Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: AI-Wireless Robotic Pool Cleaner

Test Model: X80

Environmental Conditions

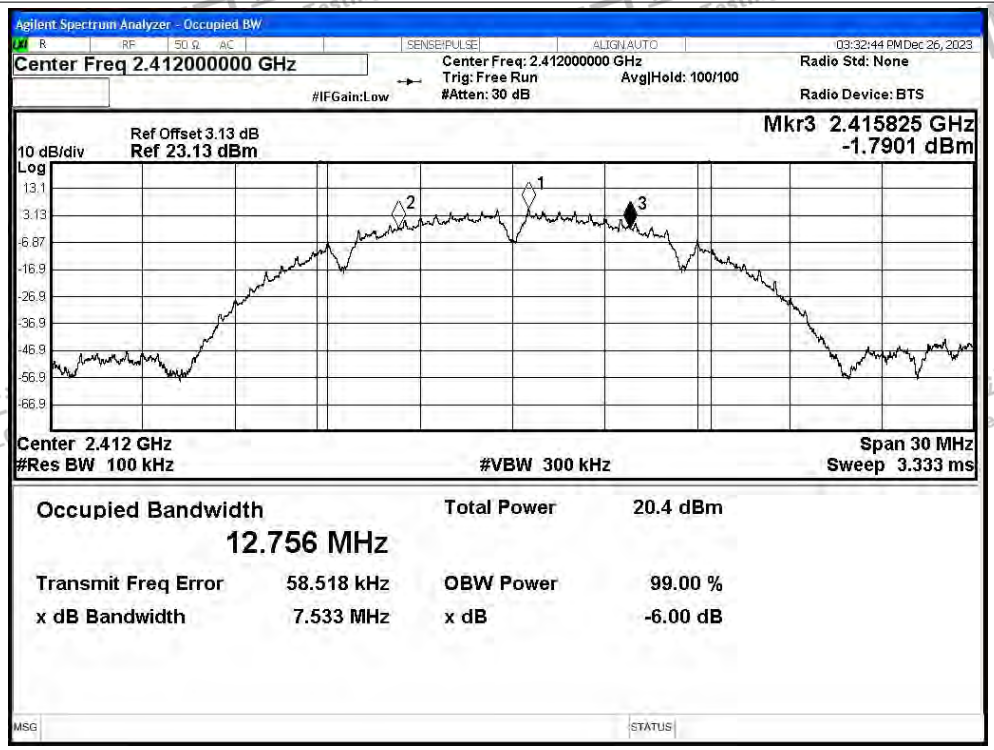
Temperature:	23.8° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
Supervised by:	Nick Peng

C.1 -6dB Bandwidth

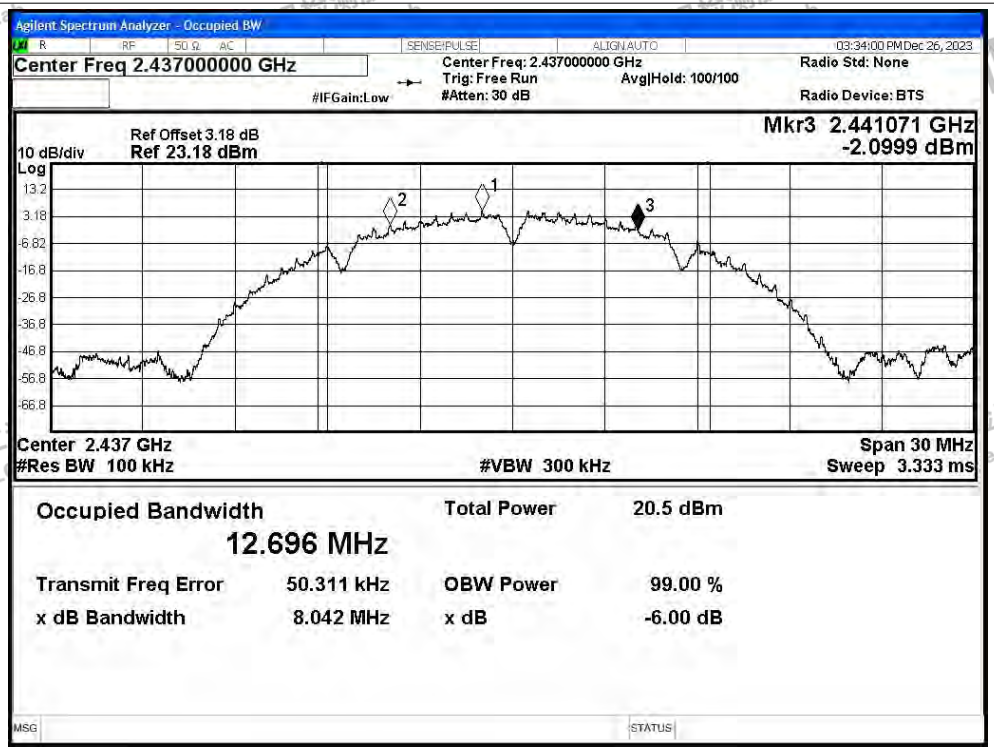
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	7.533	>=0.5	Pass
NVNT	b	2437	Ant1	8.042	>=0.5	Pass
NVNT	b	2462	Ant1	8.541	>=0.5	Pass
NVNT	g	2412	Ant1	15.709	>=0.5	Pass
NVNT	g	2437	Ant1	15.661	>=0.5	Pass
NVNT	g	2462	Ant1	15.066	>=0.5	Pass
NVNT	n20	2412	Ant1	14.193	>=0.5	Pass
NVNT	n20	2437	Ant1	15.061	>=0.5	Pass
NVNT	n20	2462	Ant1	13.781	>=0.5	Pass

Test Graphs

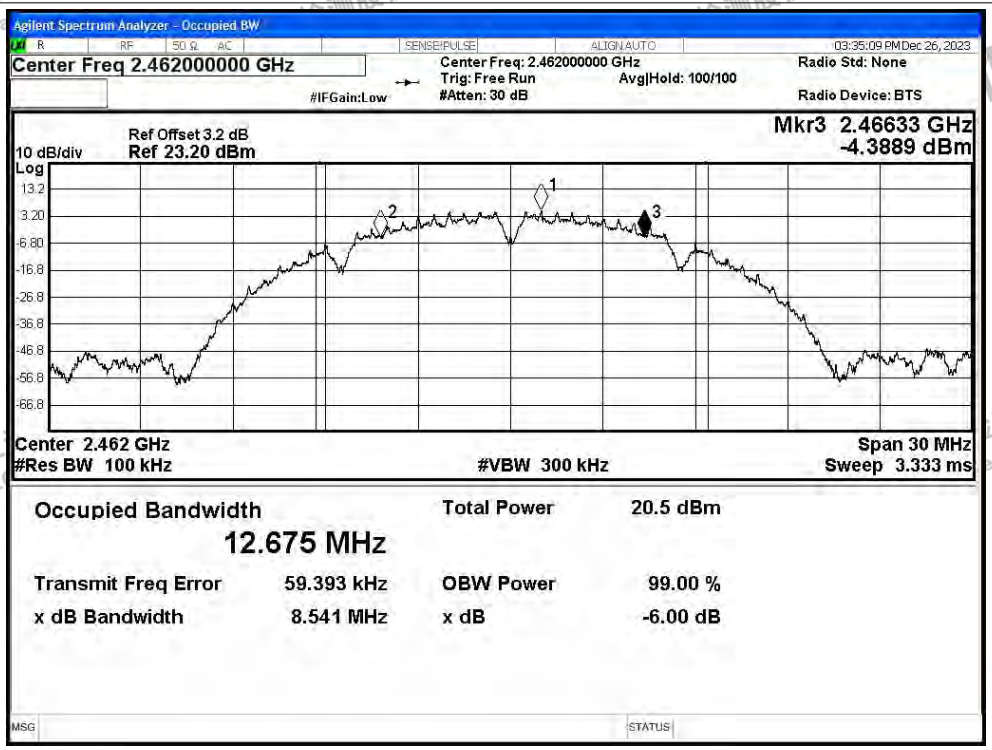
-6dB Bandwidth NVNT b 2412MHz Ant1



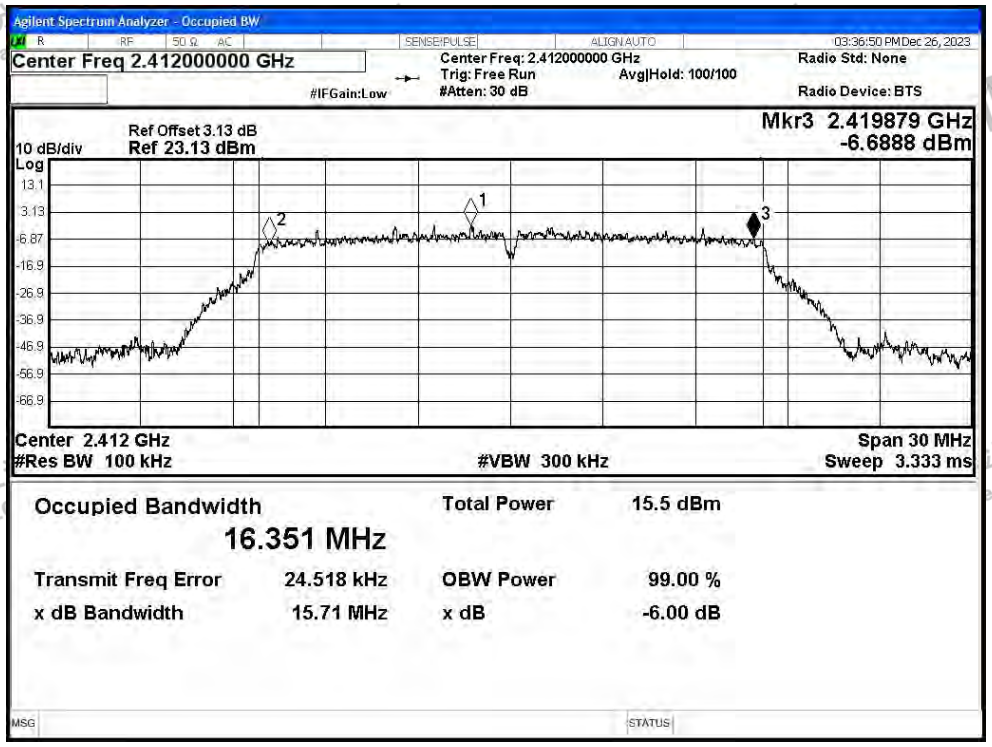
-6dB Bandwidth NVNT b 2437MHz Ant1



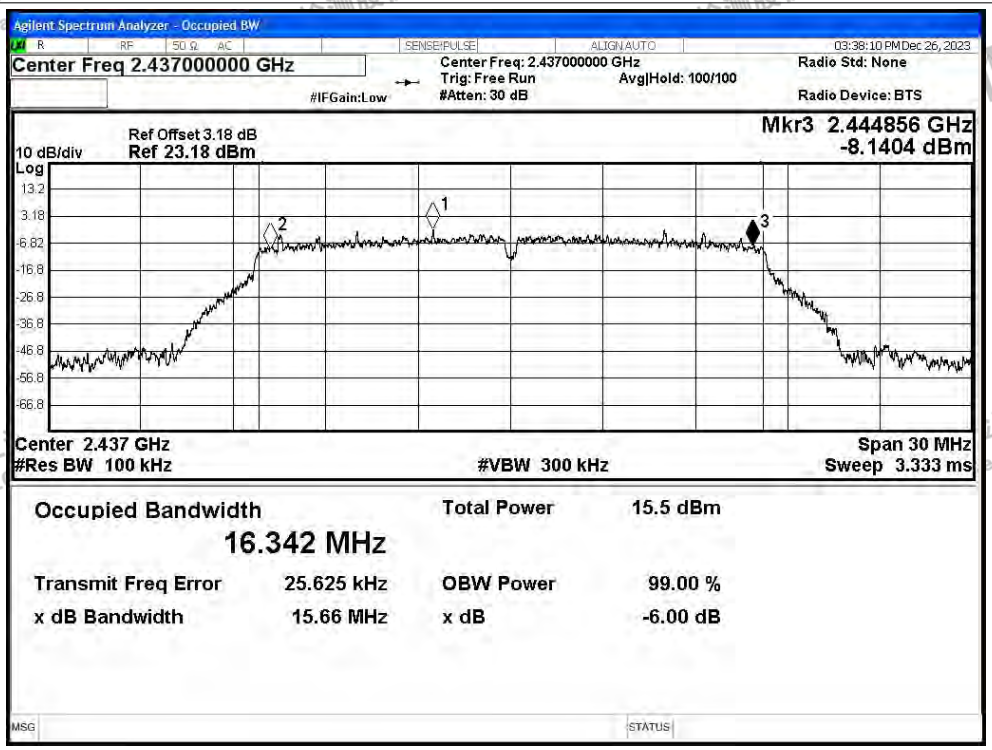
-6dB Bandwidth NVNT b 2462MHz Ant1



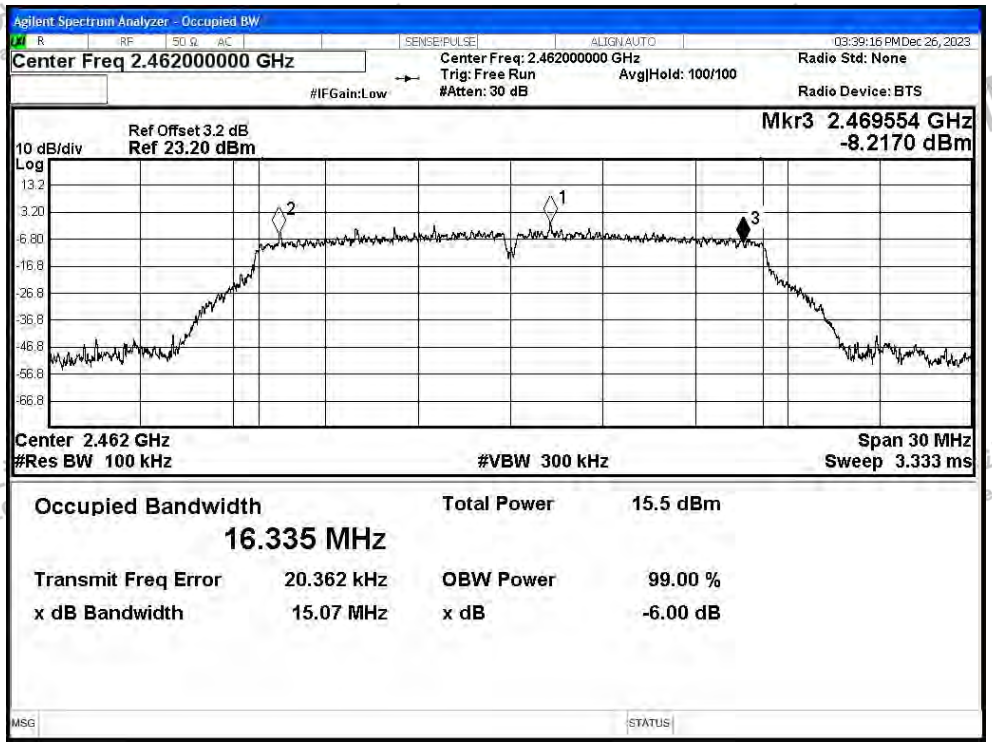
-6dB Bandwidth NVNT g 2412MHz Ant1



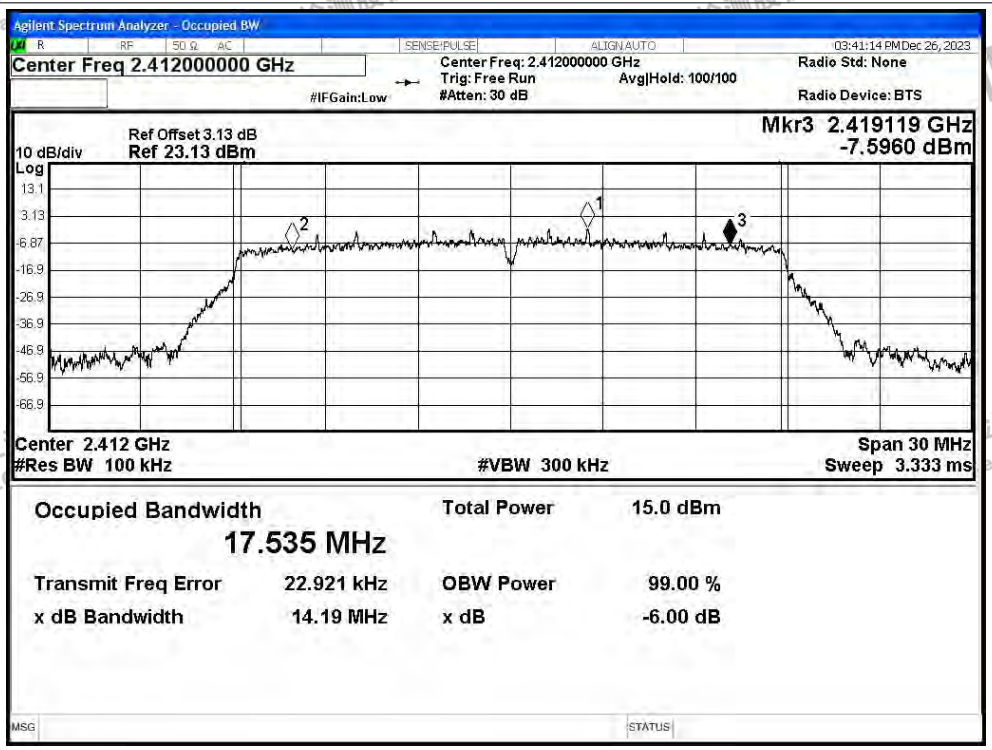
-6dB Bandwidth NVNT g 2437MHz Ant1



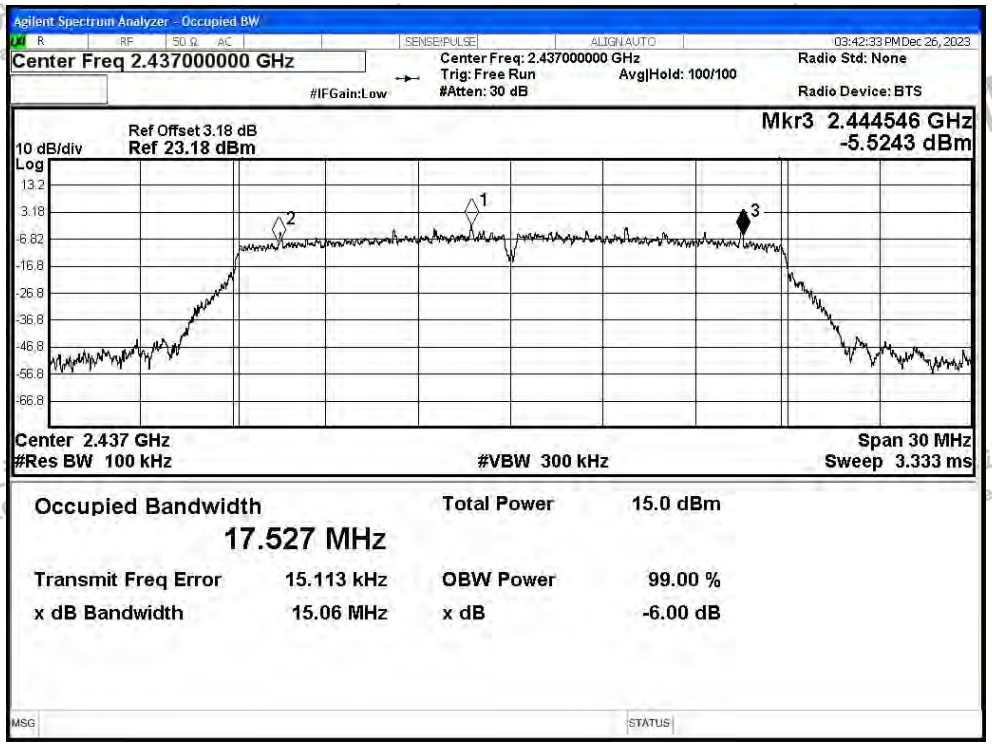
-6dB Bandwidth NVNT g 2462MHz Ant1



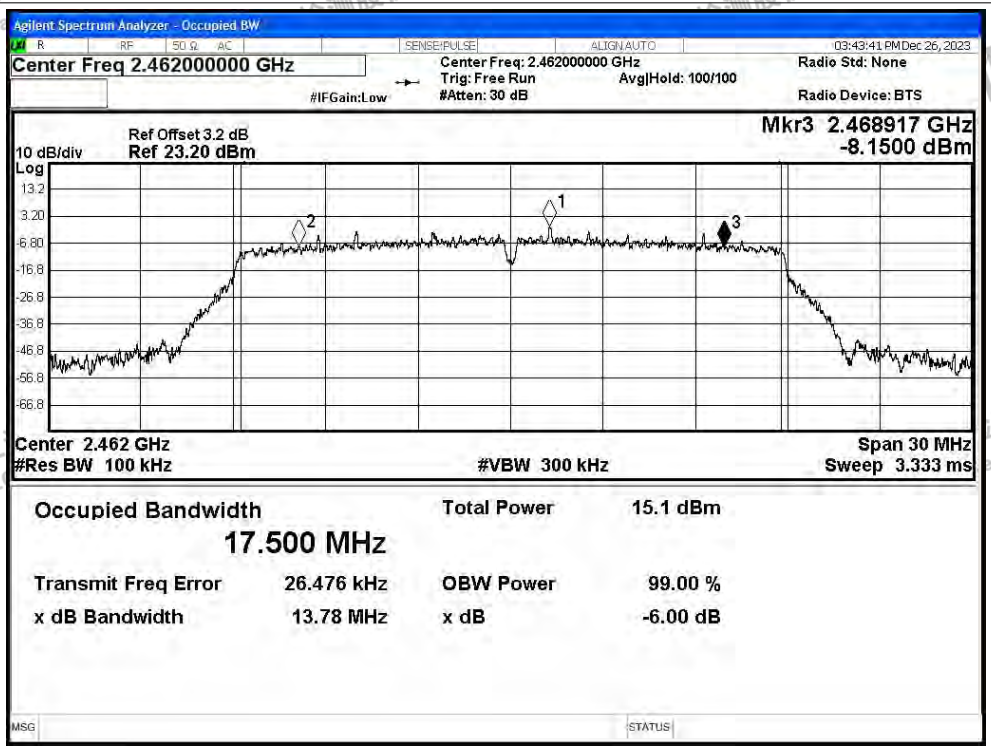
-6dB Bandwidth NVNT n20 2412MHz Ant1



-6dB Bandwidth NVNT n20 2437MHz Ant1



-6dB Bandwidth NVNT n20 2462MHz Ant1



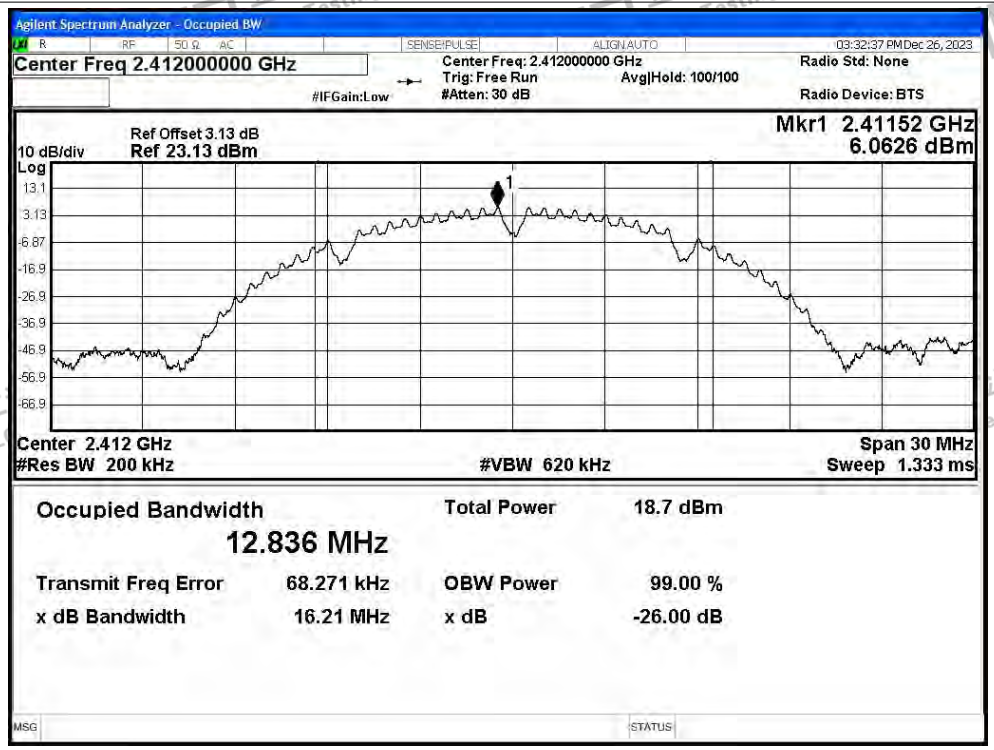
C.2 Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	12.836
NVNT	b	2437	Ant1	12.721
NVNT	b	2462	Ant1	12.696
NVNT	g	2412	Ant1	16.408
NVNT	g	2437	Ant1	16.388
NVNT	g	2462	Ant1	16.381
NVNT	n20	2412	Ant1	17.573
NVNT	n20	2437	Ant1	17.538
NVNT	n20	2462	Ant1	17.563

