

TEST REPORT

Report Number : 15496224-E20V2

Applicant : APPLE INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014, U.S.A.

Model : A3256 (Parent Model)
A3522, A3523, A3524 (Variant Models)

Brand : APPLE

FCC ID : BCG-E8949A (Parent Model)
BCG-E8957A, BCG-E8958A, BCG-E8959A (Variant Models)

IC : 579C-E8949A (Parent Model)
579C-E8957A, 579C-E8958A, 579C-E8959A (Variant Models)

EUT Description : SMARTPHONE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART F §15.519
ISED RSS-220 ISSUE 1 AMENDMENT 1

Date Of Issue:
JULY 02, 2025

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	6/25/2025	Initial Issue	Darren Aung
V2	6/30/2025	Addressed TCB's Questons Updated Cover Page, Sections 3, 6.1 & 7	Darren Aung

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1. ATTESTATION OF TEST RESULTS

Applicant Name and Address	APPLE INC. 1 APPLE PARK WAY CUPERTINO, CA 95014, U.S.A.	
Model	A3256 (Parent Model) A3522, A3523, A3524 (Variant Models)	
Brand	APPLE	
FCC ID	BCG-E8949A (Parent Model) BCG-E8957A, BCG-E8958A, BCG-E8959A (Variant Models)	
IC	579C-E8949A (Parent Model) 579C-E8957A, 579C-E8958A, 579C-E8959A (Variant Models)	
EUT Description	SMARTPHONE	
SERIAL NUMBER	J5JP7246YL, VV064QWY43	
SAMPLE RECEIPT DATE	FEBRUARY 20, 2025, APRIL 17, 2025	
DATE TESTED	APRIL 11, 2025 TO JUNE 04, 2025	
Applicable Standards	FCC 47 CFR PART 15 SUBPART F §15.519 ISED RSS-220 ISSUE 1 AMENDMENT 1	
Test Results	COMPLIES	
UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.		
Approved & Released By:	Prepared & Reviewed By:	
		
Thu Chan Staff Engineer UL Verification Services, Inc.	Darren Aung Laboratory Engineer Associate UL Verification Services, Inc.	

2. TEST RESULTS SUMMARY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	ANSI C63.10 Section 11.6
-	RSS-GEN 6.7	99% OBW	Reporting purposes only	ANSI C63.10 Section 6.9.4
15.503 & 15.519 (b)	RSS-220 Sect. 2	-10 dB BW	Complies	ANSI C63.10 Section 10.1
15.519 (c) & (e)	RSS-220 Sect. 4 (c) & 5.3.1 (d)	Pk Power & Max Avg Emissions	Complies	ANSI C63.10 Section 10.3
15.519 (a)(1)	RSS-220 Sect. 5.3.1 (b)	Cessation Time	Complies	None
15.519 (c) & 15.209 (a)	RSS-220 Sect. 3.4	Emissions Below 960 MHz	Complies	ANSI C63.10 Section 10.2
15.519 (c) & (d)	RSS-220 Sect. 5.3.1 (d) & (e)	Emissions Above 960 MHz	Complies	ANSI C63.10 Section 10.3
15.207 (a)	RSS-Gen 8.8	AC Power Line Conducted Emissions	Complies	ANSI C63.10 Section 6.2

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with:

- CFR Title 47 Part 15 Subpart F
- KDB 393764 D01 UWB FAQ v02r01
- ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024
- ISED RSS-220 Issue 1 Amendment 1
- ISED RSS GEN Issue 5 Amendment 2

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, certification #0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
☒	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
☐	Building 3: 843 Auburn Ct, Fremont, CA 94538, USA			
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
☒	Building 5: 47670 Kato Rd, Fremont, CA 94538, USA			

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U _{LAB}
Conducted Antenna Port Emission Measurement	1.940 dB
Power Spectral Density	2.466 dB
Time Domain Measurements Using SA	3.39 %
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB

Uncertainty figures are valid to a confidence level of 95%.

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:

$$\begin{aligned}\text{EIRP (dBm)} &= \text{Meter Reading (dBm)} + \text{Antenna Factor (dB/m)} + \text{Pre-Amp Gain/Cbl Loss (dB)} \\ &\quad + \text{dBm-to-dBm Unit Conversion Factor @ 3m} \\ &= -60 \text{ dBm} + 28 \text{ dB/m} + (-27) \text{ dB} + 11.8 \\ &= -47.2 \text{ dBm}\end{aligned}$$

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:

$$\begin{aligned}\text{Final Voltage (dBuV)} &= \text{Measured Voltage (dBuV)} + \text{LISN Insertion Loss (dB)} + \text{Cable Loss (dB)} \\ &\quad + \text{Limiter Factor (dB)} \\ &= 42.19 \text{ dBuV} + 0.1 \text{ dB} + 0 \text{ dB} + 9.4 \text{ (dB)} \\ &= 51.69 \text{ dBuV}\end{aligned}$$

6. EQUIPMENT UNDER TEST

6.1. DESCRIPTION OF EUT

The Apple iPhone is a smartphone with cellular GSM, GPRS, EGPRS, WCDMA, LTE, 5G NR1, 5G NR2, IEEE 802.11a/b/g/n/ac/ax/be, Bluetooth (BT), Ultra-Wideband (UWB), Global Positioning System (GPS), Near-Field Communication (NFC), Narrow-Band (NB) UNII, 802.15.4, 802.15.4ab-Narrow Band (NB), Wireless Power Transfer (WPT) and Mobile Satellite Service (MSS) technologies. The rechargeable battery is not user accessible.

The EUT has a UWB transceiver with two integral antennas (ANT1 = ANT12/UWB1, ANT2 = ANT6/UWB0). ANT1 only operates on 8 GHz (Channel 9). ANT2 operates on 6.5 GHz (Channel 5) and 8 GHz (Channel 9). The antennas are not user accessible.

6.2. MAXIMUM OUTPUT POWER

Highest Average Powers based on ANT/CH are listed as follows:

ANT	CH	CONFIG	PL	Average Power (dBm EIRP)
1	9	202	625	-42.30
2	5	804	0Gap0	-42.30
2	9	801	0Gap0	-42.32

6.3. MODULATION

The UWB signal is BPSK pulsed modulated signal.

6.4. SOFTWARE AND FIRMWARE

The Software and Firmware version used at test is FT: Luck23A256.

7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

SUPPORT EQUIPMENT LIST			
Description	Manufacturer	Model	Serial Number
Laptop + Adapter	Apple	MacBook Pro	XX1T6XR9RT
Brisket – USB Adapter	Apple	Brisket UART Cable Pigtail	F2010M00004694
USB-C Power Adapter	Apple	A2305	ULSW-ED7B4170-6538-4A14-9C59-2EC2D491D6FE
USB-C Ethernet Adapter	Ugreen	CM475	60600
USB-A to USB-C adapter	Anker	A8731	XX02NCP6GR
USB-A Cable with Repeater	Unitek	n/a	n/a

I/O CABLES

I/O CABLES					
Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
AC	1	AC	Un-shielded	2	N/A
USB	1	USB	Un-shielded	1	N/A

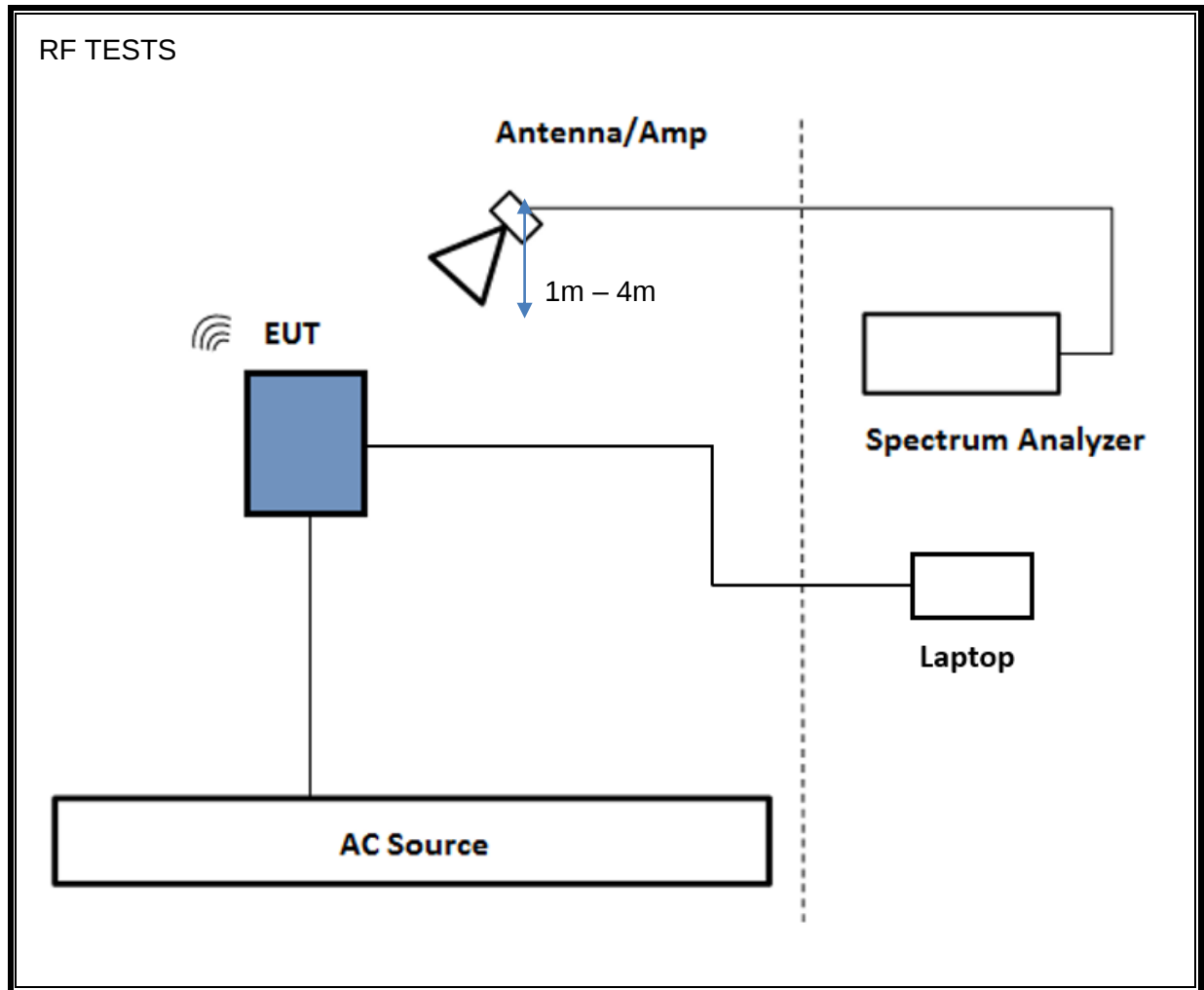
TEST SETUP

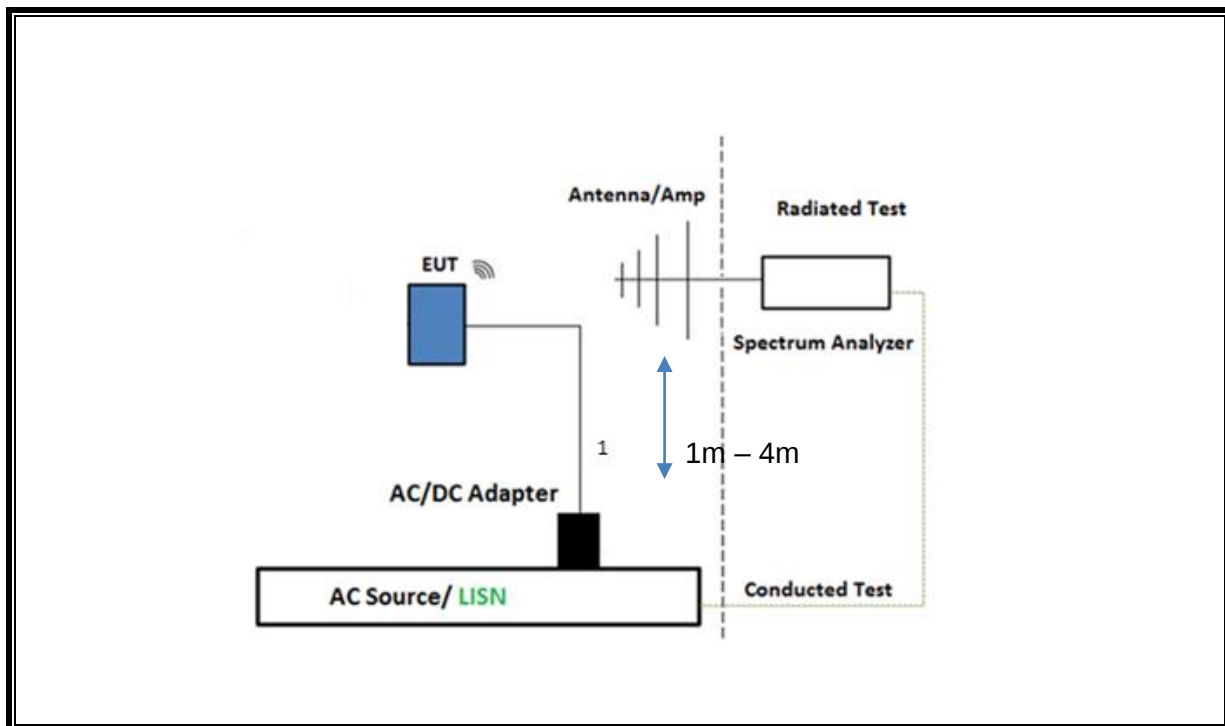
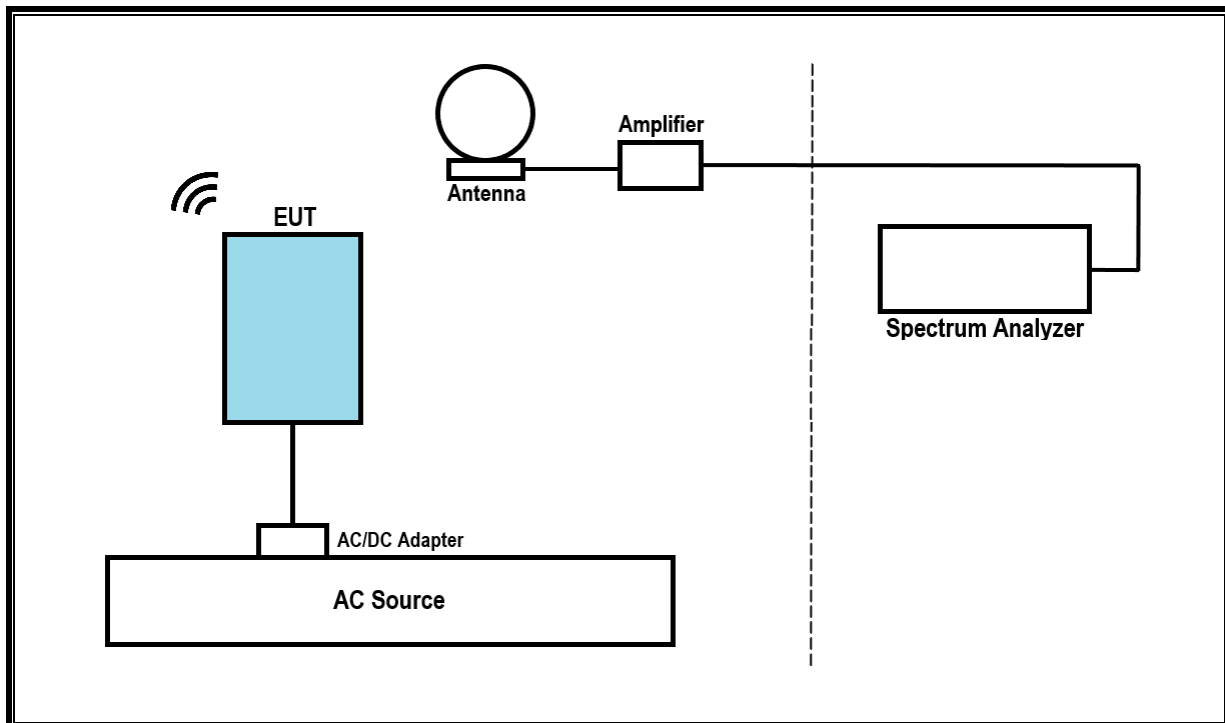
The EUT was examined at pre-scan test using a fundamental frequency in the portrait (z), landscape (y), and flatbed (x) position and the worst-case orientation of individual ANT/CH/CONFIG setting was determined for final spurious emission measurement. All selected configs are used for the Ant/Ch settings that were tested at default power (0 dBm), and Config 9 Payload 125 was chosen for unwanted emission test with CH9 on Ant 1 and both CH5 and CH9 on Ant 2 by setting at maximum output power higher than 0 dBm.

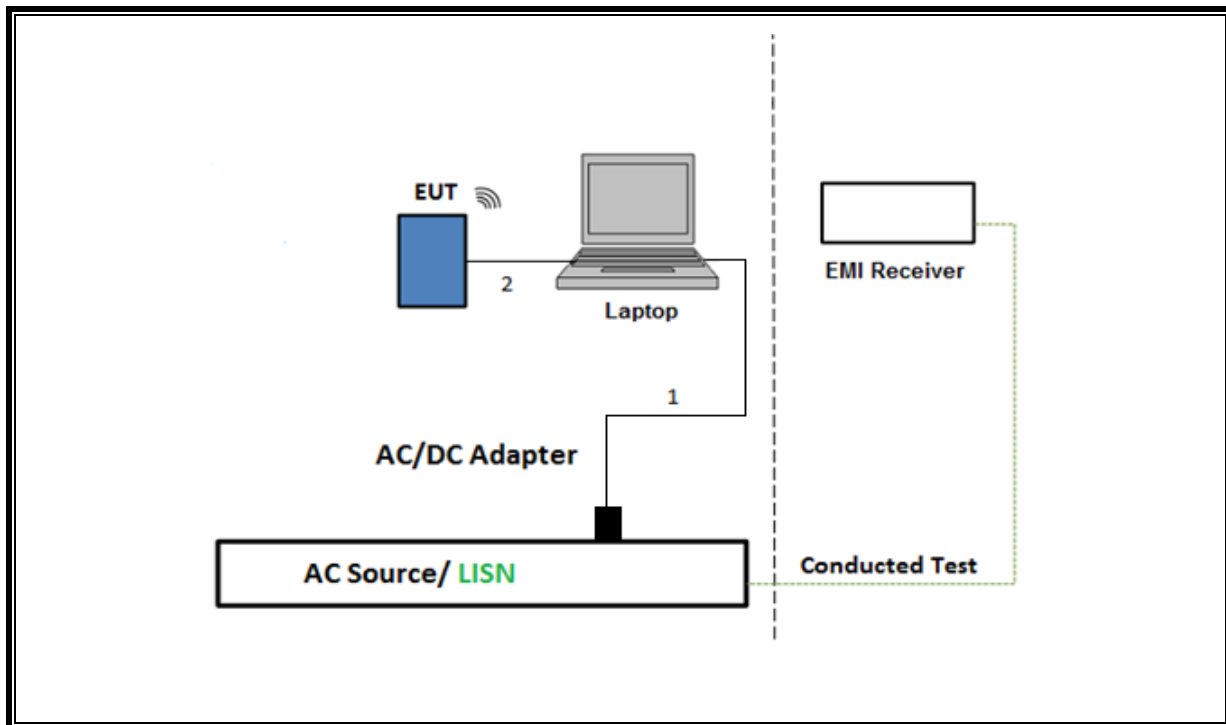
Measurements of spurious average emissions were made with the device operating at a higher power than production power to ensure compliance. Measurements of the in-band signal (peak and average emissions, 10 dBc bandwidth, 99% bandwidth) were all made at the production power settings.

EUT was connected to AC power adapter in all test cases except 0.96 – 5 GHz, 1164 – 1240 MHz, and 1559 – 1610 MHz due to noise unrelated to the UWB signal from the device.

For simultaneous transmission on the same antenna of multiple channels in the UWB and WiFi, no noticeable new emission was found.

SETUP DIAGRAM FOR Above 1GHz TESTS

SETUP DIAGRAM FOR Below 1GHz and AC LINE CONDUCTED TEST**SETUP DIAGRAM FOR Below 30MHz**

TEST SETUP- AC LINE CONDUCTED: LAPTOP CONFIGURATION

8. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment					
Description	Manufacturer	Model	Local ID	Cal Date	Cal Due Date
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	206806	3/24/2025	3/31/2027
RF Filter Box, 1-18GHz	UL-FR1	Silver Box	173233	4/14/2025	4/30/2026
EMI Test Receiver	Rohde & Schwarz	ESW44	235266	2/14/2025	2/28/2026
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	226672	2/9/2024	2/28/2026
RF Filter Box, 1-18GHz	UL-FR1	Frankenstein	231876	4/25/2025	4/30/2026
EMI Test Receiver	Rohde & Schwarz	ESW44	223459	2/9/2025	2/27/2026
Antenna, Passive Loop, 30Hz - 1MHz	Electro-Metrics	EM-6871	29637	9/10/2024	9/30/2026
Antenna, Passive Loop, 100kHz to 30MHz	Electro-Metrics	EM-6872	29640	9/10/2024	9/30/2026
Link File, @3m, 9kHz-1000MHz Hybrid Path Loss	UL-FR1	Port 0 Factors	212011	2/26/2025	2/28/2026
Antenna, Broadband Hybrid 30 MHz - 3 GHz	Sunol Sciences Corp.	JB3	202301	2/12/2025	2/28/2027
Antenna, Horn 18-26.5GHz	A.R.A	MWH-1826/B	81139	8/8/2023	8/31/2025
Link File, RF Amplifier Assembly, 18-26.5GHz, 60dB Gain	Ampical	AMP18G26.5-60	220194	4/9/2025	4/30/2026
Antenna, Horn 26.5-40GHz	A.R.A	MWH-2640/B	81105	8/8/2023	8/31/2025
Link File, RF Amplifier Assembly, 26.5-40GHz, 65dB Gain	Ampical	AMP26G40-65	220193	4/9/2025	4/30/2026
EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESR	171646	2/18/2025	2/28/2026
LISN for Conducted Emissions CISPR-16	FISCHER CUSTOM COMMUNICATIONS	FCC-LISN-50/250-25-2-01-480V	175765	1/28/2025	1/31/2026
Transient Limiter	TE	TBFL1	207996	9/30/2024	9/30/2025
Radiated Software	UL	UL EMC	Rev 9.5 2024-05-01		
AC Line Conducted Software	UL	UL EMC	Rev 9.5 2023-03-03		

9. APPLICABLE LIMITS AND TEST RESULTS

9.1. 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

ANSI C63.10 Section 6.9.3

The transmitter output is connected to a spectrum analyzer. The RBW is in the range of 1% to 5% of the OBW bandwidth. The VBW is set to $\geq 3 \times \text{RBW}$. The sweep time is coupled.

Tabulated data provides the test results of all available test configurations. The plots for ANT1, CONFIG 9, Payload 125 on CH9 and ANT2, CONFIG 9, Payload 125 on CH5 and CH9 bandwidth measurement on are presented and same measurement settings apply to the rest of the test configurations.

RESULTS

Employee IDs: 32440, 32316, 26051

Location: Chamber 05-RDE-B

Test Date: 4/17/2025 to 5/1/2025

ANT1, CH9

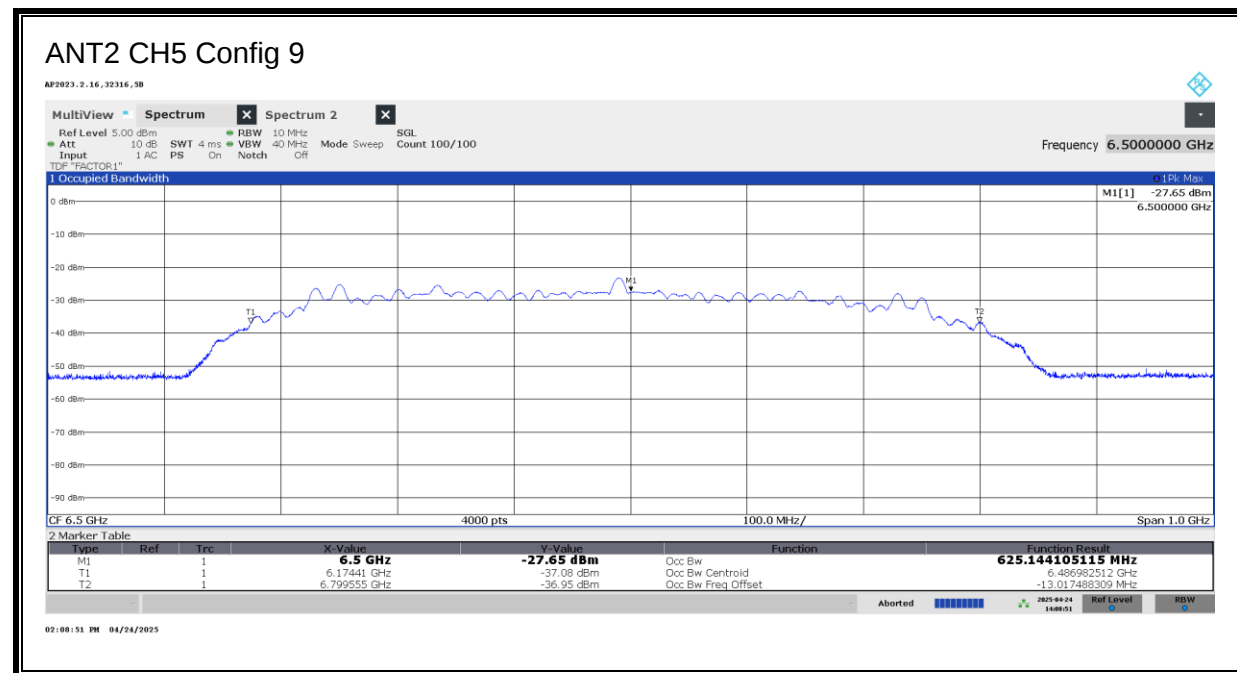
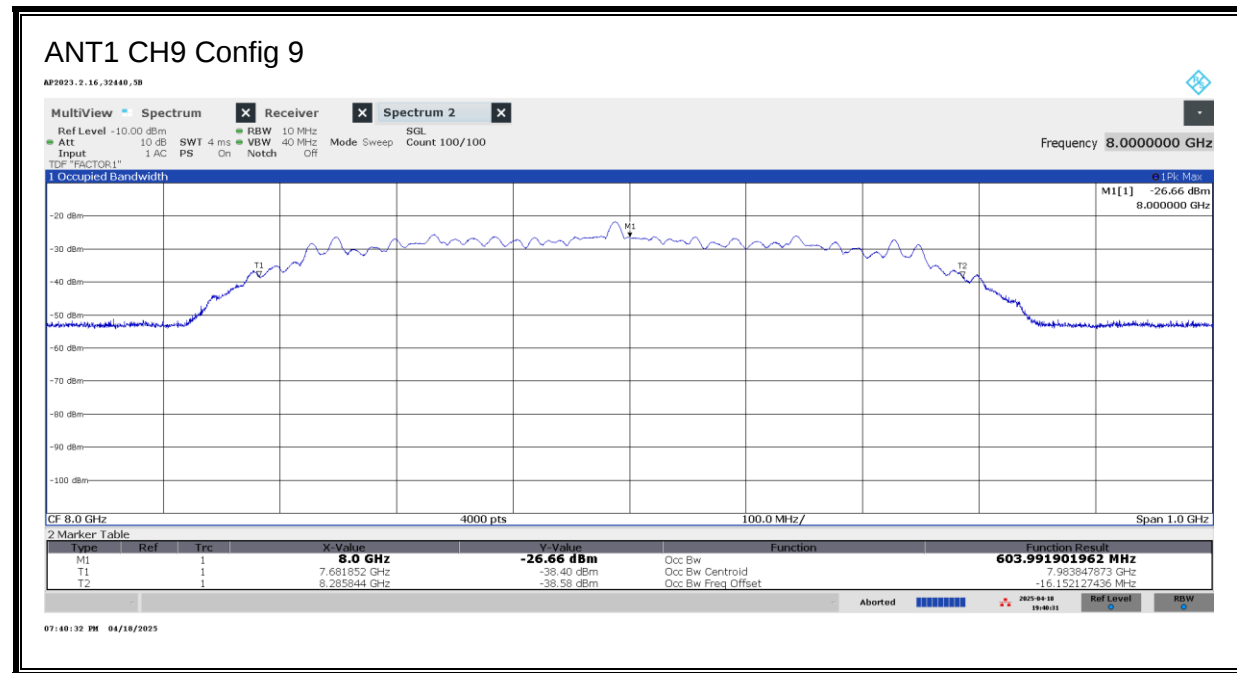
ANT	CH	CF	PL	EUT Orientation	Ant. Polarity	99% BW (MHz)
1	9	0	25	Flatbed	V	592.031
1	9	1	45	Flatbed	V	592.358
1	9	6	125	Flatbed	V	601.492
1	9	9	125	Flatbed	V	603.992
1	9	10	25	Flatbed	V	593.650
1	9	11	25	Flatbed	V	591.077
1	9	11	65	Flatbed	V	592.581
1	9	101	25	Flatbed	V	591.002
1	9	101	65	Flatbed	V	591.439
1	9	102	25	Flatbed	V	586.331
1	9	102	65	Flatbed	V	586.903
1	9	103	25	Flatbed	V	587.639
1	9	103	125	Flatbed	V	592.807
1	9	202	625	Flatbed	V	735.261
1	9	402	445	Flatbed	V	664.660
1	9	501	0	Flatbed	V	577.463
1	9	503	0	Flatbed	V	576.785
1	9	601	0	Flatbed	V	599.035
1	9	605	0	Flatbed	V	593.110
1	9	607	0	Flatbed	V	593.271
1	9	701	0	Flatbed	V	589.307
1	9	702	0	Flatbed	V	582.097
1	9	703	0	Flatbed	V	581.132
1	9	704	0	Flatbed	V	611.808
1	9	705	0	Flatbed	V	605.371
1	9	706	0	Flatbed	V	608.521
1	9	405	4093	Flatbed	V	681.972
1	9	407	4093	Flatbed	V	666.902
1	9	409	4093	Flatbed	V	681.128
1	9	801	0Gap0	Flatbed	V	581.930
1	9	801	0Gap64	Flatbed	V	582.644
1	9	802	0	Flatbed	V	582.800
1	9	803	0	Flatbed	V	578.899
1	9	804	0Gap0	Flatbed	V	586.335
1	9	804	0Gap64	Flatbed	V	591.005
1	9	805	0	Flatbed	V	591.715
1	9	806	0	Flatbed	V	586.501
1	9	807	0Gap0	Flatbed	V	594.905
1	9	807	0Gap64	Flatbed	V	596.661
1	9	808	0	Flatbed	V	596.744
1	9	809	0	Flatbed	V	593.129
1	9	80A	0Gap0	Flatbed	V	606.252
1	9	80A	0Gap64	Flatbed	V	600.208
1	9	80B	0	Flatbed	V	591.709
1	9	80C	0	Flatbed	V	590.140

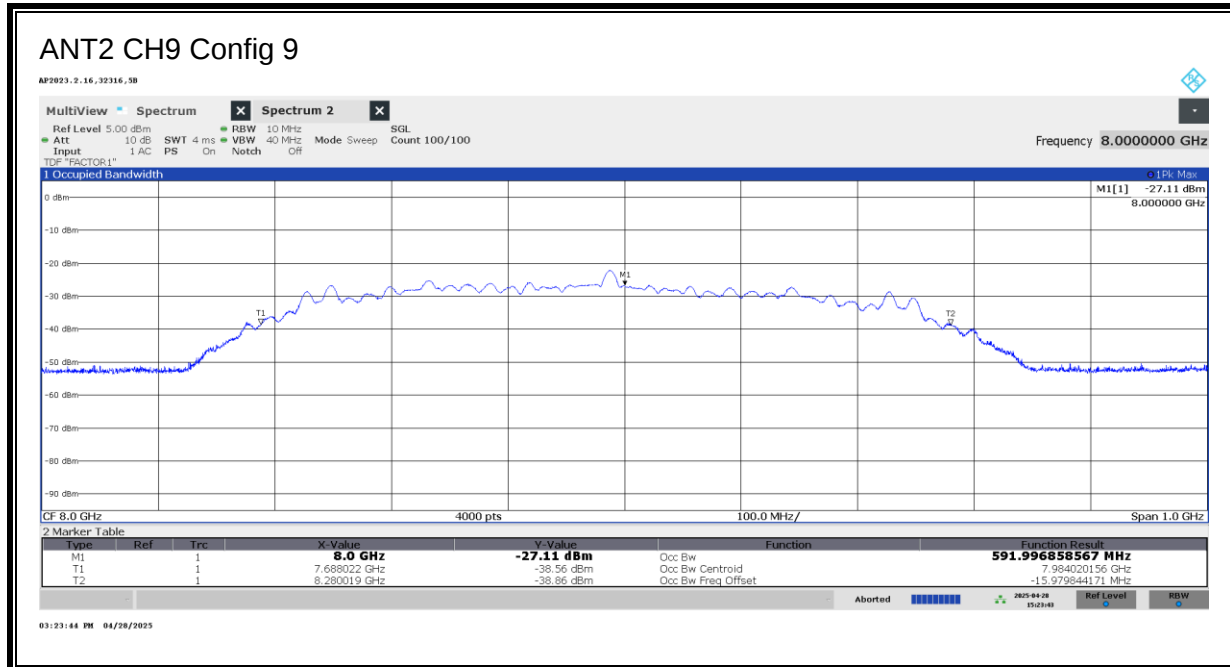
ANT2, CH5

ANT	CH	CF	PL	EUT Orientation	Ant. Polarity	99% BW (MHz)
2	5	0	25	Landscape	H	609.406
2	5	1	45	Landscape	H	609.325
2	5	6	125	Landscape	H	621.847
2	5	9	125	Landscape	H	625.144
2	5	10	25	Landscape	H	612.773
2	5	11	25	Landscape	H	612.277
2	5	11	65	Landscape	H	612.796
2	5	101	25	Landscape	H	611.823
2	5	101	65	Landscape	H	612.379
2	5	102	25	Landscape	H	612.120
2	5	102	65	Landscape	H	612.751
2	5	103	25	Landscape	H	613.035
2	5	103	125	Landscape	H	617.000
2	5	202	625	Landscape	H	696.428
2	5	402	445	Landscape	H	651.956
2	5	501	0	Landscape	H	597.357
2	5	503	0	Landscape	H	599.627
2	5	601	0	Landscape	H	621.838
2	5	605	0	Landscape	H	621.007
2	5	607	0	Landscape	H	620.551
2	5	701	0	Landscape	H	608.262
2	5	702	0	Landscape	H	602.935
2	5	703	0	Landscape	H	601.082
2	5	704	0	Landscape	H	635.492
2	5	705	0	Landscape	H	627.859
2	5	706	0	Landscape	H	630.245
2	5	405	4093	Landscape	H	630.175
2	5	407	4093	Landscape	H	669.953
2	5	409	4093	Landscape	H	683.054
2	5	801	0Gap0	Landscape	H	623.886
2	5	801	0Gap64	Landscape	H	626.894
2	5	802	0	Landscape	H	624.072
2	5	803	0	Landscape	H	624.170
2	5	804	0Gap0	Landscape	H	627.252
2	5	804	0Gap64	Landscape	H	628.729
2	5	805	0	Landscape	H	628.189
2	5	806	0	Landscape	H	628.230
2	5	807	0Gap0	Landscape	H	623.839
2	5	807	0Gap64	Landscape	H	625.246
2	5	808	0	Landscape	H	622.435
2	5	809	0	Landscape	H	622.615
2	5	80A	0Gap0	Landscape	H	626.493
2	5	80A	0Gap64	Landscape	H	625.355
2	5	80B	0	Landscape	H	624.909
2	5	80C	0	Landscape	H	625.418

ANT2, CH9

ANT	CH	CF	PL	EUT Orientation	Ant. Polarity	99% BW (MHz)
2	9	0	25	Landscape	H	579.954
2	9	1	45	Landscape	H	578.861
2	9	6	125	Landscape	H	587.052
2	9	9	125	Landscape	H	591.997
2	9	10	25	Landscape	H	577.990
2	9	11	25	Landscape	H	576.387
2	9	11	65	Landscape	H	576.991
2	9	101	25	Landscape	H	577.645
2	9	101	65	Landscape	H	578.232
2	9	102	25	Landscape	H	576.590
2	9	102	65	Landscape	H	579.196
2	9	103	25	Landscape	H	578.779
2	9	103	125	Landscape	H	583.019
2	9	202	625	Landscape	H	749.724
2	9	402	445	Landscape	H	660.967
2	9	501	0	Landscape	H	570.372
2	9	503	0	Landscape	H	571.247
2	9	601	0	Landscape	H	583.466
2	9	605	0	Landscape	H	577.642
2	9	607	0	Landscape	H	575.668
2	9	701	0	Landscape	H	578.795
2	9	702	0	Landscape	H	571.734
2	9	703	0	Landscape	H	575.272
2	9	704	0	Landscape	H	599.398
2	9	705	0	Landscape	H	586.802
2	9	706	0	Landscape	H	596.381
2	9	405	4093	Landscape	H	961.449
2	9	407	4093	Landscape	H	663.386
2	9	409	4093	Landscape	H	683.892
2	9	801	0Gap0	Landscape	H	586.536
2	9	801	0Gap64	Landscape	H	585.530
2	9	802	0	Landscape	H	589.893
2	9	803	0	Landscape	H	586.232
2	9	804	0Gap0	Landscape	H	597.219
2	9	804	0Gap64	Landscape	H	603.769
2	9	805	0	Landscape	H	600.753
2	9	806	0	Landscape	H	596.967
2	9	807	0Gap0	Landscape	H	582.727
2	9	807	0Gap64	Landscape	H	580.853
2	9	808	0	Landscape	H	581.469
2	9	809	0	Landscape	H	583.697
2	9	80A	0Gap0	Landscape	H	593.132
2	9	80A	0Gap64	Landscape	H	589.729
2	9	80B	0	Landscape	H	590.221
2	9	80C	0	Landscape	H	588.576

99% BW



9.2. OPERATING BANDWIDTH

LIMITS

FCC

§15.503 (a) *UWB bandwidth*. For the purpose of this subpart, the UWB bandwidth is the frequency band bounded by the points that are 10 dB below the highest radiated emission, as based on the complete transmission system including the antenna. The upper boundary is designated f_H and the lower boundary is designated f_L . The frequency at which the highest radiated emission occurs is designated f_M .

