

Report No.: 18220WC30186001

FCC ID: 2ABYN-LK8620B

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# FCC Test Report

**Applicant : GODOX PHOTO EQUIPMENT CO.,LTD****Address :** 1st to 4th Floor, Building 2/1st to 4th Floor,  
Building 4 ,Yaochuan Industrial Zone, Tangwei  
Community, Fuhai Street, Baoan District,  
Shenzhen, 518103 China**Product Name : Bluetooth module****Report Date : Sept. 14, 2023****Shenzhen Anbotek Compliance Laboratory Limited****Shenzhen Anbotek Compliance Laboratory Limited**Address: 1/F., Building D, Sogood Science and Technology Park, Sanwei Community,  
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.  
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# TEST REPORT

Applicant : GODOX PHOTO EQUIPMENT CO.,LTD

Manufacturer : GODOX Photo Equipment Co.,Ltd.

Product Name : Bluetooth module

Test Model No. : LK8620B

Reference Model No. : N/A

Trade Mark : 

Rating(s) : Input: 3.3V==

**Test Standard(s) : 47 CFR Part 15.247**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

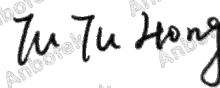
Date of Receipt:

Aug. 31, 2023

Date of Test:

Aug. 31, 2023 to Sept. 08, 2023

Prepared By:



(TuTu Hong)

Approved &amp; Authorized Signer:



(Edward Pan)

**Shenzhen Anbotek Compliance Laboratory Limited**

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**Revision History**

Report Version	Description	Issued Date
R00	Original Issue.	Sept. 14, 2023




## 1. General Information

### 1.1. Client Information

Applicant	:	GODOX PHOTO EQUIPMENT CO.,LTD
Address	:	1st to 4th Floor, Building 2/1st to 4th Floor, Building 4 ,Yaochuan Industrial Zone, Tangwei Community, Fuhai Street, Baoan District, Shenzhen, 518103 China
Manufacturer	:	GODOX Photo Equipment Co.,Ltd.
Address	:	4th Floor of Building 1, 1st to 4 th Floor of Building 2, 4th Floor of Building 3,1st to 4th Floor of Building 4, Yaochuan Industrial Zone, Tangwei Community, Fuhai Street, Bao'an District, Shenzhen 518103,China
Factory	:	SHENZHEN LINKIING TECHNOLOGY CO., LIMITED
Address	:	Floor 2, Building 5, Lihe Industrial Area, 1055 SongBai Road, Xili Town, Nanshan District, Shenzhen, China

### 1.2. Description of Device (EUT)

Product Name	:	Bluetooth module
Test Model No.	:	LK8620B
Reference Model No.	:	N/A
Trade Mark	:	
Test Power Supply	:	DC 3.3V from Debugger Adapter
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	N/A
<b>RF Specification</b>		
Operation Frequency	:	2402MHz to 2480MHz
Number of Channel	:	40
Modulation Type	:	GFSK
Antenna Type	:	PCB Antenna
Antenna Gain(Peak)	:	2.32dBi
<b>Remark:</b> (1) All of the RF specification are provided by customer. (2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		



**1.3. Auxiliary Equipment Used During Test**

Title	Manufacturer	Model No.	Serial No.
Acer Computer Adapter	Lite-On Technology Corporation	PA-1650-58	KP06503020
Acer Computer	acer	N19W3	2020AJ3862
Debugger Adapter	Tailing Microelectronics (Shanghai) Co., Ltd	TLSRGSOCBK56B	/





#### 1.4. Operation channel list

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

#### 1.5. Description of Test Modes

Pretest Modes	Descriptions
TM1	Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

#### 1.6. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.4dB
Occupied Bandwidth	925Hz
Conducted Output Power	0.76dB
Conducted Spurious Emission	1.24dB
Radiated spurious emissions (above 1GHz)	1G-6GHz: 4.78dB; 6G-18GHz: 4.88dB 18G-40GHz: 5.68dB
Radiated emissions (Below 30MHz)	3.53dB
Radiated spurious emissions (30MHz~1GHz)	Horizontal: 3.92dB; Vertical: 4.52dB
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	





**1.7. Test Summary**

Test Items	Test Modes	Status
Antenna requirement	/	P
Conducted Emission at AC power line	Mode1	P
Occupied Bandwidth	Mode1	P
Maximum Conducted Output Power	Mode1	P
Power Spectral Density	Mode1	P
Emissions in non-restricted frequency bands	Mode1	P
Band edge emissions (Radiated)	Mode1	P
Emissions in frequency bands (below 1GHz)	Mode1	P
Emissions in frequency bands (above 1GHz)	Mode1	P
Note: P: Pass N: N/A, not applicable		



## 1.8. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

### FCC-Registration No.:184111

Shenzhen Anbotek Compliance Laboratory Limited, 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. 184111.

### ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

### Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518128

## 1.9. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.





**1.10. Test Equipment List****Conducted Emission at AC power line**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	2022-10-23	2023-10-22
2	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040D T001	2023-07-05	2024-07-04
3	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	2022-10-13	2023-10-12
4	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

**Occupied Bandwidth  
Maximum Conducted Output Power  
Power Spectral Density  
Emissions in non-restricted frequency bands**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	MXG RF Vector Signal Generator	Agilent	N5182A	MY481806 56	2022-10-13	2023-10-12
2	Power Meter	Agilent	N1914A	MY500011 02	2022-10-26	2023-10-25
3	DC Power Supply	IVYTECH	IV3605	1804D360 510	2022-10-22	2023-10-21
4	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY505318 23	2023-02-23	2024-02-22
5	Oscilloscope	Tektronix	MDO3012	C020298	2022-10-19	2023-10-18

**Band edge emissions (Radiated)  
Emissions in frequency bands (above 1GHz)**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2022-10-23	2023-10-22
2	EMI Preamplifier	SKET Electronic	LNPA-0118G-45	SKET-PA-002	2022-10-13	2023-10-12
3	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	2022-10-16	2025-10-15
4	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	/	/
5	Horn Antenna	A-INFO	LB-180400-KF	J21106062 8	2022-10-23	2023-10-22
6	Spectrum Analyzer	Rohde & Schwarz	FSV40-N	101792	2023-05-26	2024-05-25
7	Amplifier	Talent Microwave	TLLA18G40 G-50-30	23022802	2023-05-25	2024-05-24



## Emissions in frequency bands (below 1GHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2022-10-23	2023-10-22
2	Pre-amplifier	SONOMA	310N	186860	2022-10-23	2023-10-22
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	/	/

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## 2. Antenna requirement

Test Requirement:

Refer to 47 CFR 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.

### 2.1. Conclusion

The antenna is a **PCB antenna** which permanently attached, and the best case gain of the antenna is **2.32 dBi**. It complies with the standard requirement.



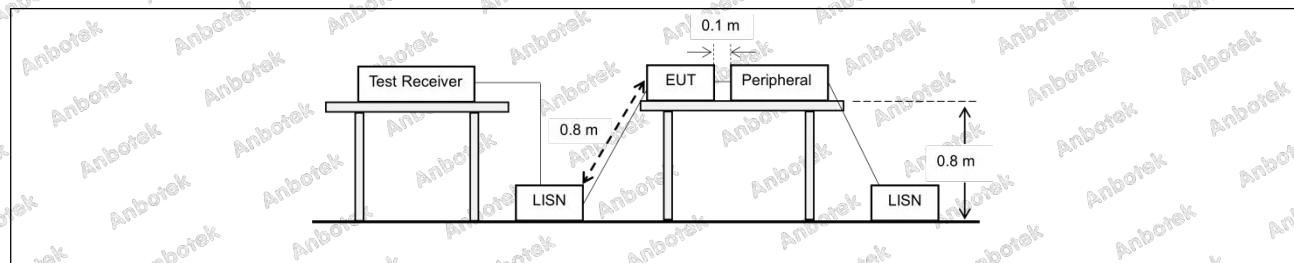
### 3. Conducted Emission at AC power line

Test Requirement:	Refer to 47 CFR 15.207(a), Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 $\mu$ H/50 ohms line impedance stabilization network (LISN).		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dB $\mu$ V)	
		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 Method:	ANSI C63.10 section 6.2		
Procedure:	Refer to ANSI C63.10 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices		

