313 West 12800 South, Suite 311
Draper, UT 84020
(801) 260-4040

Test Report

Certification

FCCID	2AJAC-VIBRSB
IC#	7848A-VIBRSB
Equipment Under Test	030-00885
Test Report Serial No	V079736_01
Dates of Test	June 9-12, 2025
Report Issue Date	August 1, 2025

Test Specifications:	Applicant:
Peak In-Band Gain (dBi)	Snap One LLC 1800 Continental Blvd., Suite 200-300 Charlotte NC 28273 U.S.A.

Certification of Engineering Report

This report has been prepared by VPI Technology, Inc. to document compliance of the device described below with the requirements of Federal Communications Commission (FCC) Part 15, Subpart C. This report may be reproduced in full. Partial reproduction of this report may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

Applicant	Snap One LLC
Manufacturer	Snap One LLC
Brand Name	Snap One
Model Number	030-00885
FCC ID	2AJAC-VIBRSB
IC#:	7848A-VIBRSB

On this 1st day of August 2025, I, individually and for VPI Technology, Inc., certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge, and are made in good faith.

Although NVLAP has accredited the VPI Technology, Inc. EMC testing facilities, this report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the US government.

VPI Technology, Inc.

Tested by: Benjamin N. Antczak

Reviewed by: Jason Stewart

Revision History		
Revision	**Description**	**Date**
01	Original Report Release	August 1, 2025

Table of Contents

1 Client Information

1.1 Applicant

Company Name	Snap One LLC 1800 Continental Blvd., Suite 200-300 Charlotte NC 28273 U.S.A.
Contact Name	Roger Midgley
Title	Sr. Regulatory Compliance Engineer

1.2 Manufacturer

Company Name	Snap One LLC 1800 Continental Blvd., Suite 200-300 Charlotte NC 28273 U.S.A.
Contact Name	Roger Midgley
Title	Sr. Regulatory Compliance Engineer

2 Equipment Under Test (EUT)

2.1 Identification of EUT

Brand Name	Snap One
Model Number	030-00885

2.2 Description of EUT

The 030-00885 contains a trace antenna. This report covers the peak gain measurements for the device. The 030-00885 was directly placed on a Host Board, Snap One 100-00863 Rev 1.

2.3 EUT and Support Equipment

The EUT and support equipment used during the test are listed below.

Brand Name **Model Number** **Serial Number**	**Description**	**Name of Interface Ports / Interface Cables**
BN: Snap One MN: 030-00885 (Note 1) SN: N/A	Zigbee Module	See Section 2.4
BN: Snap One MN: 100-00863 Rev 1 SN: N/A	Host Board	Directly Attached / N/A (Note 2)
BN: Snap One MN: 100-00863 Rev 1 SN: N/A	Debug Board	JTAG Serial Port / 10 Conductor Ribbon Cable
BN: Snap One MN: BRD4184A Rev A SN: 203713125	Control Laptop	USB Isolator to Debug Board / USB A to USB Micro
BN: Seeed Technology Co, Ltd. MN: 114991949 SN: N/A	USB Isolator	PC USB / USB A Direct Connection

Notes: (1) EUT

(2) Interface port connected to EUT (See Section 2.4)

The support equipment listed above was not modified in order to achieve compliance with this standard.

3 Test Specification, Methods and Procedures

3.1 Test Specification

Title	ANSI C63.10 2013 Section 11.9.1.1
Purpose of Test	The tests were performed to demonstrate initial compliance

3.2 Methods & Procedures

3.2.1 §15.203 Antenna 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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

3.2.2 Peak Gain Measurement Method

Peak output power was measured according to ANSI C63.10 2013 Section 11.9.1.1 as a conducted measurement on a Rohde & Schwarz FSV40, and then repeated as a radiated measurement on three orthogonal axes as the device was rotated 360 degrees and the antenna height adjusted from 1 to 4 meters. The EUT was measured in three orthogonal axes. RBW was set to 10MHz, which is greater than the 2.3MHz 99%OCB. VBW was set to 28MHz, which is the closest available VBW to 3x RBW. Sweep time was set to auto couple, and detector was set to peak. Trace was set to max hold and the trace was allowed to stabilize. Radiated measurements were taken as device rotated on a turn-table and a peak marker was function

3.3 Test Procedure

VPI Technology, Inc. is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Lab Code: 100272-0, which is effective until September 30, 2025. VPI Technology, Inc. carries FCC Accreditation Designation Number US5263. VPI Technology main office is located at 313 W 12800 S, Suite 311, Draper, UT 84020. The testing was performed according to the procedures in ANSI C63.10-2013, KDB 558074, and 47 CFR Part 15.

4 Operation of EUT During Testing

4.1 Operating Environment

Power Supply	5VDC via Laptop USB (Laptop Powered by 120 VAC)
AC Mains Frequency	DC via Laptop USB (Laptop Powered by 60 Hz)

4.2 Operating Modes

The transmitter was tested once as a conducted antenna-port measurement and again on 3 orthogonal axes while in a constant transmit mode at the upper, middle, and lower channels with a modulated signal. EUT transmitted at an output power set level of 20dBm.

4.3 EUT Exercise Software

Snap One Test Firmware was installed on the device to enable constant modulated transmission and power control.

5 Summary of Test Results

5.1 FCC Part 15, Subpart C

5.1.1 Summary of Tests

Section	Environmental Phenomena	Frequency Range (MHz)	Result
15.203	Antenna Requirements	Structural requirement	Complied
15.207	Peak Gain (dBi)	2400 to 2483.5	Reported

5.2 Result

In the configuration tested, the EUT complied with the requirements of the specification.

