

FCC Test Report

Report No.	: 1821C50002612502
Applicant	: Launch Tech Co., Ltd.
Address	: No.4012, Launch Industrial Park, North Wuhe Rd, Bantian Street, Longgang District 518129, China
Product Name	: Professional Diagnostic Tool
Report Date	: Mar. 17, 2025

Shenzhen Anbotek Compliance Laboratory Limited

Shenzhen Anbotek Compliance Laboratory Limited

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Contents

1. General Information	5
1.1. Client Information	5
1.2. Description of Device (EUT)	5
1.3. Auxiliary Equipment Used During Test	6
1.4. Operation channel list	6
1.5. Description of Test Modes	6
1.6. Measurement Uncertainty	6
1.7. Test Summary	7
1.8. Description of Test Facility	7
1.9. Disclaimer	7
1.10. Test Equipment List	8
2. Antenna requirement	9
2.1. Conclusion	9
3. Conducted Emission at AC power line	10
3.1. EUT Operation	10
3.2. Test Setup	10
3.3. Test Data	11
4. Maximum Conducted Output Power	13
4.1. EUT Operation	13
4.2. Test Setup	13
4.3. Test Data	13
5. Emissions in frequency bands (below 1GHz)	14
5.1. EUT Operation	14
5.2. Test Setup	15
5.3. Test Data	16
APPENDIX I -- TEST SETUP PHOTOGRAPH	18
APPENDIX II -- EXTERNAL PHOTOGRAPH	18
APPENDIX III -- INTERNAL PHOTOGRAPH	18



TEST REPORT

Applicant : Launch Tech Co., Ltd.
Manufacturer : Launch Tech Co., Ltd.
Product Name : Professional Diagnostic Tool
Model No. : Creader Professional 919E, Millennium Max, Creader Professional 919x,
Creader Professional 919x PLUS ("x"=A~Z), Creader Professional 359,
59582
Trade Mark : LAUNCH
Rating(s) : Input: AC 100-240V, 50/60Hz(with DC 3.7V, 6000mAh Battery inside)

**Test Standard(s) : 47 CFR Part 15.247
KDB 558074 D01 15.247 Meas Guidance v05r02
ANSI C63.10-2020**

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: Mar. 06, 2025

Date of Test: Mar. 06, 2025 to Mar. 13, 2025

Prepared By:

Haidi Huang

(Haidi Huang)

Approved & Authorized Signer:

Hugo Chen

(Hugo Chen)

Revision History

Report Version	Description	Issued Date
R00	Original Issue.(Note 1)	Mar. 17, 2025

Note 1:

This is a Class II application which was based on the original report 18220WC20090302. FCC ID: XUJCRP349PLUS, issued on May 26, 2022. The difference between the original device and current one described as following:

1. The motherboard and PCB layout remain unchanged, but the electronic materials are replaced with substitute materials. The packaging and specifications of the substitute materials are the same as the original main materials.
2. Add the Model No.: 59582.
3. Change the battery capacity to "6000mAh".
4. Delete factory information.
5. Update the EUT Photograph.
6. Change the company address of Applicant and Manufacturer.

The changes are not related with the other RF parameters, only conducted emission and spurious emission were retested.



1. General Information

1.1. Client Information

Applicant	:	Launch Tech Co., Ltd.
Address	:	No.4012, Launch Industrial Park, North Wuhe Rd, Bantian Street, Longgang District 518129, China
Manufacturer	:	Launch Tech Co., Ltd.
Address	:	No.4012, Launch Industrial Park, North Wuhe Rd, Bantian Street, Longgang District 518129, China

1.2. Description of Device (EUT)

Product Name	:	Professional Diagnostic Tool
Model No.	:	Creader Professional 919E, Millennium Max, Creader Professional 919x, Creader Professional 919x PLUS ("x"=A~Z), Creader Professional 359, 59582 (Note: All samples are the same except the model number, Rubber cover, appearance shape, Key decorative ring color. So we prepare "Creader Professional 919E" for test only.)
Trade Mark	:	LAUNCH
Test Power Supply	:	AC 120V, 60Hz for Adapter/DC 3.7V Battery inside
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	Model: FY0502500 Input: 100-240V~50/60Hz, 0.6A Max. Output: DC 5V, 2.5A
RF Specification		
Operation Frequency	:	2402MHz to 2480MHz
Number of Channel	:	40
Modulation Type	:	GFSK
Antenna Type	:	FPC Antenna
Antenna Gain(Peak)	:	4.49dBi
Remark: (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.
/	/	/	/

1.4. Operation channel list

Operation Band:

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 works in continuously transmitting mode (BLE 1M)
TM2	Keep the EUT works in continuously transmitting mode (BLE 2M)

1.6. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.2dB
Conducted Output Power	0.76dB
Radiated emissions (Below 30MHz)	3.26dB
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	Mode1,2	P
Maximum Conducted Output Power	Mode1,2	P
Emissions in frequency bands (below 1GHz)	Mode1,2	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.:434132

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. 434132.

