiation Margin -6	dB	
-20 30.000 40 50	0 60 70 80	(MHz)	300	400 500	0 600 700	1000.00	
	Reading Freq. Level	g Correct Factor	Measure- ment	Limit	Over		
	MHz dBuV	dB/m	dBuV/m	dBuV/m	dB 	Detecto	
1 36	.6375 49.73	-18.07	31.66	40.00	-8.34	peak	
2 40	.1347 50.66	-20.22	30.44	40.00	-9.56	peak	
3 * 65	.1145 59.61	-24.06	35.55	40.00	-4.45	peak	
4 71	.8320 54.12	-23.56	30.56	40.00	-9.44	peak	
5 ! 96	.0986 60.02	-22.16	37.86	43.50	-5.64	peak	
6 191	1.7450 54.59	-20.81	33.78	43.50	-9.72	peak	

\*:Maximum data x:Over limit !:over margin



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EUT:	Sport Bluetooth Speaker	JT2692						
Temperature:	<b>25</b> ℃	°C Relative Humidity: 5						
Test Voltage:	DC 5V	DC 5V						
Ant. Pol.	Horizontal	Horizontal						
Test Mode:	BLE Mode TX 2402 MHz		HILL					
Remark:	No report for the emission which	No report for the emission which more than 10 dB below the						
	prescribed limit.							

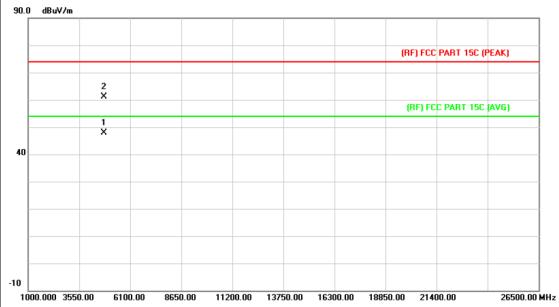


N	lo. Mł	ι. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4803.988	34.50	13.44	47.94	54.00	-6.06	AVG
2		4804.051	48.09	13.44	61.53	74.00	-12.47	peak



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EUT:	Sport Bluetooth Speaker	JT2692						
Temperature:	25 ℃	Relative Humidity: 5						
Test Voltage:	DC 5V	DC 5V						
Ant. Pol.	Vertical							
Test Mode:	BLE Mode TX 2402 MHz		HILL					
Remark:	No report for the emission w	No report for the emission which more than 10 dB below the						
	prescribed limit.							

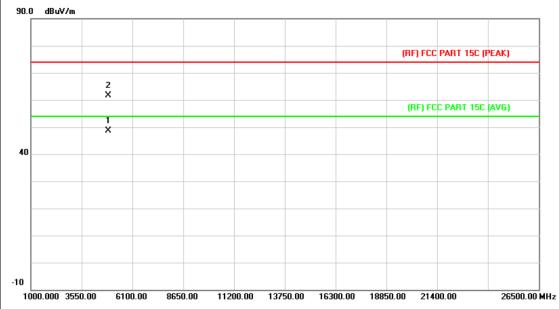


	۷o.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4803.673	34.52	13.44	47.96	54.00	-6.04	AVG
2			4803.934	47.70	13.44	61.14	74.00	-12.86	peak



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EUT:	Sport Bluetooth Speaker	Model:	JT2692				
Temperature:	25 ℃	25 °C Relative Humidity: 55%					
Test Voltage:	DC 5V	DC 5V					
Ant. Pol.	Horizontal						
Test Mode:	BLE Mode TX 2442 MHz		HILL				
Remark:	No report for the emission w	hich more than 10 dB bel	ow the				
	prescribed limit.						

