TEST REPORT

Reference No.	:	WTF25F04096134W
FCC ID	:	2BCMJ-QB100
Applicant	:	Guangdong BIG Climatic Manufacture Co., LTD
Address	:	No. 20-3, Nantou Avenue East, Nantou Town, Zhongshan City, Guangdong, China
Manufacturer	:	Guangdong BIG Climatic Manufacture Co., LTD Nantou Branch
Address	:	No. 20, Nantou Avenue East, Nantou Town, Zhongshan City, Guangdong, China
Product Name	:	Remote Control
Model No.	:	QB100-24TX-B02
Test specification	:	FCC CFR47 Part 15 Subpart C (Section 15.249)
Date of Receipt sample	:	2025-06-02
Date of Test	:	2025-06-12
Date of Issue	:	2025-07-28
Test Report Form No.	:	WEW-15247A-01B
Test Result		**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

Prepared By:
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Tested by: Approved by:

Roy Hong Danny Zhou

1 Revision History

Test Report No.	Date of Issue	Description	Status
WTF25F04096134W	2025-07-28	Original	Valid

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3 General Information

3.1 General Description of E.U.T

Product Name ..... : Remote Control

Model No. ..... : QB100-24TX-B02

Model Description ..... : ---

Rating ..... : Battery 3V (2*1.5V AAA)

Battery Capacity ..... : ---

Power Adapter ..... : ---

3.2 Technical Characteristics of EUT

Frequency Range ..... : 2422-2466 MHz

Max. Field Strength ..... : 100.31 dBμV/m

Modulation ..... : GFSK

Quantity of Channels ..... : 3

Channel Separation..... : 1MHz

Type of Antenna ..... : PCB Antenna

Antenna Gain ..... : 0dBi

3.3 Standards Applicable for Testing

The tests were performed according to following standards:

FCC Rules Part 15.249	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, 5725–5875 MHZ, and 24.0–24.25 GHz.
ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

3.4 Test Facility

The test facility has a test site registered with the following organizations:

- **ISED – Registration No.: 21895**

Waltek Testing Group (Foshan) Co., Ltd. has been registered and fully described in a report filed with the Innovation, Science an Economic Development Canada(ISED). The acceptance letter from the ISED is maintained in our files. Registration ISED number:21895.

- **FCC – Registration No.: 820106**

Waltek Testing Group (Foshan) Co., Ltd. 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 820106.

- **FCC – Designation No.: CN5034**

Waltek Testing Group (Foshan) Co., Ltd. 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. Designation No. CN5034.

- **NVLAP – Lab Code: 600191-0**

Waltek Testing Group (Foshan) Co., Ltd. EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 600191-0.
This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

3.5 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test items: ---

Lab information: ---

3.6 Abnormalities from Standard Conditions

None.

3.7 Disclaimer

The antenna gain information is provided by the customer. The laboratory is not responsible for the accuracy of the antenna gain information.

4 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, with a duty cycle equal to 100%, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List

Test Mode	Description	Remark
TM1	Low Channel	2422MHz
TM2	Middle Channel	2443MHz
TM3	High Channel	2466MHz

Test Conditions

Temperature:	22~25℃
Relative Humidity:	50~55%
Atmospheric pressure:	101.9kPa

5 Equipment Used during Test

5.1 Equipment List

☐Conducted Emissions 1#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal Date**	**Cal Due Date**
1.	EMI Test Receiver	R&S	ESR3	102423	2025-01-06	2026-01-05
2.	LISN	R&S	ENV216	101343	2025-01-06	2026-01-05
3.	Cable	HUBER+SUHNER	CBL2-NN-6M	223NN624	2025-01-06	2026-01-05
4.	Switch	CD	RSU-A4	RSUA4008	2025-01-06	2026-01-05

☐Conducted Emissions 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal Date**	**Cal Due Date**
1.	EMI Test Receiver	R&S	ESCI	101178	2025-01-06	2026-01-05
2.	LISN	R&S	ENV216	101215	2025-01-07	2026-01-06
3.	Cable	LMR195UF-BMNM-5.00M	Times Micorwave Systems	---	2025-01-08	2026-01-07
4.	Switch	ESE	RSU/M2	---	2025-01-06	2026-01-05

☐Conducted Emissions 3#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal Date**	**Cal Due Date**
1.	EMI Test Receiver	R&S	ESR3	102842	2025-01-06	2026-01-05
2.	LISN	R&S	ENV216	101542	2025-01-06	2026-01-05
3.	Cable	YIHENG	LMR195UF-NMNM-2.5	---	2025-01-06	2026-01-05
4.	Manual RF Switch	YIHENG	SW-2	RSU0402	2025-01-06	2026-01-05

☒Radiation Emissions						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal Date**	**Cal Due Date**
1.	3m Semi-anechoic Chamber	CHANGCHUANG	9m×6m×6m	-	2024-01-05	2027-01-04
2.	EMI Test Receiver	R&S	ESR7	102454	2025-01-06	2026-01-05
3.	Spectrum Analyzer	Agilent	N9020A	MY48011796	2025-01-06	2026-01-05
4.	Active Loop Antenna	SCHWARZBECK	FMZB1519B	00004	2025-01-06	2026-01-05
5.	Trilog Broadband Antenna	SCHWARZBECK	VULB9162	9162-117	2025-01-12	2026-01-11
6.	Coaxial Cable (below 1GHz)	Times Micorwave Systems	RG223-NMNM-10M	-	2025-01-07	2026-01-06
7.	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	01561	2025-01-13	2026-01-12
9.	Coaxial Cable (above 1GHz)	Times-Micorwave	CBL5-NN	-	2025-01-06	2026-01-05
10.	Broadband Preamplifier (Above 1GHz)	Lunar E M	LNA1G18-40	20160501002	2025-01-06	2026-01-05

☒RF Conducted Testing						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal Date**	**Cal Due Date**
1.	Spectrum Analyzer	Agilent	N9020A	MY48011796	2025-01-06	2026-01-05
2.	EXG Analog Signal Generator	Agilent	N5181A	MY48180720	2025-01-06	2026-01-05
3.	RF Control Unit	CHANGCHUANG	JS0806-2	-	2025-01-08	2026-01-07

☐: ***Not Used***

☒: ***Used***

5.2 Test Software

Description	Manufacturer	Model	Version
EMI Test Software (Conducted Emission 1#)	FARATRONIC	EZ-EMC	EMEC-3A1
EMI Test Software (Conducted Emission 2#)	FARATRONIC	EZ-CON	FARAD-3A1.1+
EMI Test Software (Conducted Emission 3#)	FARATRONIC	EZ-EMC	EMC-CON 3A1.1+
EMI Test Software (Radiated Emission)	FARATRONIC	EZ-EMC	RA-03A1-2
RF Conducted Test Software	TONSCEND	JS1120-2	V2.6

5.3 Special Accessories and Auxiliary Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.
1.	/	/	/	/

5.4 Measurement Uncertainty

Parameter	Uncertainty
RF Output Power	±2.2dB
Occupied Bandwidth	±1.5%
Conducted Emission	±2.6dB
Transmitter Spurious Emission	±3.8dB (for 25MHz-1GHz)
	±5.0dB (for 1GHz-18GHz)

(1)This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

6 Summary of Test Result

Test Items	FCC Rules	Result
Antenna Requirement	§15.203	Compliant
Restricted Band of Operation	§15.205	Compliant
Conducted Emissions	§15.207(a)	N/A
Radiated Spurious Emissions	§15.209(a)	Compliant
Field Strength of Emissions	§15.249(a)	Compliant
Out of Band Emission	§15.249(d)	Compliant
Emission Bandwidth	§15.215(c)	Compliant

Remark:

Pass Test item meets the requirement

Fail Test item does not meet the requirement

N/A Test case does not apply to the test object

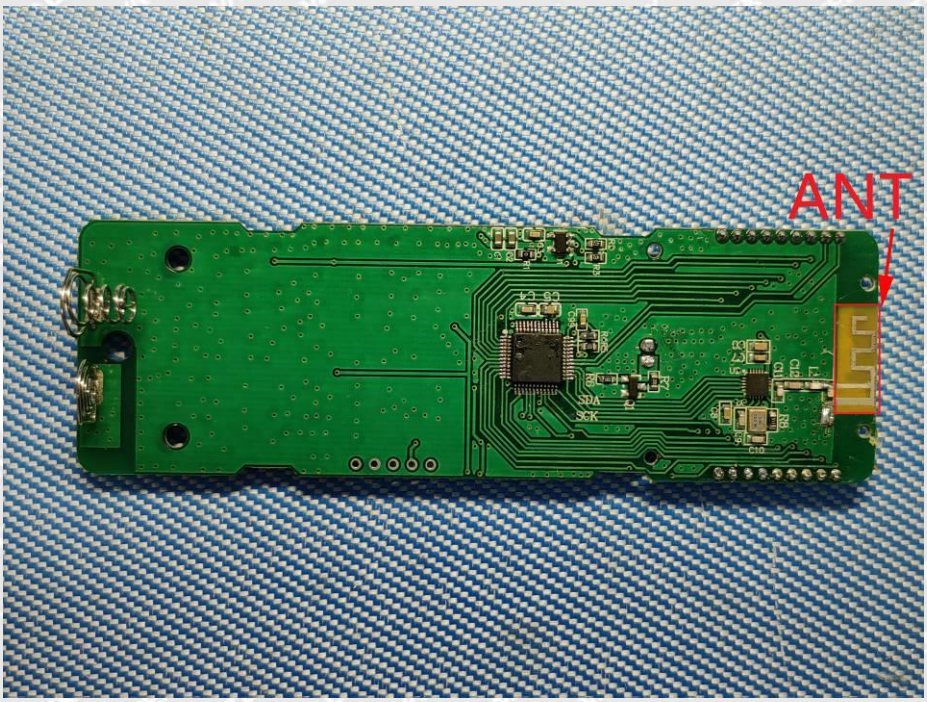
6.1 Antenna Requirement

6.1.1 Standard Applicable

According to FCC 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

6.1.2 Evaluation Information

The EUT has a PCB Antenna, the gain is 0dBi, fulfil the requirement of this section.



