

TEST REPORT

Product Name : Smart thermostat
Model Number : GS366A-MWAC
FCC ID : 2ASYY-GS366AMWAC

Prepared for : Siterwell Electronics Co., Limited
Address : No.666 Qingfeng Road, Jiangbei District, Ningbo,
Zhejiang Province, China.

Prepared by : EMTEK (NINGBO) CO., LTD.
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Report Number : ENB2603240076W00202R
Date(s) of Tests : March 24, 2026 to May 18, 2026
Date of issue : May 20, 2026

TABLE OF CONTENTS

1 TEST RESULT CERTIFICATION	3
2 EUT TECHNICAL DESCRIPTION	5
3 SUMMARY OF TEST RESULT	6
4 TEST METHODOLOGY	7
4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS	7
4.2 MEASUREMENT EQUIPMENT USED	7
4.3 DESCRIPTION OF TEST MODES	9
5 FACILITIES AND ACCREDITATIONS	10
5.1 FACILITIES	10
5.2 EQUIPMENT	10
5.3 LABORATORY ACCREDITATIONS AND LISTINGS	10
6 TEST SYSTEM UNCERTAINTY	11
7 SETUP OF EQUIPMENT UNDER TEST	12
7.1 RADIO FREQUENCY TEST SETUP 1	12
7.2 RADIO FREQUENCY TEST SETUP 2	12
7.3 CONDUCTED EMISSION TEST SETUP	15
7.4 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM	16
7.5 SUPPORT EQUIPMENT	16
8 TEST REQUIREMENTS	17
8.1 DTS 6DB BANDWIDTH	17
8.2 DTS 99%BANDWIDTH	23
8.3 MAXIMUM AVG CONDUCTED OUTPUT POWER	29
8.4 MAXIMUM POWER SPECTRAL DENSITY	31
8.5 UNWANTED EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS	37
8.6 RADIATED SPURIOUS EMISSION	59
8.7 CONDUCTED EMISSION TEST	75
8.8 ANTENNA APPLICATION	78

1 TEST RESULT CERTIFICATION

Applicant	:	Siterwell Electronics Co., Limited
Address	:	No.666 Qingfeng Road, Jiangbei District, Ningbo, Zhejiang Province,China.
Manufacturer	:	Siterwell Electronics Co., Limited
Address	:	No.666 Qingfeng Road, Jiangbei District, Ningbo, Zhejiang Province,China.
EUT	:	Smart thermostat
Model Name	:	GS366A-MWAC
Trademark	:	N/A

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 2, Subpart J FCC 47 CFR Part 15, Subpart C	PASS

The above equipment was tested by EMTEK(NINGBO) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2020) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 2, Part 15.247.

The test results of this report relate only to the tested sample identified in this report.

Date of Test :	March 24, 2026 to May 18, 2026
Prepared by :	WK Luo
	WK Luo /Engineer
Reviewer :	June Gao
	June Gao /Supervisor
Approved & Authorized Signer :	Tony Wei
	Tony Wei /Manager

Modified History

Version	Report No.	Revision Date	Summary
/	ENB2603240076W00202R	/	Original Report



2 EUT TECHNICAL DESCRIPTION

Characteristics	Description
Product:	Smart thermostat
Model Number:	GS366A-MWAC
IEEE 802.11 WLAN Mode Supported:	802.11b 802.11g 802.11n(20 MHz channel bandwidth) 802.11n(40 MHz channel bandwidth) 802.11ax(20 MHz channel bandwidth)
Operating Frequency Range:	2412-2462MHz for 802.11b/g/n(HT20)/ax(HE20); 2422-2452MHz for 802.11n(HT40) OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n/ax;
Number of Channels:	11 Channels for 802.11b/g/n(HT20); 9 Channels for 802.11n(HT40)
Antenna Port:	SISO
Antenna Type:	PCB Antenna
Antenna Gain:	2400-2480 MHz: 3.62 dBi
Test Voltage:	AC 24V/60Hz
Temperature Range:	-20 °C ~ +60 °C
Software Version:	N/A
Hardware Version:	N/A

3 SUMMARY OF TEST RESULT

FCC Part Clause	Test Parameter	Verdict	Remark
15.247(a)(2)	DTS (6dB) Bandwidth	PASS	
15.247(b)(3)	Maximum Peak Conducted Output Power	PASS	
15.247(e)	Maximum Power Spectral Density Level	PASS	
15.247(d)	Unwanted Emission Into Non-Restricted Frequency Bands	PASS	
15.247(d) 15.209	Unwanted Emission Into Restricted Frequency Bands (conducted)	PASS	
15.247(d) 15.209	Radiated Spurious Emission	PASS	
15.207	Conducted Emission Test	PASS	
15.247(b)	Antenna Application	PASS	
NOTE1:N/A (Not Applicable) NOTE2: According to FCC OET KDB 558074, the report use radiated measurements in the restricted frequency bands. In addition, the radiated test is also performed to ensure the emissions emanating from the device cabinet also comply with the applicable limits.			

RELATED SUBMITTAL(S) / GRANT(S):

This submittal(s) (test report) is intended for **FCC ID: 2A2IZ-HE6LE** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

4 TEST METHODOLOGY

4.1 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to its specifications, the EUT must comply with the requirements of the following standards:

FCC 47 CFR Part 2, Subpart J

FCC 47 CFR Part 15, Subpart C

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

4.2 MEASUREMENT EQUIPMENT USED

Conducted Emission Test Equipment

Equ. No.	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
ENE-001	EMI Test Receiver	R & S	ESCI	101108	Oct. 24, 2025	1 Year
ENE-336	L.I.S.N	Schwarzbeck	NSLK 8126	8126-05059	June 18, 2025	1 Year
ENE-159	Pulse Limiter	Schwarzbeck	VTSD 9561F-N	2611115-001-0033	Oct. 23, 2025	1 Year
ENE-278	RF Switching Unit	HTEC	HRSU	222101	June 19, 2025	1 Year
ENE-149	Conduction Test Room 1#	SKET	11.5*5*4m	/	March 05, 2025	3 Year

For Spurious Emissions Test

Equ. No.	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
ENE-185	EMI Test Receiver	R&S	ESR7	102480	March 02, 2026	1 Year
ENE-188	Low Frequency Field Antenna	Schwarzbeck	FMZB 1513-60	00026	June 26, 2025	3 Year
ENE-190	Antenna Multiple	Schwarzbeck	VULB 9163	01499	March 09, 2025	3 Year
ENE-195	Pre-Amplifier	JS Denki	PA09K03-40	JSPA21019	March 02, 2026	1 Year
ENE-204	Low Frequency Notch Filter RF Switching	JS Denki	JSDSW-F	JSDSW2211 D02	March 02, 2026	1 Year
ENE-251	6dB Attenuator	Mini-Circuits	UNAT-6+	11542	June 18, 2025	1 Year
ENE-144	3-Meter Anechoic Chamber2#	SKET	9*6*6m	/	June 21, 2025	3 Year
ENE-171	EXA Signal Analyzer	KEYSIGHT	N9010B	MY60242467	Oct. 24, 2025	1 Year
ENE-191	Horn Antenna	Schwarzbeck	BBHA 9120 D	02588	March 09, 2025	3 Year
ENE-198	Pre-Amplifier	JS Denki	PA0118-50	JSPA21022	March 02, 2026	1 Year
ENE-206	High Frequency Notch FilterRf Switching	JS Denki	JSDSW-F	202083582	March 02, 2026	1 Year

For other test items:

Equ. No.	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
ENE-253	EXG Analog Singnal Generator	Keysight	N5173B	MY61253062	June 19, 2025	1 Year
ENE-254	MXG Vector Singnal Generator	Keysight	N5182B	MY61350131	June 19, 2025	1 Year
ENE-255	Frepquency Extender	Keysight	N5183BX07	MY61500104	June 19, 2025	1 Year
ENE-256	EXA Signal Anaalyzer	Keysight	N9010B	MY62060219	June 19, 2025	1 Year
ENE-257	WIRELESS CONNECTIVITY TESTER	ROHDE & SCHWARZ	CMW 270	1201.0002 K75-102608-Pb	June 19, 2025	1 Year
ENE-172	RF Control Unit	Tonscend	JS0806-2(V.6 E)	21L8060521	March 02, 2026	1 Year
ENE-092	DC Power Supply	KEFUNA	KDP3603	2004D3062946	June 19, 2025	1 Year
ENE-093	Attenuator 10dB	talent Microwave	TA10A2-S-18	N/A	June 19, 2025	1 Year
ENE-094	Attenuator 20dB	talent Microwave	TA20A2-S-18	N/A	June 19, 2025	1 Year

Note: No tests were conducted on March 2nd and March 9th.

4.3 DESCRIPTION OF TEST MODES

The EUT has been tested under its typical operating condition.

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (802.11b: 1 Mbps; 802.11g: 6 Mbps; 802.11n (HT20): MCS0;) were used for all test.

Pre-defined engineering program for regulatory testing used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Frequency and Channel list for 802.11 b/g/n(HT20)/ax(HE20):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447		

Frequency and Channel list for 802.11n(HT40):

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
		5	2432	9	2452
		6	2437		
3	2422	7	2442		
4	2427	8	2447		

Test Frequency and Channel for 802.11 b/g/n(HT20)/ax(HE20):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	6	2437	11	2462

Test Frequency and Channel for 802.11n(HT40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	6	2437	9	2452

Multi-antenna correlation:

☐	Transmit Signals are Correlated
	Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ dBi
☐	All Transmit Signals are Completely Uncorrelated
	Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10}) / N_{ANT}]$ dBi
Directional gain = $10 \log [(10^{1.67/20} + 10^{1.24/20})^2 / 2]$ dBi=4.47dBi	

5 FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at:
EMTEK (NINGBO) CO., LTD.

No. 8, Building 8, Lane 216, Qingyi Road, Ningbo High-Tech Zone, Ningbo, Zhejiang, China
The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

EMC Lab.

: **Accredited by CNAS**

The Certificate Registration Number is L6666.

The Laboratory has been assessed and proved to be in compliance with
CNAS-CL01:2018 (identical to ISO/IEC 17025:2017)

Designation by FCC

Designation Number: CN1354

Test Firm Registration Number: 427606

Accredited by A2LA

The Certificate Number is 4321.03.

Accredited by ISED

The Conformity Assessment Body Identifier is CN0114

Name of Firm : EMTEK (NINGBO) CO., LTD.

