

FCC Testing of the

Resideo USA LLC.
ADT8AIO

FCC ID: CFS8DL8AIO

In accordance with:
FCC 47 CFR part 15.249

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	

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD America, Inc. document control rules.

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 15.249 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	2026-April-21
Date of Receipt of EUT	2026-April-01
Start of Test	2026-May-18
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.



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 15.249 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 15.249 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
20 dB Bandwidth	Yes	Pass	15.215(c)	11
99% Bandwidth	Yes	Pass	-----	14
Field Strength of Fundamental	Yes	Pass	15.249(a)	17
Field Strength of Harmonics	Yes	Pass	15.249(a)	21
Duty Cycle	Yes	-----	N/A	43
Power Line Conducted Emissions	Yes	Pass	15.207	46



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 Zwave radio.

Technical Details

Mode of Operation: Zwave
 Frequency Range: 908 - 916 MHz
 Number of Channels: 2
 Channel Separation: 8 MHz
 Data Rate: 9.6 kbps (Zwave 908.42MHz)
 100 kbps, (Zwave 916 MHz)
 Modulations: 2FSK (Zwave 908.42MHz)
 2GFSK, (Zwave 916 MHz)
 Antenna Type/Gain: Printed PCB Trace Antenna / -0.74 dBi
 Input Power: 120V/60Hz

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

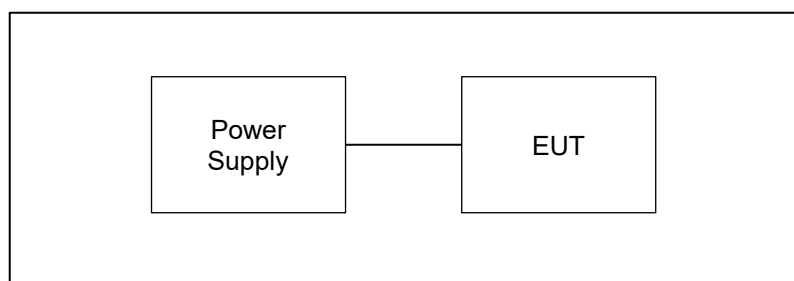


Figure 1.5.1-1 – Test Setup Block Diagram

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 900 MHz Zwave radio. The EUT was configured through a serial terminal using the output power settings defined by the equipment manufacturer. The EUT RF output power setting for the tested channels was -70

Table 1.5.2-1: Frequencies Evaluated

Channel	Region	Channel Number	Frequency (MHz)
Low Channel	1	2	908.42
High Channel	1	0	916

1.5.3 Monitoring of Performance

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

For the RF conducted measurements, the EUT was configured with coaxial connectors at the antenna ports 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
20-dB Bandwidth	FCC: Section 15.215(c)
99% Bandwidth	N/A
Field Strength of Fundamental	FCC: Section 15.249(a)
Field Strength of Harmonics	FCC: Sections 15.249(a)
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
20-dB Bandwidth	Thierry Jean-Charles	A2LA
99% Bandwidth	Thierry Jean-Charles	A2LA
Field Strength of Fundamental	Thierry Jean-Charles	A2LA
Field Strength of Harmonics	Thierry Jean-Charles Rafael Aguiar Cota Duranta K. Barua	A2LA
Duty Cycle	Thierry Jean-Charles	A2LA
Power Line Conducted Emissions	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	-0.74



Test Summary:

The EUT uses a PCB trace antenna which is integral to the main board. The antennas are not removable and therefore meet 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 20 dB Bandwidth

2.2.1 Specification Reference

FCC: Section 15.215(c)

2.2.2 Equipment Under Test and Modification State

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

2.2.3 Date of Test

7/20/2026 to 7/21/2026

2.2.4 Test Method

The 20dB bandwidth was measured in accordance with the ANSI C63.10 Subclause 6.9.2. The Resolution Bandwidth (RBW) of the spectrum analyzer was set to 1% to 5% of the Occupied Bandwidth and the Video Bandwidth (VBW) was set to ≥ 3 times the RBW. The trace was set to max hold using a peak detector. The marker-delta function of the spectrum analyzer was utilized to determine the 20dB bandwidth of the emission.

2.2.5 Environmental Conditions

Ambient Temperature	22.1°C
Relative Humidity	37 %
Atmospheric Pressure	973 mBar

2.2.6 Test Results

AC Powered, Operating

Limit Clause FCC Sections: 15.215(c)

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

Test Summary:

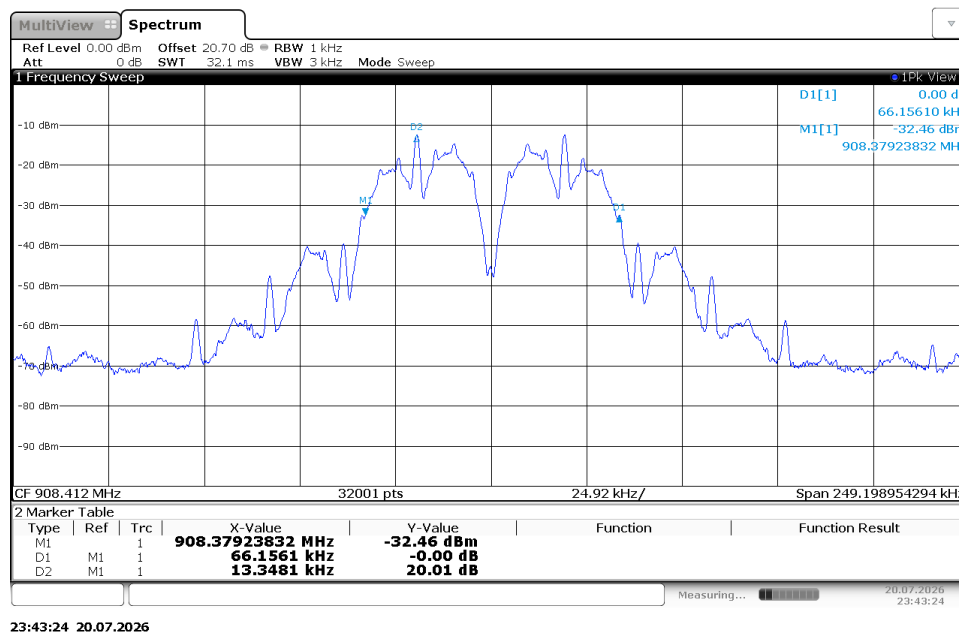
The 20 dB bandwidth was measured to be 66.16 kHz for 908.42 MHz and 121.16 kHz for 916 MHz

Test Result: Pass



Table 2.2.6-1 – 20 dB Bandwidth - Test Results

Frequency (MHz)	20 dB Bandwidth (kHz)
908.42	66.1561
916	121.162



23:43:24 20.07.2026

Figure 2.2.6-1 – 20 dB Bandwidth - 908.42 MHz

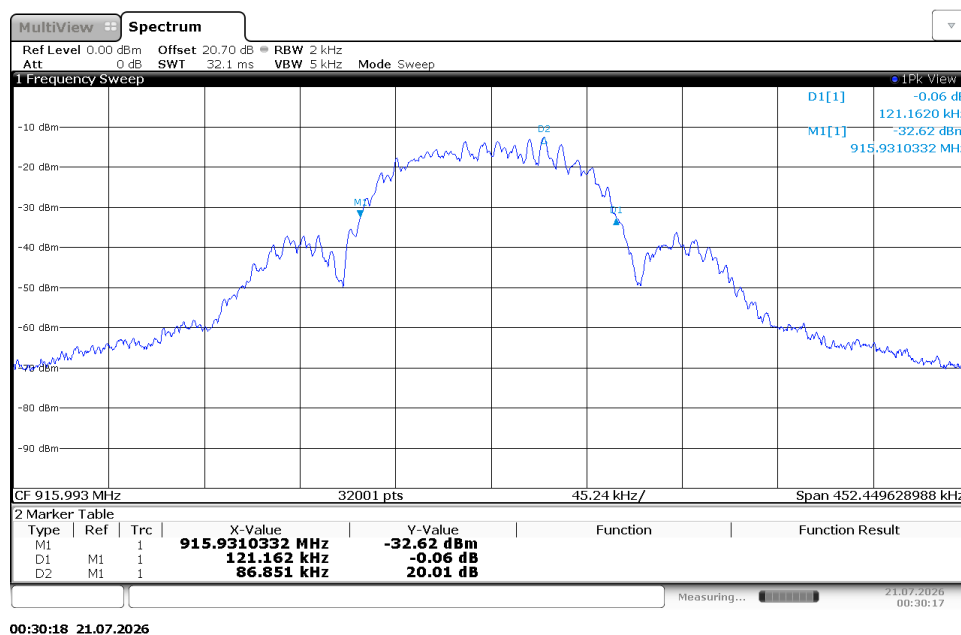


Figure 2.2.6-2 – 20 dB Bandwidth – 916 MHz

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.

Test Area: REVERB

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.



2.3 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

7/20/2026 to 7/21/2026

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	22.1°C
Relative Humidity	37 %
Atmospheric Pressure	973 mBar

2.3.6 Test Results

AC Powered, Operating

Test Summary:

The 99% Bandwidth was measured to be 62.3 kHz for 908.42 MHz and 112.9 kHz for 916 MHz.

Test Result: Pass

Table 2.3.6-1 – 99% Occupied Bandwidth Results

Frequency (MHz)	99% Bandwidth (kHz)
908.42	62.3343
916	112.8837

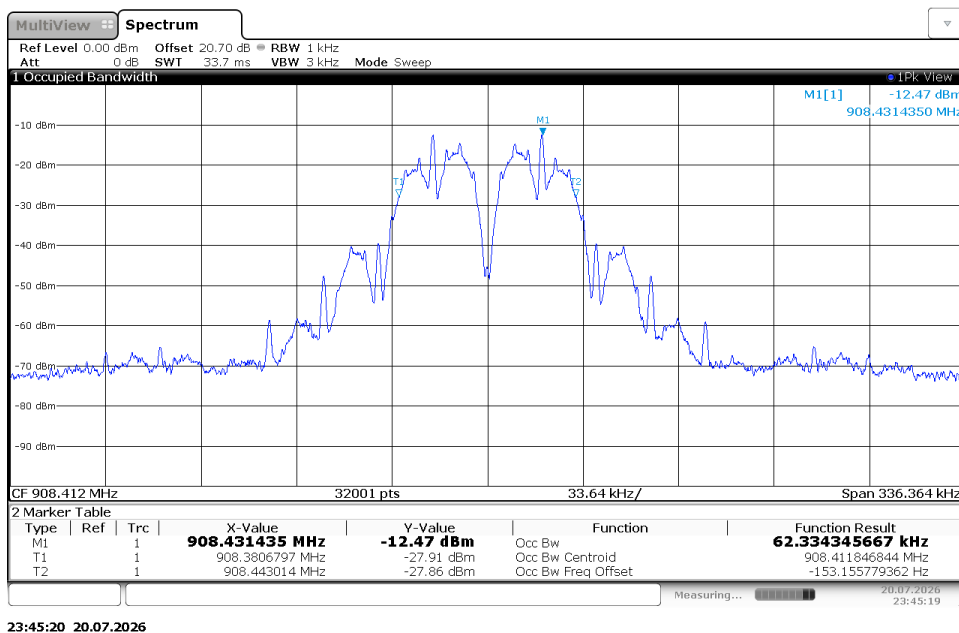


Figure 2.3.6-1 – 99% Occupied Bandwidth - 908.42 MHz

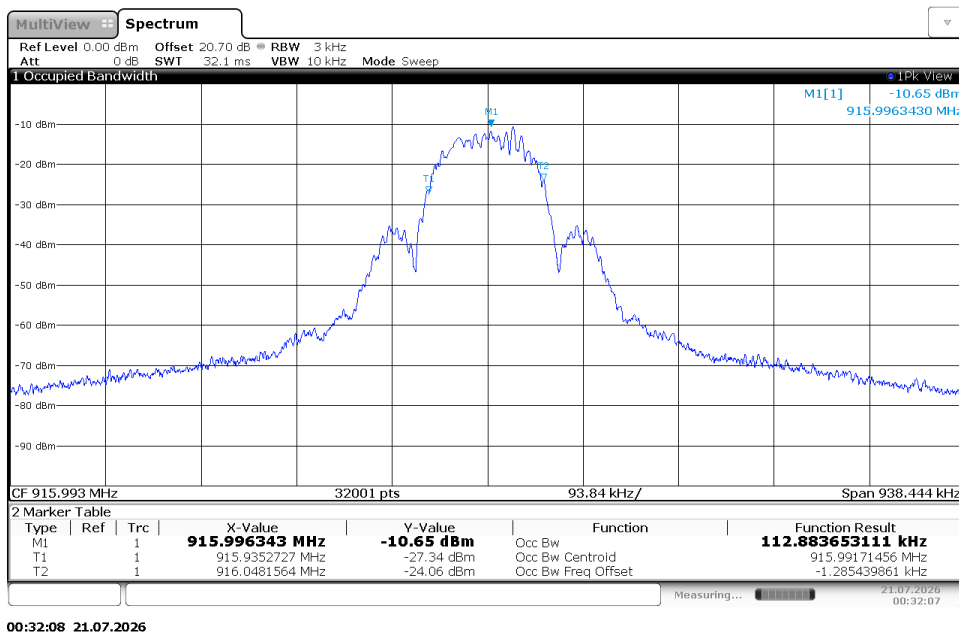


Figure 2.3.6-2 – 99% Occupied Bandwidth - 916 MHz



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.

