Test Report

Prepared for: OMCO SOLAR

Model: TC1.4.0.00

Serial Number: 2501.001

Project No: p2570007

FCC ID:2BUGQ-TC14XMOS2279

To

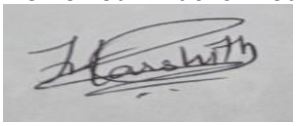
FCC Part 15.247
And
RSS Gen Issue 5 (April 2018)
RSS-247: Issue 4 (July 2025)

Test Results: Pass

Date of Issue: September 22, 2025

On the behalf of the applicant:	**OMCO SOLAR** **4550 W Watkins St** **Phoenix AZ 85043**
Attention of:	**Steve Ouandji, Sr Product Development Engineer** **Ph: 602-352-2726** **E-Mail: Souandji@omcoform.com**
Prepared By:	**Compliance Testing, LLC** **Mesa, AZ 85204** **(480) 926-3100 phone / (480) 926-3598 fax** **www.compliancetesting.com** **ANAB Cert#: AT-2901** **FCC Site Reg. #750616** **ISED Site Reg. #2044A-2**

Reviewed / Authorized By:



Harshith Devaraja, EMC Engineer

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Test Results Summary

Test Date Range: September 17, 2025- September 19, 2025

Specification		Test Name	Pass, Fail, N/A	Comments
FCC	RSS			
15.215(c)	RSS – Gen 6.7	Occupied Bandwidth	Pass	
15.247(b)(2)	Section 6.2.2.2(a)	Transmitter Output Power	Pass	
15.247(d)	Section 5.5	Conducted Spurious Emissions	N/A	EUT does not have a conducted RF port
15.247(d), 15.209(a), 15.205	Section 6.6 / RSS-GEN Section 8.9, 8.10	Radiated Spurious Emissions	Pass	
15.247(d), 15.209(a), 15.205	Section 6.6	Emissions At Band Edges	Pass	
15.247(a)(1)(i)	Sections 6.2.2.1 (a)	Occupied Bandwidth	Pass	
15.247(a)(1)(i)	Section 6.2.2.1 (b)	Dwell Time	Pass	
15.247(a)(1)(i)	Section 6.2.2.1 (b)	Number of Hopping Channels	Pass	
15.247(a)(1)	Section 6.2.1 (b)	Channel Separation	Pass	
15.207	RSS-GEN Section 8.8	A/C Powerline Conducted Emissions	N/A	EUT is powered by a DC battery
Method Deviations/Additions: No				

Statements of conformity are reported as:

- Pass - the measured value is below the acceptance limit, *acceptance limit = test limit*.
- Fail - the measured value is above the acceptance limit, *acceptance limit = test limit*.

References/Methods	Description
ANSI C63.4-2014	Method and Measurements of Radio-Noise Emissions from low-Voltage Electrical and Electronic Equipment in the range 9kHz to 40GHz.
ANSI C63.10:2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
558074 D01 15.247 Meas Guidance v05r02	Guidance for Compliance Measurements on DTS, FHSS, and Hybrid System Devices Operating Under Section 15.247 of the FCC Rules
ISO/IEC 17025:2017	General requirements for the Competence of Testing and Calibrations Laboratories

Table of Contents

Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	September 22, 2025	Harshith Devaraja	Original Document

Current revision of the test report replaces any prior versions. Only the current version of the test report is valid.

EUT Description

Model:	**TC1.4.0.00**
Serial:	**2501.001**
Firmware:	**2.0.0**
Software:	**2.0.0**
Description:	**Self-Sustained IoT Solar Tracker Controller**
Additional Information:	**Radio Frequency Range and Operational Info: 902.3 – 914.9 MHz / FHSS** **Usage: Fixed-Use**
Receipt of Sample(s):	**September 17, 2025**
EUT Condition:	**Visual Damage** No **State of Development** Production/Production Equivalent

The applicant has been cautioned as to the following

15.21 - Information to User

The user's manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) - Special Accessories

Equipment marked to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer without an additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

Authorization Requirements

Intentional Radios may require authorization covered under the following rule parts or standards:

-47 CFR Part 2 Subpart J

-RSS-Gen — General Requirements for Compliance of Radio Apparatus

Note: These notices are specific to the methods and standards related to the testing within this report. Customers should also consider and review additional legal regulations for import/export documentation and labeling for the countries and geographies under consideration by the manufacturer.

Test and Measurement Data

Subpart 2.1033(b)

All tests and measurement data shown were performed in accordance with FCC Rule Parts: 15.247.

All tests and measurement data shown are deemed satisfactory evidence of compliance with Industry Canada Radio Standards Specification RSS-Gen and RSS-247.

Standard Engineering Practices

Unless otherwise indicated, the procedures contained in ANSI C63.10 and ANSI C63.4 were observed during testing.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing. Measurement results, unless otherwise noted, are worst case measurement.

Standard Test Conditions and Engineering Practices

Unless otherwise indicated in the specific measurement results, the ambient temperature was maintained within the range of 10º to 40ºC (50º to 104ºF) and the relative humidity levels were in the range of 10% to 90%.

Environmental Conditions		
Temperature (ºC)	**Humidity (%)**	**Barometric Pressure (mbar)**
26.33 - 30.56	35.3 - 41.5	962.5 - 969.8

Test Setup and Modes of Operation

EUT Operation during Tests
The EUT was powered by a DC battery. The EUT was operated to control the continuous transmission in low, mid and high channel in the 902-914 MHz frequency range as well to control the hopping and single channel transmission.

EUT:

Qty	Description	Manufacturer	Model	S/N
1	Self-Sustained IoT Solar Tracker Controller	OMCO SOLAR	TC1.4.0.00	2501.001

Accessories:

Qty	Description	Manufacturer	Model	S/N
1	Laptop	Dell	Latitude 3520	73M1LL3
1	Serial communication Debugger	STMICROELECTRONICS	ST Link V2	B 2024 36

Cables:

Qty	Description	Length (M)	Ferrites (Y/N)	Shielding Y/N	Shielded Hood Y/N	Termination / Connection
1	UART Cable	1	N	N	N	Laptop / EUT
1	Ribbon Cable	0.5	N	N	N	Laptop / EUT

Software/Firmware:

Name	Description	Version	Installation Info
N/A	N/A	2.0.0	N/A

Modifications to EUT(s): N/A

15.203: Antenna Requirement:

X	The antenna is permanently attached to the EUT
	The antenna uses a unique coupling
	The EUT must be professionally installed
	The antenna requirement does not apply

The antenna gain stated by the manufacturer is 1.84 dBi

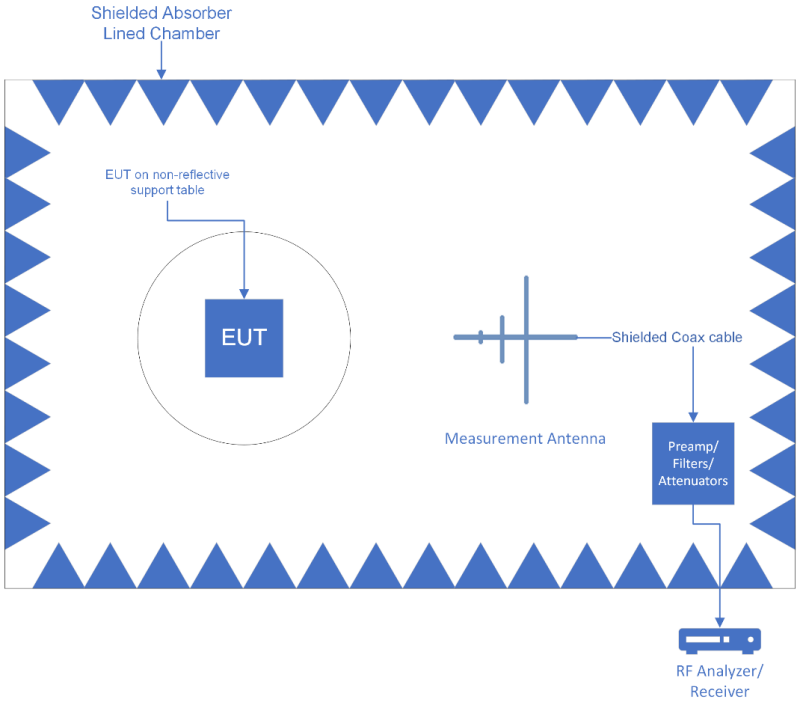
Transmitter Output Power

Engineer: Harshith Devaraja
Test Date: 09/17/25

Test Procedure

RADIATED METHOD
The EUT was set up in a semi-anechoic test chamber set 3m from the receiving antenna. The EUT was set to transmit on the lowest, middle and highest frequency of operation at the maximum power level. The EUT was tested, in 3 orthogonal axes, by rotating it 360° with the receive antenna in both the vertical and horizontal orientation while raised from 1 to 4 meters to ensure the TX signal levels were maximized. A spectrum analyzer was used to verify that the EUT met the requirements for Output Power.

Test Setup



The Spectrum Analyzer was set to the following:

RBW ≥ OBW Bandwidth
VBW ≥ 3 x RBW
Span ≥ 3 x RBW
Sweep time = auto couple
Detector = peak
Trace Mode = max hold

The RF output power was measured using the spectrum analyzer's marker peak function

ANSI C63.10-2020 Section 11.12.2.2

E = EIRP - 20 log (d) + 104.8
EIRP = E + 20 log (d)- 104.8

Conducted peak power = Radiated (EIRP) – Antenna Gain

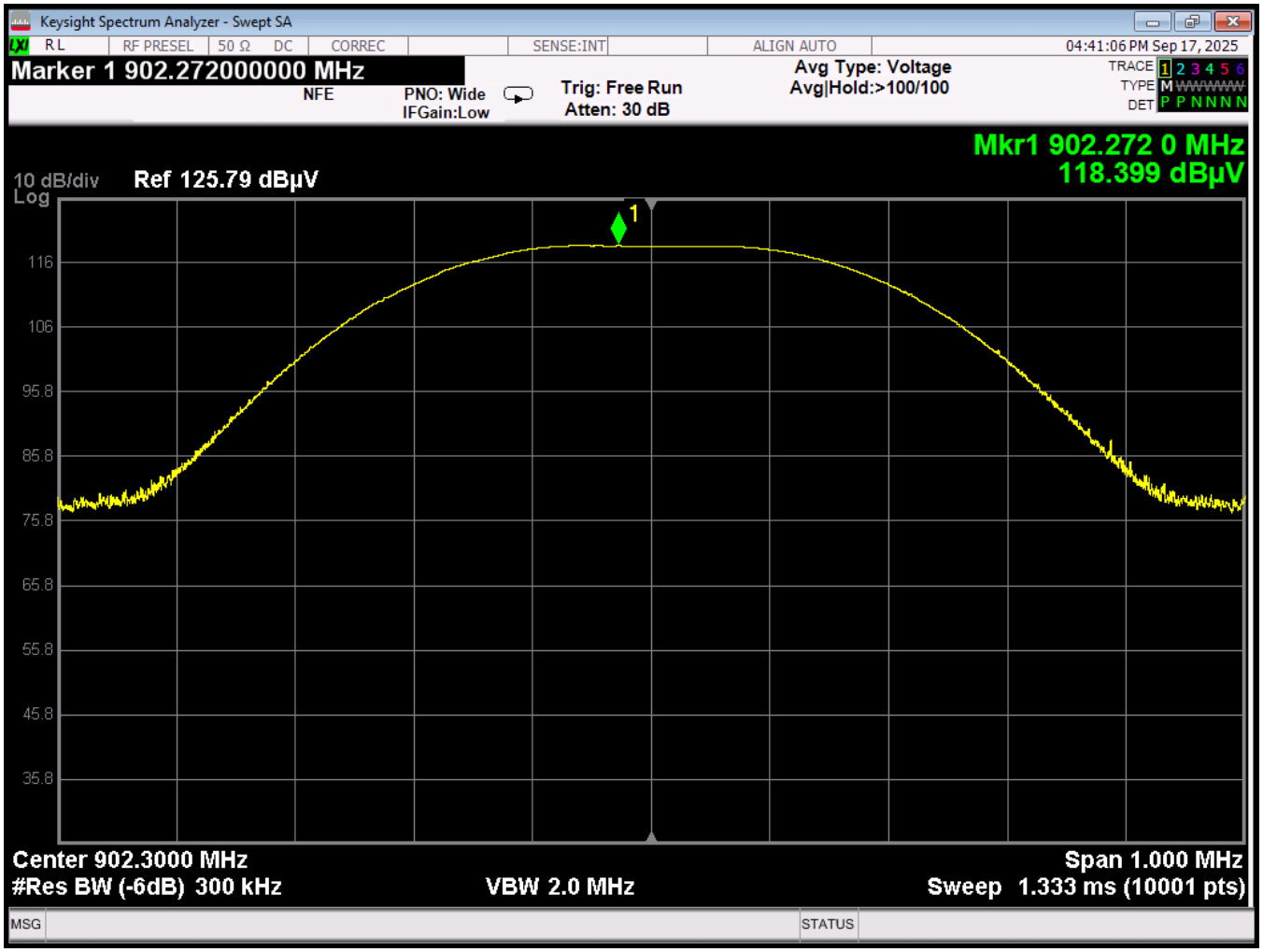
E = Electric Field Strength in dBµV/m
EIRP = Equivalent isotropically radiated power in dBm
d = Measurement distance = 3m

