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Report Template Version: V05 Report Template Revision Date: 2021-11-03

Test Report

Report No.: CQASZ20220400688E-02

Applicant: Shenzhen Baseus Technology Co., Ltd.

Address of Applicant: 2th Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang Rd, Gangtou

Community, Bantian Street, Longgang District, Shenzhen.

Equipment Under Test (EUT):

Product: Baseus Bowie H1 Noise-Cancelling Wireless Headphones

Model No.: Baseus Bowie H1

Test Model No.: Baseus Bowie H1

Brand Name: Baseus FCC ID: 2A482-H1

Standards: 47 CFR Part 15, Subpart C

Date of Receipt: 2022-05-10

Date of Test: 2022-05-10 to 2022-05-18

Date of Issue: 2022-05-25
Test Result: PASS*

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

Tested By: (Lewis Zhou)

Reviewed By:

(KLiao)

(Jack Ai)

Approved By:

TESTING TECHNOLOGY

LEAN LE DE LE MAPPROVED *

APPROVED *



Report No.: CQASZ20220400688E-02

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20220400688E02	Rev.01	Initial report	2022-05-25





2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203/15.247 (c)	ANSI C63.10 2013	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 2013	PASS
Conducted Peak Output Power	47 CFR Part 15, Subpart C Section 15.247 (b)(3)	ANSI C63.10 2013	PASS
6dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.247 (a)(2)	ANSI C63.10 2013	PASS
Power Spectral Density	47 CFR Part 15, Subpart C Section 15.247 (e)	ANSI C63.10 2013	PASS
Band-edge for RF Conducted Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 2013	PASS
RF Conducted Spurious Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 2013	PASS
Radiated Spurious Emissions	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 2013	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 2013	PASS



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4 General Information

4.1 Client Information

Applicant:	Shenzhen Baseus Technology Co., Ltd.
Address of Applicant:	2th Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang Rd, Gangtou Community, Bantian Street, Longgang District, Shenzhen.
Manufacturer:	Shenzhen Baseus Technology Co., Ltd.
Address of Manufacturer:	2th Floor, Building B, Baseus Intelligence Park, No.2008, Xuegang Rd, Gangtou Community, Bantian Street, Longgang District, Shenzhen.
Factory:	Shengyang Acoustics (Guangdong) Co., Ltd.
Address of Factory:	No.5 Minxing Street Zhongshan East, Shilong Town, Dongguan, Guangdong Province, China

4.2 General Description of EUT

Product Name:	Baseus Bowie H1 Noise-Cancelling Wireless Headphones
Model No.:	Baseus Bowie H1
Test Model No.:	Baseus Bowie H1
Trade Mark:	Baseus
Software Version:	V17
Hardware Version:	V3.2
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.2
Modulation Type:	GFSK
Transfer Rate:	1Mbps, 2Mbps
Number of Channel:	40
Product Type:	☐ Mobile ☐ Portable ☐ Fix Location
Test Software of EUT:	bt_tool_v1.1.2
Antenna Type:	PCB antenna
Antenna Gain:	-1 dBi
EUT Power Supply:	Li-ion battery*2: DC 3.7V 400mAh, Charge by DC 5V for adapter



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Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
2	2406MHz	12	2426MHz	22	2446MHz	32	2466MHz
3	2408MHz	13	2428MHz	23	2448MHz	33	2468MHz
4	2410MHz	14	2430MHz	24	2450MHz	34	2470MHz
5	2412MHz	15	2432MHz	25	2452MHz	35	2472MHz
6	2414MHz	16	2434MHz	26	2454MHz	36	2474MHz
7	2416MHz	17	2436MHz	27	2456MHz	37	2476MHz
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel (CH0)	2402MHz
The middle channel (CH19)	2440MHz
The highest channel (CH39)	2480MHz

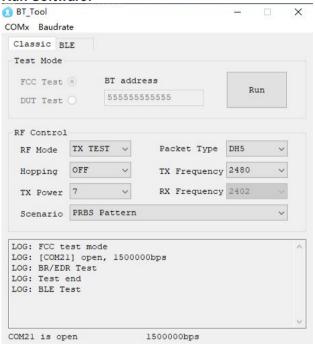


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4.3 Additional Instructions

EUT Test Software Settings:						
Mode:		 Special software is used. ☐ Through engineering command into the engineering mode. engineering command: *#*#3646633#*#* 				
EUT Power level:	Class2 (Power level is built-in set para selected)	Class2 (Power level is built-in set parameters and cannot be changed and selected)				
Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.						
Mode	Mode Channel Frequency(MHz)					
	CH0 2402					
GFSK	GFSK CH19 2440					
	CH39 2480					

Run Software:





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4.4 Test Environment

Operating Environment:	Operating Environment:		
Temperature:	24.5°C		
Humidity:	59% RH		
Atmospheric Pressure:	1009mbar		
Test Mode:	Use test software to set the lowest frequency, the middle frequency and the highest frequency keep transmitting of the EUT.		

4.5 Description of Support Units

The EUT has been tested with associated equipment below.

1) Support equipment

Description	Manufacturer	Model No. Certification		Supplied by
Adapter	MI	1	1	CQA
2) Cable				
Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by





4.6 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate.

The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities.

The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the **Shenzhen Huaxia Testing Technology Co., Ltd.** quality system acc. to DIN EN ISO/IEC 17025.

Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CQA laboratory is reported:

No.	Item	Uncertainty
1	Radiated Emission (Below 1GHz)	5.12dB
2	Radiated Emission (Above 1GHz)	4.60dB
3	Conducted Disturbance (0.15~30MHz)	3.34dB
4	Radio Frequency	3×10 ⁻⁸
5	Duty cycle	0.6 %
6	Occupied Bandwidth	1.1%
7	RF conducted power	0.86dB
8	RF power density	0.74
9	Conducted Spurious emissions	0.86dB
10	Temperature test	0.8℃
11	Humidity test	2.0%
12	Supply voltages	0.5 %
13	Frequency Error	5.5 Hz



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4.7 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

4.8 Test Facility

• A2LA (Certificate No. 4742.01)

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4742.01.

