



REPORT No.: SZ25050056W02

TEST REPORT

APPLICANT : Fibocom Wireless Inc.

PRODUCT NAME : Algorithm Board

MODEL NAME : APM215-GL

BRAND NAME : Fibocom

FCC ID : ZMOAPM215GL

STANDARD(S) : 47 CFR Part 15 Subpart C

RECEIPT DATE : 2025-05-21

TEST DATE : 2025-06-10 to 2025-11-05

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DIRECTORY

1. Summary of Test Result	4
1.1. Testing Applied Standards	5
1.2. Test Equipment List	6
1.3. Measurement Uncertainty	8
1.4. Testing Laboratory	8
2. General Description	9
2.1. Information of Applicant and Manufacturer	9
2.2. Information of EUT	9
2.3. Channel List of EUT	10
2.4. Test Configuration of EUT	11
2.5. Test Conditions	11
2.6. Test Setup Layout Diagram	12
3. Test Results	15
3.1. Antenna Requirement	15
3.2. Duty Cycle of Test Signal	16
3.3. Maximum Peak and Average Conducted Output Power	17
3.4. 6 dB Bandwidth	18
3.5. Conducted Spurious Emissions and Band Edge	19
3.6. Power Spectral Density	20
3.7. Conducted Emission	21
3.8. Restricted Frequency Bands	22
3.9. Radiated Emission	23
Annex A Test Data and Result	25



REPORT No.: SZ25050056W02

Change History		
Version	Date	Reason for change
1.0	2025-11-19	First edition



1. Summary of Test Result

No.	Section	Description	Test Date	Test Engineer	Result	Remark
1	15.203	Antenna Requirement	N/A	N/A	PASS	/
2	N/A	Duty Cycle of Test Signal	Nov. 05, 2025	Zhu Peihong	PASS	/
3	15.247(b)	Maximum Peak Conducted Output Power	Nov. 05, 2025	Zhu Peihong	PASS	/
4	15.247(b)	Maximum Average Conducted Output Power	Nov. 05, 2025	Zhu Peihong	PASS	/
5	15.247(a)	Bandwidth	Nov. 05, 2025	Zhu Peihong	PASS	/
6	15.247(d)	Conducted Spurious Emission and Band Edge	Nov. 05, 2025	Zhu Peihong	PASS	/
7	15.247(e)	Power Spectral Density	Nov. 05, 2025	Zhu Peihong	PASS	/
8	15.207	Conducted Emission	Jun. 19, 2025	Wang Yapeng	PASS	/
9	15.247(d)	Restricted Frequency Bands	Aug. 14, 2025	Gao Jianrou	PASS	/
10	15.209, 15.247(d)	Radiated Emission	Jul. 15, 2025 Oct. 31, 2025	Gao Jianrou	PASS	/

Note 1: All test items are tested and evaluated in the worse mode with reference to output power results.

Note 2: The tests were performed according to the method of measurements prescribed in ANSI C63.10-2020 and KDB 558074 D01 v05r02.

Note 3: Any additions, deviation, or exclusions from the method shall be noted in the "Remark".



1.1. Testing Applied Standards

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

- 47 CFR Part 15 Subpart C Radio Frequency Devices



1.2. Test Equipment List

1.2.1 Conducted Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
EXA Signal Analyzer	MY53470836	N9010A	Agilent	2025.01.15	2026.01.14
Power Sensor	MY54180008	U2021XA	Agilent	2024.09.11	2025.09.10
				2025.09.03	2026.09.02
Attenuator	MTJ6004-20	VAT-10+	MTJ Cooperation	N/A	N/A
RF Cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
SMA Connector	CN01	RF03	HUBER-SUHNER	N/A	N/A

1.2.2 Conducted Emission Test Equipment

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Receiver	101052	ESPI	R&S	2025.05.15	2026.05.14
LISN	103131	ENV 216	R&S	2025.03.20	2026.03.19
RF Coaxial Cable (DC-100MHz)	EMC-CE-00514	N/A	N/A	2025.05.06	2026.05.05

1.2.3 List of Software Used

Description	Manufacturer	Software Version
Test System	MaiWei	2.0.0.0
JS32-RE	Tonscend	5.0.0
TS+ -[JS32-CE]	Tonscend	2.5.0.0

**1.2.4 Radiated Test Equipment**

Equipment	Serial No.	Type	Manufacturer	Cal. Date	Due Date
Signal Analyzer	MY56060145	N9020A	Agilent	2025.05.13	2026.05.12
Test Antenna - Bi-Log	9163-274	VULB 9163	Schwarzbeck	2024.06.22	2025.06.21
				2025.06.28	2026.06.27
Test Antenna - Loop	1519-022	FMZB1519	Schwarzbeck	2025.05.16	2026.05.15
Test Antenna – Horn	9120D-963	BBHA 9120D	Schwarzbeck	2025.05.16	2026.05.15
Test Antenna – Horn	BBHA9170 #773	BBHA9170	Schwarzbeck	2024.06.22	2025.06.21
				2025.06.20	2026.06.19
Preamplifier (10MHz-6GHz)	46732	S10M100L38 02	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (2GHz-18GHz)	61171/61172	S020180L32 03	LUCIX CORP.	2025.05.13	2026.05.12
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-40C-S	Decentest	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2025.05.13	2026.05.12
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-KK-0.5	Qualwave	N/A	N/A
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-KKF-2	Qualwave	N/A	N/A
RF Coaxial Cable (DC-18GHz)	22120181	QA500-18-NN-5	Qualwave	N/A	N/A
Notch Filter	N/A	WRCG-2400-2483.5-60SS	Wainwright	N/A	N/A
Anechoic Chamber	N/A	9m*6m*6m	CRT	2022.11.30	2025.11.29



1.3. Measurement Uncertainty

Test Items	Uncertainty	Remark
Peak Output Power	$\pm 2.22\text{dB}$	Confidence levels of 95%
Power Spectral Density	$\pm 2.22\text{dB}$	Confidence levels of 95%
Bandwidth	$\pm 5\%$	Confidence levels of 95%
Conducted Spurious Emission	$\pm 2.77\text{dB}$	Confidence levels of 95%
Restricted Frequency Bands	$\pm 5\%$	Confidence levels of 95%
Radiated Emission	$\pm 2.95\text{dB}$	Confidence levels of 95%
Conducted Emission	$\pm 2.44\text{dB}$	Confidence levels of 95%

1.4. Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
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FCC Designation Number:	CN1192
FCC Test Firm Registration Number:	226174



2. General Description

2.1. Information of Applicant and Manufacturer

Applicant:	Fibocom Wireless Inc.
Applicant Address:	1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China
Manufacturer:	Fibocom Wireless Inc.
Manufacturer Address:	1101, Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan, Shenzhen, China

2.2. Information of EUT

Product Name:	Algorithm Board
Sample No.:	1#, 5#
Hardware Version:	V1.2
Software Version:	16121.0001.01.01.21_1012.01
Modulation Technology:	DSSS, OFDM, OFDMA
Modulation Type:	Refer to section 2.4.1
Wireless Technology:	802.11b, 802.11g, 802.11n (HT20), 802.11n (HT40), 802.11ax (HEW20), 802.11ax (HEW40)
Operating Frequency Range:	2412MHz–2462MHz
Antenna Type:	FPC Antenna
Antenna Gain (dBi):	2.98dBi

Note 1: The EUT description presented in the report are provided by applicant and/or manufacturer, and the test laboratory is not responsible for the accuracy of the information. For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

2.3.Channel List of EUT

Nominal Channel Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
20MHz	1	2412	8	2447
	2	2417	9	2452
	3	2422	10	2457
	4	2427	11	2462
	5	2432		
	6	2437		
	7	2442		
Nominal Channel Bandwidth	Channel	Frequency (MHz)	Channel	Frequency (MHz)
40MHz	3	2422	8	2447
	4	2427	9	2452
	5	2432		
	6	2437		
	7	2442		

Note 1: The black bold channels were selected for test.

2.4. Test Configuration of EUT

2.4.1. Modulation Type and Data Rate of EUT

Mode	Bandwidth (MHz)	Modulation Technology	Modulation Type	Data Rate	RU Size
802.11b	20	DSSS	DBPSK	1/2/5.5/11Mbps	N/A
			DQPSK		
			CCK		
802.11g	20	OFDM	BPSK	6/9/12/18/24/36/48/54Mbps	N/A
			QPSK		
			16QAM		
			64QAM		
802.11n	20/40 (HT20/40)	OFDM	BPSK	MCS0~MCS7	N/A
			QPSK		
			16QAM		
			64QAM		
802.11ax	20/40 (HEW20/40)	OFDM/ OFDMA	BPSK	MSC0~MCS11	N/A
			QPSK		
			16QAM		
			64QAM		
			256QAM		
			1024QAM		

Note1: The worst-case mode (bold face) in all data rates has been determined during the pre-scan, only the test data of the worst-case were recorded in this report.

Note2: The RF signal transmission of EUT is controlled by the build-in engineering mode which is provided by the manufacturer. The recorded power setting value is the maximum that the engineering mode has configuration during testing.

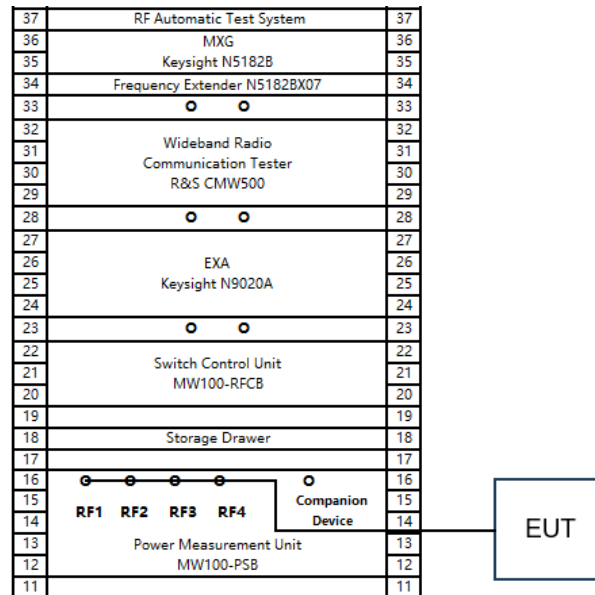
Note3: The RU allocation of 802.11ax mode, only full ru is supported.

2.5. Test Conditions

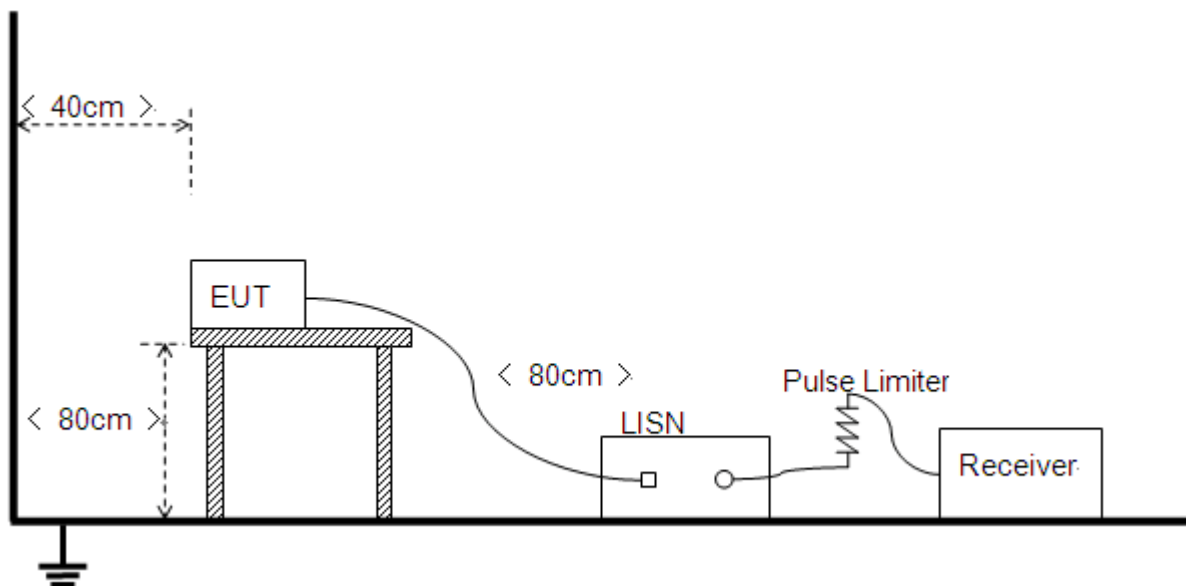
Temperature (°C):	15-35
Relative Humidity (%):	30-60
Atmospheric Pressure (kPa):	86-106

2.6. Test Setup Layout Diagram

2.6.1. Conducted Measurement

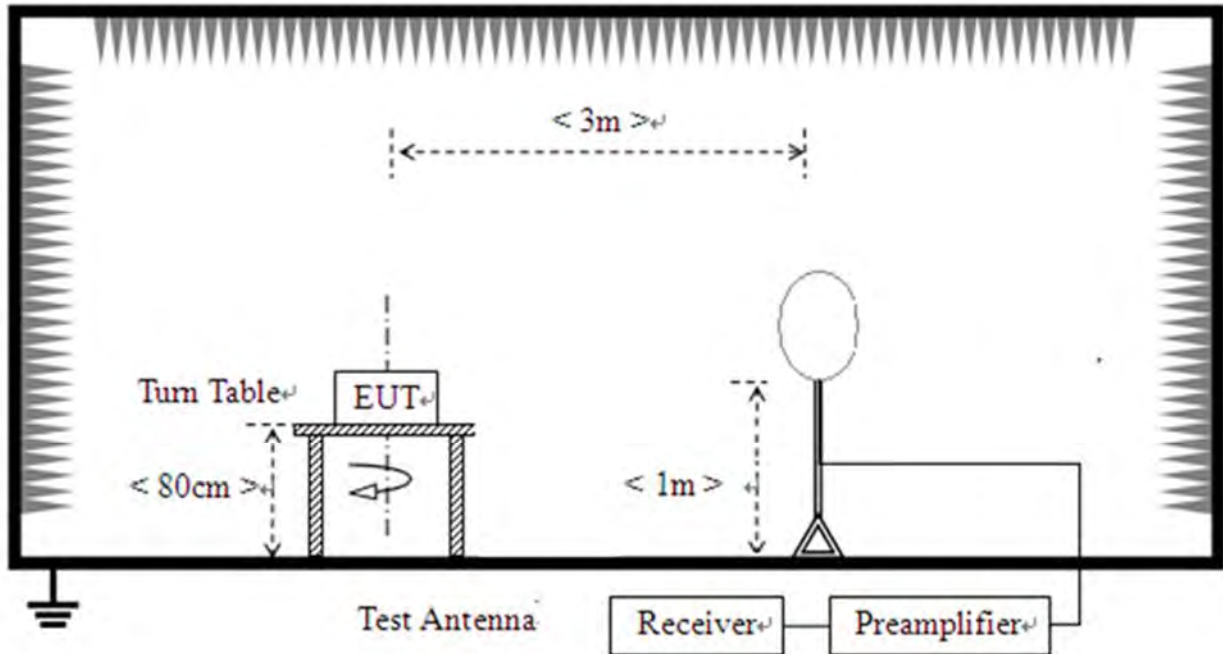


2.6.2. Conducted Emission Measurement

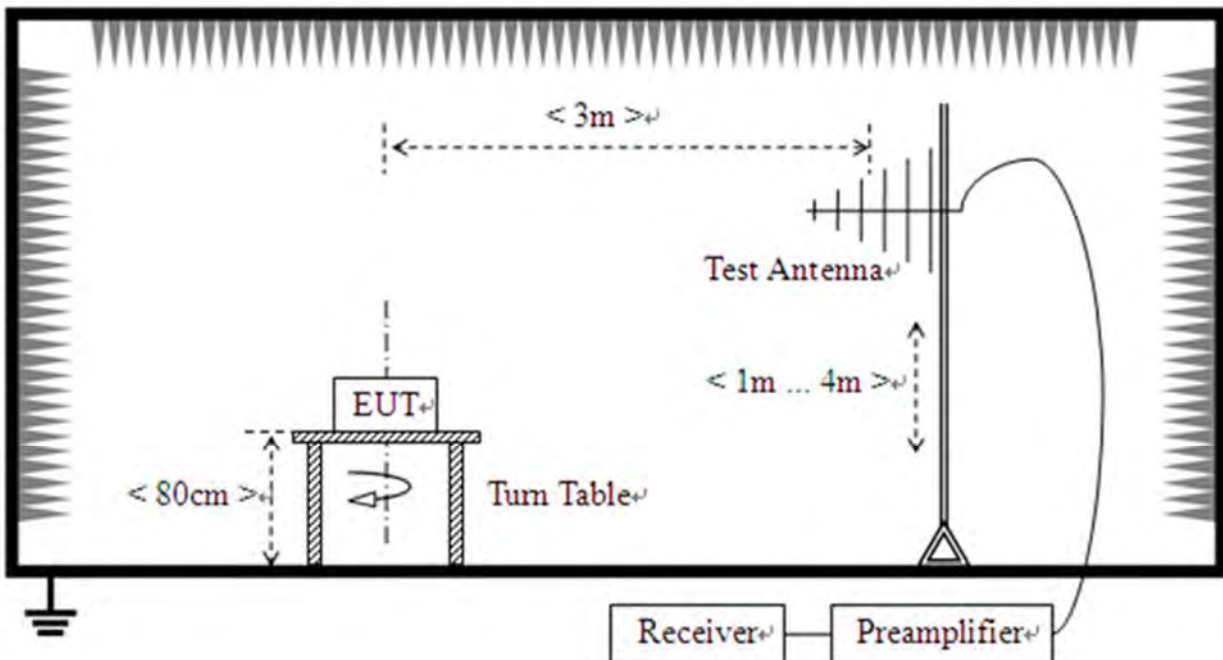


2.6.3.Radiation Measurement

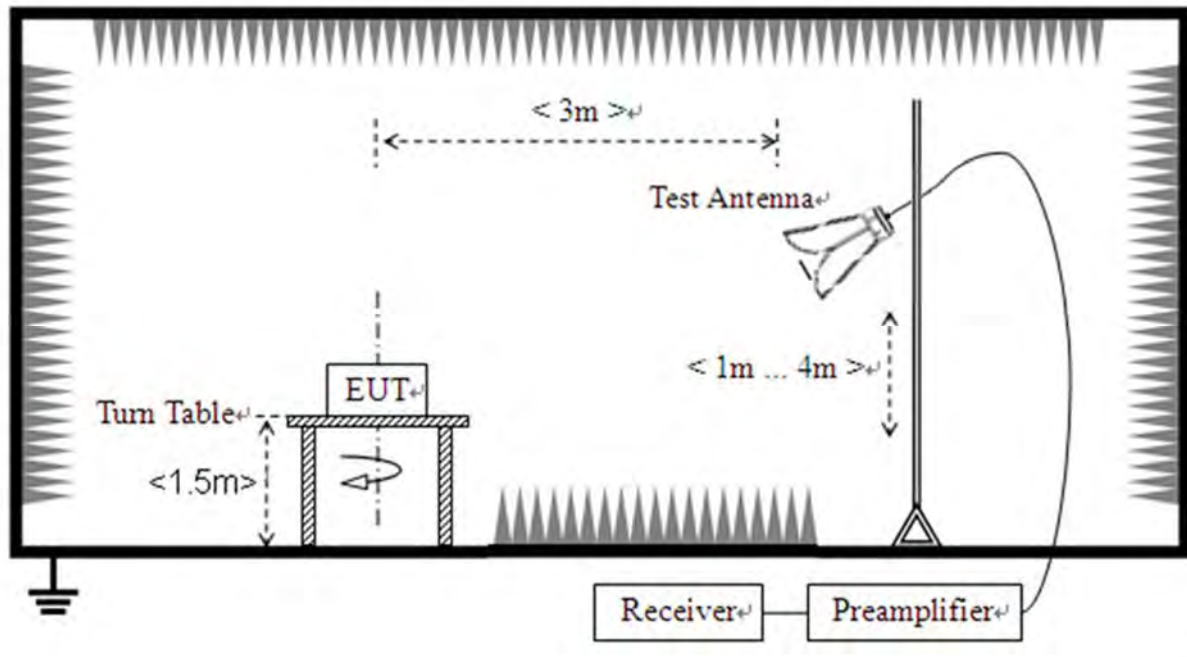
1) For radiated emissions from 9kHz to 30MHz



2) For radiated emissions from 30MHz to 1GHz



3) For radiated emissions above 1GHz





3. Test Results

3.1. Antenna Requirement

3.1.1. Requirement

According to FCC 15.203, 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 shall be considered sufficient to comply with the provisions of this section.

3.1.2. Test Result

Antenna location	Antenna Type	Coupling Method
☒ Internal ☐ External	☒ FPC Antenna ☐ Spring Antenna ☐ Ceramic Antenna ☐ Integrated Antenna ☐ Dipole Antenna ☐ PCB Antenna ☐ PIFA Antenna ☐ On-board antenna	☒ I-PEX Connector ☐ SMA Connector ☐ RP-SMA Connector ☐ Metal Shrapnel ☐ Layout

3.2. Duty Cycle of Test Signal

3.2.1. Requirement

Preferably, all measurements of maximum conducted (average) output power will be performed with the EUT transmitting continuously (i.e., with a duty cycle of greater than or equal to 98%). When continuous operation cannot be realized, then the use of sweep triggering/signal gating techniques can be used to ensure that measurements are made only during transmissions at the maximum power control level. Such sweep triggering/signal gating techniques will require knowledge of the minimum transmission duration (T) over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation. Sweep triggering/signal gating techniques can then be used if the measurement/sweep time of the analyzer can be set such that it does not exceed T at any time that data are being acquired (i.e., no transmitter OFF-time is to be considered).

When continuous transmission cannot be achieved and sweep triggering/signal gating cannot be implemented, alternative procedures are provided that can be used to measure the average power; however, they will require an additional measurement of the transmitter duty cycle (D). Within this sub clause, the duty cycle refers to the fraction of time over which the transmitter is ON and is transmitting at its maximum power control level. The duty cycle is considered to be constant if variations are less than $\pm 2\%$; otherwise, the duty cycle is considered to be non constant.

3.2.2. Test Result

Refer to Annex A.1 in this report.



3.3. Maximum Peak and Average Conducted Output Power

3.3.1. Requirement

According to FCC section 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: The maximum conducted output power of the intentional radiator shall not exceed 1 Watt. 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 above of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2. Test Procedures

The EUT (Equipment under the test) which is coupled to the USB Wideband Power Sensor; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

3.3.3. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.3.4. Test Result

Refer to Annex A.2 and A.3 in this report.



3.4.6 dB Bandwidth

3.4.1.Requirement

According to FCC section 15.247(a) (2), systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6dB bandwidth shall be at least 500 kHz.

3.4.1.Test Procedures

KDB 558074 Section 8.2 was used in order to prove compliance.

3.4.2.Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.4.3.Test Result

Refer to Annex A.4 in this report.



3.5. Conducted Spurious Emissions and Band Edge

3.5.1. Requirement

According to FCC section 15.247(d), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

3.5.2. Test Procedures

KDB 558074 Section 8.5 and 8.7 was used in order to prove compliance.

3.5.3. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.5.4. Test Result

Refer to Annex A.5 and A.6 in this report.



3.6. Power Spectral Density

3.6.1. Requirement

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm 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 paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

3.6.2. Test Procedures

The measured power spectral density was calculated by the reading of the spectrum analyzer and calibration. Following is the test procedure for PSD test:

- a) Set analyzer center frequency to channel center frequency
- b) Set span to 1.5 times DTS
- c) Set RBW to 30kHz
- d) Set VBW to 100kHz
- e) Detector = peak
- f) Sweep time = auto couple
- g) Trace mode = max hold
- h) Allow trace to fully stabilize
- i) Use the peak marker function to determine the maximum amplitude level and recorded as PD
- j) Use below formula to calculate the Conducted PSD value that at specified RBW:

Conducted PSD = PD - 10lg(30k/3k)

3.6.3. Test Setup Layout

Refer to chapter 2.6.1 in this report.

3.6.4. Test Result

Refer to Annex A.7 in this report.

3.7. Conducted Emission

3.7.1. Requirement

According to FCC section 15.207, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency Range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

Note:

- (a) The lower limit shall apply at the band edges.
- (b) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

3.7.2. Test Procedures

The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10.

3.7.3. Test Setup Layout

Refer to chapter 2.6.2 in this report.

3.7.4. Test Result

Refer to Annex A.8 in this report.



3.8.Restricted Frequency Bands

3.8.1.Requirement

According to FCC section 15.247(d), in any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, 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).

3.8.2.Test Procedures

The EUT is located in a 3m Semi-Anechoic Chamber; the antenna factors, cable loss and so on of the site as factors are calculated to correct the reading.

For the Test Antenna:

Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground to determine the maximum value of the field strength.

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1\text{GHz}$, 100 kHz for $f < 1\text{GHz}$

VBW = 3 MHz

Sweep = auto

Detector function = peak/average

Trace = max hold

Allow the trace to stabilize

3.8.3.Test Setup Layout

Refer to chapter 2.6.3 in this report.

3.8.4.Test Result

Refer to Annex A.9 in this report.

3.9. Radiated Emission

3.9.1. Requirement

According to FCC section 15.247(d), radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note1: For above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

Note2: For above 1000MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK). In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table).



3.9.2. Test Procedures

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 30MHz, the emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9kHz-90 kHz, 110kHz-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

For measurements below 1GHz the resolution bandwidth is set to 100kHz for peak detection measurements or 120kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements and as applicable for average measurements.

The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions. For measurements above 1 GHz, keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.

3.9.3. Test Setup Layout

Refer to chapter 2.6.3 in this report.

3.9.4. Test Result

Refer to Annex A.10 in this report.



Annex A Test Data and Result

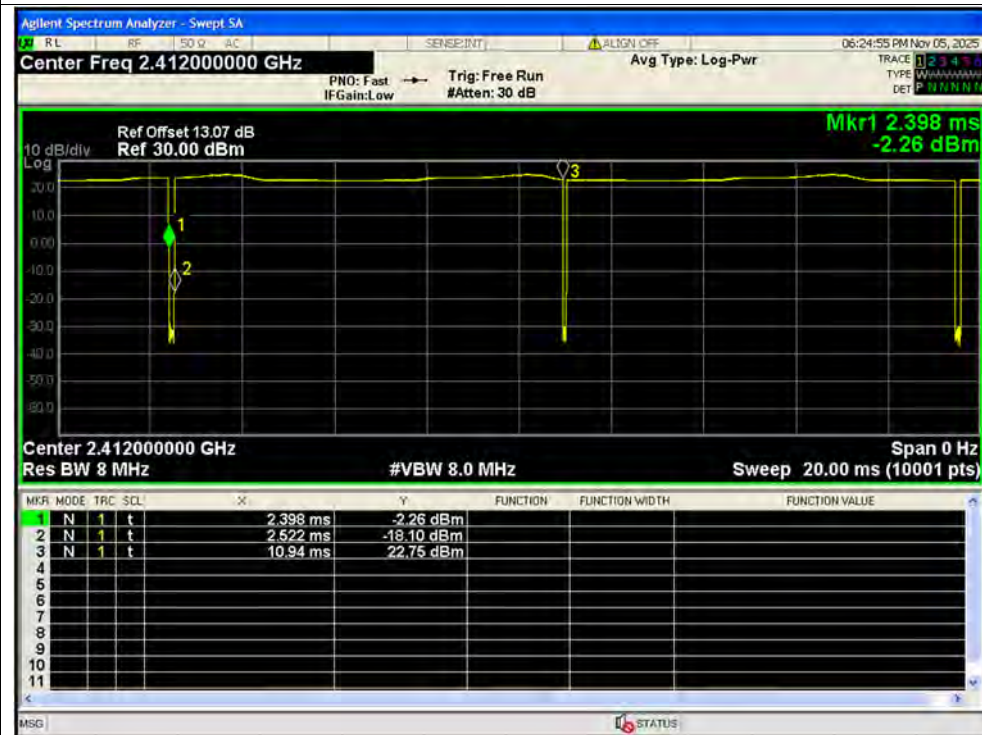
A.1. Duty Cycle of Test Signal

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	98.55	0.06	0.12
NVNT	b	2437	Ant1	99.18	0.04	0.12
NVNT	b	2462	Ant1	98.09	0.08	0.12
NVNT	g	2412	Ant1	93.57	0.29	0.72
NVNT	g	2437	Ant1	94.2	0.26	0.72
NVNT	g	2462	Ant1	87.05	0.6	0.72
NVNT	n20	2412	Ant1	74.07	1.3	0.76
NVNT	n20	2437	Ant1	94.36	0.25	0.77
NVNT	n20	2462	Ant1	87.89	0.56	0.77
NVNT	n40	2422	Ant1	85.08	0.7	1.54
NVNT	n40	2437	Ant1	78.5	1.05	1.54
NVNT	n40	2452	Ant1	75.76	1.21	1.54
NVNT	ax20	2412	Ant1	90.46	0.44	0.98
NVNT	ax20	2437	Ant1	87.65	0.57	0.98
NVNT	ax20	2462	Ant1	88.56	0.53	0.98
NVNT	ax40	2422	Ant1	77.21	1.12	1.85
NVNT	ax40	2437	Ant1	74.04	1.31	1.85
NVNT	ax40	2452	Ant1	79.94	0.97	1.85