Transmitter Output Power Summary Table

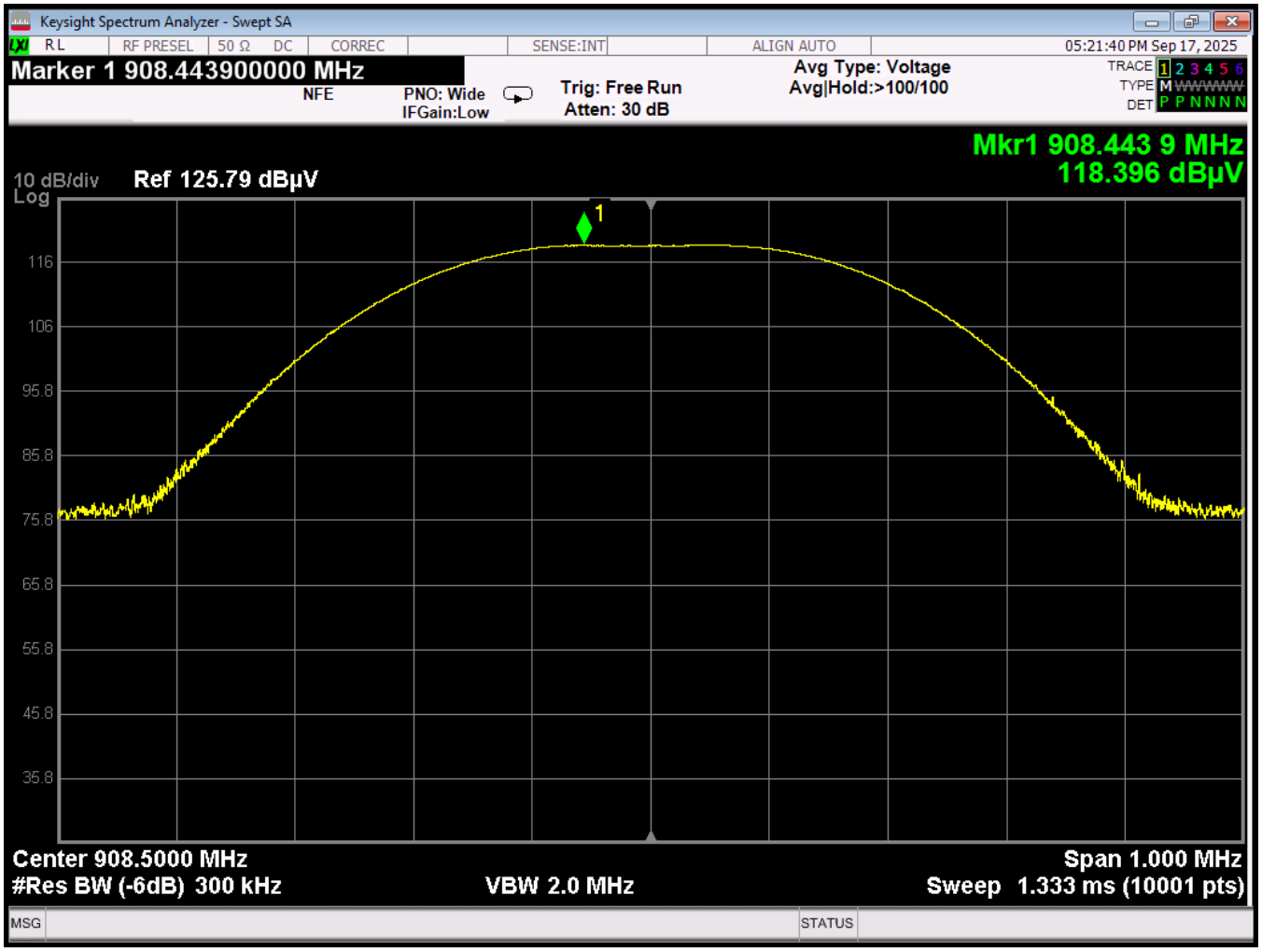
Tuned Frequency (MHz)	Measured peak Electric field strength value (dBµV/m)	Antenna Gain (dBi)	Conducted Peak power (dBm)	Specification Limit	Margin (dB)	Result
902.3	118.399	1.84	21.309	1 W (30 dBm)	-8.691	Pass
908.5	118.396	1.84	21.306	1 W (30 dBm)	-8.694	Pass
914.9	118.561	1.84	21.471	1 W (30 dBm)	-8.529	Pass

Output Power Plots

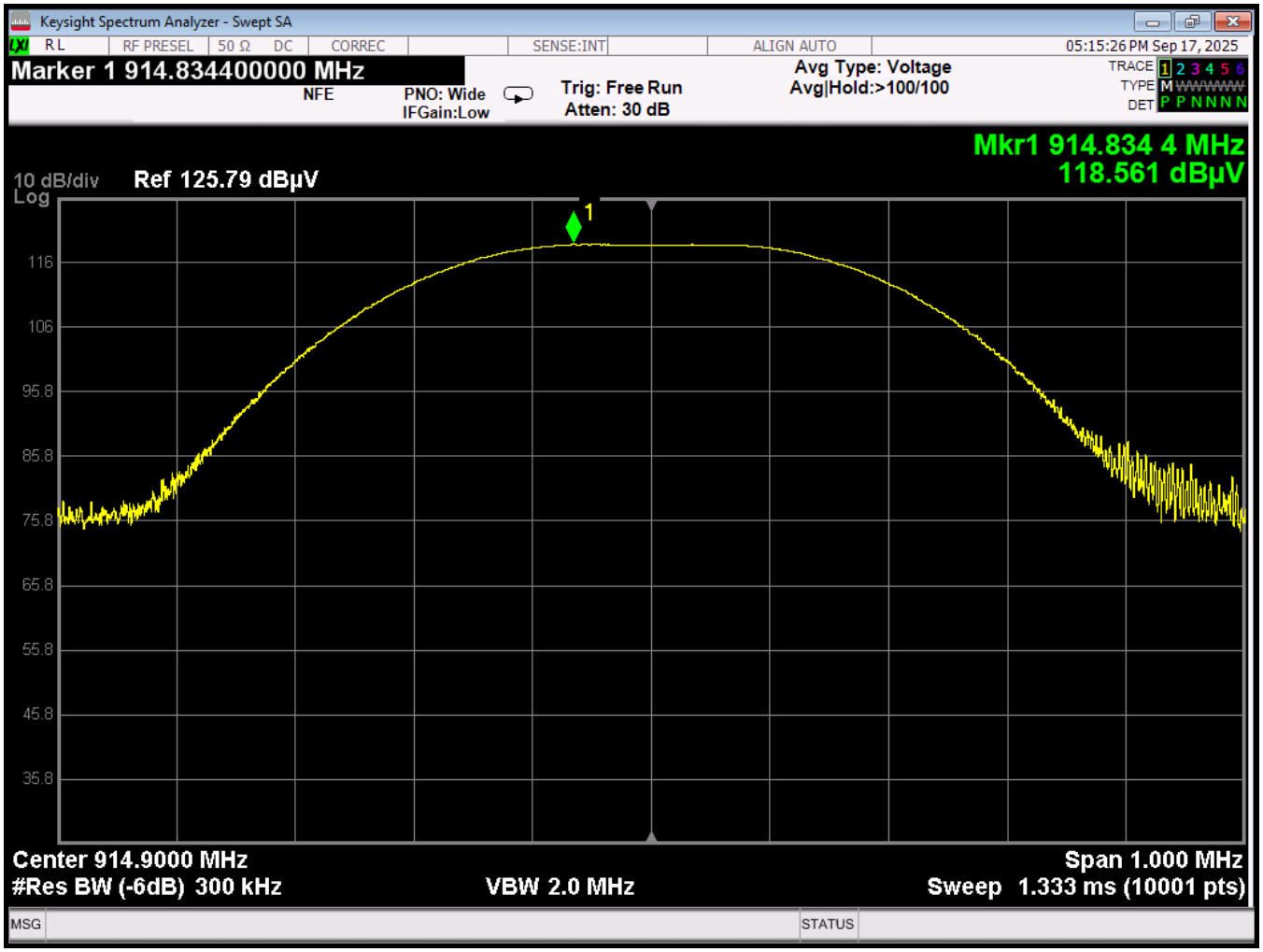
Low Channel



Mid Channel


Keysight Spectrum Analyzer - Swept SA
RL
RF PRESEL
50 Ω DC
CORREC
SENSE:INT
ALIGN AUTO
05:21:40 PM Sep 17, 2025
Marker 1 908.443900000 MHz
NFE
PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Voltage
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M
DET P P N N N N
Mkr1 908.443 9 MHz
118.396 dBµV
10 dB/div
Log
Ref 125.79 dBµV
116
106
95.8
85.8
75.8
65.8
55.8
45.8
35.8
Center 908.5000 MHz
#Res BW (-6dB) 300 kHz
VBW 2.0 MHz
Span 1.000 MHz
Sweep 1.333 ms (10001 pts)
MSG
STATUS

High Channel



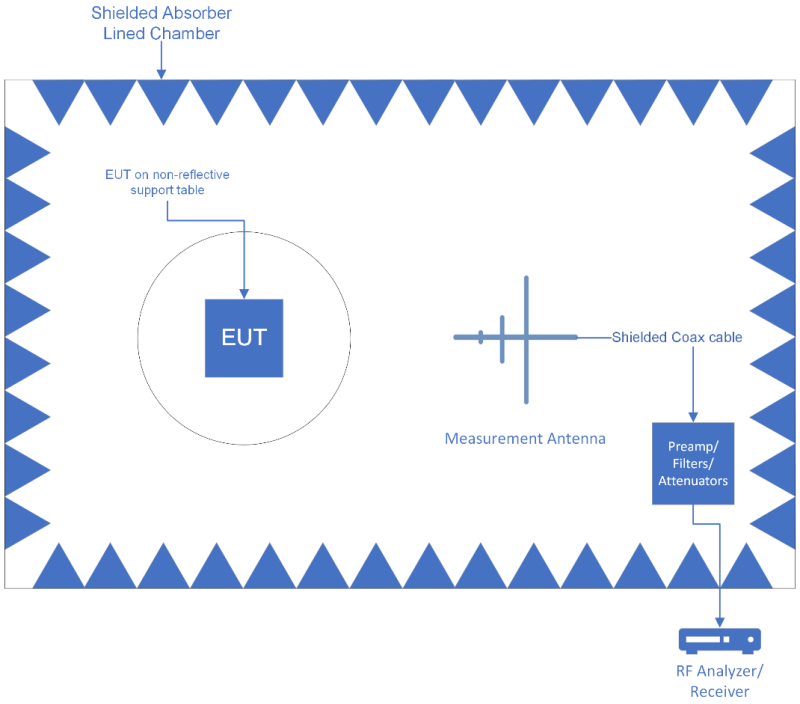
Radiated Spurious Emissions

Engineer: Harshith Devaraja
Test Date: 09/18/25 – 09/19/25

Test Procedure

The EUT was set up in a semi-anechoic test chamber set 3m from the receiving antenna. The EUT was set to transmit on the lowest, middle and highest frequency of operation at the maximum power level. The EUT was tested, in 3 orthogonal axes, by rotating it 360° with the receive antenna in both the vertical and horizontal orientation while raised from 1 to 4 meters to ensure the TX signal levels were maximized. A spectrum analyzer was used to verify that the EUT met the requirements for Radiated Spurious Emissions. All emissions across the required range were evaluated.

Basic Test Setup



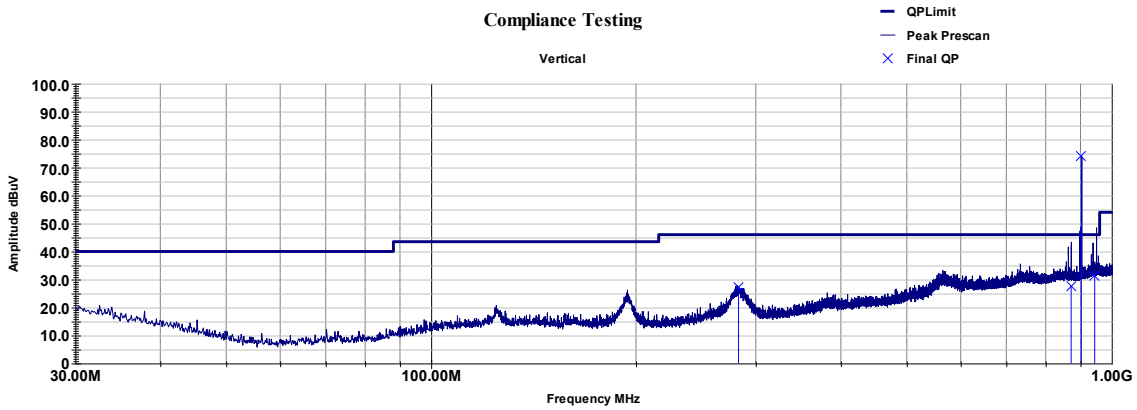
	Settings Below 1GHz	Settings Above 1GHz
RBW	120 kHz	1 MHz
VBW	300 kHz	3 MHz
Detector	Quasi Peak	Peak / Average

Sample Calculations

Corrected Value = Measured Value + Correction factor

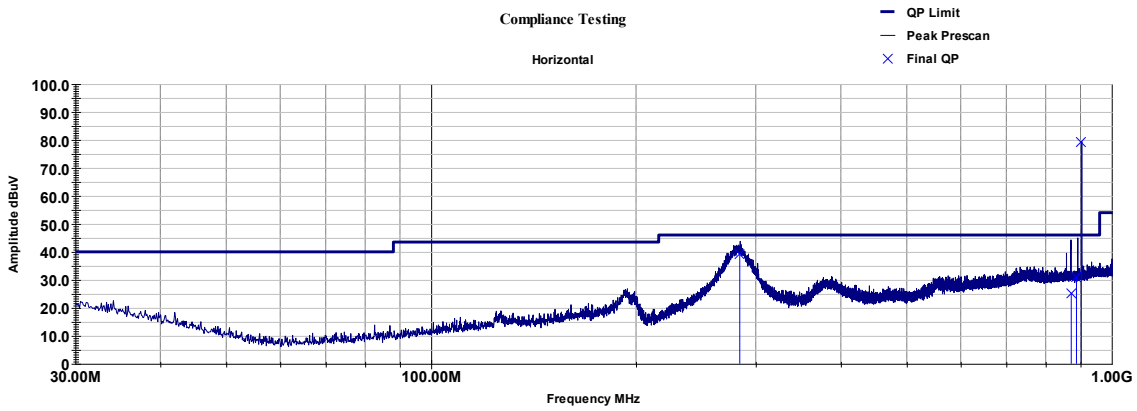
Correction factor = Antenna Correction Factor + Cable loss + Preamp/Attenuator Factor

Radiated Emissions Plots
Low Channel 902.3 MHz
Below 1 Ghz



Frequency	Azimuth	Height	Raw QP	Correction	Final QP	Limit	QP Margin
MHz	deg	cm	dBuV	dB	dBuV/m	dBuV/m	dB
282.928	123.00	145.00	44.60	-17.33	27.30	46.00	-18.70
871.628	292.00	168.00	30.94	-3.27	27.70	46.00	-18.30
902.298	93.00	109.00	[redacted]				
944.022	296.00	172.00	32.27	-0.97	31.30	46.00	-14.70
Final = Raw + Path Loss							
Margin = Final - Limit							

