

RF Test Data for Bluetooth(BDR+EDR) (Conducted Measurements)

General Description of EUT	
Product Name:	Wireless headset
Test Model:	TWS
Sample ID:	202211-0075-01
Environmental Conditions	
Temperature:	25°C
Relative Humidity:	55%
Test Voltage:	DC 3.7V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202211-0075-2	

Contents

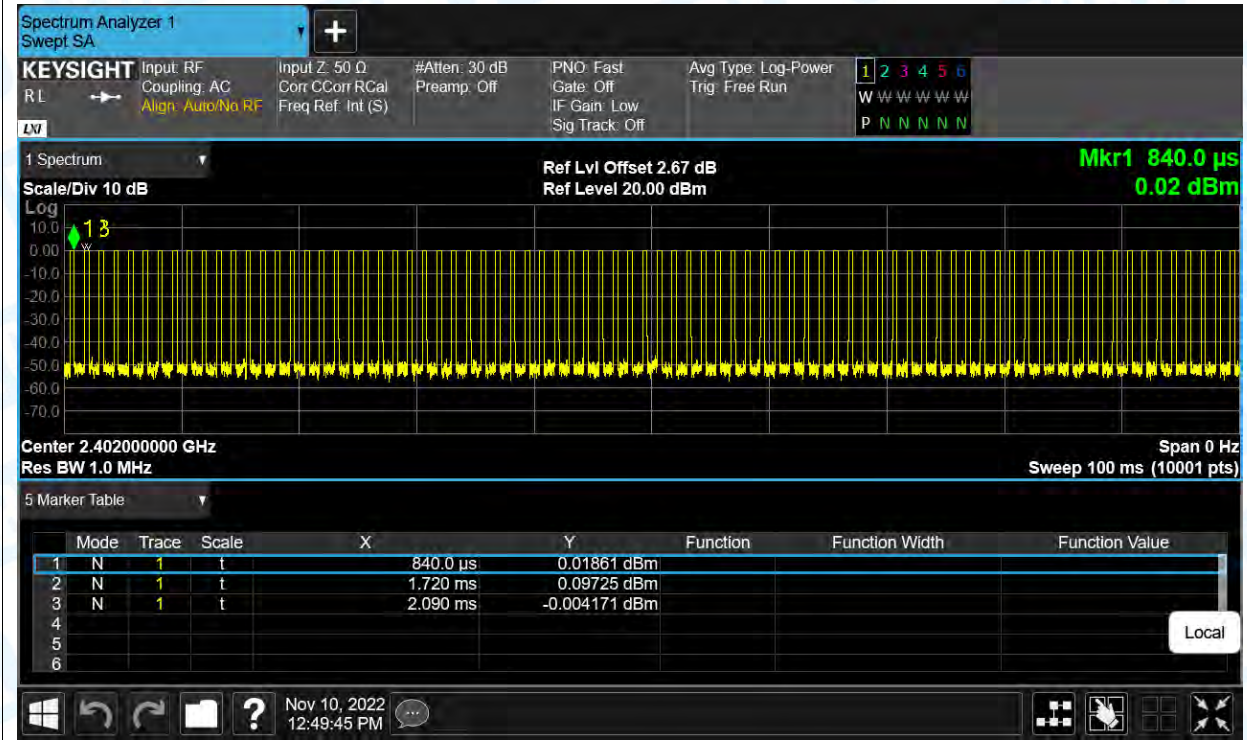
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1. Duty Cycle

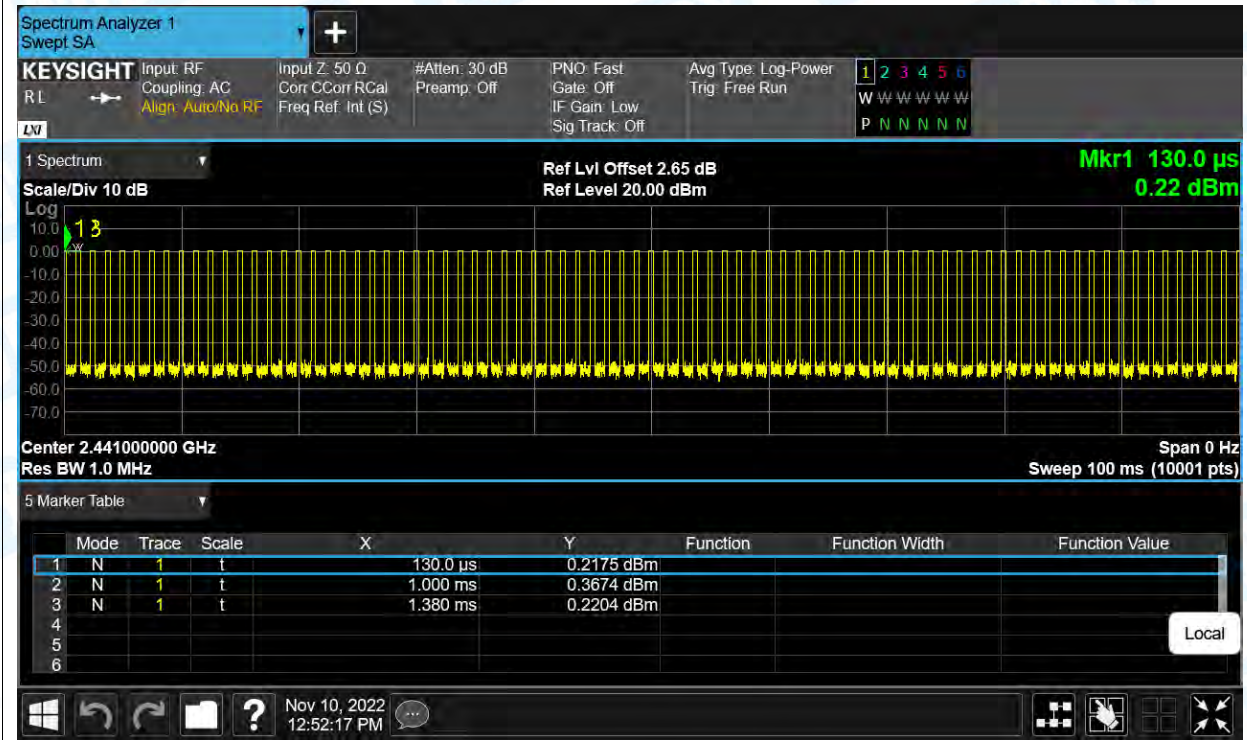
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	29.6	5.29	2.7
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

