

FCC Appendix RF Test Data for 2.4GWIFI

Product Name: Smart Diagnostic System

Test Model: P807

Environmental Conditions

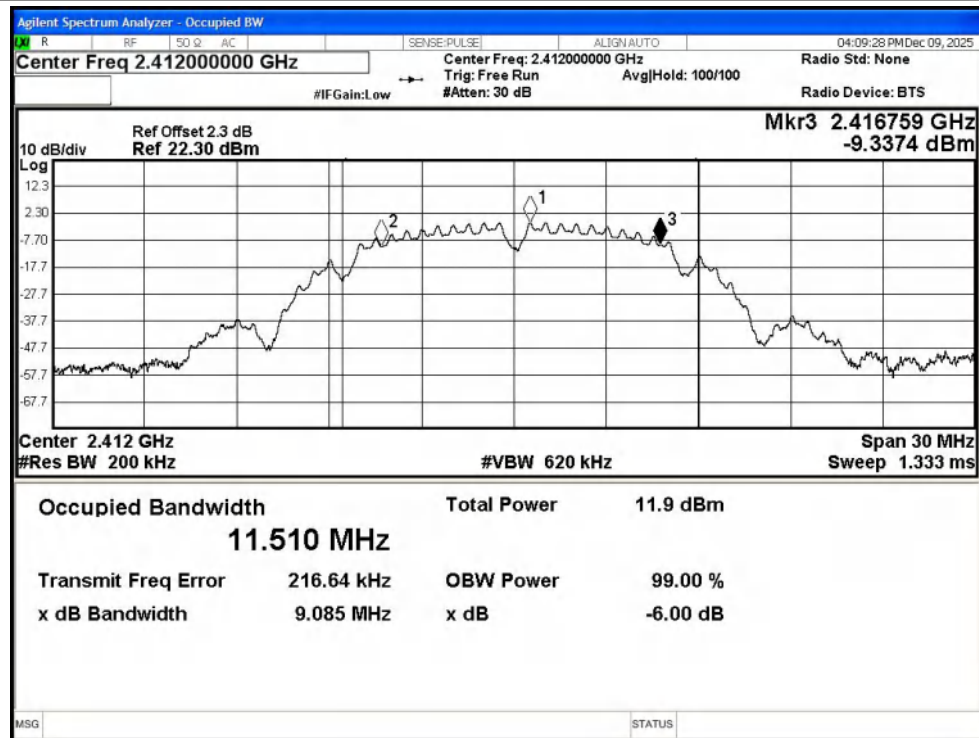
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Zoey Cao
Supervised by:	Eric Wang

1 -6dB Bandwidth

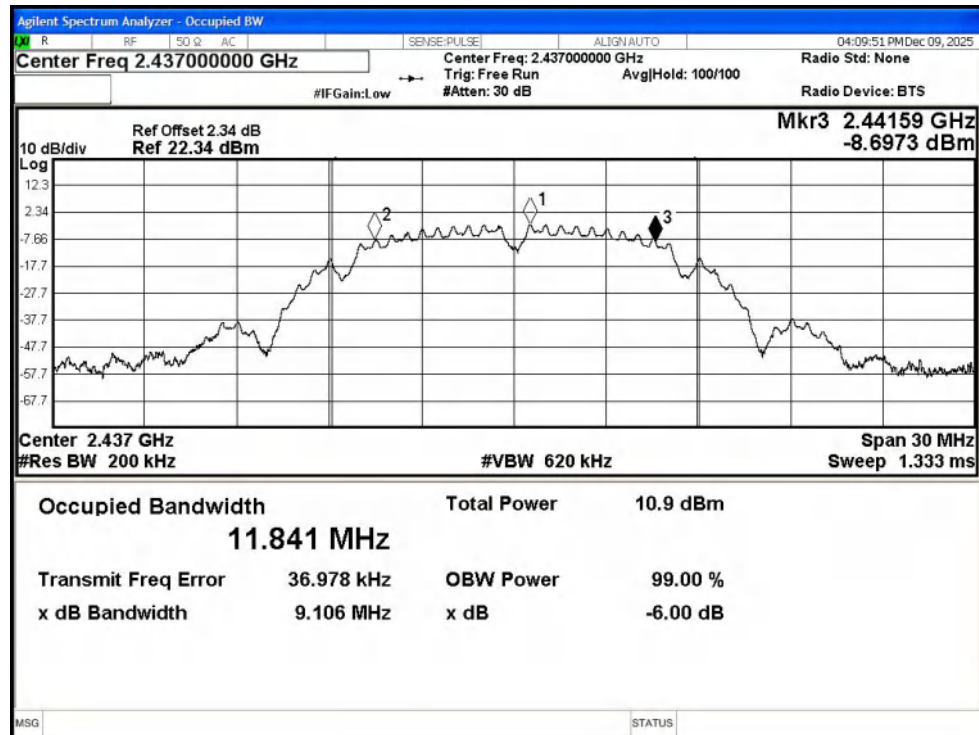
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.085	≥ 0.5	Pass
NVNT	b	2437	Ant1	9.106	≥ 0.5	Pass
NVNT	b	2462	Ant1	9.096	≥ 0.5	Pass
NVNT	g	2412	Ant1	16.266	≥ 0.5	Pass
NVNT	g	2437	Ant1	16.379	≥ 0.5	Pass
NVNT	g	2462	Ant1	16.33	≥ 0.5	Pass
NVNT	n20	2412	Ant1	17.328	≥ 0.5	Pass
NVNT	n20	2437	Ant1	17.33	≥ 0.5	Pass
NVNT	n20	2462	Ant1	17.318	≥ 0.5	Pass
NVNT	n40	2422	Ant1	35.195	≥ 0.5	Pass
NVNT	n40	2437	Ant1	35.799	≥ 0.5	Pass
NVNT	n40	2452	Ant1	35.452	≥ 0.5	Pass

Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



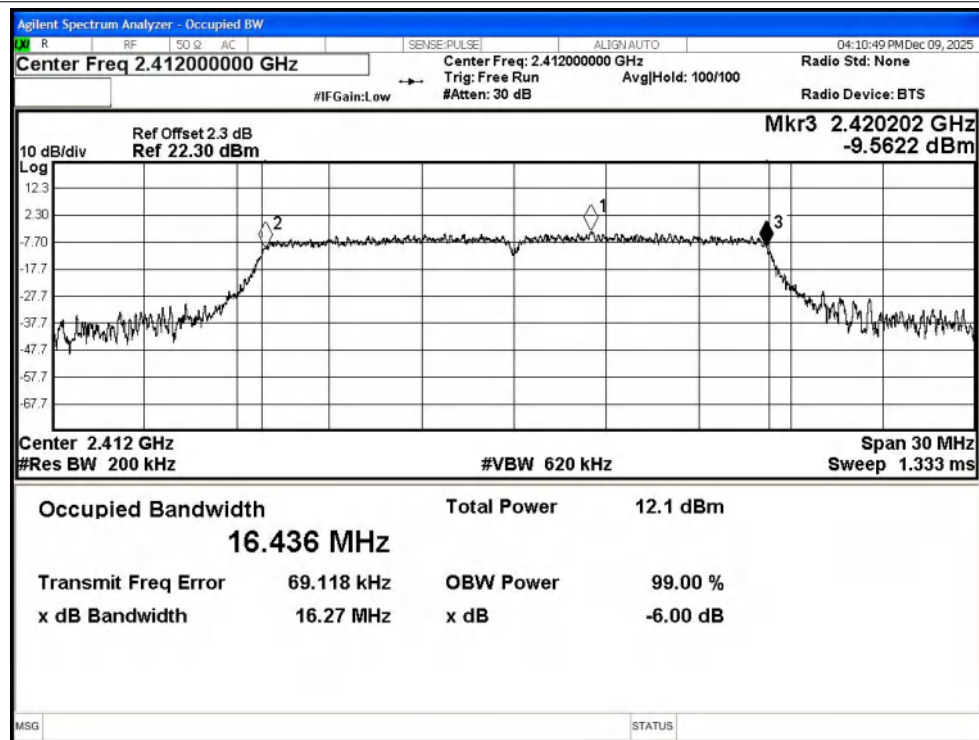
-6dB Bandwidth NVNT b 2437MHz Ant1



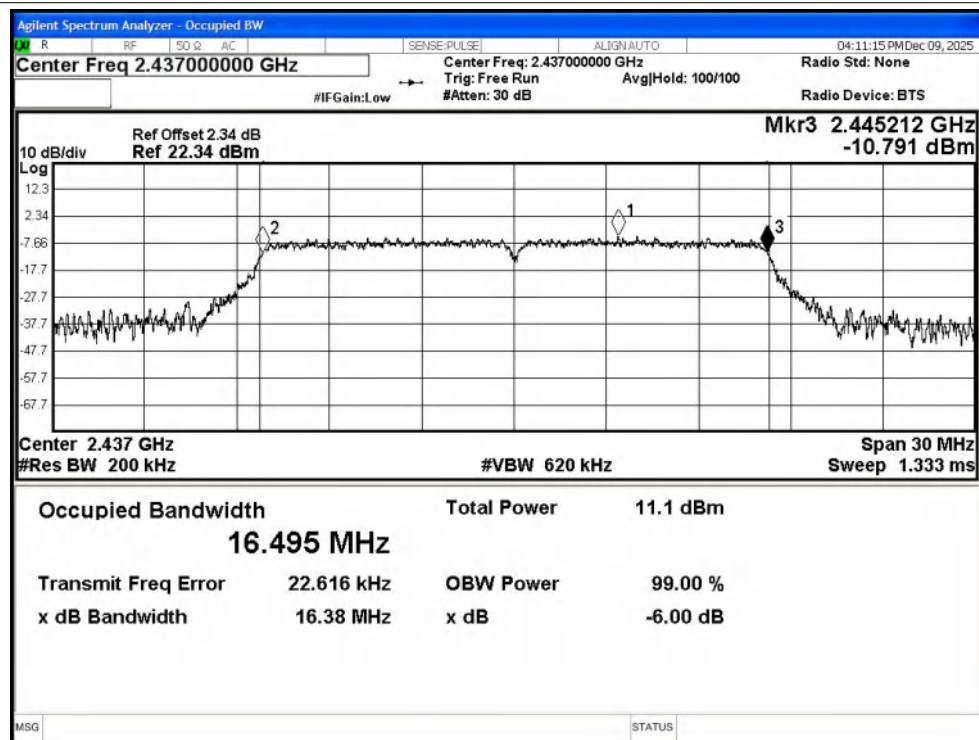
-6dB Bandwidth NVNT b 2462MHz Ant1



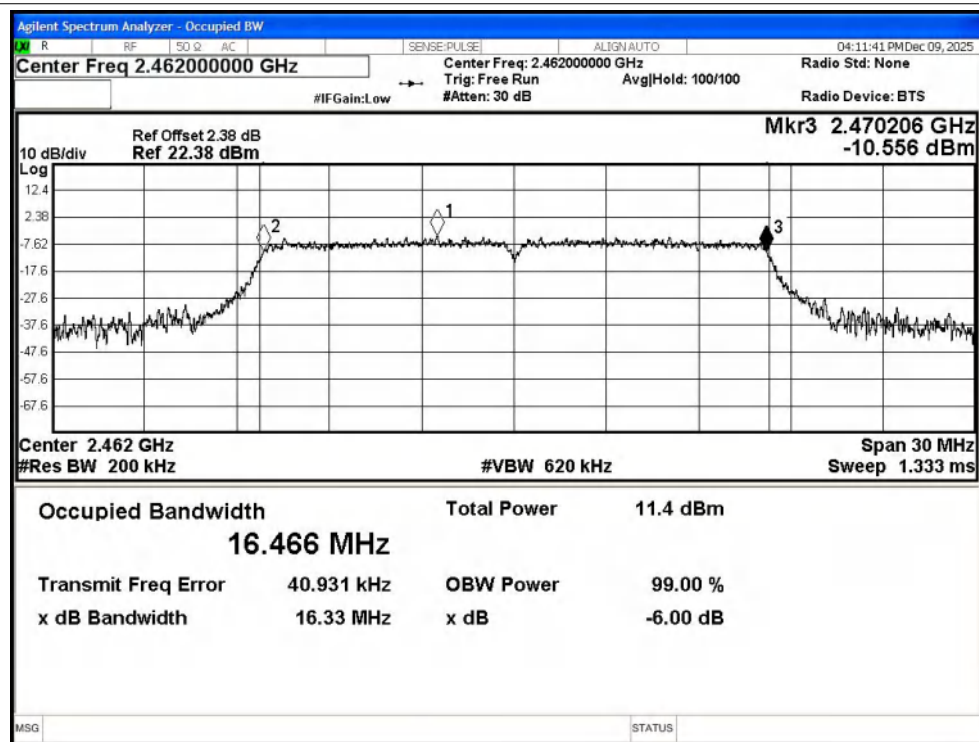
-6dB Bandwidth NVNT g 2412MHz Ant1



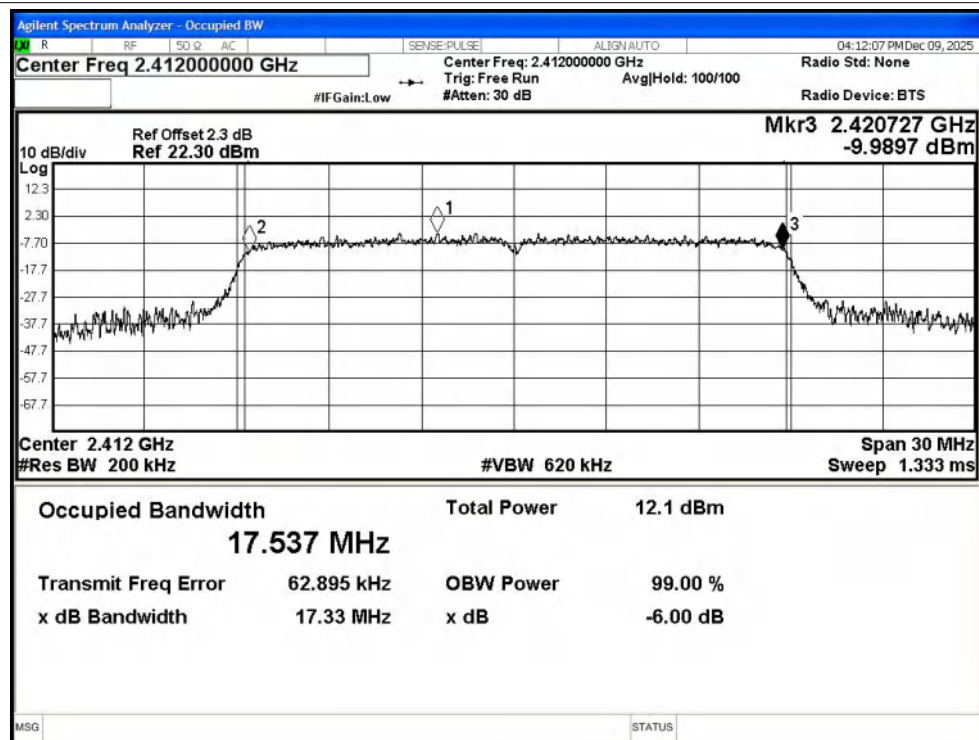
-6dB Bandwidth NVNT g 2437MHz Ant1



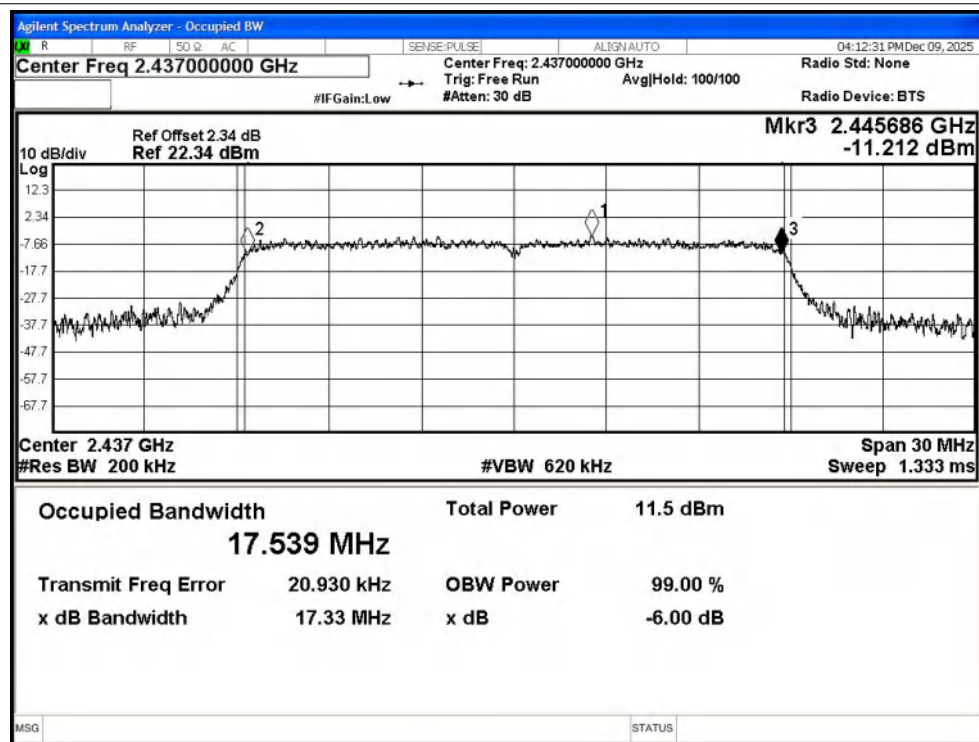
-6dB Bandwidth NVNT g 2462MHz Ant1



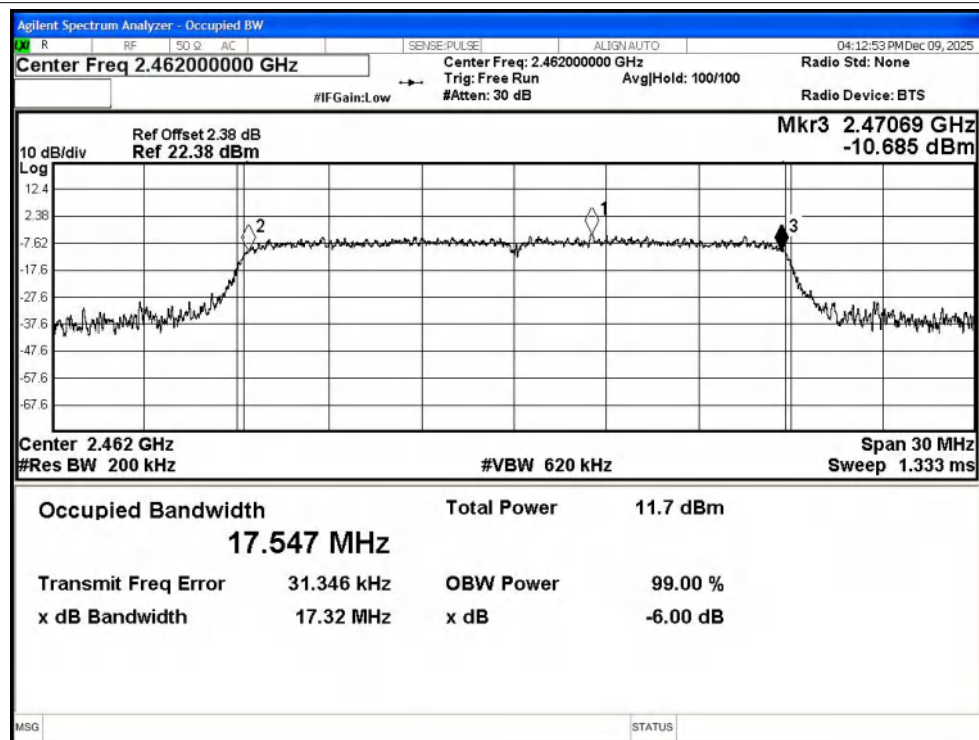
-6dB Bandwidth NVNT n20 2412MHz Ant1



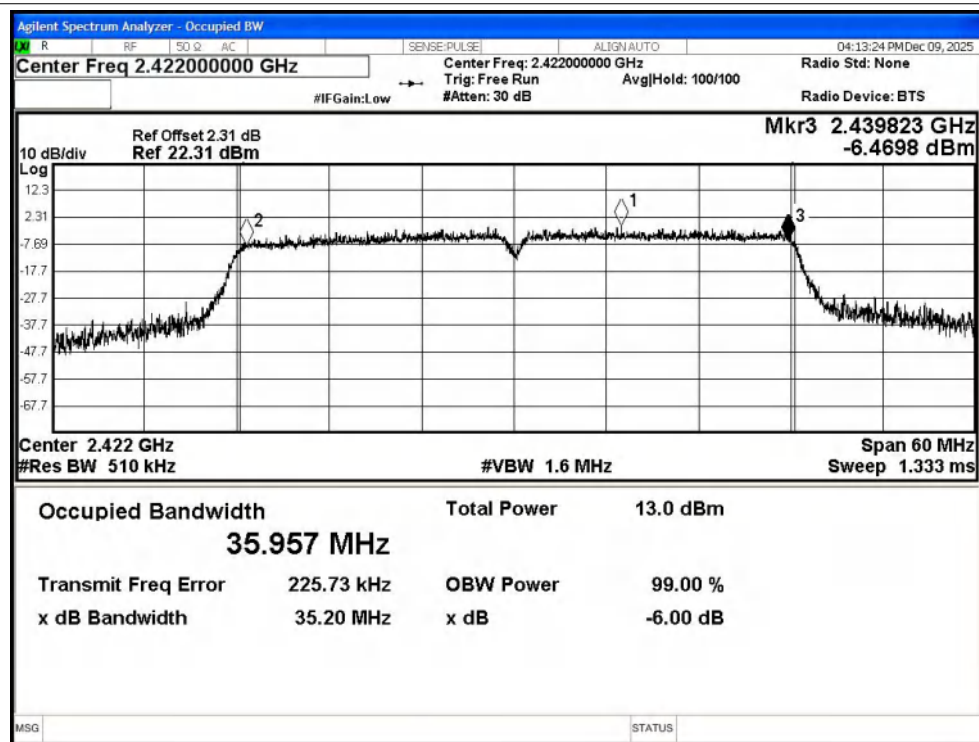
-6dB Bandwidth NVNT n20 2437MHz Ant1



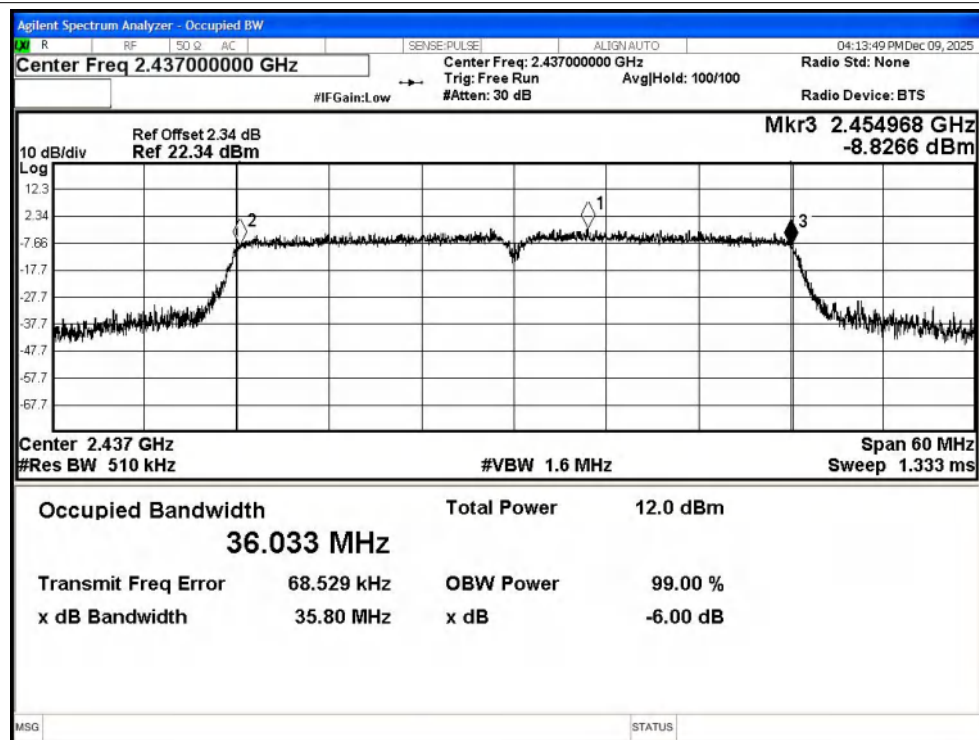
-6dB Bandwidth NVNT n20 2462MHz Ant1



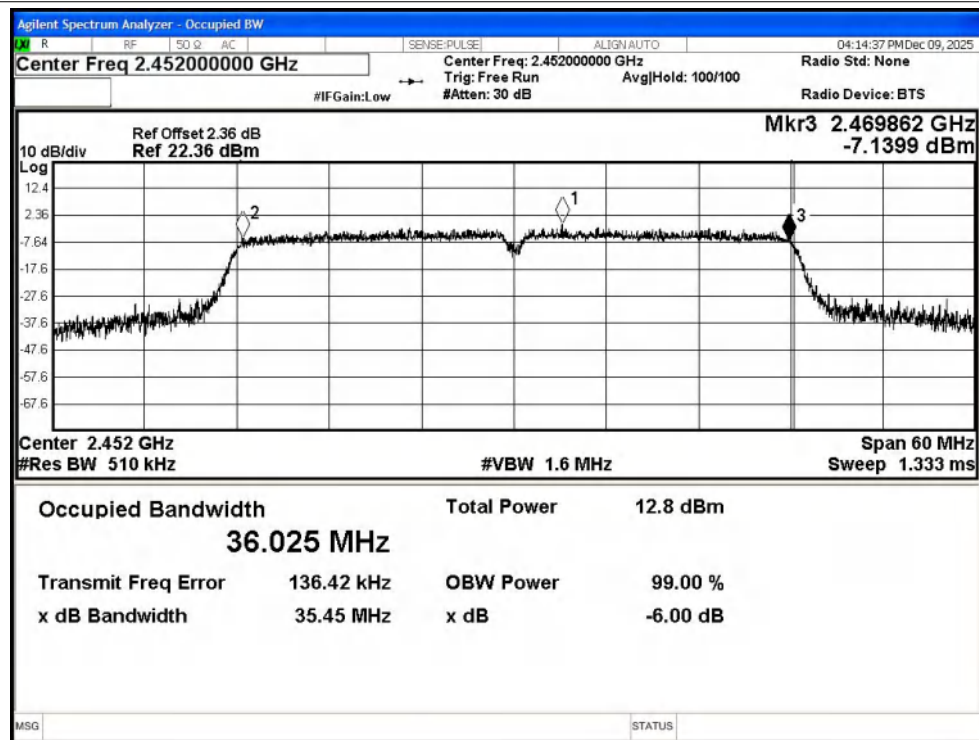
-6dB Bandwidth NVNT n40 2422MHz Ant1



-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1



2 Maximum Peak Conducted Output Power

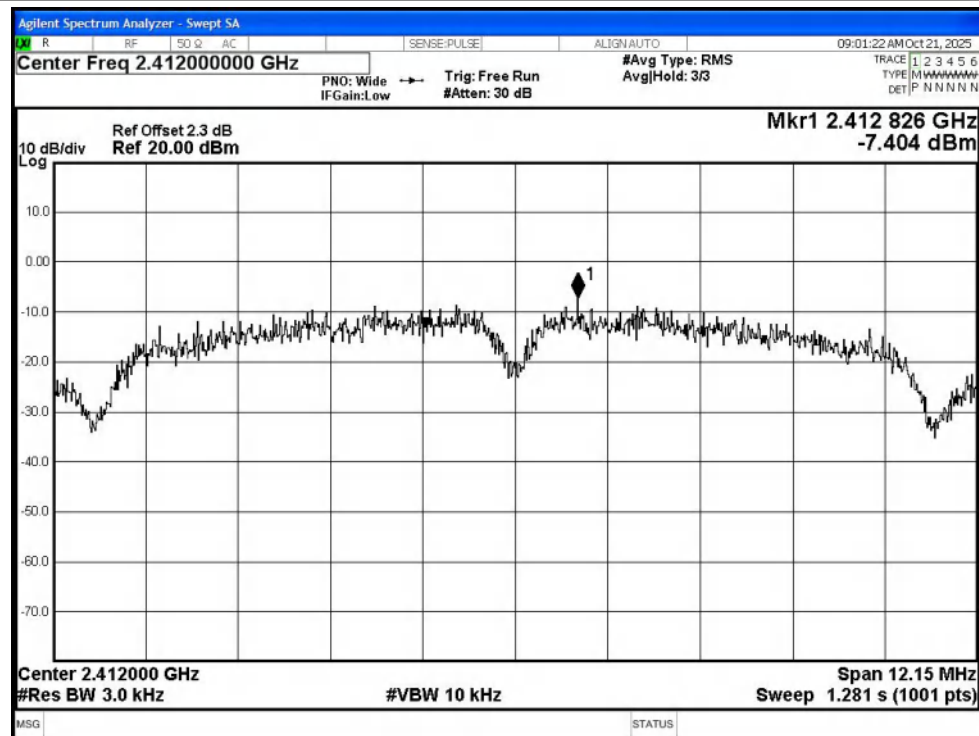
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	16.21	30	Pass
NVNT	b	2437	Ant1	15.42	30	Pass
NVNT	b	2462	Ant1	14.82	30	Pass
NVNT	g	2412	Ant1	14.26	30	Pass
NVNT	g	2437	Ant1	14.49	30	Pass
NVNT	g	2462	Ant1	14.27	30	Pass
NVNT	n20	2412	Ant1	13.89	30	Pass
NVNT	n20	2437	Ant1	13.89	30	Pass
NVNT	n20	2462	Ant1	13.77	30	Pass
NVNT	n40	2422	Ant1	14.15	30	Pass
NVNT	n40	2437	Ant1	13.95	30	Pass
NVNT	n40	2452	Ant1	13.95	30	Pass

3 Maximum Power Spectral Density Level

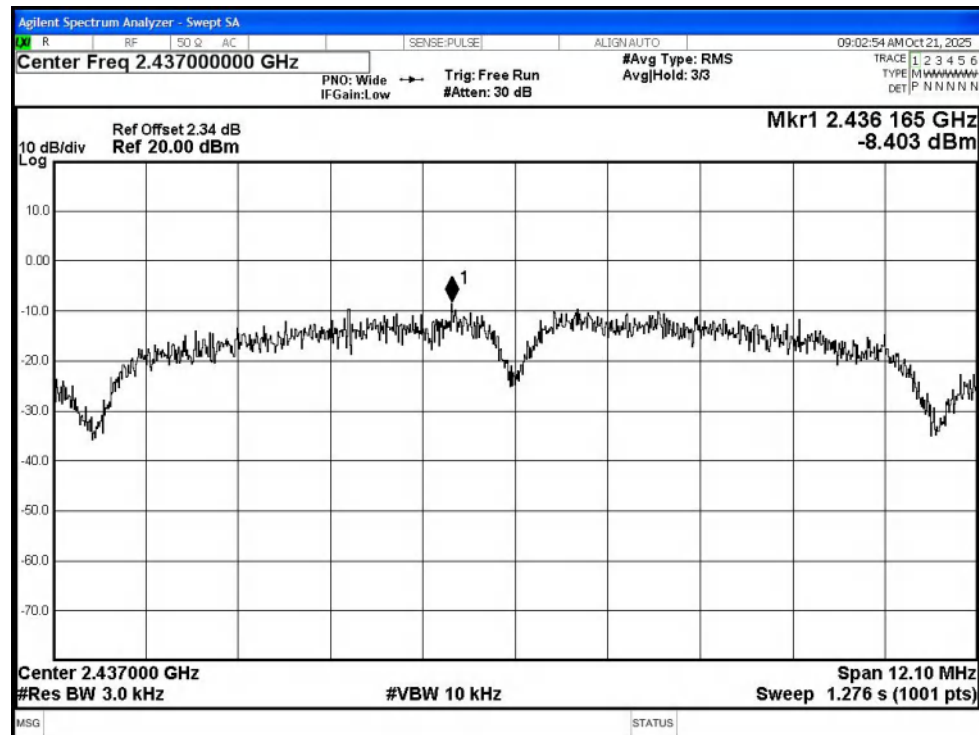
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-7.4	8	Pass
NVNT	b	2437	Ant1	-8.4	8	Pass
NVNT	b	2462	Ant1	-9.32	8	Pass
NVNT	g	2412	Ant1	-15.88	8	Pass
NVNT	g	2437	Ant1	-16.38	8	Pass
NVNT	g	2462	Ant1	-16.37	8	Pass
NVNT	n20	2412	Ant1	-16.71	8	Pass
NVNT	n20	2437	Ant1	-16.91	8	Pass
NVNT	n20	2462	Ant1	-17.17	8	Pass
NVNT	n40	2422	Ant1	-17.12	8	Pass
NVNT	n40	2437	Ant1	-19.04	8	Pass
NVNT	n40	2452	Ant1	-19	8	Pass