#### 3.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

#### 3.2. Test Setup

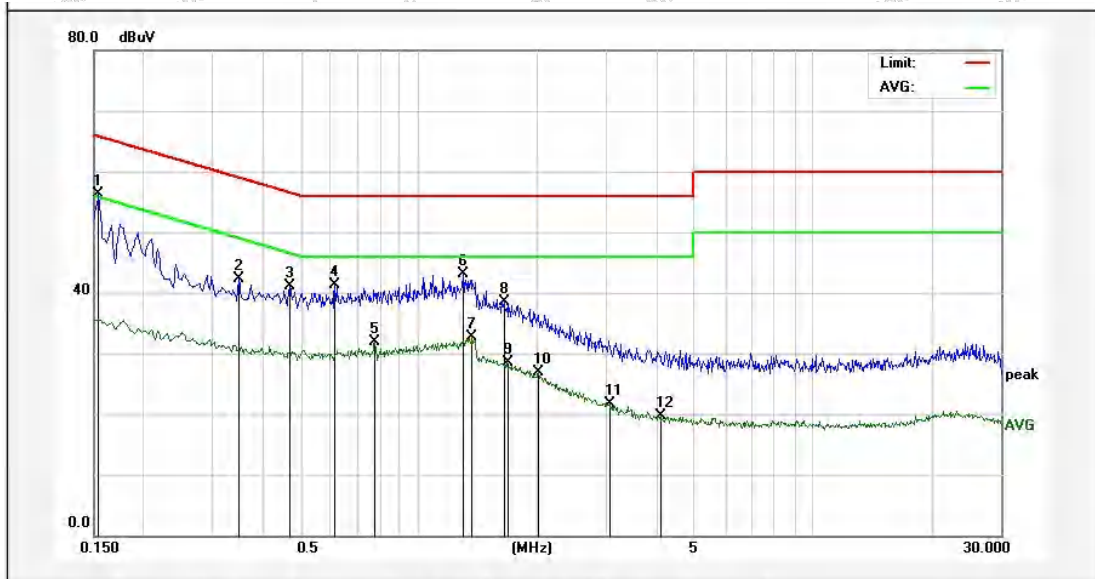




## 3.3. Test Data

Temperature:	24.5 °C	Humidity:	61 %	Atmospheric Pressure:	96 kPa
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TM1 / Line: Line / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1539	36.53	19.83	56.36	65.78	-9.42	QP	
2	0.3500	22.46	19.82	42.28	58.96	-16.68	QP	
3	0.4700	21.35	19.84	41.19	56.51	-15.32	QP	
4	0.6140	21.43	19.86	41.29	56.00	-14.71	QP	
5	0.7780	12.01	19.86	31.87	46.00	-14.13	AVG	
6	1.2980	23.27	19.84	43.11	56.00	-12.89	QP	
7	1.3700	12.89	19.84	32.73	46.00	-13.27	AVG	
8	1.6500	18.72	19.84	38.56	56.00	-17.44	QP	
9	1.6780	8.73	19.84	28.57	46.00	-17.43	AVG	
10	2.0180	7.01	19.83	26.84	46.00	-19.16	AVG	
11	3.0500	1.88	19.84	21.72	46.00	-24.28	AVG	
12	4.1100	-0.21	19.84	19.63	46.00	-26.37	AVG	



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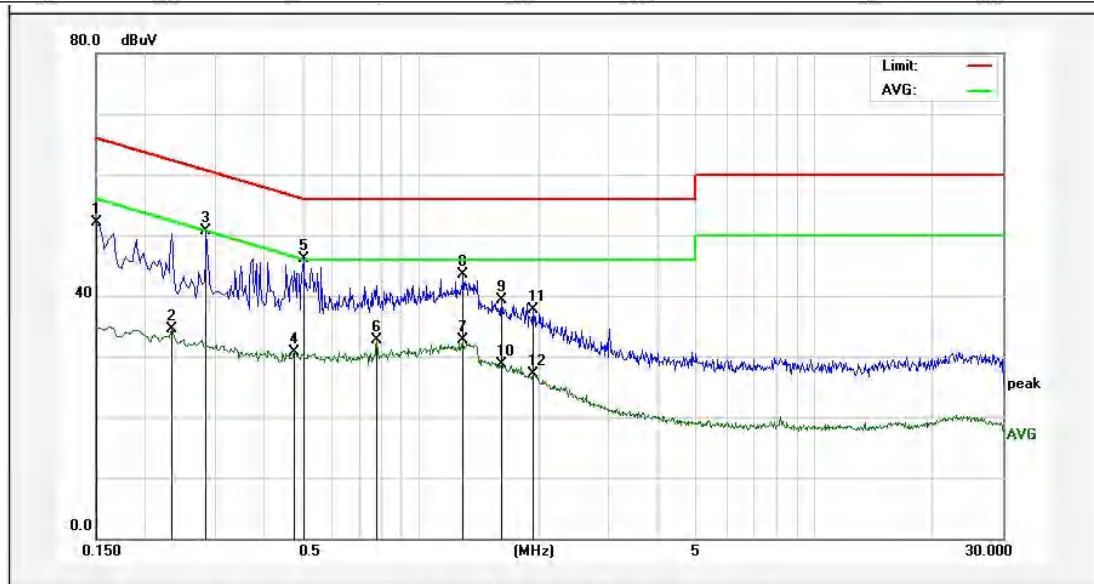
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Temperature: 24.5 °C

Humidity: 61 %

Atmospheric Pressure: 96 kPa

TM1 / Line: Neutral / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1500	32.32	19.82	52.14	65.99	-13.85	QP	
2	0.2340	14.77	19.83	34.60	52.30	-17.70	AVG	
3	0.2860	30.81	19.83	50.64	60.64	-10.00	QP	
4	0.4780	10.96	19.84	30.80	46.37	-15.57	AVG	
5	0.5020	26.22	19.85	46.07	56.00	-9.93	QP	
6	0.7780	12.77	19.86	32.63	46.00	-13.37	AVG	
7	1.2780	12.77	19.84	32.61	46.00	-13.39	AVG	
8	1.2860	23.67	19.84	43.51	56.00	-12.49	QP	
9	1.6100	19.47	19.84	39.31	56.00	-16.69	QP	
10	1.6100	8.96	19.84	28.80	46.00	-17.20	AVG	
11	1.9340	17.95	19.83	37.78	56.00	-18.22	QP	
12	1.9340	7.28	19.83	27.11	46.00	-18.89	AVG	





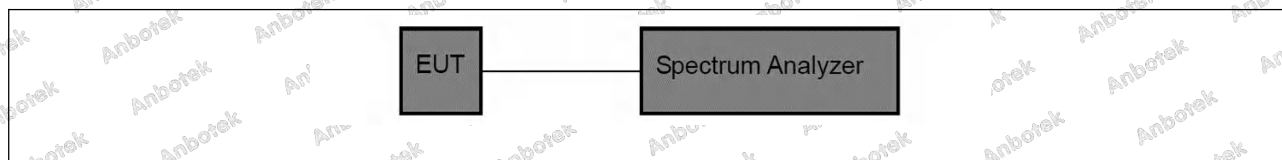
## 4. Occupied Bandwidth

Test Requirement:	47 CFR 15.247(a)(2)
Test Limit:	Refer to 47 CFR 15.247(a)(2), Systems using digital modulation techniques may operate in the 902-928 MHz, and 2400-2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
Test Method:	ANSI C63.10, section 11.8 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	<p>11.8.1 Option 1</p> <p>The steps for the first option are as follows:</p> <p>a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.</p> <p>b) Set the VBW <math>\geq [3 \times \text{RBW}]</math>.</p> <p>c) Detector = peak.</p> <p>d) Trace mode = max-hold.</p> <p>e) Sweep = No faster than coupled (auto) time.</p> <p>f) Allow the trace to stabilize.</p> <p>g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-6 dB down amplitude”. If a marker is below this “-6 dB down amplitude” value, then it shall be as close as possible to this value.</p> <p>11.8.2 Option 2</p> <p>The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1 (i.e., RBW = 100 kHz, VBW <math>\geq 3 \times \text{RBW}</math>, and peak detector with maximum hold) is implemented by the instrumentation function.</p> <p>When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be <math>\geq 6</math> dB.</p>

### 4.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

### 4.2. Test Setup



### 4.3. Test Data

Temperature:	25.3 °C	Humidity:	48 %	Atmospheric Pressure:	102 kPa
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Please Refer to Appendix for Details.



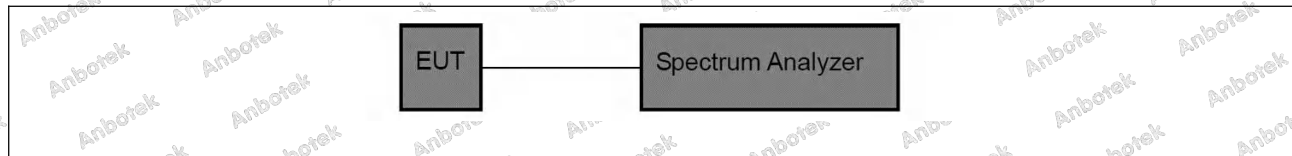
## 5. Maximum Conducted Output Power

Test Requirement:	47 CFR 15.247(b)(3)
Test Limit:	Refer to 47 CFR 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
Test Method:	ANSI C63.10 section 11.9.1 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10, section 11.9.1 Maximum peak conducted output power

### 5.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

### 5.2. Test Setup



### 5.3. Test Data

Temperature:	25.3 °C	Humidity:	48 %	Atmospheric Pressure:	102 kPa
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Please Refer to Appendix for Details.