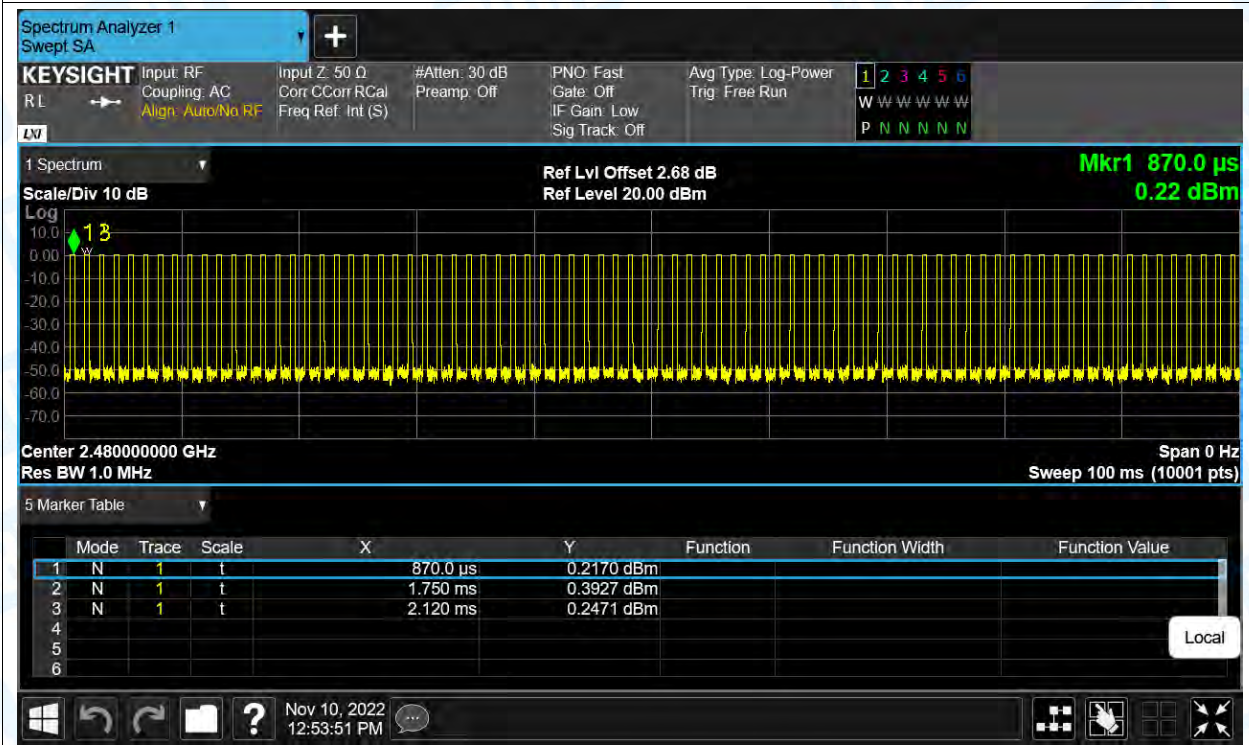
Duty Cycle NVNT 1-DH1 2402MHz Ant1



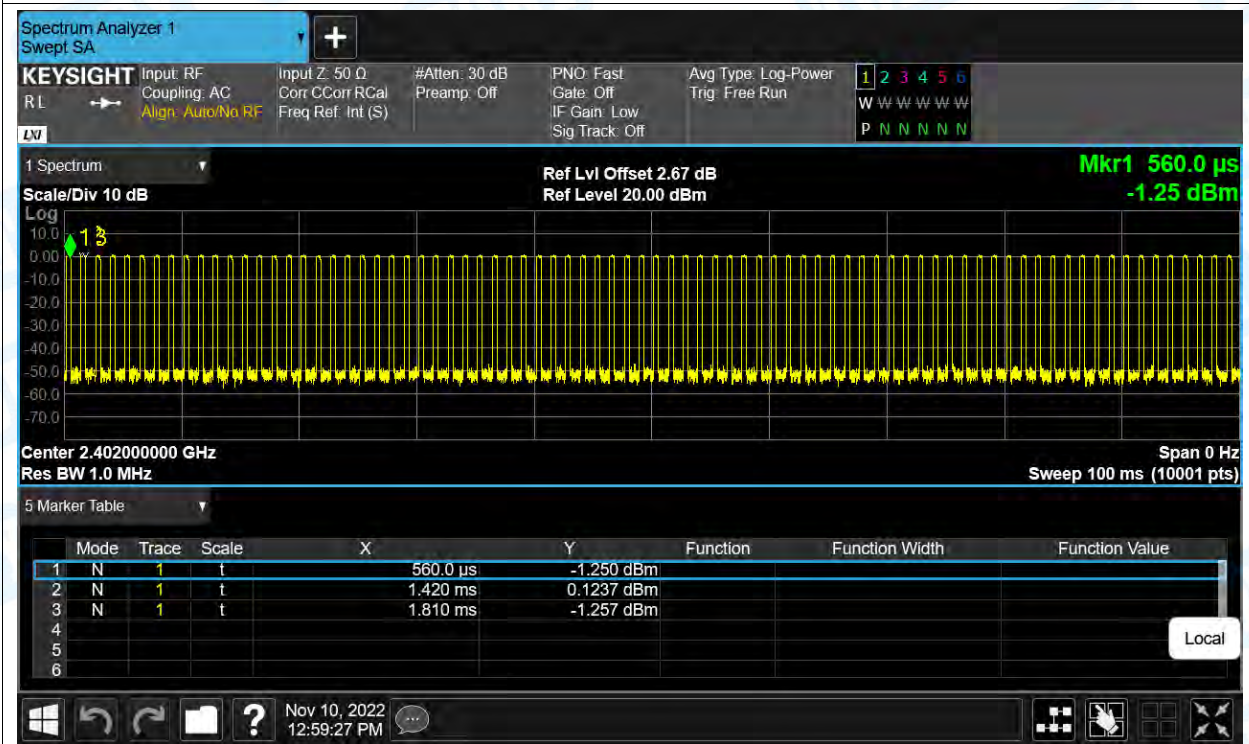
Duty Cycle NVNT 1-DH1 2441MHz Ant1



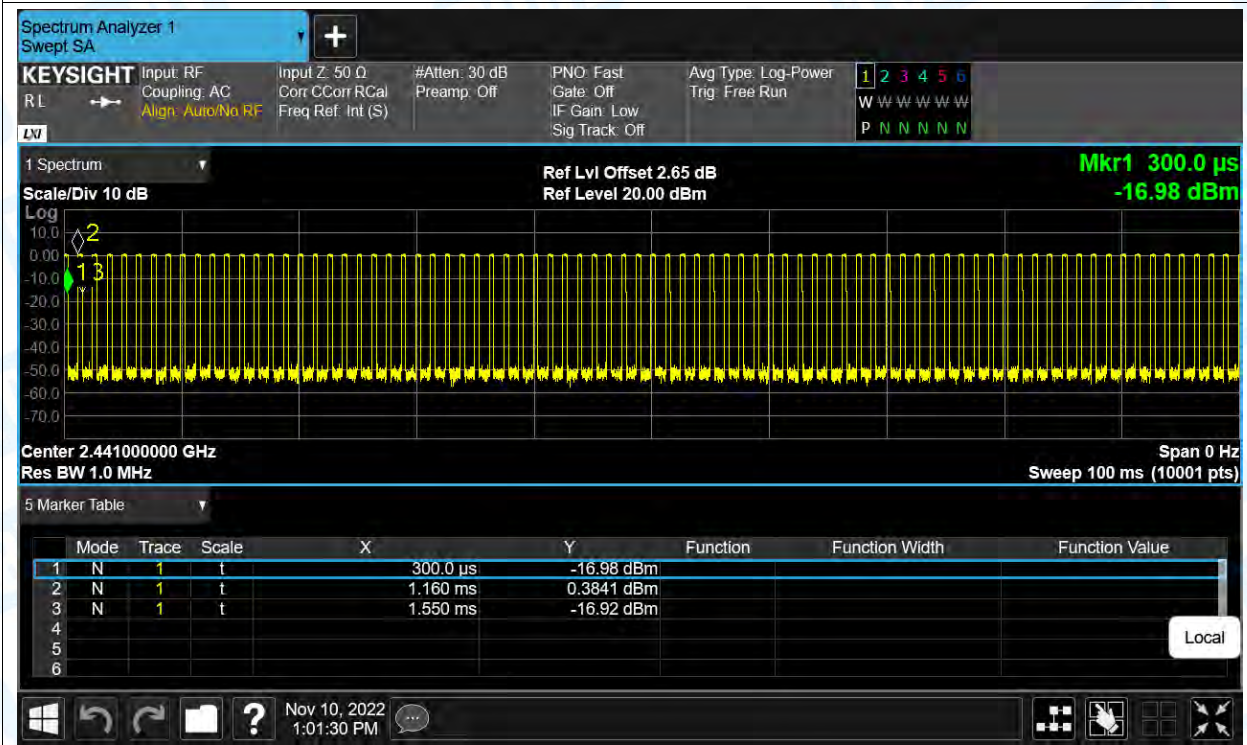
Duty Cycle NVNT 1-DH1 2480MHz Ant1



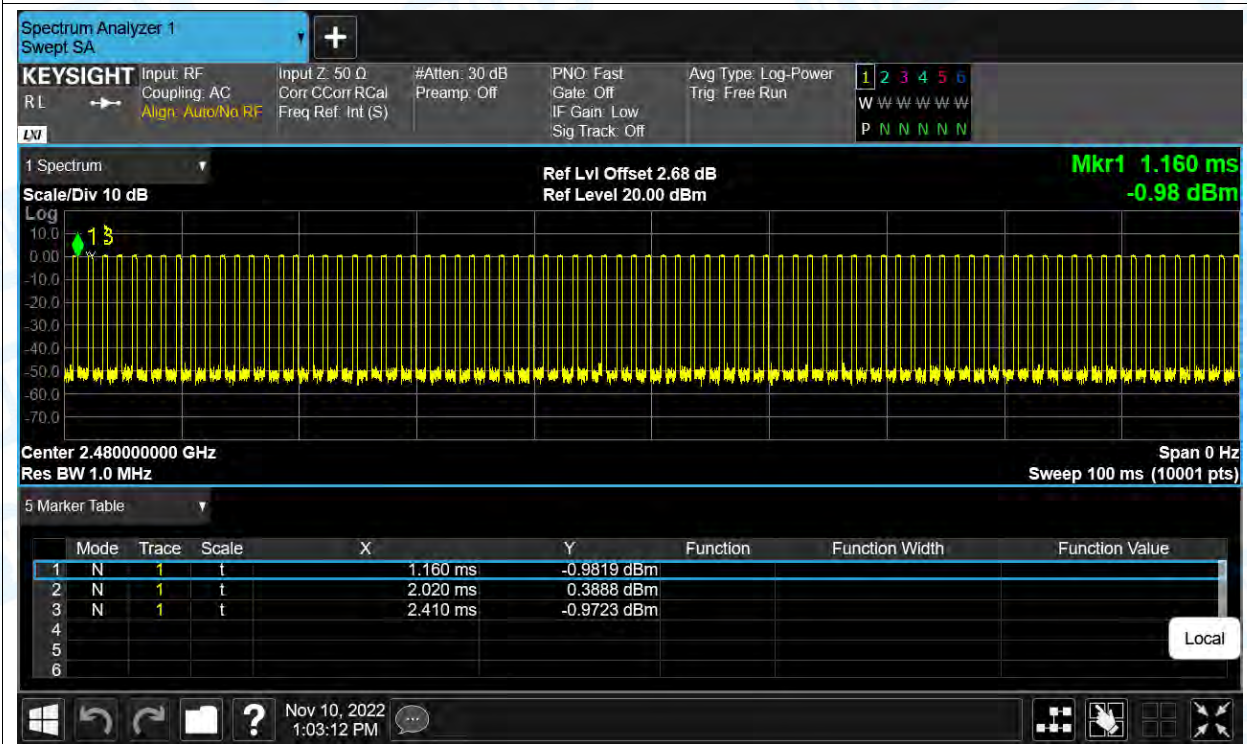
Duty Cycle NVNT 2-DH1 2402MHz Ant1



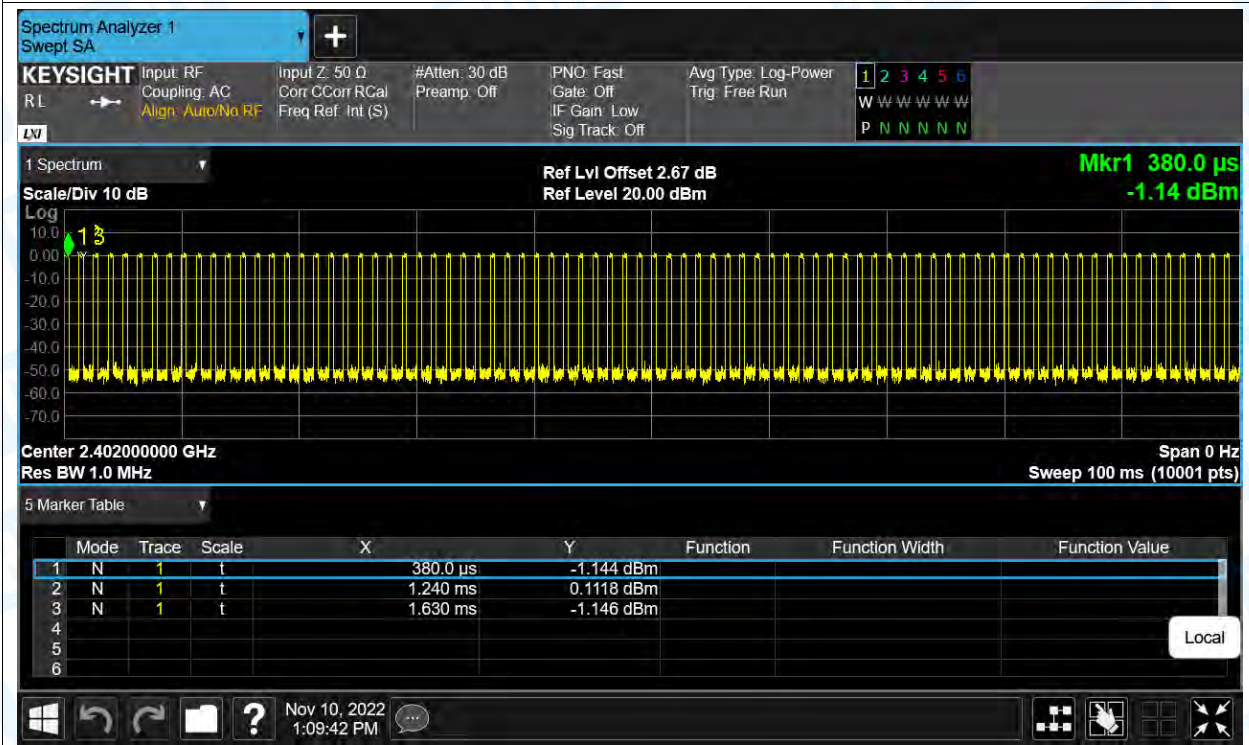
Duty Cycle NVNT 2-DH1 2441MHz Ant1



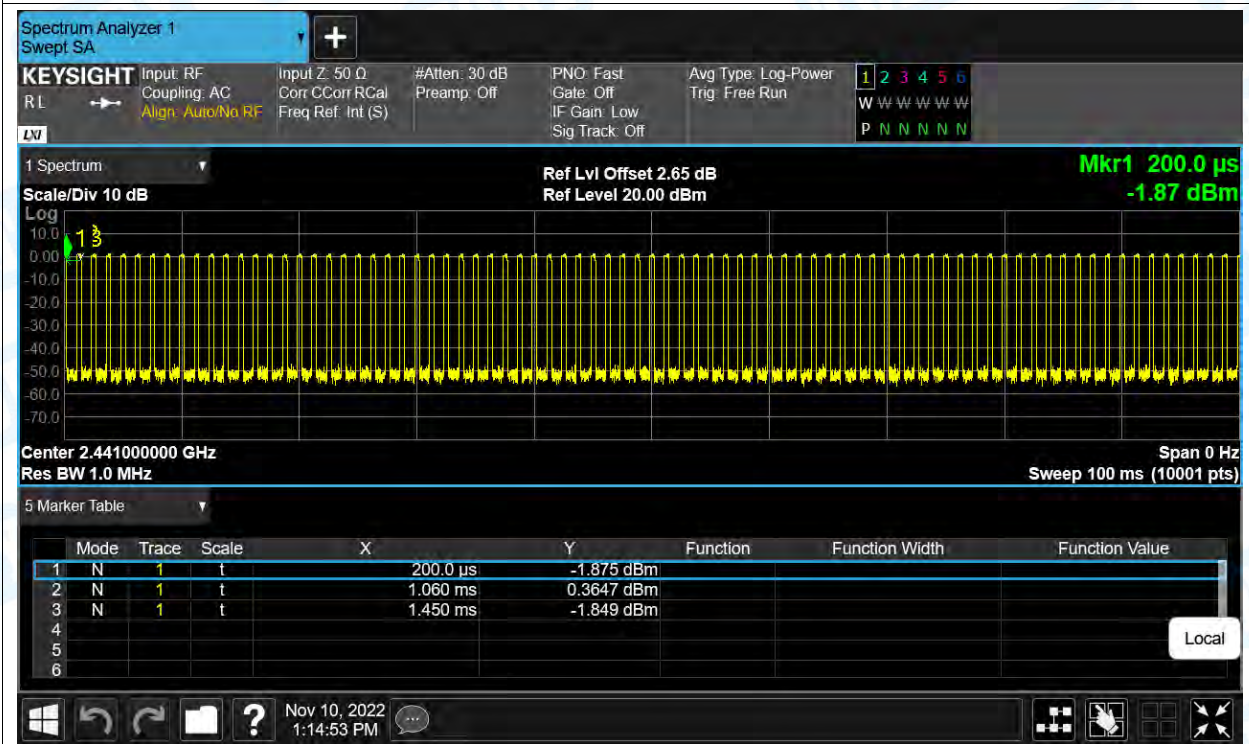
Duty Cycle NVNT 2-DH1 2480MHz Ant1

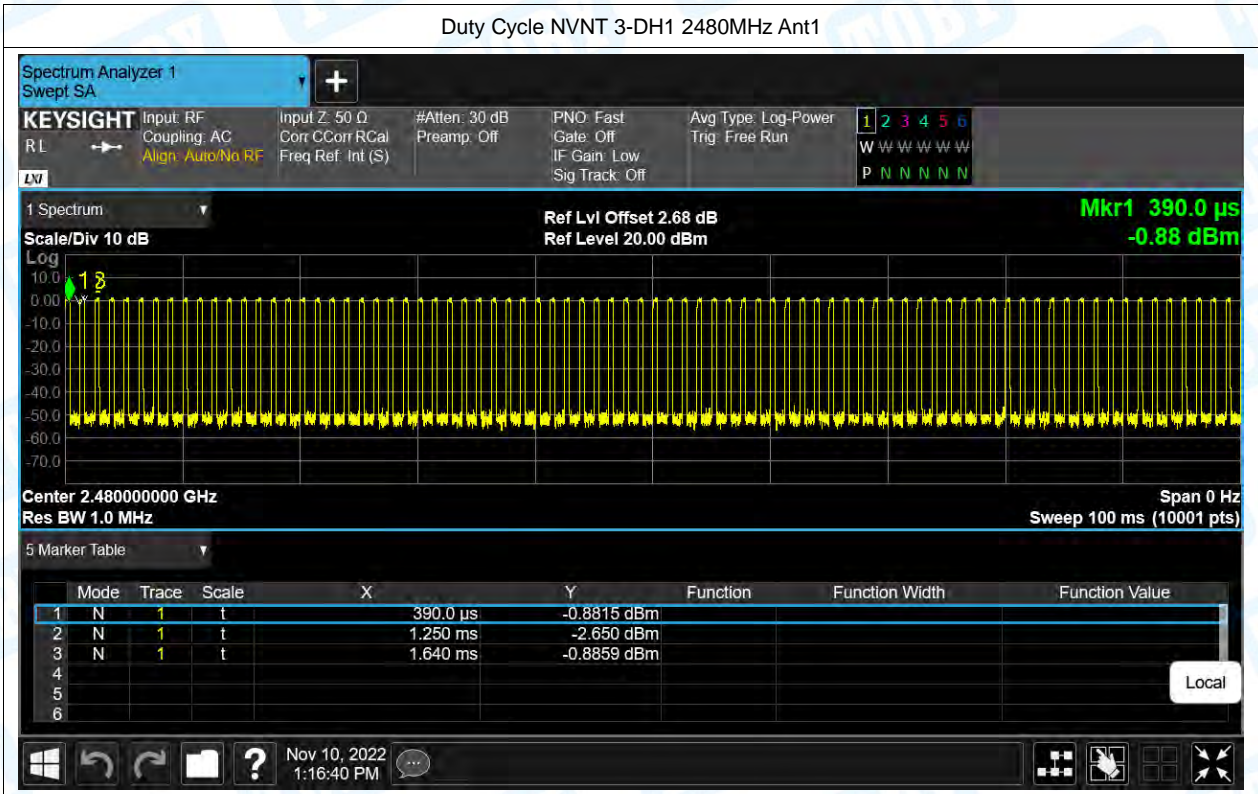


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1





2. Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	0.172	21	Pass
NVNT	1-DH1	2441	Ant1	0.417	21	Pass
NVNT	1-DH1	2480	Ant1	0.44	21	Pass
NVNT	2-DH1	2402	Ant1	0.952	21	Pass
NVNT	2-DH1	2441	Ant1	1.18	21	Pass
NVNT	2-DH1	2480	Ant1	1.213	21	Pass
NVNT	3-DH1	2402	Ant1	1.497	21	Pass
NVNT	3-DH1	2441	Ant1	1.725	21	Pass
NVNT	3-DH1	2480	Ant1	1.786	21	Pass

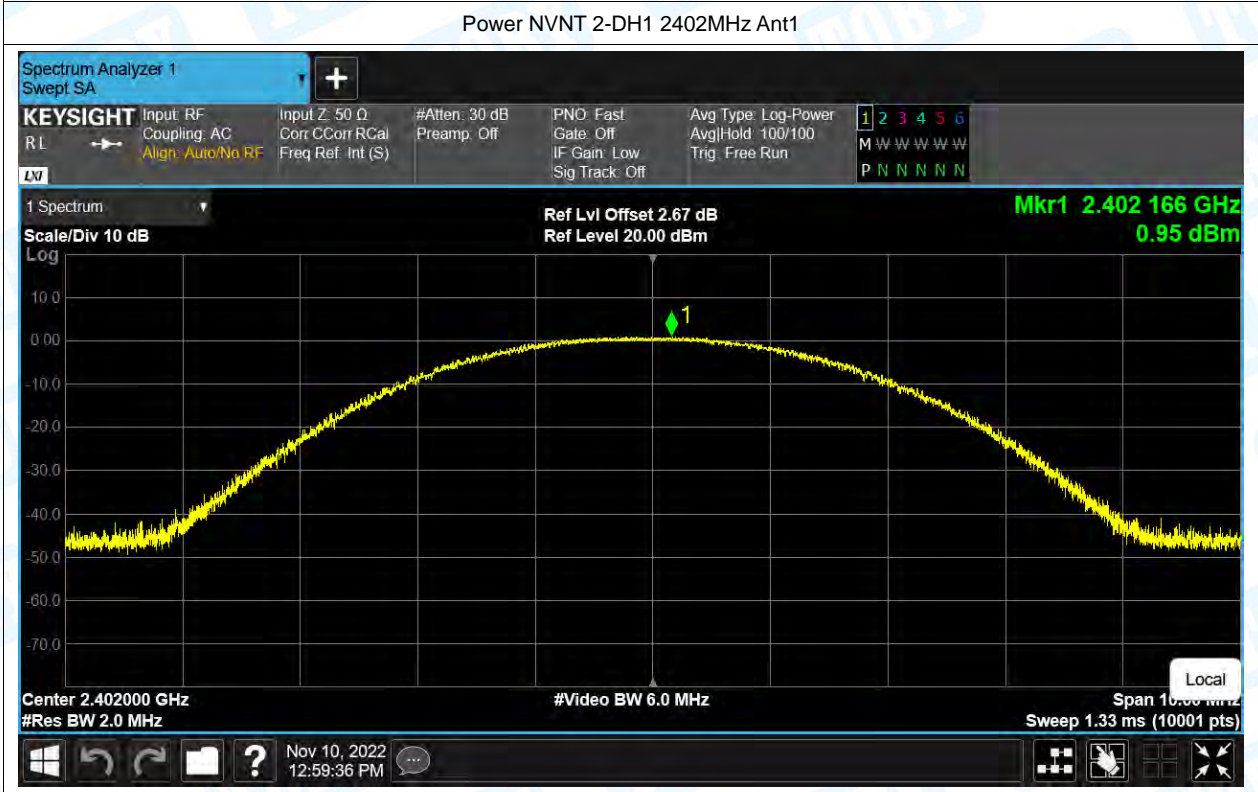
Test Graphs

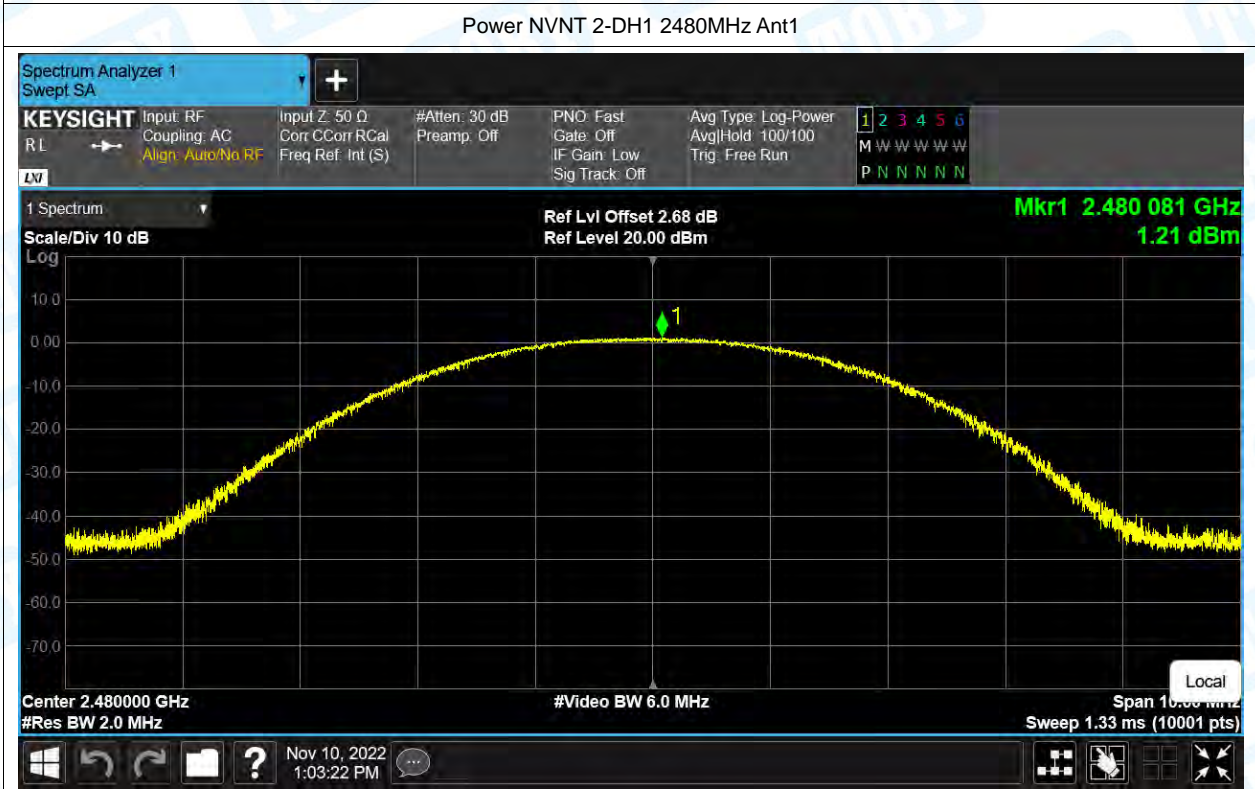
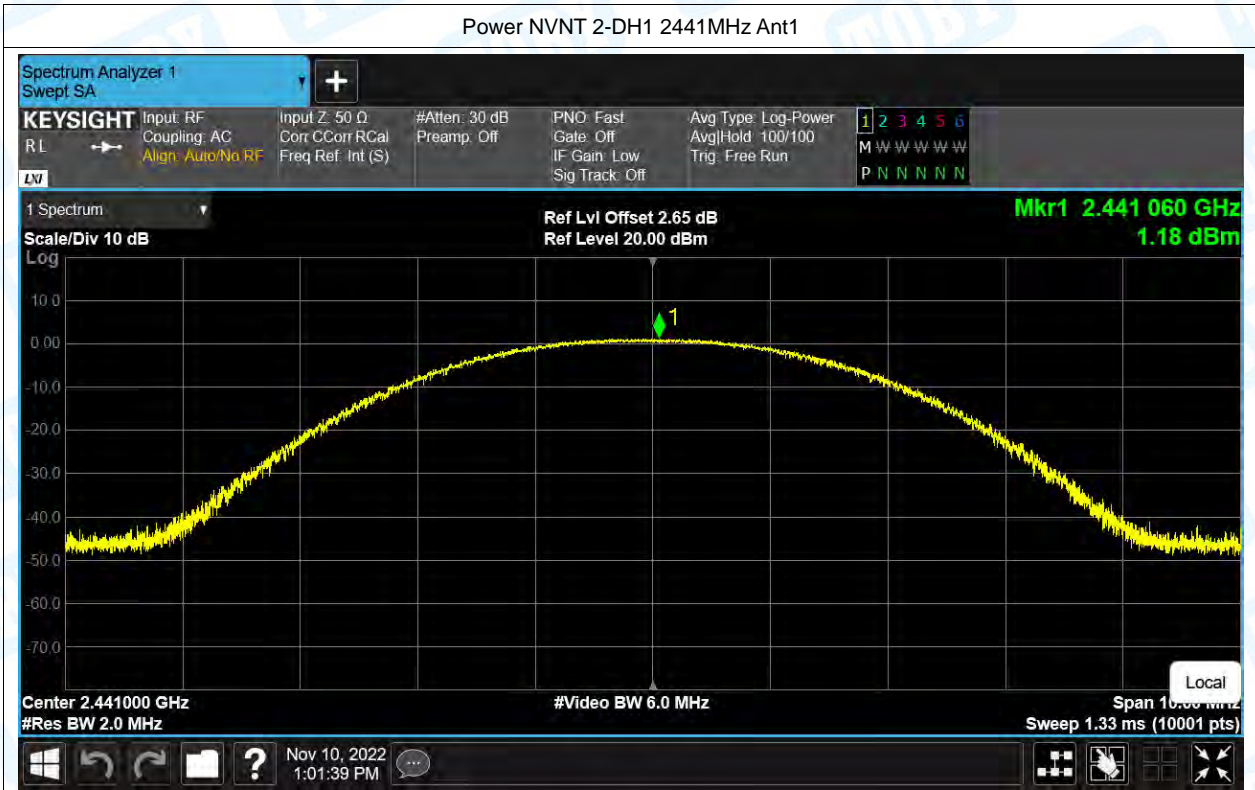
Power NVNT 1-DH1 2402MHz Ant1