6 Measurements, Examinations and Derived Results

6.1 General Comments

6.2 Test Results

6.2.1 Antenna Gain

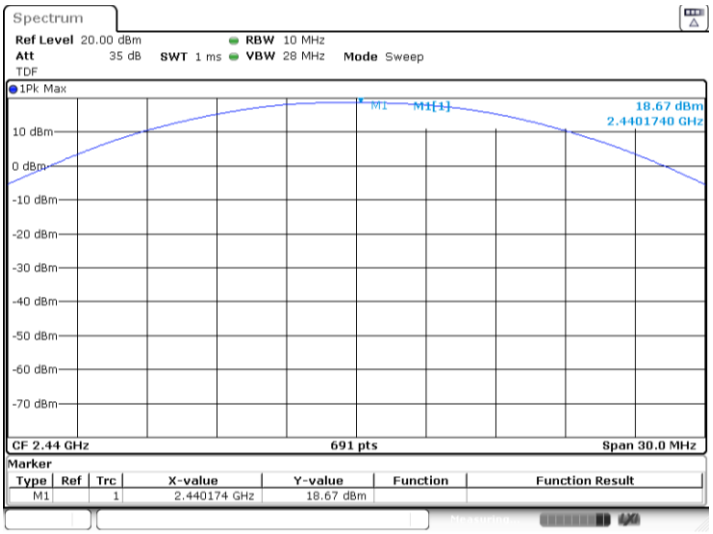
The EUT uses a PCB trace antenna. See Section 8 for Orientation Reference Photos.

Freq. (MHz)	EUT Orientation	Polarity	Peak Azimuth (θ)	Angle From Horizon (Φ)	Measured Radiated EIRP (dBm)	Measured Conducted Output Power (dBm)	Peak Gain (dBi)
2440	Flat	H	81°	0.8°	17.90	18.67	-0.77
2440	Flat	V	151°	32.3°	9.70	18.67	-8.97
2440	Long Edge	H	313°	-0.1°	18.03	18.67	-0.64
2440	Long Edge	V	192°	21.5°	15.90	18.67	-2.77
2440	Short Edge	H	237°	0.0°	13.29	18.67	-5.38
2440	Short Edge	V	0°	23.1°	17.79	18.67	-0.88

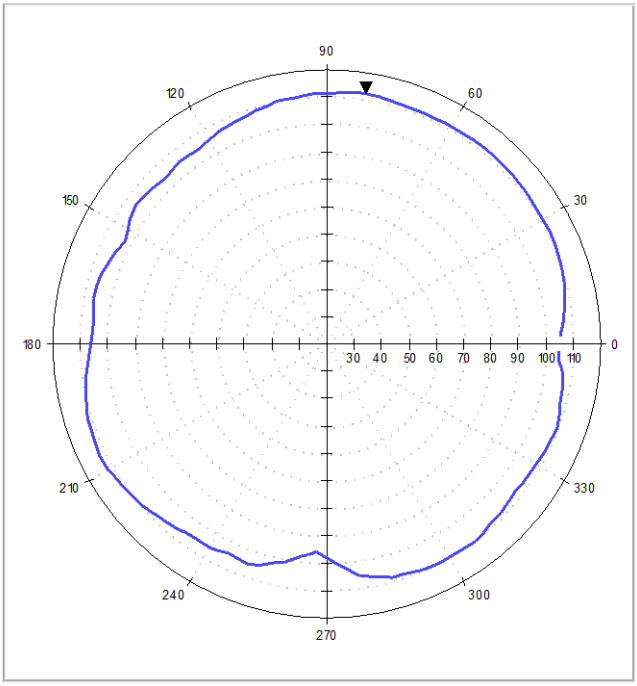
Result

The EUT's highest measured in-band peak gain is -0.64 dBi.

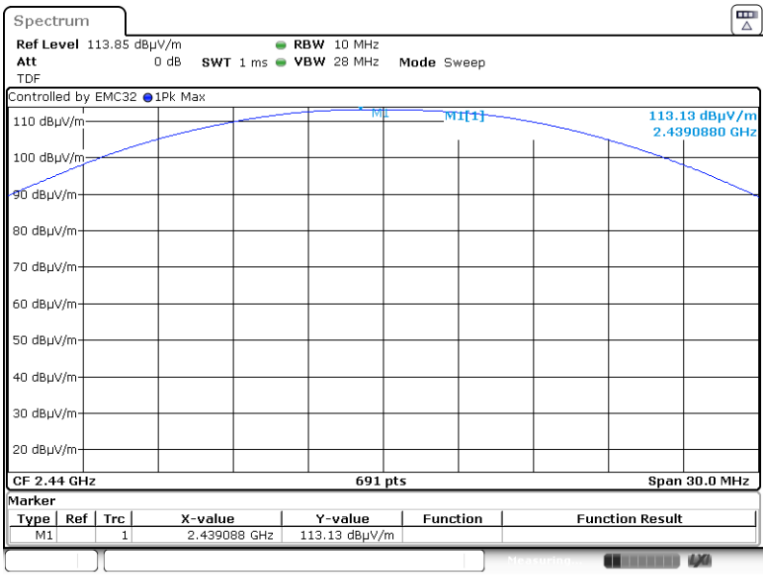
Conducted Measurement 2440 MHz:



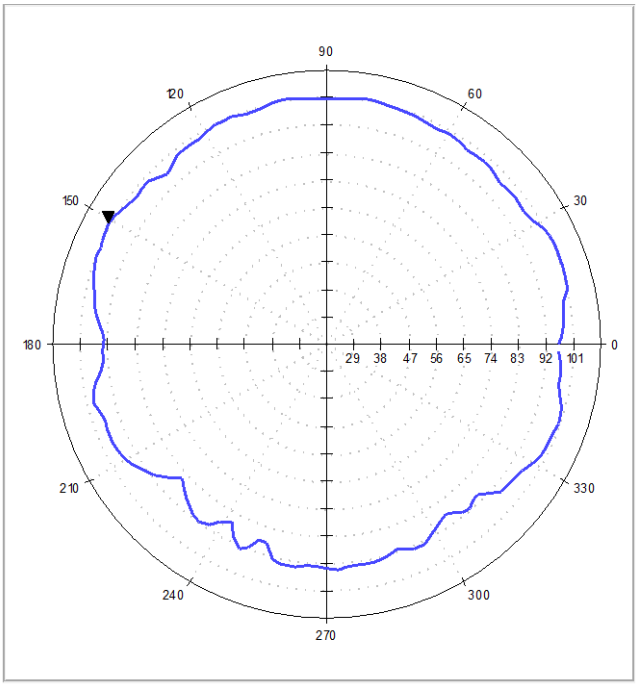
Radiation Azimuth Plot 2440 MHz (EUT Laying Flat, Horizontal):



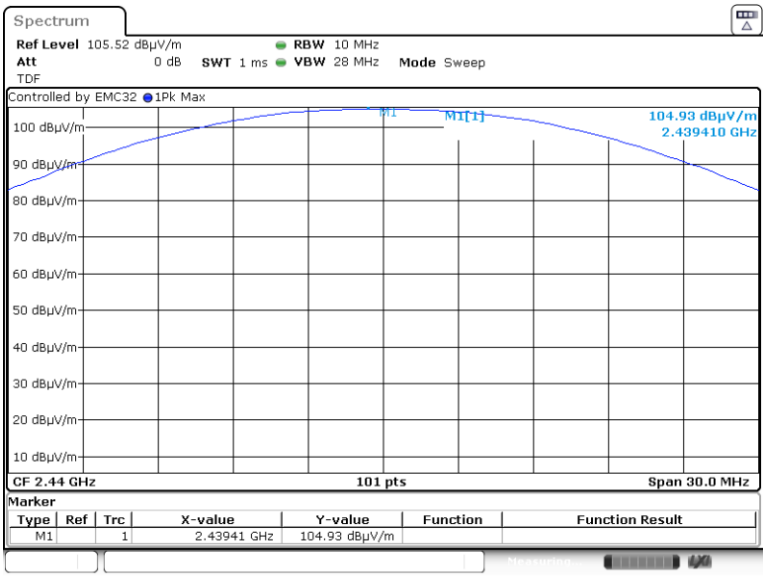
Final Measurement 2440 MHz (EUT Laying Flat, Horizontal):



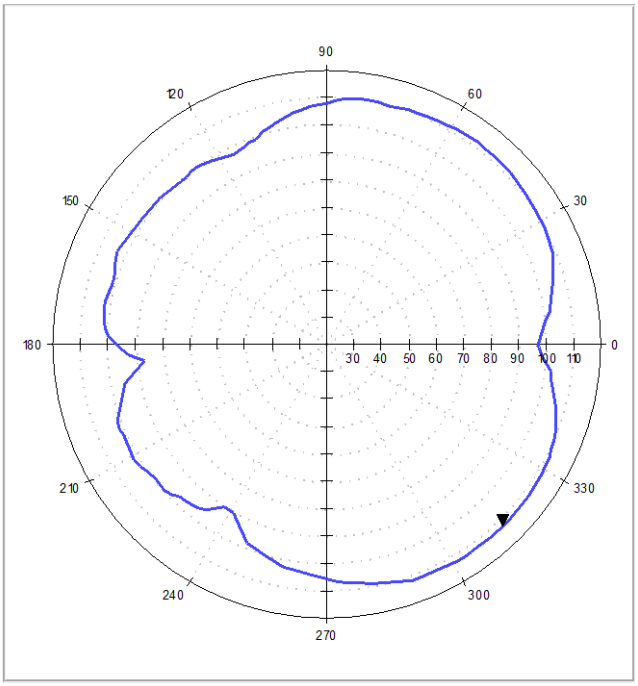
Radiation Azimuth Plot 2440 MHz (EUT Laying Flat, Vertical):



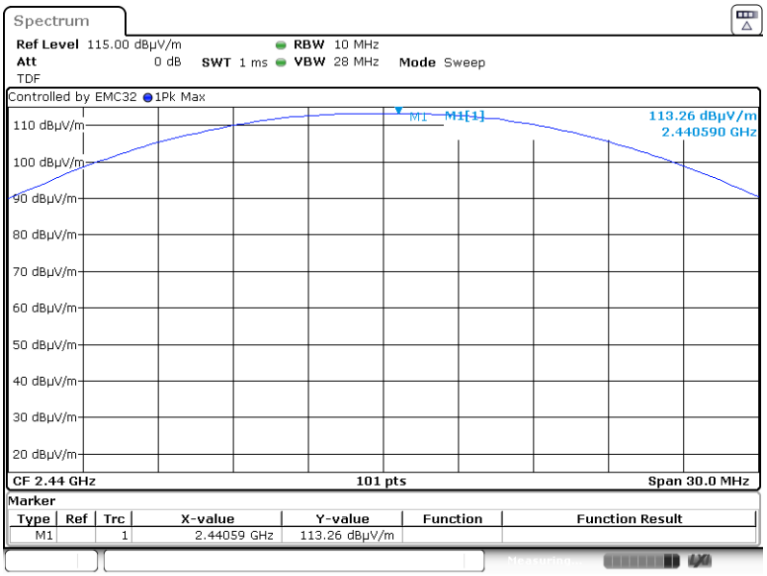
Final Measurement 2440 MHz (EUT Laying Flat, Vertical):



