RHEIN TECH LABORATORIES, INC.

Engineering Solutions & Electromagnetic Compatibility Services

Certification Application Report
FCC Part 15.407 & ISED RSS-247

Test Lab:		Applicant:	
Rhein Tech Laboratories, Inc. Phone: 703-689 0368 360 Herndon Parkway www.rheintech.com Suite 1400 Herndon, VA 20170		L3Harris Technologies 221 Jefferson Ridge Parkway Lynchburg, VA 24501 USA	
FCC ID **IC**	OWDTR-0176-E 3636B-0176	**Test Report Date**	April 23, 2025
Platform	N/A	**RTL Work Order #**	2024072NII
Model **HVIN**	XL-85M VHF XLM-85M-VHF	**RTL Quote Number**	QRTL24-072B

American National Standard Institute	ANSI C63.10-2020 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
FCC Classification	NII-Unlicensed National Information Infrastructure TX
FCC Rule Part(s)	FCC Rules Part 15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz (10-01-21)
ISED Standards	RSS-247 Issue 3: Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices RSS-Gen Issue 5: General Requirements for Compliance of Radio Apparatus
Digital Interface Information	Digital Interface was found to be compliant

Frequency Range (MHz)	Output Power (W) Peak Conducted	Frequency Tolerance	Emission Designator
5170 – 5240	0.055	N/A	18M8G7D
5745 – 5825	0.019	N/A	17M0G7D
5170 – 5240	0.065	N/A	36M4G7D
5745 – 5825	0.023	N/A	36M2G7D

I, the undersigned, hereby declare that the equipment tested and referenced in this report conforms to the identified standard(s) as described in this test report. No modifications were made to the equipment during testing in order to achieve compliance with these standards. Furthermore, there was no deviation from, additions to, or exclusions from, the applicable parts of FCC Part 2, FCC Part 15, ANSI C63.10, and ISED RSS-247 and RSS-Gen.

Signature: 

Date: April 23, 2025

Typed/Printed Name: Desmond A. Fraser

Position: President

These tests are accredited and meet the requirements of ISO/IEC 17025 as verified by ANAB. Refer to certificate and scope of accreditation AT-1445. Replaces R1.1.

Table of Contents

Figure Index

Table Index

Plot Index

Appendix Index

Photograph Index

1 General Information

1.1 Scope

Applicable Standards

- FCC Rules Part 15.407: Unlicensed National Information Infrastructure Devices - General Technical Requirements
- ISED RSS-247: Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
- ISED RSS-Gen Issue 5: General Requirements for Compliance of Radio Apparatus

1.2 Description of EUT

The EUT is a client device without the necessary hardware components to support DFS functionality; e.g., no dedicated radar detection module.

Equipment Under Test	XL-85M VHF Mobile Radio
HVIN	XLM-85M-VHF
Power Supply	13.8 VDC
Modulation Type	OFDM (802.11 a)
Frequency Range	5170 – 5240 MHz 5745 – 5825 MHz

1.3 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located at 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20170.

CAB ID: US0079

1.4 Related Submittal(s)/Grant(s)

This is an original certification application for L3Harris Technologies Model XL-85M VHF Land Mobile Radio, FCC ID: OWDTR-0176-E, IC: 3636B-0176.

1.5 Modifications

No modifications were required for compliance.

2 Test Information

2.1 Description of Test Modes

In accordance with FCC 15.31(m), and because the EUT utilizes an operating band greater than 10 MHz, the following frequencies were tested.

Table 2-1: Channels Tested for Wi-Fi 802.11a

Channel (#)	Frequency (MHz)
34 (U-NII 1)	5170
36 (U-NII 1)	5180
38 (U-NII 1)	5190
40 (U-NII 1)	5200
42 (U-NII 1)	5210
44 (U-NII 1)	5220
46 (U-NII 1)	5230
48 (U-NII 1)	5240
149 (U-NII 3)	5745
151 (U-NII 3)	5755
153 (U-NII 3)	5765
155 (U-NII 3)	5775
157 (U-NII 3)	5785
159 (U-NII 3)	5795
161 (U-NII 3)	5805
165 (U-NII 3)	5825

2.2 Exercising the EUT

The EUT was tested in all three orthogonal planes to determine the worst-case emissions. The EUT was provided with software to transmit continuously during testing. The carrier was also checked to verify that information was being transmitted, all modes were investigated, and the worst-case mode was used for final testing. There were no deviations from the test standard(s) and/or methods. The test results reported relate only to the item tested.

2.3 Test Result Summary

Table 2-2: Test Result Summary – FCC Part 15, Subpart C (Section 15.407); ISED RSS-247, RSS-Gen

FCC	ISED	Test	Result
FCC 15.207	RSS-Gen 8.8	AC Conducted Emissions	N/A
FCC 15.209	RSS-247 6.2; RSS-Gen 6.13	Radiated Emissions	Pass
FCC 15.407(a/1/3)	RSS-247 6.2; RSS-Gen 6.12	Maximum Peak Power Output	Pass
FCC 15.407(a/1/3)	RSS-247 6.2	Power Spectral Density	Pass
FCC 15.407(g)	RSS-Gen 6.11	Frequency Stability	N/A
FCC 15.407(b)(7)	RSS-247 6.2	Band Edge Measurement	Pass
FCC 15.407(b)(6)	RSS-247 6.2	Antenna Conducted Spurious Emissions	Pass
FCC 15.407(a) and (e)	RSS-247 6.2	26 dB and 6dB Bandwidth	Pass
N/A	RSS-Gen 6.7/ TRC-43	99% Bandwidth	Pass

2.4 Tested System Details

The test sample was received on February 16, 2025. Listed below are the identifiers and descriptions of all equipment, cables, and internal devices used with the EUT for this test, as applicable. The device was programmed for multiple modes of operation and modulation types.

Table 2-3: Equipment Under Test (EUT)

Part	Manufacturer	Model	PN/SN	FCC ID	RTL Bar Code
Mobile Radio	L3Harris Technologies	XL-85M VHF	FCC UNIT 2	OWDTR-0176-E	24455
Mobile Radio	L3Harris Technologies	XL-85M VHF	N/A	OWDTR-0176-E	24456
Control Head/ Keyboard	L3Harris Technologies	XL-CH2	A4031A000186	OWDTR-0171-E	24454
Wi-Fi/BT Antenna	JRC Mobility	MTD302248	MTD302248	N/A	N/A
Handset/ Mic/Speaker	L3Harris Technologies	N/A	14050-6010-01	N/A	24462

2.5 Configuration of Tested System

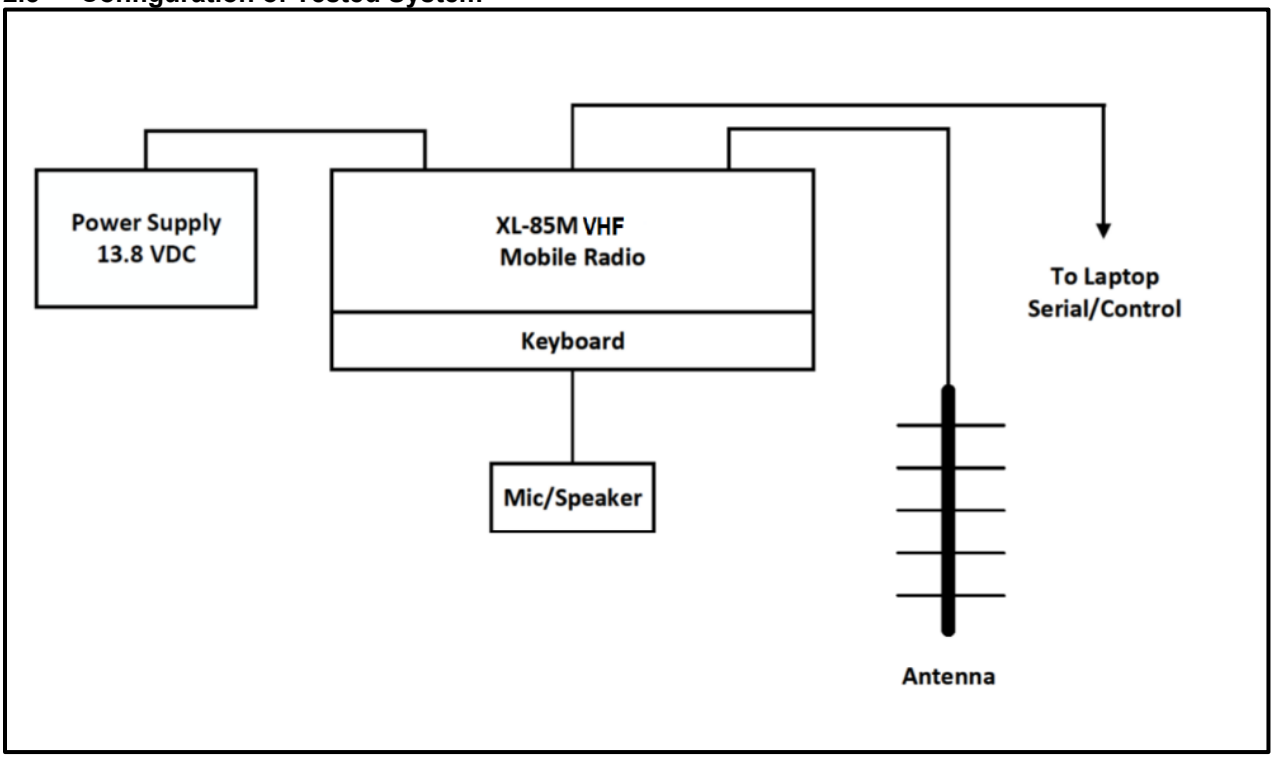


Figure 2-1: Configuration of Tested System

3 Peak Output Power – FCC 15.407(a/1/3); RSS-247 6.2, RSS-Gen 6.12

3.1 Power Output Test Procedure

A conducted power measurement of the EUT was taken using a Rohde & Schwarz Analyzer with a 50 ohm attenuator.

Table 3-1: Power Output Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901773	Rohde & Schwarz	FSW	Spectrum Analyzer	101021	02/02/2027
901772	Pasternack	PE7087-10	10 dB 2 W 26 GHz Attenuator	1011	11/30/2027

3.2 Power Output Test Results

Table 3-2: Environmental Conditions

Date	Temperature (°C)	Humidity (%)	Pressure (kPa)
March 3, 2025	22	43	101.5

Table 3-3: Power Output Test Data – U-NII 1 – 802.11a (20 MHz BW)

Channel (#)	Frequency (MHz)	Conducted Peak Power (dBm)	Limit (dBm)	Margin (dB)
34	5170	17.1	30.0	-12.9
40	5200	17.4	30.0	-12.6
48	5240	17.2	30.0	-12.8

Table 3-4: Power Output Test Data – U-NII 3 – 802.11a (20 MHz BW)

Channel (#)	Frequency (MHz)	Conducted Peak Power (dBm)	Limit (dBm)	Margin (dB)
149	5745	12.7	30.0	-17.3
157	5785	12.2	30.0	-17.8
165	5825	11.1	30.0	-18.9

Table 3-5: Power Output Test Data – U-NII 1 – 802.11a (40 MHz BW)

Channel (#)	Frequency (MHz)	Conducted Peak Power (dBm)	Limit (dBm)	Margin (dB)
38	5190	18.1	30.0	-11.9
46	5230	18.0	30.0	-12.0

Table 3-6: Power Output Test Data – U-NII 3 – 802.11a (40 MHz BW)

Channel (#)	Frequency (MHz)	Conducted Peak Power (dBm)	Limit (dBm)	Margin (dB)
151	5755	13.7	30.0	-16.3
159	5795	12.5	30.0	-17.5

Measurement uncertainty: ±0.5 dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor k=2.

Results: Pass

Test Personnel:

Daniel W. Baltzell		March 3, 2025
Test Engineer	Signature	Date of Test

4 Compliance with the Band Edge – FCC 15.407(b)(7); RSS-247 6.2

4.1 Band Edge Test Procedure

The transmitter output was connected to its corresponding antenna. Corrected measurements, including 1 MHz integrated peak (100 kHz RBW/300 kHz VBW) and 1 MHz integrated average (100 kHz RBW/300 kHz VBW), were taken within the restricted band to demonstrate compliance.

Table 4-1: Band Edge Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901773	Rohde & Schwarz	FSW	Spectrum Analyzer	101021	02/02/2027

4.2 Restricted Band Edge Test Results

Table 4-2: Environmental Conditions

Date	Temperature (°C)	Humidity (%)	Pressure (kPa)
March 4-5, 2025	21	41	101.2

Conversion of dBm to dBµV/m at 3 m dBµV/m = dBm + 104.7 – (20 * LOG(3m)) = dBm + 95.2

4.1 Band Edge Plots

Plot 4-1: Lower Band Edge – Average – U-NII 1 – 802.11a (20 MHz BW)

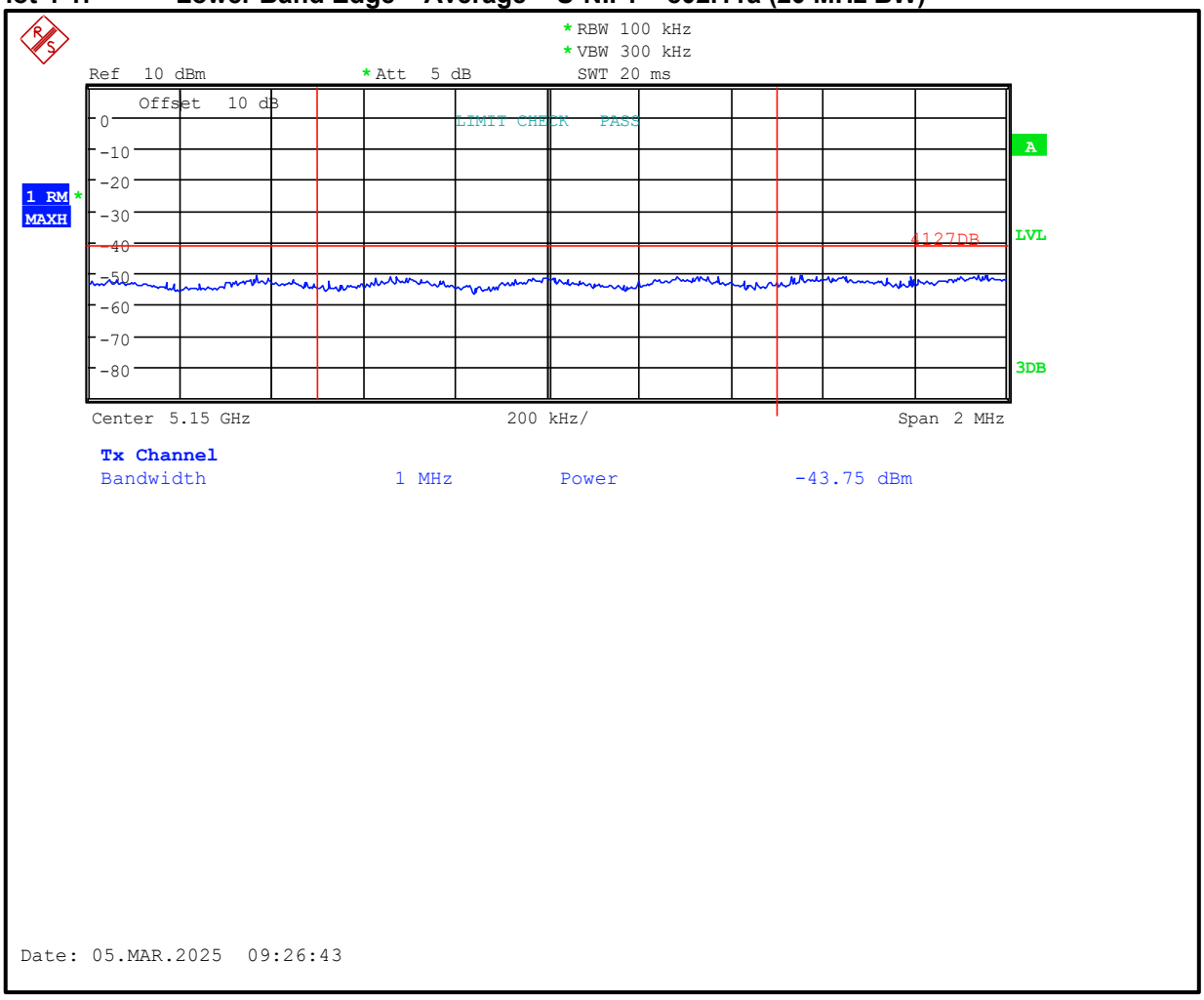


Table 4-3: Lower Band Edge Average – U-NII 1 – 802.11a (20 MHz BW)

Frequency (MHz)	Measured Average Level (dBm)	Field Strength Conversion (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)
5150	-43.8	51.4	54.0	-2.6

Plot 4-2: Lower Band Edge – Peak – U-NII 1 – 802.11a (20 MHz BW)

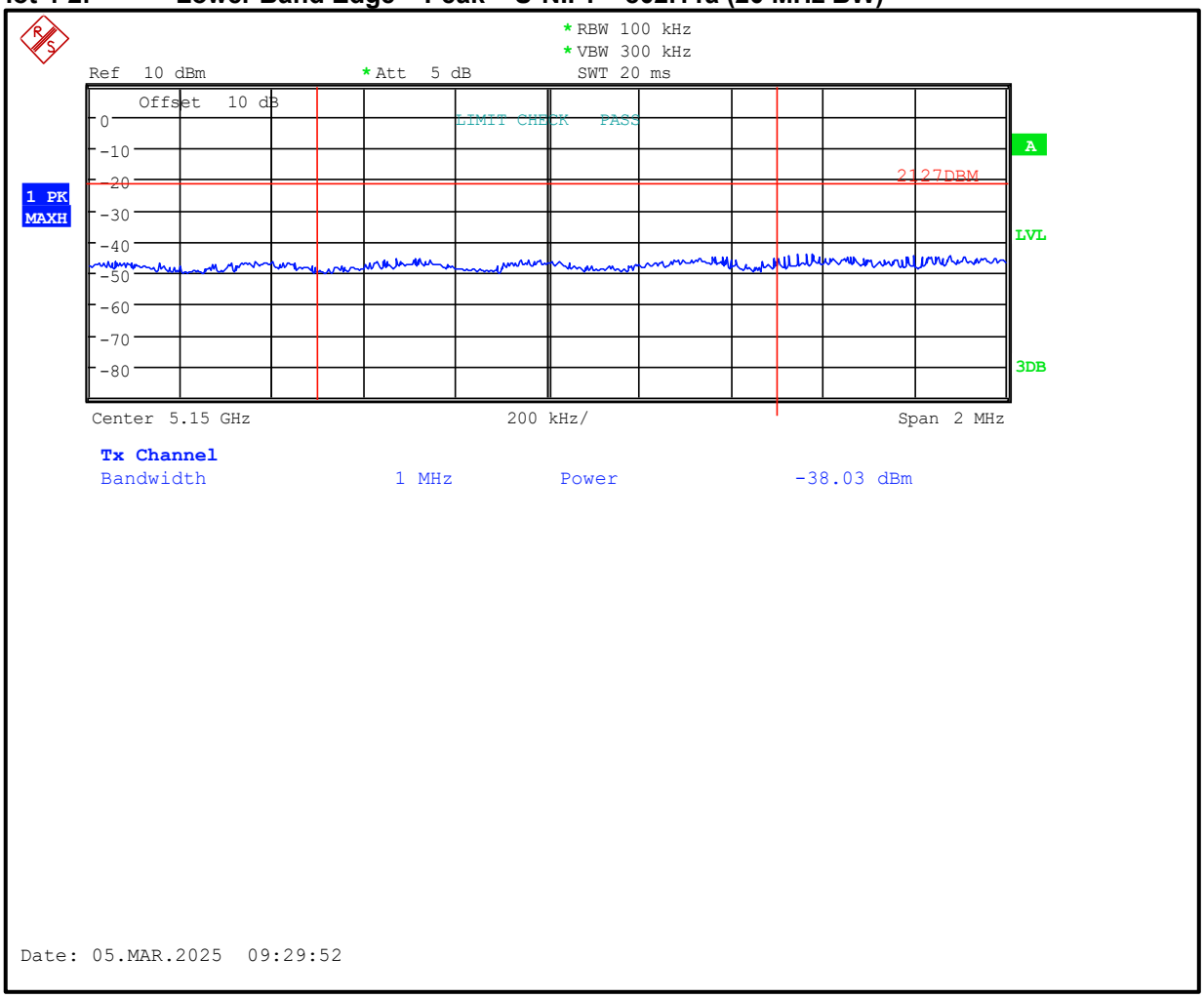


Table 4-4: Lower Band Edge Peak – U-NII 1 – 802.11a (20 MHz BW)

Frequency (MHz)	Measured Peak Level (dBm)	Field Strength Conversion (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)
5150	-38.0	57.2	74.0	-16.8

Plot 4-3: Upper Band Edge – Average – U-NII 1 – 802.11a (20 MHz BW)

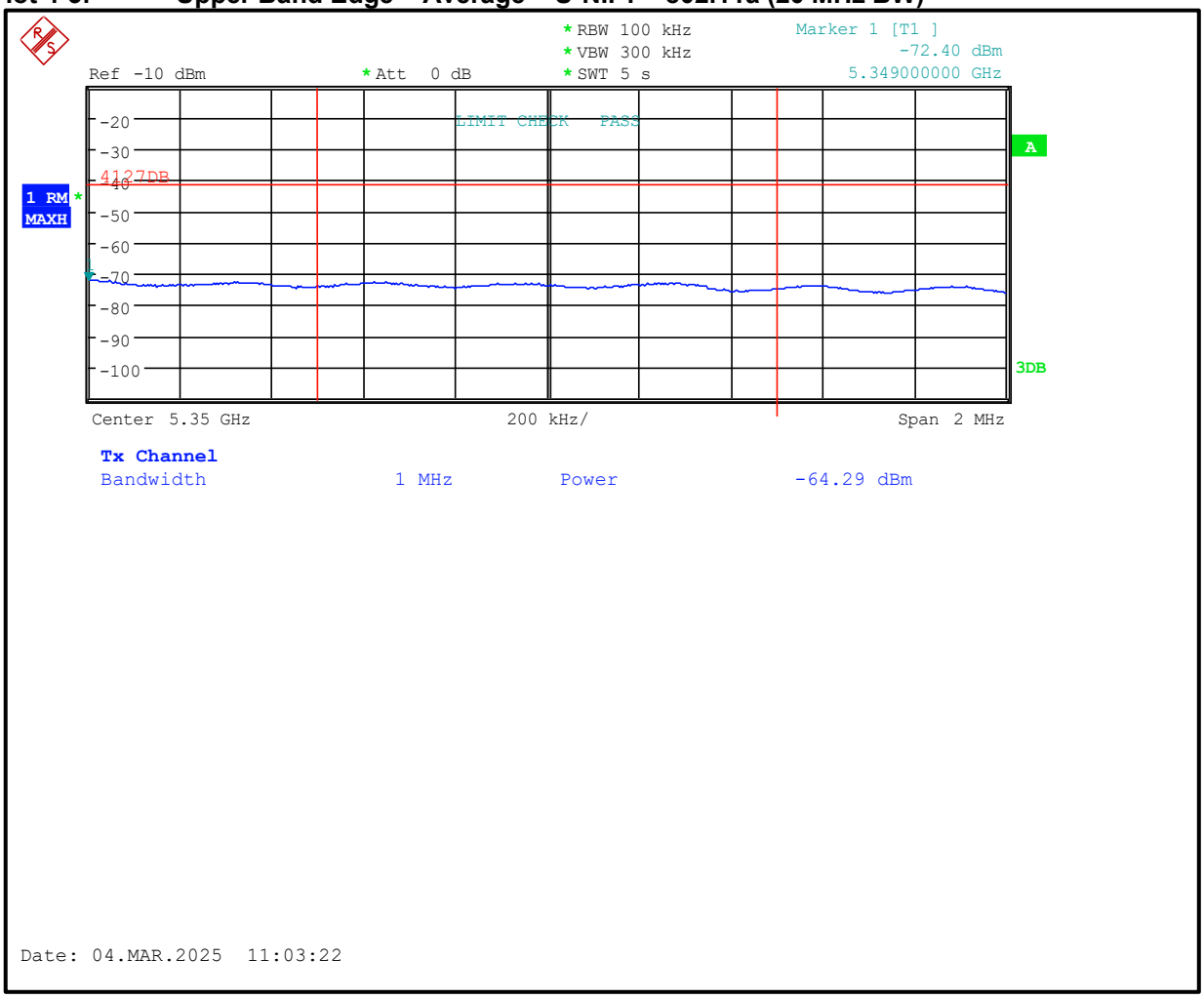


Table 4-5: Upper Band Edge Average – U-NII 1 – 802.11a (20 MHz BW)

Frequency (MHz)	Measured Average Level (dBm)	Field Strength Conversion (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)
5350	-64.3	31.0	54.0	-23.0

Plot 4-4: Upper Band Edge – Peak – U-NII 1 – 802.11a (20 MHz BW)

