

**COMPLIANCE WORLDWIDE INC.
TEST REPORT 101-25R1**

**In Accordance with the Requirements of
FCC PART 15.247, SUBPART C
ISED Canada RSS-247, Issue 3**

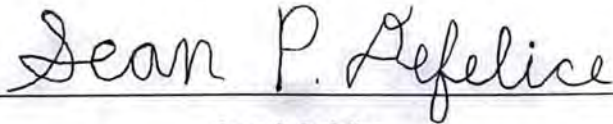
**Issued to
Hill-Rom, Inc.
1069 State Route 46 East
Batesville, IN 47006**

**for the
Voalte Linq
Model: P0100HFW1A00**

**FCC ID: 2AOL2-P0100HF
IC: 657A-P0100HF**

**Report Issued on February 28, 2025
Revision R1 Issued on April 17, 2025**

Tested by



Sean P. Defelice

Reviewed By



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1. Scope

This test report certifies that the Hill-Rom Voalte Linq Model P0100HFW1A00 as tested, meets the FCC Part 15, Subpart C and ISSED Canada RSS-247, Issue 3 requirements. The scope of this test report is limited to the test sample provided by the client, only in as much as that sample represents other production units. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required. Measurement Uncertainty will not be applied to any of the measurement / testing results in this test report to determine pass/fail criteria per the Decision Rule as defined in ISO/IEC Guide 17025-2017 Clause 3.7. Revision R1 adds measurement data for the other types of modulation in sections 7.2, 7.3, 7.6 and 7.11 and corrects a calibration due date on the R&S ESR26

2. Product Details

- 2.1. Manufacturer:** Hill-Rom
- 2.2. Model Number:** P0100HFW1A00
- 2.3 Serial Number:** 10
- 2.4 Description of EUT:** The Voalte Linq badge powered by Scotty assistant system integrates with existing facility information management systems to facilitate hands-free workflows and communication between patients and caregivers.
- 2.5 Power Source:** Battery
- 2.6 Hardware Revision:** 1B
- 2.7 Software Revision:** N/A
- 2.8. Modulation Types:** 802.11b, 802.11g, 802.11n HT20 and HT40
- 2.9. Operating Frequencies:** 2412 to 2462 MHz
- 2.10. EMC Modifications:** None

3. Product Configuration

3.1. EUT Hardware

Manufacturer	Model	Serial Number	Input Volts	Freq (Hz) Or DC	Description/Function
Qorvo	DWM3001C	22394047AE	3.3	DC	UWB / BLE Module
Murata	LBEE5QD1ZM	000389492	5	DC	Wi-Fi Module

3.2. Support Equipment

Device	Manufacturer	Model	Serial No.	Comment
Laptop	Lenovo	P50	PC0MHJ8Y	For setting up EUT

3.3. Cables

Cable Type	Length	Shield	From	To
None – Temporary for Programming	0.1m	No	EUT	Unterminated

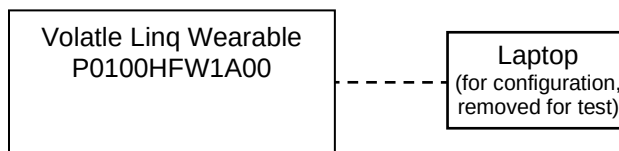
3. Product Configuration (continued)

3.4. Operational Characteristics & Software

Install the battery to the device under test

Special test firmware was loaded into the EUT so that channel and frequency could be selected and set via a temporary serial connection through a laptop. The device is configured using this firmware to generate 802.11b, 802.11g, 802.11n HT20 or HT40 modulation at test frequencies of 2412 (2422), 2437 or 2462 (2452) MHz.

3.5. Block Diagram



4. Measurements Parameters

4.1. Measurement Equipment Used to Perform Test

Device	Manufacturer	Model No.	Serial No.	Cal Due	Interval
EMI Test Receiver, 9kHz - 7GHz ¹	Rohde & Schwarz	ESR7	101156	10/16/2025	4 Years
EMI Test Receiver, 10 Hz - 7GHz ¹	Rohde & Schwarz	ESR7	101770	7/23/2025	1 Year
EMI Test Receiver, 9 kHz – 26.5 GHz ¹	Rohde & Schwarz	ESR26	101693	6/26/2025	2 Years
Spectrum Analyzer, 2 Hz to 26.5 GHz ²	Rohde & Schwarz	FSW26	102057	7/19/2026	2 Years
Spectrum Analyzer, 9 kHz to 40 GHz ³	Rohde & Schwarz	FSV40	100899	6/27/2025	1 Year
Spectrum Analyzer 10 Hz – 40 GHz ⁴	Rohde & Schwarz	FSVR40	100909	9/18/2025	4 Years
Loop Antenna 9 kHz - 30 MHz	EMCO	6512	9309-1139	4/14/2025	3 Years
Biconilog Antenna, 30 MHz - 2 GHz	Sunol Sciences	JB1	A050913	7/1/2025	4 Years
Dbi Ridged Guide Antenna 1- 18 GHz	ETS-Lindgren	3117	00143292	5/11/2025	3 Years
Dbi Ridged Guide Antenna 1- 18 GHz	ETS-Lindgren	3117	00227631	4/21/2025	3 Years
Preamplifier, 1 GHz to 26.5 GHz	Hewlett Packard	8449B	3008A01323	4/9/2025	1 Year
Preamplifier, 1 GHz to 26.5 GHz	Hewlett Packard	8449B H02	3008A00329	4/9/2025	1 Year
Horn Antenna 18 to 40 GHz	Com Power	AH-840	101032	1/25/2025	3 Years
2.4 GHz Band Reject Filter	Micro-Tronics	BRM50702	150	2/27/2025	1 Year
Barometric Pressure/Humidity & Temp Datalogger	Extech Instruments	SD700	Q590483	4/4/2025	1 Year

¹ ESR7/26 Firmware revision: V3.48 SP3, Date installed: 09/30/2020

² FSW26 Firmware revision: V4.71 SP1, Date installed: 11/16/2020

³ FSV40 Firmware revision: V2.30 SP4, Date installed: 05/04/2016

⁴ FSVR40 Firmware revision: V2.23 SP1, Date installed: 08/19/2016

Previous V3.48 SP2, installed 07/23/2020.

Previous V4.61, installed 08/11/2020.

Previous V2.30 SP1, installed 10/22/2014.

Previous V2.23, installed 10/22/2014.

4. Measurements Parameters

4.2. Measurement Software

Manufacturer	Software Description	Title or Model #	Rev.	Report Sections
Compliance Worldwide	Test Report Generation Software	Test Report Generator	1.0	7.11. Conducted Emissions

4.3. Measurement & Equipment Setup

Test Dates:	1/9/2025, 1/10/2025, 1/13/2025, 2/25/2025
Test Engineers:	Sean Defelice
Normal Site Temperature (15 - 35°C):	21.5
Relative Humidity (20 - 75% RH):	52
Frequency Range:	9 kHz to 25 GHz
Measurement Distance:	3 Meters
	200 Hz – 9 to 150 kHz
EMI Receiver IF Bandwidth:	9 kHz – 150 kHz to 30 MHz
	120 kHz - 30 MHz to 1 GHz
	1 MHz - Above 1 GHz
EMI Receiver Average Bandwidth:	>= 3 * IF (BW) or RBW
Detector Function:	Peak, Quasi-Peak & Average

4.4. Measurement Procedures

Test measurements were made in accordance FCC Part 15.247: Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5850 MHz, and 24.0 - 24.25 GHz.

The measurement procedures in this report are in accordance with ANSI C63.10-2013: *American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices*. FCC OET Publication Number KDB 558074 D01 v05r02, *Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS), Frequency Hopping Spread Spectrum Systems, and Hybrid System Devices Operating Under §15.247*, dated April 2, 2019 and ISED RSS-247, Issue 3, *Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSS) and License-Exempt Local Area Network (LE-LAN) Devices*, were referenced for the test procedures used to generate the data in this report. All references to these publications refer to these versions and dates detailed in this paragraph.

All measurements include correction factors for antenna, cables, preamp and attenuators, if used.

4. Measurements Parameters

4.5. Measurement Uncertainty

The following uncertainties are expressed for an expansion/coverage factor of K=2.

RF Frequency	$\pm 1 \times 10^{-8}$
Radiated Emission of Transmitter	± 4.55 dB
Radiated Emission of Receiver	± 4.55 dB
Temperature	$\pm 0.91^{\circ}$ C
Humidity	$\pm 5\%$

5. Choice of Equipment for Test Suits

5.1 Choice of Model

This test report is based on the test samples supplied by the manufacturer and are reported by the manufacturer to be equivalent to the production units.

5.2 Presentation

This test sample was tested with all required ancillary equipment. Refer to Section 3 of this report for product equipment configuration.

5.3 Choice of Operating Frequencies

The device under test utilizes 11 channels between 2412 MHz and 2462 MHz, Channels 1, 6 and 11 at 2412, 2437 and 2462 MHz frequencies were tested.

5.4 EUT Position for Emissions Measurements

During all radiated emissions measurement testing, the product was mounted on a polystyrene form to facilitate rotating the device through three orthogonal axes, as required by ANSI C63.10, section 5.10.1, for a handheld or body worn device.

X-Axis



Y-Axis



Z-Axis



6. Measurement Summary

Test Requirement	FCC Rule Requirement	ISED Rule Requirement	Test Report Section	Result
Antenna Requirement	15.203	RSS-GEN 6.8	7.1	Compliant
Minimum DTS Bandwidth	15.247 (a) (2)	RSS-247 5.2 (a)	7.2	Compliant
Maximum Peak Conducted Output Power	15.247 (b) (1)	RSS-247 5.4 (d)	7.3	Compliant
Operation with directional antenna gains greater than 6 dBi	15.247 (b) (4)	---	7.4	Compliant
Spurious Radiated Emissions	15.247 (d)	RSS-GEN 6.13	7.5	Compliant
Spurious Radiated Emissions (> GHz) - Harmonic Measurements	15.247 (d)	RSS-GEN 6.13		Not Performed
Band Edge and Out of Band Measurements	15.247 (d)	RSS-247 5.5	7.6	Compliant
Emissions in Non-restricted Frequency Bands	15.247(e)	RSS-247 5.5	7.7	Not Performed
Peak Power Spectral Density	15.247(e)	RSS-247 5.2 (b)	7.8	Not Performed
AC Power Line Conducted Emissions	15.207	RSS-GEN 7.2	7.9	N/A Battery Powered
Duty Cycle	---	---	7.10	Not Performed
99% (Occupied) Bandwidth	---	RSS-GEN 6.7	7.11	Compliant

7. Measurement Data

7.1. Antenna Requirement (15.203, RSS-GEN 6.8)

Requirement: 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.

Results: The EUT utilizes a PCB etched antenna connected via a u.fl connector that is not user replaceable.

7. Measurement Data

7.2. Minimum DTS Bandwidth (15.247 (a) (2), ISED RSS-247 5.2 (a))

Requirement: (15.247 (a) (2))

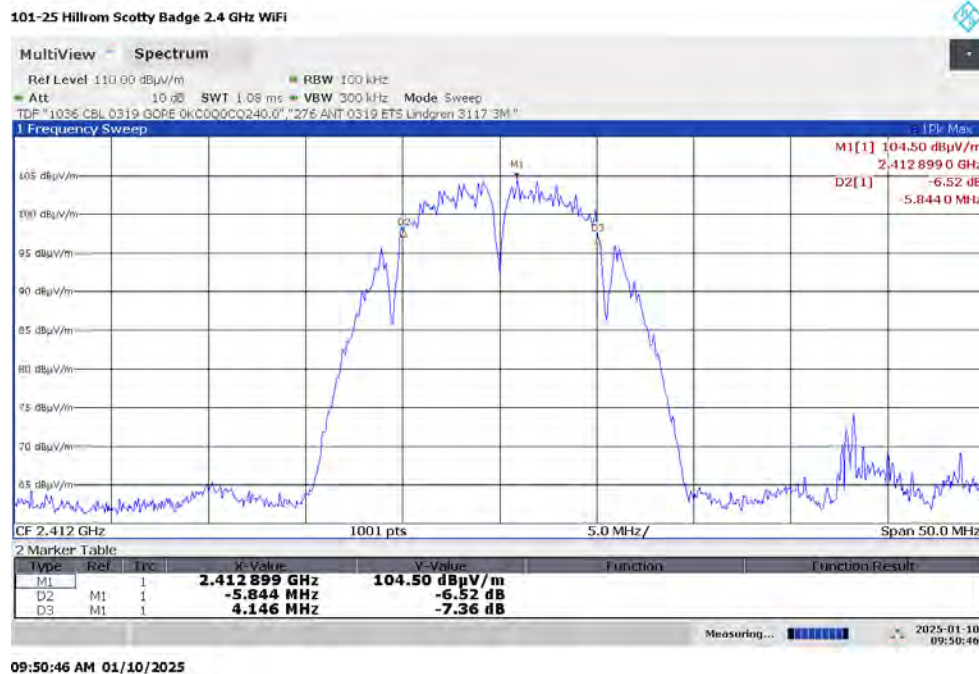
Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Procedure: This test was performed in accordance with the procedure detailed in FCC OET publication number 558074, Section 8.2 references ANSI C63.10:2013 Section 11.8 for DTS bandwidth.

Results: The device under test meets the minimum 500 kHz DTS (6 dB) bandwidth requirement.

Channel	Frequency (MHz)	802.11b -6 dB Bandwidth (kHz)	802.11g -6 dB Bandwidth (kHz)	802.11n HT20 -6 dB Bandwidth (kHz)	802.11n HT40 -6 dB Bandwidth (kHz)	Minimum -6 dB Bandwidth (kHz)	Result
Low	2412	9,990	16,633	17,782	36,460	>500	Compliant
Middle	2437	10,015	16,658	17,858	36,460	>500	Compliant
High	2462	10,140	16,633	17,732	36,470	>500	Compliant

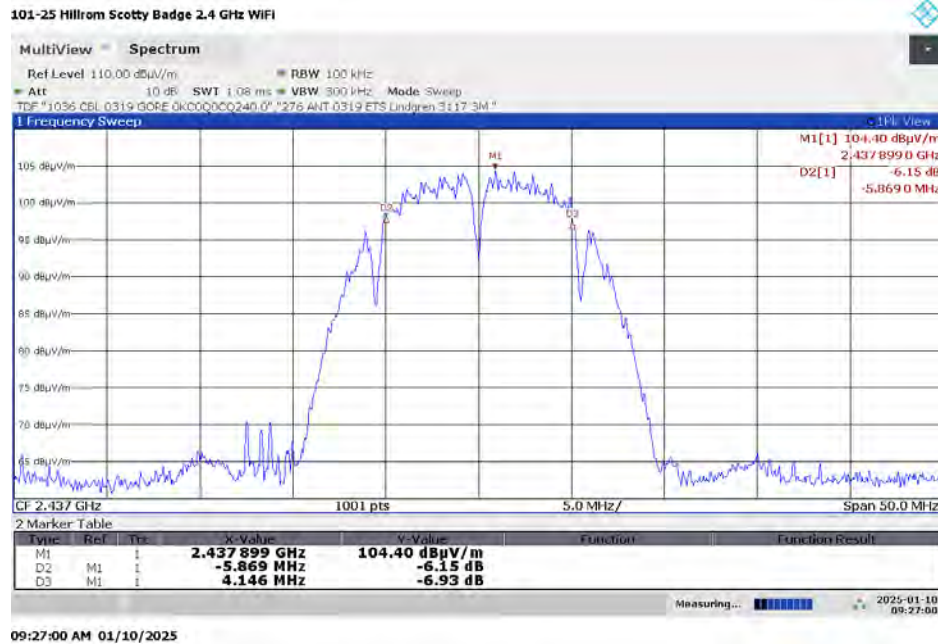
7.2.1. Low Channel – 2412 MHz – 802.11b



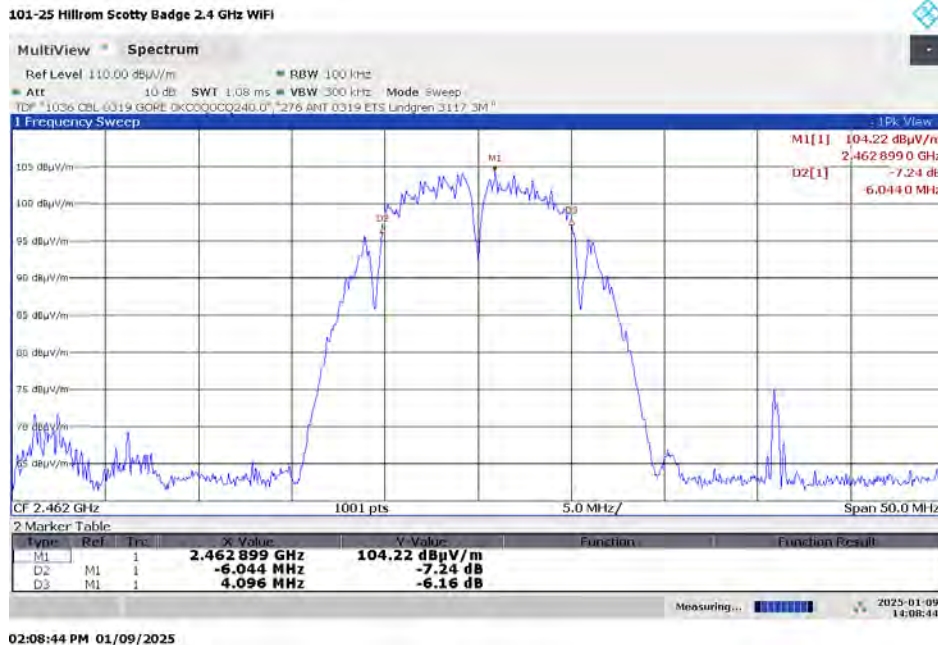
7. Measurement Data

7.2. Minimum DTS Bandwidth (15.247 (a) (2), ISED RSS-247 5.2 (a)) (continued)

7.2.2. Middle Channel – 2437 MHz – 802.11b



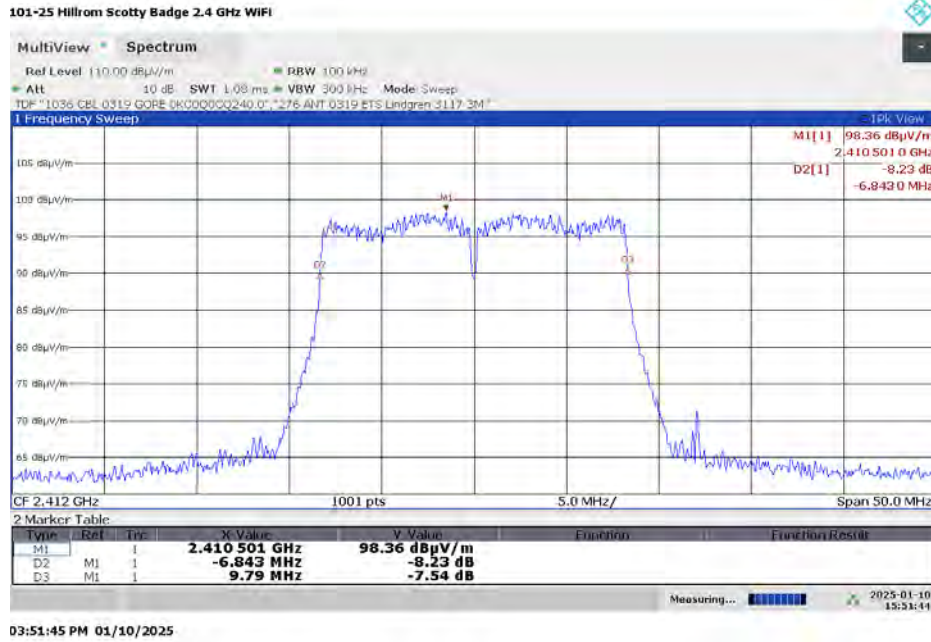
7.2.3. High Channel – 2462 MHz – 802.11b



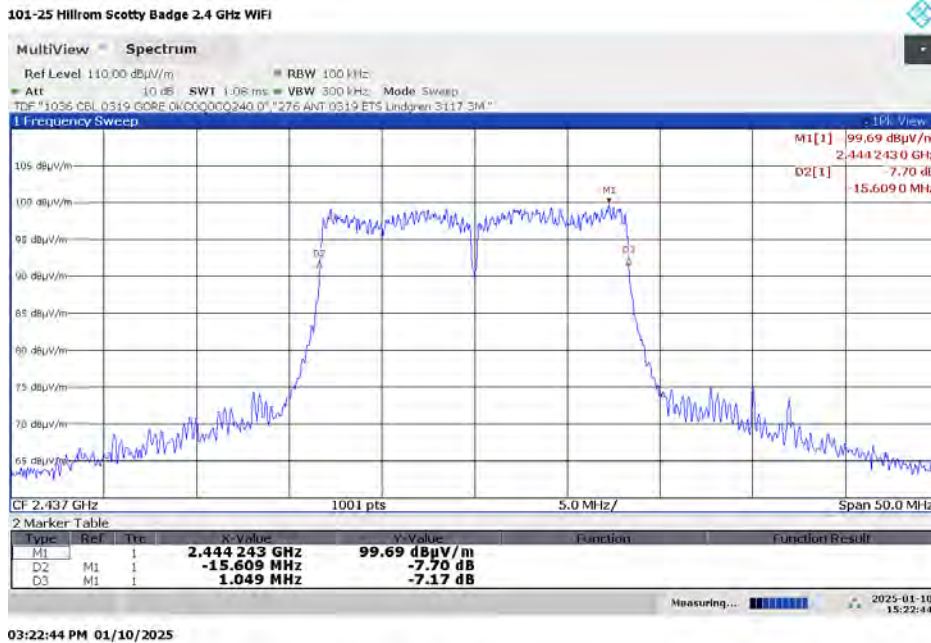
7. Measurement Data

7.2. Minimum DTS Bandwidth (15.247 (a) (2), ISED RSS-247 5.2 (a)) (continued)

7.2.4. Low Channel – 2412 MHz – 802.11g



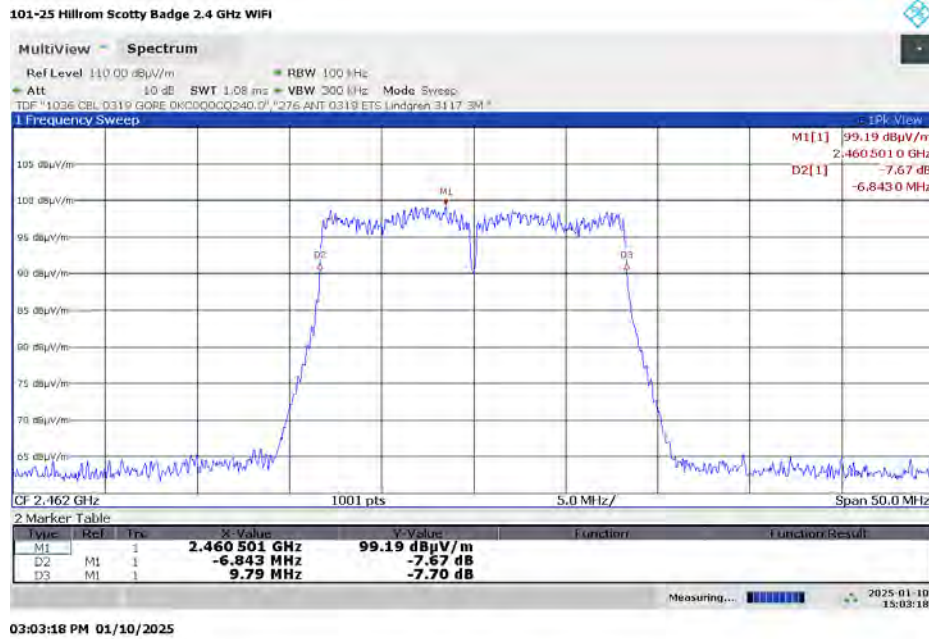
7.2.5. Middle Channel – 2437 MHz – 802.11g



