

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

Telephone: +86-755-26648640 Fax: +86-755-26648637

Website: www.cqa-cert.com Report Template Revision Date: 2021-11-03

Report Template Version: V05

Test Report

Report No.: CQASZ20250100069E-02

Applicant: Creek Wearable Technology Co., Ltd.

Address of Applicant: 910, 5A office building, Longguang Jiuzuan, Longhua District, Shenzhen

Equipment Under Test (EUT):

Product: Smart Watch
Model No.: VitaPath R1
Test Model No.: VitaPath R1

Brand Name: N/A

FCC ID: 2BBYH-C1052

Standards: 47 CFR Part 15, Subpart C

KDB558074 D01 15.247 Meas Guidance v05r02

ANSI C63.10:2013

Date of Receipt: 2025-1-10

Date of Test: 2025-1-10 to 2025-1-20

Date of Issue: 2025-2-25
Test Result: PASS*

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

Tested By:

(Lewis Zhou)

Reviewed By:

(Timo Lei)

Approved By: (Jack Ai)





Report No.: CQASZ20250100069E-02

1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20250100069E-02	Rev.01	Initial report	2025-2-25





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



3 Contents

1 VERSION	
2 TEST SUMMARY	
3 CONTENTS	
4 GENERAL INFORMATION	
4.1 CLIENT INFORMATION	
4.3 ADDITIONAL INSTRUCTIONS	
4.4 Test Environment	
4.5 DESCRIPTION OF SUPPORT UNITS	
4.6 STATEMENT OF THE MEASUREMENT UNCERTAINTY	
4.7 TEST LOCATION	
4.8 TEST FACILITY	
4.9 DEVIATION FROM STANDARDS	
4.11 EQUIPMENT LIST	
5 TEST RESULTS AND MEASUREMENT DATA	
5.1 Antenna Requirement	
5.3 CONDUCTED PEAK OUTPUT POWER	
5.4 6DB OCCUPY BANDWIDTH	
5.5 POWER SPECTRAL DENSITY	25
5.6 BAND-EDGE FOR RF CONDUCTED EMISSIONS	
5.7 Spurious RF Conducted Emissions	
5.8 RADIATED SPURIOUS EMISSION & RESTRICTED BANDS	
5.8.1 Spurious Emissions	
6 PHOTOGRAPHS - EUT TEST SETUP	48
6.1 RADIATED SPURIOUS EMISSION	48
6.2 CONDUCTED EMISSIONS TEST SETUP	49
7 PHOTOGRAPHS - EUT CONSTRUCTIONAL DETAILS	5(





4 General Information

4.1 Client Information

Applicant:	Creek Wearable Technology Co., Ltd.
Address of Applicant:	910, 5A office building, Longguang Jiuzuan, Longhua District, Shenzhen
Manufacturer:	Creek Wearable Technology Co., Ltd.
Address of Manufacturer:	910, 5A office building, Longguang Jiuzuan, Longhua District, Shenzhen
Factory:	Creek Wearable Technology Co., Ltd.
Address of Factory:	910, 5A office building, Longguang Jiuzuan, Longhua District, Shenzhen

4.2 General Description of EUT

Product Name:	Smart Watch		
Model No.:	VitaPath R1		
Test Model No.:	VitaPath R1		
Trade Mark:	N/A		
Software Version:	V1.0.2		
Hardware Version:	CWL01-MB V1.1		
Operation Frequency:	2402MHz~2480MHz		
Bluetooth Version:	V5.3		
Modulation Type:	GFSK		
Transfer Rate:	1Mbps, 2Mbps		
Number of Channel:	40		
Product Type:	☐ Mobile ☐ Portable ☐ Fix Location		
Test Software of EUT:	FCC_V2.25_20220704		
Antenna Type:	Mid-frame antenna		
Antenna Gain:	-4.9dBi		
EUT Power Supply:	Li-ion battery: DC 3.85V 140mAh, Charge by DC 5V for adapter		
Simultaneous Transmission	☐ Simultaneous TX is supported and evaluated in this report.		
	⊠ Simultaneous TX is not supported.		



