

FCC - TEST REPORT

Report Number : **60.790.15.037.01R01** Date of Issue : May 30, 2016

Model : **WAE Outdoor RUSH**

Product Type : **Bluetooth Speaker**

Applicant : Guillemot Corporation S.A.

Address : Place Du Grainer – B.P. 97143, 35571 Chantepie Cedex, France

Production Facility : NIL

Address : NIL

Test Result : ☒ **Positive** ☐ **Negative**

Total pages
including
Appendices : 55

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2 Description of Equipment Under Test

Description of the Equipment Under Test

Product:	Bluetooth Speaker
Model no.:	WAE Outdoor RUSH
FCC ID:	NAM5061999
Rating:	1) 3.7VDC (Internal Rechargeable Battery) 2) 5.0VDC, 1A (USB Input port) 3) 5.0VDC, 500mA (USB Output port)
Frequency:	2400-2483.5MHz
Antenna gain:	0 dBi
Number of operated channel:	40
Modulation:	GFSK

3 Summary of Test Standards

Test Standards

FCC Part 15 Subpart C 10-1-14 Edition Federal Communications Commission, PART 15 — Radio Frequency Devices, Subpart C — Unintentional Radiators

4 Details about the Test Laboratory

Site 1

Company name: TÜV SÜD Hong Kong Ltd.
3/F, West Wing, Lakeside 2,
10 Science Park West Avenue,
Science Park, Shatin, Hong Kong

Site 2

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12&13 Zhiheng Wisdomland Business Park,
Nantou Checkpoint Road 2,
Shenzhen 518052, P.R.China
FCC Registration Number: 502708

Emission Tests	
Test Item	Test Site
FCC Part 15 Subpart C	
FCC Title 47 Part 15.205, 15.209 & 15.247(d) Spurious Radiated Emission	Site 2
FCC Title 47 Part 15.207 Conduct Emission	Site 2
FCC Title 47 Part 15.247(a)(2) 6dB & 99% Bandwidth	Site 2
FCC Title 47 Part 15.247(b) Peak Output Power	Site 2
FCC Title 47 Part 2.1051 & 15.247(d) Spurious Emissions at Antenna Terminals	Site 2
FCC Title 47 Part 15.247(d) 100kHz Bandwidth of band edges	Site 2
FCC Title 47 Part 15.247(e) Power Spectral Density	Site 2
FCC Title 47 Part 15.203 & 15.247(b) Antenna Requirement	Site 2

4.1 Test Equipment Site List

Site 2:

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	101269	17-Aug-16
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	707	17-Aug-17
Horn Antenna	Rohde & Schwarz	HF907	102294	17-Aug-17
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	17-Aug-16
3m Semi-anechoic chamber	TDK	9X6X6	----	29-May-19
EMI Test Receiver	Rohde & Schwarz	ESR 3	101782	17-Aug-16
LISN	Rohde & Schwarz	ENV4200	100249	17-Aug-16
LISN	Rohde & Schwarz	ENV216	100326	17-Aug-16
ISN	Rohde & Schwarz	ENY81	100177	17-Aug-16
ISN	Rohde & Schwarz	ENY81-CAT6	101664	17-Aug-16
High Voltage Probe	Rohde & Schwarz	TK9420 (VT9420)	9420-58	17-Aug-16
RF Current probe	Rohde & Schwarz	EZ-17	100816	17-Aug-16
Signal Generator	Rohde & Schwarz	SMB100A	108272	17-Aug-16
Signal Analyzer	Rohde & Schwarz	FSV40	101030	17-Aug-16
Vector Signal Generator	Rohde & Schwarz	SMU 200A	105324	17-Aug-16
RF Switch Module	Rohde & Schwarz	OSP120/OSP-B157	101226/100851	17-Aug-16

4.2 Measurement System Uncertainty

Measurement System Uncertainty Emissions

System Measurement Uncertainty	
Items	Extended Uncertainty
Uncertainty for Radiated Emission in 3m chamber 9kHz-30MHz	4.54dB
Uncertainty for Radiated Emission in 3m chamber 30MHz-1000MHz	Horizontal: 4.83dB; Vertical: 4.91dB;
Uncertainty for Radiated Emission in 3m chamber 1000MHz-25000MHz	Horizontal: 4.89dB; Vertical: 4.88dB;
Uncertainty for Conducted RF test	2.04dB

5 Summary of Test Results

Emission Tests				
FCC Part 15 Subpart C				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
FCC Title 47 Part 15.205, 15.209 & 15.247(d) Spurious Radiated Emission	10-15	☒	☐	☐
FCC Title 47 Part 15.207 Conduct Emission	16-17	☒	☐	☐
FCC Title 47 Part 15.247(a)(2) 6dB & 99% Bandwidth	18-23	☒	☐	☐
FCC Title 47 Part 15.247(b) Peak Output Power	24-26	☒	☐	☐
FCC Title 47 Part 2.1051 & 15.247(d) Spurious Emissions at Antenna Terminals	27-29	☒	☐	☐
FCC Title 47 Part 15.247(d) 100kHz Bandwidth of band edges	30-33	☒	☐	☐
FCC Title 47 Part 15.247(e) Power Spectral Density	34-36	☒	☐	☐
FCC Title 47 Part 15.203 & 15.247(b) Antenna Requirement	37	☒	☐	☐

6 General Remarks

Remarks

NIL

SUMMARY:

- All tests according to the regulations cited on page 5 were

■ - Performed

□ - **Not** Performed

- The Equipment Under Test

■ - **Fulfills** the general approval requirements.

□ - **Does not** fulfill the general approval requirements.

Sample Received Date: December 14, 2015

Testing Start Date: December 15, 2015

Testing End Date: May 13, 2016

- TÜV SÜD HONG KONG LTD. -

Reviewed by:



TSENG Chi Kit
EMC Project Engineer



Prepared by:



CHAN Kwong Ngai
EMC Test Engineer

7 Emission Test Results

7.1 Spurious Radiated Emission

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Horizontal
 Comment: 3.7VDC
 Remark: 9kHz to 25GHz

Test Result	
☒	Passed
☐	Not Passed

Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector
120.456	20.13	43.5	-23.37	Quasi Peak
140.399	19.55	43.5	-23.95	Quasi Peak
170.568	20.01	43.5	-23.49	Quasi Peak
401.003	22.17	46	-23.83	Quasi Peak
1580.000	31.04	74	-42.96	Peak
1580.000	28.58	54	-25.42	Average
4804.000	55.32	74	-18.68	Peak
4804.000	36.22	54	-17.78	Average
7205.250	42.23	74	-31.77	Peak
7205.250	38.76	54	-15.24	Average
9608.125	40.17	74	-33.83	Peak
9608.125	39.54	54	-14.46	Average

Spurious Radiated Emission

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Vertical
 Comment: 3.7VDC
 Remark: 9kHz to 25GHz

Test Result	
☒	Passed
☐	Not Passed

Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector
120.500	20.22	43.5	-23.28	Quasi Peak
141.034	20.13	43.5	-23.37	Quasi Peak
402.000	22.53	46	-23.47	Quasi Peak
1580.125	30.16	74	-43.84	Peak
1580.125	27.98	54	-26.02	Average
1635.500	30.55	74	-43.45	Peak
4804.000	54.66	74	-19.34	Peak
4804.000	35.52	54	-18.84	Average
7205.250	40.37	74	-33.63	Peak
7205.250	38.92	54	-15.08	Average
9608.125	40.19	74	-33.81	Peak
9608.125	39.58	54	-14.42	Average

Spurious Radiated Emission

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Horizontal
 Comment: 3.7VDC
 Remark: 9kHz to 25GHz

Test Result

☒ Passed
☐ Not Passed

Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector
120.563	20.10	43.5	-23.40	Quasi Peak
140.222	19.35	43.5	-24.15	Quasi Peak
170.698	20.21	43.5	-23.29	Quasi Peak
401.330	22.23	46	-23.77	Quasi Peak
1580.000	29.98	74	-44.02	Peak
1580.000	28.33	54	-25.67	Average
4880.500	56.66	74	-17.34	Peak
4880.500	32.32	54	-21.68	Average
7320.125	43.33	74	-30.67	Peak
7320.125	38.92	54	-15.08	Average
9760.000	42.21	74	-31.79	Peak
9760.000	39.99	54	-14.01	Average

Spurious Radiated Emission

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Vertical
 Comment: 3.7VDC
 Remark: 9kHz to 25GHz

Test Result

☒ Passed
☐ Not Passed

Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector
120.523	20.55	43.5	-22.95	Quasi Peak
141.030	20.31	43.5	-23.19	Quasi Peak
401.053	20.13	46	-25.87	Quasi Peak
1580.125	30.75	74	-43.25	Peak
1580.125	30.03	54	-23.97	Average
4880.500	56.73	74	-17.27	Peak
4880.500	34.01	54	-19.99	Average
7320.125	42.96	74	-31.04	Peak
7320.125	38.44	54	-15.56	Average
9760.000	41.03	74	-32.97	Peak
9760.000	39.62	54	-14.48	Average

Spurious Radiated Emission

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Horizontal
 Comment: 3.7VDC
 Remark: 9kHz to 25GHz

Test Result

☒ Passed

☐ Not Passed

Frequency MHz	Result dBμV/m	Limit dBμV/m	Margin dB	Detector
121.021	21.01	43.5	-22.49	Quasi Peak
140.005	19.58	43.5	-23.92	Quasi Peak
170.120	20.13	43.5	-23.37	Quasi Peak
401.563	21.55	46	-24.45	Quasi Peak
1580.000	29.13	74	-44.87	Peak
1580.000	28.28	54	-25.72	Average
4960.500	49.55	74	-24.45	Peak
4960.500	34.52	54	-19.48	Average
7440.000	40.12	74	-33.88	Peak
7440.000	38.22	54	-15.78	Average
9920.120	40.23	74	-33.77	Peak
9920.120	39.03	54	-14.97	Average

Spurious Radiated Emission

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC15.205, 15.209 & 15.247(d) Antenna: Vertical
 Comment: 3.7VDC
 Remark: 9kHz to 25GHz

Test Result

☒ Passed
☐ Not Passed

Frequency MHz	Result dB μ V/m	Limit dB μ V/m	Margin dB	Detector
120.510	20.21	43.5	-23.29	Quasi Peak
140.500	20.11	43.5	-23.39	Quasi Peak
401.230	22.03	46	-23.97	Quasi Peak
1580.125	28.52	74	-45.48	Peak
1580.125	26.98	54	-27.02	Average
4960.500	49.56	74	-24.44	Peak
4960.500	34.21	54	-19.79	Average
7440.000	40.22	74	-33.78	Peak
7440.000	38.58	54	-15.42	Average
9920.120	40.58	74	-33.42	Peak
9920.120	39.11	54	-14.89	Average