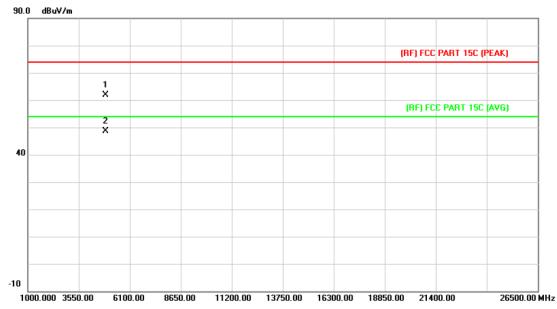


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4883.979	34.74	13.92	48.66	54.00	-5.34	AVG
2		4883.996	47.77	13.92	61.69	74.00	-12.31	peak



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EUT:	Sport Bluetooth Speaker	Model:	JT2692				
Temperature:	25 ℃	25 ℃ Relative Humidity: 55%					
Test Voltage:	DC 5V	DC 5V					
Ant. Pol.	Vertical						
Test Mode:	BLE Mode TX 2442 MHz	MILES -	HILL				
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						

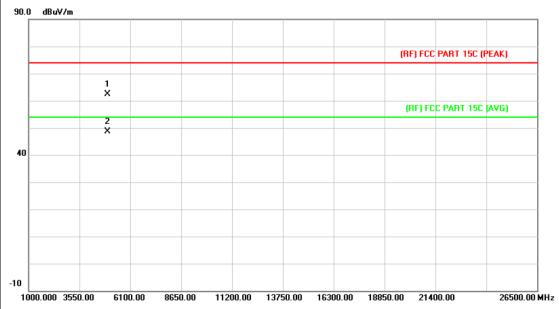


N	o. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4883.945	47.97	13.92	61.89	74.00	-12.11	peak
2	*	4884.239	34.72	13.92	48.64	54.00	-5.36	AVG



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EUT:	Sport Bluetooth Speaker	Model:	JT2692				
Temperature:	<b>25</b> ℃	25 °C Relative Humidity: 55%					
Test Voltage:	DC 5V	DC 5V					
Ant. Pol.	Horizontal						
Test Mode:	BLE Mode TX 2480 MHz		J. HILL				
Remark:	No report for the emission w	hich more than 10 dB b	elow the				
	prescribed limit.						

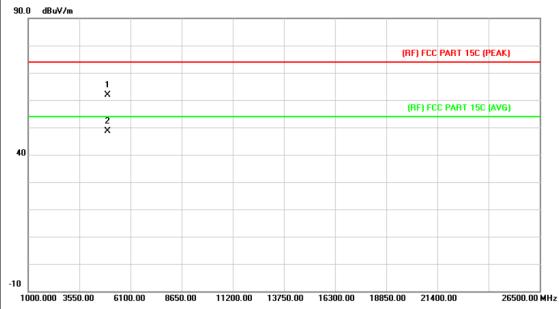


N	lo. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4959.971	48.04	14.36	62.40	74.00	-11.60	peak
2	*	4960.004	34.30	14.36	48.66	54.00	-5.34	AVG



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EUT:	Sport Bluetooth Speaker	Model:	JT2692			
Temperature:	25 ℃	25 °C Relative Humidity: 55%				
Test Voltage:	DC 5V	and the same	33			
Ant. Pol.	Vertical					
Test Mode:	BLE Mode TX 2480 MHz	WILLIAM TO	HILL			
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					



No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4959.602	47.46	14.36	61.82	74.00	-12.18	peak
2	*	4960.222	34.39	14.36	48.75	54.00	-5.25	AVG



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# 6. Restricted Bands Requirement

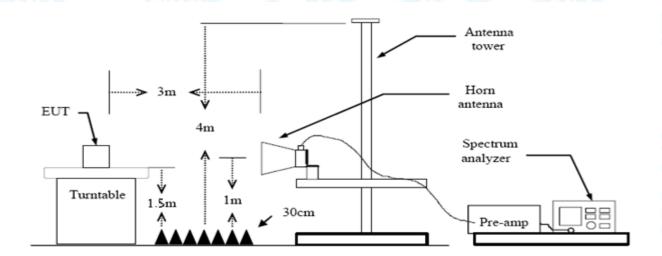
#### 6.1 Test Standard and Limit

6.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

6.1.2 Test Limit

Restricted Frequency	Class B (dBuV/m)(at 3 M)			
Band (MHz)	Peak	Average		
2310 ~2390	74	54		
2483.5 ~2500	74	54		

## 6.2 Test Setup



#### 6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) 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



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and then Quasi Peak detector mode re-measured.

- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 KHz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

### 6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

#### 6.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=1kHz with Peak Detector for Average Values.

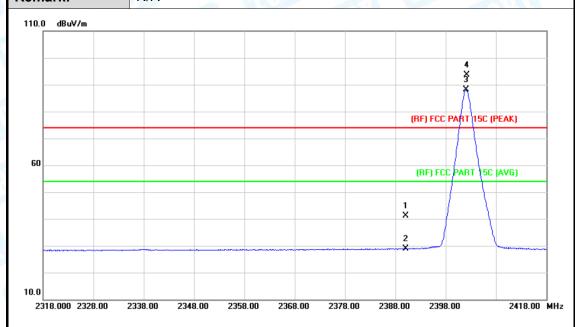
Test data please refer the following pages.



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# (1) Radiation Test

EUT:	Sport Bluetooth Speaker	Model:	JT2692		
Temperature:	25 ℃	Relative Humidity:	55%		
Test Voltage:	DC 5V				
Ant. Pol.	Horizontal	WILLIAM STATE	MALL		
Test Mode:	BLE Mode TX 2402 MHz				
Remark:	N/A	A RELIEF			



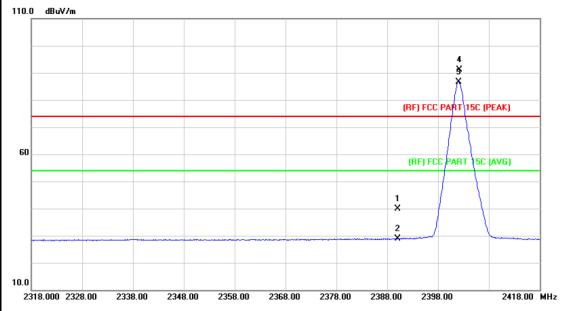
No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	40.27	0.77	41.04	74.00	-32.96	peak
2		2390.000	28.02	0.77	28.79	54.00	-25.21	AVG
3	*	2402.100	87.20	0.82	88.02	Fundamental	Frequency	AVG
4	Χ	2402.200	92.75	0.82	93.57	Fundamental	Frequency	peak



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EUT:	Sport Bluetooth Speaker	Model:	JT2692				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	DC 5V		339				
Ant. Pol.	Vertical	Vertical					
Test Mode:	BLE Mode TX 2402 MHz		A A A A A A A A A A A A A A A A A A A				
Remark:	N/A		3 0				
110.0 dBuV/m							

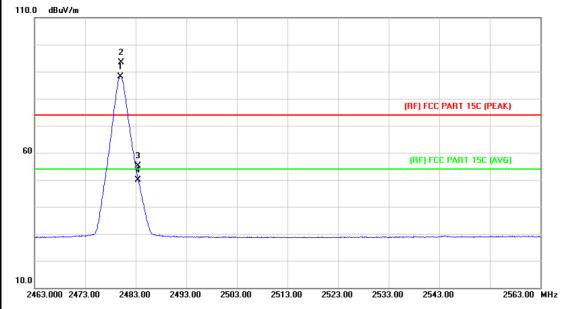


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	39.10	0.77	39.87	74.00	-34.13	peak
2		2390.000	28.06	0.77	28.83	54.00	-25.17	AVG
3	*	2402.100	85.80	0.82	86.62	Fundamental Frequency		AVG
4	Х	2402.140	90.42	0.82	91.24	Fundamental Frequency		peak



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EUT:	Sport Bluetooth Speaker	Model:	JT2692
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 5V		70
Ant. Pol.	Horizontal		
Test Mode:	BLE Mode TX 2480 MHz		All Con-
Remark:	N/A	(III)	