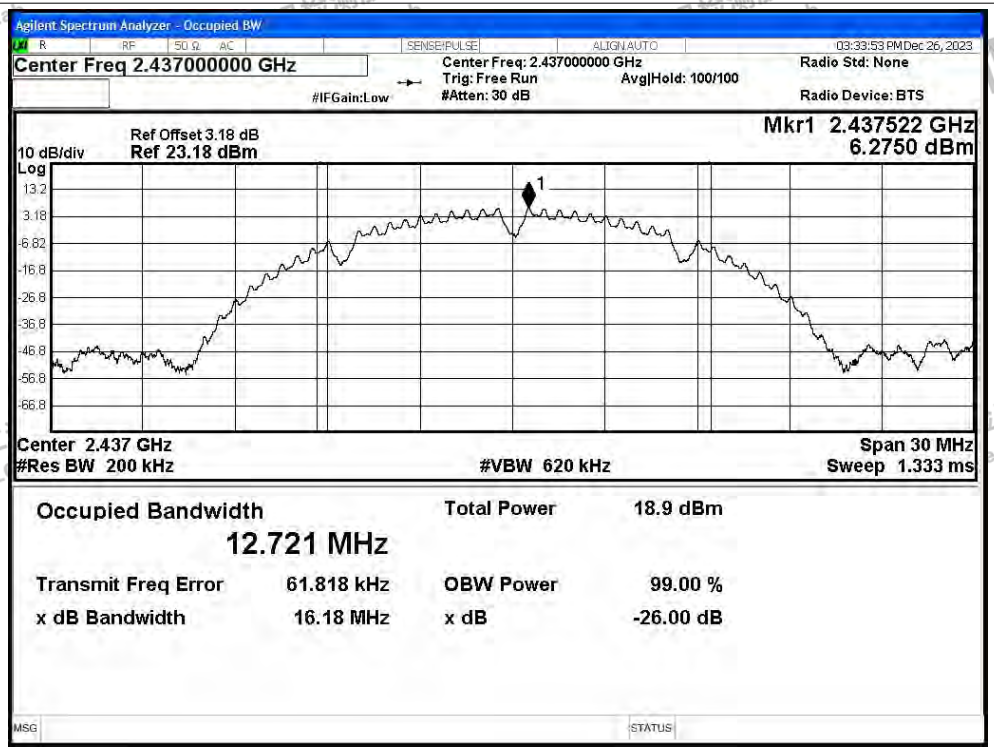
立讯检测股份 LCS Testing Lab

Test Graphs

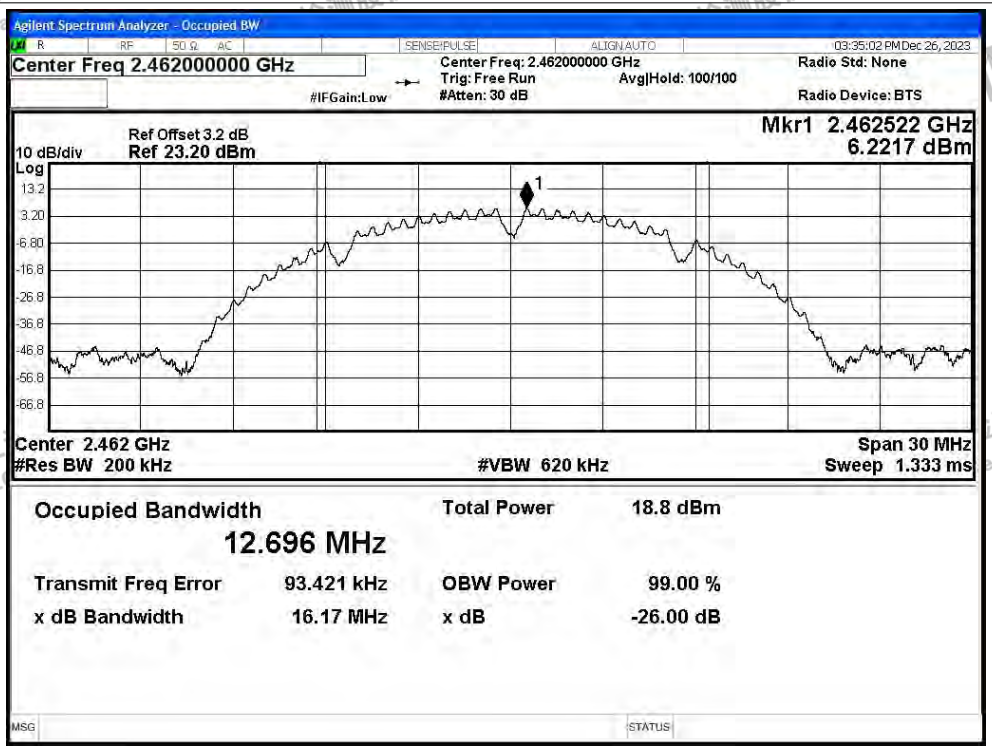
OBW NVNT b 2412MHz Ant1



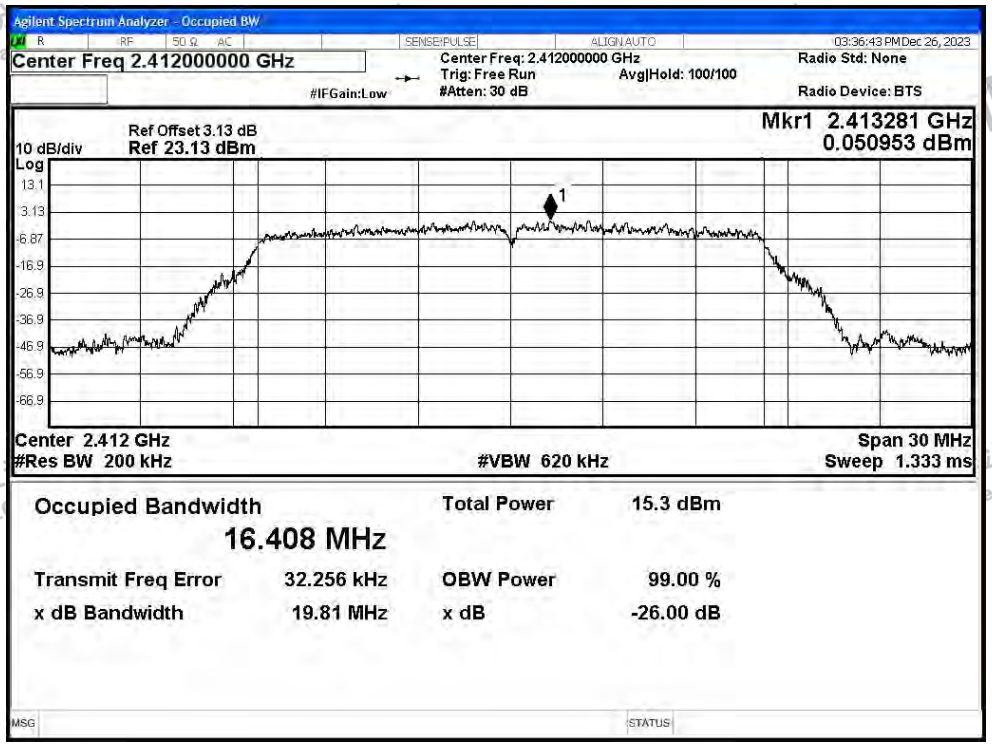
OBW NVNT b 2437MHz Ant1



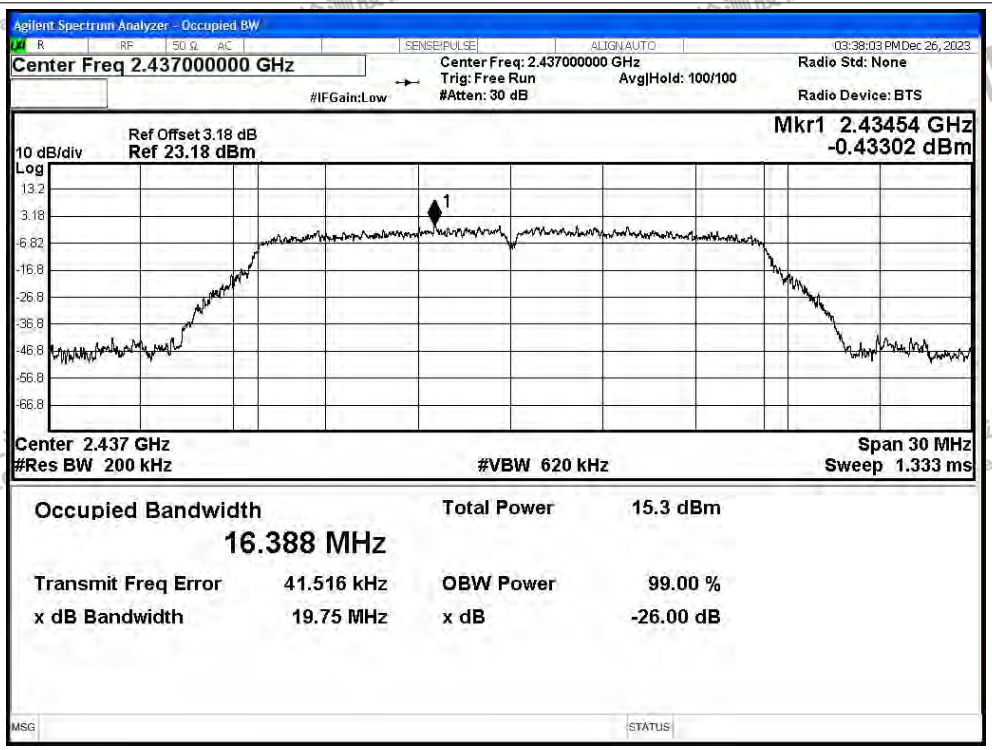
OBW NVNT b 2462MHz Ant1



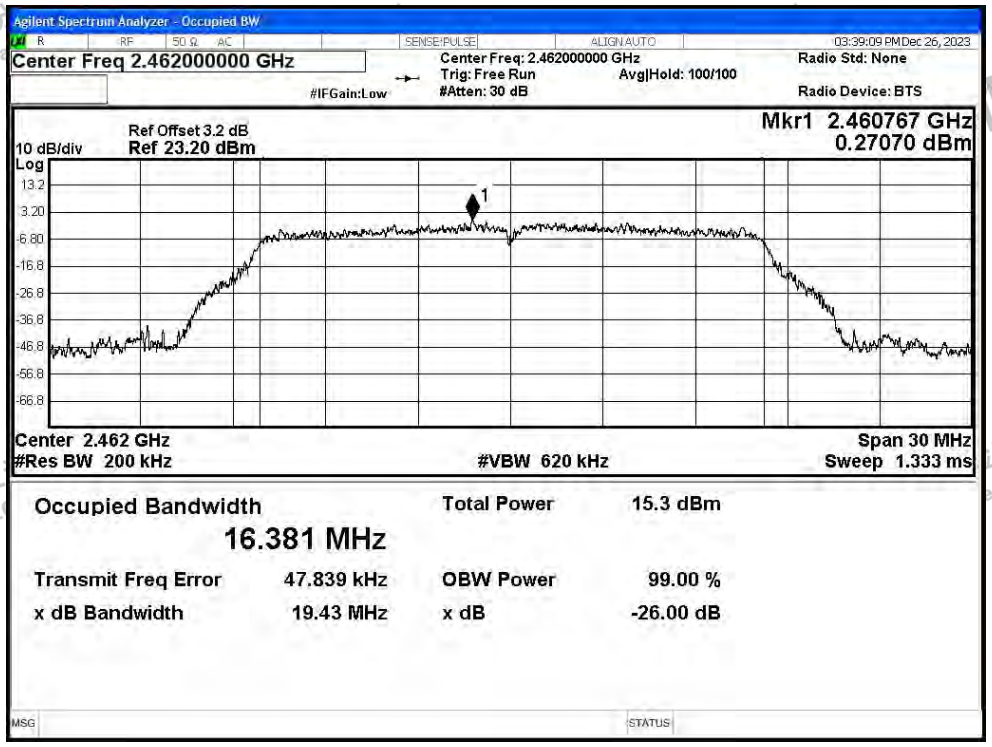
OBW NVNT g 2412MHz Ant1



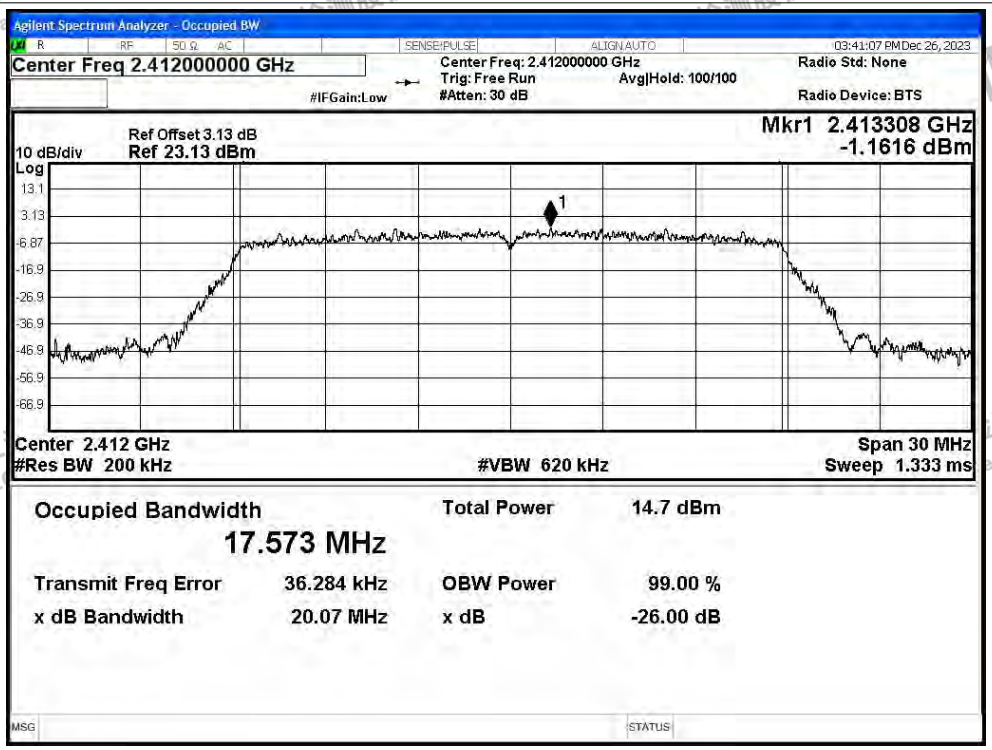
OBW NVNT g 2437MHz Ant1



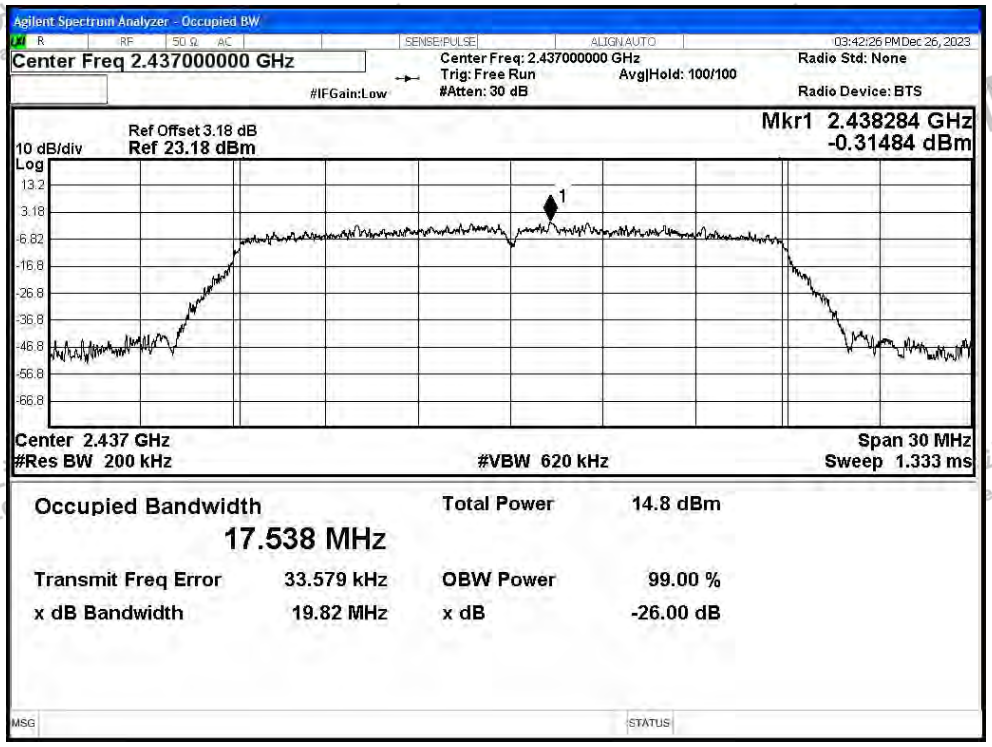
OBW NVNT g 2462MHz Ant1



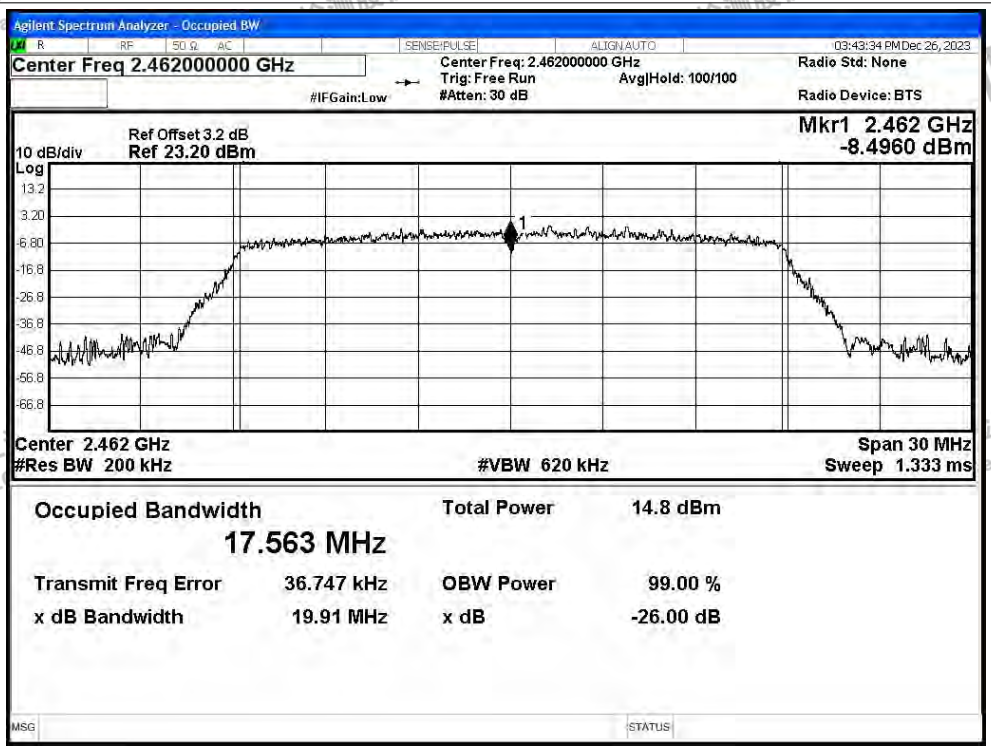
OBW NVNT n20 2412MHz Ant1



OBW NVNT n20 2437MHz Ant1



OBW NVNT n20 2462MHz Ant1



C.3 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.33	30	Pass
NVNT	b	2437	Ant1	15.49	30	Pass
NVNT	b	2462	Ant1	15.42	30	Pass
NVNT	g	2412	Ant1	14.19	30	Pass
NVNT	g	2437	Ant1	14.3	30	Pass
NVNT	g	2462	Ant1	14.31	30	Pass
NVNT	n20	2412	Ant1	13.6	30	Pass
NVNT	n20	2437	Ant1	13.71	30	Pass
NVNT	n20	2462	Ant1	13.75	30	Pass

EIRP

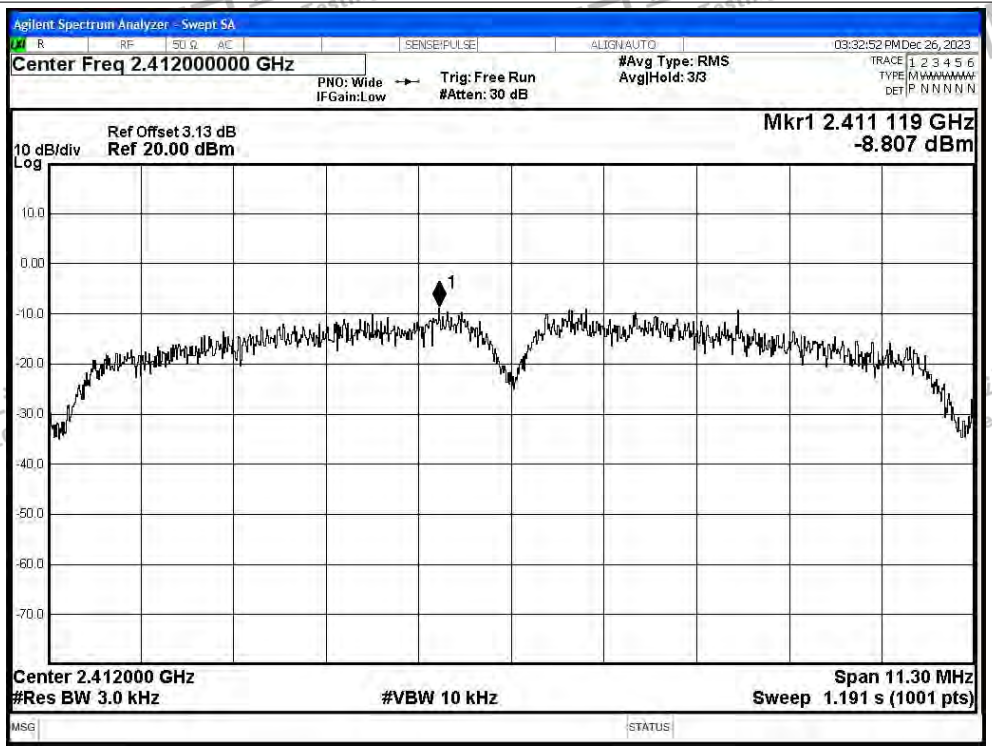
Condition	Mode	Frequency (MHz)	Antenna	Maximum Peak Output Power [dBm]	Antenna Gain	Report EIRP Power(dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.33	2.5	17.83	36	Pass
NVNT	b	2437	Ant1	15.49	2.5	17.99	36	Pass
NVNT	b	2462	Ant1	15.42	2.5	17.92	36	Pass
NVNT	g	2412	Ant1	14.19	2.5	16.69	36	Pass
NVNT	g	2437	Ant1	14.3	2.5	16.8	36	Pass
NVNT	g	2462	Ant1	14.31	2.5	16.81	36	Pass
NVNT	n20	2412	Ant1	13.6	2.5	16.1	36	Pass
NVNT	n20	2437	Ant1	13.71	2.5	16.21	36	Pass
NVNT	n20	2462	Ant1	13.75	2.5	16.25	36	Pass

