

TEST REPORT

APPLICANT

Proasia Design Co., Ltd.

MODEL NAME

LED Pressure Transmitter

FCC ID

2BX72-20PAH

REPORT NUMBER

HA260728-PRD-001-R02-02

TEST REPORT

Date of Issue

October 15, 2026

Test Site

HCT America, Inc.
840 Yosemite Way, Milpitas, CA 95035, USA

Applicant	Proasia Design Co., Ltd.
Applicant Address	No. 105, Xingde Rd., Sanchong Dist., New Taipei City, 24158 Taiwan (R.O.C.).
FCC ID	2BX72-20PAH
Model Name	LED Pressure Transmitter
EUT Type	Battery-powered transmitter that screws into the high-pressure port of a scuba diving regulator.
Modulation Type	GFSK
FCC Classification	DXX Part 15 Low Power Communication Device Transmitter
FCC Rule Part(s)	Part 15.249
Test Procedure	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024, KDB 558074 D01 v05r02
Test Period	September 2, 2026, ~ September 8, 2026

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures required. The results of testing in this report apply only to the product which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

HCT America, Inc. certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862

Authorized & Released By:



Dan Coronio
Technical Manager

Tested By:



Joe Vang
RF Engineer

REVISION HISTORY

The revision history for this document is shown in table.

TEST REPORT NO.	REVISION	DATE	DESCRIPTION
HA260728-PRD-001-R02	0	September 24, 2026	Initial Issue
HA260728-PRD-001-R02-01	1	October 5, 2026	Addressed columns without values. Did not apply distance extrapolation cause no emission within 20dB margin and fixed antenna gain. Added units to radiated measurement.
HA260728-PRD-001-R02-02	2	October 15, 2026	Added units to radiated measurement data.

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1. GENERAL INFORMATION

EUT DESCRIPTION

Model	LED Pressure Transmitter
Serial Number(s)	TX000039, TX000040, TX000041, TX000042, TX000043, TX000044
Power Supply	3 V d.c. (Lithium battery)
RF Specification	38 kHz Radio Bluetooth 5.0 LE (1M / 2M)
Transmitter Chain	1

RF SPECIFICATION SUBJECT TO THE REPORT

RF Specification	Bluetooth LE(1M/2M)
Transmitter Chain	1
Frequency Range	2 400 MHz – 2 480 MHz
Max. RF Output Power	Peak: 88.39 dBuV/m @3m
Modulation Type	GFSK
Antenna Specification ¹⁾	Antenna Type: PCB Chip Peak Gain: 1.9 dBi
Firmware Version ¹⁾	1.0.0
Hardware Version ¹⁾	Rev D
Date(s) of Tests	September 2, 2026, ~ September 8, 2026
Test Environment	Temperature: 18.9°C ~ 25°C Humidity: 35% ~ 50% R.H.

Note:

1. Antenna information is based on the document provided.
2. Firmware and Hardware Version are as received by the client.

OPERATING FREQUENCY CHANNELS

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

2. METHODOLOGY

FCC KDB 558074 D01 DTS Measurement Guidance v05r02 dated April 2nd, 2019 entitled “Guidance for Performing Compliance Measurements on Digital Transmission Systems, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under Section 15.247 of the FCC Rules” and the measurement procedures described in ANSI C63.10 (Version: 2020) ‘the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices’.

EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of Section 15.207, 15.209 and 15.249 under the FCC Rule Part 15 Subpart C and the Section 2.1091 under the FCC Rule Part 2.

GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version:2020) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1GHz. Above 1GHz with 1.5m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find the highest emission. Also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. To find out the maximum emission, the relative positions of this hand-held transmitter (EUT) were rotated through three orthogonal axes according to the requirements in Section 8 of ANSI C63.10. (Version: 2020)

Conducted Antenna Terminal

KDB 558074 D01 v05r02

DESCRIPTION OF TEST MODES

The EUT has been tested at 2.4GHz ISM test mode. EUT’s test mode was used to control the channels, power setting, continuous TX and normal RX mode. EUT is equipped with 2.4GHz ISM.

3. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version: 2017).

4. FACILITIES AND ACCREDITATIONS

FACILITIES

HCT America, Inc. holds A2LA accreditation (certificate no. 4201.01) covering all testing included in the scope of this report. All tests were conducted at the facilities listed below.

	Address	ISED CABID	ISED Company Number	FCC Registration	FCC Designation Number
☒	840 Yosemite Way, Milpitas, CA 95035 USA	US0198	25729	898494	US01202
☐	1177 Comstock Road, Hollister, CA 95023 USA	US0198	25729	898494	US01202



EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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.

- (1) The antenna of this E.U.T is permanently attached and there is no provision for connection to an external antenna.
- (2) The E.U.T Complies with the requirement of §15.203

6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2020.

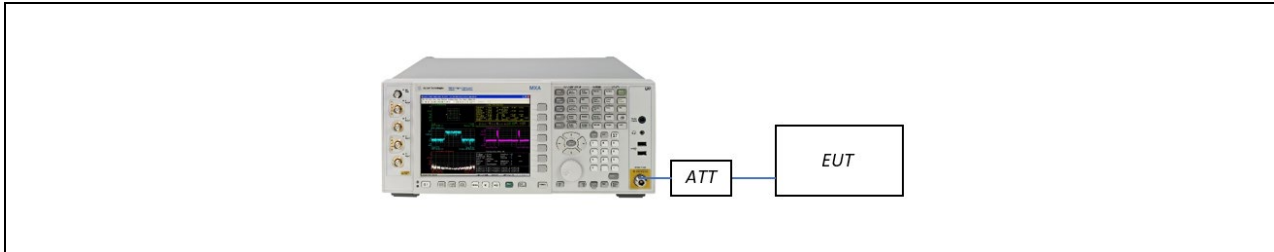
All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty
Occupied Bandwidth	$\pm 120.66 \text{ kHz}$
Radiated Emissions (below 1 GHz)	$\pm 5.29 \text{ dB}$
Radiated Emissions (Above 1 GHz)	$\pm 4.29 \text{ dB}$

7. DESCRIPTION OF TESTS

7.1. DUTY CYCLE

TEST SETUP



TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer.
Zero-span measurement method was used, 6 (b) in KDB 558074 D01 v05r02.

The largest available value of RBW is 8 MHz and VBW is 50 MHz.

The zero-span method of measuring duty cycle shall not be used if $T \leq 6.25$ microseconds. ($50/6.25 = 8$)

The zero-span method was used because all measured T data are > 6.25 microseconds and both RBW and VBW are $> 50/T$.