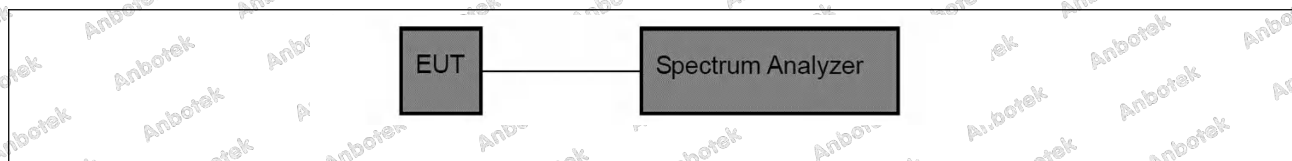
## 6. Power Spectral Density

Test Requirement:	47 CFR 15.247(e)
Test Limit:	Refer to 47 CFR 15.247(e), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.
Test Method:	ANSI C63.10, section 11.10 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10, section 11.10, Maximum power spectral density level in the fundamental emission

### 6.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

### 6.2. Test Setup



### 6.3. Test Data

Temperature:	25.3 °C	Humidity:	48 %	Atmospheric Pressure:	102 kPa
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Please Refer to Appendix for Details.



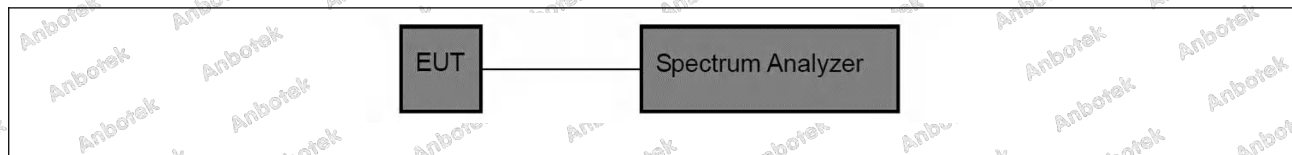
## 7. Emissions in non-restricted frequency bands

Test Requirement:	47 CFR 15.247(d)
Test Limit:	Refer to 47 CFR 15.247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required.
Test Method:	ANSI C63.10 section 11.11 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10 Section 11.11.1, Section 11.11.2, Section 11.11.3

### 7.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

### 7.2. Test Setup



### 7.3. Test Data

Temperature:	25.3 °C	Humidity:	48 %	Atmospheric Pressure:	102 kPa
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Please Refer to Appendix for Details.





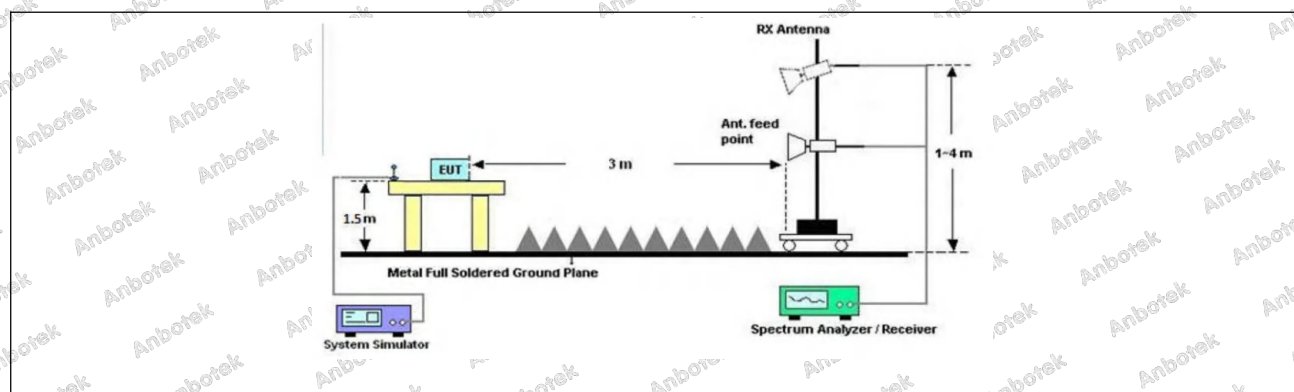
## 8. Band edge emissions (Radiated)

Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Test Method:	ANSI C63.10 section 6.10 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	ANSI C63.10 section 6.10.5.2		

### 8.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

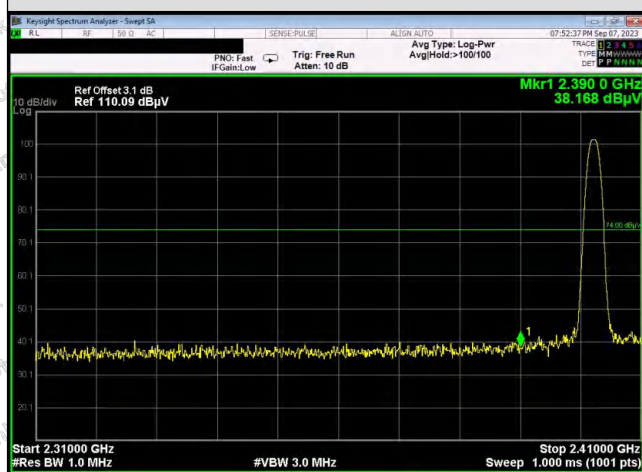
### 8.2. Test Setup



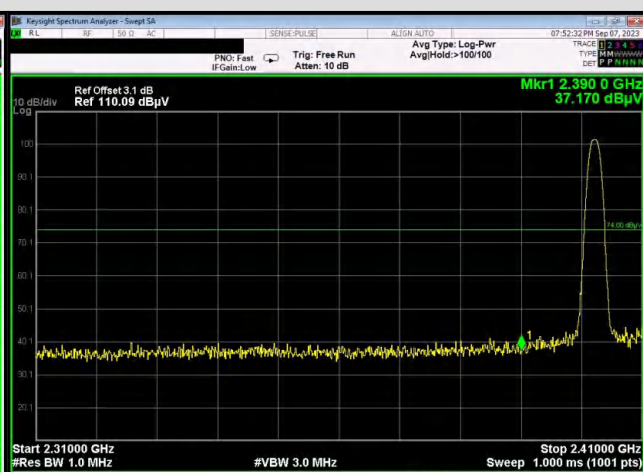
## 8.3. Test Data

Temperature:	25.3 °C	Humidity:	48 %	Atmospheric Pressure:	102 kPa
--------------	---------	-----------	------	-----------------------	---------

TM1 / CH: L

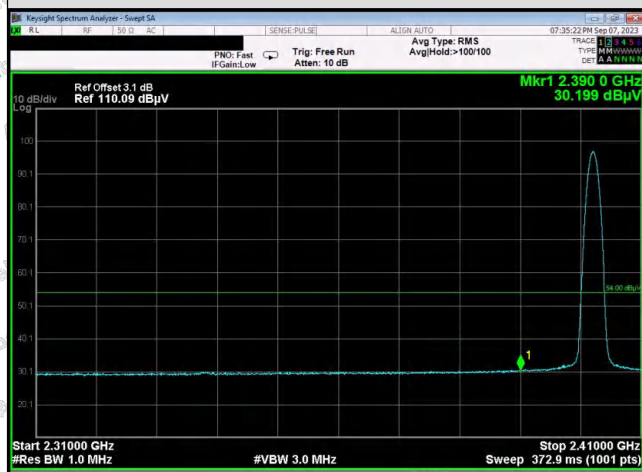


Peak Value(Vertical)

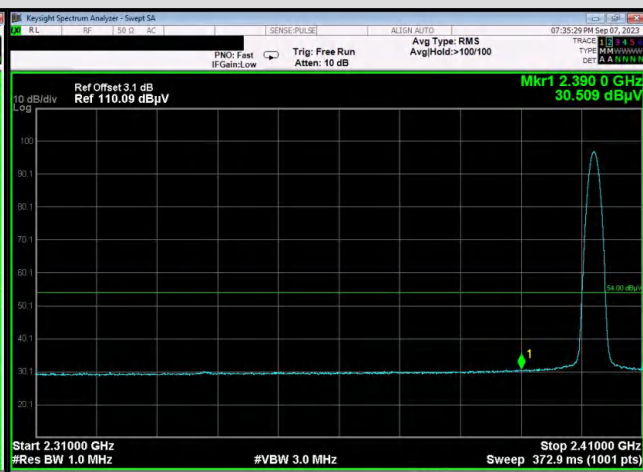


Peak Value(Horizontal)

TM1 / CH: L



Average Value(Vertical)

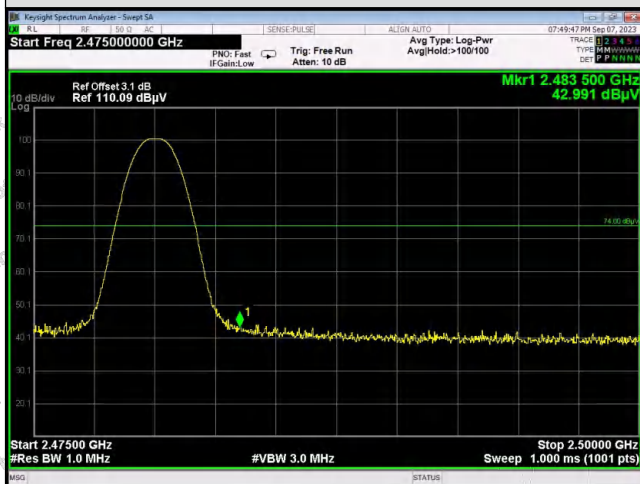


Average Value(Horizontal)

