CFR 47 FCC PART 15 SUBPART C
RSS-247 Issue 4

TEST REPORT

For

AlphaRex LXOS Bluetooth Module

MODEL NUMBER: LXOS2026001

REPORT NUMBER: E04A26030848F00101

ISSUE DATE: May 13, 2026

FCC ID: 2BVT9-LXOS2026001

IC: 35502-LXOS2026001

Prepared for

AlphaRex

5300 Irwindale Avenue, Irwindale, CA 91706

Prepared by

Guangdong Global Testing Technology Co., Ltd.

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This report is based on a single evaluation of the submitted sample(s) of the above mentioned product, it does not imply an assessment of the production of the products. This report shall not be reproduced, except in full, without the written approval of Guangdong Global Testing Technology Co., Ltd.

Revision History

Rev.	Issue Date	Revisions	Revised By
V0	May 13, 2026	Initial Issue	

Summary of Test Results

Test Item	Clause	Limit/Requirement	Result
Antenna Requirement	N/A	FCC Part 15.203/15.247 (c) RSS-GEN Clause 6.8	Pass
AC Power Line Conducted Emission	ANSI C63.10-2020, Clause 6.2	FCC Part 15.207 RSS-GEN Clause 8.8	N/A
Conducted Output Power	ANSI C63.10-2020, Clause 11.9.1.2	FCC Part 15.247 (b)(3) RSS-247 Clause 6.3.2	Pass
6dB Bandwidth and 99% Occupied Bandwidth	ANSI C63.10-2020, Clause 11.8.1	FCC Part 15.247 (a)(2) RSS-247 Clause 6.3.1(a) ISED RSS-Gen Clause 6.7	Pass
Power Spectral Density	ANSI C63.10-2020, Clause 11.10.2	FCC Part 15.247 (e) RSS-247 Clause 6.3.1(b)	Pass
Conducted Band edge and spurious emission	ANSI C63.10-2020, Clause 11.11	FCC Part 15.247(d) RSS-247 Clause 6.6	Pass
Radiated Band edge and Spurious Emission	ANSI C63.10-2020, Clause 11.12	FCC Part 15.247(d) FCC Part 15.205/15.209 RSS-247 Clause 6.6 RSS-GEN Clause 8.9	Pass
Duty Cycle	ANSI C63.10-2020, Clause 11.6	None; for reporting purposes only.	Pass

Note:
1. For ISED, this report is also performed according to ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 standards.
2. N/A: In this whole report not applicable.

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.
*The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 15 SUBPART C, ISED RSS-247 Issue 4> when <Accuracy Method> decision rule is applied.

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	AlphaRex
Address:	5300 Irwindale Avenue, Irwindale, CA 91706

Manufacturer Information

Company Name:	FOSHAN STARTEC ELECTRONIC TECHNOLOGY CO., LTD.
Address:	No. 367, Haitian Boulevard, Hecheng, Gaoming District, Foshan City, Guangdong Province, China

EUT Information

Product Description:	AlphaRex LXOS Bluetooth Module
Model:	LXOS2026001
Series Model:	N/A
Brand:	N/A
Sample Received Date:	April 10, 2026
Sample Status:	Normal
Sample ID:	A26030848 001
Date of Tested:	April 11, 2026 to May 8, 2026

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 FCC PART 15 SUBPART C **RSS-247 Issue 4**	**Pass**

Prepared By:

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Project Engineer

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Laboratory Manager

Approved By:

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Laboratory Manager

Guangdong Global Testing Technology Co., Ltd. GTG CERTIFICATE

2. TEST METHODOLOGY

All tests were performed in accordance with the standard CFR 47 FCC PART 15 SUBPART C ISED RSS-247 Issue 4, KDB 558074 D01 15.247 Meas Guidance v05r02, 414788 D01 Radiated Test Site v01r01, CFR 47 FCC Part 2, ANSI C63.10-2020, ANSI C63.10-2020 + Cor.1-2023 + C63.10a-2024 + Errata to C63.10a-2024 and ISED RSS-GEN Issue 5.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 6947.01)** Guangdong Global Testing Technology Co., Ltd. has been assessed and proved to be in compliance with A2LA. **FCC (FCC Designation No.: CN1343)** Guangdong Global Testing Technology Co., Ltd. has been recognized to perform compliance testing on equipment subject to Supplier's Declaration of Conformity (SDoC) and Certification rules **ISED (Company No.: 30714)** Guangdong Global Testing Technology Co., Ltd. has been registered and fully described in a report filed with ISED. The Company Number is 30714 and the test lab Conformity Assessment Body Identifier (CABID) is CN0148.

Note: All tests measurement facilities use to collect the measurement data are located at Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city, Guangdong, People’s Republic of China, 523808

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Items	k	Uncertainty
DTS Bandwidth	1.96	±9.2 PPM
20dB Emission Bandwidth	1.96	±9.2 PPM
Carrier Frequency Separation	1.96	±9.2 PPM
Time of Occupancy	1.96	±0.57%
Conducted Output Power	1.96	±1.5 dB
Power Spectral Density Level	1.96	±1.9 dB
Conducted Spurious Emission	1.96	9 kHz-30 MHz: ± 0.95 dB 30 MHz-1 GHz: ± 1.5 dB 1GHz-12.75GHz: ± 1.8 dB 12.75 GHz-26.5 GHz: ± 2.1dB
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.		

Test Item	Measurement Frequency Range	K	U(dB)
Conducted emissions from the AC mains power ports (AMN)	150 kHz ~ 30 MHz	2	3.37
Radiated emissions	9 kHz ~ 30 MHz	2	4.16
Radiated emissions	30 MHz ~ 1 GHz	2	3.79
Radiated emissions	1 GHz ~ 18 GHz	2	5.62
Radiated emissions	18 GHz ~ 40 GHz	2	5.54
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.			

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name		AlphaRex LXOS Bluetooth Module
Model		LXOS2026001
Series Model		N/A
Hardware Version		V0
Software Version		V0
Ratings		DC 12V
Power Supply	DC	12V

Frequency Band:	2400 MHz to 2483.5 MHz
Frequency Range:	2402 MHz to 2480 MHz
Bluetooth Version:	Bluetooth V4.2
Bluetooth Mode:	Bluetooth LE
Type of Modulation:	GFSK
Number of Channels:	40
Channel Separation:	2 MHz
Maximum Peak Power:	-1.84dBm
Antenna Type:	PCB antenna
Antenna Gain:	1.57 dBi
Normal Test Voltage:	12Vdc
EUT Test software:	nRFgoStudio.exe
Note:	The Antenna Gain was provided by customer, and this information may affect the validity of the results, customer should be responsible for this.

5.2. CHANNEL LIST

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

5.3. MAXIMUM CONDUCTED OUTPUT POWER

Test Mode	Frequency (MHz)	Channel Number	Maximum Peak Output Power (dBm)	Maximum EIRP (dBm)
GFSK(1Mbps)	2402 ~ 2480	0-39[40]	-1.84	-0.27

5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
GFSK(1Mbps)	CH 0(Low Channel), CH 19(MID Channel), CH 39(High Channel)	2402 MHz, 2440 MHz, 2480 MHz

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band				
Test Software Version		nRFgoStudio.exe		
Modulation Type	Transmit Antenna Number	Test Software setting value		
		CH 0	CH 19	CH 39
GFSK(1Mbps)	1	Default	Default	Default

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna	Frequency (MHz)	Antenna Type	MAX Antenna Gain (dBi)
1	2402-2480	PCB antenna	1.57

Test Mode	Transmit and Receive Mode	Description
GFSK(1Mbps)	☒1TX, 1RX	Antenna 1 can be used as transmitting/receiving antenna.

5.7. SUPPORT UNITS FOR SYSTEM TEST

The following support units or accessories were used to form a representative test configuration during the tests.

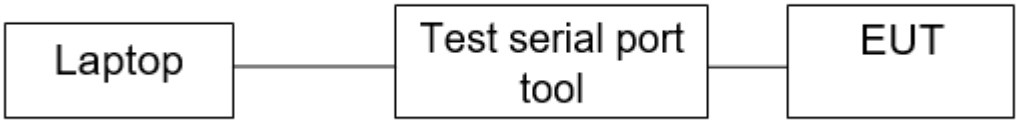
Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Laptop	Lenovo	T14	/	GTG Support

The following cables were used to form a representative test configuration during the tests.