No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2480.000	87.09	1.15	88.24	Fundamental	Frequency	AVG
2	Χ	2480.200	92.24	1.15	93.39	Fundamental	Frequency	peak
3		2483.500	53.97	1.17	55.14	74.00	-18.86	peak
4		2483.500	48.82	1.17	49.99	54.00	-4.01	AVG

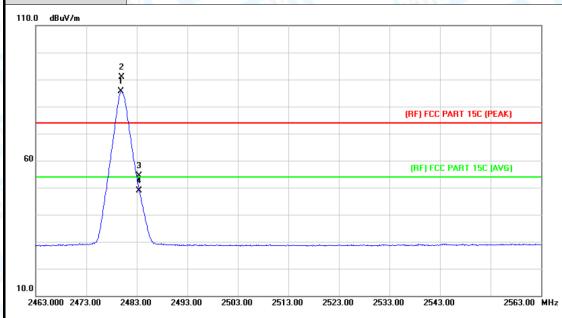
**Emission Level= Read Level+ Correct Factor** 



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EUT:	Sport Bluetooth Speaker	Model:	JT2692
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 5V		7
Ant. Pol.	Vertical		
Test Mode:	BLE Mode TX 2480 MHz		





No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	O∨er	
·		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2479.900	84.51	1.15	85.66	Fundamental	Frequency	AVG
2	Х	2480.000	89.72	1.15	90.87	Fundamental	Frequency	peak
3		2483.500	53.12	1.17	54.29	74.00	-19.71	peak
4		2483.500	47.80	1.17	48.97	54.00	-5.03	AVG

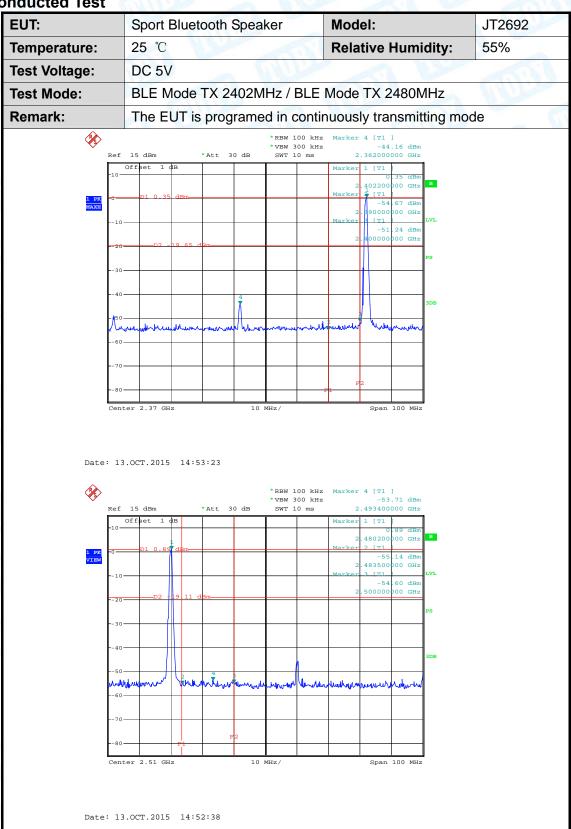
**Emission Level= Read Level+ Correct Factor** 





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### (2) Conducted Test





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## 7. Bandwidth Test

#### 7.1 Test Standard and Limit

7.1.1 Test Standard FCC Part 15.247 (a)(2)

7.1.2 Test Limit

FCC P	FCC Part 15 Subpart C(15.247)/RSS-247						
Test Item	Test Item Limit Frequency Range(MH						
Bandwidth	>=500 KHz (6dB bandwidth)	2400~2483.5					

### 7.2 Test Setup



#### 7.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
- (3)Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:100 kHz, and Video Bandwidth:300 kHz, Detector: Peak, Sweep Time set auto.

