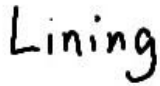


RF Test Report

Test Report Number	HME-26020362-LG-FCC-IC-BLE-R1
FCC ID IC Applicant Applicant Address Product Name Model (s) Date of Receipt Date of Test Report Issue Date Test Standards Test Result	BYMBP5GC1 1860A-BP5GC1 HM Electronics Inc 2848 Whiptail Loop, Carlsbad, CA 92010 USA Wireless Beltpack BP5GC1 02/03/2026 02/03/2026 – 03/02/2026 05/20/2026 47 CFR Part 15.247 RSS 247 Issue 4, July 2025 PASS
	Issued by: Vista Compliance Laboratories 1261 Puerta Del Sol, San Clemente, CA 92673 USA www.vista-compliance.com
 Lining Li (Test Engineer)	 Jerry Bai (Technical Manager)
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REVISION HISTORY

Report Number	Version	Description	Issued Date
HME-26020362-LG-FCC-IC-BLE	01	Initial report	03/13/2026
HME-26020362-LG-FCC-IC-BLE-R1		Add 5G NR n25/n71 Bands	05/20/2026

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1 Test Summary

Test Item	Test Requirement	Test Method	Result
Antenna Requirement	47 CFR Part 15.247 RSS 247 Issue 4, July 2025	ANSI C63.10-2020	Pass
DTS (6 dB) Channel Bandwidth	47 CFR Part 15.247 RSS 247 Issue 4, July 2025	ANSI C63.10-2020	Pass
Occupied Bandwidth	RSS-Gen Issue 5, Feb 2021	RSS-Gen Issue 5, Feb 2021	Pass
Conducted Maximum Output Power	47 CFR Part 15.247 RSS 247 Issue 4, July 2025	ANSI C63.10-2020	Pass
Power Spectral Density	47 CFR Part 15.247 RSS 247 Issue 4, July 2025	ANSI C63.10-2020	Pass
Conducted Band-Edge & Unwanted Emissions	47 CFR Part 15.247 RSS 247 Issue 4, July 2025	ANSI C63.10-2020	Pass
Radiated Emissions & Unwanted Emissions into Restricted Frequency Bands	47 CFR Part 15.247 RSS 247 Issue 4, July 2025	ANSI C63.10-2020	Pass
AC Power Line Conducted Emissions	47 CFR Part 15.247 RSS 247 Issue 4, July 2025	ANSI C63.10-2020	Pass

2 General Information

2.1 Applicant

Applicant	HM Electronics Inc
Applicant address	2848 Whiptail Loop, Carlsbad, CA 92010 USA
Manufacturer	HM Electronics Inc
Manufacturer Address	2848 Whiptail Loop, Carlsbad, CA 92010 USA

2.2 Product information

Product Name	Wireless Beltpack
Model Number	BP5GC1
Family Models	N/A
Serial Number	1048977
Frequency Band	Bluetooth BDR/EDR/BLE: 2402-2480MHz LTE Band 2: UL: 1850-1910MHz; DL: 1930-1990MHz LTE Band 4: UL:1710-1755MHz; DL: 2110-2155MHz LTE Band 5: UL:824-849MHz; DL: 869-894MHz LTE Band 12: UL:699-716MHz; DL: 729-746MHz LTE Band 13: UL:777-787MHz; DL:746-756MHz LTE Band 25: UL:1850-1915MHz; DL:1930-1995MHz LTE Band 48: 3550-3700MHz LTE Band 66: UL:1710-1780MHz; DL: 2110-2200MHz LTE Band 71: UL:663-698MHz; DL: 617-652MHz 5G NR n2: UL: 1850-1910MHz; DL: 1930-1990MHz 5G NR n5: UL:824-849MHz; DL: 869-894MHz 5G NR n25: UL:1850-1915MHz; DL:1930-1995MHz 5G NR n48: 3550-3700MHz 5G NR n66: 1710-1780MHz; DL: 2110-2200MHz 5G NR n71: UL:663-698MHz; DL: 617-652MHz 5G NR n77-L: UL:3450-3550MHz; DL: 3450-3550MHz 5G NR n77-H: UL:3700-3980MHz; DL: 3700-3980MHz
Type of modulation	Bluetooth BDR/EDR: GFSK, $\pi/4$ DQPSK, 8DPSK Bluetooth BLE: GFSK LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-Pi/2-BPSK, DFT-s-QPSK, DFT-s-16QAM, DFT-s-64QAM, DFT-s-256QAM, CP-QPSK, CP-16QAM, CP-64QAM, CP-256QAM
Equipment Class	DSS, DTS, PCT, CBE

Antenna Information	Bluetooth: Integral PCB/Printed Inverted-F quarter wave antenna, 1.5 dBi peak gain				
	Cellular: Two integrated antennas but only one is used for tranmission purpose.				
	Antenna type	Antenna	Antenna Name	Band (GHz)	Peak Gain (dBi)
	Cellular antenna	1 (main TX)	FTLTEF129-LU	0.745	-0.26
				0.787	0.29
				0.821	0.31
				0.898	-1.49
				1.714	3.74
				1.884	5.49
				1.994	5.92
				2.156	4.22
				3.303	3.33
				3.601	3.48
3.898	3.94				
Clock Frequencies	N/A				
Input Power	Detachable/Rechargeable Li-ion battery, 3.7VDC				
Power Adapter Manufacturer/Model	N/A				
Hardware version	N/A				
Software version	N/A				
Simultaneous Transmission	BLE and Cellular can transmit simultaneously				
Simultaneous Transmission	N/A				
Additional Info	1. FreeSpeak Cell Beltpack is a battery powered wireless communication intercom “Beltpack” operating across 4G LTE and 5G Cellular Frequency Bands. The FreeSpeak Cell Beltpack will operate in conjunction with private and commercial cellular networks along with audio distribution systems (bases) that include the Arcadia and EHX products. The FreeSpeak Cell beltpack sends and receives audio over IP from/to the beltpack to/from the Central Station (i.e. Eclipse HX Frame or Arcadia Base Station) over a cell network. The Central Station can distribute the audio locally or all over the world. With many Free Speak Cell beltpacks in combination, along with a combination of other ClearCom products, hundreds of users can communicate with each other to accomplish whatever they need to do. 2. EUT integrates FCC certified cellular 4G LTE/5G NR module, Model: RG255C-GL from Quectel Wireless Solutions (FCC ID: XMR2024RG255CGL, ISED ID: 10224A-024RG255CGL) , Bands supported : 4G LTE B2, B4, B5, B12, B13, B48, B66; 5G NR n2, n5, n25, n48, n66, n71, n77. 3. EUT is not sold with a dedicated power charger. For testing purpose, an Apple USB charger is used as supporting equipment for power line conducted emission testing.				

2.3 Test standard and method

Test standard	47 CFR Part 15.247 RSS 247 Issue 4, July 2025
Test method	ANSI C63.10-2020 RSS-Gen Issue 5, Feb 2021

3 Test Site Information

Lab performing tests	Vista Laboratories, Inc.
Lab Address	1261 Puerta Del Sol, San Clemente, CA 92673 USA
Phone Number	+1 (949) 393-1123
Website	www.vista-compliance.com

Test Condition	Temperature	Humidity	Atmospheric Pressure
RF Testing	23.5°C	51.5%	1005 mbar
Radiated Emission Testing	23.5°C	51.5%	1005 mbar

4 Modification of EUT / Deviations from Standards

The EUT is an engineering test sample loaded with RF testing firmware specifically designed to support the RF TX measurement in different aspects.

5 Test Configuration and Operation

5.1 EUT Test Configuration

For RF conducted measurements, EUT's RF antenna port is connected to spectrum analyzer through RF test cable for direct measurement. The BLE test software is used to set EUT to different transmission mode in terms of RF power, test channel, data rate, etc. For Cellular radio, it's controlled by communication tester to switch to different mode.

The following software was used for testing and to monitor EUT performance.

Software	Description
EMISoft Vasona	EMC/RF Spurious emission test software used during testing
BluetTest3	Bluetooth RF testing used for sending RF command to set EUT into RF test mode

5.2 Supporting Equipment

Description	Manufacturer	Model #	Serial #
Laptop	Dell	Latitude E6440	FFF4JC2
Headphone	Clear-Com	CC-300	N/A
Apple USB charger	Apple	A1385	N/A

6 Uncertainty of Measurement

Test item	Measurement Uncertainty (dB)
RF Output Power (Conducted)	±1.2 dB
Power Spectral Density	±0.9 dB
Unwanted Emission (conducted)	±2.6 dB
Occupied Channel Bandwidth	±5 %
Radiated Emission (9KHz-30MHz)	±3.5 dB
Radiated Emission (30MHz-1GHz)	±4.6 dB
Radiated Emission (1-18GHz)	±4.9 dB
Radiated Emission (18-40GHz)	±3.5 dB

7 Test Results

7.1 Antenna Requirement

7.1.1 Requirement

Per § 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.

7.1.2 Result

Analysis:

- EUT uses integrated antenna for BLE that is permanently attached and not accessible to end user. No standard RF connector is used.

Conclusion:

- EUT complies with antenna requirement in § 15.203.

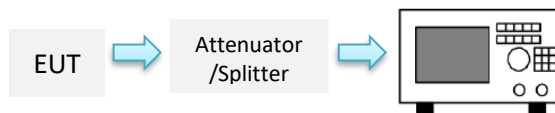
7.2 DTS (6 dB) Bandwidth

7.2.1 Requirement

§ 15.247 (a)(2), RSS-247 §5.2

Systems using digital modulation techniques may operate in the 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz bands. The minimum 6 dB bandwidth shall be at least 500 KHz.

7.2.2 Test Setup



7.2.3 Test Procedure

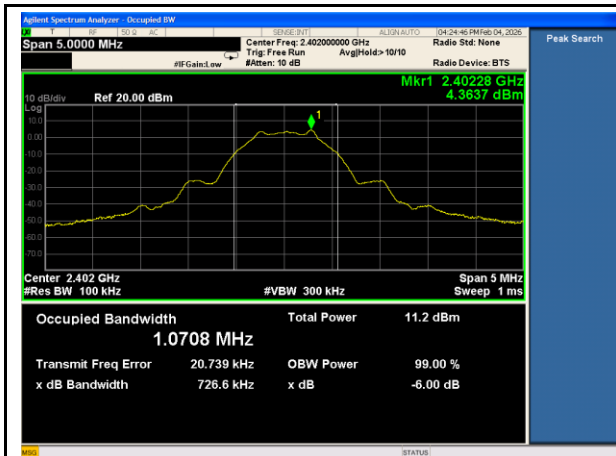
According to section 11.8 of ANSI C63.10-2020:

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW $\geq 3 \times$ RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

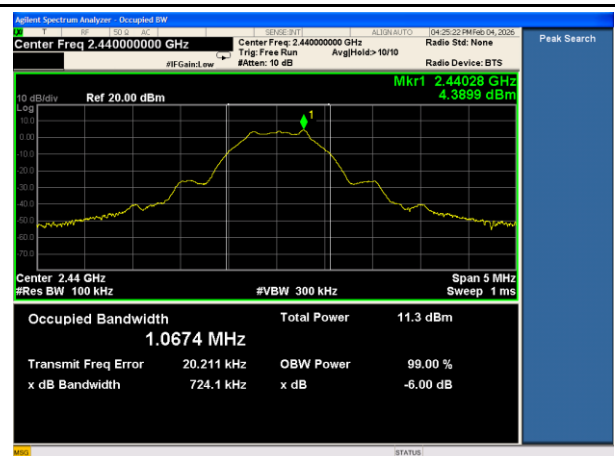
1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Use automatic bandwidth measurement capability on instrument to obtain BW result.