7.2 Conducted Emission

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2402/2440/2480MHz)
 Test Specification: FCC15.207, AC Mains, L Line
 Comment: 120VAC, 60Hz (From external adaptor)

Test Result

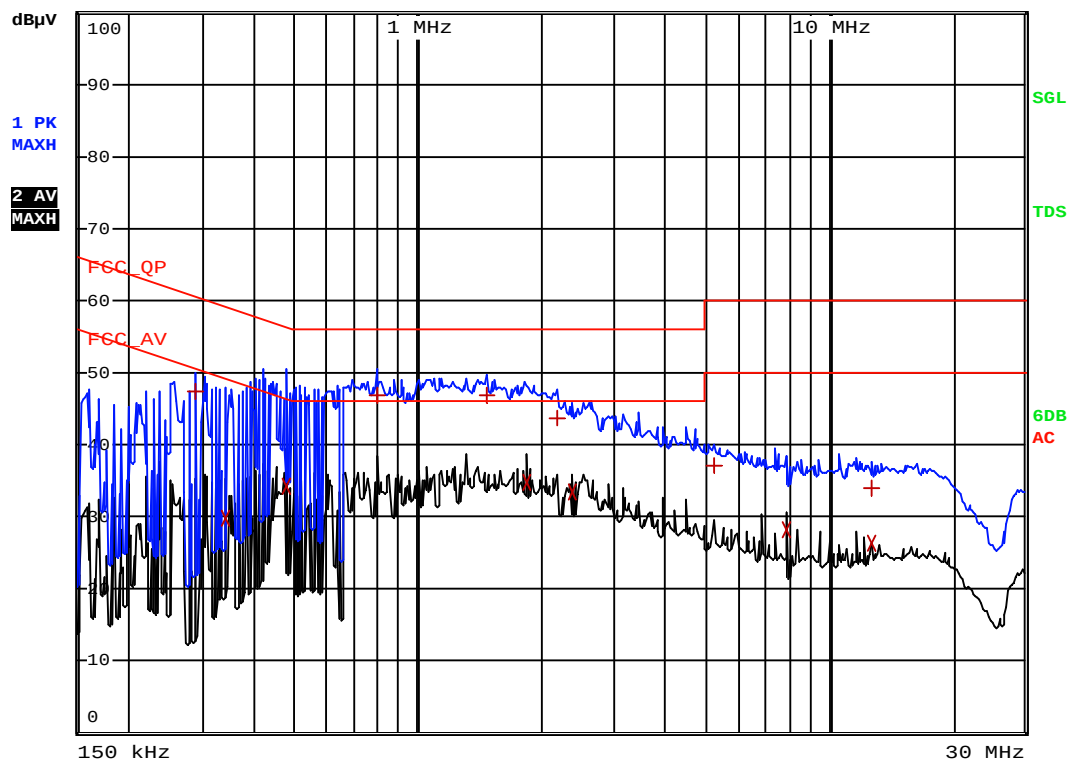
☒ Passed☐ Not Passed

RBW 9 kHz

MT 1 s

PREAMP OFF

Att 10 dB



TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1 Quasi Peak	286 kHz	47.36	-13.27
2 Average	338 kHz	29.70	-19.54
2 Average	478 kHz	34.33	-12.03
1 Quasi Peak	794 kHz	46.92	-9.07
1 Quasi Peak	1.474 MHz	46.92	-9.07
2 Average	1.85 MHz	34.77	-11.22
1 Quasi Peak	2.182 MHz	43.74	-12.25
2 Average	2.378 MHz	33.46	-12.53
1 Quasi Peak	5.278 MHz	37.24	-22.75
2 Average	7.922 MHz	28.21	-21.78
1 Quasi Peak	12.67 MHz	34.00	-25.99
2 Average	12.67 MHz	26.29	-23.70

Conducted Emission

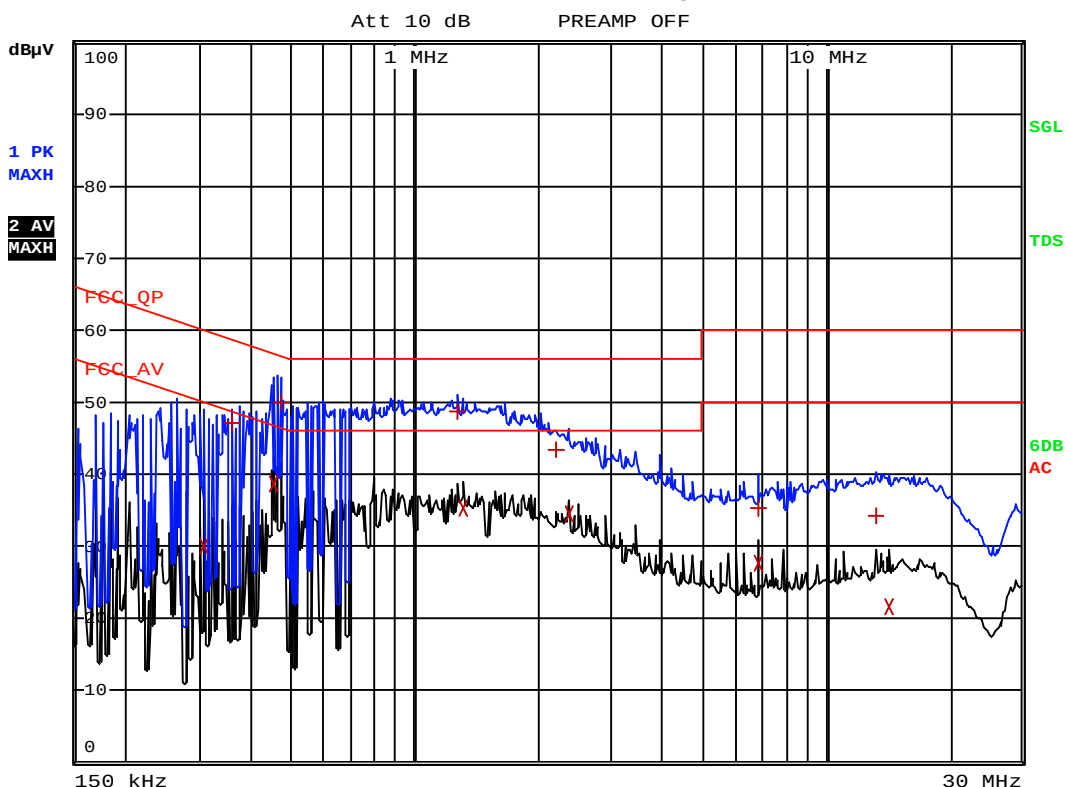
EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2402/2440/2480MHz)
Test Specification: FCC15.207, AC Mains, N Line
Comment: 120VAC, 60Hz (From external adaptor)

Test Result☒ Passed☐ Not Passed

RBW 9 kHz

MT 1 s

PREAMP OFF

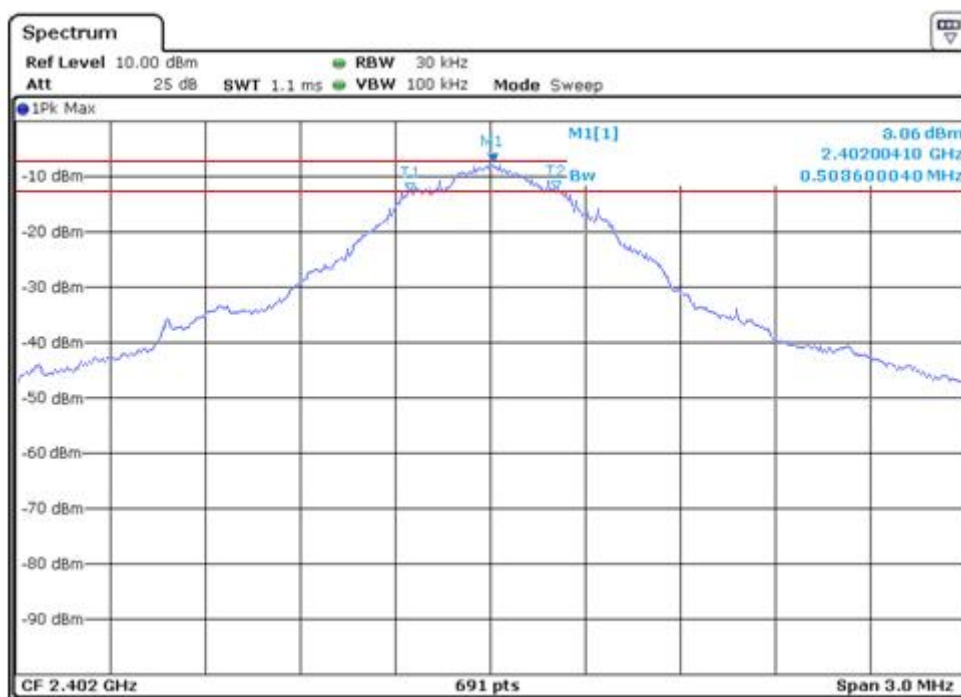


TRACE	FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
2 Average	306 kHz	30.04	-20.03
1 Quasi Peak	358 kHz	47.06	-11.71
2 Average	454 kHz	38.63	-8.16
1 Quasi Peak	470 kHz	50.04	-6.46
1 Quasi Peak	1.274 MHz	48.67	-7.32
2 Average	1.318 MHz	35.42	-10.57
1 Quasi Peak	2.21 MHz	43.33	-12.66
2 Average	2.378 MHz	34.57	-11.42
1 Quasi Peak	6.87 MHz	35.29	-24.70
2 Average	6.87 MHz	27.76	-22.23
1 Quasi Peak	13.214 MHz	34.29	-25.70
2 Average	14.27 MHz	21.64	-28.35

