



TEST REPORT

Applicant: Qingdao Thunderobot Technology Co., Ltd.
Address of Applicant: No. 1 Haier Rd., Laoshan District, Qingdao, Shandong, China
Manufacturer: Qingdao Thunderobot Technology Co., Ltd.
Address of Manufacturer: No. 1 Haier Rd., Laoshan District, Qingdao, Shandong, China
Factory: Dongguan ChuanD Electronics Technology Co., Ltd.
Address of Factory: Xihe Industrial Zone, Sijia, Shijie Town, Dongguan City, Guangdong Province, P.R.China
Product Name: Triple-Mode Mechanical Keyboard
Model No.: ZERO98
Trade Mark: N/A
FCC ID: 2BFDF-ZERO98
Applicable standards: CFR Title 47 Part 15.249
Date of Test: Jul.23, 2026- Aug.18, 2026
Date of report issued: Aug.22, 2026

Remark:

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The report would be invalid without specific stamp of test institute and the signatures of compiler and approver

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Contents

Page

1	TEST SUMMARY	4
2	GENERAL INFORMATION	5
2.1	GENERAL DESCRIPTION OF EUT	5
2.2	TEST MODE	7
2.3	DESCRIPTION OF SUPPORT UNITS	7
2.4	DEVIATION FROM STANDARDS.....	7
2.5	ABNORMALITIES FROM STANDARD CONDITIONS	7
2.6	TEST FACILITY.....	7
2.7	TEST LOCATION.....	7
2.8	ADDITIONAL INSTRUCTIONS.....	7
3	TEST INSTRUMENTS LIST	8
4	TEST RESULTS AND MEASUREMENT DATA	9
4.1	ANTENNA REQUIREMENT	9
4.2	CONDUCTED EMISSIONS	10
4.3	RADIATED EMISSION MEASUREMENT	13
4.3.1	<i>Field Strength of The Fundamental Signal.....</i>	<i>15</i>
4.3.2	<i>Spurious emissions</i>	<i>16</i>
4.3.3	<i>Bandedge emissions.....</i>	<i>21</i>
4.4	20dB BANDWIDTH AND 99% BANDWIDTH.....	23
5	TEST SETUP PHOTO	26
6	EUT CONSTRUCTIONAL DETAILS.....	26

1 Test Summary

Test Item	Section in CFR 47	Result	Test by
Antenna requirement	15.203	Pass	/
AC Power Line Conducted Emission	15.207	Pass	Jason Huang
Field strength of the fundamental signal	15.249 (a)	Pass	Jason Huang
Spurious emissions	15.249 (a) (d)/15.209	Pass	Leo Zhong
Band edge	15.249 (d)/15.205	Pass	Jason Huang
20dB Occupied Bandwidth 99% Occupied Bandwidth	15.215 (c)	Pass	Oliver Wang

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024
3. Note: Compliance determination rules
 - 1).The Compliance determination of test results does not take into account measurement uncertainty. Measurement results are determined based on regulatory limitations or requirements specified by the applicant/manufacturer. If measurement uncertainty is taken into account, the applicant/manufacturer will bear all possible risks of non-compliance.
 - 2).The measurement uncertainty please refer to each test result in the "Measurement Uncertainty"

Measurement Uncertainty

Test Item	Uncertainty Criterion	Measurement Uncertainty	Notes
Duty cycle	±5%	0.03	(1)
Occupied Channel Bandwidth	±5%	0.72%	(1)
RF output power, conducted	±1.5dB	±0.67 dB	(1)
Power Spectral Density, conducted	±3dB	±0.51 dB	(1)
Unwanted Emissions, conducted	±3dB	±0.64 dB	(1)
AC Power Line Conducted Emission	±6dB	± 3.38 dB	(1)
Radiated emissions 30M- 1GHz	±6dB	±4.88 dB	(1)
Radiated emissions 1GHz-18GHz	±6dB	± 4.16 dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

2 General Information

2.1 General Description of EUT

Product Name:	Triple-Mode Mechanical Keyboard
Model No.:	ZERO98
Model of difference:	N/A
Test model:	ZERO98
Hardware Version:	V1.0
Software Version:	V20.03
Power supply:	DC 5V or DC 3.7V From Battery
Battery:	DC 3.7V 5000mAh
Adapter:	N/A
Radio Technology:	2.4G SRD
Operation Frequency:	2402MHz~2480MHz
Channel numbers:	79
Channel separation:	1MHz
Modulation type:	GFSK
Antenna Type:	PCB antenna
Antenna gain:	-4.51dBi

Note:

- 1. Other information please Reference user manual.*
- 2. Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information.*

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	20	2422 MHz	40	2442 MHz	60	2462 MHz
01	2403 MHz	21	2423 MHz	41	2443 MHz	61	2463 MHz
02	2404 MHz	22	2424 MHz	42	2444 MHz	62	2464 MHz
03	2405 MHz	23	2425 MHz	43	2445 MHz	63	2465 MHz
04	2406 MHz	24	2426 MHz	44	2446 MHz	64	2466 MHz
05	2407 MHz	25	2427 MHz	45	2447 MHz	65	2467 MHz
06	2408 MHz	26	2428 MHz	46	2448 MHz	66	2468 MHz
07	2409 MHz	27	2429 MHz	47	2449 MHz	67	2469 MHz
08	2410 MHz	28	2430 MHz	48	2450 MHz	68	2470 MHz
09	2411 MHz	29	2431 MHz	49	2451 MHz	69	2471 MHz
10	2412 MHz	30	2432 MHz	50	2452 MHz	70	2472 MHz
11	2413 MHz	31	2433 MHz	51	2453 MHz	71	2473 MHz
12	2414 MHz	32	2434 MHz	52	2454 MHz	72	2474 MHz
13	2415 MHz	33	2435 MHz	53	2455 MHz	73	2475 MHz
14	2416 MHz	34	2436 MHz	54	2456 MHz	74	2476 MHz
15	2417 MHz	35	2437 MHz	55	2457 MHz	75	2477 MHz
16	2418 MHz	36	2438 MHz	56	2458 MHz	76	2478 MHz
17	2419 MHz	37	2439 MHz	57	2459 MHz	77	2479 MHz
18	2420 MHz	38	2440 MHz	58	2460 MHz	78	2480 MHz
19	2421 MHz	39	2441 MHz	59	2461 MHz	/	/