Site Location : No. 8, Building 8, Lane 216, Qingyi Road, Ningbo High-Tech Zone,
Ningbo, Zhejiang, China

6 TEST SYSTEM UNCERTAINTY

The following measurement uncertainty levels have been estimated for tests performed on the apparatus:

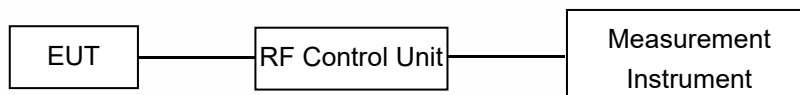
Test Parameter	Measurement Uncertainty
Frequency error	$\pm 20\text{Hz}$
Occupied Bandwidth	$\pm 0.5\text{KHz}$
Transmitter output power	$\pm 0.6\text{dB}$
Conducted spurious emissions	$\pm 3.2\text{dB}$
Radiated spurious emissions	$\pm 4.5\text{dB}$
Temperature	$\pm 1.2^{\circ}\text{C}$
Humidity	$\pm 3\%$
DC voltages	$\pm 0.25\text{V}$
Time	$\pm 1\%$

Measurement Uncertainty for a level of Confidence of 95%

7 SETUP OF EQUIPMENT UNDER TEST

7.1 RADIO FREQUENCY TEST SETUP 1

The WLAN component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by PC/software to emit the specified signals for the purpose of measurements.



7.2 RADIO FREQUENCY TEST SETUP 2

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2020 and CAN/CSA-CEI/IEC CISPR 22.

The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

Below 30MHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna (loop antenna). The Antenna should be positioned with its plane vertical at the specified distance from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. The center of the loop shall be 1 m above the ground. For certain applications, the loop antenna plane may also need to be positioned horizontally at the specified distance from the EUT.

Above 30MHz:

The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

Above 1GHz:

The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).

Measurements shall be taken, using the following steps, at a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment (see RSS-Gen for applicable versions of ANSI and CISPR standards).

(1) Line the ground plane with absorbers between the transmitter and the receive antenna to minimize reflections. The absorbers used should have a minimum-rated attenuation of 20 dB through the measurement frequency range of interest. The absorbers shall be positioned to replicate the layout used when compliance with the applicable acceptability criterion was achieved, as set forth in the aforementioned standards on site validation.

(2) Set the height of the receive antenna to 1.5 m. The receive antenna must be one that was designed and fabricated to operate over the entire frequency range of interest, for example, an appropriate standard gain horn.

(3) The distance between the receive antenna and the radiating source shall be sufficient in order to ensure far-field conditions.

(4) Mount the transmitter at a height of 1.5 m.

(5) Configure the device under test (DUT) to produce the maximum power spectral density as measured

while assessing compliance with Section 6.2.2 (i.e. channel frequency, modulation type and data rate). If the DUT is equipped with a detachable antenna and the antenna is intended for remote installation (i.e. tower-mounted), the DUT may be substituted with a suitable signal generator. The level and frequency settings on the generator shall be set so as to reproduce the maximum power spectral density, measured within a 1 MHz bandwidth, obtained while assessing compliance to Section 6.2.2.

(6) Position the transmitter or the radiating antenna so that elevation pattern measurements can be taken.

(7) Find the 0° reference point in the horizontal plane.

(8) Care should be taken when positioning the receive antenna to avoid cross-polarization. Antennas of known mounting polarization should be assessed with the receive antenna oriented in the same polarity. If the polarization of the transmit antenna is unknown or the transmit antenna can be mounted in either polarization, e.i.r.p. measurements should be performed to find which mounting polarity provides the highest e.i.r.p. value. Testing shall be carried out with the receive antenna and the DUT mounted in each polarity.

(9) The emission shall be centred on the display of the spectrum analyzer with the following settings:

i. If the power spectral density of the DUT was assessed with a peak detector and the antenna cannot be detached from the DUT, the spectrum analyzer shall be set to a peak detector with a resolution bandwidth and video bandwidth of 1 MHz.

ii. If the power spectral density of the DUT was assessed using a sample detector with power averaging and the antenna cannot be detached from the DUT, the spectrum analyzer shall be set to a sample detector, configured to produce 100 power averages and set with a resolution bandwidth, as well as a video bandwidth of 1 MHz.

iii. If the antenna can be detached from the DUT, a continuous wave (CW) signal equal to that of the power spectral density measurement may be used, the spectrum analyzer shall be set to peak detector with a resolution bandwidth and video bandwidth of 1 MHz.

(10) Rotate the turntable 360° recording the field strength at each step. Throughout the main beam of the antenna, the step size shall be kept to a maximum of 1°.

Once outside the main beam of the antenna, the maximum step size shall be as follows, when compared to the requirements of Section 6.2.2:

i. Between 0° and 8°, maximum step size of 2°;

ii. Between 8° and 40°, maximum step size of 4°;

iii. Between 40° and 45°, maximum step size of 1°;

iv. Between 45° and 90°, maximum step size of 5°.

Once the mask reaches 90°, the mask will be inverted and the step size will follow in the same manner as above.

For the purpose of this procedure, the main beam of the antenna is defined as the 3 dB beamwidth.

(11) Convert the measured field strength values in terms of e.i.r.p. density (dBW/1 MHz) using the following equation:

$$\text{e.i.r.p density(dBW/MHz)}=10\log((E*r)^2/30)$$

E = field strength in V/m

r = measurement distance in metres

(12) Plot the results against the emission mask with reference to the horizontal plane.

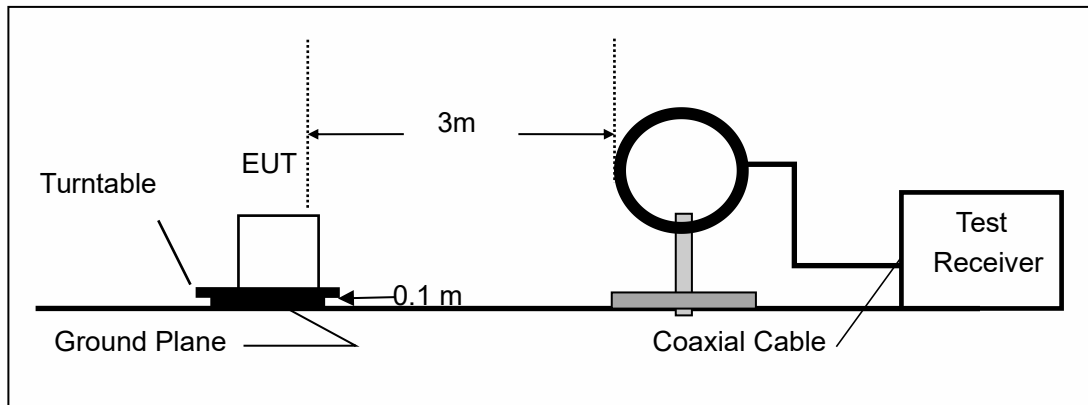
(13) Using the plot, the 0° can be rotated to determine the worst-case installation tilt angle.

(14) Testing shall be performed using the highest gain antenna for every antenna type, if applicable.

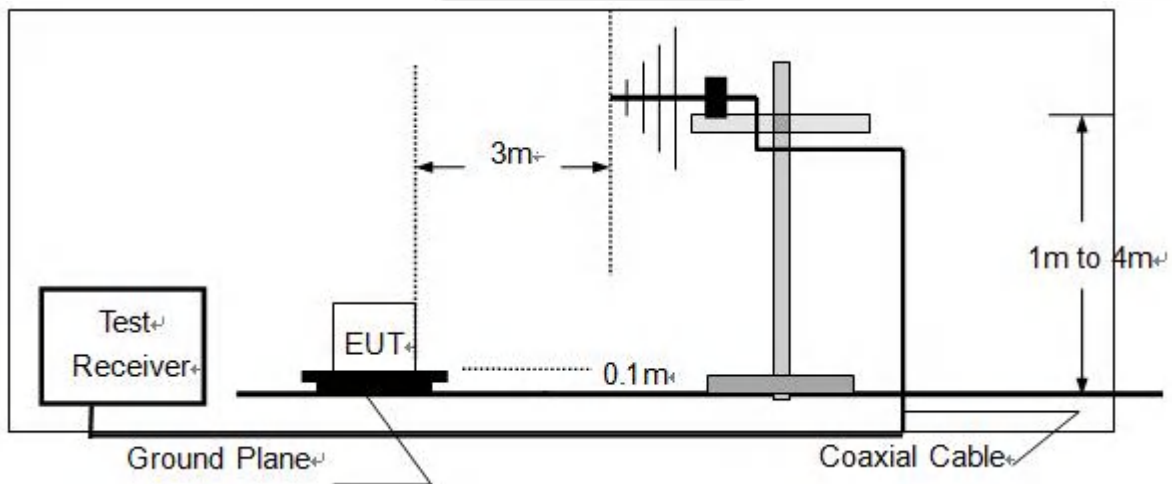
(15) Antenna type(s), antenna model number(s), and worst-case tilt angle(s) necessary to remain compliant with the elevation mask requirement set forth in Section 6.2.2(3) of RSS-247 shall be clearly indicated in the user manual.

The following figure is an example of a polar elevation mask measured using the Method 1 reference to dBμV/m at 3 m.

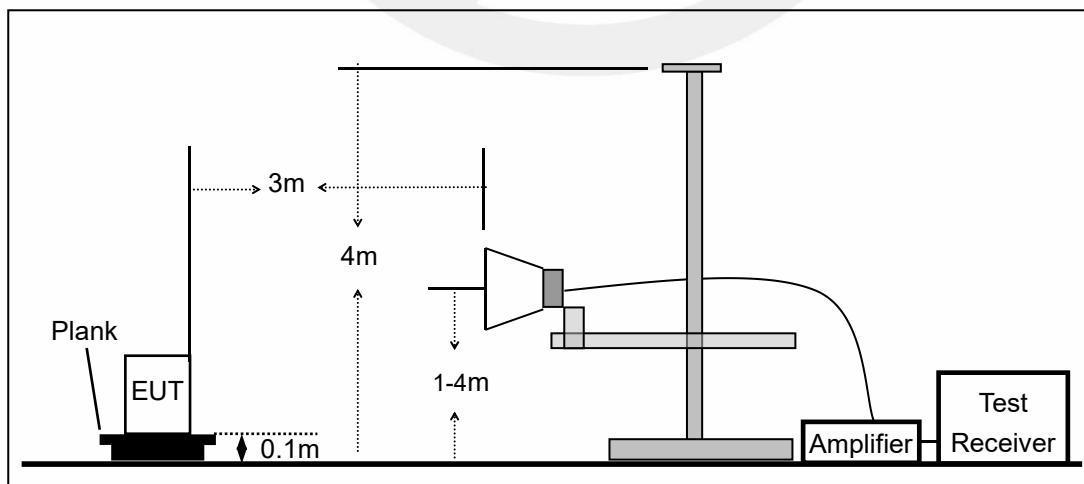
(a) Radiated Emission Test Set-Up, Frequency Below 30MHz



