FCC Test Report

Report No.: AGC00924150604FE03

FCC ID : QIFB42

APPLICATION PURPOSE : Original Equipment

PRODUCT DESIGNATION: Bluetooth Speaker

BRAND NAME : My Music

MODEL NAME : B42

CLIENT : My Music Group Limited

DATE OF ISSUE : Aug.03,2015

STANDARD(S)

TEST PROCEDURE(S) : FCC Part 15 Rules

REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Aug.03,2015	Valid	Original Report

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1. VERIFICATION OF CONFORMITY

Applicant	My Music Group Limited		
Address	Room2026, Global Logistics Service Center, China South City, Pinghu Town, Long Gang District, Shenzhen 518111, China		
Manufacturer Dongguan Fulun Electronic Co.,Limited			
Address 4F,Building A,Huangjinye Industrial Park,No.216Shaxin Road,Keyua City,Tangxia, Dongguan.CN			
Product Designation	Bluetooth Speaker		
Brand Name	My Music		
Test Model	B42		
Date of test	July 24,2015 to July 27,2015		
Deviation	None		
Condition of Test Sample	Normal		
Report Template	AGCRT-US-BR/RF		

We hereby certify that:

The above equipment was tested by Compliance Certification Service(Shenzhen) Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2009) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.249.

Tested By	Trime Uwang	-
	Time Huang(Huang Nanhui)	Aug.03,2015
Checked By	Forder cei	
	Forrest Lei(Lei Yonggang)	Aug.03,2015
Authorized By	Solya shong	
	Solger Zhang(Zhang Hongyi)	Aug.03,2015

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2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

A major technical description of EUT is described as following

Operation Frequency	2.402 GHz to 2.480GHz		
RF Output Power	1.55dBm(Max)		
Bluetooth Version	V2.1+EDR		
Modulation	GFSK, π /4-DQPSK, 8DPSK		
Number of channels	79		
Hardware Version	V1.0		
Software Version	V1.0		
Antenna Designation	PCB Antenna (Met 15.203 Antenna requirement)		
Antenna Gain	0dBi		
Power Supply	DC 3.7V by battery		
Note: The USB port only used for charging and can't be used to transfer data with PC.			

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
	0	2402MHZ
	1	2403MHZ
	:	:
	38	2440 MHZ
2400~2483.5MHZ	39	2441 MHZ
	40	2442 MHZ
	:	:
	77	2479 MHZ
	78	2480 MHZ

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3. 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 % \circ

No.	Item	Uncertainty
1	Conducted Emission Test	±3.18dB
2	All emissions,radiated	±3.91dB
3	Temperature	±0.5°C
4	Humidity	±2%

4. DESCRIPTION OF TEST MODES

TEST MODE DESCRIPTION
Low channel GFSK
Middle channel GFSK
High channel GFSK
Low channel π /4-DQPSK
Middle channel π /4-DQPSK
High channel π /4-DQPSK
Low channel 8DPSK
Middle channel 8DPSK
High channel 8DPSK
Normal operation (BT)

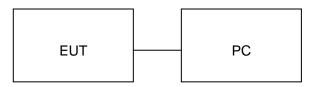
- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. The EUT used fully-charged battery when tested.

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5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure 1: (Normal hopping)



Configure 2: (Control continuous TX)



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Bluetooth Speaker	My Music	B42	EUT
2	Control box	N/A	N/A	A.E
3	PC	Dell	INSPIRON	A.E
4	USB Cable	N/A	1.5m, unshielded	A.E
5	Audio Cable	N/A	0.2m, unshielded	A.E
6	IPOD	APPLE	A1367	A.E

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.249	Radiated Emission	Compliant
§15.249	Band Edges	Compliant
§15.207	Conduction Emission	Compliant
N/A	BANDWITH	Compliant

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6. TEST FACILITY

Site Compliance Certification Service(Shenzhen) Inc.	
Location No.10-1 Mingkeda Logistics Park, No.18 Huanguan South RD. Guan lan Town,Baoan Distr	
FCC Registration No.	441872
Description	The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2009.

7 ALL TEST EQUIPMENT LIST

Radiated Emission Test Site 966(2)						
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration	
PSA Series Spectrum Analyzer	Agilent	E4446A	US44300399	03/01/2015	03/01/2016	
EMI TEST RECEIVER	ROHDE&SCHWAR Z	ESCI	100783	03/09/2015	03/08/2016	
Amplifier	MITEQ	AM-1604-3000	1123808	03/18/2015	03/17/2016	
High Noise Amplifier	Agilent	8449B	3008A01838	03/18/2015	03/17/2016	
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170-497	07/10/2015	07/09/2016	
Bilog Antenna	SCHAFFNER	CBL6143	5082	03/01/2015	03/01/2016	
Horn Antenna	SCHWARZBECK	BBHA9120	D286	03/01/2015	03/01/2016	
Loop Antenna	COM-POWER	AL-130	121044	09/27/2014	09/26/2015	
Turn Table	N/A	N/A	N/A	N.C.R	N.C.R	
Controller	Sunol Sciences	SC104V	022310-1	N.C.R	N.C.R	
Controller	СТ	N/A	N/A	N.C.R	N.C.R	
Temp. / Humidity Meter	Anymetre	JR913	N/A	02/28/2015	02/27/2016	
Antenna Tower	SUNOL	TLT2	N/A	N.C.R	N.C.R	
Test S/W	FARAD	LZ-RF / CCS-SZ-3A2				

	Conducted Emission Test Site												
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration								
EMI TEST RECEIVER	ROHDE&SCHWA RZ	ESCI	100783	03/09/2015	03/08/2016								
LISN(EUT)	ROHDE&SCHWA RZ	ENV216	101543-WX	03/09/2015	03/08/2016								
LISN	EMCO	3825/2	8901-1459	03/09/2015	03/08/2016								
Temp. / Humidity Meter	VICTOR	HTC-1	N/A	03/04/2015	03/03/2016								
Test S/W	FARAD	EZ-EMC/ CCS-3A1-CE											

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8. RADIATED EMISSION

8.1TEST LIMIT

Standard FCC15.249

Fundamental Frequency	Field Strength of Fundamental	Field Strength of Harmonics
	(millivolts/meter)	(microvolts/meter)
900-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

Standard FCC 15.209

Frequency	Distance	Field Strei	ngths Limit			
(MHz)	Meters	μ V/m	dB(μV)/m			
0.009 ~ 0.490	300	2400/F(kHz)				
0.490 ~ 1.705	30	24000/F(kHz)				
1.705 ~ 30		30				
30 ~ 88	3	100	40.0			
88 ~ 216	3	150	43.5			
216 ~ 960	3	200	46.0			
960 ~ 1000	3	500	54.0			
Above 1000	3	Other:74.0 dB(μV)/m (Peak) 54.0 dB(μV)/m (Av				

Remark:

- (1) Emission level dB μ V = 20 log Emission level μ V/m
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

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8.2. MEASUREMENT PROCEDURE

1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.

- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1.5MHz VBW and RBW for peak reading. Then 1.5MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.

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The following table is the setting of spectrum analyzer and receiver.

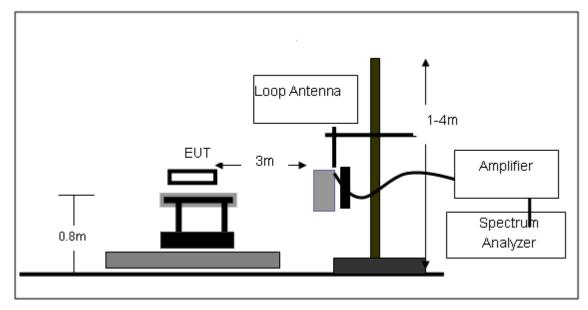
Spectrum Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP
Start ~Stop Frequency	1GHz~26.5GHz
Clair Ctop Frequency	1.5MHz/1.5MHz for Peak, 1.5MHz/10Hz for Average

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RB 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RB 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RB 120KHz for QP

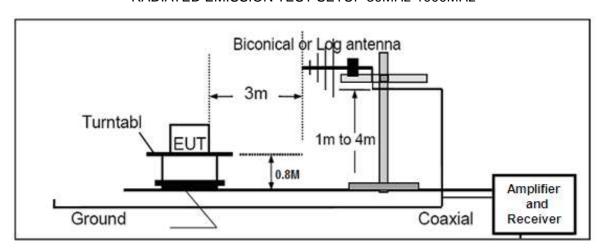
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8.3. TEST SETUP

Radiated Emission Test-Setup Frequency Below 30MHz

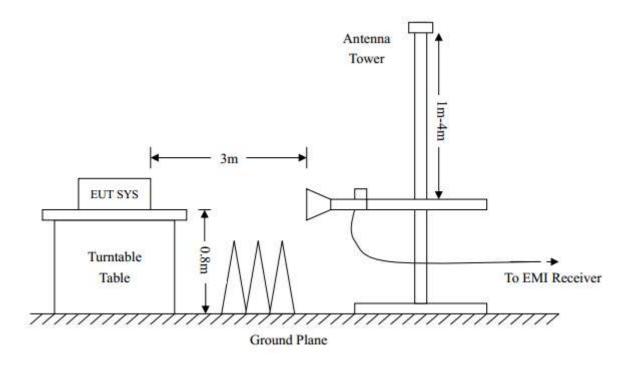


RADIATED EMISSION TEST SETUP 30MHz-1000MHz



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RADIATED EMISSION TEST SETUP ABOVE 1000MHz



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8.4. TEST RESULT

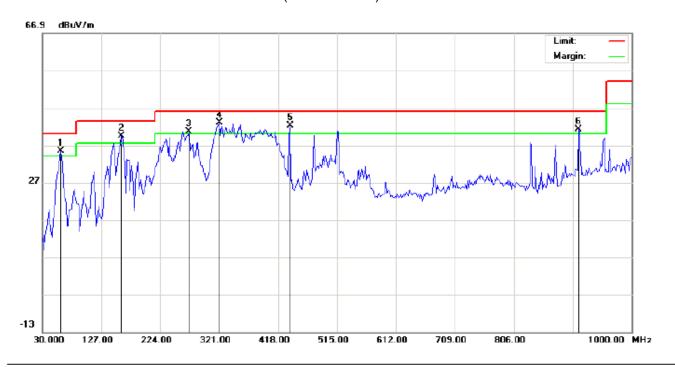
(Worst modulation:GFSK)

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION BELOW 1GHZ

RADIATED EMISSION TEST- (30MHZ-1GHZ)-LOW CHANNEL-HORIZONTAL



Site: site #1 Polarization: Horizontal Temperature: 24.6 Limit: FCC Class B 3M Radiation Power: Humidity: 57.5 %

EUT: Bluetooth Speaker Distance: 3m

M/N: B42

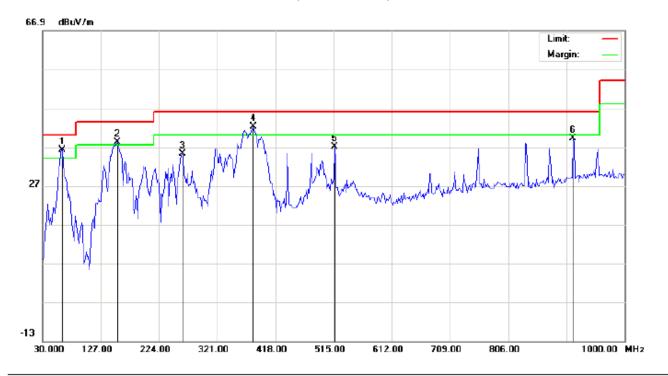
Mode: Low Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1	İ	60.7167	24.26	11.09	35.35	40.00	-4.65	peak			
2	İ	159.3333	24.02	15.33	39.35	43.50	-4.15	peak			
3	İ	270.8833	26.10	14.53	40.63	46.00	-5.37	peak			
4	*	321.0000	26.27	16.81	43.08	46.00	-2.92	peak			
5	İ	437.4000	22.07	20.21	42.28	46.00	-3.72	peak			
6	İ	912.7000	12.28	28.96	41.24	46.00	-4.76	peak			

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RADIATED EMISSION TEST- (30MHZ-1GHZ)-LOW CHANNEL -VERTICAL



Site: site #1 Limit: FCC Class B 3M Radiation

EUT: Bluetooth Speaker

M/N: B42

Mode: Low Channel TX

Note:

Polarization:	Vertical	Temperatu	ire: 24.6
Power:		Humidity:	57.5 %

Distance: 3m

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBuV/m	dBu∀/m	dB		cm	degree	
1	*	62.3333	29.06	7.24	36.30	40.00	-3.70	peak			
2	İ	154.4832	22.82	15.29	38.11	43.50	-5.39	peak			
3		262.8000	20.82	14.29	35.11	46.00	-10.89	peak			
4	į	380.8167	23.31	18.94	42.25	46.00	-3.75	peak			
5		516.6167	15.40	21.58	36.98	46.00	-9.02	peak			
6		914.3167	10.10	29.01	39.11	46.00	-6.89	peak			

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

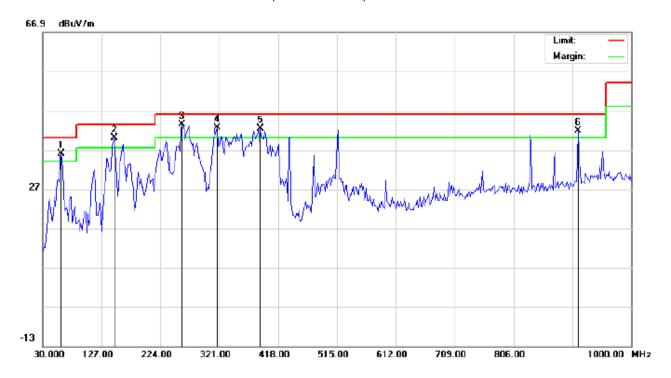
2. The "Factor" value can be calculated automatically by software of measurement system.