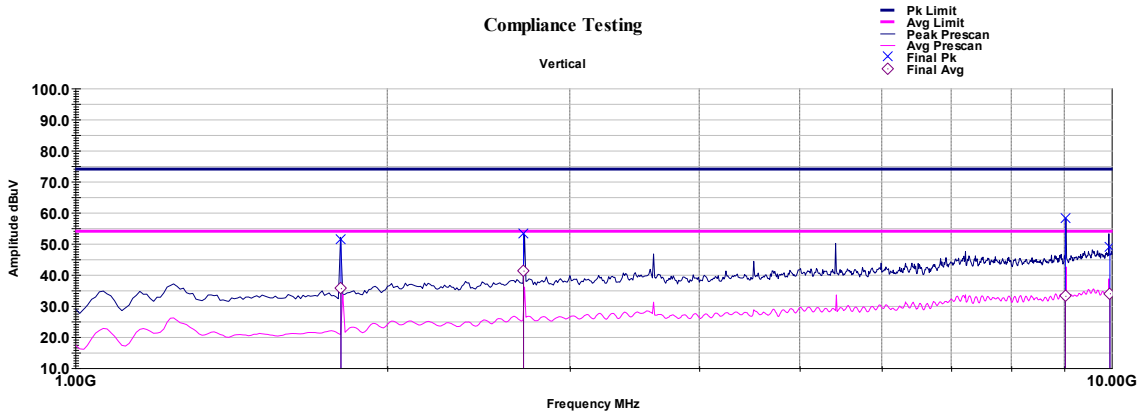
*Fundamental is not applicable



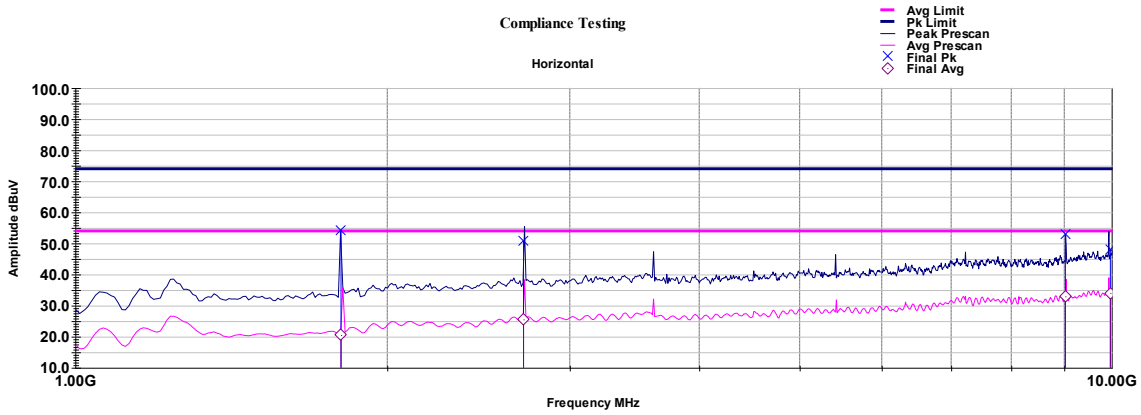
Frequency	Azimuth	Height	Raw QP	Correction	Final QP	Limit	QP Margin
MHz	deg	cm	dBuV	dB	dBuV/m	dBuV/m	dB
284.116	15.00	117.00	55.90	-16.62	39.30	46.00	-6.70
872.123	194.00	400.00	28.54	-3.27	25.30	46.00	-20.70
887.702	177.00	325.00	34.15	-3.10	31.10	46.00	-14.90
902.298	303.00	164.00	[redacted]				
Final = Raw + Path Loss							
Margin = Final - Limit							

*Fundamental is not applicable

Above 1000MHz

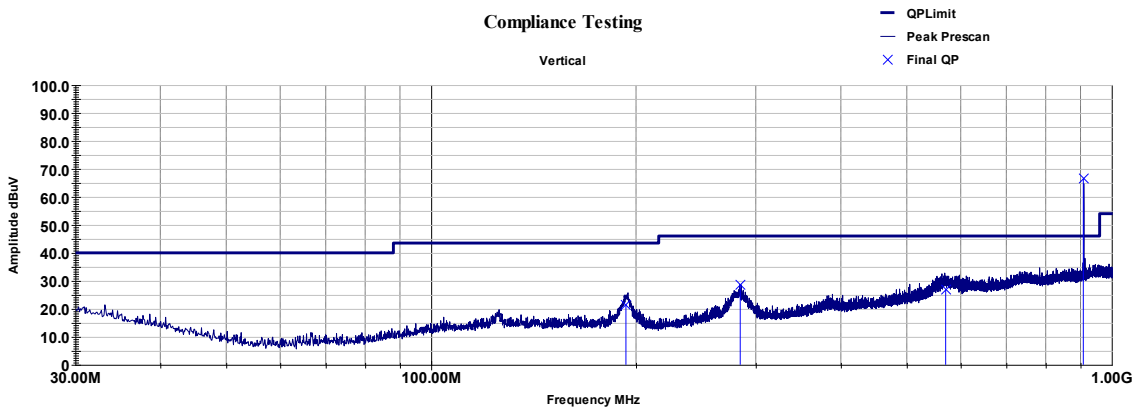


Frequency	Azimuth	Height	Raw Pk	Raw Avg	Correction	Final Pk	Pk Limit	Pk Margin	Final Avg	Avg Limit	Avg Margin
MHz	deg	cm	dBuV	dBuV	dB	dBuV/m	dBuV/m	dB	dBuV/m	dBuV/m	dB
1804554000	0.00	100.00	63.75	48.03	-12.36	51.39	74.00	-22.61	35.67	54	-18.33
2707019000	328.00	125.00	60.33	48.29	-6.99	53.34	74.00	-20.66	41.31	54	-12.69
9022648000	65.00	100.00	54.40	29.38	3.84	58.25	74.00	-15.76	33.23	54	-20.77
9960758000	65.00	100.00	43.01	28.14	5.91	48.92	74.00	-25.08	34.05	54	-19.95
Final = Raw + Path Loss											
Margin = Final - Limit											



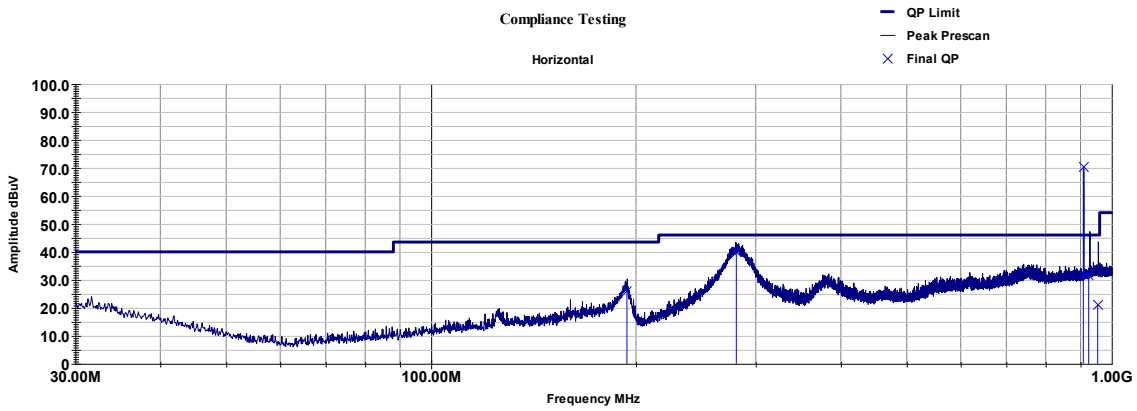
Frequency	Azimuth	Height	Raw Pk	Raw Avg	Correction	Final Pk	Pk Limit	Pk Margin	Final Avg	Avg Limit	Avg Margin
MHz	deg	cm	dBuV	dBuV	dB	dBuV/m	dBuV/m	dB	dBuV/m	dBuV/m	dB
1804640000	227.00	117.00	66.42	32.86	-12.36	54.07	74.00	-19.93	20.50	54	-33.50
2707320000	204.00	100.00	57.76	32.52	-6.99	50.77	74.00	-23.23	25.53	54	-28.47
9023643000	78.00	100.00	49.06	29.14	3.84	52.90	74.00	-21.10	32.98	54	-21.02
9971157000	344.00	100.00	42.25	28.14	5.90	48.15	74.00	-25.85	34.04	54	-19.96
Final = Raw + Path Loss											
Margin = Final - Limit											

Middle Channel 908.5 MHz
Below 1 Ghz



Frequency	Azimuth	Height	Raw QP	Correction	Final QP	Limit	QP Margin
MHz	deg	cm	dBuV	dB	dBuV/m	dBuV/m	dB
193.303	87.00	212.00	42.17	-20.72	21.50	43.50	-22.00
284.598	307.00	149.00	45.91	-17.22	28.70	46.00	-17.30
570.093	244.00	109.00	35.59	-8.65	26.90	46.00	-19.10
908.499	58.00	113.00	[redacted]				
Final = Raw + Path Loss							
Margin = Final - Limit							

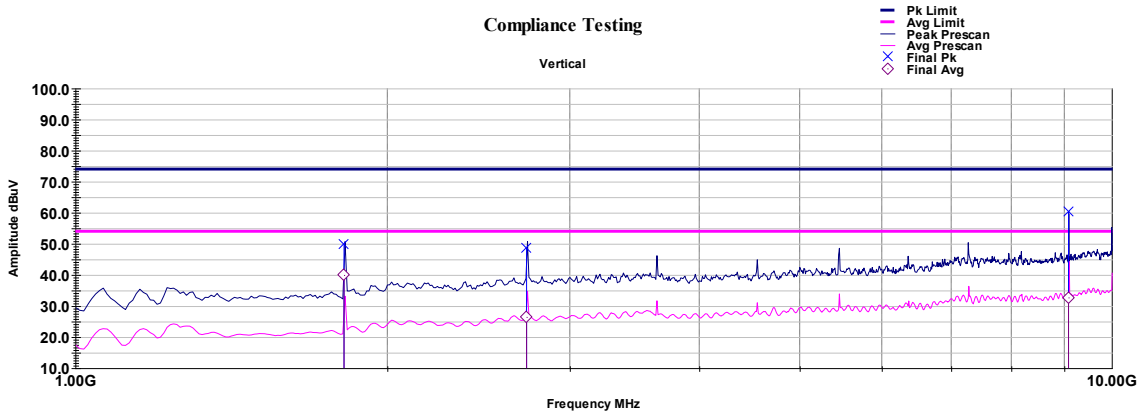
*Fundamental is not applicable



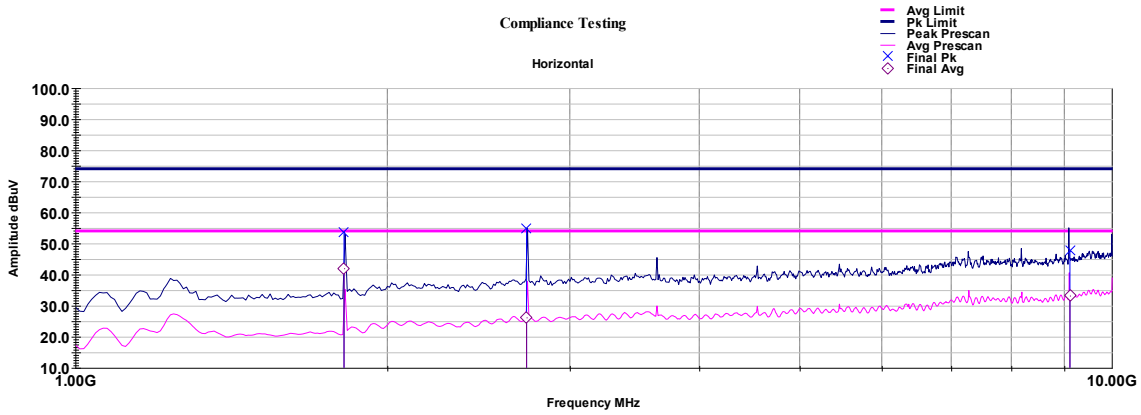
Frequency	Azimuth	Height	Raw QP	Correction	Final QP	Limit	QP Margin
MHz	deg	cm	dBuV	dB	dBuV/m	dBuV/m	dB
193.931	340.00	172.00	46.73	-20.81	25.90	43.50	-17.60
280.773	0.00	117.00	56.48	-16.67	39.80	46.00	-6.20
908.497	214.00	175.00	[redacted]				
925.072	35.00	325.00	33.59	-2.09	31.50	46.00	-14.50
953.736	44.00	381.00	22.19	-1.11	21.10	46.00	-24.90
Final = Raw + Path Loss							
Margin = Final - Limit							

*Fundamental is not applicable

Above 1000MHz

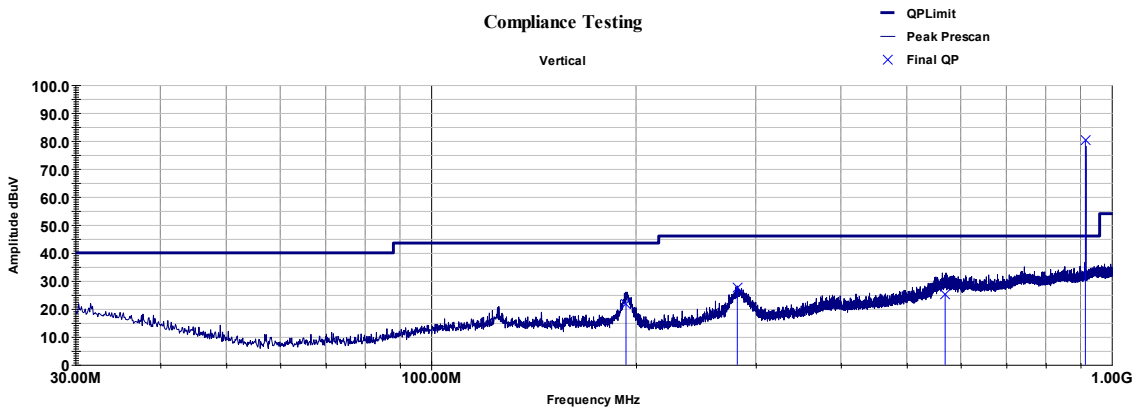


Frequency	Azimuth	Height	Raw Pk	Raw Avg	Correction	Final Pk	Pk Limit	Pk Margin	Final Avg	Avg Limit	Avg Margin
MHz	deg	cm	dBuV	dBuV	dB	dBuV/m	dBuV/m	dB	dBuV/m	dBuV/m	dB
1816855000	0.00	145.00	62.11	52.12	-12.16	49.96	74.00	-24.05	39.96	54	-14.04
2725198000	303.00	100.00	55.58	33.46	-7.00	48.58	74.00	-25.42	26.46	54	-27.54
9084509000	65.00	100.00	56.49	28.77	3.95	60.44	74.00	-13.56	32.72	54	-21.28
Final = Raw + Path Loss											
Margin = Final - Limit											



