

EXODRAFT TEST REPORT

SCOPE OF WORK

RADIO TESTING – DISPLAY UNIT (6220000) – BLE RADIO

REPORT NUMBER

106266476ATL-006

ISSUE DATE

11 November 2025

REVISED DATE

28 January 2026

PAGES

30



DOCUMENT CONTROL NUMBER

Non-Specific Radio Report Shell Rev. January 2025

© 2025 INTERTEK

RADIO TEST REPORT**Report Number:** 106266476ATL-006**Project Number:** G106266476**Report Issue Date:** 11 November 2025**Report Revision Date:** 28 January 2026**PMN:** Xzense Display Unit**Model/HVIN:** 6220000**FVIN:** V4.12**FCC ID:** 2BRZZ-6220000DURE**IC:** 34524-6220000DURE

Standards: 47 CFR Part 15 Subpart C, 15.247
RSS-247, Issue 4
ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
+ Errata to C63.10a-2024
RSS-GEN, Issue 5

Test Location

Intertek
1950 Evergreen Blvd., Suite 100
Duluth, GA 30096 USA
FCC Designation: US1046
CAB Designator: US0128

Client

Exodraft A/S
Industrivej 10, 5550 Langeskov, Denmark

Report prepared by



Jeremy Pickens / Senior Staff Engineer

Report reviewed by



Michael Carlson / Staff Engineer

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

Table of Contents

1	<i>Introduction and Conclusion</i>	<i>4</i>
2	<i>Test Summary</i>	<i>4</i>
3	<i>Client Information</i>	<i>5</i>
4	<i>Description of Equipment Under Test and Variant Models</i>	<i>5</i>
5	<i>Bandwidth.....</i>	<i>7</i>
6	<i>Peak Output Power</i>	<i>10</i>
7	<i>Peak Power Spectral Density</i>	<i>13</i>
8	<i>Conducted Spurious Emissions / Band Edge</i>	<i>15</i>
9	<i>Radiated Spurious Emissions / Restricted Frequency Bands</i>	<i>20</i>
10	<i>AC Conducted Emissions</i>	<i>27</i>
11	<i>Measurement Uncertainty</i>	<i>29</i>
12	<i>Revision History</i>	<i>30</i>

1 Introduction and Conclusion

The tests indicated in Section 2 were performed on the product constructed as described in Section 4. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

2 Test Summary

Section	Test Description	Test Specification		Result
		FCC	ISED	
5	Occupied and DTS Bandwidth	15.247(a)(2)	RSS-247 S5.2(a) RSS-GEN S6.7	Compliant
6	Peak Output Power	15.247(b)(3)	RSS-247 S5.4(d)	Compliant
7	Power Spectral Density	15.247(e)	RSS-247 S5.2(b)	Compliant
8	Conducted Spurious Emissions / Band Edge	15.247(d)	RSS-247 S5.5	Compliant
9	Emissions in Restricted Frequency Bands	15.247(d) 15.205(a), 15.209(a)	RSS-GEN S8.9-8.10	Compliant
10	AC Mains Conducted Emissions	15.207	RSS-GEN S8.8	Compliant
NA	Antenna Requirement	15.203	RSS-GEN S6.8	Compliant ¹

1) The antenna is internal and not removable.

3 Client Information

This evaluation was performed at the request of:

Client: Exodraft A/S
Industrivej 10, 5550 Langeskov, Denmark

Contact: Christian Ahler

Email: kord@exodraft.dk

4 Description of Equipment Under Test and Variant Models

Manufacturer: Exodraft A/S
Industrivej 10, 5550 Langeskov, Denmark

Equipment Under Test			
Description	Manufacturer	Model Number	Serial Number
Xzense Display Unit	Exodraft a/s	6220000	Compliance Sys 2

Receive Date:	21 July 2025
Received Condition:	Good
Type:	Production

Description of Equipment Under Test (provided by client)

The EUT was a display and controller for use in Exodraft's Xzense wireless control system..

Radio/Receiver Characteristics	
Frequency Range / Number of Channels	2402 -2480MHz, 40 Channels
Data Rate / Modulation Type(s)	GFSK
Channel Separation:	2MHz
Maximum Conducted Output Power:	-1.1dBm (0.78mW)
Equipment Type	Mobile – 20cm Separation Distance
Antenna Type and Gain	Board Mounted Antenna (Abracon, P/N: PRO-OB-440): +5.2dBi

Software

No.	Description of EUT Software
1	SmartSnippets Toolbox v5.026.4228

4.1 Justification

All testing performed in this report was for the radio only.

For antenna conducted port measurements, the DUT antenna was disconnected and fitted with an SMA adapter pigtail. The DUT was powered via USB-C which also allowed control using a test laptop through terminal commands. The coaxial path loss between the DUT and the measurement equipment was verified and accounted during final measurements.

For radiated emission measurements the DUT was placed on a non-conductive platform (80cm or 1.5meters depending on the frequency range). The EUT was tested at low, mid, and high channels.

Software Setting for Power: Max (100% Duty Cycle)

The DUT was pre-scanned in 3-axes. The worst-case for spurious emissions was the X-Axis.

4.2 Modifications Required for Compliance

No modifications were made during compliance testing in order to bring the product into compliance.

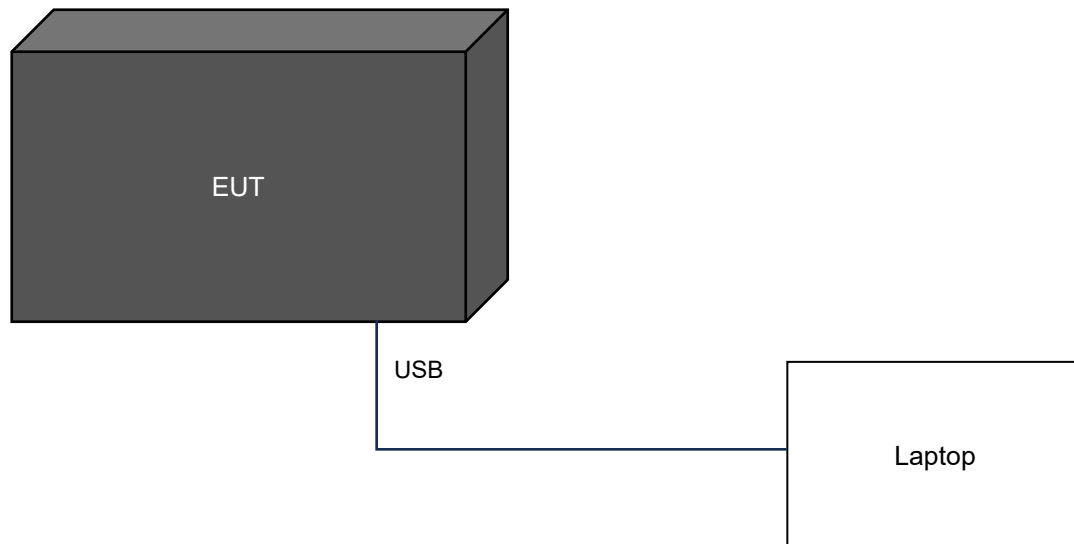
4.3 Additions, Deviations and Exclusions from Standards

No additions, deviations or exclusion have been made from standard.

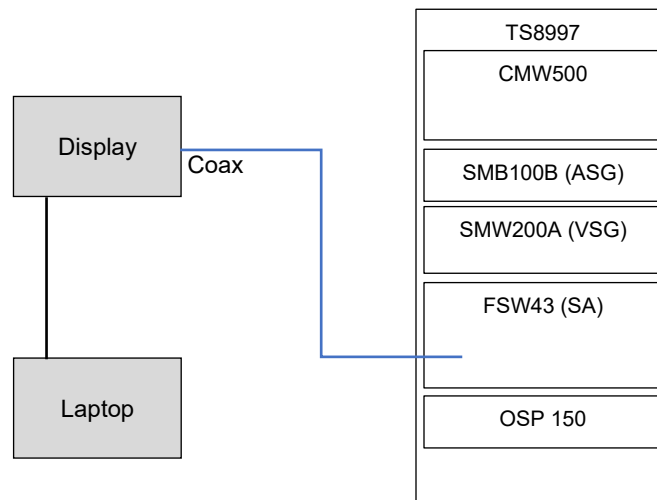
4.4 Method

Configuration as required by ANSI C63.10.

4.5 EUT Block Diagram – Radiated Measurements



4.6 EUT Block Diagram – Conducted Measurements



5 Bandwidth

5.1 Method

The procedures from ANSI C63.10 clause 11.8 and 558074 D01 DTS Meas Guidance v05r2 were used to determine the 6 dB bandwidth.

The procedures from ANSI C63.10 clause 6.9.3 were used to measure the 99% Occupied Bandwidth.