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.
Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

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	2024-09-09	2025-09-08
2	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040D T001	2025-01-13	2026-01-12
3	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/
4	EMI Test Receiver(CE2#)	Rohde & Schwarz	ESPI3	100926	2024-09-09	2025-09-08

Maximum Conducted Output Power						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80B	N/A	2021-10-22	2022-10-21
2	DC Power Supply	IVYTECH	IV3605	1804D360 510	2021-10-22	2022-10-21
3	Power Sensor	DAER	RPR3006W	15I00041S N045	2021-10-22	2022-10-21
4	Power Sensor	DAER	RPR3006W	15I00041S N046	2021-10-22	2022-10-21
5	MXA Spectrum Analysis	KEYSIGHT	N9020A	MY532800 32	2021-10-22	2022-10-21
6	Signal Generator	Agilent	E4421B	MY410007 43	2021-10-22	2022-10-21
7	MXG RF Vector Signal Generator	Agilent	N5182A	MY481806 56	2021-10-22	2022-10-21

Emissions in frequency bands (below 1GHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver(RE2/3#)	Rohde & Schwarz	ESR26	101481	2025-01-14	2026-01-13
2	Pre-amplifier	SONOMA	310N	186860	2025-01-14	2026-01-13
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	Loop Antenna (9K-30M)	Schwarzbeck	FMZB1519 B	00053	2024-09-12	2025-09-11
5	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	/	/

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.
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2.1. Conclusion

The antenna is a FPC Antenna which permanently attached, and the best case gain of the antenna is 4.49dBi . It complies with the standard requirement.
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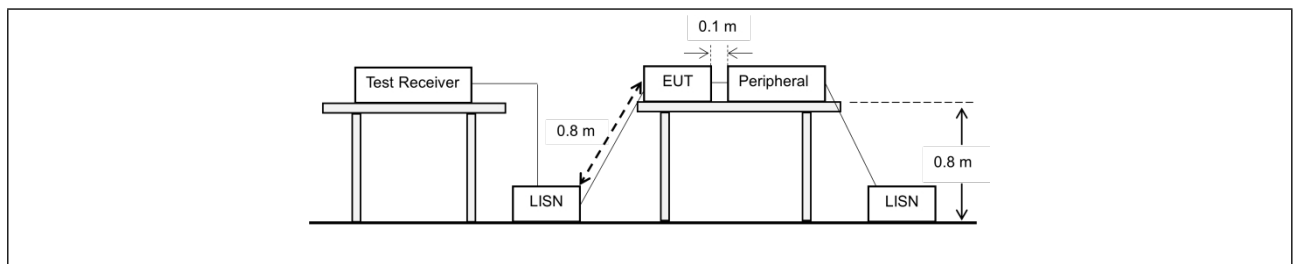
3. Conducted Emission at AC power line

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 μ H/50 ohms line impedance stabilization network (LISN).		
Test Limit:	Frequency of emission (MHz)	Conducted limit (dB μ 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 C63.10-2020 section 6.2		
Procedure:	Refer to ANSI C63.10-2020 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(BLE 1M): Keep the EUT works in continuously transmitting mode (BLE 1M) 2: TX mode(BLE 2M): Keep the EUT works in continuously transmitting mode (BLE 2M)