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	2402 MHz
The middle channel	2441 MHz
The Highest channel	2480 MHz

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
<i>Remark: For battery operated equipment, the EUT was performed using a new DC 3.7V battery.</i>	

2.3 Description of Support Units

No.	Description	Manufacturer	Model	Serial Number
1	Laptop	MDF-16	/	HUAWEI
2	Adapter	MDY-11-EM	/	Xiaomi

2.4 Deviation from Standards

None.

2.5 Abnormalities from Standard Conditions

None.

2.6 Test Facility

Test laboratory:	Shenzhen ETR Standard Technology Co., Ltd.
CNAS Registration Number:	L11864
A2LA Certificate Number:	6640.01
FCC Designation Number:	CN1326
FCC Test Firm Registration:	183064

2.7 Test Location

All tests were performed at:	
Laboratory location:	No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	+86 755 85259392

2.8 Additional Instructions

Test Software	Manufacturer's special serial port command
Power level setup	Default

3 Test Instruments list

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101214	2026.3.05	2027.3.04
2	EMI Test Receiver	Rohde&schwarz	ESCI3	102696	2026.3.05	2027.3.04
3	Loop Antenna	schwarabeck	FMZB 1519 B	128	2026.3.08	2028.3.07
4	Broadband antenna	schwarabeck	VULB9168	1064	2026.3.11	2028.3.10
5	Horn antenna	schwarabeck	BBHA9120D	2288	2026.3.08	2028.3.07
6	amplifier	EMtrace	RP01A	50117	2026.3.05	2027.3.04
7	AMN	schwarabeck	NSLK8127	8127483	2026.3.05	2027.3.04
8	AMN	ETS	3186/2NM	1132	2026.3.05	2027.3.04
9	10dB attenuator	HUBER+SUHN R	10dB	/	2026.3.05	2027.3.04
10	amplifier	Space-Dtronics	EWLAN0118G- P40	19113001	2026.3.05	2027.3.04
11	Filter	Xingbo	XBLBQ-GTA19	210410-3-1	2026.3.05	2027.3.04
12	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2026.3.05	2027.3.04
13	Power control box	MWRFtest	MW100-PSB	MW201020JYT	2026.3.05	2027.3.04
14	Power Sensor	Keysight	U2021XA	MY54111006	2026.3.05	2027.3.04
15	amplifier	SKET	LNPA_1840-50 (18-40GHz)	19113001	2026.3.05	2027.3.04
16	Horn antenna	schwarabeck	BBHA 9170	946	2026.3.08	2028.3.07
17	Temp. & Humidity Chamber	Jiecheng Instrument	QA-LP-80	20160705001	2026/3/06	2027/3/05

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

Software Name	Manufacturer	Model	Version
RF test software	MWRFtest	MTS 8310	V2.0.0.0
Conducted test software	EZ-EMC	Farad	Ver.EMC-CON 3A1.1
Radiated test software	EZ-EMC	Farad	Ver.FA-03A2 RE

4 Test results and Measurement Data

4.1 Antenna requirement

Standard requirement:
FCC part 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.
EUT Antenna:
The antenna is PCB antenna, the best case gain of the antenna is -4.51dBi, reference to the internal photo for details.

4.2 Conducted Emissions

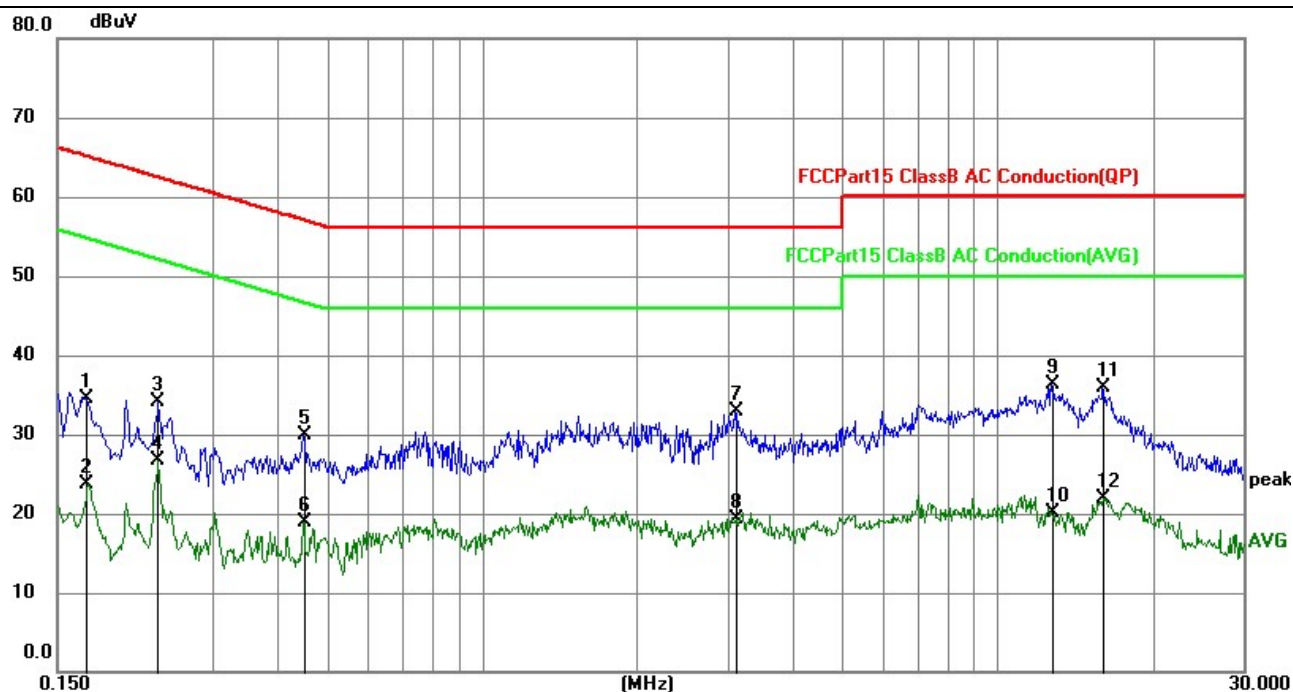
Test Requirement:	47CRF part 15.207					
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 §6.2					
Test Frequency Range:	150KHz to 30MHz					
Class / Severity:	Class B					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Frequency range (MHz)		Limit (dBuV)			
			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 of the frequency.						
Test setup:	Reference Plane 40cm LISN AUX Equipment E.U.T Test table/Insulation plane 80cm LISN Filter AC power EMI Receiver Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m					
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 on conducted measurement.					
Test Instruments:	Refer to section 3.0 for details					
Test mode:	Refer to section 2.2 for details					
Test environment:	Temp.:	24.9°C	Humid.:	49%RH	Press.:	1012mbar
Test voltage:	AC 120V 60Hz					
Test results:	Pass					