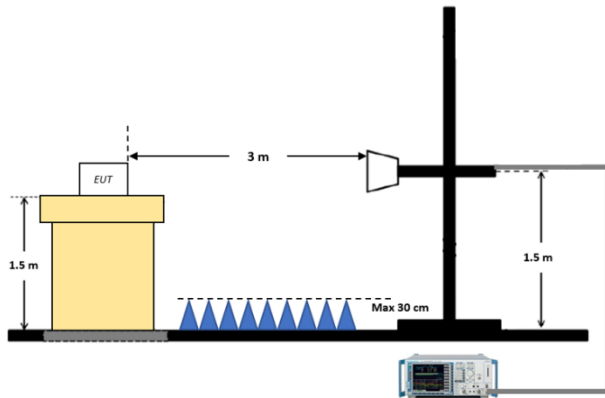
- RBW = 8 MHz (the largest available value)
- VBW = 8 MHz ($\geq$ RBW)
- SPAN = 0 Hz
- Detector = Peak
- Number of points in sweep > 100
- Trace mode = Clear write
- Measure T_{total} and T_{on}
- Calculate Duty Cycle = T_{on} / T_{total} and Duty Cycle Factor = $10 \cdot \log(1/\text{Duty Cycle})$

7.2. 20 dB BANDWIDTH

Limit

20 dB bandwidth: According to §15.215(c), the bandwidth at 20 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the receive antenna while EUT is operating in transmission mode at the appropriate frequencies.

Test Configuration



TEST PROCEDURE (20 dB BANDWIDTH)

Section 8.2 in KDB 558074 D01 v05r02, Subclause 11.8 in ANSI 63.10-2020

The transmitter output is connected to the Spectrum Analyzer.
The Spectrum Analyzer setting:

- RBW = 1 to 5% of OBW / 20dB bandwidth
- VBW $\geq 3 \times$ RBW
- Detector = Peak
- Trace mode = max hold
- Sweep = auto couple
- Allow the trace to stabilize
- Use X dB bandwidth measurement function from the spectrum analyzer by setting X dB to 20 dB

Note:

We tested OBW using the automatic bandwidth measurement capability of a spectrum analyzer.

7.3. RADIATED EMISSIONS

RADIATION EMISSION LIMIT

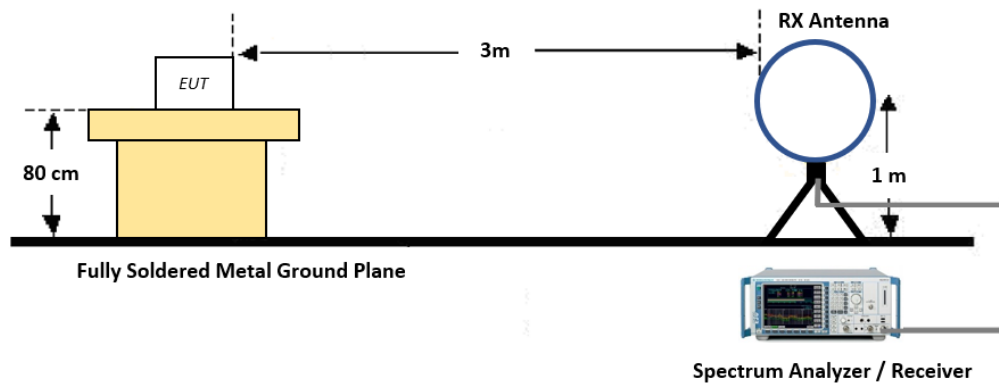
FCC: 47 CFR § 15.209		
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

RESTRICTED BANDS OF OPERATION

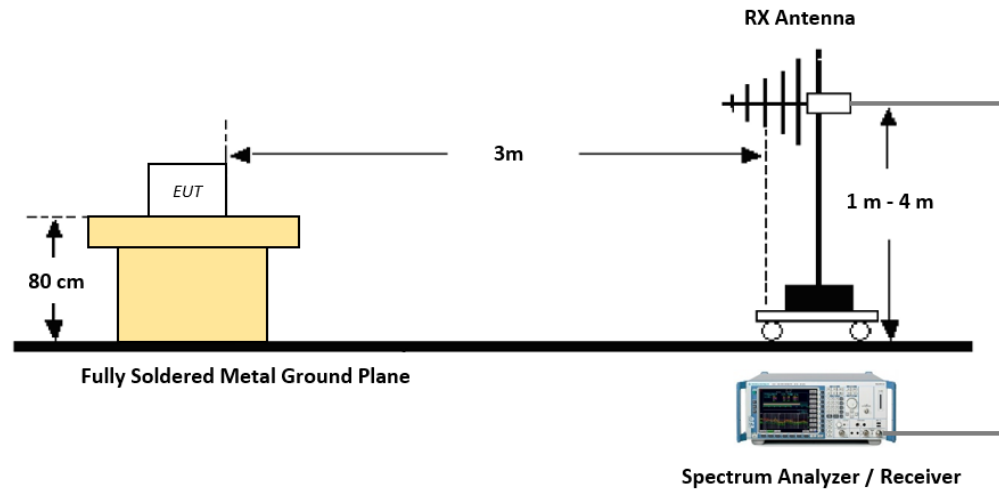
FCC: 47 CFR § 15.205(a)				
Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (MHz)
0.090 – 0.110	12.29 - 12.293	149.9 - 150.05	1660.0 - 1710.0	8025 - 8500
0.495 - 0.505	12.51975 - 12.52025	156.52475 - 156.52525	1718.8 - 1722.2	9000 - 9200
2.1735 - 2.1905	12.57675 - 12.57725	156.7 - 156.9	2200.0 - 2300.0	9300 - 9500
4.125 - 4.128	13.36 - 13.41	162.0125 - 167.17	2310.0 - 2390.0	10600 - 12700
4.17725 - 4.17775	16.42 - 16.423	167.72 - 173.2	2483.5 - 2500.0	13250 - 13400
4.20725 - 4.20775	16.69475 - 16.69525	240.0 - 285.0	2690.0 - 2900.0	14470 - 14500
6.215 - 6.218	16.80425 - 16.80475	322.0 - 335.4	3260.0 - 3267.0	15350 - 16200
6.26775 - 6.26825	25.5 - 25.67	399.9 - 410.0	3332.0 - 3339.0	17700 - 21400
6.31175 - 6.31225	37.5 - 38.25	608.0 - 614.0	3345.8 - 3358.0	22010 - 23120
8.291 - 8.294	73 - 74.6	960.0 - 1240.0	3600.0 - 4400.0	23600 - 24000
8.362 - 8.366	74.8 - 75.2	1300.0 - 1427.0	4500.0 - 5150.0	31200 - 31800
8.37625 - 8.38675	108 - 121.94	1435.0 - 1626.5	5350.0 - 5460.0	36430 - 36500
8.41425 - 8.41475	123 - 138	1645.5 - 1646.5	7250.0 - 7750.0	Above 38600