## 7.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, middle and high channel for the test.



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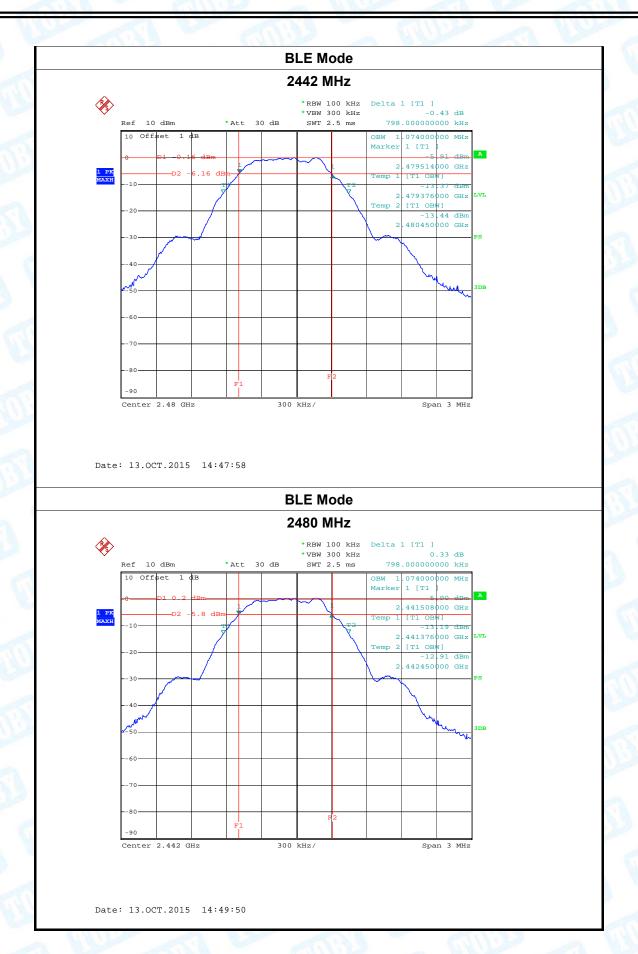
# 7.5 Test Data

	Sport Bluetooth Speaker		aker	Model:	JT2692	
emperature:	25 ℃			Relative Humic	lity: 55%	
est Voltage:	DC 5V	aub		MILLER	A WY	
est Mode:	t Mode: BLE TX Mode		A VICTOR			
Channel frequer (MHz)	ncy (	6dB Bandw (kHz)	idth	99% Bandwid (kHz)	lth Limi	
2402		798.00		1074.00	-	
2442		798.00		1074.00	>=50	
2480		798.00		1074.00		
	1	В	BLE Mode	•		
Ref 10	dBm set 1 dB	*Att 30 dB	*RBW 100 k *VBW 300 k SWT 2.5 n	OBW 1.074000000	kHz	
0	D1 0.24 dBm			Marker 1 [T1 ]		



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# 8. Peak Output Power Test

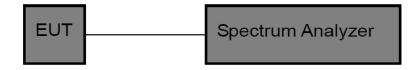
### 8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (b)

8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-247					
Test Item Limit Frequency Range(					
Peak Output Power	1 Watt or 30 dBm	2400~2483.5			

### 8.2 Test Setup



#### 8.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement is according to section 9.1.1 of KDB 558074 D01 DTS Meas Guidance v03r03.

- (1) Set the RBW≥DTS Bandwidth
- (2) Set VBW≥3\*RBW
- (3) Set Span≥3\*RBW
- (4) Sweep time=auto
- (5) Detector= peak
- (6) Trace mode= maxhold.
- (7) Allow trace to fully stabilize, and then use peak marker function to determine the peak amplitude level.

