



FCC/ISED - TEST REPORT

Report Number : **709502502170-00B** Date of Issue: May 06, 2025

Model : M800, M800-2

Product Type : DASH CAM

Applicant : 70mai Co., Ltd.

Address : Room 2220, building 2, No. 588, Zixing road, MinHang District,
Shanghai, CHINA.

Manufacturer : 70mai Co., Ltd.

Address : Room 2220, building 2, No. 588, Zixing road, MinHang District,
Shanghai, CHINA.

Test Result : **n Positive** **o Negative**

Total pages including
Appendices : 84



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2 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
709502502170-00B	First Issue	05/06/2025

3 Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
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Telephone: +86 21 6141 0123

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FCC Registration No.: 820234

FCC Designation Number: CN1183

ISED CAB identifier: CN0101

IC Registration No.: 31668

4 Description of the Equipment under Test

Product: DASH CAM

PMN / HVIN / Model no.: M800, M800-2

FCC ID: 2AOK9-M800

IC: 28033-M800

Rating: For Car charger
Rated Input Voltage: 12-24V DC
For Dash Cam
Rated Input Voltage: 5V DC; Rated Current: 2A

RF Transmission Frequency: For 2.4GHz Wi-Fi: 802.11b/g/n-HT20: Wi-Fi: 2412-2462MHz
For 802.11n(HT40): 2422~2452 MHz
For Bluetooth LE: 2402~2480MHz
For 5GHz Wi-Fi: 5180~5240 MHz (U-NII-1)
5745~5825 MHz (U-NII-3)
(Note: In Canada U-NII-1 Band will be disabled by firmware)

Modulation: Direct Sequence Spread Spectrum (DSSS) for 802.11b
Orthogonal Frequency Division Multiplexing (OFDM) for 802.11a/g/n; 2.4GHz BLE: GFSK

Channel list:

Bluetooth Low Energy							
Ch	Fre(MHz)	Ch	Fre(MHz)	Ch	Fre(MHz)	Ch	Fre(MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

5180~5240 MHz (U-NII-1):

4 channels for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

2 channels are for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230

5745~5825 MHz (U-NII-3): Channel 149 – 165
5 channels for 802.11a, 802.11n (HT20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

2 channels for 802.11n (HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795

802.11b/g/n(HT20)				802.11n(HT40)			
Ch	Fre(MHz)	Ch	Fre(MHz)	Ch	Fre(MHz)	Ch	Fre(MHz)
1	2412	7	2442	3	2422	8	2447MHz
2	2417	8	2447	4	2427	9	2452MHz
3	2422	9	2452	5	2432		
4	2427	10	2457	6	2437		
5	2432	11	2462	7	2442		
6	2437						

Modulation:

Direct Sequence Spread Spectrum (DSSS) for 802.11b
Orthogonal Frequency Division Multiplexing (OFDM) for
802.11a/g/n; 2.4GHz BLE: GFSK

Hardware Version:

LGDM003C1

Software Version:

0.014WW

Data speed:

2.4G Wi-Fi

SISO:11b 1-11Mbps, 11g 6-54Mbps

11n HT20 6.5 ~ 72.2Mbps, 11n HT40 13.5 ~ 150Mbps

2.4G BLE: 1/2 Mbps

5G Wi-Fi

SISO: 11a 6 ~ 54Mbps,

11n HT20 6.5 ~ 72.2Mbps, 11n HT40 13.5 ~ 150Mbps

Antenna Type:

FPC Antenna

Antenna Gain:

1.66dBi for 2.4GHz; 0.78dBi for 5GHz

Description of the EUT:

The Equipment Under Test (EUT) is DASH CAM which support 2.4/5GHz Wi-Fi, BLE 5.2 and GNSS function. According to clients' declaration, model M800 only has front camera, M800-2 has both front and rear cameras, So, we chose M800-2 to conduct all tests. The corresponding data is representative for the other model as well. This report is only 2.4GHz Wi-Fi included.

Test sample no.:

SHA-899681-2 (RF radiated); SHA-899681-3 (RF conducted)

The sample's mentioned in this report is/are submitted/ supplied/ manufactured by client. The laboratory therefore assumes no responsibility for accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.

5 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2023 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators
RSS-Gen Issue 5 April 2018 + Amendment 1 March 2019 + Amendment 2 February 2021	General Requirements for Compliance of Radio Apparatus
RSS-247 Issue 3 August 2023	Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSS) and License-Exempt Local Area Network (LE- LAN) Devices

All the test methods were according to KDB 558074 D01 15.247 Meas Guidance v05r02 Measurement Guidance and ANSI C63.10-2020.



6 Summary of Test Results

Technical Requirements							
FCC Part 15 Subpart C & RSS-247 Issue 3/RSS-Gen Issue 5							
Test Condition			Pages	Test Site	Test Result		
					Pass	Fail	N/A
§15.207	RSS-GEN 8.8	Conducted emission AC power port	--	Site 1	☐	☐	☒
§15.247 (b) (3)	RSS-247 5.4(d)	Conducted peak output power & e.i.r.p	12-13	Site 1	☒	☐	☐
§15.247(a)(1)	RSS-247 5.1(a) & RSS-Gen 6.7	20dB bandwidth and 99% Occupied Bandwidth	---	---	☐	☐	☒
§15.247(a)(1)	RSS-247 5.1(b)	Carrier frequency separation	---	---	☐	☐	☒
§15.247(a)(1)(iii)	RSS-247 5.1(d)	Number of hopping frequencies	---	---	☐	☐	☒
§15.247(a)(1)(iii)	RSS-247 5.1(d)	Dwell Time - Average Time of Occupancy	---	---	☐	☐	☒
§15.247(a)(2)	RSS-247 5.2(a) & RSS-GEN 6.7	6dB bandwidth and 99% Occupied Bandwidth	14-22	Site 1	☒	☐	☐
§15.247(e)	RSS-247 5.2(b)	Power spectral density	23-27	Site 1	☒	☐	☐
§15.247(e)	RSS-247 5.5	Spurious RF conducted emissions	28-40	Site 1	☒	☐	☐
§15.247(d)	RSS-247 5.5	Band edge	41-49	Site 1	☒	☐	☐
§15.247(d) & §15.209 & §15.205	RSS-247 5.5 & RSS-Gen 6.13	Spurious radiated emissions for transmitter	50-80	Site 1	☒	☐	☐
§15.203	RSS-Gen 6.8	Antenna requirement	See note 1		☒	☐	☐

Remark 1: N/A – Not Applicable. This equipment that is not designed to be connected to the public utility (AC) power line and conducted emission AC power port not required.

Note 1: The EUT uses FPC antenna, which gain is 1.66dBi for 2.4GHz and 0.78dBi for 5GHz. In accordance to §15.203 and RSS-Gen 6.8, it is considered sufficiently to comply with the provisions of this section.

7 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2AOK9-M800, IC: 28033-M800 complies with Section 15.209,15.205,15.247 of the FCC Part 15, Subpart C Rules and RSS-247, RSS-GEN.

SUMMARY:

All tests according to the regulations cited on page 5 were

n - Performed

o - **Not** Performed

The Equipment under Test

n - **Fulfills** the general approval requirements.

o - **Does not** fulfill the general approval requirements.

Sample Received Date: March 19, 2025

Testing Start Date: March 24, 2025

Testing End Date: April 11, 2025

-TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch

Reviewed by:

Prepared by:

Tested by:

Jiaxi Xu



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Jiaxi XU
Review Engineer

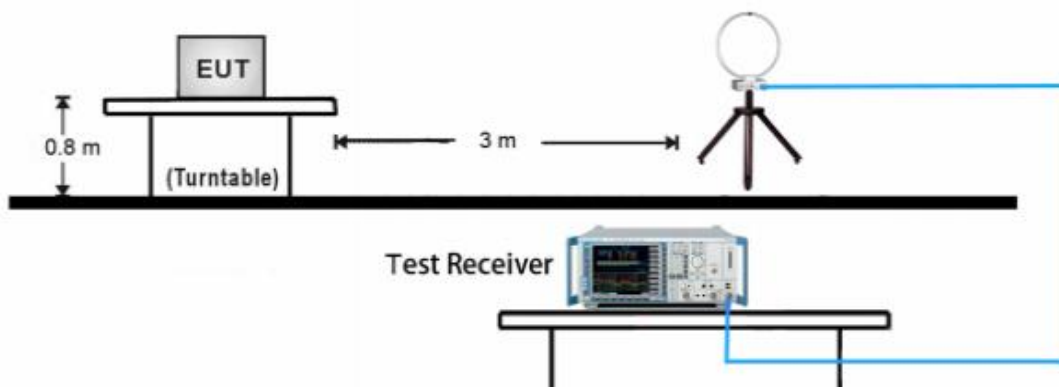
Hui TONG
Project Engineer

Chengjie GUO
Test Engineer

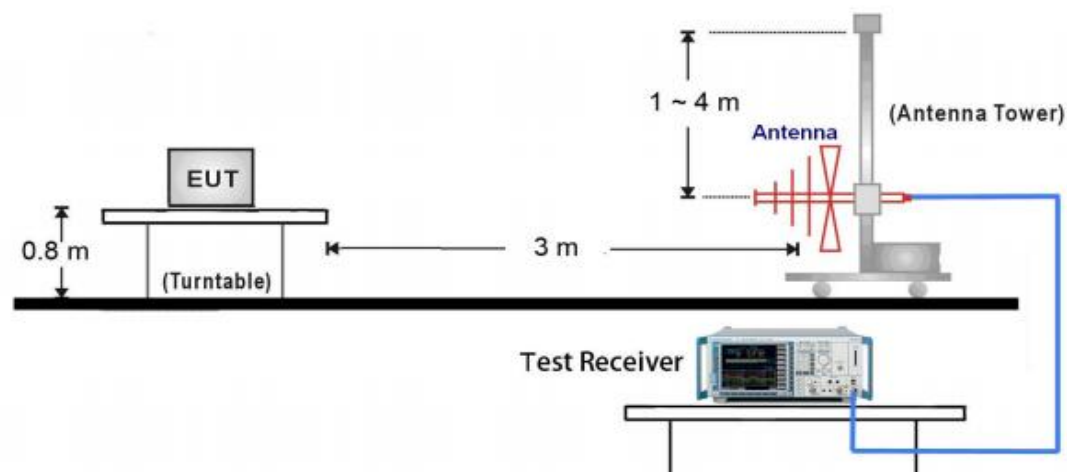
8 Test Setups

8.1 Radiated test setups

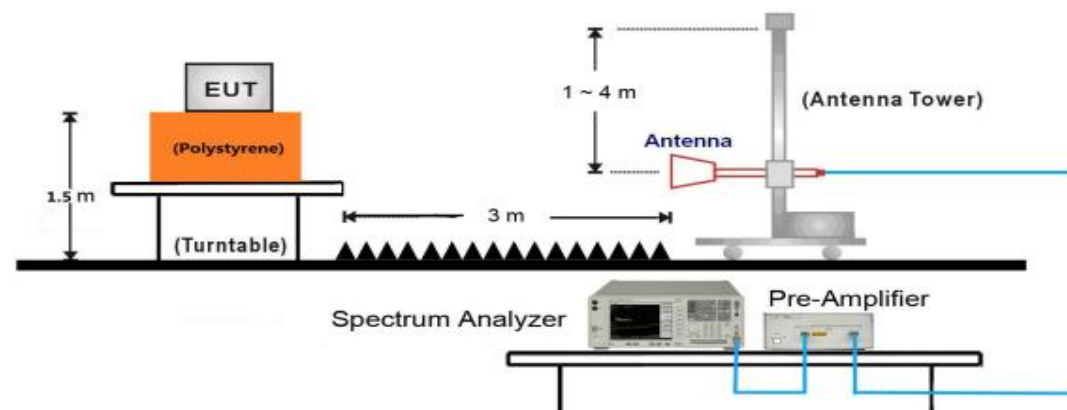
9kHz ~ 30MHz Test Setup:



30MHz ~ 1GHz Test Setup:

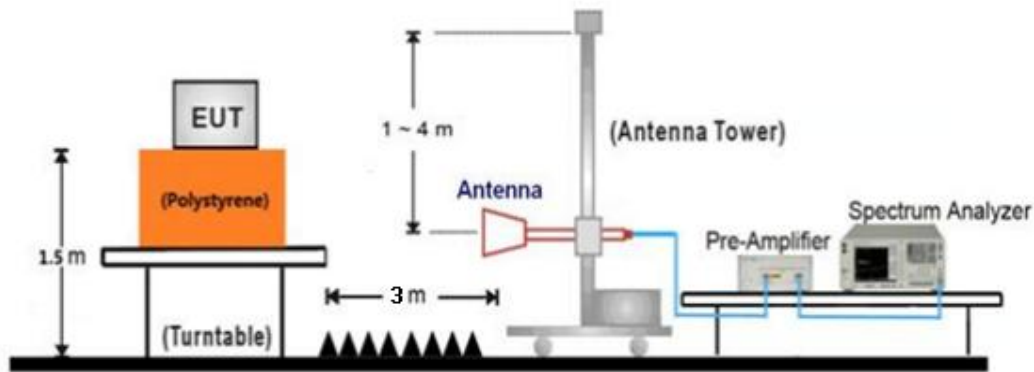


1GHz ~ 18GHz Test Setup:



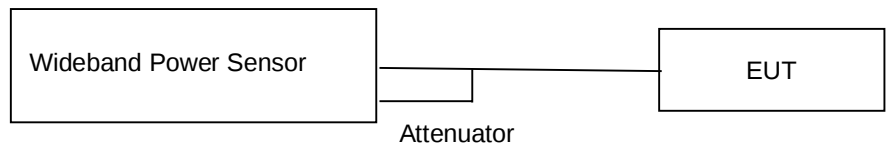


18GHz ~ 25GHz Test Setup:



8.2 Conducted RF test setups

For Conducted peak output power



For other test items



9 Systems test configuration

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
Notebook	Lenovo	E470	PF-OU5TS7 17/09

Test software: SSCOM V5.13.1

Test Mode Applicability and Tested Channel Detail:

Mode	Tested Channel	Data Rate (Mbps)	Modulation	Index Value (Power level setting)
802.11b	1	1	DSSS	16
	6	1	DSSS	16
	11	1	DSSS	16
802.11g	1	6	OFDM	15
	6	6	OFDM	15
	11	6	OFDM	15
802.11n HT20	1	MCS0	OFDM	14
	6	MCS0	OFDM	14
	11	MCS0	OFDM	14
802.11n HT40	3	MCS0	OFDM	14
	6	MCS0	OFDM	14
	9	MCS0	OFDM	14

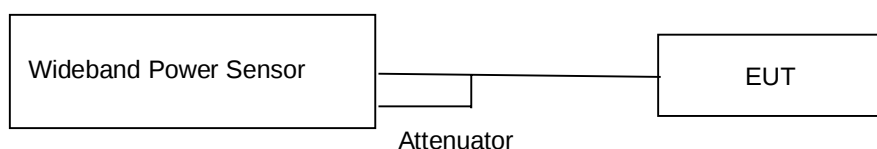
Non-hopping mode: The system was configured to operate at a signal channel transmitting. The test software allows the configuration and operation at the worst-case duty and the highest transmit power.

10 Technical Requirement

10.1 Conducted peak output power and e.i.r.p.

Test Method

- 1) The EUT is configured to transmit continuously, or to transmit with a constant duty cycle.
- 2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.
- 3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
- 4) Measure the peak power of the transmitter. This measurement is a peak over both the ON and OFF periods of the transmitter.



Wideband Power Sensor conducted test setup

Limits

According to §15.247 (b) (3) & RSS-247 5.4(d) conducted peak output power limit as below:

	Frequency Range	Limit	Limit
	MHz	W	dBm
Conducted peak output power	2400-2483.5	≤1	≤30
e.i.r.p.	2400-2483.5	≤4	≤36

Test result as below

802.11B: Antenna gain=1.66dBi				
Frequency MHz	Conducted Peak Output Power(dBm) §15.247 (b) (3)	Result	e.i.r.p.(dBm) RSS-247 5.4(d)	Result
2412MHz	18.42	Pass	20.08	Pass
2437MHz	18.44	Pass	20.1	Pass
2462MHz	18.49	Pass	20.15	Pass

802.11G: Antenna gain=1.66dBi				
Frequency MHz	Conducted Peak Output Power(dBm) §15.247 (b) (3)	Result	e.i.r.p.(dBm) RSS-247 5.4(d)	Result
2412MHz	23.39	Pass	25.05	Pass
2437MHz	23.45	Pass	25.11	Pass
2462MHz	23.4	Pass	25.06	Pass

802.11N20: Antenna gain=1.66dBi				
Frequency MHz	Conducted Peak Output Power(dBm) §15.247 (b) (3)	Result	e.i.r.p.(dBm) RSS-247 5.4(d)	Result
2412MHz	23.22	Pass	24.88	Pass
2437MHz	23.7	Pass	25.36	Pass
2462MHz	23.25	Pass	24.91	Pass



802.11N40: Antenna gain=1.66dBi				
Frequency MHz	Conducted Peak Output Power(dBm) §15.247 (b) (3)	Result	e.i.r.p.(dBm) RSS-247 5.4(d)	Result
2422MHz	23.24	Pass	24.9	Pass
2437MHz	23.14	Pass	24.8	Pass
2452MHz	23.63	Pass	25.29	Pass

10.26dB bandwidth and 99% Occupied Bandwidth

Test Method

1. Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
2. Set the VBW $\geq [3 \times \text{RBW}]$.
3. Detector = peak.
RBW=100KHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Trace mode = max-hold.
5. Sweep = No faster than coupled (auto) time.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “-6 dB down amplitude”. If a marker is below this “-6 dB down amplitude” value, then it shall be as close as possible to this value.

Test Method for 99 % Bandwidth

1. Connect EUT test port to spectrum analyzer.
Use the following spectrum analyzer settings:
RBW=1% to 5% of the actual occupied, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
2. Use the occupied bandwidth measurement capability of test receiver.
3. Allow the trace to stabilize, record the occupied bandwidth value.

Limit

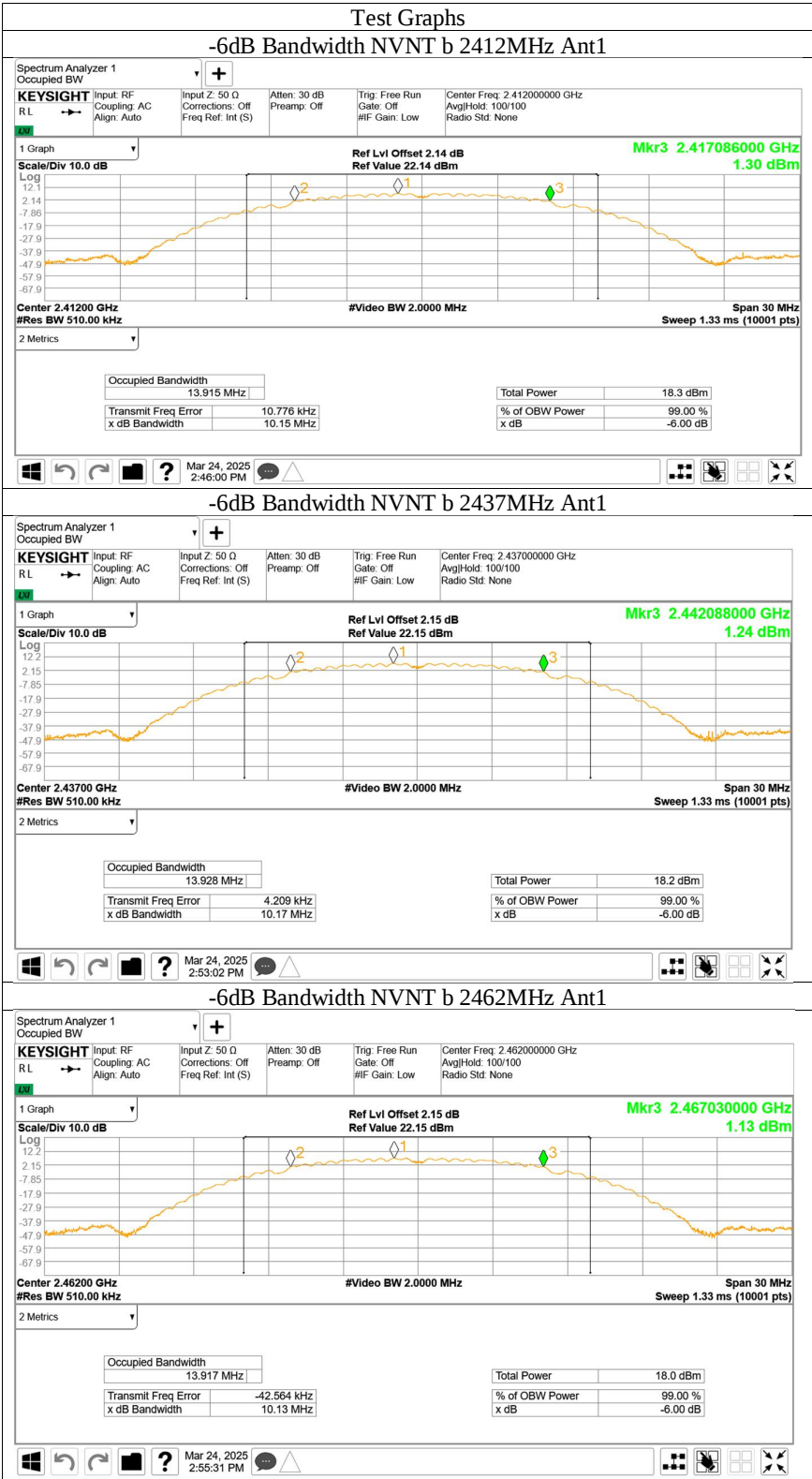
6dB bandwidth Limit [kHz]	99% bandwidth Limit [kHz]
≥ 500	--