Report No.: CQASZ20250100069E-02

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

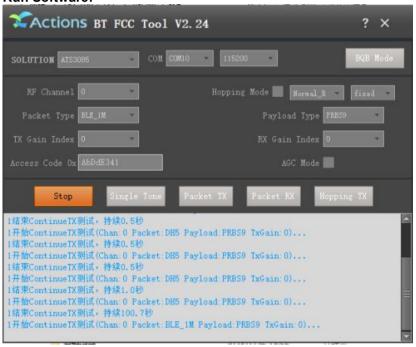


Report No.: CQASZ20250100069E-02

4.3 Additional Instructions

EUT Test Software Settings:						
Mode:	⊠ Special software is used.	⊠ Special software is used.				
		☐ Through engineering command into the engineering mode. engineering command: *#*#3646633#*#*				
EUT Power level:	Class0 (Power level is built-in set para selected)	ameters and cannot be changed and				
Use test software to set the lowest frequency, the middle frequency and the highest frequency keep						
transmitting of the EUT.						
Mode	Channel	Frequency(MHz)				
	CH0 2402					
GFSK	GFSK CH19 2440					
	CH39	2480				

Run Software:





Report No.: CQASZ20250100069E-02

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





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.** guality 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



Report No.: CQASZ20250100069E-02

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.



4.11 Equipment List

			Instrument	Calibration	Calibration
Test Equipment	Manufacturer	Model No.	No.	Date	Due Date
EMI Test Receiver	R&S	ESR7	CQA-005	2024/9/2	2025/9/1
Spectrum analyzer	R&S	FSU26	CQA-038	2024/9/2	2025/9/1
Spectrum analyzer	R&S	FSU40	CQA-075	2024/9/2	2025/9/1
Preamplifier	MITEQ	AFS4-00010300-18- 10P-4	CQA-035	2024/9/2	2025/9/1
Preamplifier	MITEQ	AMF-6D-02001800- 29-20P	CQA-036	2024/9/2	2025/9/1
Preamplifier	EMCI	EMC184055SE	CQA-089	2024/9/2	2025/9/1
Loop antenna	Schwarzbeck	FMZB1516	CQA-060	2023/9/8	2026/9/7
Bilog Antenna	R&S	HL562	CQA-011	2023/11/01	2026/10/31
Horn Antenna	R&S	HF906	CQA-012	2023/11/01	2026/10/31
Horn Antenna	Schwarzbeck	BBHA 9170	CQA-088	2023/9/7	2026/9/6
Coaxial Cable (Above 1GHz)	CQA	N/A	C007	2024/9/2	2025/9/1
Coaxial Cable (Below 1GHz)	CQA	N/A	C013	2024/9/2	2025/9/1
Antenna Connector	CQA	RFC-01	CQA-080	2024/9/2	2025/9/1
RF cable(9KHz~40GHz)	CQA	RF-01	CQA-079	2024/9/2	2025/9/1
Power meter	R&S	NRVD	CQA-029	2024/9/2	2025/9/1
Power divider	MIDWEST	PWD-2533-02-SMA- 79	CQA-067	2024/9/2	2025/9/1
EMI Test Receiver	R&S	ESR7	CQA-005	2024/9/2	2025/9/1
LISN	R&S	ENV216	CQA-003	2024/9/2	2025/9/1
Coaxial cable	CQA	N/A	CQA-C009	2024/9/2	2025/9/1
DC power	KEYSIGHT	E3631A	CQA-028	2024/9/2	2025/9/1

Test software:

- Solitoria S.	Manufacturer	Software brand	Software version
Radiated Emissions test software	Tonscend	JS1120-3	Version:8
Conducted Emissions test software	Audix	e3	Version:9
RF Conducted test software	Audix	e3	V3.5.39

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)

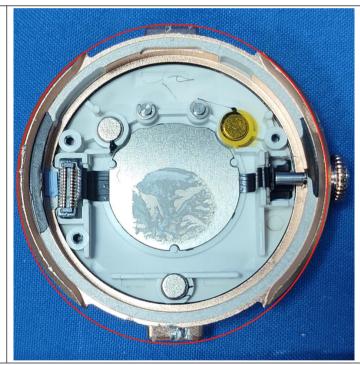
15.203 requirement:

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 Mid-frame antenna.

The connection/connection type between the antenna to the EUT's antenna port is: unique coupling. This is either permanently attachment or a unique coupling that satisfies the requirement.