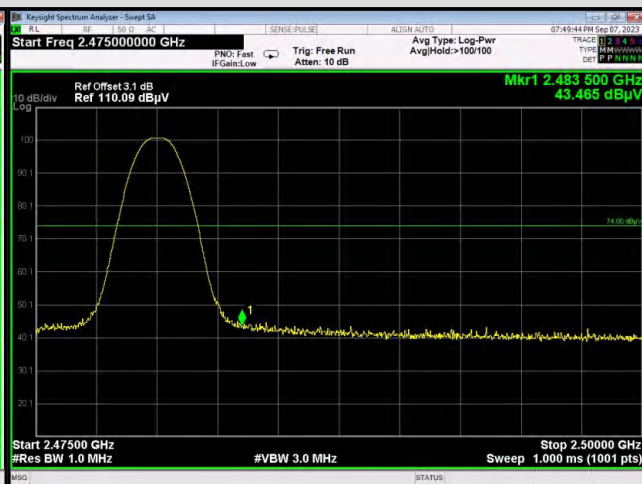




## TM1 / CH: H

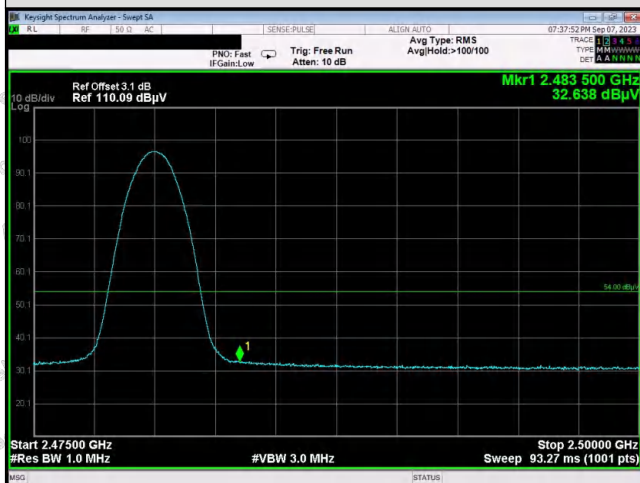


Peak Value(Vertical)

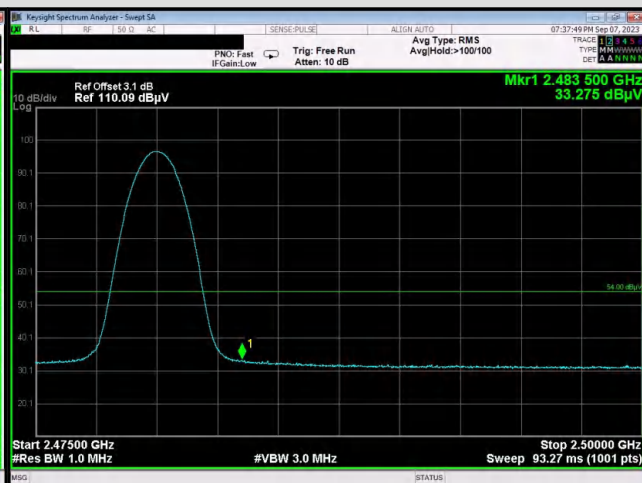


Peak Value(Horizontal)

## TM1 / CH: H



Average Value(Vertical)



Average Value(Horizontal)



## 9. Emissions in frequency bands (below 1GHz)

Test Requirement:	Refer to 47 CFR 15.247(d), In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Test Method:	ANSI C63.10 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	ANSI C63.10 section 6.6.4		

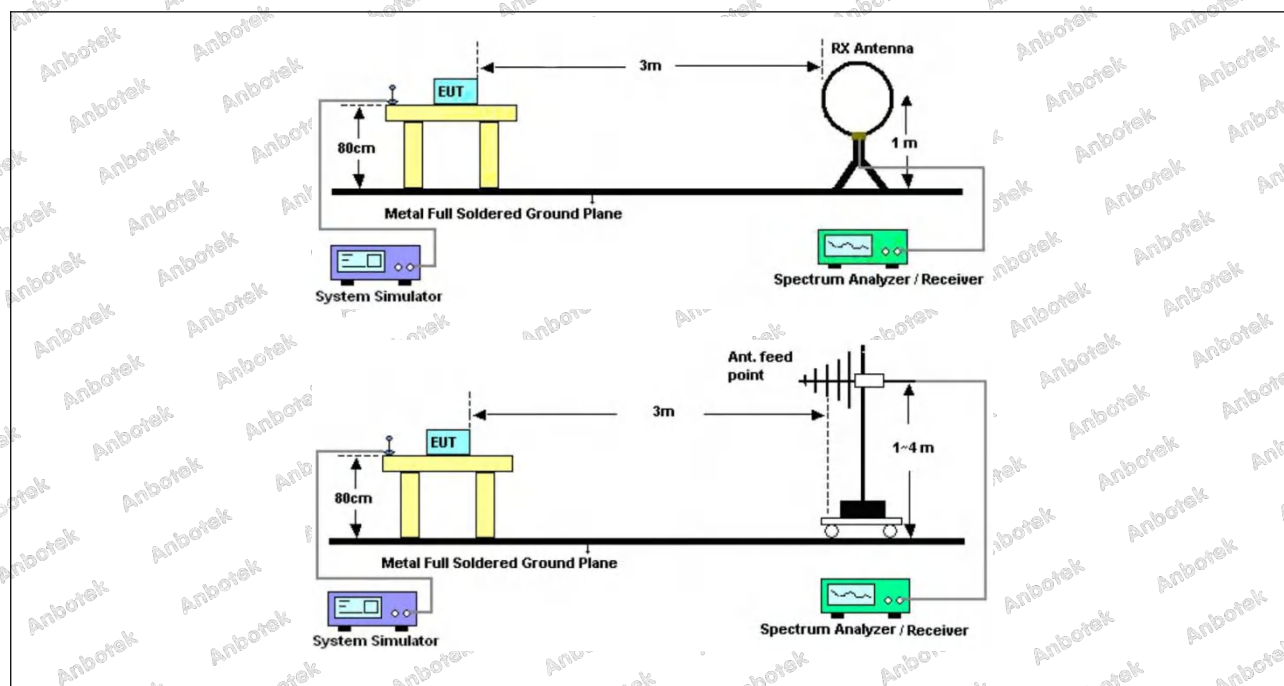
### 9.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.





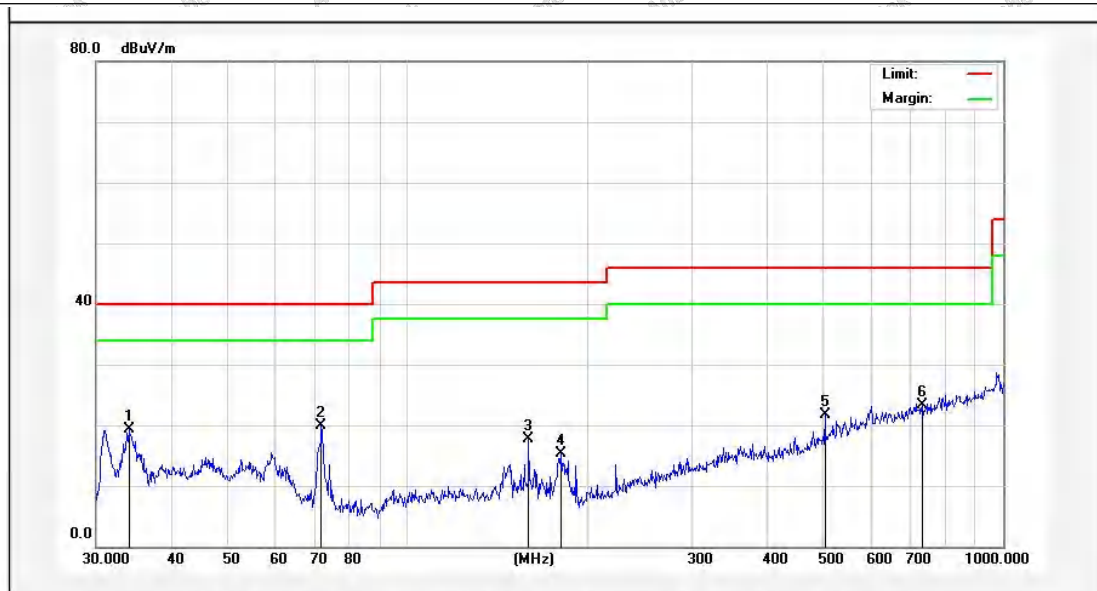
## 9.2. Test Setup



## 9.3. Test Data

Temperature:	24.4 °C	Humidity:	50.1 %	Atmospheric Pressure:	101 kPa
--------------	---------	-----------	--------	-----------------------	---------

TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	34.0365	36.62	-17.31	19.31	40.00	-20.69	QP			
2	71.8320	39.90	-19.94	19.96	40.00	-20.04	QP			
3	159.7844	39.42	-21.67	17.75	43.50	-25.75	QP			
4	181.2834	35.84	-20.54	15.30	43.50	-28.20	QP			
5	502.9395	33.80	-12.19	21.61	46.00	-24.39	QP			
6	731.9203	32.75	-9.48	23.27	46.00	-22.73	QP			





