

FCC Appendix RF Test Data for 2.4GWIFI

Product Name: Smart Diagnostic System

Test Model: P806

Environmental Conditions

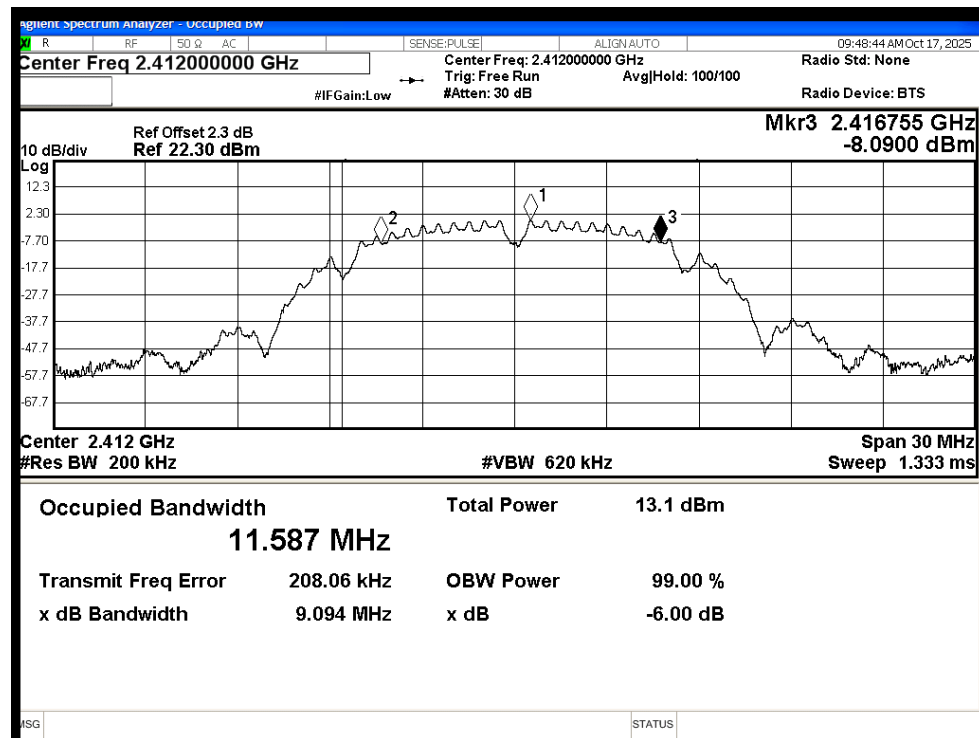
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Zoey Cao
Supervised by:	Eric Wang

1. -6dB Bandwidth

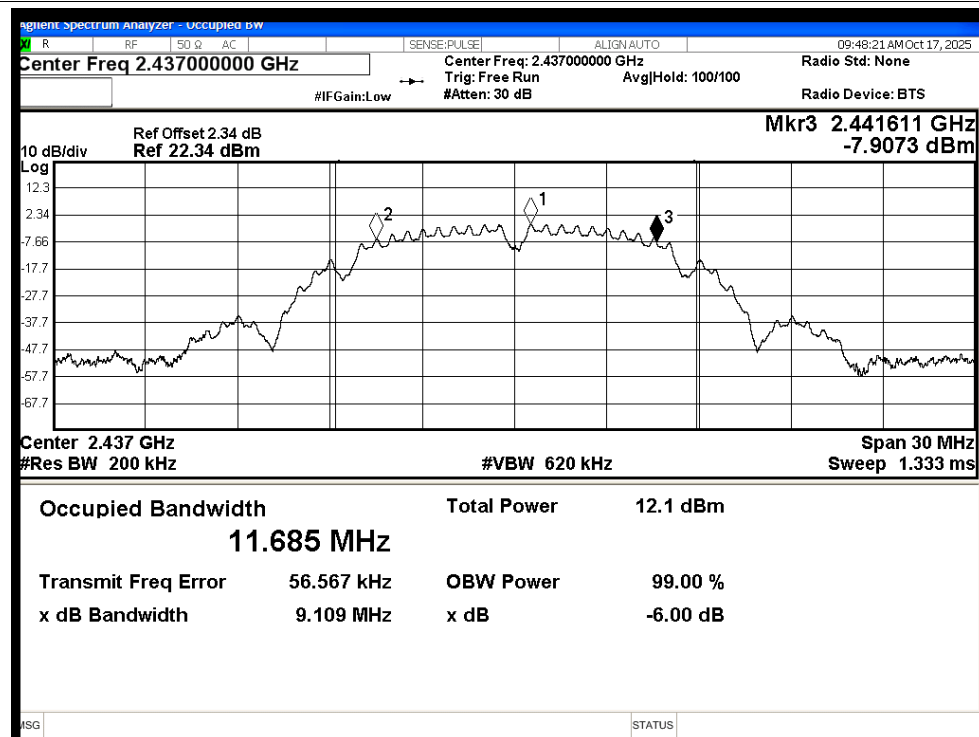
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant	9.094	≥ 0.5	Pass
NVNT	b	2437	Ant	9.109	≥ 0.5	Pass
NVNT	b	2462	Ant	9.091	≥ 0.5	Pass
NVNT	g	2412	Ant	16.35	≥ 0.5	Pass
NVNT	g	2437	Ant	16.339	≥ 0.5	Pass
NVNT	g	2462	Ant	16.31	≥ 0.5	Pass
NVNT	n20	2412	Ant	17.388	≥ 0.5	Pass
NVNT	n20	2437	Ant	17.404	≥ 0.5	Pass
NVNT	n20	2462	Ant	17.517	≥ 0.5	Pass
NVNT	n40	2422	Ant	35.877	≥ 0.5	Pass
NVNT	n40	2437	Ant	35.725	≥ 0.5	Pass
NVNT	n40	2452	Ant	35.835	≥ 0.5	Pass