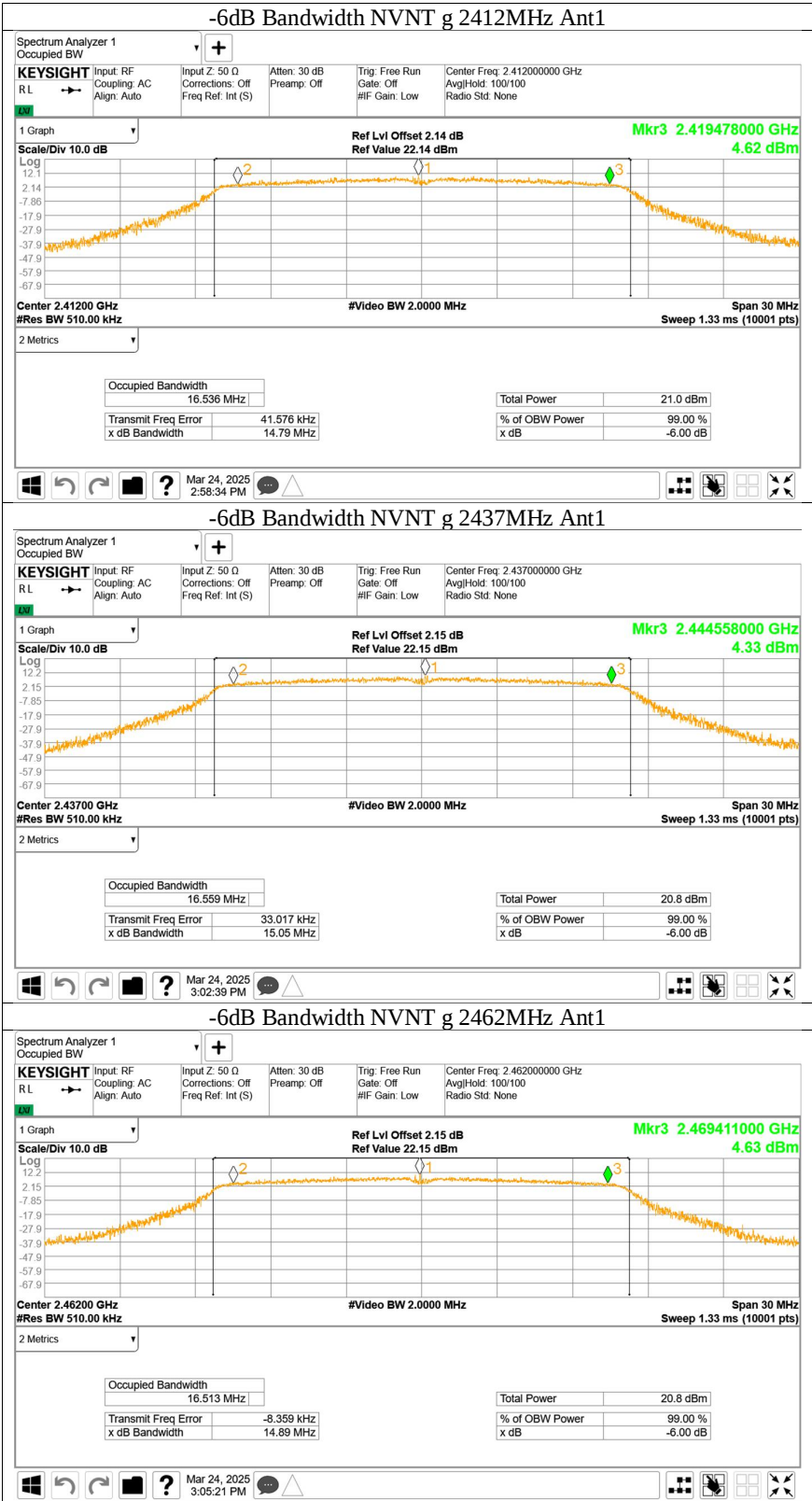
Test result

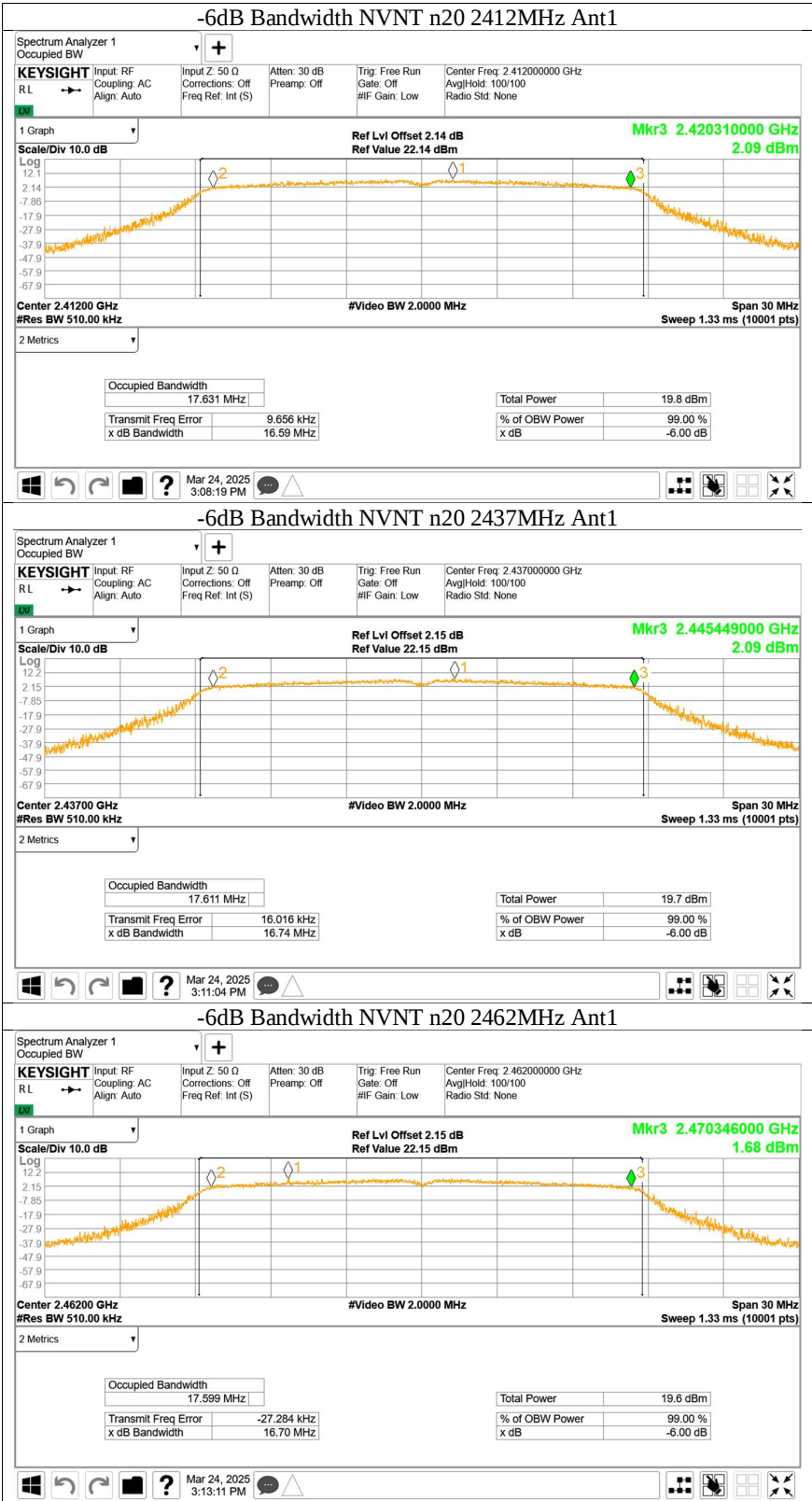
Test Mode	Frequency MHz	6dB bandwidth (MHz)		Result	99% occupied bandwidth MHz
		result	limit	verdict	
802.11b	2412	10.151	≥ 0.5	Pass	13.965
	2437	10.166	≥ 0.5	Pass	13.969
	2462	10.128	≥ 0.5	Pass	13.959
802.11g	2412	14.794	≥ 0.5	Pass	16.262
	2437	15.049	≥ 0.5	Pass	16.287
	2462	14.89	≥ 0.5	Pass	16.274
802.11n(HT20)	2412	16.595	≥ 0.5	Pass	17.413
	2437	16.743	≥ 0.5	Pass	17.401
	2462	16.704	≥ 0.5	Pass	17.404
802.11n(HT40)	2412	33.442	≥ 0.5	Pass	35.327
	2437	33.67	≥ 0.5	Pass	35.399
	2462	33.174	≥ 0.5	Pass	35.317

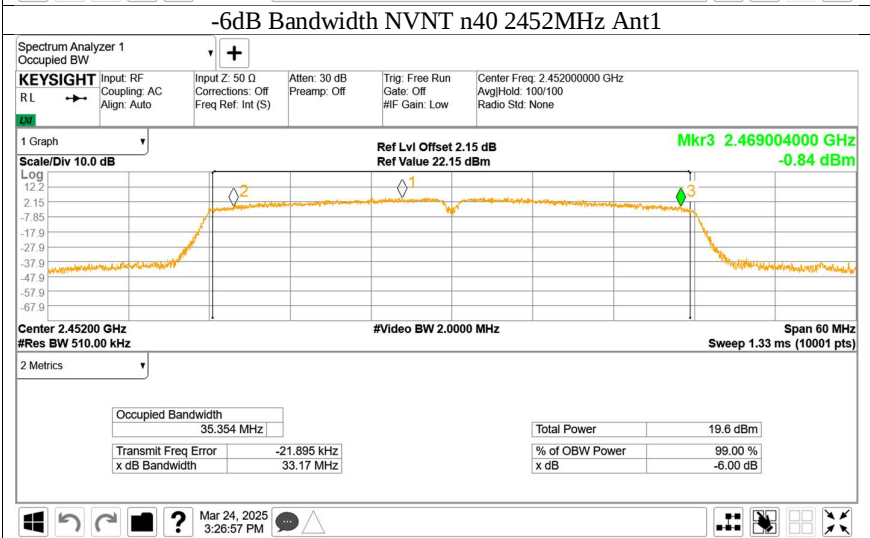
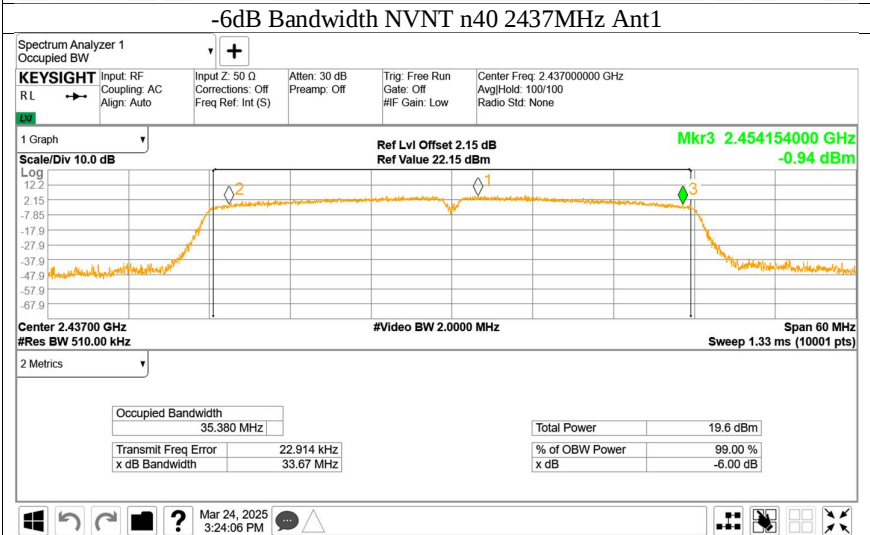
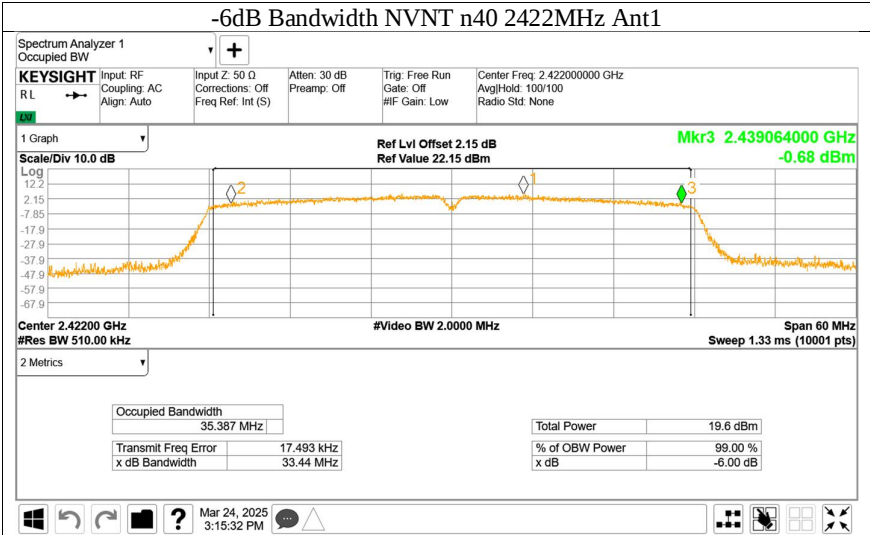