Report No.: 18220WC30186001

FCC ID: 2ABYN-LK8620B

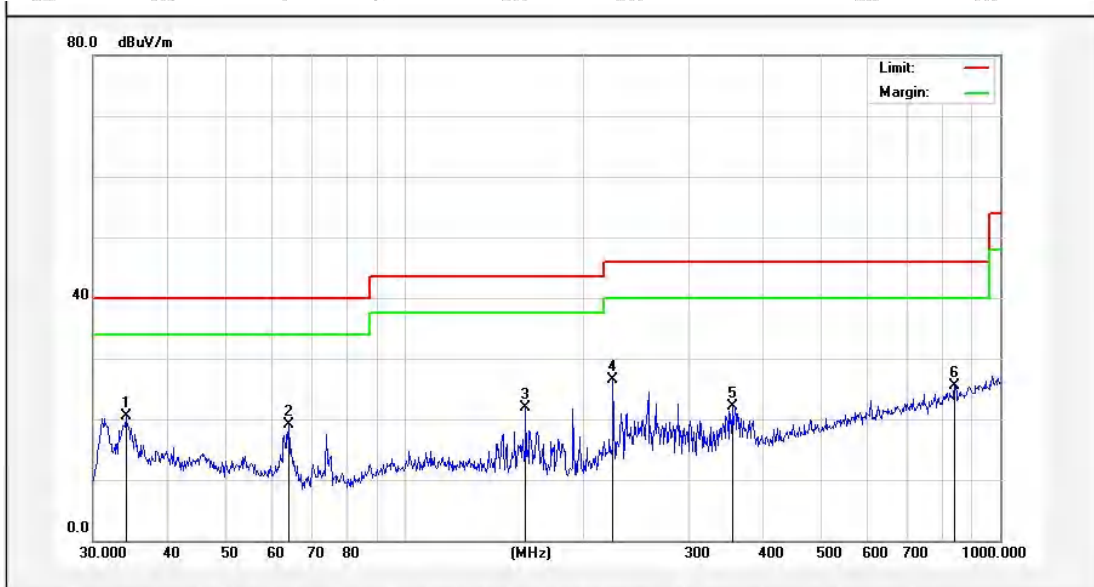
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Temperature: 24.4 °C

Humidity: 50.1 %

Atmospheric Pressure: 101 kPa

TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: L



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	34.0365	39.27	-18.80	20.47	40.00	-19.53	QP			
2	63.7588	37.91	-18.87	19.04	40.00	-20.96	QP			
3	159.7844	45.96	-24.00	21.96	43.50	-21.54	QP			
4	223.7334	48.38	-21.93	26.45	46.00	-19.55	QP			
5	354.1831	38.15	-16.00	22.15	46.00	-23.85	QP			
6	839.1818	33.08	-7.66	25.42	46.00	-20.58	QP			



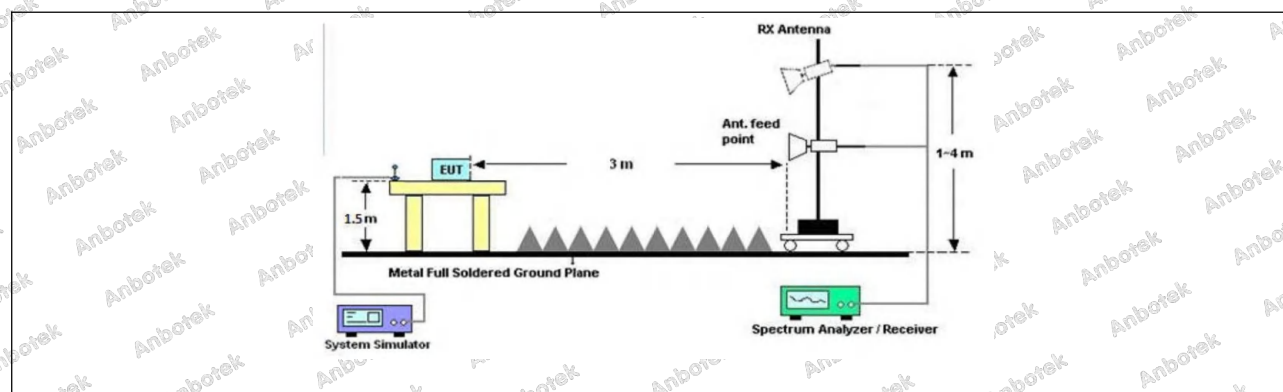
## 10. Emissions in frequency bands (above 1GHz)

Test Requirement:	In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)(see § 15.205(c)).		
Test Limit:	Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
	0.009-0.490	2400/F(kHz)	300
	0.490-1.705	24000/F(kHz)	30
	1.705-30.0	30	30
	30-88	100 **	3
	88-216	150 **	3
	216-960	200 **	3
	Above 960	500	3
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.			
Test Method:	ANSI C63.10 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	ANSI C63.10 section 6.6.4		

### 10.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode: Keep the EUT connect to AC power line and works in continuously transmitting mode with GFSK modulation.

### 10.2. Test Setup





**10.3. Test Data**

Temperature:	24.4 °C	Humidity:	50.1 %	Atmospheric Pressure:	101 kPa
--------------	---------	-----------	--------	-----------------------	---------

TM1 / CH: L						
Peak value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	29.00	15.27	44.27	74.00	-29.73	Vertical
7206.00	41.65	18.09	59.74	74.00	-14.26	Vertical
9608.00	30.00	23.76	53.76	74.00	-20.24	Vertical
12010.00	*			74.00		Vertical
14412.00	*			74.00		Vertical
4804.00	34.92	15.27	50.19	74.00	-23.81	Horizontal
7206.00	42.75	18.09	60.84	74.00	-13.16	Horizontal
9608.00	28.34	23.76	52.10	74.00	-21.90	Horizontal
12010.00	*			74.00		Horizontal
14412.00	*			74.00		Horizontal
Average value:						
Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4804.00	17.27	23.76	41.03	54.00	-12.97	Vertical
7206.00	28.43	23.76	52.19	54.00	-1.81	Vertical
9608.00	19.47	23.76	43.23	54.00	-10.77	Vertical
12010.00	*			54.00		Vertical
14412.00	*			54.00		Vertical
4804.00	33.39	15.27	48.66	54.00	-5.34	Horizontal
7206.00	34.98	18.09	53.07	54.00	-0.93	Horizontal
9608.00	17.85	23.76	41.61	54.00	-12.39	Horizontal
12010.00	*			54.00		Horizontal
14412.00	*			54.00		Horizontal



## TM1 / CH: M

## Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4880.00	28.55	15.42	43.97	74.00	-30.03	Vertical
7320.00	42.49	18.02	60.51	74.00	-13.49	Vertical
9760.00	29.50	23.80	53.30	74.00	-20.70	Vertical
12200.00	*			74.00		Vertical
14640.00	*			74.00		Vertical
4880.00	33.69	15.42	49.11	74.00	-24.89	Horizontal
7320.00	42.61	18.02	60.63	74.00	-13.37	Horizontal
9760.00	28.06	23.80	51.86	74.00	-22.14	Horizontal
12200.00	*			74.00		Horizontal
14640.00	*			74.00		Horizontal

## Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4880.00	17.36	15.42	32.78	54.00	-21.22	Vertical
7320.00	34.64	18.02	52.66	54.00	-1.34	Vertical
9760.00	19.32	23.80	43.12	54.00	-10.88	Vertical
12200.00	*			54.00		Vertical
14640.00	*			54.00		Vertical
4880.00	31.80	15.42	47.22	54.00	-6.78	Horizontal
7320.00	34.96	18.02	52.98	54.00	-1.02	Horizontal
9760.00	18.15	23.80	41.95	54.00	-12.05	Horizontal
12200.00	*			54.00		Horizontal
14640.00	*			54.00		Horizontal





## TM1 / CH: H

## Peak value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	28.68	15.58	44.26	74.00	-29.74	Vertical
7440.00	41.70	17.93	59.63	74.00	-14.37	Vertical
9920.00	30.20	23.83	54.03	74.00	-19.97	Vertical
12400.00	*			74.00		Vertical
14880.00	*			74.00		Vertical
4960.00	28.57	15.58	44.15	74.00	-29.85	Horizontal
7440.00	40.83	17.93	58.76	74.00	-15.24	Horizontal
9920.00	28.44	23.83	52.27	74.00	-21.73	Horizontal
12400.00	*			74.00		Horizontal
14880.00	*			74.00		Horizontal

## Average value:

Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	polarization
4960.00	18.48	15.58	34.06	54.00	-19.94	Vertical
7440.00	34.44	17.93	52.37	54.00	-1.63	Vertical
9920.00	19.97	23.83	43.80	54.00	-10.20	Vertical
12400.00	*			54.00		Vertical
14880.00	*			54.00		Vertical
4960.00	18.24	15.58	33.82	54.00	-20.18	Horizontal
7440.00	34.56	17.93	52.49	54.00	-1.51	Horizontal
9920.00	18.30	23.83	42.13	54.00	-11.87	Horizontal
12400.00	*			54.00		Horizontal
14880.00	*			54.00		Horizontal