(b) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(c) Radiated Emission Test Set-Up, Frequency above 1000MHz

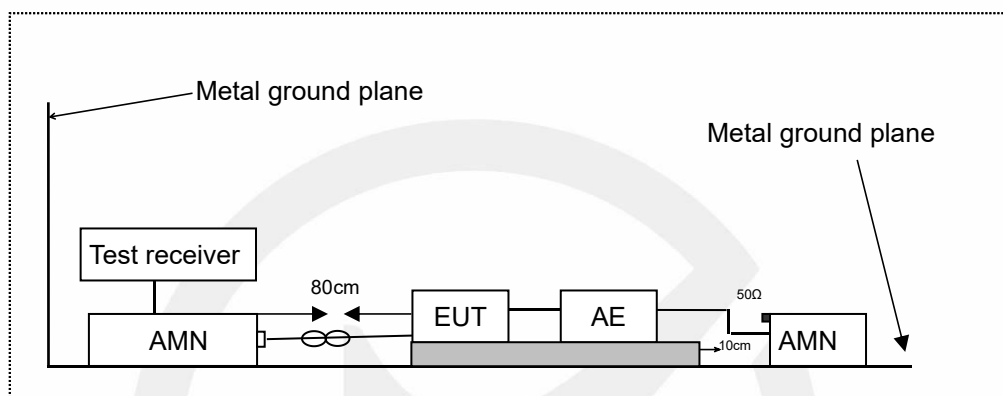


7.3 CONDUCTED EMISSION TEST SETUP

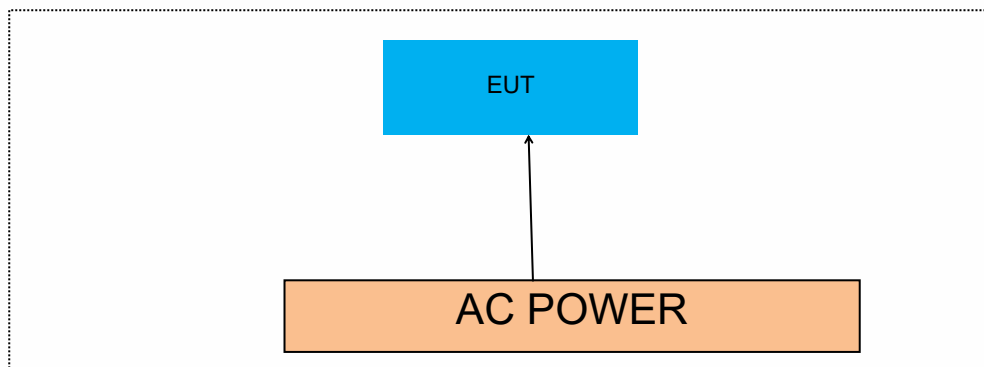
The mains cable of the EUT (maybe per AC/DC Adapter) must be connected to LISN. The LISN shall be placed 0.8 m from the boundary of EUT and bonded to a ground reference plane for LISN mounted on top of the ground reference plane. This distance is between the closest points of the LISN and the EUT. All other units of the EUT and associated equipment shall be at least 0.8m from the LISN.

Ground connections, where required for safety purposes, shall be connected to the reference ground point of the LISN and, where not otherwise provided or specified by the manufacturer, shall be of same length as the mains cable and run parallel to the mains connection at a separation distance of not more than 0.8 m.

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2020 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.



7.4 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM



7.5 SUPPORT EQUIPMENT

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

8 TEST REQUIREMENTS

8.1 DTS 6DB BANDWIDTH

8.1.1 Applicable Standard

According to FCC Part15.247 (a)(2) and KDB 558074 D01 15.247 Meas Guidance v05r02

8.1.2 Conformance Limit

The minimum -6 dB bandwidth shall be at least 500 kHz.

8.1.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.1.4 Test Procedure

The EUT was operating in WIFI mode and controlled its channel. Printed out the test result from the spectrum by hard copy function.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously

Set RBW = 100 kHz.

Set the video bandwidth (VBW) =300kHz.

Set Span=2 times OBW

Set Detector = Peak.

Set Trace mode = max hold.

Set Sweep = auto couple.

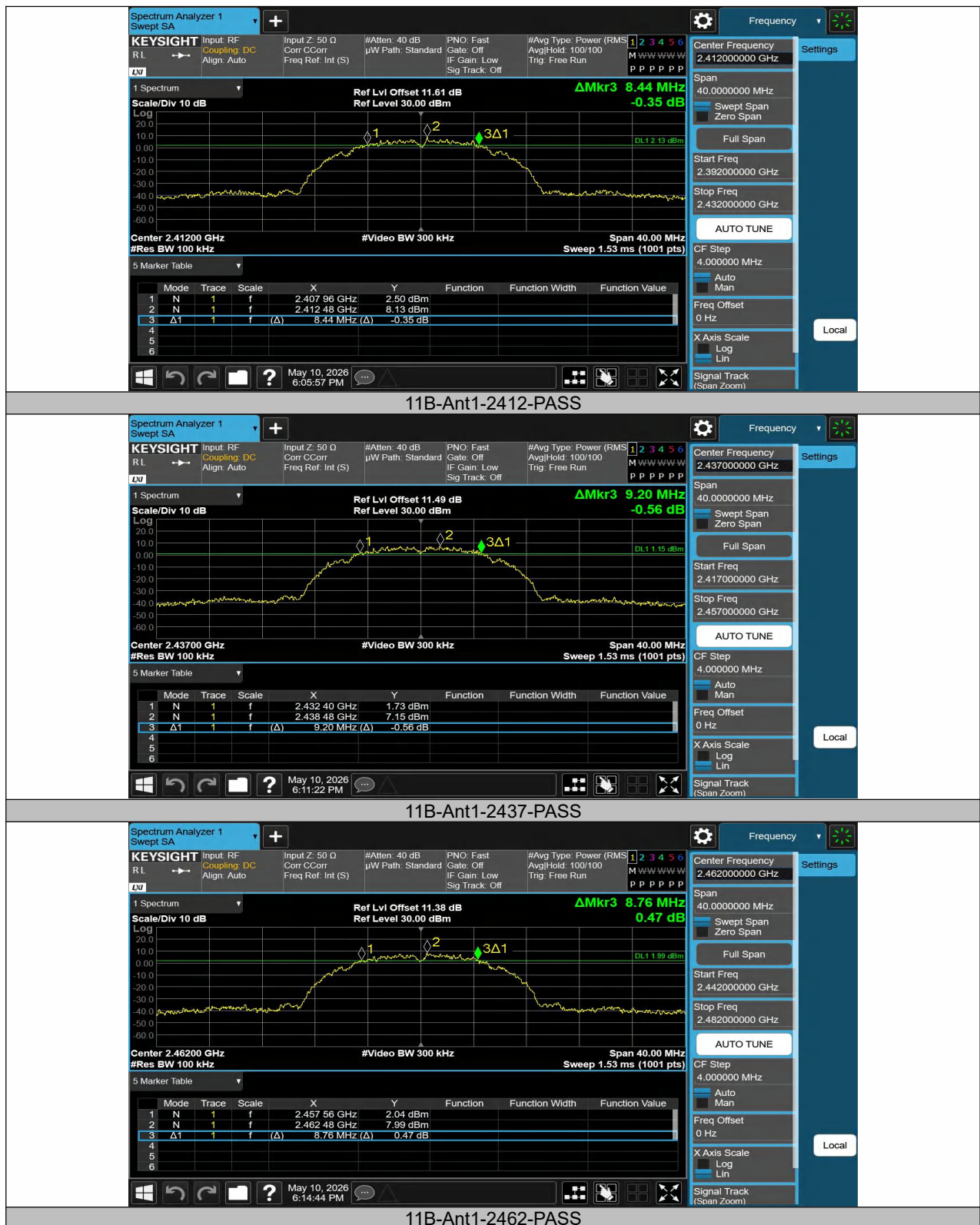
Allow the trace to stabilize.

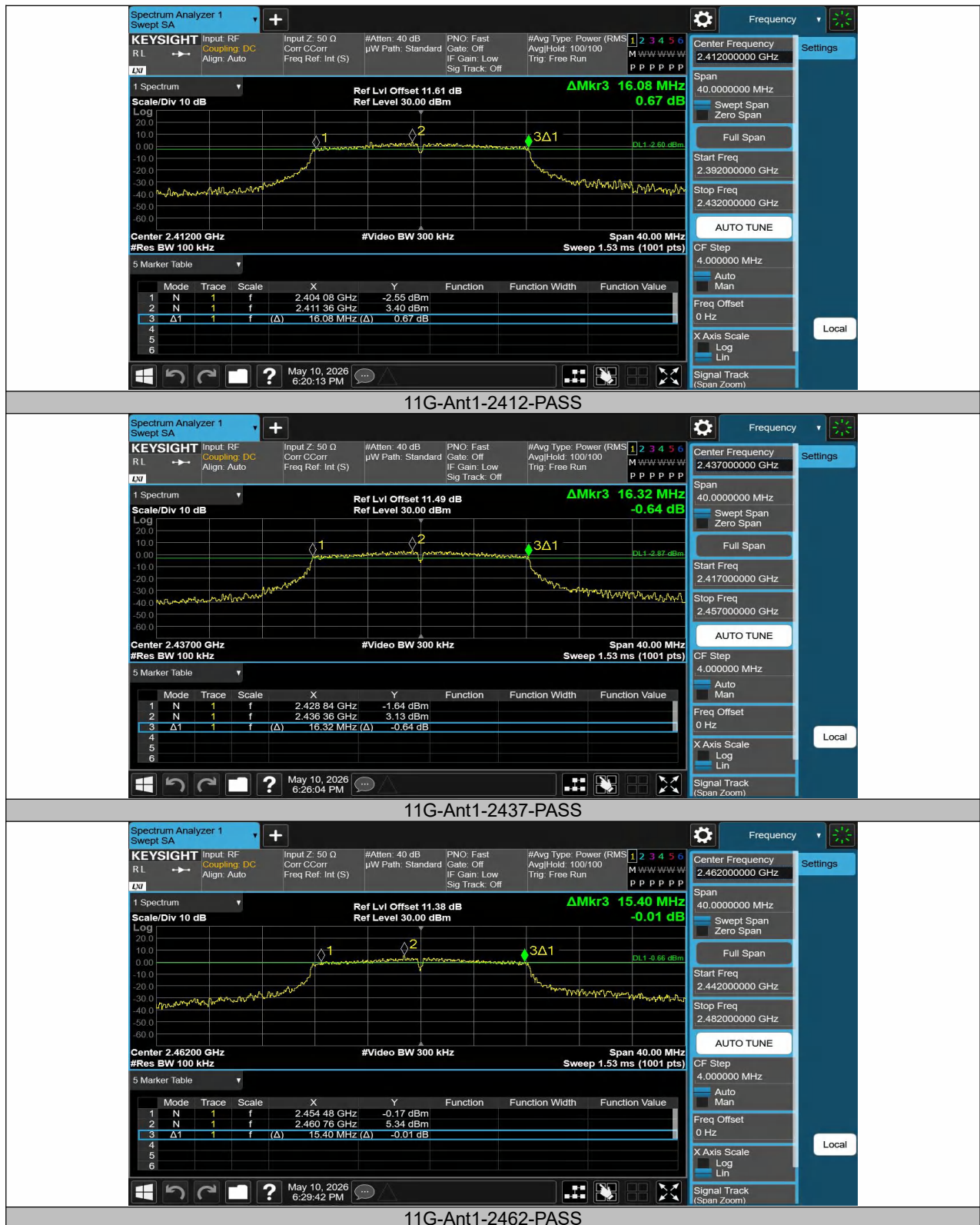
Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