Test Graphs

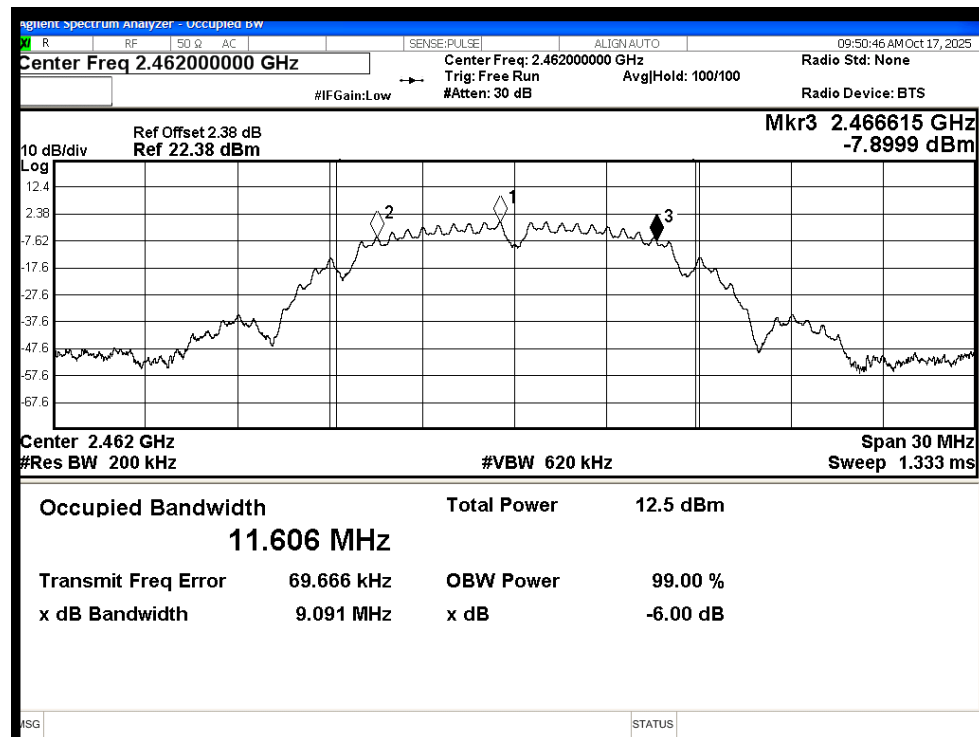
-6dB Bandwidth NVNT b 2412MHz Ant1



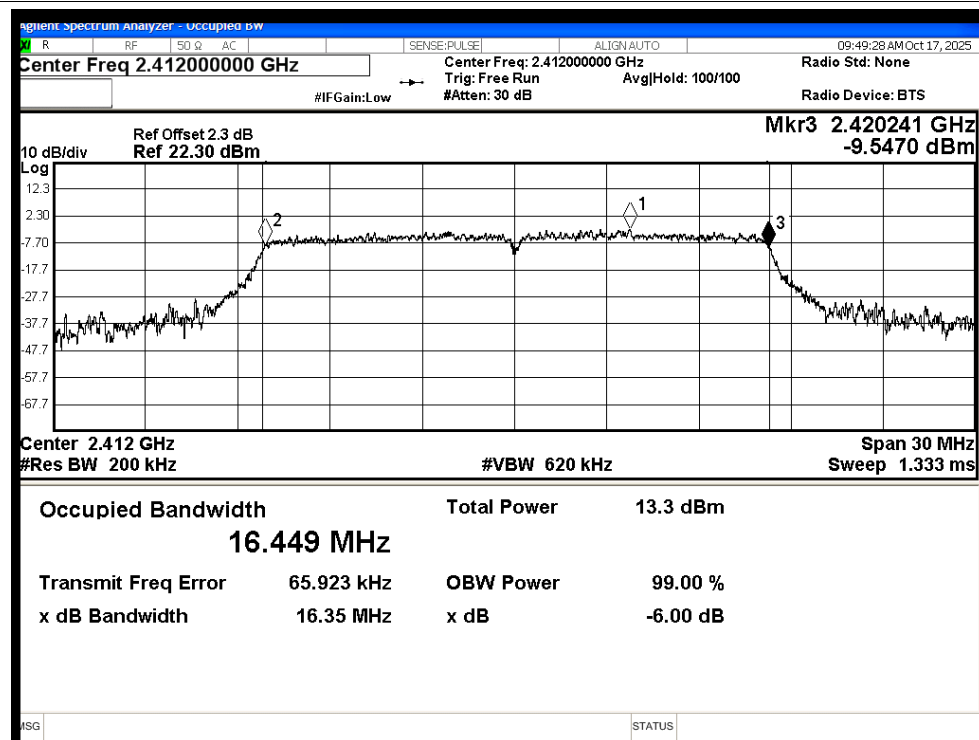
-6dB Bandwidth NVNT b 2437MHz Ant1



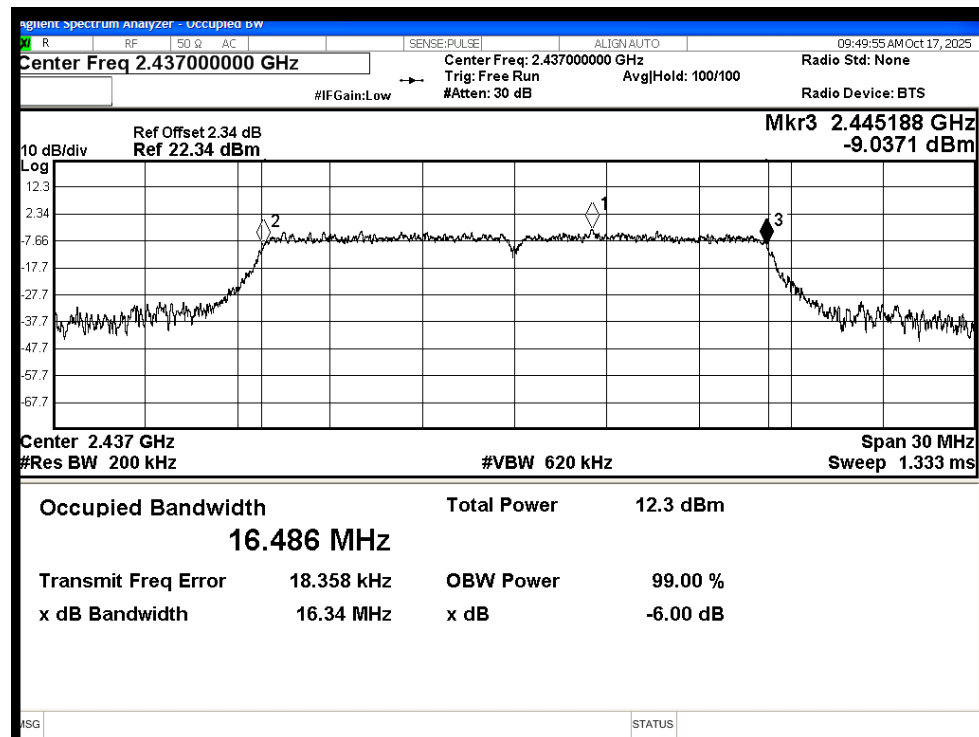
-6dB Bandwidth NVNT b 2462MHz Ant1



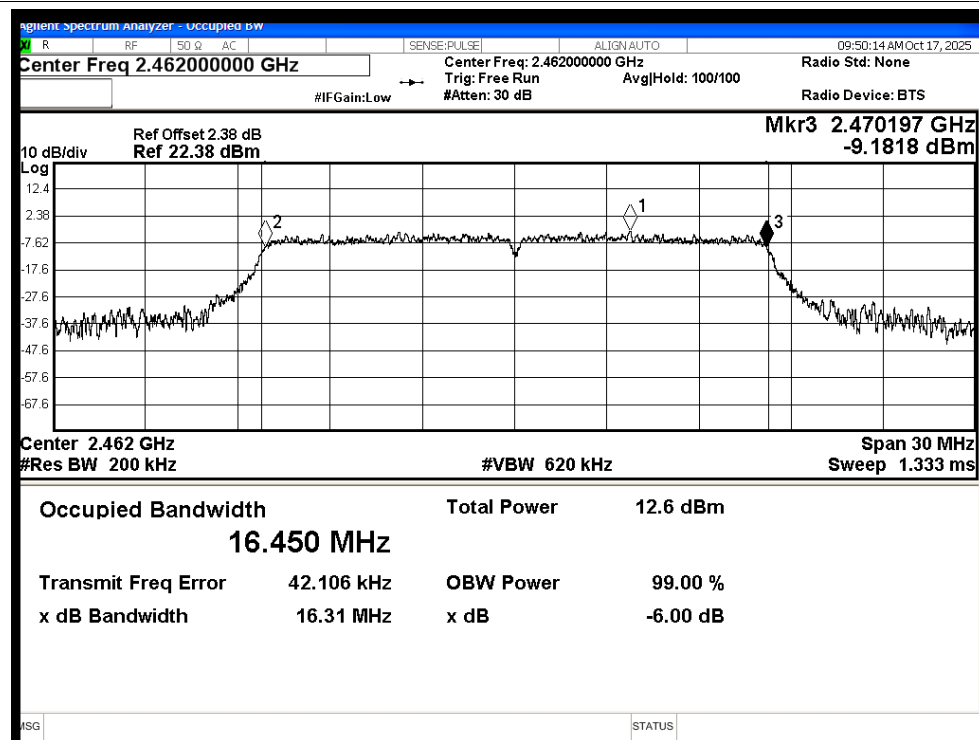
-6dB Bandwidth NVNT g 2412MHz Ant1



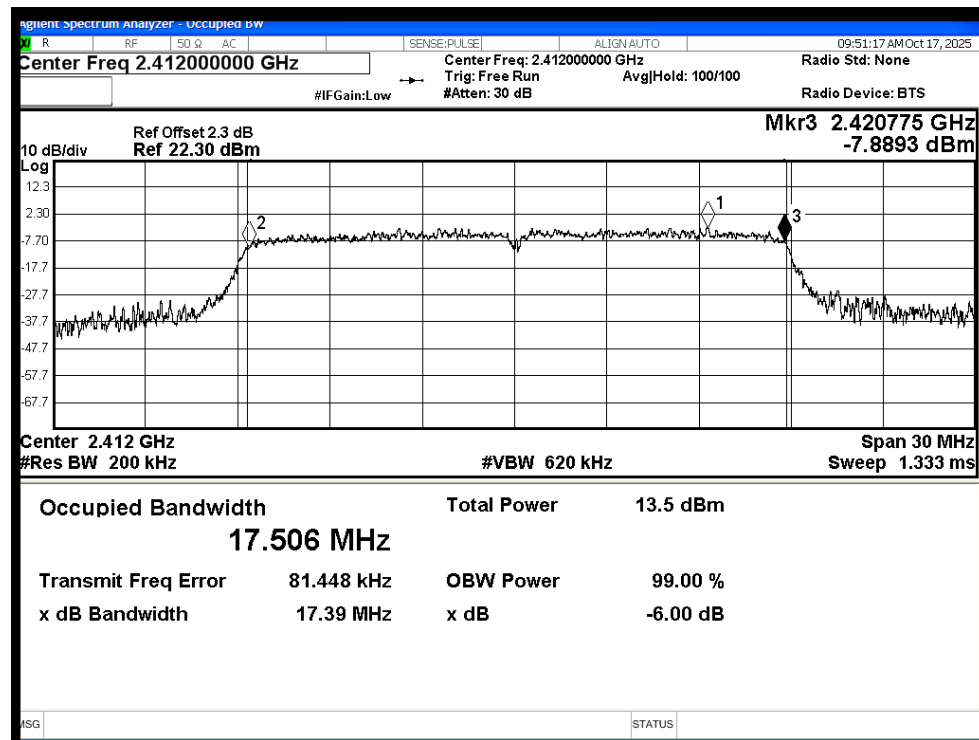
-6dB Bandwidth NVNT g 2437MHz Ant1



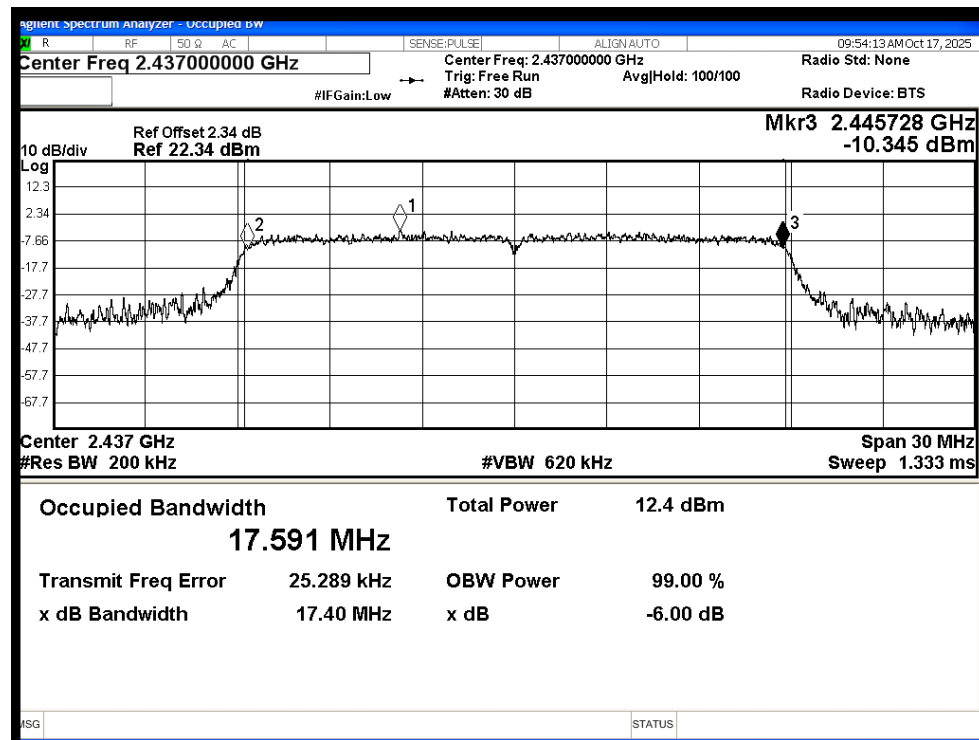
-6dB Bandwidth NVNT g 2462MHz Ant1



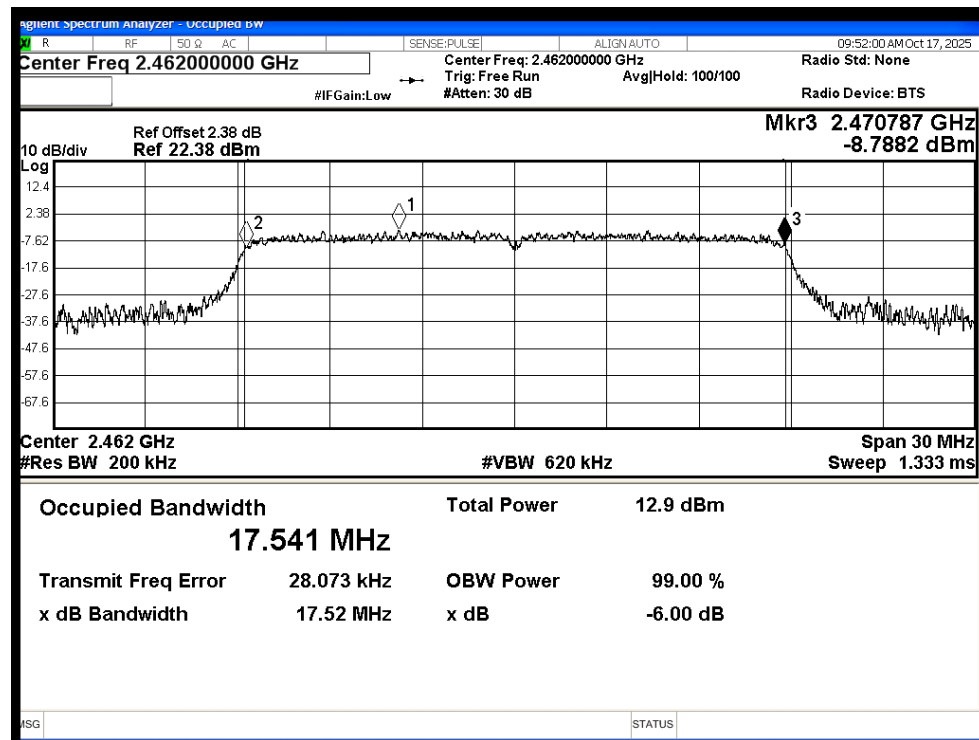
-6dB Bandwidth NVNT n20 2412MHz Ant1



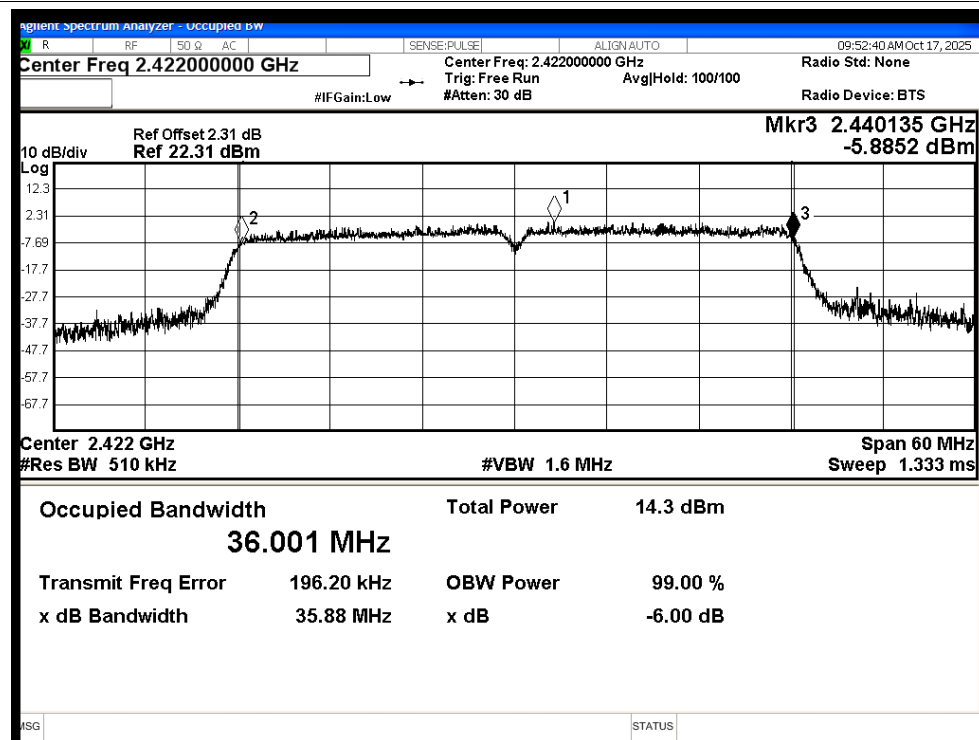
-6dB Bandwidth NVNT n20 2437MHz Ant1



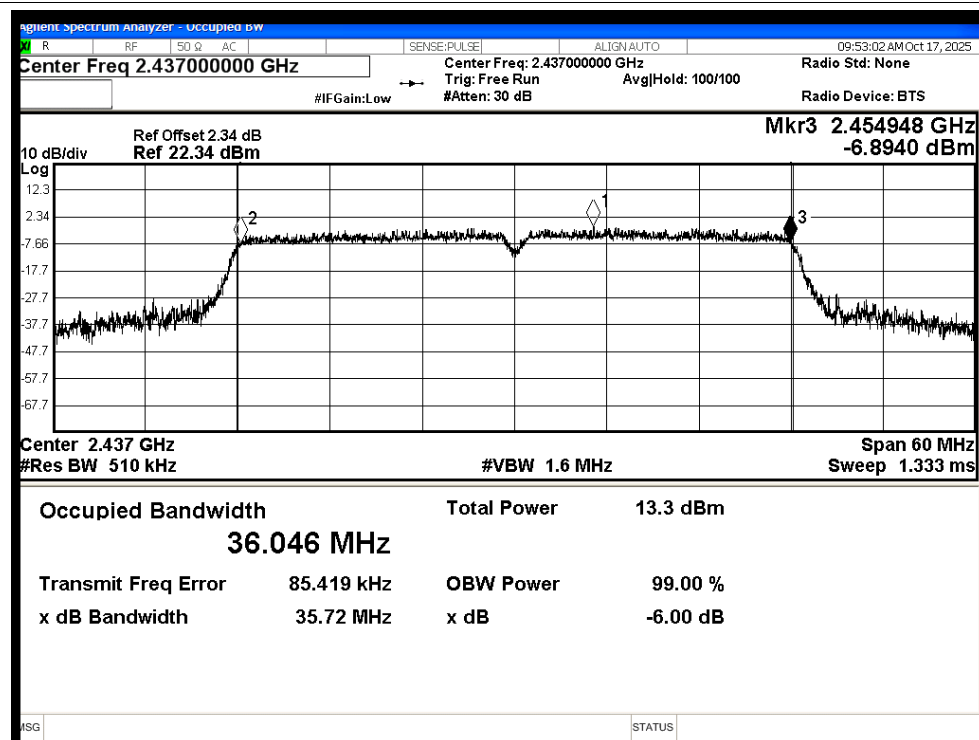
-6dB Bandwidth NVNT n20 2462MHz Ant1



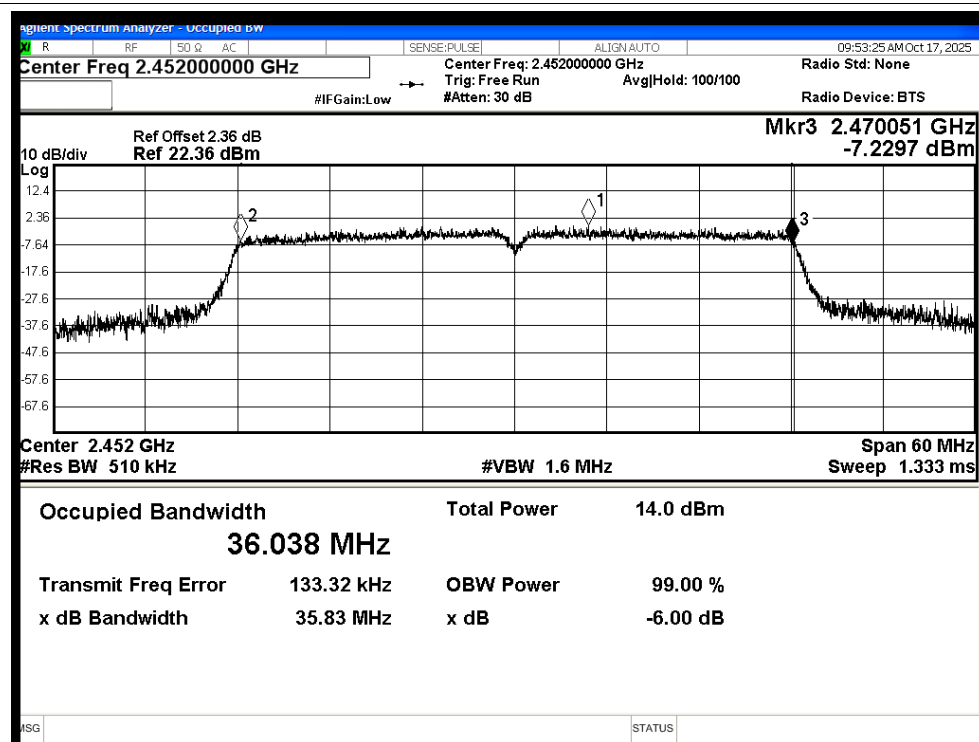
-6dB Bandwidth NVNT n40 2422MHz Ant1



-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1



2. Maximum Peak Conducted Output Power