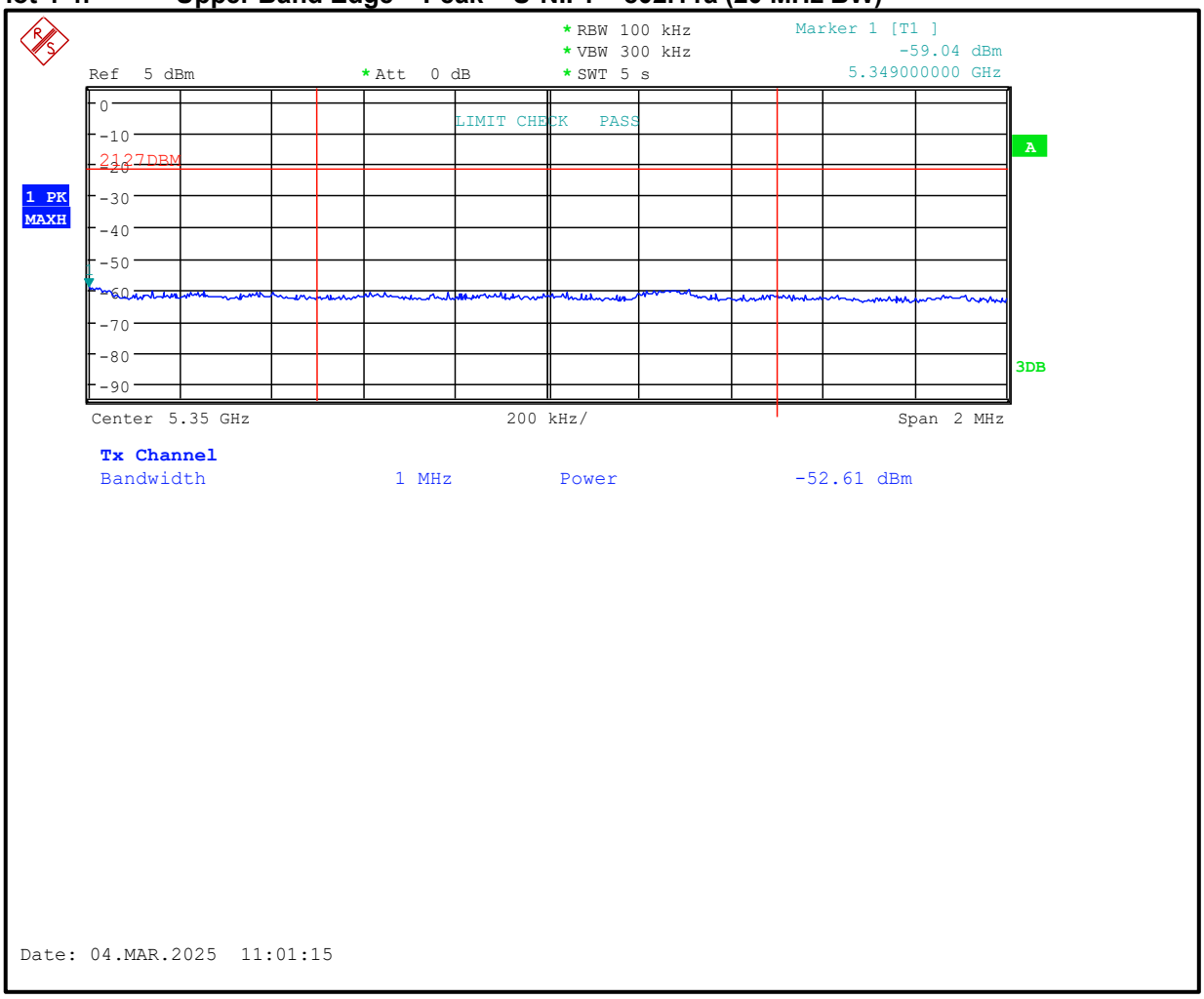


Table 4-6: Upper Band Edge Peak – U-NII 1 – 802.11a (20 MHz BW)

Frequency (MHz)	Measured Peak Level (dBm)	Field Strength Conversion (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)
5350	-52.6	42.7	74.0	-31.3

Plot 4-5: Lower Band Edge – Average – U-NII 1 – 802.11a (40 MHz)

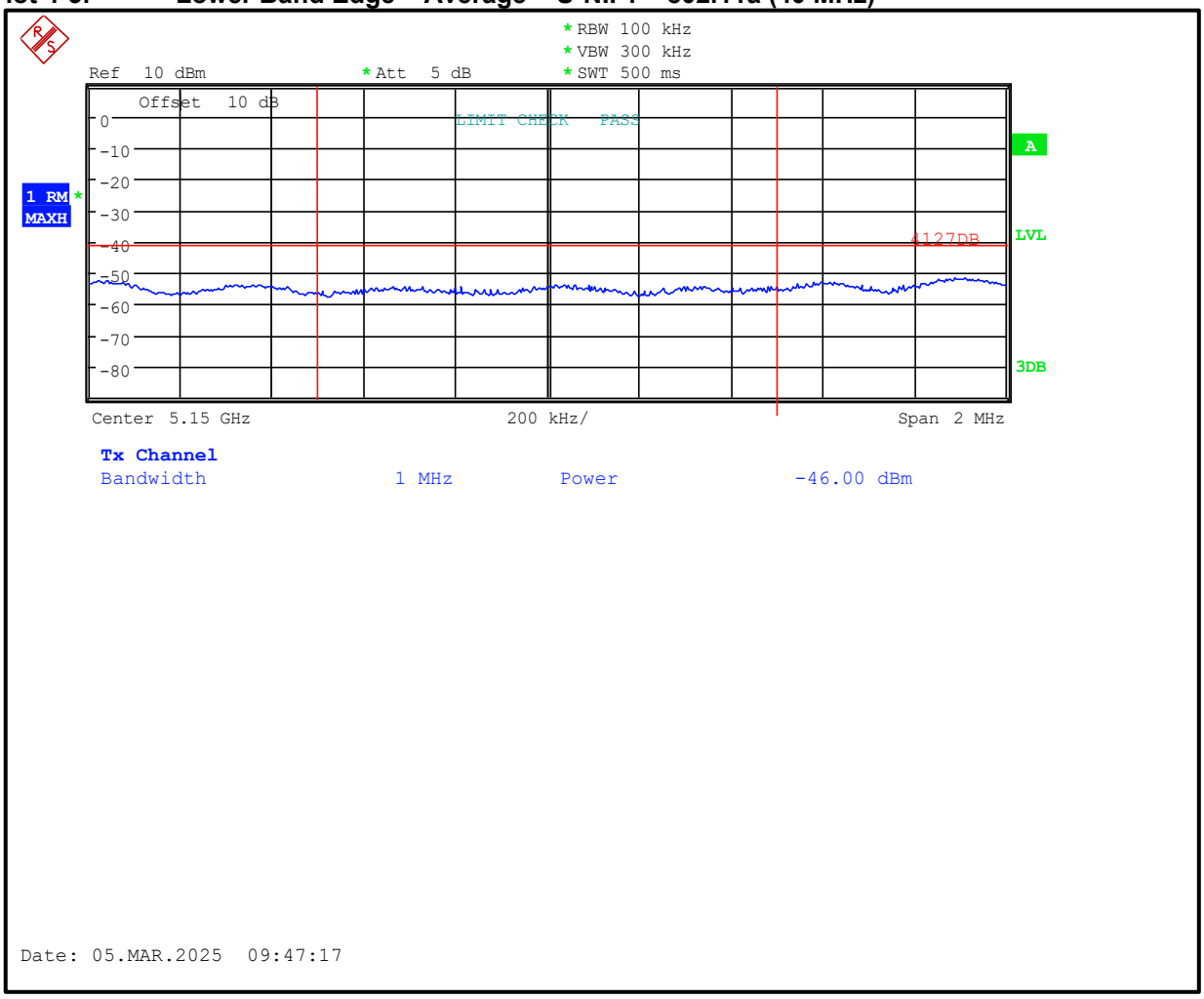


Table 4-7: Lower Band Edge Average – U-NII 1 – 802.11a (40 MHz BW)

Frequency (MHz)	Measured Average Level (dBm)	Field Strength Conversion (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)
5150	-46.0	49.2	54.0	-4.8

Plot 4-6: Lower Band Edge – Peak – U-NII 1 – 802.11a (40 MHz BW)

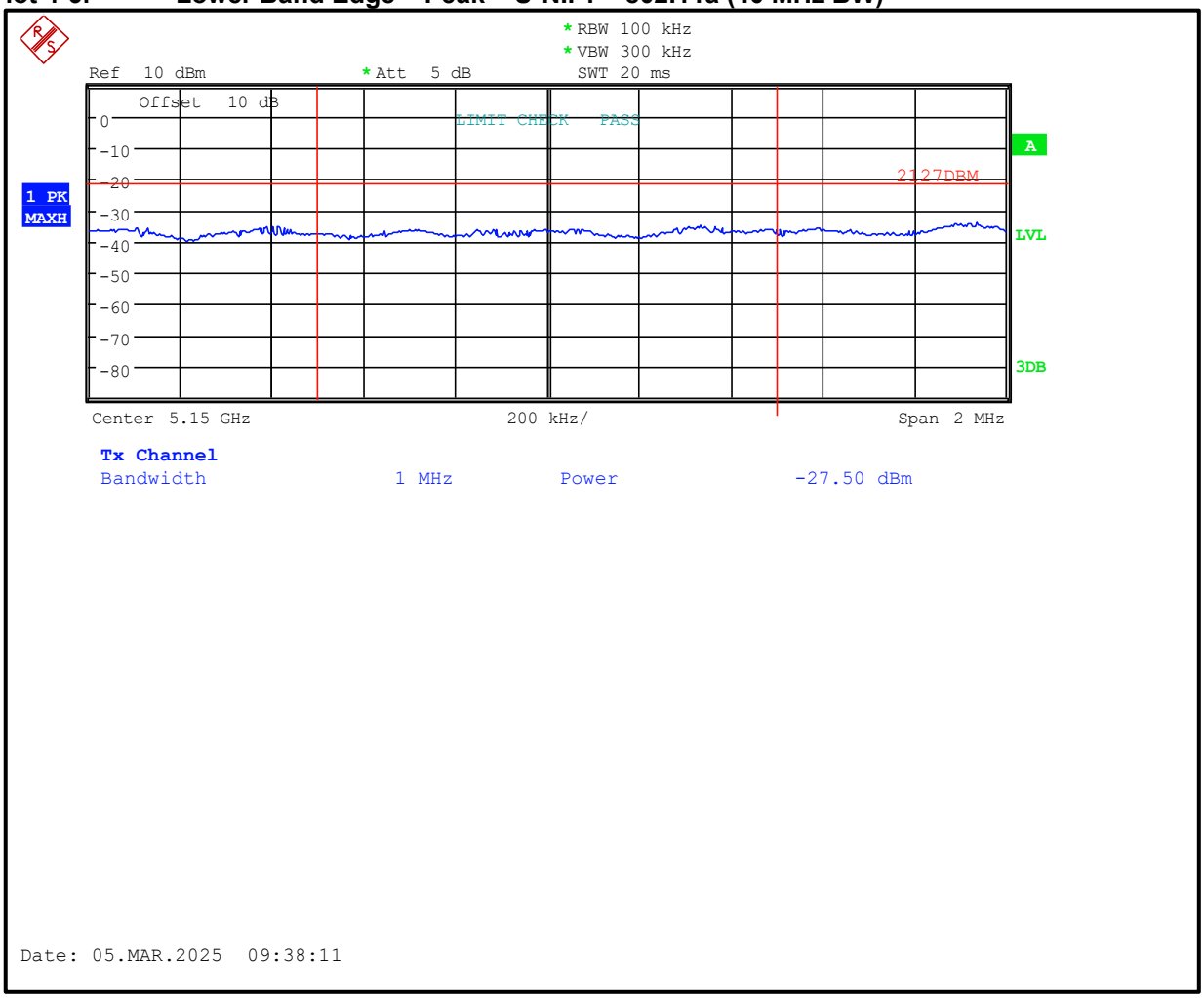


Table 4-8: Lower Band Edge Peak – U-NII 1 – 802.11a (40 MHz BW)

Frequency (MHz)	Measured Peak Level (dBm)	Field Strength Conversion (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)
5150	-27.5	67.7	74.0	-6.3

Plot 4-7: Upper Band Edge – Average – U-NII 1 – 802.11a (40 MHz BW)

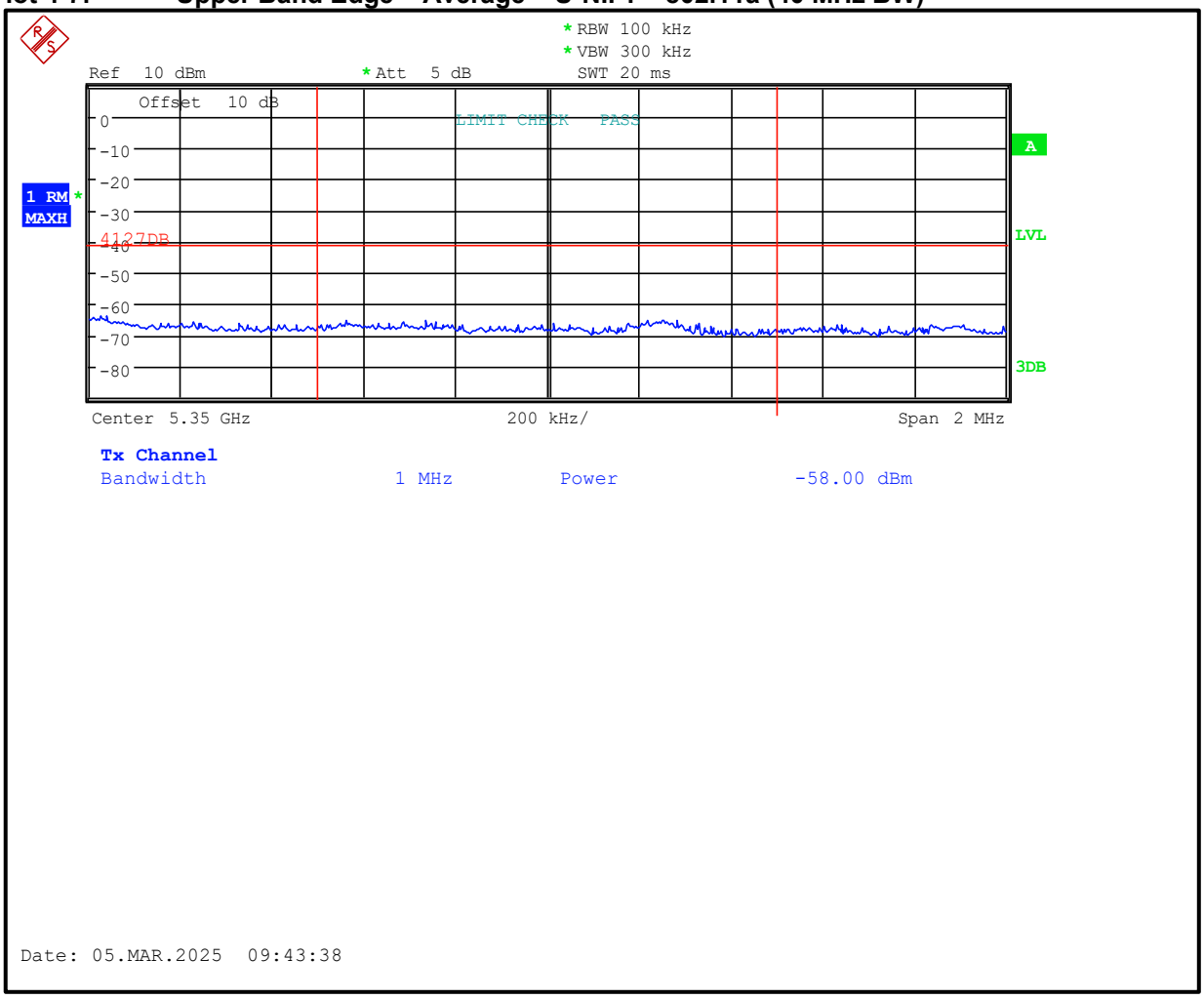


Table 4-9: Upper Band Edge Average – U-NII 1 – 802.11a (40 MHz BW)

Frequency (MHz)	Measured Average Level (dBm)	Field Strength Conversion (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)
5350	-58.0	37.2	54.0	-16.8

Plot 4-8: Upper Band Edge – Peak – U-NII 1 – 802.11a (40 MHz BW)

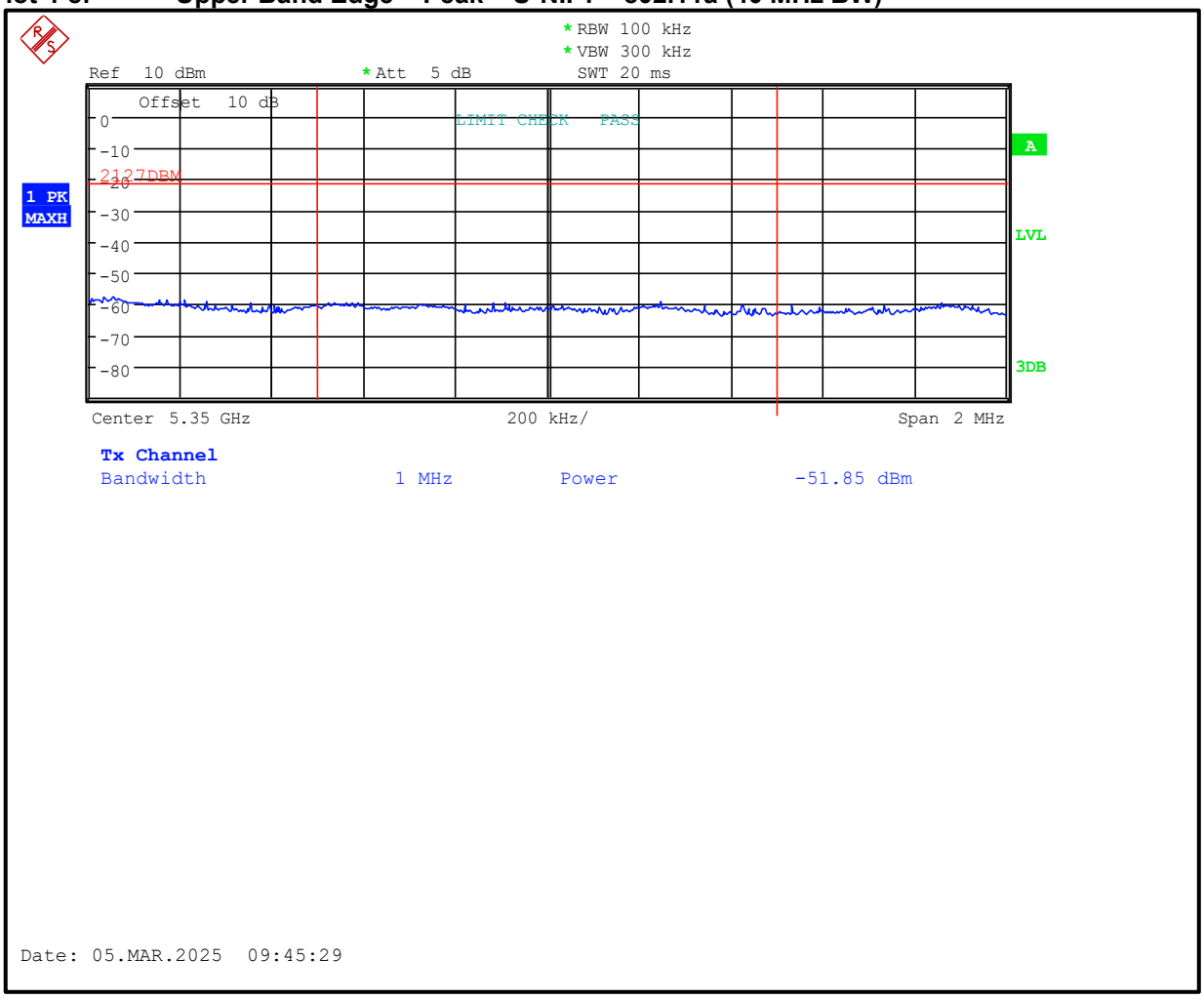
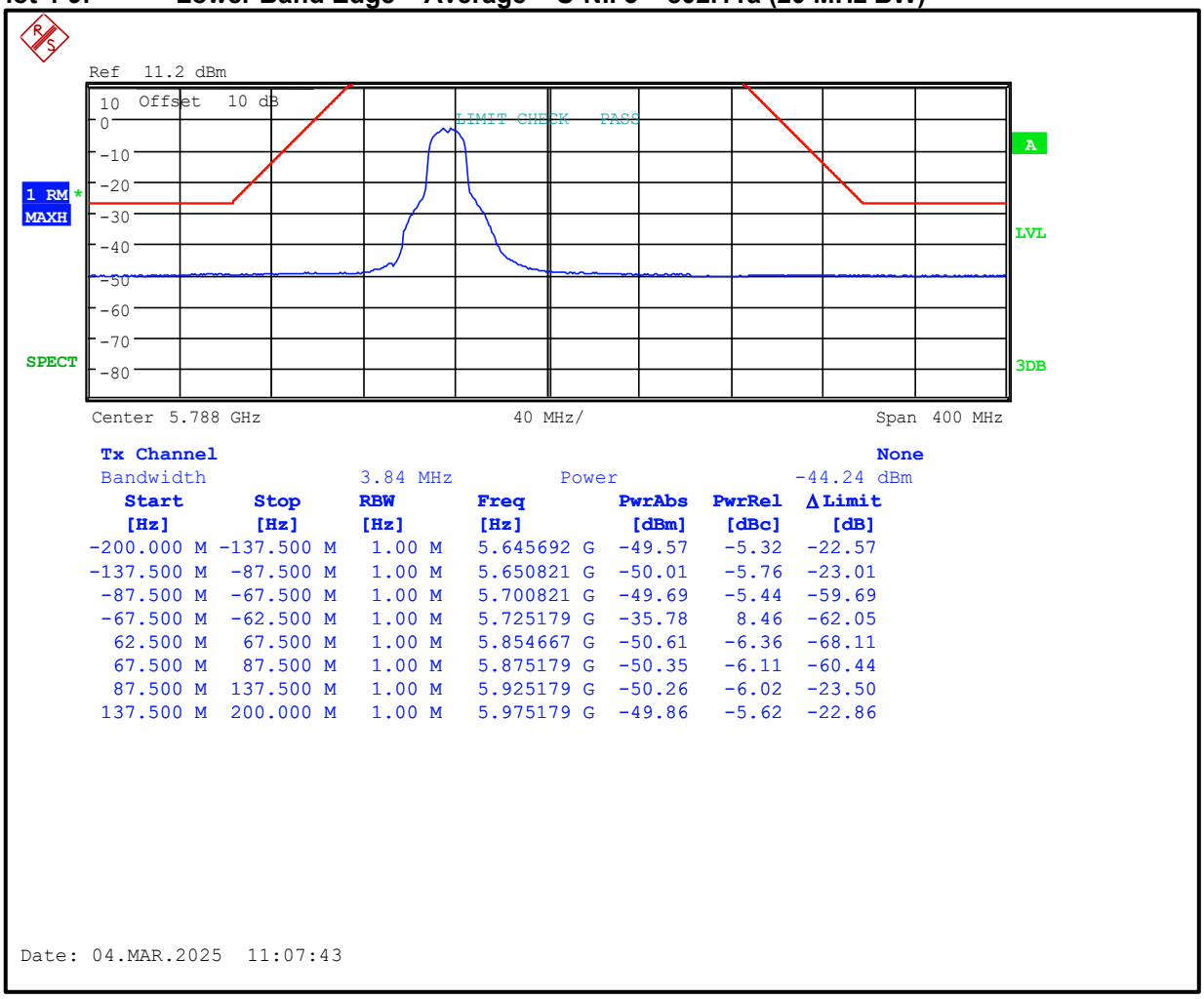


Table 4-10: Upper Band Edge Peak – U-NII 1 – 802.11a (40 MHz BW)

Frequency (MHz)	Measured Peak Level (dBm)	Field Strength Conversion (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)
5350	-51.9	43.3	74.0	-30.7

Plot 4-9: Lower Band Edge – Average – U-NII 3 – 802.11a (20 MHz BW)



Tx Channel		Bandwidth	3.84 MHz	Power		-44.24 dBm	None
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]		PwrAbs [dBm]	PwrRel [dBc]	ΔLimit [dB]
-200.000 M	-137.500 M	1.00 M	5.645692 G		-49.57	-5.32	-22.57
-137.500 M	-87.500 M	1.00 M	5.650821 G		-50.01	-5.76	-23.01
-87.500 M	-67.500 M	1.00 M	5.700821 G		-49.69	-5.44	-59.69
-67.500 M	-62.500 M	1.00 M	5.725179 G		-35.78	8.46	-62.05
62.500 M	67.500 M	1.00 M	5.854667 G		-50.61	-6.36	-68.11
67.500 M	87.500 M	1.00 M	5.875179 G		-50.35	-6.11	-60.44
87.500 M	137.500 M	1.00 M	5.925179 G		-50.26	-6.02	-23.50
137.500 M	200.000 M	1.00 M	5.975179 G		-49.86	-5.62	-22.86