Test Area: REVERB

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.



2.4 Field Strength of Fundamental

2.4.1 Specification Reference

FCC Section 15.249(a)

2.4.2 Equipment Under Test and Modification State

S/N: ADT_DVT #69

2.4.3 Date of Test

6/16/2026 to 6/17/2026

2.4.4 Test Method

The field strength of the fundamental was measured in accordance with ANSI C63.10 Subclause 6.5. 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.

2.4.5 Environmental Conditions

Ambient Temperature	24.1 - 24.5°C
Relative Humidity	30 - 33 %
Atmospheric Pressure	962 - 980 mbar

2.4.6 Test Results

AC Powered, Operating

Limit Clause FCC Part 15.249(a)

Frequency (MHz)	Field Strength of Fundamental (millivolts/meter)	Field Strength of Fundamental (dBuV/m)
902 – 928	50	93.98
2400 – 2483.5	50	93.98
5725 - 5875	50	93.98
24000 - 24250	250	107.96

Test Summary:

The maximum output power was measured to be 93.02 dBuV/m.

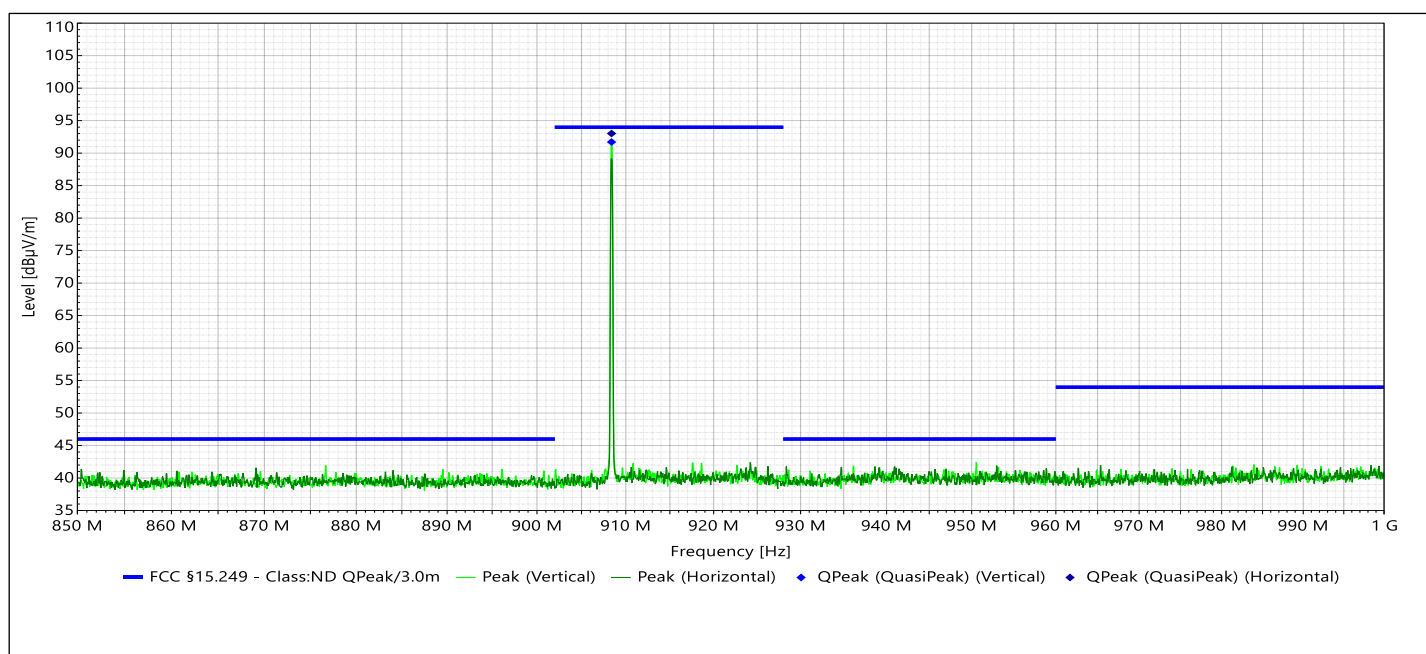
Test Result: Pass



Fundamental Emissions 850M-1GHz - Low Channel - 908.42 MHz

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
850 MHz - 1 GHz	3m	Vertical	120 kHz	3001 Pts	Auto
850 MHz - 1 GHz	3m	Horizontal	120 kHz	3001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/17/2026	3mSAC	Thierry Jean-Charles	24.1 °C	33 %	962 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	908.42MHz	2	TX	Y-axis	900 MHz/FCC §15.249	Pass

Figure 2.4.6-1– Radiated Emissions Test Results

Test Notes:

- Power Setting -70
- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.4.6-1– Radiated Emissions Test Results

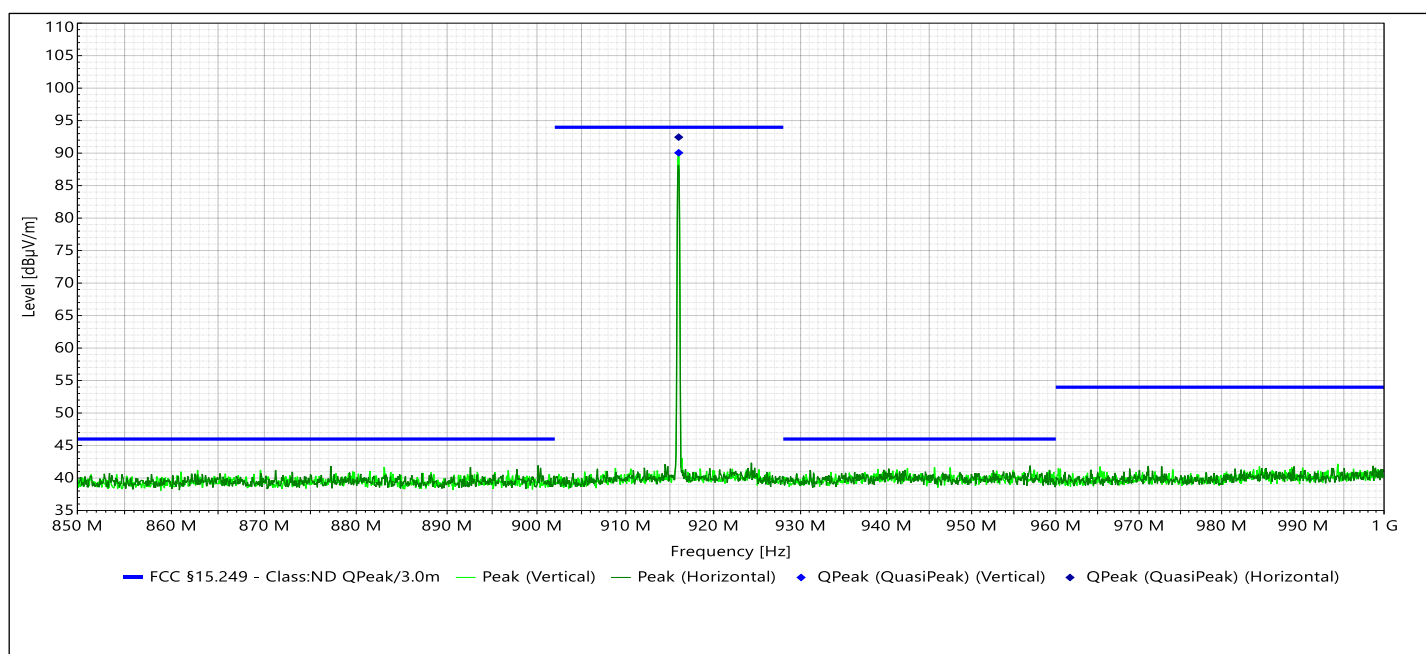
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
908.391	91.71	93.98	-2.27	280.00	1.02	Vertical	Pass
908.390	93.02	93.98	-0.96	331.00	1.43	Horizontal	Pass



Fundamental Emissions 850M-1GHz - High Channel - 916 MHz

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
850 MHz - 1 GHz	3m	Vertical	120 kHz	3001 Pts	Auto
850 MHz - 1 GHz	3m	Horizontal	120 kHz	3001 Pts	Auto

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/17/2026	3mSAC	Thierry Jean-Charles	24.5 °C	30 %	980 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	916 MHz	0	TX	Y-axis	900 MHz/FCC §15.249	Pass

Figure 2.4.6-2 – Radiated Emissions Test Results

Test Notes:

- Power Setting - 70
- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

Table 2.4.6-2–Radiated Emissions Test Results

Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
916.009	90.05	93.98	-3.93	275.00	1.00	Vertical	Pass
916.009	92.46	93.98	-1.52	333.00	1.42	Horizontal	Pass



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.

Test Area: 3mSAC

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
NBLE03504	Florida RF Labs	Cable, N 3ft	FL335	3ft-1	B	03/26/2026	03/26/2027
NBLE11645	Schwarzbeck	Antenna, BiConiLog	VULB 9162	0254	G	6/24/2025	6/24/2027
NBLE11614	Teledyne Storm Microwave	Cable, N 3m	90-195-3MTR	182984-003	B	01/26/2026	01/26/2027
NBLE11618	Teledyne Storm Microwave	Cable, N 8m	90-195-8MTR	182982-004	B	02/05/2026	02/05/2027
NBLE11754	Rohde & Schwarz	Receiver, 1 Hz-44 GHz	ESW44	103037	G	10/24/2025	10/24/2026

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.

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



2.5 Field Strength of Harmonics

2.5.1 Specification Reference

FCC Sections: 15.249(a).

2.5.2 Equipment Under Test and Modification State

S/N: ADT_DVT #69

2.5.3 Date of Test

6/11/2026 to 6/17/2026

2.5.4 Test Method

Radiated emissions tests were made over the frequency range of 9 kHz to 40 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.

2.5.5 Duty Cycle Correction

The EUT was configured to transmit at 100 % duty cycle during the evaluation. No duty cycle correction factor was applicable for the final measurements.

2.5.6 Environmental Conditions

Ambient Temperature	23.6 - 24.6 °C
Relative Humidity	28 - 32 %
Atmospheric Pressure	970 - 981 mbar

2.5.7 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.



2.5.8 Test Results

AC Powered, Operating

Limit Clause FCC Sections 15.249(a)

Frequency (MHz)	Field Strength of Harmonics (microvolts/meter)	Field Strength of Harmonics (dBuV/m)
902 – 928	500	53.98
2400 – 2483.5	500	53.98
5725 - 5875	500	53.98
24000 - 24250	2500	67.96

Test Summary:

The spurious emissions meet the aforementioned limits.

