

**FCC - TEST REPORT**

Report Number : **709502507814-00B** Date of Issue: October 9, 2025

Model : DBH D12

Product Type : Thermal Imaging Scope

Applicant : Visir Inc.

Address : 700 International Pkwy, Ste 102, Richardson, TX 75081, United States

Manufacturer : Visir Inc.

Address : 700 International Pkwy, Ste 102, Richardson, TX 75081, United States

Test Result : ☒ **Positive** ☐ **Negative**

Total pages including
Appendices : 82



TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch is a subcontractor to TÜV SÜD Product Service GmbH according to the principles outlined in ISO 17025.

TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch reports apply only to the specific samples tested under stated test conditions. Construction of the actual test samples has been documented. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. The manufacturer/importer is responsible to the Competent Authorities in Europe for any modifications made to the production units which result in non-compliance to the relevant regulations. TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval.



1 Table of Contents

1	Table of Contents.....	2
2	Report Modification Record	3
3	Details about the Test Laboratory	3
4	Description of the Equipment under Test	4
5	Summary of Test Standards	7
6	Summary of Test Results	8
7	General Remarks	9
8	Test Setups.....	10
9	Systems test configuration.....	13
10	Technical Requirement	14
10.1	Conducted peak(average) output power	14
10.2	6dB bandwidth and 99% Occupied Bandwidth	23
10.3	Power spectral density	30
10.4	Spurious RF conducted emissions	34
10.5	Band edge	47
10.6	Spurious radiated emissions for transmitter	52
11	Test Equipment List	79
12	System Measurement Uncertainty	80
13	Photographs of Test Set-ups	81
14	Photographs of EUT	82



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
709502507814-00B	First Issue	10/09/2025

3 Details about the Test Laboratory

Details about the Test Laboratory

Test Site 1

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
No.16 Lane, 1951 Du Hui Road,
Shanghai 201108,
P.R. China

Telephone: +86 21 6141 0123

Fax: +86 21 6140 8600

FCC Registration No.: 820234

FCC Designation Number: CN1183

ISED CAB identifier CN0101

IC Registration No.: 31668



4 Description of the Equipment under Test

Product:	Thermal Imaging Scope
Model no.:	DBH D12
FCC ID:	2A7ZZ-DBH-04
Options and accessories:	NA
Rating:	7.2V DC by (18650 rechargeable battery)
RF Transmission Frequency:	For 2.4G Wi-Fi: 802.11b/g/n-HT20: 2412~2462 MHz For BLE: 2402~2480 MHz For EDR: 2402~2480 MHz
No. of Operated Channel:	For 2.4G Wi-Fi: 11 for 802.11b/802.11g/802.11n(H20) For BLE: 40 For EDR: 79
Modulation:	For 2.4G Wi-Fi: Direct Sequence Spread Spectrum (DSSS) for 802.11b Orthogonal Frequency Division Multiplexing (OFDM) for 802.11g/n For BLE: GFSK For EDR: GFSK, $\pi/4$ DQPSK, 8DPSK
Hardware Version:	V1_0
Software Version:	V1.0.9
Data speed:	For 2.4G Wi-Fi: 11b 1-11Mbps 11g 6-54Mbps 11n(H20) 6.5-72.2Mbps For BLE: 1Mbps For EDR: 1Mbps, 2Mbps, 3Mbps

Channel list:

For 2.4G Wi-Fi:

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

For BLE

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

For EDR

Ch	Fre (MH)	Ch	Fre (MH)	Ch	Fre (MH)	Ch	Fre (MH)	Ch	Fre (MHz)
1	2402	17	2418	33	2434	49	2450	65	2466
2	2403	18	2419	34	2435	50	2451	66	2467
3	2404	19	2420	35	2436	51	2452	67	2468
4	2405	20	2421	36	2437	52	2453	68	2469
5	2406	21	2422	37	2438	53	2454	69	2470
6	2407	22	2423	38	2439	54	2455	70	2471
7	2408	23	2424	39	2440	55	2456	71	2472
8	2409	24	2425	40	2441	56	2457	72	2473
9	2410	25	2426	41	2442	57	2458	73	2474
10	2411	26	2427	42	2443	58	2459	74	2475
11	2412	27	2428	43	2444	59	2460	75	2476
12	2413	28	2429	44	2445	60	2461	76	2477
13	2414	29	2430	45	2446	61	2462	77	2478
14	2415	30	2431	46	2447	62	2463	78	2479
15	2416	31	2432	47	2448	63	2464	79	2480
16	2417	32	2433	48	2449	64	2465		

Antenna Type:

FPC antenna



Antenna Gain: 0.83 dBi

Description of the EUT: The Equipment Under Test (EUT) is a Thermal Imaging Scope with Wi-Fi & BLE/EDR Module. The EUT support Wi-Fi operated at 2.4GHz.

Test sample no.: SHA-952960-3 (Radiated sample)
SHA-952960-2 (Conducted sample)

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, antenna gain or any information supplied.



5 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart C 10-1-2024 Edition	PART 15 - RADIO FREQUENCY DEVICES Subpart C - Intentional Radiators

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



6 Summary of Test Results

Technical Requirements						
FCC Part 15 Subpart C						
Test Condition		Pages	Test Site	Test Result		
				Pass	Fail	N/A
§15.207	Conducted emission AC power port	---	---	☐	☐	☒
§15.247 (b) (3)	Conducted peak (average) output power	14-22	Site 1	☒	☐	☐
§15.247(a)(1)	20dB bandwidth and 99% Occupied Bandwidth	---	---	☐	☐	☒
§15.247(a)(1)	Carrier frequency separation	---	---	☐	☐	☒
§15.247(a)(1)(iii)	Number of hopping frequencies	---	---	☐	☐	☒
§15.247(a)(1)(iii)	Dwell Time - Average Time of Occupancy	---	---	☐	☐	☒
§15.247(a)(2)	6dB bandwidth	23-29	Site 1	☒	☐	☐
§15.247(e)	Power spectral density	30-33	Site 1	☒	☐	☐
§15.247(d)	Spurious RF conducted emissions	34-46	Site 1	☒	☐	☐
§15.247(d)	Band edge	47-51	Site 1	☒	☐	☐
§15.247(d) & §15.209 & §15.205	Spurious radiated emissions for transmitter	52-78	Site 1	☒	☐	☐
§15.203	Antenna requirement	See note 1		☒	☐	☐

Remark 1: N/A – Not Applicable.

Note 1: The EUT uses a BT FPC antenna, which gain is 0.83 dBi. In accordance to §15.203, It is considered sufficiently to comply with the provisions of this section.

15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi



7 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: 2A7ZZ-DBH-04, complies with Section 15.207, 15.209, 15.247 of the FCC Part 15, Subpart C Rules.

This report is only for the 2.4GHz Wi-Fi test report, for the 2.4G BLE test report please refer to 709502507814-00C, for the 2.4G BR/EDR test report please refer to 709502507814-00D.

We tested it and listed the worst data in this report.