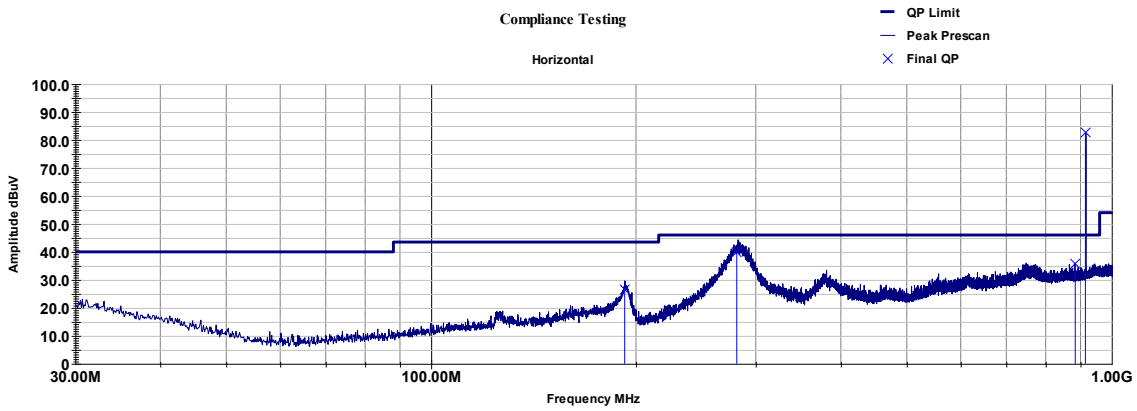
Frequency	Azimuth	Height	Raw Pk	Raw Avg	Correction	Final Pk	Pk Limit	Pk Margin	Final Avg	Avg Limit	Avg Margin
MHz	deg	cm	dBuV	dBuV	dB	dBuV/m	dBuV/m	dB	dBuV/m	dBuV/m	dB
1816981000	214.00	100.00	65.82	54.17	-12.16	53.66	74.00	-20.34	42.01	54	-11.99
2725598000	308.00	121.00	61.79	33.22	-7.00	54.79	74.00	-19.21	26.22	54	-27.78
9113497000	317.00	133.00	43.58	29.18	4.04	47.61	74.00	-26.39	33.21	54	-20.79
Final = Raw + Path Loss											
Margin = Final - Limit											

High Channel 914.9 MHz
Below 1 GHz



Frequency	Azimuth	Height	Raw QP	Correction	Final QP	Limit	QP Margin
MHz	deg	cm	dBuV	dB	dBuV/m	dBuV/m	dB
193.356	62.00	208.00	42.34	-20.72	21.60	43.50	-21.90
281.794	128.00	161.00	44.78	-17.33	27.40	46.00	-18.60
569.234	280.00	117.00	33.89	-8.59	25.30	46.00	-20.70
914.899	106.00	117.00	[redacted]				
Final = Raw + Path Loss							
Margin = Final - Limit							

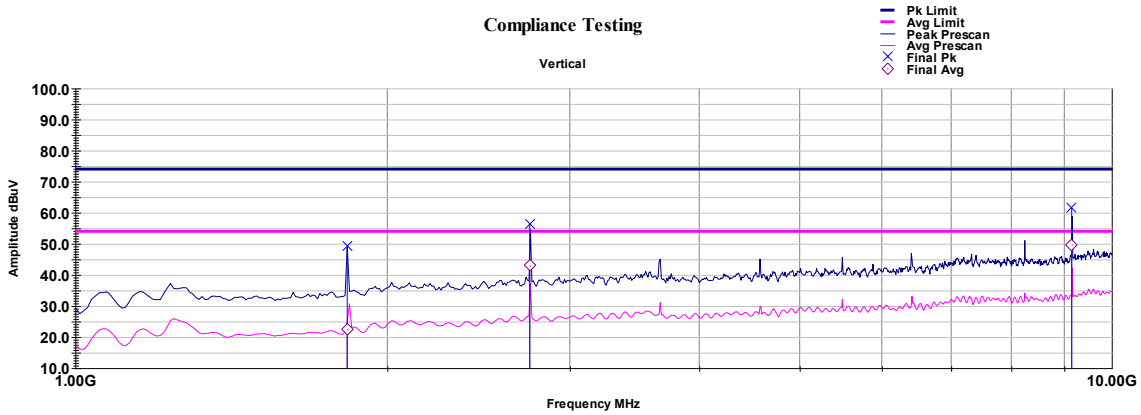
*Fundamental is not applicable



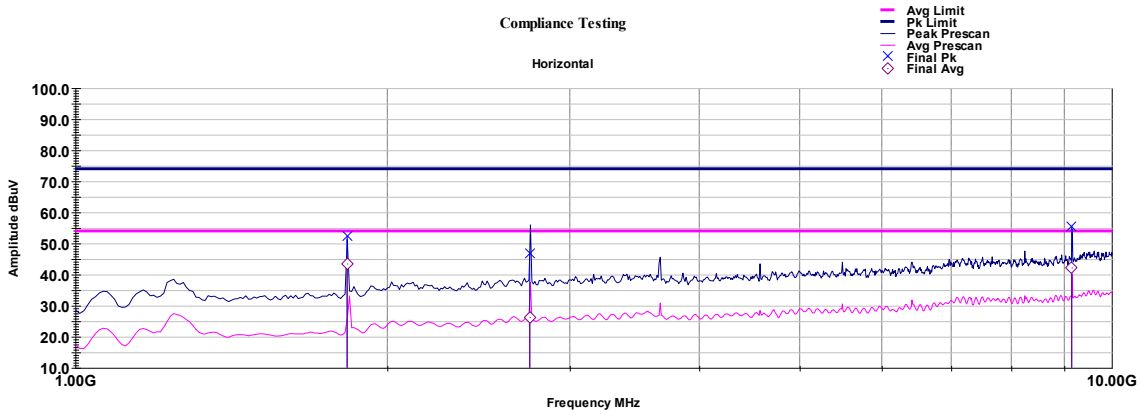
Frequency	Azimuth	Height	Raw QP	Correction	Final QP	Limit	QP Margin
MHz	deg	cm	dBuV	dB	dBuV/m	dBuV/m	dB
192.503	344.00	175.00	47.59	-20.88	26.70	43.50	-16.80
281.223	24.00	100.00	56.63	-16.64	40.00	46.00	-6.00
883.941	262.00	175.00	38.89	-3.22	35.70	46.00	-10.30
914.896	239.00	174.00	[redacted]				
Final = Raw + Path Loss							
Margin = Final - Limit							

*Fundamental is not applicable

Above 1000MHz

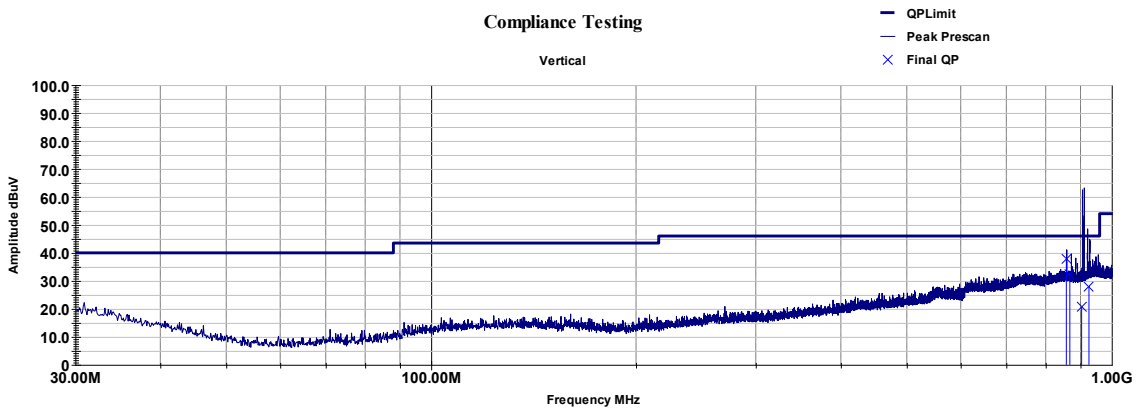


Frequency	Azimuth	Height	Raw Pk	Raw Avg	Correction	Final Pk	Pk Limit	Pk Margin	Final Avg	Avg Limit	Avg Margin
MHz	deg	cm	dBuV	dBuV	dB	dBuV/m	dBuV/m	dB	dBuV/m	dBuV/m	dB
1829726000	157.00	234.00	61.13	34.54	-12.01	49.13	74.00	-24.87	22.54	54	-31.47
2744684000	124.00	105.00	63.30	49.95	-6.99	56.31	74.00	-17.69	42.96	54	-11.04
9149051000	78.00	100.00	57.35	45.54	4.15	61.50	74.00	-12.50	49.69	54	-4.31
Final = Raw + Path Loss											
Margin = Final - Limit											



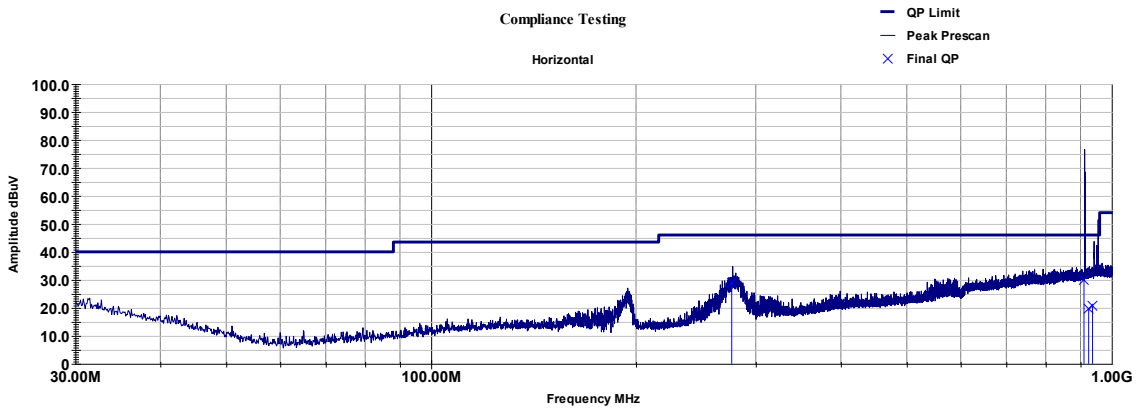
Frequency	Azimuth	Height	Raw Pk	Raw Avg	Correction	Final Pk	Pk Limit	Pk Margin	Final Avg	Avg Limit	Avg Margin
MHz	deg	cm	dBuV	dBuV	dB	dBuV/m	dBuV/m	dB	dBuV/m	dBuV/m	dB
1829407000	275.00	100.00	64.32	55.52	-12.01	52.31	74.00	-21.69	43.51	54	-10.49
2744536000	203.00	129.00	53.81	33.26	-6.99	46.82	74.00	-27.18	26.26	54	-27.74
9149024000	104.00	118.00	51.32	38.14	4.15	55.47	74.00	-18.54	42.29	54	-11.71
Final = Raw + Path Loss											
Margin = Final - Limit											

Frequency Hopping Mode
Below 1 Ghz



Frequency	Azimuth	Height	Raw QP	Correction	Final QP	Limit	QP Margin
MHz	deg	cm	dBuV	dB	dBuV/m	dBuV/m	dB
857.64	3.00	337.00	40.93	-3.13	37.80	46.00	-8.20
867.775	0.00	153.00	35.56	-3.27	32.30	46.00	-13.70
903.329	54.00	325.00	[redacted]				
925.964	0.00	395.00	29.68	-1.68	28.00	46.00	-18.00
Final = Raw + Path Loss							
Margin = Final - Limit							

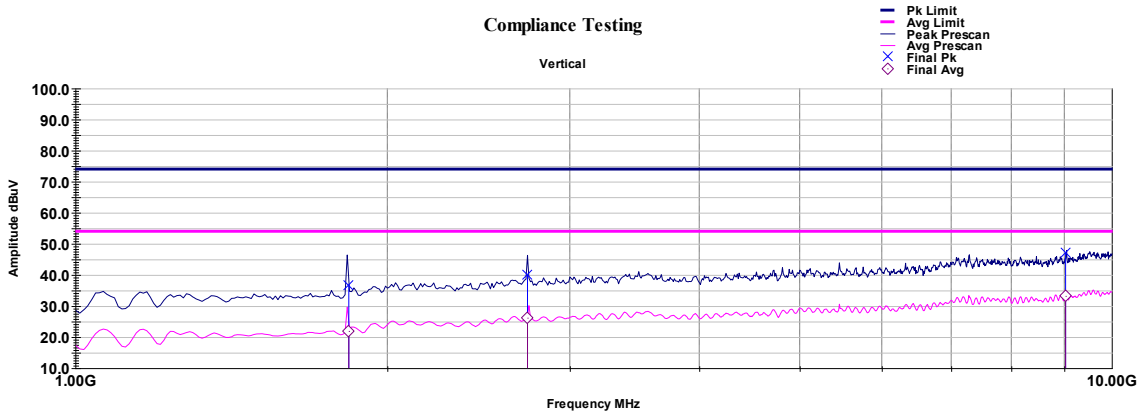
*Fundamental is not applicable



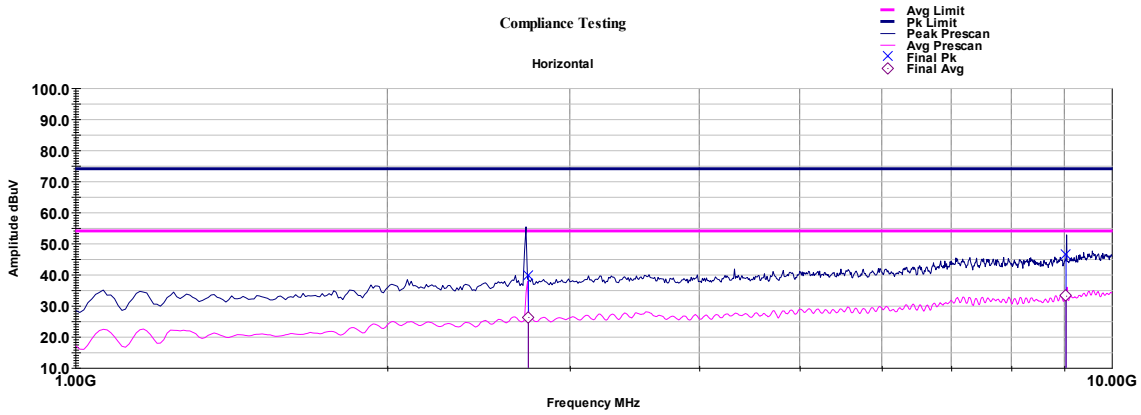
Frequency	Azimuth	Height	Raw QP	Correction	Final QP	Limit	QP Margin
MHz	deg	cm	dBuV	dB	dBuV/m	dBuV/m	dB
276.439	150.00	156.00	45.57	-16.76	28.80	46.00	-17.20
910.448	294.00	122.00	[redacted]				
925.129	86.00	100.00	21.92	-2.09	19.80	46.00	-26.20
937.217	140.00	133.00	22.13	-1.48	20.60	46.00	-25.40
Final = Raw + Path Loss							
Margin = Final - Limit							