C.4 Maximum Power Spectral Density Level

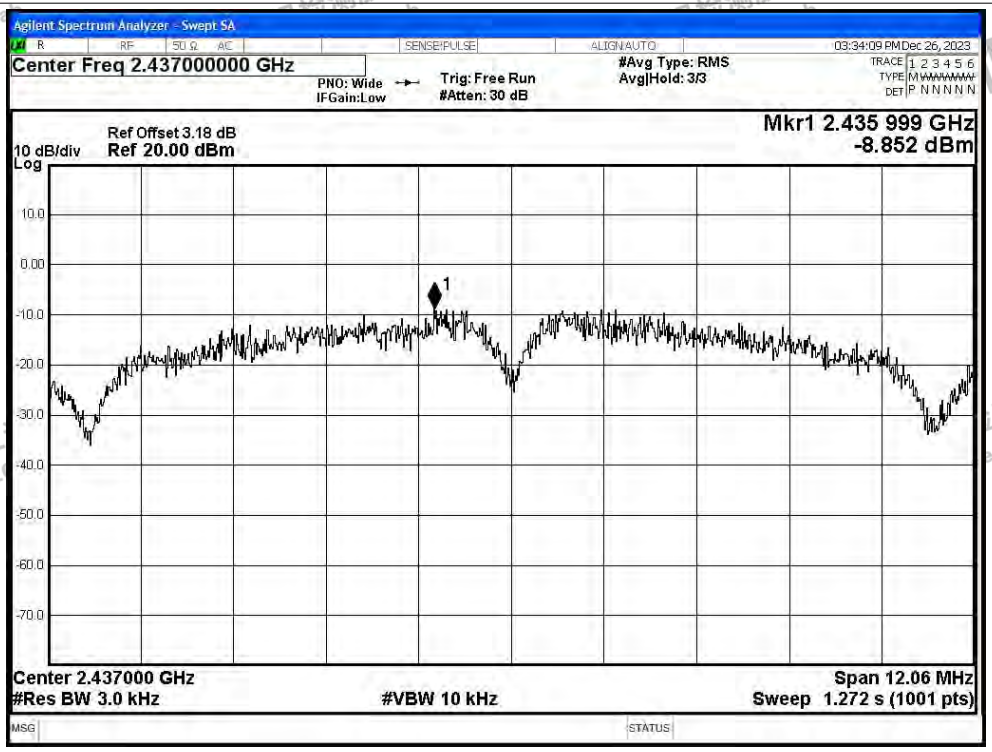
Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-8.81	8	Pass
NVNT	b	2437	Ant1	-8.85	8	Pass
NVNT	b	2462	Ant1	-8.81	8	Pass
NVNT	g	2412	Ant1	-13.86	8	Pass
NVNT	g	2437	Ant1	-15.29	8	Pass
NVNT	g	2462	Ant1	-14.55	8	Pass
NVNT	n20	2412	Ant1	-16.63	8	Pass
NVNT	n20	2437	Ant1	-15.58	8	Pass
NVNT	n20	2462	Ant1	-16.3	8	Pass

Test Graphs

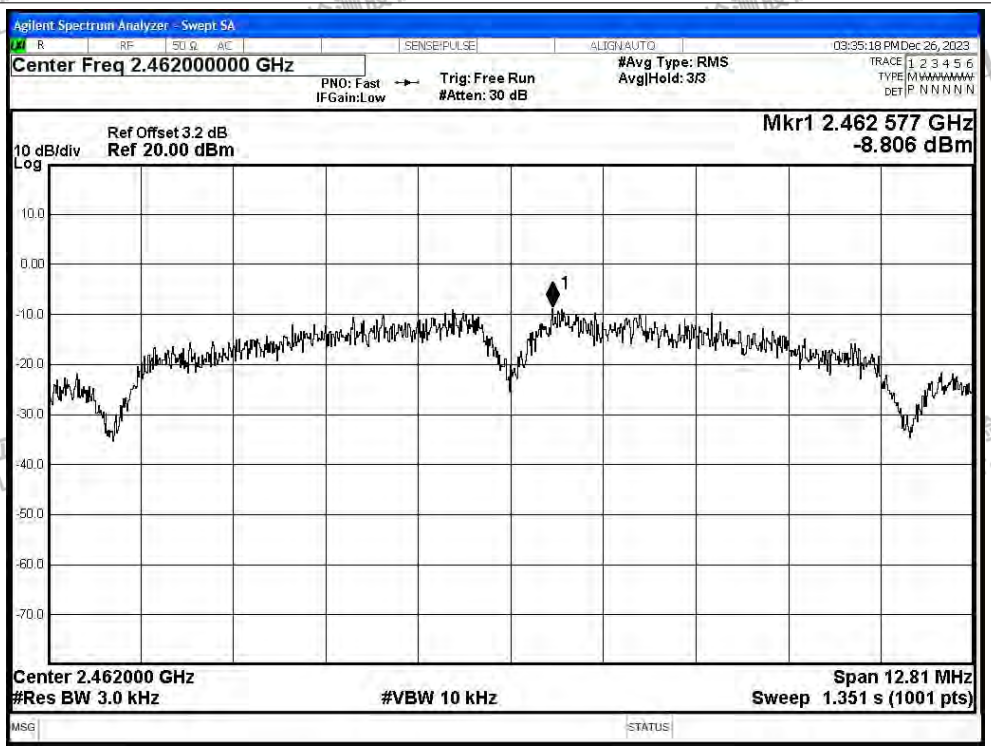
PSD NVNT b 2412MHz Ant1



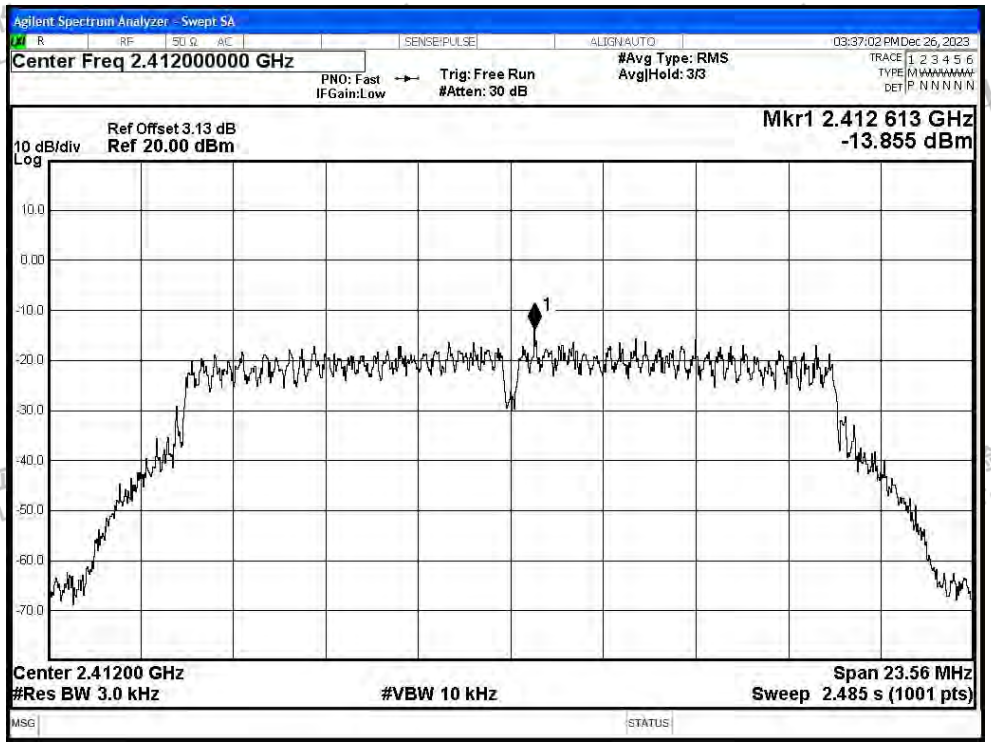
PSD NVNT b 2437MHz Ant1



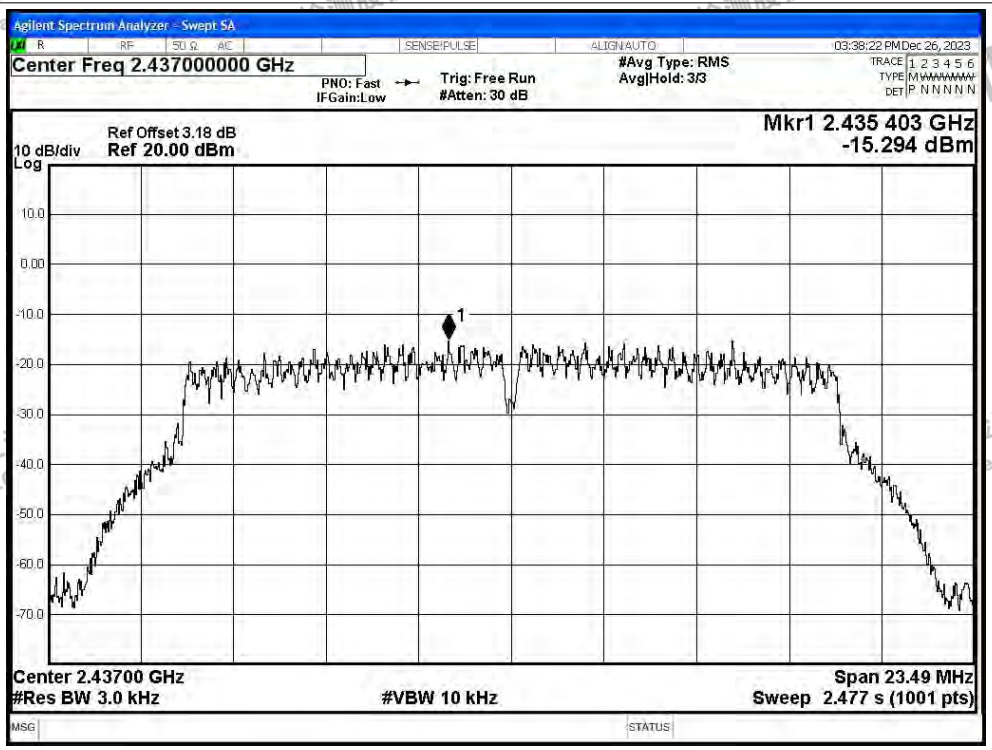
PSD NVNT b 2462MHz Ant1



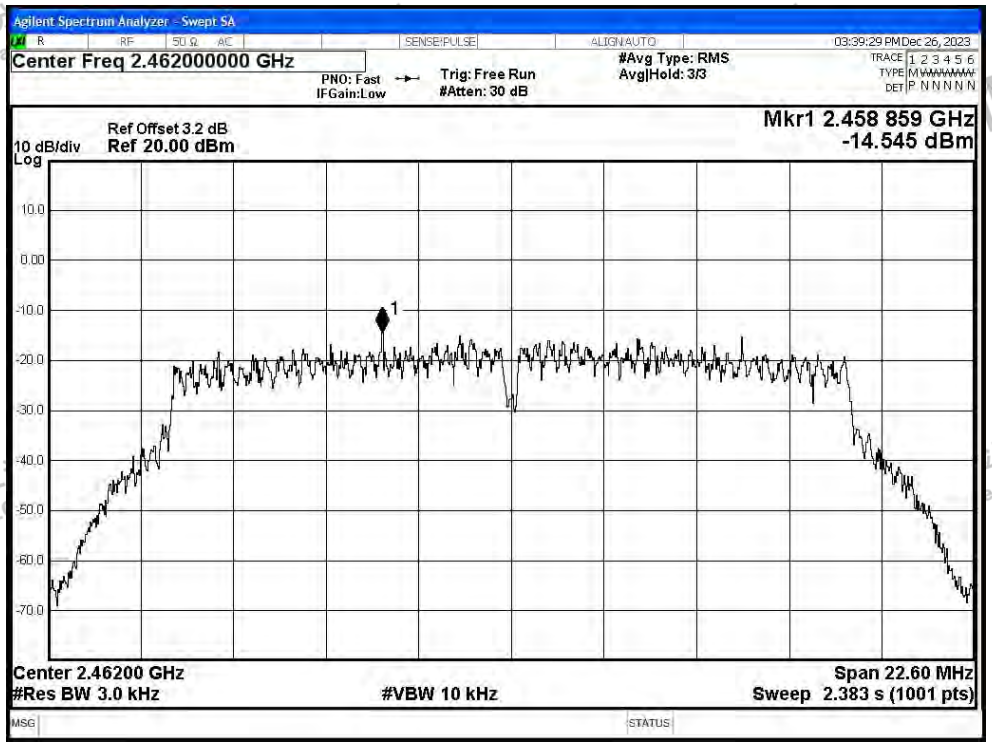
PSD NVNT g 2412MHz Ant1



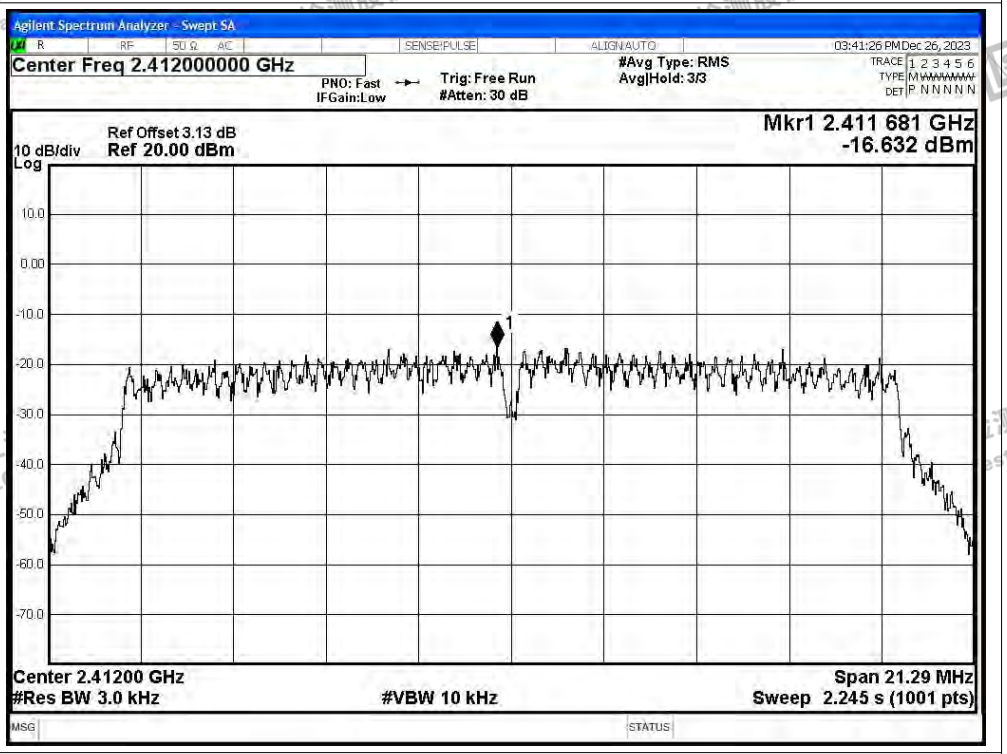
PSD NVNT g 2437MHz Ant1



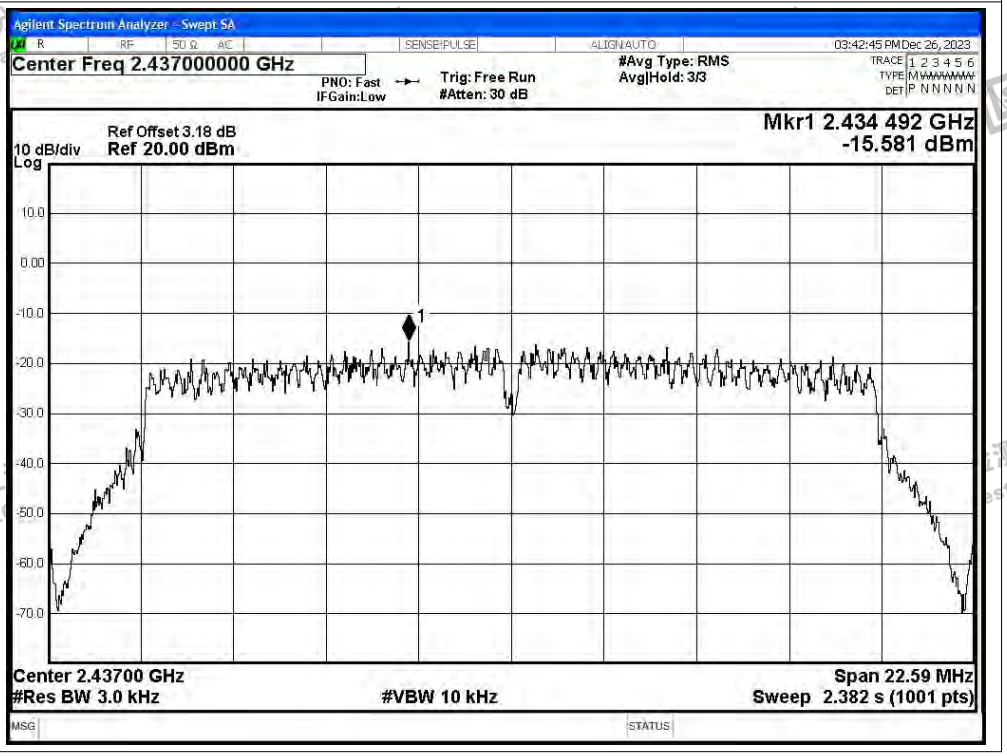
PSD NVNT g 2462MHz Ant1



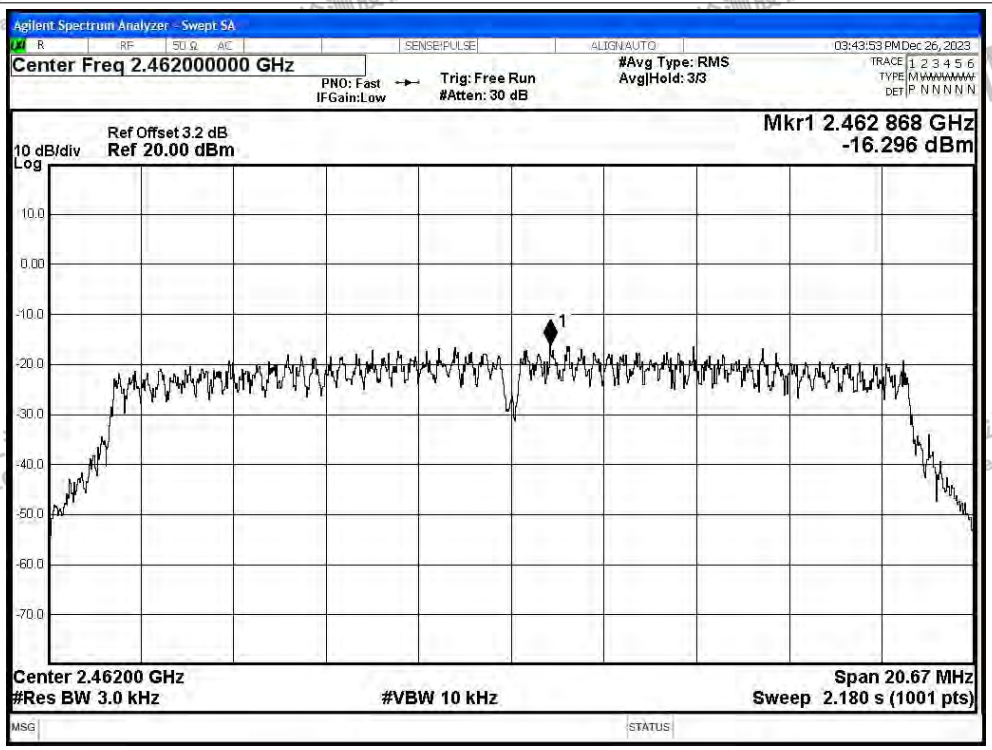
PSD NVNT n20 2412MHz Ant1



PSD NVNT n20 2437MHz Ant1



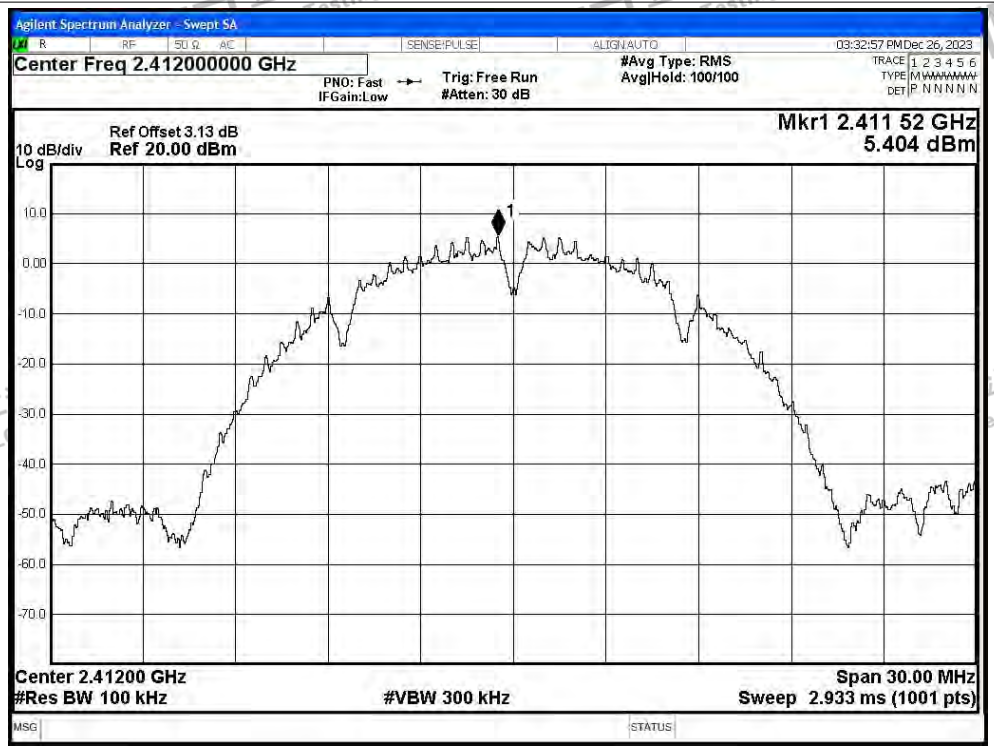
PSD NVNT n20 2462MHz Ant1



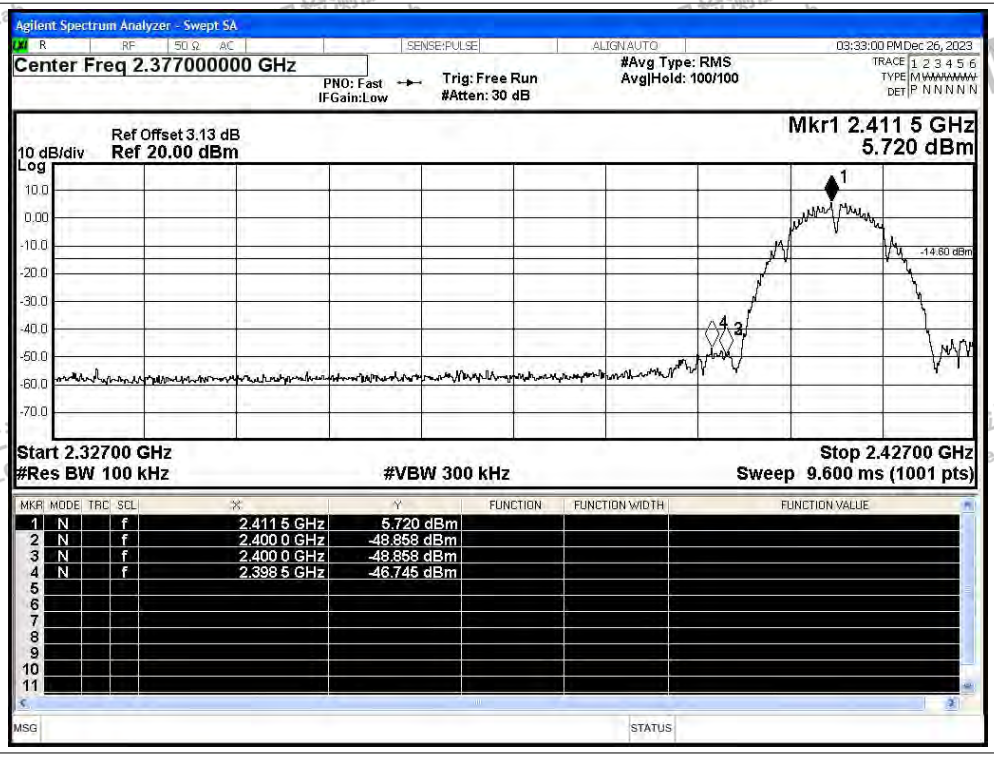
C.5 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-52.15	-20	Pass
NVNT	b	2462	Ant1	-59.02	-20	Pass
NVNT	g	2412	Ant1	-42.55	-20	Pass
NVNT	g	2462	Ant1	-52.04	-20	Pass
NVNT	n20	2412	Ant1	-43.99	-20	Pass
NVNT	n20	2462	Ant1	-50.27	-20	Pass

