1GHz—25GHz Radiated emissison Test result									
EUT: Bluetooth speaker M/N: #2717									
Power: DC 3.7V From Battery									
Test date: 2015-10-20 Test site: 3m Chamber Tested by: Reak									
Test mode: 8- DPSK Tx CH1 2402MHz									
Antenna polarity: Vertical									
No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4804	43.77	33.95	10.18	34.26	53.64	74	20.36	PK
2	4804	33.67	33.95	10.18	34.26	43.54	54	10.46	AV
3	7206	/							
4	9608	/							
5	12010	/							
Antenna Polarity: Horizontal									
1	4804	44.52	33.95	10.18	34.26	54.39	74	19.61	PK
2	4804	32.99	33.95	10.18	34.26	42.86	54	11.14	AV
3	7206	/							
4	9608	/							
5	12010	/							

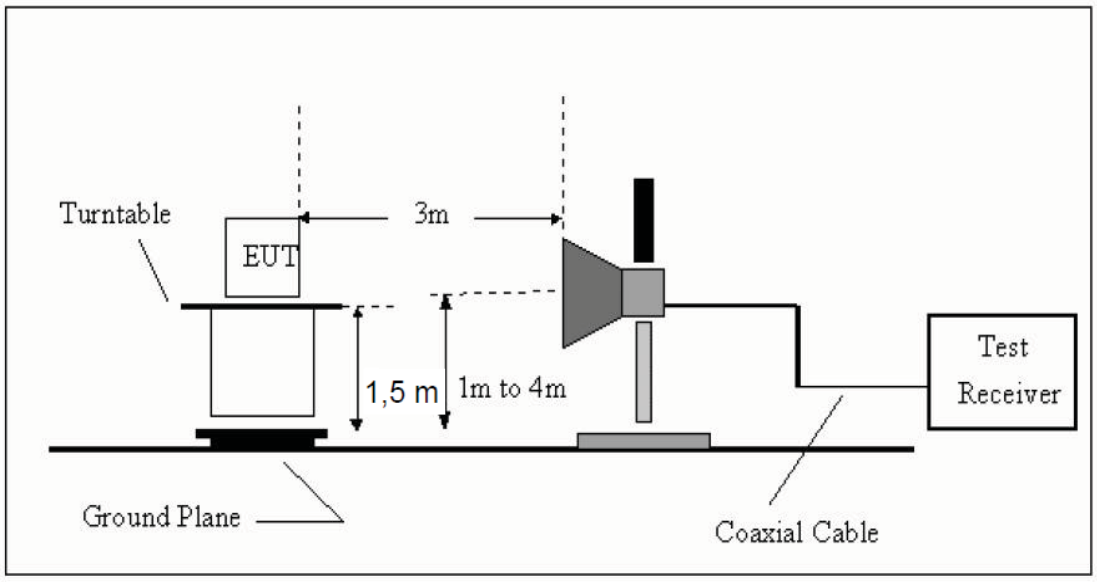
Note:
1, Measuring frequency from 1GHz to 25GHz
2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

1GHz—25GHz Radiated emissison Test result									
EUT: Bluetooth speaker M/N: #2717									
Power: DC 3.7V From Battery									
Test date: 2015-10-20 Test site: 3m Chamber Tested by: Reak									
Test mode: 8- DPSK Tx CH40 2441MHz									
Antenna polarity: Vertical									
No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4882	42.96	33.93	10.2	34.29	52.8	74	21.2	PK
2	4882	32.08	33.93	10.2	34.29	41.92	54	12.08	AV
3	7323	/							
4	9764	/							
5	12205	/							
Antenna Polarity: Horizontal									
1	4882	44.59	33.93	10.2	34.29	54.43	74	19.57	PK
2	4882	34.31	33.93	10.2	34.29	44.15	54	9.85	AV
3	7323	/							
4	9764	/							
5	12205	/							
Note: 1, Measuring frequency from 1GHz to 25GHz 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK 3, Result = Read level + Antenna factor + cable loss-Amp factor 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

1GHz—25GHz Radiated emissison Test result									
EUT: Bluetooth speaker M/N: #2717									
Power: DC 3.7V From Battery									
Test date: 2015-10-20 Test site: 3m Chamber Tested by: Reak									
Test mode: 8- DPSK Tx CH79 2480MHz									
Antenna polarity: Vertical									
No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4960	44.95	33.98	10.22	34.25	54.9	74	19.1	PK
2	4960	34.19	33.98	10.22	34.25	44.14	54	9.86	AV
3	7440	/							
4	9920	/							
5	12400	/							
Antenna Polarity: Horizontal									
1	4960	45.38	33.98	10.22	34.25	55.33	74	18.67	PK
2	4960	34.11	33.98	10.22	34.25	44.06	54	9.94	AV
3	7440	/							
4	9920	/							
5	12400	/							
Note: 1, Measuring frequency from 1GHz to 25GHz 2, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK 2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK 3, Result = Read level + Antenna factor + cable loss-Amp factor 4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.									

9. Band Edge Compliance

9.1. Block Diagram of Test Setup



9.2. Limit

All the lower and upper band-edges emissions appearing within restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

9.3. Test Procedure

All restriction band and non- restriction band have been tested ， only worse case is reported.

9.4. Test Result

PASS. (See below detailed test data)

Radiated Method

GFSK (CH Low)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx CH Low 2402MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	41.01	27.62	3.92	34.97	37.58	74	36.42	**PK**
Antenna Polarity: Horizontal								
2390	43.66	27.62	3.92	34.97	40.23	74	33.77	**PK**

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

GFSK (CH High)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx CH High 2480MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	44.39	27.89	4	34.97	41.31	74	32.69	**PK**
Antenna Polarity: Horizontal								
2483.5	48.23	27.89	4	34.97	45.15	74	28.85	**PK**

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

GFSK (Hopping Low)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	41.03	27.62	3.92	34.97	37.6	74	36.4	**PK**
Antenna Polarity: Horizontal								
2390	43.42	27.62	3.92	34.97	39.99	74	34.01	**PK**

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

GFSK (Hopping High)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	48.24	27.89	4	34.97	45.16	74	28.84	**PK**
Antenna Polarity: Horizontal								
2483.5	50.19	27.89	4	34.97	47.11	74	26.89	**PK**

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

π /4 DQPSK (CH Low)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx CH Low 2402MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	41.58	27.62	3.92	34.97	38.15	74	35.85	**PK**
Antenna Polarity: Horizontal								
2390	44.95	27.62	3.92	34.97	41.52	74	32.48	**PK**

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

π /4 DQPSK (CH High)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx CH High 2480MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	49.37	27.89	4	34.97	46.29	74	27.71	PK
Antenna Polarity: Horizontal								
2483.5	51.28	27.89	4	34.97	48.2	74	25.8	PK

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

π /4 DQPSK (Hopping Low)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	41.29	27.62	3.92	34.97	37.86	74	36.14	**PK**
Antenna Polarity: Horizontal								
2390	44.26	27.62	3.92	34.97	40.83	74	33.17	**PK**

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

π /4 DQPSK (Hopping High)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	48.67	27.89	4	34.97	45.59	74	28.41	PK
Antenna Polarity: Horizontal								
2483.5	52.04	27.89	4	34.97	48.96	74	25.04	PK

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

8- DPSK (CH Low)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx CH Low 2402MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	40.26	27.62	3.92	34.97	36.83	74	37.17	**PK**
Antenna Polarity: Horizontal								
2390	44.22	27.62	3.92	34.97	40.79	74	33.21	**PK**

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

8- DPSK (CH High)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx CH High 2480MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	50.11	27.89	4	34.97	47.03	74	26.97	**PK**
Antenna Polarity: Horizontal								
2483.5	53.64	27.89	4	34.97	50.56	74	23.44	**PK**

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

8- DPSK (Hopping Low)

Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	41.63	27.62	3.92	34.97	38.2	74	35.8	**PK**
Antenna Polarity: Horizontal								
2390	45.29	27.62	3.92	34.97	41.86	74	32.14	**PK**

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

8- DPSK (Hopping High)