Remark:

1. Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.

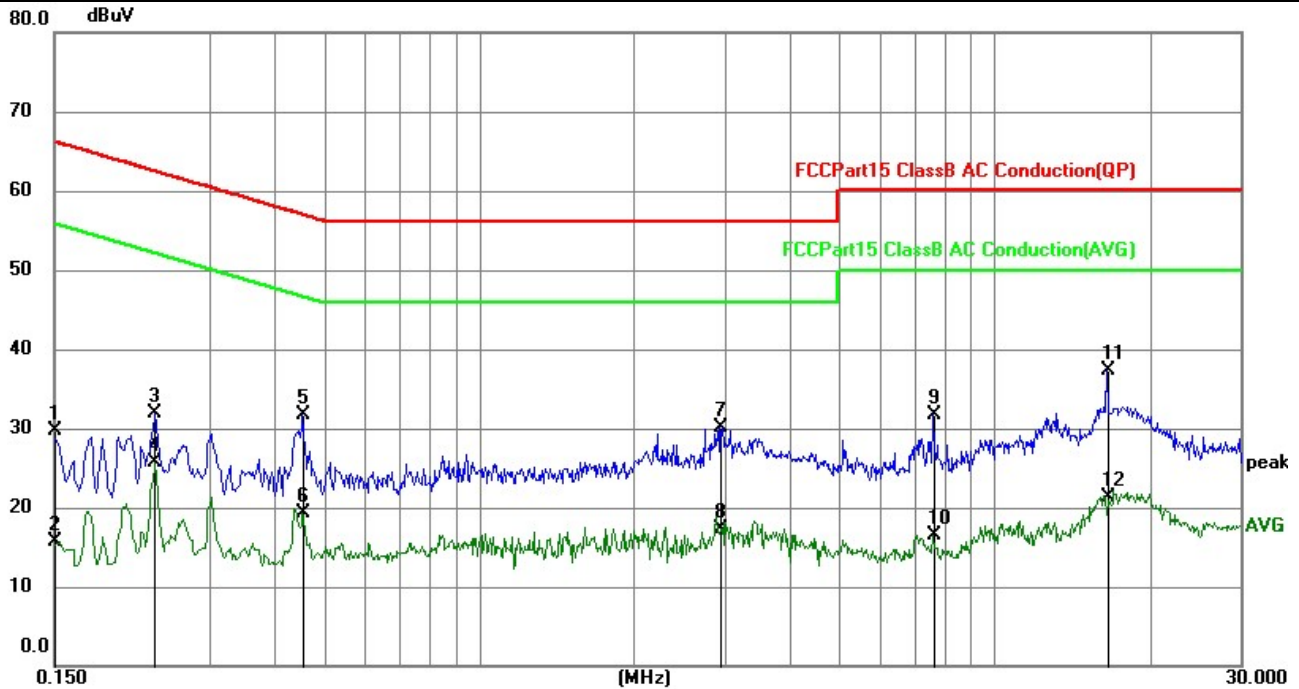
Measurement data

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1711	24.48	9.97	34.45	64.91	-30.46	QP
2	0.1711	13.82	9.97	23.79	54.91	-31.12	AVG
3	0.2353	24.04	9.98	34.02	62.26	-28.24	QP
4	0.2353	16.63	9.98	26.61	52.26	-25.65	AVG
5	0.4515	19.82	10.06	29.88	56.85	-26.97	QP
6	0.4515	8.93	10.06	18.99	46.85	-27.86	AVG
7	3.0929	22.92	10.01	32.93	56.00	-23.07	QP
8	3.0929	9.28	10.01	19.29	46.00	-26.71	AVG
9	12.7454	26.34	10.04	36.38	60.00	-23.62	QP
10	12.7454	10.12	10.04	20.16	50.00	-29.84	AVG
11	16.0395	25.85	9.99	35.84	60.00	-24.16	QP
12	16.0395	11.82	9.99	21.81	50.00	-28.19	AVG

Neutral:

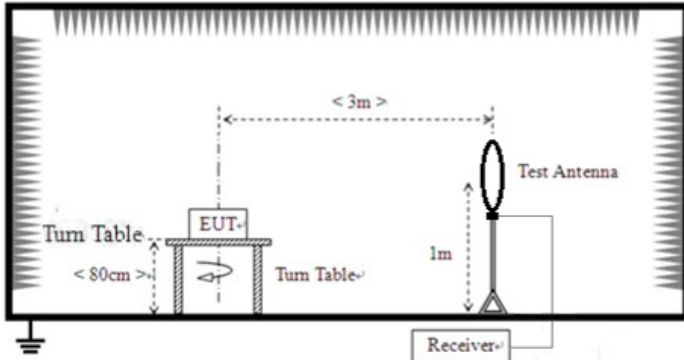


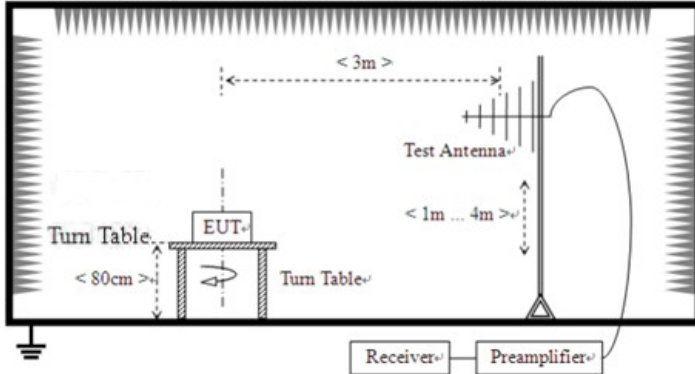
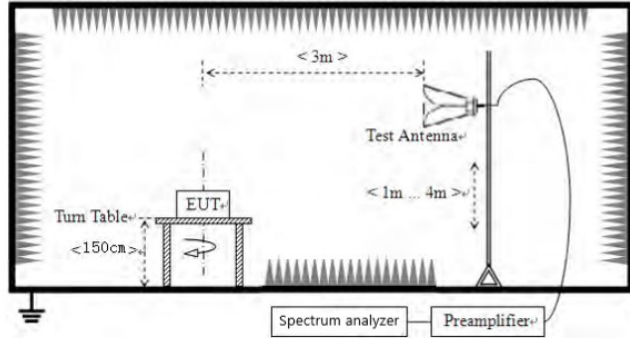
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	19.66	9.97	29.63	66.00	-36.37	QP
2	0.1500	5.81	9.97	15.78	56.00	-40.22	AVG
3	0.2353	22.00	9.98	31.98	62.26	-30.28	QP
4	0.2353	15.63	9.98	25.61	52.26	-26.65	AVG
5	0.4560	21.59	10.07	31.66	56.77	-25.11	QP
6	0.4560	9.29	10.07	19.36	46.77	-27.41	AVG
7	2.9310	20.15	10.01	30.16	56.00	-25.84	QP
8	2.9310	7.38	10.01	17.39	46.00	-28.61	AVG
9	7.6063	21.60	10.06	31.66	60.00	-28.34	QP
10	7.6063	6.50	10.06	16.56	50.00	-33.44	AVG
11	16.5345	27.37	9.98	37.35	60.00	-22.65	QP
12	16.5345	11.24	9.98	21.22	50.00	-28.78	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Level = Receiver Read level + Factor (Factor = LISN Factor + Cable Loss + Attenuator Factor)
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

4.3 Radiated Emission measurement

Test Requirement:	FCC Part15 C Section 15.209 & 15.249 (a) &(d).				
Test Method:	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 § 6.4&6.5&6.6				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz-150kHz	Quasi-peak	200Hz	300Hz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	10kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Peak		1MHz	10Hz	Average Value	
Limit: (Field strength of the fundamental signal)	Frequency		Limit (dBuV/m @3m)		Remark
	2400MHz-2483.5MHz		94.00		Average Value
			114.00		Peak Value
Limit: (Spurious Emissions)	Frequency		Limit (uV/m)		Remark
	0.009MHz-0.490MHz		2400/F(kHz) @300m		Quasi-peak Value
	0.490MHz-1.705MHz		24000/F(kHz) @30m		Quasi-peak Value
	1.705MHz-30.0MHz		30 @30m		Quasi-peak Value
	30MHz-88MHz		100 @3m		Quasi-peak Value
	88MHz-216MHz		150 @3m		Quasi-peak Value
	216MHz-960MHz		200 @3m		Quasi-peak Value
	960MHz-1GHz		500 @3m		Quasi-peak Value
	Above 1GHz		500 @3m		Average Value
5000 @3m			Peak Value		
Limit: (band edge)	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.				
Test setup:	For radiated emissions from 9kHz to 30MHz  For radiated emissions from 30MHz to 1GHz				

	 For radiated emissions above 1GHz 						
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1GHz and 1.5 meters for above 1GHz) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.						
Test Instruments:	Refer to section 3.0 for details						
Test mode:	Refer to section 2.2 for details						
Test environment:	<table><tr><td>Temp.:</td><td>24.9°C</td><td>Humid.:</td><td>49%RH</td><td>Press.:</td><td>1012mbar</td></tr></table>	Temp.:	24.9°C	Humid.:	49%RH	Press.:	1012mbar
Temp.:	24.9°C	Humid.:	49%RH	Press.:	1012mbar		
Test voltage:	DC 3.7V from battery						
Test results:	Pass						

4.3.1 Field Strength of The Fundamental Signal

Peak value:

Frequency (MHz)	Read Level (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	102.01	-14.43	87.58	114.00	-26.42	Vertical
2402.00	106.58	-14.43	92.15	114.00	-21.85	Horizontal
2441.00	102.39	-14.29	88.10	114.00	-25.90	Vertical
2441.00	104.83	-14.29	90.54	114.00	-23.46	Horizontal
2480.00	101.47	-14.13	87.34	114.00	-26.66	Vertical
2480.00	104.34	-14.13	90.21	114.00	-23.79	Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2402.00	88.70	-14.43	74.27	94.00	-19.73	Vertical
2402.00	93.43	-14.43	79.00	94.00	-15.00	Horizontal
2441.00	79.53	-14.29	65.24	94.00	-28.76	Vertical
2441.00	91.38	-14.29	77.09	94.00	-16.91	Horizontal
2480.00	79.31	-14.13	65.18	94.00	-28.82	Vertical
2480.00	84.24	-14.13	70.11	94.00	-23.89	Horizontal