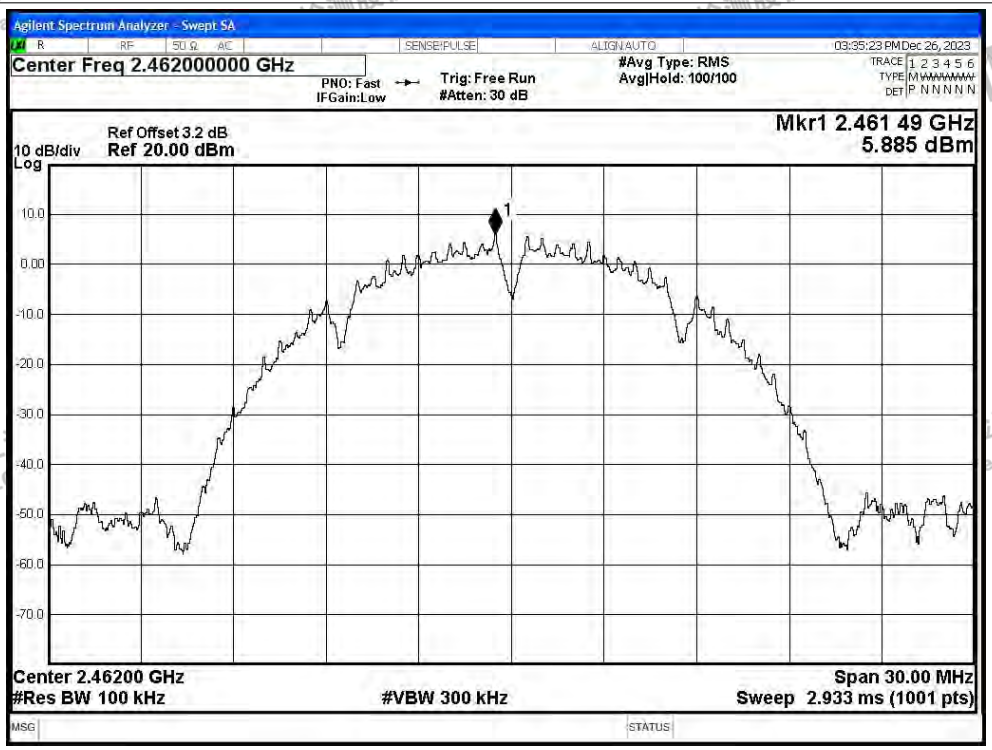
Test Graphs
Band Edge NVNT b 2412MHz Ant1 Ref



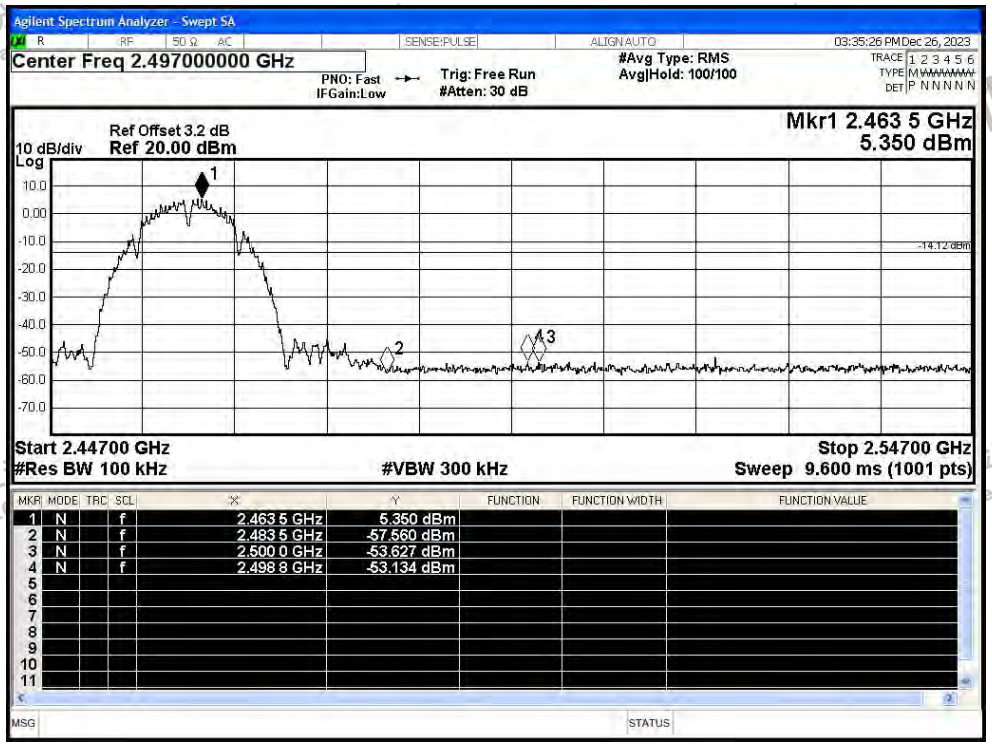
Band Edge NVNT b 2412MHz Ant1 Emission



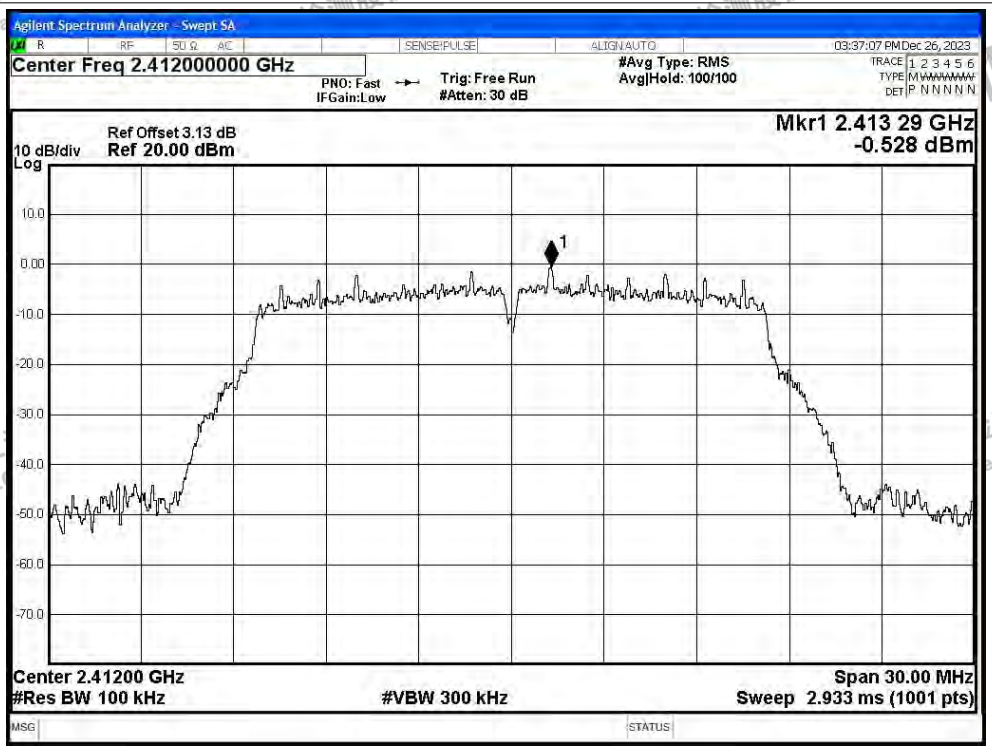
Band Edge NVNT b 2462MHz Ant1 Ref



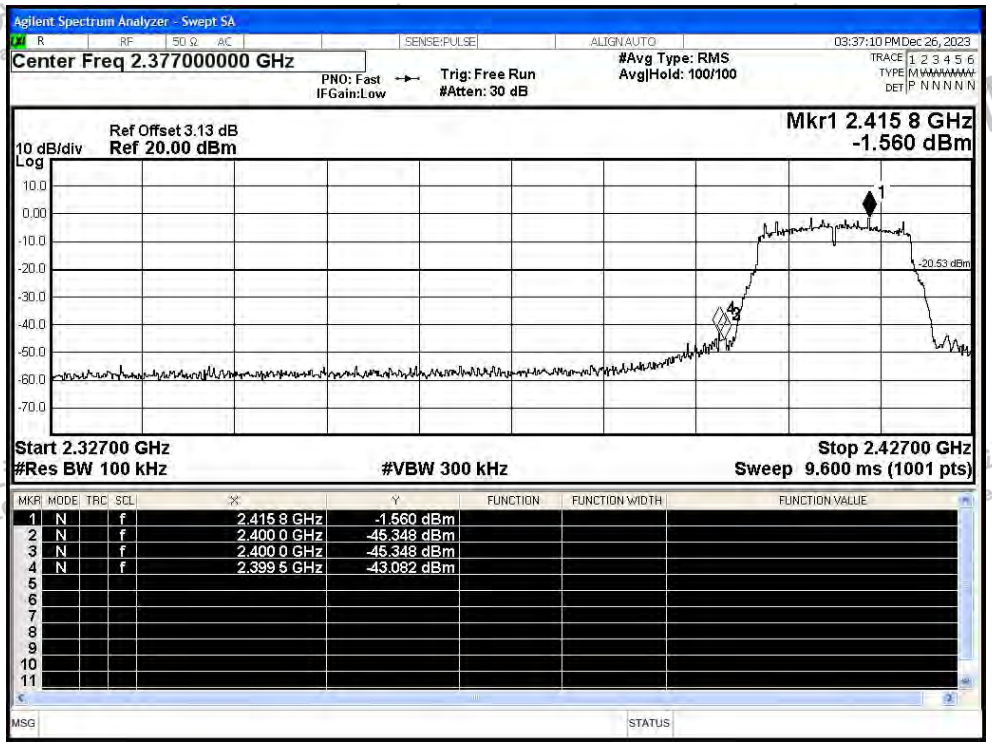
Band Edge NVNT b 2462MHz Ant1 Emission



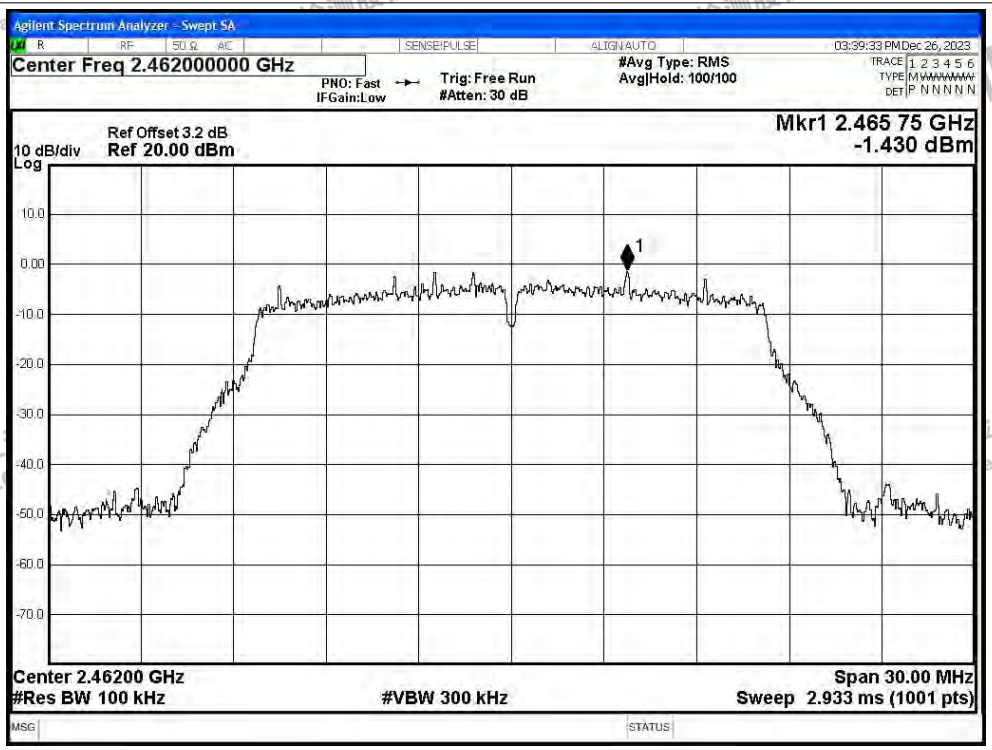
Band Edge NVNT g 2412MHz Ant1 Ref



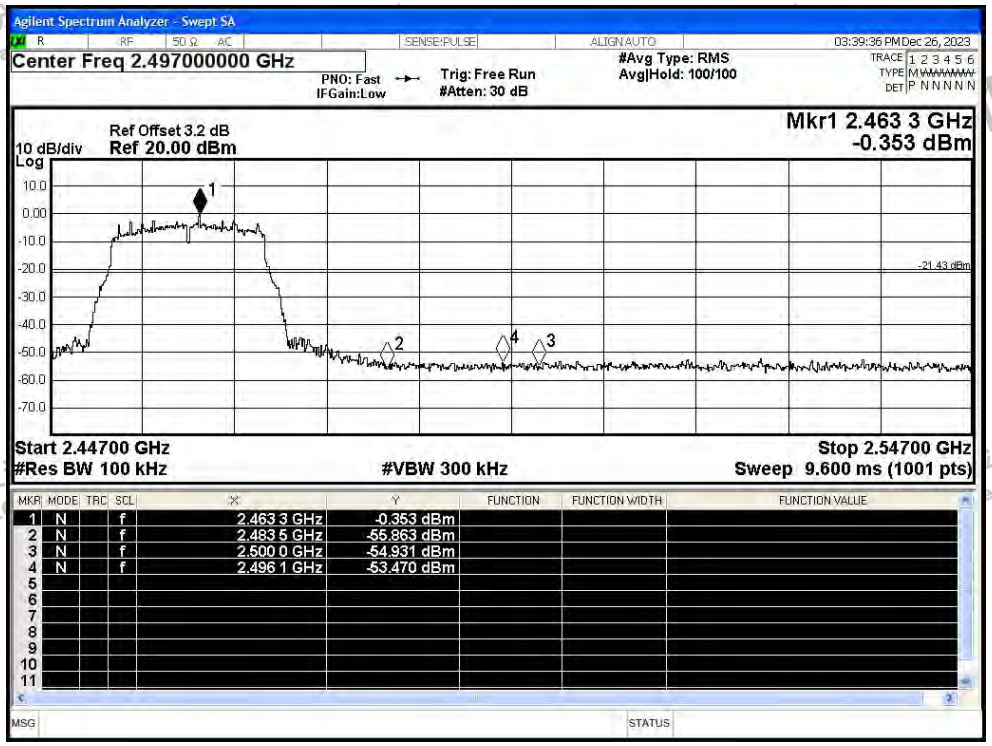
Band Edge NVNT g 2412MHz Ant1 Emission



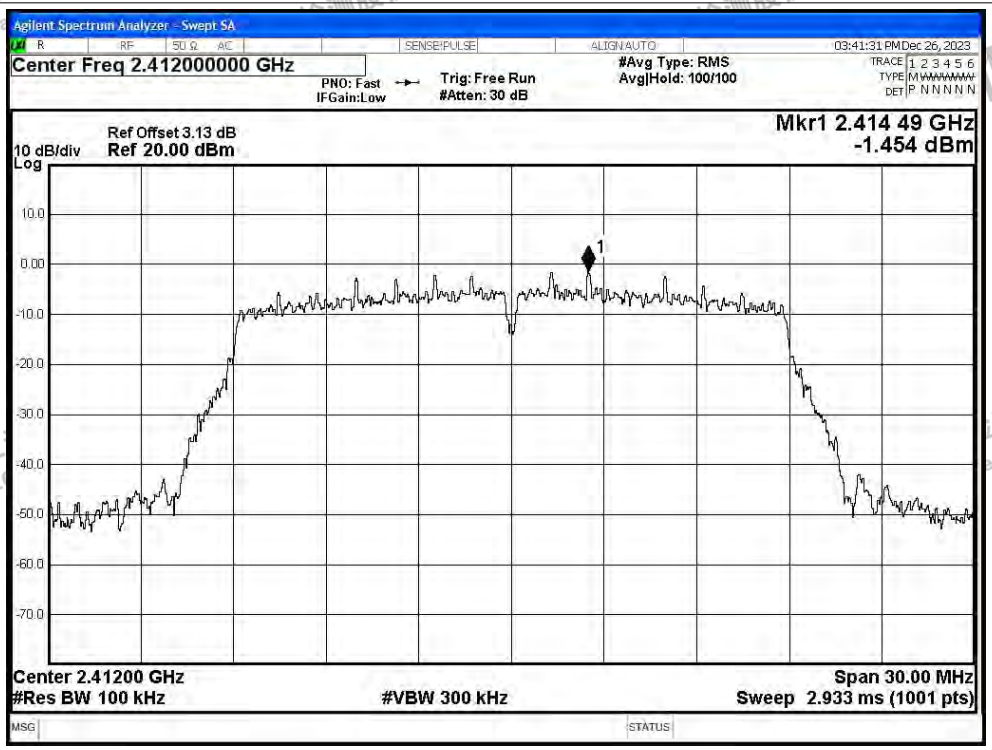
Band Edge NVNT g 2462MHz Ant1 Ref



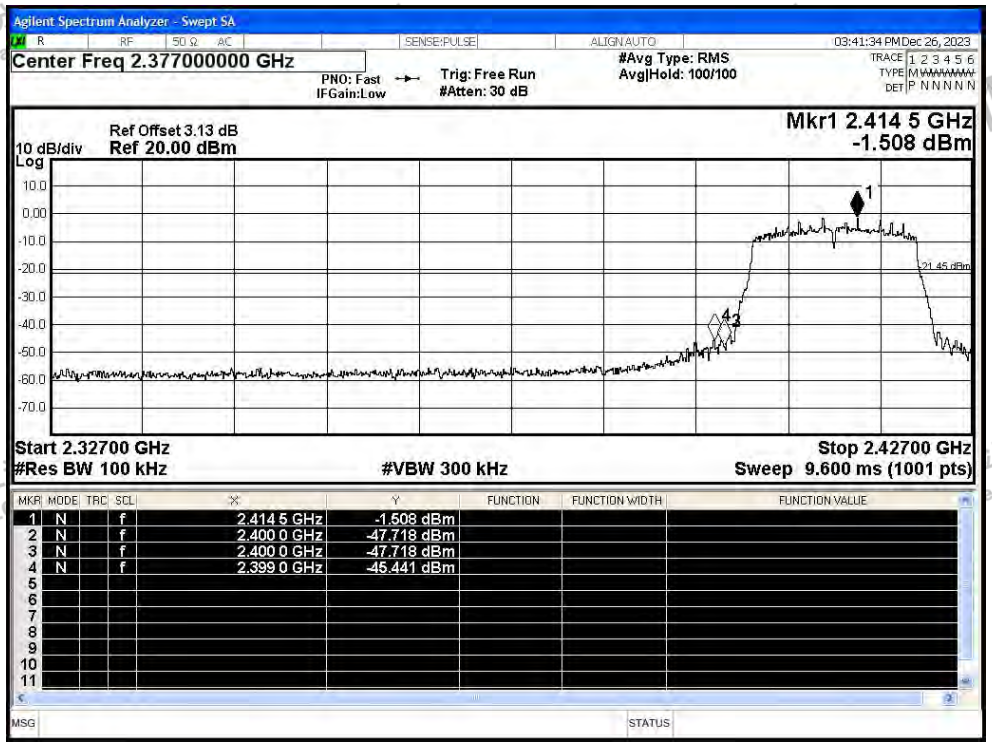
Band Edge NVNT g 2462MHz Ant1 Emission



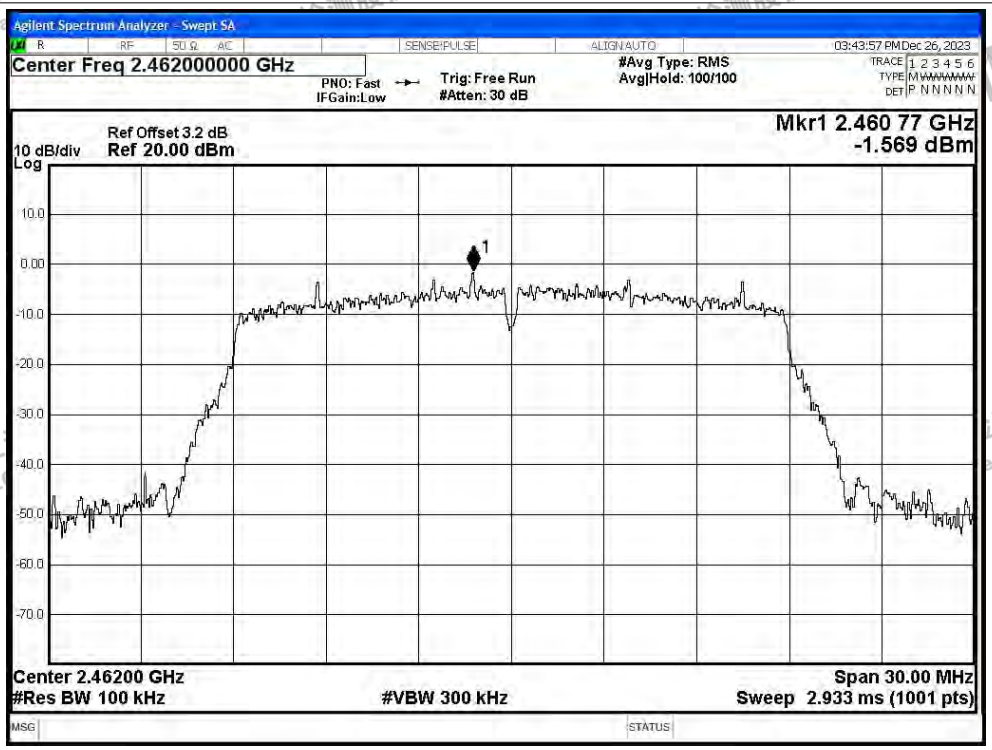
Band Edge NVNT n20 2412MHz Ant1 Ref



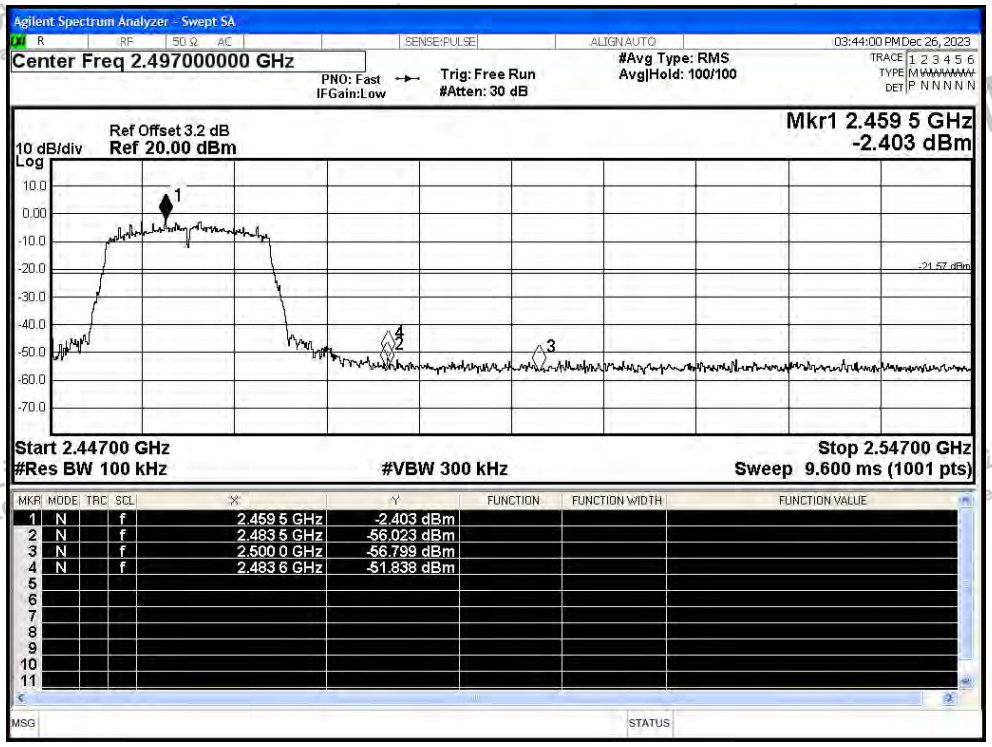
Band Edge NVNT n20 2412MHz Ant1 Emission