6 dB Bandwidth



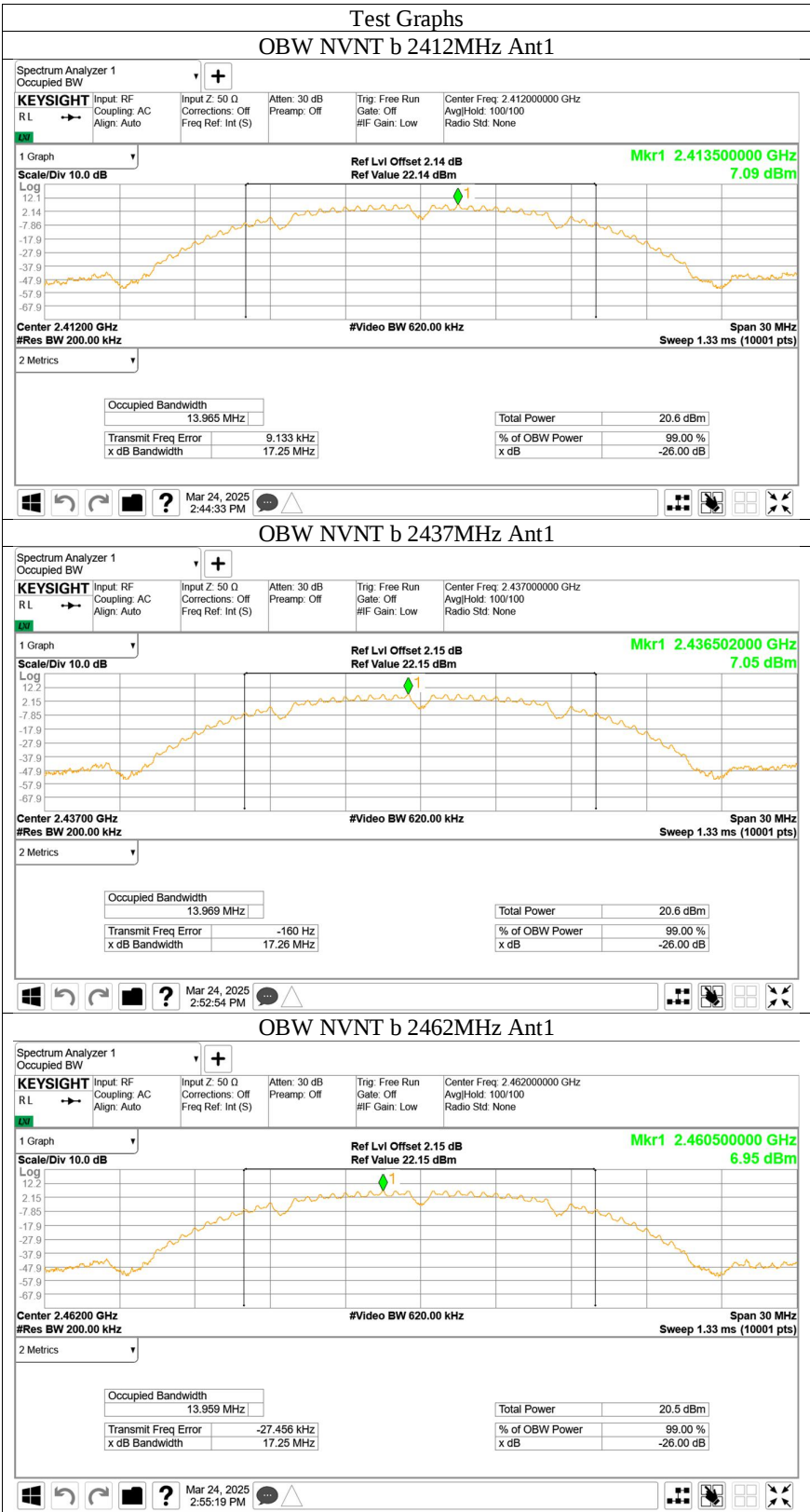


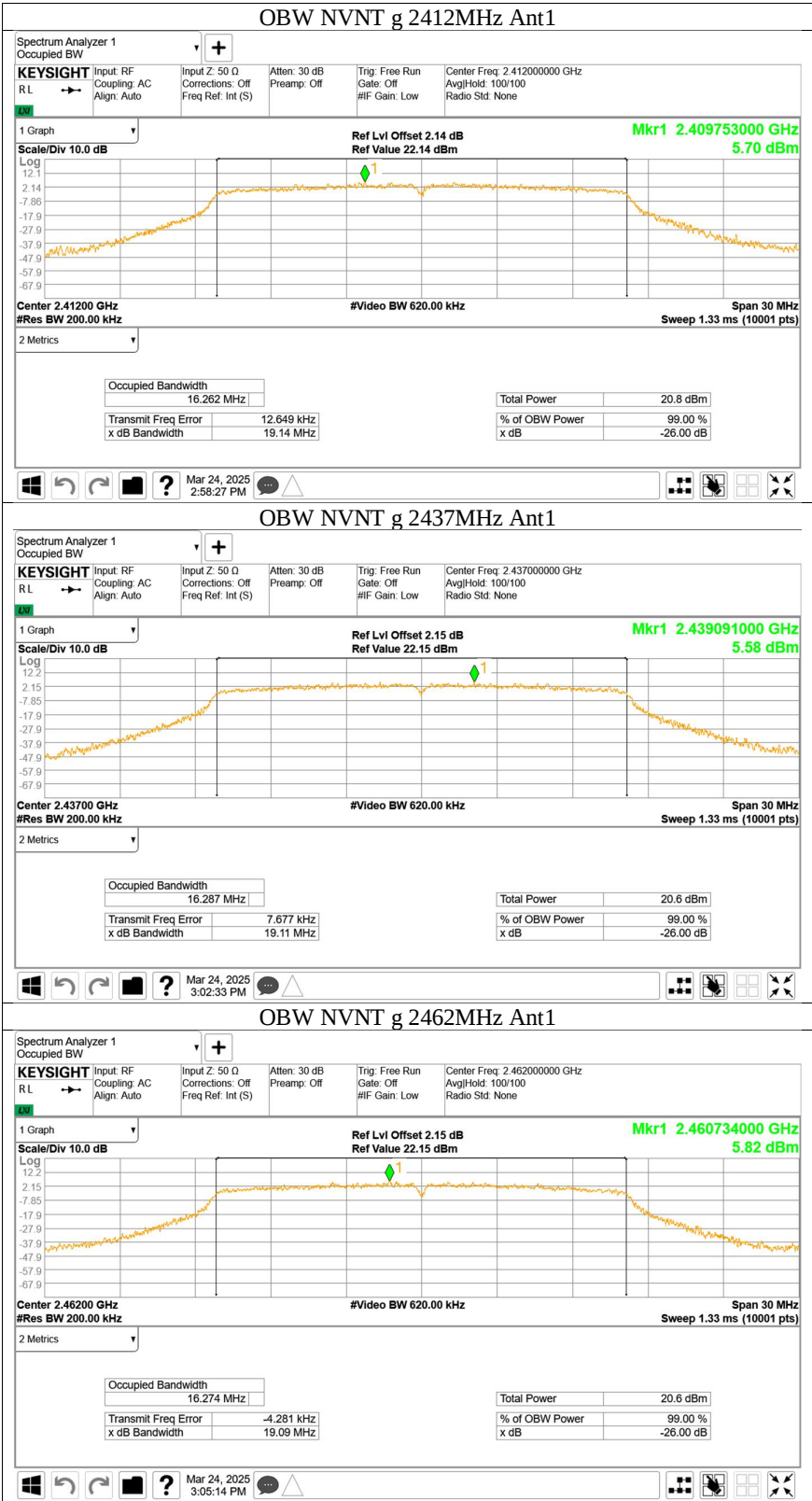


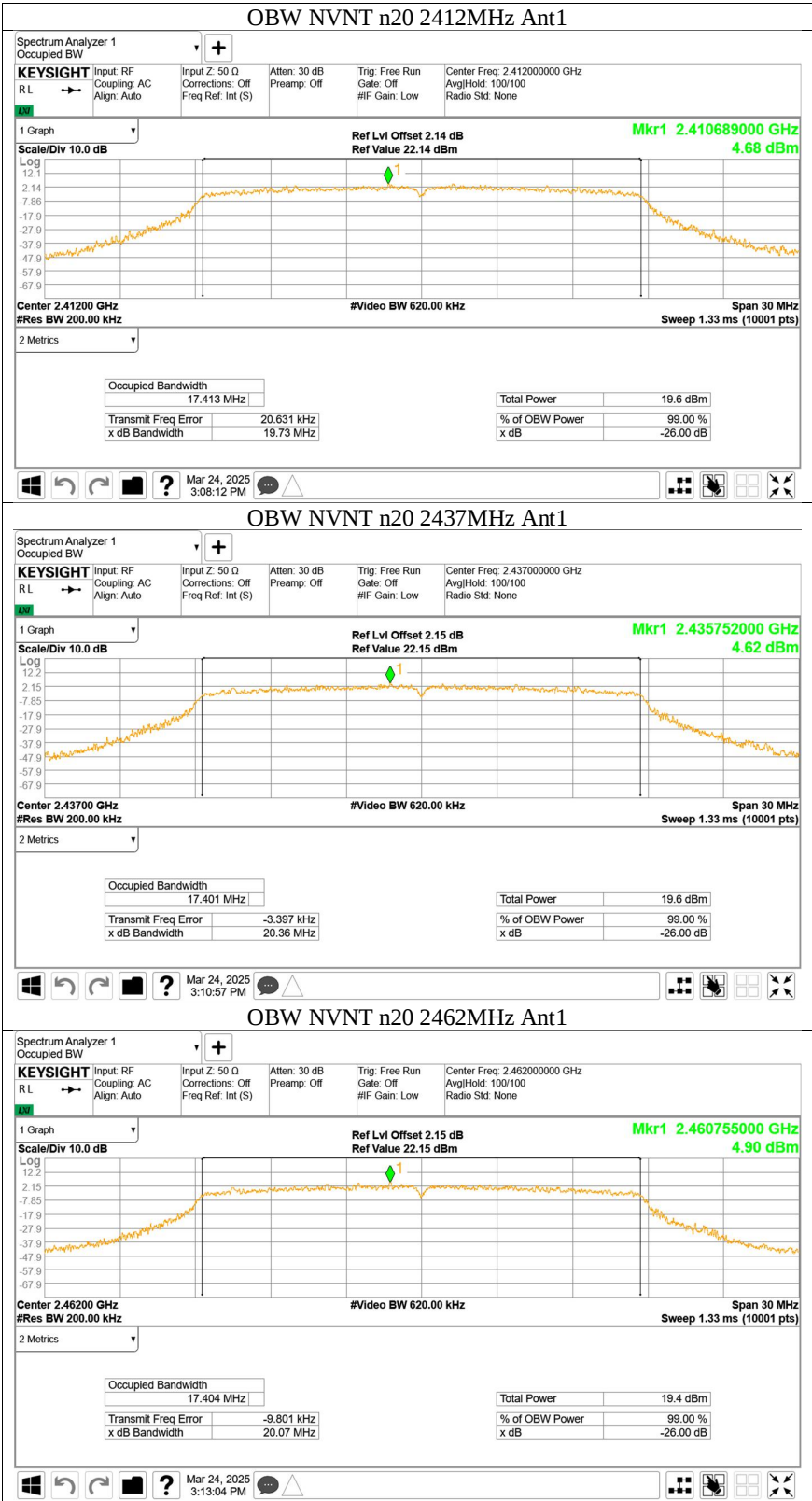


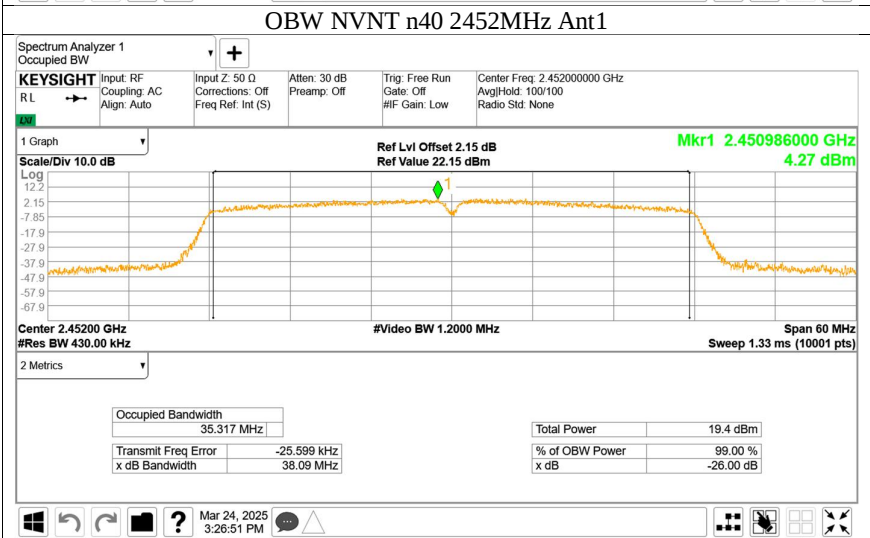
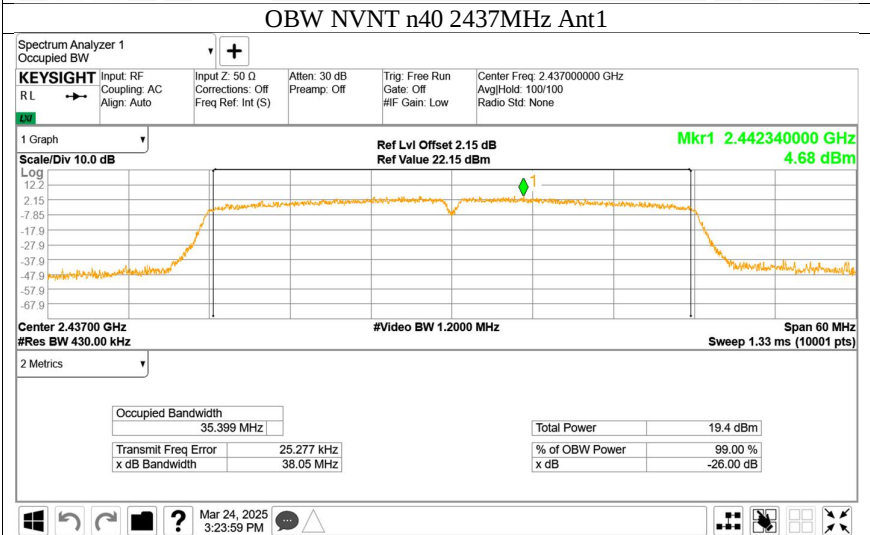
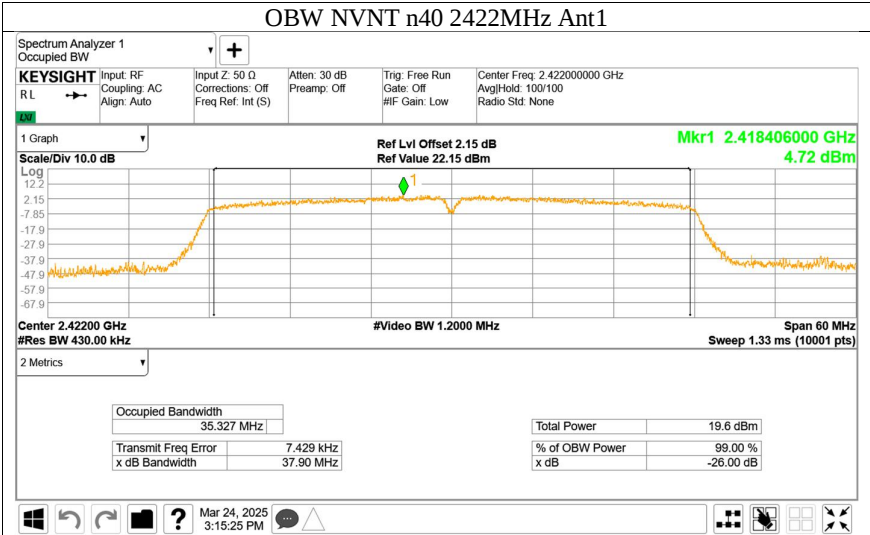


99% Occupied Bandwidth









10.3 Power spectral density

Test Method

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance:

1. The RF output of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
4. Set analyzer center frequency to DTS channel center frequency. RBW=3kHz, VBW $\geq$ 3RBW, Span=1.5 times DTS bandwidth, Detector=Peak, Sweep=auto, Trace= max hold.
5. Allow trace to fully stabilize, use the peak marker function to determine the maximum amplitude level within the RBW.