Temperature: 24.6

Humidity: 57.5 %

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RADIATED EMISSION TEST- (30MHZ-1GHZ)-MIDDLE CHANNEL-HORIZONTAL



Polarization: Horizontal

Site: site #1 Limit: FCC Class B 3M Radiation

EUT: Bluetooth Speaker

M/N: B42

Mode: Middle Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1	İ	60.7167	24.89	11.09	35.98	40.00	-4.02	peak			
2	İ	148.0167	24.66	15.25	39.91	43.50	-3.59	peak			
3	*	259.5667	29.16	14.19	43.35	46.00	-2.65	peak			
4	İ	317.7667	26.11	16.59	42.70	46.00	-3.30	peak			
5	į	388.9000	23.34	19.00	42.34	46.00	-3.66	peak			
6	į	912.7000	12.89	28.96	41.85	46.00	-4.15	peak			

Power:

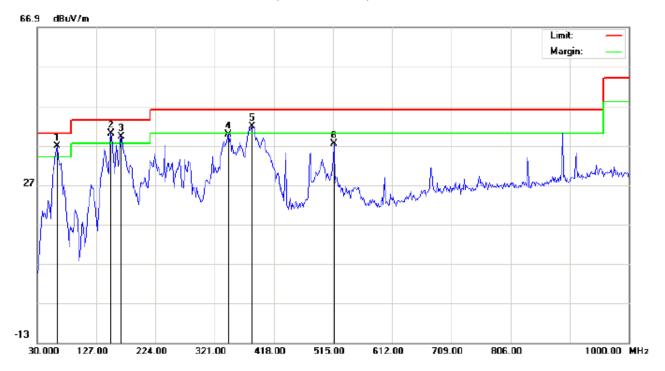
Distance: 3m

Temperature: 24.6

Humidity: 57.5 %

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RADIATED EMISSION TEST- (30MHZ-1GHZ)- MIDDLE CHANNEL -VERTICAL



Polarization: Vertical

Site: site #1 Limit: FCC Class B 3M Radiation

EUT: Bluetooth Speaker

M/N: B42

Mode: Middle Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1	*	62.3333	29.61	7.24	36.85	40.00	-3.15	peak			
2	į	151.2500	24.83	15.27	40.10	43.50	-3.40	peak			
3	į	167.4167	24.40	14.86	39.26	43.50	-4.24	peak			
4		343.6333	21.41	18.32	39.73	46.00	-6.27	peak			
5	į	382.4333	22.95	18.95	41.90	46.00	-4.10	peak			
6		516.6167	15.80	21.58	37.38	46.00	-8.62	peak			

Power:

Distance: 3m

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. The "Factor" value can be calculated automatically by software of measurement system.

Humidity: 57.5 %

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RADIATED EMISSION TEST- (30MHZ-1GHZ)-HIGH CHANNEL-HORIZONTAL



Site: site #1 Limit: FCC Class B 3M Radiation

EUT: Bluetooth Speaker

M/N: B42

Mode: High Channel TX

382.4333

907.8500

22.31

10.73

18.95

28.83

41.26

39.56

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu\//m	dBu∀/m	dB		cm	degree	
1	<u> </u>	59.1000	25.34	11.16	36.50	40.00	-3.50	peak			
2	İ	157.7167	24.87	15.32	40.19	43.50	-3.31	peak			
3	İ	261.1833	27.12	14.24	41.36	46.00	-4.64	peak			
4	*	351.7167	23.95	18.75	42.70	46.00	-3.30	peak			

46.00

46.00 -4.74

-6.44

peak

peak

Power:

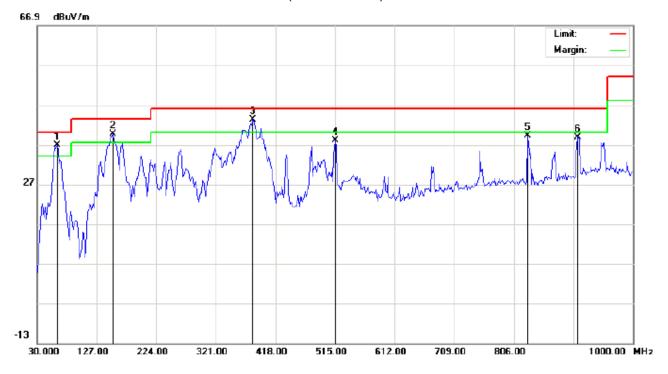
Distance: 3m

Temperature: 24.6

Humidity: 57.5 %

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RADIATED EMISSION TEST- (30MHZ-1GHZ)-HIGH CHANNEL -VERTICAL



Polarization: Vertical

Site: site #1 Limit: FCC Class B 3M Radiation

Ellillit. I CC Class D SW Radiatio

EUT: Bluetooth Speaker

M/N: B42

Mode: High Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBuV/m	dBu∀/m	dB		cm	degree	
1	İ	62.3333	29.50	7.24	36.74	40.00	-3.26	peak			
2	ļ	152.8667	24.34	15.28	39.62	43.50	-3.88	peak			
3	*	380.8167	24.34	18.94	43.28	46.00	-2.72	peak			
4		515.0000	16.41	21.53	37.94	46.00	-8.06	peak			
5		828.6332	11.95	27.31	39.26	46.00	-6.74	peak			
6		909.4667	10.01	28.87	38.88	46.00	-7.12	peak			

Power:

Distance: 3m

RESULT: PASS

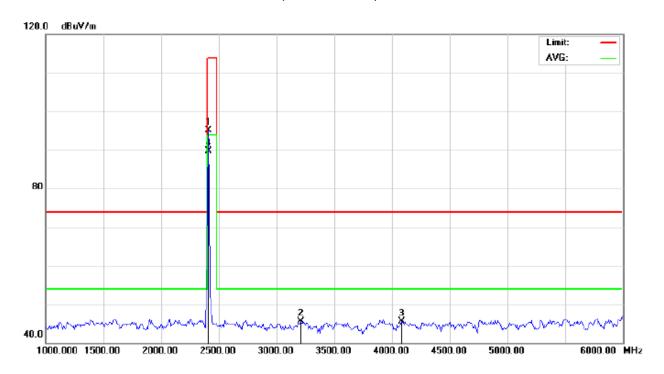
Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. The "Factor" value can be calculated automatically by software of measurement system.

