RF Test Data for 2.4G WiFi (Conducted Measurements)

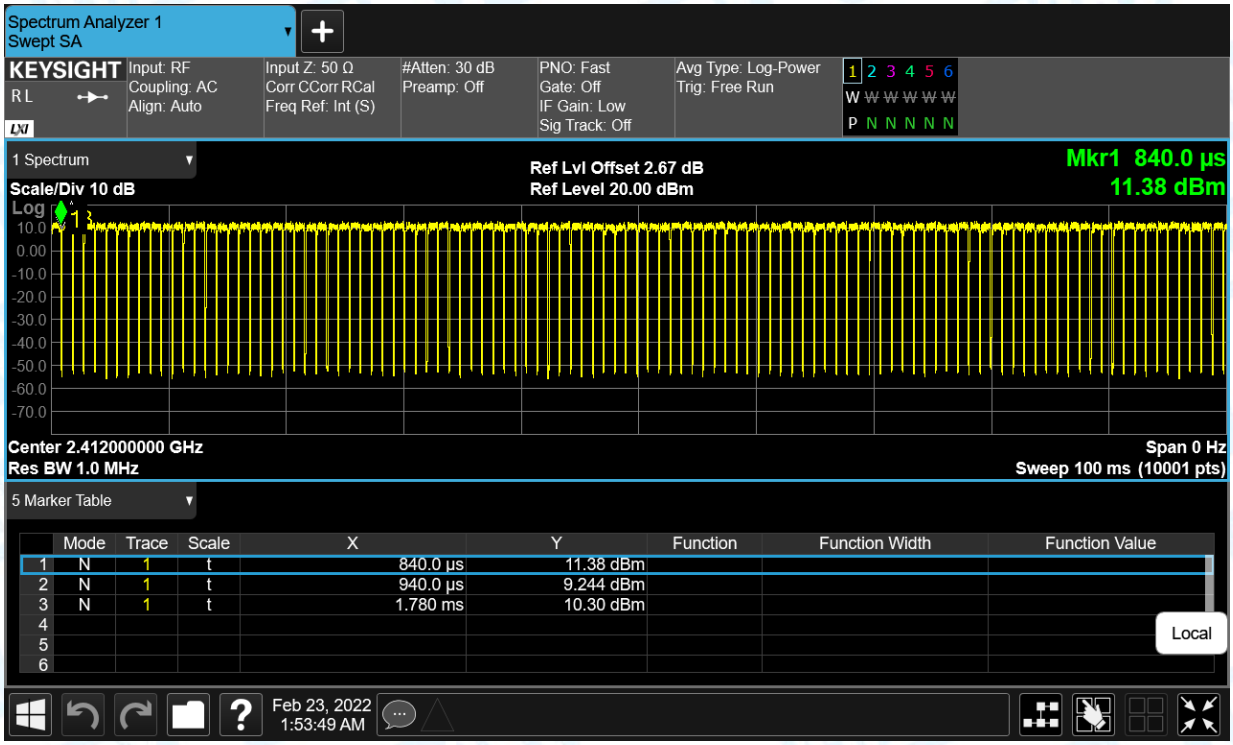
General Description of EUT	
Product Name:	Owl Robot
Test Model:	AI-C20
Sample ID:	C-202202-0042-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	Adapter(BI12T-050200-IU) Input: 100-240V 50/60Hz 0.5A Output: 5V2A 10.0W DC 3.7V by 5000mAh(18.5Wh) Li-ion battery
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202202-0042-3	

1. Duty Cycle

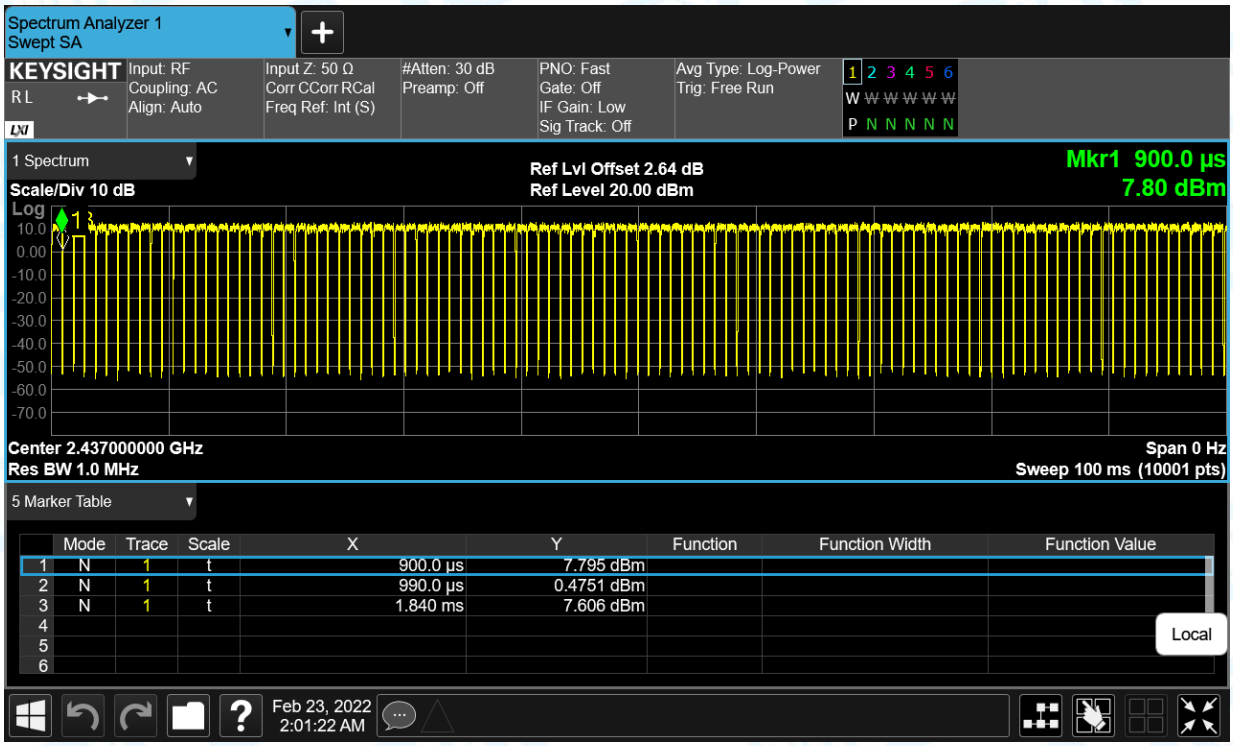
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	91.02	0.41	1.19
NVNT	b	2437	Ant1	91.24	0.4	1.18
NVNT	b	2462	Ant1	91.28	0.4	1.18
NVNT	g	2412	Ant1	67.78	1.69	5.56
NVNT	g	2437	Ant1	67.85	1.68	5.56
NVNT	g	2462	Ant1	67.44	1.71	5.56
NVNT	n(HT20)	2412	Ant1	66.11	1.8	6.25
NVNT	n(HT20)	2437	Ant1	66.11	1.8	6.25
NVNT	n(HT20)	2462	Ant1	66.07	1.8	6.25

Test Graphs

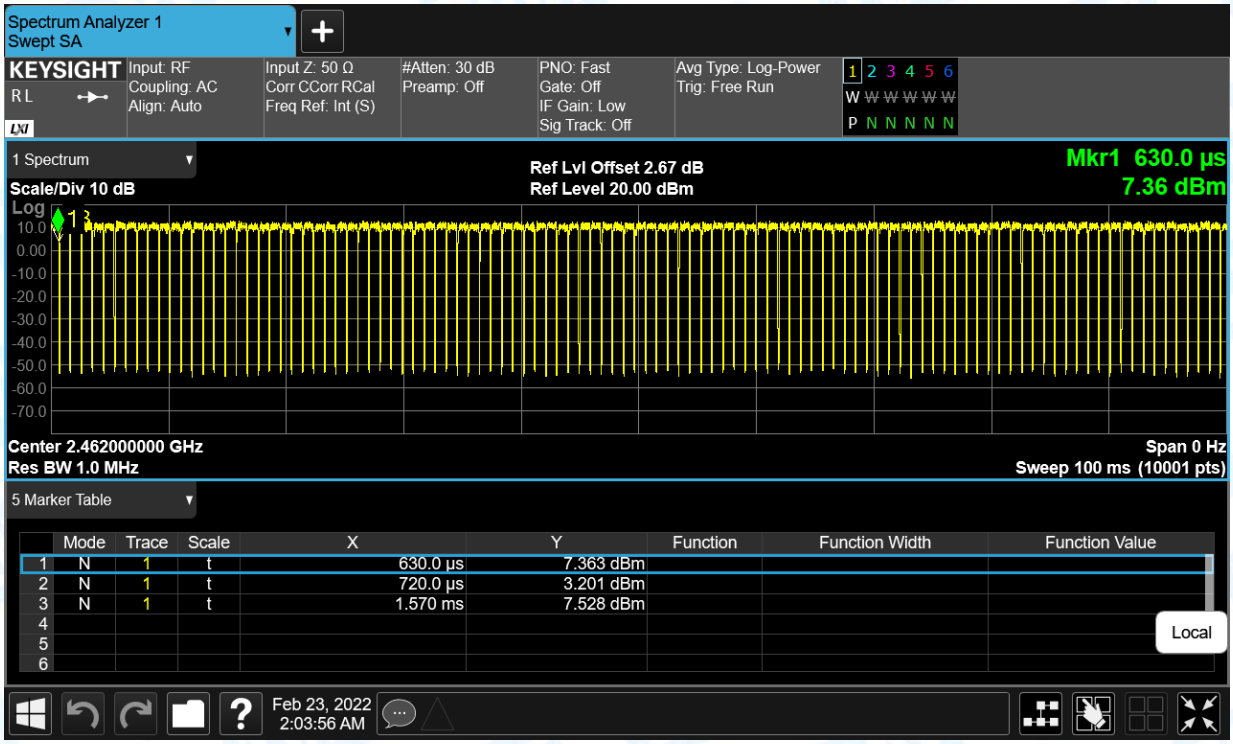
Duty Cycle NVNT b 2412MHz Ant1



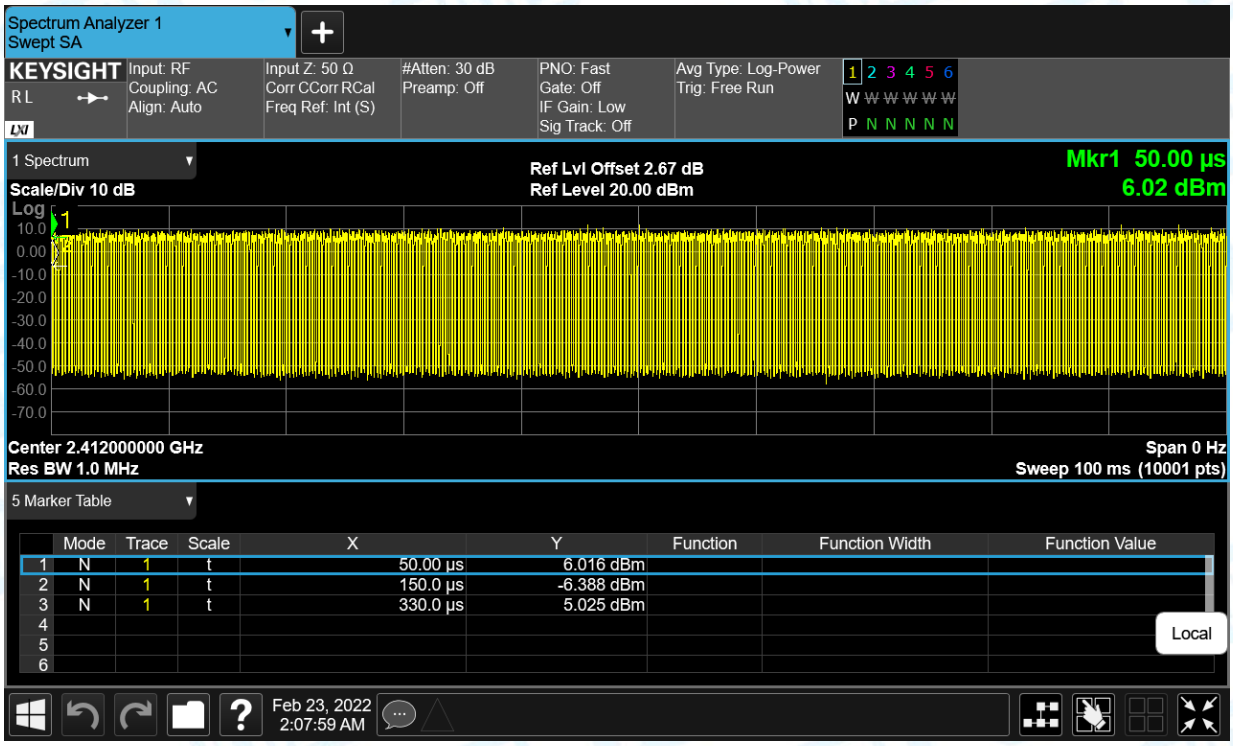
Duty Cycle NVNT b 2437MHz Ant1



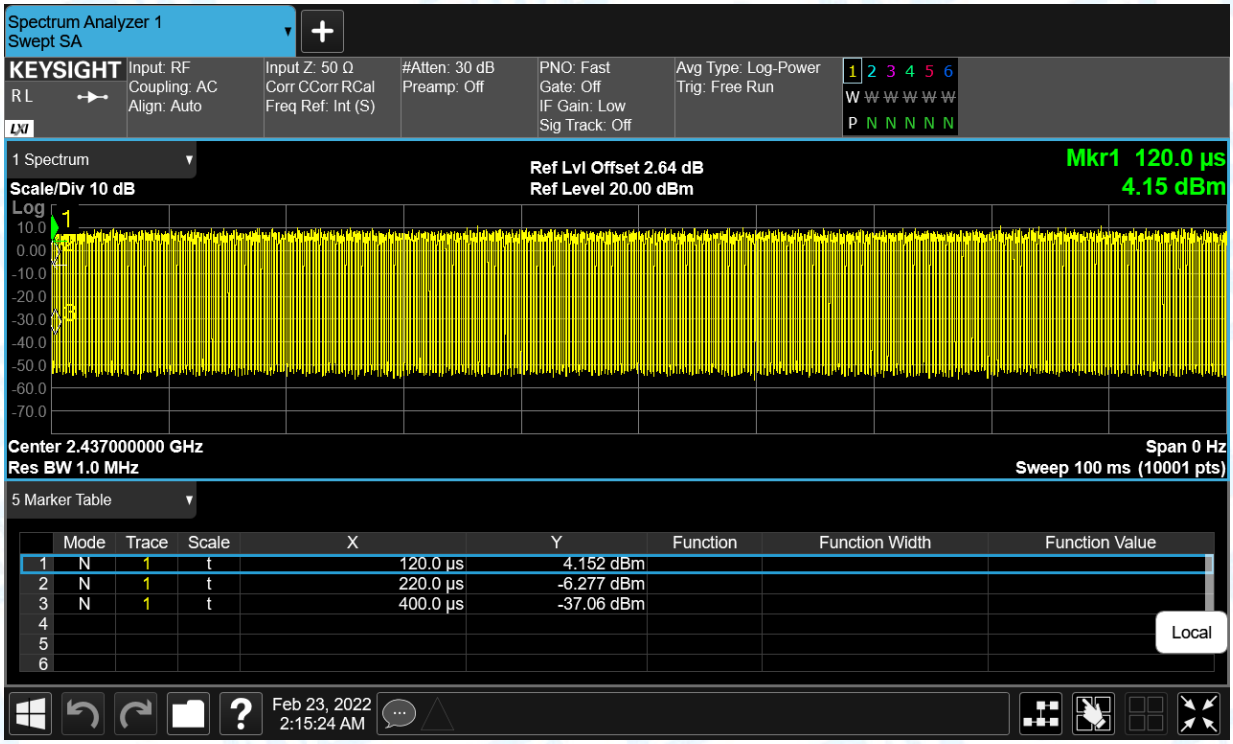
Duty Cycle NVNT b 2462MHz Ant1



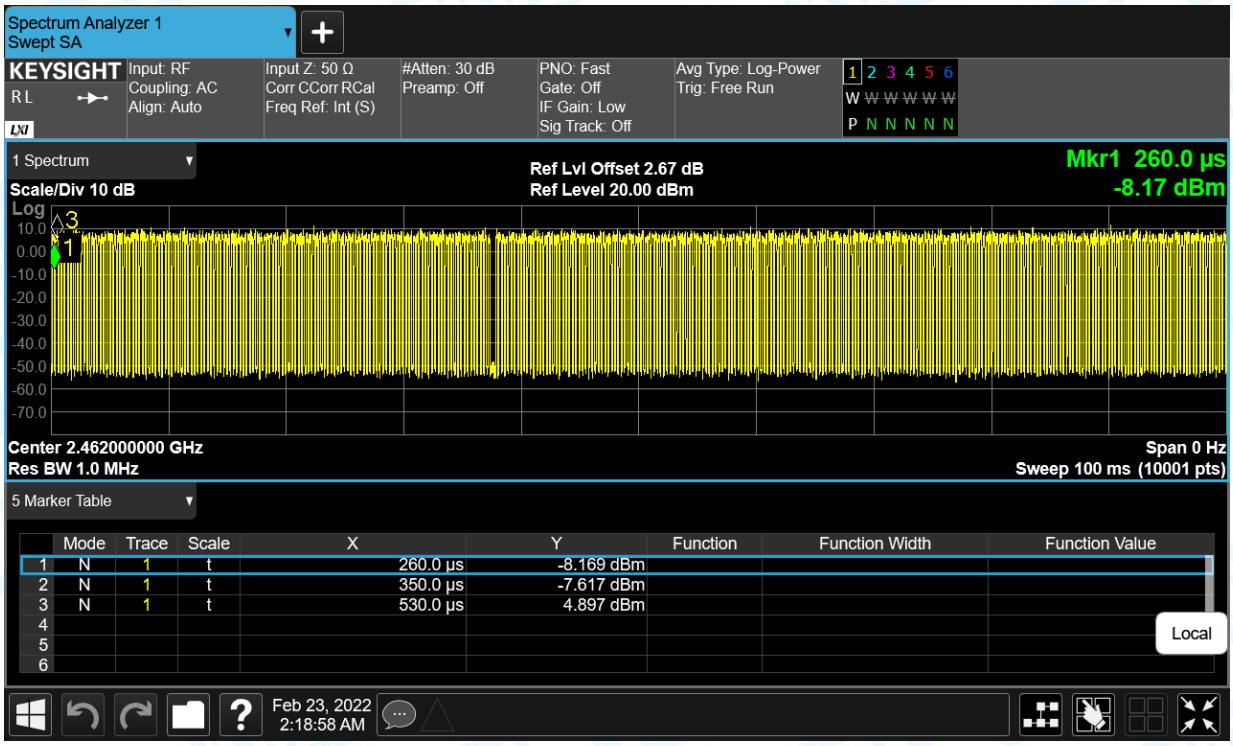
Duty Cycle NVNT g 2412MHz Ant1



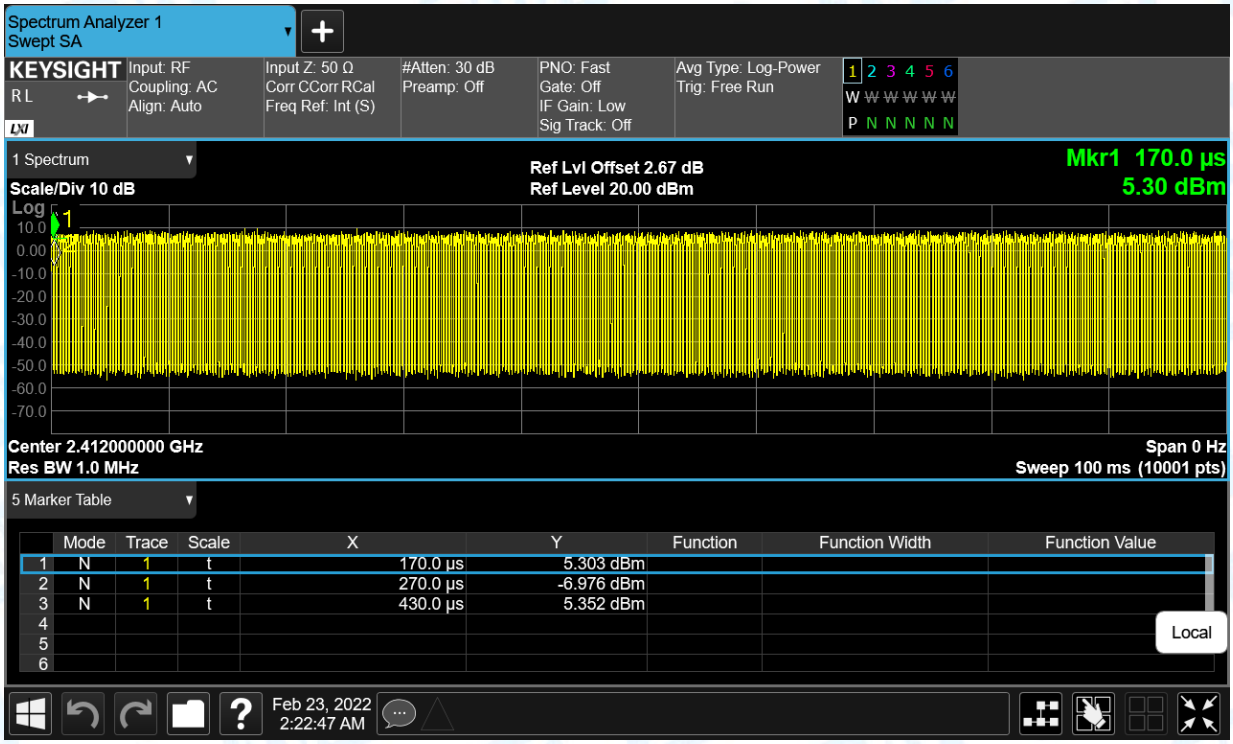
Duty Cycle NVNT g 2437MHz Ant1



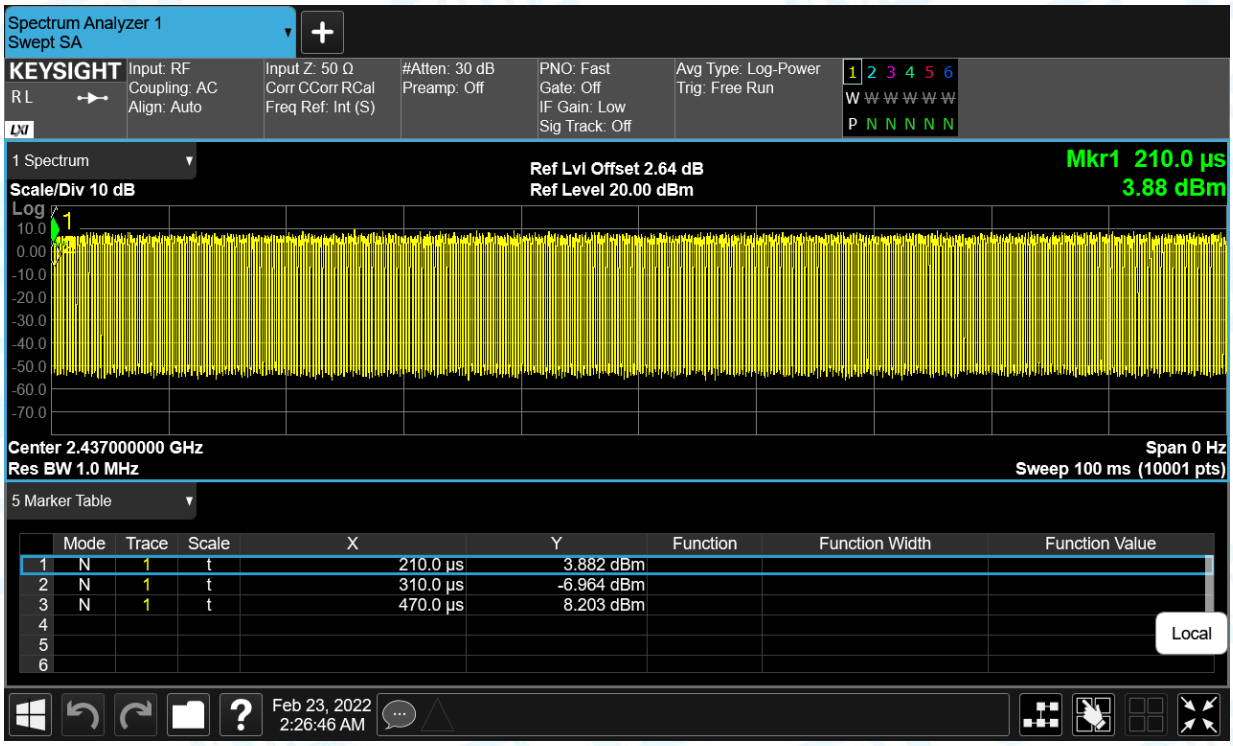
Duty Cycle NVNT g 2462MHz Ant1



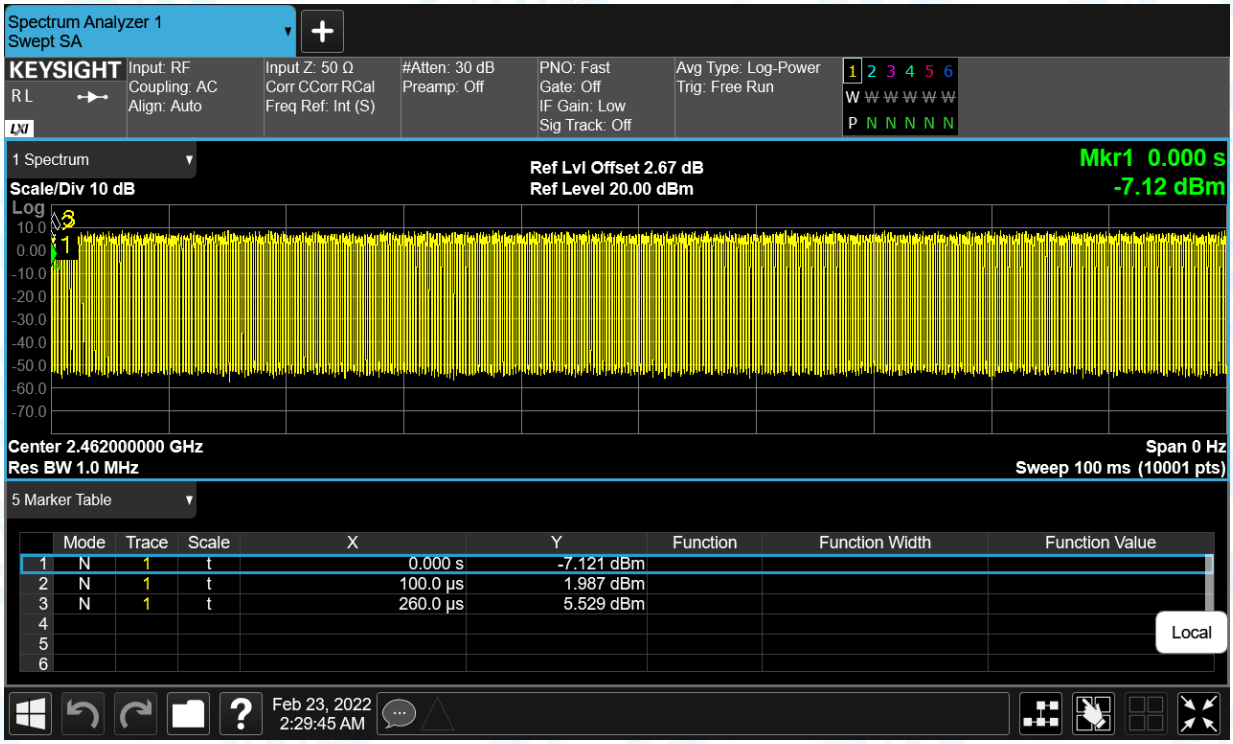
Duty Cycle NVNT n(HT20) 2412MHz Ant1



Duty Cycle NVNT n(HT20) 2437MHz Ant1



Duty Cycle NVNT n(HT20) 2462MHz Ant1



2. Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	17.995	30	Pass
NVNT	b	2437	Ant1	18.145	30	Pass
NVNT	b	2462	Ant1	18.057	30	Pass
NVNT	g	2412	Ant1	17.193	30	Pass
NVNT	g	2437	Ant1	17.253	30	Pass
NVNT	g	2462	Ant1	17.165	30	Pass
NVNT	n(HT20)	2412	Ant1	16.608	30	Pass
NVNT	n(HT20)	2437	Ant1	16.657	30	Pass
NVNT	n(HT20)	2462	Ant1	16.479	30	Pass