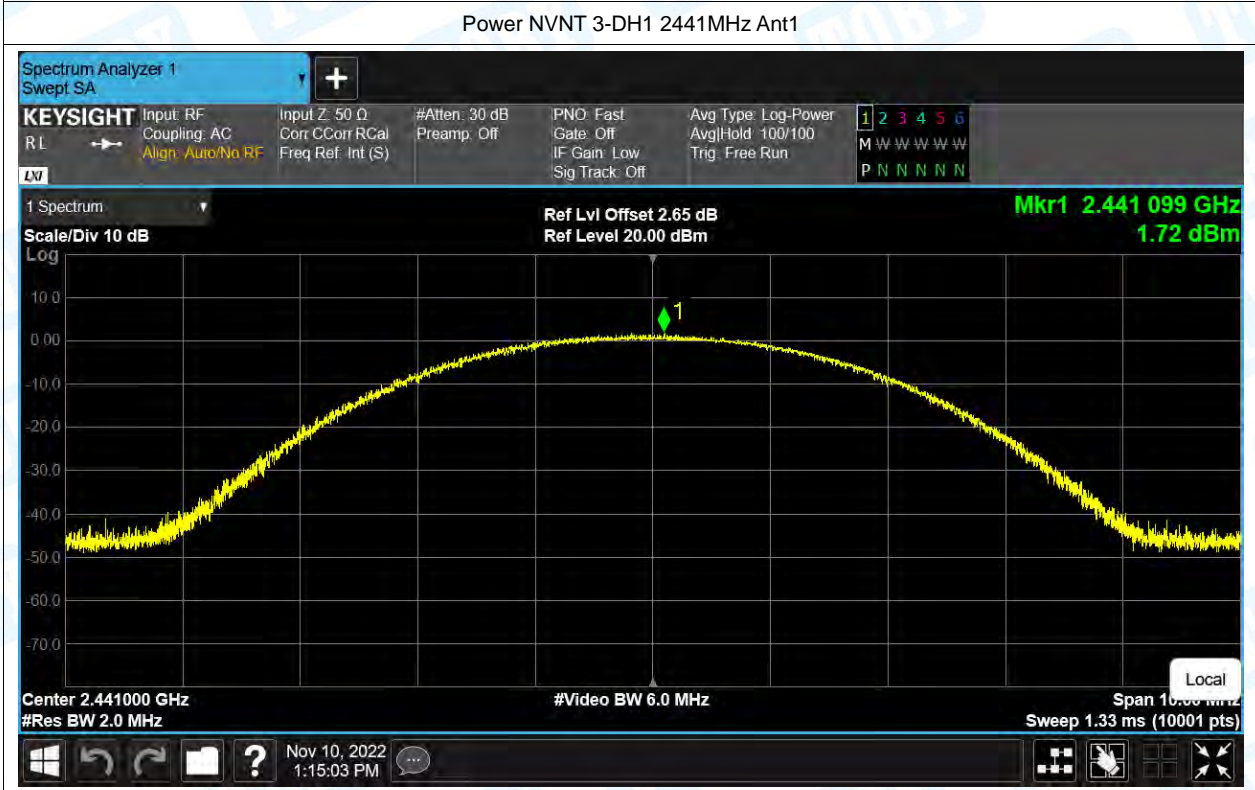


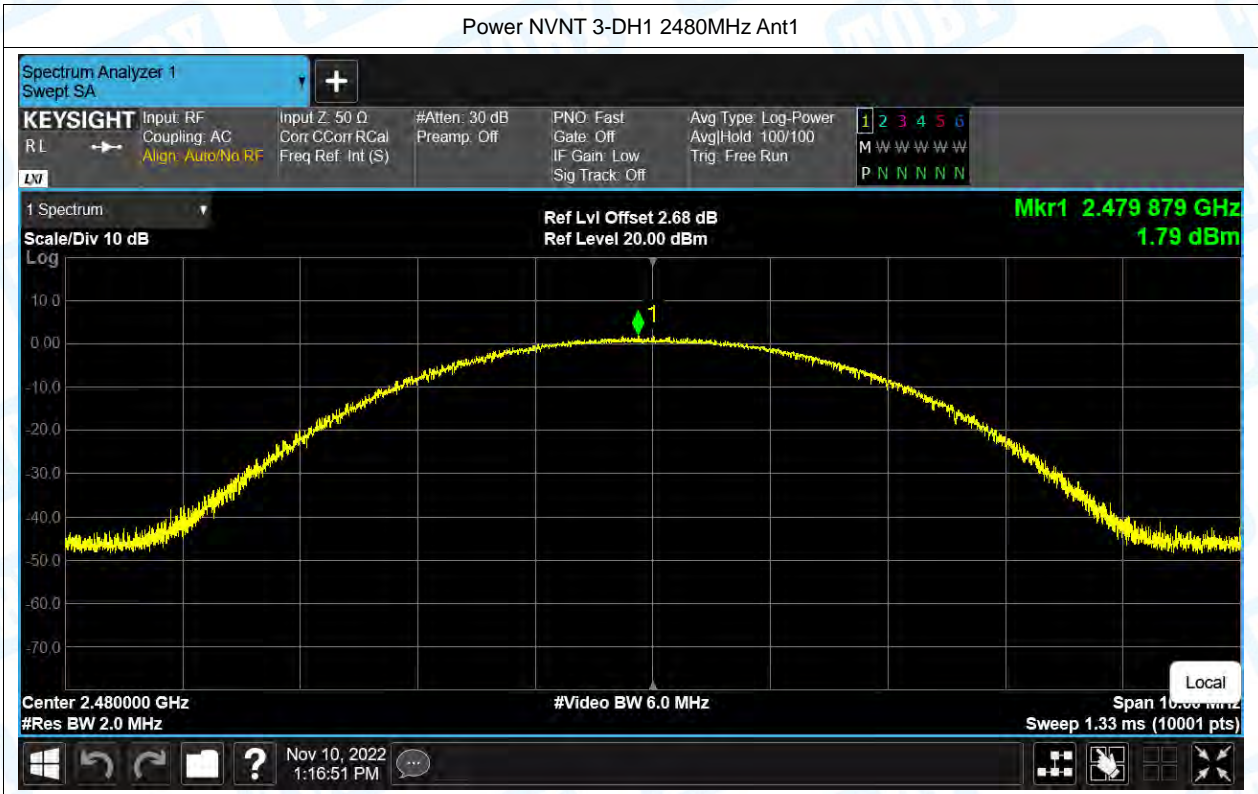
Power NVNT 1-DH1 2441MHz Ant1











3. -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	1.03	Not Specified	Pass
NVNT	1-DH1	2441	Ant1	1.04	Not Specified	Pass
NVNT	1-DH1	2480	Ant1	1.04	Not Specified	Pass
NVNT	2-DH1	2402	Ant1	1.3	Not Specified	Pass
NVNT	2-DH1	2441	Ant1	1.26	Not Specified	Pass
NVNT	2-DH1	2480	Ant1	1.3	Not Specified	Pass
NVNT	3-DH1	2402	Ant1	1.25	Not Specified	Pass
NVNT	3-DH1	2441	Ant1	1.27	Not Specified	Pass
NVNT	3-DH1	2480	Ant1	1.27	Not Specified	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



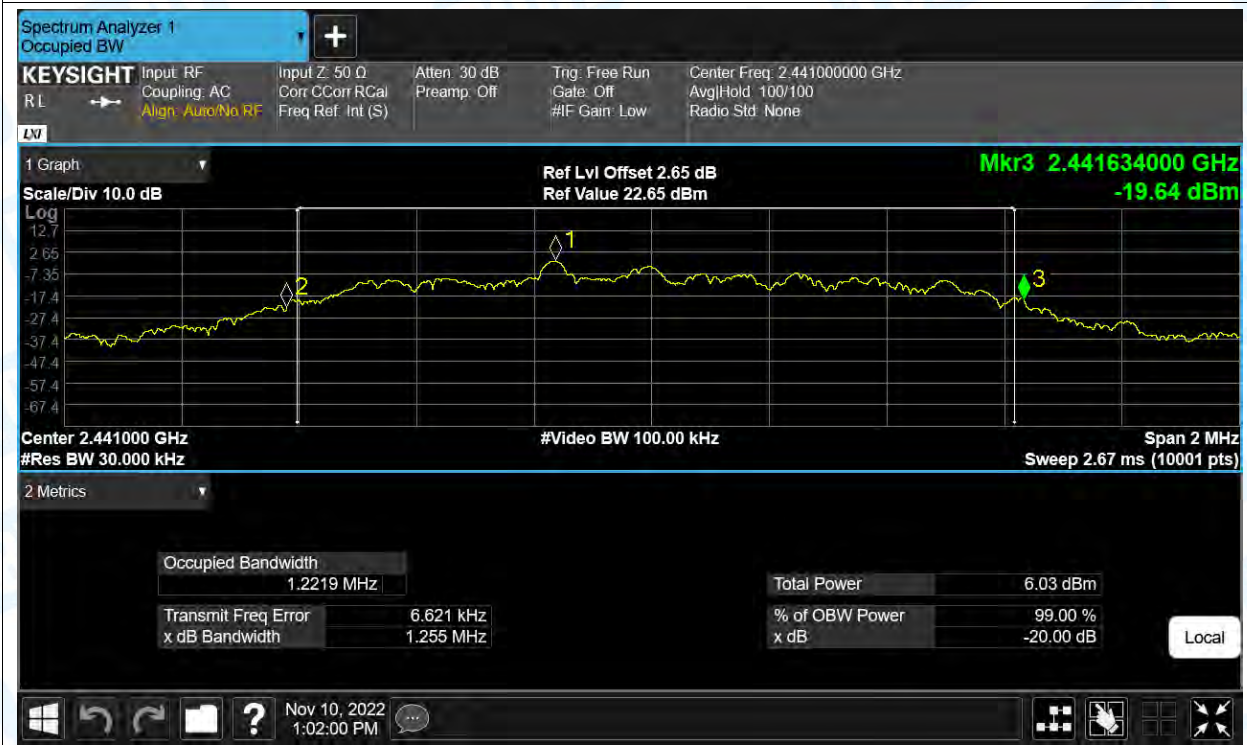
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



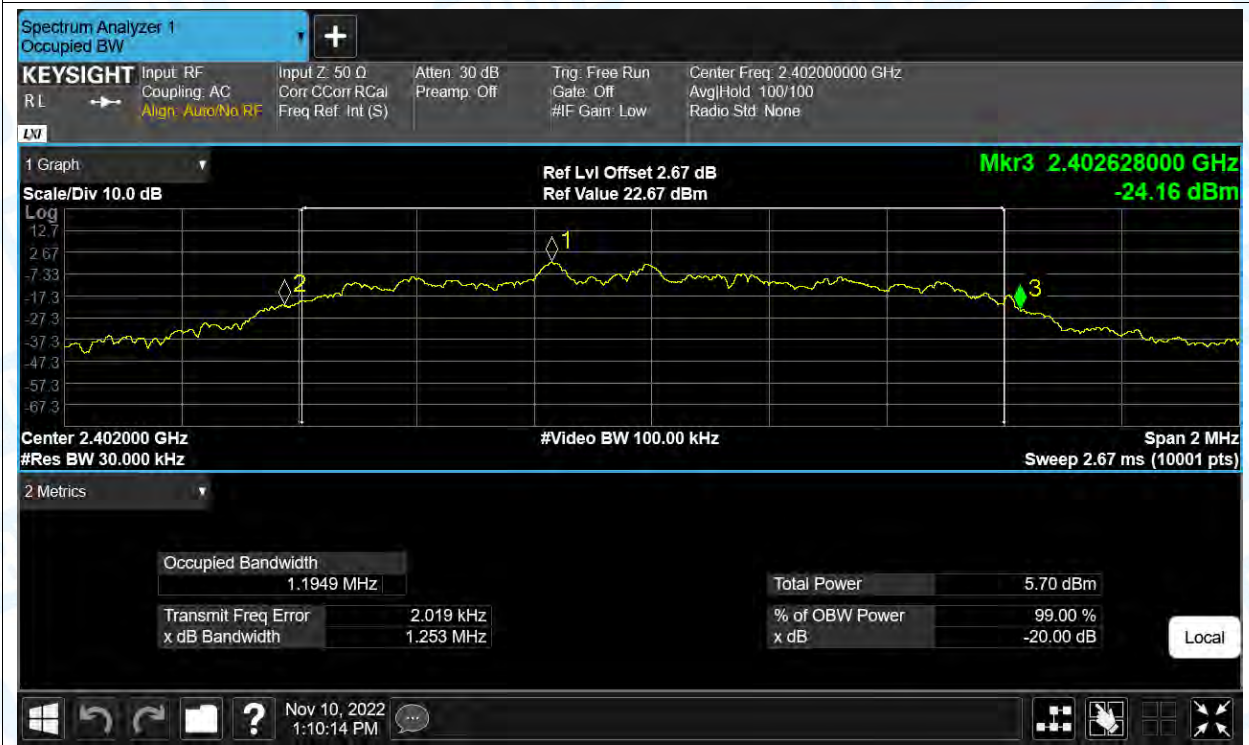
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-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

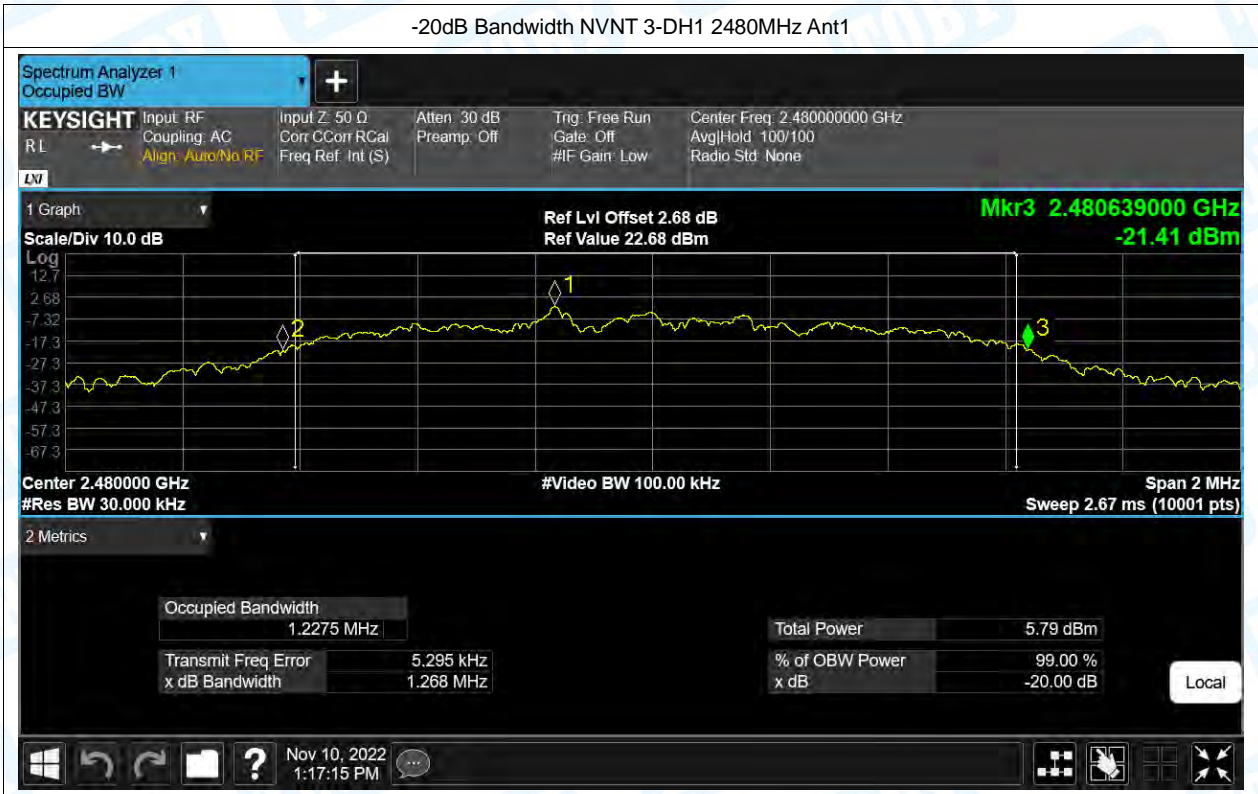


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



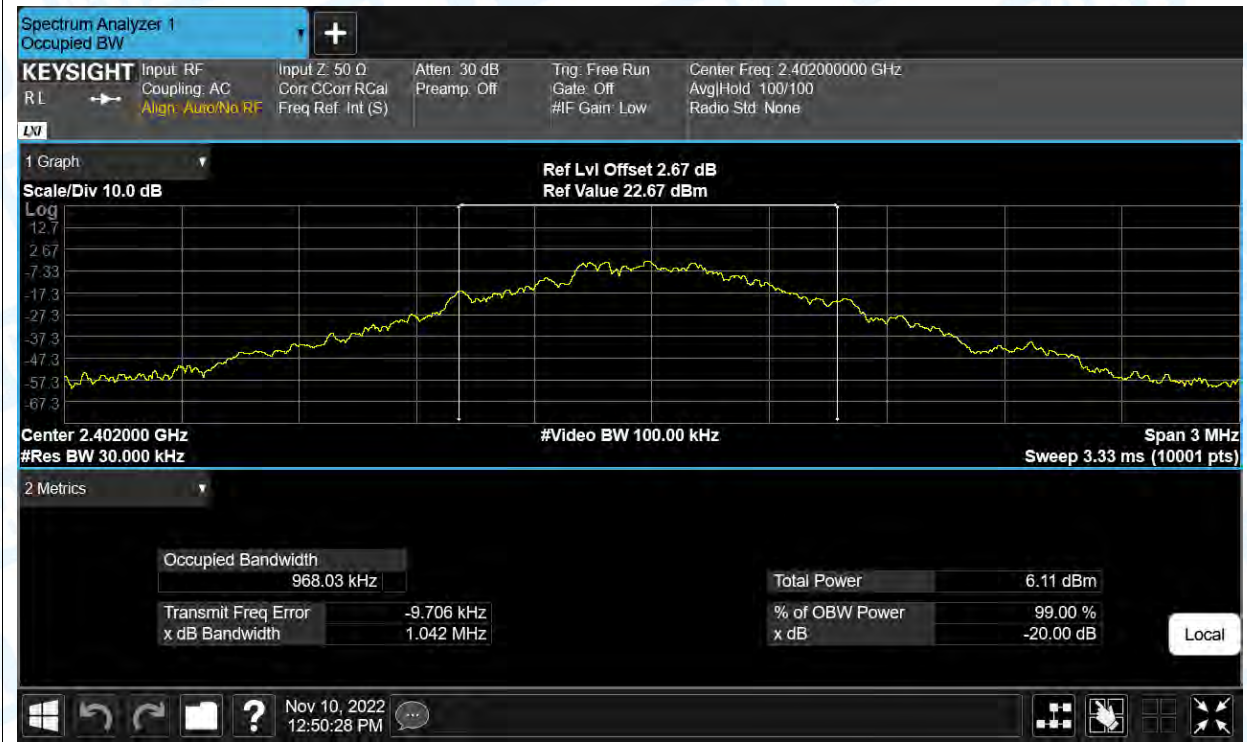


4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.968
NVNT	1-DH1	2441	Ant1	0.988
NVNT	1-DH1	2480	Ant1	1.001
NVNT	2-DH1	2402	Ant1	1.198
NVNT	2-DH1	2441	Ant1	1.244
NVNT	2-DH1	2480	Ant1	1.246
NVNT	3-DH1	2402	Ant1	1.208
NVNT	3-DH1	2441	Ant1	1.205
NVNT	3-DH1	2480	Ant1	1.218

