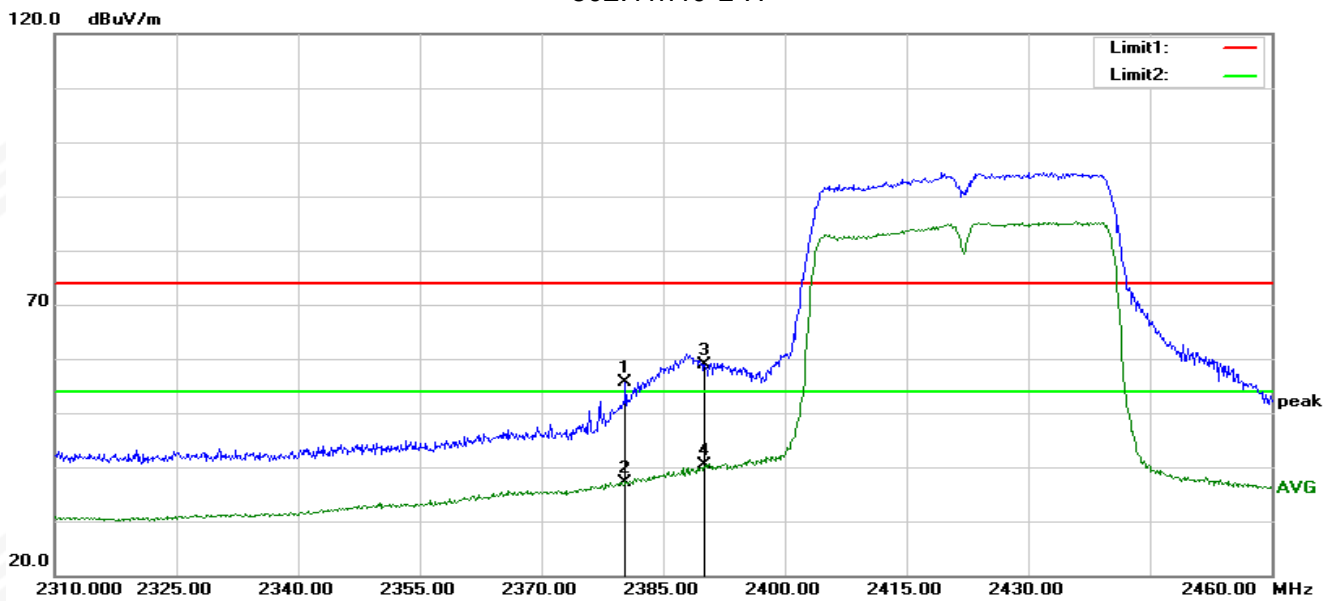


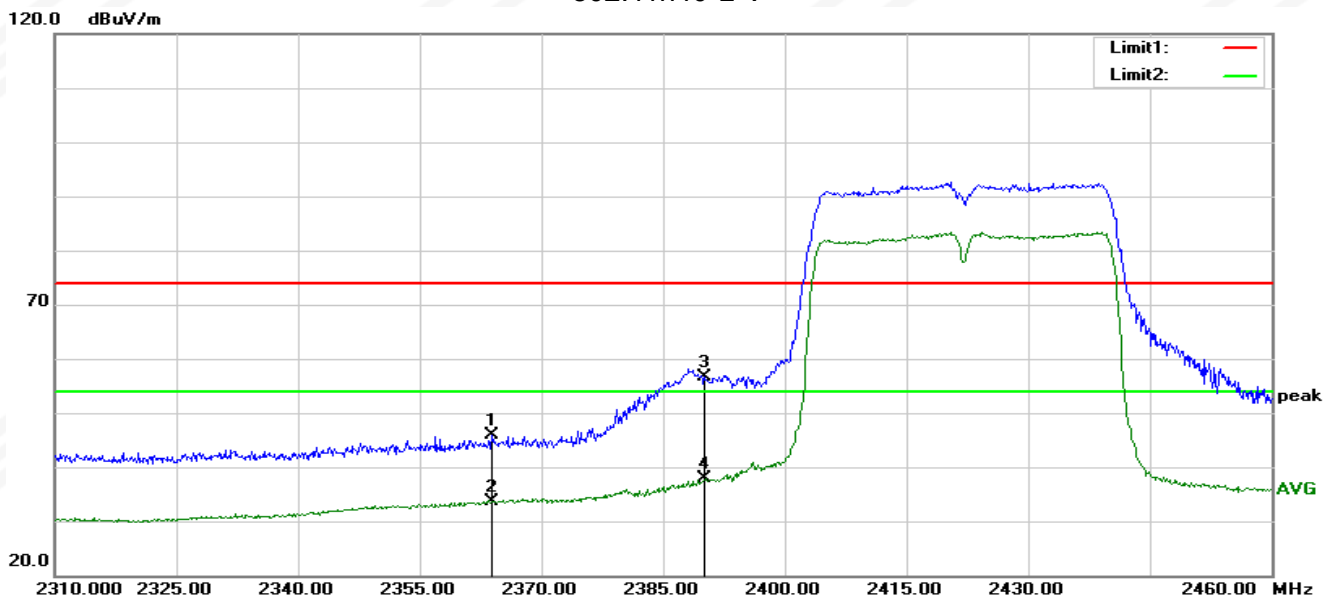


802.11n40-L-H



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2380.350	51.55	4.19	55.74	74.00	-18.26	peak
2	2380.350	32.88	4.19	37.07	54.00	-16.93	AVG
3	2390.000	54.52	4.34	58.86	74.00	-15.14	peak
4	2390.000	36.07	4.34	40.41	54.00	-13.59	AVG

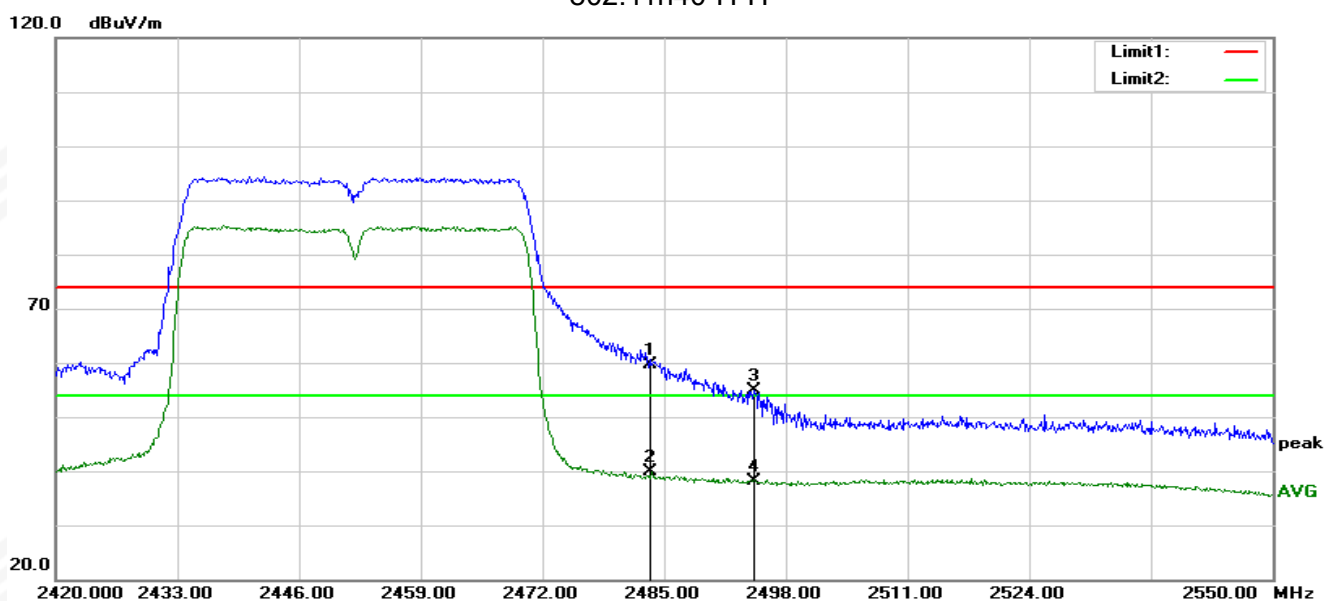
802.11n40-L-V



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2363.850	41.91	3.95	45.86	74.00	-28.14	peak
2	2363.850	29.79	3.95	33.74	54.00	-20.26	AVG
3	2390.000	52.18	4.34	56.52	74.00	-17.48	peak
4	2390.000	33.45	4.34	37.79	54.00	-16.21	AVG

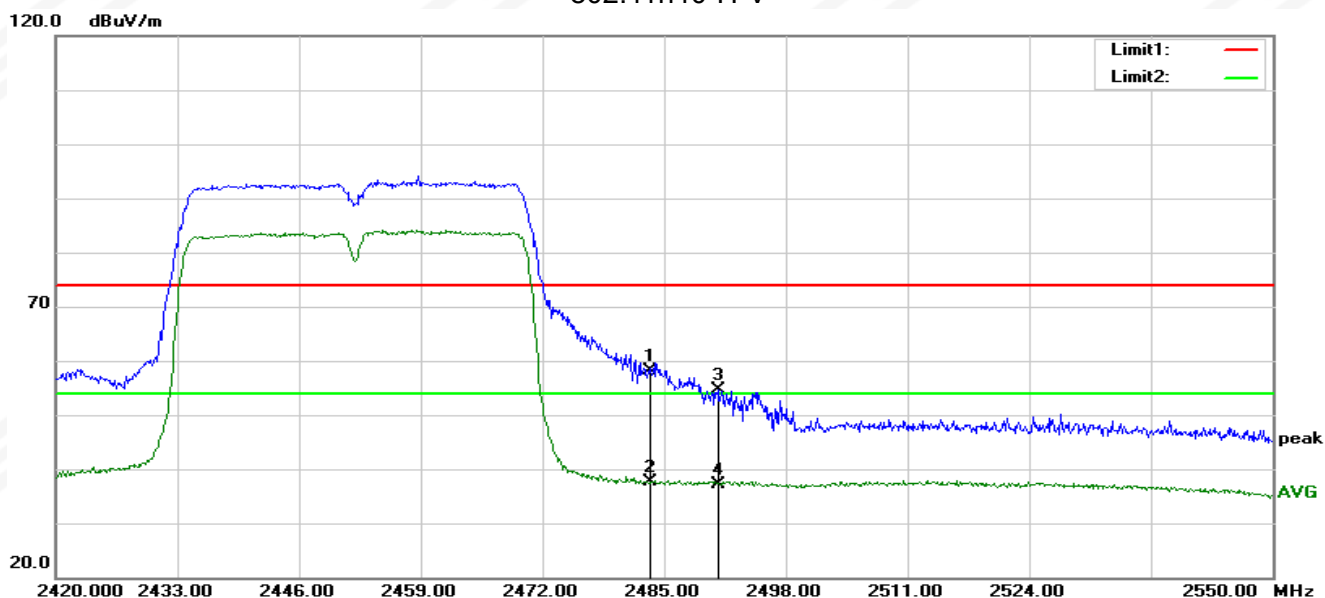


802.11n40-H-H



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	55.13	4.60	59.73	74.00	-14.27	peak
2	2483.500	35.19	4.60	39.79	54.00	-14.21	AVG
3	2494.620	50.32	4.63	54.95	74.00	-19.05	peak
4	2494.620	33.50	4.63	38.13	54.00	-15.87	AVG

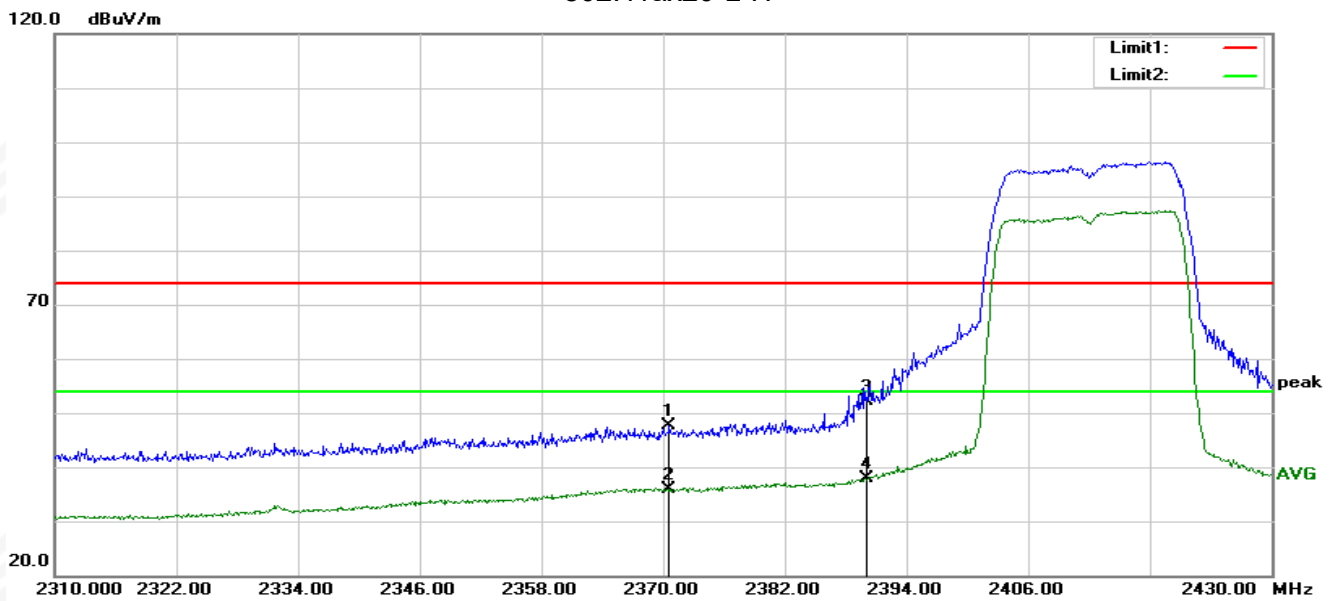
802.11n40-H-V



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	53.57	4.60	58.17	74.00	-15.83	peak
2	2483.500	32.91	4.60	37.51	54.00	-16.49	AVG
3	2490.720	50.06	4.63	54.69	74.00	-19.31	peak
4	2490.720	32.59	4.63	37.22	54.00	-16.78	AVG