§15.503 (b) *Center frequency*. The center frequency, f_C , equals $(f_H + f_L)/2$.

§15.503 (c) *Fractional bandwidth*. The fractional bandwidth equals $2(f_H - f_L)/(f_H + f_L)$.

§15.503 (d) *Ultra-wideband (UWB) transmitter*. An intentional radiator that, at any point in time, has a fractional bandwidth equal to or greater than 0.20 or has a UWB bandwidth equal to or greater than 500 MHz, regardless of the fractional bandwidth.

§15.519 (b) The UWB bandwidth of a device operating under the provisions of this section must be contained between 3100 MHz and 10,600 MHz.

RSS-220

Section 2 A *UWB device* is an intentional radiator that has either a *-10 dB bandwidth* of at least 500 MHz or a *-10 dB fractional bandwidth* greater than 0.2.

Section 5.1 (a) The -10 dB bandwidth of the device shall be totally contained in the band 3.1-10.6 GHz.

“-10 dB bandwidth B_{-10} ” and “-10 dB fractional bandwidth μ_{-10} ” are defined as follows:

$$B_{-10} = f_H - f_L$$

$$\mu_{-10} = B_{-10}/f_C$$

where:

f_M is the frequency of maximum UWB transmission;

f_H is the highest frequency at which the power spectral density of the UWB transmission is -10 dB relative to f_M ;

f_L is the lowest frequency at which the power spectral density of the UWB transmission is -10 dB relative to f_M ; and

$f_C = (f_H + f_L)/2$ is the centre frequency of the -10 dB bandwidth.

TEST PROCEDURE

ANSI C63.10 Clause 10.1

RSS-220 Section 2 of the Annex

Tabulated data provides the test results of all available test configurations. The plots for ANT1, CONFIG 9, Payload 125 on CH9 and ANT2, CONFIG 9, Payload 125 on CH5 and CH9 bandwidth measurement on are presented and same measurement settings apply to the rest of the test configurations.

RESULTS

Employee IDs: 32440, 32316, 26051

Location: Chamber 05-RDE-B

Test Date: 4/17/2025 to 5/1/2025

ANT1, CH9

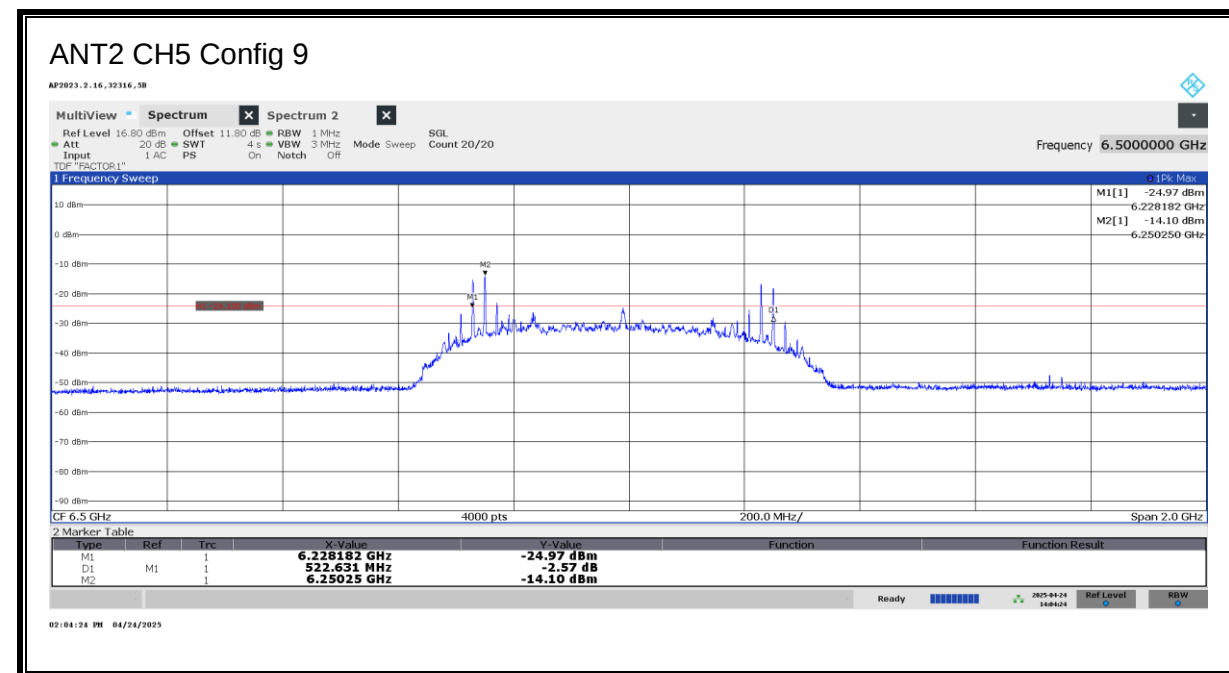
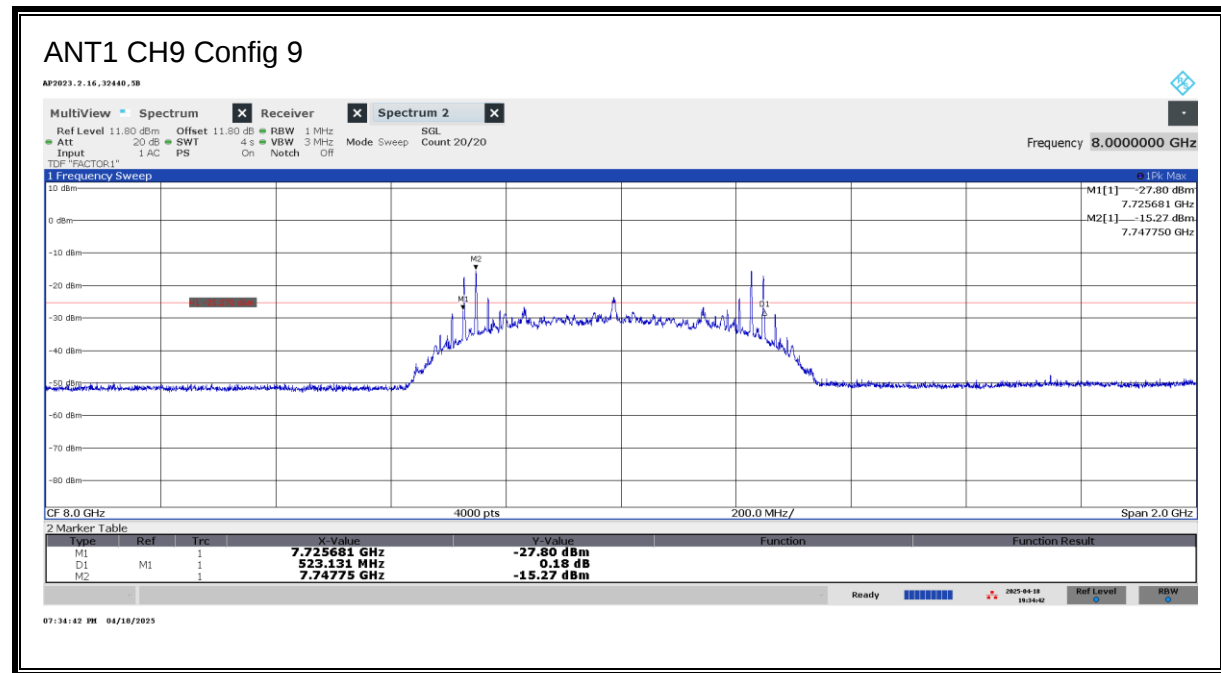
ANT	CH	CF	PL	EUT Orientation	Ant. Polarity	FM (GHz)	FL (GHz)	FH (GHz)	FC (GHz)	OBW (MHz)	Min. OBW (MHz)	OBW Margin (MHz)	OBW Pass/Fail
1	9	0	25	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	1	45	Flatbed	V	7.7478	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	6	125	Flatbed	V	7.7483	7.7252	8.2493	7.9872	524.131	500	24.131	P
1	9	9	125	Flatbed	V	7.7478	7.7257	8.2488	7.9872	523.131	500	23.131	P
1	9	10	25	Flatbed	V	7.7478	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	11	25	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	11	65	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	101	25	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	101	65	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	102	25	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	102	65	Flatbed	V	7.7478	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	103	25	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	103	125	Flatbed	V	7.7478	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	202	625	Flatbed	V	7.7478	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	402	445	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	501	0	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.130	500	26.13	P
1	9	503	0	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	601	0	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	605	0	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	607	0	Flatbed	V	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
1	9	701	0	Flatbed	V	7.7483	7.7232	8.2513	7.9872	528.132	500	28.132	P
1	9	702	0	Flatbed	V	7.7488	7.7232	8.2513	7.9872	528.132	500	28.132	P
1	9	703	0	Flatbed	V	7.7483	7.7232	8.2513	7.9872	528.132	500	28.132	P
1	9	704	0	Flatbed	V	7.7483	7.7232	8.2598	7.9915	536.634	500	36.634	P
1	9	705	0	Flatbed	V	7.7483	7.7212	8.2513	7.9862	530.133	500	30.133	P
1	9	706	0	Flatbed	V	7.7483	7.7217	8.2553	7.9885	533.633	500	33.633	P
1	9	405	4093	Flatbed	V	7.7478	7.7177	8.2568	7.9872	539.135	500	39.135	P
1	9	407	4093	Flatbed	V	8.0183	7.7207	8.2538	7.9872	533.133	500	33.133	P
1	9	409	4093	Flatbed	V	8.2268	7.7247	8.2493	7.9870	524.631	500	24.631	P
1	9	801	0Gap0	Flatbed	V	8.0498	7.7242	8.2828	8.0035	558.640	500	58.640	P
1	9	801	0Gap64	Flatbed	V	8.2263	7.7242	8.2743	7.9993	550.138	500	50.138	P
1	9	802	0	Flatbed	V	8.2258	7.7242	8.2743	7.9993	550.138	500	50.138	P
1	9	803	0	Flatbed	V	8.2263	7.7242	8.2743	7.9993	550.138	500	50.138	P
1	9	804	0Gap0	Flatbed	V	8.0493	7.7242	8.2828	8.0035	558.640	500	58.640	P
1	9	804	0Gap64	Flatbed	V	8.2263	7.7242	8.2743	7.9992	550.138	500	50.138	P
1	9	805	0	Flatbed	V	8.2263	7.7242	8.2743	7.9993	550.138	500	50.138	P
1	9	806	0	Flatbed	V	8.2263	7.7242	8.2743	7.9993	550.138	500	50.138	P
1	9	807	0Gap0	Flatbed	V	8.0498	7.7237	8.2828	8.0033	559.140	500	59.140	P
1	9	807	0Gap64	Flatbed	V	8.0328	7.7237	8.2828	8.0033	559.140	500	59.140	P
1	9	808	0	Flatbed	V	8.0328	7.7237	8.2828	8.0033	559.140	500	59.140	P
1	9	809	0	Flatbed	V	8.0498	7.7232	8.2828	8.0030	559.640	500	59.640	P
1	9	80A	0Gap0	Flatbed	V	8.0498	7.7222	8.2828	8.0025	560.640	500	60.640	P
1	9	80A	0Gap64	Flatbed	V	8.0668	7.7197	8.2828	8.0013	563.141	500	63.141	P
1	9	80B	0	Flatbed	V	8.0493	7.7237	8.2708	7.9972	547.137	500	47.137	P
1	9	80C	0	Flatbed	V	8.0328	7.7232	8.2828	8.0030	559.640	500	59.640	P

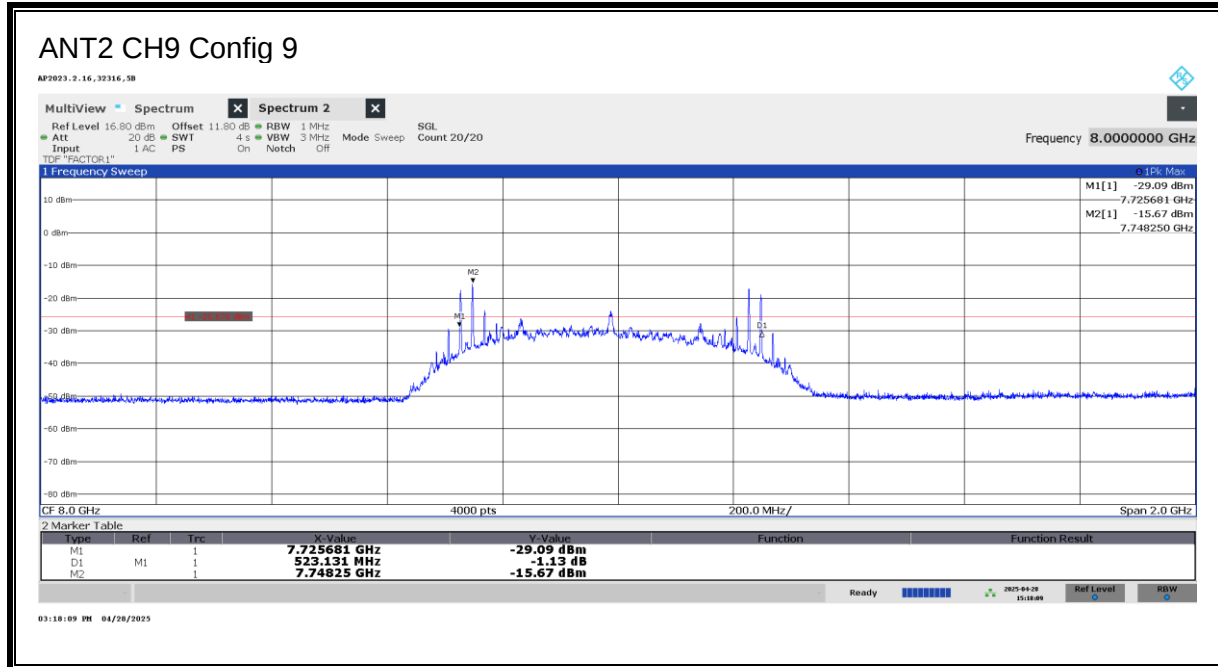
ANT2, CH5

ANT	CH	CF	PL	EUT Orientation	Ant. Polarity	FM (GHz)	FL (GHz)	FH (GHz)	FC (GHz)	OBW (MHz)	Min. OBW (MHz)	OBW Margin (MHz)	OBW Pass/Fail
2	5	0	25	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	1	45	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	6	125	Landscape	H	6.2503	6.2277	6.7513	6.4895	523.631	500	23.631	P
2	5	9	125	Landscape	H	6.2503	6.2282	6.7508	6.4895	522.631	500	22.631	P
2	5	10	25	Landscape	H	6.2508	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	11	25	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	11	65	Landscape	H	6.2503	6.2662	6.7923	6.5292	526.132	500	26.132	P
2	5	101	25	Landscape	H	6.2508	6.2262	6.7523	6.4892	526.131	500	26.131	P
2	5	101	65	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	102	25	Landscape	H	6.2503	6.2267	6.7523	6.4895	525.631	500	25.631	P
2	5	102	65	Landscape	H	6.2508	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	103	25	Landscape	H	6.2503	6.2267	6.7523	6.4895	525.631	500	25.631	P
2	5	103	125	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	202	625	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	402	445	Landscape	H	6.2508	6.2267	6.7523	6.4895	525.631	500	25.631	P
2	5	501	0	Landscape	H	6.2503	6.2267	6.7523	6.4895	525.631	500	25.631	P
2	5	503	0	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	601	0	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	605	0	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	607	0	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.132	500	26.132	P
2	5	701	0	Landscape	H	6.2508	6.2252	6.7533	6.4892	528.132	500	28.132	P
2	5	702	0	Landscape	H	6.2508	6.2252	6.7533	6.4892	528.132	500	28.132	P
2	5	703	0	Landscape	H	6.2508	6.2252	6.7533	6.4892	528.132	500	28.132	P
2	5	704	0	Landscape	H	6.2508	6.2112	6.7533	6.4822	542.136	500	42.136	P
2	5	705	0	Landscape	H	6.2508	6.2232	6.7533	6.4882	530.113	500	30.1133	P
2	5	706	0	Landscape	H	6.2508	6.2052	6.7533	6.4792	548.137	500	48.137	P
2	5	405	4093	Landscape	H	6.2508	6.2052	6.7533	6.4792	548.137	500	48.137	P
2	5	407	4093	Landscape	H	6.2503	6.2027	6.7523	6.4775	549.637	500	49.637	P
2	5	409	4093	Landscape	H	6.2503	6.2262	6.7523	6.4892	526.130	500	26.130	P
2	5	801	0Gap0	Landscape	H	6.2508	6.1937	6.7533	6.4735	559.640	500	59.640	P
2	5	801	0Gap64	Landscape	H	6.2508	6.2057	6.7533	6.4795	547.637	500	47.637	P
2	5	802	0	Landscape	H	6.2508	6.2057	6.7533	6.4795	547.637	500	47.637	P
2	5	803	0	Landscape	H	6.2508	6.2027	6.7608	6.4817	558.140	500	58.140	P
2	5	804	0Gap0	Landscape	H	6.2508	6.1942	6.7568	6.4755	562.641	500	62.641	P
2	5	804	0Gap64	Landscape	H	6.2508	6.2057	6.7608	6.4832	555.139	500	55.139	P
2	5	805	0	Landscape	H	6.2508	6.2057	6.7533	6.4795	547.637	500	47.637	P
2	5	806	0	Landscape	H	6.2513	6.2027	6.7613	6.4820	558.640	500	58.640	P
2	5	807	0Gap0	Landscape	H	6.2508	6.1942	6.7533	6.4737	559.140	500	59.140	P
2	5	807	0Gap64	Landscape	H	6.2508	6.1937	6.7533	6.4735	559.640	500	59.640	P
2	5	808	0	Landscape	H	6.2508	6.1937	6.7693	6.4815	575.644	500	75.644	P
2	5	809	0	Landscape	H	6.2508	6.1942	6.7678	6.4810	573.643	500	73.643	P
2	5	80A	0Gap0	Landscape	H	6.2508	6.1942	6.7608	6.4775	566.642	500	66.642	P
2	5	80A	0Gap64	Landscape	H	6.2508	6.2022	6.7848	6.4935	582.646	500	82.646	P
2	5	80B	0	Landscape	H	6.2508	6.1937	6.7693	6.4815	575.644	500	75.644	P
2	5	80C	0	Landscape	H	6.2508	6.1942	6.7693	6.4817	575.140	500	75.140	P

ANT2, CH9

ANT	CH	CF	PL	EUT Orientation	Ant. Polarity	FM (GHz)	FL (GHz)	FH (GHz)	FC (GHz)	OBW (MHz)	Min. OBW (MHz)	OBW Margin (MHz)	OBW Pass/Fail
2	9	0	25	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	1	45	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	6	125	Landscape	H	7.7478	7.7252	8.2488	7.9870	523.631	500	23.631	P
2	9	9	125	Landscape	H	7.7483	7.7257	8.2488	7.9872	523.131	500	23.131	P
2	9	10	25	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	11	25	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	11	65	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	101	25	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	101	65	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	102	25	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	102	65	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	103	25	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	103	125	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	202	625	Landscape	H	7.7478	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	402	445	Landscape	H	7.7483	7.7242	8.2498	7.9870	525.631	500	25.631	P
2	9	501	0	Landscape	H	7.7478	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	503	0	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	601	0	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	605	0	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	607	0	Landscape	H	7.7483	7.7242	8.2503	7.9872	526.132	500	26.132	P
2	9	701	0	Landscape	H	7.7488	7.7232	8.2513	7.9872	528.132	500	28.132	P
2	9	702	0	Landscape	H	7.7488	7.7232	8.2513	7.9872	528.132	500	28.132	P
2	9	703	0	Landscape	H	7.7488	7.7232	8.2513	7.9872	528.132	500	28.132	P
2	9	704	0	Landscape	H	7.7488	7.7232	8.2513	7.9872	528.132	500	28.132	P
2	9	705	0	Landscape	H	7.7483	7.7232	8.2513	7.9872	528.132	500	28.132	P
2	9	706	0	Landscape	H	7.7483	7.7232	8.2513	7.9872	528.132	500	28.132	P
2	9	405	4093	Landscape	H	7.7483	7.7177	8.2568	7.9872	539.135	500	39.135	P
2	9	407	4093	Landscape	H	7.9558	7.7207	8.2533	7.9870	532.633	500	32.633	P
2	9	409	4093	Landscape	H	7.7478	7.7243	8.2503	7.9873	526.060	500	26.06	P
2	9	801	0Gap0	Landscape	H	7.9418	7.7152	8.2583	7.9867	543.136	500	43.136	P
2	9	801	0Gap64	Landscape	H	7.7483	7.7157	8.2588	7.9872	543.136	500	43.136	P
2	9	802	0	Landscape	H	7.7483	7.7152	8.2603	7.9877	545.136	500	45.136	P
2	9	803	0	Landscape	H	7.7483	7.7157	8.2588	7.9872	543.136	500	43.136	P
2	9	804	0Gap0	Landscape	H	7.9248	7.7157	8.2553	7.9855	539.635	500	39.635	P
2	9	804	0Gap64	Landscape	H	7.7488	7.7157	8.2603	7.9880	544.636	500	44.636	P
2	9	805	0	Landscape	H	7.7483	7.7142	8.2588	7.9865	544.636	500	44.636	P
2	9	806	0	Landscape	H	7.9248	7.7142	8.2603	7.9872	546.137	500	46.137	P
2	9	807	0Gap0	Landscape	H	7.9248	7.7168	8.2519	7.9844	535.134	500	35.134	P
2	9	807	0Gap64	Landscape	H	7.9253	7.7147	8.2513	7.9830	536.634	500	36.634	P
2	9	808	0	Landscape	H	7.9418	7.7152	8.2508	7.9830	535.634	500	35.634	P
2	9	809	0	Landscape	H	7.9248	7.7157	8.2508	7.9832	535.134	500	35.134	P
2	9	80A	0Gap0	Landscape	H	7.9248	7.7157	8.2508	7.9832	535.134	500	35.134	P
2	9	80A	0Gap64	Landscape	H	7.9248	7.7187	8.2508	7.9847	532.133	500	32.133	P
2	9	80B	0	Landscape	H	7.9253	7.7157	8.2543	7.9850	538.635	500	38.635	P
2	9	80C	0	Landscape	H	7.9248	7.7157	8.2508	7.9832	535.134	500	35.134	P

OPERATING BANDWIDTH



9.3. PEAK POWER AND MAXIMUM AVERAGE EMISSIONS

LIMITS

FCC

15.519 (e) There is a limit on the peak level of the emissions contained within a 50 MHz bandwidth centered on the frequency at which the highest radiated emission occurs, f_M . That limit is 0 dBm EIRP.

15.519 (c) The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

Frequency in MHz	EIRP in dBm
3100 - 10600	-41.3

RSS-220

Annex, Section 4 (c) Peak measurements shall be made in addition to average measurements. Transmissions shall not exceed 0 dBm e.i.r.p. in any 50 MHz bandwidth when the average limit is -41.3 dBm/MHz.

Section 5.3.1 (d) Radiated emissions above 960 MHz from a device shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz.

Frequency	E.I.R.P. in a Resolution Bandwidth of 1 MHz
4.75 – 10.6 GHz	-41.3

TEST PROCEDURE

ANSI C63.10 Clause 10.3

RSS-220 Annex

Peak EIRP power is measured using RBW of 50 MHz*.

****Peak measurements were validated to have same readings as a wider bandwidth receiver, regardless of YIG Filter Bandwidth Notice.***

The radiated emissions of 5 - 9 GHz frequency band are performed at 3-meter test distance.

Tabulated data provides the test results of all available test configurations. Plots for ANT1, CONFIG 9, Payload 125 on CH9 and ANT2, CONFIG 9, Payload 125 on CH5 and CH9 peak and maximum average power measurements are presented and same measurement settings apply to the rest of test configurations.