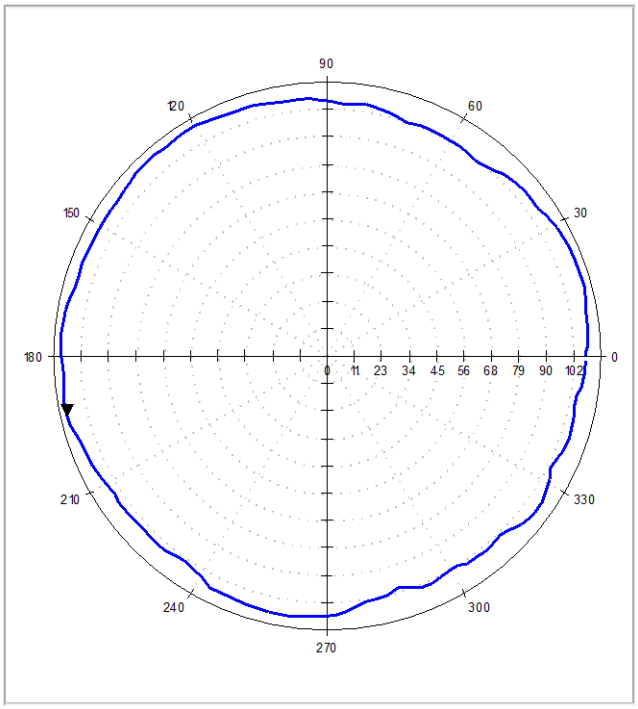
Radiation Azimuth Plot 2440 MHz (EUT Standing Long Edge, Horizontal):



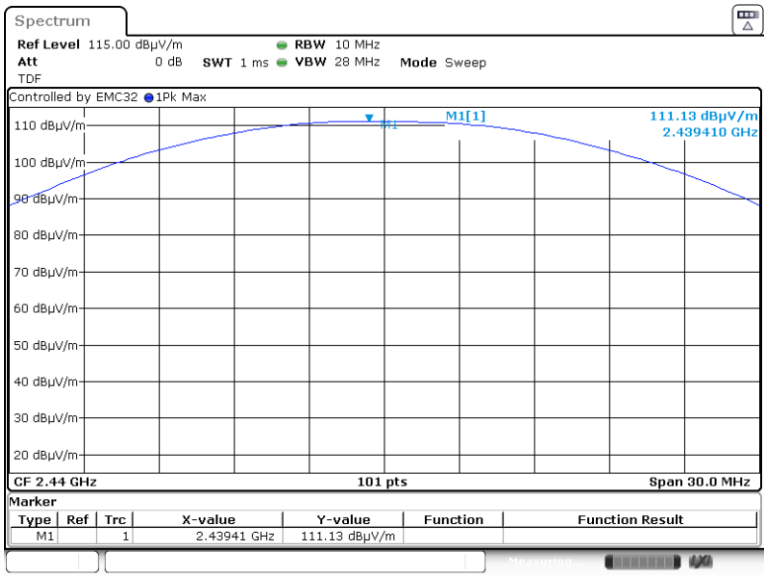
Final Measurement 2440 MHz (EUT Standing Long Edge, Horizontal):



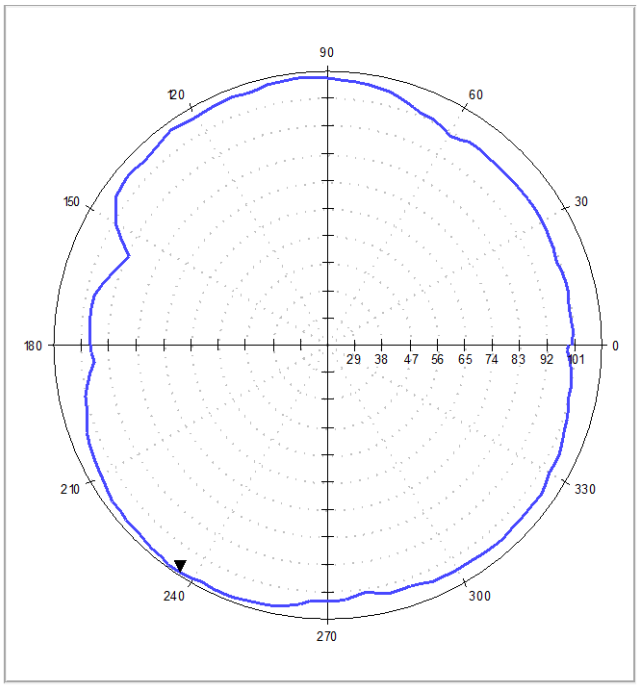
Radiation Azimuth Plot 2440 MHz (EUT Standing Long Edge, Vertical):