TEST SETUP

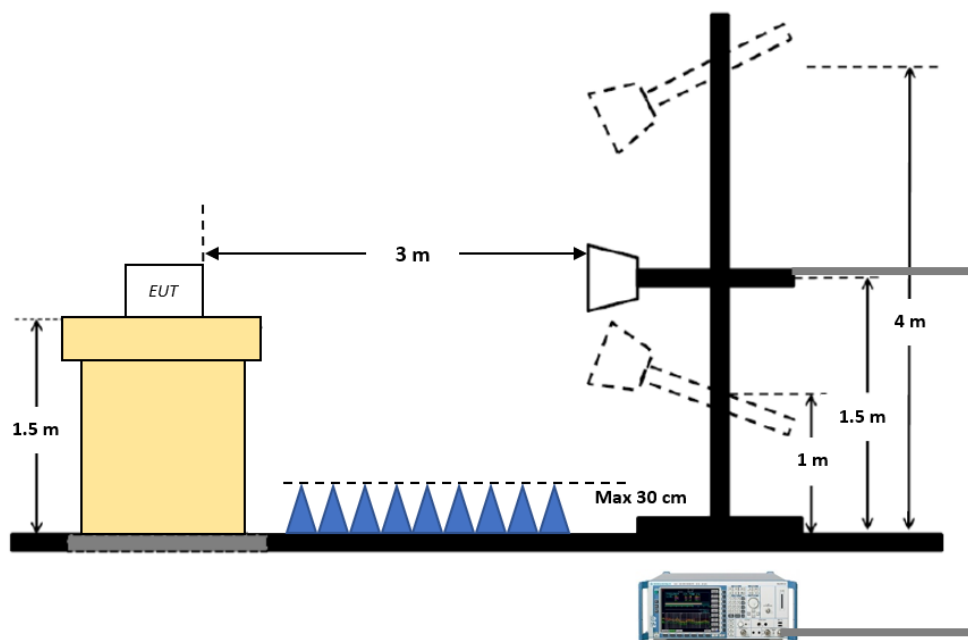
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE OF RADIATED SPURIOUS EMISSION (BELOW 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3m from the EUT
3. The EUT is placed on a turntable, which is 0.8m above ground plane.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated to 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor (0.009 MHz – 0.490 MHz) = $40 \cdot \log(3 \text{ m}/300 \text{ m}) = -80 \text{ dB}$
Measurement Distance: 3 m
7. Distance Correction Factor (0.490 MHz – 30 MHz) = $40 \cdot \log(3 \text{ m}/30 \text{ m}) = -40 \text{ dB}$
Measurement Distance: 3 m
8. Spectrum Setting
 - Frequency Range = 9 kHz ~ 30 MHz
 - Detector = Peak
 - Trace = Max hold
 - RBW = 9 kHz
 - VBW $\geq 3 \cdot \text{RBW}$
9. Total = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L)
10. There is a comparison data both open-field test site and alternative test site – semi-Anechoic chamber according to 414788 D01. And the results are properly calibrated.

TEST PROCEDURE OF RADIATED SPURIOUS EMISSION (30 MHz – 1 GHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. The turntable shall be rotated to 360 degrees to determine the position of maximum emission level.
5. Spectrum Setting

(1) Measurement Type (Peak):

- Measured Frequency Range: 30 MHz – 1 GHz
- Detector = Peak
- Trace = Max hold
- RBW = 100 kHz
- VBW $\geq 3 \cdot \text{RBW}$

(2) Measurement Type(Quasi-peak):

- Measured Frequency Range: 30 MHz – 1 GHz
- Detector = Quasi-Peak
- RBW = 120 kHz

6. Total = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L)

TEST PROCEDURE OF RADIATED SPURIOUS EMISSION (ABOVE 1 GHz)

1. The EUT is placed on a turntable, which is 1.5 m above ground plain.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated to 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which varies from 1m to 4m to reach the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

(1) Measurement Type (Peak):

- Measured Frequency Range: 1 GHz – 25 GHz
- Detector = Peak
- Trace = Max hold
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW

(2) Measurement Type(Average): Duty cycle $\geq 98\%$

- Measured Frequency Range: 1 GHz – 25 GHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).

(3) Measurement Type(Average): Duty cycle $< 98\%$, duty cycle variations are less than $\pm 2\%$

- Measured Frequency Range: 1 GHz – 25 GHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Correction factors should be added to the measurement results prior to comparing them to the emission limit to compute the emission level that would have been measured had the test been performed at 100 % duty cycle.
- Duty Cycle Factor (dB): Please refer to the please refer to section 9.1.

10. Measurement value only up to 6 maximum emissions noted or would be lesser if no specific emissions from the EUT are recorded (*i.e.*: margin > 20 dB from the applicable limit) and considered that is already beyond the background noise floor.

11. Sample Calculation

- (1) Total (Peak) = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L) - Amp Gain(G)
- (2) Total (Average, Duty $\geq 98\%$) = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L) - Amp Gain(G)
- (3) Total (Average, Duty $< 98\%$) = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L) - Amp Gain(G) + Duty Cycle Factor
- (4) Alternative Method: Total (Average) = Total (Peak) + $20 \log$ (Duty Cycle)

TEST PROCEDURE OF RADIATED RESTRICTED BAND EDGE

1. Radiated test is performed with hopping off (if there is any)
2. The EUT is placed on a turntable, which is 1.5 m above ground plane.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. The turntable shall be rotated to 360 degrees to determine the position of maximum emission level.
5. EUT is set 3 m away from the receiving antenna, which varies from 1m to 4m to find out the highest emissions.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

(1) Measurement Type (Peak):

- Detector = Peak
- Trace = Max hold
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW

(2) Measurement Type(Average): Duty cycle $\geq 98\%$,

- Measured Frequency Range: 2310 MHz – 2390 MHz / 2483.5 MHz – 2500 MHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).

(3) Measurement Type(Average): Duty cycle $< 98\%$, duty cycle variations are less than $\pm 2\%$

- Measured Frequency Range: 2310 MHz – 2390 MHz / 2483.5 MHz – 2500 MHz
- Detector = RMS
- Averaging type = power (*i.e.*, RMS)
- RBW = 1 MHz
- VBW $\geq 3 \times$ RBW
- Sweep time = auto.
- Trace mode = average (at least 100 traces).
- Correction factors should be added to the measurement results prior to comparing them to the emission limit to compute the emission level that would have been measured had the test been performed at 100 % duty cycle.
- Duty Cycle Factor (dB): Please refer to the please refer to section 9.1.

9. Measurement value only up to 6 maximum emissions noted or would be lesser if no specific emissions from the EUT are recorded (*i.e.*: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

10. Sample Calculation

- (1) Total (Peak) = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L)
- (2) Total (Average, Duty $\geq 98\%$) = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L) - Amp Gain(G)
- (3) Total (Average, Duty $< 98\%$) = Reading Value + Antenna Factor (A.F) + Cable Loss (C.L) - Amp Gain(G) + Duty Cycle Factor

7.4. AC POWER LINE CONDUCTED EMISSIONS

LIMIT

47 CFR § 15.207, RSS-GEN Section 8.8

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).

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

*Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

TEST SETUP

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is situated on a wooden table 80 cm above the reference ground plain.
2. EUT is connected via LISN to test power supply.
3. The measurement results are obtained as described below:
4. Detectors: Quasi Peak and Average Detector.

According to FCC KDB 174176 D01 Line Conducted FAQ v01r01:

Devices Operating Above 30 MHz

For a device with a permanent or detachable antenna operating above 30 MHz, measurements must be performed with the antenna connected as specified in clause 6.2 of ANSI C63.10-2020.