RESULTS

Employee IDs: 32440, 32316, 26051

Location: Chamber 05-RDE-B

Test Date: 4/17/2025 to 5/1/2025

ANT1, CH9

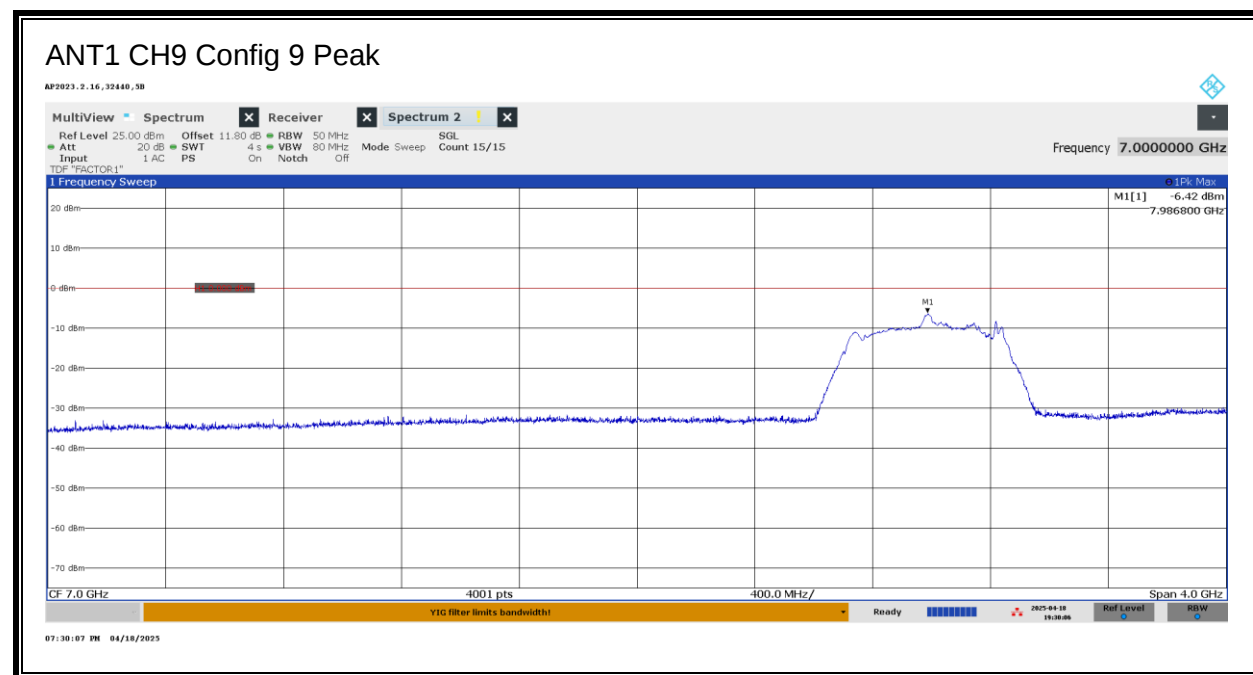
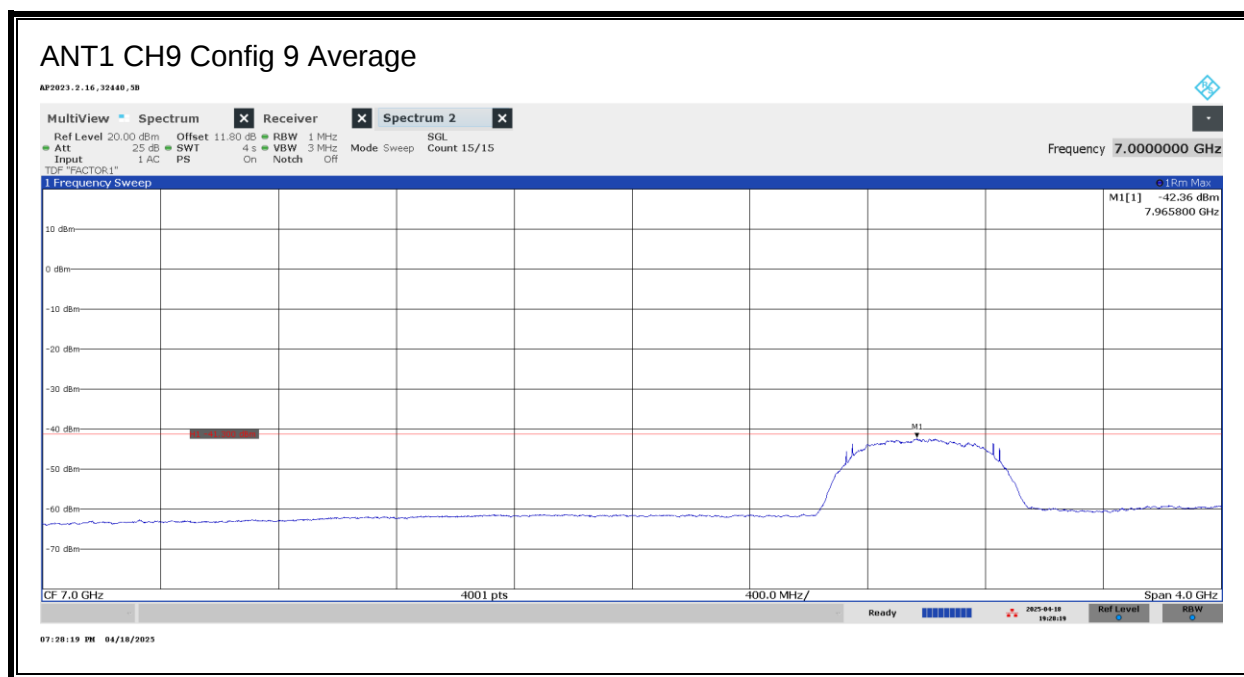
ANT	CH	CF	PL	EUT Orientation	Ant. Polarity	Peak EIRP Power				Average EIRP Power			
						FM (GHz)	Adj Pk	Pk Limit	Margin (dB)	FM (GHz)	Adj Av	Avg Limit	Margin (dB)
1	9	0	25	Flatbed	V	8.2177	-1.22	0	-1.22	7.9718	-42.43	-41.3	-1.13
1	9	1	45	Flatbed	V	7.9758	-1.47	0	-1.47	7.9558	-43.15	-41.3	-1.85
1	9	6	125	Flatbed	V	7.9908	-5.36	0	-5.36	7.9638	-42.35	-41.3	-1.05
1	9	9	125	Flatbed	V	7.9868	-6.42	0	-6.42	7.9658	-42.36	-41.3	-1.06
1	9	10	25	Flatbed	V	7.9758	-1.42	0	-1.42	7.9718	-42.44	-41.3	-1.14
1	9	11	25	Flatbed	V	7.9768	-1.34	0	-1.34	7.9558	-43.99	-41.3	-2.69
1	9	11	65	Flatbed	V	7.9768	-1.85	0	-1.85	7.9558	-42.57	-41.3	-1.27
1	9	101	25	Flatbed	V	7.9768	-1.10	0	-1.10	7.9558	-43.76	-41.3	-2.46
1	9	101	65	Flatbed	V	7.9868	-1.61	0	-1.61	7.9558	-42.38	-41.3	-1.08
1	9	102	25	Flatbed	V	7.9768	-1.33	0	-1.33	8.0187	-43.87	-41.3	-2.57
1	9	102	65	Flatbed	V	7.9758	-1.88	0	-1.88	8.0187	-42.62	-41.3	-1.32
1	9	103	25	Flatbed	V	7.9768	-1.54	0	-1.54	7.9718	-42.46	-41.3	-1.16
1	9	103	125	Flatbed	V	7.9768	-4.33	0	-4.33	8.0337	-42.75	-41.3	-1.45
1	9	202	625	Flatbed	V	8.2167	-12.40	0	-12.40	8.0357	-42.30	-41.3	-1.00
1	9	402	445	Flatbed	V	8.2157	-11.27	0	-11.27	7.9748	-42.39	-41.3	-1.09
1	9	501	0	Flatbed	V	8.2347	-1.11	0	-1.11	8.0297	-42.59	-41.3	-1.29
1	9	503	0	Flatbed	V	8.2347	-1.05	0	-1.05	8.0287	-42.58	-41.3	-1.28
1	9	601	0	Flatbed	V	8.2357	-3.94	0	-3.94	8.0257	-42.55	-41.3	-1.25
1	9	605	0	Flatbed	V	8.2357	-1.56	0	-1.56	8.0267	-42.71	-41.3	-1.41
1	9	607	0	Flatbed	V	8.2347	-1.51	0	-1.51	8.0267	-42.68	-41.3	-1.38
1	9	701	0	Flatbed	V	8.2357	-3.50	0	-3.50	8.0217	-42.63	-41.3	-1.33
1	9	702	0	Flatbed	V	8.2557	-1.73	0	-1.73	8.0287	-42.61	-41.3	-1.31
1	9	703	0	Flatbed	V	8.2357	-1.61	0	-1.61	8.0307	-42.32	-41.3	-1.02
1	9	704	0	Flatbed	V	7.9998	-7.73	0	-7.73	8.0227	-42.65	-41.3	-1.35
1	9	705	0	Flatbed	V	7.9878	-3.85	0	-3.85	8.0217	-42.58	-41.3	-1.28
1	9	706	0	Flatbed	V	7.9998	-5.16	0	-5.16	8.0257	-42.56	-41.3	-1.26
1	9	405	4093	Flatbed	V	8.2347	-14.86	0	-14.86	8.0277	-42.32	-41.3	-1.02
1	9	407	4093	Flatbed	V	8.2357	-14.30	0	-14.30	8.0257	-42.54	-41.3	-1.24
1	9	409	4093	Flatbed	V	8.2167	-12.62	0	-12.62	8.0257	-42.41	-41.3	-1.11
1	9	801	0Gap0	Flatbed	V	8.2177	-2.62	0	-2.62	8.0287	-42.56	-41.3	-1.26
1	9	801	0Gap64	Flatbed	V	8.2167	-2.51	0	-2.51	8.0497	-42.34	-41.3	-1.04
1	9	802	0	Flatbed	V	8.2167	-2.83	0	-2.83	8.0497	-42.57	-41.3	-1.27
1	9	803	0	Flatbed	V	8.2167	-1.42	0	-1.42	8.0497	-42.50	-41.3	-1.20
1	9	804	0Gap0	Flatbed	V	8.2167	-5.89	0	-5.89	8.0287	-42.53	-41.3	-1.23
1	9	804	0Gap64	Flatbed	V	8.2167	-5.57	0	-5.57	8.0807	-42.56	-41.3	-1.26
1	9	805	0	Flatbed	V	8.2177	-5.09	0	-5.09	8.0807	-42.41	-41.3	-1.11
1	9	806	0	Flatbed	V	8.2167	-4.26	0	-4.26	8.0807	-42.45	-41.3	-1.15
1	9	807	0Gap0	Flatbed	V	8.2177	-3.03	0	-3.03	8.0287	-42.49	-41.3	-1.19
1	9	807	0Gap64	Flatbed	V	8.2167	-2.64	0	-2.64	8.0827	-42.57	-41.3	-1.27
1	9	808	0	Flatbed	V	8.2167	-2.66	0	-2.66	8.0827	-42.46	-41.3	-1.16
1	9	809	0	Flatbed	V	8.2167	-2.60	0	-2.60	8.0827	-42.31	-41.3	-1.01
1	9	80A	0Gap0	Flatbed	V	8.2177	-6.36	0	-6.36	8.0287	-42.47	-41.3	-1.17
1	9	80A	0Gap64	Flatbed	V	8.2177	-4.79	0	-4.79	8.0237	-42.51	-41.3	-1.21
1	9	80B	0	Flatbed	V	8.2167	-5.00	0	-5.00	8.0327	-42.41	-41.3	-1.11
1	9	80C	0	Flatbed	V	8.2167	-4.79	0	-4.79	8.0307	-42.38	-41.3	-1.08

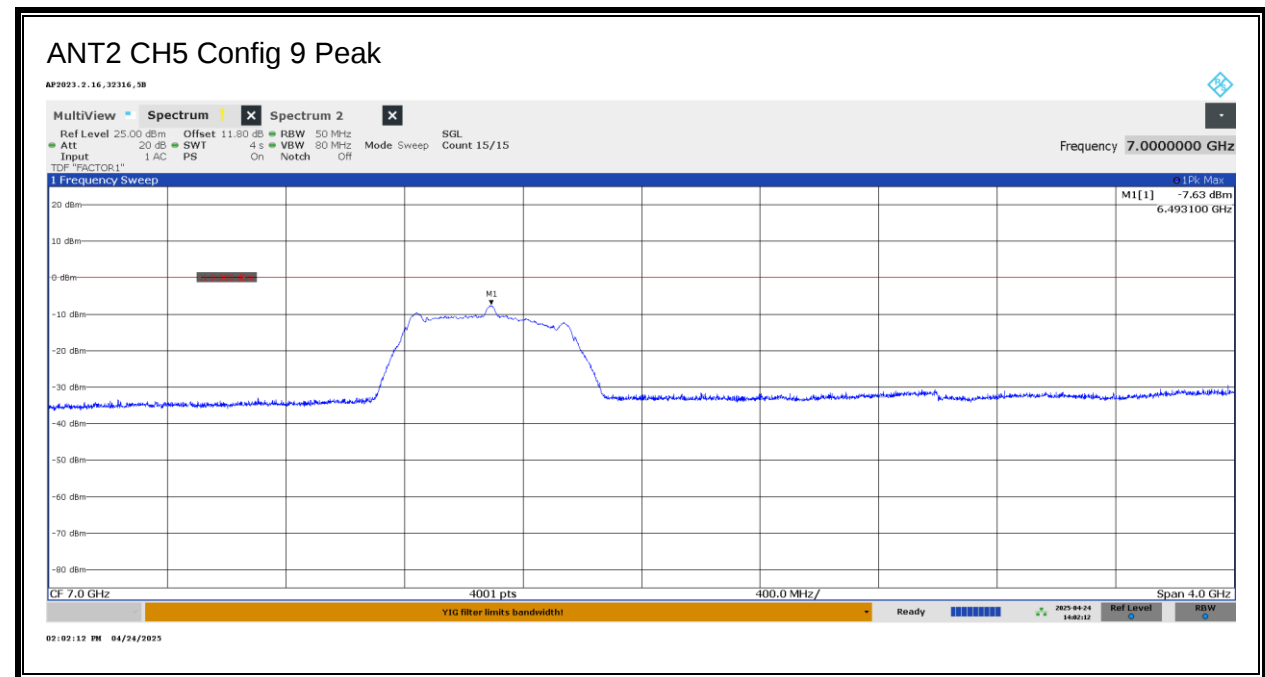
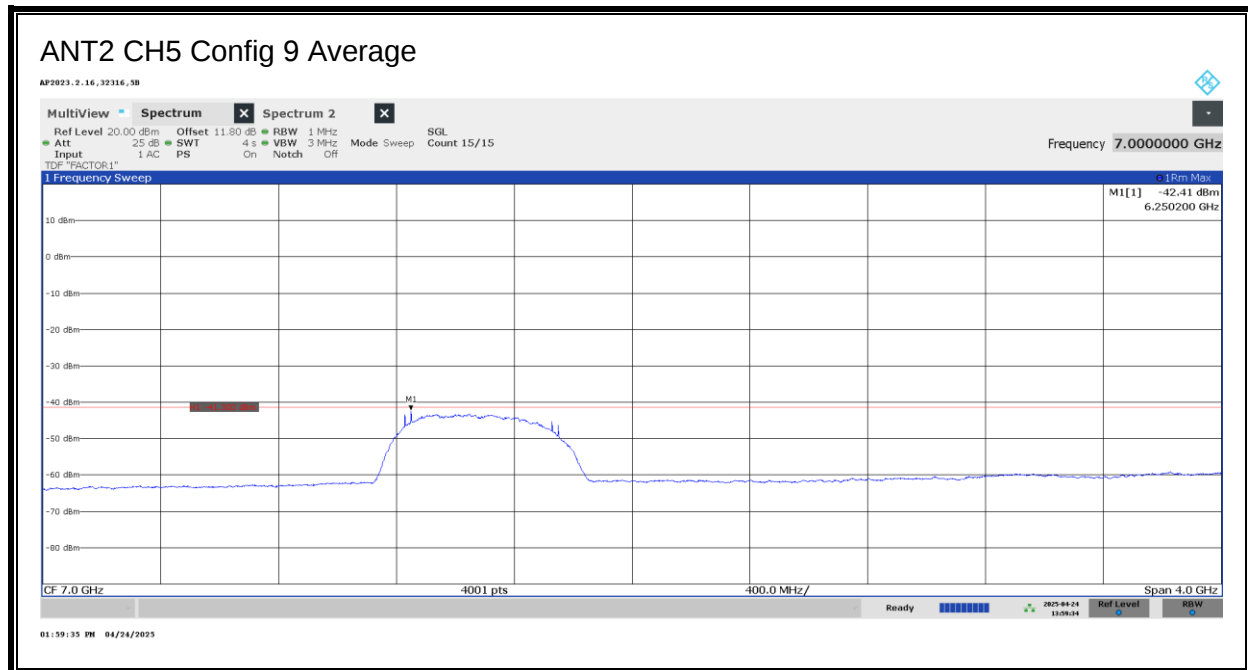
ANT2, CH5

ANT	CH	CF	PL	EUT Orientation	Ant. Polarity	Peak EIRP Power					Average EIRP Power			
						FM (GHz)	Adj Pk	Pk Limit	Margin (dB)		FM (GHz)	Adj Av	Avg Limit	Margin (dB)
2	5	0	25	Landscape	H	6.5001	-1.69	0	-1.69		6.4111	-42.42	-41.3	-1.12
2	5	1	45	Landscape	H	6.5021	-1.06	0	-1.06		6.5211	-42.46	-41.3	-1.16
2	5	6	125	Landscape	H	6.4911	-6.08	0	-6.08		6.4471	-42.64	-41.3	-1.34
2	5	9	125	Landscape	H	6.4931	-7.63	0	-7.63		6.2502	-42.41	-41.3	-1.11
2	5	10	25	Landscape	H	6.4891	-1.86	0	-1.86		6.4121	-42.36	-41.3	-1.06
2	5	11	25	Landscape	H	6.4991	-1.13	0	-1.13		6.4151	-43.21	-41.3	-1.91
2	5	11	65	Landscape	H	6.5011	-2.07	0	-2.07		6.5211	-42.50	-41.3	-1.20
2	5	101	25	Landscape	H	6.4901	-1.13	0	-1.13		6.4151	-43.35	-41.3	-2.05
2	5	101	65	Landscape	H	6.5011	-1.92	0	-1.92		6.5211	-42.48	-41.3	-1.18
2	5	102	25	Landscape	H	6.5011	-1.21	0	-1.21		6.4151	-43.30	-41.3	-2.00
2	5	102	65	Landscape	H	6.5001	-1.90	0	-1.90		6.5211	-42.33	-41.3	-1.03
2	5	103	25	Landscape	H	6.5021	-1.90	0	-1.90		6.4111	-42.44	-41.3	-1.14
2	5	103	125	Landscape	H	6.4991	-4.63	0	-4.63		6.5211	-42.70	-41.3	-1.40
2	5	202	625	Landscape	H	6.2392	-11.77	0	-11.77		6.4411	-42.74	-41.3	-1.44
2	5	402	445	Landscape	H	6.2392	-9.65	0	-9.65		6.5261	-42.47	-41.3	-1.17
2	5	501	0	Landscape	H	6.2402	-1.01	0	-1.01		6.2503	-44.15	-41.3	-2.85
2	5	503	0	Landscape	H	6.2422	-1.24	0	-1.24		6.2502	-44.51	-41.3	-3.21
2	5	601	0	Landscape	H	6.2422	-1.65	0	-1.65		6.3482	-42.50	-41.3	-1.20
2	5	605	0	Landscape	H	6.2432	-1.15	0	-1.15		6.2492	-44.05	-41.3	-2.75
2	5	607	0	Landscape	H	6.2442	-1.15	0	-1.15		6.2502	-44.01	-41.3	-2.71
2	5	701	0	Landscape	H	6.2422	-1.39	0	-1.39		6.3582	-42.47	-41.3	-1.17
2	5	702	0	Landscape	H	6.2412	-1.08	0	-1.08		6.3382	-43.90	-41.3	-2.60
2	5	703	0	Landscape	H	6.2412	-1.07	0	-1.07		6.3392	-43.94	-41.3	-2.64
2	5	704	0	Landscape	H	6.2402	-6.72	0	-6.72		6.3362	-42.44	-41.3	-1.14
2	5	705	0	Landscape	H	6.3642	-3.25	0	-3.25		6.3392	-42.45	-41.3	-1.15
2	5	706	0	Landscape	H	6.3652	-4.99	0	-4.99		6.3372	-42.60	-41.3	-1.30
2	5	405	4093	Landscape	H	6.3642	-5.03	0	-5.03		6.3372	-42.64	-41.3	-1.34
2	5	407	4093	Landscape	H	6.2402	-12.52	0	-12.52		6.3352	-42.54	-41.3	-1.24
2	5	409	4093	Landscape	H	6.2442	-12.39	0	-12.39		6.3342	-42.45	-41.3	-1.15
2	5	801	0Gap0	Landscape	H	6.2422	-2.40	0	-2.40		6.3652	-42.59	-41.3	-1.29
2	5	801	0Gap64	Landscape	H	6.2412	-2.35	0	-2.35		6.3432	-42.51	-41.3	-1.21
2	5	802	0	Landscape	H	6.2392	-2.35	0	-2.35		6.3432	-42.52	-41.3	-1.22
2	5	803	0	Landscape	H	6.2432	-1.31	0	-1.31		6.3432	-42.32	-41.3	-1.02
2	5	804	0Gap0	Landscape	H	6.2402	-5.09	0	-5.09		6.3652	-42.30	-41.3	-1.00
2	5	804	0Gap64	Landscape	H	6.2402	-5.40	0	-5.40		6.3332	-42.43	-41.3	-1.13
2	5	805	0	Landscape	H	6.2432	-5.04	0	-5.04		6.3332	-42.36	-41.3	-1.06
2	5	806	0	Landscape	H	6.2402	-4.37	0	-4.37		6.3332	-42.55	-41.3	-1.25
2	5	807	0Gap0	Landscape	H	6.2402	-2.41	0	-2.41		6.3652	-42.66	-41.3	-1.36
2	5	807	0Gap64	Landscape	H	6.2412	-2.10	0	-2.10		6.3352	-42.31	-41.3	-1.01
2	5	808	0	Landscape	H	6.2412	-2.57	0	-2.57		6.5001	-42.56	-41.3	-1.26
2	5	809	0	Landscape	H	6.2392	-2.51	0	-2.51		6.4601	-42.57	-41.3	-1.27
2	5	80A	0Gap0	Landscape	H	6.2402	-5.77	0	-5.77		6.5201	-42.33	-41.3	-1.03
2	5	80A	0Gap64	Landscape	H	6.2412	-4.92	0	-4.92		6.5191	-42.57	-41.3	-1.27
2	5	80B	0	Landscape	H	6.2422	-4.88	0	-4.88		6.5271	-42.40	-41.3	-1.10
2	5	80C	0	Landscape	H	6.2402	-4.89	0	-4.89		6.5261	-42.47	-41.3	-1.17

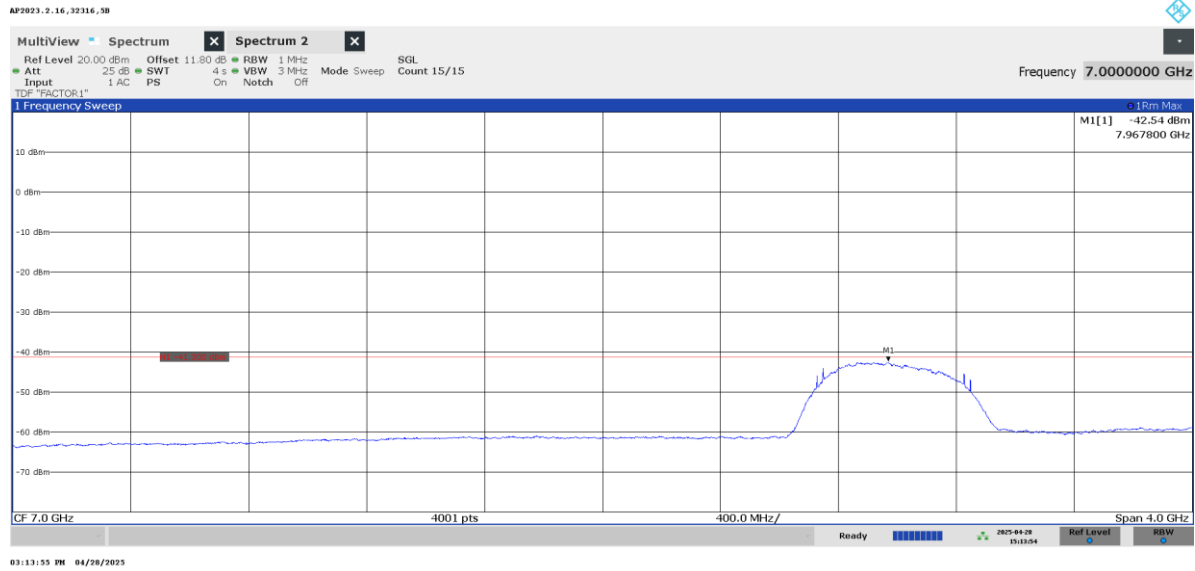
ANT2, CH9

ANT	CH	CF	PL	EUT Orientation	Ant. Polarity	Peak EIRP Power				Average EIRP Power			
						FM (GHz)	Adj Pk	Pk Limit	Margin (dB)	FM (GHz)	Adj Av	Avg Limit	Margin (dB)
2	9	0	25	Landscape	H	7.9748	-1.70	0	-1.70	7.9168	-42.39	-41.3	-1.09
2	9	1	45	Landscape	H	7.9758	-1.12	0	-1.12	7.8938	-42.55	-41.3	-1.25
2	9	6	125	Landscape	H	7.9868	-5.93	0	-5.93	7.9168	-42.48	-41.3	-1.18
2	9	9	125	Landscape	H	7.9888	-6.81	0	-6.82	7.9678	-42.54	-41.3	-1.24
2	9	10	25	Landscape	H	7.9758	-1.87	0	-1.87	7.9158	-42.55	-41.3	-1.25
2	9	11	25	Landscape	H	7.9758	-1.06	0	-1.06	7.9128	-43.30	-41.3	-2.00
2	9	11	65	Landscape	H	7.9748	-1.83	0	-1.83	7.8938	-42.42	-41.3	-1.12
2	9	101	25	Landscape	H	7.9758	-1.10	0	-1.10	7.8978	-43.52	-41.3	-2.22
2	9	101	65	Landscape	H	7.9748	-1.84	0	-1.84	7.8938	-42.46	-41.3	-1.16
2	9	102	25	Landscape	H	7.9758	-1.10	0	-1.10	7.8978	-43.31	-41.3	-2.01
2	9	102	65	Landscape	H	7.9758	-1.81	0	-1.81	7.8938	-42.34	-41.3	-1.04
2	9	103	25	Landscape	H	7.9758	-1.77	0	-1.77	7.9158	-42.43	-41.3	-1.13
2	9	103	125	Landscape	H	7.9758	-4.36	0	-4.36	7.9558	-42.38	-41.3	-1.08
2	9	202	625	Landscape	H	8.2167	-13.97	0	-13.97	7.9768	-42.78	-41.3	-1.48
2	9	402	445	Landscape	H	7.7408	-12.42	0	-12.42	7.9748	-42.35	-41.3	-1.05
2	9	501	0	Landscape	H	7.7388	-1.84	0	-1.84	7.9038	-42.48	-41.3	-1.18
2	9	503	0	Landscape	H	7.7418	-1.74	0	-1.74	7.9668	-42.61	-41.3	-1.31
2	9	601	0	Landscape	H	7.7408	-4.67	0	-4.67	7.9738	-42.51	-41.3	-1.21
2	9	605	0	Landscape	H	7.7388	-2.12	0	-2.12	7.9698	-42.54	-41.3	-1.24
2	9	607	0	Landscape	H	7.7388	-2.08	0	-2.08	7.9698	-42.50	-41.3	-1.20
2	9	701	0	Landscape	H	7.7378	-4.05	0	-4.05	7.9628	-42.41	-41.3	-1.11
2	9	702	0	Landscape	H	7.7398	-2.39	0	-2.39	7.9608	-42.46	-41.3	-1.16
2	9	703	0	Landscape	H	8.2167	-1.09	0	-1.09	7.9128	-43.09	-41.3	-1.79
2	9	704	0	Landscape	H	8.2167	-7.24	0	-7.24	7.9648	-42.53	-41.3	-1.23
2	9	705	0	Landscape	H	8.0477	-3.09	0	-3.09	7.9638	-42.35	-41.3	-1.05
2	9	706	0	Landscape	H	8.0597	-4.50	0	-4.50	7.9680	-42.39	-41.3	-1.09
2	9	405	4093	Landscape	H	8.0527	-14.26	0	-14.26	7.9698	-42.49	-41.3	-1.19
2	9	407	4093	Landscape	H	8.2177	-13.38	0	-13.38	7.9148	-42.49	-41.3	-1.19
2	9	409	4093	Landscape	H	8.2167	-13.20	0	-13.20	7.9148	-42.43	-41.3	-1.13
2	9	801	0Gap0	Landscape	H	8.2167	-3.40	0	-3.40	7.9138	-42.32	-41.3	-1.02
2	9	801	0Gap64	Landscape	H	8.2167	-3.27	0	-3.27	7.9658	-42.37	-41.3	-1.07
2	9	802	0	Landscape	H	8.2167	-3.40	0	-3.40	7.9658	-42.36	-41.3	-1.06
2	9	803	0	Landscape	H	8.2157	-2.09	0	-2.09	7.9658	-42.50	-41.3	-1.20
2	9	804	0Gap0	Landscape	H	8.2167	-6.54	0	-6.54	7.9138	-42.43	-41.3	-1.13
2	9	804	0Gap64	Landscape	H	8.2177	-6.21	0	-6.21	7.9658	-42.42	-41.3	-1.12
2	9	805	0	Landscape	H	8.2167	-6.06	0	-6.06	7.9658	-42.38	-41.3	-1.08
2	9	806	0	Landscape	H	8.2167	-5.62	0	-5.62	7.9658	-42.69	-41.3	-1.39
2	9	807	0Gap0	Landscape	H	8.2157	-3.33	0	-3.33	7.8628	-42.56	-41.3	-1.26
2	9	807	0Gap64	Landscape	H	7.7398	-4.46	0	-4.46	7.8918	-42.45	-41.3	-1.15
2	9	808	0	Landscape	H	7.7398	-4.72	0	-4.72	7.9578	-42.60	-41.3	-1.30
2	9	809	0	Landscape	H	7.7398	-4.71	0	-4.71	7.8918	-42.55	-41.3	-1.25
2	9	80A	0Gap0	Landscape	H	7.7398	-7.99	0	-7.99	7.8628	-42.46	-41.3	-1.16
2	9	80A	0Gap64	Landscape	H	7.7438	-7.28	0	-7.28	7.8998	-42.61	-41.3	-1.31
2	9	80B	0	Landscape	H	7.7418	-7.26	0	-7.26	8.0237	-42.68	-41.3	-1.38
2	9	80C	0	Landscape	H	7.7408	-7.22	0	-7.22	7.8998	-42.50	-41.3	-1.20

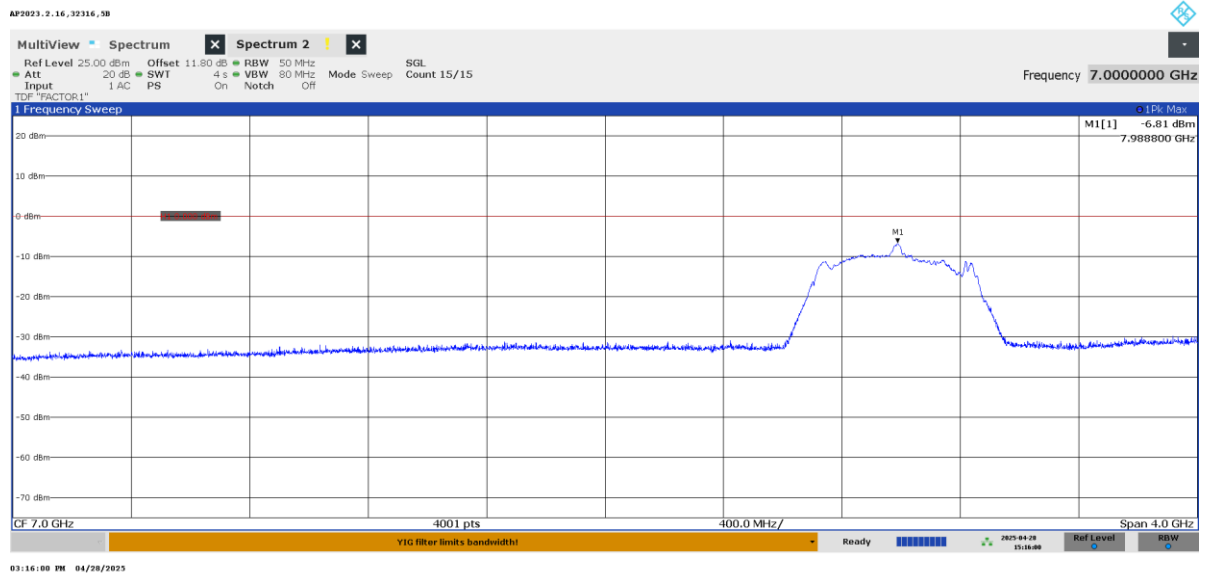
PEAK POWER AND MAXIMUM AVERAGE EMISSIONS



ANT2 CH9 Config 9 Average



ANT2 CH9 Config 9 Peak



9.4. CESSATION TIME

LIMITS

FCC

§15.519(a)(1) A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

RSS-220

Section 5.3.1 (b) The device is to transmit only when it is sending information to an associated receiver. The device shall cease transmission of information within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB device at least every 10 seconds or the UWB device shall cease transmitting any information other than periodic signals used for the establishment or re-establishment of a communication link with an associated receiver.

TEST PROCEDURES

* Initiator = EUT

* Responder = associated receiver

Transmissions are monitored for two cases:

1. The Initiator ends the UWB link.
2. The Responder ends the UWB link.

RESULTS

Employee ID: 26051

Location: Chamber 02-RDE-F

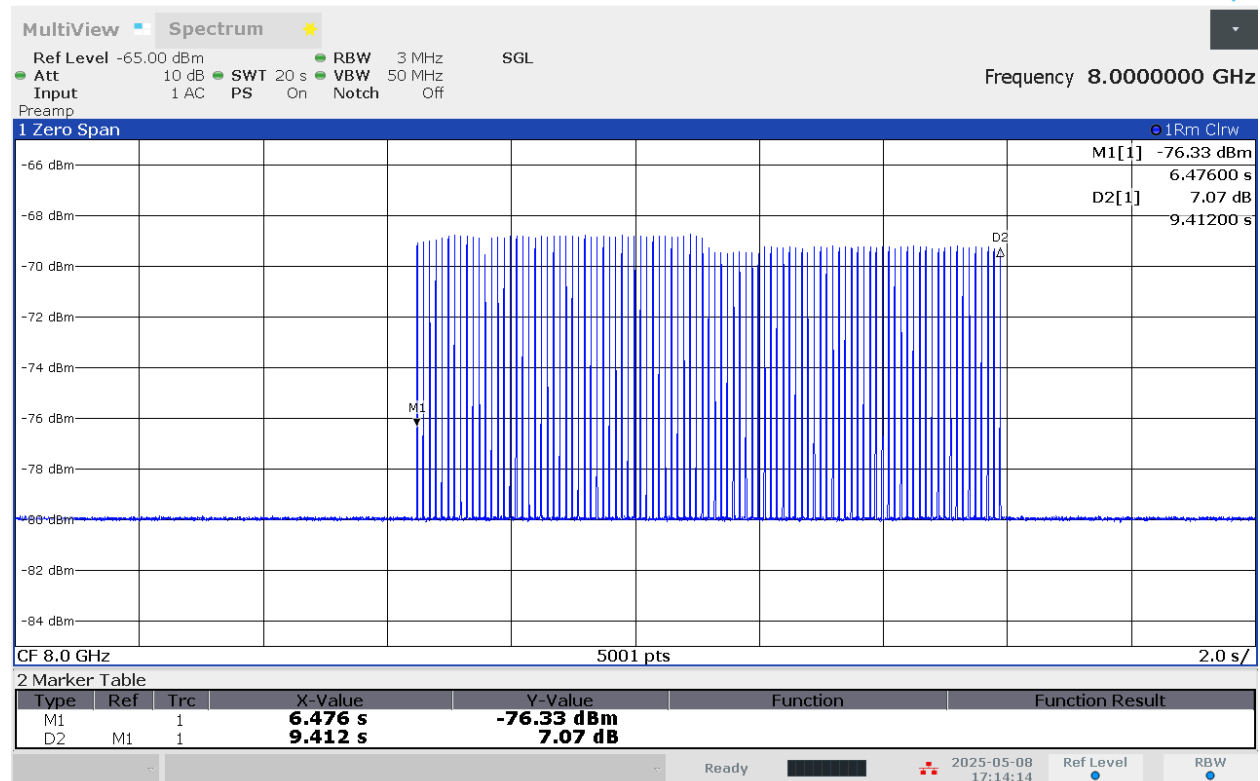
Test Date: 5/8/2025

Signal Levels on all Plots

- Initiator is Low Amplitude
- Responder is High Amplitude

Case 1: Initiator ends the UWB link

AP2021.2.16, 26051, 2F



05:14:15 PM 05/08/2025

RESULT

- M1: The Initiator receives an Acknowledgement from the Responder and starts transmitting.
- D2: The Initiator ceases transmission and polling.