Item	Type of cable	Shielded Type	Ferrite Core	Length
C-1	USB cable	Shielded	without ferrite	1.0 m

5.8. SETUP DIAGRAM

Radiated emissions:



6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Conducted RF					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Spectrum Analyzer	Rohde & Schwarz	FSV40	102257	2025/08/25	2026/08/24
Spectrum Analyzer	KEYSIGHT	N9020A	MY51285127	2025/08/25	2026/08/24
EXG Analog Signal Generator	KEYSIGHT	N5173B	MY61253075	2025/08/25	2026/08/24
Vector Signal Generator	Rohde & Schwarz	SMM100A	101899	2025/08/25	2026/08/24
RF Control box	MWRF-test	MW100-RFCB	MW220926GTG	2025/08/25	2026/08/24
Wideband Radio Communication Tester	Rohde & Schwarz	CMW270	102792	2025/08/25	2026/08/24
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	103235	2025/08/25	2026/08/24
temperature humidity chamber	Espec	SH-241	SH-241-2014	2025/08/25	2026/08/24
RF Test Software	MWRF-test	MTS8310E (Ver. V2/0)	N/A	N/A	N/A

Test Equipment of Radiated emissions below 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
3m Semi-anechoic Chamber	ETS	9m*6m*6m	Q2146	2025/08/23	2026/08/22
EMI Test Receiver	Rohde & Schwarz	ESCI3	101144	2025/08/23	2026/08/22
Pre-Amplifier	HzEMC	HPA-9K0130	HYPA21001	2025/08/23	2026/08/22
Biconilog Antenna	Schwarzbeck	VULB 9168	01315	2025/09/20	2028/09/19
Biconilog Antenna	ETS	3142E	00243651	2025/02/22	2028/02/21
Loop Antenna	ETS	6502	00243668	2025/02/22	2028/02/21
Test Software	Farad	EZ-EMC (Ver.FA-03A2 RE)	N/A	N/A	N/A

Test Equipment of Radiated emissions above 1GHz					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
3m Semi-anechoic Chamber	ETS	9m*6m*6m	Q2149	2025/08/23	2026/08/22
Spectrum Analyzer	Rohde & Schwarz	FSV40	101413	2025/08/23	2026/08/22
Pre-Amplifier	HzEMC	HPA-1G1850	HYPA21003	2025/08/23	2026/08/22
Horn antenna	ETS	3117	00246069	2025/02/22	2028/02/21
Pre-Amplifier	HzEMC	HPA-184057	HYPA21004	2025/08/23	2026/08/22
Horn antenna	ETS	3116C	00246265	2025/02/22	2028/02/21
RF Filter Bank	HzEMC	HSW-F18	HSWF2218E01	2025/08/23	2026/08/22
RF Filter Bank	HzEMC	HPF18	HPF2218E02	2025/08/23	2026/08/22
Test Software	Farad	EZ-EMC (Ver.FA-03A2 RE+)	N/A	N/A	N/A

Test Equipment of Conducted emissions					
Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Last Cal.**	**Due Date**
Shielded Room	CHENG YU	8m*5m*4m	N/A	2025/08/23	2026/08/22
EMI Test Receiver	Rohde & Schwarz	ESR3	102647	2025/08/23	2026/08/22
LISN/AMN	Rohde & Schwarz	ENV216	102843	2025/08/23	2026/08/22
NNLK 8129 RC	Schwarzbeck	NNLK 8129 RC	5046	2025/08/23	2026/08/22
Test Software	Farad	EZ-EMC (Ver. EMC-con-3A1 1+)	N/A	N/A	N/A

7. ANTENNA PORT TEST RESULTS

7.1. CONDUCTED OUTPUT POWER

LIMITS

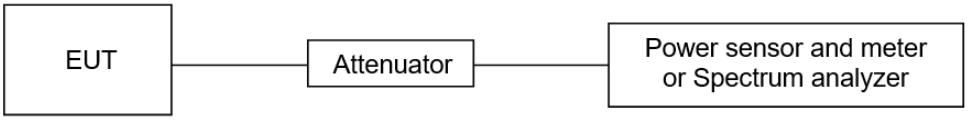
CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 4			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(b)(3) ISED RSS-247 6.3.2	Peak Conduct Output Power	1 watt or 30 dBm	2400-2483.5

TEST PROCEDURE

Connect the EUT to a low loss RF cable from the antenna port to the power sensor and meter or Spectrum analyzer (video bandwidth is greater than the occupied bandwidth).

Measure peak emission level, the indicated level is the peak output power, after any corrections for external attenuators and cables.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.4℃	Relative Humidity	58%
Atmosphere Pressure	101kPa		

TEST RESULTS

Please refer to section "Test Data" - Appendix A

7.2. 6DB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 4			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(a)(2) ISED RSS-247 6.3.1(a)	6 dB Bandwidth	≥ 500 kHz	2400-2483.5
ISED RSS-Gen Clause 6.7	99 % Occupied Bandwidth	For reporting purposes only.	2400-2483.5

TEST PROCEDURE

Refer to ANSI C63.10-2020 clause 11.8 for DTS bandwidth and clause 6.9 for Occupied Bandwidth.

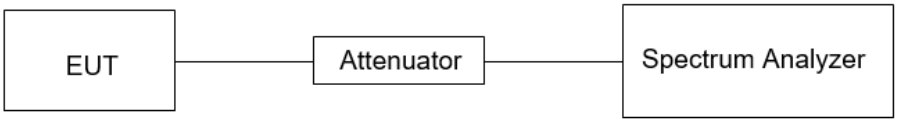
Connect the EUT to the spectrum analyzer and use the following settings:

Center Frequency	The center frequency of the channel under test
Frequency Span	For 6 dB Bandwidth: Enough to capture all products of the modulation carrier emission For 99 % Occupied Bandwidth: Between 1.5 times and 5.0 times the OBW
Detector	Peak
RBW	For 6 dB Bandwidth: 100 kHz For 99 % Occupied Bandwidth: 1 % to 5 % of the occupied bandwidth
VBW	For 6 dB Bandwidth: ≥3 × RBW For 99 % Occupied Bandwidth: ≥3 × RBW
Trace	Max hold
Sweep	Auto couple

a) Use the 99 % power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.

b) Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.4℃	Relative Humidity	58%
Atmosphere Pressure	101kPa		

TEST RESULTS

Please refer to section "Test Data" - Appendix A

7.3. POWER SPECTRAL DENSITY

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 4			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC §15.247 (e) ISED RSS-247 6.3.1 (b)	Power Spectral Density	8 dBm in any 3 kHz band	2400-2483.5

TEST PROCEDURE

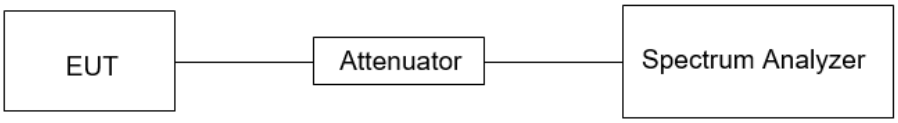
Refer to ANSI C63.10-2020 clause 11.10.2.

Connect the EUT to the spectrum analyzer and use the following settings:

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	3 kHz ≤ RBW ≤ 100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.
If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.4℃	Relative Humidity	58%
Atmosphere Pressure	101kPa		

TEST RESULTS

Please refer to section "Test Data" - Appendix A

7.4. CONDUCTED BAND EDGE AND SPURIOUS EMISSION

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 4		
Section	Test Item	Limit
FCC Part 15.247(d) RSS-247 Clause 6.6	Conducted Band edge and Spurious Emissions	at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

TEST PROCEDURE

Refer to ANSI C63.10-2020 clause 11.11.

Connect the EUT to the spectrum analyzer and use the following settings for reference level measurement:

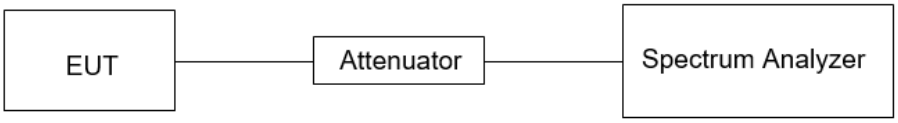
Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level.
Change the settings for emission level measurement:

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum PSD level. Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.4℃	Relative Humidity	58%
Atmosphere Pressure	101kPa		

TEST RESULTS

Please refer to section "Test Data" - Appendix A

7.5. DUTY CYCLE

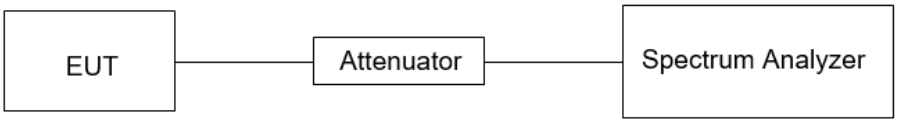
LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Refer to ANSI C63.10-2020 clause 11.6 Zero – Span Spectrum Analyzer method.