SUMMARY:

All tests according to the regulations cited on page 7 were

■ - Performed

□ - **Not** Performed

The Equipment under Test

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

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

Sample Received Date: September 3, 2025

Testing Start Date: September 5, 2025

Testing End Date: September 28, 2025

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

Reviewed by:

Prepared by:

Tested by:



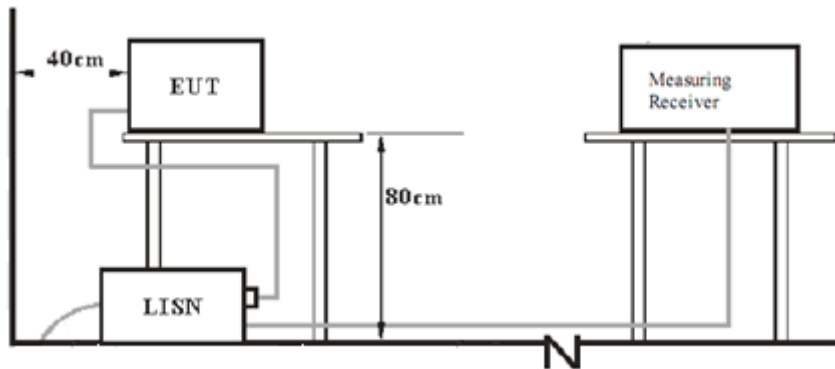
Hui TONG
Review Engineer

Wenqiang LU
Project Engineer

Tianji XU
Test Engineer

8 Test Setups

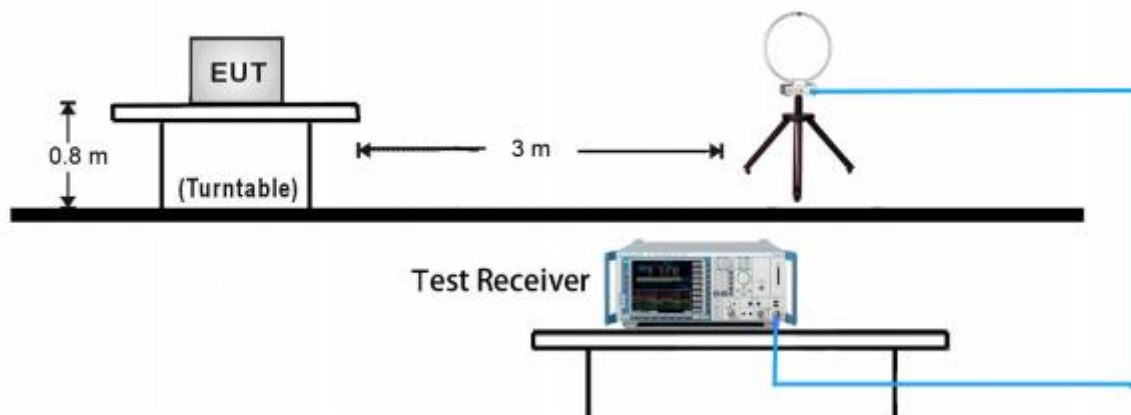
8.1 AC Power Line Conducted Emission test setups



Note: for floor-standing equipment, the supporting table (80 cm) shall be replaced by a insulating material (up to 12 mm thick).

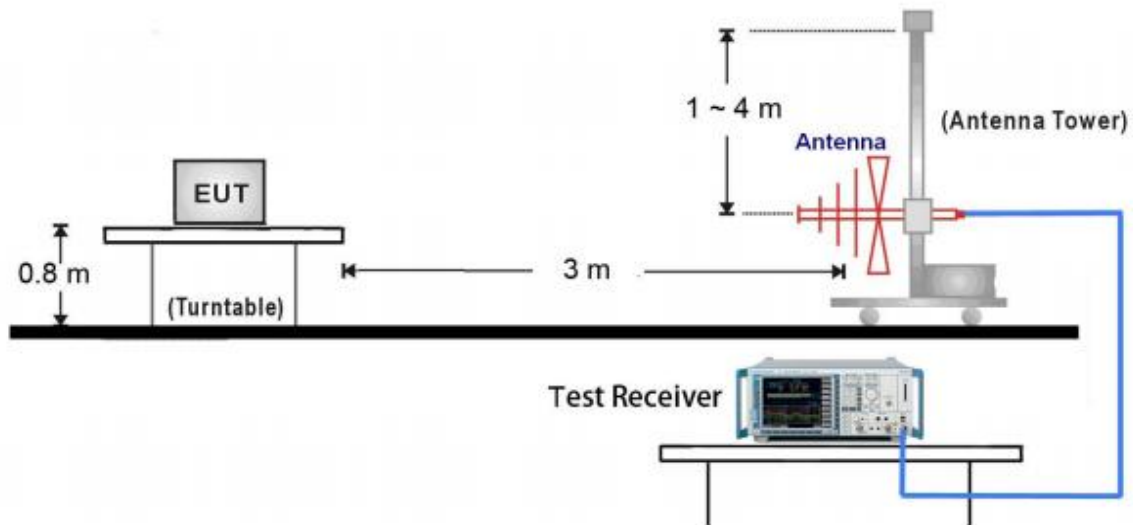
8.2 Radiated test setups

9kHz ~ 30MHz Test Setup:



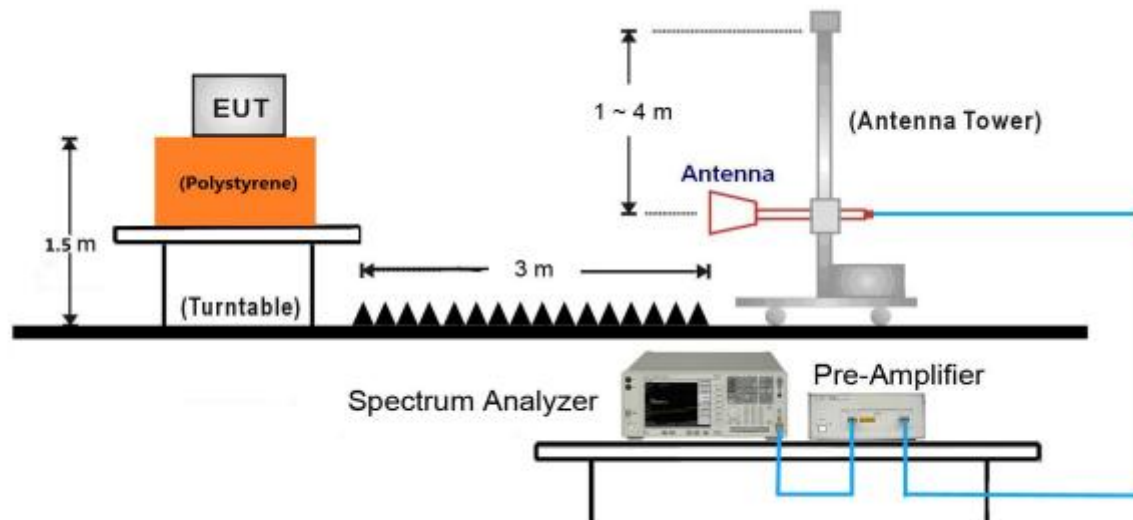
Note: for floor-standing equipment, the supporting table (80 cm) shall be replaced by a insulating material (up to 12 mm thick).

30MHz ~ 1GHz Test Setup:

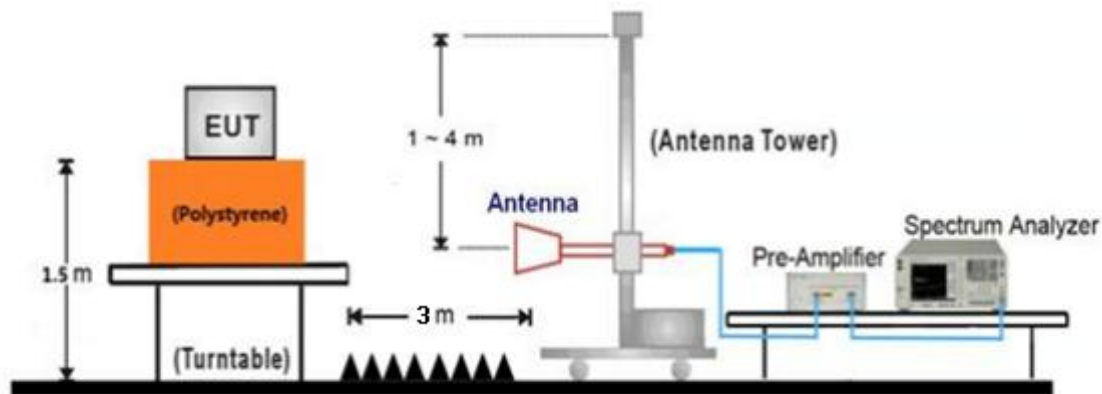


Note: for floor-standing equipment, the supporting table (80 cm) shall be replaced by a insulating material (up to 12 mm thick).