Test Graphs

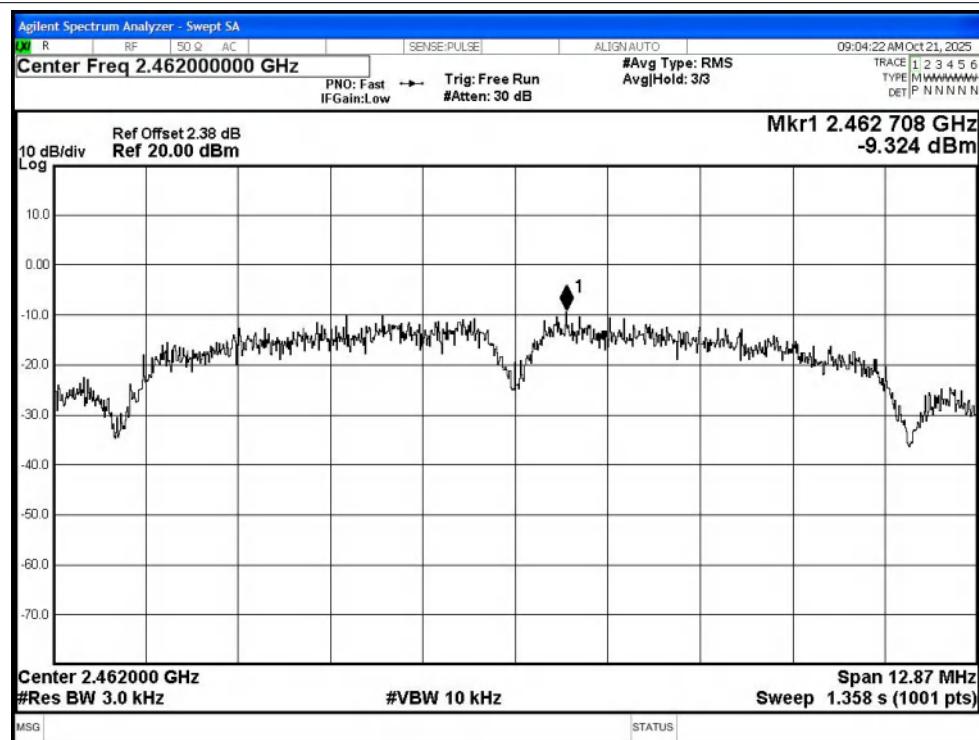
PSD NVNT b 2412MHz Ant1



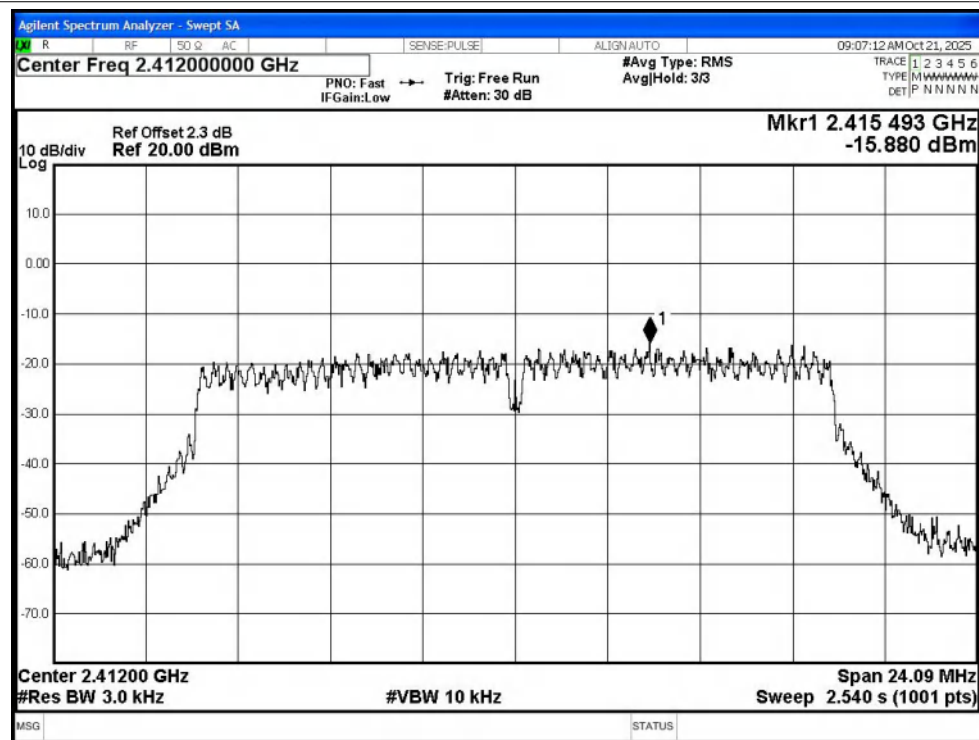
PSD NVNT b 2437MHz Ant1



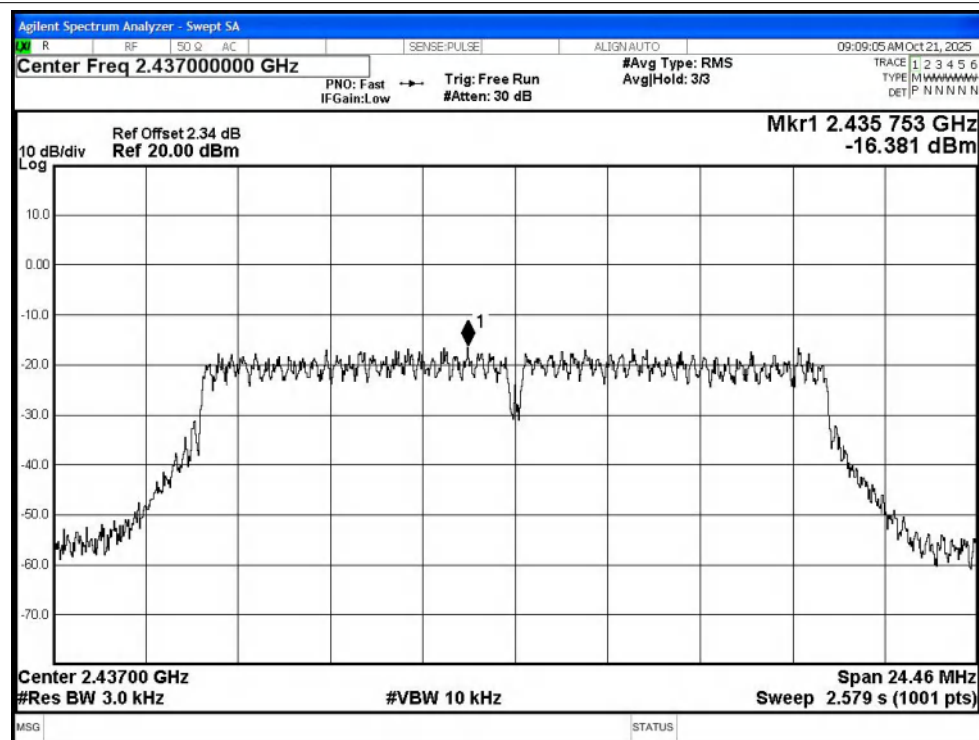
PSD NVNT b 2462MHz Ant1



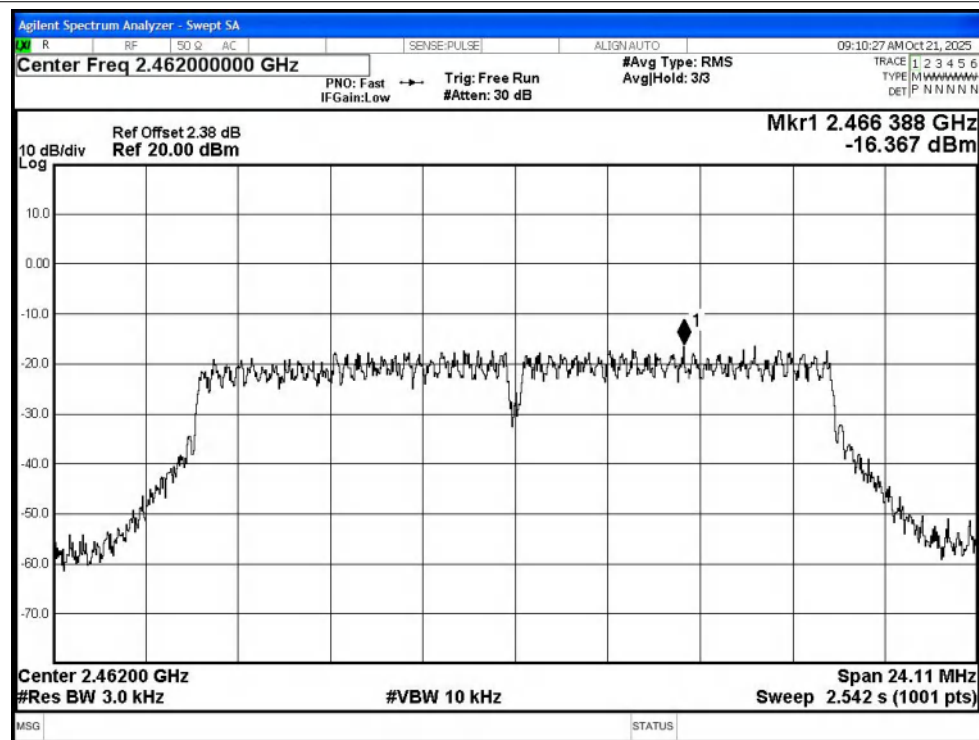
PSD NVNT g 2412MHz Ant1



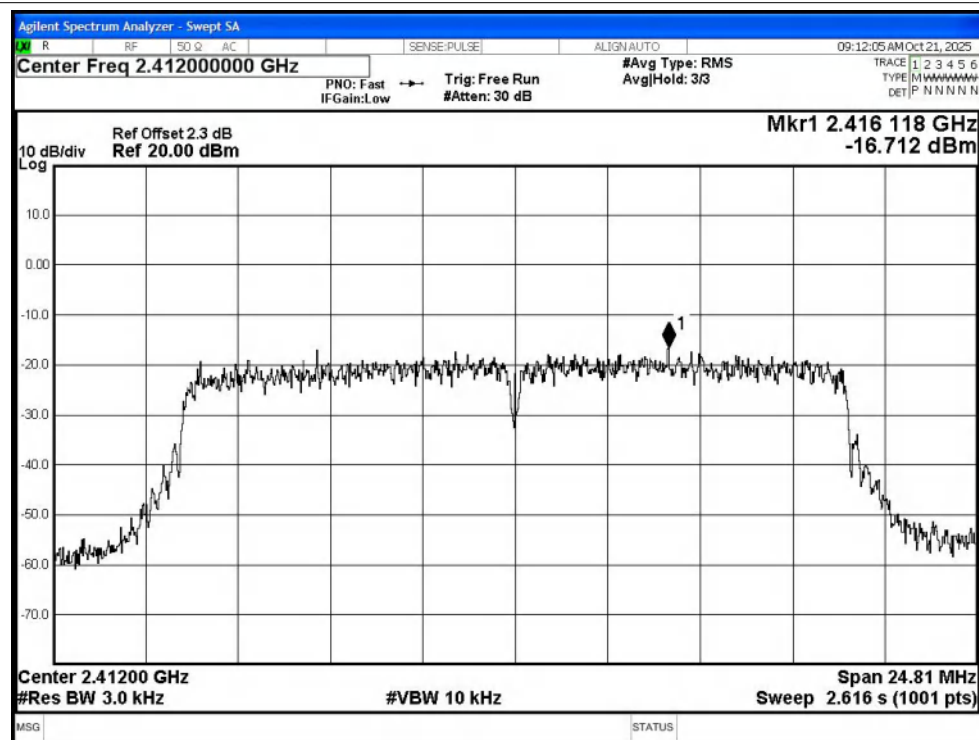
PSD NVNT g 2437MHz Ant1



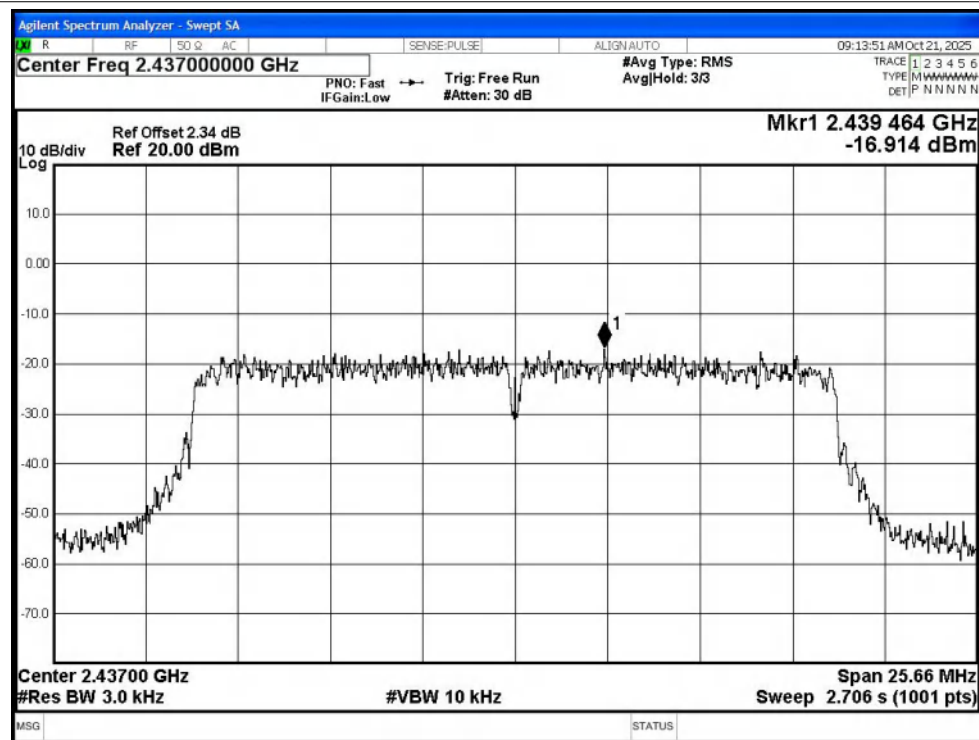
PSD NVNT g 2462MHz Ant1



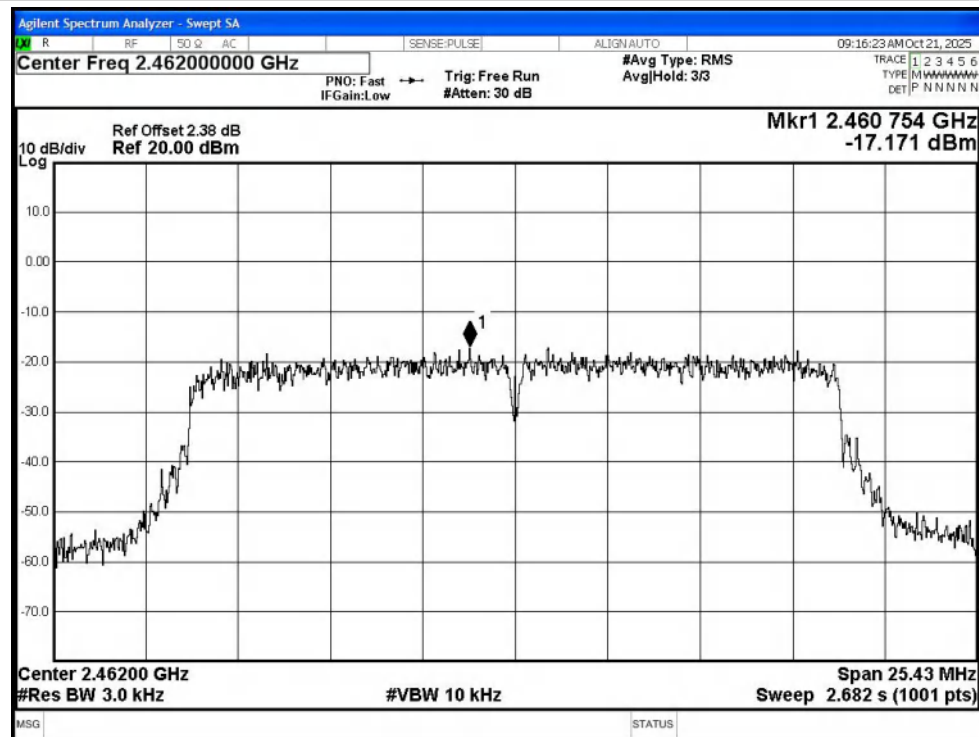
PSD NVNT n20 2412MHz Ant1



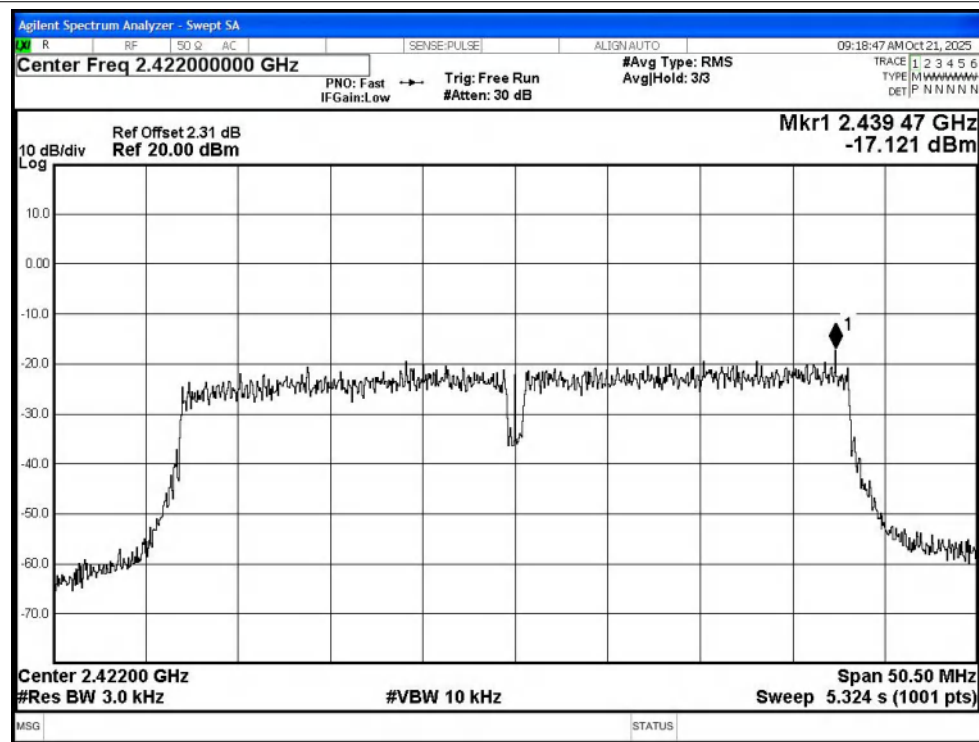
PSD NVNT n20 2437MHz Ant1