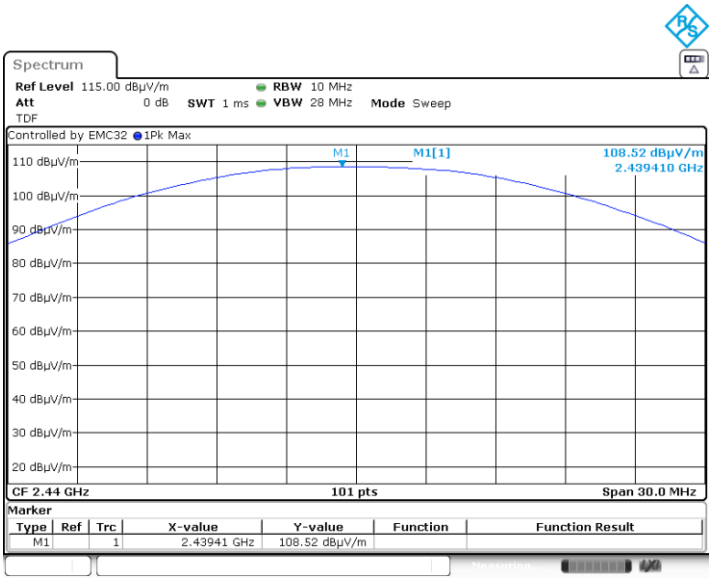
Final Measurement 2440 MHz (EUT Standing Long Edge, Vertical):



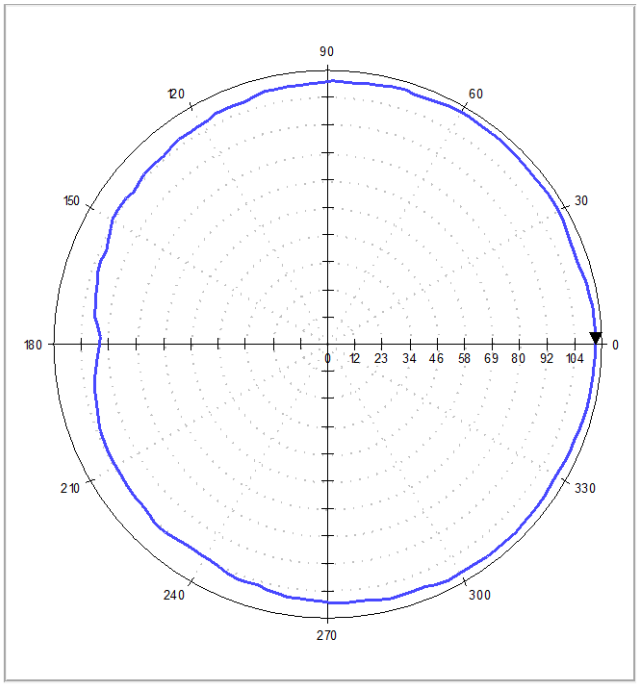
Radiation Azimuth Plot 2440 MHz (EUT Standing Short Edge, Horizontal):



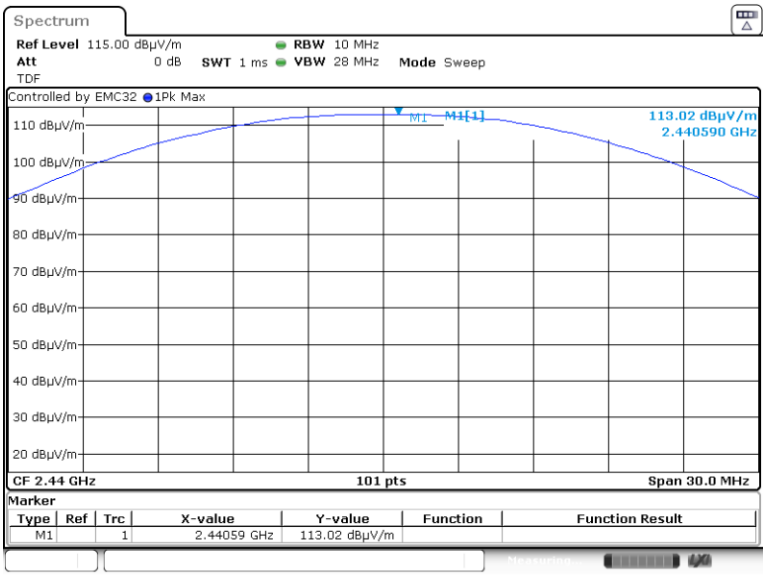
Final Measurement 2440 MHz (EUT Standing Short Edge, Horizontal):



Radiation Azimuth Plot 2440 MHz (EUT Standing Short Edge, Vertical):



Final Measurement 2440 MHz (EUT Standing Short Edge, Vertical):



7 Test Procedures and Test Equipment

7.1 Direct Connection at the Antenna Port Tests

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer/Receiver	Rohde & Schwarz	ESU40	V033119	12/02/2024	12/02/2025
Spectrum Analyzer/ Signal Analyzer	Rohde & Schwarz	FSV40	V044352	03/05/2024	03/05/2026
"DUT 5" Cable	N/A	N/A	N/A	12/19/2024	12/19/2025
EMC32 Test Software	Rohde & Schwarz	11.70	N/A	N/A	N/A

7.2 Radiated Emissions

The radiated emissions from the EUT were measured using a spectrum analyzer with a quasi-peak adapter for peak and quasi-peak readings.

A preamplifier with a fixed gain was used to increase the sensitivity of the measuring instrumentation. The quasi-peak adapter uses a bandwidth of 120 kHz, with the spectrum analyzer's resolution bandwidth set at 1 MHz, for readings in the 30 to 1000 MHz frequency ranges. For frequencies below 30 MHz, a 9 kHz resolution Bandwidth was used.

A loop antenna was used to measure frequencies below 30 MHz. A biconilog antenna was used to measure the frequency range of 30 to 1000 MHz, at a distance of 3 meters from the EUT. The readings obtained by these antennas are correlated to the levels obtained with a tuned dipole antenna by adding antenna factors. A double-ridged guide antenna was used to measure the emissions at frequencies above 1000 MHz at a distance of 3 and/or 1 meter from the EUT.