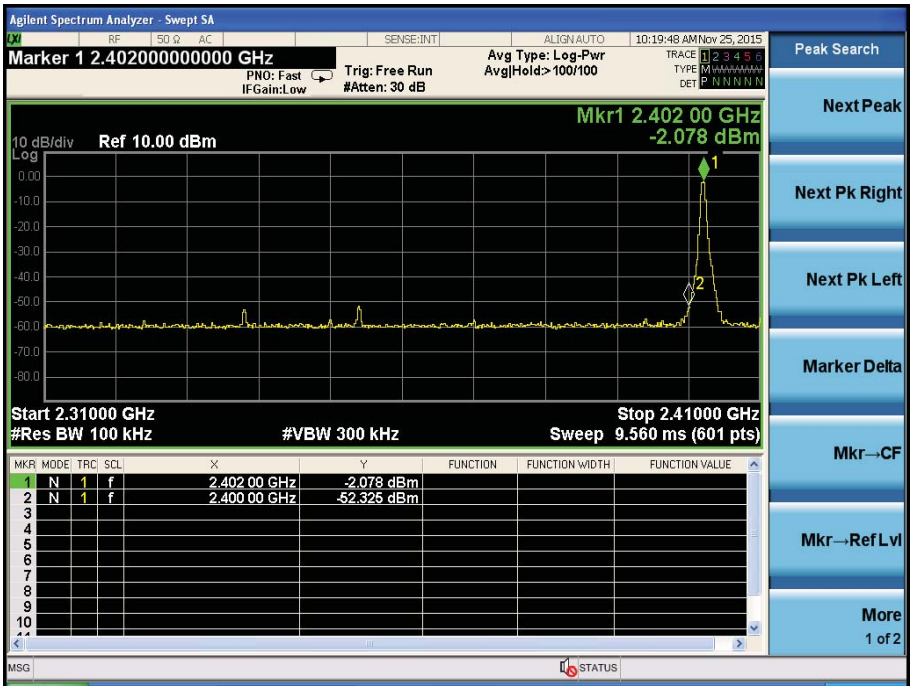
Band Edge Test result								
EUT: Bluetooth speaker M/N: #2717								
Power: DC 3.7V From battery								
Test date: 2015-10-21 Test site: 3m Chamber Tested by: Reak								
Test mode: Tx								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	50.17	27.89	4	34.97	47.09	74	26.91	PK
Antenna Polarity: Horizontal								
2483.5	53.28	27.89	4	34.97	50.2	74	23.8	PK

Note:
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK
3, Result = Read level + Antenna factor + cable loss-Amp factor
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

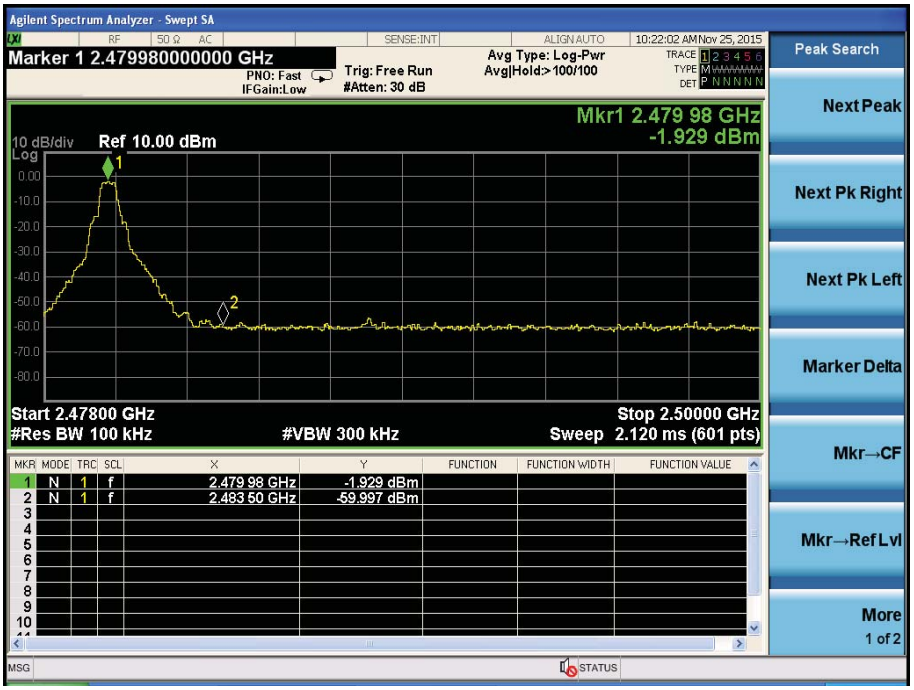
Conducted Method

GFSK

CH LOW :

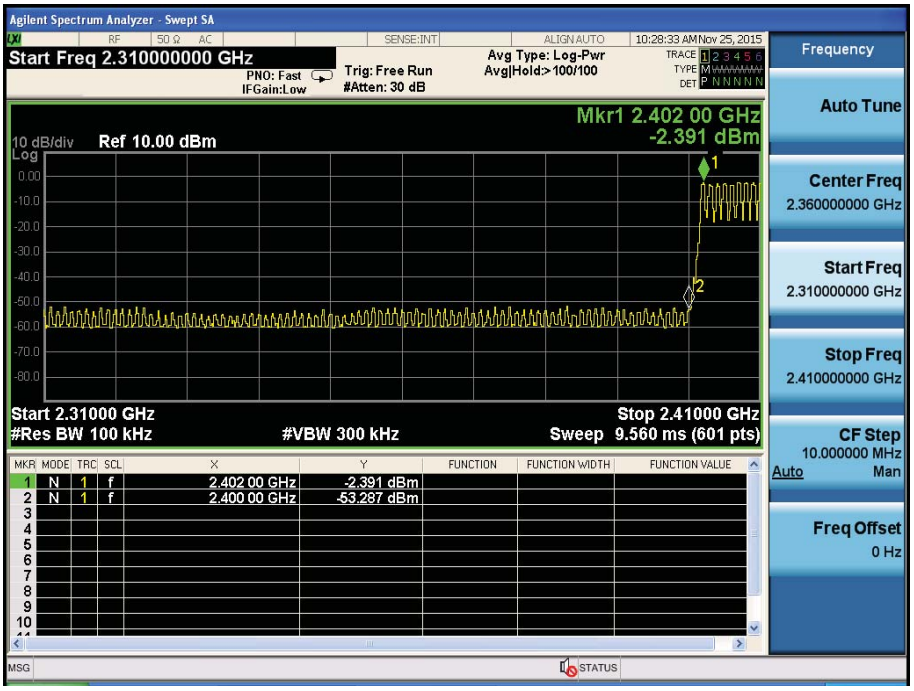


CH High :

