Testing Tomorrow's Technology

Application
For

Part 2, Subpart J, Paragraph 2.907 Equipment Authorization of Certification for an Intentional Radiator per Part 15, Subpart C, paragraphs 15.207, 15.209 and 15.247

For the

SwipeSense, Inc.

Model Number: BAD123

FCC ID: 2AB5RBAD123

UST Project: 26-0136

Issue Date: August 24, 2026

Total Pages : 65

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I certify that I am authorized to sign for the Test Agency and that all of the statements in this report and in the Exhibits attached hereto are true and correct to the best of my knowledge and belief:

US TECH (Agent Responsible For Test):

By: Alan Ghasiani

Name: 

Title: Compliance Engineer – President

Date: August 24, 2026

NVLAP LAB CODE 200162-0

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MEASUREMENT TECHNICAL REPORT

COMPANY NAME: SwipeSense, Inc.
ADDRESS: 1355 Peachtree St. NE Ste. 700 Atlanta GA 30309 USA
MODEL: BAD123
FCC ID: 2AB5RBAD123
DATE: August 24, 2026

This report concerns (check one): ☒Original grant □Class II change

Equipment type: BLE (Bluetooth Low Energy)

Technical:
BLE
2402 MHz - 2480 MHz (Channels 0-39)
Type of modulation: GFSK
Data/Bit Rate: 1 MBPS
Antenna Gain: See Table 4
Maximum Output Power: +10.11 dBm (Measured)
Software used to program EUT: Proprietary Test Software
EUT firmware number: N/A
Power setting: Maximum level (+10 dB)

☒**Disclaimer (check if applicable):**
Unless otherwise noted, the information presented in this section has been provided by the client and is assumed to be accurate and complete. All calculations, assessments, and conclusions herein are based on the client-supplied data. The testing laboratory has not independently verified this information and shall not be held responsible for any inaccuracies or omissions in the client-provided content.

Report prepared by:	US Tech 3505 Francis Circle Alpharetta, GA 30004 FCC Lab Designation#: US5301 CANADA Lab Code: 9000A-1, CAB ID: US0031

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1. General Information

1.1. Purpose of this Report

This report is prepared as a means of conveying test results and information concerning the suitability of this exact product for public distribution according to FCC Rules and Regulations Part 15, Section 247.

1.2. Characterization of Test Sample

The sample used for testing was received by US Tech on June 22, 2026 in good operating condition.

1.3. Product Description

The Equipment under Test (EUT) is the SwipeSense, Inc. Model BAD123. The EUT is a small device that is designed to be either worn by a person or attached to an asset. It provides a dynamic signal that is motion aware and reduces frequency when stationary to save power and extend battery life. The EUT's signal is received by a location hub, which uses that data to determine the device's real-time position.

The EUT is a battery powered device.

Antenna Gain: See Table 4
Bandwidth: 1 MHz bandwidth modulation
Maximum Output Power: +10.11 dBm (measured)

1.4. Configuration of Tested System

The Test Sample was tested per *ANSI C63.10:2020+COR1(2023), American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices* for the intentional radiator aspect of the device and *ANSI C63.4:2014, Methods of Measurement of Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (2014)* for the unintentional radiator aspect of the device as well as FCC subpart B and C of Part 15 and per FCC KDB Publication number 558074 v05r02 for Digital Transmission Systems Operating Under section 15.247.

Digital RF conducted and radiated emissions data below 1 GHz were taken with the measuring receiver (or spectrum analyzer's) resolution bandwidth adjusted to 9 kHz and 120 kHz, respectively. All measurements performed above 1.0 GHz were made with a RBW of 1 MHz. All measurements are peak unless stated otherwise. The video filter associated with the spectrum analyzer was set to 3 times the RBW or as required per the standard throughout the evaluation process.

A list of EUT and Peripherals is found in Table 1. A block diagram of the tested system is shown in Figure 1. Test configuration photographs for spurious and fundamental emissions are provided in separate Appendices.

1.5. Test Facility

Testing was performed at US Tech's measurement facility at 3505 Francis Circle, Alpharetta, GA 30004. This site has been fully described and registered with the FCC. Its designation number is US5301. Additionally, this site has also been fully described and submitted to Industry Canada (IC), and has been approved under file number 9900A-1.

1.6. Related Submittal(s)/Grant(s)

The EUT is subject to the following FCC Equipment Authorizations:

a) Certification of the transmitter incorporated within the EUT, see test data presented herein.

Table 1. EUT and Peripherals

PERIPHERAL MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	REMARKS	CABLES P/D
EUT/ SwipeSense, Inc.	BAD123	Sample 1	FCC ID: 2AB5RBAD123 (pending)	N/A
DC Bench Supply TekPower	TP3005T	527564	Used as peripheral device to power the EUT during testing.	PU
Antenna	--	--	See antenna details.	--

S= Shielded, U= Unshielded, P= Power, D= Data

2. Tests and Measurements

2.1. Test Equipment

The table below lists test equipment used to evaluate this product. Model numbers, serial numbers and their calibration status are included herein.

Table 2. Test Instruments

TEST INSTRUMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DUE DATE
Spectrum Analyzer	Agilent	E4407B	US41442935	4/20/2028 2 yr.
Spectrum Analyzer	Agilent	E4440A	MY45304803	9/04/2027 2 yr
RF Preamp 100 Khz To 1.3 Ghz	Hewlett-Packard	8447D	1937A01611	2/13/2027
RF Preamp 1.0 Ghz To 26.0 Ghz	Hewlett-Packard	8449B	3008A01275	2/12/2027
Loop Antenna	ETS Lindgren	6502	9810-3246	2/18/2028 2 yr.
Biconical Antenna	EMCO	3110B	9307-1431	2/24/2027 2 yr
Log Periodic Antenna	EMCO	3146	9110-3236	11/15/2026 2 yr
Horn Antenna	A.H. Systems	SAS-571	605	3/18/2027 2 yr.
High Pass Filter	Microwave Circuits	H3R020G2	001DC9528	6/01/2027
LISN X 2	Solar Electronics	9247-50-TS-50-N	955824 and 955825	4/29/2027
RF Cable	US Tech	LMR400	None	2/13/2027
RF Cable	US Tech	ULC-3F-T-SM-SM	2146	1/14/2027
RF Cable	Time Microwave Systems	LMR400	None	1/14/2027
RF Cable	Time Microwave Systems	LMR400	19424	2/13/2027
RF Cable	Harbor Industries	LL142	A13355-3036	2/13/2027
Attenuator	Mini-Circuits Inc.	VAT-8 15542	3 0519	6/01/2027

Note 1: The calibration interval of the above test instruments are 12 months unless stated otherwise and all calibrations are traceable to NIST/USA.

2.2. Modifications to EUT Hardware

No modifications were made by US Tech to bring the EUT into compliance with FCC Part 15.247 requirements.

2.3. Number of Measurements for Intentional Radiators (15.31(m))

Measurements of intentional radiators or receivers shall be performed and reported for each band in which the device can be operated, with the device operating at the number of frequencies in each band specified in Table 3.

Table 3. Number of Test Frequencies for Intentional Radiators

Frequency Range over which the device operates	Number of Frequencies	Location in the Range of operation
1 MHz or less	1	Middle
1 to 10 MHz	2	1 near the top 1 near the bottom
Greater than 10 MHz	3	1 near top 1 near middle 1 near bottom

Because the EUT operates at 2402 MHz to 2480 MHz, 3 test frequencies were used.

2.4. Frequency Range of Radiated Measurements (Part 15.33)

2.4.1. Intentional Radiator

The spectrum shall be investigated for the intentional radiator from the lowest RF signal generated in the EUT, without going below 9 kHz to the 10th harmonic of the highest fundamental frequency generated or 40 GHz, whichever is the lowest.

2.4.2. Unintentional Radiator

For the digital device, an unintentional radiator, the frequency range shall be 30 MHz to 1000 MHz, or to the range specified in 2.4.1 above, whichever is the higher range of investigation.

2.5. Measurement Detector Function and Bandwidth (CFR 15.35)

The radiated and conducted emissions limits shown herein are based on the following:

2.5.1. Detector Function and Associated Bandwidth

On frequencies below 1000 MHz, the limits herein are based upon measurement equipment employing a CISPR Quasi-peak detector function and related measurement bandwidths (i.e. 9 kHz from 150 kHz to 30 MHz and 120 kHz from 30 MHz to 1000 MHz). Alternatively, measurements may be made with equipment employing a peak detector function as long as the same bandwidths specified for the Quasi-peak device are used.

2.5.2. Corresponding Peak and Average Requirements

Above 1000 MHz, radiated limits are based on measuring instrumentation employing an average detector function. When average radiated emissions are specified there is also a corresponding Peak requirement, as measured using a peak detector, of 20 dB greater than the average limit. For all measurements above 1000 MHz the Resolution Bandwidth shall be at least 1 MHz.

2.5.3. Pulsed Transmitter Averaging

When the radiated emissions limit is expressed as an average value, and the transmitter is pulsed, the measured field strength shall be determined by applying a Duty Cycle Correction Factor based upon dividing the total ON time during the first 100 ms period by 100 ms (or by the period if less than 100 ms). The duty cycle may be expressed logarithmically in dB.

NOTE: If the transmitter was programmed to transmit at >98% duty cycle, then, wherever applicable (where the detection mode was AVG) the duty cycle factor calculated will be applied.

2.6. EUT Antenna Requirements (CFR 15.203)

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. Only the antenna(s) listed in Table 4 will be used with this module.

Table 4. Allowed Antenna(s)

REPORT REFERENCE	MANUFACTURER	TYPE OF ANTENNA	MODEL	GAIN dB_i	TYPE OF CONNECTOR
Antenna 0	SwipeSense, Inc.	PCB Trace	Inverted F type	+0.7	PCB Trace
Antenna 1	SwipeSense, Inc.	PCB Trace	Inverted F type	+0.7	PCB Trace

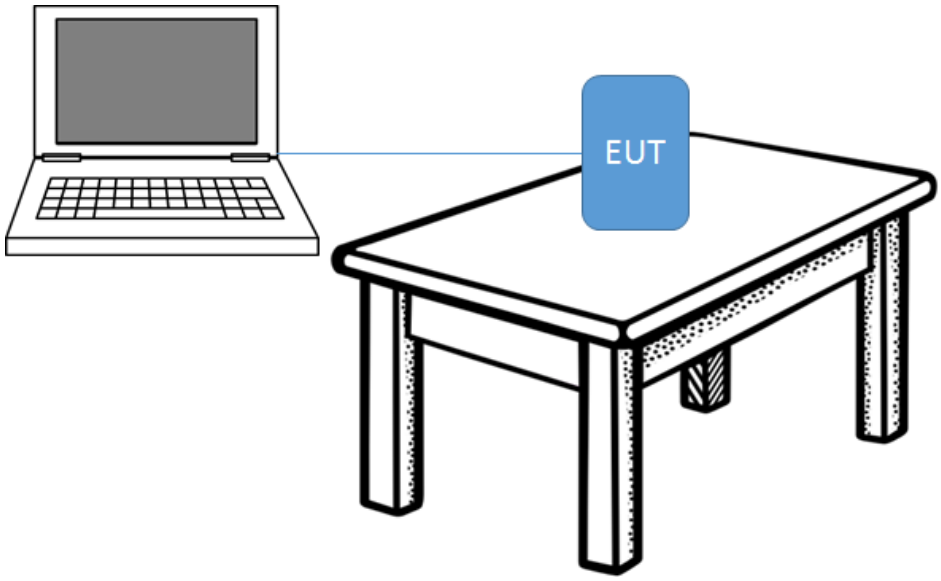


Figure 1. Block Diagram of Test Configuration

Note: PC used to program EUT for intentional spurious emissions

2.7. Restricted Bands of Operation (Part 15.205)

Only spurious emissions can fall in the frequency bands of CFR 15.205. The field strength of these spurious cannot exceed the limits of 15.209. Radiated harmonics and other Spurious are examined for this requirement see paragraph 2.10.

2.8. Transmitter Duty Cycle (Part15.35 (c))

The EUT employs pulse transmission however for testing purpose the EUT was programmed to transmit at a rate >98%. The pulse transmission requirements of this subpart were acknowledged and considered during testing.

When the radiated emissions limit is expressed as an average value, and the transmitter is pulsed, the measured field strength shall be determined by applying a Duty Cycle Correction Factor (DCCF) based upon dividing the total ON time during the first 100 ms period by 100 ms (or by the period if less than 100 ms). The duty cycle may also be expressed logarithmically in dB.

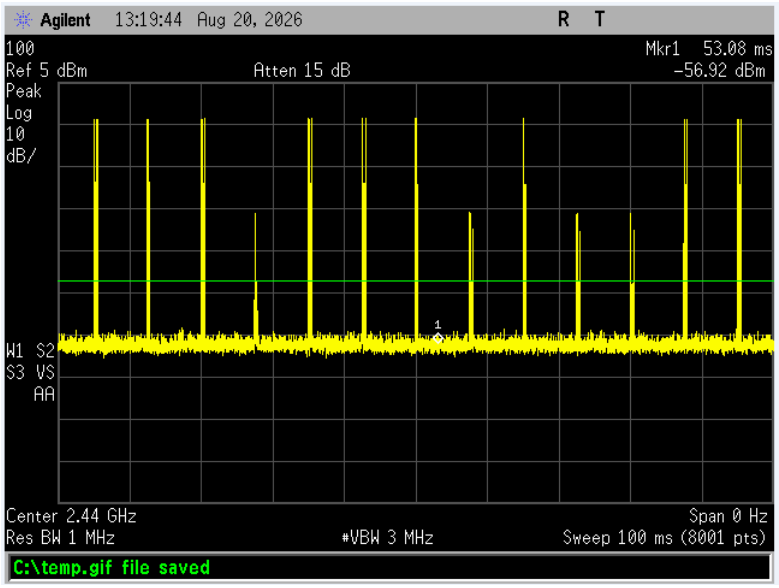


Figure 2. EUT Duty Cycle, One period

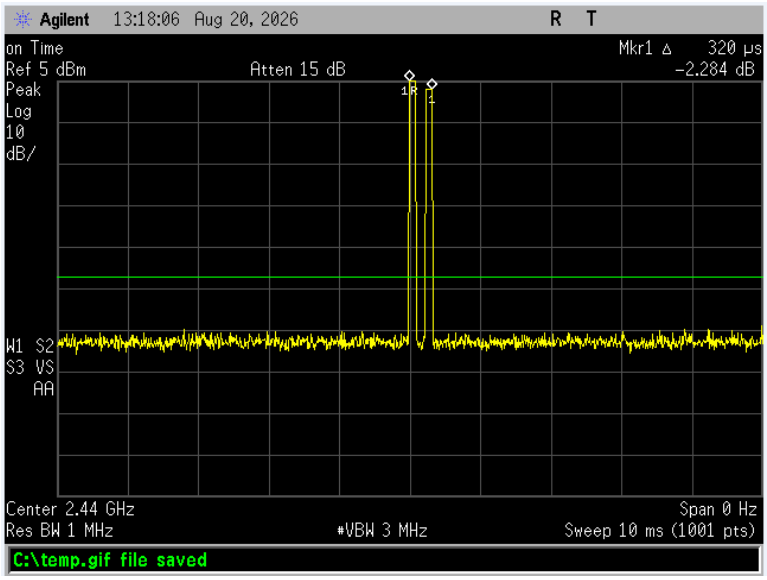


Figure 3. Single Pulse

DCCF = 20 log (ON time / 100 mSec) = 20 log (4.16/100) = -27.6 dB

For the purposes of this report a duty cycle correction factor will be -20 dB wherever the DCCF is applied.

2.9. Antenna Conducted Intentional and Spurious Emissions (CFR 15.209, 15.247(d))

The EUT was put into a continuous-transmit mode of operation and tested per ANSI C63.10:2020 for conducted out of band emissions emanating from the antenna port over the frequency range of 30 MHz to ten times the highest clock frequency generate or used in this case, 25 GHz. A conducted scan was performed on the EUT to identify and record spurious signals that were related to the transmitter. Antenna Conducted Emissions of a significant magnitude that fell within restricted bands were then measured as radiated emissions in the EMC Chamber. The conducted emissions graphs are found in the figures below. The limit for antenna conducted power is 1 Watt (30 dBm) per 15.247 (b)(3).

For Conducted RF antenna tests, the RBW was set to 100 kHz, video bandwidth (VBW)> RBW, scan up through the 10th harmonic of the fundamental frequency. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band.