3. -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	8.43	0.5	Pass
NVNT	b	2437	Ant1	8.32	0.5	Pass
NVNT	b	2462	Ant1	9.03	0.5	Pass
NVNT	g	2412	Ant1	15.1	0.5	Pass
NVNT	g	2437	Ant1	15.11	0.5	Pass
NVNT	g	2462	Ant1	15.33	0.5	Pass
NVNT	n(HT20)	2412	Ant1	15.09	0.5	Pass
NVNT	n(HT20)	2437	Ant1	15.35	0.5	Pass
NVNT	n(HT20)	2462	Ant1	15.11	0.5	Pass

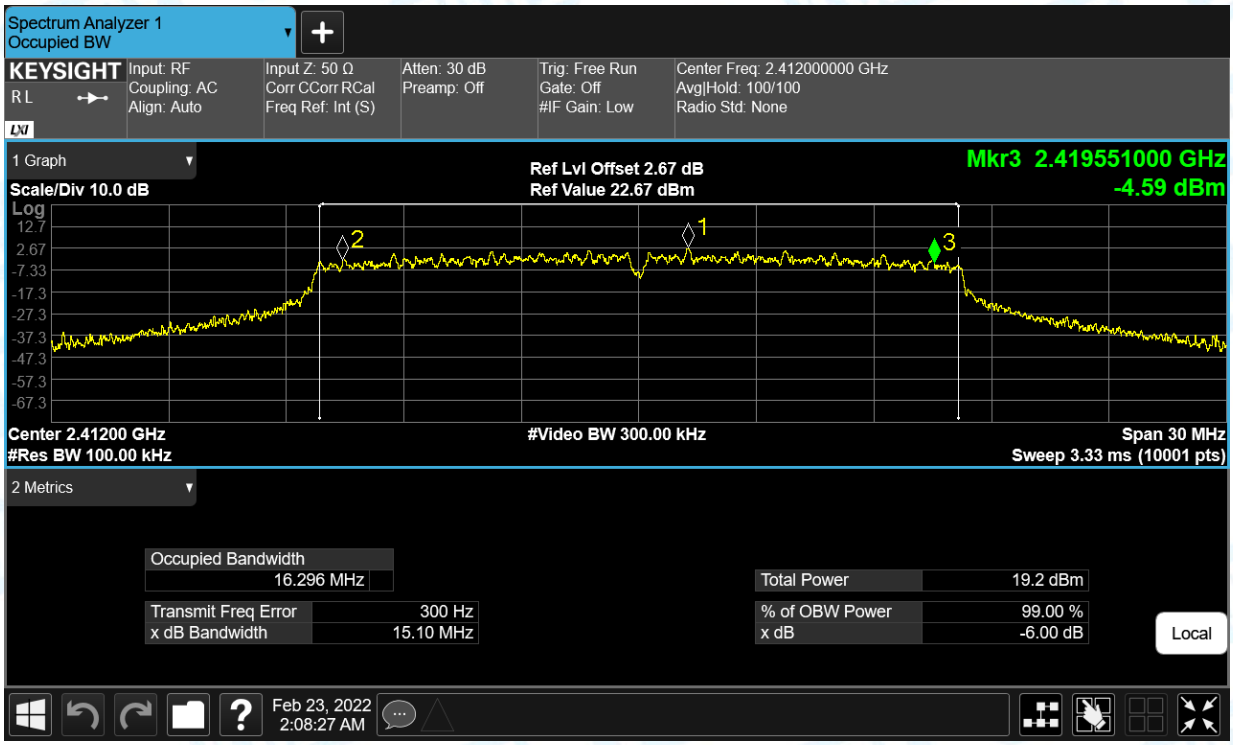
Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1

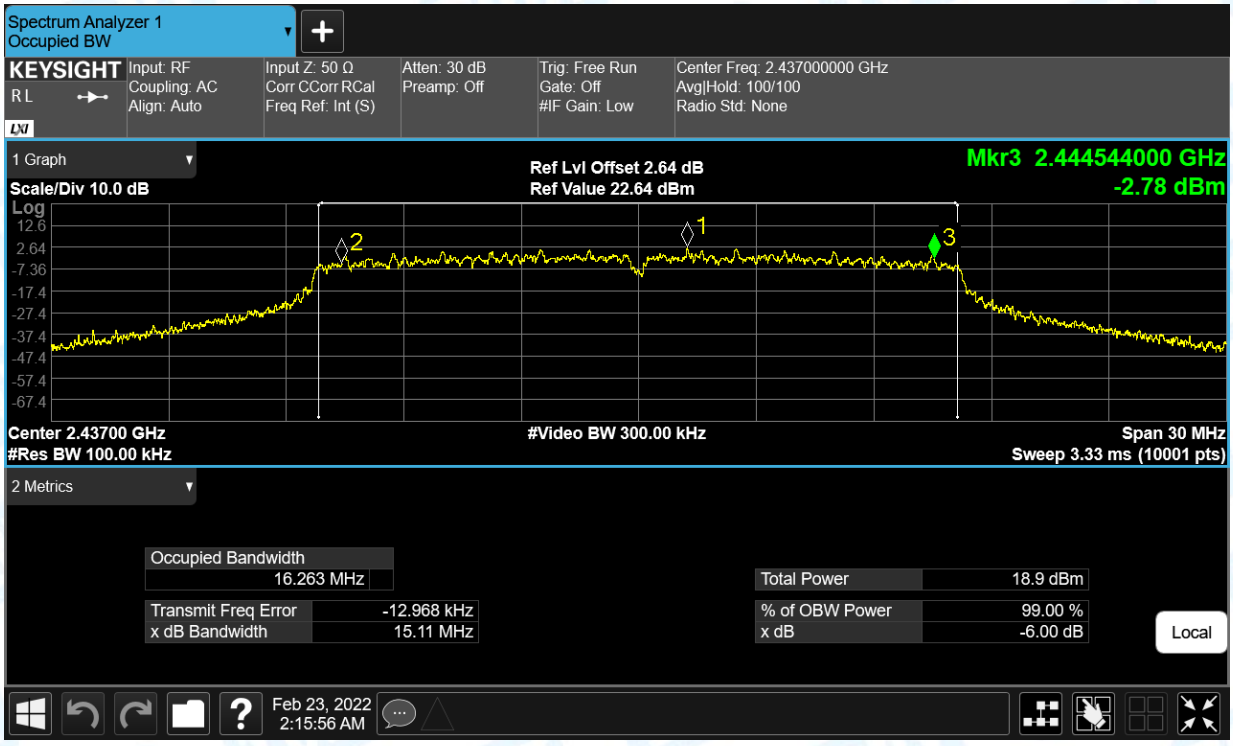
-6dB Bandwidth NVNT b 2437MHz Ant1

-6dB Bandwidth NVNT b 2462MHz Ant1

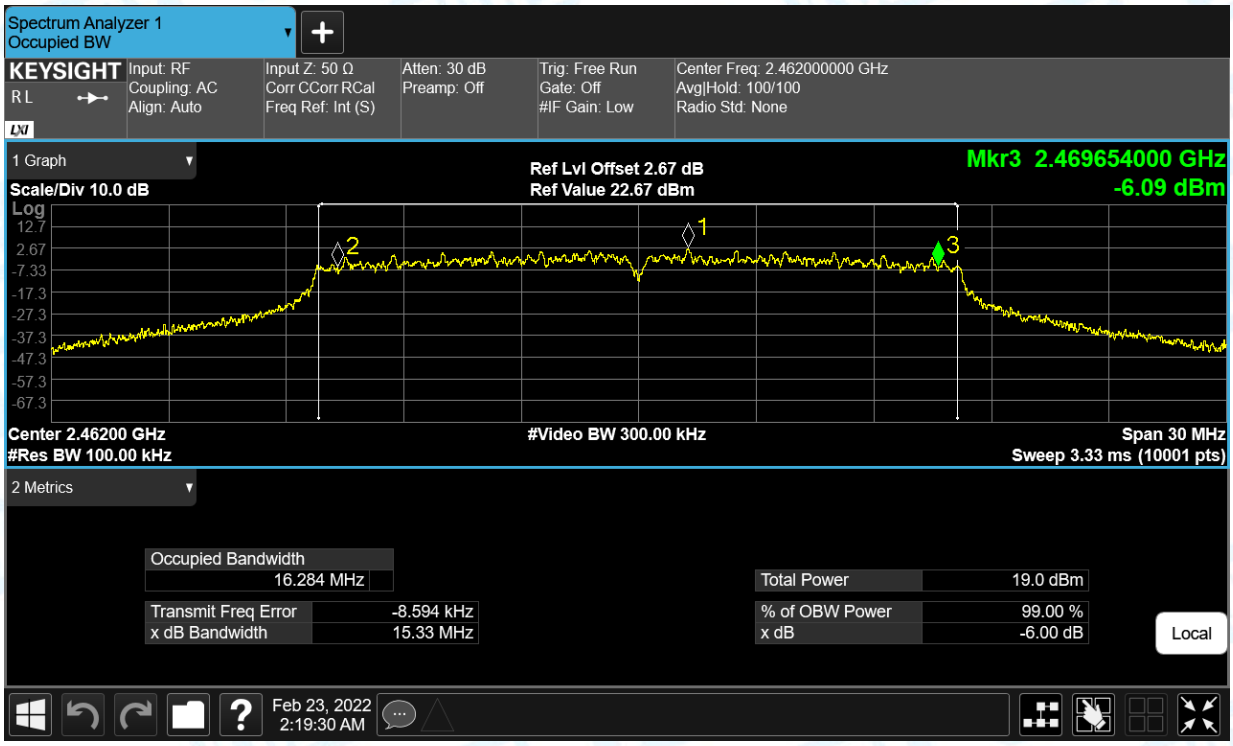
-6dB Bandwidth NVNT g 2412MHz Ant1



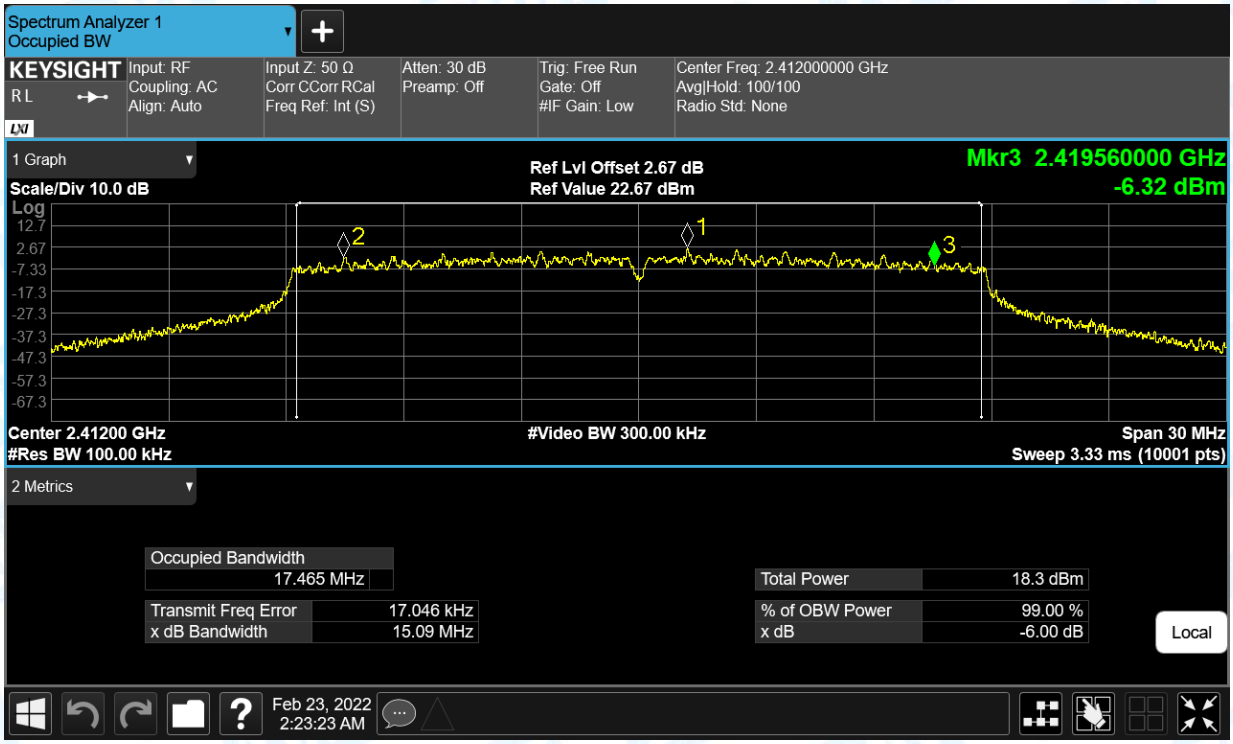
-6dB Bandwidth NVNT g 2437MHz Ant1



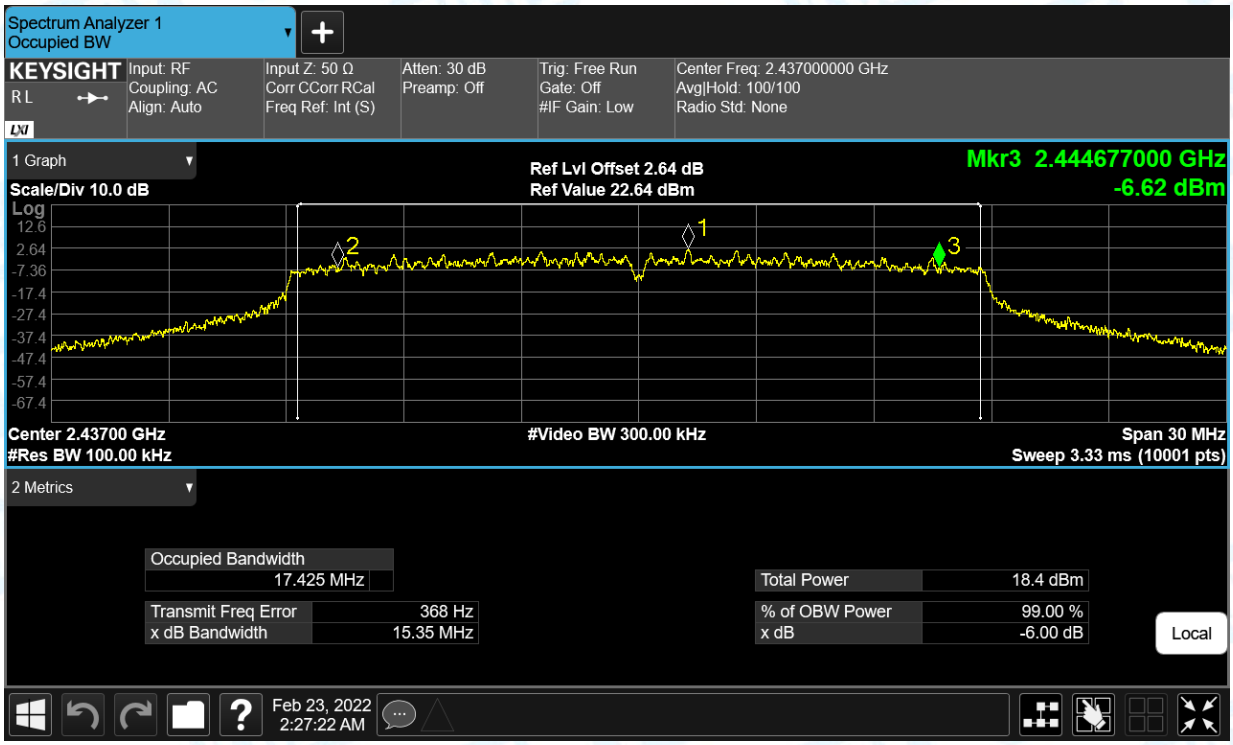
-6dB Bandwidth NVNT g 2462MHz Ant1



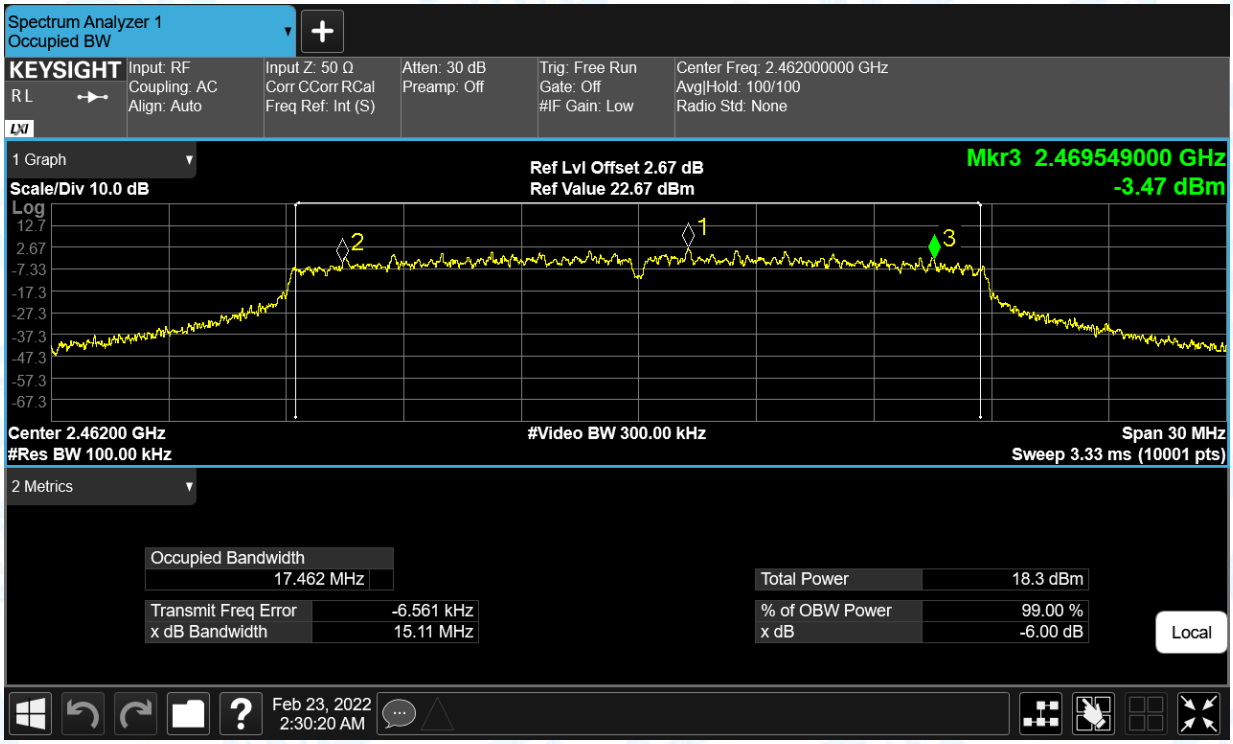
-6dB Bandwidth NVNT n(HT20) 2412MHz Ant1



-6dB Bandwidth NVNT n(HT20) 2437MHz Ant1



-6dB Bandwidth NVNT n(HT20) 2462MHz Ant1



4. Occupied Channel Bandwidth

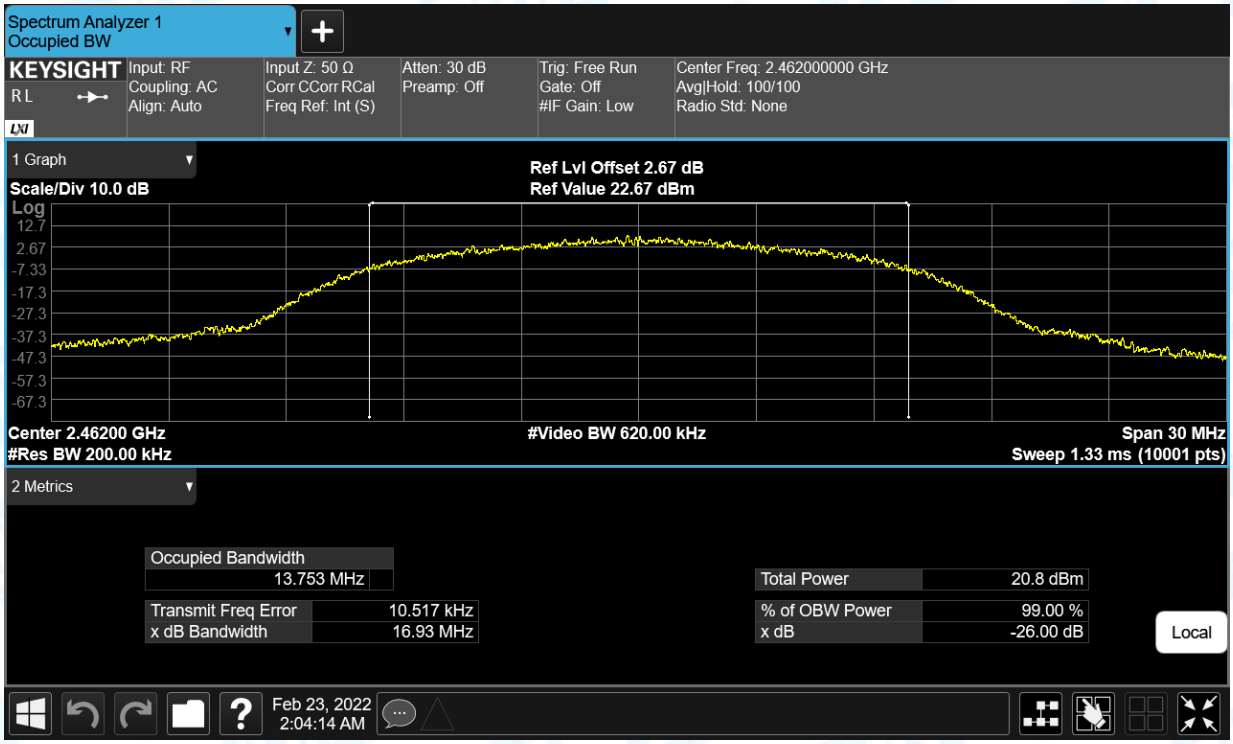
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	13.826
NVNT	b	2437	Ant1	13.802
NVNT	b	2462	Ant1	13.753
NVNT	g	2412	Ant1	16.325
NVNT	g	2437	Ant1	16.309
NVNT	g	2462	Ant1	16.279
NVNT	n(HT20)	2412	Ant1	17.461
NVNT	n(HT20)	2437	Ant1	17.463
NVNT	n(HT20)	2462	Ant1	17.475