6.2 Radiated Spurious Emissions

6.2.1 Standard Applicable

According to §15.249(a), the field strength of emissions from intentional radiators operated within thesefrequency bands shall comply with the following:

Fundamental Frequency	Field strength of fundamental (milli-volts/meter)	Field strength of Harmonics (micro-volts/meter)
902-928MHz	50	500
2400-2483.5MHz	50	500
5725-5875MHz	50	500
24.0-24.25GHz	250	2500

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated byat least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

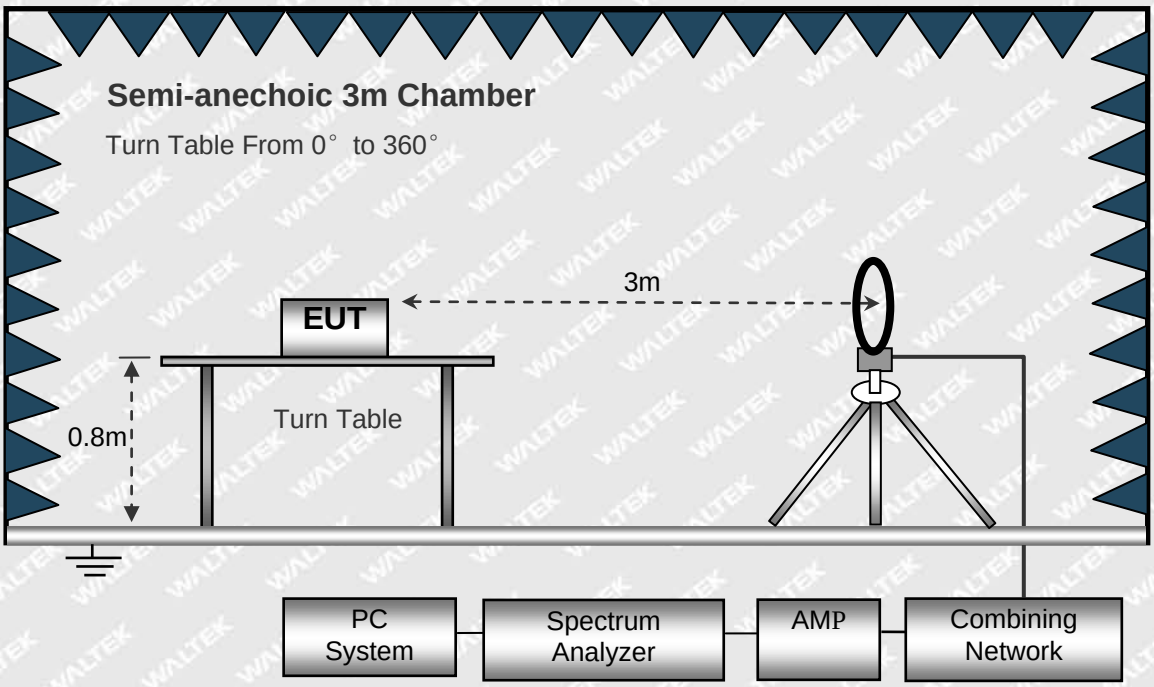
The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

6.2.2 Test Procedure

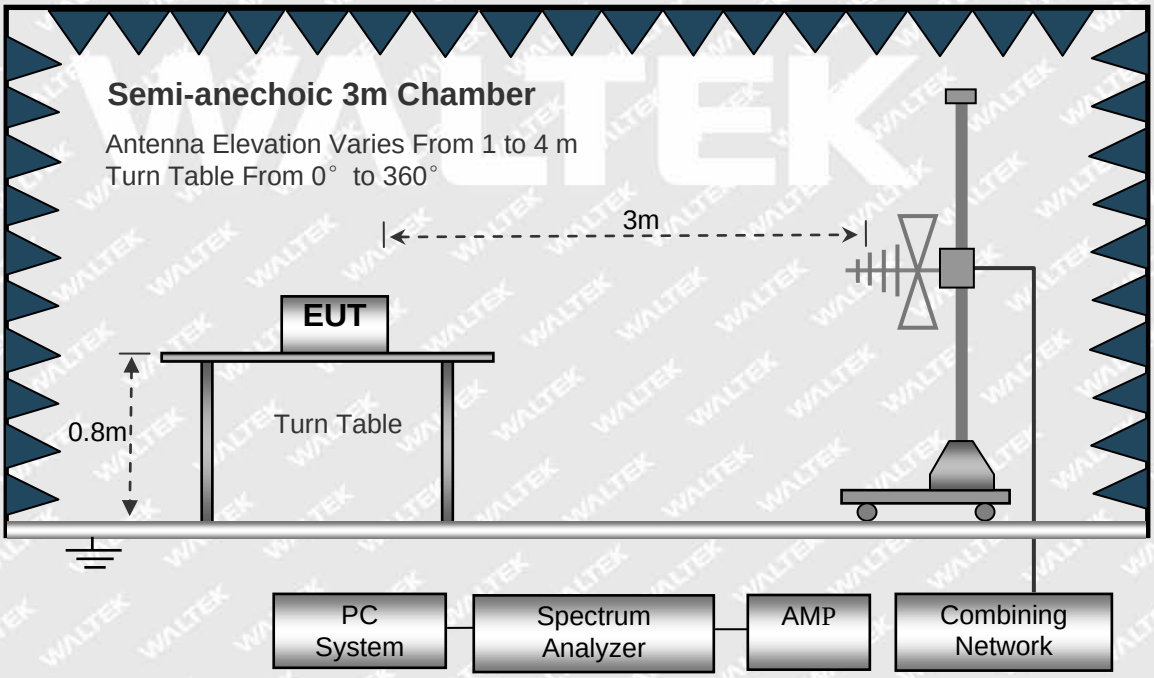
The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.249(a) and FCC Part 15.209 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40cm long in the middle. The spacing between the peripherals was 10cm.

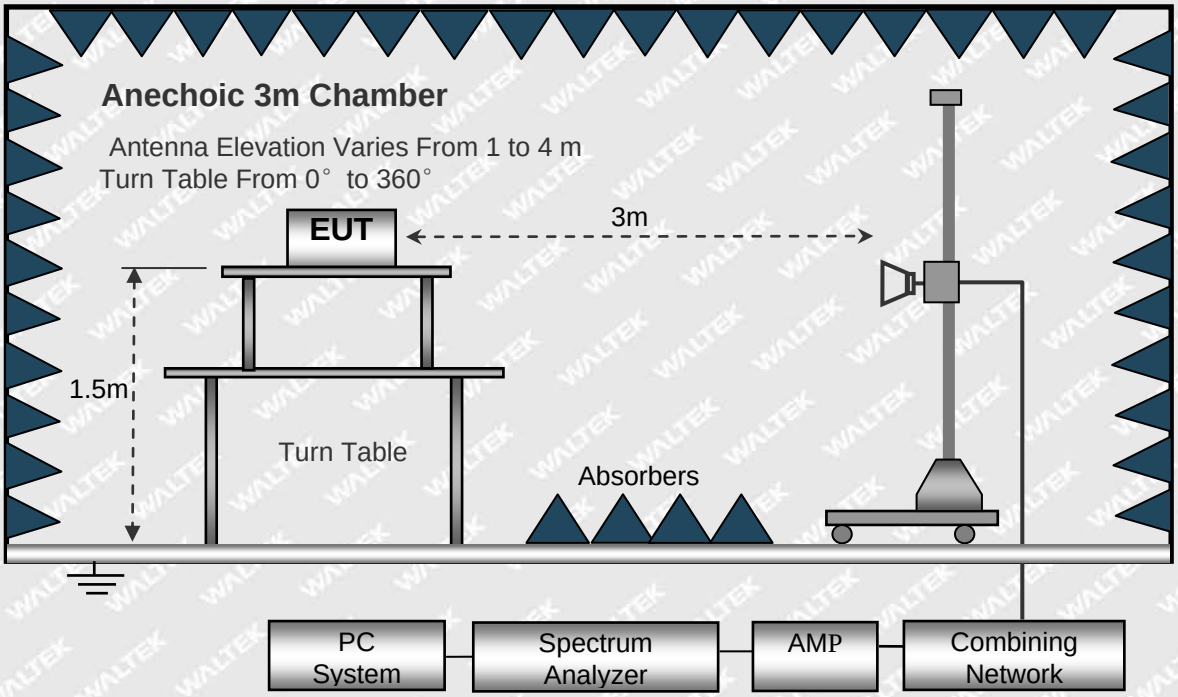
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



9KHz-30MHz	30MHz-1GHz	Above 1GHz
RBW=10kHz	RBW=120kHz	RBW=1MHz
VBW=30kHz	VBW=300kHz	VBW=3MHz(Peak), 10MHz(AV)
Sweep time=Auto	Sweep time=Auto	Sweep time=Auto
Trace=Max hold	Trace=Max hold	Trace=Max hold
Detector function=peak	Detector function=peak, QP	Detector function=peak, AV