7.2.4 Test Result

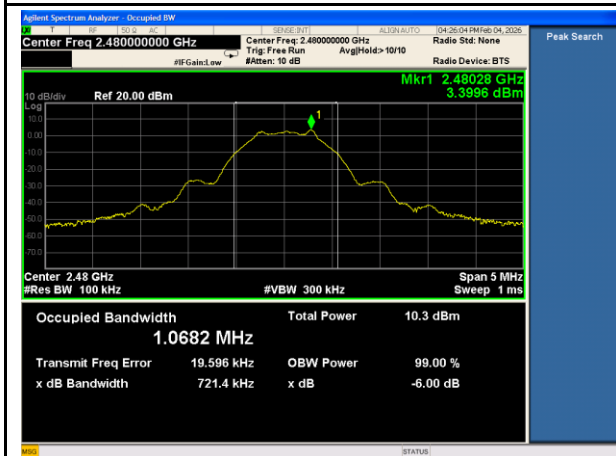
Mode/ Bandwidth	Frequency (MHz)	Data rate	Measured Bandwidth (KHz)	Minimum Bandwidth (KHz)	Result
BLE	2402	1Mbps	727	500	Pass
BLE	2440	1Mbps	724	500	Pass
BLE	2480	1Mbps	721	500	Pass
BLE	2402	2Mbps	1278	500	Pass
BLE	2440	2Mbps	1274	500	Pass
BLE	2480	2Mbps	1276	500	Pass



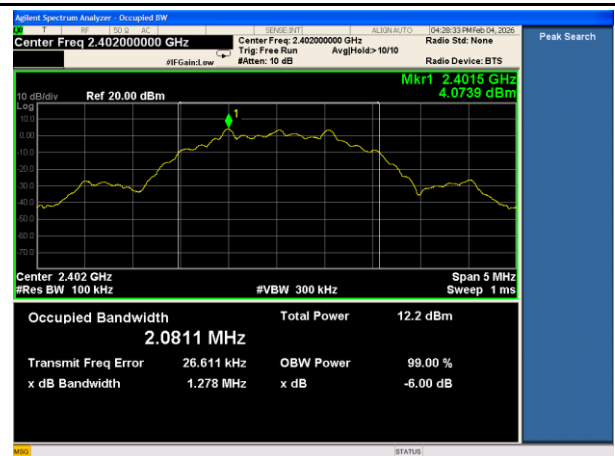
BLE-DTS BW-Low-1Mbps



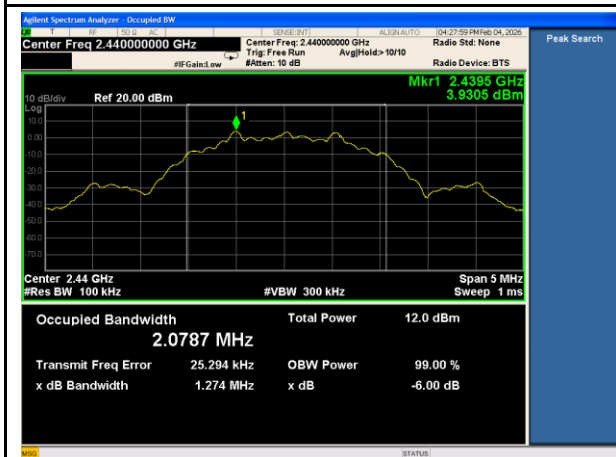
BLE-DTS BW-Mid-1Mbps



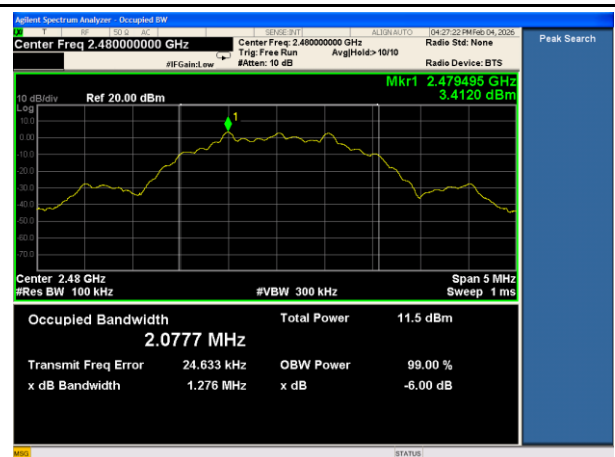
BLE-DTS BW-High-1Mbps



BLE-DTS BW-Low-2Mbps



BLE-DTS BW-Mid-2Mbps



BLE-DTS BW-High-2Mbps

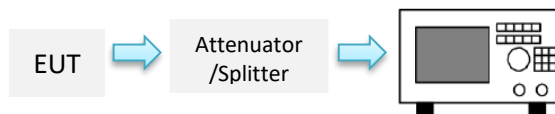
7.3 Occupied Bandwidth (99%)

7.3.1 Requirement

RSS-Gen §6.7

The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

7.3.2 Test Setup



7.3.3 Test Procedure

According to section RSS-Gen §6.7

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW $\geq 3 \times$ RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

1. Set RBW = 1% to 5% of the actual occupied BW.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Span = large enough to capture all products of the modulation process
7. Allow the trace to stabilize.
8. Use automatic bandwidth measurement capability on instrument to obtain BW result.

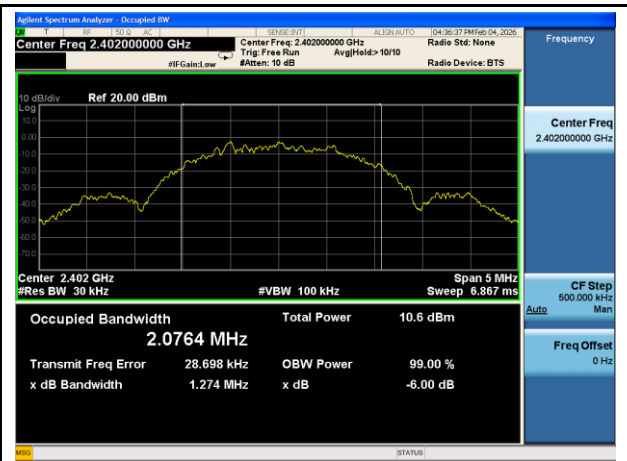
7.3.4 Test Result

Mode/ Bandwidth	Frequency (MHz)	Data rate	Measured 99% OBW (KHz)	Limit (KHz)	Result
BLE	2402	1Mbps	1051.5	N/A	Pass
BLE	2440	1Mbps	1049.5	N/A	Pass
BLE	2480	1Mbps	1047.1	N/A	Pass
BLE	2402	2Mbps	2076.4	N/A	Pass
BLE	2440	2Mbps	2076.8	N/A	Pass
BLE	2480	2Mbps	2077.0	N/A	Pass

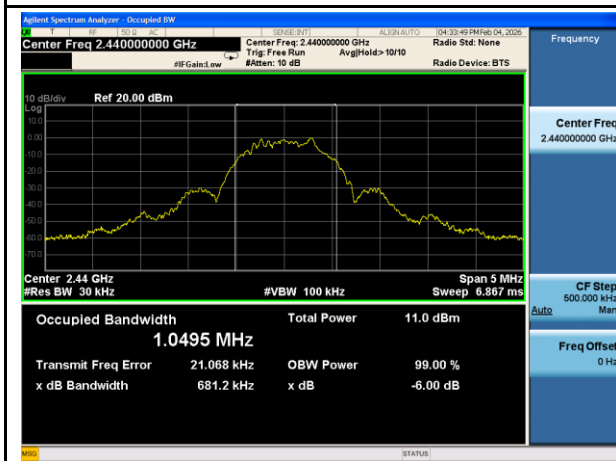
7.3.5 Test Plots



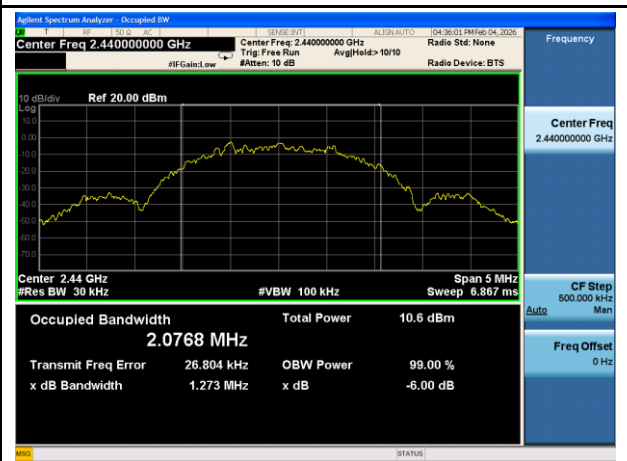
BLE-OBW-Low-1Mbps



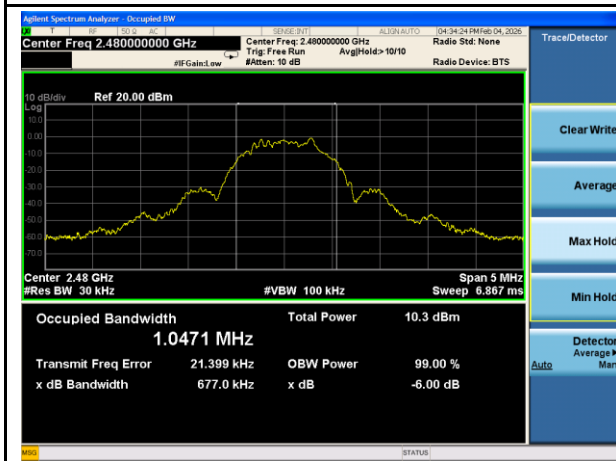
BLE-OBW-Low-2Mbps



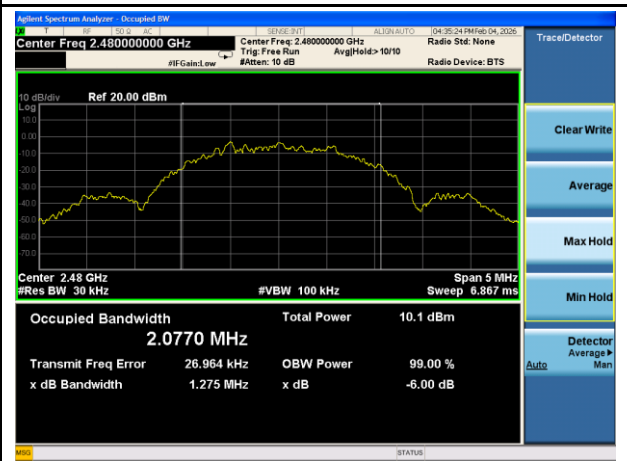
BLE-OBW-Mid-1Mbps



BLE-OBW-Mid-2Mbps



BLE-OBW-High-1Mbps



BLE-OBW-High-2Mbps

7.4 Maximum Output Power

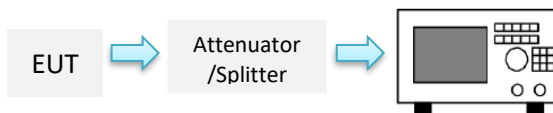
7.4.1 Requirement

§ 15.247 (b)(3), RSS-247 §5.4

or systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: the maximum output power is 1 Watt.