1GHz ~ 18GHz Test Setup:

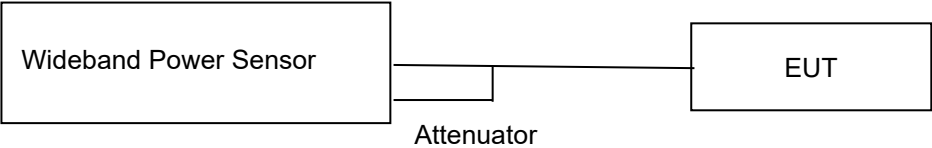


18GHz ~ 25GHz Test Setup:

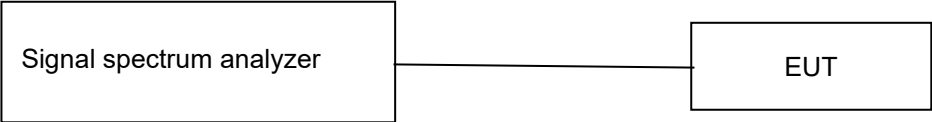


8.3 Conducted RF test setups

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	Lenove	E470	PF-OU5TS7 17/09

Test software: SecureCRT.exe, which used to control the EUT in continues transmitting mode.

The system was configured to 802.11b/g/n-HT20 channel 1(2412MHz), 6(2437MHz), and 11(2462MHz).

Test Mode Applicability and Tested Channel Detail:

Mode	Tested Channel	Data Rate (Mbps)	Modulation	Index Value (Power level setting)
802.11b	1	1	CCK	default
	6	1	CCK	default
	11	1	CCK	default
802.11g	1	6	OFDM	default
	6	6	OFDM	default
	11	6	OFDM	default
802.11n HT20	1	MCS0 (6.5Mbps)	OFDM	default
	6	MCS0 (6.5Mbps)	OFDM	default
	11	MCS0 (6.5Mbps)	OFDM	default

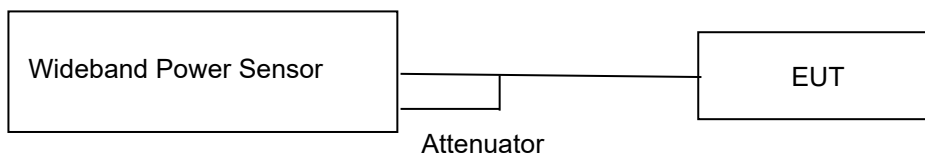
Non-hopping mode: The system was configured to operate at a signal channel transmitting. The test software allows the configuration and operation at the worst-case duty and the highest transmit power.

10 Technical Requirement

10.1 Conducted peak(average) output power

Test Method for conducted peak power

- 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

Test Method for average power

1. Measure the duty cycle D of the transmitter output signal.
2. Set span to at least 1.5 times the OBW.
3. Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
4. Set VBW $\geq [3 \times \text{RBW}]$.
5. Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
6. Sweep time = auto.
7. Detector = RMS (i.e., power averaging), if available. Otherwise, use the sample detector mode.
8. Do not use sweep triggering. Allow the sweep to "free run."
9. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.
10. Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
11. Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission).



Limits

According to §15.247 (b) (3), conducted peak output power limit as below:

	Frequency Range	Limit	Limit
	MHz	W	dBm
Conducted peak output power	2400-2483.5	≤1	≤30

Test result (conducted peak) as below table

B mode

Frequency (MHz)	Conducted Peak Output Power (dBm) §15.247 (b) (3)		
	Result	limit	Verdict
2412MHz	17.28	≤30	Pass
2437MHz	17.34	≤30	Pass
2462MHz	17.48	≤30	Pass

G mode

Frequency (MHz)	Conducted Peak Output Power (dBm) §15.247 (b) (3)		
	Result	limit	Verdict
2412MHz	22.04	≤30	Pass
2437MHz	22.19	≤30	Pass
2462MHz	22.13	≤30	Pass

N20 mode

Frequency (MHz)	Conducted Peak Output Power (dBm) §15.247 (b) (3)		
	Result	limit	Verdict
2412MHz	21.93	≤30	Pass
2437MHz	22.08	≤30	Pass
2462MHz	22.03	≤30	Pass



Test result (average power) as below table

802.11B

Frequency MHz	Duty cycle Factor dB	Conducted Power dBm	Total Power(average) dBm	Result
Low channel 2412MHz	0	14.44	14.44	Pass
Middle channel 2437MHz	0	14.58	14.58	Pass
High channel 2462MHz	0	14.45	14.45	Pass

802.11G

Frequency MHz	Duty cycle Factor dB	Conducted Power dBm	Total Power(average) dBm	Result
Low channel 2412MHz	0.3	12.41	12.71	Pass
Middle channel 2437MHz	0.3	12.73	13.03	Pass
High channel 2462MHz	0.3	12.63	12.93	Pass

802.11N20

Frequency MHz	Duty cycle Factor dB	Conducted Power dBm	Total Power(average) dBm	Result
Low channel 2412MHz	0.6	11.51	12.11	Pass
Middle channel 2437MHz	0.6	11.66	12.26	Pass
High channel 2462MHz	0.6	11.71	12.31	Pass