6.2.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Corr. Factor

Corr.Factor=Antenna Factor + Cable Factor - Amplifier Gain

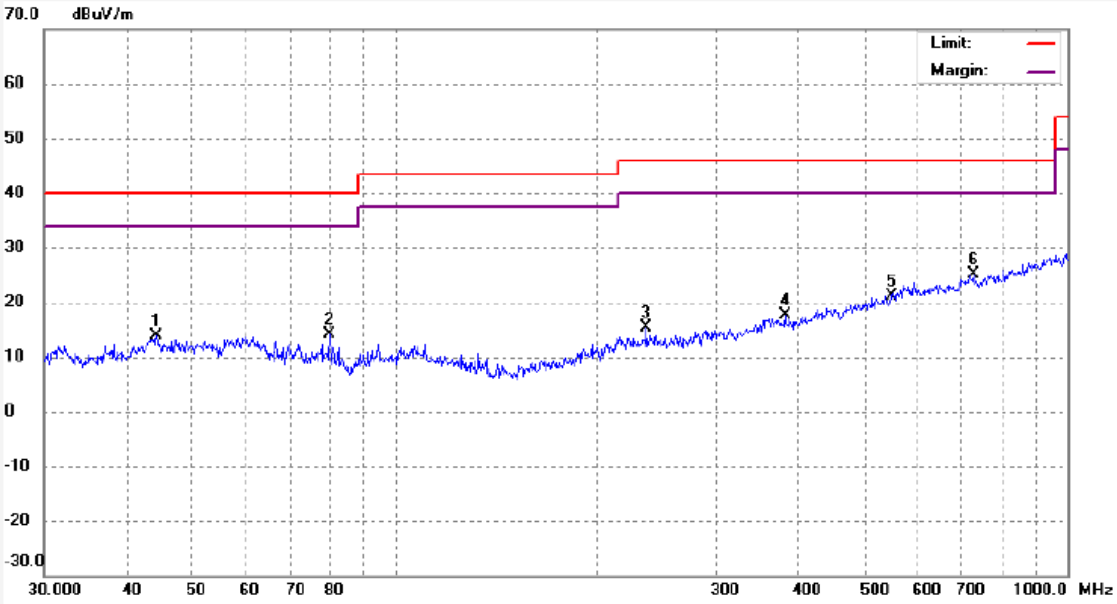
The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Limit

6.2.4 Test Results

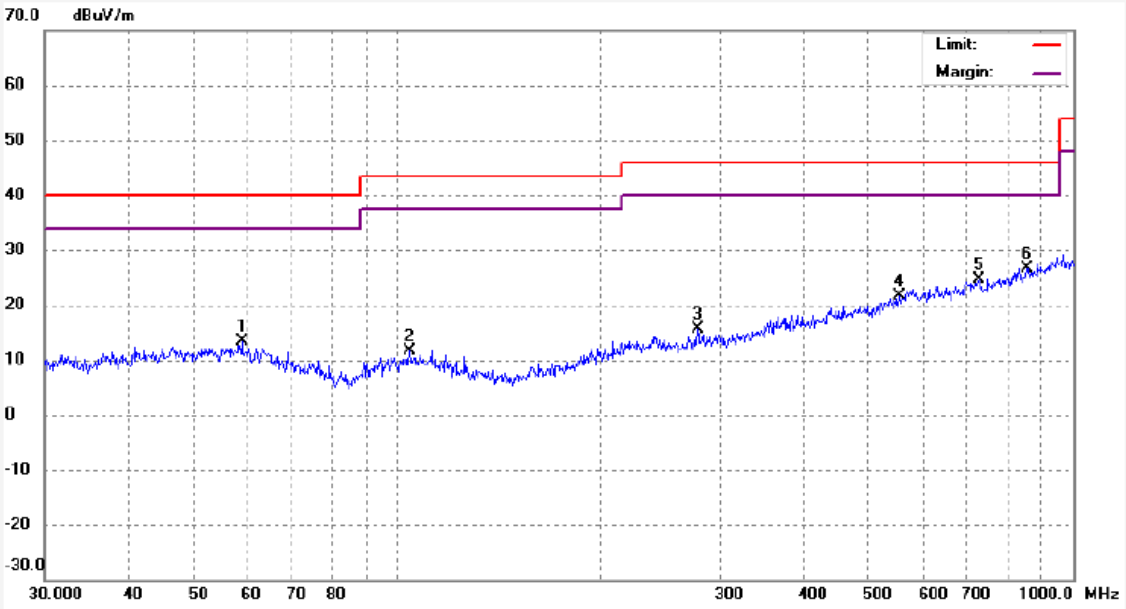
Test Frequency: Below 1GHz

Test Channel Low Channel **Polarization** Vertical



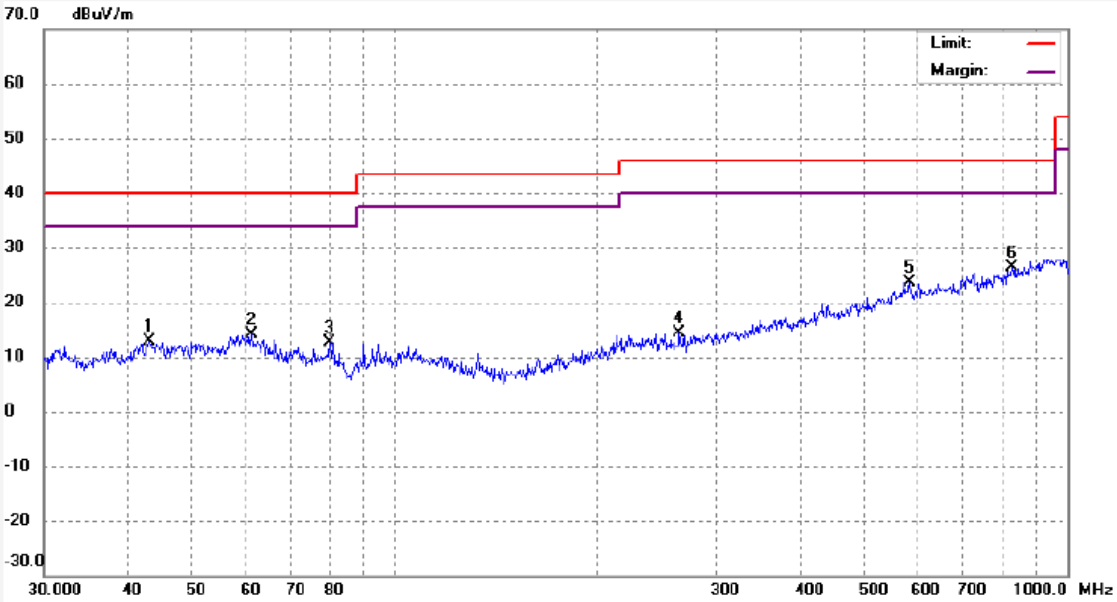
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	44.1357	-0.33	14.20	13.87	40.00	-26.13	peak	
2	79.9683	4.74	9.45	14.19	40.00	-25.81	peak	
3	236.6447	1.06	14.44	15.50	46.00	-30.50	peak	
4	381.1150	-0.35	17.97	17.62	46.00	-28.38	peak	
5	550.5616	-0.35	21.48	21.13	46.00	-24.87	peak	
6	725.2776	0.76	24.30	25.06	46.00	-20.94	peak	

Test Channel Low Channel **Polarization** Horizontal



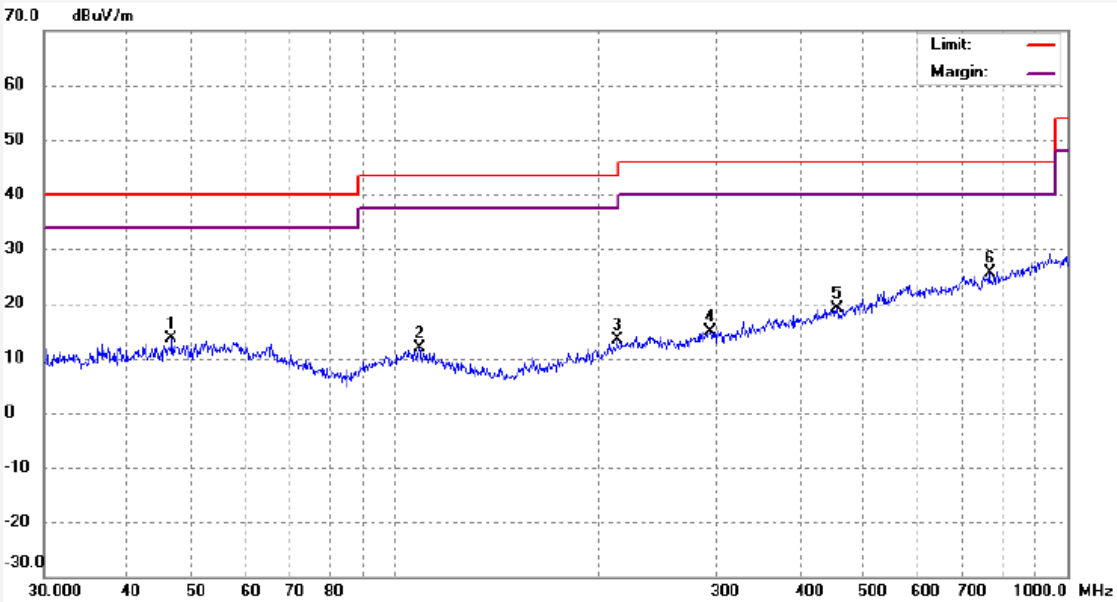
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	58.8804	-0.79	14.13	13.34	40.00	-26.66	peak	
2	104.2798	-1.30	12.97	11.67	43.50	-31.83	peak	
3	278.9458	0.37	15.33	15.70	46.00	-30.30	peak	
4	553.2712	-0.21	21.73	21.52	46.00	-24.48	peak	
5	726.8052	0.44	24.29	24.73	46.00	-21.27	peak	
6	854.9236	0.41	26.24	26.65	46.00	-19.35	peak	

