

FCC Testing of the

Resideo USA LLC.
ADT8AIO

FCC ID: CFS8DL8AIO

In accordance with:
FCC 47 CFR part 15.247

Prepared for: Resideo USA LLC.
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Golden Valley, Minnesota 55427 USA



COMMERCIAL-IN-CONFIDENCE

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Testing	Thierry Jean-Charles	2026-September-09	

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FCC Accreditation Designation Number US1148 New Brighton, MN Test Laboratory	Innovation, Science, and Economic Development Canada Accreditation Site Number 4512A New Brighton, MN Test Laboratory
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EXECUTIVE SUMMARY

Samples of this product were tested and found to be compliant with the standards listed above and the tests shown in Table 1.4-1 of this report.

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1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	2026-September-09

1.2 Introduction

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations Section 15.247 for the tests documented herein.



Applicant	Resideo USA LLC.
Manufacturer	Resideo USA LLC
Applicant's Email Address	Christian.Fouth@resideo.com
Model Number(s)	ADT8AIO
Serial Number(s)	ADT_DVT #69 (Radiated and Power Line Emissions Sample) ADT-GW-FCC-#02 (RF Conducted Sample)
FCC ID	CFS8DL8AIO
Hardware Version(s)	REV.C
Software Version(s)	01.34.0
Number of Samples Tested	2
Test Specification/Issue/Date	US Code of Federal Regulations (CFR): Title 47, Part 15, Subpart C: Radio Frequency Devices, Intentional Radiators, 2025
Order Number	721020783
Date of Receipt of EUT	2026-April-01
Start of Test	2026-May-11
Finish of Test	2026-July-18
Name of Engineer(s)	Thierry Jean-Charles Duranta K. Barua Rafael Aguiar Cota
Related Document(s)	ANSI C63.10-2020: American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices US Code of Federal Regulations (CFR): Title 47, Part 2, Subpart J: Equipment Authorization Procedures, 2025. FCC OET KDB Publication 558074 D01 15.247 Meas Guidance v05r02: Guidance for Compliance Measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating under Section 15.247 of the FCC Rules, April 2 2019



1.3 Scope of Testing

The purpose of this report is to demonstrate compliance with Part 15 Subpart C of the FCC's Code of Federal Regulations Section 15.247 of the ADT8AIO for the tests documented herein.

1.4 Summary of Results

A summary of the tests carried out in accordance with FCC Part 15.247 is shown below.

Table 1.4-1 – Test Result Summary

Test Parameter	Test Plan (Yes/No)	Test Result	FCC 47 CFR Rule Part	Test Report Page No
Antenna Requirement	Yes	Pass	15.203, 15.204	9
6 dB Bandwidth	Yes	Pass	15.247(a)(2)	11
99% Bandwidth	Yes	Pass	-----	11
Peak Output Power	Yes	Pass	15.247(b)(3)	17
Band-Edge Compliance of RF Conducted Emissions	Yes	Pass	15.247(d)	20
RF Conducted Spurious Emissions	Yes	Pass	15.247(d)	23
Radiated Spurious Emissions into Restricted Frequency Bands	Yes	Pass	15.205, 15.209	28
Power Spectral Density	Yes	Pass	15.247(e)	67
Duty Cycle	Yes	-----	N/A	70
Power Line Conducted Emissions	Yes	Pass	15.207	73



1.5 Product Information

1.5.1 Technical Description

The Tomcat AIO (All-In-One) ADT8AIO 8" Panel is a security interface touch panel that contains four (4) separate on-board radios: a Bluetooth LE (2.4 GHz), a Wi-Fi(2.4GHz), a Z-Wave/Z-Wave LR(908.42/916/912/920MHz) and a RF6 (Zigbee-based, 2.4 GHz), as well as LTE plugin module (FCC ID: RI7LE910CXNF). The test report documents the evaluation results for the BLE radio.

Technical Details

Mode of Operation: Bluetooth Low Energy (BLE)
 Frequency Range: 2402 MHz - 2480 MHz
 Number of Channels: 40
 Channel Separation: 2 MHz
 Data Rate: 1 Mbps
 Modulations: GFSK
 Antenna Type/Gain: Printed PCB antenna / -2.78 dBi
 Input Power: 120V/60Hz

A full description and detailed product specification details are available from the manufacturer.

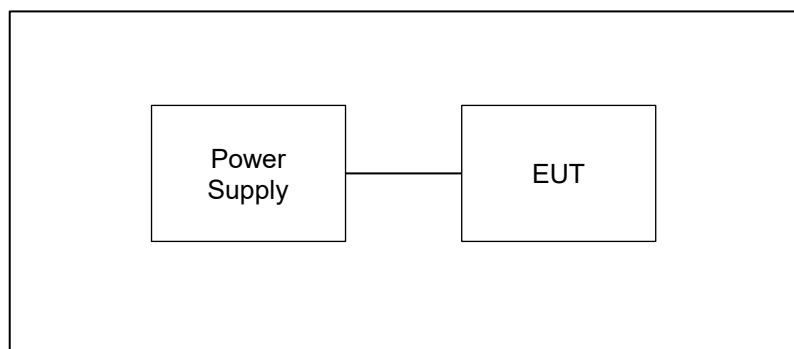


Figure 1.5.1-1 – Test Setup Block Diagram

Table 1.5.1-1 – Cable Descriptions

Cable/Port	Description
Power	2.5 m, EUT to Power Supply

Table 1.5.1-2 – Support Equipment Descriptions

Make/Model	Description
Resideo / ADS-25STA-12C	9V 2.5A Class 2 Power Supply



1.5.2 Modes of Operation

The tested mode of operation was:

The EUT was evaluated for the 2.4 GHz BLE radio. The EUT was configured through a serial terminal using the default output power. The EUT RF output power was not configurable. The EUT was configured to generate a continuously modulated signal on each channel evaluated.

Table 1.5.2-1: Frequencies Evaluated

Channel	Channel Number	Frequency (MHz)
Low Channel	0	2402
Middle Channel	19	2440
High Channel	39	2480

1.5.3 Monitoring of Performance

The radiated and power line conducted emissions evaluation were performed on an unmodified sample. The sample was placed on the tabletop in its typical operating orientation. Please see the test setup photos for more information.

For the RF conducted measurements, the EUT was configured with coaxial connectors at the antenna port to allow direct coupling to the measurement equipment.

1.5.4 Performance Criteria

The EUT was evaluated for the performance criteria defined below.

Table 1.5.4-1: Performance Criteria

Parameter	Requirement
Antenna Requirement	FCC: Section 15.203, 15.204
6 dB Bandwidth	FCC: Section 15.247(a)(2)
99% Bandwidth	N/A
Peak Output Power	FCC: Section 15.247(b)(3)
Band-Edge Compliance of RF Conducted Emissions	FCC: Section 15.247(d)
RF Conducted Spurious Emissions	FCC: Section 15.247(d)
Radiated Spurious Emissions into Restricted Frequency Bands	FCC: Sections 15.205, 15.209
Power Spectral Density	FCC: Section 15.247(e)
Duty Cycle	N/A



Power Line Conducted Emissions

FCC Section 15.207

1.6 Deviations from the Standard

The EUT was evaluated without any deviation from the test standards.

1.7 EUT Modification Record

The table below details modifications made to the EUT during the test program. The modifications incorporated during each test are recorded on the appropriate test pages.

Modification State	Description of Modification still fitted to EUT	Modification Fitted By	Date Modification Fitted
0	N/A	N/A	N/A

The equipment was tested as provided without any modifications.

1.8 Test Location

TÜV SÜD Product Service conducted the following tests at our New Brighton, MN Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
AC Powered, Operating		
Antenna Requirement	Thierry Jean-Charles	A2LA
6 dB Bandwidth	Thierry Jean-Charles	A2LA
99% Bandwidth	Thierry Jean-Charles	A2LA
Peak Output Power	Thierry Jean-Charles	A2LA
Band-Edge Compliance of RF Conducted Emissions	Thierry Jean-Charles	A2LA
RF Conducted Spurious Emissions	Thierry Jean-Charles	A2LA
Radiated Spurious Emissions into Restricted Frequency Bands	Thierry Jean-Charles Rafael Aguiar Cota Duranta K. Barua	A2LA
Power Spectral Density	Thierry Jean-Charles	A2LA
Duty Cycle	Thierry Jean-Charles	A2LA

Office Address:

TÜV SÜD America, Inc.
141 14th Street NW
New Brighton, MN 55112
USA



2 Test Details

2.1 Antenna Requirements

2.1.1 Specification Reference

FCC: Section 15.203, 15.204

2.1.2 Equipment Under Test and Modification State

S/N: ADT_DVT #69, refer to Section 1.7.

2.1.3 Date of Test

5/18/2026

2.1.4 Test Method

N/A

2.1.5 Environmental Conditions

Ambient Temperature	N/A
Relative Humidity	N/A
Atmospheric Pressure	N/A

2.1.6 Test Results

Limit Clause FCC Sections: 15.203, 15.204

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. This requirement does not apply to carrier current devices or to devices operated under the provisions of [§§ 15.211, 15.213, 15.217, 15.219, 15.221](#), or [§ 15.236](#). Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with [§ 15.31\(d\)](#), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

Table 2.1.6-1 – Antenna Used In EUT

Type	Connection Type	Antenna Gain (dBi)
PCB Trace Antenna	Integrated PCB Trace	-2.78



Test Summary:

The EUT uses a PCB trace antenna that is etched to the main board. The antenna is not removable and therefore meets the requirements of FCC section 15.203.

Test Result: Pass

2.1.7 Test Location and Test Equipment Used

This test was carried out in TÜV SÜD America, Inc., 141 14th Street NW, New Brighton, MN 55112, USA.

As this is a visual inspection, no test equipment was used.



2.2 6 dB Bandwidth

2.2.1 Specification Reference

FCC: Section 15.247(a)(2)

2.2.2 Equipment Under Test and Modification State

S/N: ADT-GW-FCC-#02

2.2.3 Date of Test

5/11/2026

2.2.4 Test Method

The 6dB bandwidth was measured in accordance with ANSI C63.10 Subclause 11.8.1 Option 1. The RBW of the spectrum analyzer was set to 100 kHz and VBW 300 kHz. Span was set large enough to capture the emissions and >> RBW. A peak detector was used for the measurements. The amplitude offset of the spectrum analyzer was adjusted to account for cable and attenuator insertion losses.

2.2.5 Environmental Conditions

Ambient Temperature	25.7°C
Relative Humidity	12 %
Atmospheric Pressure	983 mBar

2.2.6 Test Results

AC Powered, Operating

Limit Clause FCC Part 15.247(a)(2)

The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Summary:

The maximum 6-dB Bandwidth was measured to be 712.801 kHz which is greater than the minimum bandwidth of 500 kHz.

Test Result: Pass

Table 2.2.6-1 – 6 dB Bandwidth Results

Frequency (MHz)	6 dB Bandwidth (kHz)	Lower Limit (kHz)
2402	709.525	500.0
2440	712.801	500.0
2480	706.290	500.0

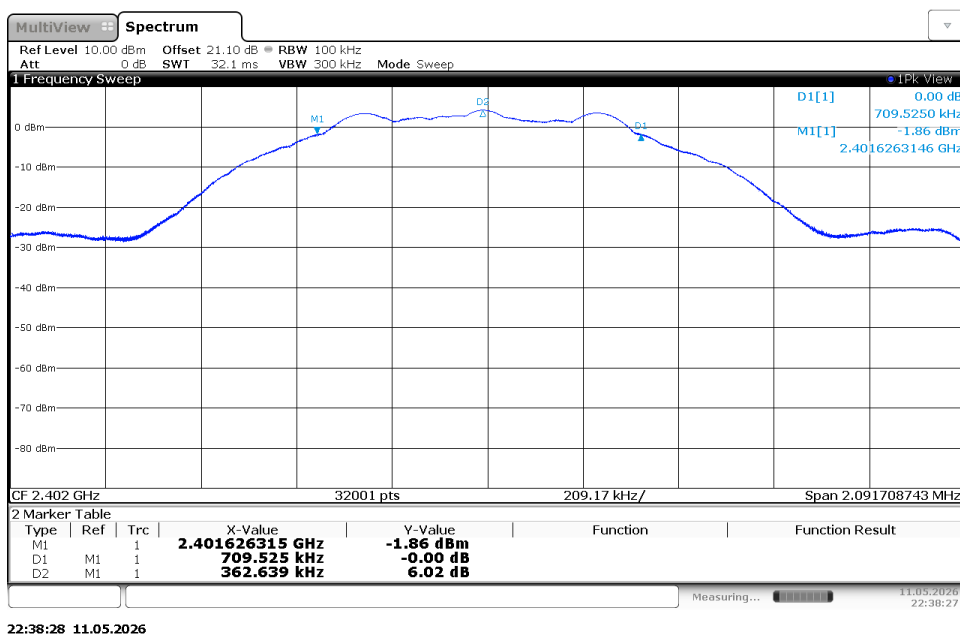


Figure 2.2.6-1 – 6 dB Bandwidth - Low Channel

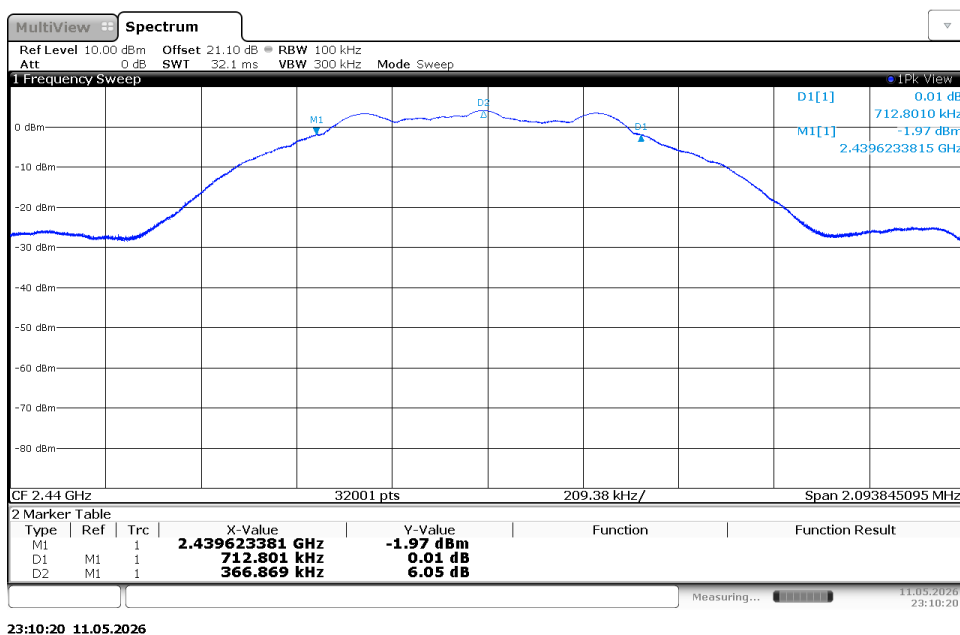


Figure 2.2.6-2 – 6 dB Bandwidth - Middle Channel

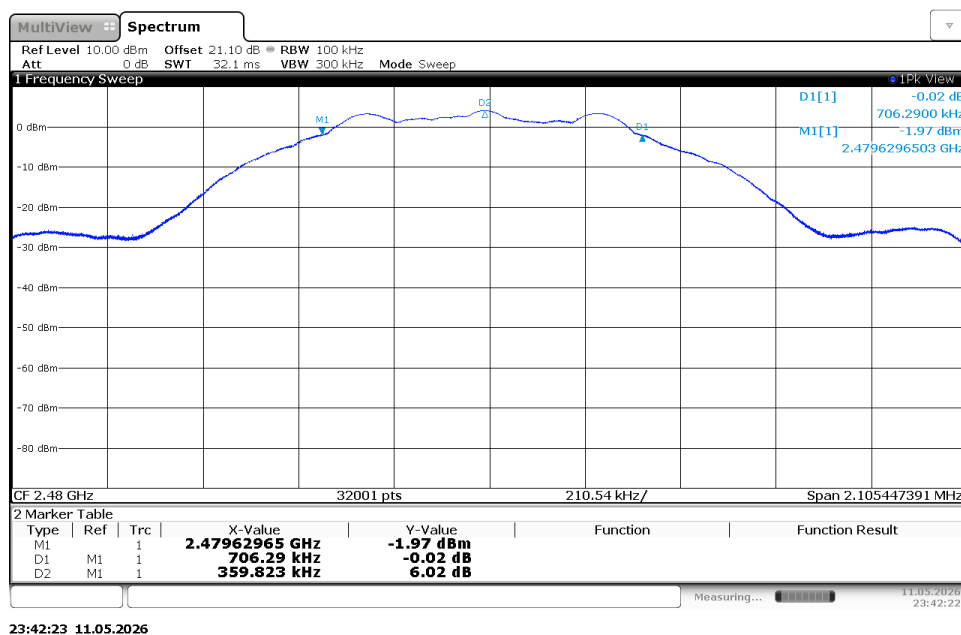


Figure 2.2.6-3 – 6 dB Bandwidth - High Channel

2.2.7 Test Location and Test Equipment Used

This test was carried out in TÜV SÜD America, Inc., 141 14th Street NW, New Brighton, MN 55112, USA.

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
DEMC3049	Aeroflex Inmet	Atten 20dB 2.9mm-M/F, DC-26.5GH, 2W	26AH-20	1443	B	05/27/2025	05/27/2026
						06/12/2026	06/12/2027
DEMC3085	Rohde & Schwarz	Signal & Spectrum Analyzer	FSW43	103997	G	08/29/2025	08/29/2026
BEMC02112	Teledyne Storm Products	Duratest 175 Cable 26.5GHz	921-0101-036	12-06-698	B	01/12/2026	01/12/2027

Cal Code G = Calibration performed by an accredited outside source.

Cal Code B = Calibration verification performed internally.

Cal Code Y = Passive Device, or Calibration not required when used with other calibrated equipment.

The test equipment was used only during the active cycle of the calibration period.



2.3 99% Bandwidth

2.3.1 Specification Reference

N/A

2.3.2 Equipment Under Test and Modification State

S/N: ADT-GW-FCC-#02

2.3.3 Date of Test

5/11/2026

2.3.4 Test Method

The 99% occupied bandwidth was measured with the spectrum analyzer span set to fully display the emission. The RBW was set to 1% to 5% of the approximated bandwidth. The occupied 99% bandwidth was measured by using 99% bandwidth equipment function of the spectrum analyzer using a peak detector. The amplitude offset of the spectrum analyzer was adjusted to account for cable and attenuator insertion losses.

2.3.5 Environmental Conditions

Ambient Temperature	25.7°C
Relative Humidity	12 %
Atmospheric Pressure	983 mBar

2.3.6 Test Results

AC Powered, Operating

Test Summary:

The 99% Bandwidth was measured to be 1.041 MHz.

Test Result: N/A. There are no standards limits for the bandwidth. The information is for reference purposes only.

Table 2.3.6-1 – 99% Occupied Bandwidth Results

Frequency (MHz)	99% Bandwidth (MHz)
2402	1.039
2440	1.041
2480	1.043

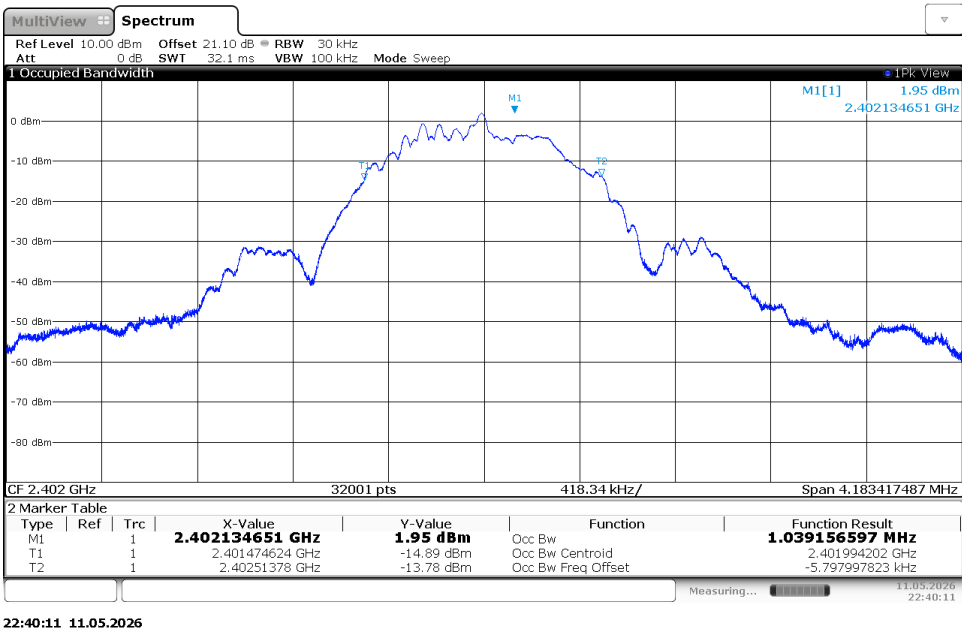


Figure 2.3.6-1 – 99% Occupied Bandwidth - Low Channel

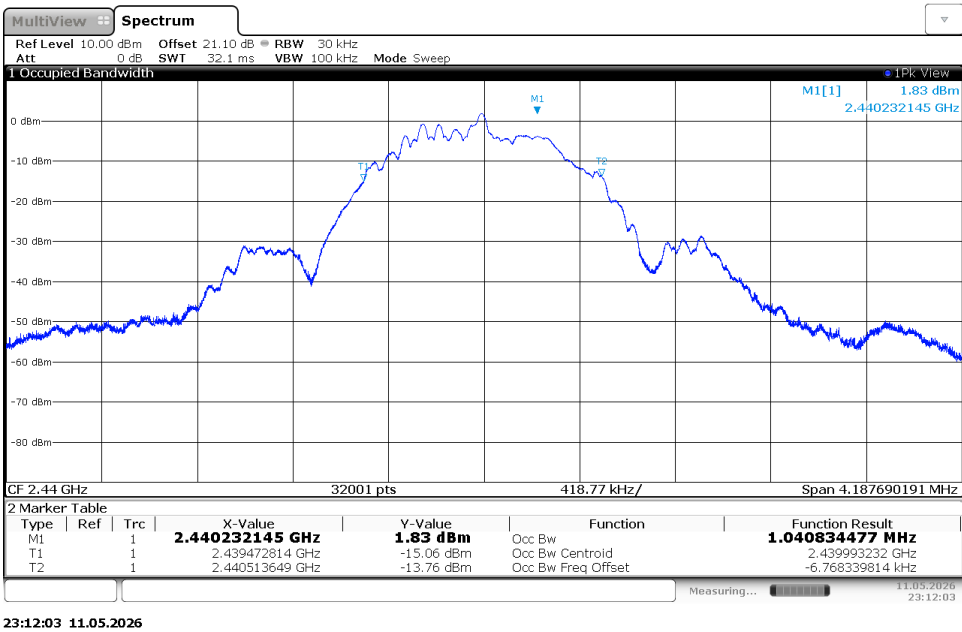


Figure 2.3.6-2 – 99% Occupied Bandwidth - Middle Channel

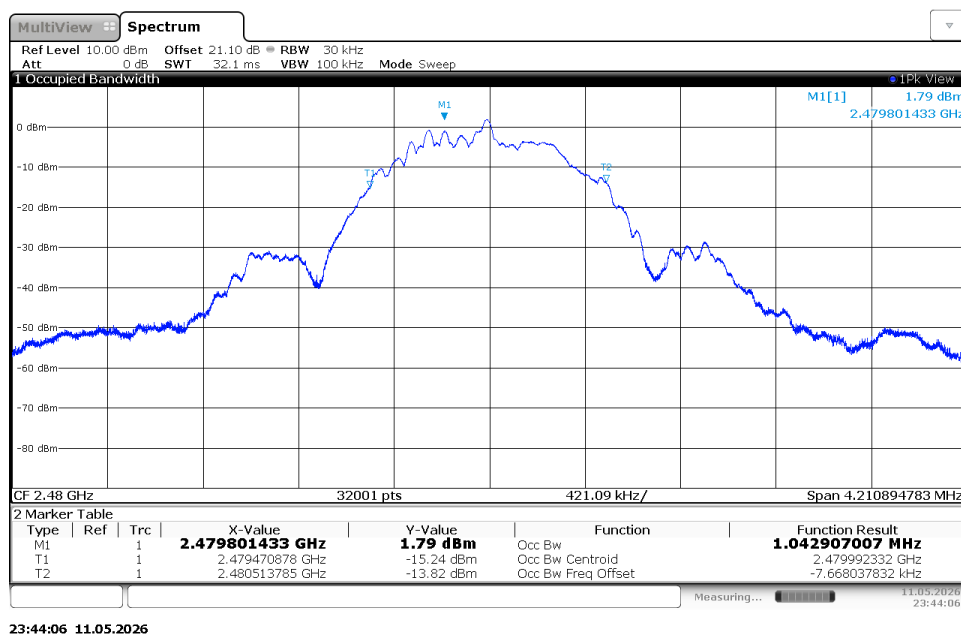


Figure 2.3.6-3 – 99% Occupied Bandwidth - High Channel

2.3.7 Test Location and Test Equipment Used

This test was carried out in TÜV SÜD America, Inc., 141 14th Street NW, New Brighton, MN 55112, USA.

