



FCC RF Test Report

(Bluetooth)

Report No.: JYTSZ-R12-2400051

Applicant: INFINIX MOBILITY LIMITED

Address of Applicant: FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE
19-25 SHAN MEI STREET FOTAN NT HONGKONG

Equipment Under Test (EUT)

Product Name: Mobile Phone

Model No.: X6851B

Trade Mark: Infinix

FCC ID: 2AIZN-X6851B

Applicable Standards: FCC CFR Title 47 Part 15C (§15.247)

Date of Sample Receipt: 11 Jan., 2024

Date of Test: 12 Jan., to 12 Mar., 2024

Date of Report Issued: 17 Mar., 2024

Test Result: PASS

Project by:

Liwei Ding
Project Engineer

Date:

17 Mar., 2024

Reviewed by:

Sebo Chang
Senior Engineer

Date:

17 Mar., 2024

Approved by:

Janet Wei
Manager

Date:

17 Mar., 2024

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in above the application standard version. Test results reported herein relate only to the item(s) tested.

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1 Version

Version No.	Date	Description
00	17 Mar., 2024	Original

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3 General Information

3.1 Client Information

Applicant:	INFINIX MOBILITY LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Manufacturer:	INFINIX MOBILITY LIMITED
Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Factory:	SHENZHEN TECNO TECHNOLOGY CO., LTD.
Address:	101, Building 24, Waijing Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen City, P.R.China

3.2 General Description of E.U.T.

Product Name:	Mobile Phone
Model No.:	X6851B
Operation Frequency:	2402 MHz - 2480 MHz
Transfer Rate:	1/2/3 Mbits/s
Number of Channel:	79
Modulation Type:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Modulation Technology:	FHSS
Antenna Type:	Internal Antenna
Antenna Gain:	ANT 8: -3.88 dBi (declare by applicant) ANT 13: -1.91 dBi (declare by applicant)
Antenna transmit mode:	SISO (1TX, 1RX) (with ANT 8 and ANT 13 and they stand alone to transmit)
Power Supply:	Rechargeable Li-ion Polymer Battery DC3.91V, 4500mAh
AC Adapter:	Model: U1000XSA Input: AC100-240V, 50/60Hz, 2.3A Output: DC 5.0V, 3.0A 15.0W or DC 5.0V-11.0V, 9.1A or DC 4.0V-20.0V, 5.0A 100.0W MAX
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

3.3 Test Mode and Test Environment

Test Modes:	
Non-hopping mode:	Keep the EUT in continuous transmitting mode.
Hopping mode:	Keep the EUT in hopping mode.
Remark: 1. For AC power line conducted emission and radiated spurious emission, pre-scan GFSK, $\pi/4$ -DQPSK, 8DPSK modulation mode, found GFSK modulation was worse case mode. The report only reflects the test data of worst mode. 2. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing. The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for these modes. Just the worst case position (H mode) shown in report.	
Operating Environment:	
Temperature:	15°C ~ 35°C
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1008 mbar
Voltage:	Nominal: 3.91Vdc, Extreme: Low 3.45Vdc, High 4.50Vdc
Test Engineer:	Logan Li(Conducted measurement)

3.4 Description of Test Auxiliary Equipment

The EUT has been tested as an independent unit.

3.5 Measurement Uncertainty

Please refer to FCC ID: 2AIZN-X6851, report No.: JYTSZ-R12-2301779.

3.6 Additions to, Deviations, or Exclusions From the Method

No

3.7 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

● **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L15527**

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

● **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <https://portal.a2la.org/scopepdf/4346-01.pdf>

3.8 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: <http://jyt.lets.com>

3.9 Test Instruments List

Conducted Method:					
Test Equipment	Manufacturer	Model No.	Manage No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
Spectrum Analyzer	Keysight	N9010B	WXJ004-3	11-01-2023	10-31-2024
Temperature Humidity Chamber	ZHONG ZHI	CZ-A-80D	WXJ032-3	01-09-2023	01-08-2025
Power Detector Box	MWRFTTEST	MW100-PSB	WXJ007-4	09-25-2023	09-24-2024
DC Power Supply	Keysight	E3642A	WXJ025-2	N/A	
RF Control Unit	MWRFTTEST	MW100-RFCB	WXG006	N/A	
Test Software	MWRFTTEST	MTS 8310	Version: 2.0.0.0		

4 Measurement Setup and Procedure

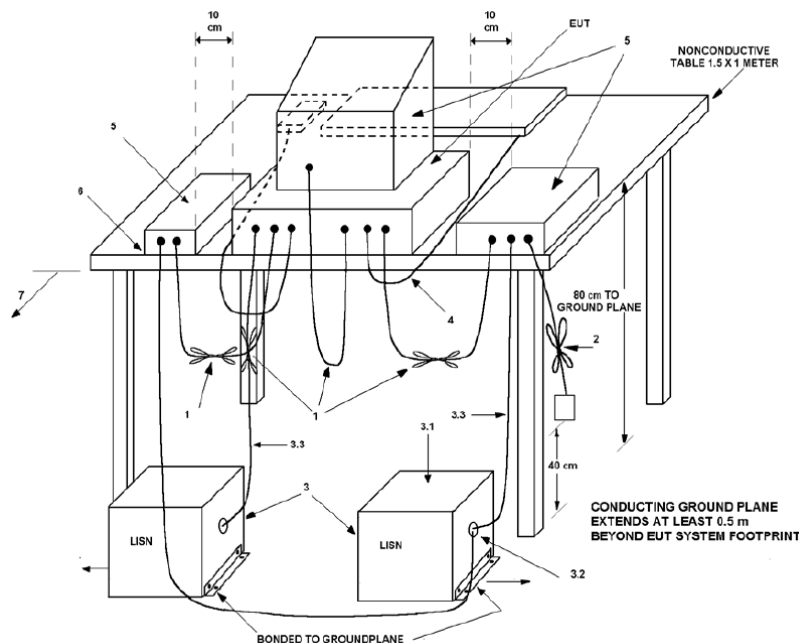
4.1 Test Channel

According to ANSI C63.10-2013 chapter 5.6.1 Table 4 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

Lowest channel		Middle channel		Highest channel	
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
0	2402	39	2441	78	2480

4.2 Test Setup

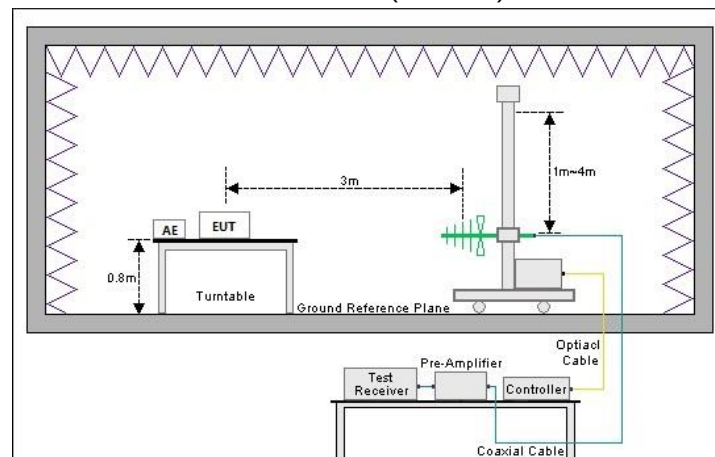
1) Conducted emission measurement:

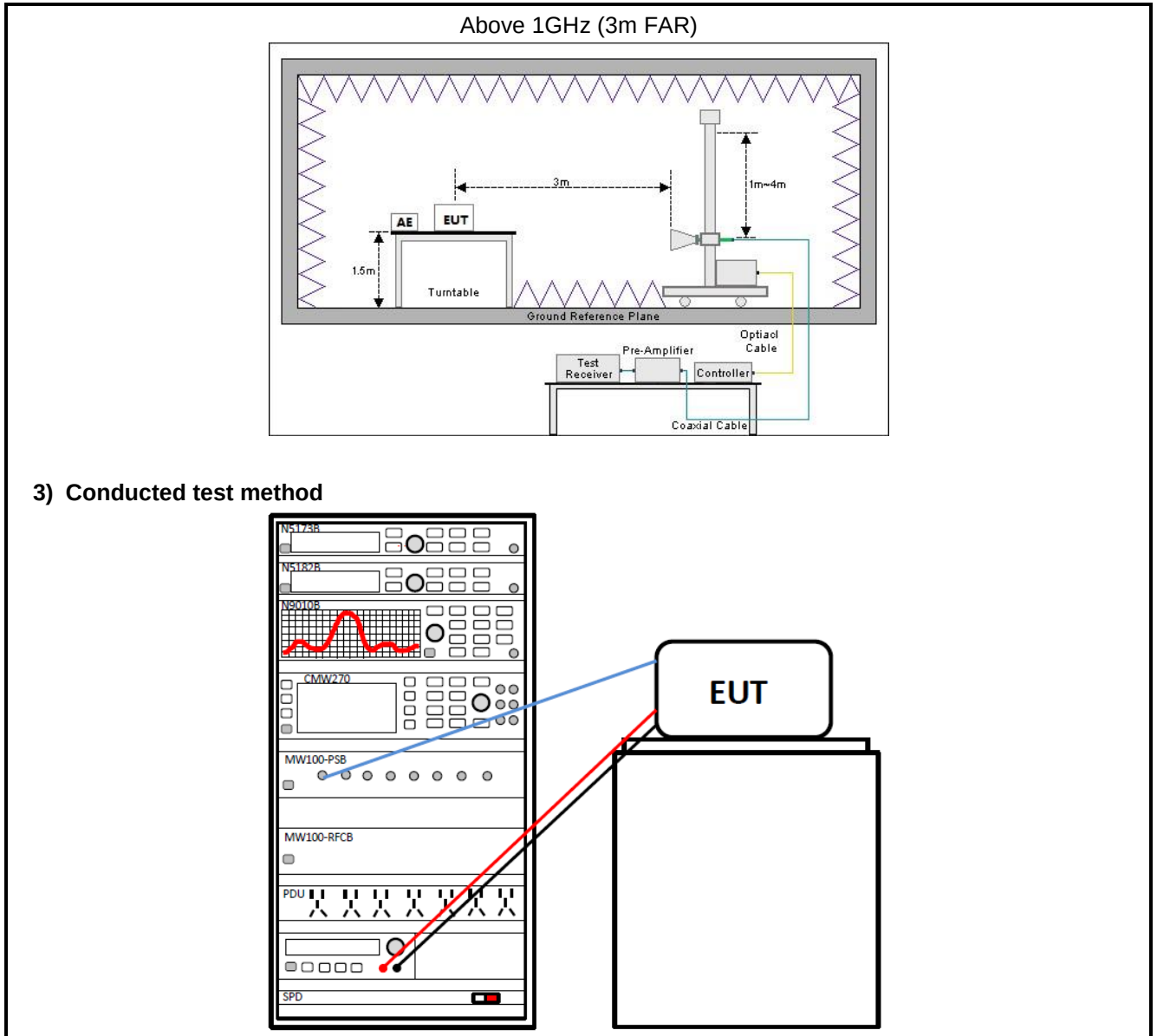


Note: The detailed descriptions please refer to Figure 8 of ANSI C63.4:2014.

2) Radiated emission measurement:

Below 1GHz (3m SAC)





4.3 Test Procedure

Test method	Test step
Conducted emission	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
Radiated emission	For below 1GHz: 1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m. 2. EUT works in each mode of operation that needs to be tested, and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. 3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data. For above 1GHz: 1. The EUT was placed on the tabletop of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m. 2. EUT works in each mode of operation that needs to be tested, and having the EUT continuously working, respectively on 3 axis (X, Y & Z) and considered typical configuration to obtain worst position. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations. 3. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.
Conducted test method	1. The Bluetooth antenna port of EUT was connected to the test port of the test system through an RF cable. 2. The EUT is keeping in continuous transmission mode and tested in all modulation modes. 3. Open the test software, prepare a test plan, and control the system through the software. After the test is completed, the test report is exported through the test software.

5 Test Results

5.1 Summary

5.1.1 Clause and data summary

This report is revised according to the JYTSZ-R12-2301779 report, FCC ID: 2AIZN-X6851 issued by JianYan Testing Group Shenzhen Co., Ltd. Differences: The X6851B has one more HL3179 fast charge chip and peripheral devices than the X6851. The X6851B and X6851 battery connectors are different. The X6851 charges 45W and the X6851B charges 100W. The appearance of the prototype is different in color. And model update, so need to spot-check BT Conducted Output Power.

Test items	Standard clause	Test data	Result
Antenna Requirement	15.203 15.247 (b)(4)	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
AC Power Line Conducted Emission	15.207	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
Conducted Output Power	15.247 (b)(1)	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
20dB Occupied Bandwidth	15.247 (a)(1)	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
Carrier Frequencies Separation	15.247 (a)(1)	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
Hopping Channel Number	5.247 (a)(1)(iii)	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
Dwell Time	15.247 (a)(1)(iii)	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
Band-edge Emission Conduction Spurious Emission	15.247 (d)	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
Emissions in Restricted Frequency Bands	15.205 15.247 (d)	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
Emissions in Non-restricted Frequency Bands	15.209 15.247(d)	Please refer to report No.: JYTSZ-R12-2301779.	Please refer to report No.: JYTSZ-R12-2301779.
Remark: 1. Please refer to FCC ID: 2AIZN-X6851, report No.: JYTSZ-R12-2301779 issue by JianYan Testing Group Shenzhen Co., Ltd. 2. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).			
Test Method:	ANSI C63.10-2013 KDB 558074 D01 15.247 Meas Guidance v05r02		

5.1.2 Test Limit

Test items	Limit																														
AC Power Line Conducted Emission	<table><tr><th rowspan="2">Frequency (MHz)</th><th colspan="2">Limit (dBμV)</th></tr><tr><th>Quasi-Peak</th><th>Average</th></tr><tr><td>0.15 – 0.5</td><td>66 to 56 Note 1</td><td>56 to 46 Note 1</td></tr><tr><td>0.5 – 5</td><td>56</td><td>46</td></tr><tr><td>5 – 30</td><td>60</td><td>50</td></tr></table> Note 1: The limit level in dBμV decreases linearly with the logarithm of frequency. Note 2: The more stringent limit applies at transition frequencies.	Frequency (MHz)	Limit (dBμV)		Quasi-Peak	Average	0.15 – 0.5	66 to 56 Note 1	56 to 46 Note 1	0.5 – 5	56	46	5 – 30	60	50																
Frequency (MHz)	Limit (dBμV)																														
	Quasi-Peak	Average																													
0.15 – 0.5	66 to 56 Note 1	56 to 46 Note 1																													
0.5 – 5	56	46																													
5 – 30	60	50																													
Conducted Output Power	For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.																														
20dB Occupied Bandwidth	Within authorization band																														
Carrier Frequencies Separation	a) 0.025MHz or the 20dB bandwidth (whichever is greater). b) 0.025MHz or two-thirds of the 20dB bandwidth (whichever is greater).																														
Hopping Channel Number	At least 15 channels.																														
Dwell Time	Not be greater than 0.4 seconds.																														
Band-edge Emission Conduction Spurious Emission	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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 the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).																														
Emissions in Restricted Frequency Bands Emissions in Non-restricted Frequency Bands	<table><tr><th rowspan="2">Frequency (MHz)</th><th colspan="2">Limit (dBμV/m)</th><th rowspan="2">Detector</th></tr><tr><th>@ 3m</th><th>@ 10m</th></tr><tr><td>30 – 88</td><td>40.0</td><td>30.0</td><td>Quasi-peak</td></tr><tr><td>88 – 216</td><td>43.5</td><td>33.5</td><td>Quasi-peak</td></tr><tr><td>216 – 960</td><td>46.0</td><td>36.0</td><td>Quasi-peak</td></tr><tr><td>960 – 1000</td><td>54.0</td><td>44.0</td><td>Quasi-peak</td></tr></table> Note: The more stringent limit applies at transition frequencies. <table><tr><th rowspan="2">Frequency</th><th colspan="2">Limit (dBμV/m) @ 3m</th></tr><tr><th>Average</th><th>Peake</th></tr><tr><td>Above 1 GHz</td><td>54.0</td><td>74.0</td></tr></table> Note: The measurement bandwidth shall be 1 MHz or greater.	Frequency (MHz)	Limit (dBμV/m)		Detector	@ 3m	@ 10m	30 – 88	40.0	30.0	Quasi-peak	88 – 216	43.5	33.5	Quasi-peak	216 – 960	46.0	36.0	Quasi-peak	960 – 1000	54.0	44.0	Quasi-peak	Frequency	Limit (dBμV/m) @ 3m		Average	Peake	Above 1 GHz	54.0	74.0
Frequency (MHz)	Limit (dBμV/m)		Detector																												
	@ 3m	@ 10m																													
30 – 88	40.0	30.0	Quasi-peak																												
88 – 216	43.5	33.5	Quasi-peak																												
216 – 960	46.0	36.0	Quasi-peak																												
960 – 1000	54.0	44.0	Quasi-peak																												
Frequency	Limit (dBμV/m) @ 3m																														
	Average	Peake																													
Above 1 GHz	54.0	74.0																													