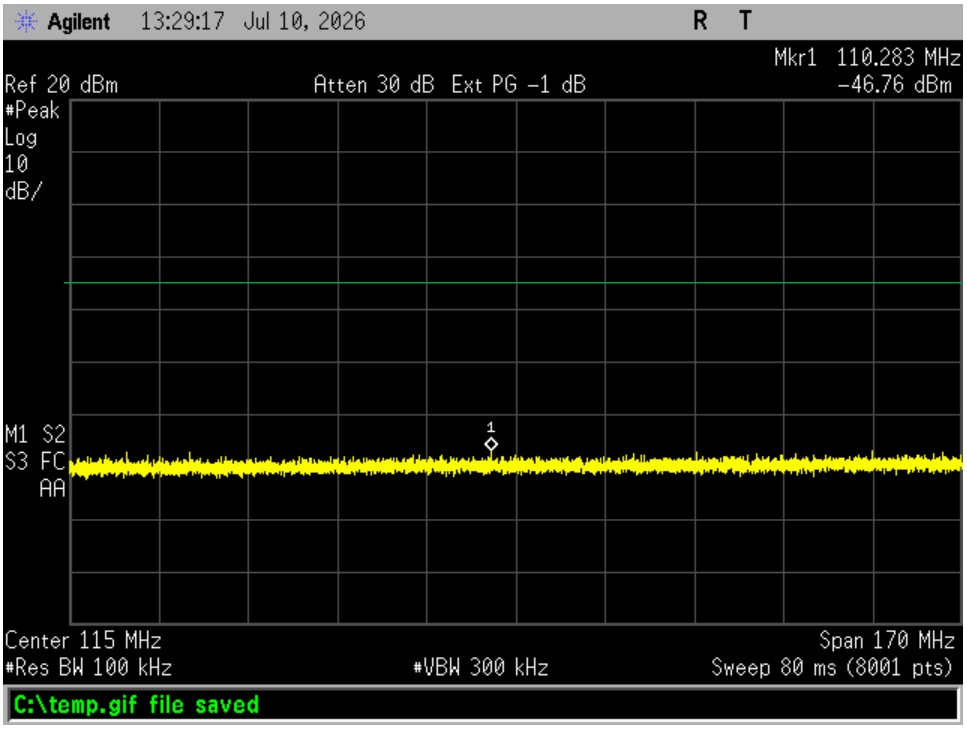


Figure 4. Antenna Conducted Emissions, Channel 0, 30-200 MHz

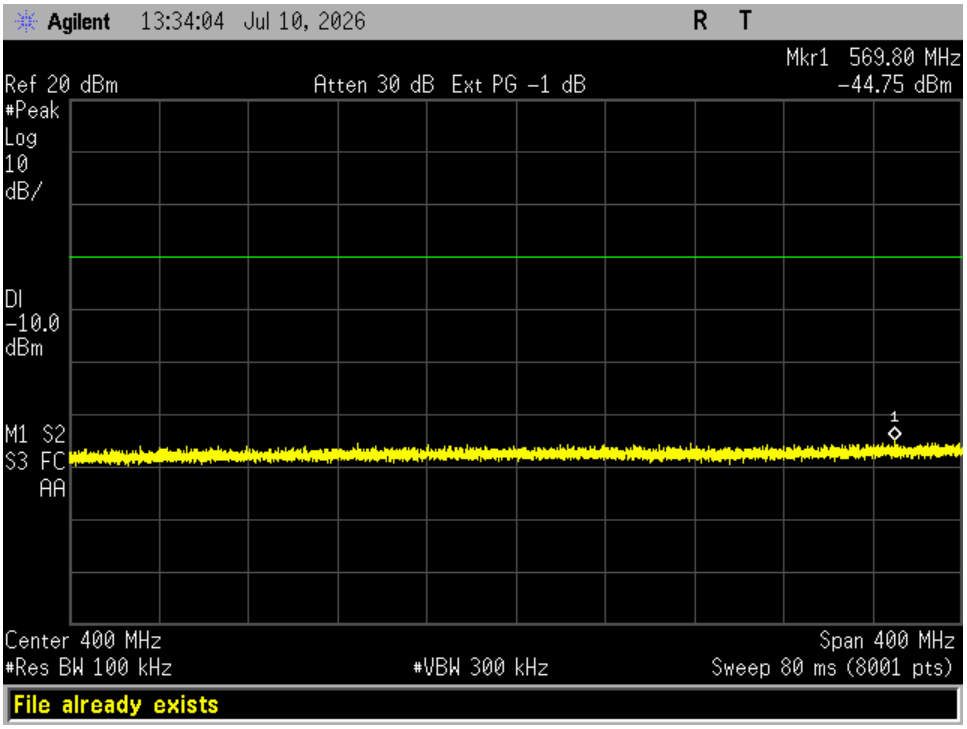


Figure 5. Antenna Conducted Emissions, Channel 0, 200-600 MHz

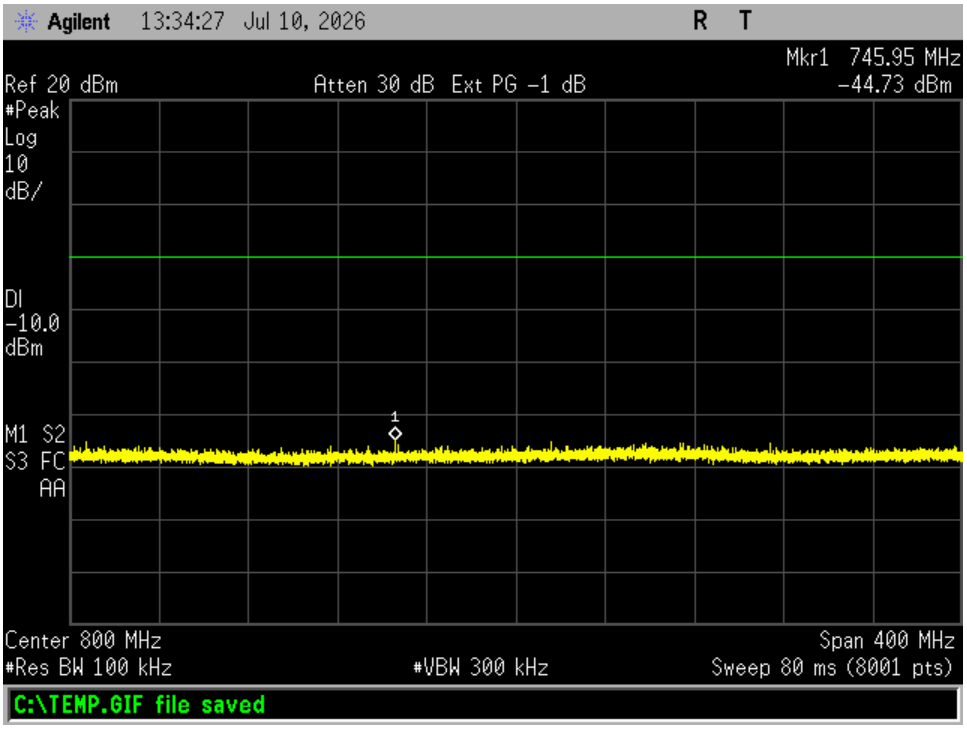


Figure 6. Antenna Conducted Emissions, Channel 0, 600-1000 MHz

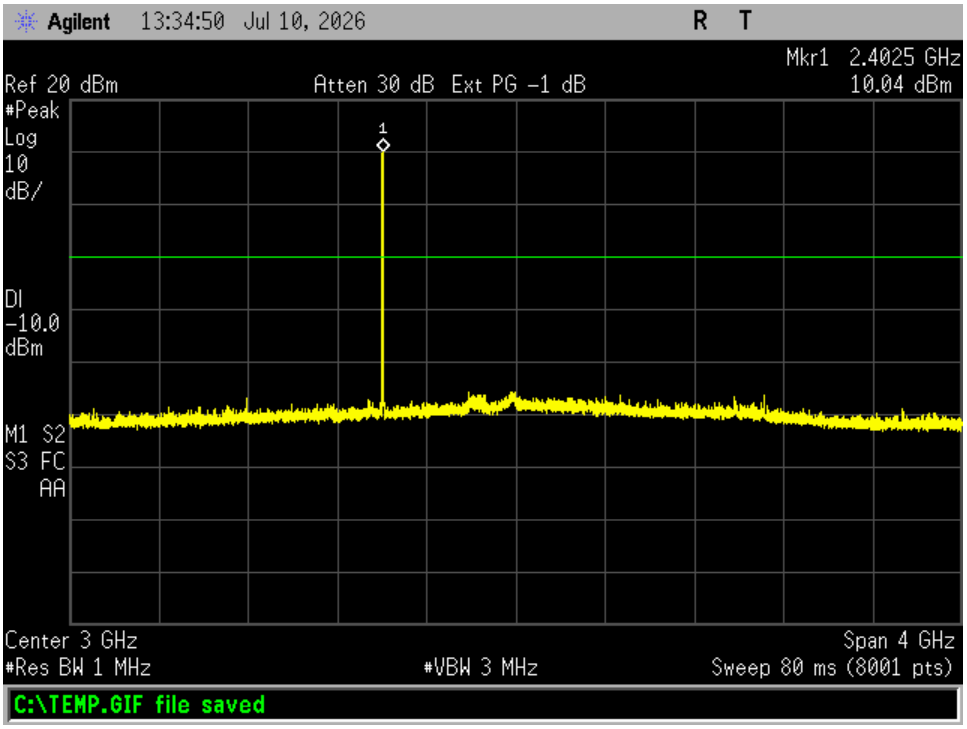


Figure 7. Antenna Conducted Emissions, Channel 0, 1 – 5 GHz

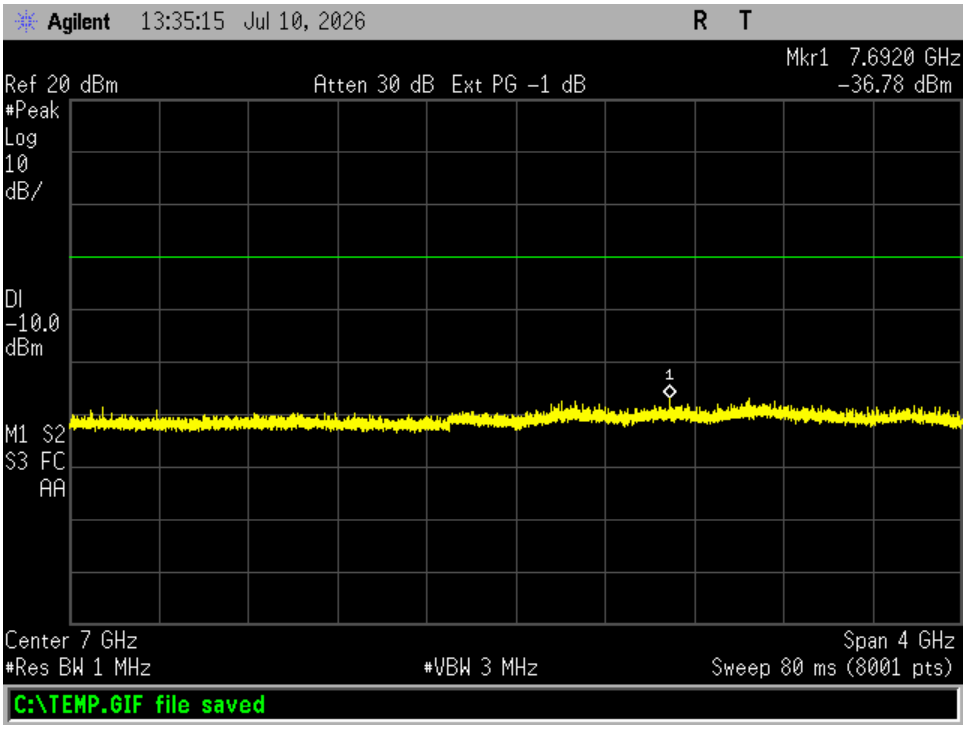


Figure 8. Antenna Conducted Emissions, Channel 0, 5 – 9 GHz

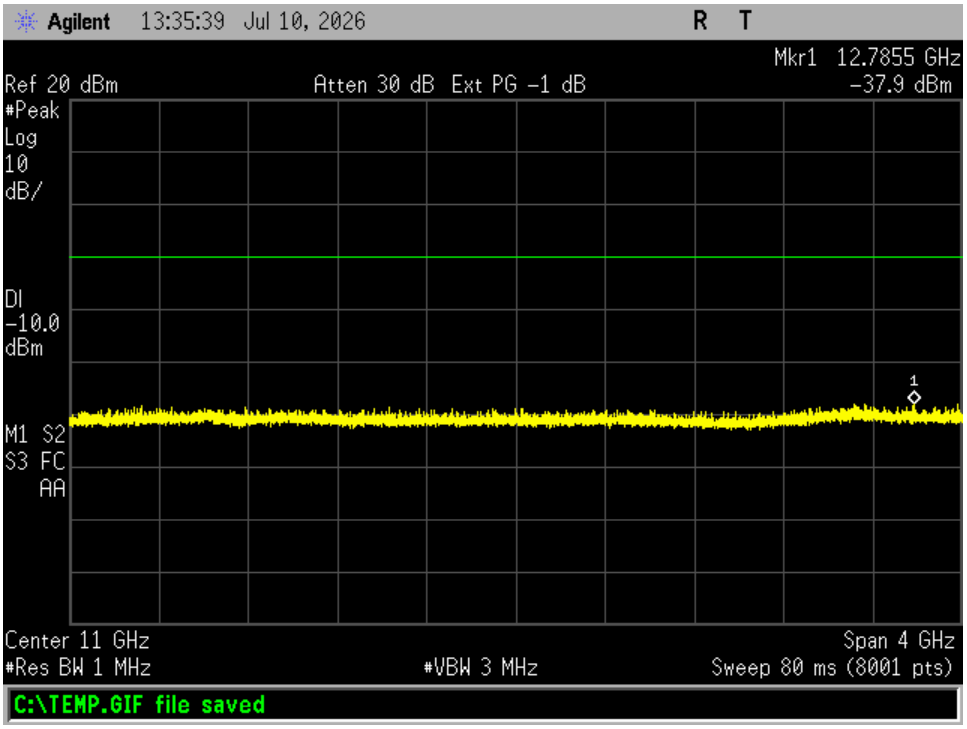


Figure 9. Antenna Conducted Emissions, Channel 0, 9 – 13 GHz

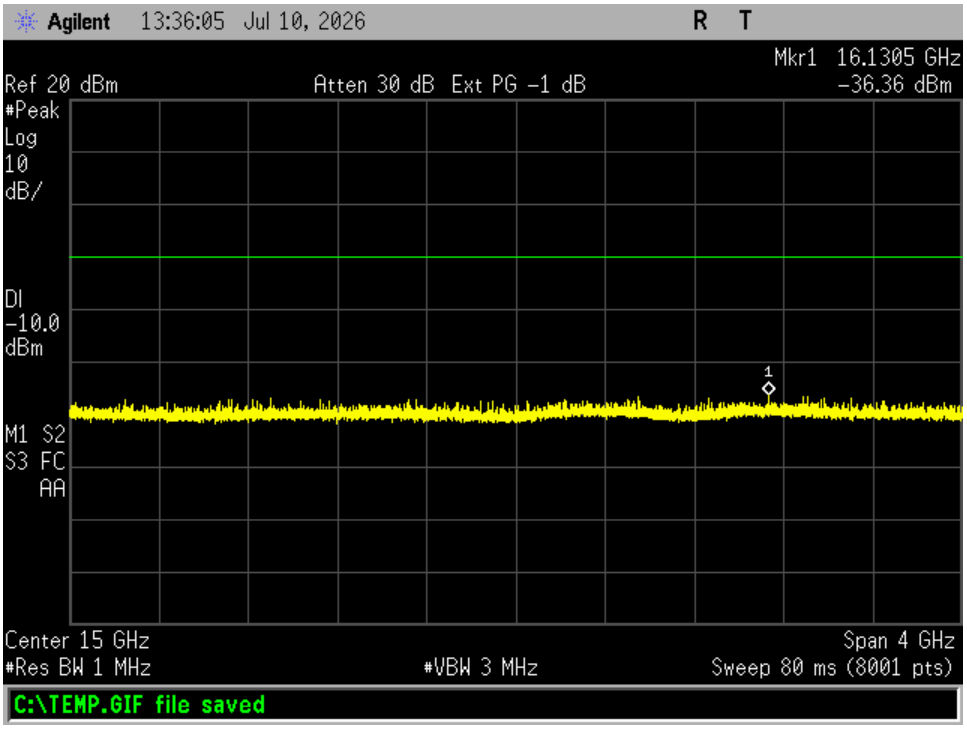


Figure 10. Antenna Conducted Emissions, Channel 0, 13 – 17 GHz

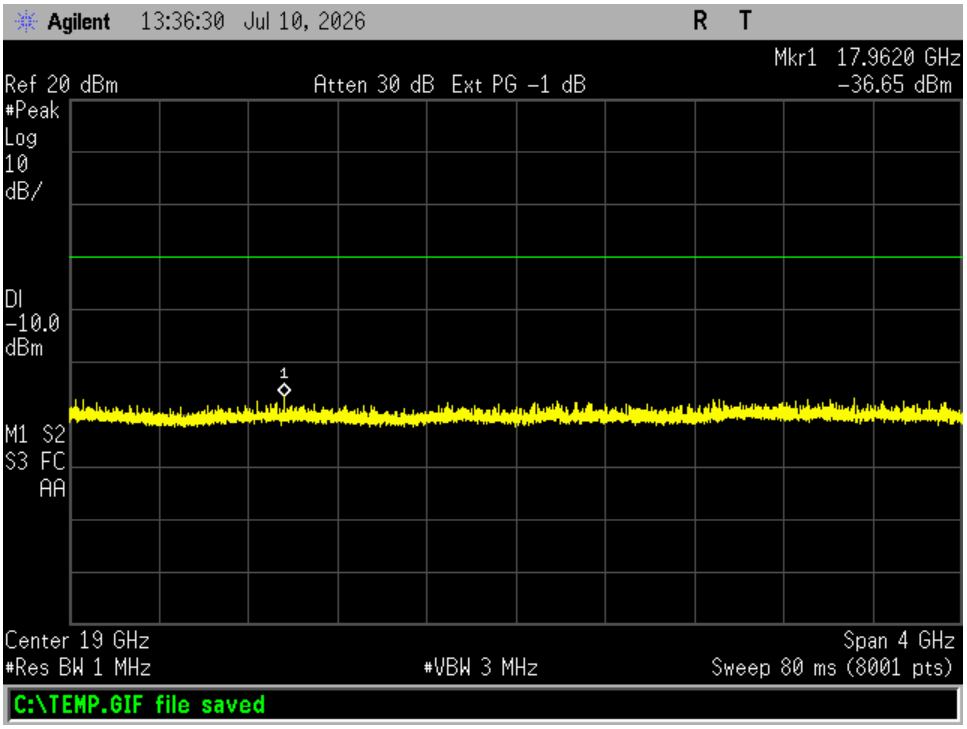


Figure 11. Antenna Conducted Emissions, Channel 0, 17 – 21 GHz

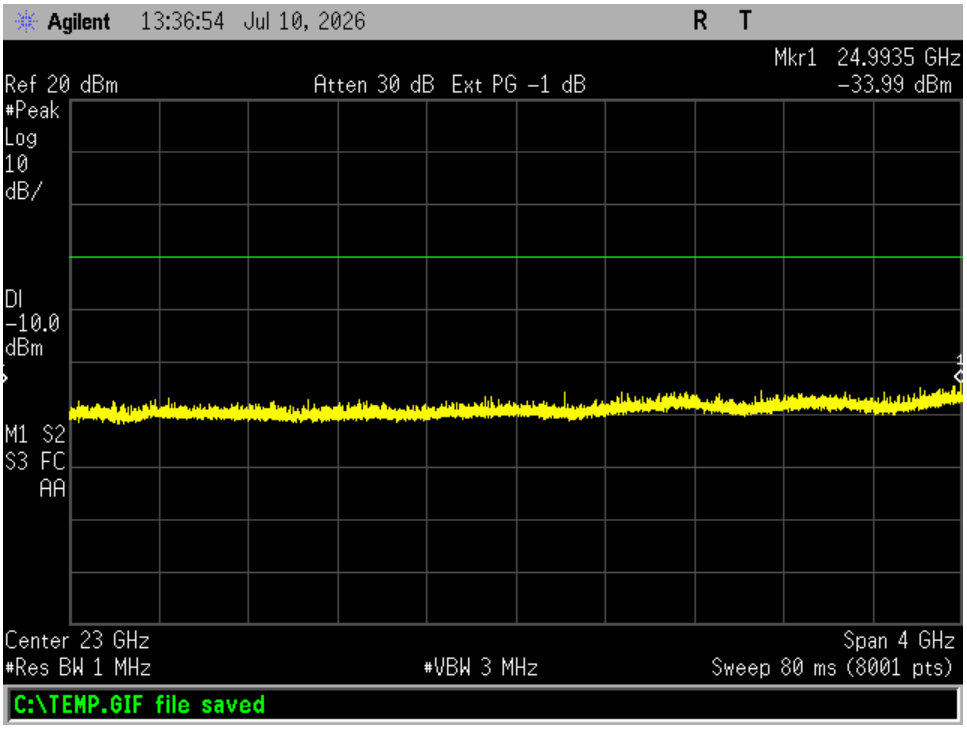


Figure 12. Antenna Conducted Emissions, Channel 0, 21 – 25 GHz

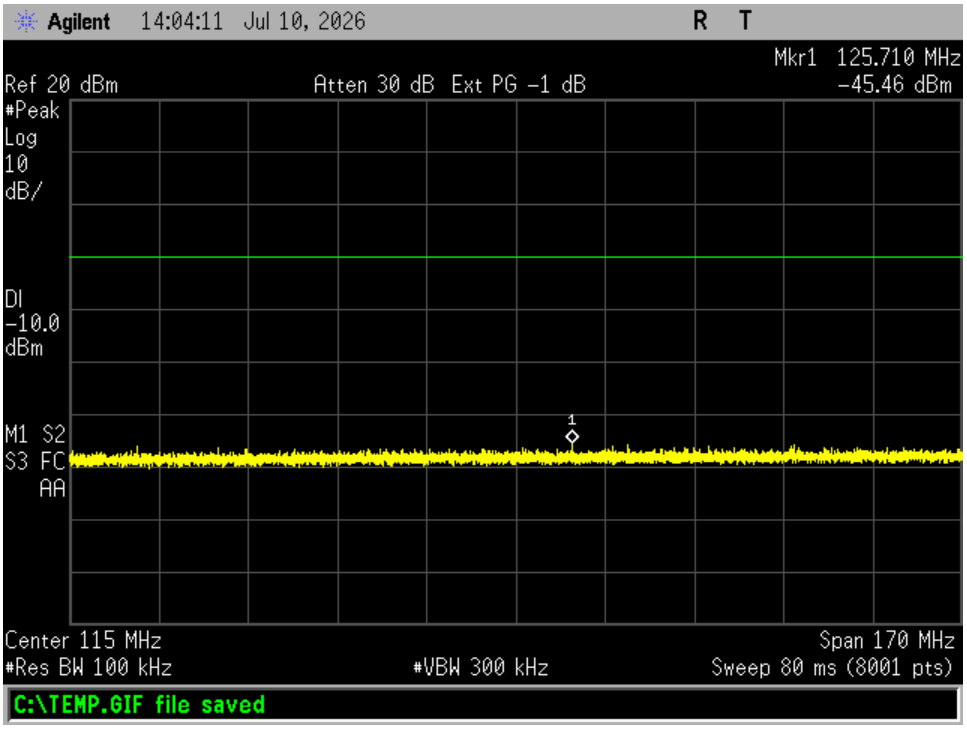


Figure 13. Antenna Conducted Emissions, Channel 24, 30-200 MHz

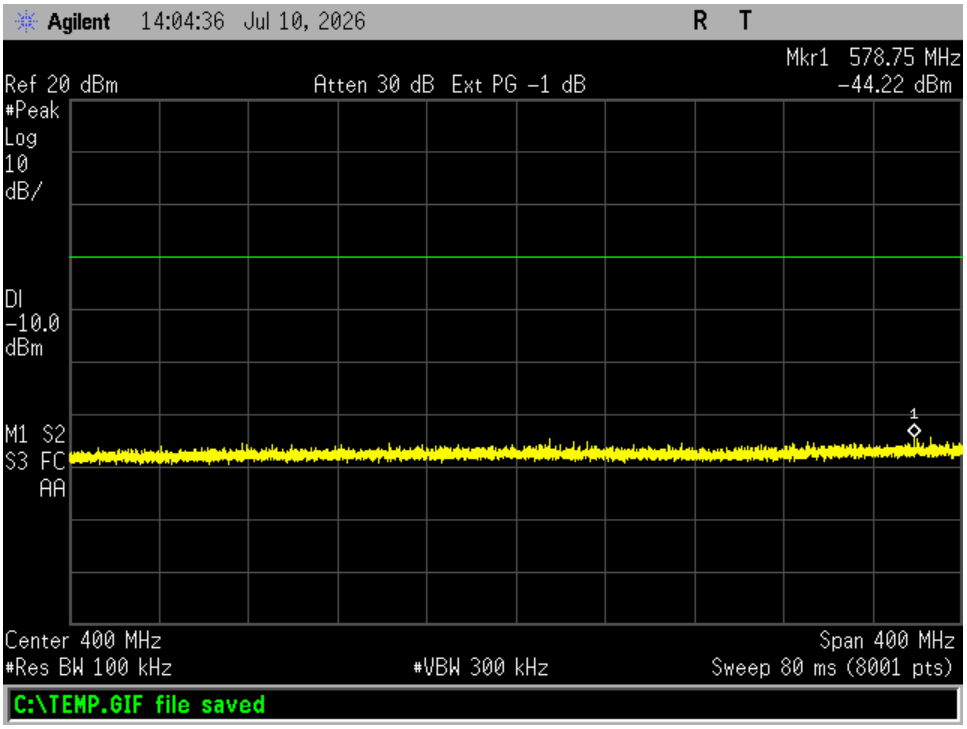


Figure 14. Antenna Conducted Emissions, Channel 24, 200-600 MHz

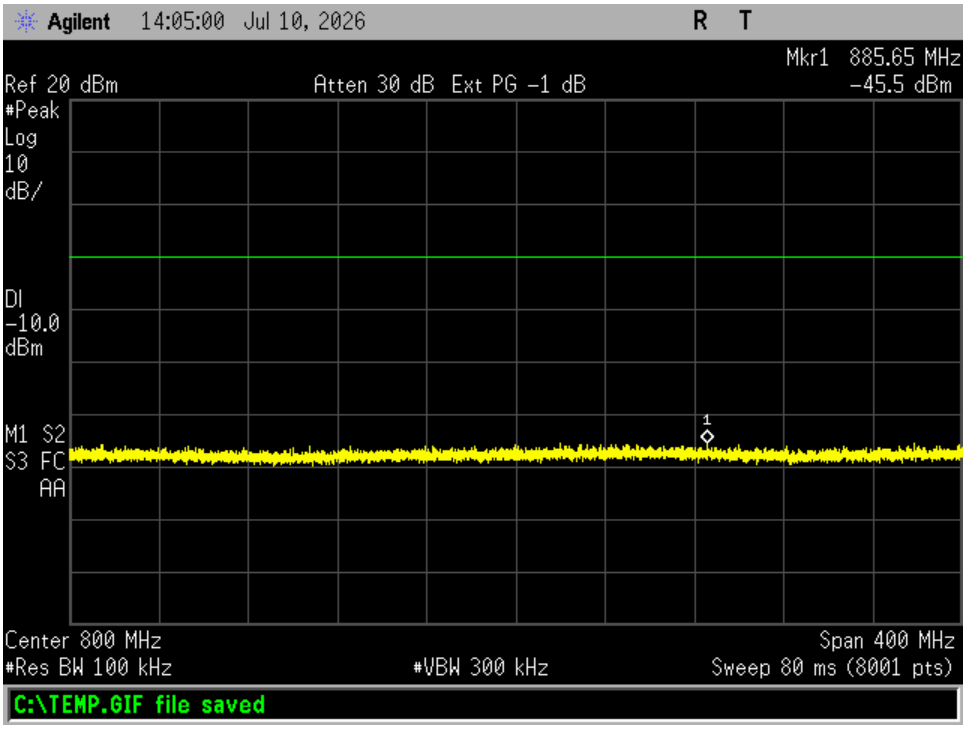


Figure 15. Antenna Conducted Emissions, Channel 24, 600-1000 MHz

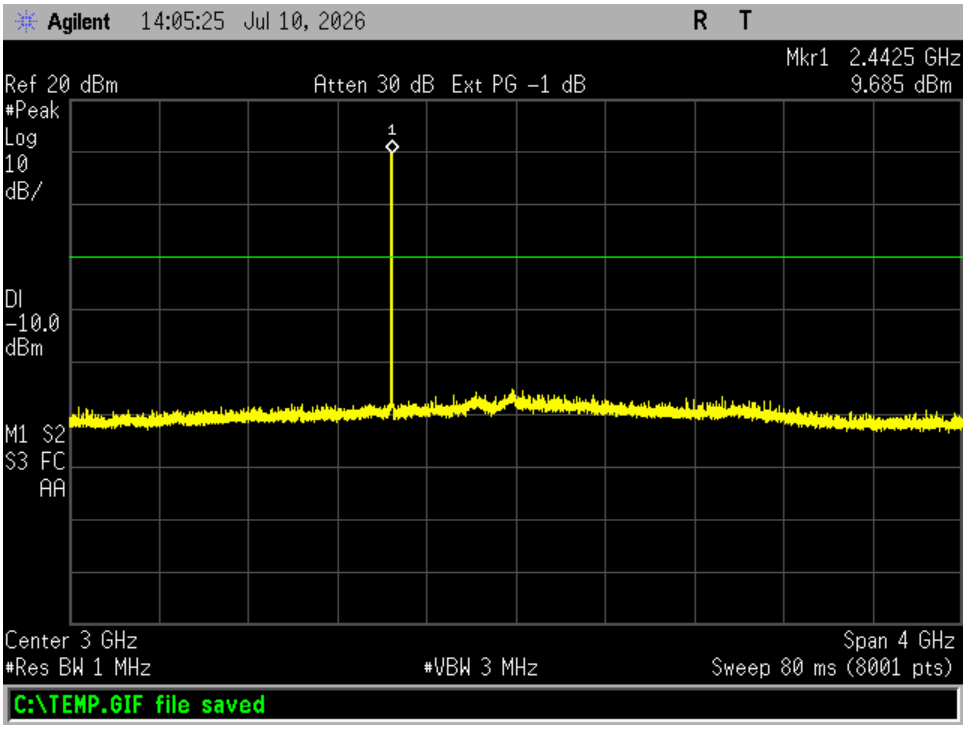


Figure 16. Antenna Conducted Emissions, Channel 24, 1 – 5 GHz

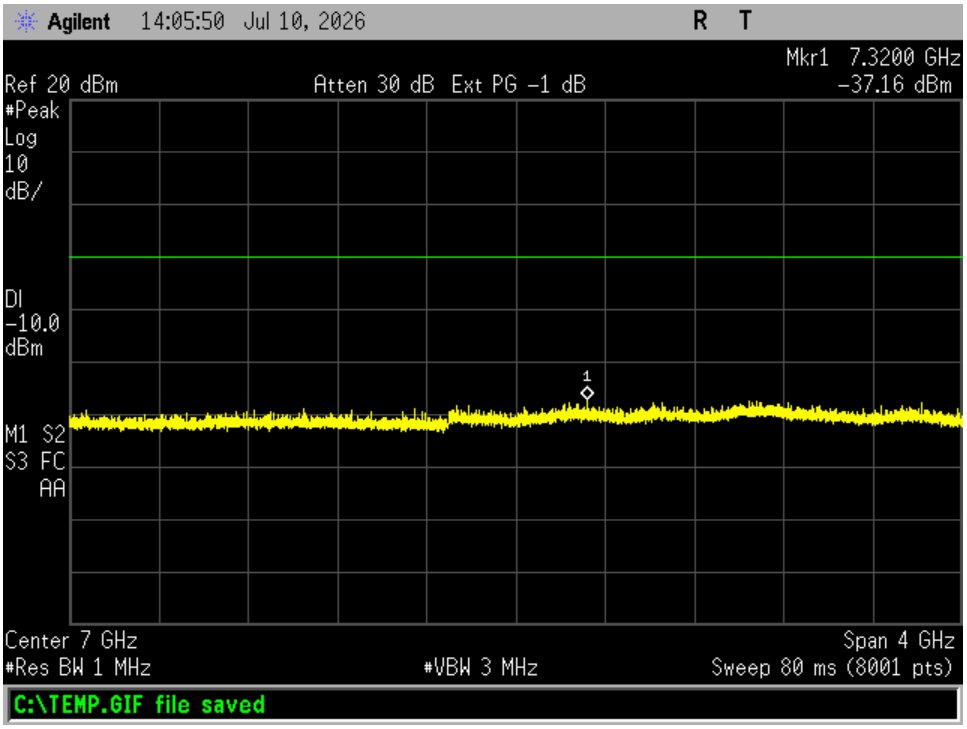


Figure 17. Antenna Conducted Emissions, Channel 24, 5 – 9 GHz

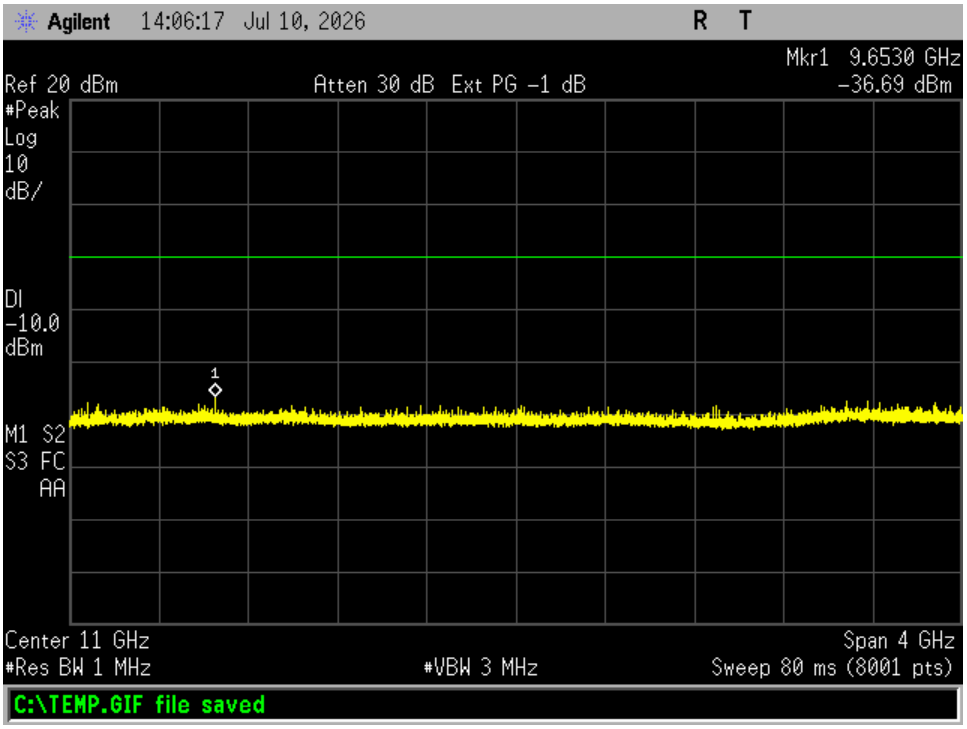


Figure 18. Antenna Conducted Emissions, Channel 24, 9 – 13 GHz

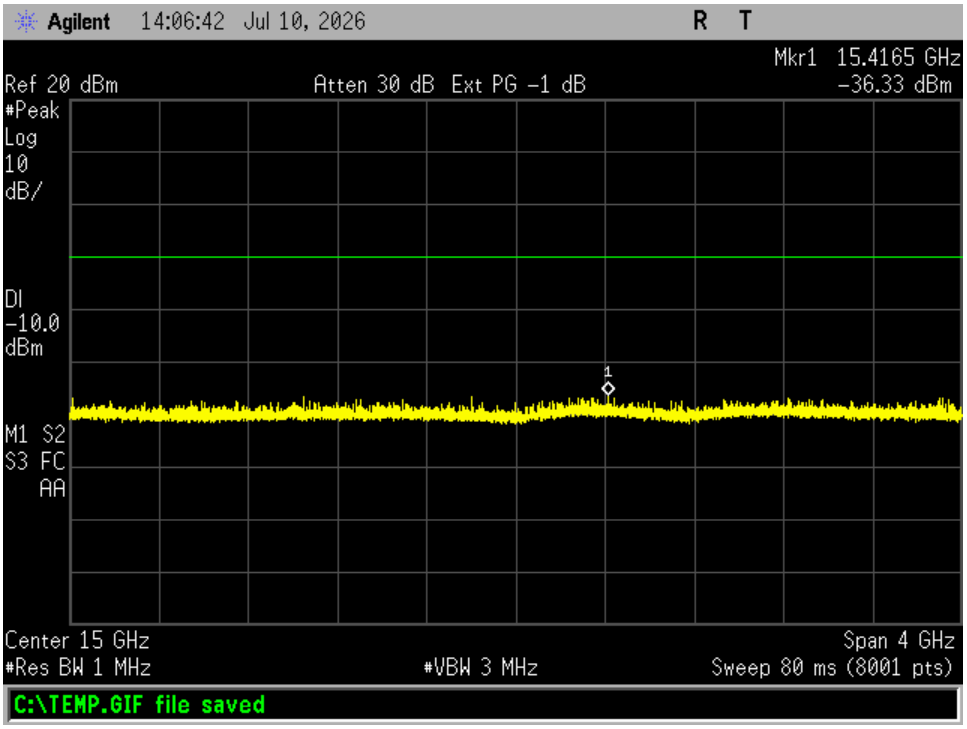


Figure 19. Antenna Conducted Emissions, Channel 24, 13 – 17 GHz

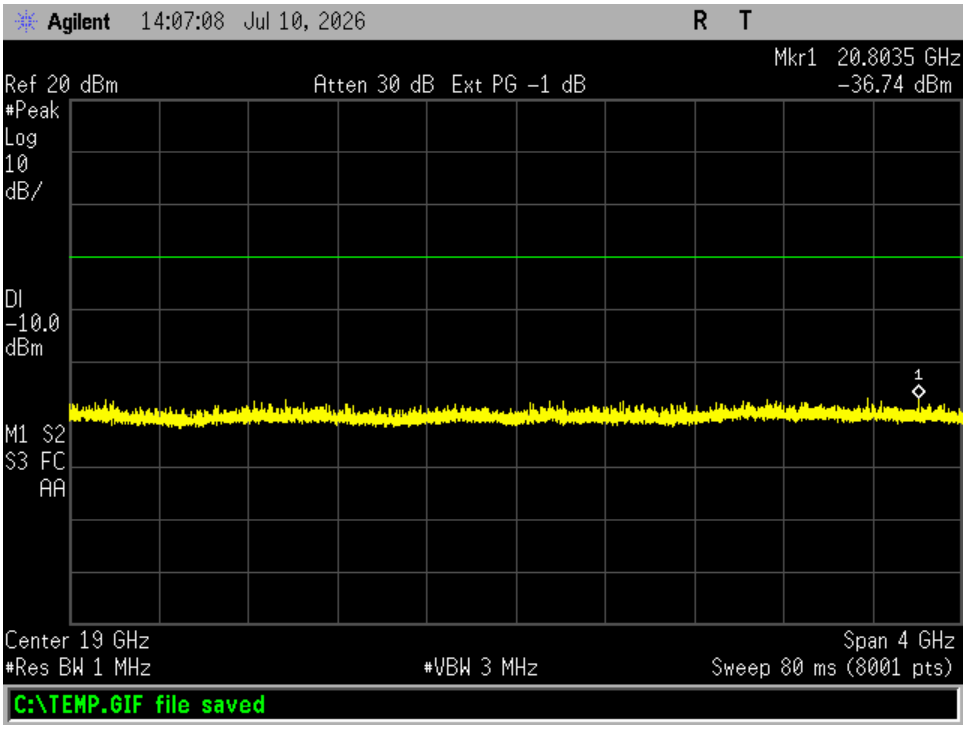


Figure 20. Antenna Conducted Emissions, Channel 24, 17 – 21 GHz

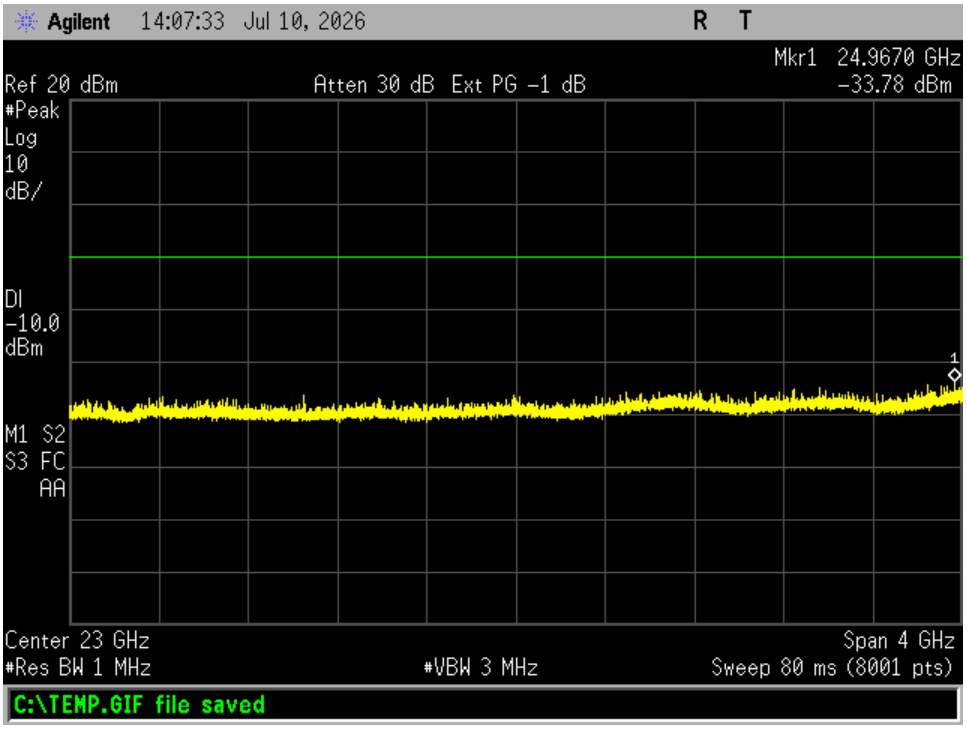


Figure 21. Antenna Conducted Emissions, Channel 24, 21 – 25 GHz

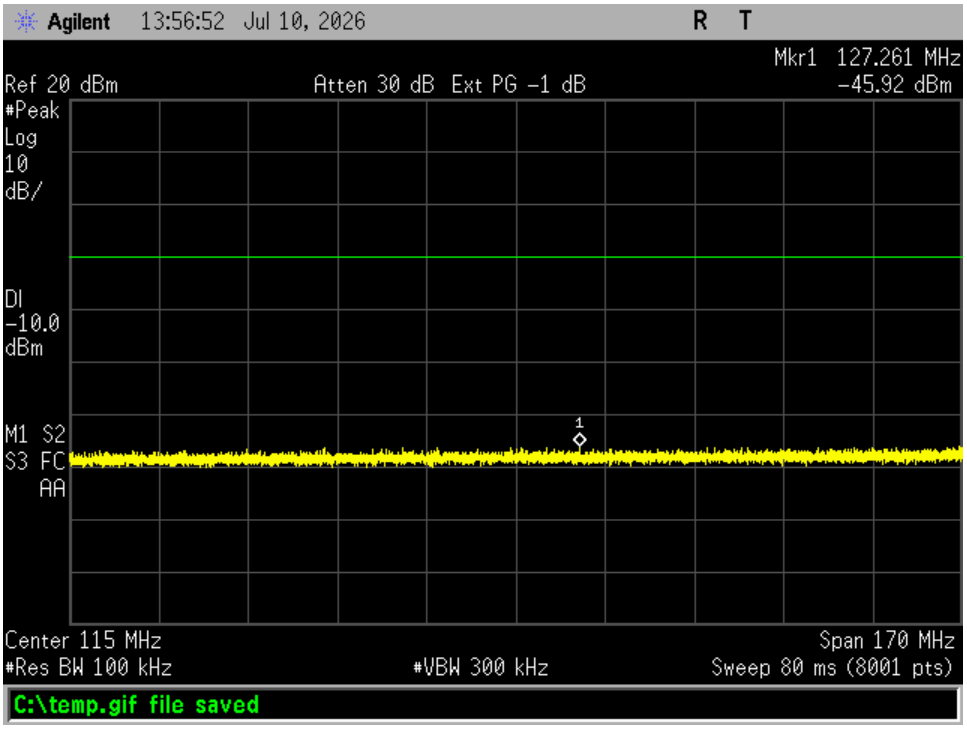


Figure 22. Antenna Conducted Emissions, Channel 39, 30-200 MHz

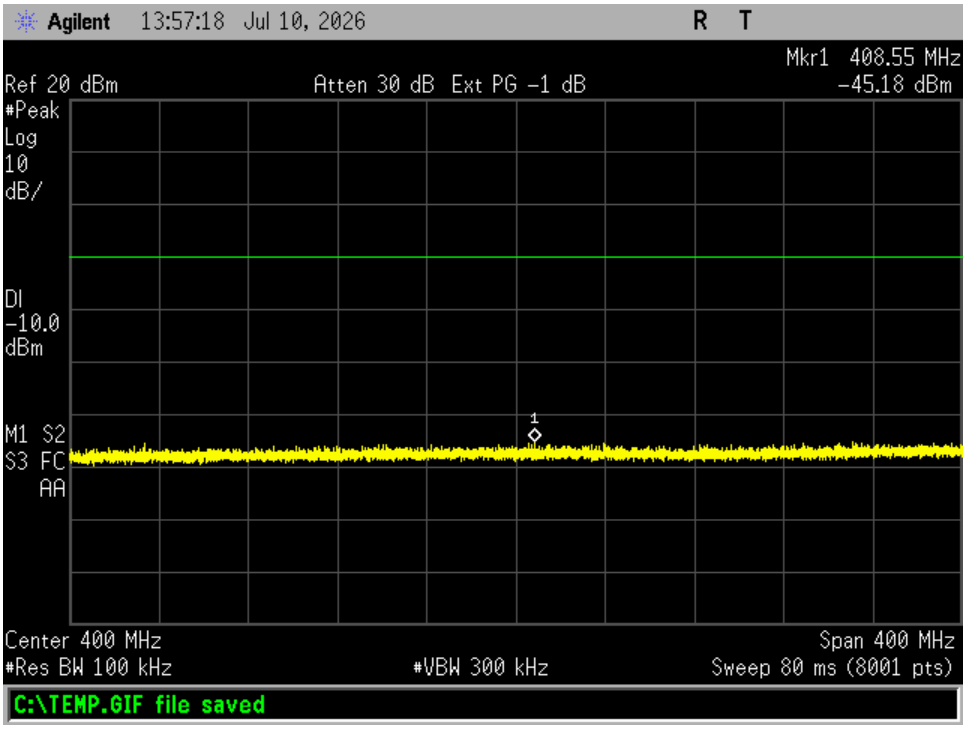


Figure 23. Antenna Conducted Emissions, Channel 39, 200-600 MHz