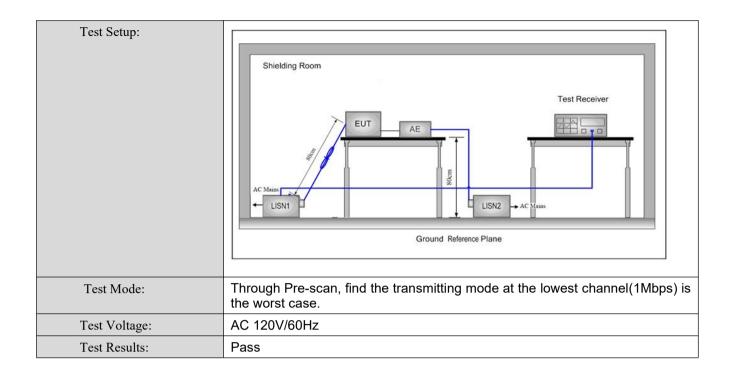


Report No.: CQASZ20250100069E-02

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:	E AGIL	Limit (d	BuV)		
	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 disturbance voltage test was conducted in a shielded room.				
	2) The EUT was connected to	AC power source thro	ough a LISN 1 (Line		
	Impedance Stabilization N	etwork) which provides	a $50\Omega/50\mu H$ + 5Ω lin	ear	
	impedance. The power cal	bles of all other units of	the EUT were		
	connected to a second LIS	SN 2, which was bonded	d 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 exceeded.				
	3) The tabletop EUT was placed upon a non-metallic table 0.8m above the				
	ground reference plane. And for floor-standing arrangement, the EUT was				
	placed on the horizontal gr	=			
	4) The test was performed wi	th a vertical ground refe	erence plane. The rea	ar	
	of the EUT shall be 0.4 m	from the vertical ground	d reference plane. The	е	
	vertical ground reference p	plane was bonded to the	e horizontal ground		
	reference plane. The LISN	1 was placed 0.8 m fro	om the boundary of th	ıe	
	unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was				
	between the closest points of the LISN 1 and the EUT. All other un				
	the EUT and associated ed	• •		<u>'</u>	
	5) In order to find the maximu				
	equipment and all of the interface cables must be changed according to				
	ANSI C63.10: 2013 on con	iducted measurement.			

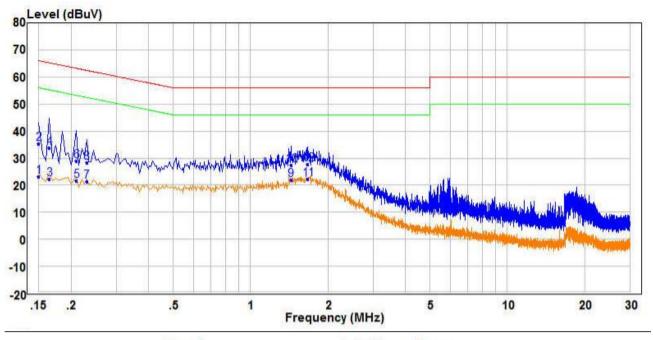






Measurement Data

Live line:



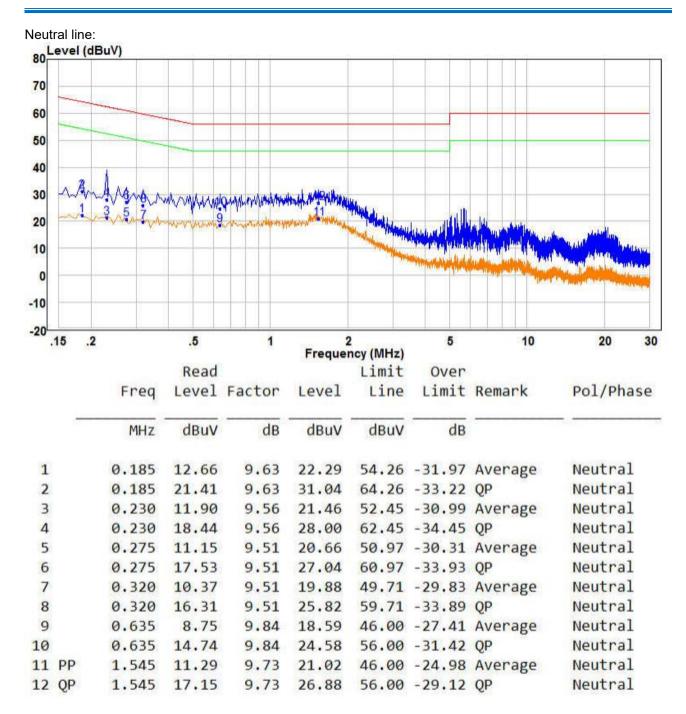
Freq	Read Level	Factor	Level	Limit	Over	Remark	Pol/Phase
MHz	dBuV	dB	dBuV	dBuV	dB		-
0.150	13.32	9.70	23.02	56.00	-32.98	Average	Line
0.150	25.70	9.70	35.40	66.00	-30.60	QP	Line
0.165	12.65	9.67	22.32	55.21	-32.89	Average	Line
0.165	24.27	9.67	33.94	65.21	-31.27	QP	Line
0.210	12.13	9.60	21.73	53.21	-31.48	Average	Line
0.210	19.48	9.60	29.08	63.21	-34.13	QP	Line
0.230	11.77	9.57	21.34	52.45	-31.11	Average	Line
0.230	18.66	9.57	28.23	62.45	-34.22	QP	Line
1.440	11.12	10.72	21.84	46.00	-24.16	Average	Line
1.440	16.65	10.72	27.37	56.00	-28.63	QP	Line
1.675	11.20	11.14	22.34	46.00	-23.66	Average	Line
1.675	16.55	11.14	27.69	56.00	-28.31	QP	Line
	MHz 0.150 0.150 0.165 0.165 0.210 0.230 0.230 1.440 1.675	MHz dBuV 0.150 13.32 0.150 25.70 0.165 12.65 0.165 24.27 0.210 12.13 0.210 19.48 0.230 11.77 0.230 18.66 1.440 11.12 1.440 16.65 1.675 11.20	MHz dBuV dB 0.150 13.32 9.70 0.150 25.70 9.70 0.165 12.65 9.67 0.165 24.27 9.67 0.210 12.13 9.60 0.210 19.48 9.60 0.230 11.77 9.57 0.230 18.66 9.57 1.440 11.12 10.72 1.440 16.65 10.72 1.675 11.20 11.14	MHz dBuV dB dBuV 0.150 13.32 9.70 23.02 0.150 25.70 9.70 35.40 0.165 12.65 9.67 22.32 0.165 24.27 9.67 33.94 0.210 12.13 9.60 21.73 0.210 19.48 9.60 29.08 0.230 11.77 9.57 21.34 0.230 18.66 9.57 28.23 1.440 11.12 10.72 21.84 1.440 16.65 10.72 27.37 1.675 11.20 11.14 22.34	MHz dBuV dB dBuV dBuV dBuV 0.150 13.32 9.70 23.02 56.00 0.150 25.70 9.70 35.40 66.00 0.165 12.65 9.67 22.32 55.21 0.165 24.27 9.67 33.94 65.21 0.210 12.13 9.60 21.73 53.21 0.210 19.48 9.60 29.08 63.21 0.230 11.77 9.57 21.34 52.45 0.230 18.66 9.57 28.23 62.45 1.440 11.12 10.72 21.84 46.00 1.675 11.20 11.14 22.34 46.00	Freq Level Factor Level Line Limit MHz dBuV dB dBuV dBuV dB 0.150 13.32 9.70 23.02 56.00 -32.98 0.150 25.70 9.70 35.40 66.00 -30.60 0.165 12.65 9.67 22.32 55.21 -32.89 0.165 24.27 9.67 33.94 65.21 -31.27 0.210 12.13 9.60 21.73 53.21 -31.48 0.210 19.48 9.60 29.08 63.21 -34.13 0.230 11.77 9.57 21.34 52.45 -31.11 0.230 18.66 9.57 28.23 62.45 -34.22 1.440 11.12 10.72 21.84 46.00 -24.16 1.440 16.65 10.72 27.37 56.00 -28.63 1.675 11.20 11.14 22.34 46.00 -23.66	Freq Level Level Line Limit Remark MHz dBuV dB uV dB uV dB 0.150 13.32 9.70 23.02 56.00 -32.98 Average 0.150 25.70 9.70 35.40 66.00 -30.60 QP 0.165 12.65 9.67 22.32 55.21 -32.89 Average 0.165 24.27 9.67 33.94 65.21 -31.27 QP 0.210 12.13 9.60 21.73 53.21 -31.48 Average 0.210 19.48 9.60 29.08 63.21 -34.13 QP 0.230 11.77 9.57 21.34 52.45 -31.11 Average 0.230 18.66 9.57 28.23 62.45 -34.22 QP 1.440 11.12 10.72 21.84 46.00 -24.16 Average 1.440 16.65 10.72 27.37 56.00 -28.6

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.





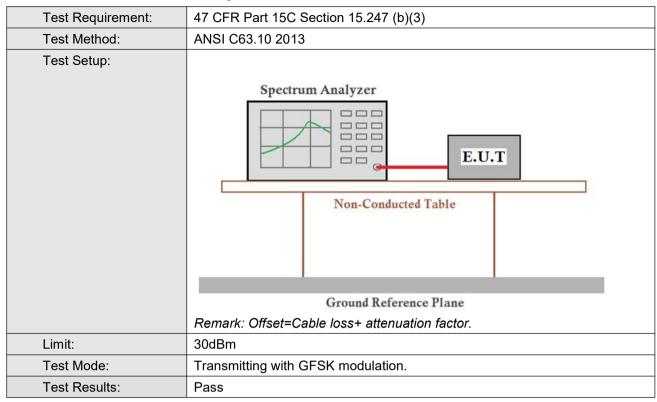


Remark:

- 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.