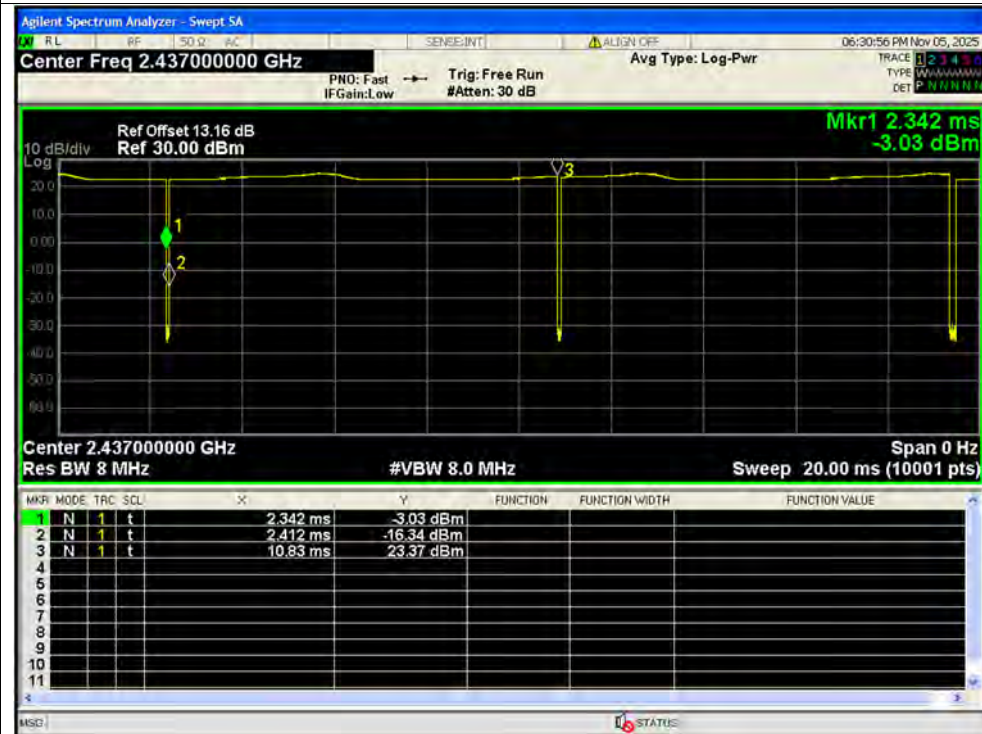


Test Graphs

Duty Cycle NVNT b 2412MHz Ant1



Duty Cycle NVNT b 2437MHz Ant1

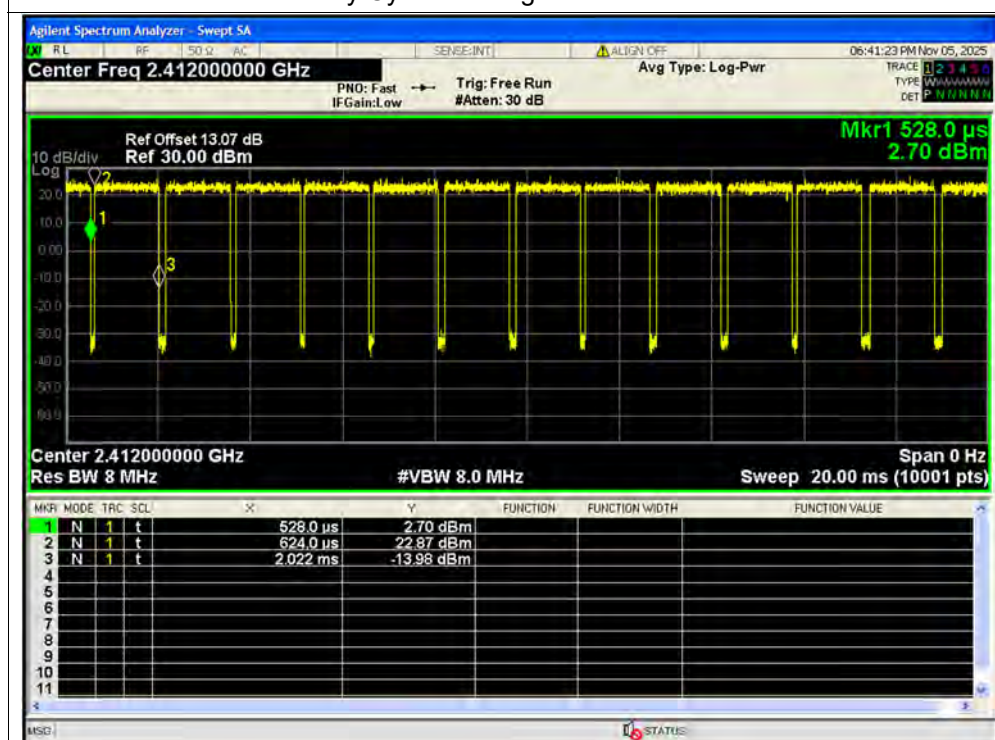




Duty Cycle NVNT b 2462MHz Ant1

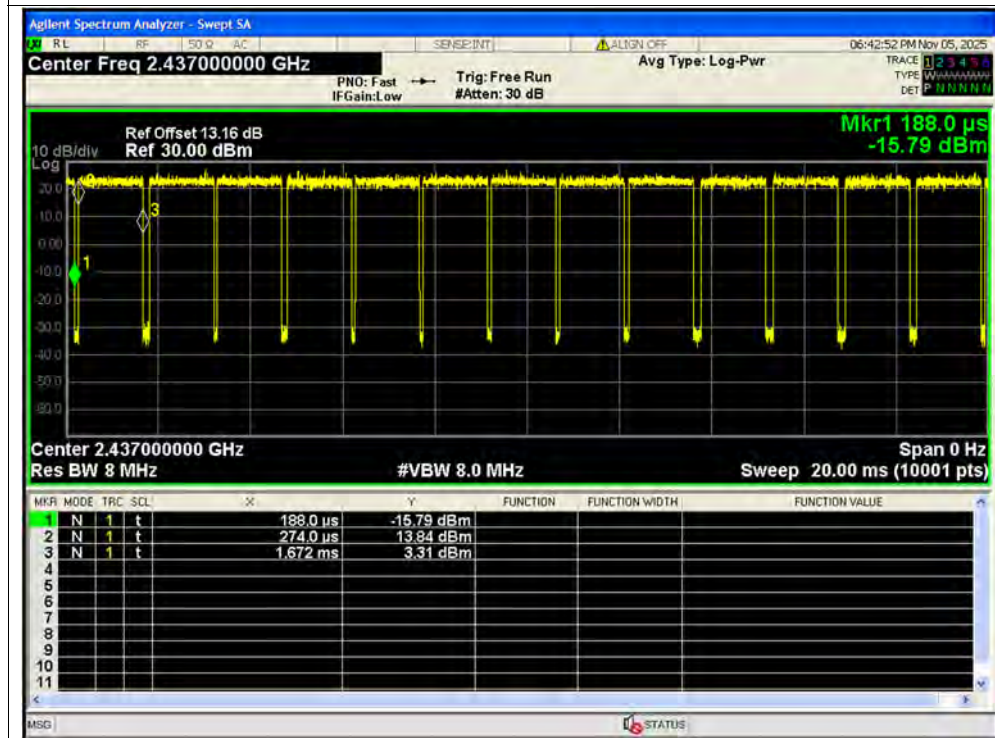


Duty Cycle NVNT g 2412MHz Ant1

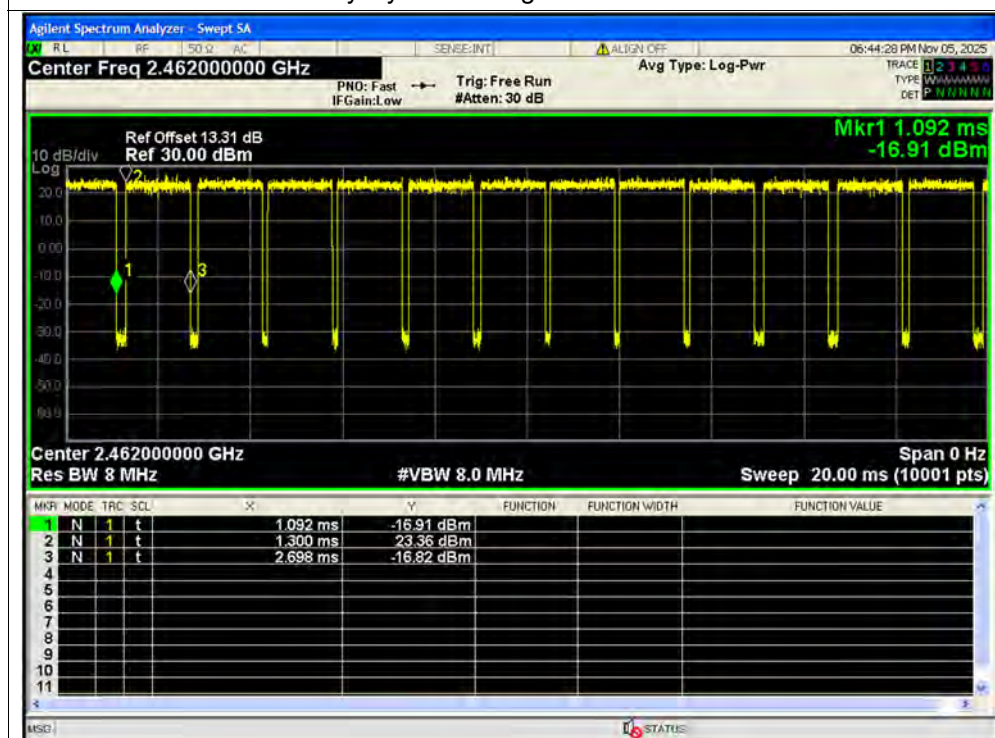




Duty Cycle NVNT g 2437MHz Ant1

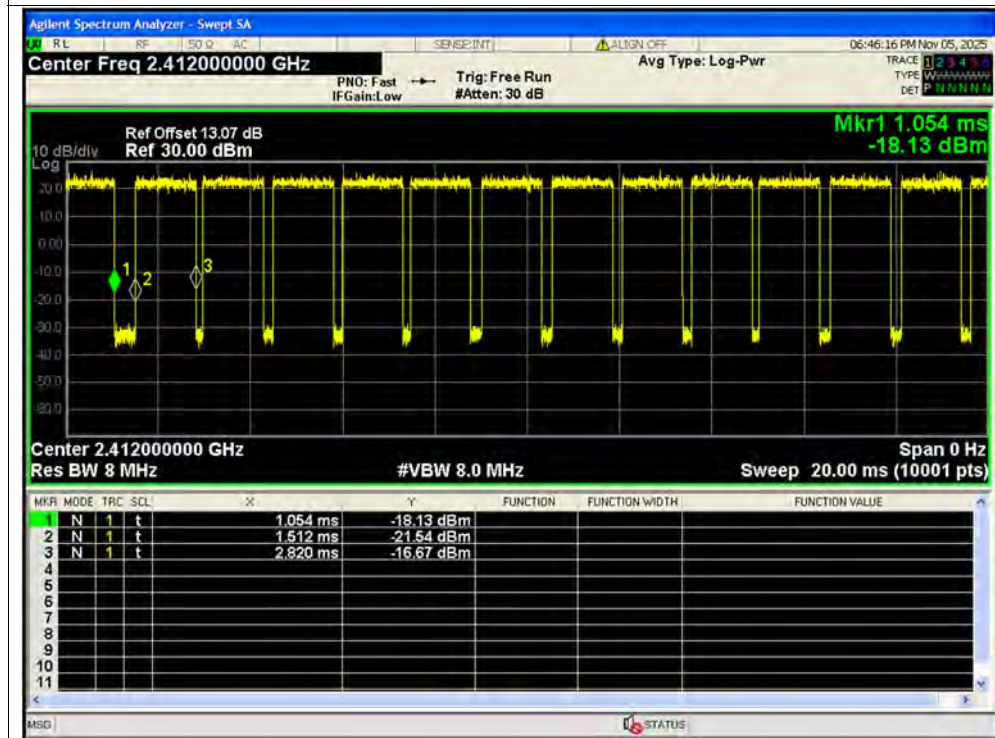


Duty Cycle NVNT g 2462MHz Ant1

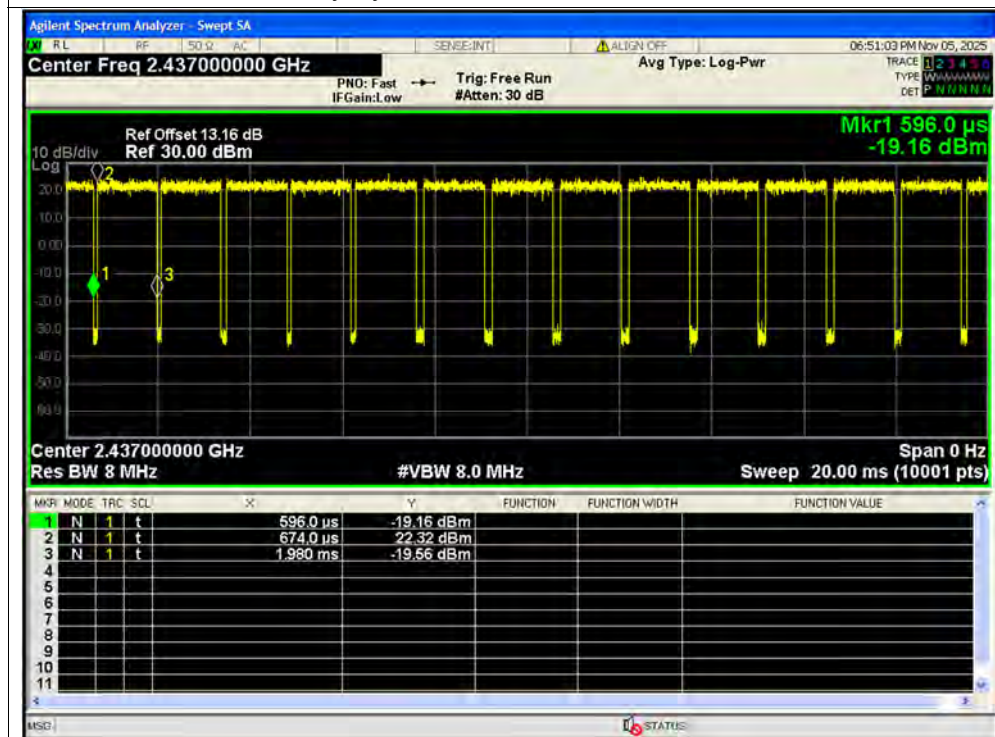




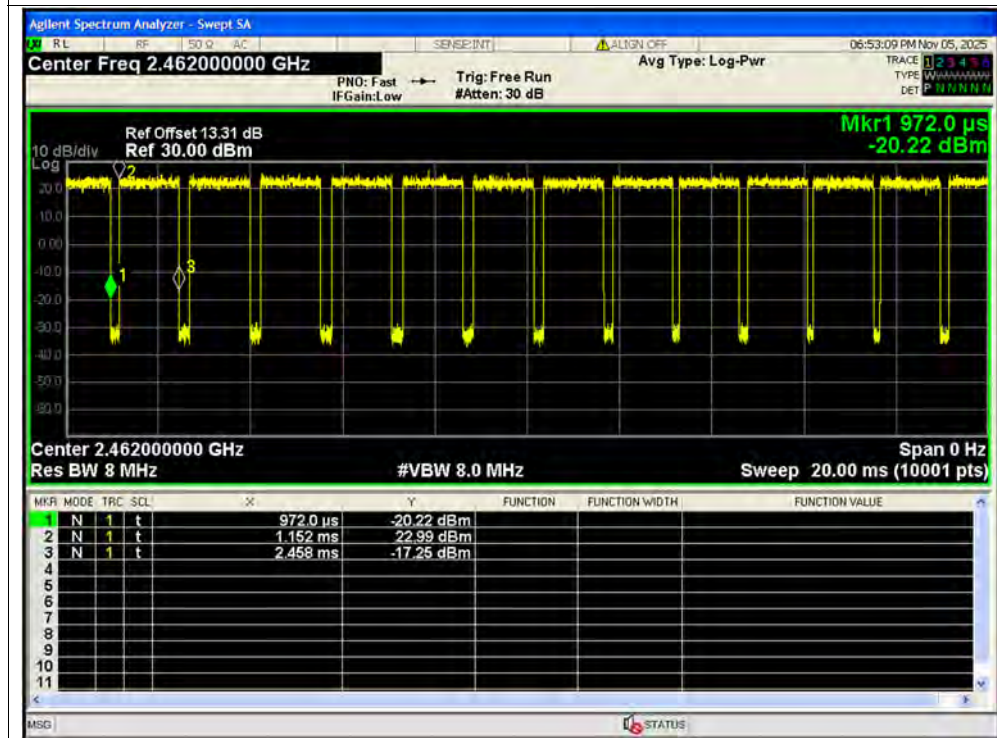
Duty Cycle NVNT n20 2412MHz Ant1



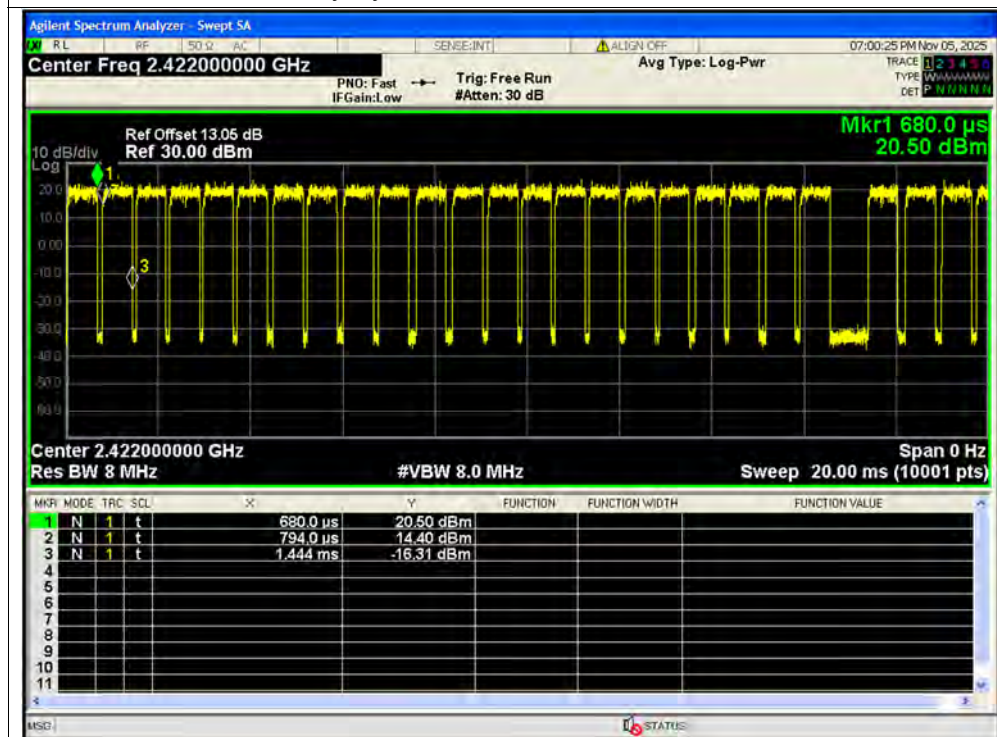
Duty Cycle NVNT n20 2437MHz Ant1



Duty Cycle NVNT n20 2462MHz Ant1

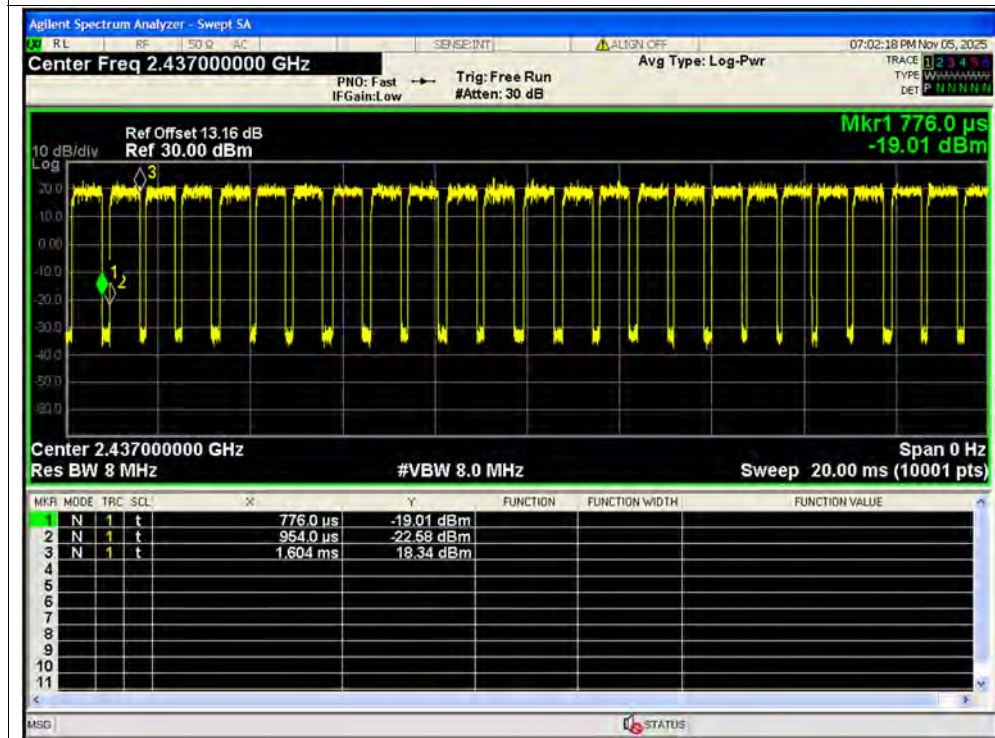


Duty Cycle NVNT n40 2422MHz Ant1

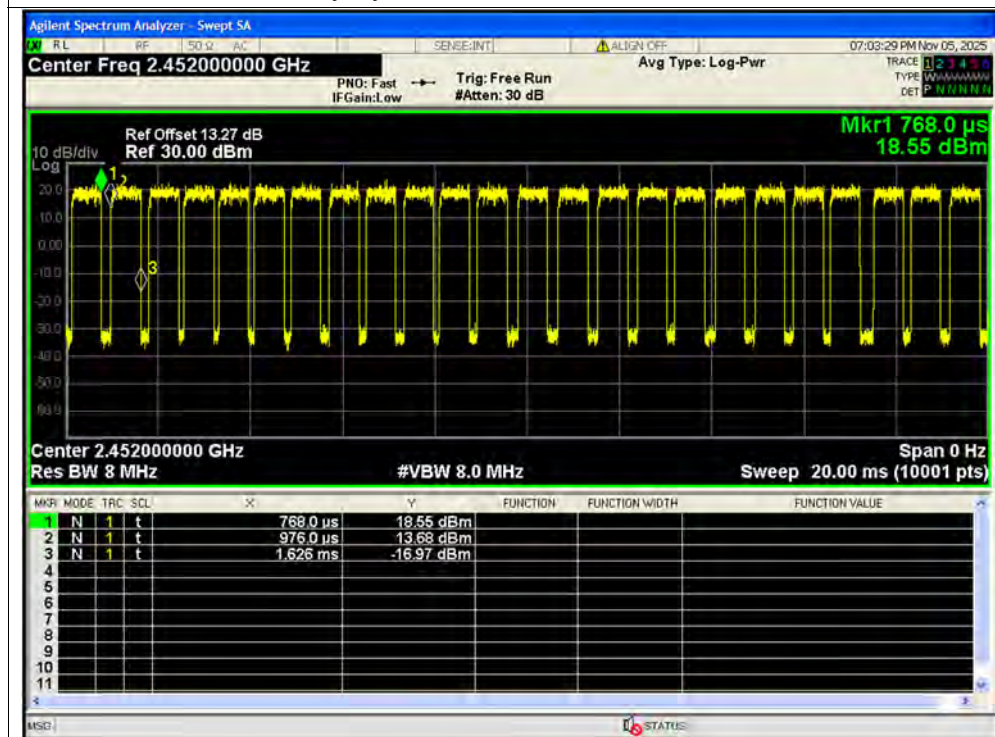




Duty Cycle NVNT n40 2437MHz Ant1

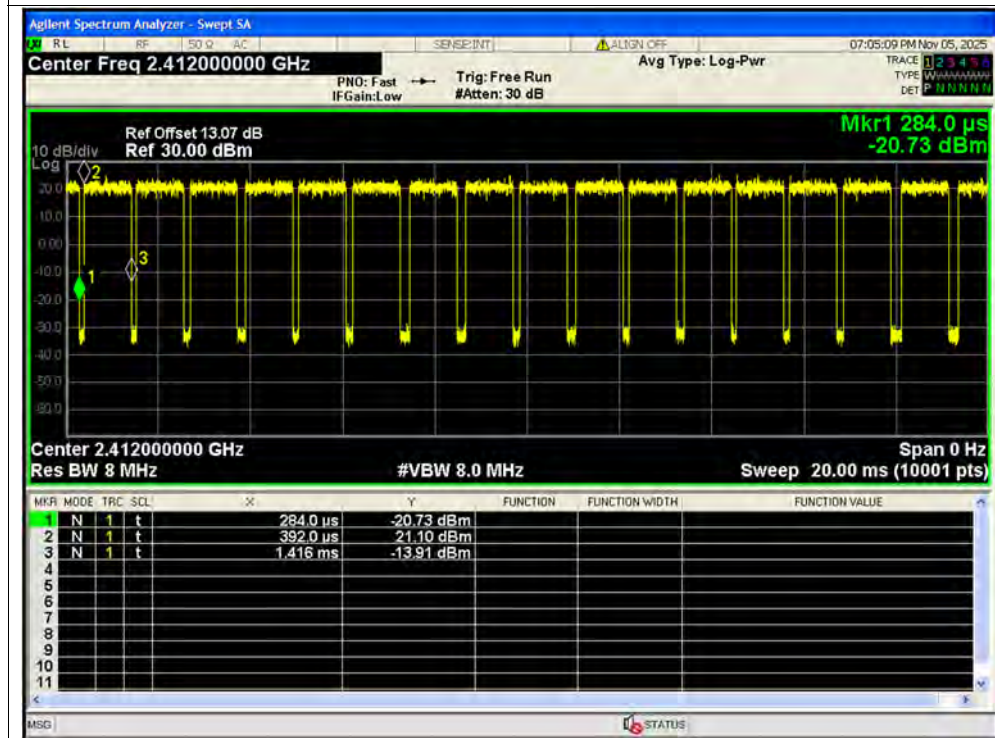


Duty Cycle NVNT n40 2452MHz Ant1

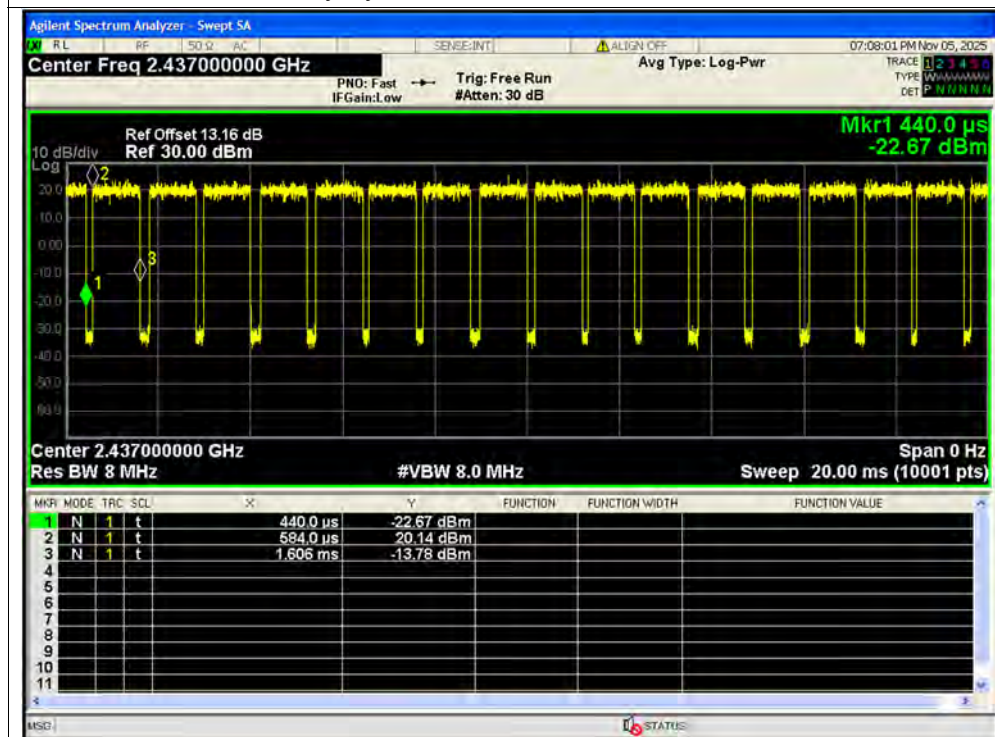




Duty Cycle NVNT ax20 2412MHz Ant1

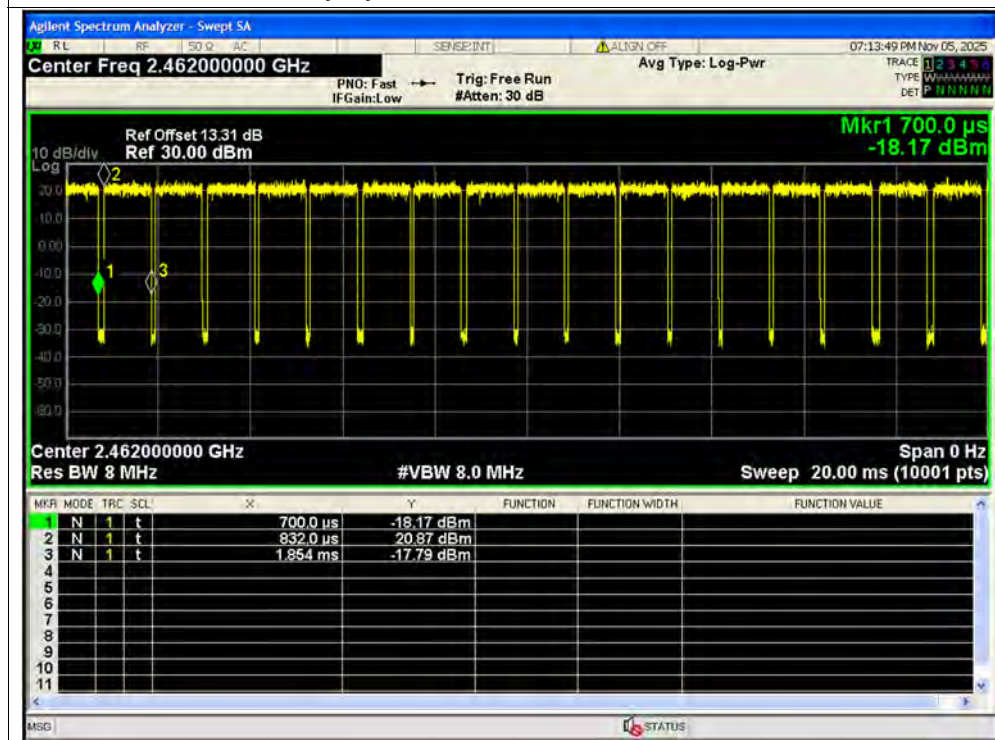


Duty Cycle NVNT ax20 2437MHz Ant1

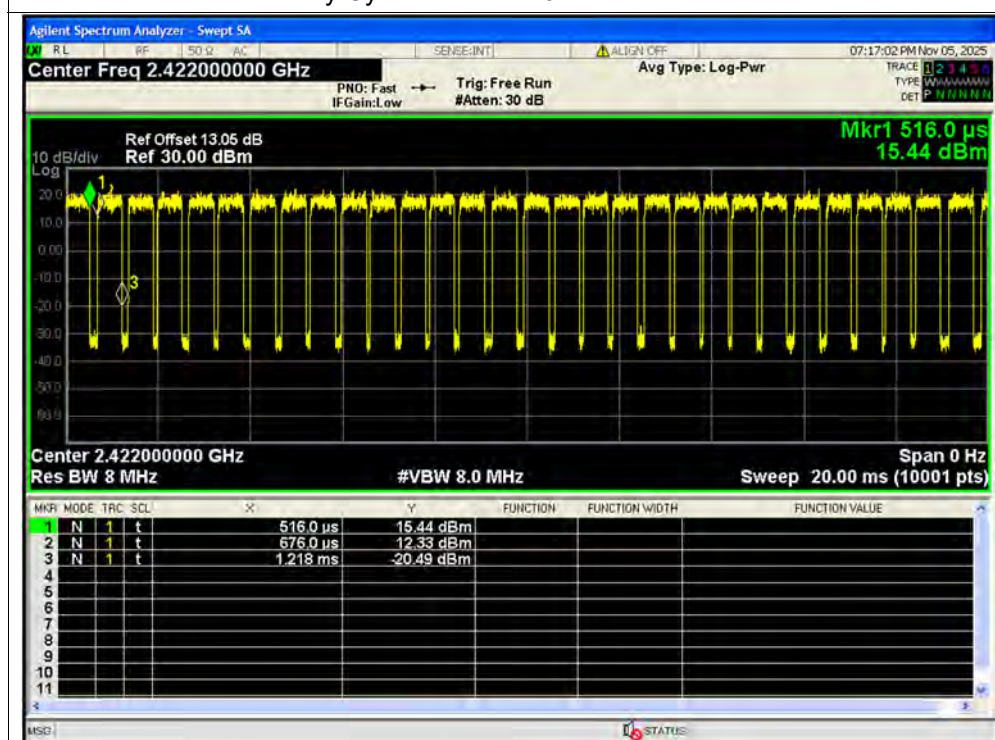




Duty Cycle NVNT ax20 2462MHz Ant1

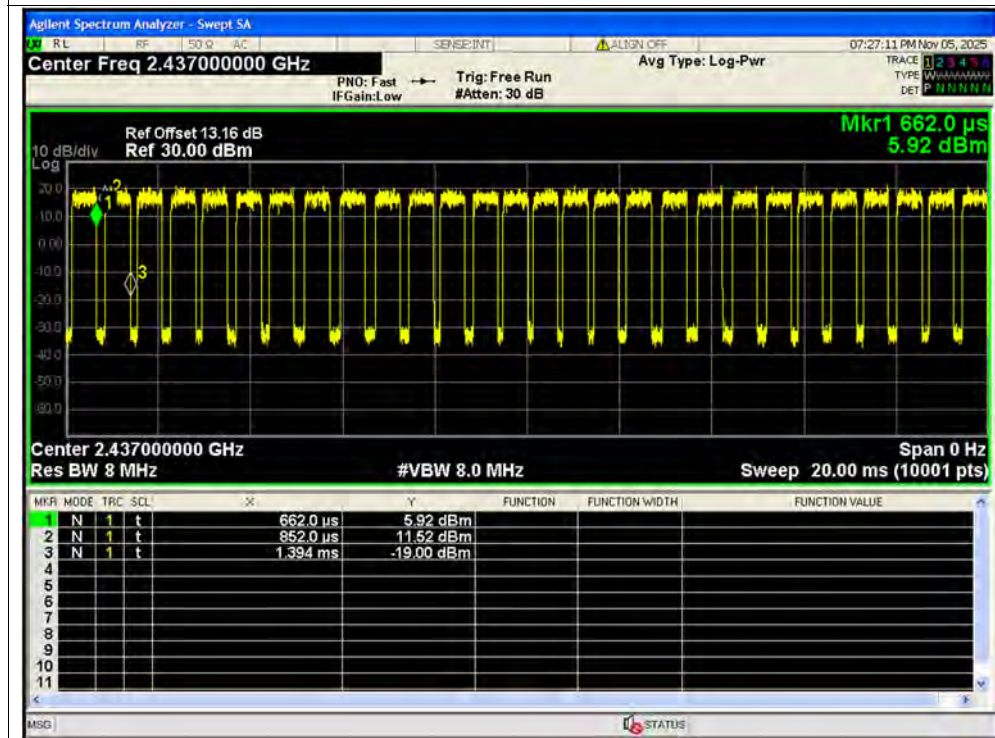


Duty Cycle NVNT ax40 2422MHz Ant1

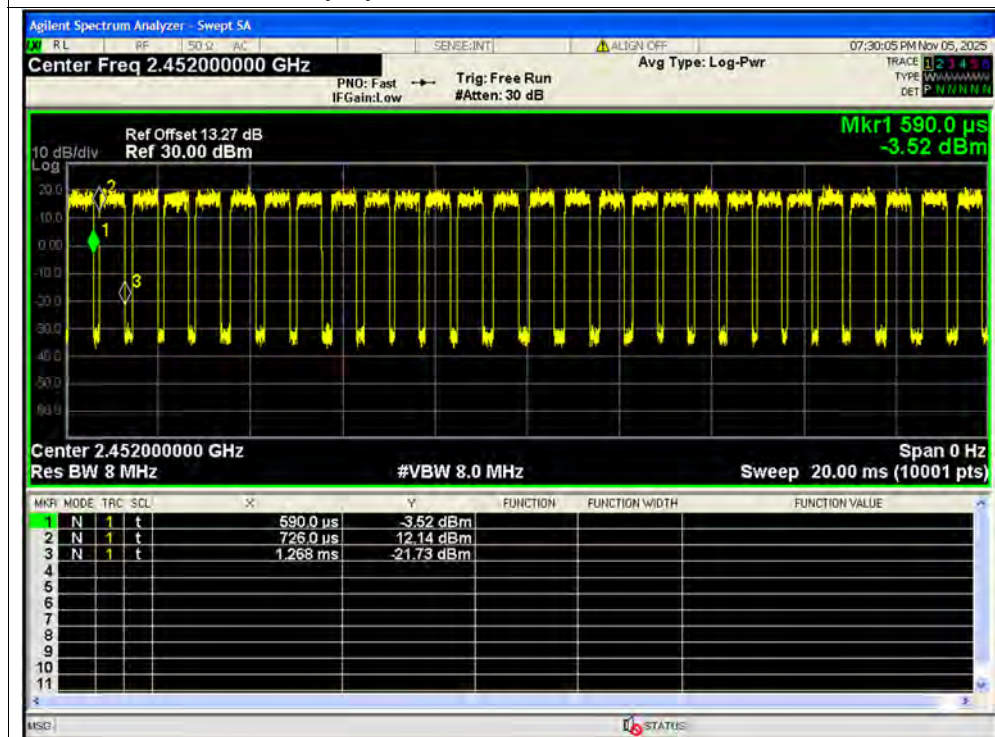




Duty Cycle NVNT ax40 2437MHz Ant1



Duty Cycle NVNT ax40 2452MHz Ant1

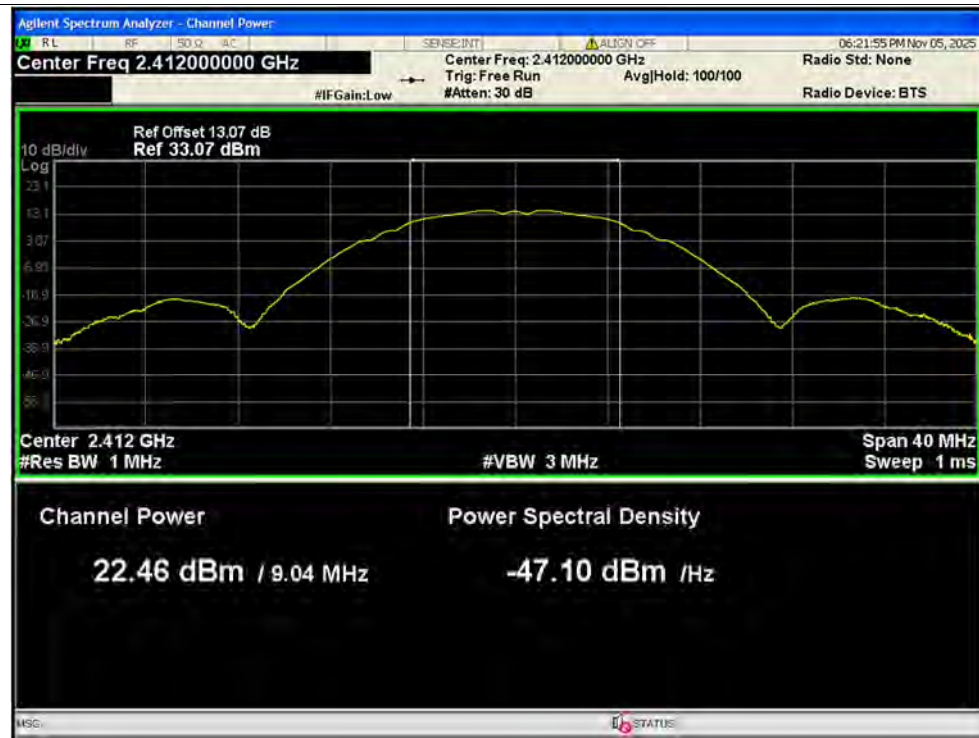


**A.2. Maximum Peak Conducted Output Power**

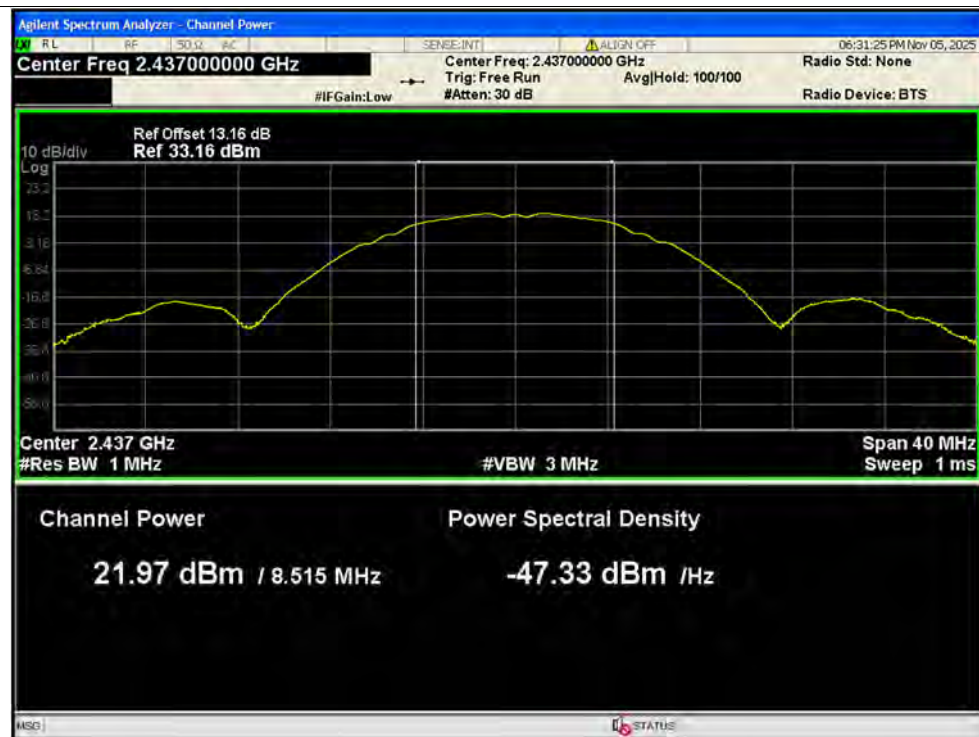
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Total Conducted Power (W)	Limit Conducted (dBm)	Verdict
NVNT	b	2412	Ant1	22.46	0	22.46	0.1762	30	Pass
NVNT	b	2437	Ant1	21.97	0	21.97	0.1574	30	Pass
NVNT	b	2462	Ant1	23.38	0	23.38	0.21777	30	Pass
NVNT	g	2412	Ant1	27.82	0	27.82	0.60534	30	Pass
NVNT	g	2437	Ant1	27.5	0	27.5	0.56234	30	Pass
NVNT	g	2462	Ant1	27.92	0	27.92	0.61944	30	Pass
NVNT	n20	2412	Ant1	27.22	0	27.22	0.52723	30	Pass
NVNT	n20	2437	Ant1	26.24	0	26.24	0.42073	30	Pass
NVNT	n20	2462	Ant1	27.25	0	27.25	0.53088	30	Pass
NVNT	n40	2422	Ant1	27.24	0	27.24	0.52966	30	Pass
NVNT	n40	2437	Ant1	26.53	0	26.53	0.44978	30	Pass
NVNT	n40	2452	Ant1	26.38	0	26.38	0.43451	30	Pass
NVNT	ax20	2412	Ant1	25.84	0	25.84	0.38371	30	Pass
NVNT	ax20	2437	Ant1	25.15	0	25.15	0.32734	30	Pass
NVNT	ax20	2462	Ant1	25.65	0	25.65	0.36728	30	Pass
NVNT	ax40	2422	Ant1	25.6	0	25.6	0.36308	30	Pass
NVNT	ax40	2437	Ant1	24.68	0	24.68	0.29376	30	Pass
NVNT	ax40	2452	Ant1	25.01	0	25.01	0.31696	30	Pass