Band Edge NVNT n20 2462MHz Ant1 Ref



Band Edge NVNT n20 2462MHz Ant1 Emission

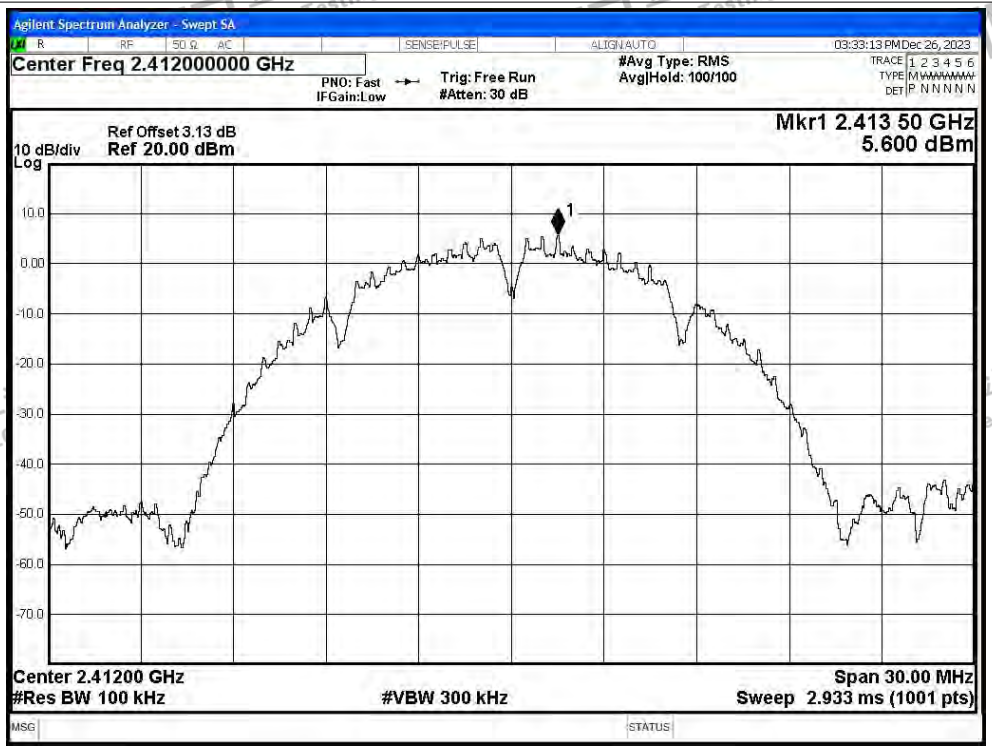


C.6 Conducted RF Spurious Emission

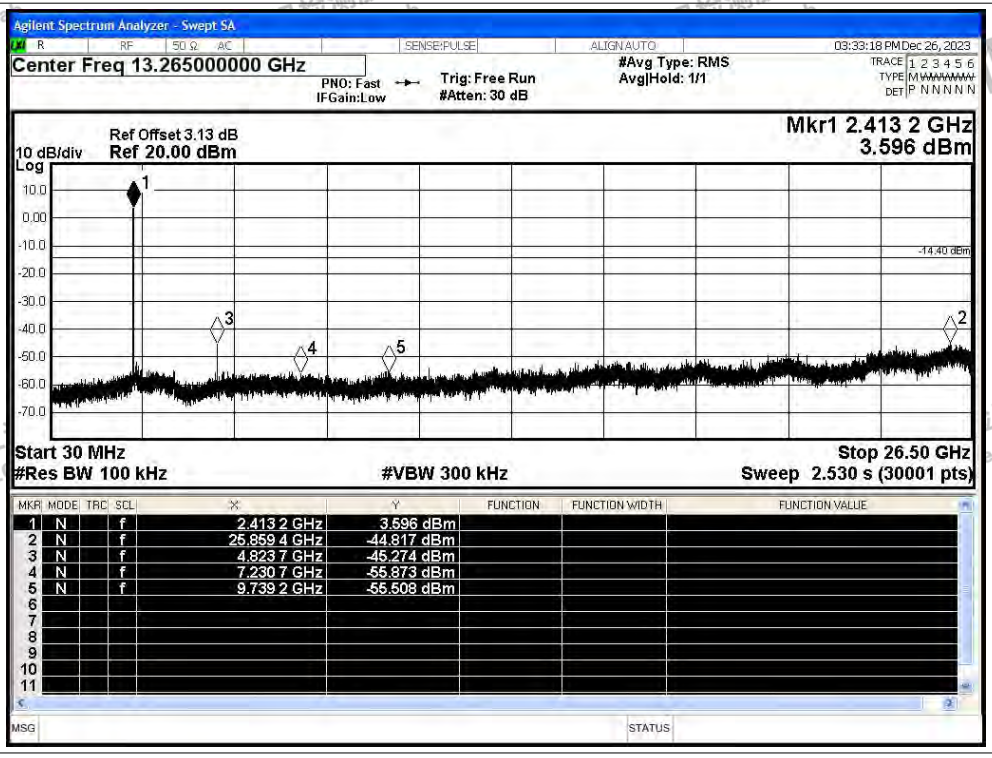
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-50.42	-20	Pass
NVNT	b	2437	Ant1	-51.36	-20	Pass
NVNT	b	2462	Ant1	-50.13	-20	Pass
NVNT	g	2412	Ant1	-43.75	-20	Pass
NVNT	g	2437	Ant1	-43.86	-20	Pass
NVNT	g	2462	Ant1	-42.8	-20	Pass
NVNT	n20	2412	Ant1	-44.11	-20	Pass
NVNT	n20	2437	Ant1	-43.21	-20	Pass
NVNT	n20	2462	Ant1	-43.94	-20	Pass

Test Graphs

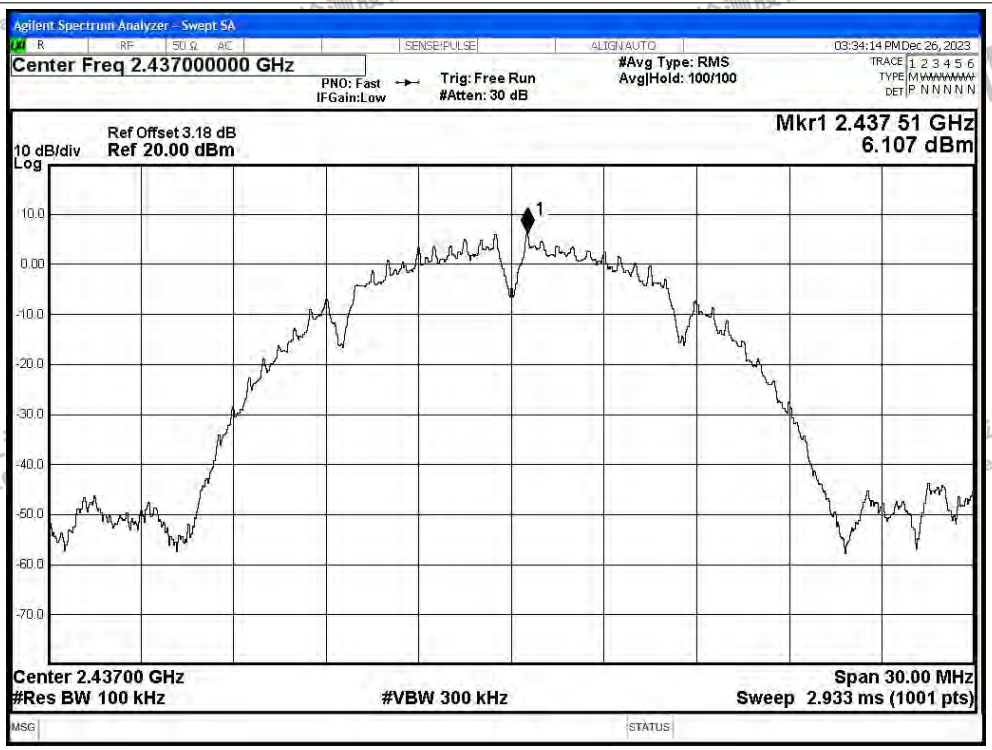
Tx. Spurious NVNT b 2412MHz Ant1 Ref



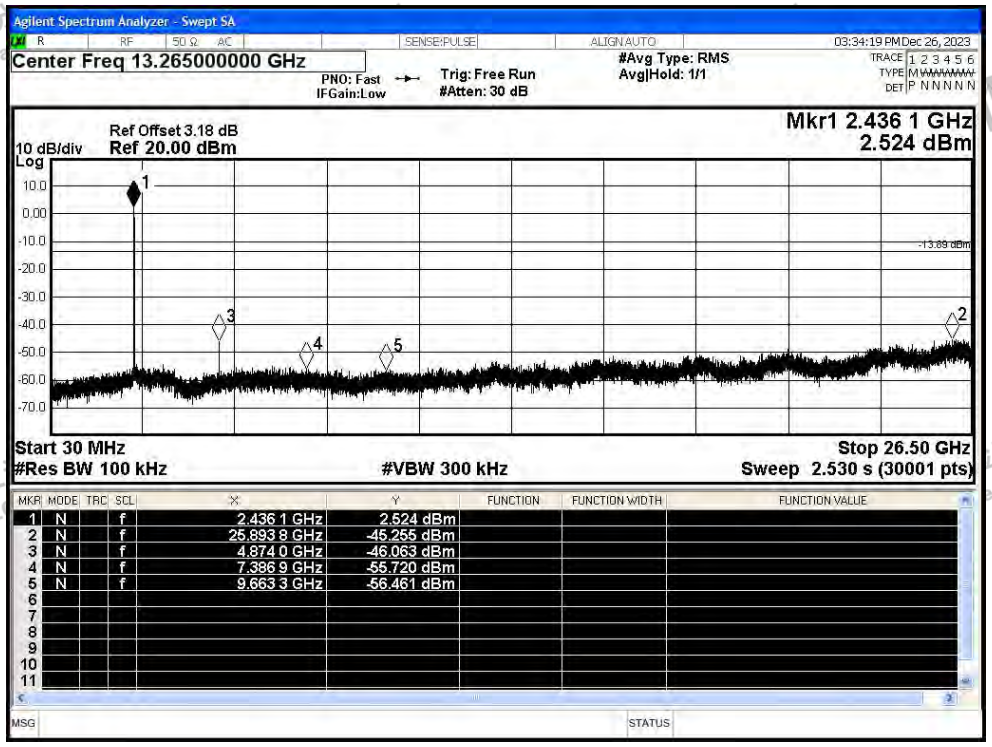
Tx. Spurious NVNT b 2412MHz Ant1 Emission



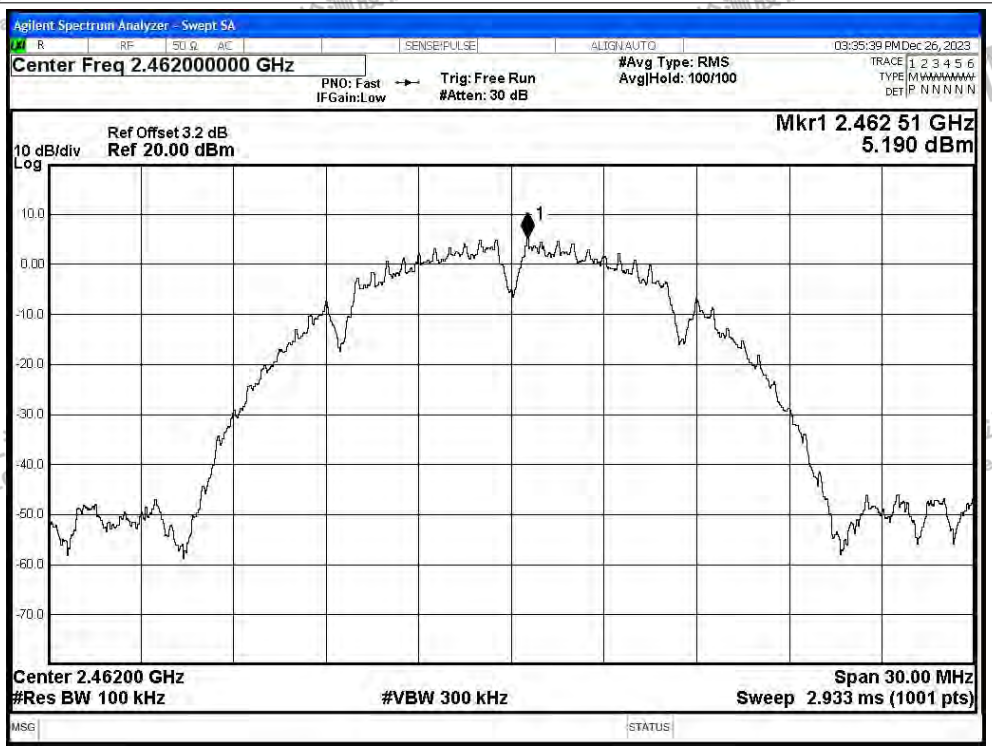
Tx. Spurious NVNT b 2437MHz Ant1 Ref



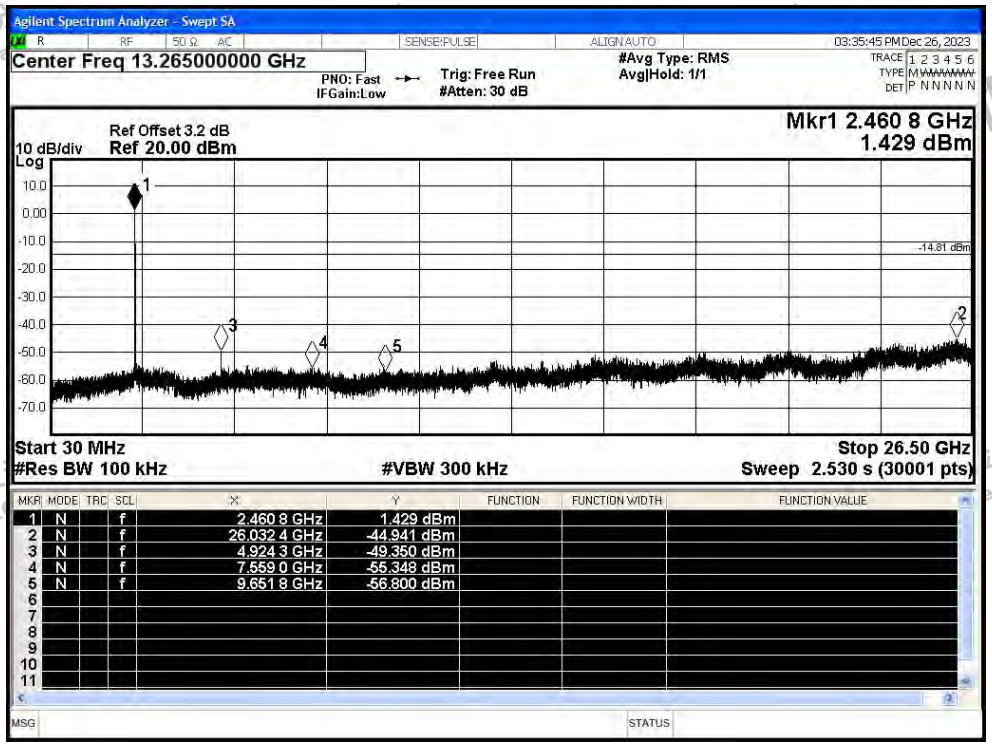
Tx. Spurious NVNT b 2437MHz Ant1 Emission



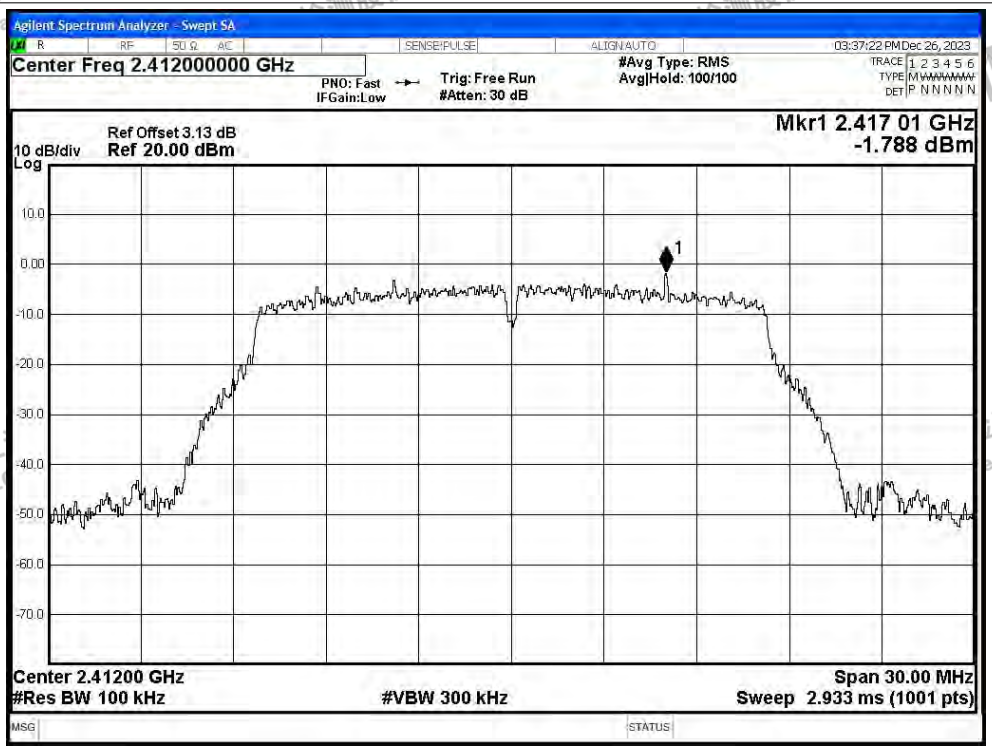
Tx. Spurious NVNT b 2462MHz Ant1 Ref



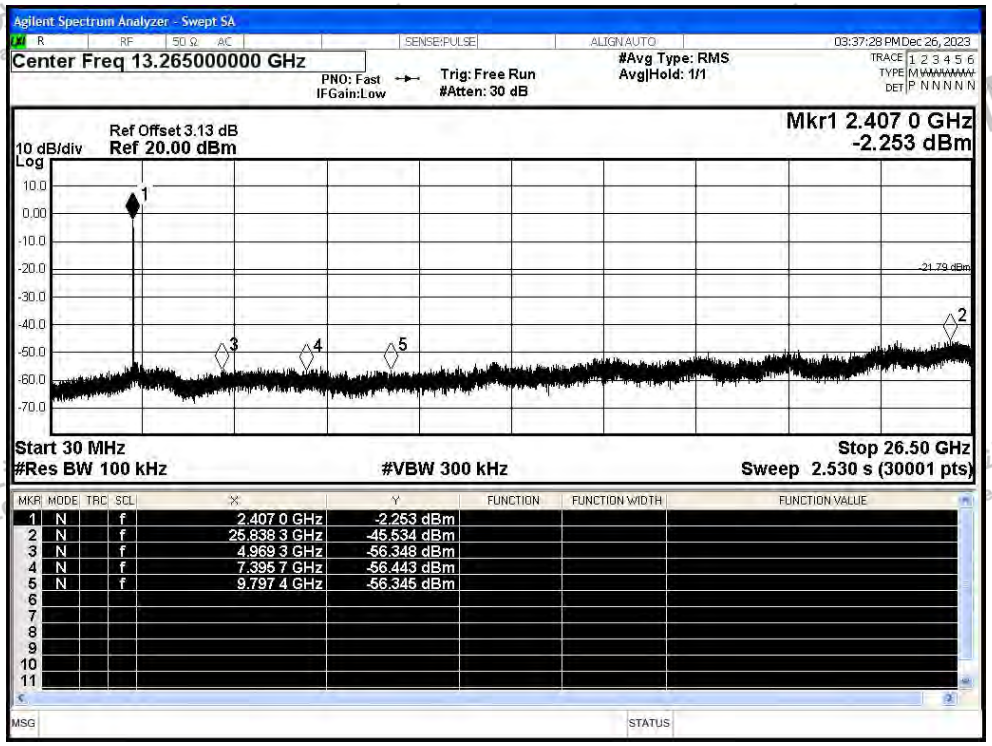
Tx. Spurious NVNT b 2462MHz Ant1 Emission



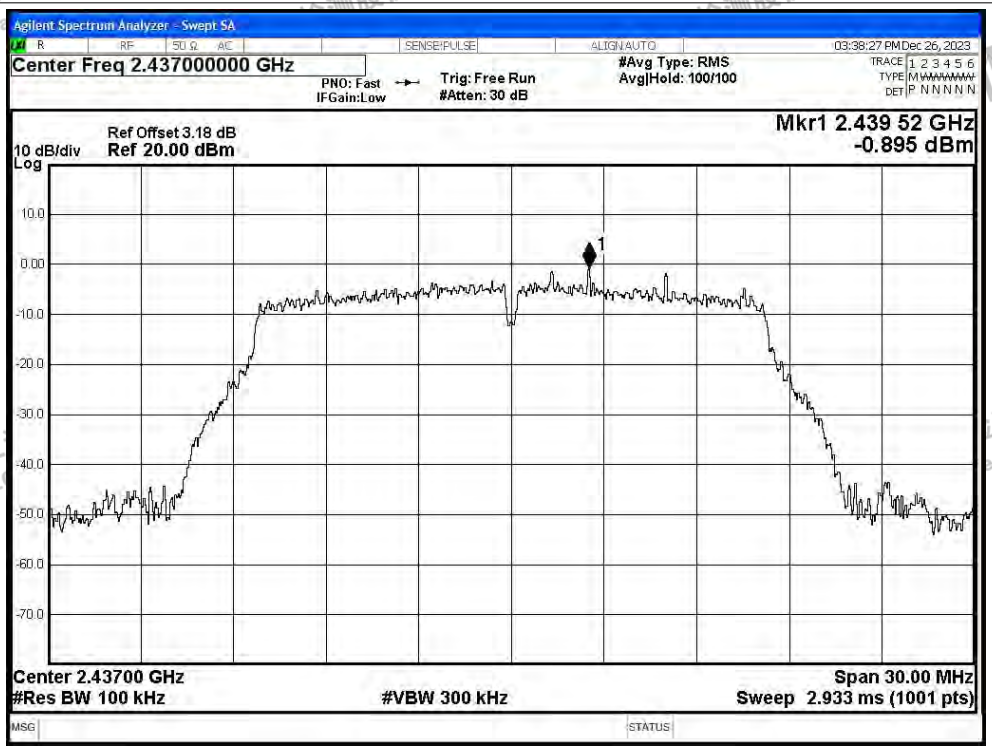
Tx. Spurious NVNT g 2412MHz Ant1 Ref



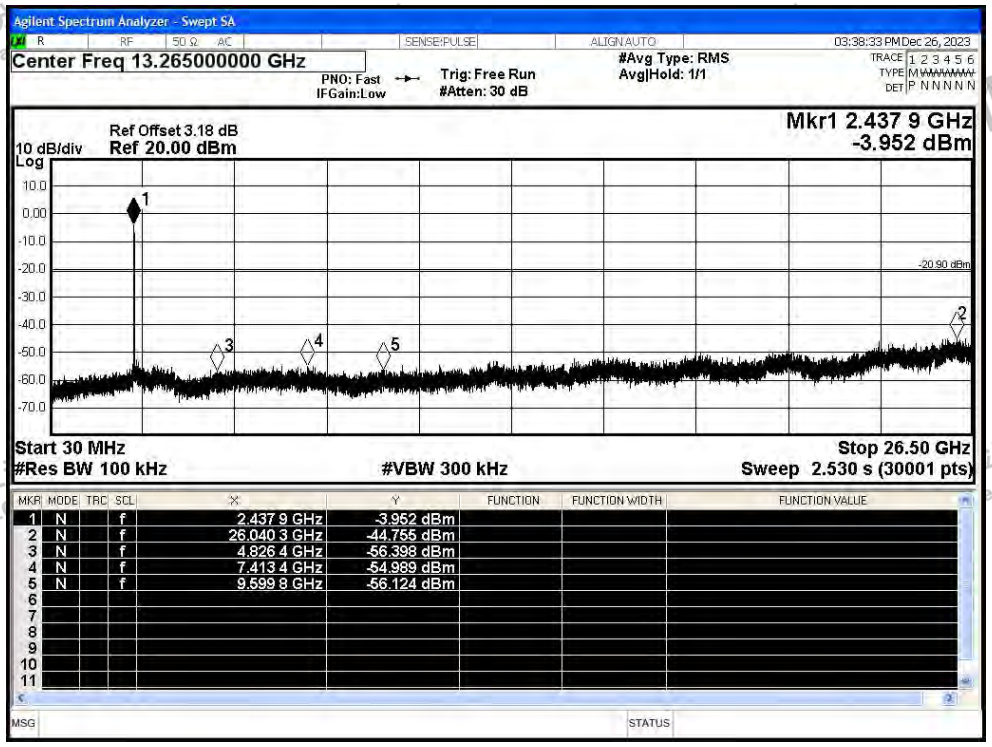
Tx. Spurious NVNT g 2412MHz Ant1 Emission