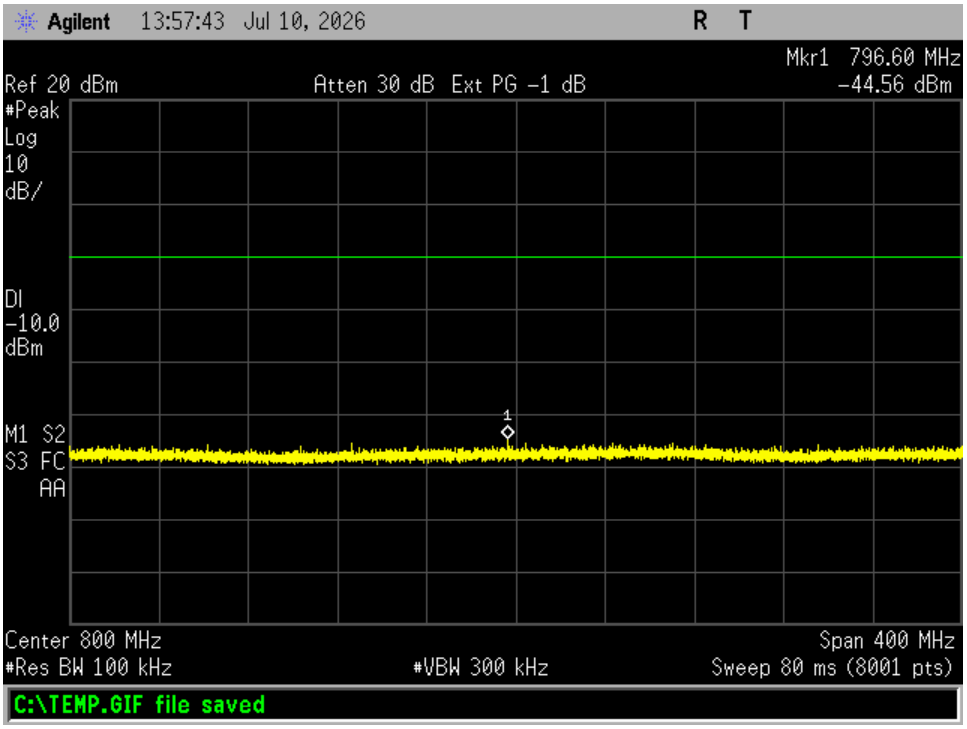


Figure 24. Antenna Conducted Emissions, Channel 39, 600-1000 MHz

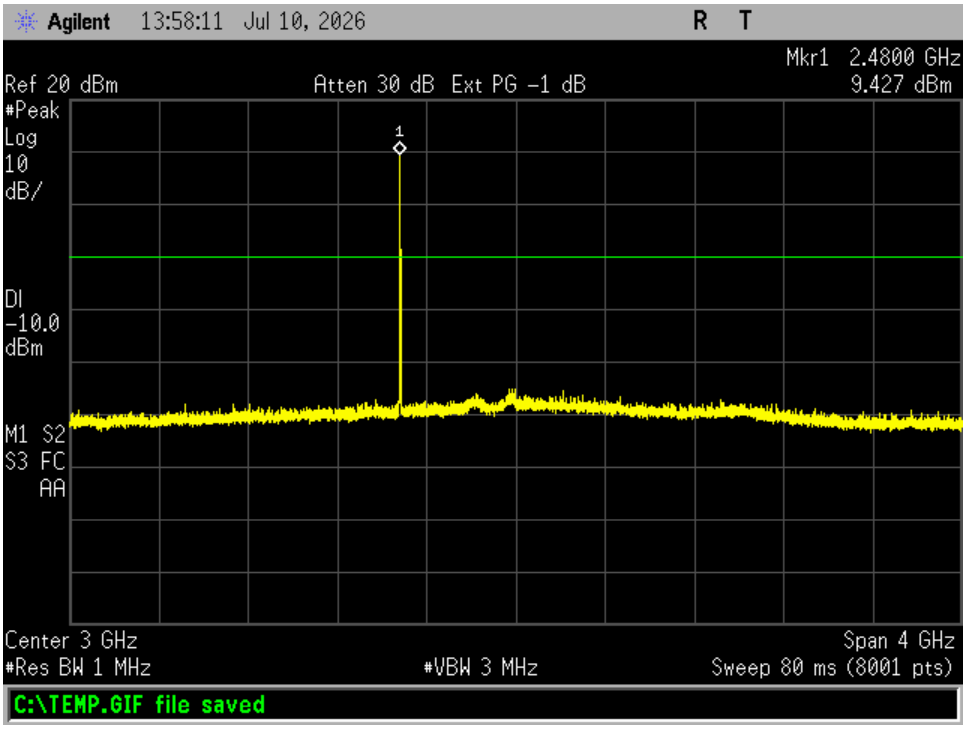


Figure 25. Antenna Conducted Emissions, Channel 39, 1 – 5 GHz

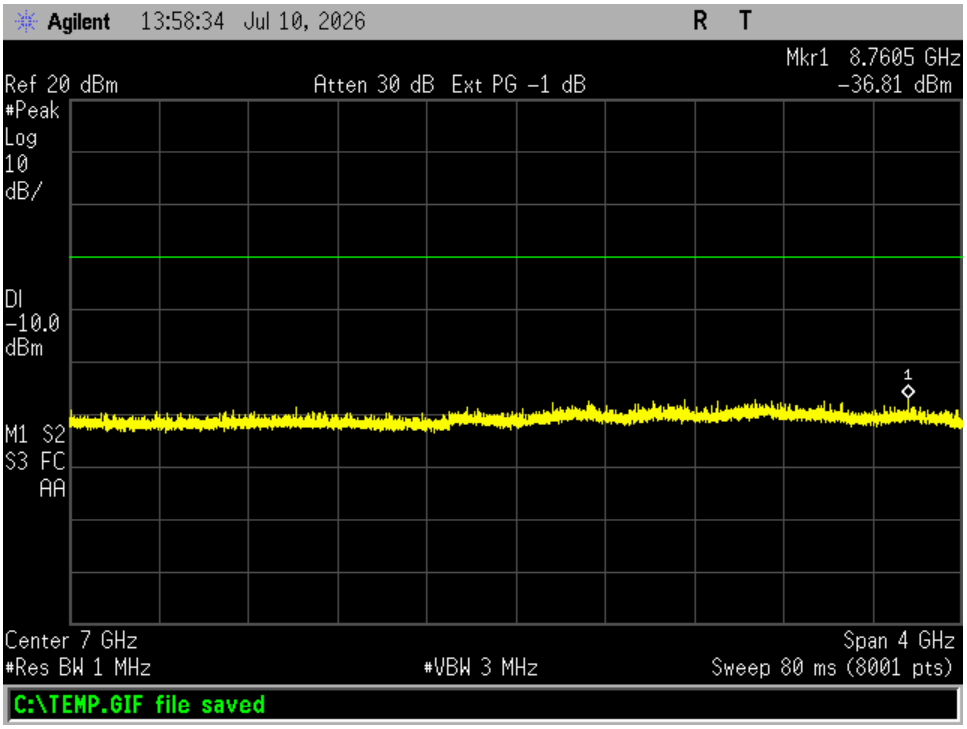


Figure 26. Antenna Conducted Emissions, Channel 39, 5 – 9 GHz

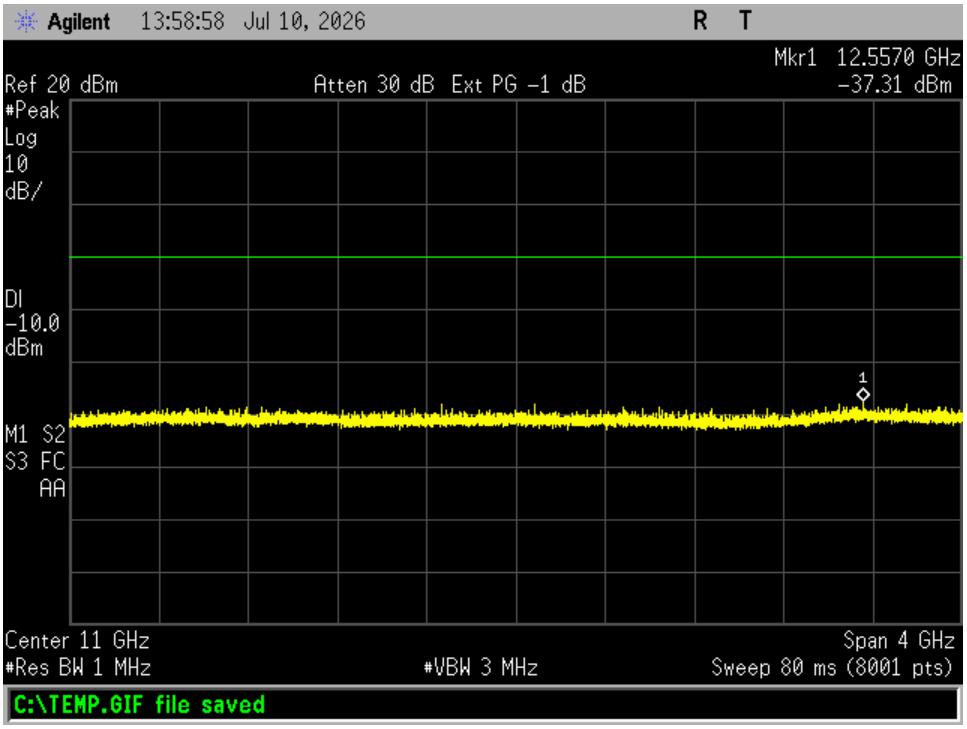


Figure 27. Antenna Conducted Emissions, Channel 39, 9 – 13 GHz

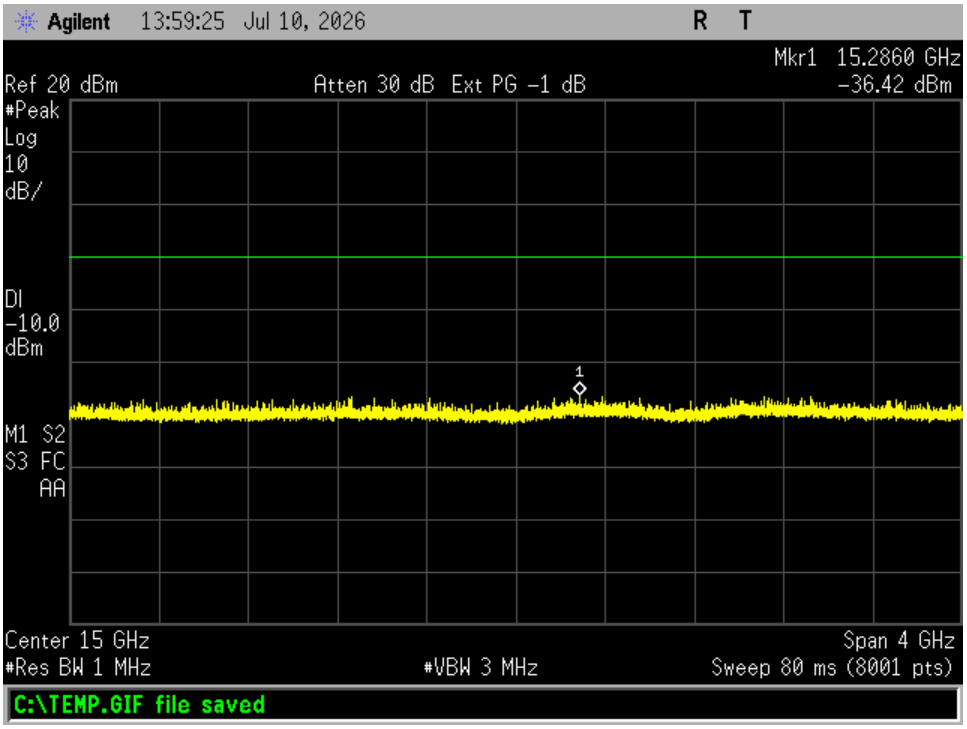


Figure 28. Antenna Conducted Emissions, Channel 39, 13 – 17 GHz

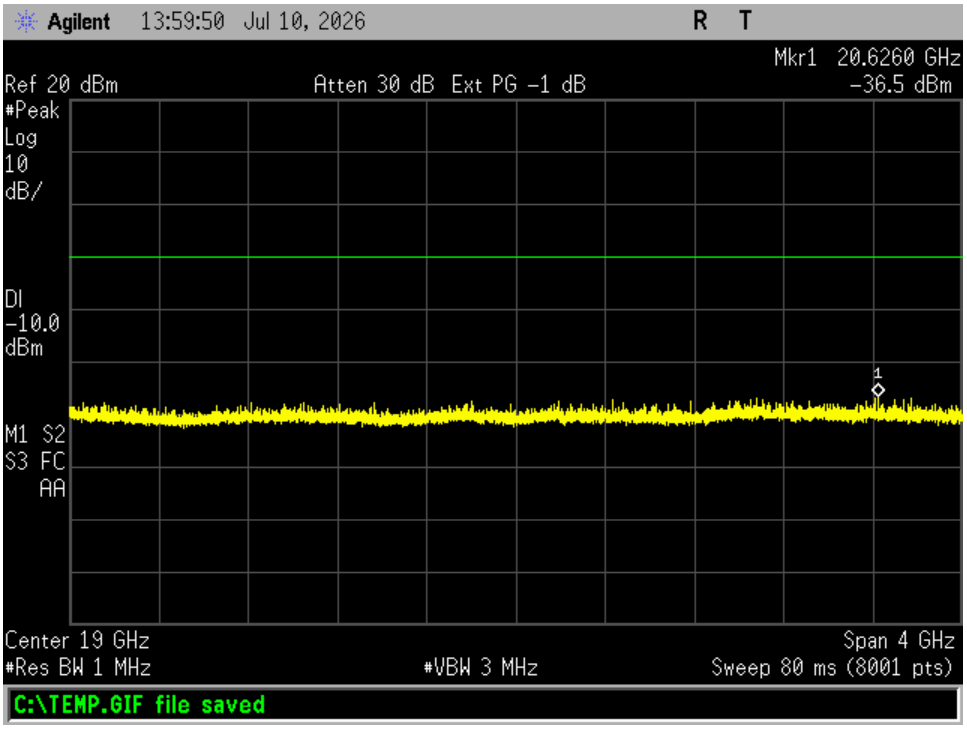


Figure 29. Antenna Conducted Emissions, Channel 39, 17 – 21 GHz

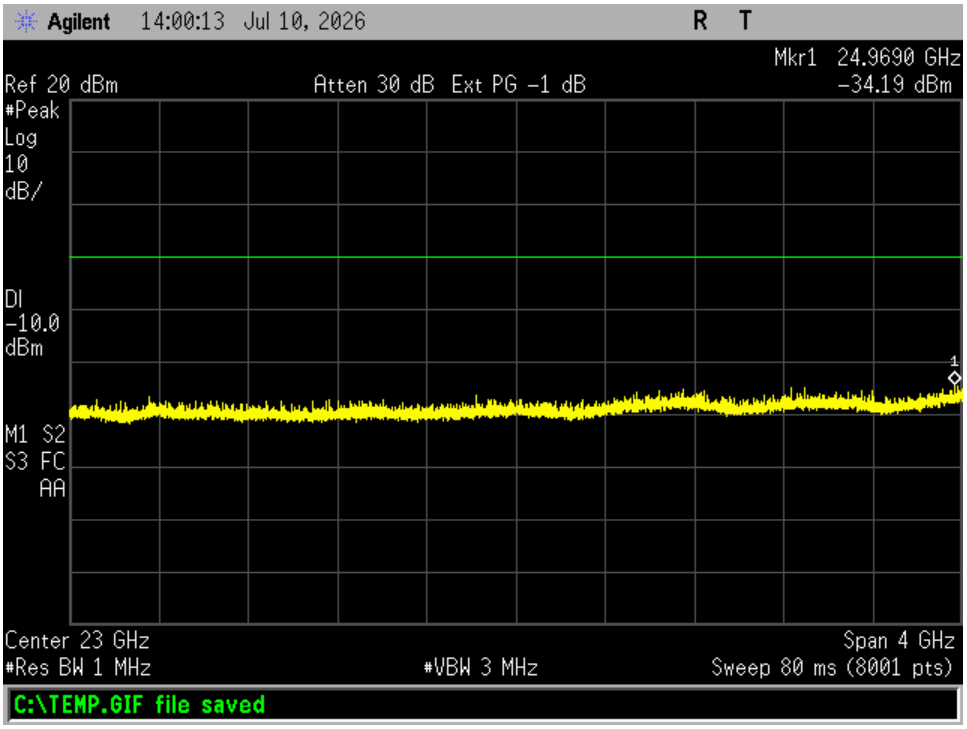


Figure 30. Antenna Conducted Emissions, Channel 39, 21 – 25 GHz

2.10. Intentional Radiator, Radiated Emissions (CFR 15.209, 15.247(d))

On the test site, the EUT was placed on top of a non-conductive table, 80 cm above the floor for measurements below 1 GHz and 150 cm above the floor for measurements > 1 GHz. The EUT was also evaluated in three orthogonal positions to determine the worst case position. The front of the EUT faced the measurement antenna located 3 meters away. Each signal measured was maximized by raising and lowering the receive antenna between 1 and 4 meters in height while monitoring the ever changing spectrum analyzer display (with channel A in the Clear-Write mode and channel B in the Max-Hold mode) for the largest signal visible. That exact antenna height where the signal was maximized was recorded for reproducibility purposes. Also, the EUT was rotated about its Y-axis while monitoring the Spectrum Analyzer display for maximum. The EUT azimuth was recorded for reproducibility purposes. The EUT was measured when both maxima were simultaneously satisfied.

For radiated measurements, the EUT was set into a continuous transmission mode. Below 1 GHz, the RBW of the measuring instrument was set equal to 120 kHz. Peak measurements above 1 GHz were measured using a RBW = 1 MHz, with a VBW ≥ RBW. The results of peak radiated spurious emissions falling within restricted bands are given in Table 6below.