Case 2: Responder ends the UWB link

AP2021.2.16, 26051, 2F



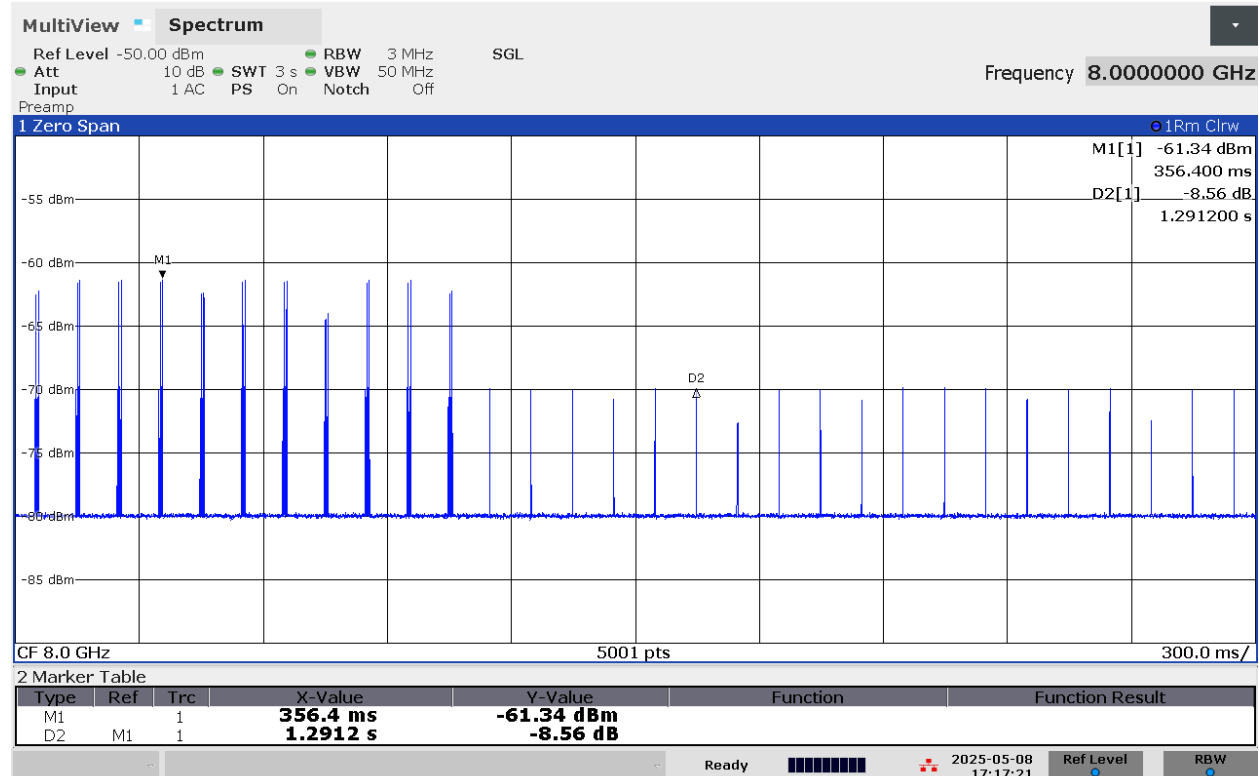
05:16:11 PM 05/08/2025

RESULT

- M1: The Initiator receives an Acknowledgement from the Responder and starts transmitting.
- D2: The Responder stops sending acknowledgments and the Initiator continues polling.

Zoom-in Plot during On-Off Transition

AP2021.2.16, 26051, 2F



05:17:22 PM 05/08/2025

RESULT

- M1: Shows Link Traffic, Acknowledgements and Polling Signals while Link is established
- D2: Shows Polling Signals after Link has ended

9.5. EMISSIONS BELOW 960 MHz**LIMITS****FCC**

§15.519 (c) The radiated emissions at or below 960 MHz from a device operating under the provisions of this section shall not exceed the emission levels in §15.209. The radiated emissions above 960 MHz from a device operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz:

15.209 (a)

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3

RSS-220

Section 3.4 Radiated emissions at or below 960 MHz for all subclasses of UWB device shall not exceed the following limits. Measurements of radiated emissions at and below 960 MHz are to be made using a CISPR quasi-peak detector. CISPR measurement bandwidth specifications are to be used.

Frequency (MHz)	Field Strength (Microvolts/m)	Measurement Distance (Metres)	E.i.r.p. (dBmW)
0.009-0.490	2,400/F (F in kHz)	300	$10 \log (17.28 / F^2)$ (F in kHz)
0.490-1.705	24,000/F (F in kHz)	30	$10 \log (17.28 / F^2)$ (F in kHz)
1.705-30	30	30	-45.7
30-88	100	3	-55.2
88-216	150	3	-51.7
216-960	200	3	-49.2

Note: The emission limits for the bands 9-90 kHz and 110-490 kHz are based on measurements employing an average emissions detector.

TEST PROCEDURE

ANSI C63.10 Clause 10.2

RSS-220 Annex

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 3m from the EUT.

For below 30 MHz testing, investigation was done on three antenna orientations: RX antenna Face-on, Face-off and horizontal (parallel to ground). The worst-case configurations were determined on RX antenna Face-on and Face-off; therefore, all final tests were performed using these two orientations.

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 meter open area test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

A final test is made at any frequencies at which emissions are found. During this final scan, the antenna is kept no further from the EUT than the maximum distance calculated for each band that yields a minimum system noise floor.

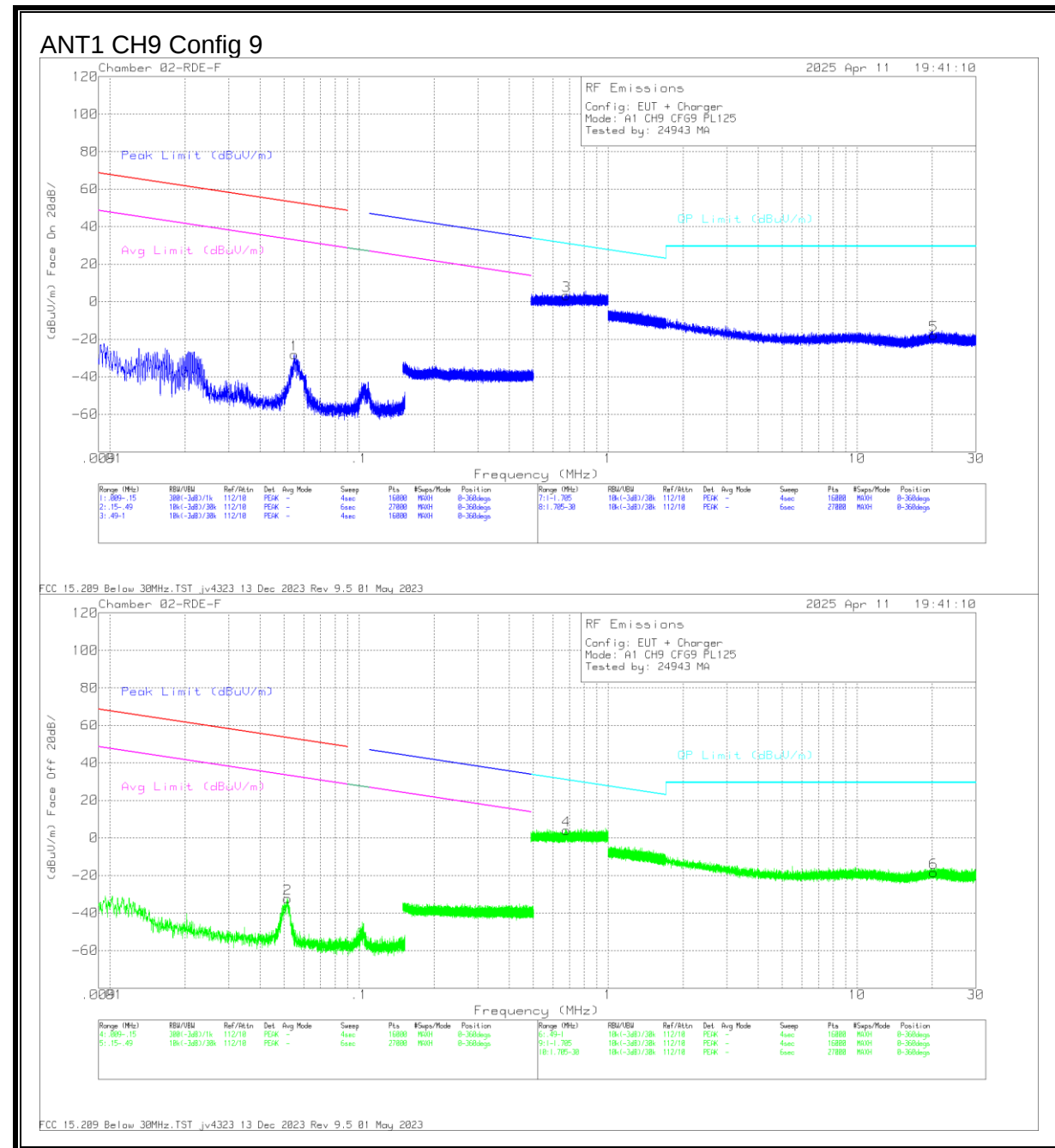
RESULTS**Emissions Summary**

Employee IDs: 24943, 26857, 32543

Location: Chamber 02-RDE-F

Test Date: 4/11/2025 to 4/14/2025

Ant	CH	Config	Payload	Power Setting	Frequency Range	
					9 kHz - 30 MHz	30 - 960 MHz
1	9	9	125	Max	PASS	PASS
2	5	9	125	Max	PASS	PASS
2	9	9	125	Max	PASS	PASS

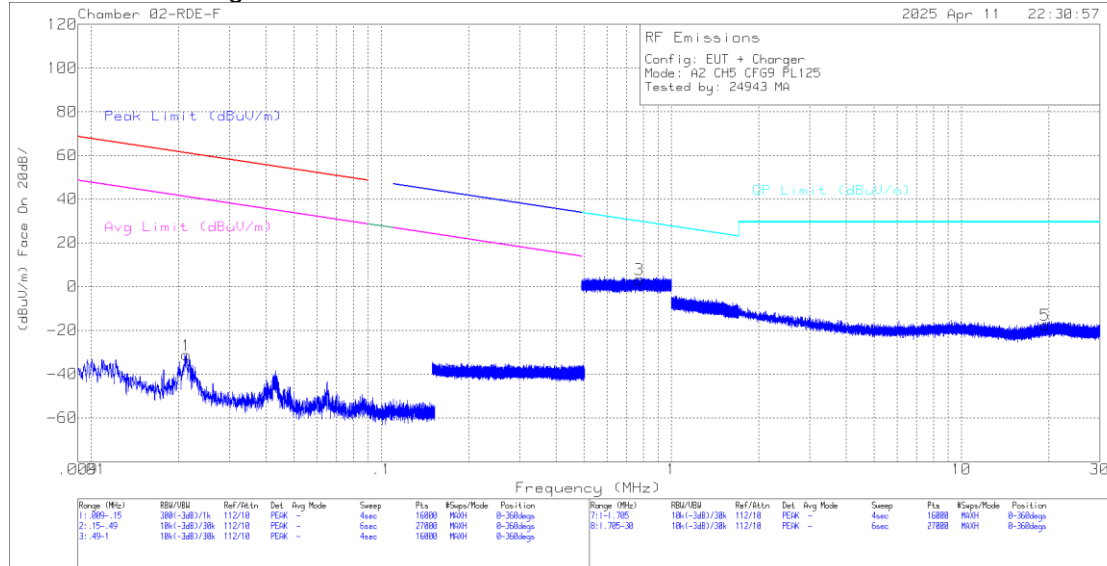
9.5.1. EMISSIONS, 9 kHz – 30 MHz**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Passive Loop Antenna E(ACF) (dB/m)	CBL/AMP (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.0551	27.89	PK	56.8	-32.7	-80	-28.01	52.76	-80.77	32.76	-60.77	0-360	Face-On
2	.0516	23.45	PK	57.2	-32.9	-80	-32.25	53.33	-85.58	33.33	-65.58	0-360	Face-Off

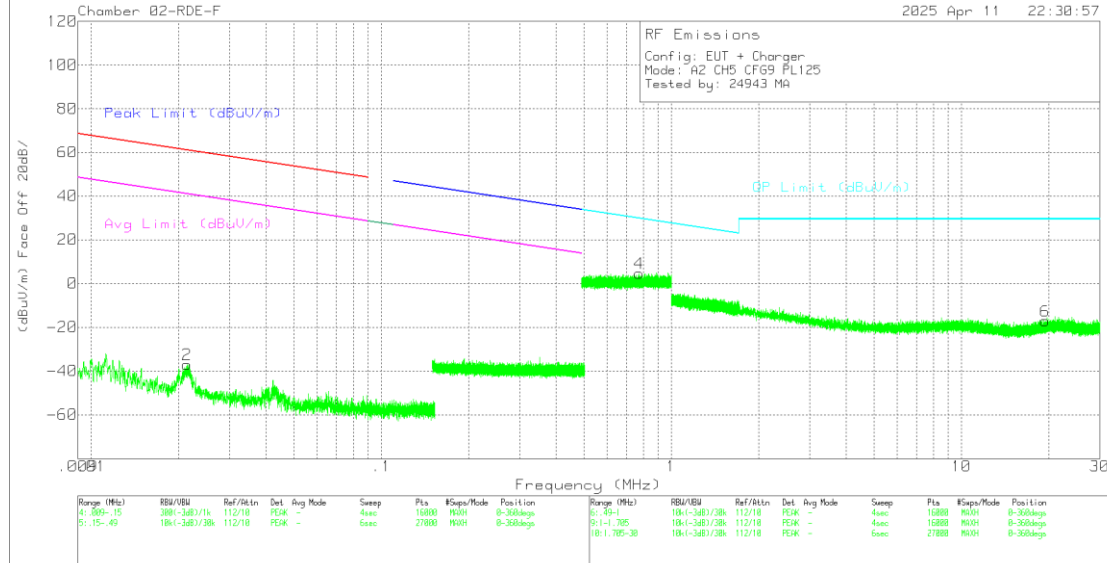
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Passive Loop Antenna E(ACF) (dB/m)	CBL/AMP (dB)	Dist Corr 30m (dB)	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
3	.6802	19.38	PK	56.4	-32.5	-40	3.28	30.96	-27.68	0-360	Face-On
4	.6804	20.26	PK	56.4	-32.5	-40	4.16	30.96	-26.8	0-360	Face-Off
5	20.3122	20.11	PK	33.9	-31.9	-40	-17.89	29.5	-47.39	0-360	Face-On
6	20.307	19.73	PK	33.9	-32	-40	-18.37	29.5	-47.87	0-360	Face-Off

PK - Peak detector

ANT2 CH5 Config 9



FCC 15.209 Below 30MHz.TST jv4323 13 Dec 2023 Rev 9.5 01 May 2023



FCC 15.209 Below 30MHz.TST jv4323 13 Dec 2023 Rev 9.5 01 May 2023

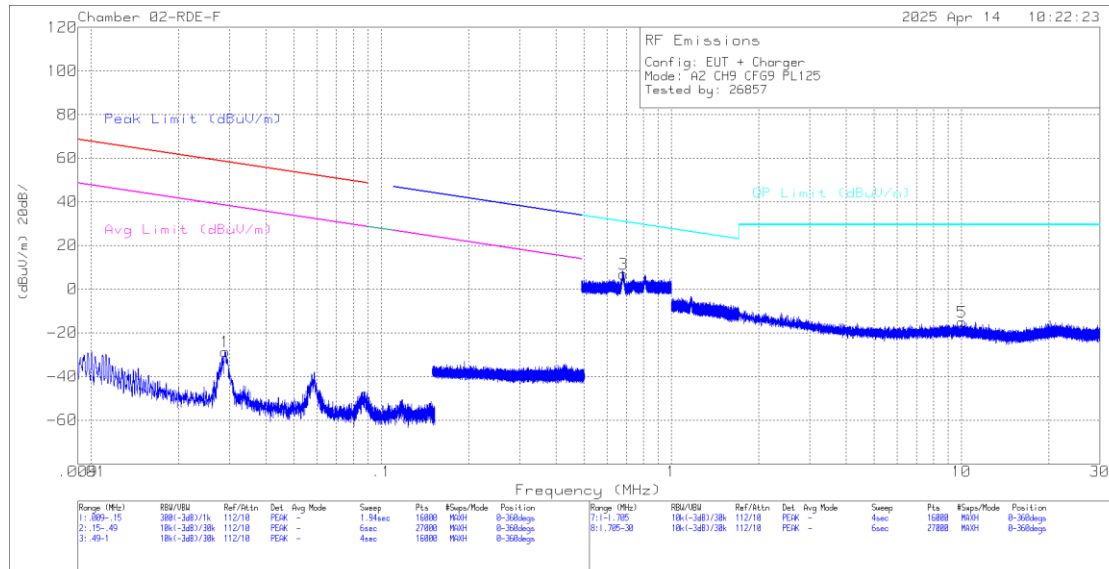
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Passive Loop Antenna E(ACF) (dB/m)	CBL/AMP (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.0213	21.71	Pk	59.1	-32.1	-80	-31.29	61.01	-92.3	41.01	-72.3	0-360	Face-On
2	.0214	16.16	Pk	59	-32.1	-80	-36.94	60.96	-97.9	40.96	-77.9	0-360	Face-Off

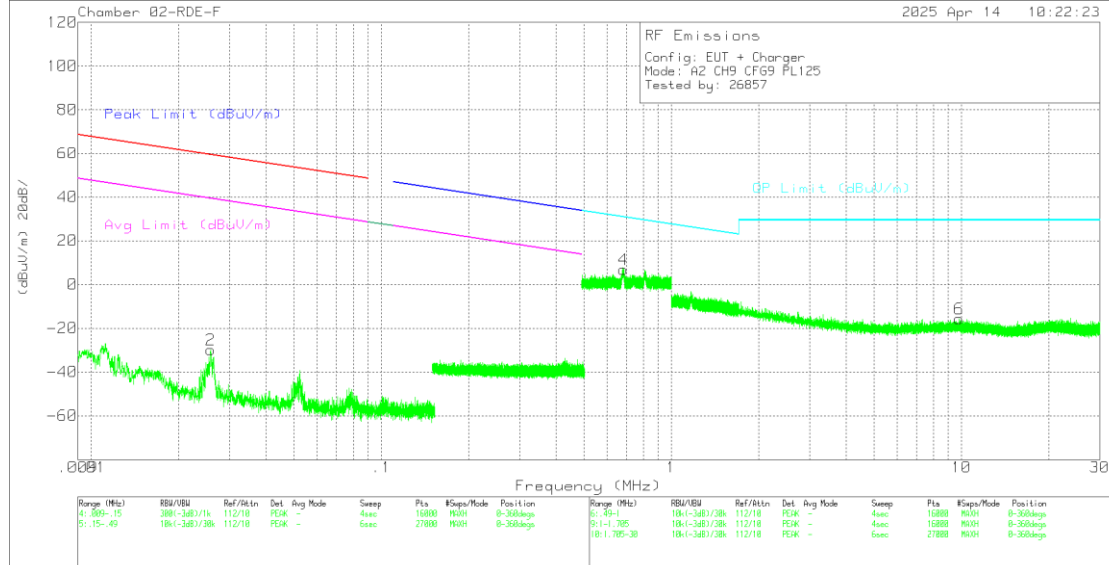
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Passive Loop Antenna E(ACF) (dB/m)	CBL/AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
3	.7747	19.16	Pk	56.5	-32.3	-40	3.36	29.83	-26.47	0-360	Face-On
4	.7748	20.6	Pk	56.5	-32.3	-40	4.8	29.83	-25.03	0-360	Face-Off
5	19.4581	20.3	Pk	33.9	-31.8	-40	-17.6	29.5	-47.1	0-360	Face-On
6	19.3994	20.79	Pk	33.9	-31.8	-40	-17.11	29.5	-46.61	0-360	Face-Off

Pk - Peak detector

ANT2 CH9 Config 9



A2 CH9 CF69 PL125.DAT jv4323 13 Dec 2023 Rev 9.5 01 May 2023



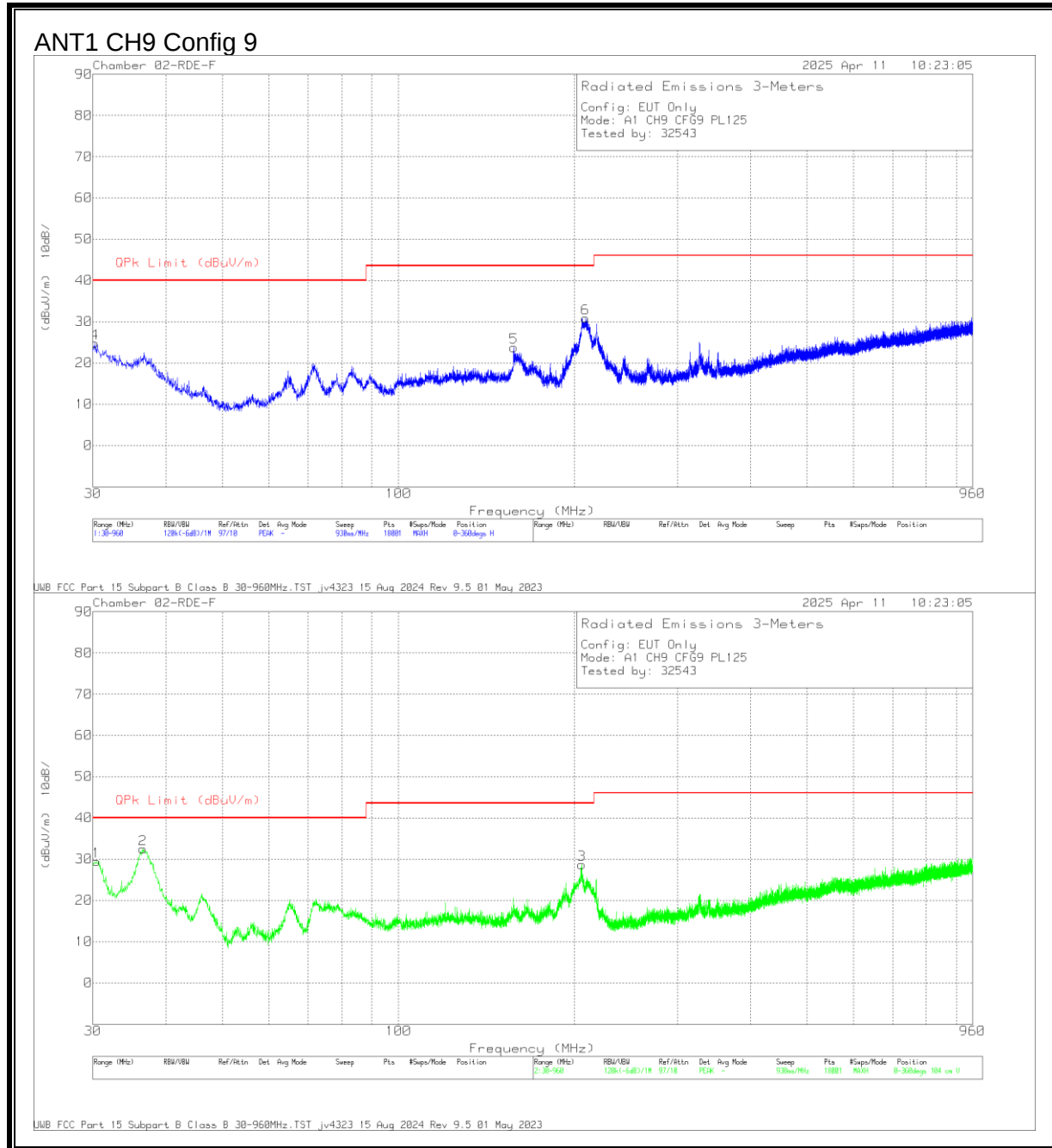
A2 CH9 CF69 PL125.DAT jv4323 13 Dec 2023 Rev 9.5 01 May 2023

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Passive Loop Antenna E(ACF) (dB/m)	CBL/AMP (dB)	Dist Corr 300m	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
1	.029	25.34	Pk	58.2	-32.1	-80	-28.56	58.32	-86.88	38.32	-66.88	0-360	Face-On
2	.0258	23.67	Pk	58.6	-32.1	-80	-29.83	59.36	-89.19	39.36	-69.19	0-360	Face-Off

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Passive Loop Antenna E(ACF) (dB/m)	CBL/AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
3	.6834	23.1	Pk	56.4	-32.5	-40	7	30.92	-23.92	0-360	Face-On
4	.682	22.94	Pk	56.4	-32.5	-40	6.84	30.92	-24.08	0-360	Face-Off
5	10.0555	22.87	Pk	34.4	-32.4	-40	-15.13	29.5	-44.63	0-360	Face-On
6	9.8081	22.35	Pk	34.4	-32.3	-40	-15.55	29.5	-45.05	0-360	Face-Off

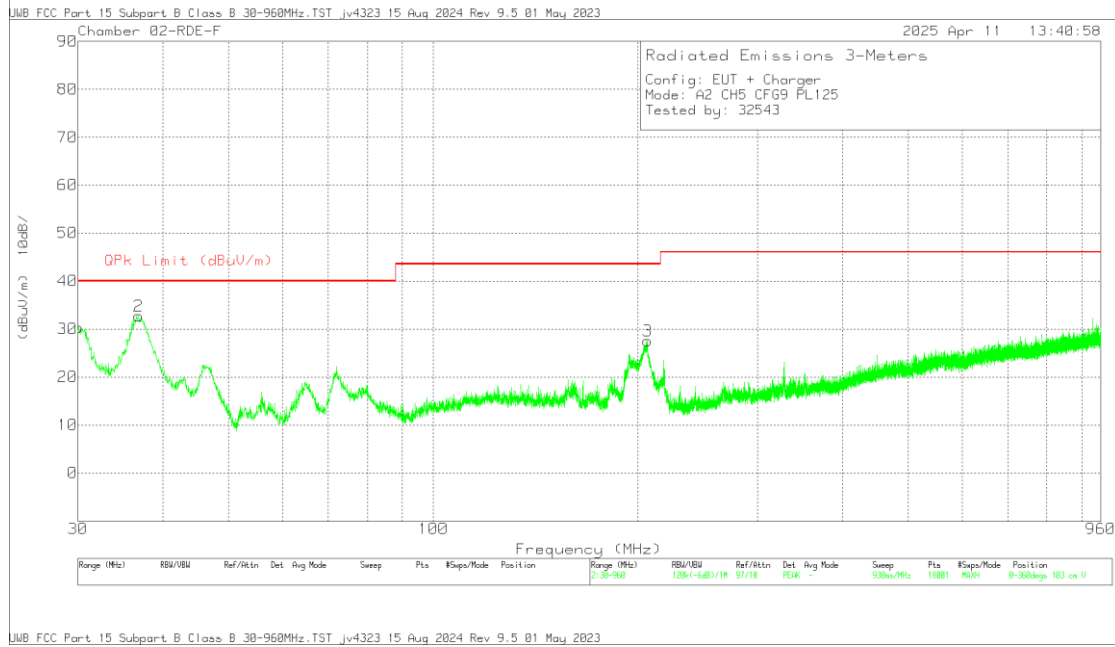
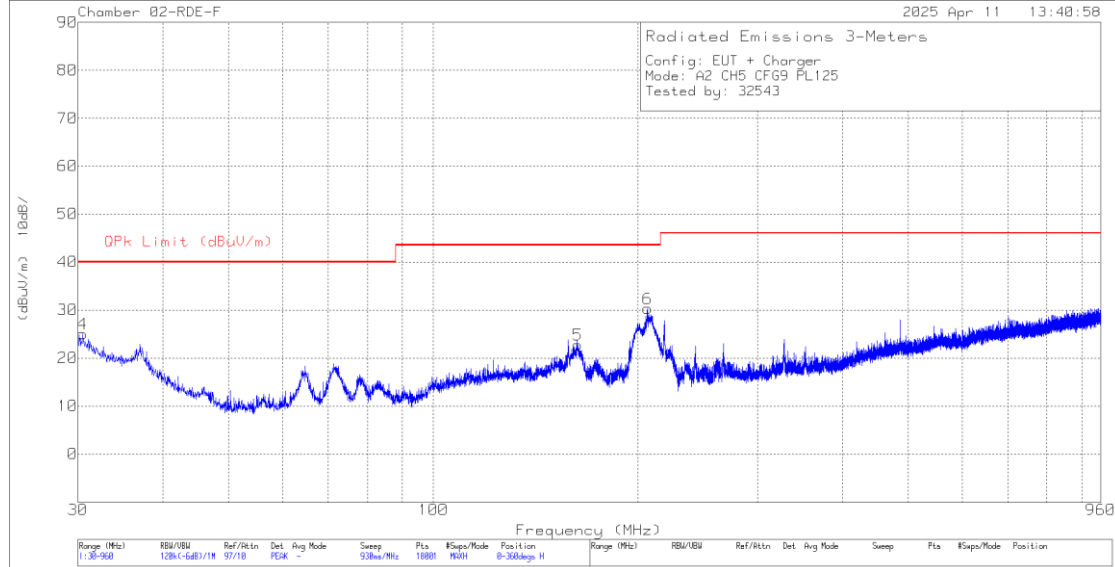
Pk - Peak detector

9.5.2. EMISSIONS, 30 - 960 MHz**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.4133	34.28	Pk	26.7	-31.5	29.48	40	-10.52	0-360	104	V
2	36.5617	41.76	Pk	22.3	-31.6	32.46	40	-7.54	0-360	104	V
3	205.668	42.52	Pk	16.5	-30.3	28.72	43.52	-14.8	0-360	104	V
4	30.2067	29.42	Pk	26.8	-31.4	24.82	40	-15.18	0-360	299	H
5	157.411	36.32	Pk	18.2	-30.7	23.82	43.52	-19.7	0-360	199	H
6	208.923	45	Pk	16.1	-30.2	30.9	43.52	-12.62	0-360	100	H

Pk - Peak detector

ANT2 CH5 Config 9

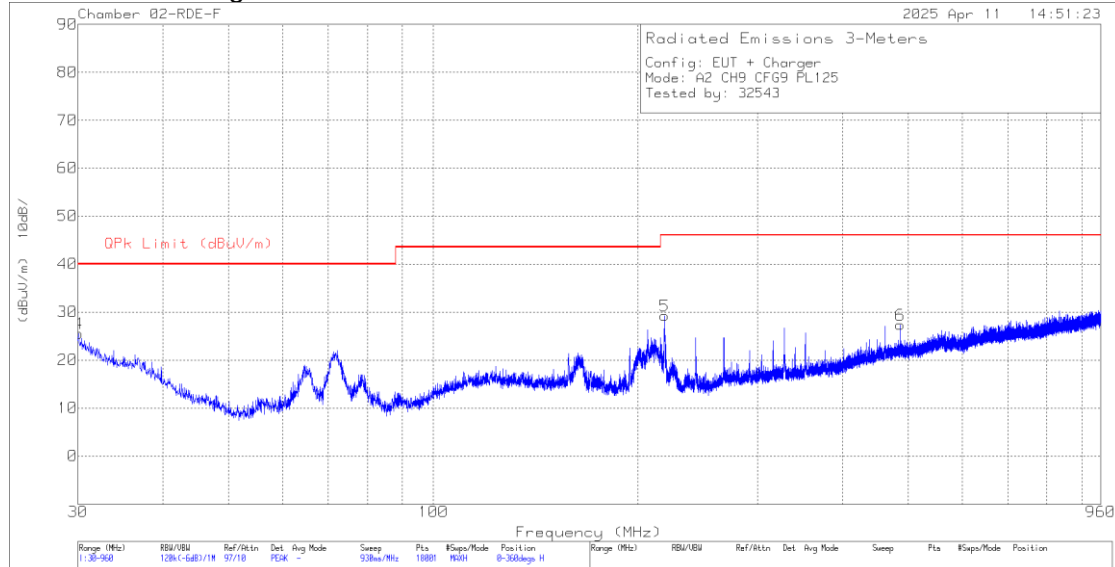


Trace Markers

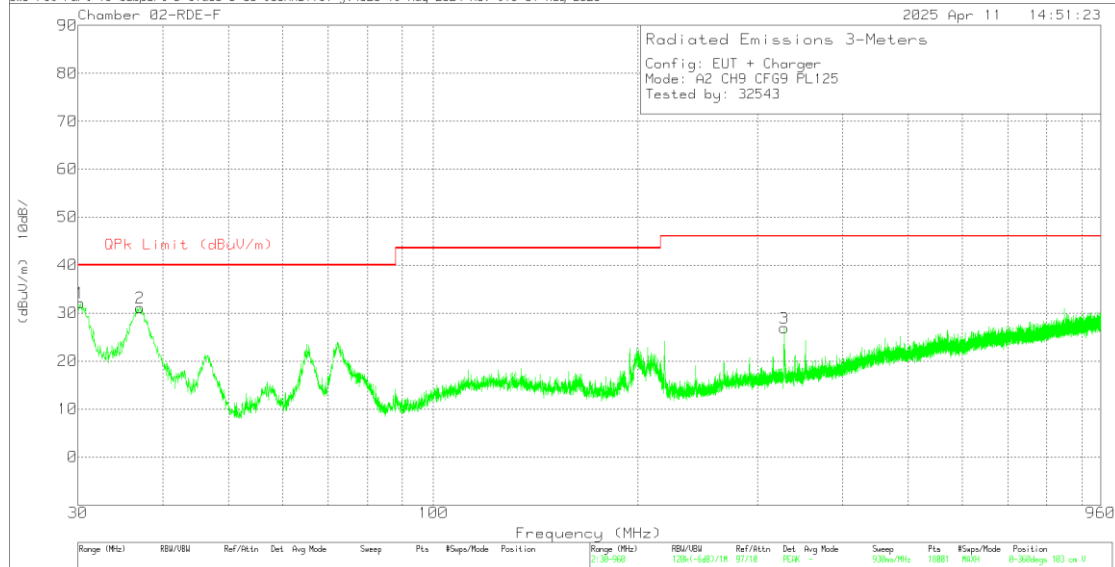
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.0517	34.8	Pk	26.9	-31.4	30.3	40	-9.7	0-360	103	V
2	36.8717	42.5	Pk	22	-31.7	32.8	40	-7.2	0-360	103	V
3	206.649	41.64	Pk	16.3	-30.4	27.54	43.52	-15.98	0-360	103	V
4	30.465	29.97	Pk	26.6	-31.5	25.07	40	-14.93	0-360	399	H
5	163.094	35.42	Pk	17.9	-30.6	22.72	43.52	-20.8	0-360	199	H
6	206.649	44.41	Pk	16.3	-30.4	30.31	43.52	-13.21	0-360	199	H

Pk - Peak detector

ANT2 CH9 Config 9



ULB FCC Part 15 Subpart B Class B 30-960MHz.TST JV4323 15 Aug 2024 Rev 9.5 01 May 2023



ULB FCC Part 15 Subpart B Class B 30-960MHz.TST JV4323 15 Aug 2024 Rev 9.5 01 May 2023

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	202301 ACF (dB/m)	CBL/AMP (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.2583	36.94	Pk	26.7	-31.5	32.14	40	-7.86	0-360	103	V
2	37.0267	40.96	Pk	21.9	-31.7	31.16	40	-8.84	0-360	103	V
3	328.429	37.09	Pk	19.8	-30	26.89	46.02	-19.13	0-360	103	V
4	30.0517	30.04	Pk	26.9	-31.4	25.54	40	-14.46	0-360	102	H
5	218.895	43.08	Pk	16.6	-30.4	29.28	46.02	-16.74	0-360	102	H
6	486.53	32.88	Pk	23.7	-29.2	27.38	46.02	-18.64	0-360	199	H

Pk - Peak detector

9.6. AVERAGE EMISSIONS ABOVE 960 MHz**LIMITS****FCC**

15.519 (c)

Frequency in MHz	EIRP in dBm
960-1610	-75.3
1610-1990	-63.3
1990-3100	-61.3
3100-10600	-41.3
Above 10600	-61.3

§15.519 (d) In addition to the radiated emission limits specified in the table in paragraph (c) of this section, UWB transmitters operating under the provisions of this section shall not exceed the following average limits when measured using a resolution bandwidth of no less than 1 kHz:

Frequency in MHz	EIRP in dBm
1164-1240	-85.3
1559-1610	-85.3

RSS-220

Section 5.3.1 (d) Radiated emissions above 960 MHz from a device shall not exceed the following average limits when measured using a resolution bandwidth of 1 MHz.