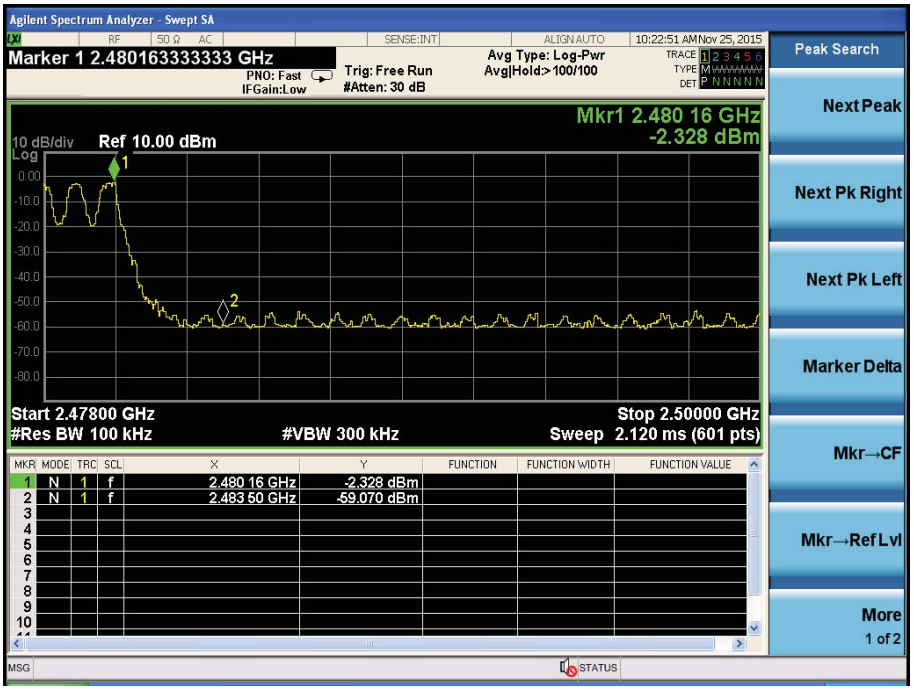


Hopping

Low

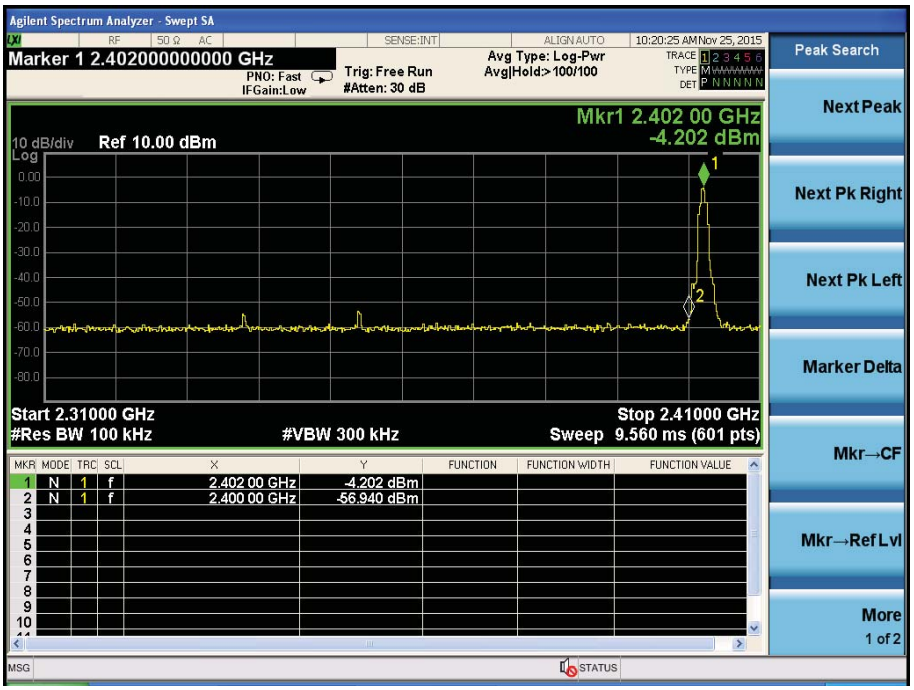


High

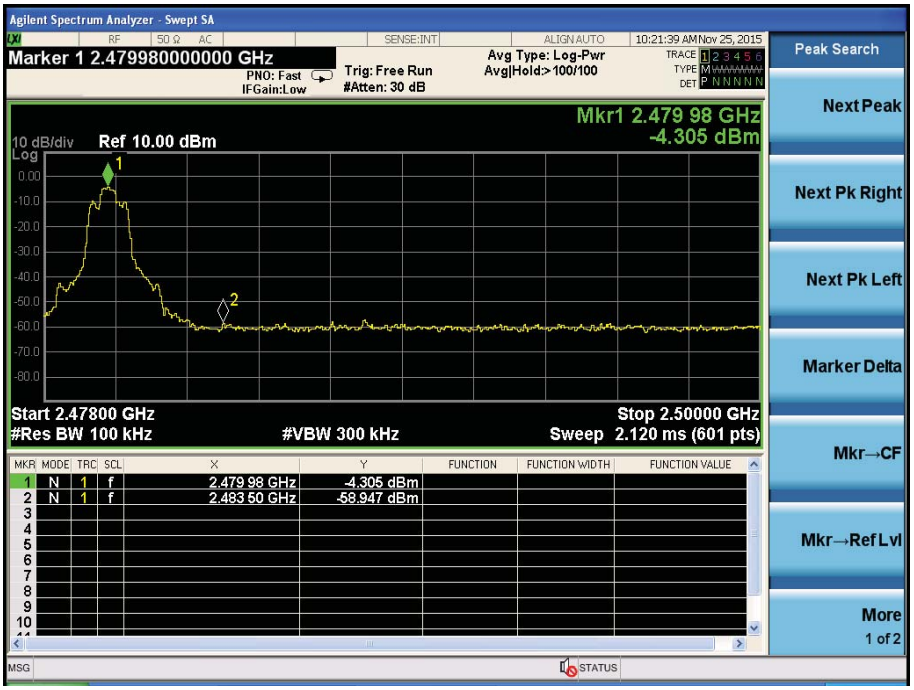


π /4 DQPSK

Low