For Average measurements above 1 GHz, the emissions were measured using RBW = 1 MHz and VBW = 10 Hz or the duty cycle correction factor was applied to the Peak recorded value.

Table 5. Peak Radiated Fundamental & Harmonic Emissions, Antenna 0

Test: FCC Part 15,247(d)							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB/m)**	**Corrected Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**Detector**
Low Channel - PEAK							
2402.29	69.16	33.15	102.31	--	3m./VERT	--	**PK**
4804.48	40.99	4.32	45.31	74.0	3m./VERT	28.7	**PK**
7205.29	42.87	8.35	51.22	74.0	3m./VERT	22.8	**PK**
9606.91	37.63	9.36	46.99	74.0	3m./VERT	27.0	**PK**
12008.77	41.78	11.94	53.72	74.0	3m./VERT	20.3	**PK**
14411.78	37.40	17.78	55.18	74.0	3m./VERT	18.8	**PK**
16816.44	36.05	17.61	53.66	74.0	3m./VERT	20.3	**PK**
Mid Channel – PEAK							
2449.76	64.88	33.63	98.52	--	3m./HORZ	--	**PK**
4900.53	44.41	3.81	48.23	74.0	3m./HORZ	25.8	**PK**
7350.84	47.01	9.17	56.18	74.0	3m./HORZ	17.8	**PK**
9799.23	39.28	9.08	48.37	74.0	3m./HORZ	25.6	**PK**
12248.63	41.60	12.73	54.33	74.0	3m./HORZ	19.7	**PK**
14695.74	40.67	17.56	58.23	74.0	3m./HORZ	15.8	**PK**
17151.78	39.55	21.53	61.08	74.0	3m./HORZ	12.9	**PK**
High Channel– PEAK							
2479.74	67.32	33.74	101.05	--	3m./HORZ	--	**PK**
4960.39	44.49	4.25	48.74	74.0	3m./HORZ	25.3	**PK**
7439.34	46.05	8.73	54.79	74.0	3m./HORZ	19.2	**PK**
9919.18	39.09	8.44	47.53	74.0	3m./HORZ	26.5	**PK**
12401.60	41.45	14.37	55.81	74.0	3m./HORZ	18.2	**PK**
14875.17	40.99	18.04	59.03	74.0	3m./HORZ	15.0	**PK**
17358.35	40.71	19.68	60.39	74.0	3m./HORZ	13.6	**PK**

1. (*) Falls within the restricted bands of CFR 15.205. Limits based on CFR15.209&15.247.
2. No other signals detected within 20 dB of specification limit. Harmonics investigated up to the 10th harmonic
3. The EUT was placed in three orthogonal positions, tested while broadcasting from each antenna, and the transmitter was in constant broadcast mode, with a duty cycle of greater than 98%. The emissions were measured with the receive antenna in vertical and horizontal polarizations. The data listed in the above table was worst case.