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
DEMC3049	Aeroflex Inmet	Atten 20dB 2.9mm-M/F, DC-26.5GH, 2W	26AH-20	1443	B	05/27/2025 06/12/2026	05/27/2026 06/12/2027
DEMC3085	Rohde & Schwarz	Signal & Spectrum Analyzer	FSW43	103997	G	08/29/2025	08/29/2026
BEMC02112	Teledyne Storm Products	Duratest 175 Cable 26.5GHz	921-0101-036	12-06-698	B	01/12/2026	01/12/2027

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Cal Code B = Calibration verification performed internally.

Cal Code Y = Passive Device, or Calibration not required when used with other calibrated equipment.

The test equipment was used only during the active cycle of the calibration period.



2.4 Peak Output Power

2.4.1 Specification Reference

FCC Section 15.247(b)(3)

2.4.2 Equipment Under Test and Modification State

S/N: ADT-GW-FCC-#02

2.4.3 Date of Test

5/11/2026

2.4.4 Test Method

The fundamental emission output power was measured in accordance with ANSI C63.10 Subclause 11.9.1.1 RBW $\geq$ DTS bandwidth. The RF output of the equipment under test was directly connected to the input of the spectrum analyzer through suitable attenuation. The amplitude offset of the spectrum analyzer was adjusted to account for cable and attenuator insertion losses.

2.4.5 Environmental Conditions

Ambient Temperature	25.7°C
Relative Humidity	12 %
Atmospheric Pressure	983 mbar

2.4.6 Test Results

AC Powered, Operating

Limit Clause FCC Part 15.247(b)(3)

The Maximum Output Power allowed for systems using digital modulation is 1 Watt (30 dBm)

Test Summary:

The maximum peak output power was measured to be 4.2 dBm.

Test Result: Pass

Table 2.4.6-1 – Table - Peak Conducted Output Power Results

Frequency (MHz)	Measured (dBm)	Limit (dBm)	Margin (dB)	Result
2402	4.20	30.00	-25.80	Pass
2440	4.15	30.00	-25.85	Pass
2480	4.09	30.00	-25.91	Pass

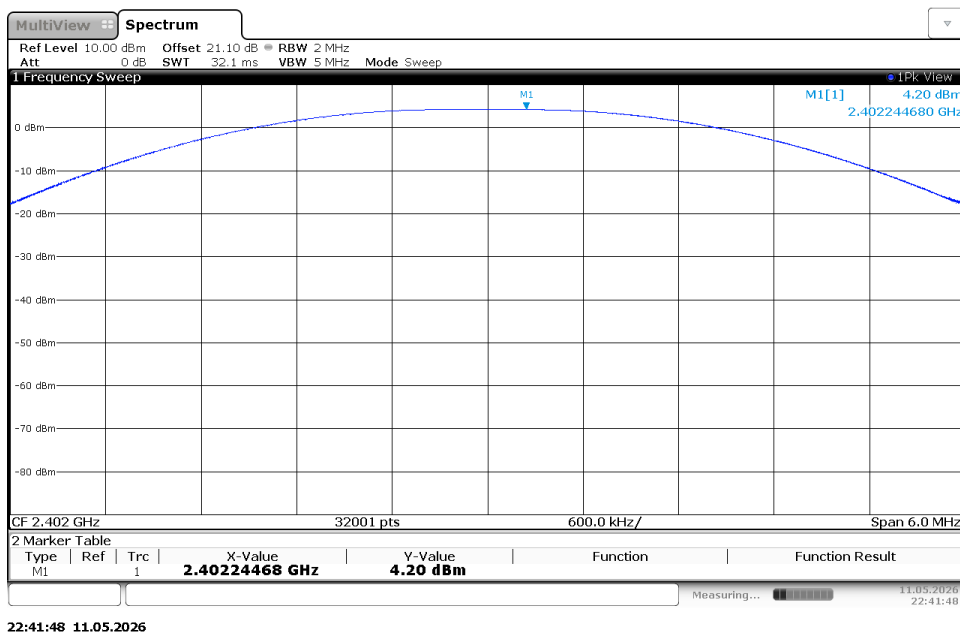


Figure 2.4.6-1 – Peak Conducted Output Power - Low Channel

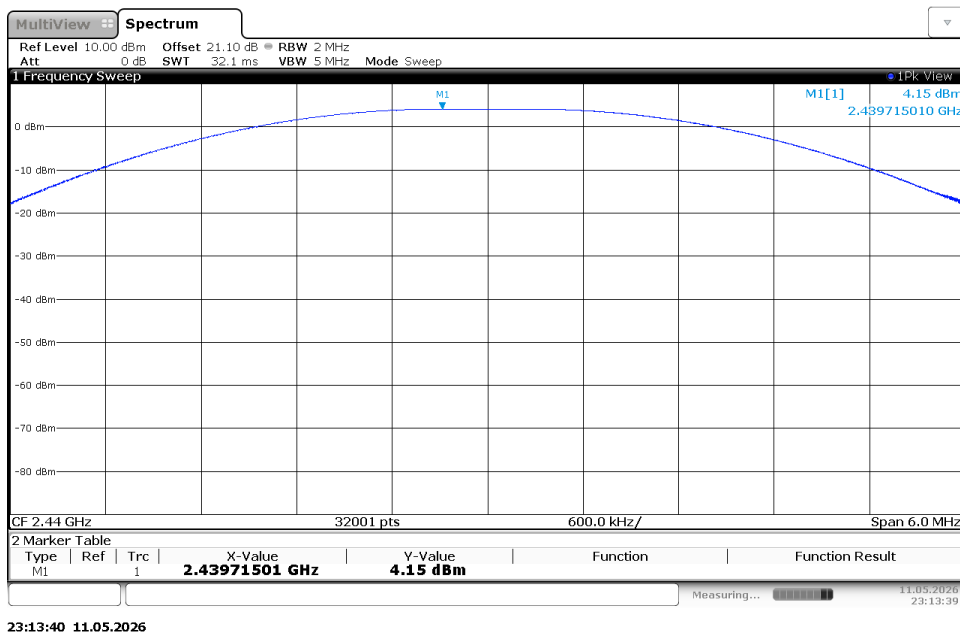


Figure 2.4.6-2 – Peak Conducted Output Power - Middle Channel

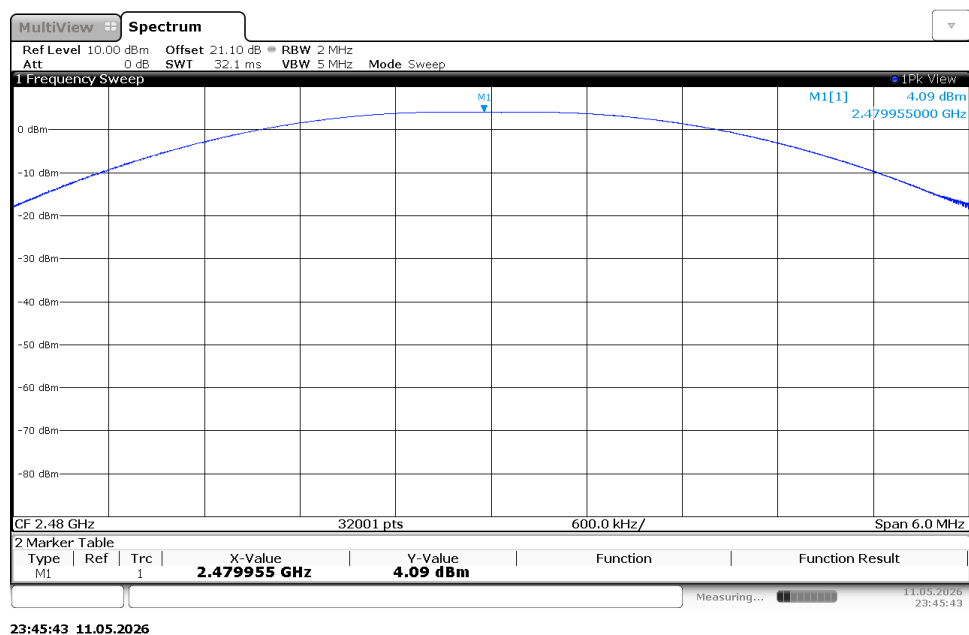


Figure 2.4.6-3 – Peak Conducted Output Power - High Channel

2.4.7 Test Location and Test Equipment Used

This test was carried out in TÜV SÜD America, Inc., 141 14th Street NW, New Brighton, MN 55112, USA.

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
DEMC3049	Aeroflex Inmet	Atten 20dB 2.9mm-M/F, DC-26.5GH, 2W	26AH-20	1443	B	05/27/2025 06/12/2026	05/27/2026 06/12/2027
DEMC3085	Rohde & Schwarz	Signal & Spectrum Analyzer	FSW43	103997	G	08/29/2025	08/29/2026
BEMC02112	Teledyne Storm Products	Duratest 175 Cable 26.5GHz	921-0101-036	12-06-698	B	01/12/2026	01/12/2027

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Cal Code Y = Passive Device, or Calibration not required when used with other calibrated equipment.

The test equipment was used only during the active cycle of the calibration period.



2.5 Band-Edge Compliance of RF Conducted Emissions

2.5.1 Specification Reference

FCC: Section 15.247(d)

2.5.2 Equipment Under Test and Modification State

S/N: ADT-GW-FCC-#02

2.5.3 Date of Test

5/11/2026

2.5.4 Test Method

The RF Conducted Emissions at the Band-Edges were measured in accordance with Subclause 11.11 of ANSI C63.10. The RF output port of the EUT was connected to the input of the spectrum analyzer through suitable attenuation. The EUT was investigated at the lowest and highest channel available to determine band-edge compliance. For each measurement the spectrum analyzer's RBW was set to 100 kHz, and the VBW was set to ≥ 300 kHz. The amplitude offset of the spectrum analyzer was adjusted to account for cable and attenuator insertion losses.

2.5.5 Environmental Conditions

Ambient Temperature	25.7 °C
Relative Humidity	12 %
Atmospheric Pressure	983 mbar

2.5.6 Test Results

AC Powered, Operating

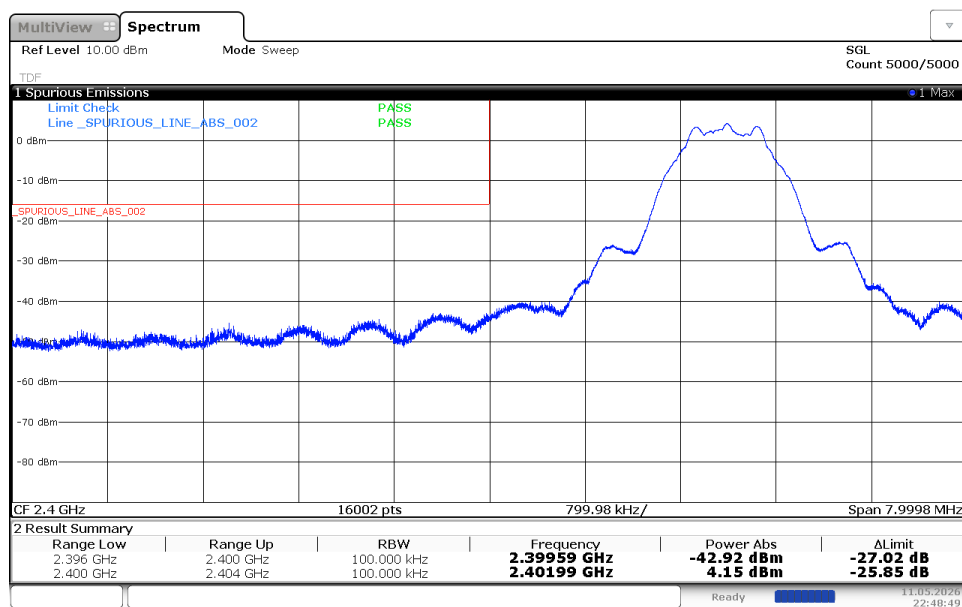
Limit Clause FCC Section 15.247(d)

In any 100 kHz bandwidth outside of the frequency band the radio frequency power shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB instead of 20 dB.

Test Summary:

All the emissions at the band-edge were attenuated by at least 20 dB below the fundamental.

Test Result: Pass



22:48:49 11.05.2026

Figure 2.5.6-1 – Conducted Band-Edge Emissions Results - Low Channel

Table 2.5.6-1 – Conducted Band-Edge Emissions Results - Low Channel

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)
2397.817	-45.34	-15.90	-29.44
2399.074	-44.52	-15.90	-28.62
2399.587	-42.92	-15.90	-27.02

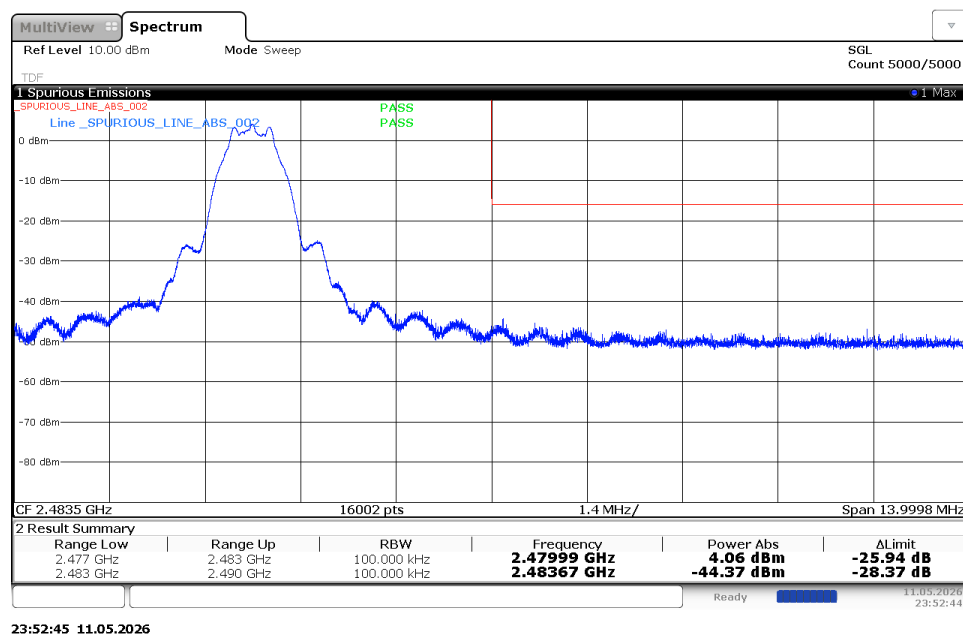


Figure 2.5.6-2 – Conducted Band-Edge Emissions Results - High Channel

Table 2.5.6-2 – Conducted Band-Edge Emissions Results - High Channel

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)
2483.666	-44.37	-16.00	-28.37

2.5.7 Test Location and Test Equipment Used

This test was carried out in TÜV SÜD America, Inc., 141 14th Street NW, New Brighton, MN 55112, USA.

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
DEMC3049	Aeroflex Inmet	Atten 20dB 2.9mm-M/F, DC-26.5GH, 2W	26AH-20	1443	B	05/27/2025 06/12/2026	05/27/2026 06/12/2027
DEMC3085	Rohde & Schwarz	Signal & Spectrum Analyzer	FSW43	103997	G	08/29/2025	08/29/2026
BEMC02112	Teledyne Storm Products	Duratest 175 Cable 26.5GHz	921-0101-036	12-06-698	B	01/12/2026	01/12/2027

Cal Code G = Calibration performed by an accredited outside source.

Cal Code B = Calibration verification performed internally.

Cal Code Y = Passive Device, or Calibration not required when used with other calibrated equipment.

The test equipment was used only during the active cycle of the calibration period.



2.6 RF Conducted Spurious Emissions

2.6.1 Specification Reference

FCC: Section 15.247(d)

2.6.2 Equipment Under Test and Modification State

S/N: ADT-GW-FCC-#02

2.6.3 Date of Test

5/11/2026

2.6.4 Test Method

The RF Conducted Spurious Emissions were measured in accordance with Subclause 11.11 of ANSI C63.10. The RF output port of the equipment under test was directly connected to the input of the spectrum analyzer. The EUT was investigated for conducted spurious emissions from 30 MHz to 25 GHz, 10 times the highest fundamental frequency. Measurements were made at the low, center and high channels of the EUT. For each measurement, the spectrum analyzer's RBW was set to 100 kHz and the VBW was set to 300 kHz. The peak Max Hold function of the analyzer was utilized. The amplitude offset of the spectrum analyzer was adjusted to account for cable and attenuator insertion losses.

2.6.5 Environmental Conditions

Ambient Temperature	25.7 °C
Relative Humidity	12 %
Atmospheric Pressure	983 mbar

2.6.6 Test Results

AC Powered, Operating

Limit Clause FCC Section 15.247(d)

In any 100 kHz bandwidth outside of the frequency band the radio frequency power shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB instead of 20 dB.

Test Summary:

All the emissions at the band-edge were attenuated by at least 20 dB below the fundamental.

Test Result: Pass

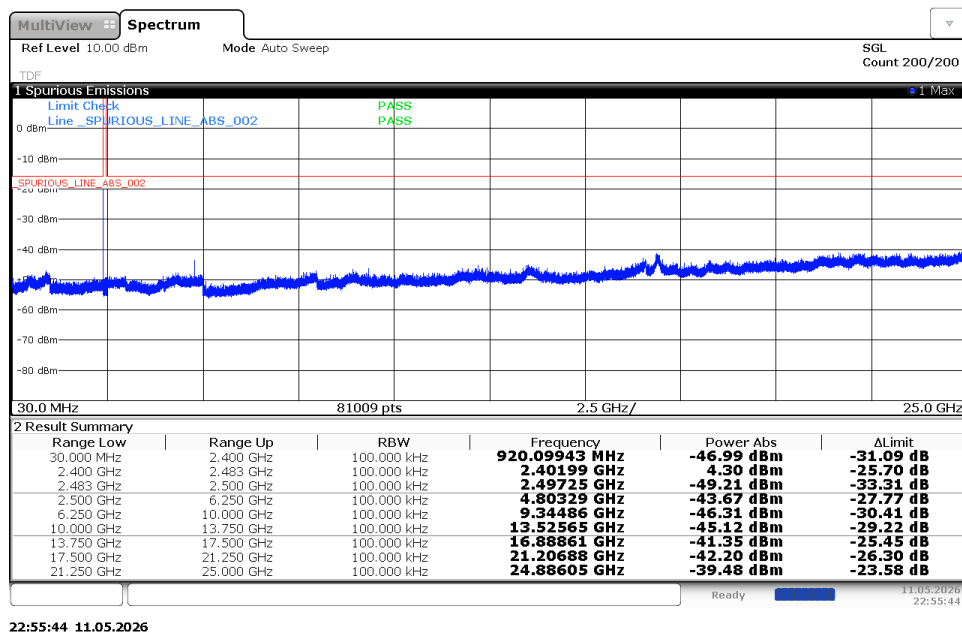


Figure 2.6.6-1 – Conducted Spurious Emissions Results - Low Channel

Table 2.6.6-1 – Conducted Spurious Emissions Results - Low Channel

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)
920.099	-46.99	-15.90	-31.09
2396.182	-47.10	-15.90	-31.20
2487.504	-49.27	-15.90	-33.37
2497.253	-49.21	-15.90	-33.31
2983.905	-48.89	-15.90	-32.99
4803.286	-43.67	-15.90	-27.77
7980.433	-47.03	-15.90	-31.13
9344.864	-46.31	-15.90	-30.41
12204.963	-45.42	-15.90	-29.52
13525.65	-45.12	-15.90	-29.22
16528.65	-42.88	-15.90	-26.98
16888.61	-41.35	-15.90	-25.45
21206.88	-42.20	-15.90	-26.30
24886.054	-39.48	-15.90	-23.58

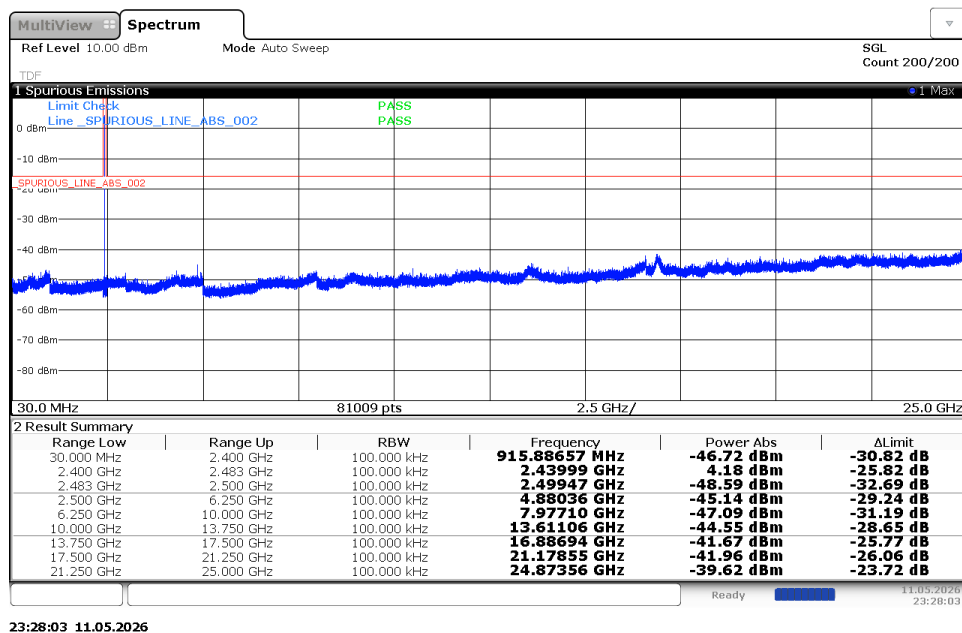


Figure 2.6.6-2 – Conducted Spurious Emissions Results - Middle Channel

Table 2.6.6-2 – Conducted Spurious Emissions Results - Middle Channel

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)
915.887	-46.72	-15.90	-30.82
2492.623	-48.82	-15.90	-32.92
2499.473	-48.59	-15.90	-32.69
2988.071	-47.88	-15.90	-31.98
4880.361	-45.14	-15.90	-29.24
7977.1	-47.09	-15.90	-31.19
9588.171	-47.50	-15.90	-31.60
10505.569	-46.42	-15.90	-30.52
13611.057	-44.55	-15.90	-28.65
16586.56	-42.11	-15.90	-26.21
16886.943	-41.67	-15.90	-25.77
21178.55	-41.96	-15.90	-26.06
24873.556	-39.62	-15.90	-23.72

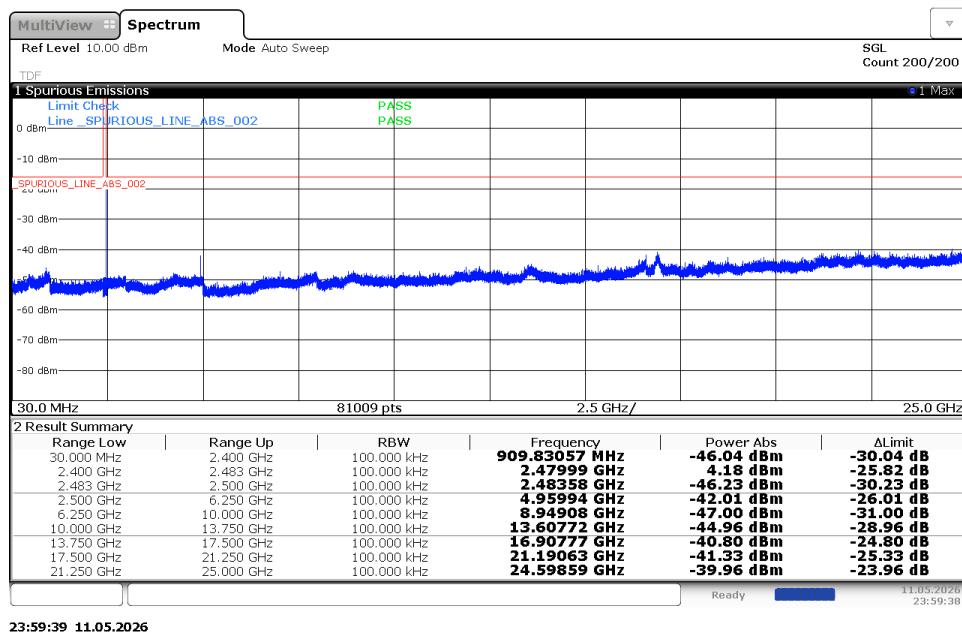


Figure 2.6.6-3 – Conducted Spurious Emissions Results - High Channel

Table 2.6.6-3 – Conducted Spurious Emissions Results - High Channel

Frequency (MHz)	Measured Level (dBm)	Limit (dBm)	Margin (dB)
909.831	-46.04	-16.00	-30.04
2483.582	-46.23	-16.00	-30.23
2484.121	-47.26	-16.00	-31.26
2484.273	-47.48	-16.00	-31.48
2811.007	-48.56	-16.00	-32.56
4959.935	-42.01	-16.00	-26.01
7030.538	-47.33	-16.00	-31.33
7980.433	-47.30	-16.00	-31.30
8949.075	-47.00	-16.00	-31.00
12244.126	-45.50	-16.00	-29.50
13607.724	-44.96	-16.00	-28.96
16597.809	-41.75	-16.00	-25.75
16907.774	-40.80	-16.00	-24.80
18743.82	-42.50	-16.00	-26.50
21190.632	-41.33	-16.00	-25.33
24598.586	-39.96	-16.00	-23.96



2.6.7 Test Location and Test Equipment Used

This test was carried out in TÜV SÜD America, Inc., 141 14th Street NW, New Brighton, MN 55112, USA.