## 8.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.



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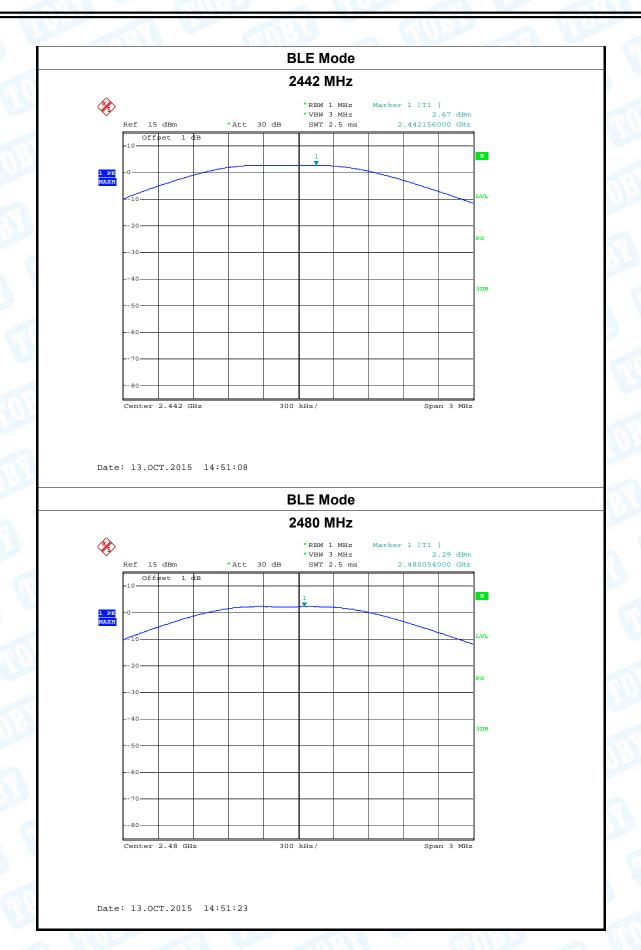
# 8.5 Test Data

JT:		Sport Bluetooth Speaker				Model:				JT2692		
mperatur	<b>e</b> :	25 °	C		A 1			Rela	tive H	umidit	y:	55%
st Voltage	<b>)</b> :	DC	5V	1119	9			THE TO US			1678	
st Mode:		BLE TX Mode		N	COMP.			33				
nannel fre	quen	су (М	Hz)	,	Test F	Resul	t (dB	m)		L	.imit	(dBm)
2	402					4.50	)					
2	442					2.67	7				;	30
2	480					2.29	)					
			1		В	LE M	ode		,			
					2	402 N	1Hz					
						* RBW 1			r 1 [T1	1.50 dBm		
<b>\$</b> \$\$	Ref 15			*Att 3	0 dB		2.5 ms		2.402168	8000 GHz		
<b>V</b>	Ref 15			*Att 3	0 dB		2.5 ms		2.402168		В	
~	Off			*Att 3	0 dB	SWT 2	2.5 ms		2.402168		В	
<b>V</b>	Off:			*Att 3	0 dB	SWT 2	2.5 ms		2.402168		B	
~	Off:			*Att 3	0 dB	SWT 2	2.5 ms		2.402168			
~	-0 Offi			*Att 3	0 dB	SWT 2	2.5 ms		2.402168			
~	-10 Off.			*Att 3	0 dB	SWT 2	2.5 ms		2.40216		LVL	
~	-0 Offi			*Att 3	0 dB	SWT 2	2.5 ms		2.40216	1	LVL	
~	-10 Off.			*Att 3	0 dB	SWT 2	2.5 ms		2.40216	1	LVL PS	
~	-10 Off.			*Att 3	0 dB	SWT 2	2.5 ms		2.402168	1	LVL PS	
~	-10 Off			*Att 3	0 dB	SWT 2	2.5 ms		2.40216	1	LVL PS	
~	-10 Off			*Att 3	0 dB	SWT 2	2.5 ms		2.40216	1	LVL PS	



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# 9. Power Spectral Density Test

#### 9.1 Test Standard and Limit

9.1.1 Test Standard FCC Part 15.247 (e)

9.1.2 Test Limit

FCC Part 15 Subpart C(15.247)						
Test Item Limit Frequency Range(MHz						
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5				

### 9.2 Test Setup



### 9.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v03r03.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser center frequency to DTS channel center frequenyc.
- (3) Set the span to 1.5 times the DTS bandwidth.
- (4) Set the RBW to: 3 kHz(5) Set the VBW to: 10 kHz
- (6) Detector: peak(7) Sweep time: auto
- (8) Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