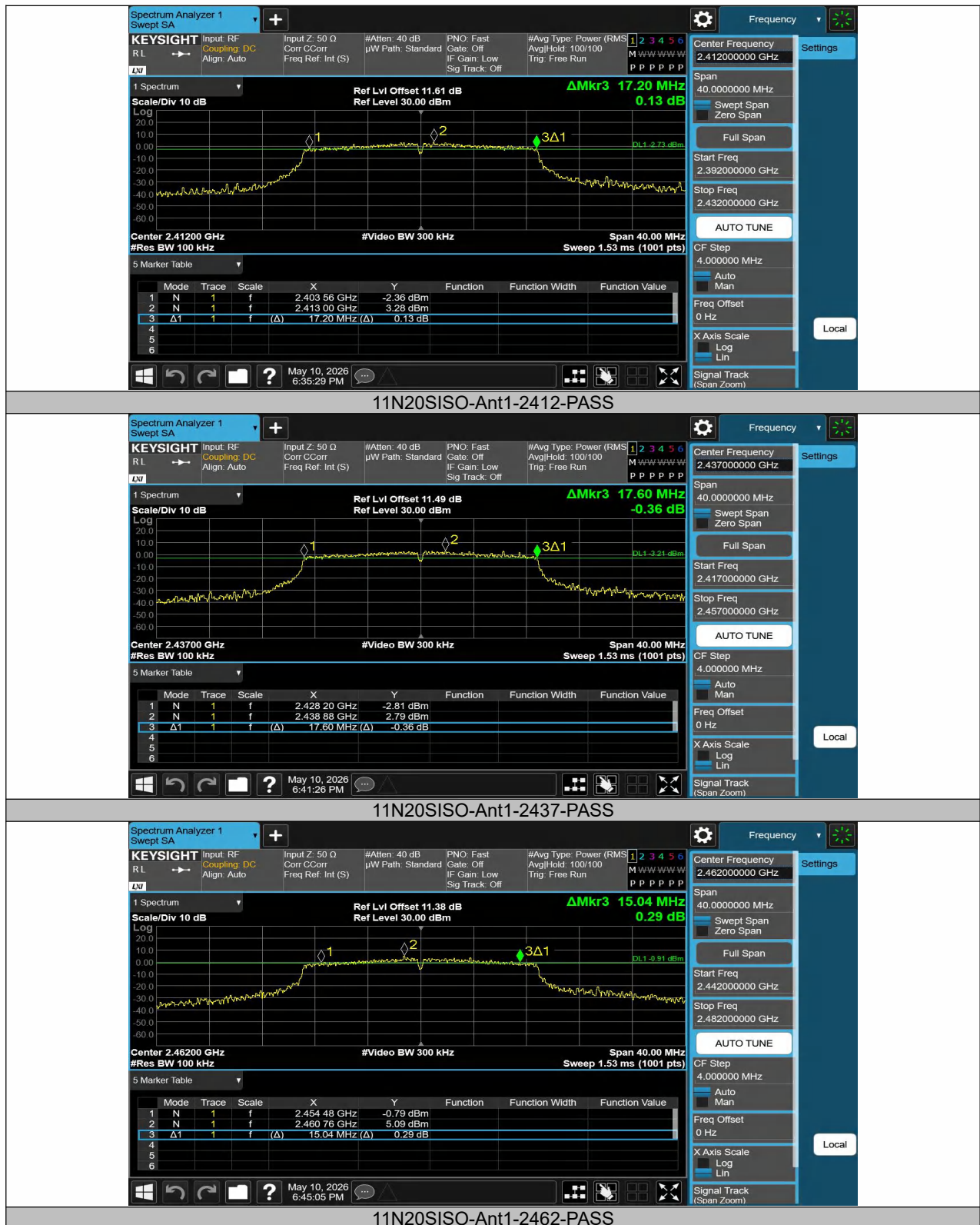
Measure and record the results in the test report.