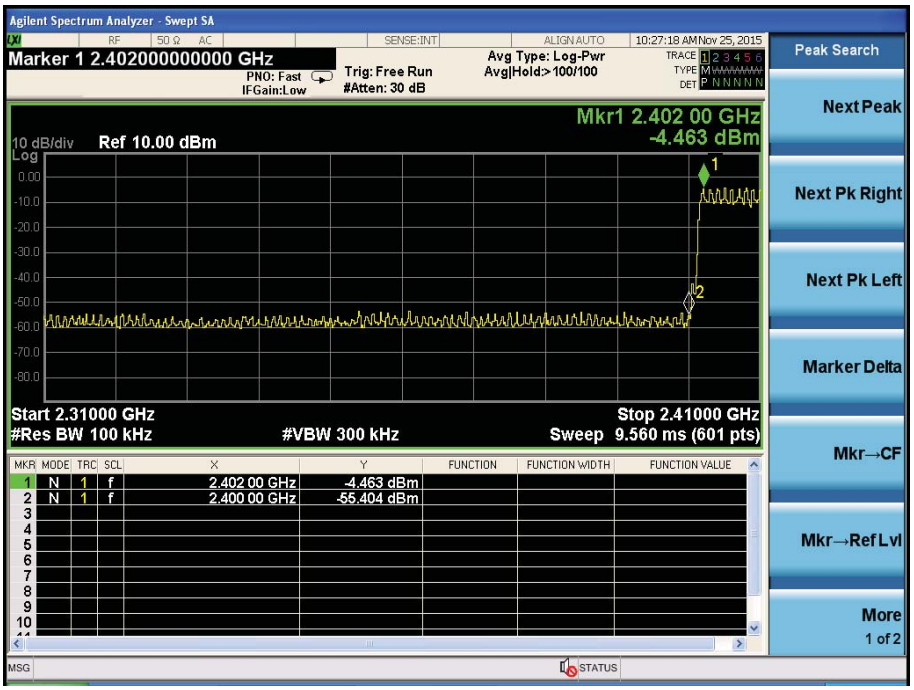


High

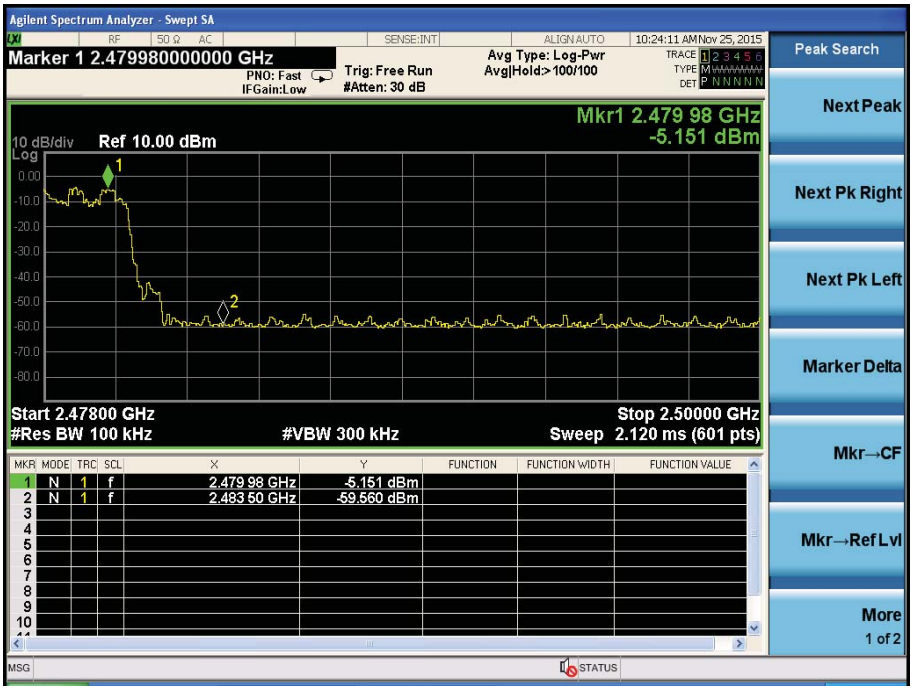


Hopping

Low

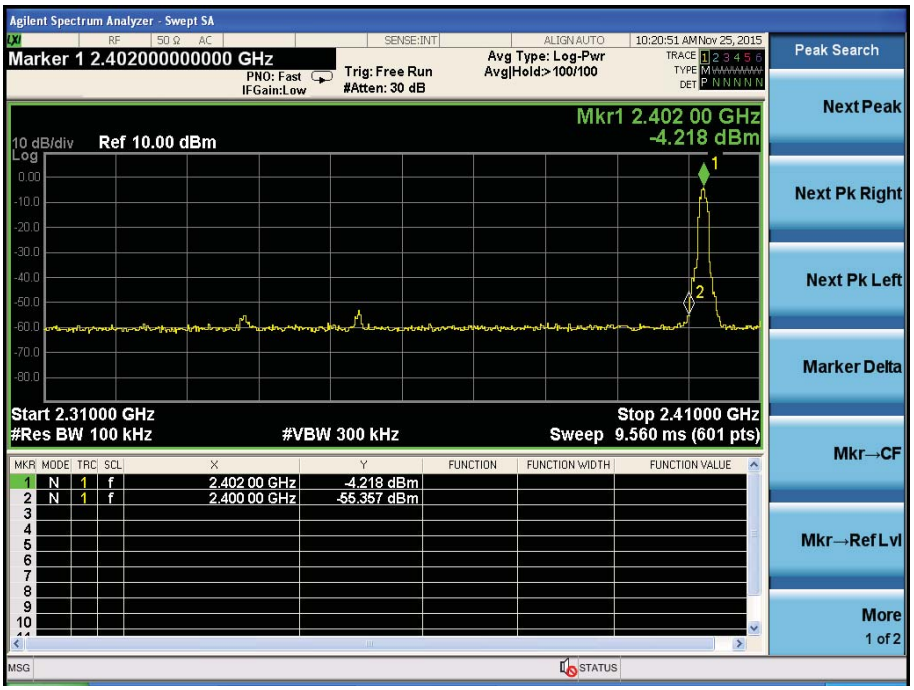


High

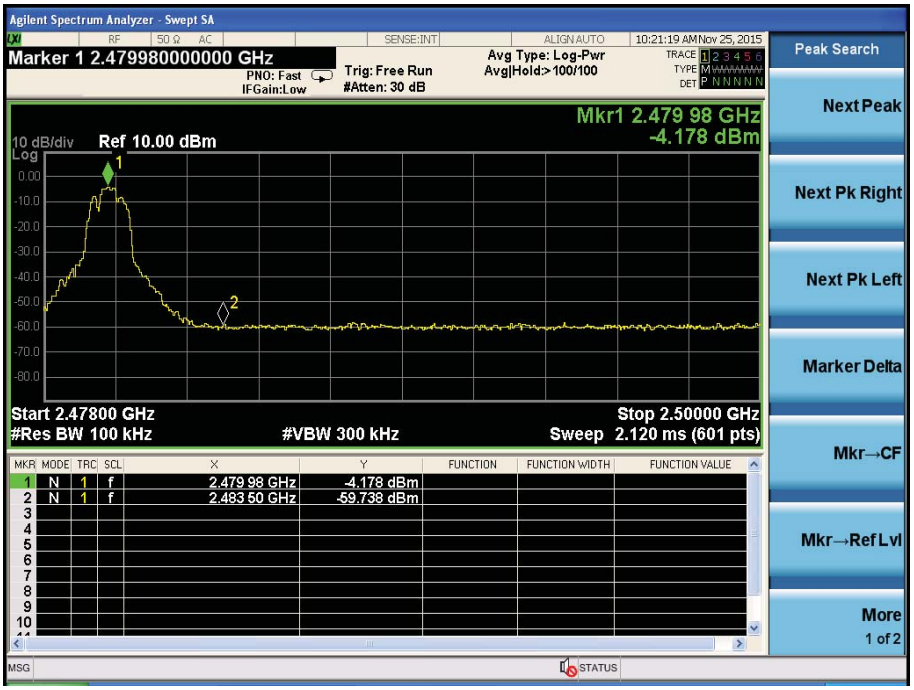


8- DPSK:

Low

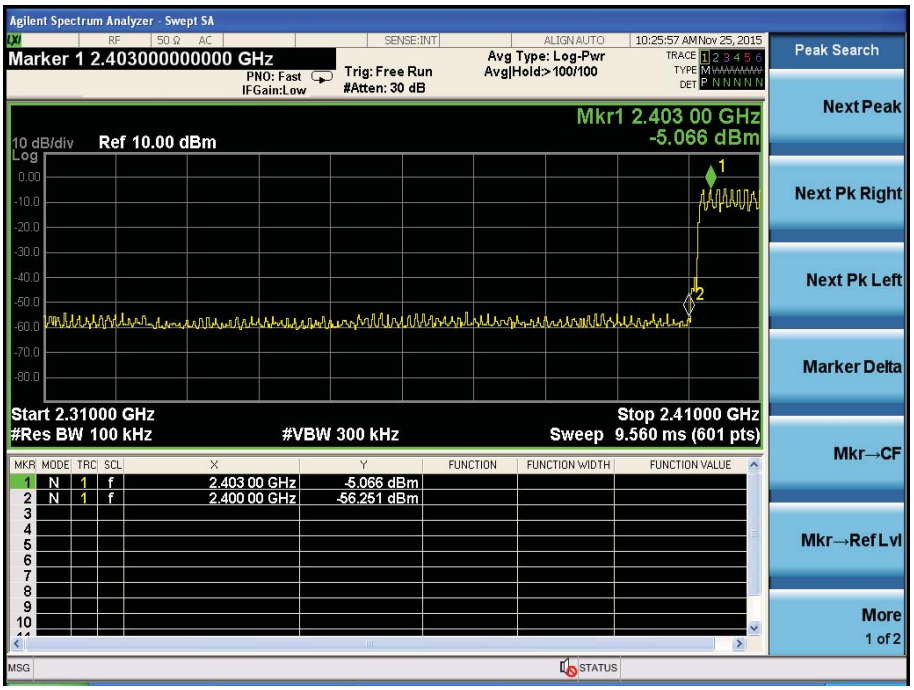


High

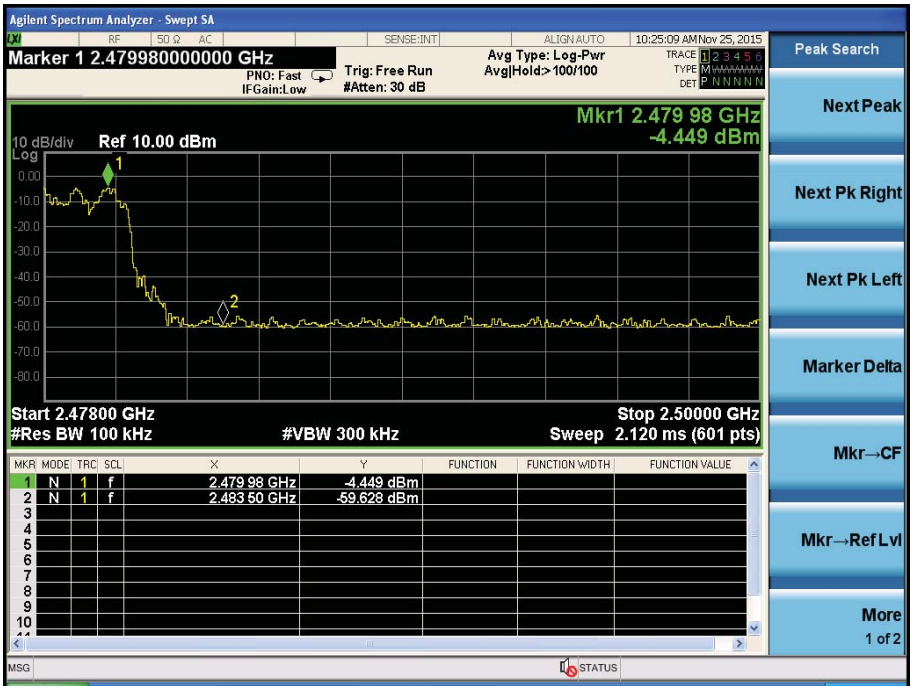


Hopping

Low

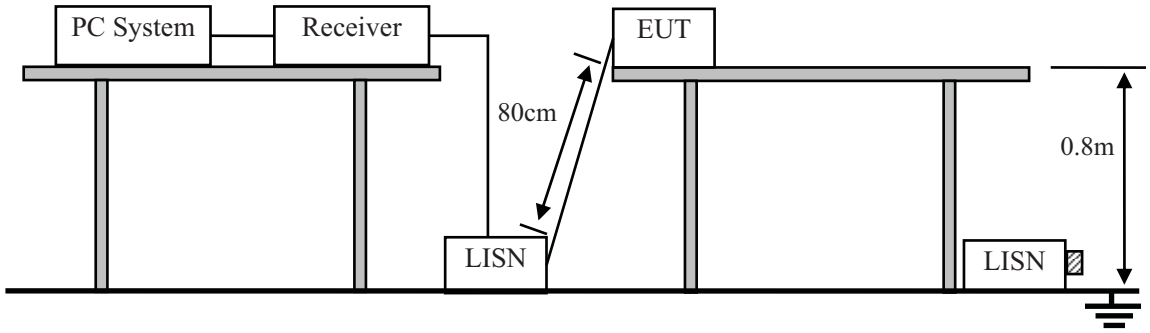


High



10. Power Line Conducted Emissions

10.1. Block Diagram of Test Setup



:50Ω Terminator

10.2. Limit

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

Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

10.3. Test Procedure

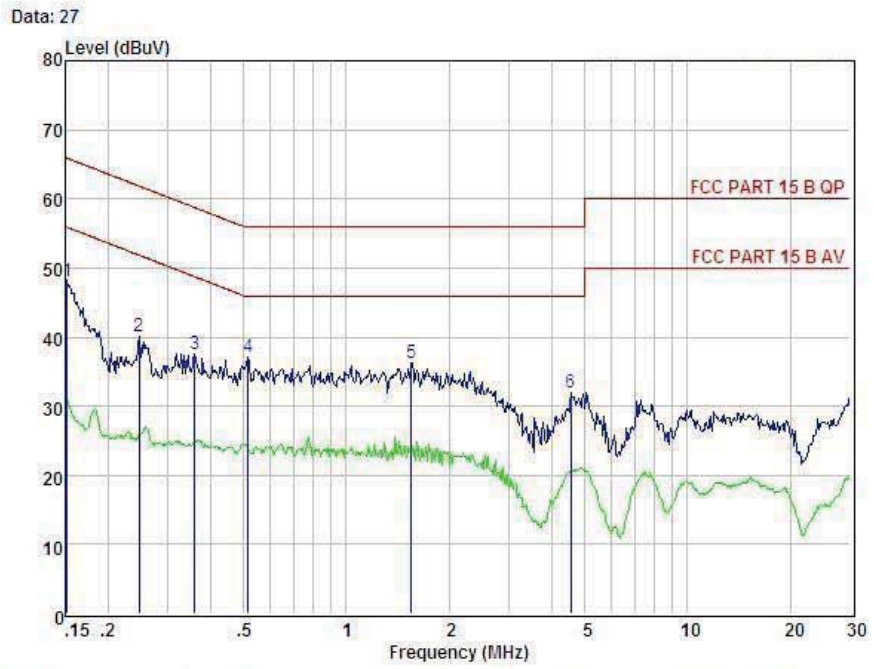
(1) The EUT was placed on a non-metallic table, 80cm above the ground plane.
(2) Setup the EUT and simulator as shown in 10.1
(3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N2), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4 :2014on conducted Emission test.
(4) The bandwidth of test receiver is set at 10KHz.
(5) The frequency range from 150 KHz to 30MHz is checked.

10.4. Test Result

PASS. (See below detailed test data)

Note: If QP Result comply with AV limit, AV Result is deemed to comply with AV limit

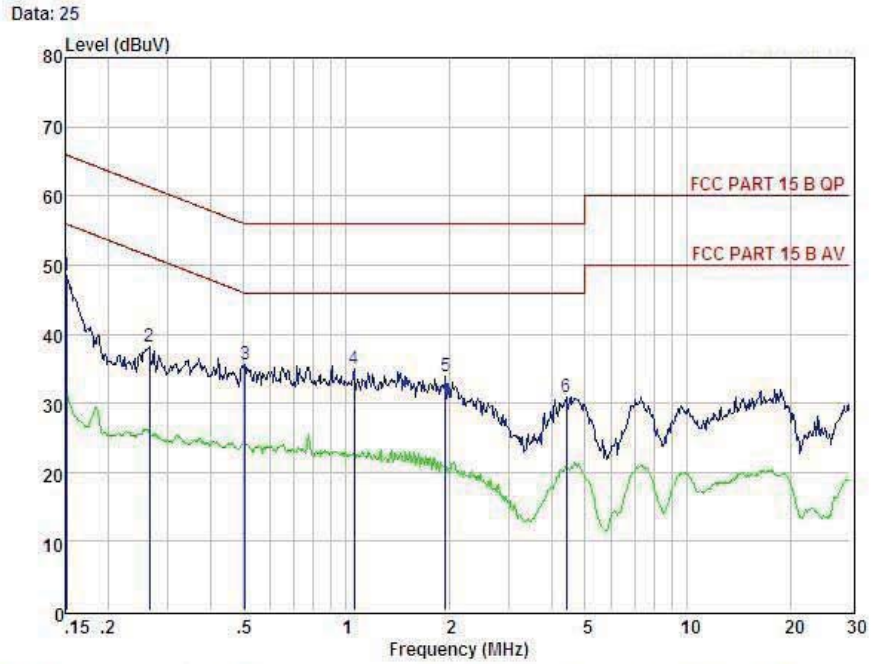
Shenzhen Certification Technology Service Co., Ltd.
2F, Building B, East Area of Nanchang Second Industrial Zone,
Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China
Tel: 4006786199 Fax: +86-755-26736857
Website: http://www.a-lab.cn Email: service@a-lab.cn




```
Condition    : FCC PART 15 B QP            POL: LINE     Temp:25.7 ℃ Hum:51 %
EUT          :
Model No     :
Test Mode    : Link Mode
Power        : DC 5V From PC
Test Engineer: Reak
Remark       :
```

Item	Freq	Read	AUX Factor	LISN Factor	Cable Lose	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	0.152	38.10	0.03	9.72	0.10	47.95	65.91	-17.96	Peak
2	0.247	30.27	0.03	9.72	0.10	40.12	61.86	-21.74	Peak
3	0.360	27.77	0.03	9.72	0.10	37.62	58.74	-21.12	Peak
4	0.516	27.19	0.03	9.72	0.10	37.04	56.00	-18.96	Peak
5	1.552	26.48	0.05	9.71	0.10	36.34	56.00	-19.66	Peak
6	4.549	22.01	0.09	9.68	0.12	31.90	56.00	-24.10	Peak