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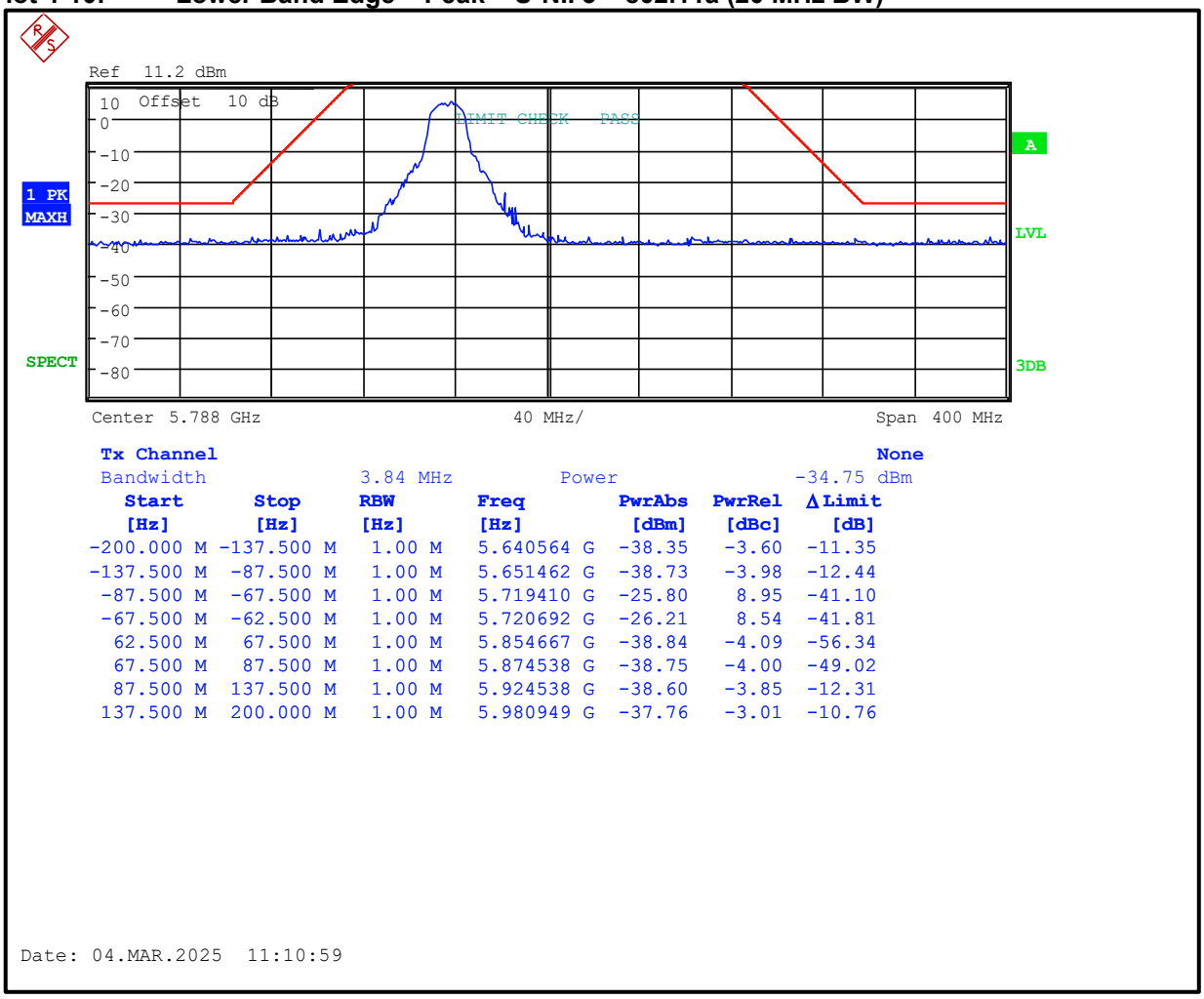
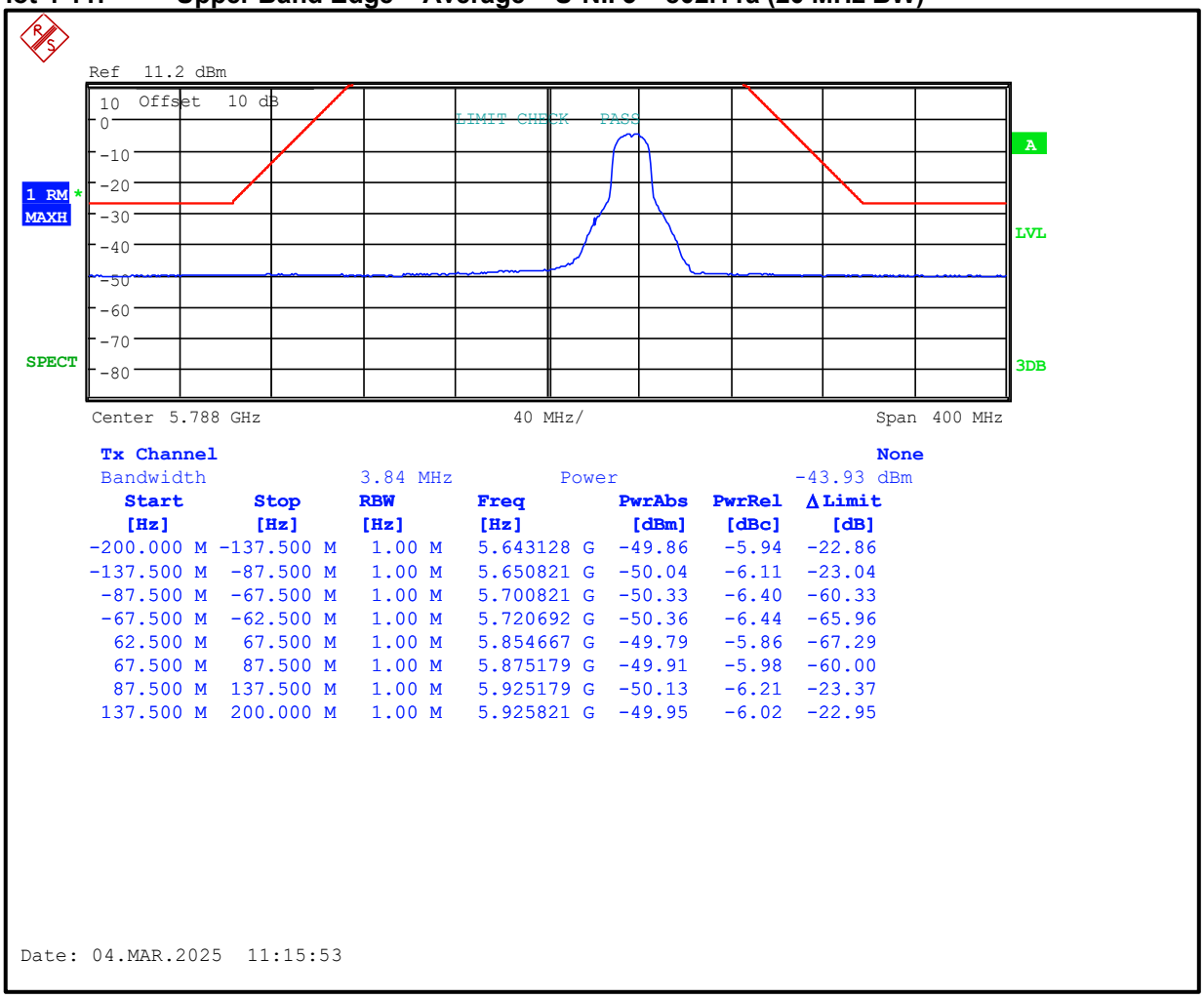
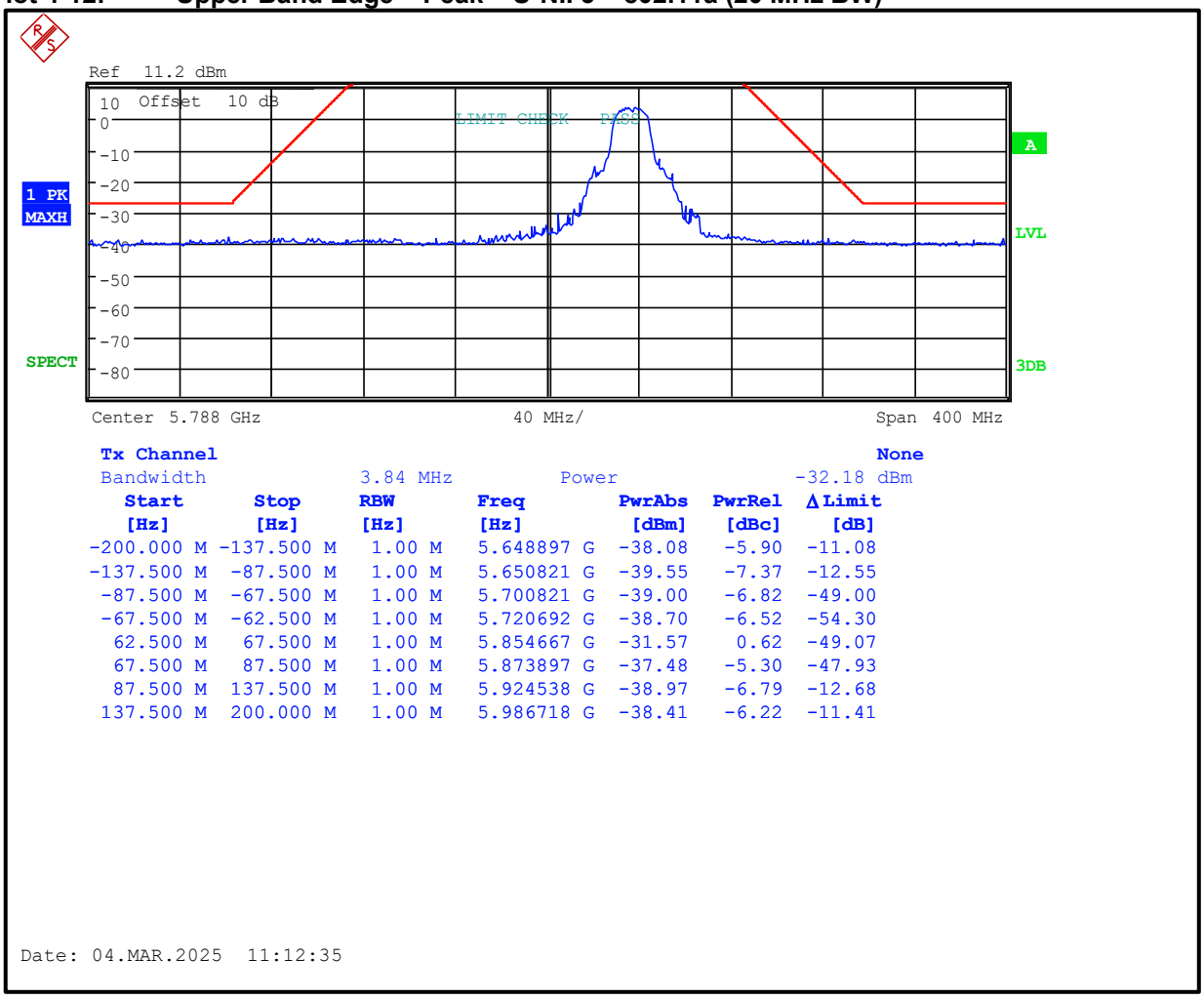
Plot 4-10: Lower Band Edge – Peak – U-NII 3 – 802.11a (20 MHz BW)



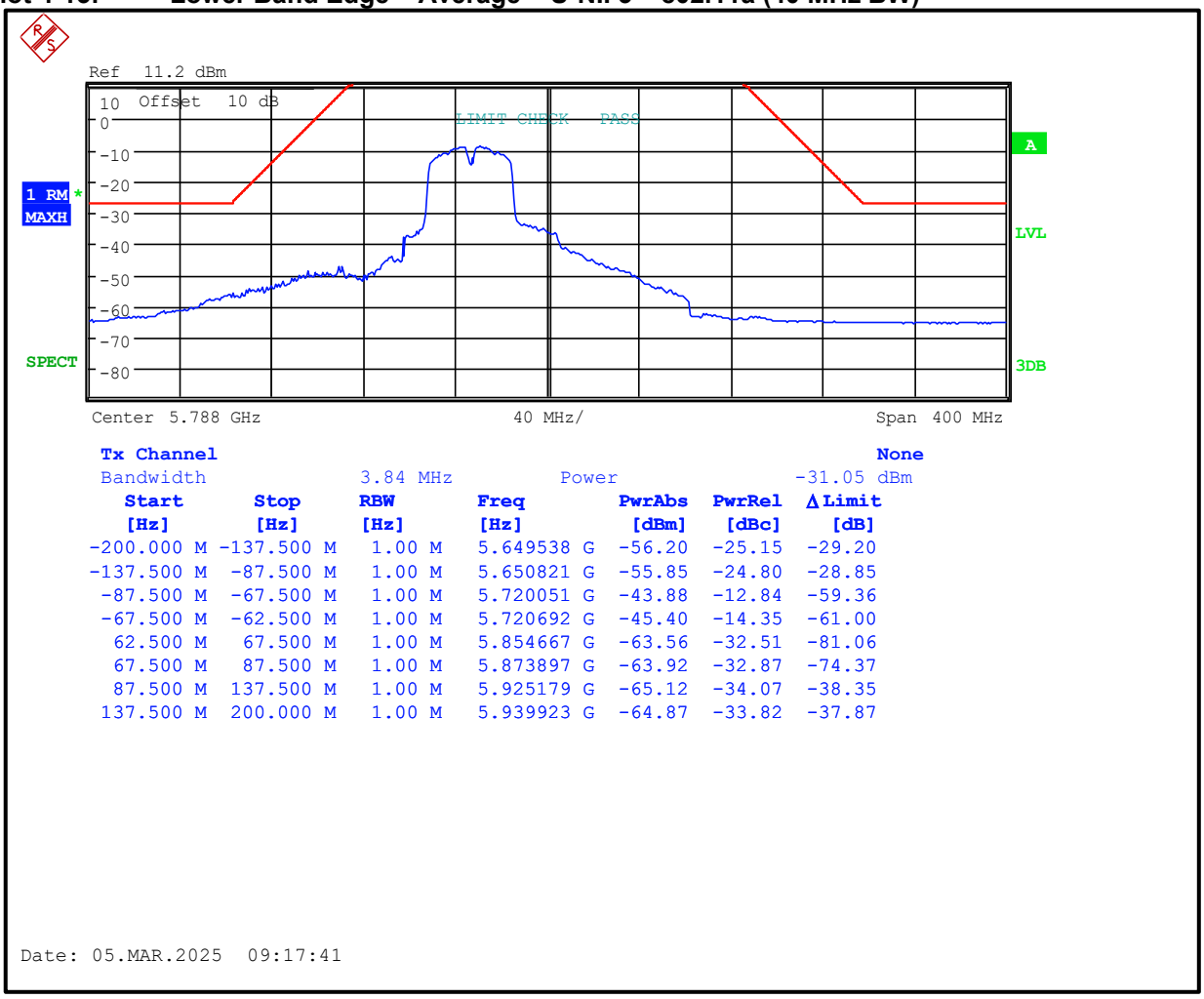
Plot 4-11: Upper Band Edge – Average – U-NII 3 – 802.11a (20 MHz BW)



Plot 4-12: Upper Band Edge – Peak – U-NII 3 – 802.11a (20 MHz BW)



Plot 4-13: Lower Band Edge – Average – U-NII 3 – 802.11a (40 MHz BW)



Tx Channel						None
Bandwidth		3.84 MHz	Power			-31.05 dBm
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	ΔLimit [dB]
-200.000 M	-137.500 M	1.00 M	5.649538 G	-56.20	-25.15	-29.20
-137.500 M	-87.500 M	1.00 M	5.650821 G	-55.85	-24.80	-28.85
-87.500 M	-67.500 M	1.00 M	5.720051 G	-43.88	-12.84	-59.36
-67.500 M	-62.500 M	1.00 M	5.720692 G	-45.40	-14.35	-61.00
62.500 M	67.500 M	1.00 M	5.854667 G	-63.56	-32.51	-81.06
67.500 M	87.500 M	1.00 M	5.873897 G	-63.92	-32.87	-74.37
87.500 M	137.500 M	1.00 M	5.925179 G	-65.12	-34.07	-38.35
137.500 M	200.000 M	1.00 M	5.939923 G	-64.87	-33.82	-37.87

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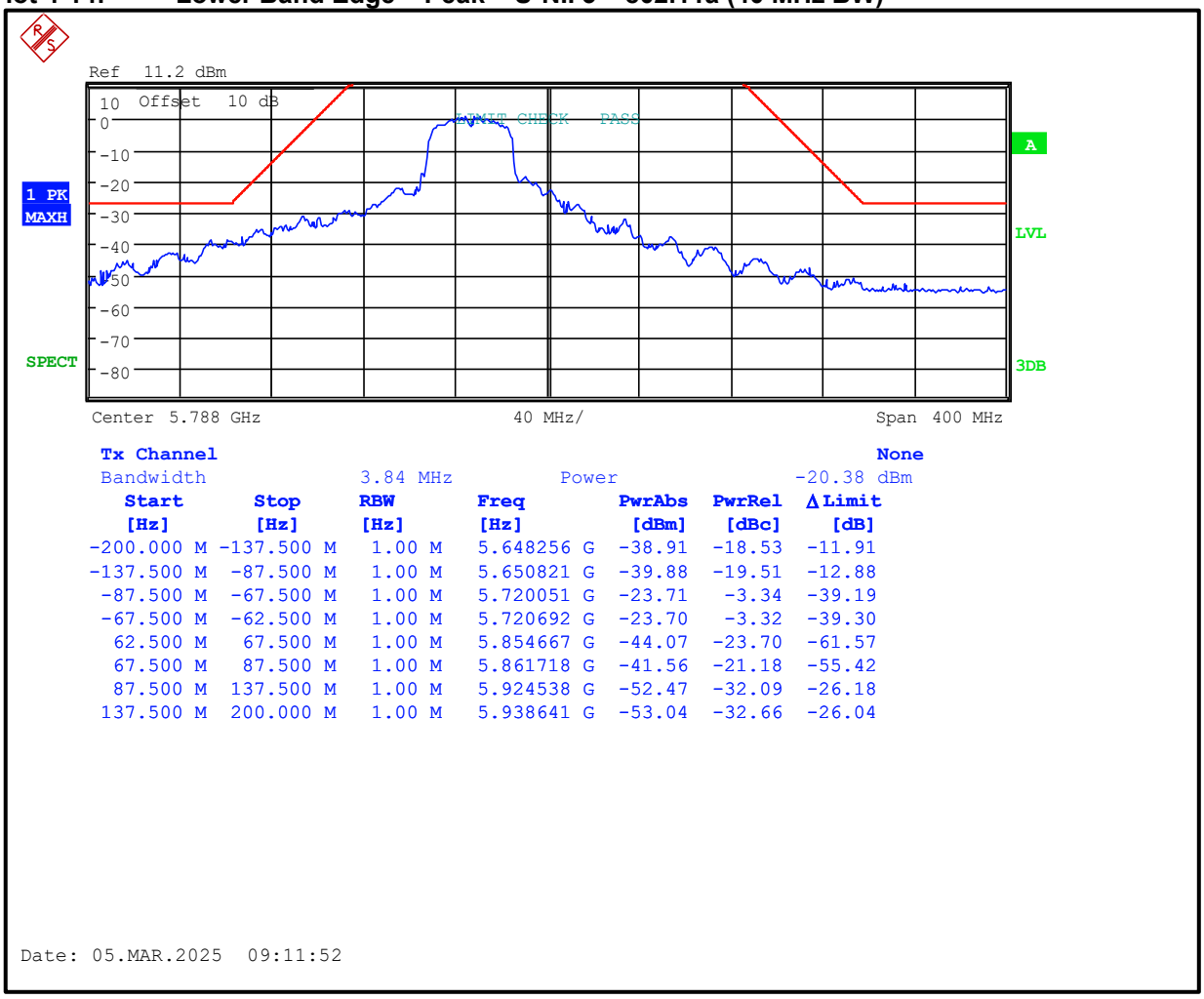
Plot 4-14: Lower Band Edge – Peak – U-NII 3 – 802.11a (40 MHz BW)



Tx Channel **None**
Bandwidth 3.84 MHz Power -20.38 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	ΔLimit [dB]
-200.000 M	-137.500 M	1.00 M	5.648256 G	-38.91	-18.53	-11.91
-137.500 M	-87.500 M	1.00 M	5.650821 G	-39.88	-19.51	-12.88
-87.500 M	-67.500 M	1.00 M	5.720051 G	-23.71	-3.34	-39.19
-67.500 M	-62.500 M	1.00 M	5.720692 G	-23.70	-3.32	-39.30
62.500 M	67.500 M	1.00 M	5.854667 G	-44.07	-23.70	-61.57
67.500 M	87.500 M	1.00 M	5.861718 G	-41.56	-21.18	-55.42
87.500 M	137.500 M	1.00 M	5.924538 G	-52.47	-32.09	-26.18
137.500 M	200.000 M	1.00 M	5.938641 G	-53.04	-32.66	-26.04

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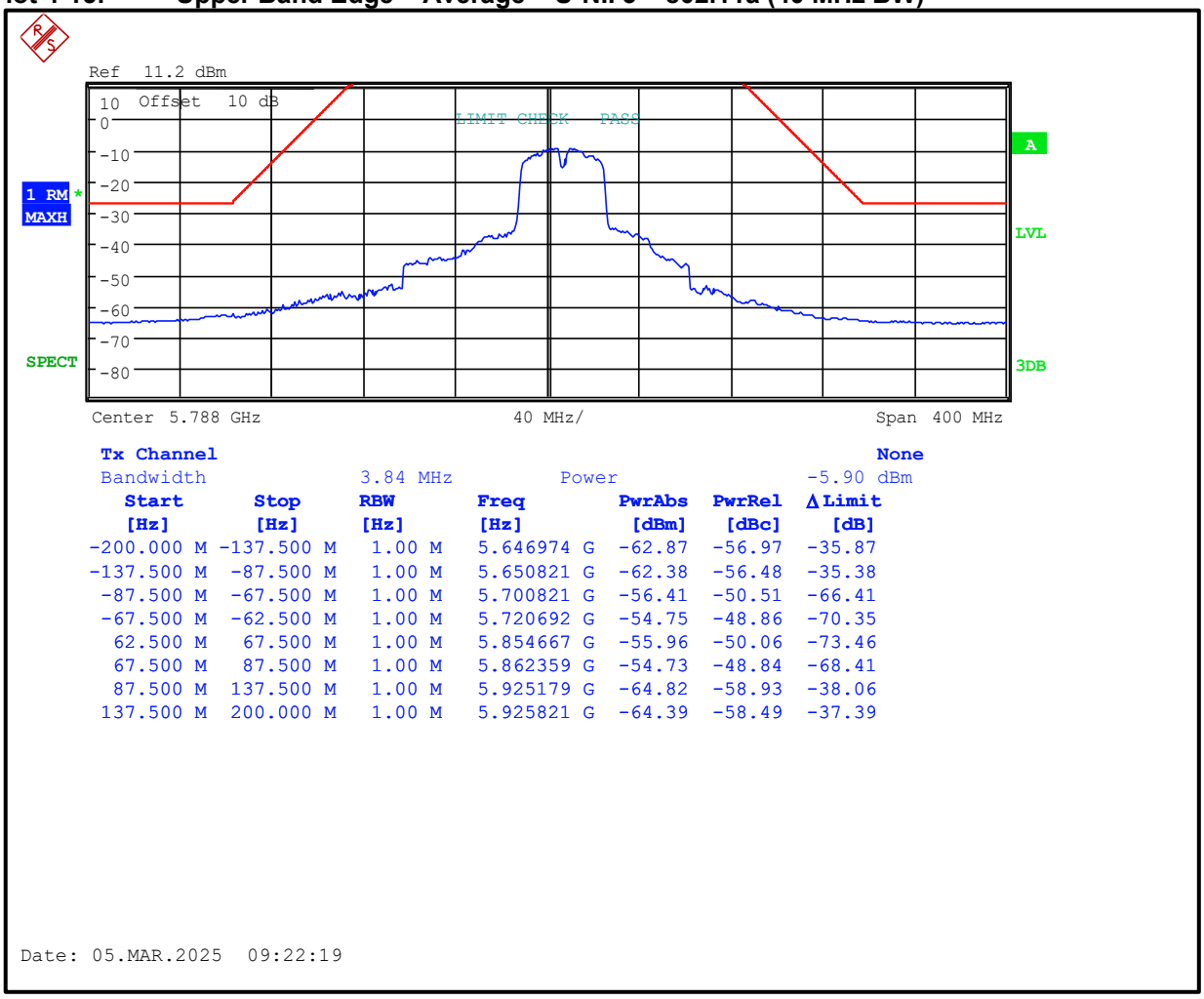
Plot 4-15: Upper Band Edge – Average – U-NII 3 – 802.11a (40 MHz BW)



Tx Channel **None**
Bandwidth 3.84 MHz Power -5.90 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	ΔLimit [dB]
-200.000 M	-137.500 M	1.00 M	5.646974 G	-62.87	-56.97	-35.87
-137.500 M	-87.500 M	1.00 M	5.650821 G	-62.38	-56.48	-35.38
-87.500 M	-67.500 M	1.00 M	5.700821 G	-56.41	-50.51	-66.41
-67.500 M	-62.500 M	1.00 M	5.720692 G	-54.75	-48.86	-70.35
62.500 M	67.500 M	1.00 M	5.854667 G	-55.96	-50.06	-73.46
67.500 M	87.500 M	1.00 M	5.862359 G	-54.73	-48.84	-68.41
87.500 M	137.500 M	1.00 M	5.925179 G	-64.82	-58.93	-38.06
137.500 M	200.000 M	1.00 M	5.925821 G	-64.39	-58.49	-37.39