Test Graphs

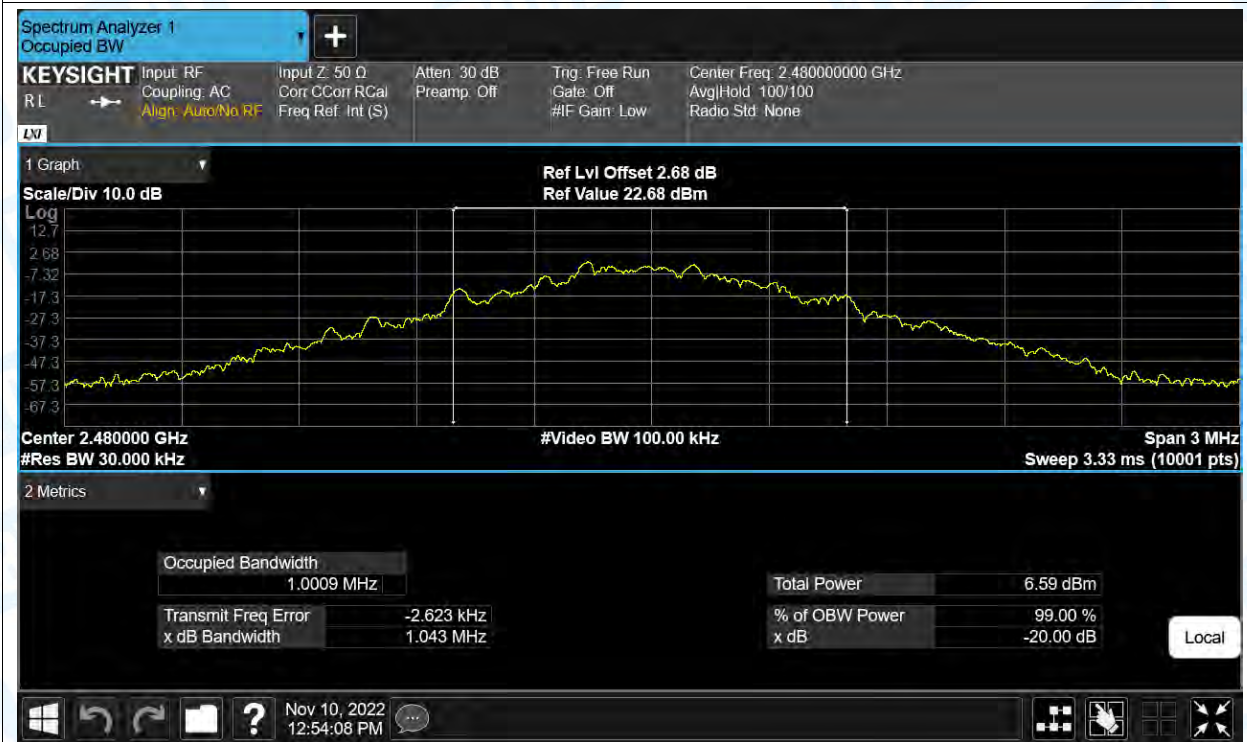
OBW NVNT 1-DH1 2402MHz Ant1



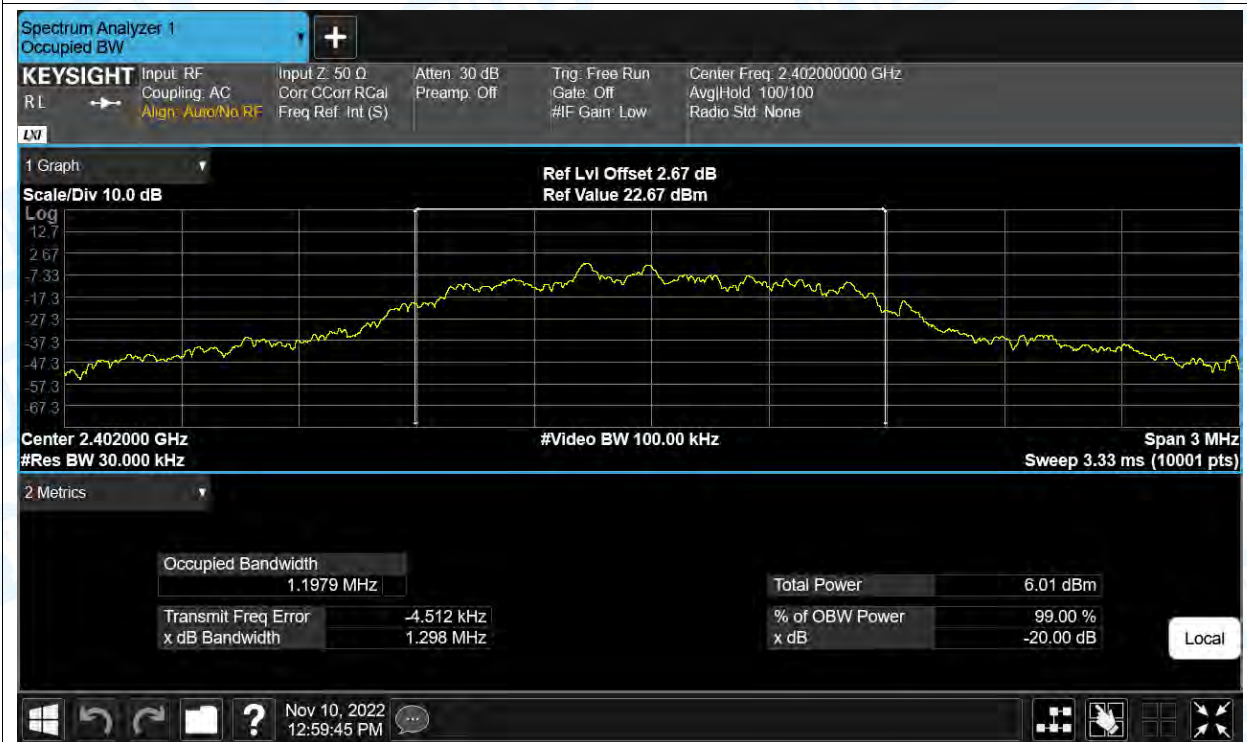
OBW NVNT 1-DH1 2441MHz Ant1



OBW NVNT 1-DH1 2480MHz Ant1



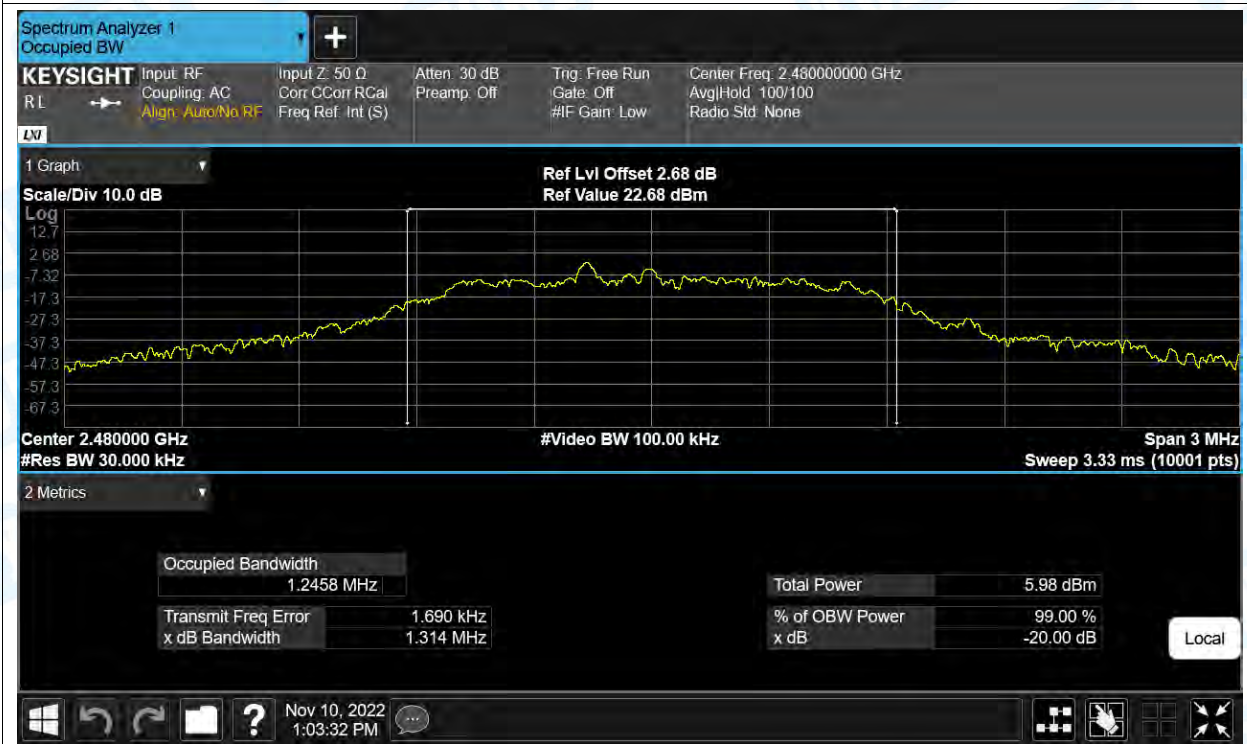
OBW NVNT 2-DH1 2402MHz Ant1



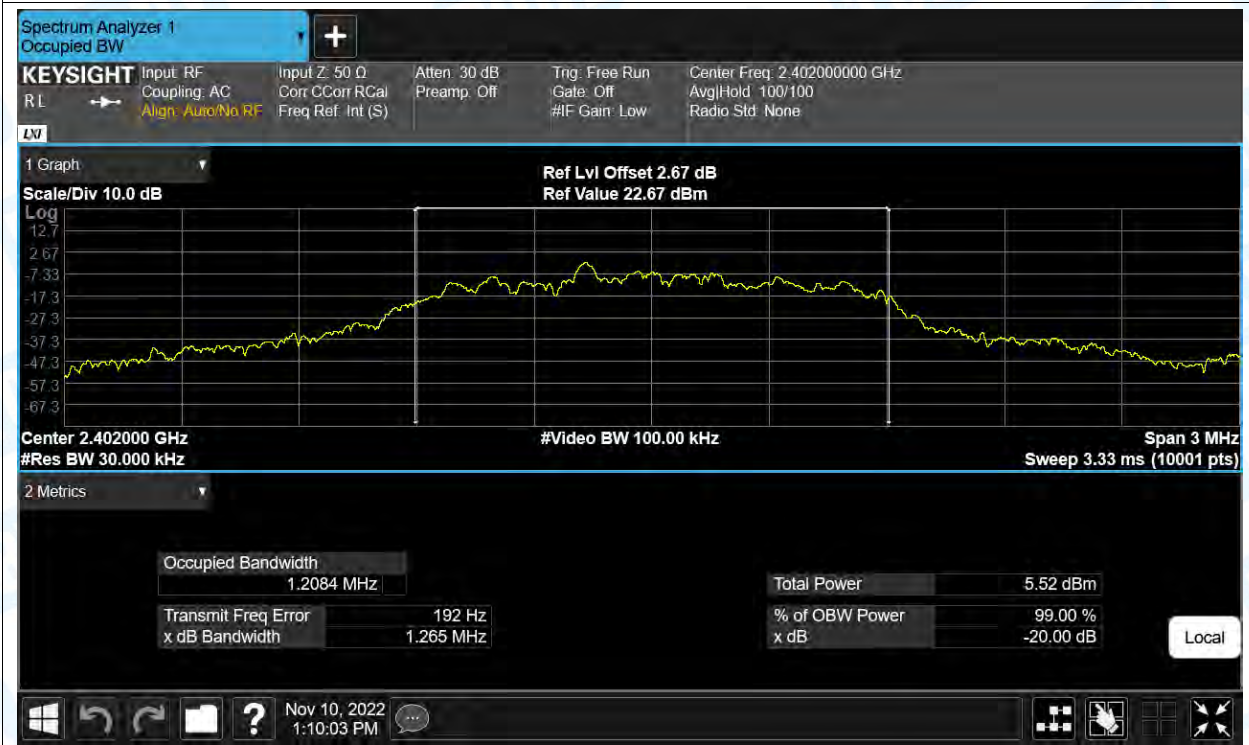
OBW NVNT 2-DH1 2441MHz Ant1



OBW NVNT 2-DH1 2480MHz Ant1



OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



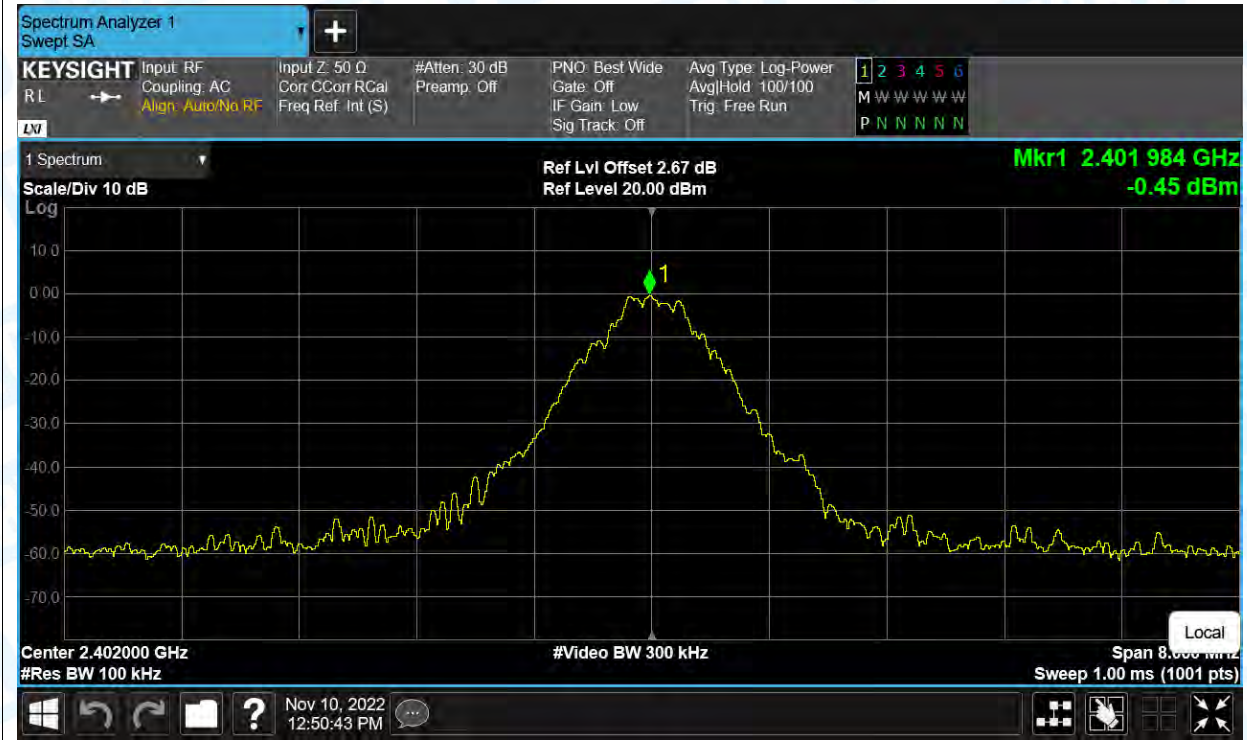


5. Band Edge

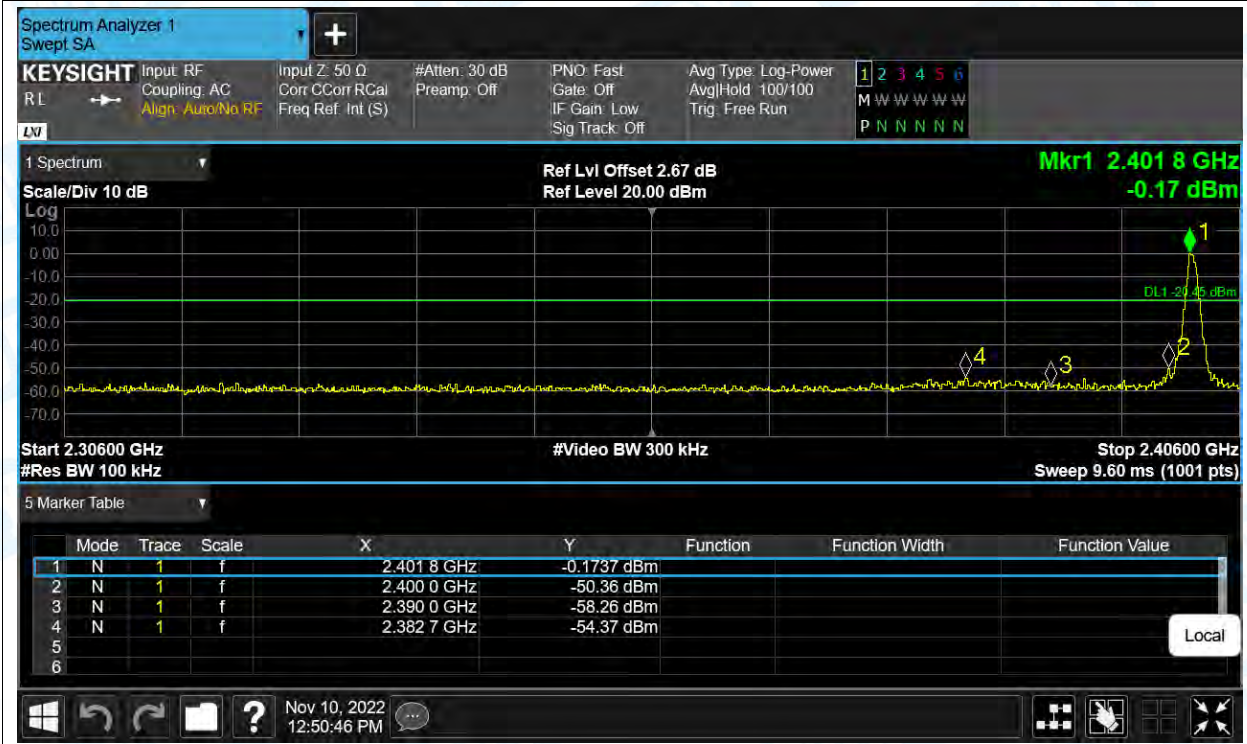
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-53.92	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-54.62	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-53.88	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-53.74	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-54.73	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-54.36	-20	Pass

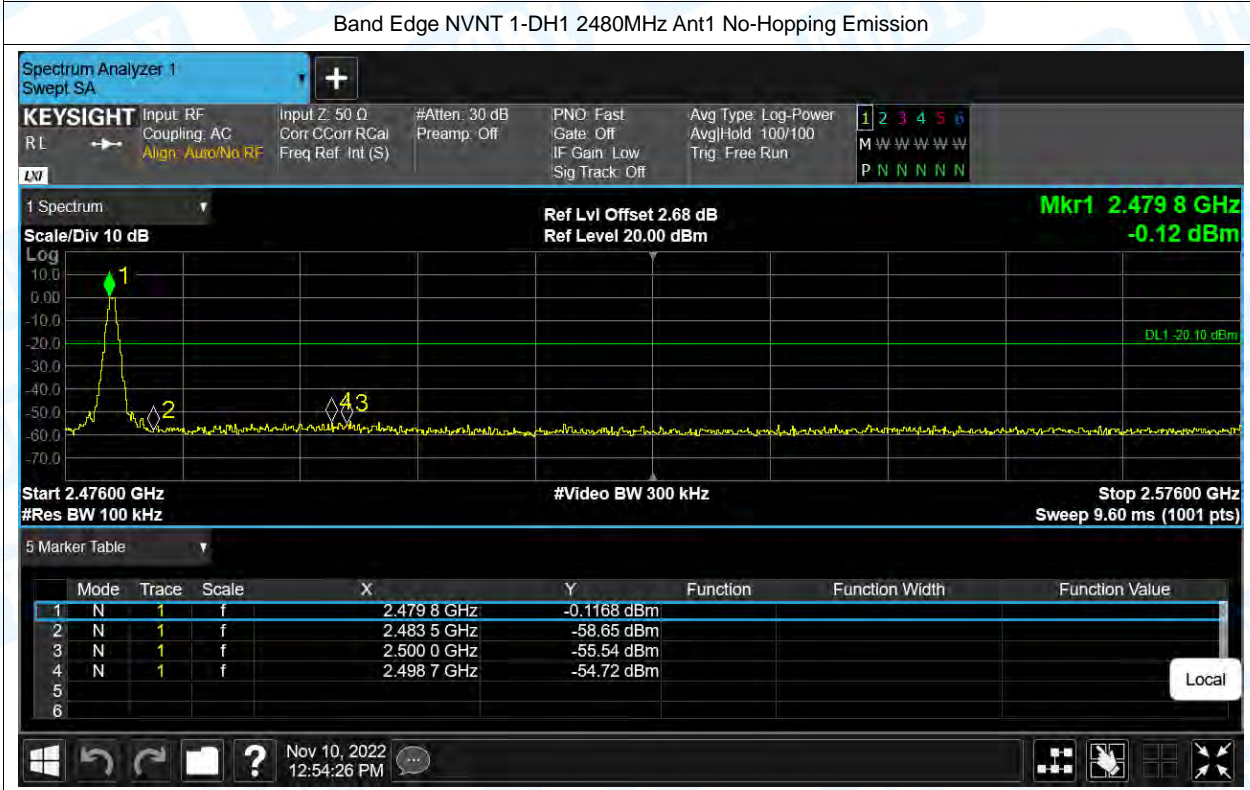
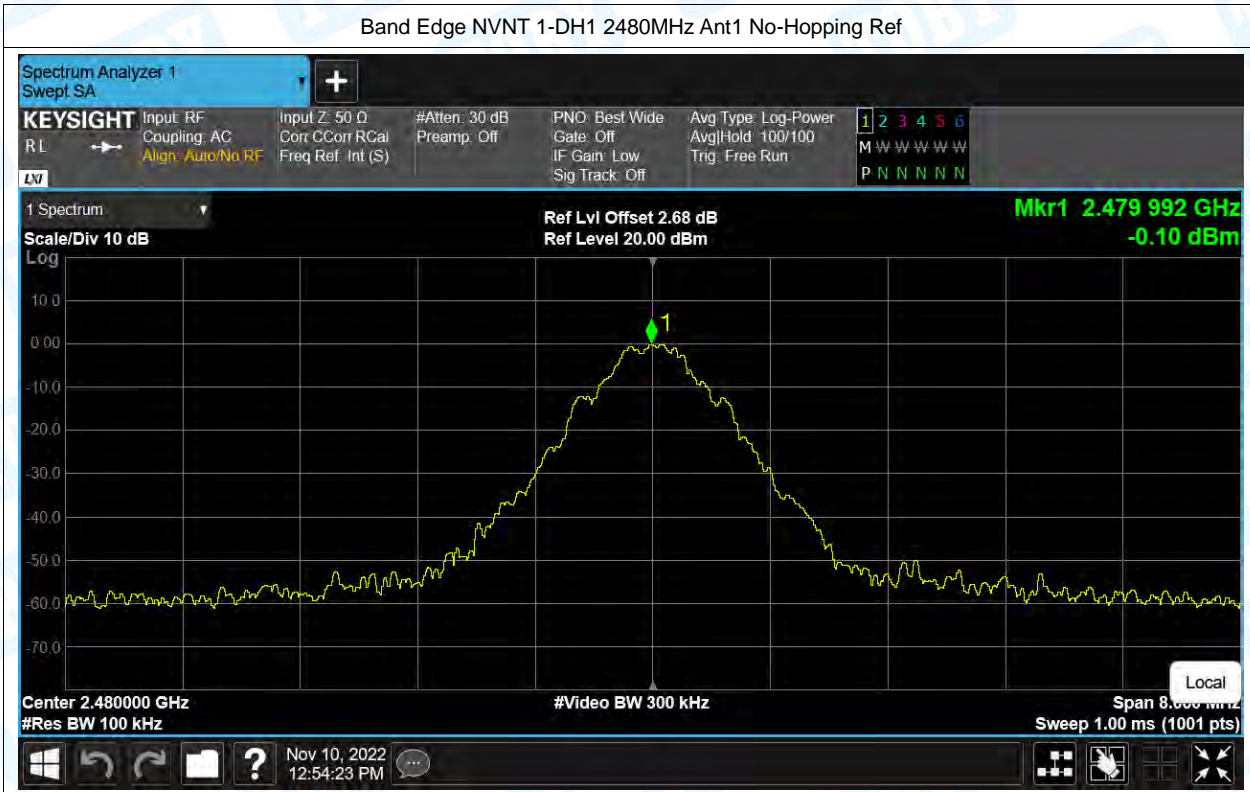
Test Graphs