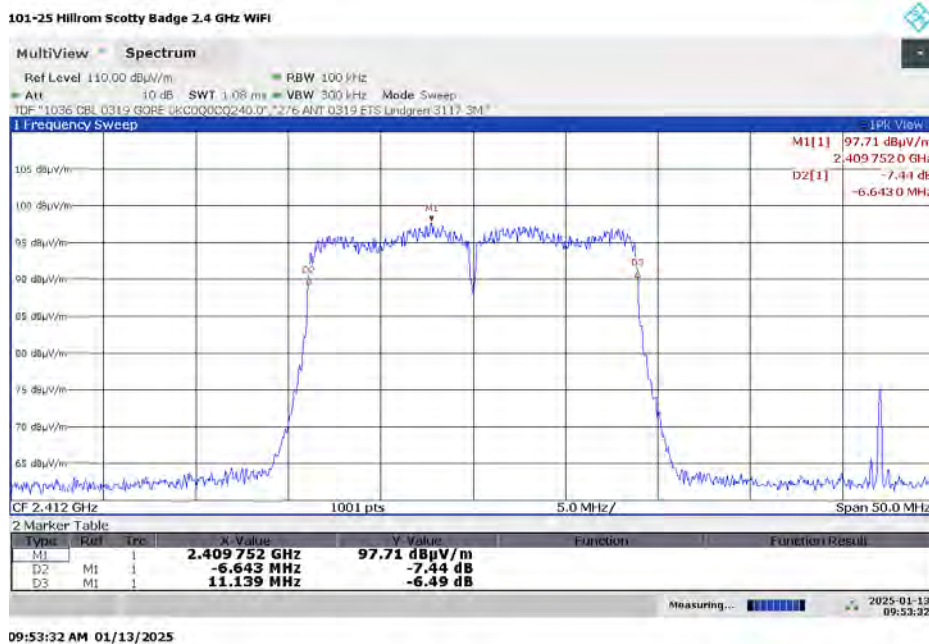
7. Measurement Data

7.2. Minimum DTS Bandwidth (15.247 (a) (2), ISED RSS-247 5.2 (a)) (continued)

7.2.6. High Channel – 2462 MHz – 802.11g



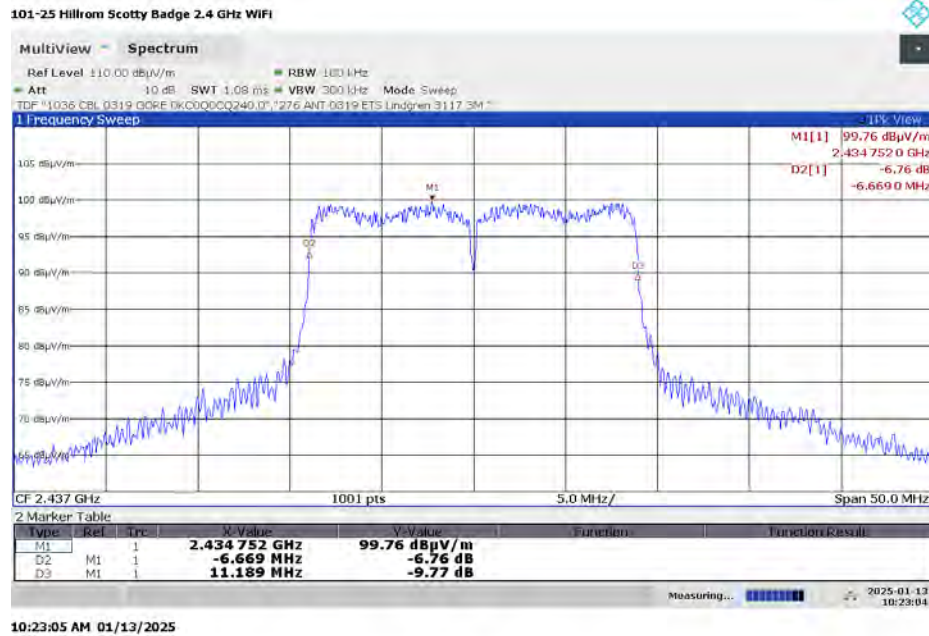
7.2.7. Low Channel – 2412 MHz – 802.11n HT20



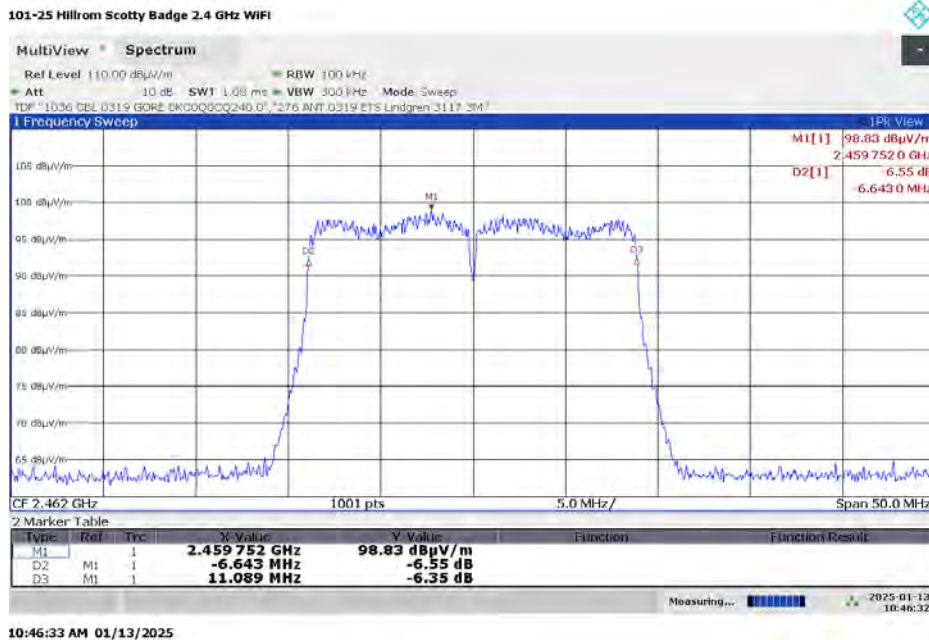
7. Measurement Data

7.2. Minimum DTS Bandwidth (15.247 (a) (2), ISED RSS-247 5.2 (a)) (continued)

7.2.8. Middle Channel – 2437 MHz – 802.11n HT20



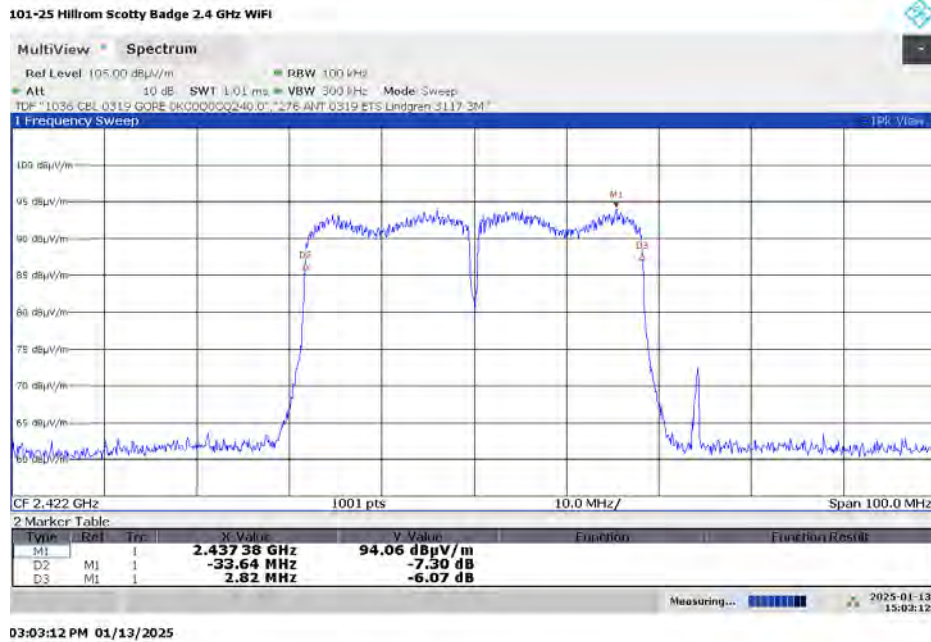
7.2.9. High Channel – 2462 MHz – 802.11n HT20



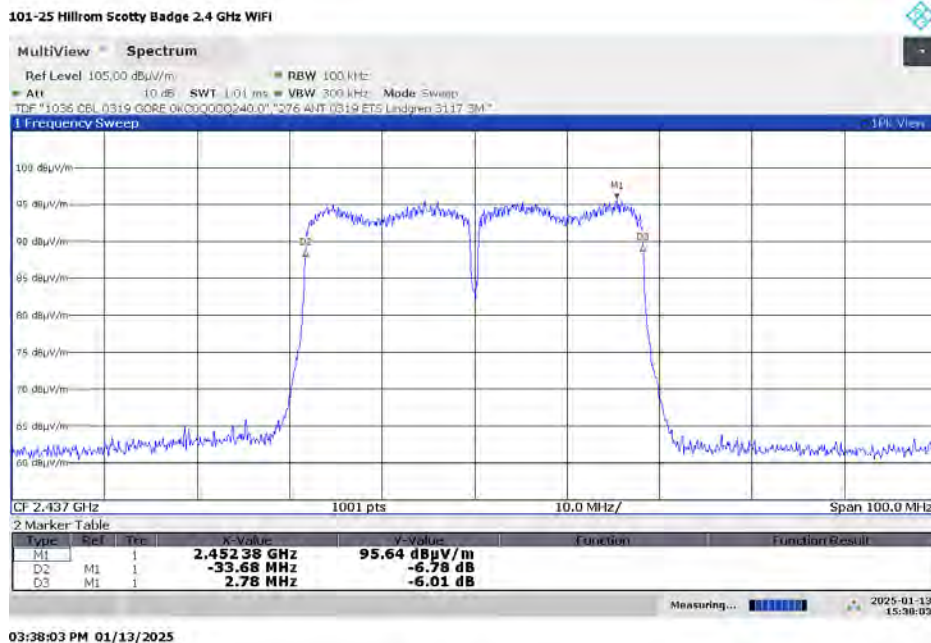
7. Measurement Data

7.2. Minimum DTS Bandwidth (15.247 (a) (2), ISED RSS-247 5.2 (a)) (continued)

7.2.10. Low Channel – 2422 MHz – 802.11n HT40



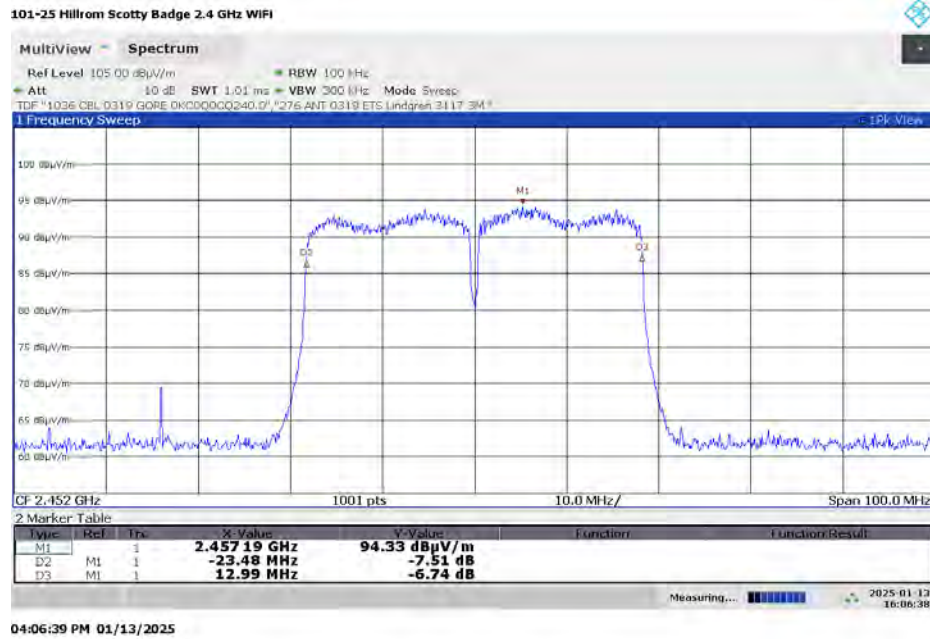
7.2.11. Middle Channel – 2437 MHz – 802.11n HT40



7. Measurement Data

7.2. Minimum DTS Bandwidth (15.247 (a) (2), ISED RSS-247 5.2 (a)) (continued)

7.2.12. High Channel – 2452 MHz – 802.11n HT40



7. Measurement Data (continued)

7.3. Maximum Conducted Output Power (FCC 15.247 (b)(3), ISED RSS-247 5.4 (d))

Requirement: The maximum peak conducted output power of the intentional radiator shall not exceed the following: For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt (+30 dBm).

Procedure: This test was performed in accordance with the procedure detailed in FCC OET publication number KDB 558074, Section 8.3.2 using ANSI C63:2013 Subclause 11.9.2.2 for measuring average power.

Test Note: A spectrum analyzer resolution bandwidth of 20 MHz and a video bandwidth of 50 MHz were used. The 3-meter field strength was converted to dBm by subtracting 95.2. The maximum antenna gain of 1.61 dBi at 2450 MHz additionally subtracted to determine the conducted output power.

Results: The device under test meets the required maximum peak conducted output power level of 1 Watt (30 dBm).

802.11b

Channel	Frequency	Maximum Average Field Strength	Maximum Antenna Gain	Maximum Average Conducted Output Power	Peak Limit	Margin	Result
	(MHz)	(dBμV/m)	(dBi)	(dBm)	(dBm)	(dB)	
Low	2412	115.25	1.61	18.44	30	-11.56	Compliant
Middle	2437	115.27	1.61	18.46	30	-11.54	Compliant
High	2462	115.16	1.61	18.35	30	-11.65	Compliant

802.11g

Low	2412	111.50	1.61	14.69	30	-15.31	Compliant
Middle	2437	112.68	1.61	15.87	30	-14.13	Compliant
High	2462	112.30	1.61	15.49	30	-14.51	Compliant

802.11n HT20

Low	2412	110.40	1.61	13.59	30	-16.41	Compliant
Middle	2437	112.97	1.61	16.16	30	-13.84	Compliant
High	2462	111.50	1.61	14.69	30	-15.31	Compliant

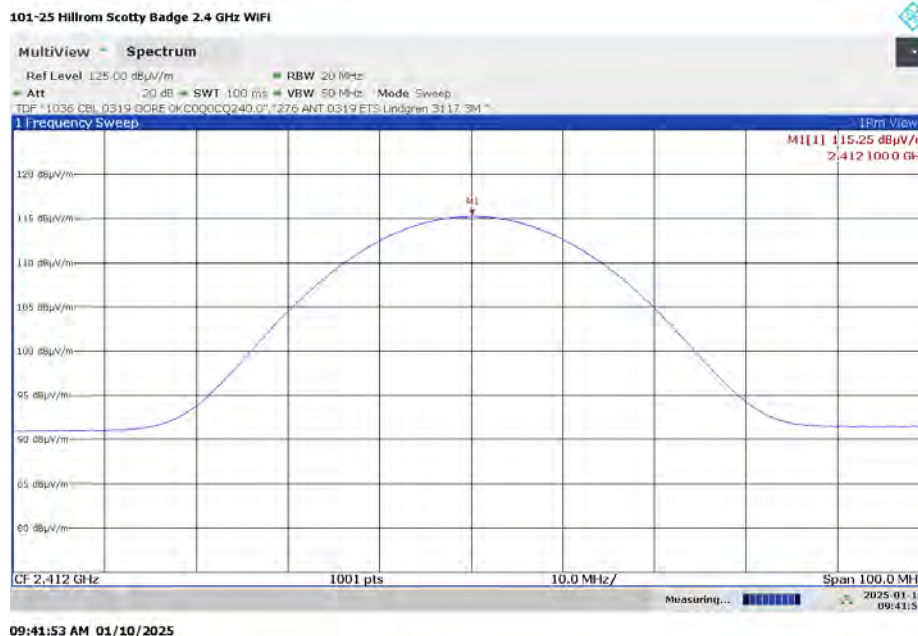
802.11n HT40

Low	2422	109.61	1.61	12.80	30	-17.20	Compliant
Middle	2437	111.27	1.61	14.46	30	-15.54	Compliant
High	2452	109.70	1.61	12.89	30	-17.11	Compliant

7. Measurement Data

7.3. Maximum Peak Conducted Output Power (continued)

7.3.1. Low Channel – 2412 MHz 802.11b



7.3.2. Middle Channel – 2437 MHz 802.11b



7. Measurement Data

7.3. Maximum Peak Conducted Output Power (continued)

7.3.3. High Channel – 2462 MHz 802.11b



7.3.4. Low Channel – 2412 MHz 802.11g



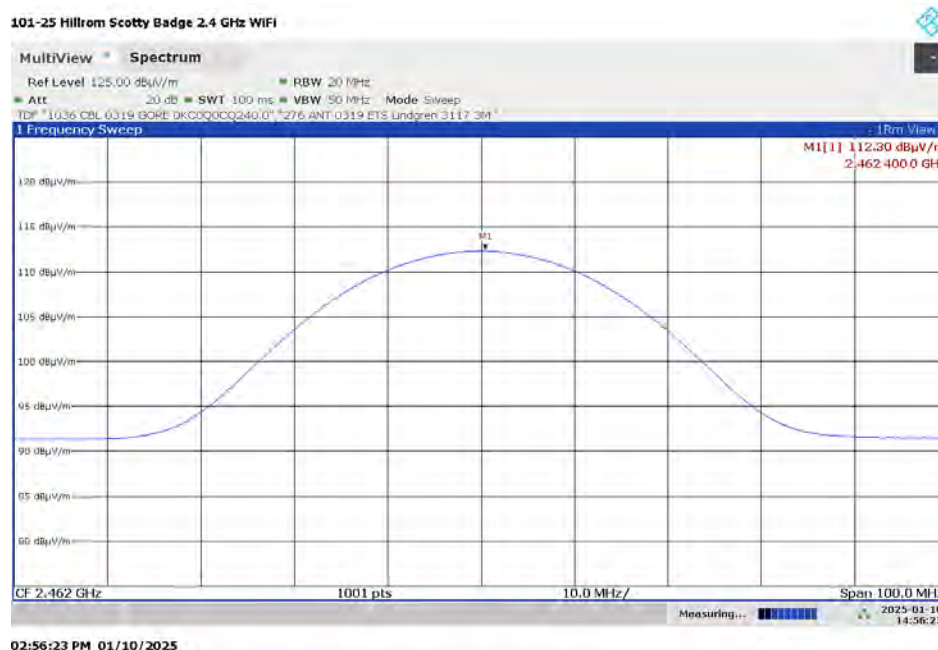
7. Measurement Data

7.3. Maximum Peak Conducted Output Power (continued)

7.3.5. Middle Channel – 2437 MHz 802.11g



7.3.6. High Channel – 2462 MHz 802.11g



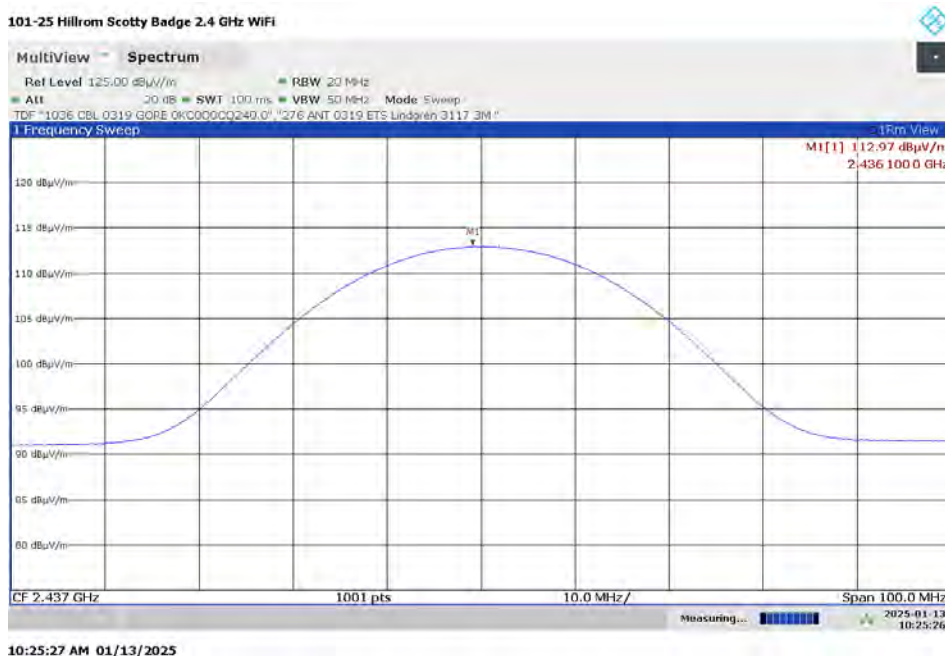
7. Measurement Data

7.3. Maximum Peak Conducted Output Power (continued)

7.3.7. Low Channel – 2412 MHz 802.11n HT20



7.3.8. Middle Channel – 2437 MHz 802.11n HT20



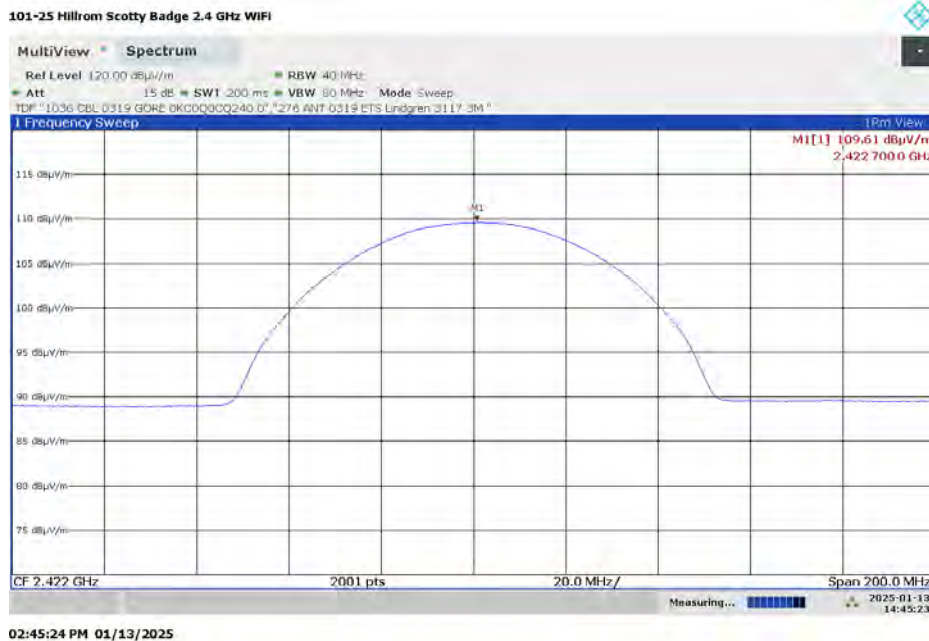
7. Measurement Data

7.3. Maximum Peak Conducted Output Power (continued)

7.3.9. High Channel – 2462 MHz 802.11n HT20



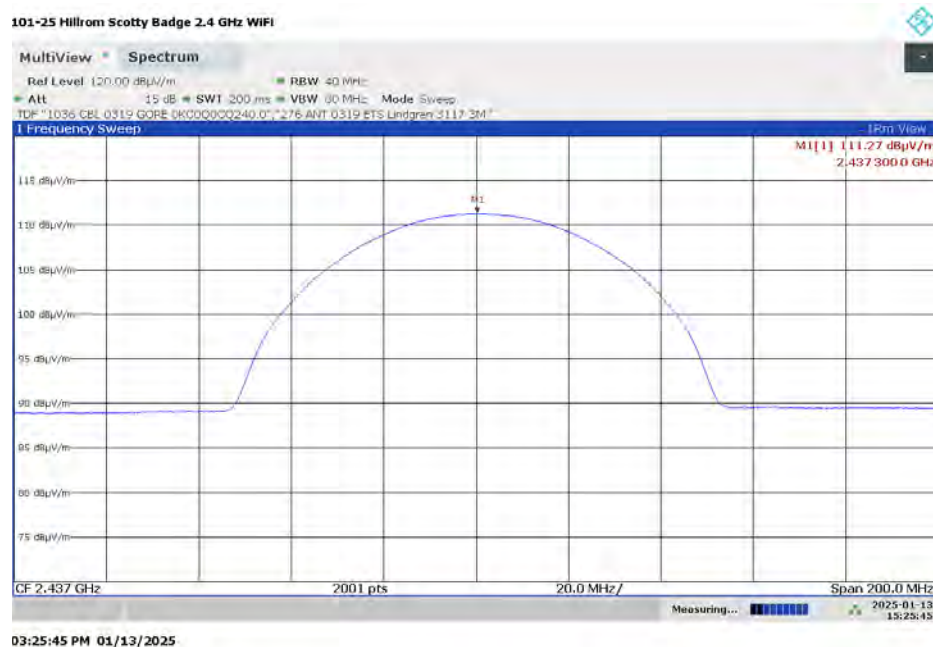
7.3.10. Low Channel – 2422 MHz 802.11n HT40