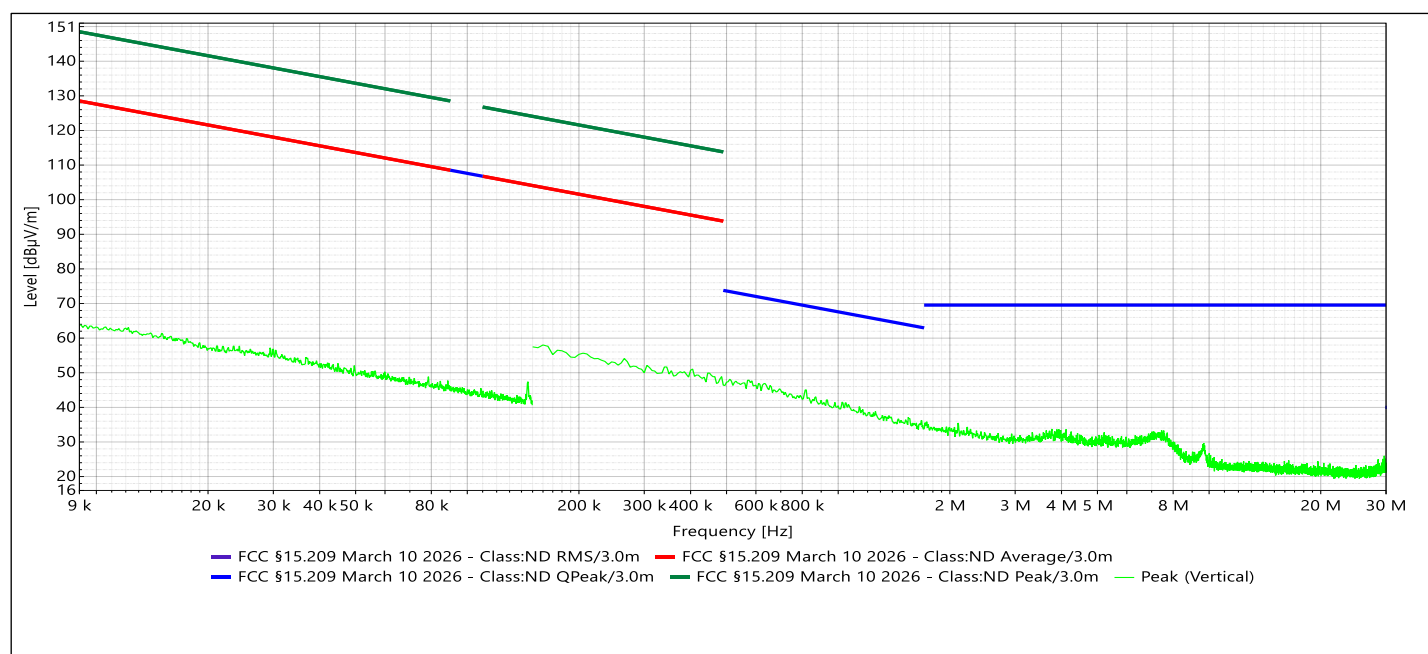
Test Result: Pass



Spurious - 9kHz-30MHz - 908.42 MHz - Vertical Coaxial

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
6/17/2026	3mSAC	Rafael Aguiar Cota	24 °C	28 %	970 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	908.42 MHz	2	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-1 – Radiated Emissions Test Results

Test Notes:

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

Table 2.5.8-1– Radiated Emissions Test Results

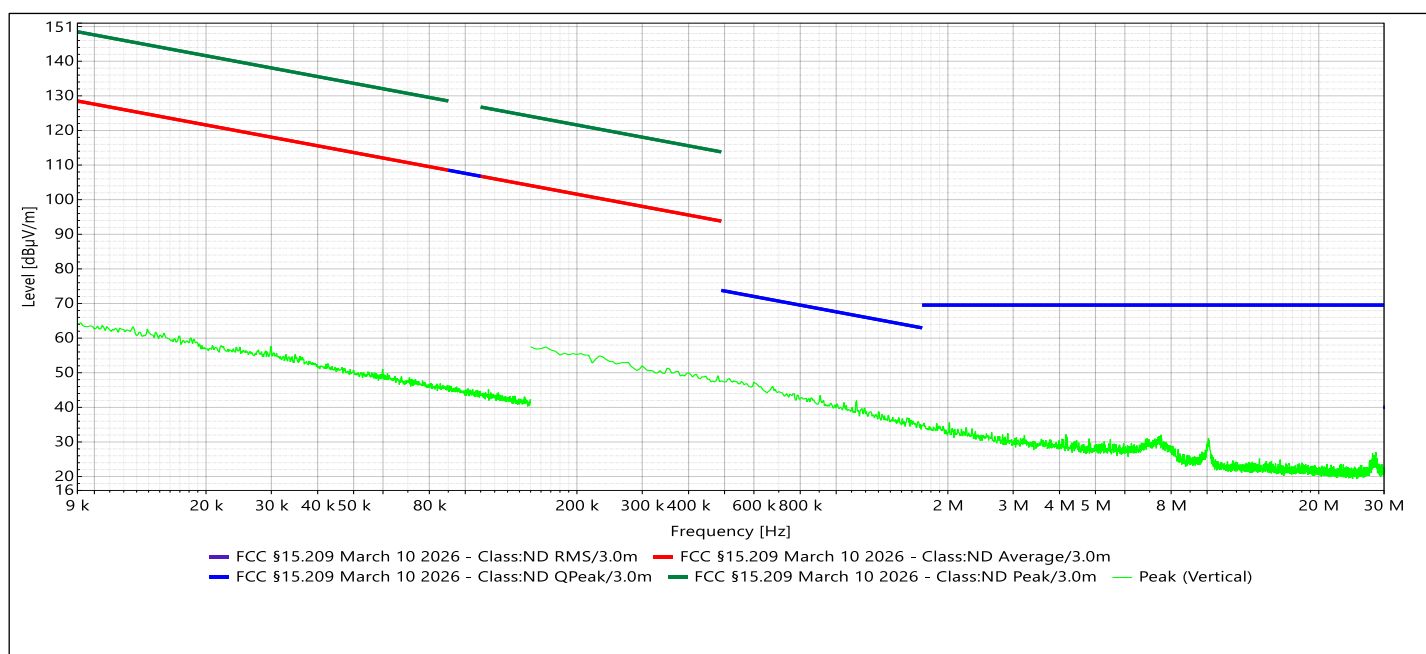
Frequency (MHz)	QP Level (dBµV/m)	QP Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.499	43.50	73.62	-30.12	127.00	1.00	Vertical	Pass



Spurious - 9kHz-30MHz - 908.42 MHz - 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
6/16/2026	3mSAC	Rafael Aguiar Cota	24 °C	28 %	970 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	908.42 MHz	2	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-2 – Radiated Emissions Test Results

Test Notes:

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

Table 2.5.8-2– Radiated Emissions Test Results

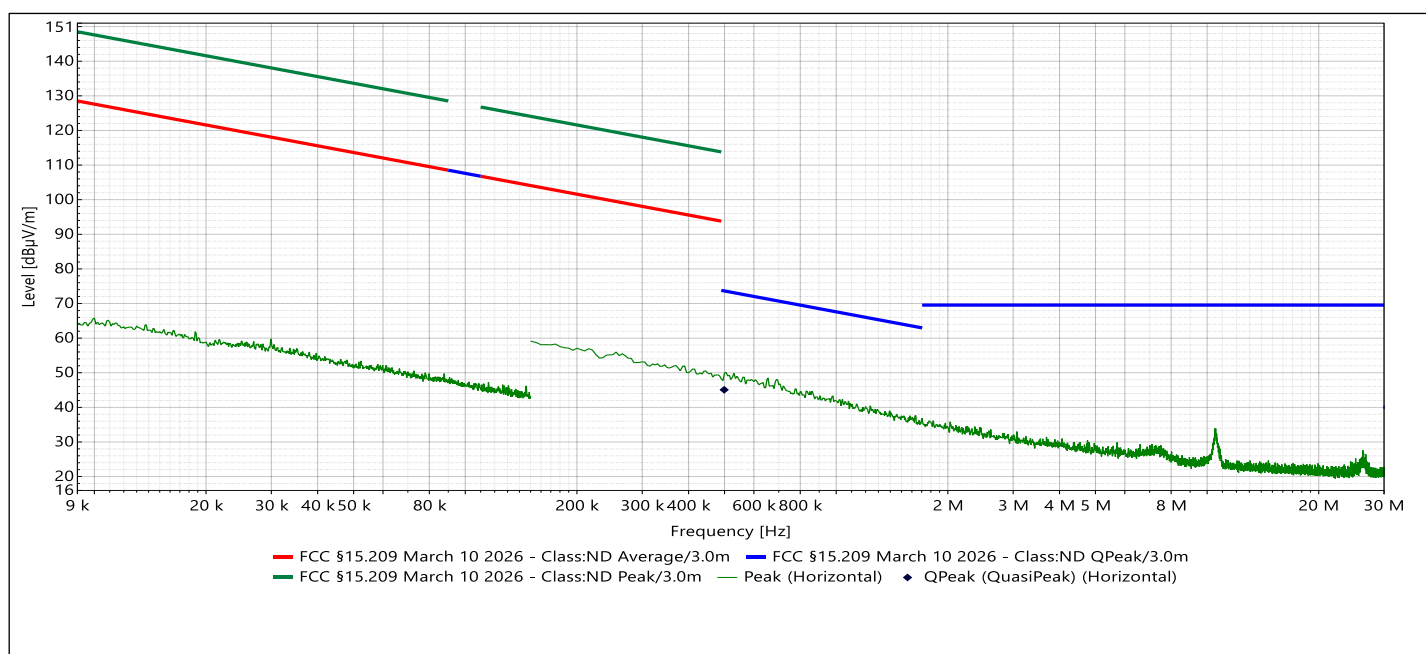
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.493	43.61	73.71	-30.10	163.00	1.00	Vertical	Pass



Spurious - 9kHz-30MHz - 908.42 MHz - 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
6/17/2026	3mSAC	Rafael Aguiar Cota	24 °C	28 %	970 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	908.42 MHz	2	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-3 – Radiated Emissions Test Results

Test Notes:

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

Table 2.5.8-3– Radiated Emissions Test Results

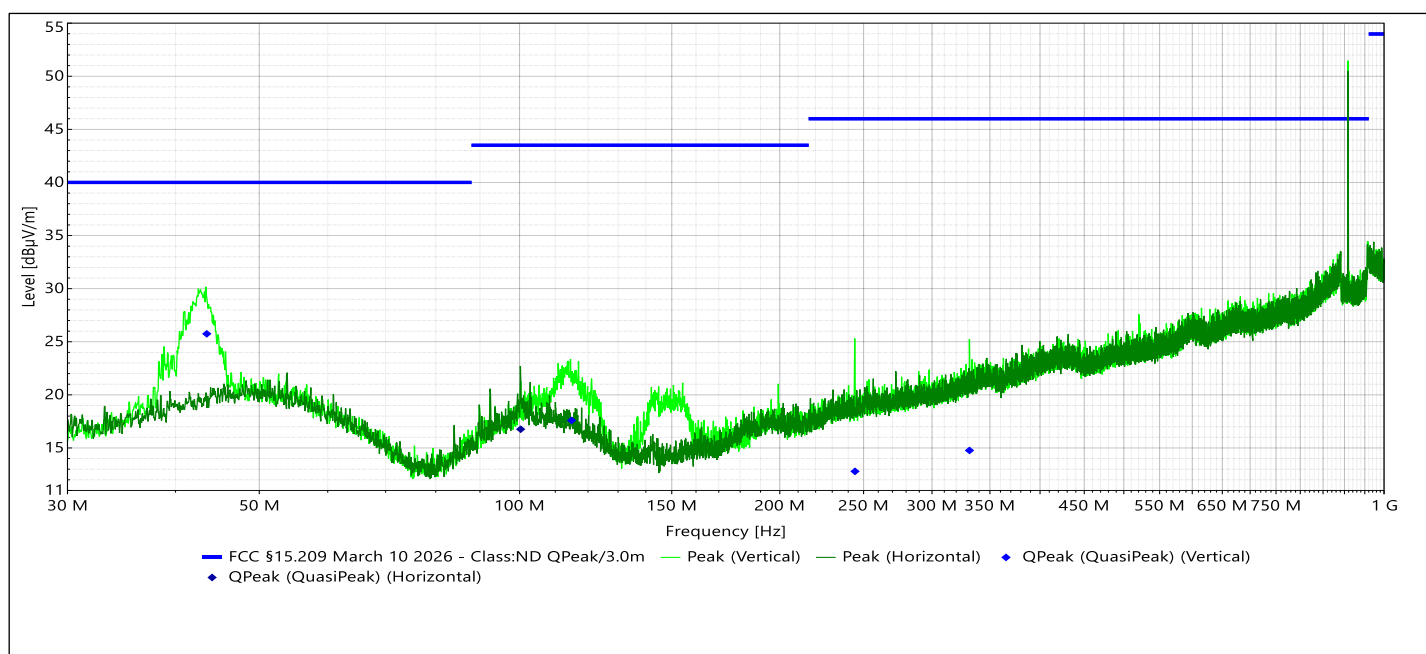
Frequency (MHz)	QP Level (dBμV/m)	QP Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.499	45.07	73.62	-28.56	241.00	1.00	Horizontal	Pass