TEST SITE: RF Bench

The RF bench consists of a Rohde & Schwarz TS8997 automated test system coupled with a temperature/humidity environmental chamber. Measurements are automated using the Rohde & Schwarz EMC32 test software. The TS8997 system houses a switch matrix (OSP), along with a spectrum analyzer, vector network analyzer, and analog signal generator.

5.2 Test Equipment

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
212164	Temperature/Pressure/Humidity Sensor	Extech	SD700	109402	07/08/2025	07/08/2026
213500	Analog Signal Generator (8kHz-40GHz)	Rohde & Schwarz	SMB100B	106096	05/08/2025	05/08/2027
213502	Spectrum Analyzer (2Hz-43.5GHz)	Rohde & Schwarz	FSW43	102972	08/01/2024	08/01/2026

Software Utilized

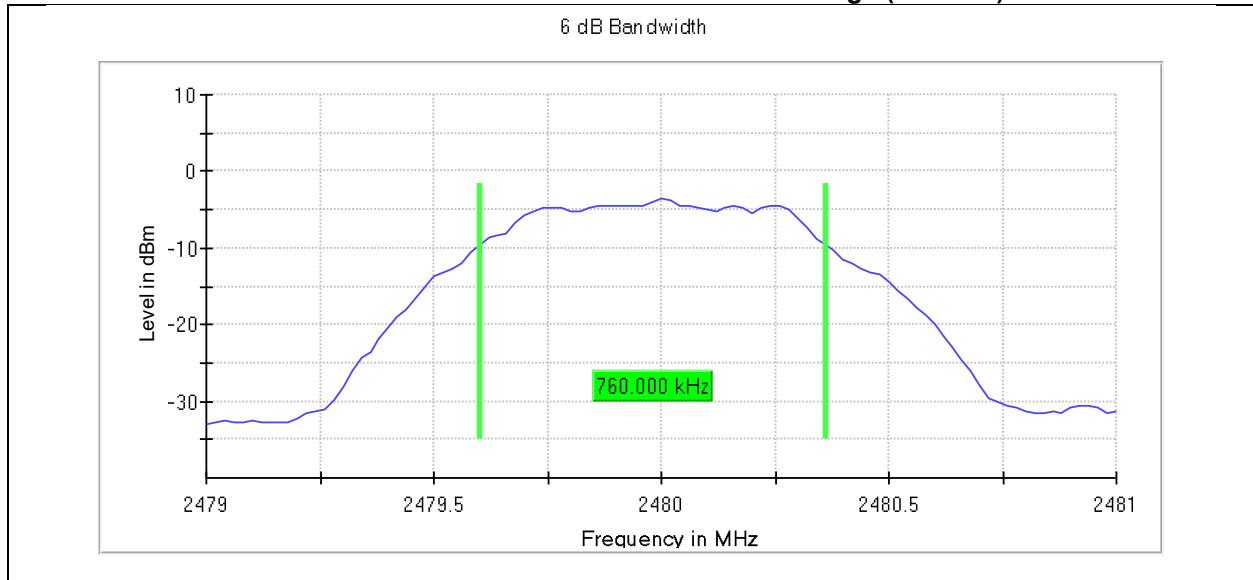
Name	Manufacturer	Version
EMC32	Rohde & Schwarz	11.70.00
RSCCommander	Rohde & Schwarz	2.4.2 64-bit (2023)

5.3 Test Data

Frequency (MHz)	6dB Bandwidth (kHz)	Limit (kHz)	Result
2402.0	780.0	>500	Compliant
2440.0	760.0	>500	Compliant
2480.0	760.0	>500	Compliant

Frequency (MHz)	99% OBW (MHz)	Limit (kHz)	Result
2402.0	1.012	NA	Reported
2440.0	1.017	NA	Reported
2480.0	1.015	NA	Reported

Worst-Case Results Plot and Instrument Settings (6dB BW)



Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 40
Sweeptime	41.830 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	19 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.17 dB	0.50 dB

Worst-Case Results Plot (OBW)



Test Personnel: Jeremy Pickens

Supervising/Reviewing Engineer: _____

(Where Applicable) _____

Product Standard: ANSI C63.10

Input Voltage: 5Vdc (USB-C)

Test Date: 29 July 2025 / 23 January 2026

Ambient Temperature: 21.8°C / 18.5°C

Relative Humidity: 49.5% / 17.4%

Atmospheric Pressure: 97.9kPa / 99.2kPa

6 Peak Output Power

6.1 Method

The procedures from KDB 558074 D01 DTS Meas Guidance v05r2 and ANSI C63.10 Clause 11.9.1.1 were used to measure the peak output power.

TEST SITE: RF Bench

The RF bench consists of a Rohde & Schwarz TS8997 automated test system coupled with a temperature/humidity environmental chamber. Measurements are automated using the Rohde & Schwarz EMC32 test software. The TS8997 system houses a switch matrix (OSP), along with a spectrum analyzer, vector network analyzer, and analog signal generator.

6.2 Test Equipment

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
212164	Temperature/Pressure/Humidity Sensor	Extech	SD700	109402	07/08/2025	07/08/2026
213500	Analog Signal Generator (8kHz-40GHz)	Rohde & Schwarz	SMB100B	106096	05/08/2025	05/08/2027
213502	Spectrum Analyzer (2Hz-43.5GHz)	Rohde & Schwarz	FSW43	102972	08/01/2024	08/01/2026

Software Utilized

Name	Manufacturer	Version
EMC32	Rohde & Schwarz	11.70.00

6.3 Results

The sample tested was found to Comply.

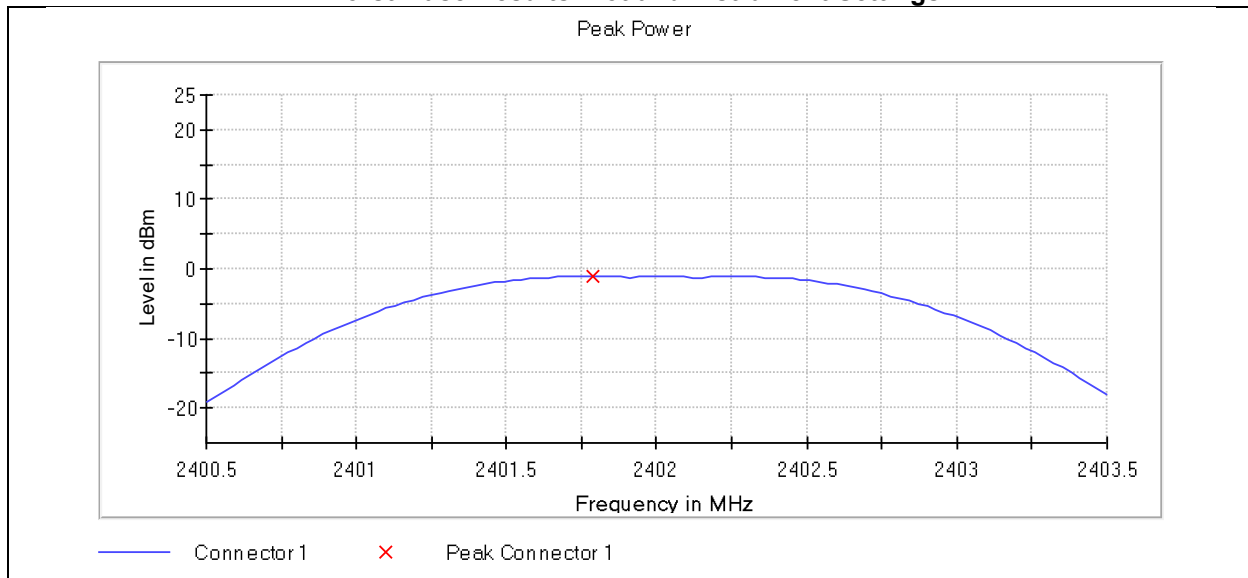
6.4 Test Data

Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Result
2402.0	-1.1	30	Pass
2440.0	-1.9	30	Pass
2480.0	-2.7	30	Pass

Frequency (MHz)	Conducted Peak Power	Antenna Gain (dBi)	EIRP (dBm)	IC EIRP Limit (dBm)	Result
2402.0	-1.1	5.2	4.1	34	Pass
2440.0	-1.9	5.2	3.3	34	Pass
2480.0	-2.7	5.2	2.5	34	Pass

$$\text{EIRP} = \text{Peak Power} + \text{Antenna Gain}$$

Worst-Case Results Plot and Instrument Settings



Setting	Instrument Value	Target Value
Start Frequency	2.40050 GHz	2.40050 GHz
Stop Frequency	2.40350 GHz	2.40350 GHz
Span	3.000 MHz	3.000 MHz
RBW	1.000 MHz	≥ 780.001 kHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	101	~ 101
Sweeptime	4.210 μ s	AUTO
Reference Level	25.000 dBm	25.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	5 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.01 dB	0.50 dB

Test Personnel: Jeremy Pickens 
Supervising/Reviewing
Engineer:
(Where Applicable) _____
Product Standard: ANSI C63.10
Input Voltage: 5Vdc (USB-C)

Test Date: 29 July 2025
Ambient Temperature: 21.8°C
Relative Humidity: 49.5%
Atmospheric Pressure: 97.9kPa

7 Peak Power Spectral Density

7.1 Method

The procedures from KDB 558074 D01 DTS Meas Guidance v05r2 and ANSI C63.10 Clause 11.10.2 were used to measure the peak PSD.