Test Graphs

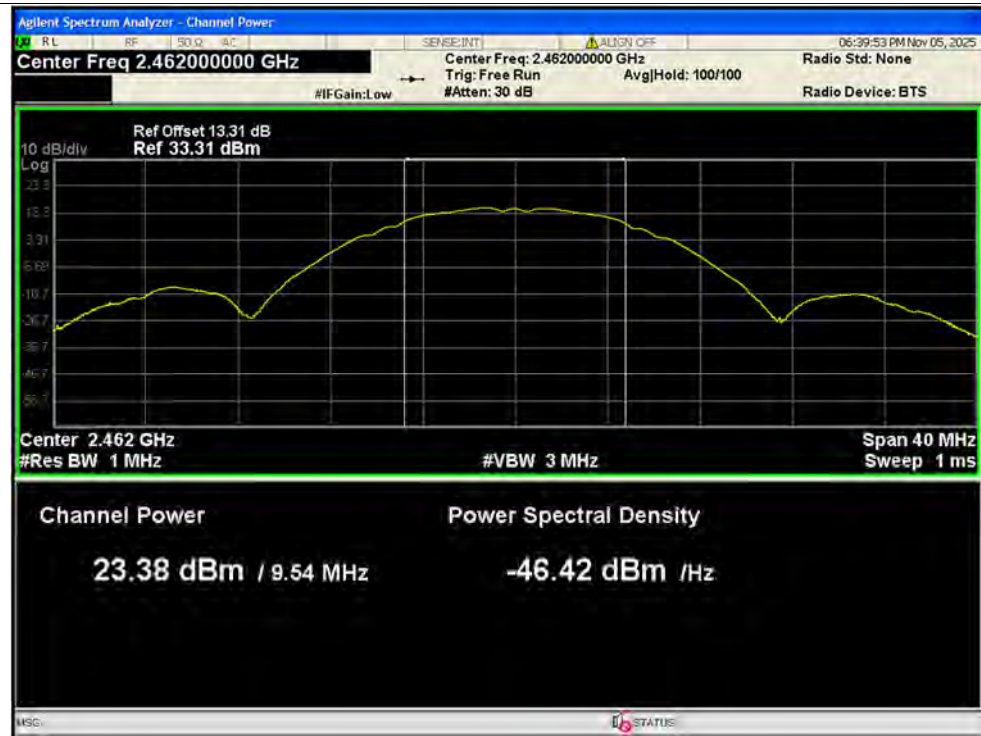
Peak Power NVNT b 2412MHz Ant1



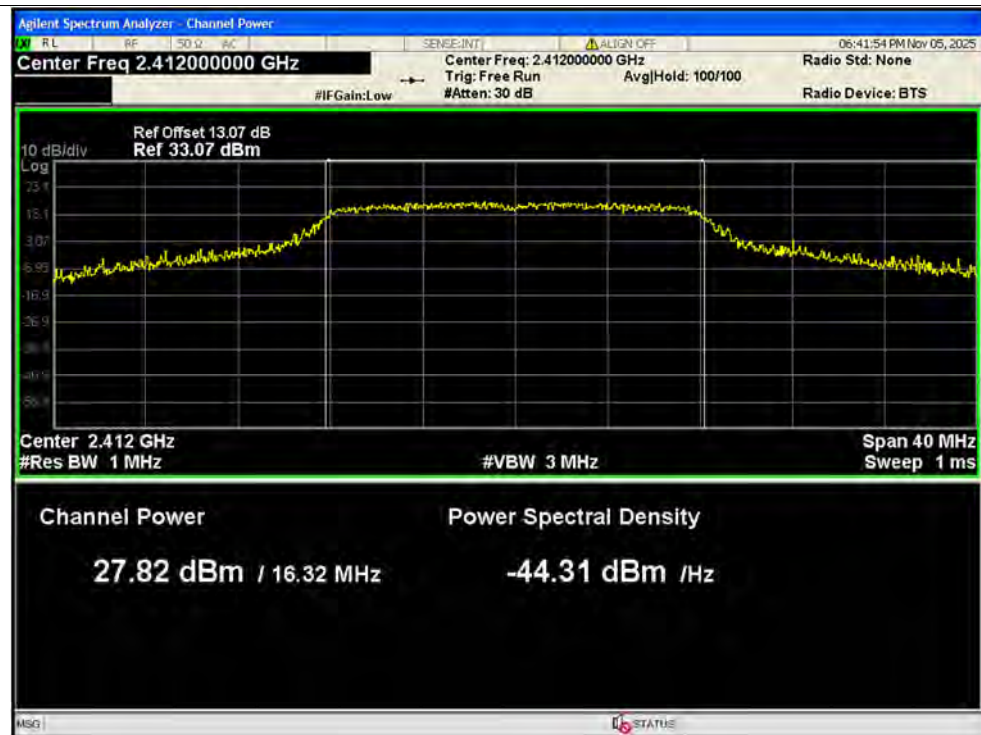
Peak Power NVNT b 2437MHz Ant1



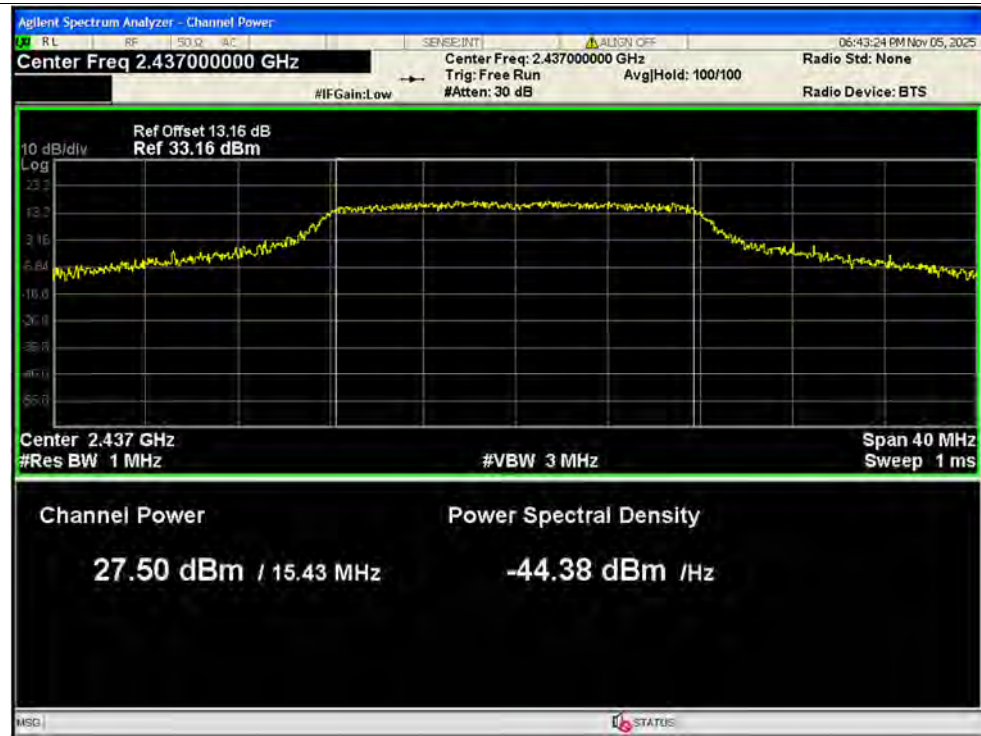
Peak Power NVNT b 2462MHz Ant1



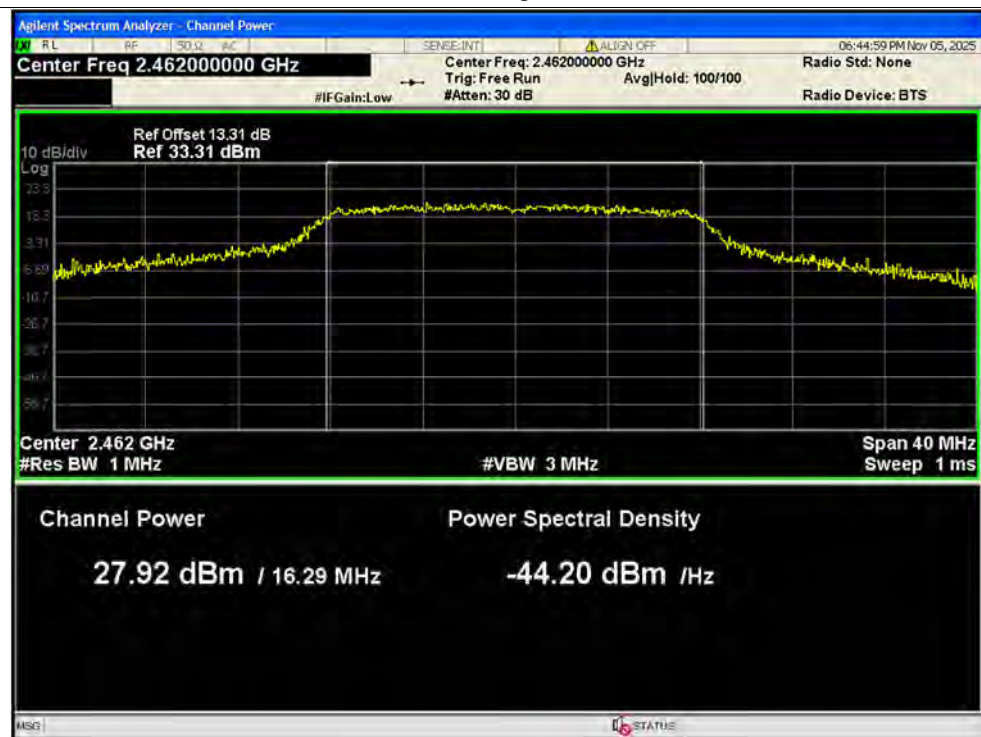
Peak Power NVNT g 2412MHz Ant1



Peak Power NVNT g 2437MHz Ant1

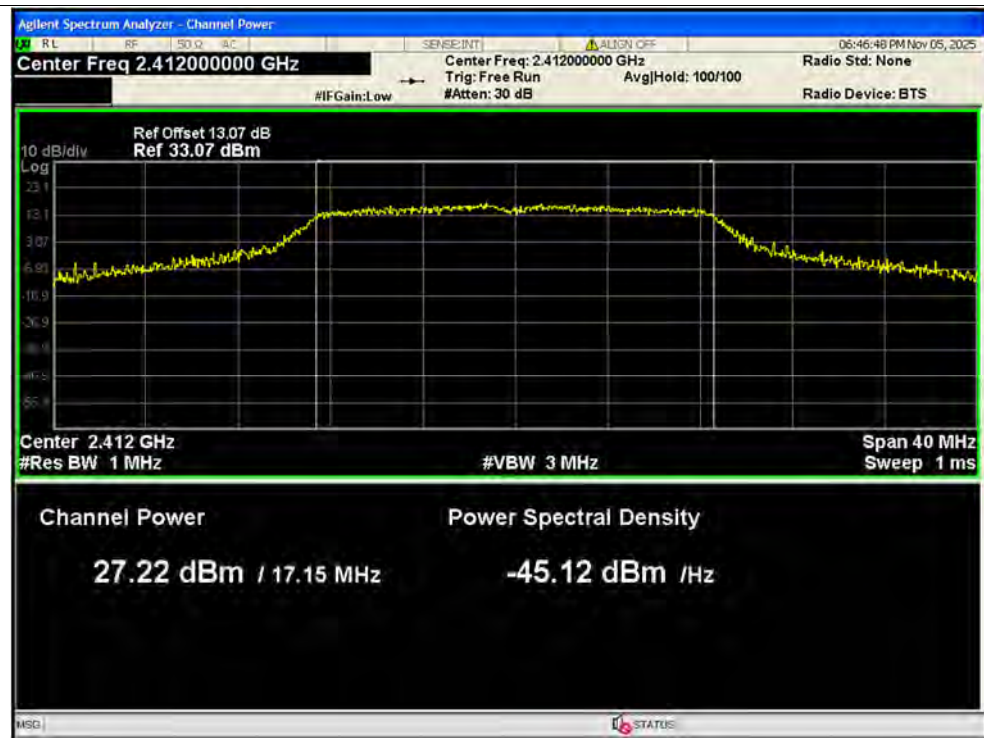


Peak Power NVNT g 2462MHz Ant1

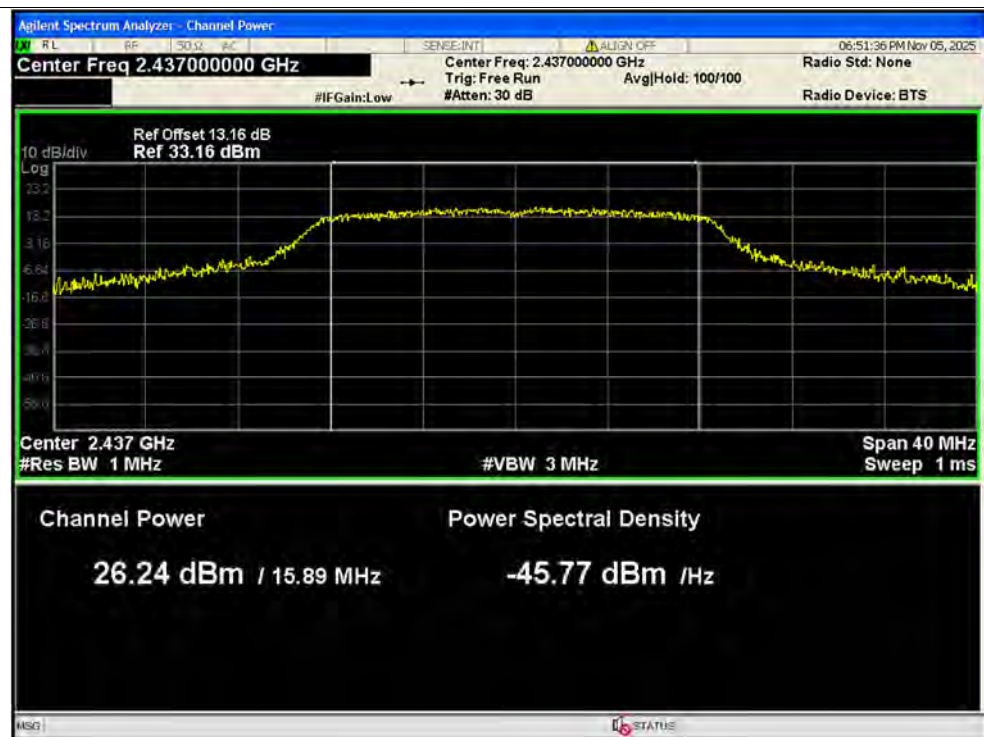




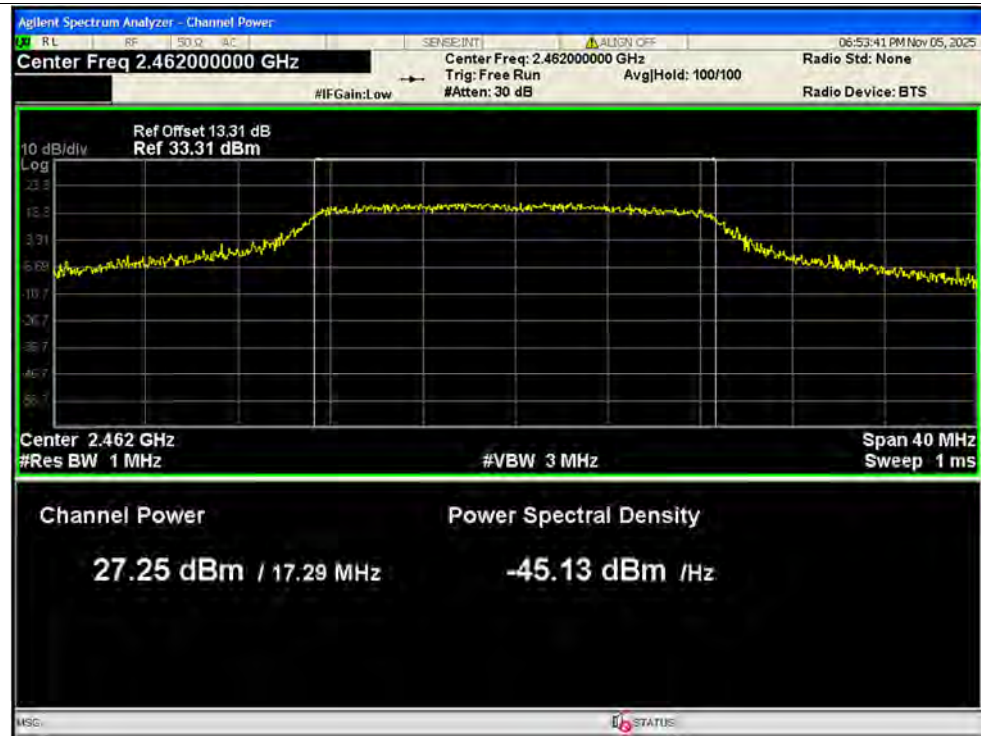
Peak Power NVNT n20 2412MHz Ant1



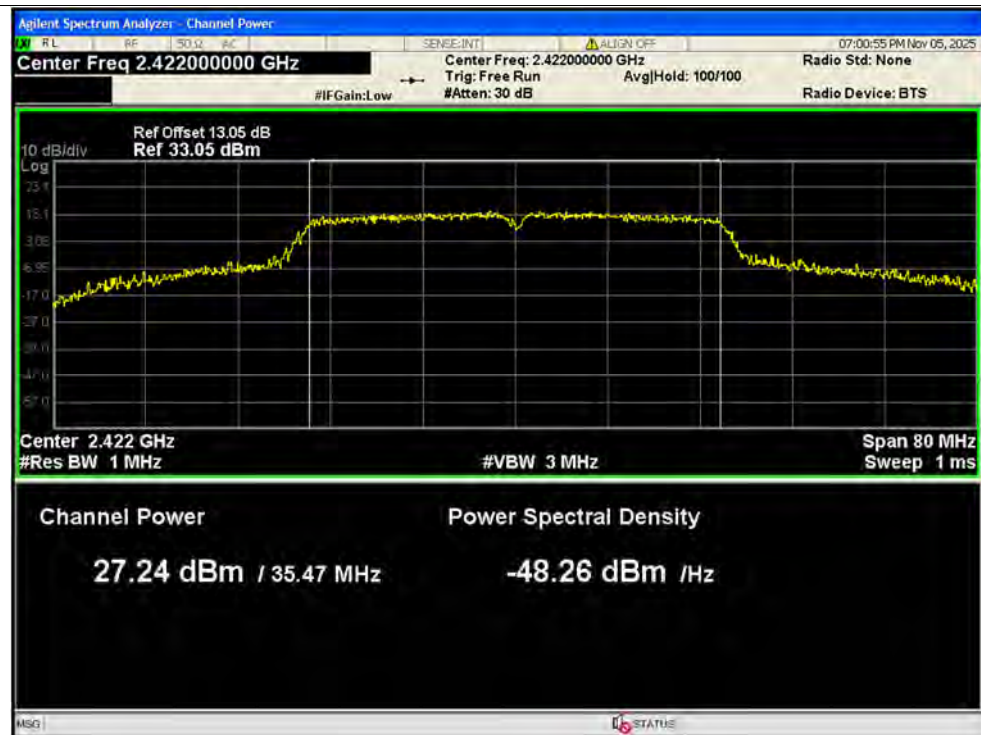
Peak Power NVNT n20 2437MHz Ant1



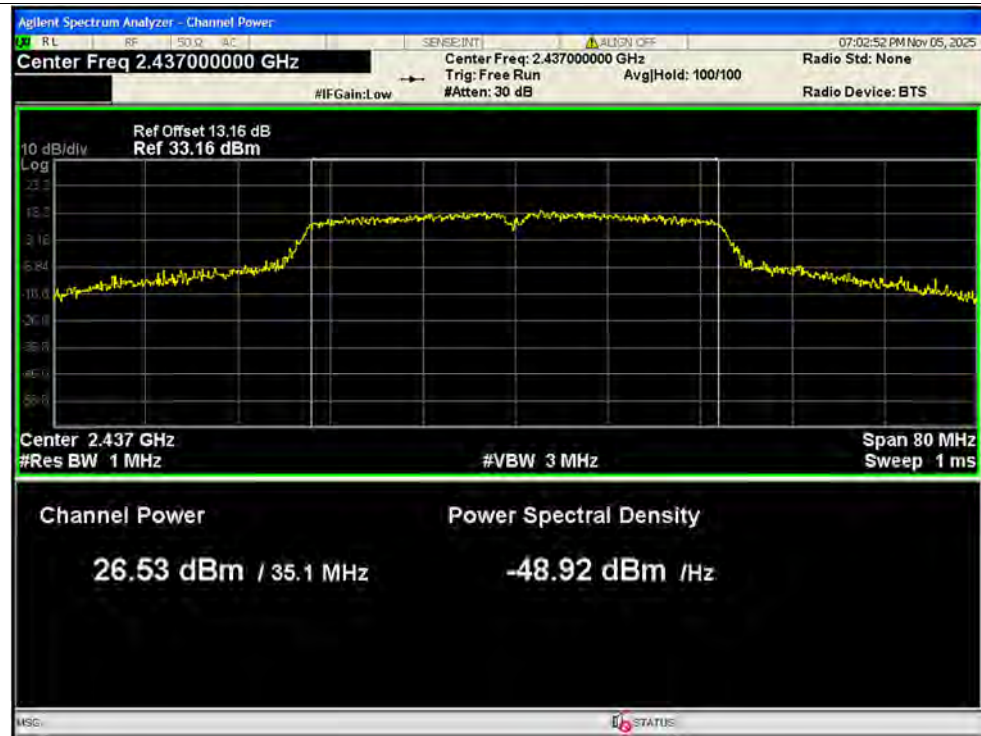
Peak Power NVNT n20 2462MHz Ant1



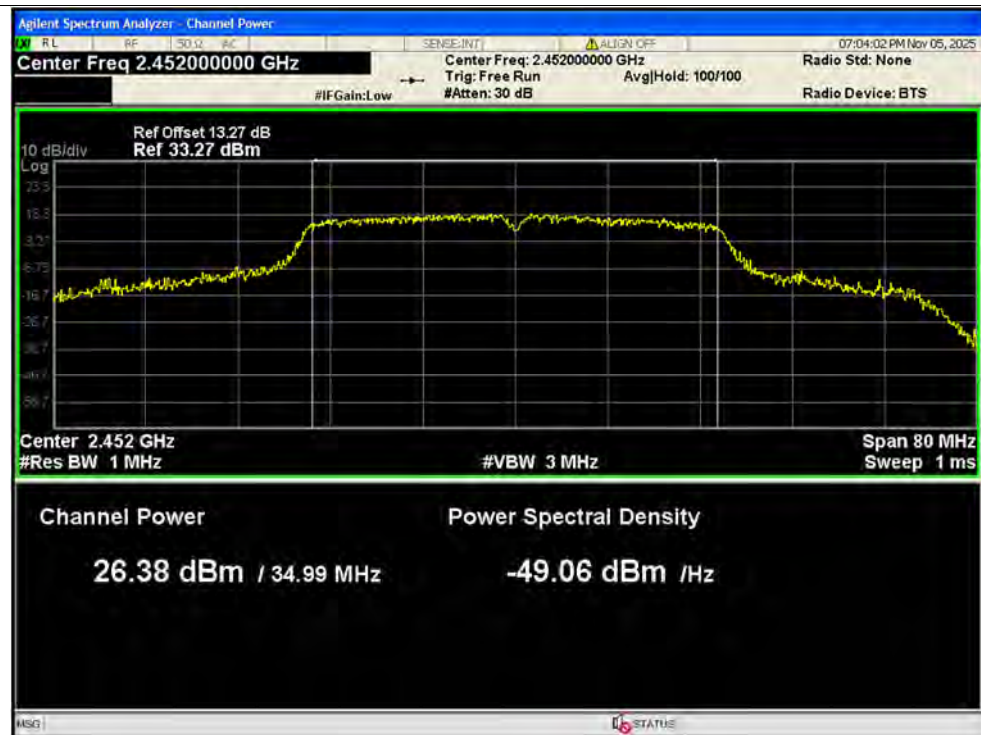
Peak Power NVNT n40 2422MHz Ant1



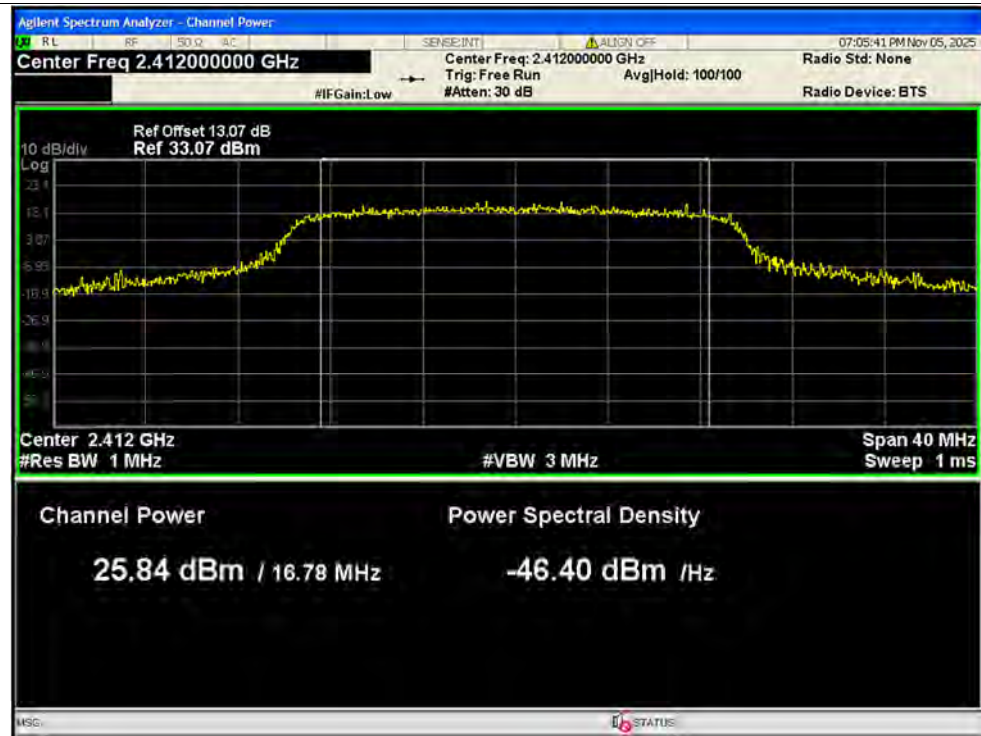
Peak Power NVNT n40 2437MHz Ant1



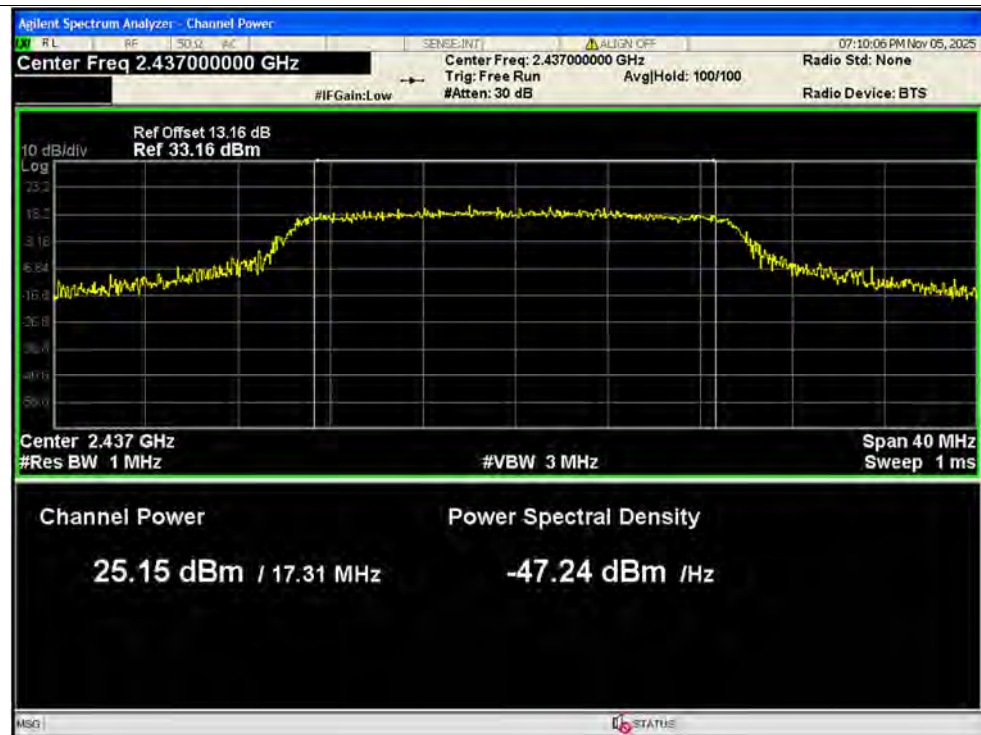
Peak Power NVNT n40 2452MHz Ant1



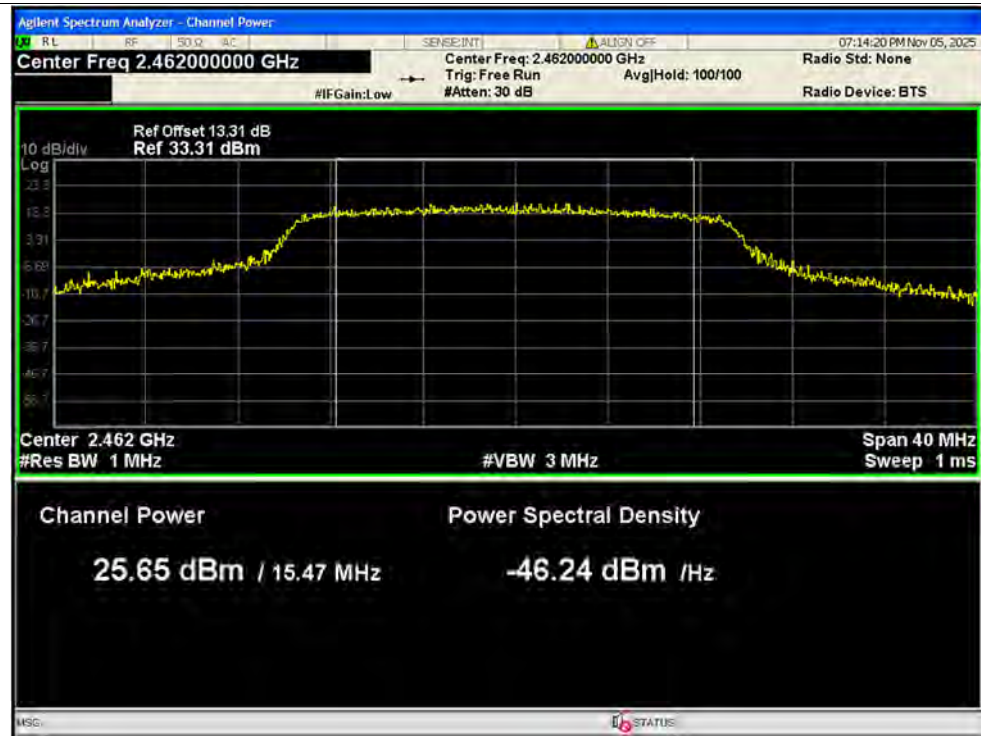
Peak Power NVNT ax20 2412MHz Ant1



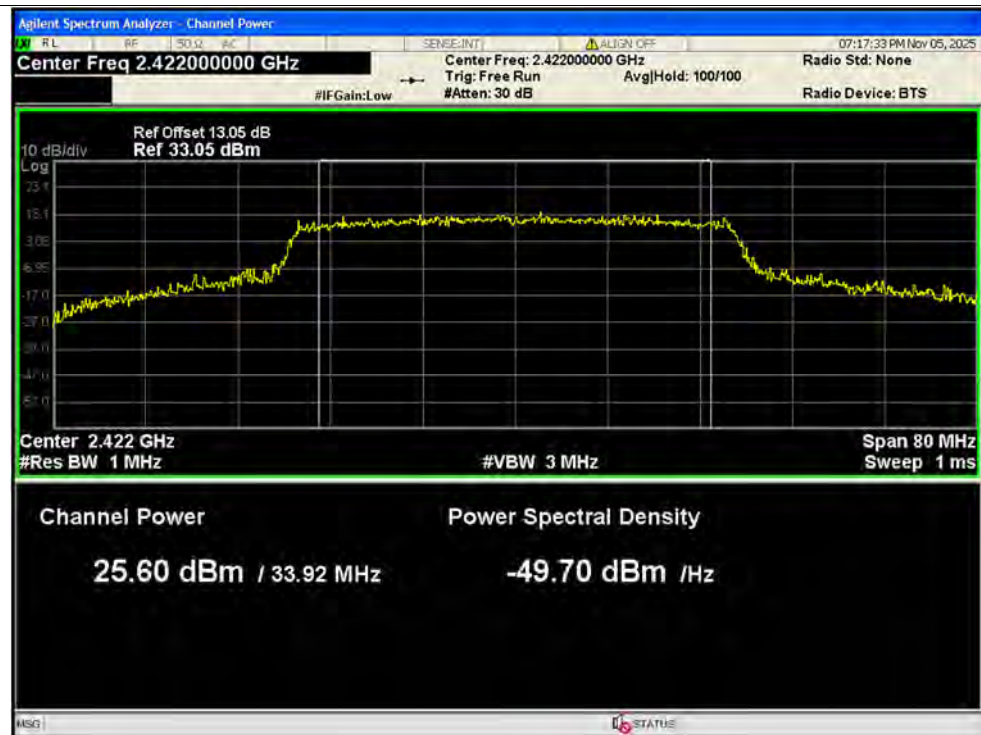
Peak Power NVNT ax20 2437MHz Ant1



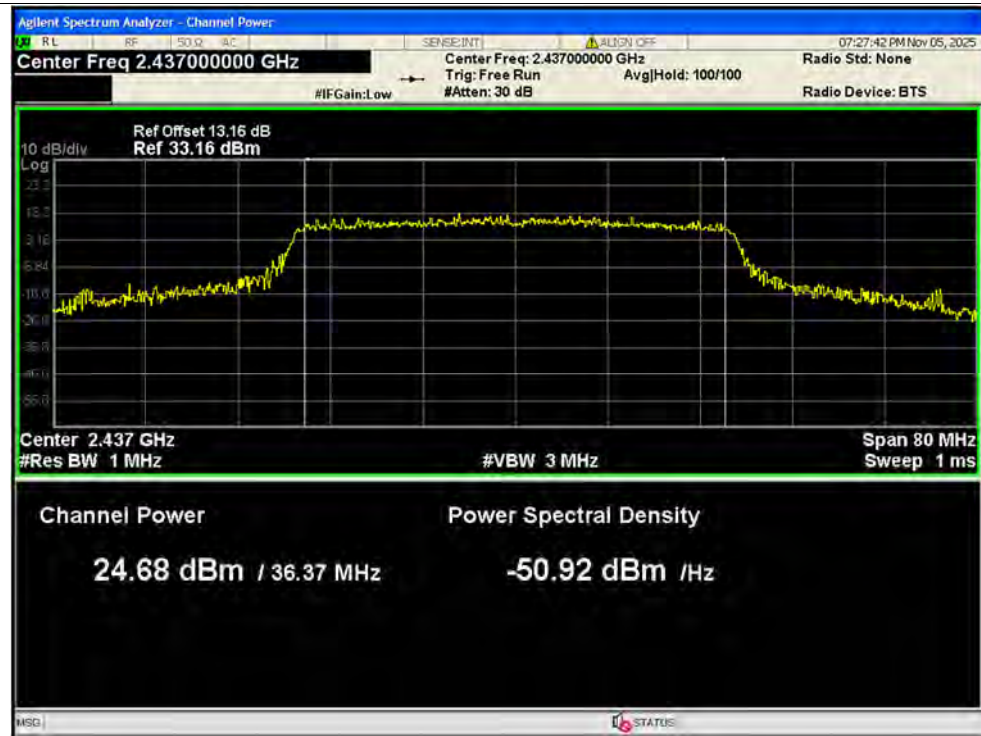
Peak Power NVNT ax20 2462MHz Ant1



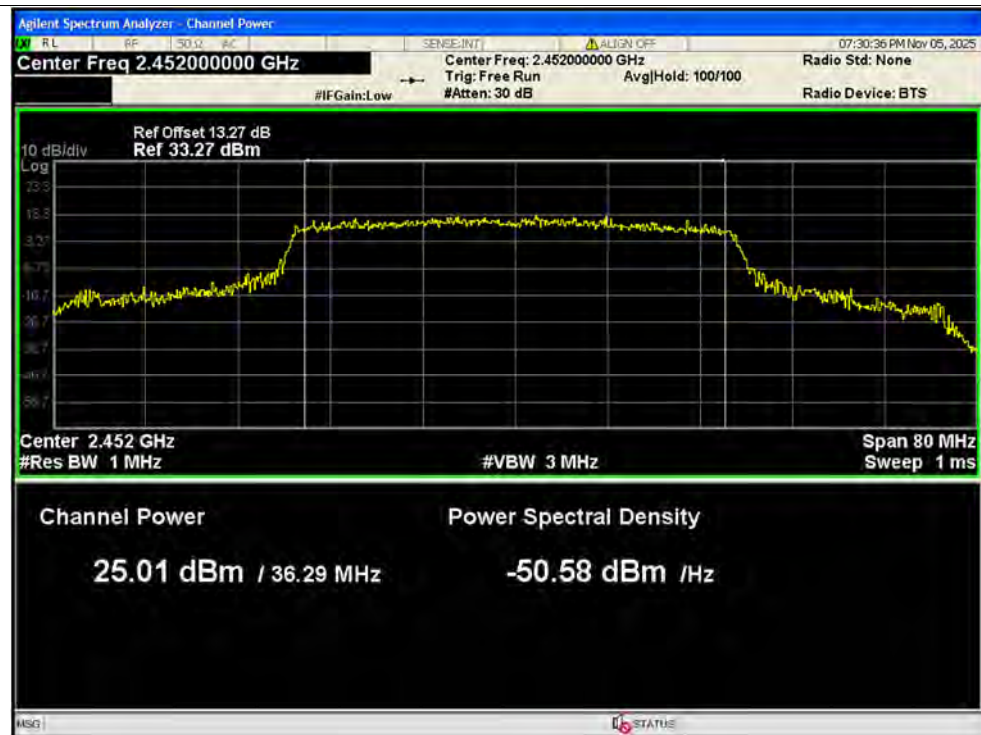
Peak Power NVNT ax40 2422MHz Ant1



Peak Power NVNT ax40 2437MHz Ant1



Peak Power NVNT ax40 2452MHz Ant1



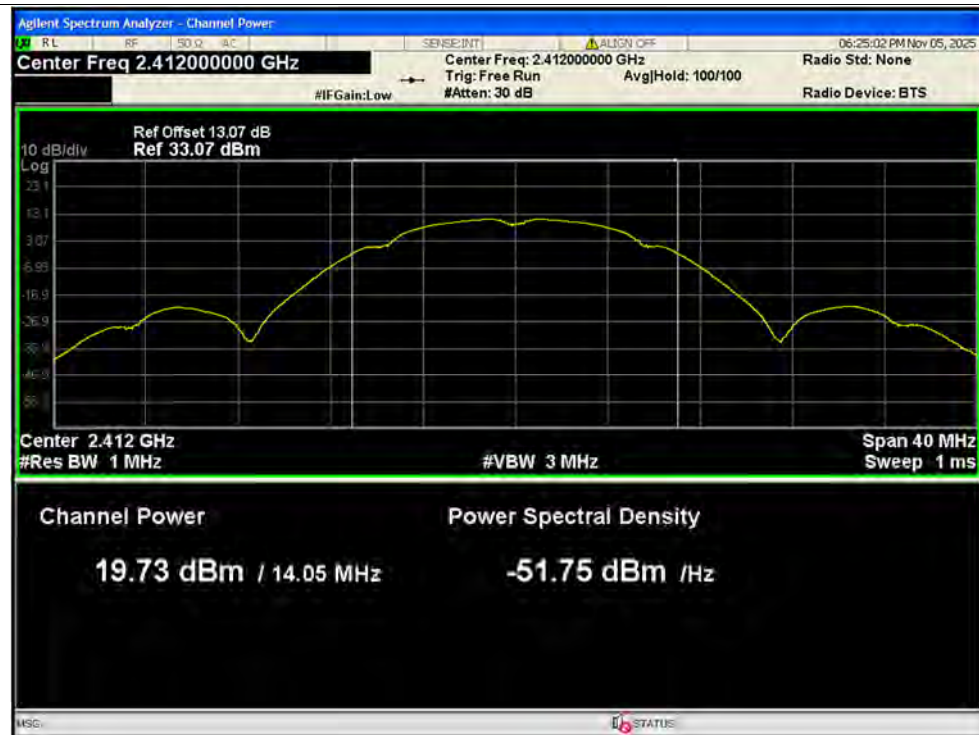
**A.3. Maximum Average Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Total Conducted Power (W)	Limit Conducted (dBm)	Verdict
NVNT	b	2412	Ant1	19.73	0.06	19.79	0.09528	30	Pass
NVNT	b	2437	Ant1	19.54	0.04	19.58	0.09078	30	Pass
NVNT	b	2462	Ant1	20.66	0.08	20.74	0.11858	30	Pass
NVNT	g	2412	Ant1	20.1	0.29	20.39	0.1094	30	Pass
NVNT	g	2437	Ant1	20.28	0.26	20.54	0.11324	30	Pass
NVNT	g	2462	Ant1	20.47	0.6	21.07	0.12794	30	Pass
NVNT	n20	2412	Ant1	19.85	1.3	21.15	0.13032	30	Pass
NVNT	n20	2437	Ant1	19.02	0.25	19.27	0.08453	30	Pass
NVNT	n20	2462	Ant1	19.85	0.56	20.41	0.1099	30	Pass
NVNT	n40	2422	Ant1	19.3	0.7	20	0.1	30	Pass
NVNT	n40	2437	Ant1	18.6	1.05	19.65	0.09226	30	Pass
NVNT	n40	2452	Ant1	18.51	1.21	19.72	0.09376	30	Pass
NVNT	ax20	2412	Ant1	17.88	0.44	18.32	0.06792	30	Pass
NVNT	ax20	2437	Ant1	17.45	0.57	18.02	0.06339	30	Pass
NVNT	ax20	2462	Ant1	17.98	0.53	18.51	0.07096	30	Pass
NVNT	ax40	2422	Ant1	17.11	1.12	18.23	0.06653	30	Pass
NVNT	ax40	2437	Ant1	15.87	1.31	17.18	0.05224	30	Pass
NVNT	ax40	2452	Ant1	16.65	0.97	17.62	0.05781	30	Pass