TEST SETUP



TEST ENVIRONMENT

Temperature	25.4℃	Relative Humidity	58%
Atmosphere Pressure	101kPa		

TEST RESULTS

Please refer to section "Test Data" - Appendix A

8. RADIATED TEST RESULTS

LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209.

Please refer to ISED RSS-GEN Clause 8.9 and Clause 8.10.

Radiation Disturbance Test Limit for FCC (Class B) (9 kHz ~ 1 GHz)

Emissions radiated outside of the specified frequency bands above 30 MHz			
Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m	
		Quasi-Peak	
30 - 88	100	40	
88 - 216	150	43.5	
216 - 960	200	46	
Above 960	500	54	
Above 1000	500	Peak	Average
		74	54

FCC Emissions radiated outside of the specified frequency bands below 30 MHz		
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

ISED General field strength limits at frequencies below 30 MHz

Table 6 – General field strength limits at frequencies below 30 MHz

Frequency	Magnetic field strength (H-Field) (µA/m)	Measurement distance (m)
9 - 490 kHz[Note 1]	6.37/F (F in kHz)	300
490 - 1705 kHz	63.7/F (F in kHz)	30
1.705 - 30 MHz	0.08	30

Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.

ISED Restricted bands please refer to ISED RSS-GEN Clause 8.10

Table 7 – Restricted frequency bands[Note 1]		
MHz	MHz	GHz
0.090 - 0.110	149.9 - 150.05	9.0 - 9.2
0.495 - 0.505	156.52475 - 156.52525	9.3 - 9.5
2.1735 - 2.1905	156.7 - 156.9	10.6 - 12.7
3.020 - 3.026	162.0125 - 167.17	13.25 - 13.4
4.125 - 4.128	167.72 - 173.2	14.47 - 14.5
4.17725 - 4.17775	240 – 285	15.35 - 16.2
4.20725 - 4.20775	322 - 335.4	17.7 - 21.4
5.677 - 5.683	399.9 - 410	22.01 - 23.12
6.215 - 6.218	608 - 614	23.6 - 24.0
6.26775 - 6.26825	960 - 1427	31.2 - 31.8
6.31175 - 6.31225	1435 - 1626.5	36.43 - 36.5
8.291 - 8.294	1645.5 - 1646.5	Above 38.6
8.362 - 8.366	1660 - 1710	
8.37625 - 8.38675	1718.8 - 1722.2	
8.41425 - 8.41475	2200 - 2300	
12.29 - 12.293	2310 - 2390	
12.51975 - 12.52025	2483.5 - 2500	
12.57675 - 12.57725	2655 - 2900	
13.36 - 13.41	3260 – 3267	
16.42 - 16.423	3332 - 3339	
16.69475 - 16.69525	3345.8 - 3358	
16.80425 - 16.80475	3500 - 4400	
25.5 - 25.67	4500 - 5150	
37.5 - 38.25	5350 - 5460	
73 - 74.6	7250 - 7750	
74.8 - 75.2	8025 – 8500	
108 – 138		

Note 1: Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

FCC Restricted bands of operation refer to FCC §15.205 (a):

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

Note: [1]Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2]Above 38.6c

TEST PROCEDURE

Below 30 MHz

The setting of the spectrum analyzer

RBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
VBW	200 Hz (From 9 kHz to 0.15 MHz)/ 9 kHz (From 0.15 MHz to 30 MHz)
Sweep	Auto

1. The testing follows the guidelines in ANSI C63.10-2020 clause 6.4.

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1 m height antenna tower.

5. The radiated emission limits 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.

6. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak and average detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak and average detector and reported.

7. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field site based on KDB 414788.

8. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X KHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.

Below 1 GHz and above 30 MHz

The setting of the spectrum analyzer

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2020 clause 6.5.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 80 cm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1 GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Above 1G

The setting of the spectrum analyzer

RBW	1 MHz
VBW	PEAK: 3 MHz AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2020 clause 6.6.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

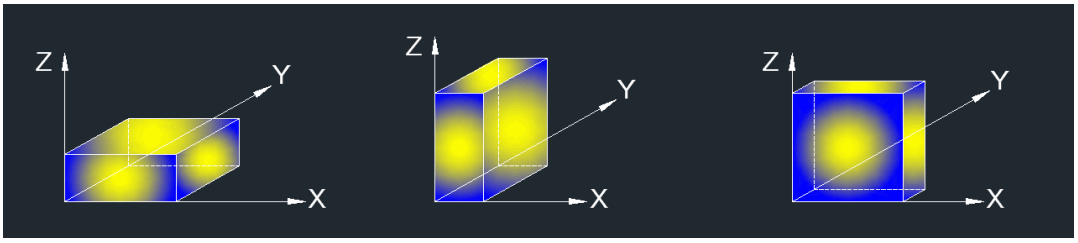
3. The EUT was placed on a turntable with 1.5 m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1 GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

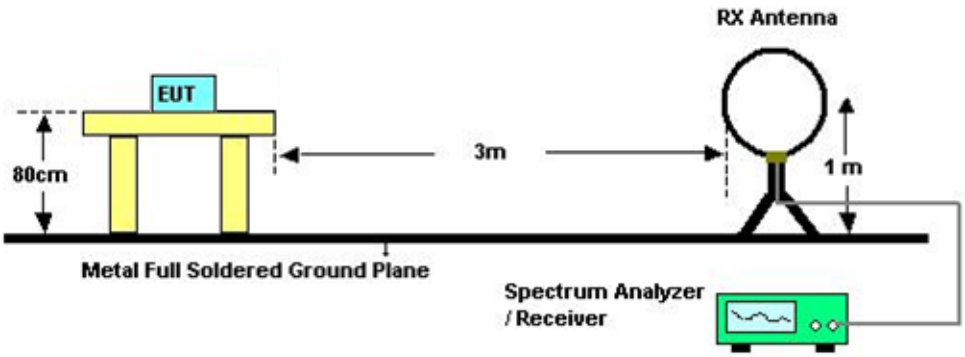
6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 7.5. ON TIME AND DUTY CYCLE.

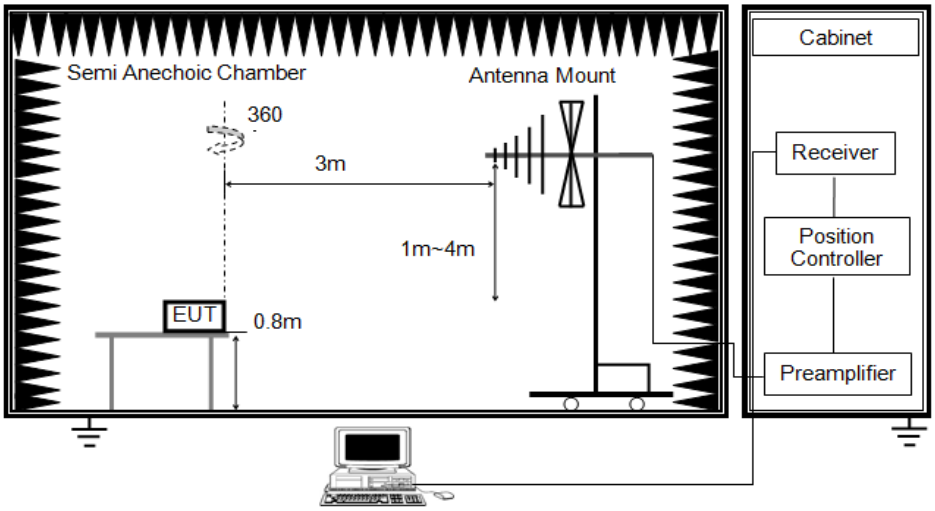
X axis, Y axis, Z axis positions:

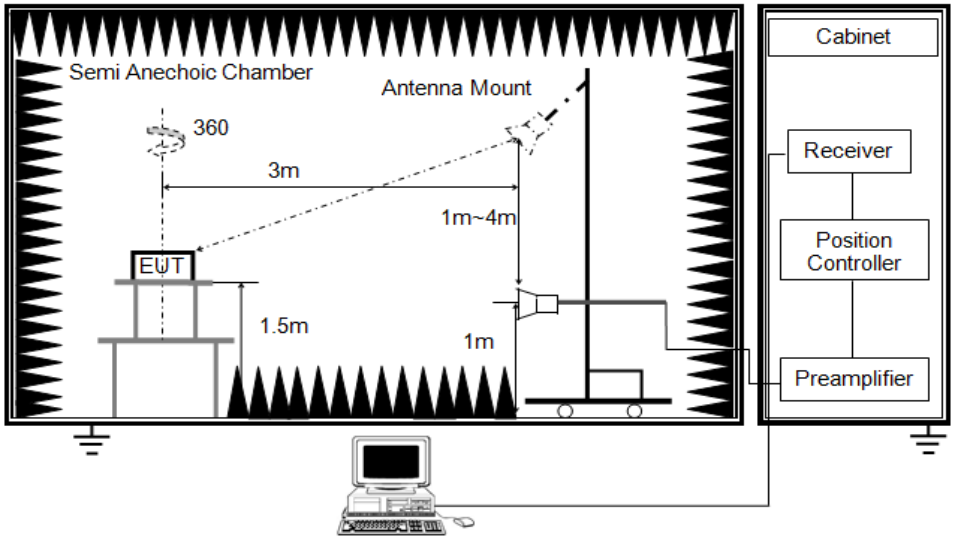


Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

TEST SETUP







TEST ENVIRONMENT

Temperature	22.9	Relative Humidity	51%
Atmosphere Pressure	101kPa		

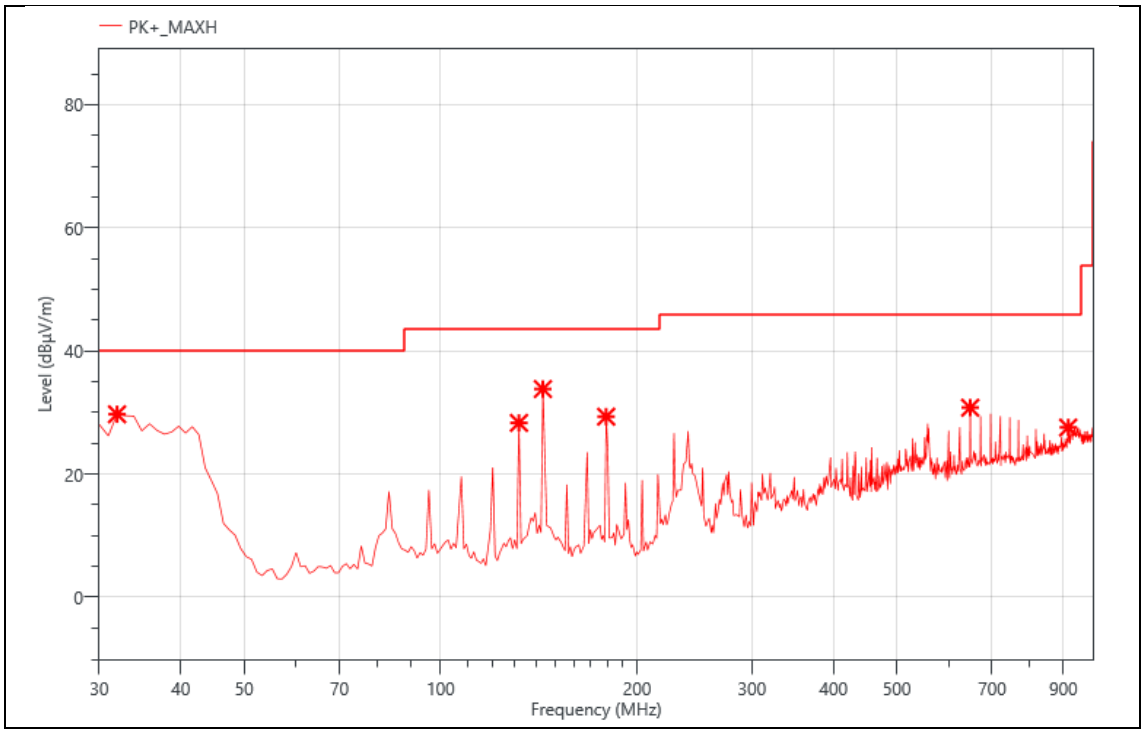
TEST RESULTS

8.1. RADIATED BAND EDGE AND SPURIOUS EMISSION

Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)

All modes have been tested and the worst result as bellow:

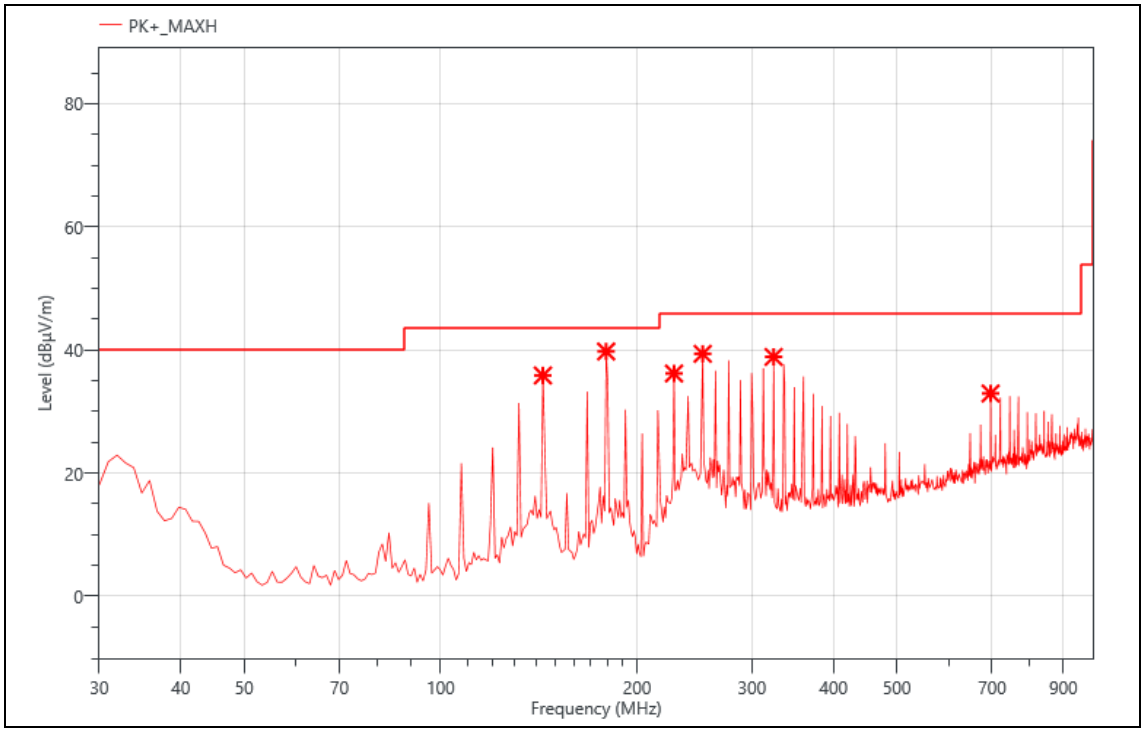
Mode:	BLE1M-2402
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	31.940	45.16	-15.44	29.72	40.00	10.28	PK+	V
2	131.850	52.10	-23.78	28.32	43.50	15.18	PK+	V
3	143.490	56.83	-23.01	33.82	43.50	9.68	PK+	V
4	179.380	51.36	-22.03	29.33	43.50	14.17	PK+	V
5	647.890	38.88	-8.09	30.79	46.00	15.21	PK+	V
6	915.610	30.79	-3.22	27.57	46.00	18.43	PK+	V

Mode:	BLE1M-2402
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	143.490	58.87	-23.01	35.86	43.50	7.64	PK+	H
2	179.380	61.79	-22.03	39.76	43.50	3.74	PK+	H
3	227.880	56.24	-20.06	36.18	46.00	9.82	PK+	H
4	252.130	58.04	-18.66	39.38	46.00	6.62	PK+	H
5	323.910	56.20	-17.33	38.87	46.00	7.13	PK+	H
6	696.390	40.02	-7.08	32.94	46.00	13.06	PK+	H