Spurious Emissions 30M-1GHz - 908.42 MHz

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
6/15/2026	3mSAC	Duranta K. Barua	24.5 °C	30 %	980 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	908.42MHz	2	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-4 – Radiated Emissions Test Results

Test Notes:

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

**Table 2.5.8-4– Radiated Emissions Test Results**

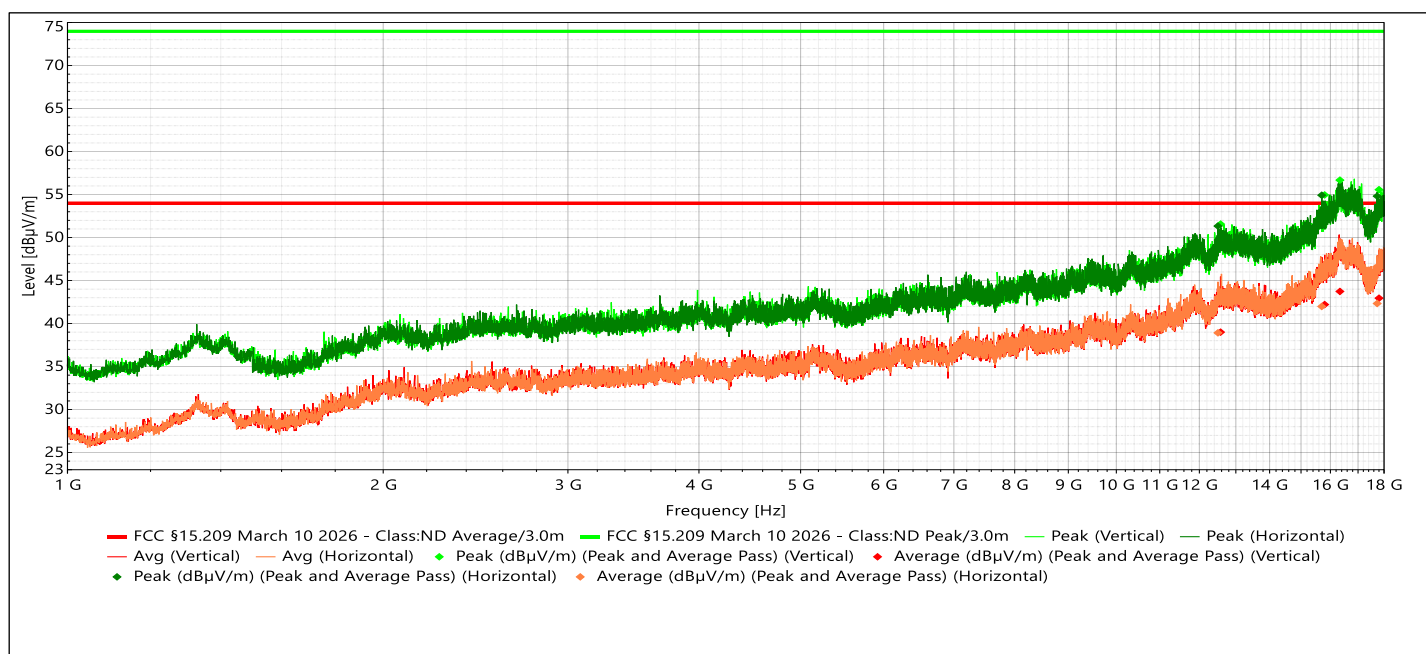
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
43.474	25.75	40.00	-14.25	244.00	1.22	Vertical	Pass
114.867	17.59	43.50	-25.91	306.00	1.00	Vertical	Pass
244.362	12.79	46.00	-33.21	61.00	1.19	Vertical	Pass
331.484	14.76	46.00	-31.24	246.00	1.00	Vertical	Pass
100.300	16.76	43.50	-26.74	0.00	4.00	Horizontal	Pass



Spurious Emissions 1 - 18GHz - 908.42 MHz

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
1 GHz - 1.5 GHz	3m	Vertical	1 MHz	1001 Pts	10 ms
1 GHz - 1.5 GHz	3m	Horizontal	1 MHz	1001 Pts	10 ms
1.5 GHz - 18 GHz	3m	Vertical	1 MHz	34001 Pts	200 ms
1.5 GHz - 18 GHz	3m	Horizontal	1 MHz	34001 Pts	200 ms

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/10/2026	3mSAC	Rafael Aguiar Cota	25.9 °C	38 %	985 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
ZWave	908.42 MHz	2	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-5 – Radiated Emissions Test Results

Test Notes:

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

**Table 2.5.8-5– Radiated Emissions Test Results**

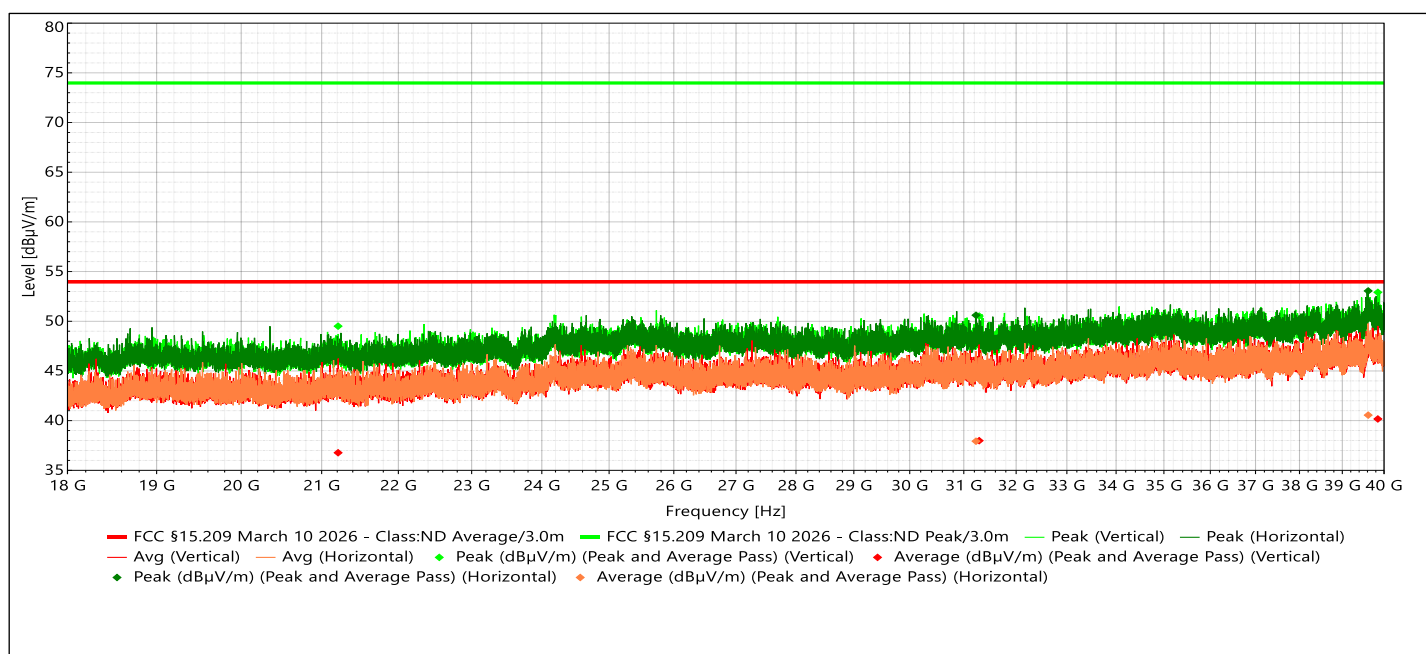
Frequency (MHz)	Peak Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
12571.773	51.57	73.98	-22.41	39.00	53.98	-14.98	75.00	4.00	Vertical	Pass
15798.863	54.96	73.98	-19.02	42.21	53.98	-11.77	31.00	1.00	Vertical	Pass
16337.142	56.68	73.98	-17.30	43.73	53.98	-10.25	329.00	4.00	Vertical	Pass
17802.030	55.57	73.98	-18.41	42.95	53.98	-11.03	30.00	1.00	Vertical	Pass
12499.378	51.33	73.98	-22.64	38.92	53.98	-15.06	159.00	4.00	Horizontal	Pass
15698.223	54.92	73.98	-19.06	41.98	53.98	-12.00	151.00	3.06	Horizontal	Pass
17729.684	54.82	73.98	-19.16	42.33	53.98	-11.65	200.00	1.00	Horizontal	Pass



Spurious Emissions 18 - 40GHz - 908.42 MHz

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
6/13/2026	3mSAC	Rafael Aguiar Cota	23.6 °C	31 %	981 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
ZWave	908.42 MHz	2	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-6 – Radiated Emissions Test Results

Test Notes:

- Power -70
- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

**Table 2.5.8-6– Radiated Emissions Test Results**

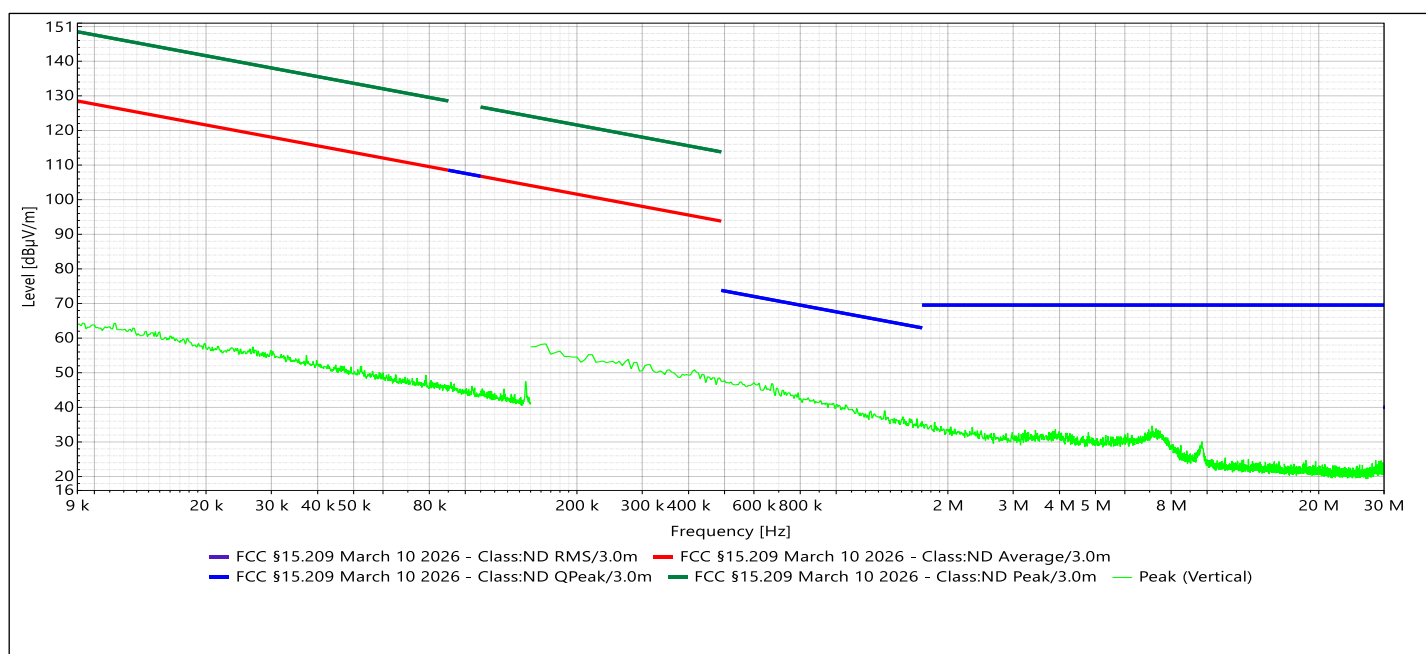
Frequency (MHz)	Peak Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
21210.644	49.51	73.98	-24.47	36.77	53.98	-17.21	303.00	2.46	Vertical	Pass
31290.580	50.52	73.98	-23.46	37.98	53.98	-15.99	270.00	1.00	Vertical	Pass
39850.053	52.91	73.98	-21.07	40.17	53.98	-13.81	48.00	1.00	Vertical	Pass
31230.359	50.61	73.98	-23.37	37.93	53.98	-16.05	317.00	1.03	Horizontal	Pass
39617.252	53.05	73.98	-20.93	40.55	53.98	-13.42	165.00	1.00	Horizontal	Pass