Sample Calculation at 2402.29 MHz:

Magnitude of Measured Frequency	69.16	dBuV
+Antenna Factor + Cable Loss+ Amplifier Gain	33.15	dB/m
Corrected Result	102.31	dBuV/m

Test Date: June 22, 2026

Tested By
Signature:  Name: Gabriel Medina

Table 6. Average Radiated Fundamental & Harmonic Emissions, Antenna 0

Test: FCC Part 15,247(d)							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB/m)**	**Corrected Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**Detector**
Low Channel - Average							
2402.29	67.77	33.15	100.92	--	3m./VERT	--	**AVG**
4804.48	29.73	4.32	34.05	54.0	3m./VERT	19.9	**AVG**
7205.29	35.74	8.35	44.09	54.0	3m./VERT	9.9	**AVG**
9606.91	24.71	9.36	34.07	54.0	3m./VERT	19.9	**AVG**
12008.77	33.99	11.94	45.93	54.0	3m./VERT	8.1	**AVG**
14411.78	25.42	17.78	43.21	54.0	3m./VERT	10.8	**AVG**
16816.44	22.45	17.61	40.07	54.0	3m./VERT	13.9	**AVG**
Mid Channel–Average							
2449.76	63.95	33.63	97.59	--	3m./HORZ	--	**AVG**
4900.53	36.96	3.81	40.77	54.0	3m./HORZ	13.2	**AVG**
7350.84	34.42	9.17	43.59	54.0	3m./HORZ	10.4	**AVG**
9799.23	28.06	9.08	37.14	54.0	3m./HORZ	16.9	**AVG**
12248.63	32.53	12.73	45.26	54.0	3m./HORZ	8.7	**AVG**
14695.74	28.48	17.56	46.04	54.0	3m./HORZ	8.0	**AVG**
17151.78	27.87	21.53	49.40	54.0	3m./HORZ	4.6	**AVG**
High Channel–Average							
2479.74	66.13	33.74	99.87	--	3m./HORZ	--	**AVG**
4960.39	36.32	4.25	40.56	54.0	3m./HORZ	13.4	**AVG**
7439.34	39.02	8.73	47.76	54.0	3m./HORZ	6.2	**AVG**
9919.18	29.14	8.44	37.58	54.0	3m./HORZ	16.4	**AVG**
12401.60	30.92	14.37	45.29	54.0	3m./HORZ	8.7	**AVG**
14875.17	28.78	18.04	46.82	54.0	3m./HORZ	7.2	**AVG**
17358.35	30.13	19.68	49.81	54.0	3m./HORZ	4.2	**AVG**

1. (*) Falls within the restricted bands of CFR 15.205. Limits based on CFR15.209&15.247.
2. No other signals detected within 20 dB of specification limit. Harmonics investigated up to the 10th harmonic
3. The EUT was placed in three orthogonal positions, tested while broadcasting from each antenna, and the transmitter was in constant broadcast mode, with a duty cycle of greater than 98%. The emissions were measured with the receive antenna in vertical and horizontal polarizations. The data listed in the above table was worst case.

Sample Calculation at 2402.29 MHz:

Magnitude of Measured Frequency	67.77	dBuV
+Antenna Factor + Cable Loss+ Amplifier Gain	33.15	dB/m
Corrected Result	100.92	dBuV/m

Test Date: June 22, 2026

Tested By
Signature:  Name: Gabriel Medina

Table 7. Peak Radiated Fundamental & Harmonic Emissions, Antenna 1

Test: FCC Part 15,247(d)							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB/m)**	**Corrected Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**Detector**
Low Channel - PEAK							
2402.26	69.80	33.24	103.04	--	3m./HORZ	--	**PK**
4804.70	42.24	2.07	44.31	74.0	3m./HORZ	29.7	**PK**
9606.69	39.05	9.29	48.33	74.0	3m./HORZ	25.7	**PK**
7206.64	42.12	6.93	49.06	74.0	3m./HORZ	24.9	**PK**
12008.76	40.49	11.57	52.07	74.0	3m./HORZ	21.9	**PK**
16812.91	40.14	16.70	56.84	74.0	3m./HORZ	17.2	**PK**
14412.97	41.65	16.43	58.09	74.0	3m./HORZ	15.9	**PK**
Mid Channel – PEAK							
2449.75	71.89	33.63	105.53	--	3m./HORZ	--	**PK**
4899.55	41.88	1.85	43.73	74.0	3m./HORZ	30.3	**PK**
7350.31	41.52	7.22	48.74	74.0	3m./HORZ	25.3	**PK**
9798.85	40.36	8.79	49.15	74.0	3m./HORZ	24.8	**PK**
12248.92	42.68	11.84	54.52	74.0	3m./HORZ	19.5	**PK**
14699.14	40.60	16.52	57.12	74.0	3m./HORZ	16.9	**PK**
17143.92	39.64	19.96	59.60	74.0	3m./HORZ	14.4	**PK**
High Channel– PEAK							
2479.75	72.50	33.57	106.07	--	3m./VERT	--	**PK**
4960.37	44.49	2.56	47.06	74.0	3m./VERT	26.9	**PK**
7440.79	44.44	7.23	51.67	74.0	3m./VERT	22.3	**PK**
9921.10	38.90	8.45	47.35	74.0	3m./VERT	26.7	**PK**
12398.98	44.34	13.49	57.83	74.0	3m./VERT	16.2	**PK**
14878.21	41.17	15.79	56.96	74.0	3m./VERT	17.0	**PK**
17358.24	40.09	19.57	59.67	74.0	3m./VERT	14.3	**PK**

1. (*) Falls within the restricted bands of CFR 15.205. Limits based on CFR15.209&15.247.
2. No other signals detected within 20 dB of specification limit. Harmonics investigated up to the 10th harmonic
3. The EUT was placed in three orthogonal positions, tested while broadcasting from each antenna, and the transmitter was in constant broadcast mode, with a duty cycle of greater than 98%. The emissions were measured with the receive antenna in vertical and horizontal polarizations. The data listed in the above table was worst case.

Sample Calculation at 2402.26 MHz:

Magnitude of Measured Frequency	69.80	dBuV
+Antenna Factor + Cable Loss+ Amplifier Gain	32.24	dB/m
Corrected Result	103.04	dBuV/m

Test Date: June 22, 2026

Tested By
Signature:  Name: **Gabriel Medina**

Table 8. Average Radiated Fundamental & Harmonic Emissions, Antenna 1

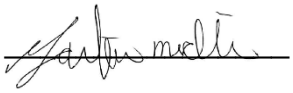
Test: FCC Part 15,247(d)							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB/m)**	**Corrected Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**Detector**
Low Channel - AVARAGE							
2402.26	68.62	33.24	101.86	--	3m./HORZ	--	**AVG**
4804.70	33.53	2.07	35.61	54.0	3m./HORZ	18.4	**AVG**
9606.69	26.72	9.29	36.01	54.0	3m./HORZ	18.0	**AVG**
7206.64	31.74	6.93	38.67	54.0	3m./HORZ	15.3	**AVG**
12008.76	28.42	11.57	39.99	54.0	3m./HORZ	14.0	**AVG**
16812.91	27.58	16.70	44.28	54.0	3m./HORZ	9.7	**AVG**
14412.97	29.65	16.43	46.09	54.0	3m./HORZ	7.9	**AVG**
Mid Channel – AVARAGE							
2449.75	71.04	33.63	104.68	--	3m./HORZ	--	**AVG**
4899.55	31.24	1.85	33.09	54.0	3m./HORZ	20.9	**AVG**
7350.31	35.88	7.22	43.11	54.0	3m./HORZ	10.9	**AVG**
9798.85	28.71	8.79	37.50	54.0	3m./HORZ	16.5	**AVG**
12248.92	33.77	11.84	45.61	54.0	3m./HORZ	8.4	**AVG**
14699.14	28.36	16.52	44.88	54.0	3m./HORZ	9.1	**AVG**
17143.92	27.33	19.96	47.30	54.0	3m./HORZ	6.7	**AVG**
High Channel – AVARAGE							
2479.75	71.42	33.57	105.00	--	3m./VERT	--	**AVG**
4960.37	35.67	2.56	38.23	54.0	3m./VERT	15.8	**AVG**
7440.79	35.88	7.23	43.11	54.0	3m./VERT	10.9	**AVG**
9921.10	27.32	8.45	35.77	54.0	3m./VERT	18.2	**AVG**
12398.98	35.62	13.49	49.11	54.0	3m./VERT	4.9	**AVG**
14878.21	28.78	15.79	44.57	54.0	3m./VERT	9.4	**AVG**
17358.24	28.12	19.57	47.69	54.0	3m./VERT	6.3	**AVG**

1. (*) Falls within the restricted bands of CFR 15.205. Limits based on CFR15.209&15.247.
2. No other signals detected within 20 dB of specification limit. Harmonics investigated up to the 10th harmonic
3. The EUT was placed in three orthogonal positions, tested while broadcasting from each antenna, and the transmitter was in constant broadcast mode, with a duty cycle of greater than 98%. The emissions were measured with the receive antenna in vertical and horizontal polarizations. The data listed in the above table was worst case.

Sample Calculation at 2402.26 MHz:

Magnitude of Measured Frequency	68.62	dBuV
+Antenna Factor + Cable Loss+ Amplifier Gain	33.24	dB/m
Corrected Result	101.86	dBuV/m

Test Date: June 22, 2026

Tested By
Signature:  Name: Gabriel Medina

2.11. Band Edge Measurements (CFR 15.247(d))

Band Edge measurements are made following the guidelines in ANSI C63.10:2020 Clause 6.10 with the EUT initially operating on the Lowest Channel and then operating on the Highest Channel within its band of operation. Restricted band and band edge test is performed as radiated measurements. The test instrument used for testing has both Peak and Average detection. In consideration of Clause 5.8 of ANSI C63.10:2020, the EUT antenna is connected to its antenna port during testing. The EUT was set to its highest rated output power level during testing. The results are collected and presented below.

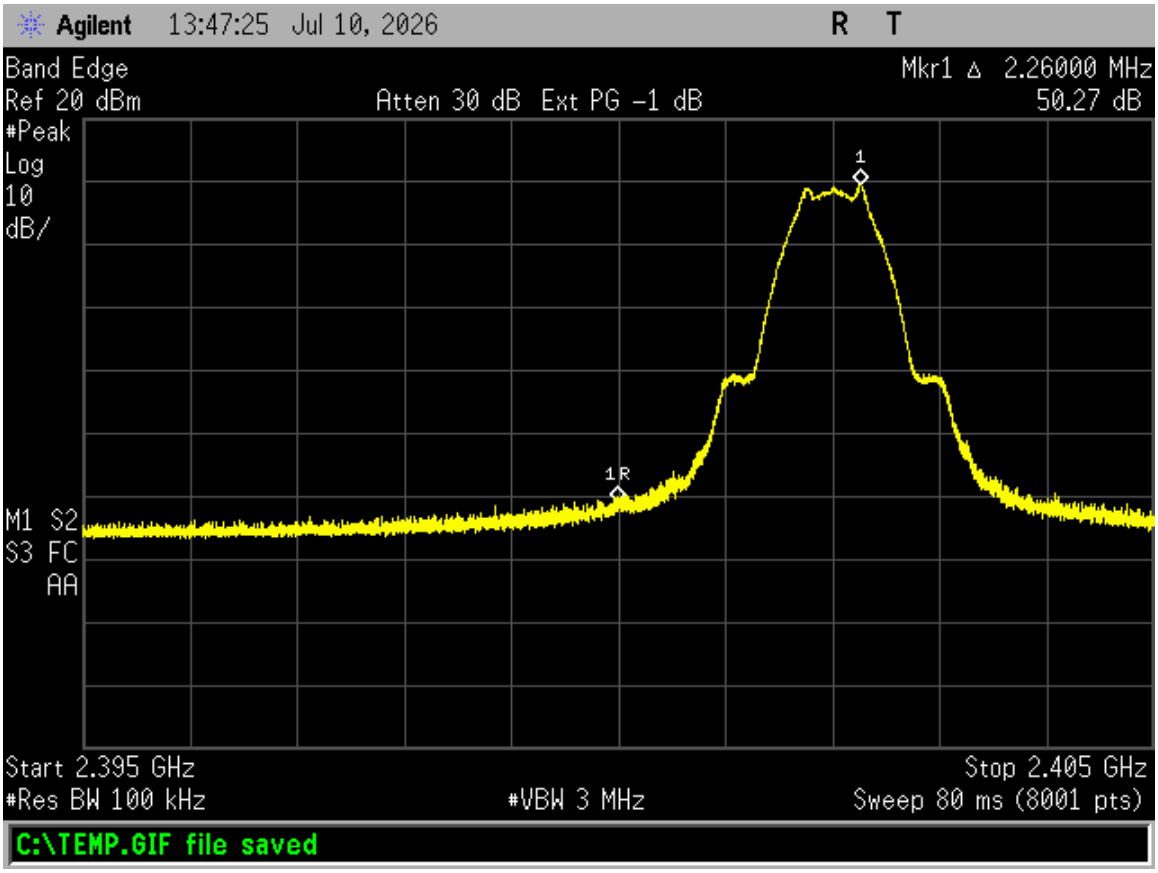


Figure 31. Band Edge Compliance – Low Channel Delta, Antenna 0- Peak

Lower band edge must be 20 dB below the fundamental. This requirement is met.

Measured Result	50.27	dB
Band Edge Limit	20.00	dB
Band Edge Margin	30.27	dB

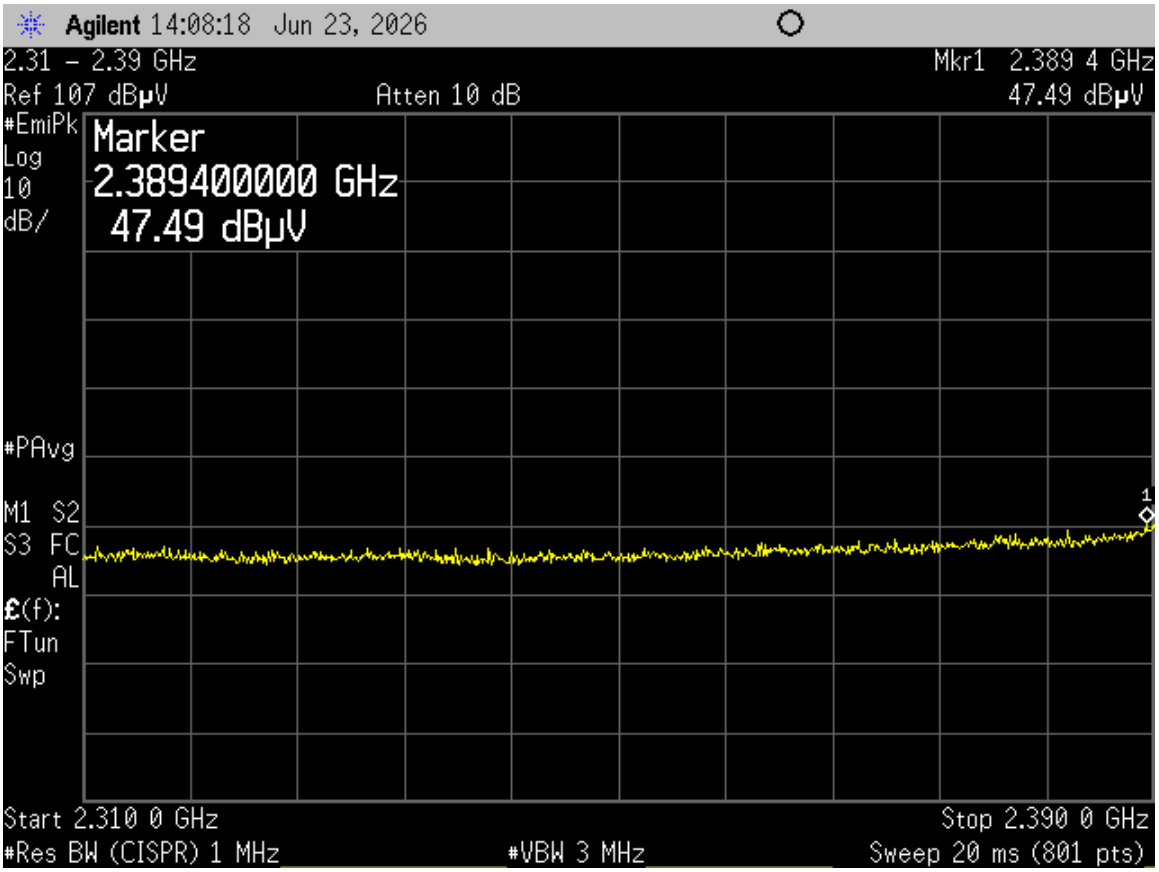


Figure 32. Low Channel Restricted Band Antenna 0 - Peak

Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB/m)	Corrected Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detector
2389.4	47.49	-4.44	43.05	54.0	3m./HORZ	10.9	**PK**

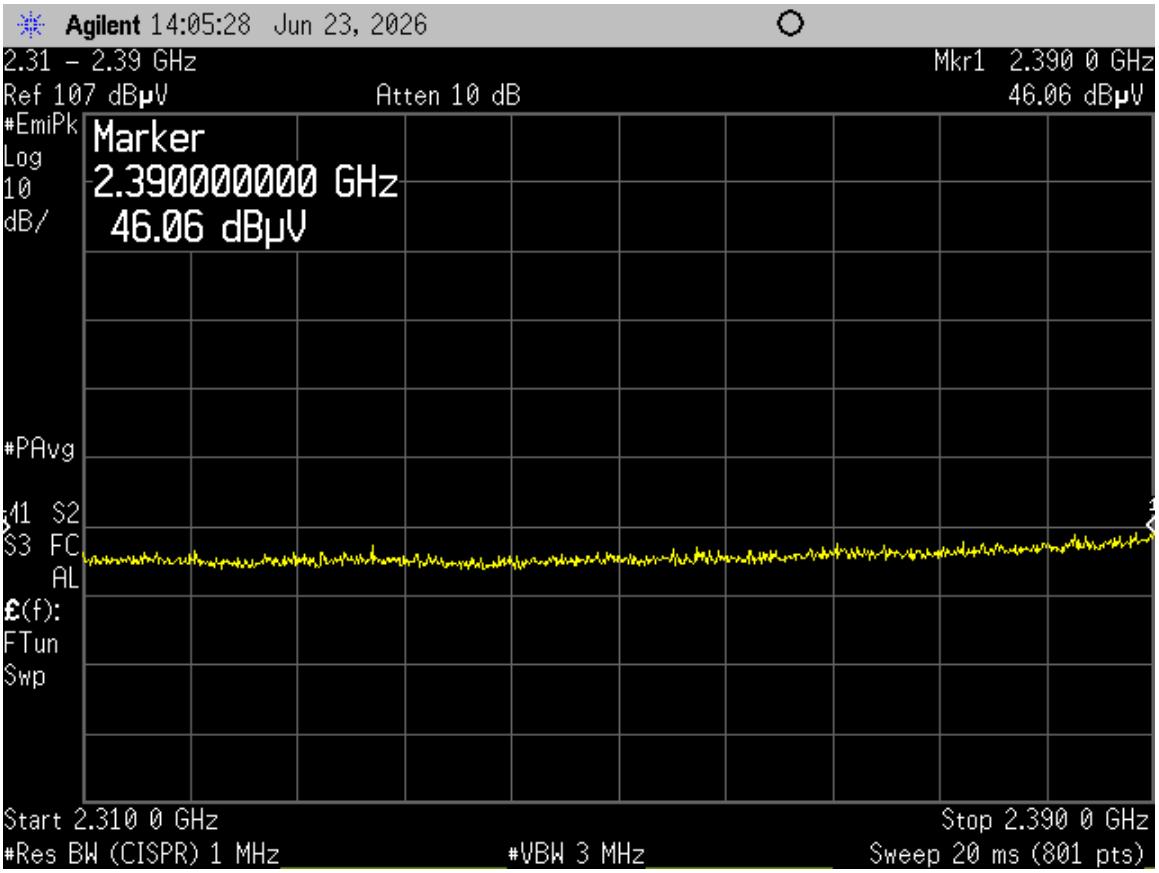


Figure 33. Low Channel Restricted Band Antenna 1 – Peak

Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB/m)	Corrected Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detector
2390	46.06	-4.34	41.72	54.0	3m./HORZ	12.3	**PK**