7. Measurement Data

7.3. Maximum Peak Conducted Output Power (continued)

7.3.11. Middle Channel – 2437 MHz 802.11n HT40



7.3.12. High Channel – 2452 MHz 802.11n HT40



7. Measurement Data

7.4. Operation with directional antenna gains greater than 6 dBi (15.247 (b)(4))

Requirement: If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of FCC Part 15.247, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 2400 – 2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 5725 – 5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter peak output power.

Procedure: Not applicable for the device under test.

EUT Status: The EUT utilizes an antenna with a peak gain of 1.61 dBi at 2450 MHz and therefore is exempt from this requirement.

7. Measurement Data (continued)

7.5. Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz) (FCC 15.209, ISED RSS-GEN 6.13)

7.5.1 Transmitter Spurious Radiated Emissions

Requirement: (15.209) The Emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency Range (MHz)	Distance (Meters)	Limit (dBμV/m) ¹
0.009 to 0.490	3	128.5 to 93.8
0.490 to 1.705	3	73.8 to 63.0
1.705 to 30	3	69.5
30 to 88	3	40.0
88 to 216	3	43.5
216 to 960	3	46.0
>960	3	54.0

¹Measurements in the 9 to 90 kHz, 110 to 490 kHz and above 1000 MHz ranges employ an average detector. Otherwise, a quasi-peak detector is used.

Procedure: This test was performed in accordance with the procedure detailed in FCC OET publication number 558074, Section 12.0: Emissions in restricted frequency bands and FCC 47CFR Part 15.209: Radiated Emission Limits; General Requirements.

The test methods used to generate the data in this test report is in accordance with ANSI C63.10:2013, American National Standard for Testing Unlicensed Wireless Devices.

Test Notes: Measurements were made from 9 kHz to the 10th harmonic of the highest transmitter frequency or 40 GHz, whichever is lower.

Reference FCC Part 15.33(a) and FCC Part 15.33(a)(1).

A full set of measurement scans are presented in Appendix A of this test report. The scans are in peak, max held and are below the peak limit which is 20 dB higher than the average limit. 802.11b Mode, Channel 11 (2462 MHz) represents the worst-case emissions for all channels.

Results: Compliant.

Sample Calculation: Final Result (dBμV/m) = Measurement Value (dBμV) + Antenna Factor (dB/m) + Cable Loss (dB) – Pre-amplifier Gain (dB) Internal or External.

Note: All correction factors are loaded into the measurement instrument prior to testing to determine the final result.

7. Measurement Data (continued)

7.6. Band Edge and Out of Band Measurements (FCC 15.209, ISSED RSS-247 5.5)

Requirement: 15.247(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) and section 5.4(d), the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) and RSS-Gen is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Procedure: For the lower band edge, this measurement was performed in accordance with the procedure detailed in FCC OET publication number 558074, Section 11: Emissions in non-restricted frequency bands.

For the lower and upper restricted bands, this measurement was performed as a typical radiated emissions measurement above 1 GHz. Peak and CISPR average detectors with a 1 MHz resolution and 10 MHz video bandwidth were utilized.

Test Note: The radiated band edge and worst case out of band measurements in this report represent the measurements made with the worst case receive antenna polarity and product orthogonal position.

Results: The DUT met the Part 15.209 limits in the lower restricted and the upper restricted bands.

7. Measurement Data (continued)

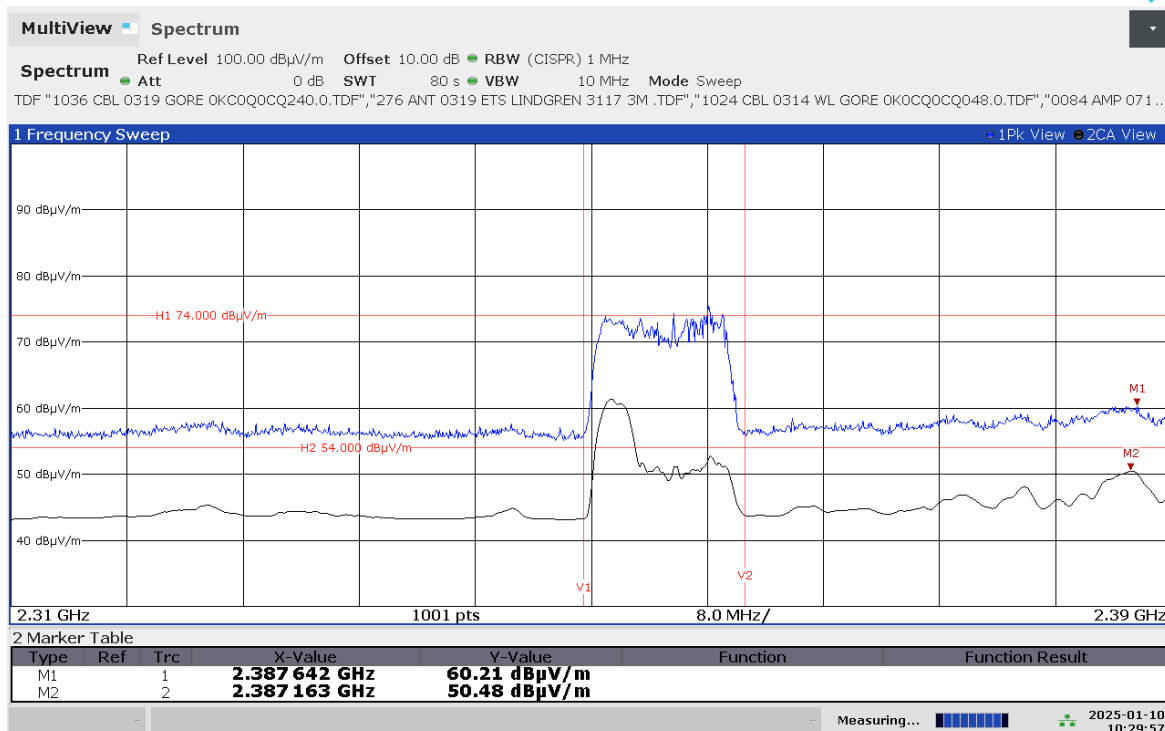
7.6. Band Edge and Out of Band Measurements (continued)

7.6.1. Lower Restricted Band 802.11b

Lower Restricted Band Frequencies	Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)		Result
	(MHz)	Peak	Average	Peak	Average	Peak	
2310-2390		60.21	50.48	74	54	-13.79	Compliant

Lower Restricted Band Plot 2310 to 2390 MHz

101-25 Hillrom Scotty Badge 2.4 GHz WiFi



10:29:57 AM 01/10/2025

Note about the non-EUT transmissions in this band:

The emission enclosed in the pair of vertical markers was due to a transmission in the WCS A and B Blocks (2350 MHz to 2360 MHz). A real-time observation of the Lower Restricted Band confirmed that there were no emissions contributed by the EUT in either of these WCS Blocks during the absence of the ambient signals. However, due to the measurement time requirements of the CISPR average detector, this could not be realized on the spectrum analyzer for display purposes. Markers 1 and 2 represent the peak and CISPR average values of the worst-case emission contributed by the EUT.

7. Measurement Data (continued)

7.6. Band Edge and Out of Band Measurements (continued)

7.6.2. Upper Restricted Band 802.11b

Upper Restricted Band Frequencies	Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)		Result
	(MHz)	Peak	Average	Peak	Average	Peak	
2483.5-2500		60.55	48.31	74	54	-13.45 -5.69	Compliant

Upper Restricted Band Plot

101-25 Hillrom Scotty Badge 2.4 GHz WiFi



04:20:01 PM 01/09/2025

7. Measurement Data (continued)

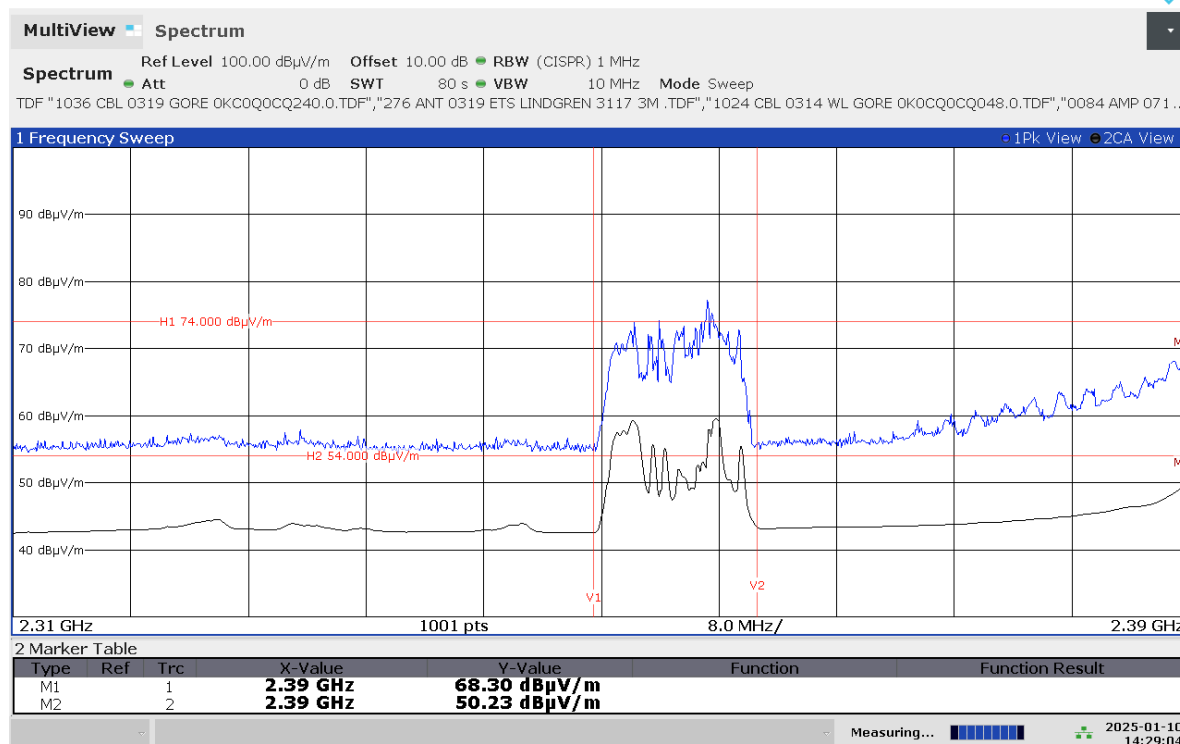
7.6. Band Edge and Out of Band Measurements (continued)

7.6.3. Lower Restricted Band 802.11g

Lower Restricted Band Frequencies (MHz)	Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)		Result
	Peak	Average	Peak	Average	Peak	Average	
2310-2390	68.30	50.23	74	54	-5.70	-3.77	Compliant

Lower Restricted Band Plot 2310 to 2390 MHz

101-25 Hillrom Scotty Badge 2.4 GHz WIFI



02:29:04 PM 01/10/2025

Note about the non-EUT transmissions in this band:

The emission enclosed in the pair of vertical markers was due to a transmission in the WCS A and B Blocks (2350 MHz to 2360 MHz). A real-time observation of the Lower Restricted Band confirmed that there were no emissions contributed by the EUT in either of these WCS Blocks during the absence of the ambient signals. However, due to the measurement time requirements of the CISPR average detector, this could not be realized on the spectrum analyzer for display purposes. Markers 1 and 2 represent the peak and CISPR average values of the worst-case emission contributed by the EUT.

7. Measurement Data (continued)

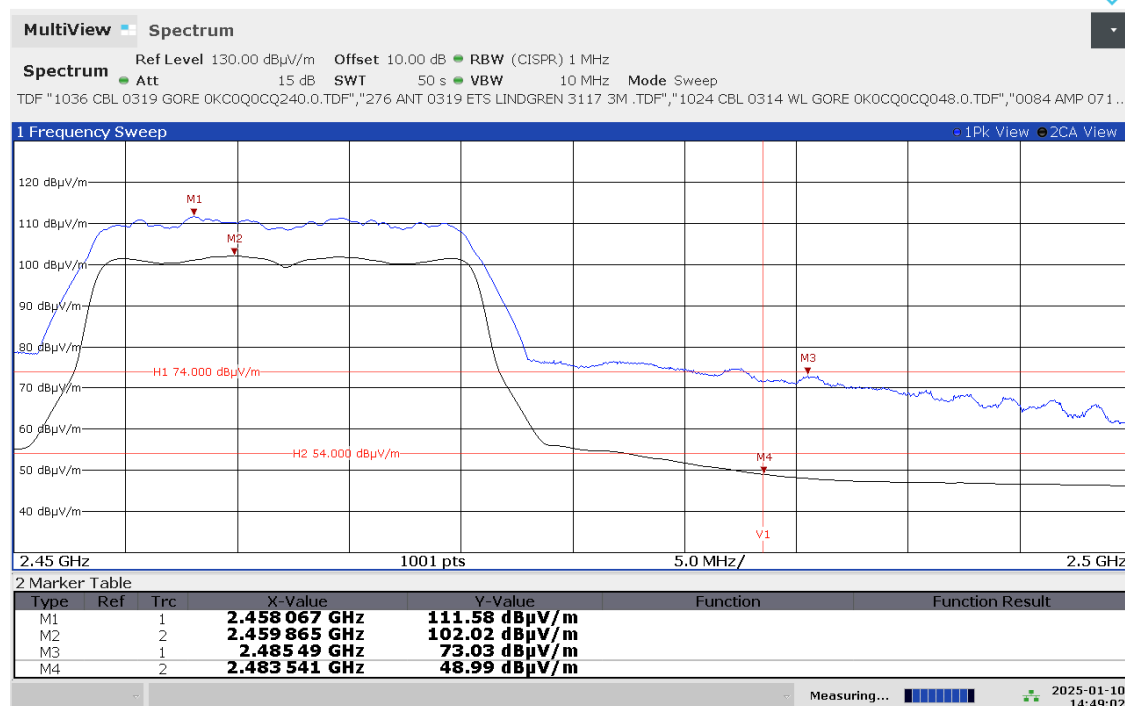
7.6. Band Edge and Out of Band Measurements (continued)

7.6.4. Upper Restricted Band 802.11g

Upper Restricted Band Frequencies	Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)		Result
	(MHz)	Peak	Average	Peak	Average	Peak	
2483.5-2500		73.03	48.99	74	54	-0.97	Compliant

Upper Restricted Band Plot

101-25 Hillrom Scotty Badge 2.4 GHz WiFi



02:49:02 PM 01/10/2025

7. Measurement Data (continued)

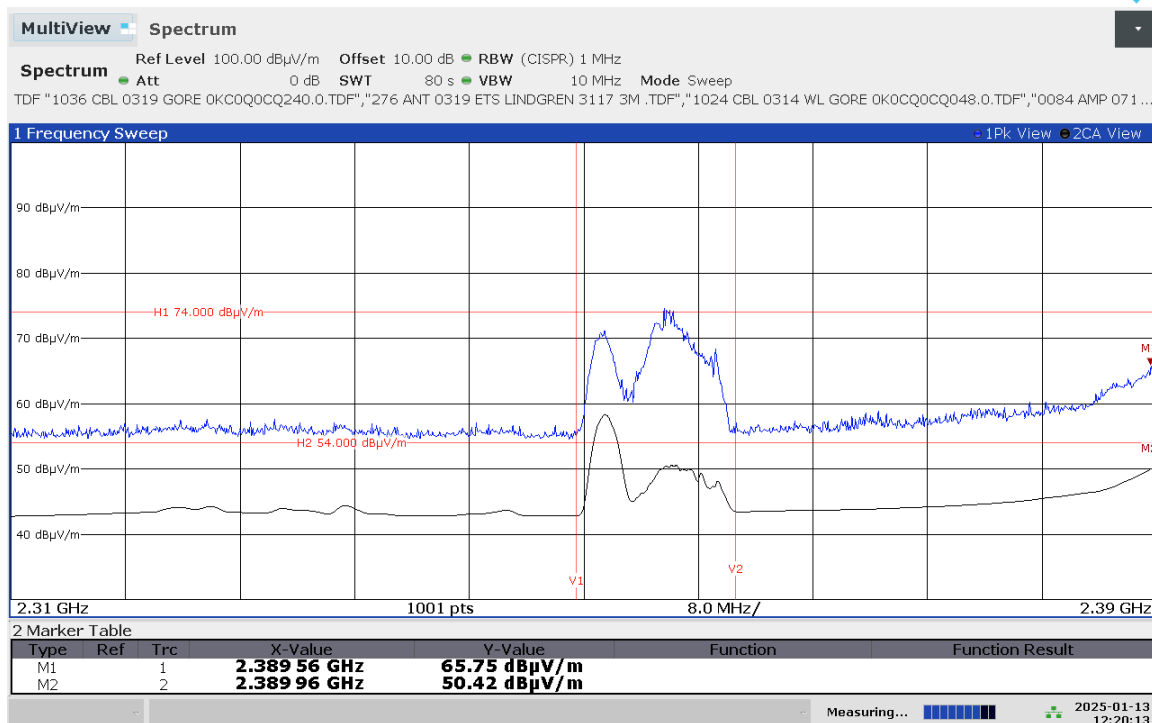
7.6. Band Edge and Out of Band Measurements (continued)

7.6.5. Lower Restricted Band 802.11n HT20

Lower Restricted Band Frequencies (MHz)	Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)		Result
	Peak	Average	Peak	Average	Peak	Average	
2310-2390	65.75	50.42	74	54	-8.25	-3.58	Compliant

Lower Restricted Band Plot 2310 to 2390 MHz

101-25 Hillrom Scotty Badge 2.4 GHz WiFi



12:20:14 PM 01/13/2025

Note about the non-EUT transmissions in this band:

The emission enclosed in the pair of vertical markers was due to a transmission in the WCS A and B Blocks (2350 MHz to 2360 MHz). A real-time observation of the Lower Restricted Band confirmed that there were no emissions contributed by the EUT in either of these WCS Blocks during the absence of the ambient signals. However, due to the measurement time requirements of the CISPR average detector, this could not be realized on the spectrum analyzer for display purposes. Markers 1 and 2 represent the peak and CISPR average values of the worst-case emission contributed by the EUT.