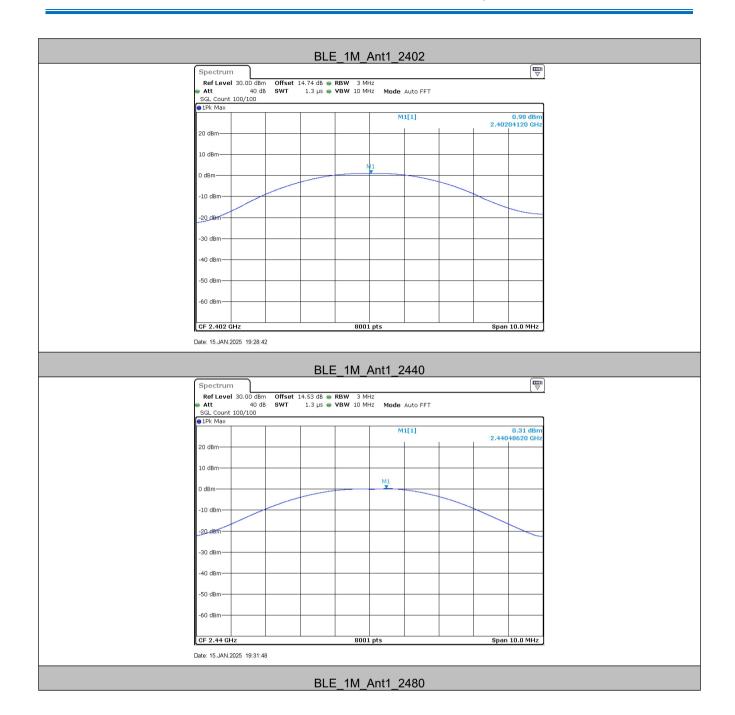
5.3 Conducted Peak Output Power



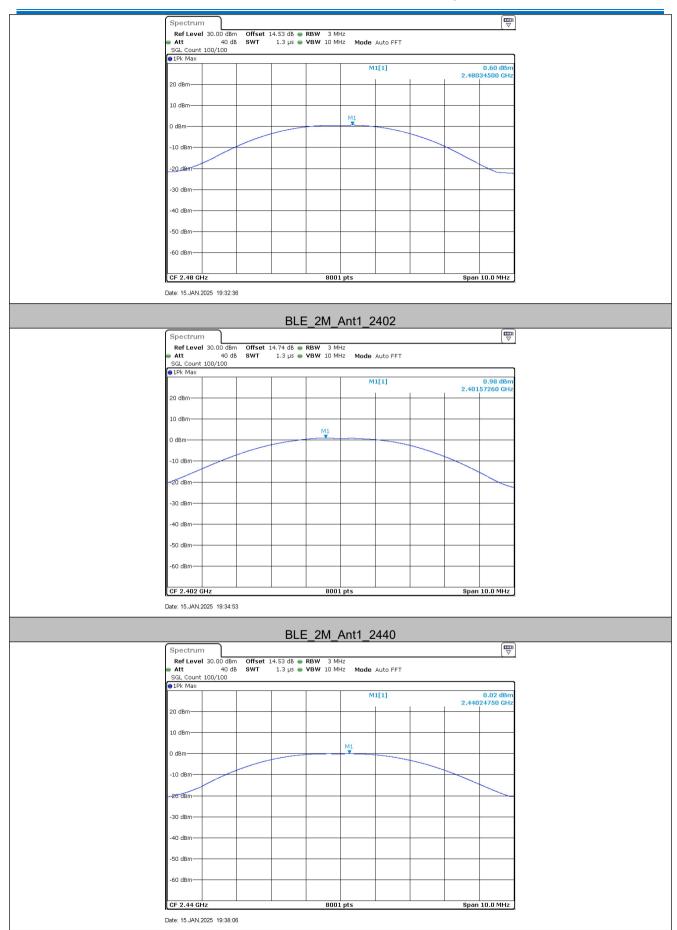
Measurement Data

Measurement Data					
GFSK mode (1Mbps)					
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result		
Lowest	0.98	30.00	Pass		
Middle	0.31	30.00	Pass		
Highest	0.60	30.00	Pass		
GFSK mode (2Mbps)					
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result		
Lowest 0.98		30.00	Pass		
Middle	Middle 0.02		Pass		
Highest	0.60	30.00	Pass		