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
DEMC3049	Aeroflex Inmet	Atten 20dB 2.9mm-M/F, DC-26.5GH, 2W	26AH-20	1443	B	05/27/2025 06/12/2026	05/27/2026 06/12/2027
DEMC3085	Rohde & Schwarz	Signal & Spectrum Analyzer	FSW43	103997	G	08/29/2025	08/29/2026
BEMC02112	Teledyne Storm Products	Duratest 175 Cable 26.5GHz	921-0101-036	12-06-698	B	01/12/2026	01/12/2027

Cal Code G = Calibration performed by an accredited outside source.

Cal Code B = Calibration verification performed internally.

Cal Code Y = Passive Device, or Calibration not required when used with other calibrated equipment.

The test equipment was used only during the active cycle of the calibration period.



2.7 Radiated Spurious Emissions into Restricted Frequency Bands

2.7.1 Specification Reference

FCC Sections: 15.205, 15.209

2.7.2 Equipment Under Test and Modification State

S/N: ADT_DVT #69

2.7.3 Date of Test

5/18/2026 to 6/12/2026

2.7.4 Test Method

Radiated emissions tests were made over the frequency range of 9 kHz to 26.5 GHz, at least 10 times the highest fundamental frequency. Each emission found to be in a restricted band as defined by section 15.205, including any emission at the operational band-edge, was compared to the radiated emission limits as defined in Section 15.209.

For measurements below 30 MHz, the receive antenna height was set to 1 m and the EUT was rotated through 360 degrees. The resolution bandwidth was set to 200 Hz below 150 kHz and to 9 kHz above 150 kHz.

The EUT was rotated through 360° and the receive antenna height was varied from 1m to 4m so that the maximum radiated emissions level would be detected. For frequencies below 1000 MHz, quasi-peak measurements were made using a resolution bandwidth RBW of 120 kHz and a video bandwidth VBW of 300 kHz. For frequencies above 1000 MHz, peak measurements are made with RBW of 1 MHz and VBW of 3 MHz. Average measurements are performed using an RMS detector.

2.7.5 Duty Cycle Correction

The EUT was configured to transmit at 63.4 % duty cycle during the evaluation. Per the device's theory of operation, the maximum duty cycle during normal use is 11.236 % corresponding to a Duty Cycle Correction Factor of $20 \cdot \log(11.236/100) = 18.99$ dB. The corresponding duty cycle correction factor was applied to the peak measurements for the corrected average results for the emissions related to the fundamental per the FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02.

2.7.6 Environmental Conditions

Ambient Temperature	24.1 °C
Relative Humidity	35 %
Atmospheric Pressure	976 mbar

2.7.7 Additional Observations

Measurements were made using BAT-EMC (2024.0.9.5) automated software. The reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only.



2.7.8 Test Results

AC Powered, Operating

Limit Clause FCC Sections 15.205, 15.209

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	300
0.4090-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

** Except as provided in paragraph (g) of FCC Part 15.209, fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

Test Summary:

The emissions within the restricted bands meet the aforementioned limits.

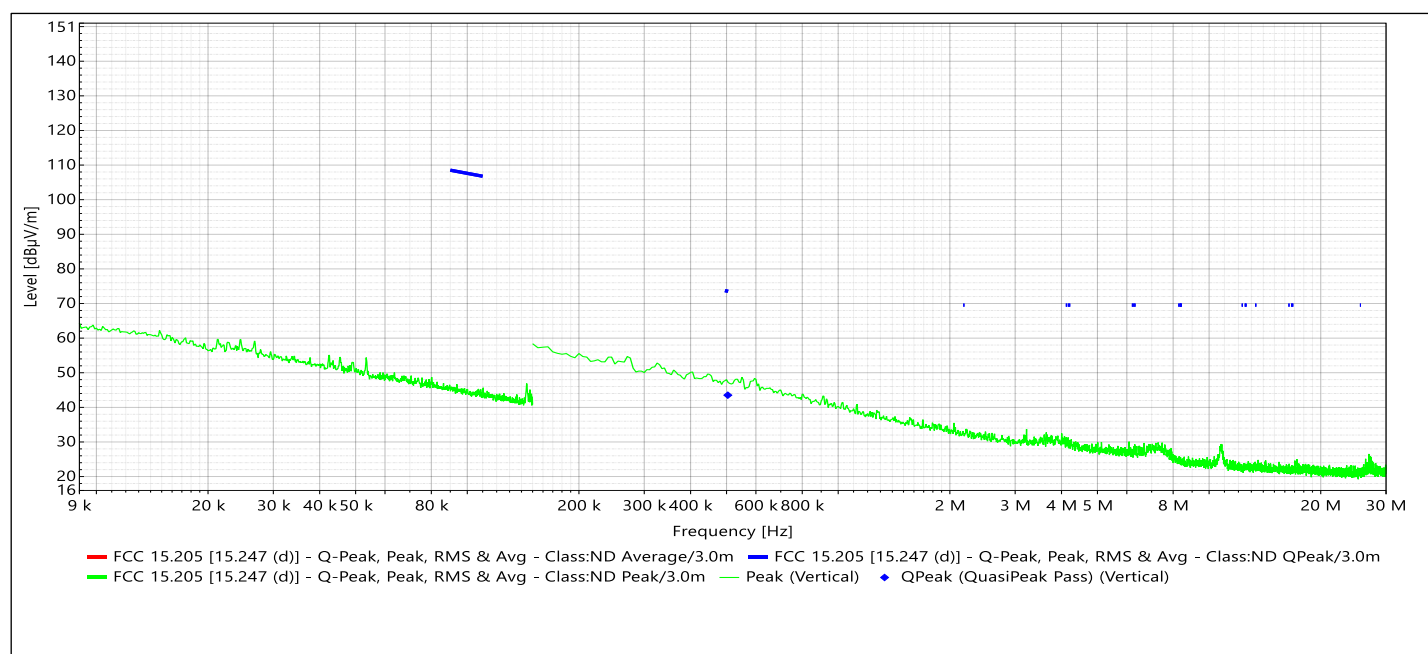
Test Result: Pass



Spurious - 9kHz-30MHz - Low Channel 2402MHz 1Mbps - Vertical Co-Axial

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
9 kHz - 150 kHz	3m	Vertical	200 Hz	1411 Pts	5 ms/MHz
150 kHz - 30 MHz	3m	Vertical	9 kHz	5971 Pts	5 ms/MHz

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/8/2026	3mSAC	Thierry Jean-Charles	26 °C	39 %	983 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2402 MHz	0	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-1 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-1–Radiated Emissions Test Results

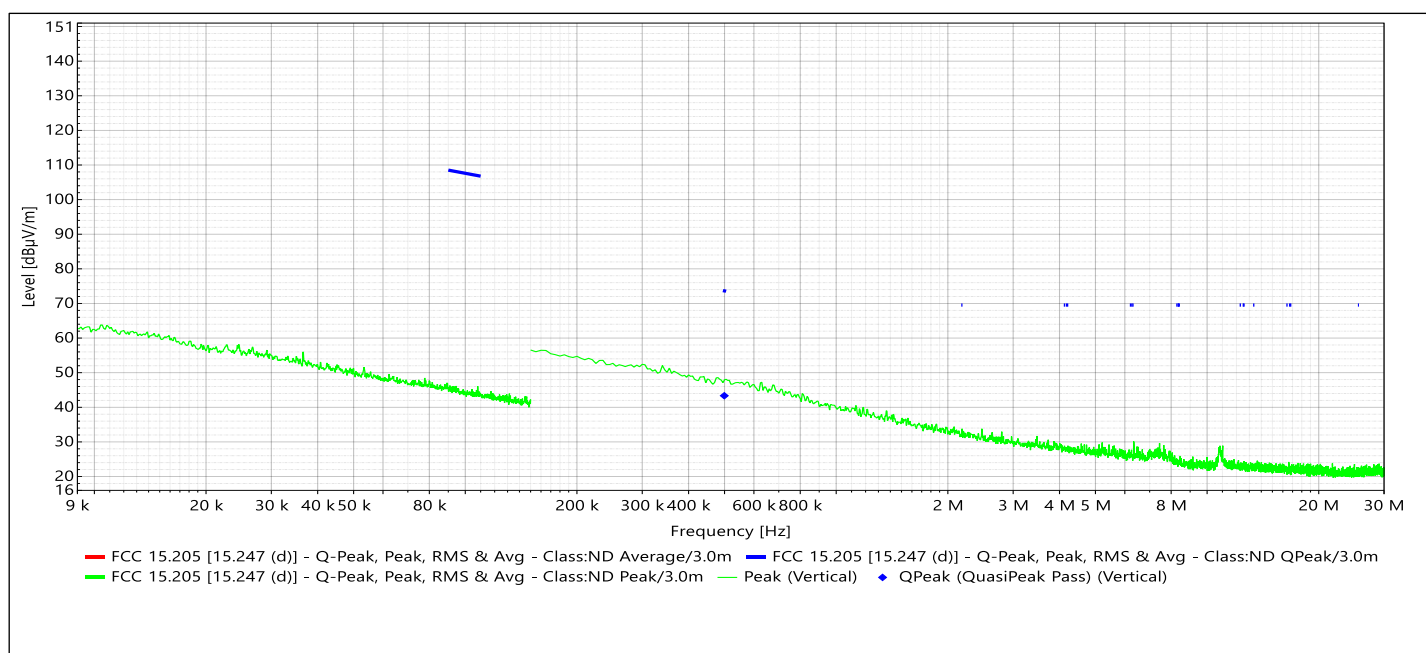
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.504	43.52	73.54	-30.02	220.00	1.00	Vertical	Pass



Spurious - 9kHz-30MHz - Low Channel 2402MHz 1Mbps - Vertical Co-Planar

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
9 kHz - 150 kHz	3m	Vertical	200 Hz	1411 Pts	5 ms/MHz
150 kHz - 30 MHz	3m	Vertical	9 kHz	5971 Pts	5 ms/MHz

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/8/2026	3mSAC	Thierry Jean-Charles	26 °C	39 %	983 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2402 MHz	0	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-2 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-2 – Radiated Emissions Test Results

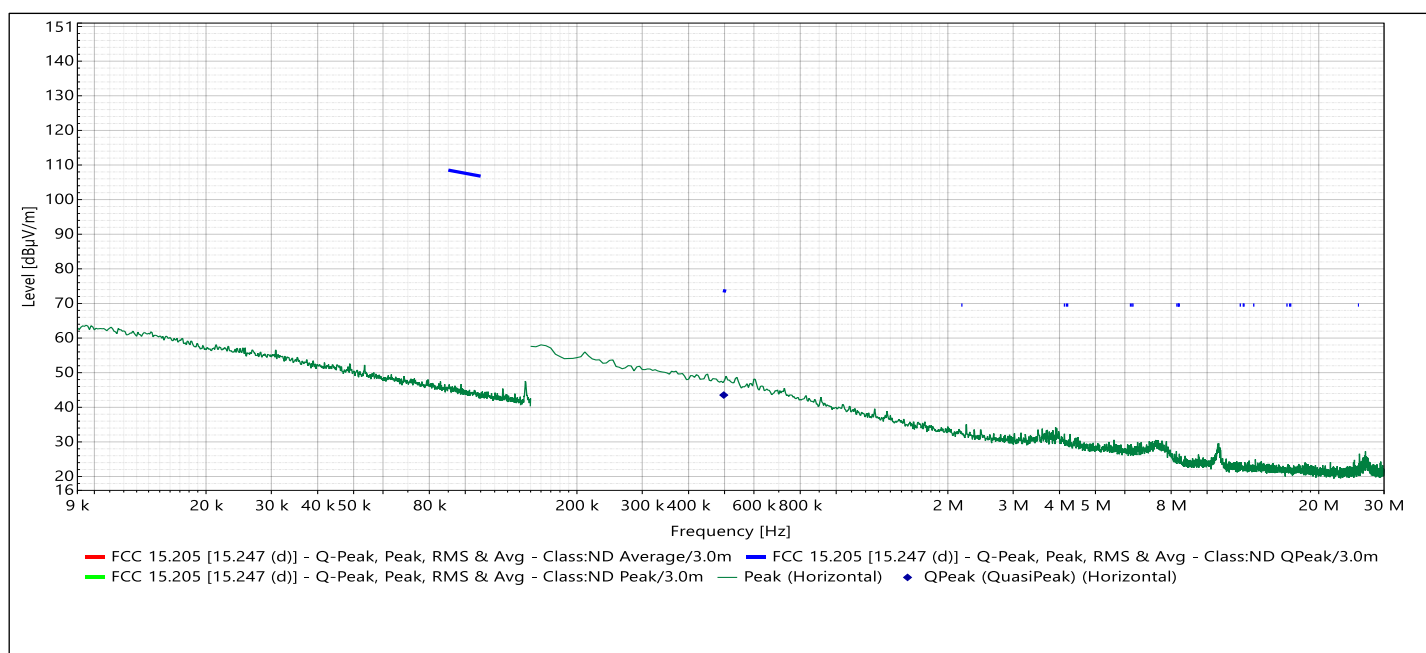
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.499	43.33	73.62	-30.29	191.00	1.00	Vertical	Pass



Spurious - 9kHz-30MHz - Low Channel 2402MHz 1Mbps - Horizontal Co-Planar

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
9 kHz - 150 kHz	3m	Horizontal	200 Hz	1411 Pts	5 ms/MHz
150 kHz - 30 MHz	3m	Horizontal	9 kHz	5971 Pts	5 ms/MHz

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/8/2026	3mSAC	Thierry Jean-Charles	26 °C	39 %	983 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2402 MHz	0	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-3 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-3 – Radiated Emissions Test Results

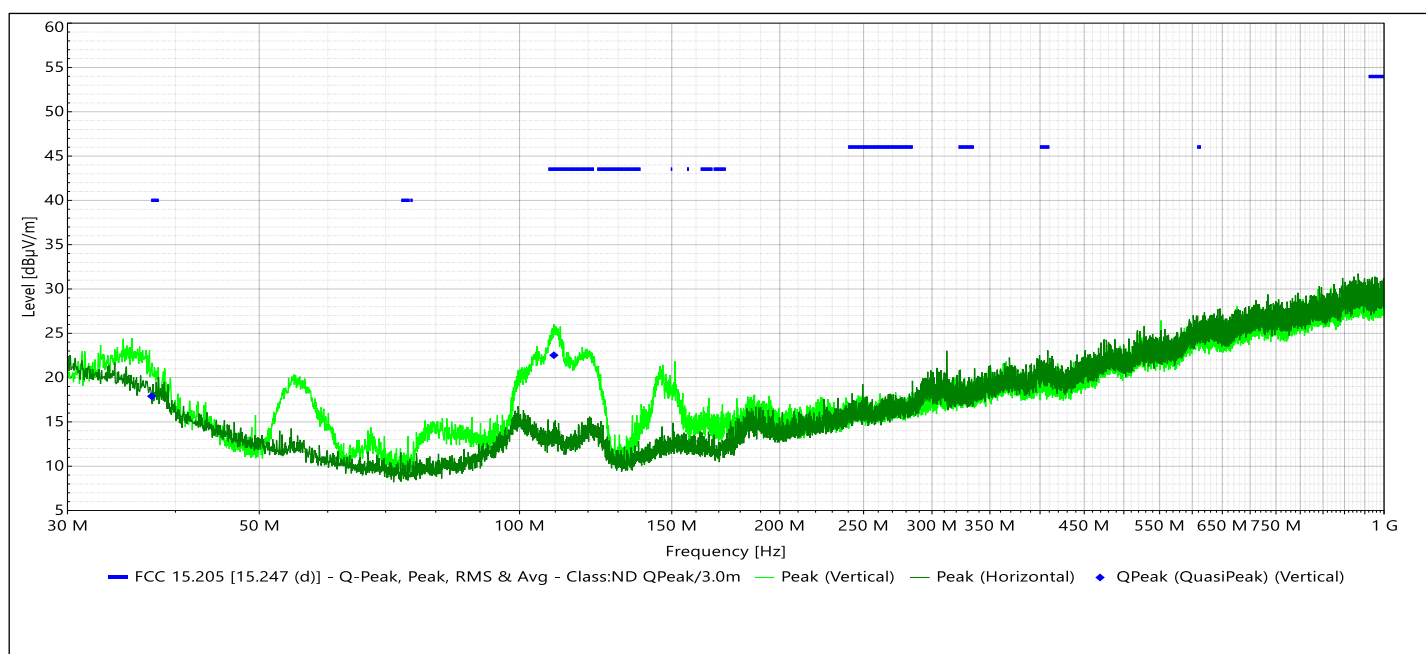
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.498	43.53	73.62	-30.10	319.00	1.00	Horizontal	Pass



Spurious Emissions 30M-1GHz - Low Channel 2402 MHz 1 Mbps

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
30 MHz - 1 GHz	3m	Vertical	120 kHz	20001 Pts	Auto
30 MHz - 1 GHz	3m	Horizontal	120 kHz	20001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/12/2026	STS	Rafael Aguiar Cota	24.1 °C	35 %	976 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2402 MHz	0	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-4 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-4– Radiated Emissions Test Results

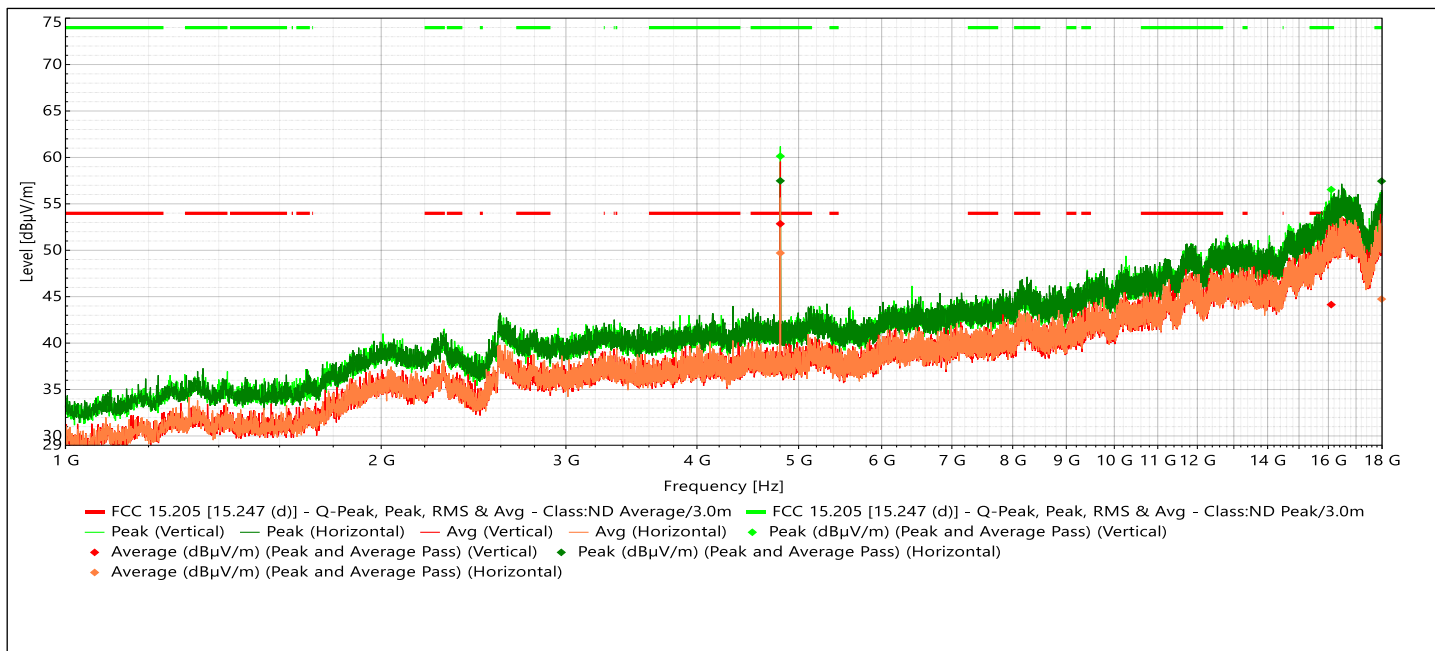
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
37.542	17.90	40.00	-22.10	5.00	1.00	Vertical	Pass
109.592	22.52	43.52	-21.00	263.00	1.00	Vertical	Pass



Spurious Emissions 1 - 18GHz - Low Channel 2402MHz 1Mbps

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
1 GHz - 18 GHz	3m	Vertical	1 MHz	34001 Pts	Auto
1 GHz - 18 GHz	3m	Horizontal	1 MHz	34001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
5/18/2026	3mSAC	Rafael Aguiar Cota	25.3 °C	30 %	976 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 5.0	2402 MHz	0	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-5 – Radiated Emissions Test Results

Test Notes:

- A duty cycle correction factor corresponding to $20 \cdot \log(11.236/100) = 18.99$ dB was applied to the peak measurements for the average levels of the emissions temporarily related to the fundamental per FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02.
- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

**Table 2.7.8-5 – Radiated Emissions Test Results**

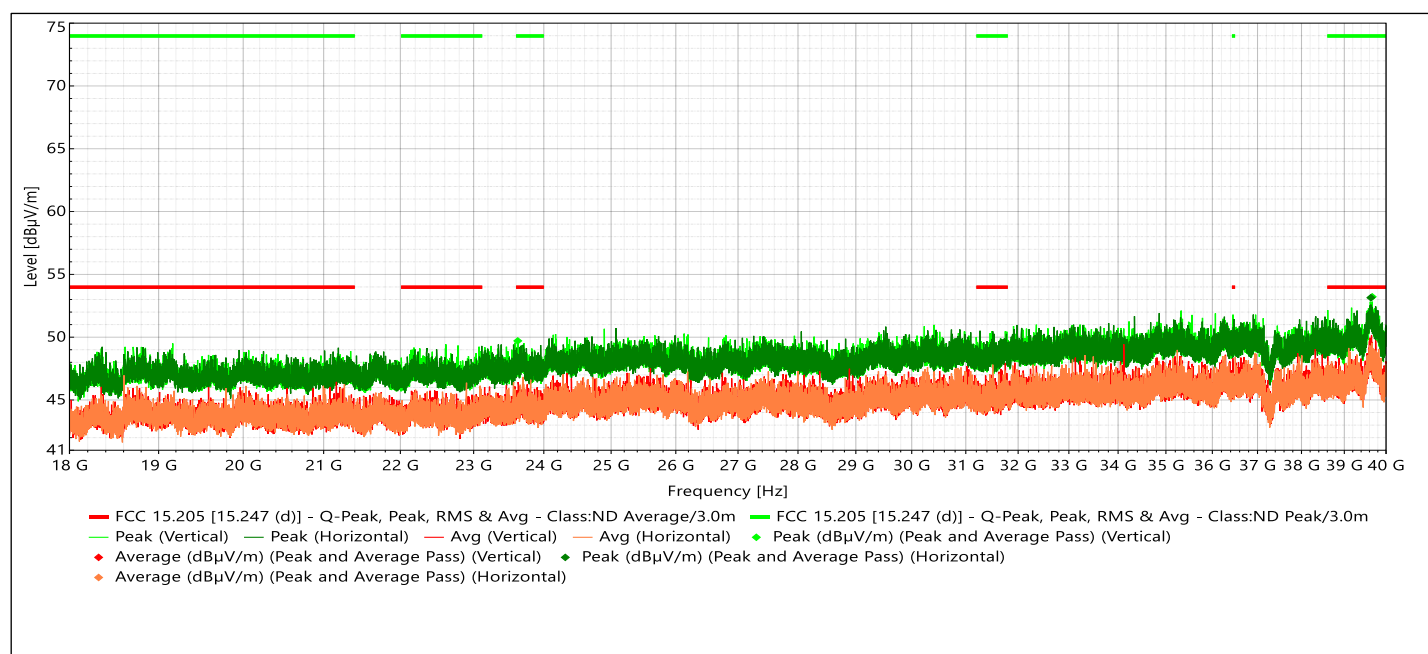
Frequency (MHz)	Peak Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
4803.445	60.13	73.98	-13.85	41.14	53.98	-12.84	272.00	2.82	Vertical	Pass
16098.820	56.53	73.98	-17.45	44.14	53.98	-9.84	47.00	1.00	Vertical	Pass
4803.445	57.48	73.98	-16.50	38.49	53.98	-15.49	144.00	1.43	Horizontal	Pass
17980.499	57.45	73.98	-16.53	44.74	53.98	-9.24	279.00	4.00	Horizontal	Pass



Spurious Emissions 18 - 40GHz - Low Channel 2402MHz 1Mbps

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
18 GHz - 40 GHz	3m	Vertical	1 MHz	44001 Pts	Auto
18 GHz - 40 GHz	3m	Horizontal	1 MHz	44001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
5/19/2026	3mSAC	Rafael Aguiar Cota	25.3 °C	30 %	976 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 5.0	2402 MHz	0	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-6 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