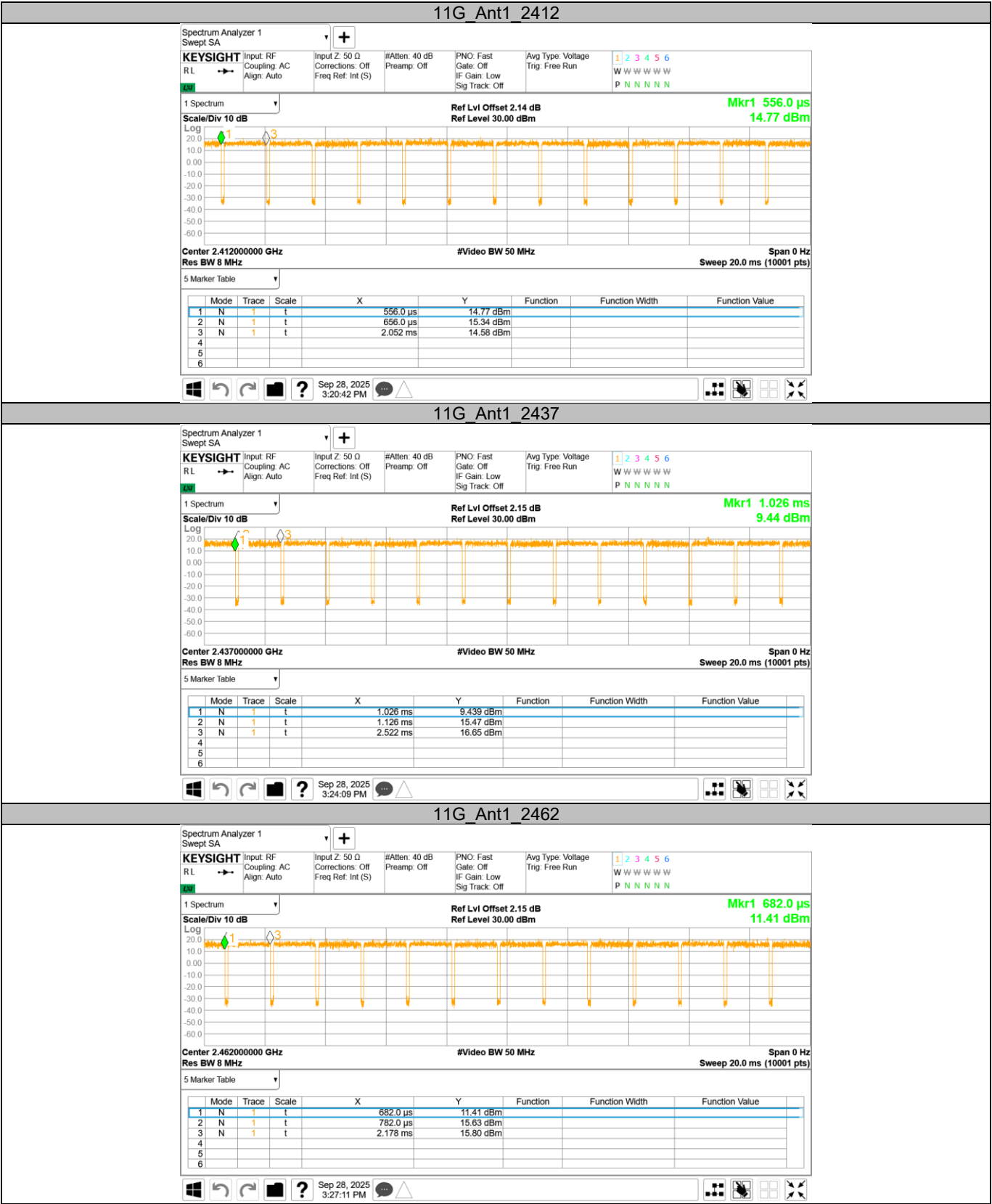
Duty Cycle

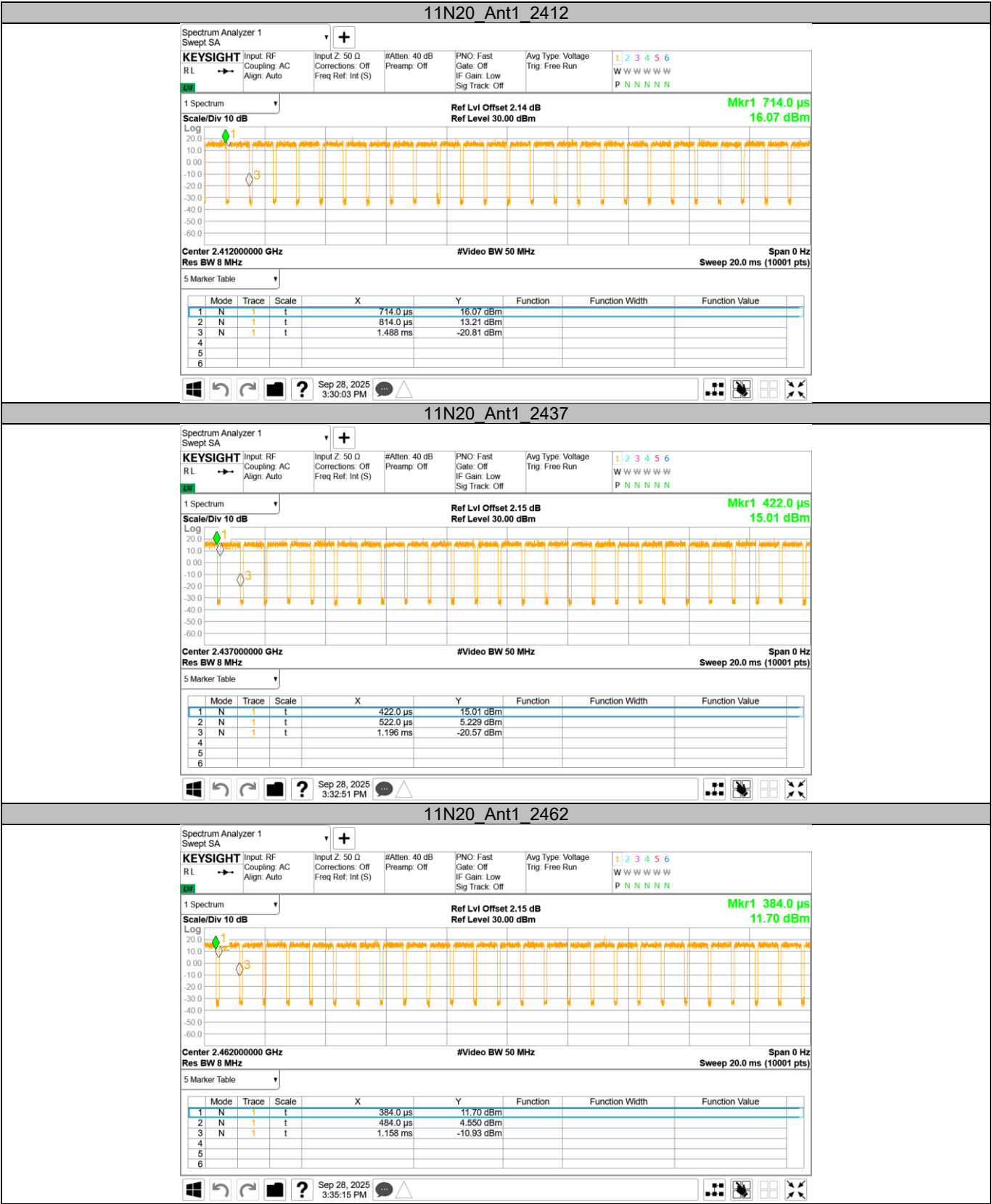
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	b	2412	Ant1	98.92	0
NVNT	b	2437	Ant1	98.9	0
NVNT	b	2462	Ant1	98.92	0
NVNT	g	2412	Ant1	93.32	0.3
NVNT	g	2437	Ant1	93.32	0.3
NVNT	g	2462	Ant1	93.32	0.3
NVNT	n20	2412	Ant1	87.08	0.6
NVNT	n20	2437	Ant1	87.08	0.6
NVNT	n20	2462	Ant1	87.08	0.6