If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.4.2 Test Setup



7.4.3 Test Procedure

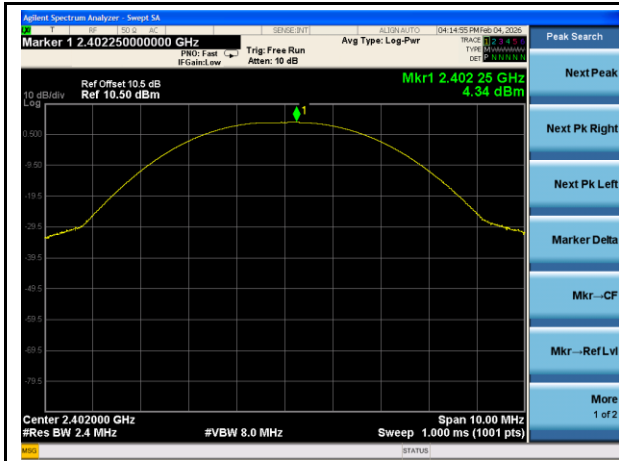
Power measurement is according to section 11.9.1.1 of ANSI C63.10-2020:

1. Set the RBW $\geq$ DTS bandwidth
2. Set VBW $\geq 3 \times$ RBW.
2. Set SPAN $\geq 3 \times$ RBW.
3. Sweep time = auto couple.
4. Detector = peak.
5. Trace mode = max hold
6. Allow trace to fully stabilize.
7. Use peak marker function to determine the peak amplitude level.

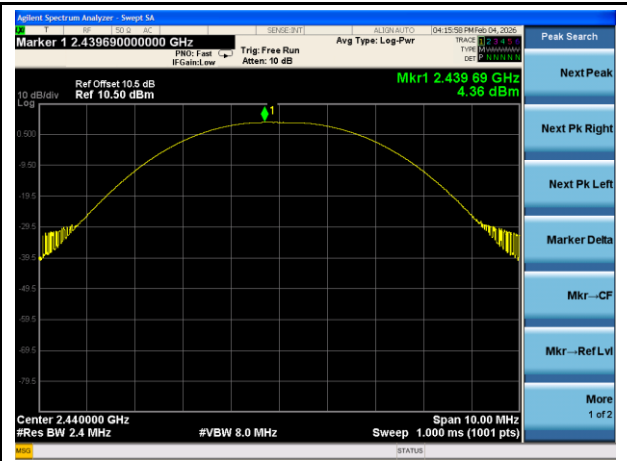
7.4.4 Test Result

Mode/ Bandwidth	Frequency (MHz)	Data rate	Measured Output Power (dBm)	Max Output Power (dBm)	Result
BLE	2402	1Mbps	4.34	30	Pass
BLE	2440	1Mbps	4.36	30	Pass
BLE	2480	1Mbps	3.79	30	Pass
BLE	2402	2Mbps	4.29	30	Pass
BLE	2440	2Mbps	4.59	30	Pass
BLE	2480	2Mbps	3.86	30	Pass

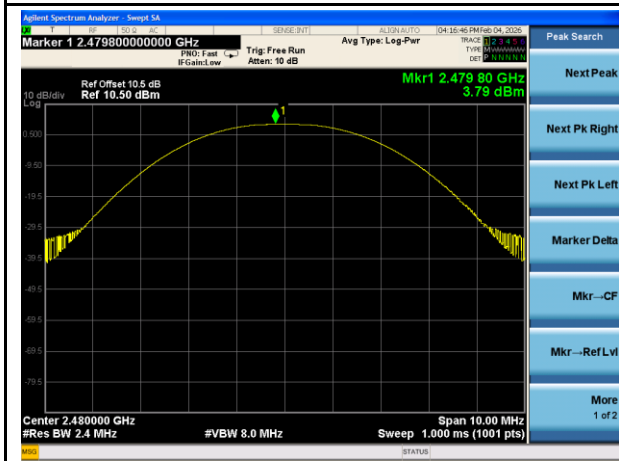
7.4.5 Test Plots



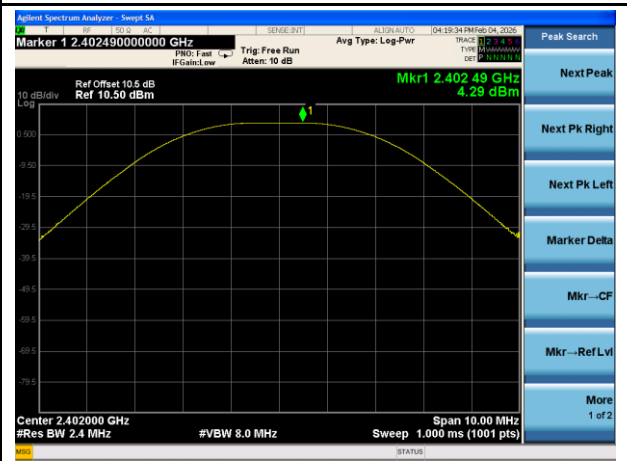
BLE-PWR-Low-1Mbps



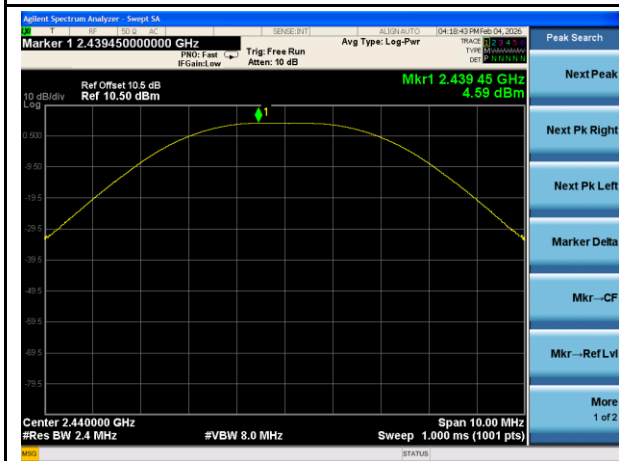
BLE-PWR-Mid-1Mbps



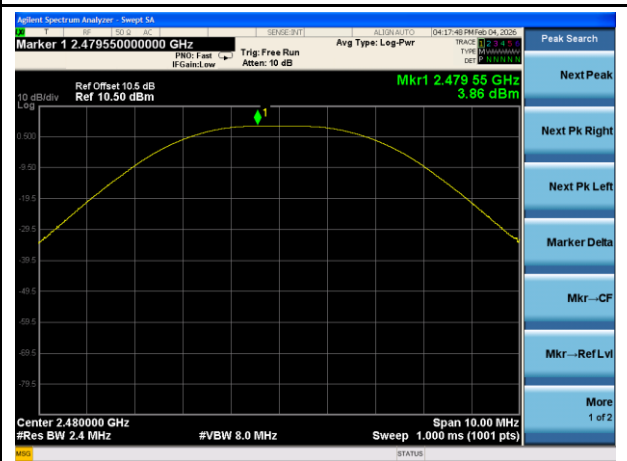
BLE-PWR-High-1Mbps



BLE-PWR-Low-2Mbps



BLE-PWR-Mid-2Mbps



BLE-PWR-High-2Mbps

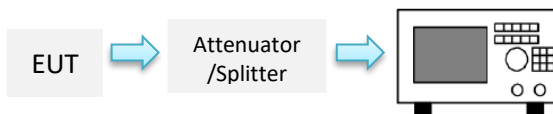
7.5 Power Spectral Density

7.5.1 Requirement

§ 15.247 (e), RSS-247 §5.2

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power is used to determine the power spectral density.

7.5.2 Test Setup



7.5.3 Test Procedure

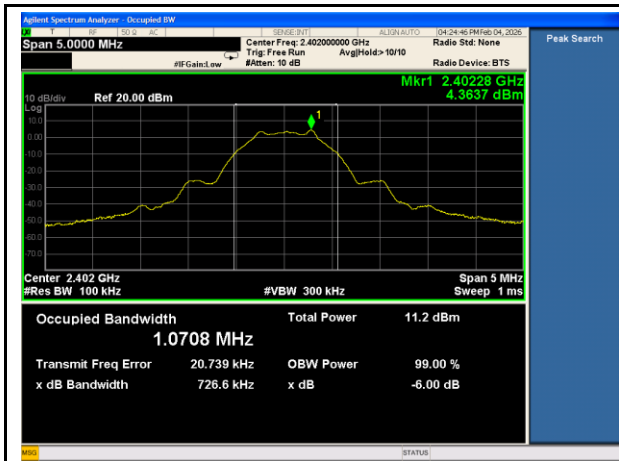
According to section 11.10.2 PKPSD of ANSI C63.10-2020:

1. Set analyser centre frequency to DTS channel centre frequency.
2. Set the span to 1.5 X DTS bandwidth.
3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
4. Set the VBW $\geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

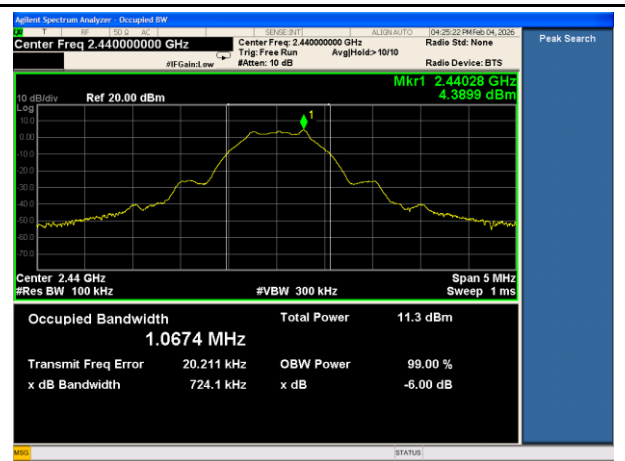
7.5.4 Test Result

Mode/ Bandwidth	Frequency (MHz)	Data rate	Measured PSD (dBm/3KHz)	Max PSD (dBm/3KHz)	Result
BLE	2402	1Mbps	4.36	8	Pass
BLE	2440	1Mbps	4.39	8	Pass
BLE	2480	1Mbps	3.40	8	Pass
BLE	2402	2Mbps	4.07	8	Pass
BLE	2440	2Mbps	3.93	8	Pass
BLE	2480	2Mbps	3.41	8	Pass