Spurious - 9kHz-30MHz - 916 MHz - Vertical Coaxial

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
6/17/2026	3mSAC	Rafael Aguiar Cota	24 °C	28 %	970 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	916 MHz	0	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-7 – Radiated Emissions Test Results

Test Notes:

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

Table 2.5.8-7– Radiated Emissions Test Results

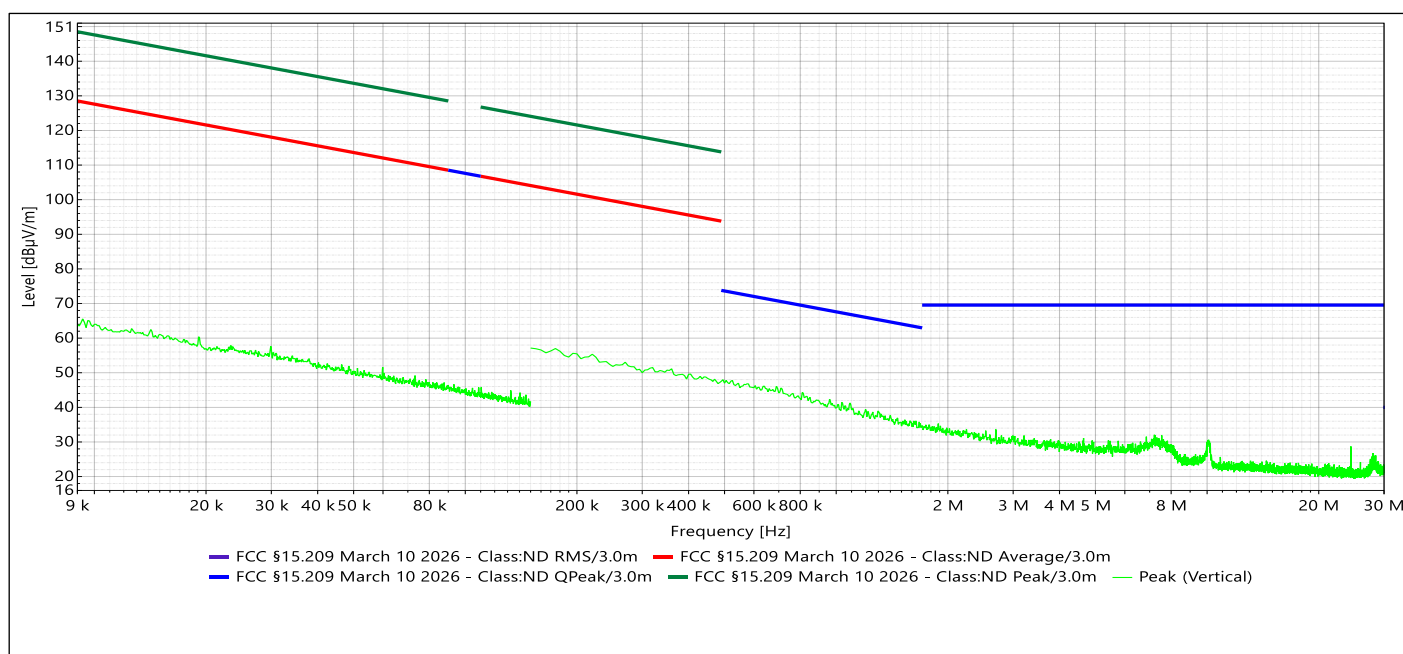
Frequency (MHz)	QP Level (dBµV/m)	QP Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.504	43.41	73.54	-30.12	184.00	1.00	Vertical	Pass



Spurious - 9kHz-30MHz - 916 MHz - 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
6/16/2026	3mSAC	Rafael Aguiar Cota	24 °C	28 %	970 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	916 MHz	0	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-8 –Radiated Emissions Test Results

Test Notes:

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

Table 2.5.8-8–Radiated Emissions Test Results

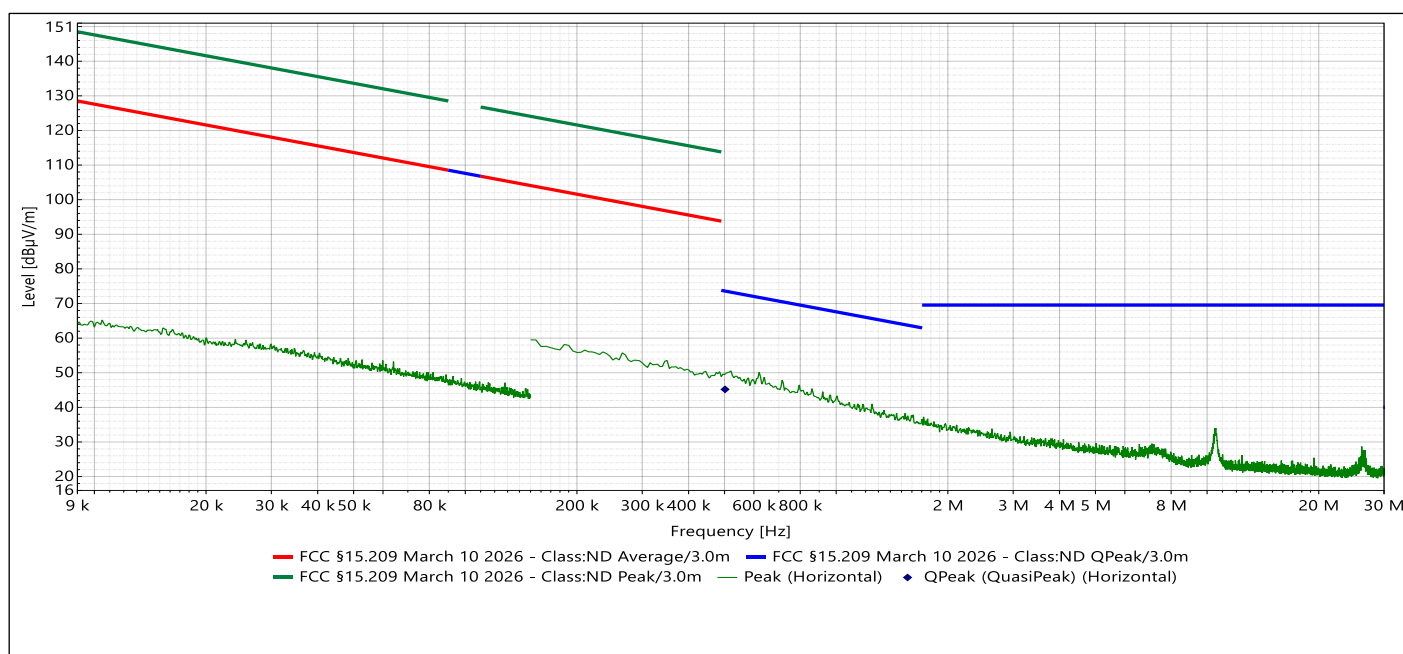
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.503	43.40	73.54	-30.14	248.00	1.00	Vertical	Pass



Spurious - 9kHz-30MHz - 916 MHz - 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
6/17/2026	3mSAC	Rafael Aguiar Cota	24 °C	28 %	970 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	916 MHz	0	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-9 – Radiated Emissions Test Results

Test Notes:

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

Table 2.5.8-9– Radiated Emissions Test Results

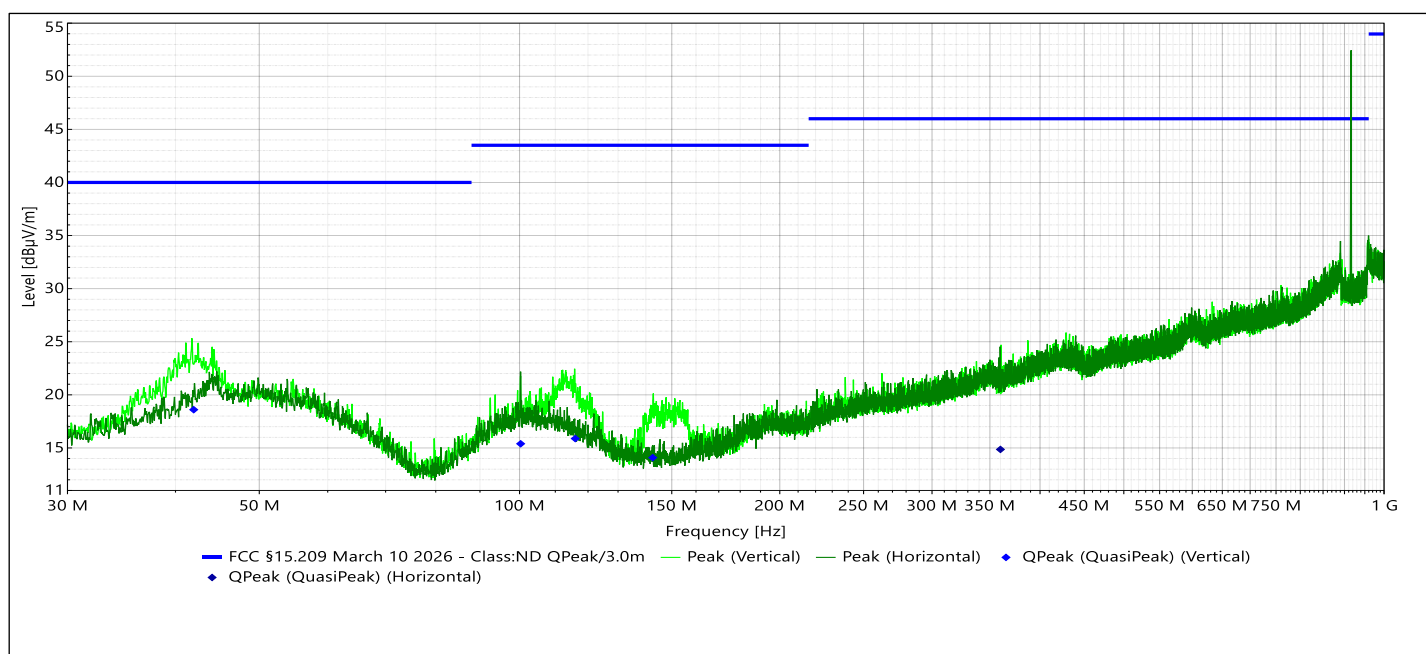
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
0.502	45.19	73.62	-28.43	226.00	1.00	Horizontal	Pass



Spurious Emissions 30M-1GHz - 916MHz

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
6/15/2026	3mSAC	Duranta K. Barua	24.3 °C	30 %	980 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
Z-Wave	916MHz	0	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-10 – Radiated Emissions Test Results

Test Notes:

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

**Table 2.5.8-10– Radiated Emissions Test Results**

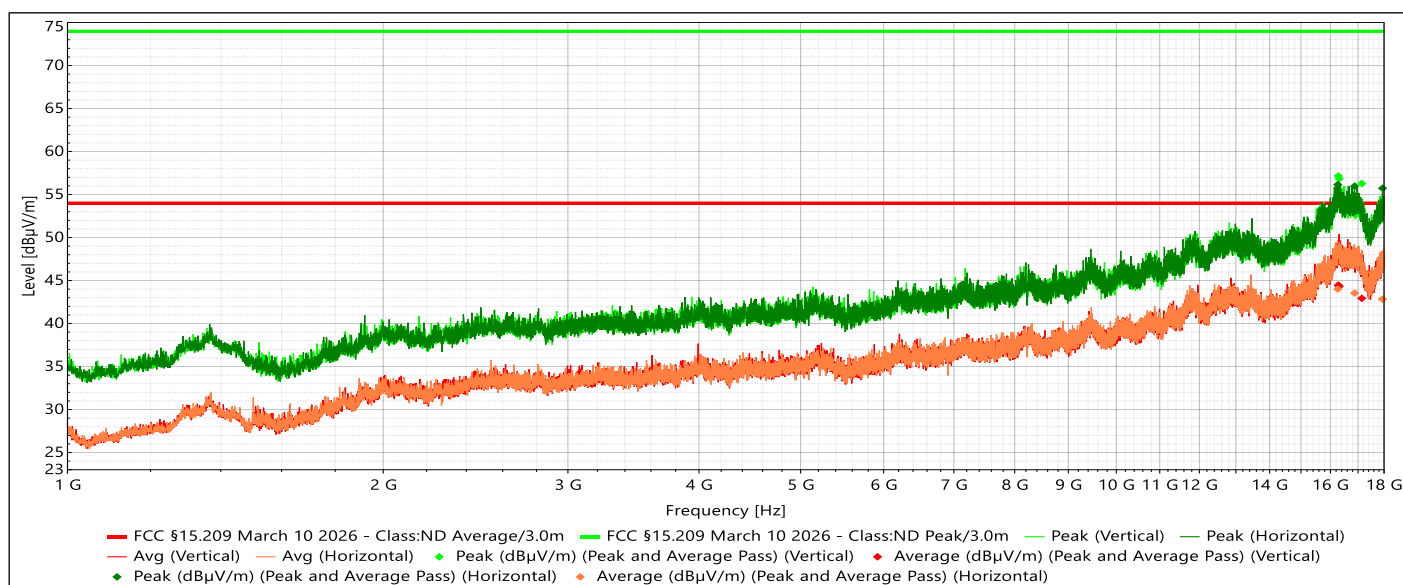
Frequency (MHz)	QP Level (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
41.988	18.60	40.00	-21.40	25.00	1.00	Vertical	Pass
100.300	15.39	43.50	-28.11	4.00	1.02	Vertical	Pass
115.997	15.88	43.50	-27.62	267.00	1.00	Vertical	Pass
142.582	14.09	43.50	-29.41	224.00	1.00	Vertical	Pass
359.957	14.86	46.00	-31.14	91.00	2.50	Horizontal	Pass