Test Graphs

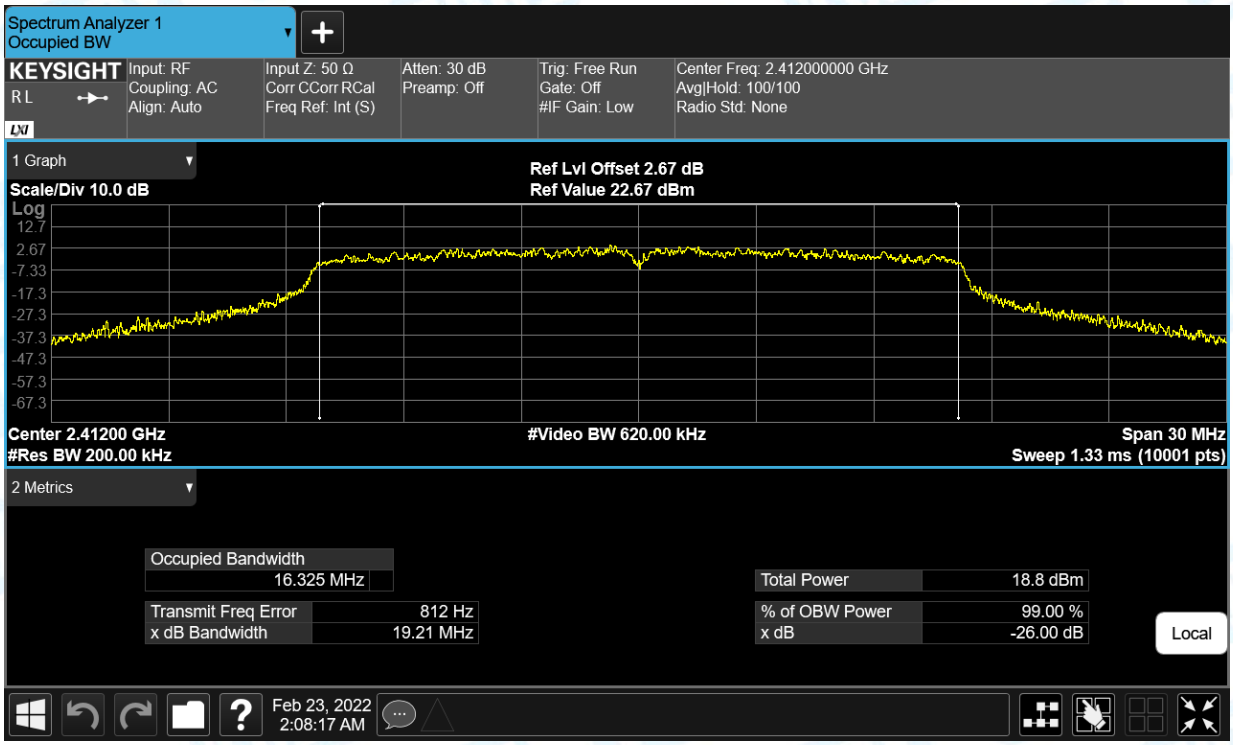
OBW NVNT b 2412MHz Ant1

OBW NVNT b 2437MHz Ant1

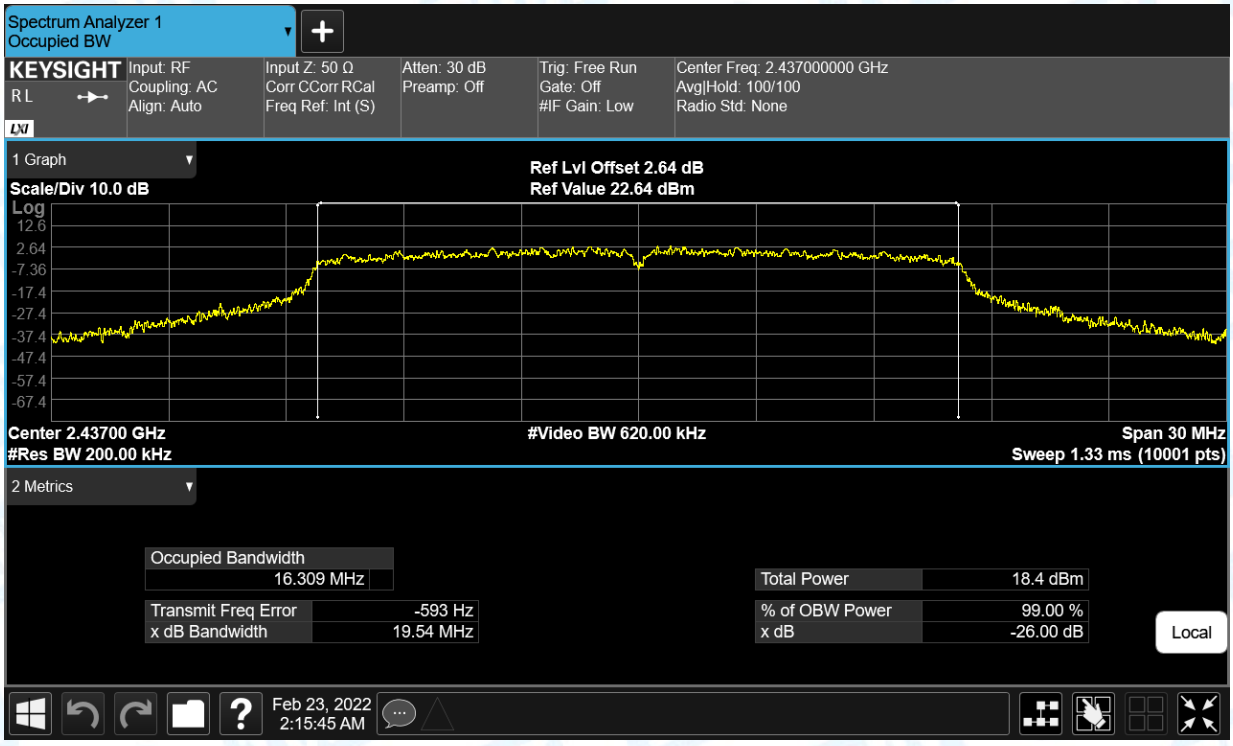
OBW NVNT b 2462MHz Ant1



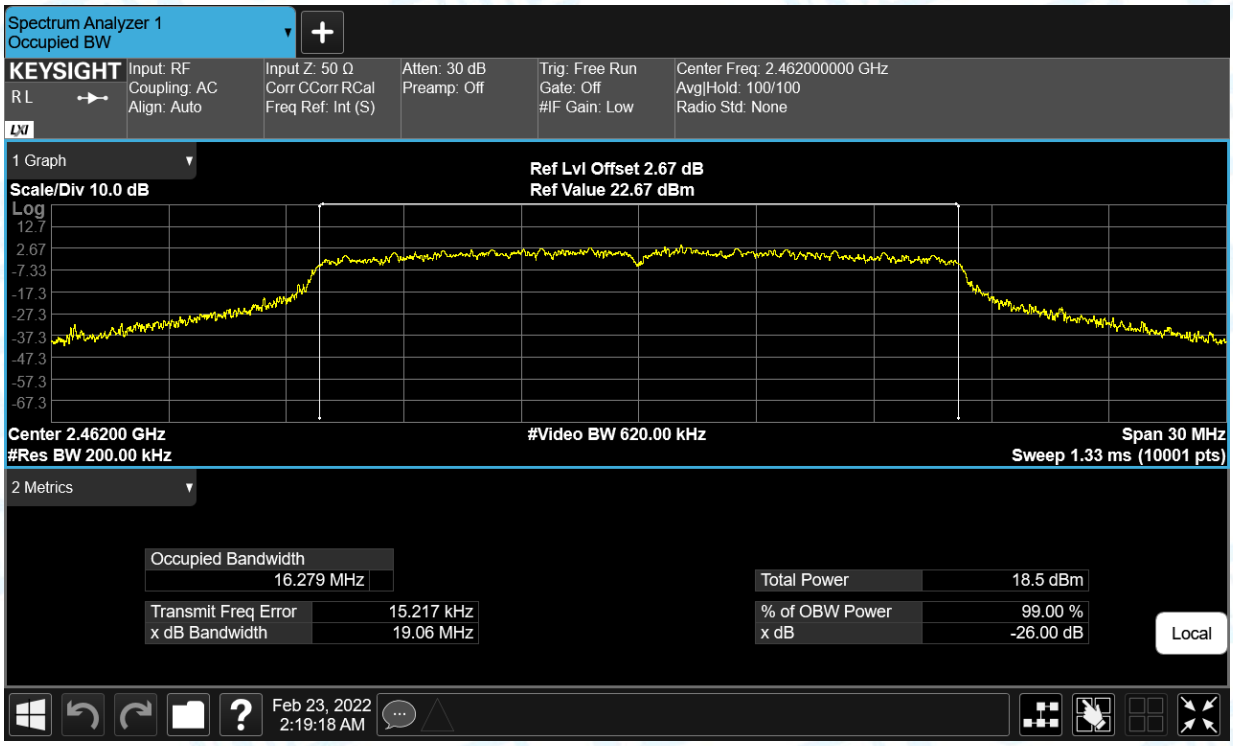
OBW NVNT g 2412MHz Ant1



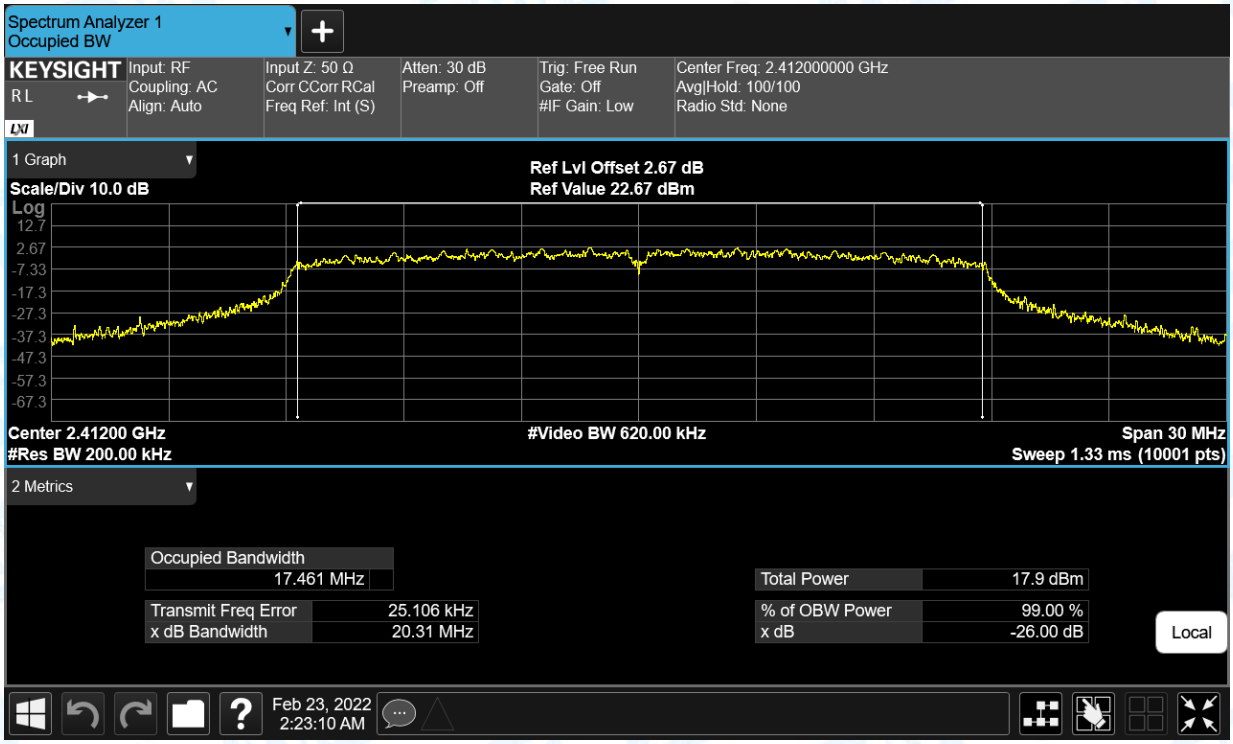
OBW NVNT g 2437MHz Ant1



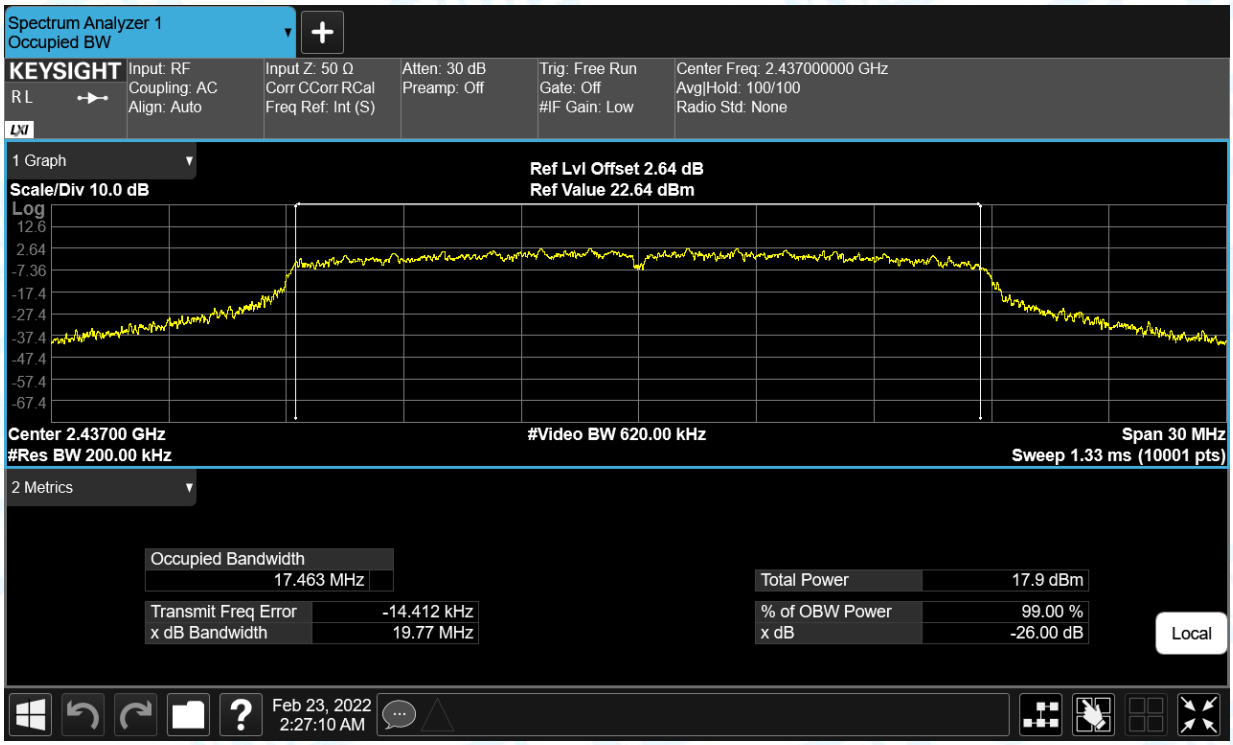
OBW NVNT g 2462MHz Ant1



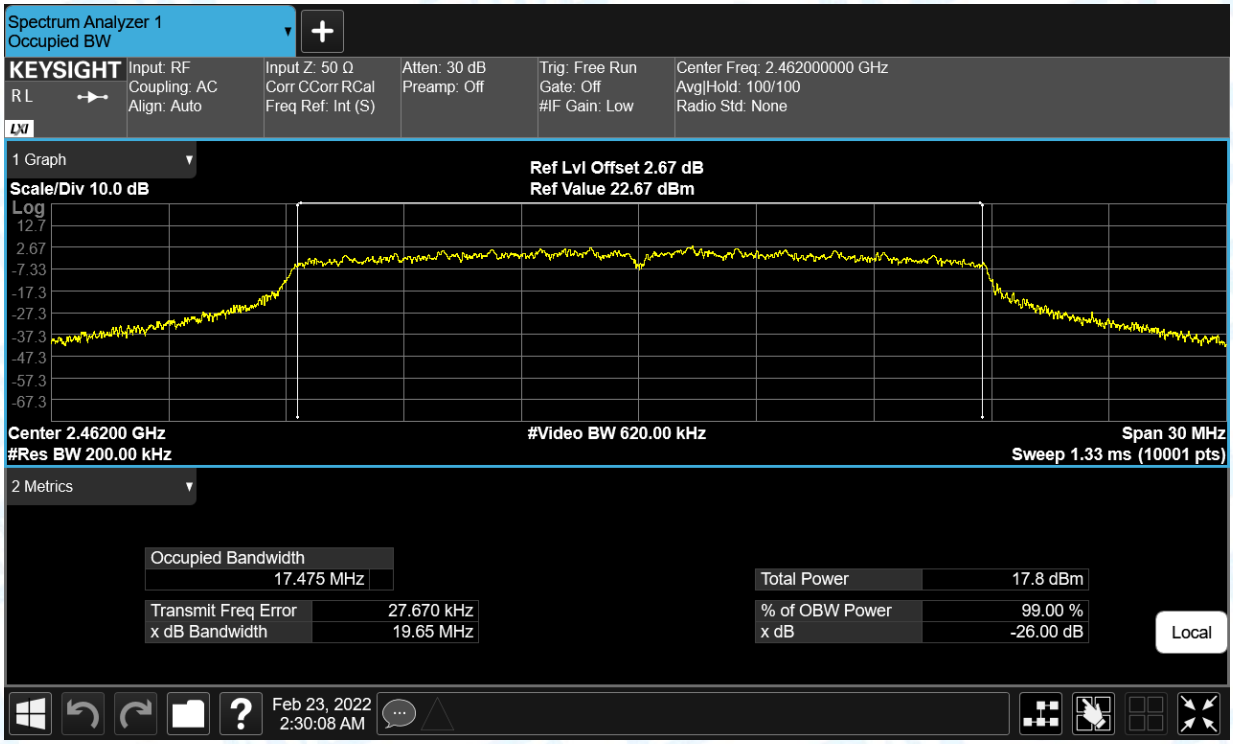
OBW NVNT n(HT20) 2412MHz Ant1



OBW NVNT n(HT20) 2437MHz Ant1



OBW NVNT n(HT20) 2462MHz Ant1

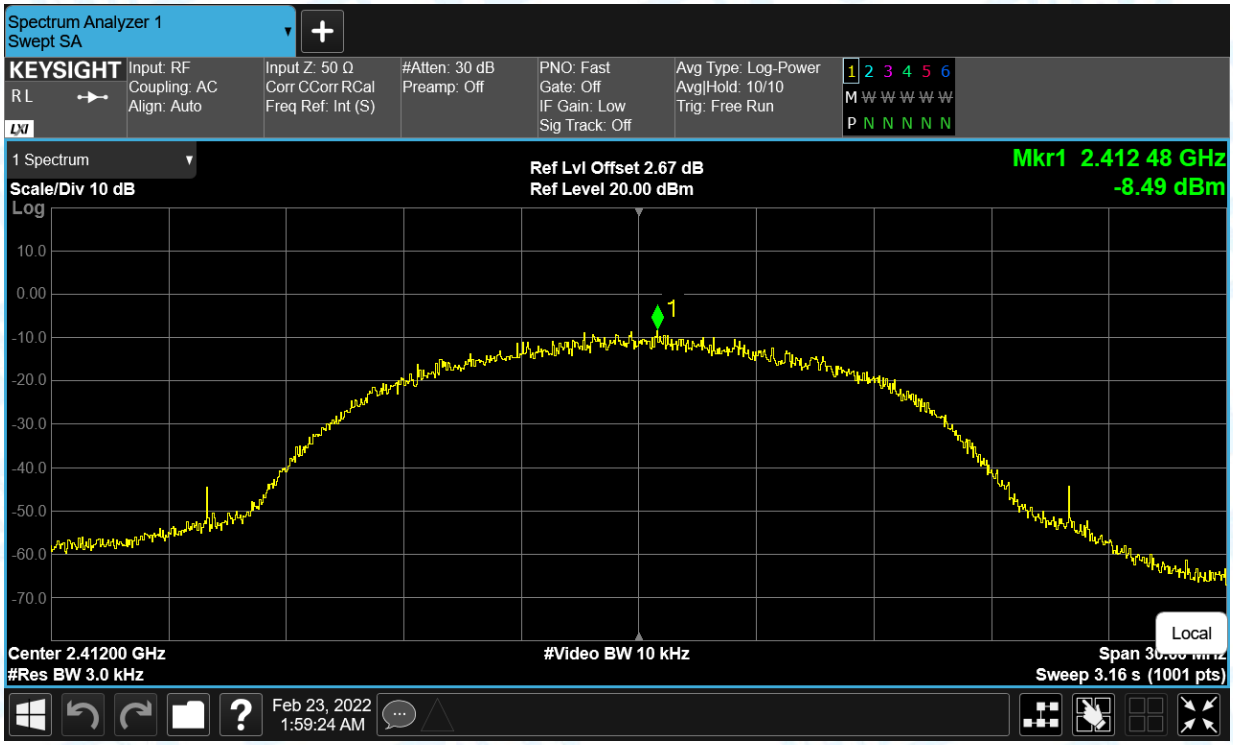


5. Maximum Power Spectral Density Level

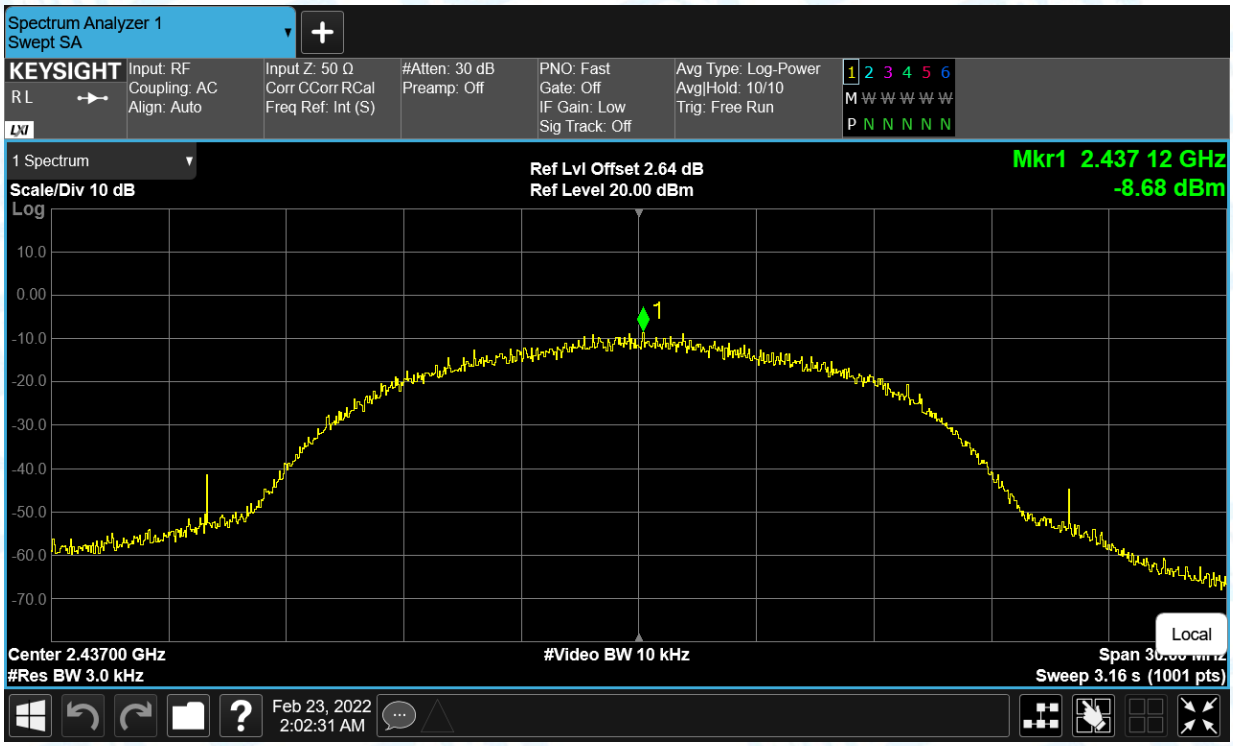
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	-8.488	8	Pass
NVNT	b	2437	Ant1	-8.677	8	Pass
NVNT	b	2462	Ant1	-8.194	8	Pass
NVNT	g	2412	Ant1	-12.851	8	Pass
NVNT	g	2437	Ant1	-11.259	8	Pass
NVNT	g	2462	Ant1	-11.667	8	Pass
NVNT	n(HT20)	2412	Ant1	-13.625	8	Pass
NVNT	n(HT20)	2437	Ant1	-13.574	8	Pass
NVNT	n(HT20)	2462	Ant1	-13.89	8	Pass