4.3.2 Spurious emissions

■ Below 30MHz

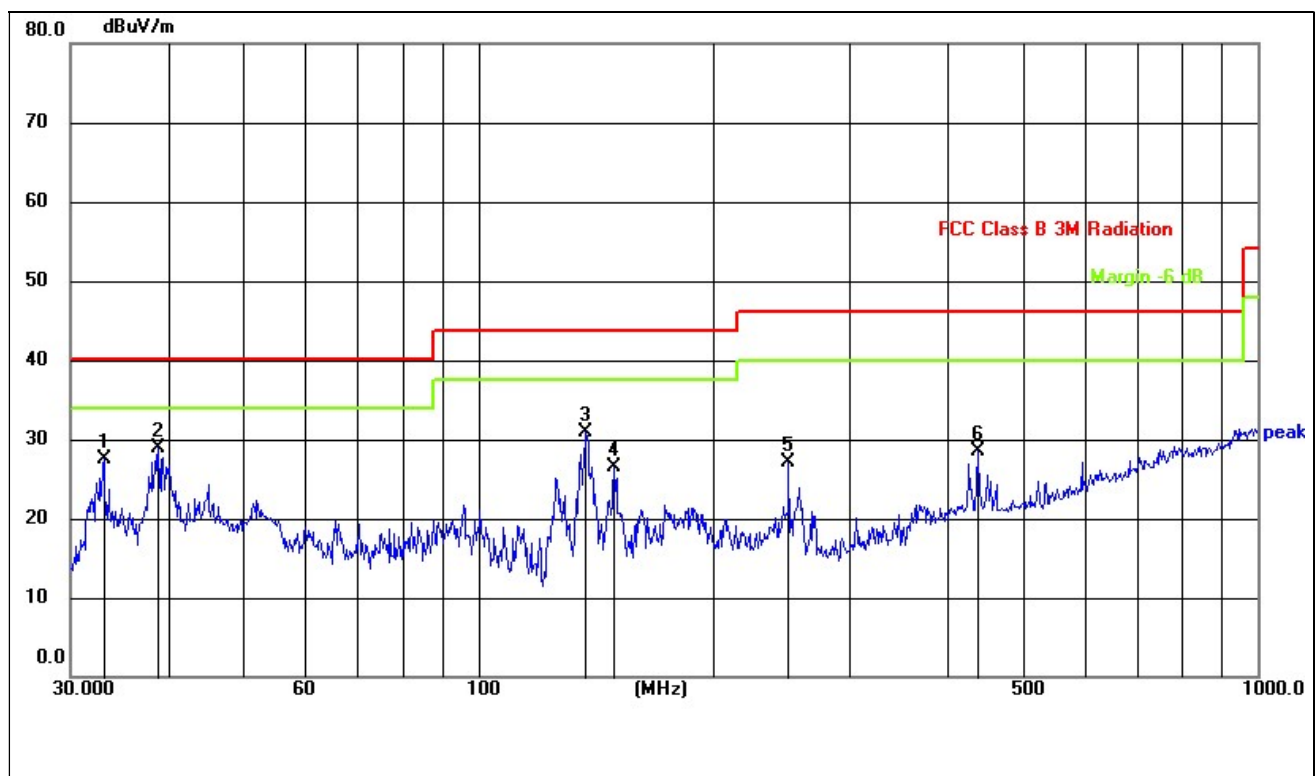
The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) the test result no need to reported.

■ Below 1GHz

All of the modes have been tested, and the report only shows the worst case data with 2402MHz

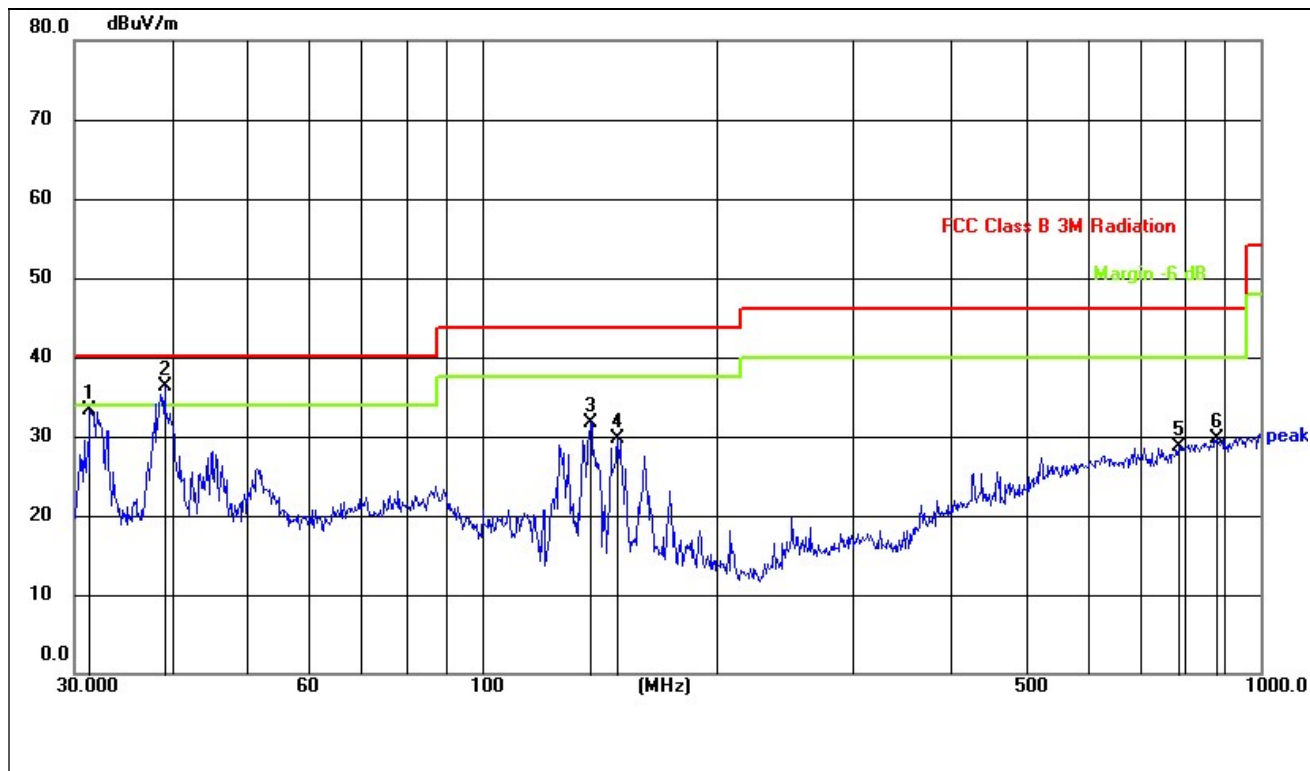
Horizontal:

Test polarization:	Horizontal	Test voltage:	DC 3.7V from battery
Temp.:	24.5°C	Humid.:	63%RH



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	33.0949	49.75	-22.29	27.46	40.00	-12.54	QP
2	38.8877	50.20	-21.32	28.88	40.00	-11.12	QP
3	137.4200	53.17	-22.20	30.97	43.50	-12.53	QP
4	149.4857	47.36	-20.91	26.45	43.50	-17.05	QP
5	250.3009	49.77	-22.66	27.11	46.00	-18.89	QP
6	437.1200	44.47	-16.05	28.42	46.00	-17.58	QP

Test polarization:	Vertical	Test voltage:	DC 3.7V from battery
Temp.:	24.5°C	Humid.:	63%RH



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	31.3992	55.95	-22.64	33.31	40.00	-6.69	QP
2	39.1613	57.57	-21.28	36.29	40.00	-3.71	QP
3	137.9028	53.89	-22.16	31.73	43.50	-11.77	QP
4	149.4857	50.65	-20.91	29.74	43.50	-13.76	QP
5	785.0932	35.47	-6.81	28.66	46.00	-17.34	QP
6	878.3214	35.25	-5.53	29.72	46.00	-16.28	QP

■ Above 1GHz

Test channel:	Lowest channel
---------------	----------------

Peak value:

Frequency (MHz)	Read Level (dBuV/m)	Correction Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	62.39	-9.88	52.51	74.00	-21.49	Horizontal
7206.00	53.69	-4.17	49.52	74.00	-24.48	Horizontal
9608.00	---	---	---	---	---	Horizontal
12010.00	---	---	---	---	---	Horizontal
4804.00	61.01	-9.88	51.13	74.00	-22.87	Vertical
7206.00	52.65	-4.17	48.48	74.00	-25.52	Vertical
9608.00	---	---	---	---	---	Vertical
12010.00	---	---	---	---	---	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV/m)	Correction Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	51.19	-9.88	41.31	54.00	-12.69	Horizontal
7206.00	43.08	-4.17	38.91	54.00	-15.09	Horizontal
9608.00	---	---	---	---	---	Horizontal
12010.00	---	---	---	---	---	Horizontal
4804.00	52.22	-9.88	42.34	54.00	-11.66	Vertical
7206.00	42.95	-4.17	38.78	54.00	-15.22	Vertical
9608.00	---	---	---	---	---	Vertical
12010.00	---	---	---	---	---	Vertical

Remark:

1. Final Level =Receiver Read level +Correction Factor(Antenna Factor + Cable Loss – Preamplifier Factor)
2. The emission levels of other frequencies are more than 20 dB below the limit and not show in test report.
3. “*”, means this data is the too weak instrument of signal is unable to test.

Test channel:	Middle channel
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Peak value:

Frequency (MHz)	Read Level (dBuV/m)	Correction Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	59.76	-9.79	49.97	74.00	-24.03	Horizontal
7323.00	55.17	-3.83	51.34	74.00	-22.66	Horizontal
9764.00	---	---	---	---	---	Horizontal
12205.00	---	---	---	---	---	Horizontal
4882.00	58.66	-9.79	48.87	74.00	-25.13	Vertical
7323.00	55.11	-3.83	51.28	74.00	-22.72	Vertical
9764.00	---	---	---	---	---	Vertical
12205.00	---	---	---	---	---	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV/m)	Correction Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	49.77	-9.79	39.98	54.00	-14.02	Horizontal
7323.00	44.18	-3.83	40.35	54.00	-13.65	Horizontal
9764.00	---	---	---	---	---	Horizontal
12205.00	---	---	---	---	---	Horizontal
4882.00	52.08	-9.79	42.29	54.00	-11.71	Vertical
7323.00	43.31	-3.83	39.48	54.00	-14.52	Vertical
9764.00	---	---	---	---	---	Vertical
12205.00	---	---	---	---	---	Vertical

Remark:

1. *Final Level = Receiver Read level + Correction Factor (Antenna Factor + Cable Loss – Preamplifier Factor)*
2. *The emission levels of other frequencies are more than 20 dB below the limit and not show in test report.*
3. *“*”, means this data is the too weak instrument of signal is unable to test.*

Test channel:	Highest channel
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Peak value:

Frequency (MHz)	Read Level (dBuV/m)	Correction Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	66.75	-9.68	57.07	74.00	-16.93	Horizontal
7440.00	57.00	-3.50	53.50	74.00	-20.50	Horizontal
9920.00	---	---	---	---	---	Horizontal
12400.00	---	---	---	---	---	Horizontal
4960.00	68.25	-9.68	58.57	74.00	-15.43	Vertical
7440.00	56.17	-3.50	52.67	74.00	-21.33	Vertical
9920.00	---	---	---	---	---	Vertical
12400.00	---	---	---	---	---	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV/m)	Correction Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	50.62	-9.68	40.94	54.00	-13.06	Horizontal
7440.00	43.29	-3.50	39.79	54.00	-14.21	Horizontal
9920.00	---	---	---	---	---	Horizontal
12400.00	---	---	---	---	---	Horizontal
4960.00	50.68	-9.68	41.00	54.00	-13.00	Vertical
7440.00	43.61	-3.50	40.11	54.00	-13.89	Vertical
9920.00	---	---	---	---	---	Vertical
12400.00	---	---	---	---	---	Vertical

Remark:

1. *Final Level = Receiver Read level + Correction Factor (Antenna Factor + Cable Loss – Preamplifier Factor)*
2. *The emission levels of other frequencies are more than 20 dB below the limit and not show in test report.*
3. *“---”, means this data is too weak instrument of signal is unable to test.*

4.3.3 Bandedge emissions

All of the restriction bands were tested, and only the data of worst case was exhibited.