*Fundamental is not applicable

Above 1000MHz



Frequency	Azimuth	Height	Raw Pk	Raw Avg	Correction	Final Pk	Pk Limit	Pk Margin	Final Avg	Avg Limit	Avg Margin
MHz	deg	cm	dBuV	dBuV	dB	dBuV/m	dBuV/m	dB	dBuV/m	dBuV/m	dB
1836310000	225.00	333.00	48.42	33.87	-11.91	36.51	74.00	-37.49	21.96	54	-32.04
2731141000	224.00	109.00	46.93	33.20	-7.00	39.93	74.00	-34.07	26.20	54	-27.80
9025661000	280.00	100.00	43.22	29.37	3.84	47.07	74.00	-26.93	33.22	54	-20.78
Final = Raw + Path Loss											
Margin = Final - Limit											



Frequency	Azimuth	Height	Raw Pk	Raw Avg	Correction	Final Pk	Pk Limit	Pk Margin	Final Avg	Avg Limit	Avg Margin
MHz	deg	cm	dBuV	dBuV	dB	dBuV/m	dBuV/m	dB	dBuV/m	dBuV/m	dB
2736245000	155.00	130.00	46.76	33.34	-7.00	39.76	74.00	-34.24	26.34	54	-27.66
9036319000	132.00	109.00	42.69	29.32	3.85	46.54	74.00	-27.46	33.17	54	-20.83
Final = Raw + Path Loss											
Margin = Final - Limit											

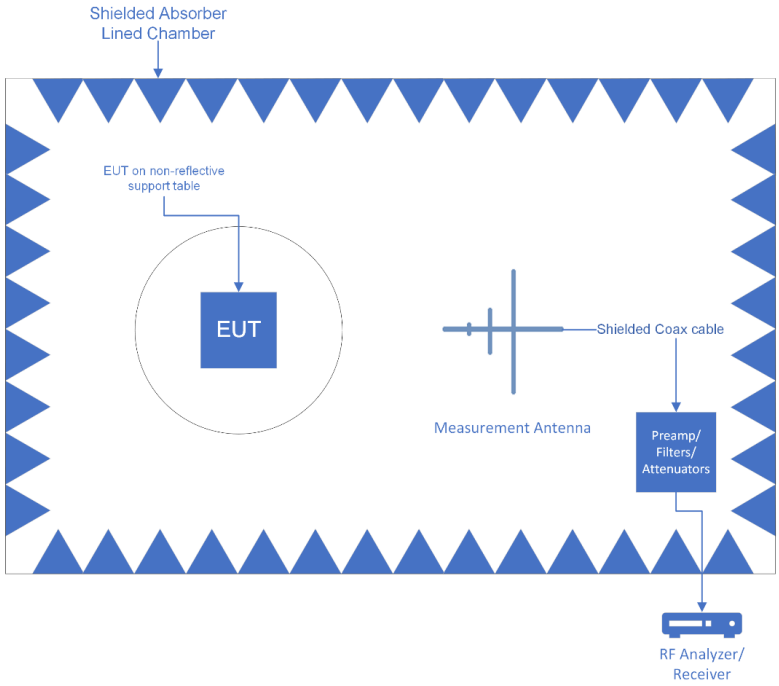
Emissions at Band Edges

Engineer: Harshith Devaraja
Test Date: 09/18/25

Test Procedure

RADIATED METHOD
The EUT was set up in a semi-anechoic test chamber set 3m from the receiving antenna. The EUT was set to transmit on the lowest and highest frequency of operation at the maximum power level. The EUT was tested, in 3 orthogonal axes, by rotating it 360° with the receive antenna in both the vertical and horizontal orientation while raised from 1 to 4 meters to ensure the TX signal levels were maximized. An additional test was performed with the EUT in a pseudorandom hopping sequence. A spectrum analyzer was used to verify that the EUT met the requirements for band edges.

Test Setup



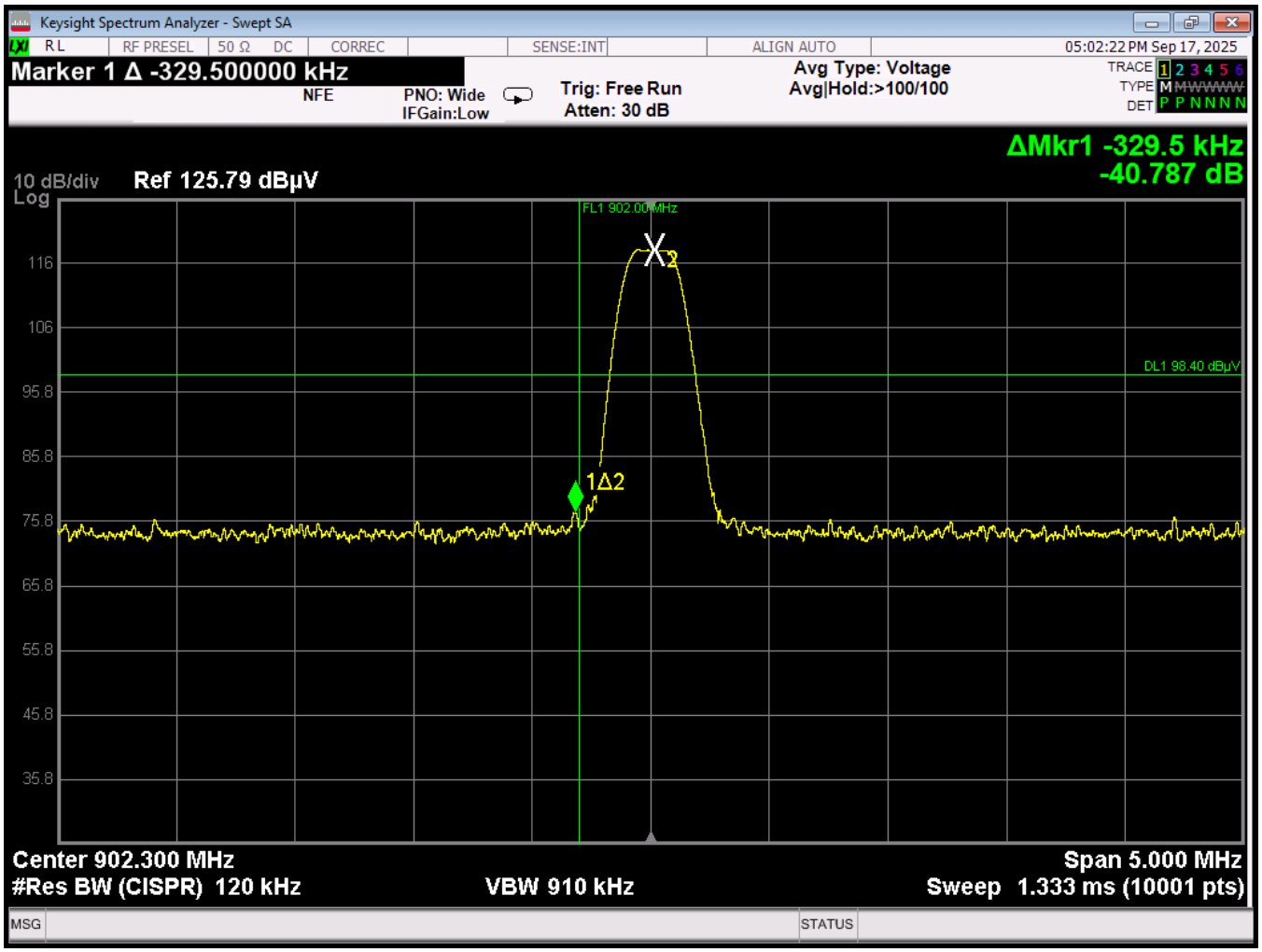
Band Edge Emissions Summary

Band edge	Tuned Frequency (MHz)	Monitored Level (dBµV/m)	Detector	Limit	Margin (dB)	Result
Lower	902.3	-40.787	Peak	-20 dBc	-20.787	Pass
	Hopping	-41.109	Peak	-20 dBc	-21.109	Pass
Upper	914.9	-42.240	Peak	-20 dBc	-22.240	Pass
	Hopping	-40.426	Peak	-20 dBc	-20.426	Pass