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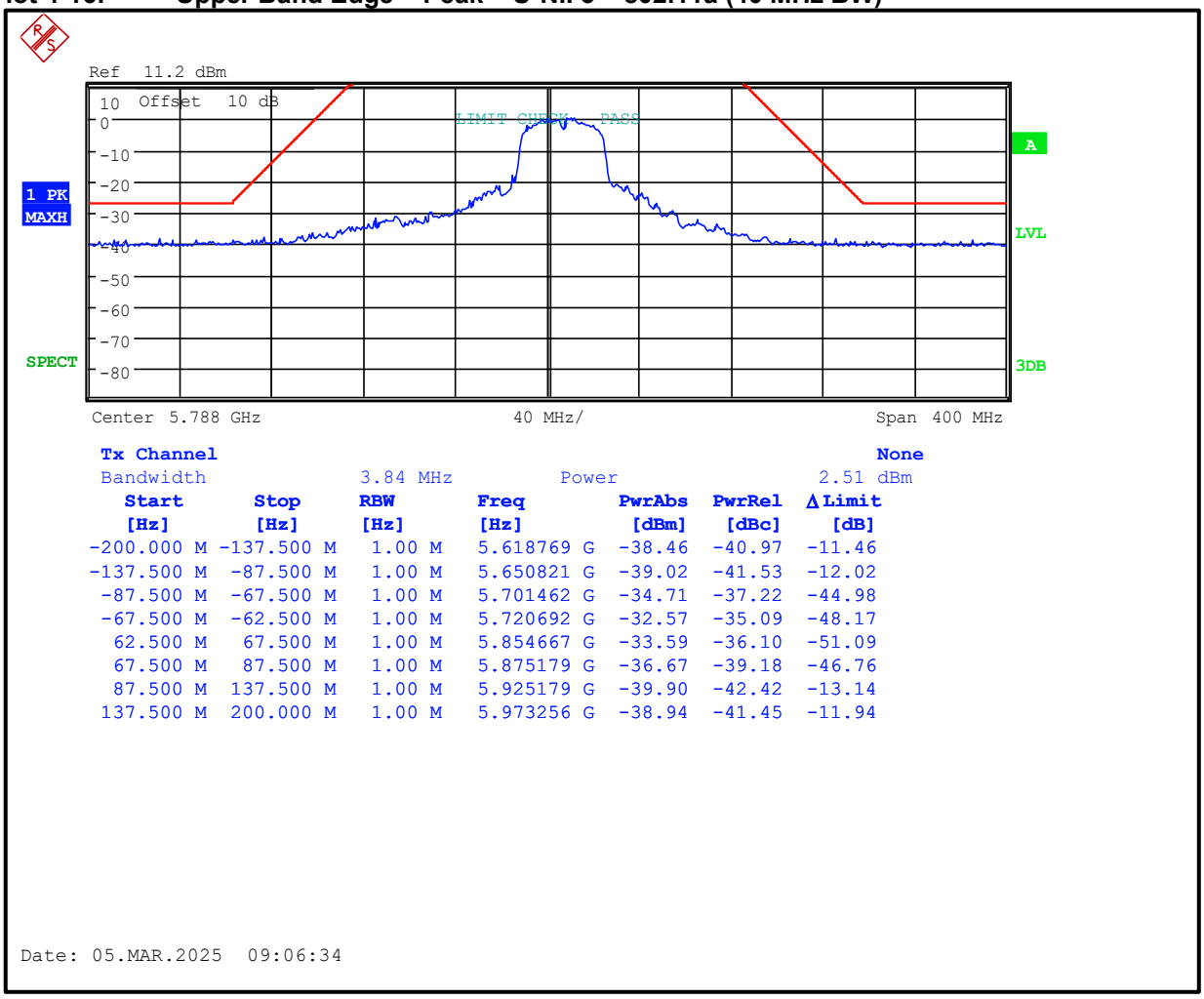
Plot 4-16: Upper Band Edge – Peak – U-NII 3 – 802.11a (40 MHz BW)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	ΔLimit [dB]
-200.000 M	-137.500 M	1.00 M	5.618769 G	-38.46	-40.97	-11.46
-137.500 M	-87.500 M	1.00 M	5.650821 G	-39.02	-41.53	-12.02
-87.500 M	-67.500 M	1.00 M	5.701462 G	-34.71	-37.22	-44.98
-67.500 M	-62.500 M	1.00 M	5.720692 G	-32.57	-35.09	-48.17
62.500 M	67.500 M	1.00 M	5.854667 G	-33.59	-36.10	-51.09
67.500 M	87.500 M	1.00 M	5.875179 G	-36.67	-39.18	-46.76
87.500 M	137.500 M	1.00 M	5.925179 G	-39.90	-42.42	-13.14
137.500 M	200.000 M	1.00 M	5.973256 G	-38.94	-41.45	-11.94

Measurement uncertainty: ±0.5 dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor k=2.

Results: Pass

Test Personnel:

Daniel W. Baltzell	Daniel W. Baltzell	March 4-5, 2025
Test Engineer	Signature	Dates of Test

5 Antenna Conducted Spurious Emissions – FCC 15.407(b)(6); RSS-247 6.2

5.1 Antenna Conducted Spurious Emissions Test Procedures

Antenna conducted spurious emissions per FCC 15.407(b)(6) were measured from the EUT antenna port using a 50-ohm spectrum analyzer with the resolution bandwidth set at 1 MHz and the video bandwidth set at > 3 x RBW.

5.2 Antenna Conducted Spurious Emissions Test Results

Table 5-1: Antenna Conducted Spurious Emissions Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901773	Rohde & Schwarz	FSW	Spectrum Analyzer	101021	02/02/2027
901772	Pasternack	PE7087-10	10 dB 2 W 26 GHz Attenuator	1011	11/30/2027

Table 5-2: Environmental Conditions

Date	Temperature (°C)	Humidity (%)	Pressure (kPa)
March 5, 2025	21	41	101.2

Table 5-3: Antenna Conducted Spurious Emissions – 5180 MHz

Frequency (MHz)	Measured Peak Level (dBm)	Field Strength Conversion (dBµV/m)	Limit (dBµV/m)	Margin (dB)
10360.0	-49.1	46.2	54.0	-7.8
15540.0	-61.5	33.8	54.0	-20.2
20720.0	-64.5	30.8	54.0	-23.2
25900.0	-59.9	35.4	54.0	-18.6
31080.0	-64.5	30.8	54.0	-23.2
36260.0	-61.1	34.2	54.0	-19.8

Table 5-4: Antenna Conducted Spurious Emissions – 5200 MHz

Frequency (MHz)	Measured Peak Level (dBm)	Field Strength Conversion (dBµV/m)	Limit (dBµV/m)	Margin (dB)
10400.0	-56.6	38.7	54.0	-15.3
15600.0	-55.7	39.5	54.0	-14.5
20800.0	-55.5	39.8	54.0	-14.2
26000.0	-61.8	33.5	54.0	-20.5
31200.0	-59.6	35.7	54.0	-18.3
36400.0	-58.6	36.7	54.0	-17.3

Table 5-5: Antenna Conducted Spurious Emissions – 5240 MHz

Frequency (MHz)	Measured Peak Level (dBm)	Field Strength Conversion (dBµV/m)	Limit (dBµV/m)	Margin (dB)
10480.0	-56.3	39.0	54.0	-15.0
15720.0	-55.7	39.6	54.0	-14.4
20960.0	-55.5	39.8	54.0	-14.2
26200.0	-55.2	40.1	54.0	-13.9
31440.0	-59.4	35.9	54.0	-18.1
36680.0	-57.8	37.5	54.0	-16.5

Table 5-6: Antenna Conducted Spurious Emissions – 5745 MHz

Frequency (MHz)	Measured Peak Level (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
10480.0	-56.6	-27.0	-29.6
15720.0	-56.9	-27.0	-29.9
20960.0	-56.0	-27.0	-29.0
26200.0	-60.1	-27.0	-33.1
31440.0	-59.7	-27.0	-32.7

Table 5-7: Antenna Conducted Spurious Emissions – 5785 MHz

Frequency (MHz)	Measured Peak Level (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
11570.0	-56.6	-27.0	-29.6
17355.0	-55.7	-27.0	-28.7
23140.0	-56.3	-27.0	-29.3
28925.0	-59.7	-27.0	-32.7
34710.0	-60.0	-27.0	-33.0

Table 5-8: Antenna Conducted Spurious Emissions – 5825 MHz

Frequency (MHz)	Measured Peak Level (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)
11650.0	-56.6	-27.0	-29.6
17475.0	-56.5	-27.0	-29.5
23300.0	-65.4	-27.0	-38.4
29125.0	-61.3	-27.0	-34.3
34950.0	-57.7	-27.0	-30.7

Measurement uncertainty: ±0.5 dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor k=2.

Results: Pass

Test Personnel:

Daniel W. Baltzell		March 5, 2025
Test Engineer	Signature	Date of Test

6 Bandwidths – FCC 15.407(a) and (e); RSS-247 6.2; RSS-Gen 6.7

6.1 Bandwidth Test Procedure

The minimum 6 dB, 26 dB and 99% bandwidths per FCC 15.407(a) and (e), RSS-247 6.2 and RSS-Gen 6.7 were measured using a 50-ohm spectrum analyzer with the resolution bandwidth set at 100 kHz, and the video bandwidth set at ≥ 3 x RBW. The device was modulated, (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Table 6-1: Modulated Bandwidth Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901773	Rohde & Schwarz	FSW	Spectrum Analyzer	101021	02/02/2027

6.2 Modulated Bandwidth Test Results

Table 6-2: Environmental Conditions

Date	Temperature (°C)	Humidity (%)	Pressure (kPa)
March 4-5, 2025	21	41	101.2

Table 6-3: Modulated Bandwidth Test Data – U-NII 1 – 802.11a

Channel (#)	Frequency (MHz)	99% Bandwidth (MHz)
36	5180	17.628
40	5200	18.846
48	5240	18.269

Table 6-4: Modulated Bandwidth Test Data – U-NII 3 – 802.11a

Channel (#)	Frequency (MHz)	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)
149	5745	15.004	16.991
157	5785	15.064	16.759
165	5825	15.114	16.664

Table 6-5: Modulated Bandwidth Test Data – U-NII 1 – 802.11a

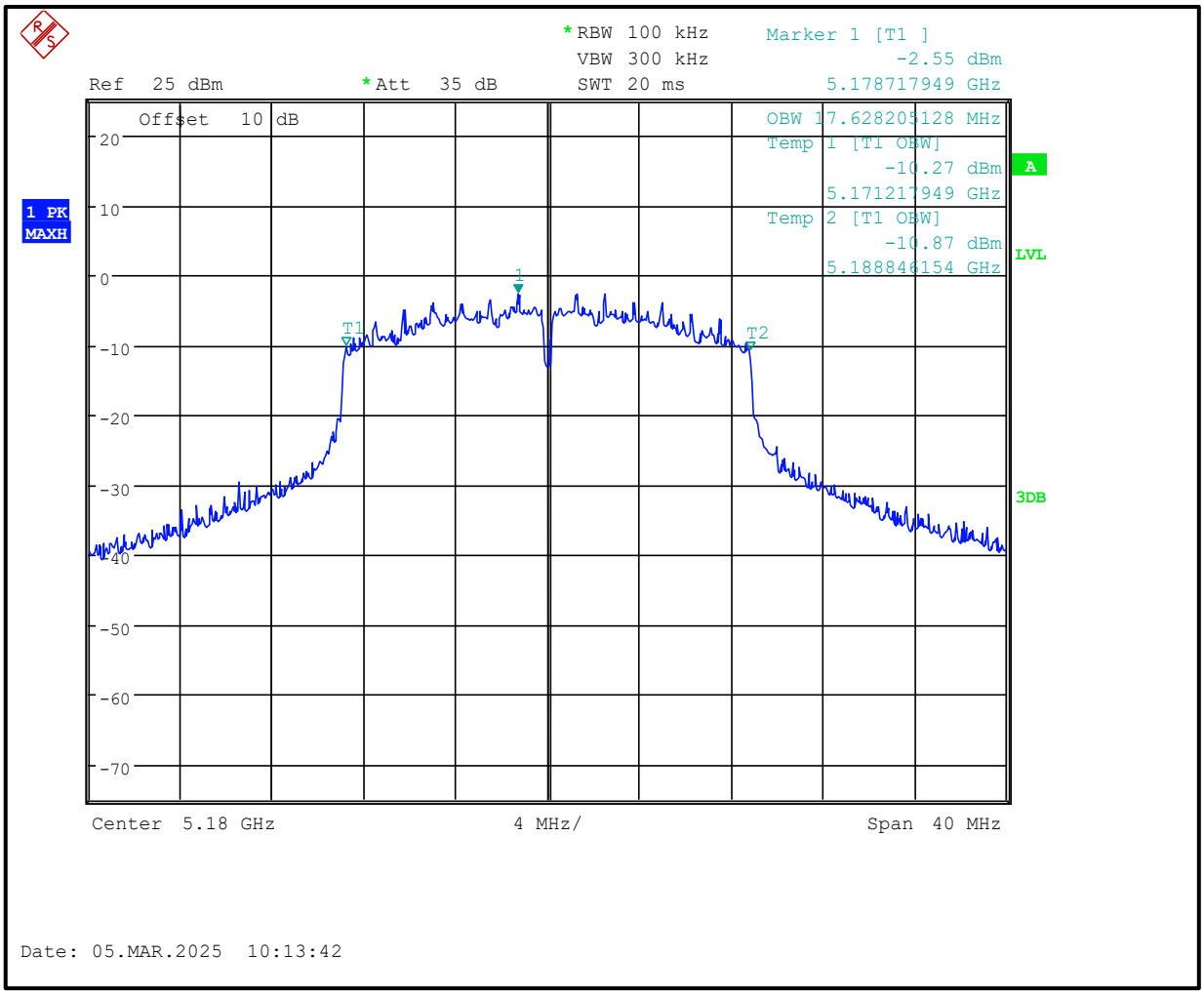
Channel (#)	Frequency (MHz)	99% Bandwidth (MHz)
38	5190	36.4
46	5230	36.1

Table 6-6: Modulated Bandwidth Test Data – U-NII 3 – 802.11a

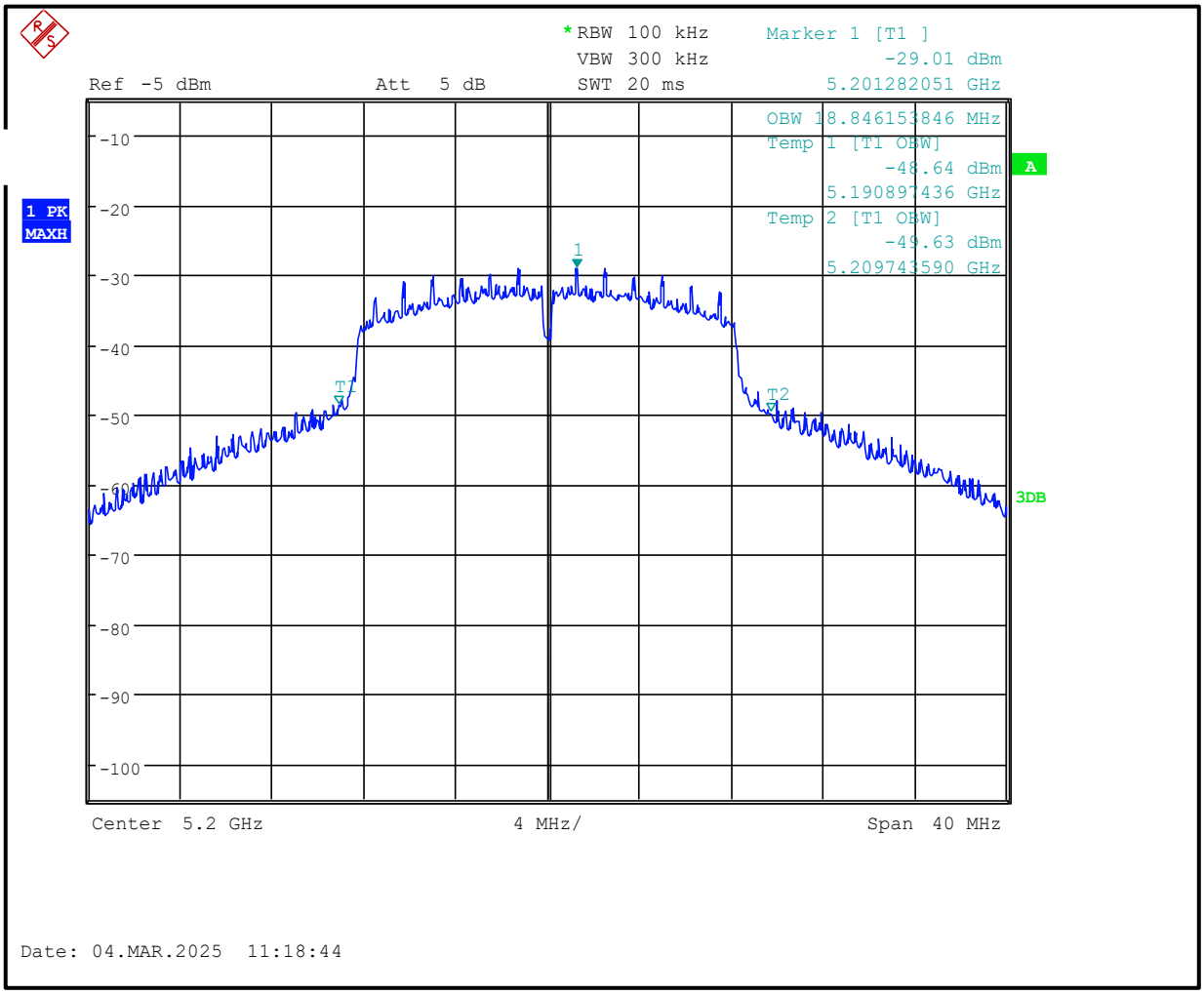
Channel (#)	Frequency (MHz)	6 dB Bandwidth (MHz)	99% Bandwidth (MHz)
151	5755	35.4	36.1
159	5815	35.4	36.2

6.3 Bandwidth Plots – U-NII 1

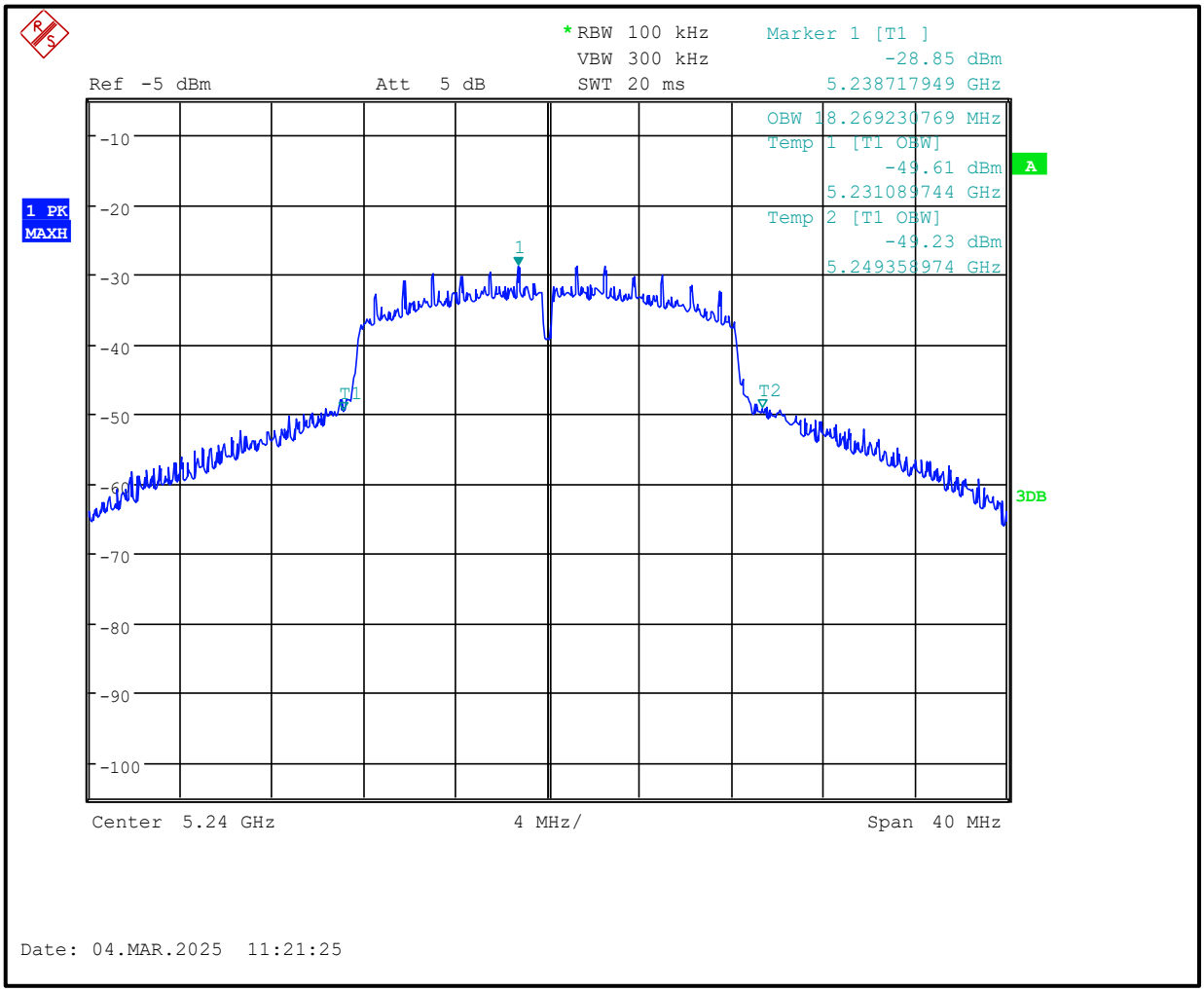
Plot 6-1: 99% Bandwidth – 5180 MHz – 802.11a