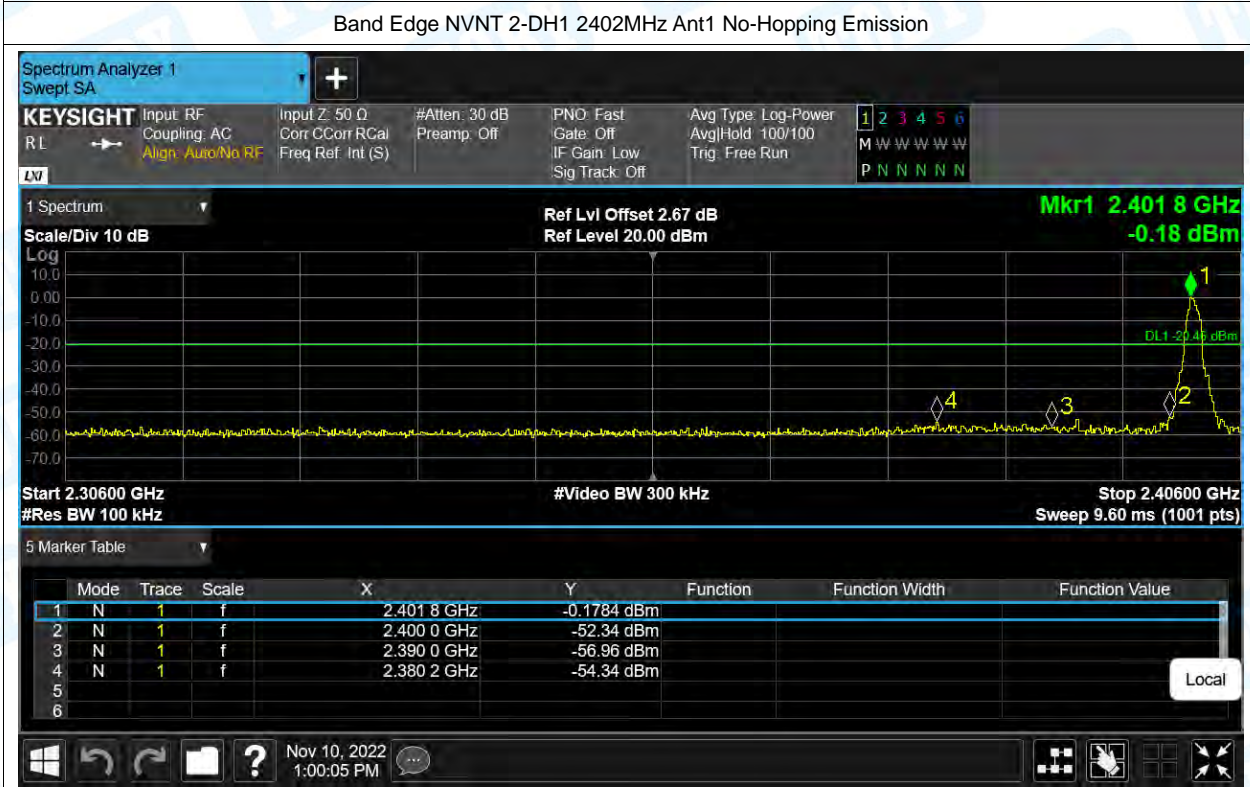
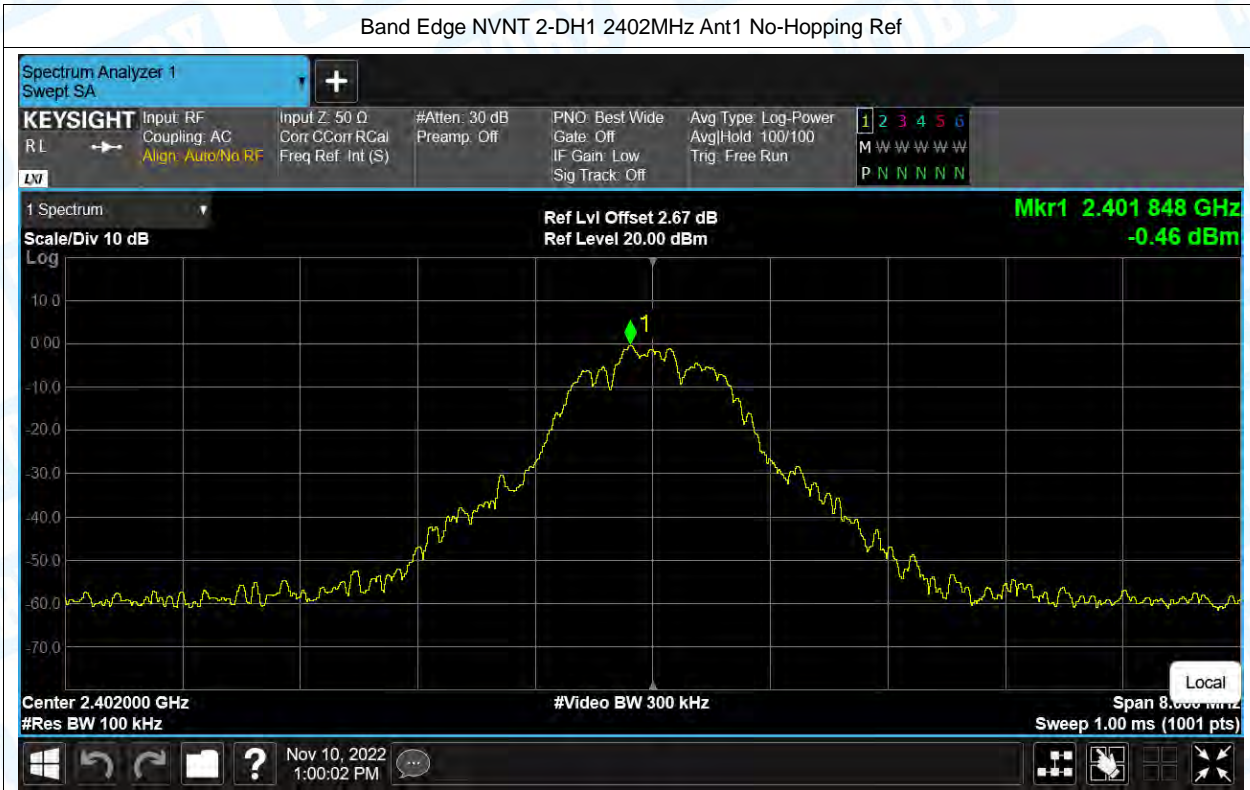
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

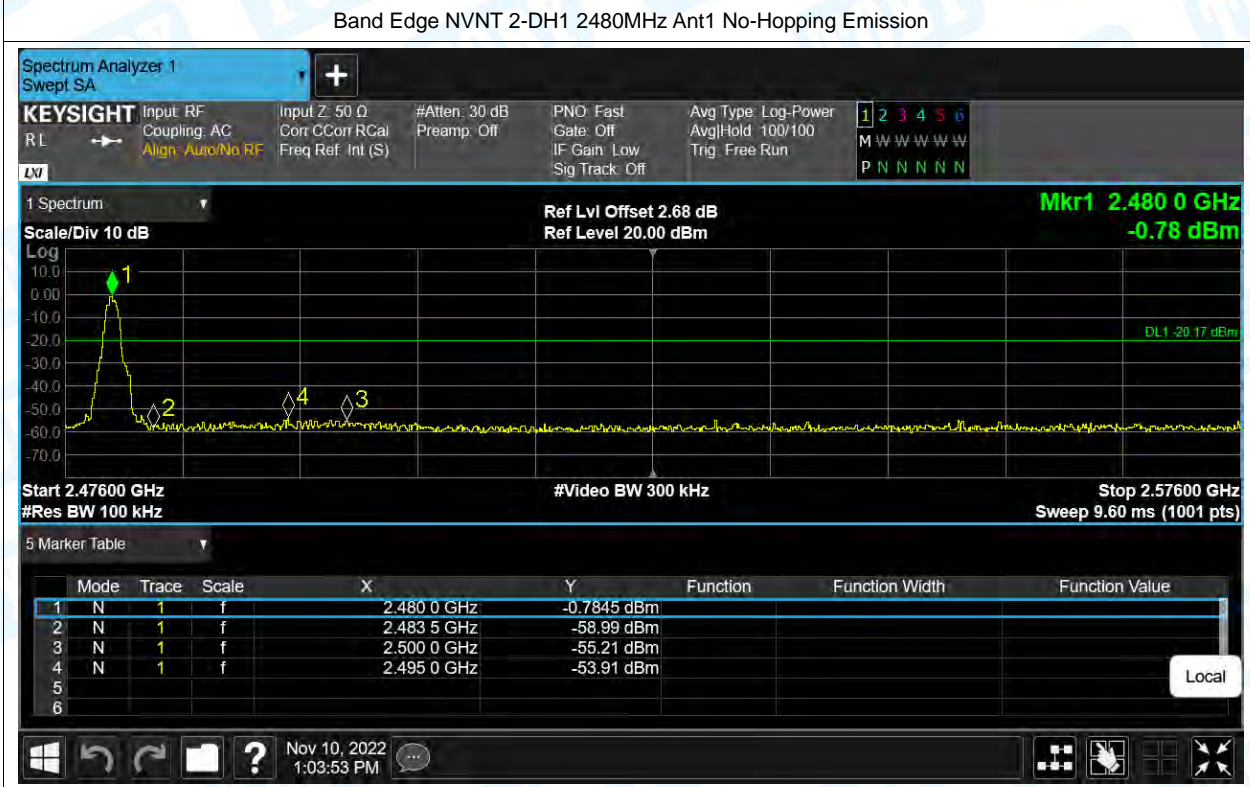
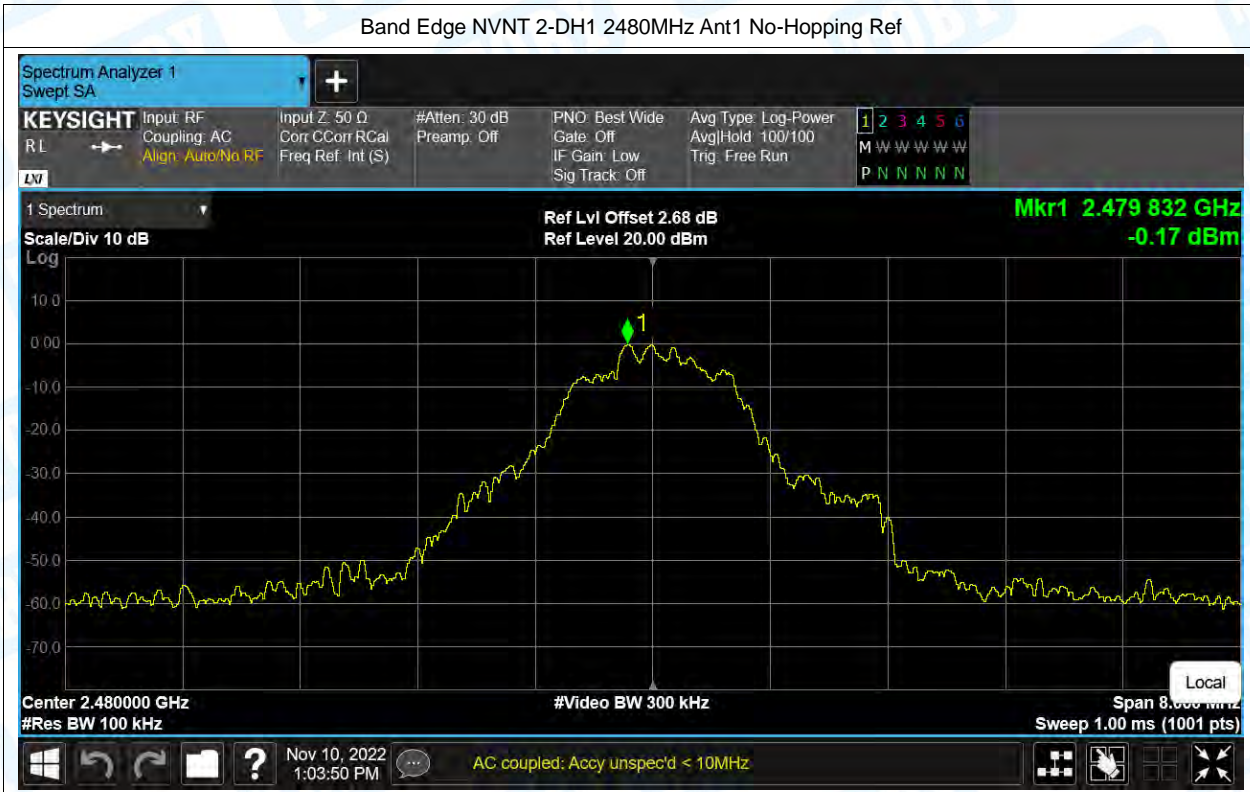


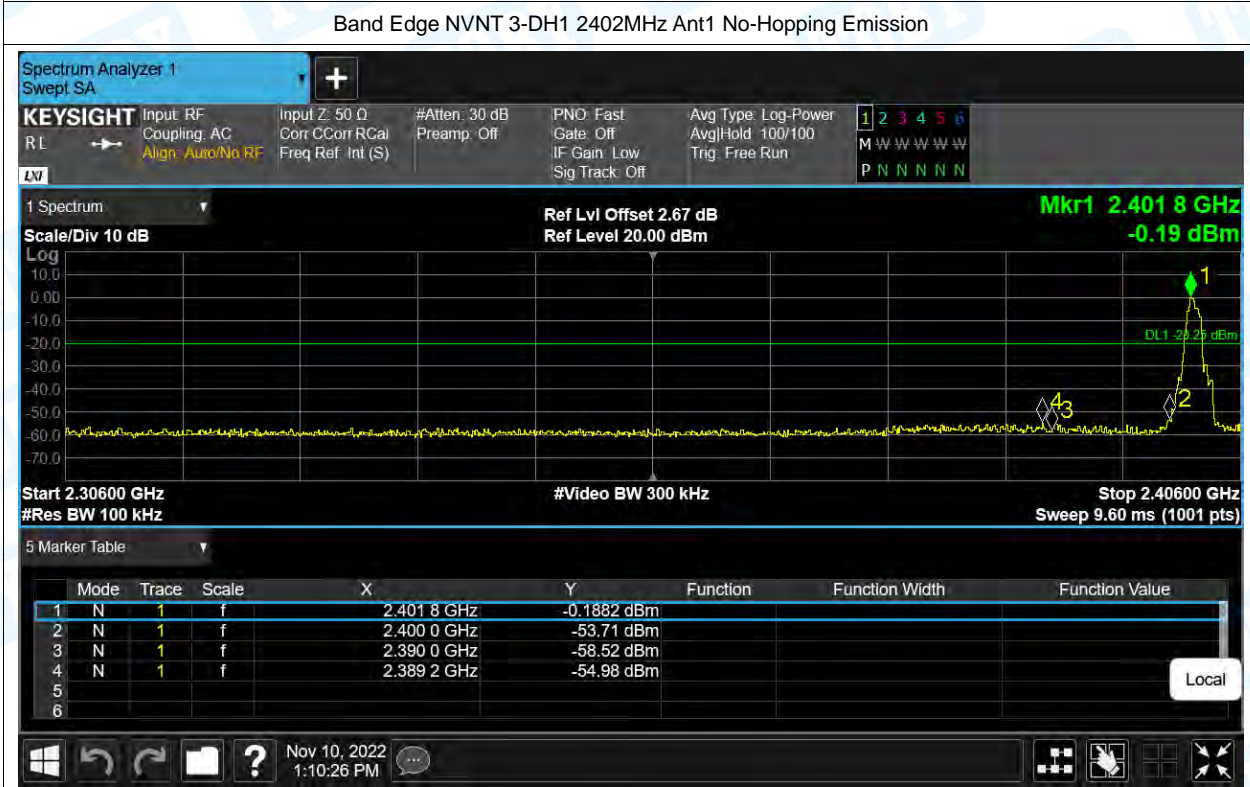
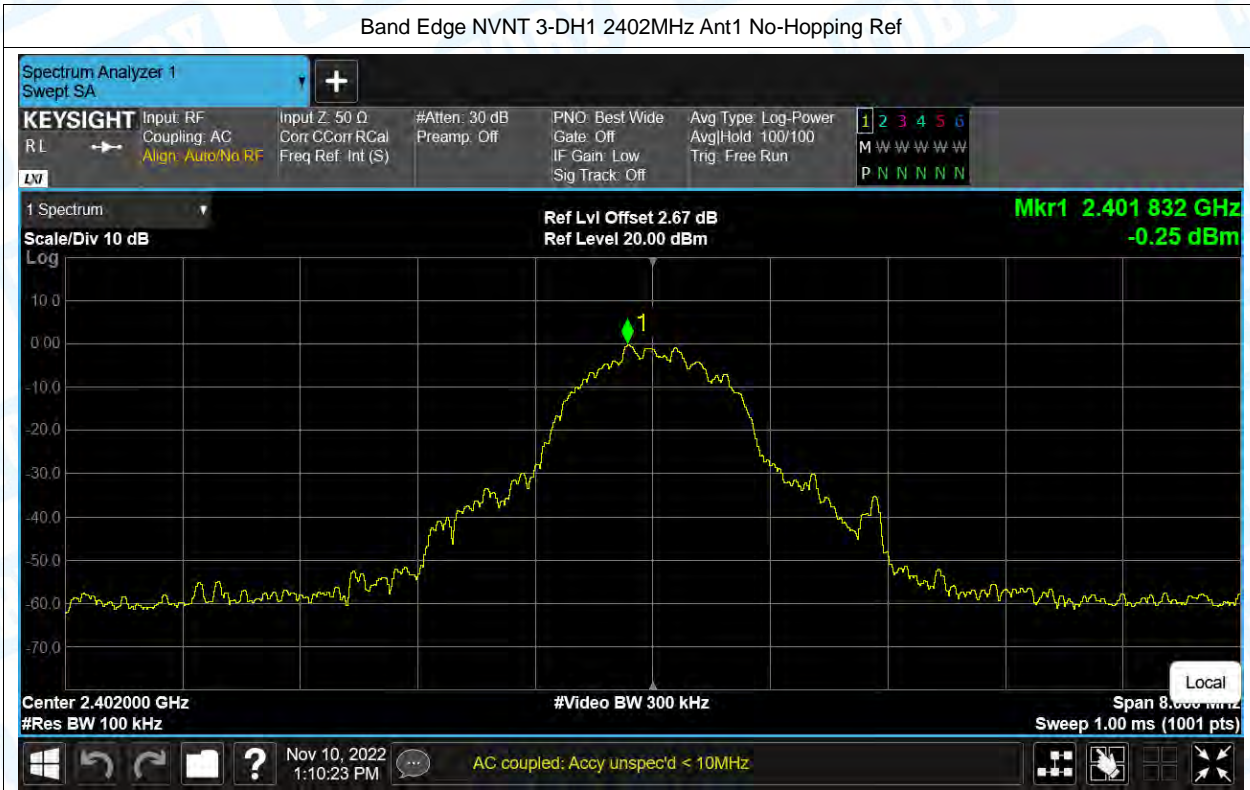
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