• FCC Registration No.: 522263

Shenzhen Huaxia Testing Technology Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.:522263

4.9 Deviation from Standards

None.

4.10 Other Information Requested by the Customer

None.



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4.11Equipment List

Test Equipment	Manufacturer	Model No.	Instrument No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2021/9/10	2022/9/9
Spectrum analyzer	R&S	FSU26	CQA-038	2021/9/10	2022/9/9
		AMF-6D-02001800-29-			
Preamplifier	MITEQ	20P	CQA-036	2021/9/10	2022/9/9
Loop antenna	Schwarzbeck	FMZB1516	CQA-060	2021/9/16	2024/9/15
Bilog Antenna	R&S	HL562	CQA-011	2021/9/16	2024/9/15
Horn Antenna	R&S	HF906	CQA-012	2021/9/16	2024/9/15
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2021/9/16	2024/9/15
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2021/9/10	2022/9/9
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2021/9/10	2022/9/9
Antenna Connector	CQA	RFC-01	CQA-080	2021/9/10	2022/9/9
RF					
cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2021/9/10	2022/9/9
Power divider	MIDWEST	PWD-2533-02-SMA-79	CQA-067	2021/9/10	2022/9/9

Note:

The temporary antenna connector is soldered on the pcb board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.





5 Test results and Measurement Data

5.1 Antenna Requirement

Standard requirement: 47 CFR Part 15C Section 15.203 /247(c)

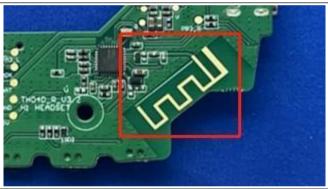
15.203 requirement:

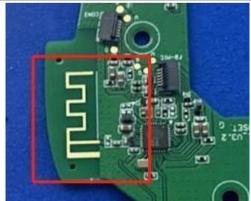
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

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

EUT Antenna:





The antenna is PCB antenna. The best case gain of the antenna is -1 dBi.

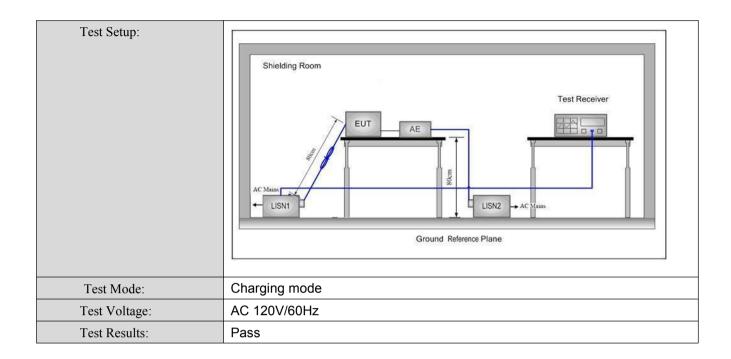


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5.2 Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207				
Test Method:	ANSI C63.10: 2013				
Test Frequency Range:	150kHz to 30MHz				
Limit:		Limit (dBuV)			
	Frequency range (MHz)	Quasi-peak	Average		
	0.15-0.5	66 to 56*	56 to 46*		
	0.5-5	56	46		
	5-30	60	50		
	* Decreases with the logarithm o	f the frequency.			
Test Procedure:	The mains terminal disturb room.	bance voltage test was	s conducted in a shie	elded	
	Impedance Stabilization Not impedance. The power call connected to a second LIS reference plane in the same measured. A multiple sock power cables to a single Lie exceeded. 3) The tabletop EUT was place ground reference plane. As placed on the horizontal ground reference plane. As placed on the horizontal ground the EUT shall be 0.4 m in vertical ground reference plane. The LISN unit under test and bonded mounted on top of the ground between the closest points the EUT and associated exceptions.	etwork) which provides bles of all other units of SN 2, which was bonden he way as the LISN 1 for et outlet strip was used ISN provided the rating ced upon a non-metallished for floor-standing arround reference plane, the a vertical ground reference plane was bonded to the 1 was placed 0.8 m from the vertical ground reference und reference plane. The fof the LISN 1 and the quipment was at least 0 the company of the relative terface cables must be	 The mains terminal disturbance voltage test was conducted in a shielded room. The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not 		

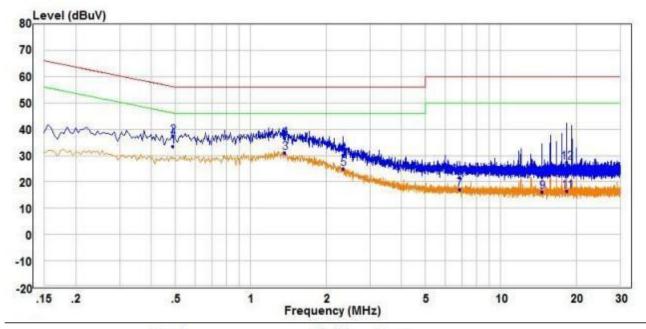






Measurement Data

Live line:



		-	Read			Limit	Over		2 1 (2)
		Freq	Level	Factor	revel	Line	Limit	Remark	Pol/Phase
	-	MHz	dBuV	dB	dBuV	dBuV	dB		
1	PP	0.490	23.83	9.69	33.52	46.17	-12.65	Average	Line
2	QP	0.490	27.68	9.69	37.37	56.17	-18.80	QP	Line
3		1.370	20.60	10.58	31.18	46.00	-14.82	Average	Line
3 4 5		1.370	25.82	10.58	36.40	56.00	-19.60	QP	Line
5		2.345	13.68	11.31	24.99	46.00	-21.01	Average	Line
6		2.345	18.84	11.31	30.15	56.00	-25.85	QP	Line
6 7 8 9		6.835	7.15	9.80	16.95	50.00	-33.05	Average	Line
8		6.835	11.98	9.80	21.78	60.00	-38.22	QP	Line
9		14.655	6.55	9.74	16.29	50.00	-33.71	Average	Line
10		14.655	12.37	9.74	22.11	60.00	-37.89	QP	Line
11		18,400	6.68	9.80	16.48	50.00	-33.52	Average	Line
12		18.400	17.67	9.80	27.47	60.00	-32.53	QP	Line