6. Repeat above procedures until other frequencies measured were completed.

Limit

Limit [dBm/3kHz]

≤ 8

Test result
802.11 b

Frequency MHz	Power spectral density dBm/3kHz	Result
Low channel 2412MHz	-6.91	Pass
Middle channel 2437MHz	-7.23	Pass
High channel 2462MHz	-7.35	Pass

802.11 g

Frequency MHz	Power spectral density dBm/3kHz	Result
Low channel 2412MHz	-9.7	Pass
Middle channel 2437MHz	-9.53	Pass
High channel 2462MHz	-9.83	Pass

802.11 n (HT20)

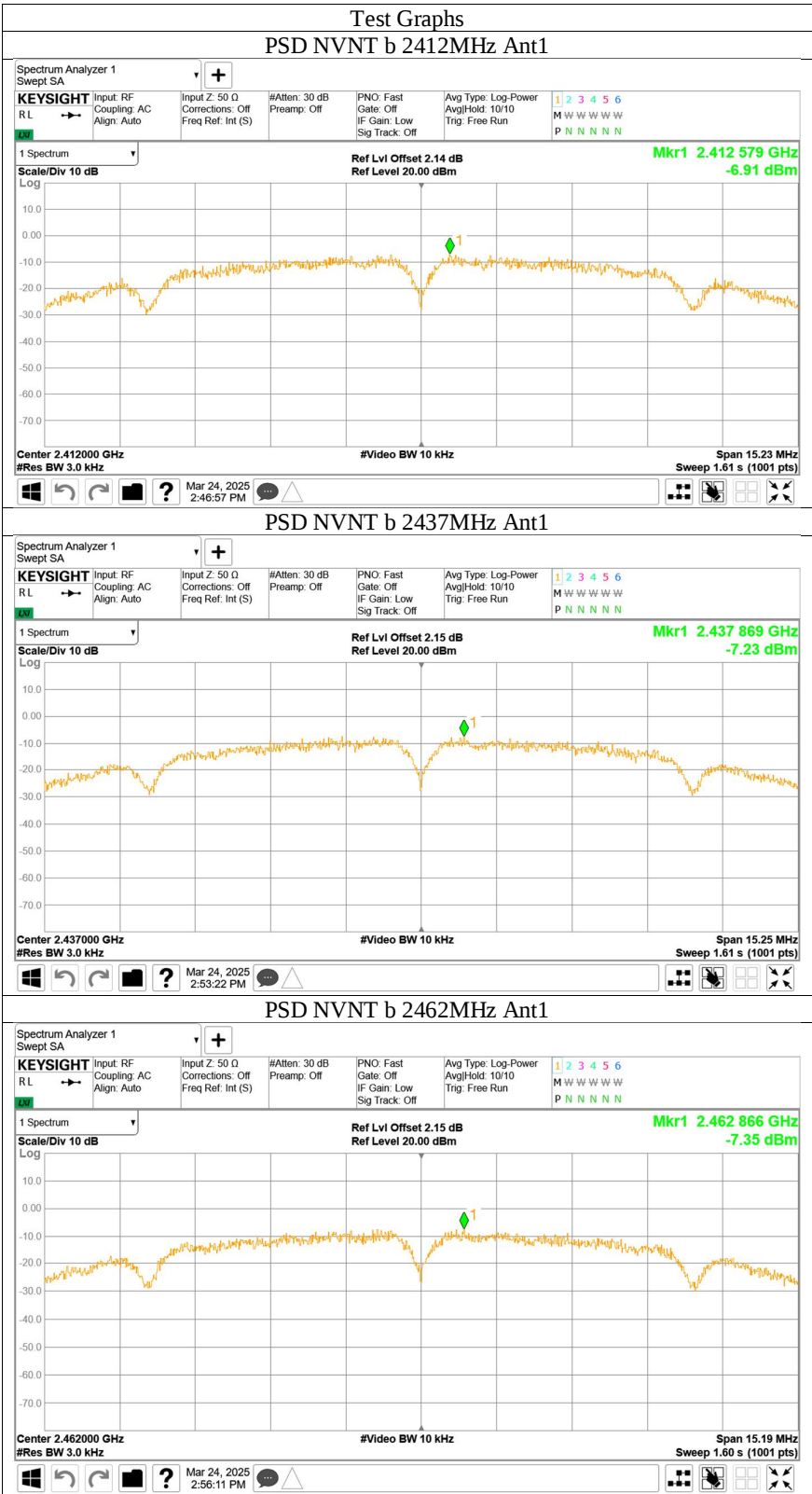
Frequency MHz	Power spectral density dBm/3kHz	Result
Low channel 2412MHz	-10.43	Pass
Middle channel 2437MHz	-9.54	Pass
High channel 2462MHz	-10.67	Pass