Plot 6-2: 99% Bandwidth – 5200 MHz – 802.11a

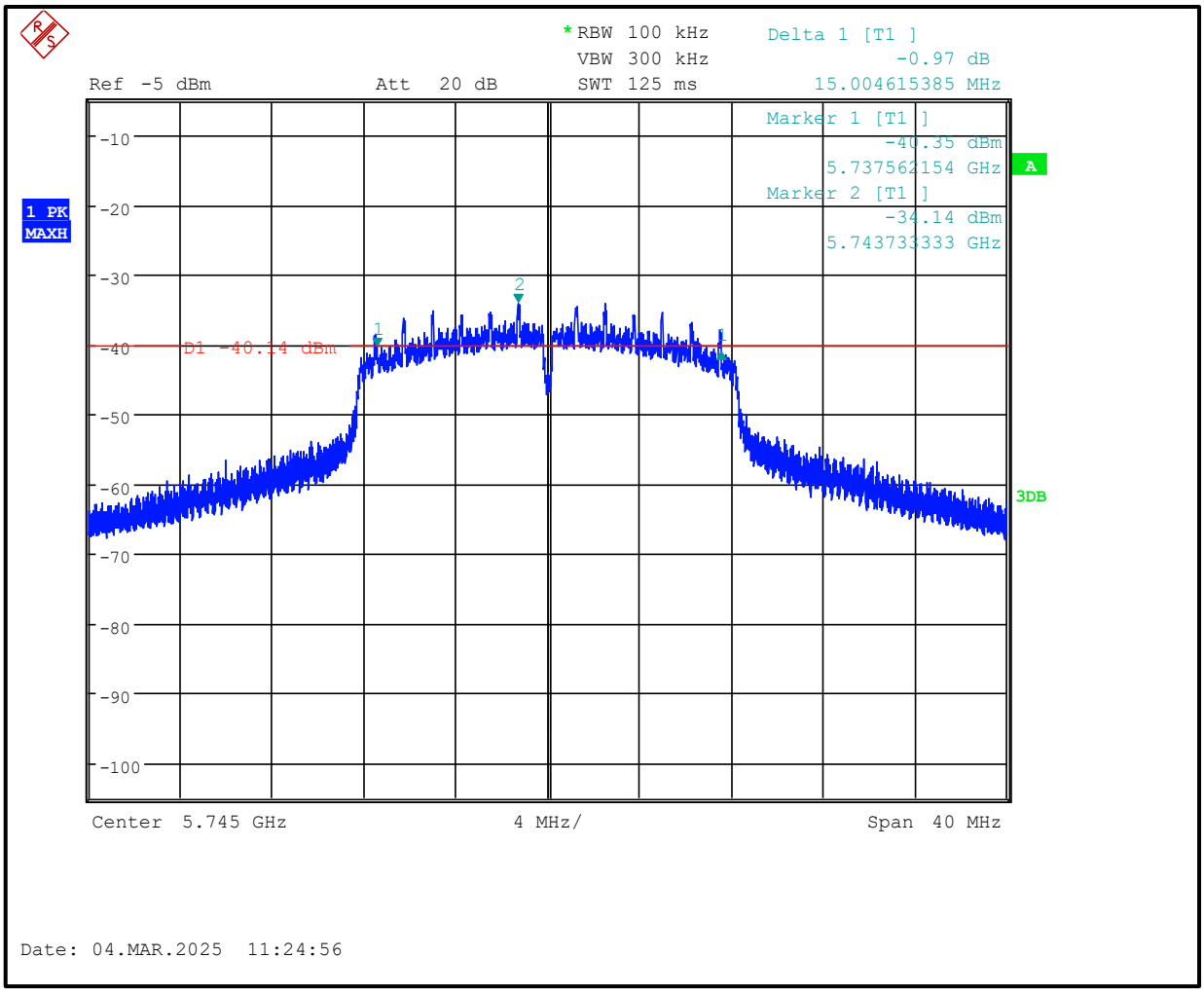


Plot 6-3: 99% Bandwidth – 5240 MHz – 802.11a

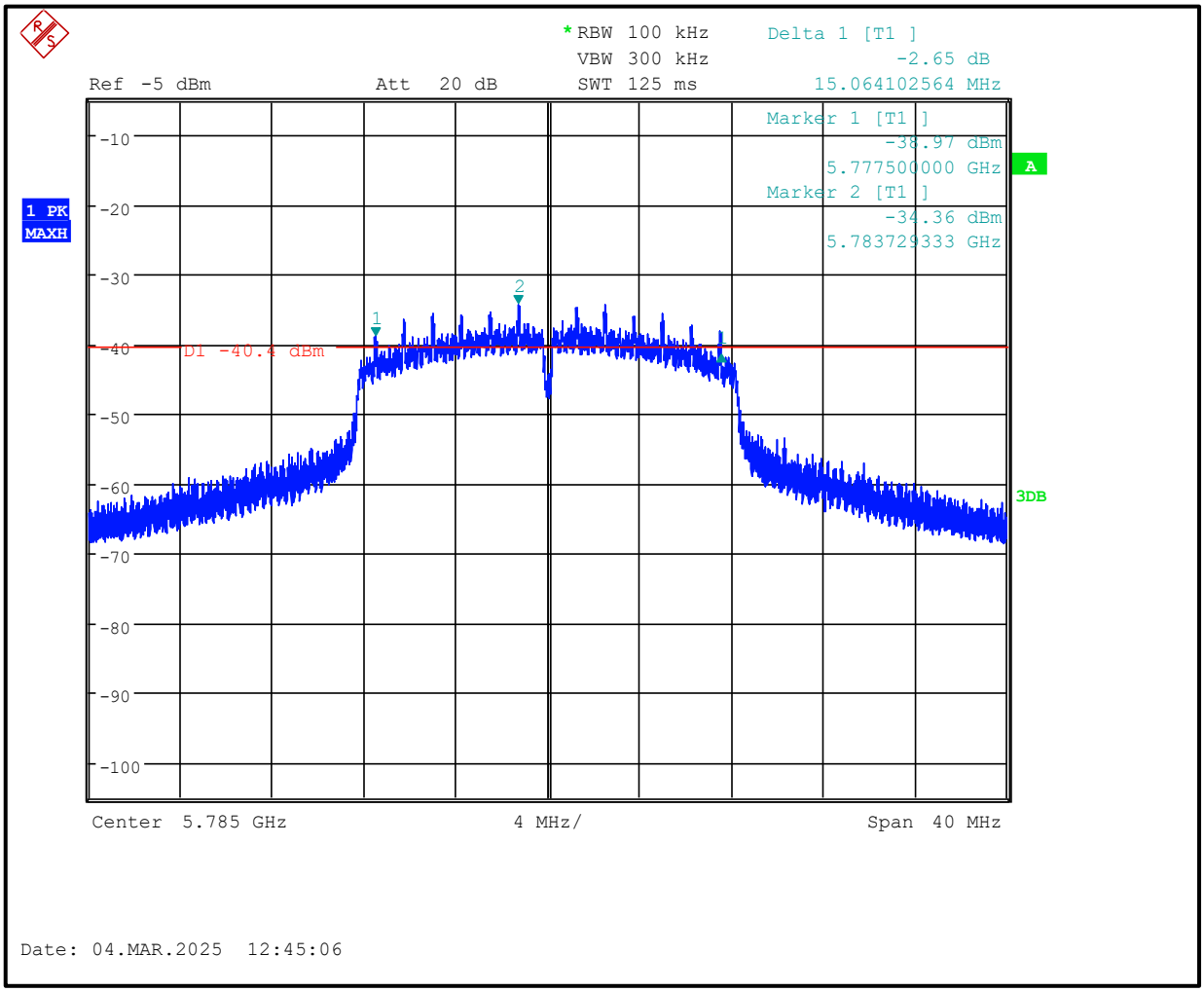


6.4 Bandwidth Plots – U-NII 3

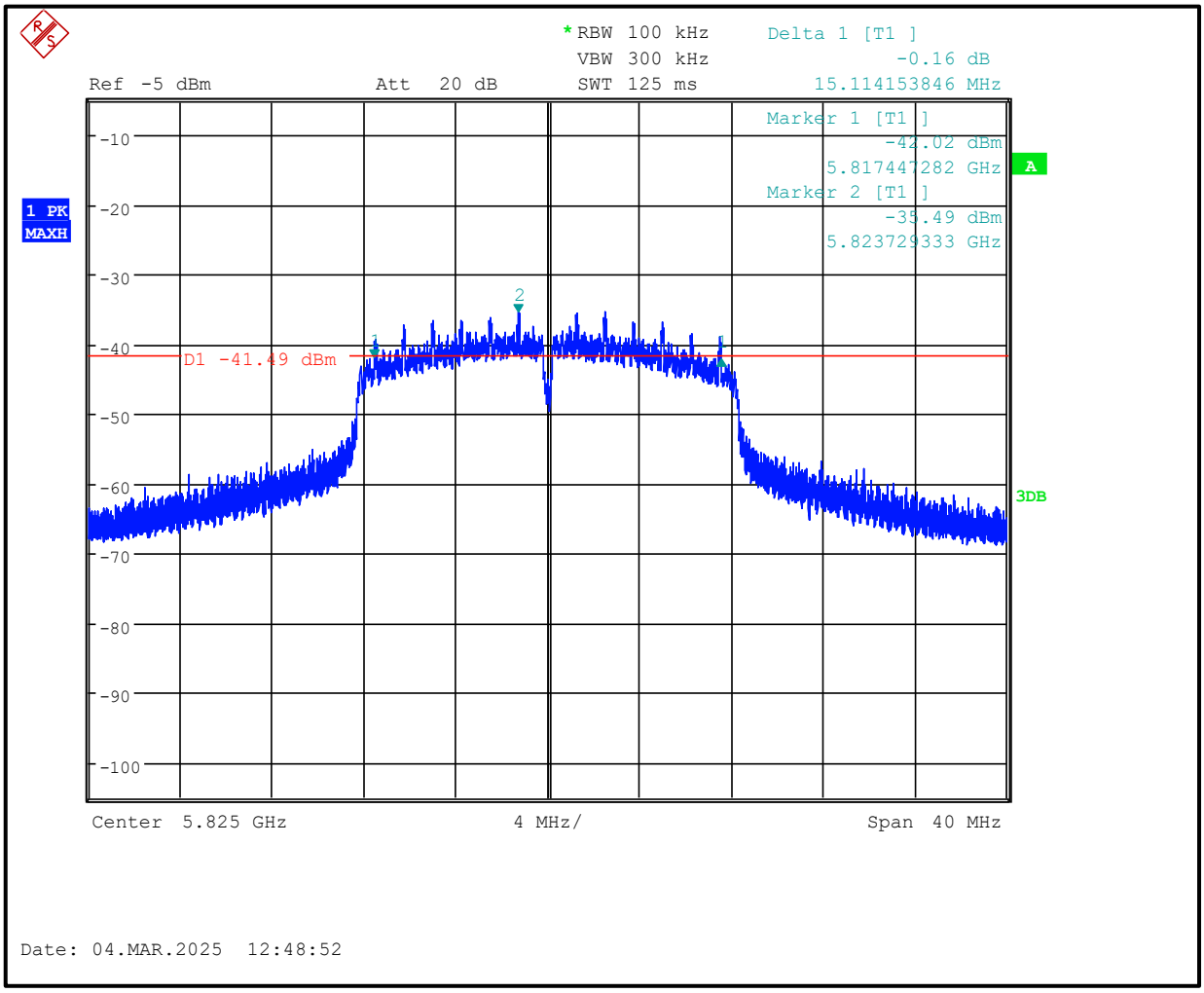
Plot 6-4: 6 dB Bandwidth – 5745 MHz – 802.11a



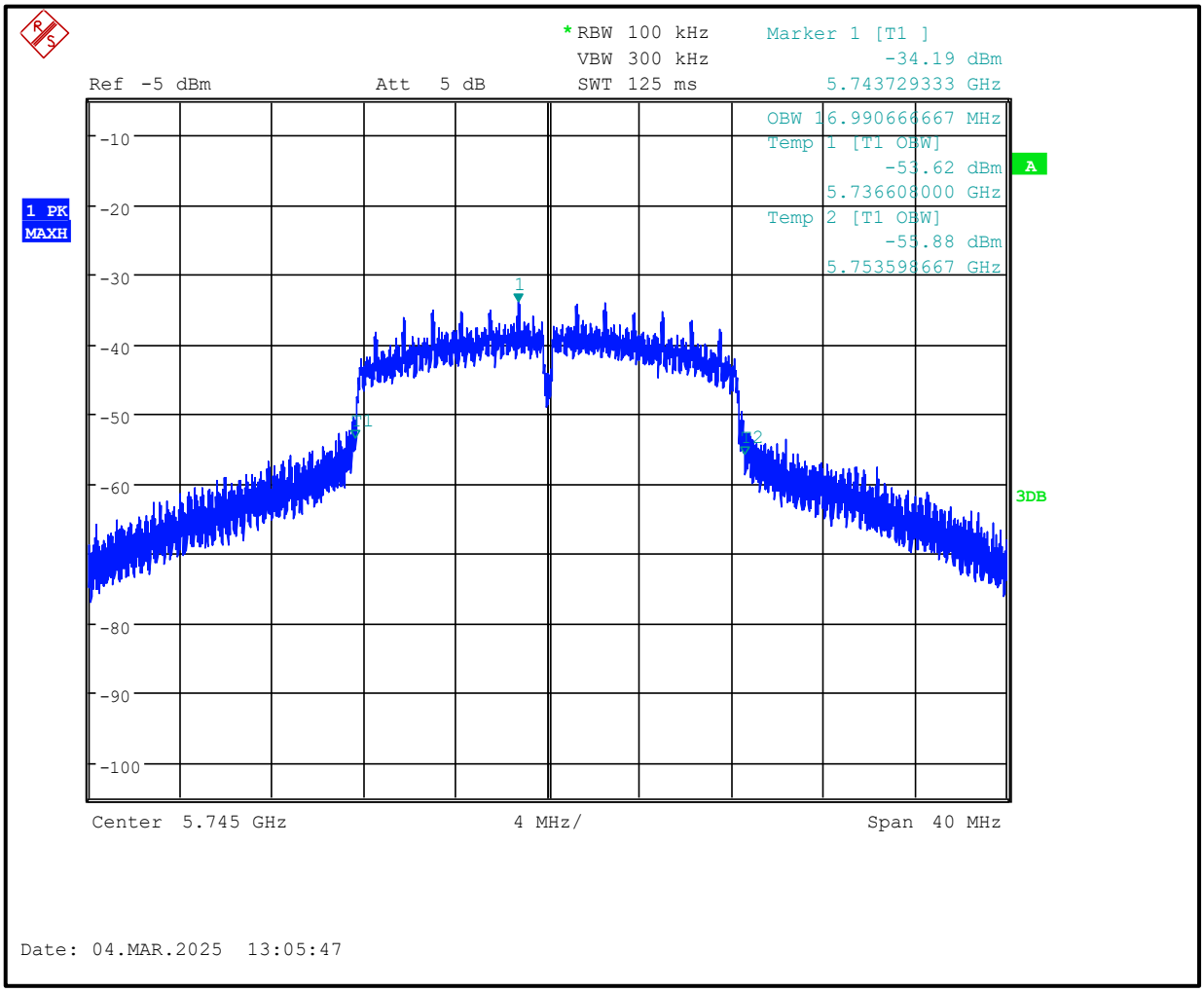
Plot 6-5: 6 dB Bandwidth – 5785 MHz – 802.11a



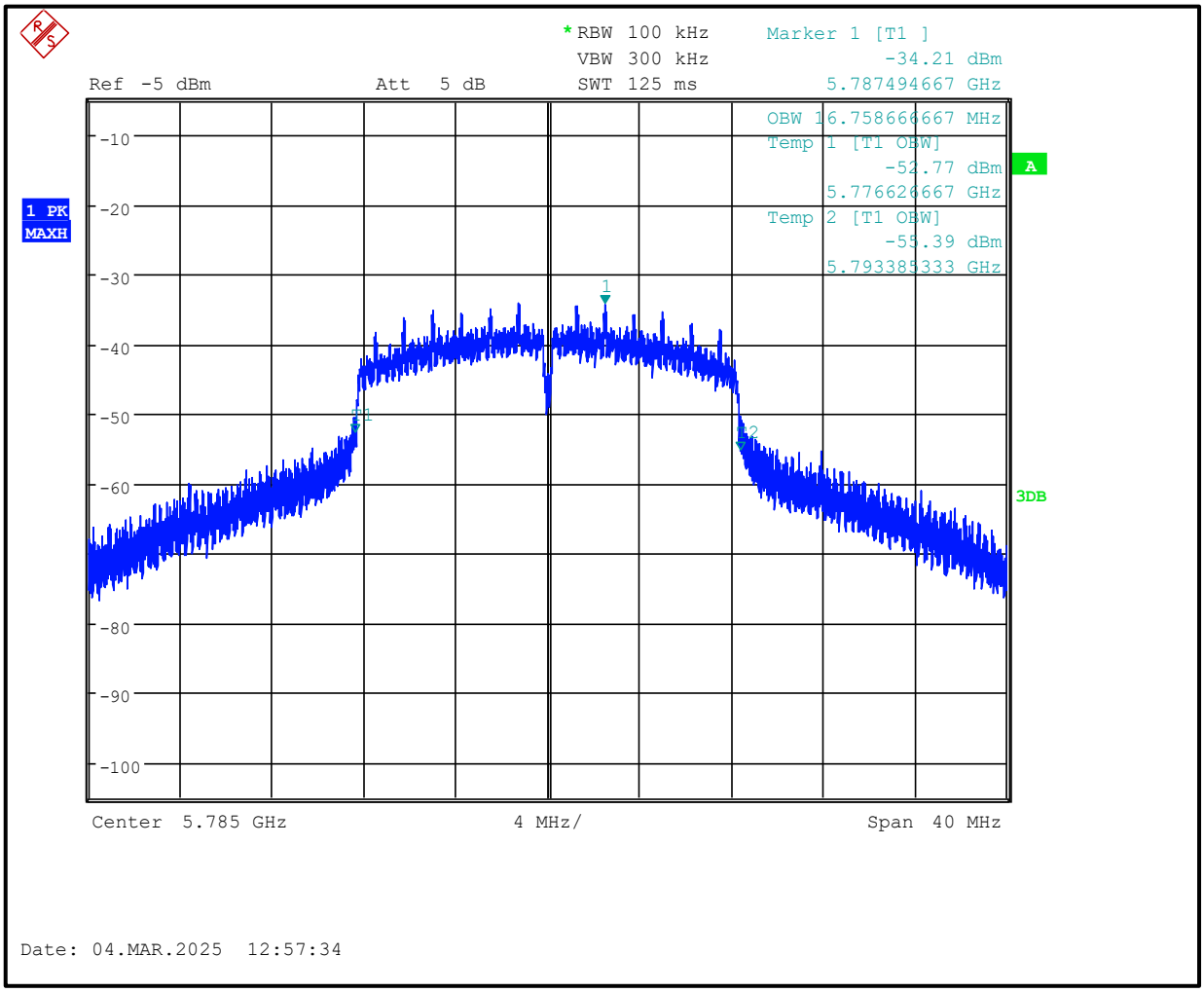
Plot 6-6: 6 dB Bandwidth – 5825 MHz – 802.11a



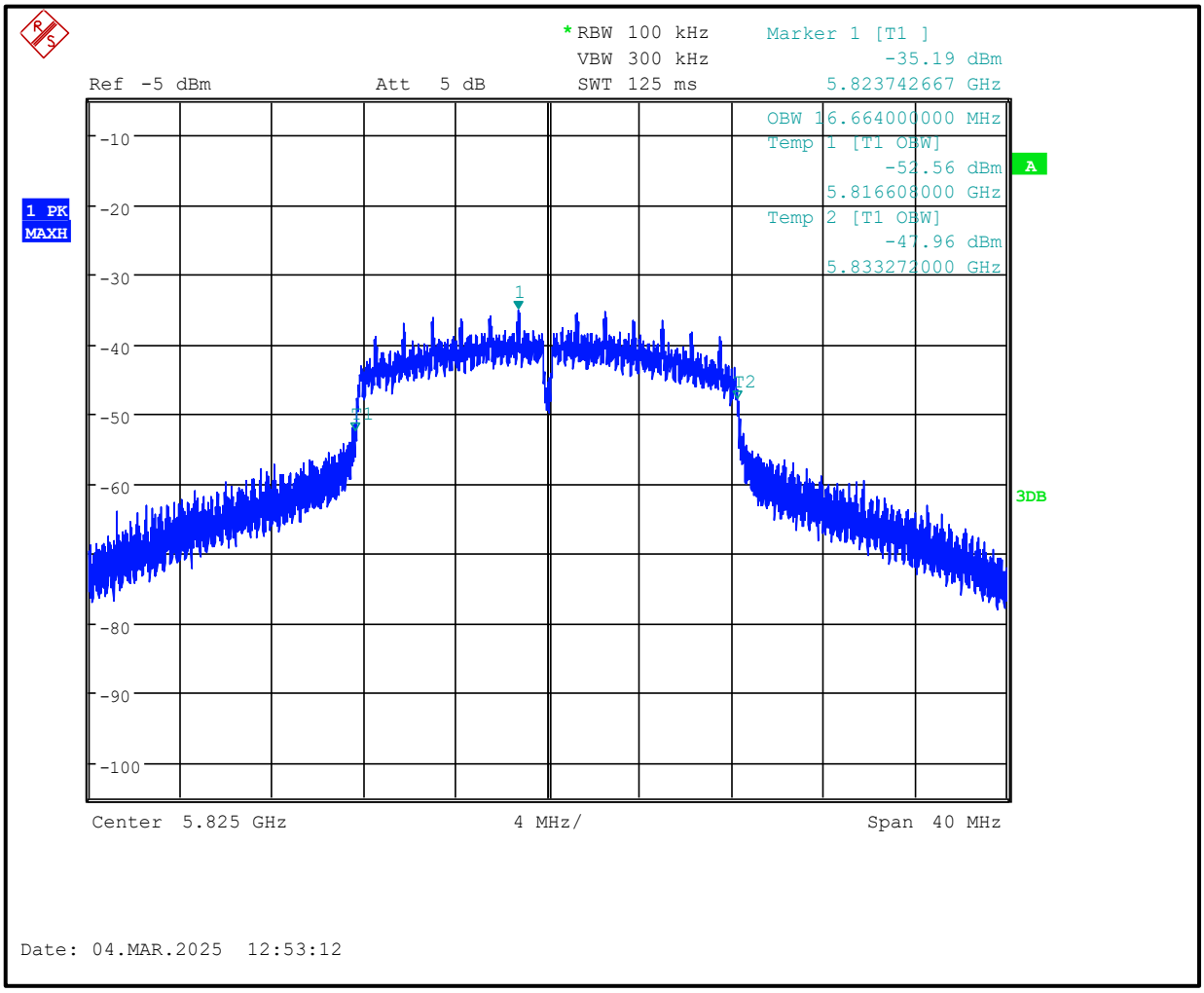
Plot 6-7: 99% dB Bandwidth – 5745 MHz – 802.11a



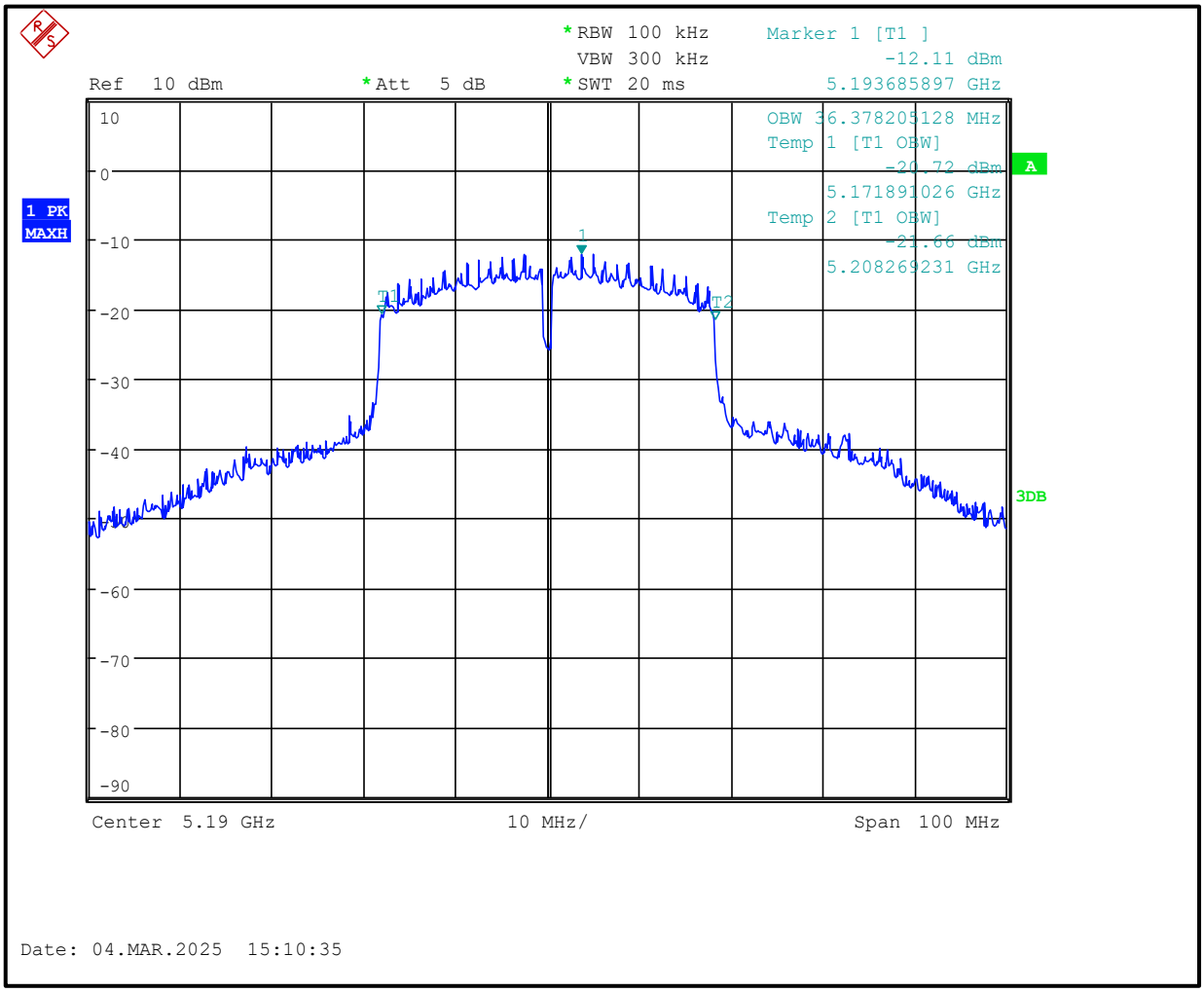
Plot 6-8: 99% dB Bandwidth – 5785 MHz – 802.11a