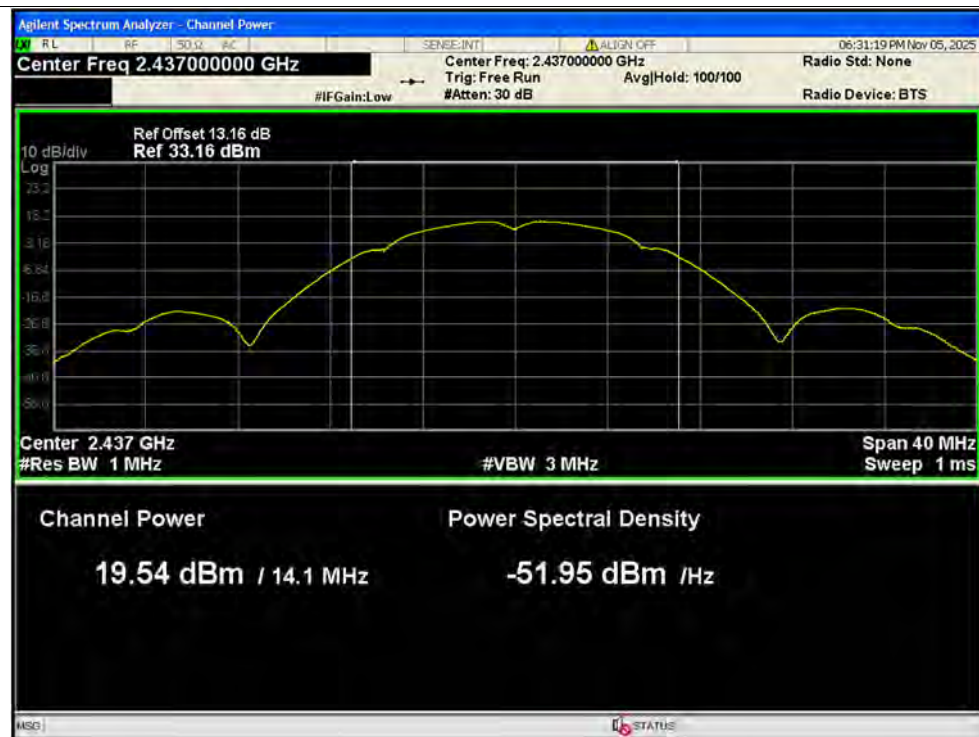


Test Graphs

Average Power NVNT b 2412MHz Ant1

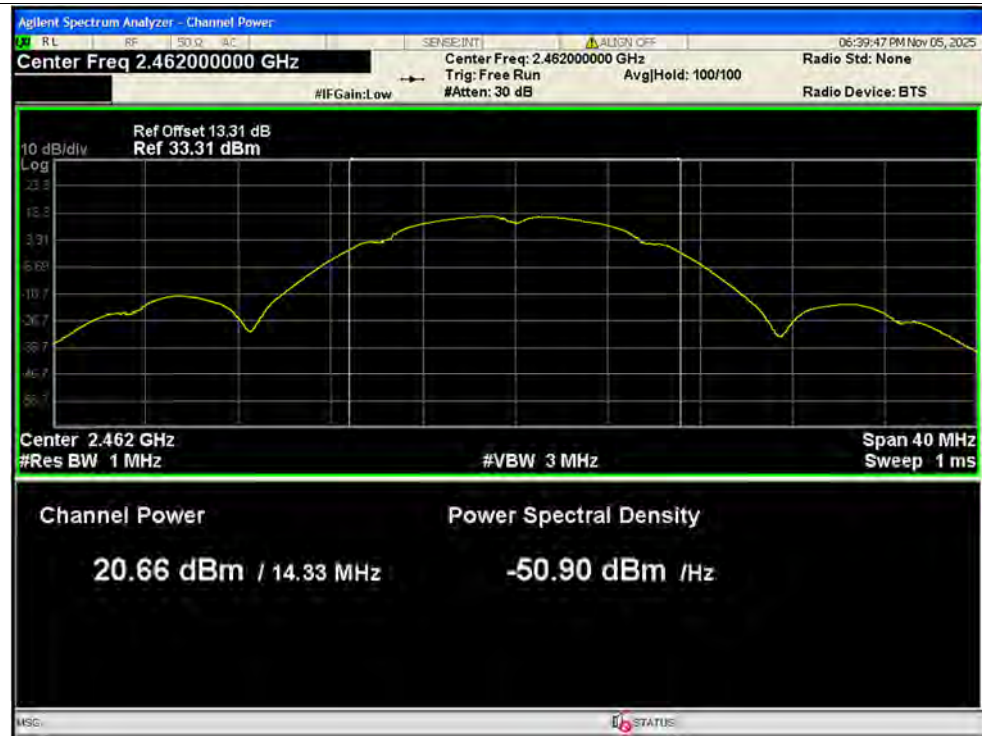


Average Power NVNT b 2437MHz Ant1

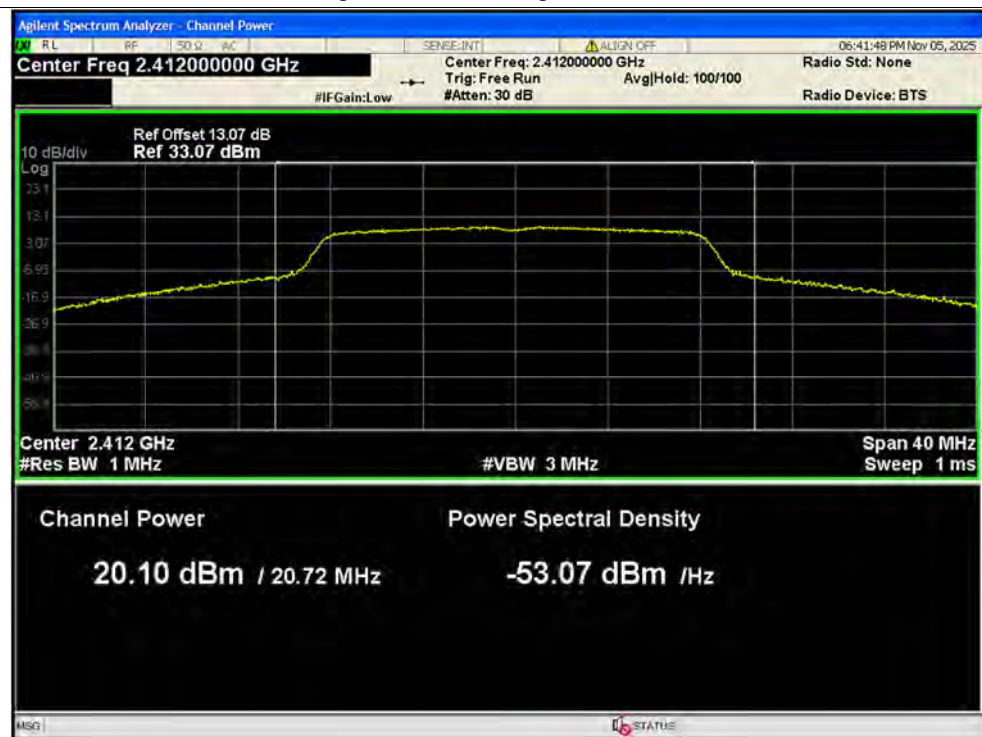




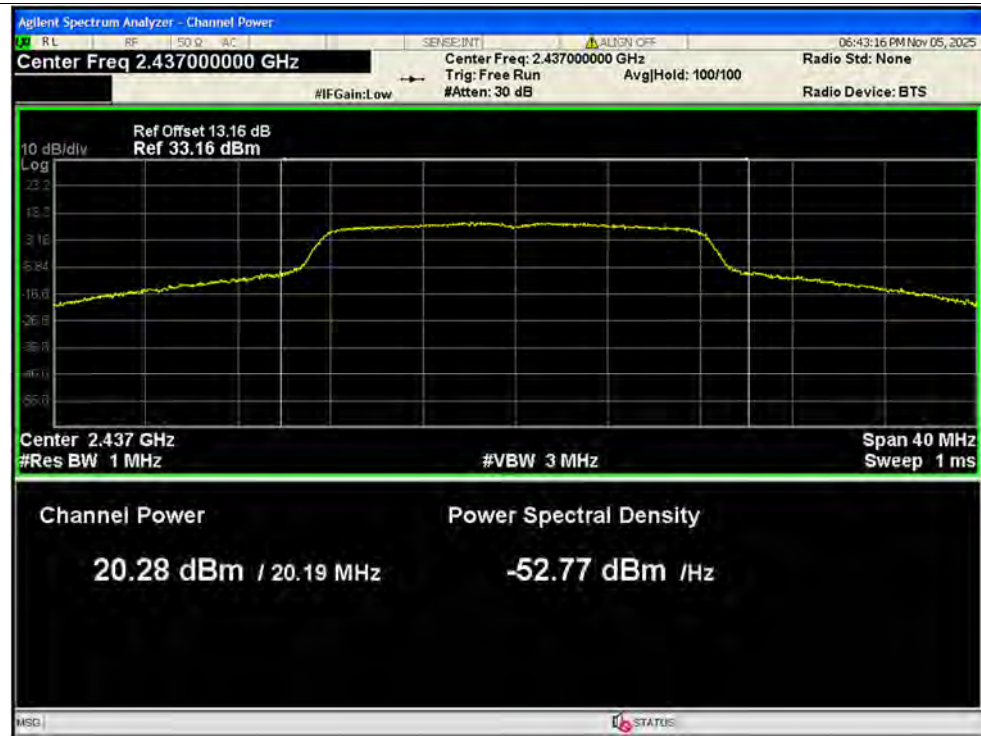
Average Power NVNT b 2462MHz Ant1



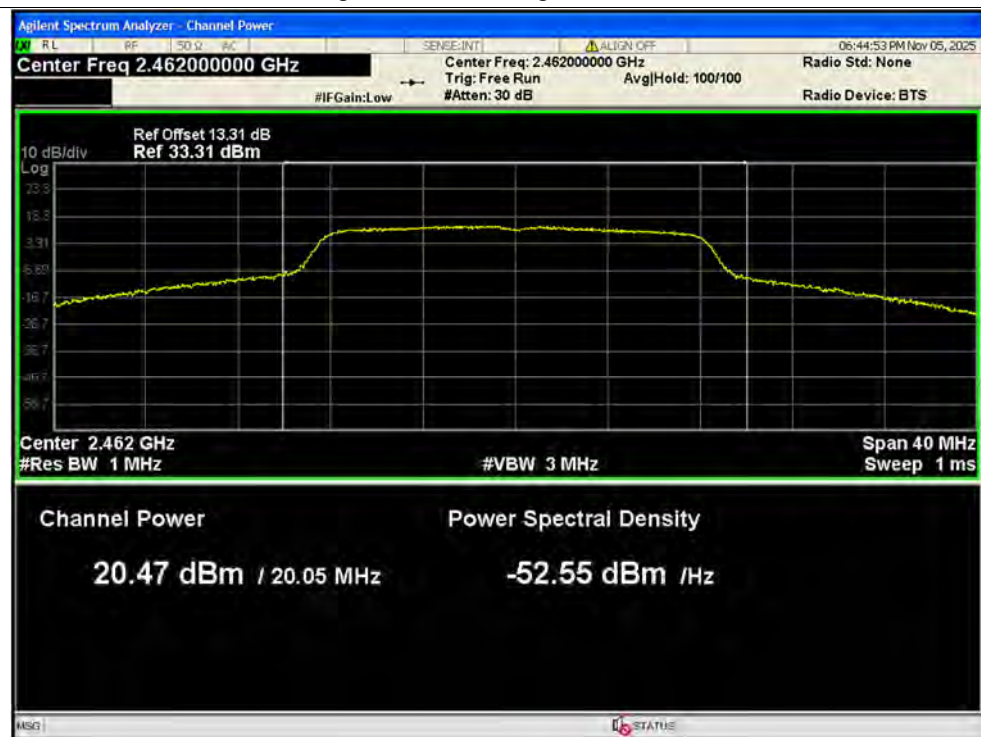
Average Power NVNT g 2412MHz Ant1



Average Power NVNT g 2437MHz Ant1

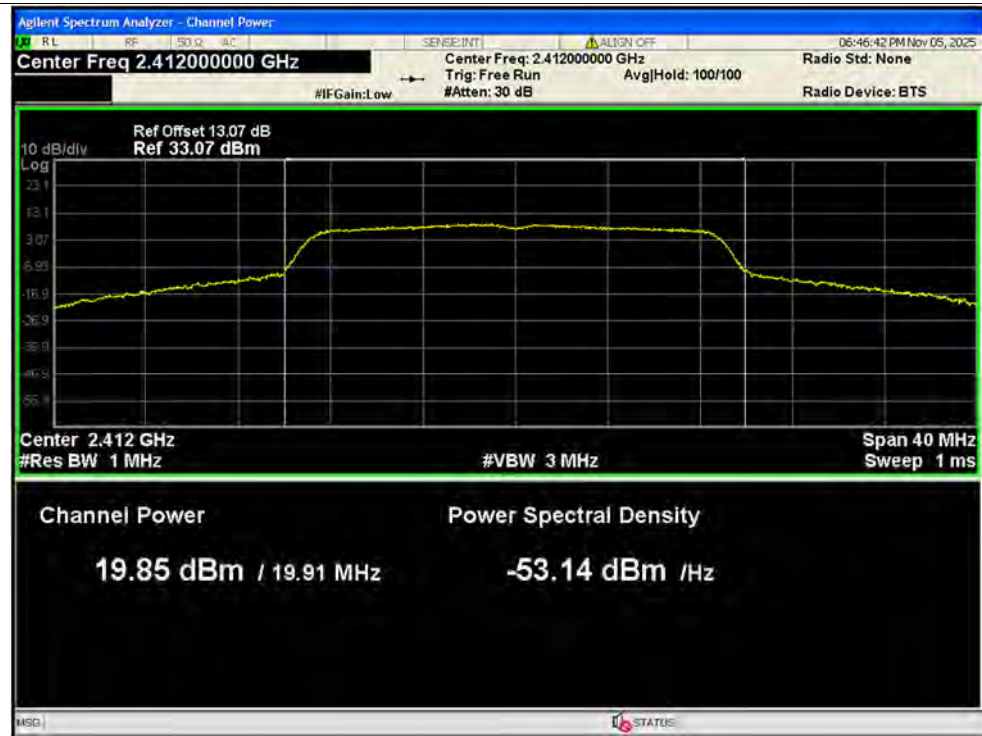


Average Power NVNT g 2462MHz Ant1

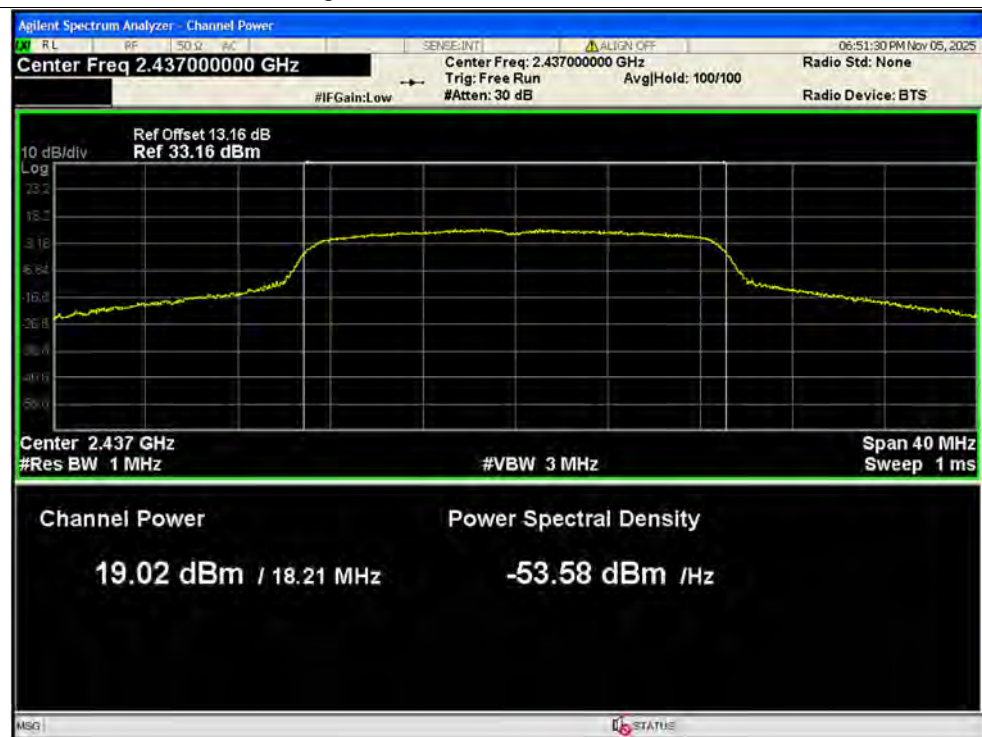




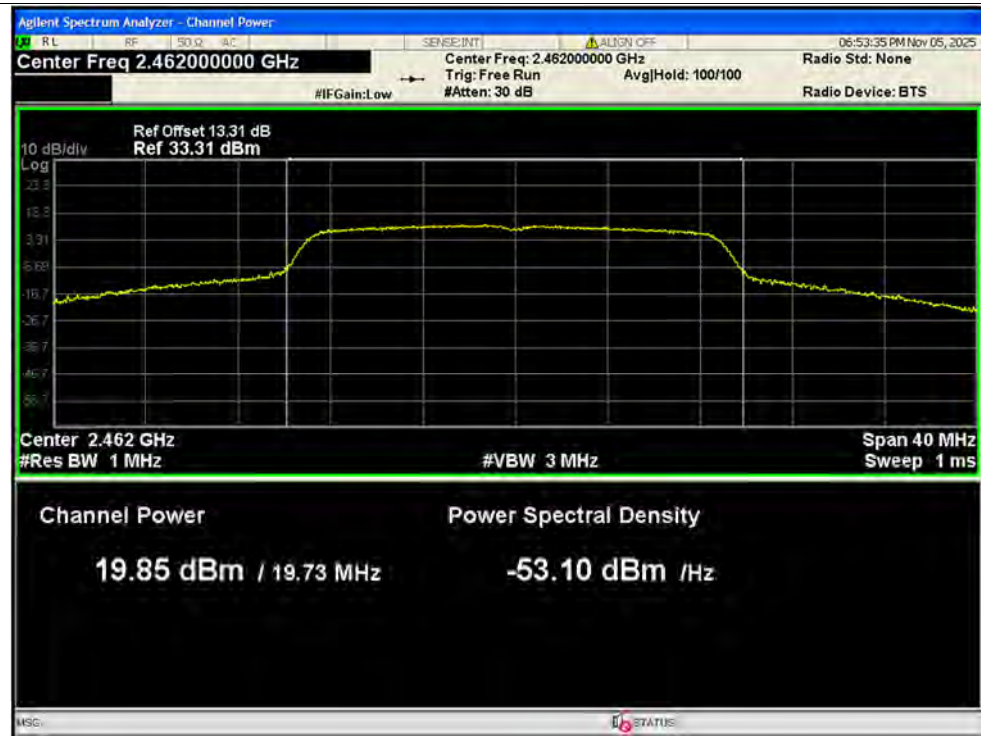
Average Power NVNT n20 2412MHz Ant1



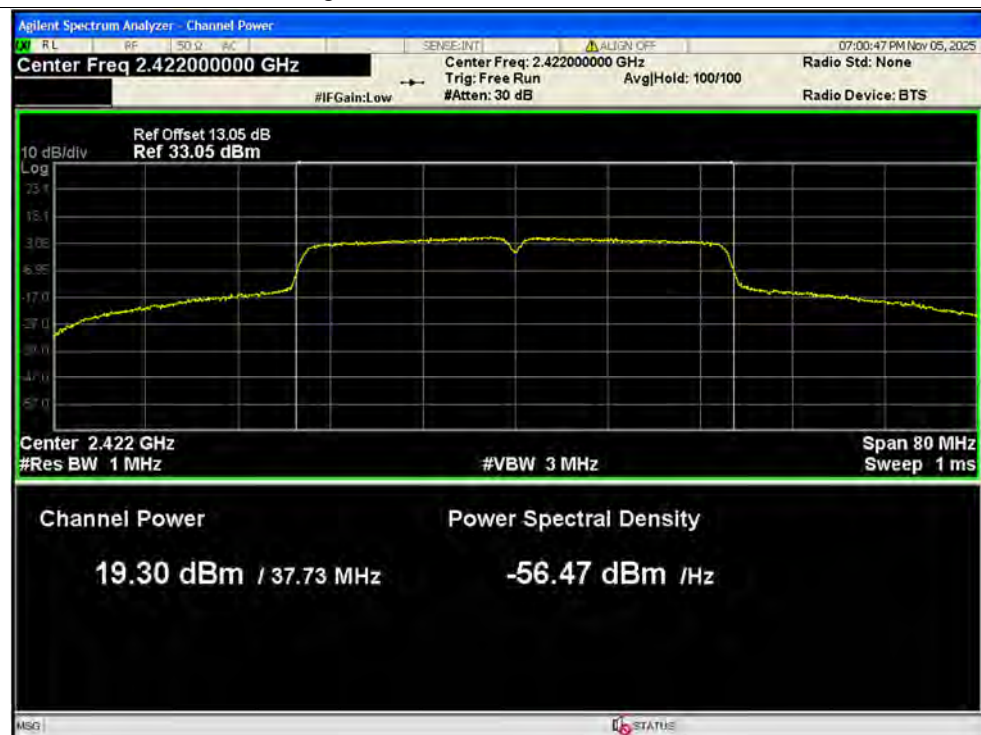
Average Power NVNT n20 2437MHz Ant1



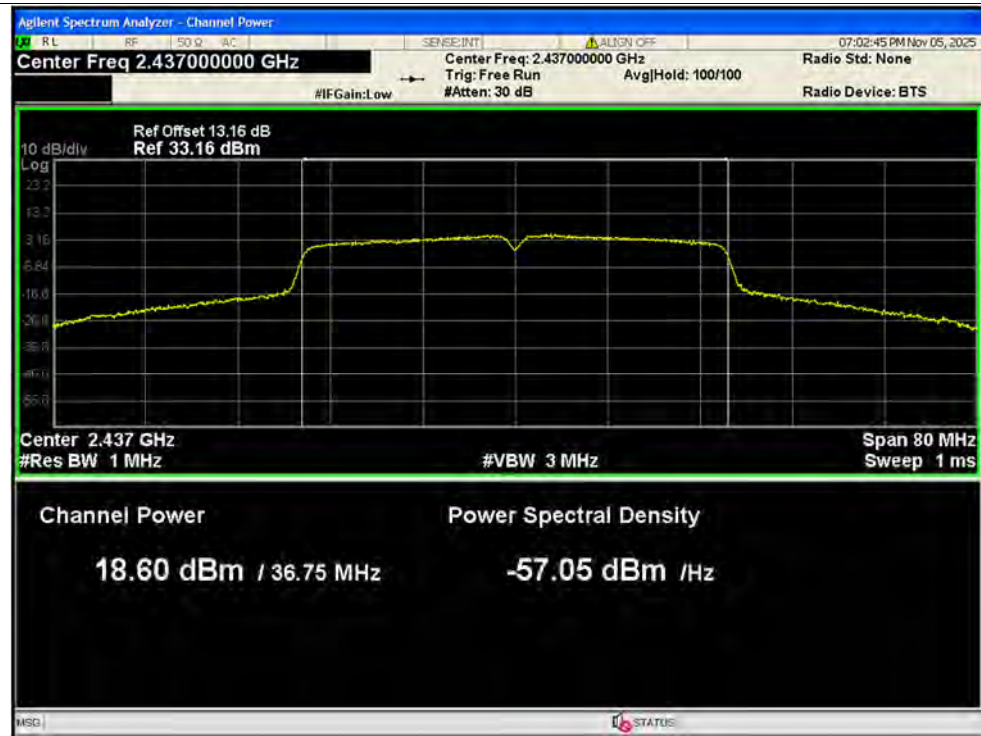
Average Power NVNT n20 2462MHz Ant1



Average Power NVNT n40 2422MHz Ant1



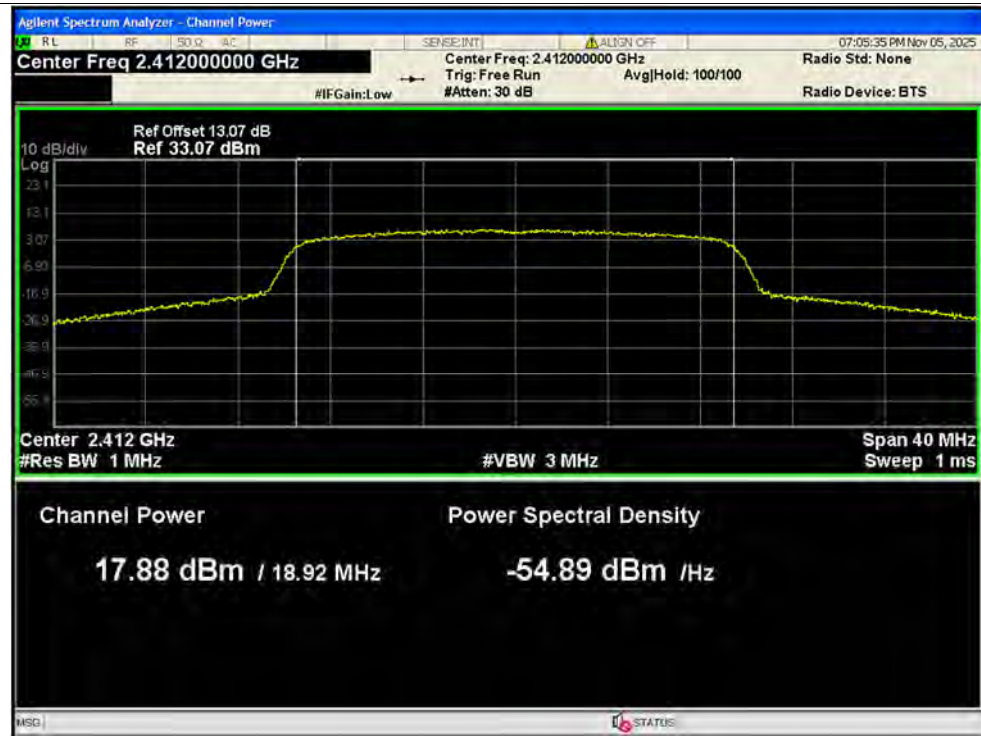
Average Power NVNT n40 2437MHz Ant1



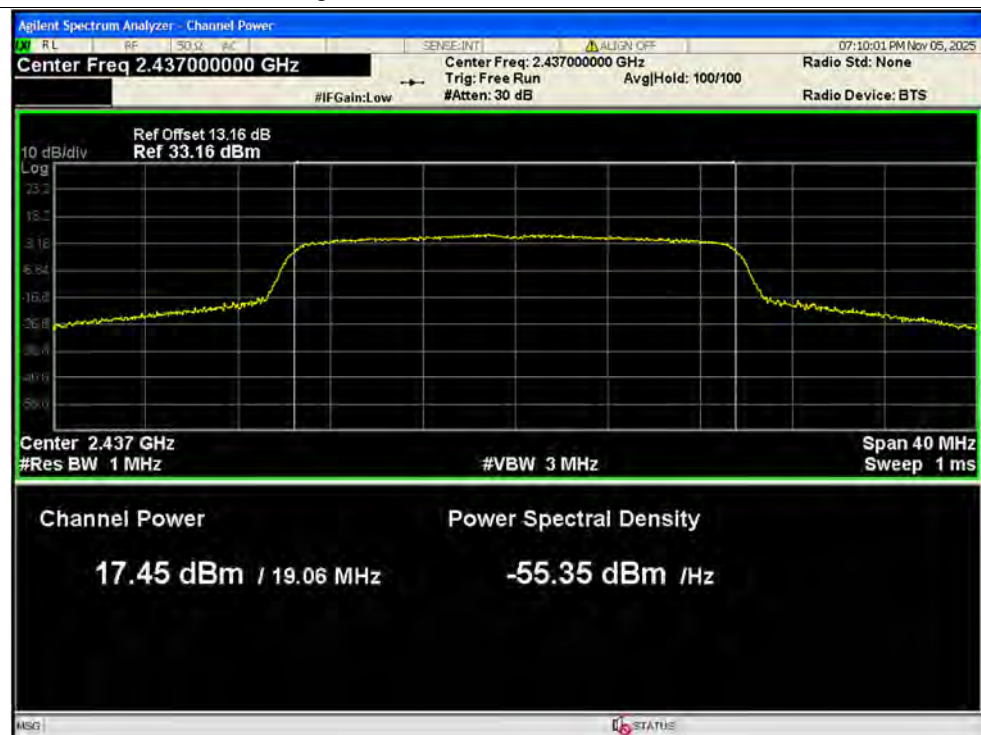
Average Power NVNT n40 2452MHz Ant1



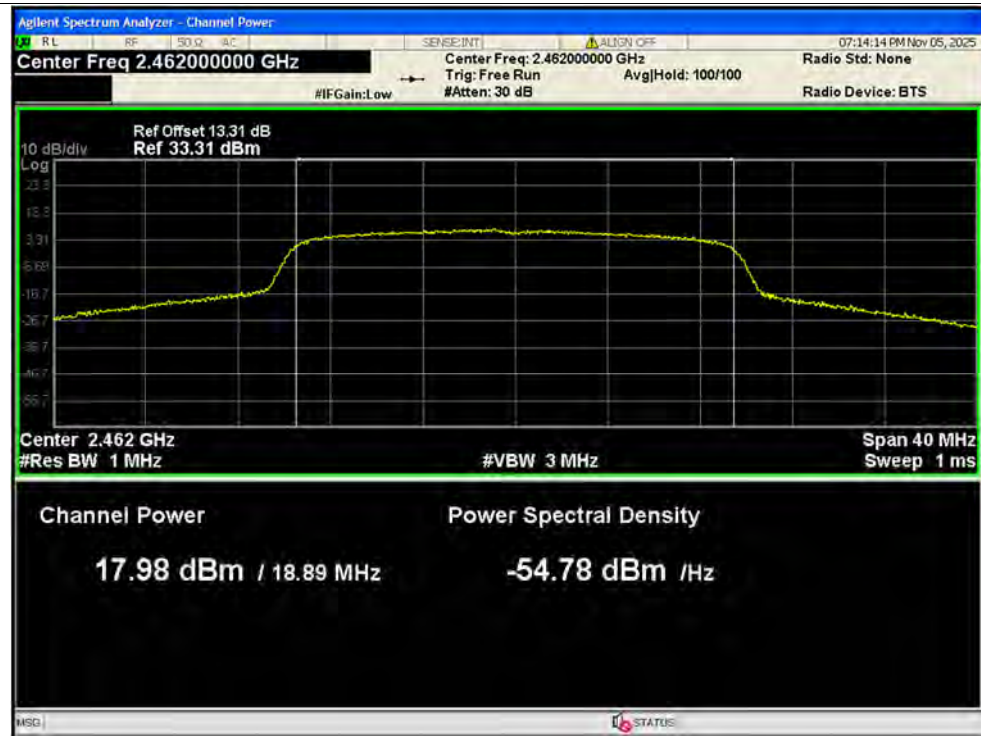
Average Power NVNT ax20 2412MHz Ant1



Average Power NVNT ax20 2437MHz Ant1



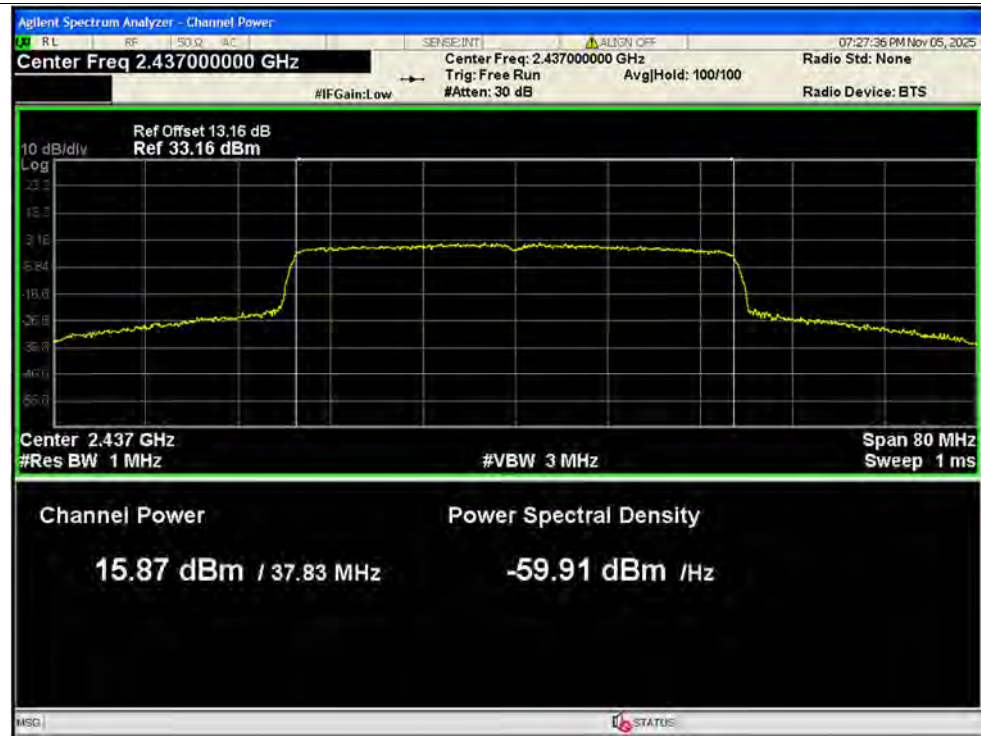
Average Power NVNT ax20 2462MHz Ant1



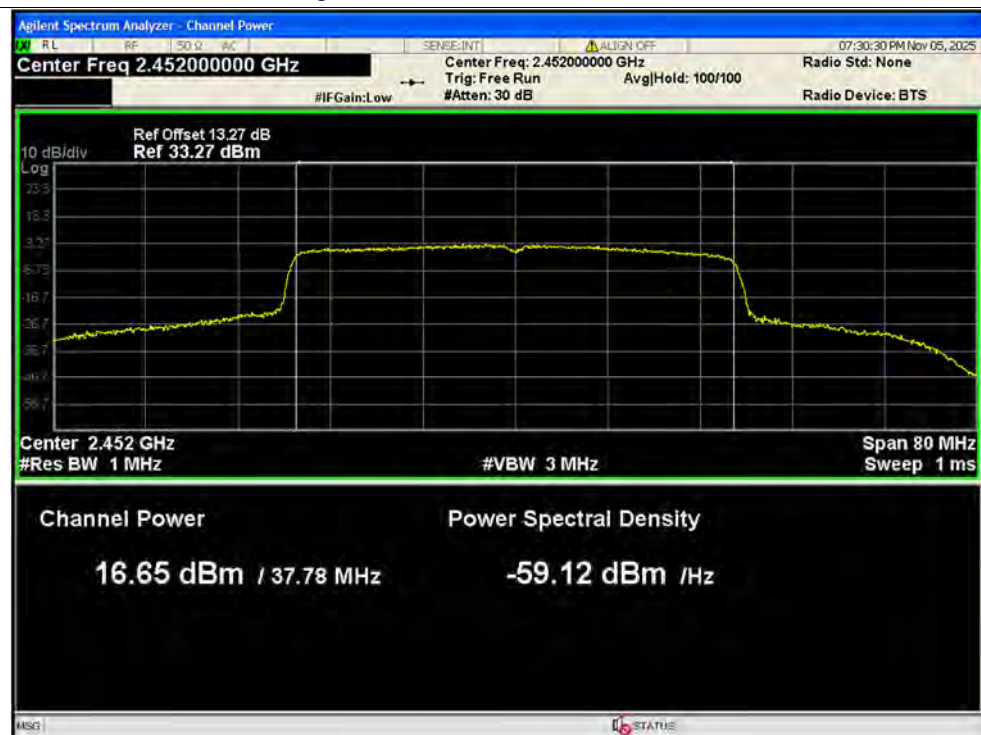
Average Power NVNT ax40 2422MHz Ant1



Average Power NVNT ax40 2437MHz Ant1



Average Power NVNT ax40 2452MHz Ant1



**A.4. 6 dB Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	8.015	0.5	Pass
NVNT	b	2437	Ant1	9.057	0.5	Pass
NVNT	b	2462	Ant1	9.039	0.5	Pass
NVNT	g	2412	Ant1	15.92	0.5	Pass
NVNT	g	2437	Ant1	16.28	0.5	Pass
NVNT	g	2462	Ant1	15.37	0.5	Pass
NVNT	n20	2412	Ant1	17.55	0.5	Pass
NVNT	n20	2437	Ant1	15.14	0.5	Pass
NVNT	n20	2462	Ant1	17.34	0.5	Pass
NVNT	n40	2422	Ant1	35.71	0.5	Pass
NVNT	n40	2437	Ant1	32.21	0.5	Pass
NVNT	n40	2452	Ant1	35.02	0.5	Pass
NVNT	ax20	2412	Ant1	16.6	0.5	Pass
NVNT	ax20	2437	Ant1	16.02	0.5	Pass
NVNT	ax20	2462	Ant1	18.51	0.5	Pass
NVNT	ax40	2422	Ant1	33.93	0.5	Pass
NVNT	ax40	2437	Ant1	32.51	0.5	Pass
NVNT	ax40	2452	Ant1	32.73	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