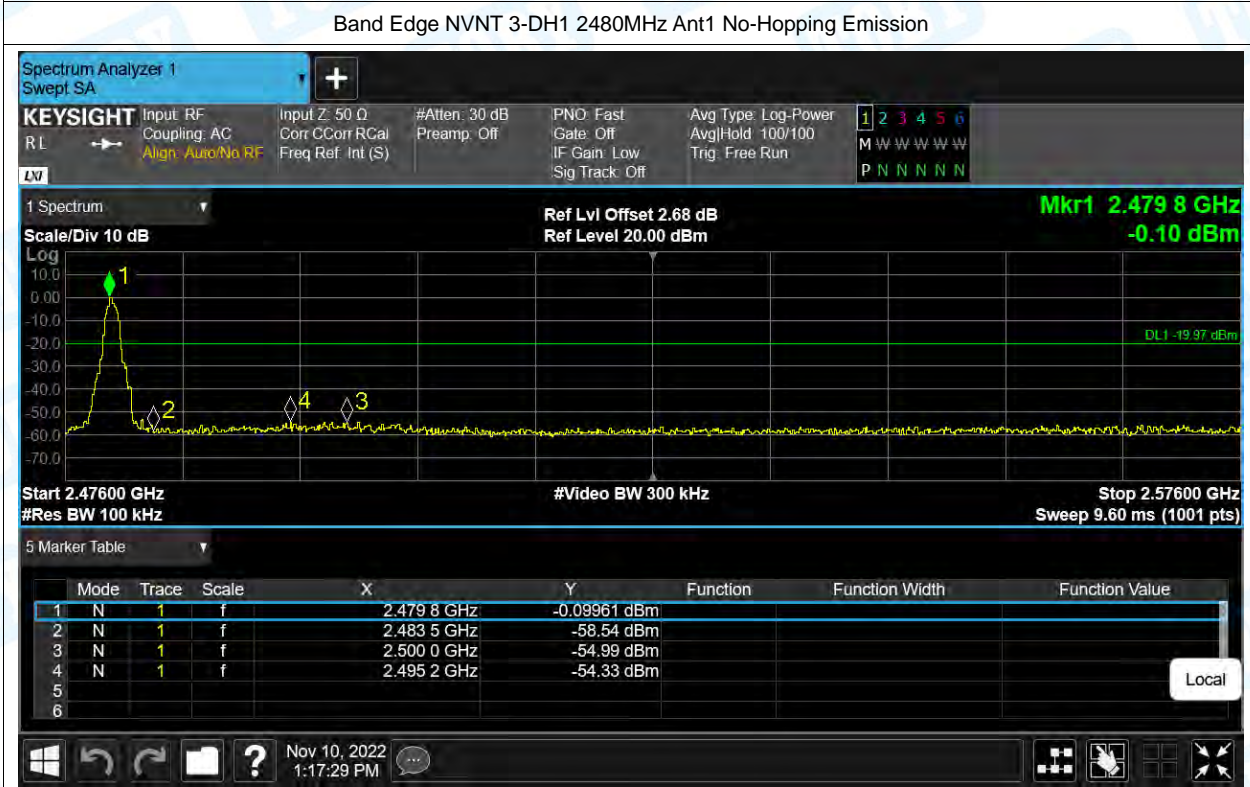
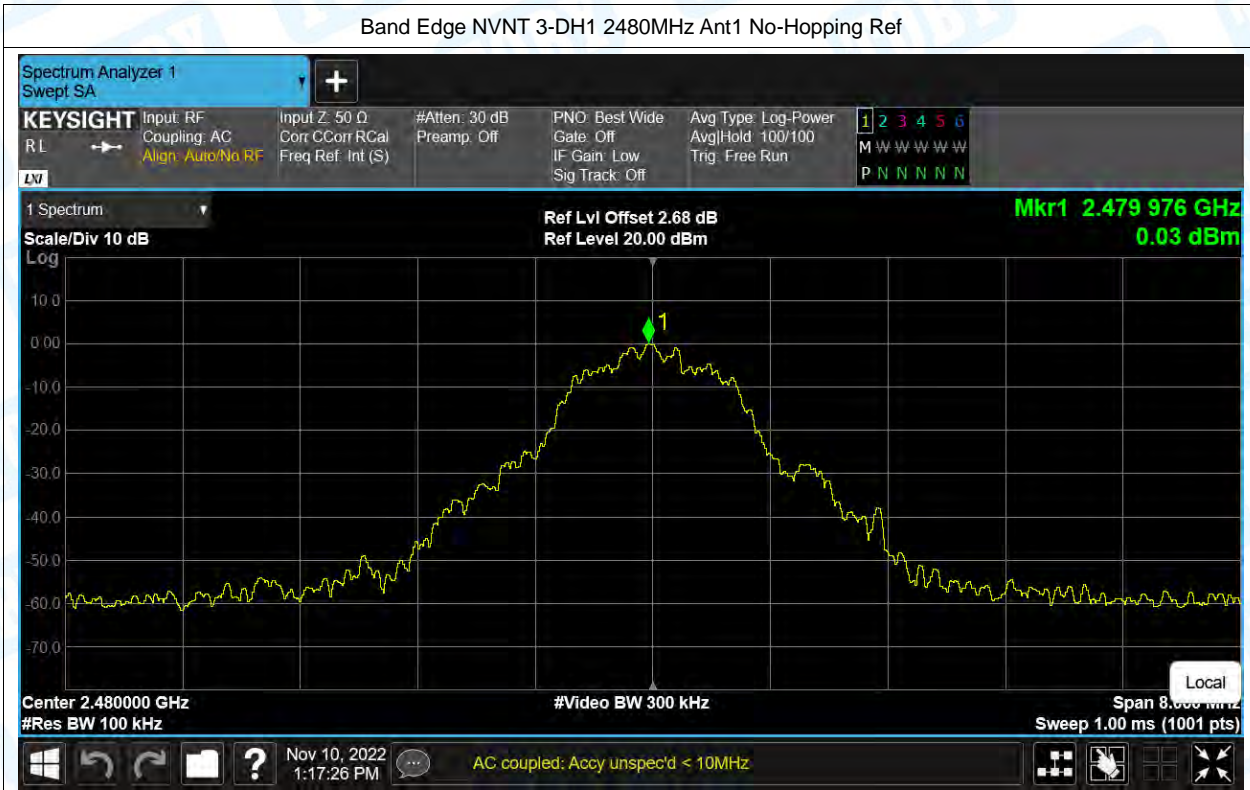












6. Band Edge(Hopping)

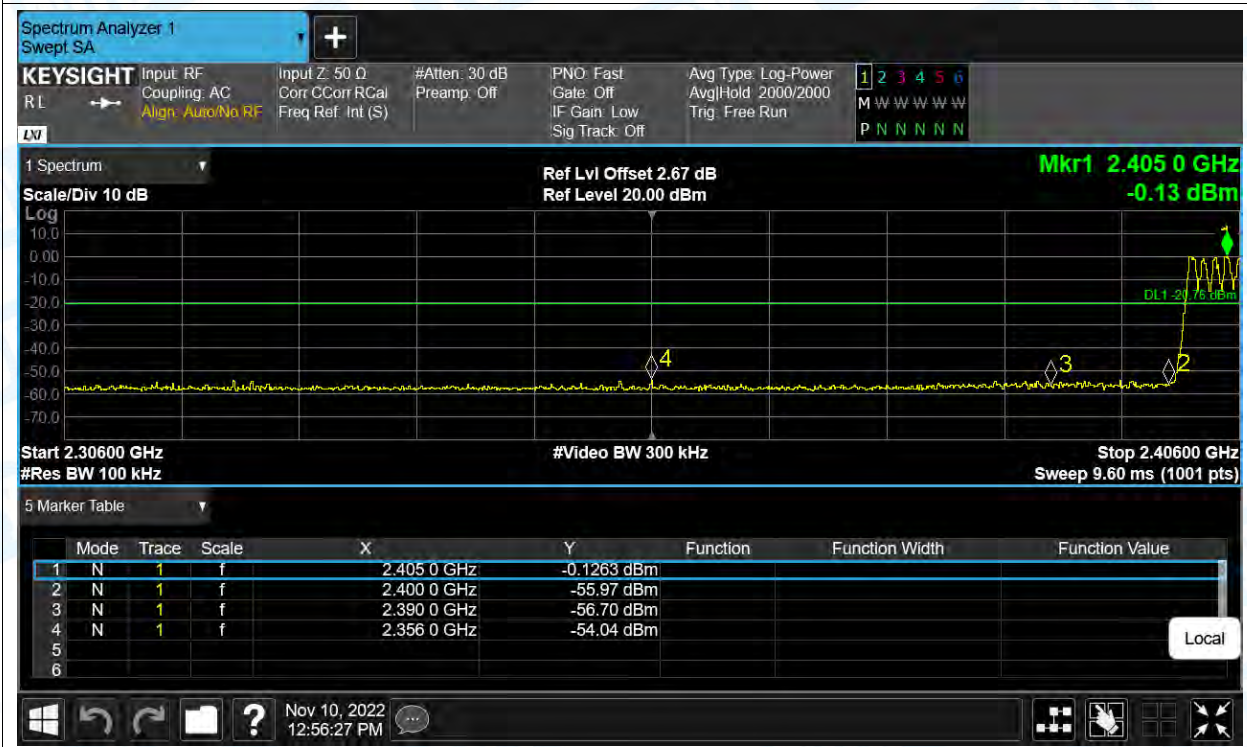
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-53.28	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-53.72	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-53.31	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-53.36	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-53.02	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-52.81	-20	Pass

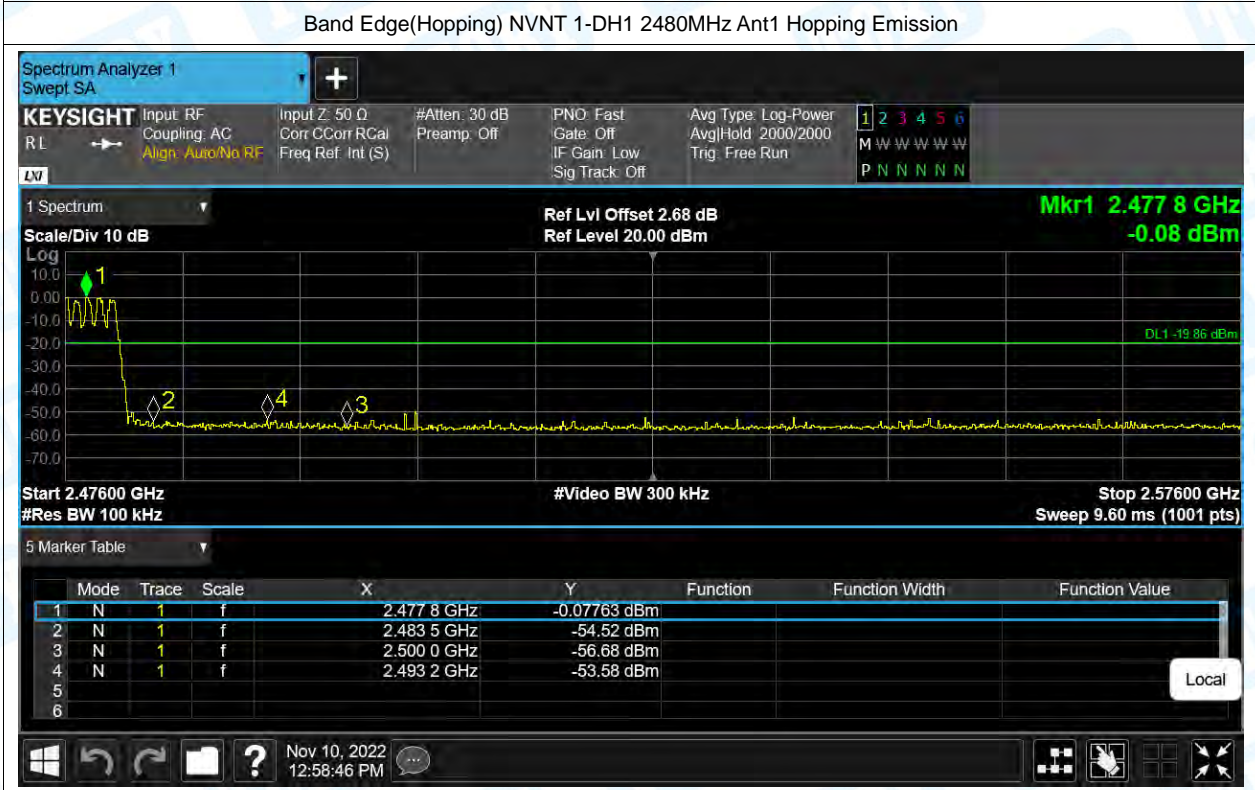
Test Graphs

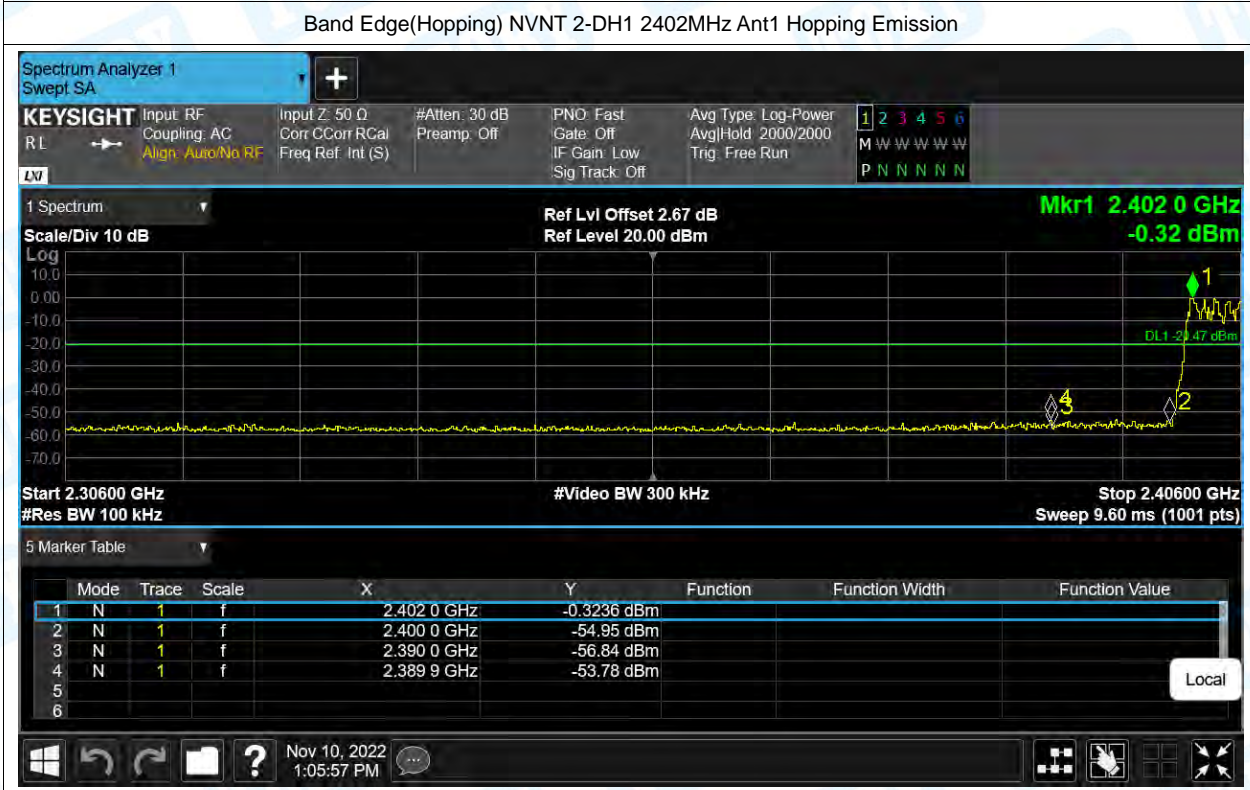
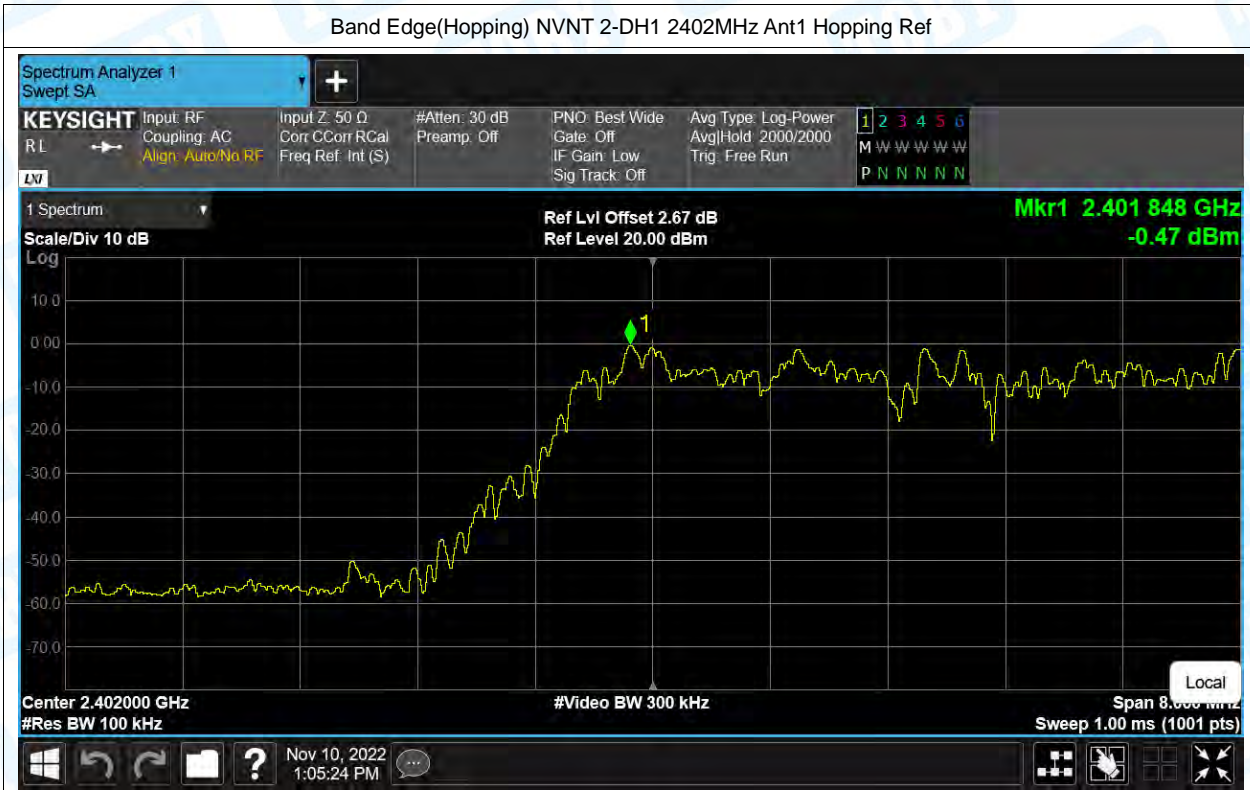
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

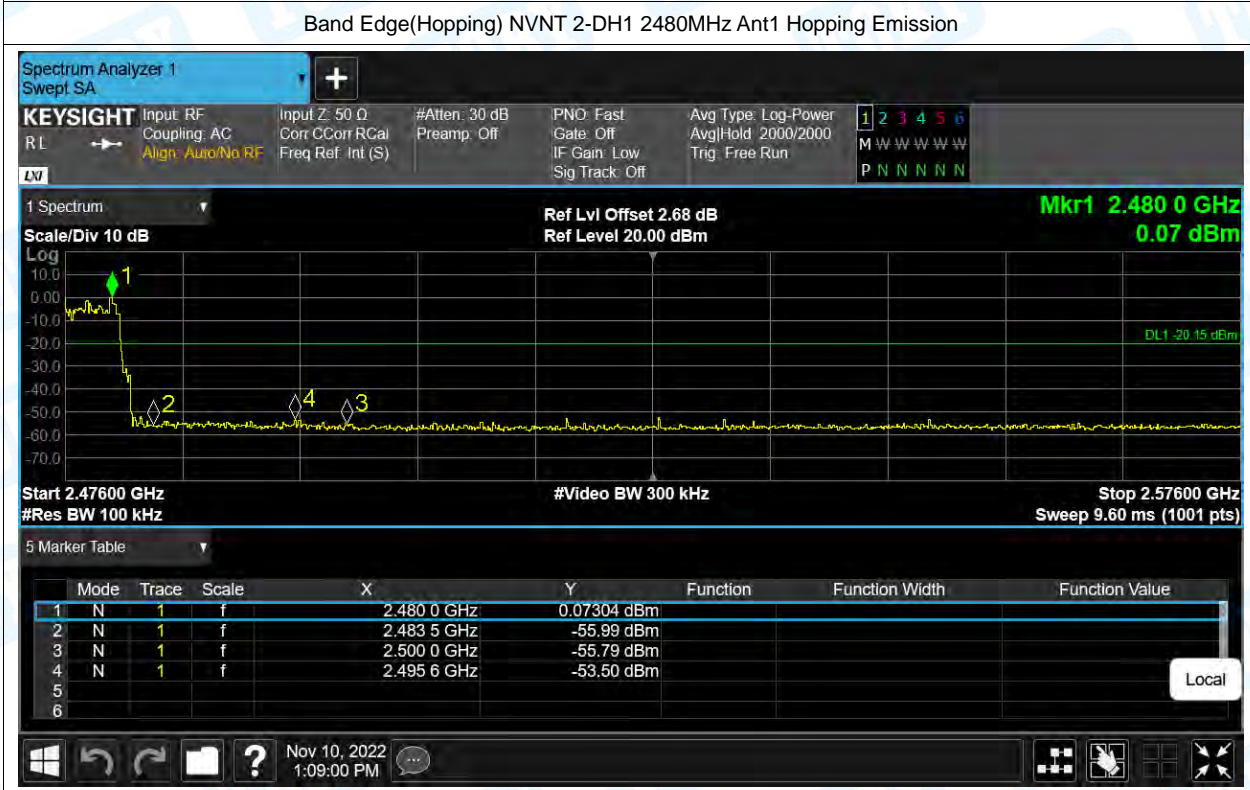
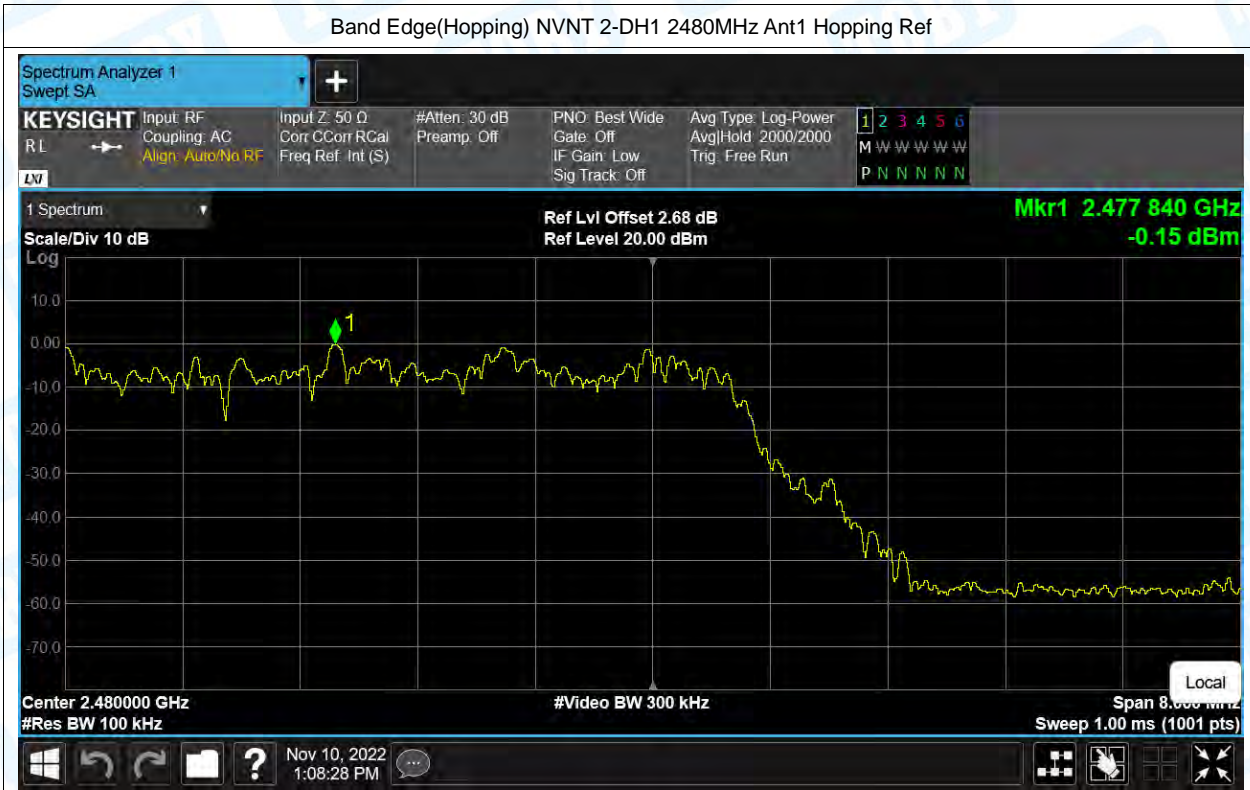