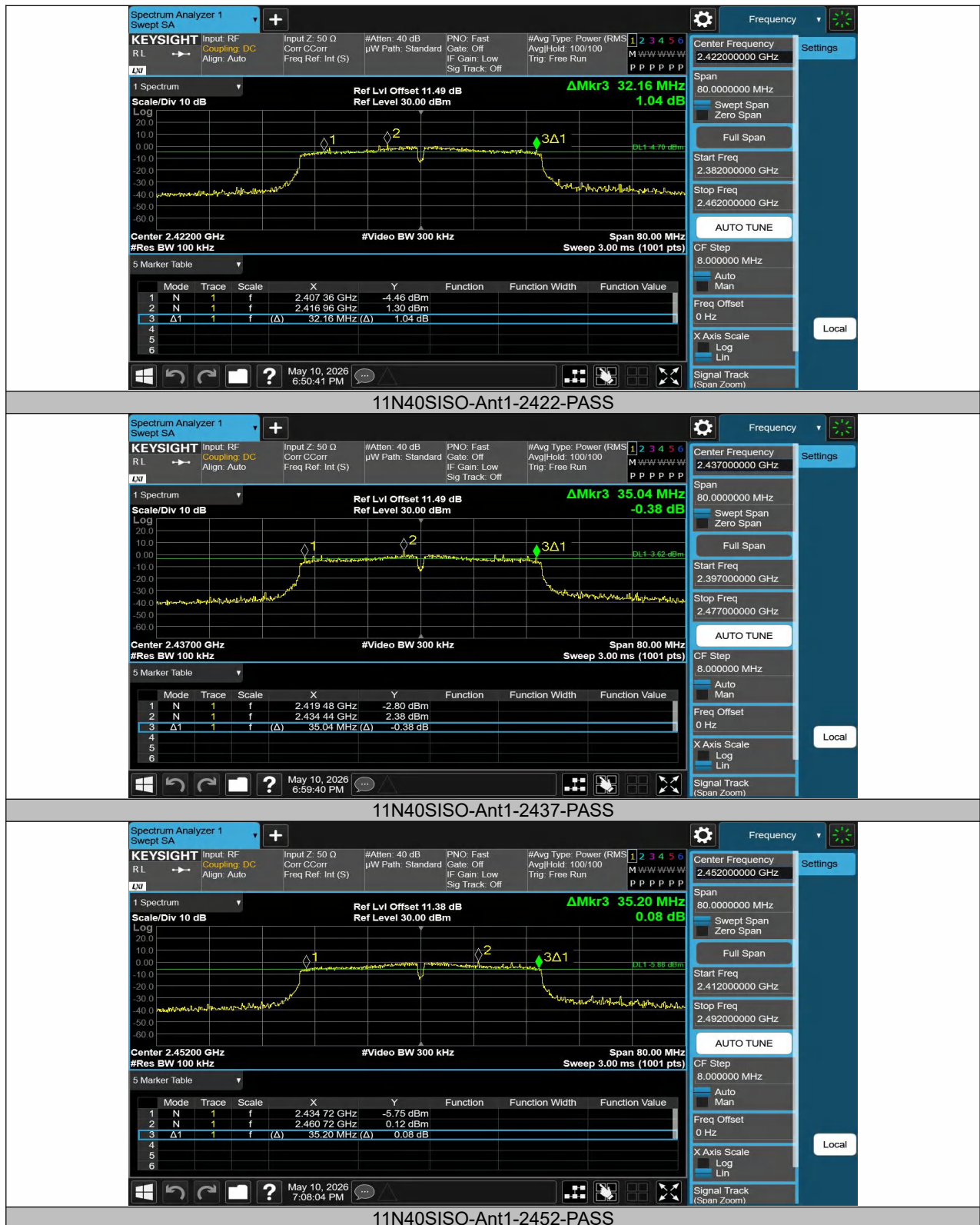
8.1.5 Test Results

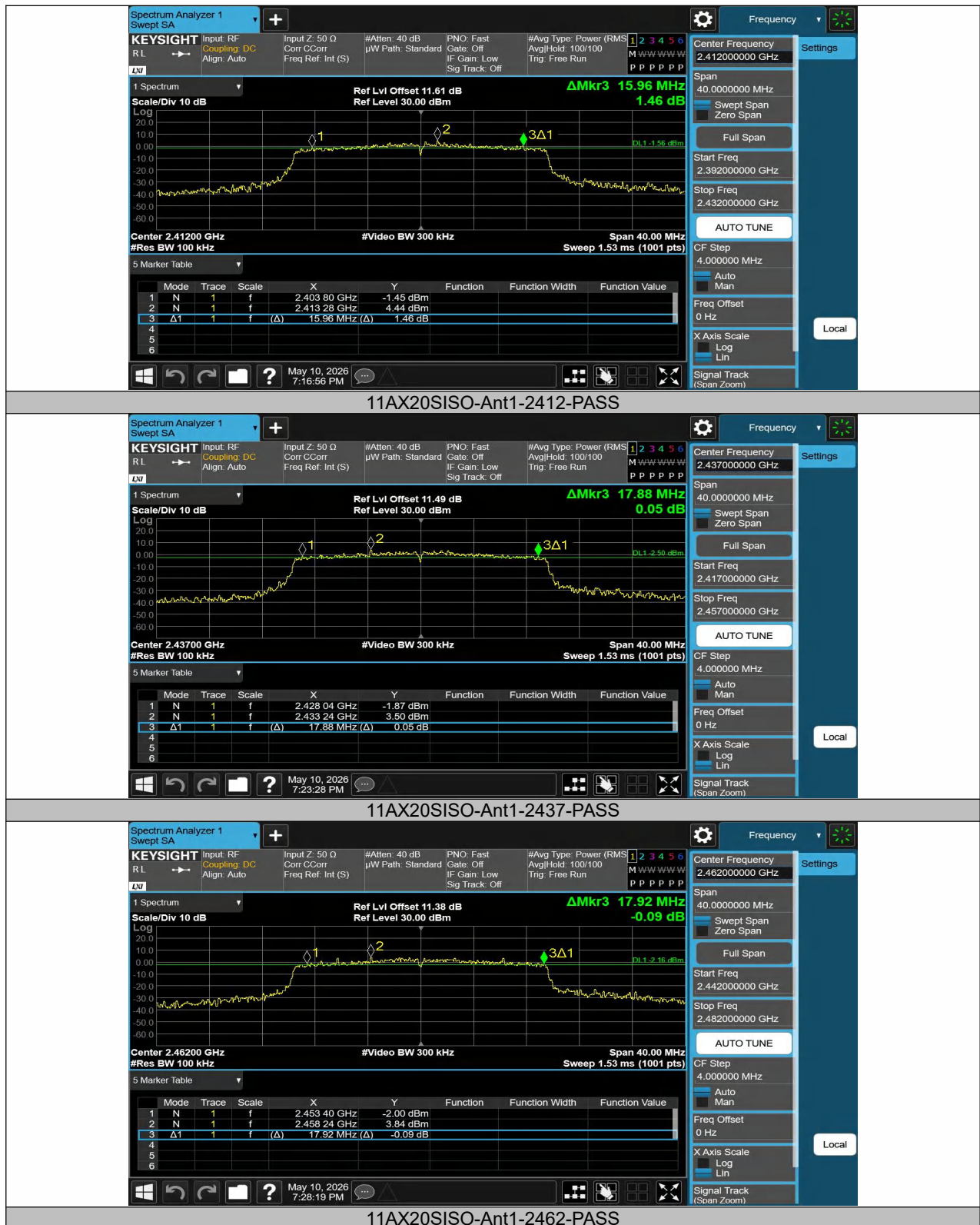
Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	8.440	2407.960	2416.400	0.5	PASS
11B	Ant1	2437	9.200	2432.400	2441.600	0.5	PASS
11B	Ant1	2462	8.760	2457.560	2466.320	0.5	PASS
11G	Ant1	2412	16.080	2404.080	2420.160	0.5	PASS
11G	Ant1	2437	16.320	2428.840	2445.160	0.5	PASS
11G	Ant1	2462	15.400	2454.480	2469.880	0.5	PASS
11N20SISO	Ant1	2412	17.200	2403.560	2420.760	0.5	PASS
11N20SISO	Ant1	2437	17.600	2428.200	2445.800	0.5	PASS
11N20SISO	Ant1	2462	15.040	2454.480	2469.520	0.5	PASS
11N40SISO	Ant1	2422	32.160	2407.360	2439.520	0.5	PASS
11N40SISO	Ant1	2437	35.040	2419.480	2454.520	0.5	PASS
11N40SISO	Ant1	2452	35.200	2434.720	2469.920	0.5	PASS
11AX20SISO	Ant1	2412	15.960	2403.800	2419.760	0.5	PASS
11AX20SISO	Ant1	2437	17.880	2428.040	2445.920	0.5	PASS
11AX20SISO	Ant1	2462	17.920	2453.400	2471.320	0.5	PASS











8.2 DTS 99%BANDWIDTH

8.2.1 Applicable Standard

According to KDB 558074 D01 DTS Meas Guidance v05r02

8.2.2 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

8.2.3 Test Procedure

The EUT was operating in Bluetooth mode and controlled its channel. Printed out the test result from the spectrum by hard copy function.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously

Set RBW = 1%-5% OBW.

Set the video bandwidth (VBW) $\geq 3 \times \text{RBW}$.

Set Span=approximately 2 to 3 times the 20 dB bandwidth.

Set Detector = Peak.

Set Trace mode = max hold.

Set Sweep = auto couple.

Allow the trace to stabilize.

Use the 99 % power bandwidth function of the instrument

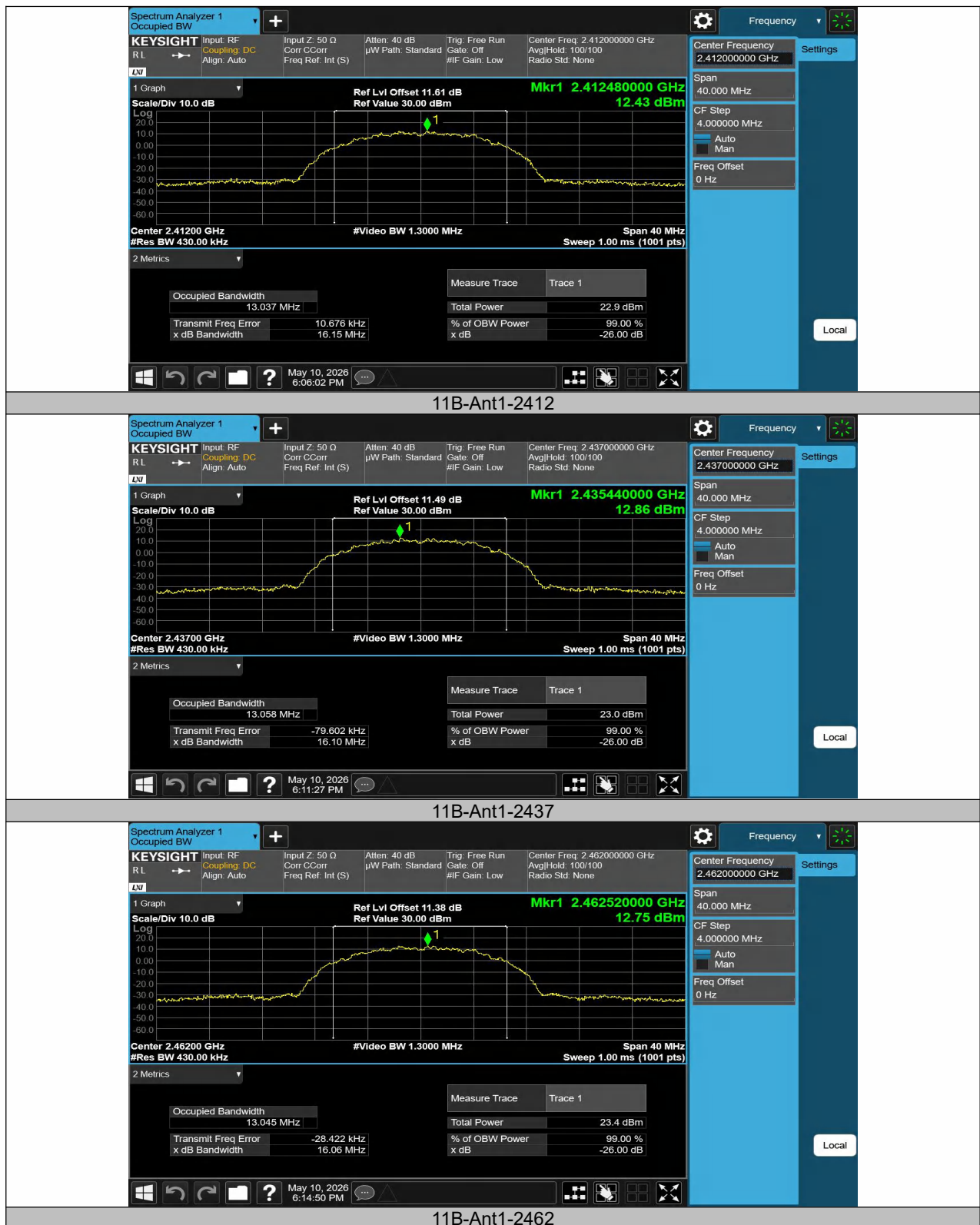
Measure the maximum width of the emission.

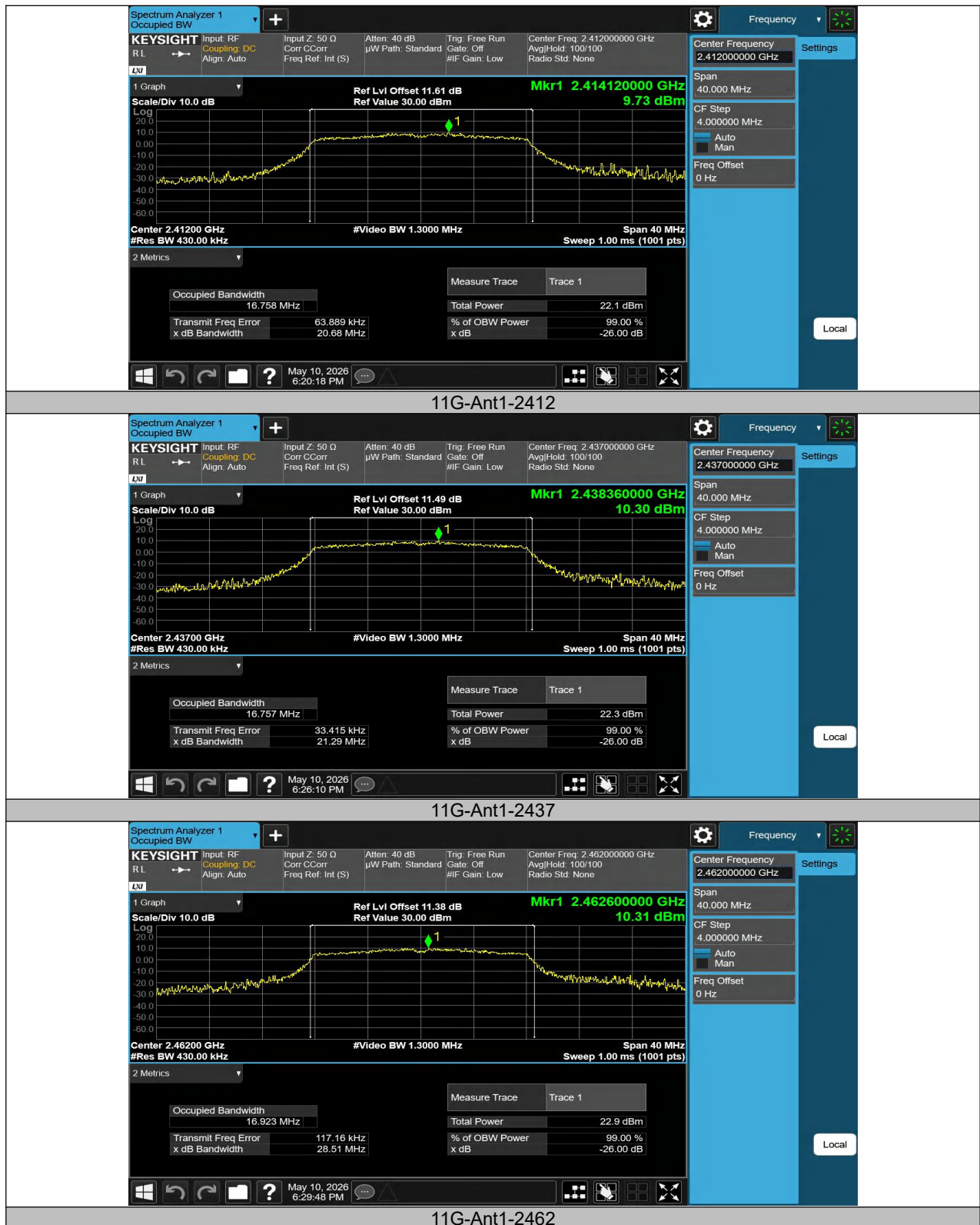
If this value varies with different modes of operation (e.g., data rate, modulation format, etc.), repeat this test for each variation.