The configuration of the EUT was varied to find the maximum radiated emission. The EUT was connected to the peripherals listed in Section 2.3 via the interconnecting cables listed in Section 2.4. A technician manually manipulated these interconnecting cables to obtain worst-case radiated emissions. The EUT was rotated 360 degrees, and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission. Where there were multiple interface ports all of the same type, cables are either placed on all of the ports or cables added to these ports until the emissions do not increase by more than 2 dB.

Desktop EUT are measured on a non-conducting table 0.8 meters above the ground plane. For frequencies above 1000 MHz, the EUT is placed on a table 1.5 meters above the ground plane. The table is placed on a turntable, which is level with the ground plane. For equipment normally placed on floors, the equipment shall be placed directly on the turntable.

For radiated emissions testing that is performed at distances closer than the specified distance; an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer/Receiver	Rohde & Schwarz	ESU40	V033119	12/02/2024	12/02/2025
Spectrum Analyzer/ Signal Analyzer	Rohde & Schwarz	FSV40	V044352	03/05/2024	03/05/2026
Loop Antenna	EMCO	6502	V034216	08/27/2023	08/27/2024
Biconilog Antenna	EMCO	3142E	V057461	08/06/2023	08/06/2025
Power Amplifier	HP	8447E	V034189	12/19/2024	12/19/2025
Double Ridged Guide Antenna	EMCO	3115	V034413	08/25/2023	08/25/2025
Standard Gain Horn	ETS-Lindgren	3160-09	V034223	ICO	ICO
High Frequency Amplifier	Miteq	AFS4-001018000-35-10P-4	V033997	12/19/2024	12/19/2025
900 MHz High Pass Filter	Micro-Tronics	HPM50108-03	V034185	12/19/2024	12/19/2025
2.4 GHz High Pass Filter	Micro-Tronics	HPM50111-03	V034183	12/19/2024	12/19/2025
2.4 GHz Notch Filter	Micro-Tronics	BRM50702-03	V034213	12/19/2024	12/19/2025
6’ High Frequency Cable	Microcoax	UFB197C-0-0720-000000	V033638	12/19/2024	12/19/2025
20’ High Frequency Cable	Microcoax	UFB197C-1-3120-000000	V033979	12/19/2024	12/19/2025
3 Meter Radiated Emissions Cable Wanship Upper Site	Microcoax	UFB205A-0-4700-000000	V033639	12/19/2024	12/19/2025
EMC32 Test Software	Rohde & Schwarz	10.60.20	N/A	N/A	N/A

Table 1: List of equipment used for radiated emissions testing.

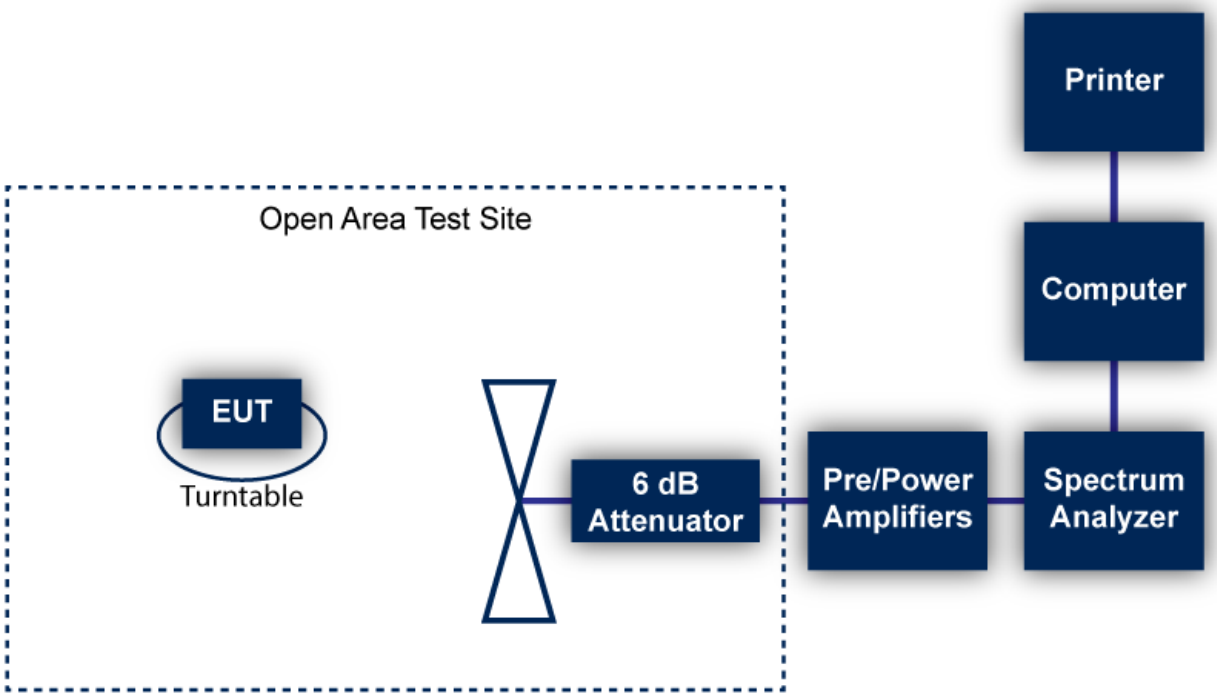


Figure 1: Radiated Emissions Test

7.3 Equipment Calibration

All applicable equipment is calibrated using either an independent calibration laboratory or VPI Technology, Inc. personnel at intervals defined in ANSI C63.4:2014 following outlined calibration procedures. All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to tractability is on file and is available for examination upon request.