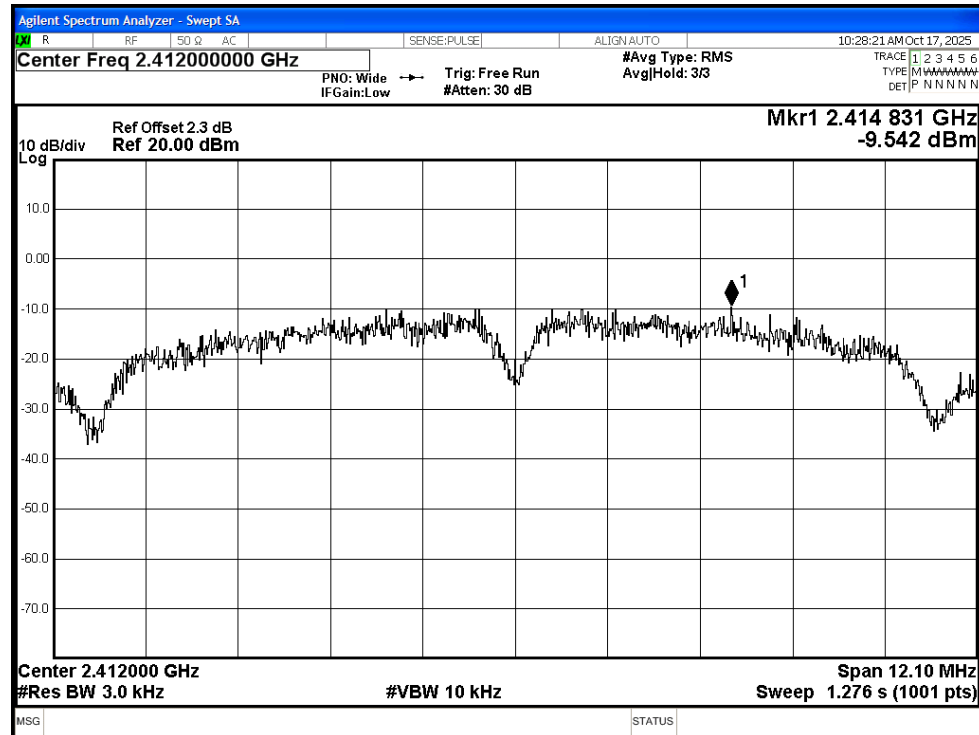
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant	15.01	30	Pass
NVNT	b	2437	Ant	15.49	30	Pass
NVNT	b	2462	Ant	14.89	30	Pass
NVNT	g	2412	Ant	14.5	30	Pass
NVNT	g	2437	Ant	14.45	30	Pass
NVNT	g	2462	Ant	14.44	30	Pass
NVNT	n20	2412	Ant	12.95	30	Pass
NVNT	n20	2437	Ant	13.04	30	Pass
NVNT	n20	2462	Ant	13.02	30	Pass
NVNT	n40	2422	Ant	12.37	30	Pass
NVNT	n40	2437	Ant	12.12	30	Pass
NVNT	n40	2452	Ant	13.19	30	Pass

3. Maximum Power Spectral Density Level

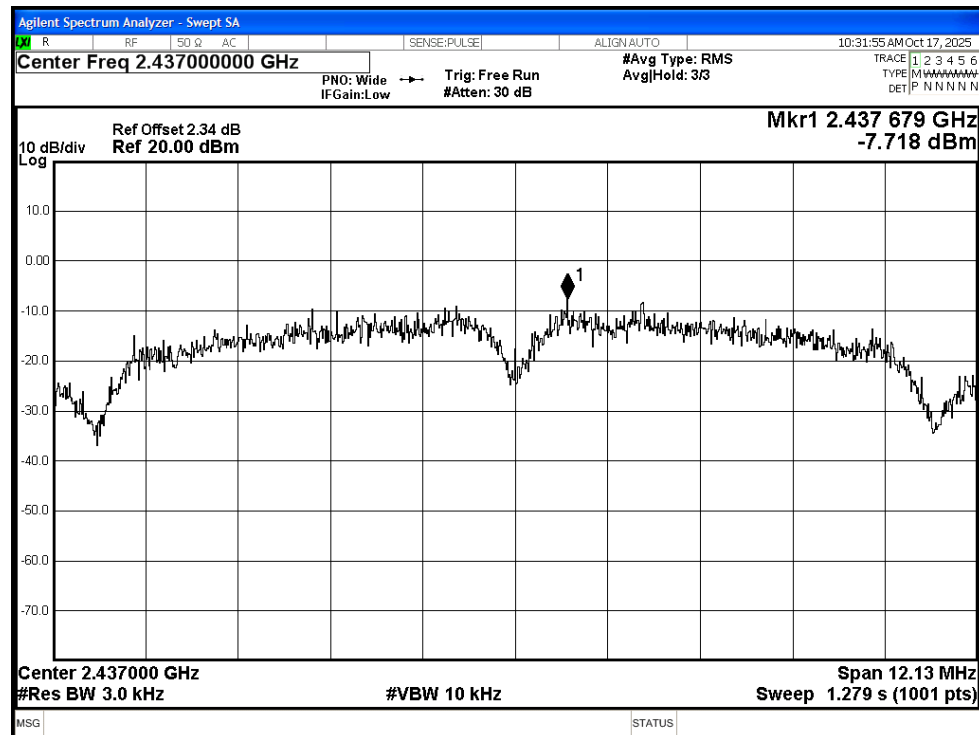
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant	-9.54	8	Pass
NVNT	b	2437	Ant	-7.72	8	Pass
NVNT	b	2462	Ant	-9.73	8	Pass
NVNT	g	2412	Ant	-15.97	8	Pass
NVNT	g	2437	Ant	-17.31	8	Pass
NVNT	g	2462	Ant	-16.06	8	Pass
NVNT	n20	2412	Ant	-17.27	8	Pass
NVNT	n20	2437	Ant	-18.23	8	Pass
NVNT	n20	2462	Ant	-17.56	8	Pass
NVNT	n40	2422	Ant	-21.88	8	Pass
NVNT	n40	2437	Ant	-21.28	8	Pass
NVNT	n40	2452	Ant	-20.52	8	Pass