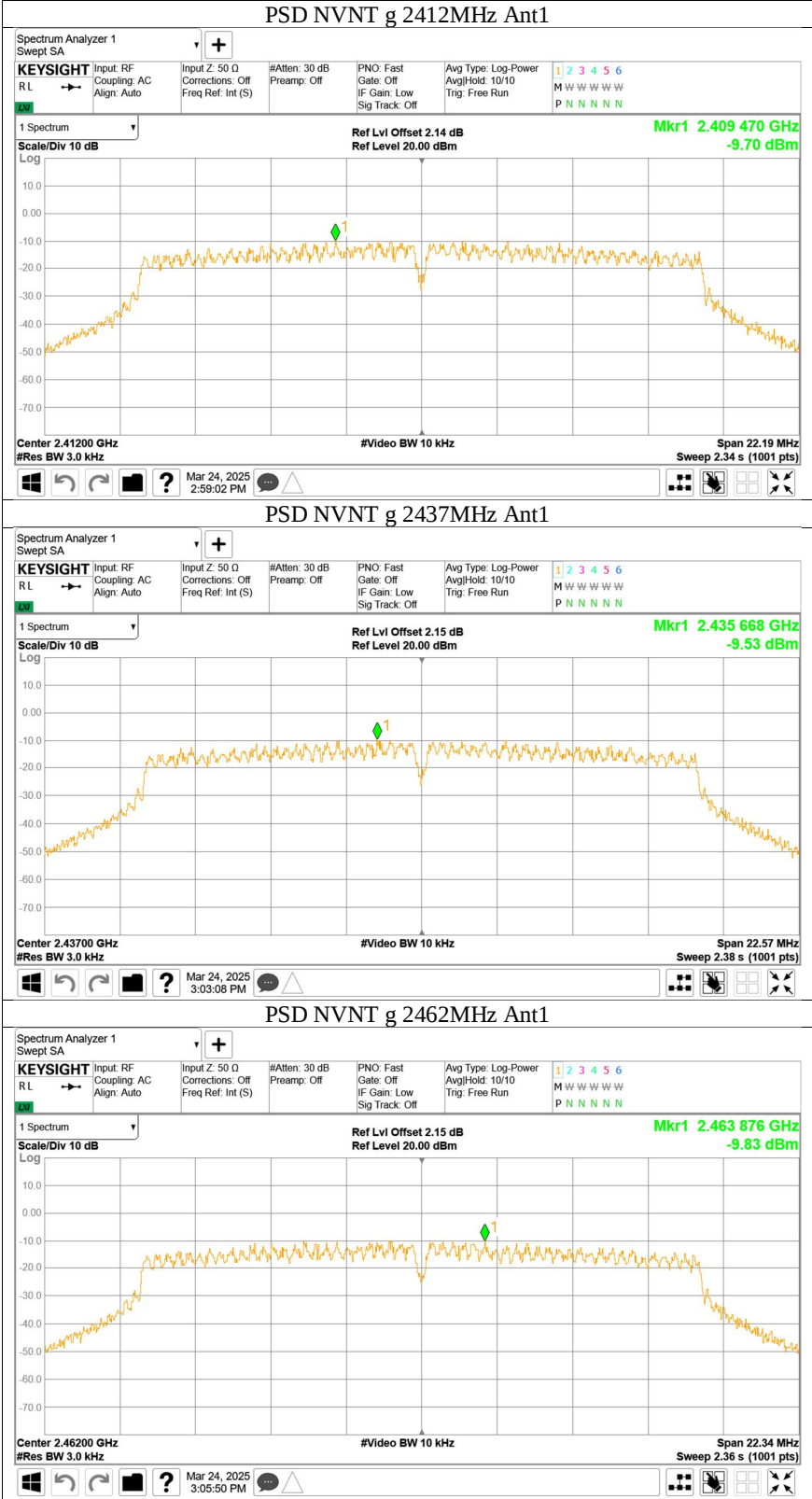
802.11 n (HT40)

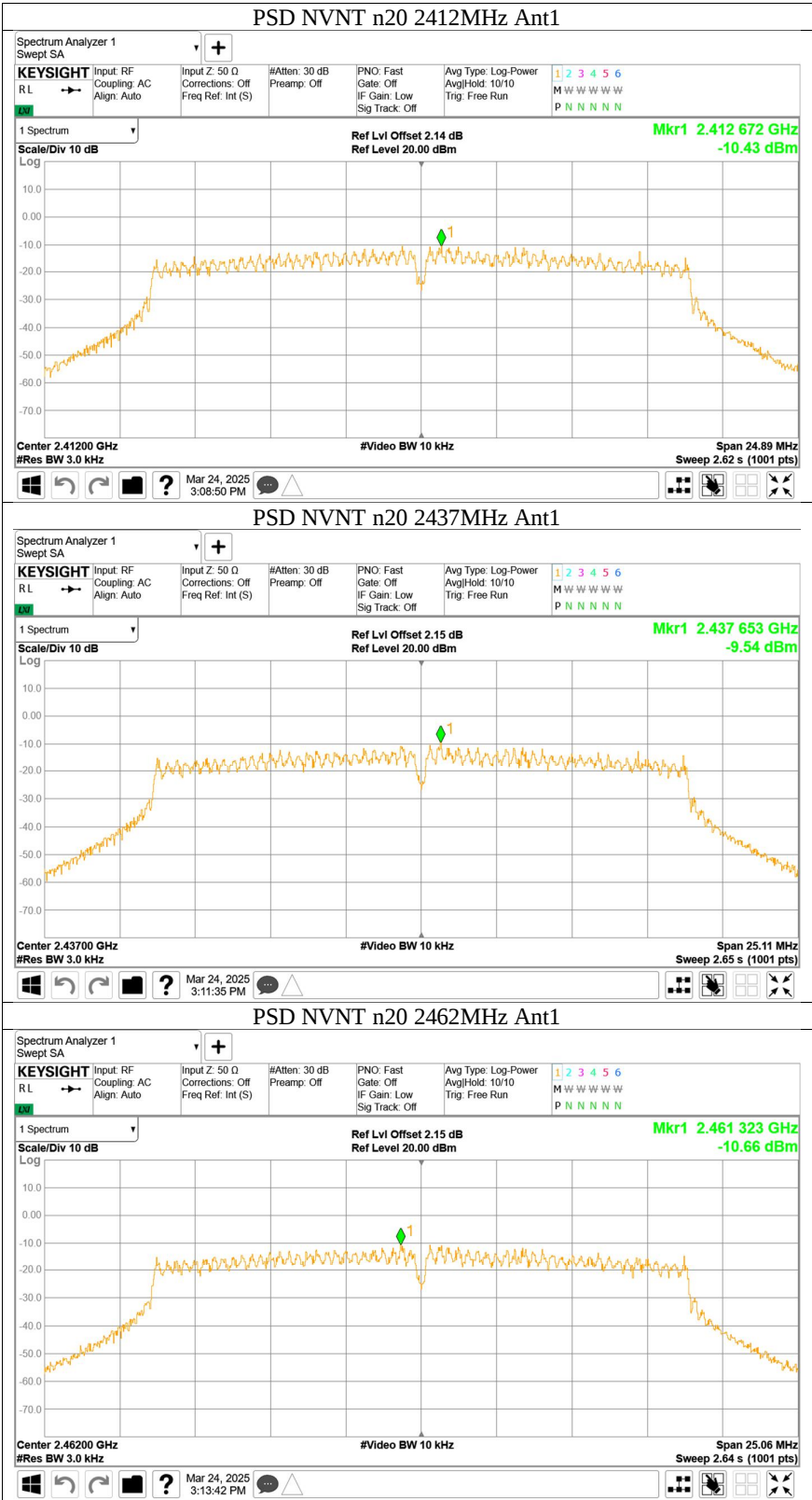
Frequency MHz	Power spectral density dBm/3kHz	Result
Low channel 2422MHz	-12.92	Pass
Middle channel 2437MHz	-13.45	Pass
High channel 2452MHz	-13.43	Pass