TEST SITE: RF Bench

The RF bench consists of a Rohde & Schwarz TS8997 automated test system coupled with a temperature/humidity environmental chamber. Measurements are automated using the Rohde & Schwarz EMC32 test software. The TS8997 system houses a switch matrix (OSP), along with a spectrum analyzer, vector network analyzer, and analog signal generator.

7.2 Test Equipment

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
212164	Temperature/Pressure/Humidity Sensor	Extech	SD700	109402	07/08/2025	07/08/2026
213500	Analog Signal Generator (8kHz-40GHz)	Rohde & Schwarz	SMB100B	106096	05/08/2025	05/08/2027
213502	Spectrum Analyzer (2Hz-43.5GHz)	Rohde & Schwarz	FSW43	102972	08/01/2024	08/01/2026

Software Utilized

Name	Manufacturer	Version
EMC32	Rohde & Schwarz	11.70.00

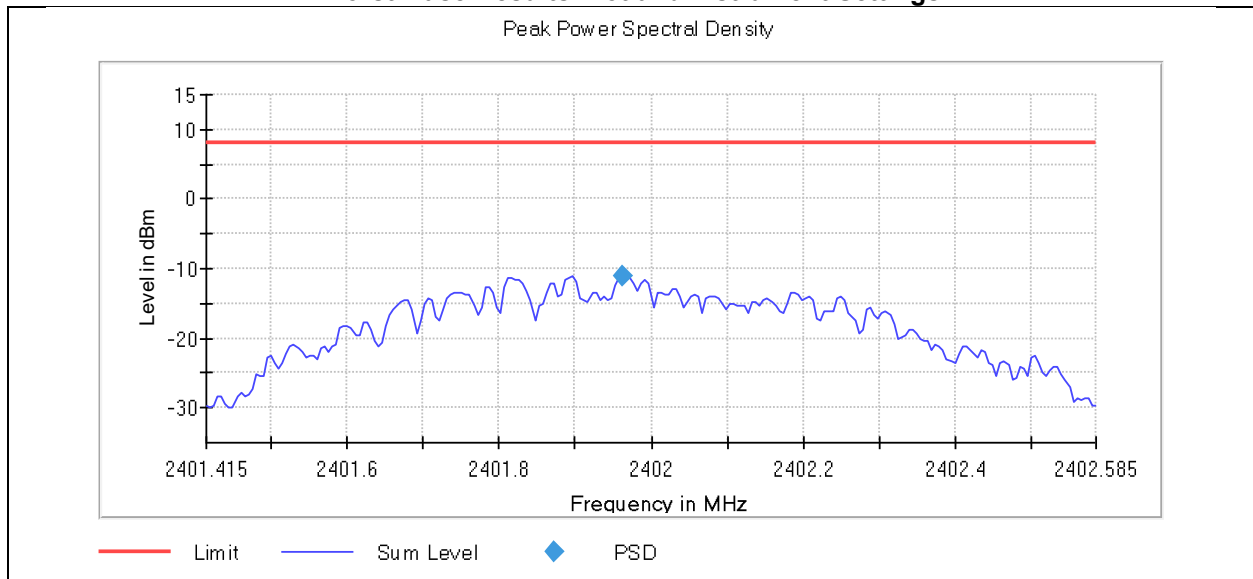
7.3 Results

The sample tested was found to Comply.

7.4 Test Data

Frequency (MHz)	Peak PSD (dBm/10kHz)	Limit (dBm/3kHz)	Result
2402.0	-11.09	8	Pass
2440.0	-11.87	8	Pass
2480.0	-12.42	8	Pass

Worst-Case Results Plot and Instrument Settings



Intertek

Report Number: 106266476ATL-006

Revised: 28 January 2026

Setting	Instrument Value	Target Value
Start Frequency	2.40142 GHz	2.40142 GHz
Stop Frequency	2.40259 GHz	2.40259 GHz
Span	1.170 MHz	1.170 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	234	~ 234
Sweeptime	1.170 ms	AUTO
Reference Level	15.000 dBm	15.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	max. 150
Stable	2 / 2	2
Max Stable Difference	0.38 dB	0.50 dB

Test Personnel: Jeremy Pickens
 Supervising/Reviewing Engineer:
 (Where Applicable) _____
 Product Standard: ANSI C63.10
 Input Voltage: 5Vdc (USB-C)

Test Date: 29 July 2025
 Ambient Temperature: 21.8°C
 Relative Humidity: 49.5%
 Atmospheric Pressure: 97.9kPa

8 Conducted Spurious Emissions / Band Edge

8.1 Method

The procedures from KDB 558074 D01 DTS Meas Guidance v05r2 and ANSI C63.10 Clause 11.11 were used to measure the conducted spurious emissions and allocated band edges.

The limit is 20 dB below the measured peak power in any 100kHz band.

TEST SITE: RF Bench

The RF bench consists of a Rohde & Schwarz TS8997 automated test system coupled with a temperature/humidity environmental chamber. Measurements are automated using the Rohde & Schwarz EMC32 test software. The TS8997 system houses a switch matrix (OSP), along with a spectrum analyzer, vector network analyzer, and analog signal generator.

8.2 Test Equipment

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
212164	Temperature/Pressure/Humidity Sensor	Extech	SD700	109402	07/08/2025	07/08/2026
213500	Analog Signal Generator (8kHz-40GHz)	Rohde & Schwarz	SMB100B	106096	05/08/2025	05/08/2027
213502	Spectrum Analyzer (2Hz-43.5GHz)	Rohde & Schwarz	FSW43	102972	08/01/2024	08/01/2026