Hand-held (Outdoor) Communication, Measurement, Location Sensing, and Tracking Devices	
Frequency	E.i.r.p. in a Resolution Bandwidth of 1 MHz
960-1 610 MHz	-75.3 dBm
1.61-4.75 GHz	-70.0 dBm
4.75-10.6 GHz	-41.3 dBm
Above 10.6 GHz	-61.3 dBm

Section 5.3.1 (e) In addition to the limits specified in paragraph (d) of this section, radiated emissions shall not exceed the following average limits when measured using a resolution bandwidth greater than or equal to 1 kHz. The measurements shall demonstrate compliance with the stated limits at whatever resolution bandwidth is used.

Frequency	E.i.r.p. in a Resolution Bandwidth of no less than 1 kHz
1 164-1 240 MHz	-85.3 dBm
1 559-1 610 MHz	-85.3 dBm

TEST PROCEDURE

ANSI C63.10 Clause 10.3.

RSS-220 Annex

Exploratory measurements for all frequency ranges are performed with the measurement antenna at close distances to the EUT as described in ANSI C63.10 6.6.4.2. Where emissions are observed the measurement antenna is then positioned at a height of 1.5m and a distance of 1m for 18-40GHz and 0.5m for 0.96-5GHz, 1.164-1.240GHz, and 1.559-1.610GHz from the EUT and final measurements are made at the frequencies observed in the exploratory scans using the alternative measurement procedures detailed in ANSI C63.10 section 6.6.5. If no emissions are observed, a plot is made at a test distance of 1m for 18-40GHz and 0.5m for 0.96-5GHz, 1.164-1.240GHz, and 1.559-1.610GHz from the EUT to show the measurement system noise floor.

PROCEDURE FOR 0.96 TO 5 GHz

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 0.5m from the EUT.

A low pass filter with a cut off frequency of 5 GHz is used to suppress the fundamental and perform measurement for 0.96 - 5 GHz.

The low pass filter correction factor is incorporated into the path loss for this specific test.

Distance Correction Factor from 3m to 0.5m = $20 \cdot \log(0.5\text{m}/3\text{m}) = -15.56 \text{ dB}$

RESULTS FOR 5 GHz TO 9 GHz

The 5 - 9 GHz frequency band is covered in Section 9.3.

PROCEDURE FOR 9 GHz TO 18 GHz

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 0.5m from the EUT.

A high pass filter with pass band frequency beyond 9 GHz is used to suppress the fundamental and perform measurement for 9 - 18 GHz.

Distance Correction Factor from 3m to 0.5m = $20 \cdot \log(0.5\text{m}/3\text{m}) = -15.56 \text{ dB}$

PROCEDURE FOR 1.164 TO 1.240 GHz

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 0.5m from the EUT.

RBW = 120 kHz & VBW = 500 kHz were used at pre-scan.

A low pass filter with a cut off frequency of 5 GHz is used to suppress the fundamental and perform measurement for 1.164 – 1.240 GHz.

Distance Correction Factor from 3m to 0.5m = $20 \cdot \log(0.5\text{m}/3\text{m}) = -15.56 \text{ dB}$

PROCEDURE FOR 1.559 TO 1.610 GHz

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 0.5m from the EUT.

RBW = 120 kHz & VBW = 500 kHz were used at pre-scan.

A low pass filter with a cut off frequency of 5 GHz is used to suppress the fundamental and perform measurement for 1.559 – 1.610 GHz.

Distance Correction Factor from 3m to 0.5m = $20 \cdot \log(0.5\text{m}/3\text{m}) = -15.56 \text{ dB}$

PROCEDURE FOR 18 GHz TO 40 GHz

Measurements are made with the antenna feeding a spectrum analyzer via a preamplifier and cables, at a maximum distance of 1m from the EUT.

A final test is made at any frequencies at which emissions are found. During this final scan, the antenna is kept no further from the EUT than the maximum distance calculated for each band that yields a minimum system noise floor.

Distance Correction Factor from 3m to 1m = $20 \cdot \log(1\text{m}/3\text{m}) = -9.54 \text{ dB}$

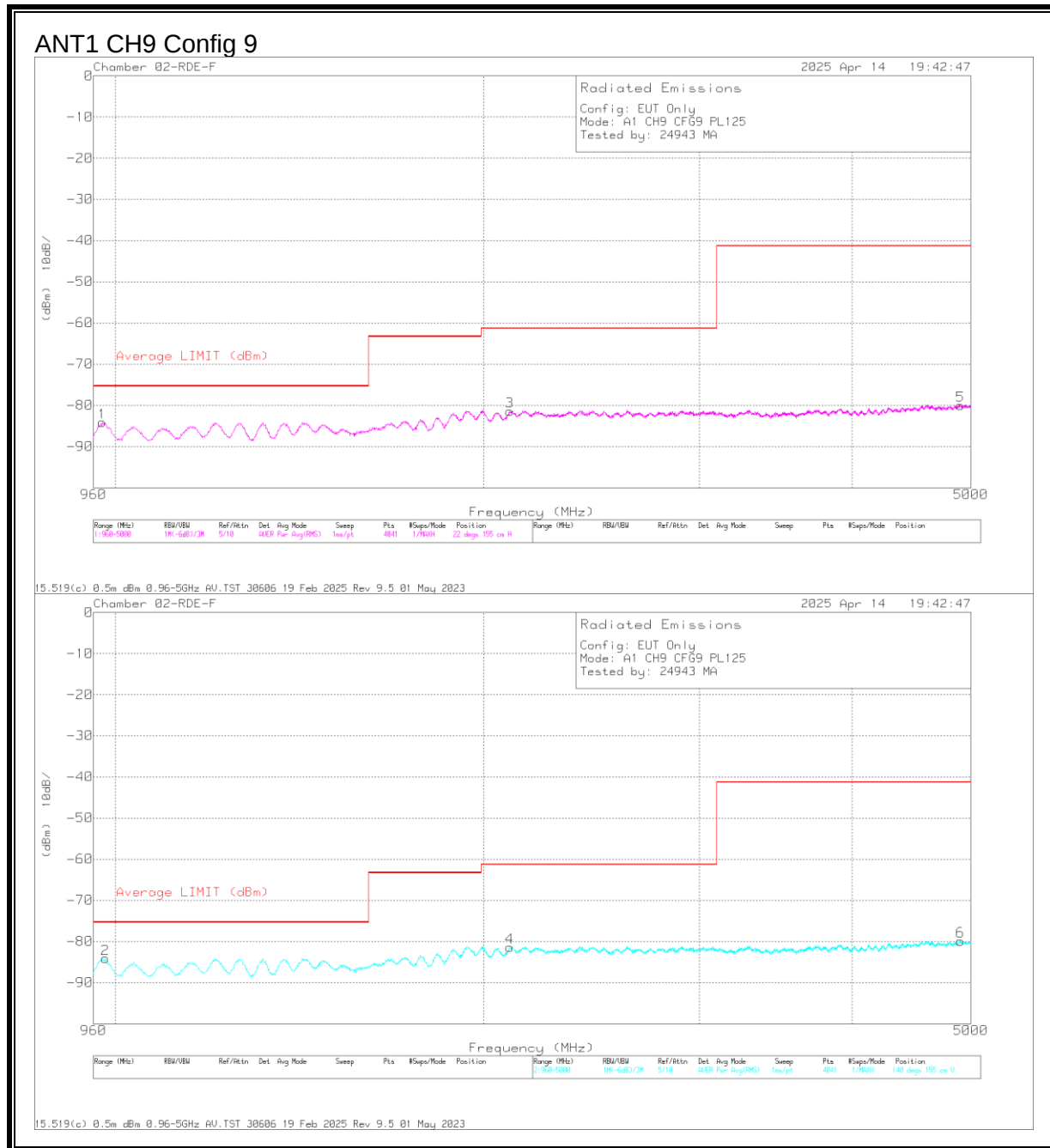
RESULTS**Average Emissions Summary**

Employee IDs: 24943, 26857

Location: Chamber 02-RDE-F

Test Date: 4/14/2025 to 4/18/2025

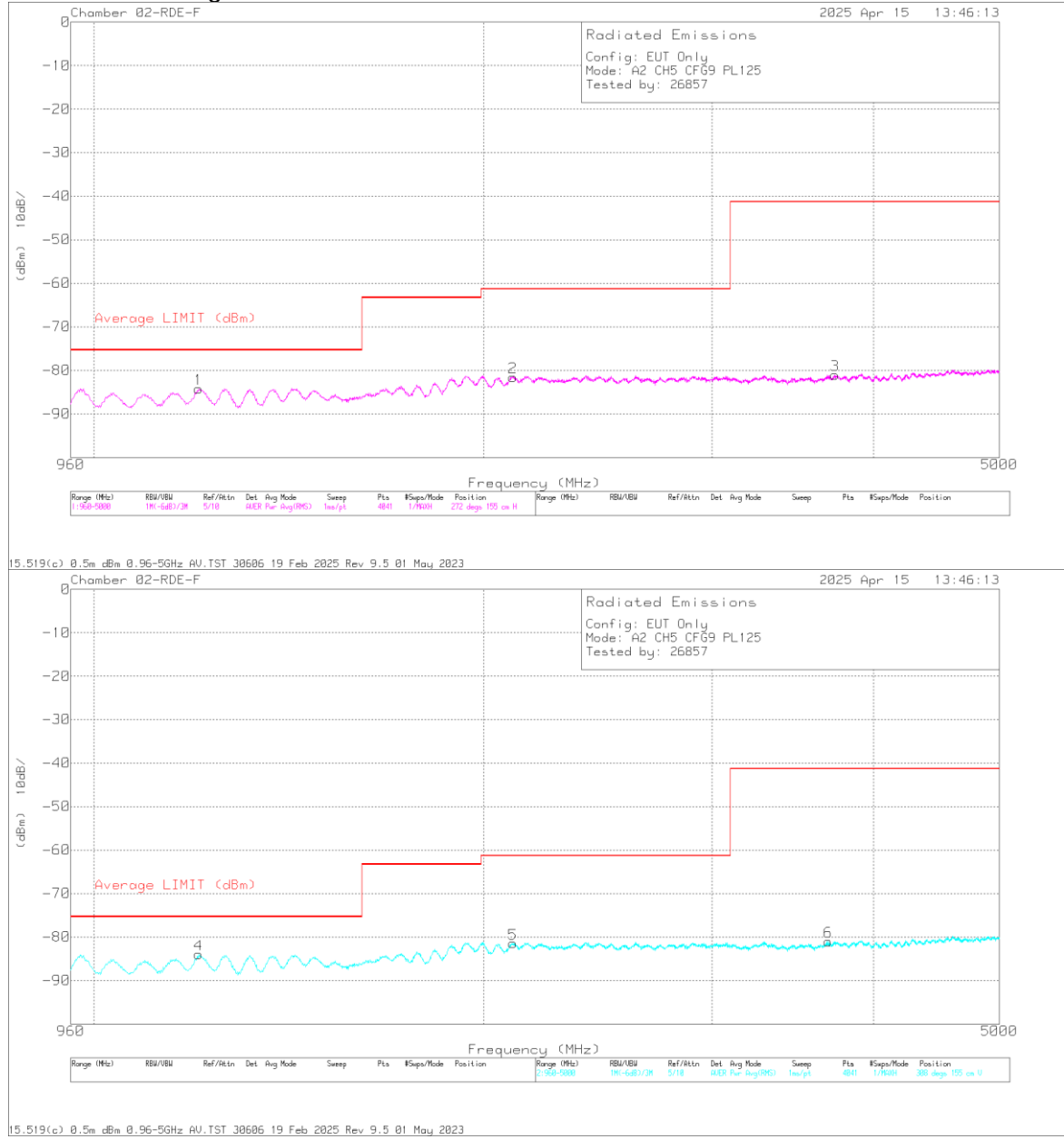
Ant	CH	Config	Payload	Power Setting	Frequency Ranges				
					1164 - 1240 MHz	1559 - 1610 MHz	0.96 - 18 GHz	18 - 26.5 GHz	26.5 - 40 GHz
1	9	9	125	Max	PASS	PASS	PASS	PASS	PASS
2	5	9	125	Max	PASS	PASS	PASS	PASS	PASS
2	9	9	125	Max	PASS	PASS	PASS	PASS	PASS

9.6.1. AVERAGE EMISSIONS, 0.96 – 5 GHz**FCC15.519 (C)****Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	206806 ACF (dB/m)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	Average LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	976	-61.13	RMS	28	-15.6	11.8	-47.2	-84.13	-75.3	-8.83	198	155	H
2	982	-61.24	RMS	28	-15.6	11.8	-47.1	-84.14	-75.3	-8.84	338	155	V
3	2100	-62.29	RMS	31.9	-15.6	11.8	-47.2	-81.39	-61.3	-20.09	0	155	H
4	2100	-62.27	RMS	31.9	-15.6	11.8	-47.2	-81.37	-61.3	-20.07	338	155	V
5	4902	-64.58	RMS	34	-15.6	11.8	-45.6	-79.98	-41.3	-38.68	242	155	H
6	4902	-64.45	RMS	34	-15.6	11.8	-45.6	-79.85	-41.3	-38.55	184	155	V

RMS - RMS detection

ANT2 CH5 Config 9

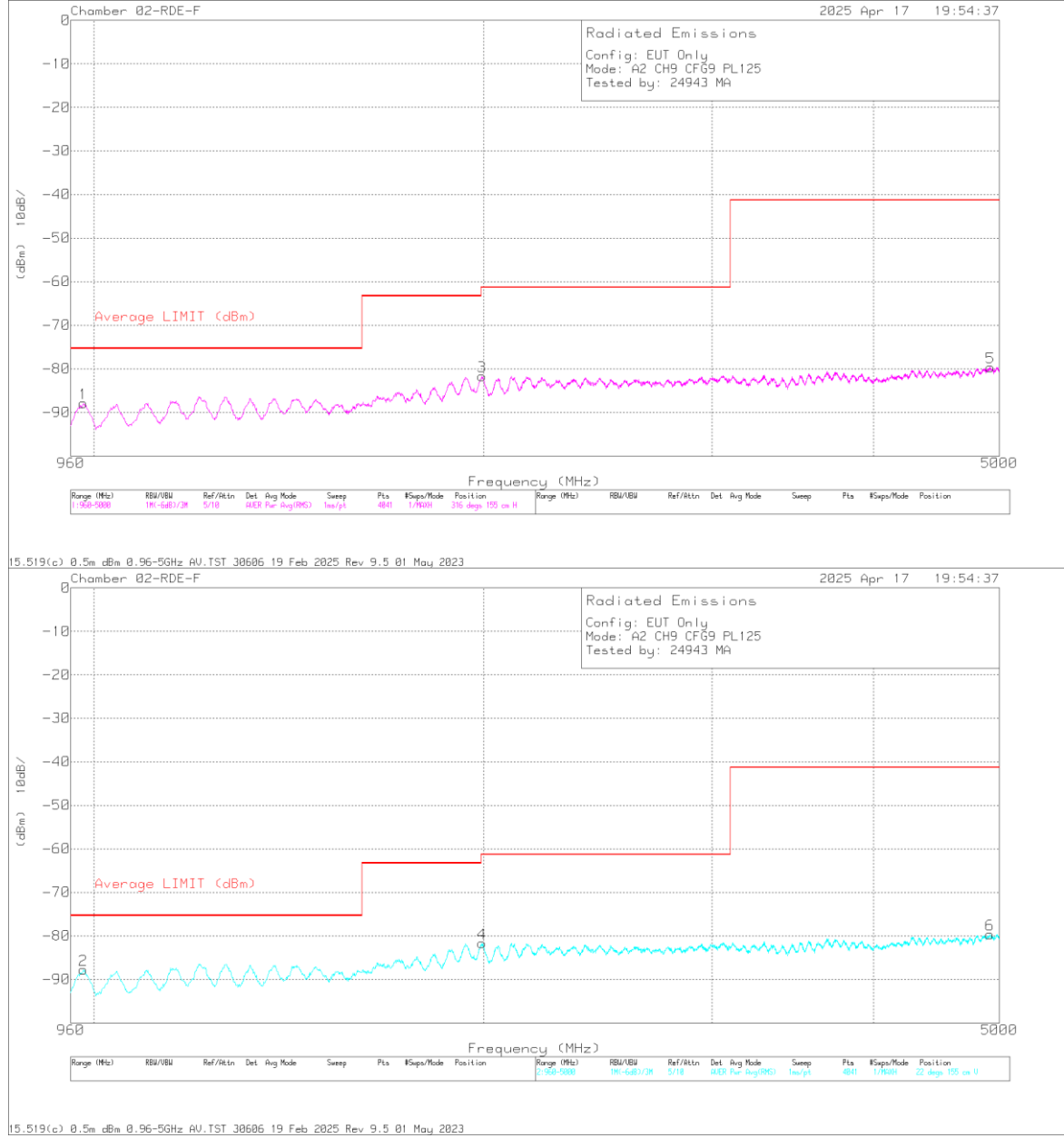


Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	206806 ACF (dB/m)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	Average LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1205	-61.27	RMS	28.3	-15.6	11.8	-47.4	-84.17	-75.3	-8.87	360	155	H
2	2107	-62.01	RMS	31.9	-15.6	11.8	-47.6	-81.51	-61.3	-20.21	140	155	H
3	3734	-65.38	RMS	33.3	-15.6	11.8	-45.2	-81.08	-41.3	-39.78	75	155	H
4	1205	-61.1	RMS	28.3	-15.6	11.8	-47.4	-84.00	-75.3	-8.70	330	155	V
5	2106	-61.88	RMS	31.9	-15.6	11.8	-47.7	-81.48	-61.3	-20.18	88	155	V
6	3688	-65.38	RMS	33.2	-15.6	11.8	-45.1	-81.08	-41.3	-39.78	308	155	V

RMS - RMS detection

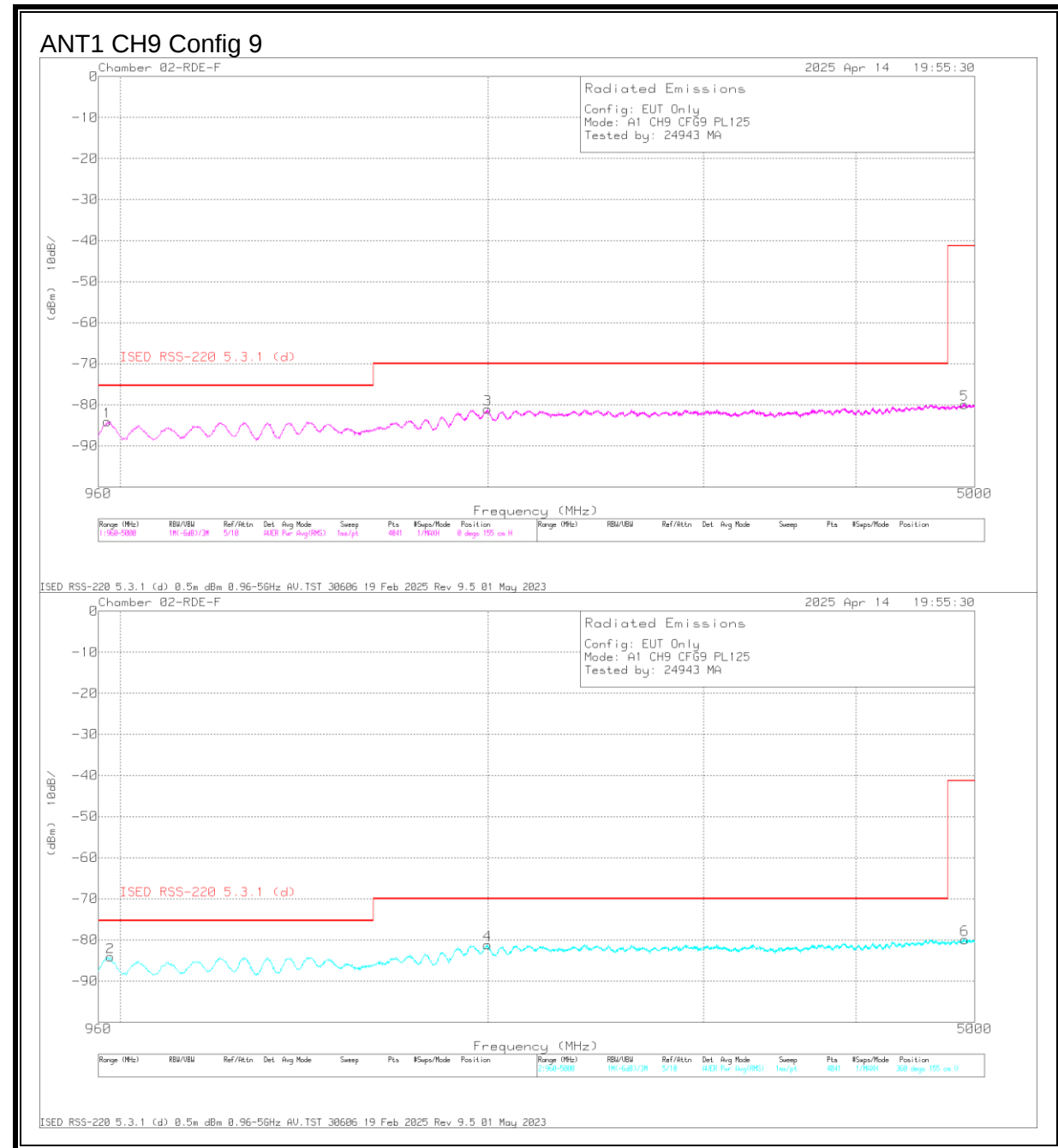
ANT2 CH9 Config 9



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	206806 ACF (dB/m)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	Average LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	982	-64.95	RMS	28	-15.6	11.8	-47.1	-87.85	-75.3	-12.55	360	155	H
2	982	-64.82	RMS	28	-15.6	11.8	-47.1	-87.72	-75.3	-12.42	154	155	V
3	1994	-62.66	RMS	31.5	-15.6	11.8	-46.7	-81.66	-61.3	-20.36	96	155	H
4	1994	-62.71	RMS	31.5	-15.6	11.8	-46.7	-81.71	-61.3	-20.41	66	155	V
6	4918	-64.83	RMS	34	-15.6	11.8	-45	-79.63	-41.3	-38.33	0	155	V
5	4921	-64.89	RMS	34	-15.6	11.8	-45	-79.69	-41.3	-38.39	294	155	H

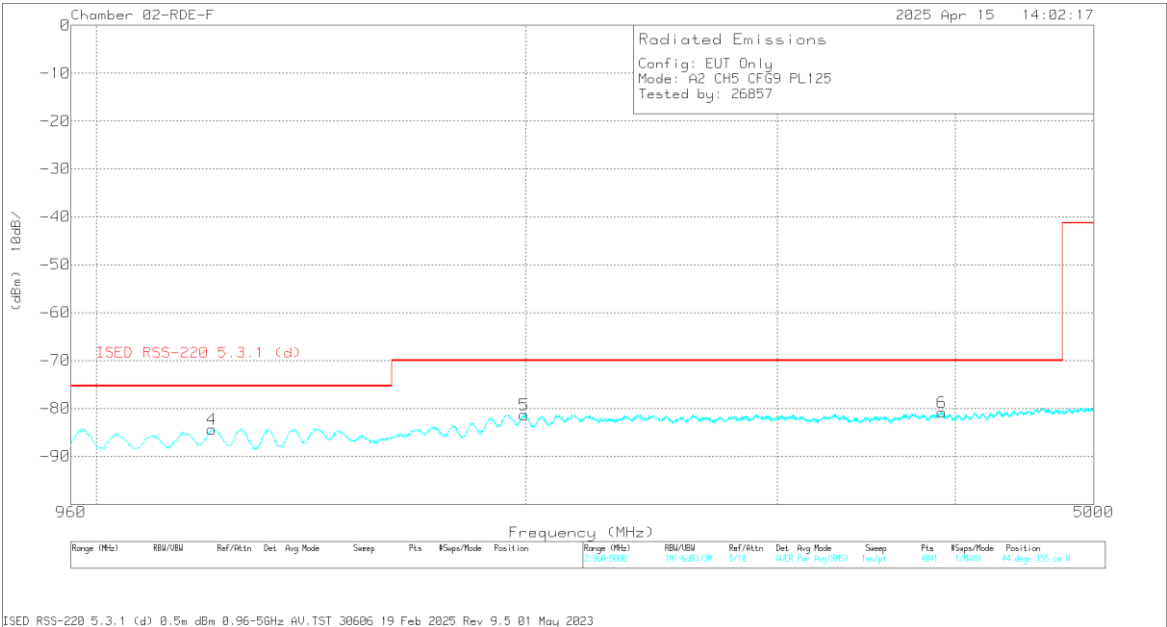
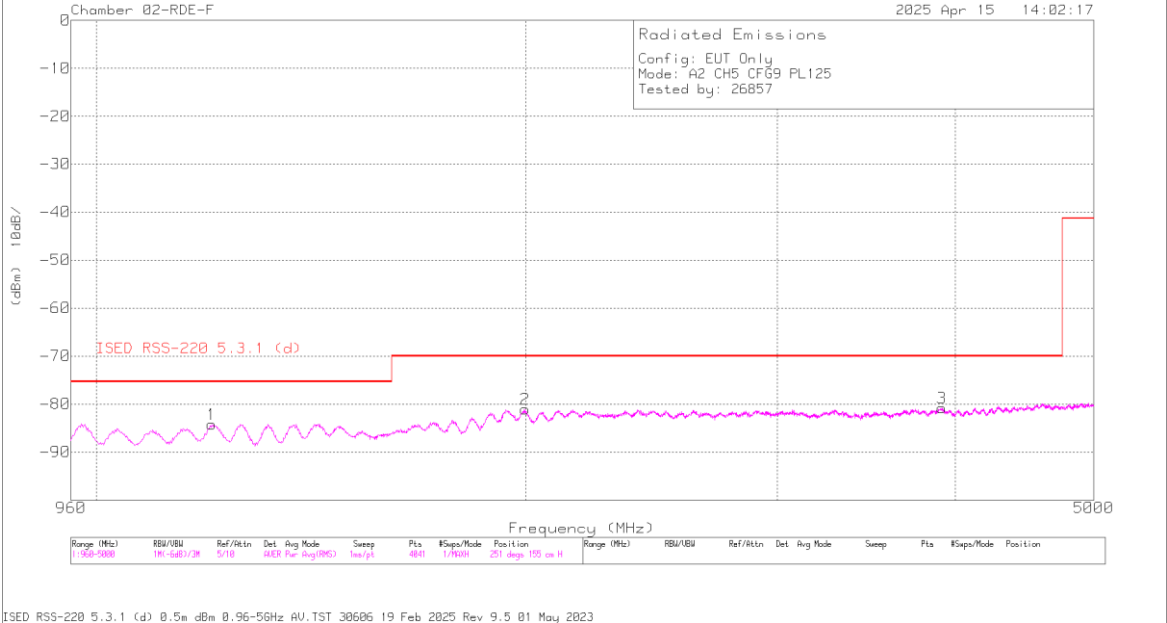
RMS - RMS detection

RSS-220 5.3.1 (d)**Trace Markers**

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	206806 ACF (dB/m)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	ISED RSS-220 5.3.1 (d)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	976	-61.06	RMS	28	-15.6	11.8	-47.2	-84.06	-75.3	-8.76	286	155	H
2	982	-61.23	RMS	28	-15.6	11.8	-47.1	-84.13	-75.3	-8.83	250	155	V
3	1998	-62.35	RMS	31.5	-15.6	11.8	-46.4	-81.05	-70	-11.05	44	155	H
4	1998	-62.51	RMS	31.5	-15.6	11.8	-46.4	-81.21	-70	-11.21	360	155	V
5	4905	-64.6	RMS	34	-15.6	11.8	-45.5	-79.9	-41.3	-38.6	22	155	H
6	4907	-64.6	RMS	34	-15.6	11.8	-45.5	-79.9	-41.3	-38.6	184	155	V

RMS - RMS detection

ANT2 CH5 Config 9

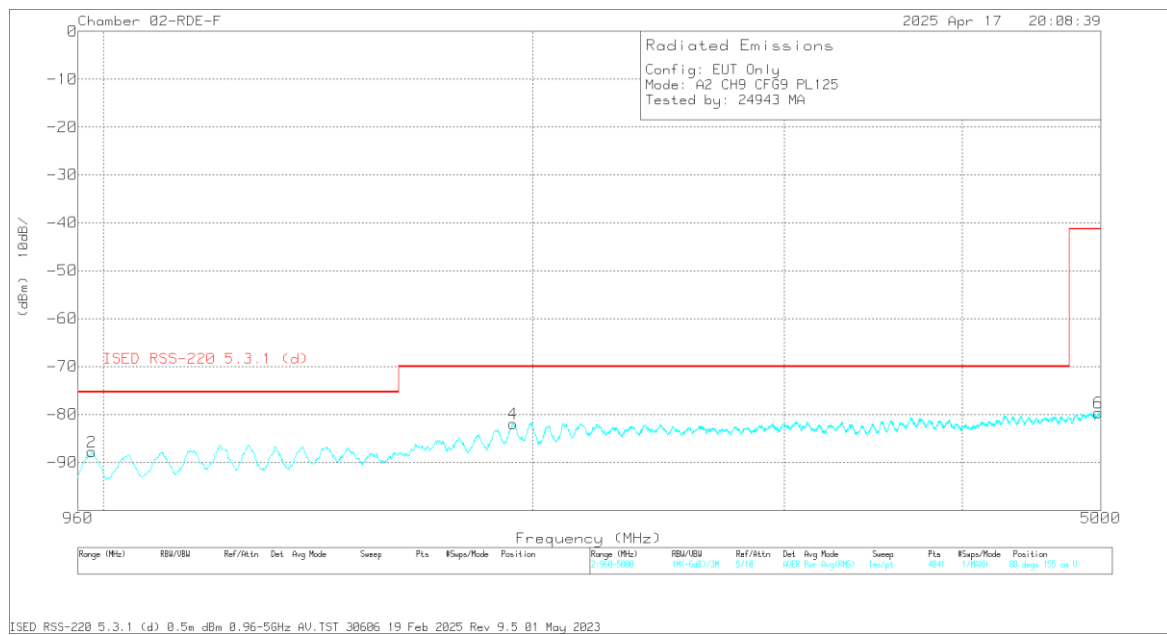
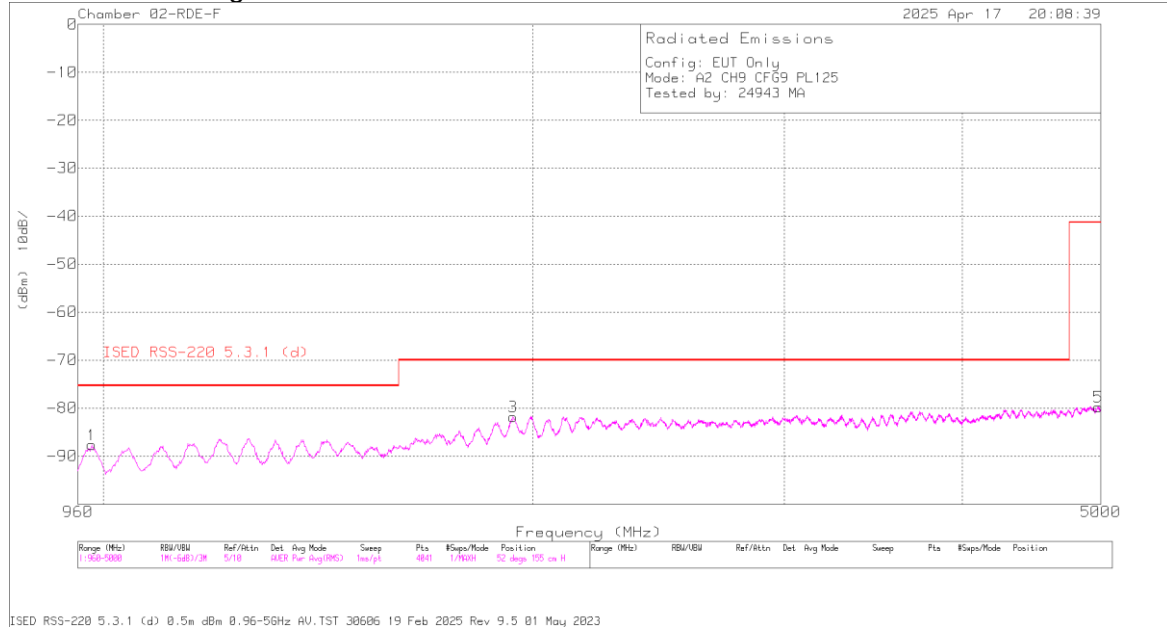


Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	206806 ACF (dBm)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	ISED RSS-220 5.3.1 (d)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1205	-61.27	RMS	28.3	-15.6	11.8	-47.4	-84.17	-75.3	-8.87	140	155	H
2	1994	-62.33	RMS	31.5	-15.6	11.8	-46.4	-81.03	-70	-11.03	30	155	H
3	3912	-64.89	RMS	33.4	-15.6	11.8	-45.5	-80.79	-70	-10.79	162	155	H
4	1205	-61.38	RMS	28.3	-15.6	11.8	-47.4	-84.28	-75.3	-8.98	44	155	V
6	3912	-64.93	RMS	33.4	-15.6	11.8	-45.5	-80.83	-70	-10.83	66	155	V
5	1994	-62.3	RMS	31.5	-15.6	11.8	-46.7	-81.30	-70	-11.3	264	155	V

RMS - RMS detection

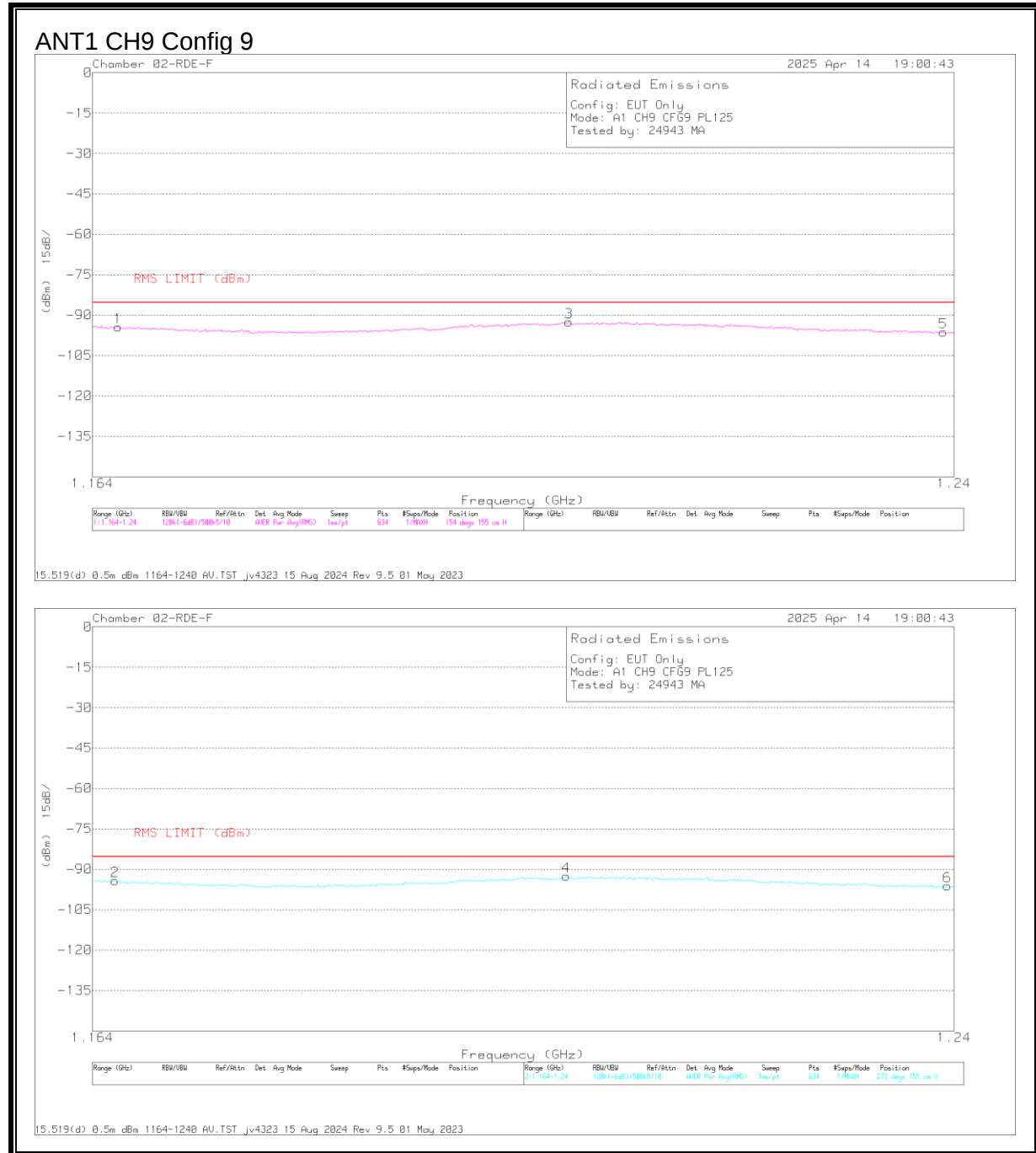
ANT2 CH9 Config 9



Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBm)	Det	206806 ACF (dB/m)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	ISSED RSS-220 5.3.1 (d)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	982	-64.78	RMS	28	-15.6	11.8	-47.1	-87.68	-75.3	-12.38	316	155	H
2	982	-64.9	RMS	28	-15.6	11.8	-47.1	-87.80	-75.3	-12.5	264	155	V
3	1937	-61.86	RMS	31	-15.6	11.8	-47.1	-81.76	-70	-11.76	360	155	H
4	1937	-61.99	RMS	31	-15.6	11.8	-47.1	-81.89	-70	-11.89	264	155	V
5	4979	-65.12	RMS	34	-15.6	11.8	-44.8	-79.72	-41.3	-38.42	184	155	H
6	4980	-64.93	RMS	34	-15.6	11.8	-44.9	-79.63	-41.3	-38.33	22	155	V

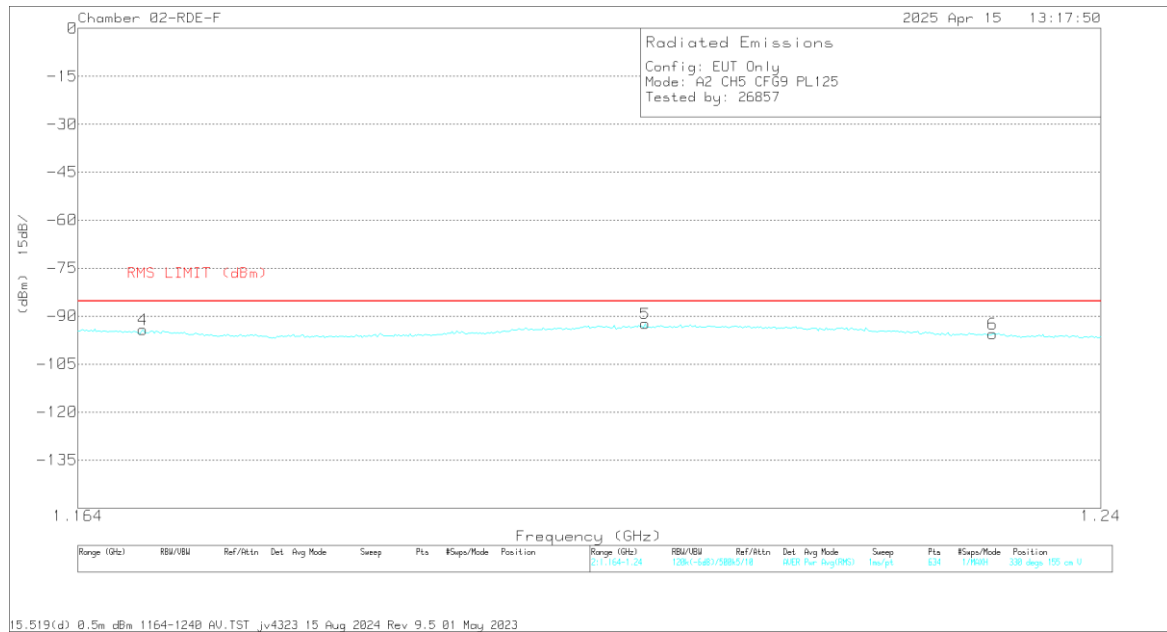
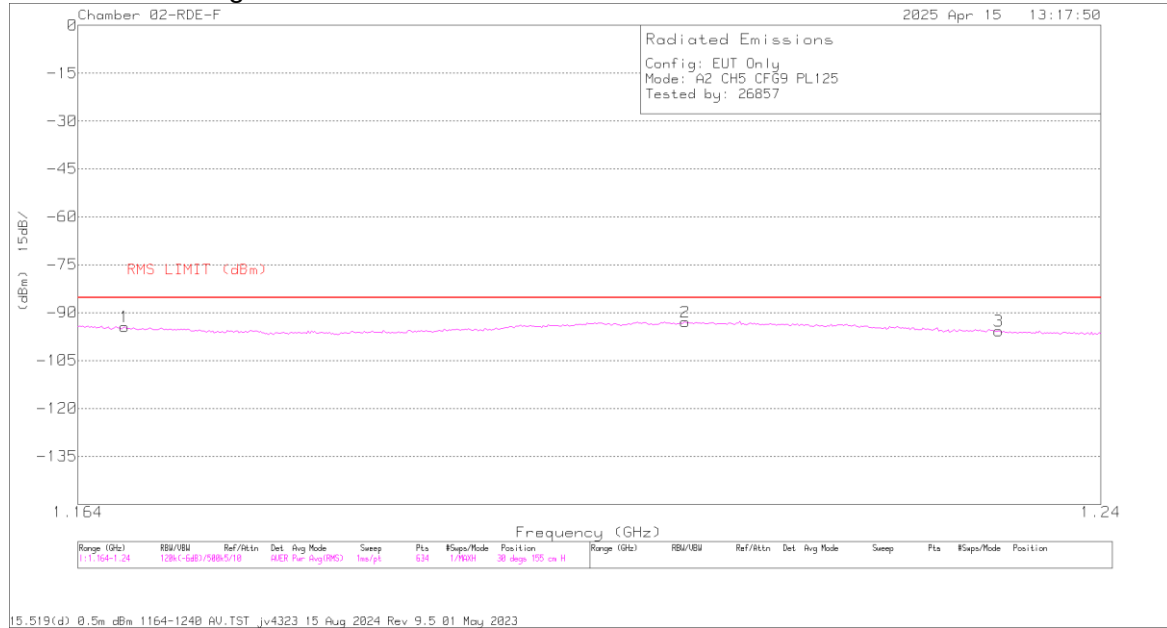
RMS - RMS detection

9.6.2. AVERAGE EMISSIONS, 1.164 – 1.240 GHz**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206806 ACF (dBm)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	RMS LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.166161	-70.78	RMS	28	-15.6	11.8	-47.8	-94.38	-85.3	-9.08	0	155	H
2	1.165921	-70.6	RMS	28	-15.6	11.8	-47.8	-94.2	-85.3	-8.9	140	155	V
3	1.205422	-69.49	RMS	28.3	-15.6	11.8	-47.57	-92.56	-85.3	-7.26	220	155	H
4	1.205182	-69.59	RMS	28.3	-15.6	11.8	-47.47	-92.56	-85.3	-7.26	272	155	V
5	1.239039	-73.34	RMS	28.5	-15.6	11.8	-47.59	-96.23	-85.3	-10.93	110	155	H
6	1.2394	-73.21	RMS	28.5	-15.6	11.8	-47.52	-96.03	-85.3	-10.73	206	155	V

RMS - RMS detection

ANT2 CH5 Config 9

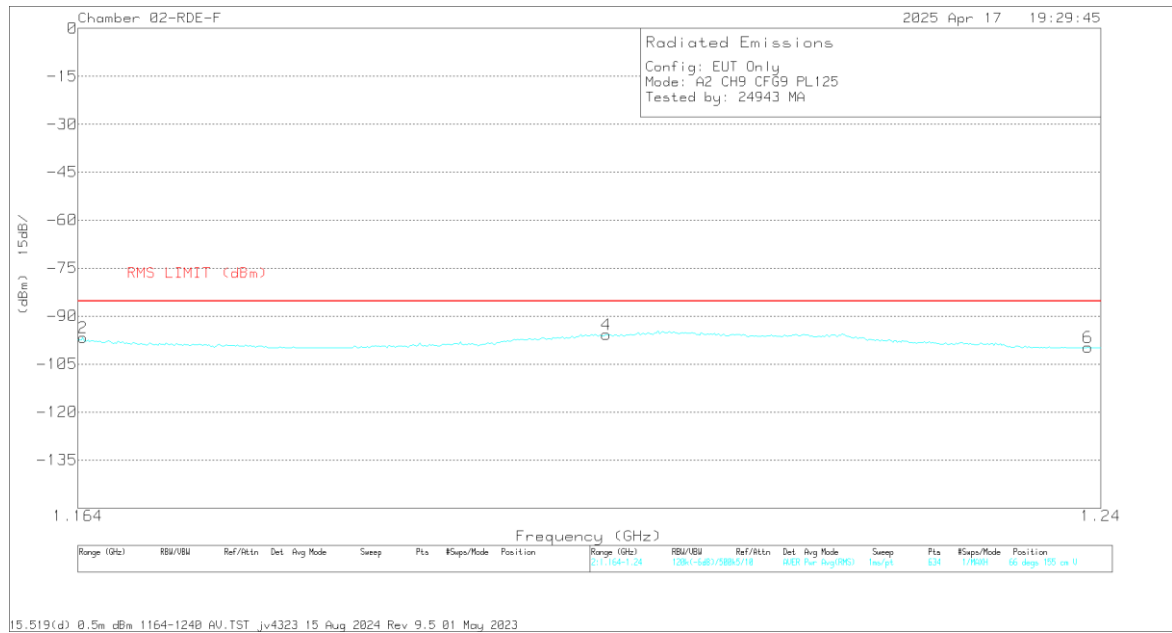
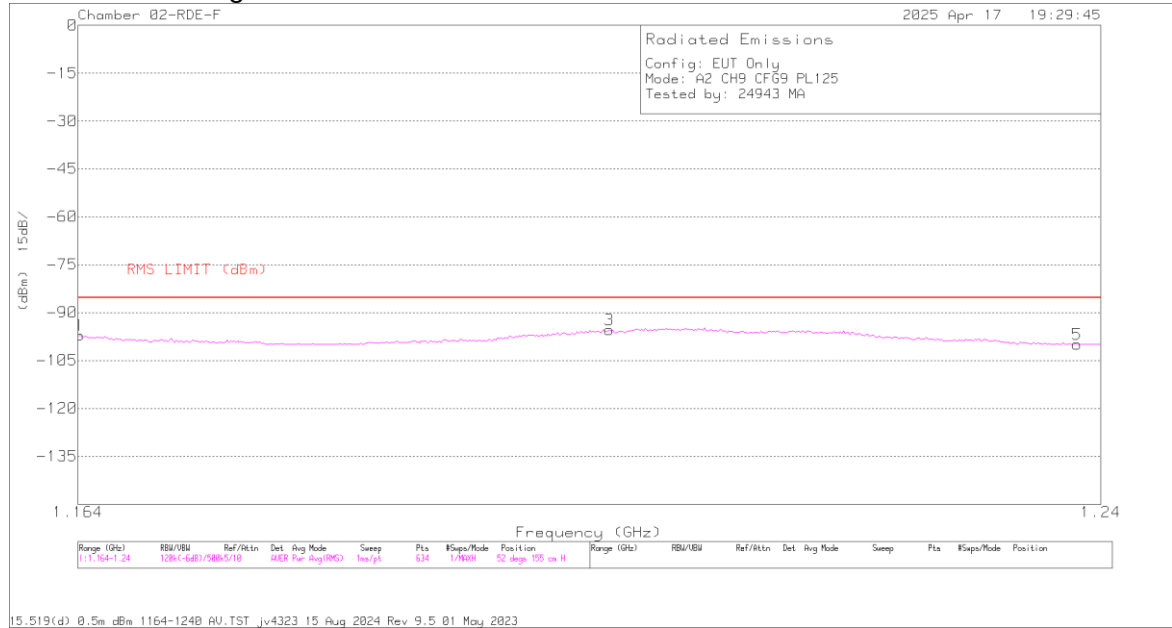


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206806 ACF (dBm)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	RMS LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.167362	-70.81	RMS	28	-15.6	11.8	-47.76	-94.37	-85.3	-9.07	30	155	H
2	1.208543	-69.76	RMS	28.4	-15.6	11.8	-47.79	-92.95	-85.3	-7.65	140	155	H
3	1.232196	-72.9	RMS	28.5	-15.6	11.8	-47.48	-95.68	-85.3	-10.38	338	155	H
4	1.168682	-70.6	RMS	28	-15.6	11.8	-47.84	-94.24	-85.3	-8.94	132	155	V
5	1.205542	-69.26	RMS	28.3	-15.6	11.8	-47.62	-92.38	-85.3	-7.08	66	155	V
6	1.231716	-72.74	RMS	28.5	-15.6	11.8	-47.46	-95.5	-85.3	-10.2	220	155	V

RMS - RMS detection

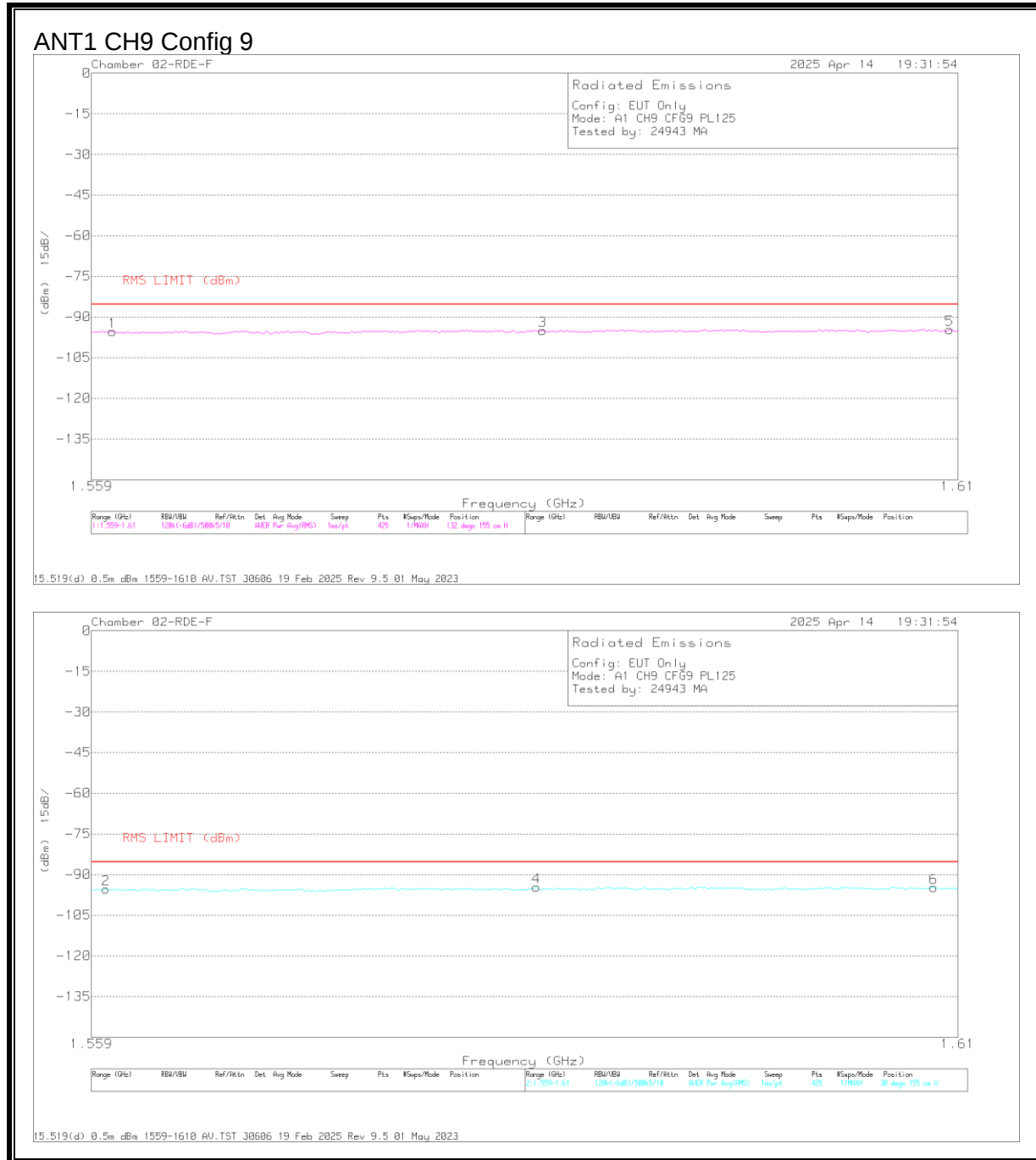
ANT2 CH9 Config 9



Trace Markers

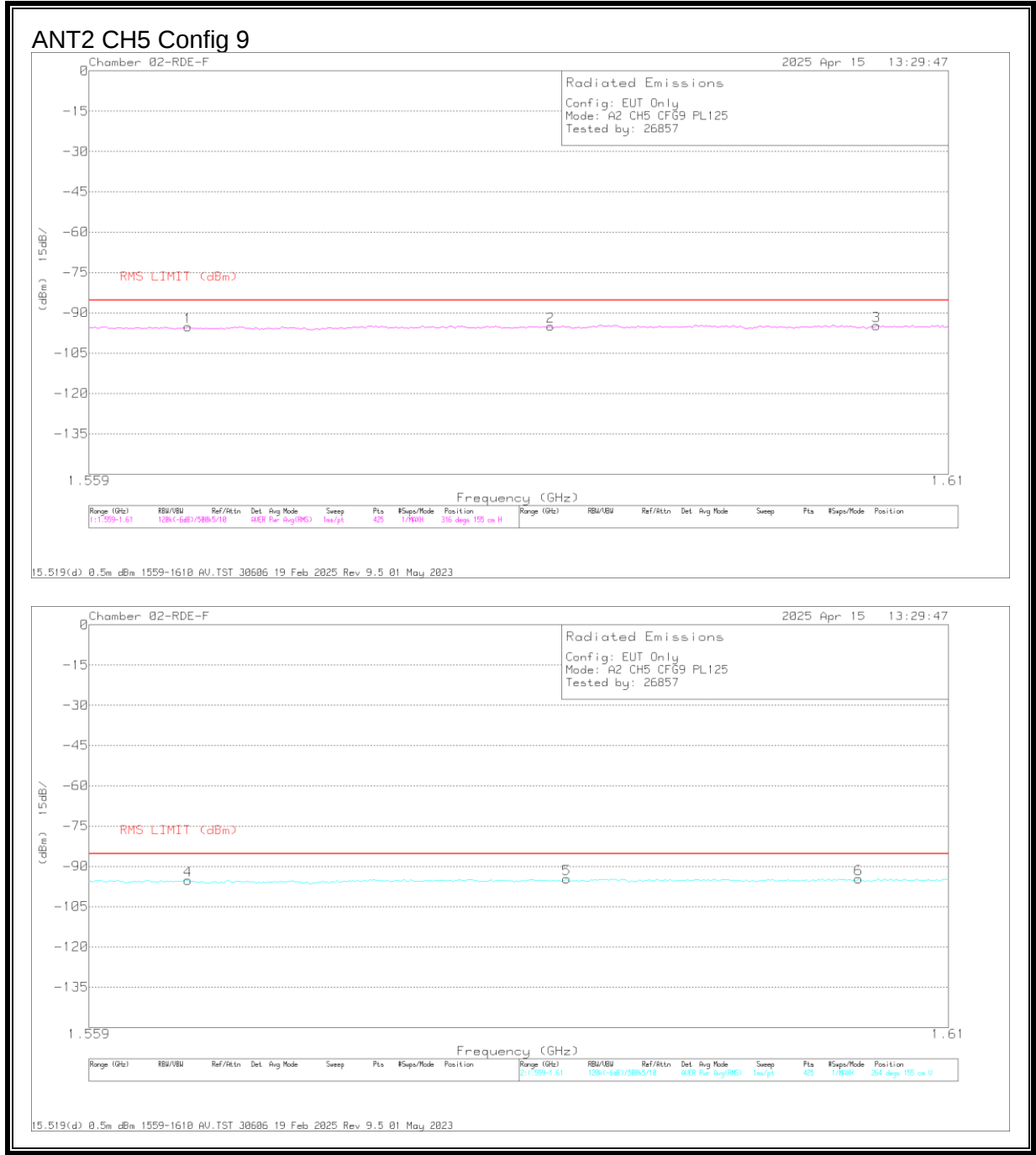
Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206806 ACF (dBm)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	RMS LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.16412	-73.41	RMS	28	-15.6	11.8	-47.8	-97.01	-85.3	-11.71	162	155	H
2	1.16436	-73.08	RMS	28	-15.6	11.8	-47.8	-96.68	-85.3	-11.38	22	155	V
3	1.2029	-72.14	RMS	28.3	-15.6	11.8	-47.69	-95.33	-85.3	-10.03	206	155	H
4	1.20266	-72.48	RMS	28.3	-15.6	11.8	-47.67	-95.65	-85.3	-10.35	66	155	V
5	1.238199	-77.12	RMS	28.5	-15.6	11.8	-47.44	-99.86	-85.3	-14.56	206	155	H
6	1.239039	-76.88	RMS	28.5	-15.6	11.8	-47.59	-99.77	-85.3	-14.47	286	155	V

RMS - RMS detection

9.6.3. AVERAGE EMISSIONS, 1.559 – 1.610 GHz**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206806 ACF (dBm)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	RMS LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.560203	-72.65	RMS	28.2	-15.6	11.8	-47.04	-95.29	-85.3	-9.99	132	155	H
2	1.559842	-72.7	RMS	28.2	-15.6	11.8	-47	-95.3	-85.3	-10	96	155	V
3	1.585342	-71.84	RMS	28.1	-15.6	11.8	-47.4	-94.94	-85.3	-9.64	154	155	H
4	1.584981	-71.62	RMS	28.1	-15.6	11.8	-47.31	-94.63	-85.3	-9.33	96	155	V
5	1.609519	-70.95	RMS	28.1	-15.6	11.8	-47.9	-94.55	-85.3	-9.25	98	155	H
6	1.608557	-71.29	RMS	28.1	-15.6	11.8	-47.86	-94.85	-85.3	-9.55	250	155	V

RMS - RMS detection

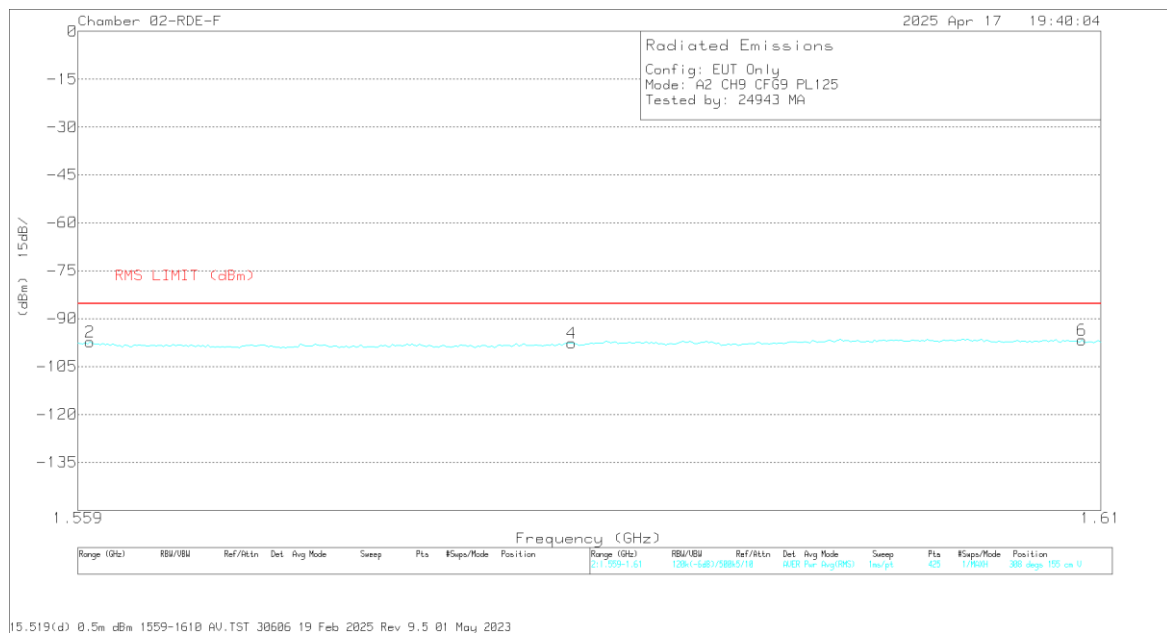


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206806 ACF (dB/m)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	RMS LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.564774	-72.44	RMS	28.2	-15.6	11.8	-47.1	-95.14	-85.3	-9.84	162	155	H
2	1.586184	-71.64	RMS	28.1	-15.6	11.8	-47.6	-94.94	-85.3	-9.64	228	155	H
3	1.60567	-71.2	RMS	28.1	-15.6	11.8	-47.87	-94.77	-85.3	-9.47	250	155	H
4	1.564774	-72.39	RMS	28.2	-15.6	11.8	-47.1	-95.09	-85.3	-9.79	0	155	V
5	1.587146	-71.21	RMS	28.1	-15.6	11.8	-47.64	-94.55	-85.3	-9.25	132	155	V
6	1.604587	-71.04	RMS	28.1	-15.6	11.8	-47.83	-94.57	-85.3	-9.27	88	155	V

RMS - RMS detection

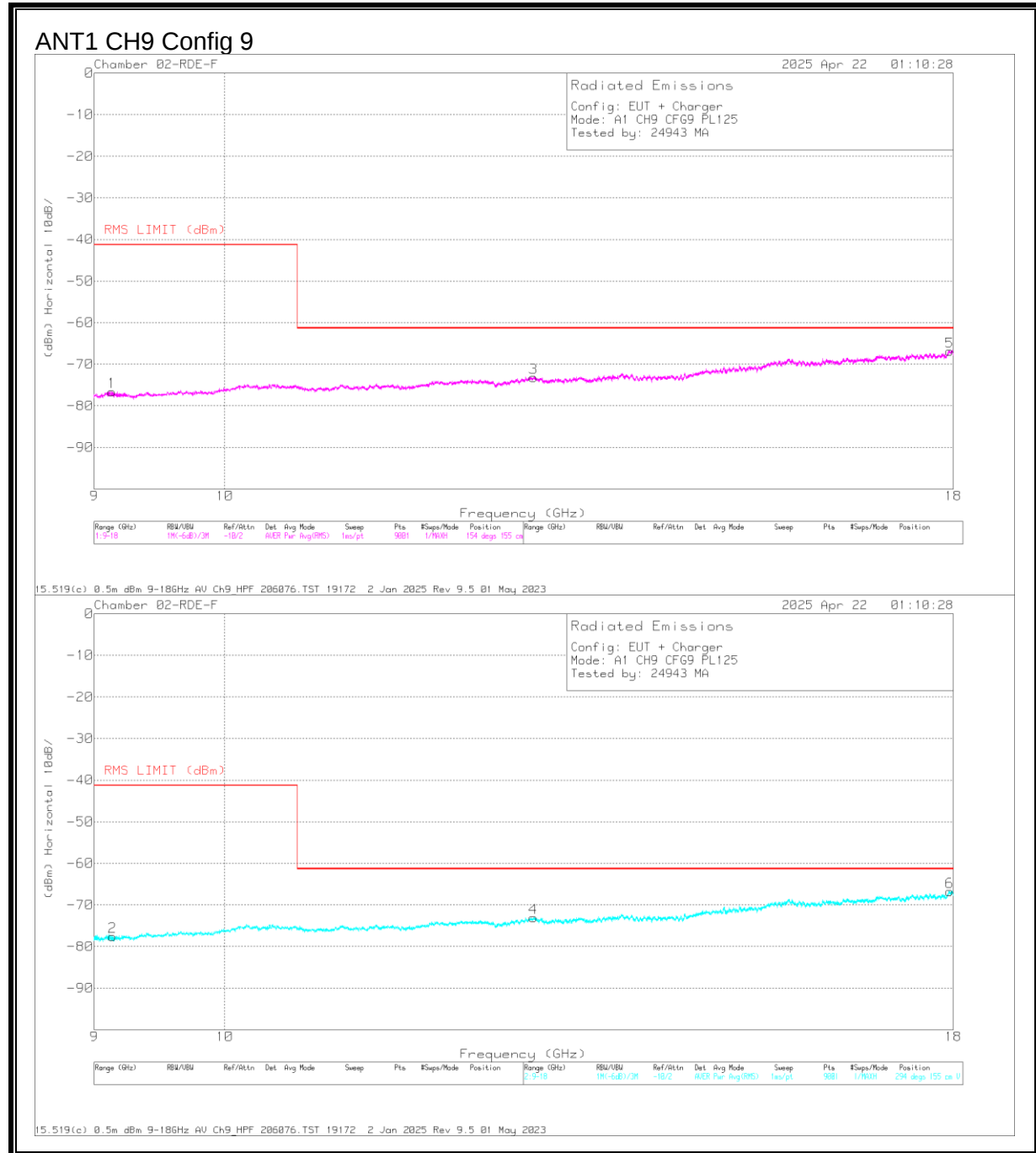
ANT2 CH9 Config 9



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206806 ACF (dBm)	Dist. Corr. (dB)	Conversion Factor (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	RMS LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.560083	-75.05	RMS	28.2	-15.6	11.8	-47.02	-97.67	-85.3	-12.37	74	155	H
2	1.559601	-74.64	RMS	28.2	-15.6	11.8	-47	-97.24	-85.3	-11.94	110	155	V
3	1.582936	-74.42	RMS	28.1	-15.6	11.8	-47.32	-97.44	-85.3	-12.14	30	155	H
4	1.583417	-74.43	RMS	28.1	-15.6	11.8	-47.47	-97.6	-85.3	-12.3	308	155	V
5	1.609519	-73.27	RMS	28.1	-15.6	11.8	-47.9	-96.87	-85.3	-11.57	272	155	H
6	1.609038	-73	RMS	28.1	-15.6	11.8	-47.9	-96.6	-85.3	-11.3	242	155	V