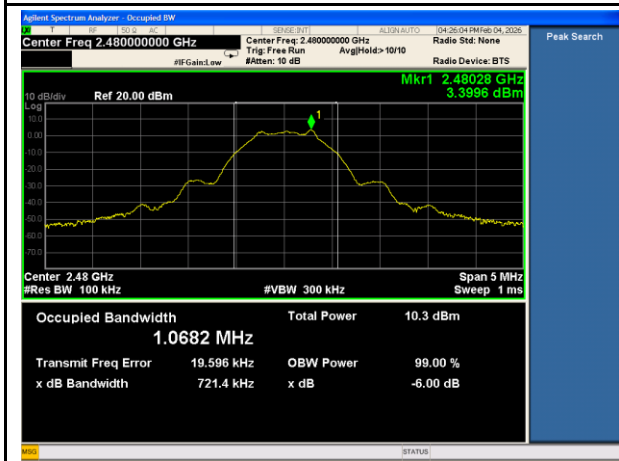
7.5.5 Test Plots



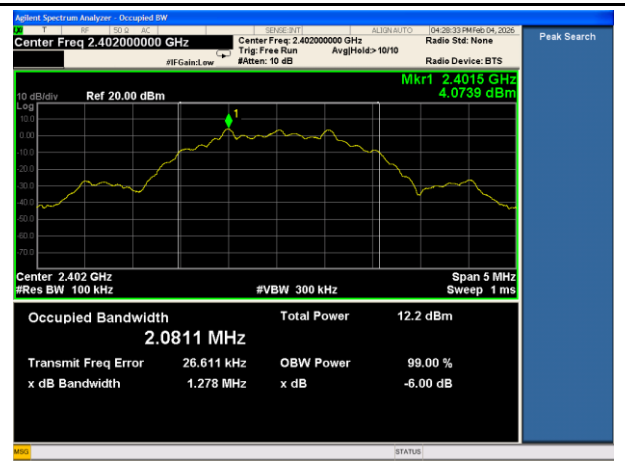
BLE-PSD-Low-1Mbps



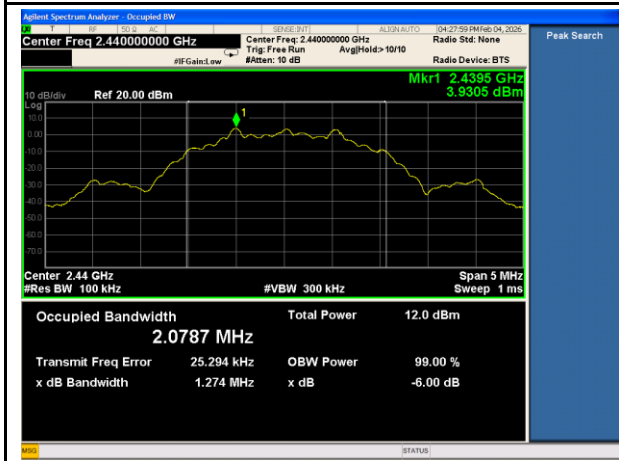
BLE-PSD-Mid-1Mbps



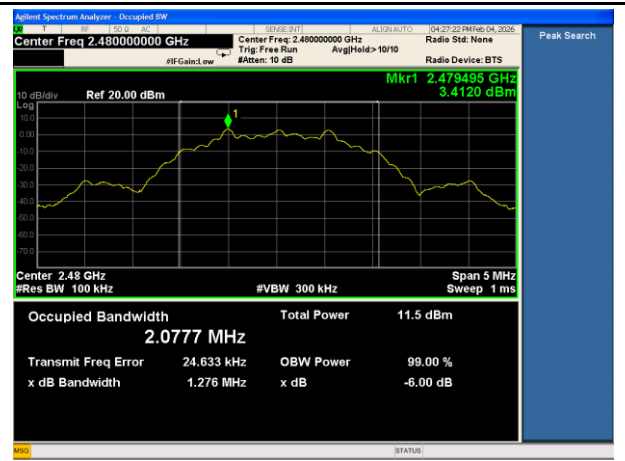
BLE-PSD-High-1Mbps



BLE-PSD-Low-2Mbps



BLE-PSD-Mid-2Mbps



BLE-PSD-High-2Mbps

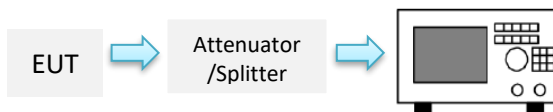
7.6 Conducted Band-Edge Measurement

7.6.1 Requirement

§ 15.247 (d), RSS-247 §5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

7.6.2 Test Setup



7.6.3 Test Procedure

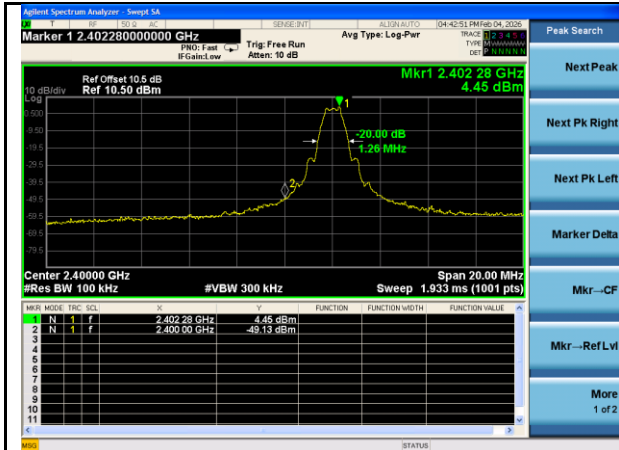
According to section 8.5 Emission level measurement, in KDB 558074 D01 DTS Meas Guidance v05r02 and subclause 11.11.3 in ANSI C63.10-2020:

1. Set the centre frequency and span to encompass frequency range to be measured.
2. Set the RBW = 100 kHz.
3. Set the VBW $\geq 3 \times$ RBW.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the maximum amplitude level.

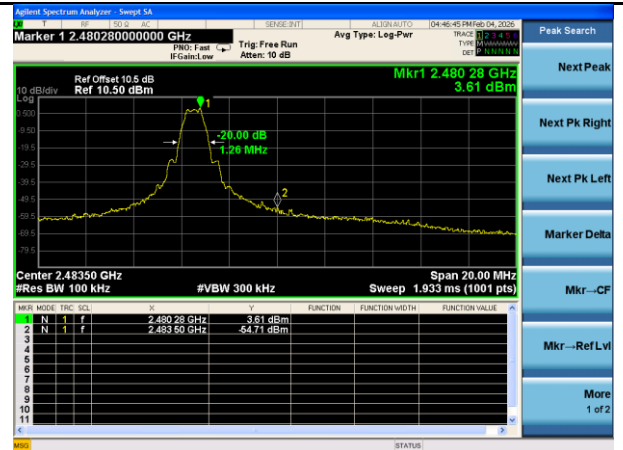
7.6.4 Test Result

Pass. See test plots

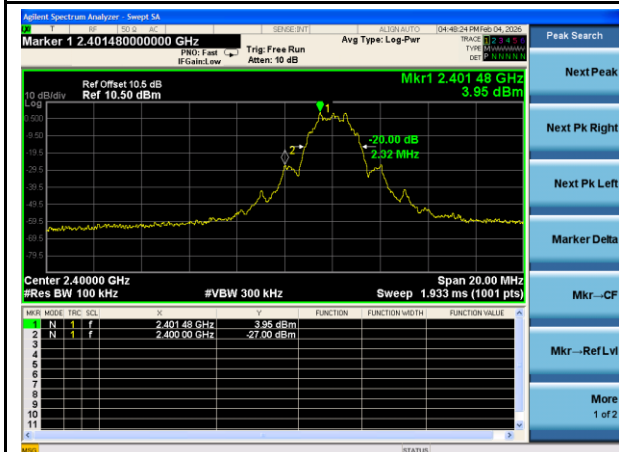
7.6.5 Test Plots



BLE-Band Edge-Low-1Mbps



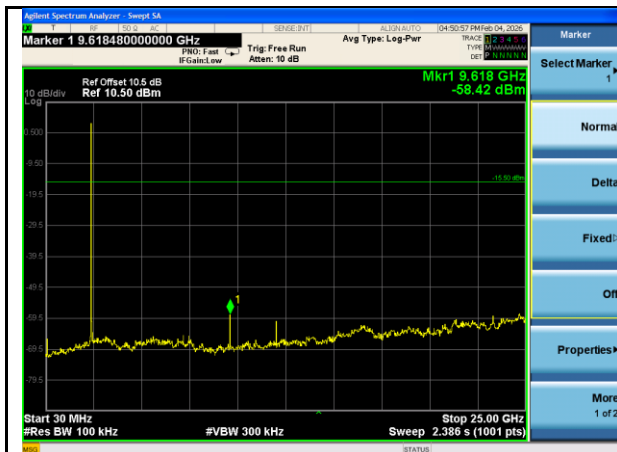
BLE-Band Edge-High-1Mbps



BLE-Band Edge-Low-2Mbps



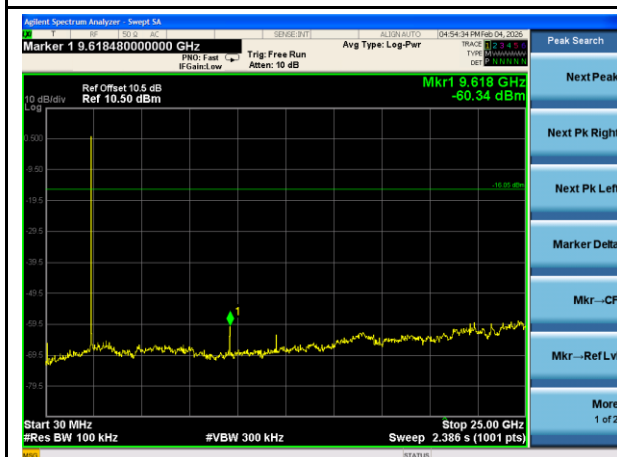
BLE-Band Edge-High-2Mbps



BLE-CSE Low-1Mbps



BLE-CSE High-1Mbps



BLE-CSE Low-2Mbps



BLE-CSE High-2Mbps

7.7 Radiated Band-Edge & Spurious Emissions into Restricted Frequency Bands

7.7.1 Requirement

§ 15.247 (d), RSS-247 §5.5

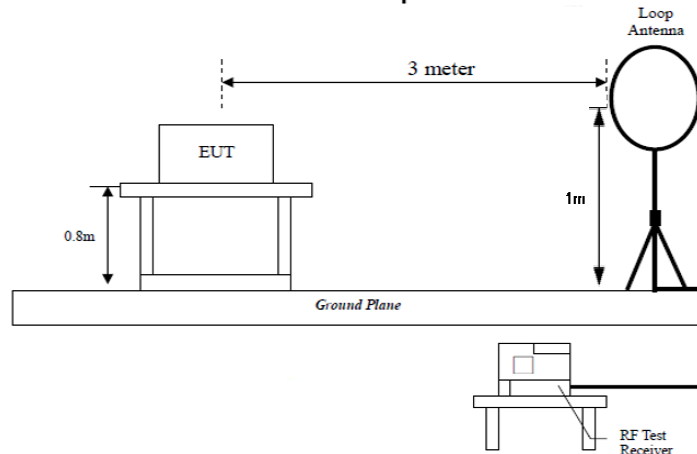
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Attenuation below the general limits specified in §15.209(a) and RSS-Gen is not required. 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)).