Shenzhen Certification Technology Service Co., Ltd.
2F, Building B, East Area of Nanchang Second Industrial Zone,
Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China
Tel: 4006786199 Fax: +86-755-26736857
Website: http://www.a-lab.cn Email: service@a-lab.cn




```
Condition    : FCC PART 15 B QP              POL: NEUTRAL  Temp:25.7 ℃ Hum:51 %
EUT          :
Model No     :
Test Mode    : Link Mode
Power        : DC 5V From PC
Test Engineer: Reak
Remark       :
```

Item	Freq	Read	AUX Factor	LISN Factor	Cable Lose	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	0.151	38.65	0.03	9.72	0.10	48.50	65.96	-17.46	Peak
2	0.264	28.22	0.03	9.72	0.10	38.07	61.29	-23.22	Peak
3	0.505	25.74	0.03	9.72	0.10	35.59	56.00	-20.41	Peak
4	1.054	25.13	0.04	9.71	0.10	34.98	56.00	-21.02	Peak
5	1.949	24.07	0.06	9.70	0.10	33.93	56.00	-22.07	Peak
6	4.407	20.91	0.09	9.68	0.12	30.80	56.00	-25.20	Peak

11. Antenna Requirements

11.1. Limit

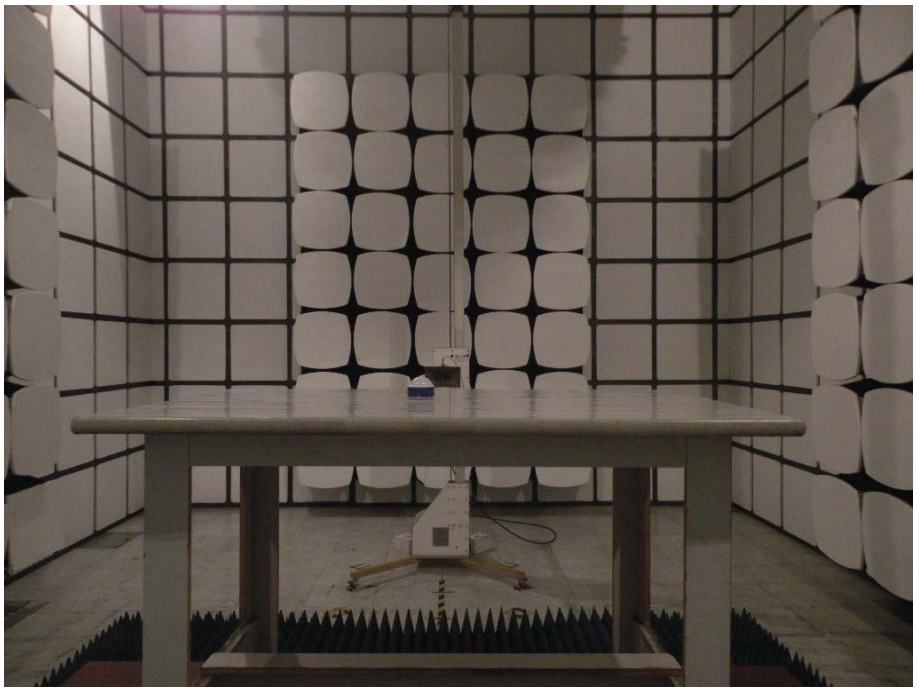
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2. Result

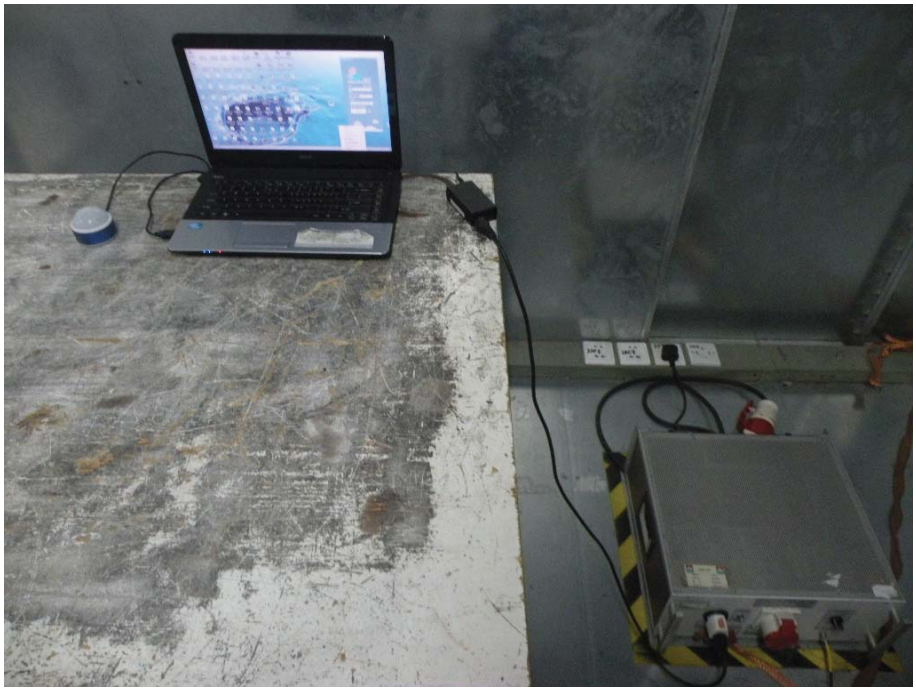
The antennas used for this product are PCB Antenna for Bluetooth, no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 0dBi for Bluetooth.