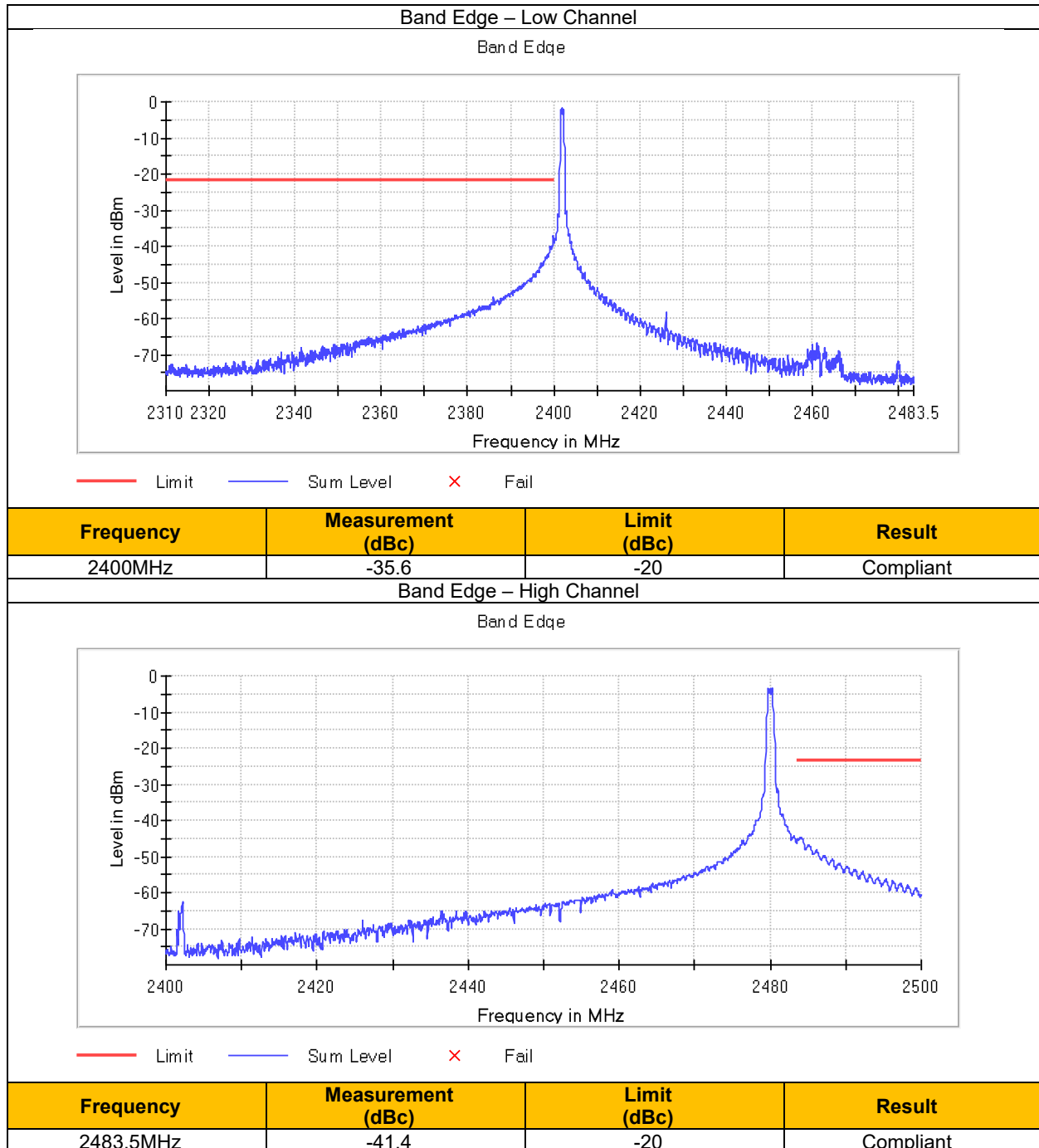
Software Utilized

Name	Manufacturer	Version
EMC32	Rohde & Schwarz	11.70.00

8.3 Results

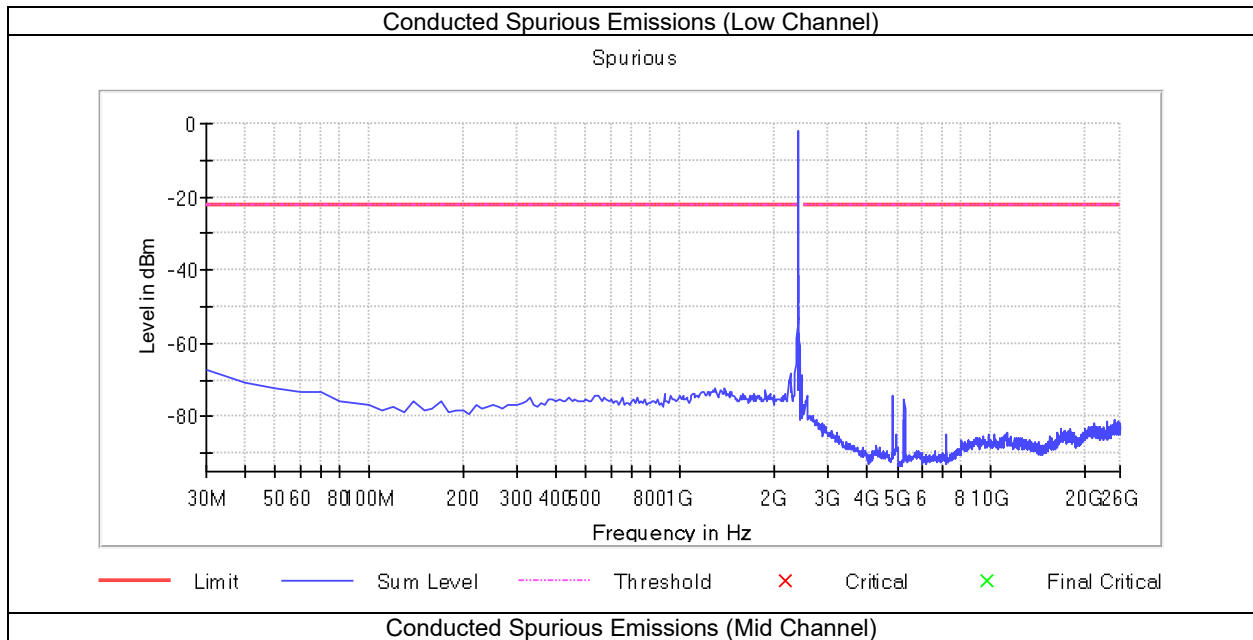
The sample tested was found to Comply.

8.4 Plots/Data

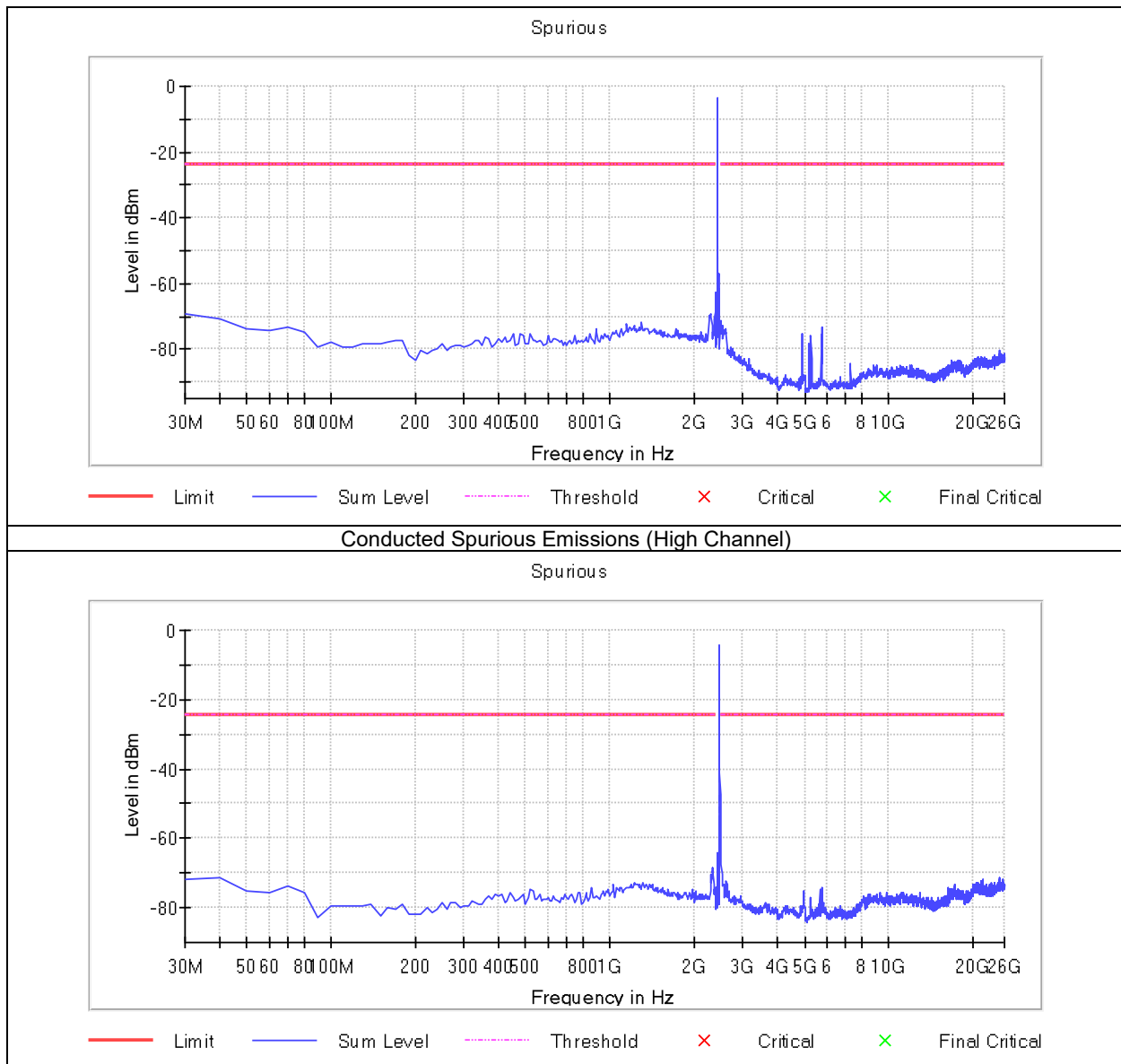
**Instrument Settings (Low Channel)**

Setting	Instrument Value	Target Value
Start Frequency	2.31000 GHz	2.31000 GHz
Stop Frequency	2.40000 GHz	2.40000 GHz
Span	90.000 MHz	90.000 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz

Setting	Instrument Value	Target Value
SweepPoints	1800	~ 1800
Sweptime	1.800 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	9 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.13 dB	0.50 dB



Conducted Spurious Emissions (Mid Channel)



Instrument Settings (Low Channel)

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	238	~ 238
Sweptime	23.700 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold

Intertek

Report Number: 106266476ATL-006

Revised: 28 January 2026

Setting	Instrument Value	Target Value
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	8 / max. 40	max. 40
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

Test Personnel: Jeremy Pickens 
Supervising/Reviewing
Engineer:
(Where Applicable) _____
Product Standard: ANSI C63.10
Input Voltage: 5Vdc (USB-C)

Test Date: 29 July 2025

Ambient Temperature: 21.8°C
Relative Humidity: 49.5%
Atmospheric Pressure: 97.9kPa

9 Radiated Spurious Emissions / Restricted Frequency Bands

9.1 Method

Tests were performed in accordance with ANSI C63.10. The EUT was tested at a height of 0.8m for measurements below 1GHz and at 1.5 meters for measurements above 1GHz.