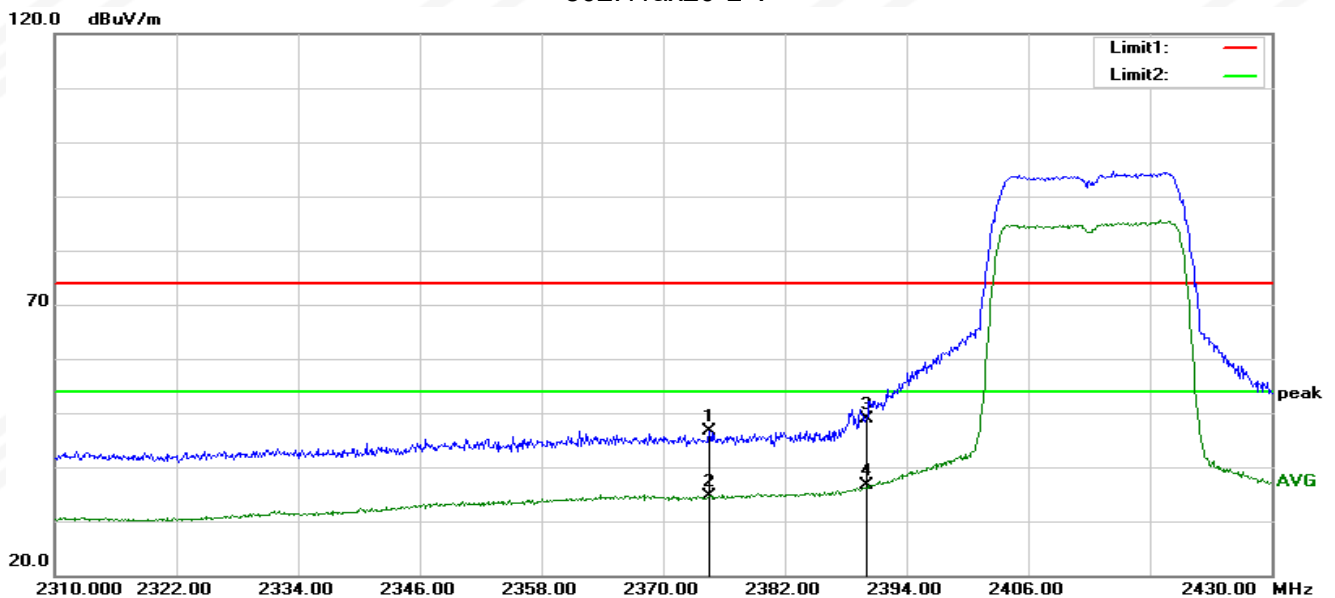


802.11ax20-L-H



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2370.600	43.60	4.05	47.65	74.00	-26.35	peak
2	2370.600	31.85	4.05	35.90	54.00	-18.10	AVG
3	2390.000	47.74	4.34	52.08	74.00	-21.92	peak
4	2390.000	33.59	4.34	37.93	54.00	-16.07	AVG

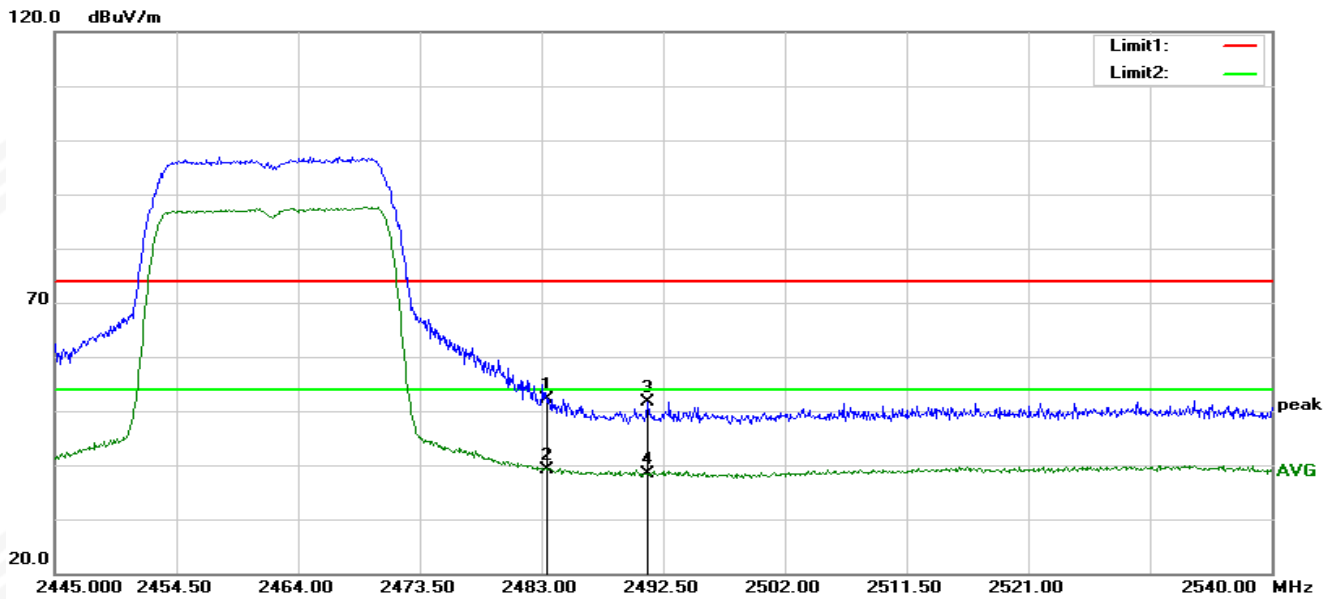
802.11ax20-L-V



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2374.560	42.56	4.10	46.66	74.00	-27.34	peak
2	2374.560	30.43	4.10	34.53	54.00	-19.47	AVG
3	2390.000	44.59	4.34	48.93	74.00	-25.07	peak
4	2390.000	32.25	4.34	36.59	54.00	-17.41	AVG

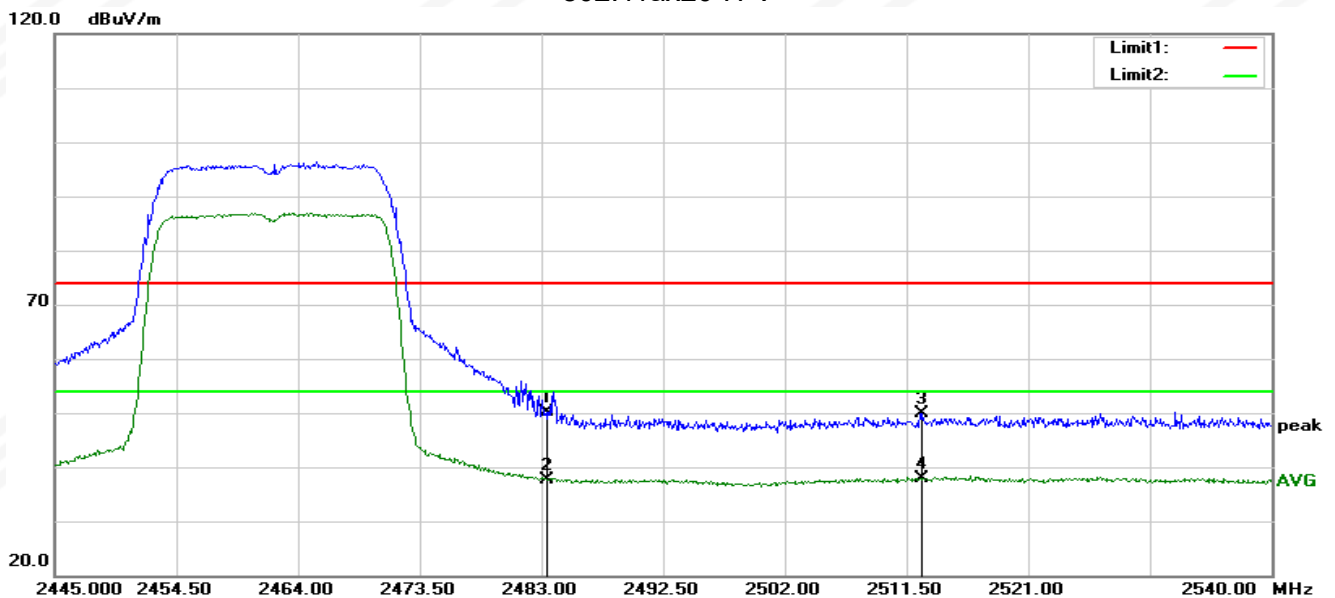


802.11ax20-H-H



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	47.49	4.60	52.09	74.00	-21.91	peak
2	2483.500	34.64	4.60	39.24	54.00	-14.76	AVG
3	2491.265	47.00	4.63	51.63	74.00	-22.37	peak
4	2491.265	33.68	4.63	38.31	54.00	-15.69	AVG

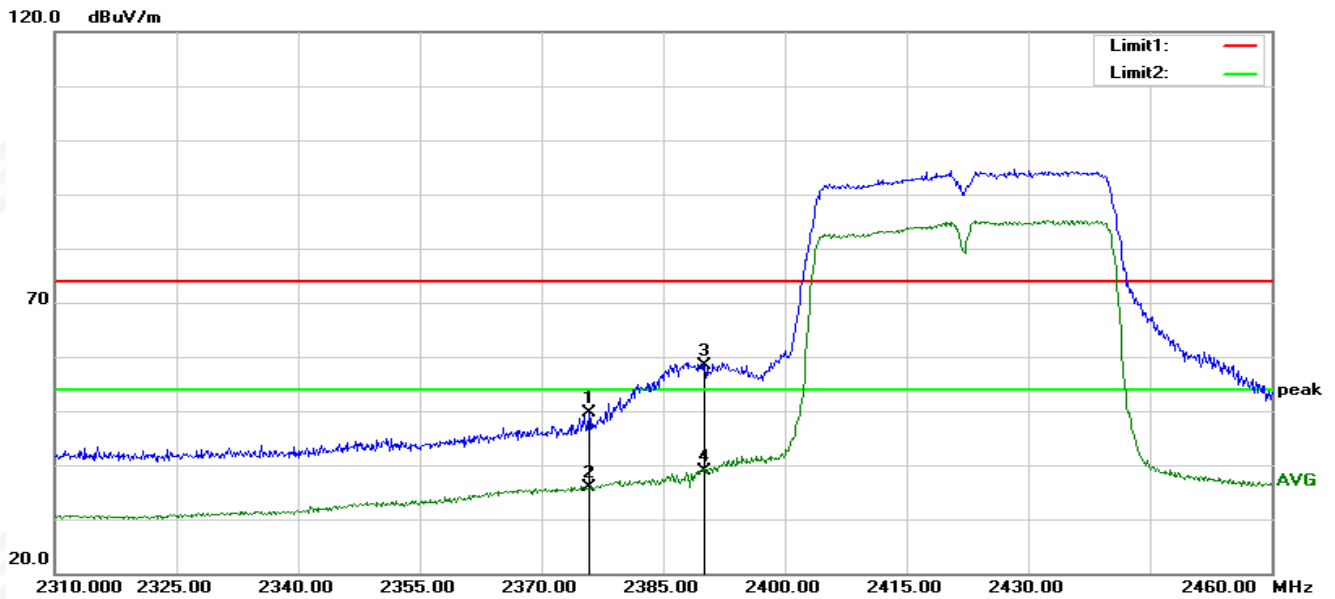
802.11ax20-H-V



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	45.65	4.60	50.25	74.00	-23.75	peak
2	2483.500	33.06	4.60	37.66	54.00	-16.34	AVG
3	2512.735	45.22	4.74	49.96	74.00	-24.04	peak
4	2512.735	33.14	4.74	37.88	54.00	-16.12	AVG

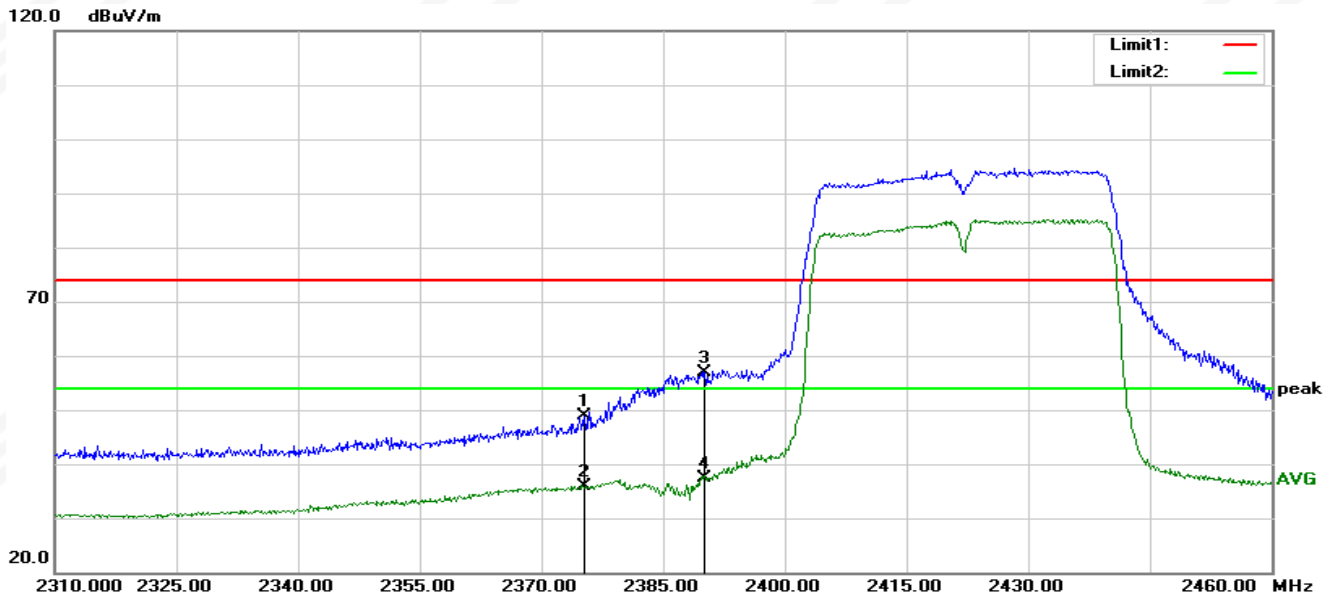


802.11ax40-L-H



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2375.850	45.39	4.13	49.52	74.00	-24.48	peak
2	2375.850	31.84	4.13	35.97	54.00	-18.03	AVG
3	2390.000	54.02	4.34	58.36	74.00	-15.64	peak
4	2390.000	34.45	4.34	38.79	54.00	-15.21	AVG