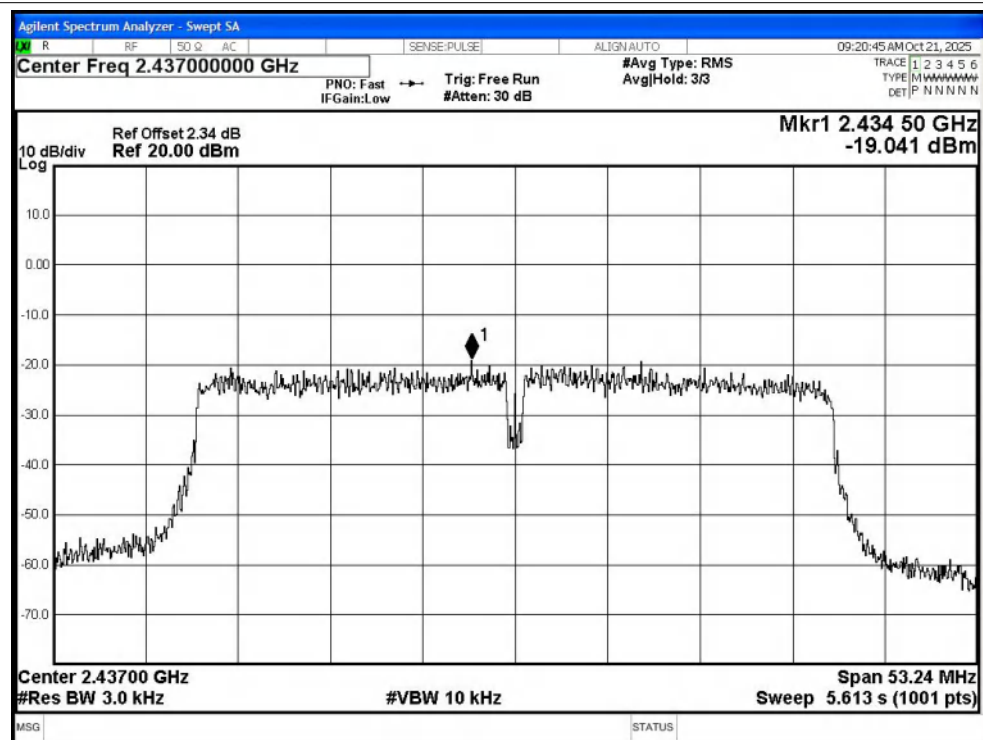
PSD NVNT n20 2462MHz Ant1



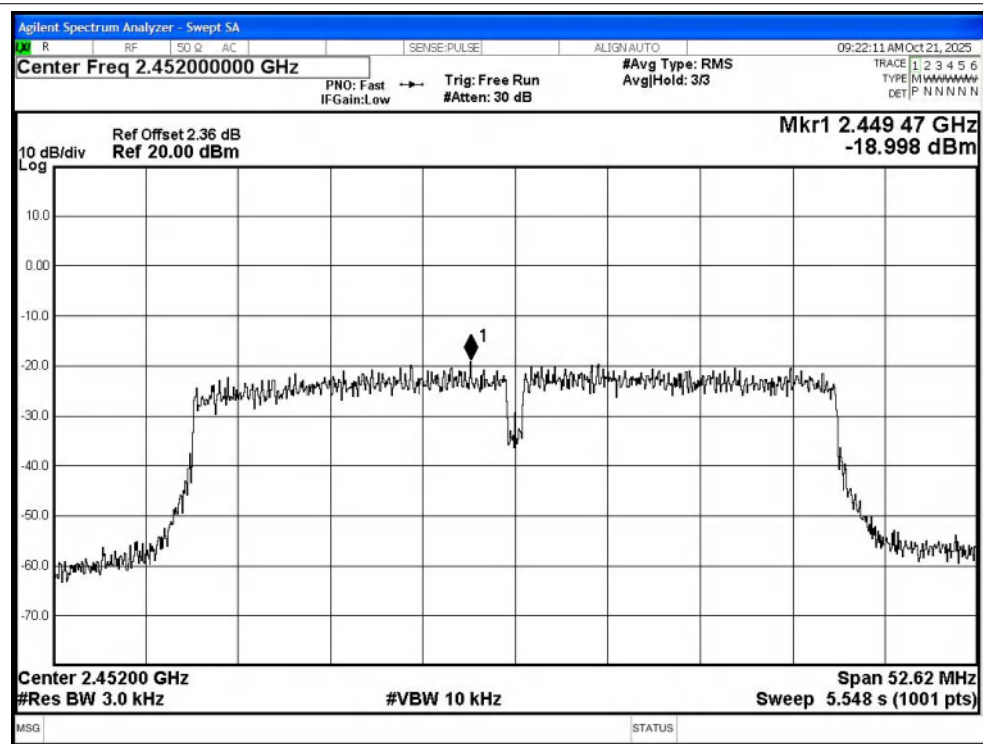
PSD NVNT n40 2422MHz Ant1



PSD NVNT n40 2437MHz Ant1



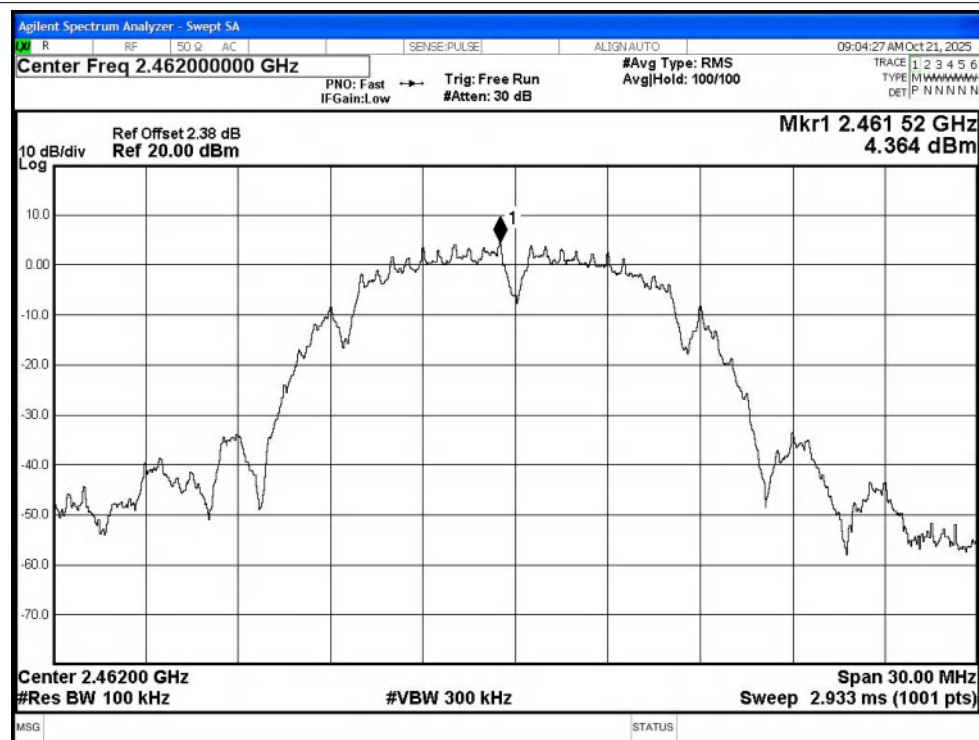
PSD NVNT n40 2452MHz Ant1



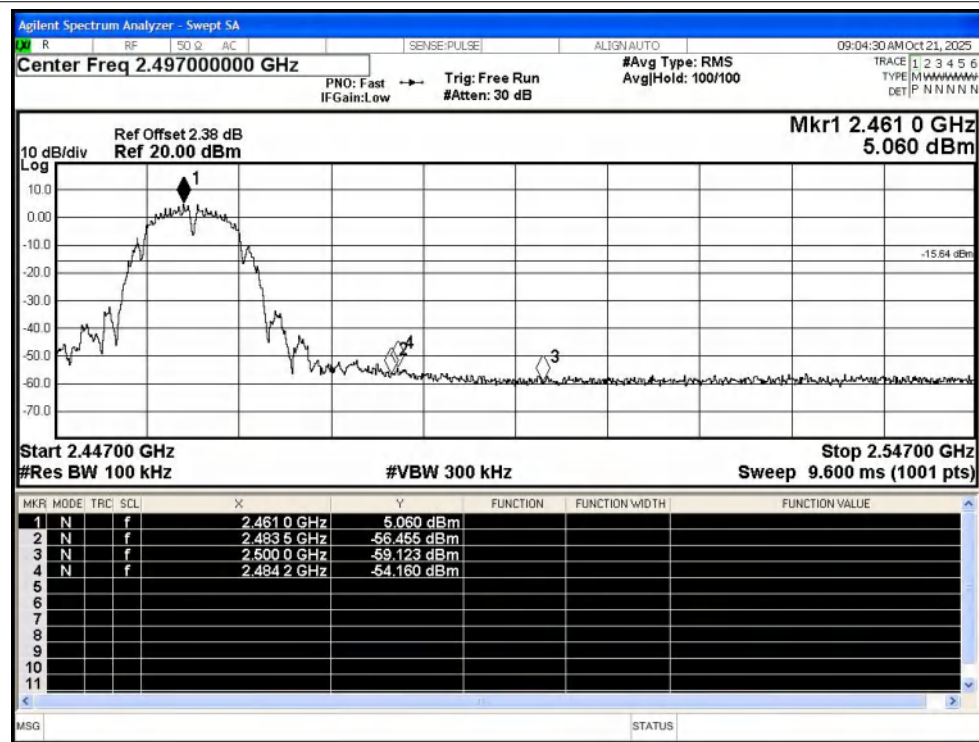
4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-49.44	-20	Pass
NVNT	b	2462	Ant1	-58.52	-20	Pass
NVNT	g	2412	Ant1	-33.39	-20	Pass
NVNT	g	2462	Ant1	-42.04	-20	Pass
NVNT	n20	2412	Ant1	-31.06	-20	Pass
NVNT	n20	2462	Ant1	-37.14	-20	Pass
NVNT	n40	2422	Ant1	-36.79	-20	Pass
NVNT	n40	2452	Ant1	-34.69	-20	Pass