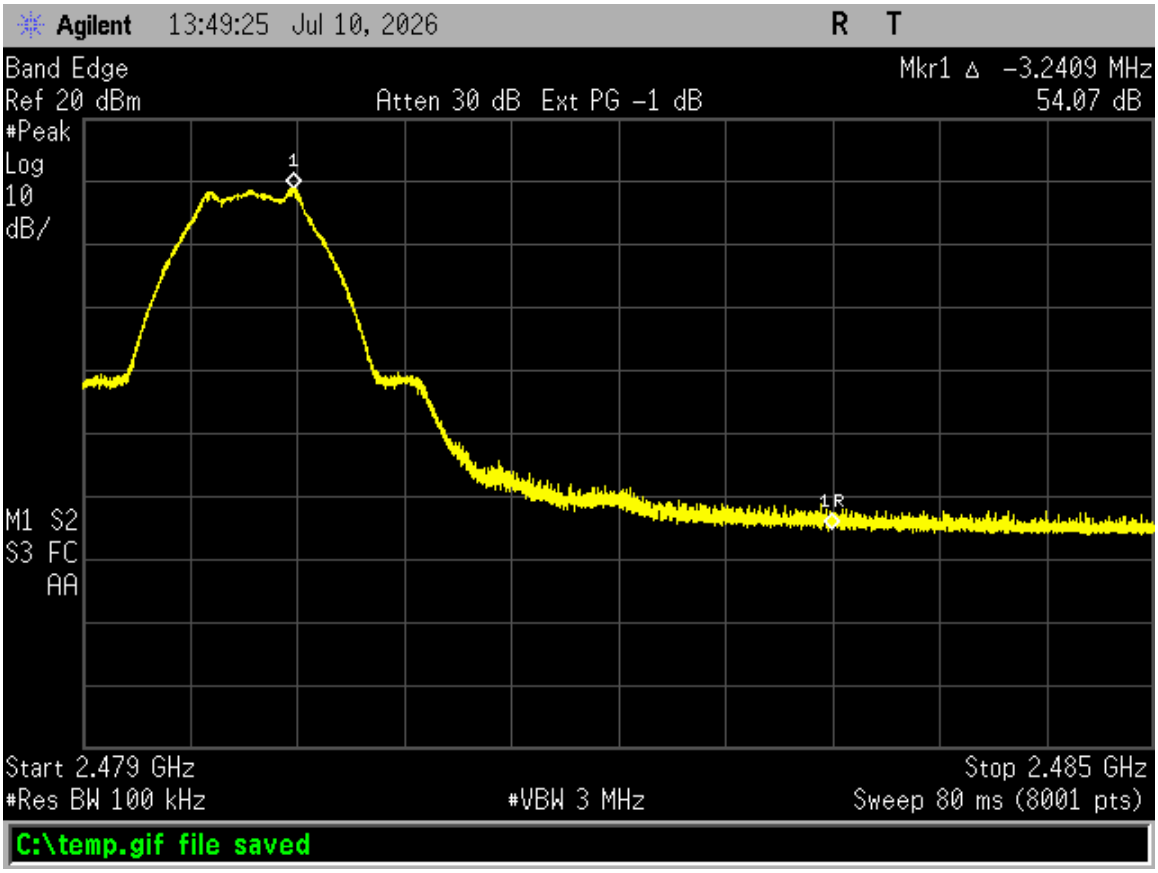


Figure 34. Band Edge Compliance – High Channel Delta - Peak

Higher band edge must be 20 dB below the fundamental. This requirement is met.

Measured Result	54.07	dB
Band Edge Limit	20.00	dB
Band Edge Margin	34.07	dB

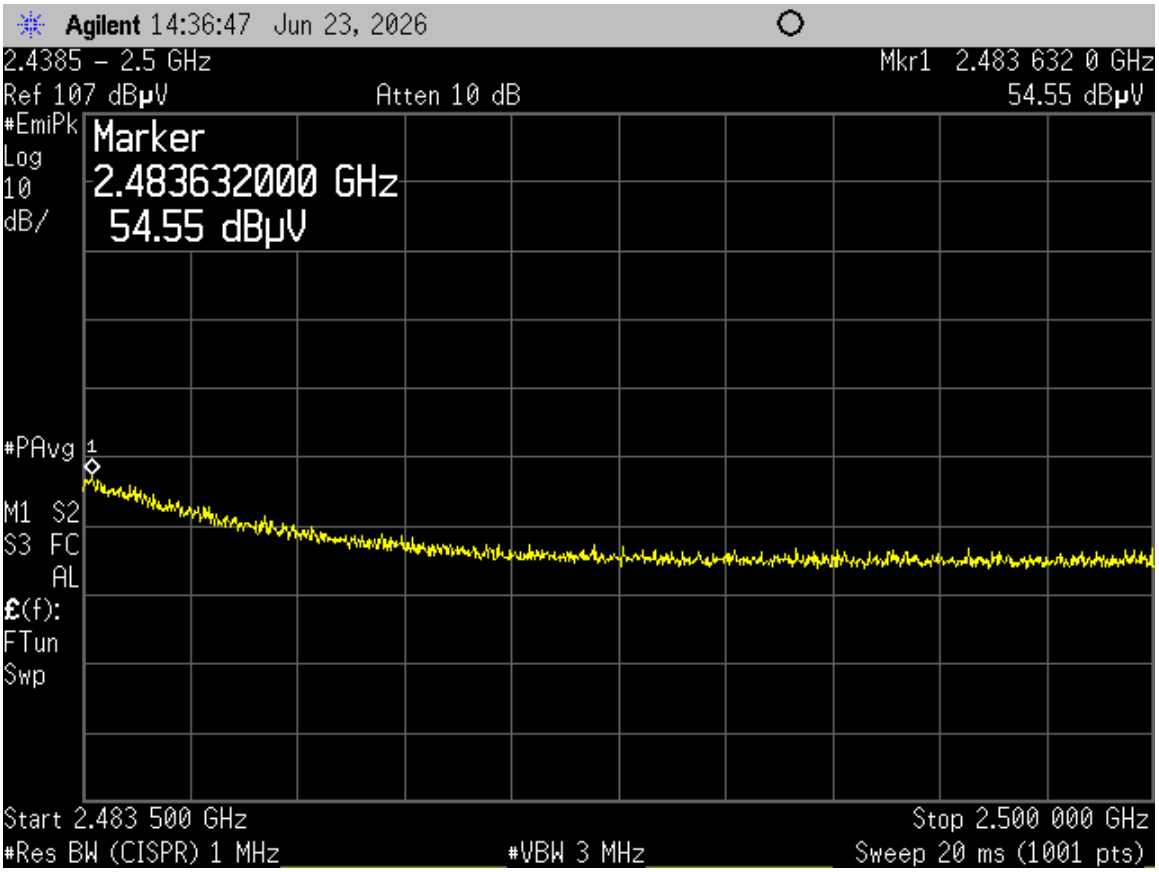


Figure 35. High Channel Restricted Band, Antenna 0 – Peak

Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB/m)	Corrected Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detector
2483.63	54.55	4.11	58.66	74.0	3m./VERT	15.3	**PK**

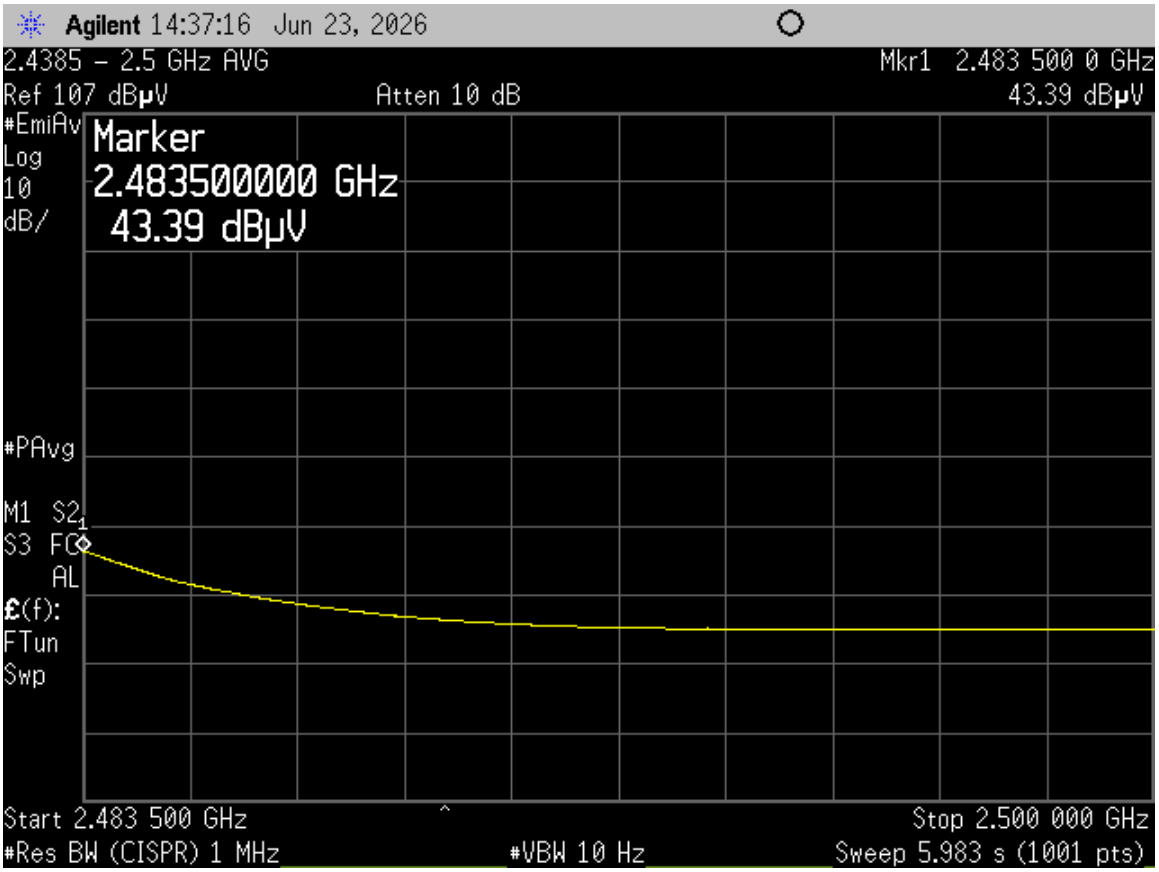


Figure 36. High Channel Restricted Band, Antenna 0 – Average

Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB/m)	Corrected Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detector
2483.5	43.39	4.11	47.50	54.0	3m./VERT	6.5	**AVG**

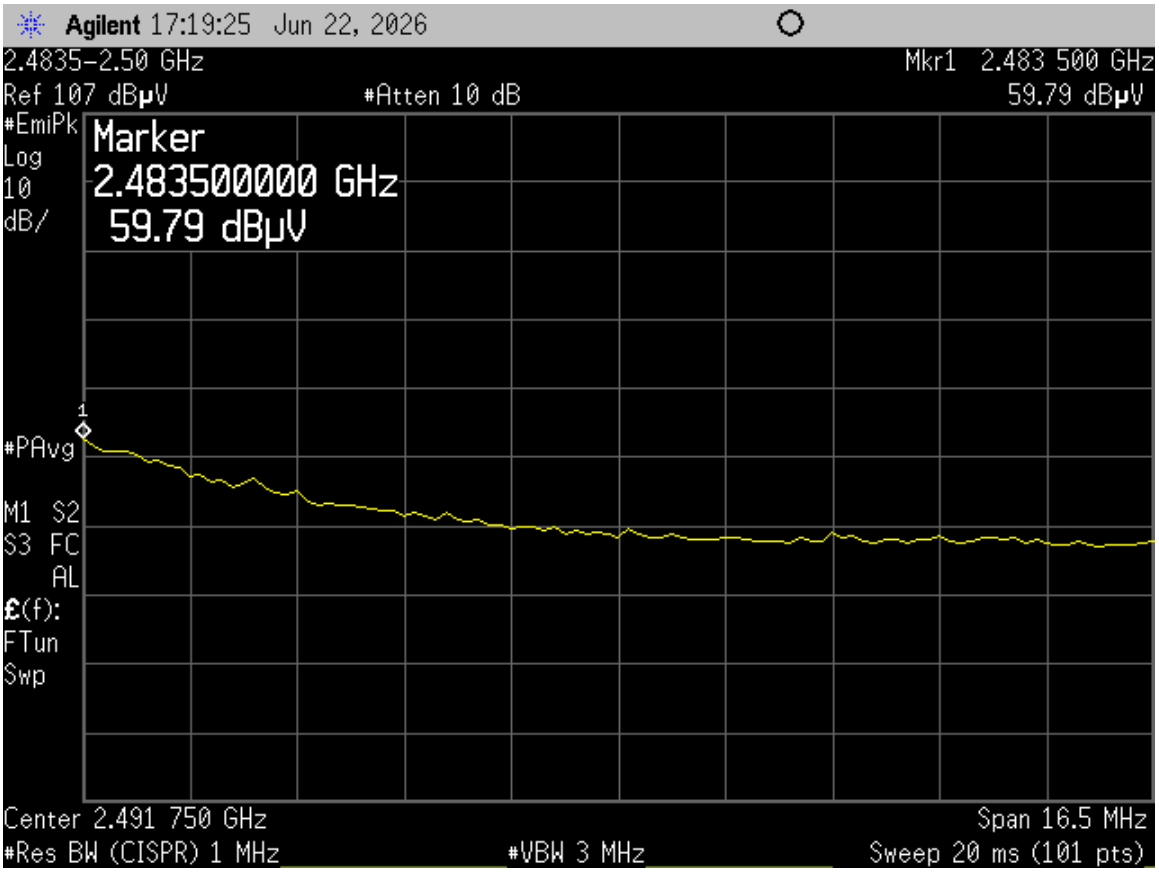


Figure 37. High Channel Restricted Band, Antenna 1 – Peak

Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB/m)	Corrected Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detector
2483.5	59.79	4.26	64.05	74.0	3.00m./HORZ	10.0	**PK**

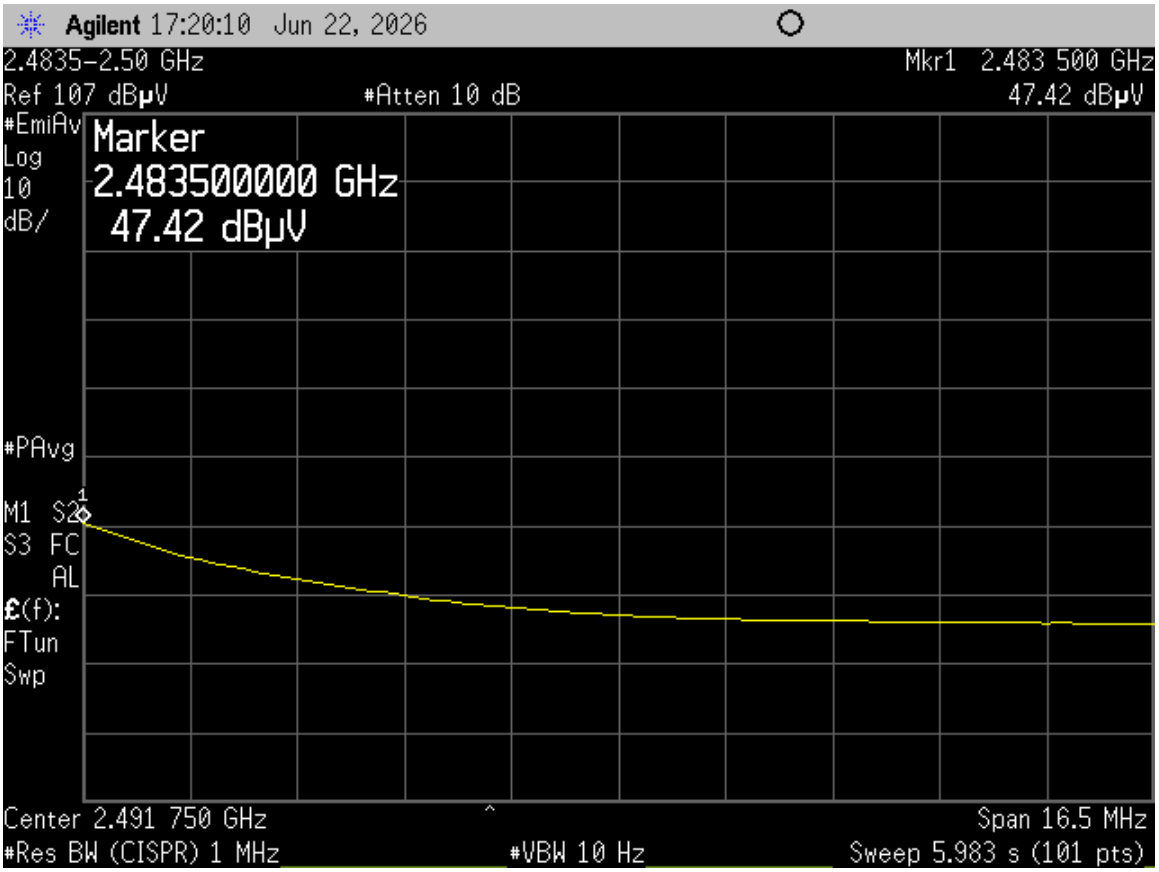


Figure 38. High Channel Restricted Band, Antenna 1 – Average

Frequency (MHz)	Test Data (dBuV)	AF+CL-PA (dB/m)	Corrected Results (dBuV/m)	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detector
2483.5	47.42	4.26	51.68	54.0	3m./HORZ	2.3	**AVG**

2.12. Six (6) dB Bandwidth (CFR 15.247(a)(2))

The EUT antenna port was connected to a spectrum analyzer having a 50 Ω input impedance. Measurements were performed per ANSI C63.10:2020, clause 11.8. The RBW was set to 100 kHz and the VBW ≥ RBW. The results of this test are given in the table below and figures below.

Table 9. Six (6) dB Bandwidth

Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum FCC Bandwidth (MHz)
2402	0.749	0.5
2450	0.754	0.5
2480	0.755	0.5

Test Date: July 10, 2026

Tested By
Signature: 