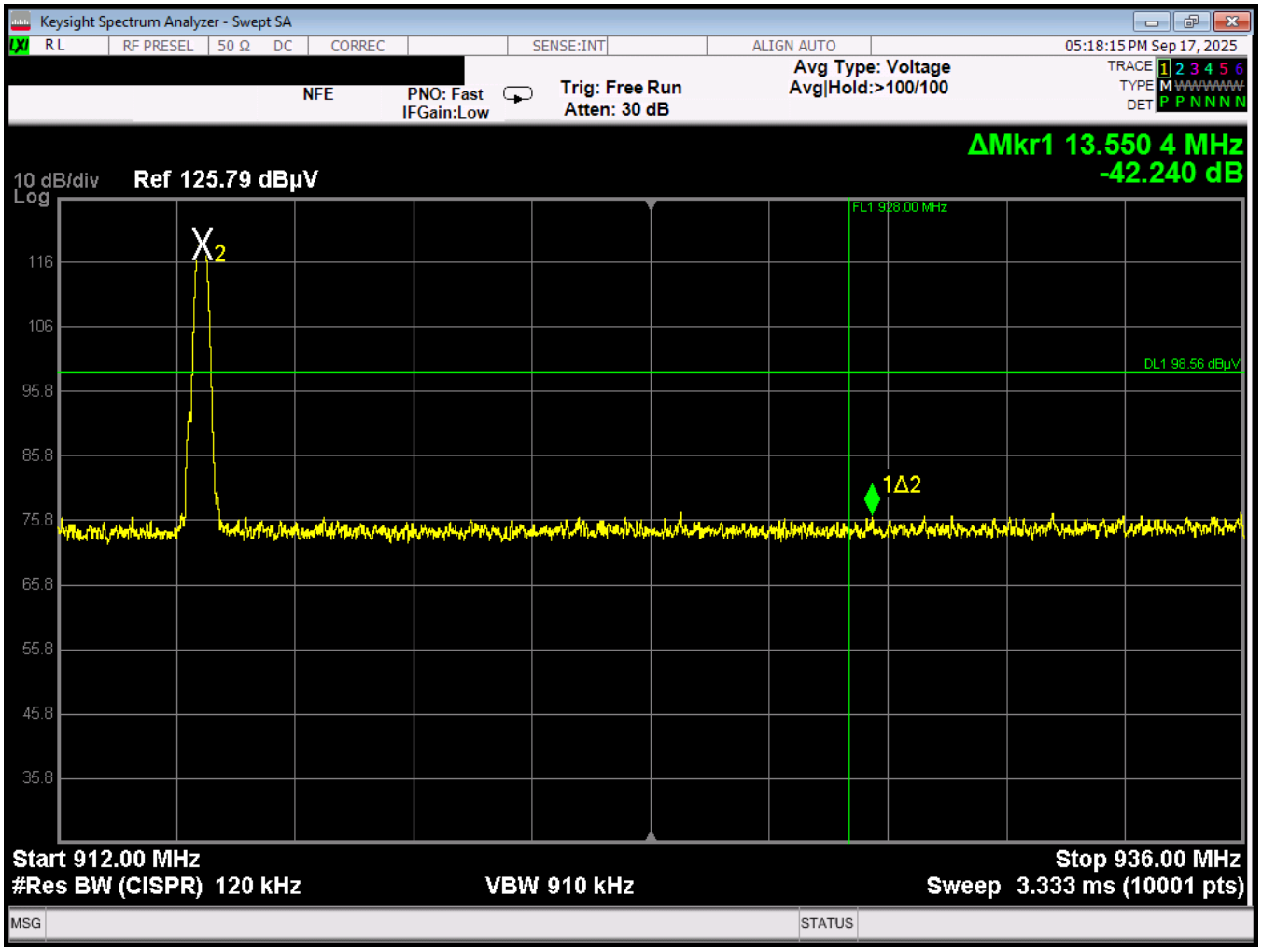
Margin = Monitored Level - Limit

Band Edge Plots

Low Channel

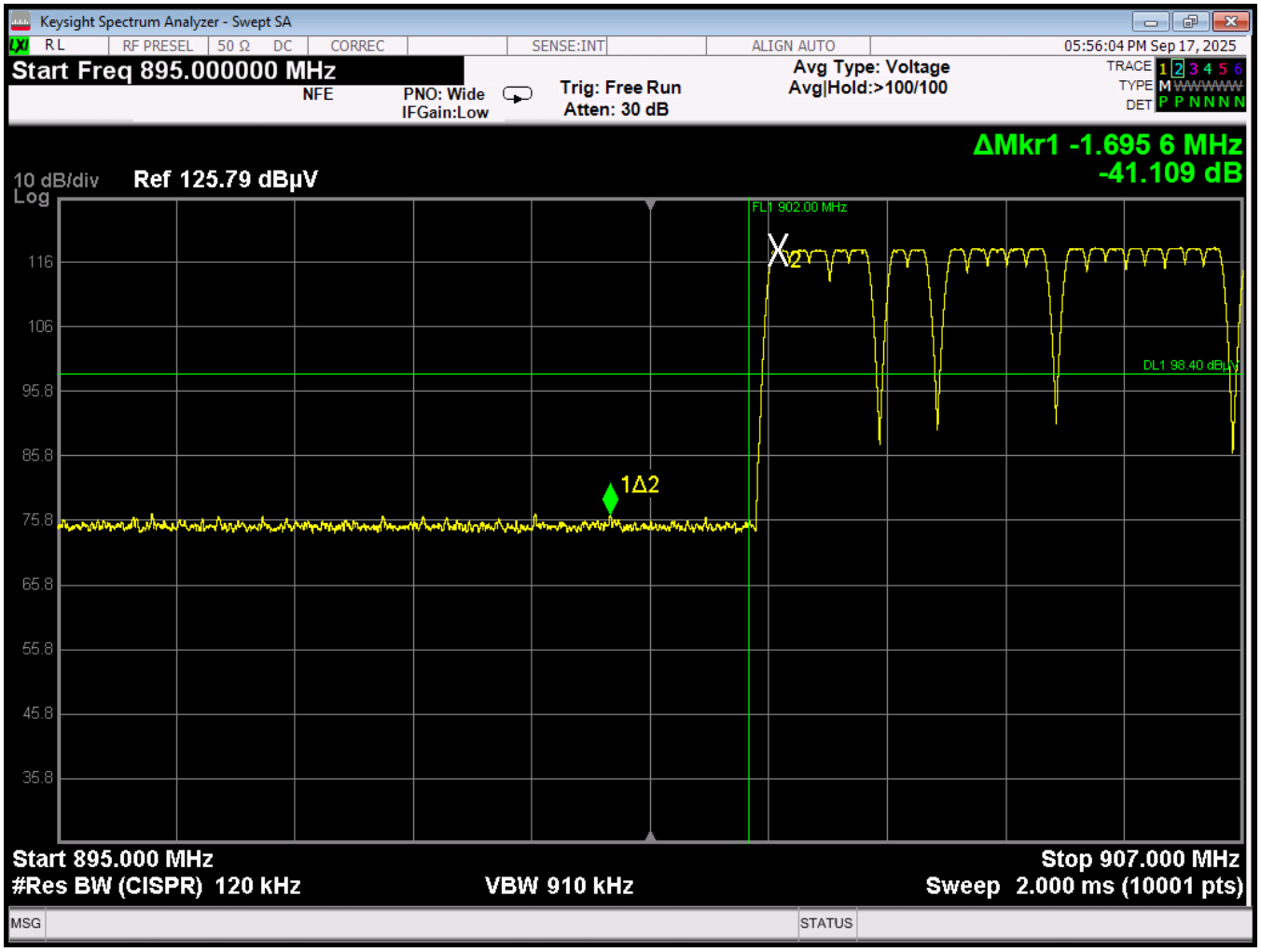


High Channel

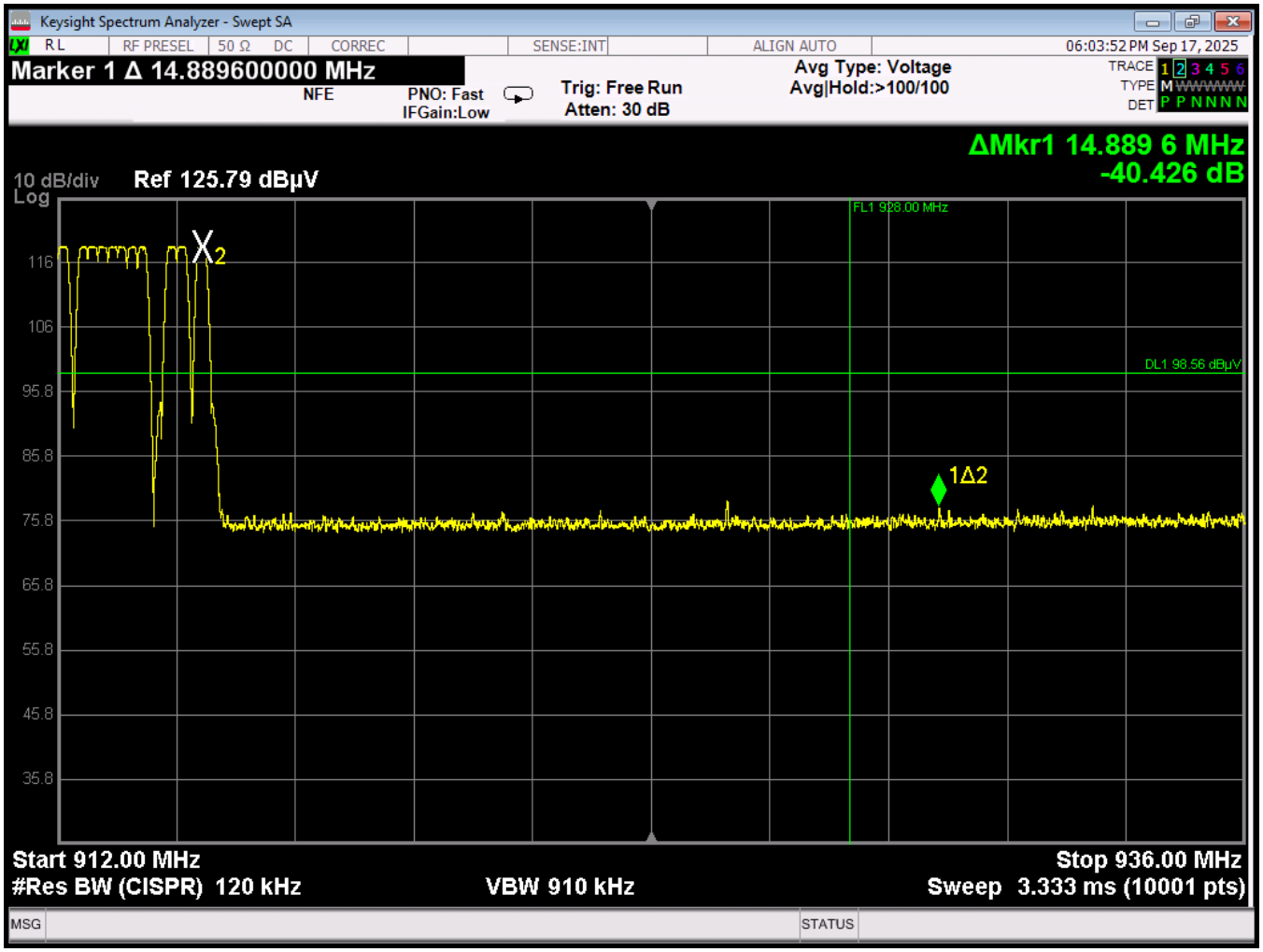


Band Edge Plots (Hopping)

Low Channel



High Channel



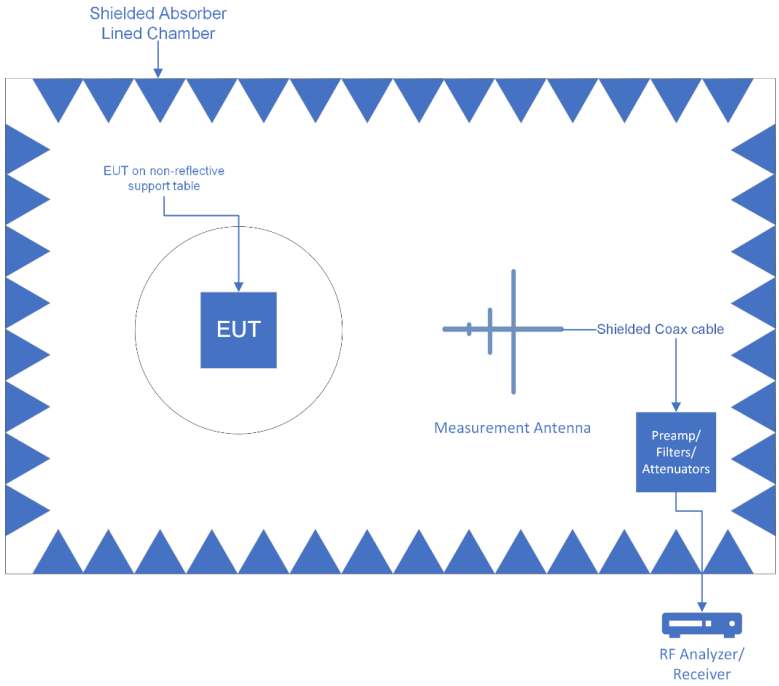
Occupied Bandwidth

Engineer: Harshith Devaraja
Test Date: 09/17/25

Test Procedure

RADIATED METHOD
The EUT was setup in a semi-anechoic test chamber set 3m from the receiving antenna. The EUT was set to transmit on the lowest, middle and highest frequency of operation at the maximum power level. The EUT was tested, in 3 orthogonal axis, by rotating it 360° with the receive antenna in both the vertical and horizontal orientation while raised from 1 to 4 meters to ensure the TX signal levels were maximized. A spectrum analyzer was used to verify that the EUT met the Bandwidth requirements.

Test Setup



The Spectrum Analyzer was set to the following:

RBW = 1%-5% of the OBW
VBW ≥ 3 x RBW
Peak Detector
Trace mode = max hold
Sweep = auto couple
Span = (1.5 – 5) x OBW

-20 dB Occupied Bandwidth Summary

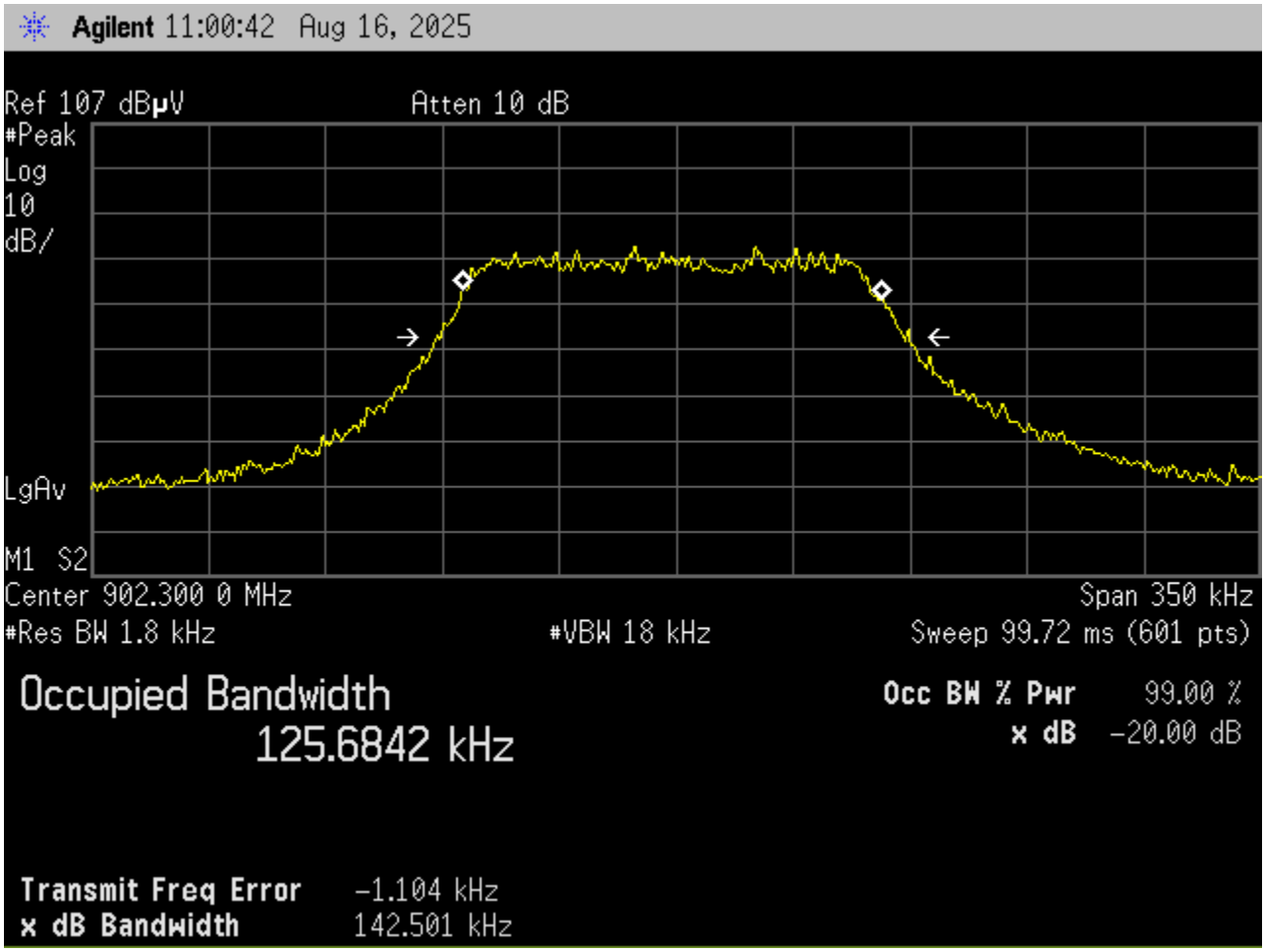
Frequency (MHz)	Measured Bandwidth (kHz)	Specification Limit (kHz)	Result
902.3	142.501	< 500	Pass
908.5	142.010	< 500	Pass
914.9	142.631	< 500	Pass

99% Bandwidth Summary

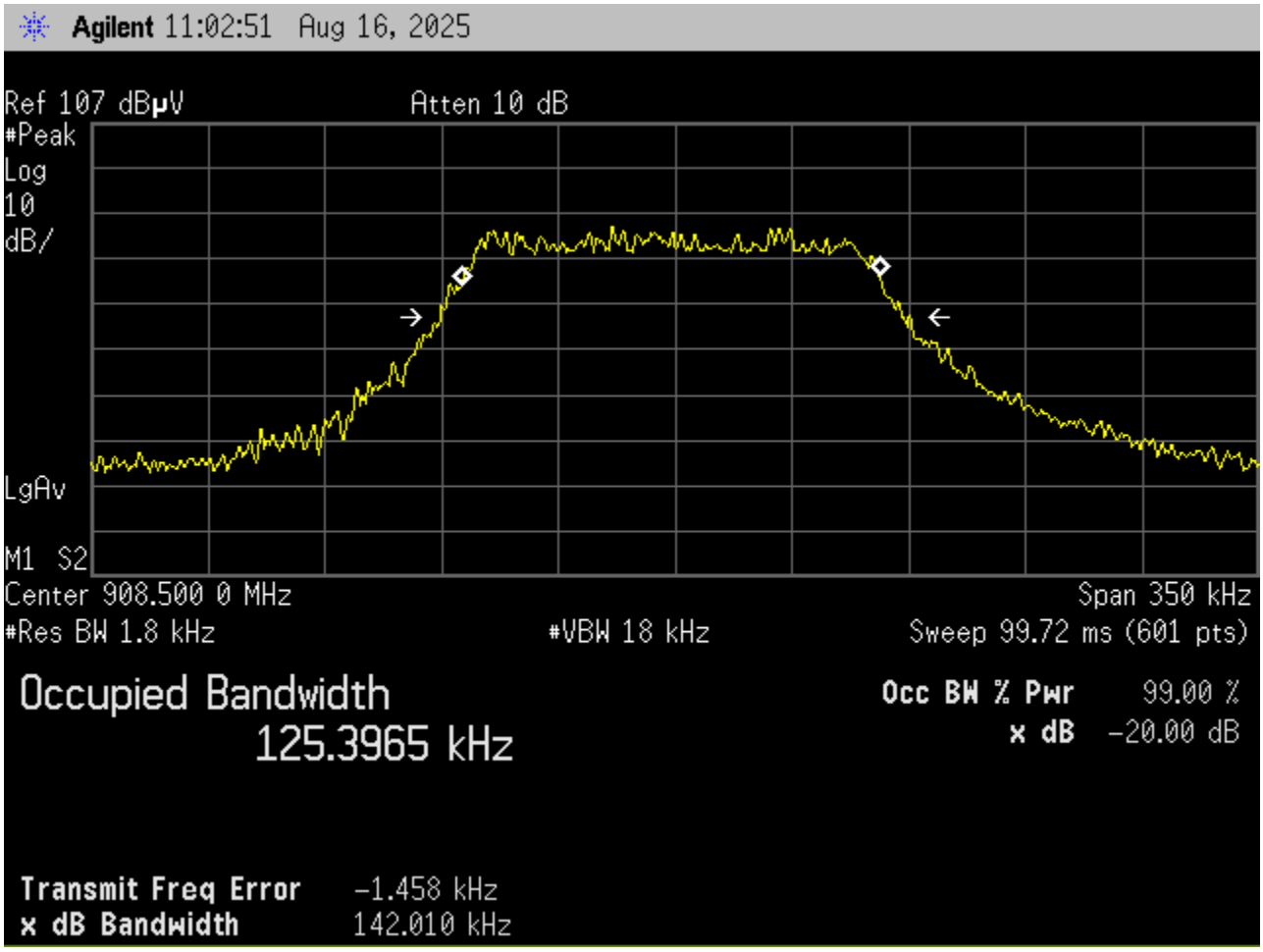
Frequency (MHz)	Measured Bandwidth (kHz)	Result
902.3	125.6842	Pass
908.5	125.3965	Pass
914.9	126.0452	Pass