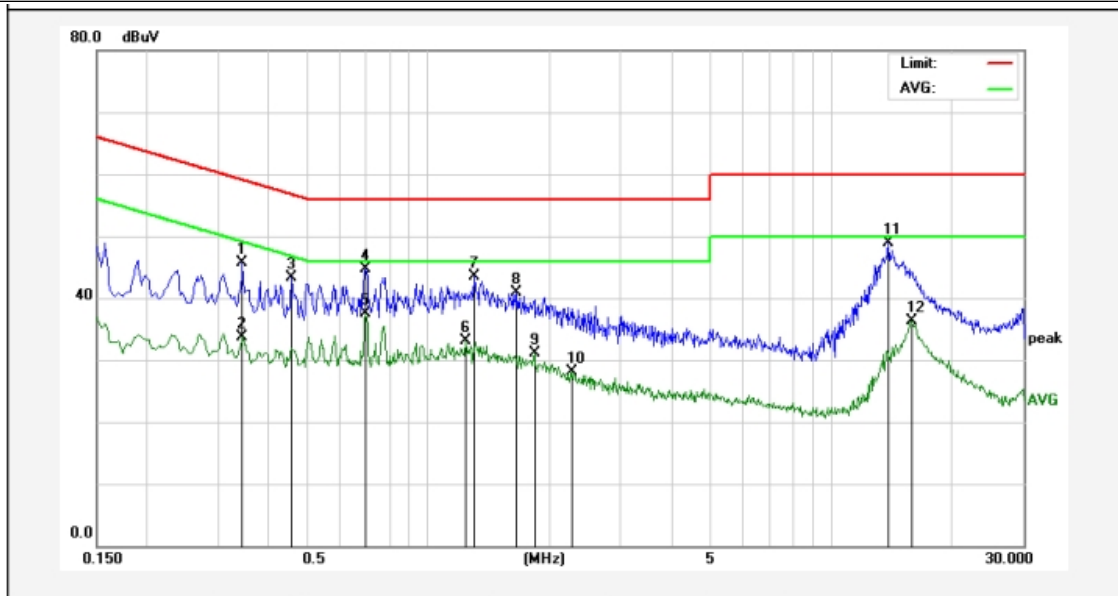
3.2. Test Setup



3.3. Test Data

Temperature:	22.5 °C	Humidity:	48 %	Atmospheric Pressure:	101 kPa
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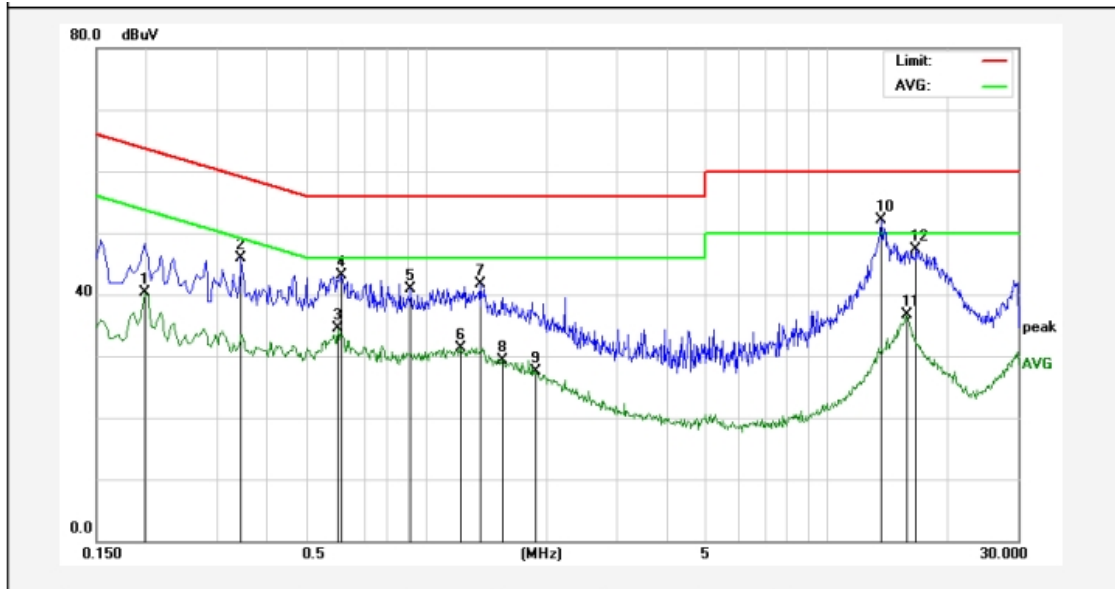
TM1 / Line: Line / Band: 2400-2483.5 MHz / BW: 1 / CH: M