Devices Operating Below 30 MHz

For a device with a permanent or detachable antenna operating at or below 30 MHz, the FCC will accept measurements performed with a suitable dummy load in lieu of the antenna under the following conditions:

- (1) Perform the AC powerline conducted tests with the antenna connected to determine compliance with Section 15.207 limits outside the transmitter's fundamental emission band;
- (2) Retest with a dummy load in lieu of the antenna to determine compliance with Section 15.207 limits within the transmitter's fundamental emission band. For a detachable antenna, remove the antenna and connect a suitable dummy load to the antenna connector. For a permanent antenna, remove the antenna and terminate the RF output with a dummy load or network which simulates the antenna in the fundamental frequency band. All measurements must be performed as specified in clause 6.2 of ANSI C63.10-2020.

Sample Calculation

Quasi-peak (Final Result) = Reading Value + Correction Factor

8. SUMMARY OF TEST RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
20 dB Bandwidth	§15.215(c)	N/A	Radiated	PASS
Radiated Fundamental and Spurious Emissions	§15.249(a) §15.209	cf. Section 7.2		PASS
Radiated Restricted Band Edge	§15.249(a) §15.205(a)	cf. Section 7.3		PASS
AC Power line Conducted Emissions	§15.207	cf. Section 7.4	Conducted	N/A

Note(s):

1. AC Power Line Conducted Emissions testing is not applicable because the EUT is battery powered.

WORST CASE CONFIGURATION

RADIATED TEST

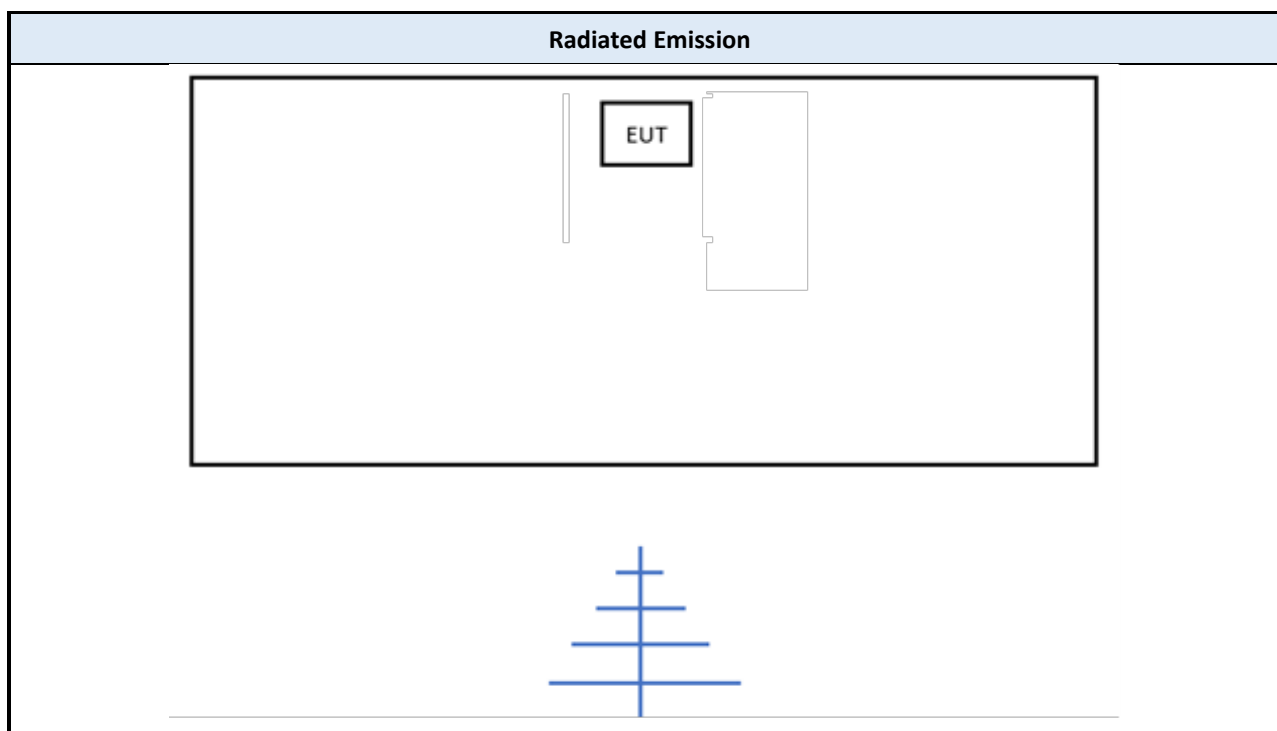
1. EUT Axis

All X, Y, and Z positions for horizontal / vertical antenna polarization were investigated to find the worst-case position. Z position was selected for the final evaluation.

OUTPUT POWER SETTING

The output is preset as declared by the manufacturer

TEST CONFIGURATION



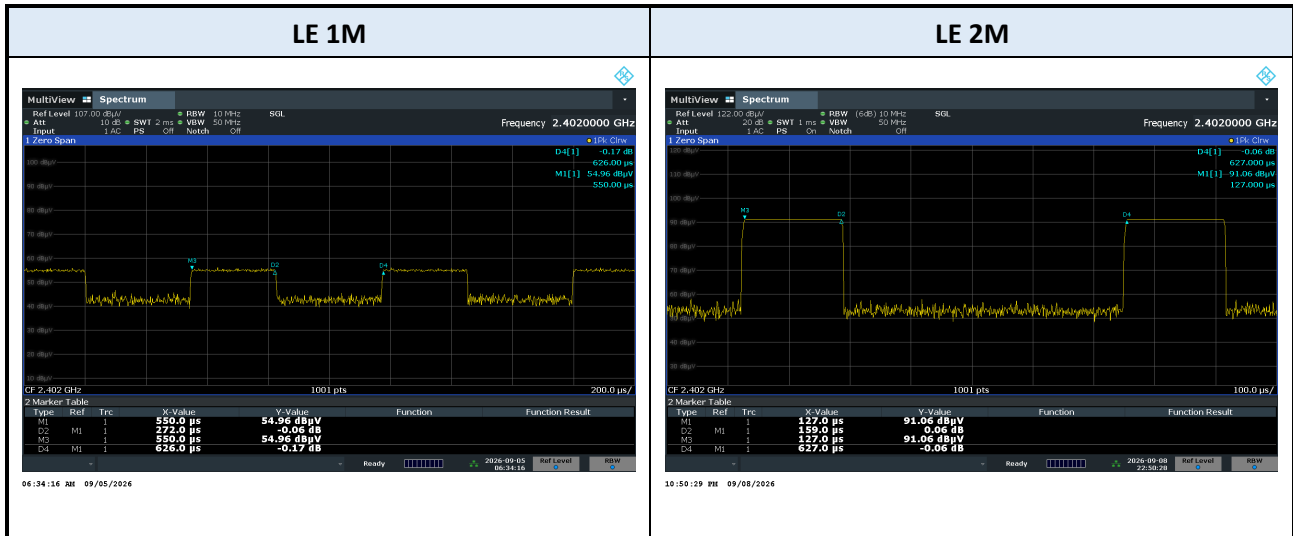
LIST OF SUPPORT EQUIPMENT

Equipment Type	Model No.	Serial No.	Manufacturer	Qty	Note
Scuba Tank	-	CTC/DOT-3AL3000P624691LUXFER02a92-S80	DACOR	1	Attached is pressure value
1 st Stage Diving Regulator	-	BX11258	Beuchat	1	Attached is 30" MP hose
2 nd Stage Diving Regulator	-	91-03	Oceanic	1	Attached is 78" HP braided hose