Test channel:	Lowest channel
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Peak value:

Frequency (MHz)	Read Level (dBuV/m)	Correction Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	52.54	-14.50	38.04	74.00	-35.96	Horizontal
2400.00	61.37	-14.45	46.92	74.00	-27.08	Horizontal
2390.00	53.85	-14.50	39.35	74.00	-34.65	Vertical
2400.00	62.14	-14.45	47.69	74.00	-26.31	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV/m)	Correction Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	40.64	-14.50	26.14	54.00	-27.86	Horizontal
2400.00	48.70	-14.45	34.25	54.00	-19.75	Horizontal
2390.00	40.34	-14.50	25.84	54.00	-28.16	Vertical
2400.00	49.48	-14.45	35.03	54.00	-18.97	Vertical

Test channel:	Highest channel
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Peak value:

Frequency (MHz)	Read Level (dBUV/m)	Correction Factor (dB)	Level (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	Polarization
2483.50	53.61	-14.13	39.48	74.00	-34.52	Horizontal
2500.00	46.44	-14.06	32.38	74.00	-41.62	Horizontal
2483.50	53.60	-14.13	39.47	74.00	-34.53	Vertical
2500.00	45.20	-14.06	31.14	74.00	-42.86	Vertical

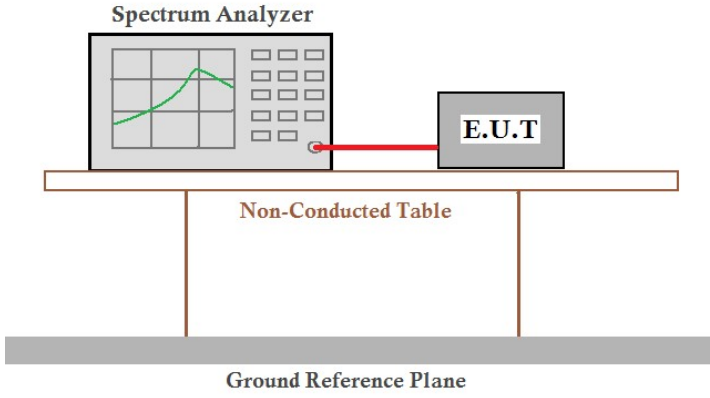
Average value:

Frequency (MHz)	Read Level (dBUV/m)	Correction Factor (dB)	Level (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	Polarization
2483.50	42.76	-14.13	28.63	54.00	-25.37	Horizontal
2500.00	36.65	-14.06	22.59	54.00	-31.41	Horizontal
2483.50	41.76	-14.13	27.63	54.00	-26.37	Vertical
2500.00	37.74	-14.06	23.68	54.00	-30.32	Vertical

Remark:

1. *Final Level = Receiver Read level + Correction Factor (Antenna Factor + Cable Loss – Preamplifier Factor)*

4.4 20dB Bandwidth and 99% bandwidth

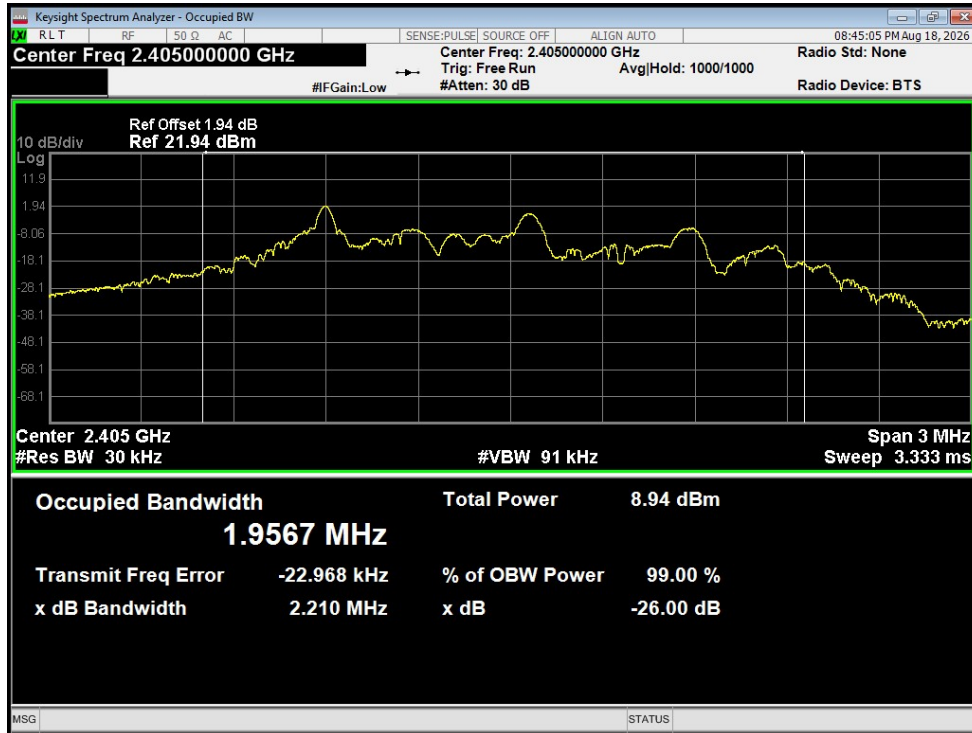
Test Requirement :	§ 15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise 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.	
Test Method :	ANSI C63.10-2020 + Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 § 11.8	
Limit:	/	
Test setup:		
Test Instruments:	Refer to section 3.0 for details	
Test mode:	Refer to section 2.2 for details	
Test environment:	Temp.: 24.9°C	Humid.: 49%RH
Test voltage:	DC 3.7V from battery	
Test results:	Pass	