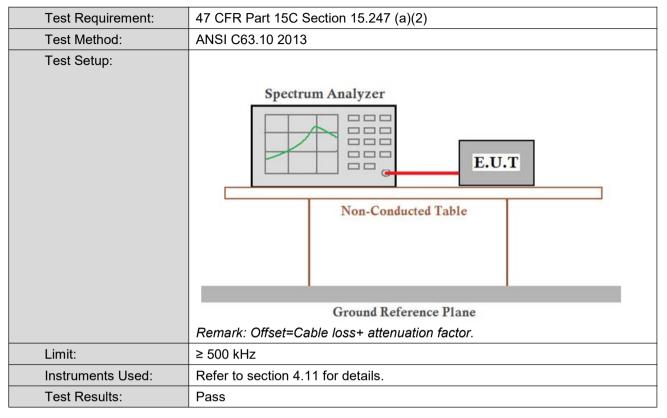








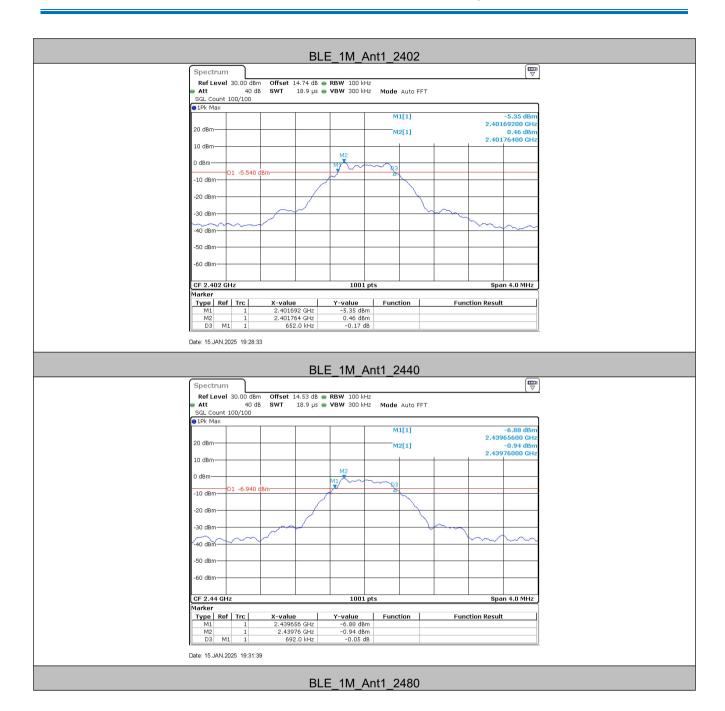
5.4 6dB Occupy Bandwidth



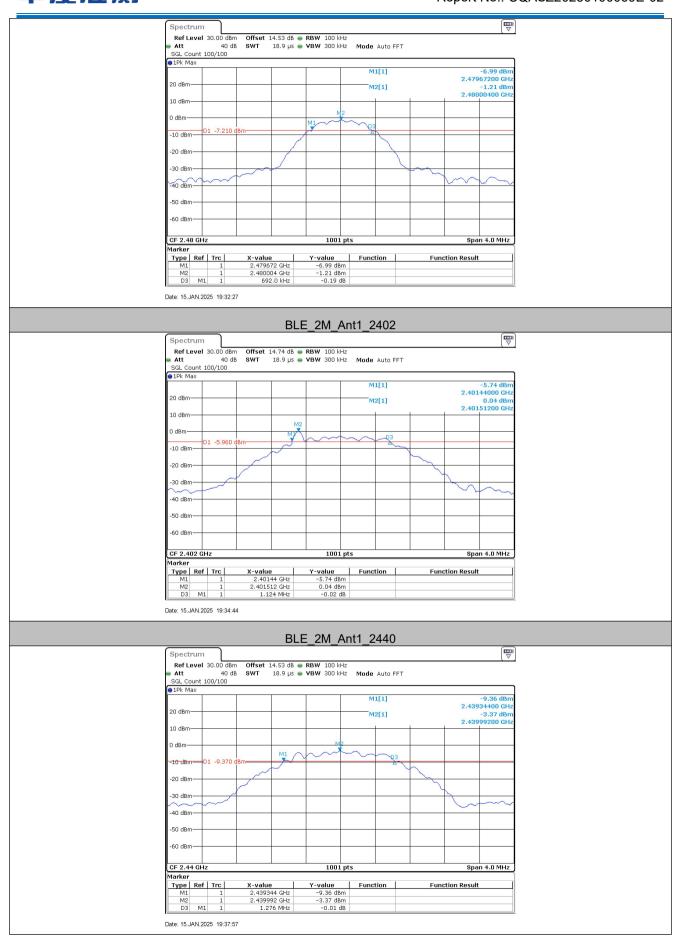
Measurement Data

	GFSK mode (1Mbps)					
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result			
Lowest	0.65	≥500	Pass			
Middle	0.69	≥500	Pass			
Highest	0.69	≥500	Pass			
	GFSK mode (2Mbps)					
Test channel	6dB Occupy Bandwidth (MHz)	Limit (kHz)	Result			
Lowest	1.12	≥500	Pass			
Middle	1.28	≥500	Pass			
Highest	1.13	≥500	Pass			