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RADIATED EMISSION ABOVE 1GHZ

RADIATED EMISSION TEST- (ABOVE 1GHZ)-LOW CHANNEL-HORIZONTAL



Site: site #1 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK)- Power: Humidity: 60 %

EUT: Bluetooth Speaker Distance: 3m

M/N: B42

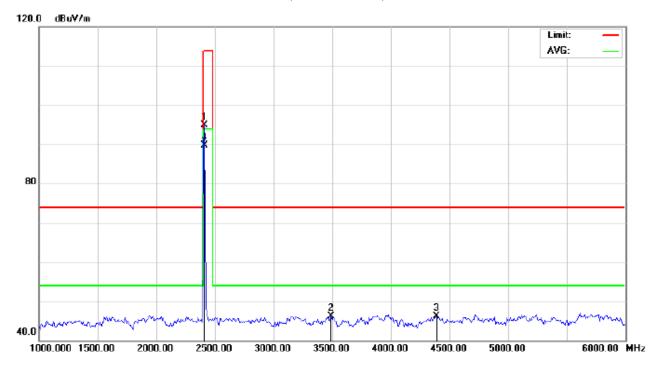
Mode: Low Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dBuV/m	dB uV/m	dB uV/m	dB		cm	degree	
1		2402.000	104.71	-9.68	95.03	114.00	-18.97	peak			
2		3208.333	53.74	-8.16	45.58	74.00	-28.42	peak			
3		4083.333	49.94	-4.53	45.41	74.00	-28.59	peak			
4	*	2402.000	99.37	-9.68	89.69	94.00	-4.31	AVG	150	101	

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RADIATED EMISSION TEST- (ABOVE 1GHZ)-LOW CHANNEL- VERTICAL



Site: site #1 Polarization: Vertical Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK)- Power: Humidity: 60 %

EUT: Bluetooth Speaker Distance: 3m

M/N: B42

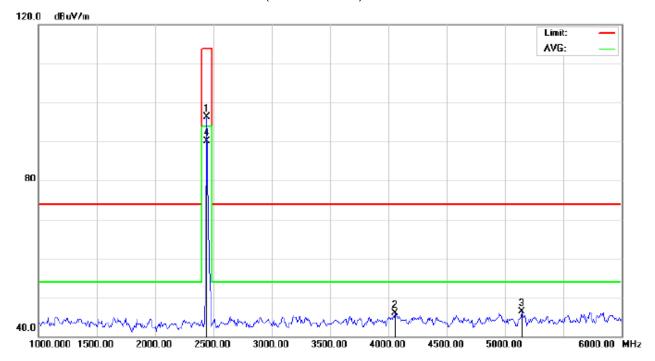
Mode: Low Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dBuV/m	dB uV/m	dB uV/m	dB		cm	degree	
1		2402.000	104.66	-9.68	94.98	114.00	-19.02	peak			
2		3491.667	54.07	-7.90	46.17	74.00	-27.83	peak			
3		4391.667	49.63	-3.48	46.15	74.00	-27.85	peak			
4	*	2402.000	99.47	-9.68	89.79	94.00	-4.21	AVG	150	233	

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RADIATED EMISSION TEST- (ABOVE 1GHZ)-MIDDLE CHANNEL-HORIZONTAL



Site: site #1 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK)- Power: Humidity: 60 %

EUT: Bluetooth Speaker Distance: 3m

M/N: B42

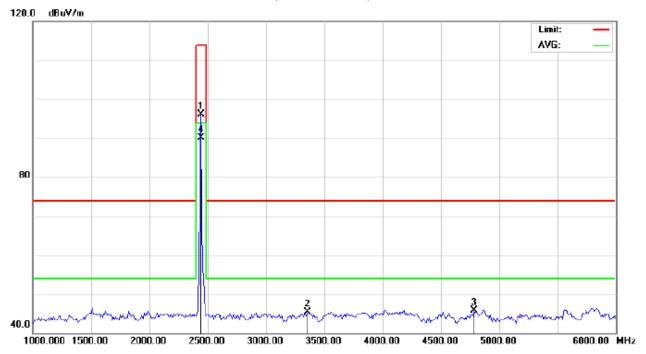
Mode: Middle Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dBuV/m	dB uV/m	dBuV/m	dB		cm	degree	
1		2441.000	105.84	-9.63	96.21	114.00	-17.79	peak			
2		4058.333	50.55	-4.61	45.94	74.00	-28.06	peak			
3		5141.667	48.19	-1.80	46.39	74.00	-27.61	peak			
4	*	2441.000	99.79	-9.63	90.16	94.00	-3.84	AVG	150	241	

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RADIATED EMISSION TEST- (ABOVE 1GHZ)-MIDDLE CHANNEL- VERTICAL



Site: site #1 Polarization: Vertical Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK)- Power: Humidity: 60 %

EUT: Bluetooth Speaker Distance: 3m

M/N: B42

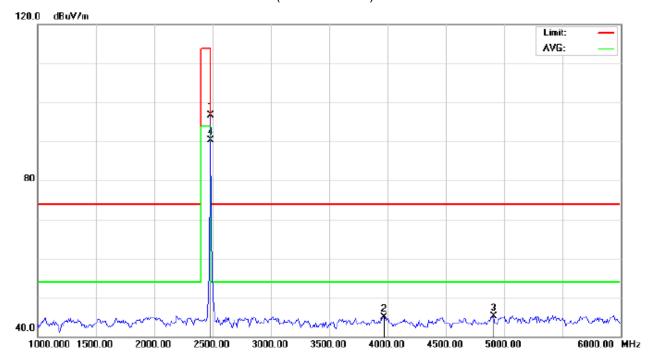
Mode: Middle Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dBuV/m	dB uV/m	dB uV/m	dB		cm	degree	
1		2441.000	105.70	-9.63	96.07	114.00	-17.93	peak			
2		3358.333	53.36	-8.02	45.34	74.00	-28.66	peak			
3		4783.333	48.14	-2.37	45.77	74.00	-28.23	peak			
4	*	2441.000	99.78	-9.63	90.15	94.00	-3.85	AVG	150	105	

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RADIATED EMISSION TEST- (ABOVE 1GHZ)-HIGH CHANNEL-HORIZONTAL



Site: site #1 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK)- Power: Humidity: 60 %