Test Graphs

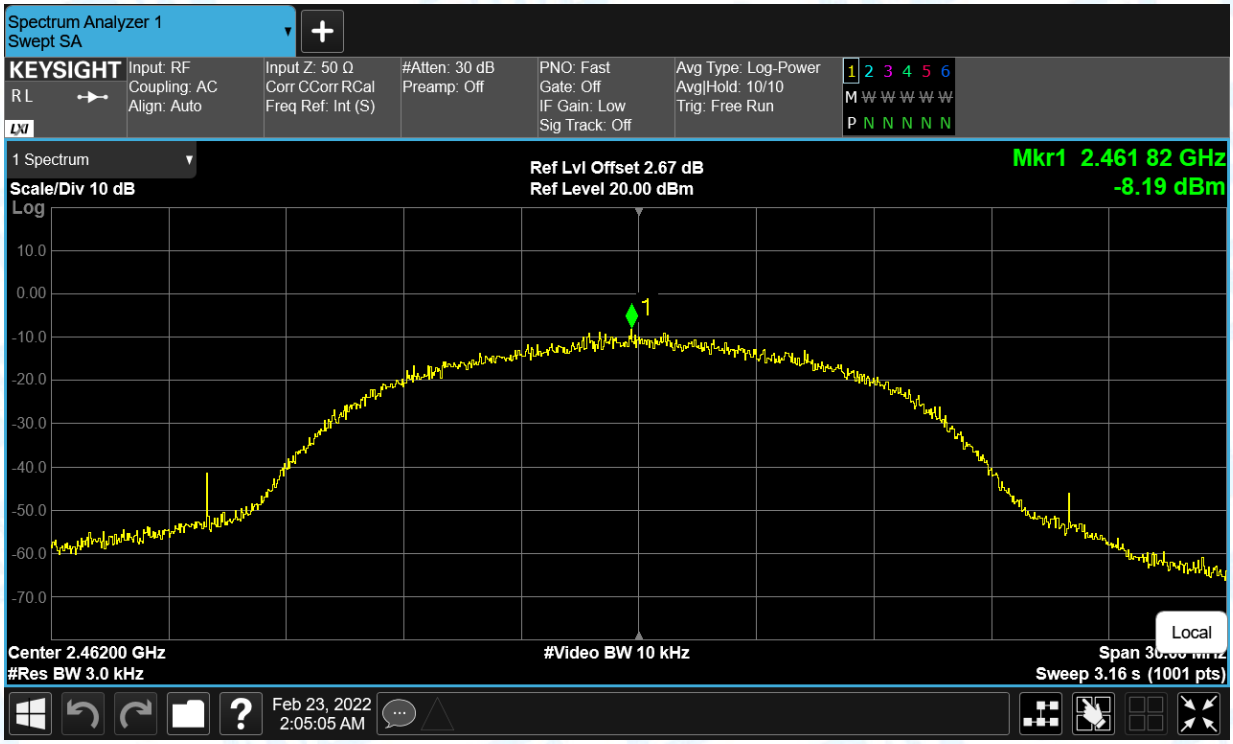
PSD NVNT b 2412MHz Ant1



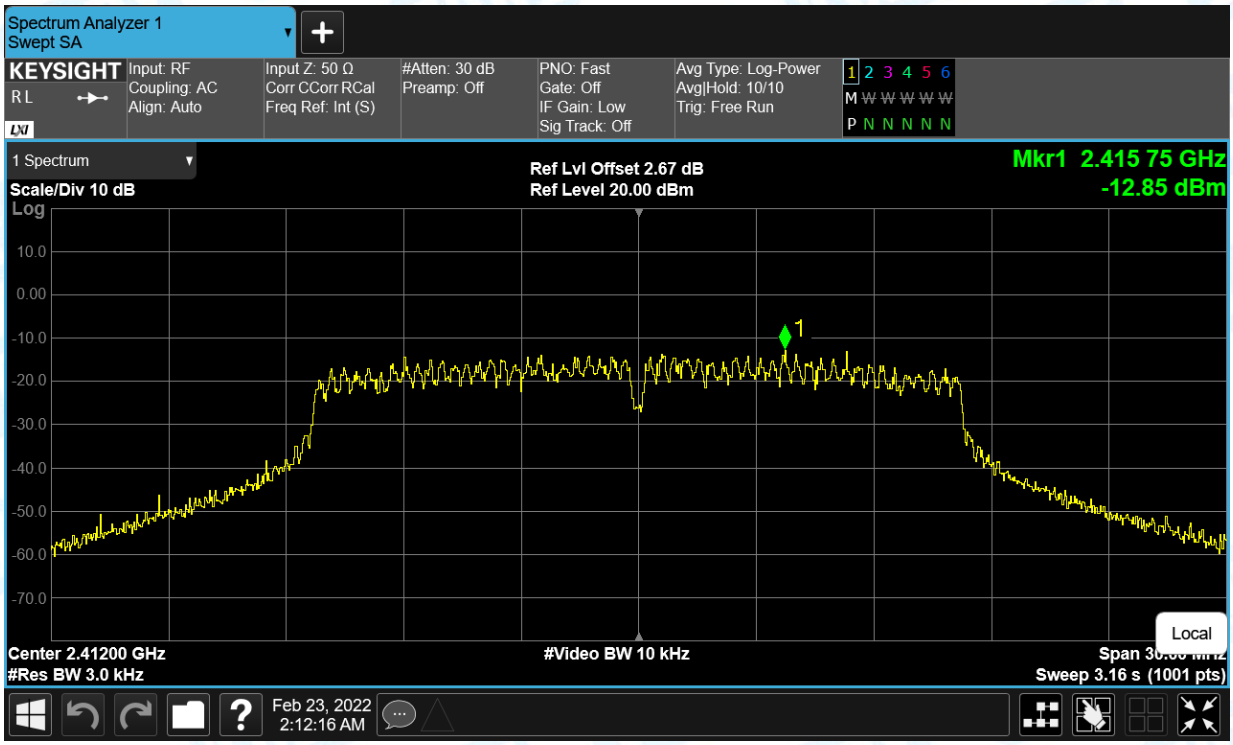
PSD NVNT b 2437MHz Ant1



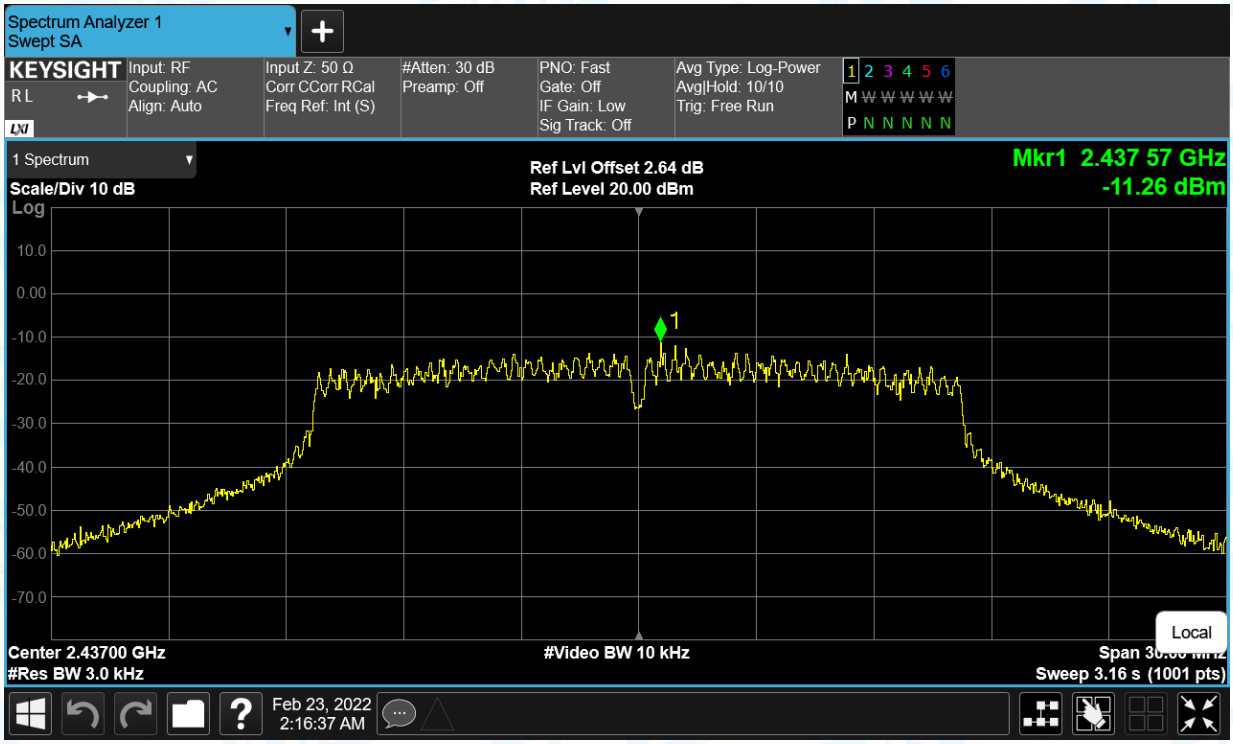
PSD NVNT b 2462MHz Ant1



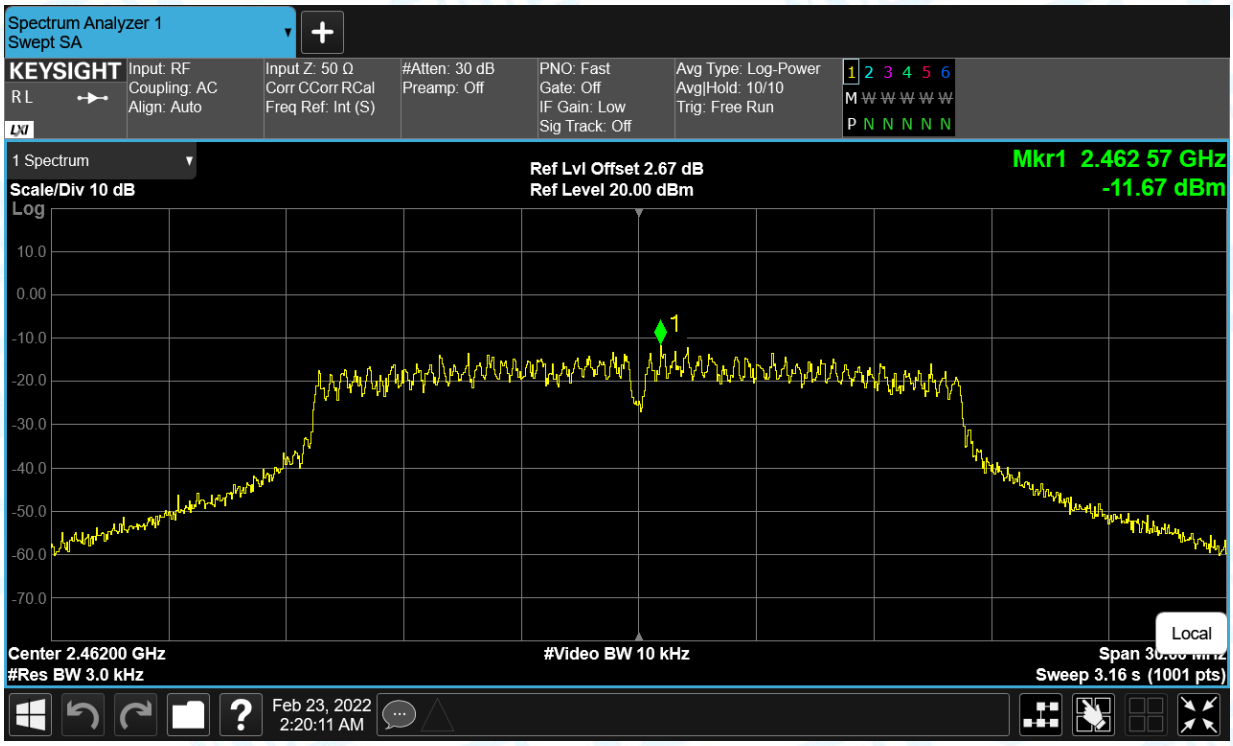
PSD NVNT g 2412MHz Ant1



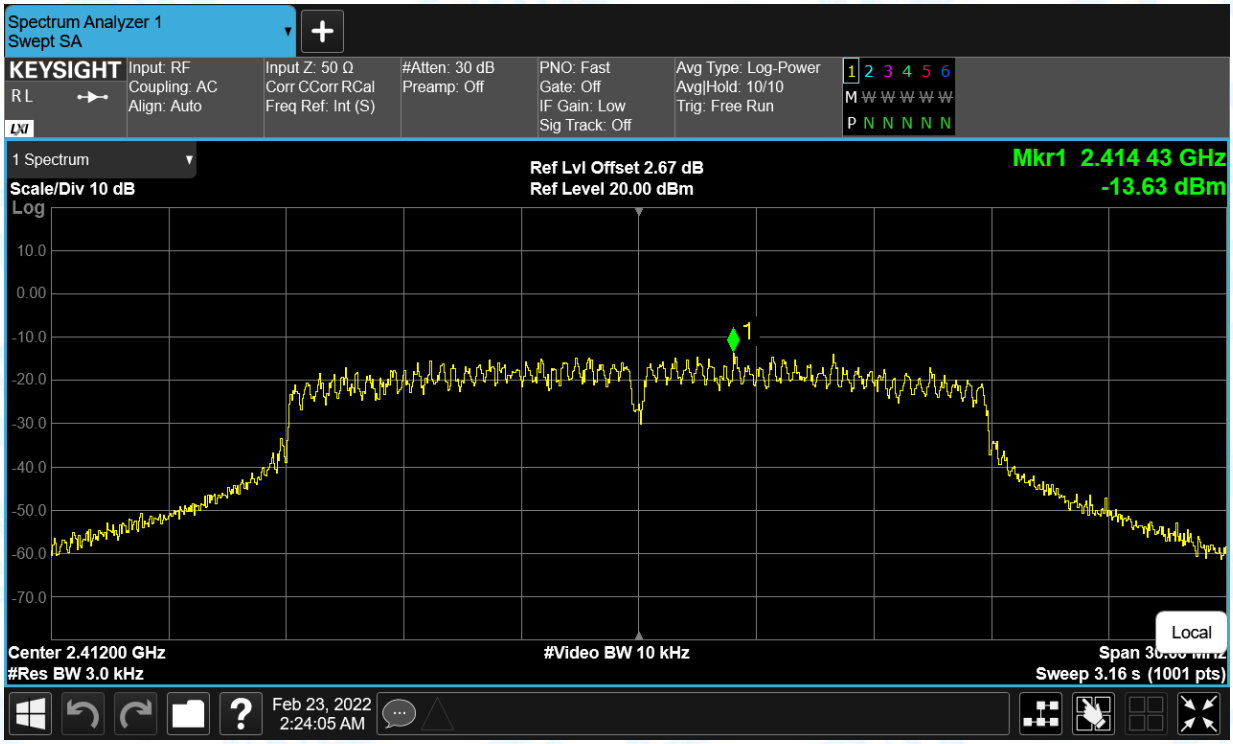
PSD NVNT g 2437MHz Ant1



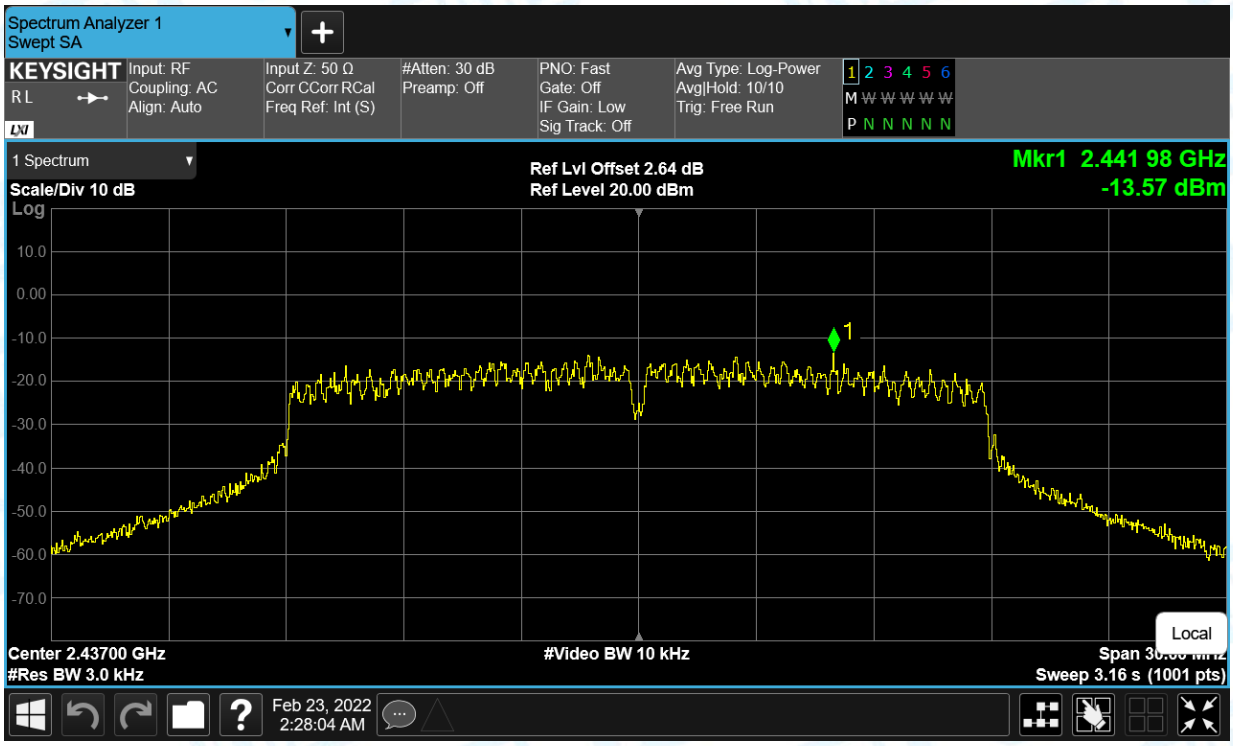
PSD NVNT g 2462MHz Ant1



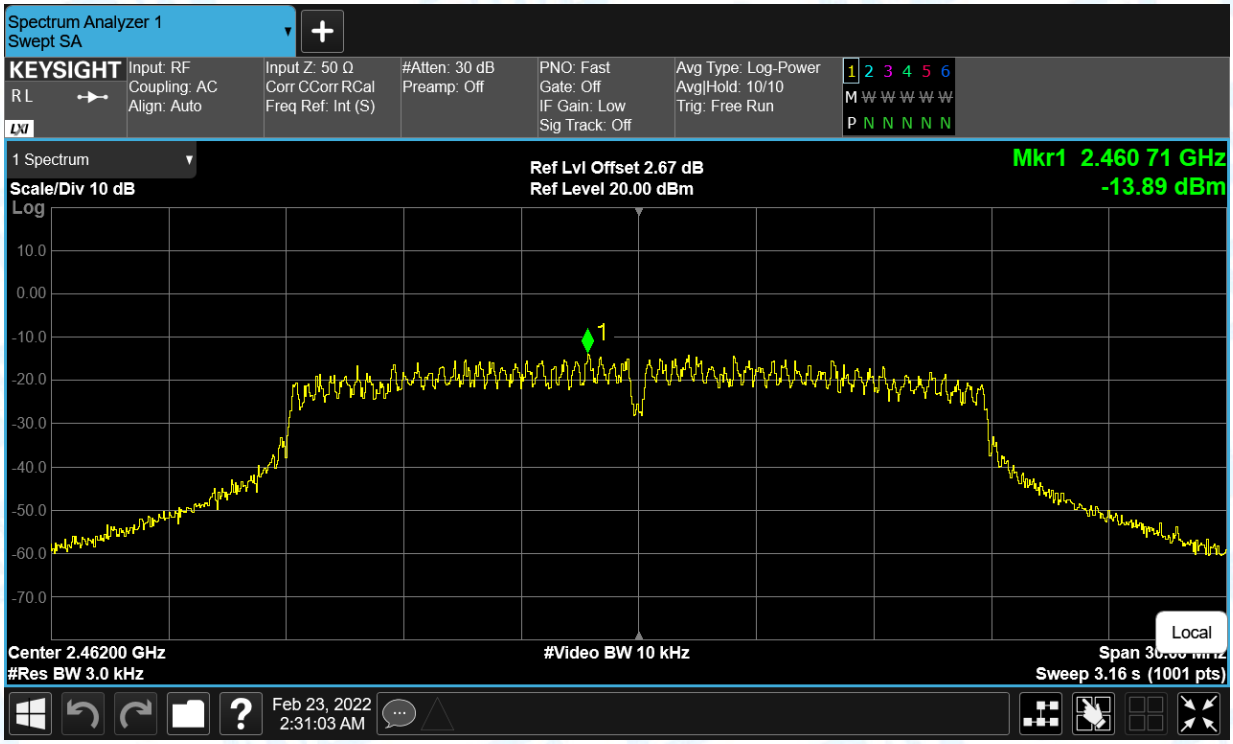
PSD NVNT n(HT20) 2412MHz Ant1



PSD NVNT n(HT20) 2437MHz Ant1



PSD NVNT n(HT20) 2462MHz Ant1

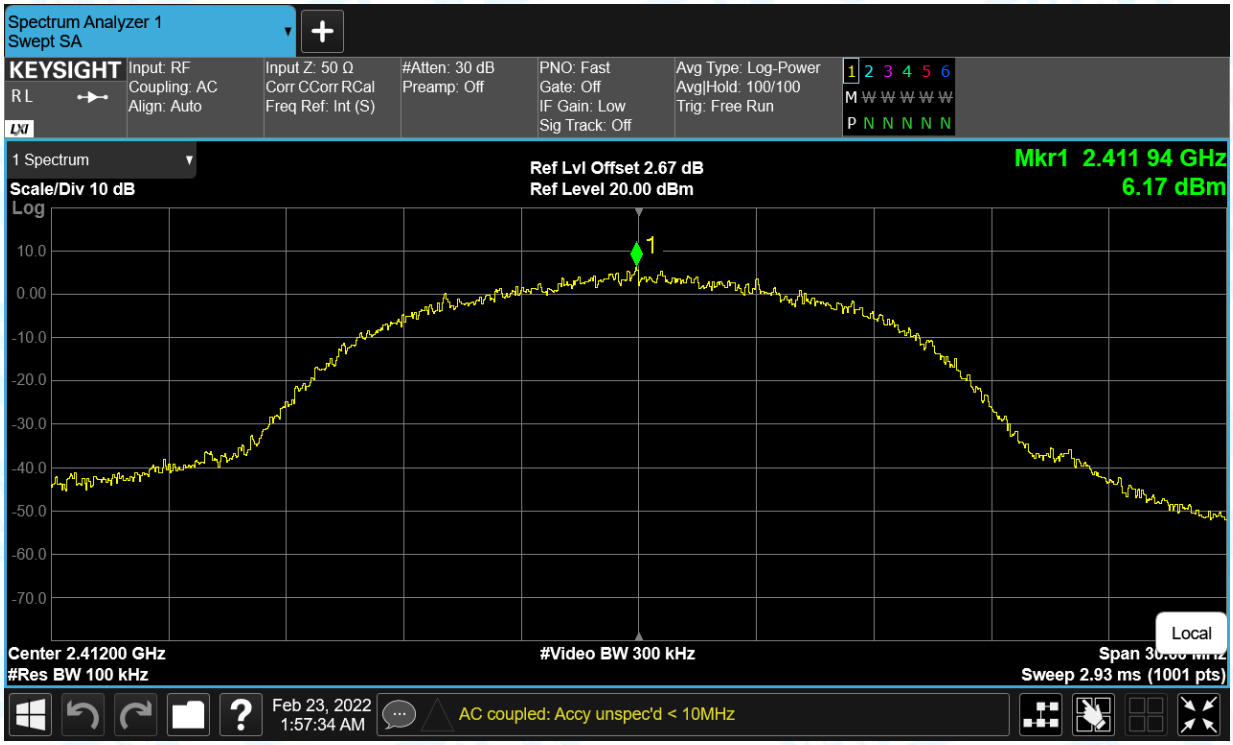


6. Band Edge

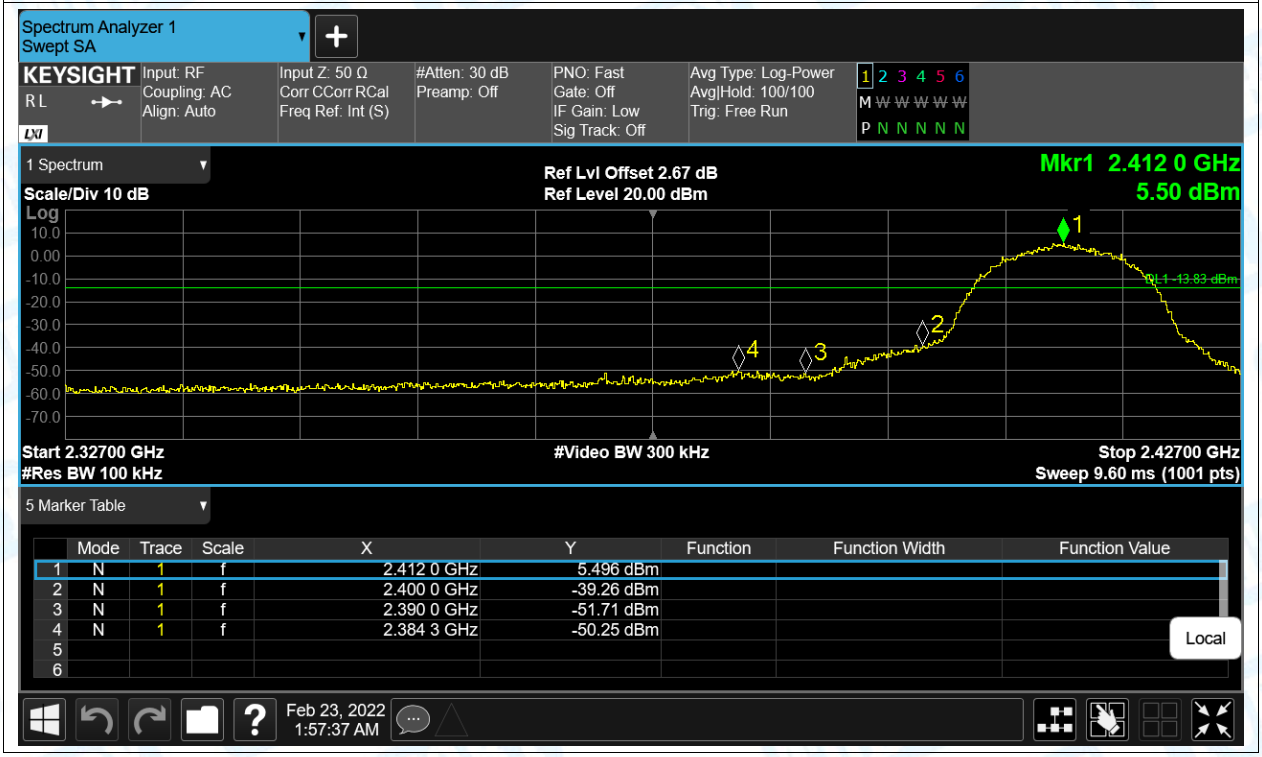
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-56.42	-20	Pass
NVNT	b	2462	Ant1	-55.85	-20	Pass
NVNT	g	2412	Ant1	-46.3	-20	Pass
NVNT	g	2462	Ant1	-47.85	-20	Pass
NVNT	n(HT20)	2412	Ant1	-45.05	-20	Pass
NVNT	n(HT20)	2462	Ant1	-47.06	-20	Pass