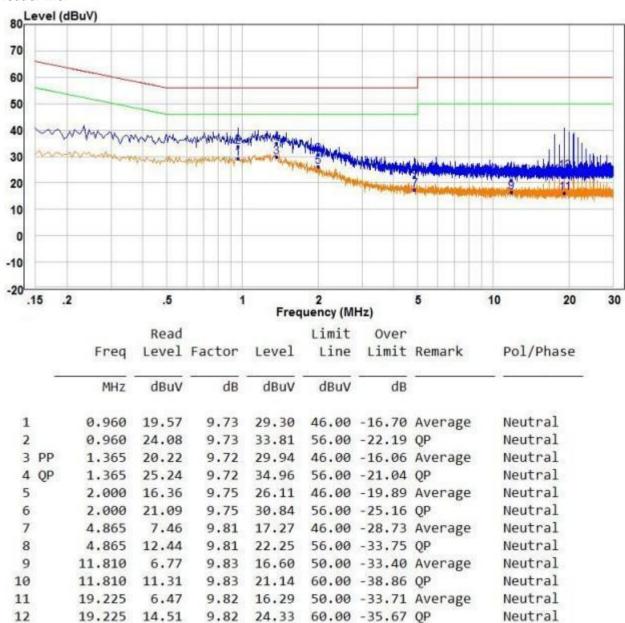
Remark:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.
- 3. If the Peak value under Average limit, the Average value is not recorded in the report.





Neutral line:

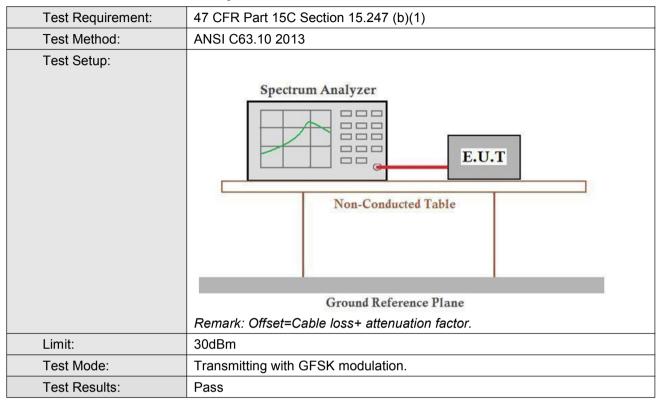


Remark:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.
- 3. If the Peak value under Average limit, the Average value is not recorded in the report.



5.3 Conducted Peak Output Power





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Measurement Data

	GFSK mode (1Mbps)				
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result		
Lowest	1.7	30.00	Pass		
Middle	1.89	30.00	Pass		
Highest	0.35	30.00	Pass		
	GFSK mode (2Mbps)				
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result		
Lowest	1.51	30.00	Pass		
Middle	1.58	30.00	Pass		
Highest	0.2	30.00	Pass		

R

Measurement Data

	GFSK mode (1Mbps)				
	GI OK Mode (Mulps)				
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result		
Lowest	1.99	30.00	Pass		
Middle	2.03	30.00	Pass		
Highest	0.53	30.00	Pass		
	GFSK mode (2Mbps)				
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result		
Lowest	1.62	30.00	Pass		
Middle	1.67	30.00	Pass		
Highest	0.25	30.00	Pass		