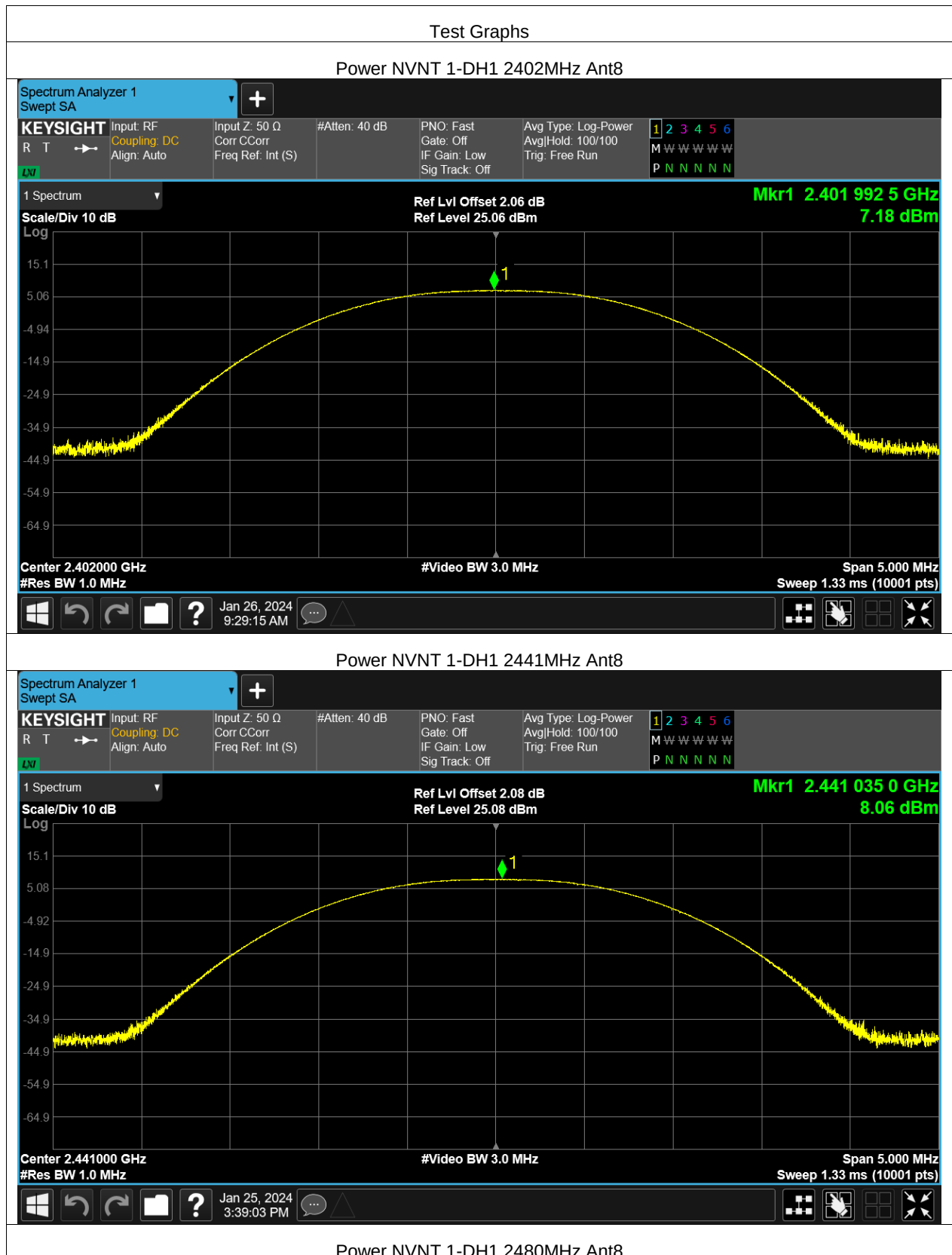
5.2 Conducted Output Power Spot-check

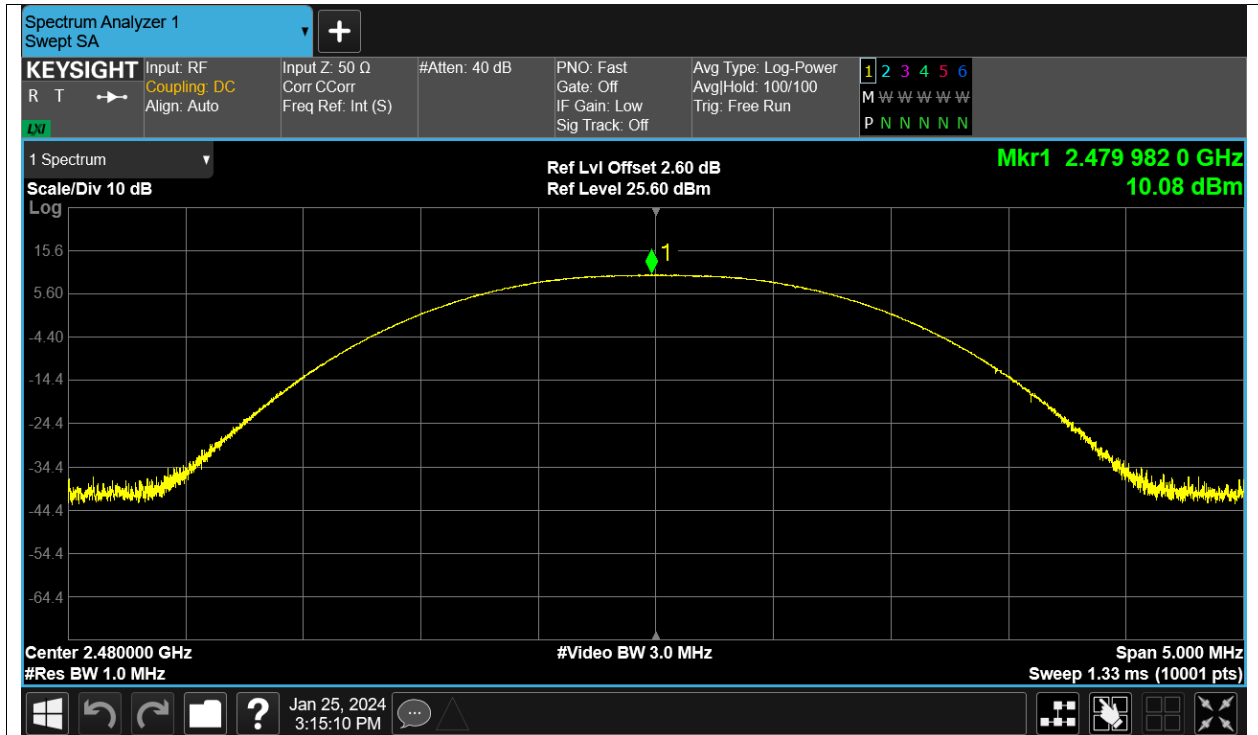
ANT 8:

Test Data

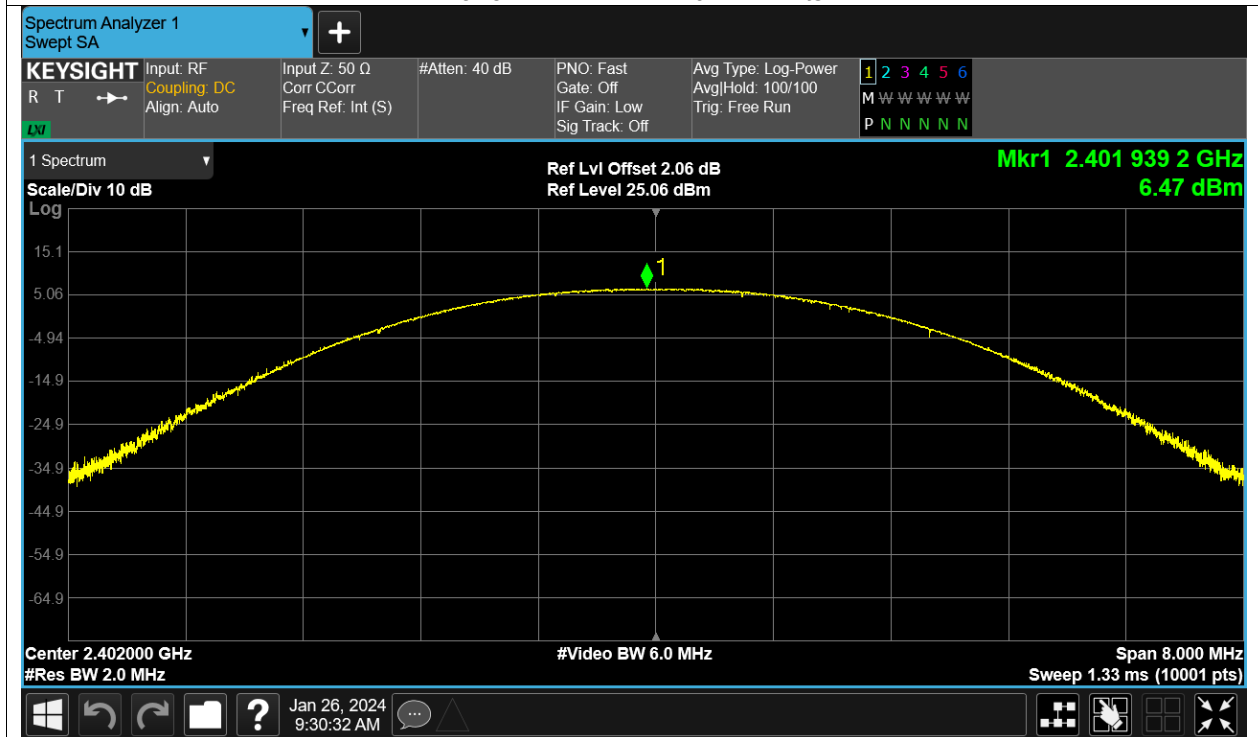
Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant8	7.183	30	Pass
NVNT	1-DH1	2441	Ant8	8.065	30	Pass
NVNT	1-DH1	2480	Ant8	10.084	30	Pass
NVNT	2-DH1	2402	Ant8	6.472	21	Pass
NVNT	2-DH1	2441	Ant8	7.387	21	Pass
NVNT	2-DH1	2480	Ant8	9.406	21	Pass
NVNT	3-DH1	2402	Ant8	6.247	21	Pass
NVNT	3-DH1	2441	Ant8	6.791	21	Pass
NVNT	3-DH1	2480	Ant8	9.013	21	Pass