7.3 6dB & 99% Bandwidth

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth
 Comment: 3.7VDC

Test Result

☒ Passed☐ Not Passed

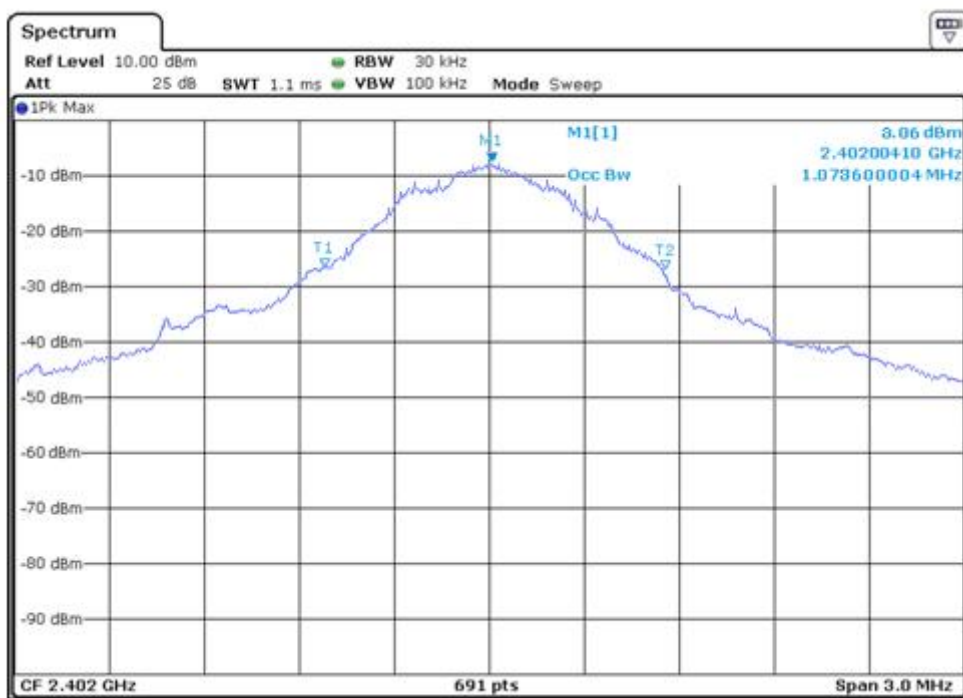
6dB bandwidth	Limit
503.600 kHz	> 500 kHz

6dB & 99% Bandwidth

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2402MHz)
Test Specification: FCC15.247(a)(2), 99% Bandwidth
Comment: 3.7VDC

Test Result

☒ Passed
☐ Not Passed

**99% bandwidth**

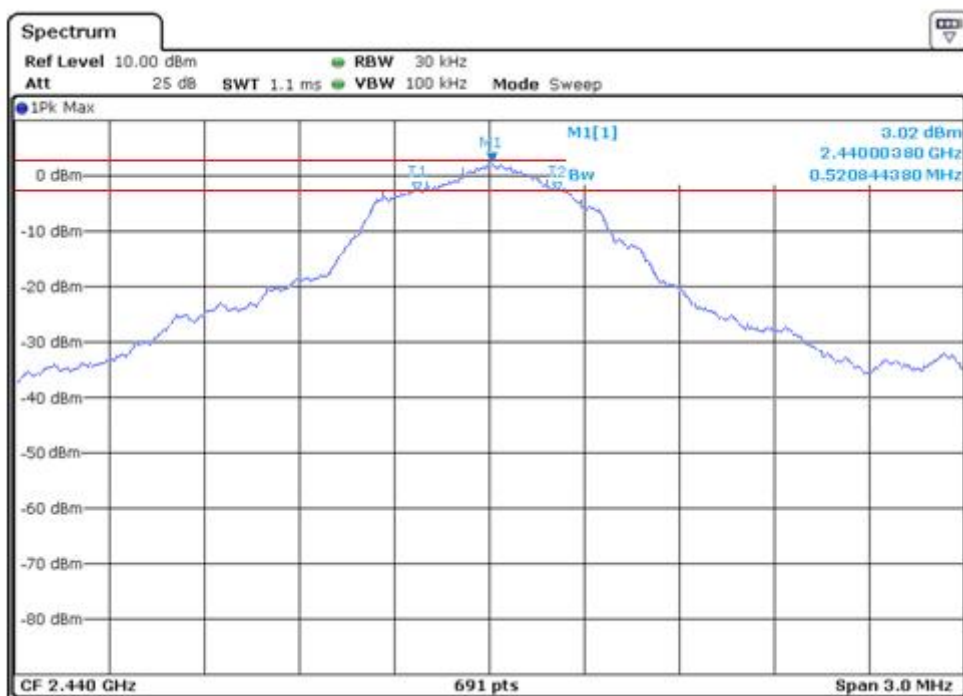
1073.600 kHz

6dB & 99% Bandwidth

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC15.247(a)(2), 6dB Bandwidth
 Comment: 3.7VDC

Test Result

☒ Passed
☐ Not Passed

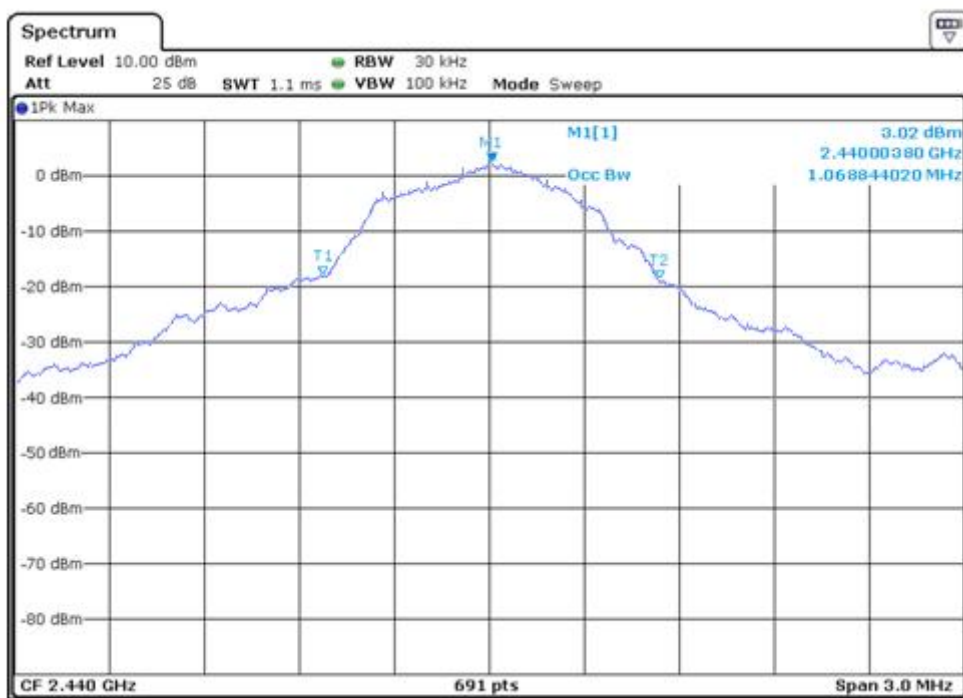


6dB bandwidth	Limit
520.844 kHz	> 500 kHz

6dB & 99% Bandwidth

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2440MHz)
Test Specification: FCC15.247(a)(2), 99% Bandwidth
Comment: 3.7VDC

Test Result

☒ Passed☐ Not Passed**99% bandwidth**

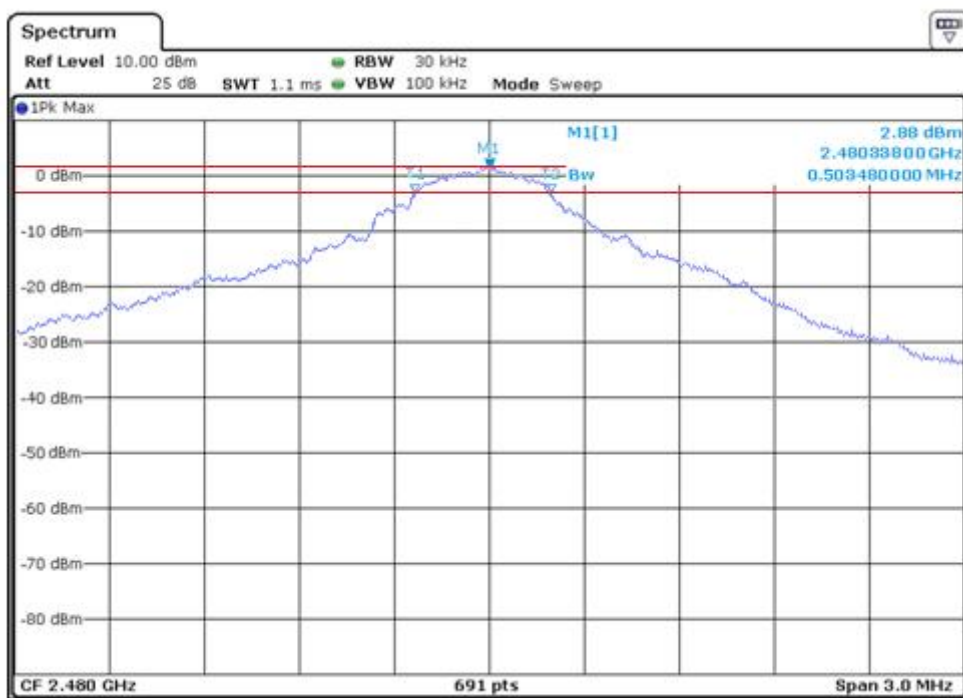
1068.844 kHz

6dB & 99% Bandwidth

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2480MHz)
Test Specification: FCC15.247(a)(2), 6dB Bandwidth
Comment: 3.7VDC