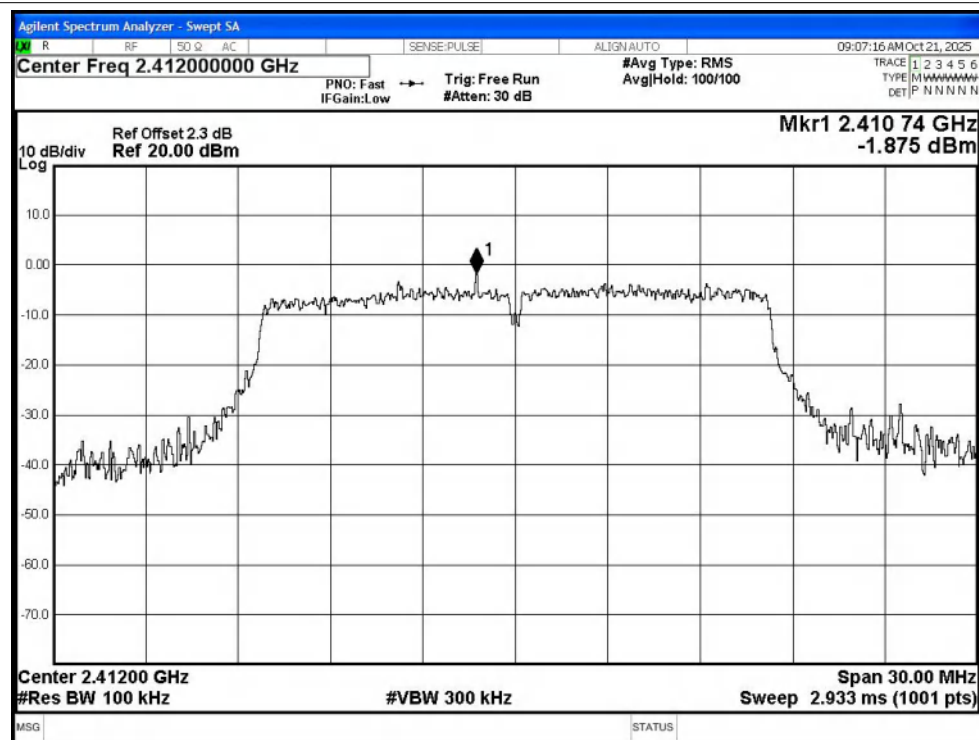
Band Edge NVNT b 2462MHz Ant1 Ref



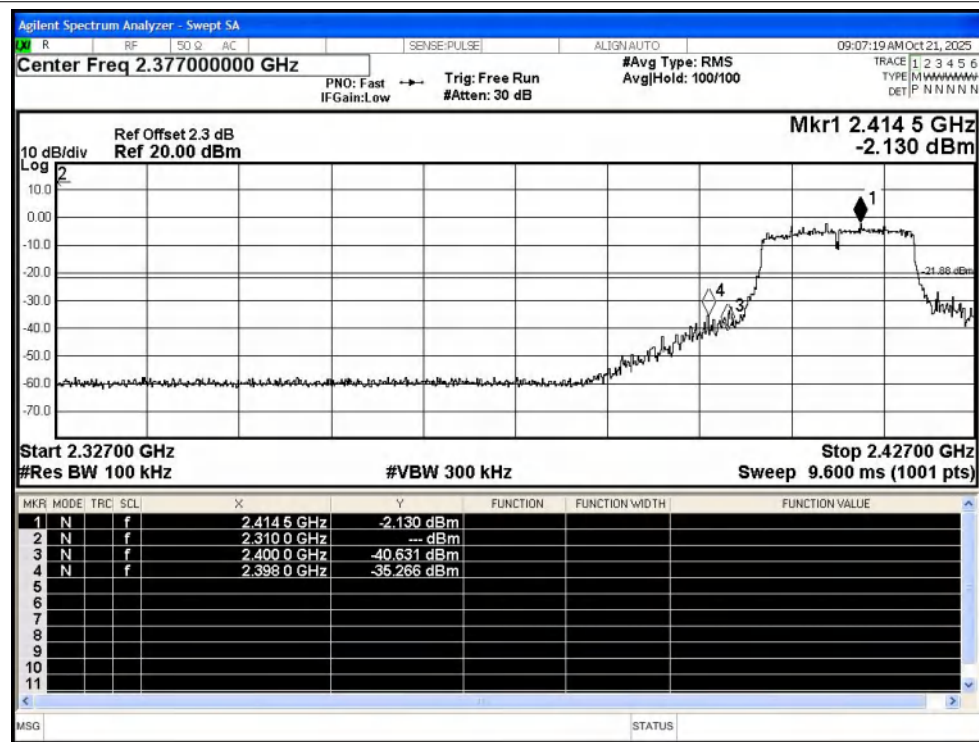
Band Edge NVNT b 2462MHz Ant1 Emission



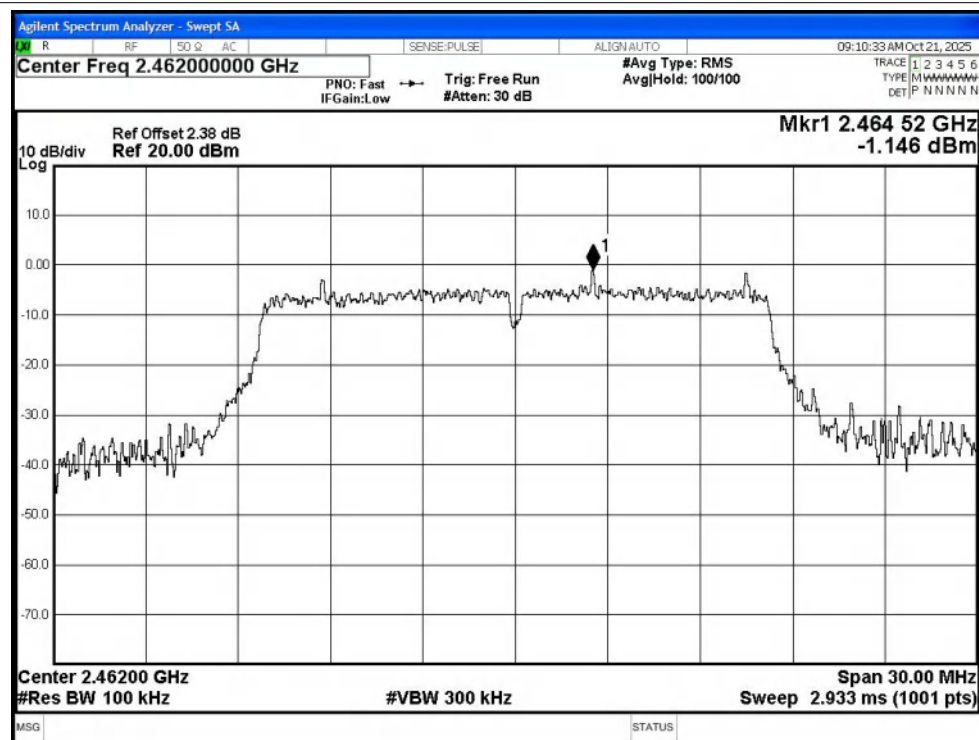
Band Edge NVNT g 2412MHz Ant1 Ref



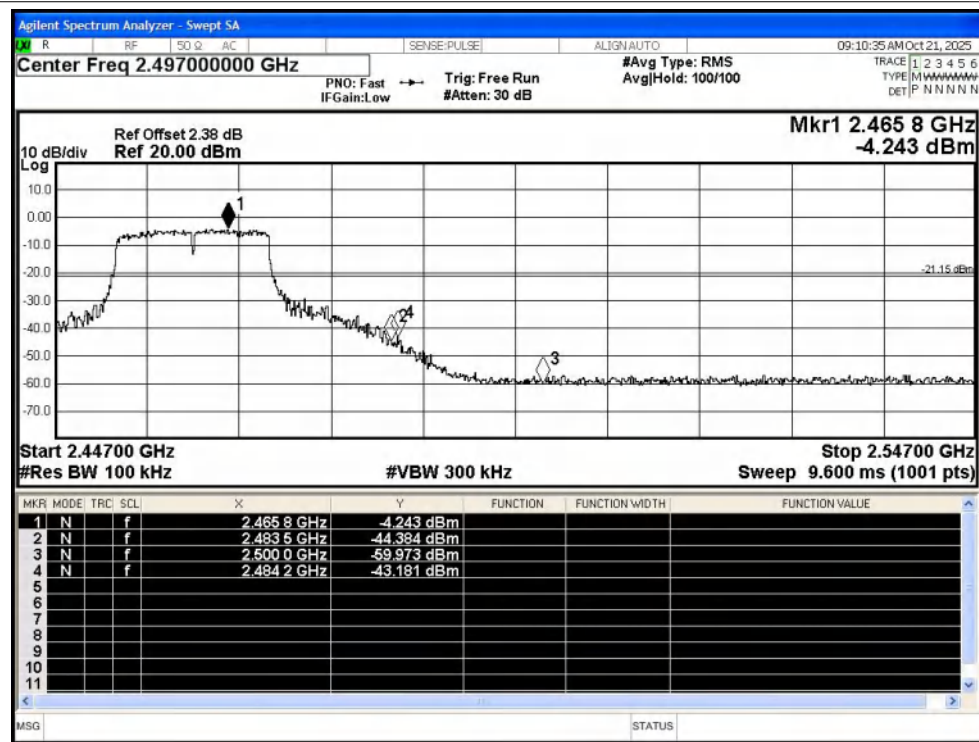
Band Edge NVNT g 2412MHz Ant1 Emission



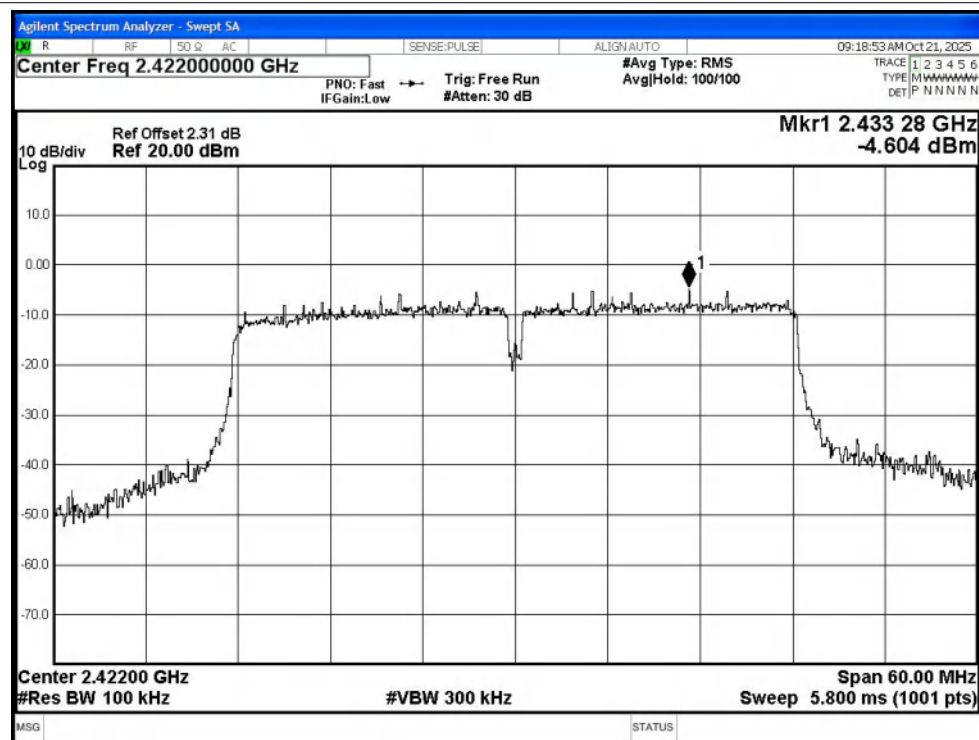
Band Edge NVNT g 2462MHz Ant1 Ref



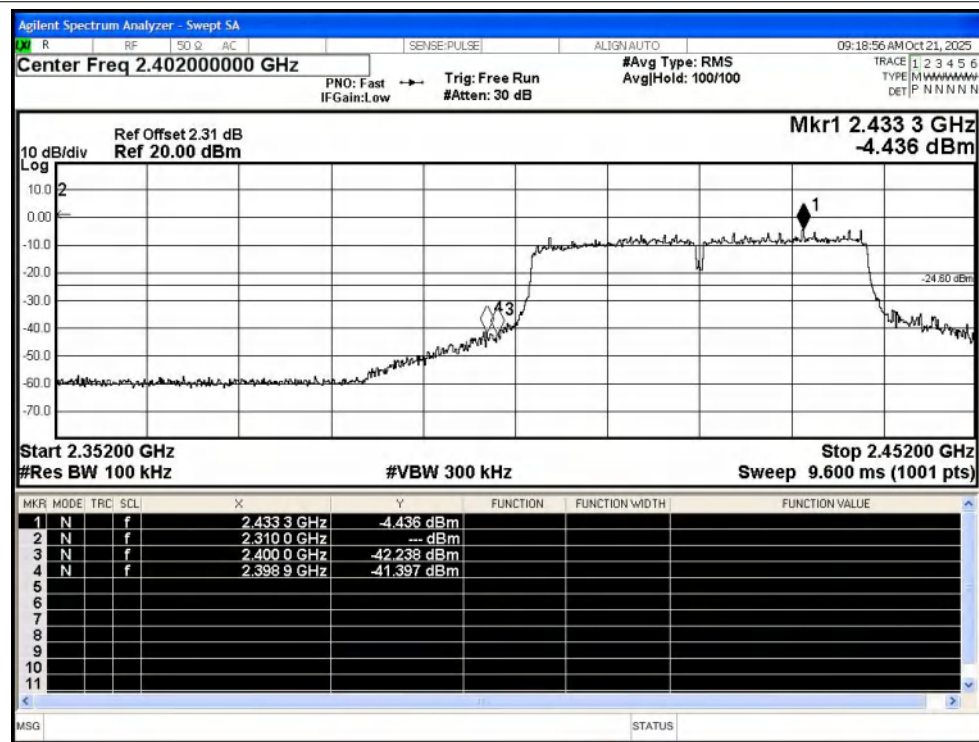
Band Edge NVNT g 2462MHz Ant1 Emission



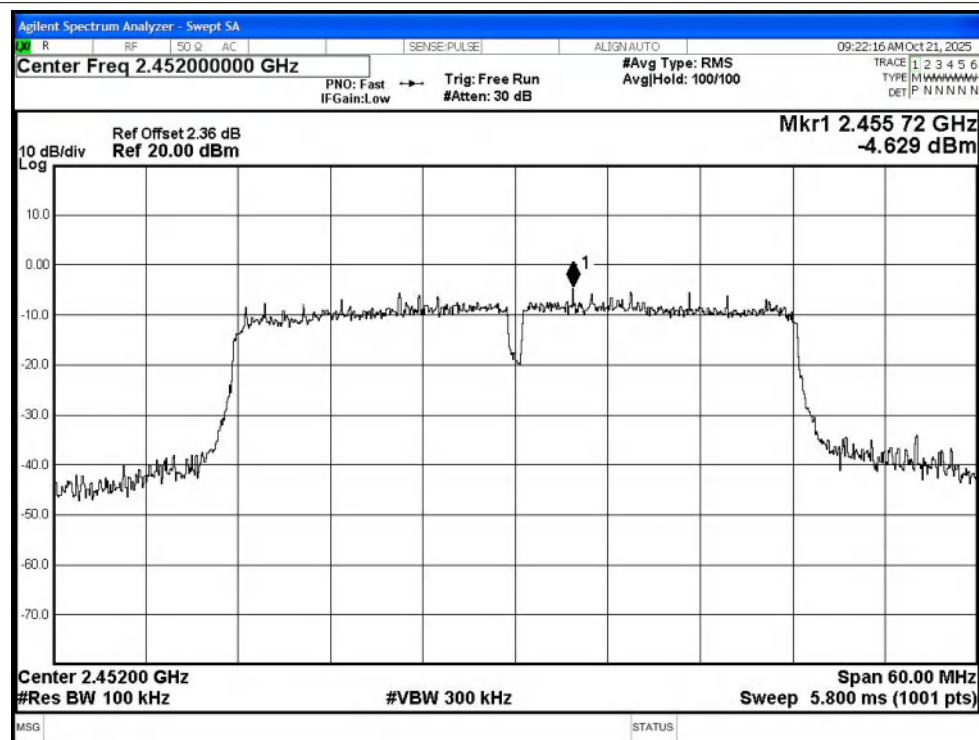
Band Edge NVNT n40 2422MHz Ant1 Ref



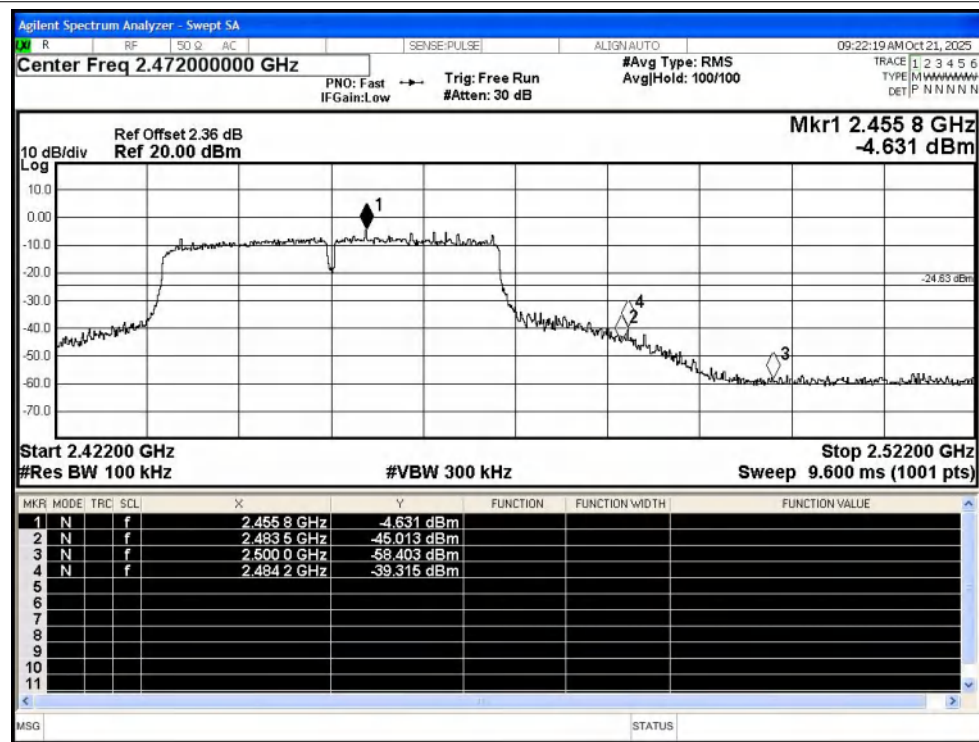
Band Edge NVNT n40 2422MHz Ant1 Emission



Band Edge NVNT n40 2452MHz Ant1 Ref

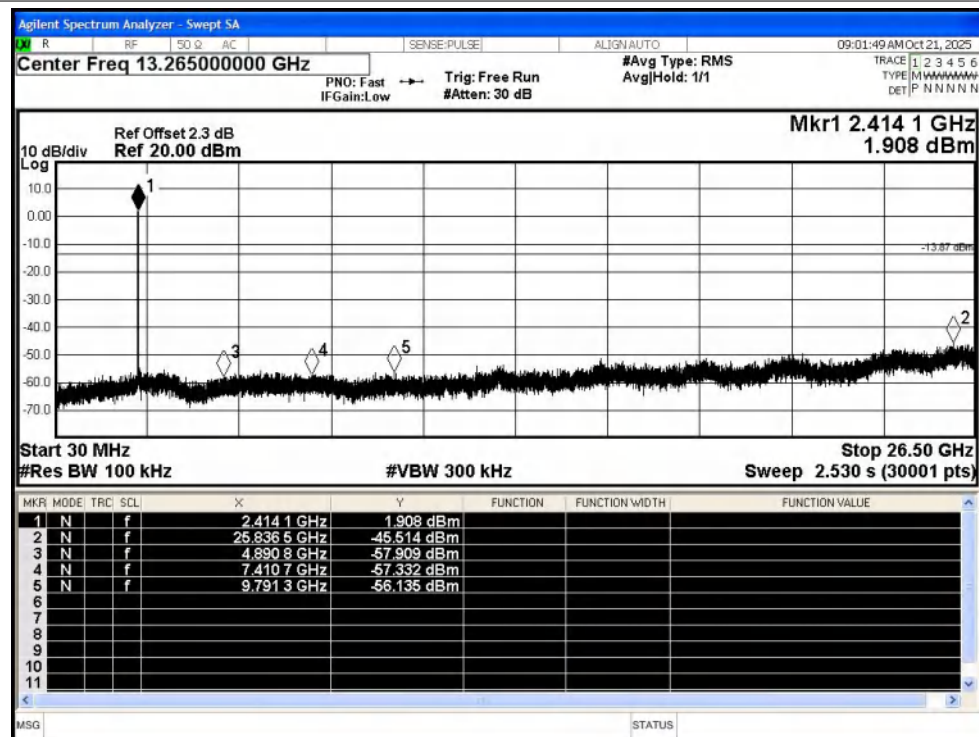


Band Edge NVNT n40 2452MHz Ant1 Emission

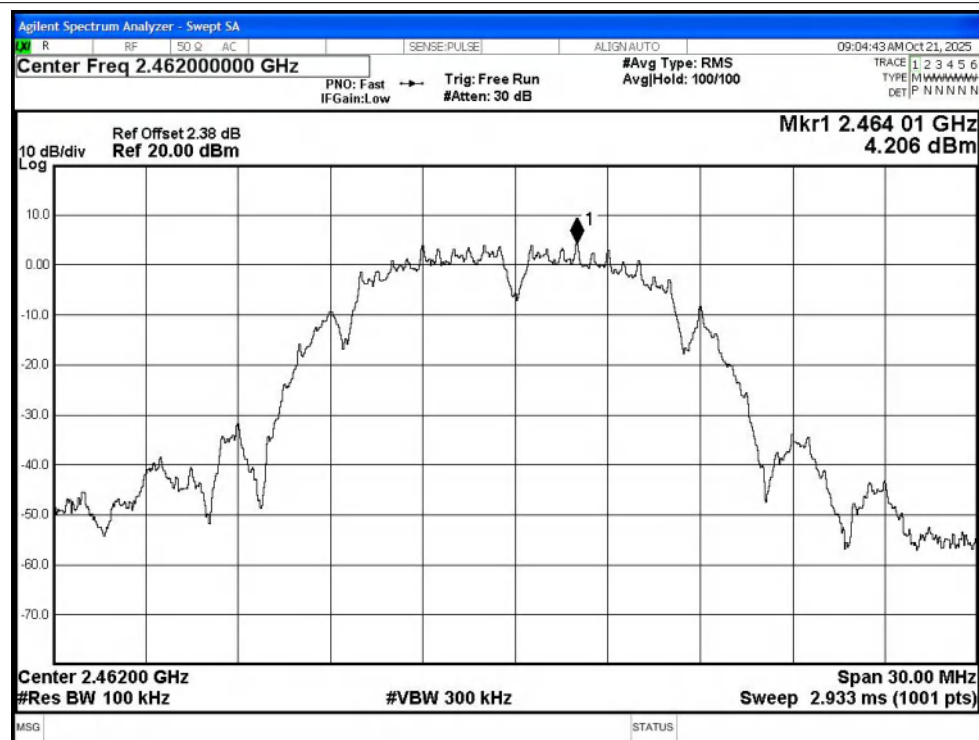


5 Conducted RF Spurious Emission

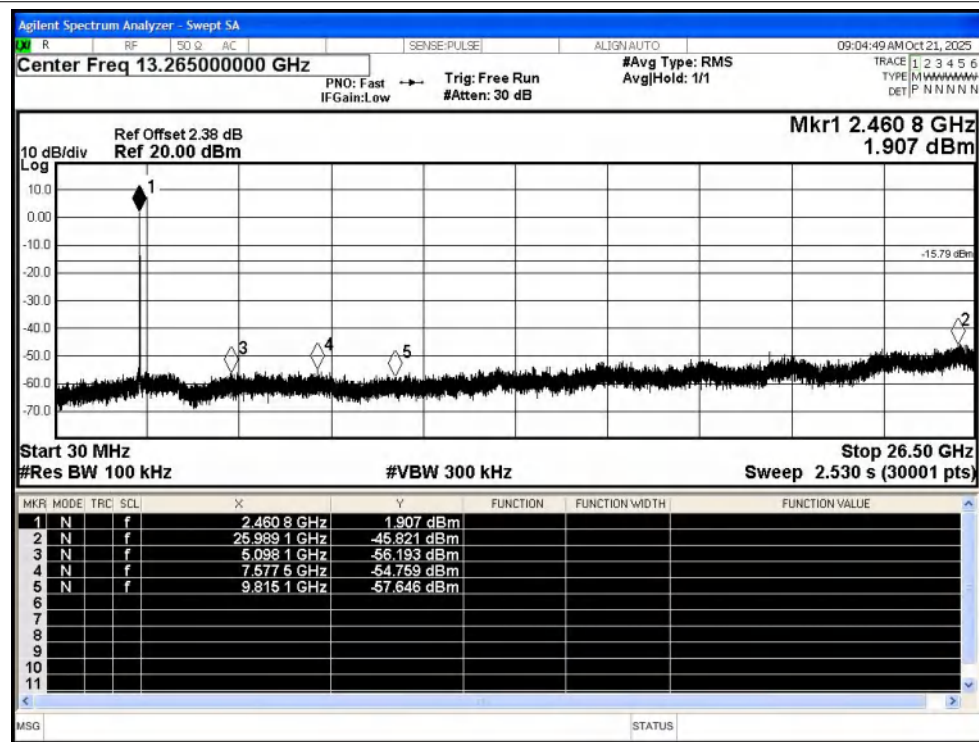
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-51.65	-20	Pass
NVNT	b	2437	Ant1	-50.67	-20	Pass
NVNT	b	2462	Ant1	-50.03	-20	Pass
NVNT	g	2412	Ant1	-42.32	-20	Pass
NVNT	g	2437	Ant1	-44.16	-20	Pass
NVNT	g	2462	Ant1	-42.83	-20	Pass
NVNT	n20	2412	Ant1	-43.39	-20	Pass
NVNT	n20	2437	Ant1	-43.47	-20	Pass
NVNT	n20	2462	Ant1	-42.52	-20	Pass
NVNT	n40	2422	Ant1	-41.05	-20	Pass
NVNT	n40	2437	Ant1	-41.47	-20	Pass
NVNT	n40	2452	Ant1	-41.48	-20	Pass