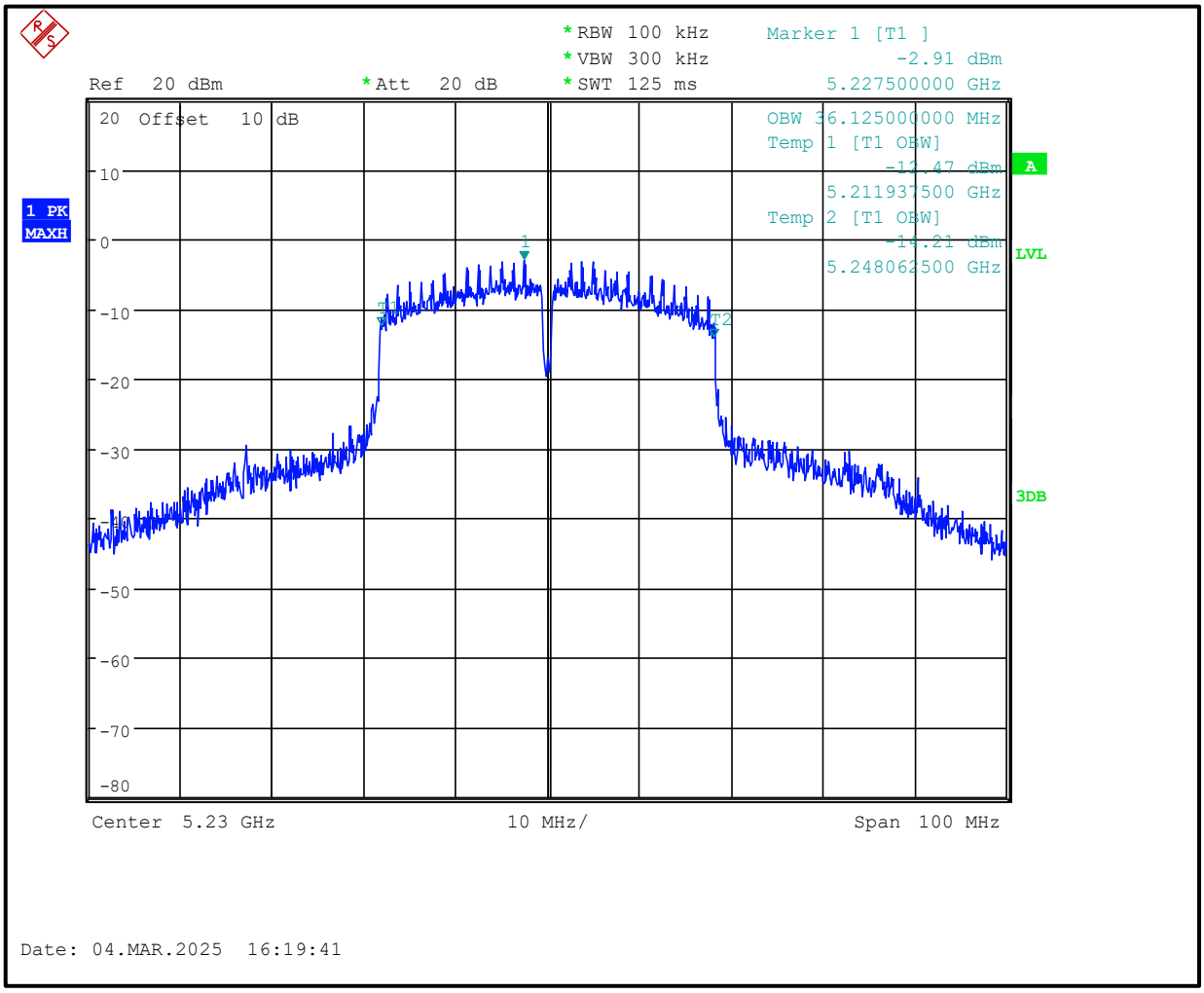
Plot 6-9: 99% dB Bandwidth – 5825 MHz – 802.11a



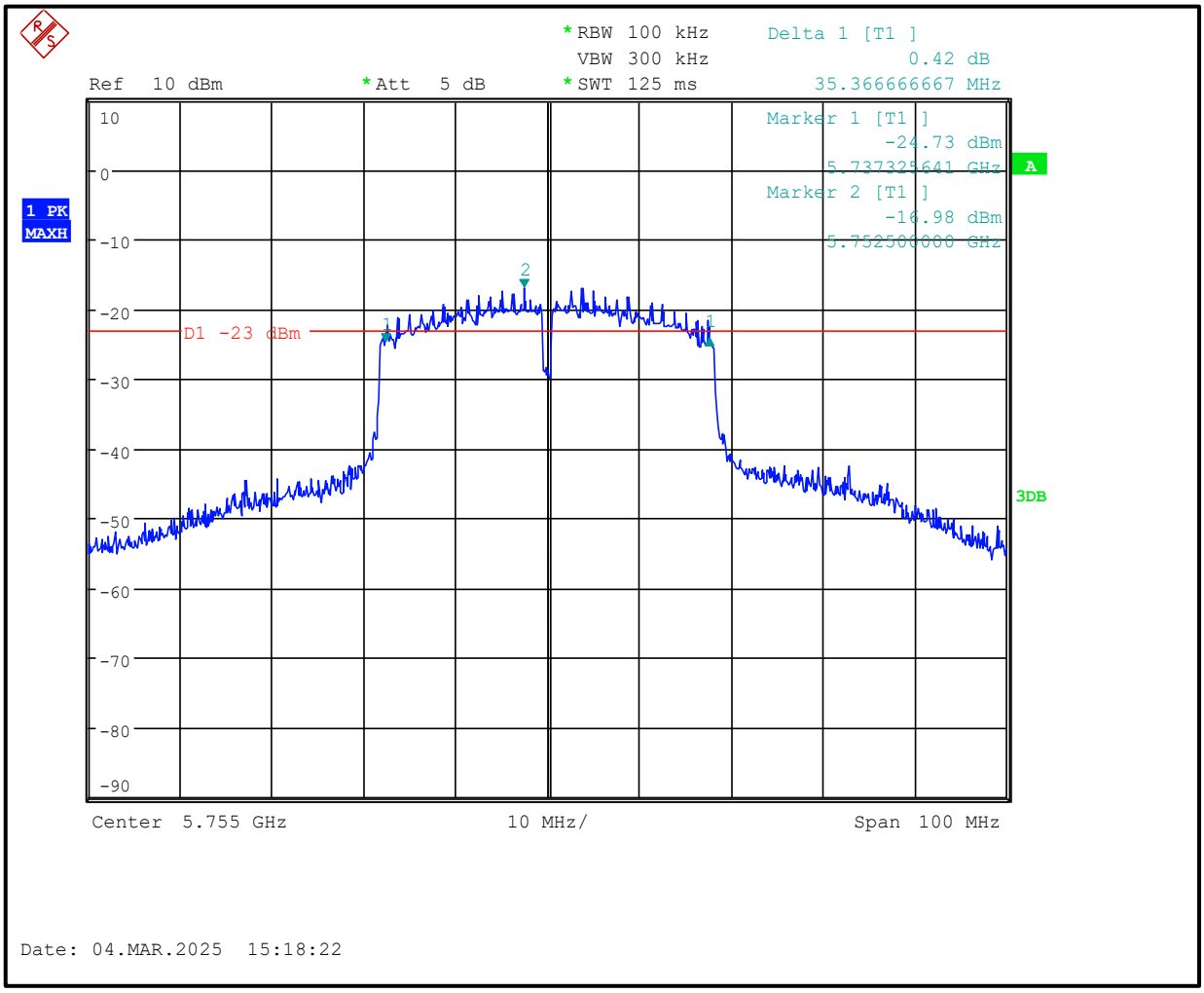
Plot 6-10: 99% dB Bandwidth – 5190 MHz – 802.11a



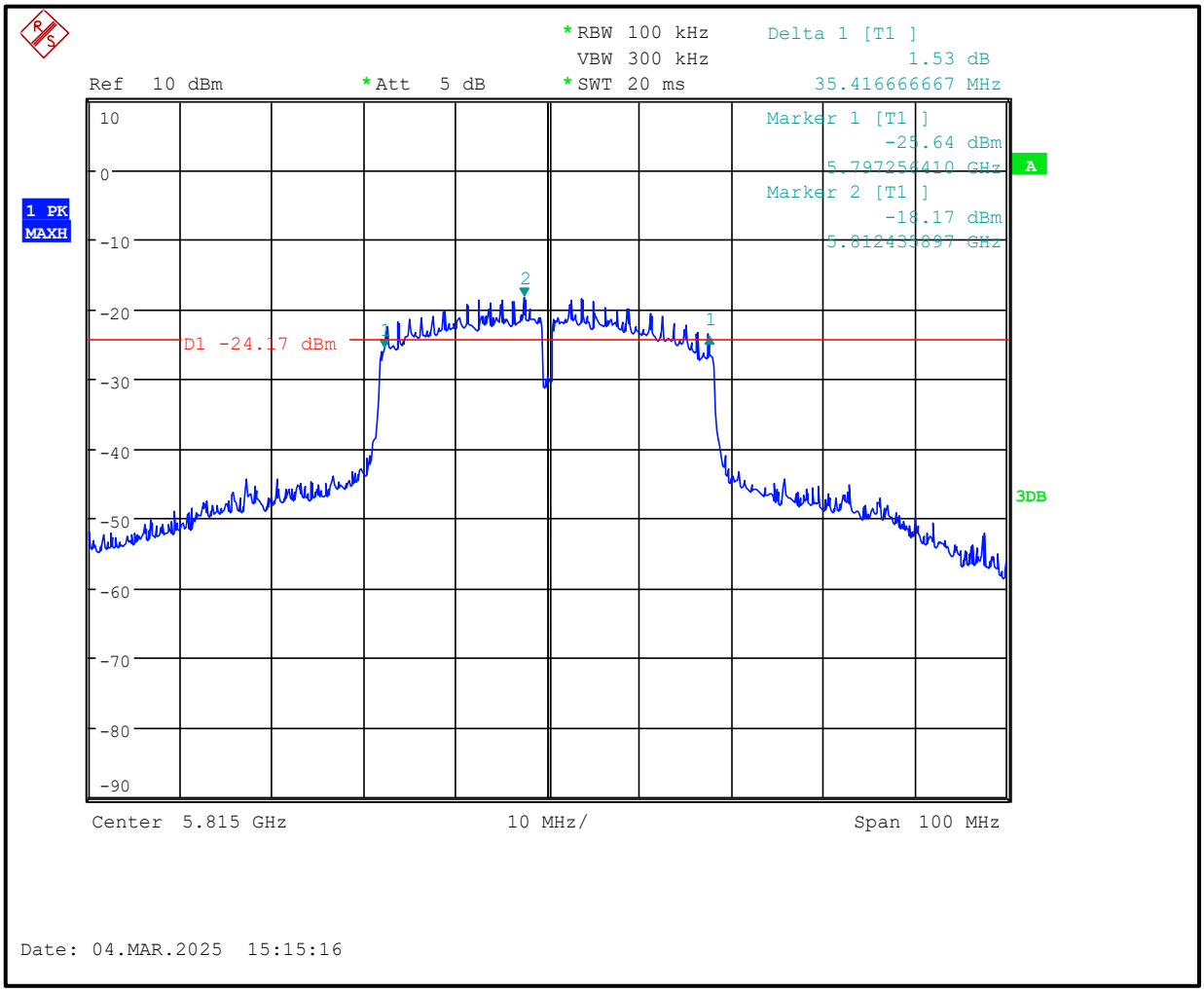
Plot 6-11: 99% dB Bandwidth – 5230 MHz – 802.11a



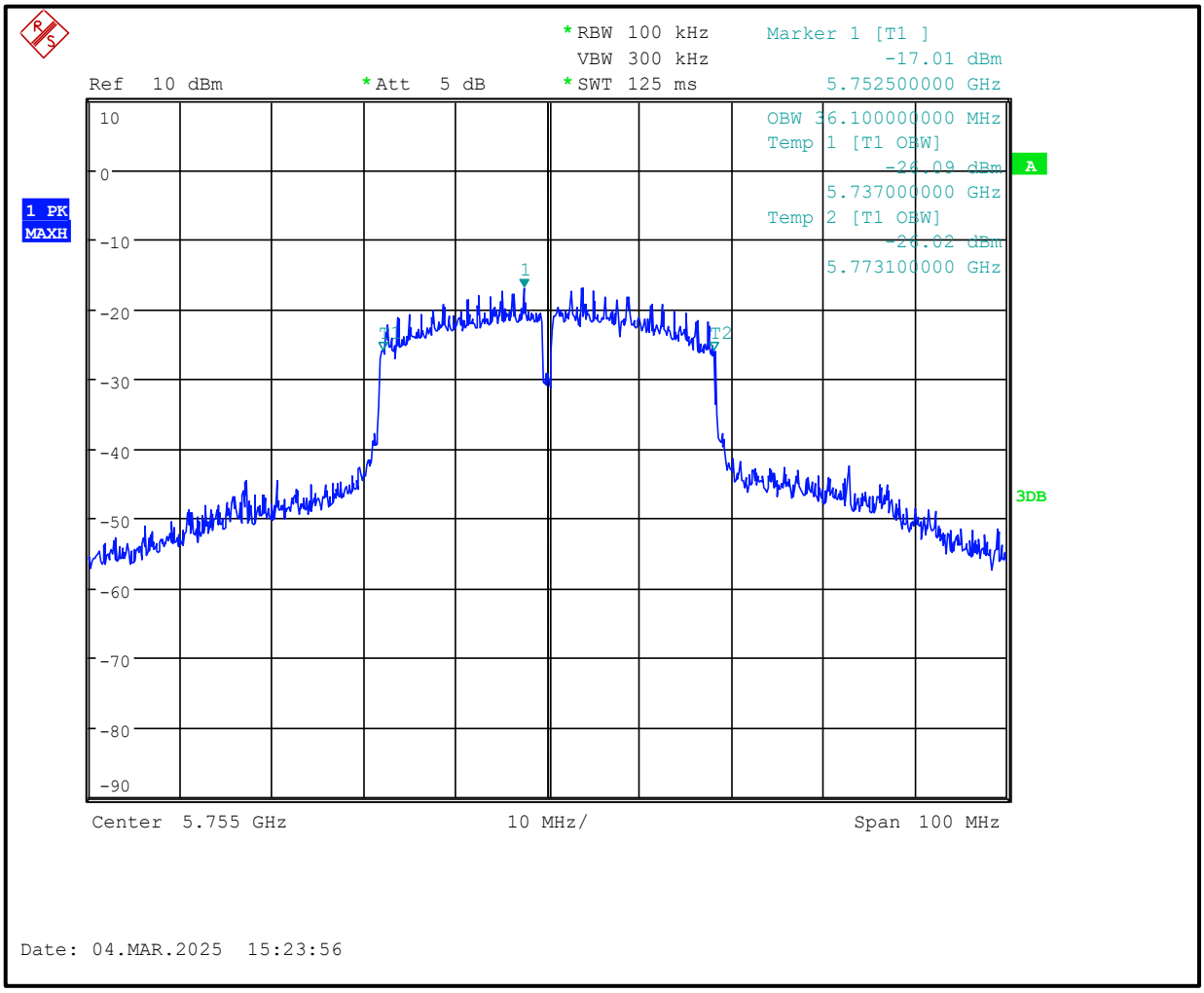
Plot 6-12: 6 dB Bandwidth – 5755 MHz – 802.11a



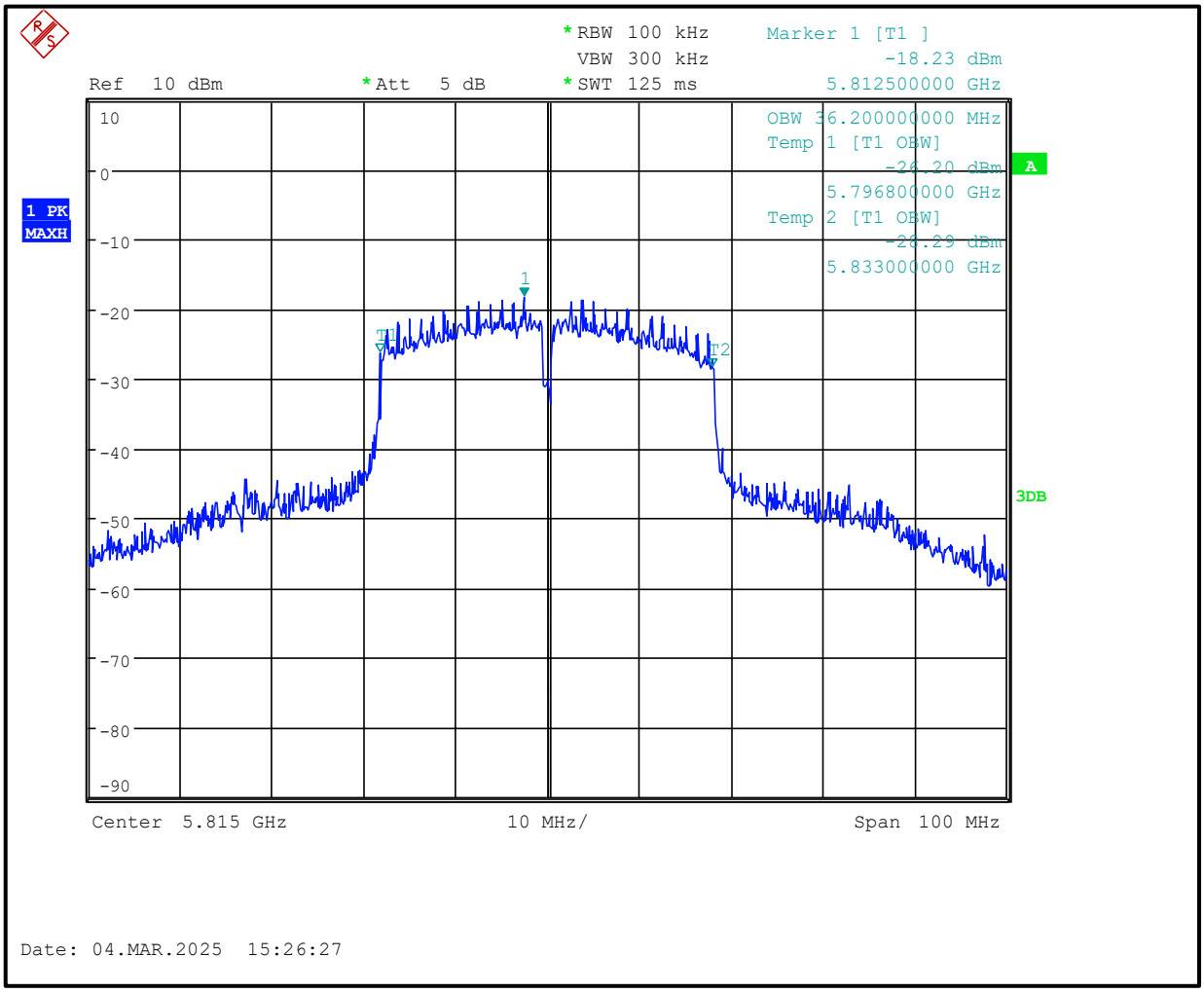
Plot 6-13: 6 dB Bandwidth – 5815 MHz – 802.11a



Plot 6-14: 99% dB Bandwidth – 5755 MHz – 802.11a



Plot 6-15: 99% dB Bandwidth – 5815 MHz – 802.11a



Measurement uncertainty: ±1 x 10^{-6} Hz. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor k=2.

Test Personnel:

Daniel W. Baltzell	Daniel W. Baltzell	March 4-5, 2025
Test Engineer	Signature	Dates of Test

7 Power Spectral Density – FCC 15.407(a1/3); RSS-247 6.2

7.1 Power Spectral Density Test Procedure

The power spectral density per FCC 15.407(a)(1)(3) was measured using a 50-ohm spectrum analyzer. The spectral lines were resolved for the modulated carriers. These levels are below the limits. See the power spectral density table and plots.

Table 7-1: Power Spectral Density Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901773	Rohde & Schwarz	FSW	Spectrum Analyzer	101021	02/02/2027

7.2 Power Spectral Density Test Results

Table 7-2: Environmental Conditions

Date	Temperature (°C)	Humidity (%)	Pressure (kPa)
March 4-5, 2025	21.2	41	101.2

Table 7-3: Power Spectral Density Test Data – U-NII 1 – 802.11a

Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)	Result (Pass / Fail)
5180	6.4	17.0	-10.6	Pass
5200	6.7	17.0	-10.3	Pass
5240	7.0	17.0	-10.0	Pass

Table 7-4: Power Spectral Density Test Data – U-NII 3 – 802.11a

Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)	Result (Pass / Fail)
5745	-2.2	30.0	-32.2	Pass
5785	-2.5	30.0	-32.5	Pass
5825	-1.9	30.0	-31.9	Pass

Table 7-5: Power Spectral Density Test Data – U-NII 1 – 802.11a

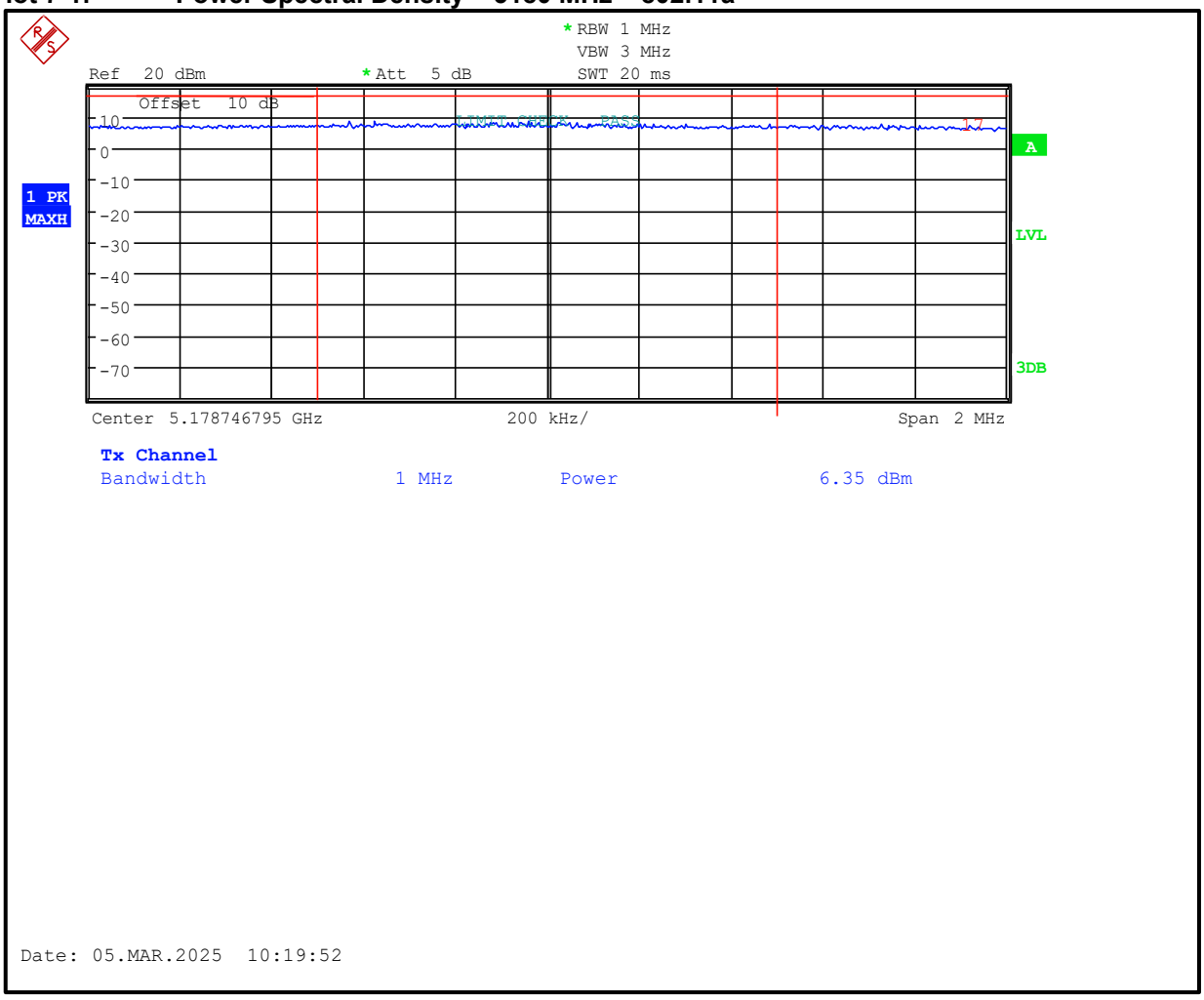
Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)	Result (Pass / Fail)
5180	5.0	17.0	-12.0	Pass
5230	5.0	17.0	-12.0	Pass

Table 7-6: Power Spectral Density Test Data – U-NII 3 – 802.11a

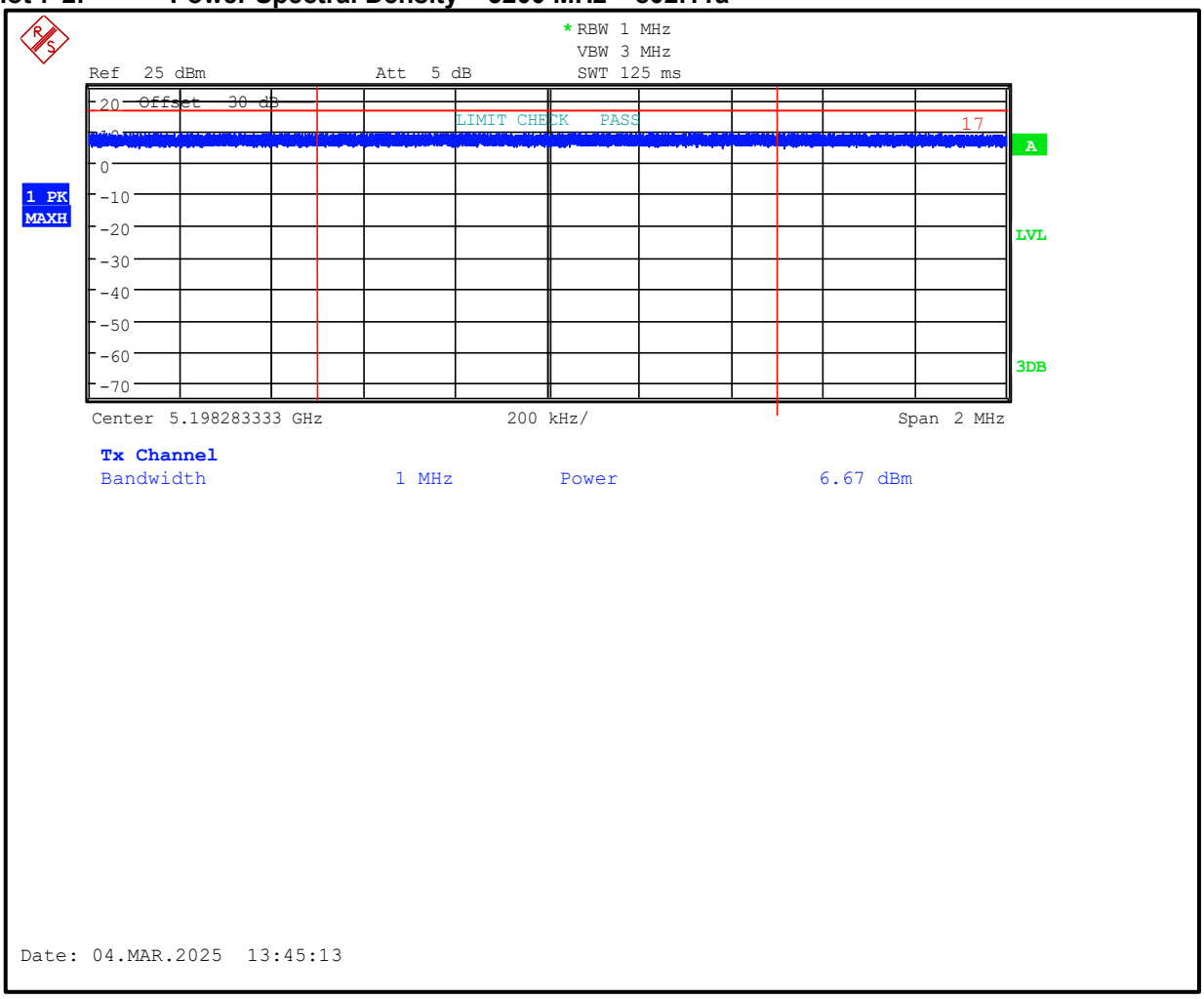
Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)	Result (Pass / Fail)
5755	-0.2	30.0	-30.2	Pass
5815	-1.2	30.0	-31.2	Pass