**Table 2.7.8-6– Radiated Emissions Test Results**

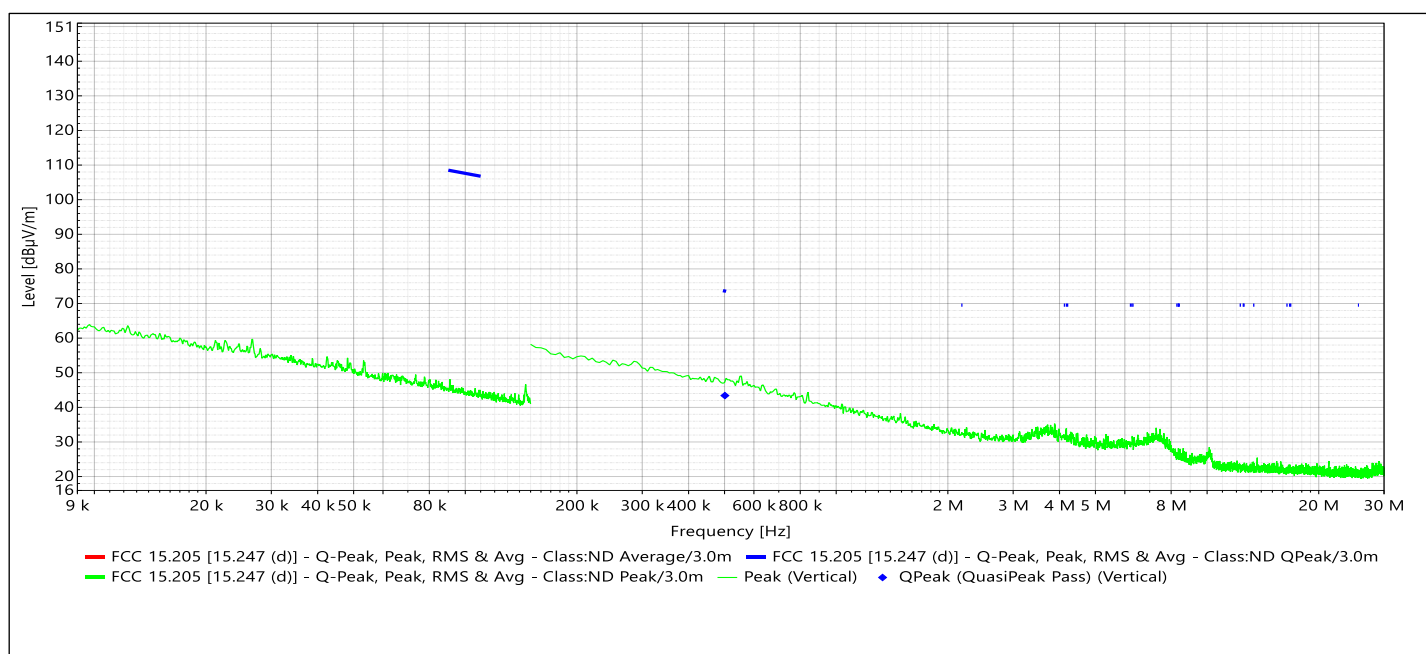
Frequency (MHz)	Peak Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
23623.935	49.71	73.98	-24.27	37.05	53.98	-16.93	269.00	4.00	Vertical	Pass
39665.131	53.22	73.98	-20.76	40.60	53.98	-13.38	212.00	2.50	Vertical	Pass
39633.490	53.14	73.98	-20.84	40.63	53.98	-13.35	222.00	2.50	Horizontal	Pass



Spurious - 9kHz-30MHz - Mid Channel 2440MHz 1Mbps - Vertical Co-Axial

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
9 kHz - 150 kHz	3m	Vertical	200 Hz	1411 Pts	5 ms/MHz
150 kHz - 30 MHz	3m	Vertical	9 kHz	5971 Pts	5 ms/MHz

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/8/2026	3mSAC	Thierry Jean-Charles	26 °C	39 %	983 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2440 MHz	19	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-7 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-7 – Radiated Emissions Test Results

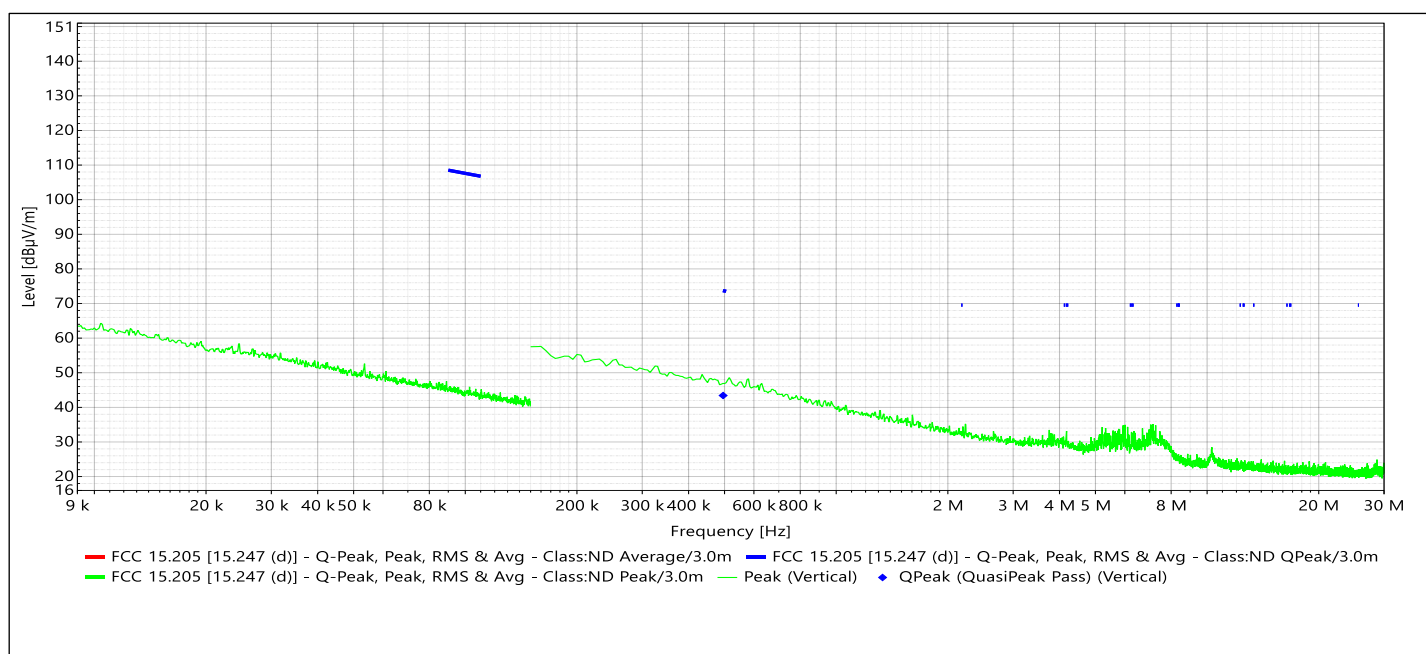
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.501	43.40	73.62	-30.23	5.00	1.00	Vertical	Pass



Spurious - 9kHz-30MHz - Mid Channel 2440MHz 1Mbps - Vertical Co-Planar

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
9 kHz - 150 kHz	3m	Vertical	200 Hz	1411 Pts	5 ms/MHz
150 kHz - 30 MHz	3m	Vertical	9 kHz	5971 Pts	5 ms/MHz

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/8/2026	3mSAC	Thierry Jean-Charles	26 °C	39 %	983 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2440 MHz	19	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-8 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-8 – Radiated Emissions Test Results

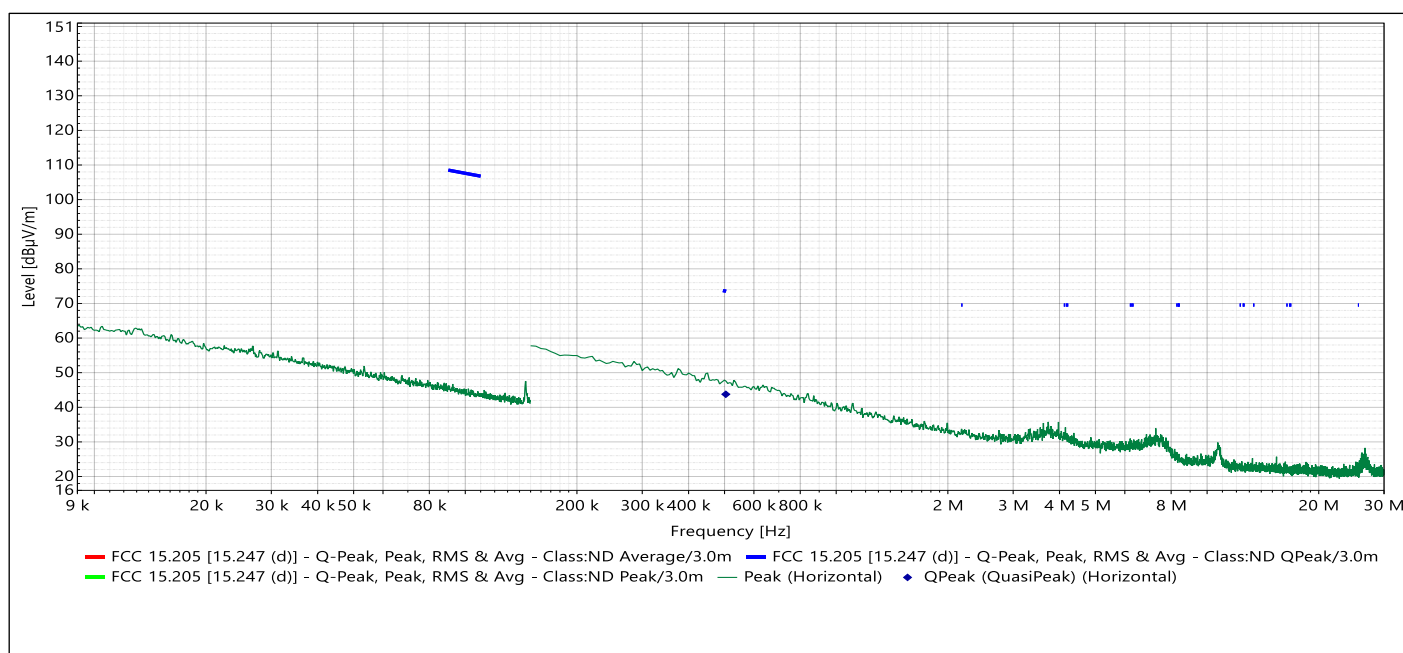
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.496	43.42	73.71	-30.29	91.00	1.00	Vertical	Pass



Spurious - 9kHz-30MHz - Mid Channel 2440MHz 1Mbps - Horizontal Co-Planar

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
9 kHz - 150 kHz	3m	Horizontal	200 Hz	1411 Pts	5 ms/MHz
150 kHz - 30 MHz	3m	Horizontal	9 kHz	5971 Pts	5 ms/MHz

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/8/2026	3mSAC	Thierry Jean-Charles	26 °C	39 %	983 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2440 MHz	19	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-9 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-9 – Radiated Emissions Test Results

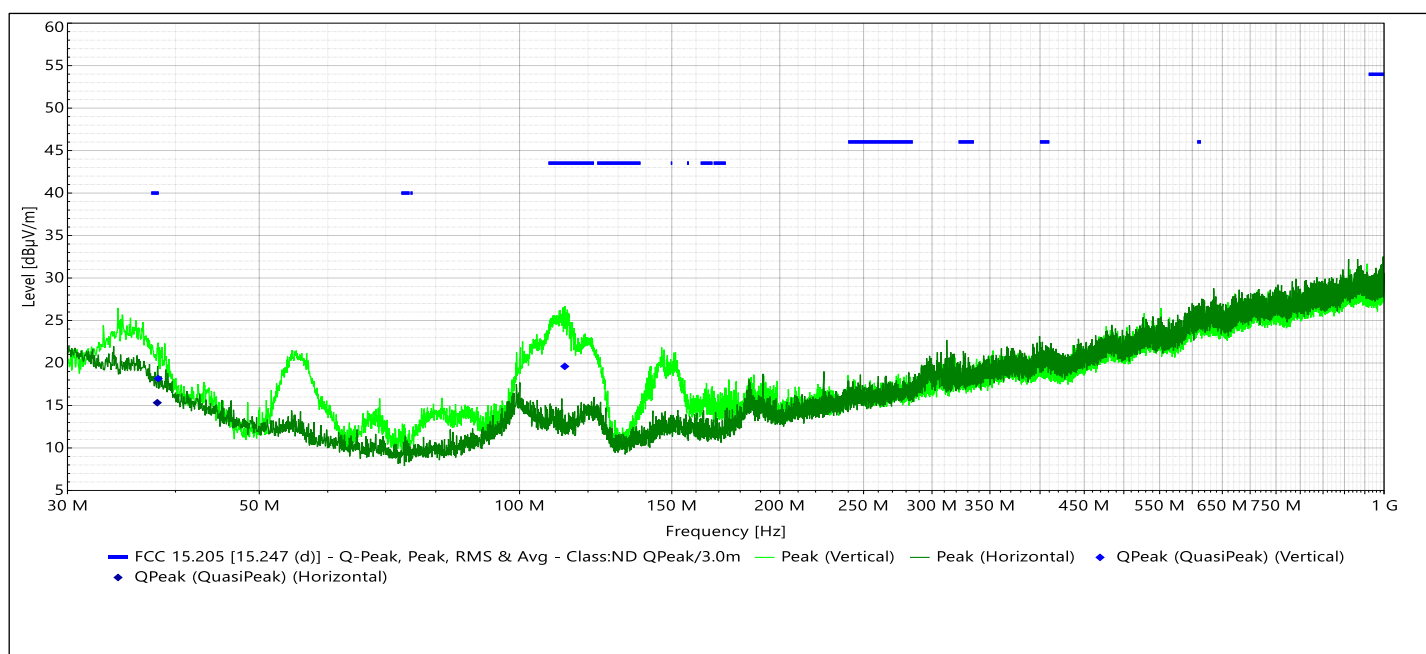
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.504	43.75	73.54	-29.79	156.00	1.00	Horizontal	Pass



Spurious Emissions 30M-1GHz - Mid Channel 2440 MHz 1 Mbps

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
30 MHz - 1 GHz	3m	Vertical	120 kHz	20001 Pts	Auto
30 MHz - 1 GHz	3m	Horizontal	120 kHz	20001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/12/2026	STS	Rafael Aguiar Cota	24.1 °C	35 %	976 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2440 MHz	19	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-10 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-10 – Radiated Emissions Test Results

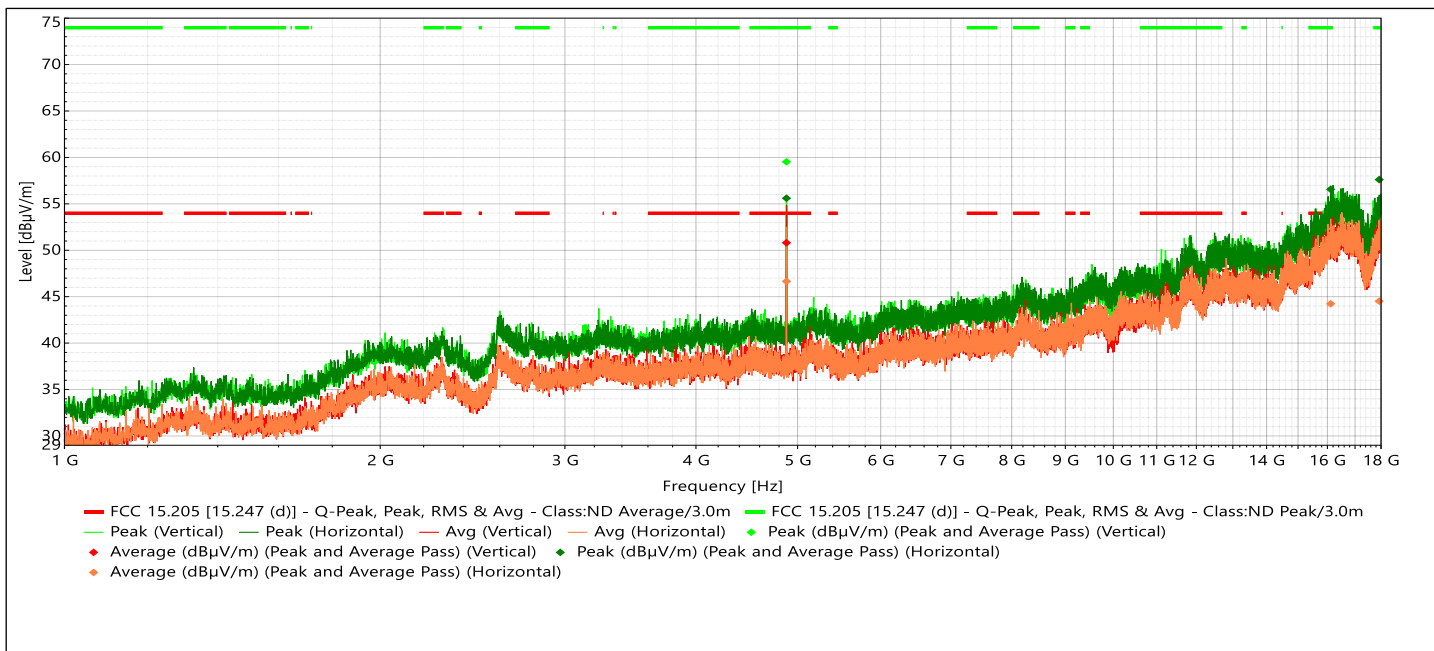
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
38.202	18.16	40.00	-21.84	277.00	1.00	Vertical	Pass
112.808	19.60	43.52	-23.92	296.00	1.00	Vertical	Pass
38.107	15.32	40.00	-24.68	356.00	4.00	Horizontal	Pass



Spurious Emissions 1 - 18GHz - Mid Channel 2440MHz 1Mbps

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
1 GHz - 18 GHz	3m	Vertical	1 MHz	34001 Pts	Auto
1 GHz - 18 GHz	3m	Horizontal	1 MHz	34001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
5/18/2026	3mSAC	Rafael Aguiar Cota	25.3 °C	30 %	976 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 5.0	2440 MHz	19	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-11 – Radiated Emissions Test Results

Test Notes:

- A duty cycle correction factor corresponding to $20 \cdot \log(11.236/100) = 18.99$ dB was applied to the peak measurements for the average levels of the emissions temporarily related to the fundamental per FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02.
- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

**Table 2.7.8-11 – Radiated Emissions Test Results**

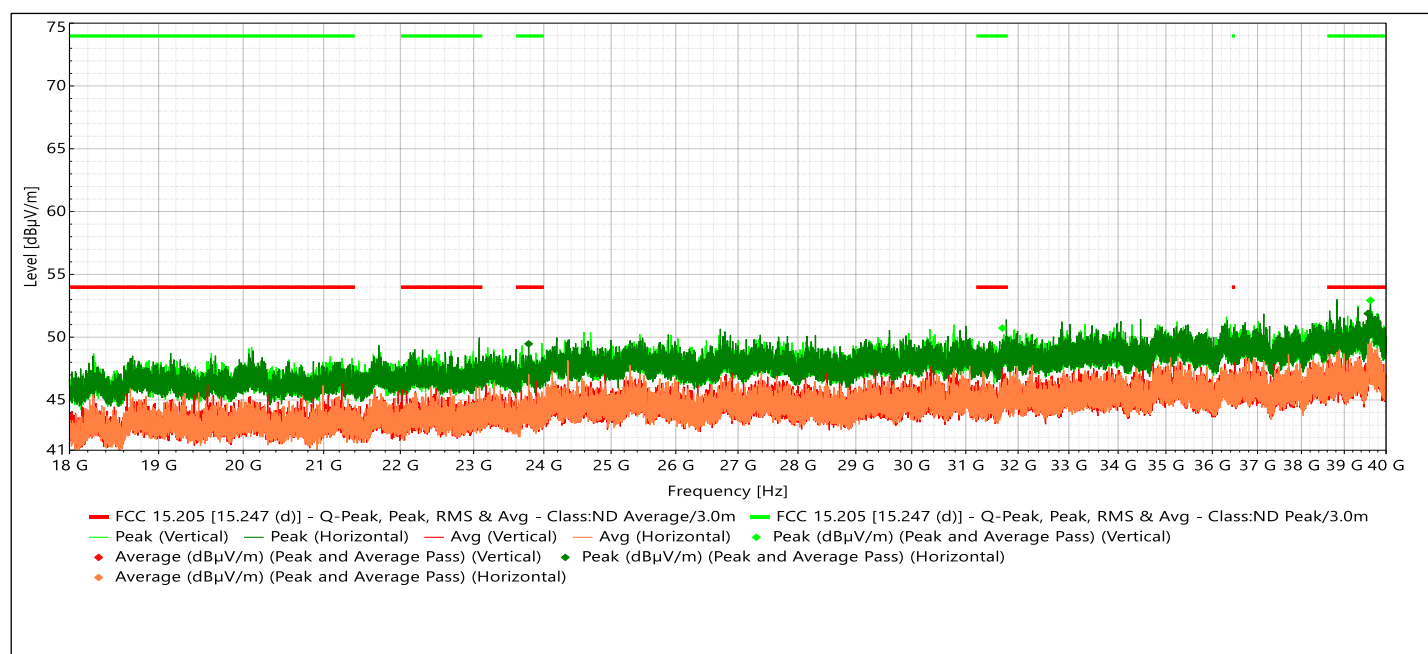
Frequency (MHz)	Peak Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
4879.445	59.53	73.98	-14.45	40.54	53.98	-13.44	279.00	2.58	Vertical	Pass
4879.445	55.61	73.98	-18.37	36.62	53.98	-17.36	141.00	1.27	Horizontal	Pass
16114.137	56.56	73.98	-17.42	44.24	53.98	-9.74	209.00	4.00	Horizontal	Pass
17927.702	57.61	73.98	-16.37	44.52	53.98	-9.46	0.00	4.00	Horizontal	Pass



Spurious Emissions 18 - 40GHz - Mid Channel 2440MHz 1Mbps

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
18 GHz - 40 GHz	3m	Vertical	1 MHz	44001 Pts	Auto
18 GHz - 40 GHz	3m	Horizontal	1 MHz	44001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
5/19/2026	3mSAC	Rafael Aguiar Cota	23.8 °C	21 %	995 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 5.0	2440 MHz	19	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-12 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

**Table 2.7.8-12 – Radiated Emissions Test Results**

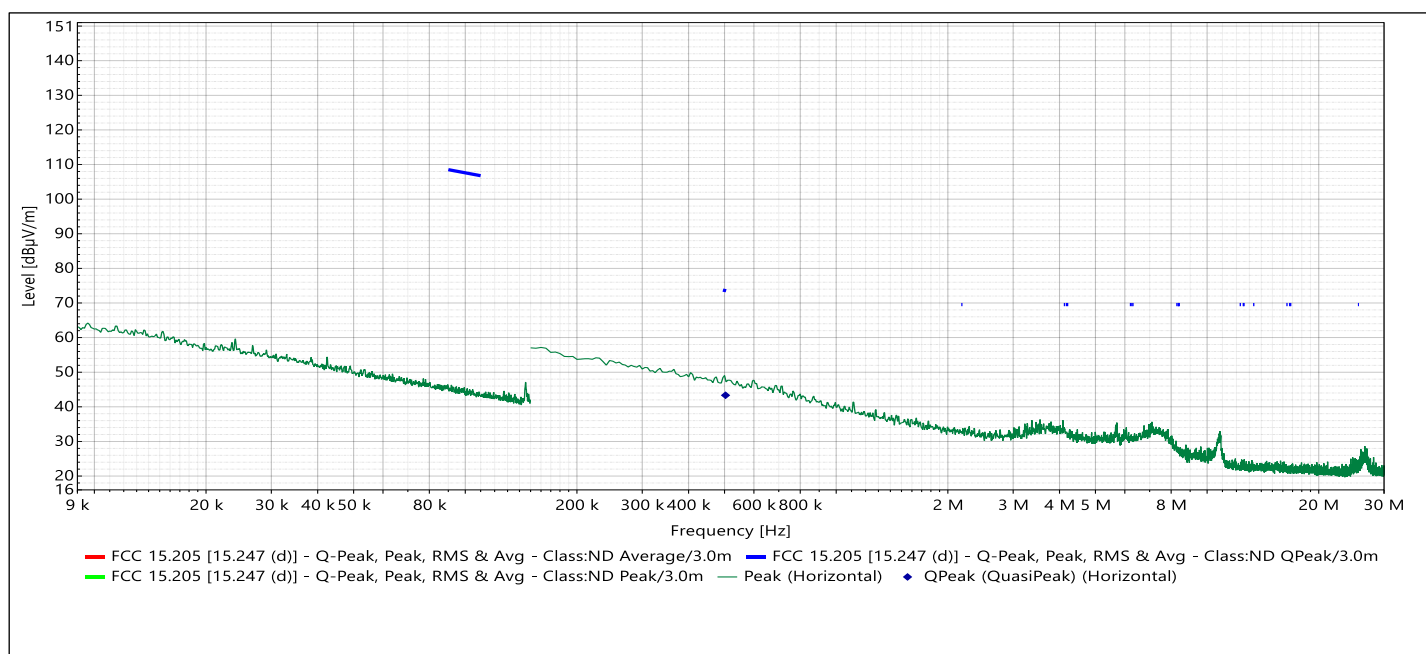
Frequency (MHz)	Peak Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
31696.944	50.73	73.98	-23.25	37.93	53.98	-16.05	347.00	3.38	Vertical	Pass
39619.988	52.93	73.98	-21.05	40.34	53.98	-13.64	273.00	2.33	Vertical	Pass
23780.088	49.47	73.98	-24.51	36.76	53.98	-17.22	177.00	2.95	Horizontal	Pass
39562.116	51.88	73.98	-22.10	39.26	53.98	-14.72	288.00	2.34	Horizontal	Pass



Spurious - 9kHz-30MHz - High Channel 2480MHz 1Mbps - Horizontal Co-Planar

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
9 kHz - 150 kHz	3m	Horizontal	200 Hz	1411 Pts	5 ms/MHz
150 kHz - 30 MHz	3m	Horizontal	9 kHz	5971 Pts	5 ms/MHz