9. TEST RESULT

9.1. DUTY CYCLE

Mode	Data Rate	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Factor (dB)	VBW(1/T) (Hz)
BLE1M	1 Mbps	0.272	0.626	43.45%	3.62	2.301
BLE2M	2 Mbps	0.159	0.627	25.36%	5.96	3.943



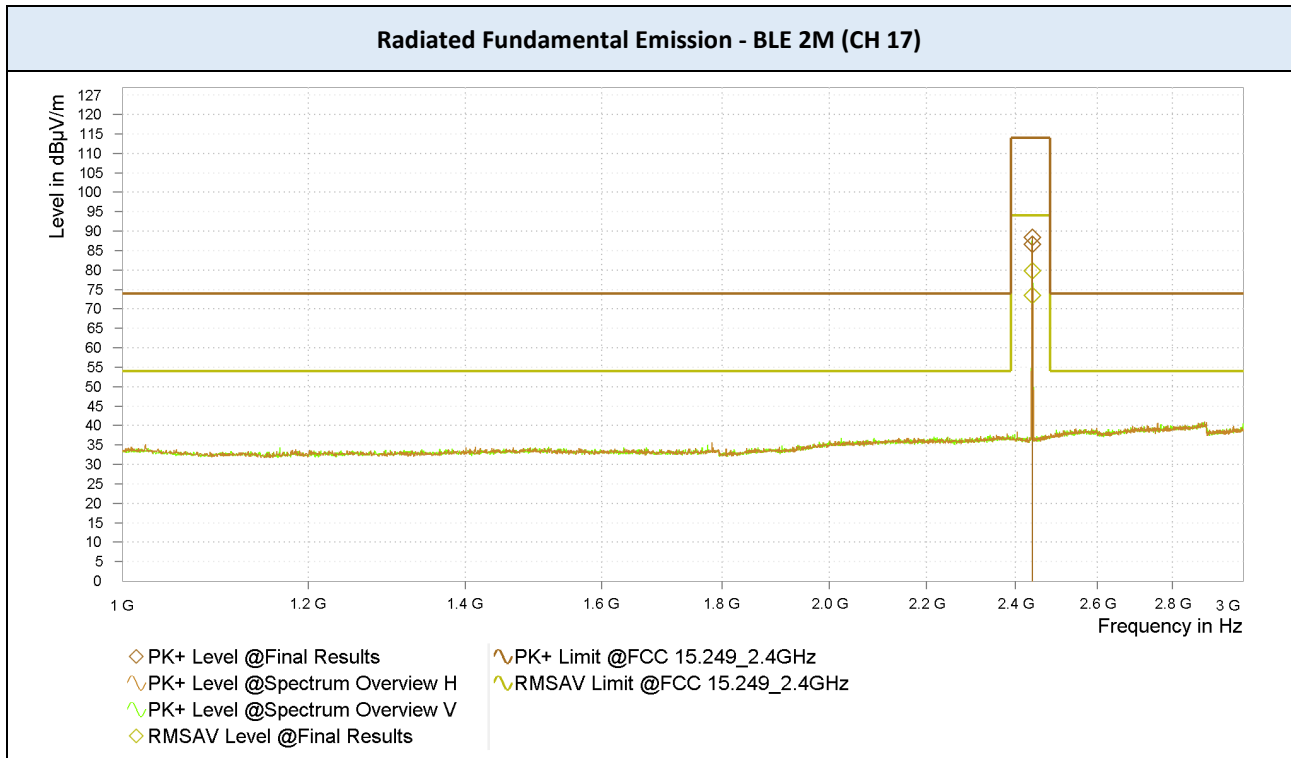
9.3. FUNDAMENTAL RADIATED POWER

Band	Test Mode	Test Frequency (MHz)	Frequency (MHz)	PK Level (dBuV)	PK Limit (dBuV/m)	PK Margin (dB)	AV Level (dBuV)	AV Limit (dBuV/m)	AV Margin (dB)	Factor (dB)	Polarization
BLE	1Mbps	2402	2,402.00	87.41	114	26.59	86.300	94	7.699	-8.31	V
			2,402.01	83.69	114	30.31	82.500	94	11.499	-8.31	H
		2440	2,440.02	85.86	114	28.14	84.670	94	9.329	-8.13	V
			2,440.04	83.75	114	30.25	82.160	94	11.839	-8.15	H
		2480	2,480.01	87.08	114	26.92	85.970	94	8.029	-7.85	H
			2,480.02	85.82	114	28.18	84.620	94	9.380	-7.84	V
	2Mbps	2402	2,401.44	81.93	114	32.07	78.886	94	15.111	-8.33	V
			2,402.50	82.05	114	31.95	74.808	94	19.191	-8.32	H
		2440	2,440.02	88.39	114	25.61	85.768	94	8.231	-8.13	V
			2,440.50	86.65	114	27.35	79.358	94	14.641	-8.14	H
		2478	2,480.03	86.91	114	27.09	84.248	94	9.751	-7.85	H
			2,480.04	88.12	114	25.88	85.418	94	8.581	-7.84	V

Note:

1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB).
3. The Duty Factor is applied

■ TEST PLOTS



Note:

1. Worst case reported

9.5. RADIATED SPURIOUS EMISSIONS

Frequency Range: 9 kHz ~ 30 MHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. ¹⁾ (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
All emissions were at least 20dB below the applicable limit, therefore detailed data is not reported.							

Note(s):

1. The Measured value of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
2. Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = specific Limits (dBuV) + Distance extrapolation factor

Frequency Range: Below 1 GHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. ¹⁾ (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
All emissions were at least 20dB below the applicable limit, therefore detailed data is not reported.							

Note(s):

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.