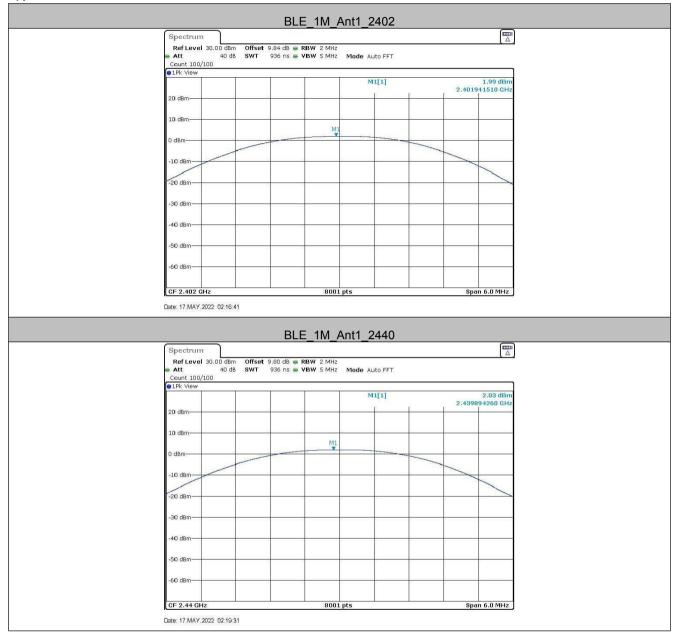




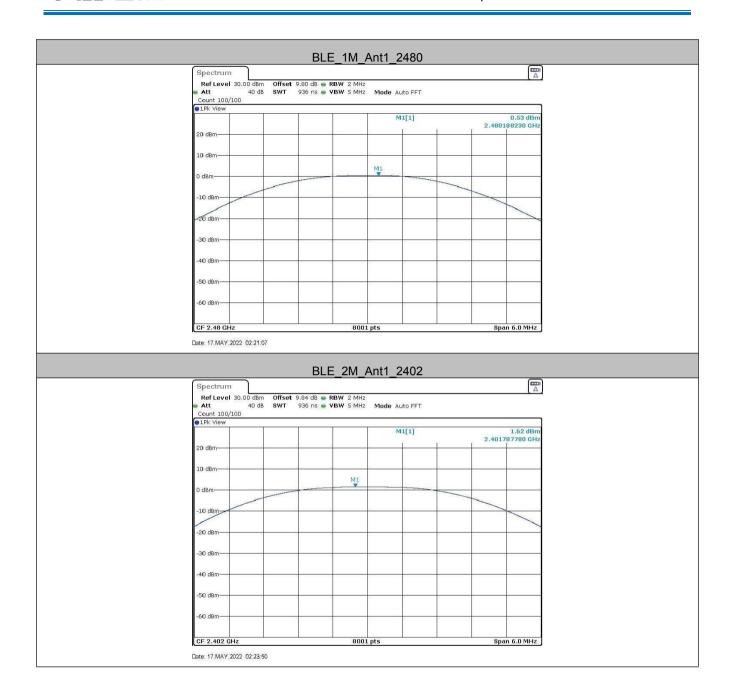












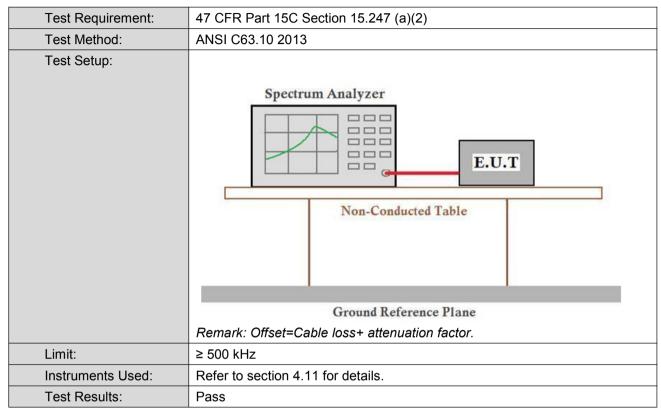








5.4 6dB Occupy Bandwidth





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Measurement Data

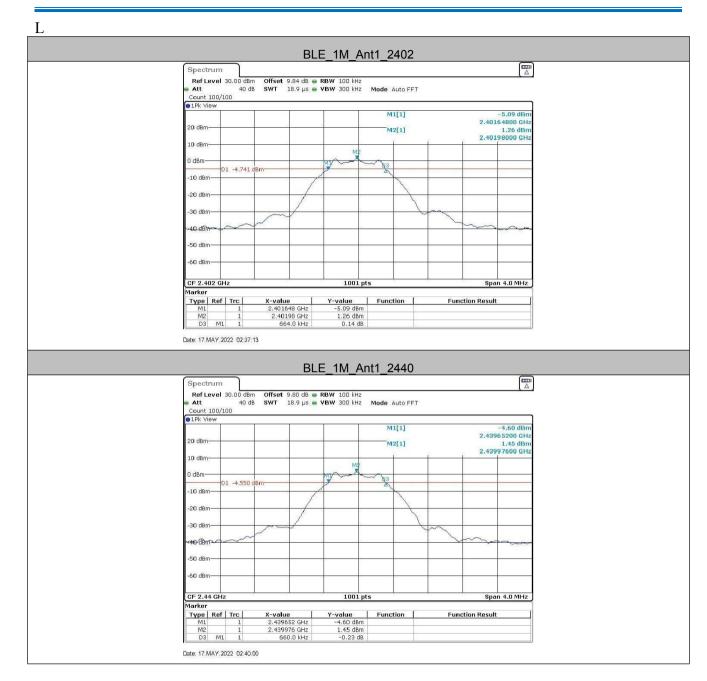
GFSK mode (1Mbps)					
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result		
Lowest	0.664	≥500	Pass		
Middle	0.660	≥500	Pass		
Highest	0.660	≥500	Pass		
	GFSK mode (2Mbps)				
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result		
Lowest	1.124	≥500	Pass		
Middle	1.132	≥500	Pass		
Highest	1.124	≥500	Pass		

R

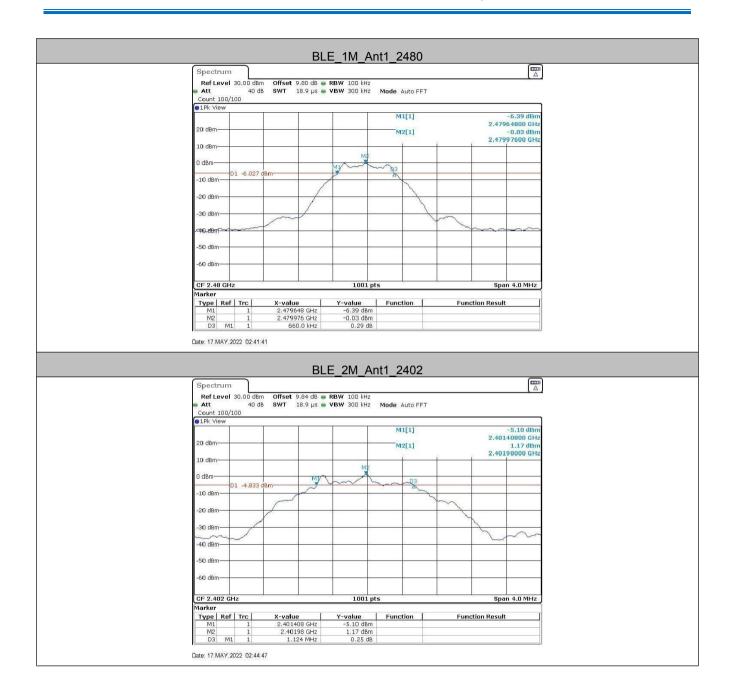
Measurement Data

GFSK mode (1Mbps)						
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result			
Lowest	0.664	≥500	Pass			
Middle	0.656	≥500	Pass			
Highest	0.656	≥500	Pass			
	GFSK mode (2Mbps)					
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result			
Lowest	1.124	≥500	Pass			
Middle	1.124	≥500	Pass			
Highest	1.120	≥500	Pass			