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.3460	27.98	17.82	45.80	59.06	-13.26	QP	
2	0.3460	15.98	17.82	33.80	49.06	-15.26	AVG	
3	0.4580	25.47	17.83	43.30	56.73	-13.43	QP	
4	0.6980	26.90	17.87	44.77	56.00	-11.23	QP	
5	0.6980	19.63	17.87	37.50	46.00	-8.50	AVG	
6	1.2420	15.25	17.84	33.09	46.00	-12.91	AVG	
7	1.2980	25.70	17.84	43.54	56.00	-12.46	QP	
8	1.6580	22.97	17.84	40.81	56.00	-15.19	QP	
9	1.8300	13.23	17.84	31.07	46.00	-14.93	AVG	
10	2.2620	10.26	17.83	28.09	46.00	-17.91	AVG	
11	13.8820	30.67	18.14	48.81	60.00	-11.19	QP	
12	15.7700	18.21	18.19	36.40	50.00	-13.60	AVG	

Temperature:	22.5 °C	Humidity:	48 %	Atmospheric Pressure:	101 kPa
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TM1 / Line: Neutral / Band: 2400-2483.5 MHz / BW: 1 / CH: M



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1980	22.57	17.83	40.40	53.69	-13.29	AVG	
2	0.3460	28.08	17.82	45.90	59.06	-13.16	QP	
3	0.6020	16.62	17.86	34.48	46.00	-11.52	AVG	
4	0.6140	25.21	17.86	43.07	56.00	-12.93	QP	
5	0.9140	23.13	17.86	40.99	56.00	-15.01	QP	
6	1.2220	13.51	17.84	31.35	46.00	-14.65	AVG	
7	1.3700	23.90	17.84	41.74	56.00	-14.26	QP	
8	1.5580	11.49	17.84	29.33	46.00	-16.67	AVG	
9	1.8700	9.60	17.83	27.43	46.00	-18.57	AVG	
10	13.6340	34.01	18.13	52.14	60.00	-7.86	QP	
11	15.7420	18.51	18.19	36.70	50.00	-13.30	AVG	
12	16.6620	29.04	18.22	47.26	60.00	-12.74	QP	

Note: Only the worst case data was showed in the report.

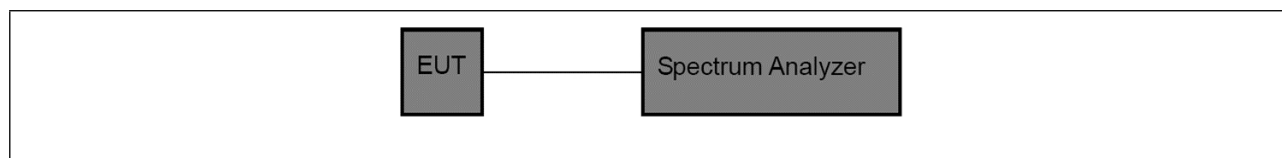
4. Maximum Conducted Output Power

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 C63.10-2020 section 11.9.1 KDB 558074 D01 15.247 Meas Guidance v05r02
Procedure:	ANSI C63.10-2020, section 11.9.1 Maximum peak conducted output power

4.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode(BLE 1M): Keep the EUT works in continuously transmitting mode (BLE 1M) 2: TX mode(BLE 2M): Keep the EUT works in continuously transmitting mode (BLE 2M)

4.2. Test Setup



4.3. Test Data

Temperature:	24.3 °C	Humidity:	56.2 %	Atmospheric Pressure:	101 kPa
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TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-4.69	≤30	PASS
		2440	-4.58	≤30	PASS
		2480	-4.97	≤30	PASS
BLE_2M	Ant1	2402	-4.75	≤30	PASS
		2440	-4.60	≤30	PASS
		2480	-5.00	≤30	PASS

Note: For pre-scan, the result is equal to original, so the original data is referenced.