Spurious Emissions 1 - 18GHz - 916 MHz

Frequency Range	Antenna Distance	Antenna Polarization	RBW	Step Size	Sweep Time
1 GHz - 1.5 GHz	3m	Vertical	1 MHz	1001 Pts	10 ms
1 GHz - 1.5 GHz	3m	Horizontal	1 MHz	1001 Pts	10 ms
1.5 GHz - 18 GHz	3m	Vertical	1 MHz	34001 Pts	200 ms
1.5 GHz - 18 GHz	3m	Horizontal	1 MHz	34001 Pts	200 ms

Test Date	Test Area	Tested By	Temperature	Humidity	Pressure
6/11/2026	3mSAC	Rafael Aguiar Cota	25.9 °C	38 %	971 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
ZWave	916 MHz	0	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-11 – Radiated Emissions Test Results

Test Notes:

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

**Table 2.5.8-11– Radiated Emissions Test Results**

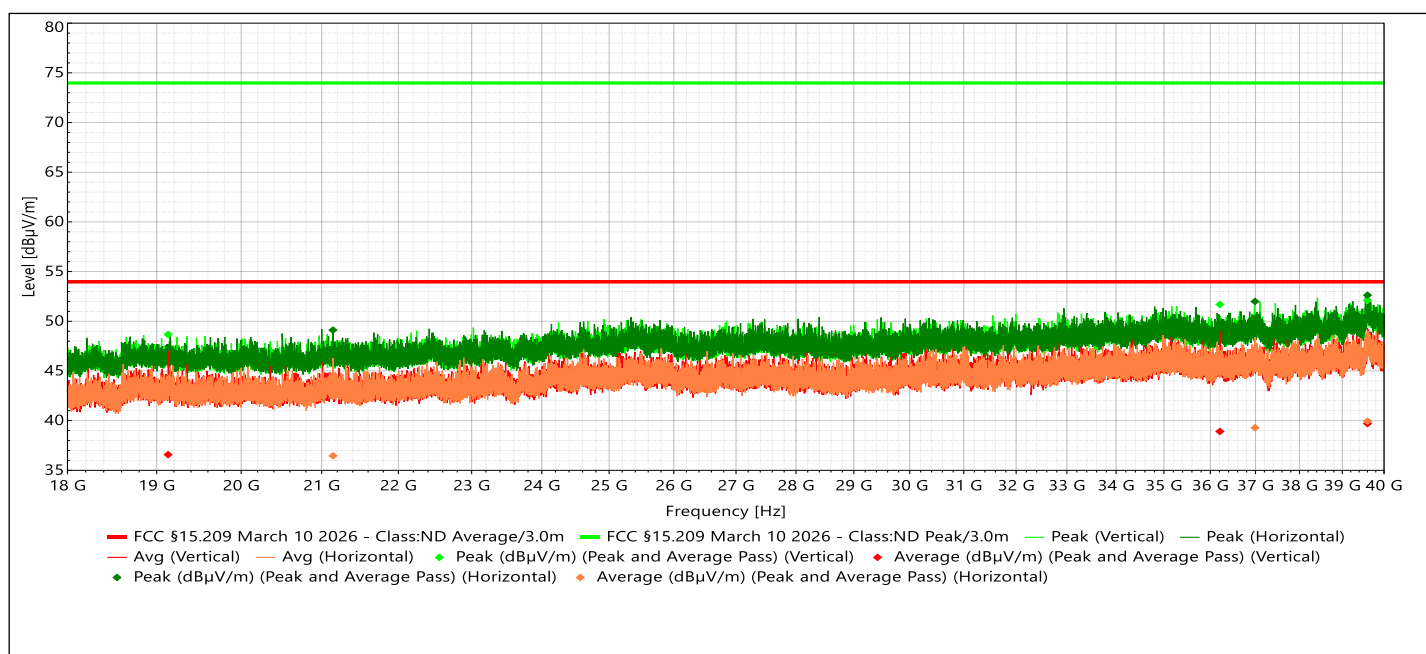
Frequency (MHz)	Peak Level (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average Level (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)	Azimuth (°)	Height (m)	Polarity	Result
16280.847	57.15	73.98	-16.83	44.46	53.98	-9.51	256.00	1.00	Vertical	Pass
16312.777	56.84	73.98	-17.14	44.33	53.98	-9.65	316.00	1.00	Vertical	Pass
17141.220	56.28	73.98	-17.70	42.93	53.98	-11.05	18.00	1.00	Vertical	Pass
16261.354	56.16	73.98	-17.82	44.01	53.98	-9.97	149.00	1.00	Horizontal	Pass
16874.024	55.98	73.98	-18.00	43.54	53.98	-10.44	183.00	4.00	Horizontal	Pass
17937.930	55.73	73.98	-18.25	42.83	53.98	-11.15	192.00	2.50	Horizontal	Pass



Spurious Emissions 18 - 40GHz - - 916 MHz

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
6/13/2026	3mSAC	Rafael Aguiar Cota	23.6 °C	31 %	981 mBar



Technology	Frequency	Channel	Mode	EUT Orientation	Limit	Test Results
ZWave	916 MHz	0	TX	Y-axis	FCC Part 15/FCC §15.209	Pass

Figure 2.5.8-12 – Radiated Emissions Test Results

Test Notes:

- Power -70
- Graphical data is provided for informational purposes only. Final levels are provided in tabular format.

**Table 2.5.8-12– 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
19132.318	48.66	73.98	-25.32	36.58	53.98	-17.40	89.00	2.50	Vertical	Pass
36208.122	51.69	73.98	-22.29	38.92	53.98	-15.06	48.00	1.00	Vertical	Pass
39599.057	52.11	73.98	-21.87	39.70	53.98	-14.28	227.00	1.00	Vertical	Pass
21144.810	49.11	73.98	-24.87	36.46	53.98	-17.52	19.00	1.62	Horizontal	Pass
36988.489	52.00	73.98	-21.98	39.29	53.98	-14.69	326.00	2.50	Horizontal	Pass
39601.144	52.63	73.98	-21.35	39.95	53.98	-14.03	338.00	3.32	Horizontal	Pass



2.5.9 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: $47.75 + -3.95 = 43.8 \text{ dB}\mu\text{V/m}$

Margin: $43.8 \text{ dB}\mu\text{V/m} - 74 \text{ dB}\mu\text{V/m} = -30.2 \text{ dB}$

Example Calculation: Average

Corrected Level: $30.75 + -3.95 = 26.80 \text{ dB}\mu\text{V/m}$

Margin: $26.80 \text{ dB}\mu\text{V/m} - 54 \text{ dB}\mu\text{V/m} = -27.20 \text{ dB}$



2.5.10 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.

Test Area: 3mSAC

Device #	Manufacturer	Description	Model	Serial #	Cal Code	Cal Date	Cal Due
BEMC00653	Huber & Suhner	Cable (40GHz)	SF-102A	0944/2A	B	06/10/2026 05/29/2025	06/10/2027 05/29/2026
NBLE11142	Hewlett-Packard	Preamplifier 100 kHz-1.3 GHz	8447D	2727A05370	B	10/16/2025	10/16/2026
NBLE03504	Florida RF Labs	Cable, N 3ft	FL335	3ft-1	B	03/26/2026	03/26/2027
NBLE11645	Schwarzbeck	TRILOG Broadband Antenna	VULB 9162	0254	G	6/24/2025	6/24/2027
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
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
WRLE11519	Com-Power Corp.	Preamplifier, 500 MHz-18 GHz	PAM-118A	18040002	B	01/24/2026	01/24/2027
NBLE11614	Teledyne Storm Microwave	Cable, N 3m	90-195-3MTR	182984-003	B	01/26/2026	01/26/2027
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
WRLE10517	Microwave Circuits Inc	Filter, 900-950 MHz Notch	N03915M1	138901	B	04/24/2026	04/24/2027
NBLE11754	Rohde & Schwarz	Receiver, 1 Hz-44 GHz	ESW44	103037	G	10/24/2025	10/24/2026
TEMC00175	Micro-Tronics	1.2 GHz High Pass Filter	HPM50108-01	014	B	02/10/2026	02/10/2027

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 Duty Cycle

2.6.1 Specification Reference

None

2.6.2 Equipment Under Test and Modification State

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

2.6.3 Date of Test

7/20/2026 to 7/21/2026

2.6.4 Test Method

The duty cycle was measured in accordance with ANSI C63.10 Section 7.5. The unit was connected directly to the input of the spectrum analyzer via suitable attenuation. The RBW and VBW were set to greater than the RBW 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.

2.6.5 Environmental Conditions

Ambient Temperature	22.9 °C
Relative Humidity	41 %
Atmospheric Pressure	986 mbar

2.6.6 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 100%.

Test Result: N/A

Table 2.6.6-1 – Duty Cycle Results

Frequency (MHz)	Transmission On-Time (ms)	Period (ms)	Duty Cycle (%)
908.412	100.00	100.00	100.00
915.993	100.00	100.00	100.00



Figure 2.6.6-1 – Duty Cycle - 908.412 MHz



Figure 2.6.6-2 – Duty Cycle - 915.993 MHz



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.

Test Area: REVERB

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 Power Line Conducted Emissions

2.7.1 Specification Reference

FCC: Section 15.207

2.7.2 Equipment Under Test and Modification State

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

2.7.3 Date of Test

7/19/2026

2.7.4 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:

$$\begin{aligned} \text{Corrected Reading} &= \text{Analyzer Reading} + \text{LISN Loss} + \text{Cable Loss} \\ \text{Margin} &= \text{Applicable Limit} - \text{Corrected Reading} \end{aligned}$$

2.7.5 Environmental Conditions

Ambient Temperature	23 °C
Relative Humidity	35 %
Atmospheric Pressure	985 mBar

2.7.6 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.

2.7.7 Test Results

Table 2.7.7-1: 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.