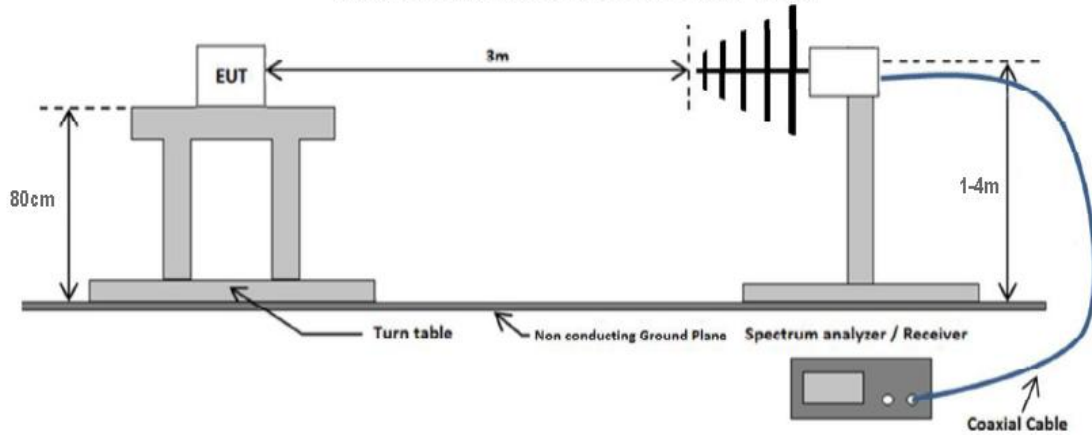
Frequency Range (MHZ)	Field Strength ($\mu\text{V/m}$)
0.009~0.490	2400/F(KHz)
0.490~1.705	24000/F(KHz)
1.705~30.0	30
30 – 88	100
88 – 216	150
216 960	200
Above 960	500

7.7.2 Test Setup

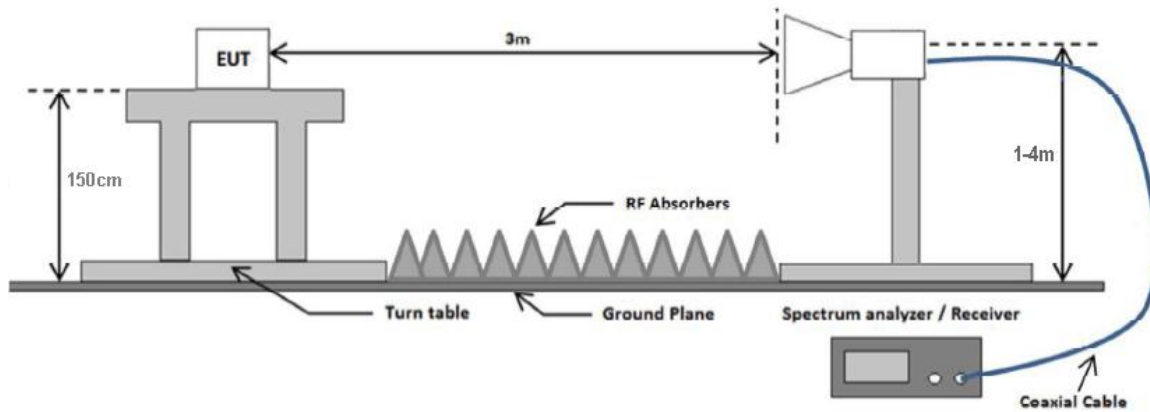
Radiated emissions test setup 9KHz - 30MHz



Radiated emissions test setup 30 MHz - 1 GHz



Radiated emissions test setup above 1 GHz



7.7.3 Test Procedure

According to section 11.12.2.7 Radiated spurious emission measurements in ANSI C63.10 as well as the procedures for maximizing and measuring radiated emissions that are described in ANSI C63.10 was followed. Boresight antenna mast was used during the scanning to point to EUT to maximize the emission. The process will be repeated in 3 EUT orientations.

1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:
 - a) Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen.
 - b) The EUT was then rotated to the direction that gave the maximum emission.
 - c) Finally, the antenna height was adjusted to the height that gave the maximum emission.
3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 300 Hz for frequency below 150KHz.
4. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 10 kHz for frequency between 150KHz – 30MHz.
5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-Peak detection at frequency between 30MHz - 1GHz.
6. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak and average measurement at frequency above 1GHz.
7. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.

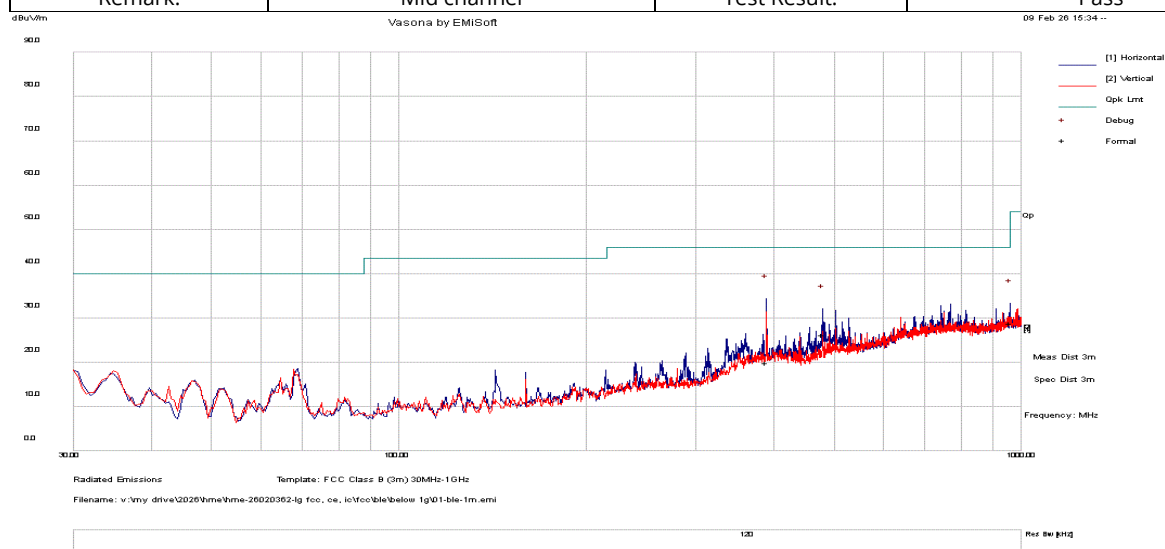
7.7.4 Test Result

Radiated Emission between 9KHz – 30MHz test result

Note: no substantial emission is found other than the noise floor. Different modes have been verified.

RADIATED EMISSIONS BELOW 1 GHZ

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Cont-TX 1Mbps
Frequency Range:	30 MHz - 1 GHz	Test Date:	02/09/2026
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Lining
Remark:	Mid channel	Test Result:	Pass

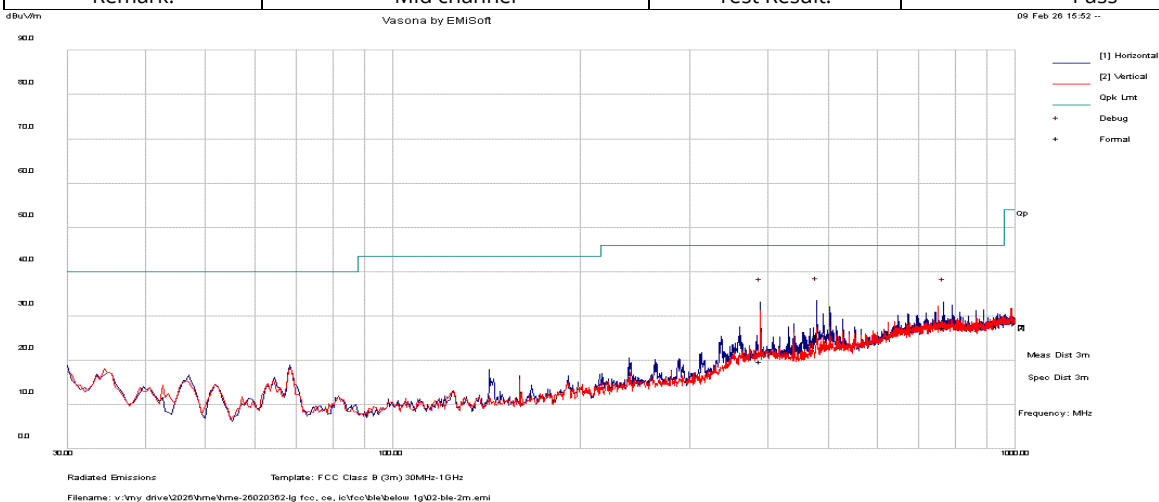


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	389.61	16.05	6.31	-2.43	19.93	Quasi Max	H	330	0	46.00	-26.07	Pass
2	959.11	16.61	7.84	4.40	28.85	Quasi Max	H	232	150	46.00	-17.15	Pass
3	479.27	22.11	6.13	-1.88	26.36	Quasi Max	H	248	262	46.00	-19.64	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Cont-TX 2Mbps
Frequency Range:	30 MHz - 1 GHz	Test Date:	02/09/2026
Antenna Type/Polarity:	Bi-Log/Hor & Ver	Test Personnel:	Lining
Remark:	Mid channel	Test Result:	Pass



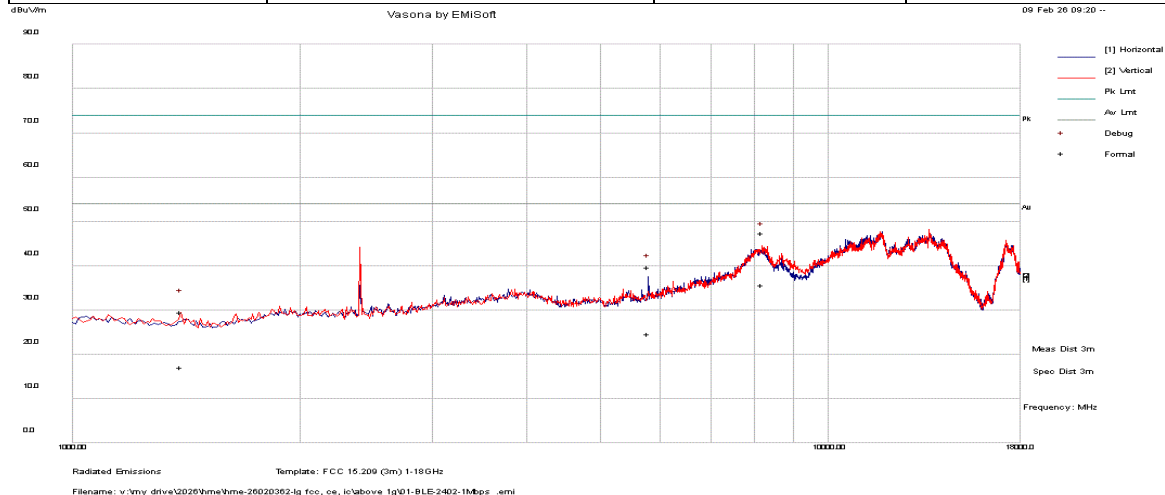
No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	479.20	21.41	6.13	-1.88	25.66	Quasi Max	H	146	86	46.00	-20.34	Pass
2	767.15	16.54	7.27	3.71	27.52	Quasi Max	H	350	316	46.00	-18.48	Pass
3	389.19	15.99	6.30	-2.45	19.84	Quasi Max	H	342	326	46.00	-26.16	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