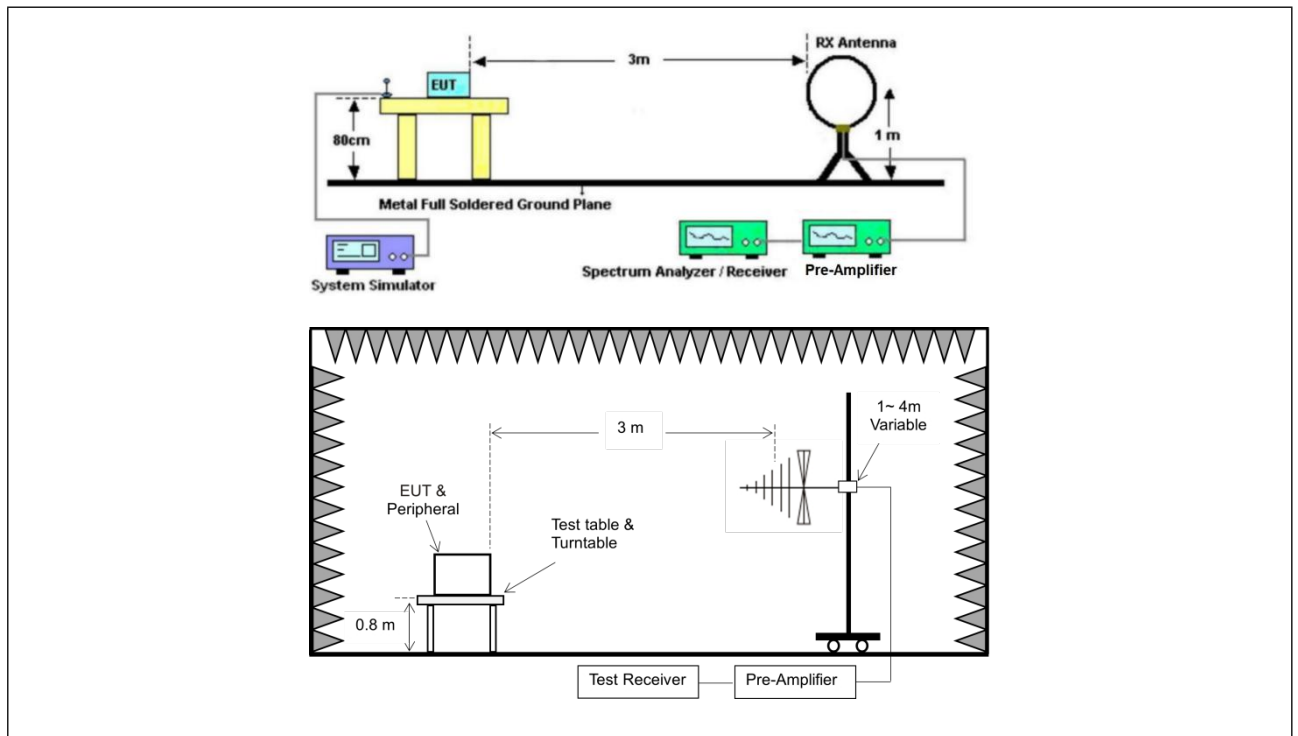
5. Emissions in frequency bands (below 1GHz)

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. In the emission table above, the tighter limit applies at the band edges. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.			
Test Method:	ANSI C63.10-2020 section 6.6.4 KDB 558074 D01 15.247 Meas Guidance v05r02		
Procedure:	ANSI C63.10-2020 section 6.6.4		

5.1. EUT Operation

Operating Environment:	
Test mode:	1: TX mode(BLE 1M): Keep the EUT works in continuously transmitting mode (BLE 1M) 2: TX mode(BLE 2M): Keep the EUT works in continuously transmitting mode (BLE 2M)

5.2. Test Setup



Shenzhen Anbotek Compliance Laboratory Limited

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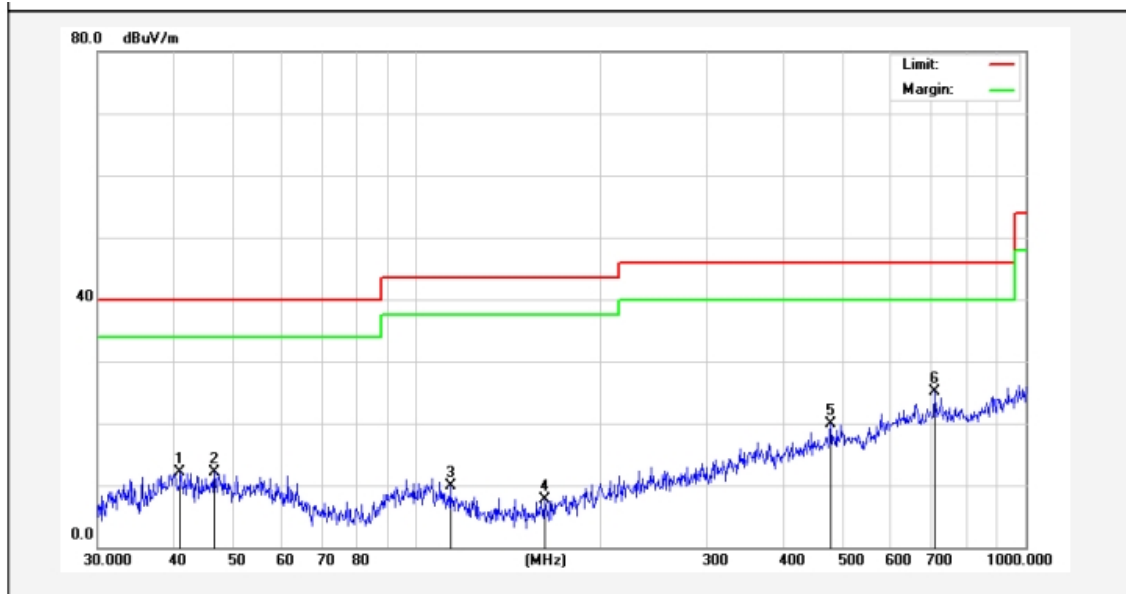
Hotline
400-003-0500
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5.3. Test Data