7. Measurement Data (continued)

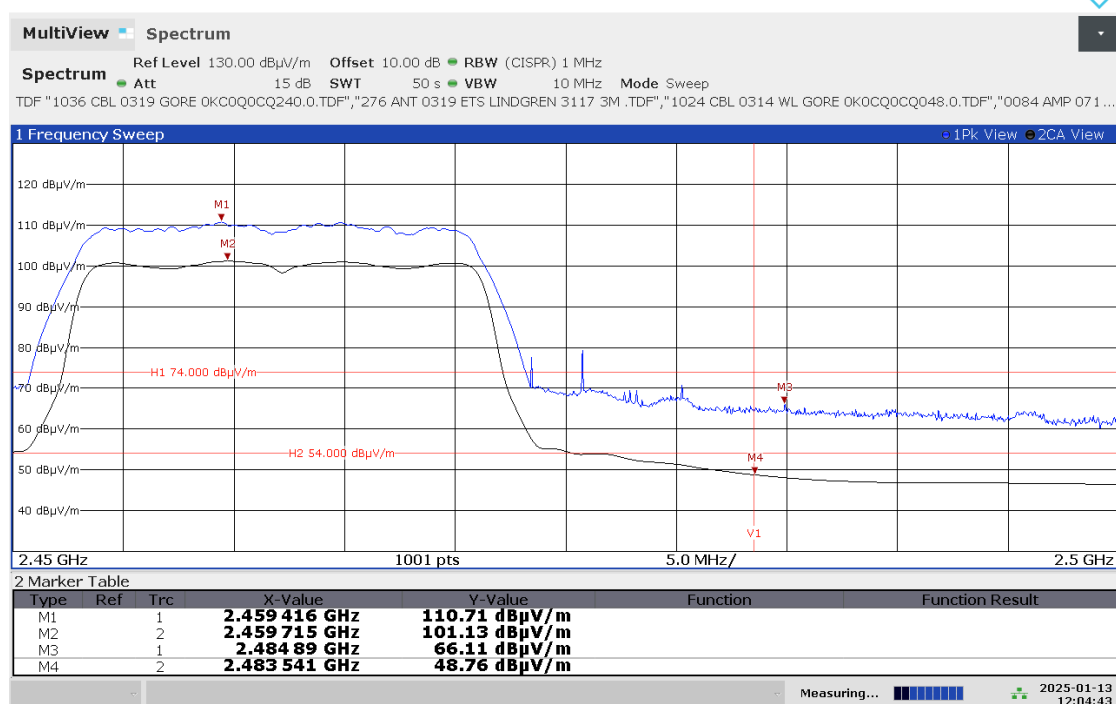
7.6. Band Edge and Out of Band Measurements (continued)

7.6.6. Upper Restricted Band 802.11n HT20

Upper Restricted Band Frequencies	Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)		Result
	(MHz)	Peak	Average	Peak	Average	Peak	
2483.5-2500		66.11	48.76	74	54	-7.89 -5.24	Compliant

Upper Restricted Band Plot

101-25 Hillrom Scotty Badge 2.4 GHz WiFi



12:04:43 PM 01/13/2025

7. Measurement Data (continued)

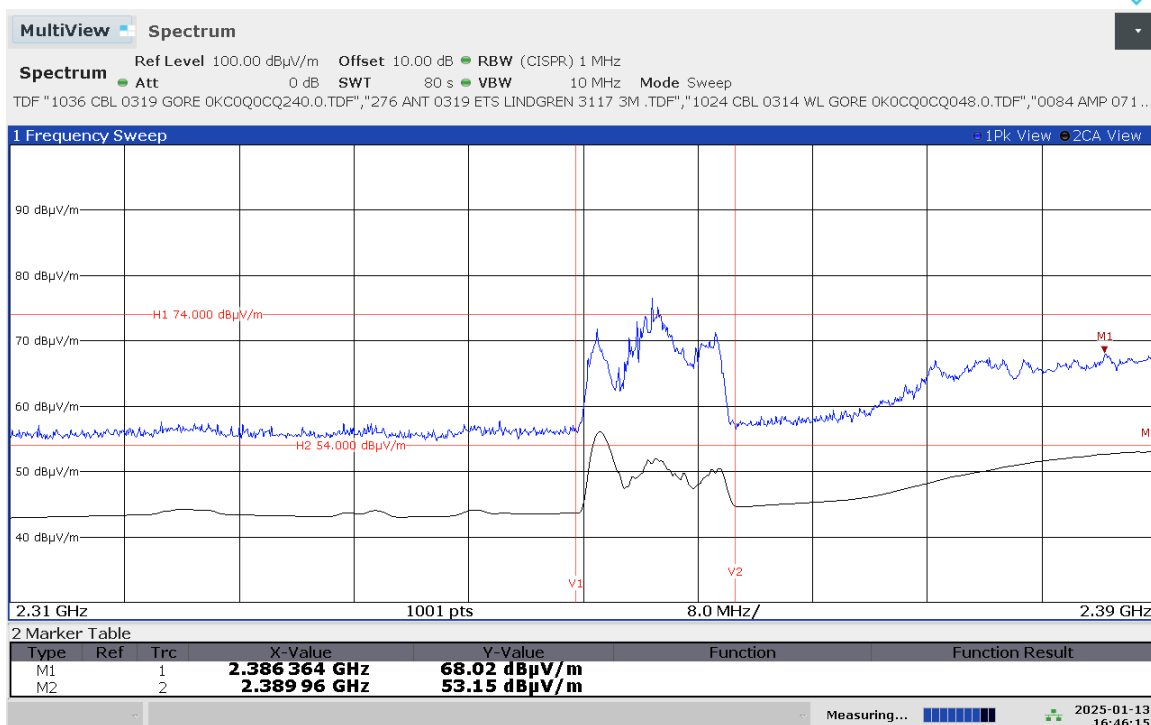
7.6. Band Edge and Out of Band Measurements (continued)

7.6.7. Lower Restricted Band 802.11n HT40

Lower Restricted Band Frequencies	Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)		Result
	Peak	Average	Peak	Average	Peak	Average	
2310-2390	68.02	53.15	74	54	-5.98	-0.85	Compliant

Lower Restricted Band Plot 2310 to 2390 MHz

101-25 Hillrom Scotty Badge 2.4 GHz WiFi



04:46:15 PM 01/13/2025

Note about the non-EUT transmissions in this band:

The emission enclosed in the pair of vertical markers was due to a transmission in the WCS A and B Blocks (2350 MHz to 2360 MHz). A real-time observation of the Lower Restricted Band confirmed that there were no emissions contributed by the EUT in either of these WCS Blocks during the absence of the ambient signals. However, due to the measurement time requirements of the CISPR average detector, this could not be realized on the spectrum analyzer for display purposes. Markers 1 and 2 represent the peak and CISPR average values of the worst-case emission contributed by the EUT.

7. Measurement Data (continued)

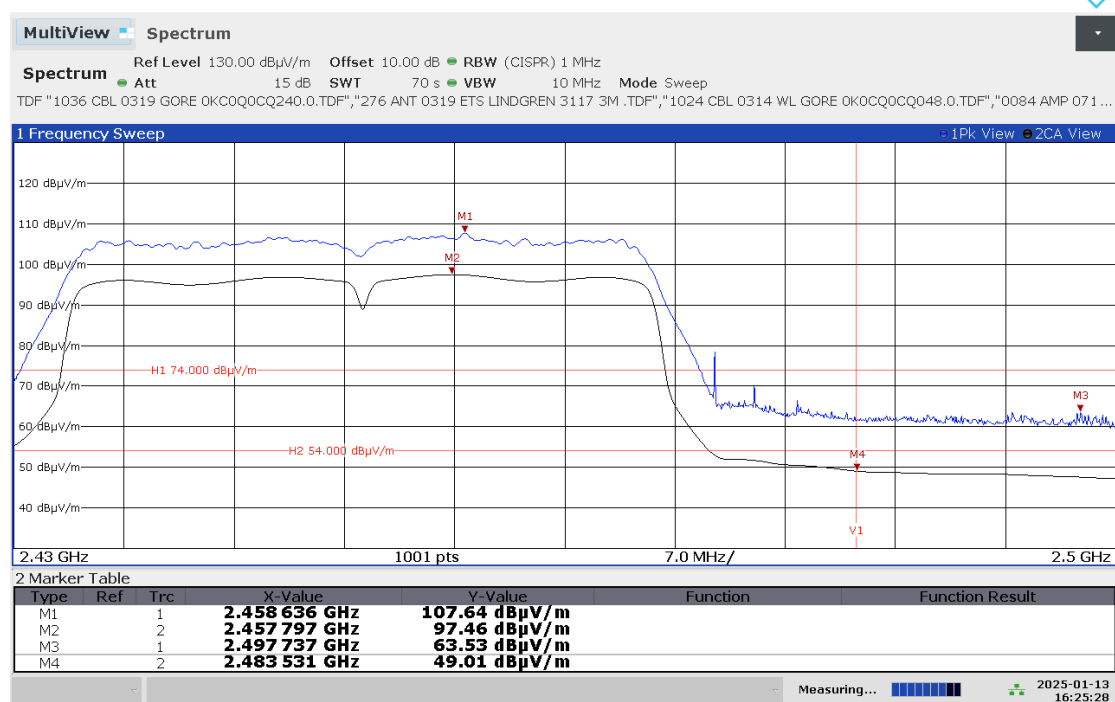
7.6. Band Edge and Out of Band Measurements (continued)

7.6.8. Upper Restricted Band 802.11n HT40

Upper Restricted Band Frequencies	Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)		Result
	(MHz)	Peak	Average	Peak	Average	Peak	
2483.5-2500		63.53	49.01	74	54	-10.47	Compliant

Upper Restricted Band Plot

101-25 Hillrom Scotty Badge 2.4 GHz WiFi



04:25:28 PM 01/13/2025

7. Measurement Data (continued)

7.7. Emissions in Non-restricted Frequency Bands (FCC Part 15.247 (e), RSS-247 5.5)

Requirement: 15.247(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under paragraph (b)(3) and section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB.

Test Notes: Peak in-band measurements were taken at the time the DTS (-6 dB) bandwidth measurements were made. These values were used as the reference levels for the following measurements. Refer to section 7.2 of this report for these values.

Results: Not Performed

7. Measurement Data (continued)

7.8. Peak Power Spectral Density (FCC 15.247(e), ISED RSS-247, 5.2 (b))

Requirement: For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of FCC Part 15.247. The same method of determining the conducted output power shall be used to determine the power spectral density.

Procedure: FCC OET publication number 558074, Section 8.4 referencing ANSI C63.10:2013 Subclause 11.10, specifically 11.10.5 Method AVGPSD-2.

Results: Not Performed

7. Measurement Data (continued)

7.9. Conducted Emissions

Requirement: 15.207 With certain exceptions, an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-Peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5.0	56	46
5.0 to 30.0	60	50
* Decreases with the logarithm of the frequency.		

Procedure: This test was performed in accordance with the procedure detailed in ANSI C63.10-2013, Section 6.2: Standard test method for ac powerline conducted emissions from unlicensed wireless devices.

Test Notes: The device is powered via batteries that are remotely charged.

Results: Not Performed

Measurement & Equipment Setup

Test Date: N/A
 Test Engineer: N/A
 Site Temperature ($^{\circ}$ C): N/A
 Relative Humidity (%RH): N/A
 Frequency Range: 0.15 MHz to 30 MHz
 EMI Receiver IF Bandwidth: 9 kHz
 EMI Receiver Avg Bandwidth: $\geq 3 \times$ IF BW (RBW)
 Detector Functions: Peak, Quasi-Peak & Average

Sample Calculation: Final Result (dB μ V) = Measurement Value (dB μ V) + LISN Insertion Loss (dB) + Cable Loss (dB).

Note: All correction factors are loaded into the measurement instrument prior to testing to determine the final result.

7. Measurement Data (continued)

7.10. Duty Cycle

Requirement: (FCC OET publication number 558074)

Preferably, all measurements of maximum conducted (average) output power will be performed with the EUT transmitting continuously (i.e., with a duty cycle of greater than or equal to 98%).

Procedure: Duty cycle measurements were made according to the procedure detailed ANSI C63.10-2013, Section 11.6(b).

Results: Not Performed

7. Measurement Data (continued)

7.11. 99% (Occupied) Bandwidth (RSS-GEN 6.7)

Requirement: The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

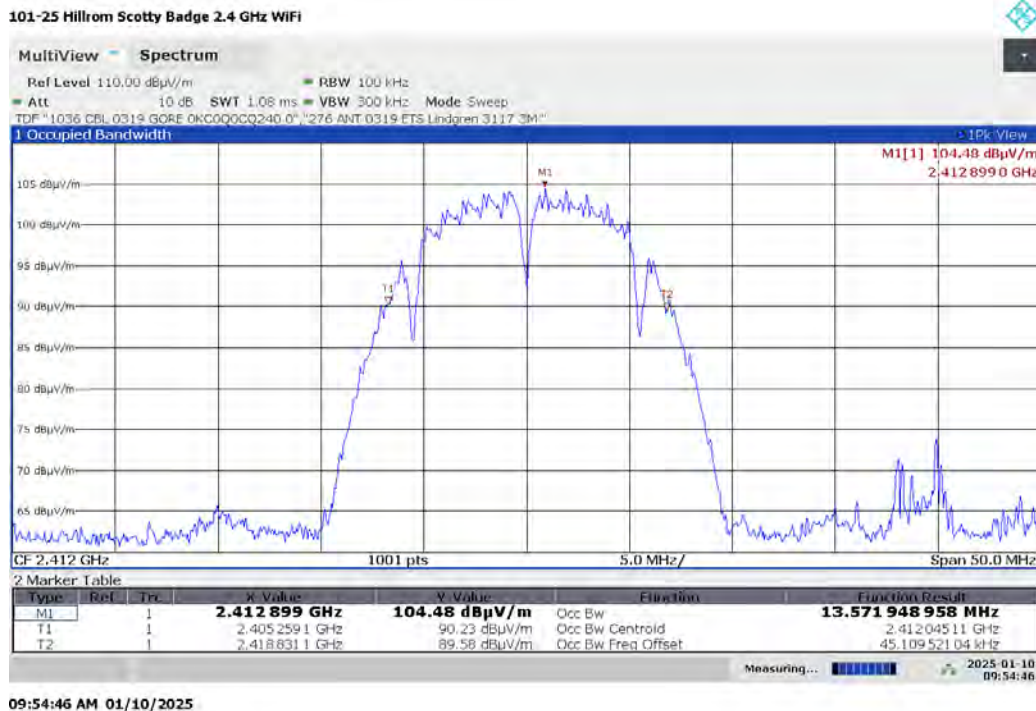
The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value.

The sample detector of the spectrum analyzer shall be used to make the measurement.

7.11.1. Measurement Results

Channel	Channel Frequency (MHz)	802.11b 99% Power Bandwidth (kHz)	802.11g 99% Power Bandwidth (kHz)	802.11n HT20 99% Power Bandwidth (kHz)	802.11n HT40 99% Power Bandwidth (kHz)
Low	2412	13,572	16,491	17,606	36,108
Middle	2437	13,726	16,583	17,740	36,130
High	2462	13,472	16,494	17,623	36,111

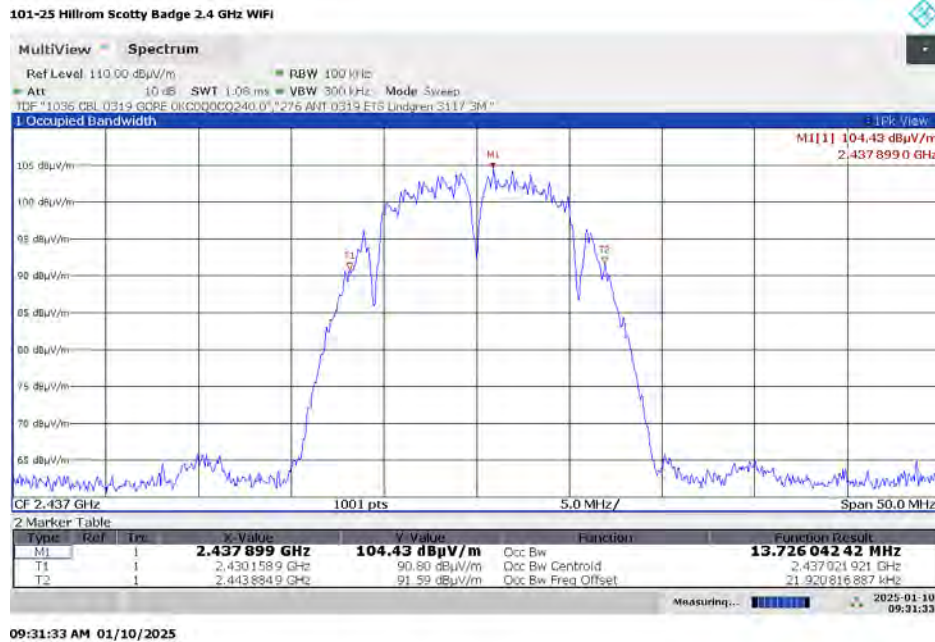
7.11.1.1. 99% Power Bandwidth – Low Frequency (2412 MHz 802.11b)



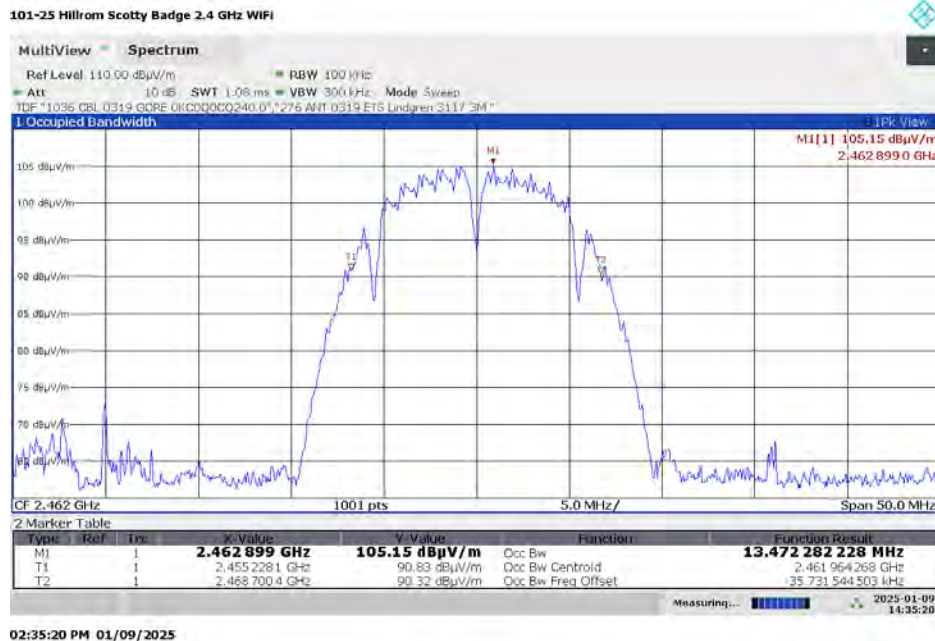
7. Measurement Data (continued)

7.11. 99% (Occupied) Bandwidth (RSS-GEN 6.7)

7.11.1.2. 99% Power Bandwidth – Middle Frequency (2437 MHz 802.11b)



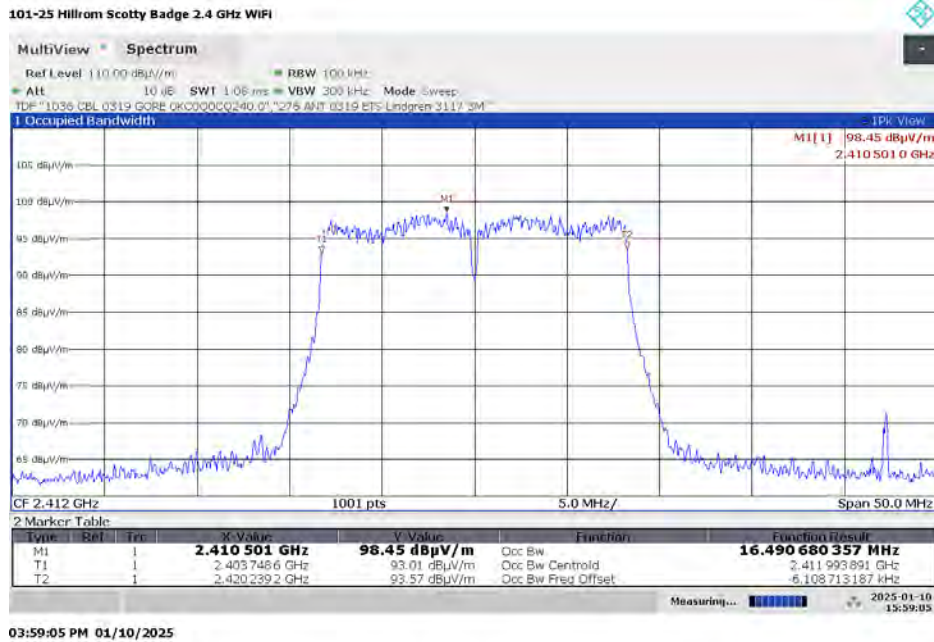
7.11.1.3. 99% Power Bandwidth – High Frequency (2462 MHz 802.11b)



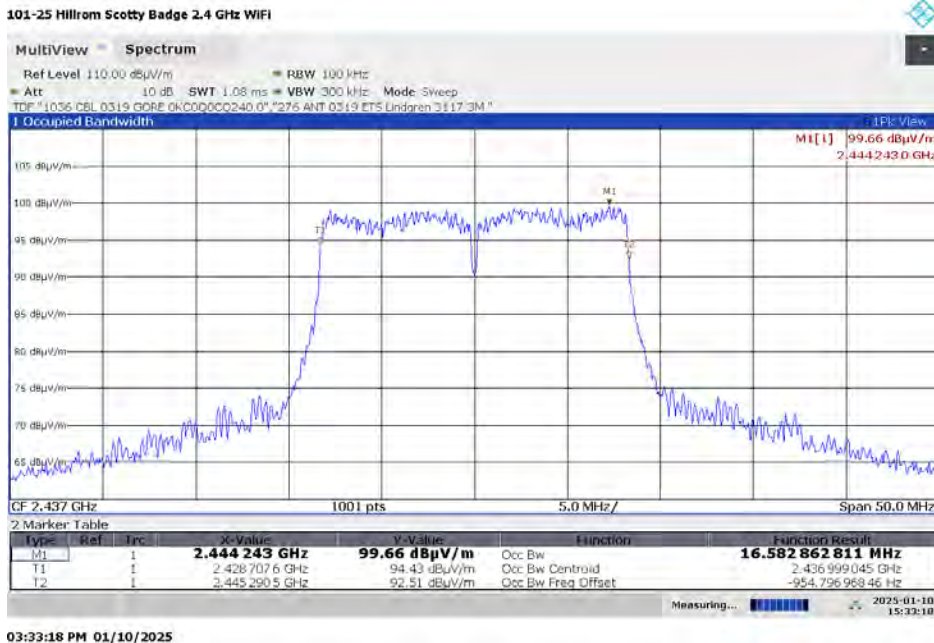
7. Measurement Data (continued)

7.11. 99% (Occupied) Bandwidth (RSS-GEN 6.7)

7.11.1.4. 99% Power Bandwidth – Low Frequency (2412 MHz 802.11g)