## Remark:

1. Result = Reading + Factor
2. "\*" means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.



**APPENDIX I -- TEST SETUP PHOTOGRAPH**

Conducted Emission at AC power line

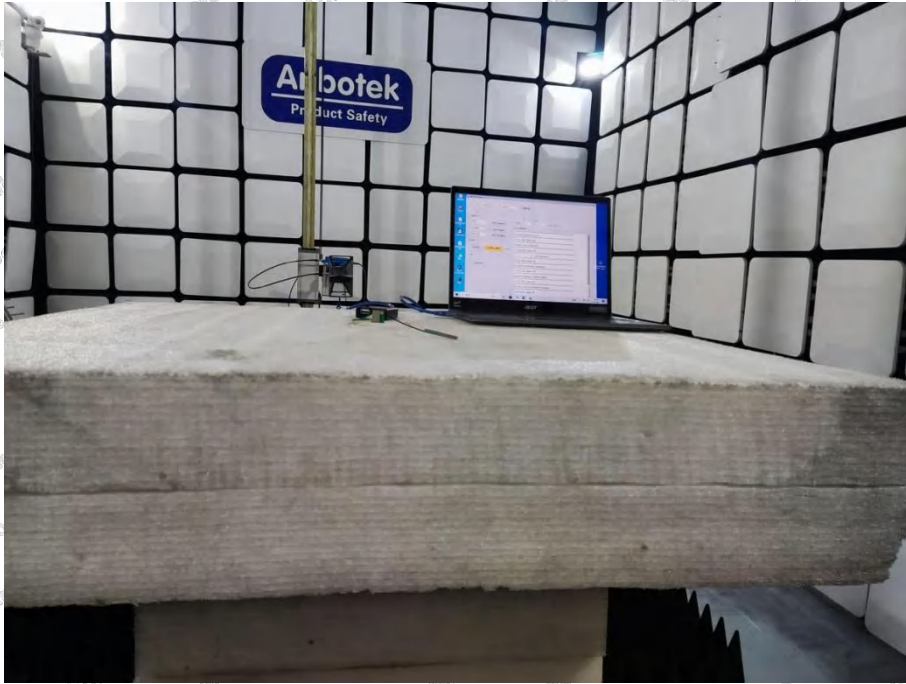


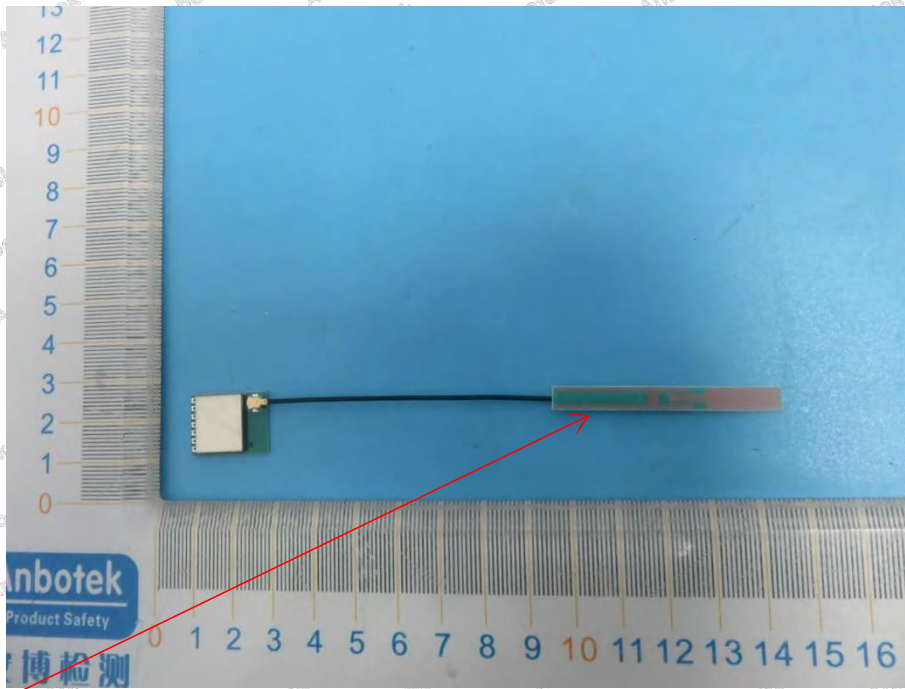
Emissions in frequency bands (below 1GHz)





## Emissions in frequency bands (above 1GHz)



**APPENDIX II -- EXTERNAL PHOTOGRAPH**

ANT





**APPENDIX III -- INTERNAL PHOTOGRAPH**

Report No.: 18220WC30186001

FCC ID: 2ABYN-LK8620B

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## Appendix Test Data

Report No.:	18220WC30186001	Test Sample No.:	1-2-2
Start Test Date:	2023.08.31	Finish Test Date:	2023.09.08
Test Engineer:	Hayman Chen	Auditor:	Rick Luo
Temperature:	25.3°C	Relative Humidity:	48%
Pressure:	102kPa		

## Appendix A: DTS Bandwidth

## Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.676	2401.692	2402.368	0.5	PASS
		2440	0.688	2439.680	2440.368	0.5	PASS
		2480	0.696	2479.672	2480.368	0.5	PASS





## Test Graphs



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**Appendix B: Occupied Channel Bandwidth****Test Result**

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]
BLE_1M	Ant1	2402	1.0327	2401.5107	2402.5434
		2440	1.0219	2439.5108	2440.5327
		2480	1.0334	2479.5079	2480.5413



## Test Graphs





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**Appendix C: Maximum conducted output power****Test Result Peak**

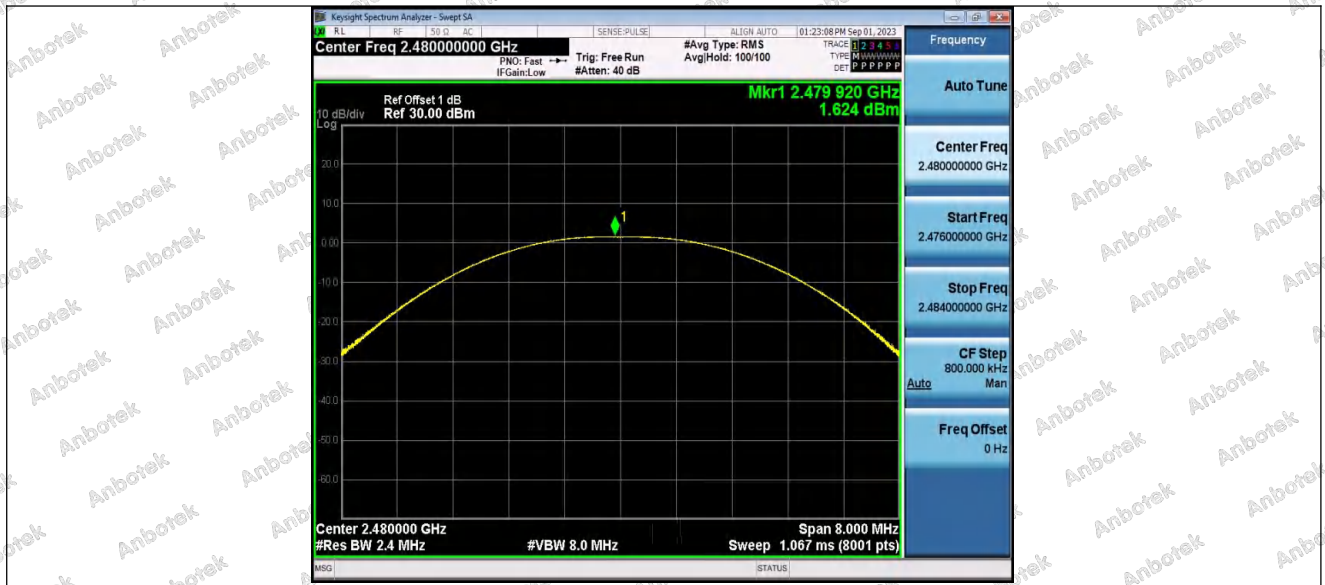
TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.36	≤30	PASS
		2440	2.14	≤30	PASS
		2480	1.62	≤30	PASS





## Test Graphs Peak



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**Appendix D: Maximum power spectral density****Test Result**

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-7.95	≤8.00	PASS
		2440	-7.9	≤8.00	PASS
		2480	-8.12	≤8.00	PASS