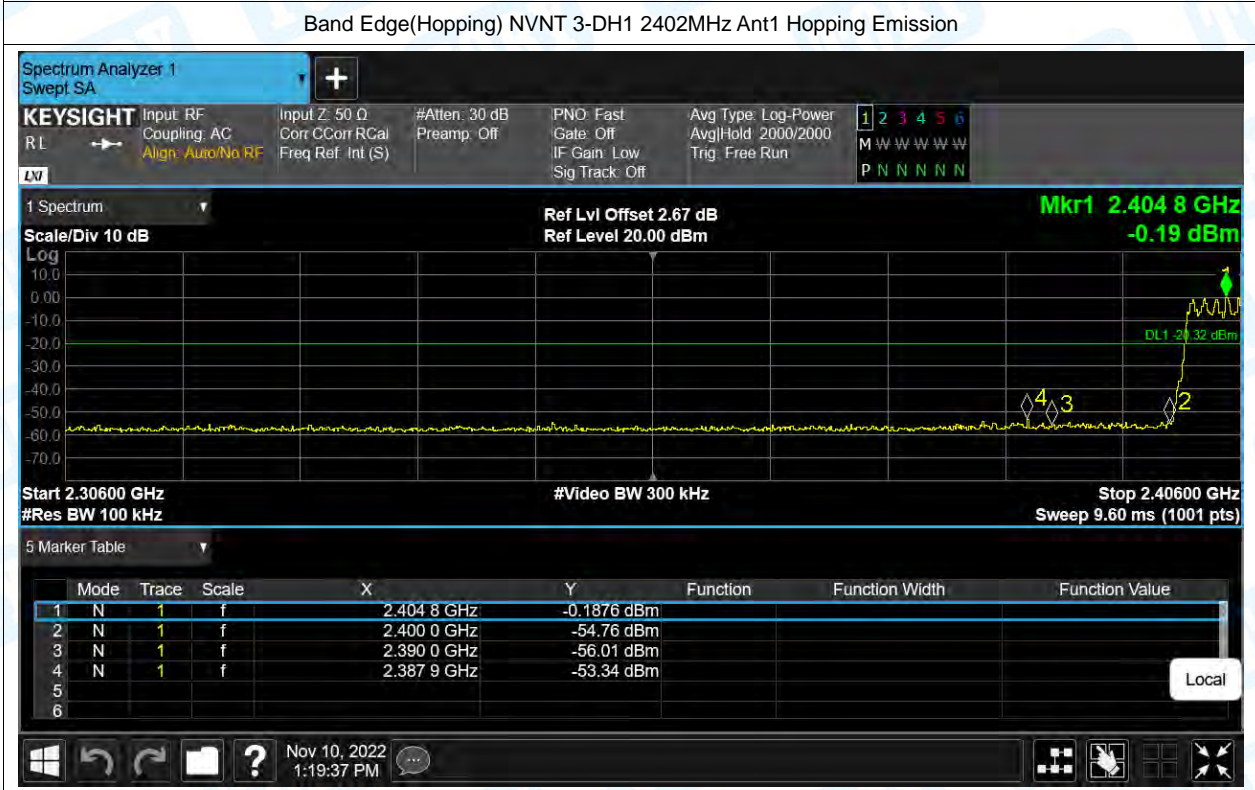
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

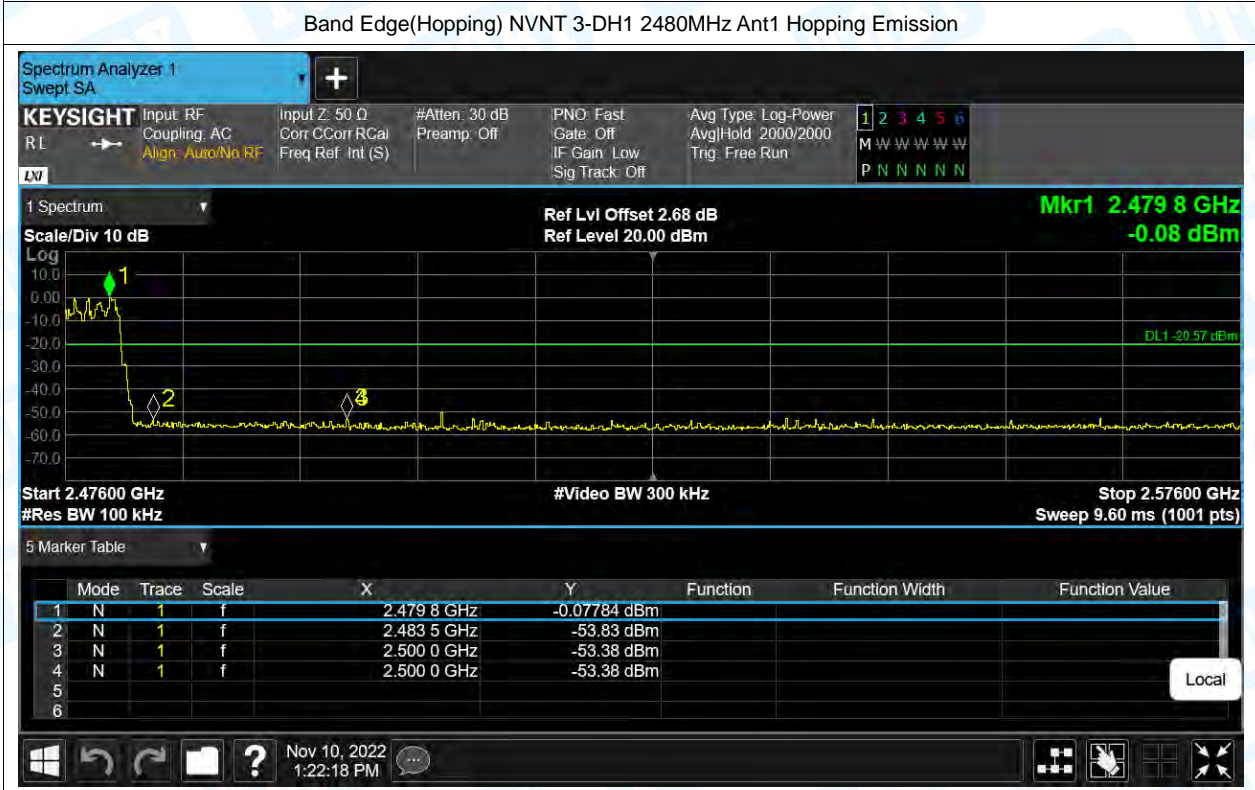












7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-51.84	-20	Pass
NVNT	1-DH1	2441	Ant1	-43.36	-20	Pass
NVNT	1-DH1	2480	Ant1	-43.78	-20	Pass
NVNT	2-DH1	2402	Ant1	-44.08	-20	Pass
NVNT	2-DH1	2441	Ant1	-46.28	-20	Pass
NVNT	2-DH1	2480	Ant1	-43.88	-20	Pass
NVNT	3-DH1	2402	Ant1	-48.97	-20	Pass
NVNT	3-DH1	2441	Ant1	-46.82	-20	Pass
NVNT	3-DH1	2480	Ant1	-42.39	-20	Pass

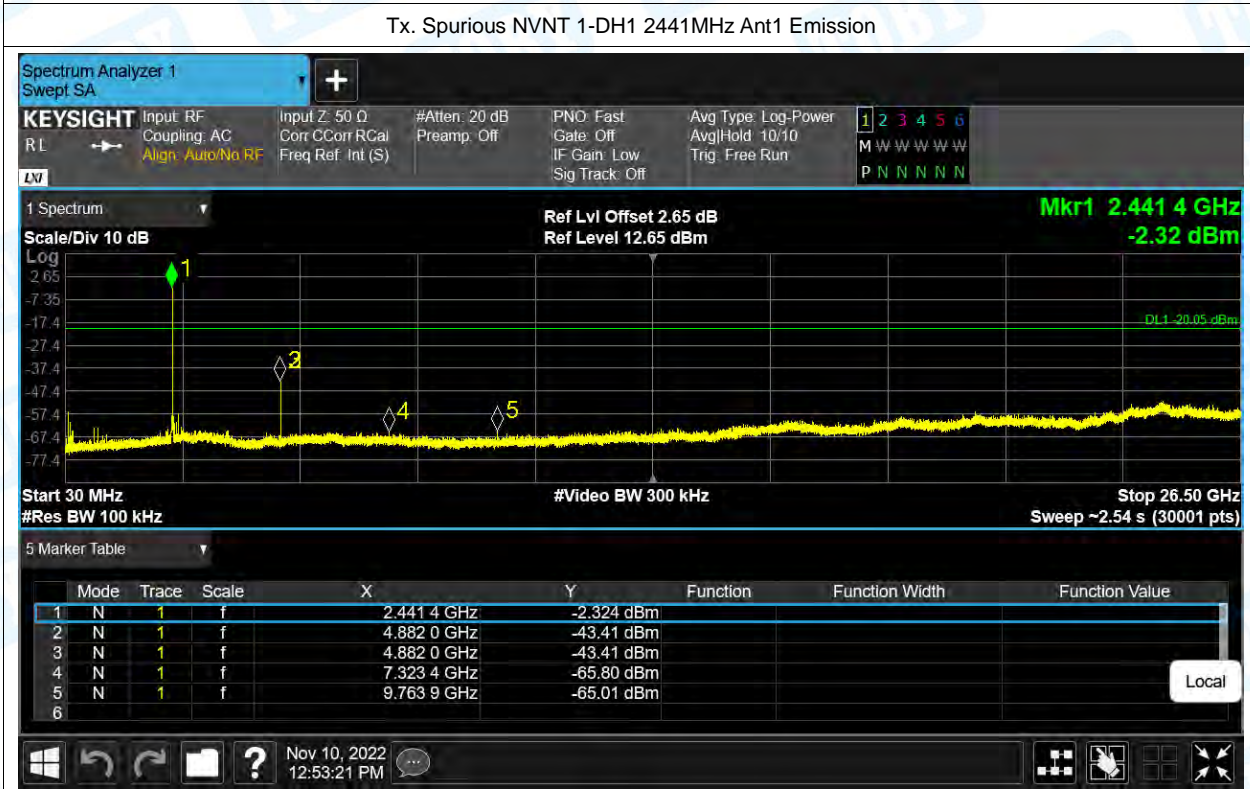
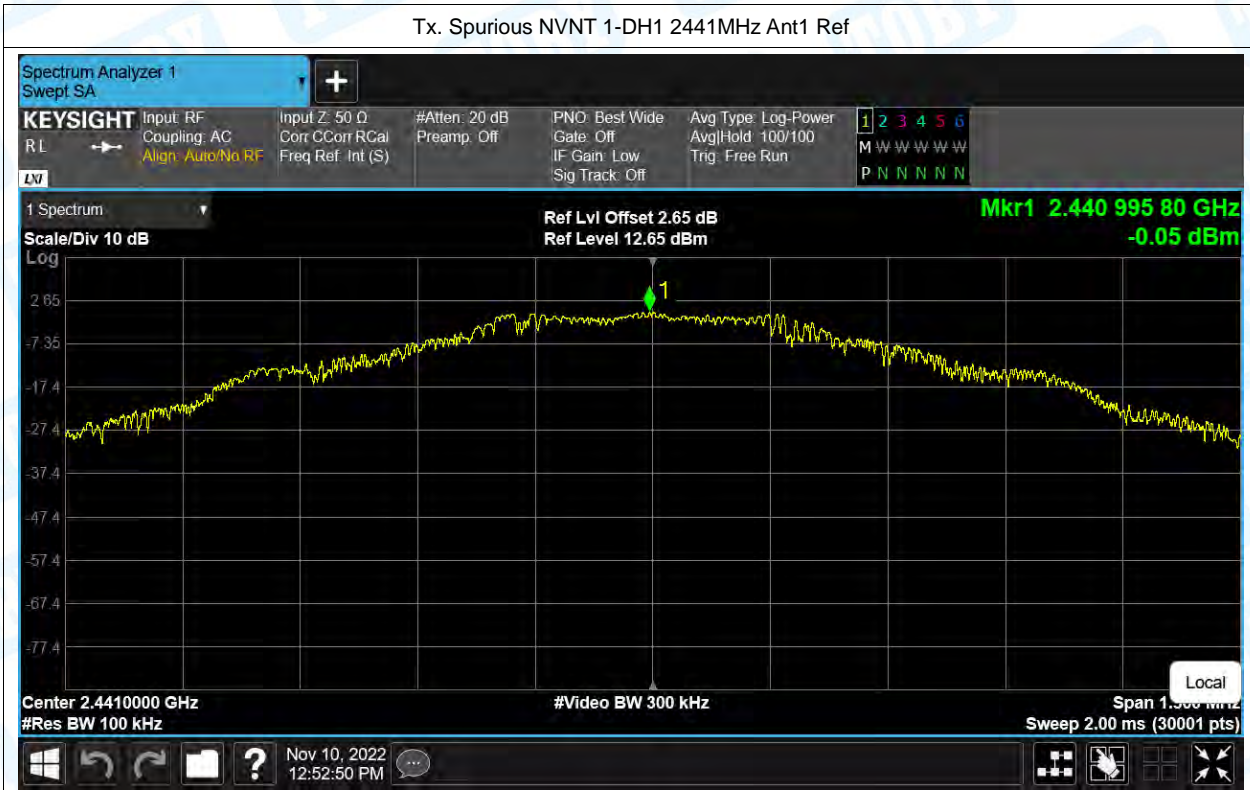
Test Graphs

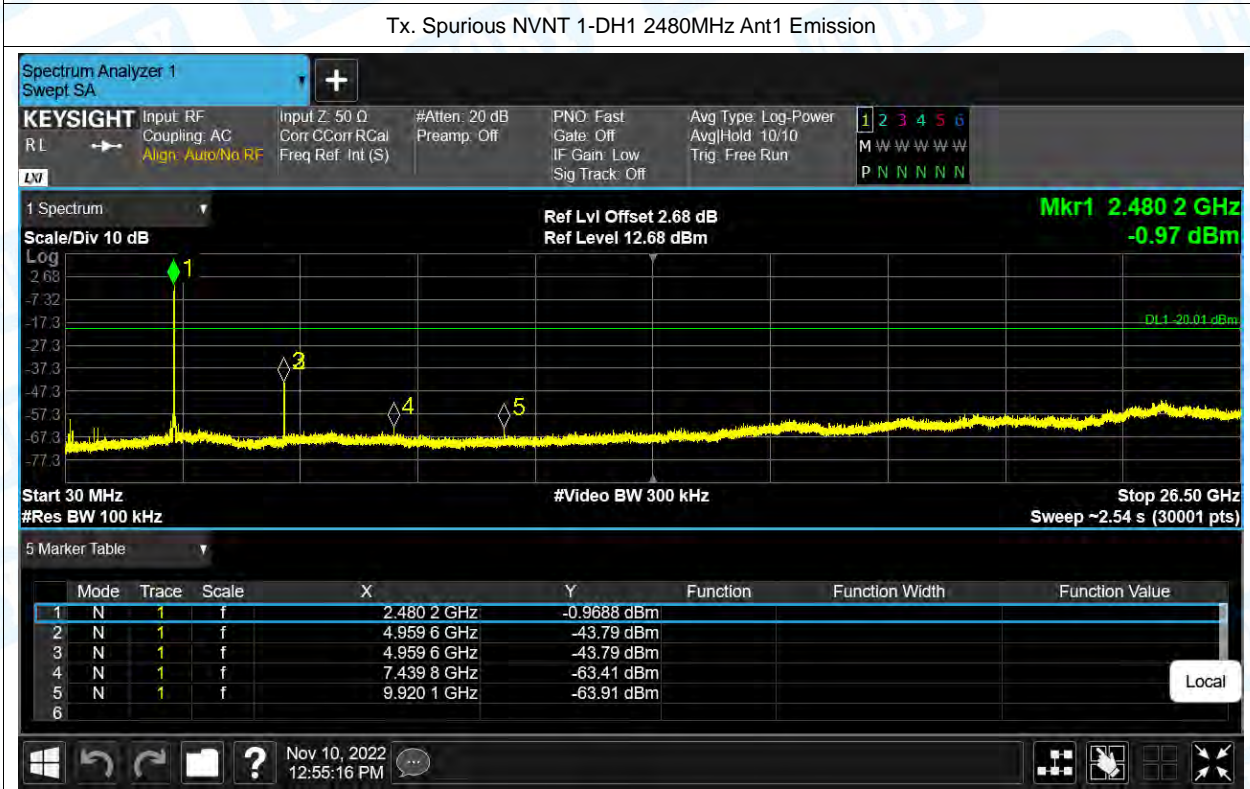
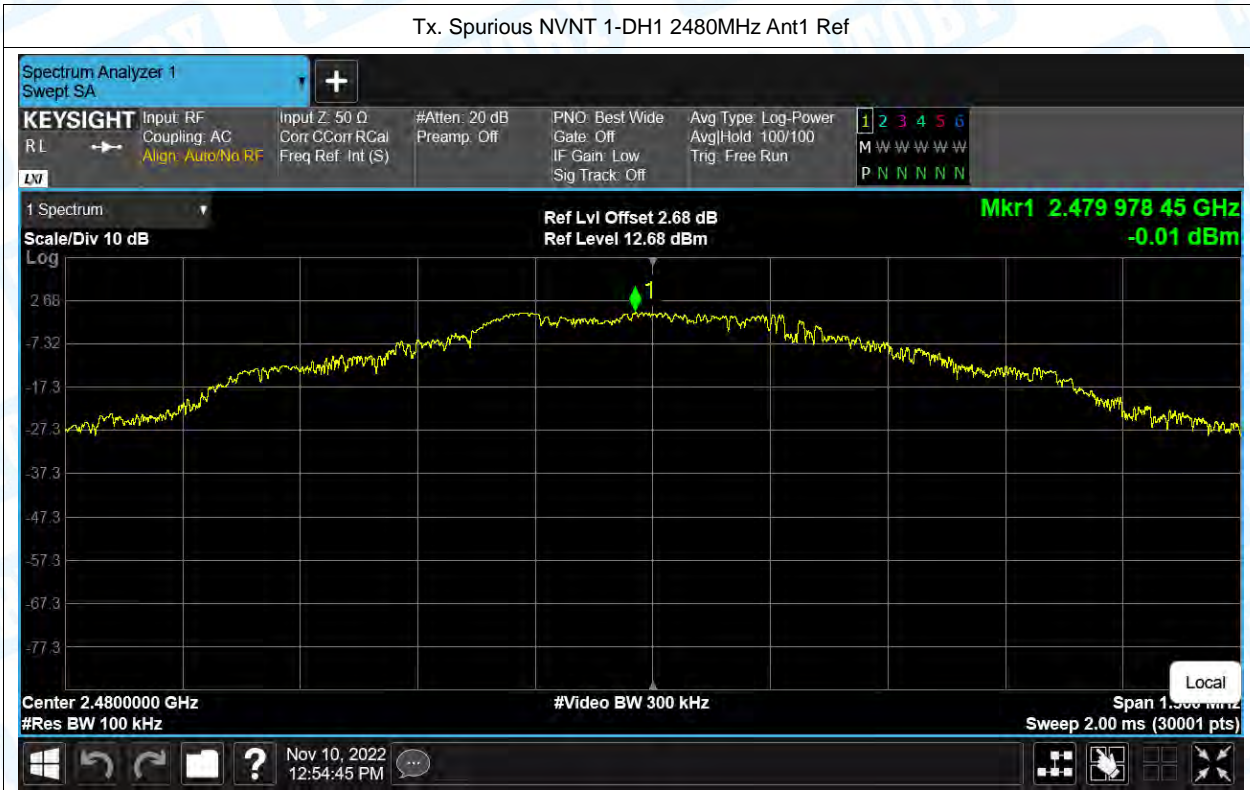
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