Frequency Range: Above 1 GHz

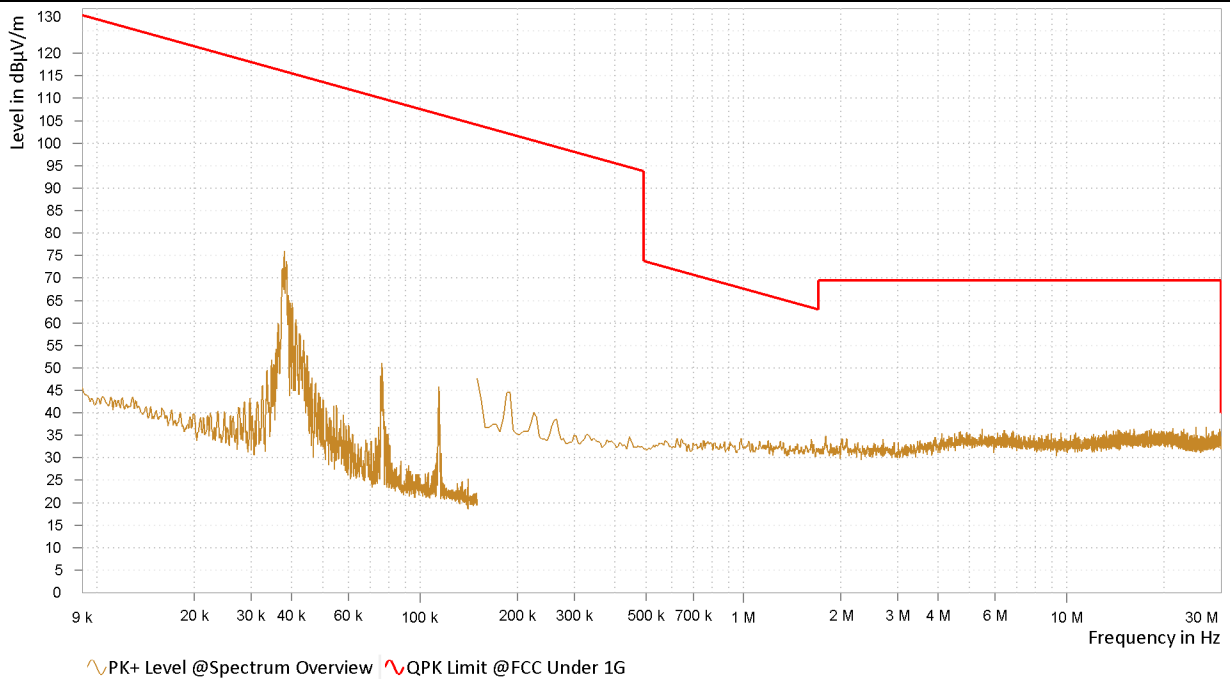
Band	Test Mode	Test Frequency (MHz)	Frequency (MHz)	PK Level (dBuV)	PK Limit (dBuV/m)	PK Margin (dB)	AV Level (dBuV)	AV Limit (dBuV/m)	AV Margin (dB)	Factor (dB)	Polarization
BLE	1Mbps	2402	4803.50	46.38	74	27.62	36.49	54	13.89	-16.76	V
			4804.04	47.03	74	26.97	36.00	54	14.38	-16.67	H
			7205.36	47.42	74	26.58	35.48	54	14.90	-10.43	H
			11490.21	50.09	74	23.91	38.27	54	12.11	-5.56	H
		2440	4,879.52	47.38	74	26.62	37.71	54	12.67	-16.32	V
			4,879.54	49.06	74	24.94	40.25	54	10.13	-16.24	H
			7,319.09	48.01	74	25.99	35.8	54	14.58	-10.32	H
			7,320.71	45.65	74	28.35	34	54	16.38	-10.48	V
		2480	4,959.40	45.33	74	28.67	34.38	54	16.00	-15.99	V
			4,959.45	49.09	74	24.91	39.92	54	10.46	-15.91	H
			7,439.29	47.13	74	26.87	34.93	54	15.45	-10.87	V
			7,440.09	47.47	74	26.53	34.78	54	15.60	-10.67	H
	2Mbps	2402	4802.93	45.05	74	28.95	32.33	54	15.71	-16.76	V
			4804.08	47.91	74	26.09	35.44	54	12.60	-16.67	H
			7207.38	45.39	74	28.61	33.57	54	14.47	-10.65	V
			7,214.42	45.79	74	28.21	33.66	54	14.38	-10.41	H
		2440	4,879.95	46.85	74	27.15	34.03	54	14.01	-16.32	V
			4,887.62	47.52	74	26.48	29.53	54	18.51	-16.2	H
			7,318.27	46.4	74	27.6	34.49	54	13.55	-10.32	H
			7,318.81	45.26	74	28.74	33.78	54	14.26	-10.47	V
		2478	4,959.16	47.08	74	26.92	34.79	54	13.25	-15.99	V
			4,959.82	50.99	74	23.01	39.32	54	8.72	-15.91	H
			7,439.15	45.54	74	28.46	33.6	54	14.44	-10.87	V
			7,446.19	46.17	74	27.83	33.72	54	14.32	-10.63	H

Note:

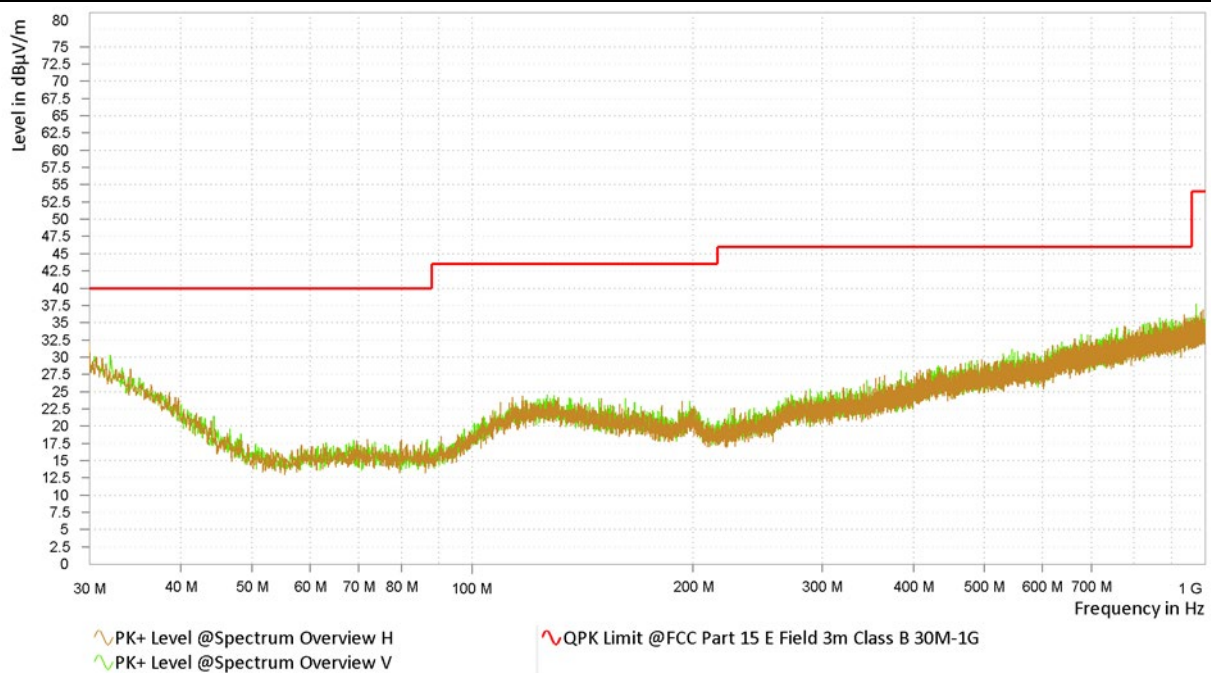
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB).
3. The Duty Factor is applied only to harmonic components.