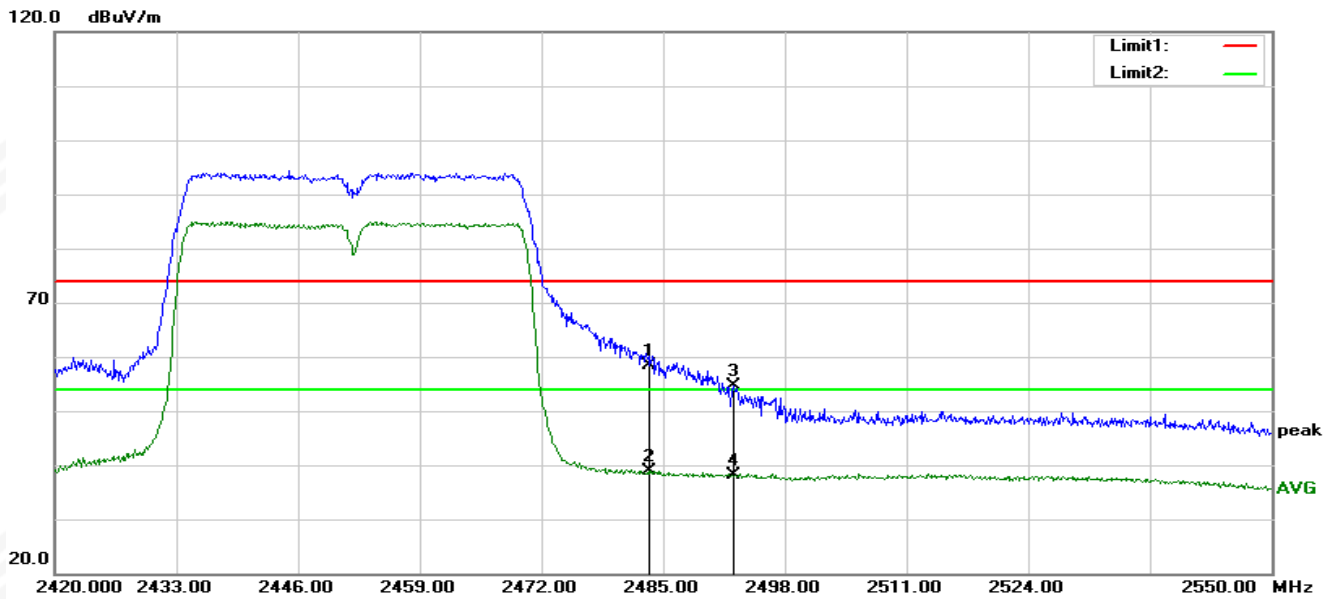
802.11ax40-L-V



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2375.250	44.75	4.12	48.87	74.00	-25.13	peak
2	2375.250	31.69	4.12	35.81	54.00	-18.19	AVG
3	2390.000	52.52	4.34	56.86	74.00	-17.14	peak
4	2390.000	32.95	4.34	37.29	54.00	-16.71	AVG

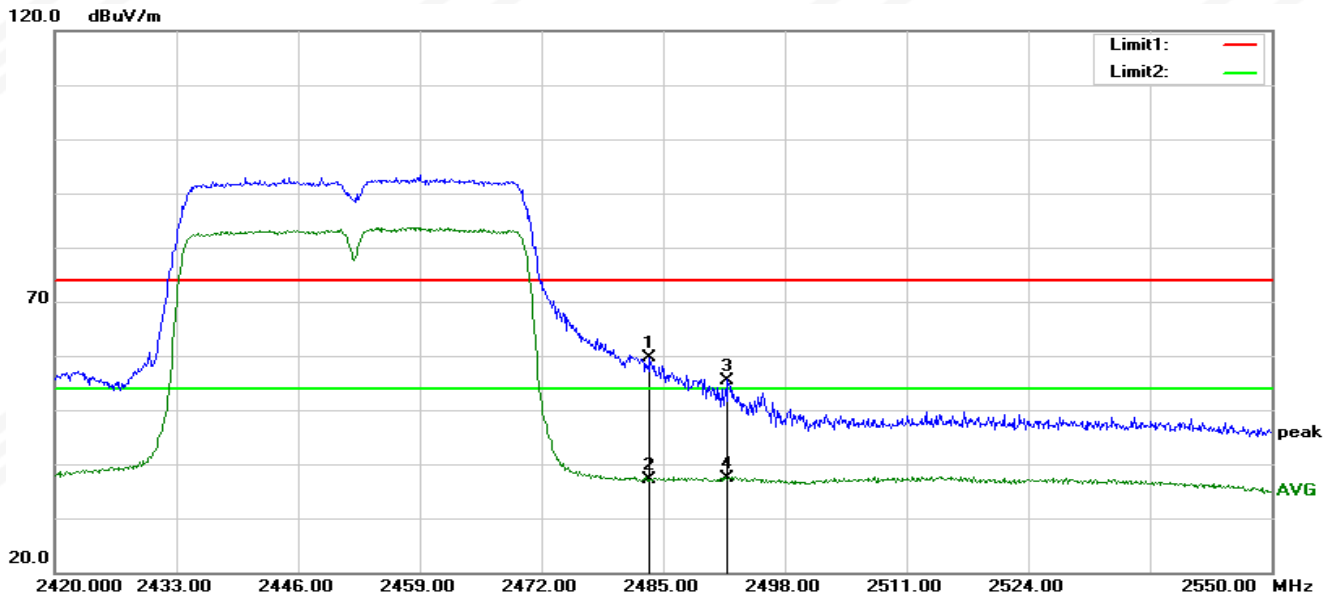


802.11ax40-H-H



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	53.68	4.60	58.28	74.00	-15.72	peak
2	2483.500	34.23	4.60	38.83	54.00	-15.17	AVG
3	2492.540	49.89	4.63	54.52	74.00	-19.48	peak
4	2492.540	33.56	4.63	38.19	54.00	-15.81	AVG

802.11ax40-H-V



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	55.01	4.60	59.61	74.00	-14.39	peak
2	2483.500	32.47	4.60	37.07	54.00	-16.93	AVG
3	2491.890	50.87	4.63	55.50	74.00	-18.50	peak
4	2491.890	32.70	4.63	37.33	54.00	-16.67	AVG



4. DUTY CYCLE

4.1 TEST STANDARD

Please refer to ANSI C63.10-2020 Section 11.6

4.2 TEST PROCEDURE

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Zero
RB	set RBW to the largest available value
VB	$VBW \geq RBW$.
Detector	Peak
Trace	Clear Write
Sweep Time	Auto

4.3 DEVIATION FROM STANDARD

No deviation.

4.4 TEST SETUP



4.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 5 Unless otherwise a special operating condition is specified in the follows during the testing.

4.6 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



5. CONDUCTED SPURIOUS & BAND EDGE EMISSION

5.1 LIMIT

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.

5.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

For Band edge

Spectrum Parameter	Setting
Detector	Peak
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



The EUT is connected to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.

5.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

5.6 TEST RESULTS

Note:

1. The test data please refer to APPENDIX 1.



6. POWER SPECTRAL DENSITY TEST

6.1 LIMIT

FCC Part15.247 , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(e)	Power Spectral Density	≤ 8 dBm (RBW ≥ 3 KHz)	2400-2483.5	PASS

6.2 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the $100\text{ kHz} \geq \text{RBW} \geq 3\text{ kHz}$.
4. Set the $\text{VBW} \geq 3 \times \text{RBW}$.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

6.6 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



7. BANDWIDTH TEST

7.1 LIMIT

FCC Part15.247,Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

7.2 TEST PROCEDURE

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 1% to 5% of the OBW but not less than 100 kHz., VBW $\geq$ 3RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

7.6 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



8. PEAK OUTPUT POWER TEST

7.1 LIMIT

FCC Part15.247,Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Output Power	1 watt or 30dBm	2400-2483.5	PASS

8.2 TEST PROCEDURE

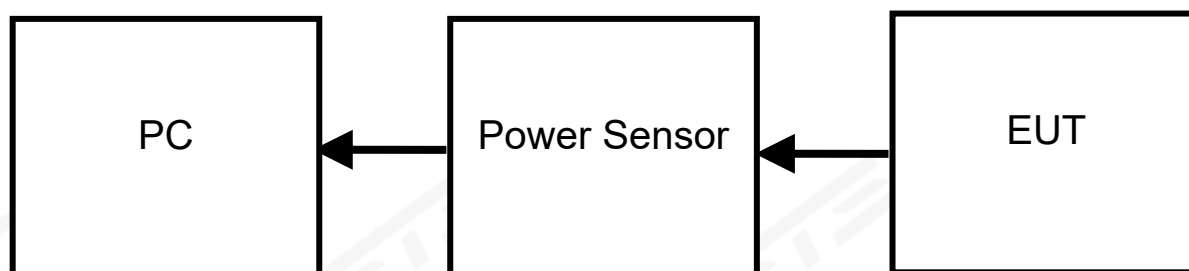
PKPM1 Peak power meter method:

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.

8.6 TEST RESULTS

Note: The test data please refer to APPENDIX 1.



9. ANTENNA REQUIREMENT

9.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 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.

9.2 EUT ANTENNA

The EUT antenna is FPC Antenna. It comply with the standard requirement.



10. FREQUENCY STABILITY

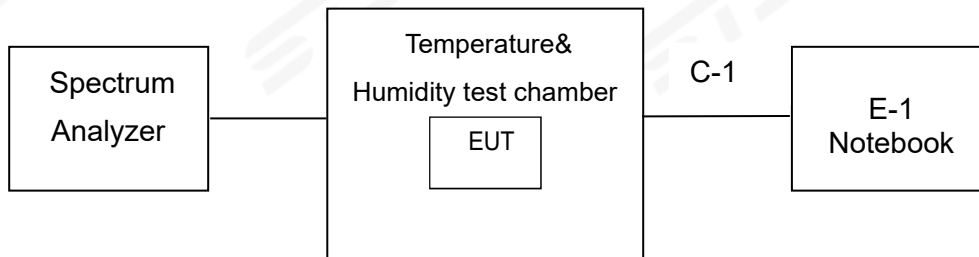
10.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.02\%$ of the operating frequency over a temperature variation of -30 degrees to 50 degrees C at normal supply voltage, and for a variation in primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees.

10.2 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. Turn the EUT on and couple its output to spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at $+20$ degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

10.3 TEST SETUP





10.4 TEST RESULT

Channel 01(2412MHz)

Voltage vs. Frequency Stability

Voltage(V)	Measurement Frequency(MHz)
4.255	2412.0033
3.7	2412.0032
3.145	2412.0028
Max.Deviation(MHz)	0.0033
Max.Deviation(ppm)	1.37

Rated working voltage: DC 3.7V

Temperature vs. Frequency Stability

Temperature(°C)	Measurement Frequency(MHz)
-30	2412.0036
-20	2412.0032
-10	2412.0034
0	2412.0033
10	2412.0033
20	2412.0031
30	2412.0033
40	2412.0034
50	2412.0030
Max.Deviation(MHz)	0.0036
Max.Deviation(ppm)	1.49



Channel 06(2437MHz)

Voltage vs. Frequency Stability

Voltage(V)	Measurement Frequency(MHz)
4.255	2437.0034
3.7	2437.0032
3.145	2437.0034
Max.Deviation(MHz)	0.0034
Max.Deviation(ppm)	1.40

Rated working voltage: DC 3.7V

Temperature vs. Frequency Stability

Temperature(°C)	Measurement Frequency(MHz)
-30	2437.0038
-20	2437.0029
-10	2437.0036
0	2437.0029
10	2437.0037
20	2437.0031
30	2437.0037
40	2437.0032
50	2437.0035
Max.Deviation(MHz)	0.0038
Max.Deviation(ppm)	1.56



Channel 11(2462MHz)

Voltage vs. Frequency Stability

Voltage(V)	Measurement Frequency(MHz)
4.255	2472.0032
3.7	2472.0024
3.145	2472.0026
Max.Deviation(MHz)	0.0032
Max.Deviation(ppm)	1.29