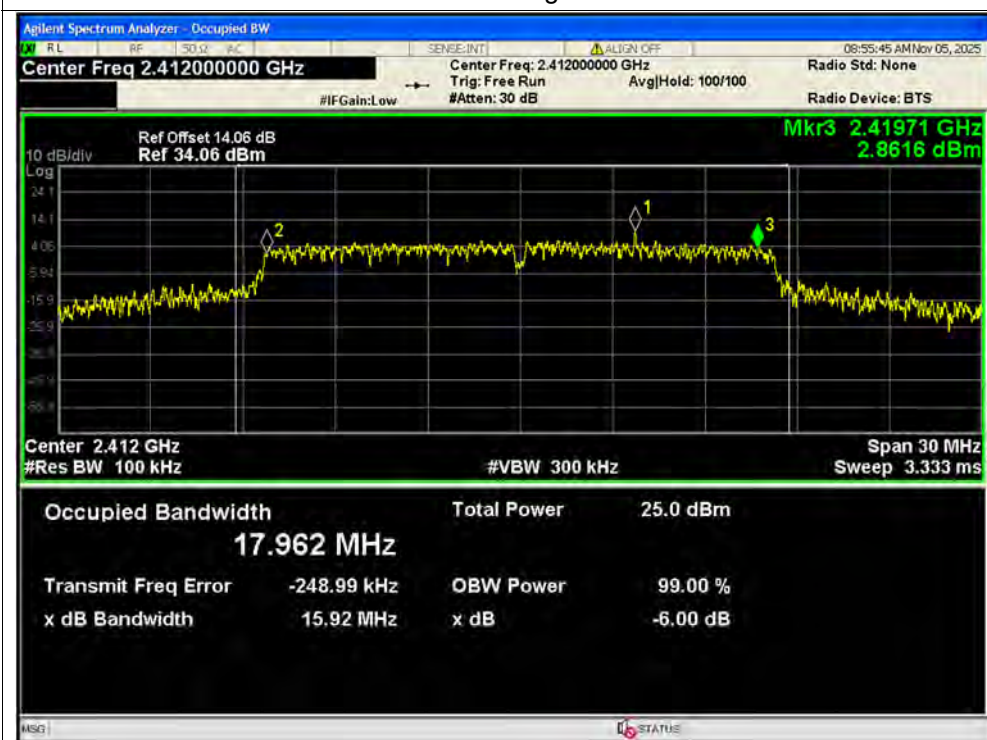
-6dB Bandwidth NVNT b 2437MHz Ant1



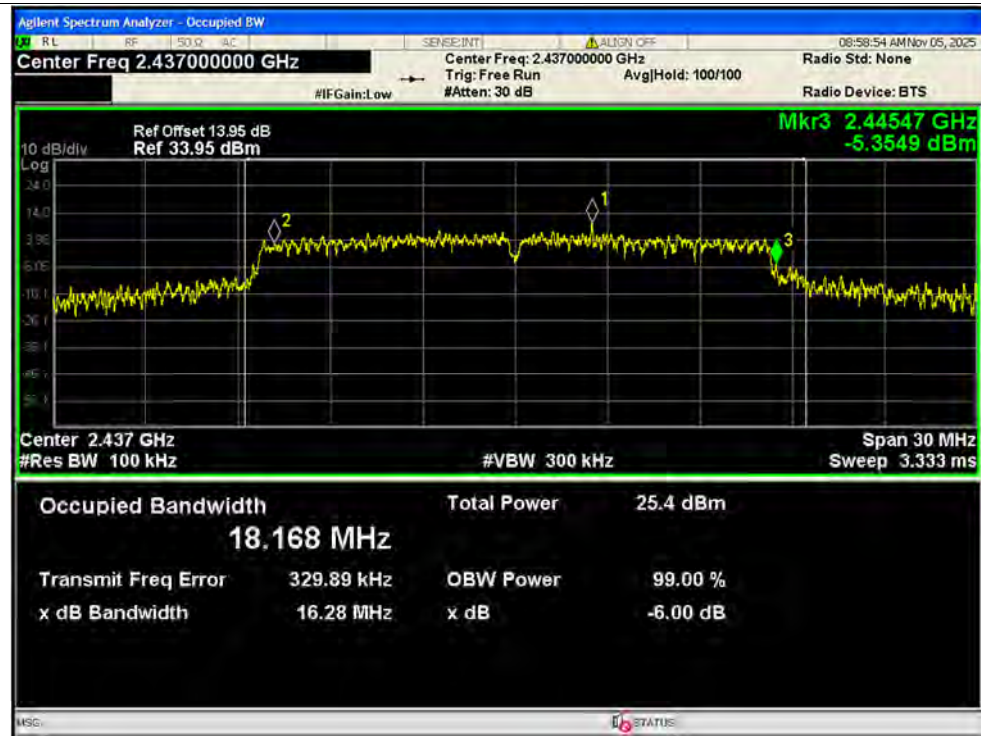
-6dB Bandwidth NVNT b 2462MHz Ant1



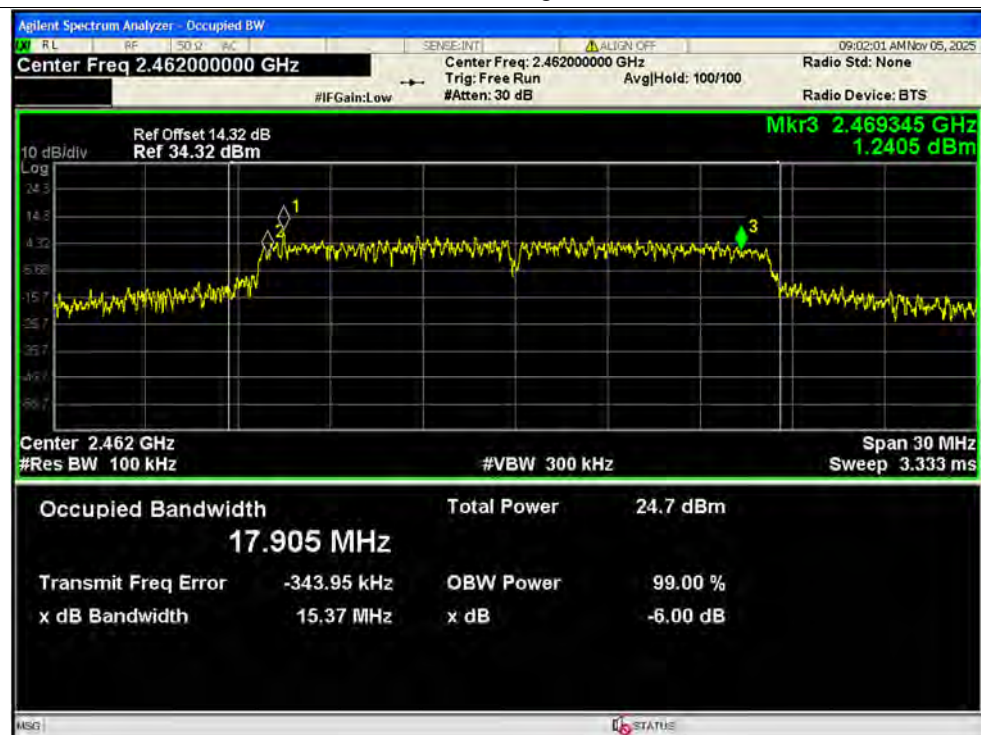
-6dB Bandwidth NVNT g 2412MHz Ant1



-6dB Bandwidth NVNT g 2437MHz Ant1

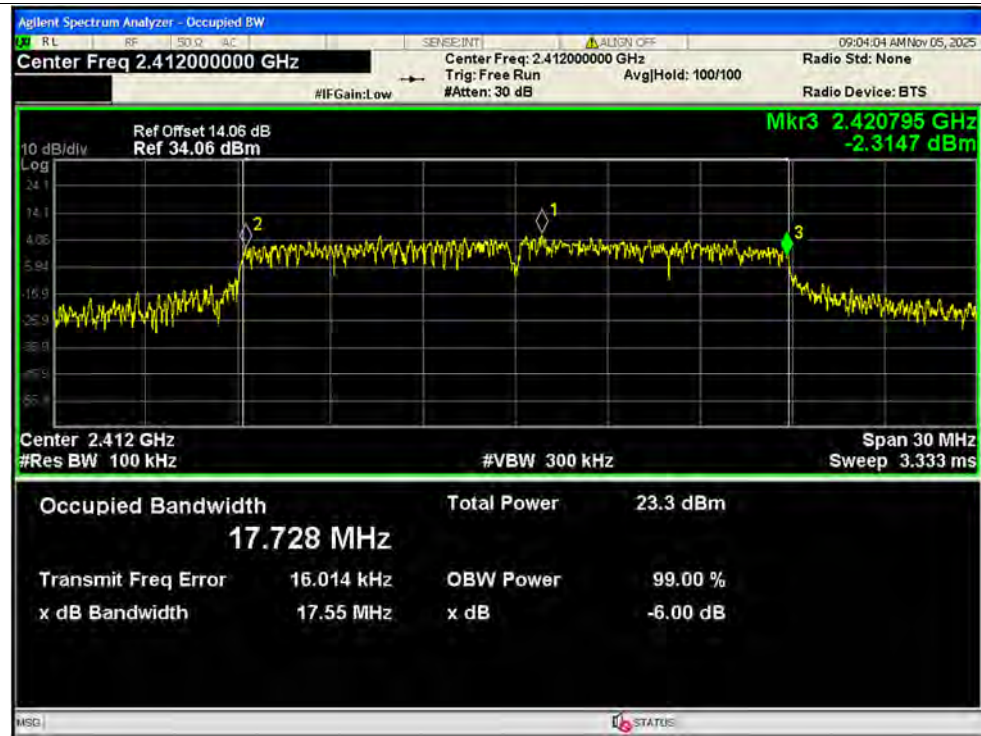


-6dB Bandwidth NVNT g 2462MHz Ant1

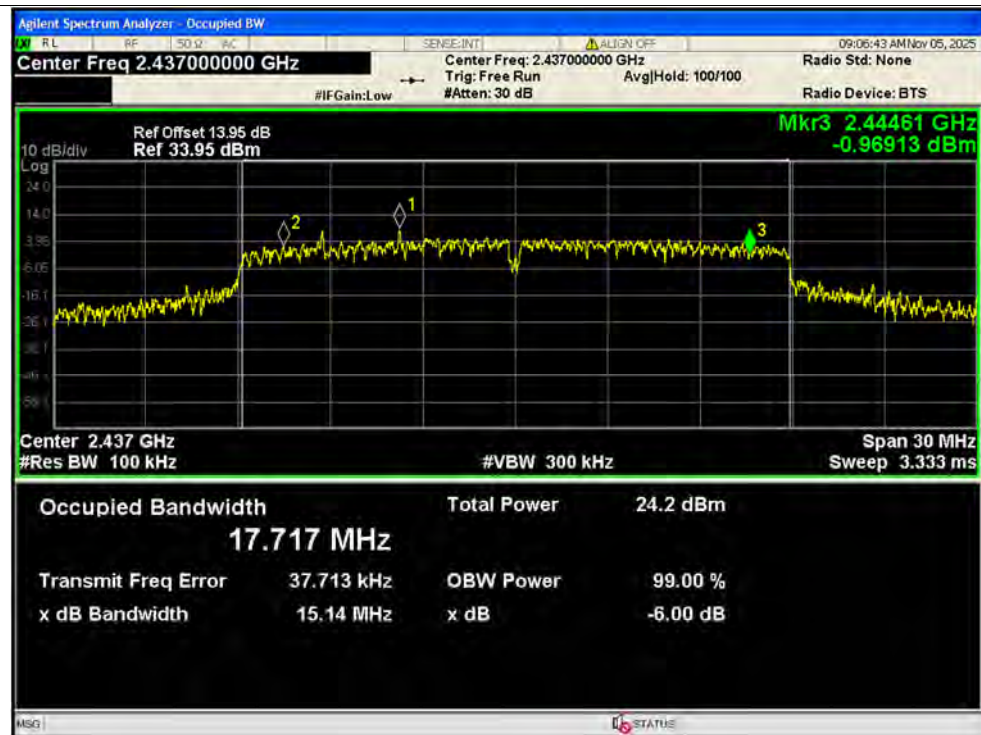




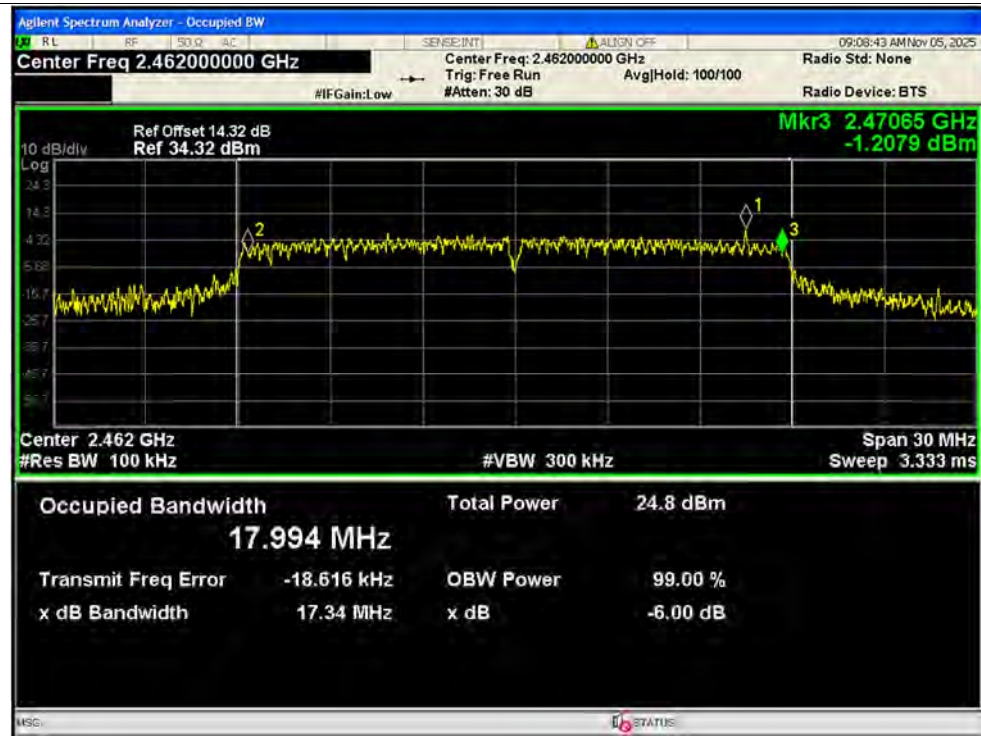
-6dB Bandwidth NVNT n20 2412MHz Ant1



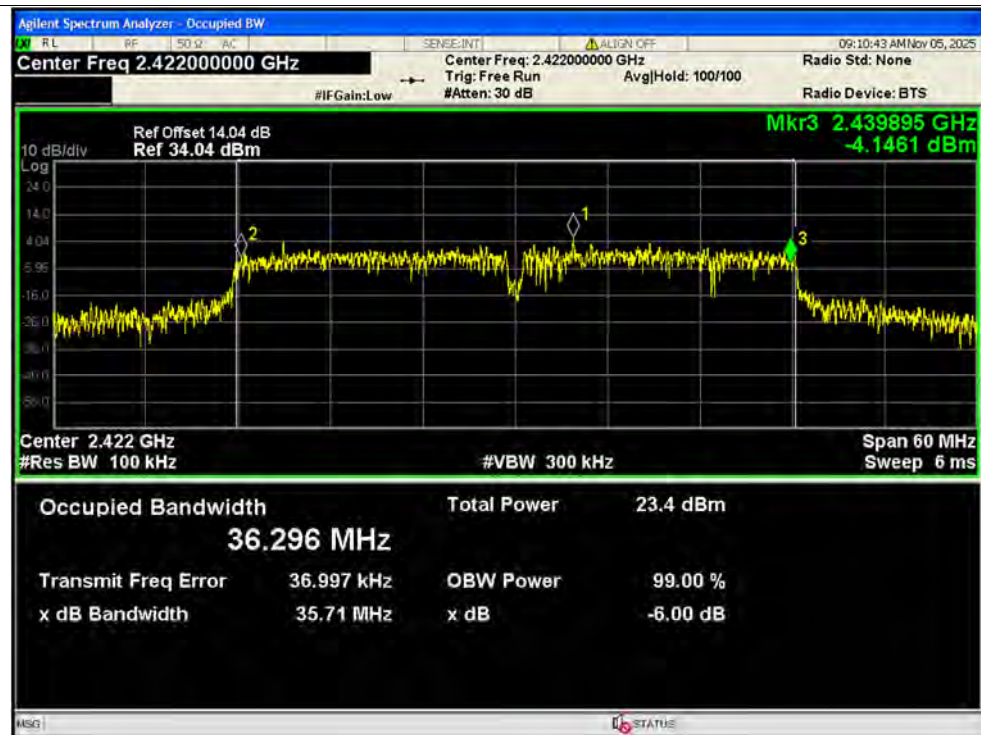
-6dB Bandwidth NVNT n20 2437MHz Ant1



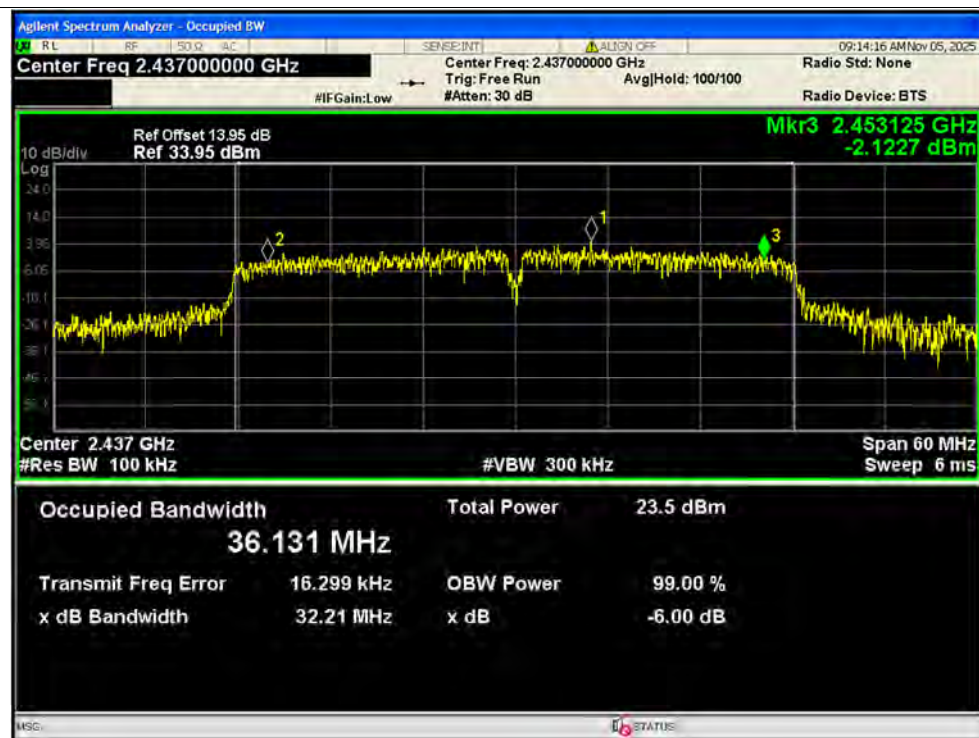
-6dB Bandwidth NVNT n20 2462MHz Ant1



-6dB Bandwidth NVNT n40 2422MHz Ant1



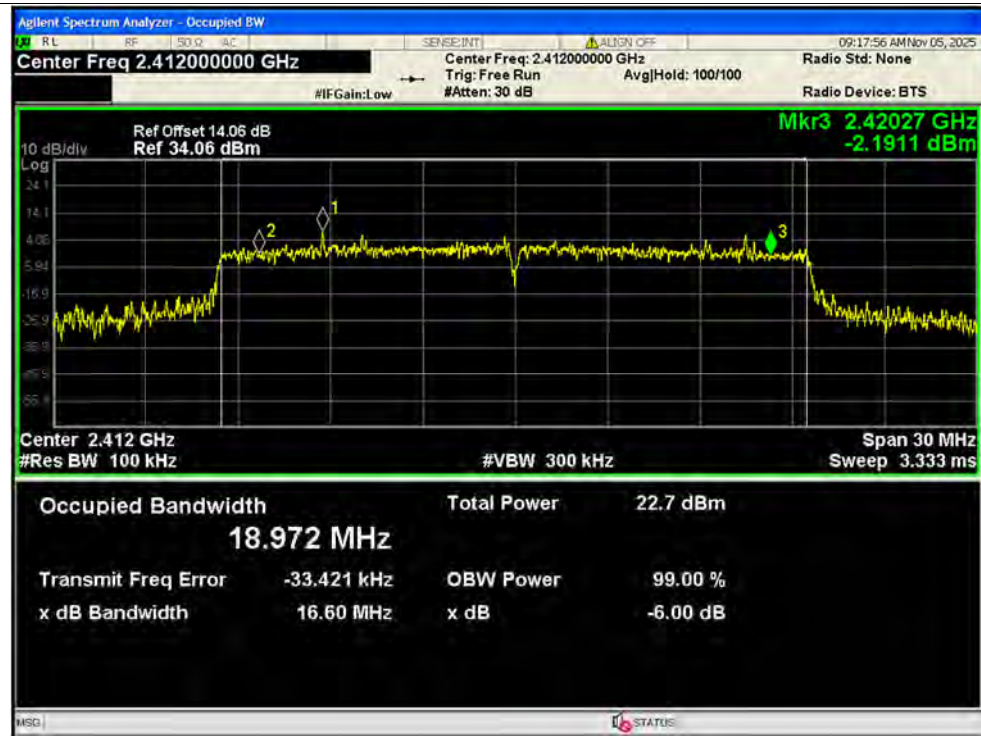
-6dB Bandwidth NVNT n40 2437MHz Ant1



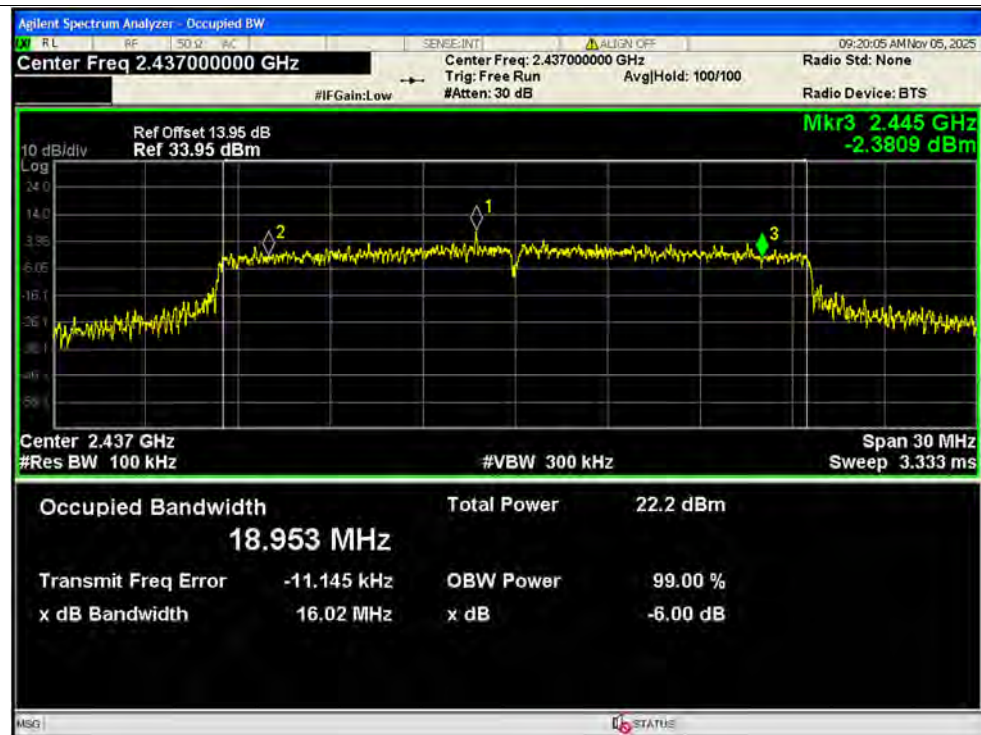
-6dB Bandwidth NVNT n40 2452MHz Ant1



-6dB Bandwidth NVNT ax20 2412MHz Ant1



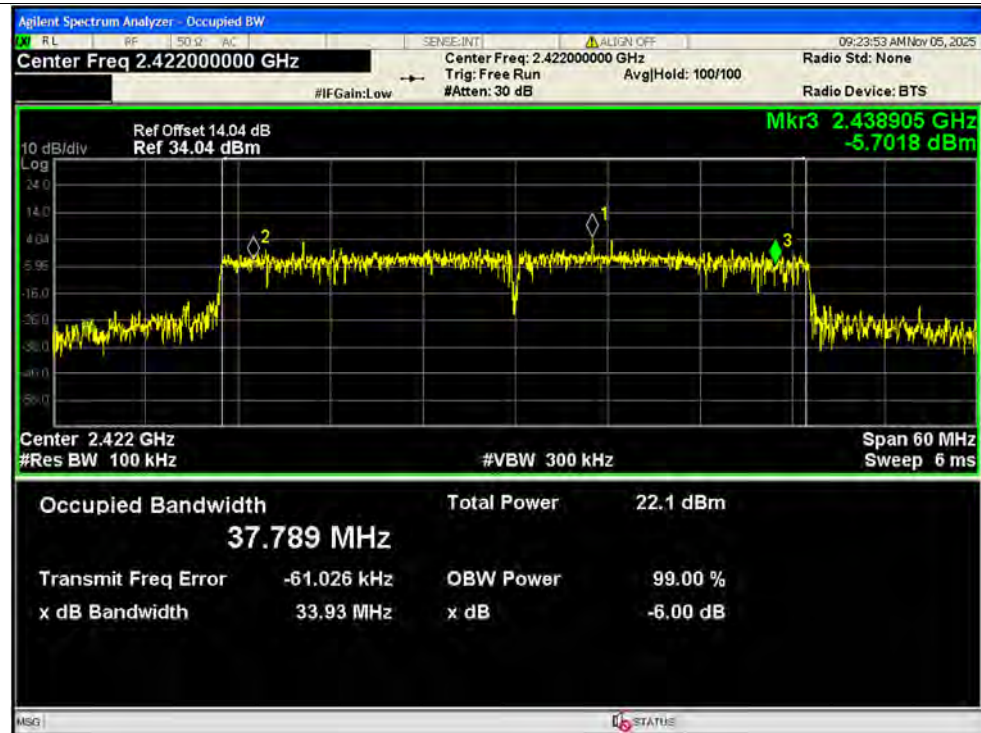
-6dB Bandwidth NVNT ax20 2437MHz Ant1



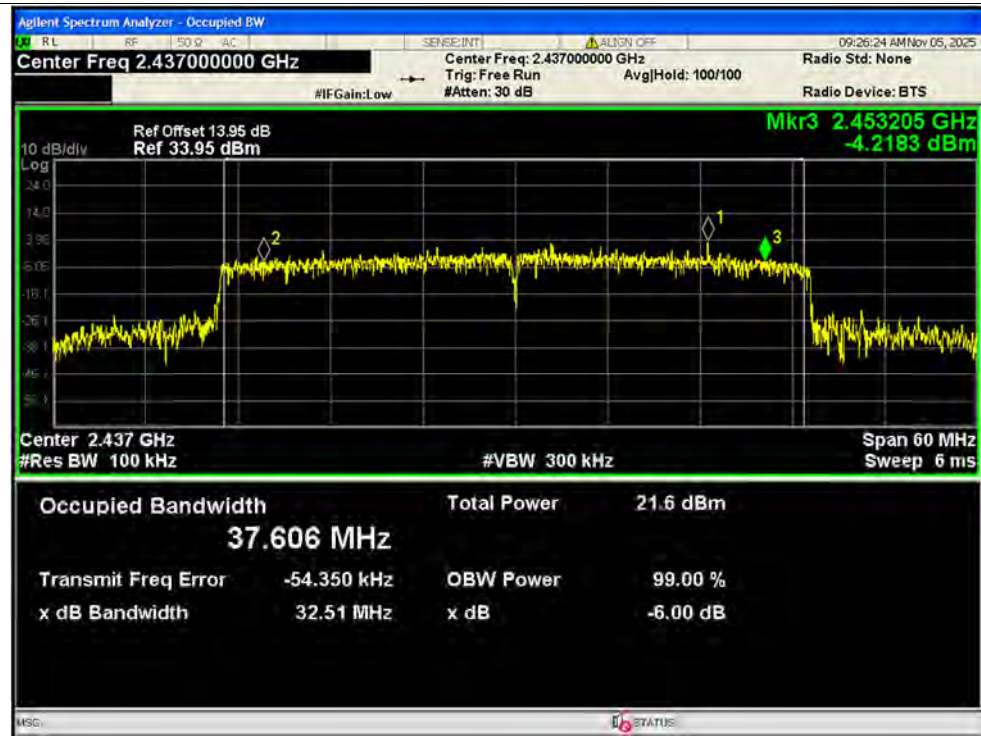
-6dB Bandwidth NVNT ax20 2462MHz Ant1



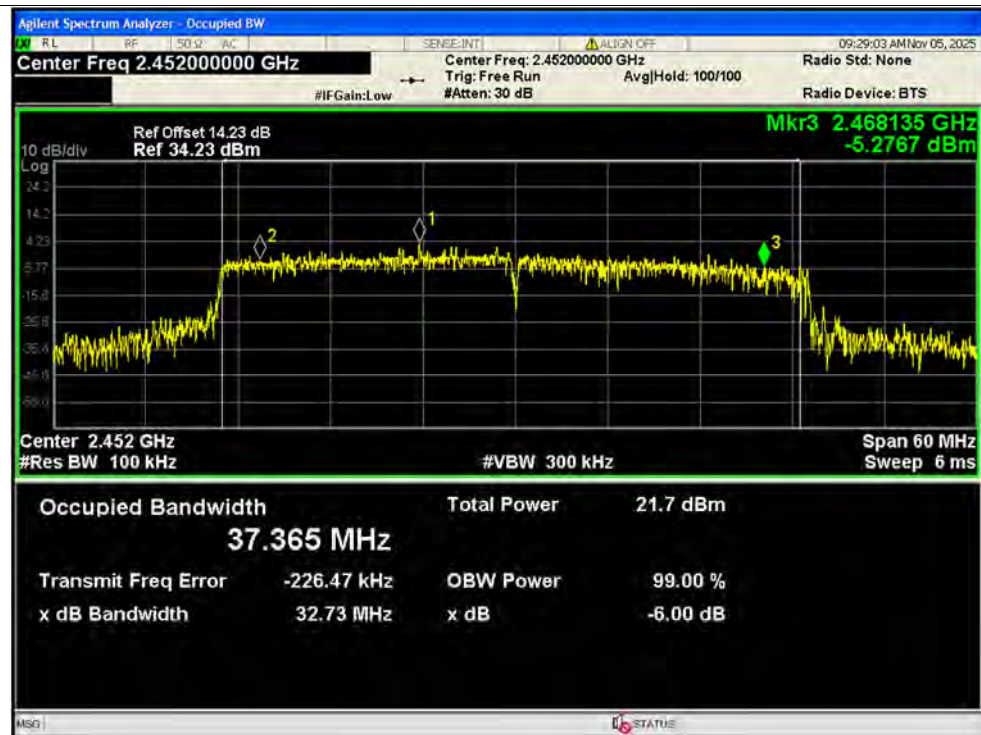
-6dB Bandwidth NVNT ax40 2422MHz Ant1



-6dB Bandwidth NVNT ax40 2437MHz Ant1



-6dB Bandwidth NVNT ax40 2452MHz Ant1



**A.5. Conducted Spurious Emissions**

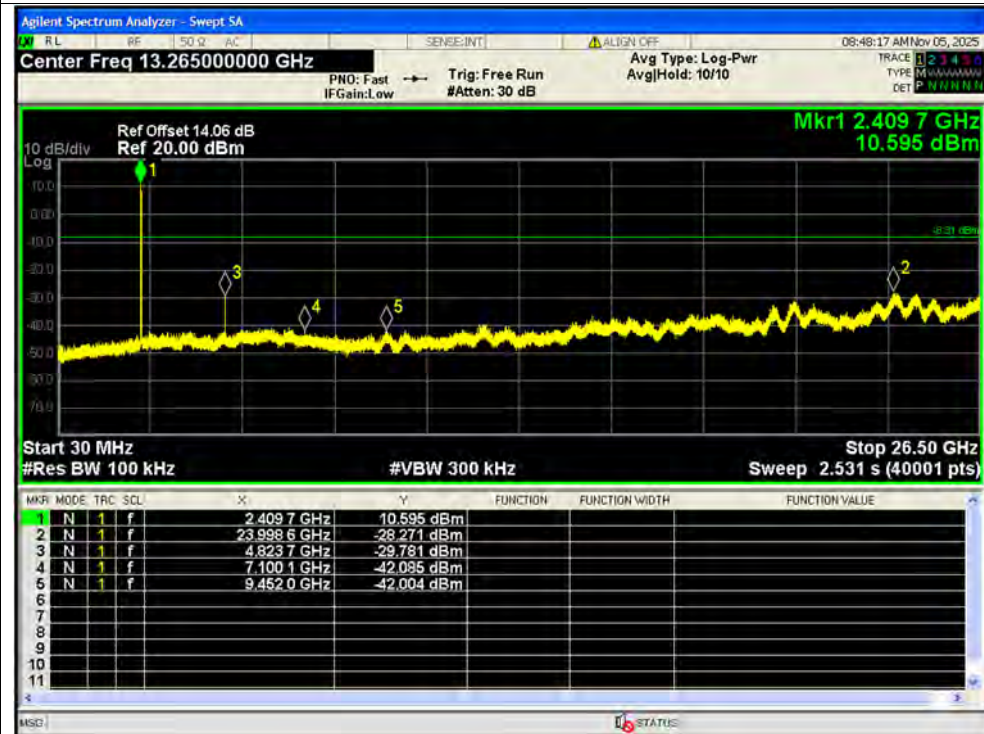
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-39.96	-20	Pass
NVNT	b	2437	Ant1	-39.44	-20	Pass
NVNT	b	2462	Ant1	-39.26	-20	Pass
NVNT	g	2412	Ant1	-37.53	-20	Pass
NVNT	g	2437	Ant1	-37.46	-20	Pass
NVNT	g	2462	Ant1	-36.64	-20	Pass
NVNT	n20	2412	Ant1	-36.36	-20	Pass
NVNT	n20	2437	Ant1	-37.53	-20	Pass
NVNT	n20	2462	Ant1	-36.9	-20	Pass
NVNT	n40	2422	Ant1	-32.71	-20	Pass
NVNT	n40	2437	Ant1	-34.76	-20	Pass
NVNT	n40	2452	Ant1	-34.19	-20	Pass
NVNT	ax20	2412	Ant1	-35.48	-20	Pass
NVNT	ax20	2437	Ant1	-34	-20	Pass
NVNT	ax20	2462	Ant1	-33.77	-20	Pass
NVNT	ax40	2422	Ant1	-31.37	-20	Pass
NVNT	ax40	2437	Ant1	-32.64	-20	Pass
NVNT	ax40	2452	Ant1	-30.98	-20	Pass

Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref



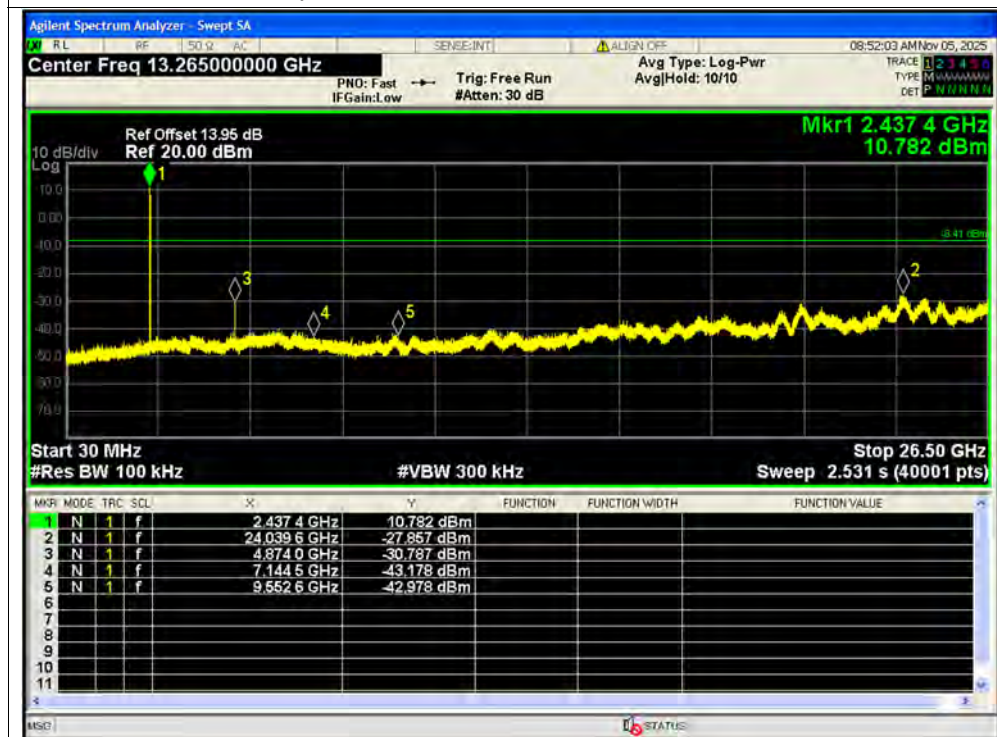
Tx. Spurious NVNT b 2412MHz Ant1 Emission



Tx. Spurious NVNT b 2437MHz Ant1 Ref



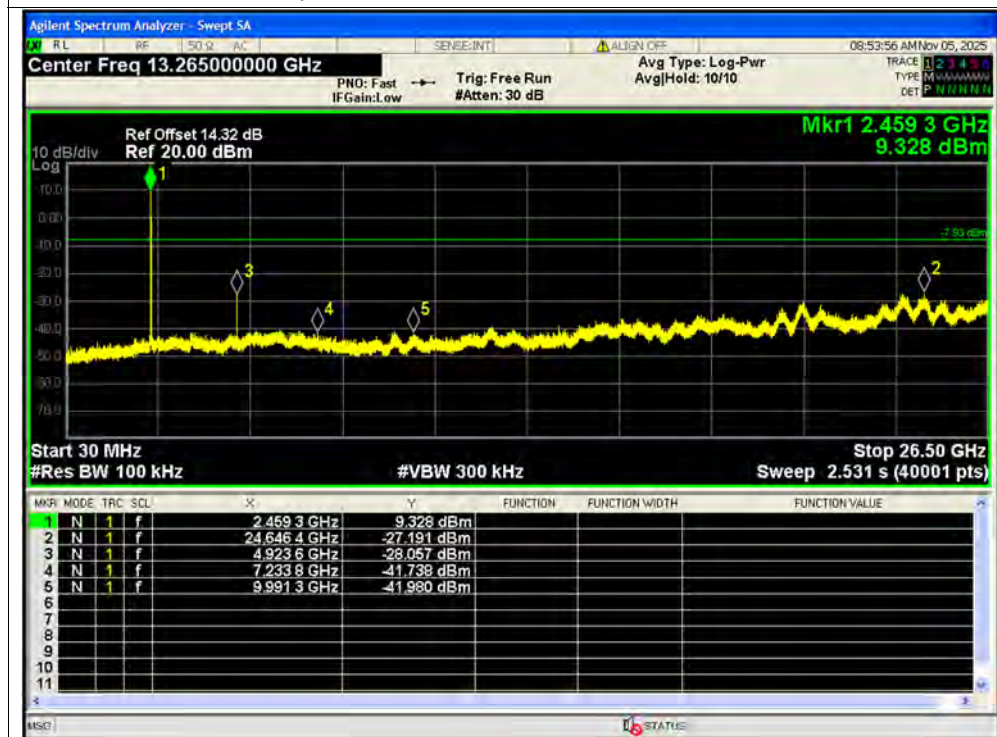
Tx. Spurious NVNT b 2437MHz Ant1 Emission



Tx. Spurious NVNT b 2462MHz Ant1 Ref



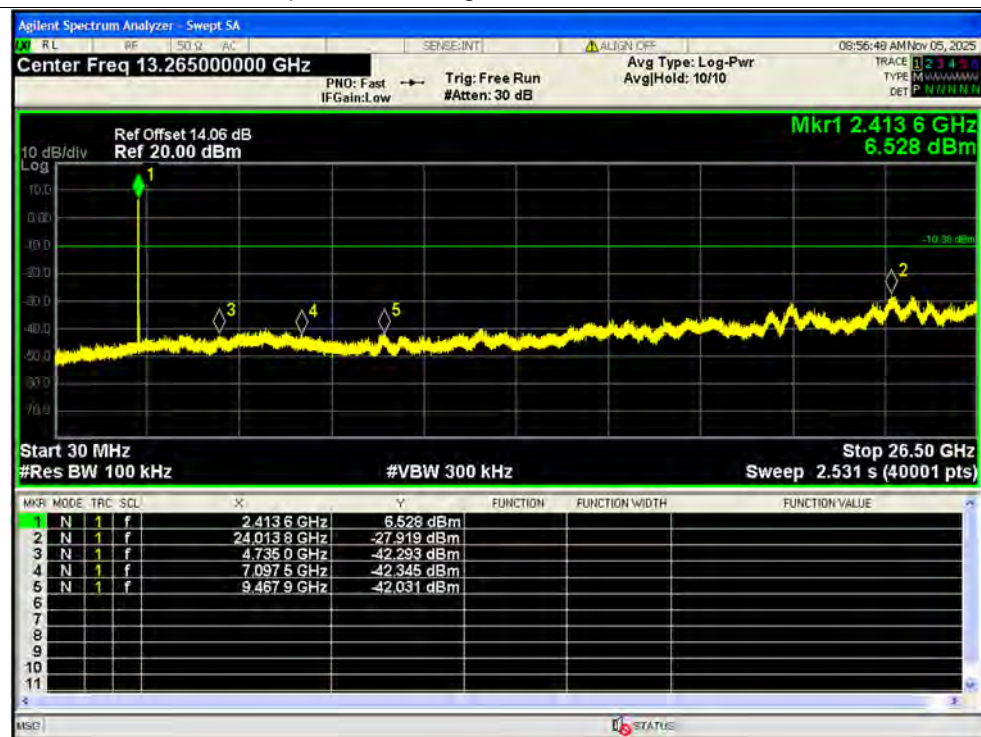
Tx. Spurious NVNT b 2462MHz Ant1 Emission



Tx. Spurious NVNT g 2412MHz Ant1 Ref



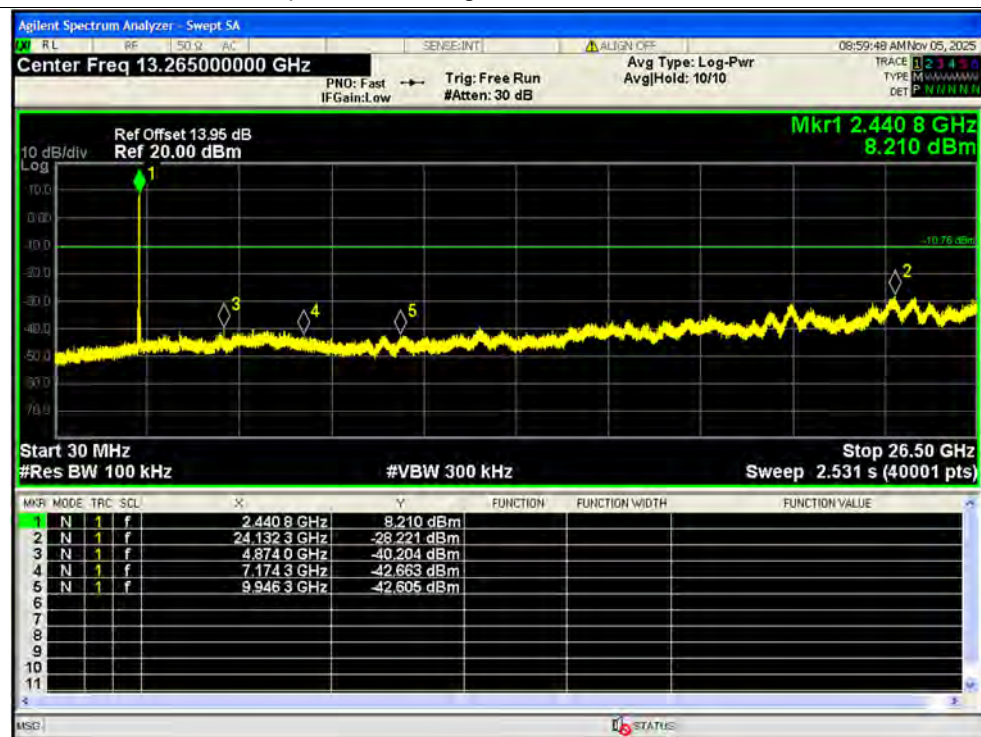
Tx. Spurious NVNT g 2412MHz Ant1 Emission



Tx. Spurious NVNT g 2437MHz Ant1 Ref



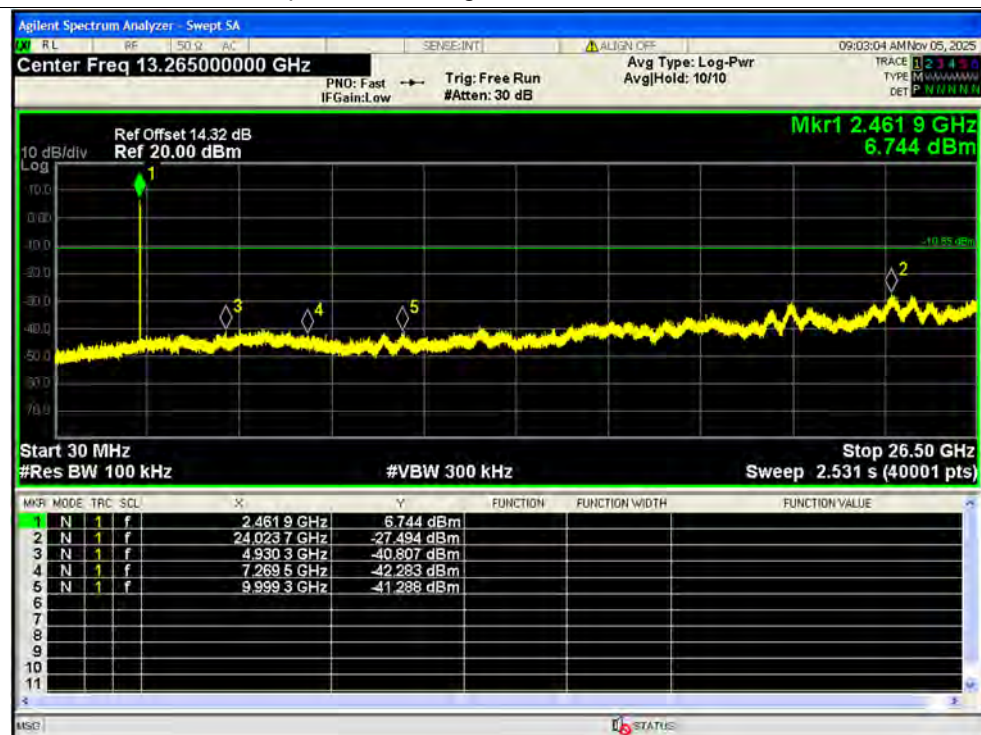
Tx. Spurious NVNT g 2437MHz Ant1 Emission



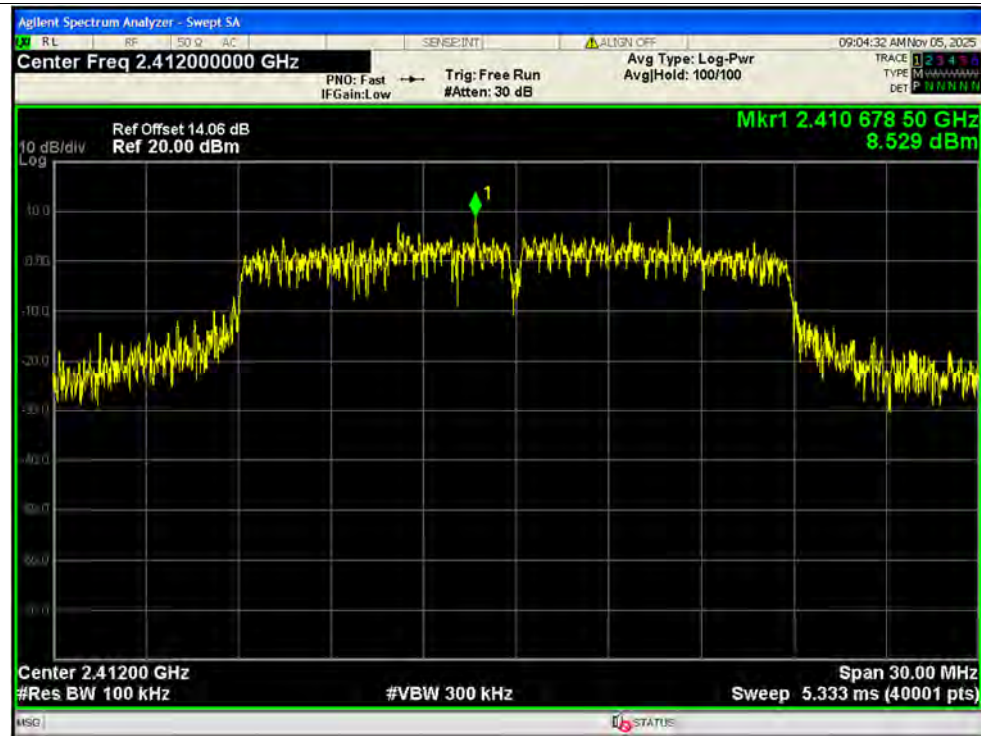
Tx. Spurious NVNT g 2462MHz Ant1 Ref



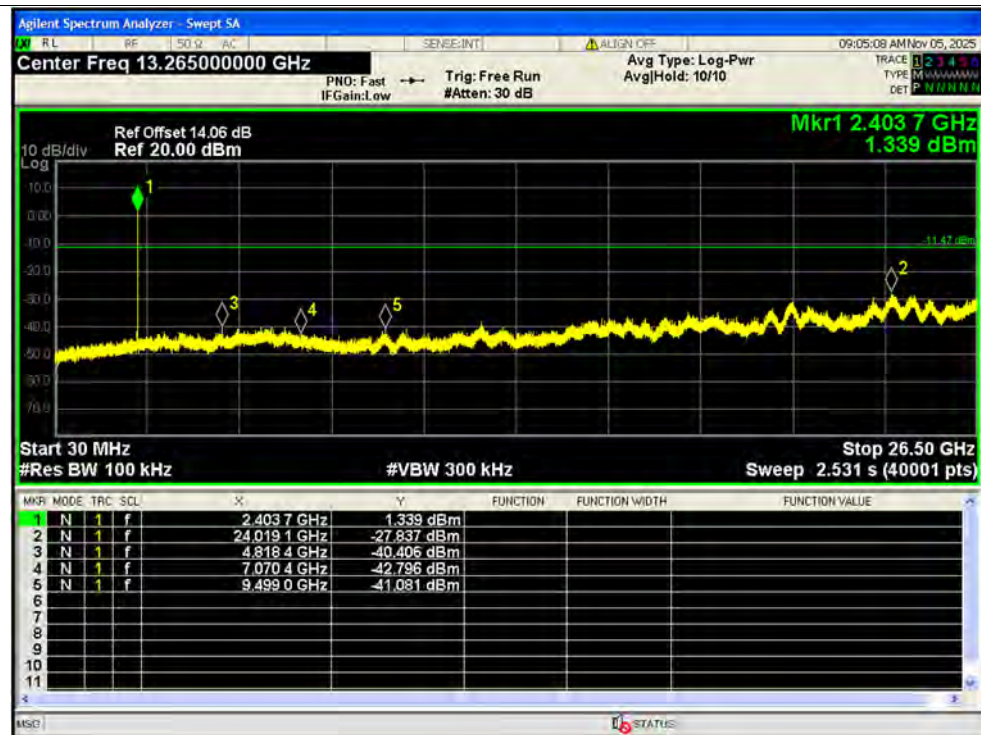
Tx. Spurious NVNT g 2462MHz Ant1 Emission



Tx. Spurious NVNT n20 2412MHz Ant1 Ref



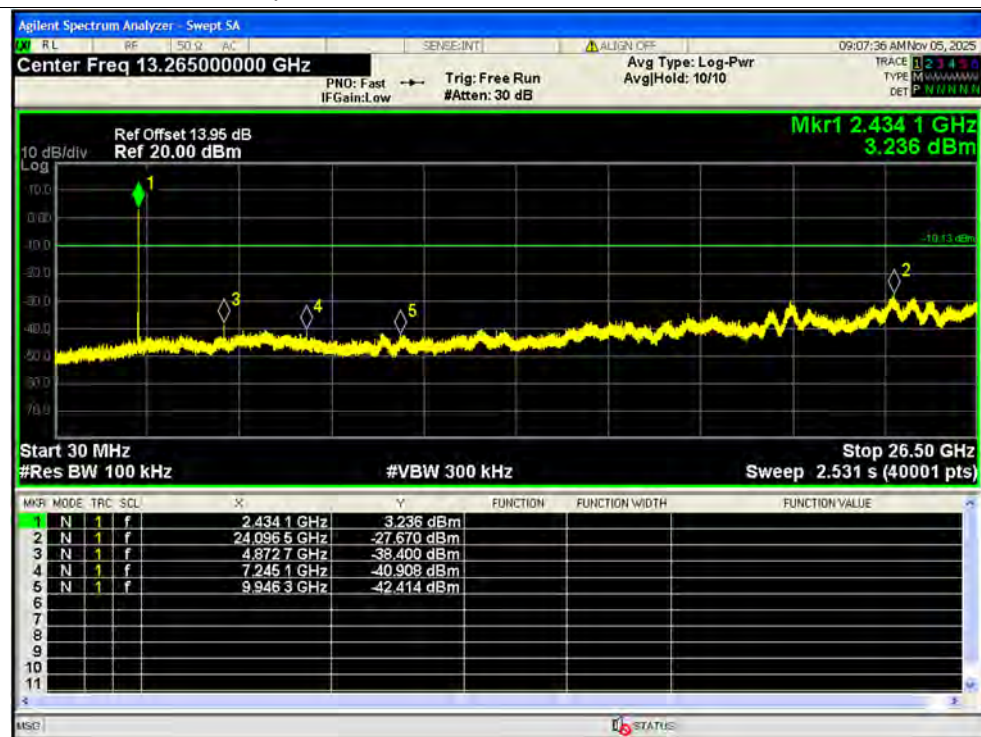
Tx. Spurious NVNT n20 2412MHz Ant1 Emission



Tx. Spurious NVNT n20 2437MHz Ant1 Ref



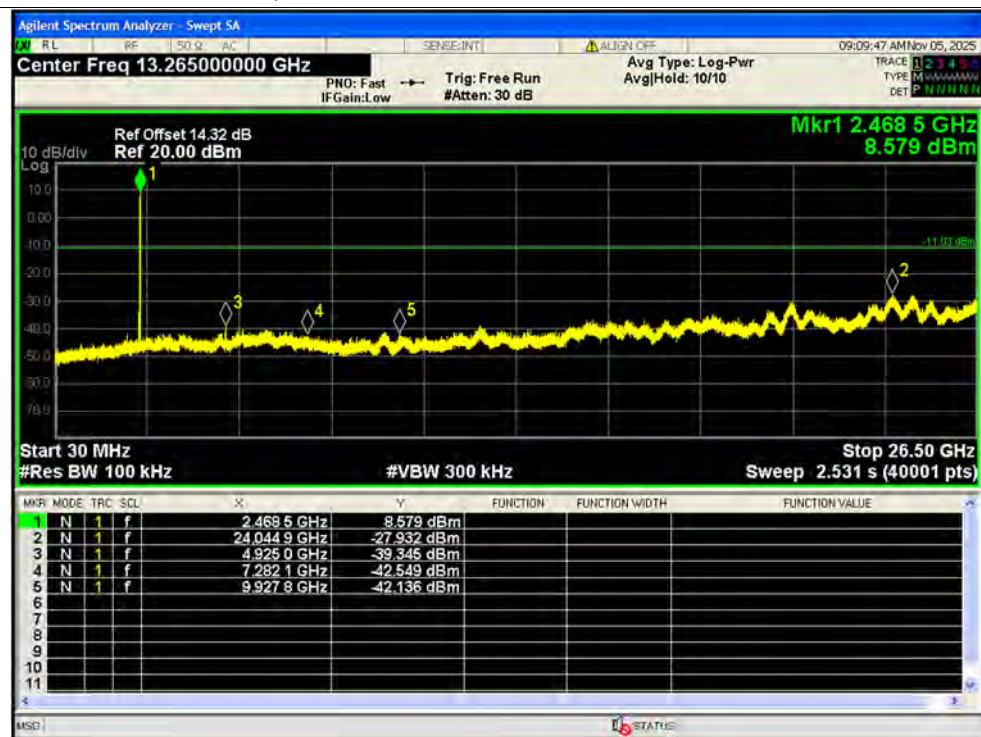
Tx. Spurious NVNT n20 2437MHz Ant1 Emission