RADIATED EMISSIONS 1 - 18 GHZ

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Cont-TX 1Mbps
Frequency Range:	1 GHz - 18 GHz	Test Date:	02/09/2026
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Low Channel	Test Result:	Pass

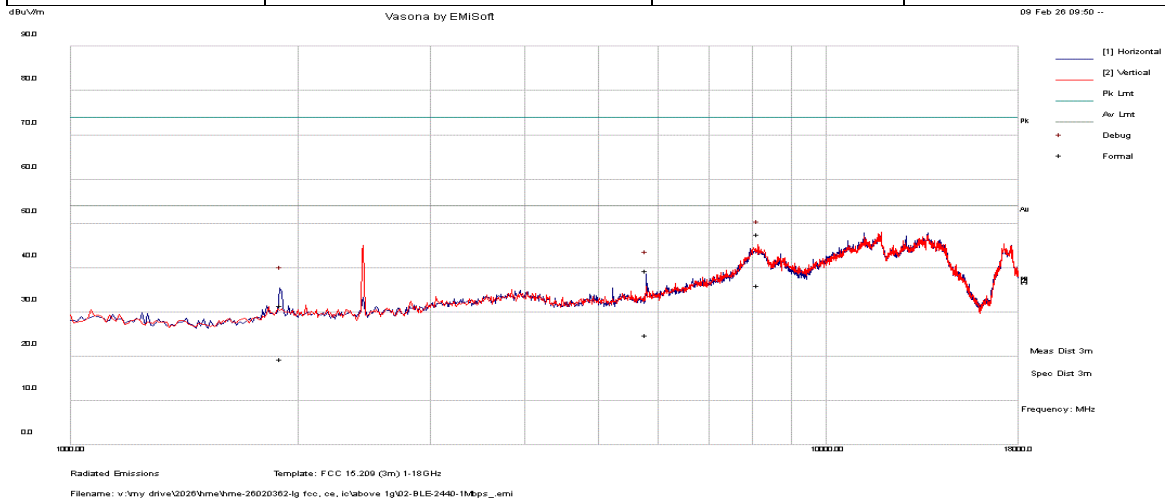


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8191.22	17.72	14.18	15.61	47.51	Peak Max	V	186	14	74.00	-26.49	Pass
2	5791.56	22.19	11.50	6.02	39.71	Peak Max	H	172	70	74.00	-34.29	Pass
3	1392.94	25.81	5.05	-1.22	29.64	Peak Max	V	170	131	74.00	-44.36	Pass
4	8191.22	5.97	14.18	15.61	35.76	Average Max	V	186	14	54.00	-18.24	Pass
5	5791.56	7.22	11.50	6.02	24.74	Average Max	H	172	70	54.00	-29.26	Pass
6	1392.94	13.40	5.05	-1.22	17.23	Average Max	V	170	131	54.00	-36.77	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Cont-TX 1Mbps
Frequency Range:	1 GHz - 18 GHz	Test Date:	02/09/2026
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Mid Channel	Test Result:	Pass

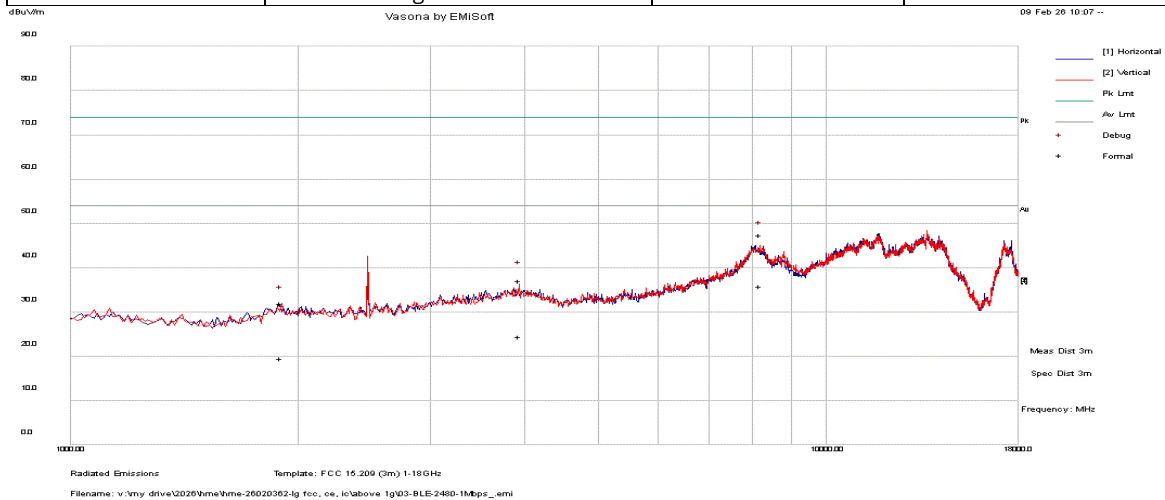


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8128.51	17.79	14.21	15.67	47.67	Peak Max	V	167	144	74.00	-26.33	Pass
2	5789.75	21.99	11.49	6.01	39.49	Peak Max	H	106	85	74.00	-34.51	Pass
3	1899.12	25.01	6.22	0.34	31.57	Peak Max	H	108	85	74.00	-42.43	Pass
4	8128.51	6.21	14.21	15.67	36.09	Average Max	V	167	144	54.00	-17.91	Pass
5	5789.75	7.41	11.49	6.01	24.91	Average Max	H	106	85	54.00	-29.09	Pass
6	1899.12	12.98	6.22	0.34	19.54	Average Max	H	108	85	54.00	-34.46	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Cont-TX 1Mbps
Frequency Range:	1 GHz - 18 GHz	Test Date:	02/09/2026
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	High Channel	Test Result:	Pass

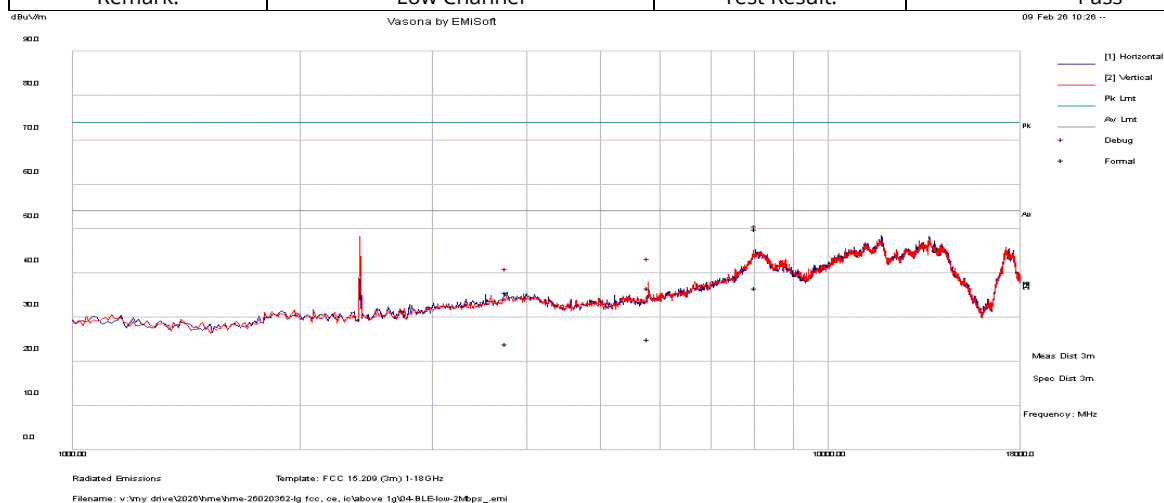


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8182.35	17.69	14.19	15.61	47.49	Peak Max	V	100	19	74.00	-26.51	Pass
2	3932.63	22.09	9.66	5.45	37.20	Peak Max	V	132	120	74.00	-36.80	Pass
3	1901.41	25.45	6.22	0.33	32.00	Peak Max	H	104	26	74.00	-42.00	Pass
4	8182.35	6.13	14.19	15.61	35.93	Average Max	V	100	19	54.00	-18.07	Pass
5	3932.63	9.49	9.66	5.45	24.60	Average Max	V	132	120	54.00	-29.40	Pass
6	1901.41	13.12	6.22	0.33	19.67	Average Max	H	104	26	54.00	-34.33	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Cont-TX 2Mbps
Frequency Range:	1 GHz - 18 GHz	Test Date:	02/09/2026
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Low Channel	Test Result:	Pass

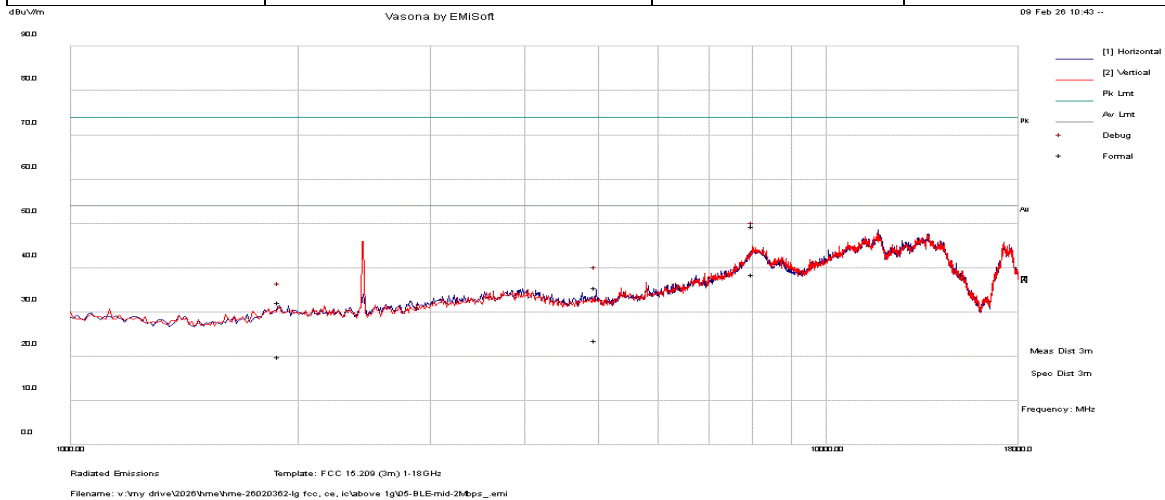


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8033.92	19.90	14.25	15.83	49.98	Peak Max	H	176	0	74.00	-24.02	Pass
2	5792.50	19.04	11.50	6.02	36.56	Peak Max	V	165	142	74.00	-37.44	Pass
3	3760.93	21.65	8.86	5.07	35.58	Peak Max	H	162	7	74.00	-38.42	Pass
4	8033.92	6.50	14.25	15.83	36.58	Average Max	H	176	0	54.00	-17.42	Pass
5	5792.50	7.62	11.50	6.02	25.14	Average Max	V	165	142	54.00	-28.86	Pass
6	3760.93	10.10	8.86	5.07	24.03	Average Max	H	162	7	54.00	-29.97	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Cont-TX 2Mbps
Frequency Range:	1 GHz - 18 GHz	Test Date:	02/09/2026
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	Mid Channel	Test Result:	Pass