Test Result

☒ Passed
☐ Not Passed

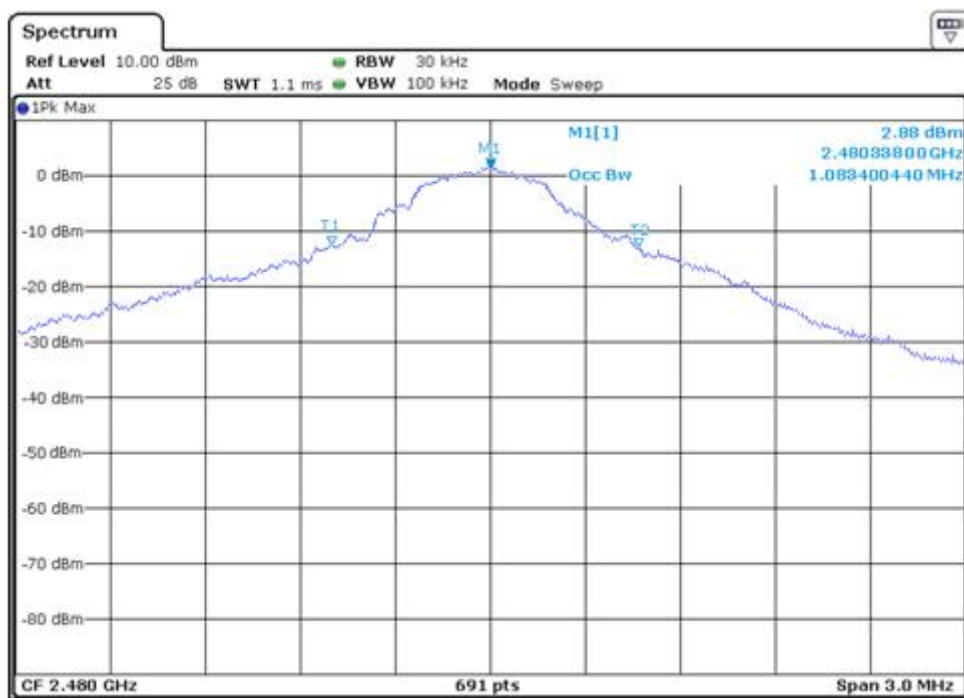


6dB bandwidth	Limit
503.480 kHz	> 500 kHz

6dB & 99% Bandwidth

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2480MHz)
Test Specification: FCC15.247(a)(2), 99% Bandwidth
Comment: 3.7VDC

Test Result

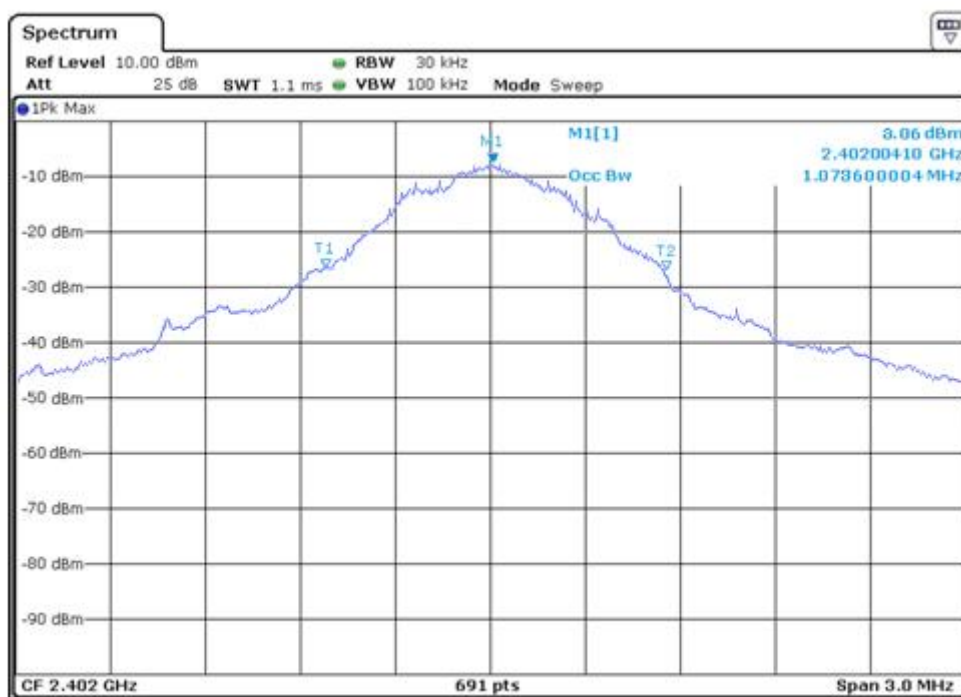
☒ Passed☐ Not Passed**99% bandwidth**

1083.400 kHz

7.4 Peak Output Power

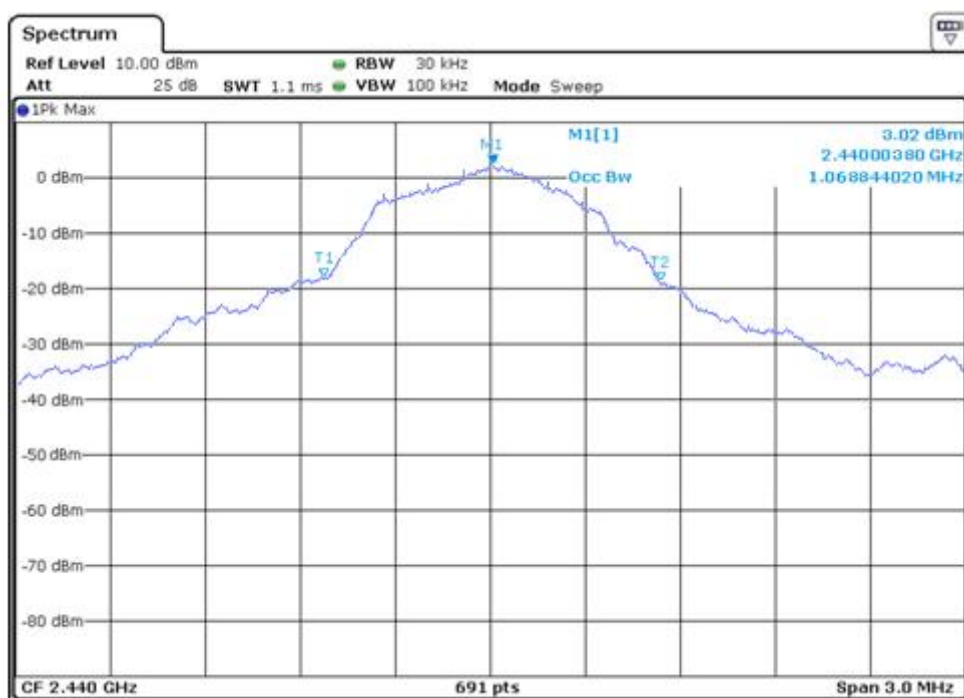
EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2402MHz)
Test Specification: FCC15.247(b)
Comment: 3.7VDC

Test Result

☒ Passed☐ Not Passed

Conducted Output Power	Limit
3.06 dBm	< 30dBm

EUT:	WAE Outdoor Rush
Op Condition:	Operated, TX Mode (2440MHz)
Test Specification:	FCC15.247(b)
Comment:	3.7VDC

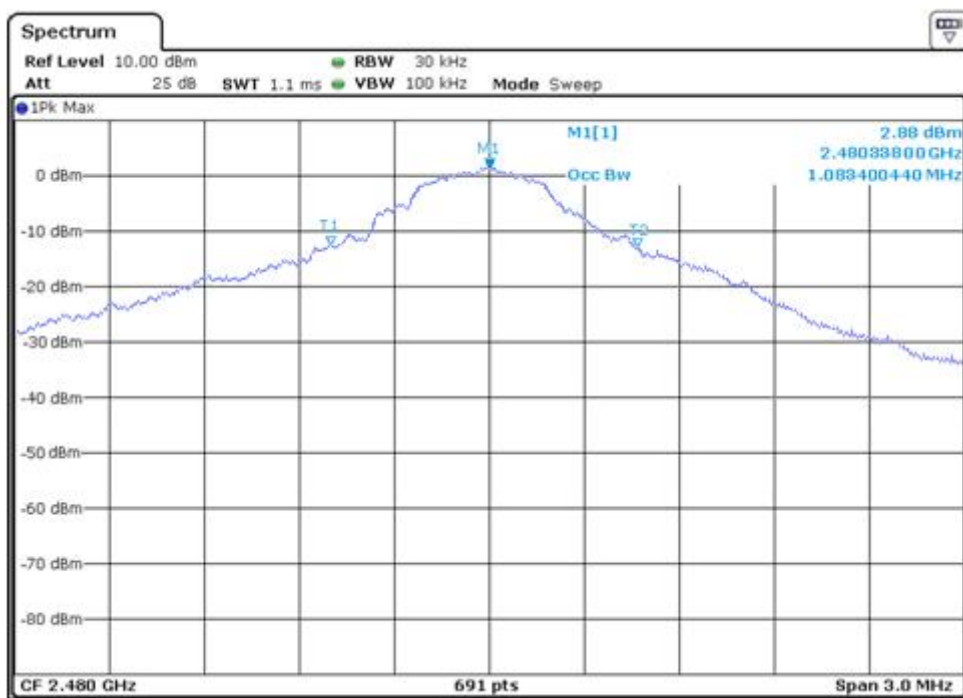
☐ Not Passed

Conducted Output Power	Limit
3.02 dBm	< 30dBm

Peak Output Power

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2480MHz)
Test Specification: FCC15.247(b)
Comment: 3.7VDC

Test Result

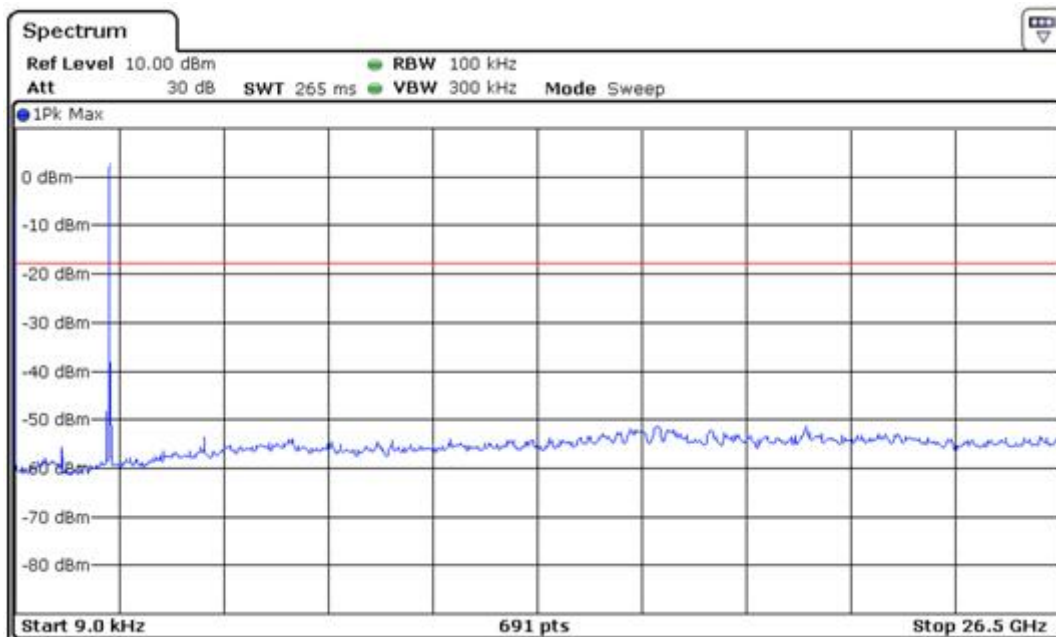
☒ Passed☐ Not Passed

Conducted Output Power	Limit
2.88 dBm	< 30dBm

7.5 Spurious Emissions at Antenna Terminals

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2402MHz)
Test Specification: FCC2.1051 & 15.247(d)
Comment: 3.7VDC
Remark: 9kHz to 26.5GHz