Tx. Spurious NVNT n20 2462MHz Ant1 Ref



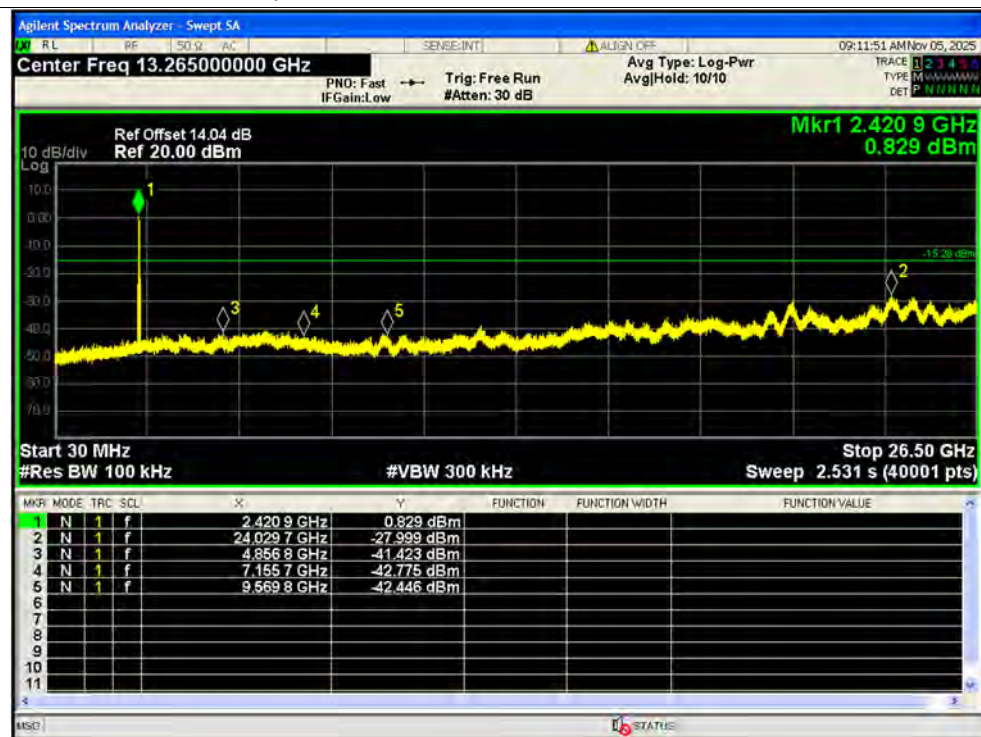
Tx. Spurious NVNT n20 2462MHz Ant1 Emission



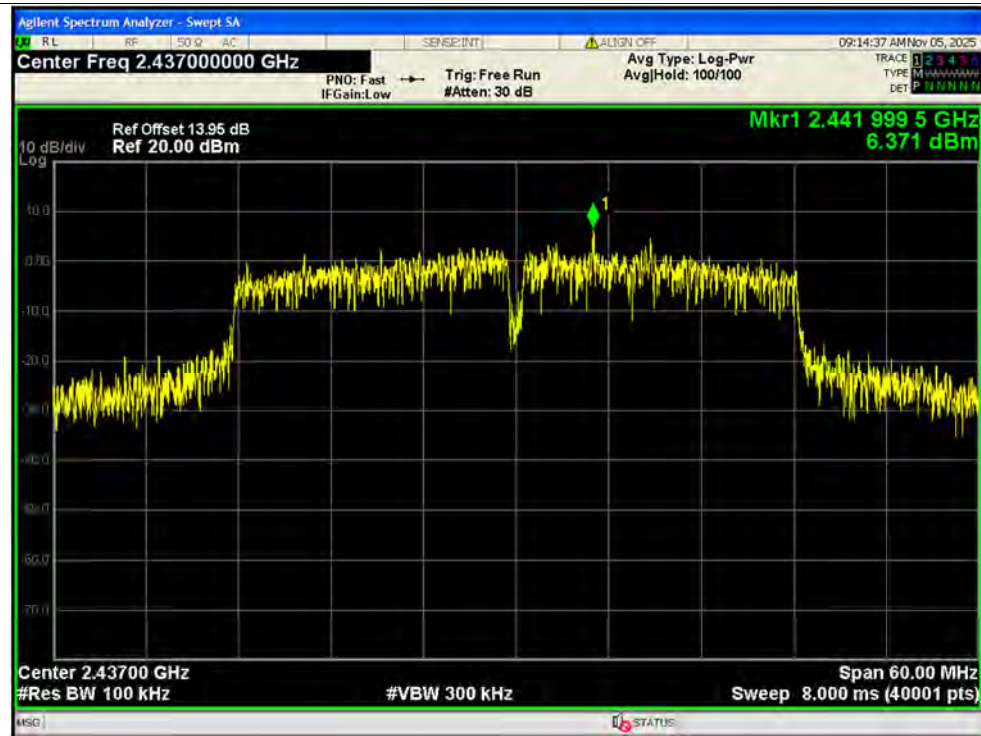
Tx. Spurious NVNT n40 2422MHz Ant1 Ref



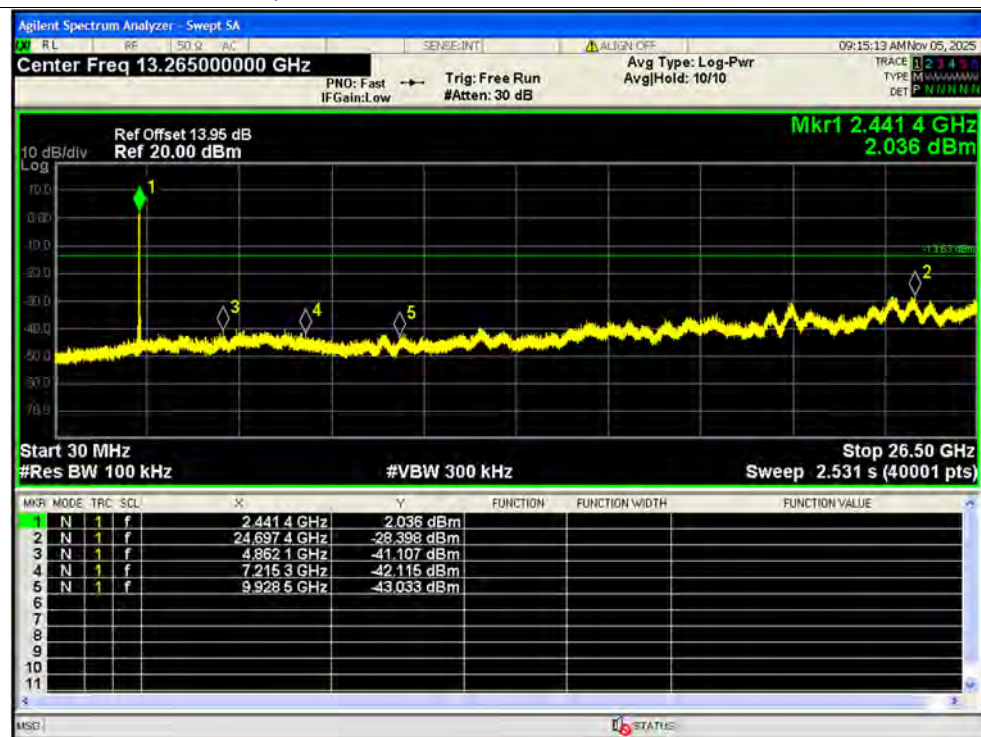
Tx. Spurious NVNT n40 2422MHz Ant1 Emission



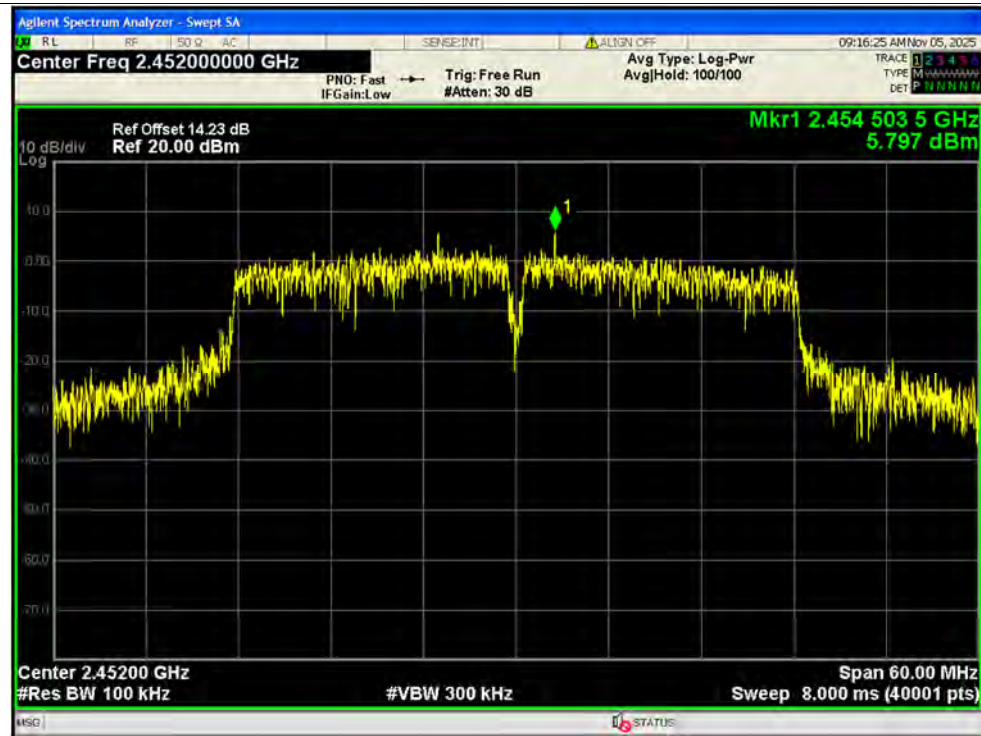
Tx. Spurious NVNT n40 2437MHz Ant1 Ref



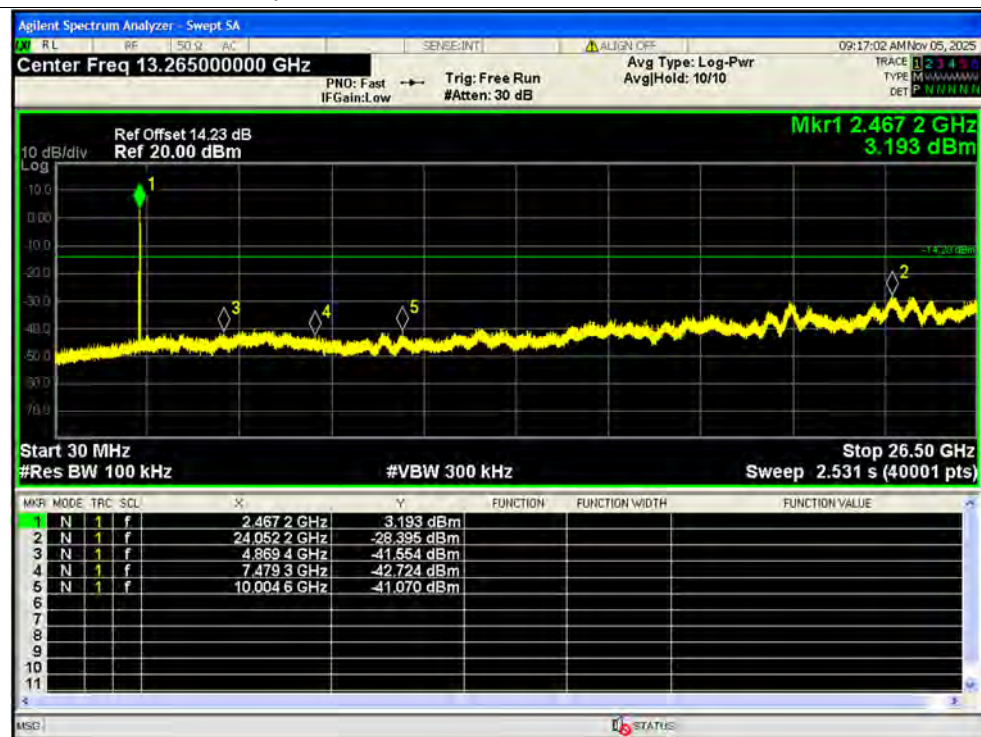
Tx. Spurious NVNT n40 2437MHz Ant1 Emission



Tx. Spurious NVNT n40 2452MHz Ant1 Ref



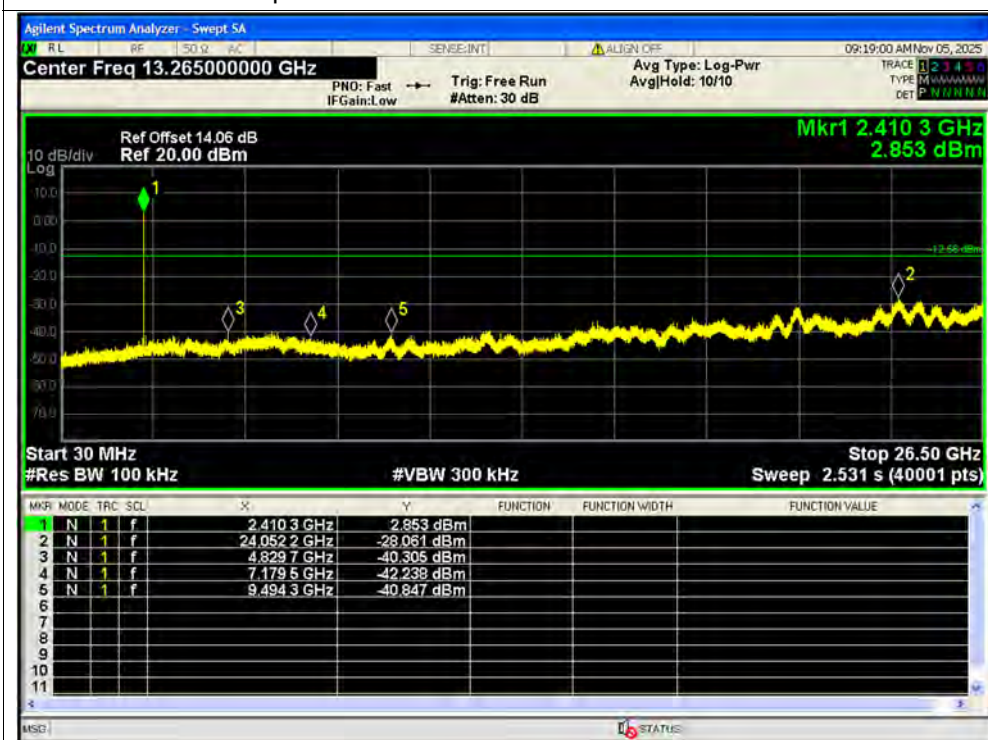
Tx. Spurious NVNT n40 2452MHz Ant1 Emission



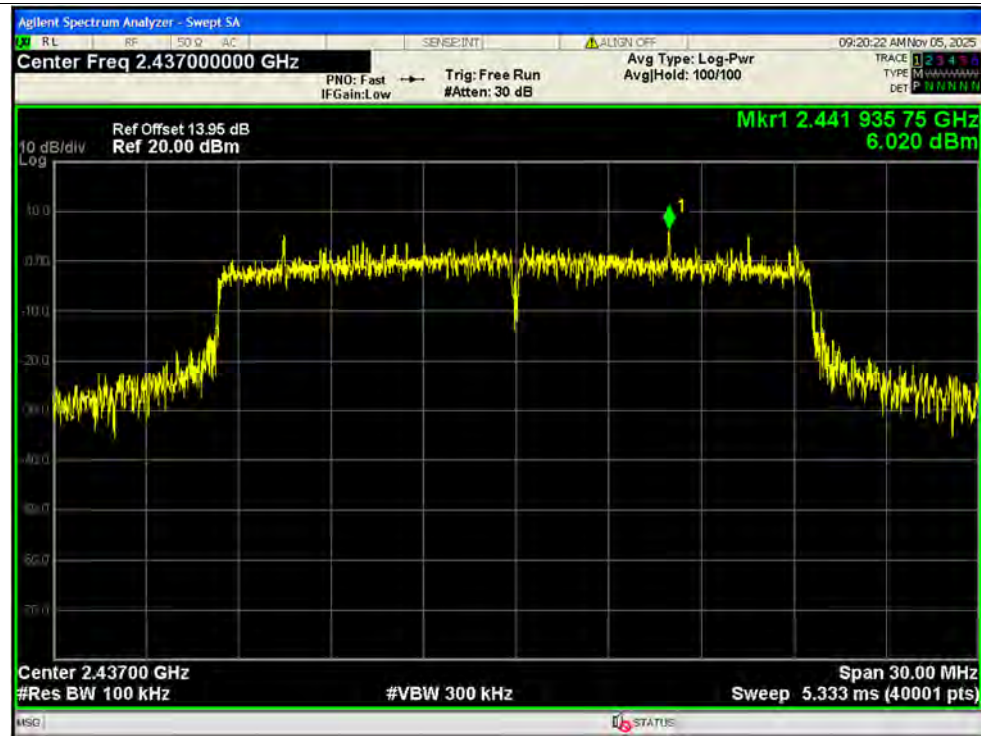
Tx. Spurious NVNT ax20 2412MHz Ant1 Ref



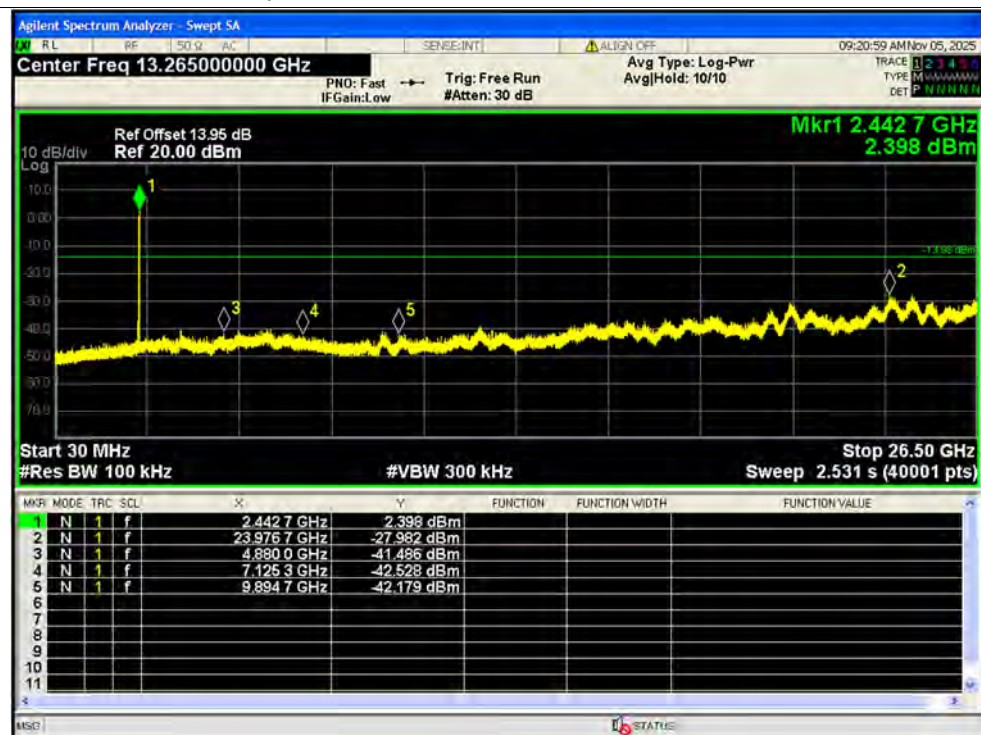
Tx. Spurious NVNT ax20 2412MHz Ant1 Emission



Tx. Spurious NVNT ax20 2437MHz Ant1 Ref



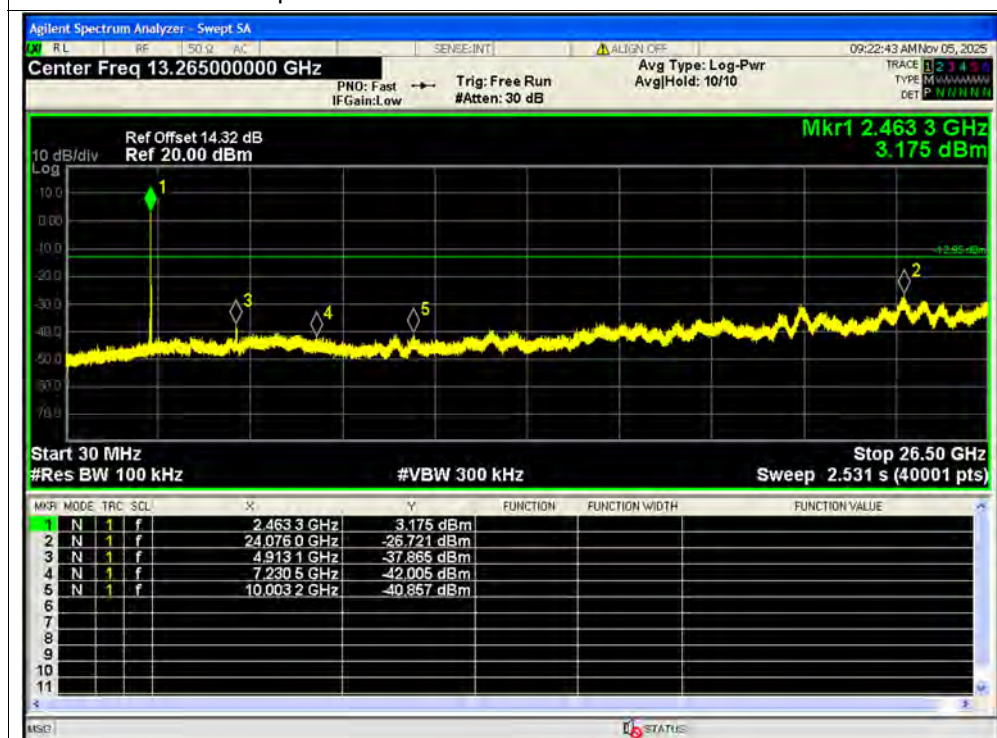
Tx. Spurious NVNT ax20 2437MHz Ant1 Emission



Tx. Spurious NVNT ax20 2462MHz Ant1 Ref



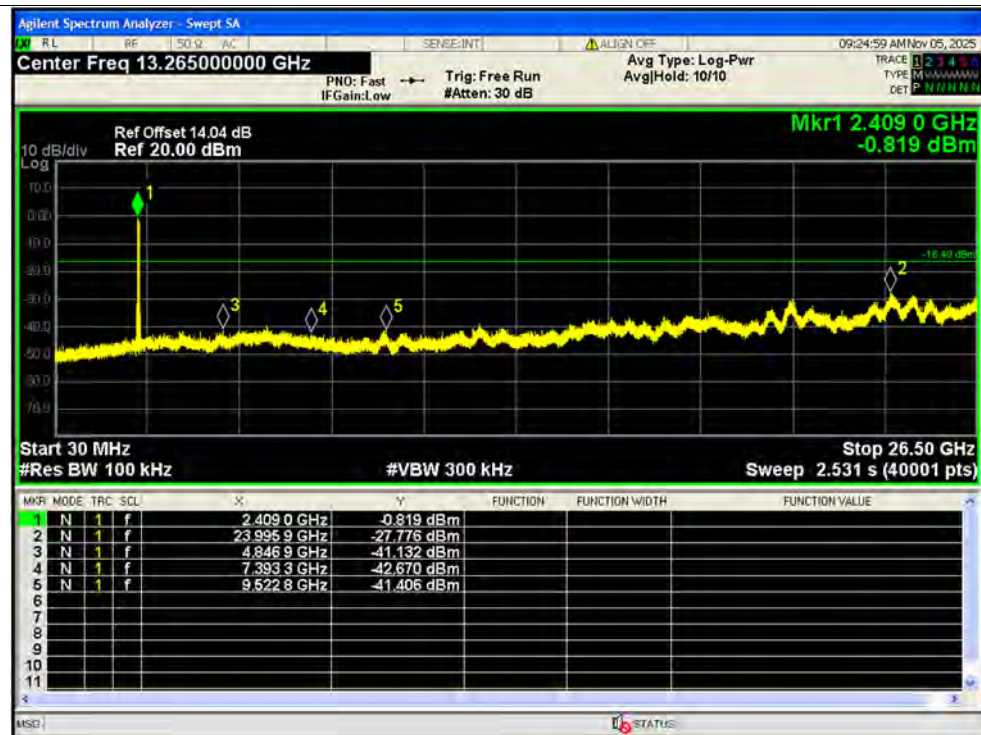
Tx. Spurious NVNT ax20 2462MHz Ant1 Emission



Tx. Spurious NVNT ax40 2422MHz Ant1 Ref



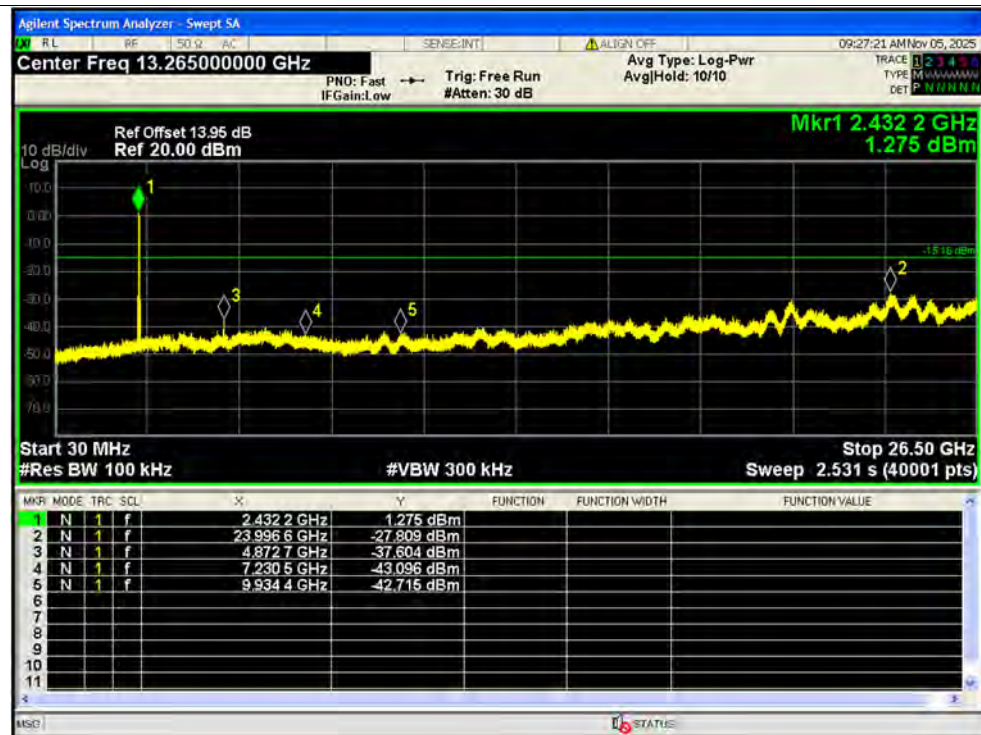
Tx. Spurious NVNT ax40 2422MHz Ant1 Emission



Tx. Spurious NVNT ax40 2437MHz Ant1 Ref



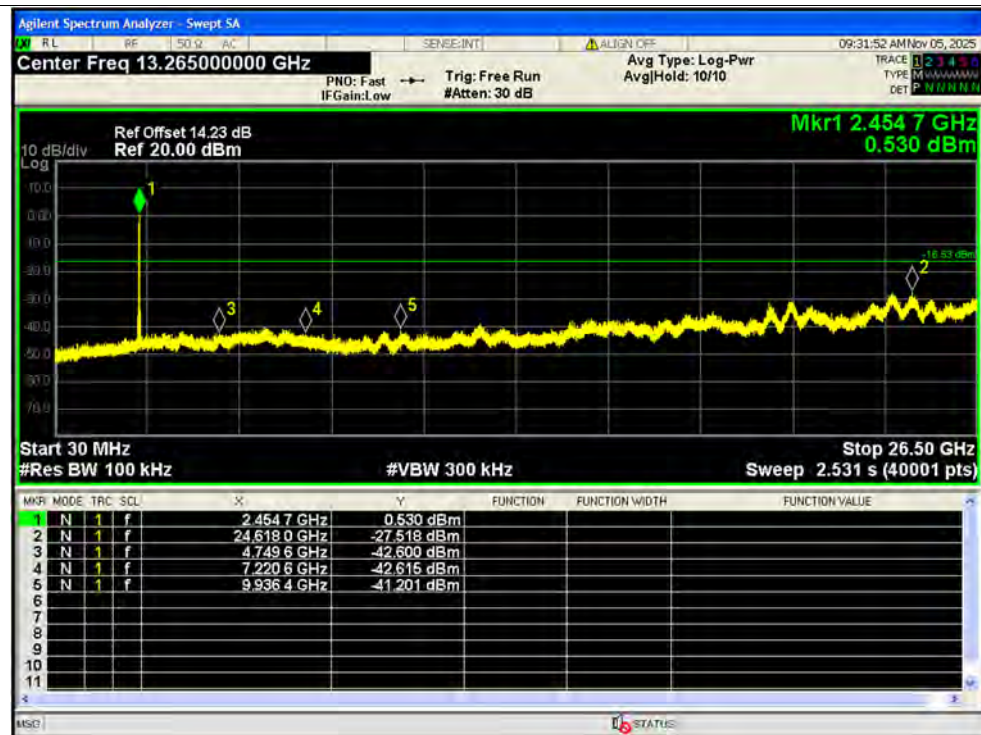
Tx. Spurious NVNT ax40 2437MHz Ant1 Emission



Tx. Spurious NVNT ax40 2452MHz Ant1 Ref



Tx. Spurious NVNT ax40 2452MHz Ant1 Emission

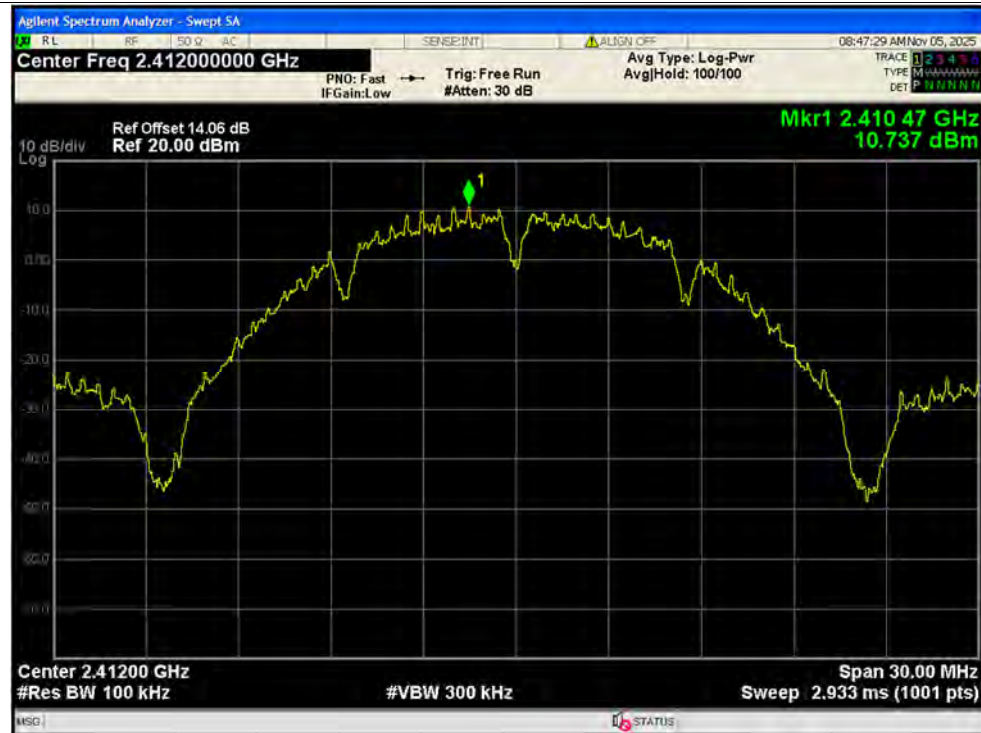


**A.6. Band Edge**

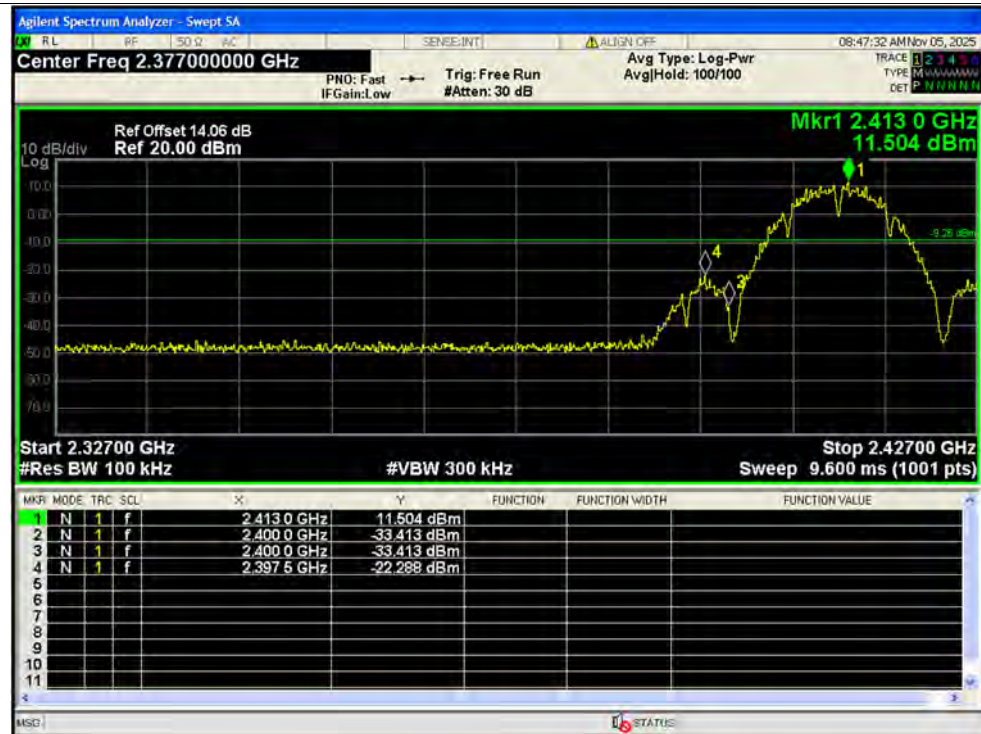
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-33.02	-20	Pass
NVNT	b	2462	Ant1	-53.8	-20	Pass
NVNT	g	2412	Ant1	-20.31	-20	Pass
NVNT	g	2462	Ant1	-37.67	-20	Pass
NVNT	n20	2412	Ant1	-22.29	-20	Pass
NVNT	n20	2462	Ant1	-35.38	-20	Pass
NVNT	n40	2422	Ant1	-24.47	-20	Pass
NVNT	n40	2452	Ant1	-31.65	-20	Pass
NVNT	ax20	2412	Ant1	-26.17	-20	Pass
NVNT	ax20	2462	Ant1	-37.5	-20	Pass
NVNT	ax40	2422	Ant1	-23.91	-20	Pass
NVNT	ax40	2452	Ant1	-37.74	-20	Pass

Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



Band Edge NVNT b 2412MHz Ant1 Emission



Band Edge NVNT b 2462MHz Ant1 Ref



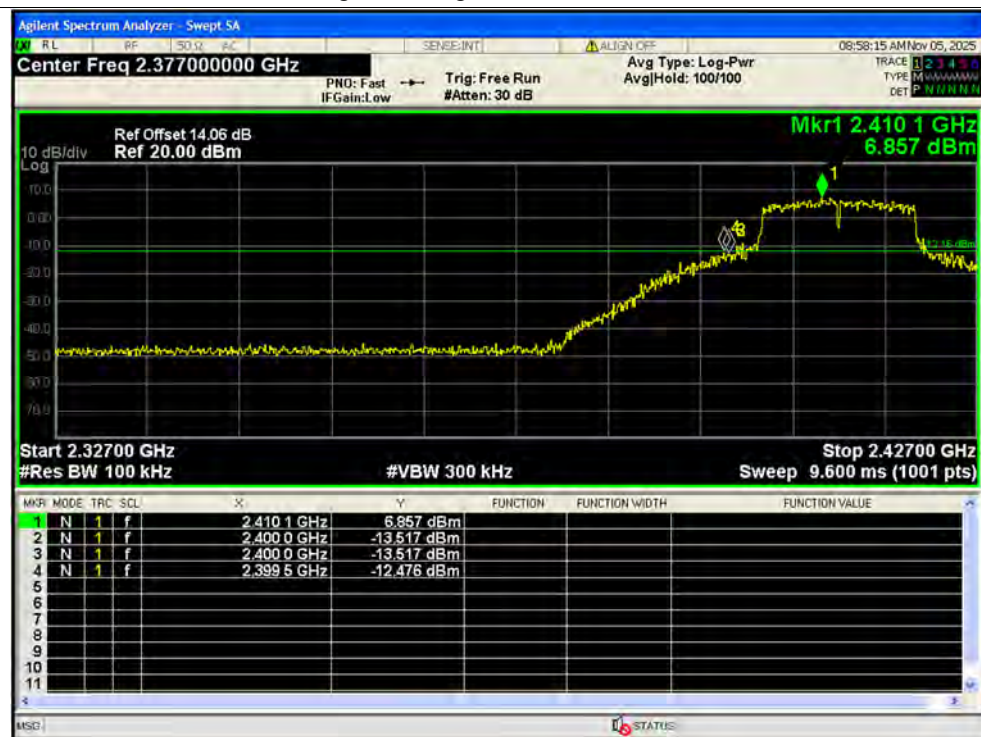
Band Edge NVNT b 2462MHz Ant1 Emission



Band Edge NVNT g 2412MHz Ant1 Ref



Band Edge NVNT g 2412MHz Ant1 Emission



Band Edge NVNT g 2462MHz Ant1 Ref



Band Edge NVNT g 2462MHz Ant1 Emission



Band Edge NVNT n20 2412MHz Ant1 Ref



Band Edge NVNT n20 2412MHz Ant1 Emission



Band Edge NVNT n20 2462MHz Ant1 Ref



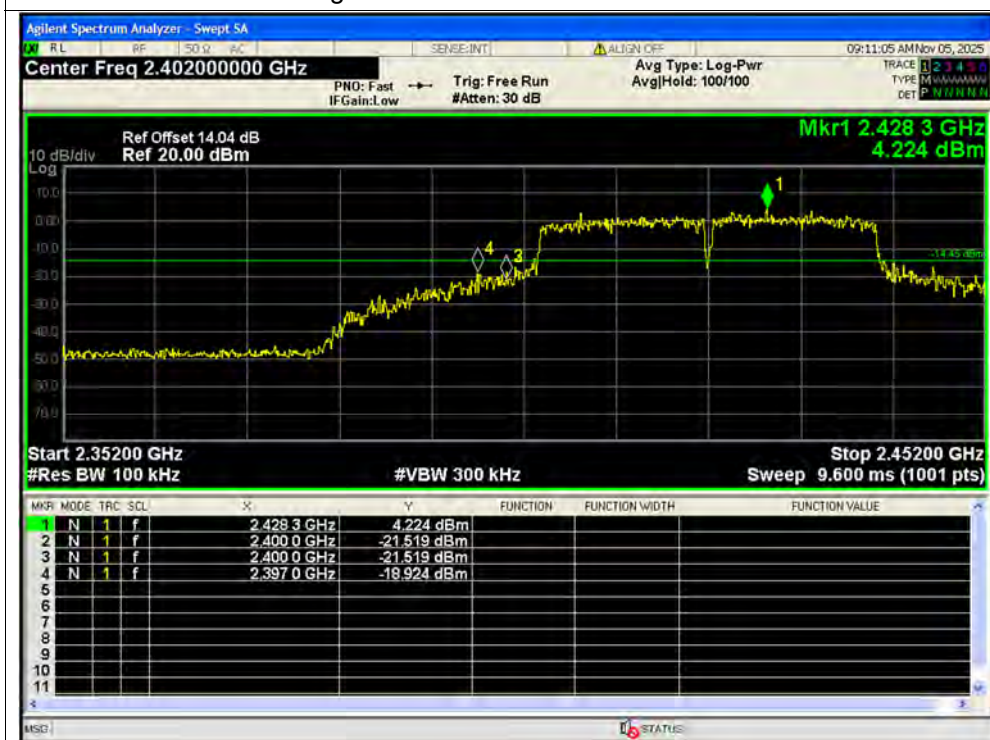
Band Edge NVNT n20 2462MHz Ant1 Emission



Band Edge NVNT n40 2422MHz Ant1 Ref



Band Edge NVNT n40 2422MHz Ant1 Emission



Band Edge NVNT n40 2452MHz Ant1 Ref



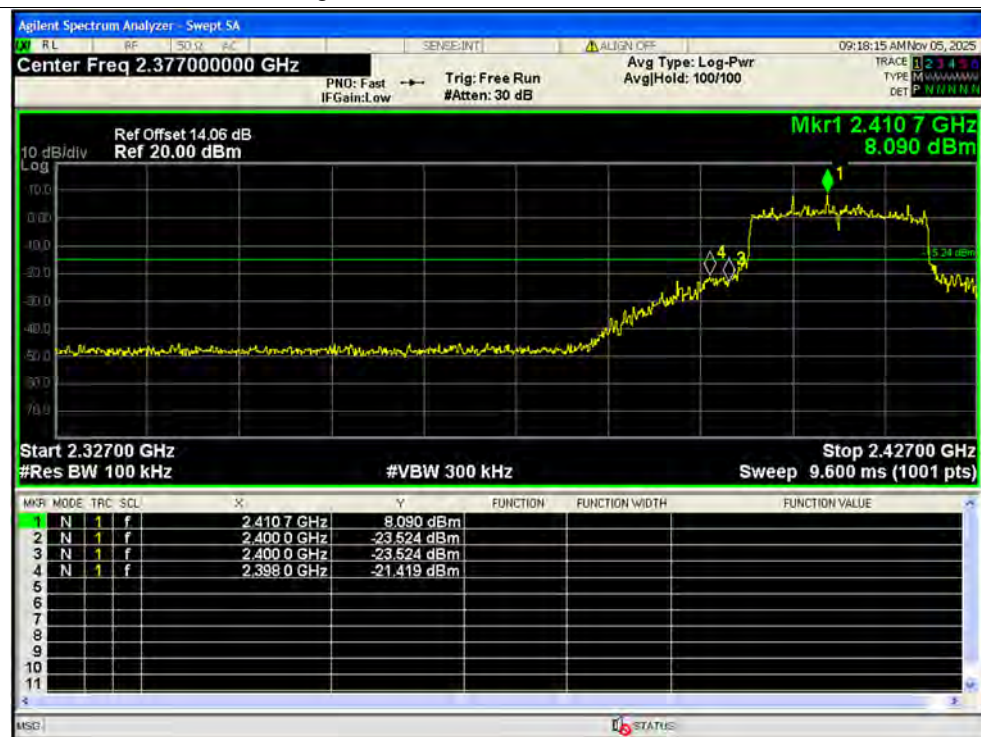
Band Edge NVNT n40 2452MHz Ant1 Emission