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Radiated Spurious Emission 9 kHz – 30 MHz (Antenna Position Bent over): BLE 1M (CH 37)



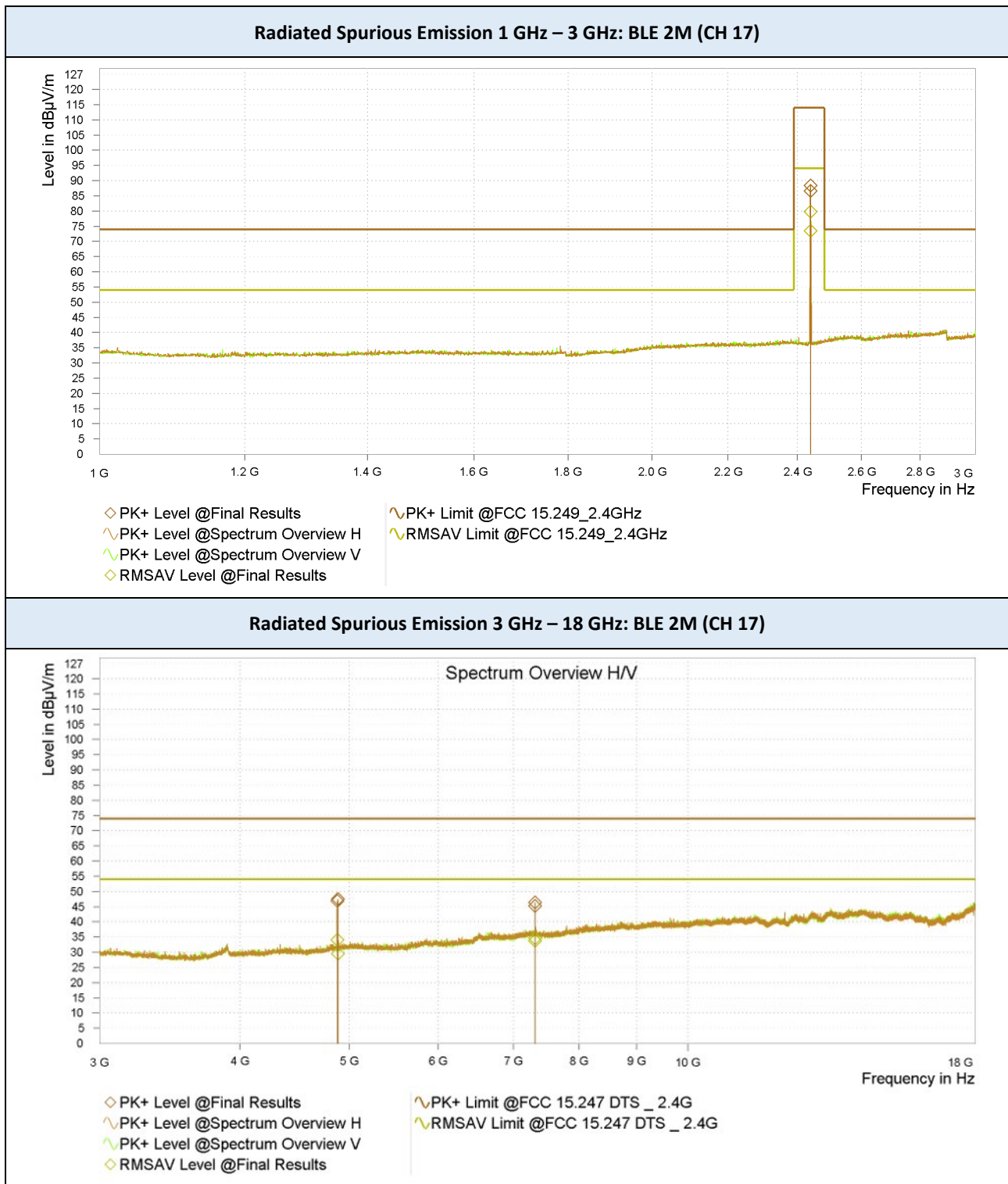
Radiated Spurious Emission 30 MHz – 1 GHz: BLE 1M (CH 37)



Note:

1. The worst-case plot is included in this report.

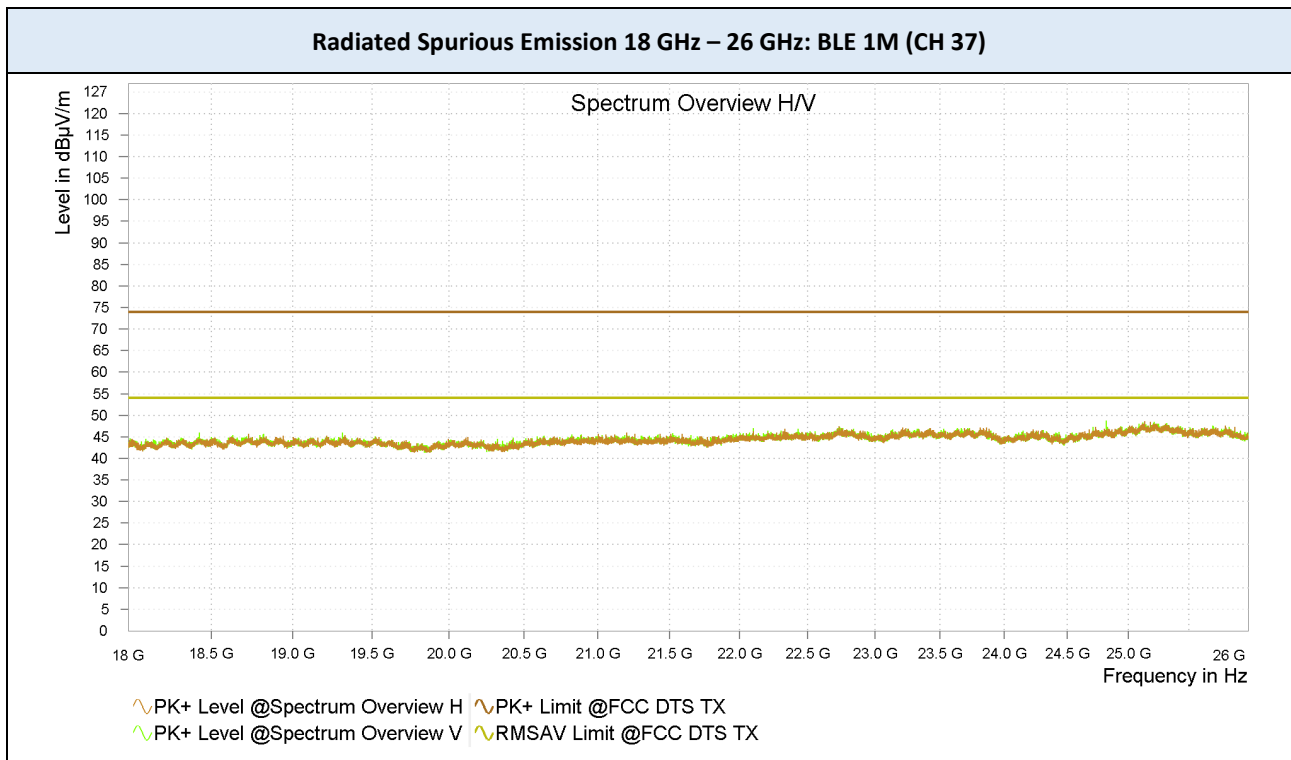
■ TEST PLOTS



Note:

1. The worst-case plot is included in this report.

▣ TEST PLOTS



Note:

1. There were no major peaks, and representative plots are included in this report
2. The plots include all used factor values for cables, antenna, preamplifier, etc.