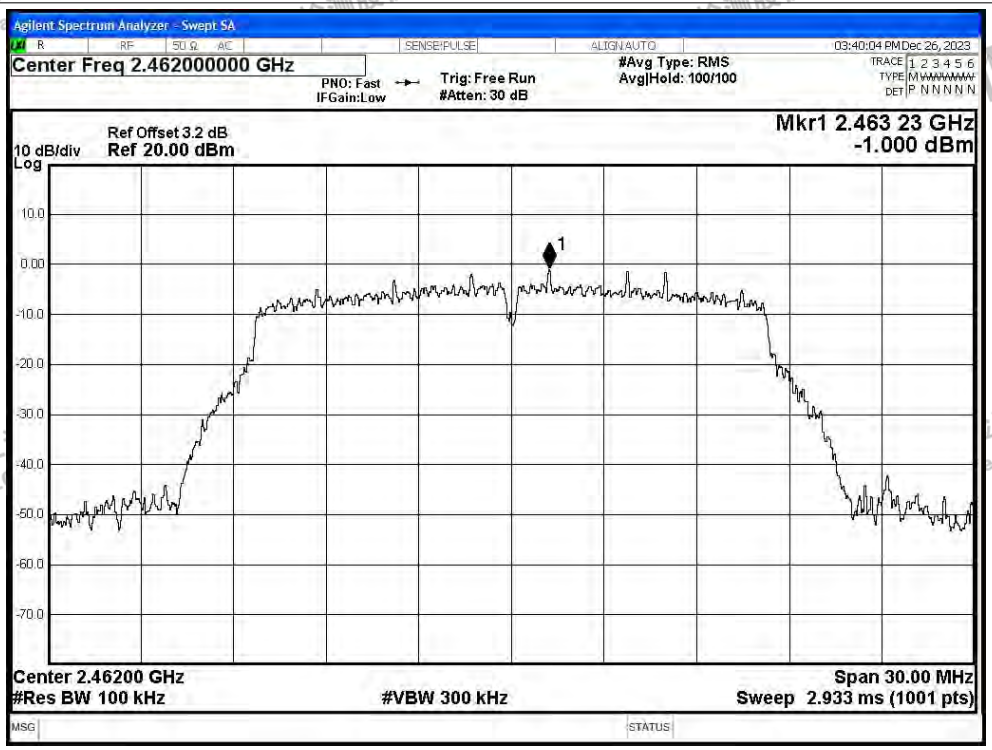
Tx. Spurious NVNT g 2437MHz Ant1 Ref



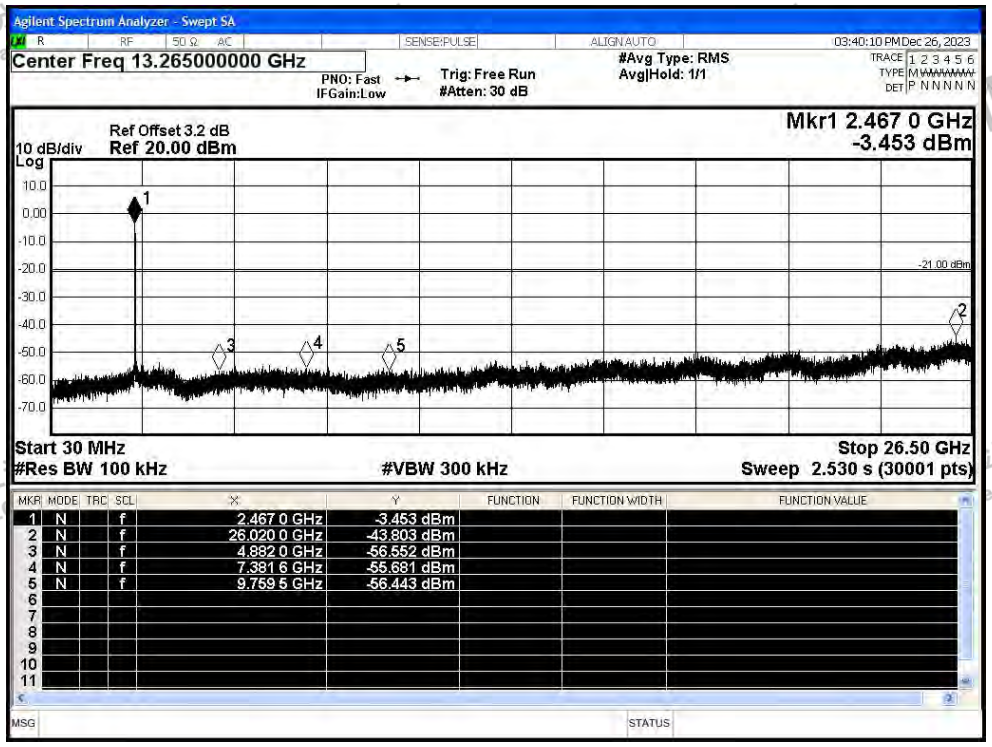
Tx. Spurious NVNT g 2437MHz Ant1 Emission



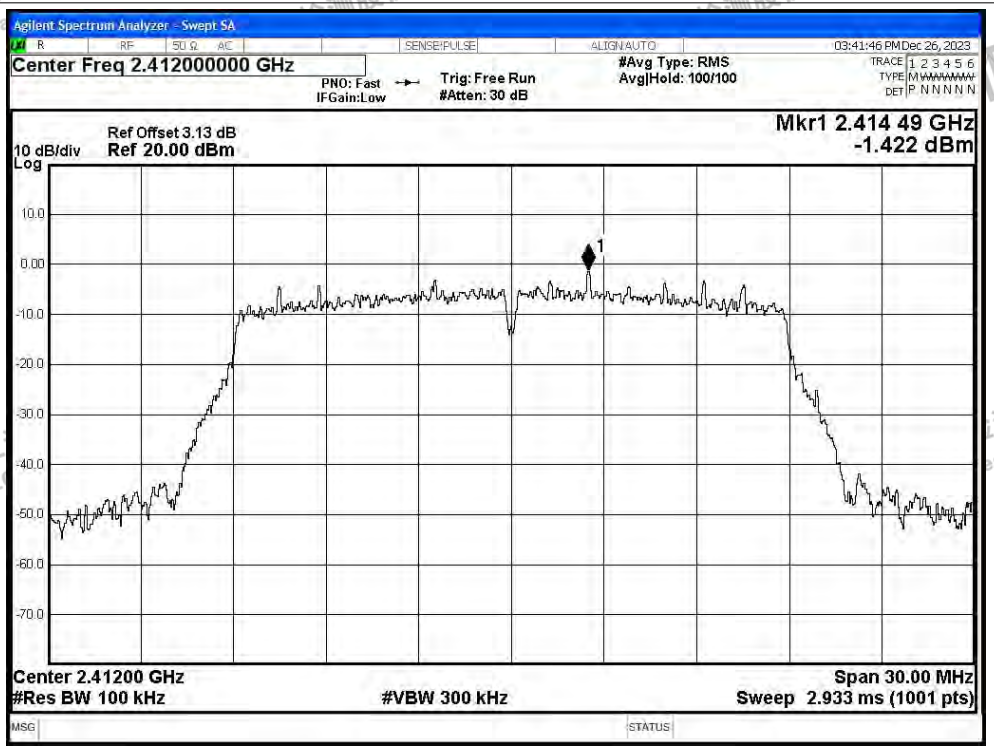
Tx. Spurious NVNT g 2462MHz Ant1 Ref



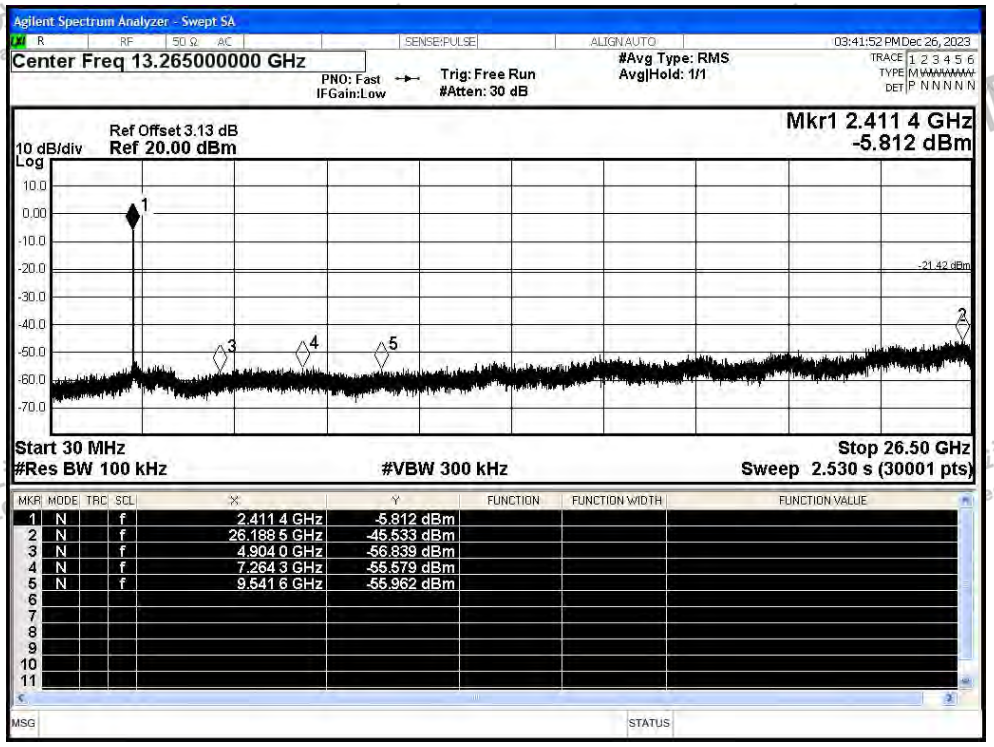
Tx. Spurious NVNT g 2462MHz Ant1 Emission



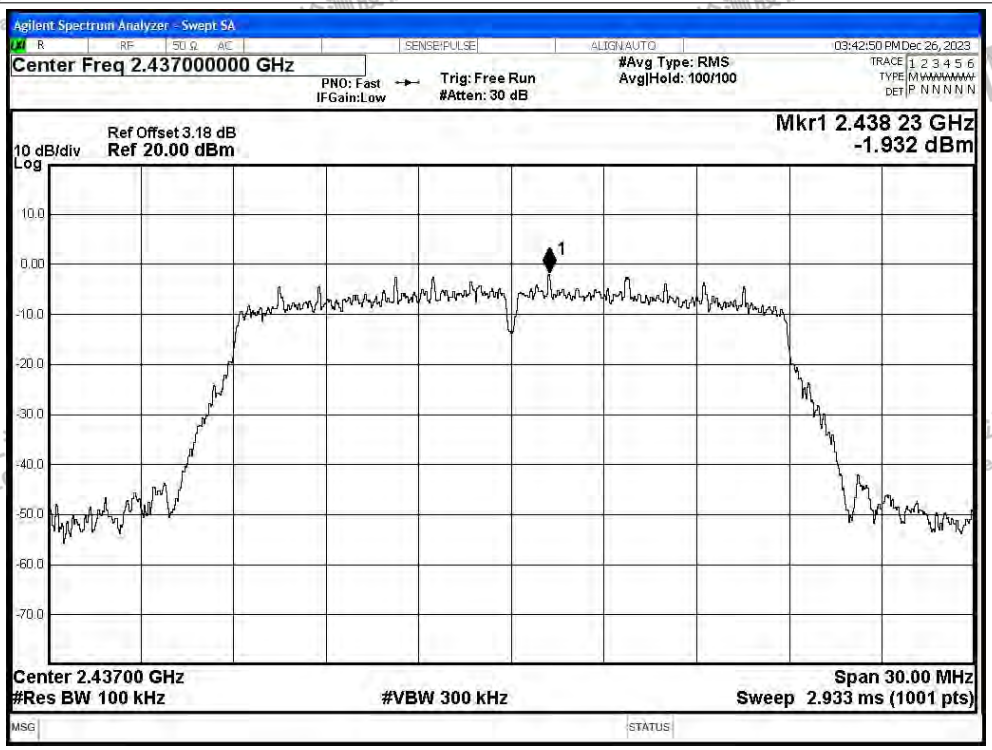
Tx. Spurious NVNT n20 2412MHz Ant1 Ref



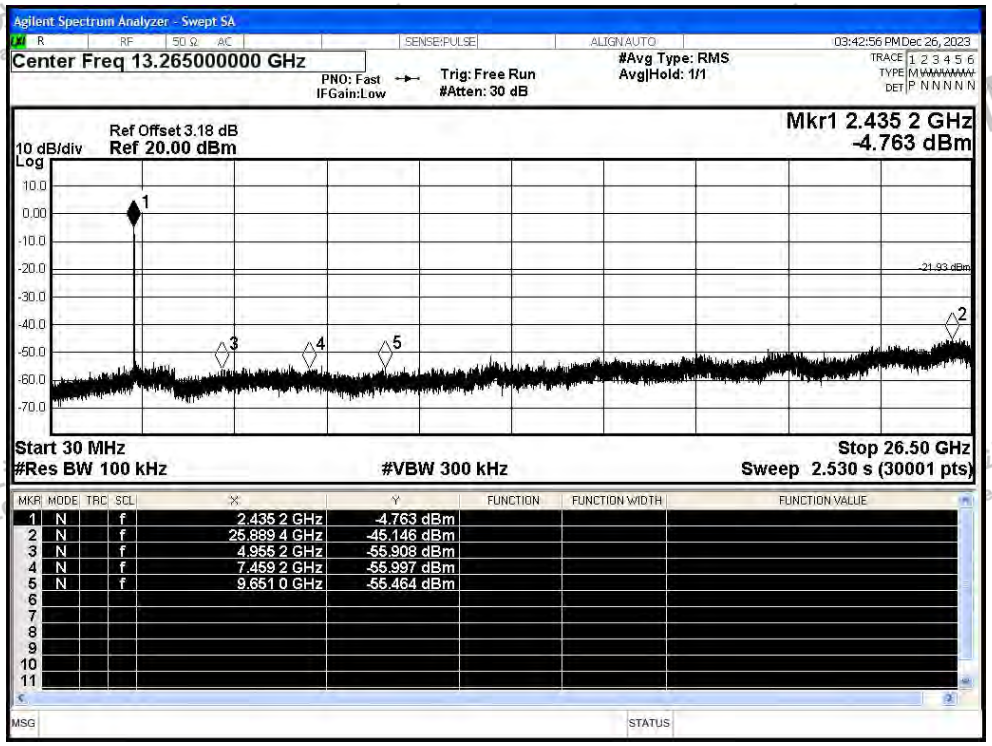
Tx. Spurious NVNT n20 2412MHz Ant1 Emission



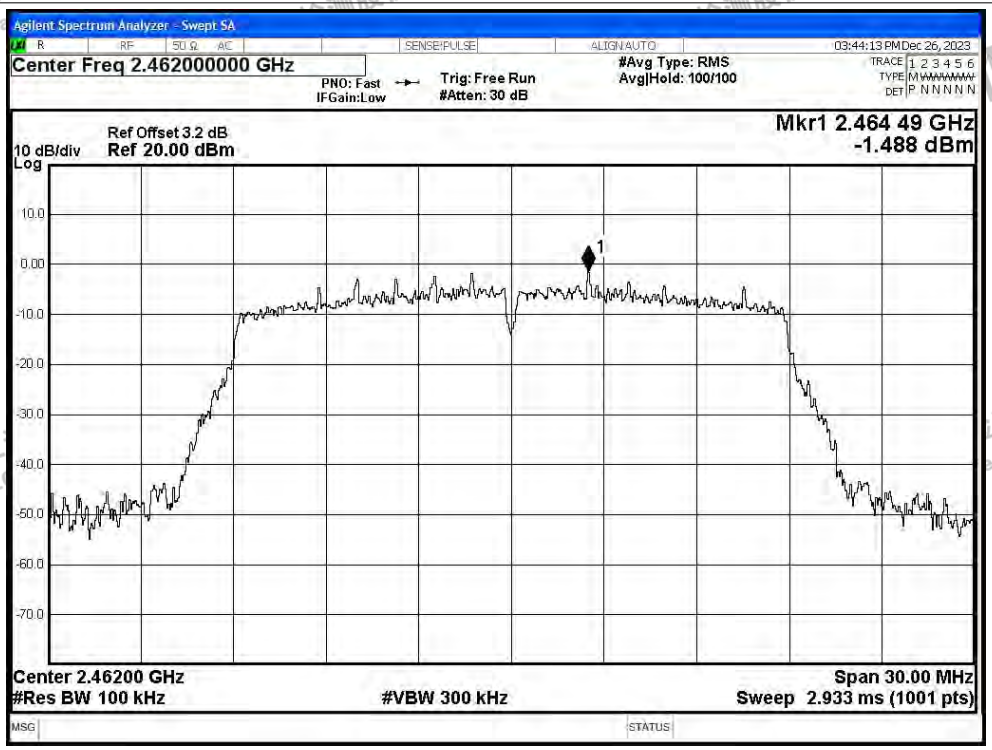
Tx. Spurious NVNT n20 2437MHz Ant1 Ref



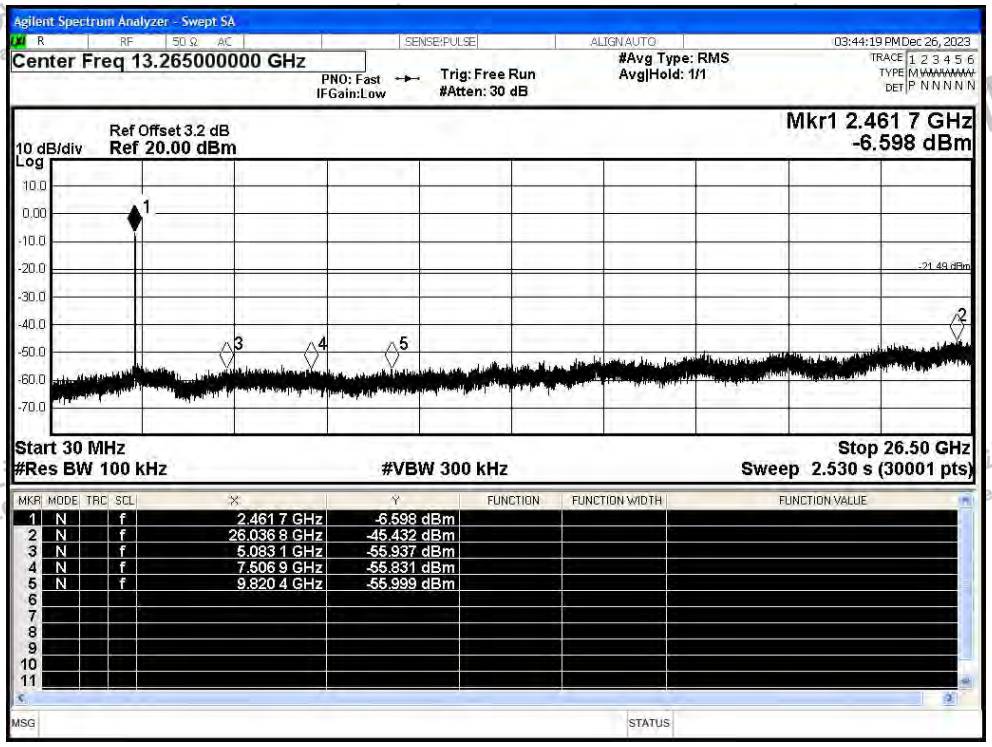
Tx. Spurious NVNT n20 2437MHz Ant1 Emission



Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Tx. Spurious NVNT n20 2462MHz Ant1 Emission

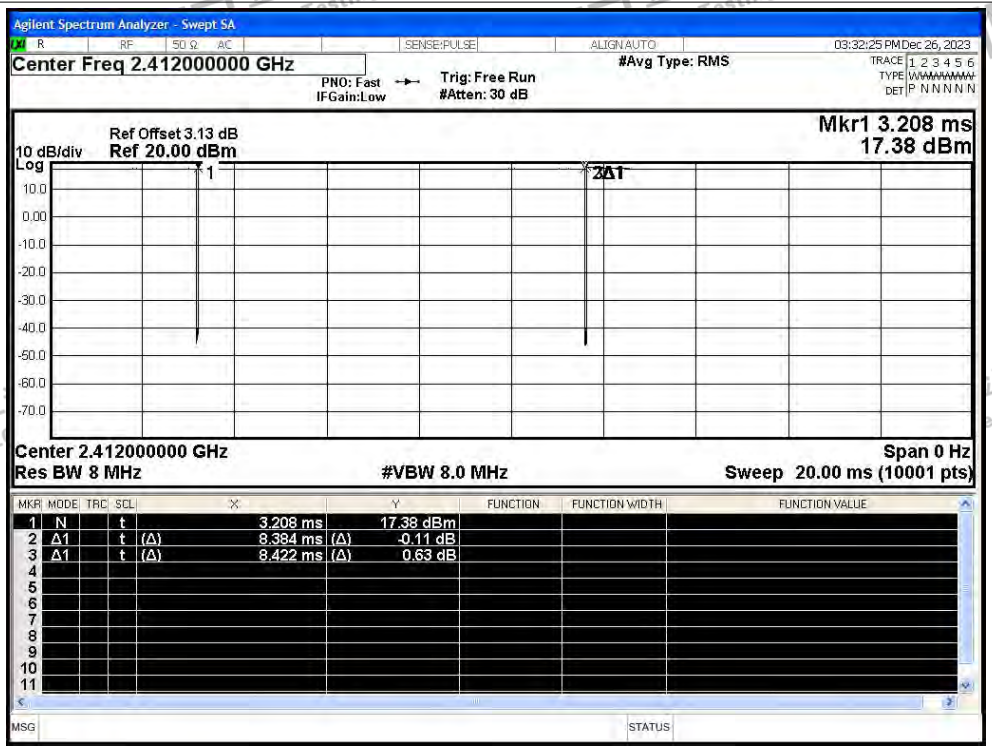


C.7 Duty Cycle

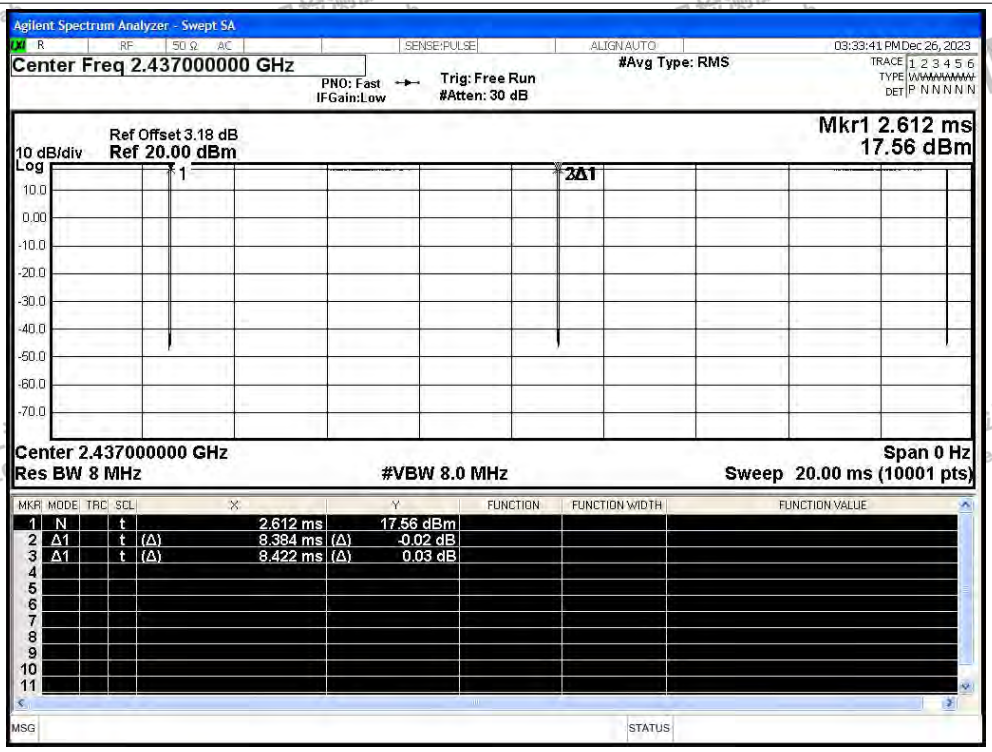
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	99.55	0	0.12
NVNT	b	2437	Ant1	99.55	0	0.12
NVNT	b	2462	Ant1	99.55	0	0.12
NVNT	g	2412	Ant1	96.94	0.13	0.72
NVNT	g	2437	Ant1	96.94	0.13	0.72
NVNT	g	2462	Ant1	96.94	0.13	0.72
NVNT	n20	2412	Ant1	96.73	0.14	0.77
NVNT	n20	2437	Ant1	96.73	0.14	0.77
NVNT	n20	2462	Ant1	96.73	0.14	0.77