Test Channel Middle Channel **Polarization** Vertical



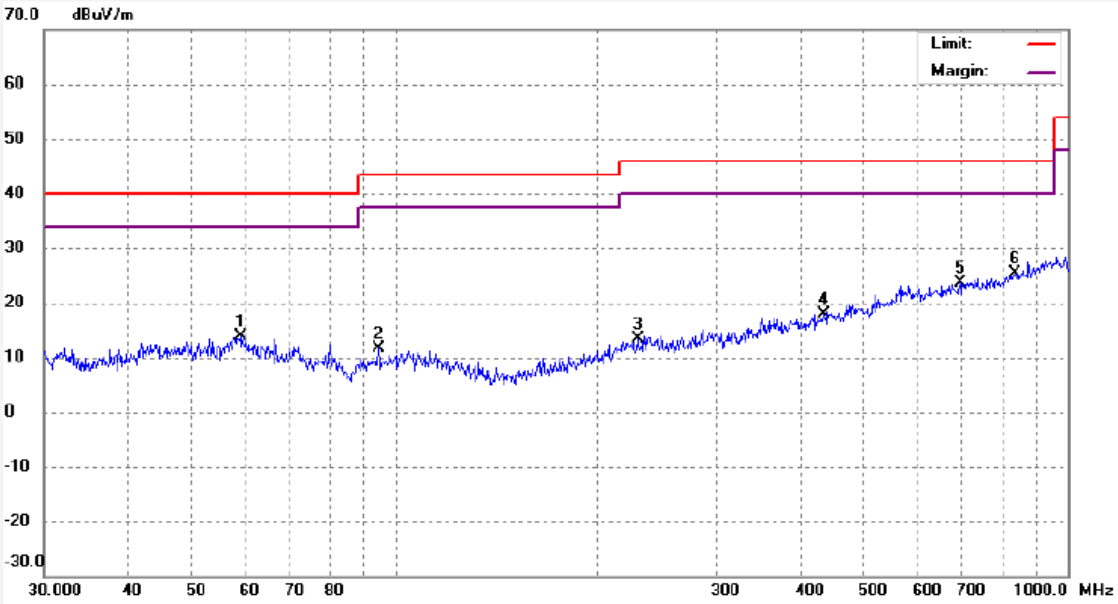
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	43.1108	-1.07	13.98	12.91	40.00	-27.09	peak	
2	61.2603	0.30	13.73	14.03	40.00	-25.97	peak	
3	79.9683	3.23	9.45	12.68	40.00	-27.32	peak	
4	265.0242	-0.39	14.65	14.26	46.00	-31.74	peak	
5	583.3558	0.94	22.67	23.61	46.00	-22.39	peak	
6	828.9455	0.00	26.32	26.32	46.00	-19.68	peak	

Test Channel Middle Channel **Polarization** Horizontal



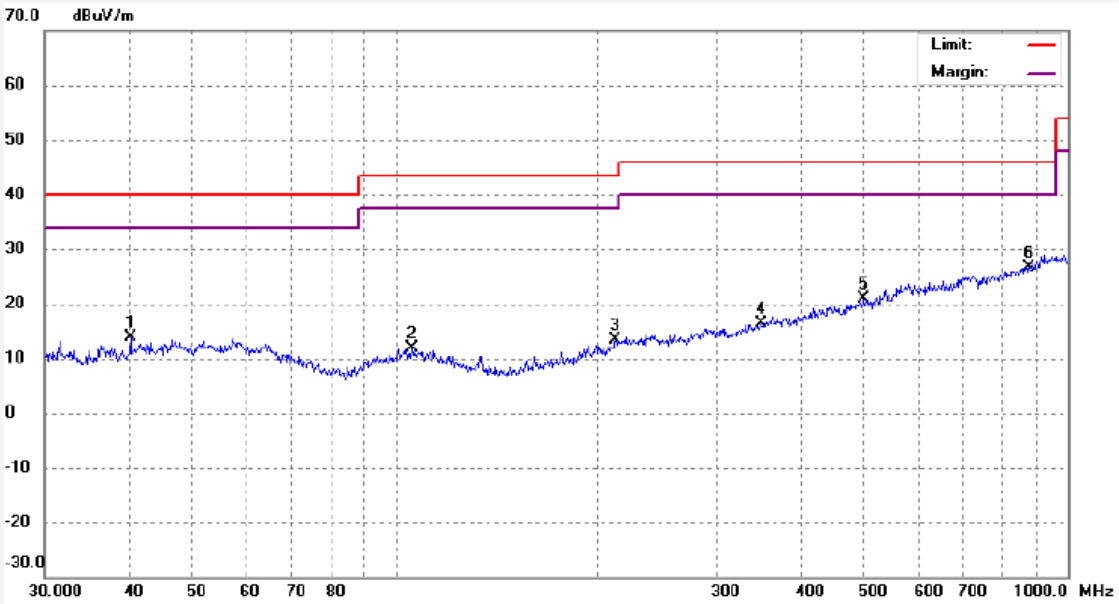
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	46.5682	-0.63	14.14	13.51	40.00	-26.49	peak	
2	108.7613	-0.95	12.82	11.87	43.50	-31.63	peak	
3	213.9133	-0.69	13.99	13.30	43.50	-30.20	peak	
4	294.2168	-0.76	15.65	14.89	46.00	-31.11	peak	
5	455.2668	-0.16	19.27	19.11	46.00	-26.89	peak	
6	767.9398	0.43	25.27	25.70	46.00	-20.30	peak	

Test Channel High Channel **Polarization** Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	58.9423	-0.13	14.11	13.98	40.00	-26.02	peak	
2	94.6272	0.19	11.45	11.64	43.50	-31.86	peak	
3	229.3734	-0.91	14.23	13.32	46.00	-32.68	peak	
4	434.2173	-1.19	19.03	17.84	46.00	-28.16	peak	
5	693.2009	0.23	23.41	23.64	46.00	-22.36	peak	
6	837.1244	-0.78	26.15	25.37	46.00	-20.63	peak	

Test Channel High Channel **Polarization** Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	40.3463	0.42	13.36	13.78	40.00	-26.22	peak	
2	105.7527	-1.19	13.04	11.85	43.50	-31.65	peak	
3	212.4929	-0.27	13.75	13.48	43.50	-30.02	peak	
4	351.7079	-0.95	17.28	16.33	46.00	-29.67	peak	
5	498.3750	0.54	20.46	21.00	46.00	-25.00	peak	
6	877.0903	0.40	26.21	26.61	46.00	-19.39	peak	

Test Frequency: Above 1GHz

Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Duty Cycle Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar (H/V)	Detector (PK/AV)
Low Channel								
2422	110.66	-10.35	N/A	100.31	114.00	-13.69	H	PK
2422	/	/	-16.03	84.28	94.00	-9.72	H	AV
4844	55.74	-3.50	N/A	52.24	74.00	-21.76	H	PK
4844	/	/	-16.03	36.21	54.00	-17.79	H	AV
7266	48.39	3.14	N/A	51.53	74.00	-22.47	H	PK
7266	/	/	-16.03	35.50	54.00	-18.50	H	AV
2422	102.60	-10.10	N/A	92.50	114.00	-21.50	V	PK
2422	/	/	-16.03	76.47	94.00	-17.53	V	AV
4844	54.95	-3.36	N/A	51.59	74.00	-22.41	V	PK
4844	/	/	-16.03	35.56	54.00	-18.44	V	AV
7266	48.12	3.04	N/A	51.16	74.00	-22.84	V	PK
7266	/	/	-16.03	35.13	54.00	-18.87	V	AV
Middle Channel								
2443	110.21	-10.27	N/A	99.94	114.00	-14.06	H	PK
2443	/	/	-16.03	83.91	94.00	-10.09	H	AV
4886	54.75	-3.39	N/A	51.36	74.00	-22.64	H	PK
4886	/	/	-16.03	35.33	54.00	-18.67	H	AV
7329	48.94	3.23	N/A	52.17	74.00	-21.83	H	PK
7329	/	/	-16.03	36.14	54.00	-17.86	H	AV
2443	102.17	-10	N/A	92.17	114.00	-21.83	V	PK
2443	/	/	-16.03	76.14	94.00	-17.86	V	AV
4886	56.09	-3.24	N/A	52.85	74.00	-21.15	V	PK
4886	/	/	-16.03	36.82	54.00	-17.18	V	AV
7329	49.54	3.13	N/A	52.67	74.00	-21.33	V	PK
7329	/	/	-16.03	36.64	54.00	-17.36	V	AV
High Channel								
2466	109.76	-10.18	N/A	99.58	114.00	-14.42	H	PK
2466	/	/	-16.03	83.55	94.00	-10.45	H	AV
4932	55.56	-3.29	N/A	52.27	74.00	-21.73	H	PK
4932	/	/	-16.03	36.24	54.00	-17.76	H	AV
7398	50.21	3.34	N/A	53.55	74.00	-20.45	H	PK

Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Duty Cycle Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Polar (H/V)	Detector (PK/AV)
7398	/	/	-16.03	37.52	54.00	-16.48	H	AV
2466	101.38	-9.9	N/A	91.48	114.00	-22.52	V	PK
2466	/	/	-16.03	75.45	94.00	-18.55	V	AV
4932	55.67	-3.11	N/A	52.56	74.00	-21.44	V	PK
4932	/	/	-16.03	36.53	54.00	-17.47	V	AV
7398	49.9	3.24	N/A	53.14	74.00	-20.86	V	PK
7398	/	/	-16.03	37.11	54.00	-16.89	V	AV

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, which above 5th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
The measurements greater than 20dB below the limit from 9kHz to 30MHz..

6.3 Out of Band Emissions

6.3.1 Standard Applicable

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

6.3.2 Test Procedure

As the radiation test, set the Lowest and Highest Transmitting Channel, observed the outside band of 2400MHz to 2483.5MHz, than mark the higher-level emission for comparing with the FCC rules.

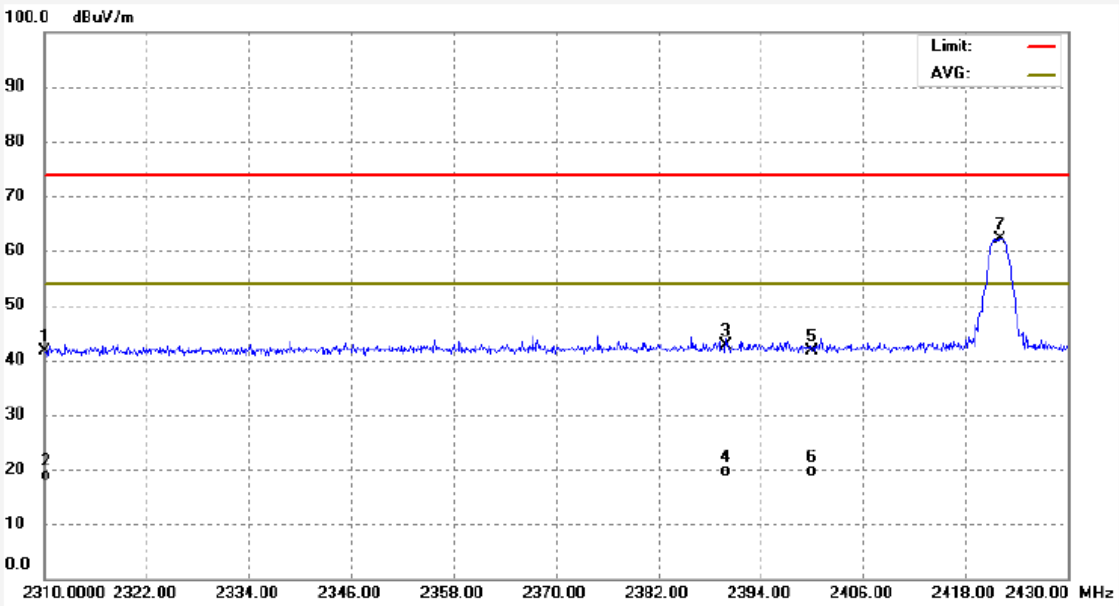
6.3.3 Test Result

Test mode	Frequency (MHz)	Limit (dBuV / dBc)	Result
Lowest	2310.00	<54dBuV	Pass
	2390.00	<54dBuV	Pass
	2400.00	<54dBuV	Pass
Highest	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass

The edge emissions are below the FCC 15.209 Limits or complies with the 15.249 requirements.