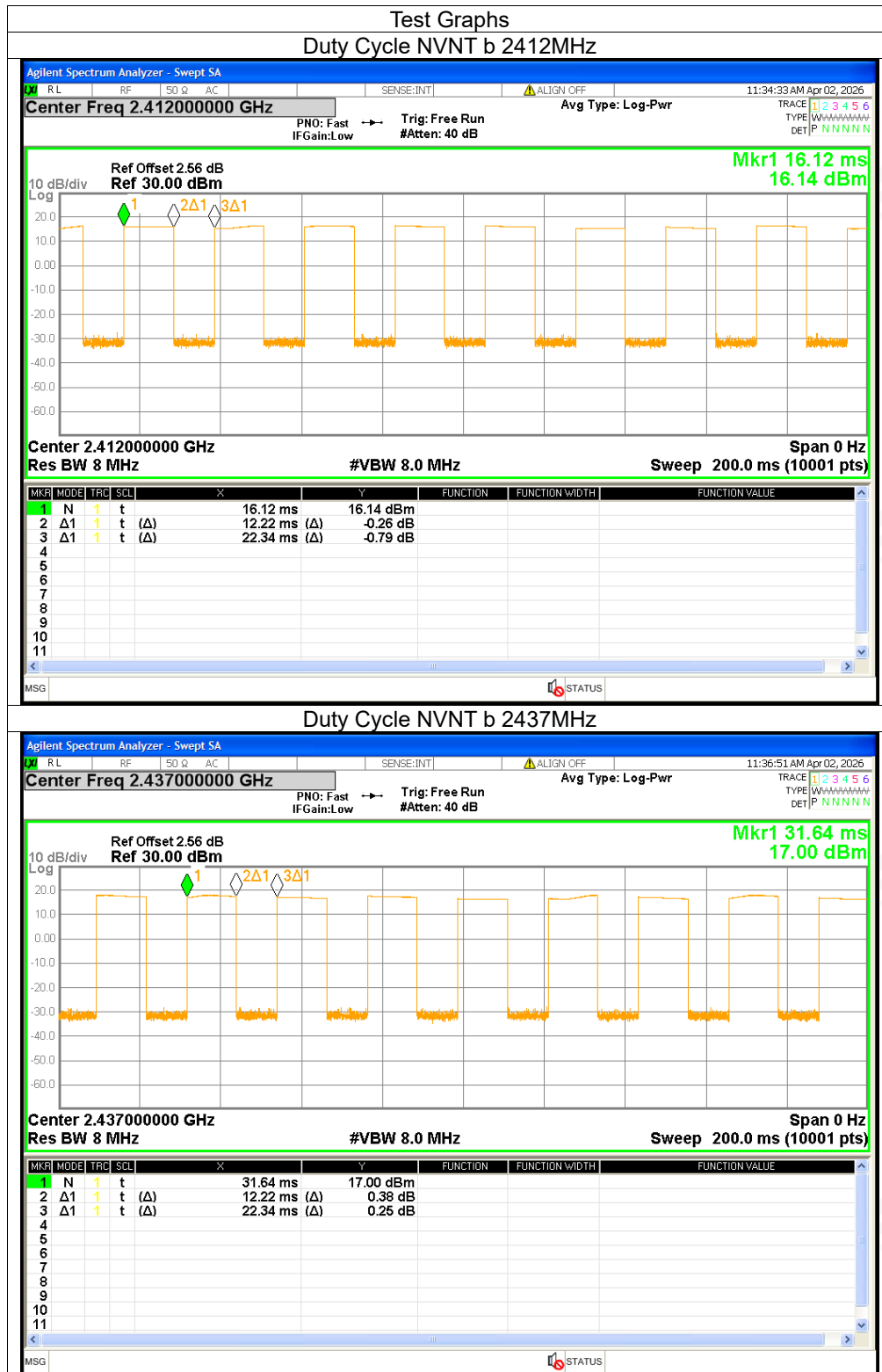
Rated working voltage: DC 3.7V

Temperature vs. Frequency Stability

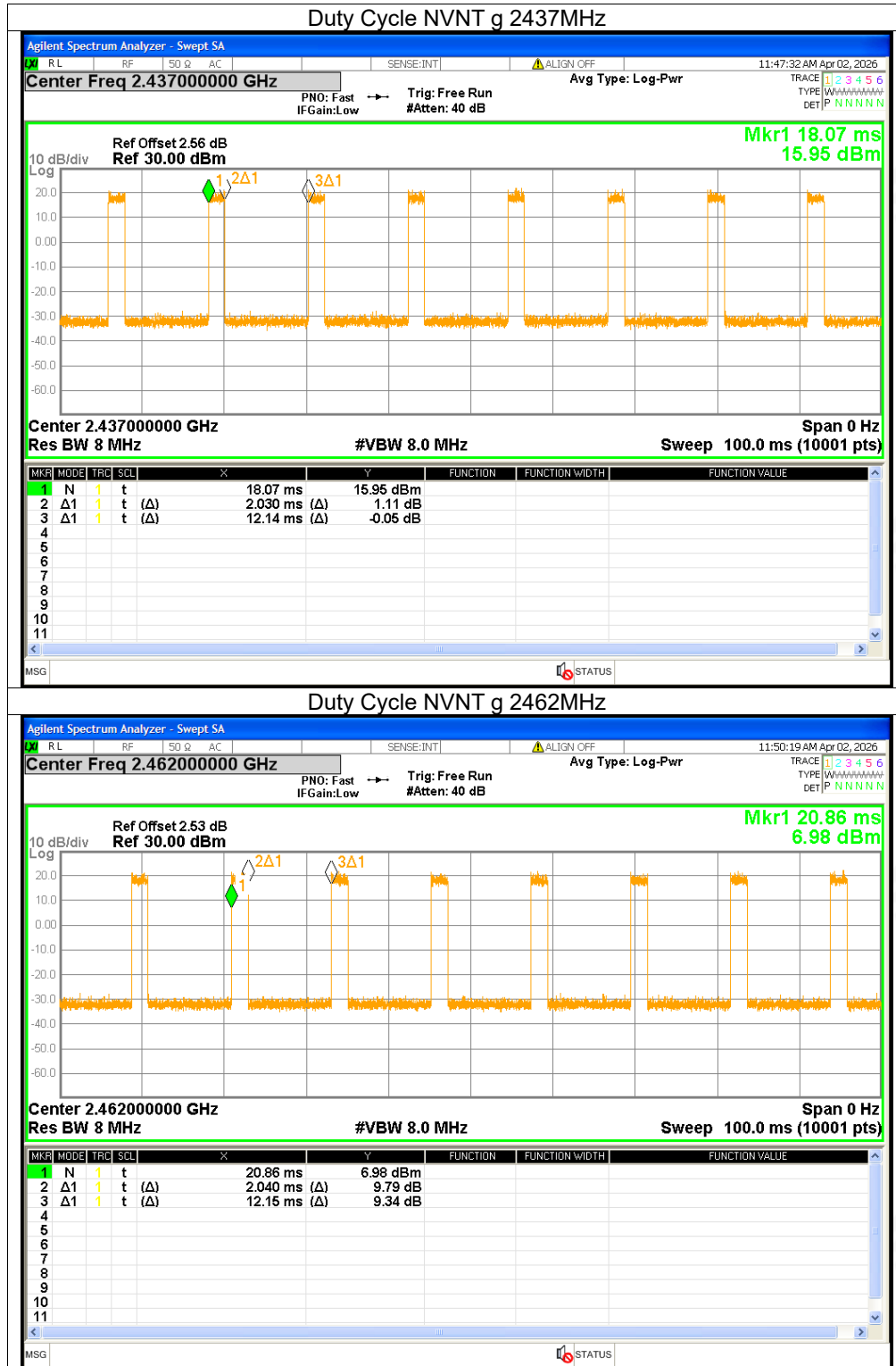
Temperature(°C)	Measurement Frequency(MHz)
-30	2472.0036
-20	2472.0034
-10	2472.0032
0	2472.0028
10	2472.0035
20	2472.0033
30	2472.0032
40	2472.0030
50	2472.0029
Max.Deviation(MHz)	0.0036
Max.Deviation(ppm)	1.46

**APPENDIX 1-TEST DATA****Duty Cycle**

Condition	Mode	Frequency (MHz)	On Time (ms)	Period (ms)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	12.22	22.34	54.7	2.62	0.08
NVNT	b	2437	12.22	22.34	54.7	2.62	0.08
NVNT	b	2462	12.24	22.76	53.78	2.69	0.08
NVNT	g	2412	2.04	12.15	16.79	7.75	0.49
NVNT	g	2437	2.03	12.14	16.72	7.77	0.49
NVNT	g	2462	2.04	12.15	16.79	7.75	0.49
NVNT	n20	2412	1.89	12	15.75	8.03	0.53
NVNT	n20	2437	1.89	12.01	15.74	8.03	0.53
NVNT	n20	2462	1.89	12	15.75	8.03	0.53
NVNT	n40	2422	0.93	11.05	8.42	10.75	1.08
NVNT	n40	2437	0.93	11.05	8.42	10.75	1.08
NVNT	n40	2452	0.93	11.04	8.42	10.75	1.08
NVNT	ax20	2412	1.464	11.576	12.65	8.98	0.68
NVNT	ax20	2437	1.472	11.584	12.71	8.96	0.68
NVNT	ax20	2462	1.72	11.832	14.54	8.37	0.58
NVNT	ax40	2422	0.77	10.88	7.08	11.5	1.3
NVNT	ax40	2437	0.77	10.89	7.07	11.51	1.3
NVNT	ax40	2452	0.77	10.88	7.08	11.5	1.3