Duty Cycle



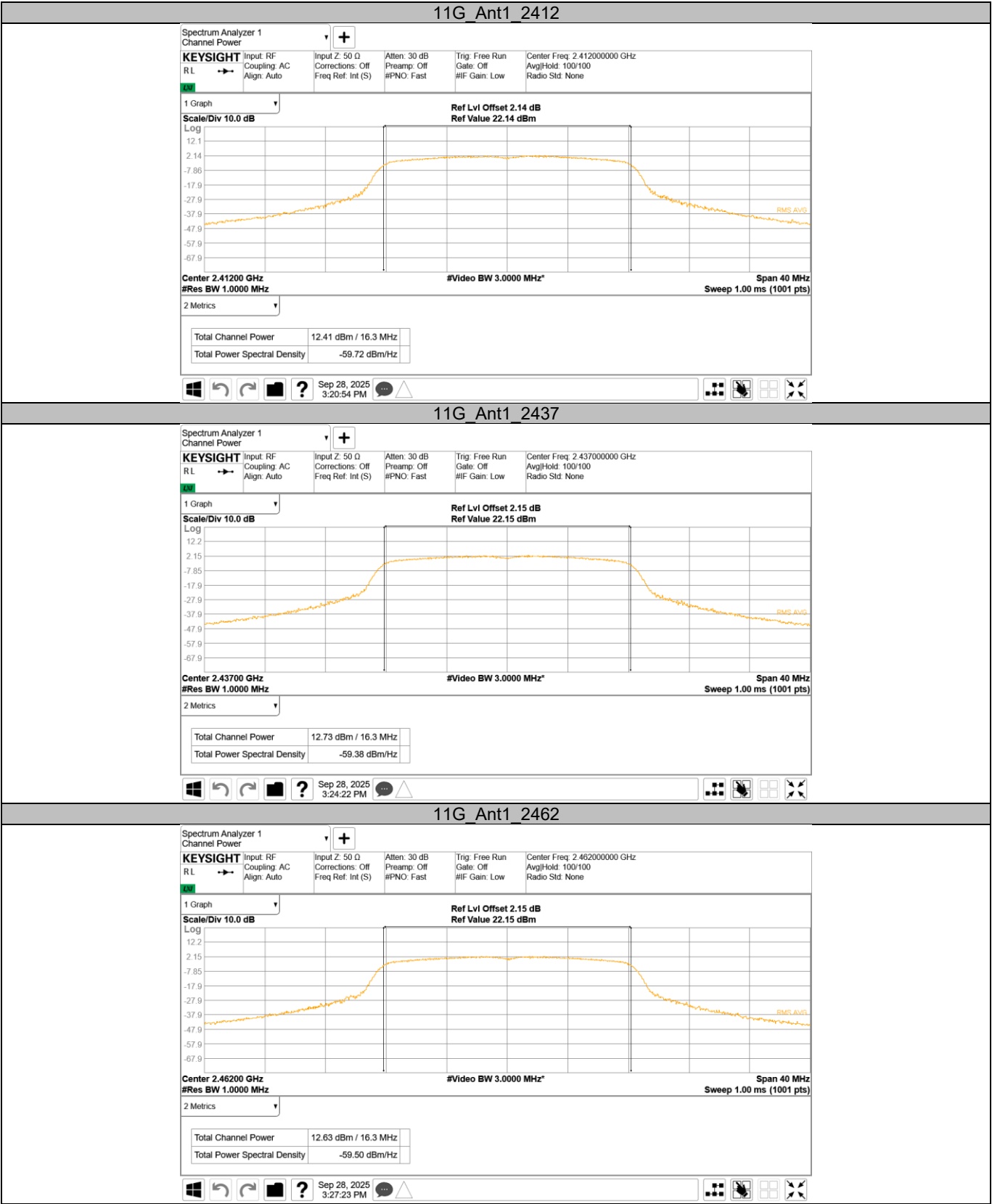


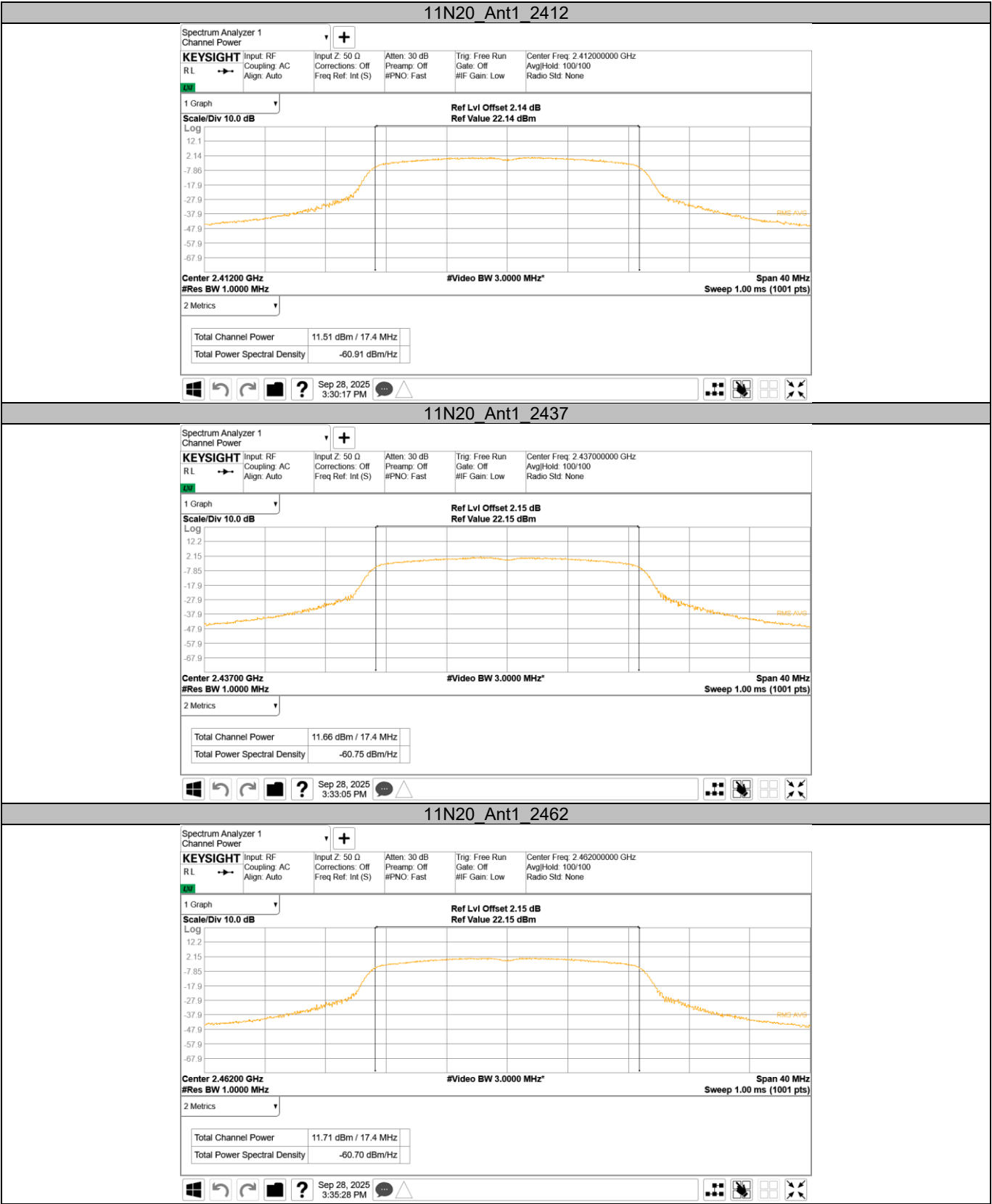




AV Power







10.26dB bandwidth and 99% Occupied Bandwidth

Test Method for 6 dB Bandwidth

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. RBW=1% to 5% of the occupied bandwidth but not less than 100kHz, VBW $\geq$ 3RBW, Sweep = auto, Detector function = peak, Trace = max hold
5. Use the automatic bandwidth measurement capability of an instrument, use the X dB bandwidth mode with X set to 6 dB.
6. Allow the trace to stabilize, record the 6 dB Bandwidth value.