TEST SITE: 10 Meter Chamber

10 Meter Semi-Anechoic Chamber The test site for radiated emissions is located at 1950 Evergreen Blvd, Suite 100, Duluth, Georgia 30096. It is a 10-meter semi-anechoic chamber manufactured by Panashield. Embedded in the floor is a 3-meter diameter turntable.

Sample Calculation

The field strength was calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where

- FS = Field Strength in dB μ V/m
- RA = Receiver Amplitude (including preamplifier) in dB μ V
- CF = Cable Attenuation Factor in dB
- AF = Antenna Factor in dB
- AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$\begin{aligned}FS &= 32 \text{ dB}\mu\text{V/m} \\RA &= 52.0 \text{ dB}\mu\text{V} \\CF &= 1.6 \text{ dB} \\AF &= 7.4 \text{ dB/m} \\AG &= 29.0 \text{ dB}\end{aligned}$$

To convert from dB μ V to μ V or mV the following was used

$$UF = 10^{(NF / 20)} \text{ where } UF = \text{Net Reading in } \mu\text{V} \\NF = \text{Net Reading in dB}\mu\text{V}$$

Example

$$\begin{aligned}FS &= RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0 \text{ dB}\mu\text{V/m} \\UF &= 10^{(32 \text{ dB}\mu\text{V/m} / 20)} = 39.8 \mu\text{V/m}\end{aligned}$$

9.2 Test Equipment

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
200074	Preamplifier, 10 MHz to 2000 MHz	Mini-Circuits	ZKL-2	D011105	01/24/2025	01/24/2026
200080	Preamplifier, 18-40GHz, 29 dB Gain	Miteq	JS41800400-30-5P-S	818197	10/17/2024	10/17/2025
200162	EMI Receiver (20Hz-40GHz)	Rohde & Schwarz	ESU 40	100314	9/26/2024	09/26/2025
211262	Controller - Turntable and Mast	Sunol	SC99V	SC99V-1	VBV	VBV
211264	Mast - Antenna	Sunol	TWR95	NNN2	VBV	VBV
211386	Antenna, BiLog, 20-2000MHz	Chase	CBL6112B	2622	06/30/2025	06/30/2026
212166	Temperature/Pressure/Humidity Sensor	Extech	SD700	110392	04/02/2025	04/02/2026
213023	Antenna, Horn, 18-40 GHz	EMCO	3116	9310-2222	02/19/2025	02/19/2026
213058A	Antenna, Horn, <18 GHz	A.H. Systems	SAS-200/571	246	04/03/2025	04/03/2026
213103	High Pass Filter - Rated 1GHz	Micro-Tronics	HPM50108	140	06/18/2025	06/18/2026
213365	PreAmplifier 100Hz-30MHz	Com-Power	PAL-010	181492	06/18/2025	06/18/2026
213451	Omni -directional Comb Generator	Com-Power	CGO-520	281266	VBV	VBV
213453	Preamplifier 500MHz-18GHz	Com-Power	PAM-118A	18040030	10/16/2024	10/16/2025
E401	Cable E401, 40 GHz, 2.9, 9"	Megaphase	TM40 K1K1 9	E401	10/17/2024	10/17/2025
MM1	RF Coax Cable 9KHz-18GHz	Maury Microwave	UC-N-MM36	161471	10/21/2024	10/21/2025
MM5	RF Coax Cable 10KHz-18GHz	Maury Microwave	UC-N-MM-118	163203	04/01/2025	04/01/2026
MM8	RF Coax Cable 9kHz-18GHz	Fairview Microwave	UC-N-MM-267	1635289	06/18/2025	06/18/2026
MP10	RF Coax Cable 9KHz-18GHz	Fairview Microwave	FMCA1282-394	MP10	06/18/2025	06/18/2026
MP12	RF Coax Cable 9KHz-18GHz	Fairview Microwave	SCE180060505-700CM	MP12	01/23/2025	01/23/2026
MP-HF-3	RF Coax Cable 1-40GHz	Megaphase	GC12-K1K1-233-H	20809305001	10/21/2024	10/21/2025
NYM-EMC-36	Antenna, Loop, Passive (10 kHz - 30 MHz)	EMCO	6512	9810-1228	07/14/2025	07/14/2026

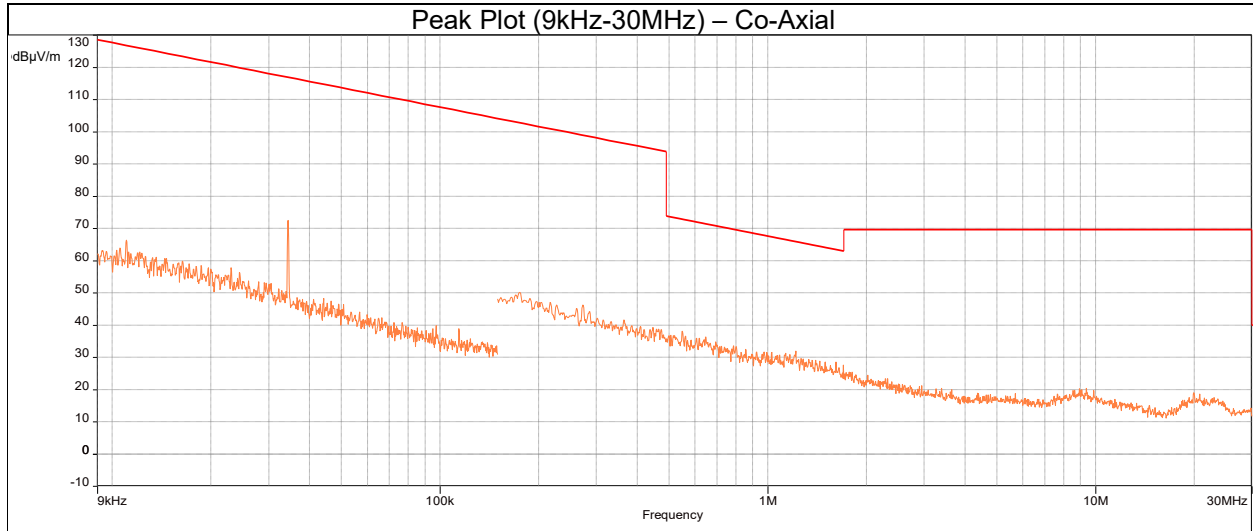
Software Utilized

Name	Manufacturer	Version
BAT EMC	NEXIO	3.19.1.18

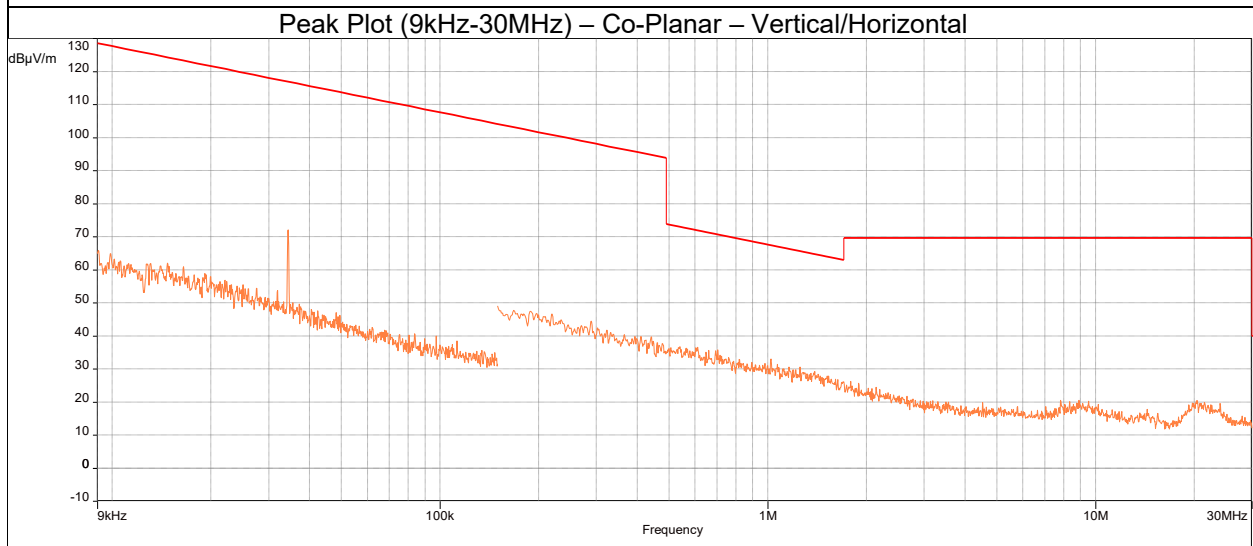
9.3 Results

The sample tested was found to Comply.