-20 dB and 99% Bandwidth Plots

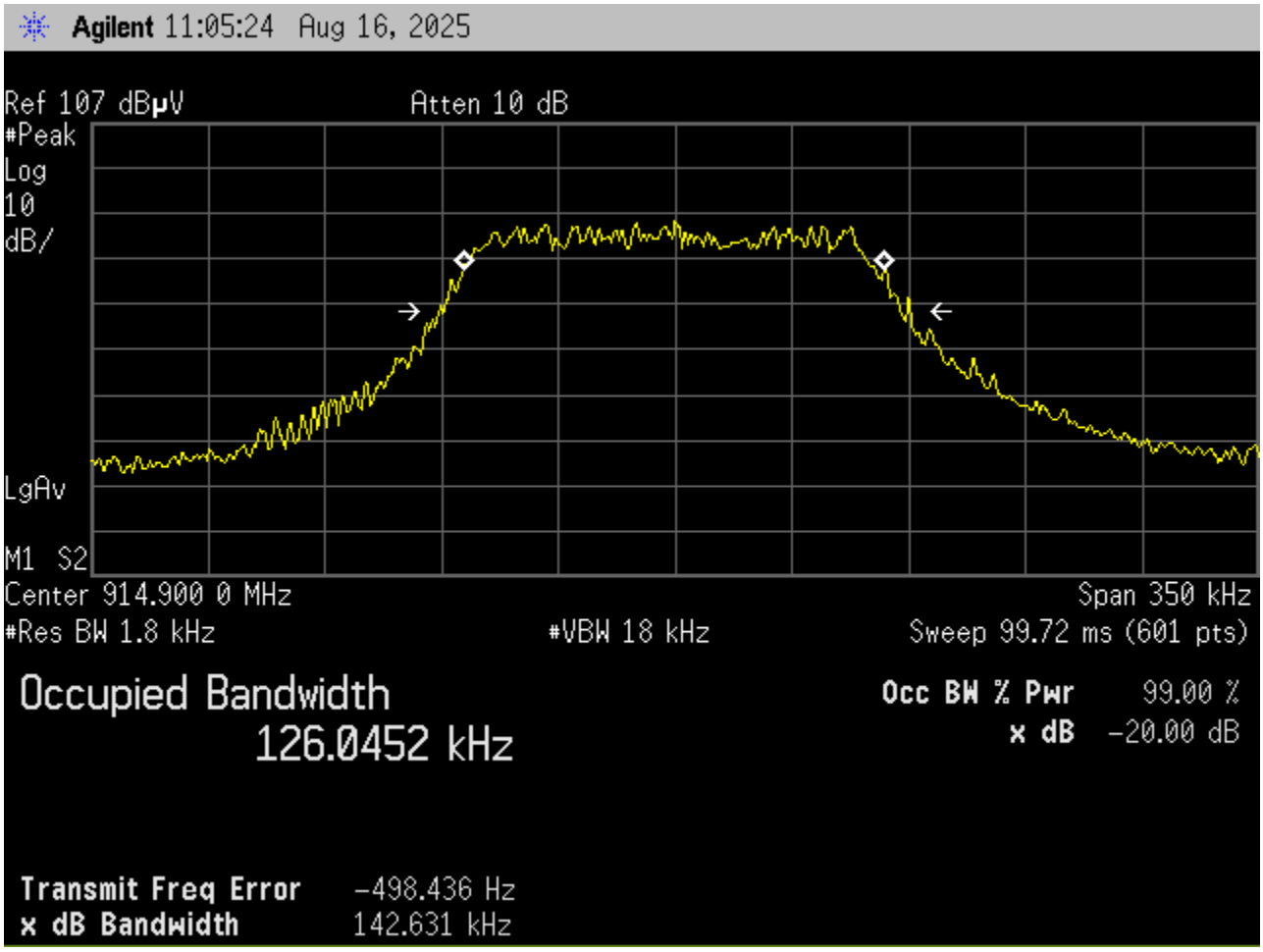
Low Channel



Mid Channel


Agilent 11:02:51 Aug 16, 2025
Ref 107 dBµV
Atten 10 dB
#Peak
Log
10
dB/
LgAv
M1 S2
Center 908.500 0 MHz
Span 350 kHz
#Res BW 1.8 kHz
#VBW 18 kHz
Sweep 99.72 ms (601 pts)
Occupied Bandwidth
125.3965 kHz
Occ BW % Pwr 99.00 %
x dB -20.00 dB
Transmit Freq Error -1.458 kHz
x dB Bandwidth 142.010 kHz

High Channel



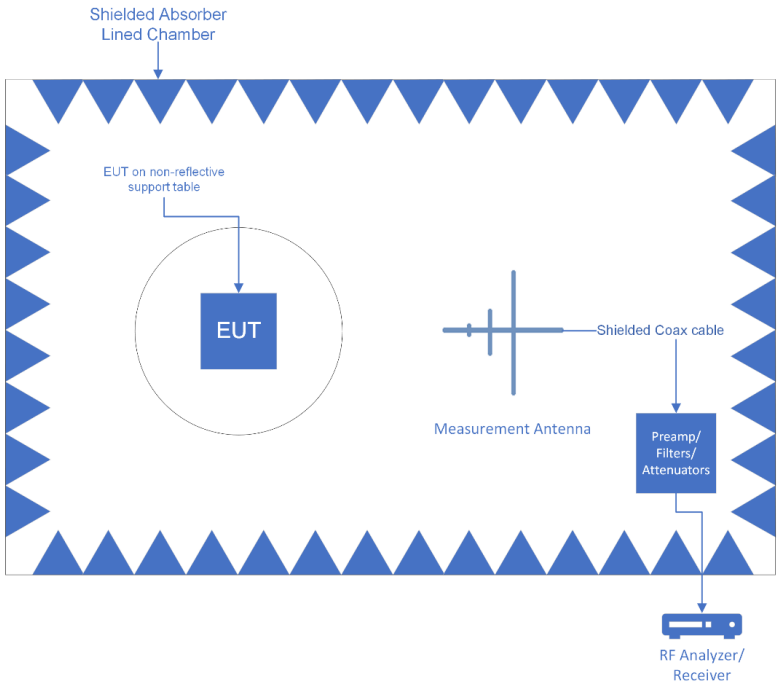
Dwell Time

Engineer: Harshith Devaraja
Test Date:09/18/25

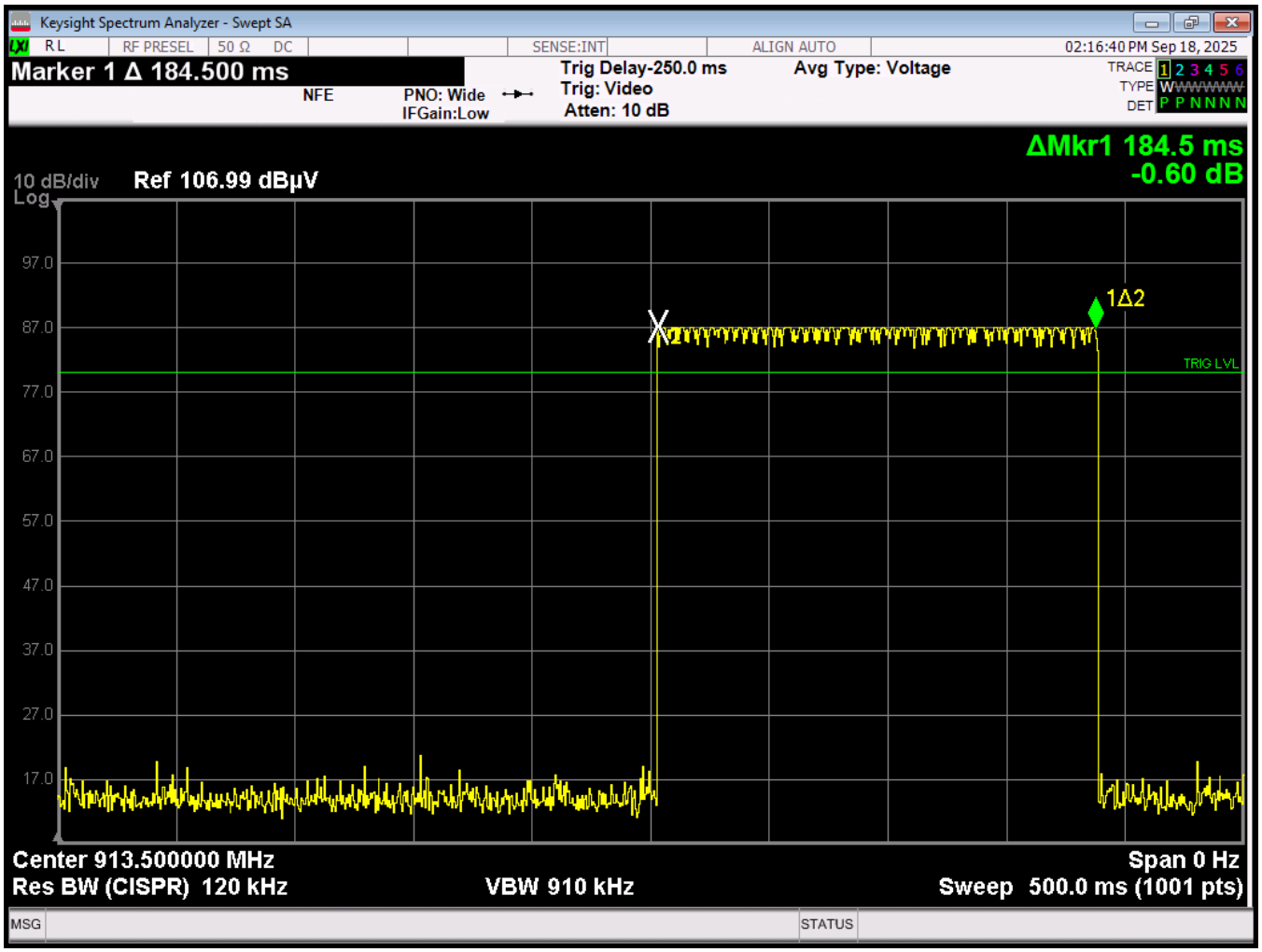
Test Procedure

RADIATED METHOD
The EUT was setup in a semi-anechoic test chamber set 3m from the receiving antenna. The EUT was set to hopping mode with the spectrum analyzer set to a 0 Hz span. A single transmission was captured, and the dwell time was recorded.