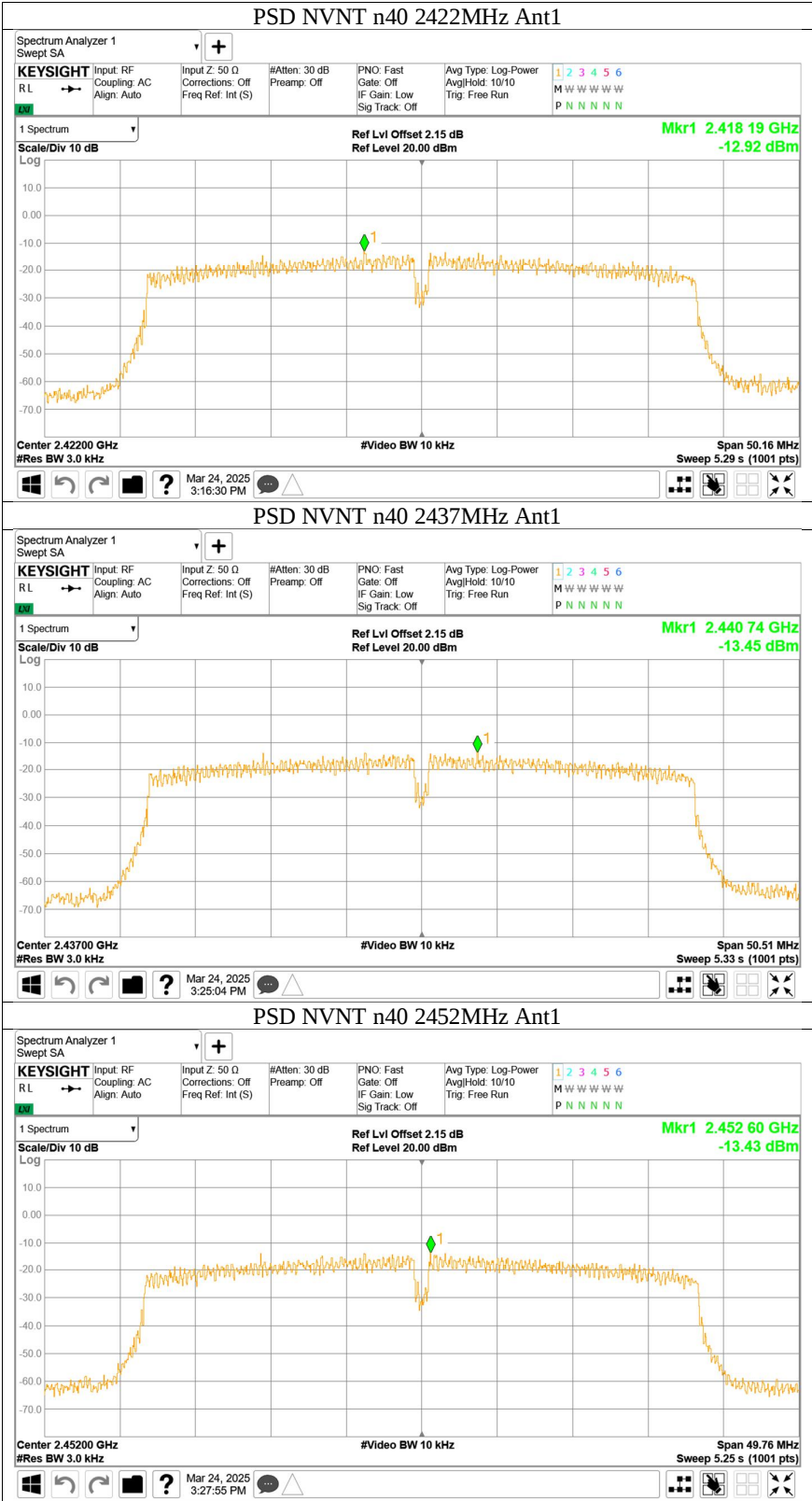


Power spectral density









10.4 Spurious RF conducted emissions

Test Method

1. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.
2. Set to the maximum power setting, the instrument center frequency is set to the nominal EUT channel center frequency enable the EUT transmit continuously.
3. Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
RBW = 100 kHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
4. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
5. The level displayed must comply with the limit specified in this Section. Submit these plots.
6. Repeat above procedures until all frequencies measured were complete.

Limit

Frequency Range MHz	Limit (dBc)
30-25000	-20



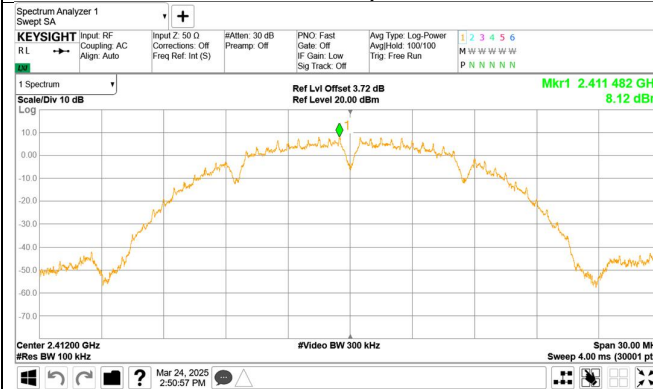
Spurious RF conducted emissions

802.11 B

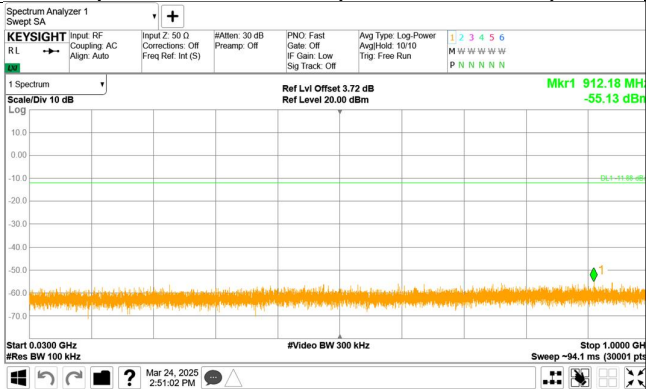
Out-of-Band Emissions

Channel 1 (2412MHz)

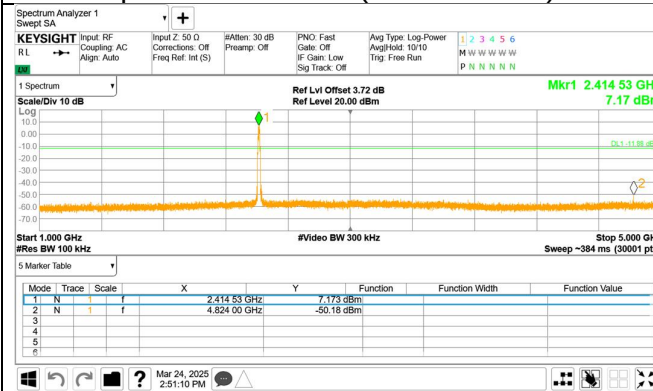
Reference point



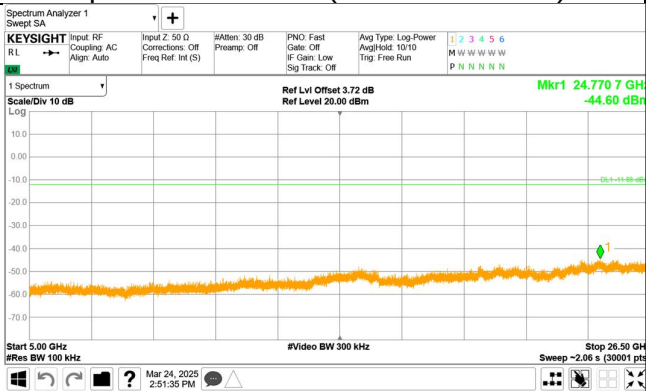
Spurious Emission (30MHz – 1GHz)