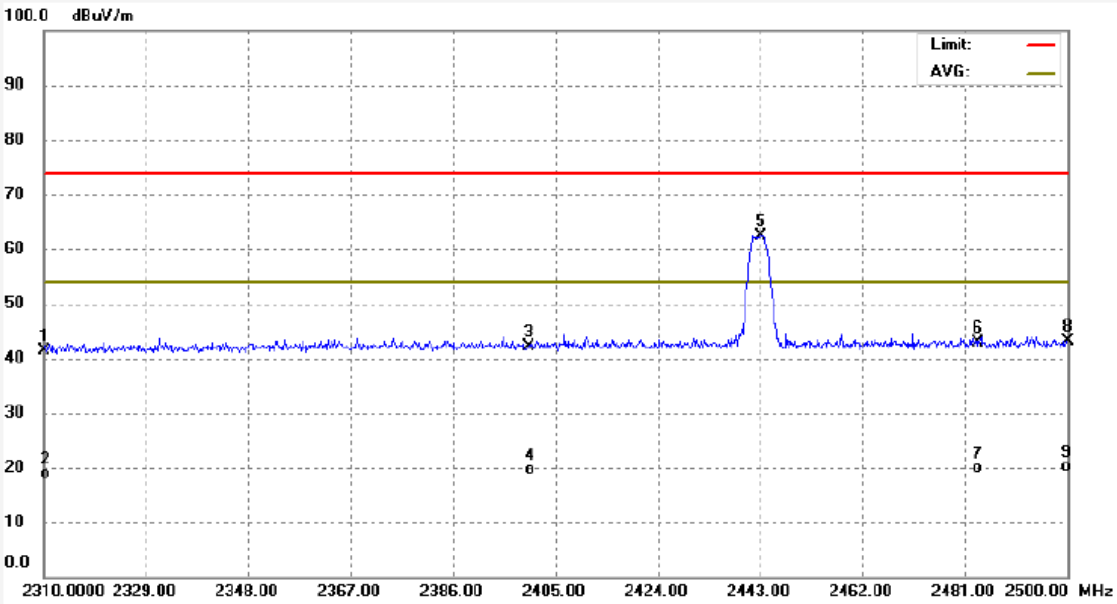
Please refer to the test plots as below.

Test Channel Low Channel **Polarization** Vertical (worst case)



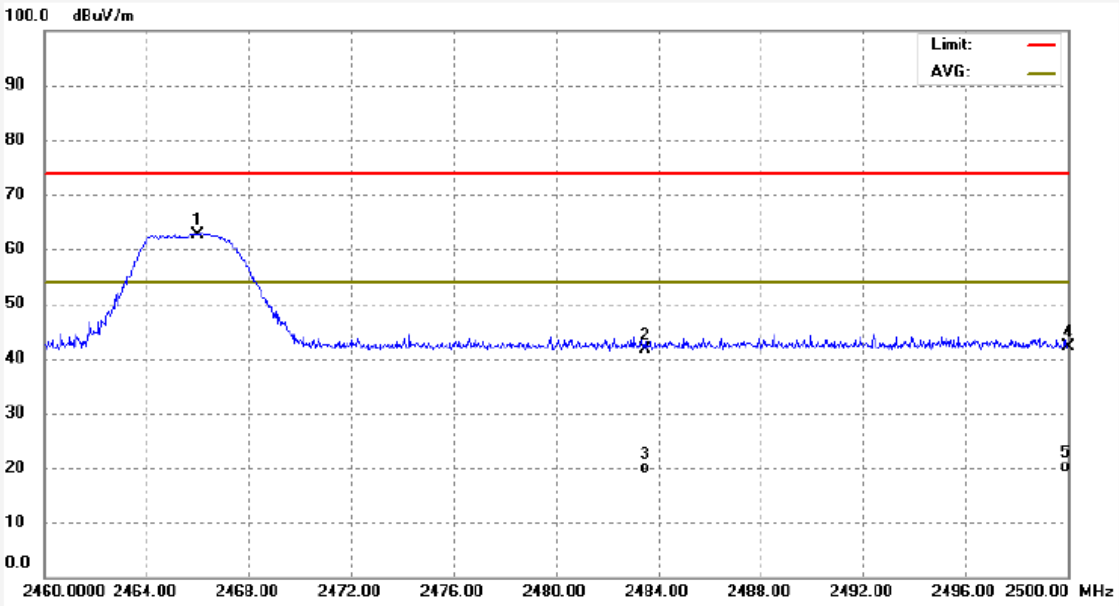
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2310.000	9.83	31.90	41.73	74.00	-32.27	peak	
2	2310.000	-12.96	31.90	18.94	54.00	-35.06	AVG	
3	2390.000	10.37	32.24	42.61	74.00	-31.39	peak	
4	2390.000	-12.69	32.24	19.55	54.00	-34.45	AVG	
5	2400.000	9.40	32.28	41.68	74.00	-32.32	peak	
6	2400.000	-12.72	32.28	19.56	54.00	-34.44	AVG	
7	2422.000	29.67	32.38	62.05	74.00	-11.95	peak	

Test Channel Middle Channel **Polarization** Vertical (worst case)



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2310.000	9.49	31.90	41.39	74.00	-32.61	peak	
2	2310.000	-12.95	31.90	18.95	54.00	-35.05	AVG	
3	2400.000	9.90	32.28	42.18	74.00	-31.82	peak	
4	2400.000	-12.73	32.28	19.55	54.00	-34.45	AVG	
5	2443.000	29.87	32.46	62.33	74.00	-11.67	peak	
6	2483.500	10.14	32.63	42.77	74.00	-31.23	peak	
7	2483.500	-12.69	32.63	19.94	54.00	-34.06	AVG	
8	2500.000	10.53	32.70	43.23	74.00	-30.77	peak	
9	2500.000	-12.56	32.70	20.14	54.00	-33.86	AVG	

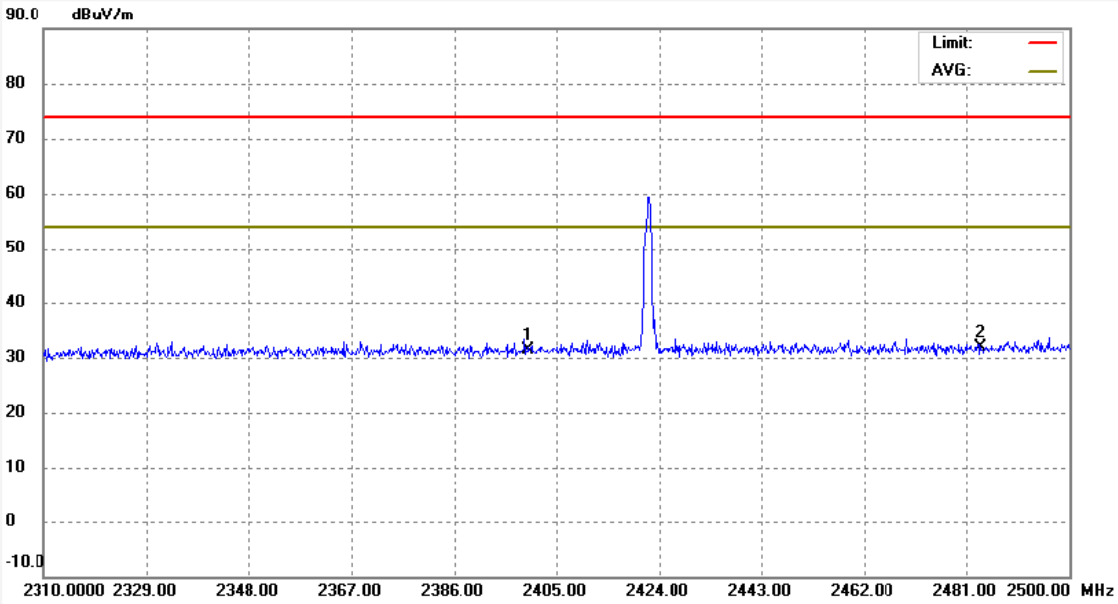
Test Channel High Channel **Polarization** Vertical (worst case)



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2466.000	30.11	32.56	62.67	74.00	-11.33	peak	
2	2483.500	8.94	32.63	41.57	74.00	-32.43	peak	
3	2483.500	-12.72	32.63	19.91	54.00	-34.09	AVG	
4	2500.000	9.55	32.70	42.25	74.00	-31.75	peak	
5	2500.000	-12.54	32.70	20.16	54.00	-33.84	AVG	