EUT: Bluetooth Speaker Distance: 3m

M/N: B42

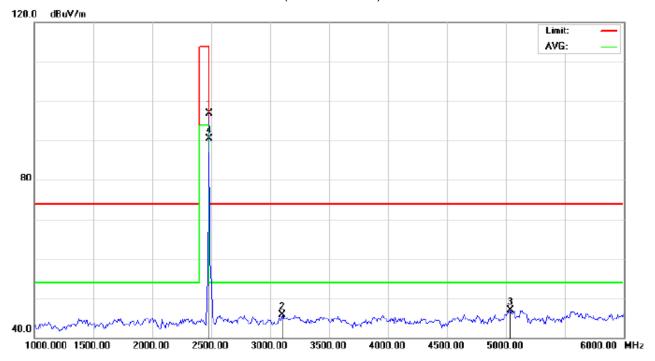
Mode: High Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dBuV/m	dB uV/m	dB uV/m	dB		cm	degree	
1		2480.000	106.37	-9.59	96.78	114.00	-17.22	peak			
2		3966.667	49.91	-5.02	44.89	74.00	-29.11	peak			
3		4908.333	47.05	-2.04	45.01	74.00	-28.99	peak			
4	*	2480.000	99.86	-9.59	90.27	94.00	-3.73	AVG	150	101	

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RADIATED EMISSION TEST- (ABOVE 1GHZ)-HIGH CHANNEL- VERTICAL



Site: site #1 Polarization: Vertical Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK)- Power: Humidity: 60 %

EUT: Bluetooth Speaker Distance: 3m

M/N: B42

Mode: High Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height		Comment
		MHz	dBuV	dBuV/m	dB uV/m	dB uV/m	dB		cm	degree	
1		2480.000	106.42	-9.59	96.83	114.00	-17.17	peak			
2		3100.000	53.95	-8.27	45.68	74.00	-28.32	peak			
3		5033.333	48.65	-1.80	46.85	74.00	-27.15	peak			
4	*	2480.000	100.08	-9.59	90.49	94.00	-3.51	AVG	150	239	

RESULT: PASS

Note: 6~25GHz at least have 20dB margin. No recording in the test report.

Factor=Antenna Factor + Cable loss - Amplifier gain, Margin=Measurement-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

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Field strength of the fundamental signal

Peak value

Frequency	Reading Level	Factor	Measurement	Limit	Over	Antenna
(MHz)	(dBuv)	(dB/m)	(dBuv/m)	(dBuv/m)	(dB)	Polarization
2402	104.71	-9.68	95.03	114	-18.97	Horizontal
2402	104.66	-9.68	94.98	114	-19.02	Vertical
2441	105.84	-9.63	96.21	114	-17.79	Horizontal
2441	105.70	-9.63	96.07	114	-17.93	Vertical
2480	106.37	-9.59	96.78	114	-17.22	Horizontal
2480	106.42	-9.59	96.83	114	-17.17	Vertical

Average value

- iii oi ago i ai ao						
Frequency	Reading Level	Factor	Measurement	Limit	Over	Antenna
(MHz)	(dBuv)	(dB/m)	(dBuv/m)	(dBuv/m)	(dB)	Polarization
2402	99.37	-9.68	89.69	94	-4.31	Horizontal
2402	99.47	-9.68	89.79	94	-4.21	Vertical
2441	99.79	-9.63	90.16	94	-3.84	Horizontal
2441	99.78	-9.63	90.15	94	-3.85	Vertical
2480	99.86	-9.59	90.27	94	-3.73	Horizontal
2480	100.08	-9.59	90.49	94	-3.51	Vertical

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9. BAND EDGE EMISSION

9.1. MEASUREMENT PROCEDURE

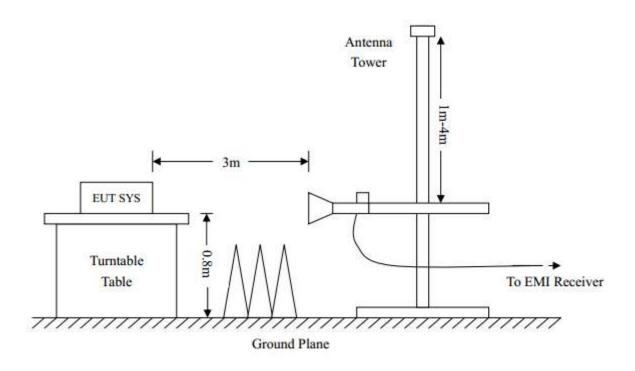
1The EUT operates at hopping-off test mode. The lowest or highest channels are tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.

2Max hold the trace of the setp 1,and the EUT operates at hopping-on test mode to verify the largest spurious emissions power.

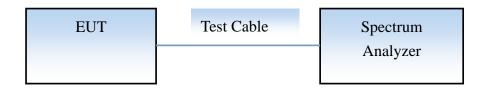
3Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=VBW=1.5MHz / Sweep=AUTO

9.2 TEST SETUP

RADIATED EMISSION TEST SETUP



CONDUCTED TEST SETUP

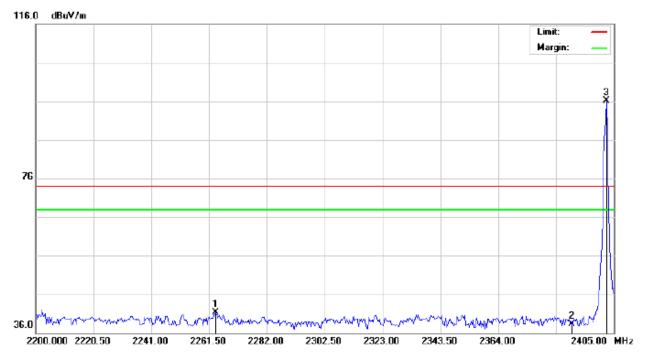


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9.3 RADIATED TEST RESULT

(Worst modulation:GFSK)

TEST PLOT OF BAND EDGE FOR LOW CHANNEL-Horizontal



Site: site #1 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %

EUT: Bluetooth Speaker Distance:

M/N: B42

Mode: Low Channel TX

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dBuV/m	dBuV/m	dBuV/m	dB		cm	degree	
1		2263.892	31.07	10.17	41.24	74.00	-32.76	peak			
2		2390.000	28.00	10.31	38.31	74.00	-35.69	peak			
3	*	2402.000	85.72	10.32	96.04	74.00	22.04	peak			

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TEST PLOT OF BAND EDGE FOR LOW CHANNEL -Vertical



Site: site #1 Polarization: Vertical Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %

EUT: Bluetooth Speaker Distance:

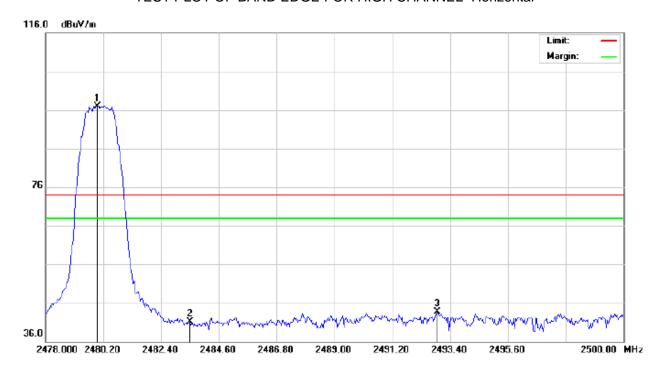
M/N: B42

Mode: Low Channel TX

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dBuV/m	dBuV/m	dBuV/m	dB		cm	degree	
1		2282.342	30.70	10.19	40.89	74.00	-33.11	peak			
2		2390.000	29.71	10.31	40.02	74.00	-33.98	peak			
3	*	2402.000	84.59	10.32	94.91	74.00	20.91	peak			

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TEST PLOT OF BAND EDGE FOR HIGH CHANNEL -Horizontal



Site: site #1 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %

Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power:
EUT: Bluetooth Speaker Distance:

M/N: B42

Mode: High Channel TX

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dBuV/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	2480.000	86.55	10.41	96.96	74.00	22.96	peak			
2		2483.500	30.69	10.41	41.10	74.00	-32.90	peak			
3		2492.923	33.33	10.42	43.75	74.00	-30.25	peak			

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TEST PLOT OF BAND EDGE FOR HIGH CHANNEL-Vertical



Site: site #1 Polarization: Vertical Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %

EUT: Bluetooth Speaker Distance:

M/N: B42

Mode: High Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height		Comment
		MHz	dBuV	dBuV/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	2480.000	86.32	10.41	96.73	74.00	22.73	peak			
2		2483.500	29.26	10.41	39.67	74.00	-34.33	peak			
3		2492.630	32.01	10.42	42.43	74.00	-31.57	peak			

RESULT: PASS

Note: The other modes radiation emission have enough 20dB margin.

Factor=Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

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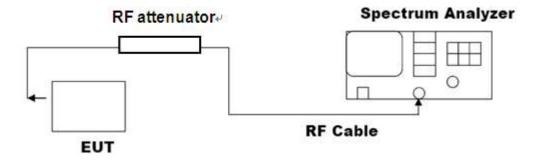
10. 20DB BANDWIDTH

10.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hoping channel RBW \geq 1% of the 20 dB bandwidth, VBW \geq RBW; Sweep = auto; Detector function = peak
- 4. Set SPA Trace 1 Max hold, then View.

10.2. TEST SET-UP

(BLOCK DIAGRAM OF CONFIGURATION)



10.3. LIMITS AND MEASUREMENT RESULTS

BLUETOOTH 1MBPS LIMITS AND MEASUREMENT RESUL				
Applicable Limits	Measurement Result			
	Test Data (MHz)		Criteria	
N/A	Low Channel	0.935	PASS	
	Middle Channel	0.924	PASS	
	High Channel	0.924	PASS	

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TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

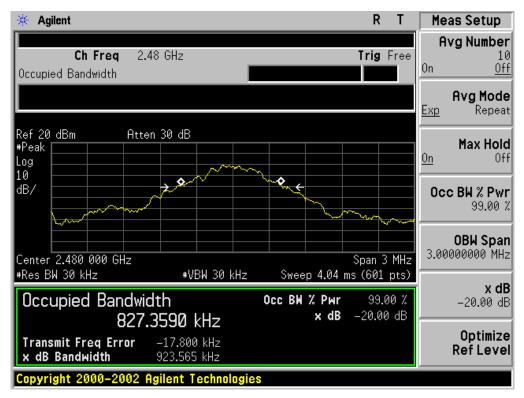


TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



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TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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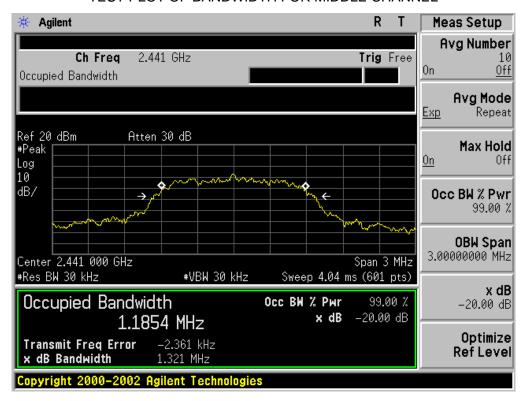
BLUETOOTH 2MBPS LIMITS AND MEASUREMENT RESUL				
Applicable Limits	Measurement Result			
	Test Data (MHz)		Criteria	
N/A	Low Channel	1.337	PASS	
	Middle Channel	1.321	PASS	
	High Channel	1.320	PASS	

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

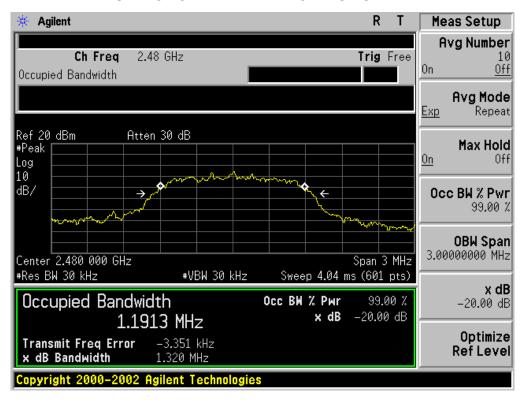


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TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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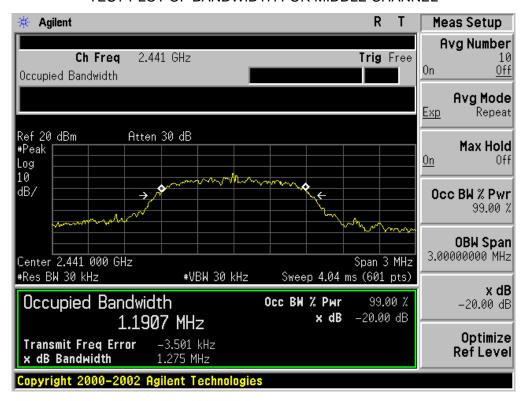
BLUETOOTH 3MBPS LIMITS AND MEASUREMENT RESUL									
A mulicable Limite	Measurement Result								
Applicable Limits	Test Da	Criteria							
	Low Channel	1.316	PASS						
N/A	Middle Channel	1.275	PASS						
	High Channel	1.279	PASS						