Test Graphs

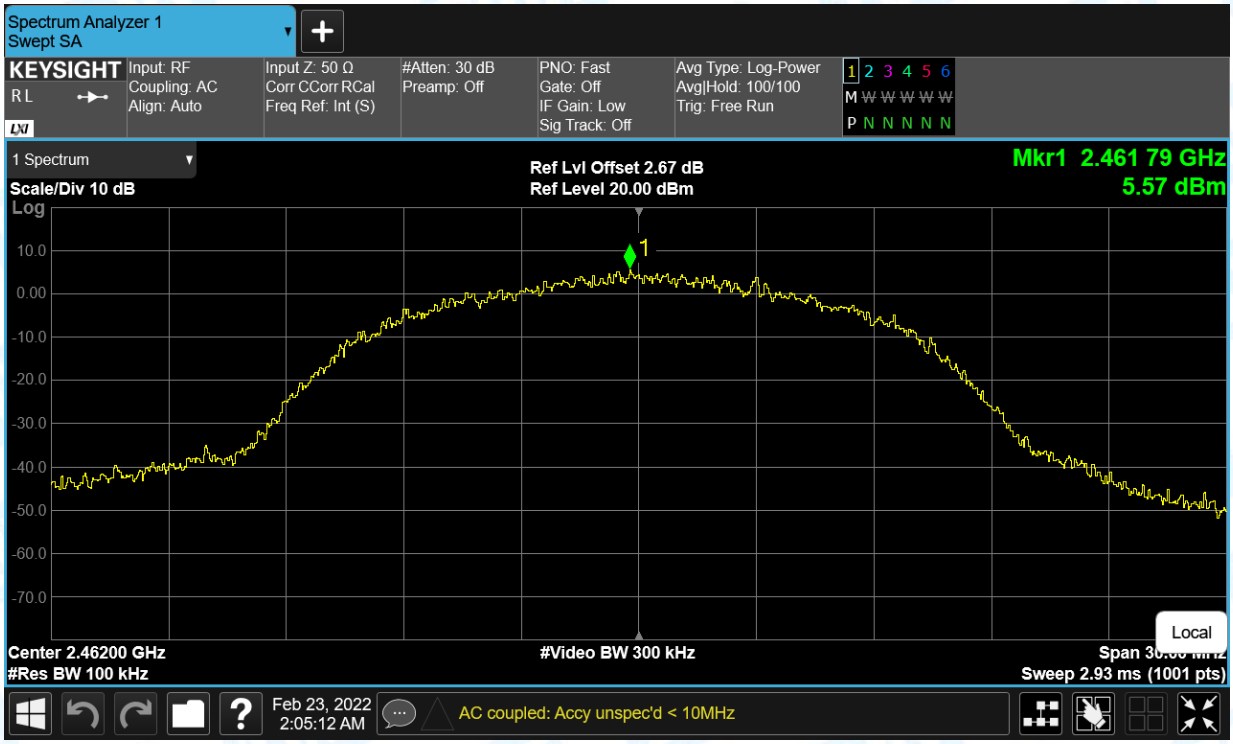
Band Edge NVNT b 2412MHz Ant1 Ref



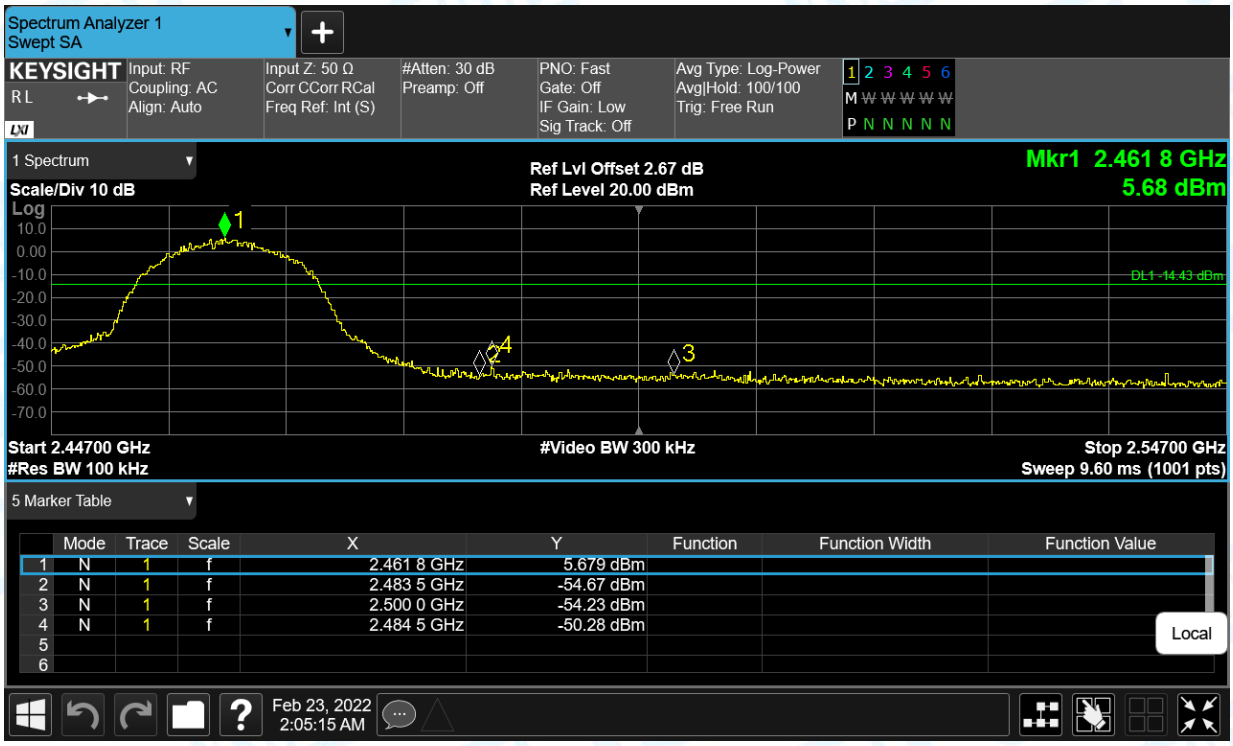
Band Edge NVNT b 2412MHz Ant1 Emission



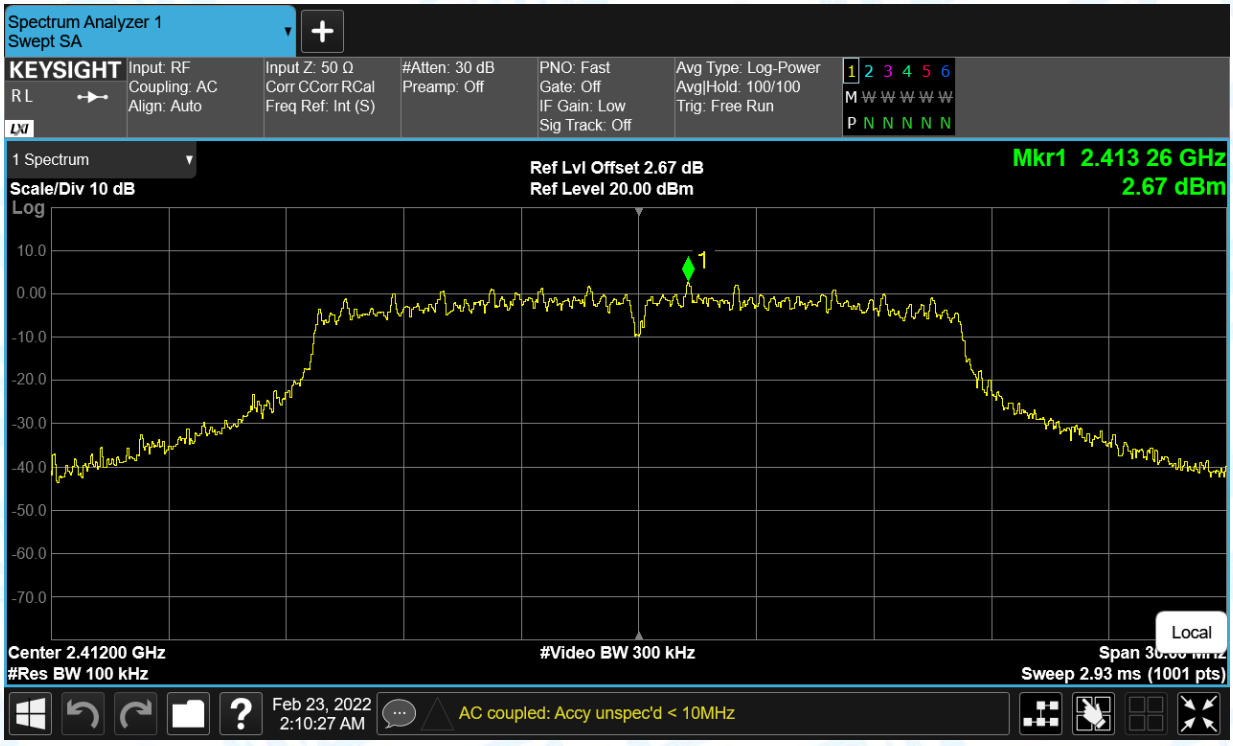
Band Edge NVNT b 2462MHz Ant1 Ref



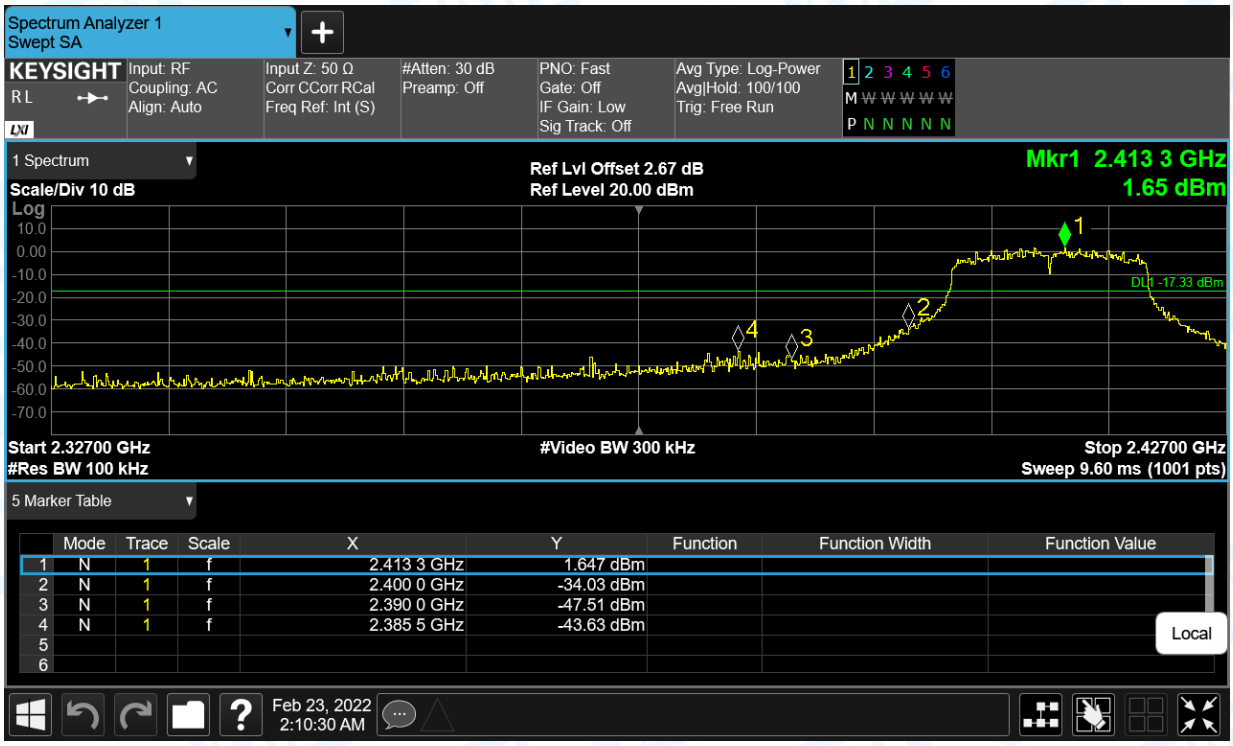
Band Edge NVNT b 2462MHz Ant1 Emission



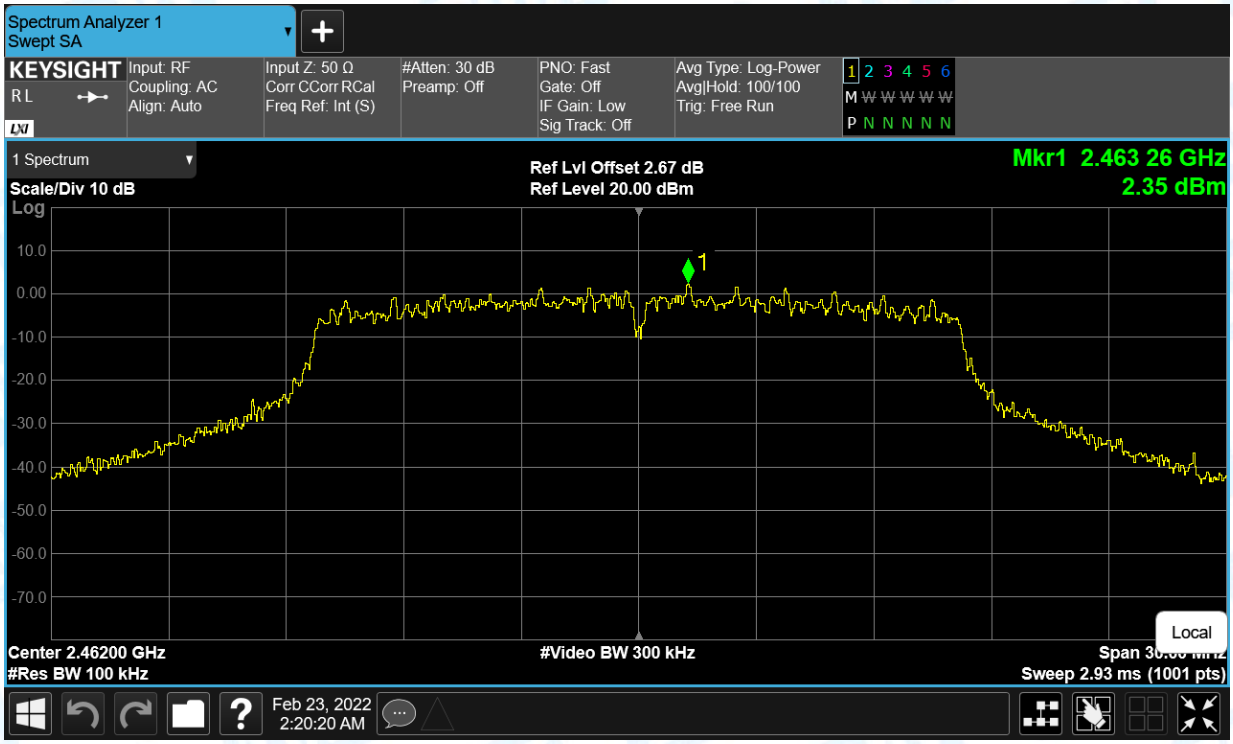
Band Edge NVNT g 2412MHz Ant1 Ref



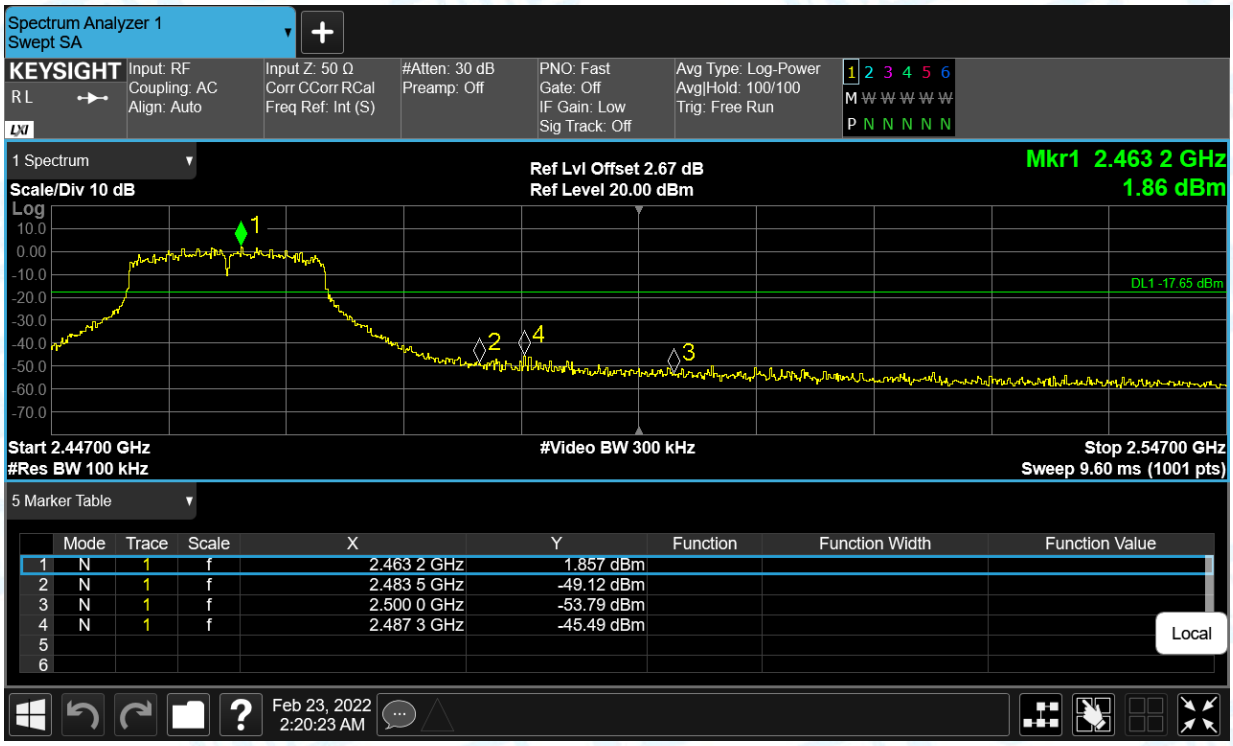
Band Edge NVNT g 2412MHz Ant1 Emission



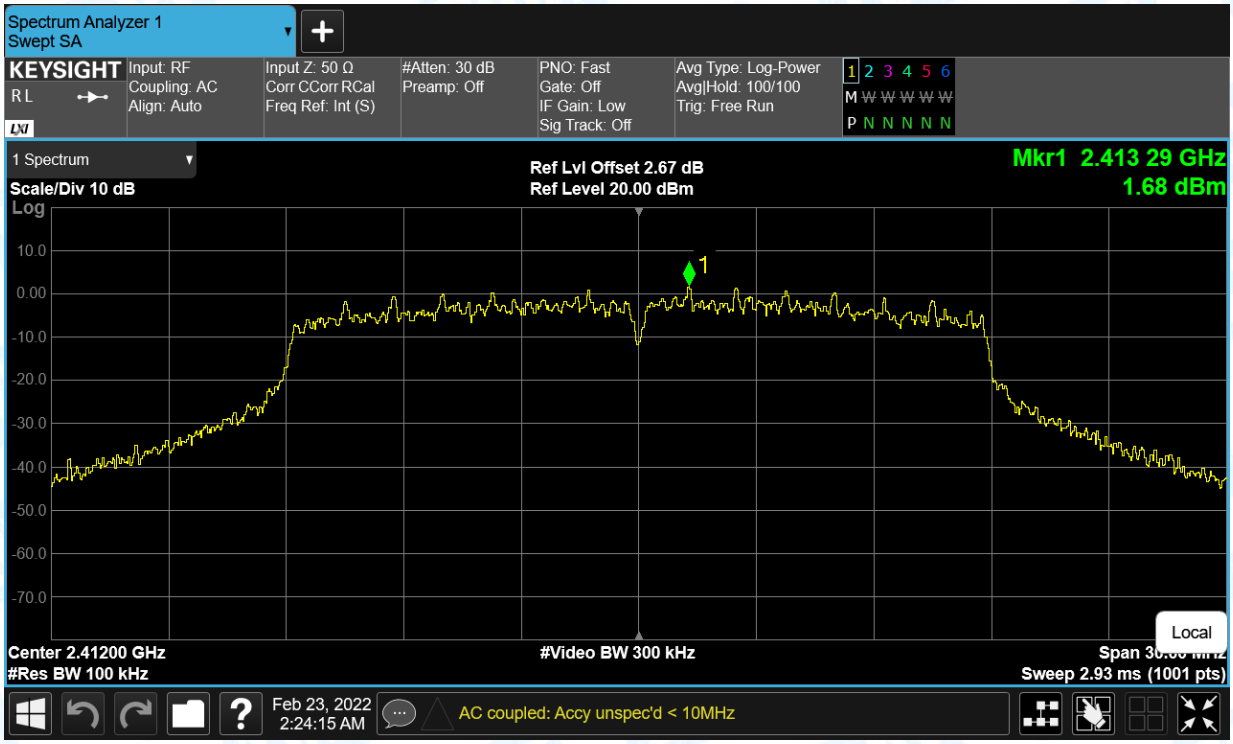
Band Edge NVNT g 2462MHz Ant1 Ref



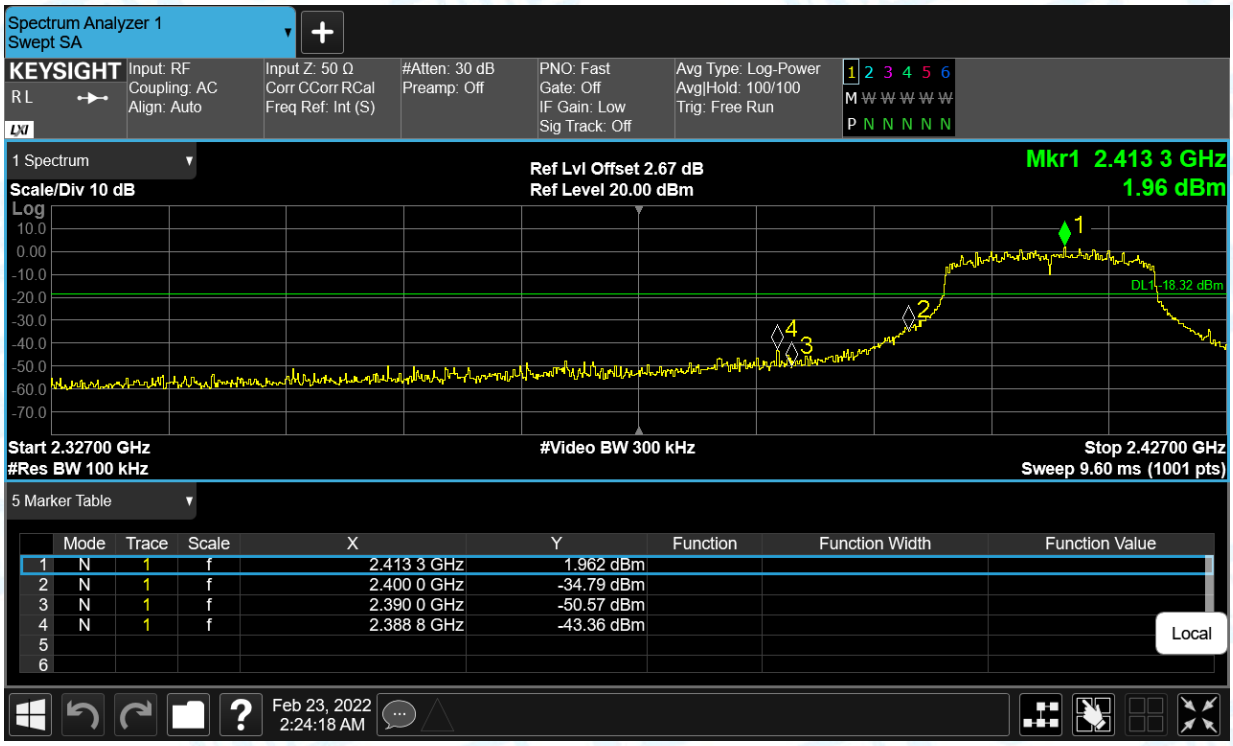
Band Edge NVNT g 2462MHz Ant1 Emission



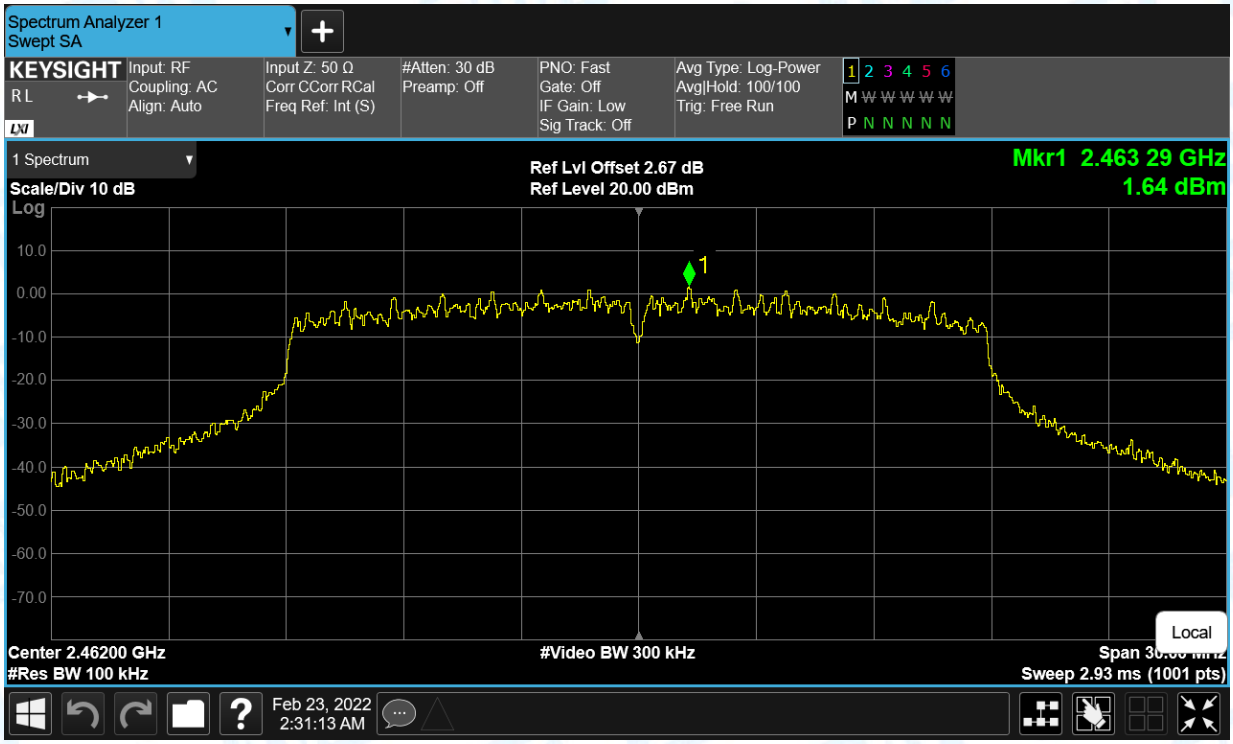
Band Edge NVNT n(HT20) 2412MHz Ant1 Ref



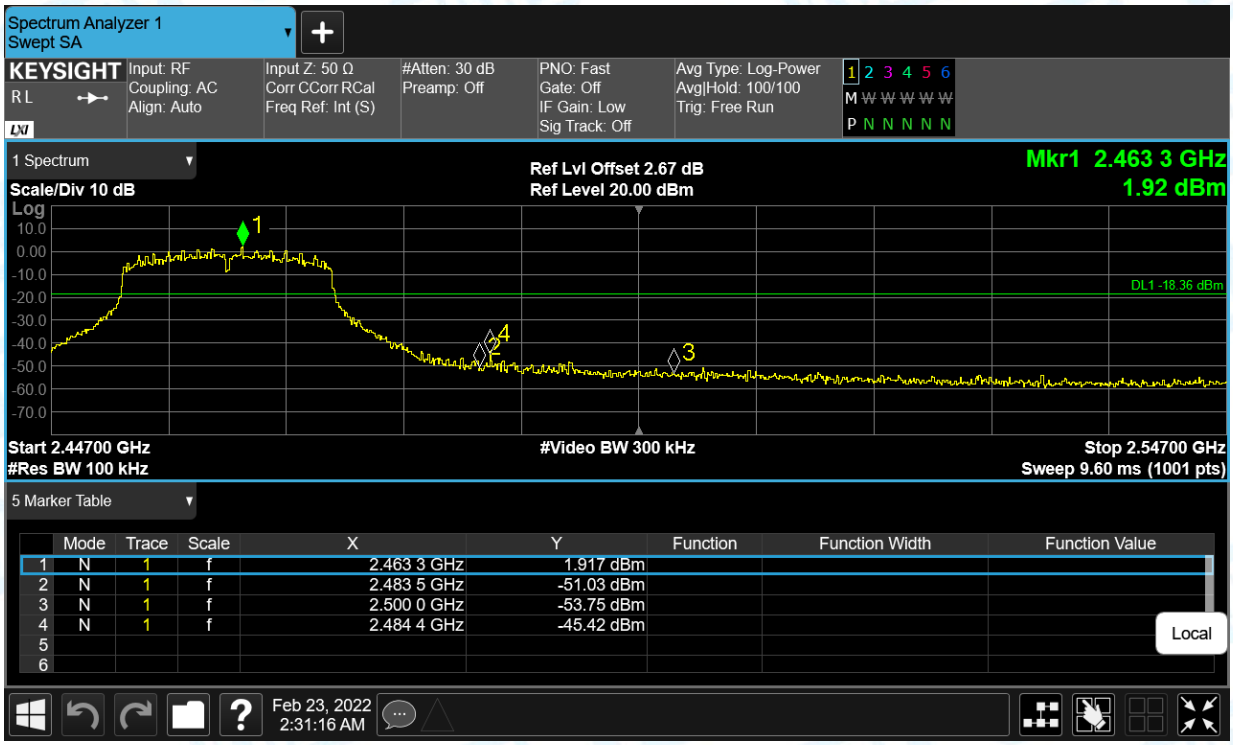
Band Edge NVNT n(HT20) 2412MHz Ant1 Emission



Band Edge NVNT n(HT20) 2462MHz Ant1 Ref



Band Edge NVNT n(HT20) 2462MHz Ant1 Emission

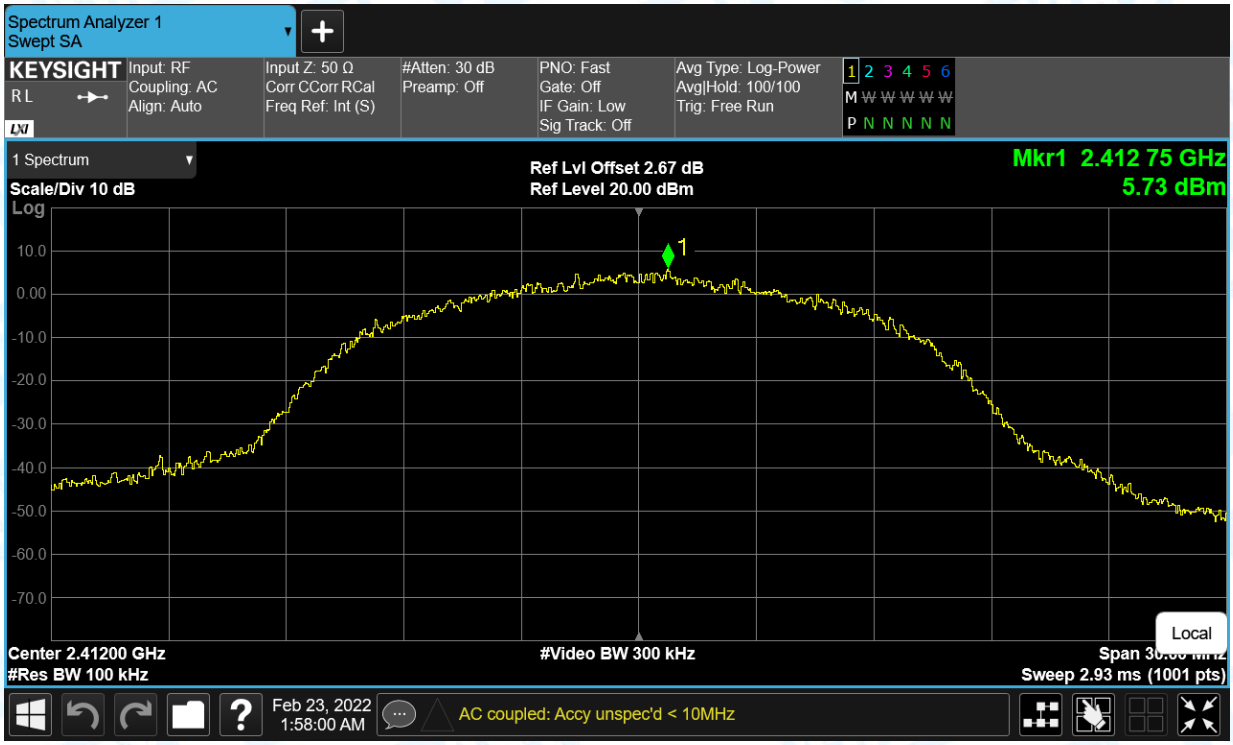


7. Conducted RF Spurious Emission

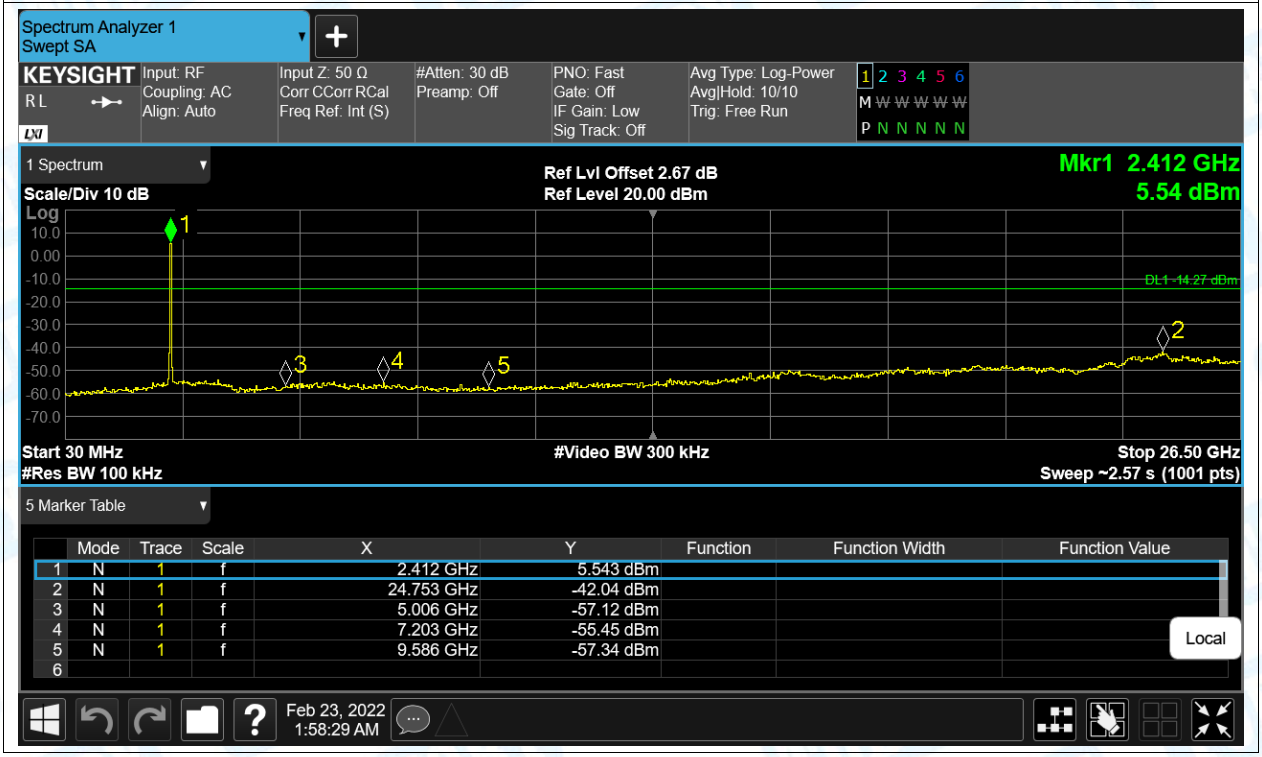
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-47.77	-20	Pass
NVNT	b	2437	Ant1	-47.32	-20	Pass
NVNT	b	2462	Ant1	-48.05	-20	Pass
NVNT	g	2412	Ant1	-43.06	-20	Pass
NVNT	g	2437	Ant1	-44.31	-20	Pass
NVNT	g	2462	Ant1	-44.27	-20	Pass
NVNT	n(HT20)	2412	Ant1	-43.49	-20	Pass
NVNT	n(HT20)	2437	Ant1	-43.18	-20	Pass
NVNT	n(HT20)	2462	Ant1	-43.88	-20	Pass