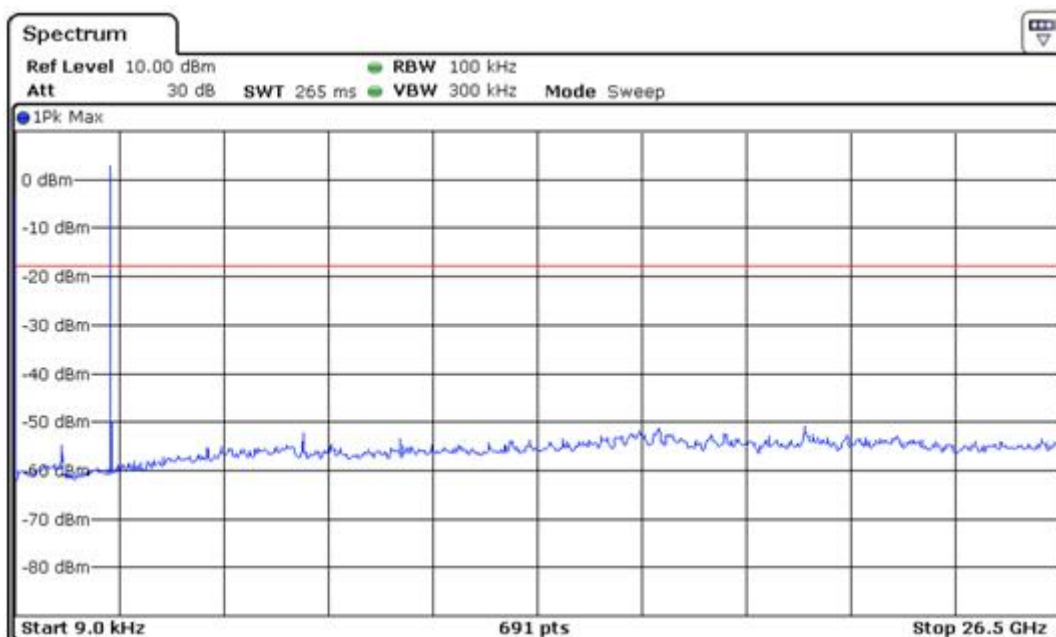
Test Result

☒ Passed☐ Not Passed

Spurious Emissions at Antenna Terminals

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2440MHz)
Test Specification: FCC2.1051 & 15.247(d)
Comment: 3.7VDC
Remark: 9kHz to 26.5GHz

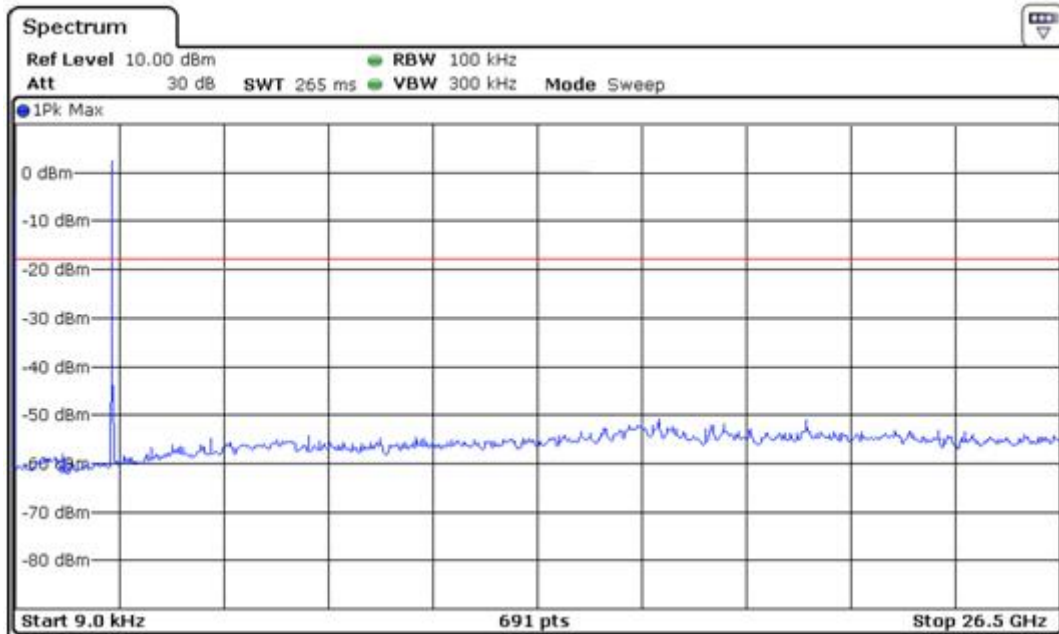
Test Result

☒ Passed☐ Not Passed

Spurious Emissions at Antenna Terminals

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2480MHz)
Test Specification: FCC2.1051 & 15.247(d)
Comment: 3.7VDC
Remark: 9kHz to 26.5GHz

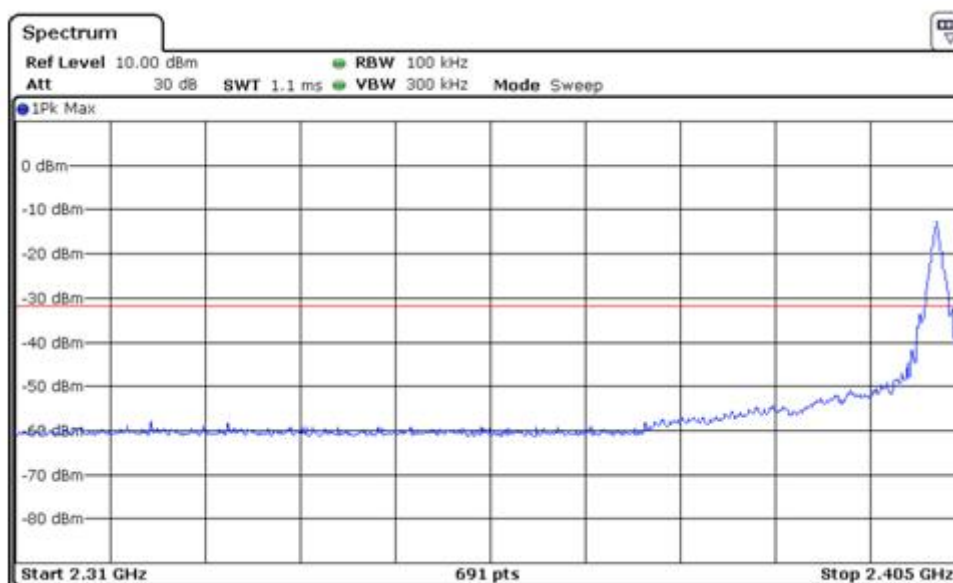
Test Result

☒ Passed☐ Not Passed

7.6 100kHz Bandwidth of band edges

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.247(d), Conducted
 Comment: 3.7VDC

Test Result

☒ Passed☐ Not Passed

Frequency	Result
2.402 GHz	-12.48 dBm
2.390 GHz	-51.20 dBm

Band edges	Limit
38.72 dB	> 20dB

100kHz Bandwidth of band edges

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2402MHz)
Test Specification: FCC15.247(d), Radiated
Comment: 3.7VDC

Test Result☒ Passed☐ Not Passed

Frequency MHz	Result dB μ V/m	Limit dB μ V/m	Margin dB	Detector
2439.000	35.02	74	-38.98	Peak
2439.000	31.82	54	-22.18	Average

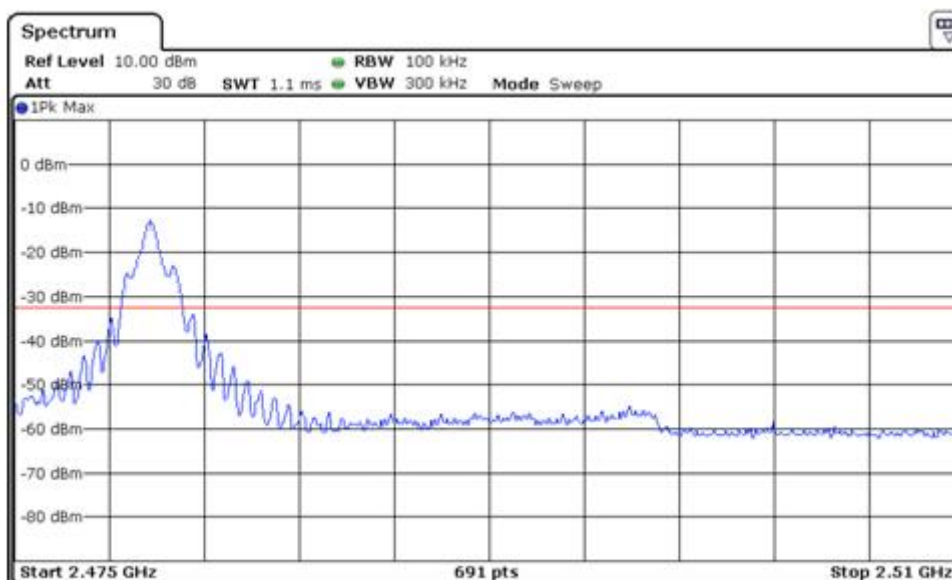
100kHz Bandwidth of band edges

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC15.247(d), Conducted
 Comment: 3.7VDC

Test Result

☒ Passed

☐ Not Passed



Frequency	Result
2.480 GHz	-12.43 dBm
2.4835 GHz	-50.88 dBm

Band edges	Limit
38.45 dB	> 20dB

100kHz Bandwidth of band edges

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode (2480MHz)
Test Specification: FCC15.247(d), Radiated
Comment: 3.7VDC