Test Method for 99 % Bandwidth

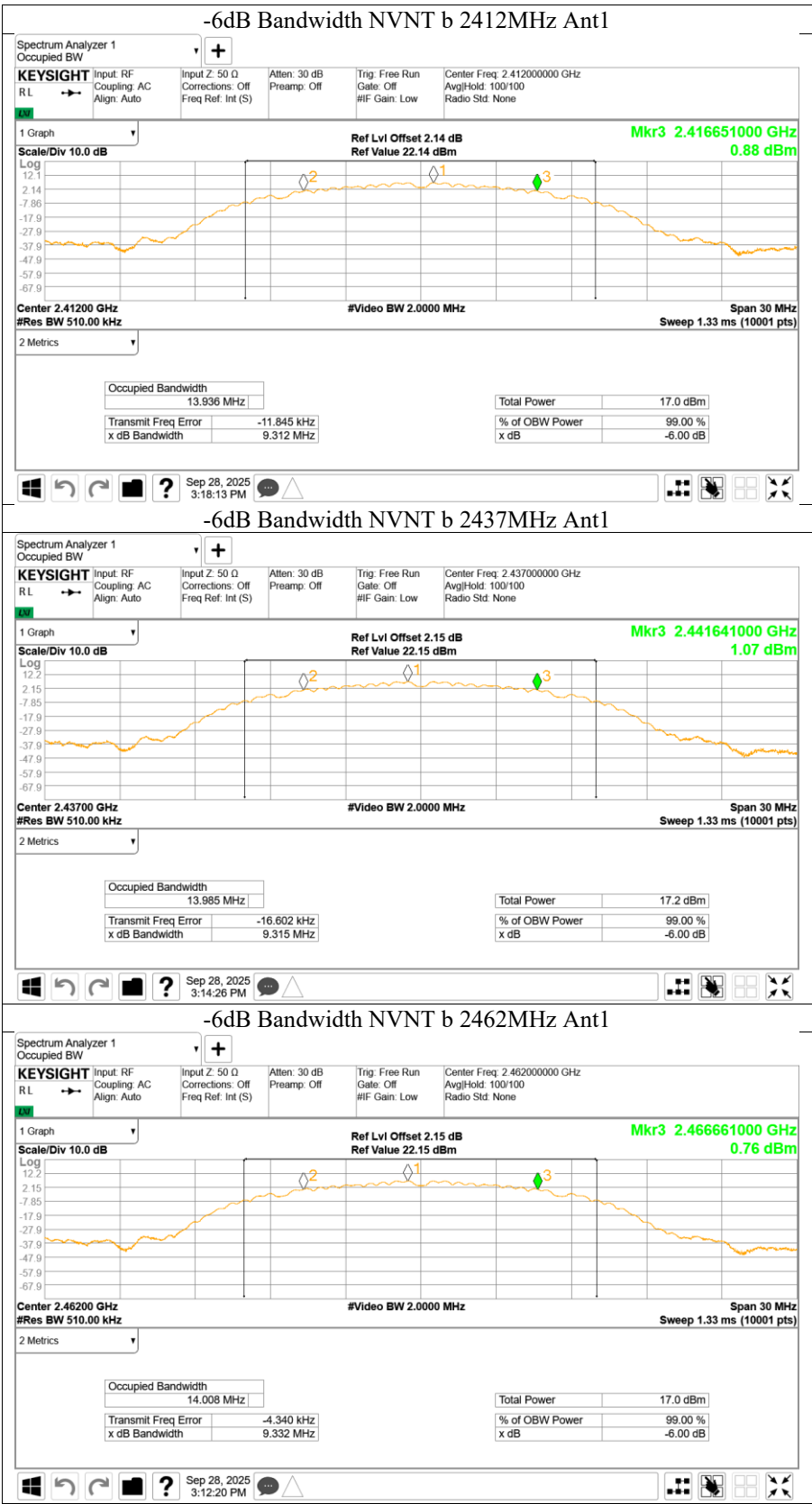
1. Connect EUT test port to spectrum analyzer.
Use the following spectrum analyzer settings:
RBW=1% to 5% of the actual occupied, VBW $\geq$ 3RBW, Sweep = auto,
Detector function = peak, Trace = max hold
2. Use the occupied bandwidth measurement capability of test receiver.
3. Allow the trace to stabilize,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