Test Graphs

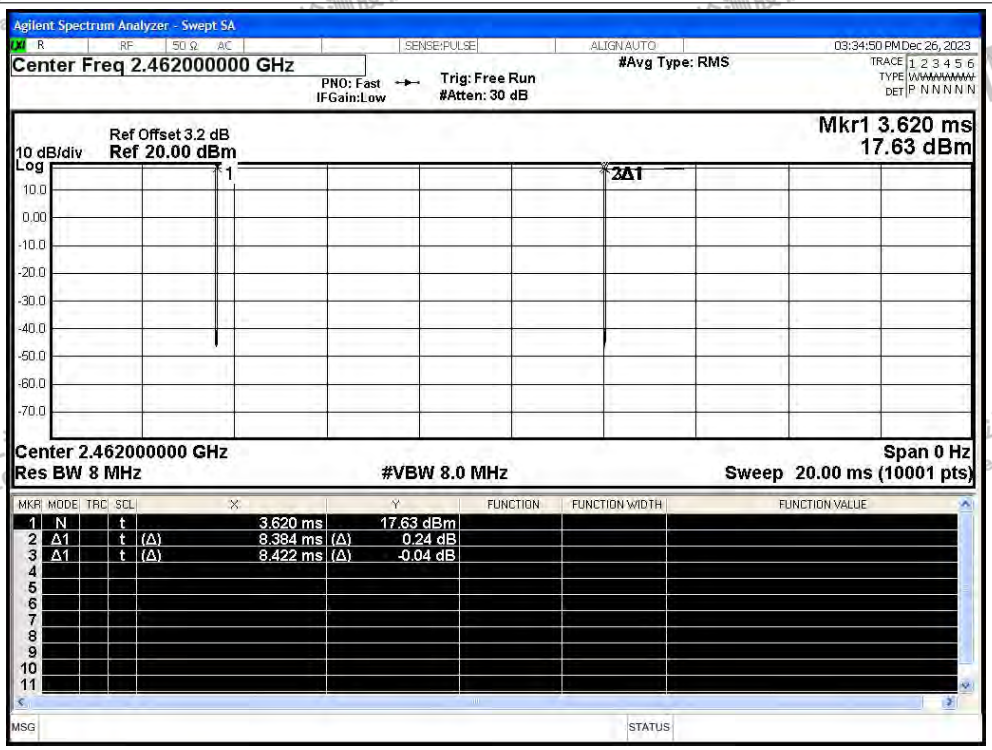
Duty Cycle NVNT b 2412MHz Ant1



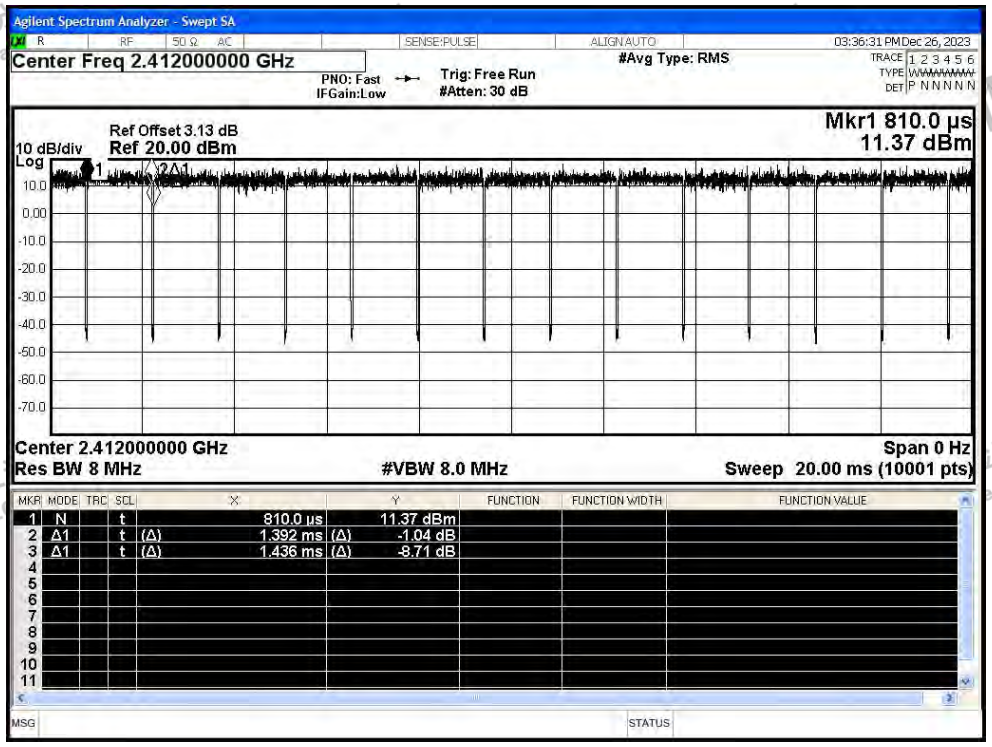
Duty Cycle NVNT b 2437MHz Ant1



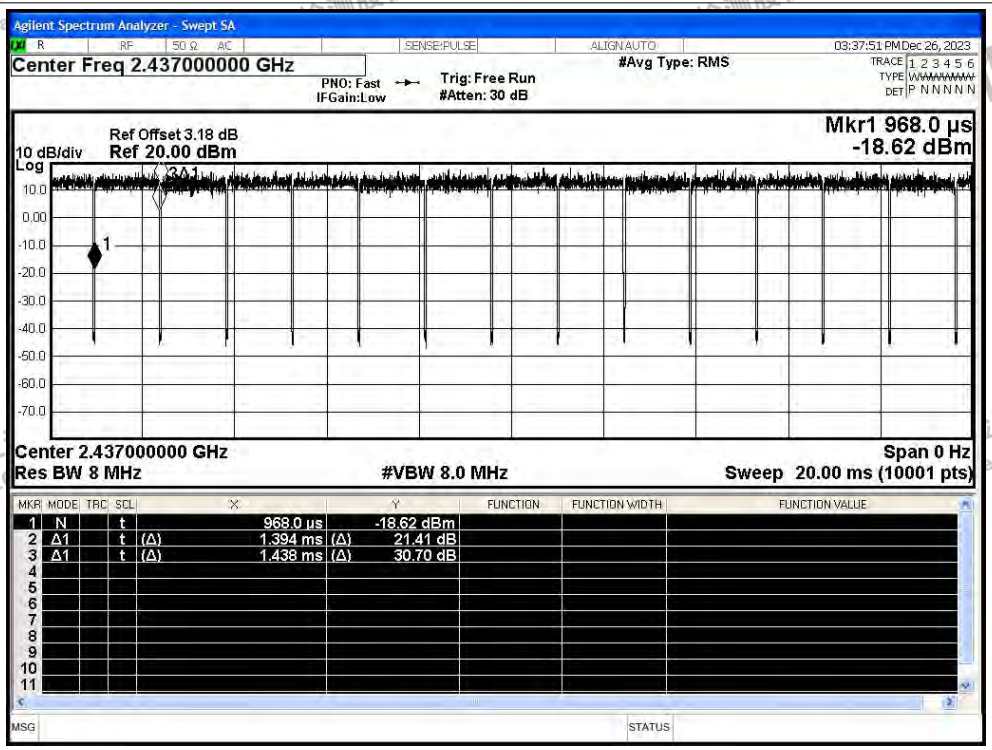
Duty Cycle NVNT b 2462MHz Ant1



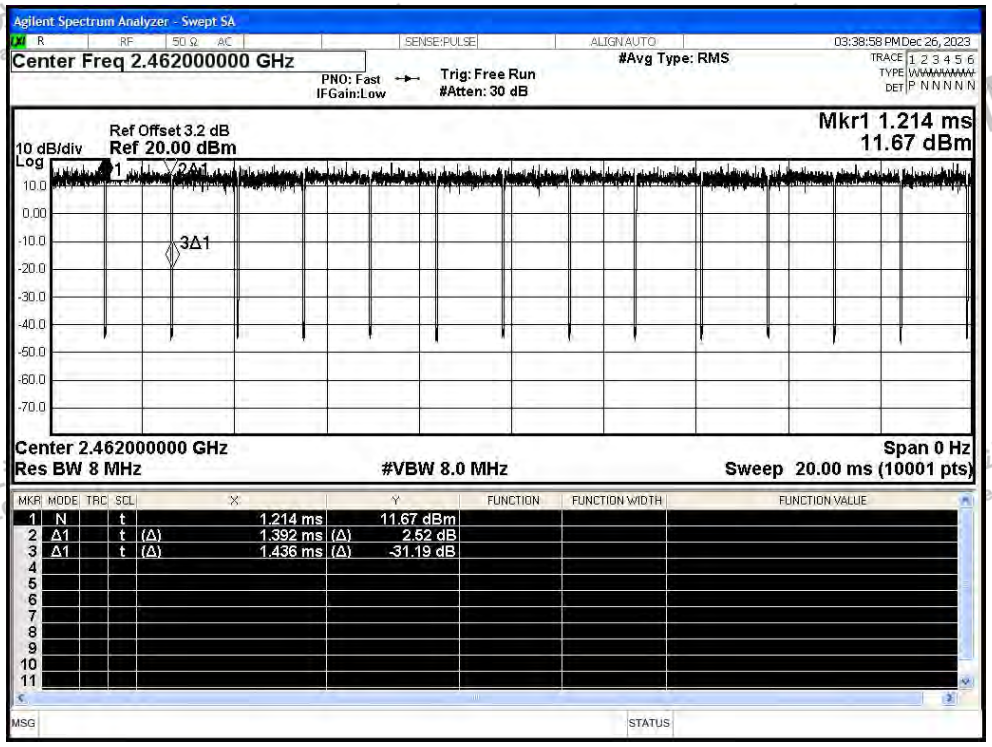
Duty Cycle NVNT g 2412MHz Ant1



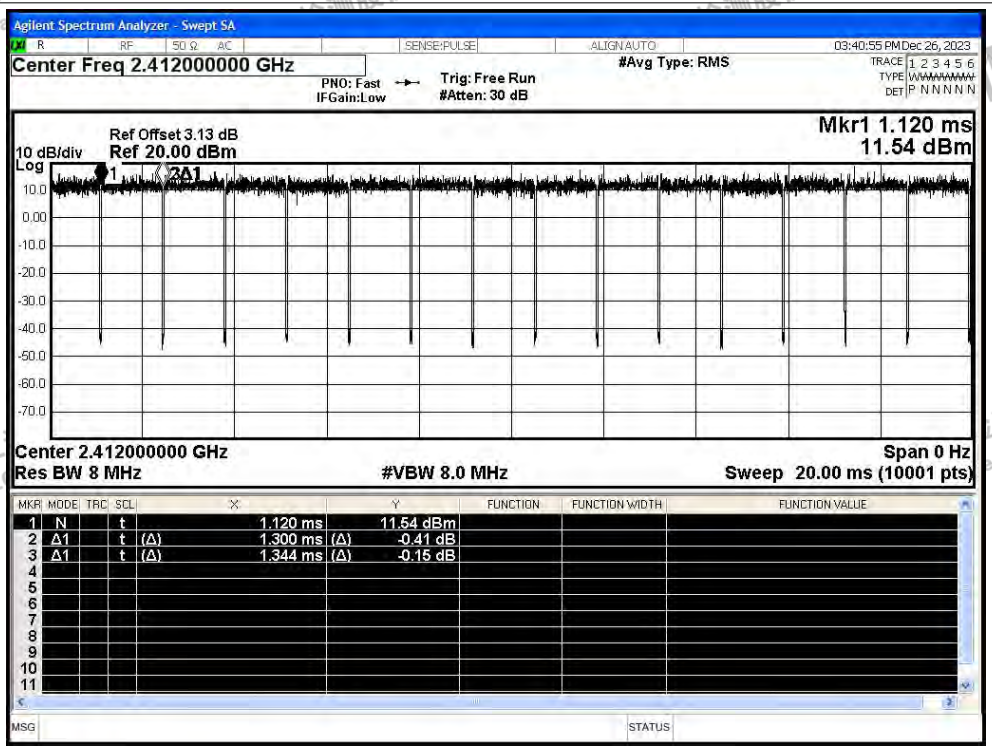
Duty Cycle NVNT g 2437MHz Ant1



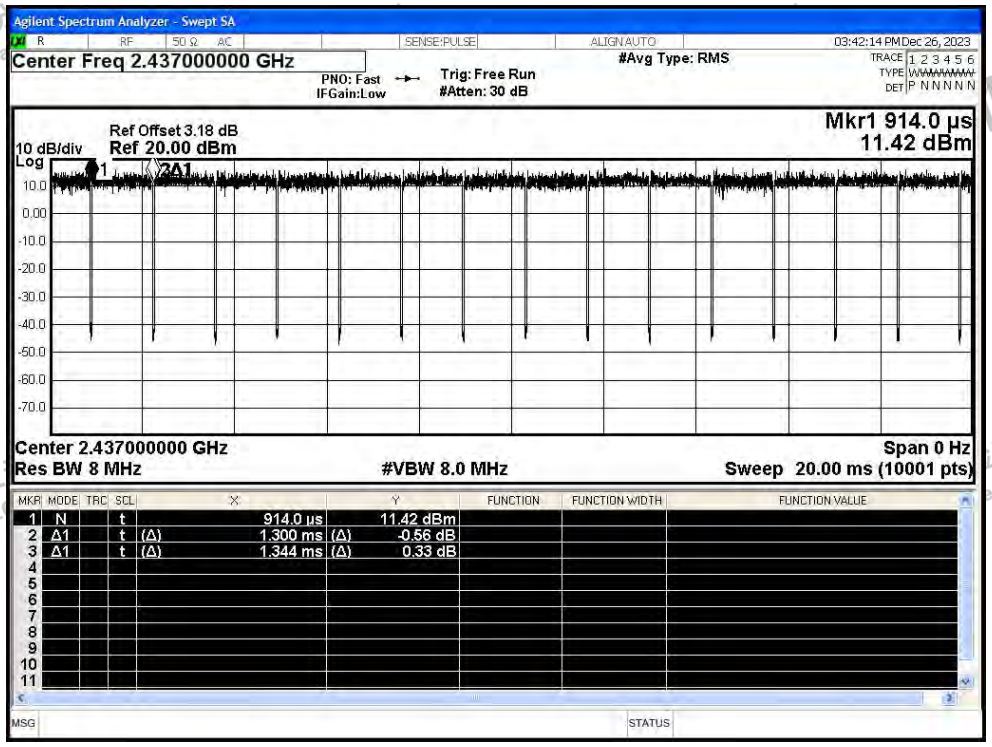
Duty Cycle NVNT g 2462MHz Ant1



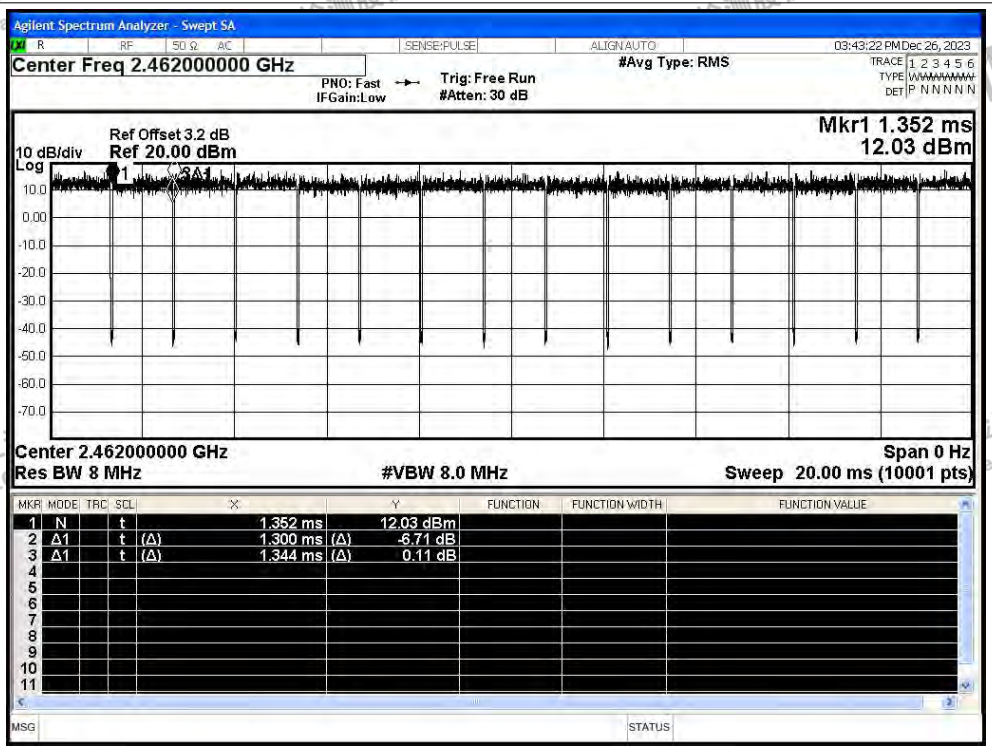
Duty Cycle NVNT n20 2412MHz Ant1



Duty Cycle NVNT n20 2437MHz Ant1



Duty Cycle NVNT n20 2462MHz Ant1

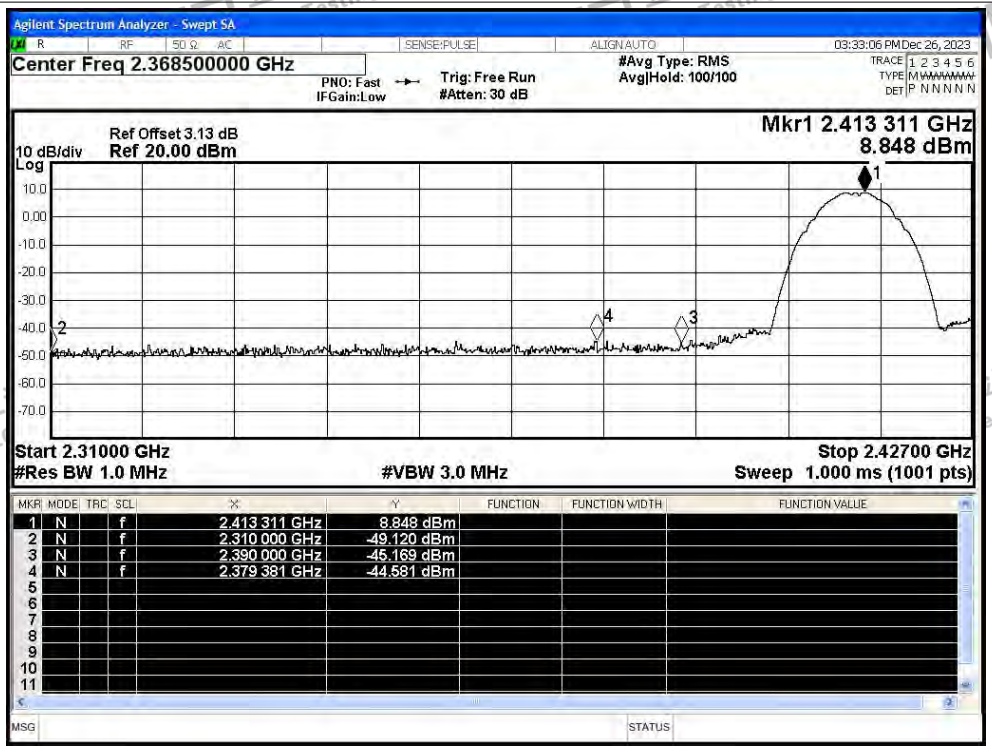


C.8 Restrict Band

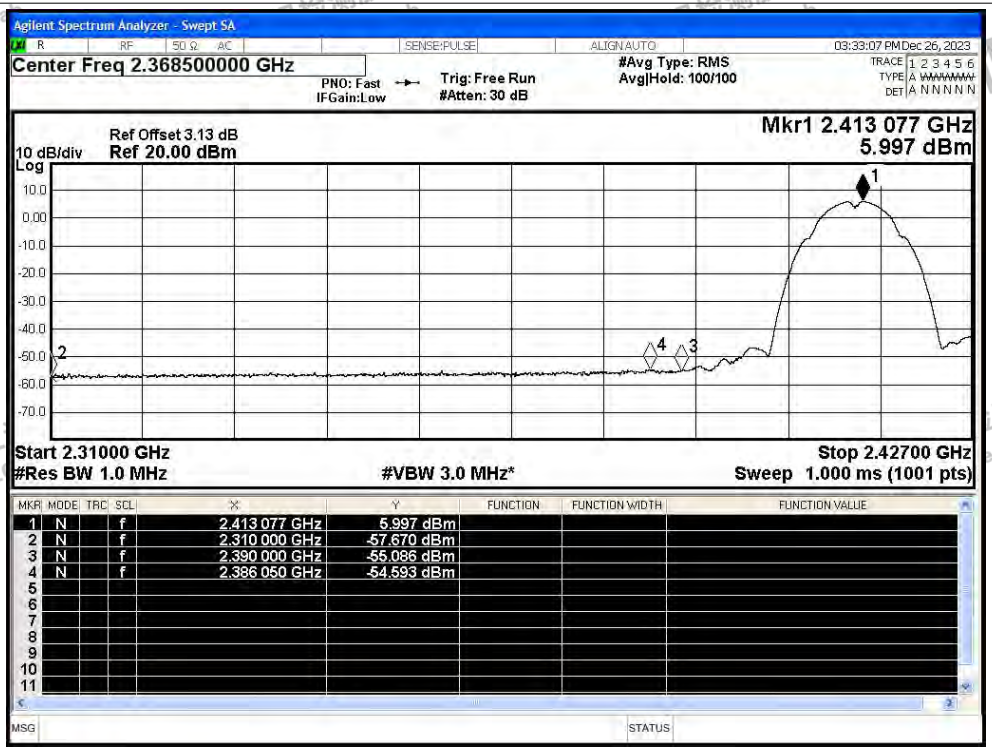
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)
NVNT	b	2412	Ant1	2310	-49.12	2.5	-	48.64	Peak	74
NVNT	b	2412	Ant1	2310	-57.67	2.5	0	40.09	Average	54
NVNT	b	2412	Ant1	2379.381	-44.58	2.5	-	53.18	Peak	74
NVNT	b	2412	Ant1	2386.05	-54.59	2.5	0	43.17	Average	54
NVNT	b	2412	Ant1	2390	-45.17	2.5	-	52.59	Peak	74
NVNT	b	2412	Ant1	2390	-55.09	2.5	0	42.67	Average	54
NVNT	b	2462	Ant1	2483.5	-47.11	2.5	-	50.65	Peak	74
NVNT	b	2462	Ant1	2483.5	-54.41	2.5	0	43.35	Average	54
NVNT	b	2462	Ant1	2489.294	-43.73	2.5	-	54.03	Peak	74
NVNT	b	2462	Ant1	2499.947	-53.62	2.5	0	44.14	Average	54
NVNT	b	2462	Ant1	2500	-46.08	2.5	-	51.68	Peak	74
NVNT	b	2462	Ant1	2500	-54.02	2.5	0	43.74	Average	54
NVNT	g	2412	Ant1	2310	-48.51	2.5	-	49.25	Peak	74
NVNT	g	2412	Ant1	2310	-57.47	2.5	0.13	40.42	Average	54
NVNT	g	2412	Ant1	2387.22	-45.01	2.5	-	52.75	Peak	74
NVNT	g	2412	Ant1	2389.911	-54.15	2.5	0.13	43.74	Average	54
NVNT	g	2412	Ant1	2390	-47.35	2.5	-	50.41	Peak	74
NVNT	g	2412	Ant1	2390	-54.22	2.5	0.13	43.67	Average	54
NVNT	g	2462	Ant1	2483.5	-45.24	2.5	-	52.52	Peak	74
NVNT	g	2462	Ant1	2483.5	-53.16	2.5	0.13	44.73	Average	54
NVNT	g	2462	Ant1	2491.52	-42.09	2.5	-	55.67	Peak	74
NVNT	g	2462	Ant1	2483.835	-52.64	2.5	0.13	45.25	Average	54
NVNT	g	2462	Ant1	2500	-45.4	2.5	-	52.36	Peak	74
NVNT	g	2462	Ant1	2500	-53.71	2.5	0.13	44.18	Average	54
NVNT	n20	2412	Ant1	2310	-47.81	2.5	-	49.95	Peak	74
NVNT	n20	2412	Ant1	2310	-57.15	2.5	0.14	40.75	Average	54
NVNT	n20	2412	Ant1	2384.997	-44.72	2.5	-	53.04	Peak	74
NVNT	n20	2412	Ant1	2389.443	-54.7	2.5	0.14	43.20	Average	54
NVNT	n20	2412	Ant1	2390	-47.37	2.5	-	50.39	Peak	74
NVNT	n20	2412	Ant1	2390	-54.68	2.5	0.14	43.22	Average	54
NVNT	n20	2462	Ant1	2483.5	-45.25	2.5	-	52.51	Peak	74
NVNT	n20	2462	Ant1	2483.5	-53.69	2.5	0.14	44.21	Average	54
NVNT	n20	2462	Ant1	2486.538	-43.03	2.5	-	54.73	Peak	74
NVNT	n20	2462	Ant1	2486.591	-53.04	2.5	0.14	44.86	Average	54
NVNT	n20	2462	Ant1	2500	-45.58	2.5	-	52.18	Peak	74
NVNT	n20	2462	Ant1	2500	-54.44	2.5	0.14	43.46	Average	54