Test Graphs

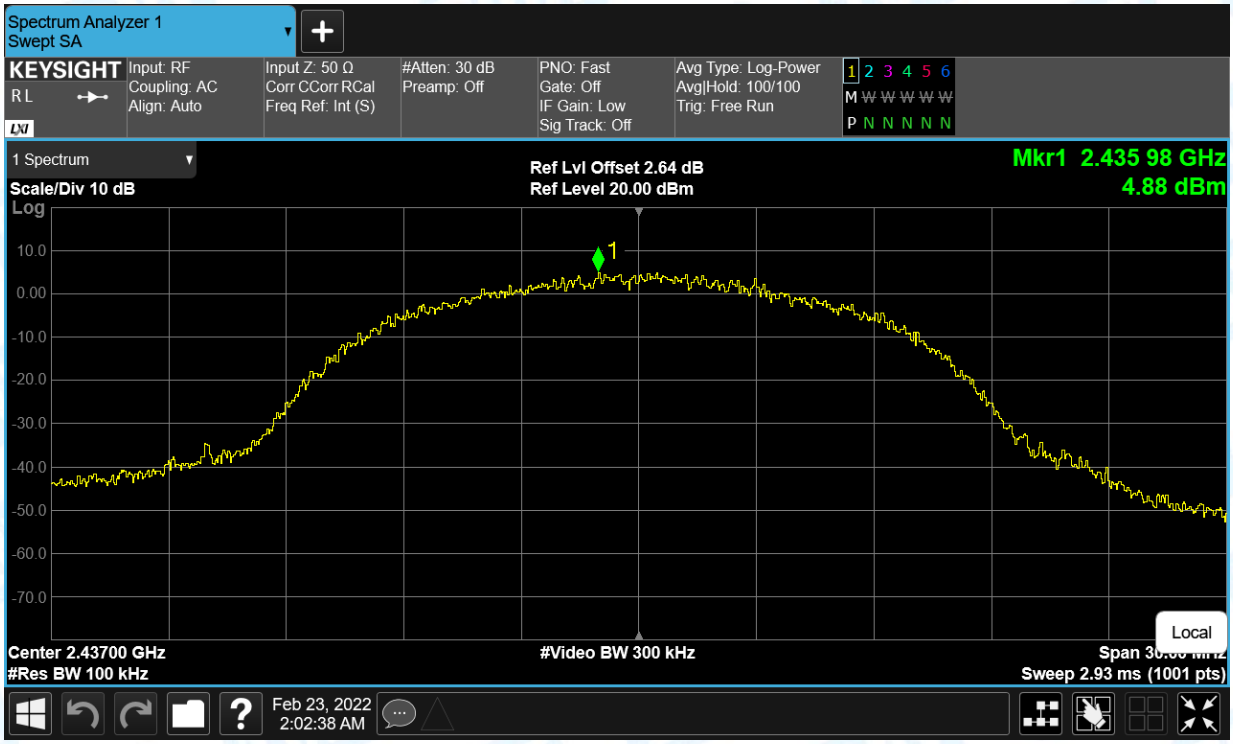
Tx. Spurious NVNT b 2412MHz Ant1 Ref



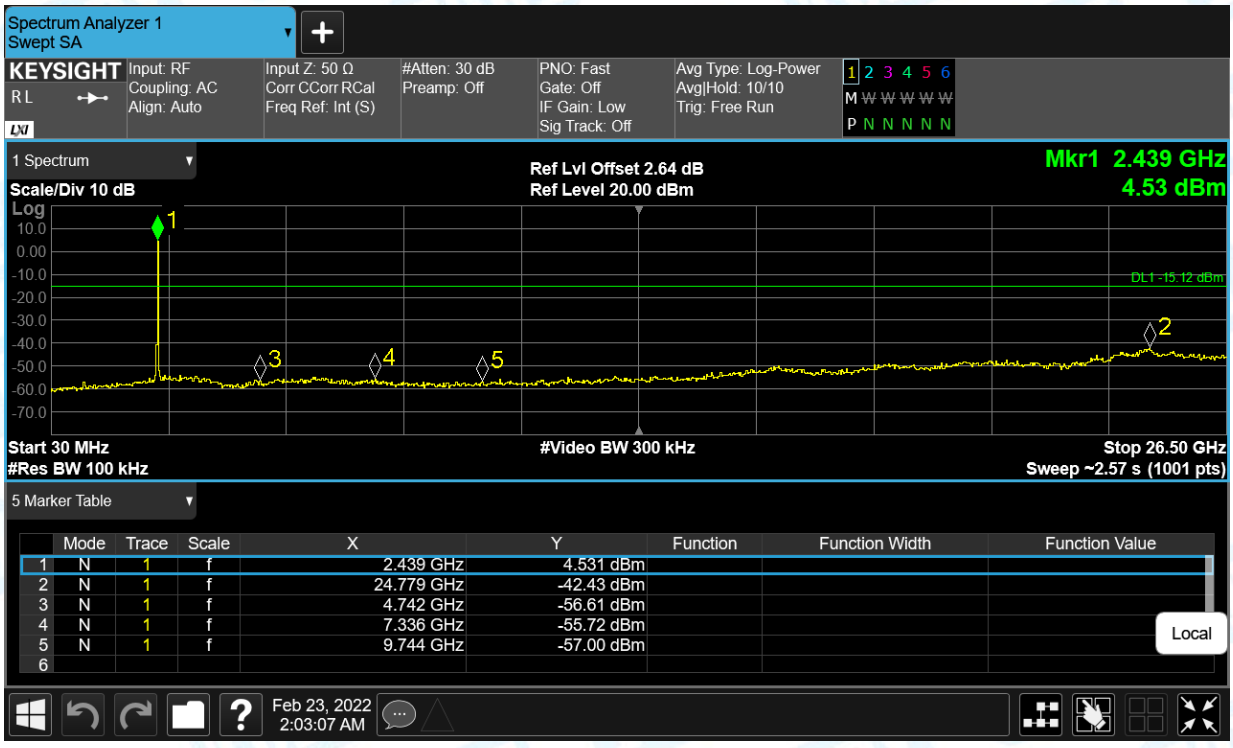
Tx. Spurious NVNT b 2412MHz Ant1 Emission



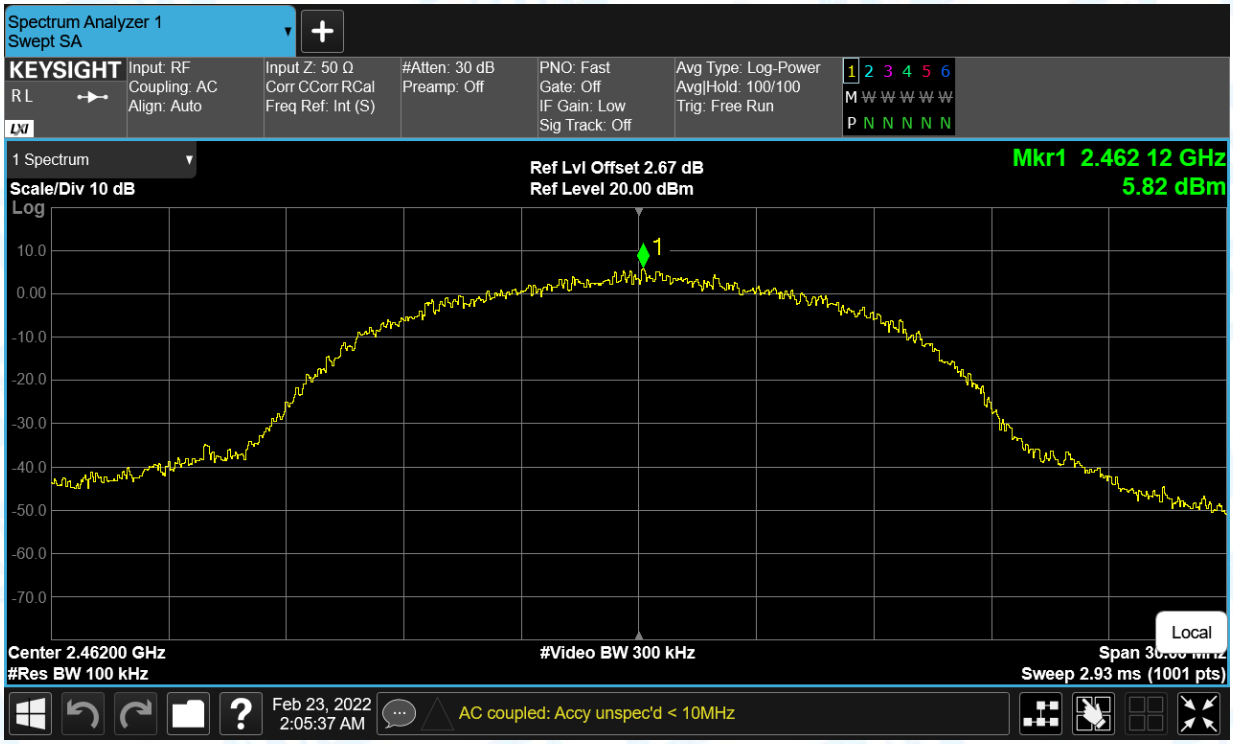
Tx. Spurious NVNT b 2437MHz Ant1 Ref



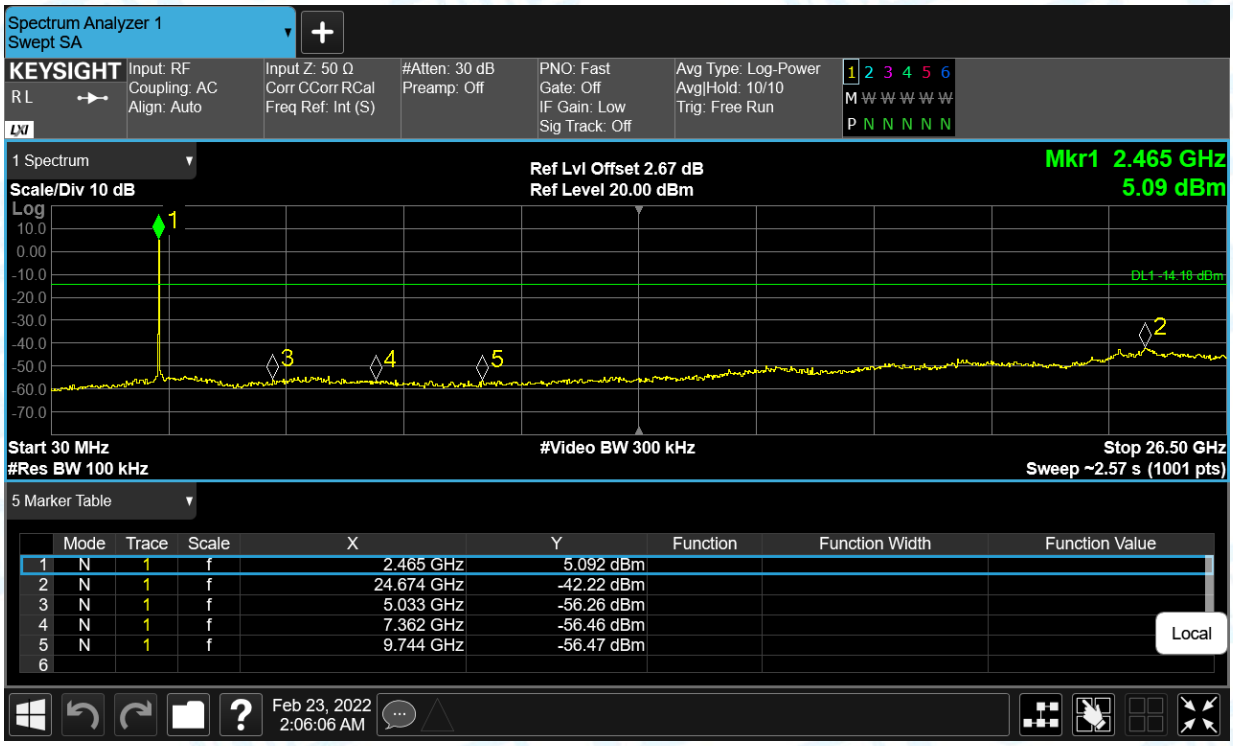
Tx. Spurious NVNT b 2437MHz Ant1 Emission



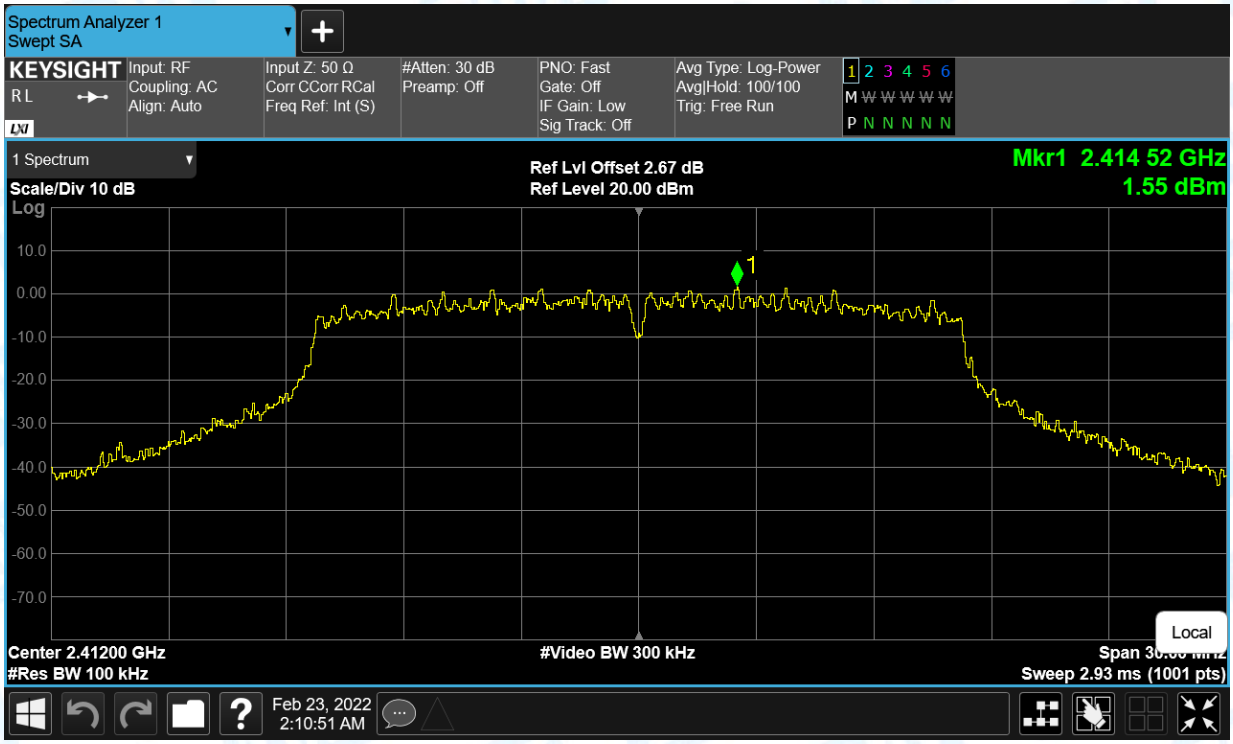
Tx. Spurious NVNT b 2462MHz Ant1 Ref



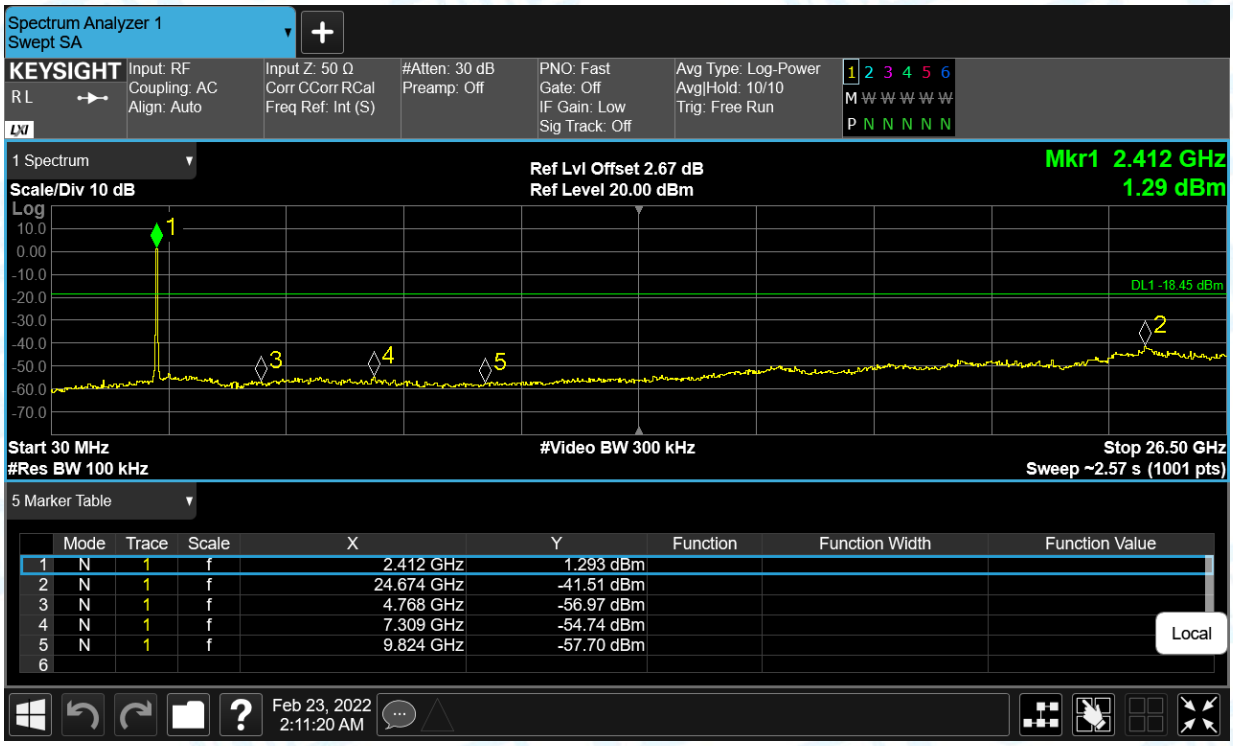
Tx. Spurious NVNT b 2462MHz Ant1 Emission



Tx. Spurious NVNT g 2412MHz Ant1 Ref



Tx. Spurious NVNT g 2412MHz Ant1 Emission



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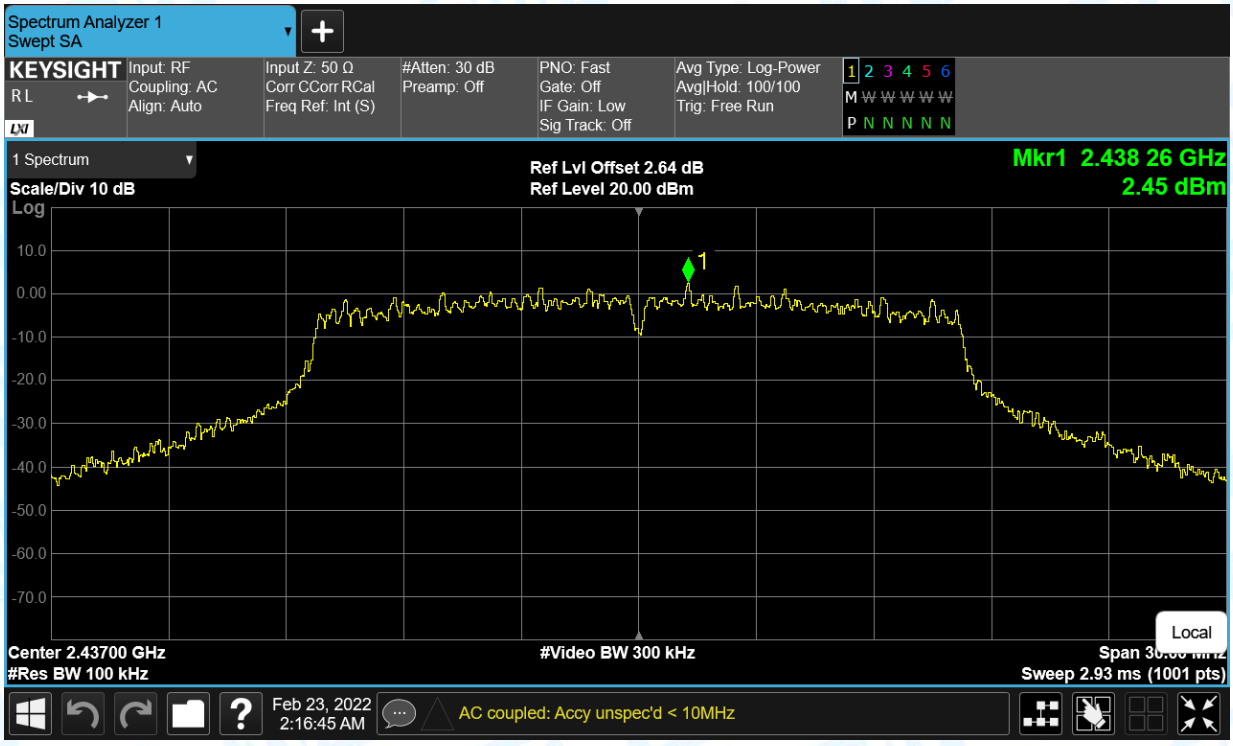

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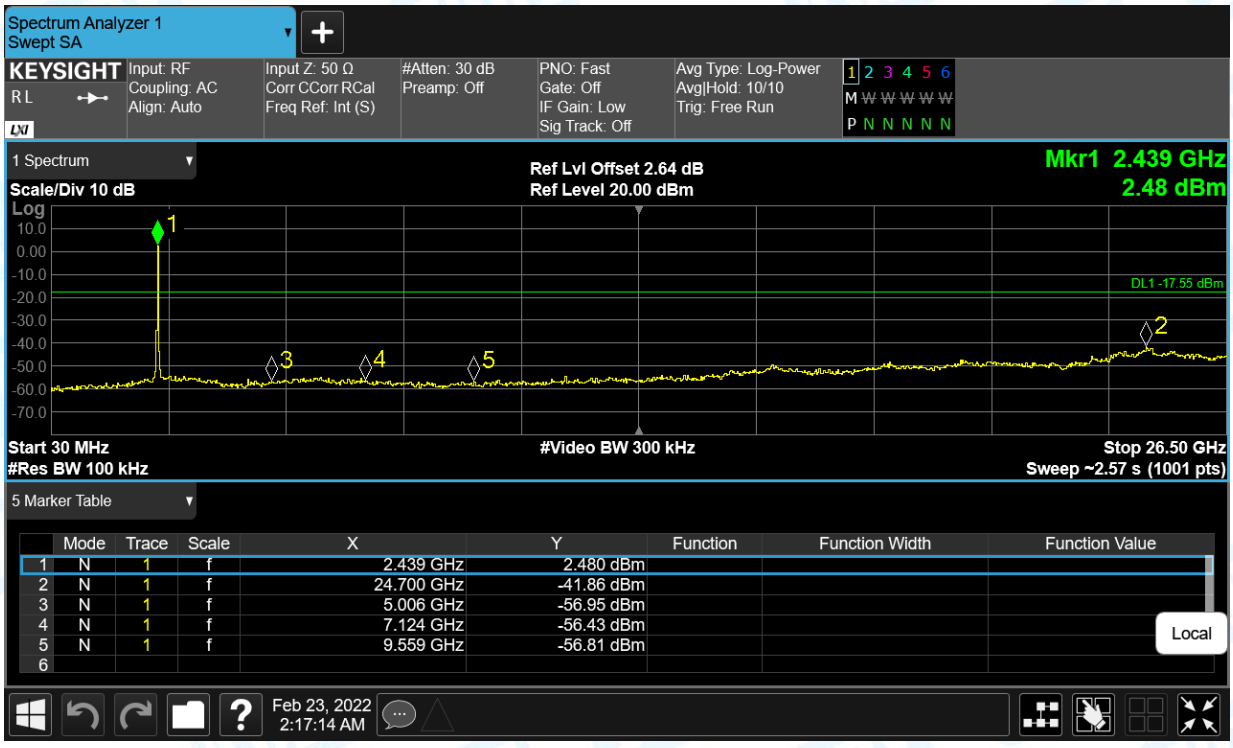
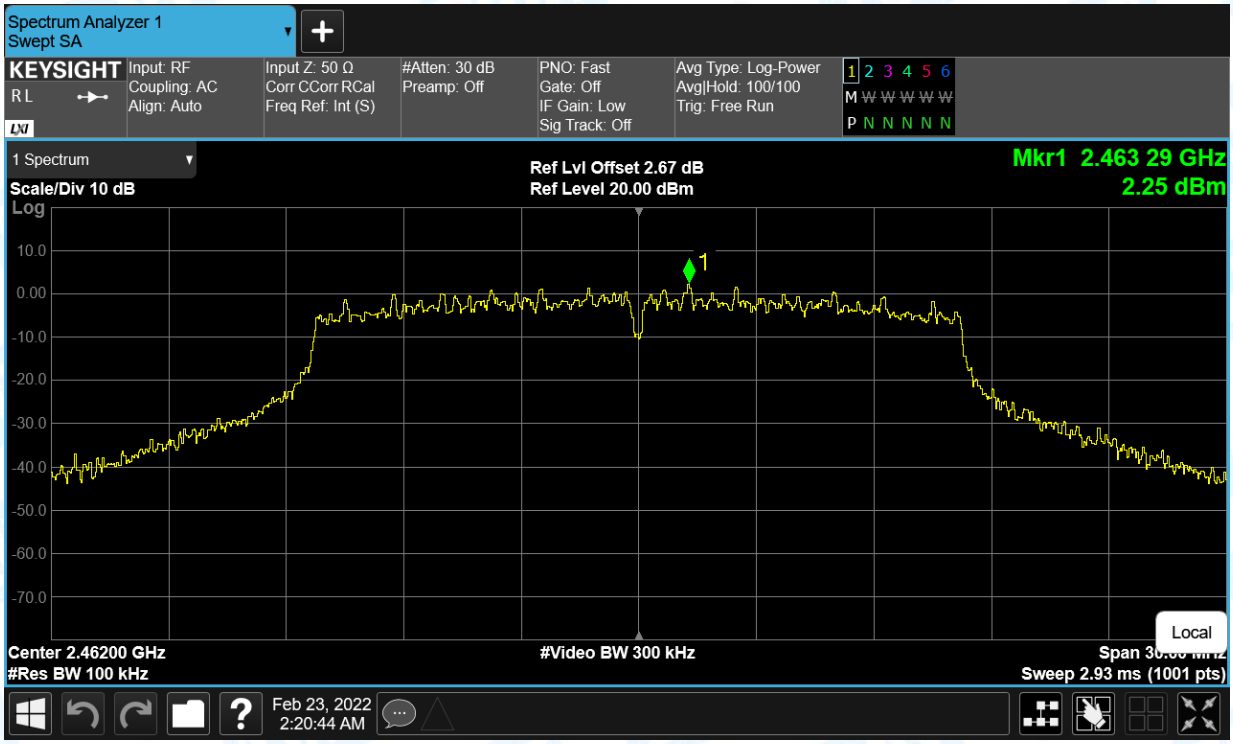
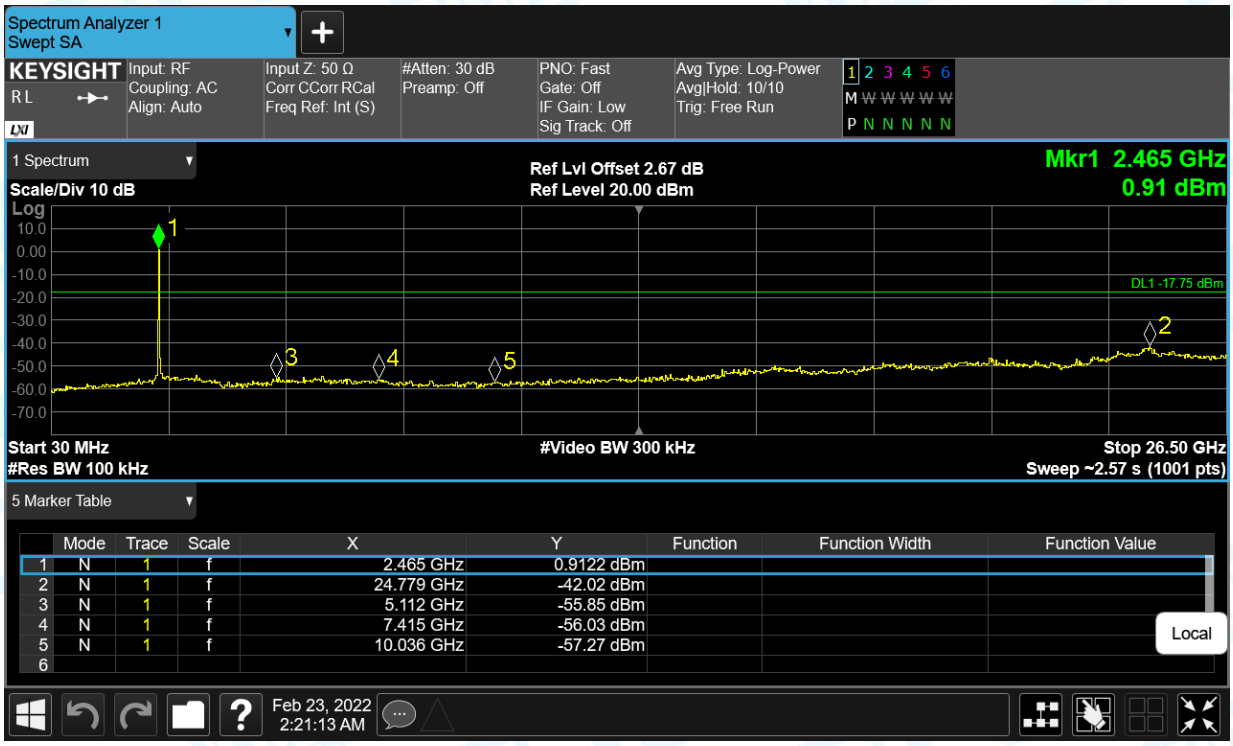