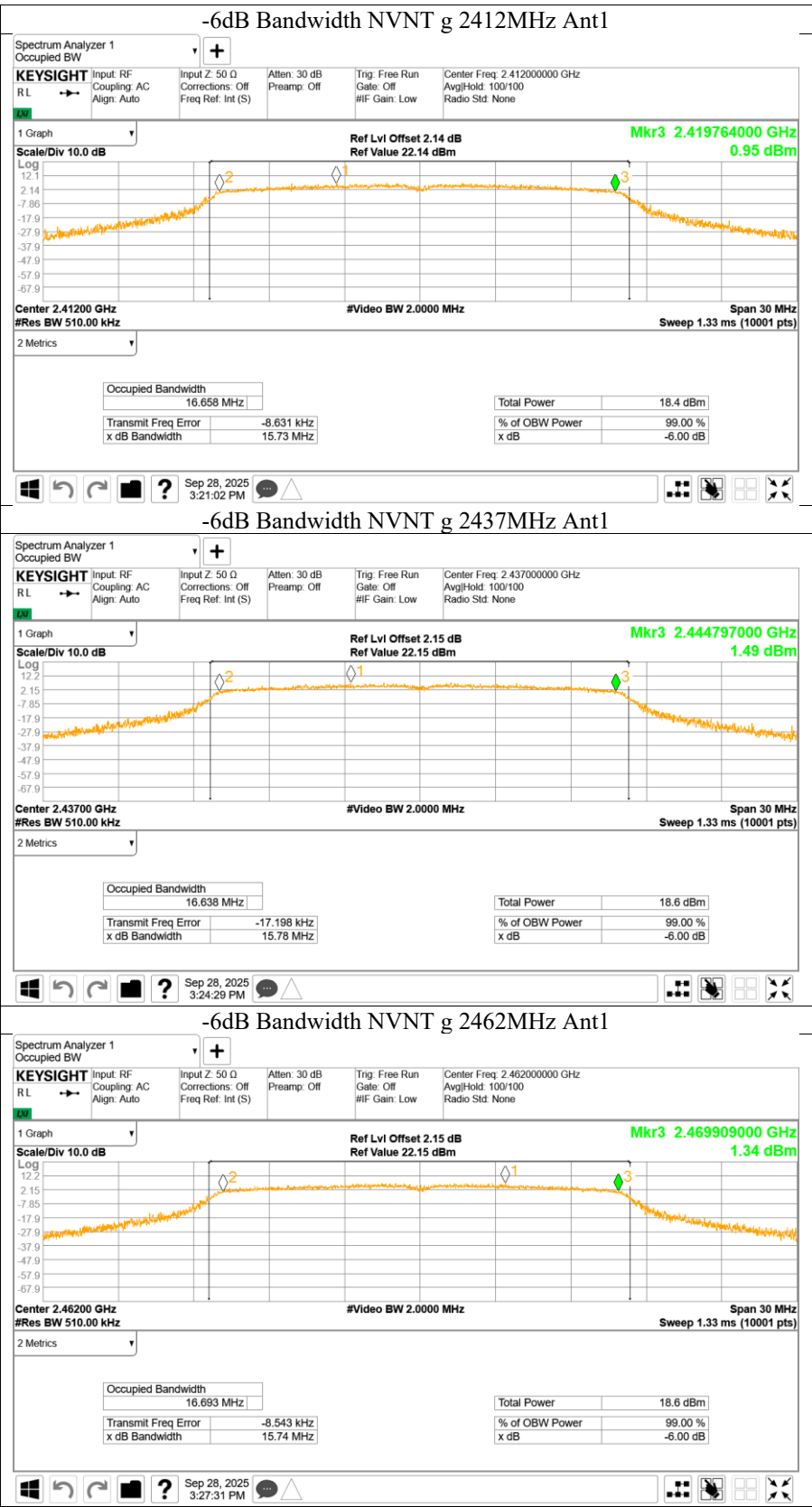
Limit

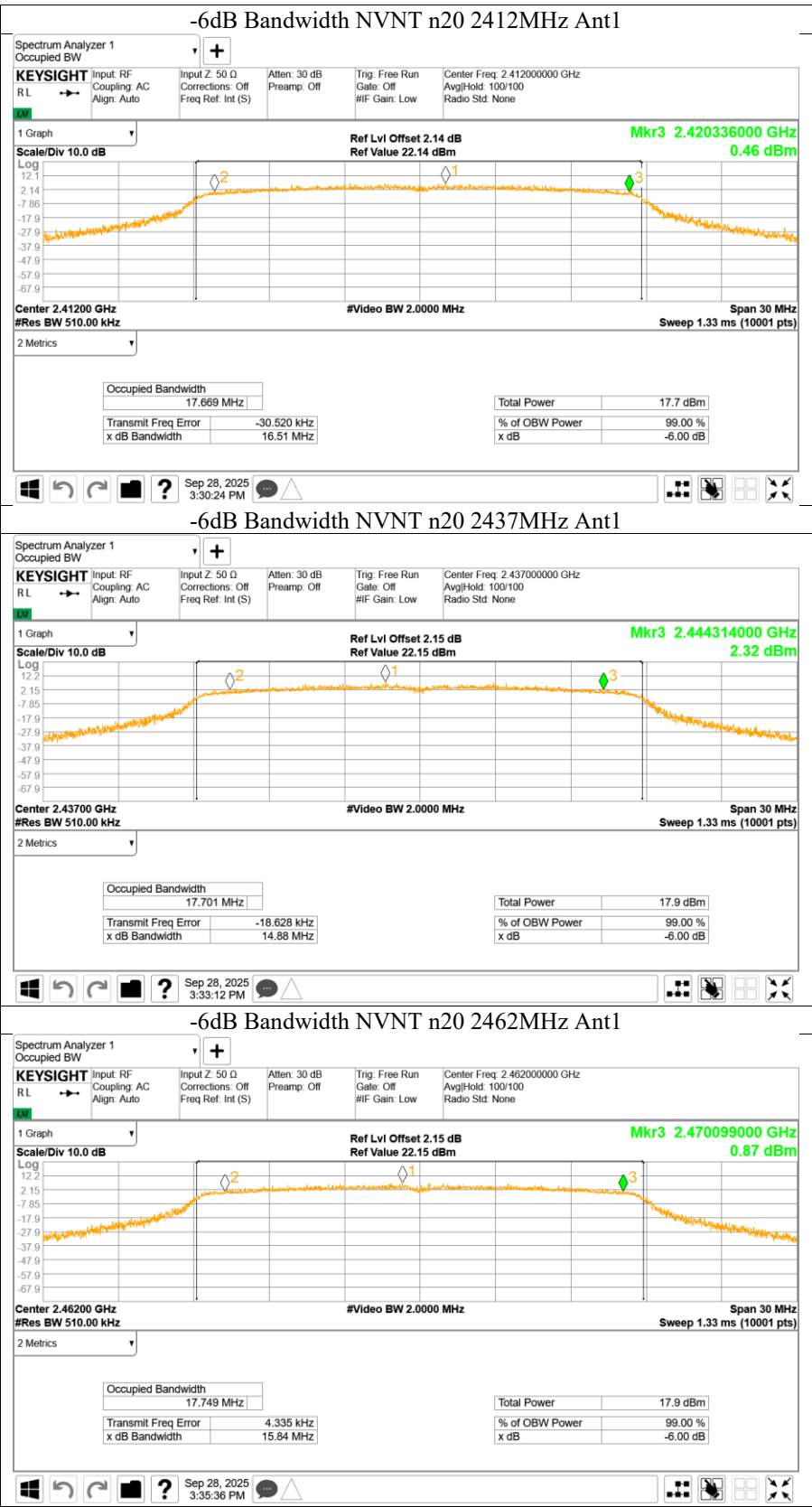
6dB bandwidth Limit [kHz]	99% bandwidth Limit [kHz]
≥ 500	--