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

Temperature:	25.3 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa
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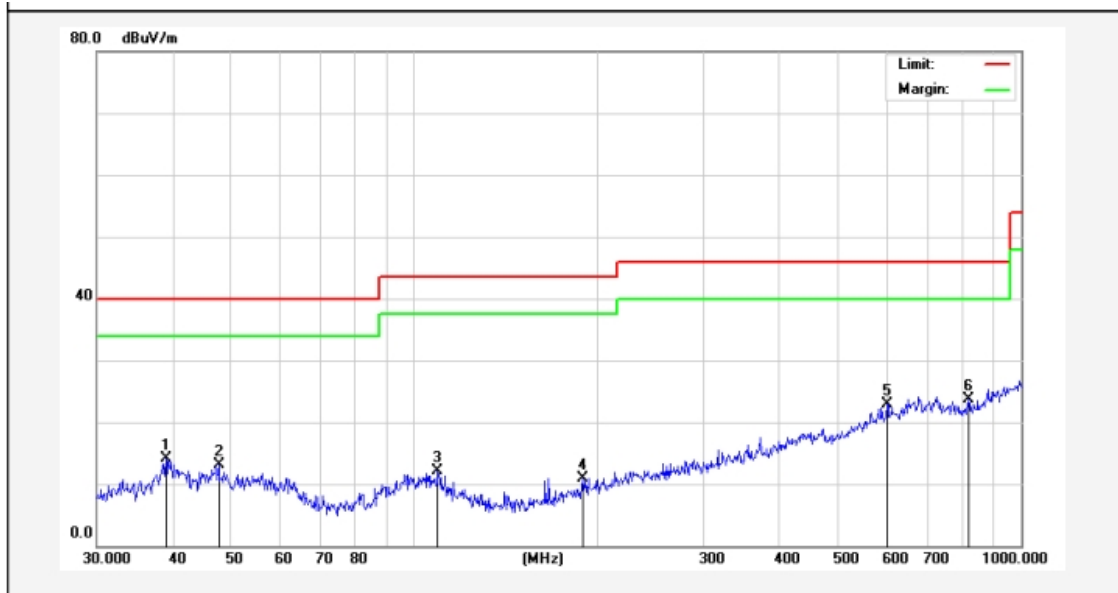
TM1 / Polarization: Horizontal / Band: 2400-2483.5 MHz / BW: 1 / CH: M



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	40.9881	28.21	-16.08	12.13	40.00	-27.87	QP			
2	46.6664	28.98	-16.85	12.13	40.00	-27.87	QP			
3	113.7143	29.72	-19.79	9.93	43.50	-33.57	QP			
4	162.6106	29.97	-22.18	7.79	43.50	-35.71	QP			
5	478.8456	32.48	-12.58	19.90	46.00	-26.10	QP			
6	709.1823	33.85	-8.79	25.06	46.00	-20.94	QP			

Temperature:	25.3 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa
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TM1 / Polarization: Vertical / Band: 2400-2483.5 MHz / BW: 1 / CH: M



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	39.0245	30.45	-16.43	14.02	40.00	-25.98	QP			
2	47.6586	30.16	-16.98	13.18	40.00	-26.82	QP			
3	109.4116	31.22	-19.10	12.12	43.50	-31.38	QP			
4	189.7385	31.45	-20.54	10.91	43.50	-32.59	QP			
5	601.4265	32.60	-9.67	22.93	46.00	-23.07	QP			
6	818.8341	32.05	-8.41	23.64	46.00	-22.36	QP			

Note: Only the worst case data was showed in the report.

APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_RF

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

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