12. Test setup photo

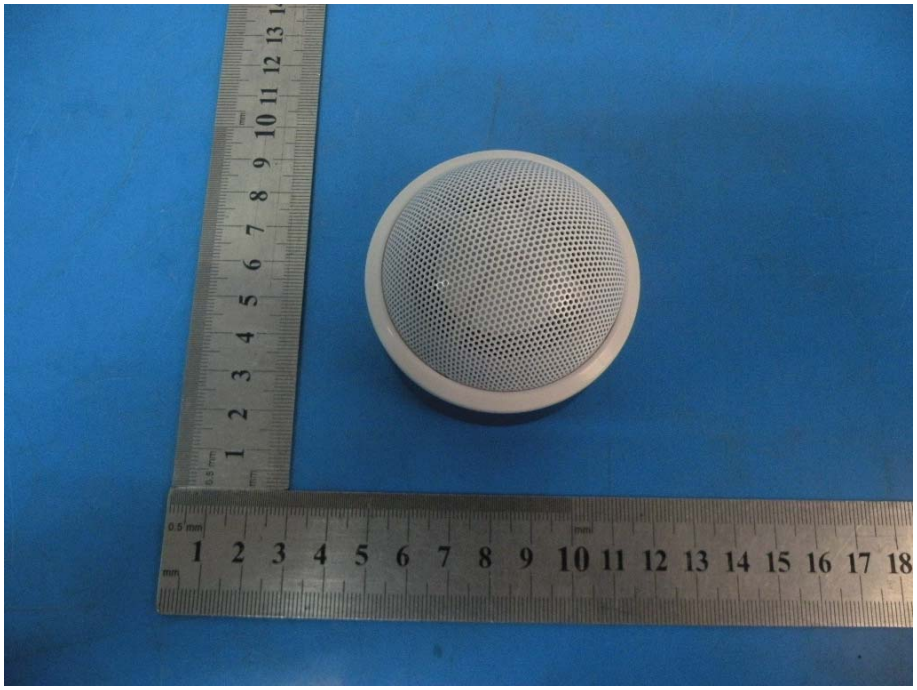
12.1. Photos of Radiated emission



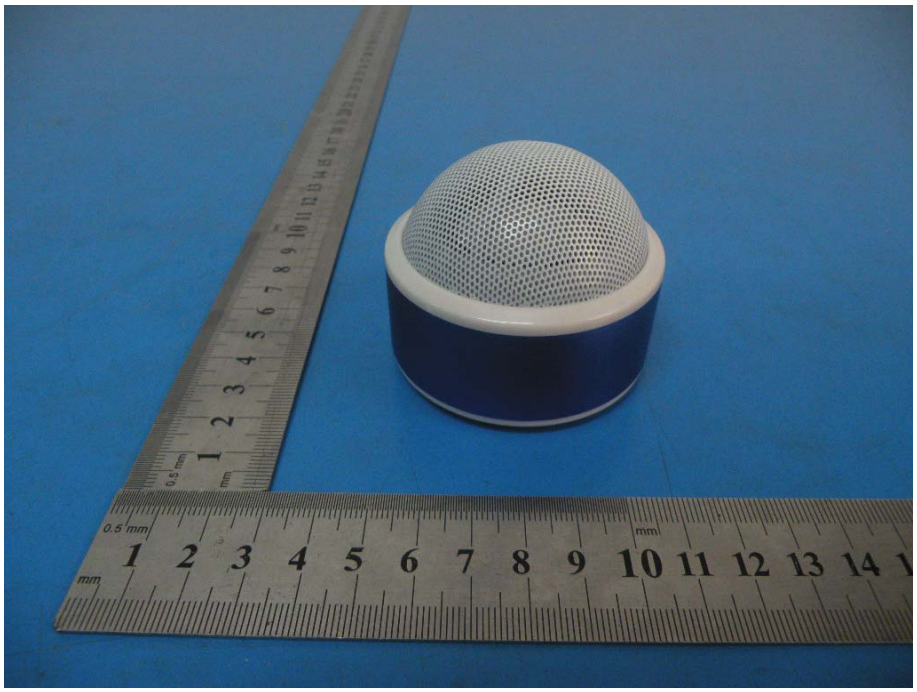
12.2.Photos of Conducted Emission test

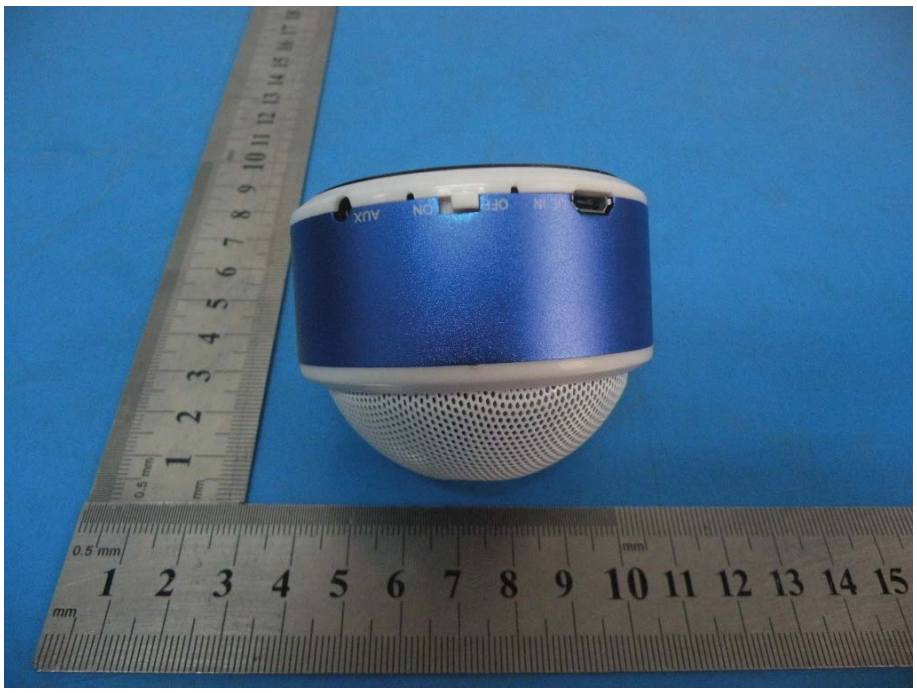


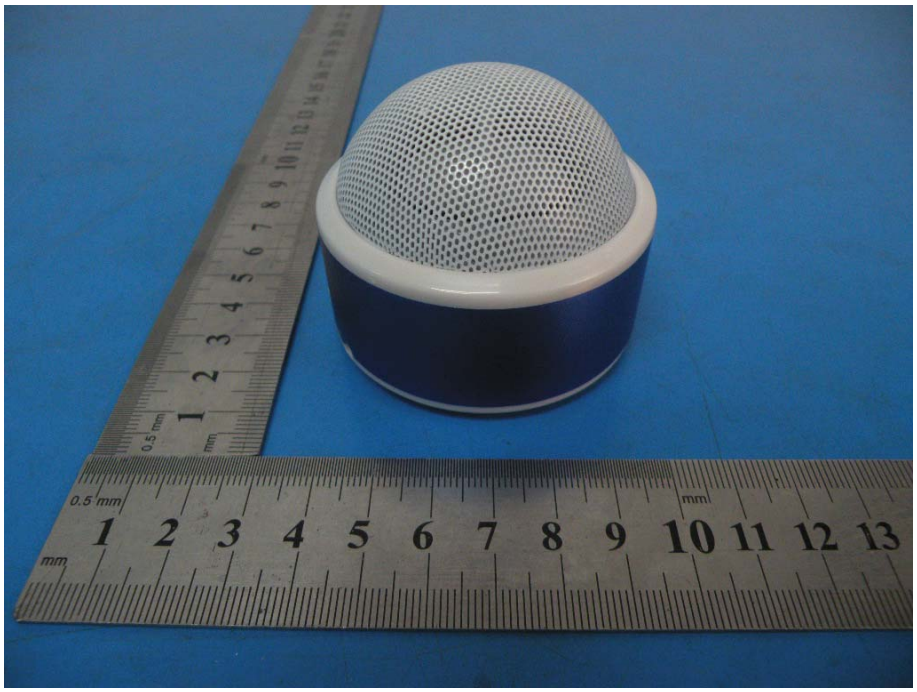
13. Photos of EUT

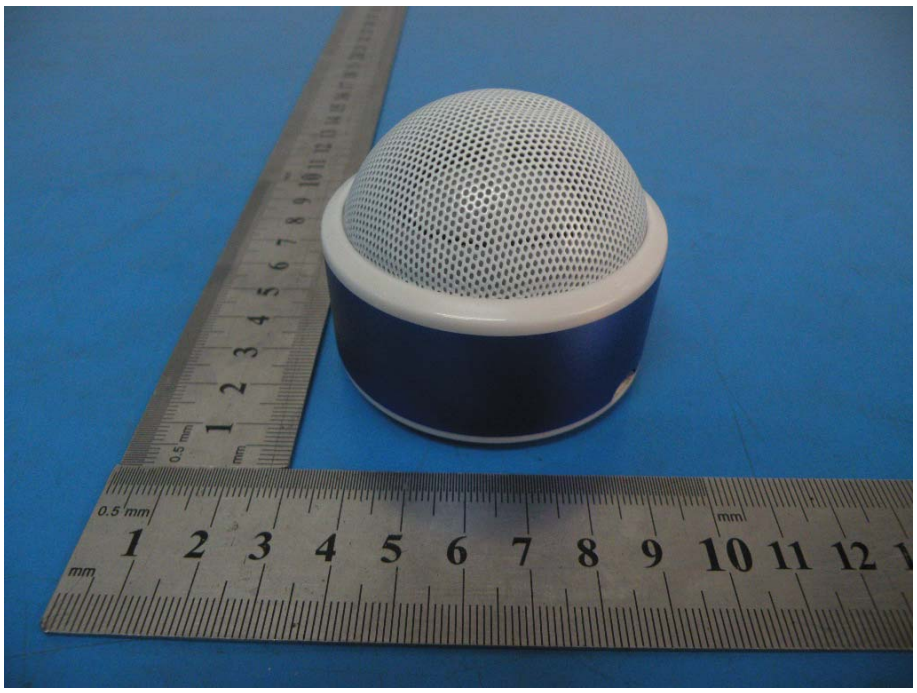


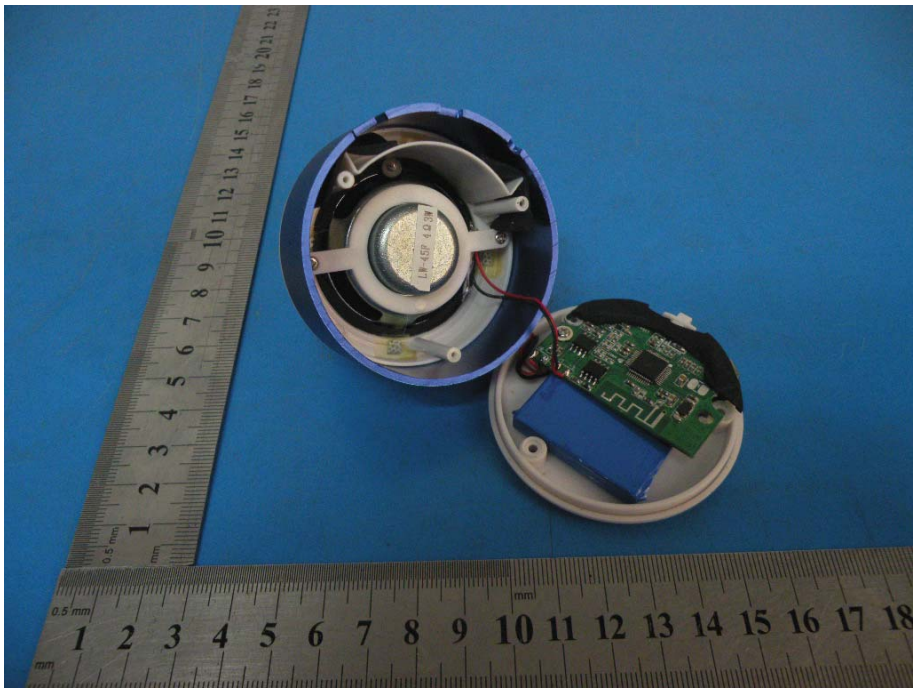