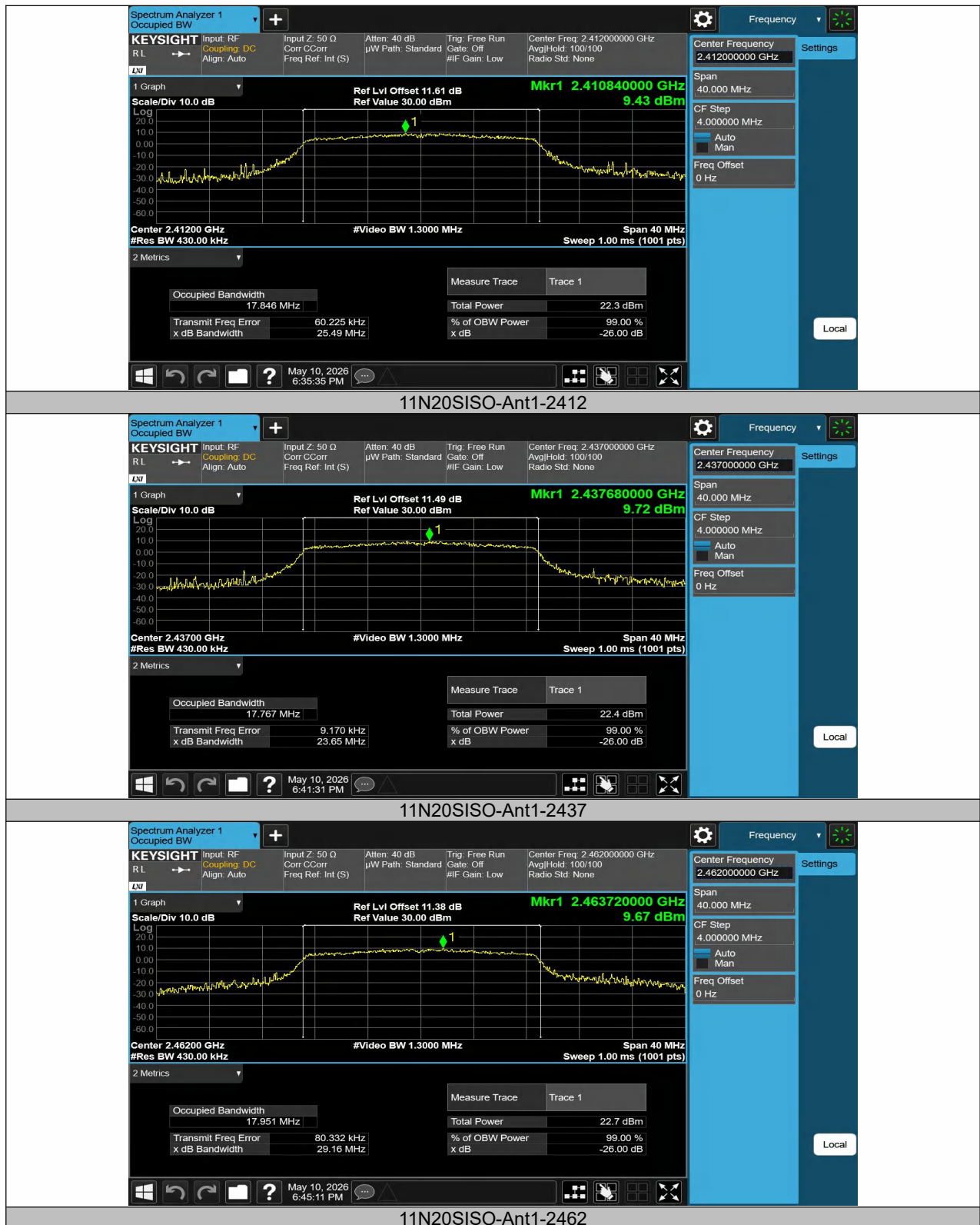
Measure and record the results in the test report.

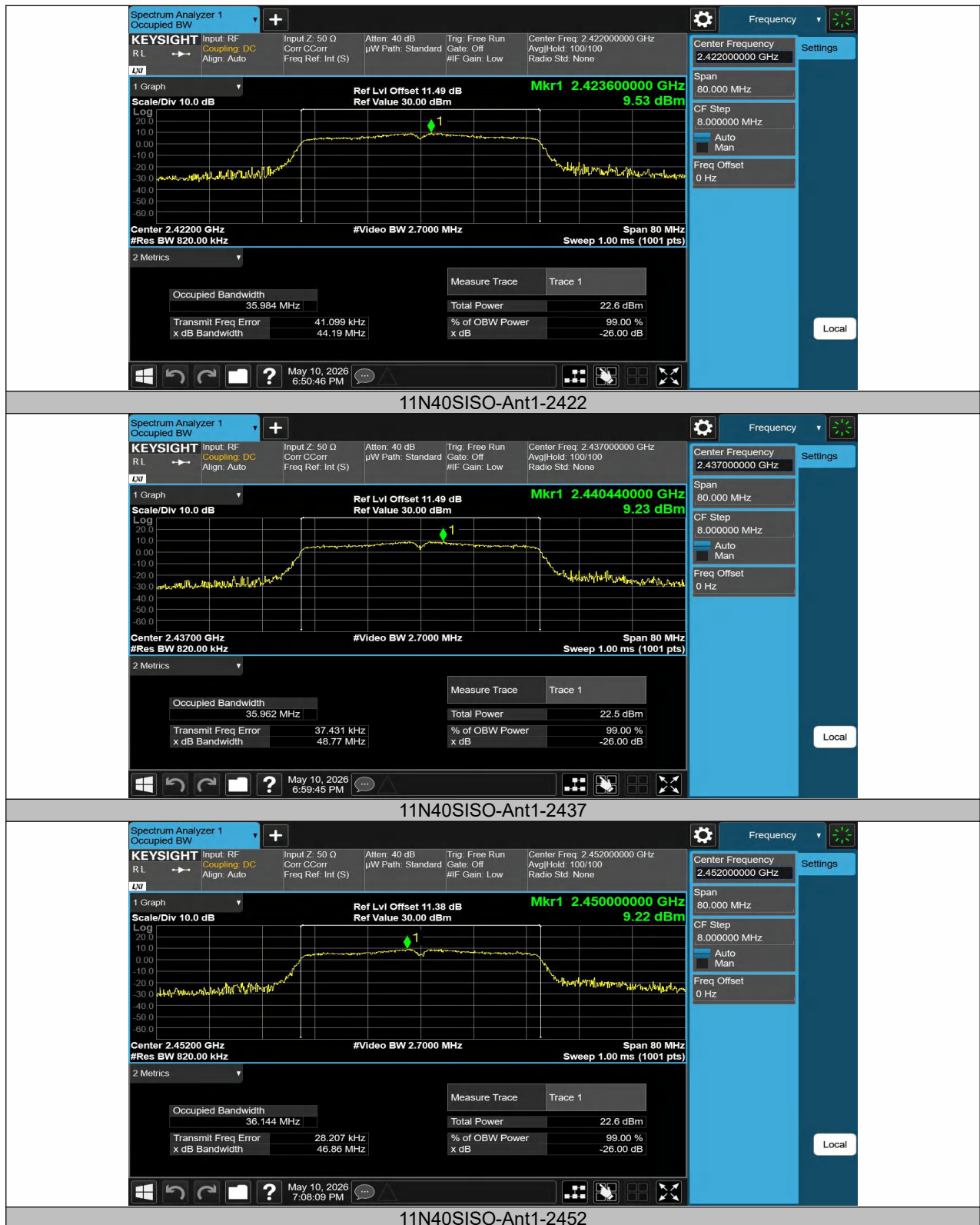
8.2.4 Test Results

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.037	2405.4922	2418.5292	---	---
11B	Ant1	2437	13.058	2430.3914	2443.4494	---	---
11B	Ant1	2462	13.045	2455.4491	2468.4941	---	---
11G	Ant1	2412	16.758	2403.6849	2420.4429	---	---
11G	Ant1	2437	16.757	2428.6549	2445.4119	---	---
11G	Ant1	2462	16.923	2453.6557	2470.5787	---	---
11N20SISO	Ant1	2412	17.846	2403.1372	2420.9832	---	---
11N20SISO	Ant1	2437	17.767	2428.1257	2445.8927	---	---
11N20SISO	Ant1	2462	17.951	2453.1048	2471.0558	---	---
11N40SISO	Ant1	2422	35.984	2404.0491	2440.0331	---	---
11N40SISO	Ant1	2437	35.962	2419.0564	2455.0184	---	---
11N40SISO	Ant1	2452	36.144	2433.9562	2470.1002	---	---
11AX20SISO	Ant1	2412	18.941	2402.5622	2421.5032	---	---
11AX20SISO	Ant1	2437	18.878	2427.5696	2446.4476	---	---
11AX20SISO	Ant1	2462	18.969	2452.5569	2471.5259	---	---











8.3 MAXIMUM AVG CONDUCTED OUTPUT POWER

8.3.1 Applicable Standard

According to FCC Part15.247 (b)(3) and KDB 558074 D01 15.247 Meas Guidance v05r02

8.3.2 Conformance Limit

The maximum conducted output power of the intentional radiator for systems using digital modulation in the 2400 - 2483.5 MHz bands shall not exceed: 1 Watt (30dBm).