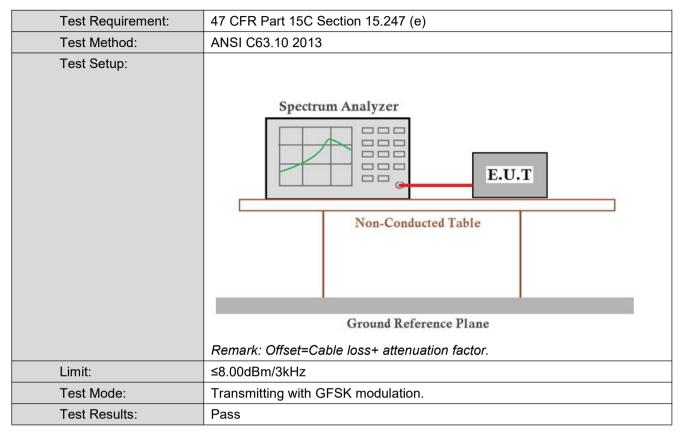








5.5 Power Spectral Density



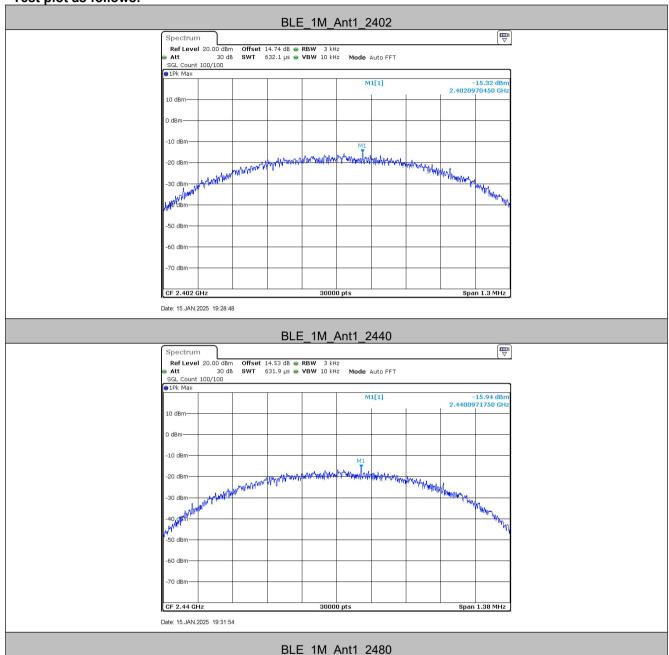
Measurement Data

	GFSK mode (1Mbps)						
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result				
Lowest	-15.32	≤8.00	Pass				
Middle	-15.94	≤8.00	Pass				
Highest	-15.39	≤8.00	Pass				
	GFSK mode (2Mbps)						
Test channel	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result				
Lowest	-18.27	≤8.00	Pass				
Middle	-19.32	≤8.00	Pass				
Highest	-18.56	≤8.00	Pass				