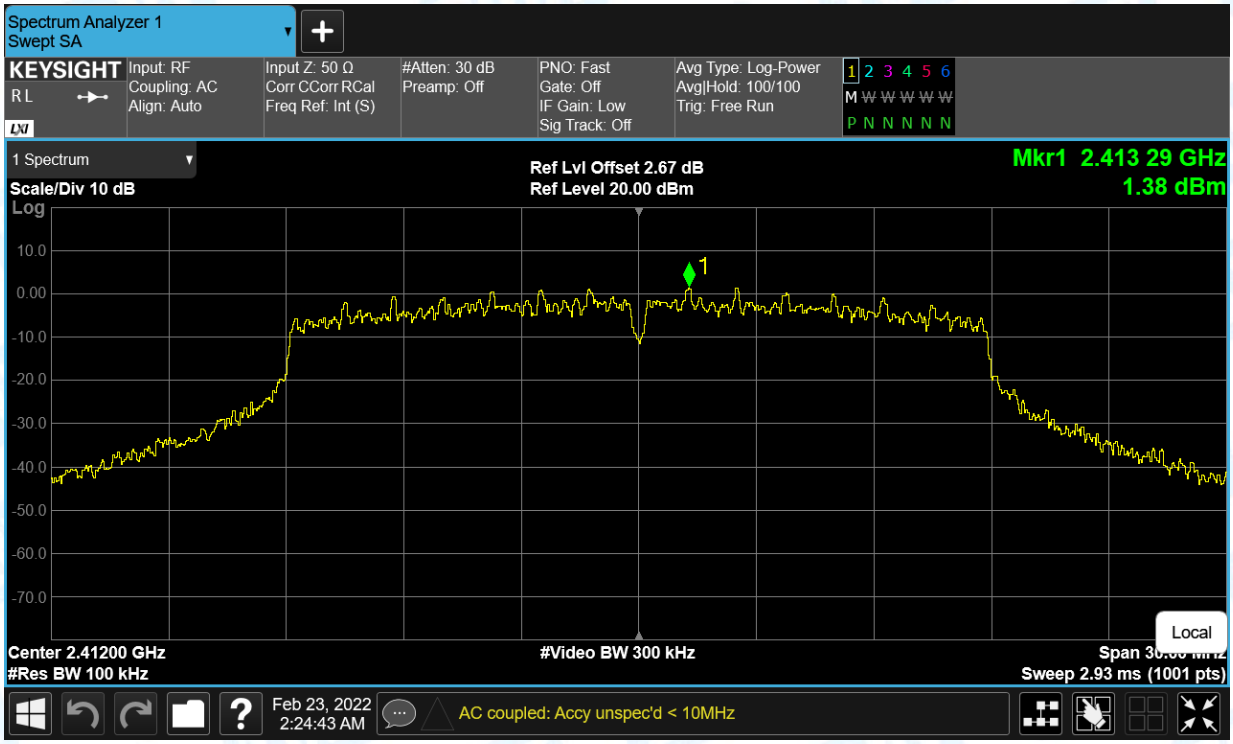
Tx. Spurious NVNT g 2462MHz Ant1 Ref



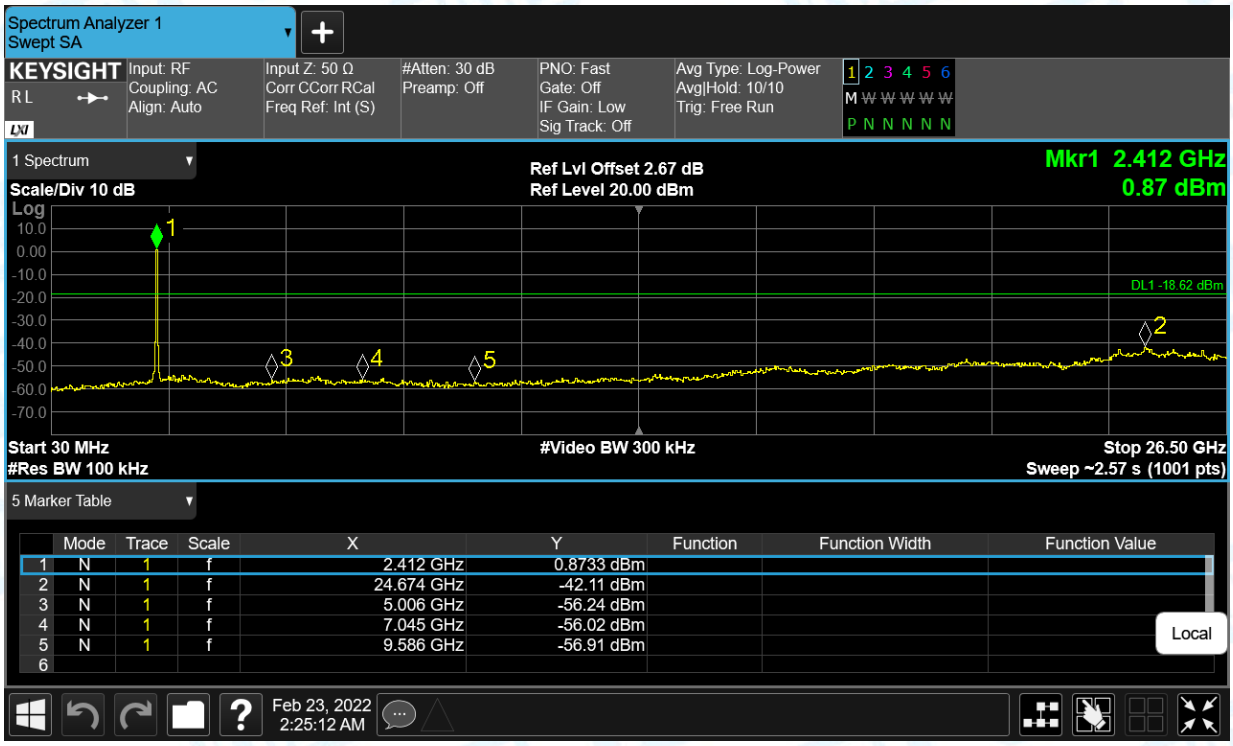
Tx. Spurious NVNT g 2462MHz Ant1 Emission



Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Ref



Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Emission



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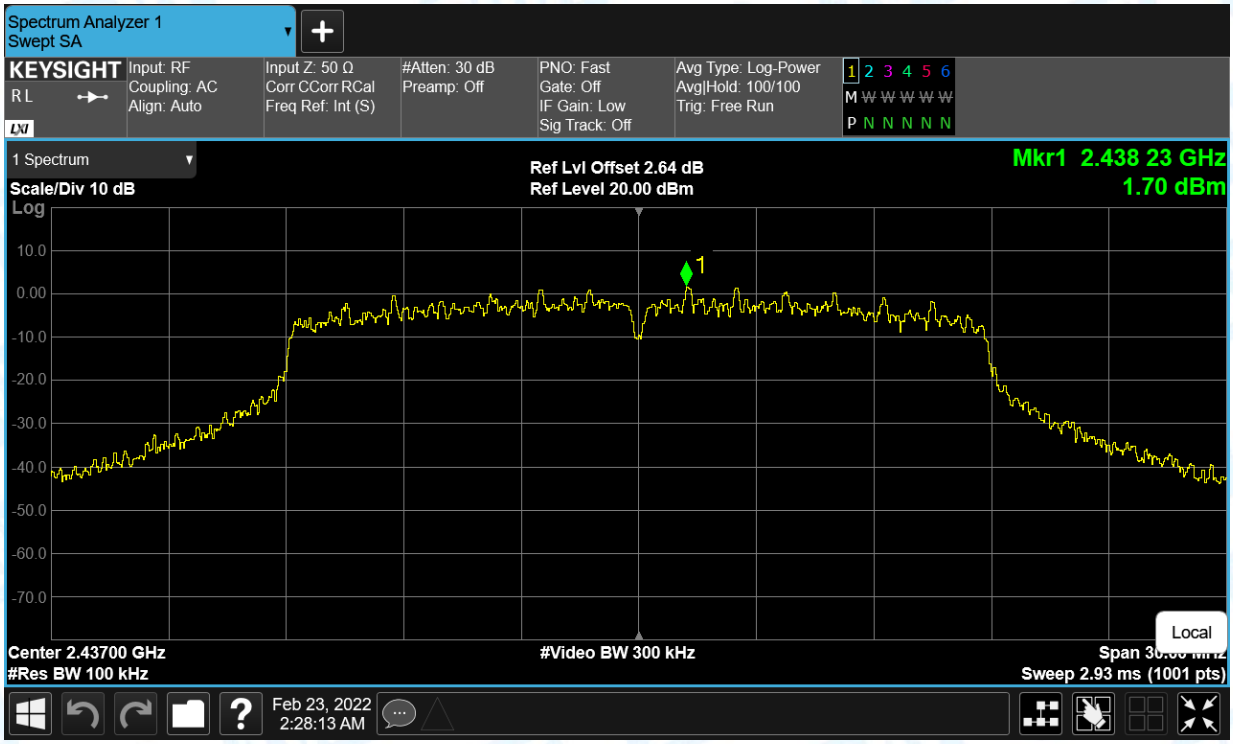
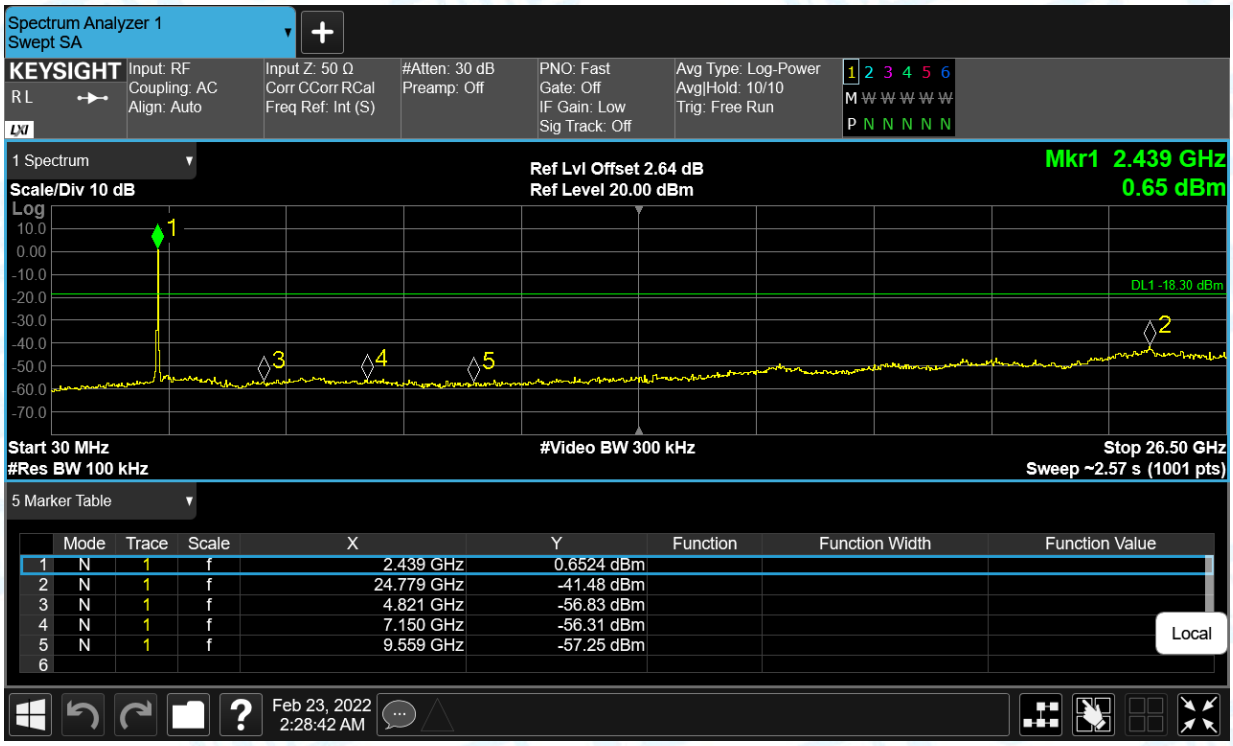
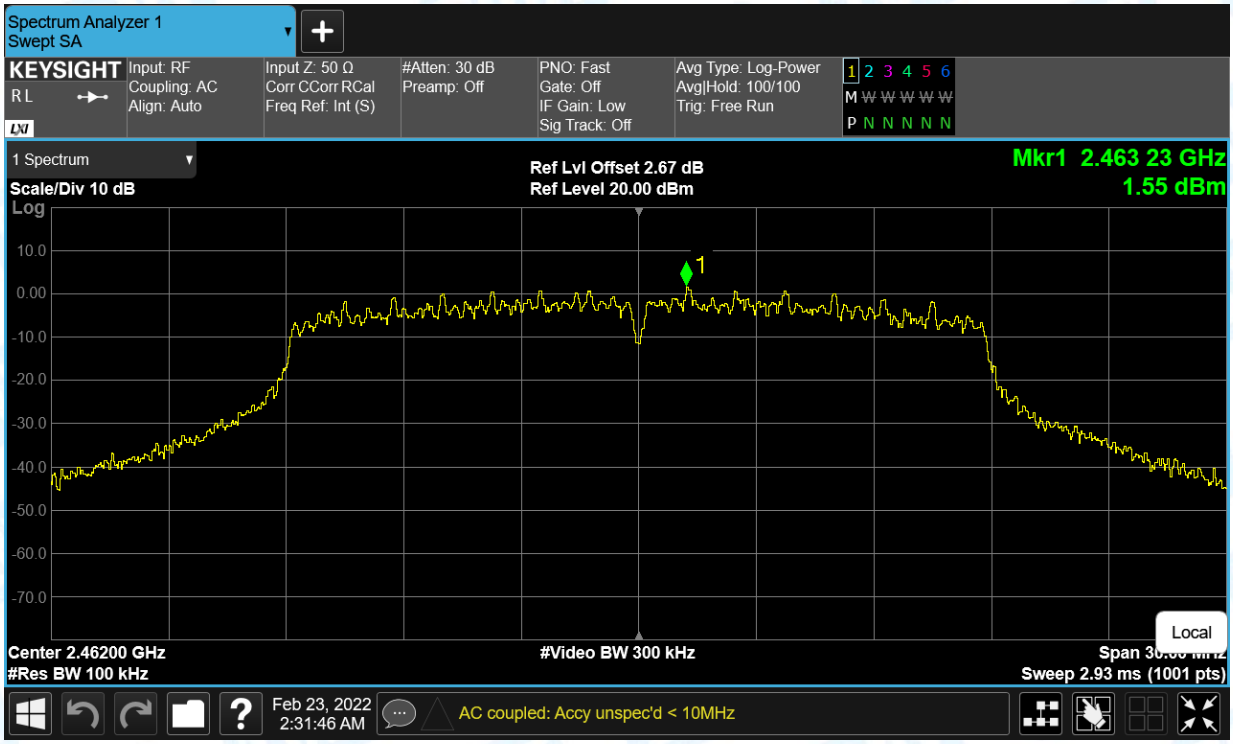


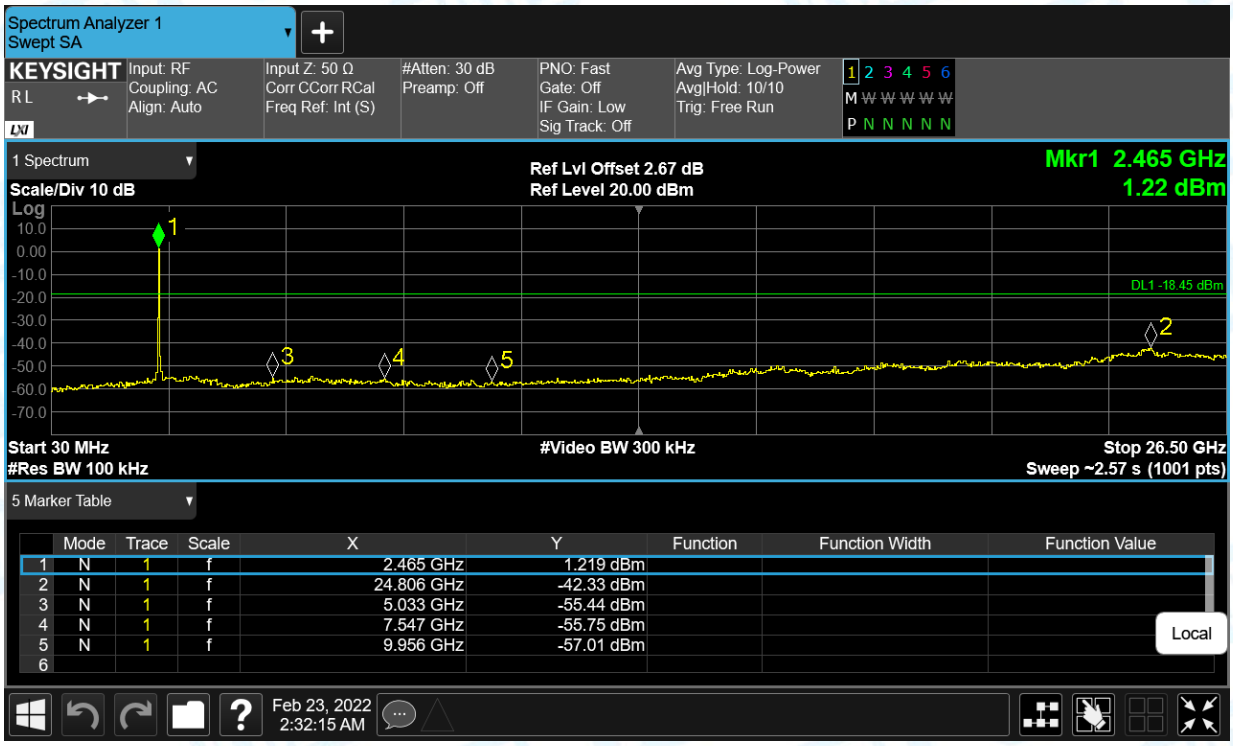
Tx. Spurious NVNT n(HT20) 2437MHz Ant1 Emission



Tx. Spurious NVNT n(HT20) 2462MHz Ant1 Ref



Tx. Spurious NVNT n(HT20) 2462MHz Ant1 Emission

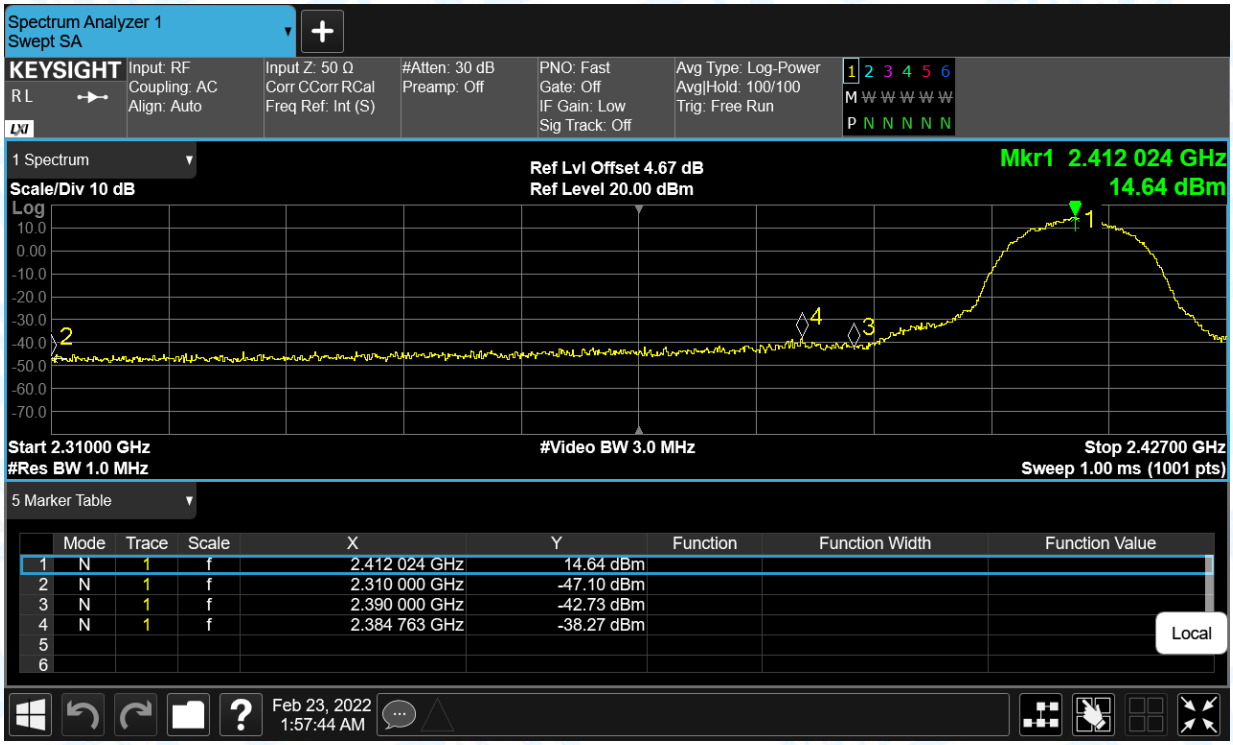


8. Restrict Band

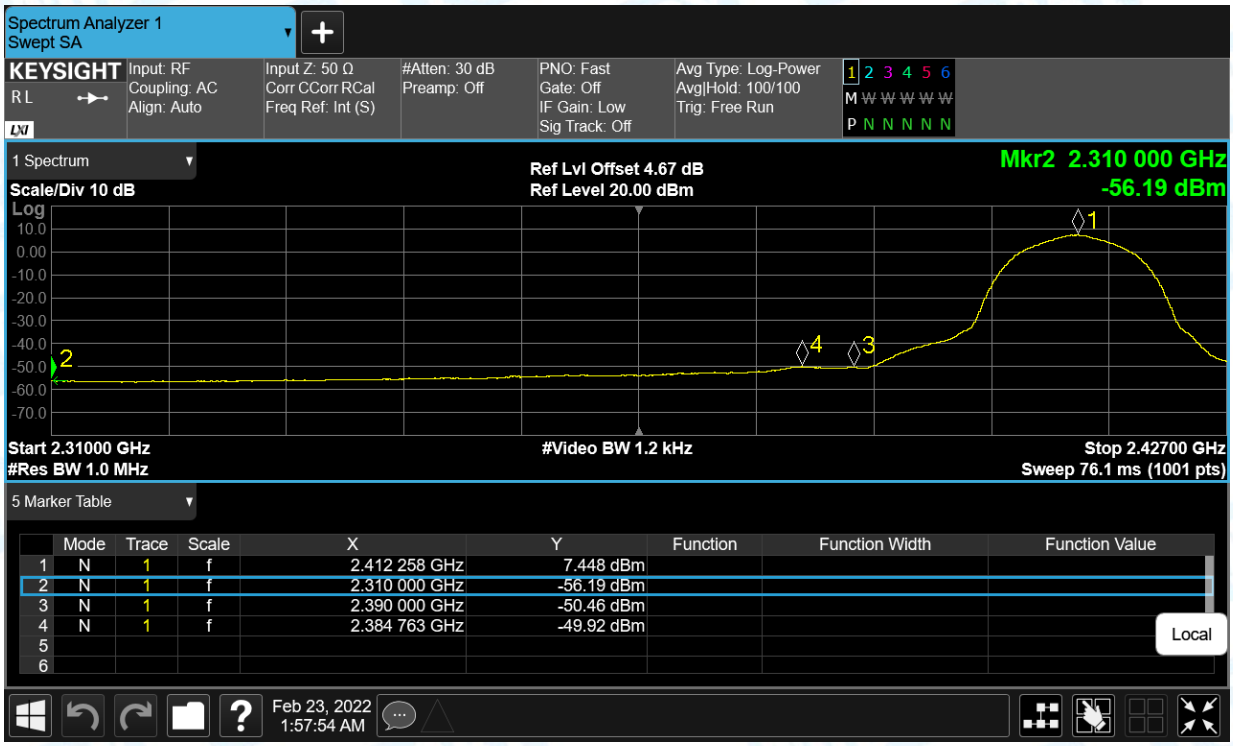
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-47.1	2	50.16	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-56.19	2	41.07	Average	54	Pass
NVNT	b	2412	Ant1	2384.763	-38.27	2	58.99	Peak	74	Pass
NVNT	b	2412	Ant1	2384.763	-49.92	2	47.34	Average	54	Pass
NVNT	b	2412	Ant1	2390	-42.73	2	54.53	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-50.46	2	46.8	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-40.17	2	57.09	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-51.96	2	45.3	Average	54	Pass
NVNT	b	2462	Ant1	2484.577	-39.65	2	57.61	Peak	74	Pass
NVNT	b	2462	Ant1	2483.941	-51.68	2	45.58	Average	54	Pass
NVNT	b	2462	Ant1	2500	-44.1	2	53.16	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-52.74	2	44.52	Average	54	Pass
NVNT	g	2412	Ant1	2310	-43.59	2	53.67	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-55.25	2	42.01	Average	54	Pass
NVNT	g	2412	Ant1	2388.858	-23.54	2	73.72	Peak	74	Pass
NVNT	g	2412	Ant1	2389.443	-45.83	2	51.43	Average	54	Pass
NVNT	g	2412	Ant1	2390	-35.16	2	62.1	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-45.27	2	51.99	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-36.21	2	61.05	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-47.16	2	50.1	Average	54	Pass
NVNT	g	2462	Ant1	2484.895	-25.95	2	71.31	Peak	74	Pass
NVNT	g	2462	Ant1	2484.418	-46.87	2	50.39	Average	54	Pass
NVNT	g	2462	Ant1	2500	-42.05	2	55.21	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-50.57	2	46.69	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2310	-47.81	2	49.45	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2310	-55.52	2	41.74	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2385.231	-26.18	2	71.08	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2389.209	-45.86	2	51.4	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2390	-33.08	2	64.18	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2390	-46.68	2	50.58	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-36.56	2	60.7	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-47.76	2	49.5	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2489.877	-29.55	2	67.71	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2484.312	-47.47	2	49.79	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2500	-45.08	2	52.18	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2500	-50.26	2	47	Average	54	Pass