8.3.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.3.4 Test Procedure

Option 1:

- a) Set span to at least 1.5 times the OBW.
- b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
- c) Set VBW $\geq 3 \times$ RBW.
- d) Number of points in sweep $\geq 2 \times$ span / RBW. (This gives bin-to-bin spacing $\leq$ RBW/2, so that narrowband signals are not lost between frequency bins.)
- e) Sweep time = auto.
- f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
- g) If transmit duty cycle < 98 %, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run” .
- h) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
- i) 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, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

Option 2:

Method AVGPM is a measurement using an RF average power meter, as follows:

- (a) As an alternative to spectrum analyzer or EMI receiver measurements, measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied:
 - (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.
- (b) If the transmitter does not transmit continuously, measure the duty cycle, D, of the transmitter output signal as described in 11.6.
- (c) Measure the average power of the transmitter. This measurement is an average over both the ON and OFF periods of the transmitter.
- (d) Correct the measurement in dBm by adding $[10 \log (1 / D)]$, where D is the duty cycle.

■ According to FCC Part 15.247(b)(4):

Conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note: If antenna Gain exceeds 6 dBi, then Output power Limit=30-(Gain- 6)

8.3.5 Test Results

Test Mode	Antenna	Frequency[MHz]	PEAK power [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	22.48	≤30.00	PASS
11B	Ant1	2437	22.76	≤30.00	PASS
11B	Ant1	2462	23.04	≤30.00	PASS
11G	Ant1	2412	23.19	≤30.00	PASS
11G	Ant1	2437	23.45	≤30.00	PASS
11G	Ant1	2462	23.89	≤30.00	PASS
11N20SISO	Ant1	2412	23.30	≤30.00	PASS
11N20SISO	Ant1	2437	23.49	≤30.00	PASS
11N20SISO	Ant1	2462	23.61	≤30.00	PASS
11N40SISO	Ant1	2422	22.72	≤30.00	PASS
11N40SISO	Ant1	2437	22.88	≤30.00	PASS
11N40SISO	Ant1	2452	23.00	≤30.00	PASS
11AX20SISO	Ant1	2412	23.61	≤30.00	PASS
11AX20SISO	Ant1	2437	24.06	≤30.00	PASS
11AX20SISO	Ant1	2462	24.41	≤30.00	PASS

Note: The power is tested using a power meter (Option 2).

8.4 MAXIMUM POWER SPECTRAL DENSITY

8.4.1 Applicable Standard

According to FCC Part15.247(e) and KDB 558074 D01 15.247 Meas Guidance v05r02

8.4.2 Conformance Limit

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of section 5.4(d), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

8.4.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.4.4 Test Procedure

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

The transmitter output (antenna port) was connected to the spectrum analyzer

Set analyzer center frequency to DTS channel center frequency.

Set the span to 1.5 times the DTS bandwidth.

Set the RBW to: 3 kHz

Set the VBW to:10 kHz.

Set Detector = peak.

Set Sweep time = auto couple.

Set Trace mode = max hold.

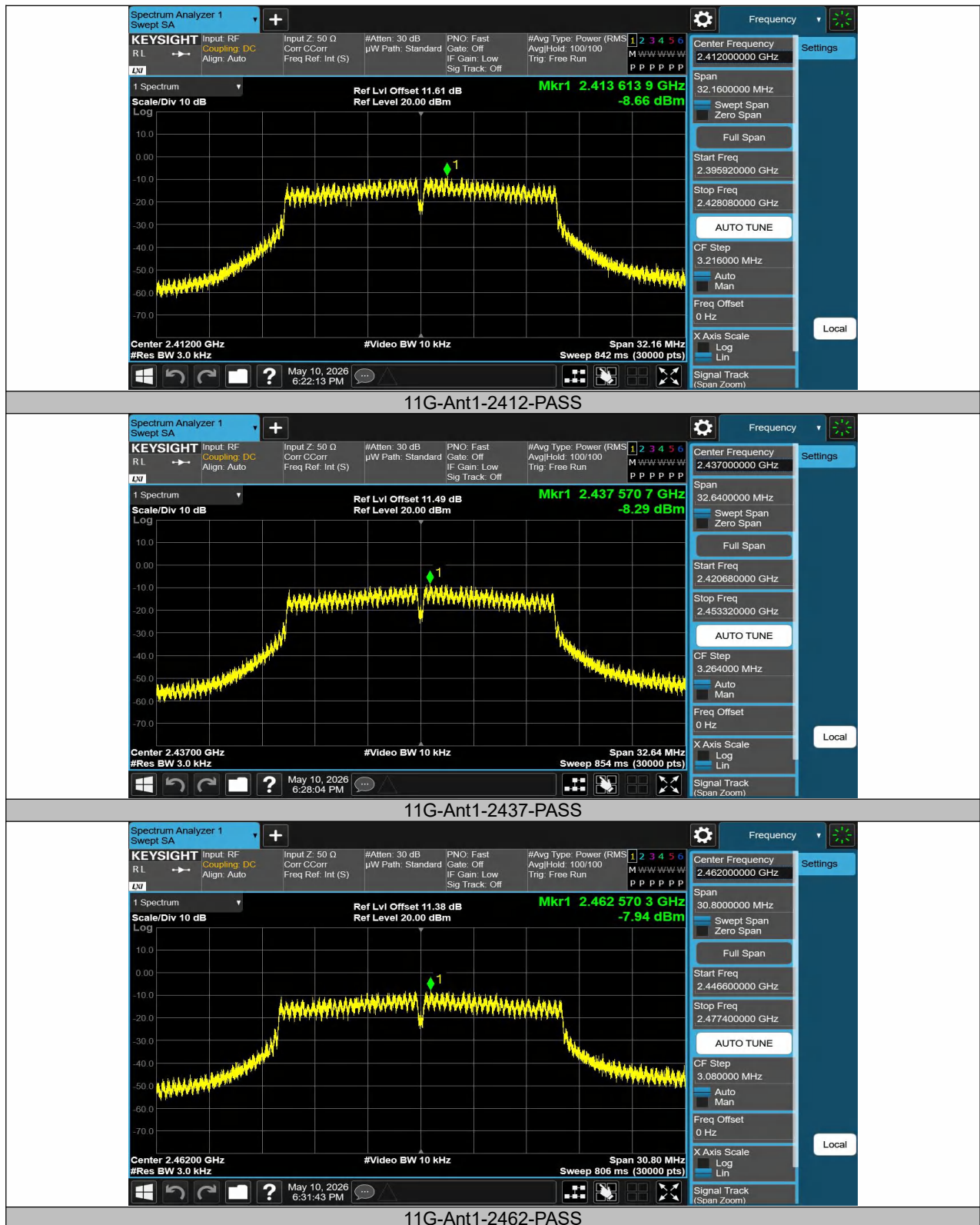
Allow trace to fully stabilize.

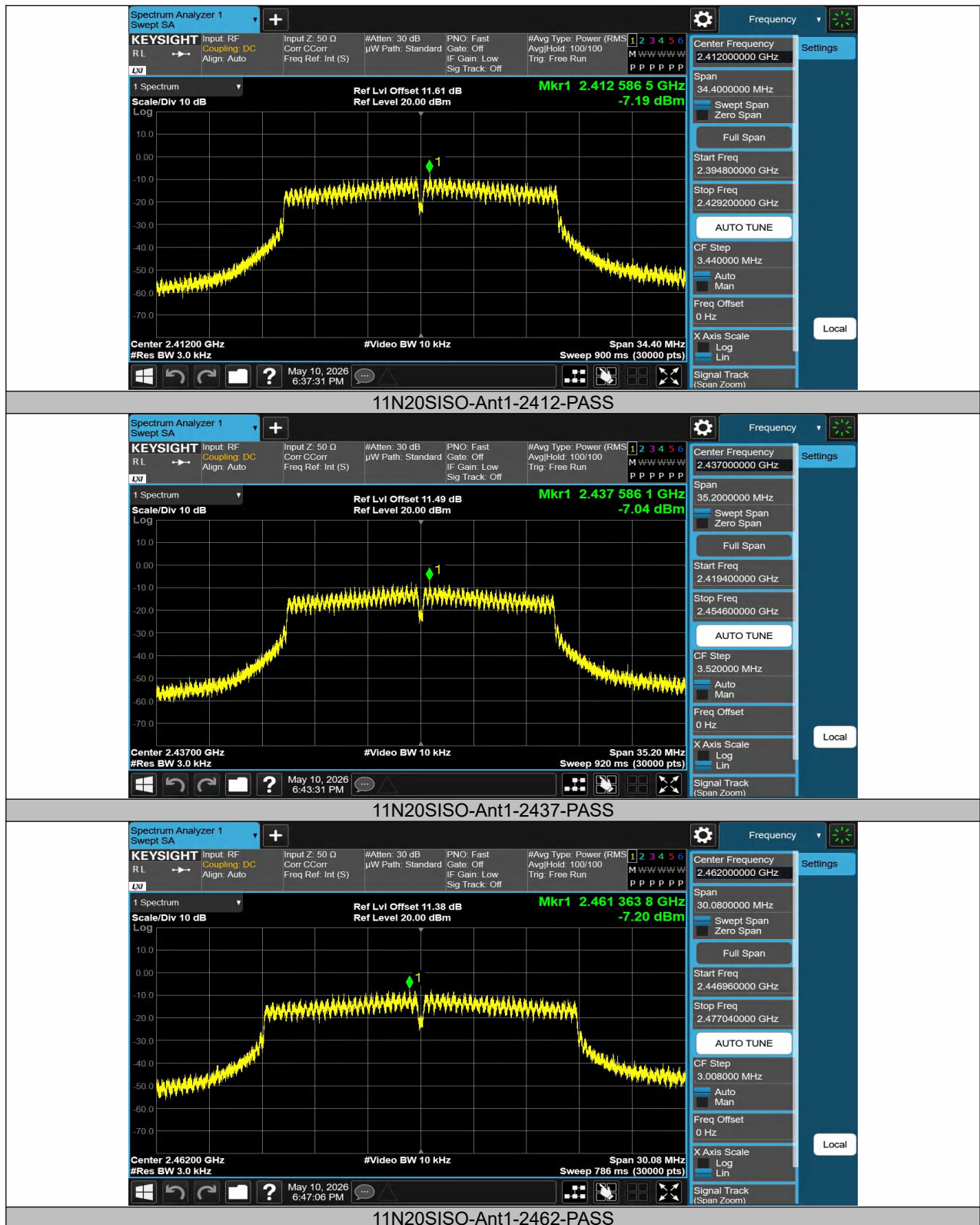
Use the peak marker function to determine the maximum amplitude level within the RBW.