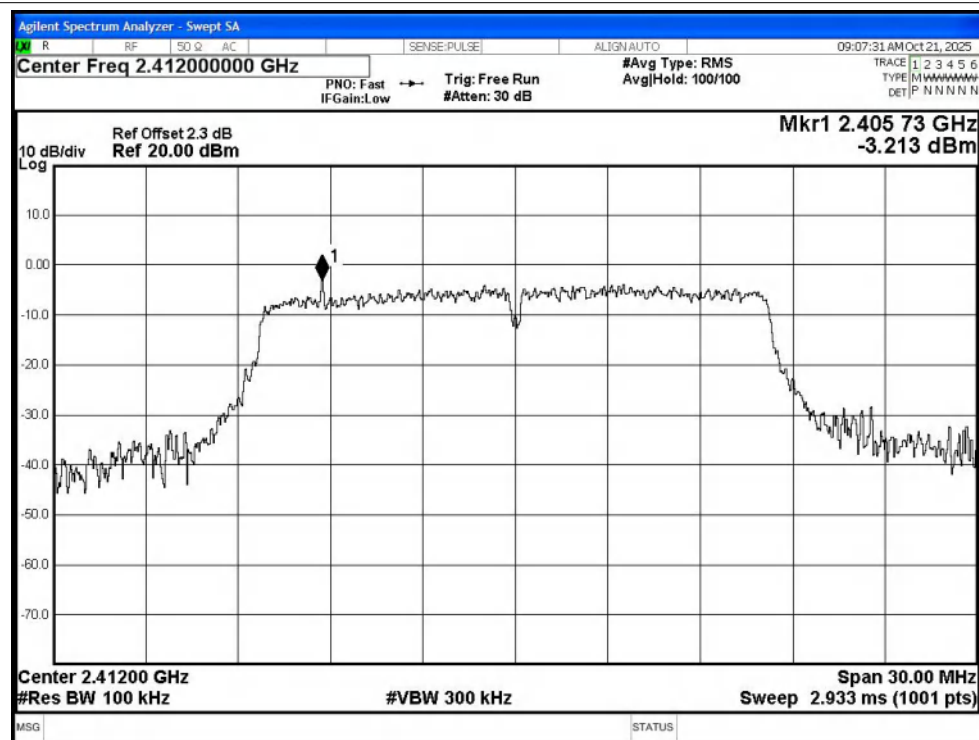
Tx. Spurious NVNT b 2462MHz Ant1 Ref



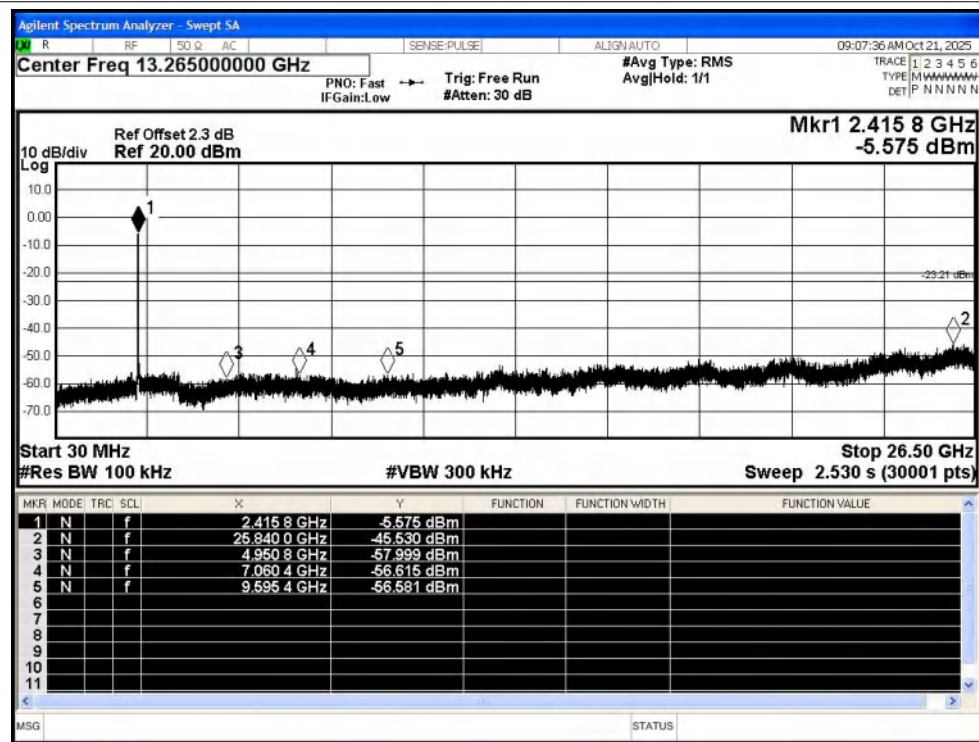
Tx. Spurious NVNT b 2462MHz Ant1 Emission



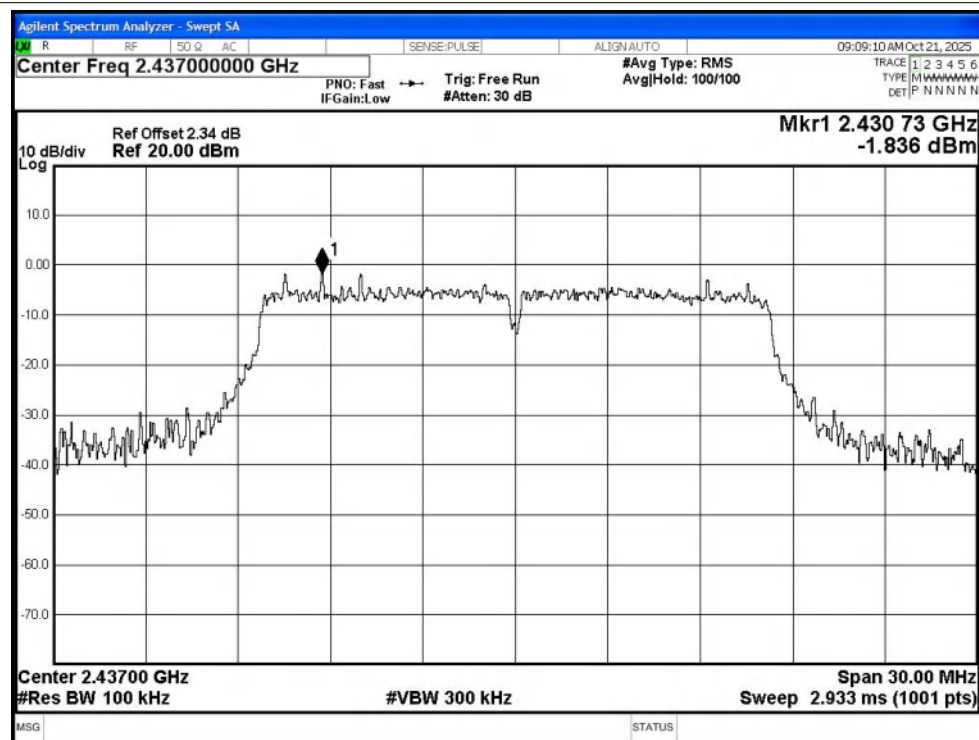
Tx. Spurious NVNT g 2412MHz Ant1 Ref



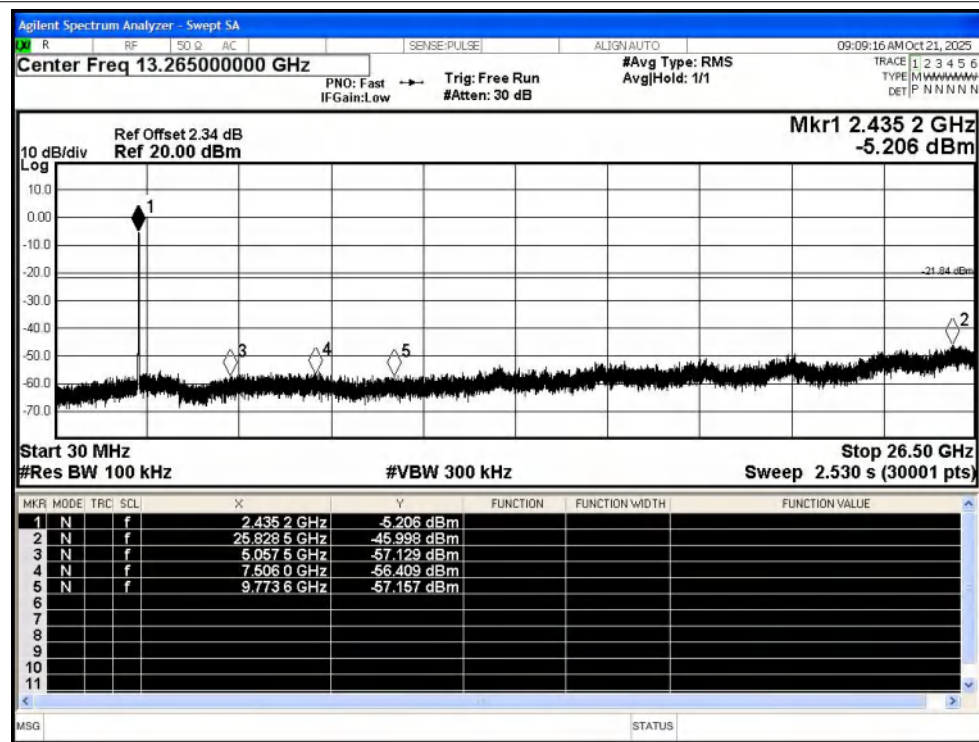
Tx. Spurious NVNT g 2412MHz Ant1 Emission



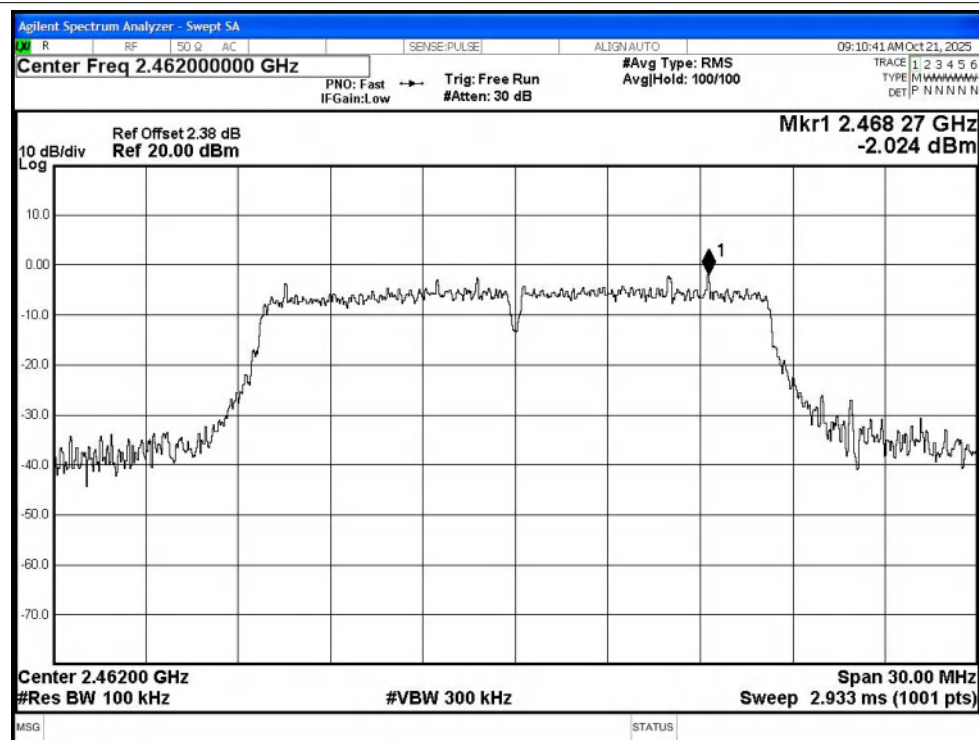
Tx. Spurious NVNT g 2437MHz Ant1 Ref



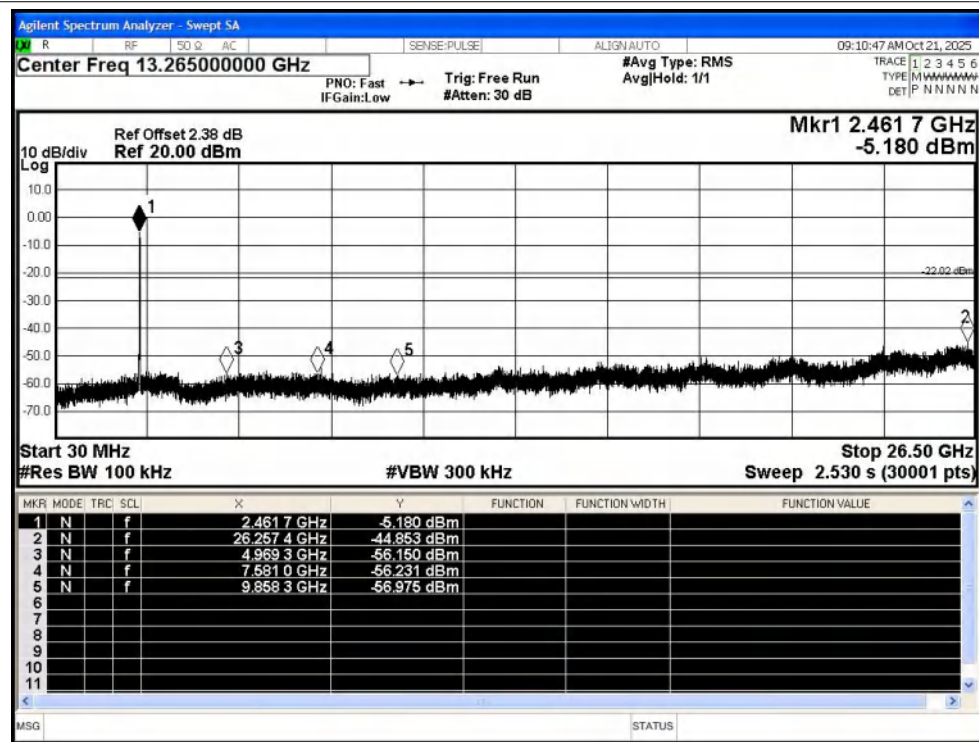
Tx. Spurious NVNT g 2437MHz Ant1 Emission