7.3 Power Spectral Density Plots – U-NII 1

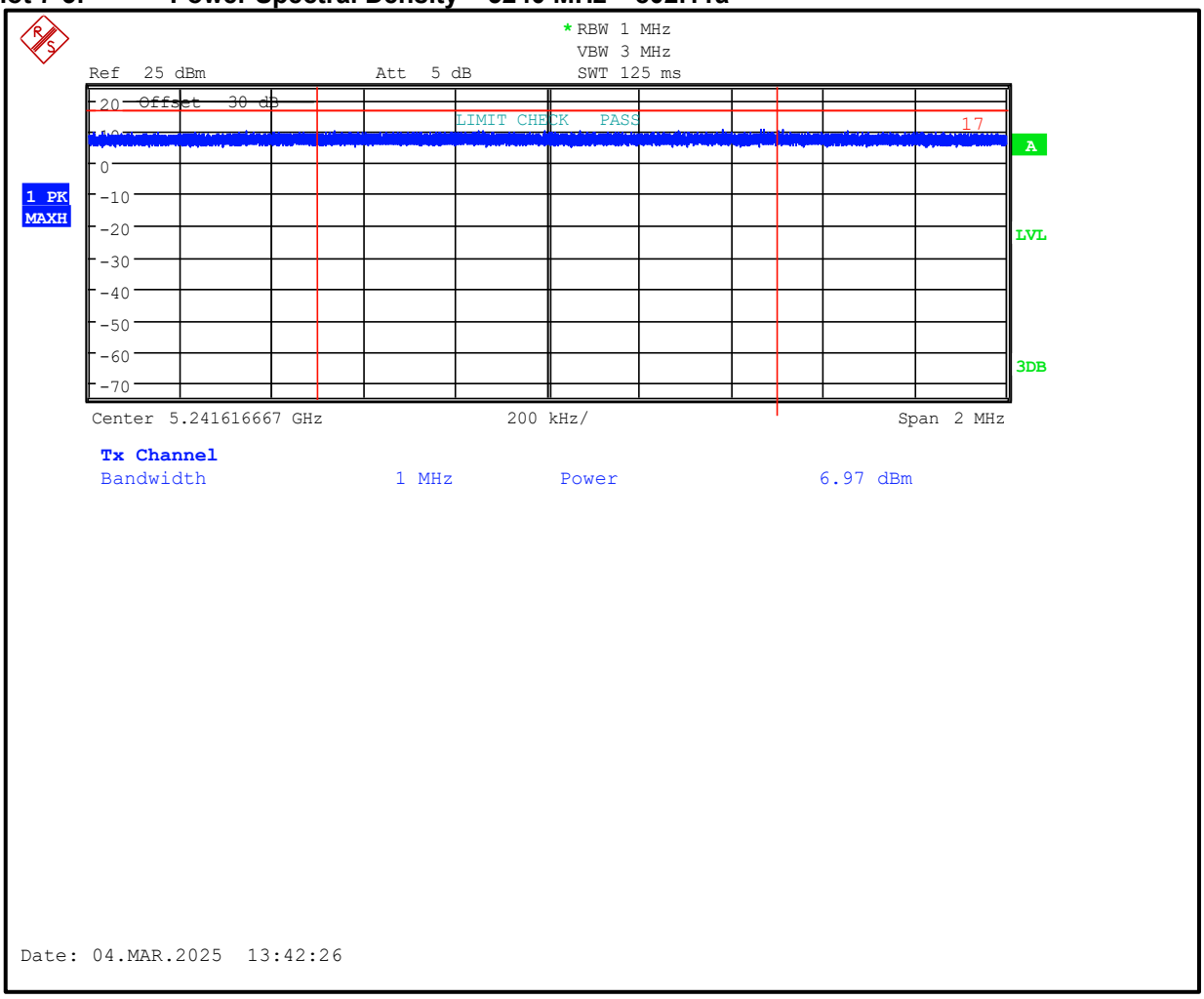
Plot 7-1: Power Spectral Density – 5180 MHz – 802.11a



Plot 7-2: Power Spectral Density – 5200 MHz – 802.11a

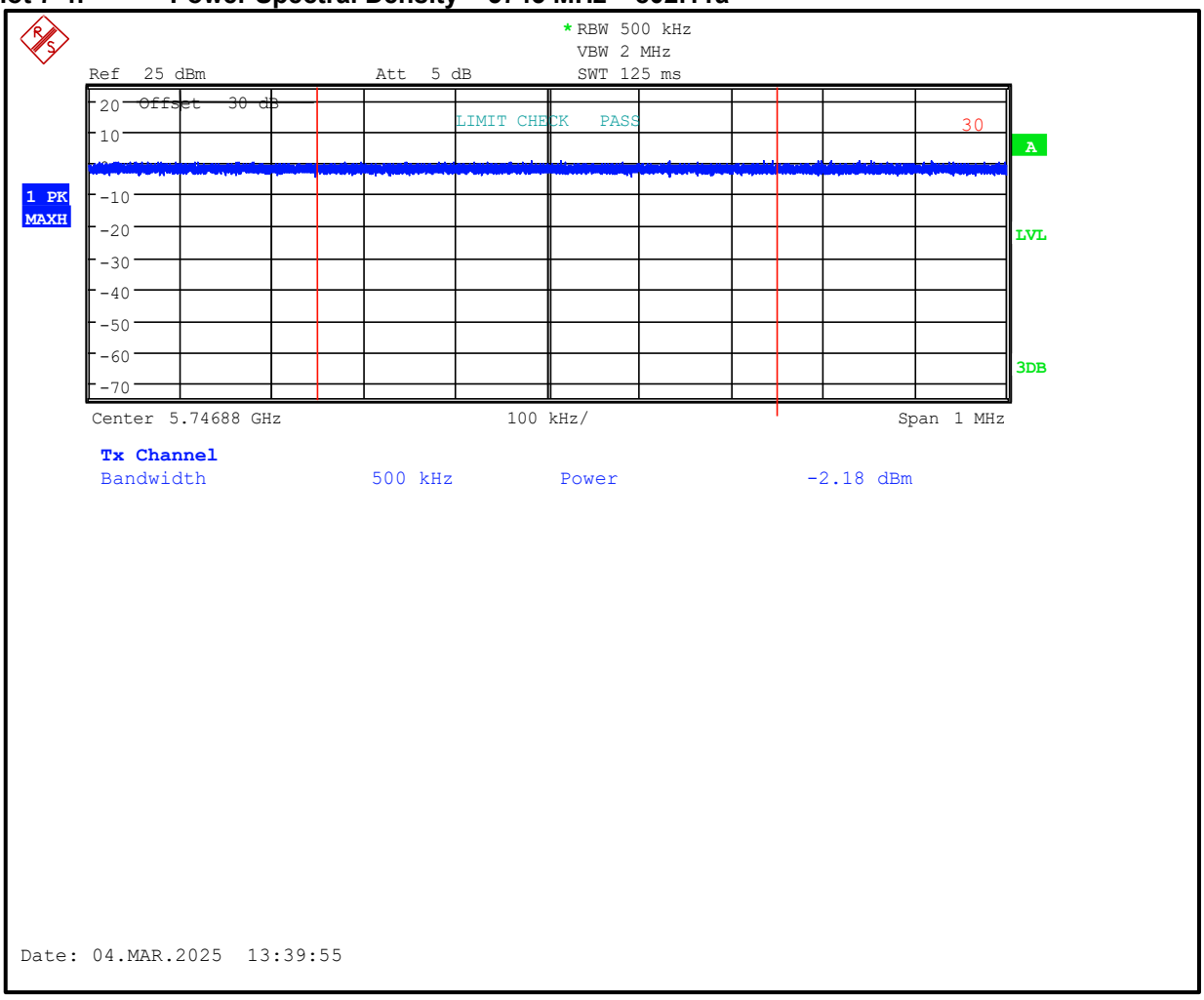


Plot 7-3: Power Spectral Density – 5240 MHz – 802.11a

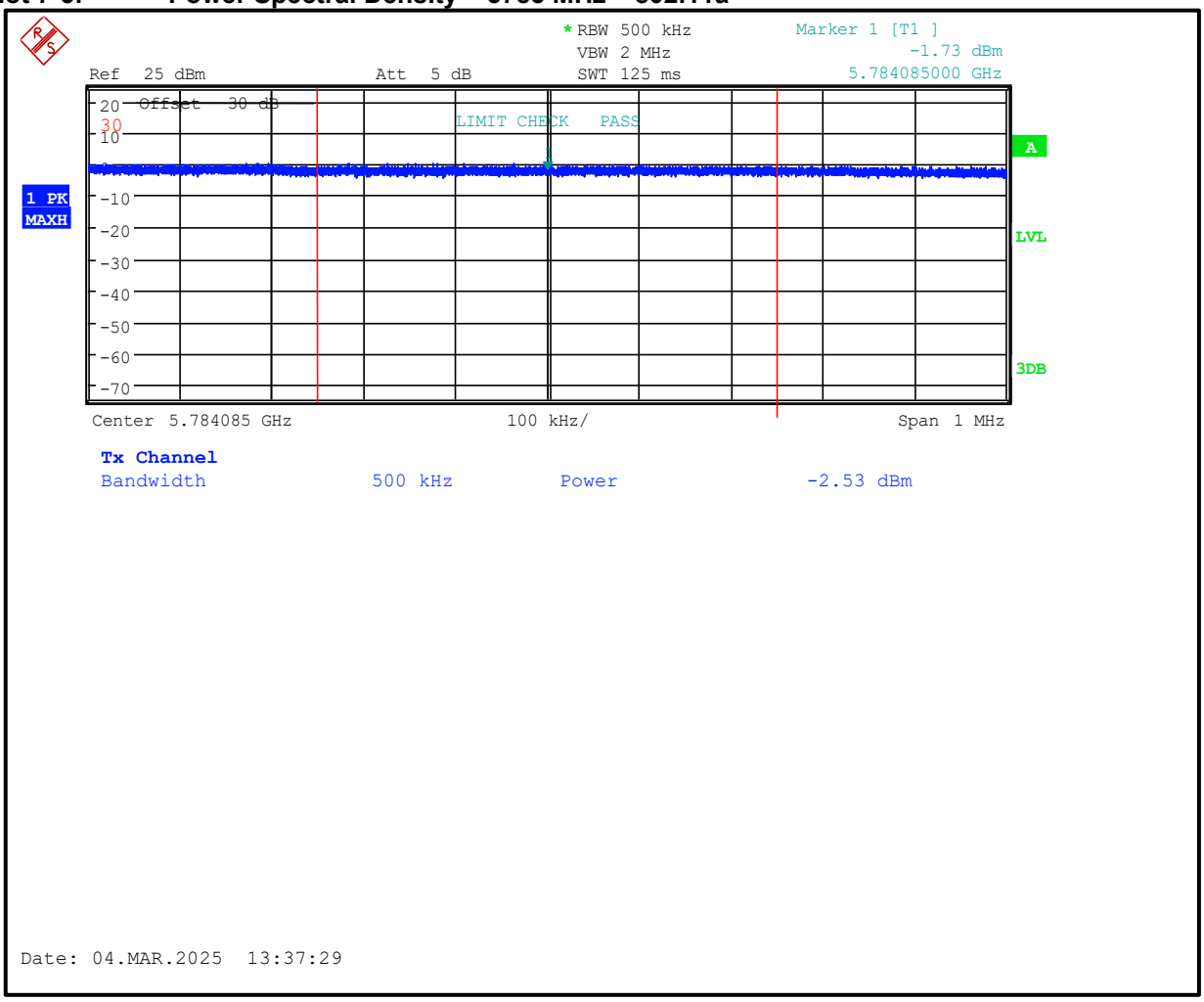


7.4 Power Spectral Density Plots – U-NII 3

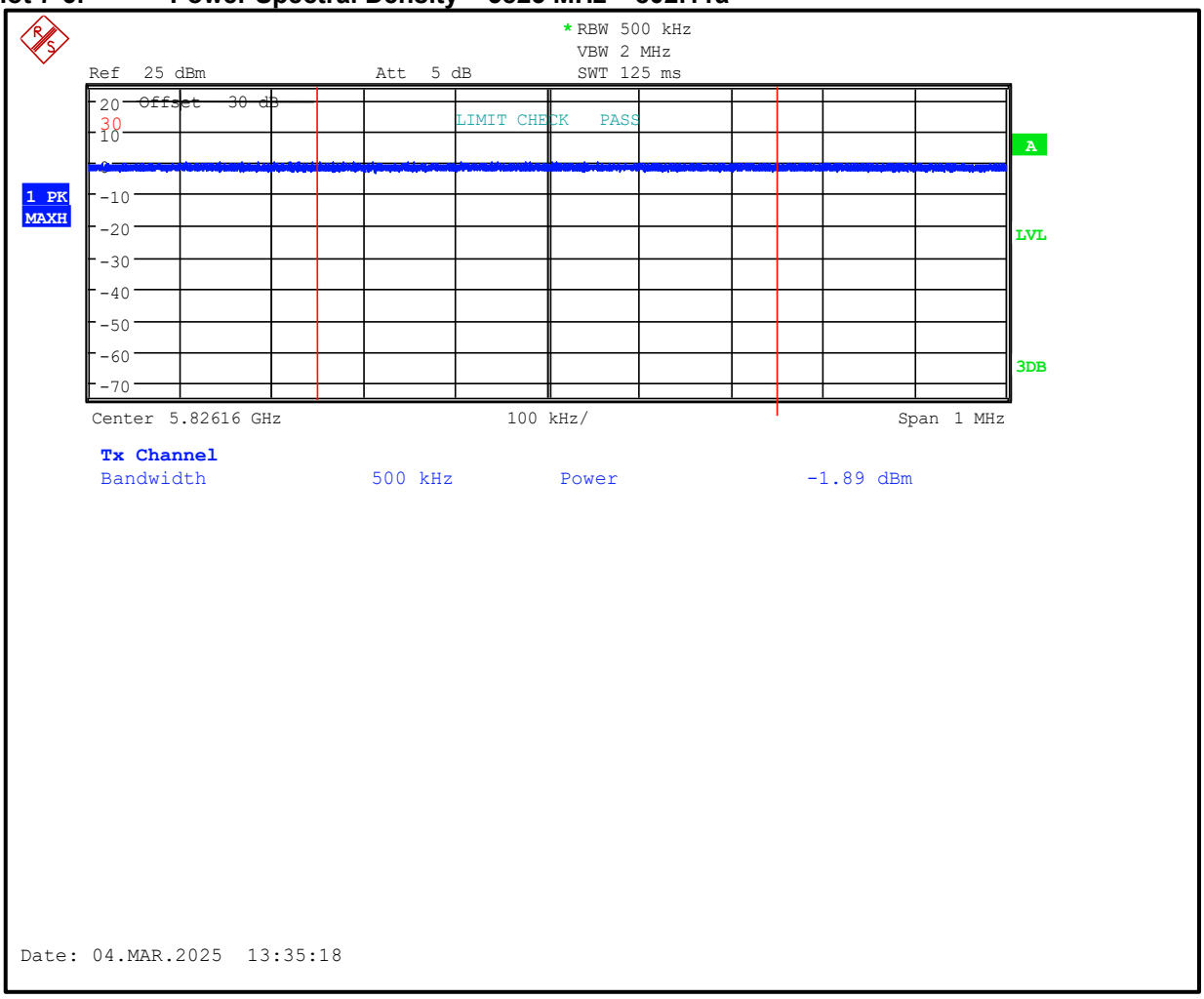
Plot 7-4: Power Spectral Density – 5745 MHz – 802.11a



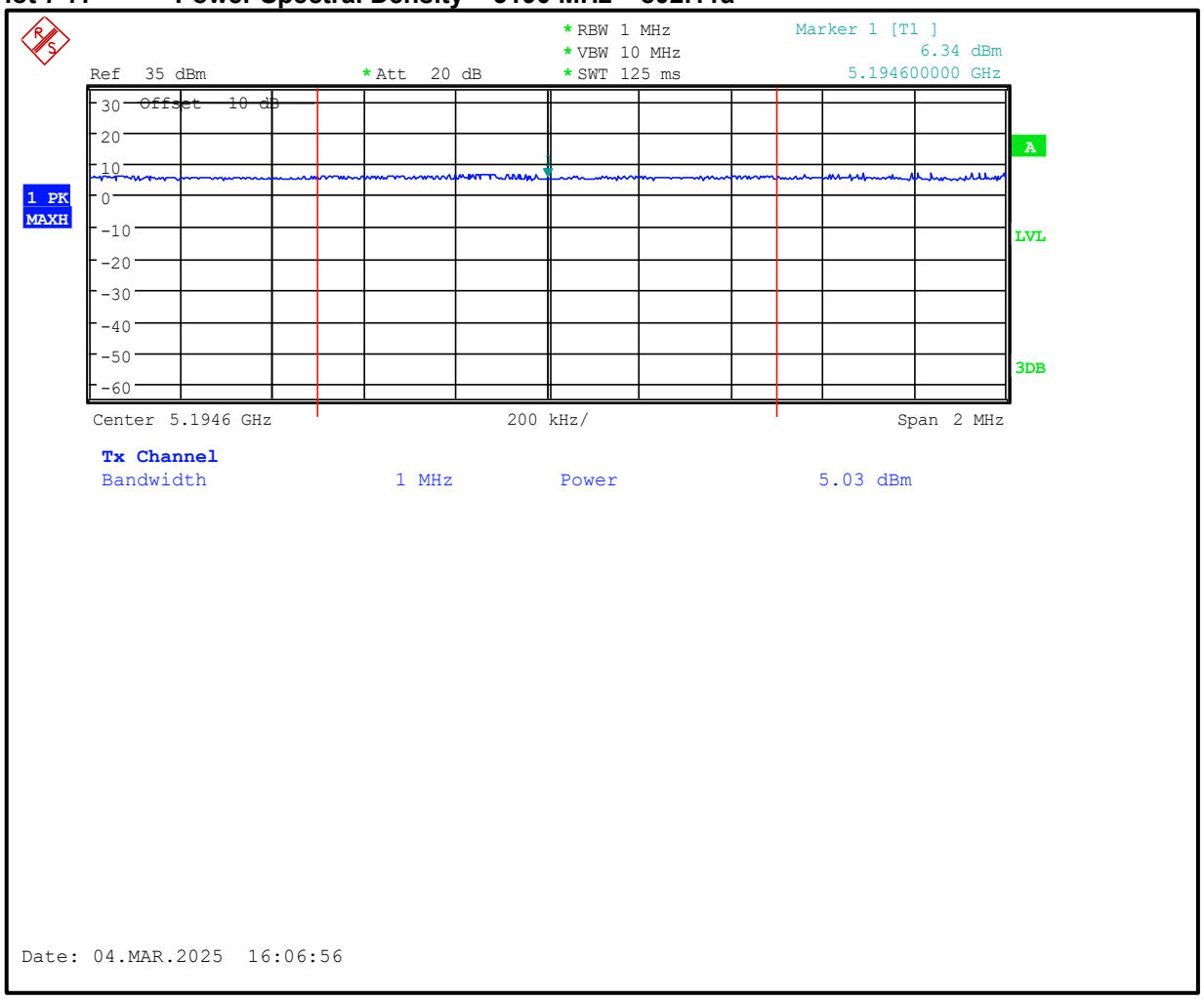
Plot 7-5: Power Spectral Density – 5785 MHz – 802.11a



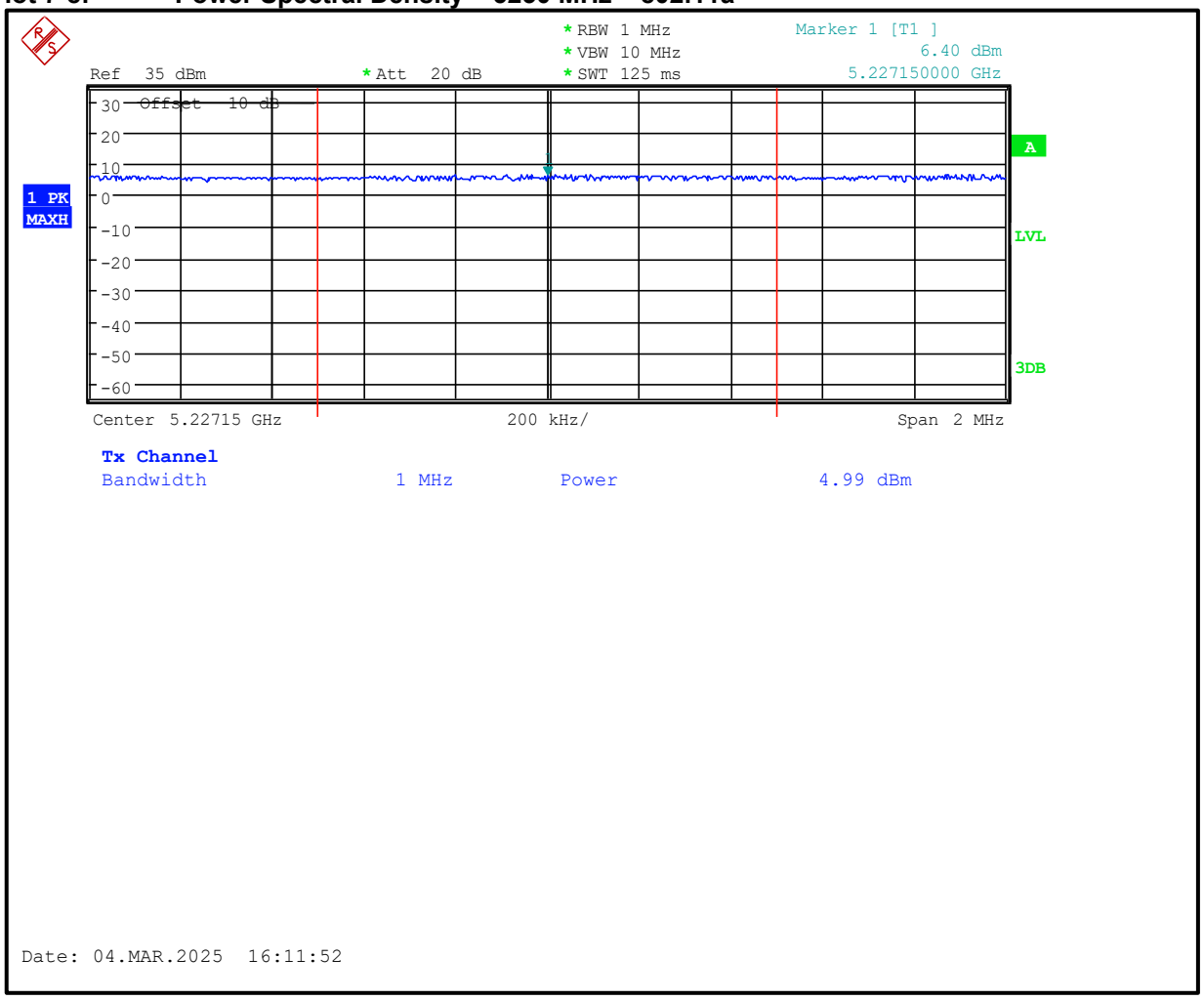
Plot 7-6: Power Spectral Density – 5825 MHz – 802.11a