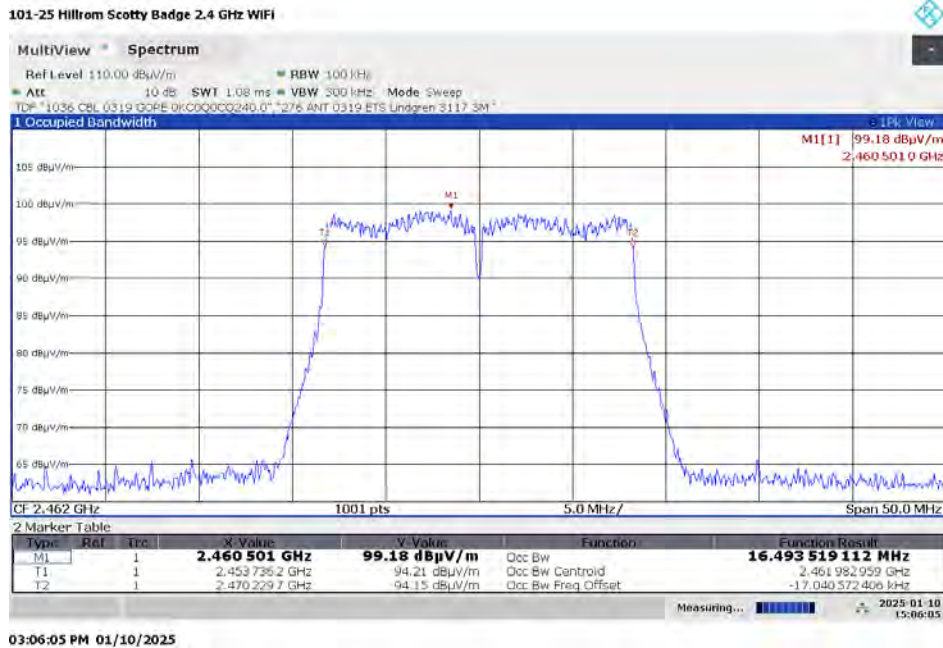
7.11.1.5. 99% Power Bandwidth – Middle Frequency (2437 MHz 802.11g)



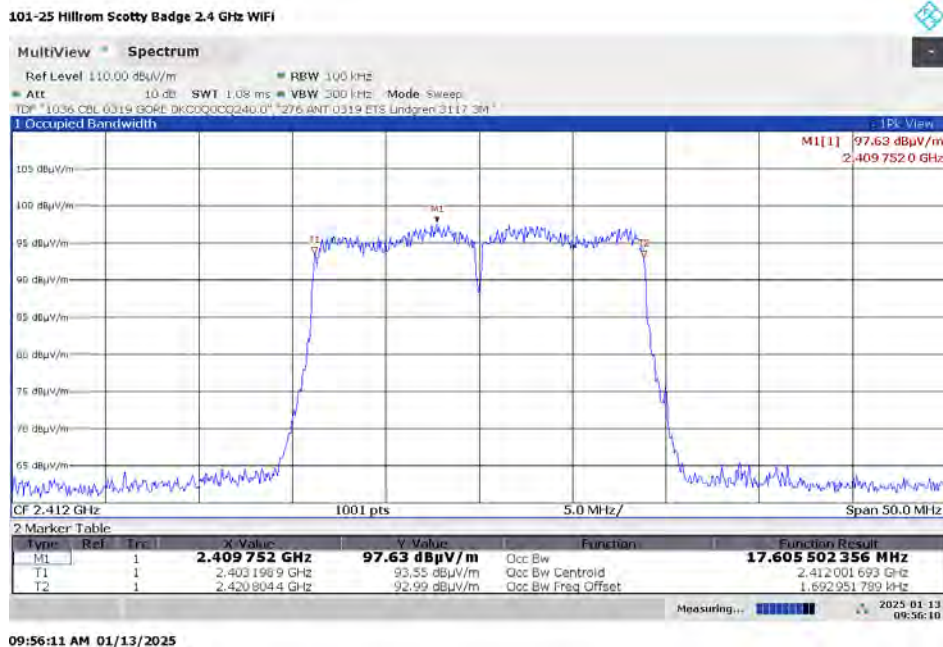
7. Measurement Data (continued)

7.11. 99% (Occupied) Bandwidth (RSS-GEN 6.7)

7.11.1.6. 99% Power Bandwidth – High Frequency (2462 MHz 802.11g)



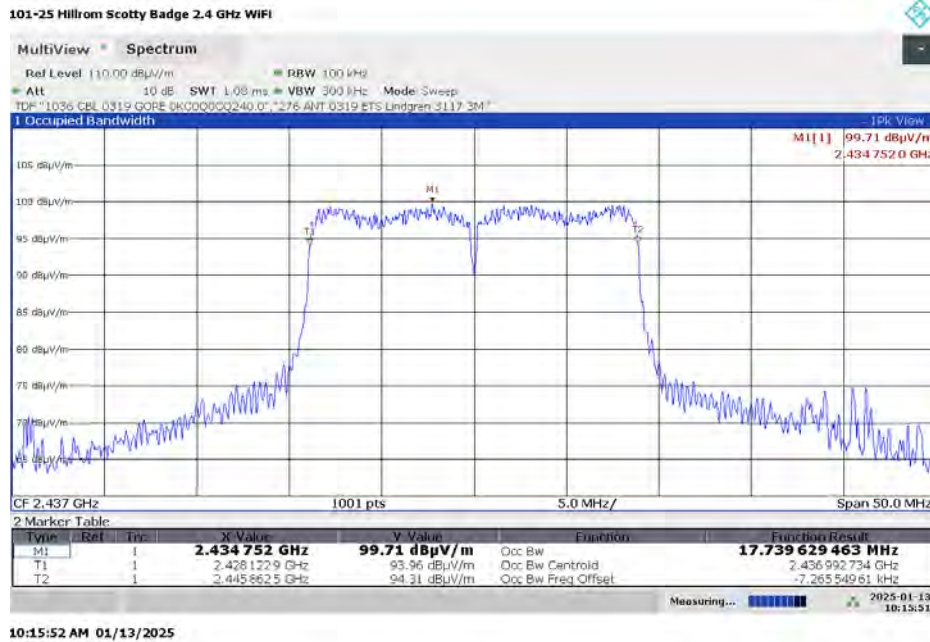
7.11.1.7. 99% Power Bandwidth – Low Frequency (2412 MHz 802.11n HT20)



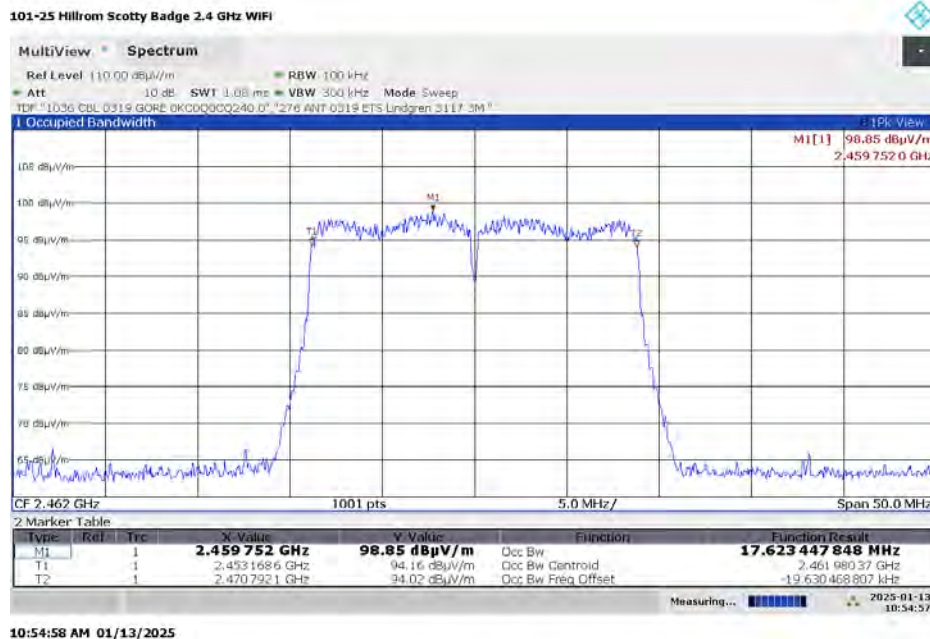
7. Measurement Data (continued)

7.11. 99% (Occupied) Bandwidth (RSS-GEN 6.7)

7.11.1.8. 99% Power Bandwidth – Middle Frequency (2437 MHz 802.11n HT20)



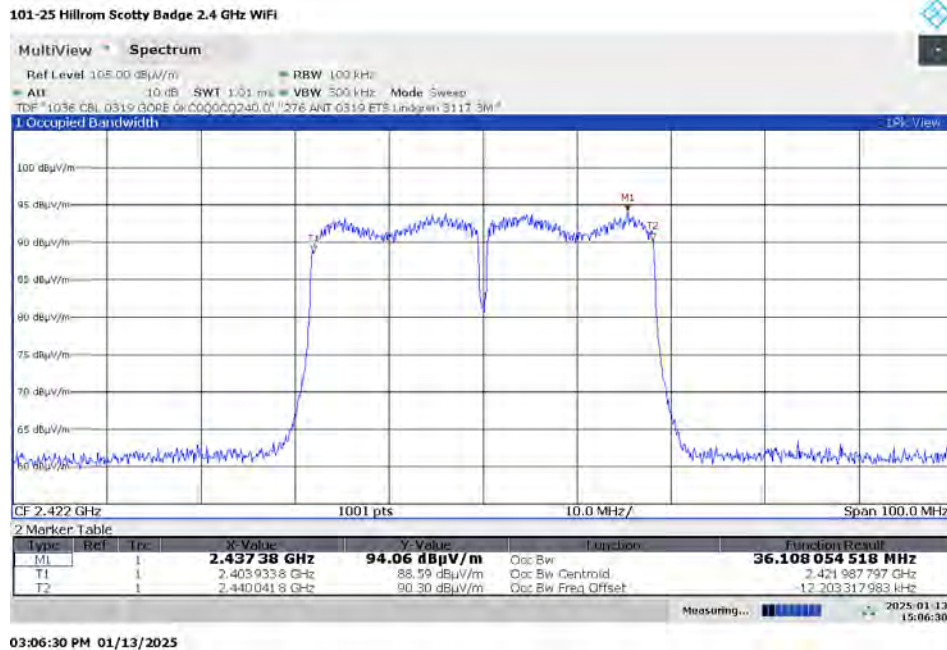
7.11.1.9. 99% Power Bandwidth – High Frequency (2462 MHz 802.11n HT20)



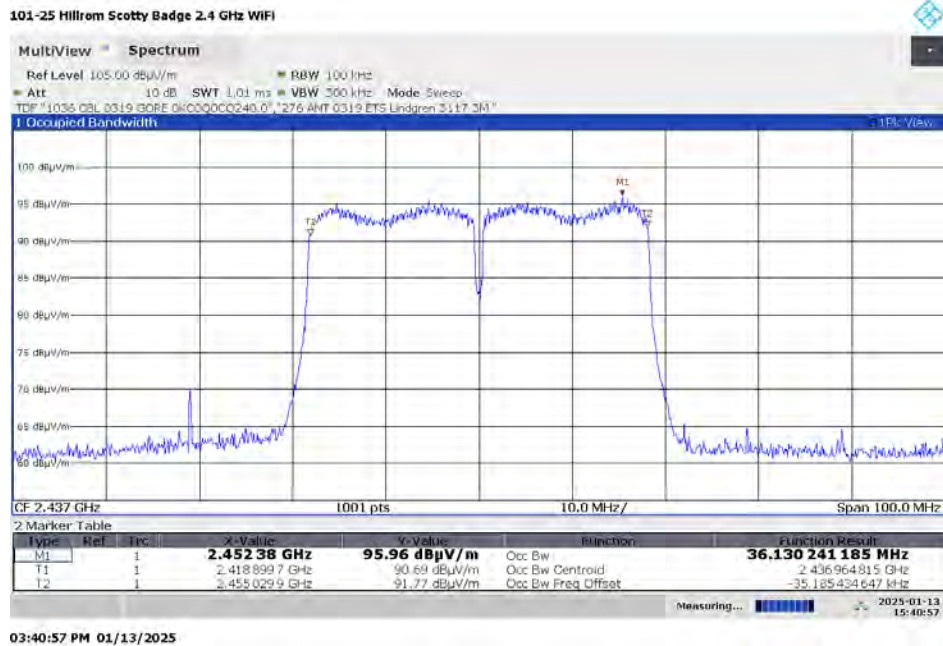
7. Measurement Data (continued)

7.11. 99% (Occupied) Bandwidth (RSS-GEN 6.7)

7.11.1.10. 99% Power Bandwidth – Low Frequency (2422 MHz 802.11n HT40)



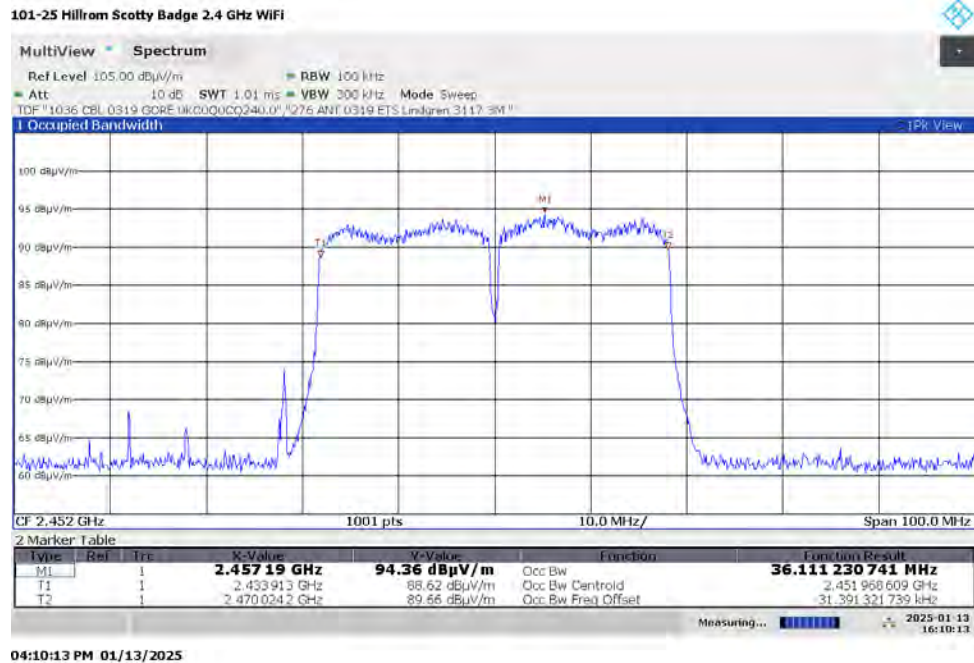
7.11.1.11. 99% Power Bandwidth – Middle Frequency (2437 MHz 802.11n HT40)



7. Measurement Data (continued)

7.11. 99% (Occupied) Bandwidth (RSS-GEN 6.7)

7.11.1.12. 99% Power Bandwidth – High Frequency (2452 MHz 802.11n HT40)



8. Test Setup Photographs

8.1. Spurious Radiated Emissions, 9 kHz to 30 MHz – Front



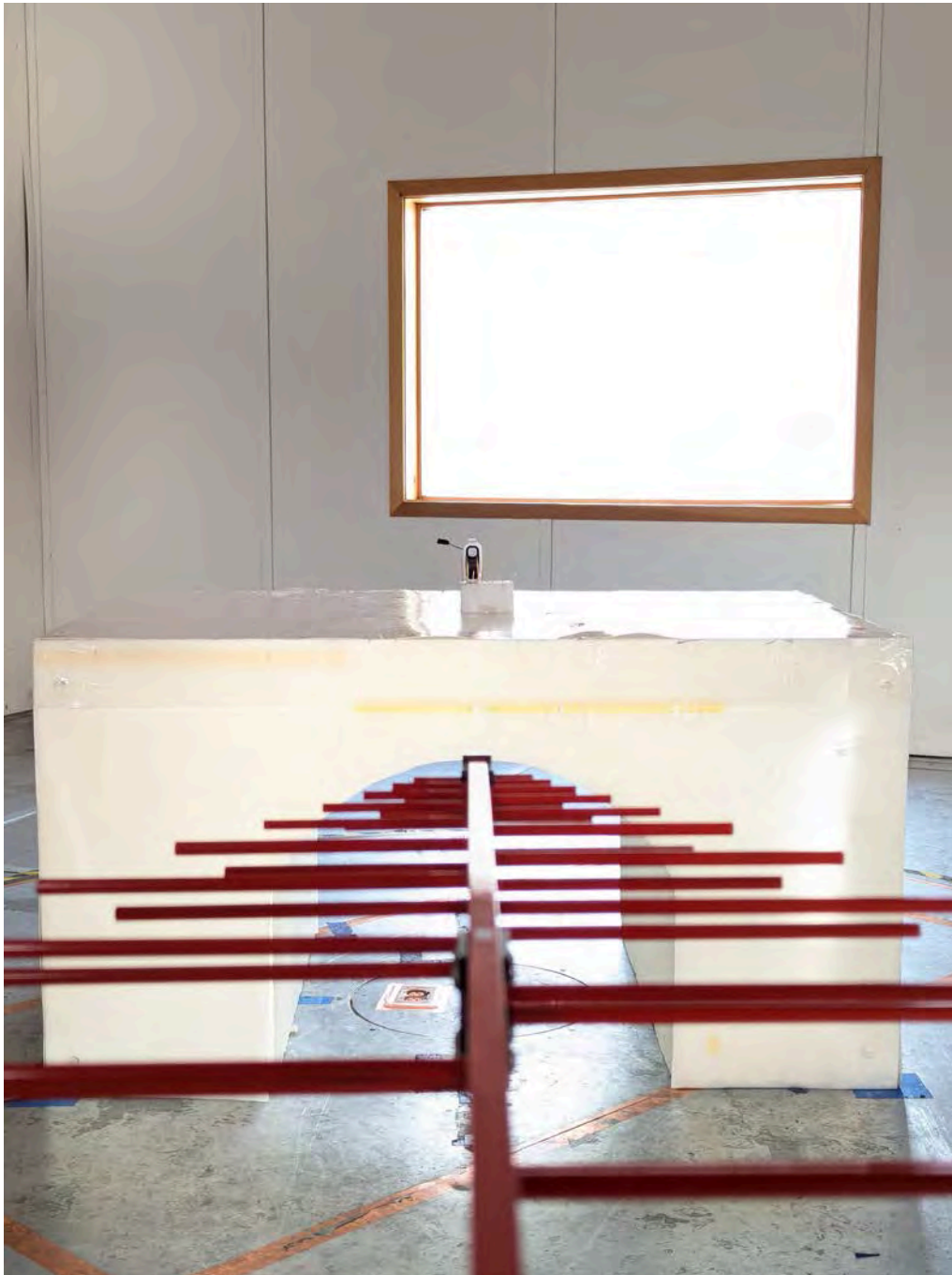
8. Test Setup Photographs

8.2. Spurious Radiated Emissions, < 30 MHz – Rear



8. Test Setup Photographs

8.3. Spurious Radiated Emissions, 30 MHz to 1 GHz – Rear View



8. Test Setup Photographs

8.4. Radiated Emissions Above 1 to 18 GHz – Front



8. Test Setup Photographs

8.5. Radiated Emissions 1 to 18 GHz – Rear



8. Test Images (continued)

8.6. Radiated Emissions Above 18 to 25 GHz – Front



8. Test Images (continued)

8.7. Radiated Emissions 18 to 25 GHz – Rear



9. Test Site Description

Compliance Worldwide is located at 357 Main Street in Sandown, New Hampshire. The test sites at Compliance Worldwide are used for conducted and radiated emissions testing in accordance with the Federal Communications Commission (FCC) and Innovation Science and Economic Development Canada (ISED) standards. Through our American Association for Laboratory Accreditation (A2LA) ISO Guide 17025 Accreditation our test sites are designated with the FCC (designation number **US1091**) and Industry Canada (file number **IC 3023A-1**).

Compliance Worldwide is also designated as a Phase 1 CAB under APEC-MRA (US0132) for Australia/New Zealand AS/NZS CISPR 11, AS/NZS CISPR 14-1, AS/NZS CISPR 15, AS/NZS CISPR 32, Chinese-Taipei (Taiwan) BSMI CNS 15936 and Korea (RRA) KS C 9811, KS C 9814-1, KS C 9815, KS C 9832, KS C 9610-6-3 & KS C 9610-6-4.

The radiated emissions test site is a 3- and 10-meter enclosed open area test site (OATS). Personnel, support equipment and test equipment are located in the basement beneath the OATS ground plane.

The conducted emissions site is part of a 16' x 20' x 12' ferrite tile chamber and uses one of the walls for the vertical ground plane required by EN 55022. A second conducted emissions site is also located in the basement of the OATS site with a 2.3 x 2.5-meter ground plane and a 2.4 x 2.4-meter vertical wall.

The radiated emissions test site for measurements above 1GHz is a 3 Meter open area test site (OATS) with a 3.6 by 3.6-meter anechoic absorber floor patch to achieve a quasi-free space measurement environment per ANSI C63.4/C63.10 and CISPR 16-1-4 standards.

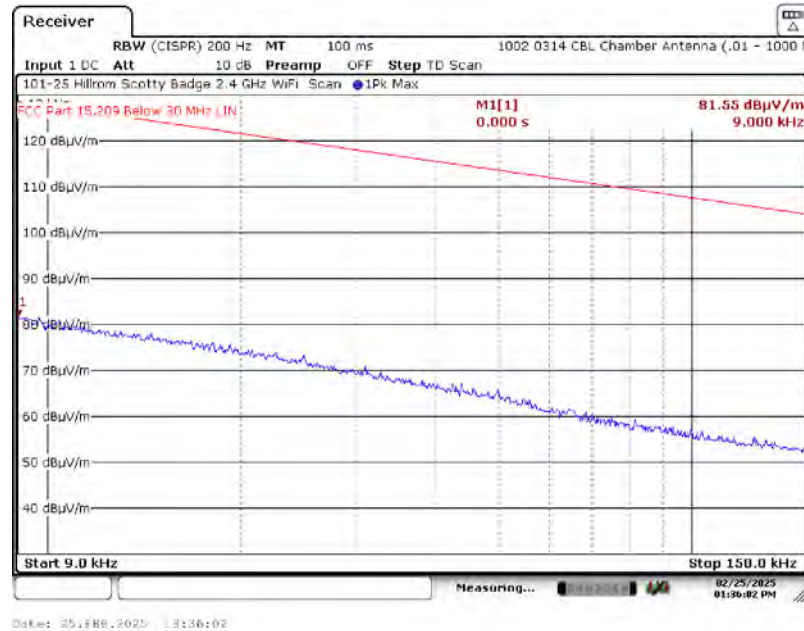
The sites are designed to test products or systems 1.5 meters W x 1.5 meters L x 2.0 meters H, floor standing or tabletop.

Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

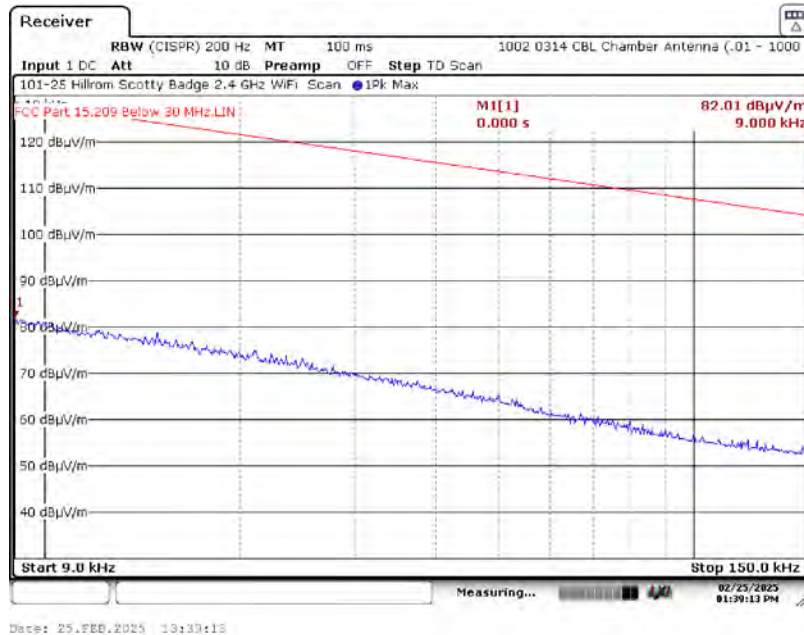
A1. Spurious Radiated Emissions (9 kHz – 150 kHz) Test Results

A1.1. High Channel 2462 MHz – X Axis

A1.1.1. Measurement Results: Parallel Antenna



A1.1.2. Measurement Results: Perpendicular Antenna

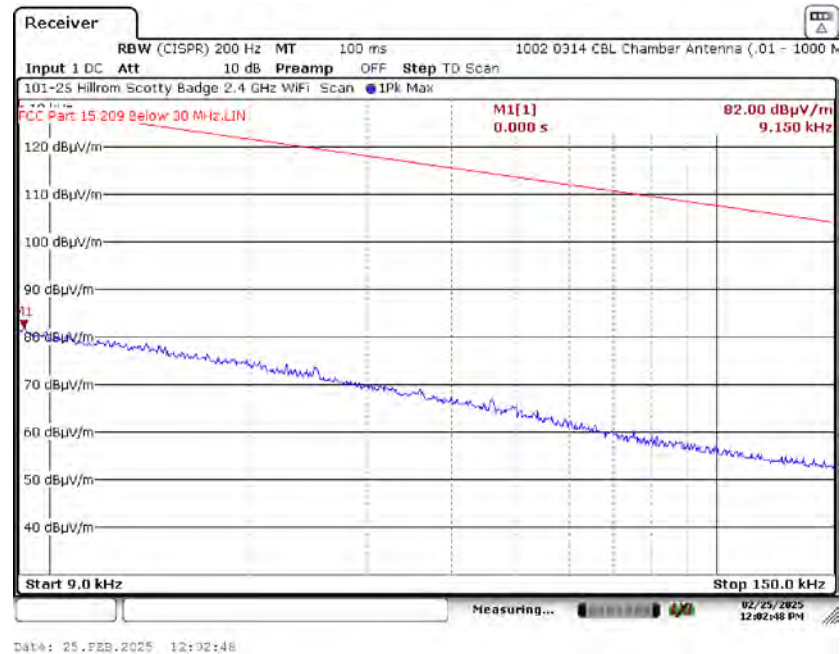


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

A1. Spurious Radiated Emissions (9 kHz – 150 kHz) Test Results

A1.1. High Channel, 2462 MHz – X Axis

A1.1.3. Measurement Results: Ground-Parallel Antenna

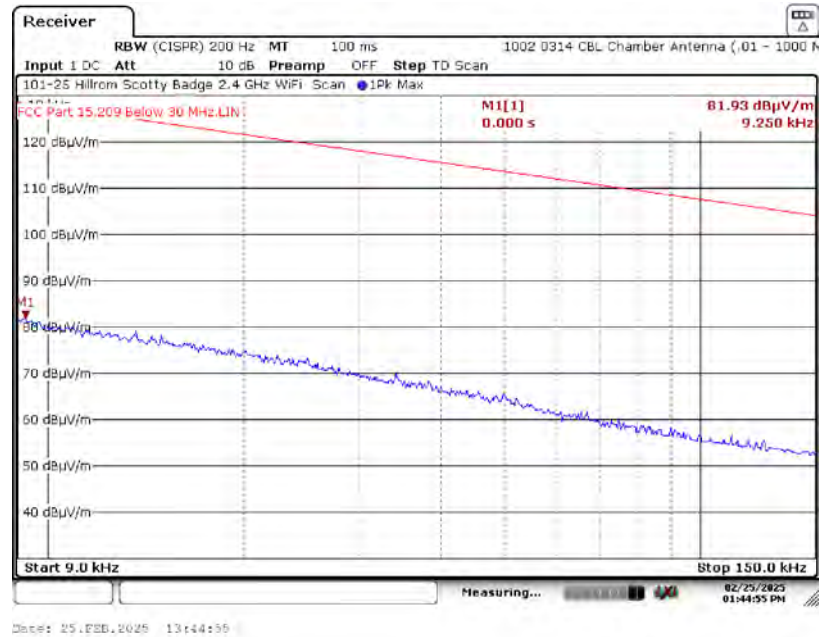


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

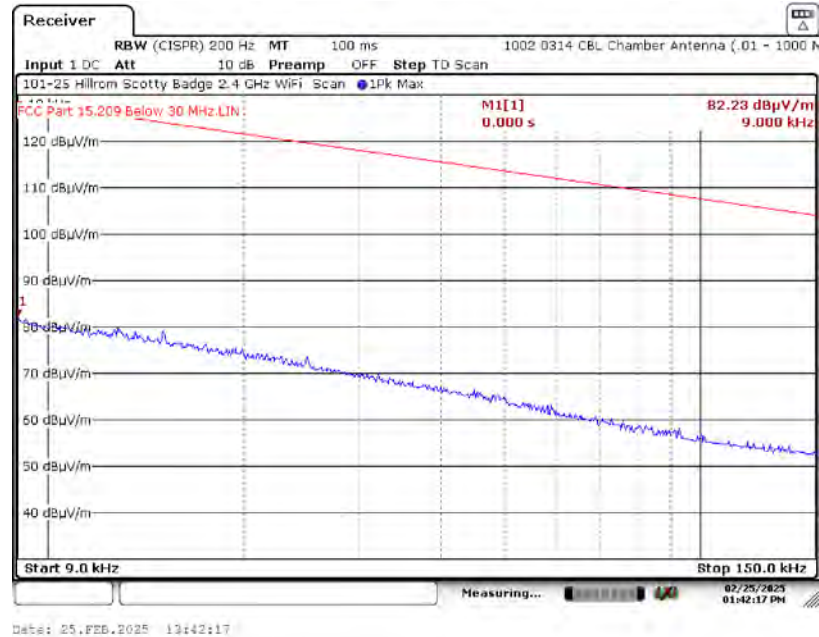
A1. Spurious Radiated Emissions (9 kHz – 150 kHz) Test Results

A1.2. High Channel 2462 MHz – Y Axis

A1.2.1. Measurement Results: Parallel Antenna



A1.2.2. Measurement Results: Perpendicular Antenna

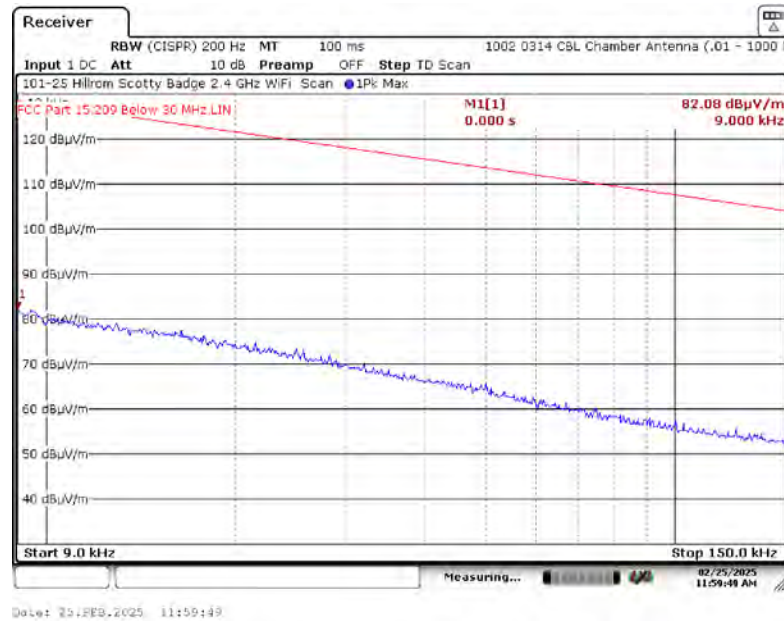


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

A1. Spurious Radiated Emissions (9 kHz – 150 kHz) Test Results

A1.2. High Channel, 2462 MHz – Y Axis

A1.2.3. Measurement Results: Ground-Parallel Antenna

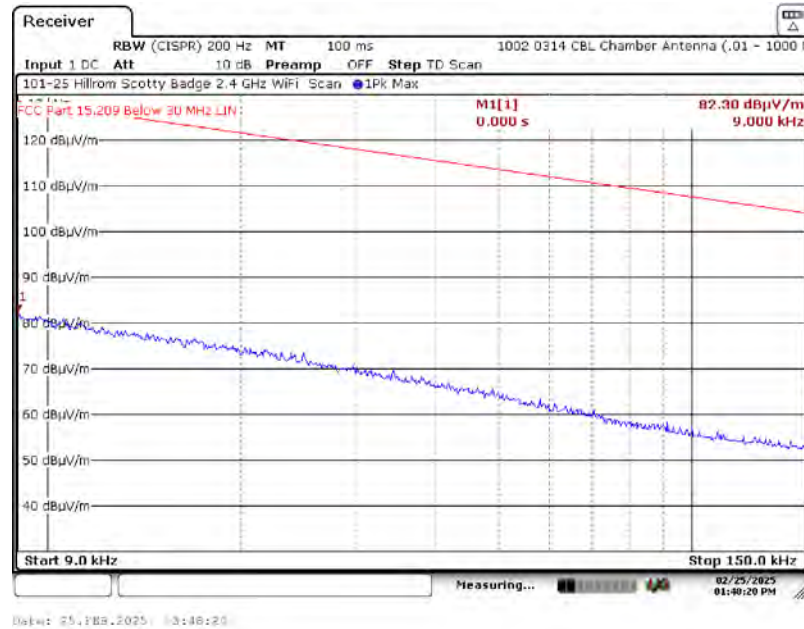


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

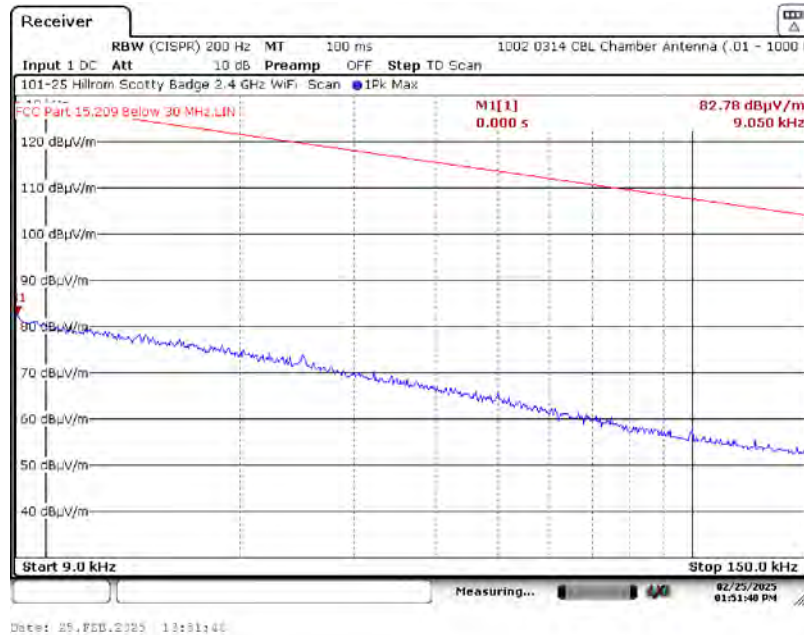
A1. Spurious Radiated Emissions (9 kHz – 150 kHz) Test Results

A1.3. High Channel 2462 MHz – Z Axis

A1.3.1. Measurement Results: Parallel Antenna



A1.3.2. Measurement Results: Perpendicular Antenna

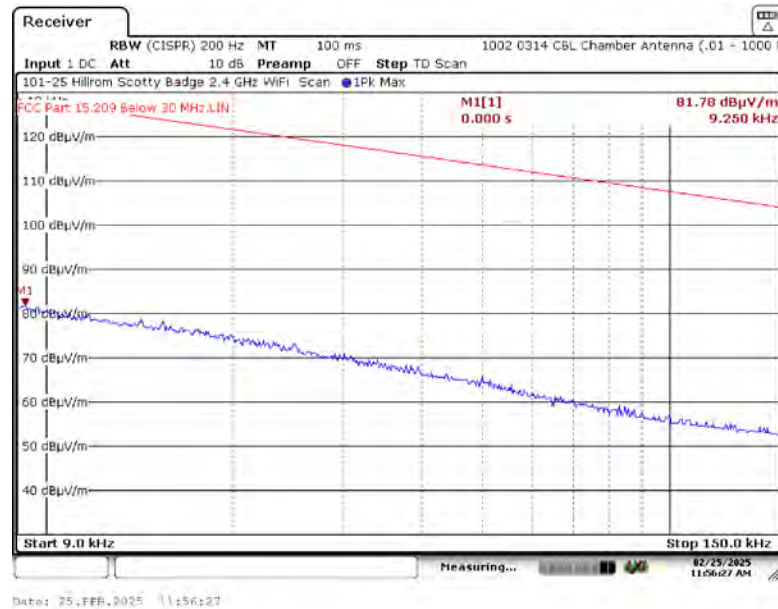


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

A1. Spurious Radiated Emissions (9 kHz – 150 kHz) Test Results

A1.3. High Channel, 2462 MHz – Z Axis

A1.3.3. Measurement Results: Ground-Parallel Antenna

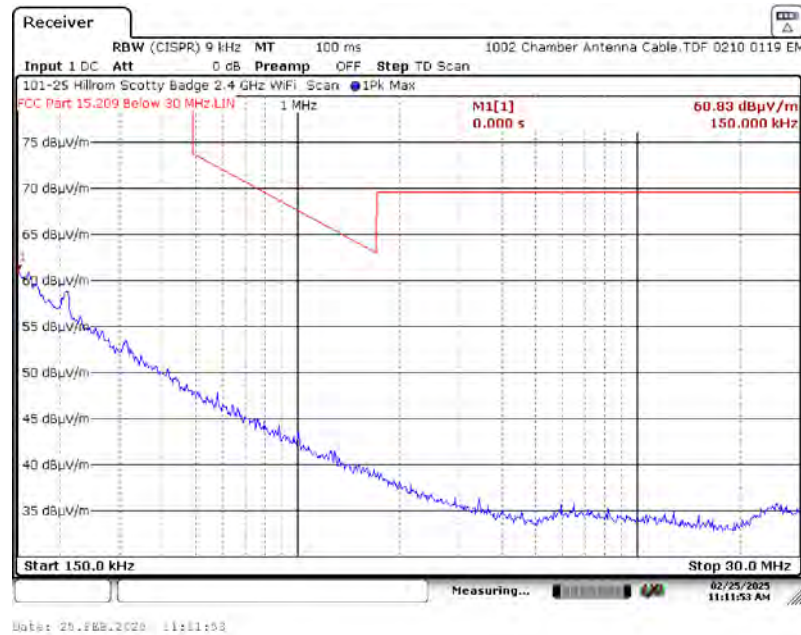


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

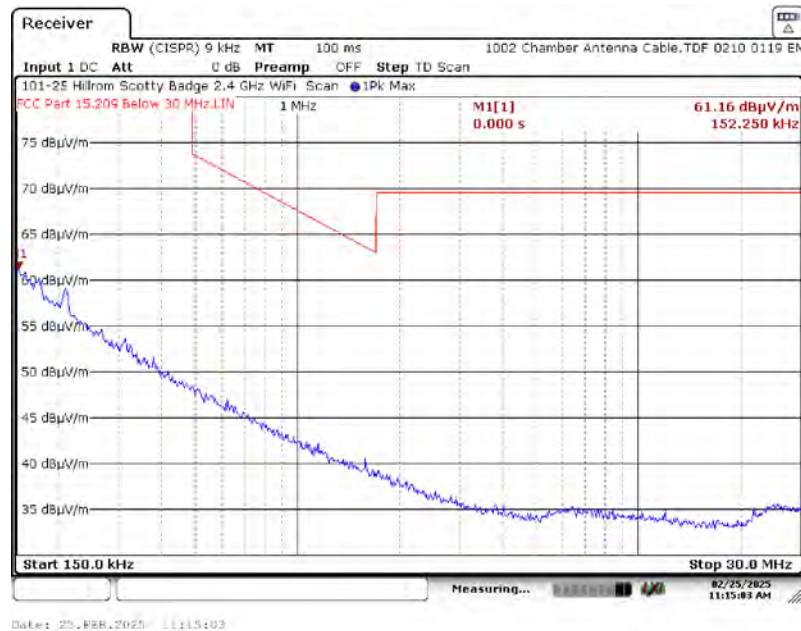
A2. Spurious Radiated Emissions (150 kHz – 30 MHz) Test Results

A2.1. High Channel, 2462 MHz – X Axis

A2.1.1. Measurement Results: Parallel Antenna



A2.1.2. Measurement Results: Perpendicular Antenna

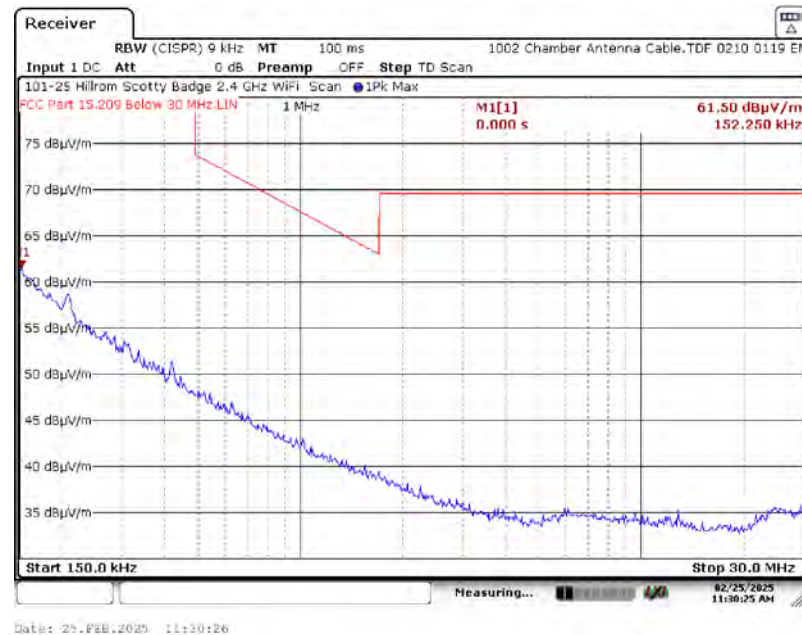


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

A2. Spurious Radiated Emissions (150 kHz – 30 MHz) Test Results

A2.1. High Channel, 2462 MHz – X Axis

A2.1.3. Measurement Results: Ground-Parallel Antenna

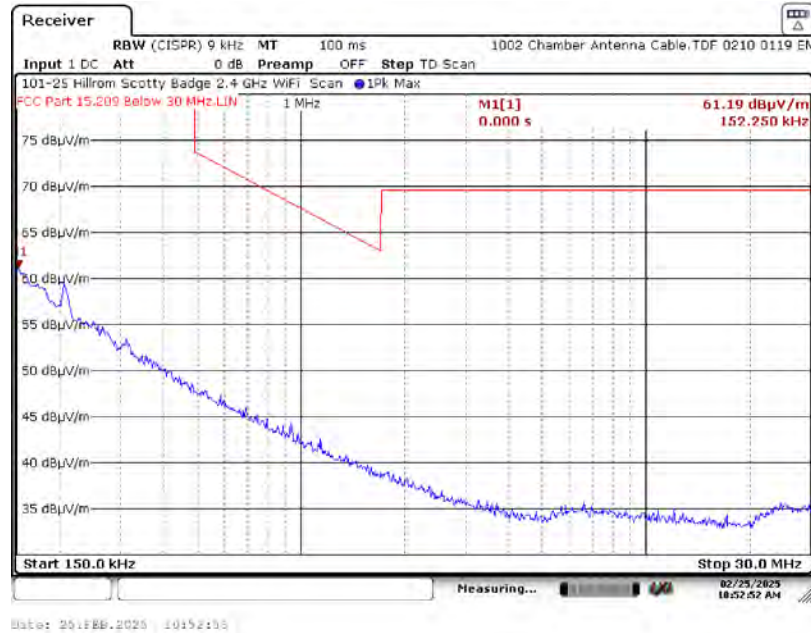


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

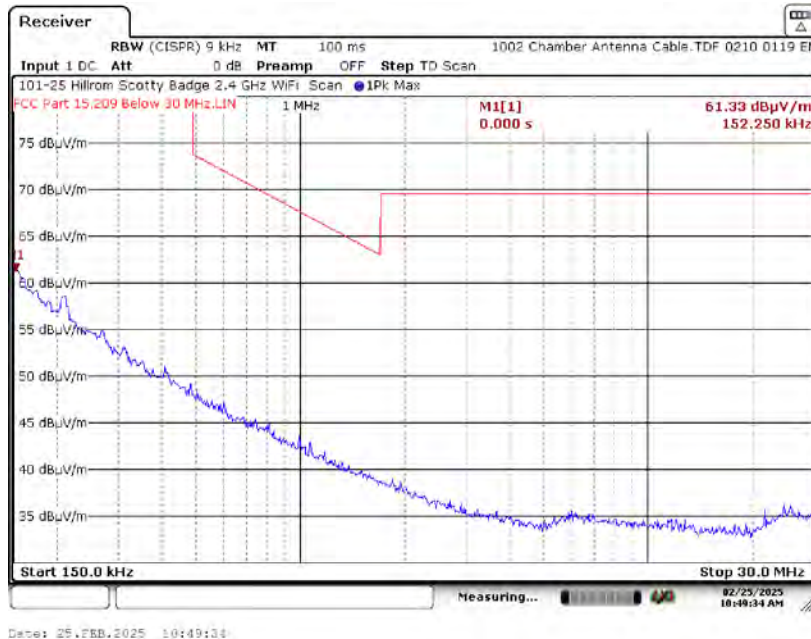
A2. Spurious Radiated Emissions (150 kHz – 30 MHz) Test Results