Test Graphs

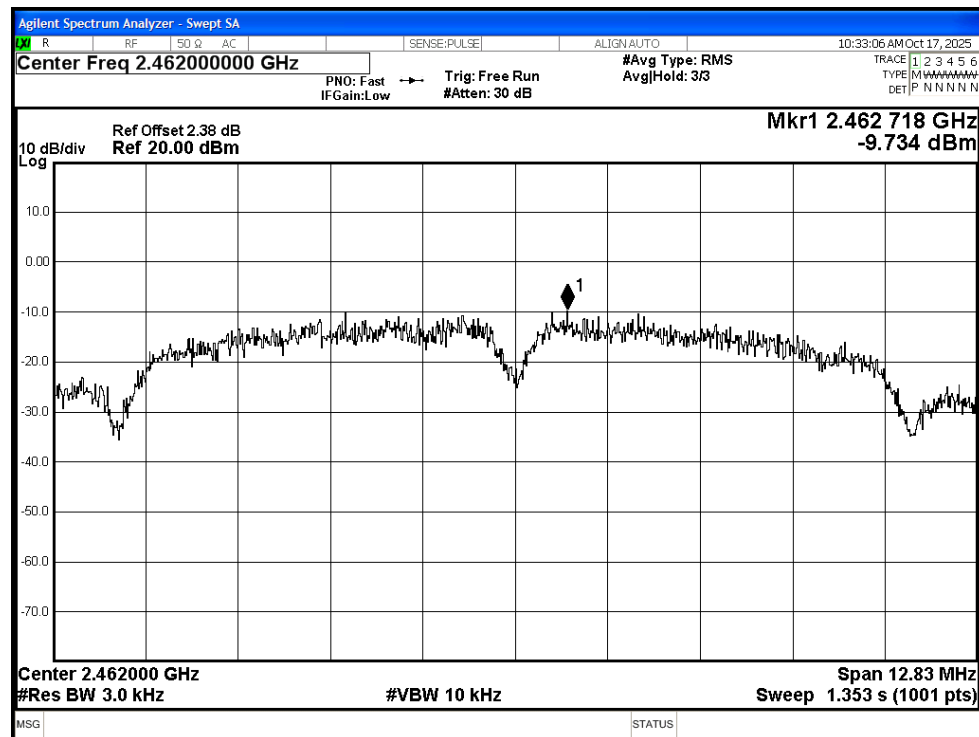
PSD NVNT b 2412MHz Ant



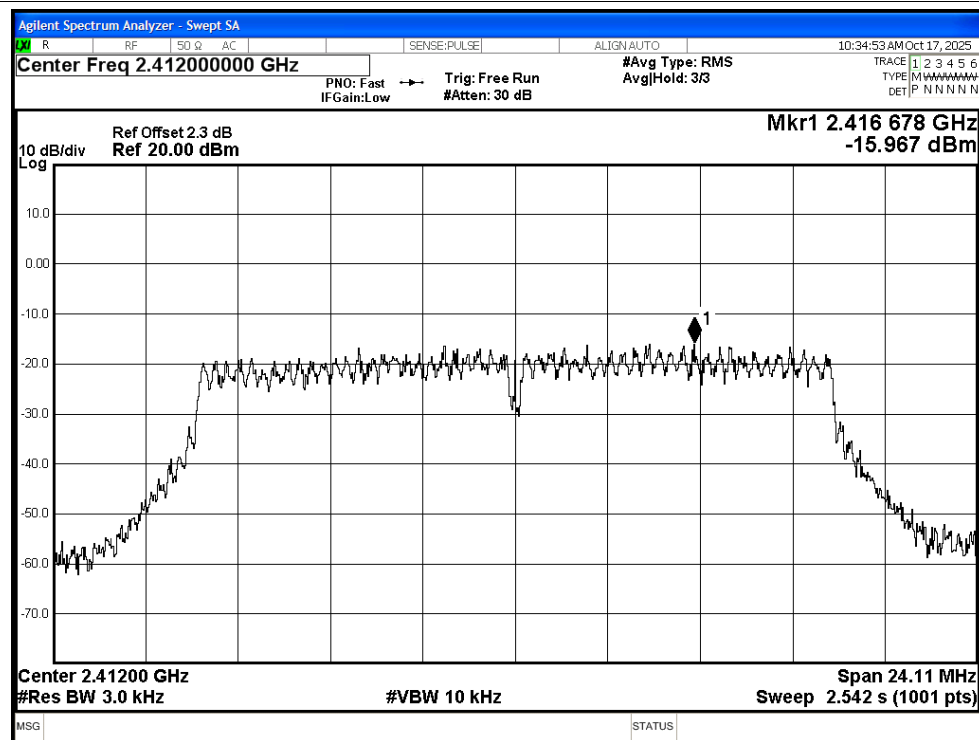
PSD NVNT b 2437MHz Ant



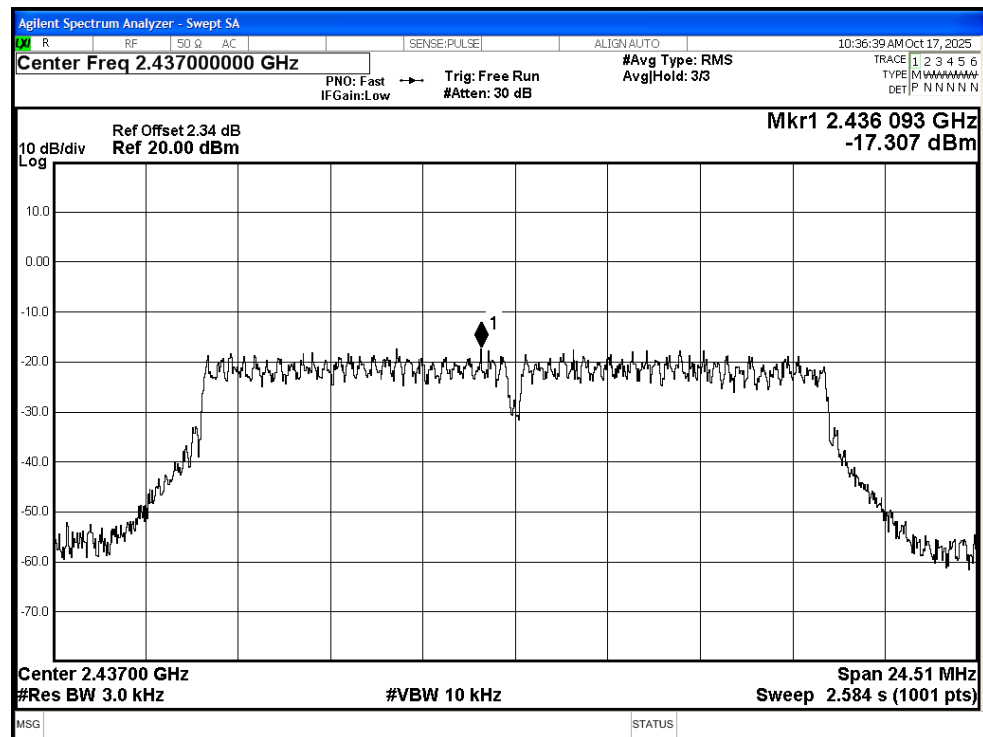
PSD NVNT b 2462MHz Ant



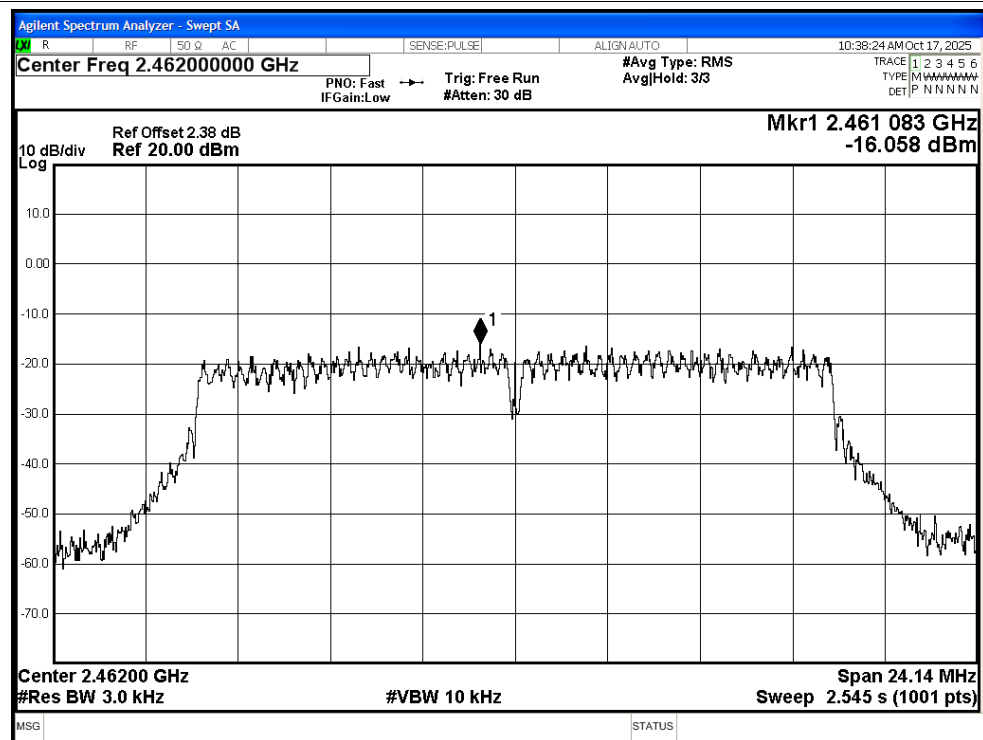
PSD NVNT g 2412MHz Ant



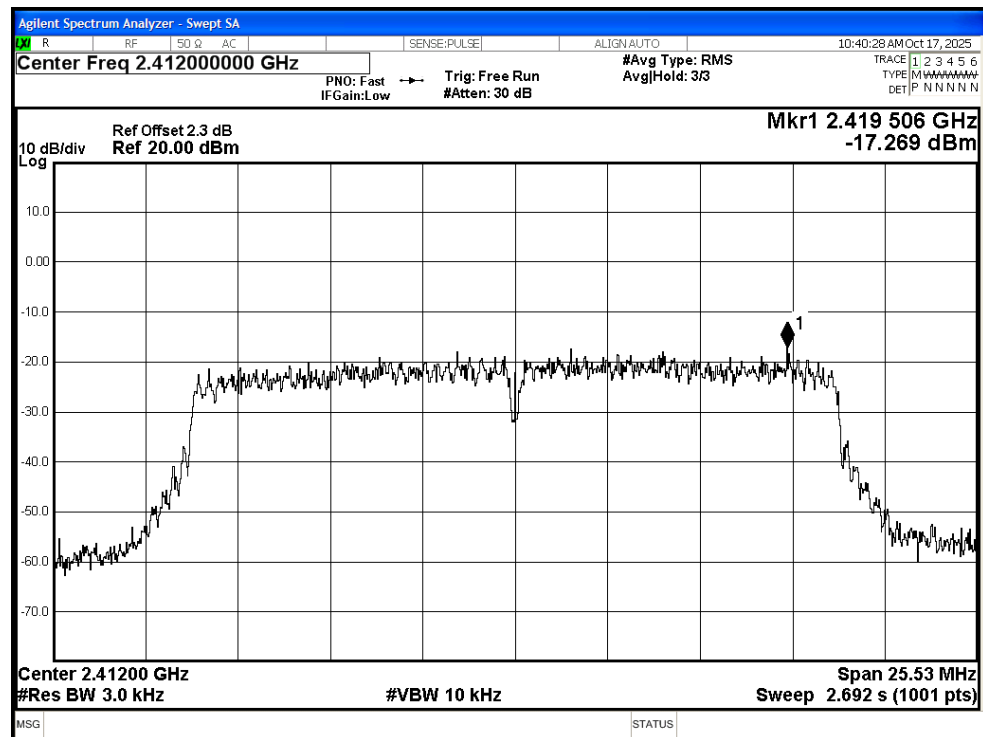
PSD NVNT g 2437MHz Ant



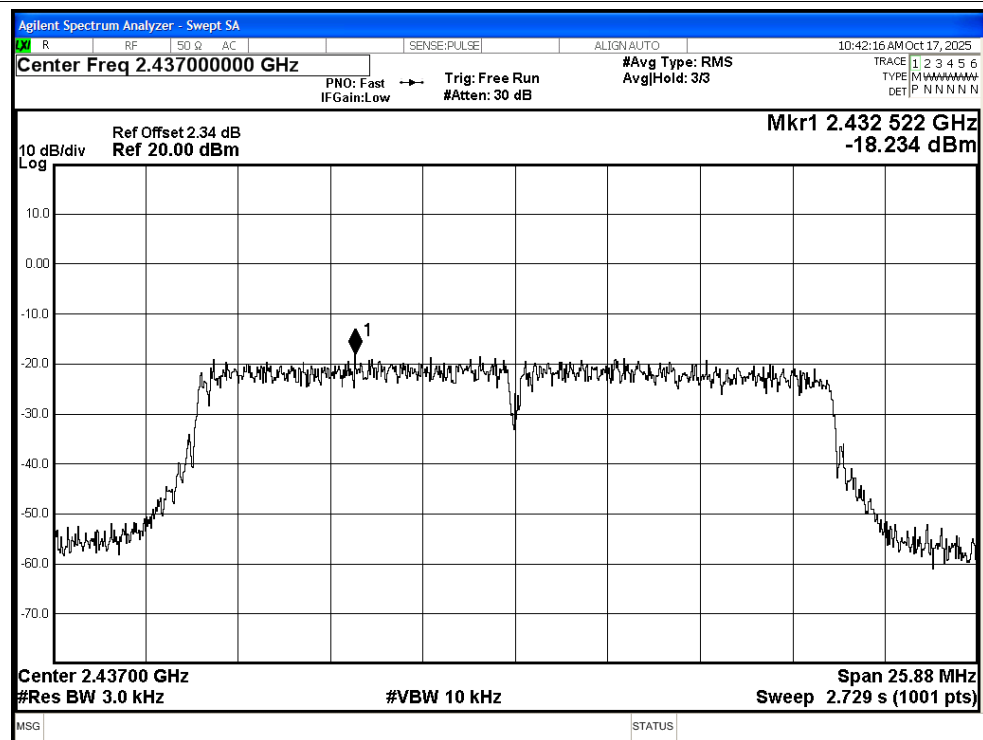
PSD NVNT g 2462MHz Ant



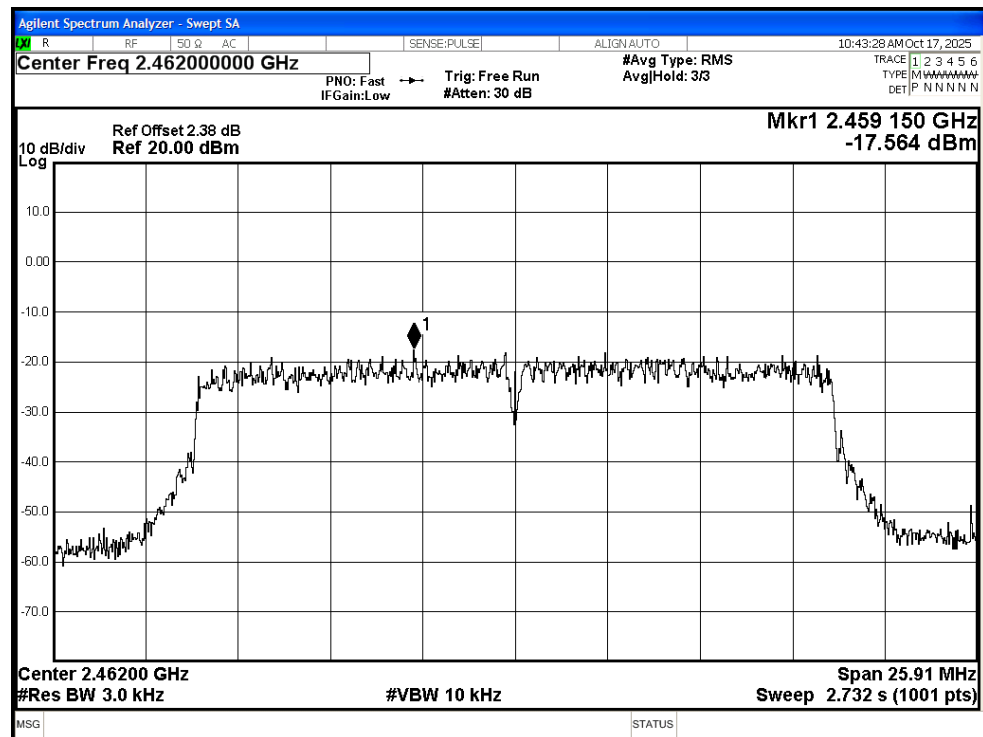
PSD NVNT n20 2412MHz Ant



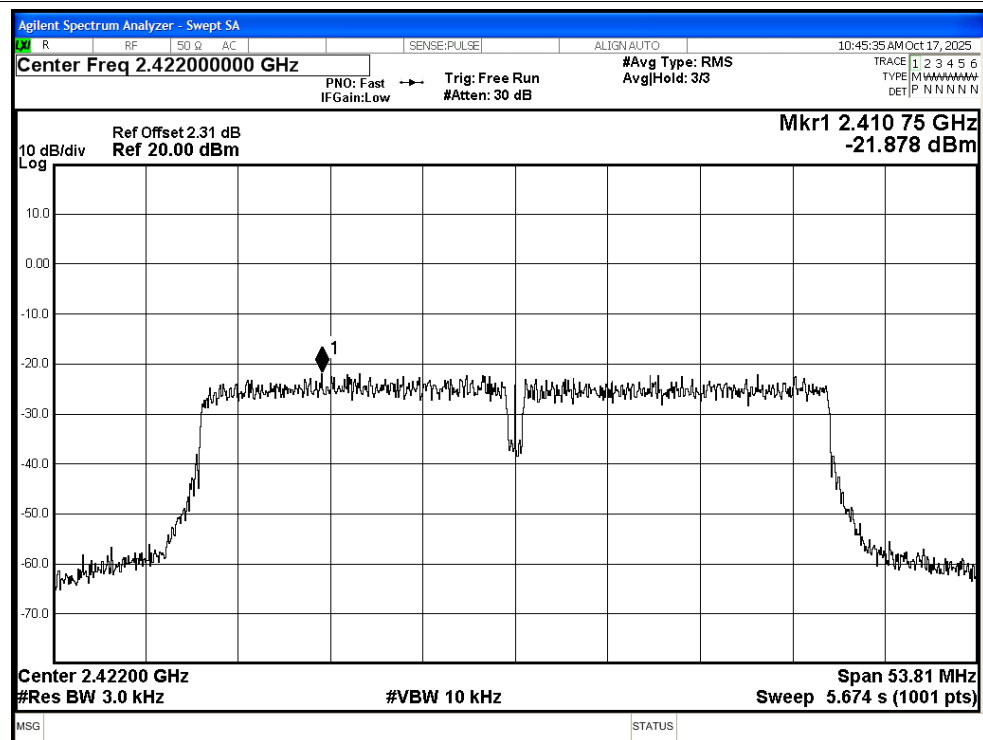
PSD NVNT n20 2437MHz Ant