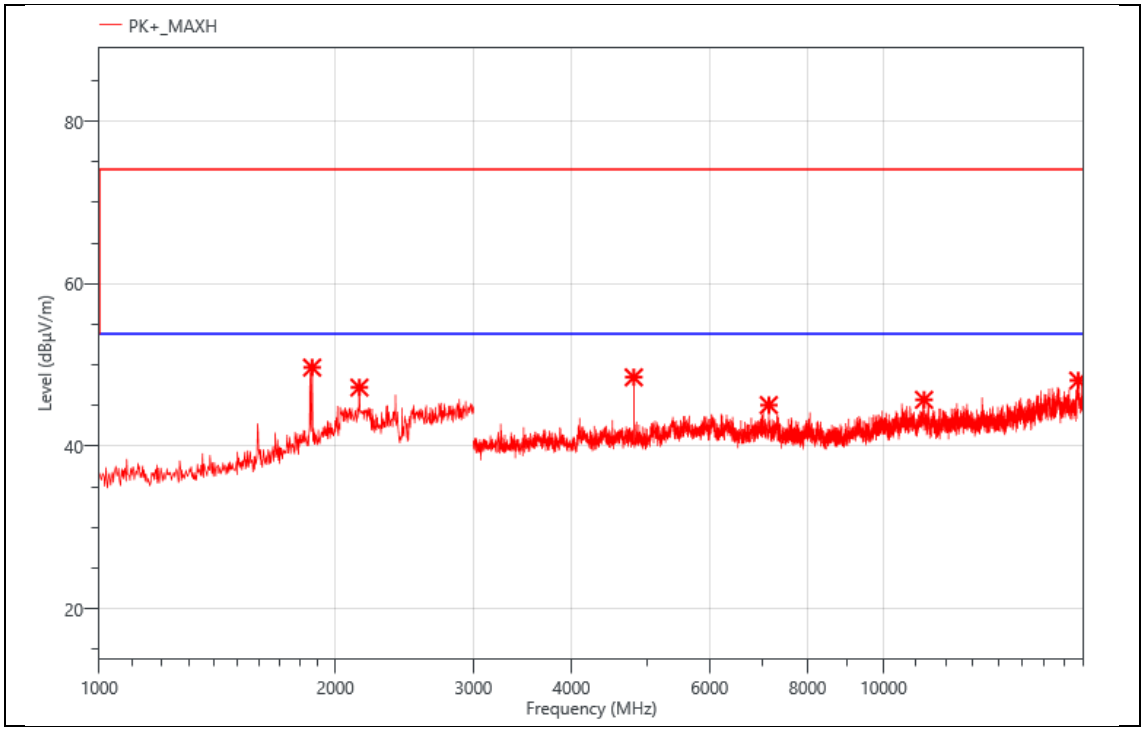
Note:

1. [Margin=Limit-Meas.]; [Meas.=Reading+Corr.].
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

All modes have been tested and the worst result as bellow:

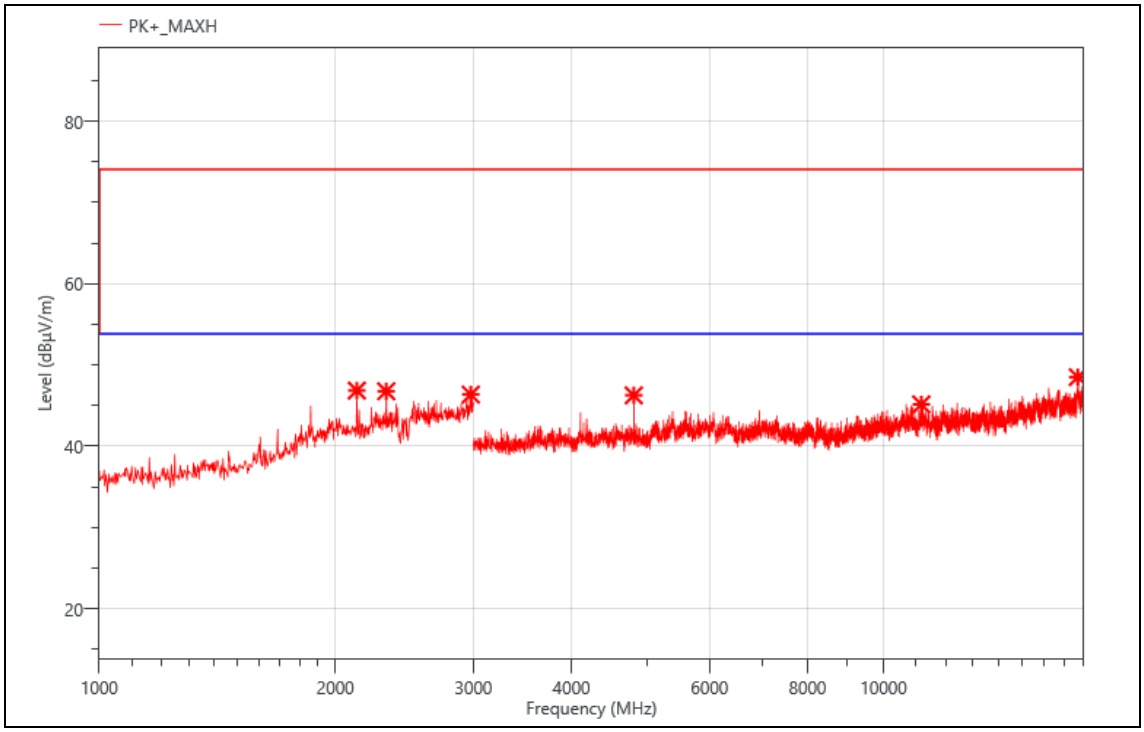
Mode:	BLE1M-2402
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	1868.000	60.06	-10.38	49.68	74.00	24.32	PK+	H
2	2146.000	56.27	-9.05	47.22	74.00	26.78	PK+	H
3	4803.000	59.82	-11.34	48.48	74.00	25.52	PK+	H
4	7140.000	53.31	-8.25	45.06	74.00	28.94	PK+	H
5	11265.000	50.09	-4.38	45.71	74.00	28.29	PK+	H
6	17712.000	48.16	-0.08	48.08	74.00	25.92	PK+	H

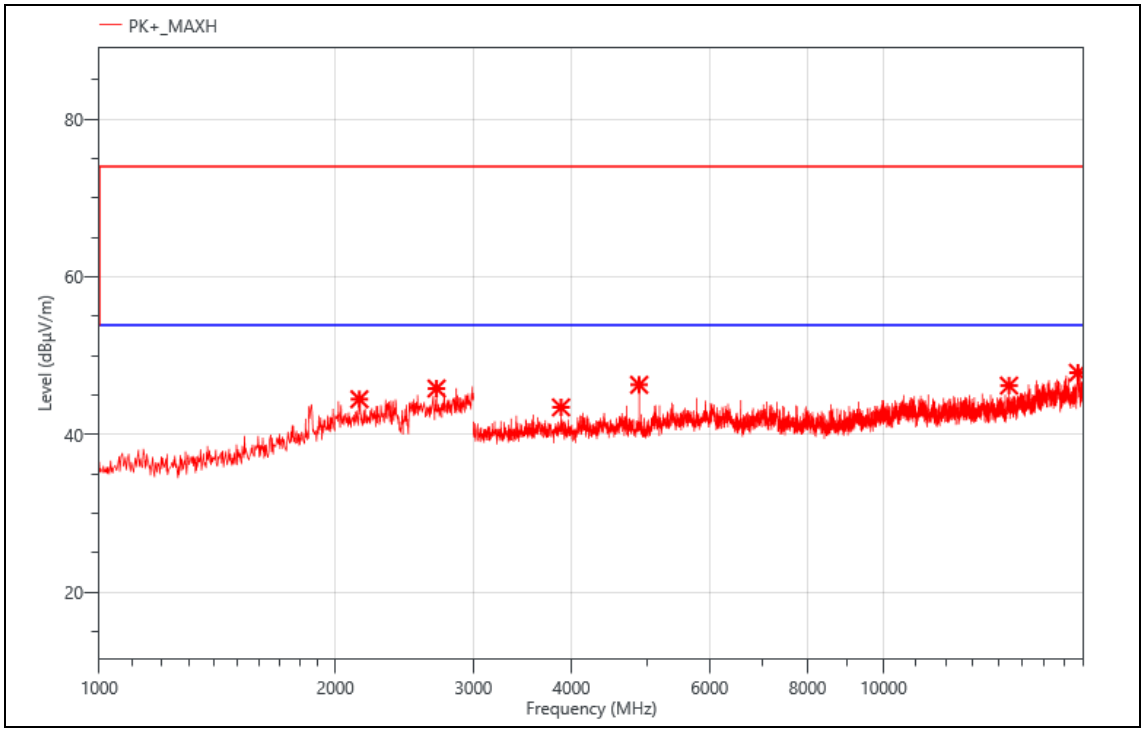
Mode:	BLE1M-2402
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	2130.000	55.90	-9.05	46.85	74.00	27.15	PK+	V
2	2322.000	55.56	-8.8	46.76	74.00	27.24	PK+	V
3	2976.000	53.42	-7.06	46.36	74.00	27.64	PK+	V
4	4803.000	57.60	-11.34	46.26	74.00	27.74	PK+	V
5	11173.500	49.56	-4.41	45.15	74.00	28.85	PK+	V
6	17688.000	48.25	0.25	48.50	74.00	25.50	PK+	V