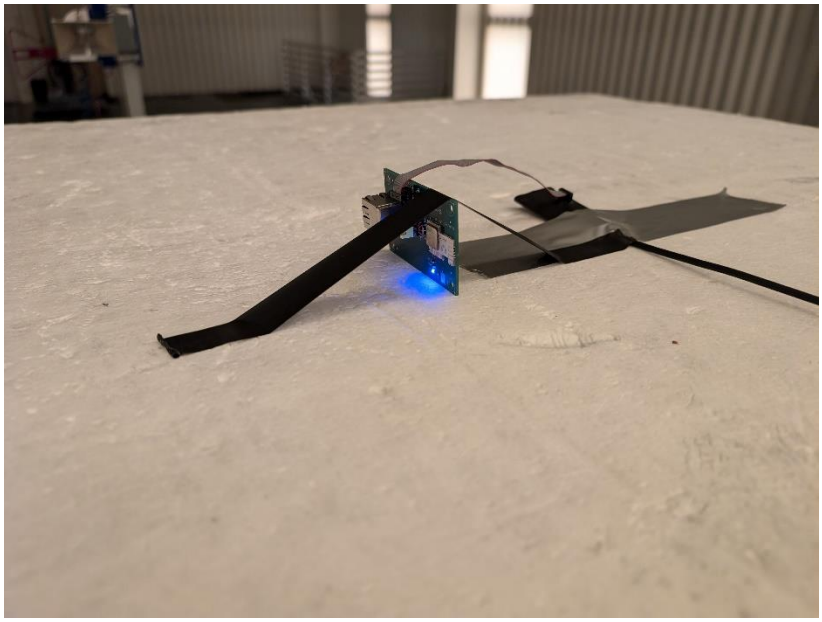
7.4 Measurement Uncertainty

Test	Uncertainty (±dB)	Confidence (%)
Conducted Emissions	2.8	95
Radiated Emission (9 kHz to 30 MHz)	3.3	95
Radiated Emissions (30 MHz to 1 GHz)	3.4	95
Radiated Emissions (1 GHz to 18 GHz)	5.0	95
Radiated Emissions (18 GHz to 40 GHz)	4.1	95

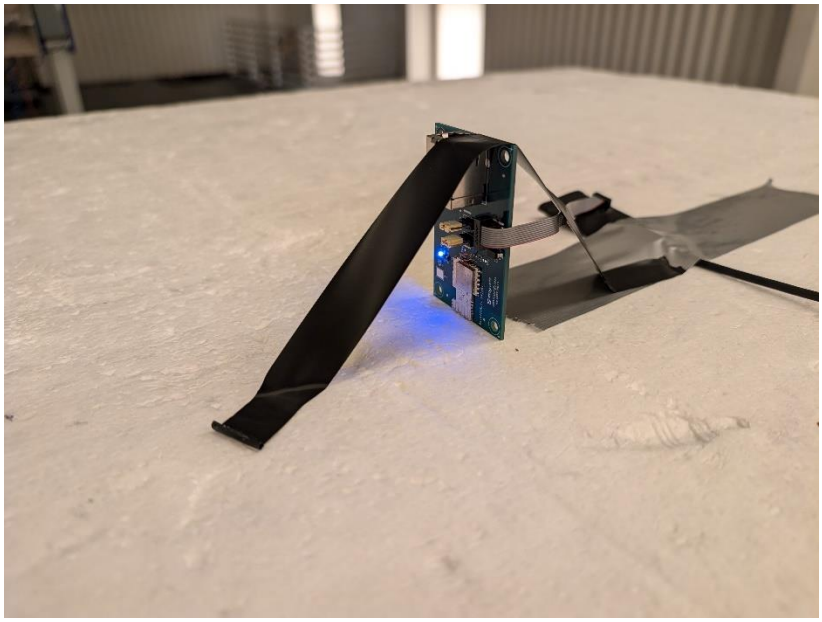
8 Photographs

Photograph 1: Front View Radiated Peak Emissions Configuration

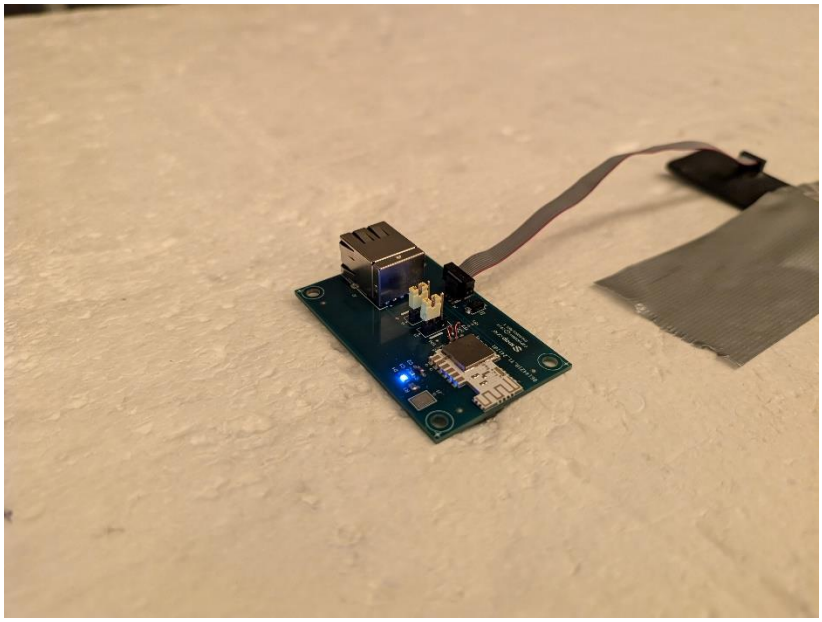
Photograph 2: Back View Radiated Peak Emissions Configuration