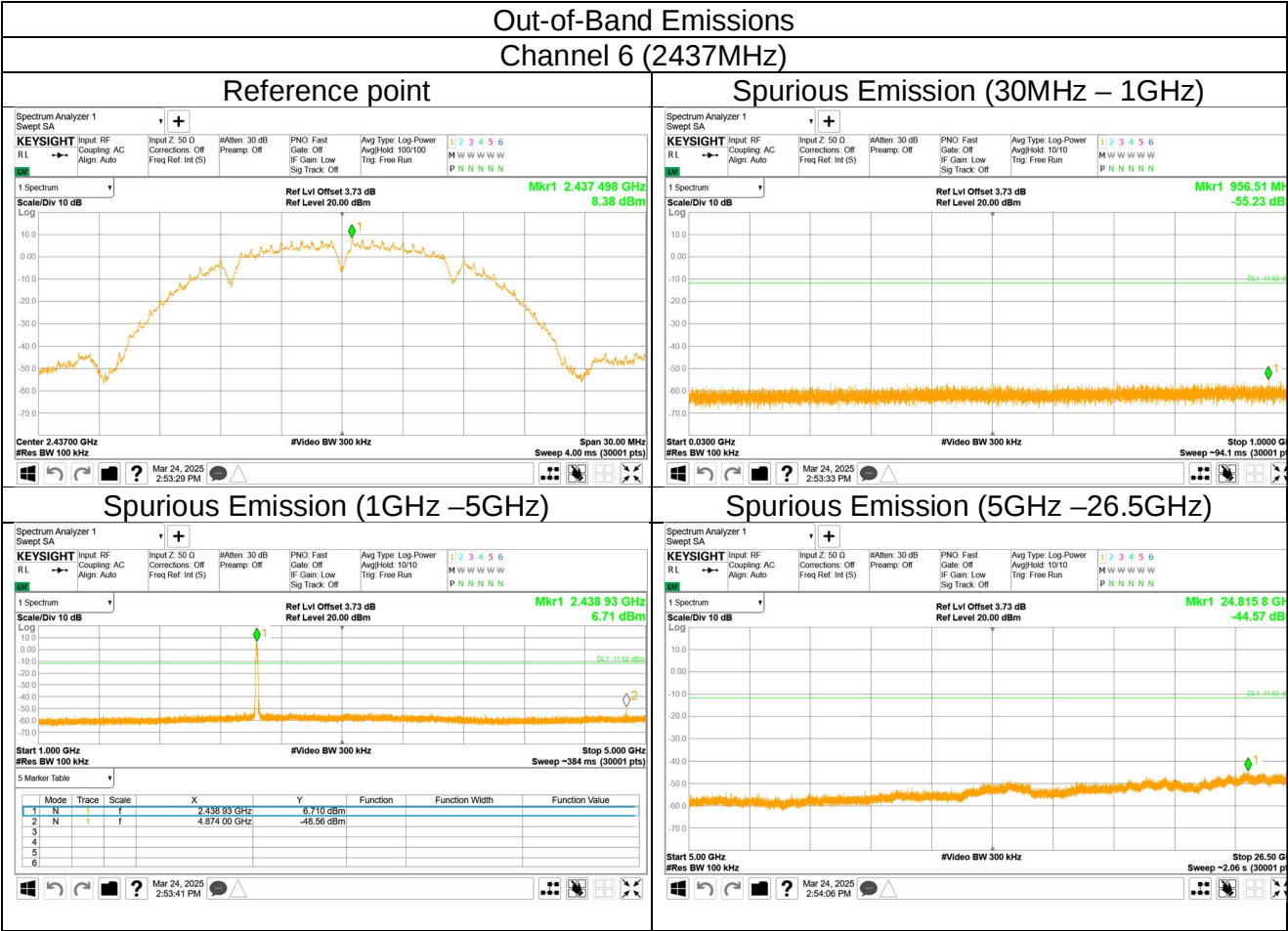


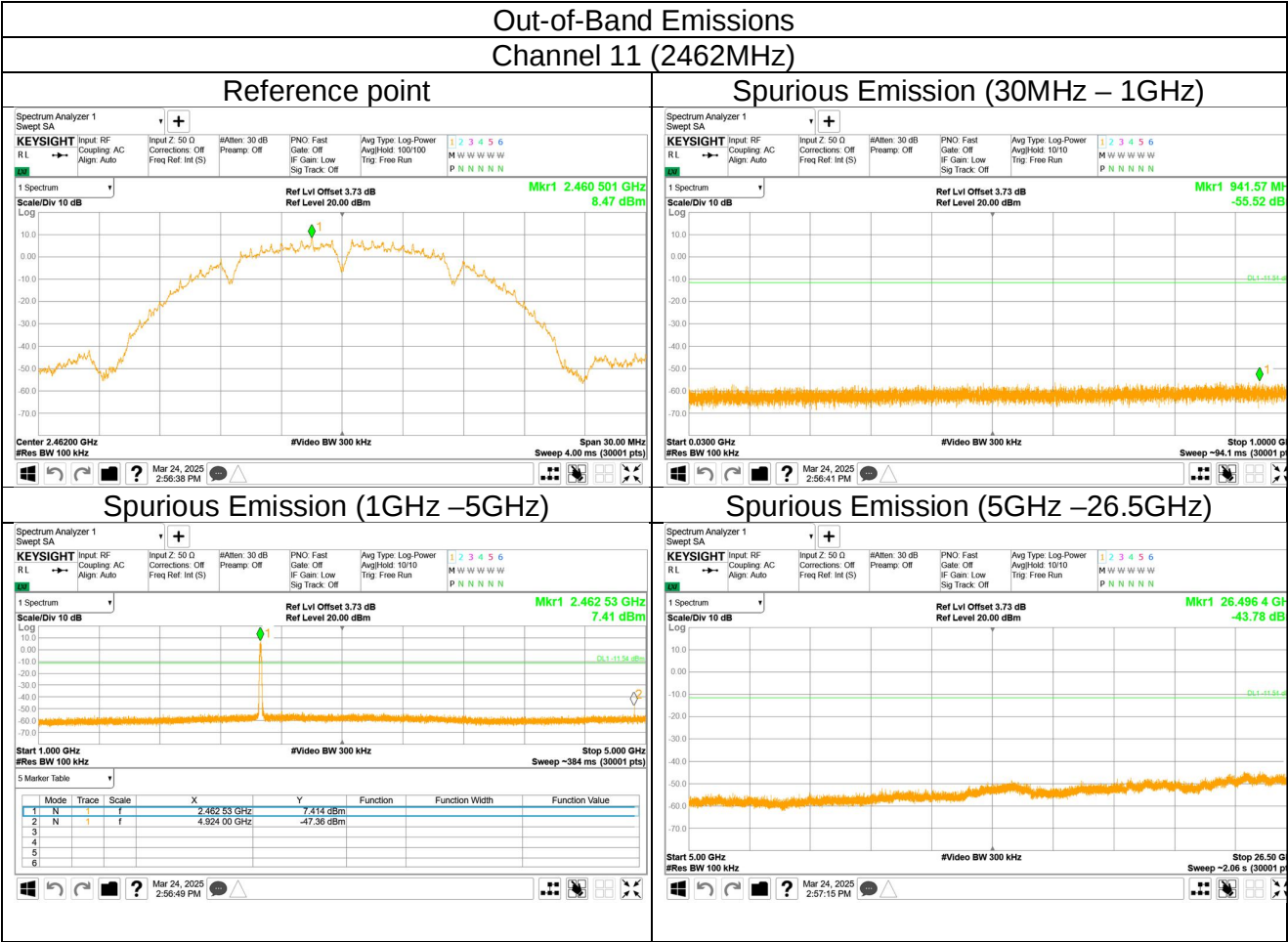
Spurious Emission (1GHz –5GHz)



Spurious Emission (5GHz –26.5GHz)





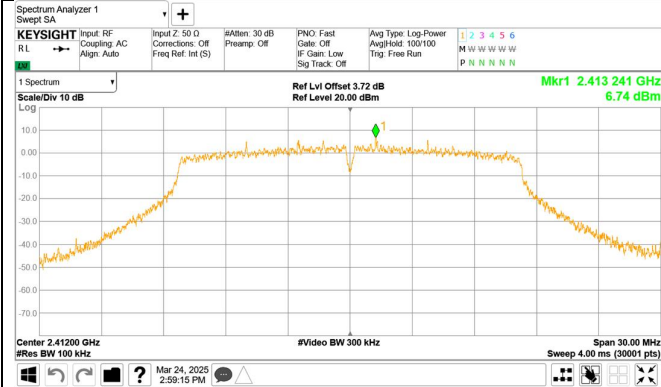




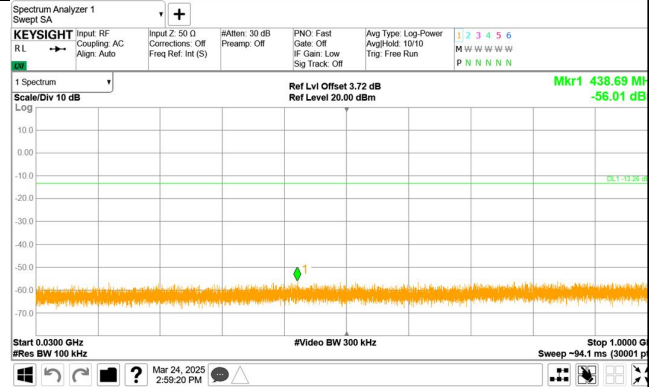
802.11 G

Out-of-Band Emissions
Channel 1 (2412MHz)

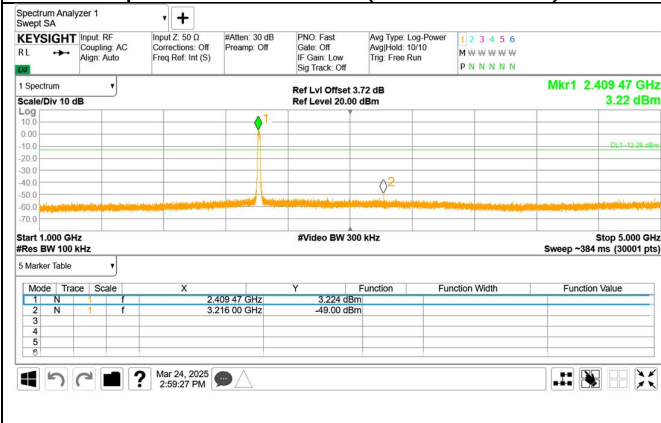
Reference point



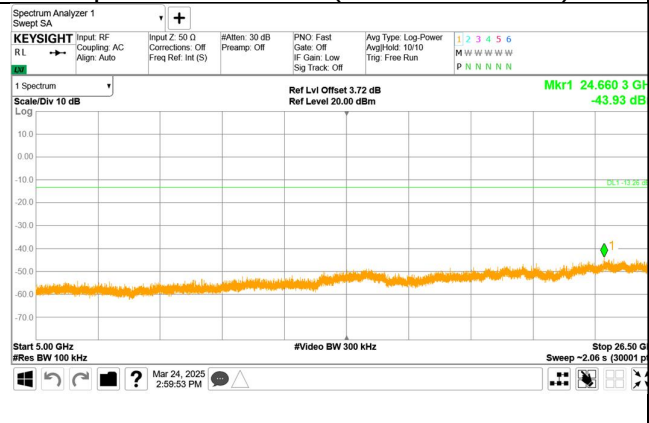
Spurious Emission (30MHz – 1GHz)

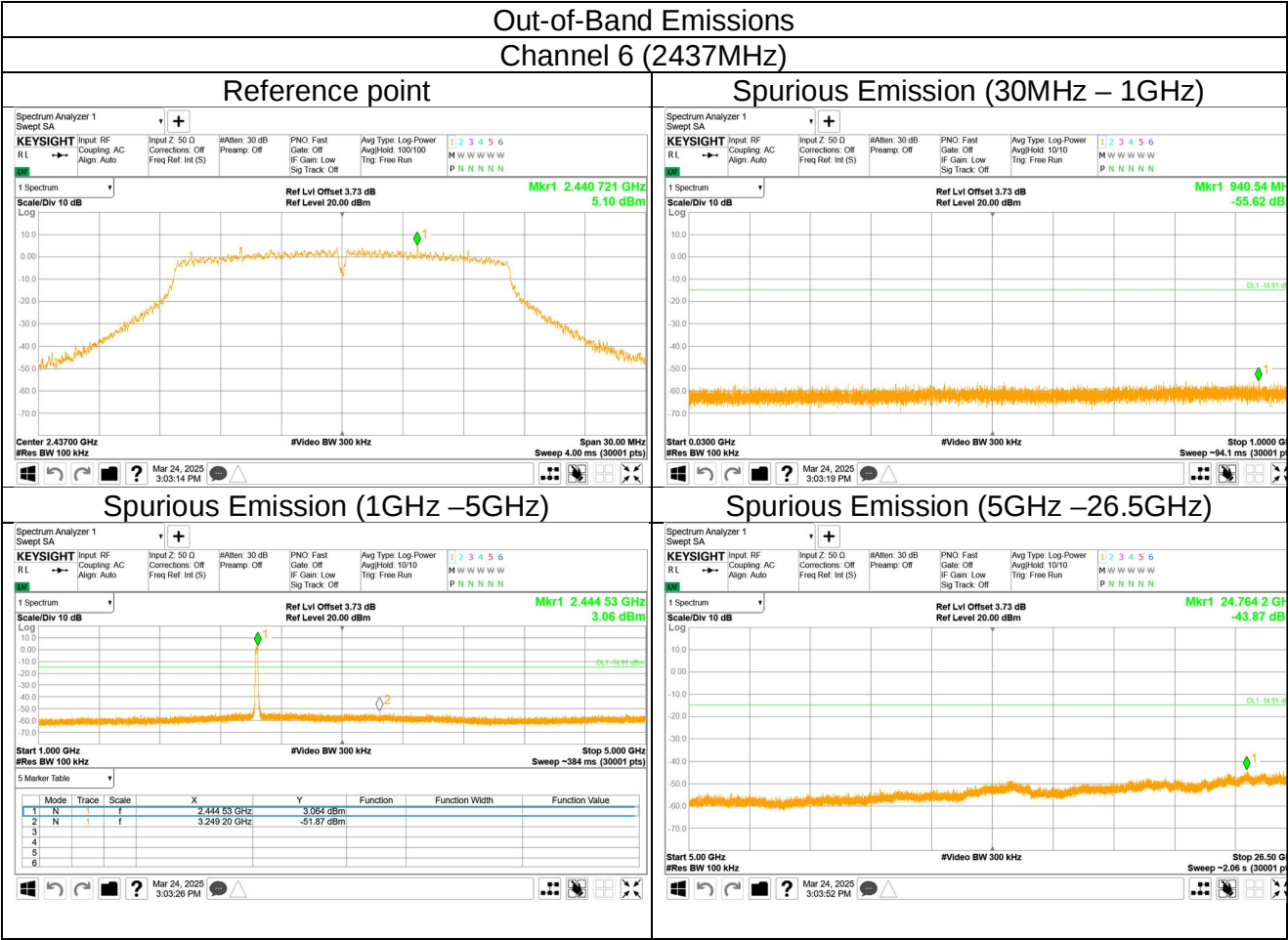


Spurious Emission (1GHz – 5GHz)



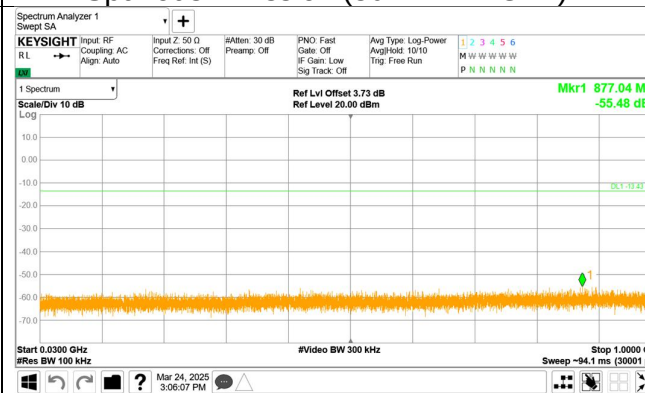
Spurious Emission (5GHz – 26.5GHz)





Channel 11 (2462MHz)

Spurious Emission (30MHz – 1GHz)



Spurious Emission (5GHz –26.5GHz)





802.11 N HT20
Out-of-Band Emissions
Channel 1 (2412MHz)