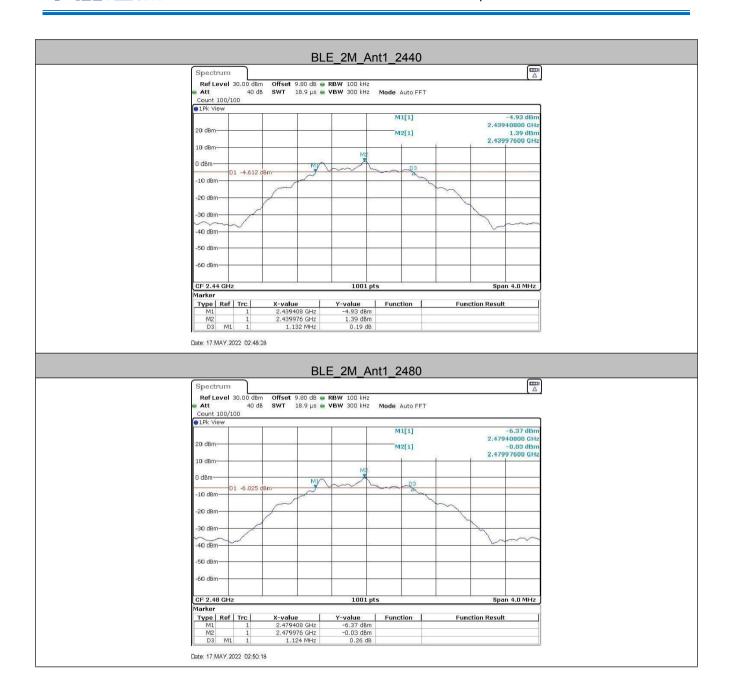






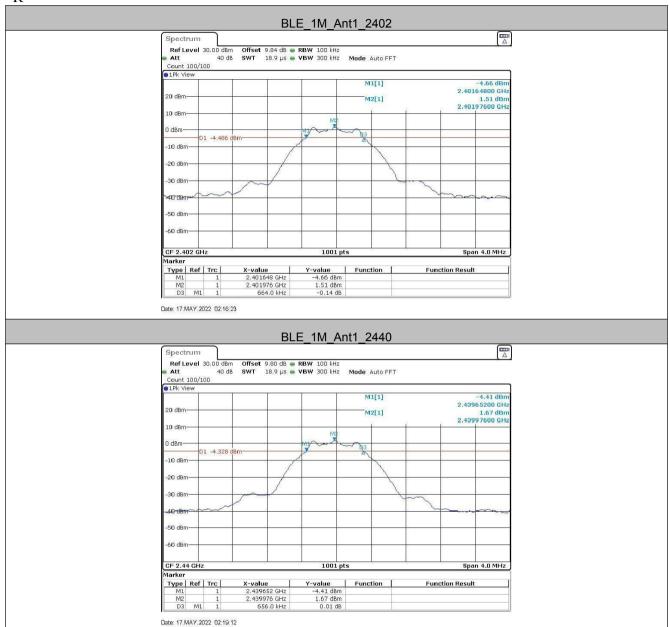








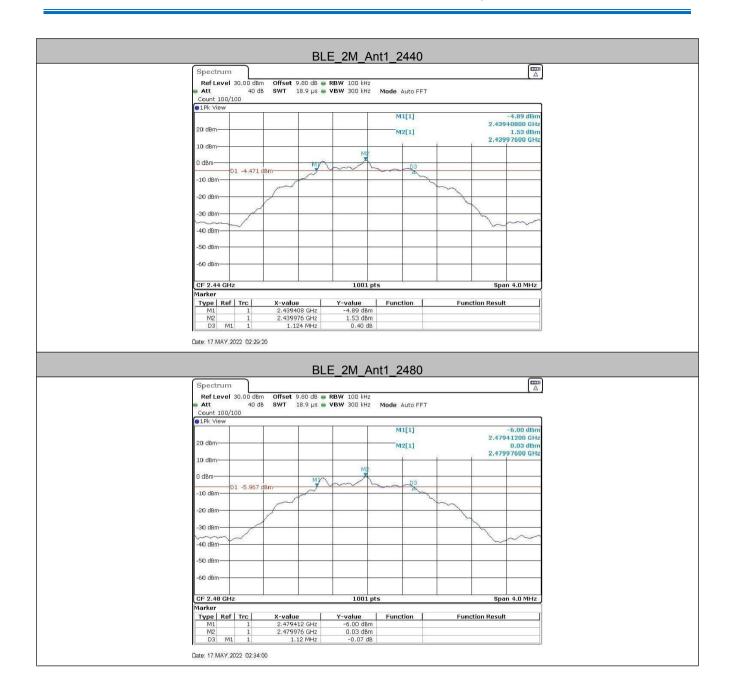






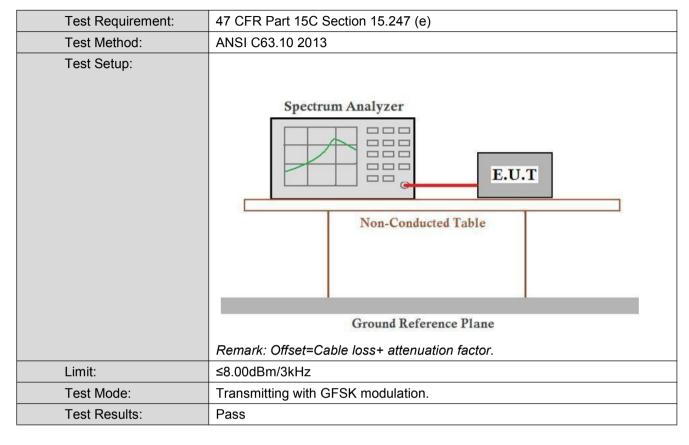








5.5 Power Spectral Density





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Measurement Data

	GFSK mode (1Mbps)					
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result			
Lowest	-8.07	≤8.00	Pass			
Middle	-7.62	≤8.00	Pass			
Highest	-9.21	≤8.00	Pass			
	GFSK mode (2Mbps)					
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result			
Lowest	-8.68	≤8.00	Pass			
Middle	-8.26	≤8.00	Pass			
Highest	-9.76	≤8.00	Pass			