## 9.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, Midle and high channel for the test.



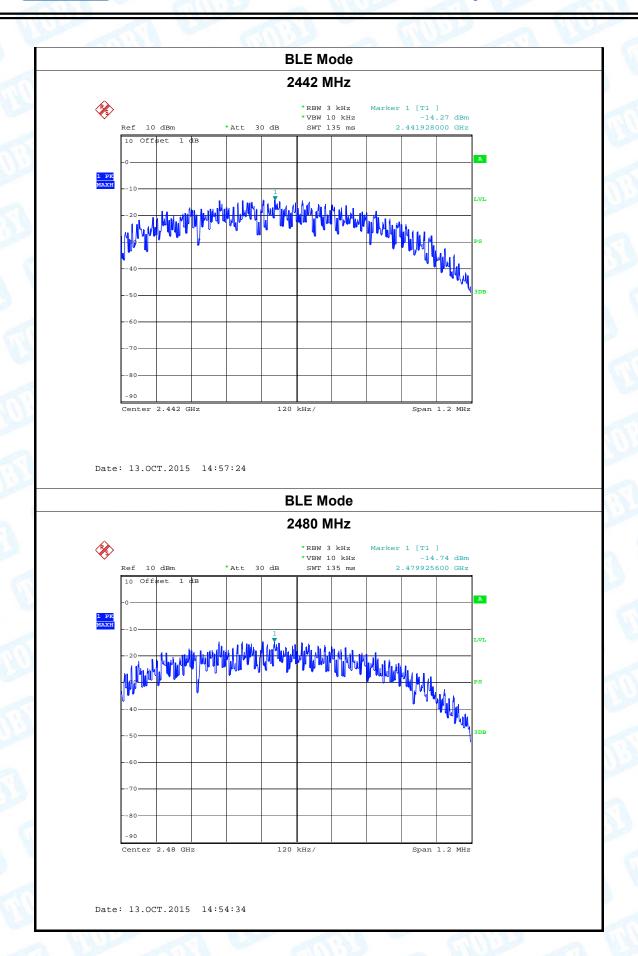
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# 8.5 Test Data

UT:	Sport Blu	peaker	Model:			JT2692		
emperature:	25 ℃	1	STATE OF	Relativ	ve Hun	nidity:	55%	
est Voltage:	DC 5V		Alle		100	V	em'	
est Mode:	BLE TX I	Mode		UNI			100	
Channel Fred	Channel Frequency		ower Der	nsity		Limit		
(MHz)			(3 kHz/dE	Bm)			(dBm)	
2402			-14.46					
2442			-14.27				8	
2480			-14.74					
		1	BLE Mod					
			2402 MH					
	0. 35	* 7	*VBW 10			46 dBm		
Ref 1	0 dBm fset 1 dB	*Att 30 di			-14. 2.4019280			
10 Of		*Att 30 di						
10 Of		*Att 30 di				00 GHz		
10 Of -0		*Att 30 di				00 GHz		
10 Of -0		*Att 30 di				00 GHz		
10 Of -0 -0		*Att 30 di				00 GHz		
10 Of -0 -0		*Att 30 di				00 GHz		
10 Of -0		*Att 30 di				00 GHz		
10 Of 0-20-20-40-40		*Att 30 di				LVL PS		
10 Of  1 PK  MAXH 10 20 40 50		*Att 30 di				LVL PS		
10 Of  1 PK  MAXH 10 20 40 50		*Att 30 di				LVL PS		
10 Of  1 PK  MAXH 10 20 40 50		*Att 30 di				LVL PS		
10 Of  10 PK  11 PK  14 PK  1-10  -20  -40  -50  -60  -70  -80  -90					2.4019280	LVL PS		



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# 10. Antenna Requirement

### 10.1 Standard Requirement

10.1.1 Standard FCC Part 15.203

### 10.1.2 Requirement

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.

#### 10.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is -0.46 dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

#### 10.3 Result

The EUT antenna is a PCB Antenna. It complies with the standard requirement.

Antenna Type				
	▼ Permanent attached antenna			
TO 3	□ Unique connector antenna			
	□ Professional installation antenna			