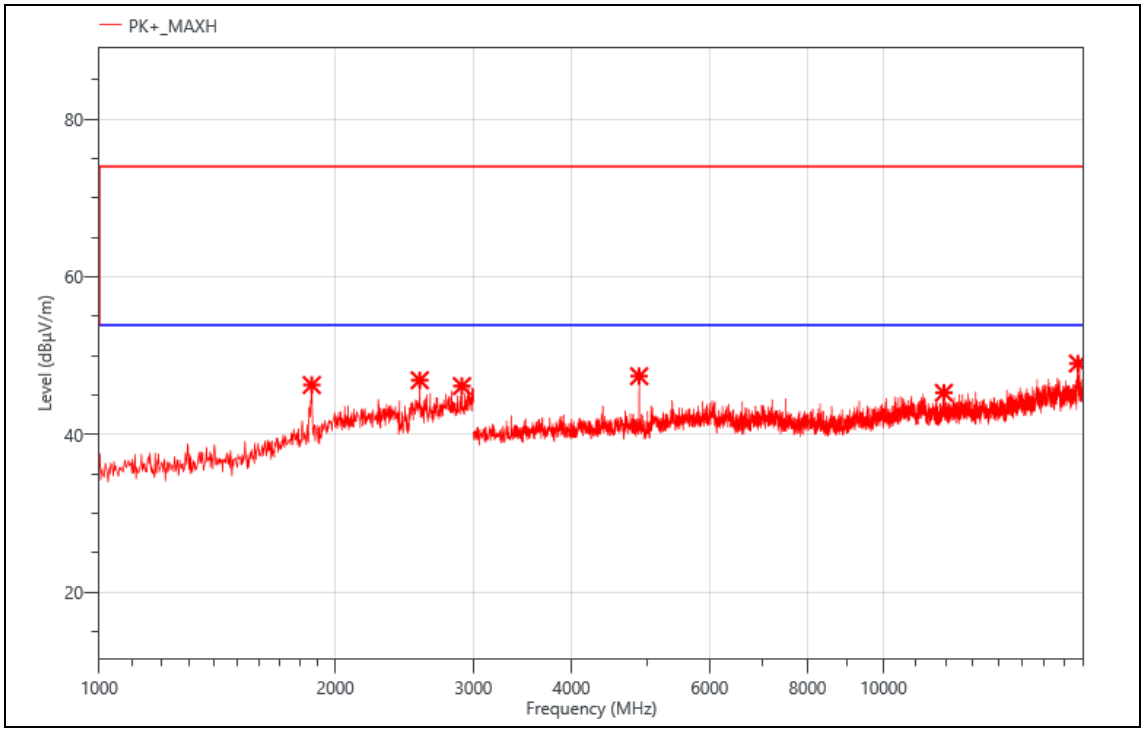
Mode:	BLE1M-2440
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	2146.000	53.53	-9.05	44.48	74.00	29.52	PK+	H
2	2692.000	54.23	-8.39	45.84	74.00	28.16	PK+	H
3	3879.000	56.72	-13.27	43.45	74.00	30.55	PK+	H
4	4879.500	57.45	-11.14	46.31	74.00	27.69	PK+	H
5	14452.500	49.46	-3.25	46.21	74.00	27.79	PK+	H
6	17694.000	47.63	0.21	47.84	74.00	26.16	PK+	H

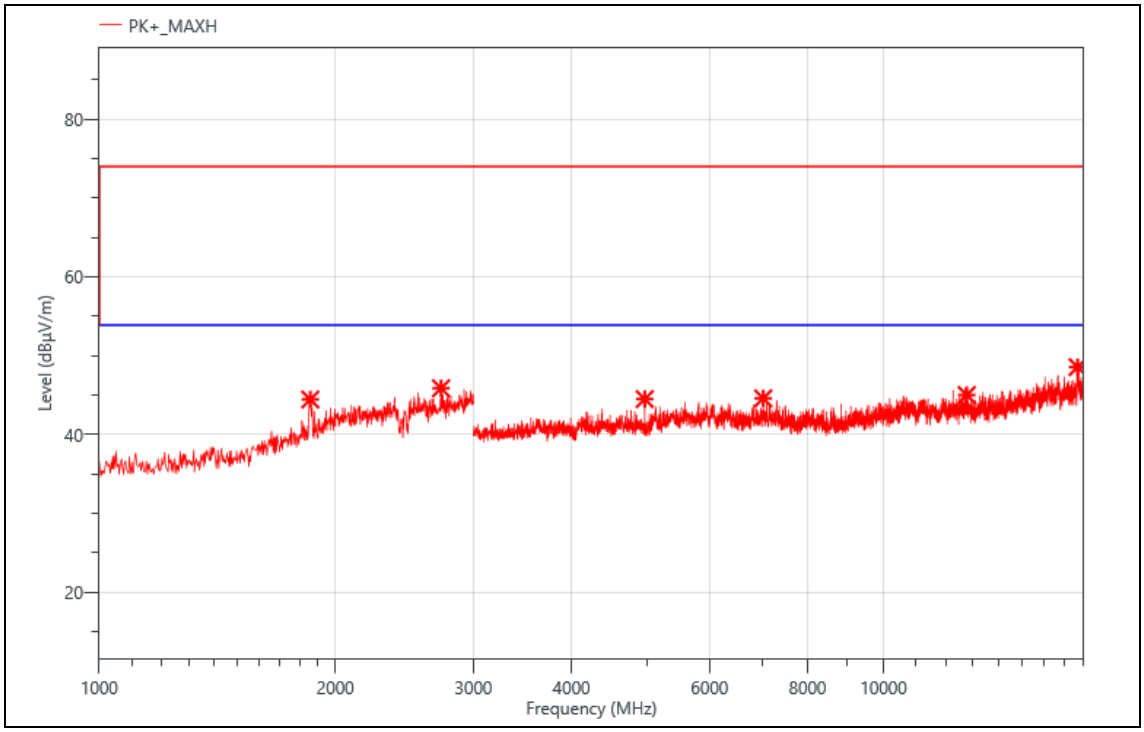
Mode:	BLE1M-2440
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	1866.000	56.67	-10.39	46.28	74.00	27.72	PK+	V
2	2562.000	54.93	-8.04	46.89	74.00	27.11	PK+	V
3	2900.000	54.02	-7.87	46.15	74.00	27.85	PK+	V
4	4879.500	58.54	-11.14	47.40	74.00	26.60	PK+	V
5	11937.000	49.78	-4.48	45.30	74.00	28.70	PK+	V
6	17695.500	48.80	0.21	49.01	74.00	24.99	PK+	V

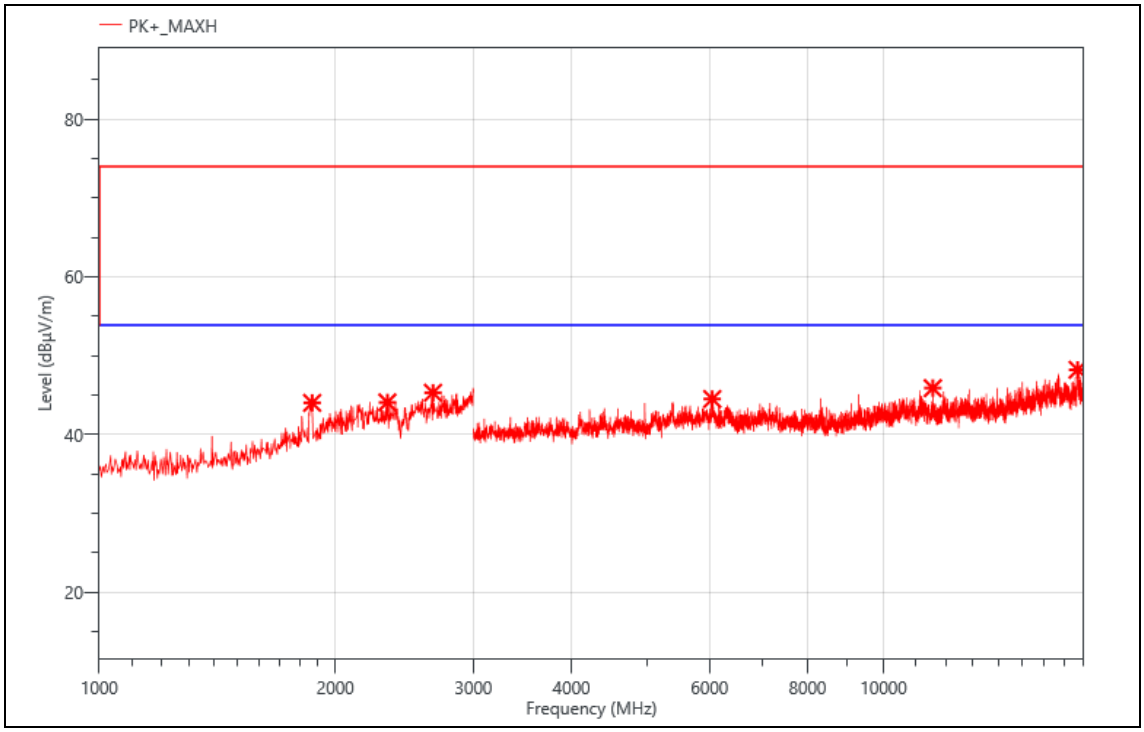
Mode:	BLE1M-2480
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	1858.000	54.88	-10.43	44.45	74.00	29.55	PK+	V
2	2728.000	54.37	-8.5	45.87	74.00	28.13	PK+	V
3	4960.500	55.84	-11.34	44.50	74.00	29.50	PK+	V
4	7023.000	52.40	-7.8	44.60	74.00	29.40	PK+	V
5	12766.500	49.40	-4.39	45.01	74.00	28.99	PK+	V
6	17676.000	48.25	0.31	48.56	74.00	25.44	PK+	V