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

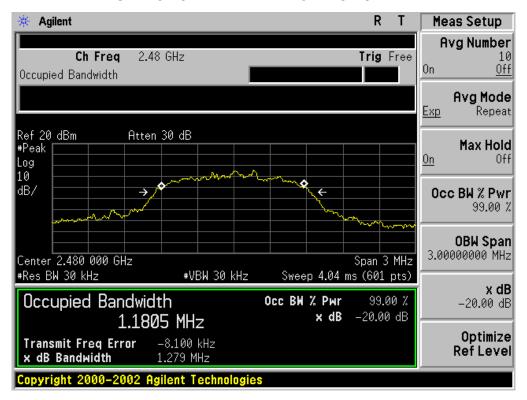


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TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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11. FCC LINE CONDUCTED EMISSION TEST

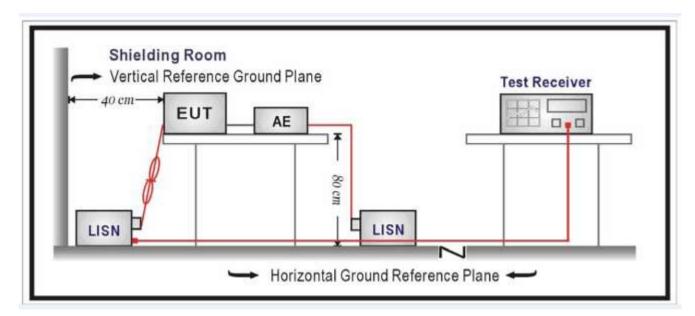
11.1. LIMITS OF LINE CONDUCTED EMISSION TEST

F	Maximum RF Line Voltage							
Frequency	Q.P.(dBuV)	Average(dBuV)						
150kHz~500kHz	66-56	56-46						
500kHz~5MHz	56	46						
5MHz~30MHz	60	50						

Note:

- 1. The lower limit shall apply at the transition frequency.
- 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

11.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



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11.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.

- 2. Support equipment, if needed, was placed as per ANSI C63.4.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4. All support equipments received AC120V/60Hz power from a LISN, if any.
- 5. The EUT received DC charging voltage by PC which received 120V/60Hzpower by a LISN...
- 6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8. During the above scans, the emissions were maximized by cable manipulation.
- 9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

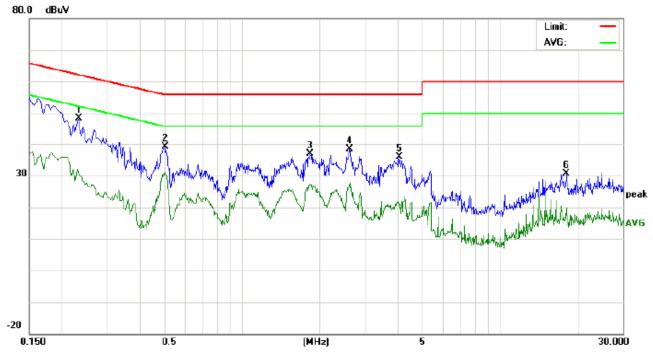
11.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3. The test data of the worst case condition(s) was reported on the Summary Data page.

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11.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

Line Conducted Emission Test Line 1-L



Site: Conduction

Phase: L1

Temperature: 24.8

Limit: FCC Class B Conduction(QP)

Power: Humidity: 55.7 %

EUT: Bluetooth Speaker

M/N: B42

Mode: BT Link with charging

Note:

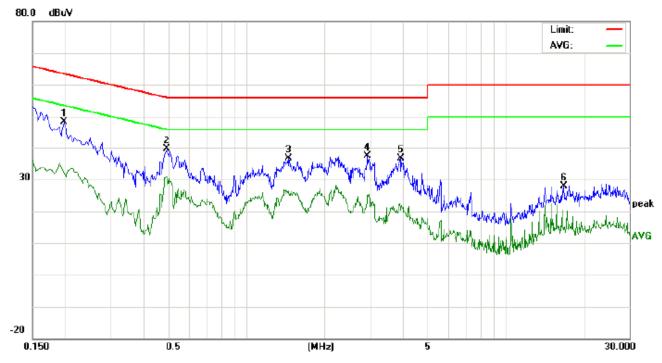
No. Freq.		Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
	(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.2340	38.20		20.18	10.25	48.45		30.43	62.30	52.30	-13.85	-21.87	Р	
2	0.5020	28.81		20.77	10.40	39.21		31.17	56.00	46.00	-16.79	-14.83	Р	
3	1.8420	26.51		16.99	10.27	36.78		27.26	56.00	46.00	-19.22	-18.74	Р	
4	2.6140	27.87		16.52	10.46	38.33		26.98	56.00	46.00	-17.67	-19.02	Р	
5	4.0739	25.47		11.06	10.40	35.87		21.46	56.00	46.00	-20.13	-24.54	Р	
6	18.2099	20.55		7.56	10.12	30.67		17.68	60.00	50.00	-29.33	-32.32	Р	

Temperature: 24.8

Humidity: 55.7 %

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Line Conducted Emission Test Line 2-N



Site: Conduction Phase: N
Limit: FCC Class B Conduction(QP) Power:

EUT: Bluetooth Speaker

M/N: B42

Mode: BT Link with charging

Note:

No. Freq.		Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
	(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1980	38.11		21.76	10.21	48.32		31.97	63.69	53.69	-15.37	-21.72	Р	
2	0.4940	29.25		20.43	10.40	39.65		30.83	56.10	46.10	-16.45	-15.27	Р	
3	1.4540	26.35		16.04	10.38	36.73		26.42	56.00	46.00	-19.27	-19.58	Р	
4	2.9380	26.74		14.57	10.54	37.28		25.11	56.00	46.00	-18.72	-20.89	Р	
5	3.9300	26.12		11.06	10.44	36.56		21.50	56.00	46.00	-19.44	-24.50	Р	
6	16.8100	17.75		3.95	10.13	27.88		14.08	60.00	50.00	-32.12	-35.92	Р	

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APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP



FCC RADIATED EMISSION TEST SETUP



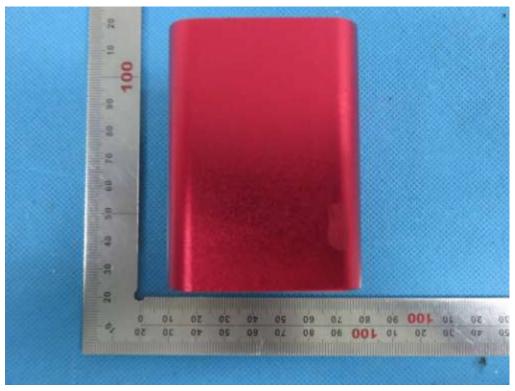
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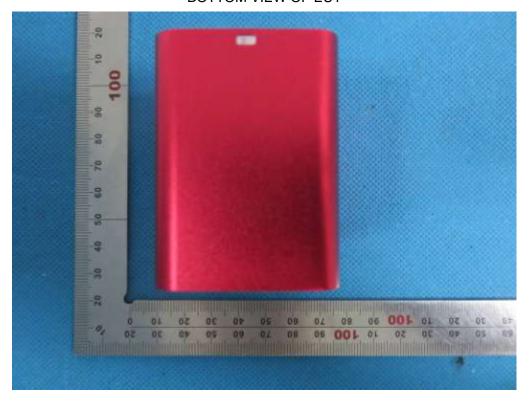
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APPENDIX B: PHOTOGRAPHS OF EUT