9.6. RADIATED RESTRICTED BAND EDGES

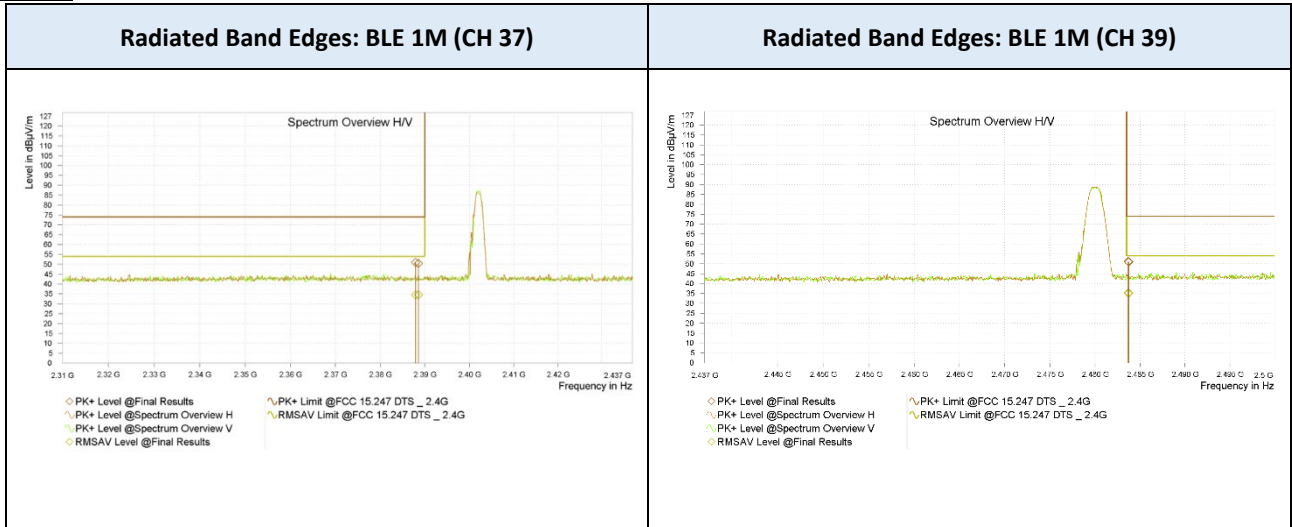
Band	Test Mode	Test Frequency (MHz)	Frequency (MHz)	PK Level (dBuV)	PK Limit (dBuV/m)	PK Margin (dB)	AV Level (dBuV)	AV Limit (dBuV/m)	AV Margin (dB)	Factor (dB)	Polarization
BLE Low Band-Edge	1Mbps	2402	2388.51	50.36	74.00	23.64	34.54	54.00	15.84	-8.39	H
			2387.87	50.98	74.00	23.02	34.53	54.00	15.85	-8.41	V
	2Mbps	2402	2389.75	50.58	74.00	23.42	34.55	54.00	13.49	-8.36	H
			2389.77	50.34	74.00	23.66	34.51	54.00	13.53	-8.38	V
BLE High Band-Edge	1Mbps	2480	2483.75	50.95	74.00	23.05	35.21	54.00	15.17	-7.83	H
			2483.68	51.14	74.00	22.86	35.12	54.00	15.26	-7.83	V
	2Mbps	2480	2483.71	50.94	74.00	23.06	34.98	54.00	13.06	-7.83	H
			2483.62	50.90	74.00	23.10	35.02	54.00	13.02	-7.83	V

Note:

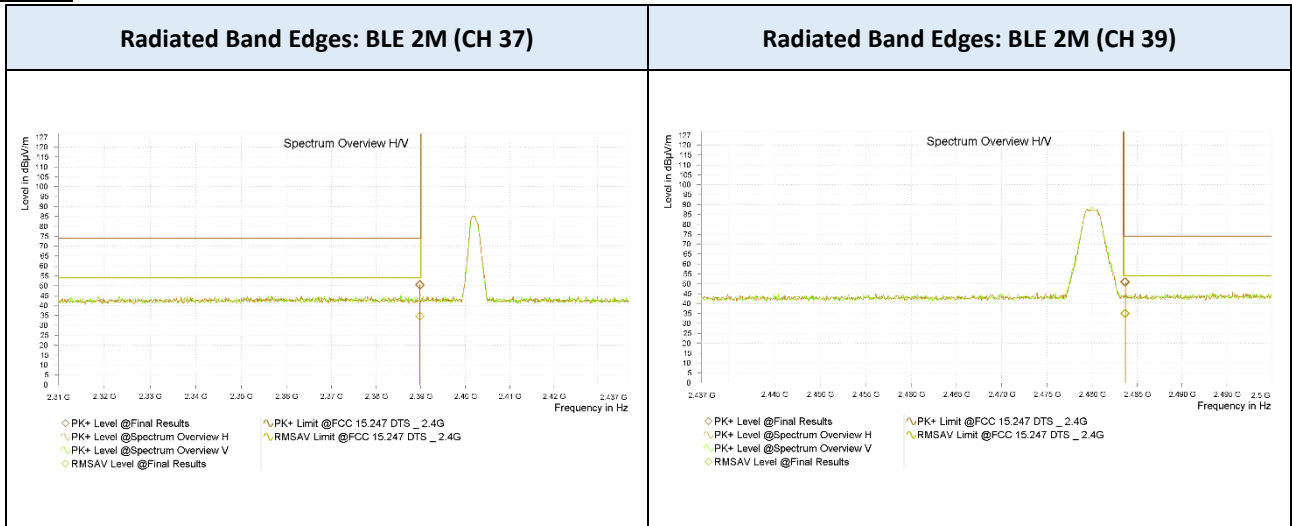
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB).

TEST PLOTS

BLE 1M



BLE 2M



10. LIST OF TEST EQUIPMENT

No.	Instrument	Model No.	Calibration Due (mm/dd/yy)	Manufacture	Serial No.
☒	Signal Analyzer (1 Hz ~ 44.0 GHz)	ESW44	08/07/2027	Rohde & Schwarz	103176
☒	Loop Antenna (0.009 ~ 30 MHz)	HLA 6121	03/03/2027	TESEQ	43964
☒	BI-LOG Antenna (30 MHz ~ 6 GHz)	JB6	02/27/2027	Sunol	A060916
☒	Horn Antenna (1 GHz ~ 18 GHz)	BBHA 9120 D	07/15/2027	Schwarzbeck	03023
☒	Horn Antenna (15 GHz ~ 40 GHz)	BBHA 9170	01/21/2027	Schwarzbeck	1342
☒	RF Switch Matrix System	HRSMS-VL	01/02/2027	HCT Ltd.	2-51-001
☒	Test Software	R&S*ELEKTRA	-	Rohde & Schwarz	-

Note:

- Equipment listed above that calibrated during the testing period was set for test after the calibration.
- Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

APPENDIX A. TEST SETUP PHOTOS

The setup photos are provided as a separate document.

APPENDIX B. PHOTOGRAPHS OF EUT

B.1. EXTERNAL PHOTOS

The external photos are provided as a separate document.

B.2. INTERNAL PHOTOS

The internal photos are provided as a separate document.

END OF TEST REPORT