A2.2. High Channel, 2462 MHz – Y Axis

A2.2.1. Measurement Results: Parallel Antenna



A2.2.2. Measurement Results: Perpendicular Antenna

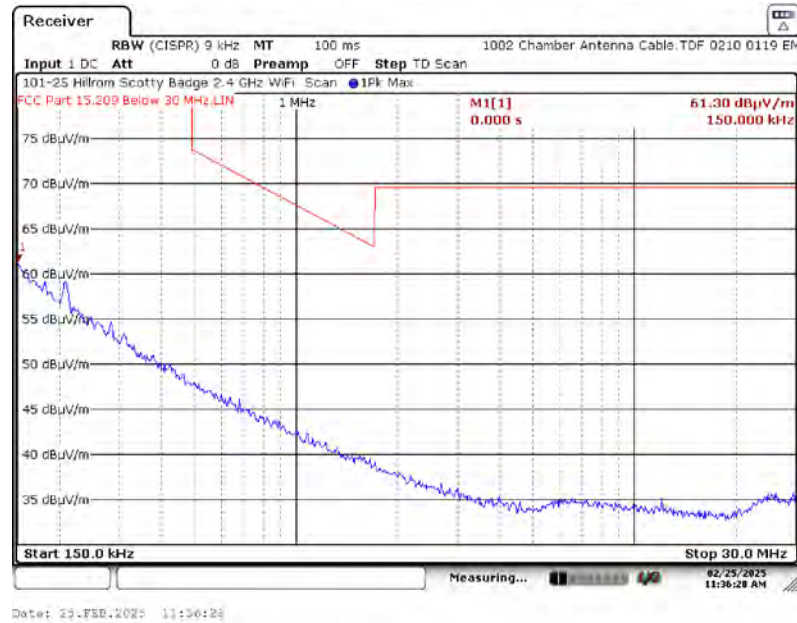


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

A2. Spurious Radiated Emissions (150 kHz – 30 MHz) Test Results

A2.2. High Channel, 2462 MHz – Y Axis

A2.2.3. Measurement Results: Ground-Parallel Antenna



Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

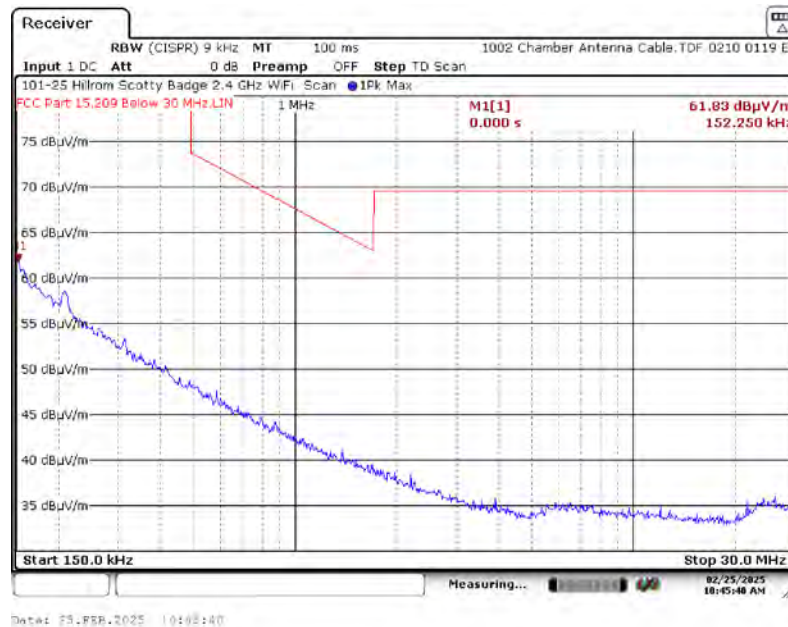
A2. Spurious Radiated Emissions (150 kHz – 30 MHz) Test Results

A2.3. High Channel, 2462 MHz – Z Axis

A2.3.1. Measurement Results: Parallel Antenna



A2.3.2. Measurement Results: Perpendicular Antenna

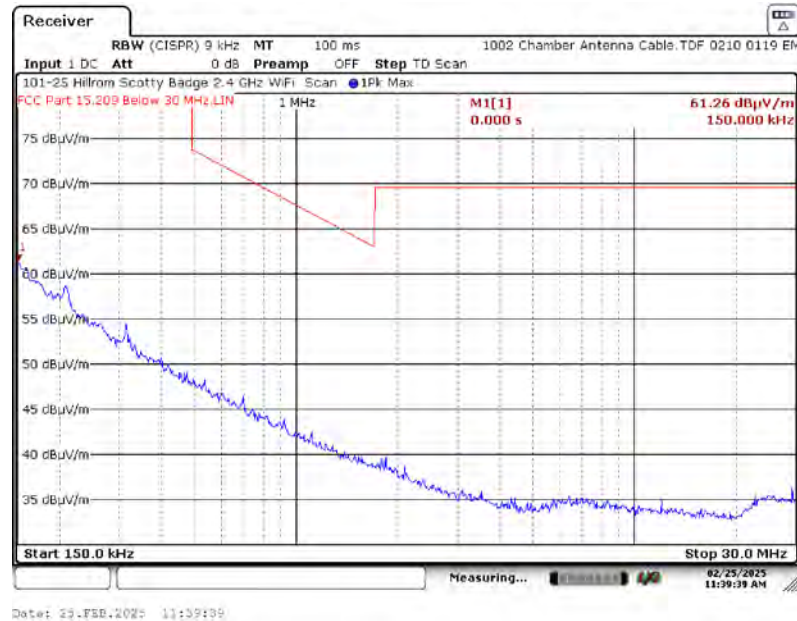


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

A2. Spurious Radiated Emissions (150 kHz – 30 MHz) Test Results

A2.3. High Channel, 2462 MHz – Z Axis

A2.3.3. Measurement Results: Ground-Parallel Antenna

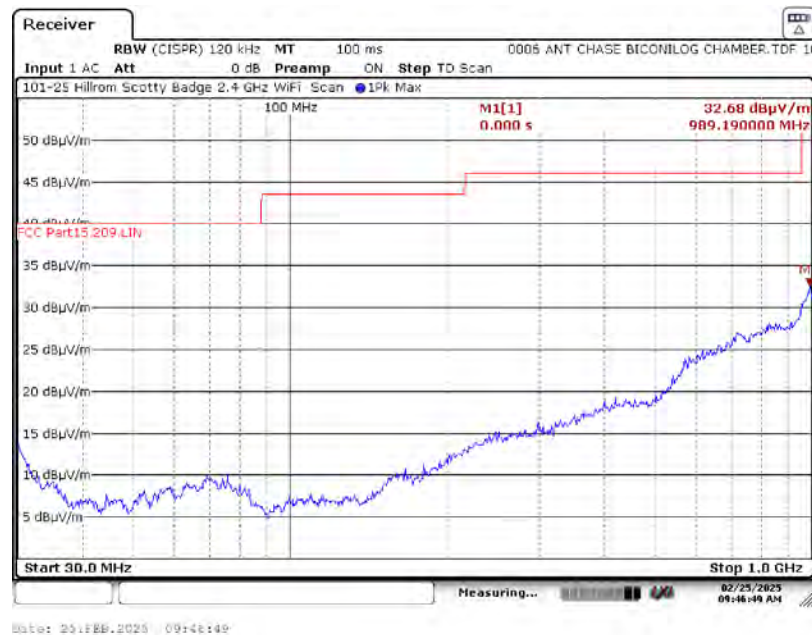


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

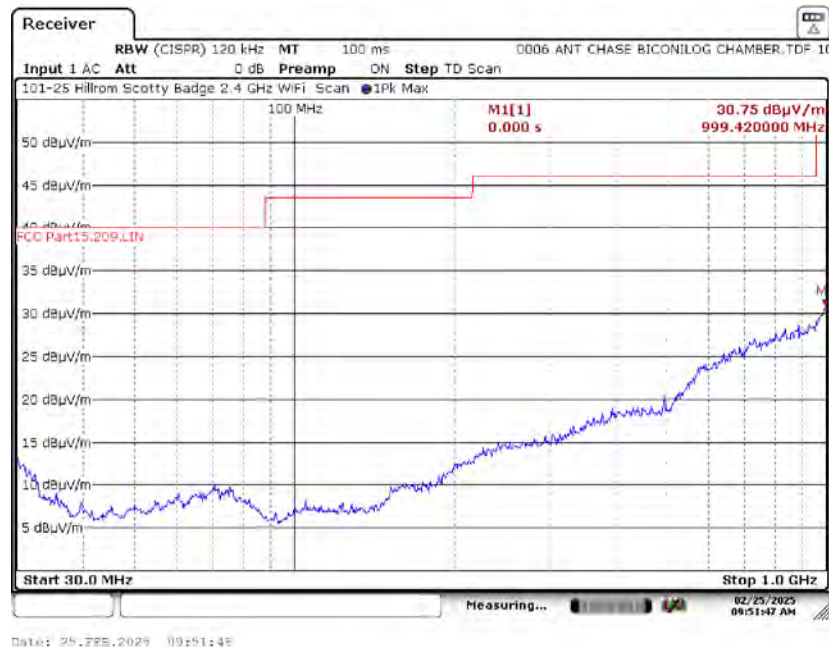
A3. Spurious Radiated Emissions (30 MHz – 1 GHz) Test Results

A3.1. High Channel, 2462 MHz – X Axis

A3.1.1. Measurement Results: Horizontal Antenna



A3.1.2. Measurement Results: Vertical Antenna

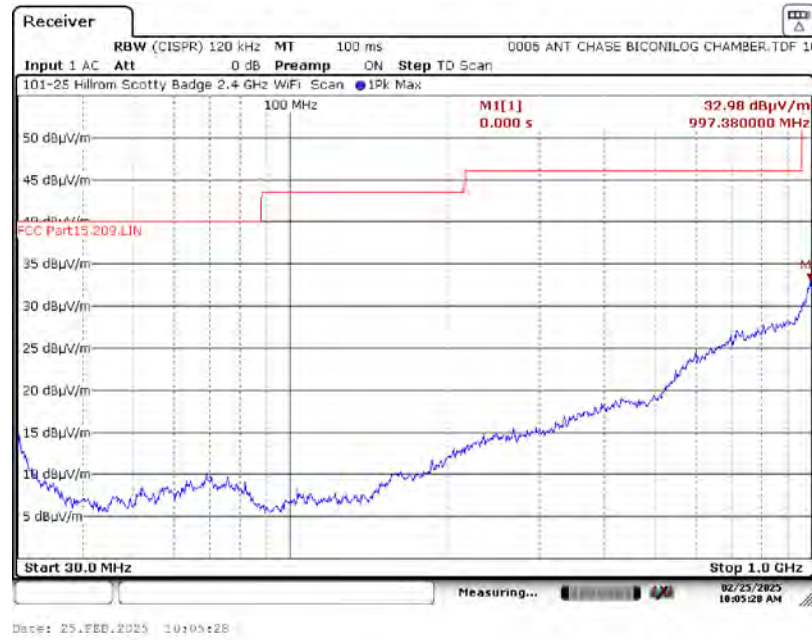


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

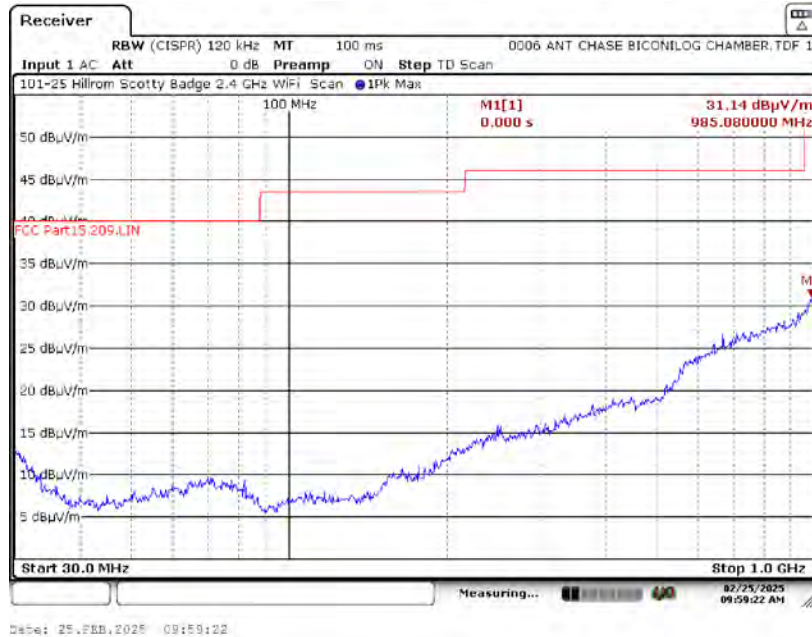
A3. Spurious Radiated Emissions (30 MHz – 1 GHz) Test Results

A3.2. High Channel, 2462 MHz – Y Axis

A3.2.1. Measurement Results: Horizontal Antenna



A3.2.2. Measurement Results: Vertical Antenna

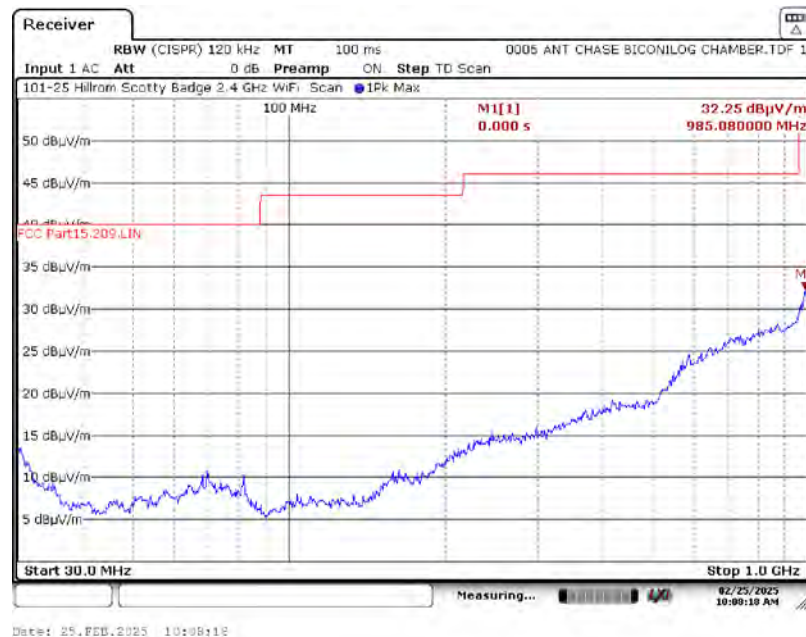


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

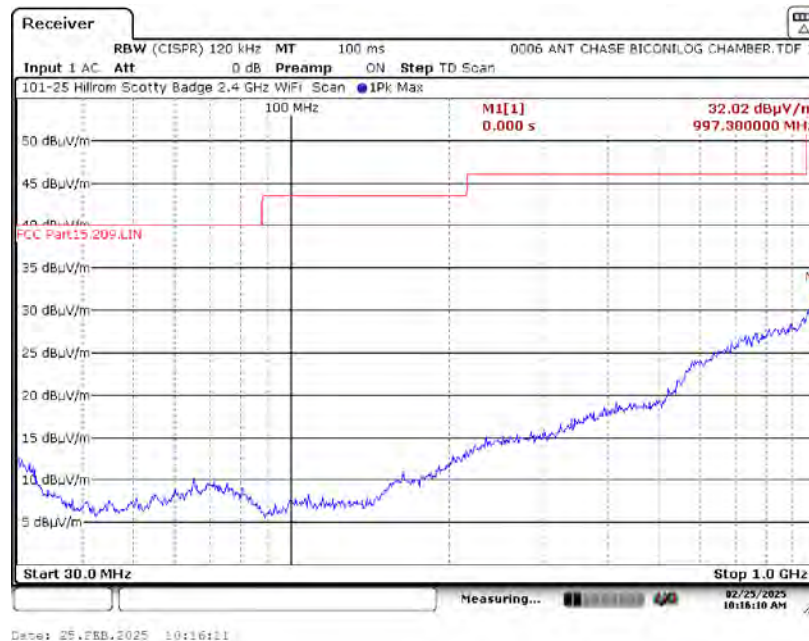
A3. Spurious Radiated Emissions (30 MHz – 1 GHz) Test Results

A3.3. High Channel, 2462 MHz – Z Axis

A3.3.1. Measurement Results: Horizontal Antenna



A3.3.2. Measurement Results: Vertical Antenna

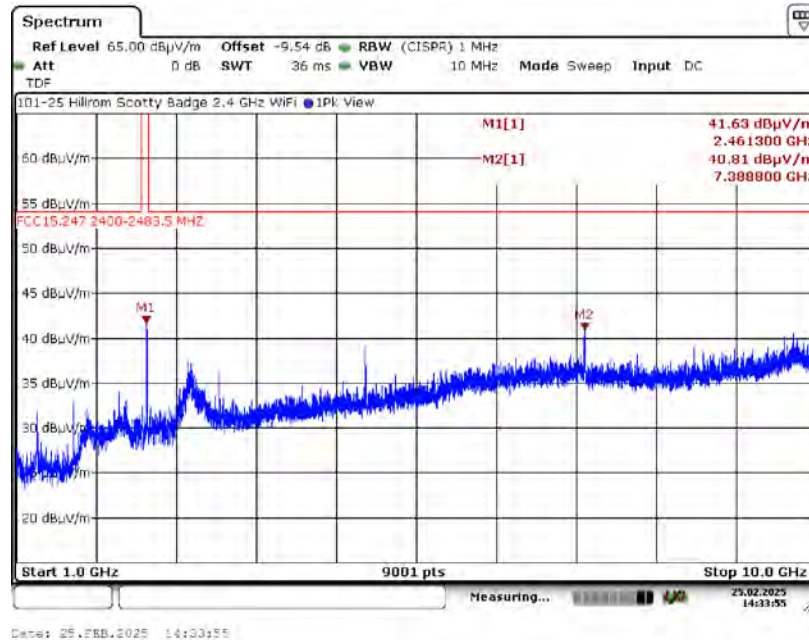


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

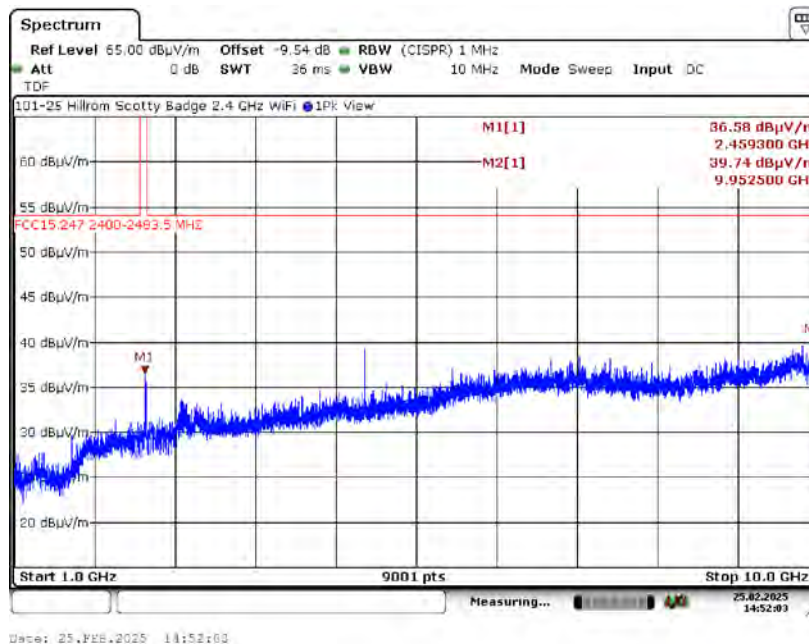
A4. Spurious Radiated Emissions (1 GHz – 10 GHz) Test Results

A4.1. High Channel, 2462 MHz – X Axis

A4.1.1. Measurement Results: Horizontal Antenna



A4.1.2. Measurement Results: Vertical Antenna

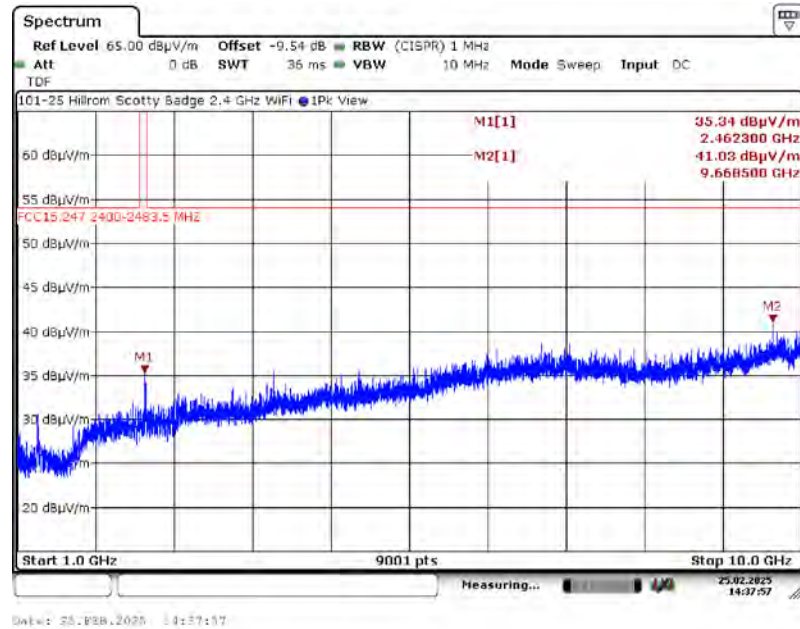


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

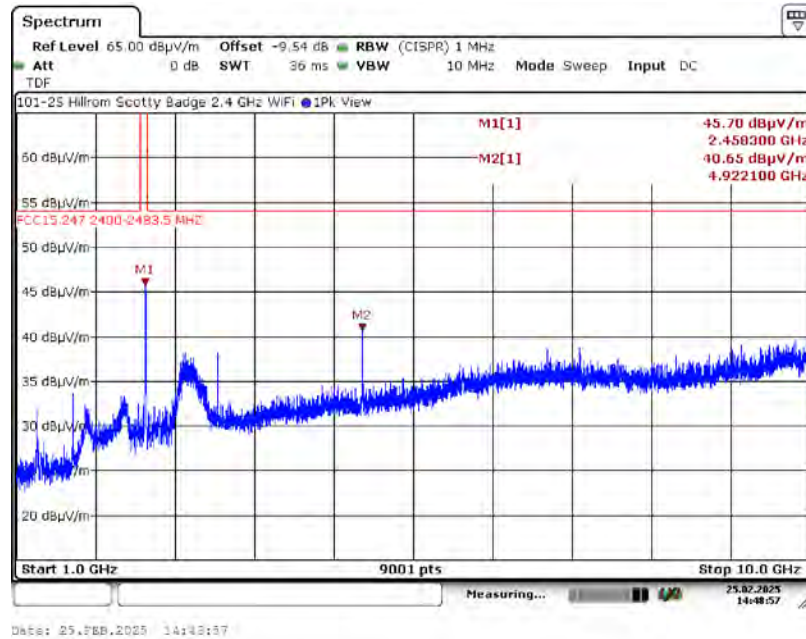
A4. Spurious Radiated Emissions 1 GHz – 10 GHz) Test Results