8.4.5 Test Results

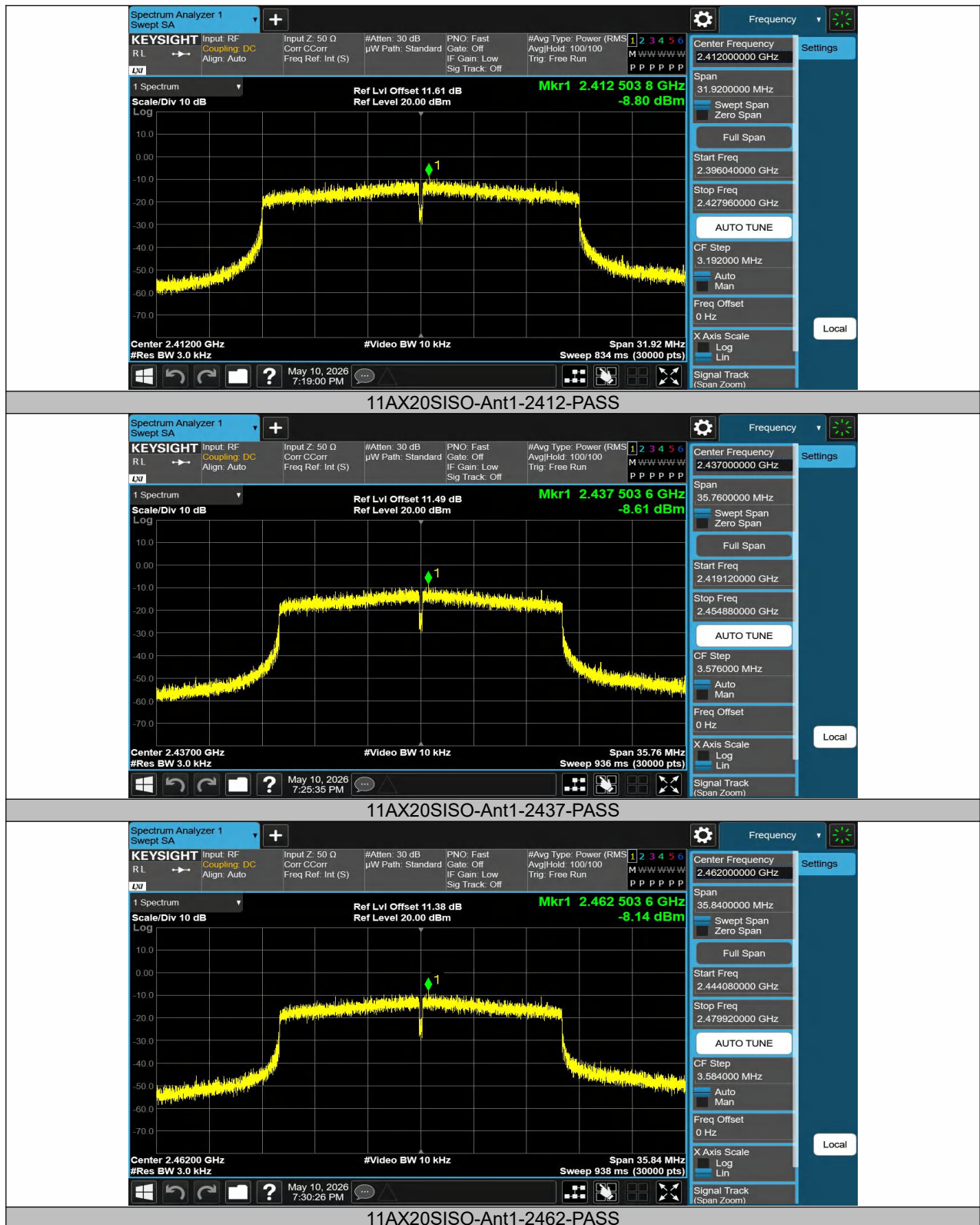
TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-5.72	≤8.00	PASS
11B	Ant1	2437	-6.06	≤8.00	PASS
11B	Ant1	2462	-5.51	≤8.00	PASS
11G	Ant1	2412	-8.66	≤8.00	PASS
11G	Ant1	2437	-8.29	≤8.00	PASS
11G	Ant1	2462	-7.94	≤8.00	PASS
11N20SISO	Ant1	2412	-7.19	≤8.00	PASS
11N20SISO	Ant1	2437	-7.04	≤8.00	PASS
11N20SISO	Ant1	2462	-7.20	≤8.00	PASS
11N40SISO	Ant1	2422	-10.24	≤8.00	PASS
11N40SISO	Ant1	2437	-10.34	≤8.00	PASS
11N40SISO	Ant1	2452	-10.20	≤8.00	PASS
11AX20SISO	Ant1	2412	-8.80	≤8.00	PASS
11AX20SISO	Ant1	2437	-8.61	≤8.00	PASS
11AX20SISO	Ant1	2462	-8.14	≤8.00	PASS











8.5 UNWANTED EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

8.5.1 Applicable Standard

According to FCC Part15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02

8.5.2 Conformance Limit

According to FCC Part 15.247(d):

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

8.5.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.5.4 Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer

■ Reference level measurement

Establish a reference level by using the following procedure:

Set instrument center frequency to DTS channel center frequency.

Set the span to ≥ 1.5 times the DTS bandwidth.

Set the RBW = 100 kHz.

Set the VBW $\geq 3 \times$ RBW.

Set Detector = peak.

Set Sweep time = auto couple.

Set Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

■ Band-edge measurement

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation

Set RBW $\geq 1\%$ of the span=100kHz Set VBW $\geq 3 \times$ RBW

Set Sweep = autoSet Detector function = peakSet Trace = max hold

Allow the trace to stabilize. Set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. The marker-delta value now displayed must comply with the limit specified in this Section.

■ Emission level measurement

Set the center frequency and span to encompass frequency range to be measured.

Set the RBW = 100 kHz.

Set the VBW =300 kHz.

Set Detector = peak

Sweep time = auto couple.

Trace mode = max hold.

Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level.
Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements . Report the three highest emissions relative to the limit.

8.5.5 Test Results

Test date:	April 22, 2026
Temperature:	23°C
Relative Humidity:	51%
ATM Pressure:	1011 mbar

■ Reference level measurement

TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
11B	Ant1	2412	2410.47	8.18
11B	Ant1	2437	2437.47	7.28
11B	Ant1	2462	2460.50	8.16
11G	Ant1	2412	2412.99	3.30
11G	Ant1	2437	2434.50	4.17
11G	Ant1	2462	2461.38	3.10
11N20SISO	Ant1	2412	2414.48	4.68
11N20SISO	Ant1	2437	2438.27	3.39
11N20SISO	Ant1	2462	2467.01	3.58
11N40SISO	Ant1	2422	2416.98	1.48
11N40SISO	Ant1	2437	2434.48	2.11
11N40SISO	Ant1	2452	2449.52	2.15
11AX20SISO	Ant1	2412	2414.49	3.78
11AX20SISO	Ant1	2437	2435.71	5.07
11AX20SISO	Ant1	2462	2464.50	5.40

■ Band-edge measurement

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	8.18	-38.07	≤-11.82	PASS
11B	Ant1	High	2462	8.16	-46.92	≤-11.84	PASS
11G	Ant1	Low	2412	3.30	-33.67	≤-16.7	PASS
11G	Ant1	High	2462	3.10	-31.86	≤-16.9	PASS
11N20SISO	Ant1	Low	2412	4.68	-32.04	≤-15.32	PASS
11N20SISO	Ant1	High	2462	3.58	-32.74	≤-16.42	PASS
11N40SISO	Ant1	Low	2422	1.48	-34.41	≤-18.52	PASS
11N40SISO	Ant1	High	2452	2.15	-31.8	≤-17.85	PASS
11AX20SISO	Ant1	Low	2412	3.78	-32.88	≤-16.22	PASS
11AX20SISO	Ant1	High	2462	5.40	-33.13	≤-14.6	PASS

Emission level measurement

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	30~1000	8.18	-60.32	≤-11.82	PASS
11B	Ant1	2412	1000~26500	8.18	-47.92	≤-11.82	PASS
11B	Ant1	2437	30~1000	7.28	-60.98	≤-12.72	PASS
11B	Ant1	2437	1000~26500	7.28	-48.8	≤-12.72	PASS
11B	Ant1	2462	30~1000	8.16	-61.22	≤-11.84	PASS
11B	Ant1	2462	1000~26500	8.16	-49.5	≤-11.84	PASS
11G	Ant1	2412	30~1000	3.30	-60.62	≤-16.7	PASS
11G	Ant1	2412	1000~26500	3.30	-49.19	≤-16.7	PASS
11G	Ant1	2437	30~1000	4.17	-61.2	≤-15.83	PASS
11G	Ant1	2437	1000~26500	4.17	-47.94	≤-15.83	PASS
11G	Ant1	2462	30~1000	3.10	-60.84	≤-16.9	PASS
11G	Ant1	2462	1000~26500	3.10	-48.54	≤-16.9	PASS
11N20SISO	Ant1	2412	30~1000	4.68	-60.96	≤-15.32	PASS
11N20SISO	Ant1	2412	1000~26500	4.68	-48.54	≤-15.32	PASS
11N20SISO	Ant1	2437	30~1000	3.39	-60.55	≤-16.61	PASS
11N20SISO	Ant1	2437	1000~26500	3.39	-47.83	≤-16.61	PASS
11N20SISO	Ant1	2462	30~1000	3.58	-61.31	≤-16.42	PASS
11N20SISO	Ant1	2462	1000~26500	3.58	-47.25	≤-16.42	PASS
11N40SISO	Ant1	2422	30~1000	1.48	-61.19	≤-18.52	PASS
11N40SISO	Ant1	2422	1000~26500	1.48	-48.99	≤-18.52	PASS
11N40SISO	Ant1	2437	30~1000	2.11	-61.38	≤-17.89	PASS
11N40SISO	Ant1	2437	1000~26500	2.11	-48.64	≤-17.89	PASS
11N40SISO	Ant1	2452	30~1000	2.15	-61.21	≤-17.85	PASS
11N40SISO	Ant1	2452	1000~26500	2.15	-48.56	≤-17.85	PASS
11AX20SISO	Ant1	2412	30~1000	3.78	-61.14	≤-16.22	PASS
11AX20SISO	Ant1	2412	1000~26500	3.78	-49.06	≤-16.22	PASS
11AX20SISO	Ant1	2437	30~1000	5.07	-60.7	≤-14.93	PASS
11AX20SISO	Ant1	2437	1000~26500	5.07	-48.77	≤-14.93	PASS
11AX20SISO	Ant1	2462	30~1000	5.40	-61.53	≤-14.6	PASS
11AX20SISO	Ant1	2462	1000~26500	5.40	-48.61	≤-14.6	PASS