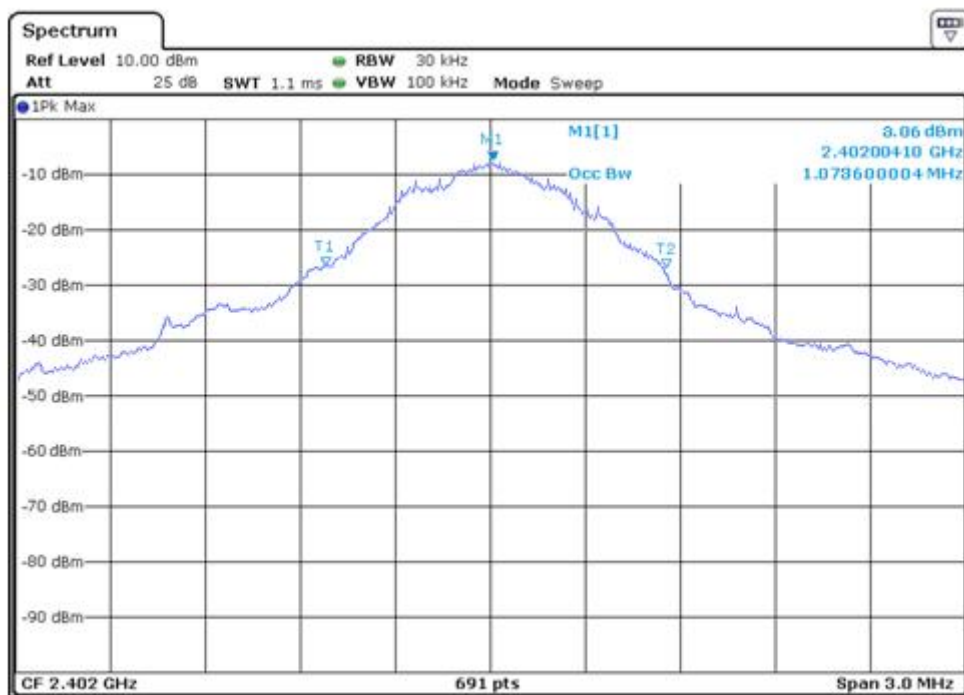
Test Result☒ Passed☐ Not Passed

Frequency MHz	Result dB μ V/m	Limit dB μ V/m	Margin dB	Detector
2483.500	36.14	74	-37.86	Peak
2483.500	31.66	54	-22.34	Average

7.7 Power Spectral Density

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2402MHz)
 Test Specification: FCC15.247(e)
 Comment: 3.7VDC

Test Result

☒ Passed☐ Not Passed

Frequency	PSD	Result
2.402GHz	3.06 dBm / 3kHz	< 8 dBm / 3 kHz

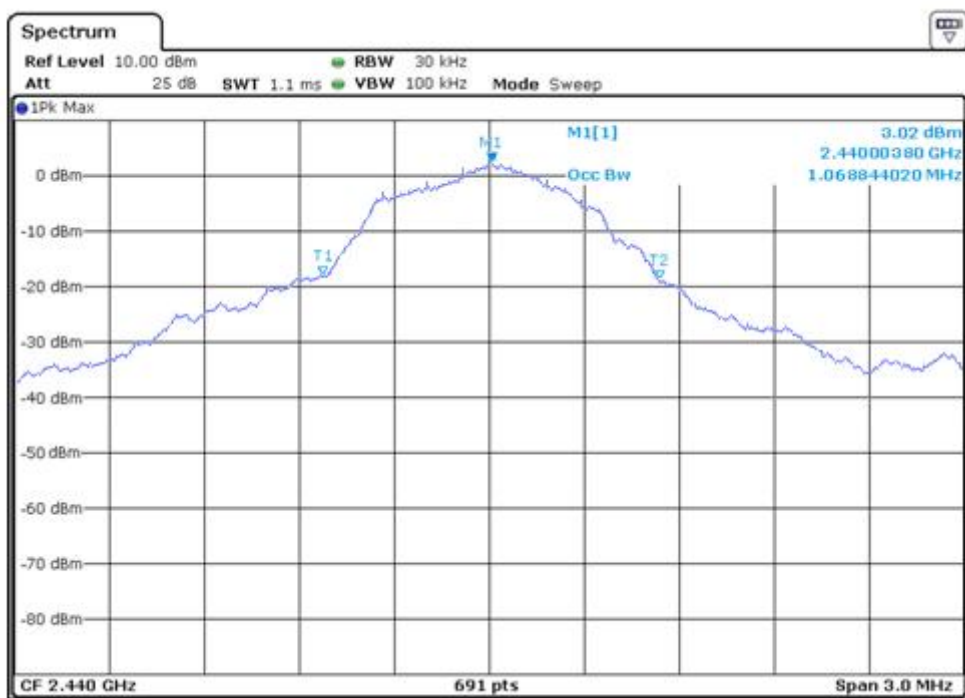
Power Spectral Density

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2440MHz)
 Test Specification: FCC15.247(e)
 Comment: 3.7VDC

Test Result

☒ Passed

☐ Not Passed



Frequency	PSD	Result
2.440GHz	3.02 dBm / 3kHz	< 8 dBm / 3 kHz

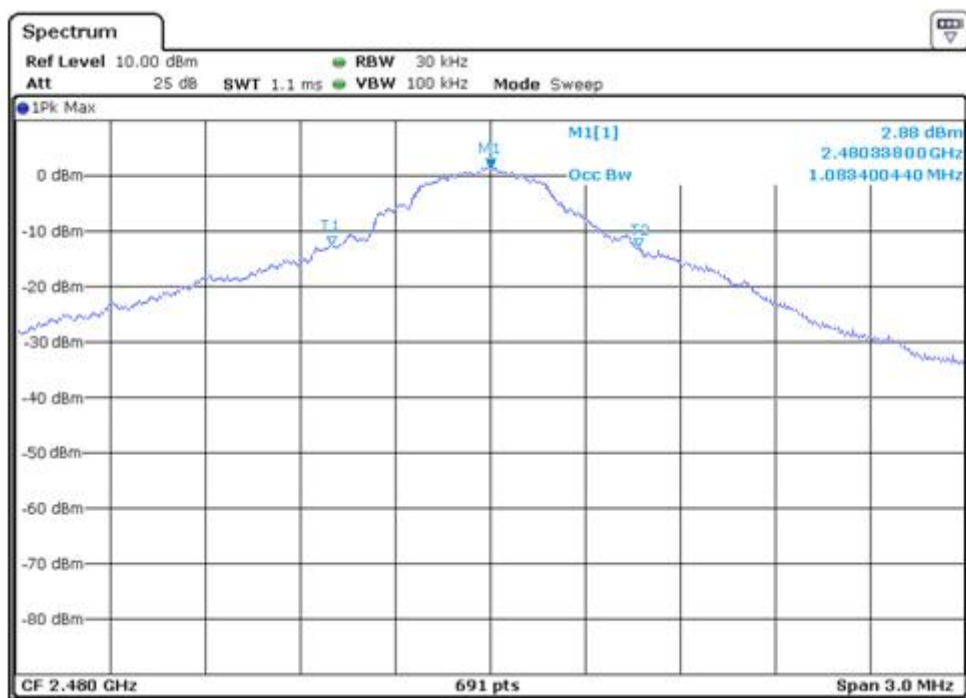
Power Spectral Density

EUT: WAE Outdoor Rush
 Op Condition: Operated, TX Mode (2480MHz)
 Test Specification: FCC15.247(e)
 Comment: 3.7VDC

Test Result

☒ Passed

☐ Not Passed



Frequency	PSD	Result
2.480GHz	2.88 dBm / 3kHz	< 8 dBm / 3 kHz

7.8 Antenna Requirement

EUT: WAE Outdoor Rush
Op Condition: Operated, TX Mode
Test Specification: FCC15.203 & 15.247(b)
Comment: 3.7VDC

Test Result☒ Passed☐ Not Passed

Limit

For intentional device, according to FCC Title 47 Part 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 Title 47 Part 15.247(b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The antenna used in this product is PCB antenna, and the maximum gain of this antenna is 0.0 dBi.