Mode:	BLE1M-2480
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	1868.000	54.40	-10.38	44.02	74.00	29.98	PK+	H
2	2330.000	52.88	-8.8	44.08	74.00	29.92	PK+	H
3	2664.000	53.93	-8.62	45.31	74.00	28.69	PK+	H
4	6048.000	52.64	-8.13	44.51	74.00	29.49	PK+	H
5	11556.000	50.10	-4.21	45.89	74.00	28.11	PK+	H
6	17679.000	47.93	0.29	48.22	74.00	25.78	PK+	H

Note:

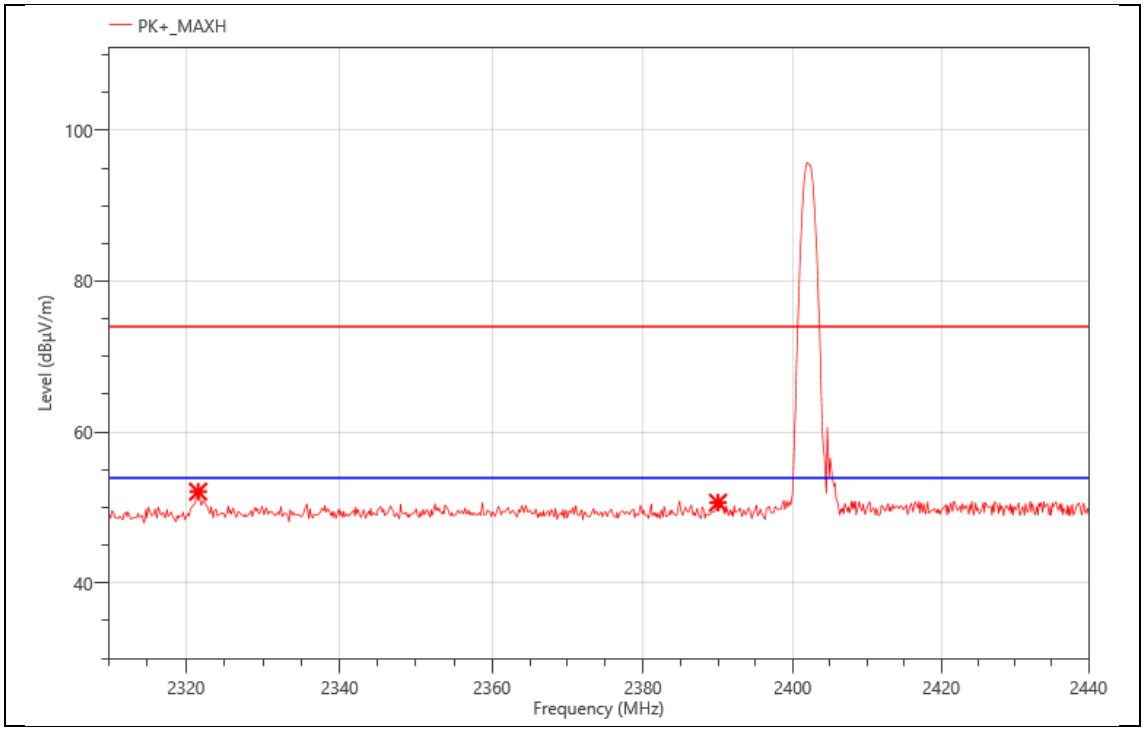
1. [Margin=Limit-Meas.]; [Meas.=Reading+Corr.].
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

For 9KHz to 30MHz and above 18 GHz, a pre-scan was performed, and the result was 20 dB lower than the limit line, the test data was not shown in the report.

Band Edge

All modes have been tested and the worst result as bellow:

Mode:	BLE1M-2402
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa

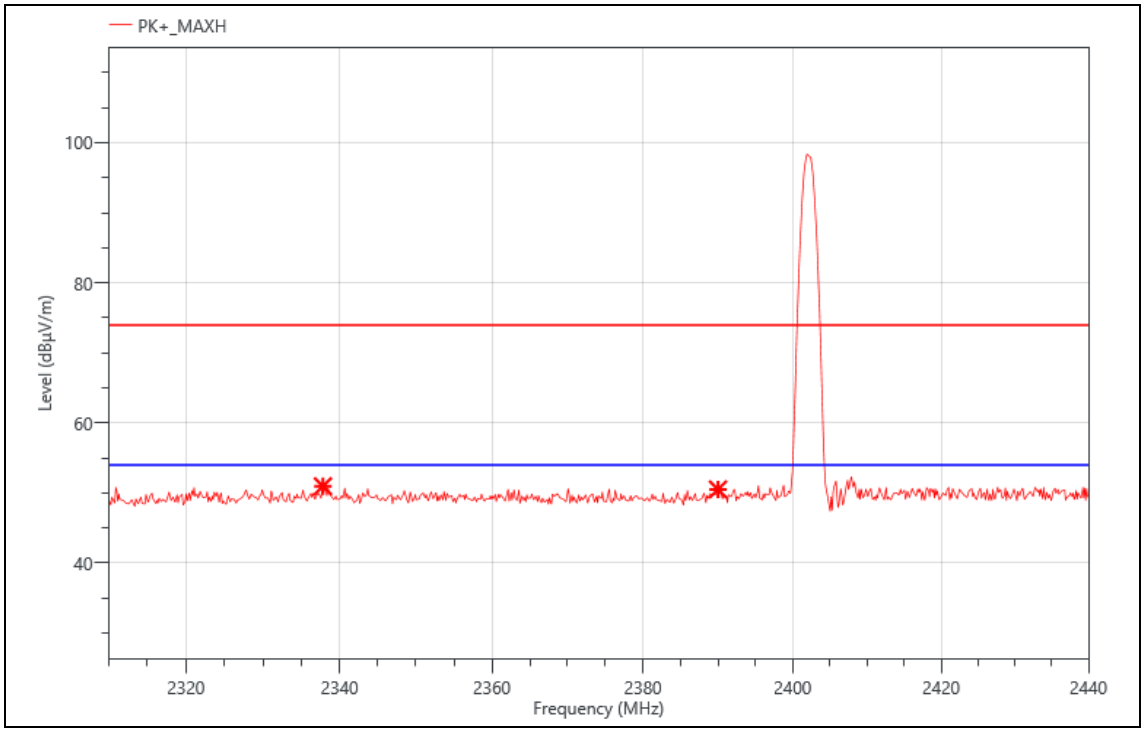


Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	2321.570	29.65	22.45	52.10	74.00	21.90	PK+	V
2	2390.000	27.92	22.72	50.64	74.00	23.36	PK+	V

Note：[Margin=Limit-Meas.]; [Meas.=Reading+Corr.]