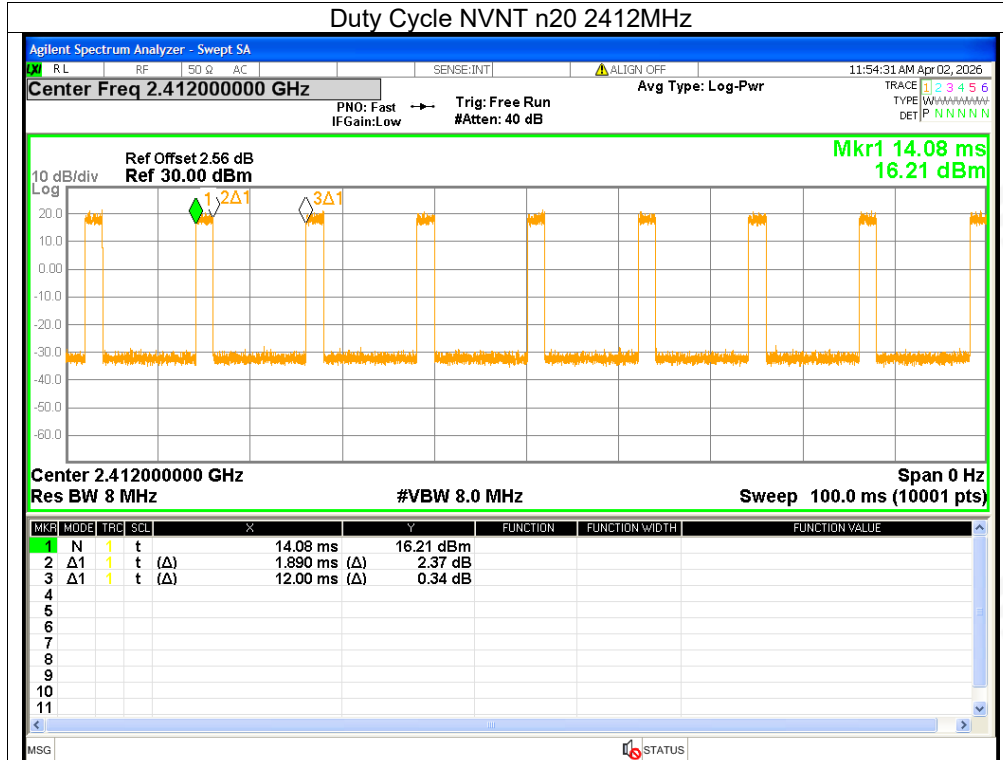




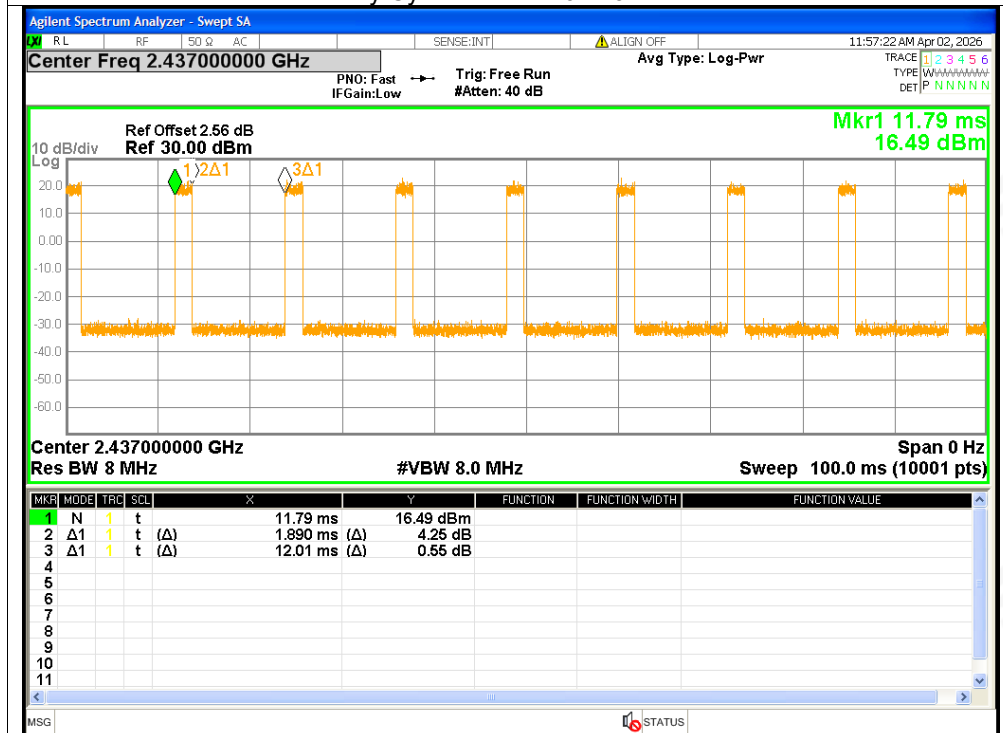




Duty Cycle NVNT n20 2412MHz

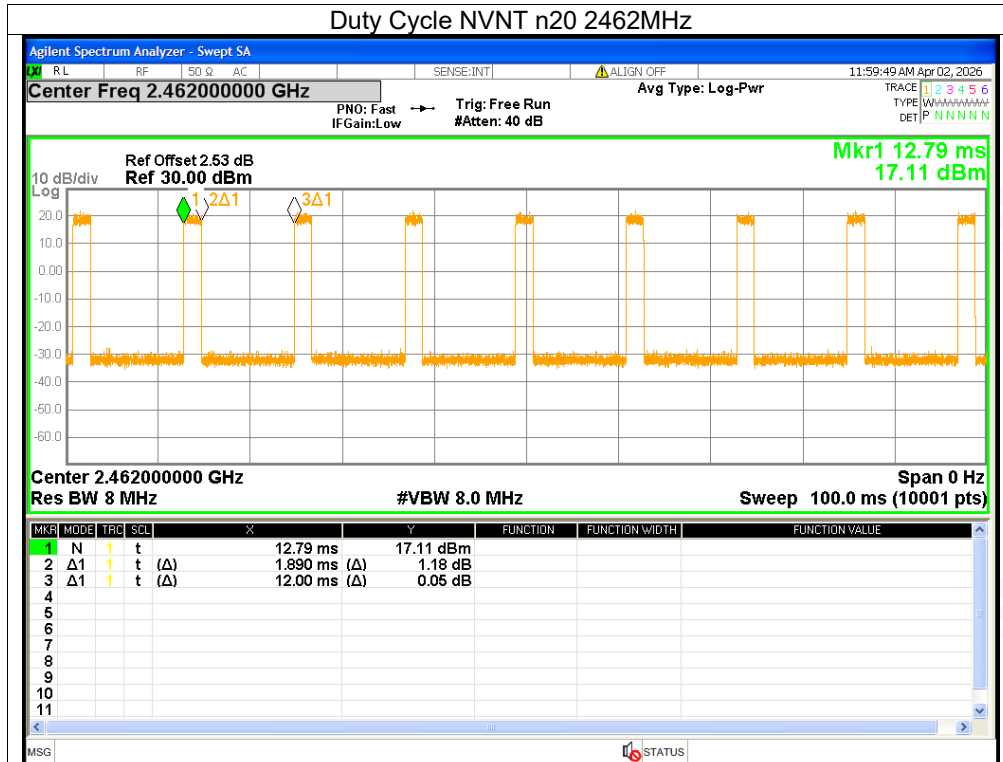


Duty Cycle NVNT n20 2437MHz

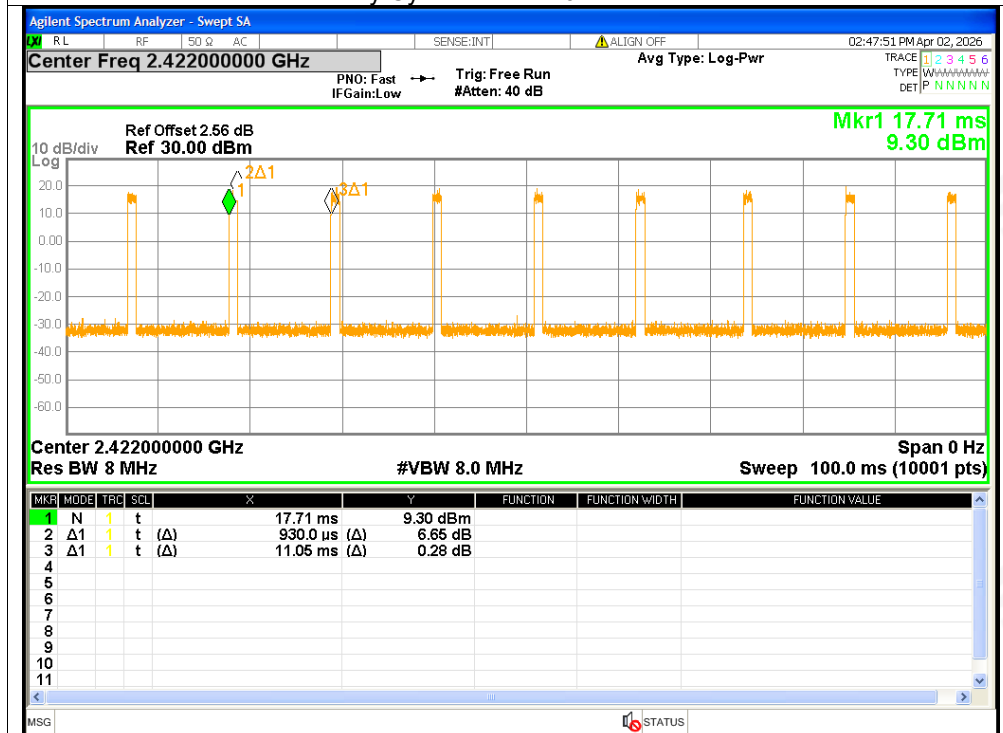




Duty Cycle NVNT n20 2462MHz

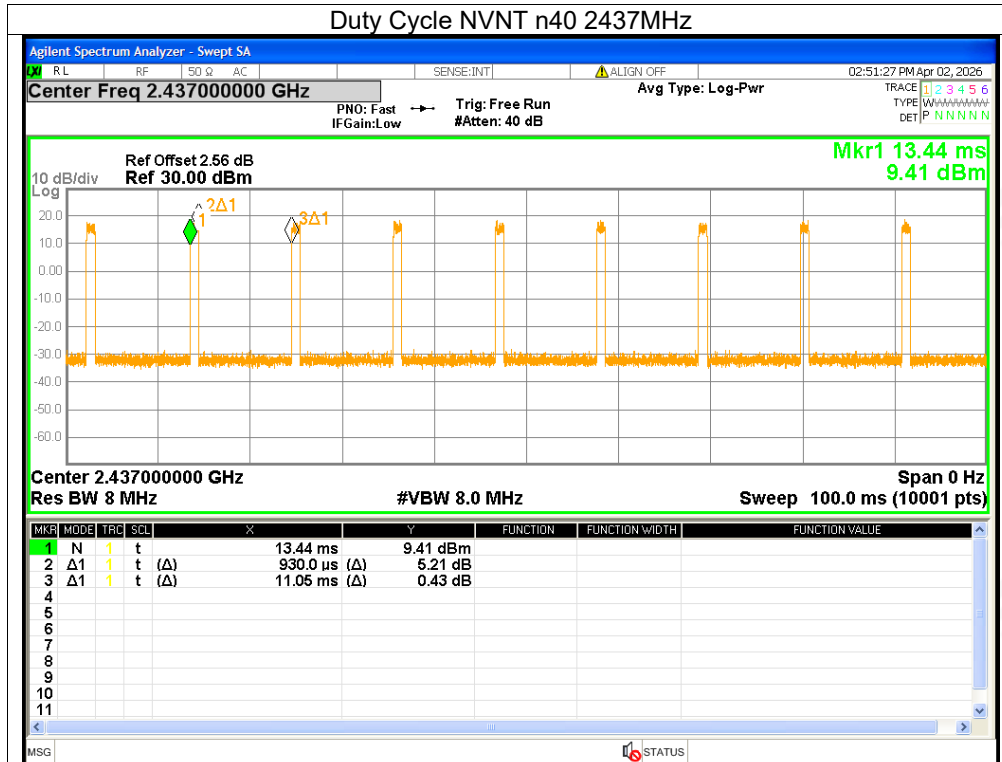


Duty Cycle NVNT n40 2422MHz

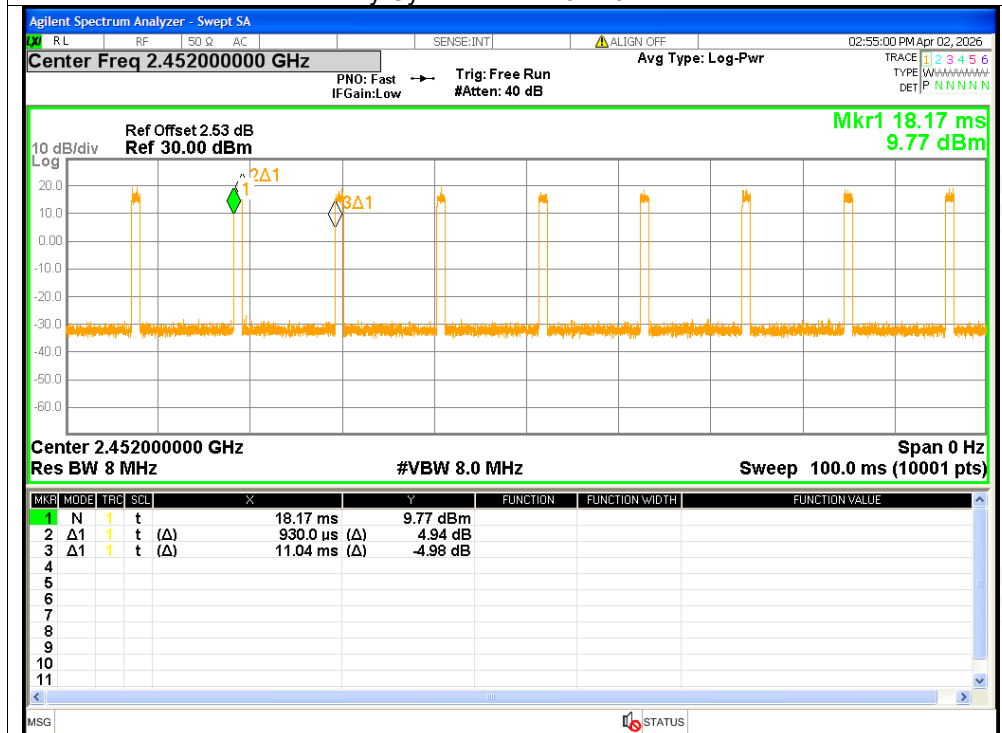


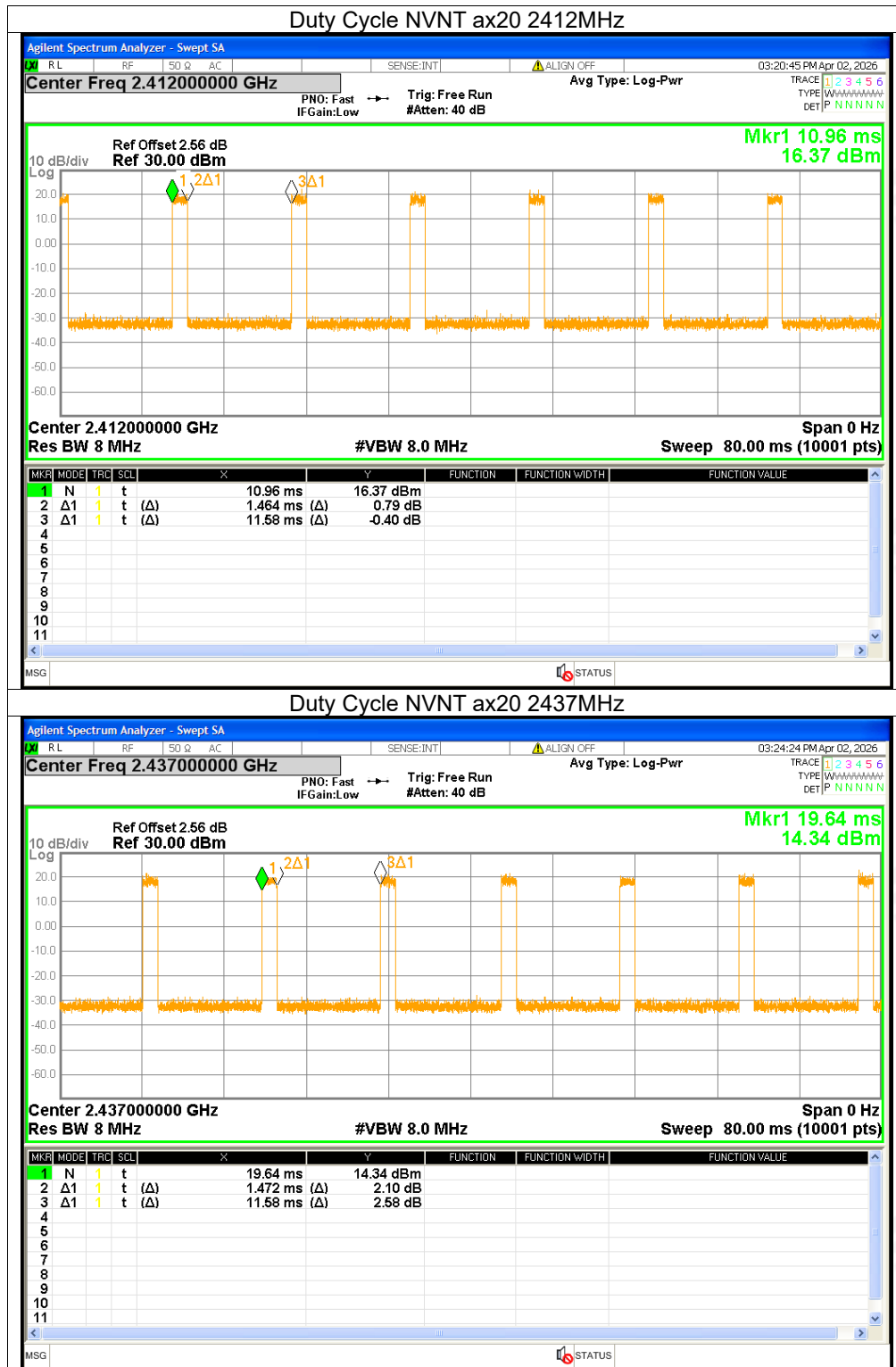


Duty Cycle NVNT n40 2437MHz



Duty Cycle NVNT n40 2452MHz

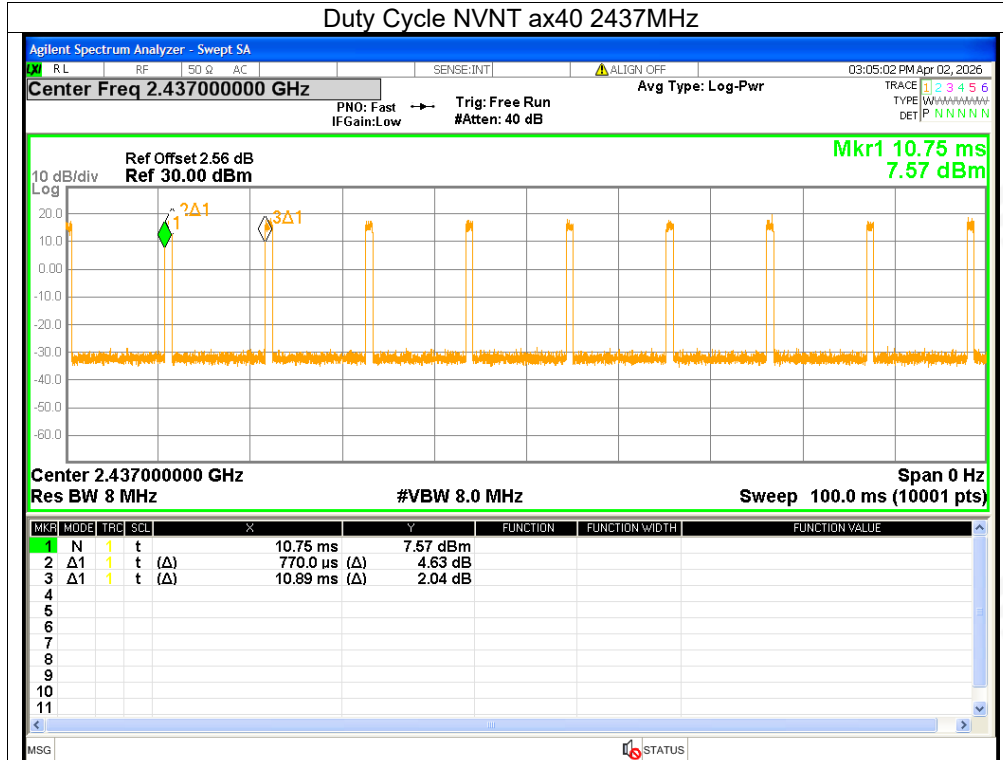