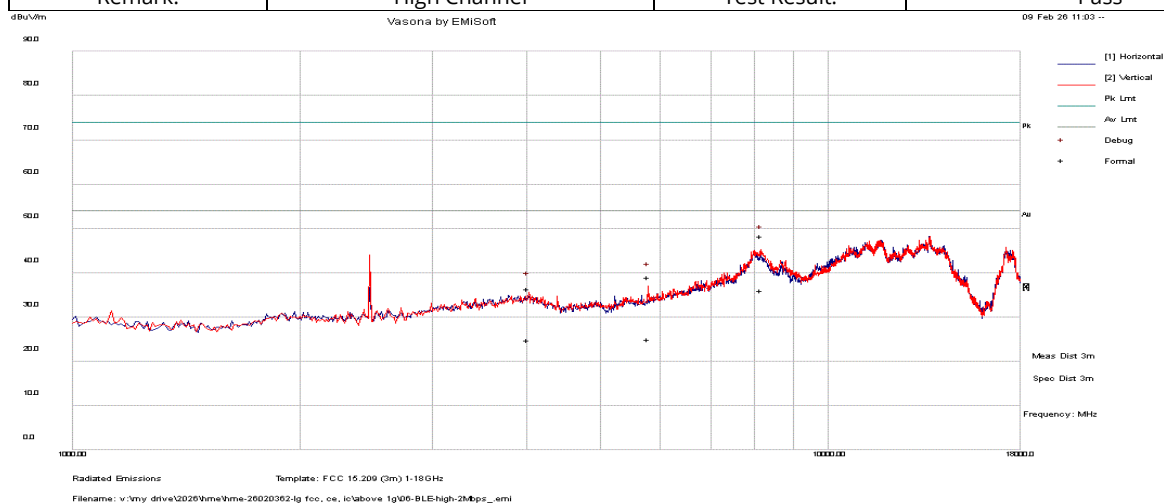


No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8002.40	19.31	14.27	15.86	49.44	Peak Max	V	148	36	74.00	-24.56	Pass
2	4962.75	20.56	9.46	5.58	35.60	Peak Max	V	119	32	74.00	-38.40	Pass
3	1890.50	25.60	6.20	0.35	32.15	Peak Max	V	166	0	74.00	-41.85	Pass
4	8002.40	8.33	14.27	15.86	38.46	Average Max	V	148	36	54.00	-15.54	Pass
5	4962.75	8.66	9.46	5.58	23.70	Average Max	V	119	32	54.00	-30.30	Pass
6	1890.50	13.37	6.20	0.35	19.92	Average Max	V	166	0	54.00	-34.08	Pass

Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

Test Standard:	15.209, 15.247, RSS-247	Mode:	BLE Cont-TX 2Mbps
Frequency Range:	1 GHz - 18 GHz	Test Date:	02/09/2026
Antenna Type/Polarity:	Horn/Hor & Ver	Test Personnel:	Lining
Remark:	High Channel	Test Result:	Pass



No.	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass/Fail
1	8159.31	18.55	14.20	15.63	48.38	Peak Max	V	132	108	74.00	-25.62	Pass
2	5792.26	21.62	11.50	6.02	39.14	Peak Max	V	184	141	74.00	-34.86	Pass
3	4009.72	21.33	9.94	5.15	36.42	Peak Max	V	184	12	74.00	-37.58	Pass
4	8159.31	6.20	14.20	15.63	36.03	Average Max	V	132	108	54.00	-17.97	Pass
5	5792.26	7.60	11.50	6.02	25.12	Average Max	V	184	141	54.00	-28.88	Pass
6	4009.72	9.86	9.94	5.15	24.95	Average Max	V	184	12	54.00	-29.05	Pass

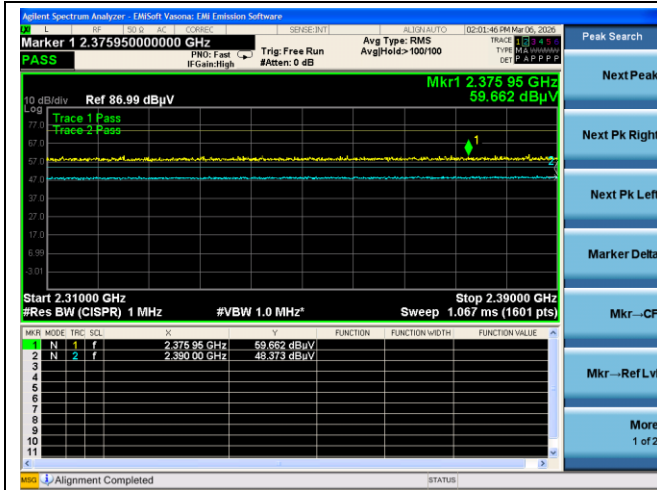
Remarks:

1. Level (dBuV) = Raw (dBuV) + Cable loss(dB) + AF (dB).
2. AF(dB) = Antenna Factor (dB) - Preamplifier Gain (dB)
3. Margin = Level (dBuV/m) - Limit value(dBuV/m)

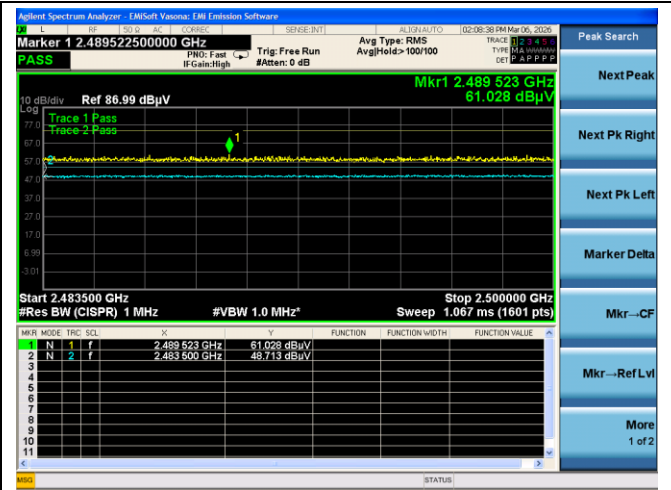
Radiated Emission between 18GHz - 40GHz test result

Note: no substantial emission is found other than the noise floor. Different modes have been verified.

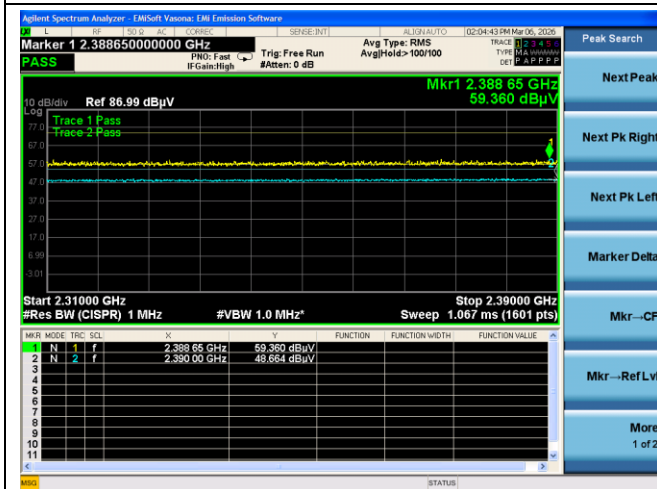
Restricted Band Measurement Result



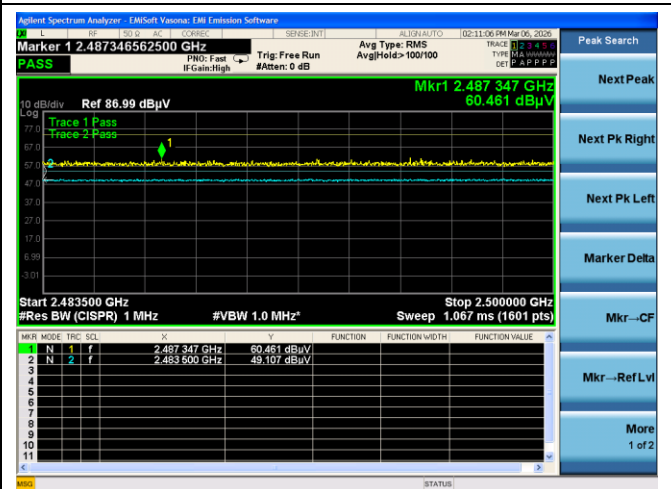
BLE - Low CH-1Mbps



BLE - High CH-1Mbps



BLE - Low CH-2Mbps



BLE - High CH-2Mbps

7.8 Conducted Emissions

7.8.1 Requirement

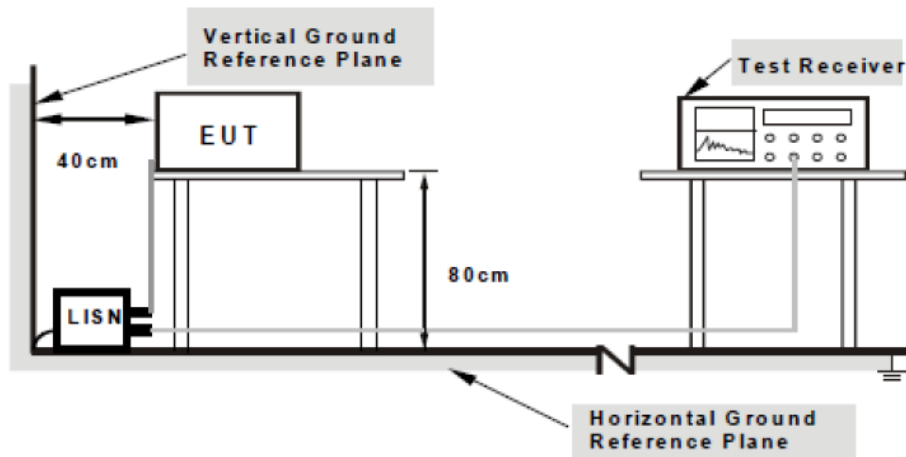
Per § 15.207 (a), an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Limits for Conducted Emissions at the Mains Ports

Section	Frequency ranges (MHz)	Limit (dBuV)	
		QP	Average
Class B devices	0.15 – 0.5	66 – 56	56 – 46
	0.5 – 5	56	46
	5 – 30	60	50

NOTE 1 The lower limit shall apply at the transition frequencies.