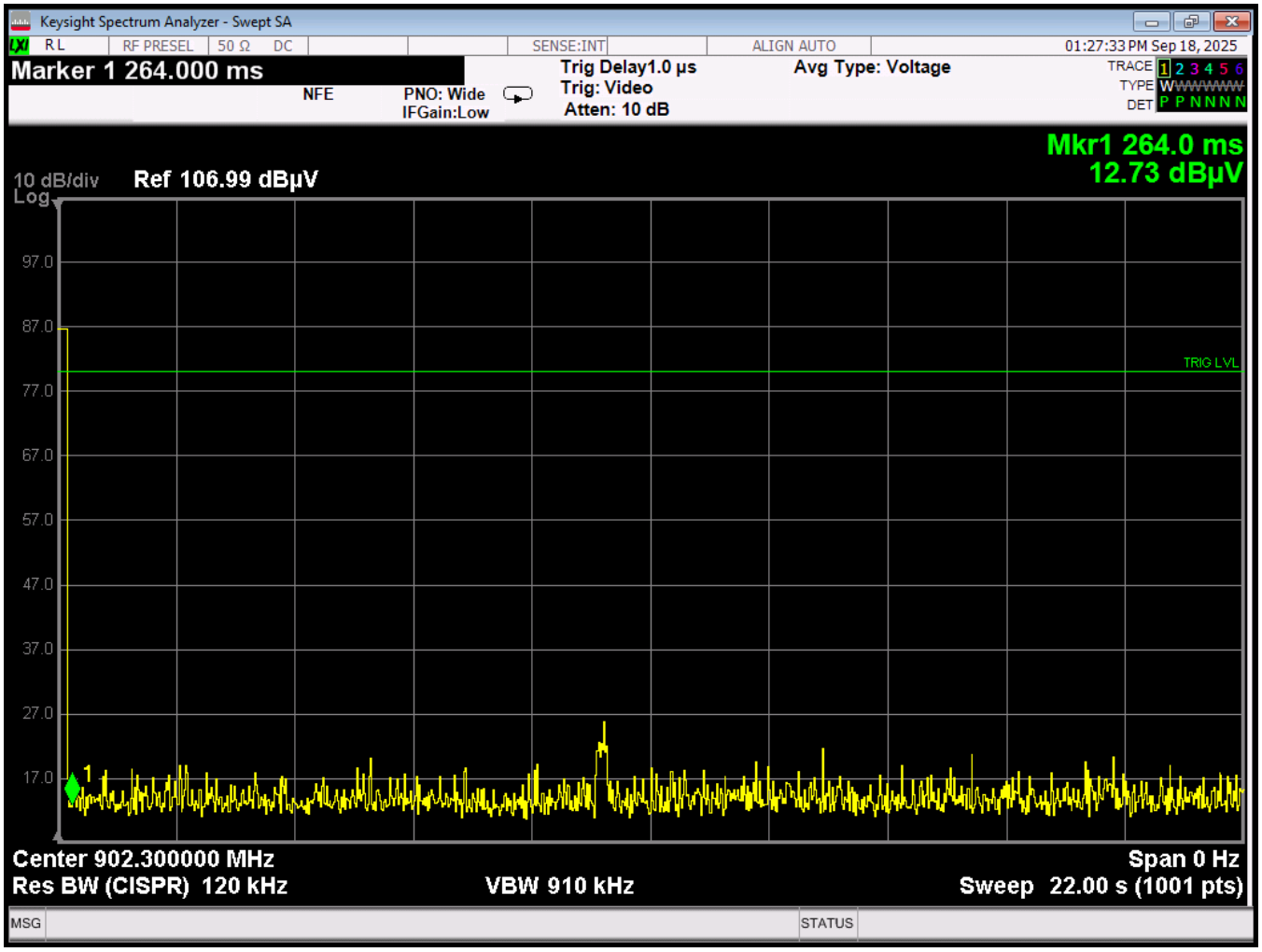
Test Setup



Plot: Time of a Single Pulse



Plot: Number of Pulses in 20 Seconds



Dwell Time Limit is 400ms within 20 seconds

Time of One Pulse = 184.5 ms
Number of Pulses in 20 Seconds = 1

EUT meets the requirement

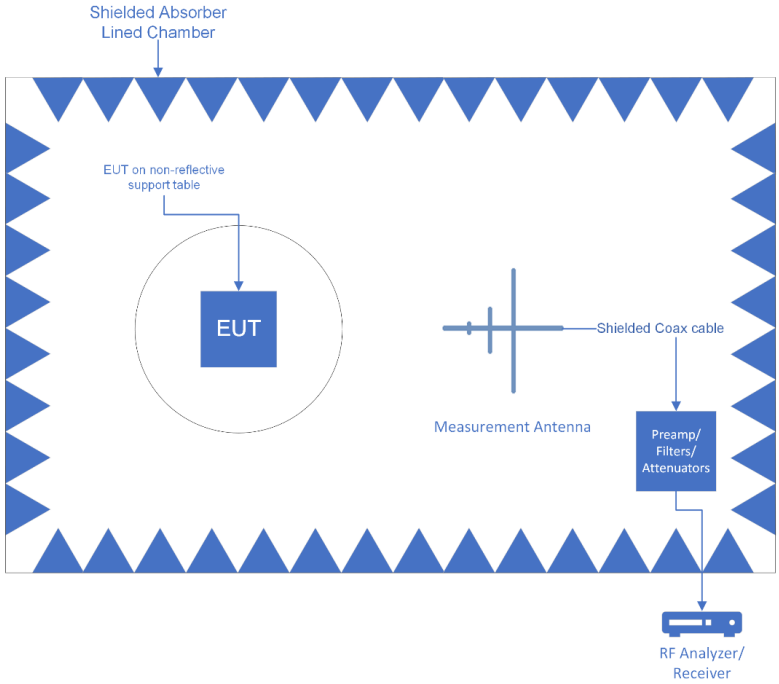
Number of Hopping Channels

Engineer: Harshith Devaraja
Test Date: 09/17/25

Test Procedure

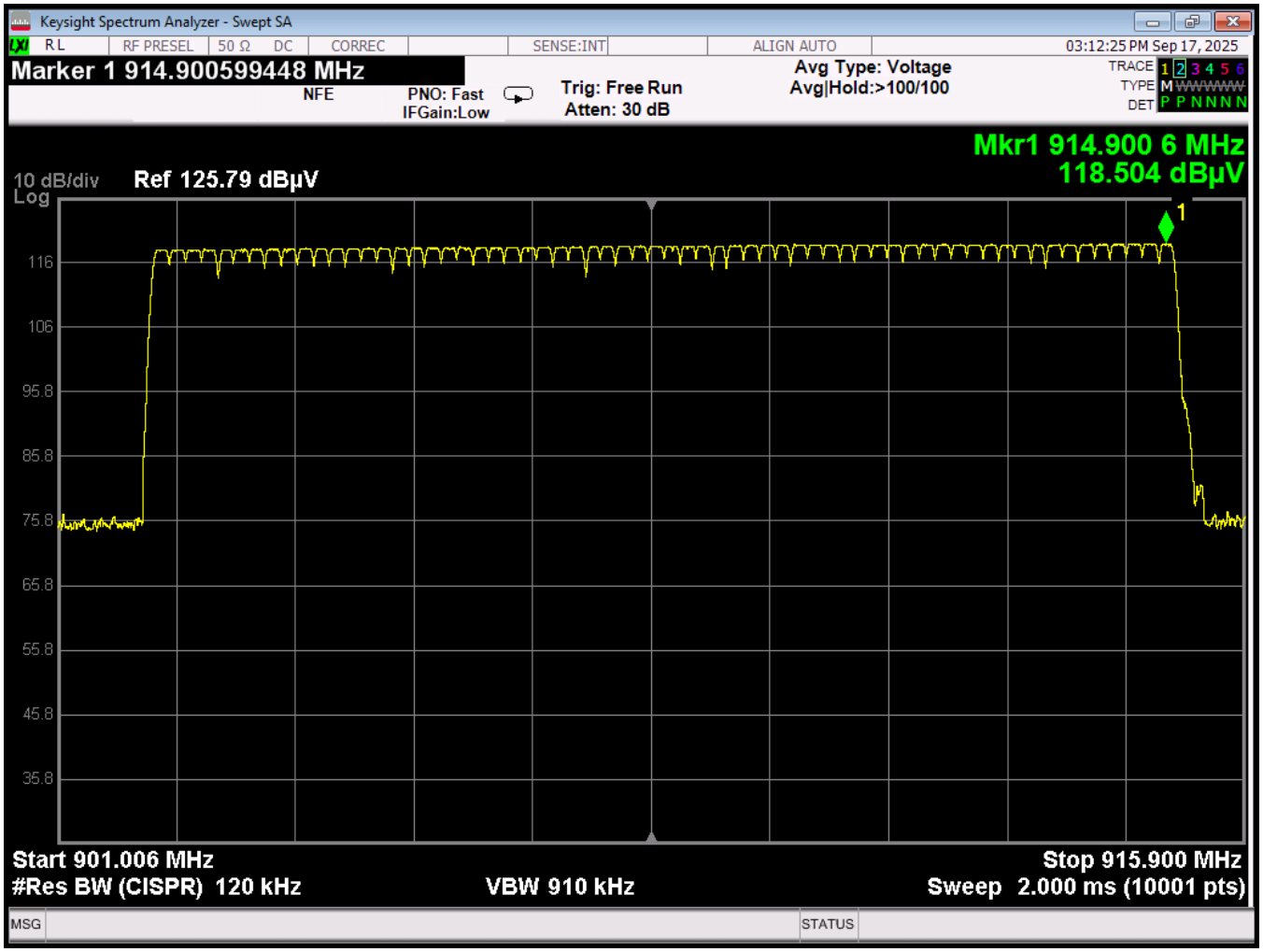
RADIATED METHOD
The EUT was setup in a semi-anechoic test chamber set 3m from the receiving antenna. The Span of a spectrum analyzer was set to the specified band end points. The EUT was then set to operate in hopping mode. The MAX HOLD function of the spectrum analyzer was utilized to verify the number of hopping channels.

Test Setup



Number of Channels	Limit	Result
64	>=50	Pass

Plot of the Number of Hopping Channels



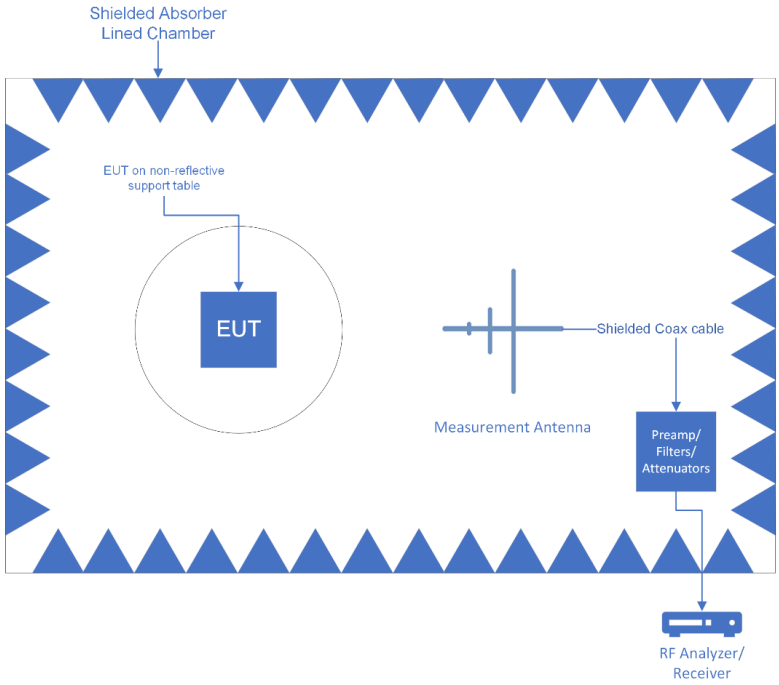
Channel Frequency Separation

Engineer: Harshith Devaraja
Test Date: 09/17/25

Test Procedure

RADIATED METHOD
The EUT was setup in a semi-anechoic test chamber set 3m from the receiving antenna. The EUT was tested by rotating it 360° with the antenna in both the vertical and horizontal orientation and was raised from 1 to 4 meters to ensure the TX signal levels were maximized. The Span was set to encompass a minimum of two hopping channels. The EUT was then set to operate in hopping mode. The MAX HOLD and Marker Delta functions of the spectrum analyzer were utilized to verify the channel separation.

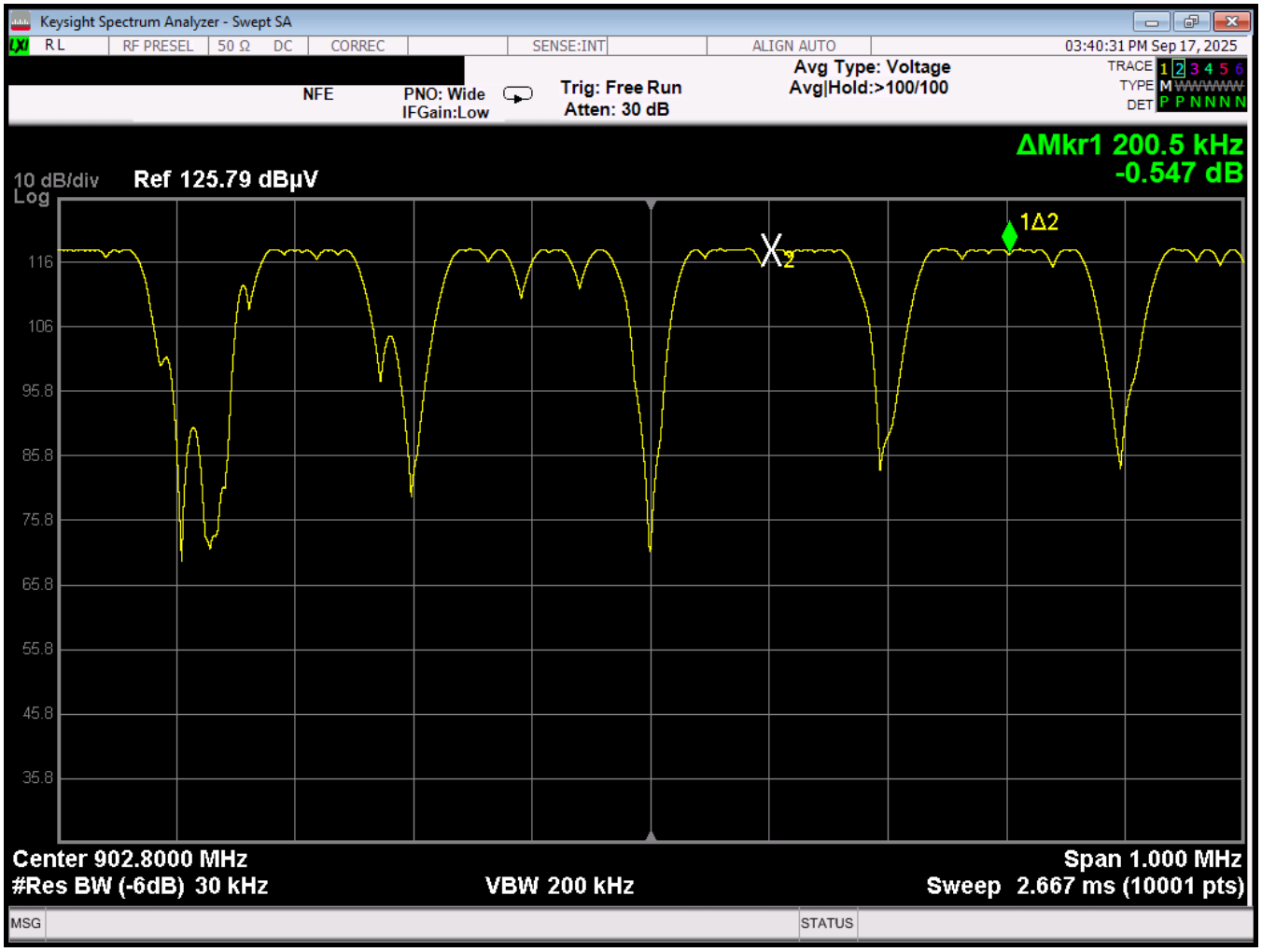
Test Setup



Seperation (KHz)	Limit	Result
200.5	>=25 or -20 dB OBW	Pass

*Worst-case -20dB OBW = High Channel at 914.9 MHz (142.631 kHz)

Plot of the Channel Separation



Test Equipment Utilized

Description	Manufacturer	Model #	CT Asset #	Last Cal Date	Cal Due Date
Horn Antenna (1-18GHz)	ARA	DRG-118/A	i00271	8/9/24	8/9/26
Bi-Log Antenna	Schaffner	CBL 6111D	i00349	2/27/25	2/27/27
3 Meter Semi-Anechoic Chamber	Panashield	3 Meter Semi-Anechoic Chamber	i00428	7/13/23	7/13/26
44GHz EMI receiver	Keysight	N9038A	i00552	3/17/25	3/17/26
PSA Spectrum Analyzer	Agilent	E4445A	i00471	1/25/25	1/25/26
44GHz EMI receiver	Keysight	N9038A	i00552	3/17/25	3/17/26
Temp./humidity/pressure monitor (Main Lab)	Omega Engineering	iBTHX-W-5	i00686	1/25/25	1/25/26
Preamplifier	COM-Power	PAM-103	i00734	Verified on: 09/06/25	
Preamplifier	Eravant	SBB-0115034019-2F2F-E3	i00756	Verified on: 09/08/25	

In addition to the above listed equipment standard RF connectors and cables were utilized in the testing of the described equipment. Prior to testing these components were tested to verify proper operation.

Measurement Uncertainty

Measurement	U_{lab}
Radio Frequency	± 3.3 x 10^{-8}
RF Power, conducted	± 1.5 dB
RF Power Density, conducted	± 1.0 dB
Conducted Emissions	± 1.8 dB
Radiated Emissions	± 4.5 dB
Temperature	± 1.5 deg C
Humidity	± 4.3 %
DC voltage	± 0.20 VDC
AC Voltage	± 1.2 VAC

The reported expanded uncertainty +/- U_{lab}(dB) has been estimated at a 95% confidence level (k=2)
U_{lab} is less than or equal to U_{EMC} therefore;

- Compliance is deemed to occur if no measured disturbance exceeds the disturbance limit.
- Non-Compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.

END OF TEST REPORT