## Test Graphs





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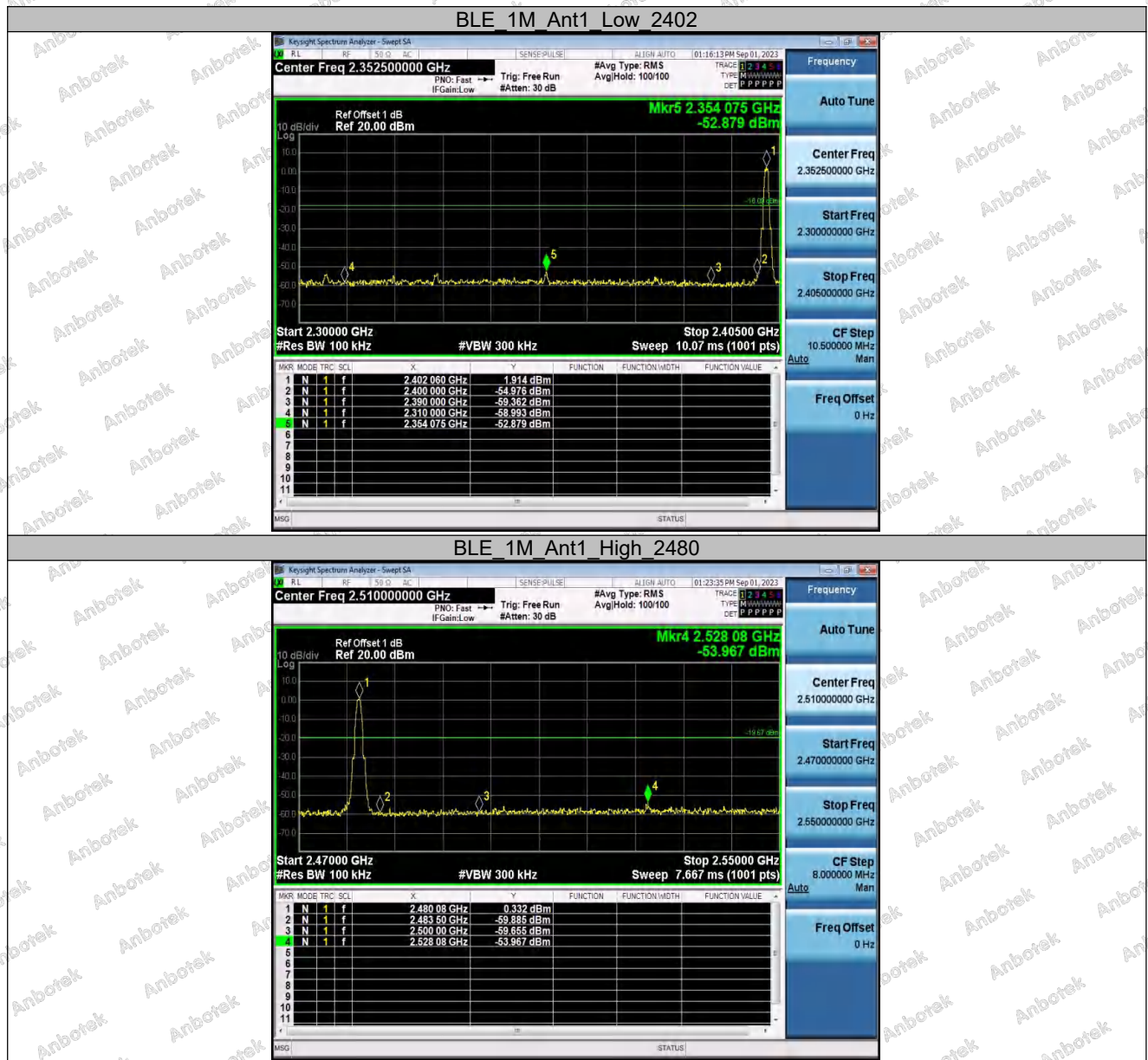
**Appendix E: Band edge measurements****Test Result**

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	1.91	-52.88	≤-18.09	PASS
		High	2480	0.33	-53.97	≤-19.67	PASS





## Test Graphs



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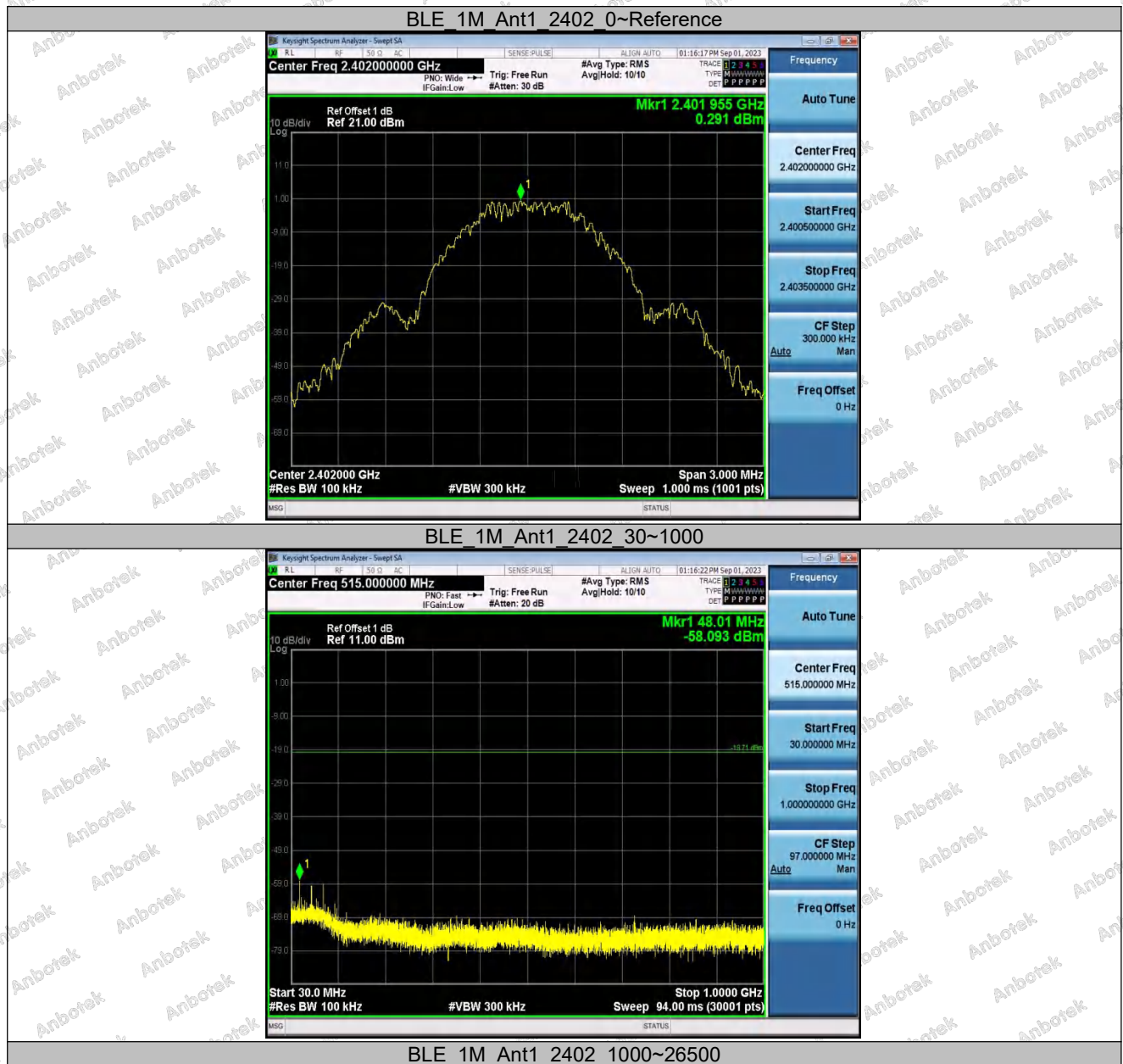
**Appendix F: Conducted Spurious Emission****Test Result**

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	0.29	0.29	---	PASS
			30~1000	0.29	-58.09	≤-19.71	PASS
			1000~26500	0.29	-49.58	≤-19.71	PASS
		2440	Reference	0.80	0.80	---	PASS
			30~1000	0.80	-58.74	≤-19.2	PASS
			1000~26500	0.80	-52.28	≤-19.2	PASS
		2480	Reference	0.03	0.03	---	PASS
			30~1000	0.03	-58.9	≤-19.97	PASS
			1000~26500	0.03	-52.91	≤-19.97	PASS





## Test Graphs



BLE 1M Ant1 2402 1000~26500

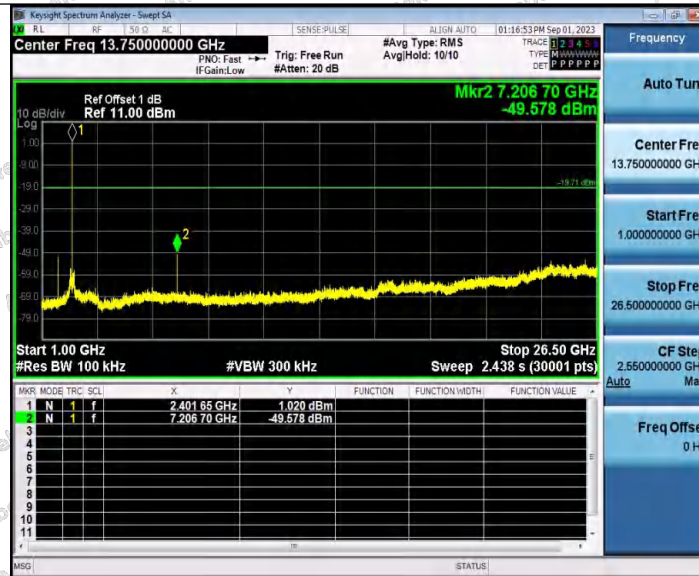
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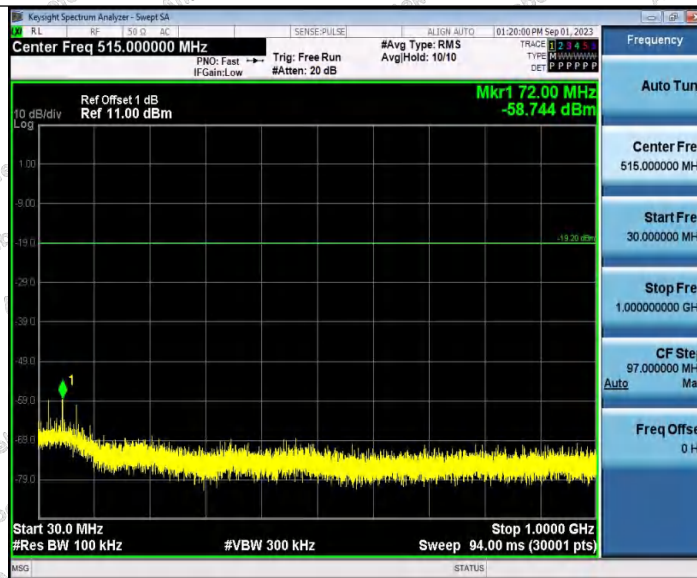
BLE 1M Ant1 2440 0~Reference