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/8/2026	3mSAC	Thierry Jean-Charles	26 °C	39 %	983 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2480 MHz	39	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-13 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-13 – Radiated Emissions Test Results

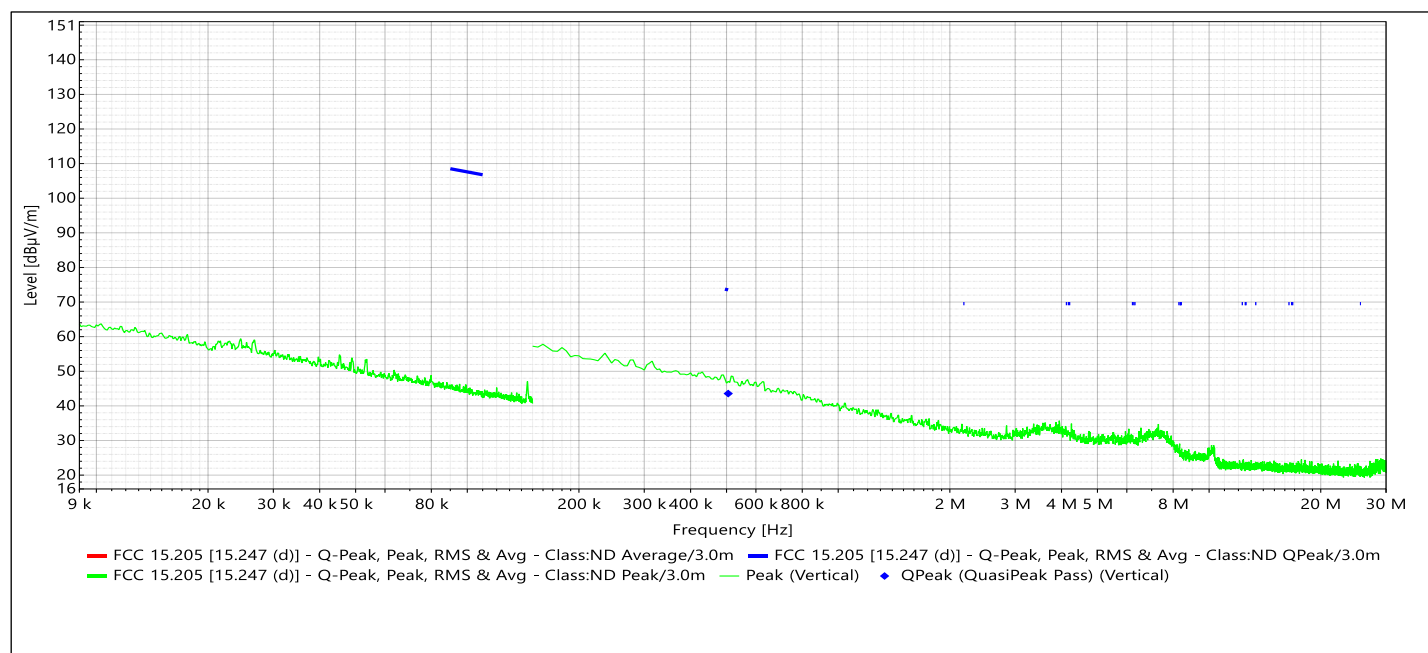
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.503	43.33	73.54	-30.21	227.00	1.00	Horizontal	Pass



Spurious - 9kHz-30MHz - High Channel 2480MHz 1Mbps - Vertical Co-Axial

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
9 kHz - 150 kHz	3m	Vertical	200 Hz	1411 Pts	5 ms/MHz
150 kHz - 30 MHz	3m	Vertical	9 kHz	5971 Pts	5 ms/MHz

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/8/2026	3mSAC	Thierry Jean-Charles	26 °C	39 %	983 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2480 MHz	39	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-14 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-14– Radiated Emissions Test Results

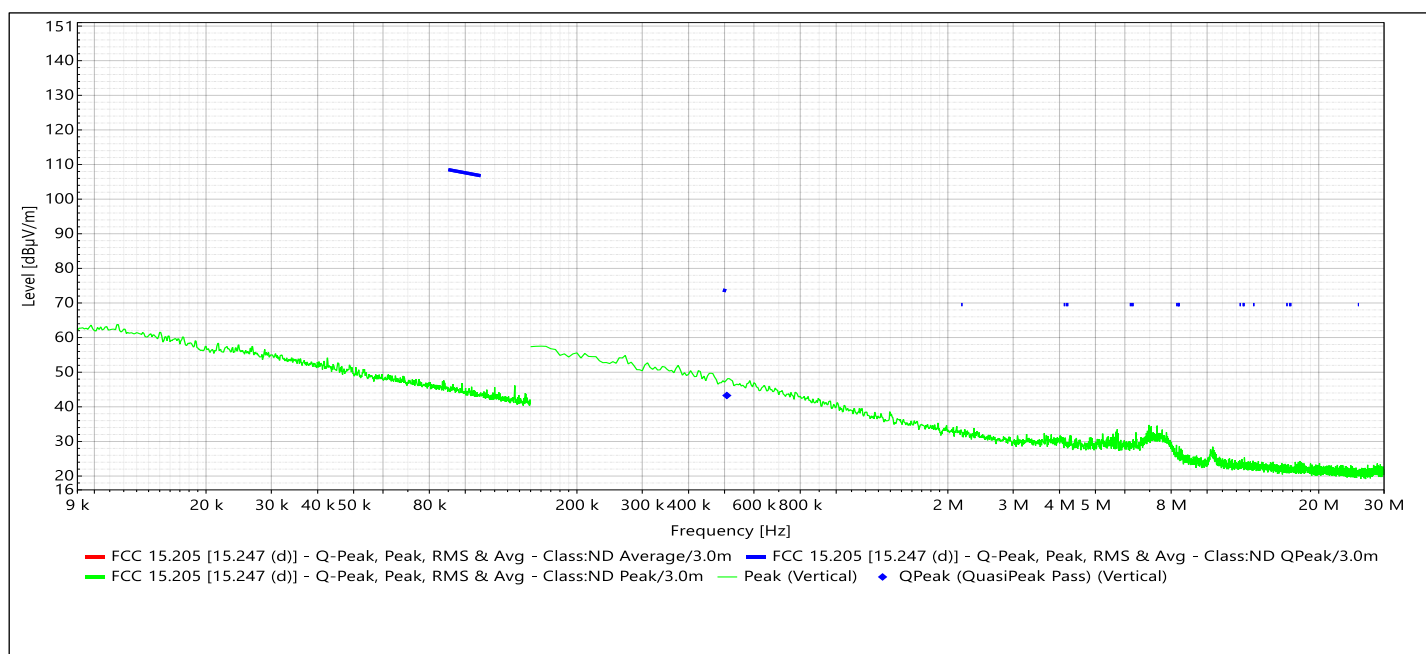
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.505	43.56	73.54	-29.98	55.00	1.00	Vertical	Pass



Spurious - 9kHz-30MHz - High Channel 2480MHz 1Mbps - Vertical Co-Planar

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
9 kHz - 150 kHz	3m	Vertical	200 Hz	1411 Pts	5 ms/MHz
150 kHz - 30 MHz	3m	Vertical	9 kHz	5971 Pts	5 ms/MHz

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/8/2026	3mSAC	Thierry Jean-Charles	26 °C	39 %	983 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2480 MHz	39	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-15 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-15– Radiated Emissions Test Results

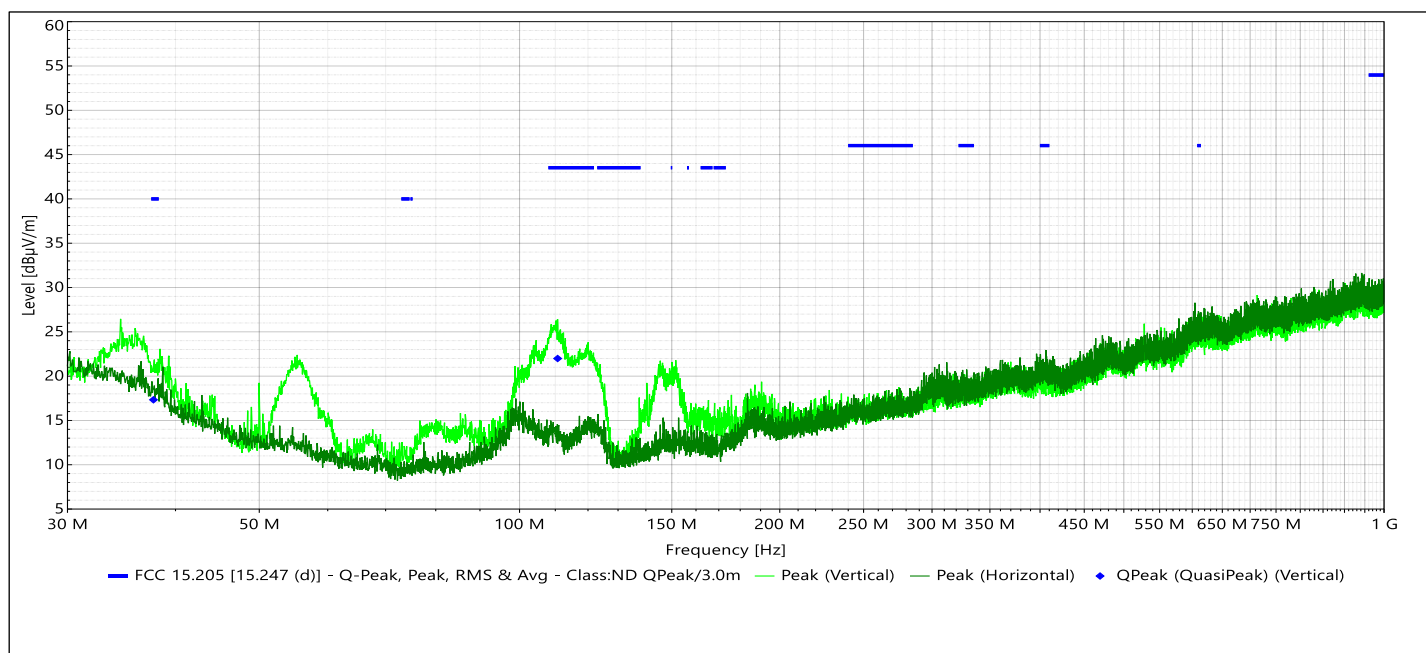
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.507	43.27	73.54	-30.27	120.00	1.00	Vertical	Pass



Spurious Emissions 30M-1GHz - High Channel 2480 MHz 1 Mbps

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
30 MHz - 1 GHz	3m	Vertical	120 kHz	20001 Pts	Auto
30 MHz - 1 GHz	3m	Horizontal	120 kHz	20001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/12/2026	STS	Rafael Aguiar Cota	24.1 °C	35 %	976 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 1 Mbps	2480 MHz	39	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-16 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.7.8-16– Radiated Emissions Test Results

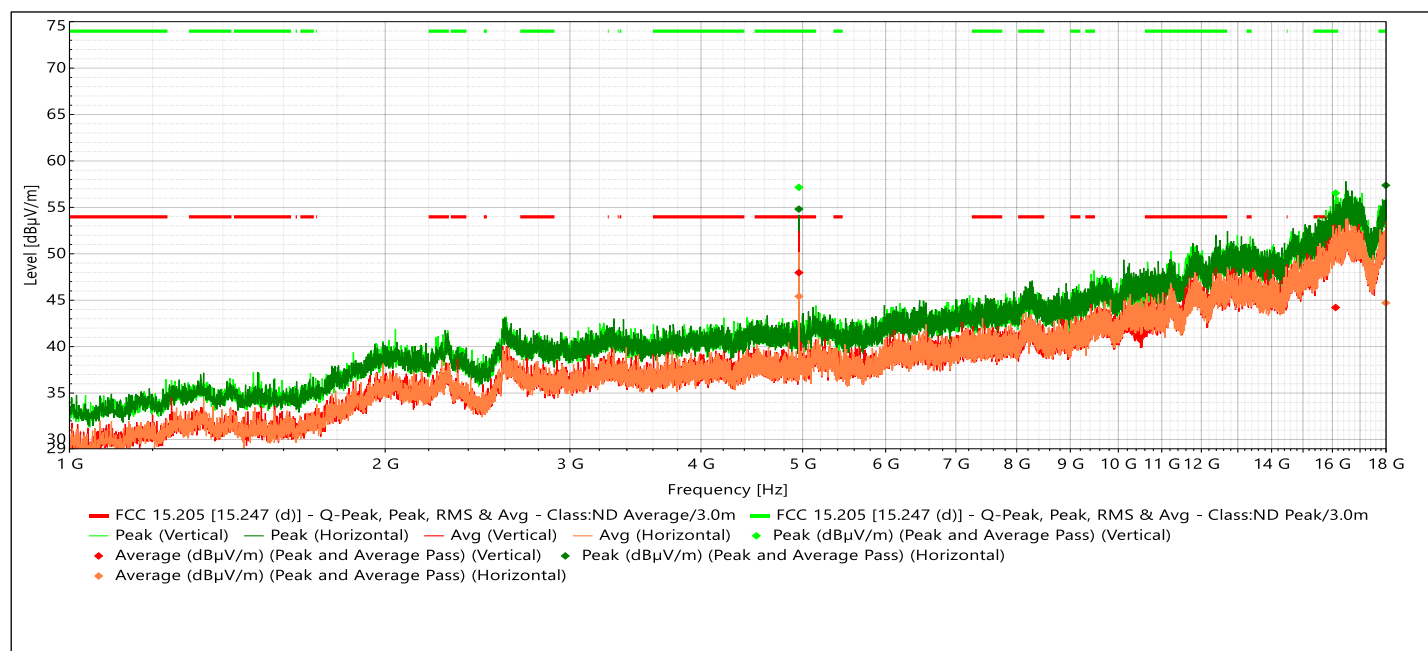
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
37.722	17.33	40.00	-22.67	4.00	1.07	Vertical	Pass
110.684	21.99	43.52	-21.53	277.00	1.00	Vertical	Pass



Spurious Emissions 1 - 18GHz - High Channel 2480MHz 1Mbps

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
1 GHz - 18 GHz	3m	Vertical	1 MHz	34001 Pts	Auto
1 GHz - 18 GHz	3m	Horizontal	1 MHz	34001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
5/18/2026	3mSAC	Rafael Aguiar Cota	25.3 °C	30 %	976 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 5.0	2480 MHz	39	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-17 – Radiated Emissions Test Results

Test Notes:

- A duty cycle correction factor corresponding to $20 \cdot \log(11.236/100) = 18.99$ dB was applied to the peak measurements for the average levels of the emissions temporarily related to the fundamental per FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02.
- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

**Table 2.7.8-17 – Radiated Emissions Test Results**

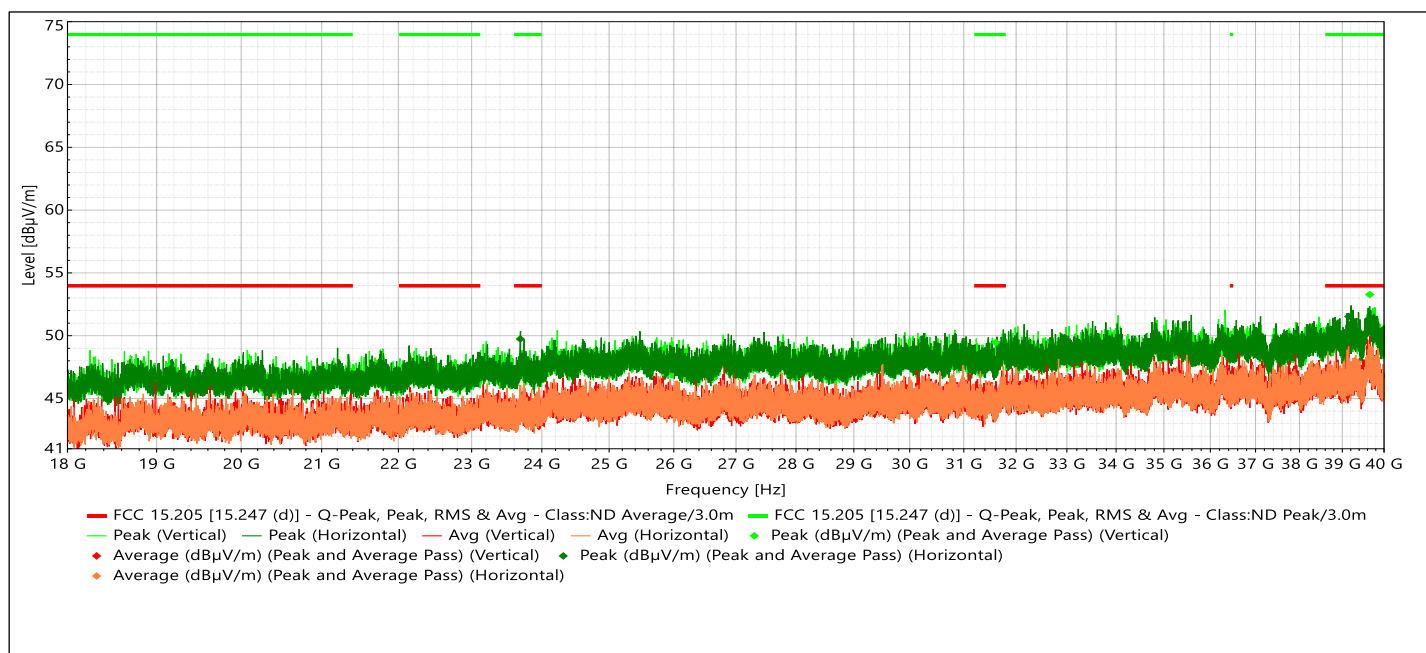
Frequency (MHz)	Peak Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
4959.443	57.16	73.98	-16.82	38.17	53.98	-15.81	279.00	2.34	Vertical	Pass
16113.146	56.54	73.98	-17.44	44.21	53.98	-9.77	296.00	1.00	Vertical	Pass
4959.444	54.81	73.98	-19.17	35.82	53.98	-18.16	137.00	1.48	Horizontal	Pass
17988.213	57.38	73.98	-16.60	44.71	53.98	-9.27	296.00	4.00	Horizontal	Pass



Spurious Emissions 18 - 40GHz - High Channel 2480MHz 1Mbps

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
18 GHz - 40 GHz	3m	Vertical	1 MHz	44001 Pts	Auto
18 GHz - 40 GHz	3m	Horizontal	1 MHz	44001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
5/19/2026	3mSAC	Rafael Aguiar Cota	25.3 °C	27 %	986 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
BLE 5.0	2480 MHz	39	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-18 – Radiated Emissions Test Results

Test Notes:

- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

**Table 2.7.8-18– Radiated Emissions Test Results**

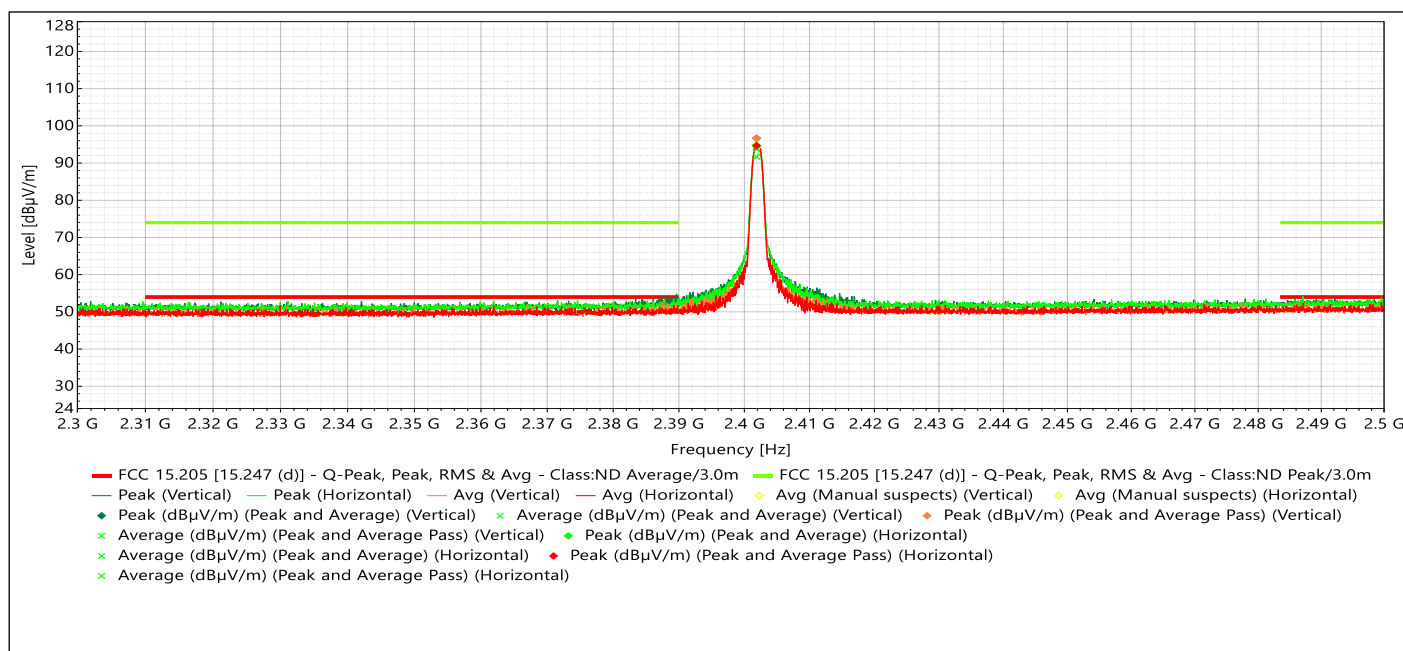
Frequency (MHz)	Peak Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
31606.627	49.45	73.98	-24.53	36.98	53.98	-17.00	118.00	4.00	Vertical	Pass
39653.844	53.28	73.98	-20.70	40.44	53.98	-13.54	3.00	1.86	Vertical	Pass
23688.986	49.74	73.98	-24.24	37.29	53.98	-16.69	166.00	1.42	Horizontal	Pass
39151.353	51.53	73.98	-22.45	39.11	53.98	-14.87	136.00	1.23	Horizontal	Pass



Radiated Band Edge - Low Channel 2402MHz

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
2.3 GHz - 2.5 GHz	3m	Vertical	1 MHz	6001 Pts	Auto
2.3 GHz - 2.5 GHz	3m	Horizontal	1 MHz	6001 Pts	Auto

Test Area	Tested By	Test Date	Temperature	Humidity	Pressure
3mSAC	Duranta K. Barua	5/21/2026	25.3 °C	30 %	976 mBar



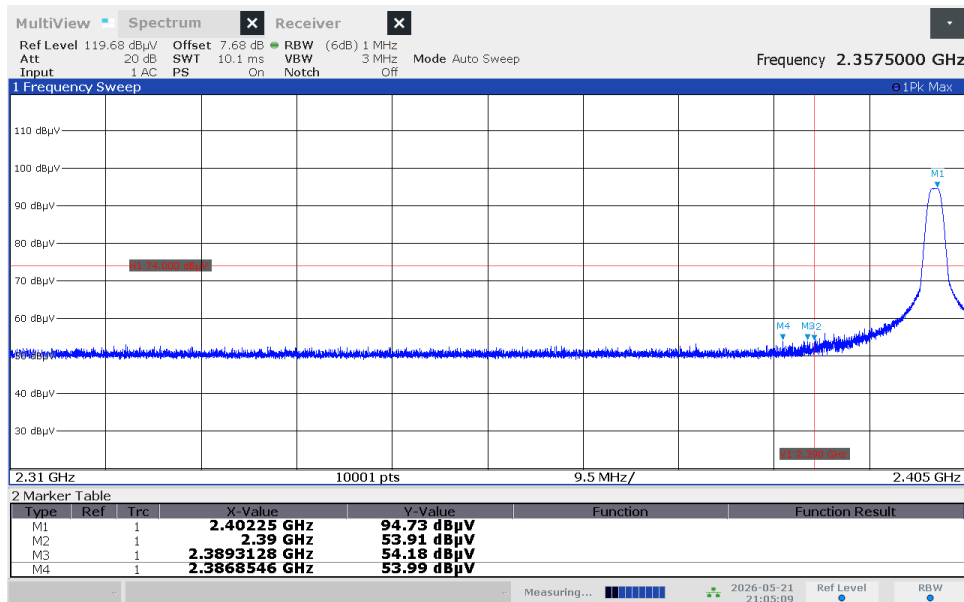
Technology	Frequency	Channel	Mode	Orientation	Limit	Results
BLE 5.0	2402 MHz	0	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

Figure 2.7.8-19 –Radiated Emissions Test Results

Restricted Radiated Band Edge Emissions – BLE 1M

Frequency Range	Antenna Distance	Antenna Polarization	RBW	VBW	Sweep Time
2.31 – 2.405 GHz	3m	Horizontal	1 MHz	3 MHz	10.1 ms

Test Date	Test Area	Test Engineer	Temperature	Humidity	Pressure
05/21/2026	3mSAC	Duranta K. Barua	25.3 °C	30 %	976 mBar



09:05:09 PM 05/21/2026

Technology	Frequency	Channel	Data Rate	Mode	EUT Orientation	Limit	Test Result
BLE 1 Mbps	2402 MHz	0	1 Mbps	TX	Y-Axis	FCC \$15.209	Pass