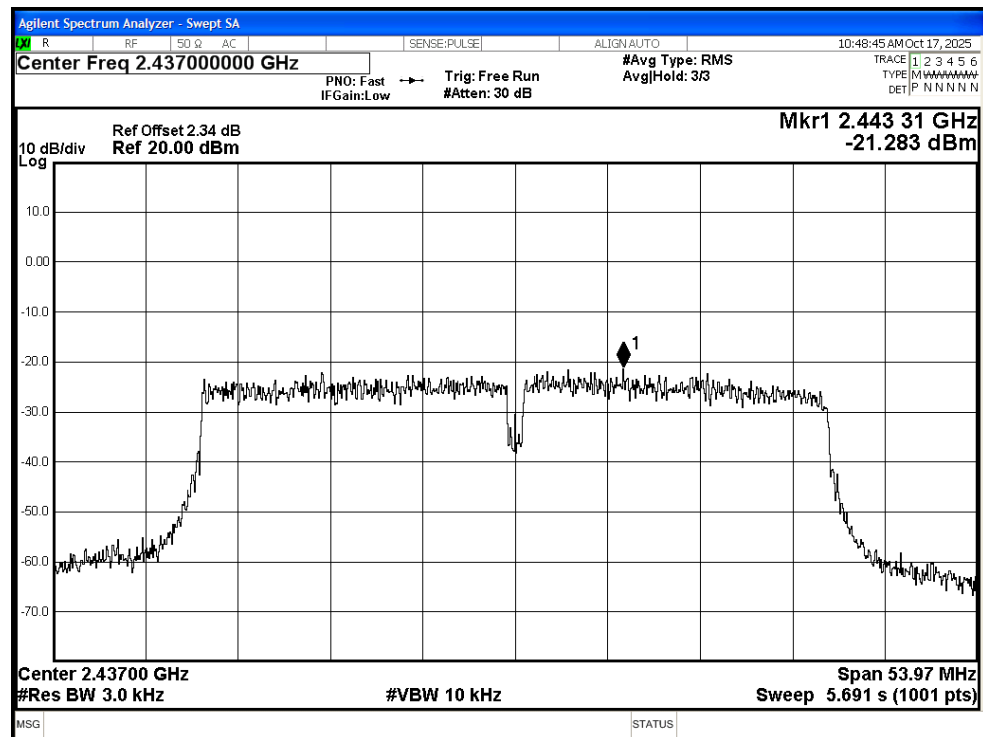
PSD NVNT n20 2462MHz Ant



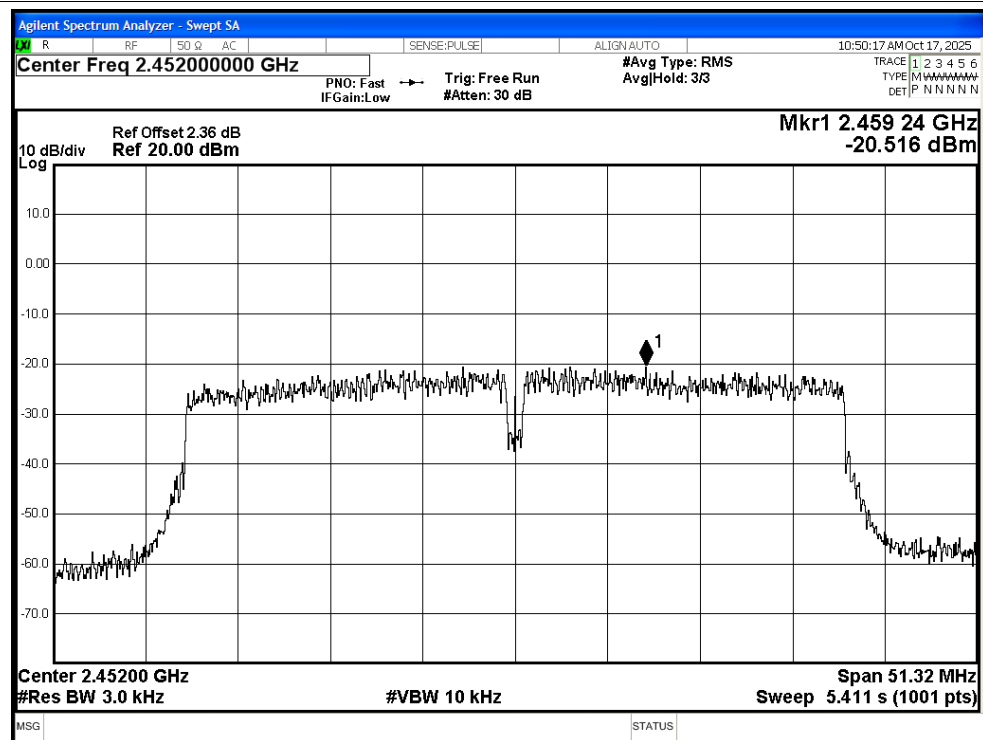
PSD NVNT n40 2422MHz Ant



PSD NVNT n40 2437MHz Ant



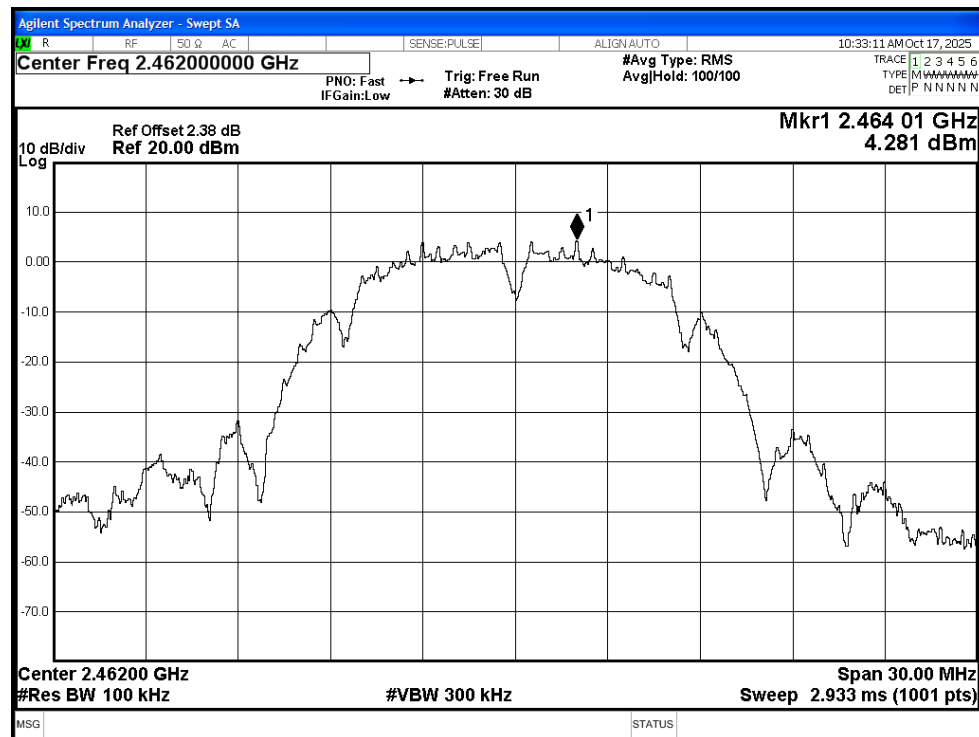
PSD NVNT n40 2452MHz Ant



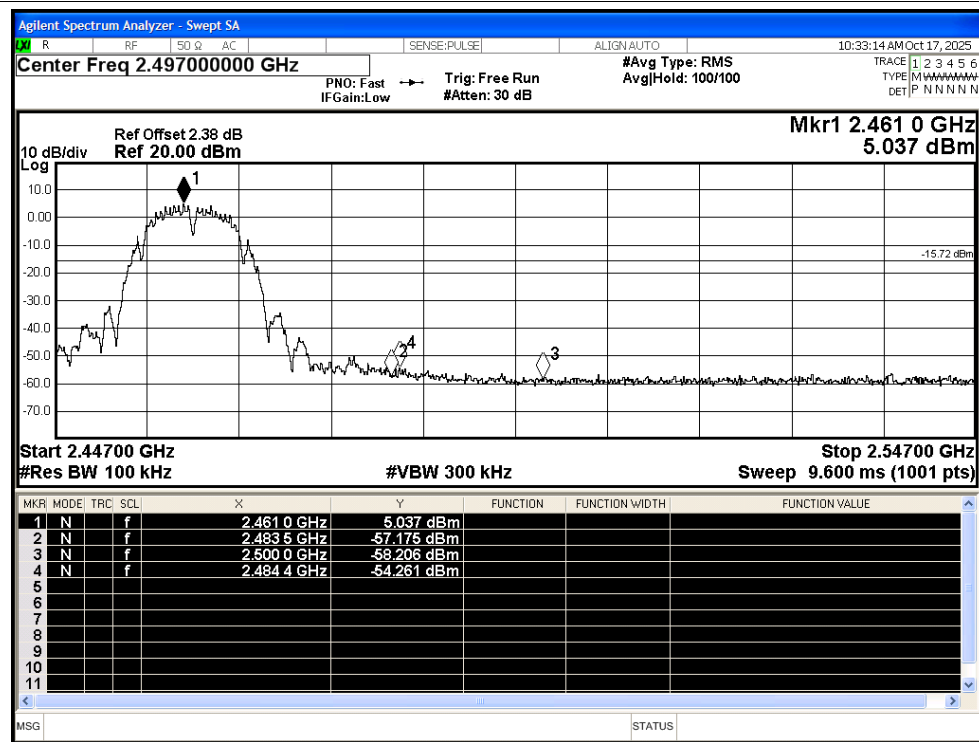
4. Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant	-52.03	-20	Pass
NVNT	b	2462	Ant	-58.54	-20	Pass
NVNT	g	2412	Ant	-33.09	-20	Pass
NVNT	g	2462	Ant	-41.78	-20	Pass
NVNT	n20	2412	Ant	-30.87	-20	Pass
NVNT	n20	2462	Ant	-38.21	-20	Pass
NVNT	n40	2422	Ant	-29.92	-20	Pass
NVNT	n40	2452	Ant	-35.57	-20	Pass