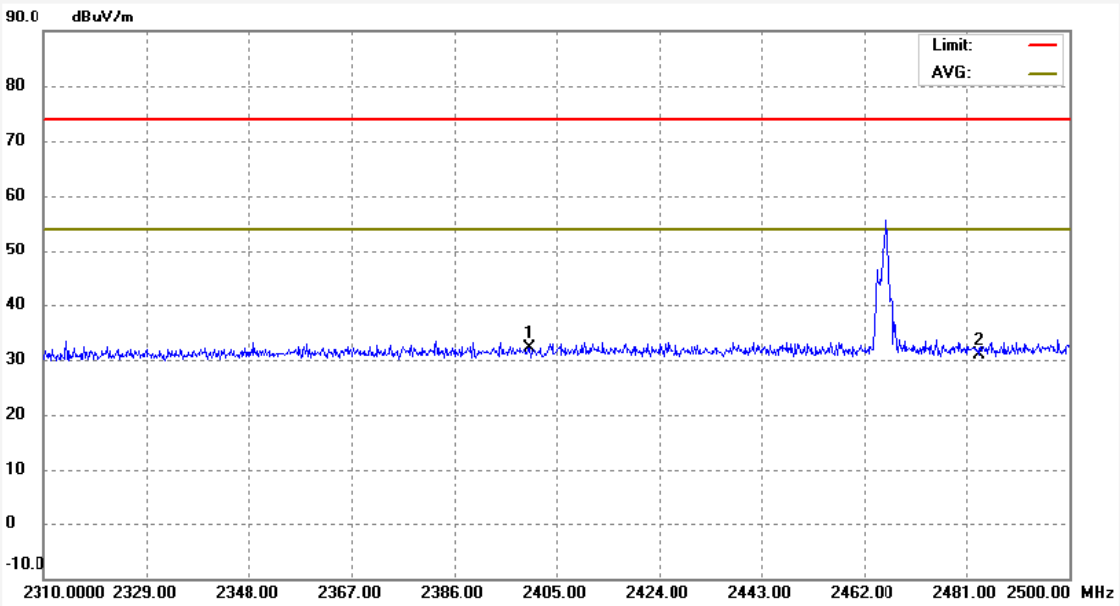
Band Edge

Test Channel Low Channel **Polarization** Horizontal (worst case)



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2400.000	-0.95	32.28	31.33	74.00	-42.67	peak	
2	2483.500	-0.80	32.63	31.83	74.00	-42.17	peak	

Test Channel High Channel **Polarization** Horizontal (worst case)



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2400.000	-0.23	32.28	32.05	74.00	-41.95	peak	
2	2483.500	-1.80	32.63	30.83	74.00	-43.17	peak	

6.4 Emission Bandwidth

6.4.1 Standard Applicable

According to §15.215(c), intentional radiators operating under the alternative provisions to the general emission limits must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

6.4.2 Test Procedure

According to the ANSI 63.10-2013, the emission bandwidth test method as follows.

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

Set span = 1MHz, centered on a transmitting channel RBW 1% 20dB Bandwidth, VBW RBW

Sweep = auto

Detector function = peak Trace = max hold

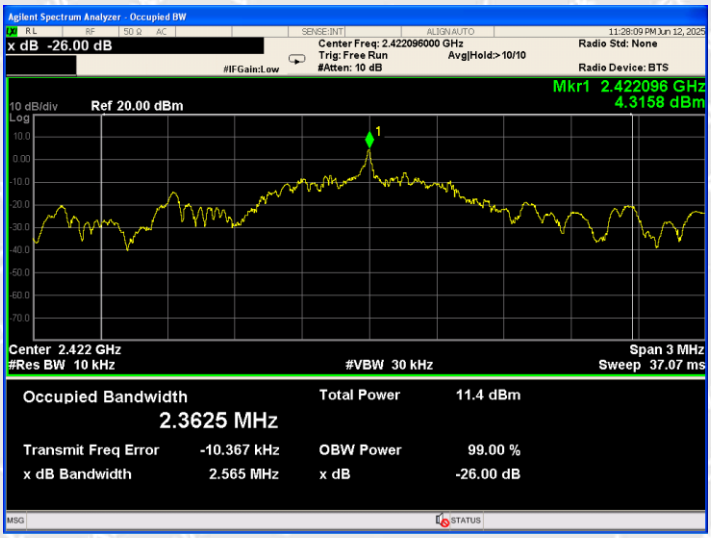
All the trace to stabilize, use the marker-to-peak function to set the marker to the peak of the emission, use the marker-delta function to measure and record the 20dB down and 99% bandwidth of the emission.

6.4.3 Test Result

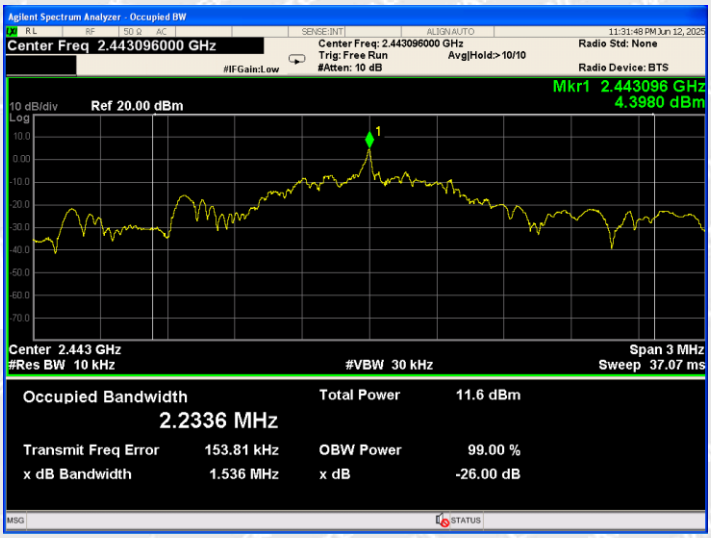
Test Channel	20dB Bandwidth (MHz)	Band edge left		Band edge right		Result
		Frequency (MHz)	Limit (MHz)	Frequency (MHz)	Limit (MHz)	
24222422-2466	1.314	2421.202	>2400	2422.516	<2483.5	Pass
2443	1.266	2442.259	>2400	2443.525	<2483.5	Pass
2466	1.194	2465.331	>2400	2466.525	<2483.5	Pass

Test result plot as follow:

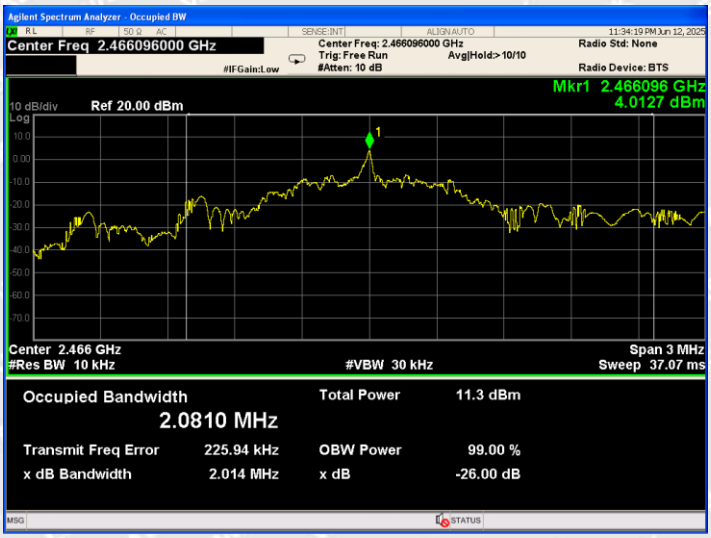
Low Channel



Middle Channel



High Channel



6.5 Duty Cycle

6.5.1 Standard Applicable

According to FCC Part 15.35 (c), for pulse operation transmitter, the averaging pulsed emissions are calculated by peak value of measured emission plus duty cycle factor.

6.5.2 Test Procedure

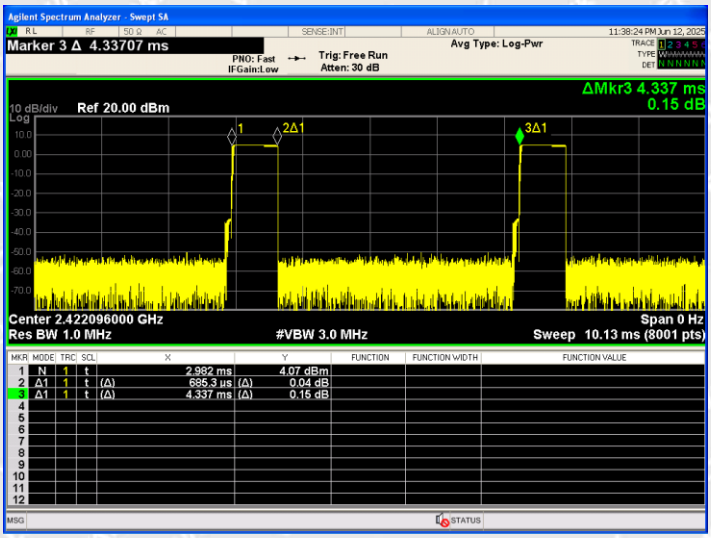
With the EUT"s antenna attached, the EUT"s output signal was received by the test antenna, which was connected to the spectrum analyzer. Set the center frequency we need test, than set the spectrum analyzer to Zero Span for the release time reading. During the testing, the switch was released then the EUT automatically deactivated.