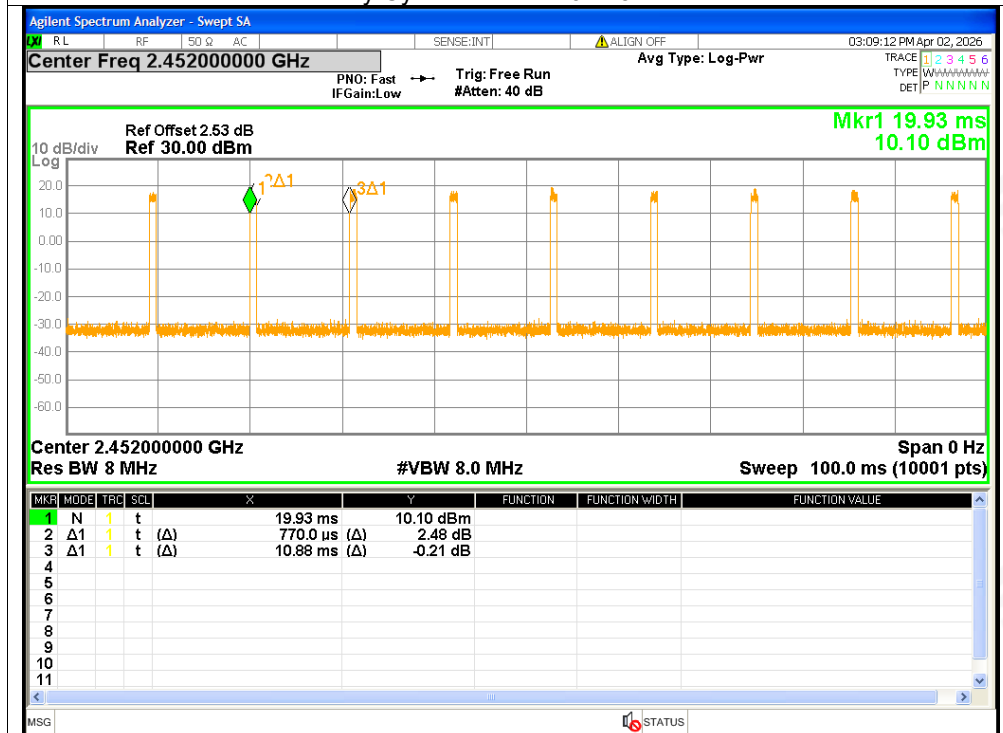




Duty Cycle NVNT ax40 2437MHz



Duty Cycle NVNT ax40 2452MHz

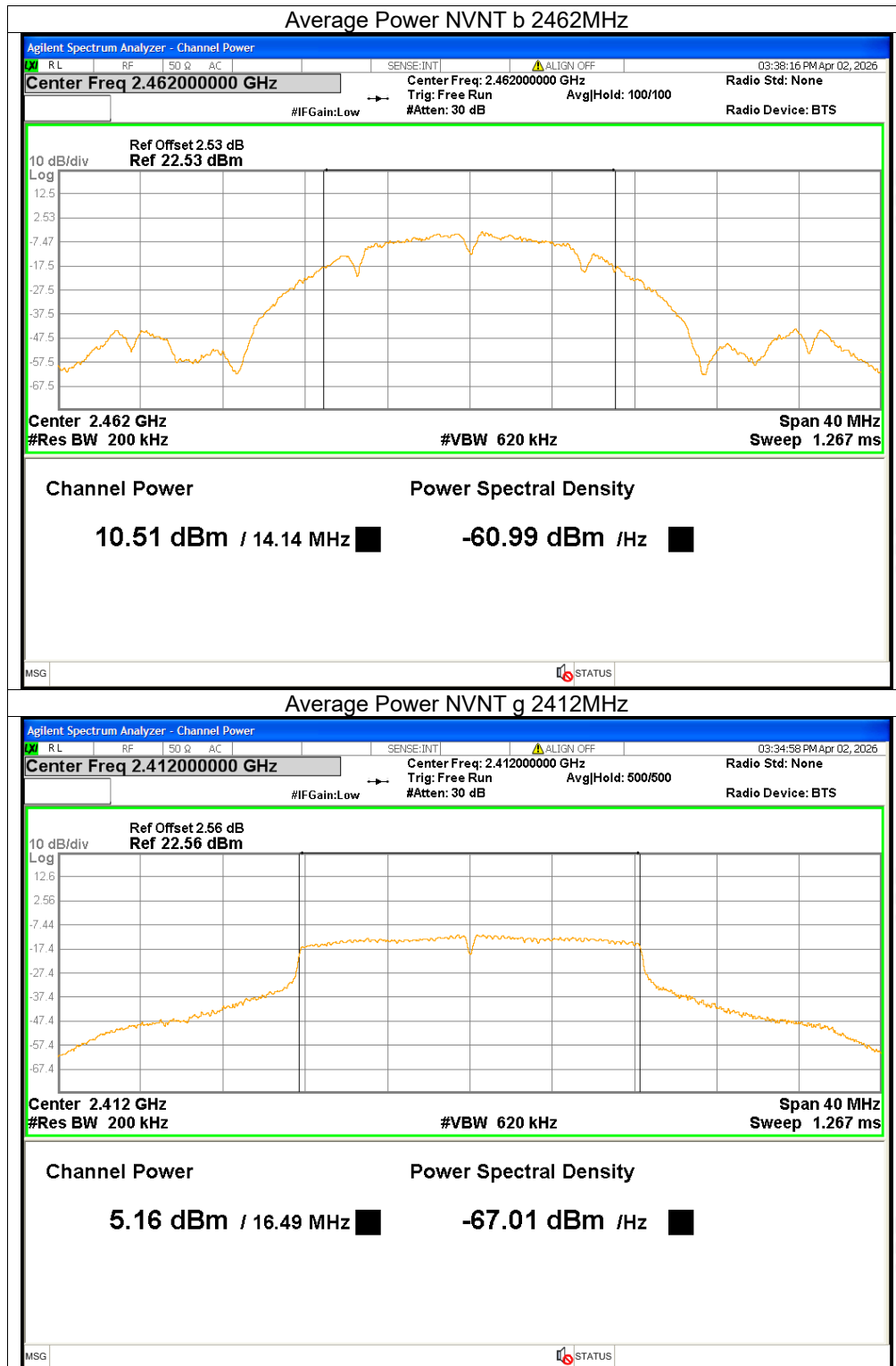


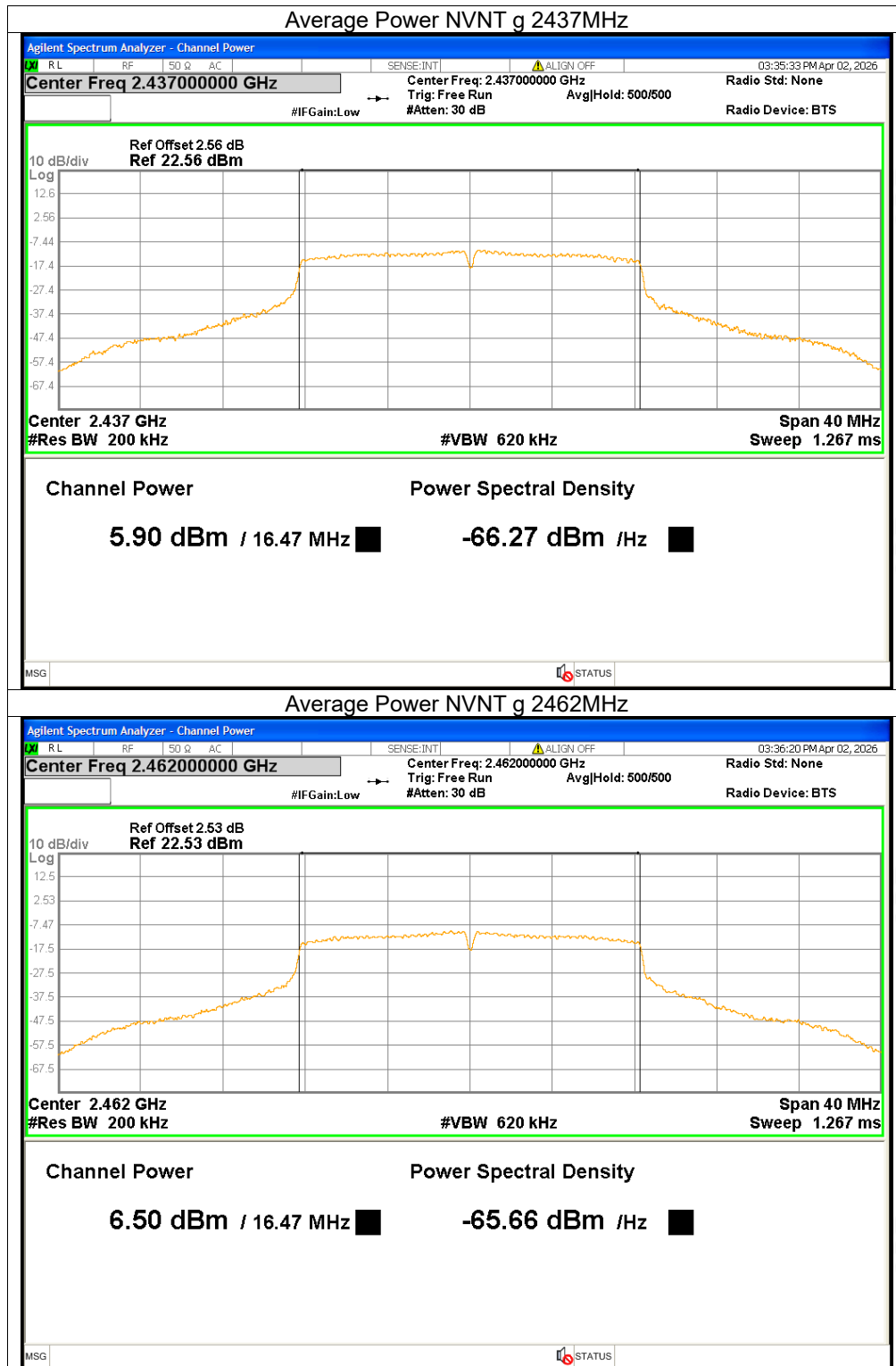


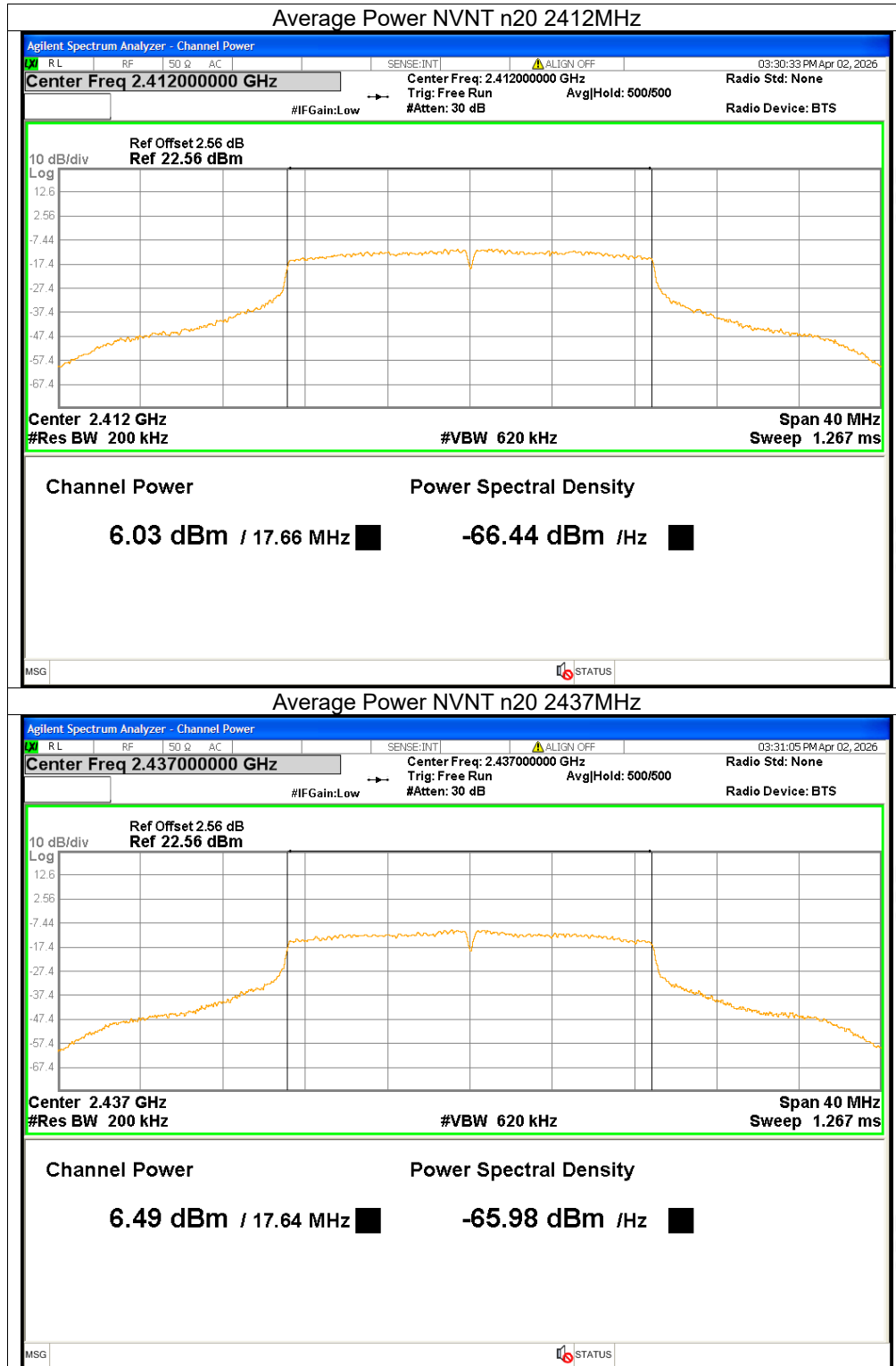
Maximum Average Conducted Output Power

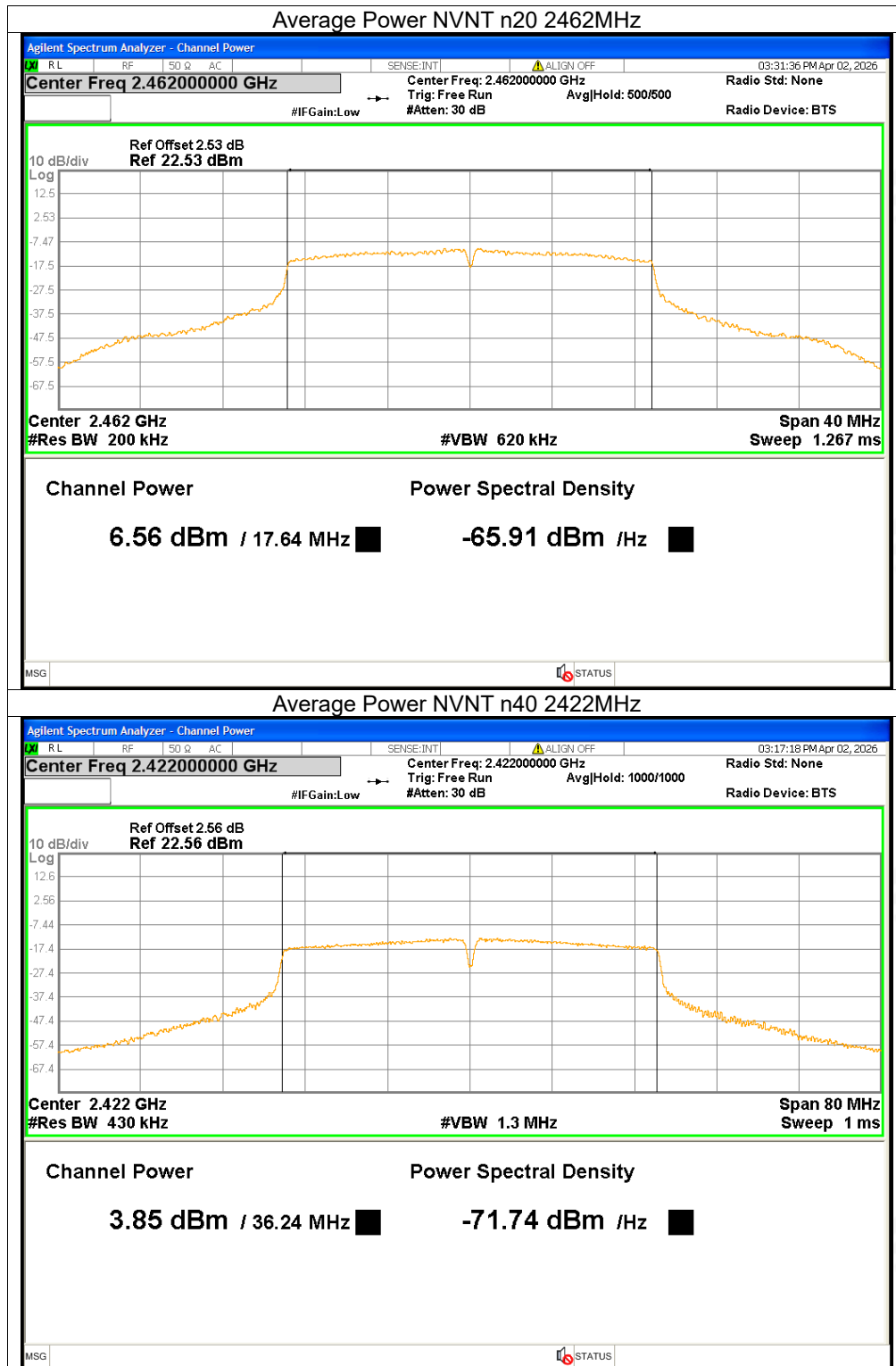
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	9.17	2.62	11.79	<=30	Pass
NVNT	b	2437	10.53	2.62	13.15	<=30	Pass
NVNT	b	2462	10.51	2.69	13.2	<=30	Pass
NVNT	g	2412	5.16	7.75	12.91	<=30	Pass
NVNT	g	2437	5.9	7.77	13.67	<=30	Pass
NVNT	g	2462	6.5	7.75	14.25	<=30	Pass
NVNT	n20	2412	6.03	8.03	14.06	<=30	Pass
NVNT	n20	2437	6.49	8.03	14.52	<=30	Pass
NVNT	n20	2462	6.56	8.03	14.59	<=30	Pass
NVNT	n40	2422	3.85	10.75	14.6	<=30	Pass
NVNT	n40	2437	3.46	10.75	14.21	<=30	Pass
NVNT	n40	2452	3.8	10.75	14.55	<=30	Pass
NVNT	ax20	2412	5.12	8.98	14.1	<=30	Pass
NVNT	ax20	2437	4.65	8.96	13.61	<=30	Pass
NVNT	ax20	2462	5.42	8.37	13.79	<=30	Pass
NVNT	ax40	2422	2.66	11.5	14.16	<=30	Pass
NVNT	ax40	2437	3.3	11.51	14.81	<=30	Pass
NVNT	ax40	2452	2.23	11.5	13.73	<=30	Pass