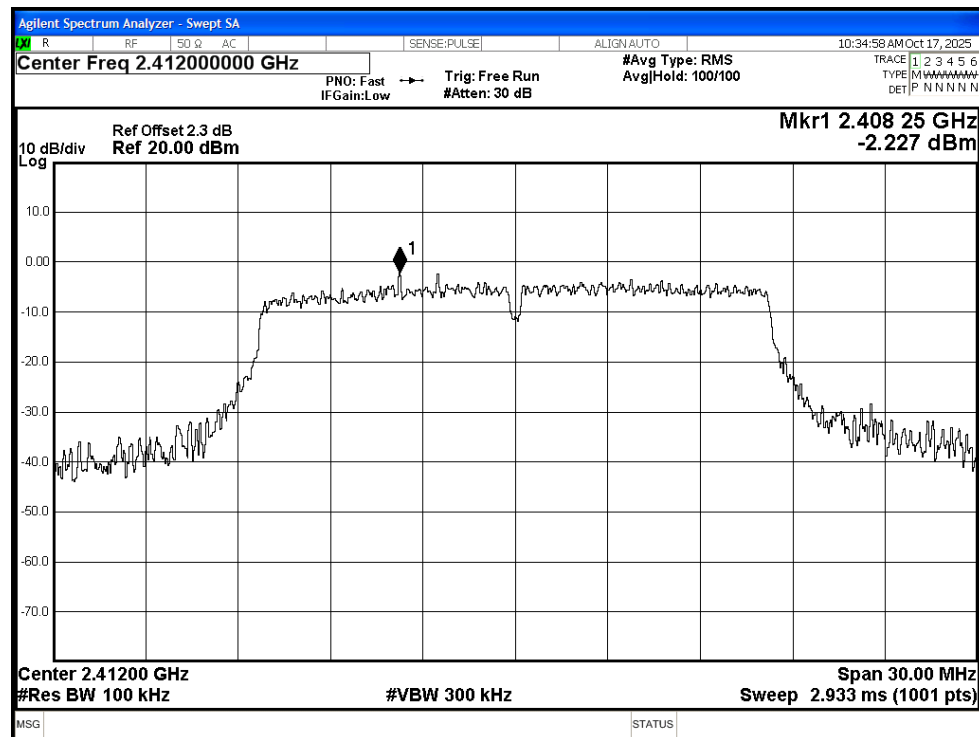
Band Edge NVNT b 2462MHz Ant Ref



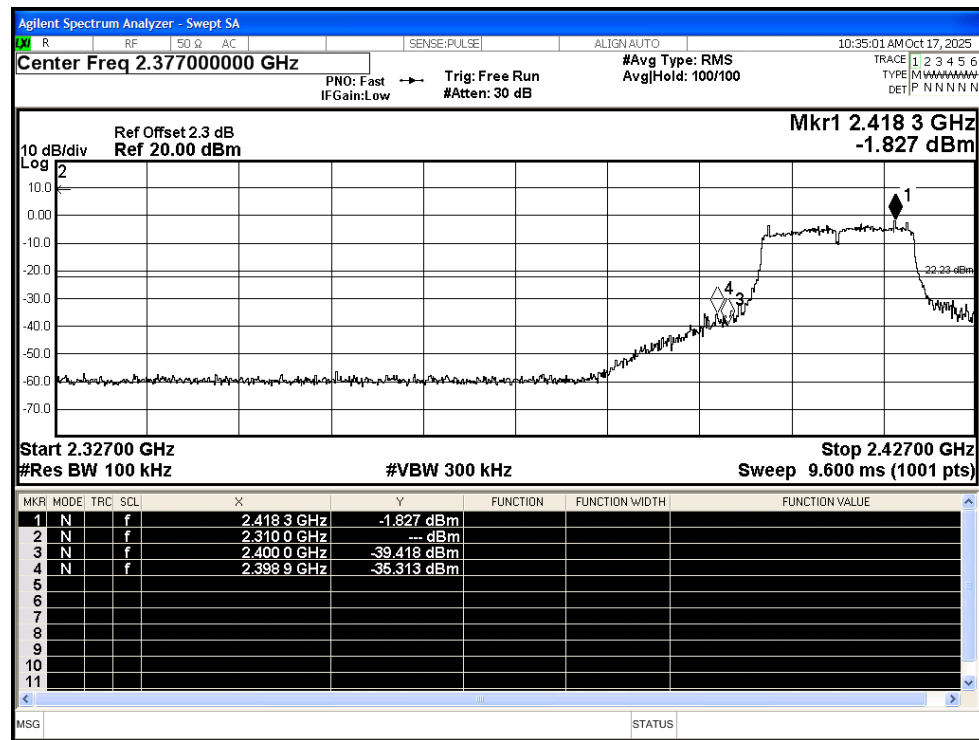
Band Edge NVNT b 2462MHz Ant Emission



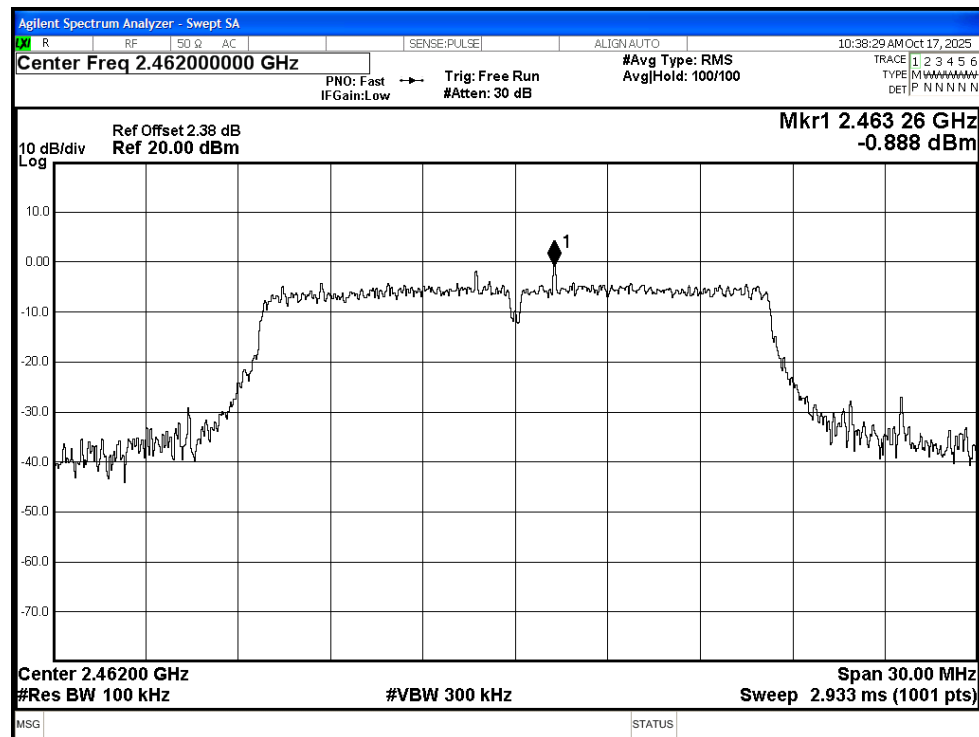
Band Edge NVNT g 2412MHz Ant Ref



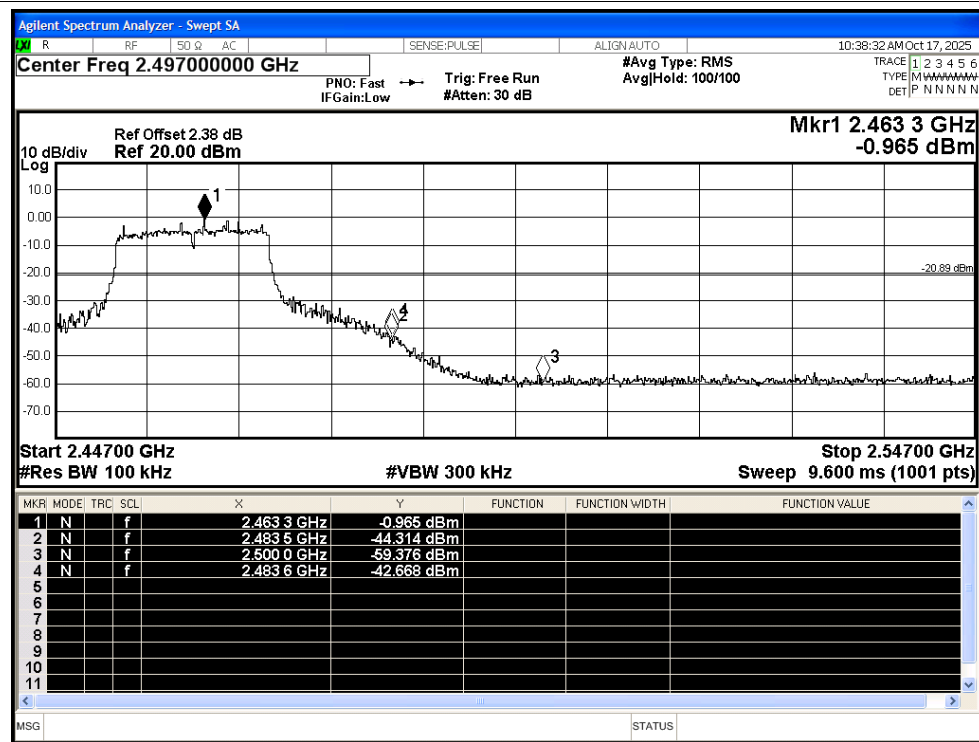
Band Edge NVNT g 2412MHz Ant Emission



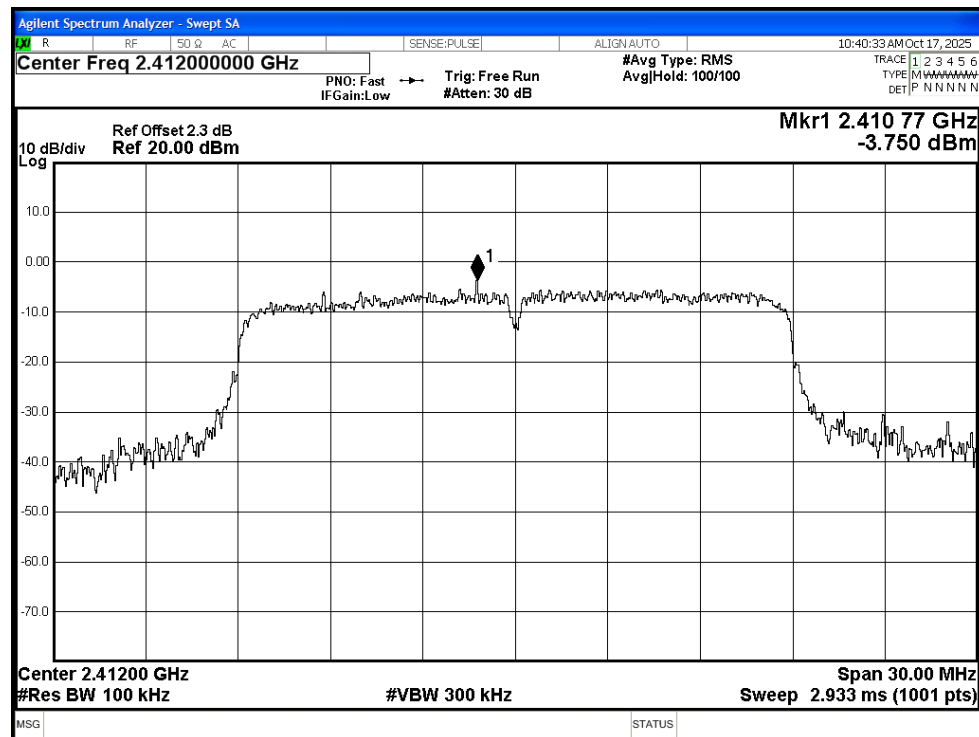
Band Edge NVNT g 2462MHz Ant Ref



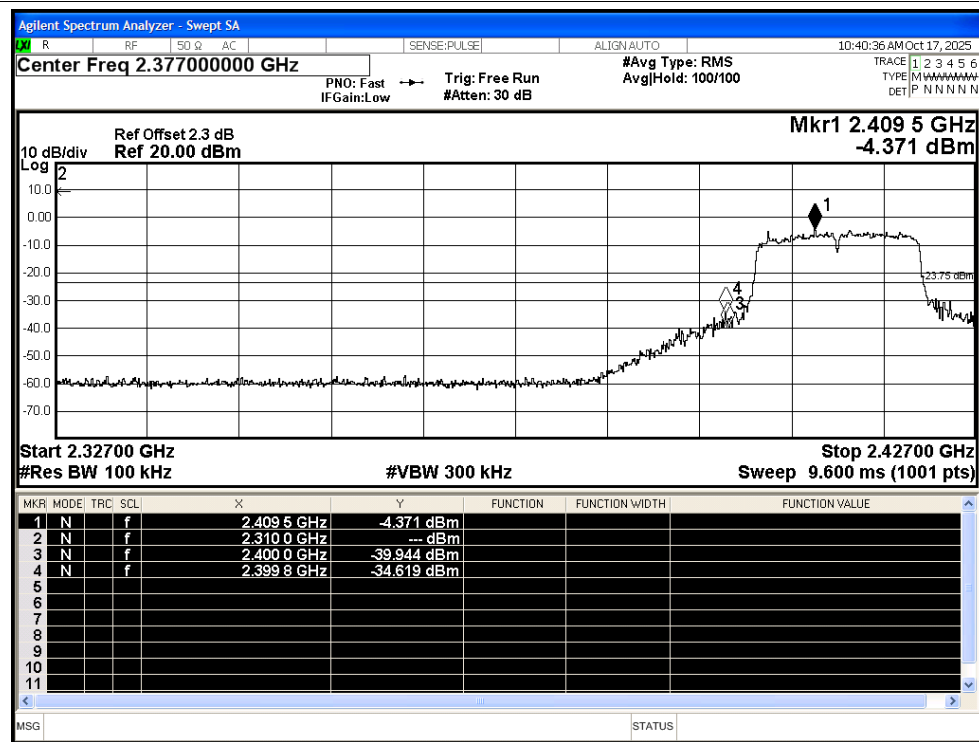
Band Edge NVNT g 2462MHz Ant Emission



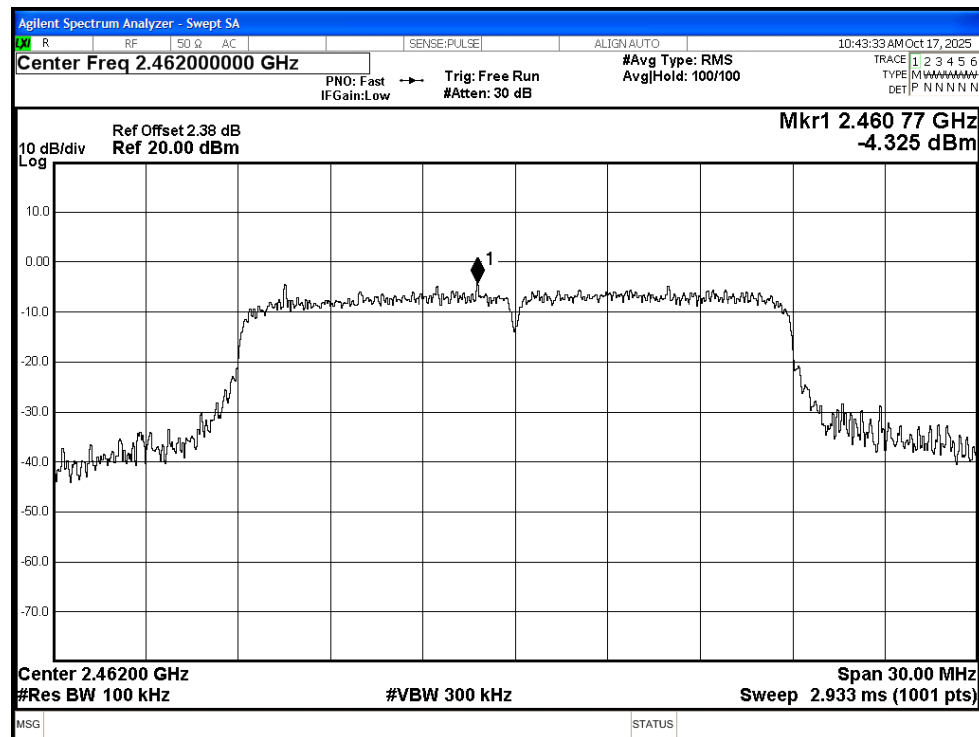
Band Edge NVNT n20 2412MHz Ant Ref



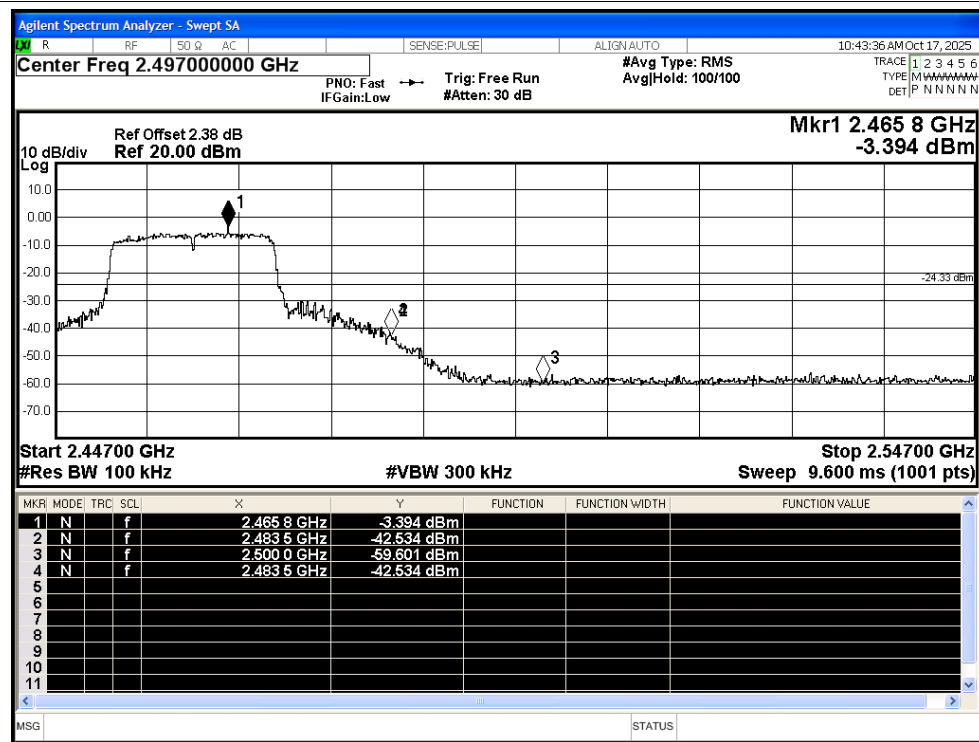
Band Edge NVNT n20 2412MHz Ant Emission



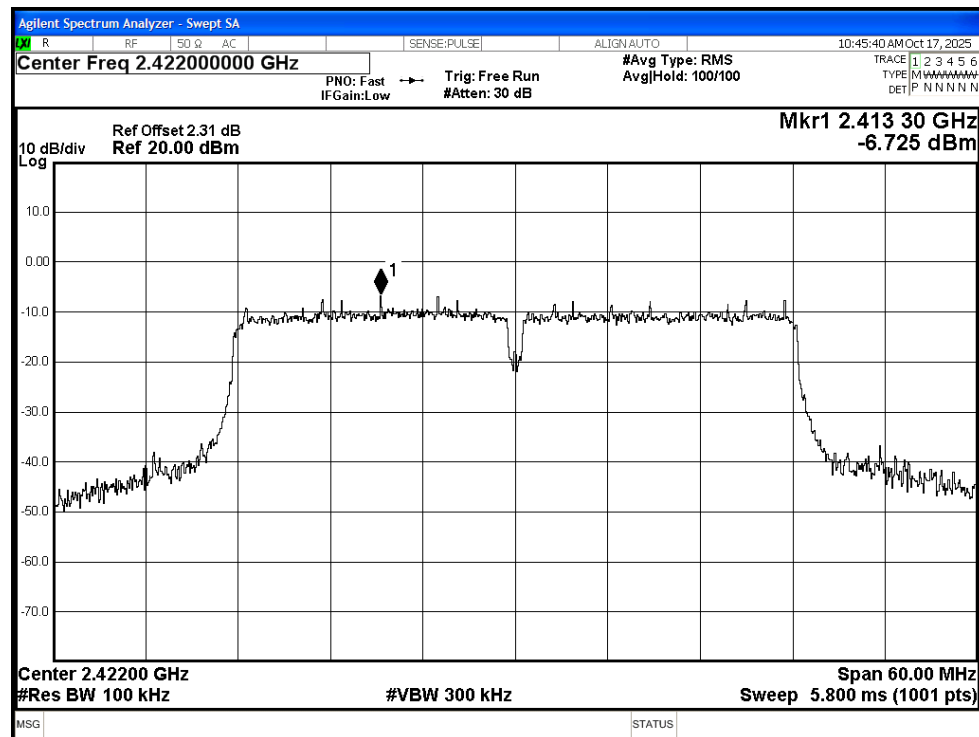
Band Edge NVNT n20 2462MHz Ant Ref



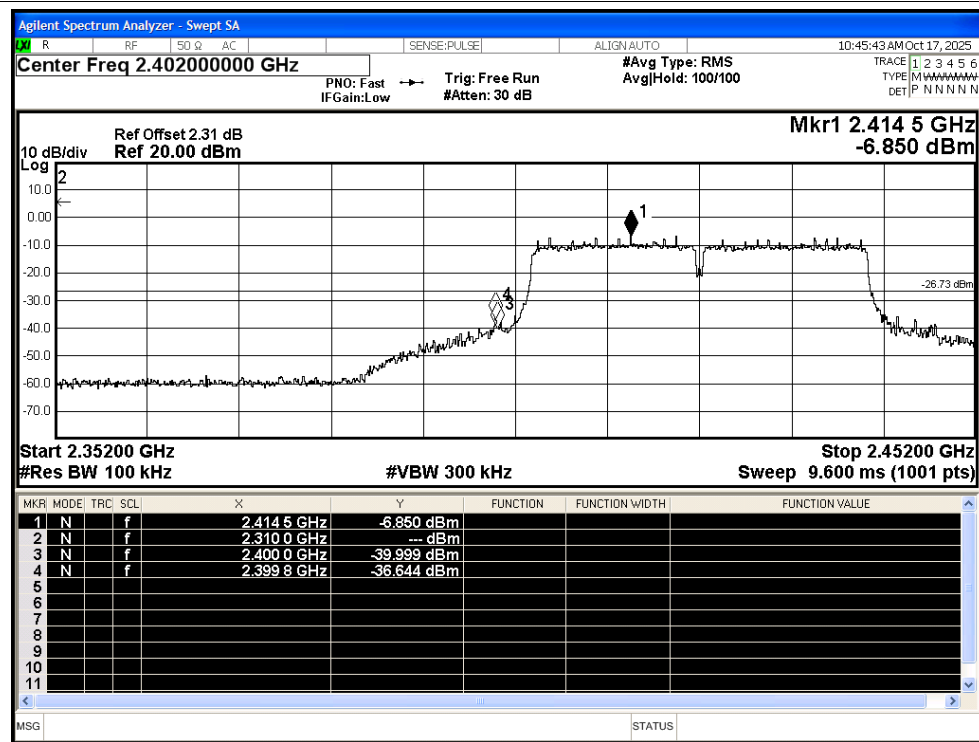
Band Edge NVNT n20 2462MHz Ant Emission



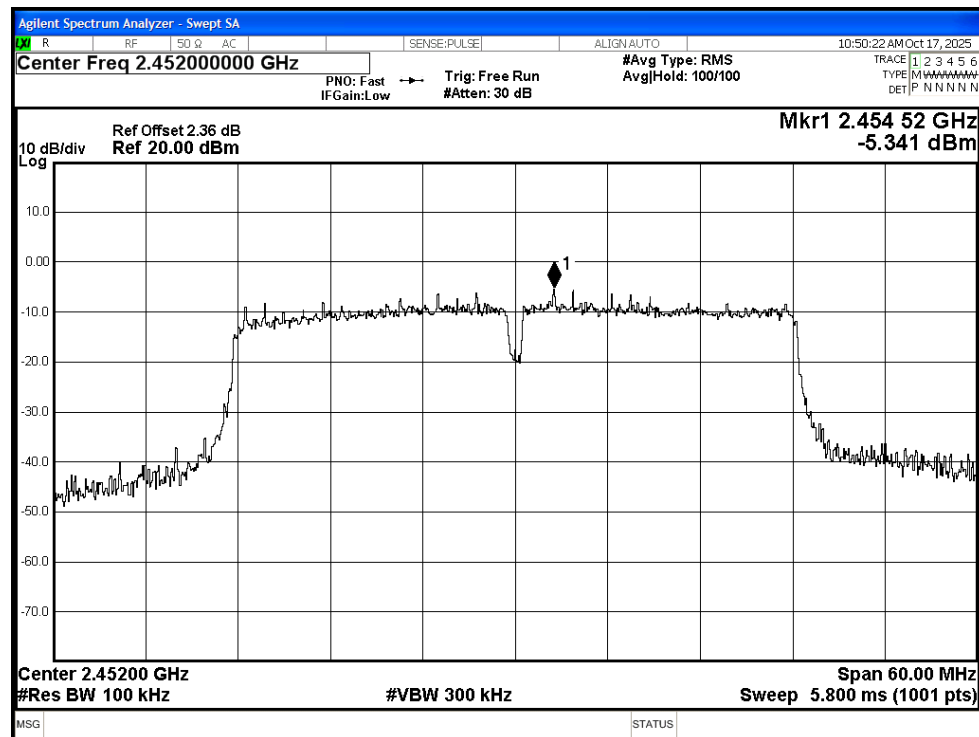
Band Edge NVNT n40 2422MHz Ant Ref