Figure 2.7.8-20 – Restricted Radiated Band Edge Emissions – BLE 1M

Table 2.7.8-19 – Restricted Radiated Band Edge Data

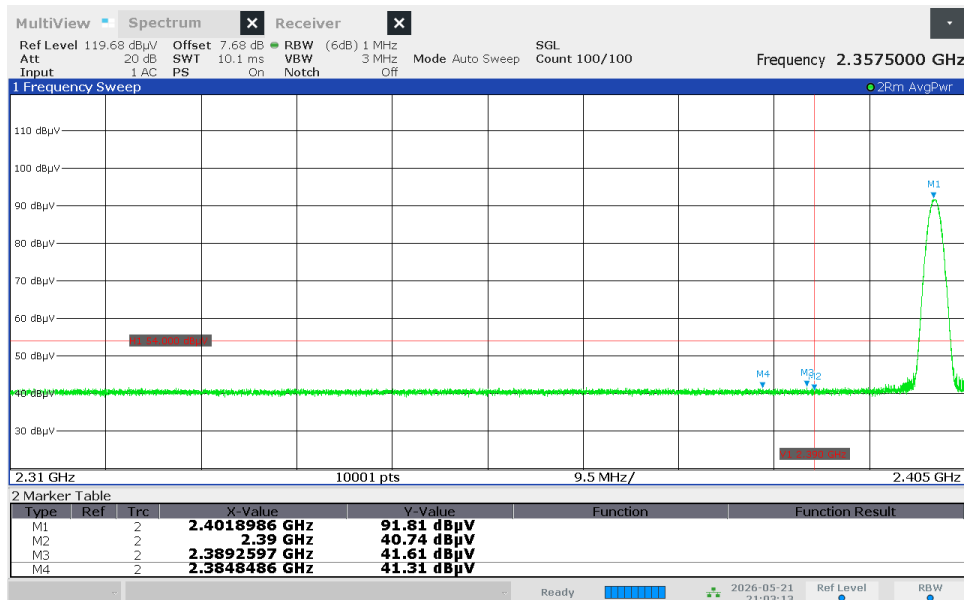
Frequency (GHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin (dB)	Angle (°)	Height (m)	Result
2.40225	94.73	-----	-----	211	1.00	N/A
2.39	53.91	74	-20.09	211	1.00	Pass
2.3893128	54.18	74	-19.82	211	1.00	Pass
2.3868546	53.99	74	-20.01	211	1.00	Pass



Restricted Radiated Band Edge Emissions – BLE 1M

Frequency Range	Antenna Distance	Antenna Polarization	RBW	VBW	Sweep Time
2.31 – 2.405 GHz	3m	Horizontal	1 MHz	3 MHz	10.1 ms

Test Date	Test Area	Test Engineer	Temperature	Humidity	Pressure
05/21/2026	3mSAC	Duranta K. Barua	25.3 °C	30 %	976 mBar



09:03:13 PM 05/21/2026

Technology	Frequency	Channel	Data Rate	Mode	EUT Orientation	Limit	Test Result
BLE 1 Mbps	2402 MHz	0	1 Mbps	TX	Y-Axis	FCC §15.209	Pass

Figure 2.7.8-21 – Restricted Radiated Band Edge Emissions – BLE 1M

Table 2.7.8-20 – Restricted Radiated Band Edge Data

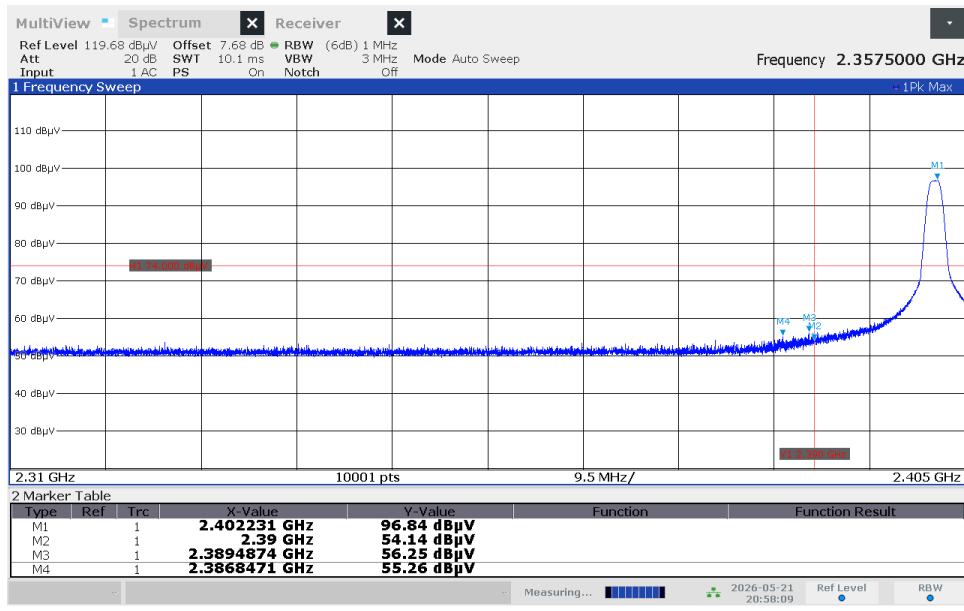
Frequency (GHz)	Avg Level (dBμV/m)	Avg Limit (dBμV/m)	Avg Margin (dB)	Angle (°)	Height (m)	Result
2.4018986	91.81	----	----	211	1.00	N/A
2.39	40.74	54	-13.26	211	1.00	Pass
2.3892597	41.61	54	-12.39	211	1.00	Pass
2.3848486	41.31	54	-12.69	211	1.00	Pass



Restricted Radiated Band Edge Emissions – BLE 1M

Frequency Range	Antenna Distance	Antenna Polarization	RBW	VBW	Sweep Time
2.31 – 2.405 GHz	3m	Vertical	1 MHz	3 MHz	10.1 ms

Test Date	Test Area	Test Engineer	Temperature	Humidity	Pressure
05/21/2026	3mSAC	Duranta K. Barua	25.3 °C	30 %	976 mBar



Technology	Frequency	Channel	Data Rate	Mode	EUT Orientation	Limit	Test Result
BLE 1 Mbps	2402 MHz	0	1 Mbps	TX	Y-Axis	FCC §15.209	Pass

Figure 2.7.8-22 – Restricted Radiated Band Edge Emissions – BLE 1M

Table 2.7.8-21 – Restricted Radiated Band Edge Data

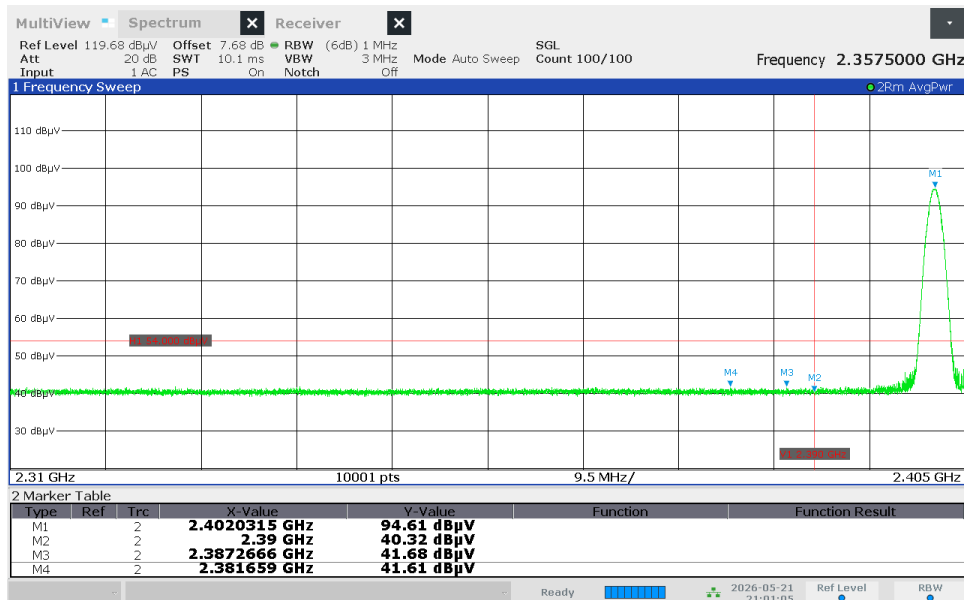
Frequency (GHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin (dB)	Angle (°)	Height (m)	Result
2.402231	96.84	----	----	281	2.04	N/A
2.39	54.14	74	-19.86	281	2.04	Pass
2.3894874	56.25	74	-17.75	281	2.04	Pass
2.3868471	55.26	74	-18.74	281	2.04	Pass



Restricted Radiated Band Edge Emissions – BLE 1M

Frequency Range	Antenna Distance	Antenna Polarization	RBW	VBW	Sweep Time
2.31 – 2.405 GHz	3m	Vertical	1 MHz	3 MHz	10.1 ms

Test Date	Test Area	Test Engineer	Temperature	Humidity	Pressure
05/21/2026	3mSAC	Duranta K. Barua	25.3 °C	30 %	976 mBar



09:01:05 PM 05/21/2026

Technology	Frequency	Channel	Data Rate	Mode	EUT Orientation	Limit	Test Result
BLE 1 Mbps	2402 MHz	0	1 Mbps	TX	Y-Axis	FCC §15.209	Pass

Figure 2.7.8-23 – Restricted Radiated Band Edge Emissions – BLE 1M

Table 2.7.8-22 – Restricted Radiated Band Edge Data

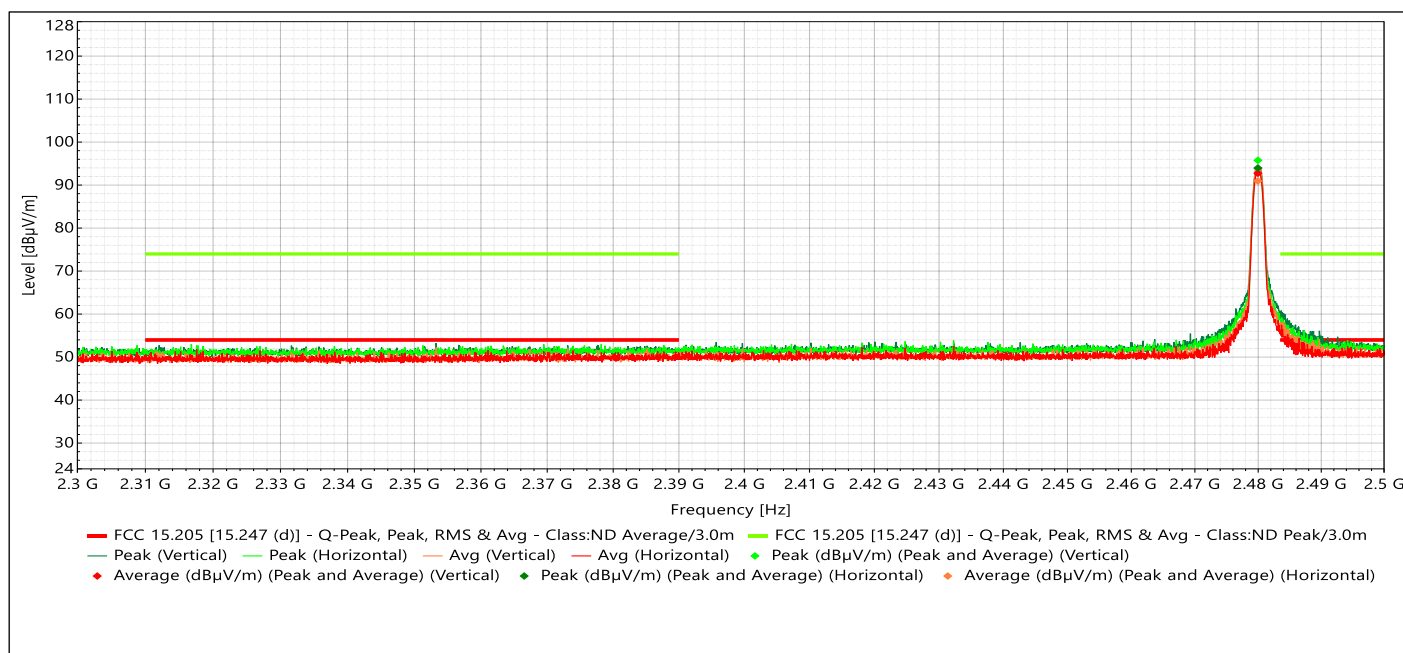
Frequency (GHz)	Avg Level (dBμV/m)	Avg Limit (dBμV/m)	Avg Margin (dB)	Angle (°)	Height (m)	Result
2.4020315	94.61	----	----	281	2.04	N/A
2.39	40.42	54	-13.58	281	2.04	Pass
2.3872666	41.68	54	-12.32	281	2.04	Pass
2.381659	41.61	54	-12.39	281	2.04	Pass



Radiated Band Edge - High Channel 2480MHz

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
2.3 GHz - 2.5 GHz	3m	Vertical	1 MHz	6001 Pts	Auto
2.3 GHz - 2.5 GHz	3m	Horizontal	1 MHz	6001 Pts	Auto

Test Area	Tested By	Test Date	Temperature	Humidity	Pressure
3mSAC	Duranta K. Barua	5/21/2026	25.3 °C	30 %	976 mBar



Technology	Frequency	Channel	Mode	Orientation	Limit	Results
BLE 5.0	2480 MHz	39	TX	Y-axis	FCC 15.205, 15.247 (d) - Q-Peak, Peak, & Avg	Pass

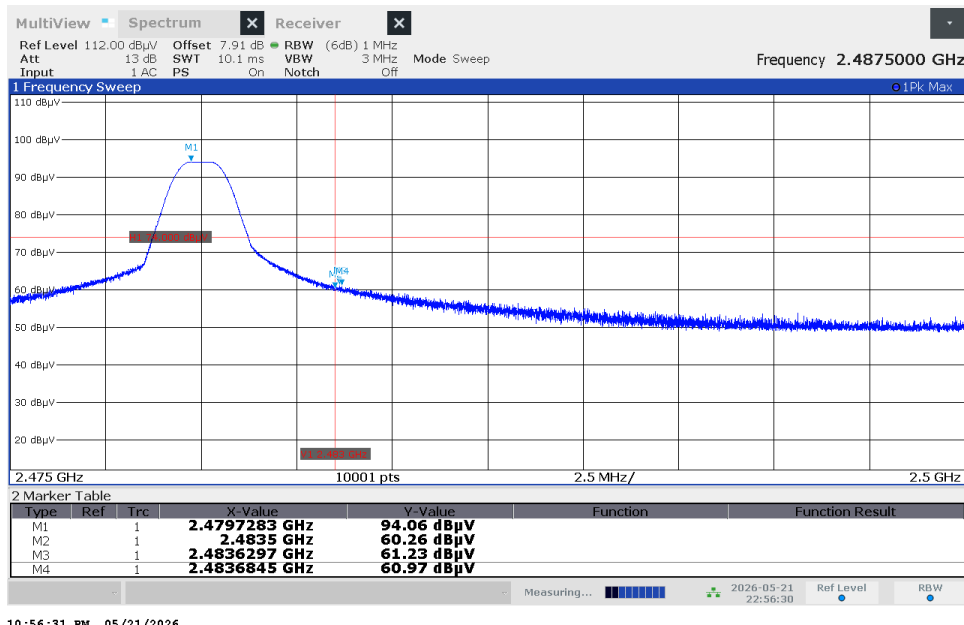
Figure 2.7.8-24 – Radiated Emissions Test Results



Restricted Radiated Band Edge Emissions – BLE 1M

Frequency Range	Antenna Distance	Antenna Polarization	RBW	VBW	Sweep Time
2.45 – 2.50 GHz	3m	Horizontal	1 MHz	3 MHz	10.1 ms

Test Date	Test Area	Test Engineer	Temperature	Humidity	Pressure
05/21/2026	3mSAC	Duranta K. Barua	25.3 °C	30 %	976 mBar



10:56:31 PM 05/21/2026

Technology	Frequency	Channel	Data Rate	Mode	EUT Orientation	Limit	Test Result
BLE 1 Mbps	2480 MHz	39	1 Mbps	TX	Y-Axis	FCC §15.209	Pass

Figure 2.7.8-25 – Restricted Radiated Band Edge Emissions – BLE 1M

Table 2.7.8-23 – Restricted Radiated Band Edge Data

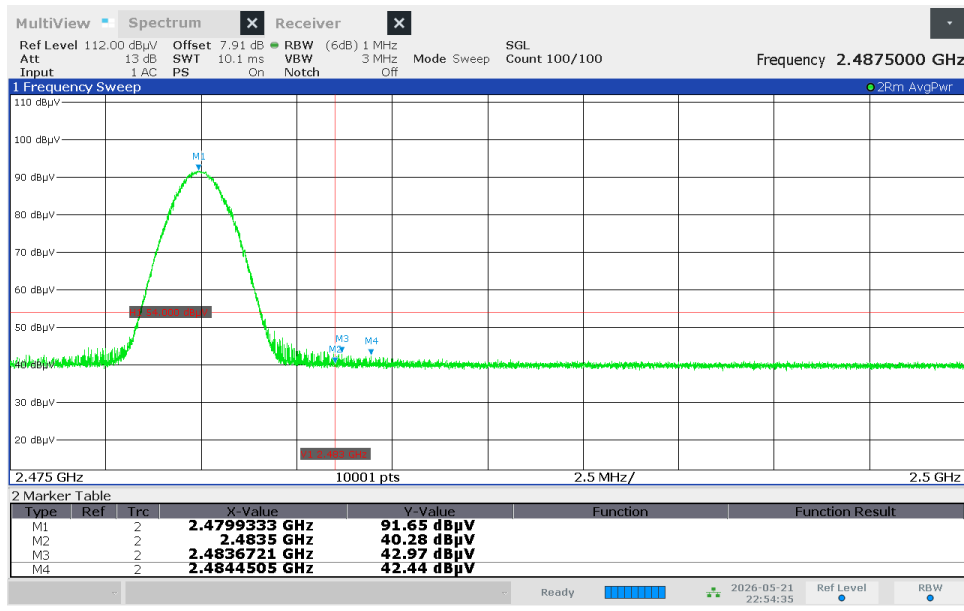
Frequency (GHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin (dB)	Angle (°)	Height (m)	Result
2.4797283	94.06	----	----	208	1.67	N/A
2.4835	60.26	74	-13.74	208	1.67	Pass
2.4836297	61.23	74	-12.77	208	1.67	Pass
2.4836845	60.97	74	-13.03	208	1.67	Pass



Restricted Radiated Band Edge Emissions – BLE 1M

Frequency Range	Antenna Distance	Antenna Polarization	RBW	VBW	Sweep Time
2.45 – 2.50 GHz	3m	Horizontal	1 MHz	3 MHz	10.1 ms

Test Date	Test Area	Test Engineer	Temperature	Humidity	Pressure
05/21/2026	3mSAC	Duranta K. Barua	25.3 °C	30 %	976 mBar



10:54:36 PM 05/21/2026

Technology	Frequency	Channel	Data Rate	Mode	EUT Orientation	Limit	Test Result
BLE 1 Mbps	2480 MHz	39	1 Mbps	TX	Y-Axis	FCC §15.209	Pass

Figure 2.7.8-26 – Restricted Radiated Band Edge Emissions – BLE 1M

Table 2.7.8-24 – Restricted Radiated Band Edge Data

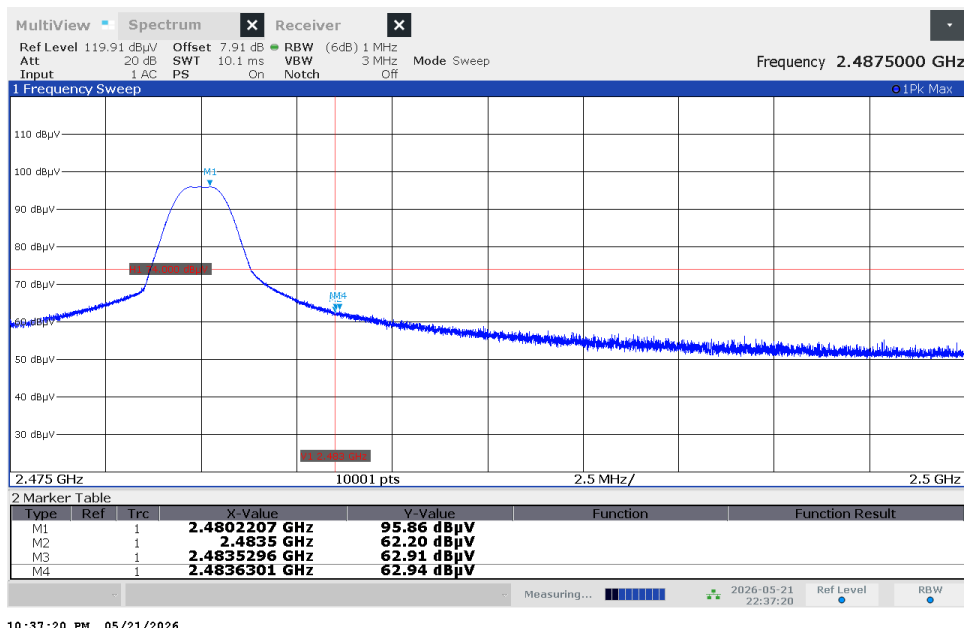
Frequency (GHz)	Avg Level (dBµV/m)	Avg Limit (dBµV/m)	Avg Margin (dB)	Angle (°)	Height (m)	Result
2.4799333	91.65	----	----	208	1.67	N/A
2.4835	40.28	54	-13.72	208	1.67	Pass
2.4836721	42.97	54	-11.03	208	1.67	Pass
2.4844505	42.44	54	-11.56	208	1.67	Pass



Restricted Radiated Band Edge Emissions – BLE 1M

Frequency Range	Antenna Distance	Antenna Polarization	RBW	VBW	Sweep Time
2.45 – 2.50 GHz	3m	Vertical	1 MHz	3 MHz	10.1 ms

Test Date	Test Area	Test Engineer	Temperature	Humidity	Pressure
05/21/2026	3mSAC	Duranta K. Barua	25.3 °C	30 %	976 mBar



Technology	Frequency	Channel	Data Rate	Mode	EUT Orientation	Limit	Test Result
BLE 1 Mbps	2480 MHz	39	1 Mbps	TX	Y-Axis	FCC §15.209	Pass

Figure 2.7.8-27 – Restricted Radiated Band Edge Emissions – BLE 1M

Table 2.7.8-25 – Restricted Radiated Band Edge Data

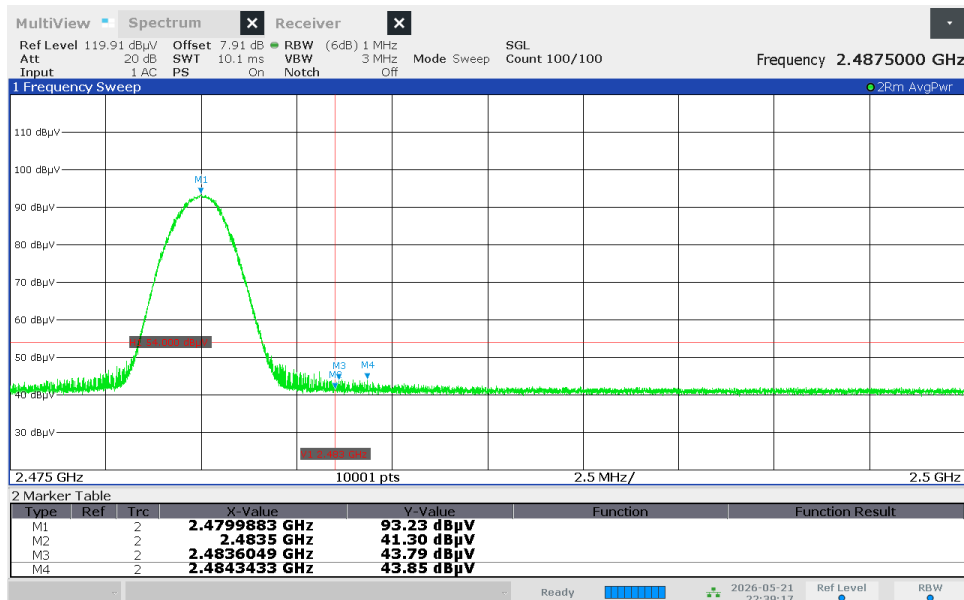
Frequency (GHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin (dB)	Angle (°)	Height (m)	Result
2.4802207	95.86	-----	-----	284	2.00	N/A
2.4835	62.20	74	-11.80	284	2.00	Pass
2.4835296	62.91	74	-11.09	284	2.00	Pass
2.4836301	62.94	74	-11.06	284	2.00	Pass



Restricted Radiated Band Edge Emissions – BLE 1M

Frequency Range	Antenna Distance	Antenna Polarization	RBW	VBW	Sweep Time
2.45 – 2.50 GHz	3m	Vertical	1 MHz	3 MHz	10.1 ms

Test Date	Test Area	Test Engineer	Temperature	Humidity	Pressure
05/21/2026	3mSAC	Duranta K. Barua	25.3 °C	30 %	976 mBar



10:39:18 PM 05/21/2026

Technology	Frequency	Channel	Data Rate	Mode	EUT Orientation	Limit	Test Result
BLE 1 Mbps	2480 MHz	39	1 Mbps	TX	Y-Axis	FCC §15.209	Pass

Figure 2.7.8-28 – Restricted Radiated Band Edge Emissions – BLE 1M

Table 2.7.8-26 – Restricted Radiated Band Edge Data

Frequency (GHz)	Avg Level (dBµV/m)	Avg Limit (dBµV/m)	Avg Margin (dB)	Angle (°)	Height (m)	Result
2.4799883	93.23	----	----	284	2.00	N/A
2.4835	41.3	54	-12.7	284	2.00	Pass
2.4836049	43.79	54	-10.21	284	2.00	Pass
2.4843433	43.85	54	-10.15	284	2.00	Pass



2.7.9 Sample Calculations

$$R_C = R_U + CF_T$$

Where:

CF_T	=	Total Correction Factor (AF+CA+AG)-DC (Average Measurements Only)
R_U	=	Uncorrected Reading
R_C	=	Corrected Level
AF	=	Antenna Factor
CA	=	Cable Attenuation
AG	=	Amplifier Gain
DC	=	Duty Cycle Correction Factor

Example Calculation: Peak

Corrected Level: $57.27 + 2.86 = 60.13 \text{ dB}\mu\text{V/m}$

Margin: $60.13 \text{ dB}\mu\text{V/m} - 74 \text{ dB}\mu\text{V/m} = -13.87 \text{ dB}$

Example Calculation: Average

Corrected Level: $57.27 + 2.86 - 18.99 = 41.14 \text{ dB}\mu\text{V/m}$

Margin: $41.14 \text{ dB}\mu\text{V/m} - 54 \text{ dB}\mu\text{V/m} = -12.86 \text{ dB}$



2.7.10 Test Location and Test Equipment Used

This test was carried out in TÜV SÜD America, Inc., 141 14th Street NW, New Brighton, MN 55112, USA.