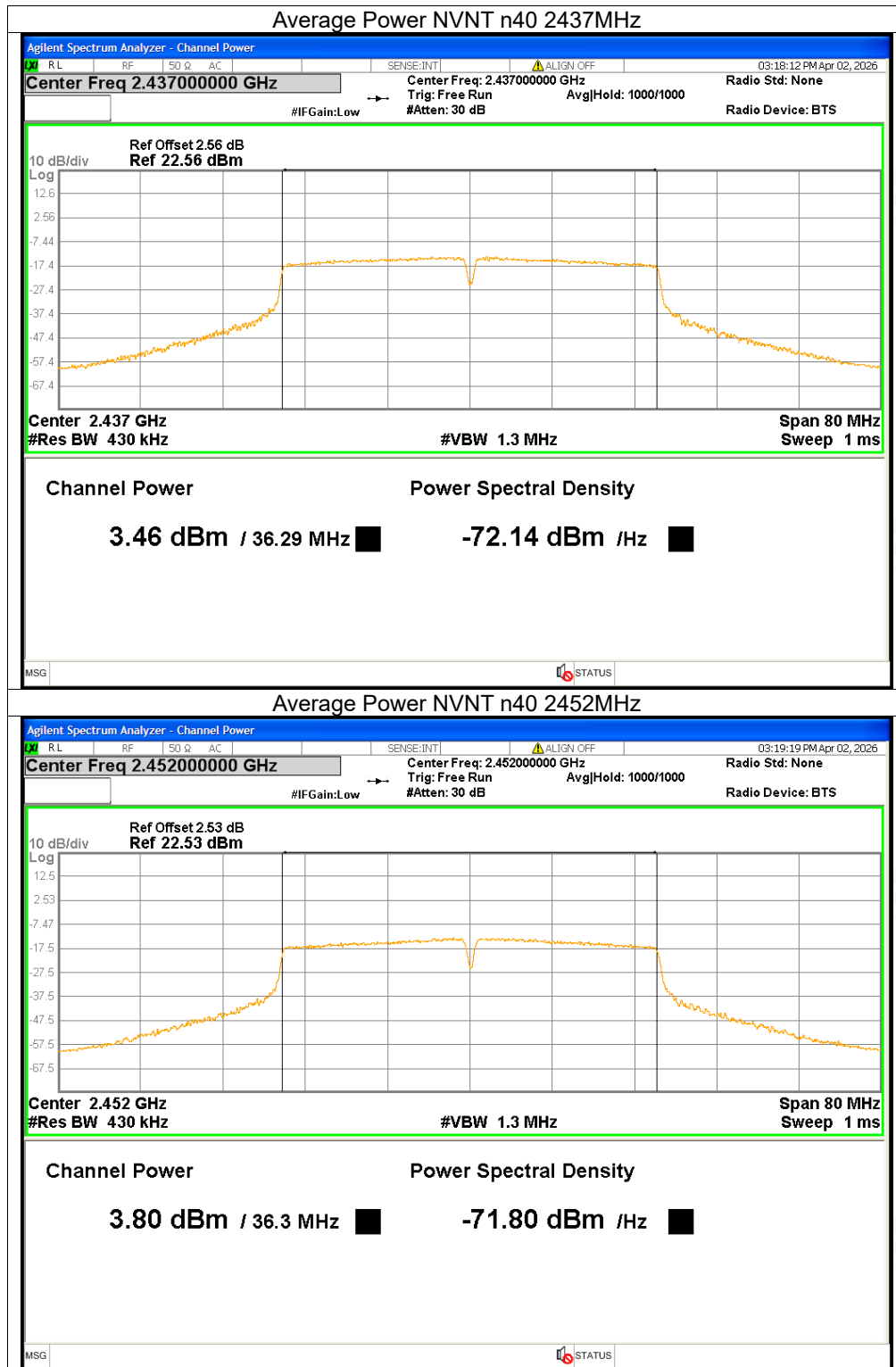






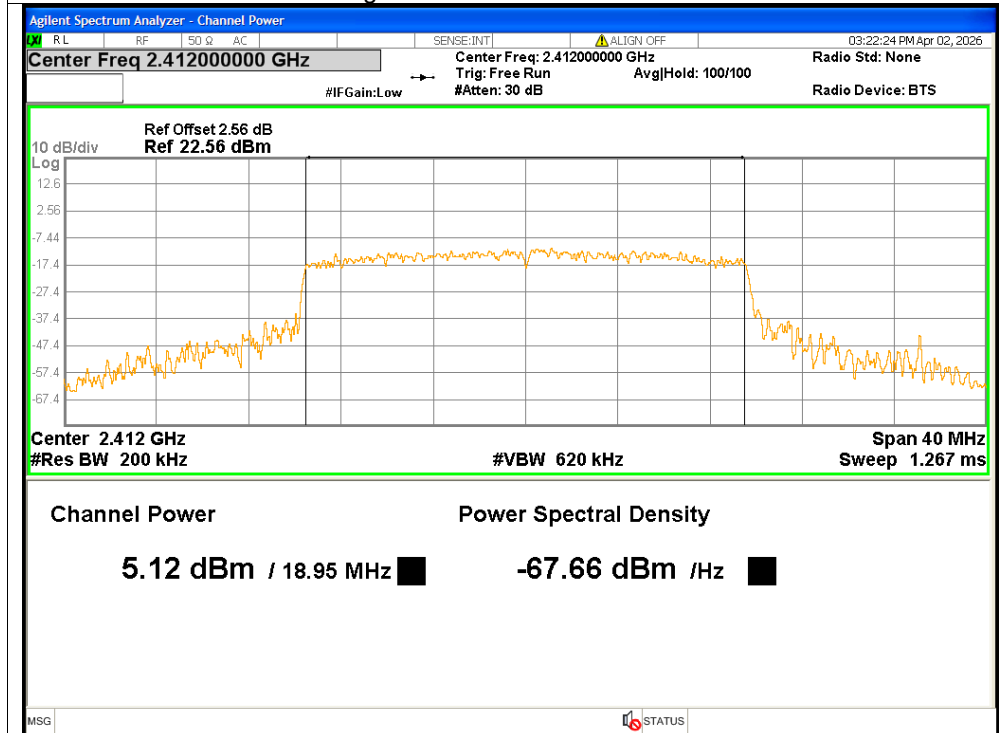




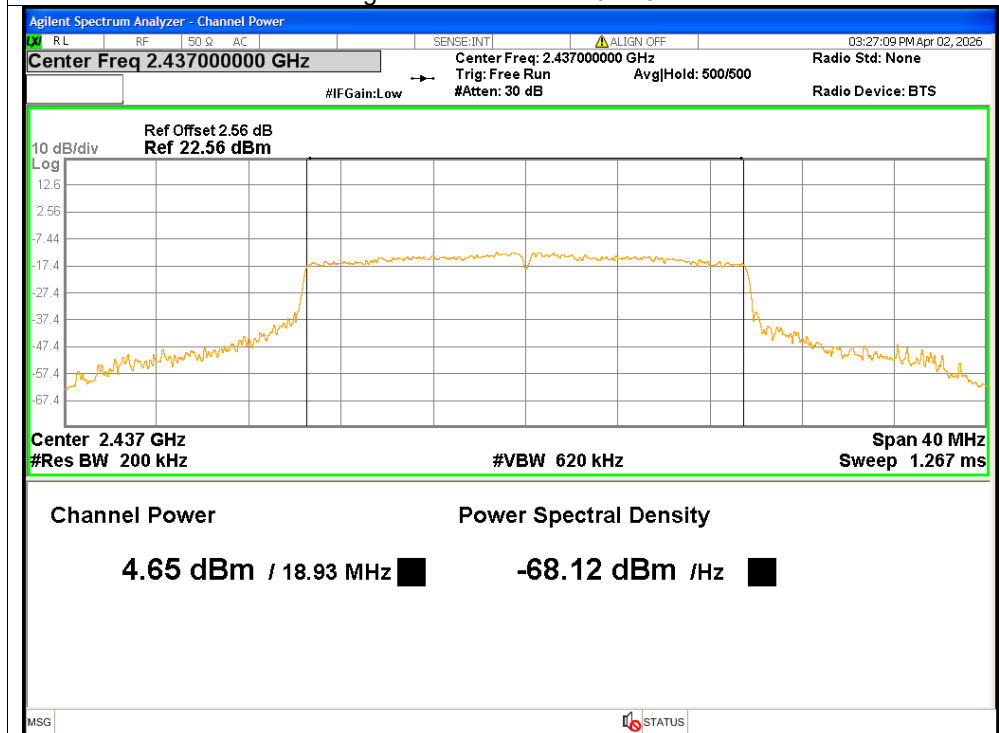




Average Power NVNT ax20 2412MHz

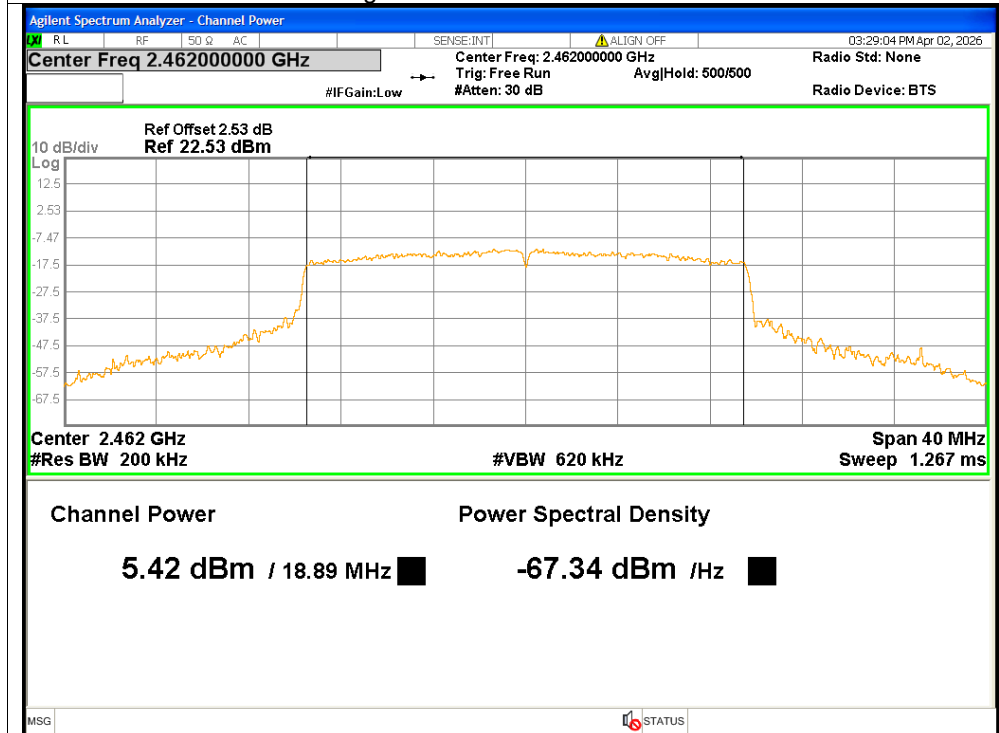


Average Power NVNT ax20 2437MHz

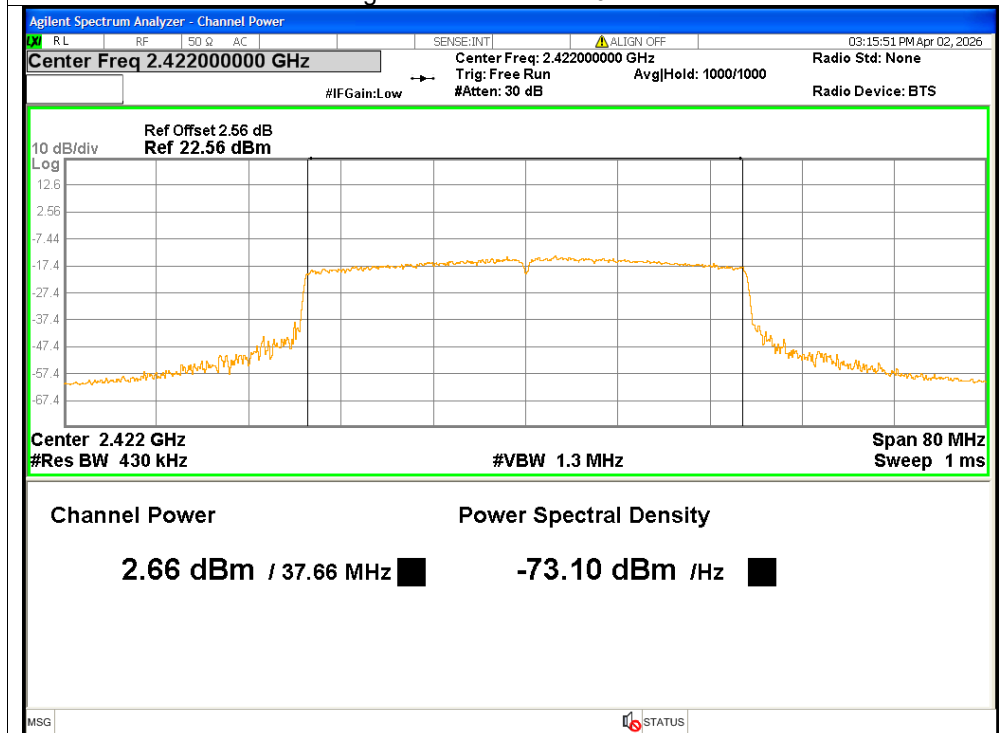




Average Power NVNT ax20 2462MHz

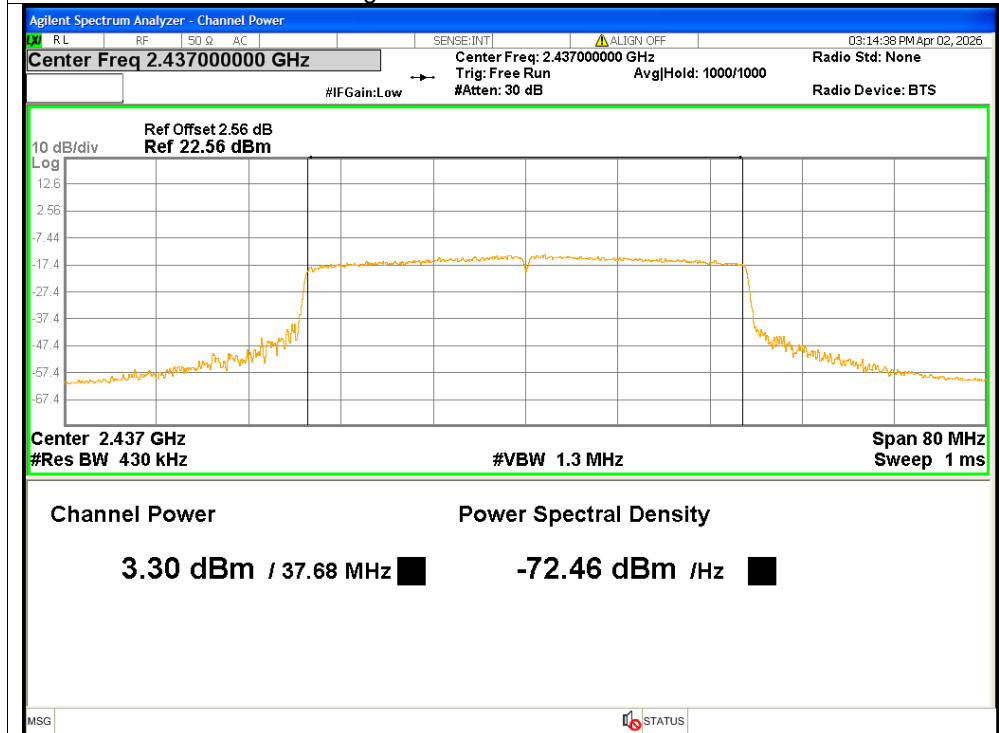


Average Power NVNT ax40 2422MHz

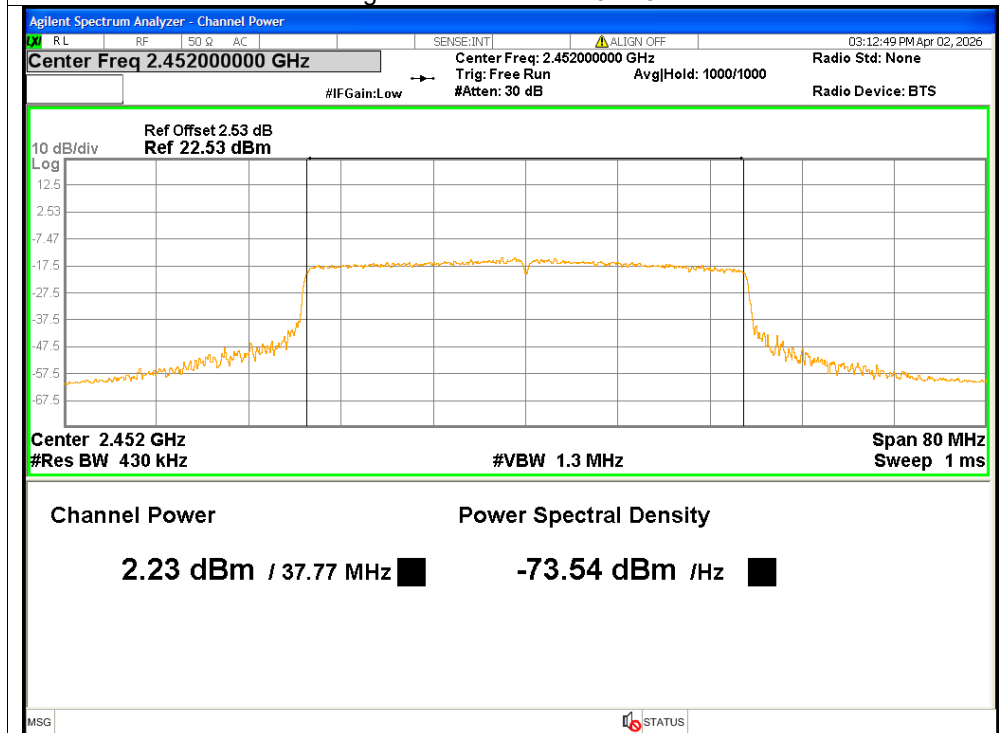




Average Power NVNT ax40 2437MHz



Average Power NVNT ax40 2452MHz





Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	17.23	<=30	Pass
NVNT	b	2437	18.41	<=30	Pass
NVNT	b	2462	19.5	<=30	Pass
NVNT	g	2412	18.08	<=30	Pass
NVNT	g	2437	18.55	<=30	Pass
NVNT	g	2462	18.59	<=30	Pass
NVNT	n20	2412	19.26	<=30	Pass
NVNT	n20	2437	18.62	<=30	Pass
NVNT	n20	2462	19.16	<=30	Pass
NVNT	n40	2422	18.61	<=30	Pass
NVNT	n40	2437	18.77	<=30	Pass
NVNT	n40	2452	19.17	<=30	Pass
NVNT	ax20	2412	19.7	<=30	Pass
NVNT	ax20	2437	21.02	<=30	Pass
NVNT	ax20	2462	20.09	<=30	Pass
NVNT	ax40	2422	19.52	<=30	Pass
NVNT	ax40	2437	19.24	<=30	Pass
NVNT	ax40	2452	19.03	<=30	Pass

**-6dB Bandwidth**

Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	10.04	≥ 0.5	Pass
NVNT	b	2437	10.09	≥ 0.5	Pass
NVNT	b	2462	10.01	≥ 0.5	Pass
NVNT	g	2412	16.27	≥ 0.5	Pass
NVNT	g	2437	16.26	≥ 0.5	Pass
NVNT	g	2462	15.76	≥ 0.5	Pass
NVNT	n20	2412	17.48	≥ 0.5	Pass
NVNT	n20	2437	15.53	≥ 0.5	Pass
NVNT	n20	2462	15.85	≥ 0.5	Pass
NVNT	n40	2422	35.85	≥ 0.5	Pass
NVNT	n40	2437	36.15	≥ 0.5	Pass
NVNT	n40	2452	36.13	≥ 0.5	Pass
NVNT	ax20	2412	18.39	≥ 0.5	Pass
NVNT	ax20	2437	18.68	≥ 0.5	Pass
NVNT	ax20	2462	18.85	≥ 0.5	Pass
NVNT	ax40	2422	37.73	≥ 0.5	Pass
NVNT	ax40	2437	37.47	≥ 0.5	Pass
NVNT	ax40	2452	37.47	≥ 0.5	Pass