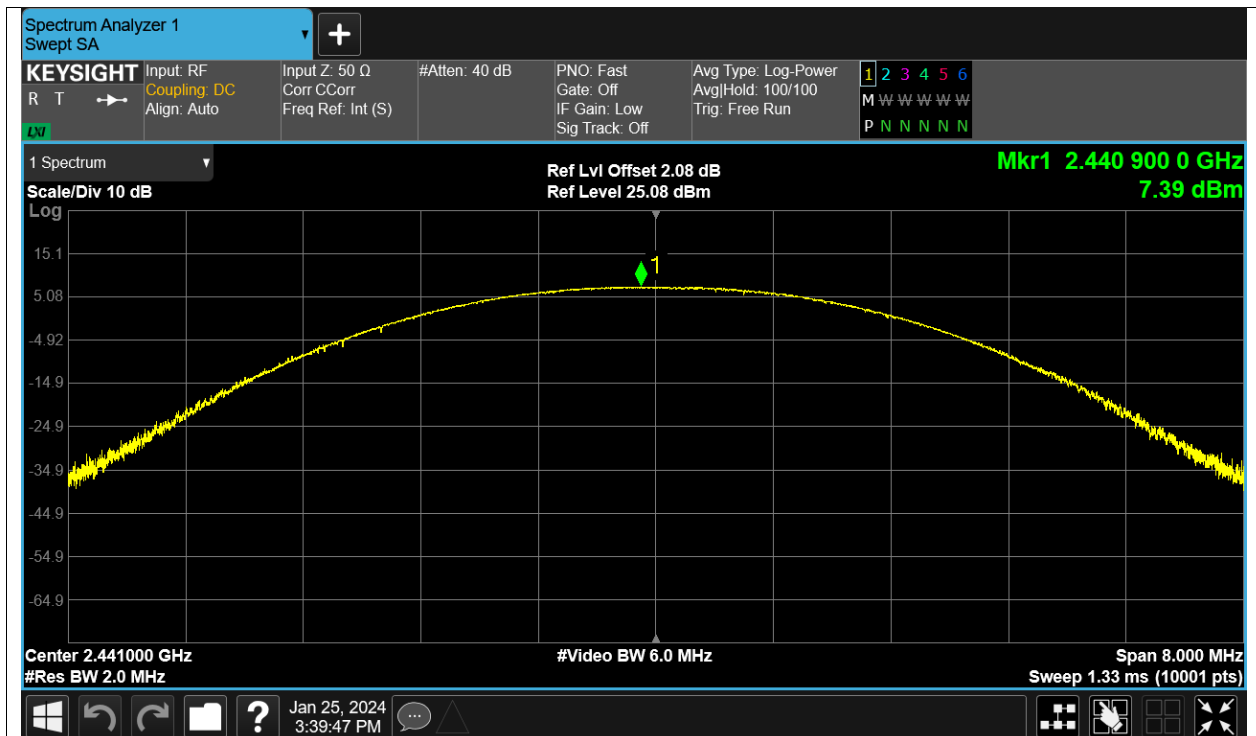




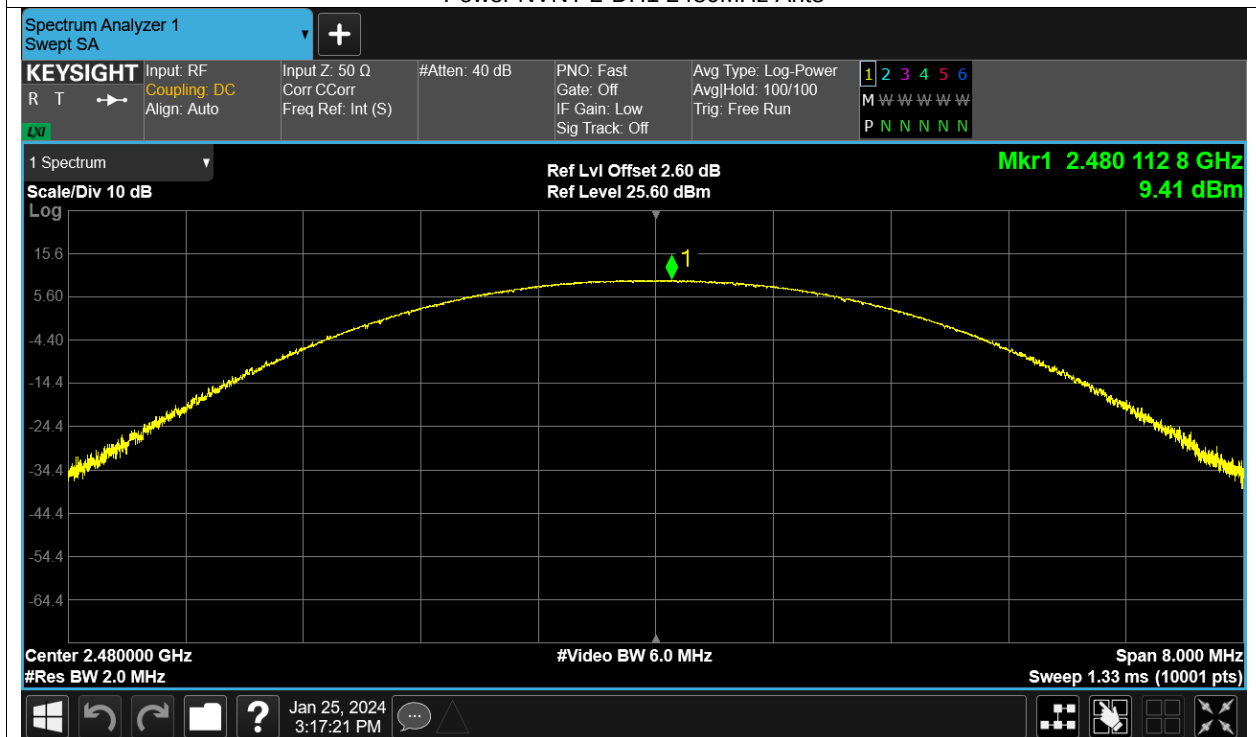
Power NVNT 2-DH1 2402MHz Ant8



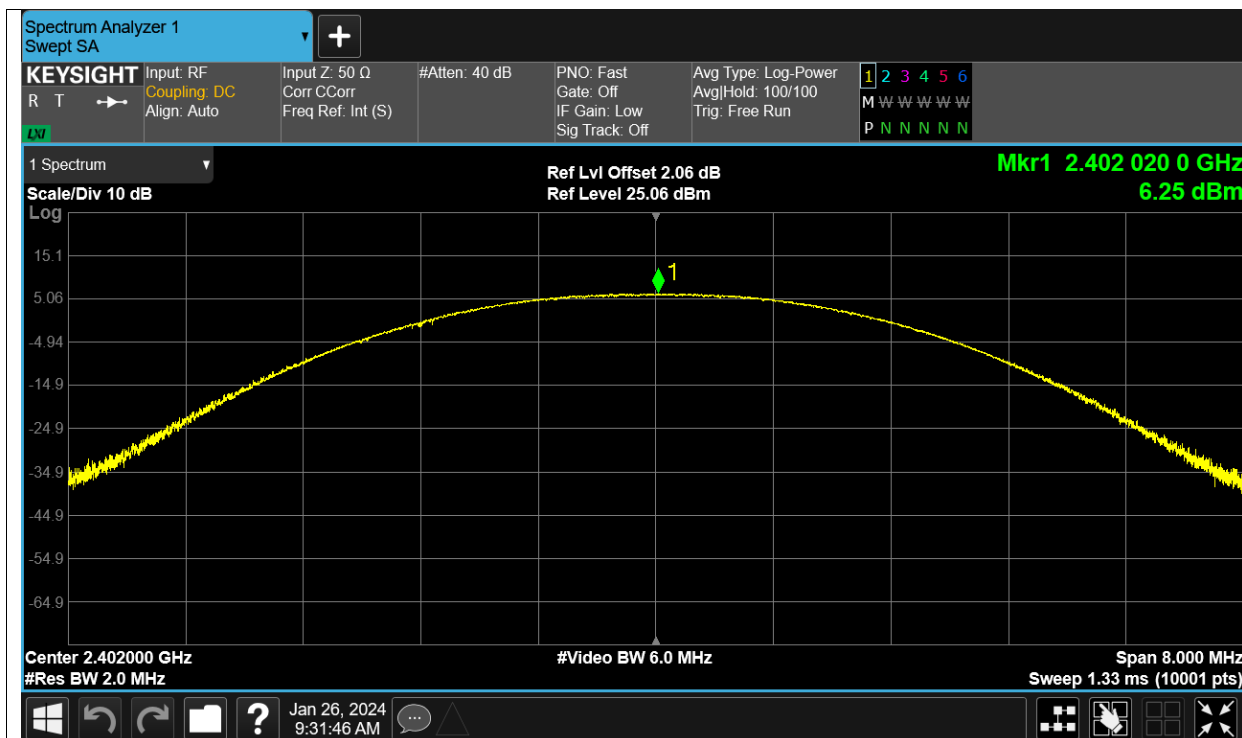
Power NVNT 2-DH1 2441MHz Ant8



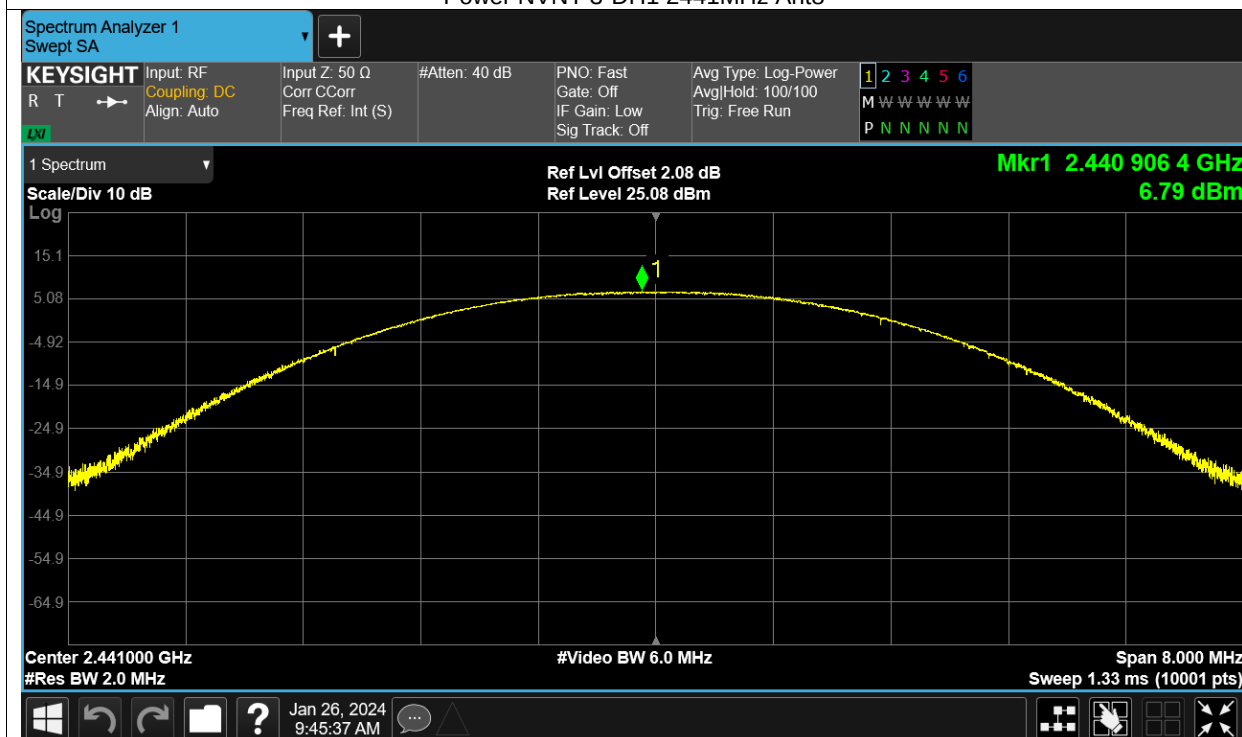
Power NVNT 2-DH1 2480MHz Ant8



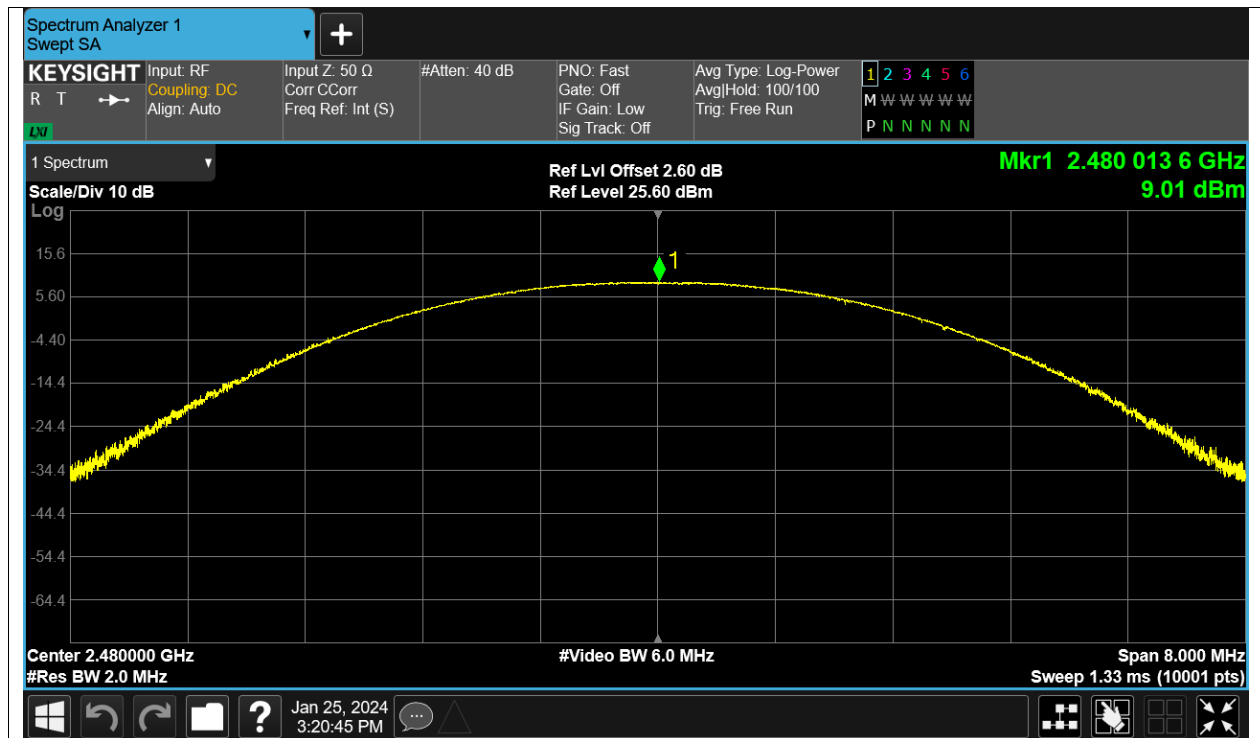