Bluetooth Wireless
INPUT:4.8V-5.2VDC
OUTPUT:3.7V-4.2VDC
Made in China

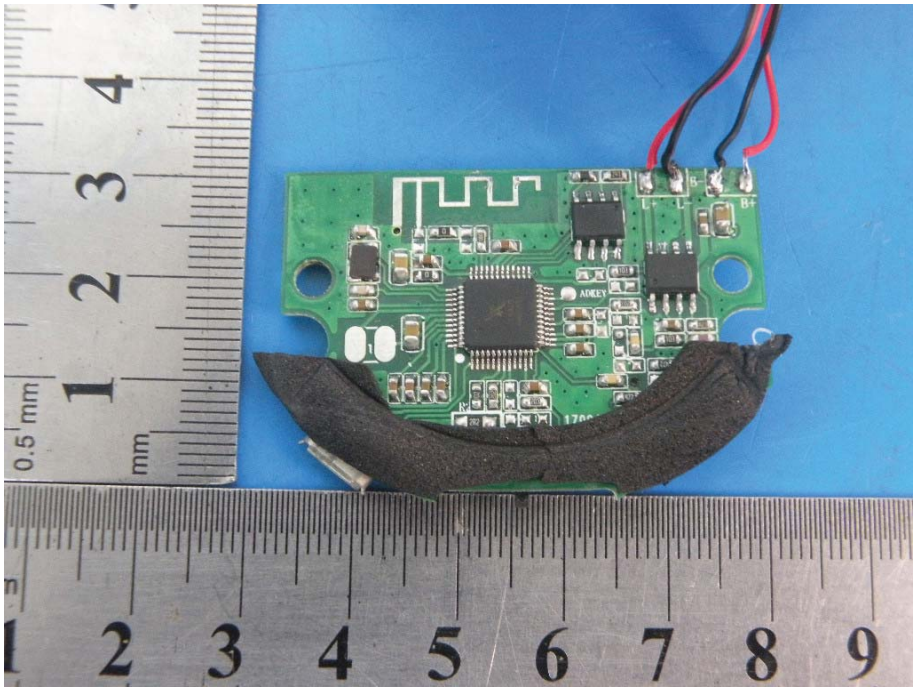


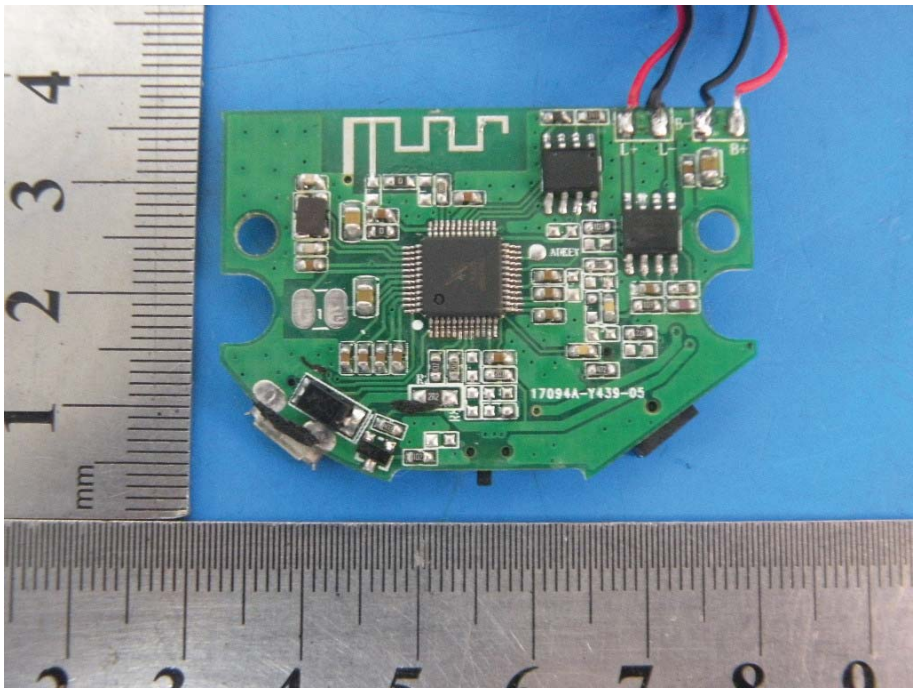

AUX
ON
OFF
0.5 mm
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
mm

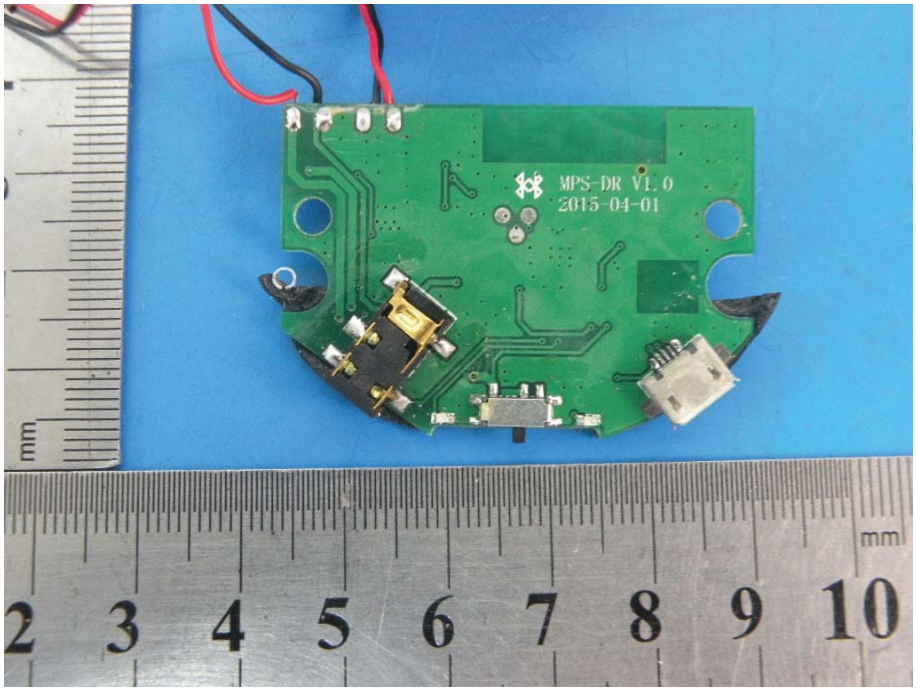

0.5 mm
1 2 3 4 5 6 7 8 9 10 11 12 13
mm








17094A-Y439-05



---------END OF THE REPORT-------