TOP VIEW OF EUT

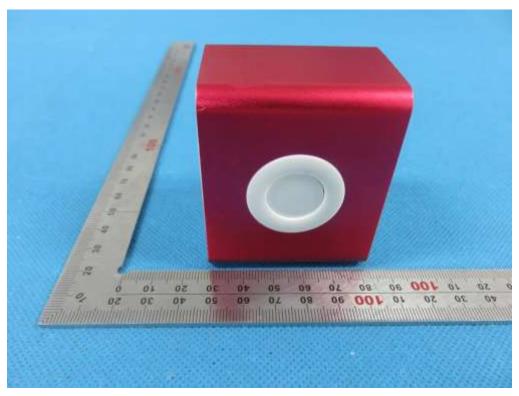


BOTTOM VIEW OF EUT

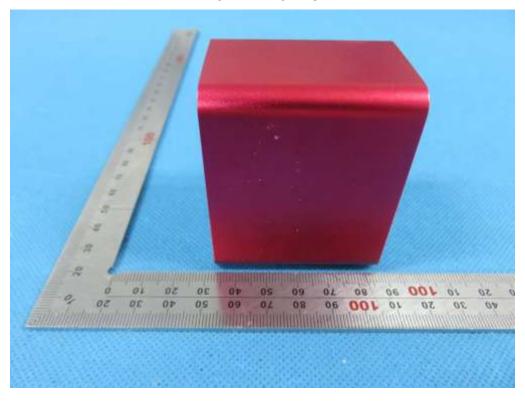


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FRONT VIEW OF EUT



BACK VIEW OF EUT



LEFT VIEW OF EUT



RIGHT VIEW OF EUT

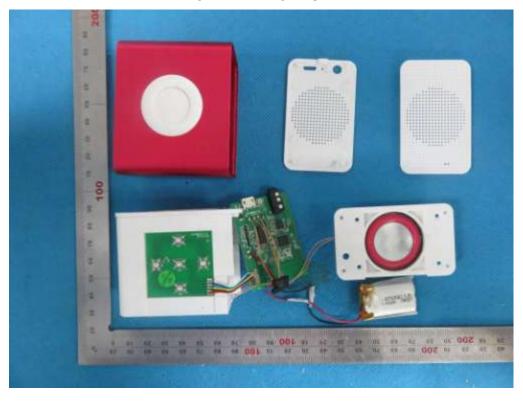


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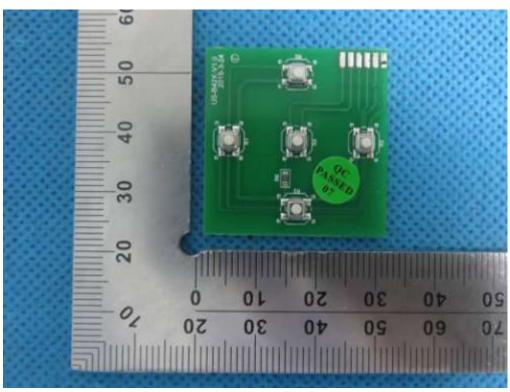
VIEW OF EUT(PORT)



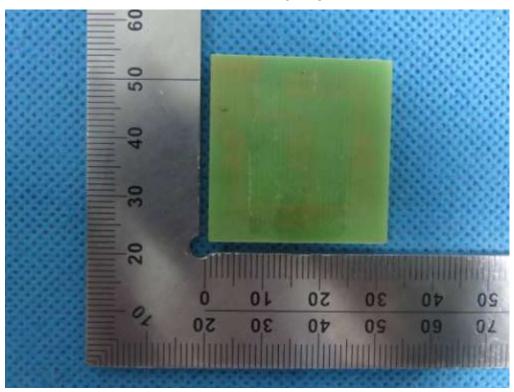
OPEN VIEW OF EUT



INTERNAL VIEW OF EUT-1

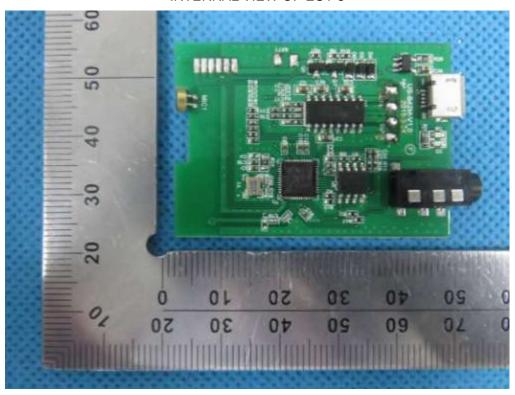


INTERNAL VIEW OF EUT-2

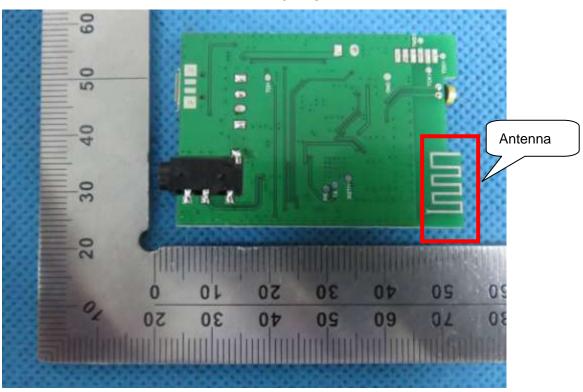


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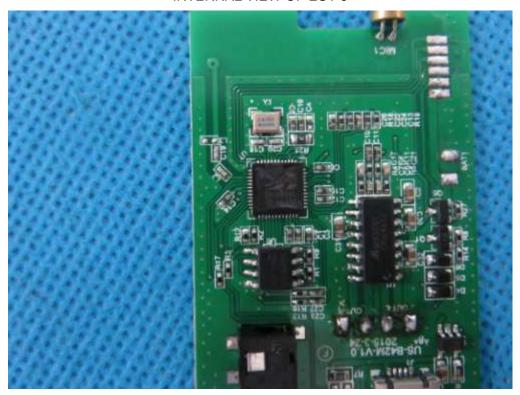
INTERNAL VIEW OF EUT-3



INTERNAL VIEW OF EUT-4



INTERNAL VIEW OF EUT-5



----END OF REPORT----