Mode:	BLE1M-2402
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa



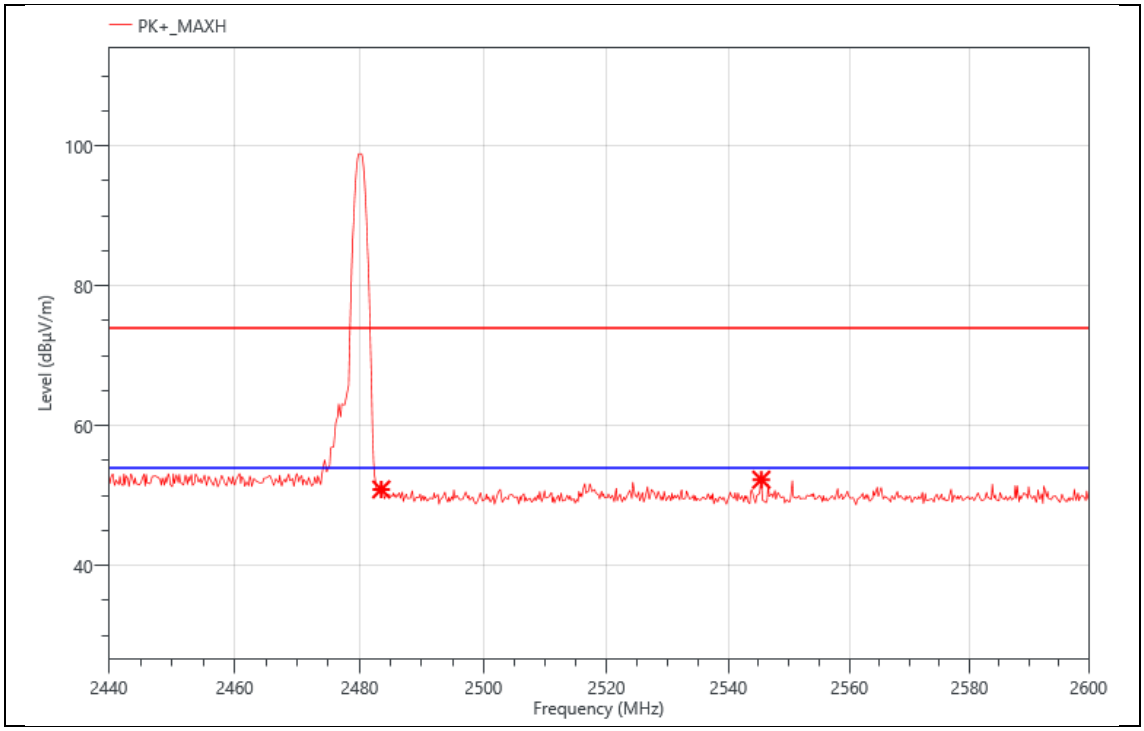
Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	2337.820	28.33	22.63	50.96	74.00	23.04	PK+	H
2	2390.000	27.79	22.72	50.51	74.00	23.49	PK+	H

Note：[Margin=Limit-Meas.]; [Meas.=Reading+Corr.]

Mode:	BLE1M-2480
Power:	DC 12V
TE:	Berny
Date	2026/5/7
T/A/P	22.9℃/51%/101Kpa

Test Standard	FCC Part 15 C 3m				
Instrument	Device	Band	Detector	RBW	Time
FSV	Ant-3117-	2.44 GHz-2.6 GHz	PK+	1 MHz	Auto

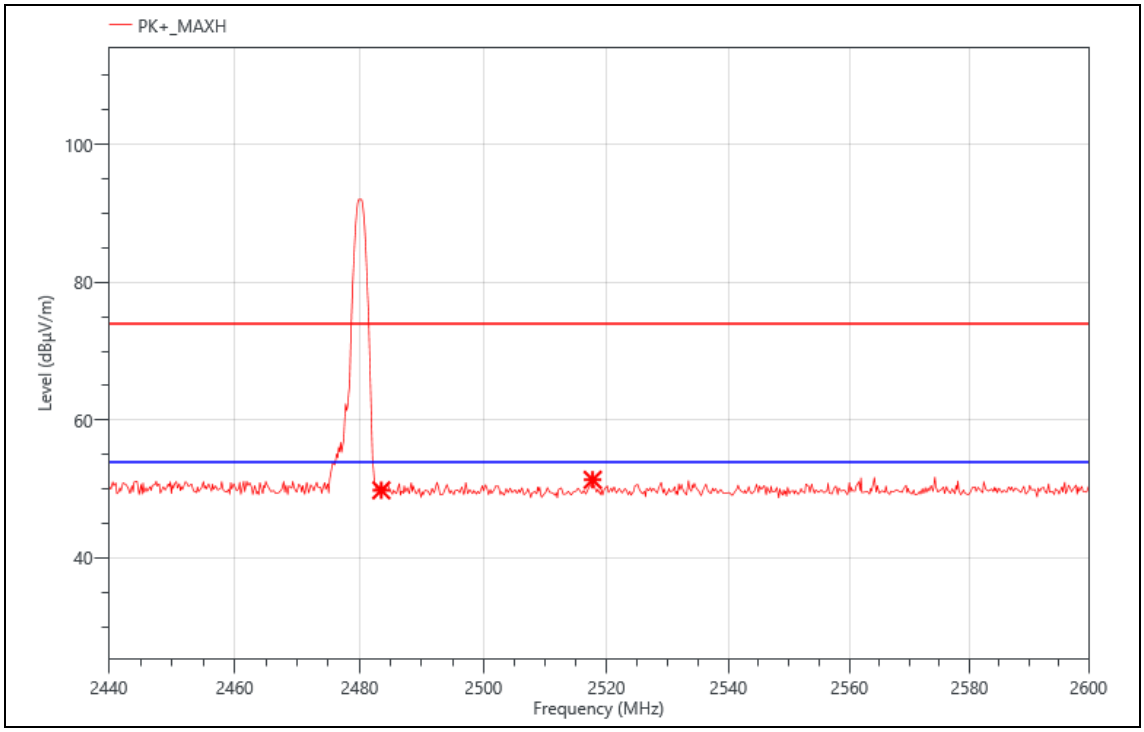


Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	2483.500	27.71	23.15	50.86	74.00	23.14	PK+	H
2	2545.440	29.02	23.23	52.25	74.00	21.75	PK+	H

Note：[Margin=Limit-Meas.]; [Meas.=Reading+Corr.]

Mode:	BLE1M-2480
Power:	DC 3.3V
TE:	Berny
Date	2026/3/10
T/A/P	22.7℃/53%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	2483.500	26.67	23.15	49.82	74.00	24.18	PK+	V
2	2517.760	28.21	23.13	51.34	74.00	22.66	PK+	V

Note:

1. [Margin=Limit-Meas.]; [Meas.=Reading+Corr.].
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

9. ANTENNA REQUIREMENT

REQUIREMENT

Please refer to FCC §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. 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.

Please refer to FCC §15.247(b)(4)
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Standard	Requirement
RSS-Gen issue 5 6.8.	The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list. For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below). When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer. The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested. For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location: This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

	Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

DESCRIPTION

Pass

10. AC POWER LINE CONDUCTED EMISSION

LIMITS

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

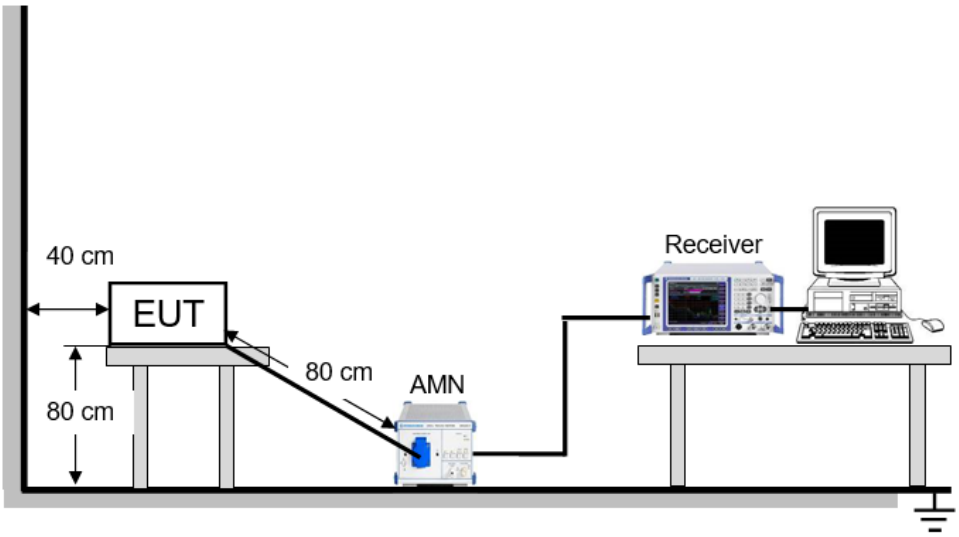
*Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2020.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST SETUP



TEST ENVIRONMENT

Temperature	℃	Relative Humidity	%
Atmosphere Pressure	kPa		

TEST RESULTS

N/A

11. TEST DATA - APPENDIX A

Please refer to section "Test Data" - Appendix A

END OF REPORT