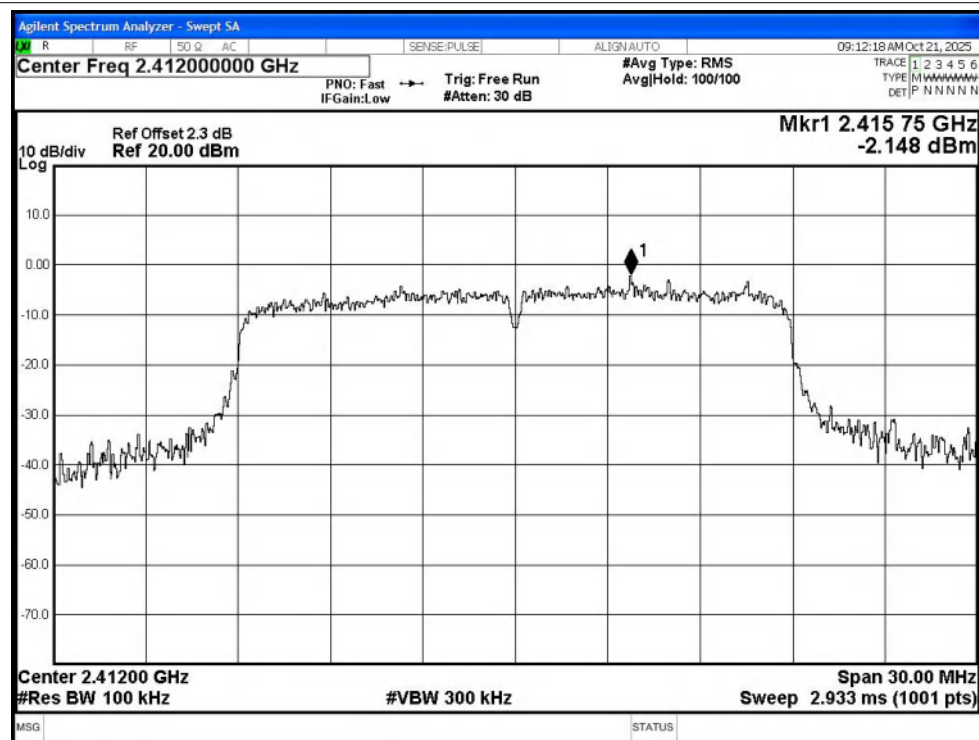
Tx. Spurious NVNT g 2462MHz Ant1 Ref



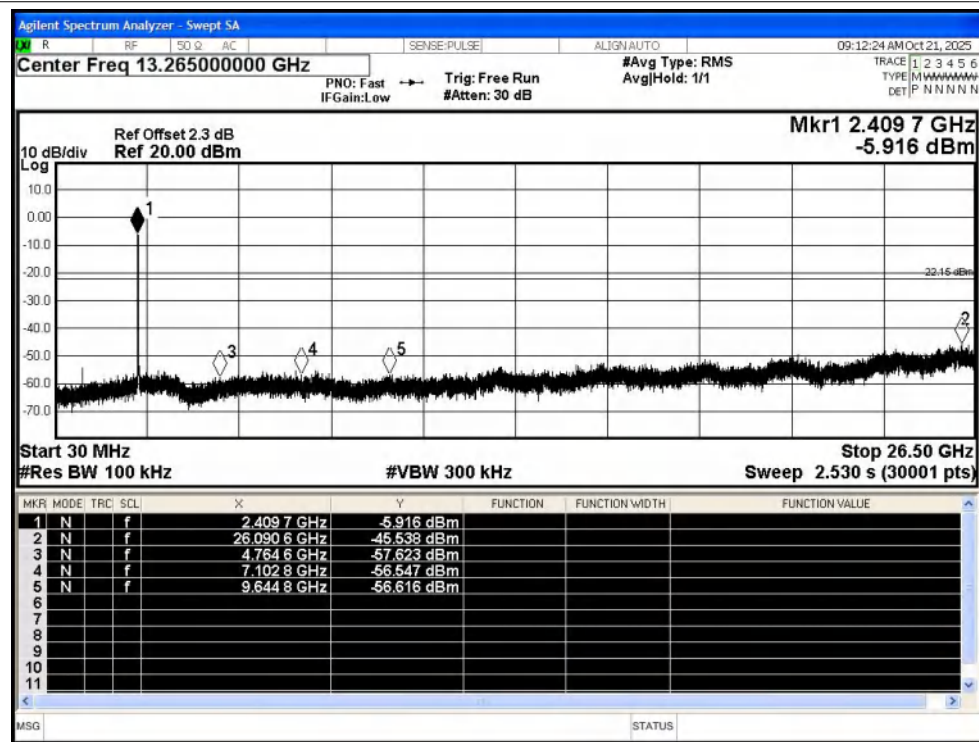
Tx. Spurious NVNT g 2462MHz Ant1 Emission



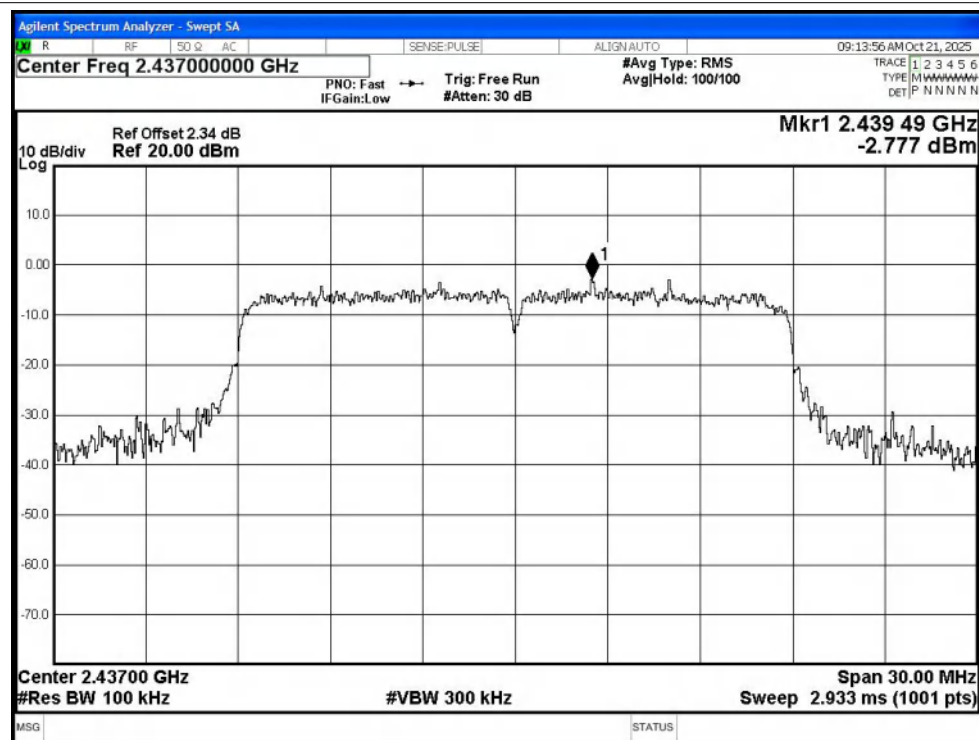
Tx. Spurious NVNT n20 2412MHz Ant1 Ref



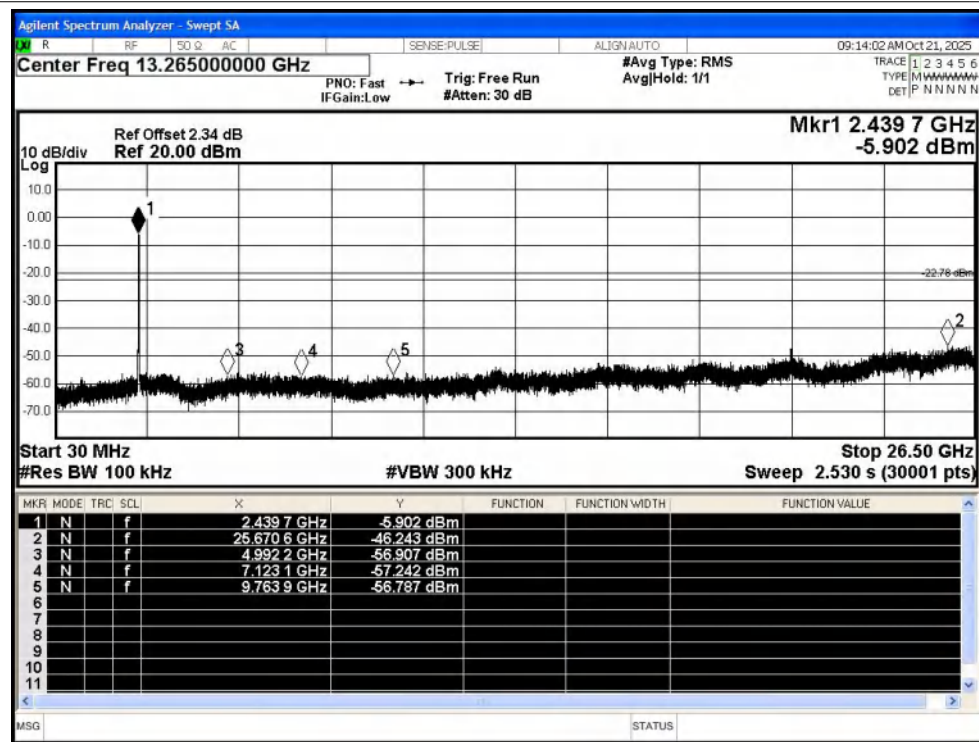
Tx. Spurious NVNT n20 2412MHz Ant1 Emission



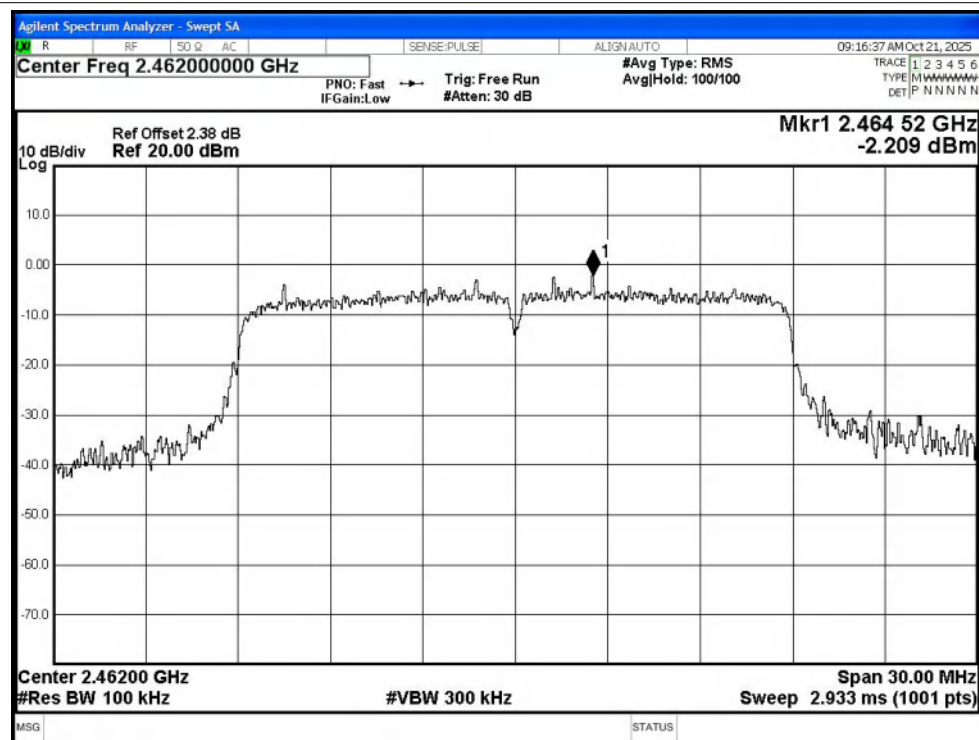
Tx. Spurious NVNT n20 2437MHz Ant1 Ref



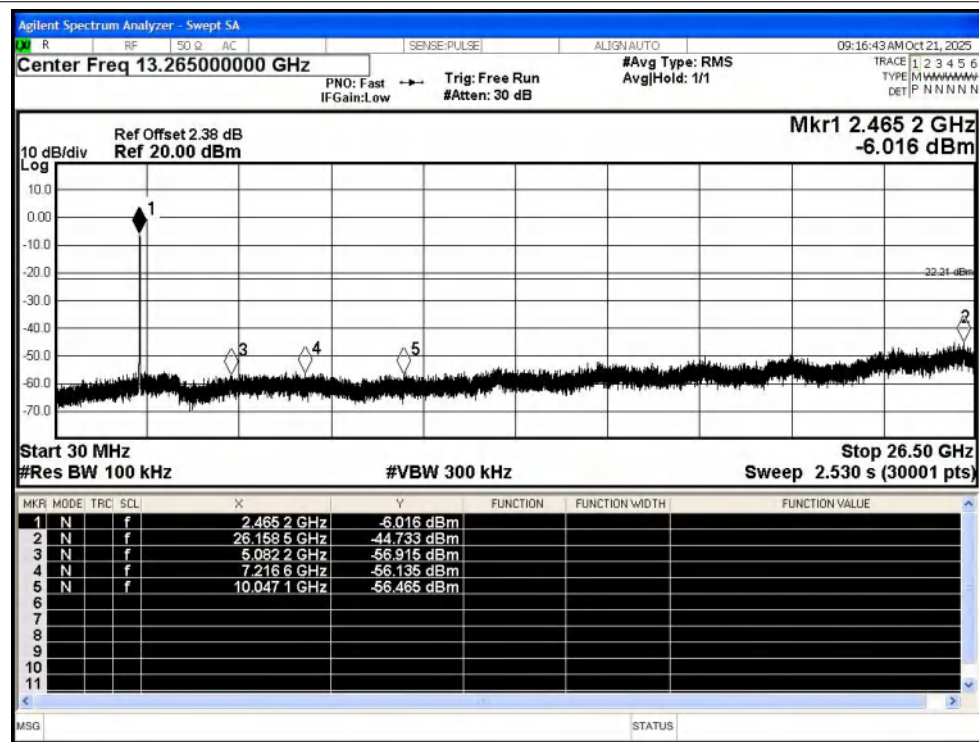
Tx. Spurious NVNT n20 2437MHz Ant1 Emission



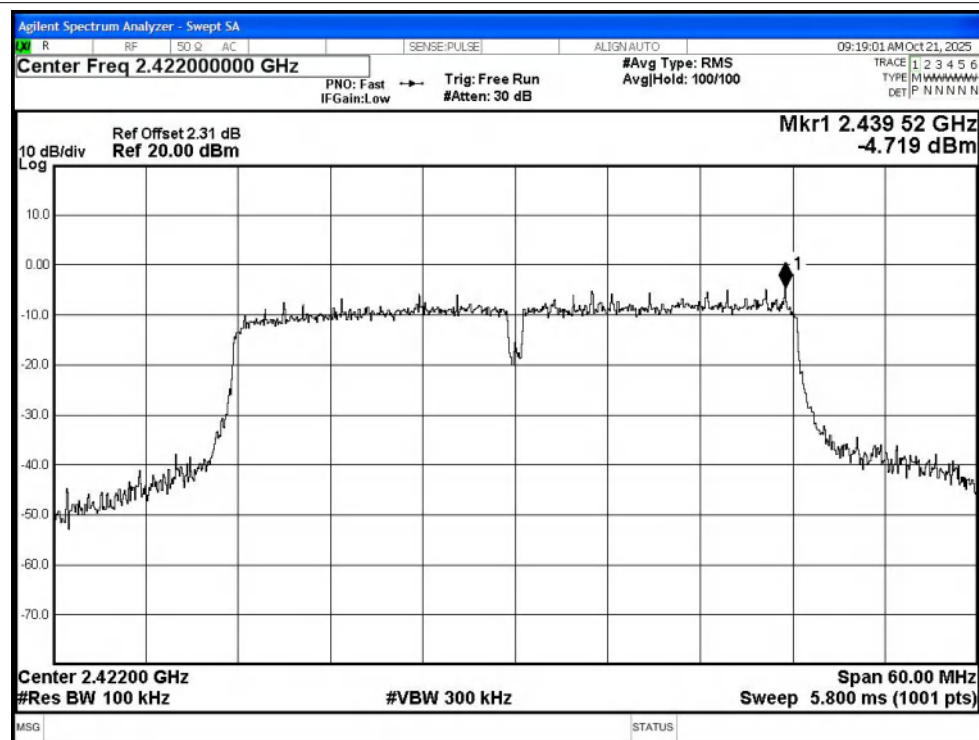
Tx. Spurious NVNT n20 2462MHz Ant1 Ref



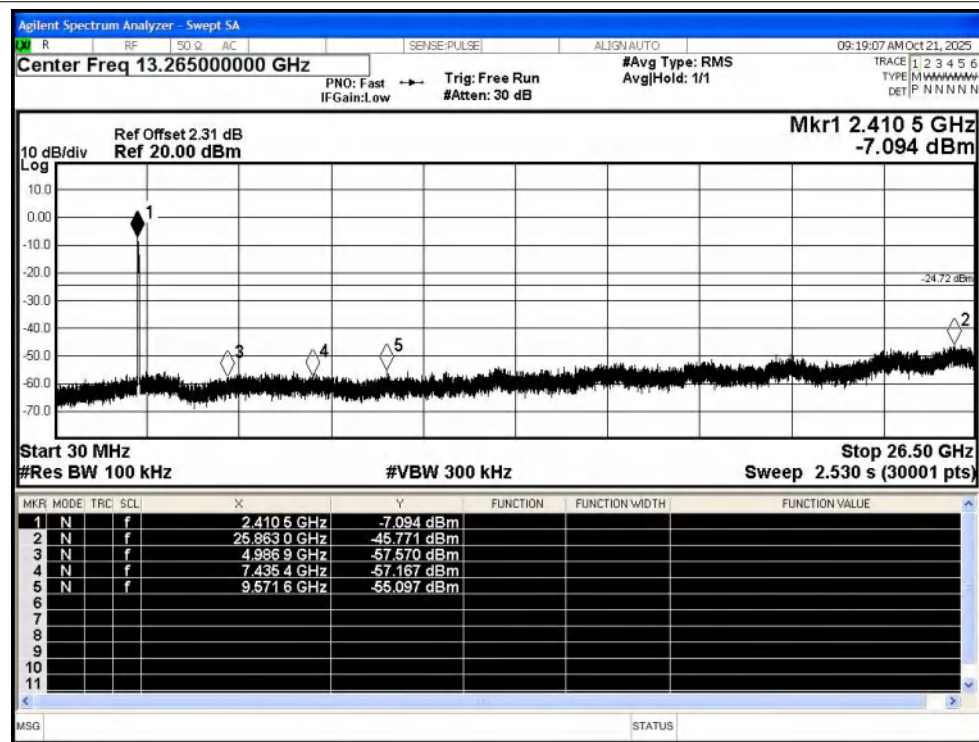
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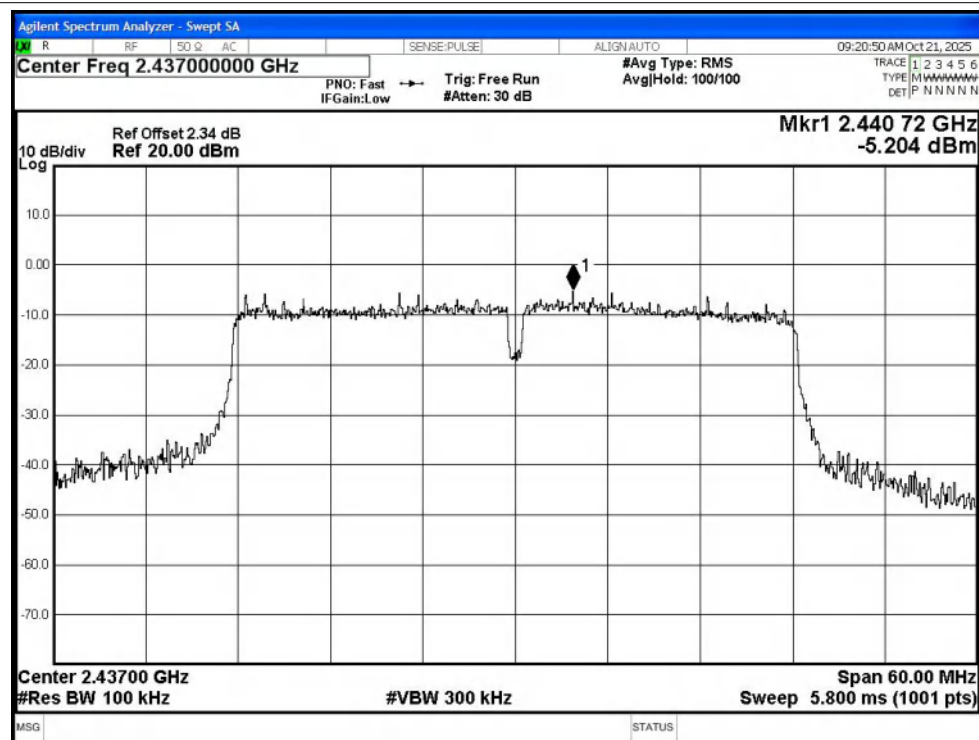
Tx. Spurious NVNT n40 2422MHz Ant1 Ref