Measurement Data

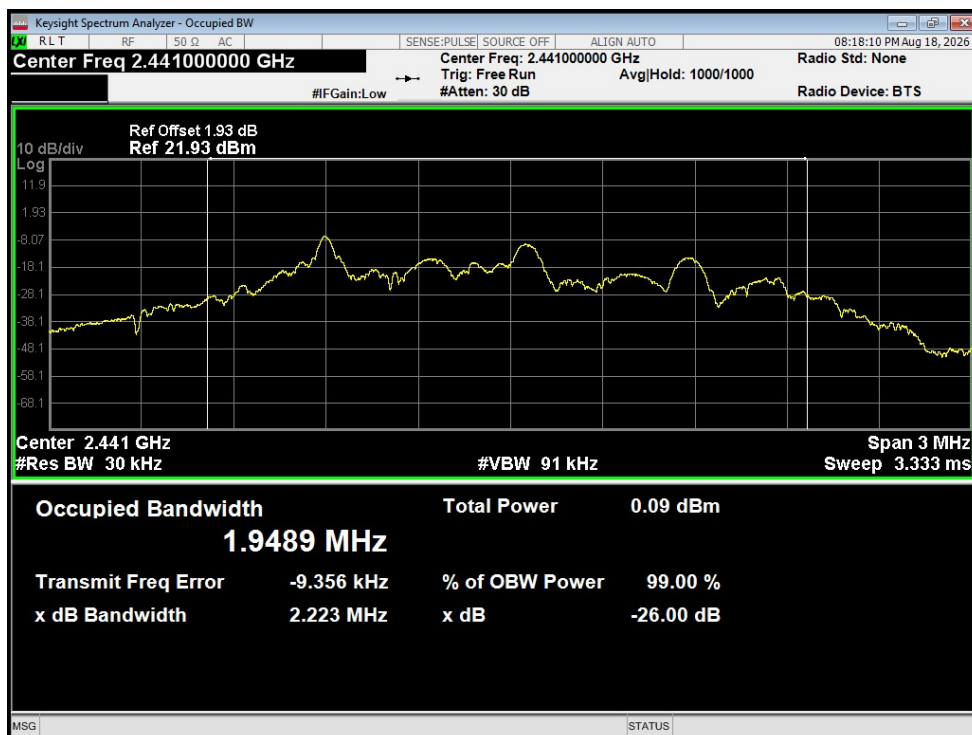
Test channel	20dB bandwidth(MHz)	Result
Lowest	1.396	Pass
Middle	1.394	
Highest	1.372	

Test channel	99% bandwidth(MHz)	Result
Lowest	1.9567	Pass
Middle	1.9489	
Highest	1.8909	

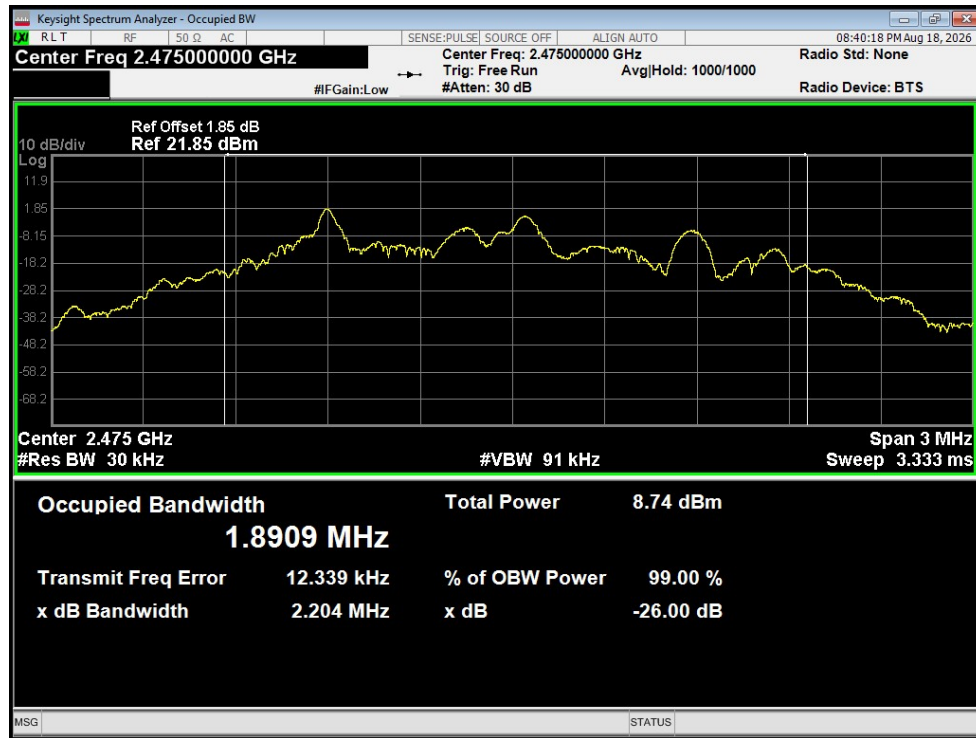
Test plot as follows:



Lowest channel



Middle channel



Highest channel



5 Test Setup Photo

Reference to the file No.: ET-26073626SP for details.

6 EUT Constructional Details

Reference to the file No.: ET-26073626EP and ET-26073626IP for details

-----End-----