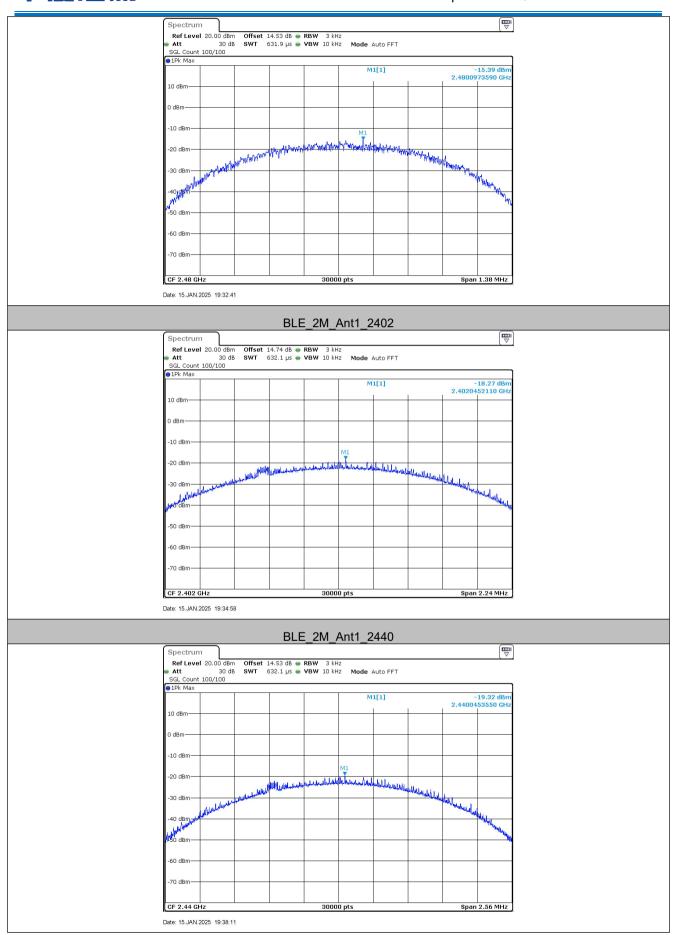


Report No.: CQASZ20250100069E-02

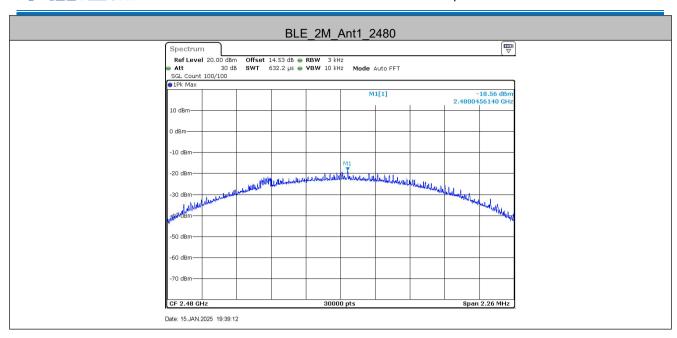
Test plot as follows:







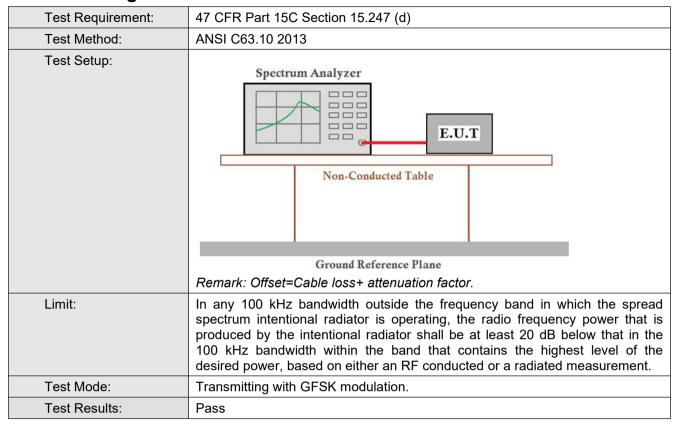






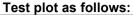
Report No.: CQASZ20250100069E-02

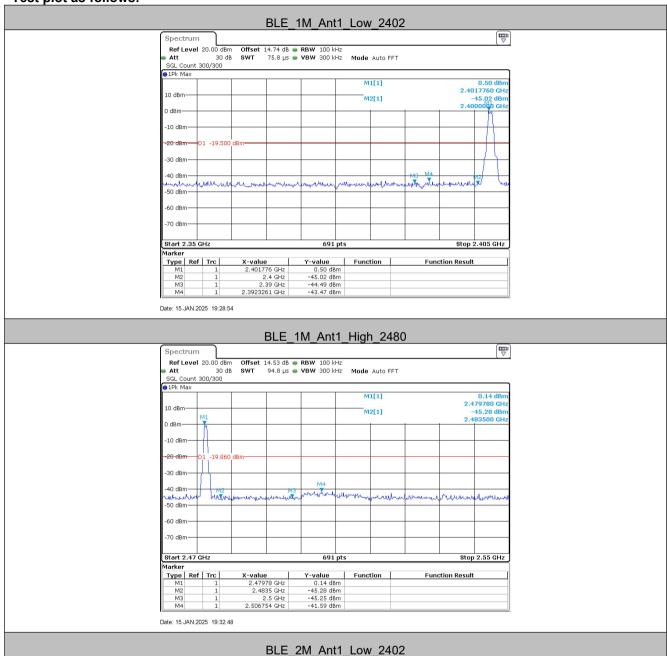
5.6 Band-edge for RF Conducted Emissions



TestMode	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
	Low	2402	0.50	-43.47	≤-19.5	PASS
BLE_1M	High	2480	0.14	-41.59	≤-19.86	PASS
	Low	2402	0.10	-40.16	≤-19.9	PASS
BLE_2M	High	2480	-0.25	-41.07	≤-20.25	PASS















5.7 Spurious RF Conducted Emissions