Name: Gabriel Medina

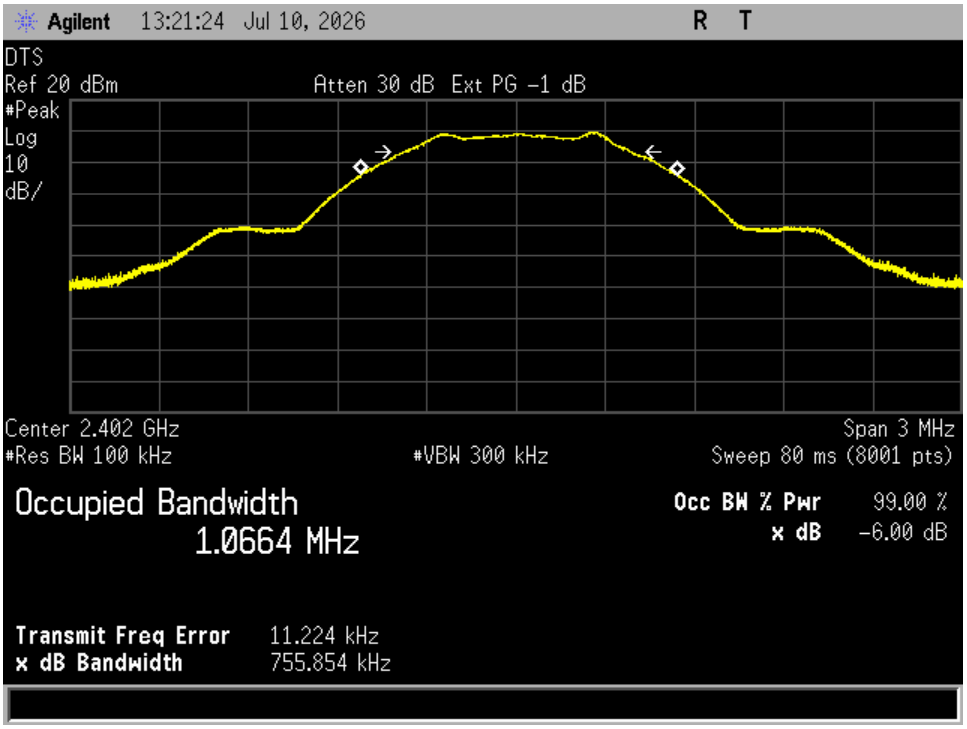


Figure 39. 6 dB Bandwidth Low Channel

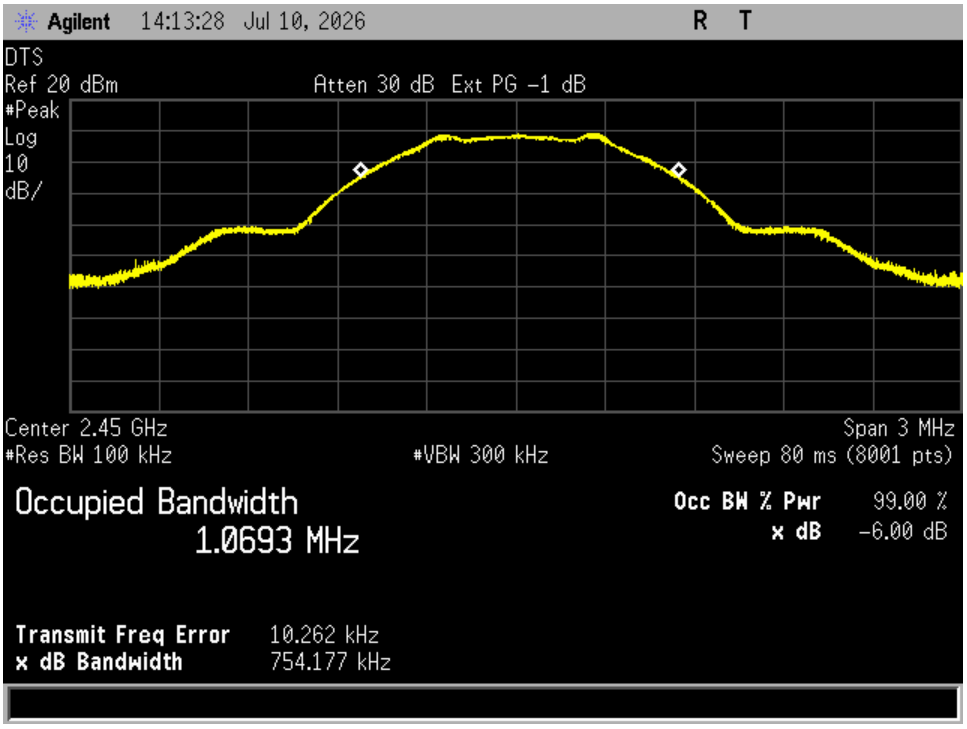


Figure 40. 6 dB Bandwidth Mid Channel

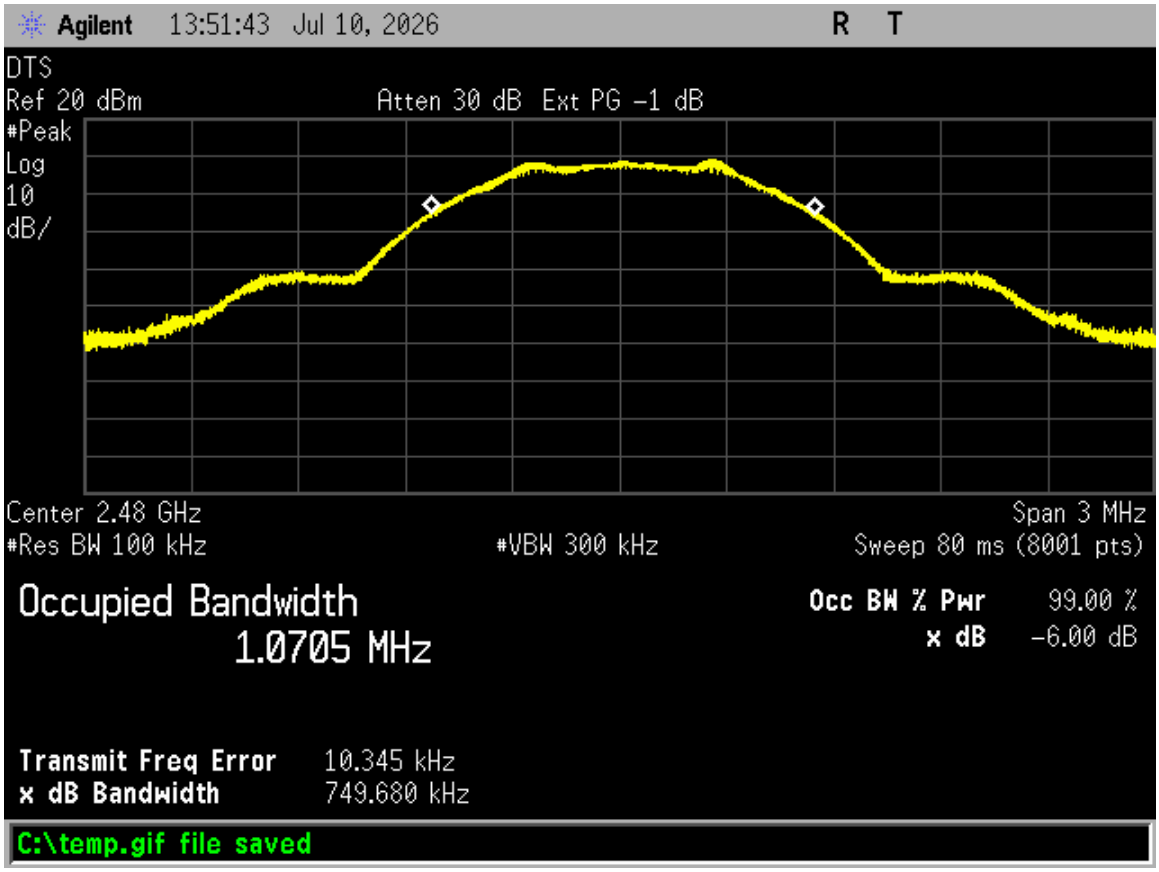


Figure 41. 6 dB Bandwidth High Channel

2.13. Maximum Peak Conducted Output Power (CFR 15.247 (b) (3))

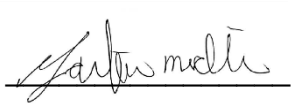
The transmitter was programmed to operate at a maximum output power across the bandwidth.

Peak power within the band 2400 MHz to 2483.5 MHz was measured per ANSI C63.10:2020 as an Antenna Conducted test with a spectrum analyzer by connecting the spectrum analyzer directly, via a short RF cable, and attenuators to the antenna output terminals on the EUT. The spectrum analyzer was set to a RBW of1 MHz, and the VBW ≥ RBW. The integration method was used. Peak antenna conducted output power is tabulated in the table below.

Table 10. Peak Antenna Conducted Output Power per Part 15.247 (b)(3)

Frequency of Fundamental (MHz)	Raw Test Data dBm	Converted Data (mW)	FCC (mW Maximum)
2402	10.11	10.26	1000
2450	9.74	9.42	1000
2480	9.53	8.97	1000

Test Date: July 10, 2026

Tested By
Signature:  Name: Gabriel Medina

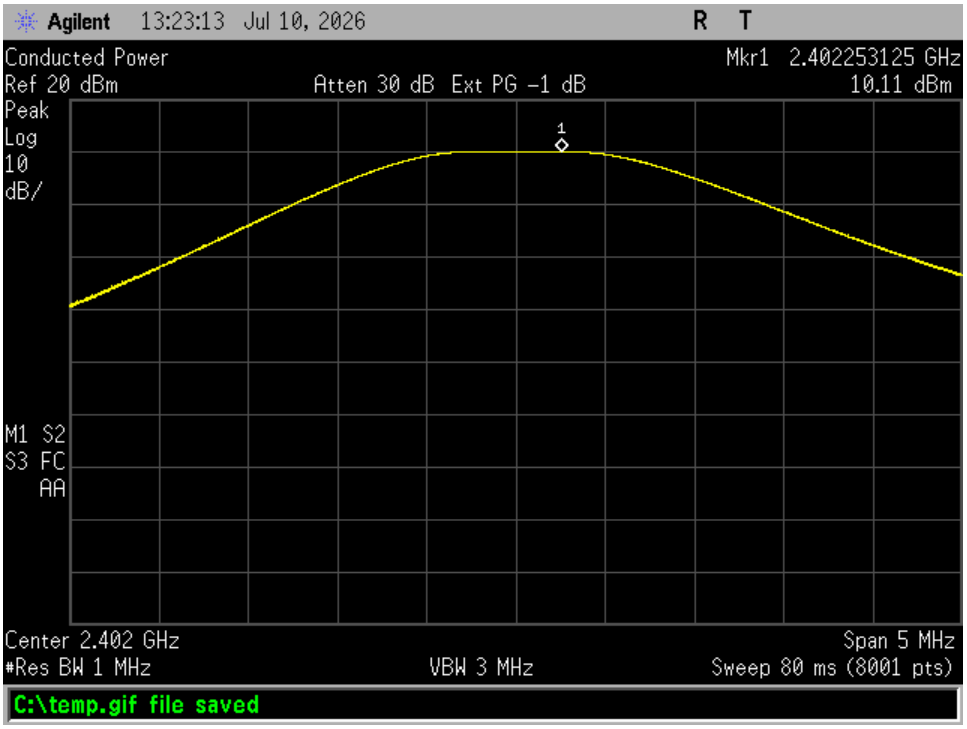


Figure 42. Peak Antenna Conducted Output Power, Low Channel

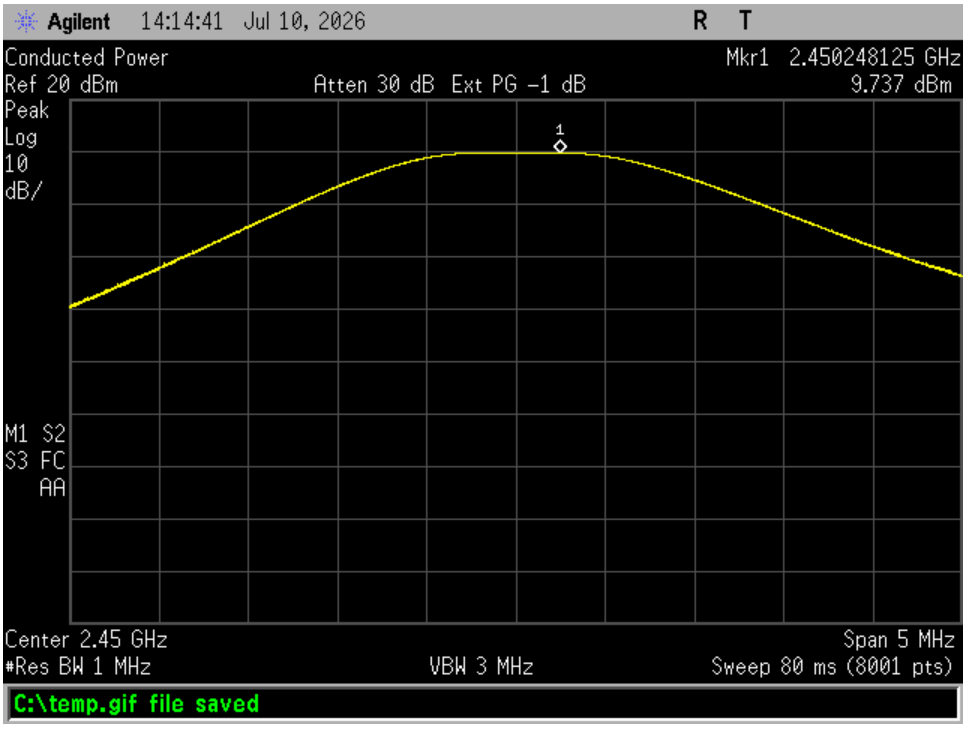


Figure 43. Peak Antenna Conducted Output Power, Mid Channel

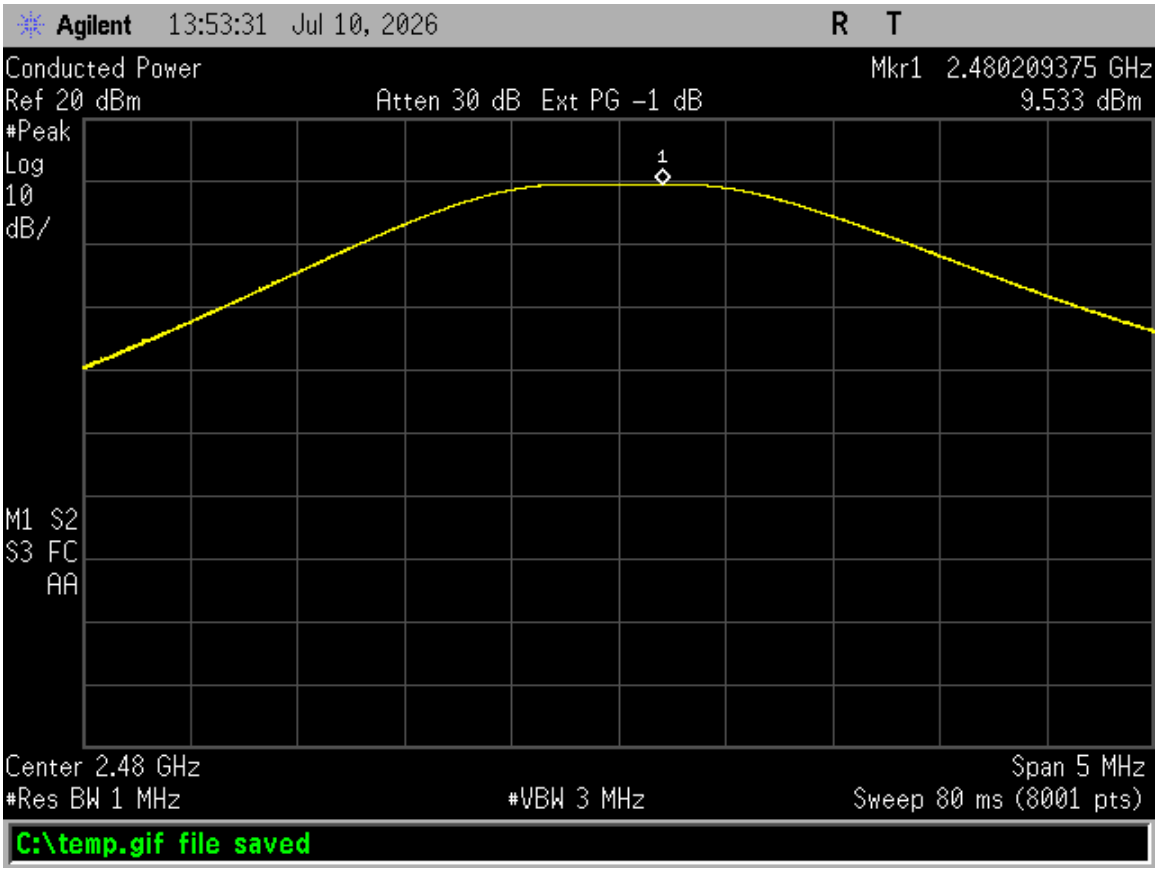


Figure 44. Peak Antenna Conducted Output Power, High Channel

2.14. Power Spectral Density (CFR 15.247(e))

The transmitter was placed into a continuous mode of operation at all applicable frequencies. The measurements were performed per the procedures of ANSI C63.10:2020. The RBW was set to 3 kHz and the Video Bandwidth was set to ≥ RBW. The trace capture time was set to (Span/3 kHz).

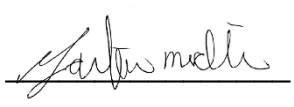
In accordance with 15.247 (e), the power spectral density shall be no greater than +8 dBm per any 3 kHz band.

Results are shown in the table below and figures below. All are less than +8 dBm per 3 kHz band. See figures below.

Table 11. Power Spectral Density for Low, Mid and High Bands

Frequency (MHz)	Measured Result (dBm/3kHz)	FCC and IC Limit (dBm/3 kHz)
2402	-5.95	+8.0
2450	-6.24	+8.0
2480	-6.48	+8.0

Test Date: July 10, 2026

Tested By
Signature:  Name: Gabriel Medina

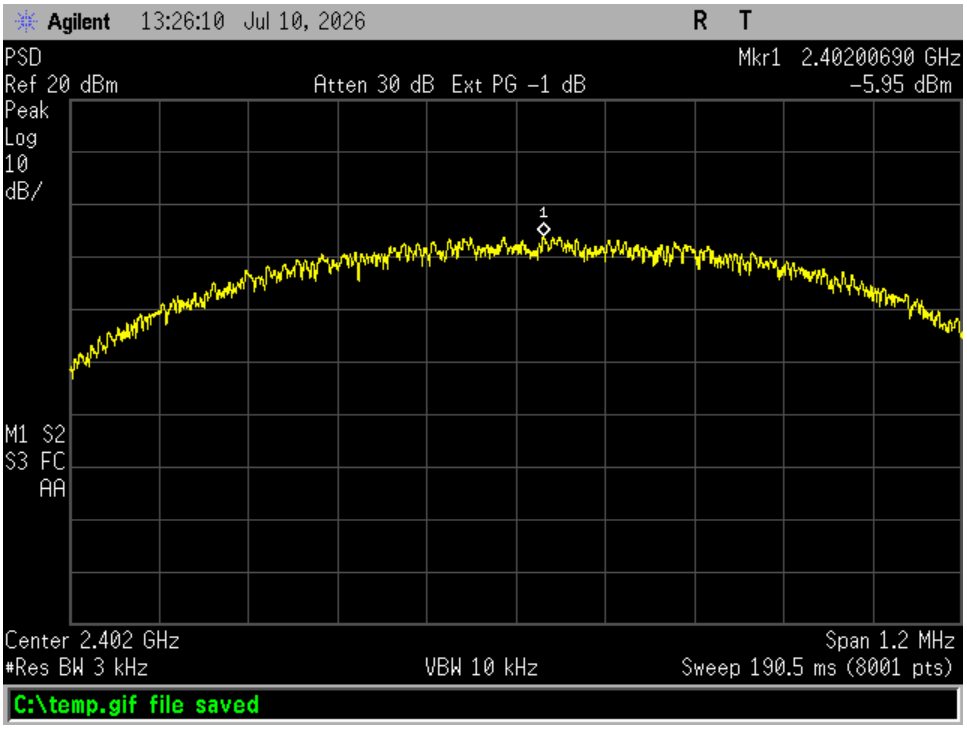


Figure 45. Power Spectral Density, Low Channel

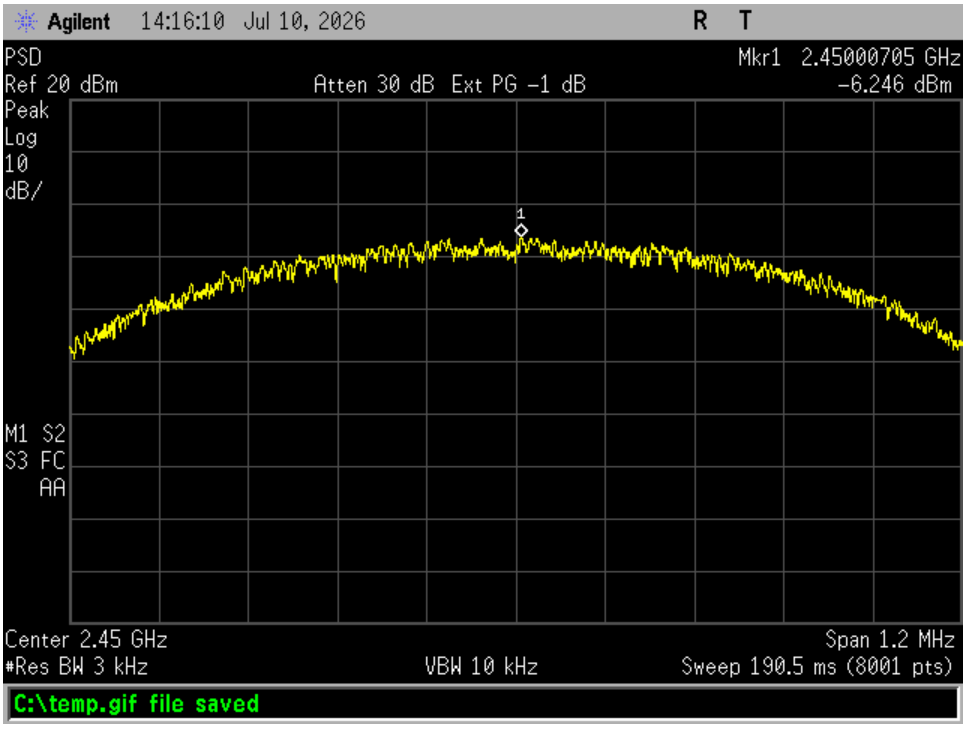


Figure 46. Power Spectral Density, Mid Channel

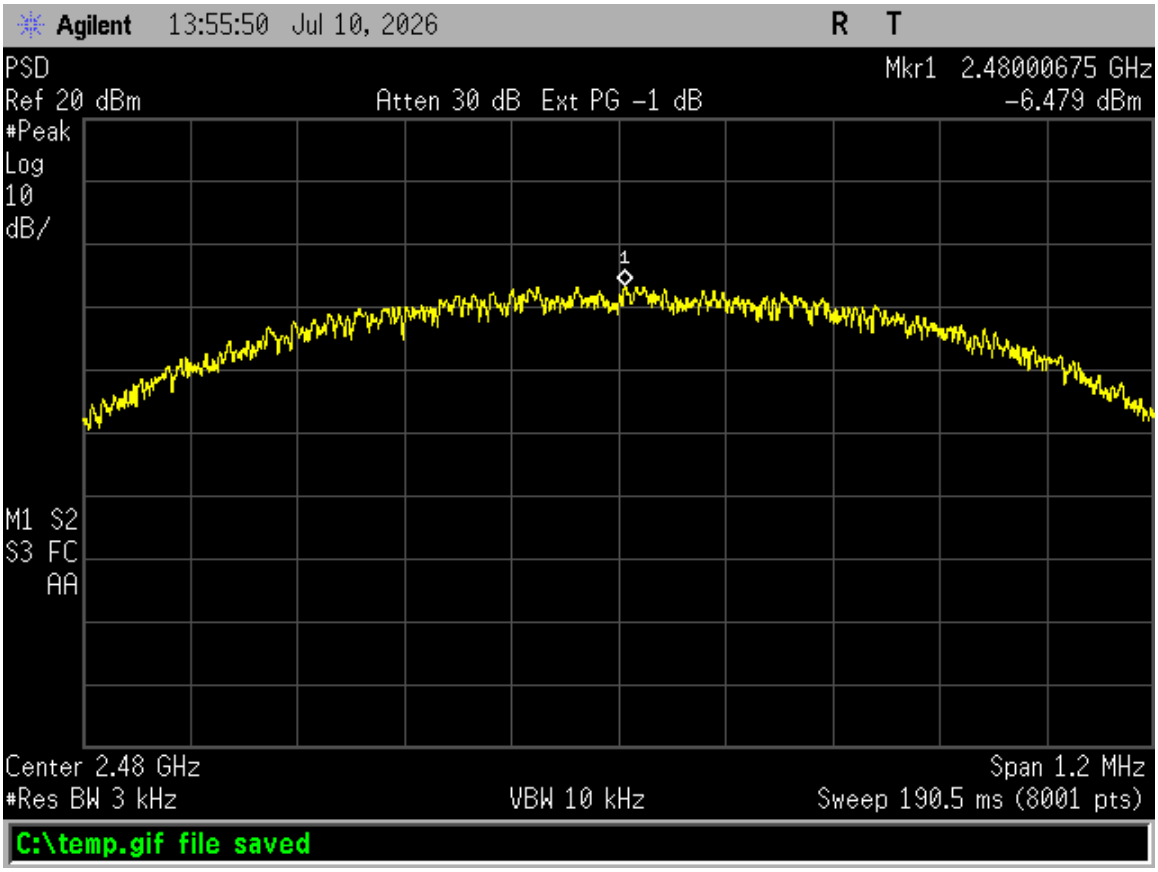


Figure 47. Power Spectral Density, High Channel

2.15. Intentional Radiator Power Lines Conducted Emissions (CFR 15.207)

The EUT was battery powered; therefore, this test was not applied.