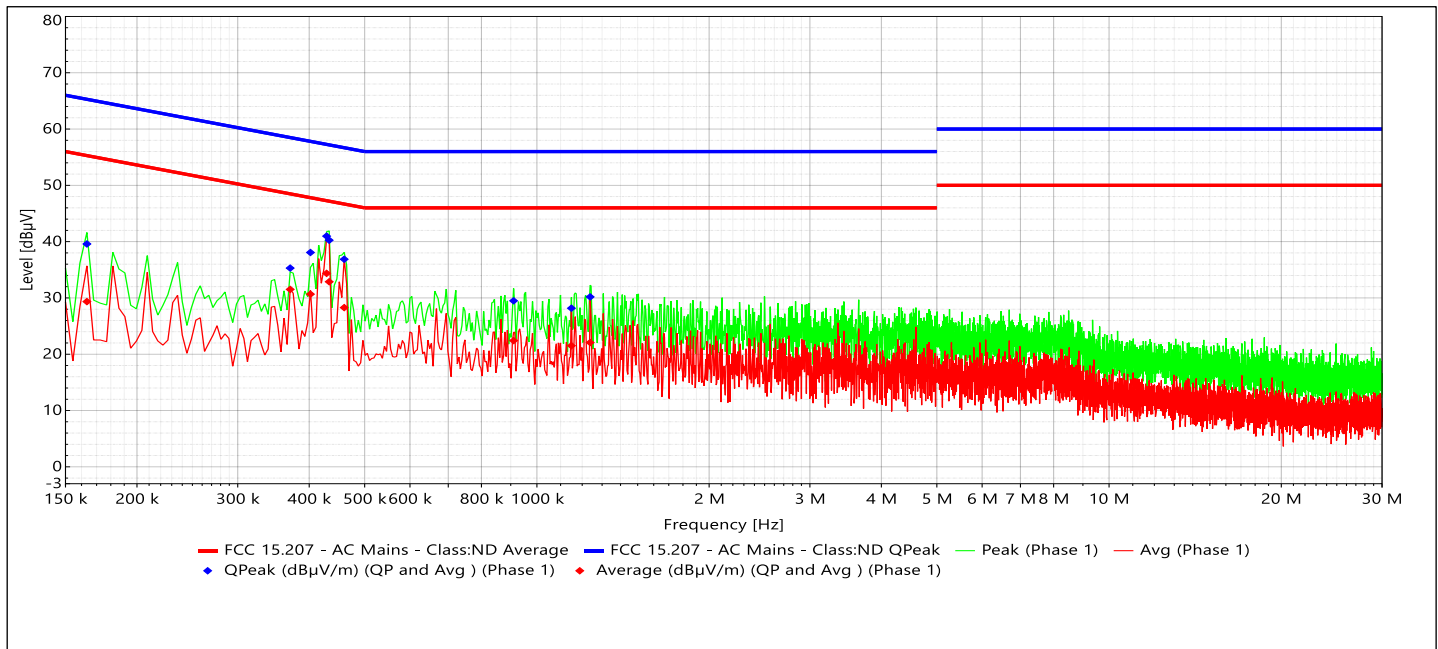
Test Result: Pass

See data below for detailed results.



L1 [120VAC, 60Hz - Zwave

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: 7/19/2026
Test Results: Pass
Figure 2.7.7-1 – Power Line Conducted Emissions – L1

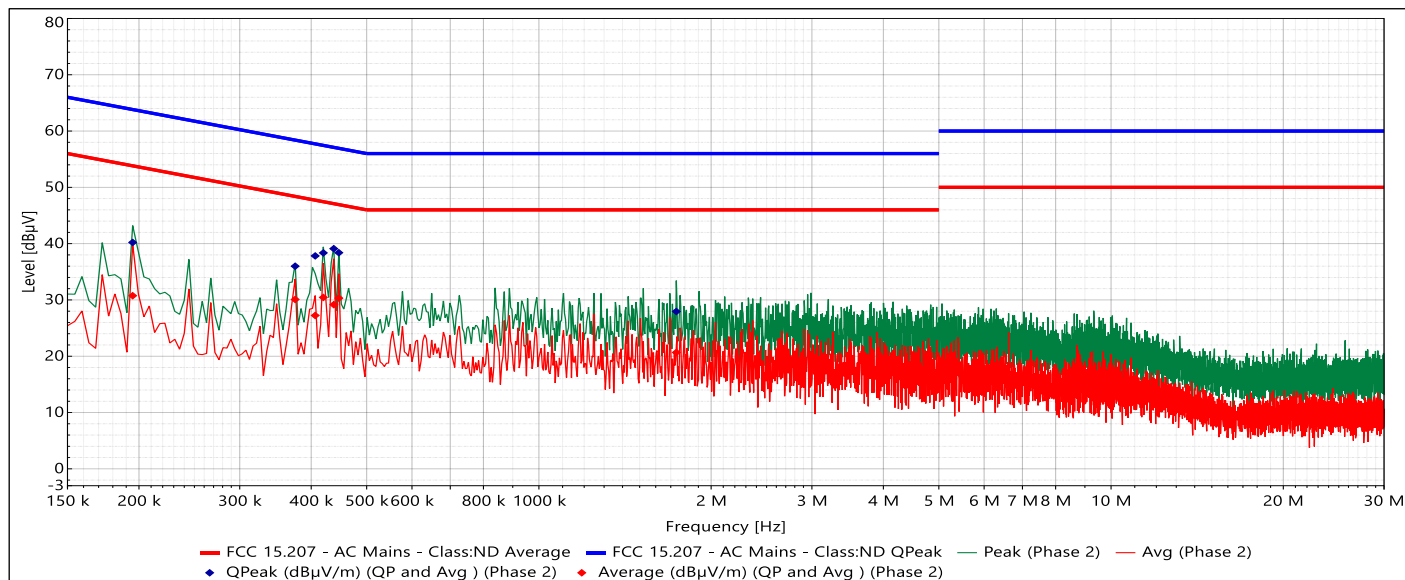
Table 2.7.7-2 – Power Line Conducted Emissions Test Results – L1

Frequency (MHz)	Average (dBuV)	Average Limit (dBuV)	Average Margin (dB)	QPeak (dBuV)	QPeak Limit (dBuV)	QPeak Margin (dB)	Result
0.164	29.35	55.28	-25.94	39.59	65.28	-25.70	Pass
0.371	31.52	48.49	-16.97	35.30	58.49	-23.19	Pass
0.402	30.67	47.81	-17.14	38.07	57.81	-19.74	Pass
0.429	34.36	47.27	-12.91	40.98	57.27	-16.30	Pass
0.434	32.87	47.19	-14.31	40.25	57.19	-16.93	Pass
0.461	28.28	46.68	-18.40	36.87	56.68	-19.81	Pass
0.911	22.42	46.00	-23.58	29.49	56.00	-26.51	Pass
1.149	21.52	46.00	-24.48	28.17	56.00	-27.83	Pass
1.239	22.07	46.00	-23.93	30.19	56.00	-25.81	Pass



L2 [120VAC, 60Hz] - Zwave

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:** 7/19/2026 **Test Results:** Pass
Figure 2.7.7-2 – Power Line Conducted Emissions – L2

Table 2.7.7-3 – Power Line Conducted Emissions Test Results – L2

Frequency (MHz)	Average (dBuV)	Average Limit (dBuV)	Average Margin (dB)	QPeak (dBuV)	QPeak Limit (dBuV)	QPeak Margin (dB)	Result
0.195	30.75	53.82	-23.07	40.21	63.82	-23.61	Pass
0.375	30.08	48.39	-18.30	35.99	58.39	-22.40	Pass
0.407	27.24	47.72	-20.48	37.82	57.72	-19.90	Pass
0.420	30.45	47.45	-17.00	38.36	57.45	-19.09	Pass
0.438	29.16	47.10	-17.94	39.11	57.10	-17.99	Pass
0.447	30.32	46.93	-16.61	38.39	56.93	-18.54	Pass
1.739	20.67	46.00	-25.33	27.95	56.00	-28.05	Pass



2.7.8 Test Location and Test Equipment Used

The tests were carried out in New Brighton, MN.