Test Graphs

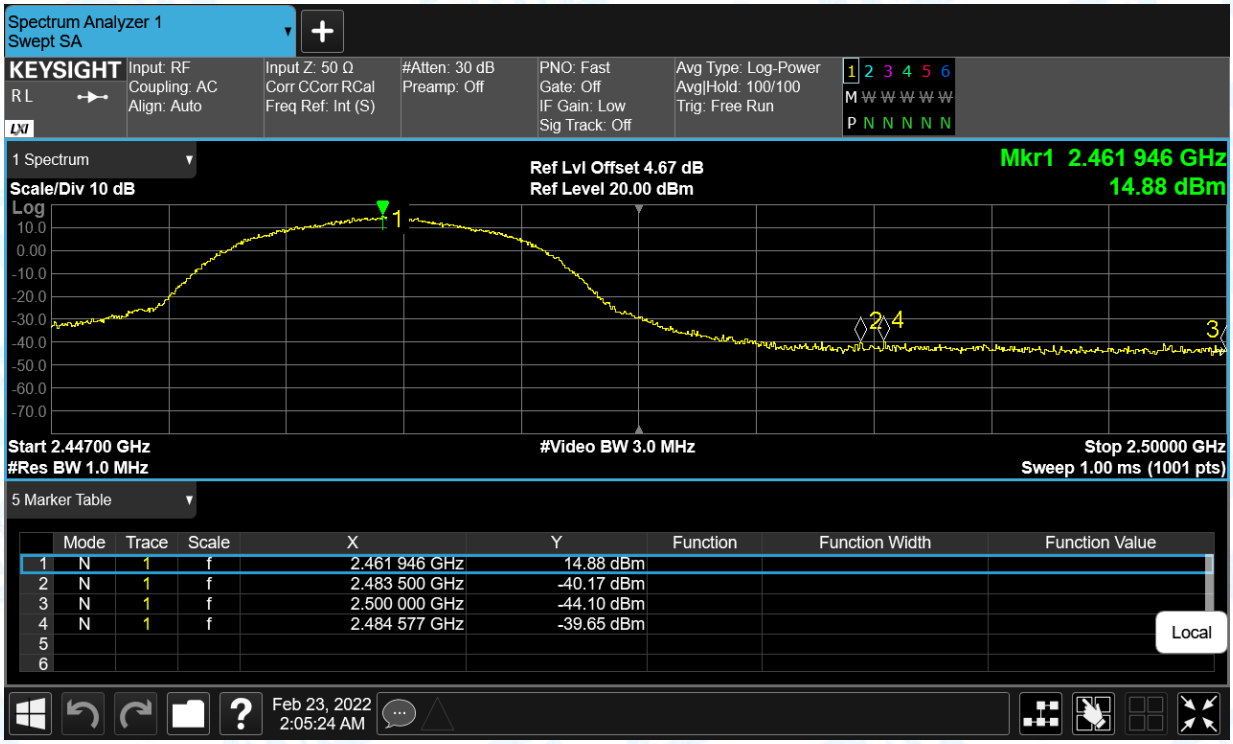
Restrict Band NVNT b 2412MHz Ant1 Peak



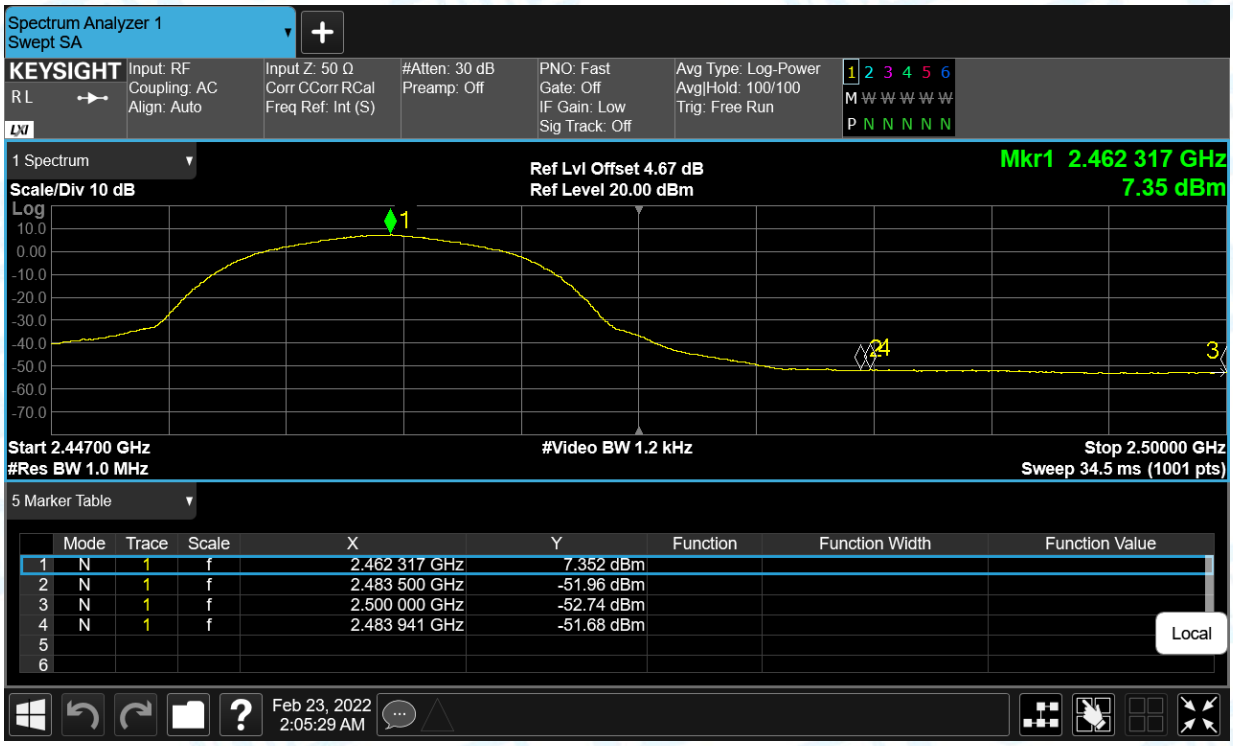
Restrict Band NVNT b 2412MHz Ant1 Average



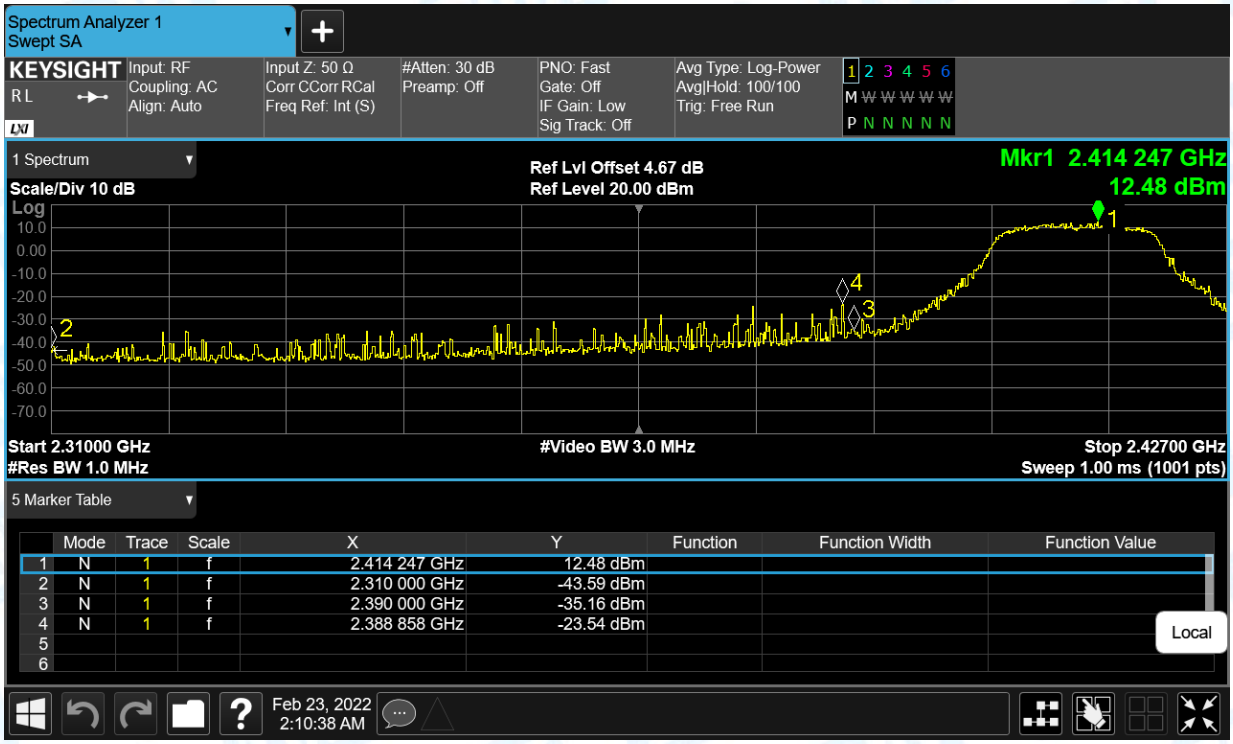
Restrict Band NVNT b 2462MHz Ant1 Peak



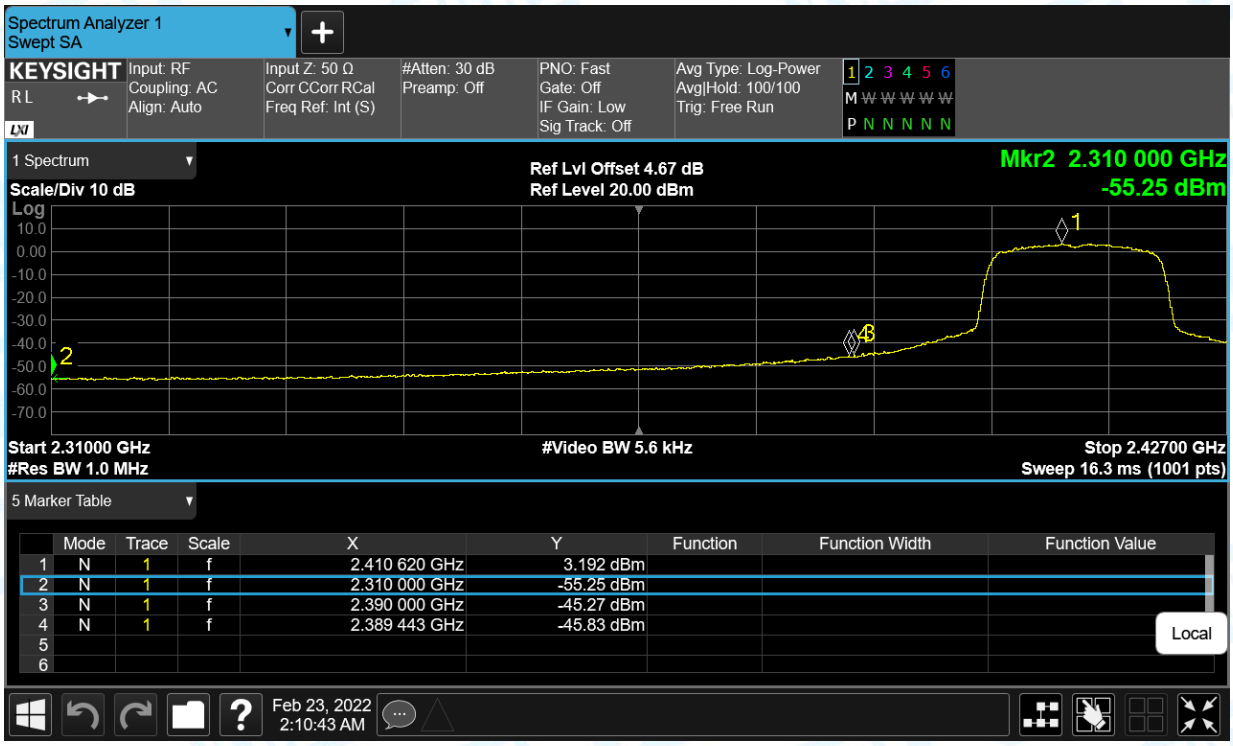
Restrict Band NVNT b 2462MHz Ant1 Average



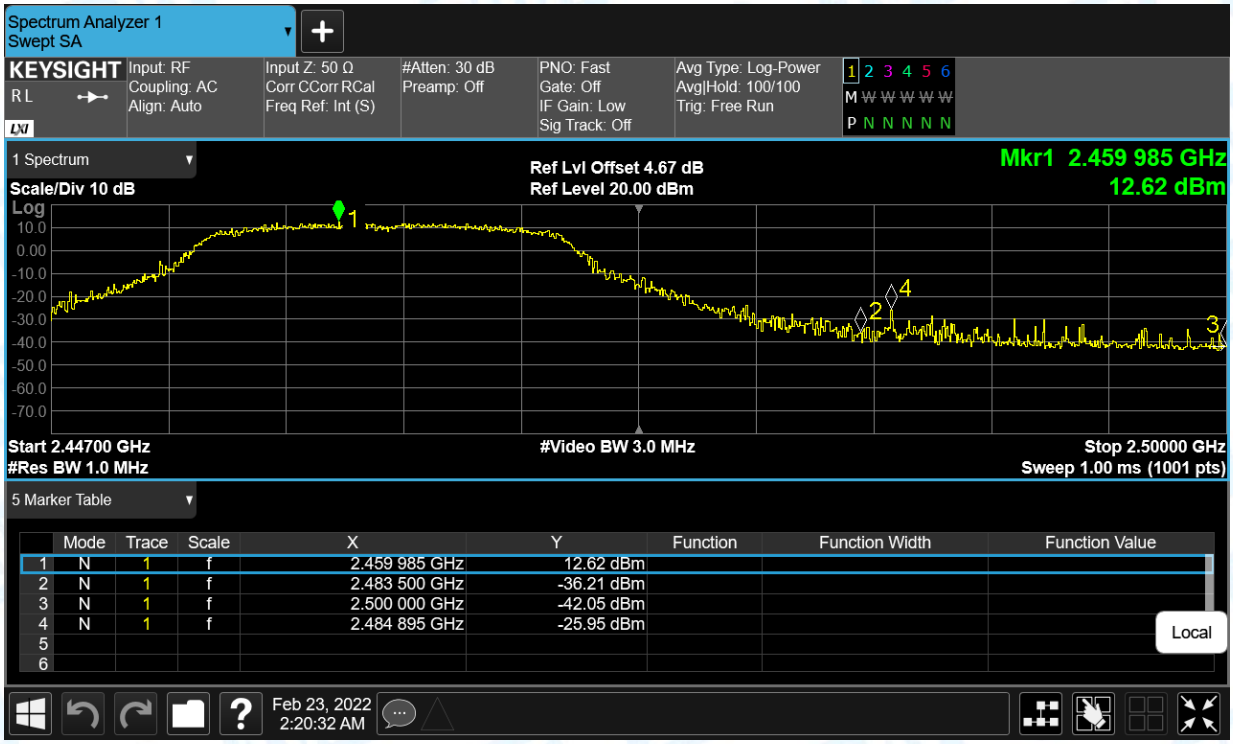
Restrict Band NVNT g 2412MHz Ant1 Peak



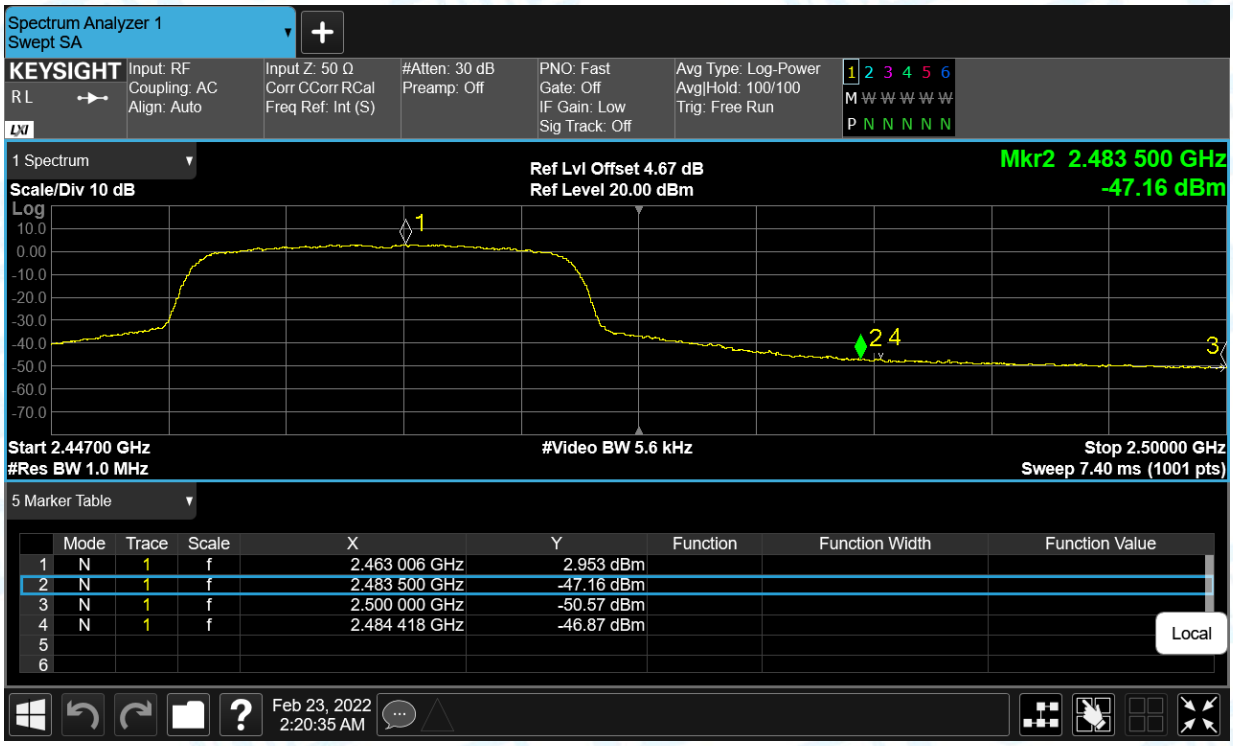
Restrict Band NVNT g 2412MHz Ant1 Average



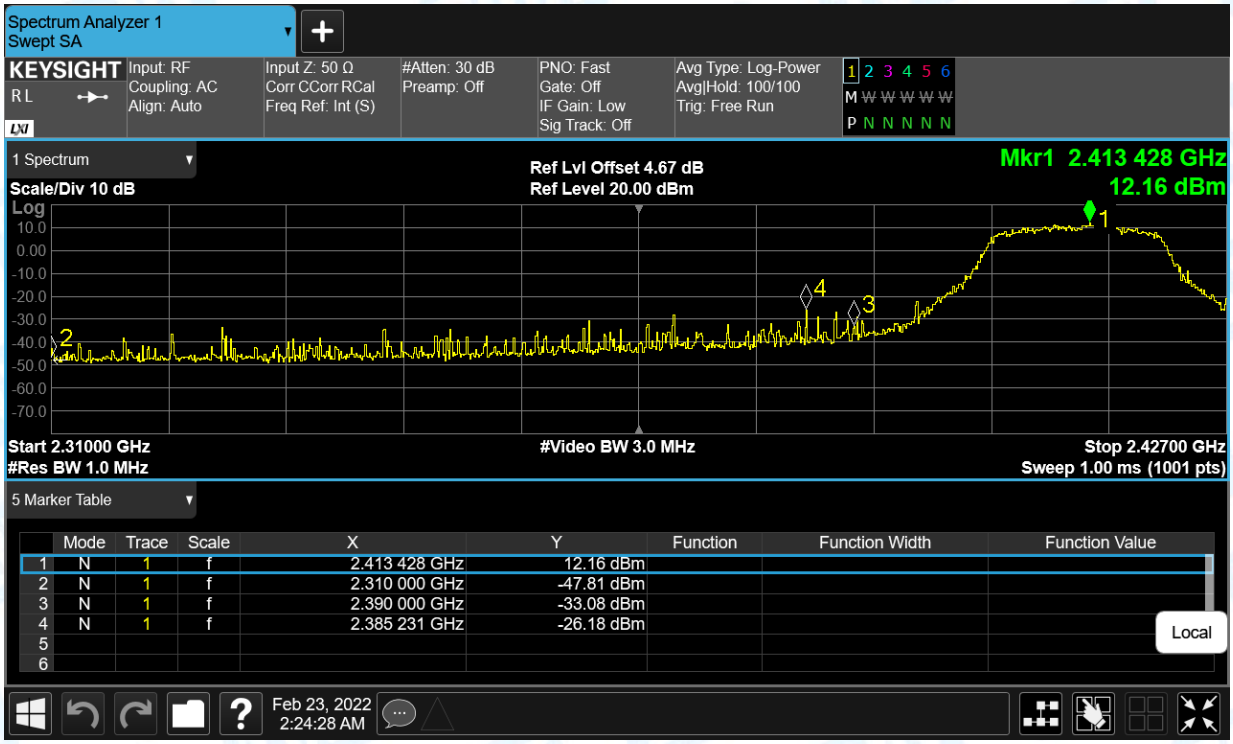
Restrict Band NVNT g 2462MHz Ant1 Peak



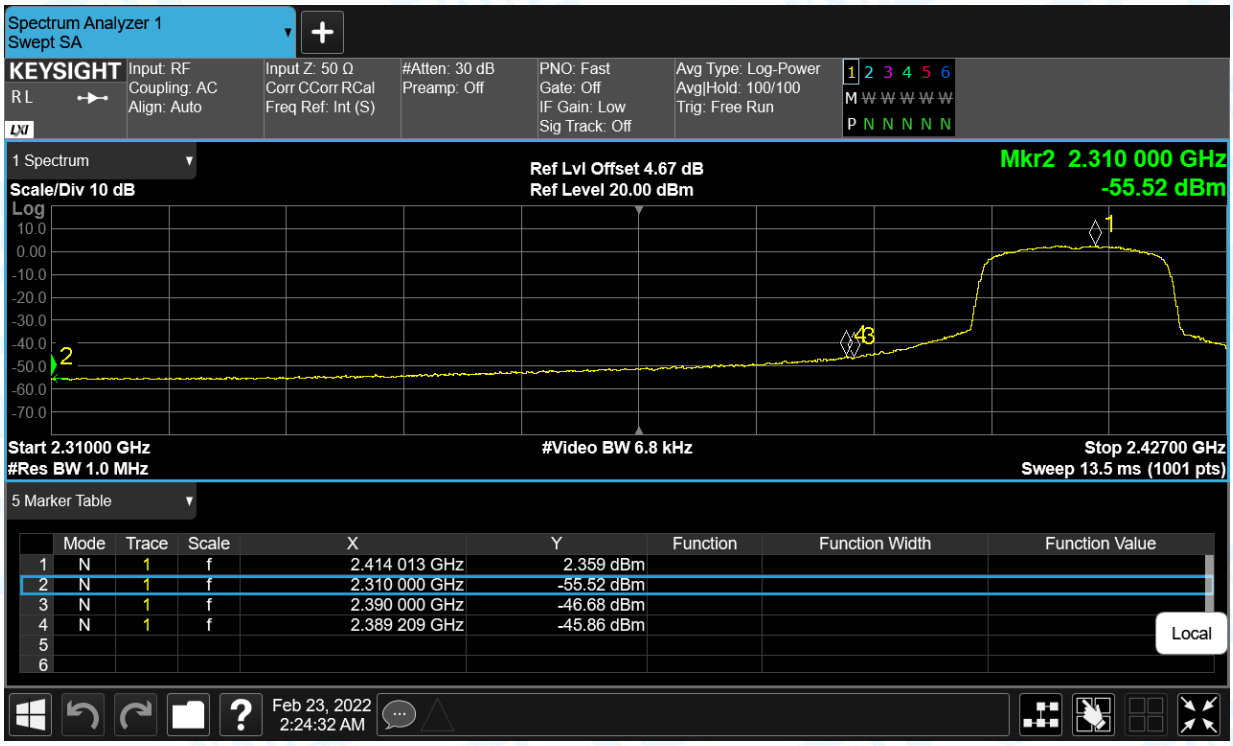
Restrict Band NVNT g 2462MHz Ant1 Average



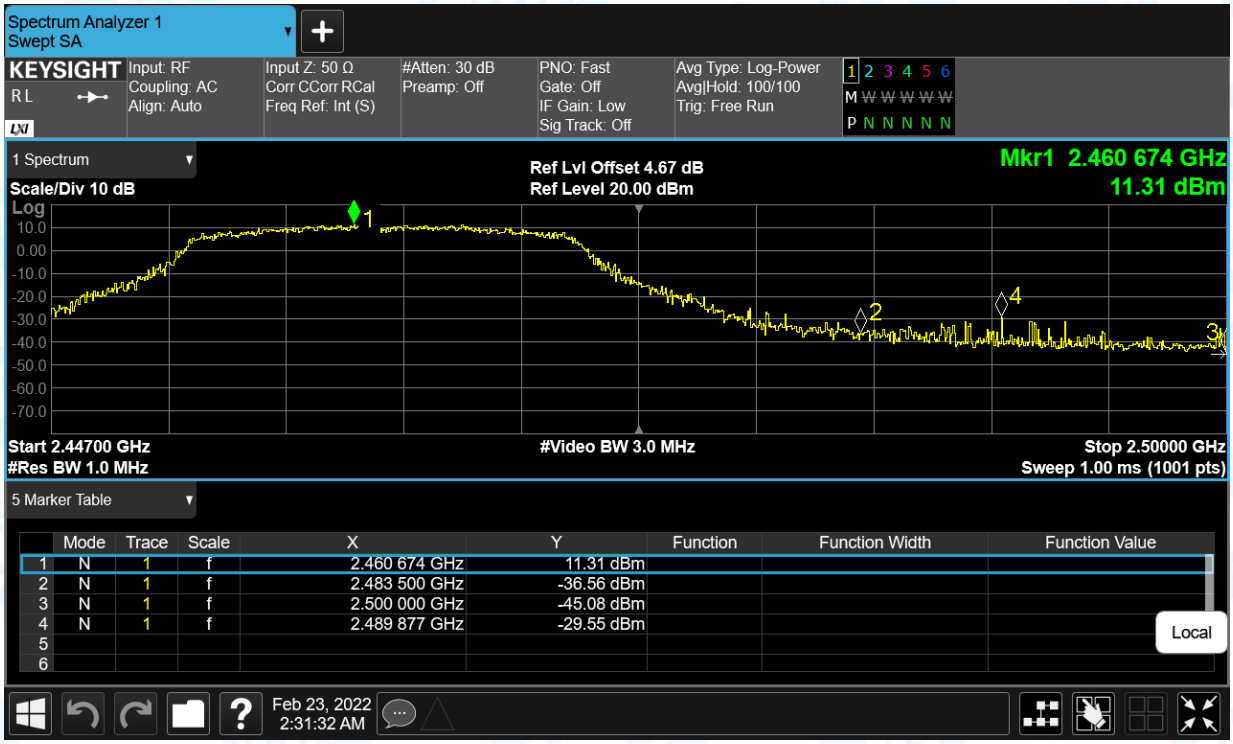
Restrict Band NVNT n(HT20) 2412MHz Ant1 Peak



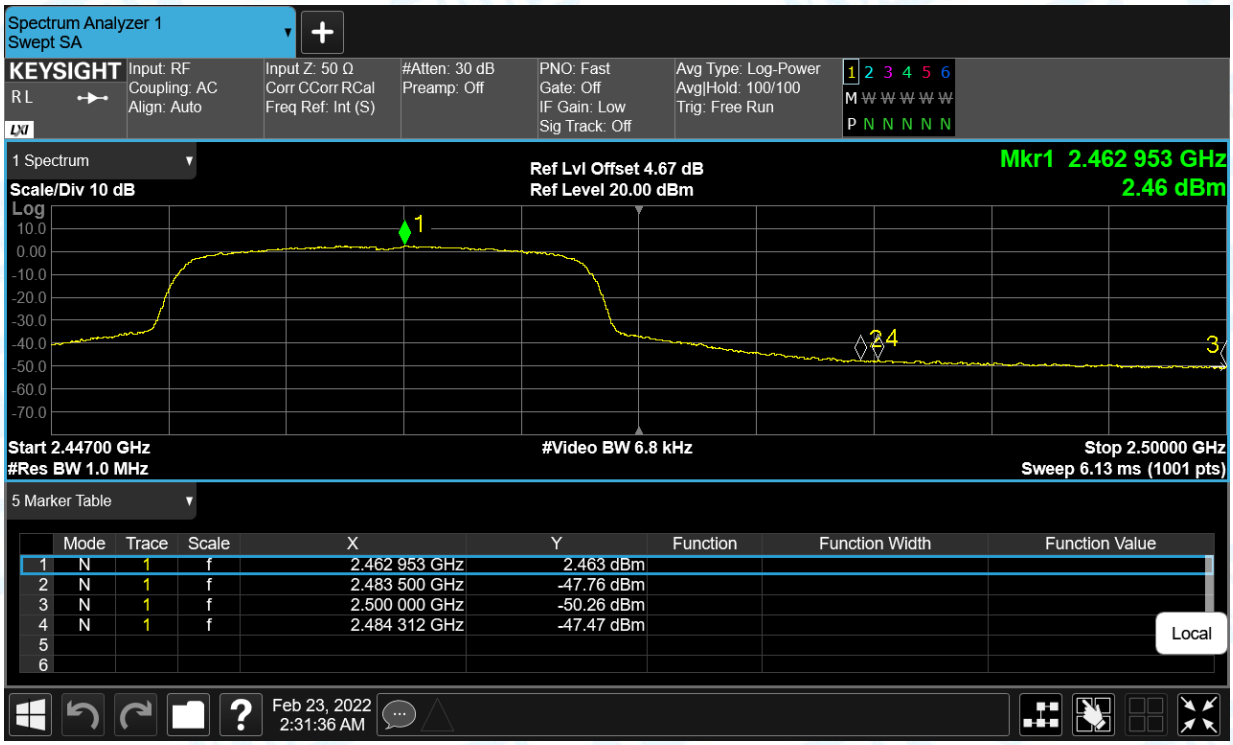
Restrict Band NVNT n(HT20) 2412MHz Ant1 Average



Restrict Band NVNT n(HT20) 2462MHz Ant1 Peak



Restrict Band NVNT n(HT20) 2462MHz Ant1 Average



-----End of the report-----