Band Edge NVNT ax20 2412MHz Ant1 Ref



Band Edge NVNT ax20 2412MHz Ant1 Emission



Band Edge NVNT ax20 2462MHz Ant1 Ref



Band Edge NVNT ax20 2462MHz Ant1 Emission



Band Edge NVNT ax40 2422MHz Ant1 Ref



Band Edge NVNT ax40 2422MHz Ant1 Emission



Band Edge NVNT ax40 2452MHz Ant1 Ref



Band Edge NVNT ax40 2452MHz Ant1 Emission



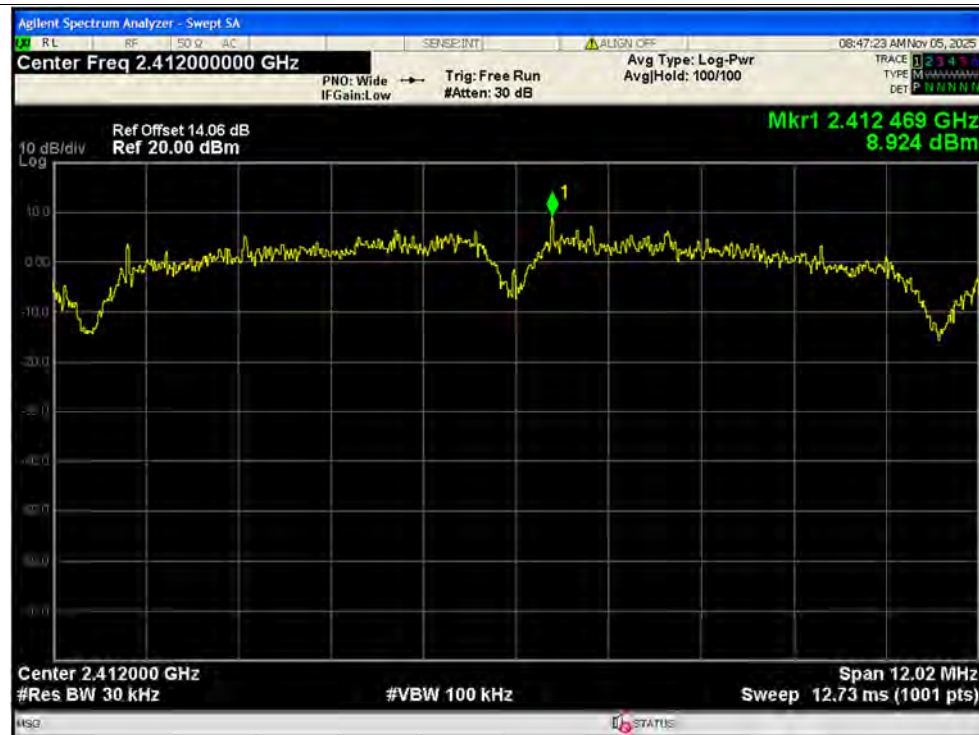
**A.7. Power Spectral Density**

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-1.08	0	-1.08	8	Pass
NVNT	b	2437	Ant1	-1.45	0	-1.45	8	Pass
NVNT	b	2462	Ant1	-1.54	0	-1.54	8	Pass
NVNT	g	2412	Ant1	-5.19	0	-5.19	8	Pass
NVNT	g	2437	Ant1	-4.79	0	-4.79	8	Pass
NVNT	g	2462	Ant1	-5.78	0	-5.78	8	Pass
NVNT	n20	2412	Ant1	-6.67	0	-6.67	8	Pass
NVNT	n20	2437	Ant1	-6.25	0	-6.25	8	Pass
NVNT	n20	2462	Ant1	-6.45	0	-6.45	8	Pass
NVNT	n40	2422	Ant1	-8.82	0	-8.82	8	Pass
NVNT	n40	2437	Ant1	-8.63	0	-8.63	8	Pass
NVNT	n40	2452	Ant1	-9.36	0	-9.36	8	Pass
NVNT	ax20	2412	Ant1	-7.52	0	-7.52	8	Pass
NVNT	ax20	2437	Ant1	-7.13	0	-7.13	8	Pass
NVNT	ax20	2462	Ant1	-7.62	0	-7.62	8	Pass
NVNT	ax40	2422	Ant1	-10.92	0	-10.92	8	Pass
NVNT	ax40	2437	Ant1	-11.62	0	-11.62	8	Pass
NVNT	ax40	2452	Ant1	-10.65	0	-10.65	8	Pass



Test Graphs

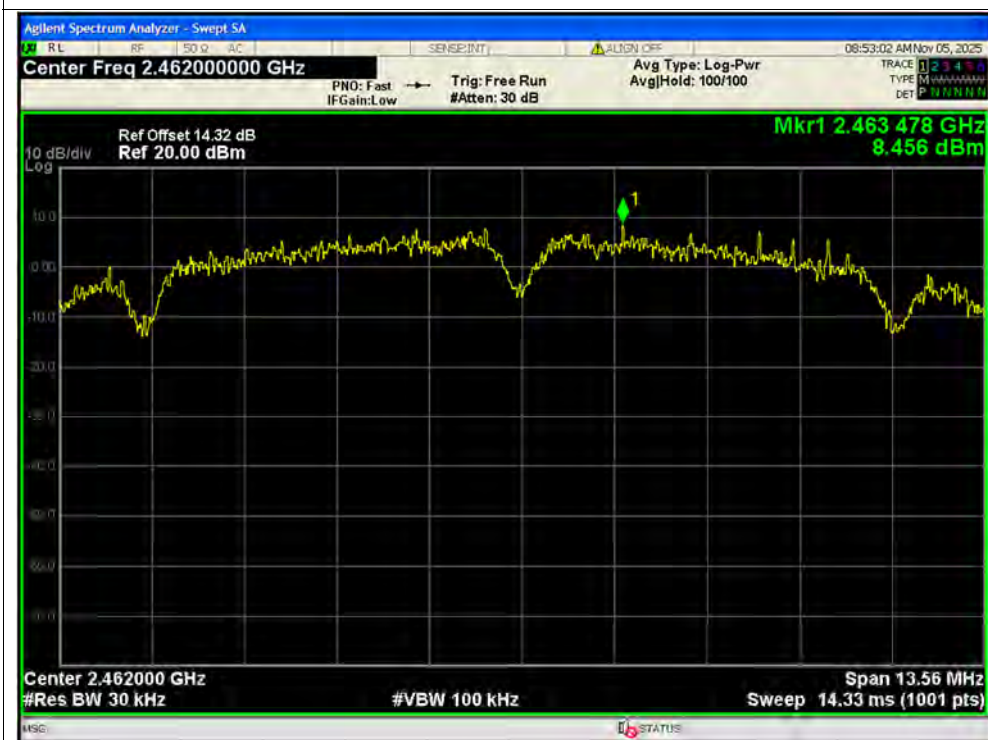
PSD NVNT b 2412MHz Ant1



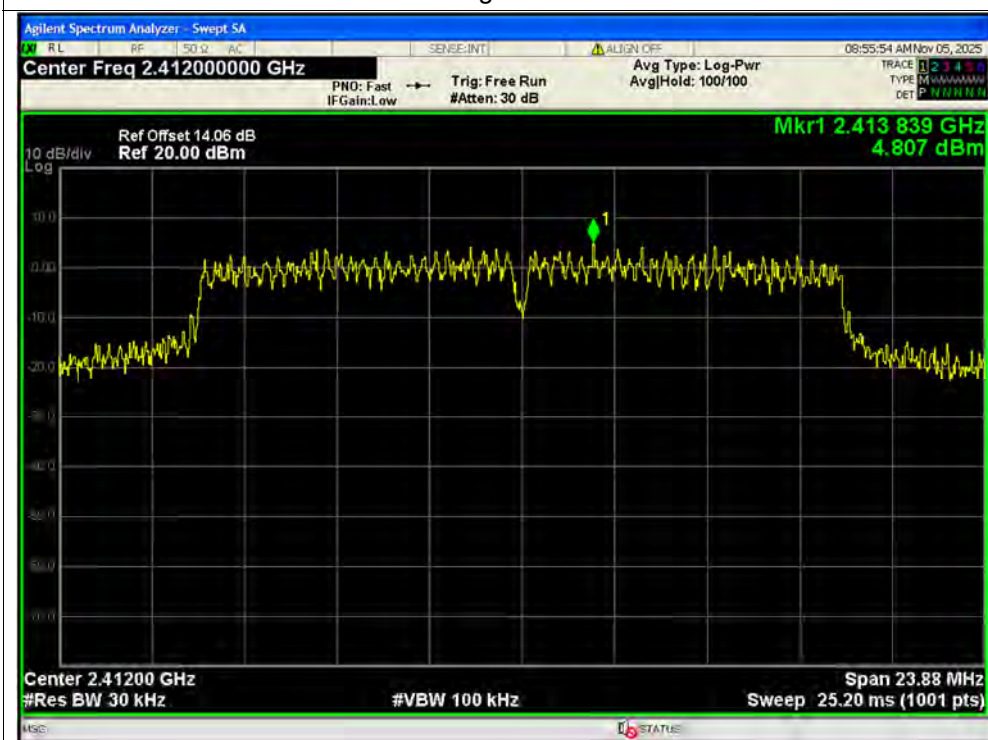
PSD NVNT b 2437MHz Ant1



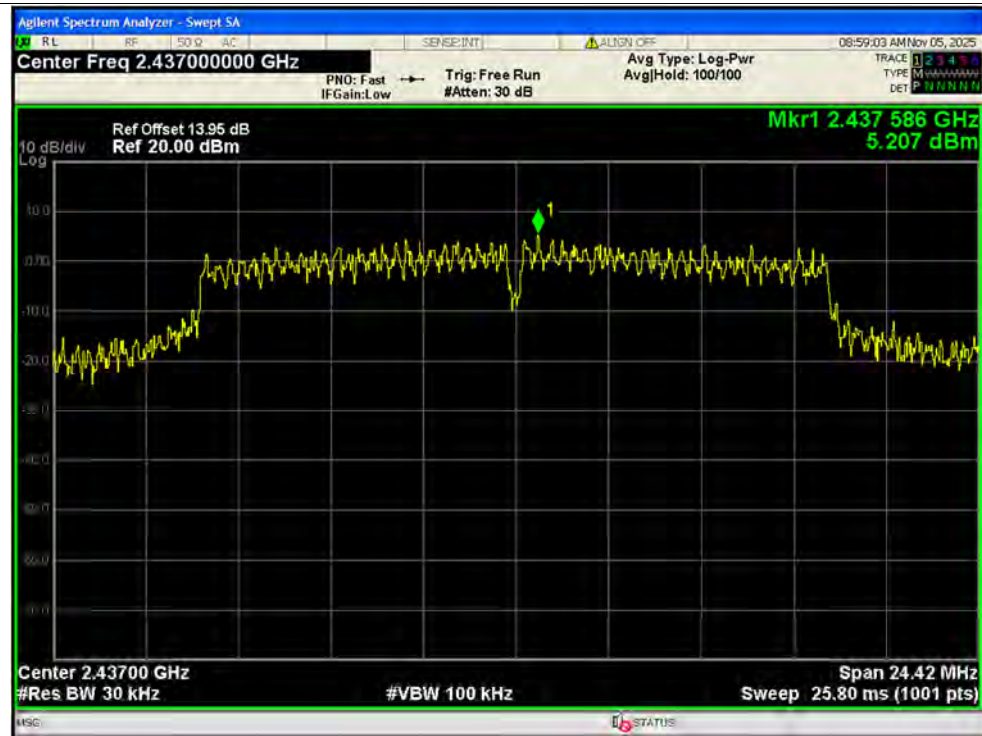
PSD NVNT b 2462MHz Ant1



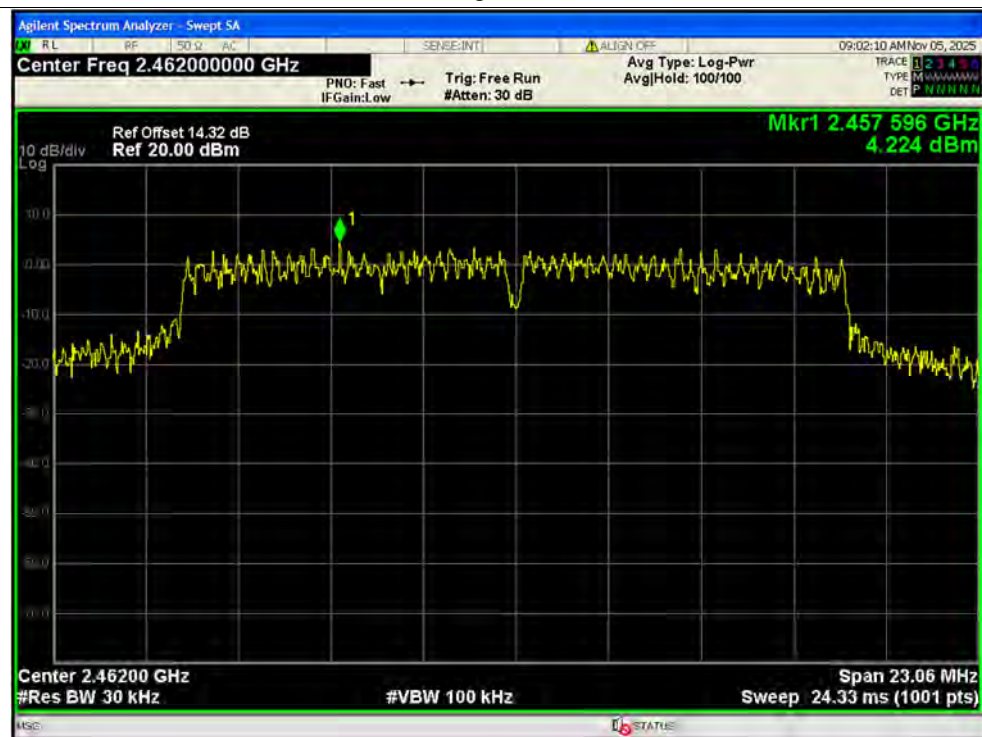
PSD NVNT g 2412MHz Ant1



PSD NVNT g 2437MHz Ant1

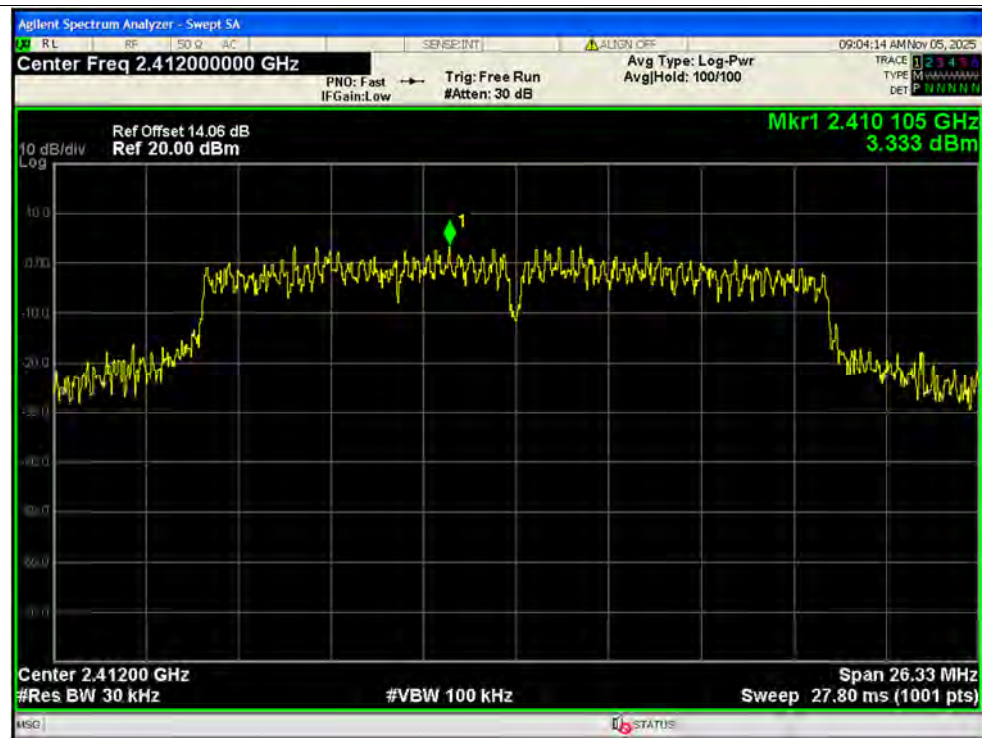


PSD NVNT g 2462MHz Ant1

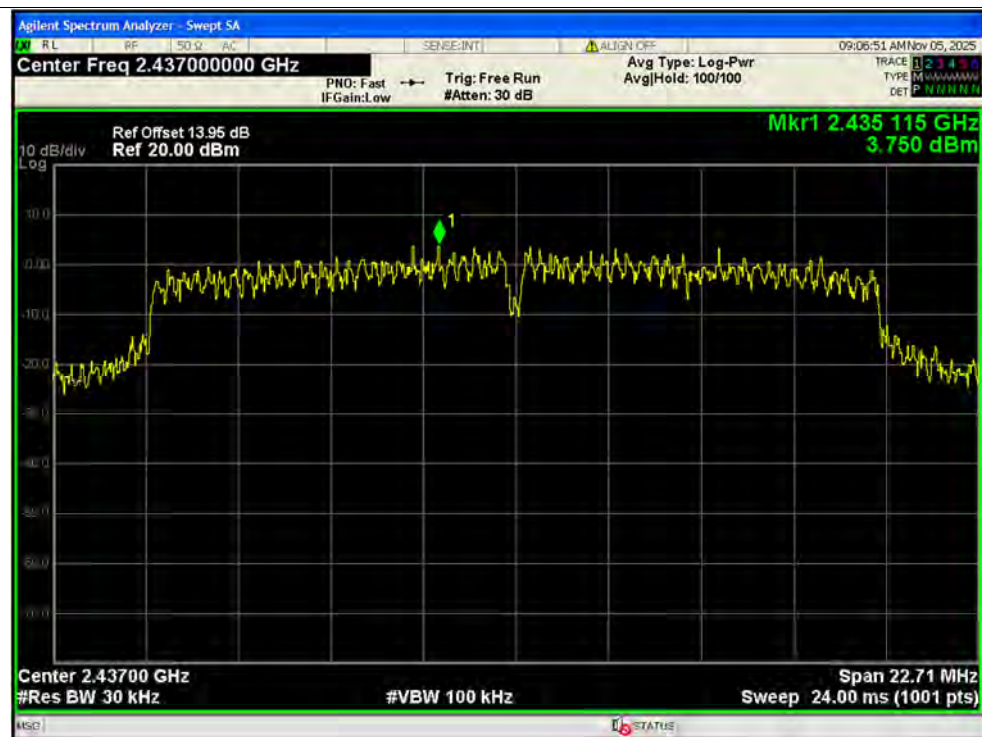




PSD NVNT n20 2412MHz Ant1



PSD NVNT n20 2437MHz Ant1



PSD NVNT n20 2462MHz Ant1



PSD NVNT n40 2422MHz Ant1





PSD NVNT n40 2437MHz Ant1



PSD NVNT n40 2452MHz Ant1



PSD NVNT ax20 2412MHz Ant1



PSD NVNT ax20 2437MHz Ant1



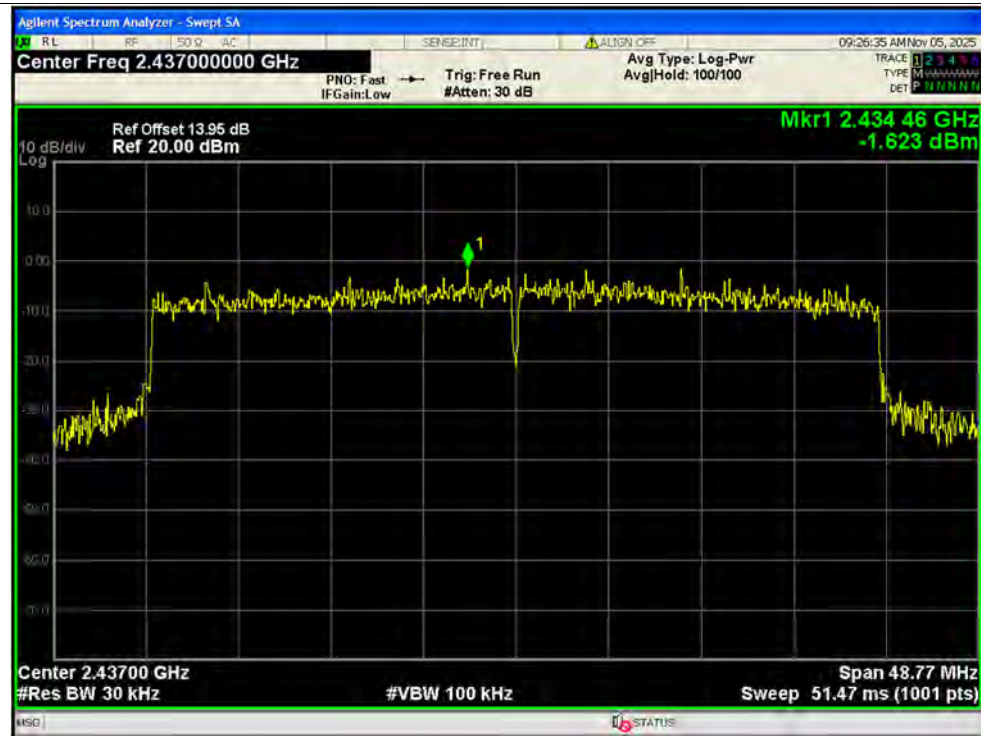
PSD NVNT ax20 2462MHz Ant1



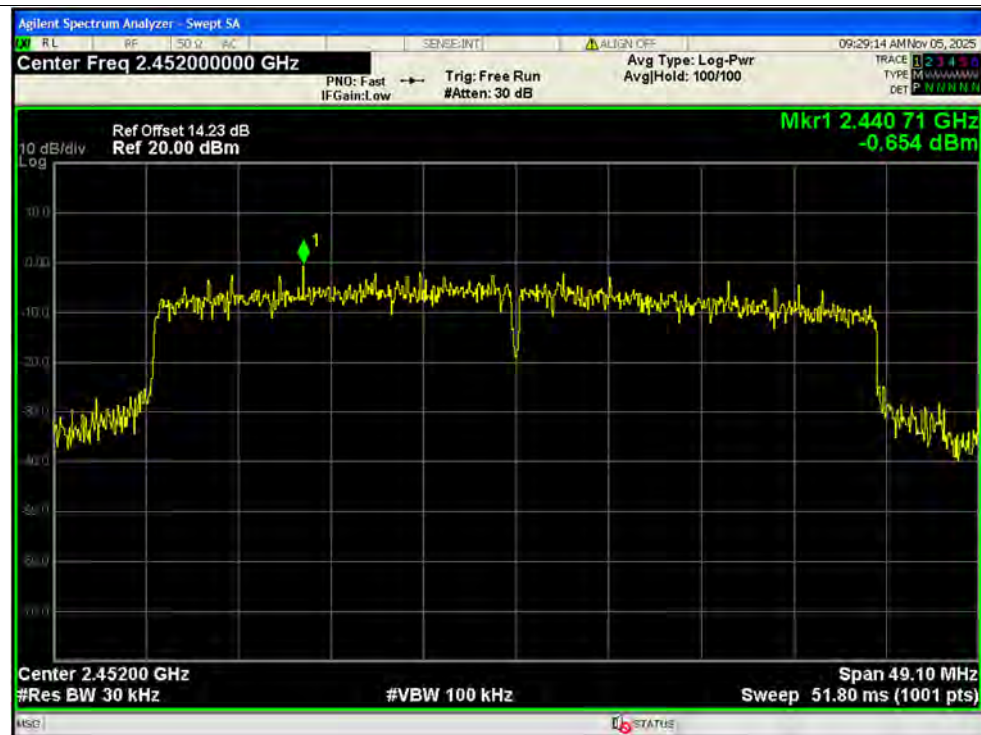
PSD NVNT ax40 2422MHz Ant1



PSD NVNT ax40 2437MHz Ant1



PSD NVNT ax40 2452MHz Ant1





A.8. Conducted Emission

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Set RBW=9kHz, VBW=30kHz. Refer to recorded points and plots below.

Note: Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

A. Test Setup:

Test Mode: EUT+PC+PC adapter+DC source+Antenna+WIFI TX

Test voltage: AC 120V/60Hz

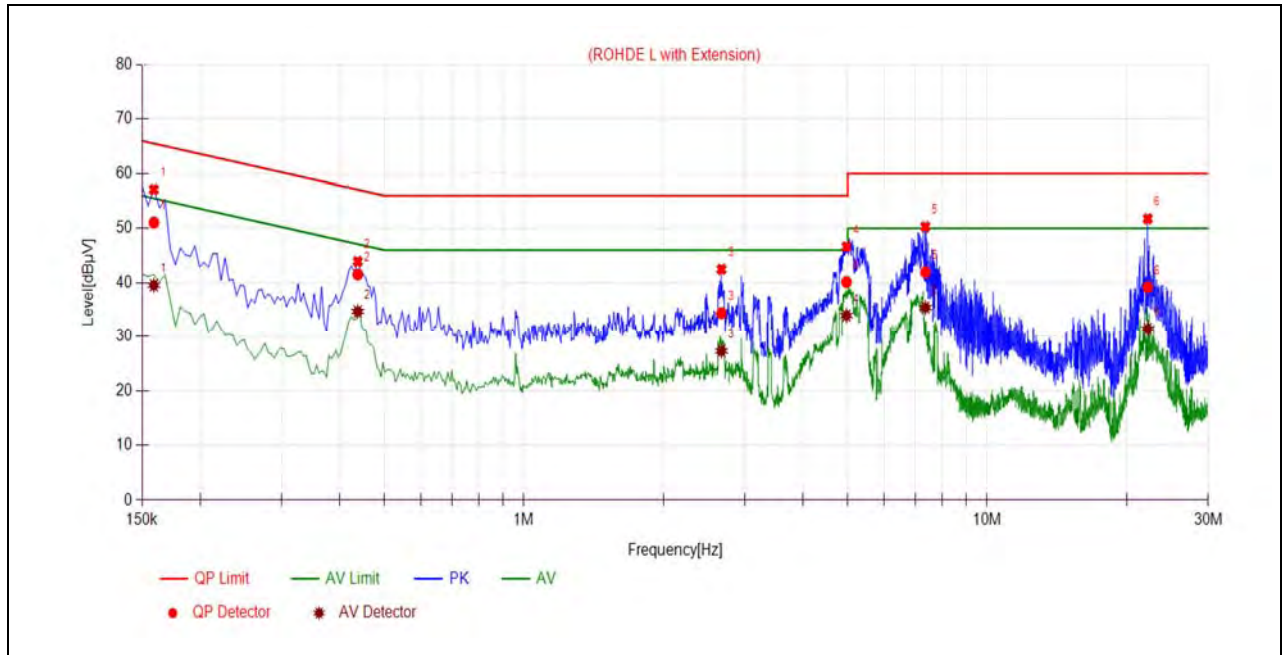
The measurement results are obtained as below:

$$E \text{ [dB}\mu\text{V]} = U_R + L_{\text{Cable loss [dB]} + A_{\text{Factor}}$$

U_R : Receiver Reading

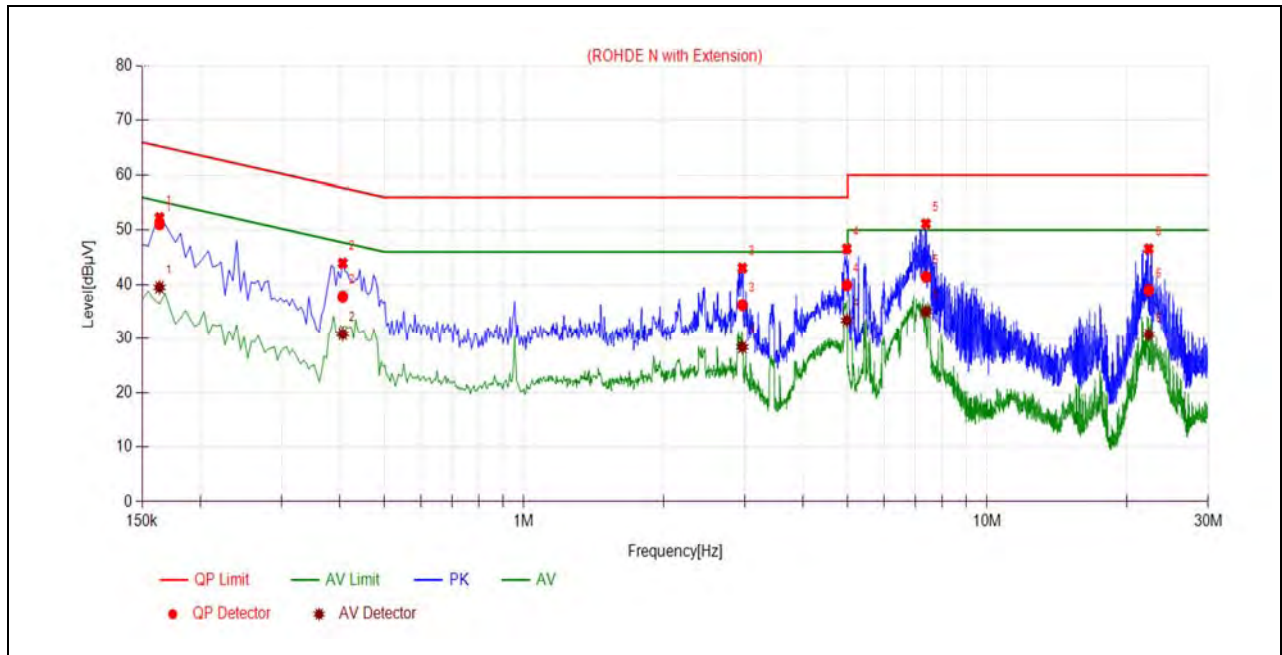
A_{Factor} : Voltage division factor of LISN

B. Test Plot:



(L Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1590	51.08	39.54	65.52	55.52	Line	PASS
2	0.4380	41.53	34.70	57.10	47.10		PASS
3	2.6702	34.37	27.28	56.00	46.00		PASS
4	4.9698	40.13	33.94	56.00	46.00		PASS
5	7.3592	41.93	35.41	60.00	50.00		PASS
6	22.2117	39.19	31.42	60.00	50.00		PASS



(N Phase)

No.	Fre. (MHz)	Emission Level (dBμV)		Limit (dBμV)		Power-line	Verdict
		Quai-peak	Average	Quai-peak	Average		
1	0.1635	51.07	39.50	65.28	55.28	Neutral	PASS
2	0.4065	37.77	30.84	57.72	47.72		PASS
3	2.9625	36.24	28.38	56.00	46.00		PASS
4	4.9781	39.90	33.42	56.00	46.00		PASS
5	7.3773	41.42	35.06	60.00	50.00		PASS
6	22.3212	39.00	30.75	60.00	50.00		PASS

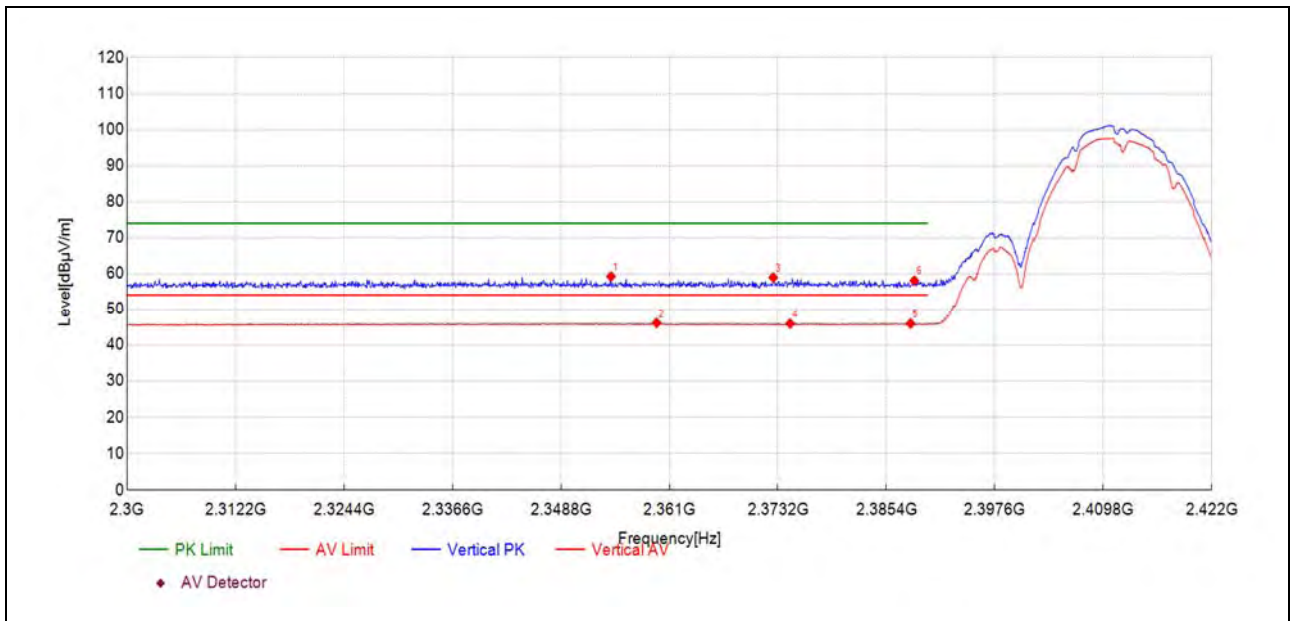
A.9. Restricted Frequency Bands

Note 1: Restricted Frequency Bands were performed when antenna was at vertical and horizontal polarity, and only the worse test condition was recorded in this test report.

Note 2 All test modes and bandwidth were considered and evaluated respectively by performing full test, only the worst data were recorded for each bandwidth.

802.11b Mode

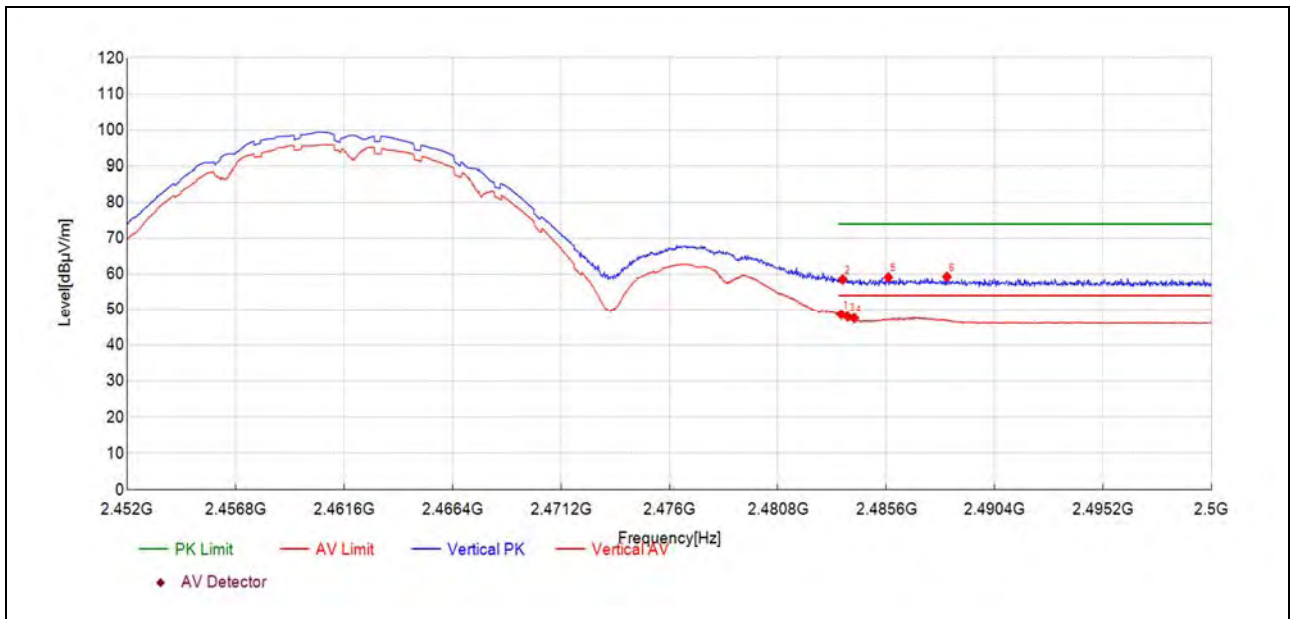
Plot for Channel 1



Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
2354.44	21.8	59.22	37.460	74.00	14.78	355	PK	Vertical	PASS
2359.57	8.7	46.11	37.460	54.00	7.89	270	AV	Vertical	PASS
2372.69	21.4	58.91	37.480	74.00	15.09	355	PK	Vertical	PASS
2374.58	8.4	45.91	37.480	54.00	8.09	76	AV	Vertical	PASS
2388.13	8.5	45.94	37.490	54.00	8.06	152	AV	Vertical	PASS
2388.56	20.6	58.07	37.490	74.00	15.93	110	PK	Vertical	PASS



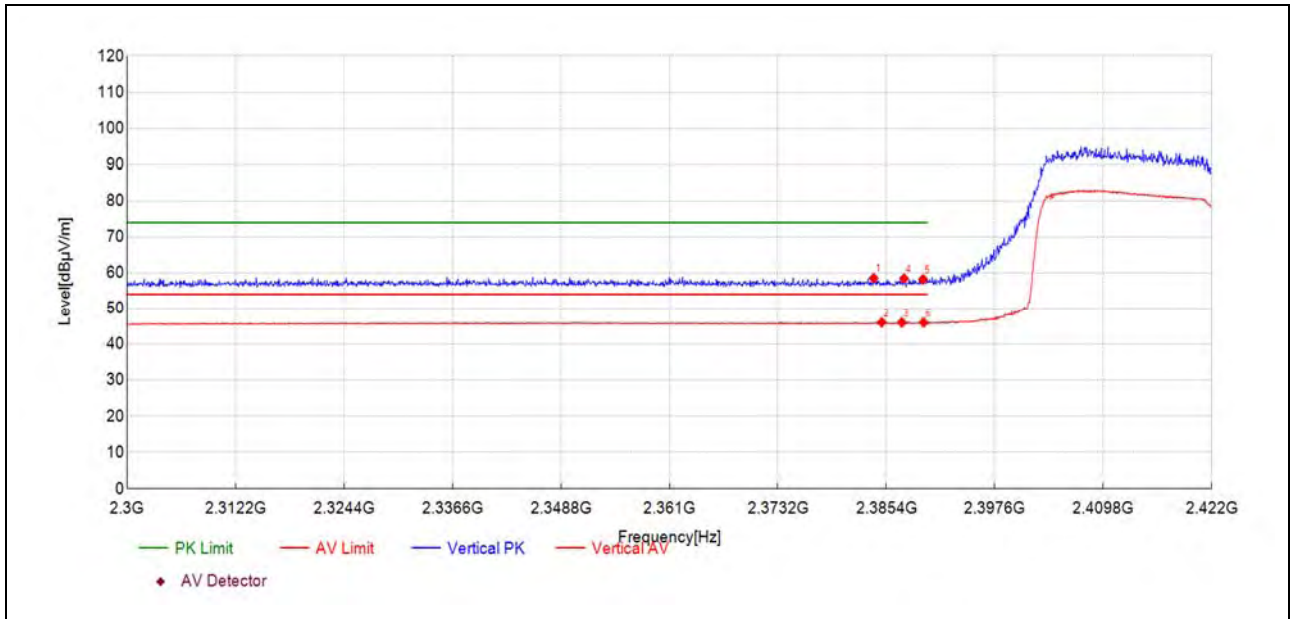
Plot for Channel 11



Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
2483.60	10.3	48.62	38.280	54.00	5.38	337	AV	Vertical	PASS
2483.67	20.3	58.53	38.280	74.00	15.47	332	PK	Vertical	PASS
2483.89	9.7	48.00	38.270	54.00	6.00	327	AV	Vertical	PASS
2484.18	9.3	47.56	38.270	54.00	6.44	337	AV	Vertical	PASS
2485.69	20.8	59.11	38.270	74.00	14.89	303	PK	Vertical	PASS
2488.28	21.0	59.27	38.270	74.00	14.73	168	PK	Vertical	PASS

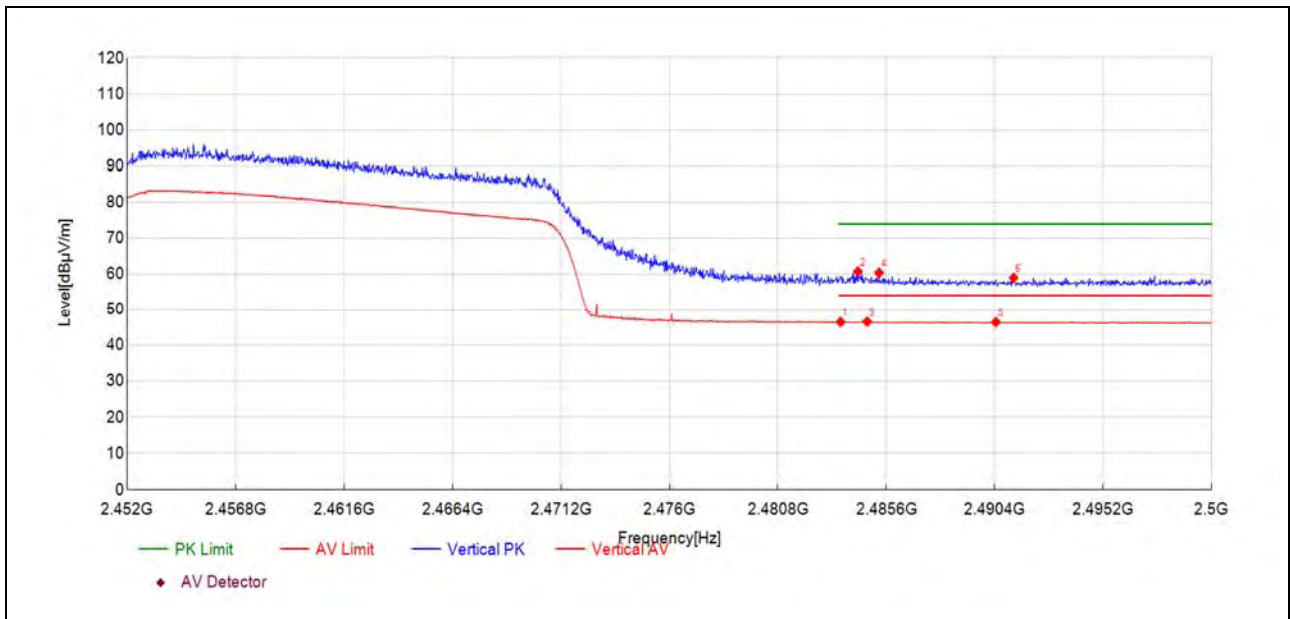
**802.11ax (HEW40) Mode**

Plot for Channel 3



Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
2383.98	21.1	58.56	37.490	74.00	15.44	28	PK	Vertical	PASS
2384.89	8.6	46.05	37.490	54.00	7.95	336	AV	Vertical	PASS
2387.15	8.5	46.03	37.490	54.00	7.97	208	AV	Vertical	PASS
2387.40	20.9	58.43	37.490	74.00	15.57	170	PK	Vertical	PASS
2389.53	20.8	58.26	37.490	74.00	15.74	342	PK	Vertical	PASS
2389.59	8.5	46.02	37.490	54.00	7.98	104	AV	Vertical	PASS

Plot for Channel 9



Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
2483.58	8.2	46.46	38.280	54.00	7.54	339	AV	Vertical	PASS
2484.34	22.5	60.74	38.270	74.00	13.26	317	PK	Vertical	PASS
2484.75	8.3	46.53	38.270	54.00	7.47	135	AV	Vertical	PASS
2485.28	22.1	60.39	38.270	74.00	13.61	336	PK	Vertical	PASS
2490.44	8.1	46.41	38.270	54.00	7.59	280	AV	Vertical	PASS
2491.24	20.7	58.99	38.270	74.00	15.01	223	PK	Vertical	PASS



A.10. Radiated Emission

According to ANSI C63.10, because of peak detection will yield amplitudes equal to or greater than amplitudes measured with the quasi-peak (or average) detector, the measurement data from a spectrum analyzer peak detector will represent the worst-case results, if the peak measured value complies with the quasi-peak (or average) limit, it is unnecessary to perform an quasi-peak measurement (or average).