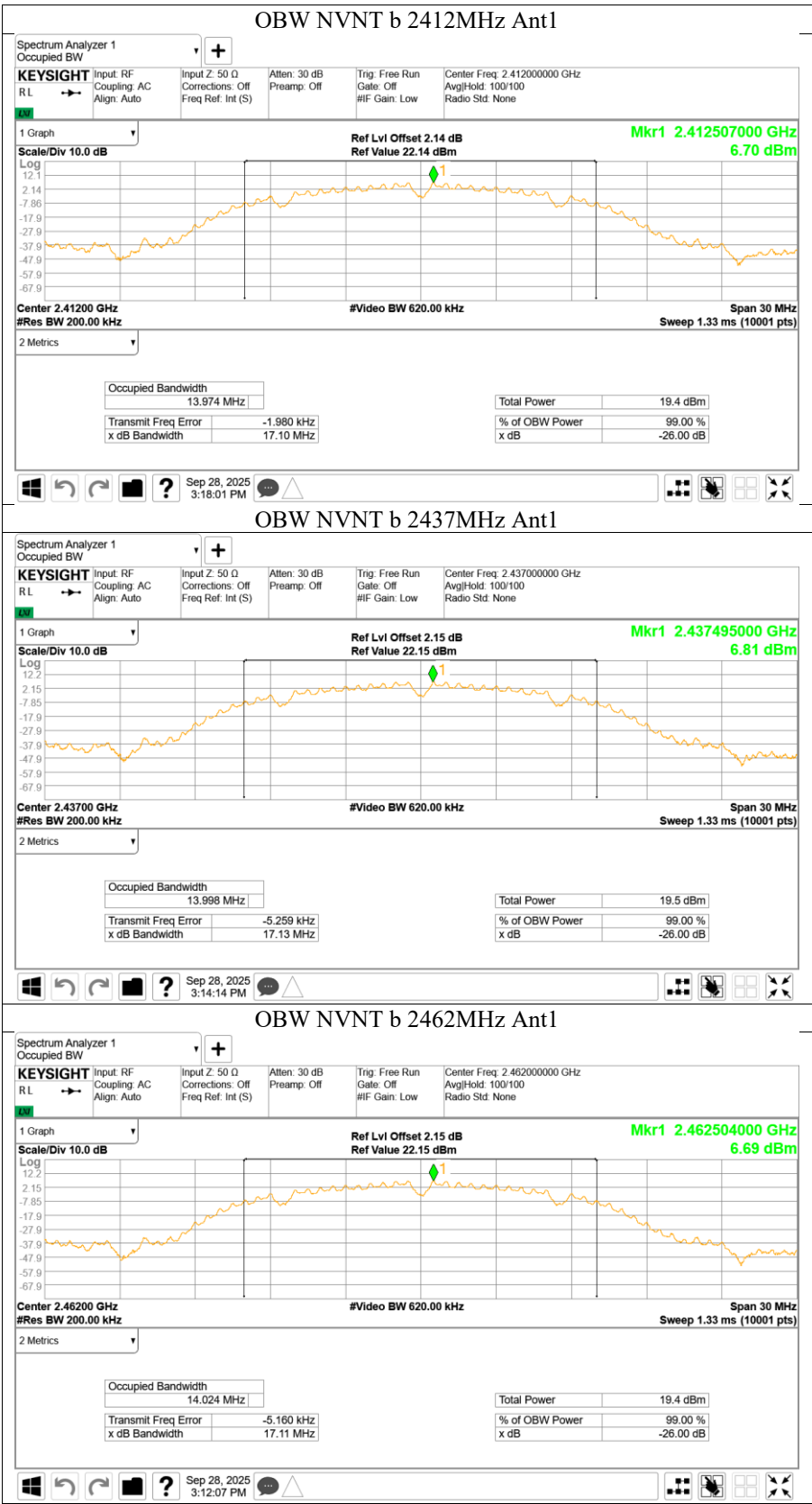
Test Result

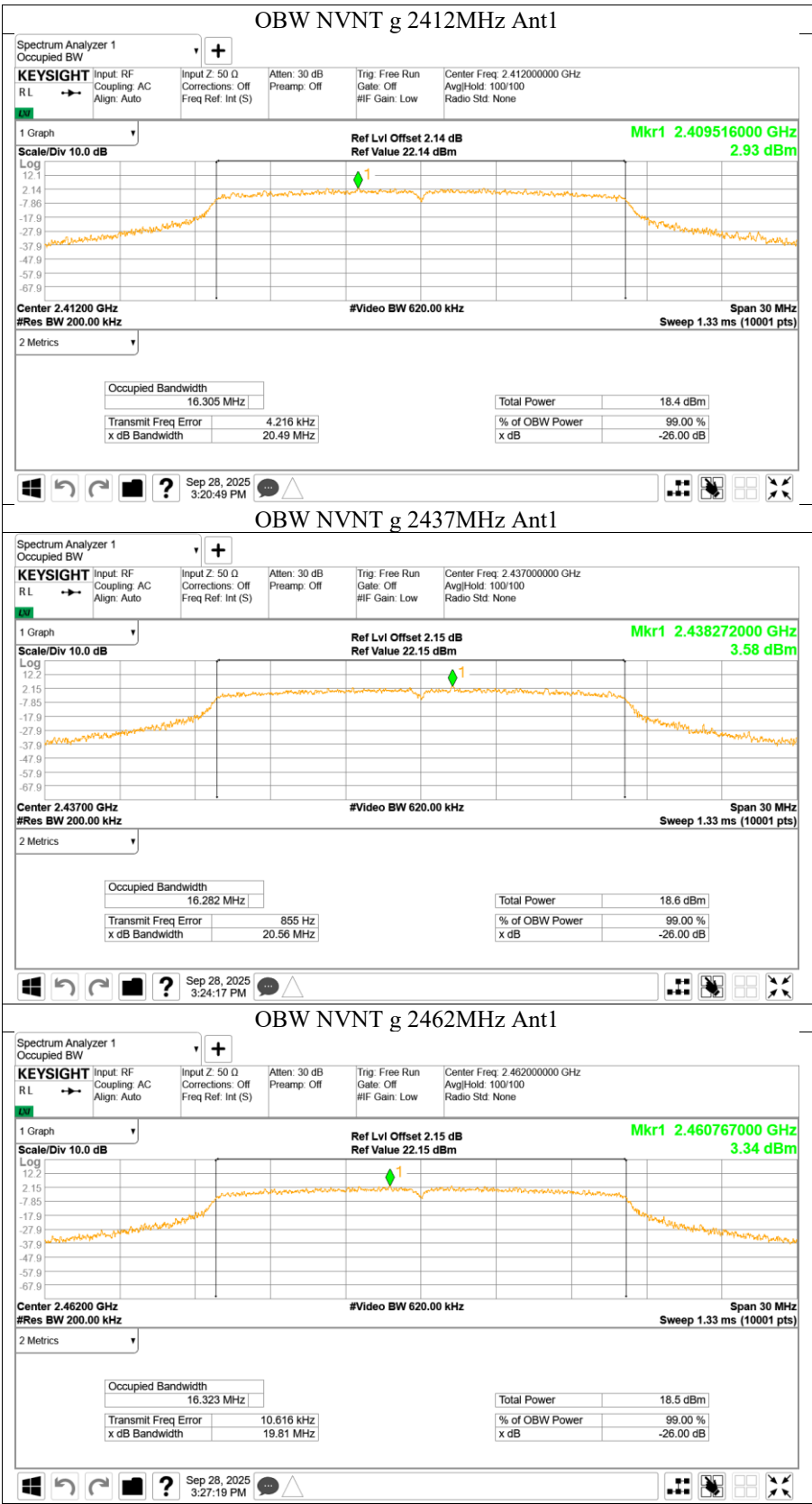
Test Mode	Frequency MHz	6dB bandwidth (MHz)		Result	99% occupied bandwidth MHz
		result	limit	verdict	
802.11b	2412	9.312	≥ 0.5	Pass	13.974
	2437	9.315	≥ 0.5	Pass	13.998
	2462	9.332	≥ 0.5	Pass	14.024
802.11g	2412	15.73	≥ 0.5	Pass	16.305
	2437	15.779	≥ 0.5	Pass	16.282
	2462	15.74	≥ 0.5	Pass	16.323
802.11n(HT20)	2412	16.505	≥ 0.5	Pass	17.433
	2437	14.876	≥ 0.5	Pass	17.4
	2462	15.843	≥ 0.5	Pass	17.413

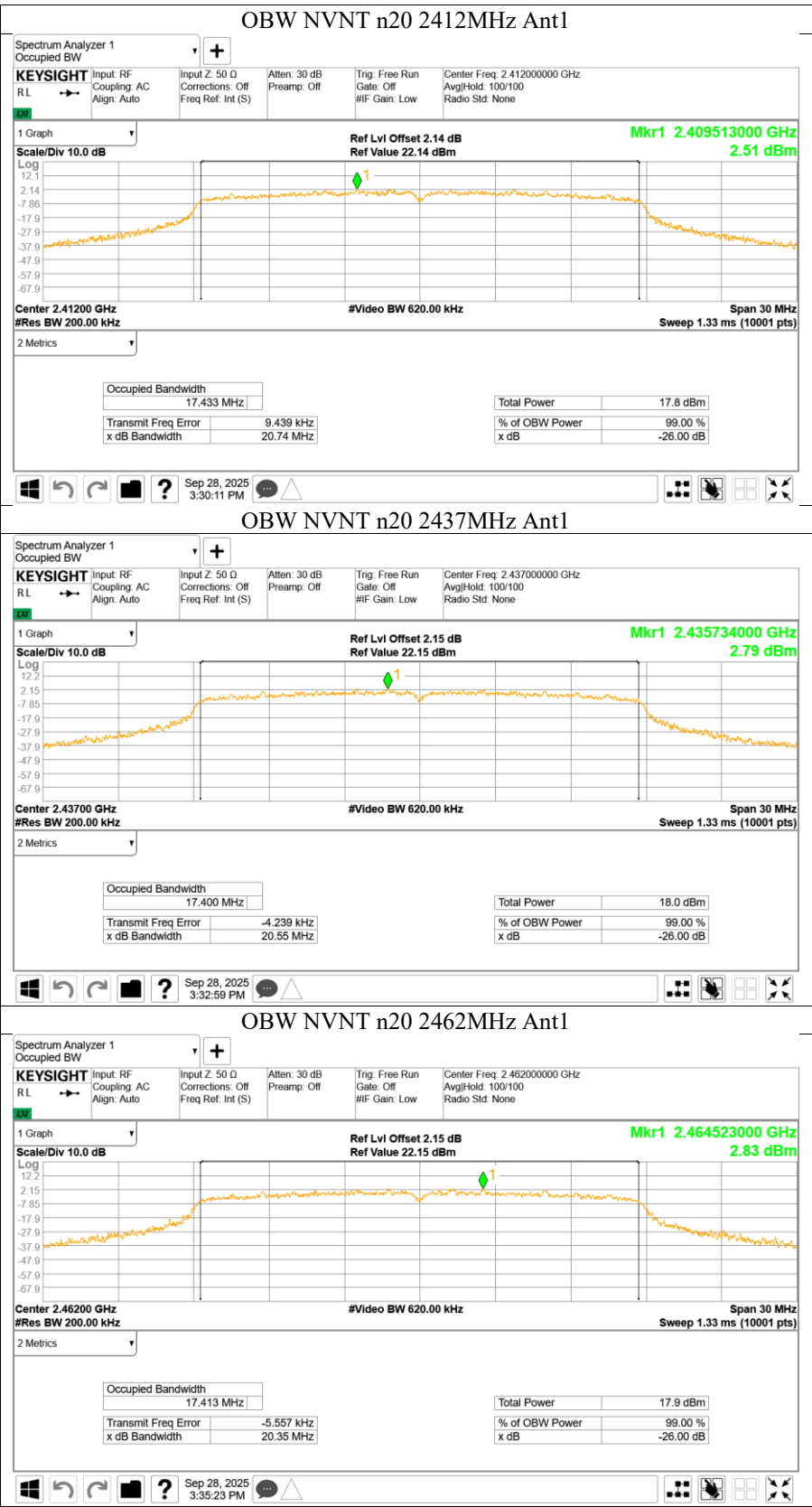












10.3 Power spectral density

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	-7.41	Pass
Middle channel 2437MHz	-8	Pass
High channel 2462MHz	-7.03	Pass

802.11 G

Frequency MHz	Power spectral density dBm/3kHz	Result
Low channel 2412MHz	-11.51	Pass
Middle channel 2437MHz	-11.79	Pass
High channel 2462MHz	-11.89	Pass

802.11 N20

Frequency MHz	Power spectral density dBm/3kHz	Result
Low channel 2412MHz	-12.59	Pass
Middle channel 2437MHz	-11.73	Pass
High channel 2462MHz	-12.89	Pass