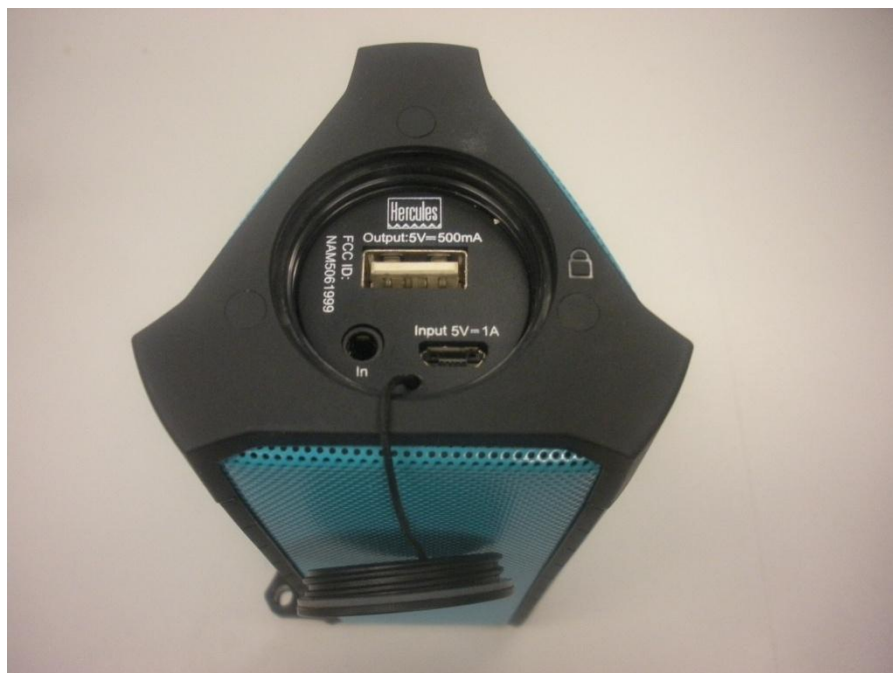
8 Appendix A - Photographs of EUT



Appendix A



Appendix A



Appendix A



Appendix A



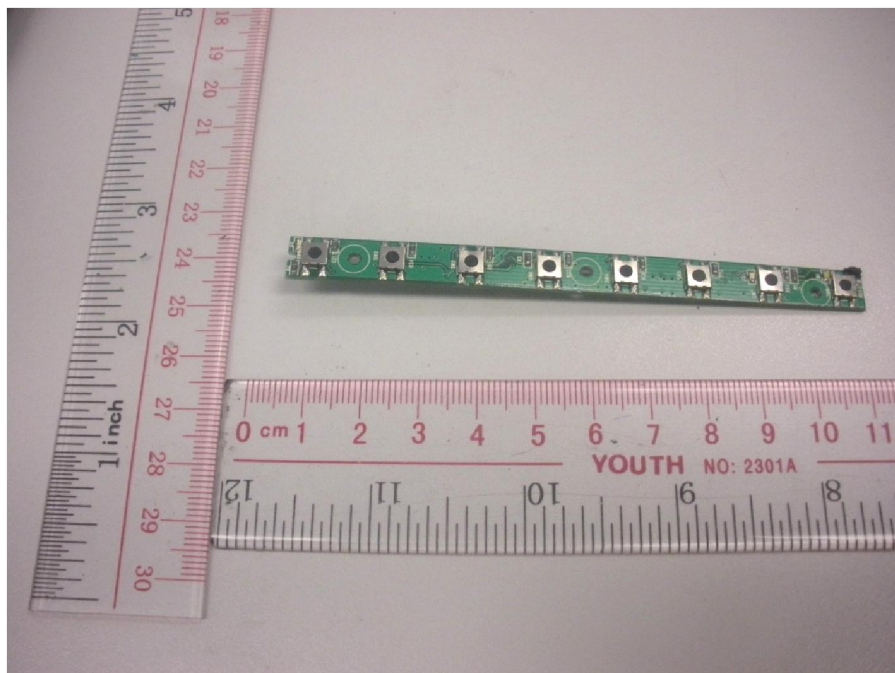
Appendix A



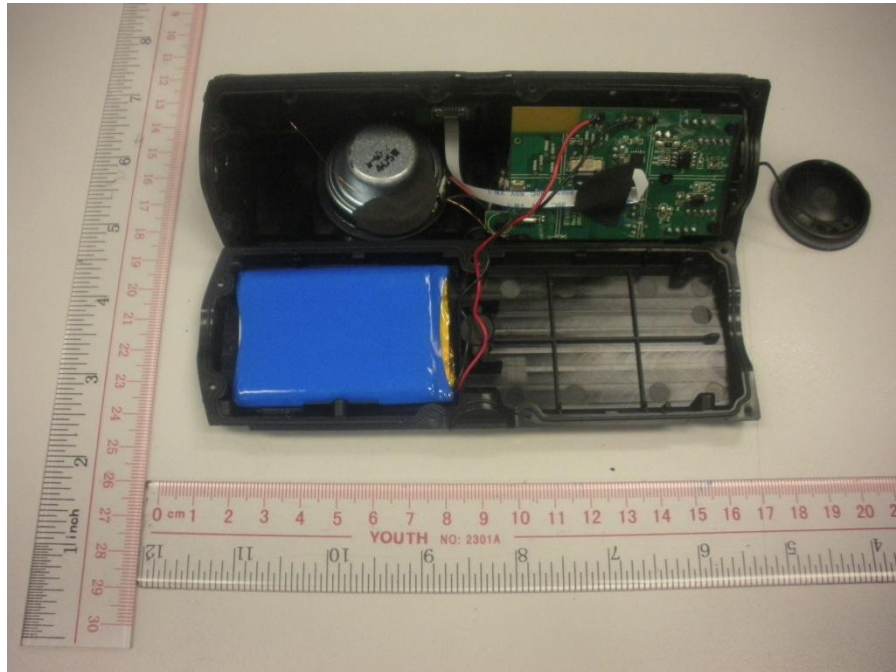
Appendix A



Appendix A



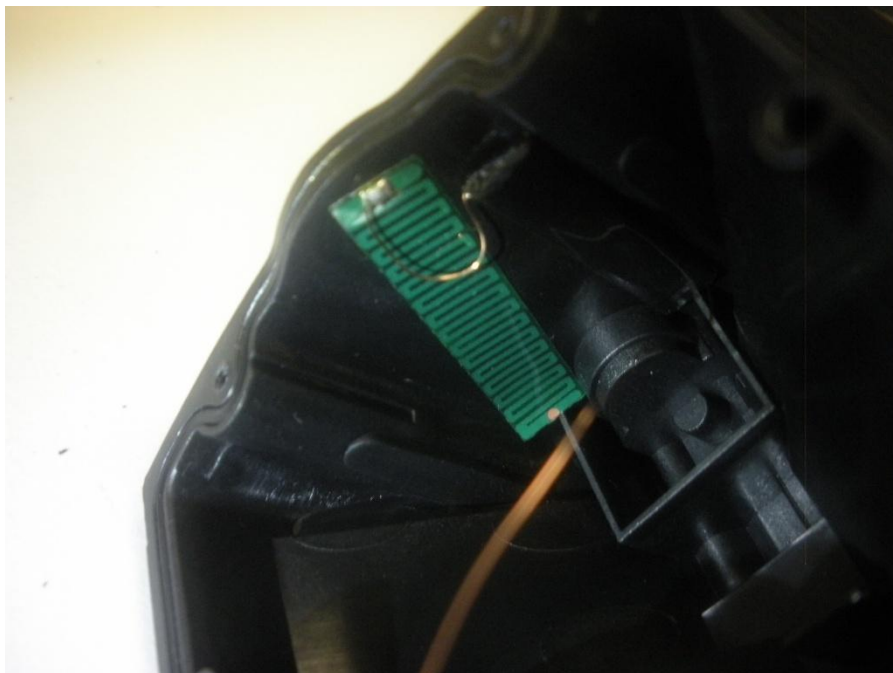
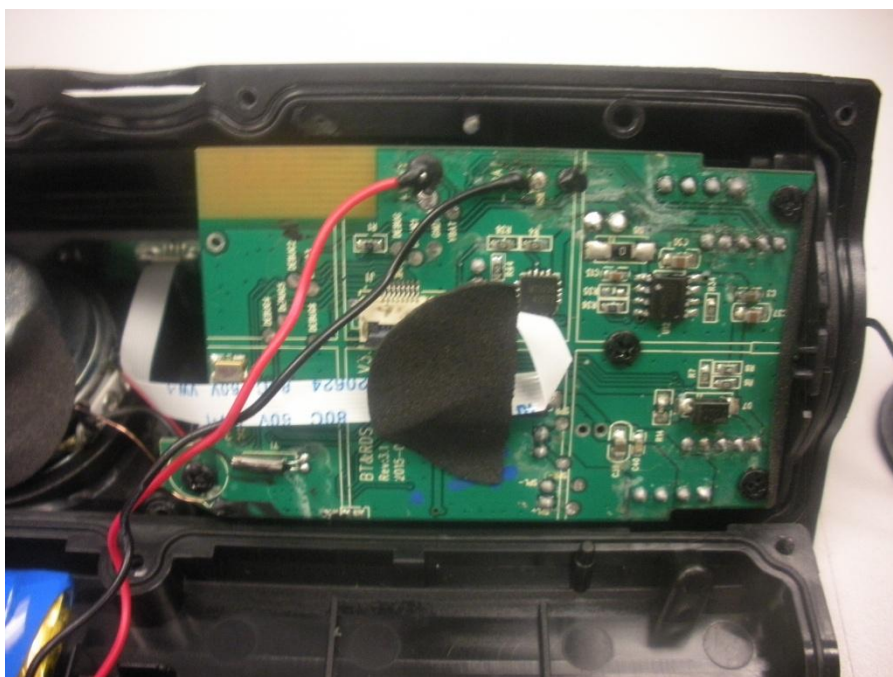
Appendix A