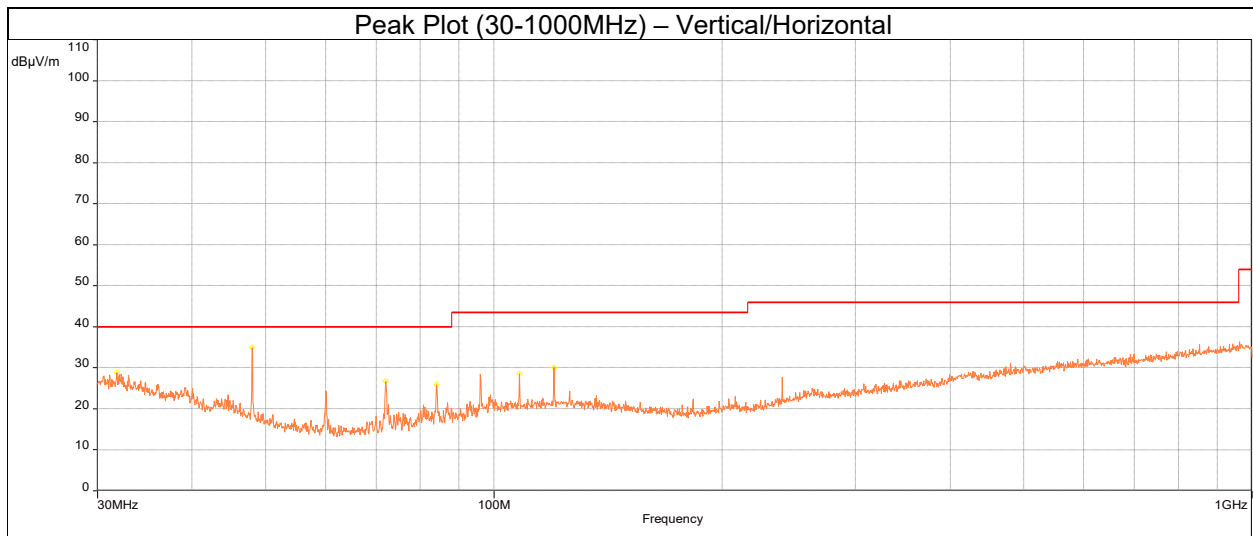
9.4 Plots/Data – Spurious Emissions



Note: There was no discernible difference among channels in this frequency range – worst-case power/PSD data presented (Low Channel 2402MHz)

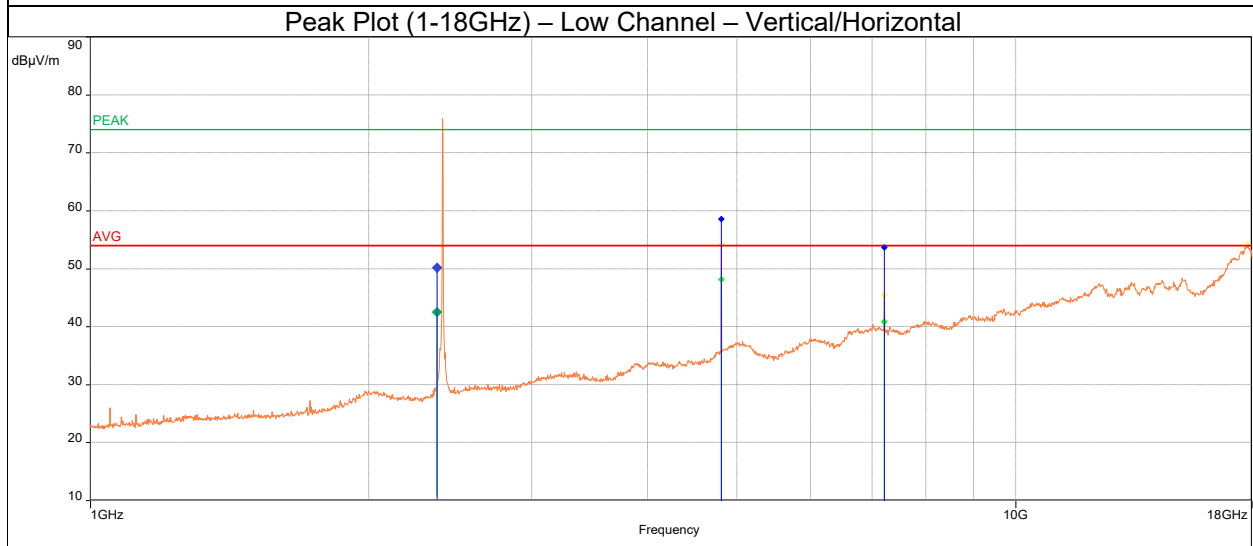


Note: There was no discernible difference among channels in this frequency range – worst-case power/PSD data presented (Low Channel 2402MHz)

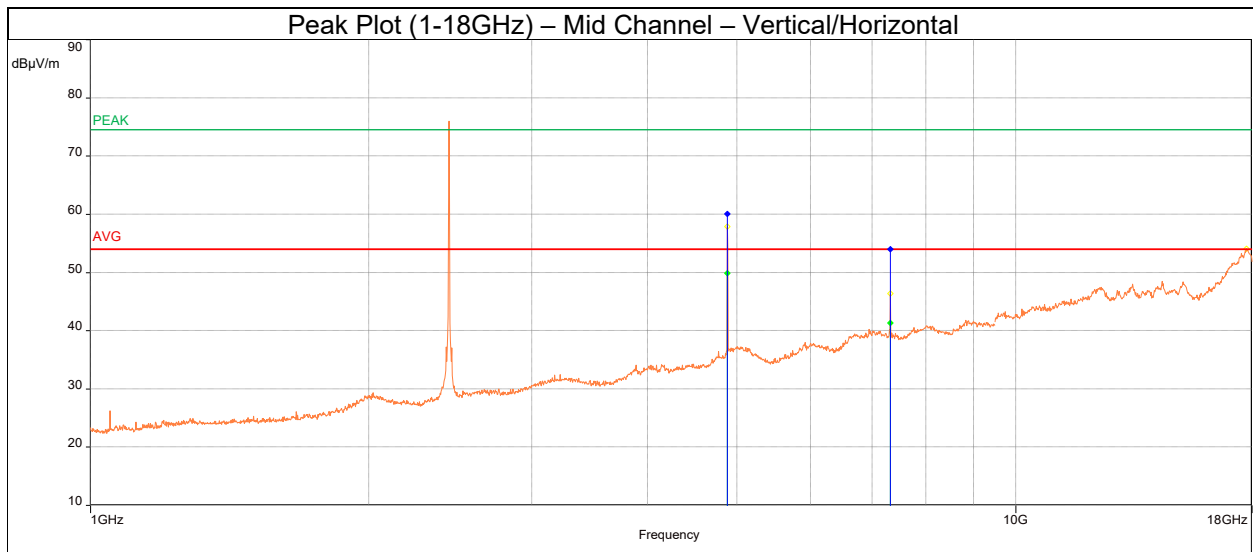


FCC Part 15/FCC 15.209_9kHz-40GHz

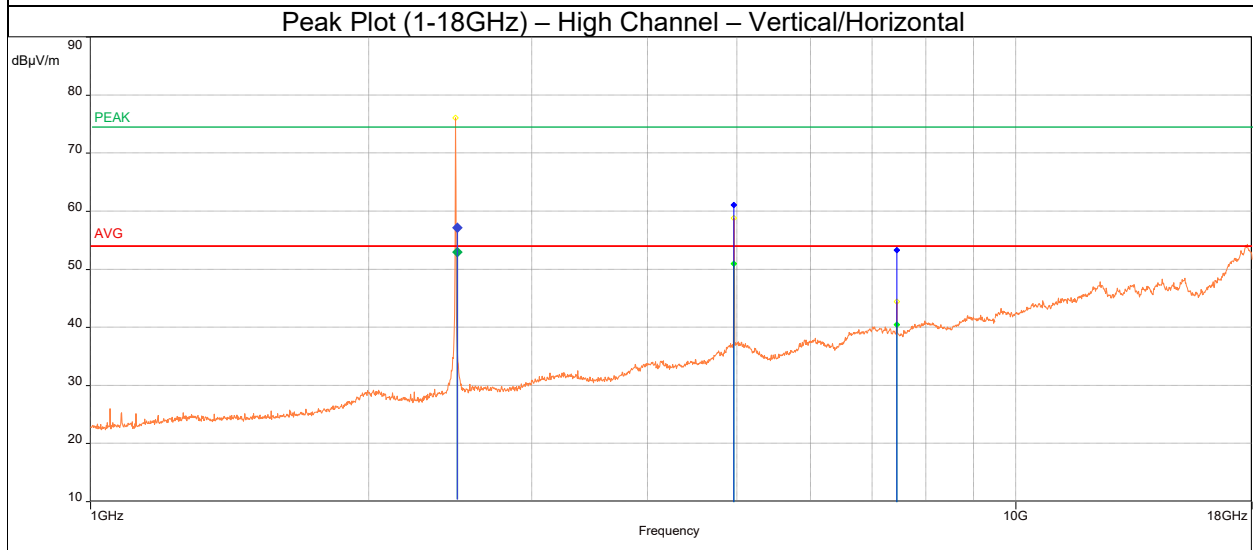
Note: There was no discernible difference among channels in this frequency range – worst-case power/PSD data presented (Low Channel 2402MHz)