R

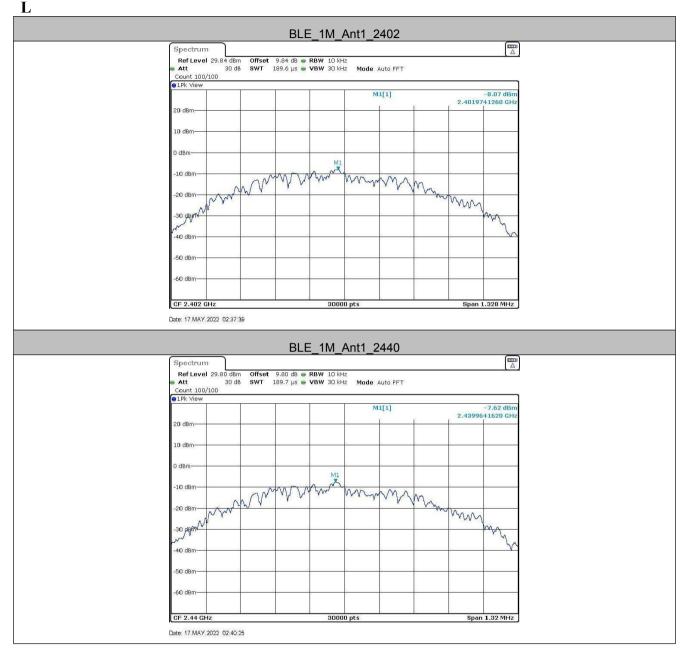
Measurement Data

Weasurement Data					
GFSK mode (1Mbps)					
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result		
Lowest	-7.79	≤8.00	Pass		
Middle	-7.36	≤8.00	Pass		
Highest	-9	≤8.00	Pass		
GFSK mode (2Mbps)					
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result		
Lowest	-8.45	≤8.00	Pass		
Middle	-8.28	≤8.00	Pass		
Highest	-9.77	≤8.00	Pass		

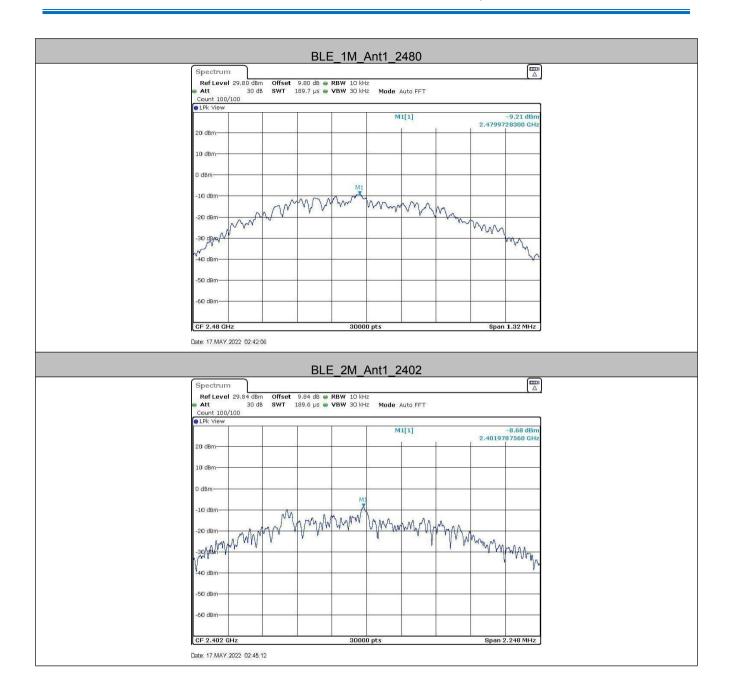


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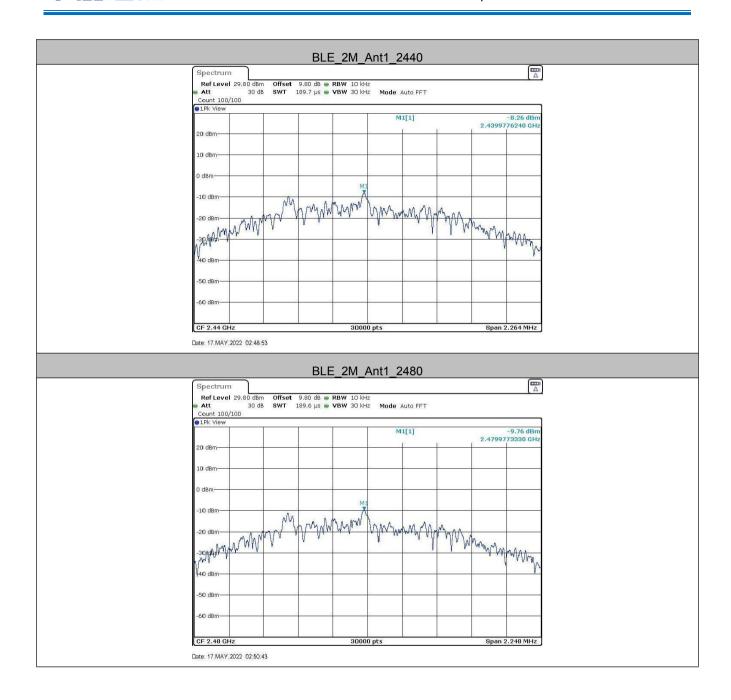
Test plot as follows:





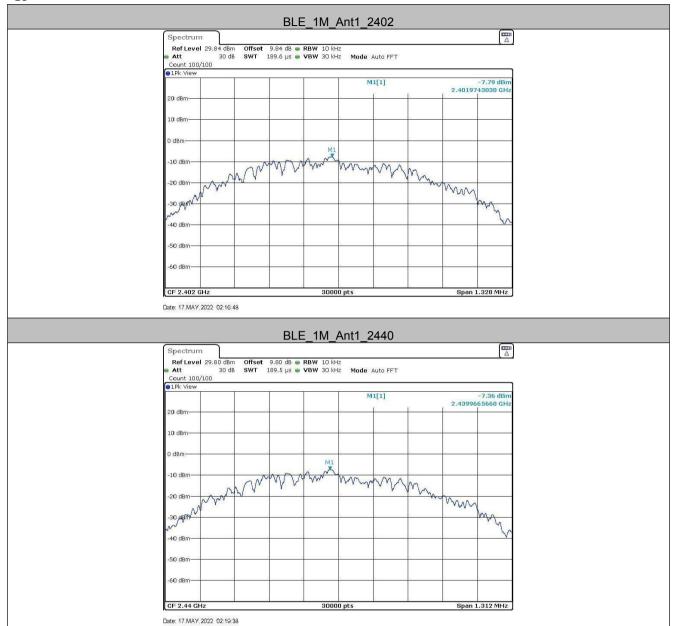




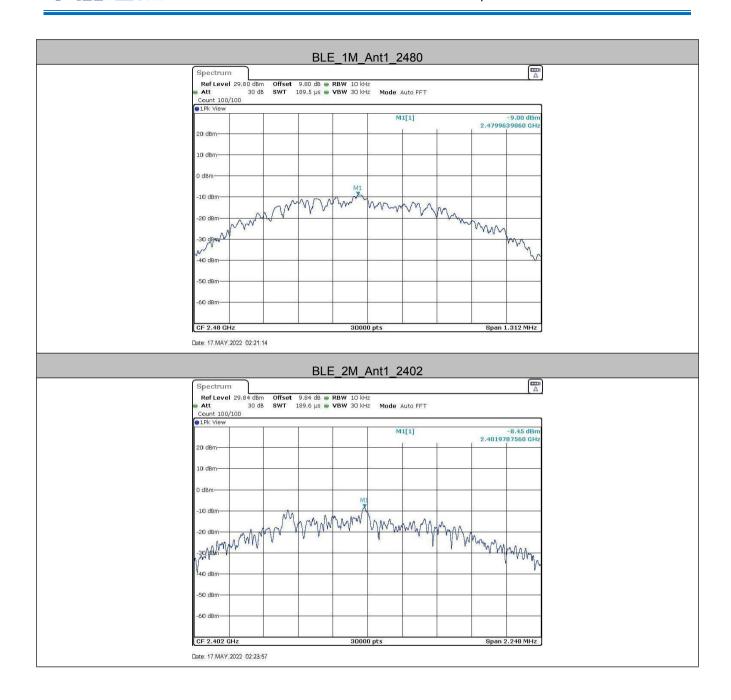




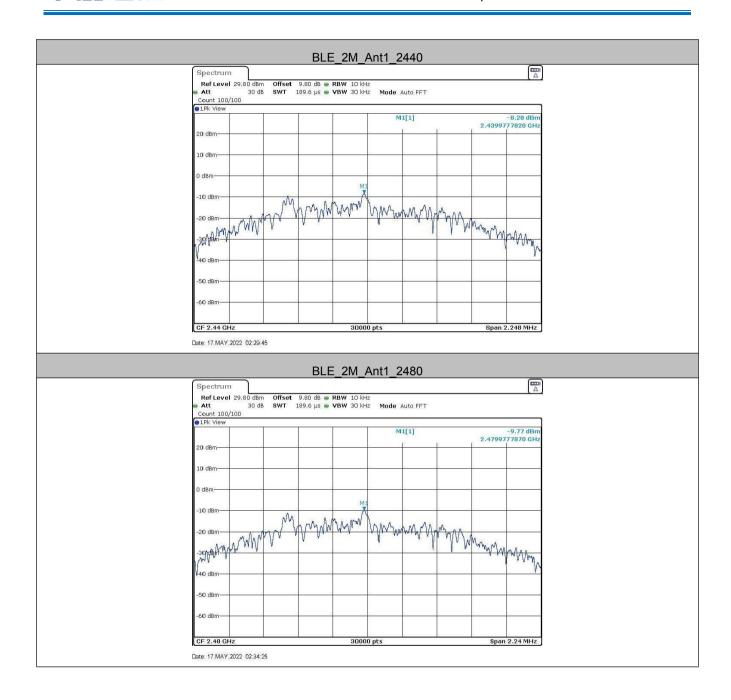








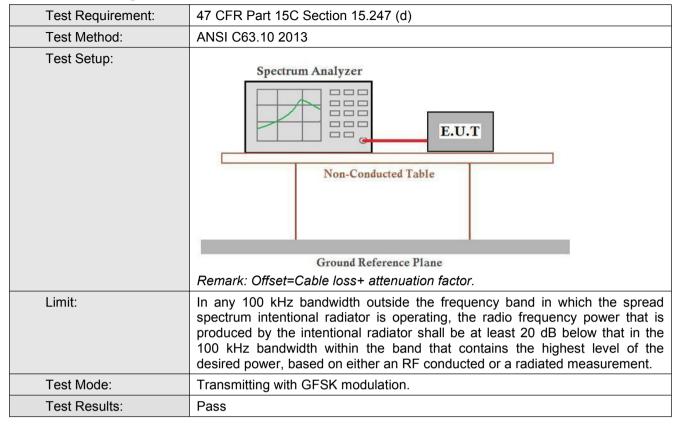






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5.6 Band-edge for RF Conducted Emissions



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TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.32	-48.22	≤-18.68	PASS
		High	2480	0.00	-46.99	≤-20	PASS
BLE_2M	Ant1	Low	2402	1.28	-36.99	≤-18.72	PASS
		High	2480	-0.12	-47.78	≤-20.12	PASS

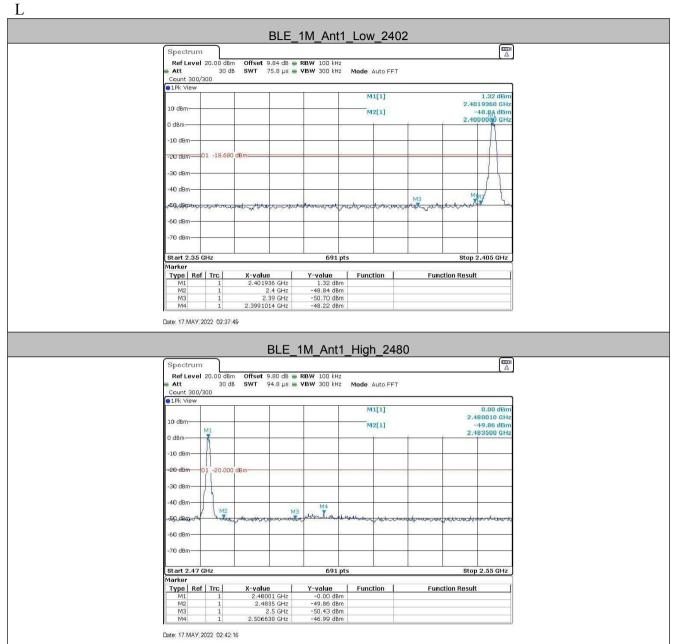
R

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.52	-47.81	≤-18.48	PASS
		High	2480	0.20	-47.33	≤-19.8	PASS
BLE_2M	Ant1	Low	2402	1.43	-37.52	≤-18.57	PASS
		High	2480	0.07	-47.27	≤-19.93	PASS