2.16. Intentional Radiator, Radiated Emissions (CFR 15.209)

The test data provided herein is to support the verification requirement for radiated emissions coming for the EUT in a transmitting state per 15.209 and were investigated from 9kHz or the lowest operating clock frequency to 25 GHz and tested as detailed in ANSI C63.10:2020+COR1(2023), Clause 6.4-6.6.

Radiated emissions within the band of 9 kHz to 30 MHz were investigated using a calibrated Loop Antenna and per the requirements of ANSI C63.10:2020+COR1(2023).

Measurements were made with the analyzer's resolution bandwidth set to 120 kHz for measurements made below 1 GHz and 1 MHz for measurements made above 1 GHz. The video bandwidth was set to three times the resolution bandwidth; 1 MHz RBW and 3 MHz VBW. The test data were maximized for magnitude by rotating the turn-table through 360 degrees and raising and lowering the receiving antenna between 1 to 4 meters in height as a part of the measurement procedure.

2.16.1. Intentional Radiated Emissions, Antenna 0

Table 12. Spurious Radiated Emissions, Antenna 0 (150 kHz-30MHz)

Test: FCC Part 15.209							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB)**	**Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**DETECTOR PK / QP/AVG**
All emissions were more than 20 dB below the applicable limit.							

Sample Calculation: N/A

Test Date: June 26, 2026

Tested By
Signature: 

Name: Gabriel Medina

The worst-case radiated emission in the range of 30 MHz to 1 GHz was 11.9 dB below the limit at 75.97 MHz. This signal is found below. All other radiated emissions were 14.8 dB or more below the limit.

Table 13. Spurious Radiated Emissions, Antenna 0 (30 MHz – 1 GHz)

Test: FCC Part 15.209							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB)**	**Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**DETECTOR PK / QP/AVG**
31.62	28.34	-7.99	20.35	40.0	3m./HORZ	19.7	**PK**
98.89	28.37	-13.36	15.01	43.5	3m./HORZ	28.5	**PK**
203.80	28.42	-11.15	17.28	43.5	3m./HORZ	26.2	**PK**
308.99	27.81	-6.74	21.07	46.0	3m./HORZ	24.9	**PK**
969.80	28.50	1.14	29.64	54.0	3m./HORZ	24.4	**PK**
40.02	34.45	-11.04	23.41	40.0	3m./VERT	16.6	**PK**
75.97	42.95	-14.83	28.12	40.0	3m./VERT	11.9	**PK**
84.01	39.48	-14.25	25.22	40.0	3m./VERT	14.8	**PK**
91.99	35.92	-13.11	22.81	43.5	3m./VERT	20.7	**PK**
115.99	32.94	-11.47	21.48	43.5	3m./VERT	22.0	**PK**
311.29	27.74	-6.89	20.85	46.0	3m./VERT	25.2	**PK**
946.55	28.49	1.21	29.70	46.0	3m./VERT	16.3	**PK**
Worst-case emissions are reported in this table. All other emissions are presented in the graphs that follow.							

Sample Calculation at 31.62 MHz:

Formula:

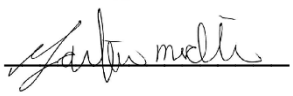
$$|\boldsymbol{M}| + \boldsymbol{CF} = \boldsymbol{CR}$$

$$|\boldsymbol{M}| = \boldsymbol{Magnitude\ of\ Measured\ Frequency}\ [\boldsymbol{dB\mu V}]$$
$$\boldsymbol{CF} = \boldsymbol{Correction\ Factors}\ [\boldsymbol{dB/m}]$$
$$\boldsymbol{CR} = \boldsymbol{Corrected\ Results}\ [\boldsymbol{dB\mu V}]$$

Calculation:

$$28.34\ dB\mu V - 7.99\ dB/m = 20.35\ dB\mu V$$

Test Date: June 26, 2026

Tested By
Signature:  Name: Gabriel Medina

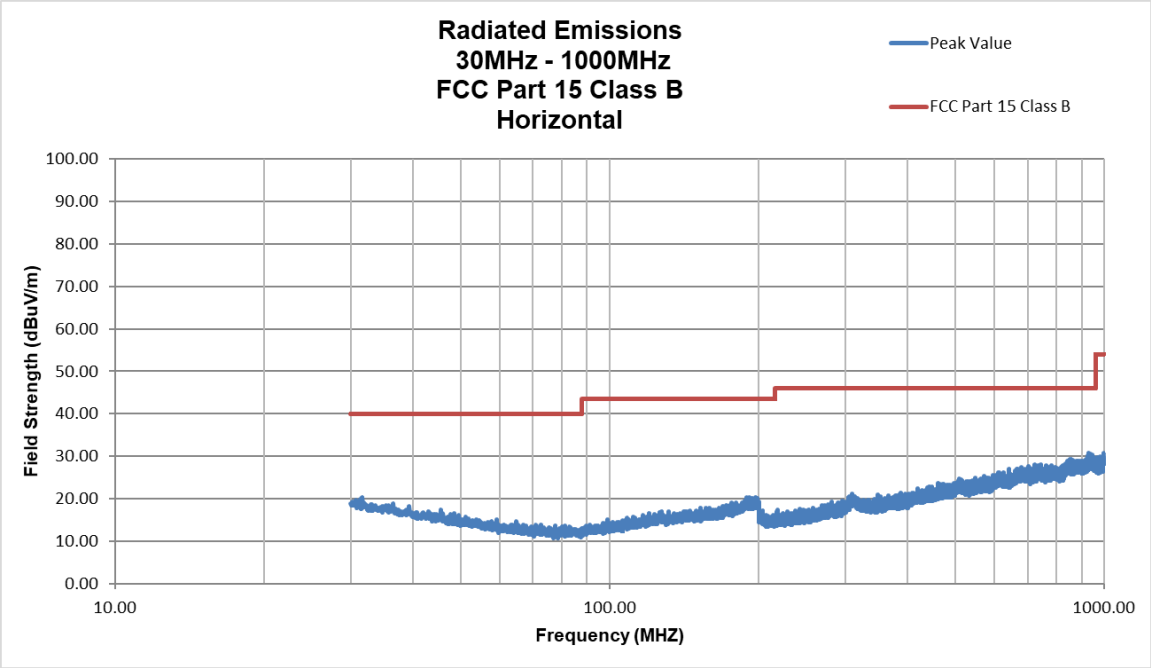


Figure 48. Radiated Spurious Emissions, 30 – 1000 MHz, Antenna 0, Horizontal

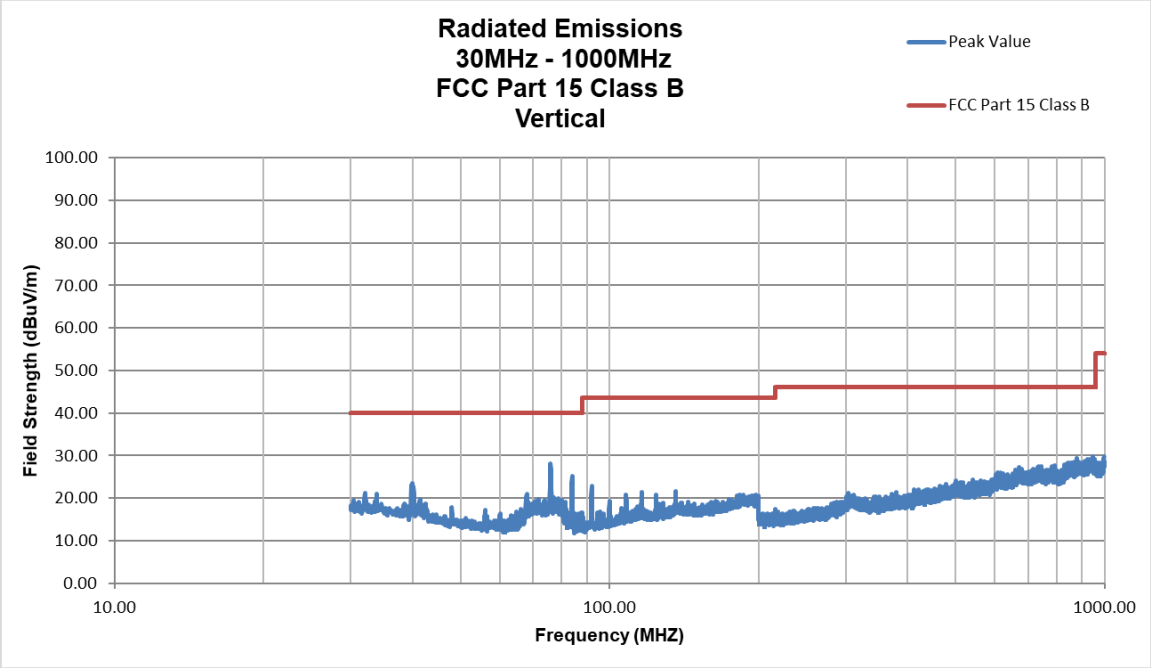


Figure 49. Radiated Spurious Emissions, 30 – 1000 MHz, Antenna 0, Vertical

Table 14. Spurious Radiated Emissions, Antenna 0 (1 GHz – 25 GHz)

Test: FCC Part 15.209							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB)**	**Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**DETECTOR PK / QP/AVG**
All emissions other than Fundamental and Harmonics detailed Table 5 and Table 6 in were more than 20 dB below the applicable limit.							

Sample Calculation:

Test Date: June 22-26, 2026

Tested By
Signature:  Name: Gabriel Medina

2.16.2. Intentional Radiated Emissions, Antenna 1

Table 15. Spurious Radiated Emissions, Antenna 1 (150 kHz-30MHz)

Test: FCC Part 15.209							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB)**	**Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**DETECTOR PK / QP/AVG**
All emissions were more than 20 dB below the applicable limit.							

Sample Calculation: N/A

Test Date: June 26, 2026

Tested By
Signature:  Name: Gabriel Medina

The worst-case radiated emission in the range of 30 MHz to 1 GHz was 5.5 dB below the limit at 84.01 MHz. This signal is found below. All other radiated emissions were 11.8 dB or more below the limit.

Table 16. Spurious Radiated Emissions, Antenna 1 (30 MHz – 1 GHz)

Test: FCC Part 15.209							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB)**	**Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**DETECTOR PK / QP/AVG**
32.04	27.16	-8.29	18.86	40.0	3m./HORZ	21.1	**PK**
99.25	28.18	-13.36	14.82	43.5	3m./HORZ	28.7	**PK**
202.30	27.92	-11.01	16.91	43.5	3m./HORZ	26.6	**PK**
311.04	28.30	-6.69	21.61	46.0	3m./HORZ	24.4	**PK**
943.95	28.65	2.31	30.96	46.0	3m./HORZ	15.0	**PK**
48.06	35.63	-12.31	23.32	40.0	3m./VERT	16.7	**PK**
59.88	38.42	-13.72	24.70	40.0	3m./VERT	15.3	**PK**
76.03	43.05	-14.83	28.22	40.0	3m./VERT	11.8	**PK**
84.01	48.72	-14.25	34.46	40.0	3m./VERT	5.5	**PK**
100.03	34.51	-12.45	22.06	43.5	3m./VERT	21.4	**PK**
306.74	28.18	-6.91	21.27	46.0	3m./VERT	24.7	**PK**
978.10	28.48	0.11	28.60	54.0	3m./VERT	25.4	**PK**
Worst-case emissions are reported in this table. All other emissions are presented in the graphs that follow.							

Sample Calculation at 32.04 MHz:

Formula:

$$|\boldsymbol{M}| + \boldsymbol{CF} = \boldsymbol{CR}$$

$$|\boldsymbol{M}| = \boldsymbol{Magnitude\ of\ Measured\ Frequency}\ [\boldsymbol{dB\mu V}]$$
$$\boldsymbol{CF} = \boldsymbol{Correction\ Factors}\ [\boldsymbol{dB/m}]$$
$$\boldsymbol{CR} = \boldsymbol{Corrected\ Results}\ [\boldsymbol{dB\mu V}]$$

Calculation:

$$27.16\ dB\mu V - 8.29\ dB/m = 18.86\ dB\mu V$$

Test Date: June 26, 2026

Tested By
Signature:  Name: Gabriel Medina

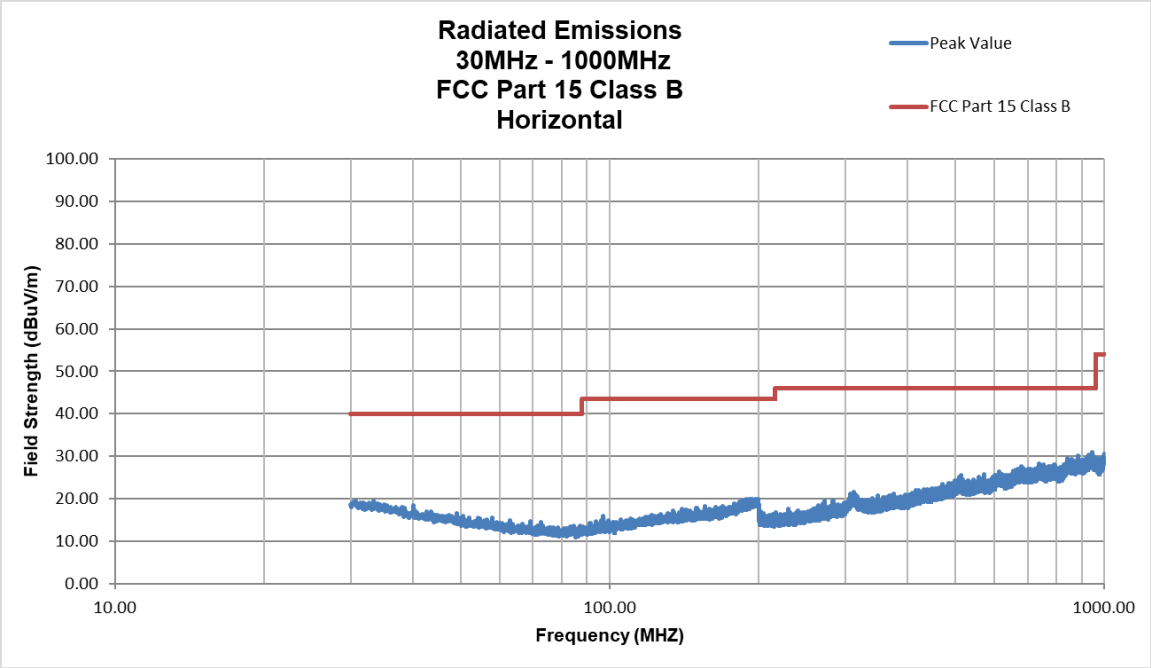


Figure 50. Radiated Spurious Emissions, 30 – 1000 MHz, Antenna 1, Horizontal

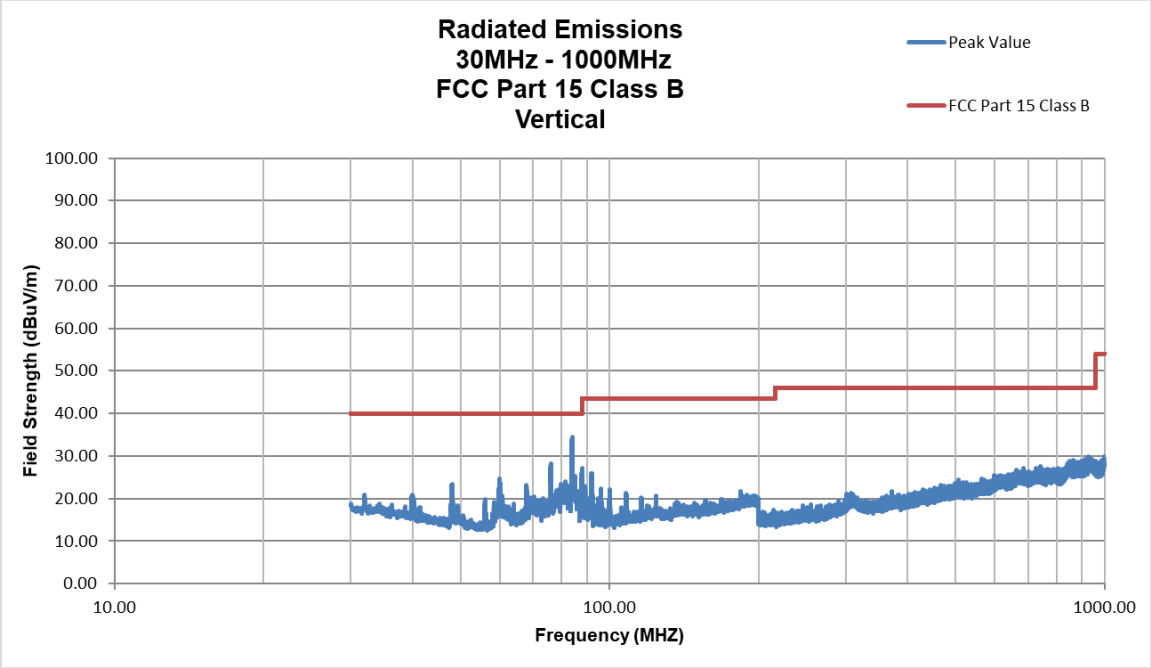


Figure 51. Radiated Spurious Emissions, 30 – 1000 MHz, Antenna 1, Vertical

Table 17. Spurious Radiated Emissions, Antenna 1 (1 GHz – 25 GHz)

Test: FCC Part 15.209							
Frequency (MHz)	**Test Data (dBuV)**	**AF+CL-PA (dB)**	**Results (dBuV/m)**	**Limits (dBuV/m)**	**Distance / Polarization**	**Margin (dB)**	**DETECTOR PK / QP/AVG**
All emissions other than Fundamental and Harmonics detailed Table 7, and Table 8, in were more than 20 dB below the applicable limit.							

Sample Calculation:

Test Date: June 22-26, 2026

Tested By
Signature:  Name: Gabriel Medina

2.17. Measurement Uncertainty

The measurement uncertainties given were calculated using the method detailed in CISPR 16-4-2:2011. A coverage factor of k=2 was used to give a level of confidence of approximately 95%.

2.17.1. Conducted Emissions Measurement Uncertainty

Measurement Uncertainty (within a 95% confidence level) for this test is ±2.85 dB.

2.17.2. Radiated Emissions Measurement Uncertainty

For a measurement distance of 3 m the measurement uncertainty (with a 95% confidence level) for this test using a Biconical Antenna (30 MHz to 200 MHz) is ±5.2 dB. This value includes all elements of measurement.

The measurement uncertainty (with a 95% confidence level) for this test using a Log Periodic Antenna (200 MHz to 1000 MHz) is ±5.2 dB.

The measurement uncertainty (with a 95% confidence level) for this test using a Horn Antenna is ±5.2 dB.

3. Conclusions

The EUT is deemed to have met the requirements of the standards cited within the test report when tested as detailed in the present test report.

END TEST REPORT