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
BEMC00653	Huber & Suhner	Cable (40GHz)	SF-102A	0944/2A	B	06/10/2026	06/10/2027
						05/29/2025	05/29/2026
NBLE02667	Hewlett-Packard	Preamplifier, 0.1-1300 MHz	8447D	1616A00688	B	01/13/2026	01/13/2027
NBLE03504	Florida RF Labs	Cable, N 3ft	FL335	3ft-1	B	03/26/2026	03/26/2027
NBLE03506	Florida RF Labs	Cable, SMA 6ft	FL200	6ft-1	B	01/26/2026	01/26/2027
NBLE03514	Florida RF Labs	Cable, SMA	FL200	3ft-9	B	10/14/2025	10/14/2026
NBLE10574	Huber+ Suhner	Cable, BNC 3M	EF142	10574	B	04/27/2026	04/27/2027
NBLE11509	Florida RF Labs	Cable, N 10ft	NMS-335A-120.0-NMS	11509	B	08/04/2025	08/04/2026
WRLE02418	EMCO/EMC Test	Antenna, Loop	6502	2215	G	03/18/2025	03/18/2027
WRLE10891	Huber+ Suhner	Cable, BNC 5M	EF142/11BNC/11BNC/5M	N/A	B	04/07/2026	04/07/2027
WRLE10998	Rohde & Schwarz	Receiver, 20 Hz-26.5 GHz	ESU 26	100379	G	09/02/2025	09/02/2026
WRLE11519	Com-Power Corp.	Preamplifier, 500 MHz-18 GHz	PAM-118A	18040002	B	01/24/2026	01/24/2027
NBLE11578	ETS-Lindgren	Antenna, BiConiLog	3142C	00079889	G	11/05/2024	11/05/2026
NBLE11614	Teledyne Storm Microwave	Cable, N 3m	90-195-3MTR	182984-003	B	01/26/2026	01/26/2027
NBLE11617	Teledyne Storm Microwave	Cable, N 8m	90-195-8MTR	182982-003	B	03/04/2026	03/04/2027
NBLE11618	Teledyne Storm Microwave	Cable, N 8m	90-195-8MTR	182982-004	B	02/05/2026	02/05/2027
NBLE11630	ETS-Lindgren	Antenna, 1-18 GHz	3117	00218816	G	09/27/2024	09/27/2026
WRLE11519	Com-Power Corp.	Preamp, 500 MHz-18 GHz	PAM-118A	18040002	G	01/24/2026	01/24/2027
NBLE11689	ATM	Antenna, DRG 18-40 GHz	180-442-KF	102040	G	07/08/2025	07/08/2027



Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
NBLE11699	Microwave Circuits	Notch Filter, 2.4-2.4837 GHz	N0324415	502922 DC1947	B	08/05/2025	08/05/2026
NBLE11754	Rohde & Schwarz	Receiver, 1 Hz-44 GHz	ESW44	103037	G	10/24/2025	10/24/2026
WRLE11324	Mini-Circuits Lab	Attenuator, 10 dB	BW-N10W5	1324	B	04/23/2026	04/23/2027

Cal Code G = Calibration performed by an accredited outside source.

Cal Code B = Calibration verification performed internally.

Cal Code Y = Passive Device, or Calibration not required when used with other calibrated equipment.

The test equipment was used only during the active cycle of the calibration period.



2.8 Power Spectral Density

2.8.1 Specification Reference

FCC: Section 15.247(e)

2.8.2 Equipment Under Test and Modification State

S/N: ADT-GW-FCC-#02

2.8.3 Date of Test

5/11/2026

2.8.4 Test Method

The power spectral density was measured in accordance with ANSI C63.10 Subclause 11.10.2 Method PKPSD (peak PSD). The RF output port of the EUT was directly connected to the input of the spectrum analyzer. Offset values were input for cable and external attenuation. The spectrum analyzer's RBW was set to 3 kHz and VBW to 10 kHz. The Span was adjusted to 1.5 times the DTS bandwidth and the sweep time was set to auto. The measurements were performed using a Peak detector. The amplitude offset of the spectrum analyzer was adjusted to account for cable and attenuator insertion losses.

2.8.5 Environmental Conditions

Ambient Temperature	25.7 °C
Relative Humidity	12 %
Atmospheric Pressure	983 mbar

2.8.6 Test Results

AC Powered, Operating

Limit FCC: Section 15.247(e)

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 of continuous transmission.

Test Summary:

The peak power density was measured as -11.37 dBm, which is smaller than 8 dBm.

Test Result: Pass

Table 2.8.6-1 - Peak Power Spectral Density Results

Frequency (MHz)	Measured (dBm)	Limit (dBm)	Margin (dB)	Result
2402	-11.37	8.00	-19.37	Pass
2440	-11.59	8.00	-19.59	Pass
2480	-11.68	8.00	-19.68	Pass

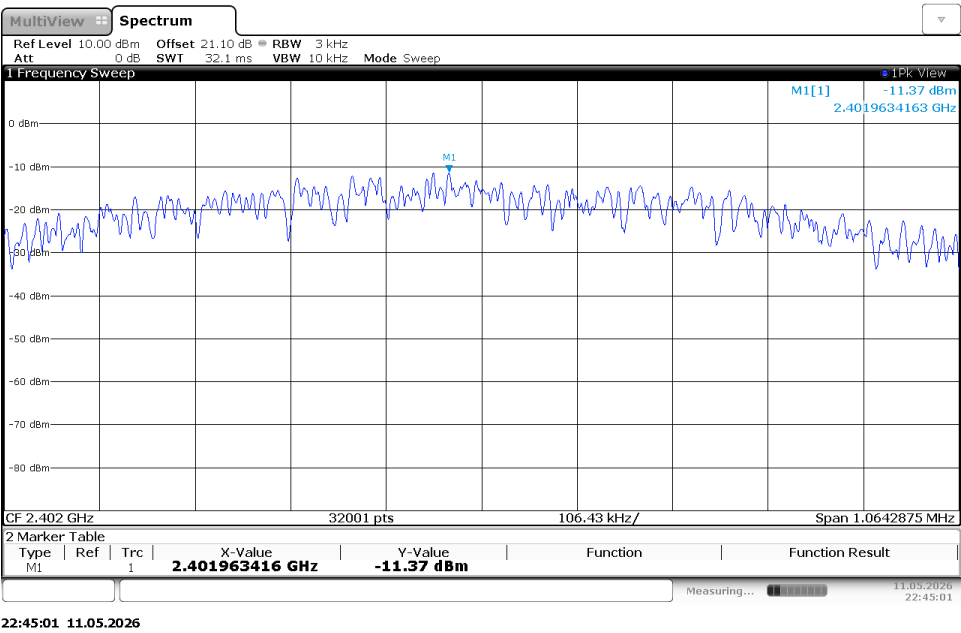


Figure 2.8.6-1 – Peak Power Spectral Density - Low Channel

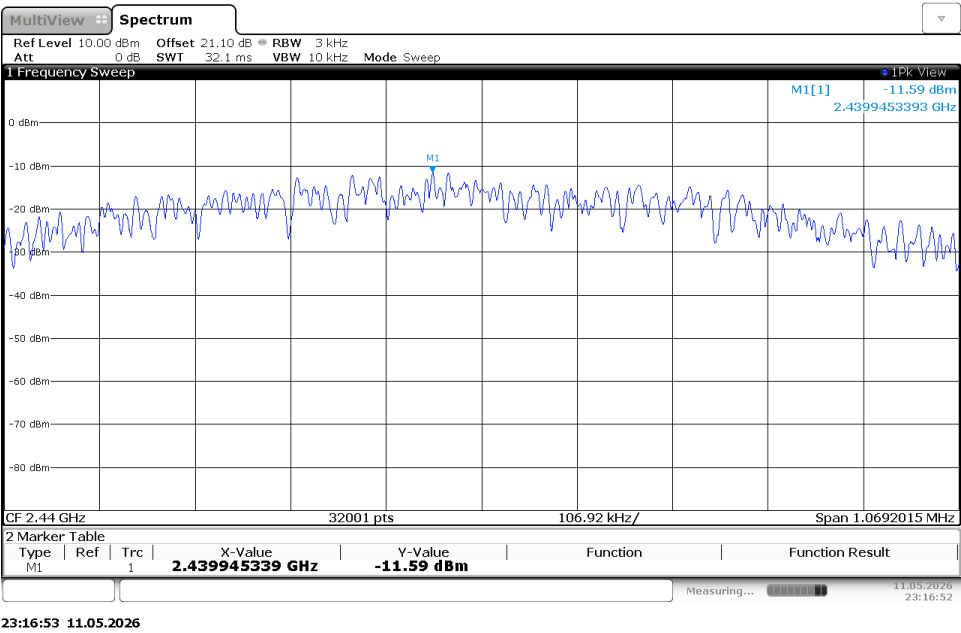


Figure 2.8.6-2 – Peak Power Spectral Density - Middle Channel

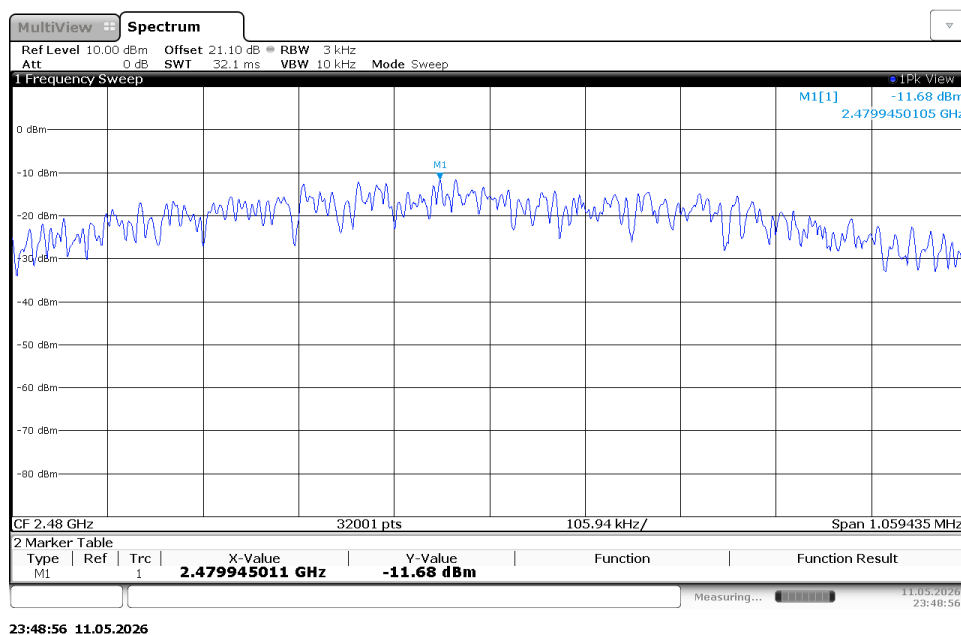


Figure 2.8.6-3 – Peak Power Spectral Density - High Channel

2.8.7 Test Location and Test Equipment Used

This test was carried out in TÜV SÜD America, Inc., 141 14th Street NW, New Brighton, MN 55112, USA.

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
DEMC3049	Aeroflex Inmet	Atten 20dB 2.9mm-M/F, DC-26.5GH, 2W	26AH-20	1443	B	05/27/2025 06/12/2026	05/27/2026 06/12/2027
DEMC3085	Rohde & Schwarz	Signal & Spectrum Analyzer	FSW43	103997	G	08/29/2025	08/29/2026
BEMC02112	Teledyne Storm Products	Duratest 175 Cable 26.5GHz	921-0101-036	12-06-698	B	01/12/2026	01/12/2027

Cal Code G = Calibration performed by an accredited outside source.

Cal Code B = Calibration verification performed internally.

Cal Code Y = Passive Device, or Calibration not required when used with other calibrated equipment.

The test equipment was used only during the active cycle of the calibration period.



2.9 Duty Cycle

2.9.1 Specification Reference

None

2.9.2 Equipment Under Test and Modification State

S/N: ADT-GW-FCC-#02

2.9.3 Date of Test

5/11/2026

2.9.4 Test Method

The duty cycle was measured in accordance with ANSI C63.10 Section 11.6 Duty cycle (D), transmission duration (T), and maximum power control level. The unit was connected directly to the input of the spectrum analyzer via suitable attenuation. The RBW and VBW were set to 10 MHz and the number of sweep points across duration T was set to exceed 100. The amplitude offset of the spectrum analyzer was adjusted to account for cable and attenuator insertion losses.

2.9.5 Environmental Conditions

Ambient Temperature	25.7 °C
Relative Humidity	12 %
Atmospheric Pressure	983 mbar

2.9.6 Test Results

AC Powered, Operating

Test Summary:

The test mode duty cycle is provided for informational purposes as required per ANSI C63.10. The test mode duty cycle was measured to be 63.4%.

Test Result: N/A

Table 2.9.6-1 – Duty Cycle Results

Frequency (MHz)	Pulse On Time (us)	Period (us)	Duty Cycle (%)
2402	395.3125	624.0000	63.35
2440	395.4375	624.0625	63.37
2480	395.3750	624.0625	63.36

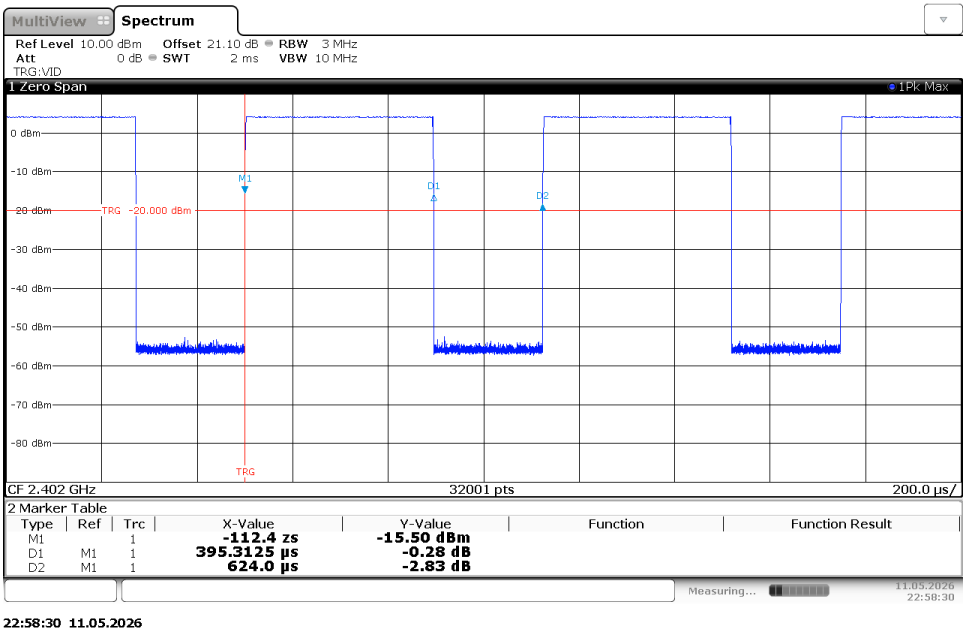


Figure 2.9.6-1 – Duty Cycle - Low Channel

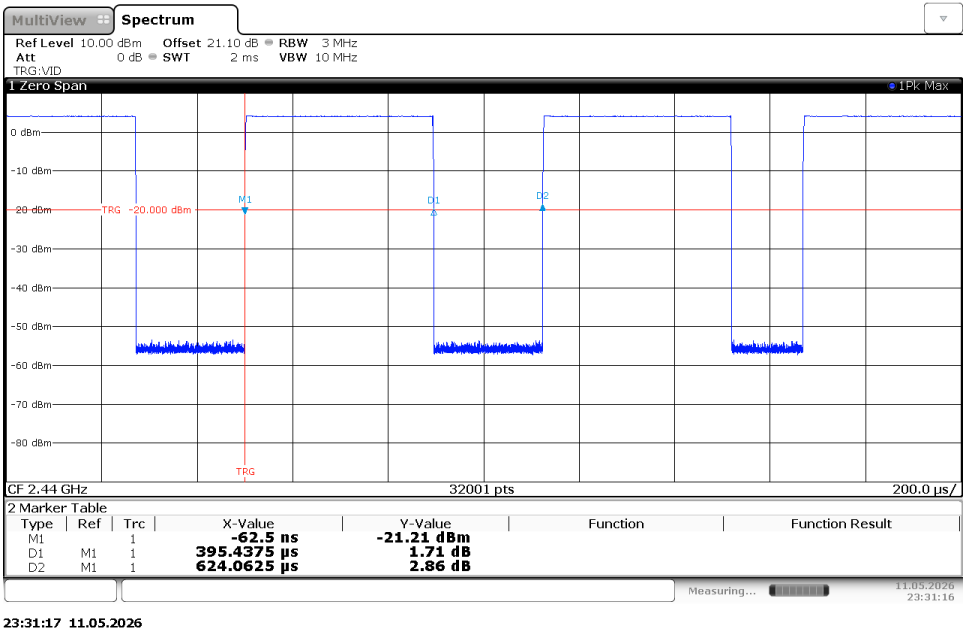


Figure 2.9.6-2 – Duty Cycle - Middle Channel

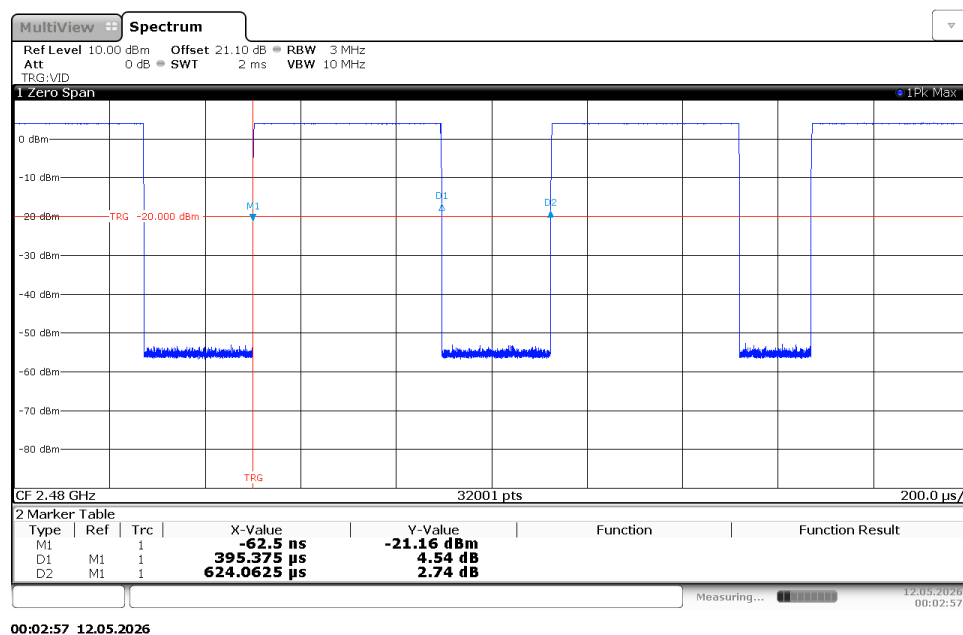


Figure 2.9.6-3 – Duty Cycle - High Channel

2.9.7 Test Location and Test Equipment Used

This test was carried out in TÜV SÜD America, Inc., 141 14th Street NW, New Brighton, MN 55112, USA.

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
DEMC3049	Aeroflex Inmet	Atten 20dB 2.9mm-M/F, DC-26.5GH, 2W	26AH-20	1443	B	05/27/2025 06/12/2026	05/27/2026 06/12/2027
DEMC3085	Rohde & Schwarz	Signal & Spectrum Analyzer	FSW43	103997	G	08/29/2025	08/29/2026
BEMC02112	Teledyne Storm Products	Duratest 175 Cable 26.5GHz	921-0101-036	12-06-698	B	01/12/2026	01/12/2027

Cal Code G = Calibration performed by an accredited outside source.

Cal Code B = Calibration verification performed internally.

Cal Code Y = Passive Device, or Calibration not required when used with other calibrated equipment.

The test equipment was used only during the active cycle of the calibration period.



2.10 Power Line Conducted Emissions

2.10.1 Specification Reference

FCC: Section 15.207

2.10.2 Equipment Under Test and Modification State

As shown in §1.5 with modification state “0”, as noted in §1.7.

2.10.3 Date of Test

7/18/2026

2.10.4 Test Method

ANSI C63.10 section 6.2 was the guiding document for this evaluation. Conducted emissions were performed from 150 kHz to 30 MHz with the spectrum analyzer’s resolution bandwidth set to 9 kHz and the video bandwidth set to 30 kHz. The calculation for the conducted emissions is as follows:

$$\text{Corrected Reading} = \text{Analyzer Reading} + \text{LISN Loss} + \text{Cable Loss}$$

$$\text{Margin} = \text{Applicable Limit} - \text{Corrected Reading}$$

2.10.5 Environmental Conditions

Ambient Temperature	22.9 °C
Relative Humidity	14 %
Atmospheric Pressure	97.8 kPa

2.10.6 Additional Observations

Measurements were made using BAT-EMC (2024.0.9.5) automated software. The reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only.

2.10.7 Test Results

Table 2.10.7-1: Conducted Emissions Limits

Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

Test Summary: EUT operated as intended before, during, and after testing.



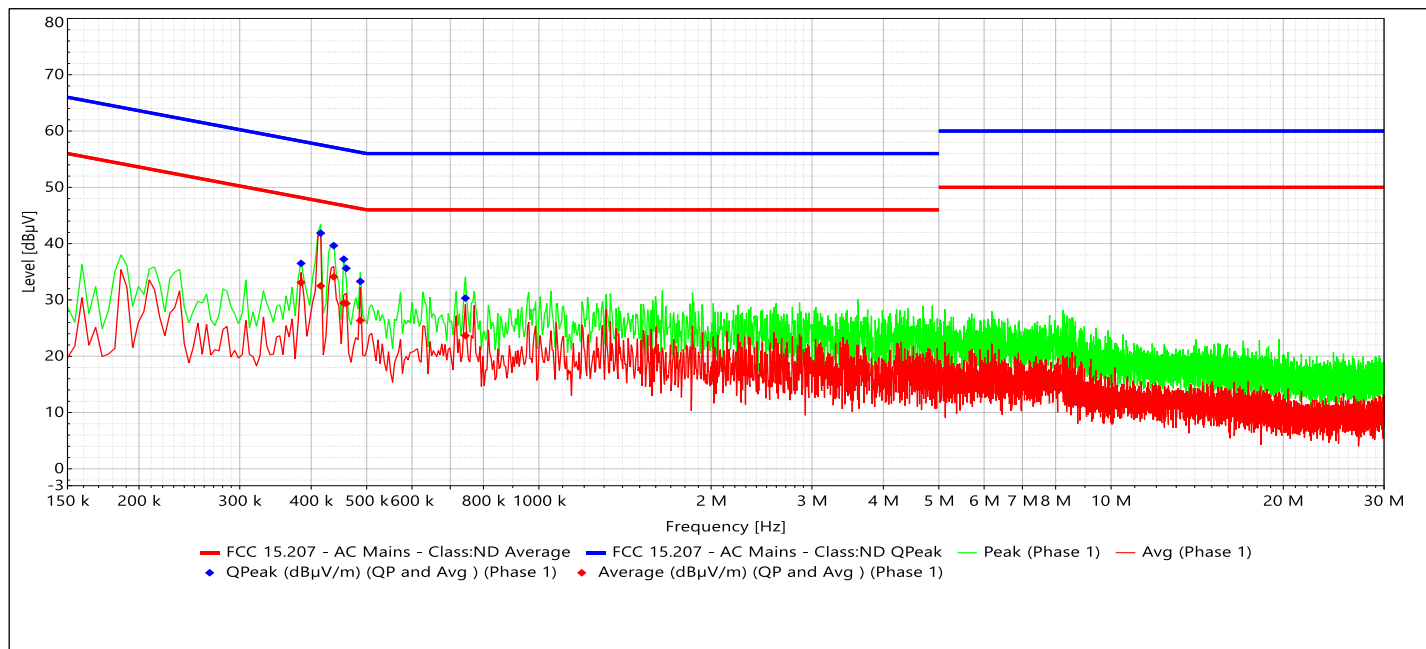
Test Result: Pass

See data below for detailed results.