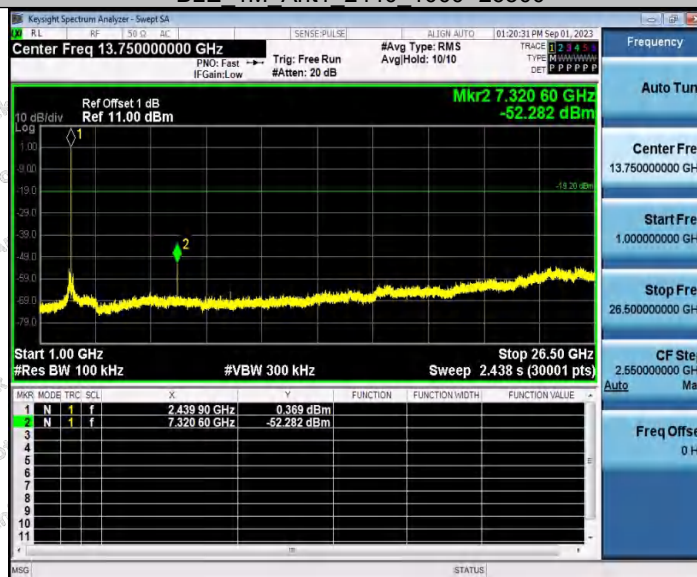
BLE 1M Ant1 2440 30~1000







BLE 1M Ant1 2440 1000~26500

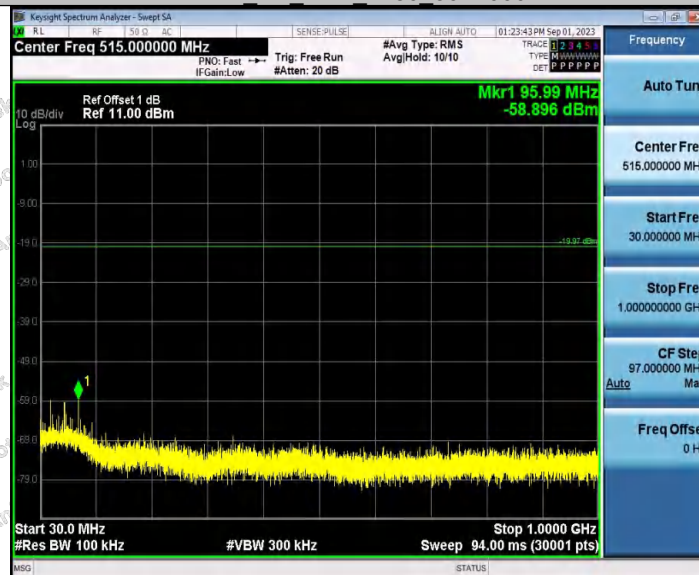


BLE 1M Ant1 2480 0~Reference





BLE 1M Ant1 2480 30~1000



BLE 1M Ant1 2480 1000~26500

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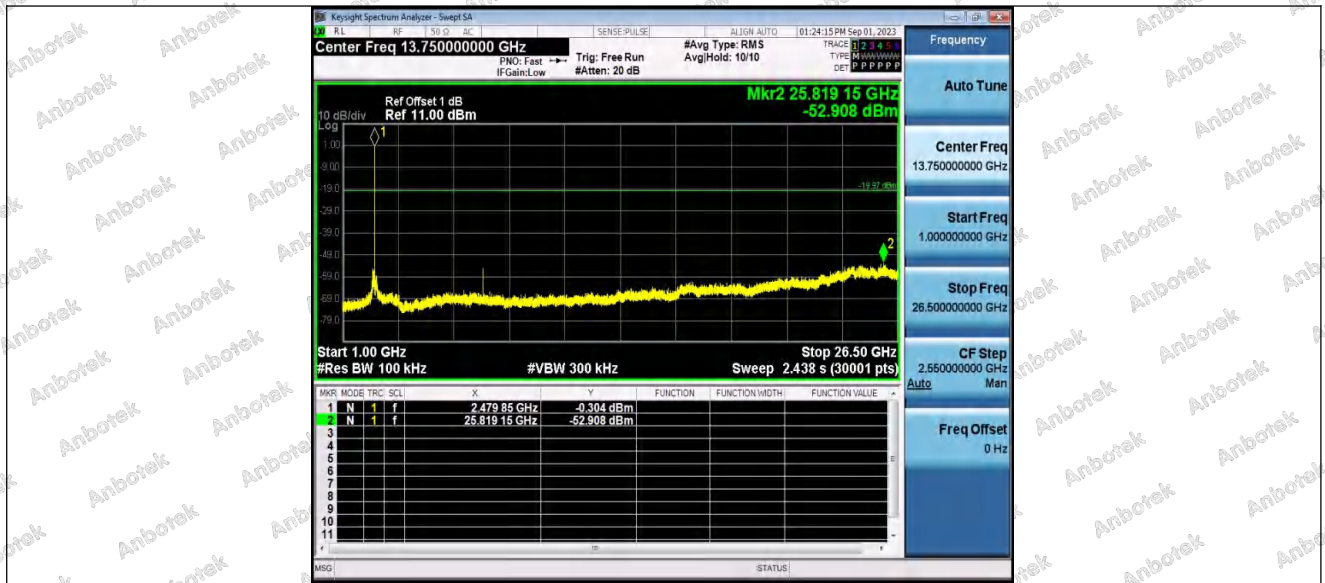
Address: 1/F., Building D, Sogood Science and Technology Park, Sanwei Community,  
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**Appendix G: Duty Cycle****Test Result**

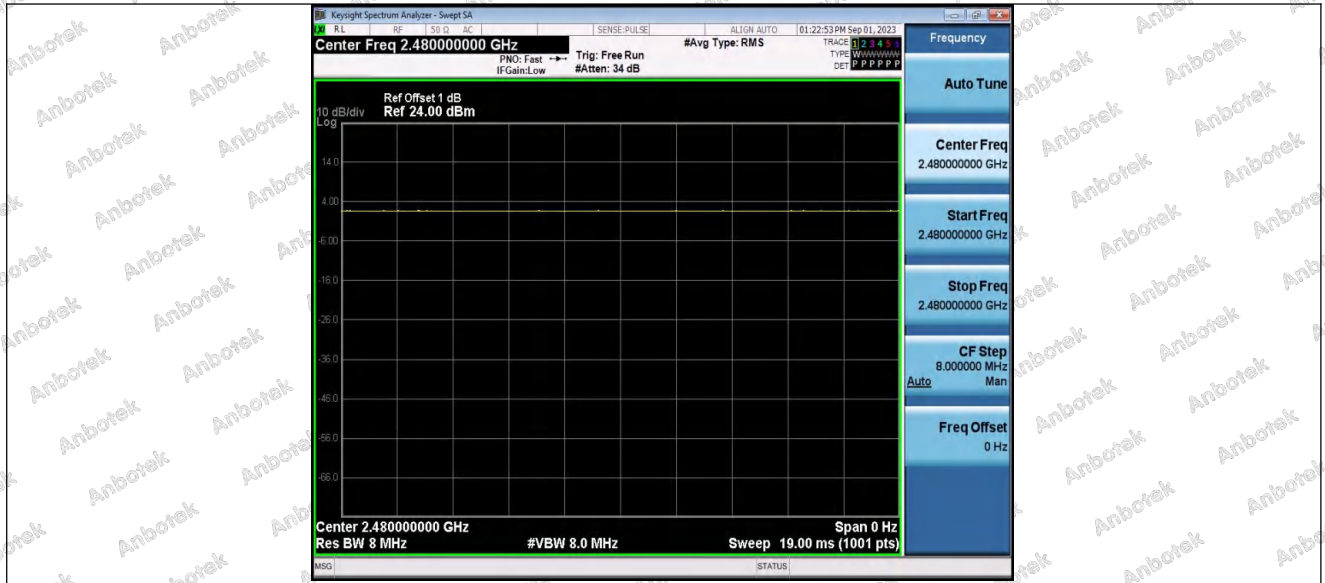
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	19.00	19.00	100	1
		2440	19.00	19.00	100	1
		2480	19.00	19.00	100	1





## Test Graphs





----- End of Report -----