Test Graphs

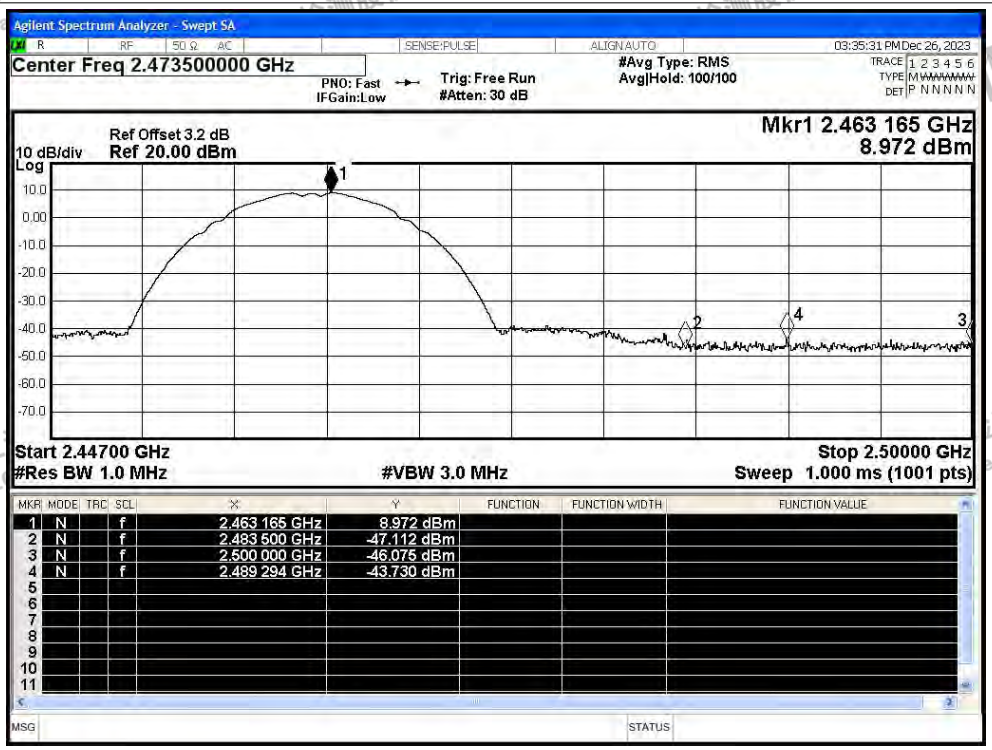
Restrict Band NVNT b 2412MHz Ant1 Peak



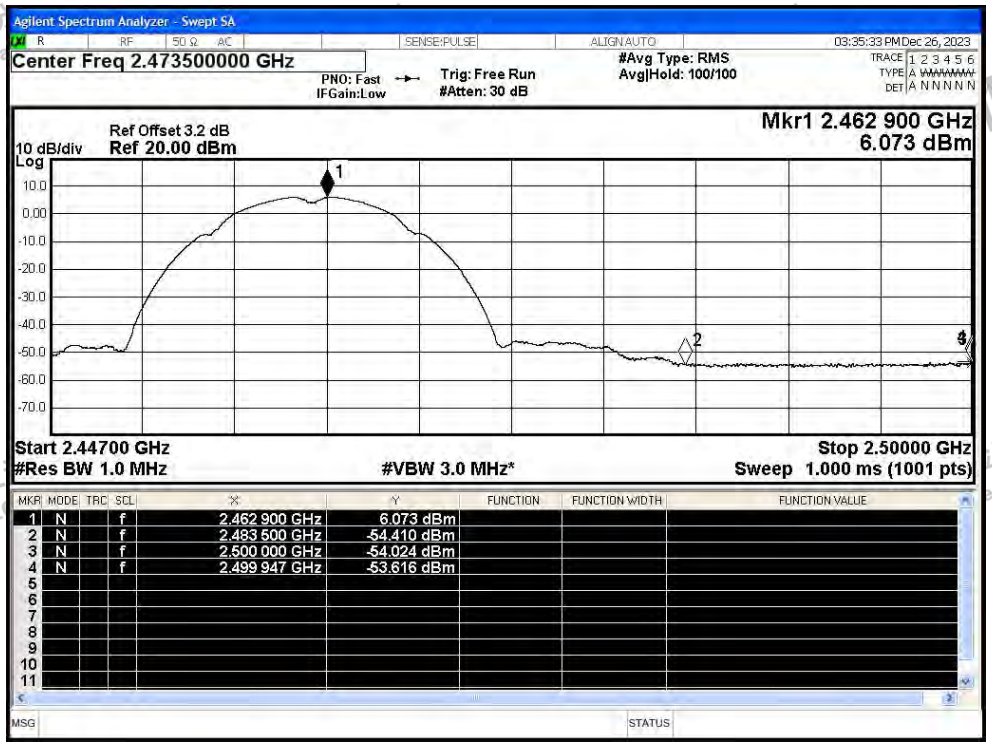
Restrict Band NVNT b 2412MHz Ant1 Average



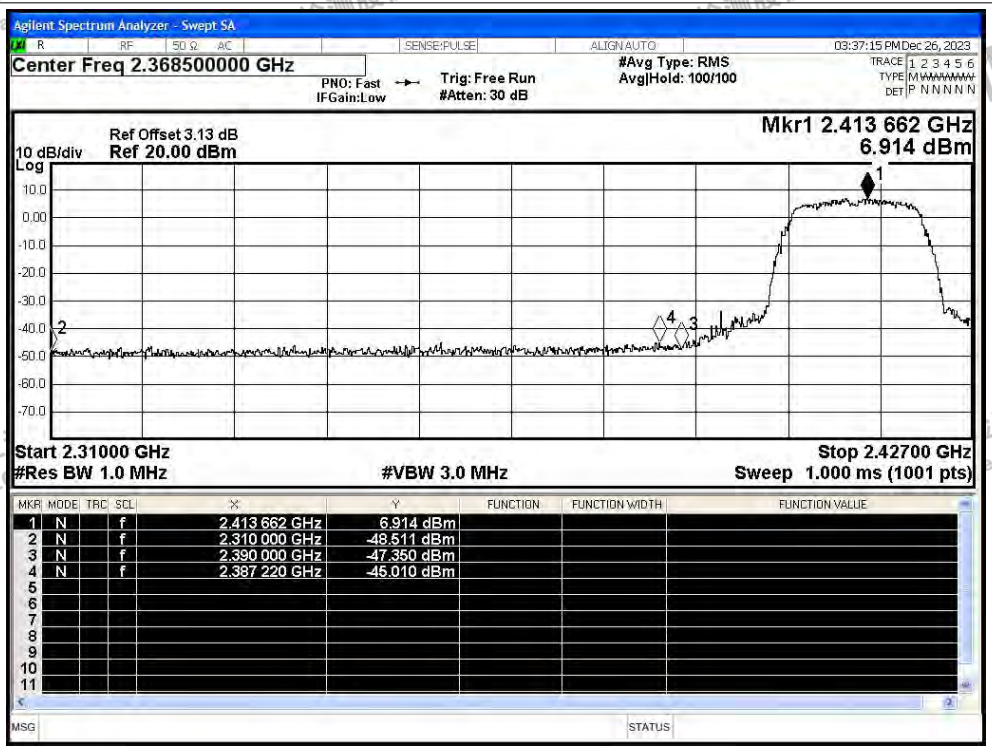
Restrict Band NVNT b 2462MHz Ant1 Peak



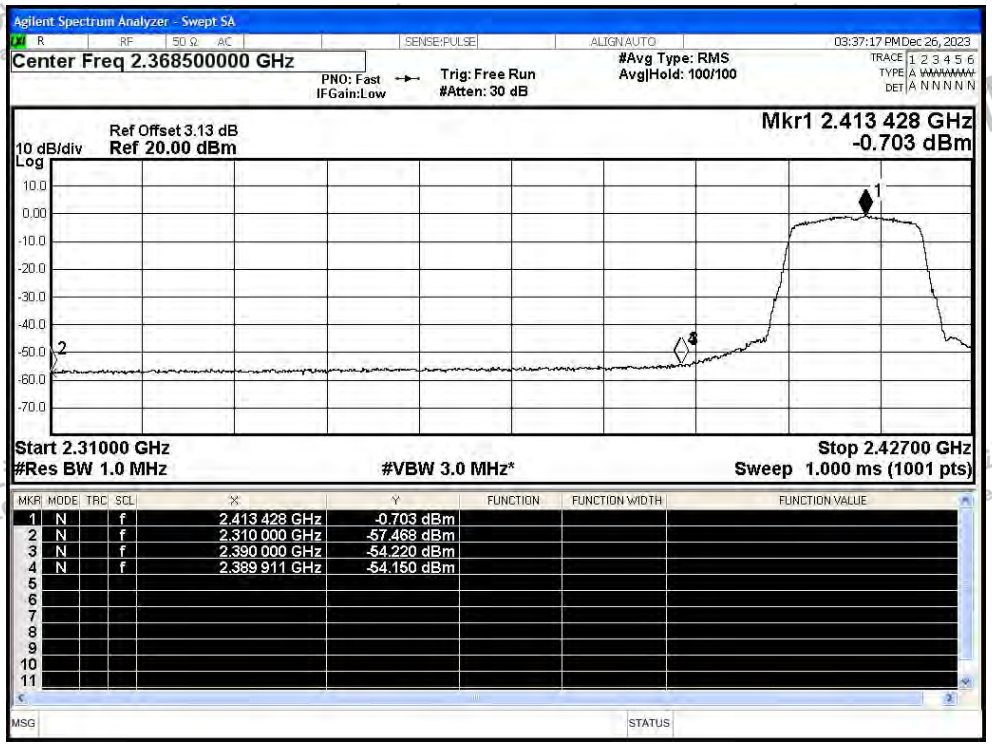
Restrict Band NVNT b 2462MHz Ant1 Average



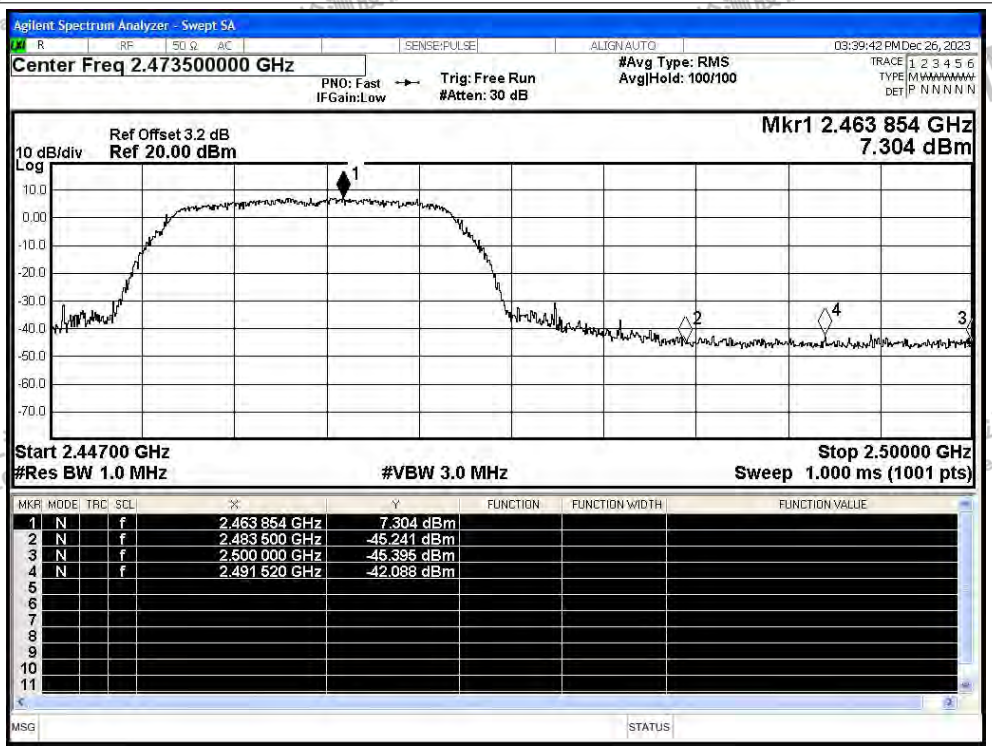
Restrict Band NVNT g 2412MHz Ant1 Peak



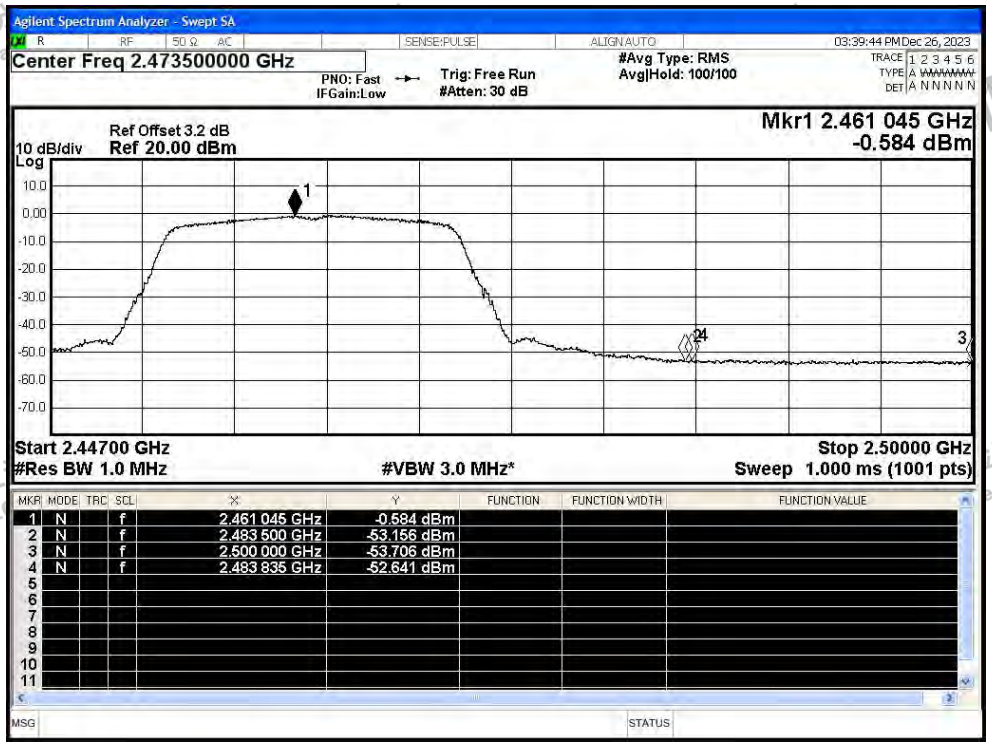
Restrict Band NVNT g 2412MHz Ant1 Average



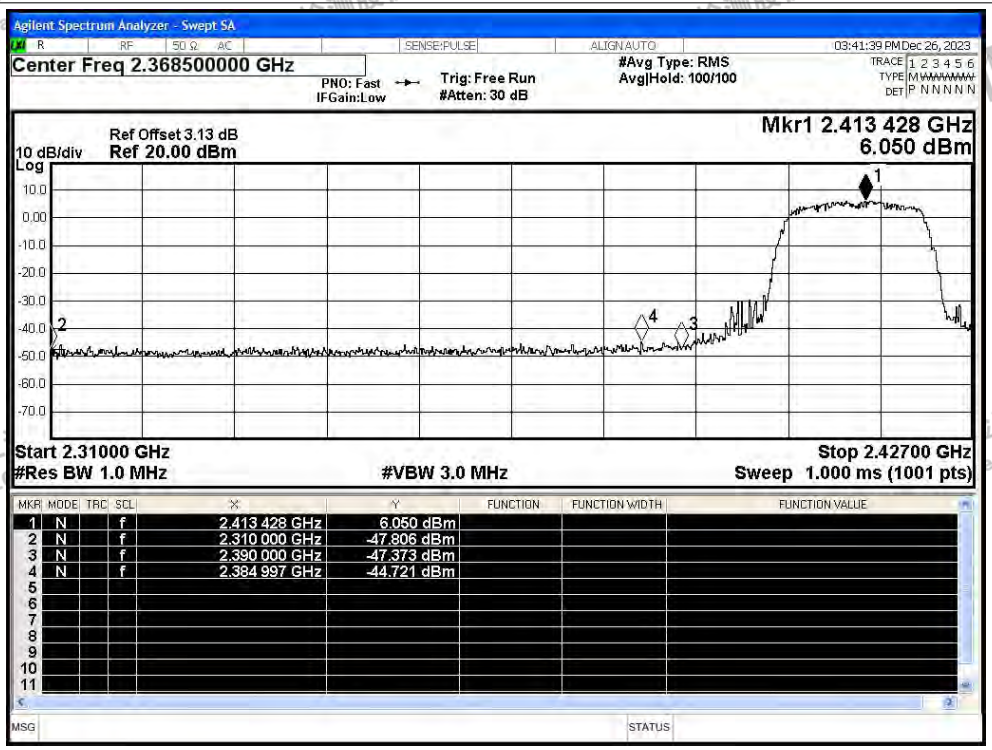
Restrict Band NVNT g 2462MHz Ant1 Peak



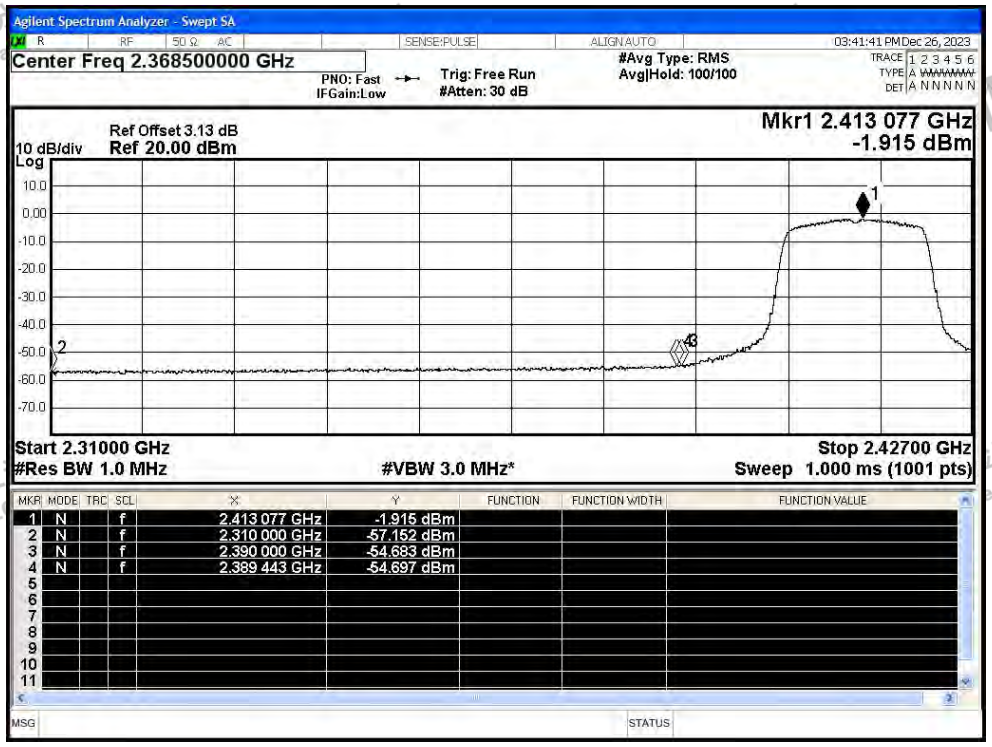
Restrict Band NVNT g 2462MHz Ant1 Average



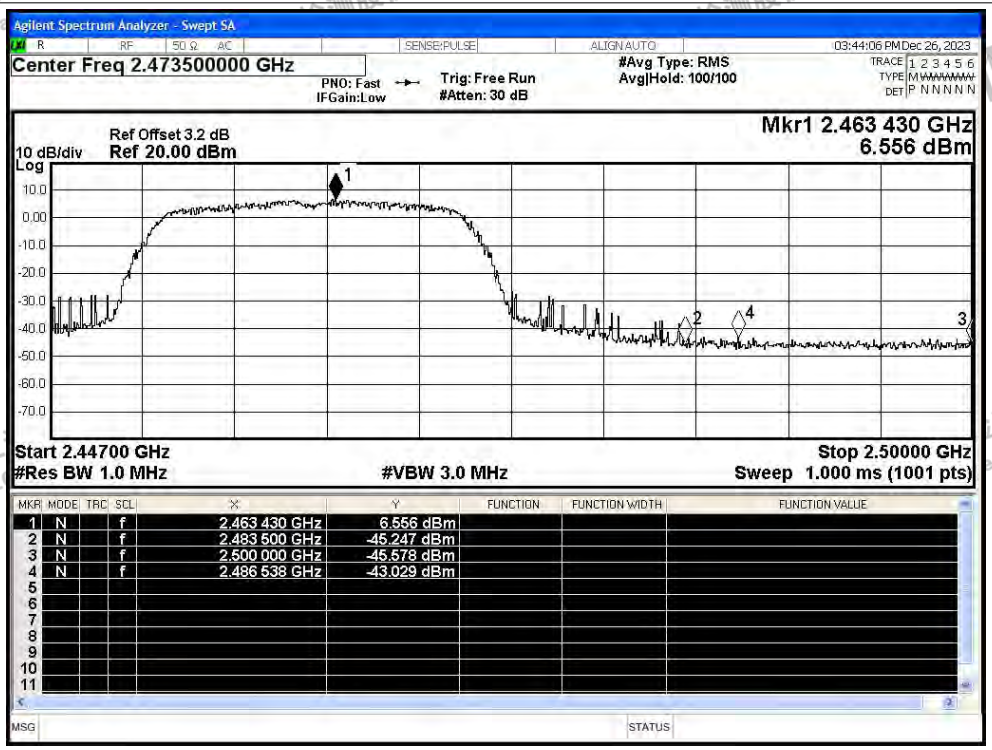
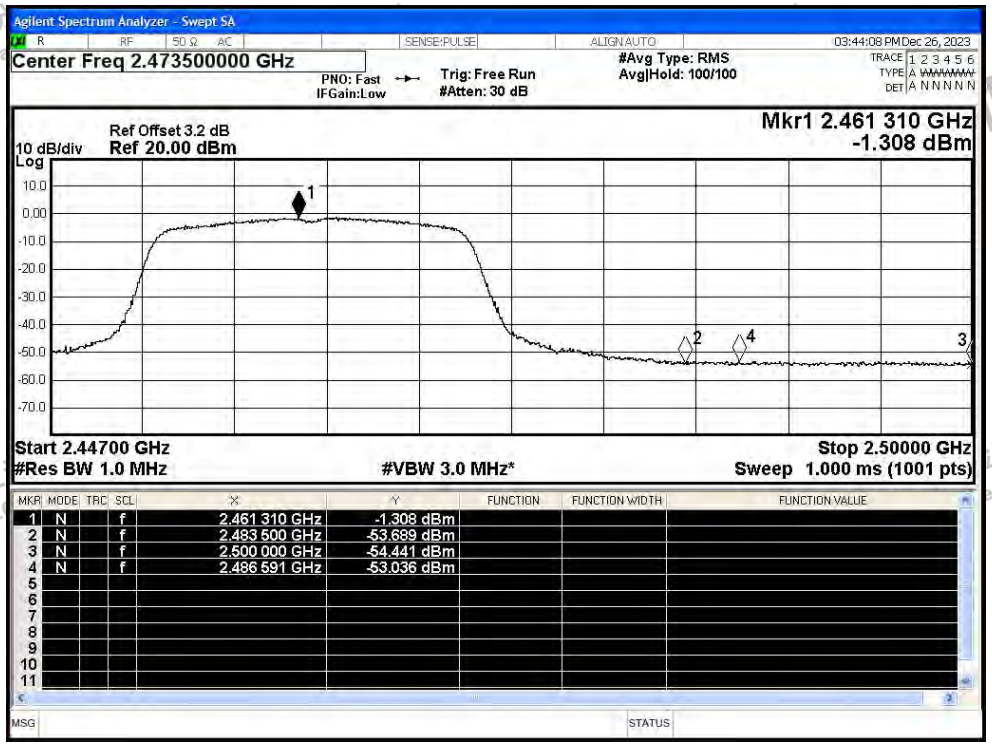
Restrict Band NVNT n20 2412MHz Ant1 Peak



Restrict Band NVNT n20 2412MHz Ant1 Average



Restrict Band NVNT n20 2462MHz Ant1 Peak



Restrict Band NVNT n20 2462MHz Ant1 Average