L1 [120VAC, 60Hz - BLE

Frequency Range	Line Tested	RBW	Step Size	Sweep Time
150 kHz - 30 MHz	L1	9 kHz	4.5 kHz	Auto



Limit: FCC Part 15/FCC 15.207 - AC Mains
Test Date: 7/18/2026
Test Results: Pass

Figure 2.10.7-1 – Power Line Conducted Emissions Test Results

Test Notes: BLE

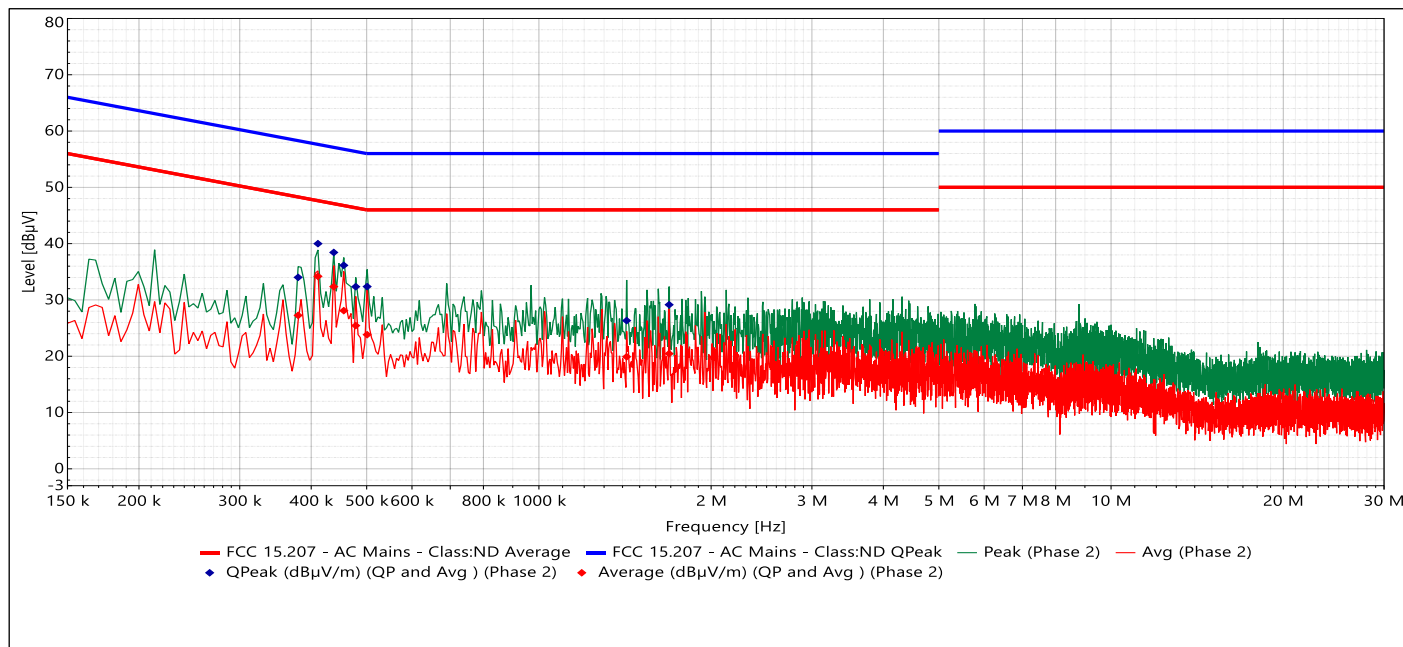
Table 2.10.7-2– Power Line Conducted Emissions Test Results

Frequency (MHz)	Average (dBuV)	Average Limit (dBuV)	Average Margin (dB)	QPeak (dBuV)	QPeak Limit (dBuV)	QPeak Margin (dB)	Result
0.384	33.09	48.19	-15.10	36.50	58.19	-21.69	Pass
0.416	32.49	47.54	-15.04	41.86	57.54	-15.67	Pass
0.438	34.10	47.10	-13.00	39.64	57.10	-17.46	Pass
0.456	29.45	46.77	-17.31	37.24	56.77	-19.52	Pass
0.461	29.37	46.68	-17.31	35.62	56.68	-21.07	Pass
0.488	26.35	46.21	-19.86	33.29	56.21	-22.92	Pass
0.744	23.66	46.00	-22.34	30.32	56.00	-25.68	Pass



L2 [120VAC, 60Hz] - BLE

Frequency Range	Line Tested	RBW	Step Size	Sweep Time
150 kHz - 30 MHz	L2	9 kHz	4.5 kHz	Auto



Limit: FCC Part 15/FCC 15.207 - AC Mains
Test Date: 7/18/2026
Test Results: Pass

Figure 2.10.7-2 – Power Line Conducted Emissions Test Results

Test Notes: BLE

Table 2.10.7-3– Power Line Conducted Emissions Test Results

Frequency (MHz)	Average (dBuV)	Average Limit (dBuV)	Average Margin (dB)	QPeak (dBuV)	QPeak Limit (dBuV)	QPeak Margin (dB)	Result
0.380	27.26	48.29	-21.03	34.01	58.29	-24.28	Pass
0.411	34.19	47.63	-13.43	40.00	57.63	-17.63	Pass
0.438	32.36	47.10	-14.74	38.44	57.10	-18.66	Pass
0.456	28.10	46.77	-18.67	36.15	56.77	-20.62	Pass
0.479	25.44	46.37	-20.92	32.35	56.37	-24.01	Pass
0.501	23.83	46.00	-22.17	32.37	56.00	-23.63	Pass
1.424	19.90	46.00	-26.10	26.33	56.00	-29.67	Pass
1.689	20.46	46.00	-25.54	29.15	56.00	-26.85	Pass



2.10.8 Test Location and Test Equipment Used

The tests were carried out in New Brighton, MN.

Test Area: GRP2

Table 2.10-4 – Conducted Emissions Test Equipment List

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
NBLE10459	Weinschel	Attenuator, 20 dB	34-20-34	BP1557	B	03/26/2026	03/25/2027
NBLE10572	Huber + Suhner	Cable, BNC 3M	EF142	10572	B	08/07/2025	08/07/2026
WRLE10944	Fischer Custom Comm.	LISN	FCC-LISN-50-25-2-10	120308	G	07/09/2025	07/09/2027
WRLE10998	Rohde & Schwarz	Receiver, 20 Hz-26.5 GHz	ESU 26	100379	G	09/02/2025	09/02/2026

Cal Code G = Calibration performed by an accredited outside source.

Cal Code B = Calibration verification performed internally.

Cal Code Y = Passive Device, or Calibration not required when used with other calibrated equipment.

3 Diagram of Test Set-ups

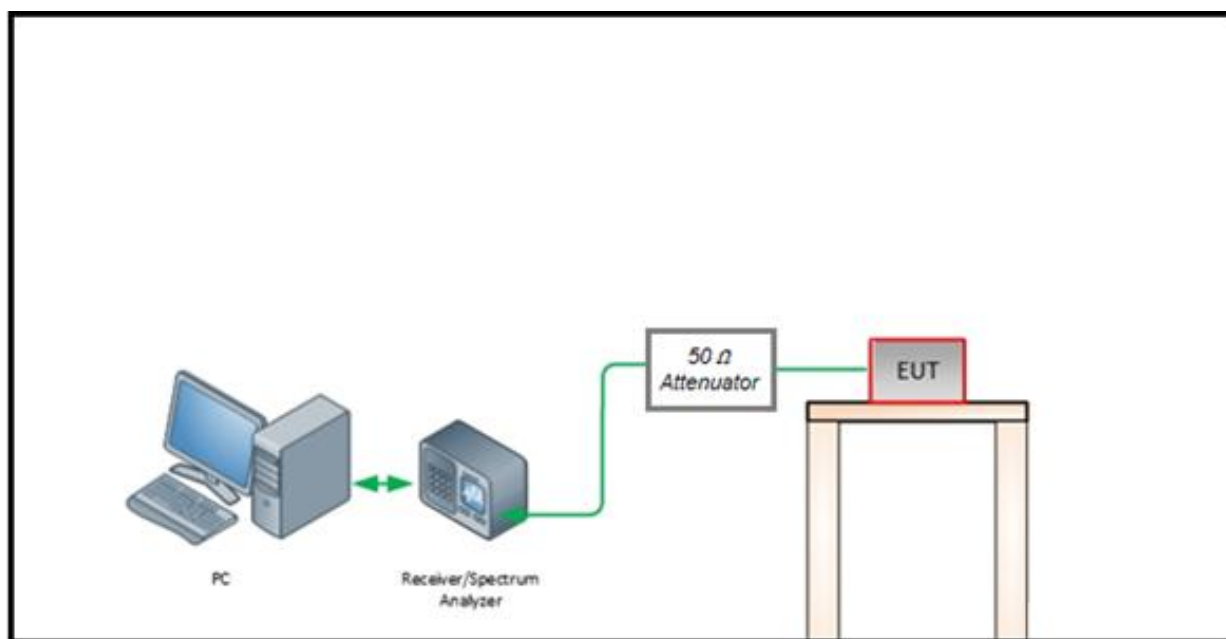


Figure 3-1 – RF Conducted Measurement Test Setup

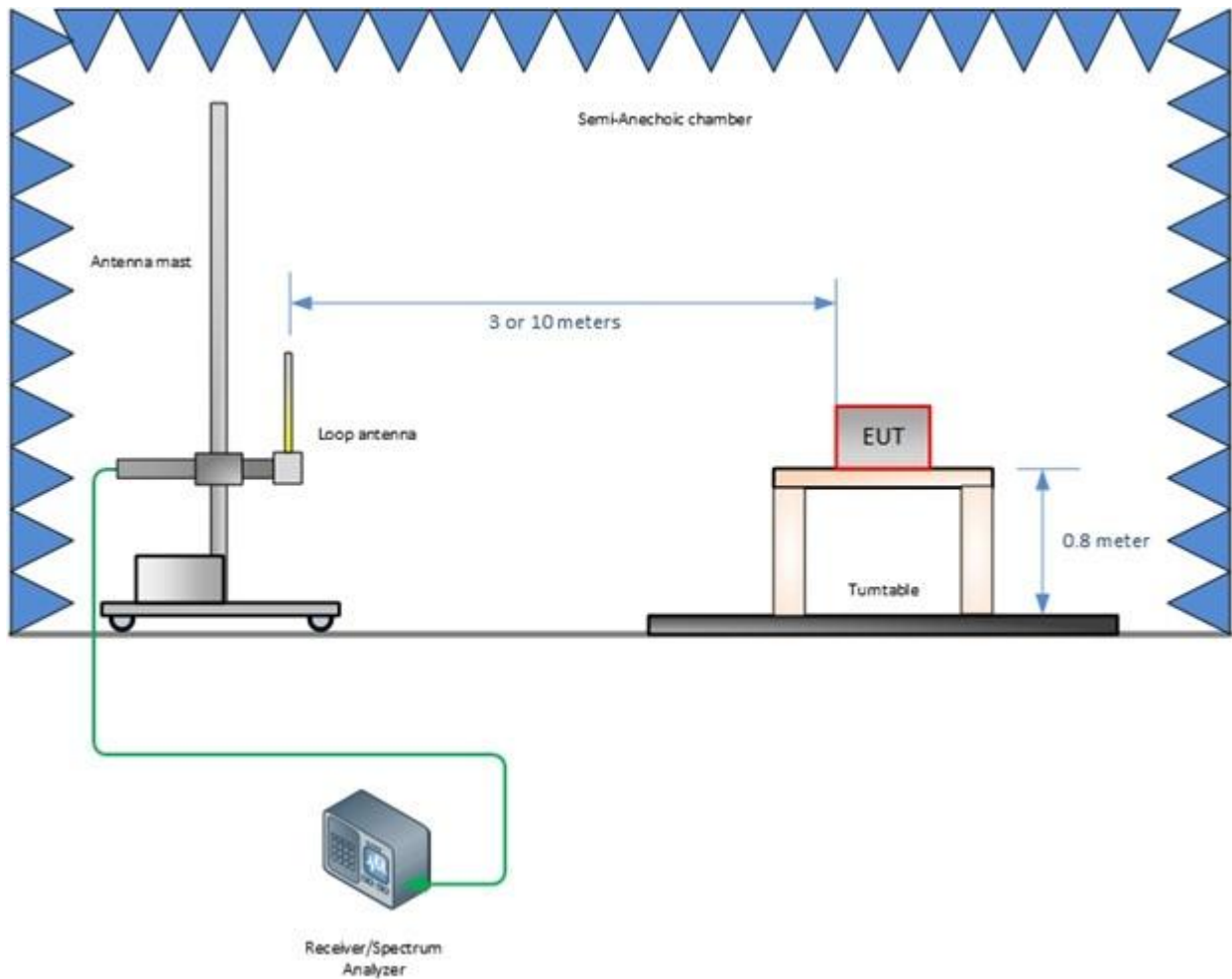


Figure 3-2 – Radiated Emissions Test Setup below 30 MHz

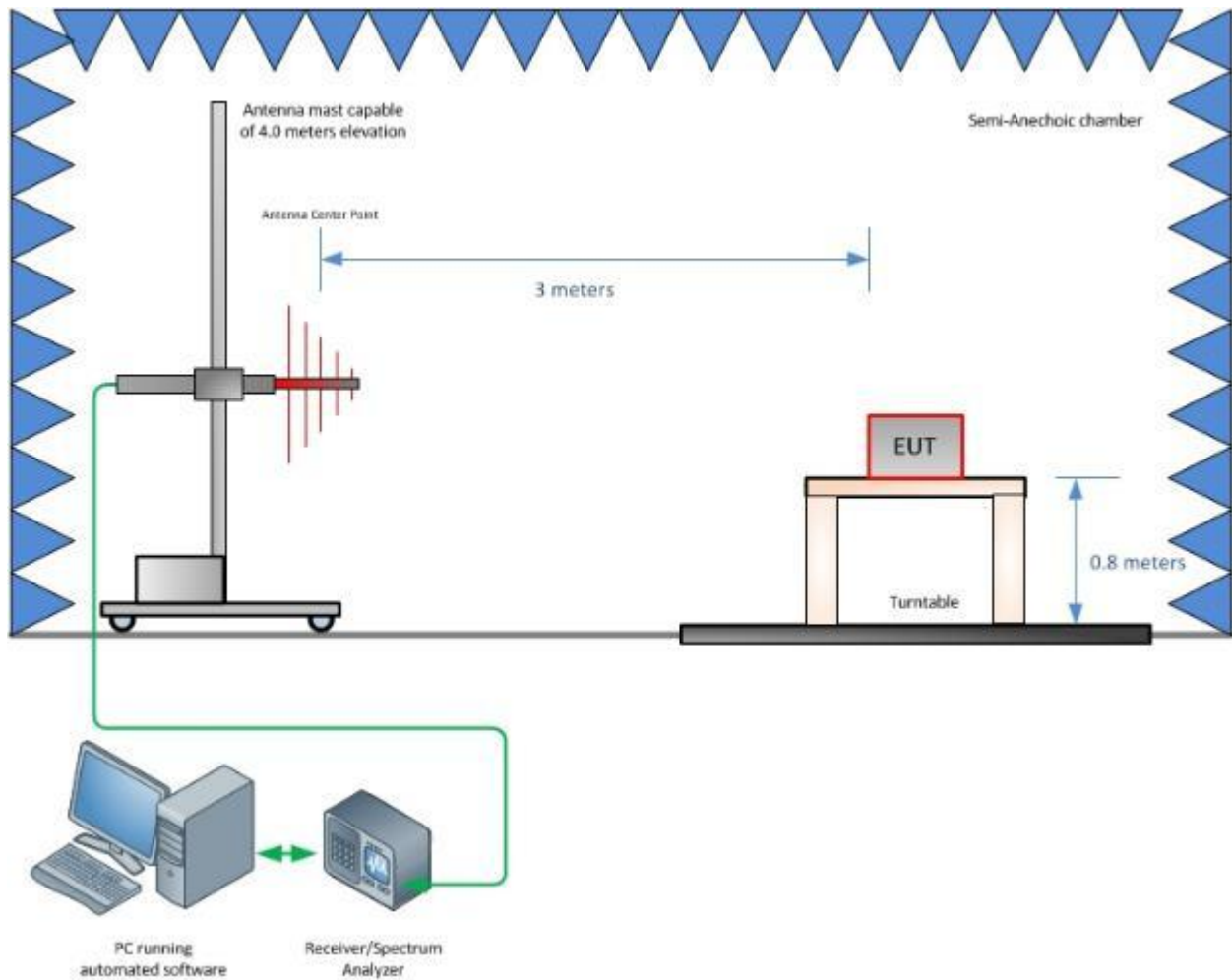


Figure 3-3 – Radiated Emissions Test Setup up to 1 GHz

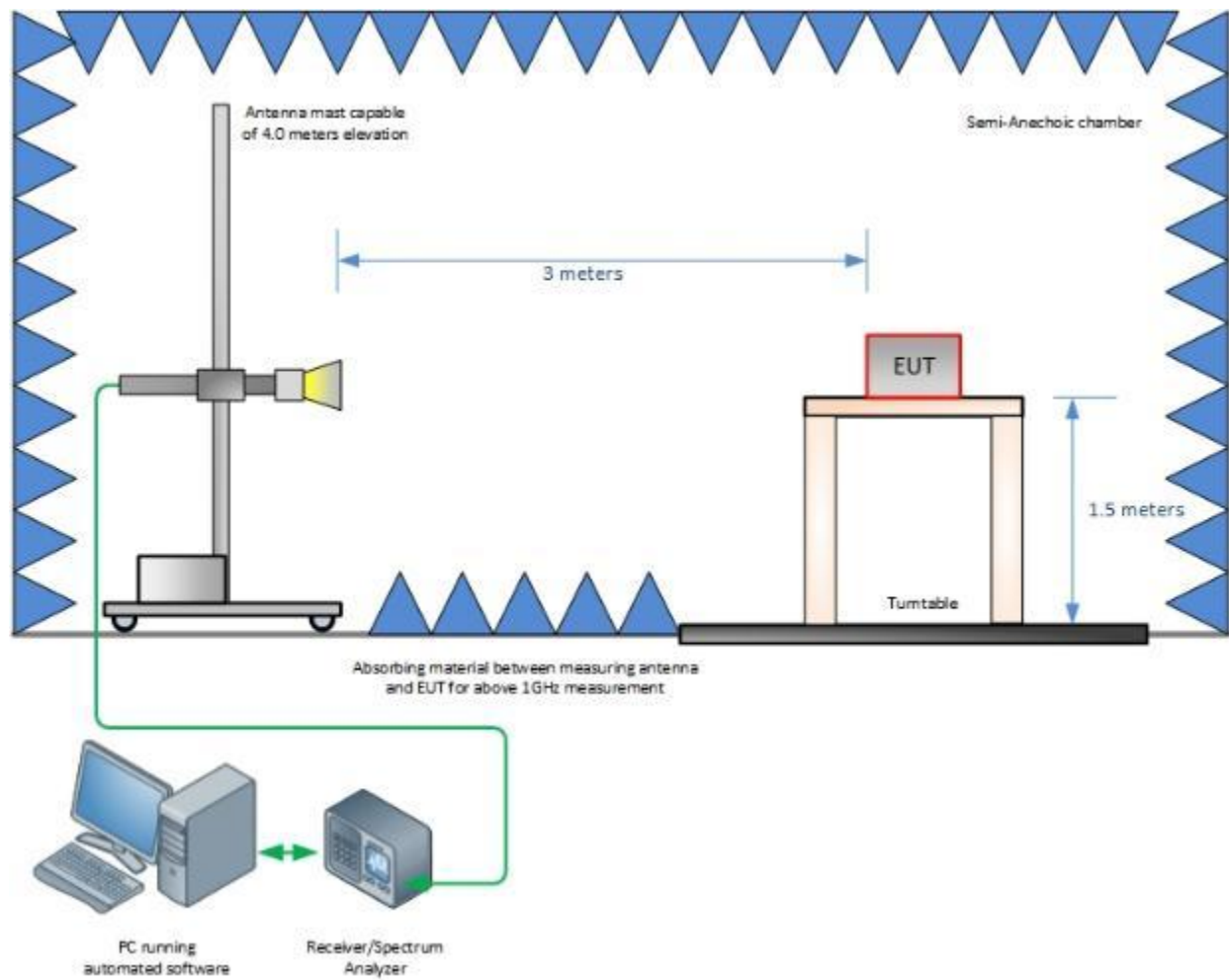


Figure 3-4 – Radiated Emissions Test Setup above 1 GHz

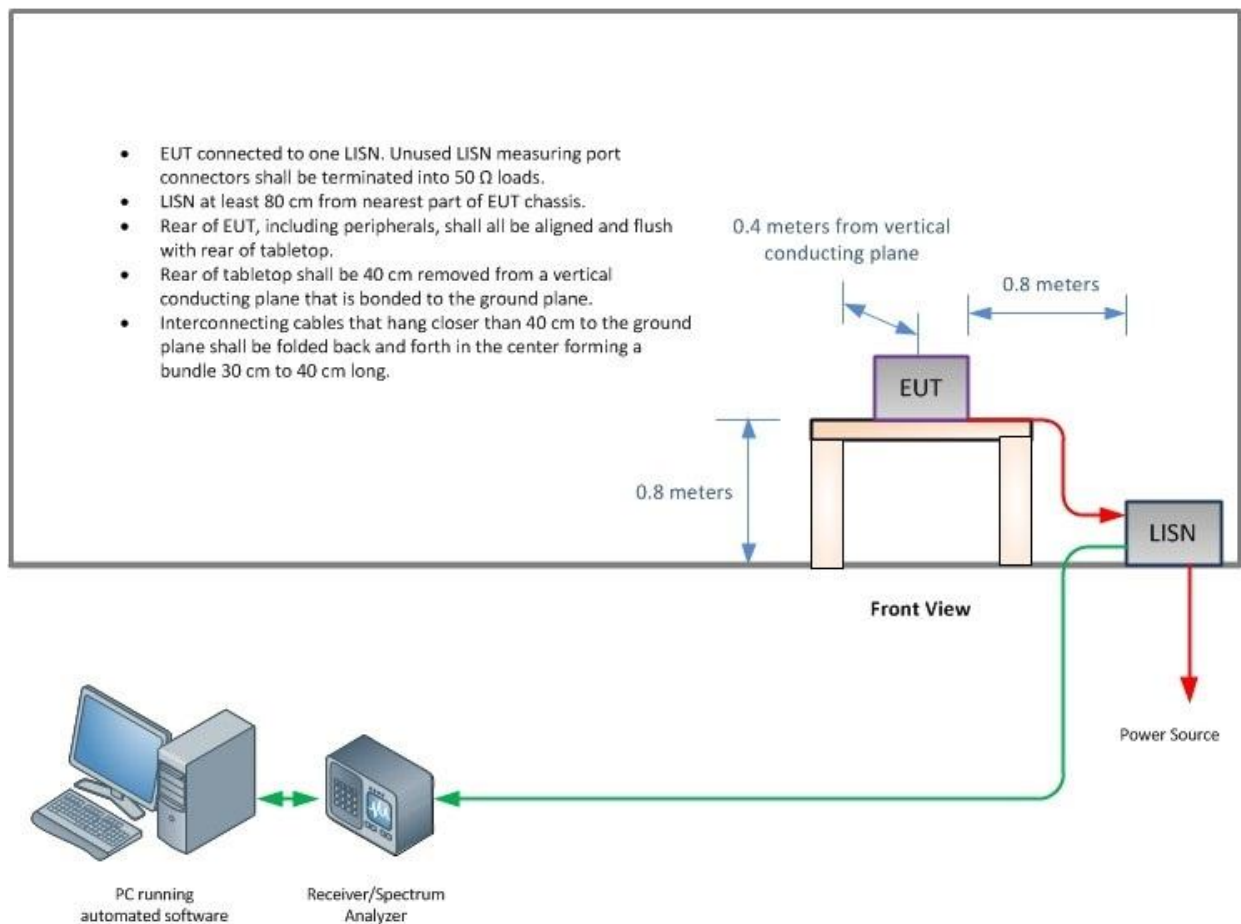


Figure 3-5 – Power Line Conducted Emissions Test Setup



4 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

Table 4-1- Values of U_{CISPR} and U_{Lab}

Measurement	U_{CISPR}	U_{Lab}
Radiated disturbance (electric field strength on an open area test site or alternative test site) (30 MHz – 1 000 MHz) (1 – 6 GHz) (6-18 GHz)	6.3 dB 5.2 dB 5.5 dB	5.88 dB 4.47 dB 4.478 dB
Power Line Conducted Emissions 150 kHz – 30 MHz	3.4 dB	3.30 dB
Occupied Channel Bandwidth	-----	±2.83 %
RF output power, conducted	-----	±0.61 dB
Power Spectral Density, conducted	-----	±1.13 dB
Unwanted Emissions, conducted	-----	±2.64 dB

Notes:

U_{CISPR} resembles a value of measurement uncertainty for a specific test, which was determined by considering uncertainties associated with the quantities listed in CISPR 16-4-2:2011.

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. This test system has a measurement uncertainty of ±3.30 dB. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. This test system for 30 MHz-1000 MHz has a measurement uncertainty of ±5.88 dB and above 1 GHz a measurement uncertainty of ±4.47 dB. The measurement uncertainty values for conducted and radiated emissions meet the requirements as expressed in CISPR 16-4-2. The equipment comprising the test systems is calibrated on an annual basis.



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