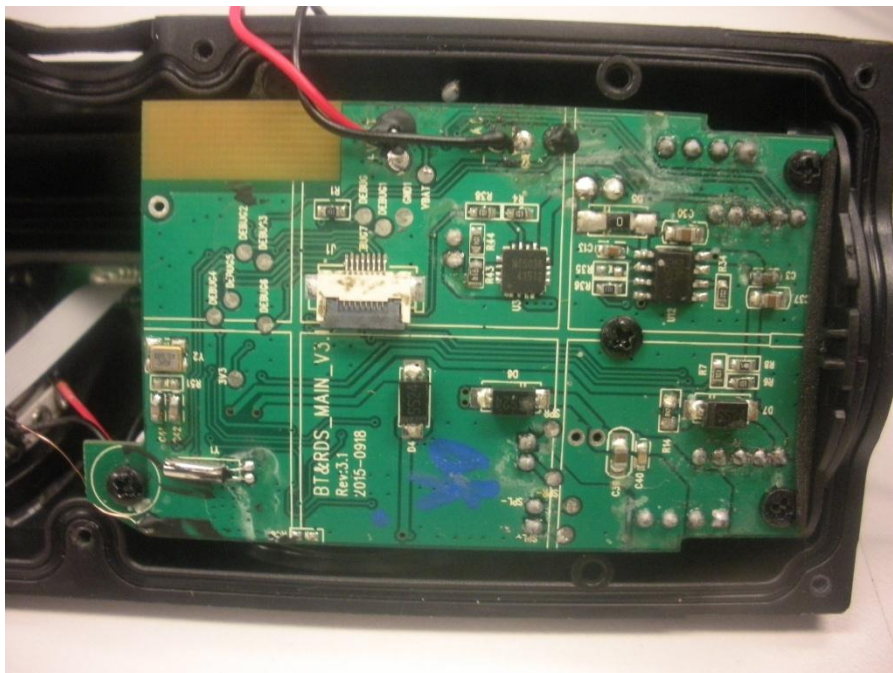
Appendix A



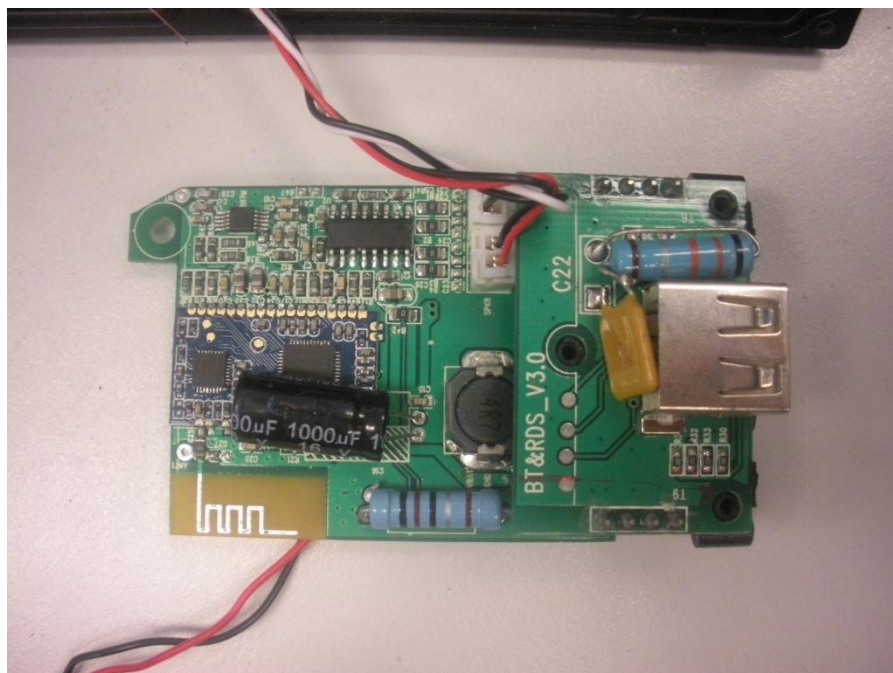
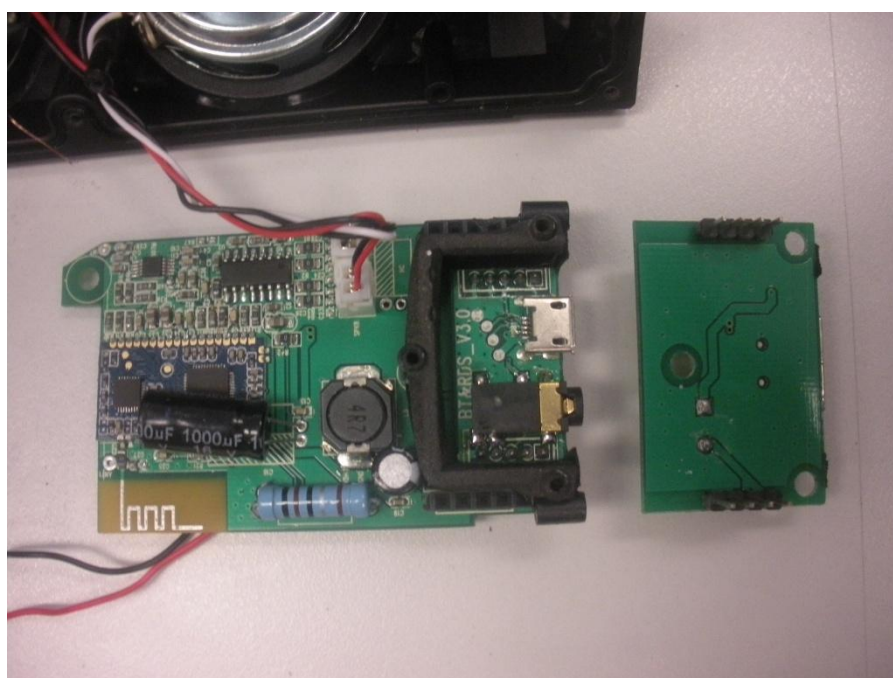
Appendix A



Appendix A



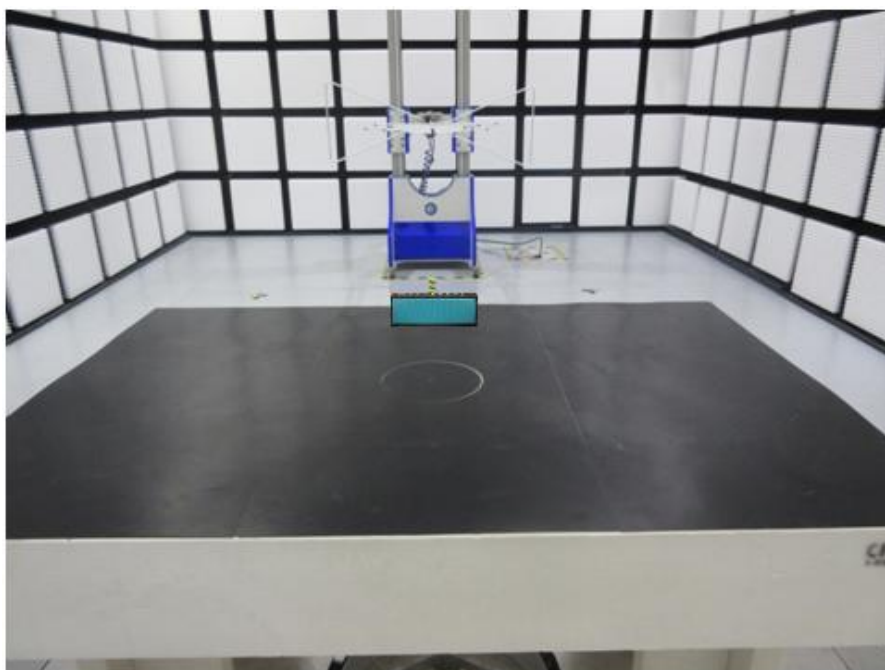
Appendix A



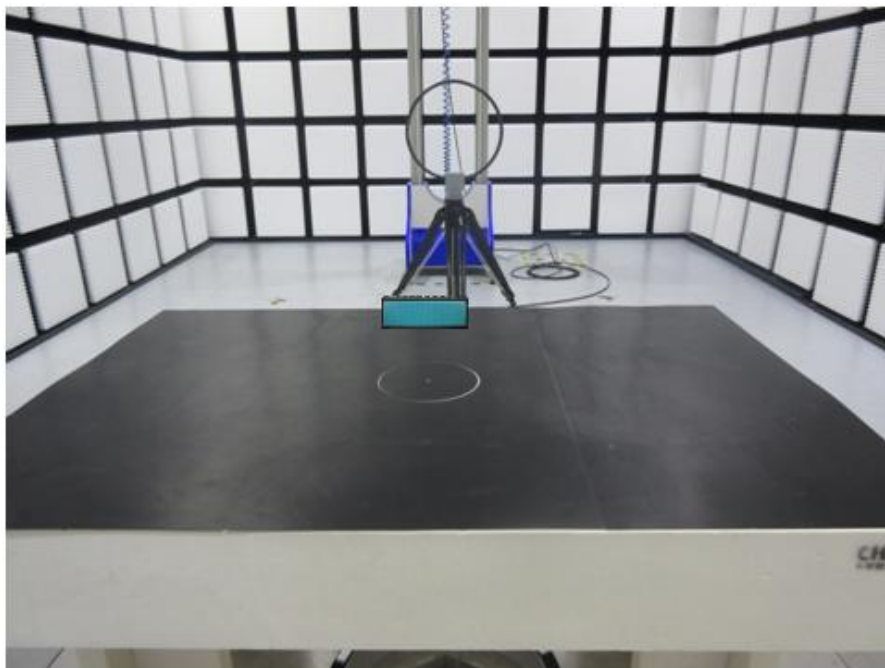
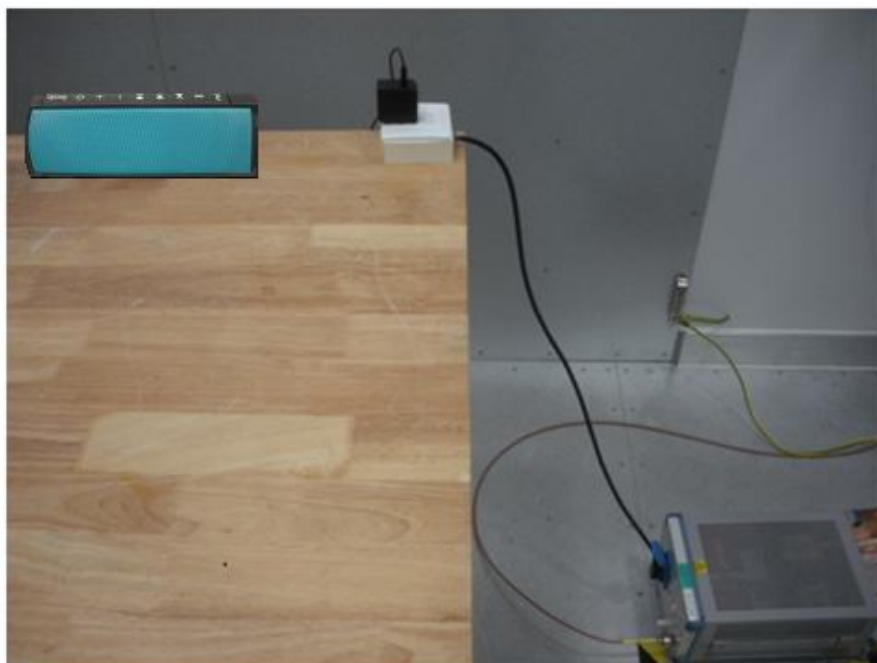
Appendix A



9 Appendix B - Setup Photographs of EUT



Appendix B



Appendix B



10 Appendix C - General Product Information

Radiofrequency radiation exposure evaluation

According to KDB 447498 D01v06 section 4.3.1,

>> The 1-g SAR test exclusion thresholds, for 100MHz to 6GHz, at test separation distances ≤ 50 mm are determined by:

Power at 2.402GHz = 2.0230 mW EIRP

Power at 2.440GHz = 2.0044 mW EIRP

Power at 2.480GHz = 1.9408 mW EIRP

$[(2.0230 \text{ mW}) / (20 \text{ mm})] \cdot [\text{sqrt}(2.402 \text{ GHz})] = 0.1567$ which is ≤ 3.0 for 1-g SAR.

$[(2.0044 \text{ mW}) / (20 \text{ mm})] \cdot [\text{sqrt}(2.440 \text{ GHz})] = 0.1565$ which is ≤ 3.0 for 1-g SAR.

$[(1.9408 \text{ mW}) / (20 \text{ mm})] \cdot [\text{sqrt}(2.480 \text{ GHz})] = 0.1528$ which is ≤ 3.0 for 1-g SAR.

Therefore the device is exempt from stand-alone SAR test requirements.

>> The fundamental frequency of the EUT is 2402MHz-2480MHz, the test separation distance is < 50 mm. (Manufacturer specified the separation distance is: 20mm)

>> The power of EUT measured is:

- For 2402MHz: $2.0230\text{mW} = 10 \log(2.0230) \text{ dBm} \sim 3.06\text{dBm}$
- For 2440MHz: $2.0044\text{mW} = 10 \log(2.0044) \text{ dBm} \sim 3.02\text{dBm}$
- For 2480MHz: $1.9408\text{mW} = 10 \log(1.9408) \text{ dBm} \sim 2.88\text{dBm}$