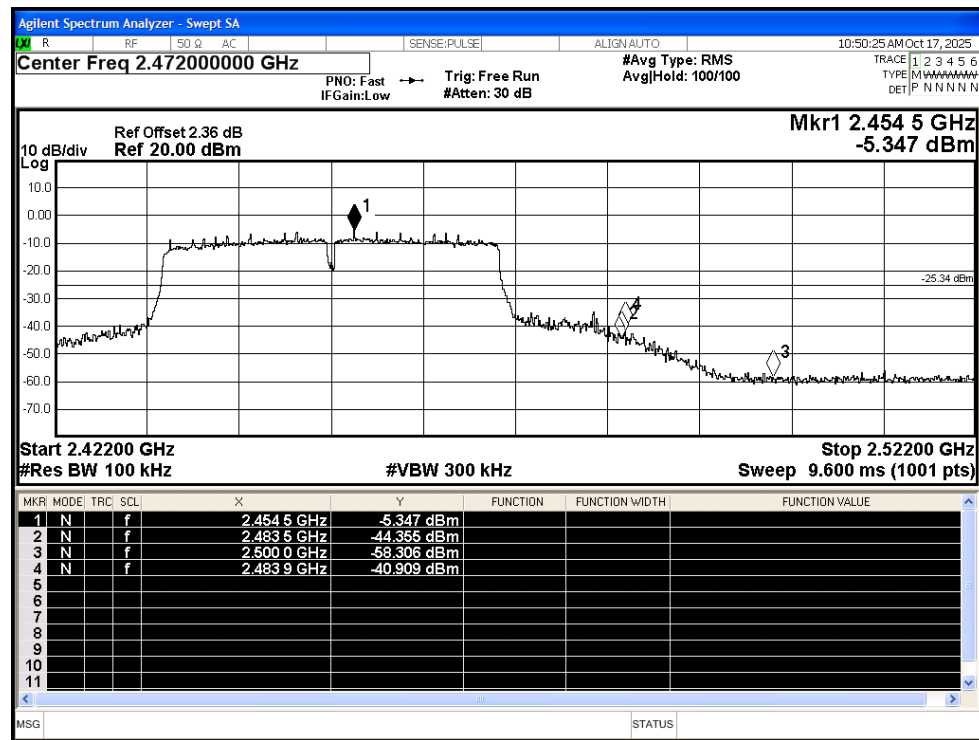
Band Edge NVNT n40 2422MHz Ant Emission



Band Edge NVNT n40 2452MHz Ant Ref



Band Edge NVNT n40 2452MHz Ant Emission

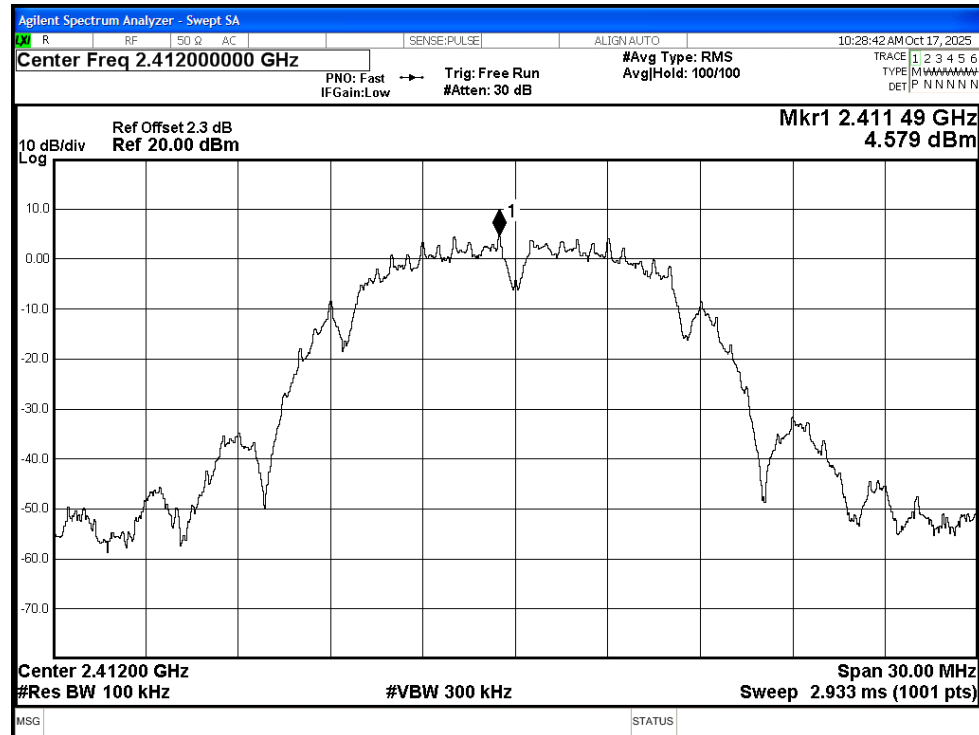


5. Conducted RF Spurious Emission

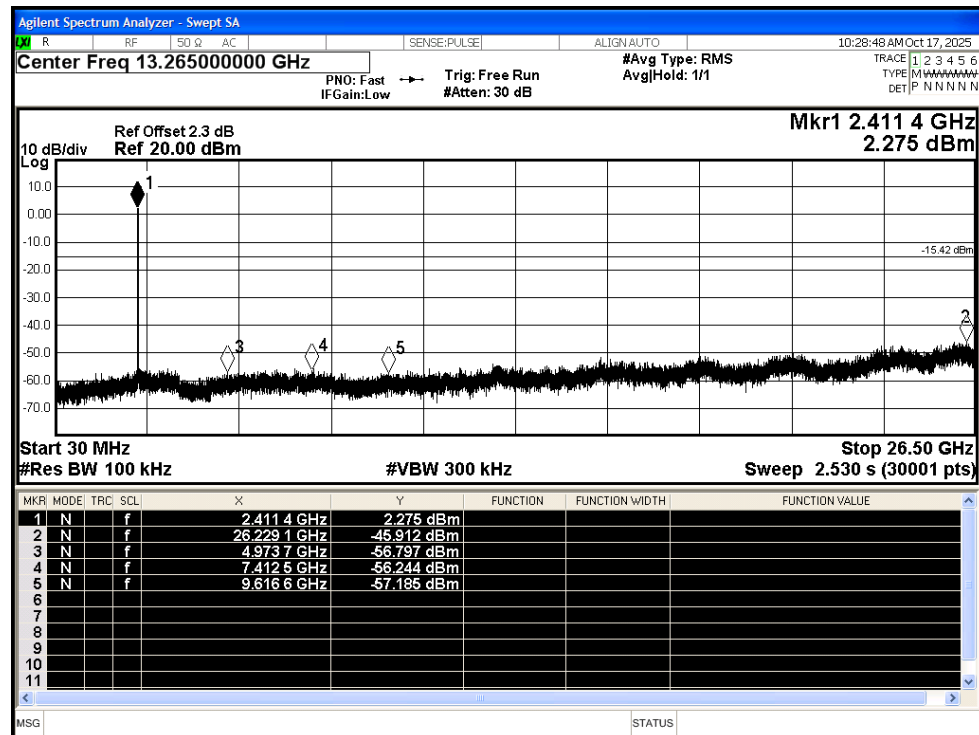
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant	-50.49	-20	Pass
NVNT	b	2437	Ant	-50.38	-20	Pass
NVNT	b	2462	Ant	-50.59	-20	Pass
NVNT	g	2412	Ant	-43.77	-20	Pass
NVNT	g	2437	Ant	-42.18	-20	Pass
NVNT	g	2462	Ant	-44.22	-20	Pass
NVNT	n20	2412	Ant	-42.72	-20	Pass
NVNT	n20	2437	Ant	-43.11	-20	Pass
NVNT	n20	2462	Ant	-42.5	-20	Pass
NVNT	n40	2422	Ant	-39.02	-20	Pass
NVNT	n40	2437	Ant	-39.54	-20	Pass
NVNT	n40	2452	Ant	-39.93	-20	Pass

Test Graphs

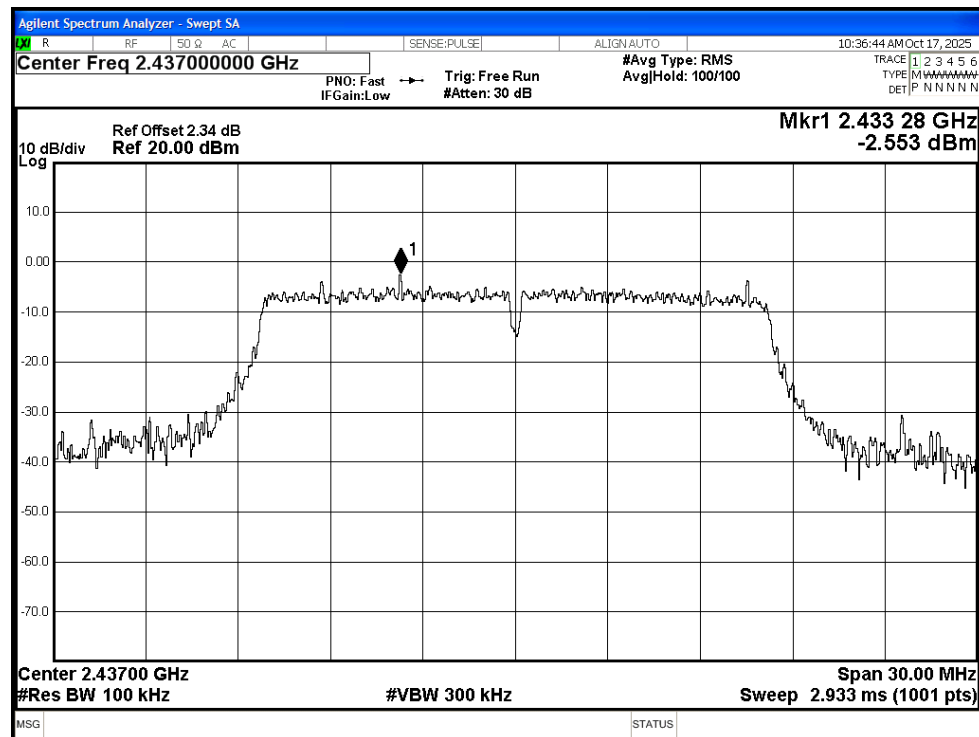
Tx. Spurious NVNT b 2412MHz Ant Ref



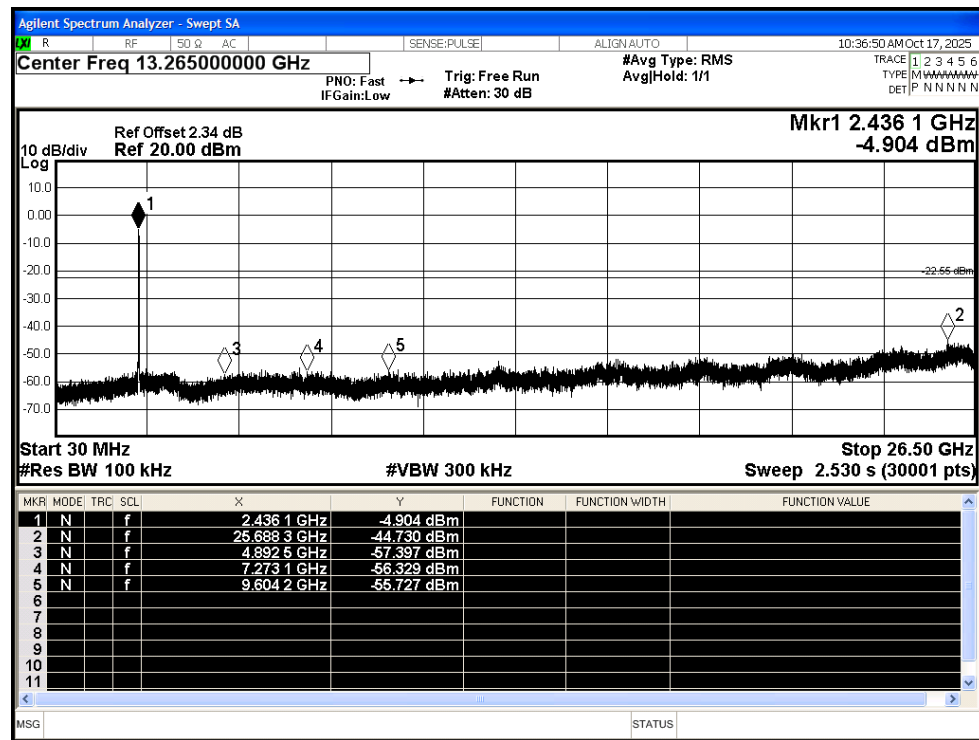
Tx. Spurious NVNT b 2412MHz Ant Emission