A4.2. High Channel, 2462 MHz – Y Axis

A4.2.1. Measurement Results: Horizontal Antenna



A4.2.2. Measurement Results: Vertical Antenna

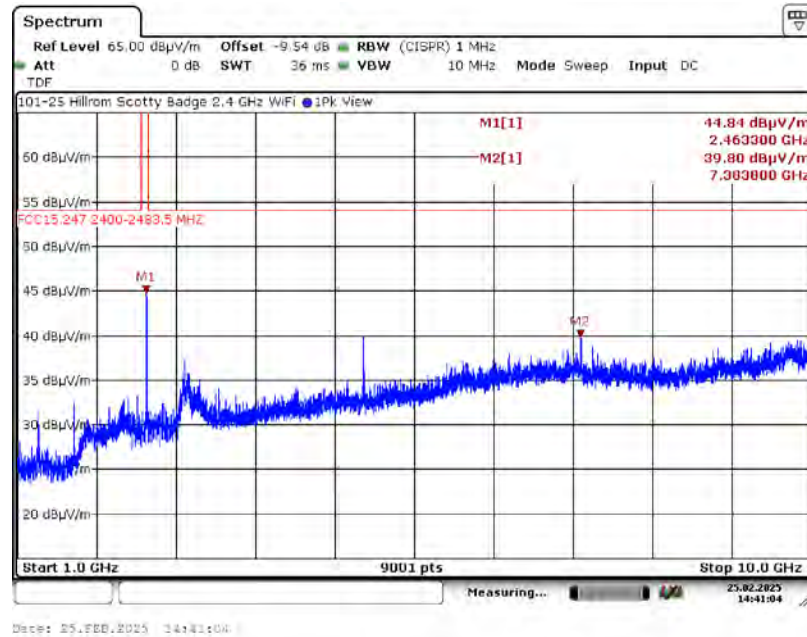


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

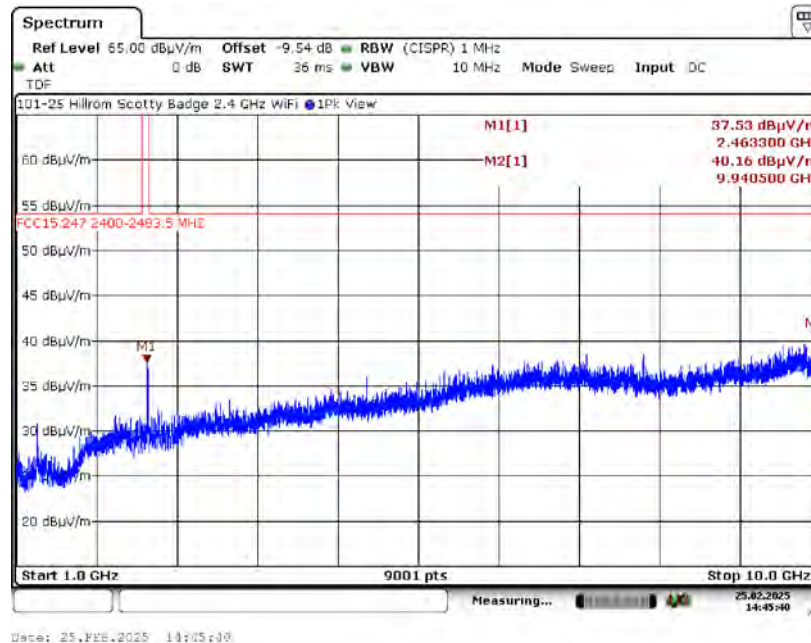
A4. Spurious Radiated Emissions (1 GHz – 10 GHz) Test Results

A4.3. High Channel, 2462 MHz – Z Axis

A4.3.1. Measurement Results: Horizontal Antenna



A4.3.2. Measurement Results: Vertical Antenna

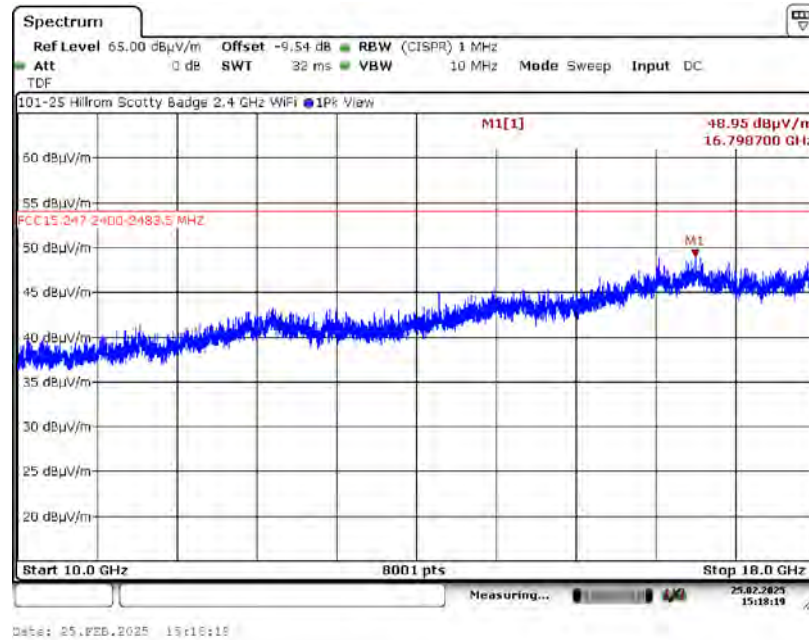


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

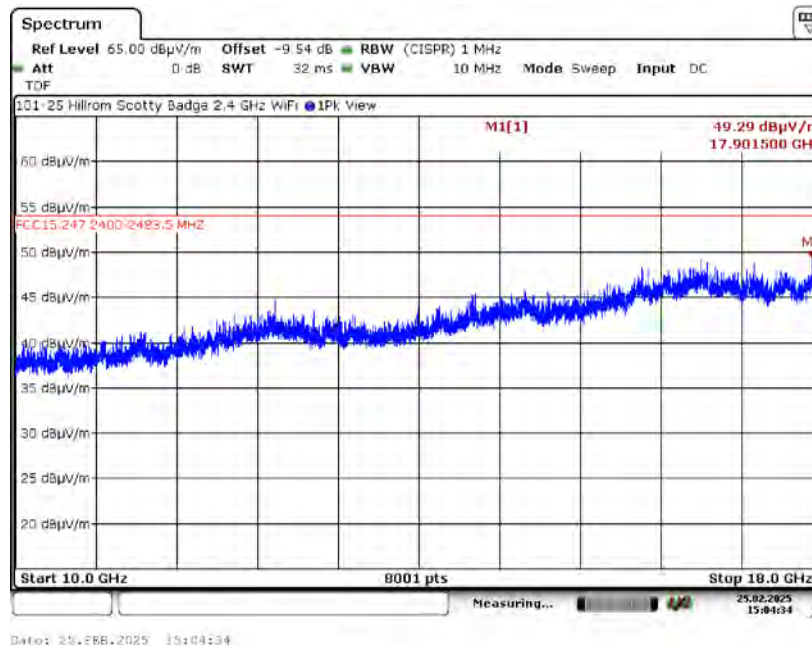
A5. Spurious Radiated Emissions 10 GHz – 18 GHz) Test Results

A5.1. High Channel, 2462 MHz – X Axis

A5.1.1. Measurement Results: Horizontal Antenna



A5.1.2. Measurement Results: Vertical Antenna

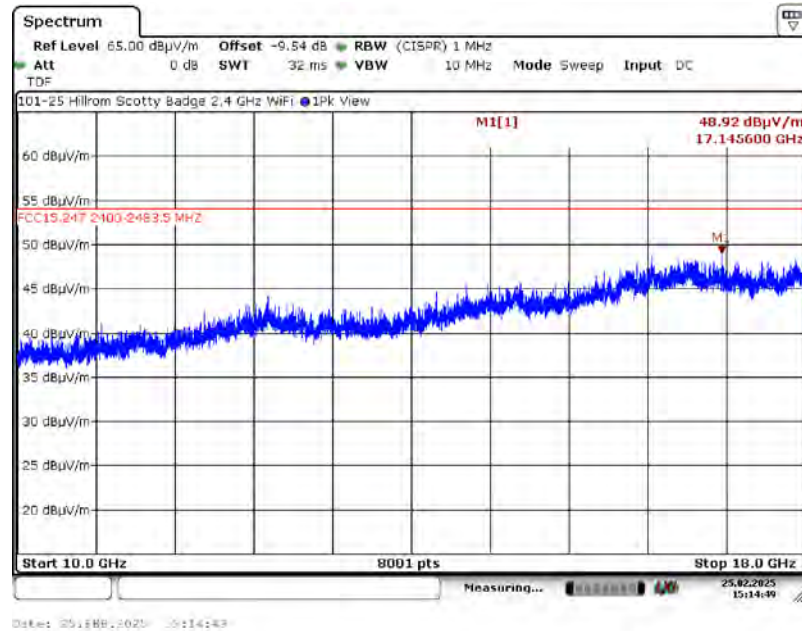


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

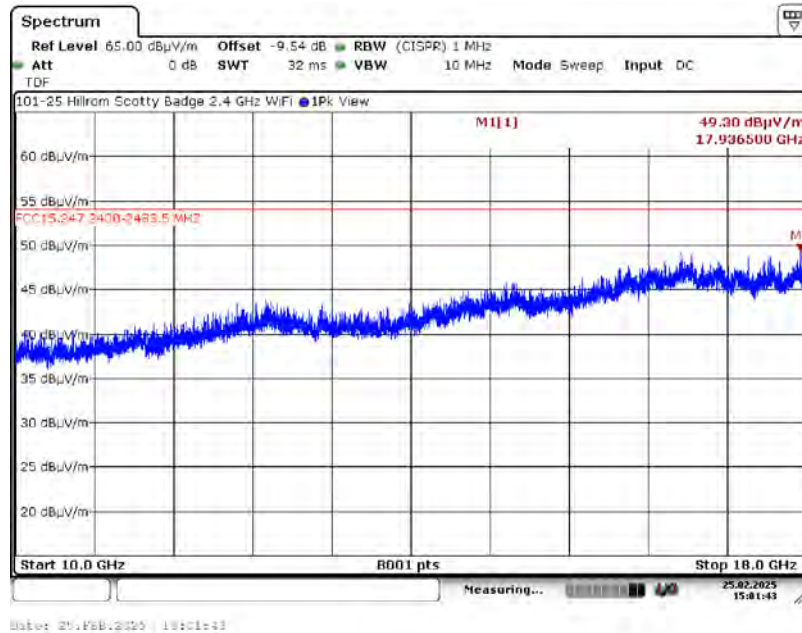
A5. Spurious Radiated Emissions (10 GHz – 18 GHz) Test Results

A5.2. High Channel, 2462 MHz – Y Axis

A5.2.1. Measurement Results: Horizontal Antenna



A5.2.2. Measurement Results: Vertical Antenna

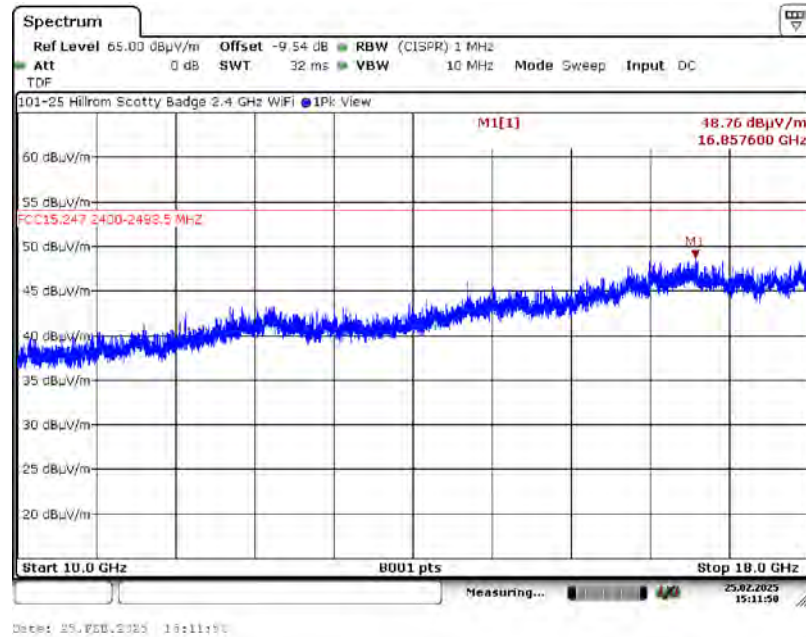


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

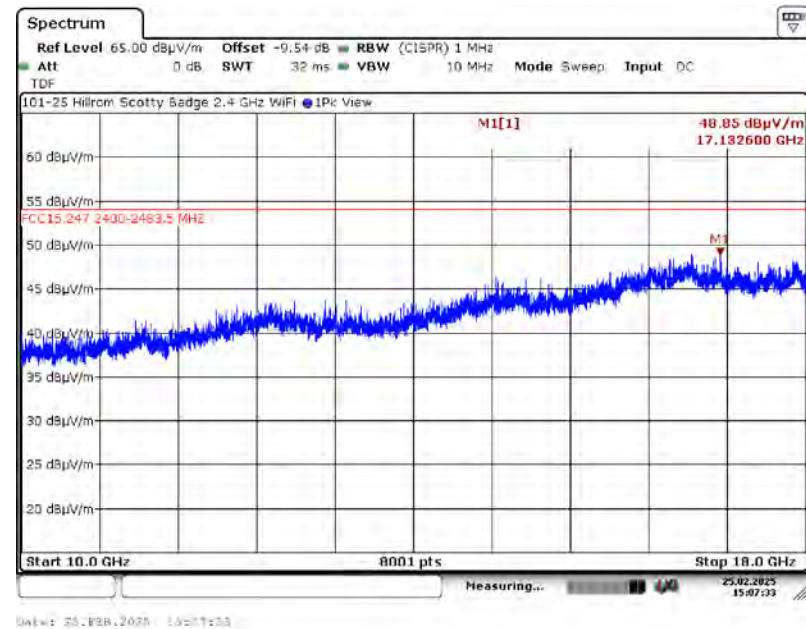
A5. Spurious Radiated Emissions 10 GHz – 18 GHz) Test Results

A5.3. High Channel, 2462 MHz – Z Axis

A5.3.1. Measurement Results: Horizontal Antenna



A5.3.2. Measurement Results: Vertical Antenna

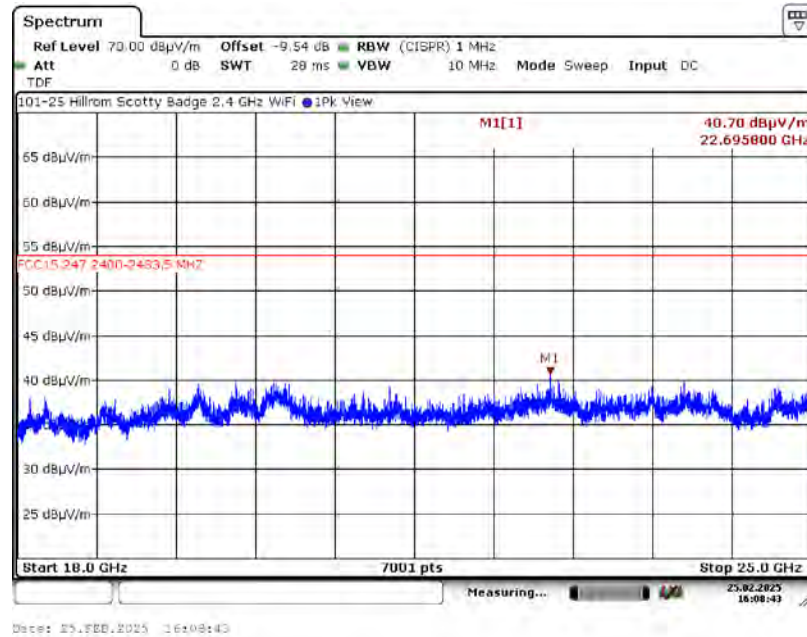


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

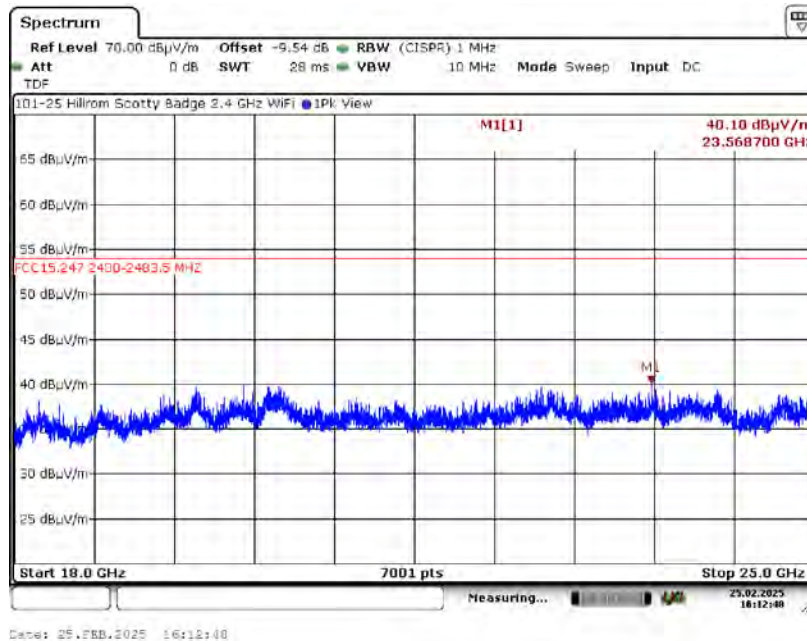
A6. Spurious Radiated Emissions 18 GHz – 25 GHz) Test Results

A6.1. High Channel, 2462 MHz – X Axis

A6.1.1. Measurement Results: Horizontal Antenna



A6.1.2. Measurement Results: Vertical Antenna

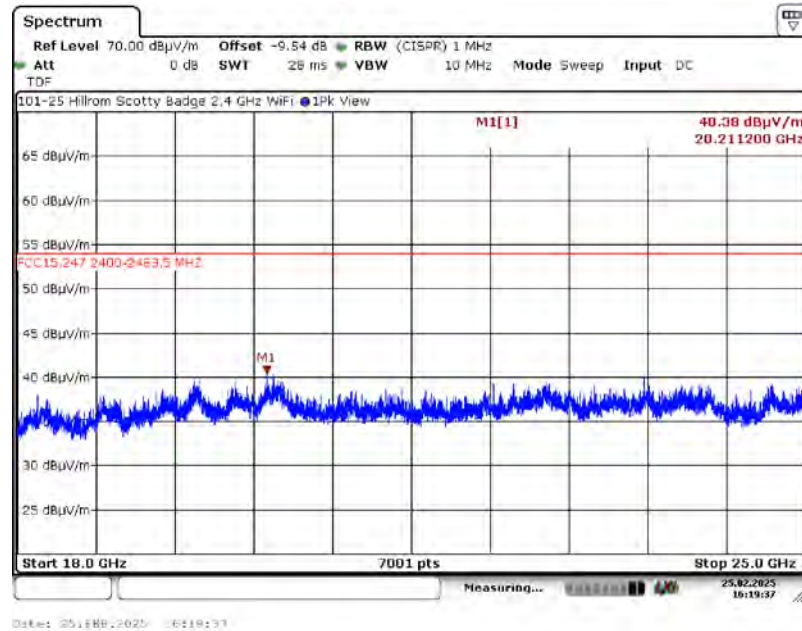


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

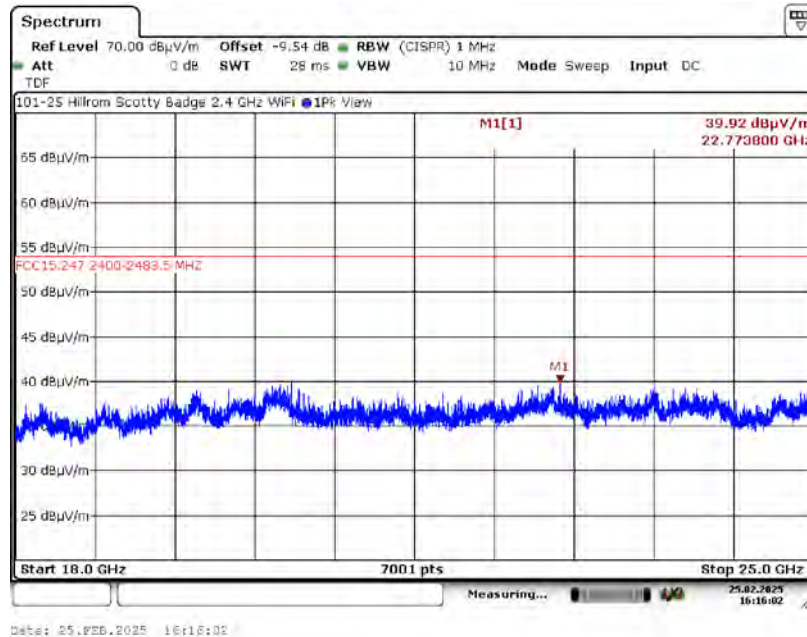
A6. Spurious Radiated Emissions (18 GHz – 25 GHz) Test Results

A6.2. High Channel, 2462 MHz – Y Axis

A6.2.1. Measurement Results: Horizontal Antenna



A6.2.2. Measurement Results: Vertical Antenna

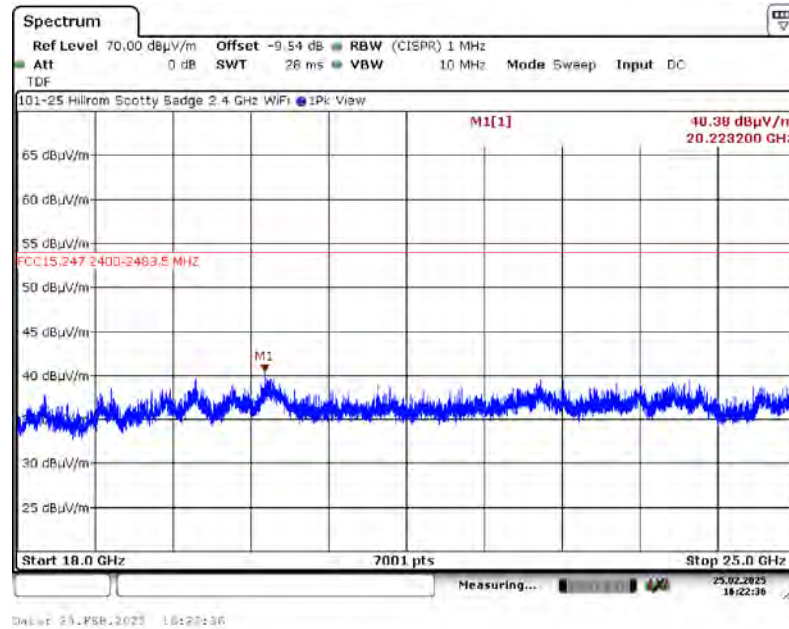


Appendix A - Transmitter Spurious Radiated Emissions (9 kHz to 25 GHz)

A6. Spurious Radiated Emissions 18 GHz – 25 GHz) Test Results

A6.3. High Channel, 2462 MHz – Z Axis

A6.3.1. Measurement Results: Horizontal Antenna



A6.3.2. Measurement Results: Vertical Antenna