6.5.3 Test Result

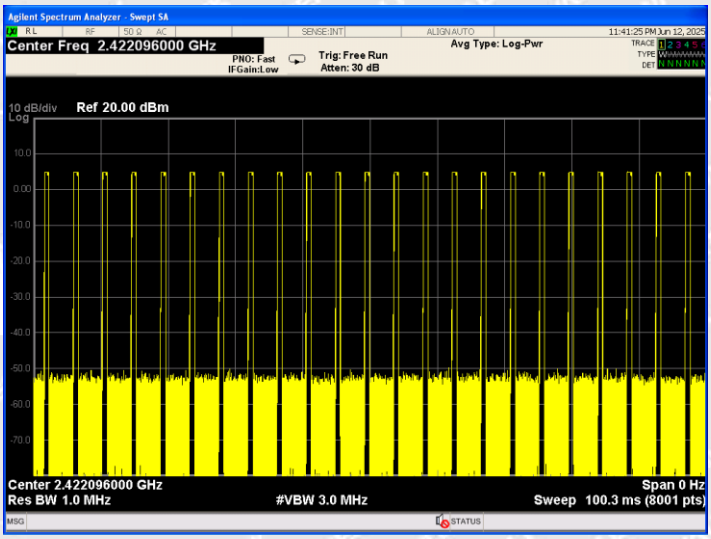
Width of Pulse (ms)	Quantity ofPulse	Total Time (Ton)	Test Period (Periodic Time) (ms)	Duty Cycle (%)	Duty Cycle Factor (dB)
0.6853	1	0.6853	4.337	-15.8	-16.03

Test result plot as follow:

Transmit Time



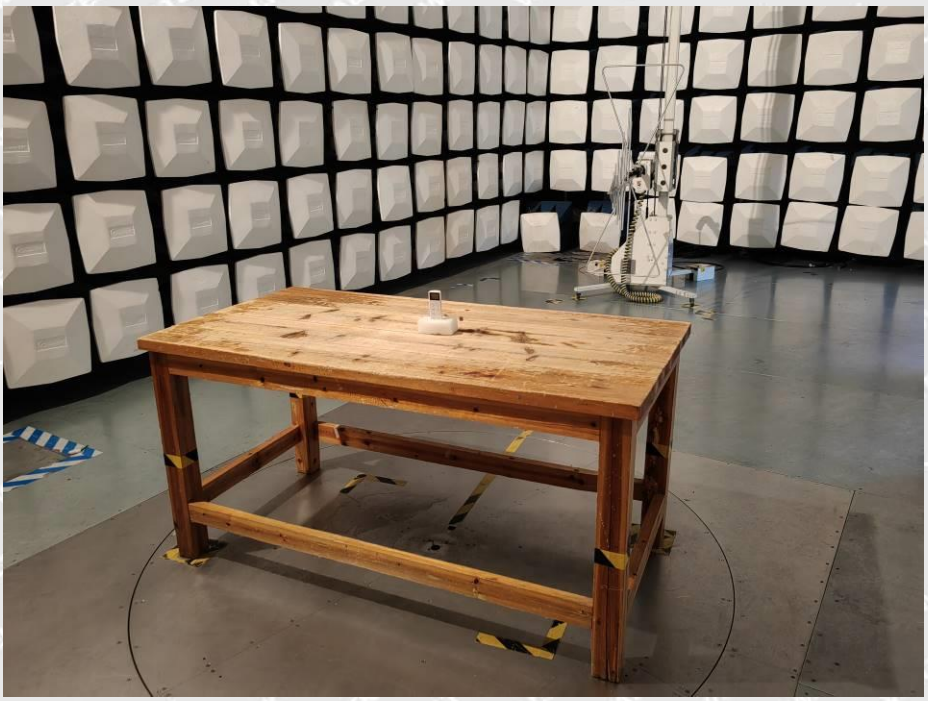
Test Period



7 Photographs Test Setup

7.1 Photographs - Radiated Emission Test Setup

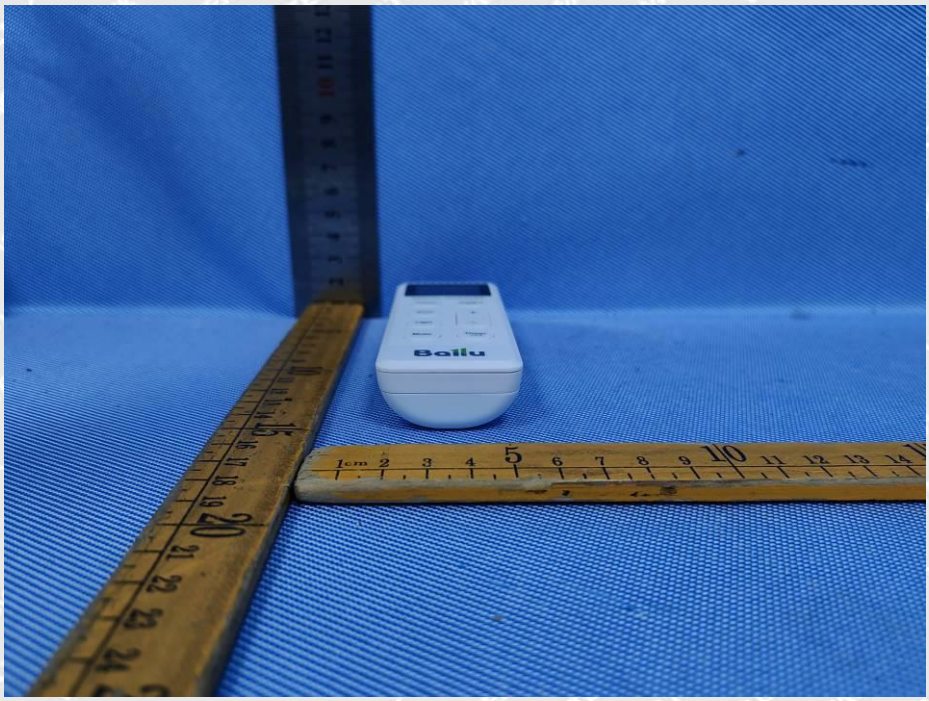
30MHz-1GHz

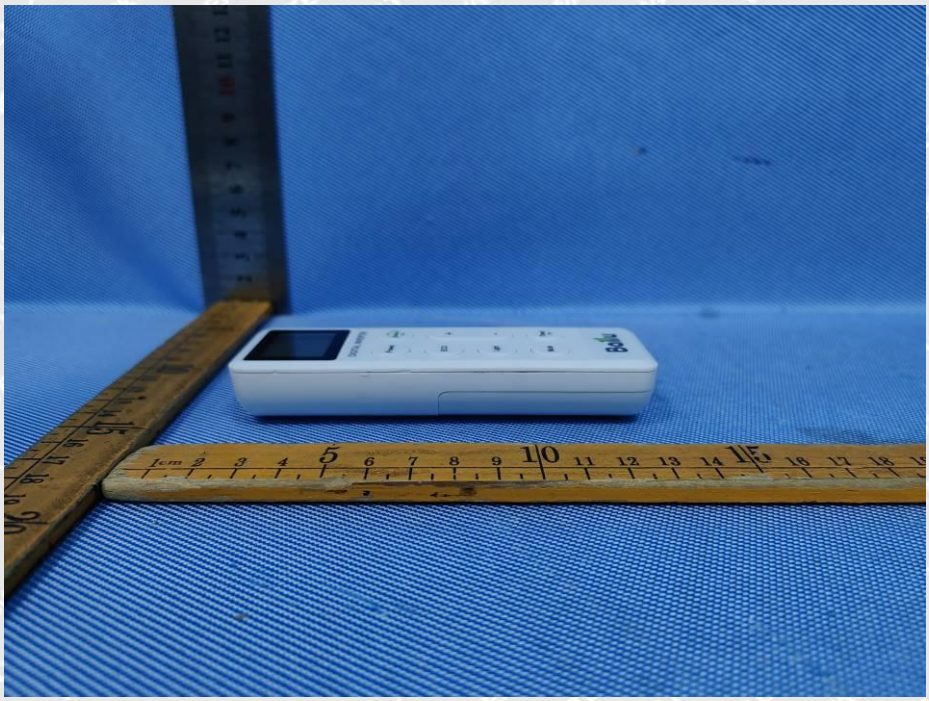


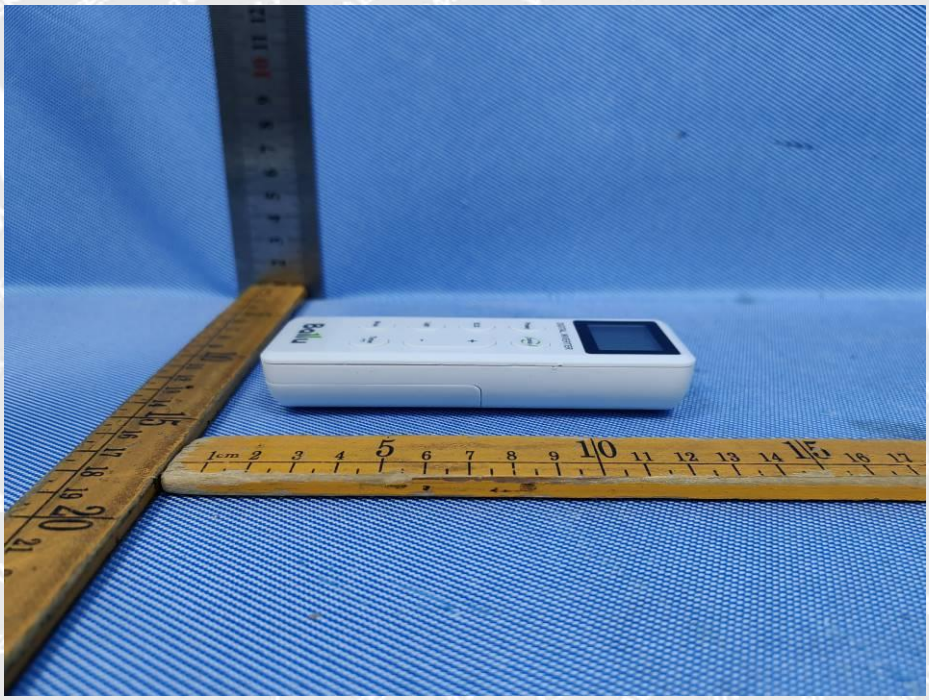
Above 1GHz

8 Photographs - Constructional Details

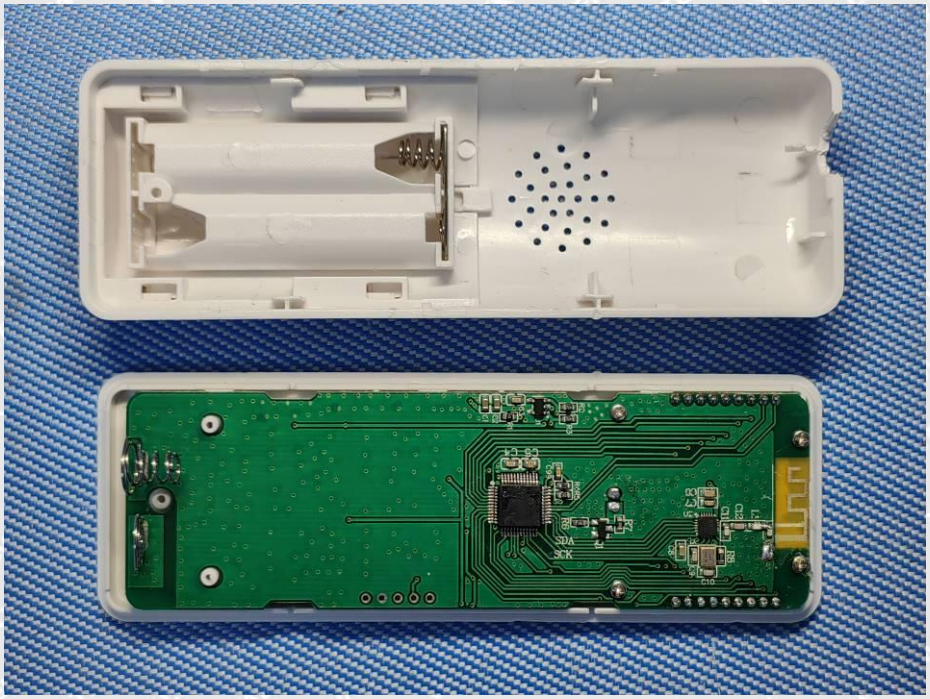
8.1 EUT - External Photos

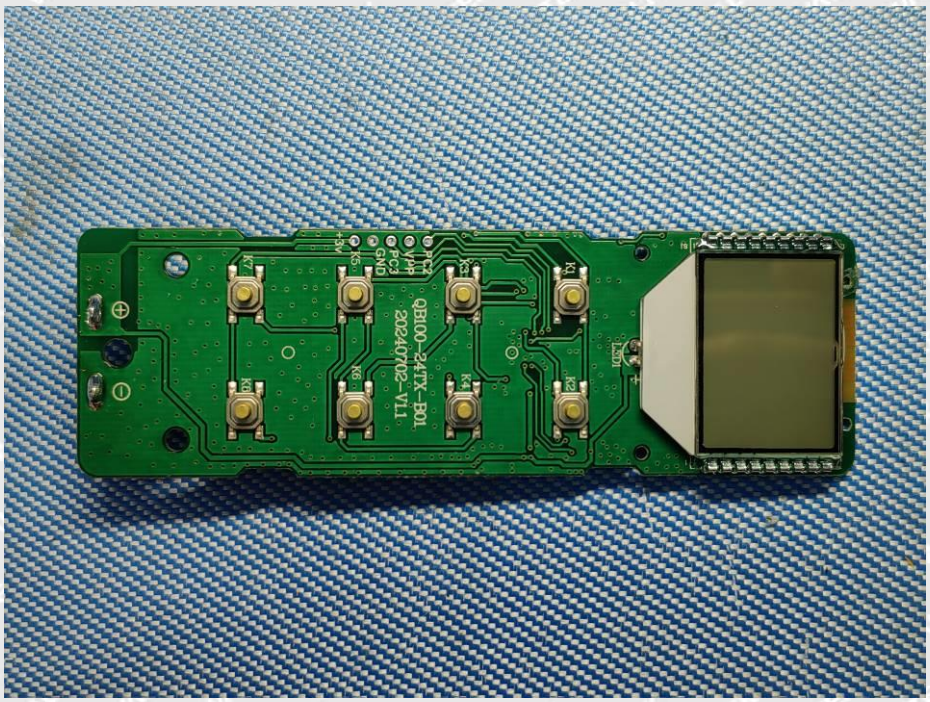

Bollu

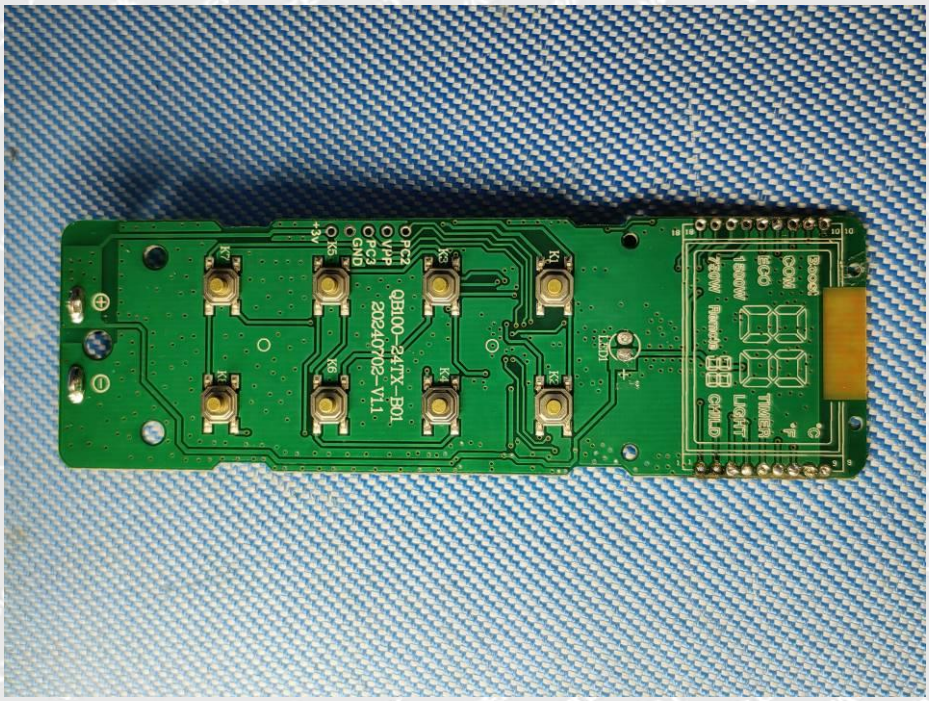


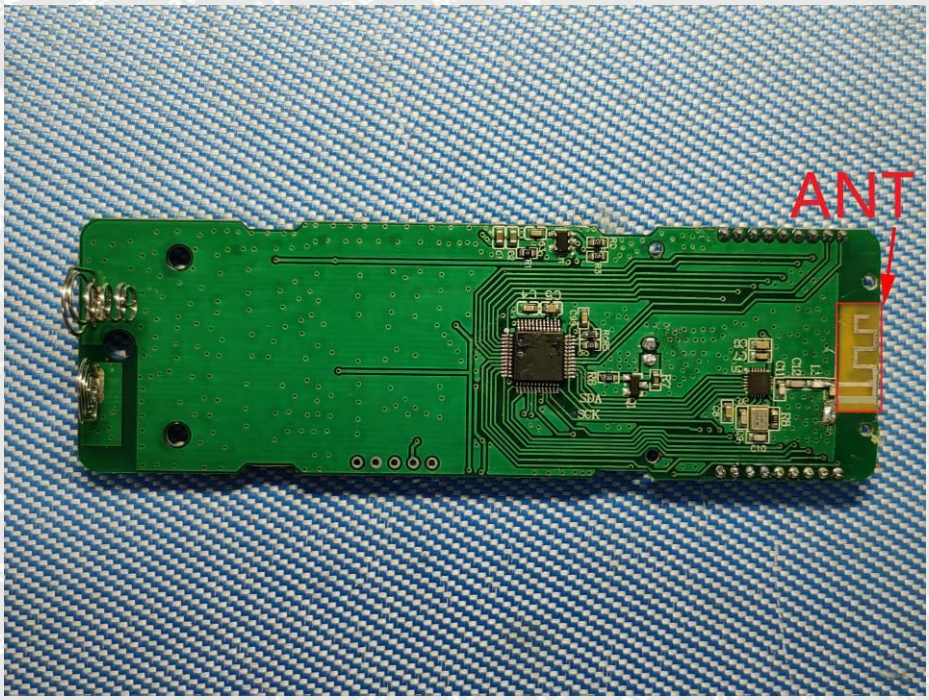


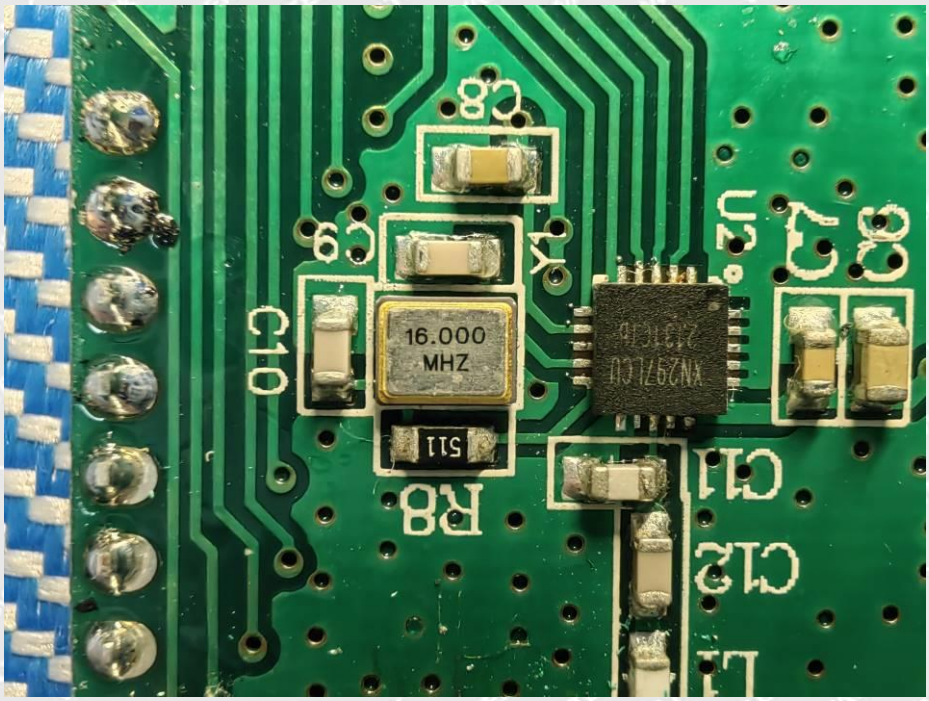
8.2 EUT – Internal Photos






QB100-24TX-B01
20240702-V1.1


ANT



======End of Report======