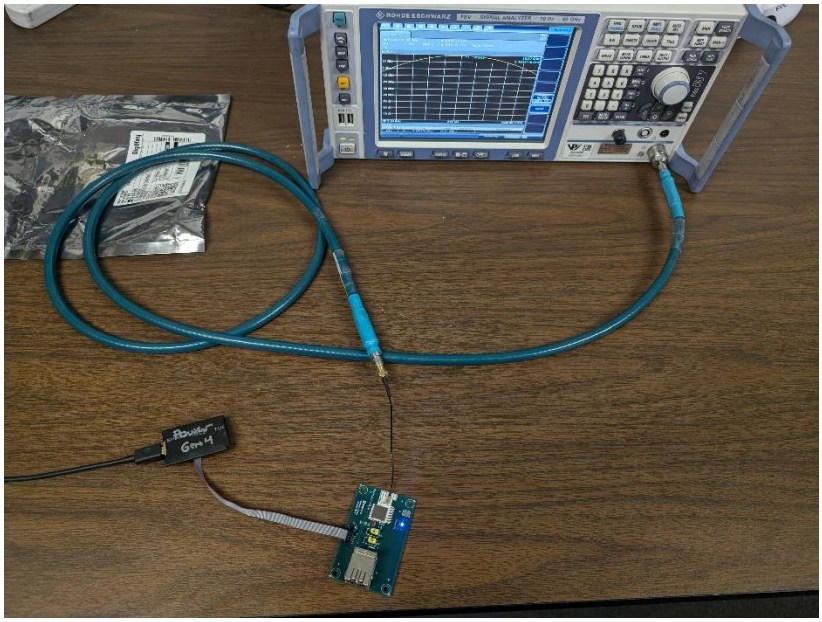
Photograph 3: View Radiated Emissions Peak Emission Configuration "Long Edge"



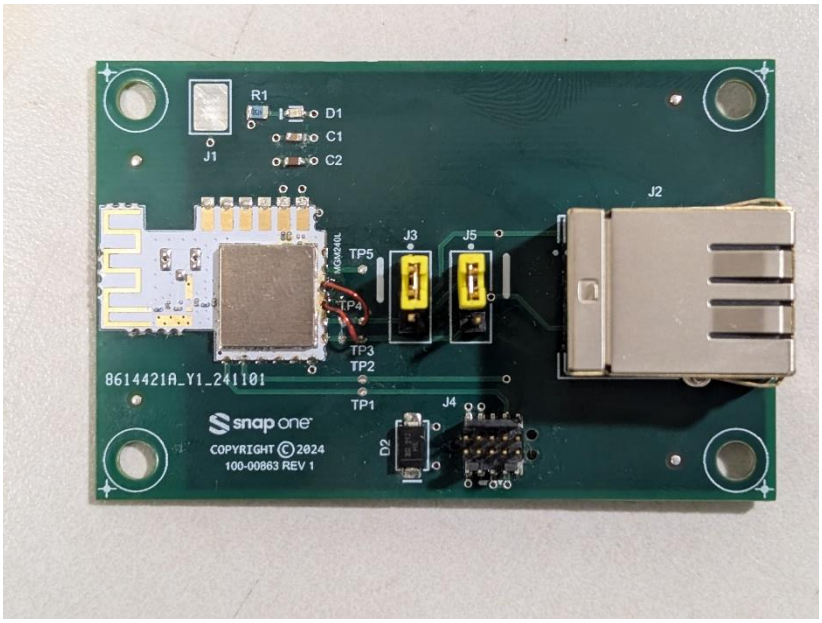
Photograph 4: View Radiated Emission Configuration "Short Edge"



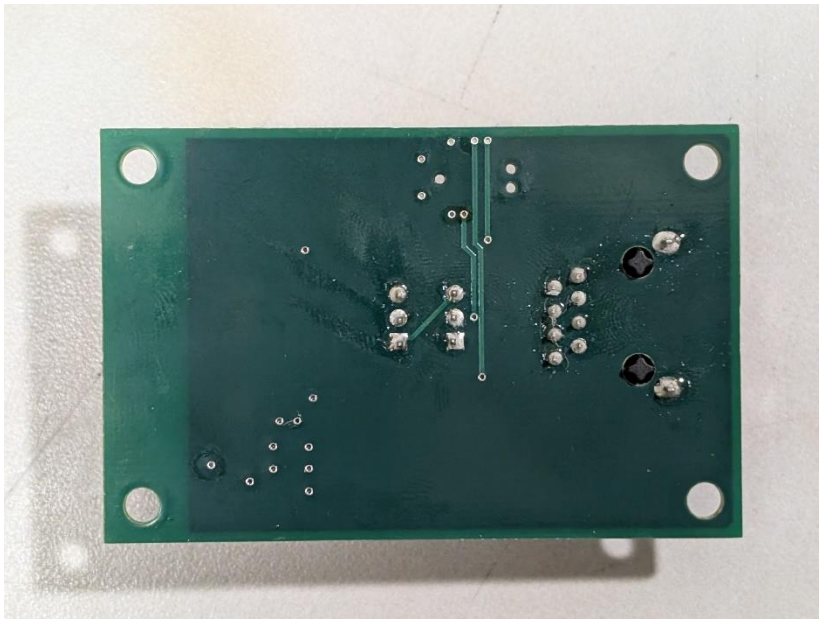
Photograph 5: View Radiated Emission Configuration "Flat"



Photograph 6: View Conducted Antenna-Port Emission Configuration



Photograph 7: Front View of the EUT



Photograph 8: Back View of the EUT

--- End of Report ---