Test Area: GRP2

Table 2.7.8-1 – 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

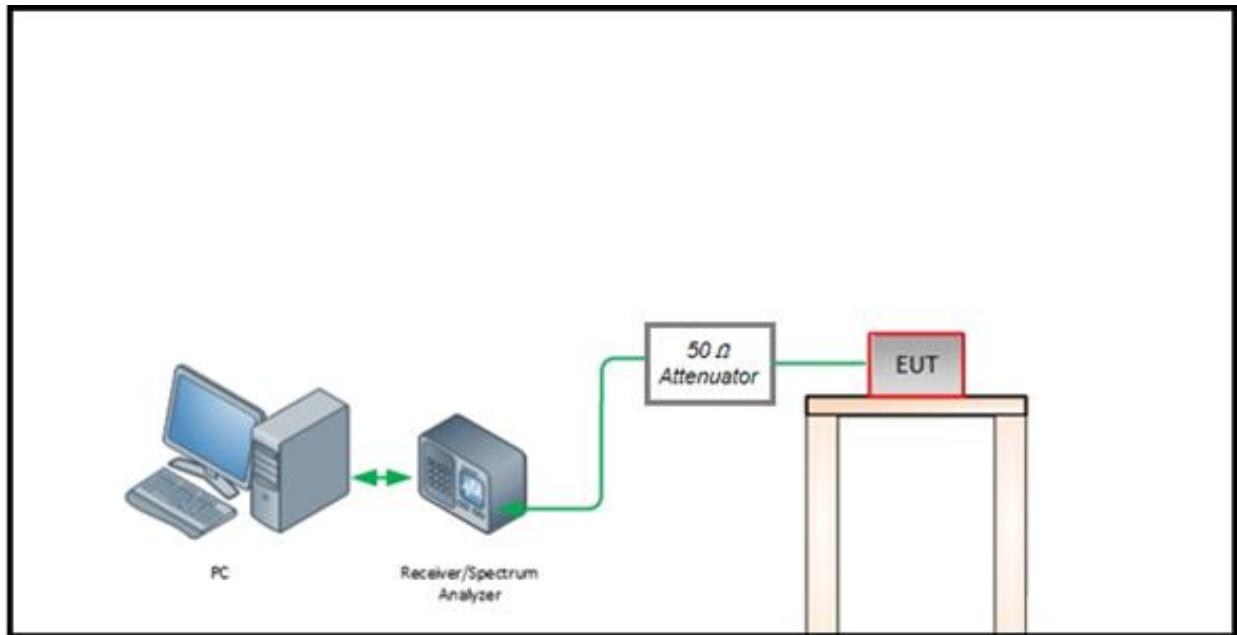


Figure 3-1 – RF Conducted Measurements Test Setup

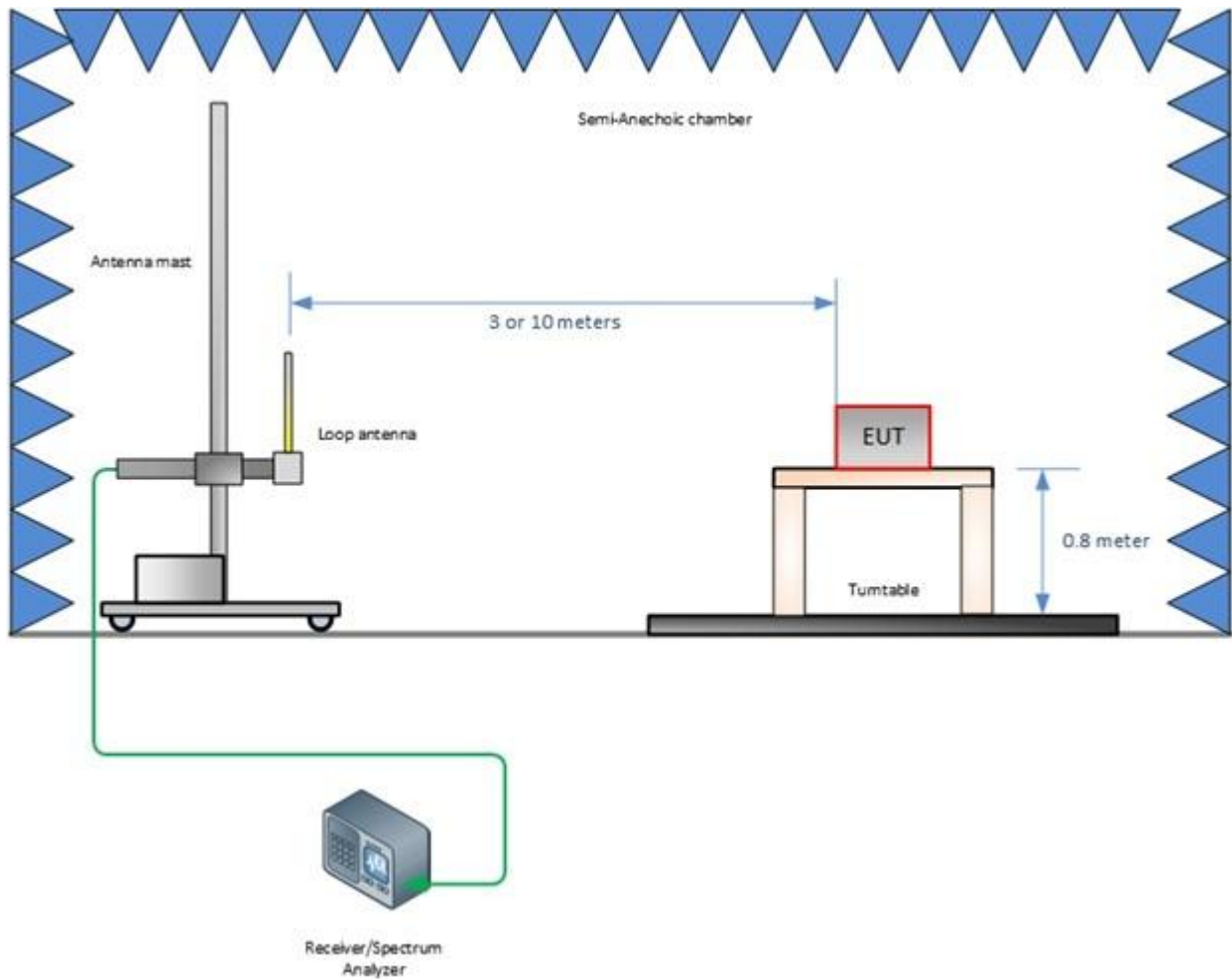


Figure 3-2 – Radiated Emissions Test Setup below 30 MHz

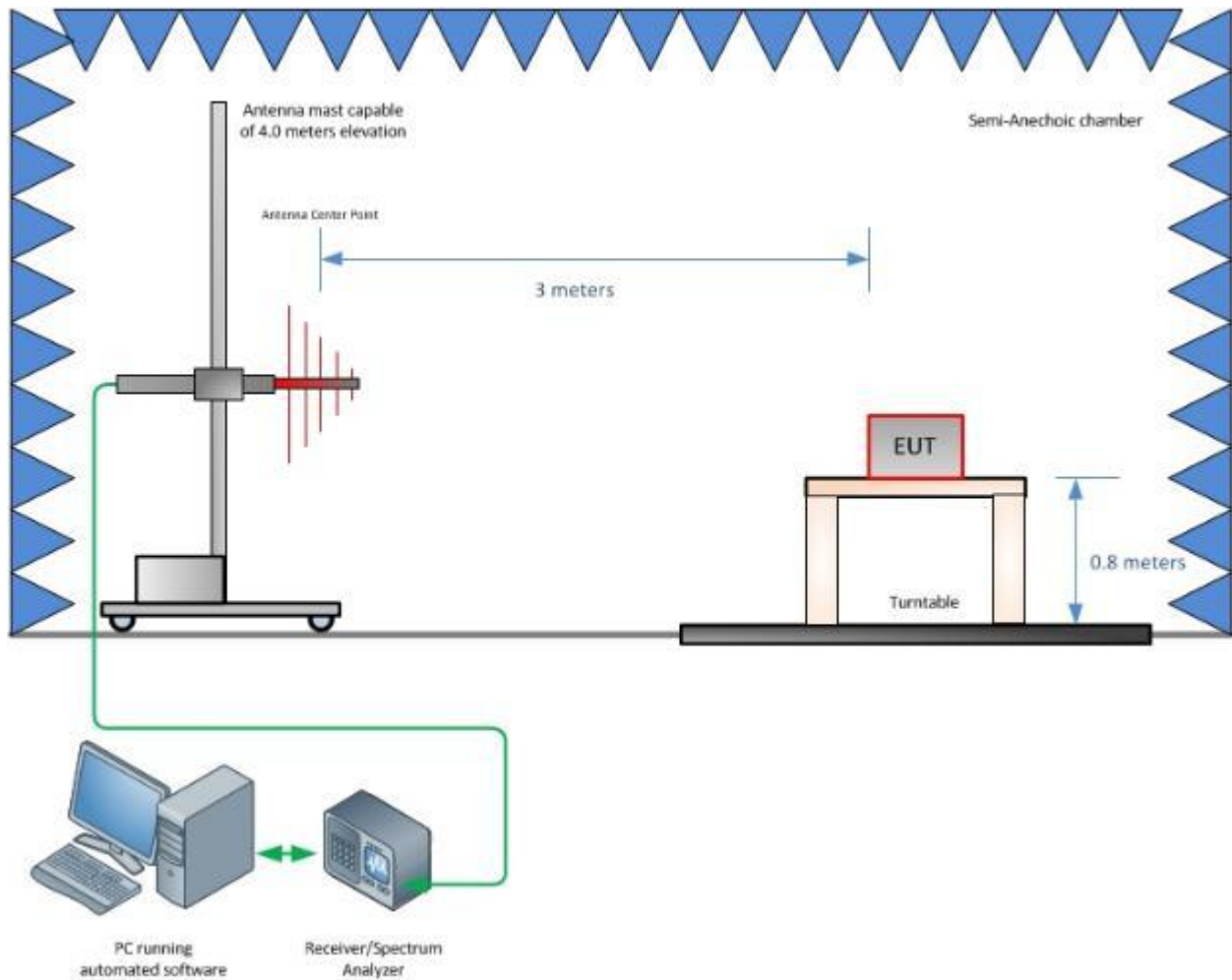


Figure 3-3 – Radiated Emissions Test Setup up to 1 GHz

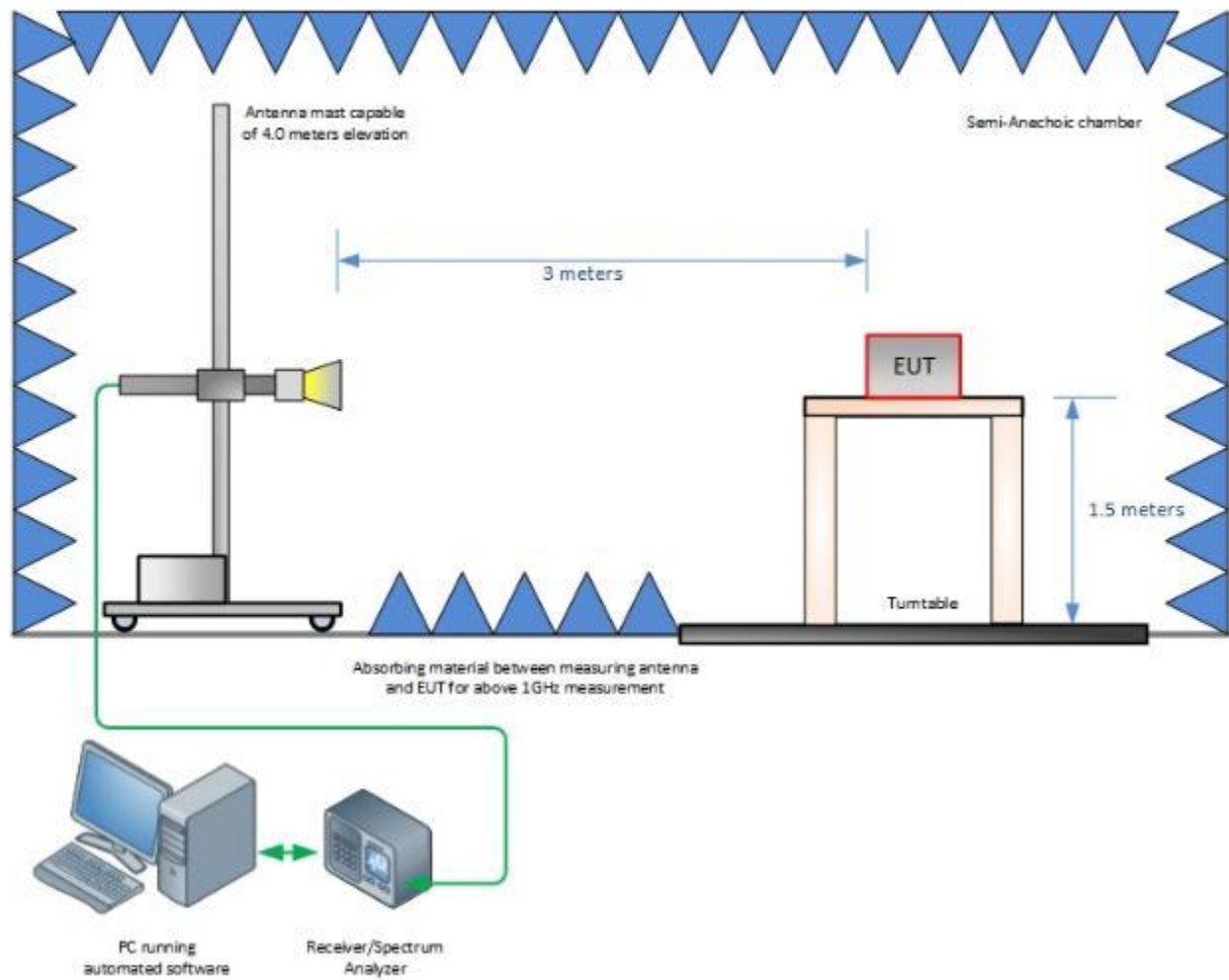


Figure 3-4 – Radiated Emissions Test Setup above 1 GHz

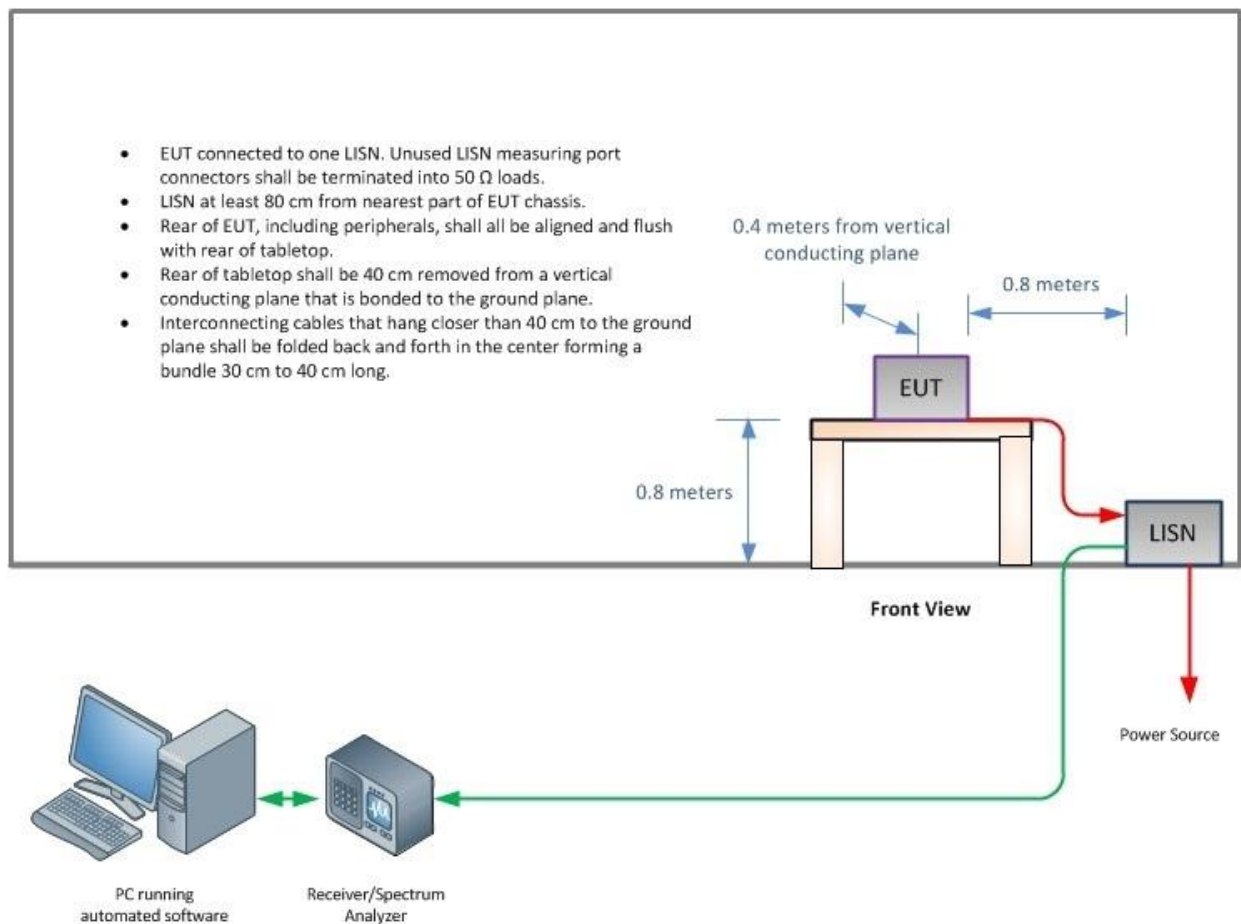


Figure 3-5 – Power Line Conducted Emissions Test Setup



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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