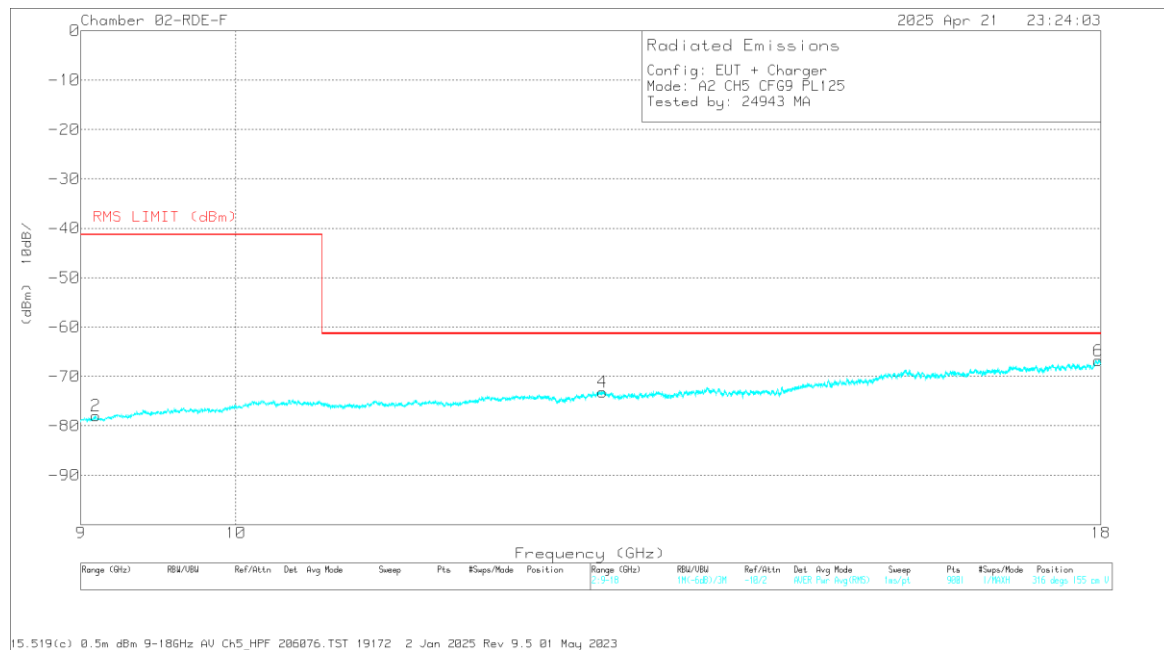
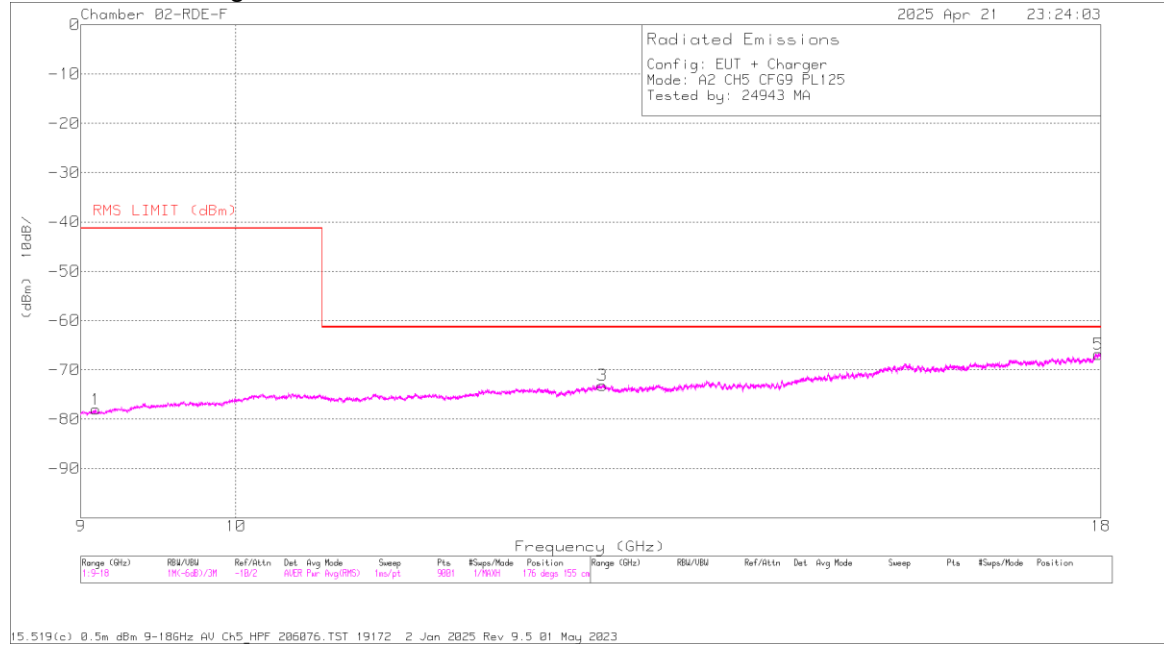
RMS - RMS detection

9.6.4. AVERAGE EMISSIONS, 9 – 18 GHz**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206806 ACF (dB/m)	Dist. Corr. (dB)	Conversion Factor (dB)	9GHz HPF (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	RMS LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	9.13	-65.59	RMS	36	-15.6	11.8	.5	-43.7	-76.59	-41.3	-35.29	154	155	H
1	9.1201	-65.23	RMS	36	-15.6	11.8	.5	-43.98	-76.51	-41.3	-35.21	158	155	H
2	9.134	-66.9	RMS	36	-15.6	11.8	.5	-43.4	-77.6	-41.3	-36.3	294	155	V
2	9.1657	-65.88	RMS	36	-15.6	11.8	.5	-44	-77.18	-41.3	-35.88	309	155	V
3	12.828	-66.39	RMS	38.9	-15.6	11.8	.3	-42.2	-73.19	-61.3	-11.89	264	155	H
4	12.828	-66.27	RMS	38.9	-15.6	11.8	.3	-42.2	-73.07	-61.3	-11.77	360	155	V
5	17.947	-67.7	RMS	41.6	-15.6	11.8	.3	-37.3	-66.9	-61.3	-5.6	176	155	H
6	17.947	-67.61	RMS	41.6	-15.6	11.8	.3	-37.3	-66.81	-61.3	-5.51	316	155	V

RMS - RMS detection

ANT2 CH5 Config 9

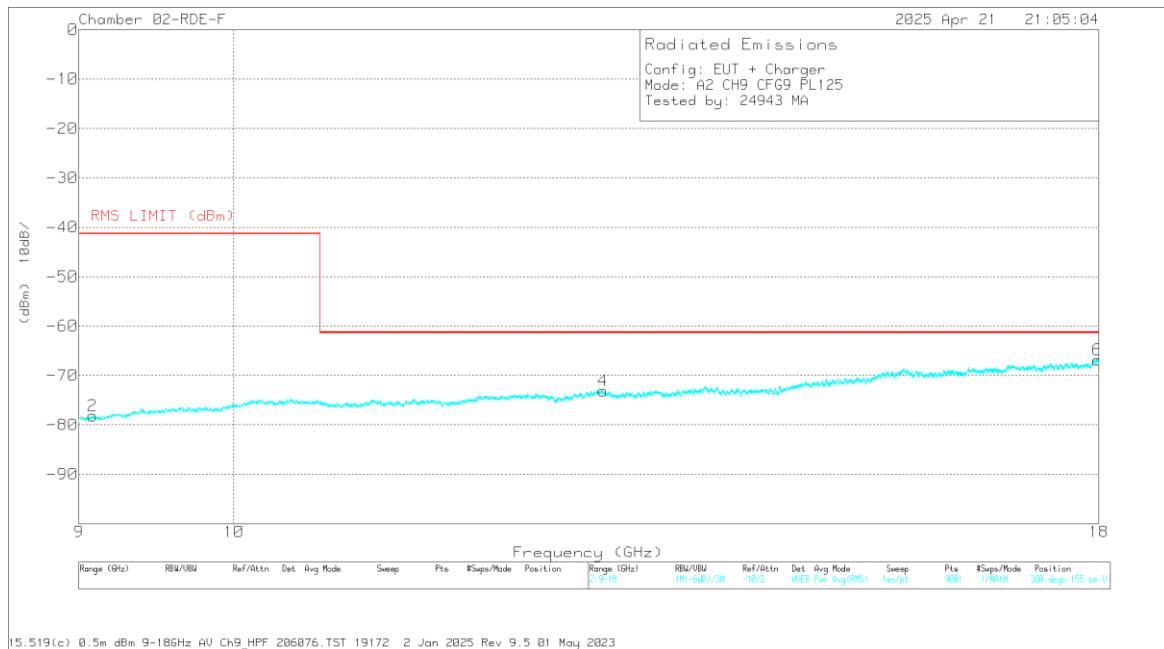
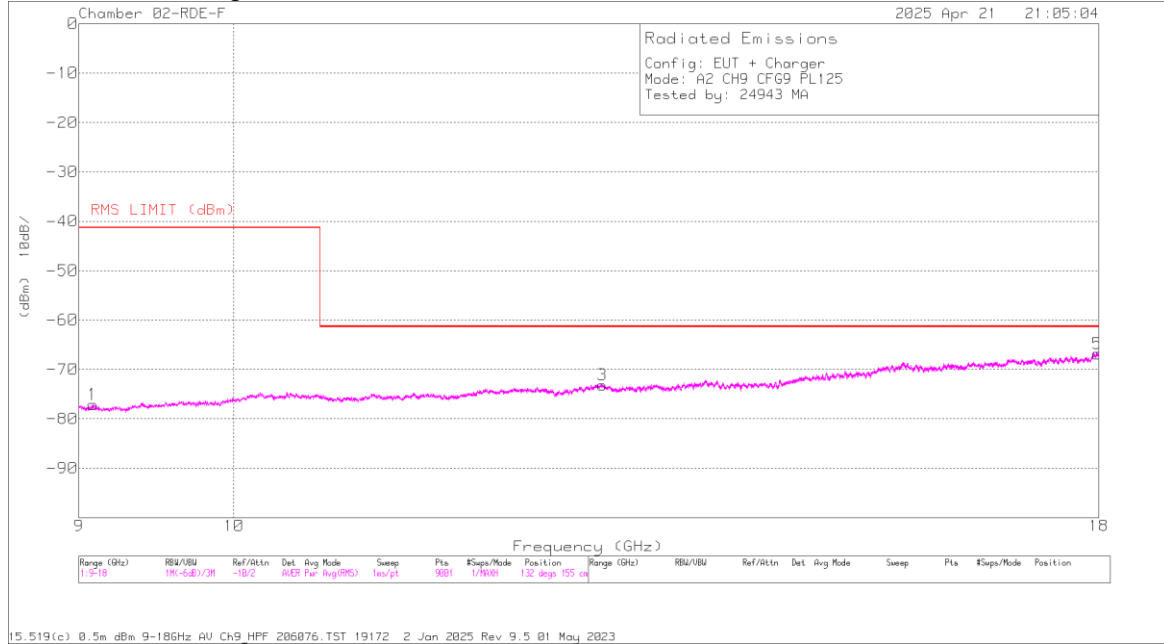


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206806 ACF (dB/m)	Dist. Corr. (dB)	Conversion Factor (dB)	9GHz HPF (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	RMS LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	9.093	-67.69	RMS	36	-15.6	11.8	.5	-43	-77.99	-41.3	-36.69	242	155	H
2	9.093	-67.64	RMS	36	-15.6	11.8	.5	-43	-77.94	-41.3	-36.64	140	155	V
3	12.828	-66.33	RMS	38.9	-15.6	11.8	.3	-42.2	-73.13	-61.3	-11.83	88	155	H
4	12.83	-66.24	RMS	38.9	-15.6	11.8	.3	-42.3	-73.14	-61.3	-11.84	250	155	V
5	17.972	-67.73	RMS	41.6	-15.6	11.8	.3	-37.2	-66.83	-61.3	-5.53	44	155	H
6	17.972	-67.68	RMS	41.6	-15.6	11.8	.3	-37.2	-66.78	-61.3	-5.48	338	155	V

RMS - RMS detection

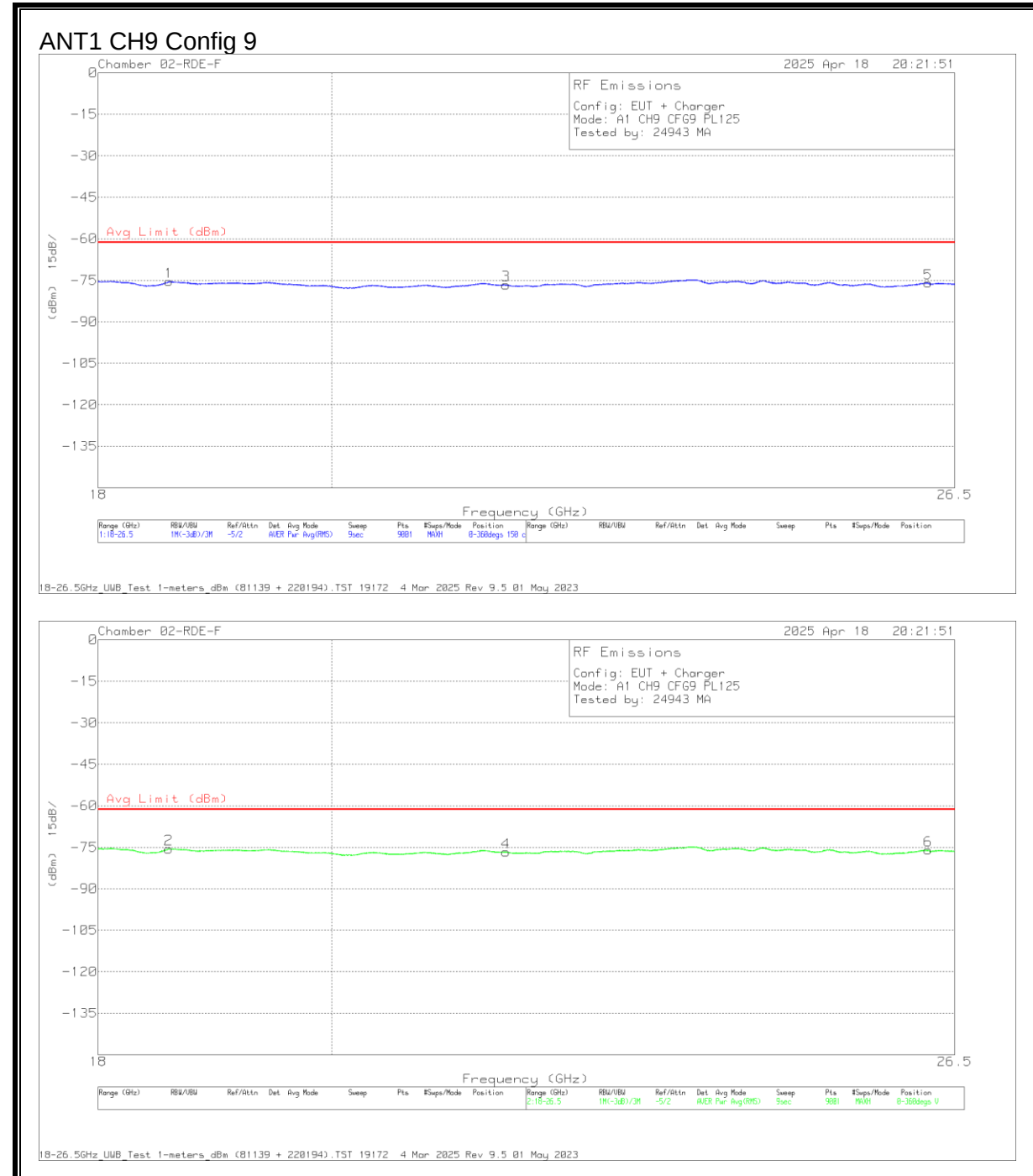
ANT2 CH9 Config 9



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	206806 ACF (dB/m)	Dist. Corr. (dB)	Conversion Factor (dB)	9GHz HPF (dB)	Gain/Loss (dB)	Corrected Reading (dBm)	RMS LIMIT (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	9.087	-66.78	RMS	36	-15.6	11.8	.5	-43	-77.08	-41.3	-35.78	110	155	H
1	9.0114	-65.69	RMS	35.9	-15.6	11.8	.5	-43.6	-76.69	-41.3	-35.39	102	155	H
2	9.084	-67.66	RMS	36	-15.6	11.8	.5	-43.2	-78.16	-41.3	-36.86	184	155	V
3	12.847	-66.52	RMS	38.9	-15.6	11.8	.3	-42	-73.12	-61.3	-11.82	110	155	H
4	12.853	-66.2	RMS	38.9	-15.6	11.8	.3	-42.3	-73.1	-61.3	-11.8	140	155	V
5	17.986	-67.43	RMS	41.6	-15.6	11.8	.2	-37.4	-66.83	-61.3	-5.53	220	155	H
6	17.986	-67.45	RMS	41.6	-15.6	11.8	.2	-37.4	-66.85	-61.3	-5.55	30	155	V

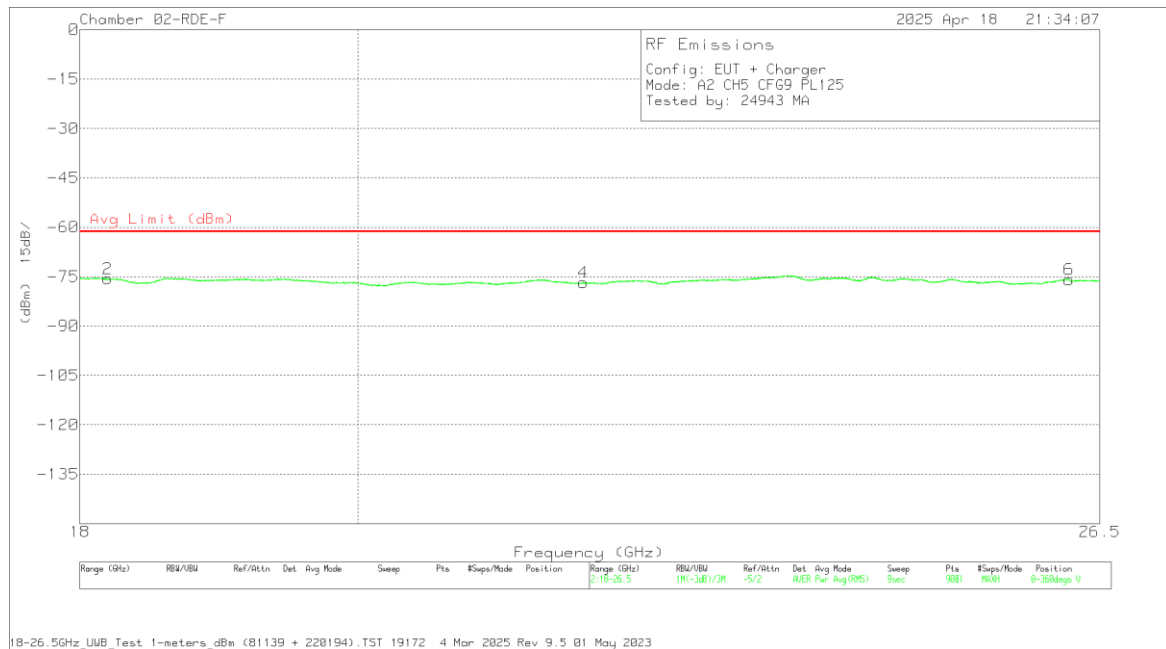
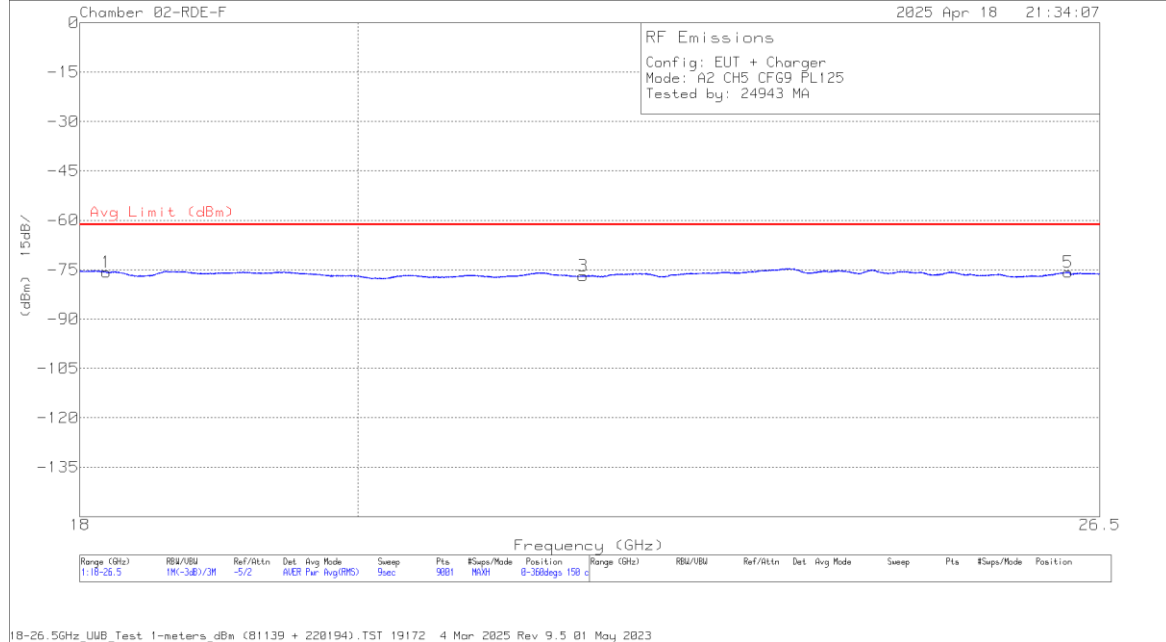
RMS - RMS detection

9.6.5. AVERAGE EMISSIONS, 18 – 26.5 GHz**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	81139 ACF (dB/m)	CBL (dB)	CBL/AMP	Dist Corr (dB)	Conv. Fact. (dB)	Corrected Reading (dBm)	Avg Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	18.584611	-65.84	RMS	32.9	17.4	-62.2	-9.5	11.8	-75.44	-61.3	-14.14	0-360	150	H
2	18.582722	-65.93	RMS	32.9	17.4	-62.2	-9.5	11.8	-75.53	-61.3	-14.23	0-360	150	V
3	21.638943	-69.15	RMS	33.8	18.7	-62.3	-9.5	11.8	-76.65	-61.3	-15.35	0-360	150	H
4	21.638943	-69.25	RMS	33.8	18.7	-62.3	-9.5	11.8	-76.75	-61.3	-15.45	0-360	150	V
5	26.181718	-71.59	RMS	35.3	20.7	-62.7	-9.5	11.8	-75.99	-61.3	-14.69	0-360	150	V
6	26.184552	-71.58	RMS	35.3	20.7	-62.7	-9.5	11.8	-75.98	-61.3	-14.68	0-360	150	H

RMS - RMS detection

ANT2 CH5 Config 9

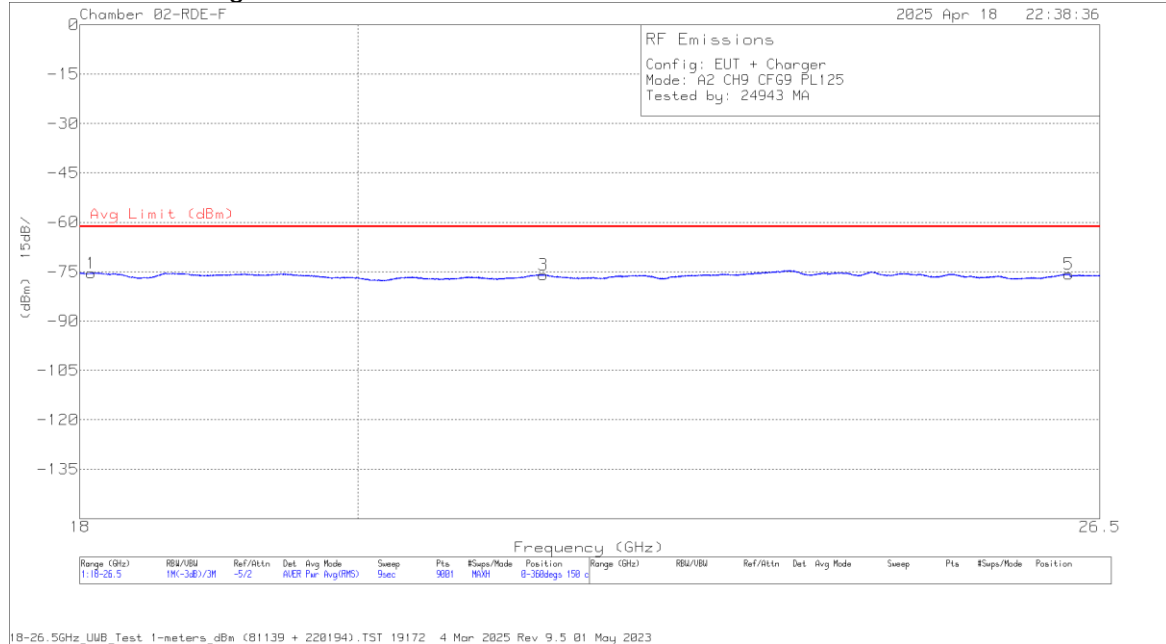


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	81139 ACF (dB/m)	CBL (dB)	CBL/AMP	Dist Corr (dB)	Conv. Fact. (dB)	Corrected Reading (dBm)	Avg Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	18.184167	-65.74	RMS	32.7	17.2	-62.2	-9.5	11.8	-75.74	-61.3	-14.44	0-360	150	H
2	18.191722	-65.64	RMS	32.7	17.2	-62.2	-9.5	11.8	-75.64	-61.3	-14.34	0-360	150	V
3	21.784387	-69.25	RMS	33.7	18.8	-62.4	-9.5	11.8	-76.85	-61.3	-15.55	0-360	150	H
4	21.788165	-69.17	RMS	33.7	18.8	-62.4	-9.5	11.8	-76.77	-61.3	-15.47	0-360	150	V
5	26.184552	-71.37	RMS	35.3	20.7	-62.7	-9.5	11.8	-75.77	-61.3	-14.47	0-360	150	H
6	26.193052	-71.44	RMS	35.3	20.7	-62.7	-9.5	11.8	-75.84	-61.3	-14.54	0-360	150	V

RMS - RMS detection

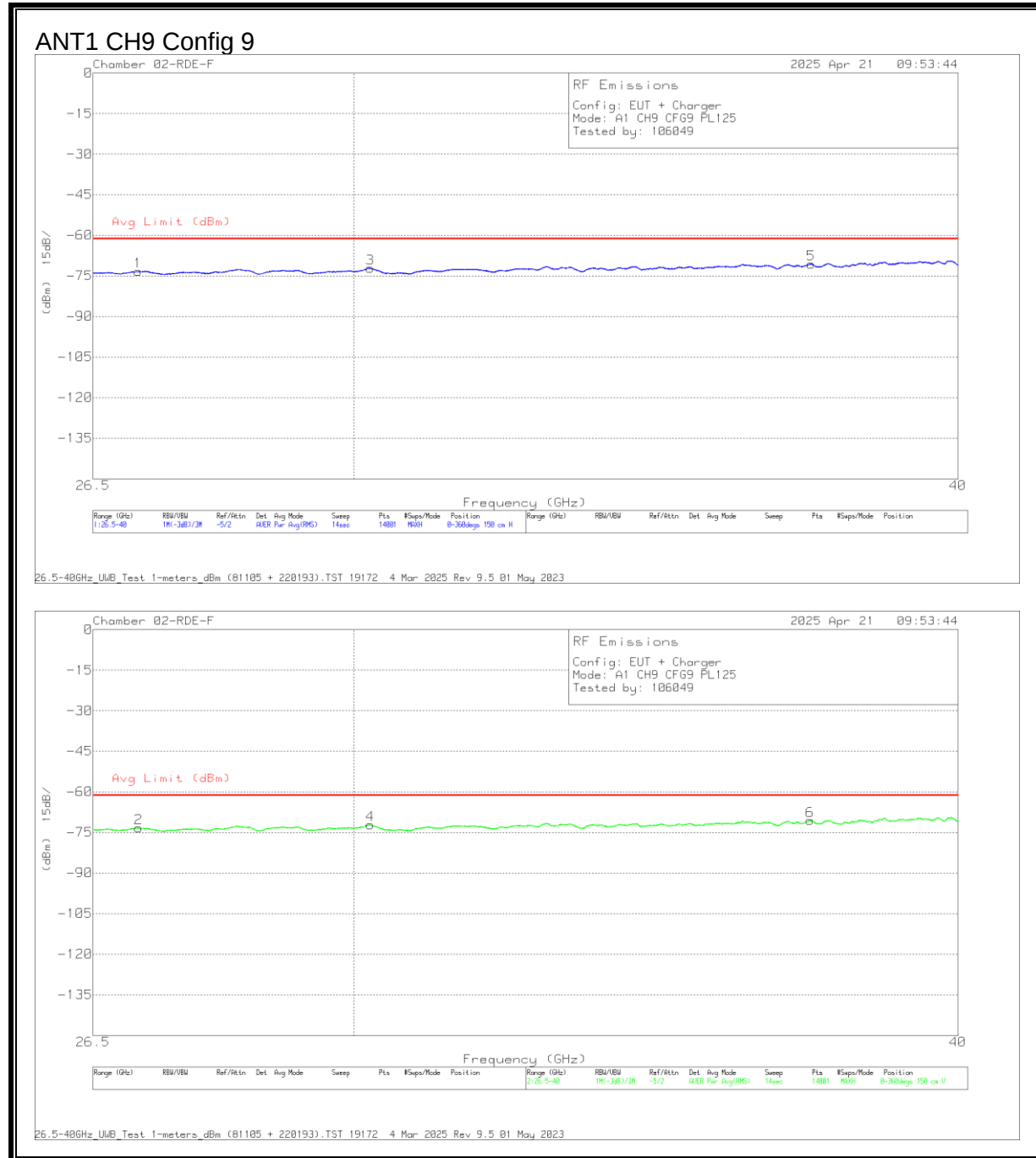
ANT2 CH9 Config 9



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	81139 ACF (dB/m)	CBL (dB)	CBL/AMP	Dist Corr (dB)	Conv. Fact. (dB)	Corrected Reading (dBm)	Avg Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	18.077444	-65.54	RMS	32.8	17.2	-62.2	-9.5	11.8	-75.44	-61.3	-14.14	0-360	150	H
2	18.071778	-65.61	RMS	32.8	17.2	-62.2	-9.5	11.8	-75.51	-61.3	-14.21	0-360	150	V
4	21.456665	-68.54	RMS	34	18.7	-62.4	-9.5	11.8	-75.94	-61.3	-14.64	0-360	150	V
3	21.457609	-68.51	RMS	34	18.7	-62.4	-9.5	11.8	-75.91	-61.3	-14.61	0-360	150	H
6	26.185496	-71.26	RMS	35.3	20.7	-62.7	-9.5	11.8	-75.66	-61.3	-14.36	0-360	150	V
5	26.190218	-71.32	RMS	35.3	20.7	-62.7	-9.5	11.8	-75.72	-61.3	-14.42	0-360	150	H