The measurement results are obtained as below:

$$E [\text{dB}\mu\text{V/m}] = U_R + A_T + A_{\text{Factor}} [\text{dB}]; A_T = L_{\text{Cable loss}} [\text{dB}] - G_{\text{preamp}} [\text{dB}]$$

A_T : Total correction Factor except Antenna

U_R : Receiver Reading

G_{preamp} : Preamplifier Gain

A_{Factor} : Antenna Factor at 3m

During the test, the total correction Factor A_T and A_{Factor} were built in test software.

Note1: All radiated emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

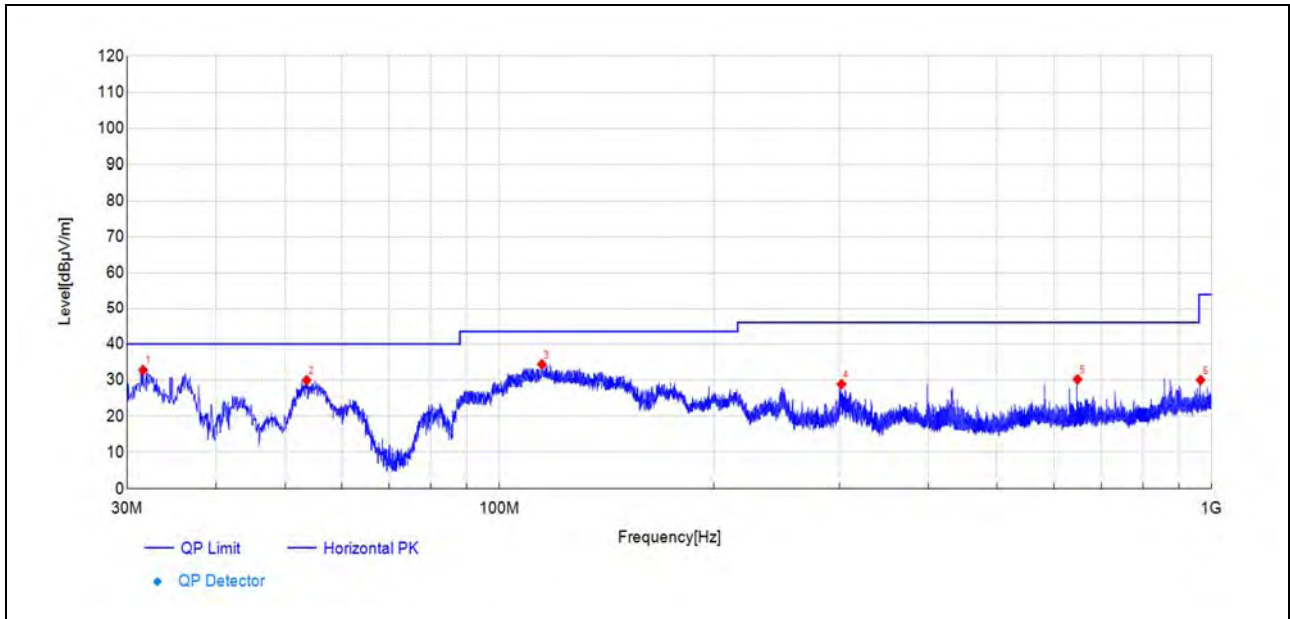
Note2: For the frequency, which started from 9kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note3: For the frequency, which started from 18GHz to 10th harmonic of the highest frequency, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note4: All test modes and bandwidth were considered and evaluated respectively by performing full test, only the worst data were recorded.

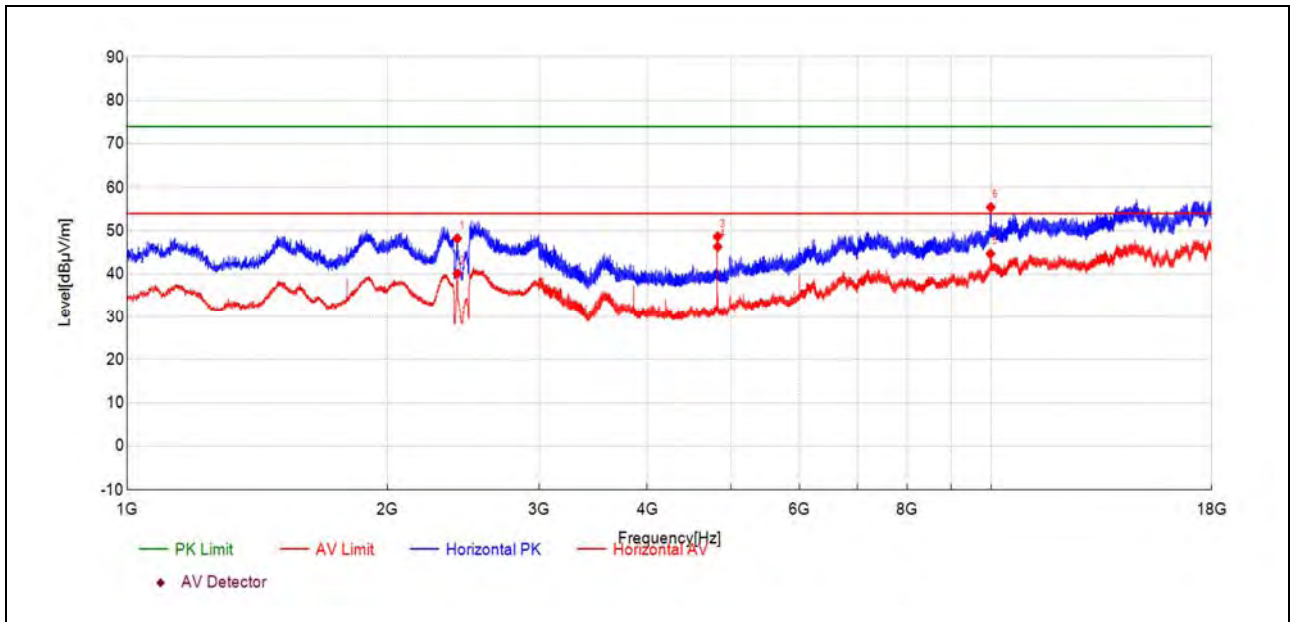
**802.11b Mode**

Plot for Channel 1



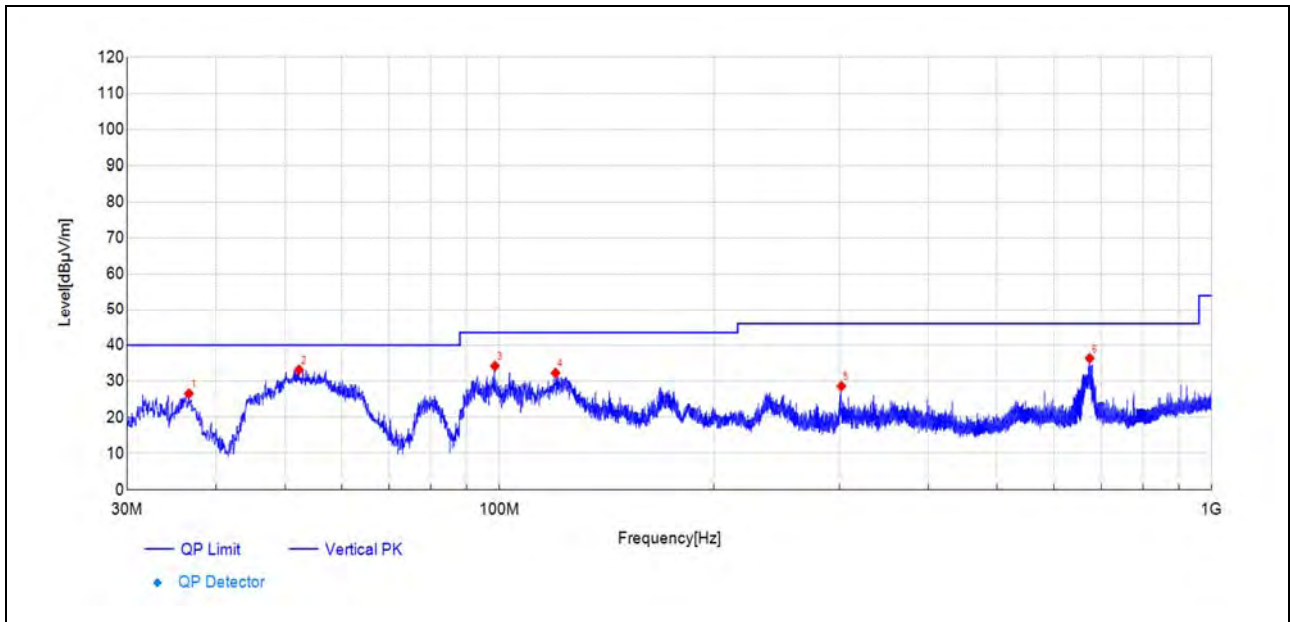
(Antenna Horizontal, 30MHz to 1GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
31.60	63.4	32.78	-30.570	40.00	7.22	215	PK	Horizontal	PASS
53.62	57.6	29.93	-27.640	40.00	10.07	146	PK	Horizontal	PASS
114.73	64.4	34.38	-30.040	43.50	9.12	9	PK	Horizontal	PASS
302.10	54.2	28.87	-25.290	46.00	17.13	99	PK	Horizontal	PASS
647.97	47.0	30.21	-16.810	46.00	15.79	112	PK	Horizontal	PASS
964.79	41.0	30.00	-11.000	54.00	24.00	188	PK	Horizontal	PASS



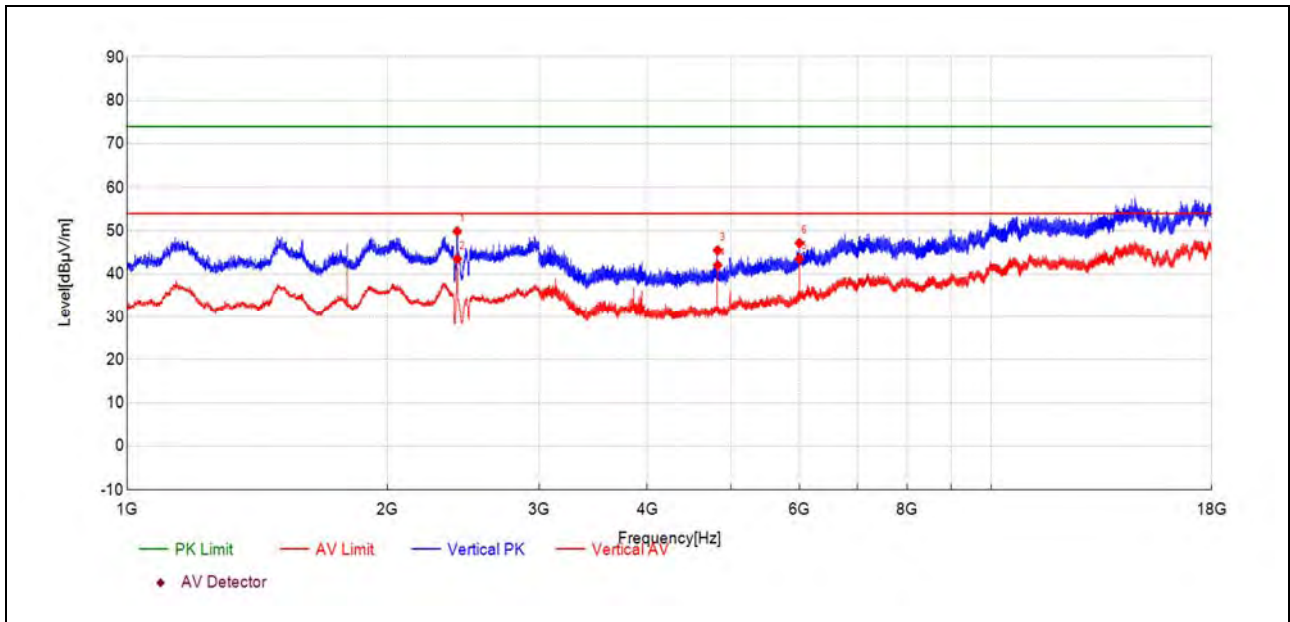
(Antenna Horizontal, 1GHz to 18GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
2410.68	42.9	48.24	5.380	-	-	342	PK	Horizontal	NA
2411.48	34.7	40.13	5.390	-	-	266	AV	Horizontal	NA
4824.48	53.7	48.66	-4.990	74.00	25.34	176	PK	Horizontal	PASS
4824.48	51.3	46.31	-4.990	54.00	7.69	176	AV	Horizontal	PASS
9981.20	34.5	44.70	10.210	54.00	9.30	123	AV	Horizontal	PASS
9991.06	45.1	55.47	10.400	74.00	18.53	110	PK	Horizontal	PASS



(Antenna Vertical, 30MHz to 1GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
36.64	55.9	26.55	-29.390	40.00	13.45	337	PK	Vertical	PASS
52.31	61.1	33.19	-27.910	40.00	6.81	24	PK	Vertical	PASS
98.53	63.9	34.22	-29.670	43.50	9.28	65	PK	Vertical	PASS
119.87	62.8	32.29	-30.530	43.50	11.21	269	PK	Vertical	PASS
302.05	53.9	28.62	-25.310	46.00	17.38	202	PK	Vertical	PASS
673.87	52.4	36.35	-16.090	46.00	9.65	59	PK	Vertical	PASS

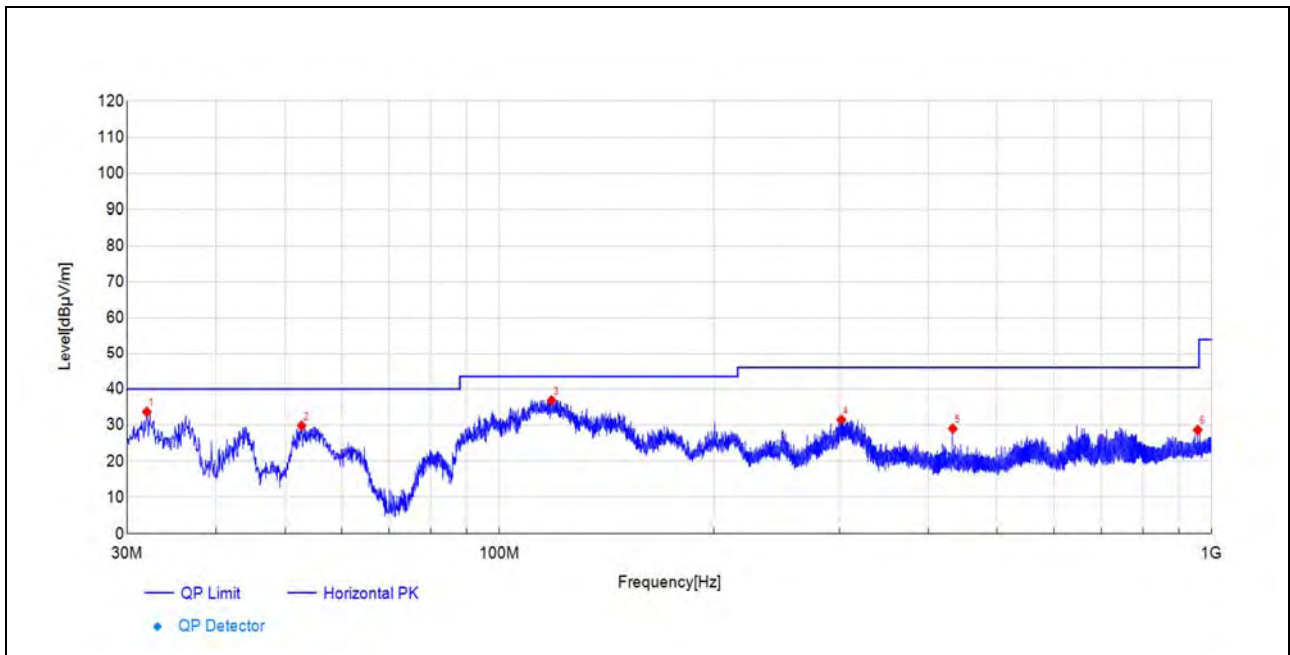


(Antenna Vertical, 1GHz to 18GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
2410.68	44.5	49.89	5.380	-	-	268	PK	Vertical	NA
2411.08	38.1	43.50	5.390	-	-	268	AV	Vertical	NA
4824.05	50.5	45.49	-5.000	74.00	28.51	110	PK	Vertical	PASS
4824.48	47.1	42.07	-4.990	54.00	11.93	83	AV	Vertical	PASS
6000.09	43.7	43.58	-0.160	54.00	10.42	30	AV	Vertical	PASS
6000.09	47.3	47.17	-0.160	74.00	26.83	30	PK	Vertical	PASS

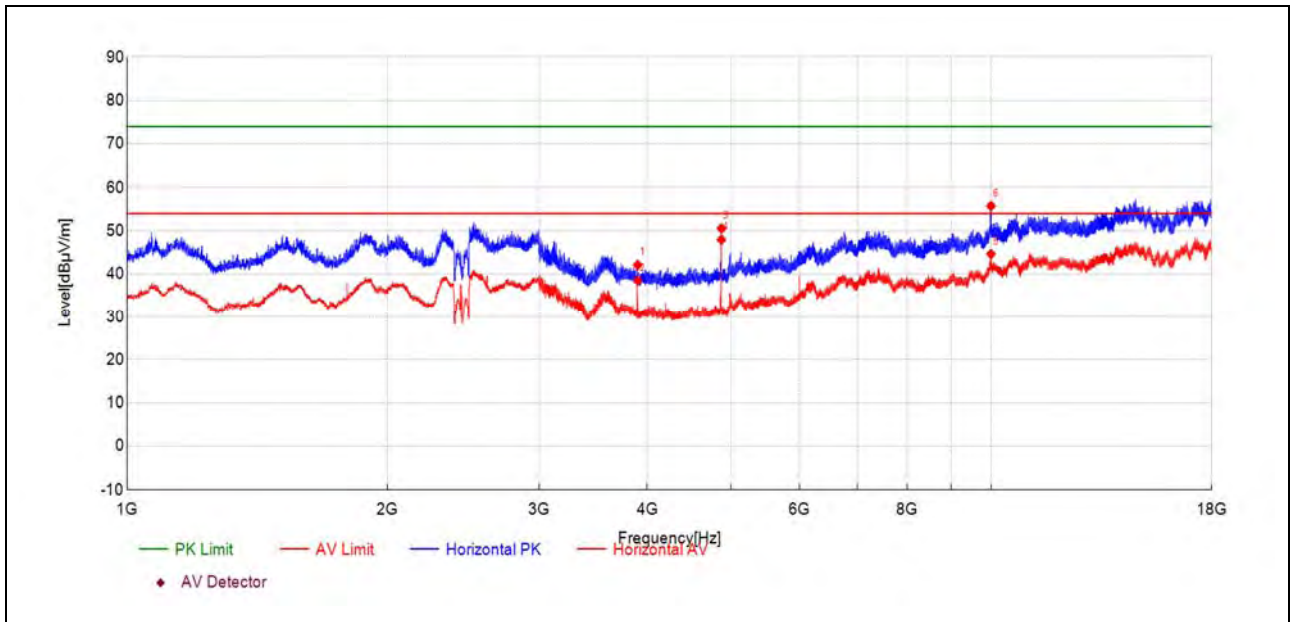


Plot for Channel 6



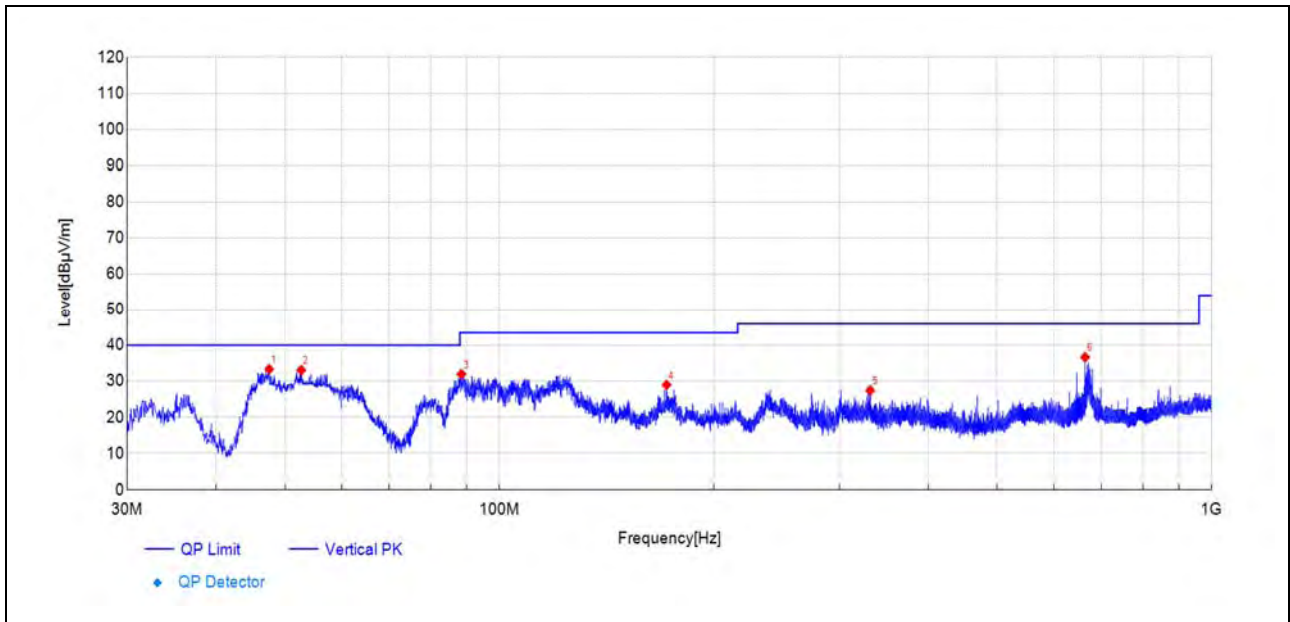
(Antenna Horizontal, 30MHz to 1GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
31.99	64.2	33.68	-30.480	40.00	6.32	179	PK	Horizontal	PASS
52.75	57.6	29.80	-27.820	40.00	10.20	166	PK	Horizontal	PASS
118.37	67.6	36.88	-30.710	43.50	6.62	152	PK	Horizontal	PASS
302.00	56.8	31.51	-25.310	46.00	14.49	98	PK	Horizontal	PASS
433.06	51.1	29.01	-22.130	46.00	16.99	172	PK	Horizontal	PASS
955.77	40.3	28.64	-11.610	46.00	17.36	16	PK	Horizontal	PASS



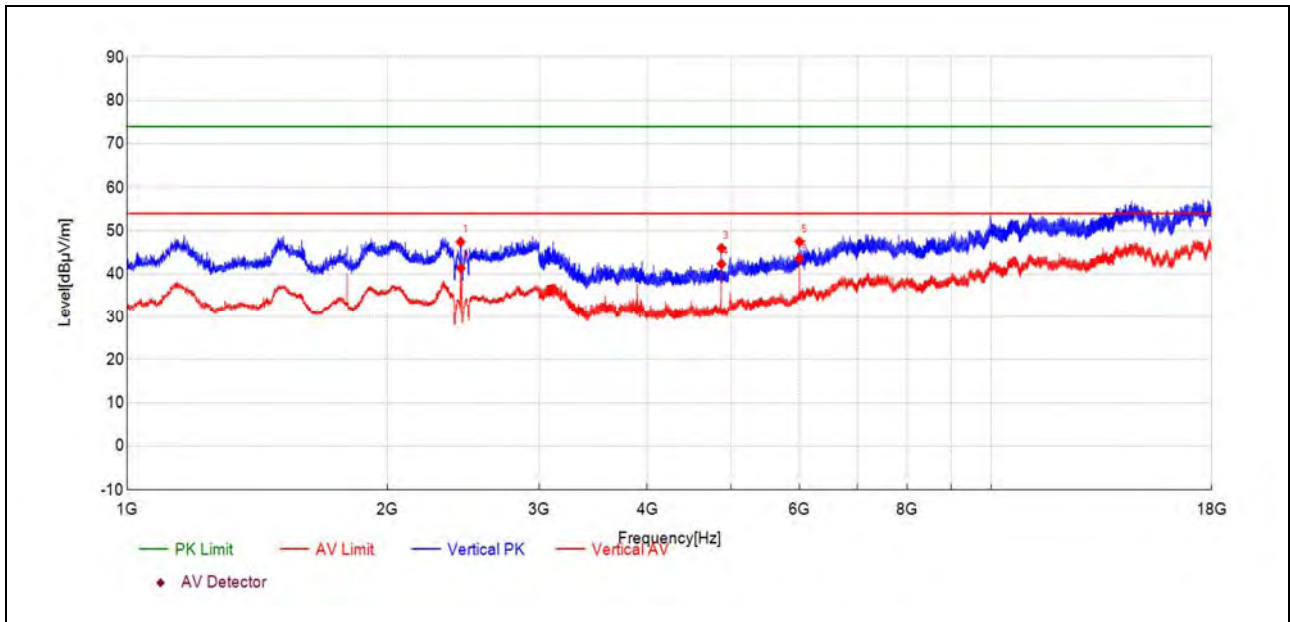
(Antenna Horizontal, 1GHz to 18GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
3899.17	50.5	42.13	-8.370	74.00	31.87	174	PK	Horizontal	PASS
3899.60	46.9	38.52	-8.370	54.00	15.48	189	AV	Horizontal	PASS
4874.20	55.5	50.55	-4.960	74.00	23.45	174	PK	Horizontal	PASS
4874.20	52.9	47.95	-4.960	54.00	6.05	174	AV	Horizontal	PASS
9994.91	34.2	44.65	10.480	54.00	9.35	120	AV	Horizontal	PASS
9996.20	45.3	55.76	10.500	74.00	18.24	120	PK	Horizontal	PASS



(Antenna Vertical, 30MHz to 1GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
47.51	61.8	33.34	-28.440	40.00	6.66	0	PK	Vertical	PASS
52.70	60.9	33.08	-27.830	40.00	6.92	213	PK	Vertical	PASS
88.45	63.9	31.97	-31.960	43.50	11.53	351	PK	Vertical	PASS
171.63	59.7	28.97	-30.770	43.50	14.53	185	PK	Vertical	PASS
331.49	51.8	27.45	-24.360	46.00	18.55	192	PK	Vertical	PASS
664.17	52.8	36.65	-16.150	46.00	9.35	36	PK	Vertical	PASS

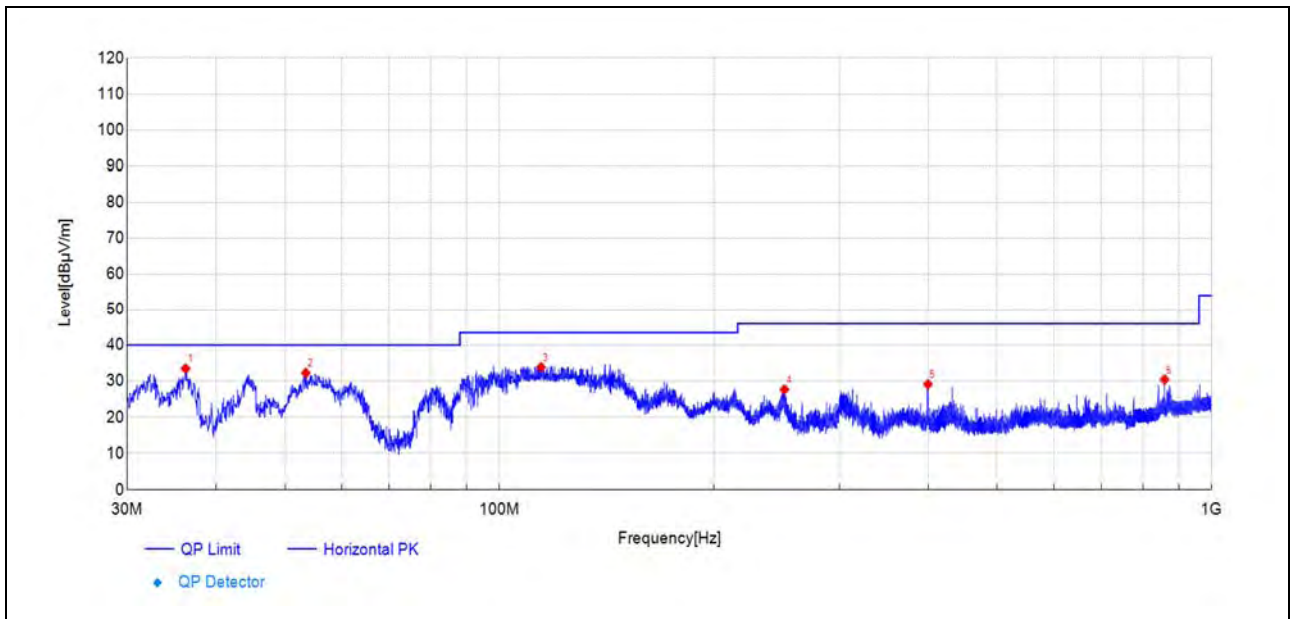


(Antenna Vertical, 1GHz to 18GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
2432.69	41.7	47.45	5.710	74.00	26.55	254	PK	Vertical	PASS
2433.89	35.7	41.40	5.720	54.00	12.60	286	AV	Vertical	PASS
4874.20	51.0	45.99	-4.960	74.00	28.01	83	PK	Vertical	PASS
4874.62	47.3	42.34	-4.970	54.00	11.66	83	AV	Vertical	PASS
5999.66	47.7	47.49	-0.160	74.00	26.51	15	PK	Vertical	PASS
6000.09	43.8	43.67	-0.160	54.00	10.33	30	AV	Vertical	PASS

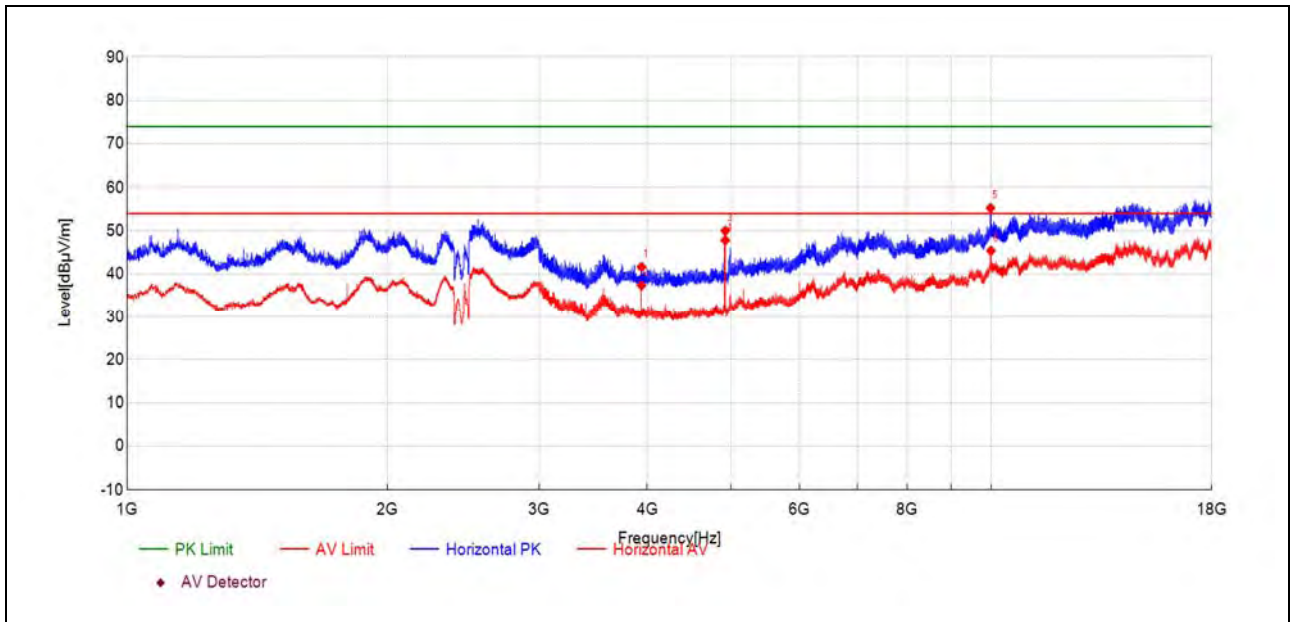


Plot for Channel 11



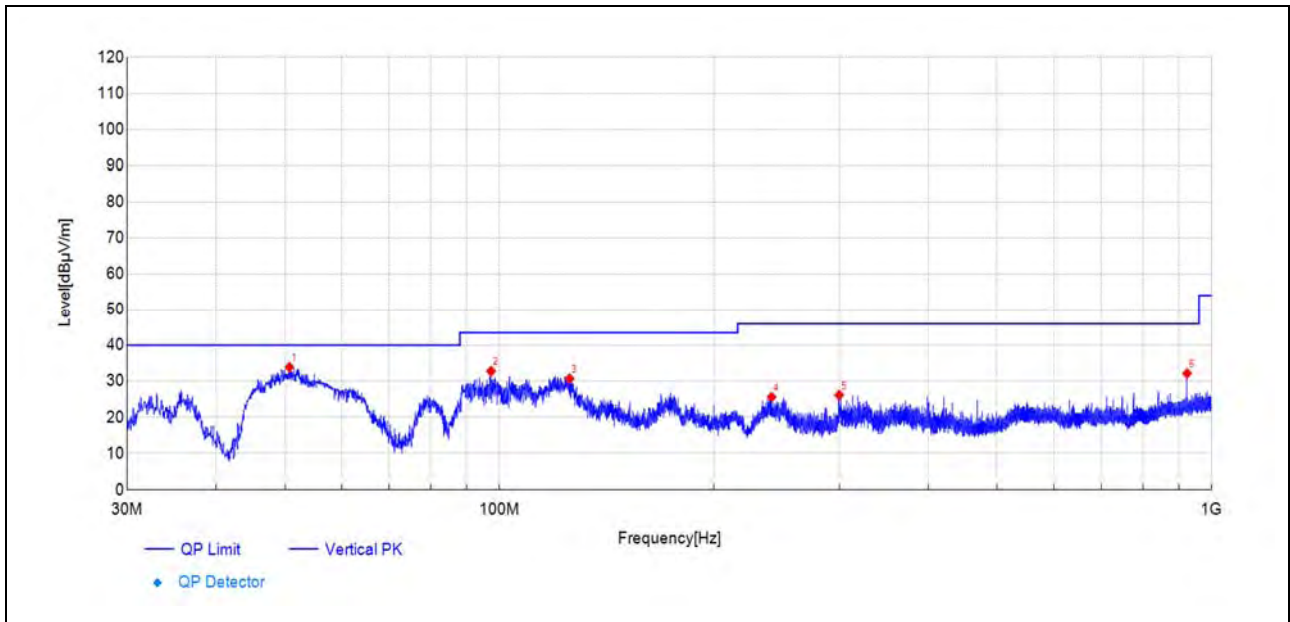
(Antenna Horizontal, 30MHz to 1GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
36.26	63.0	33.49	-29.510	40.00	6.51	255	PK	Horizontal	PASS
53.48	59.9	32.28	-27.660	40.00	7.72	125	PK	Horizontal	PASS
114.39	63.7	33.90	-29.810	43.50	9.60	16	PK	Horizontal	PASS
251.32	55.1	27.67	-27.420	46.00	18.33	172	PK	Horizontal	PASS
399.64	51.4	29.12	-22.310	46.00	16.88	43	PK	Horizontal	PASS
858.62	43.2	30.45	-12.790	46.00	15.55	63	PK	Horizontal	PASS



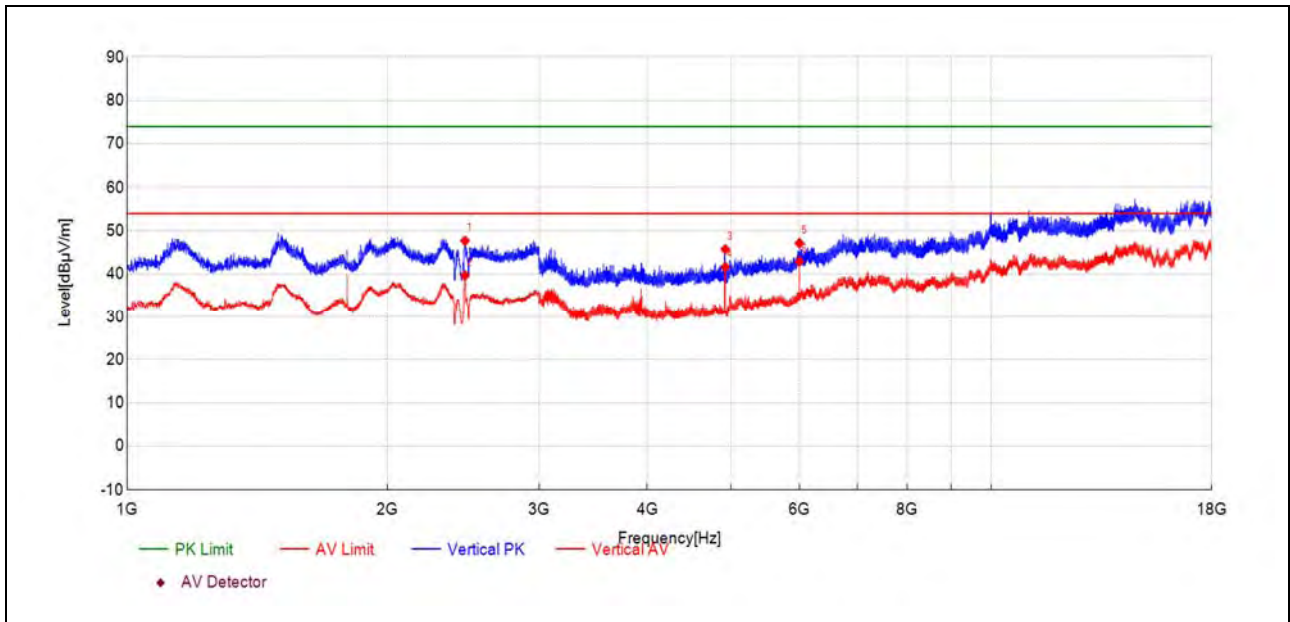
(Antenna Horizontal, 1GHz to 18GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
3939.03	49.6	41.65	-7.900	74.00	32.35	177	PK	Horizontal	PASS
3939.46	45.2	37.36	-7.880	54.00	16.64	191	AV	Horizontal	PASS
4923.91	55.0	50.00	-4.980	74.00	24.00	164	PK	Horizontal	PASS
4924.34	52.8	47.83	-4.980	54.00	6.17	177	AV	Horizontal	PASS
9984.63	45.0	55.27	10.280	74.00	18.73	110	PK	Horizontal	PASS
9996.20	34.9	45.39	10.500	54.00	8.61	124	AV	Horizontal	PASS



(Antenna Vertical, 30MHz to 1GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
50.71	61.9	33.90	-28.020	40.00	6.10	69	PK	Vertical	PASS
97.32	62.7	32.79	-29.950	43.50	10.71	102	PK	Vertical	PASS
125.45	61.8	30.73	-31.080	43.50	12.77	324	PK	Vertical	PASS
241.08	53.4	25.60	-27.770	46.00	20.40	167	PK	Vertical	PASS
299.87	51.6	26.15	-25.460	46.00	19.85	195	PK	Vertical	PASS
923.37	44.0	32.16	-11.830	46.00	13.84	14	PK	Vertical	PASS



(Antenna Vertical, 1GHz to 18GHz)

Freq. [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Angle [°]	Detector	Polarity	Verdict
2461.09	41.8	47.71	5.950	-	-	228	PK	Vertical	NA
2461.49	33.7	39.67	5.940	-	-	233	AV	Vertical	NA
4924.34	50.7	45.74	-4.980	74.00	28.26	149	PK	Vertical	PASS
4924.34	46.6	41.66	-4.980	54.00	12.34	162	AV	Vertical	PASS
6000.09	47.3	47.17	-0.160	74.00	26.83	15	PK	Vertical	PASS
6000.51	43.1	42.93	-0.150	54.00	11.07	15	AV	Vertical	PASS

————— END OF REPORT —————