Power NVNT 3-DH1 2402MHz Ant8



Power NVNT 3-DH1 2441MHz Ant8

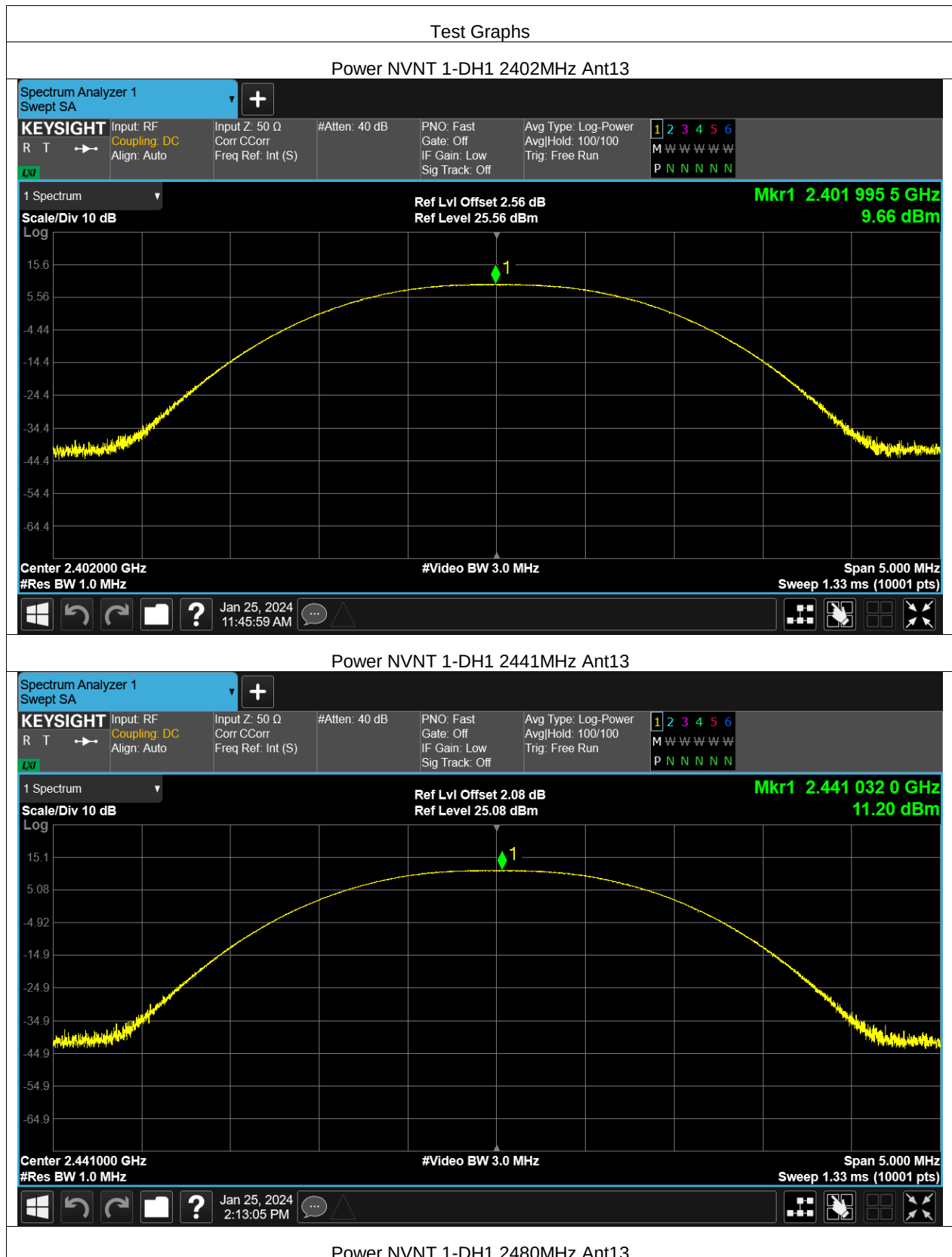


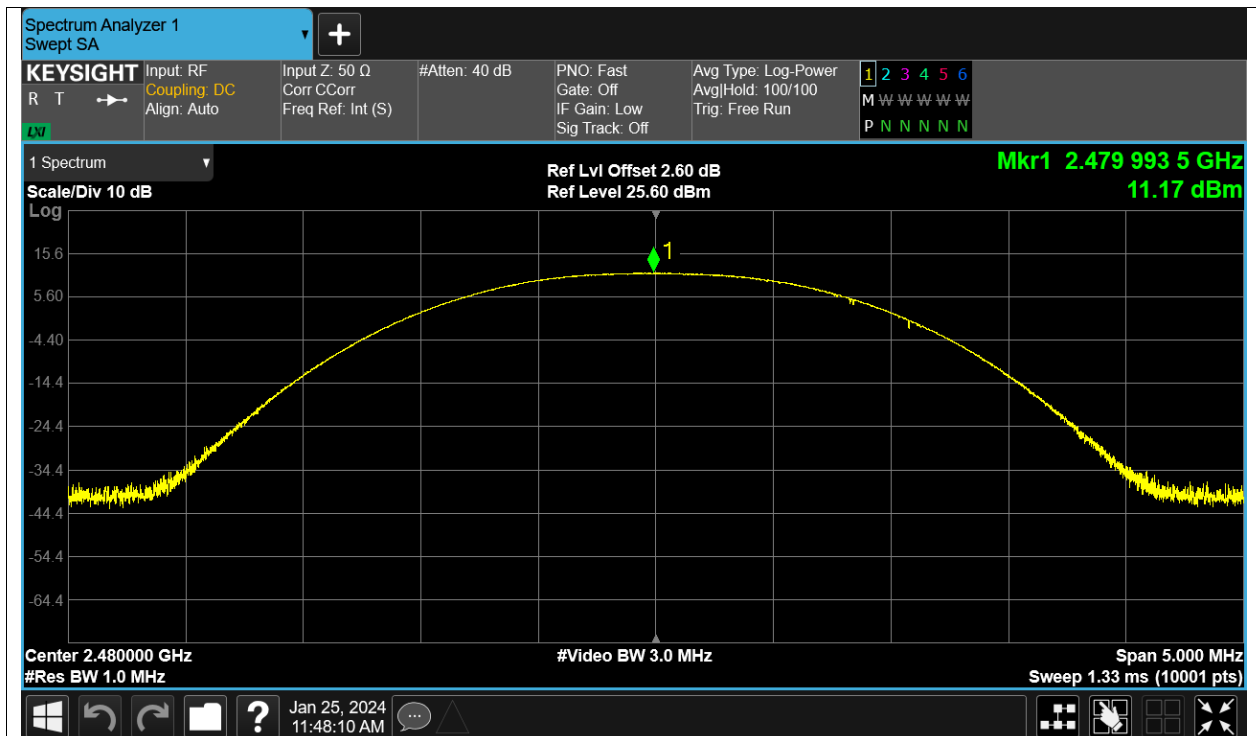
Power NVNT 3-DH1 2480MHz Ant8



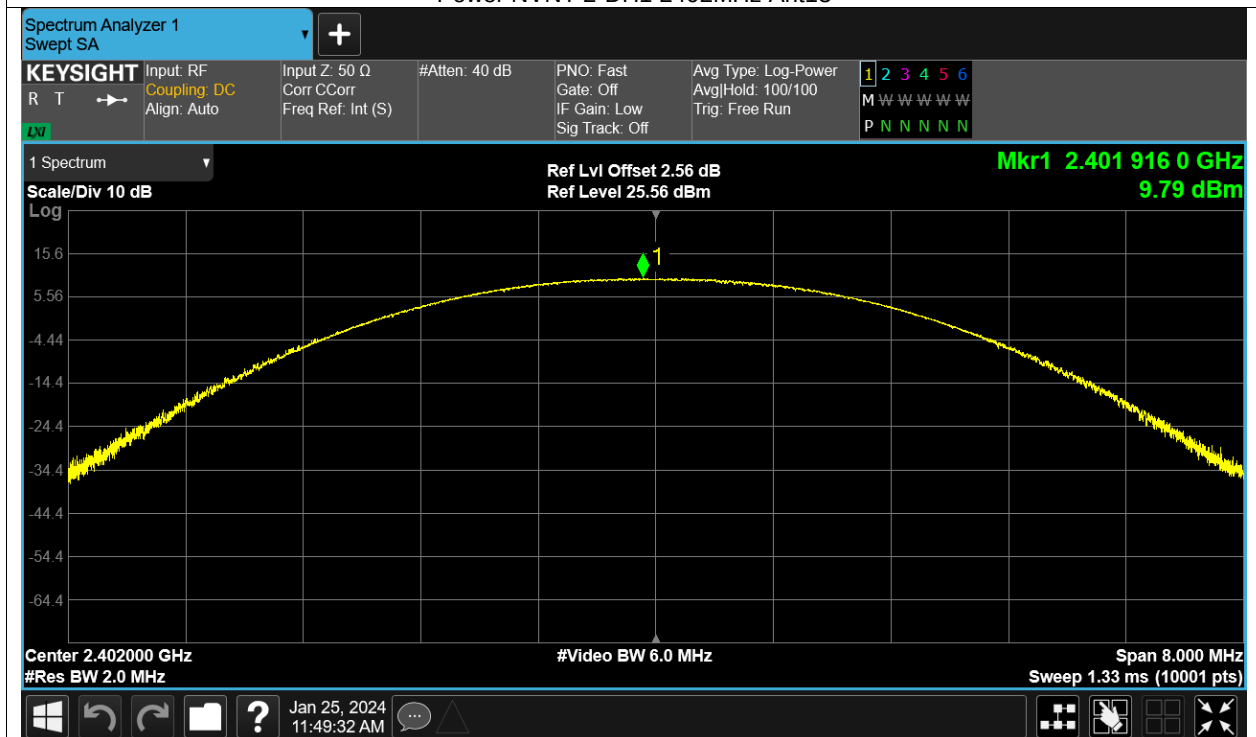
ANT 13:
Test Data
Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant13	9.656	30	Pass
NVNT	1-DH1	2441	Ant13	11.202	30	Pass
NVNT	1-DH1	2480	Ant13	11.167	30	Pass
NVNT	2-DH1	2402	Ant13	9.795	21	Pass
NVNT	2-DH1	2441	Ant13	11.319	21	Pass
NVNT	2-DH1	2480	Ant13	10.248	21	Pass
NVNT	3-DH1	2402	Ant13	9.535	21	Pass
NVNT	3-DH1	2441	Ant13	11.116	21	Pass
NVNT	3-DH1	2480	Ant13	10.253	21	Pass