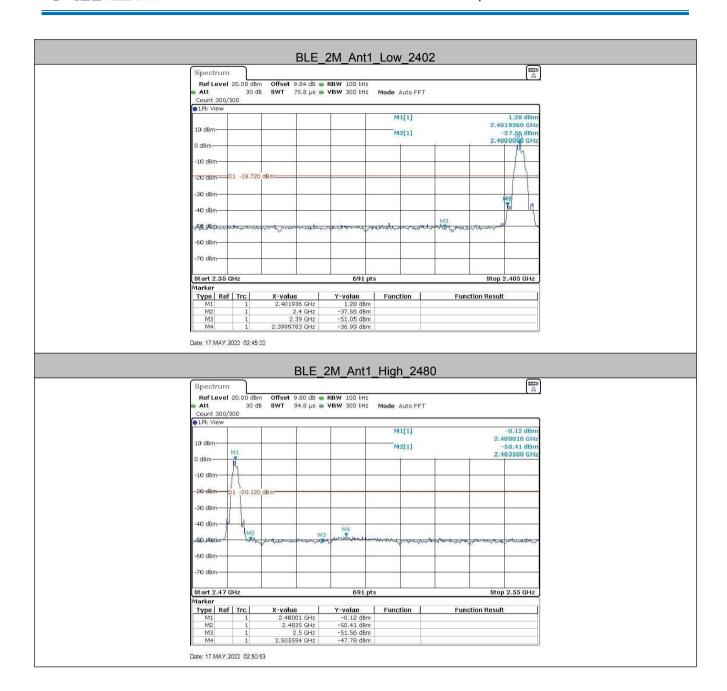


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Test plot as follows:

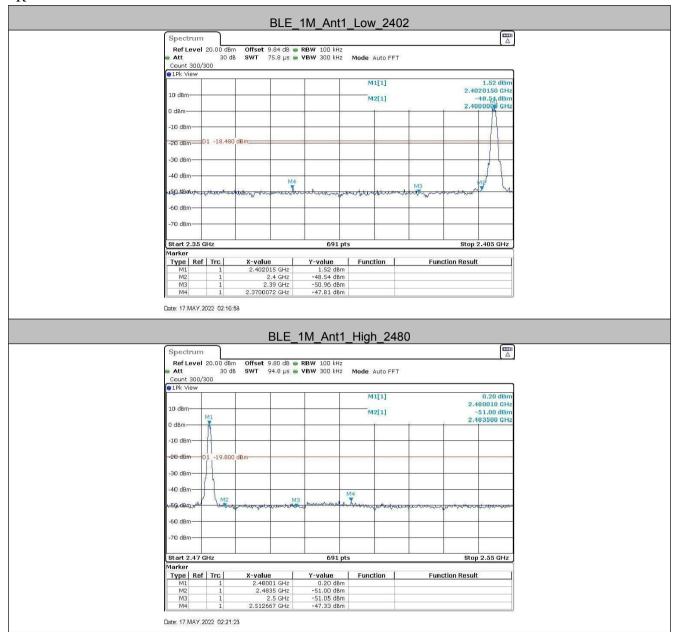




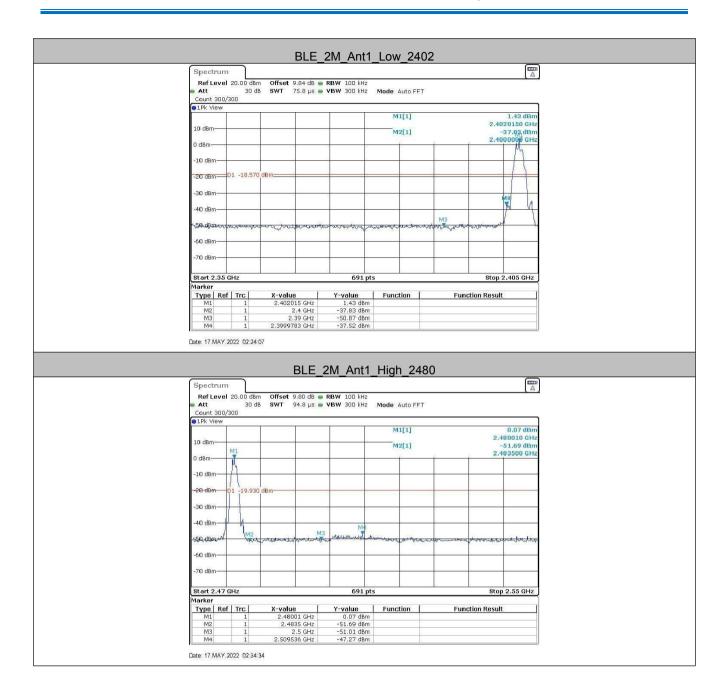










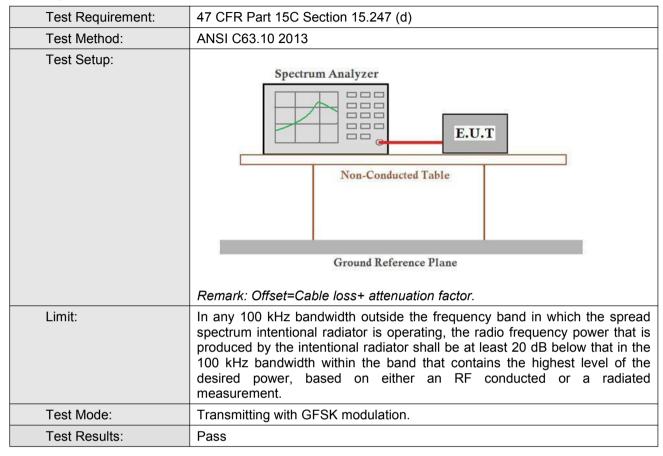






Report No.: CQASZ20220400688E-02

5.7 Spurious RF Conducted Emissions





Report No.: CQASZ20220400688E-02

Test plot as follows:

L