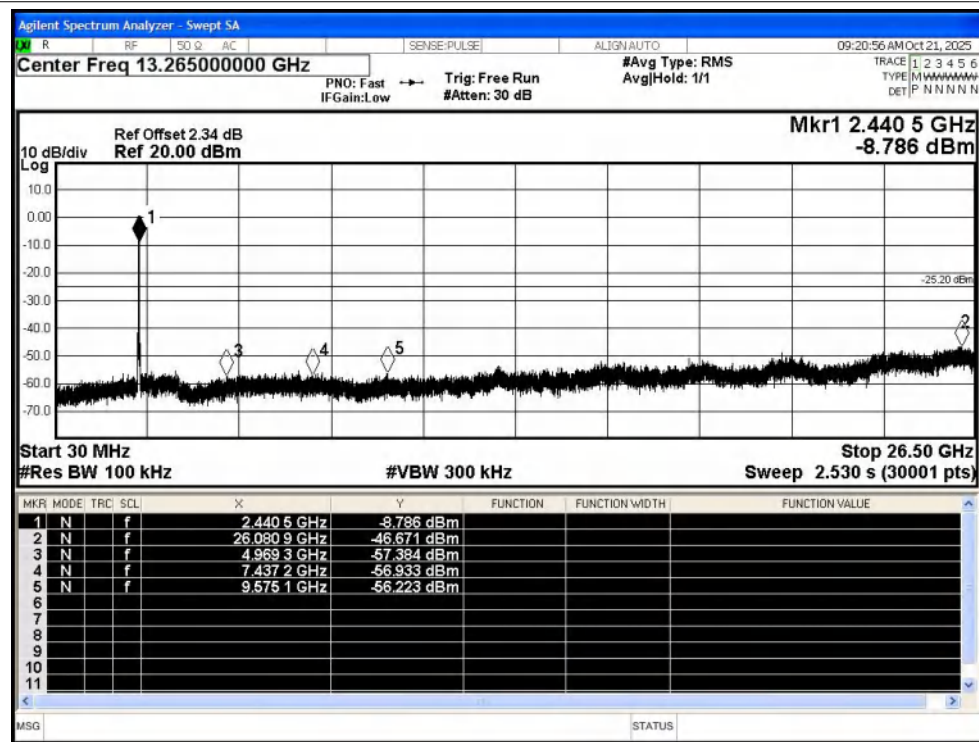
Tx. Spurious NVNT n40 2422MHz Ant1 Emission



Tx. Spurious NVNT n40 2437MHz Ant1 Ref



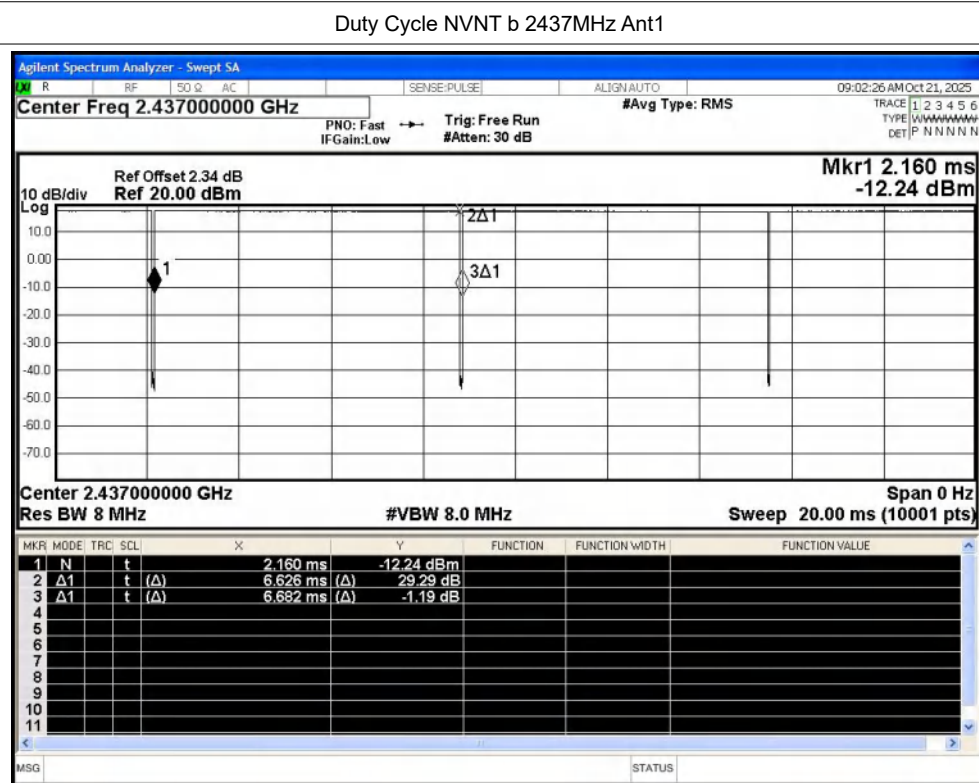
Tx. Spurious NVNT n40 2437MHz Ant1 Emission



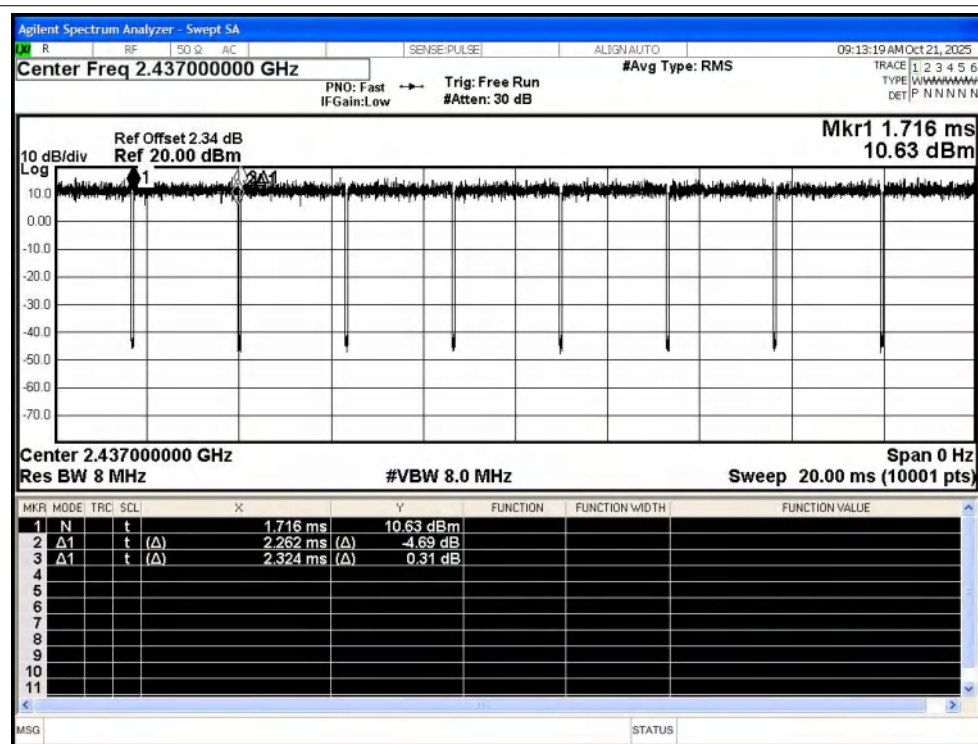
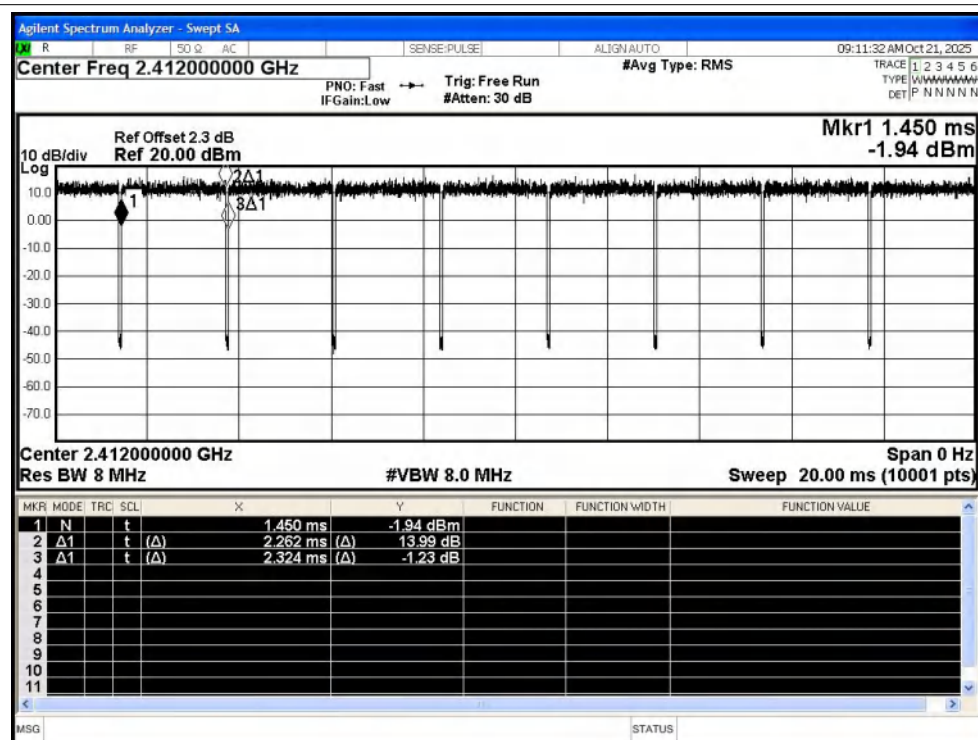
6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	99.13	0	0.15
NVNT	b	2437	Ant1	99.16	0	0.15
NVNT	b	2462	Ant1	99.13	0	0.15
NVNT	g	2412	Ant1	97.68	0.1	0.37
NVNT	g	2437	Ant1	97.68	0.1	0.37
NVNT	g	2462	Ant1	97.75	0.1	0.37
NVNT	n20	2412	Ant1	97.33	0.12	0.44
NVNT	n20	2437	Ant1	97.33	0.12	0.44
NVNT	n20	2462	Ant1	97.25	0.12	0.44
NVNT	n40	2422	Ant1	94.71	0.24	0.9
NVNT	n40	2437	Ant1	94.87	0.23	0.9
NVNT	n40	2452	Ant1	94.7	0.24	0.9

Duty Cycle NVNT b 2412MHz Ant1



[illegible][illegible]



[illegible][illegible]

7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-50.24	5.78	-	50.80	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-58.59	5.78	0	42.45	Average	54	Pass
NVNT	b	2412	Ant1	2389.56	-46.46	5.78	-	54.58	Peak	74	Pass
NVNT	b	2412	Ant1	2389.209	-55.44	5.78	0	45.60	Average	54	Pass
NVNT	b	2412	Ant1	2390	-46.81	5.78	-	54.23	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-56.29	5.78	0	44.75	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-48.64	5.78	-	52.40	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-55.17	5.78	0	45.87	Average	54	Pass
NVNT	b	2462	Ant1	2487.651	-40.33	5.78	-	60.71	Peak	74	Pass
NVNT	b	2462	Ant1	2485.001	-54	5.78	0	47.04	Average	54	Pass
NVNT	b	2462	Ant1	2500	-49.48	5.78	-	51.56	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-57.65	5.78	0	43.39	Average	54	Pass
NVNT	g	2412	Ant1	2310	-51.5	5.78	-	49.54	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-58.29	5.78	0.1	42.85	Average	54	Pass
NVNT	g	2412	Ant1	2389.677	-33.37	5.78	-	67.67	Peak	74	Pass
NVNT	g	2412	Ant1	2389.443	-53.09	5.78	0.1	48.05	Average	54	Pass
NVNT	g	2412	Ant1	2390	-34.69	5.78	-	66.35	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-52.88	5.78	0.1	48.26	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-44.03	5.78	-	57.01	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-55.89	5.78	0.1	45.25	Average	54	Pass
NVNT	g	2462	Ant1	2483.623	-37.24	5.78	-	63.80	Peak	74	Pass
NVNT	g	2462	Ant1	2483.57	-54.96	5.78	0.1	46.18	Average	54	Pass
NVNT	g	2462	Ant1	2500	-49.3	5.78	-	51.74	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-57.74	5.78	0.1	43.40	Average	54	Pass
NVNT	n20	2412	Ant1	2310	-50.43	5.78	-	50.61	Peak	74	Pass
NVNT	n20	2412	Ant1	2310	-58.41	5.78	0.12	42.75	Average	54	Pass
NVNT	n20	2412	Ant1	2389.794	-42.49	5.78	-	58.55	Peak	74	Pass
NVNT	n20	2412	Ant1	2389.794	-56.05	5.78	0.12	45.11	Average	54	Pass
NVNT	n20	2412	Ant1	2390	-47.25	5.78	-	53.79	Peak	74	Pass
NVNT	n20	2412	Ant1	2390	-56.83	5.78	0.12	44.33	Average	54	Pass
NVNT	n20	2462	Ant1	2483.5	-43.59	5.78	-	57.45	Peak	74	Pass
NVNT	n20	2462	Ant1	2483.5	-55.09	5.78	0.12	46.07	Average	54	Pass
NVNT	n20	2462	Ant1	2484.047	-38.31	5.78	-	62.73	Peak	74	Pass
NVNT	n20	2462	Ant1	2484.312	-53.78	5.78	0.12	47.38	Average	54	Pass
NVNT	n20	2462	Ant1	2500	-49.06	5.78	-	51.98	Peak	74	Pass
NVNT	n20	2462	Ant1	2500	-57.69	5.78	0.12	43.47	Average	54	Pass
NVNT	n40	2422	Ant1	2310	-51.26	5.78	-	49.78	Peak	74	Pass
NVNT	n40	2422	Ant1	2310	-58.5	5.78	0.24	42.78	Average	54	Pass
NVNT	n40	2422	Ant1	2388.526	-40.27	5.78	-	60.77	Peak	74	Pass

NVNT	n40	2422	Ant1	2389.52	-54.93	5.78	0.24	46.35	Average	54	Pass
NVNT	n40	2422	Ant1	2390	-43.07	5.78	-	57.97	Peak	74	Pass
NVNT	n40	2422	Ant1	2390	-55.14	5.78	0.24	46.14	Average	54	Pass
NVNT	n40	2452	Ant1	2483.5	-40.03	5.78	-	61.01	Peak	74	Pass
NVNT	n40	2452	Ant1	2483.5	-54.73	5.78	0.24	46.55	Average	54	Pass
NVNT	n40	2452	Ant1	2483.698	-38.59	5.78	-	62.45	Peak	74	Pass
NVNT	n40	2452	Ant1	2484.01	-53.6	5.78	0.24	47.68	Average	54	Pass
NVNT	n40	2452	Ant1	2500	-48.48	5.78	-	52.56	Peak	74	Pass
NVNT	n40	2452	Ant1	2500	-57.7	5.78	0.24	43.58	Average	54	Pass

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.473500000 GHz PNO: Fast IF Gain: Low → Trig: Free Run #Atten: 30 dB #Avg Type: RMS Avg Hold: 100/100

Ref Offset 2.38 dB Ref 20.00 dBm Mkr1 2.458024 GHz -2.870 dBm

MKR	MODE	FREQ	POWER
1	N	2.458024 GHz	-2.870 dBm
2	N	2.483500 GHz	-44.028 dBm
3	N	2.500000 GHz	-49.300 dBm
4	N	2.483623 GHz	-37.239 dBm

[illegible]