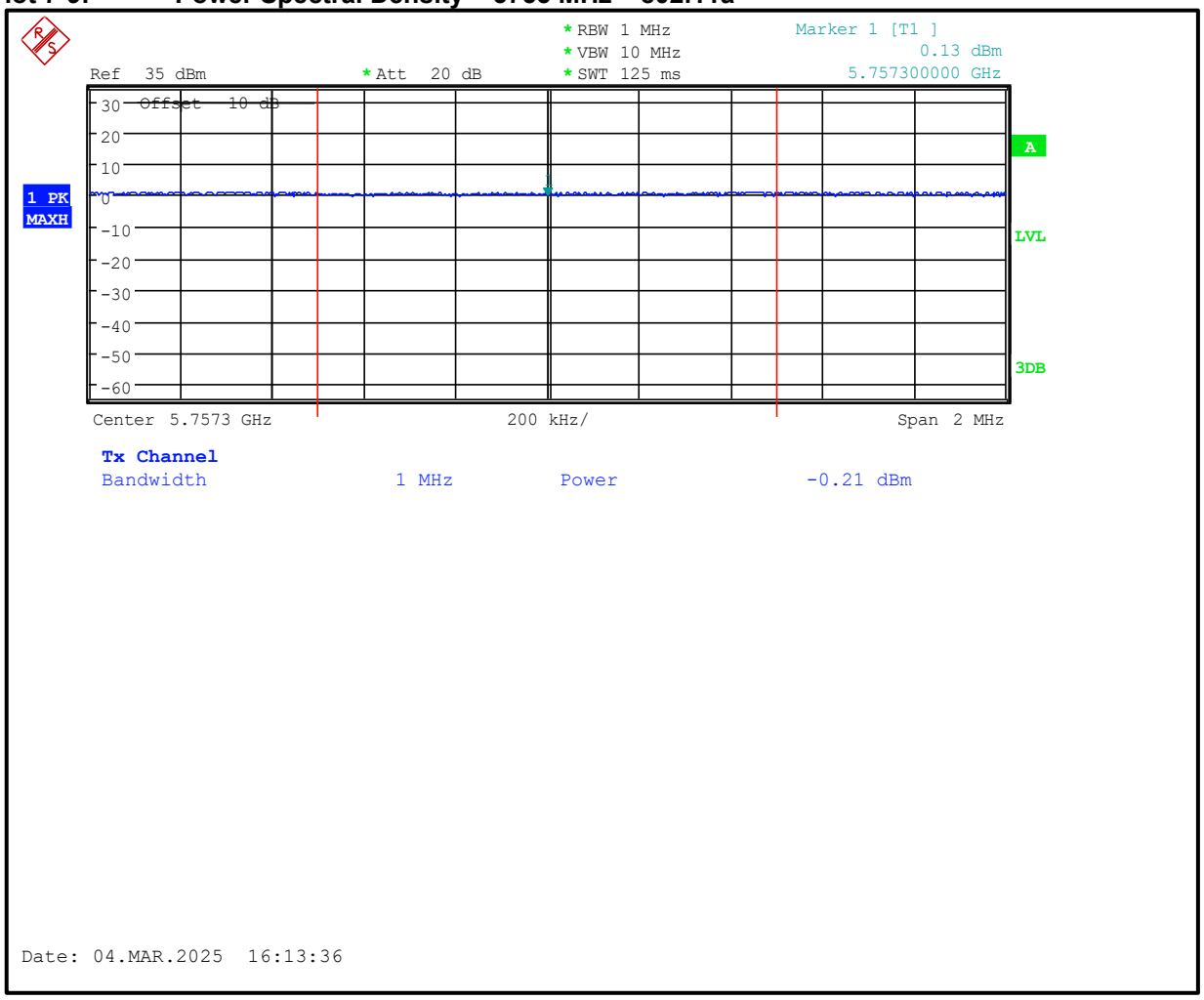
Plot 7-7: Power Spectral Density – 5190 MHz – 802.11a



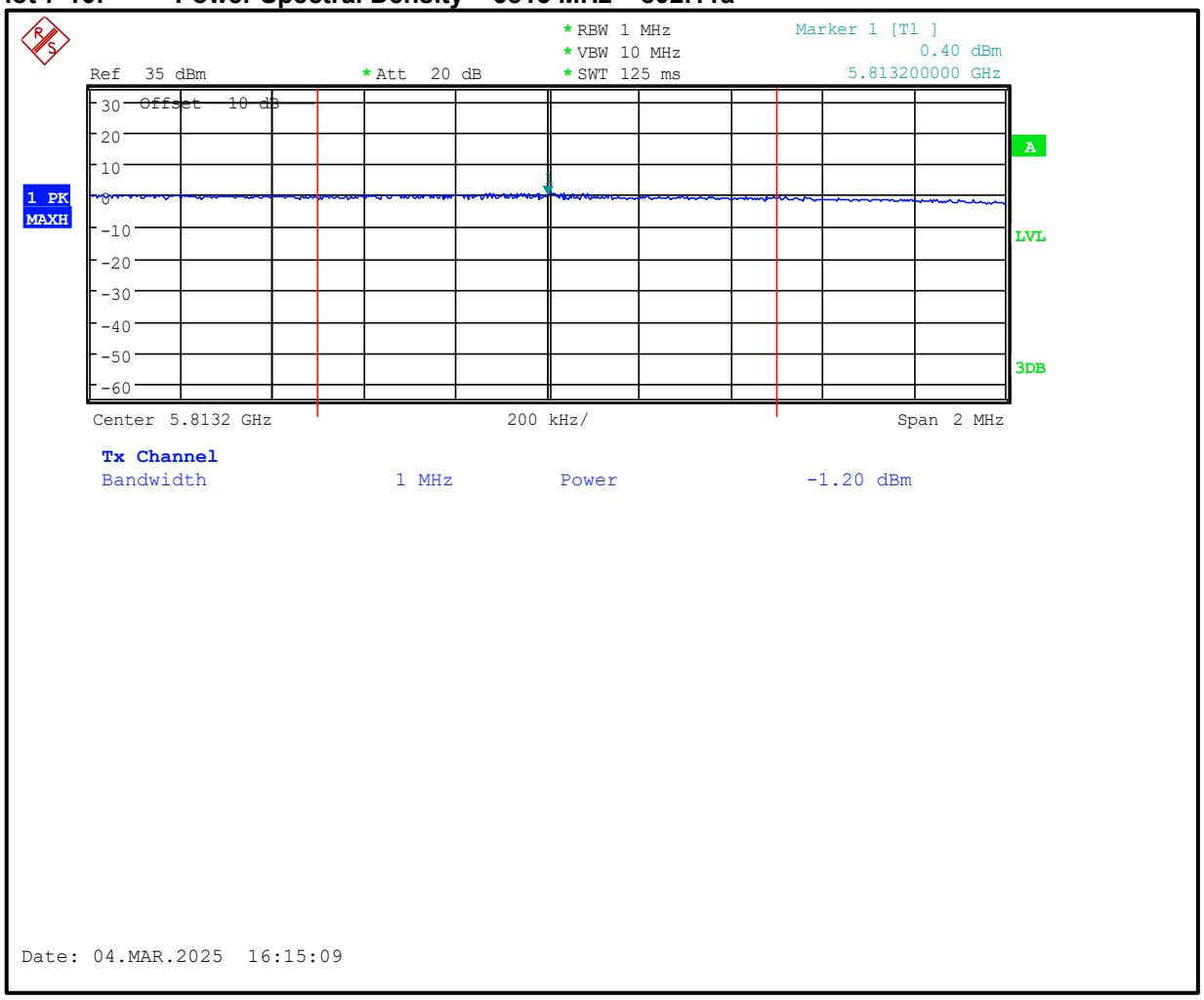
Plot 7-8: Power Spectral Density – 5230 MHz – 802.11a



Plot 7-9: Power Spectral Density – 5755 MHz – 802.11a



Plot 7-10: Power Spectral Density – 5815 MHz – 802.11a



Measurement uncertainty: ±0.5 dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor k=2.

Results: Pass

Test Personnel:

Daniel W. Baltzell		March 4-5, 2025
Test Engineer	Signature	Dates of Test

8 Frequency Stability – FCC 15.407(g); RSS-Gen 6.11

8.1 Frequency Stability Test Procedure

The EUT was placed inside the temperature chamber and supplied by nominal 13.8 VDC. The EUT was connected to an analyzer which was located outside of the chamber. The temperature was set to the lowest level of -30.0°C and the EUT was allowed to stabilize with power off for a period of 1 hour. The EUT was then powered up and the frequency was measured. This was continued at +20.0°C and +50.0°C. The chamber was allowed to stabilize between measurements for approximately 30 minutes. At +20.0°C, the EUT supply voltage was adjusted to 85% (11.73 VDC) and 115% (15.87 VDC) of the nominal voltage, and the frequency was recorded.

Table 8-1: Frequency Stability Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901627	Amprobe	34XR-A	DMM	13041385A	02/21/2027
901672	Rohde & Schwarz	FSEM30	Spectrum Analyzer	FSEM30	04/25/2027
901724	API Weinschel, Inc.	48-40-34	40 dB 100W Attenuator	CJ8921	09/09/2027
901124	Alinco	DM-33MVT 32A	Power Supply	1638	Not Required
900946	Tenney Engineering, Inc.	TH65	Temperature Chamber	11380	04/07/2027

8.2 Frequency Stability Test Results

Table 8-2: Environmental Conditions

Date	Temperature (°C)	Humidity (%)	Pressure (kPa)
March 5, 2025	21.3	40	101.4

Table 8-3: Frequency Stability at Extreme Temperatures

Temperature (°C)	Measured Frequency (MHz)	ppm
-30.0	5199.997837	-0.42
+20.0 (reference)	5200.002804	0.54
+60.0	5200.003686	0.71

Table 8-4: Frequency Stability at Extreme Voltage Levels

Voltage (VDC)	Measured Frequency (MHz)	ppm
11.73	5200.002564	0.49
13.80 (reference)	5200.002804	0.54
15.87	5200.002885	0.55

Measurement uncertainty: ±0.5 dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor k=2.

Results: Pass

Test Personnel:

Daniel W. Baltzell		March 5, 2025
Test Engineer	Signature	Date of Test

9 AC Conducted Emissions – FCC 15.207; RSS-Gen 8.8

Device is a mobile 13.8 VDC equipment; AC line conducted emissions measurements are not required.

10 Radiated Emissions – FCC 15.209; RSS-247 6.2; RSS-Gen 6.13/7.1

10.1 Limits of Radiated Emissions Measurement

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
0.009-0.490	2400/f (kHz)	300
0.490-1.705	2400/f (kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

As shown in 15.35(b), for frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any circumstances of modulation.

10.2 Radiated Emissions Measurement Test Procedure

Before final measurements of radiated emissions were made on the open-field three/ten meter range, the EUT was scanned indoors at one and three meter distances. This was done in order to determine its emissions spectrum signature. The physical arrangement of the test system and associated cabling was varied in order to determine the effect on the EUT's emissions in amplitude, direction and frequency. This process was repeated during final radiated emissions measurements on the open-field range, at each frequency, in order to ensure that maximum emission amplitudes were attained.

Final radiated emissions measurements were made on the three/ten-meter, open-field test site. The EUT was placed on a nonconductive turntable 0.8 meters above the ground plane. The spectrum was examined from 9 kHz to the 10^{th} harmonic of the highest fundamental transmitter frequency (24.8 GHz).

At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the emission's maximum level. Measurements were taken using both horizontal and vertical antenna polarizations. For frequencies between 30 and 1000 MHz, the spectrum analyzer's 6 dB bandwidth was set to 120 kHz, and the analyzer was operated in the CISPR quasi-peak detection mode. For emissions above 1000 MHz, emissions are measured using the average detector function with a minimum resolution bandwidth of 1 MHz. No video filter less than 10 times the resolution bandwidth was used. The highest emission amplitudes relative to the appropriate limit were measured and recorded in this report.

10.3 Field Strength Calculations

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FI (dBμV/m) = SAR (dBμV) + SCF (dB/m)
FI = Field Intensity
SAR = Spectrum Analyzer Reading
SCF = Site Correction Factor

The Site Correction Factor (SCF) used in the above equation is determined empirically and is expressed in the following equation:

SCF (dB/m) = - PG (dB) + AF (dB/m) + CL (dB)

SCF = Site Correction Factor
PG = Pre-amplifier Gain
AF = Antenna Factor
CL = Cable Loss

The field intensity in microvolts per meter can then be determined according to the following equation:

$$FI\ (\mu V/m) = 10^{FI(dB\mu V/m)/20}$$

For example, assume a signal at a frequency of 125 MHz has a received level measured as 49.3 dBuV. The total Site Correction Factor (antenna factor plus cable loss minus preamplifier gain) for 125 MHz is -11.5 dB/m. The actual radiated field strength is calculated as follows:

49.3 dBμV - 11.5 dB = 37.8 dBμV/m

$10^{37.8/20} = 10^{1.89} = 77.6\ \mu V/m$

Table 10-1: Radiated Emissions Test Equipment

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
900772	EMCO	3161-02	Horn Antenna (2.0–4.0 GHz)	9804-1044	08/05/2027
900321	EMCO	3161-03	Horn Antenna (4.0–8.2 GHz)	9508-1020	08/05/2027
900323	EMCO	3160-7	Horn Antenna (8.2–12.4 GHz)	9605-1054	08/05/2027
900356	EMCO	3160-08	Horn Antenna (12.4–18.0 GHz)	9607-1044	08/05/2027
901218	EMCO	3160-09	Horn Antenna (18.0–26.5 GHz)	960281-003	08/05/2027
901669	ETS-Lindgren	3142E	Biconilog Antenna (30 MHz–6000 MHz)	00166065	07/11/2027
901773	Rohde & Schwarz	FSW	Spectrum Analyzer	101021	02/02/2027
901672	Rohde & Schwarz	FSEM30	Spectrum Analyzer	FSEM30	04/25/2027
900932	Hewlett Packard	8449B OPT H02	Preamplifier 1-26.5 GHz	3008A00505	01/30/2027
901729	Insulated Wire Inc.	KPS-1503-3150-KPR	SMK RF Cables 20'	NA	12/29/2027
901477	Micro-Coax	UFA210A-0-0360-300300	RF cable 0.04 - 18 GHz	212349-002	09/01/2027
900905	Rhein Tech Laboratories, Inc.	PR-1040	OATS 1 Preamplifier 40dB (30 MHz–2 GHz)	1006	09/30/2027

10.4 Radiated Emissions Test Results

Table 10-2: Environmental Conditions

Date	Temperature (°C)	Humidity (%)	Pressure (kPa)
March 5, 2025	15.5	50	101.6

Table 10-3: Radiated Emissions Harmonics/Spurious – 5180 MHz, Peak Detector

Frequency (MHz)	Peak Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Peak Corrected (dBµV/m)	Conversion to dBm	Peak Limit (dBm/MHz)	Peak Margin (dB)
10360.0	34.0	9.3	43.2	-52.0	-7.0	-45.0
15540.0	34.0	15.0	49.0	-46.3	-7.0	-39.3
20720.0	34.0	20.8	54.8	-40.5	-7.0	-33.5
25900.0	24.5	25.7	50.2	-45.1	-7.0	-38.1
31080.0	8.0	61.1	69.1	-26.1	-7.0	-19.1
36260.0	7.6	62.8	70.4	-24.8	-7.0	-17.8

Table 10-4: Radiated Emissions Harmonics/Spurious – 5200 MHz, Peak Detector

Frequency (MHz)	Peak Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Peak Corrected (dBµV/m)	Conversion to dBm	Peak Limit (dBm/MHz)	Peak Margin (dB)
10400.0	34.0	9.3	43.2	-52.0	-7.0	-45.0
15600.0	34.0	14.9	48.9	-46.4	-7.0	-39.4
20800.0	34.0	20.9	54.9	-40.4	-7.0	-33.4
26000.0	24.5	26.1	50.5	-44.7	-7.0	-37.7
31200.0	14.4	61.3	75.7	-19.6	-7.0	-12.6
36400.0	13.0	63.5	76.5	-18.8	-7.0	-11.8

Table 10-5: Radiated Emissions Harmonics/Spurious – 5240 MHz, Peak Detector

Frequency (MHz)	Peak Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Peak Corrected (dBµV/m)	Conversion to dBm	Peak Limit (dBm/MHz)	Peak Margin (dB)
10480.0	34.0	9.3	43.2	-52.0	-7.0	-45.0
15720.0	34.0	15.1	49.0	-46.3	-7.0	-39.3
20960.0	34.0	20.9	54.9	-40.4	-7.0	-33.4
26200.0	24.5	26.8	51.3	-44.0	-7.0	-37.0
31440.0	14.5	63.9	78.4	-16.9	-7.0	-9.9
36680.0	13.9	66.7	80.6	-14.7	-7.0	-7.7

Table 10-6: Radiated Emissions Harmonics/Spurious – 5745 MHz, Peak Detector

Frequency (MHz)	Peak Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Peak Corrected (dBµV/m)	Conversion to dBm	Peak Limit (dBm/MHz)	Peak Margin (dB)
11490.0	34.0	9.8	43.8	-51.5	-7.0	-44.5
17235.0	34.0	15.4	49.4	-45.9	-7.0	-38.9
22980.0	34.0	22.6	56.6	-38.7	-7.0	-31.7
28725.0	15.3	60.3	75.6	-19.7	-7.0	-12.7
34470.0	8.9	64.9	73.8	-21.5	-7.0	-14.5

Table 10-7: Radiated Emissions Harmonics/Spurious – 5785 MHz, Peak Detector

Frequency (MHz)	Peak Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Peak Corrected (dBµV/m)	Conversion to dBm	Peak Limit (dBm/MHz)	Peak Margin (dB)
11570.0	34.0	10.0	43.9	-51.3	-7.0	-44.3
17355.0	34.0	15.6	49.6	-45.7	-7.0	-38.7
23140.0	34.0	22.8	56.7	-38.5	-7.0	-31.5
28925.0	15.9	60.2	76.1	-19.2	-7.0	-12.2
34710.0	10.0	65.2	75.2	-20.1	-7.0	-13.1

Table 10-8: Radiated Emissions Harmonics/Spurious – 5825 MHz, Peak Detector

Frequency (MHz)	Peak Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Peak Corrected (dBµV/m)	Conversion to dBm	Peak Limit (dBm/MHz)	Peak Margin (dB)
11650.0	34.0	10.0	43.9	-51.3	-7.0	-44.3
17475.0	34.0	15.8	49.8	-45.5	-7.0	-38.5
23300.0	34.0	22.7	56.6	-38.6	-7.0	-31.6
29125.0	15.3	60.0	75.3	-20.0	-7.0	-13.0
34950.0	12.9	65.8	78.7	-16.5	-7.0	-9.5

Table 10-9: Radiated Emissions Harmonics/Spurious – 5180 MHz, Average Detector

Frequency (MHz)	Average Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Average Corrected (dBµV/m)	Conversion to dBm	Average Limit (dBm/MHz)	Average Margin (dB)
10360.0	31.4	9.3	40.7	-54.6	-27.0	-27.6
15540.0	30.4	15.0	45.4	-49.9	-27.0	-22.9
20720.0	32.2	20.8	53.0	-42.3	-27.0	-15.3
25900.0	22.2	25.7	48.0	-47.3	-27.0	-20.3
31080.0	4.3	61.1	65.4	-29.8	-27.0	-2.8
36260.0	0.4	62.8	63.2	-32.1	-27.0	-5.1

Table 10-10: Radiated Emissions Harmonics/Spurious – 5200 MHz, Average Detector

Frequency (MHz)	Average Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Average Corrected (dBµV/m)	Conversion to dBm	Average Limit (dBm/MHz)	Average Margin (dB)
10400.0	31.1	9.3	40.3	-54.9	-27.0	-27.9
15600.0	32.3	14.9	47.2	-48.0	-27.0	-21.0
20800.0	32.7	20.9	53.6	-41.6	-27.0	-14.6
26000.0	21.8	26.1	47.9	-47.4	-27.0	-20.4
31200.0	0.9	61.3	62.2	-33.0	-27.0	-6.0
36400.0	0.4	63.5	63.9	-31.4	-27.0	-4.4

Table 10-11: Radiated Emissions Harmonics/Spurious – 5240 MHz, Average Detector

Frequency (MHz)	Average Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Average Corrected (dBµV/m)	Conversion to dBm	Average Limit (dBm/MHz)	Average Margin (dB)
10480.0	29.9	9.3	39.2	-56.1	-27.0	-29.1
15720.0	31.1	15.1	46.1	-49.1	-27.0	-22.1
20960.0	32.4	20.9	53.3	-42.0	-27.0	-15.0
26200.0	30.2	26.8	57.0	-38.3	-27.0	-11.3
31440.0	-0.2	63.9	63.7	-31.5	-27.0	-4.5
36680.0	-1.6	66.7	65.1	-30.1	-27.0	-3.1

Table 10-12: Radiated Emissions Harmonics/Spurious – 5745 MHz, Average Detector

Frequency (MHz)	Average Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Average Corrected (dBµV/m)	Conversion to dBm	Average Limit (dBm/MHz)	Average Margin (dB)
11490.0	30.7	9.8	40.5	-54.7	-27.0	-27.7
17235.0	30.4	15.4	45.8	-49.5	-27.0	-22.5
22980.0	31.9	22.6	54.5	-40.8	-27.0	-13.8
28725.0	2.3	60.3	62.6	-32.7	-27.0	-5.7
34470.0	2.2	64.9	67.1	-28.1	-27.0	-1.1

Table 10-13: Radiated Emissions Harmonics/Spurious – 5785 MHz, Average Detector

Frequency (MHz)	Average Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Average Corrected (dBµV/m)	Conversion to dBm	Average Limit (dBm/MHz)	Average Margin (dB)
11570.0	31.0	10.0	41.0	-54.3	-27.0	-27.3
17355.0	31.4	15.6	47.0	-48.3	-27.0	-21.3
23140.0	31.1	22.8	53.9	-41.4	-27.0	-14.4
28925.0	5.4	60.2	65.6	-29.7	-27.0	-2.7
34710.0	2.4	65.2	67.6	-27.7	-27.0	-0.7

Table 10-14: Radiated Emissions Harmonics/Spurious – 5825 MHz, Average Detector

Frequency (MHz)	Average Analyzer (dBµV/m)	Site Correction Factor (dB/m)	Average Corrected (dBµV/m)	Conversion to dBm	Average Limit (dBm/MHz)	Average Margin (dB)
11650.0	30.4	10.0	40.4	-54.9	-27.0	-27.9
17475.0	30.7	15.8	46.6	-48.7	-27.0	-21.7
23300.0	31.2	22.7	53.9	-41.4	-27.0	-14.4
29125.0	-3.0	60.0	57.0	-38.3	-27.0	-11.3
34950.0	-5.7	65.8	60.1	-35.1	-27.0	-8.1

Table 10-15: Unintentional Emissions Test Data

Temperature: 60°F Humidity: 50% Barometric Pressure: 30.22"Hg										
Emission Frequency (MHz)	**Test Detector**	**Antenna Polarity (H/V)**	**Turntable Azimuth (°)**	**Antenna Height (m)**	**Analyzer Reading (dBµV)**	**Site Correction Factor (dB/m)**	**Emission Level (dBµV/m)**	**Limit (dBµV/m)**	**Margin (dB)**	**Pass/ Fail**
30.400	QP	V	260	1.0	47.1	-19.4	27.7	40.0	-12.3	Pass
32.886	QP	H	40	1.0	46.2	-15.2	31.0	40.0	-9.0	Pass
35.411	QP	V	220	1.0	43.3	-16.6	26.7	40.0	-13.3	Pass
37.996	QP	V	80	1.0	48.8	-18.0	30.8	40.0	-9.2	Pass
50.024	QP	V	190	1.0	52.8	-22.8	30.0	40.0	-10.0	Pass
81.062	QP	H	120	1.5	45.6	-28.5	17.1	40.0	-22.9	Pass
144.483	QP	V	230	1.0	51.9	-26.3	25.6	43.5	-17.9	Pass
147.000	QP	V	140	1.0	50.3	-26.0	24.3	43.5	-19.2	Pass
149.543	QP	V	30	1.0	46.5	-25.5	21.0	43.5	-22.5	Pass
240.053	QP	H	70	1.4	57.1	-20.1	37.0	46.0	-9.0	Pass
250.013	QP	V	80	1.0	55.8	-19.5	36.3	46.0	-9.7	Pass
400.000	QP	H	125	1.5	50.1	-17.4	32.7	46.0	-13.3	Pass
681.200	QP	H	320	1.4	34.5	-11.4	23.2	46.0	-22.8	Pass
994.000	QP	V	325	1.0	33.5	-8.0	25.5	54.0	-28.5	Pass
1042.084	AV	H	90	1.5	42.7	-7.3	35.4	54.0	-18.6	Pass
1050.013	AV	H	330	1.1	35.2	-7.0	28.2	54.0	-25.8	Pass
1114.228	AV	H	339	1.0	32.8	-7.2	25.6	54.0	-28.4	Pass

Measurement uncertainty: ±4.7 dB. This measurement uncertainty is an expanded uncertainty for 95% confidence level received with a coverage factor k=2.

Results: Pass

Test Personnel:

Daniel W. Baltzell		March 5, 2025
Test Engineer	Signature	Date of Test

11 Conclusion

The data in this NII measurement report shows that the EUT as tested, L3Harris Technologies XL-85M VHF Mobile Radio, FCC ID: OWDTR-0176-E, IC: 3636B-0176, complies with the applicable requirements of FCC Parts 2 and 15 and ISED RSS-247 and RSS-Gen.