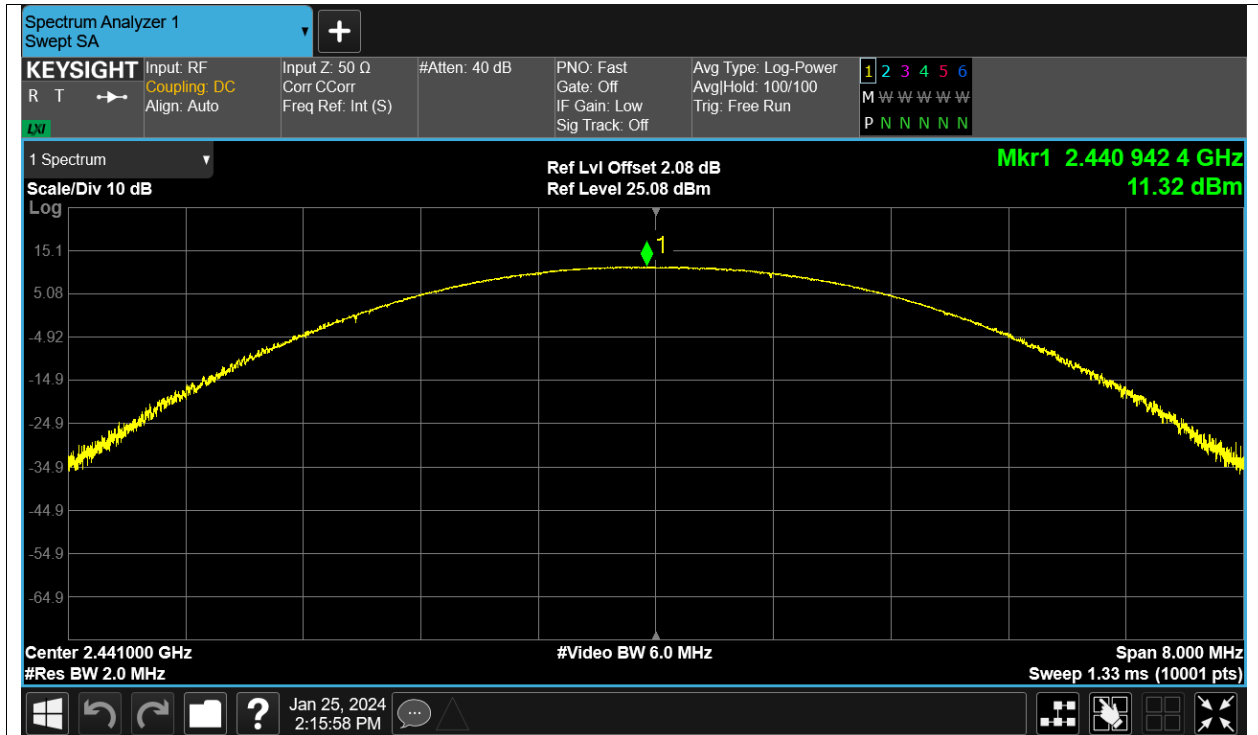




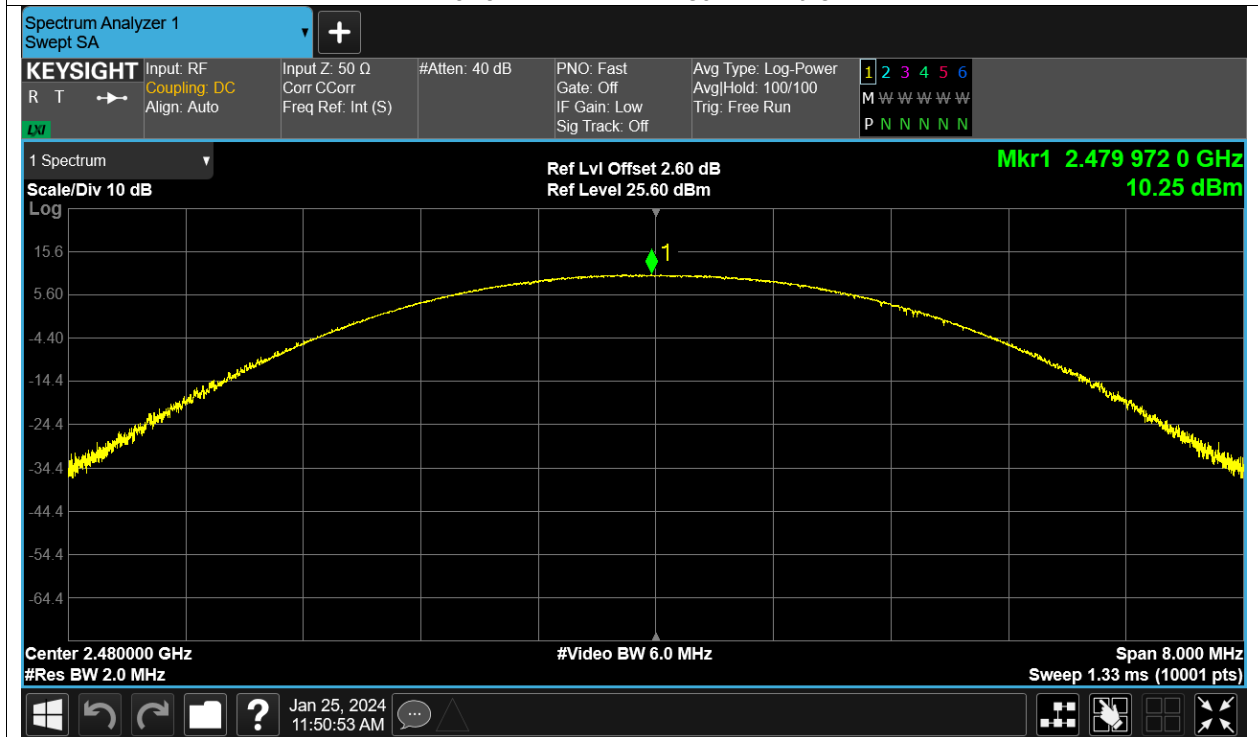
Power NVNT 2-DH1 2402MHz Ant13



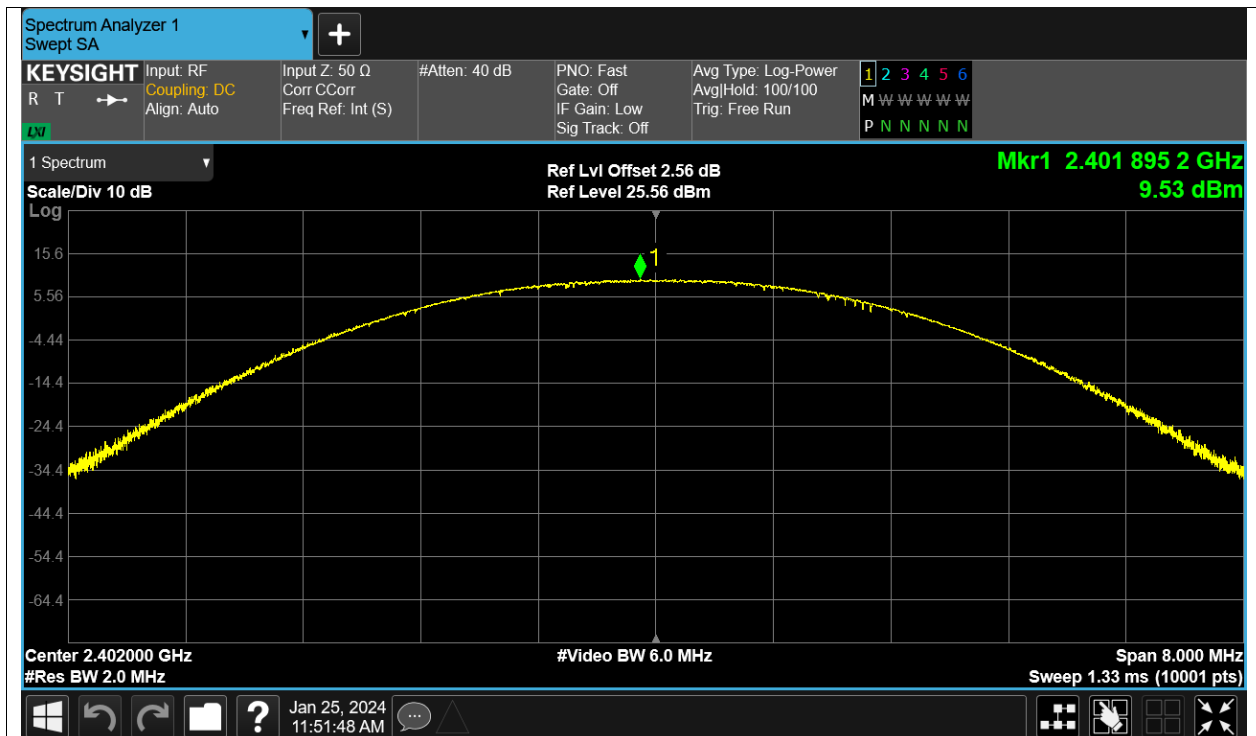
Power NVNT 2-DH1 2441MHz Ant13



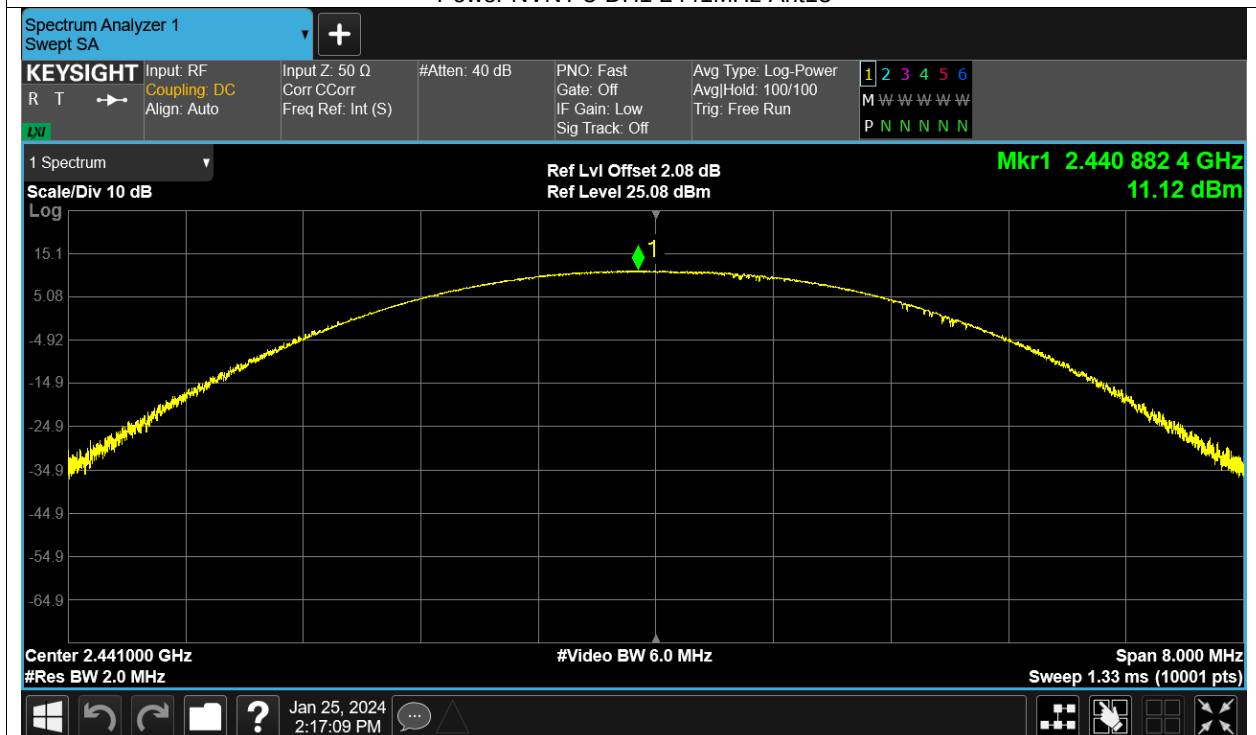
Power NVNT 2-DH1 2480MHz Ant13



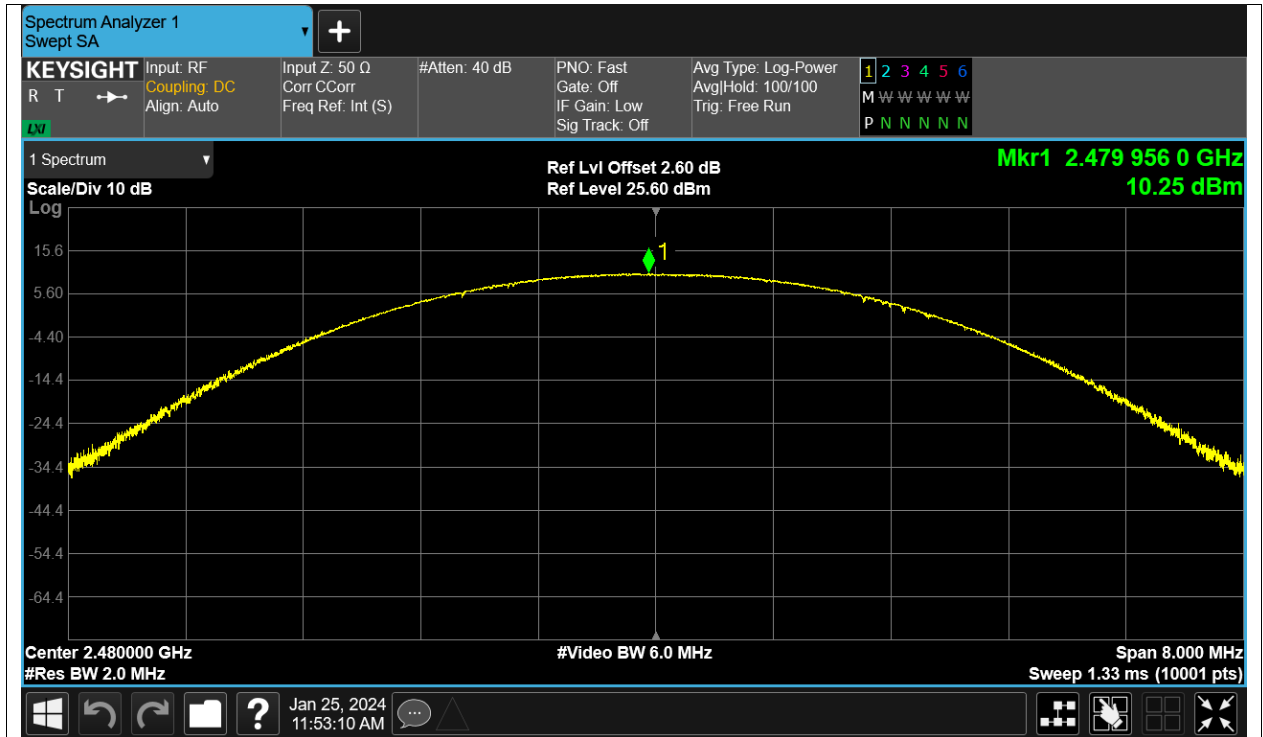
Power NVNT 3-DH1 2402MHz Ant13



Power NVNT 3-DH1 2441MHz Ant13



Power NVNT 3-DH1 2480MHz Ant13



-----End of report-----