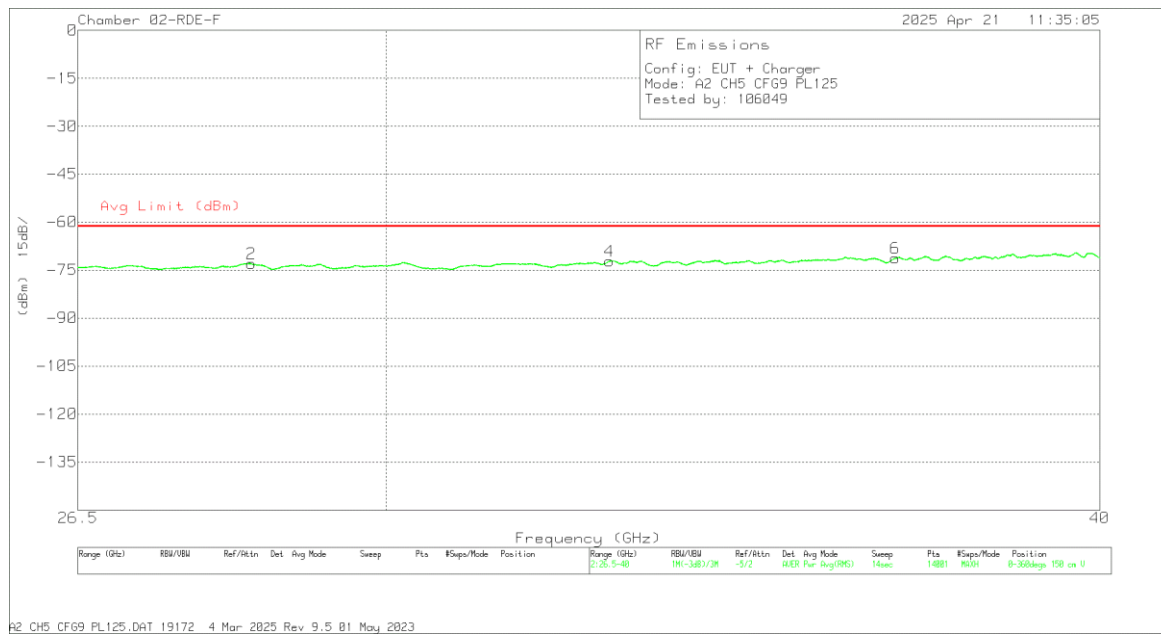
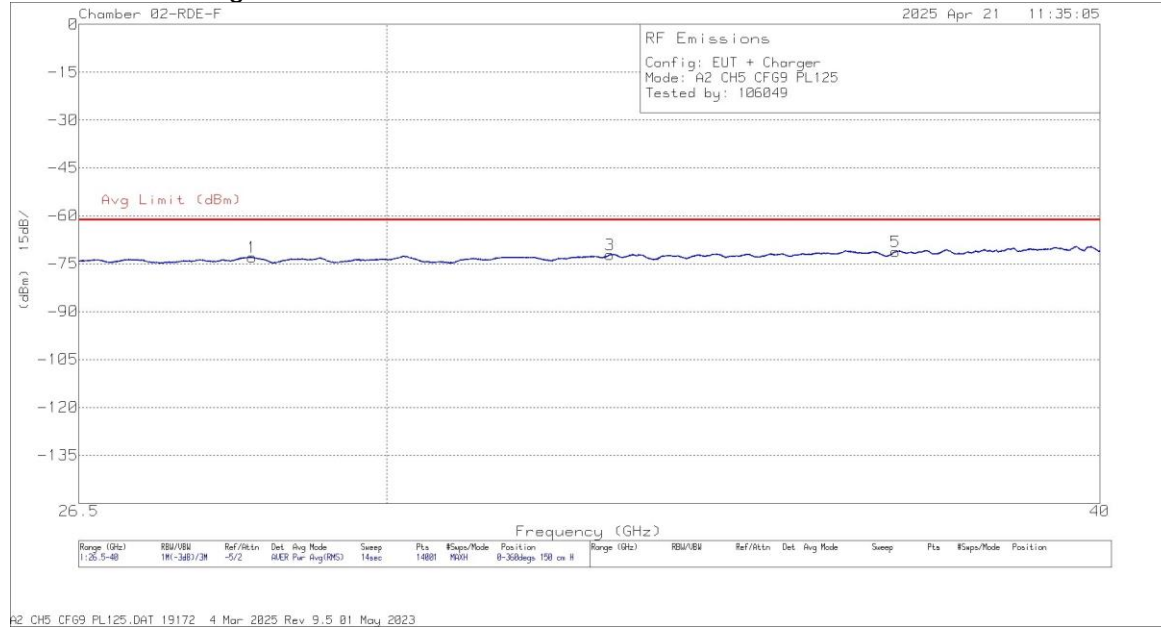
RMS - RMS detection

9.6.6. AVERAGE EMISSIONS, 26.5 – 40 GHz**Trace Markers**

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	81105 ACF (dB/m)	CBL/AMP	Dist Corr (dB)	Field strength to EIRP convers	CBL (dB)	Corrected Reading (dBm)	Avg Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	27.075679	-66.24	RMS	36.3	-66.8	-9.5	11.8	21.1	-73.34	-61.3	-12.04	0-360	150	H
2	27.0805	-66.22	RMS	36.3	-66.8	-9.5	11.8	21.1	-73.32	-61.3	-12.02	0-360	150	V
3	30.238537	-70.77	RMS	37.2	-63.4	-9.5	11.8	22.5	-72.17	-61.3	-10.87	0-360	150	H
4	30.24143	-70.79	RMS	37.2	-63.4	-9.5	11.8	22.5	-72.19	-61.3	-10.89	0-360	150	V
6	37.28361	-71.76	RMS	38.5	-64.7	-9.5	11.8	25.1	-70.56	-61.3	-9.26	0-360	150	V
5	37.298075	-71.81	RMS	38.5	-64.7	-9.5	11.8	25.1	-70.61	-61.3	-9.31	0-360	150	H

RMS - RMS detection

ANT2 CH5 Config 9

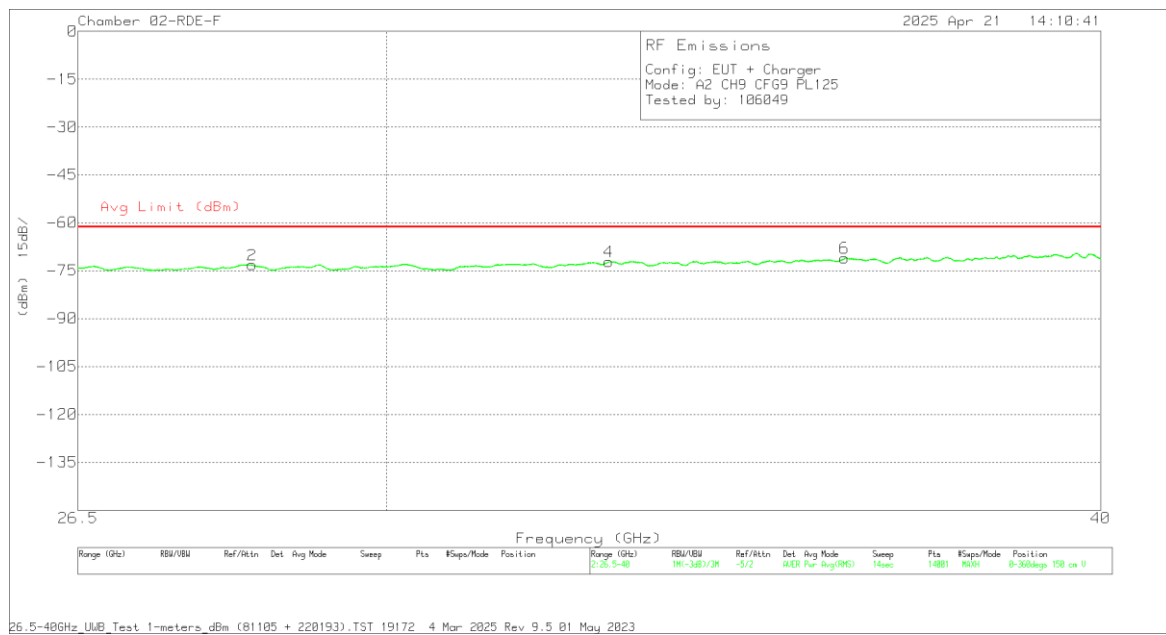
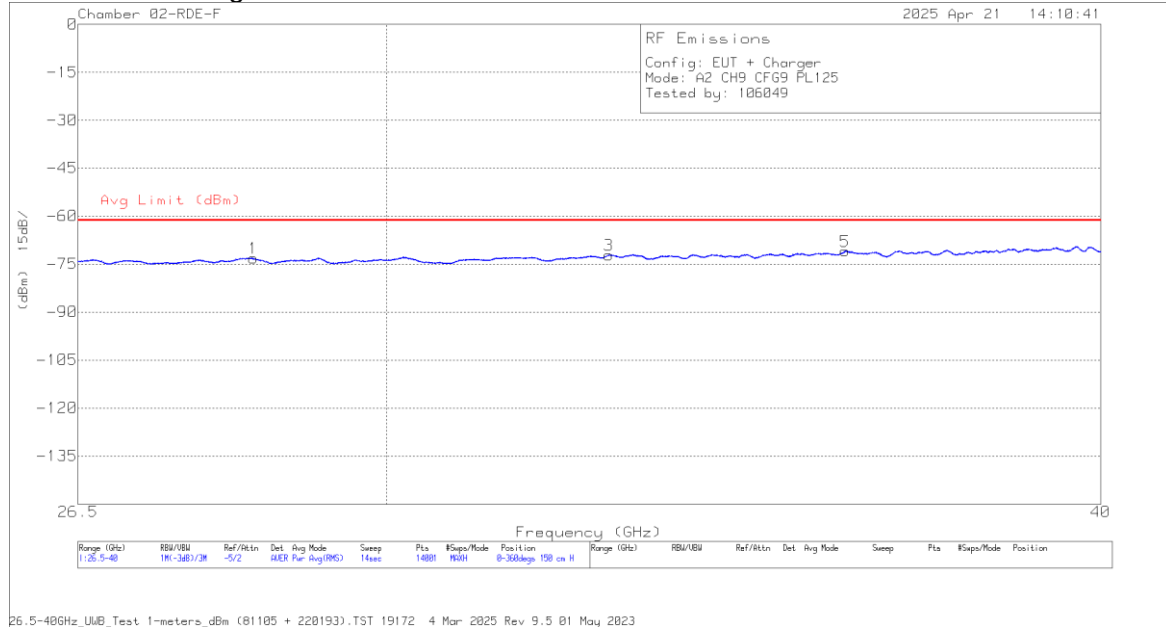


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	81105 ACF (dB/m)	CBL/AMP	Dist Corr (dB)	Field strength to EIRP convers	CBL (dB)	Corrected Reading (dBm)	Avg Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	28.415072	-69.29	RMS	36.8	-64.5	-9.5	11.8	21.8	-72.89	-61.3	-11.59	0-360	150	H
2	28.416036	-69.27	RMS	36.8	-64.5	-9.5	11.8	21.8	-72.87	-61.3	-11.57	0-360	150	V
3	32.82668	-72.02	RMS	38	-63.8	-9.5	11.8	23.4	-72.12	-61.3	-10.82	0-360	150	H
4	32.82668	-71.99	RMS	38	-63.8	-9.5	11.8	23.4	-72.09	-61.3	-10.79	0-360	150	V
6	36.833289	-71.74	RMS	38.4	-65.2	-9.5	11.8	25.1	-71.14	-61.3	-9.84	0-360	150	V
5	36.834253	-71.77	RMS	38.4	-65.2	-9.5	11.8	25.1	-71.17	-61.3	-9.87	0-360	150	H

RMS - RMS detection

ANT2 CH9 Config 9



Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBm)	Det	81105 ACF (dB/m)	CBL/AMP	Dist Corr (dB)	Field strength to EIRP convers	CBL (dB)	Corrected Reading (dBm)	Avg Limit (dBm)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	28.439179	-69.44	RMS	36.8	-64.6	-9.5	11.8	21.8	-73.14	-61.3	-11.84	0-360	150	H
2	28.423268	-69.6	RMS	36.8	-64.5	-9.5	11.8	21.8	-73.2	-61.3	-11.9	0-360	150	V
3	32.810288	-71.91	RMS	37.9	-63.8	-9.5	11.8	23.4	-72.11	-61.3	-10.81	0-360	150	H
4	32.811252	-72	RMS	37.9	-63.8	-9.5	11.8	23.4	-72.2	-61.3	-10.9	0-360	150	V
5	36.087896	-70.64	RMS	38.4	-66	-9.5	11.8	25	-70.94	-61.3	-9.64	0-360	150	H
6	36.081146	-70.71	RMS	38.4	-66	-9.5	11.8	25	-71.01	-61.3	-9.71	0-360	150	V

RMS - RMS detection

9.7. AC POWER-LINE CONDUCTED EMISSIONS**LIMITS**

FCC §15.207 (a) & RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 [*]	56 to 46 [*]
0.5-5	56	46
5-30	60	50

^{*} Decreases with the logarithm of the frequency.**TEST PROCEDURE**

ANSI C63.10 Section 6.2

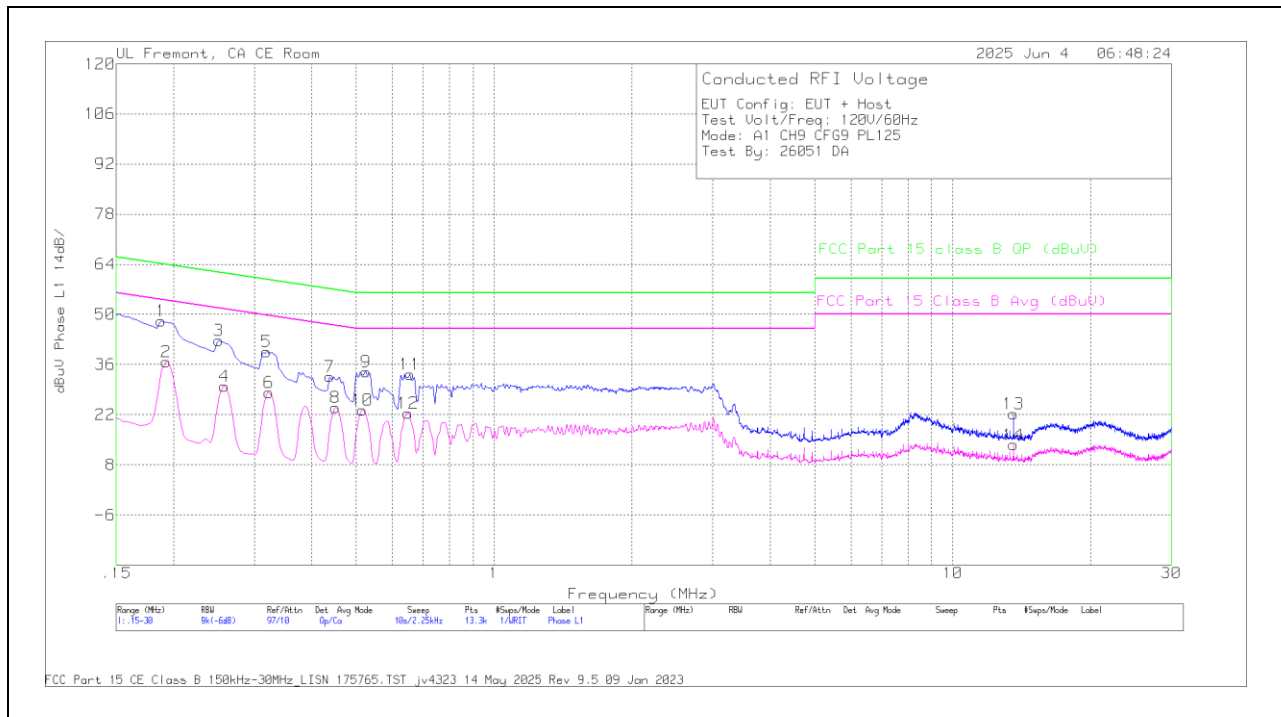
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

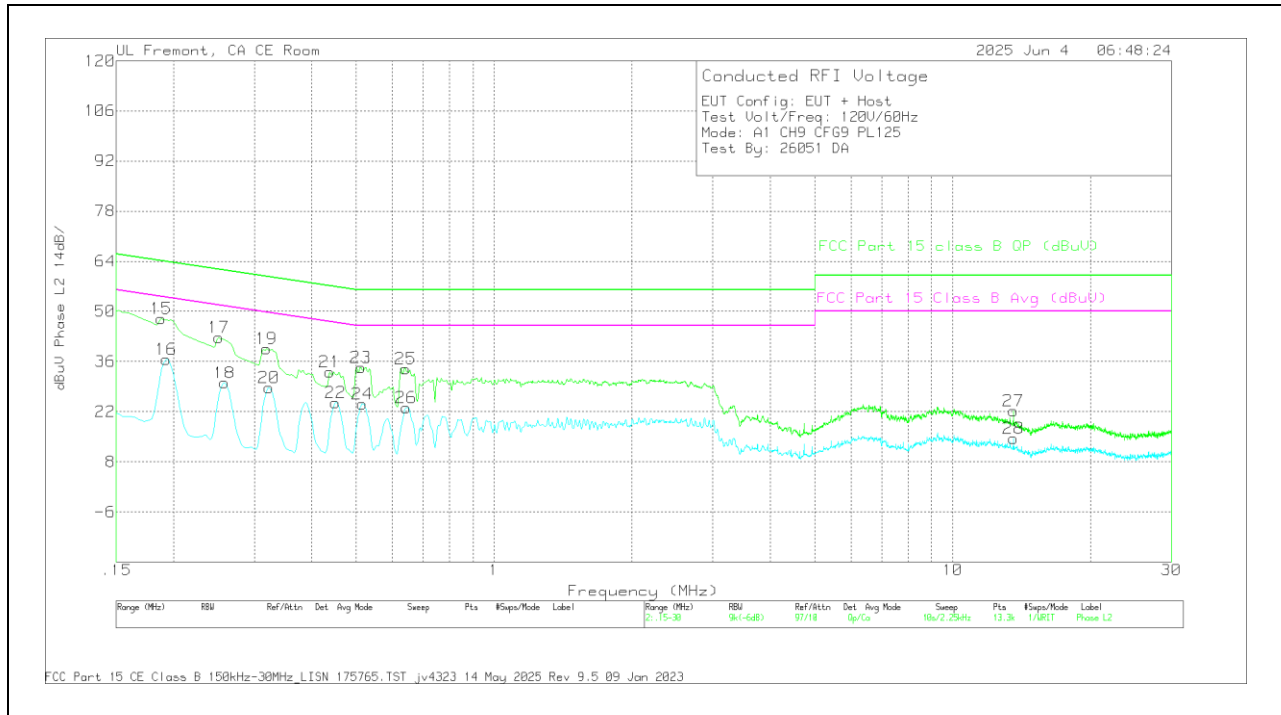
RESULTS

Employee IDs: 26051
Location: CA CE Room
Test Date: 6/4/2025

9.7.1. AC Power Line With Laptop**LINE 1 RESULTS****Trace Markers**

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading (dBuV)	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.1928	18.01	Ca	.2	.1	8.4	10	36.71	53.92	-17.21	-	-
4	.258	11.84	Ca	-.1	0	8.2	10	29.94	51.5	-21.56	-	-
6	.3233	10.21	Ca	-.2	0	8.2	10	28.21	49.62	-21.41	-	-
8	.4515	4.85	Ca	.2	0	8.9	10	23.95	46.85	-22.9	-	-
10	.5168	5.74	Ca	-.2	0	7.8	10	23.34	46	-22.66	-	-
12	.6495	3.86	Ca	.1	0	8.4	10	22.36	46	-23.64	-	-
14	13.56	-4.94	Ca	.2	.1	8.2	10	13.56	50	-36.44	-	-
1	.1883	29.43	Qp	.2	.1	8.4	10	48.13	-	-	64.11	-15.98
3	.2513	24.66	Qp	-.1	0	8.2	10	42.76	-	-	61.72	-18.96
5	.3188	21.63	Qp	-.2	0	8.2	10	39.63	-	-	59.74	-20.11
7	.438	13.84	Qp	0	0	8.8	10	32.64	-	-	57.1	-24.46
9	.5258	16.48	Qp	-.3	0	7.8	10	33.98	-	-	56	-22.02
11	.6563	14.81	Qp	.1	0	8.4	10	33.31	-	-	56	-22.69
13	13.56	3.71	Qp	.2	.1	8.2	10	22.21	-	-	60	-37.79

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS**Trace Markers**

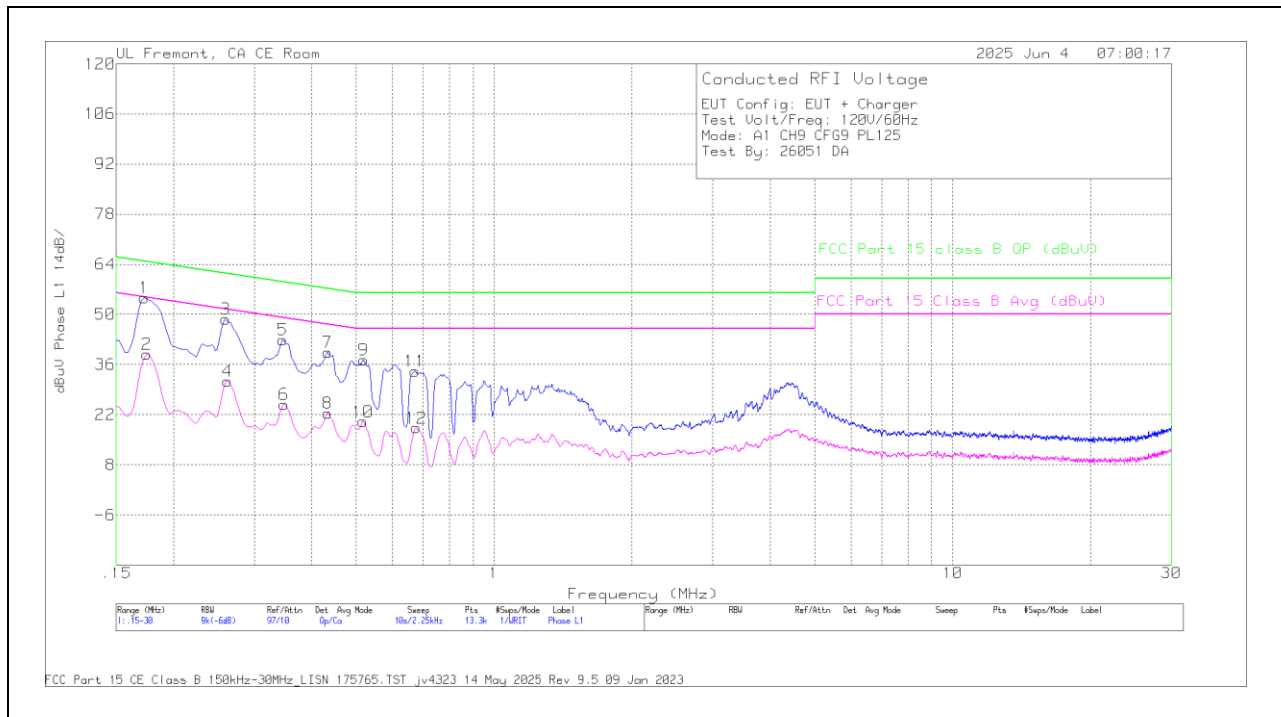
Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading (dBuV)	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
16	.1928	18.03	Ca	.2	0	8.4	10	36.63	53.92	-17.29	-	-
18	.258	11.93	Ca	-.1	0	8.2	10	30.03	51.5	-21.47	-	-
20	.3233	10.64	Ca	-.2	0	8.2	10	28.64	49.62	-20.98	-	-
22	.4515	5.45	Ca	.2	0	8.9	10	24.55	46.85	-22.3	-	-
24	.5168	6.56	Ca	-.2	0	7.8	10	24.16	46	-21.84	-	-
26	.6428	4.67	Ca	.1	0	8.4	10	23.17	46	-22.83	-	-
28	13.56	-4.01	Ca	.2	.1	8.2	10	14.49	50	-35.51	-	-
15	.1883	29.39	Qp	.2	0	8.4	10	47.99	-	-	64.11	-16.12
17	.2513	24.59	Qp	-.1	0	8.2	10	42.69	-	-	61.72	-19.03
19	.3188	21.61	Qp	-.2	0	8.2	10	39.61	-	-	59.74	-20.13
21	.438	14.29	Qp	0	0	8.8	10	33.09	-	-	57.1	-24.01
23	.5123	16.67	Qp	-.2	0	7.9	10	34.37	-	-	56	-21.63
25	.6405	15.51	Qp	.1	0	8.4	10	34.01	-	-	56	-21.99
27	13.56	3.71	Qp	.2	.1	8.2	10	22.21	-	-	60	-37.79

Qp - Quasi-Peak detector

Ca - CISPR average detection

9.7.2. AC Power Line With AC/DC Adapter

LINE 1 RESULTS

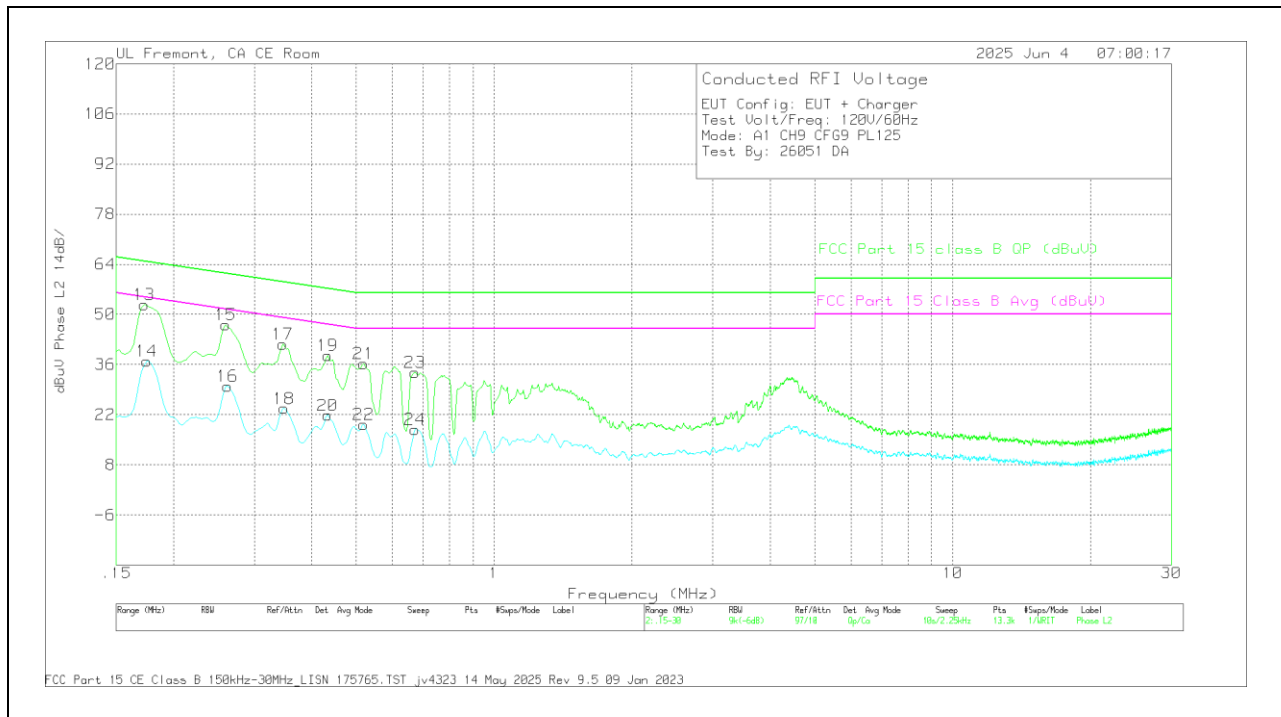


Trace Markers

Range 1: Phase L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
2	.1748	19.94	Ca	.3	.1	8.5	10	38.84	54.73	-15.89	-	-
4	.2625	13.3	Ca	-1.1	0	8.2	10	31.4	51.35	-19.95	-	-
6	.348	6.89	Ca	-4	0	8.4	10	24.89	49.01	-24.12	-	-
8	.4335	3.73	Ca	0	0	8.7	10	22.43	47.19	-24.76	-	-
10	.5179	2.43	Ca	-2	0	7.8	10	20.03	46	-25.97	-	-
12	.6765	-22	Ca	.2	0	8.3	10	18.28	46	-27.72	-	-
1	.1725	35.74	Qp	.3	.1	8.5	10	54.64	-	-	64.84	-10.2
3	.2603	30.61	Qp	-1.1	0	8.2	10	48.71	-	-	61.42	-12.71
5	.3458	24.96	Qp	-4	0	8.4	10	42.96	-	-	59.06	-16.1
7	.4335	20.76	Qp	0	0	8.7	10	39.46	-	-	57.19	-17.73
9	.519	19.81	Qp	-3	0	7.8	10	37.31	-	-	56	-18.69
11	.672	15.81	Qp	.1	0	8.3	10	34.21	-	-	56	-21.79

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



Trace Markers

Range 2: Phase L2 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	CBL(dB)	LISN (dB)	CBL(dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B Avg (dBuV)	Margin (dB)	FCC Part 15 class B QP (dBuV)	Margin (dB)
14	.1748	18.14	Ca	.3	0	8.5	10	36.94	54.73	-17.79	-	-
16	.2625	11.81	Ca	-.1	0	8.2	10	29.91	51.35	-21.44	-	-
18	.348	5.71	Ca	-.4	0	8.4	10	23.71	49.01	-25.3	-	-
20	.4335	3.09	Ca	0	0	8.7	10	21.79	47.19	-25.4	-	-
22	.519	1.76	Ca	-.3	0	7.8	10	19.26	46	-26.74	-	-
24	.672	-.6	Ca	.1	0	8.3	10	17.8	46	-28.2	-	-
13	.1725	33.95	Qp	.3	0	8.5	10	52.75	-	-	64.84	-12.09
15	.2603	29.03	Qp	-.1	0	8.2	10	47.13	-	-	61.42	-14.29
17	.3458	23.73	Qp	-.4	0	8.4	10	41.73	-	-	59.06	-17.33
19	.4335	19.81	Qp	0	0	8.7	10	38.51	-	-	57.19	-18.68
21	.519	18.76	Qp	-.3	0	7.8	10	36.26	-	-	56	-19.74
23	.672	15.4	Qp	.1	0	8.3	10	33.8	-	-	56	-22.2

Qp - Quasi-Peak detector

Ca - CISPR average detection

10. SETUP PHOTOS

Please refer to 15496224-EP1V1 for setup photos.

APPENDIX A – SPOT CHECK EVALUATION

1. SPOT CHECK EVALUATION

1.1. MODEL DIFFERENCES

The manufacturer hereby declares the following for models A3256, A3522, A3523 and A3524.

These models have the same PCB layout, design, common components, antennas, antenna locations and housing cases, except for FR2 is removed from variants and disabled/enabled cellular bands via software as shown below.

Model	FCC ID	IC ID	Feature Difference	Sim Support	Reference Model
A3256	BCG-E8949A	579C-E8949A	-With FR2/LTE/5GNR B14/29/71 -No B11/21 -With UL MIMO (n41/48/77)	eSIM	-
A3522	BCG-E8957A	579C-E8957A	-Without FR2 -Added B11/21 -No UL MIMO	eSIM	A3256
A3523	BCG-E8958A	579C-E8958A	-Without FR2 -No LTE/5GNR B14/29/71 -No LTE B11/21 -No UL MIMO	eSIM+pSIM	
A3524	BCG-E8959A	579C-E8959A	-Without FR2 -No LTE/5GNR B14/29/71 -No LTE B11/21 -With UL MIMO (n41/78/79) -No MSS / 5GNR B53	pSIM+pSIM	

Note:

The spot check plan allows for data reuse from the reference model where the variant model data meets the limits and has not changed by more than the criteria from KDB 484596 D01 v03 equation (4).

$$d_{dBmax}(M_{dB}) = \begin{cases} (3 + M_{dB}/20) \text{ dB} & , \text{ for } 0 \leq M_{dB} \leq 60 \text{ dB} \\ 6 \text{ dB} & , \text{ for } M_{dB} > 60 \text{ dB} \end{cases} \quad (4)$$

Where: d_{dB} deviation from Reference data, V_{dB} variant spot check level, and R_{dB} measurement level

Alternate sets of power settings are applied to variant models to match the effective equivalent isotropic radiated power (EIRP) results of the reference model.

1.1. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3522

A3522 SPOT CHECK RESULTS											
Equipment Class / Technology	Worst Mode	Channel	Config	PL	Test Item	Measured Frequency (GHz)	Original Model: A3256	Sub Model: A3522	Delta (dB or MHz)	Margin	Remarks
							FCC ID : BCG-E8949A IC : 579C-E8949A	FCC ID: BCG-E8957A IC : 579C-E8957A			
UWB	Ant 2	5	804	0Gap0	Avg EIRP Power (dBm)	6 to 9	-42.30	-42.62	-0.32	1.62	Note 1
					Operating Bandwidth (MHz)	6 to 9	562.64	558.14	-4.50	N/A	Note 3
			9	125	Out-Of-Band Emissions (dBm)	9 to 18	-66.78	-70.01	-3.23	8.71	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596. Additional tests performed on second channel.

Note 3: For bandwidth the criteria is that the bandwidth for both reference and variants models be larger than 500MHz.

1.2. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3523

A3523 SPOT CHECK RESULTS											
Equipment Class / Technology	Worst Mode	Channel	Config	PL	Test Item	Measured Frequency (GHz)	Original Model: A3256	Sub Model: A3523	Delta (dB or MHz)	Margin	Remarks
							FCC ID : BCG-E8949A IC : 579C-E8949A	FCC ID: BCG-E8958A IC : 579C-E8958A			
UWB	Ant 2	5	804	0Gap0	Avg EIRP Power (dBm)	6 to 9	-42.30	-42.72	-0.42	1.30	Note 1
					Operating Bandwidth (MHz)	6 to 9	562.64	561.14	-1.50	N/A	Note 3
			9	125	Out-Of-Band Emissions (dBm)	9 to 18	-66.78	-69.60	-2.82	5.48	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596. Additional tests performed on second channel.

Note 3: For bandwidth the criteria is that the bandwidth for both reference and variants models be larger than 500MHz.

1.3. SPOT CHECK VERIFICATION RESULTS SUMMARY FOR A3524

A3524 SPOT CHECK RESULTS											
Equipment Class / Technology	Worst Mode	Channel	Config	PL	Test Item	Measured Frequency (GHz)	Original Model: A3256	Sub Model: A3524	Delta (dB or MHz)	Margin	Remarks
							FCC ID : BCG-E8949A IC : 579C-E8949A	FCC ID: BCG-E8959A IC : 579C-E8959A			
UWB	Ant 2	5	804	0Gap0	Avg EIRP Power (dBm)	6 to 9	-42.30	-42.33	-0.03	1.30	Note 1
					Operating Bandwidth (MHz)	6 to 9	562.64	559.14	-3.50	N/A	Note 3
			9	125	Out-Of-Band Emissions (dBm)	9 to 18	-66.78	-69.92	-3.14	5.48	Note 1

Note 1: Deviation from reference to variant within the value allowed by equation (4) in KDB 484596. Additional tests not required.

Note 2: Deviation from reference to variant exceeds the value allowed by equation (4) in KDB 484596. Additional tests performed on second channel.

Note 3: For bandwidth the criteria is that the bandwidth for both reference and variants models be larger than 500MHz.