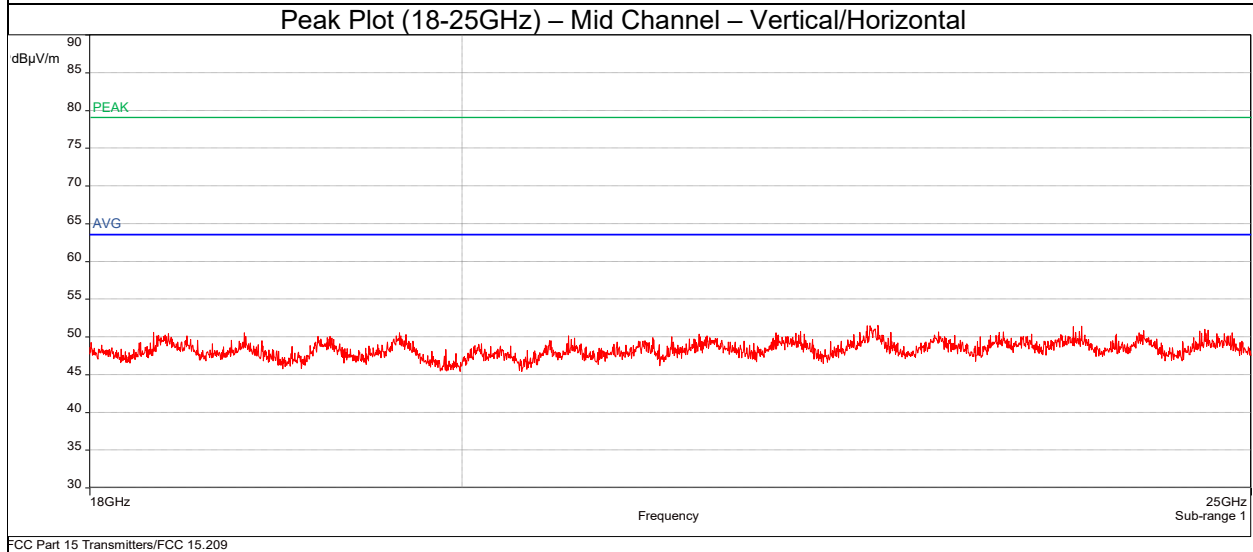
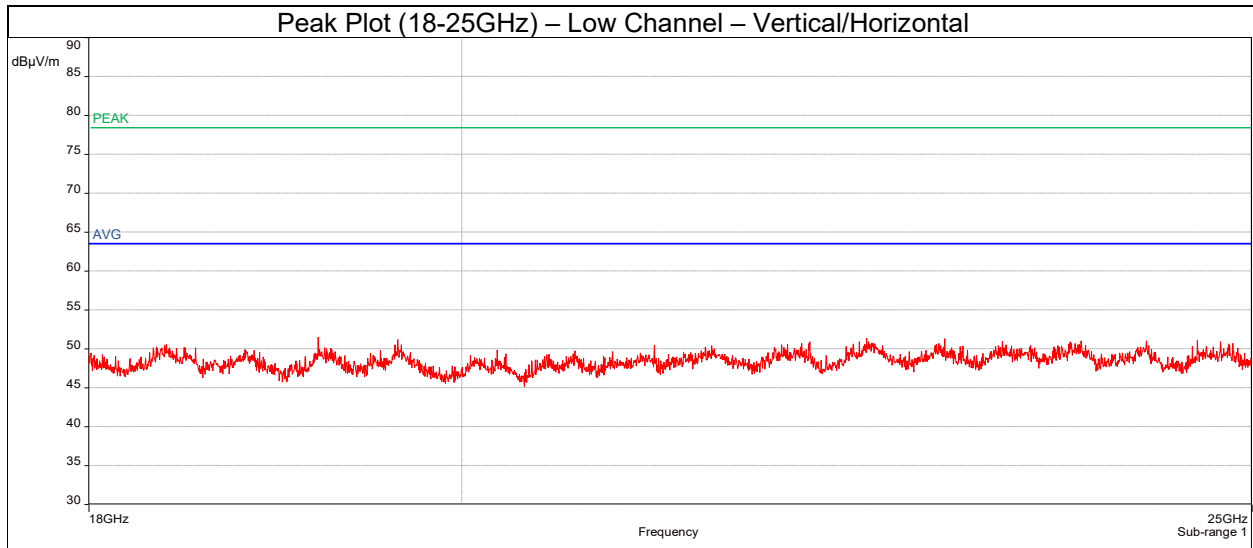
FCC Part 15/FCC 15.209_9kHz-40GHz

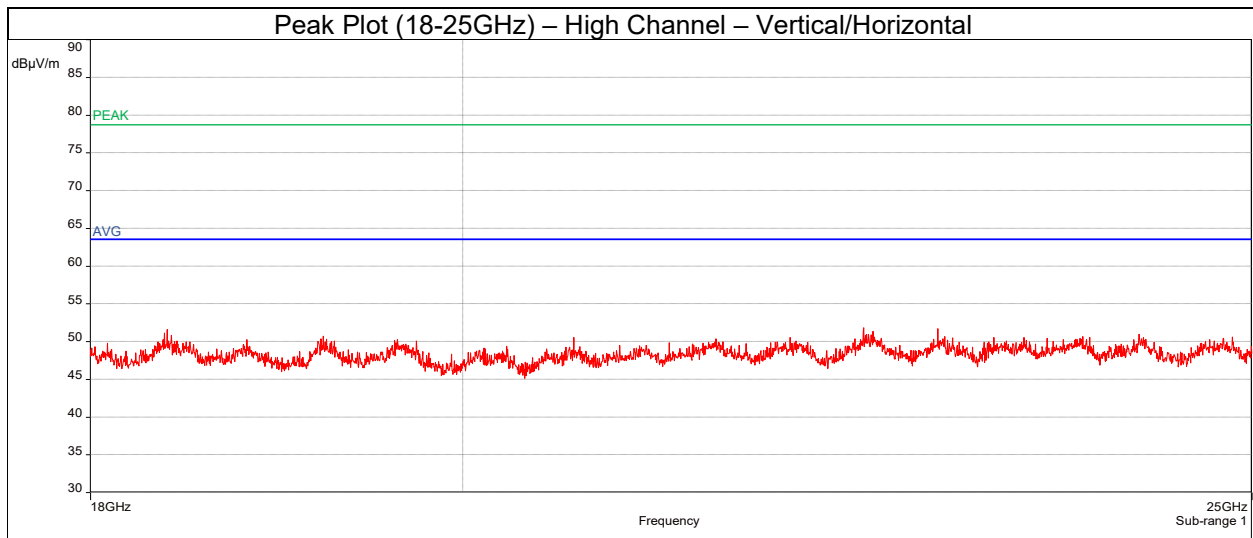


FCC Part 15/FCC 15.209_9kHz-40GHz



FCC Part 15/FCC 15.209_9kHz-40GHz





Tabular Data

Peak

Frequency (MHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin (dB)	Azimuth (°)	Height (m)	Polarity	RBW (MHz)	Correction (dB)
Low Channel (2402MHz)								
2390.000	50.16	74	-23.84	359	1.98	Vertical	1	-8.51
4803.492	58.6	74	-15.4	167	1.85	Vertical	1	-2.49
7206.636	53.7	74	-20.3	174	1.82	Vertical	1	2.39
Mid Channel (2440Hz)								
4879.492	60.05	74	-13.95	185	1.27	Vertical	1	-2.07
7319.326	53.98	74	-20.02	157	1.07	Vertical	1	2.38
High Channel (2480MHz)								
2483.500	57.75	74	-16.25	358	1.02	Vertical	1	-8.31
4959.494	61.07	74	-12.93	230	2.59	Vertical	1	-1.79
7440.636	53.31	74	-20.69	251	2.27	Vertical	1	2.28

Average

Frequency (MHz)	AVG Level (dBμV/m)	AVG Limit (dBμV/m)	AVG Margin (dB)	Azimuth (°)	Height (m)	Polarity	RBW (MHz)	Correction (dB)
Low Channel (2402MHz)								
2390.000	42.89	54	-11.11	359	1.98	Vertical	1	-8.51
4803.492	48.15	54	-5.85	167	1.85	Vertical	1	-2.49
7206.636	40.88	54	-13.12	174	1.82	Vertical	1	2.39
Mid Channel (2440Hz)								
4879.492	49.87	54	-4.13	185	1.27	Vertical	1	-2.07
7319.326	41.31	54	-12.69	157	1.07	Vertical	1	2.38
High Channel (2480MHz)								
2483.500	53.6	54	-0.4	358	1.02	Vertical	1	-8.31
4959.494	51.01	54	-2.99	230	2.59	Vertical	1	-1.79
7440.636	40.46	54	-13.54	251	2.27	Vertical	1	2.28

Test Personnel: Jeremy Pickens
 Supervising/Reviewing Engineer:
 (Where Applicable) _____
 Product Standard: ANSI C63.10
 Input Voltage: 5Vdc (USB-C)
 Pretest Verification w/
 Ambient Signals or
 BB Source: BB

Test Date: 25-28 August 2025

Limit Applied: 15.209

Ambient Temperature: 20.3 – 20.8°C

Relative Humidity: 42.8 – 45.6%

Atmospheric Pressure: 98.1 – 98.5kPa

Deviations, Additions, or Exclusions: None

10 AC Conducted Emissions

10.1 Method

Tests were performed in accordance with ANSI C63.10.