7.8.2 Test setup



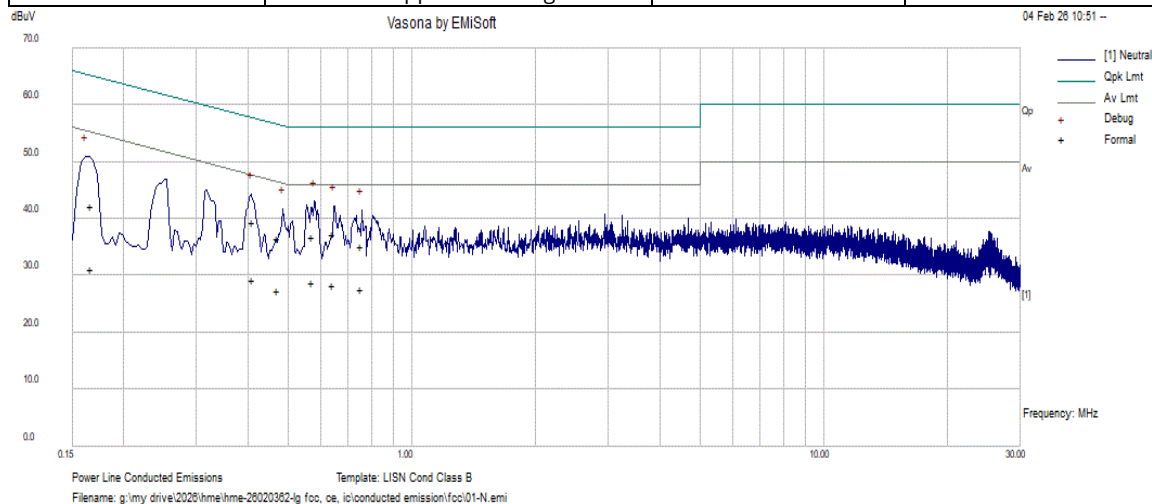
Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.

7.8.3 Test Procedure

1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.
2. The power supply for the EUT was fed through a 50 Ω /50 μ H EUT LISN, connected to filtered mains.
3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.
4. All other supporting equipment was powered separately from another main supply.
5. The EUT was switched on and allowed to warm up to its normal operating condition.
6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver.
7. High peaks, relative to the limit line, were then selected.
8. The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz. For FCC tests, only Quasi-peak measurements were made; while for CISPR/EN tests, both Quasi-peak and Average measurements were made
9. All possible modes of operation were investigated. Only the worst case emissions were measured and reported. All other emissions were relatively insignificant.

7.8.4 Test Result

Test Standard:	LISN B Cond Class B	Mode:	Charging mode
Frequency Range:	0.15 - 30MHz	Test Date:	02/04/2026
Line:	Neutral	Test Personnel:	Lining
Remark:	With apple USB charger	Test Result:	Pass

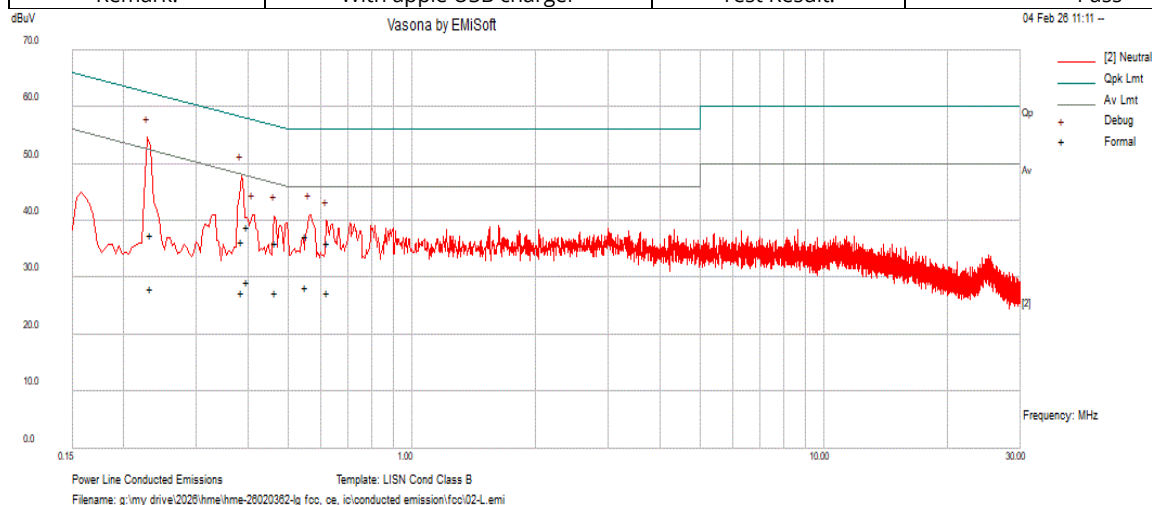


No.	Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass/Fail
1	0.57	26.76	10.05	0.10	36.91	Quasi Peak	Neutral	56.00	-19.09	Pass
2	0.41	29.39	10.04	0.12	39.55	Quasi Peak	Neutral	57.64	-18.09	Pass
3	0.64	27.15	10.05	0.10	37.30	Quasi Peak	Neutral	56.00	-18.70	Pass
4	0.17	31.95	10.03	0.23	42.21	Quasi Peak	Neutral	65.12	-22.91	Pass
5	0.47	26.52	10.04	0.11	36.67	Quasi Peak	Neutral	56.49	-19.82	Pass
6	0.75	24.99	10.05	0.10	35.14	Quasi Peak	Neutral	56.00	-20.86	Pass
7	0.57	18.58	10.05	0.10	28.73	Average	Neutral	46.00	-17.27	Pass
8	0.41	19.13	10.04	0.12	29.29	Average	Neutral	47.64	-18.35	Pass
9	0.64	18.20	10.05	0.10	28.35	Average	Neutral	46.00	-17.65	Pass
10	0.17	21.04	10.03	0.23	31.30	Average	Neutral	55.12	-23.82	Pass
11	0.47	17.39	10.04	0.11	27.54	Average	Neutral	46.49	-18.95	Pass
12	0.75	17.61	10.05	0.10	27.76	Average	Neutral	46.00	-18.24	Pass

Remarks:

1. The emission levels of other frequencies were very low against the limit.
2. Factor = Inert loss of LISN
3. Margin value = Emission level - Limit value
4. Emission Level = Raw Value + Cable loss + Factors Value.

Test Standard:	LISN B Cond Class B	Mode:	Charging mode
Frequency Range:	0.15 - 30MHz	Test Date:	02/04/2026
Line:	Live	Test Personnel:	Lining
Remark:	With apple USB charger	Test Result:	Pass



No.	Frequency MHz	Raw dBuV	Cable Loss	Factors dB	Level dBuV	Measurement Type	Line	Limit dBuV	Margin dB	Pass/Fail
1	0.23	27.35	10.04	0.16	37.55	Quasi Peak	Live	62.34	-24.79	Pass
2	0.39	26.11	10.04	0.12	36.27	Quasi Peak	Live	58.12	-21.85	Pass
3	0.55	27.17	10.04	0.11	37.32	Quasi Peak	Live	56.00	-18.68	Pass
4	0.47	25.93	10.04	0.11	36.08	Quasi Peak	Live	56.57	-20.49	Pass
5	0.62	25.95	10.05	0.10	36.10	Quasi Peak	Live	56.00	-19.90	Pass
6	0.40	28.85	10.04	0.11	39.00	Quasi Peak	Live	57.90	-18.90	Pass
7	0.23	17.88	10.04	0.16	28.08	Average	Live	52.34	-24.26	Pass
8	0.39	17.28	10.04	0.12	27.44	Average	Live	48.12	-20.68	Pass
9	0.55	18.17	10.04	0.11	28.32	Average	Live	46.00	-17.68	Pass
10	0.47	17.18	10.04	0.11	27.33	Average	Live	46.57	-19.24	Pass
11	0.62	17.27	10.05	0.10	27.42	Average	Live	46.00	-18.58	Pass
12	0.40	19.13	10.04	0.11	29.28	Average	Live	47.90	-18.62	Pass

Remarks:

1. The emission levels of other frequencies were very low against the limit.
2. Factor = Inert loss of LISN
3. Margin value = Emission level - Limit value
4. Emission Level = Raw Value + Cable loss + Factors Value.

8 EUT and Test Setup Photos

See FCC exhibits

9 Test Instrument List

Equipment	Manufacturer	Model	Instrument Number	Cal. Date	Cal. Due
Semi-Anechoic Chamber	ETS-Lindgren	10M	VL001	05/24/2024	05/24/2027
Spectrum Analyzer	Keysight	N9020A	MY50110074	05/15/2024	05/15/2026
EMC Test Receiver	R&S	ESL6	100230	05/14/2024	05/14/2026
LISN (9KHz – 30MHz)	EMCO	3816/2	9705-1066	05/28/2024	05/28/2026
Bi-Log Antenna	ETS-Lindgren	3142E	217921	07/25/2024	07/25/2026
Horn Antenna (1-18GHz)	Electro-Metrics	EM-6961	6292	07/22/2024	07/22/2026
Horn Antenna (18-40GHz)	Com-Power	AH-840	101109	07/22/2024	07/22/2026
Temp / Humidity / Pressure Meter	PCE Instruments	PCE-THB 40	R062028	05/17/2024	05/17/2026
RF Attenuator	Pasternack	PE7005-3	VL061	07/29/2024	07/29/2026
Boresight Antenna Tower	ETS-Lindgren	2171B	VL003	N/A1)	N/A1)
Loop Antenna (9k-30MHz)	Com-Power	AL-130	121012	06/13/2024	06/13/2026
RE test cable (below 6GHz)	Vista	RE-6GHz-01	RE-6GHz-01	07/29/2024	07/29/2026
RE test cable (1-18GHz)	PhaseTrack	II-240	RE-18GHz-01	07/29/2024	07/29/2026
RE test cable (>18GHz)	Sucoflex	104	344903/4	07/29/2024	07/29/2026
Pulse limiter	Com-Power	LIT-930A	531727	07/29/2024	07/29/2026
CE test cable #1	FIRST RF	FRF-C-1002-001	CE-6GHz-01	07/29/2024	07/29/2026
CE test cable#2	FIRST RF	FRF-C-1002-001	CE-6GHz-02	07/29/2024	07/29/2026
USB RF Power Sensor	ETS-Lindgren	7002-006	SN 00151268	05/14/2024	05/14/2026
Power Splitter/Combiner	Mini-Circuits	ZFSC-2-9G+	VL052	N/A1)	N/A1)
Power Splitter/Combiner	Mini-Circuits	ZFSC-2-9G+	VL053	N/A1)	N/A1)
Power Splitter/Combiner	Mini-Circuits	ZFSC-2-9G+	VL054	N/A1)	N/A1)
Power Splitter/Combiner	Mini-Circuits	ZFSC-2-9G+	VL055	N/A1)	N/A1)
2.4GHz Notch Filter	Micro-Tronics	BRM50702	VL063	N/A1)	N/A1)
5GHz Notch Filter	Micro-Tronics	BRM50716	VL064	N/A1)	N/A1)
Horn Antenna (1-18GHz)	FT-RF	HA-07M18G-NF	180010HA	N/A1)	N/A1)
Wideband Communication	R&S	CMW500	147508	05/15/2023	05/15/2026
Wideband Communication	Anritsu	MT8000a	6262261939	06/22/2024	06/22/2026
Spectrum Analyser (9kHz-43GHz)	Anritsu	MS2830A	6201145210	05/16/2024	05/16/2026

Note:

1) This equipment is not for measurement purpose and only require functional verification. Calibration is not required.

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