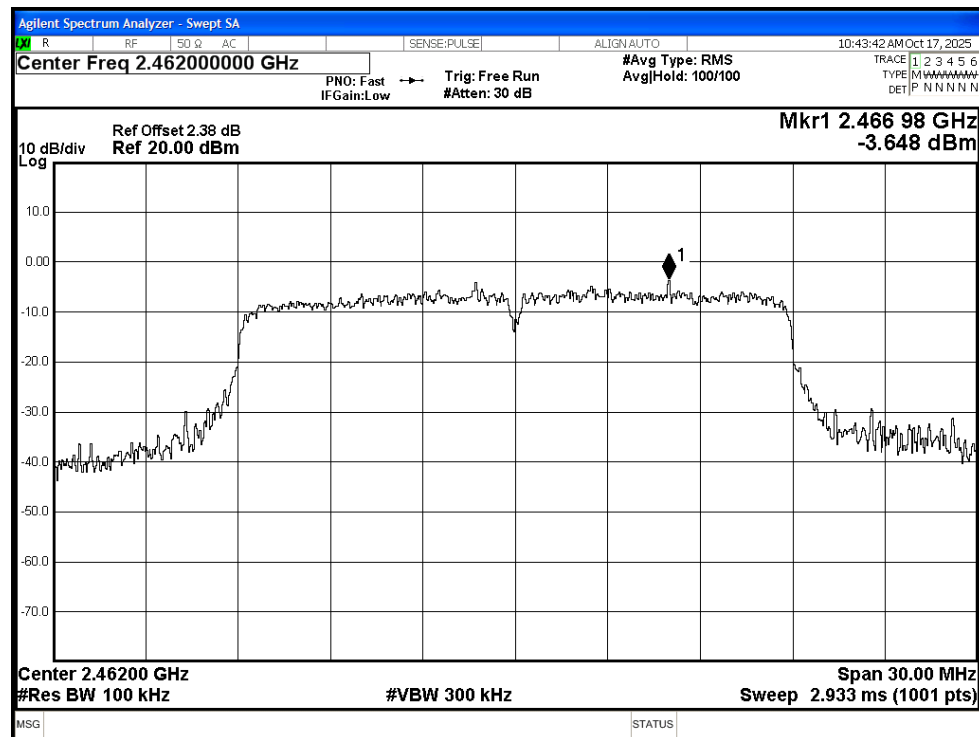
Tx. Spurious NVNT g 2437MHz Ant Ref



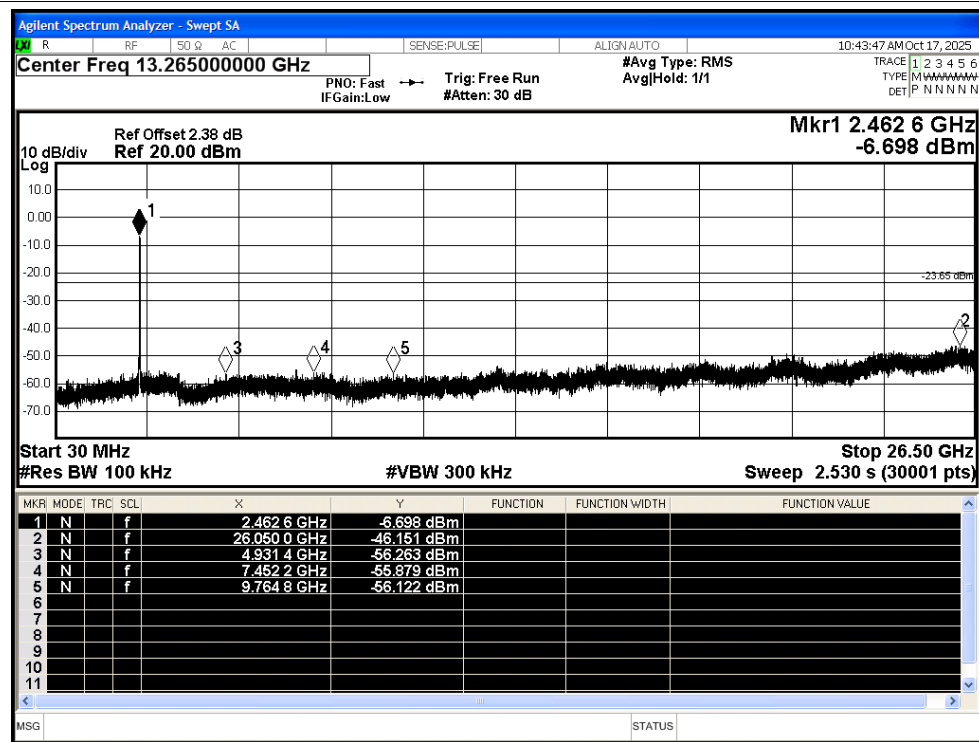
Tx. Spurious NVNT g 2437MHz Ant Emission



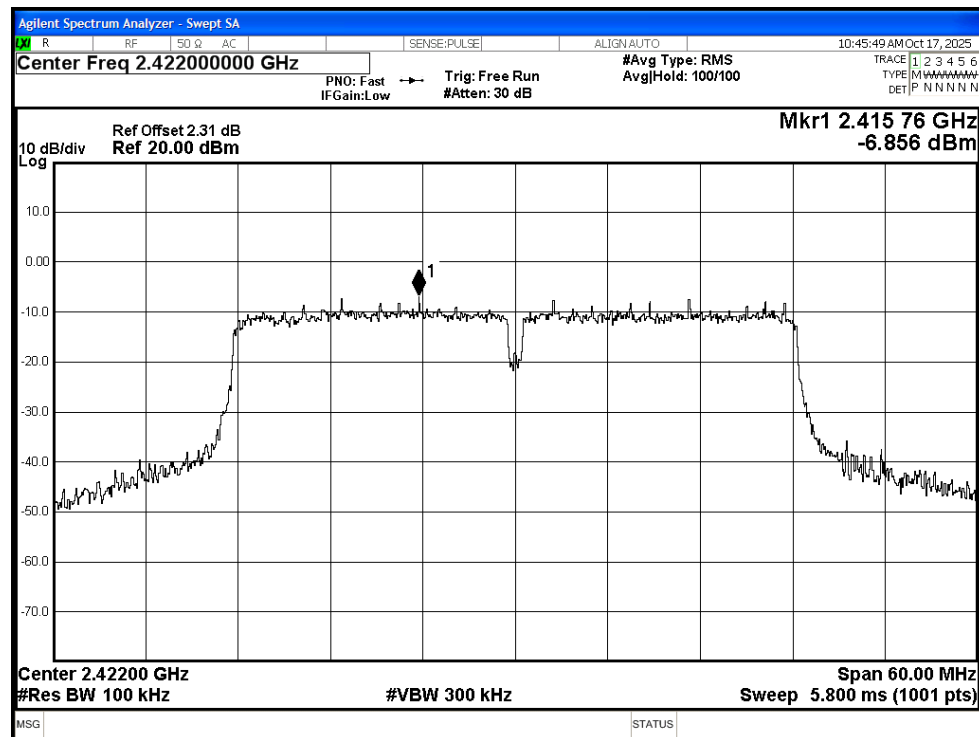
Tx. Spurious NVNT n20 2462MHz Ant Ref



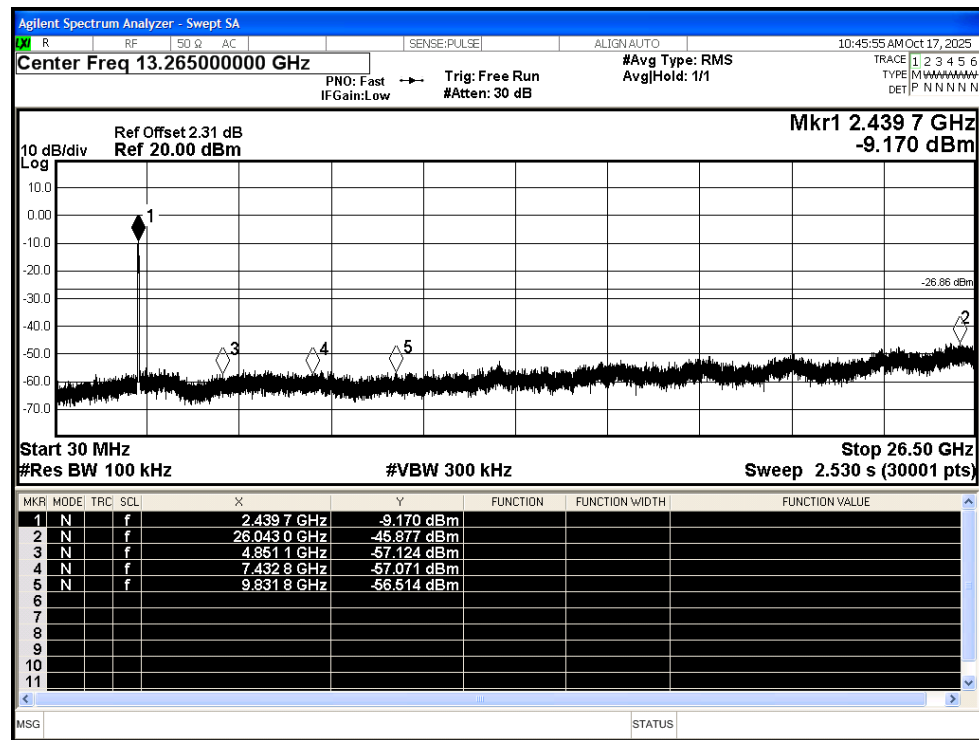
Tx. Spurious NVNT n20 2462MHz Ant Emission



Tx. Spurious NVNT n40 2422MHz Ant Ref



Tx. Spurious NVNT n40 2422MHz Ant Emission



6. Duty Cycle

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

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	Ant	2310	-49.85	2	-	47.41	Peak	74	Pass
NVNT	b	2412	Ant	2310	-58.16	2	0	39.1	Average	54	Pass
NVNT	b	2412	Ant	2389.209	-44.03	2	-	53.23	Peak	74	Pass
NVNT	b	2412	Ant	2389.326	-54.93	2	0	42.33	Average	54	Pass
NVNT	b	2412	Ant	2390	-47.05	2	-	50.21	Peak	74	Pass
NVNT	b	2412	Ant	2390	-55.78	2	0	41.48	Average	54	Pass
NVNT	b	2462	Ant	2483.5	-46.38	2	-	50.88	Peak	74	Pass
NVNT	b	2462	Ant	2483.5	-54.9	2	0	42.36	Average	54	Pass
NVNT	b	2462	Ant	2484.471	-38.11	2	-	59.15	Peak	74	Pass
NVNT	b	2462	Ant	2484.047	-54.11	2	0	43.15	Average	54	Pass
NVNT	b	2462	Ant	2500	-47.93	2	-	49.33	Peak	74	Pass
NVNT	b	2462	Ant	2500	-57.55	2	0	39.71	Average	54	Pass
NVNT	g	2412	Ant	2310	-51.52	2	-	45.74	Peak	74	Pass
NVNT	g	2412	Ant	2310	-58.28	2	0.1	39.08	Average	54	Pass
NVNT	g	2412	Ant	2388.507	-37.28	2	-	59.98	Peak	74	Pass
NVNT	g	2412	Ant	2389.794	-51.94	2	0.1	45.42	Average	54	Pass
NVNT	g	2412	Ant	2390	-36.28	2	-	60.98	Peak	74	Pass
NVNT	g	2412	Ant	2390	-52.18	2	0.1	45.18	Average	54	Pass
NVNT	g	2462	Ant	2483.5	-38.04	2	-	59.22	Peak	74	Pass
NVNT	g	2462	Ant	2483.5	-53.4	2	0.1	43.96	Average	54	Pass
NVNT	g	2462	Ant	2485.054	-35.44	2	-	61.82	Peak	74	Pass
NVNT	g	2462	Ant	2483.676	-51.75	2	0.1	45.61	Average	54	Pass
NVNT	g	2462	Ant	2500	-48.71	2	-	48.55	Peak	74	Pass
NVNT	g	2462	Ant	2500	-57.93	2	0.1	39.43	Average	54	Pass
NVNT	n20	2412	Ant	2310	-50.58	2	-	46.68	Peak	74	Pass
NVNT	n20	2412	Ant	2310	-58.91	2	0.12	38.47	Average	54	Pass
NVNT	n20	2412	Ant	2388.975	-38.83	2	-	58.43	Peak	74	Pass
NVNT	n20	2412	Ant	2389.794	-51.81	2	0.12	45.57	Average	54	Pass
NVNT	n20	2412	Ant	2390	-40.49	2	-	56.77	Peak	74	Pass
NVNT	n20	2412	Ant	2390	-53.42	2	0.12	43.96	Average	54	Pass
NVNT	n20	2462	Ant	2483.5	-38.34	2	-	58.92	Peak	74	Pass
NVNT	n20	2462	Ant	2483.5	-49.89	2	0.12	47.49	Average	54	Pass
NVNT	n20	2462	Ant	2483.835	-34.63	2	-	62.63	Peak	74	Pass
NVNT	n20	2462	Ant	2483.623	-48.67	2	0.12	48.71	Average	54	Pass
NVNT	n20	2462	Ant	2500	-49.52	2	-	47.74	Peak	74	Pass
NVNT	n20	2462	Ant	2500	-57.85	2	0.12	39.53	Average	54	Pass
NVNT	n40	2422	Ant	2310	-50.24	2	-	47.02	Peak	74	Pass
NVNT	n40	2422	Ant	2310	-57.96	2	0.24	39.54	Average	54	Pass
NVNT	n40	2422	Ant	2389.236	-32.16	2	-	65.1	Peak	74	Pass

NVNT	n40	2422	Ant	2389.946	-50.97	2	0.24	46.53	Average	54	Pass
NVNT	n40	2422	Ant	2390	-39.08	2	-	58.18	Peak	74	Pass
NVNT	n40	2422	Ant	2390	-50.97	2	0.24	46.53	Average	54	Pass
NVNT	n40	2452	Ant	2483.5	-40.13	2	-	57.13	Peak	74	Pass
NVNT	n40	2452	Ant	2483.5	-51.74	2	0.23	45.75	Average	54	Pass
NVNT	n40	2452	Ant	2485.18	-34.93	2	-	62.33	Peak	74	Pass
NVNT	n40	2452	Ant	2483.62	-50.23	2	0.23	47.26	Average	54	Pass
NVNT	n40	2452	Ant	2500	-50.71	2	-	46.55	Peak	74	Pass
NVNT	n40	2452	Ant	2500	-57.55	2	0.23	39.94	Average	54	Pass