TEST SITE: 10 Meter Chamber

10 Meter Semi-Anechoic Chamber The test site for radiated emissions is located at 1950 Evergreen Blvd, Suite 100, Duluth, Georgia 30096. It is a 10 meter semi-anechoic chamber manufactured by Panashield. Embedded in the floor is a 3-meter diameter turntable.

Sample Calculations

The following calculations were used to determine the net line-conducted measurements:

$$NF = RF + LF + CF + AF$$

Where NF = Net Reading in dB μ V

RF = Reading from receiver in dB μ V

LF = LISN or ISN Correction Factor in dB

CF = Cable Correction Factor in dB

AF = Attenuator Loss Factor in dB

To convert from dB μ V to μ V or mV the following was used:

$$UF = 10^{(NF / 20)} \text{ where } UF = \text{Net Reading in } \mu\text{V}$$

NF = Net Reading in dB μ V

Example:

$$NF = RF + LF + CF + AF = 28.5 + 0.2 + 0.4 + 20.0 = 49.1 \text{ dB}\mu\text{V}$$

$$UF = 10^{(49.1 \text{ dB}\mu\text{V} / 20)} = 285.1 \mu\text{V/m}$$

10.2 Test Equipment

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
200162	EMI Receiver (20Hz-40GHz)	Rohde & Schwarz	ESU 40	100314	09/26/2024	09/26/2025
212166	Temp/Pressure/Humidity Sensor	Extech	SD700	110392	04/02/2025	04/02/2026
213498	2-Line LISN	Rohde & Schwarz	ENV216	101577	09/27/2024	09/27/2025
MM8	RF Coax Cable 9kHz-18GHz	Fairview Microwave	UC-N-MM-267	1635289	06/18/2025	06/18/2026
MP10	RF Coax Cable 9kHz-18GHz	Fairview Microwave	FMCA1282-394	MP10	06/18/2025	06/18/2026

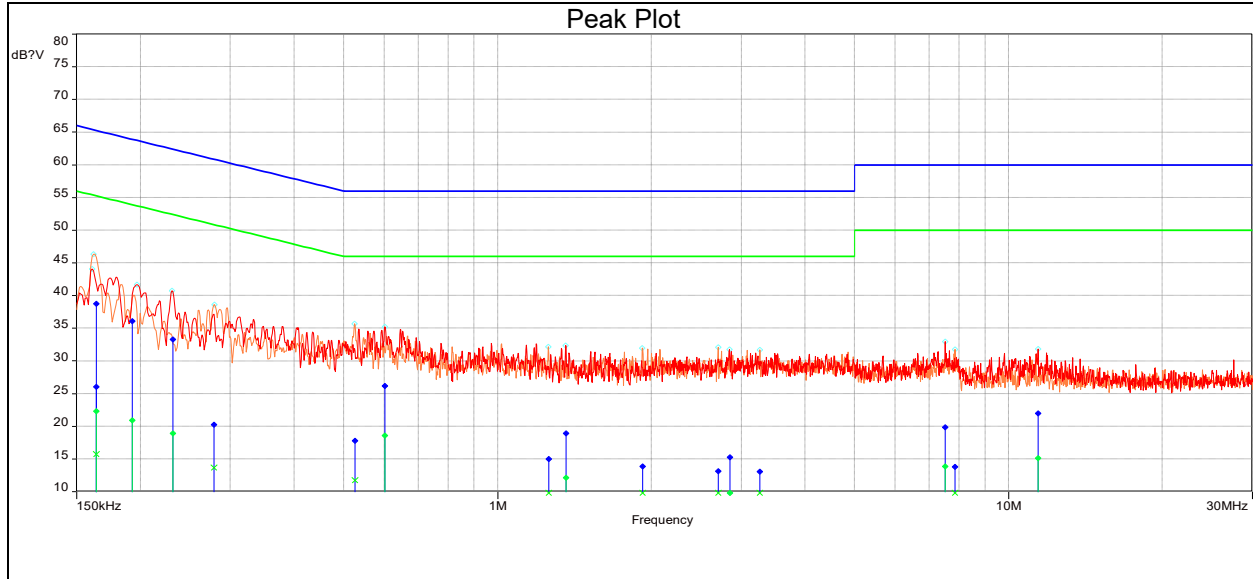
Software Utilized

Name	Manufacturer	Version
EMC BAT	Nexio	3.19.1.18

10.3 Results

The sample tested was found to Comply.

10.4 Plots/Data



Tabular Data

Frequency (MHz)	AVG Level (dBμV)	QP Level (dBμV)	Limit AVG (dBμV)	Limit QP (dBμV)	AVG Margin (dB)	QP Margin (QP)	Line	Correction (dB)
0.164	22.29	38.76	55.4	65.4	-33.1	-26.7	Phase 1	10.2
0.193	20.92	36.09	53.8	63.8	-32.8	-27.7	Phase 1	9.9
0.232	18.91	33.28	52.4	62.4	-33.5	-29.2	Phase 1	9.7
0.602	18.57	26.18	46.0	56.0	-27.4	-29.8	Phase 1	9.8
1.361	12.11	18.89	46.0	56.0	-33.9	-37.1	Phase 1	9.7
2.847	9.21	15.29	46.0	56.0	-36.8	-40.7	Phase 1	9.7
7.516	13.88	19.88	50.0	60.0	-36.1	-40.1	Phase 1	9.7
11.429	15.14	22.01	50.0	60.0	-34.9	-38.0	Phase 1	9.6
0.164	15.73	26.04	55.4	65.4	-39.6	-39.3	Phase 2	9.6
0.279	13.64	20.27	50.8	60.8	-37.2	-40.6	Phase 2	9.7
0.526	11.75	17.77	46.0	56.0	-34.3	-38.2	Phase 2	9.7
1.258	9.21	14.99	46.0	56.0	-36.8	-41.0	Phase 2	9.7
1.921	8.37	13.85	46.0	56.0	-37.6	-42.2	Phase 2	9.7
2.701	7.76	13.16	46.0	56.0	-38.2	-42.8	Phase 2	9.7
3.261	7.73	13.04	46.0	56.0	-38.3	-43.0	Phase 2	9.7
7.854	8.24	13.81	50.0	60.0	-41.8	-46.2	Phase 2	9.7

Test Personnel: Jeremy Pickens

Supervising/Reviewing Engineer: _____

(Where Applicable) _____

Product Standard: ANSI C63.10

Input Voltage: 120Vac, 60Hz to USB Adapter

Pretest Verification w/ Ambient Signals or BB Source: BB

Test Date: 05 August 2025

Limit Applied: 15.207 / RSS-Gen S8.8

Ambient Temperature: 22.8°C

Relative Humidity: 44.5%

Atmospheric Pressure: 98.7kPa

Deviations, Additions, or Exclusions: None

11 Measurement Uncertainty

Parameter	Expanded Uncertainty for Normal k factor equal to 2
Radio Frequency	0.07
Total RF Power (Conducted)	0.65
Power Density (Conducted)	0.65
RF Spurious (Conducted)	1.8 dB
Radiated Emissions (9kHz-30MHz)	4.7 dB
Radiated Emissions (30MHz-1GHz)	4.1 dB
Radiated Emissions (1GHz-18GHz)	4.5dB
Radiated Emissions (18GHz-40GHz)	4.7 dB
AC Line Conducted Emissions	2.8 dB
Temperature	0.7°
Humidity	3.9%

12 Revision History

Revision Level	Date	Prepared By	Reviewed By	Notes
0	11 November 2025	JOP	MC	Original Issue
1	28 January 2026	JOP	MC	• Added clarifications to radiated plots regarding the peak limit and antenna orientations. • Updated ANSI C63.10 reference on title page. • Added PMN and FVIN to title page. • Corrected antenna gain reference and updated EIRP data accordingly. • Updated OBW data using a higher RBW.