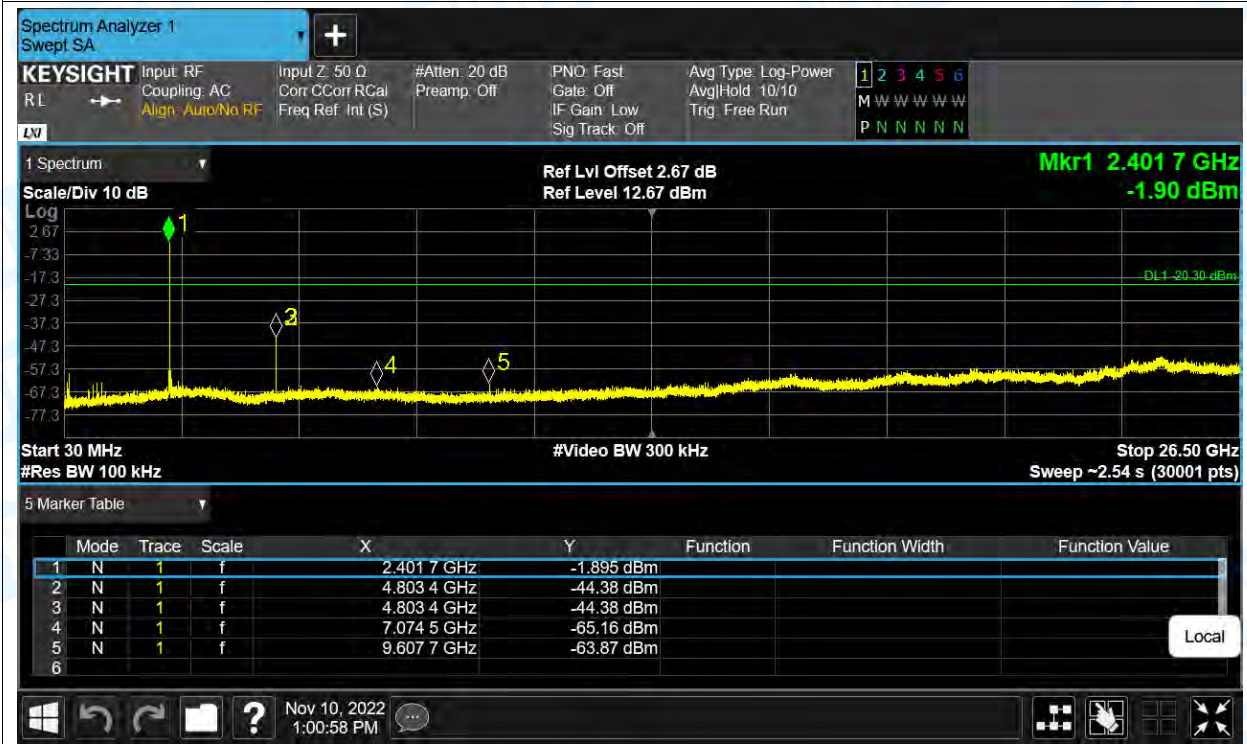


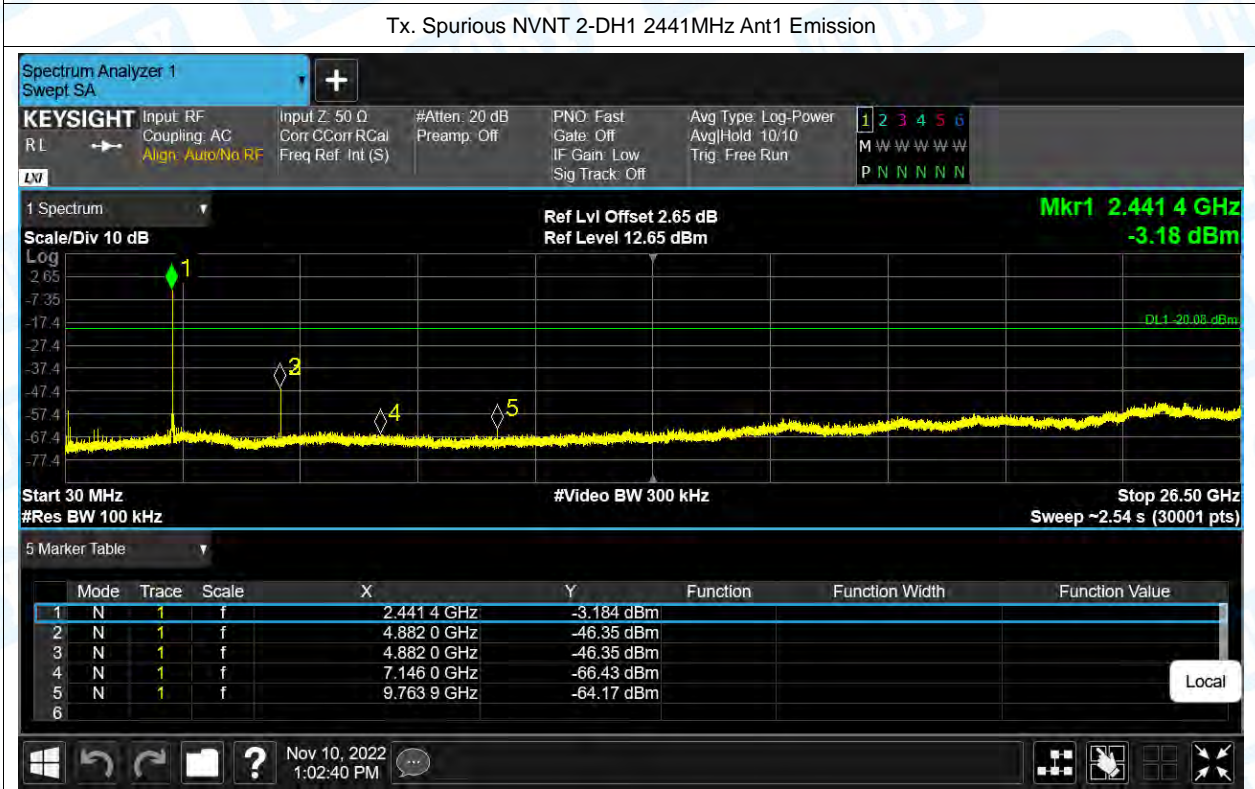
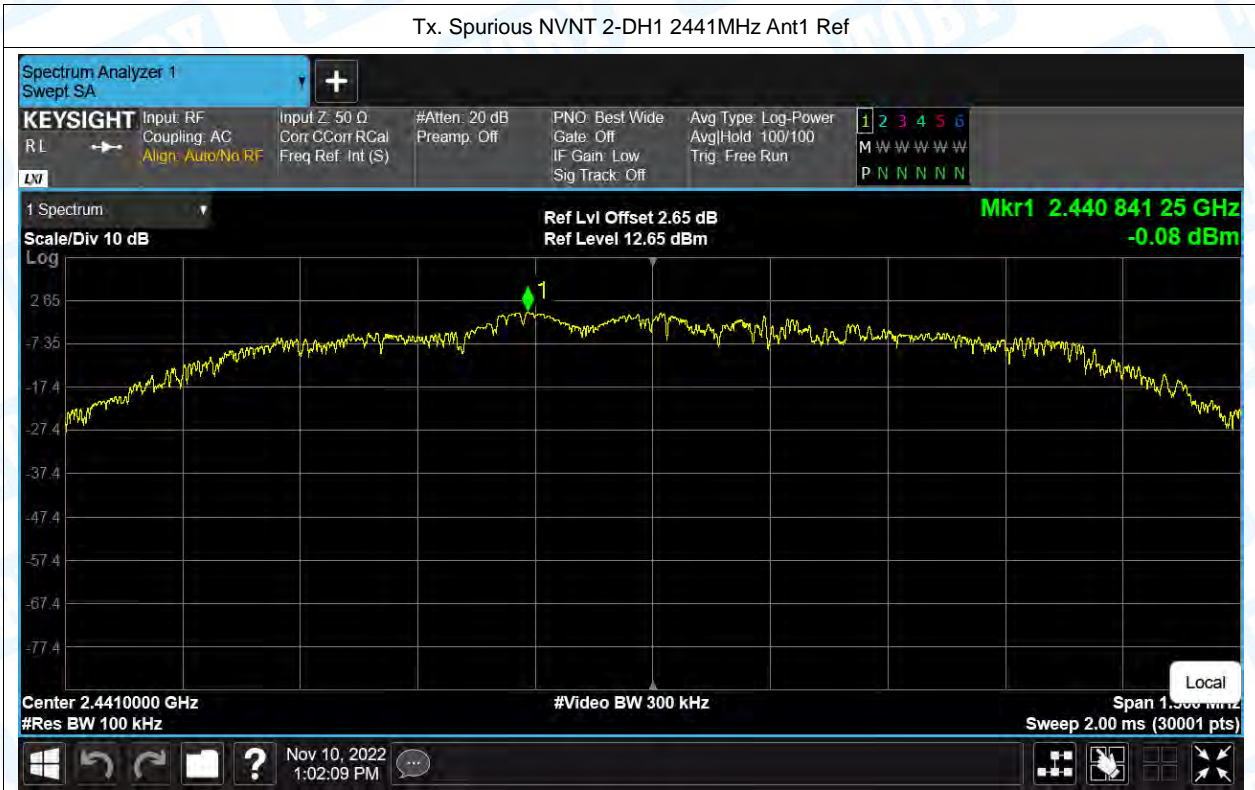


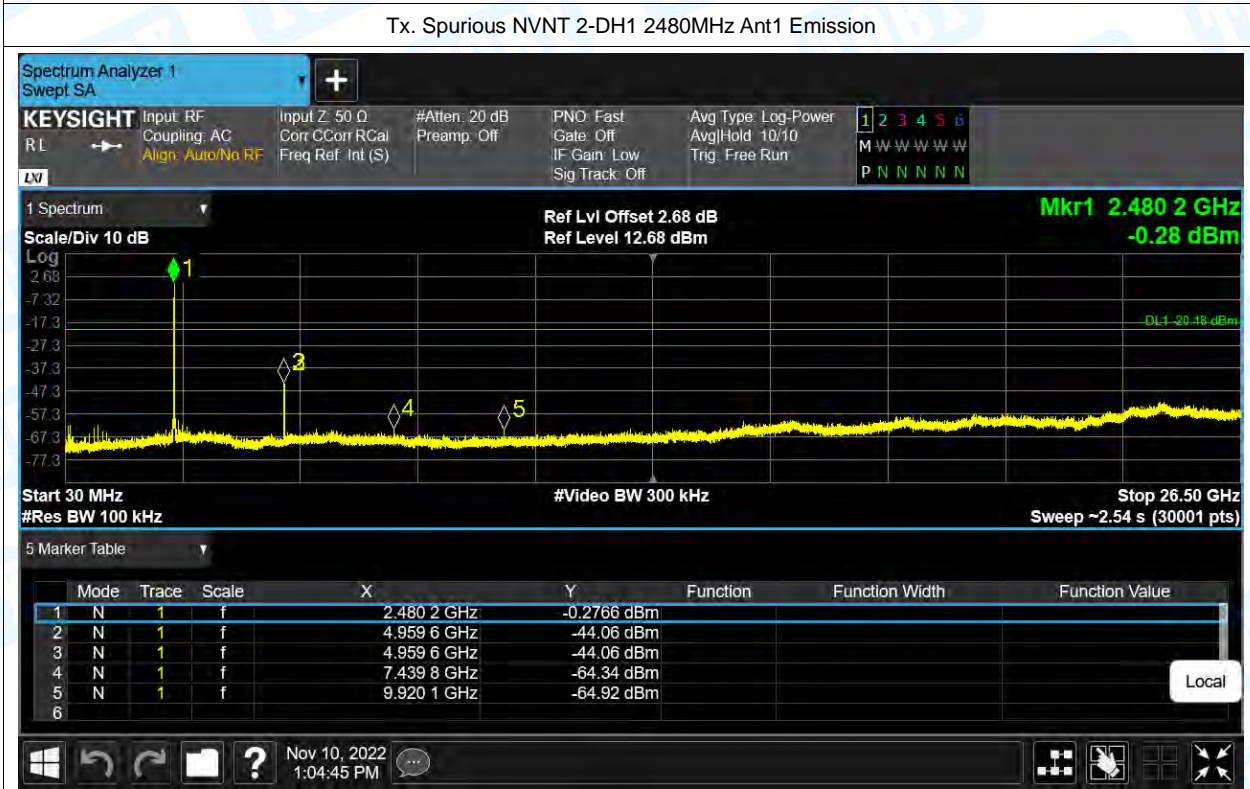
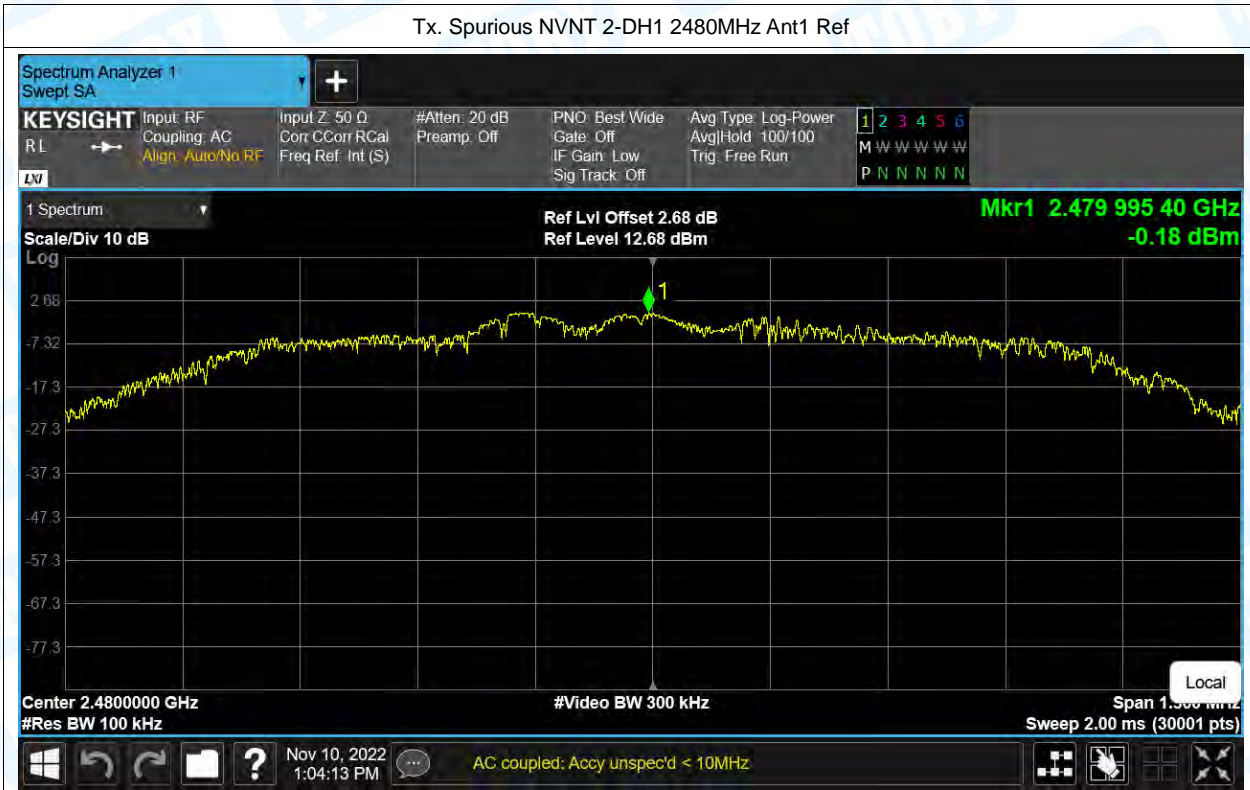
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref

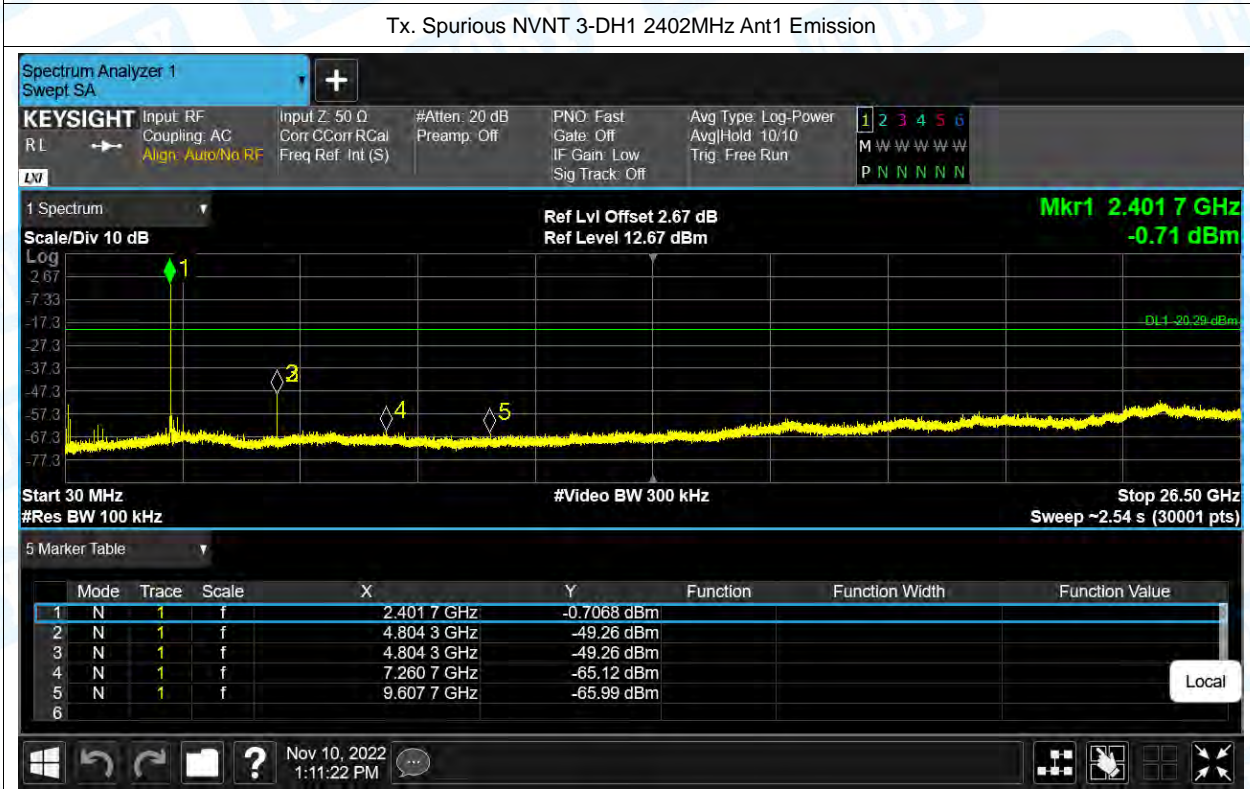
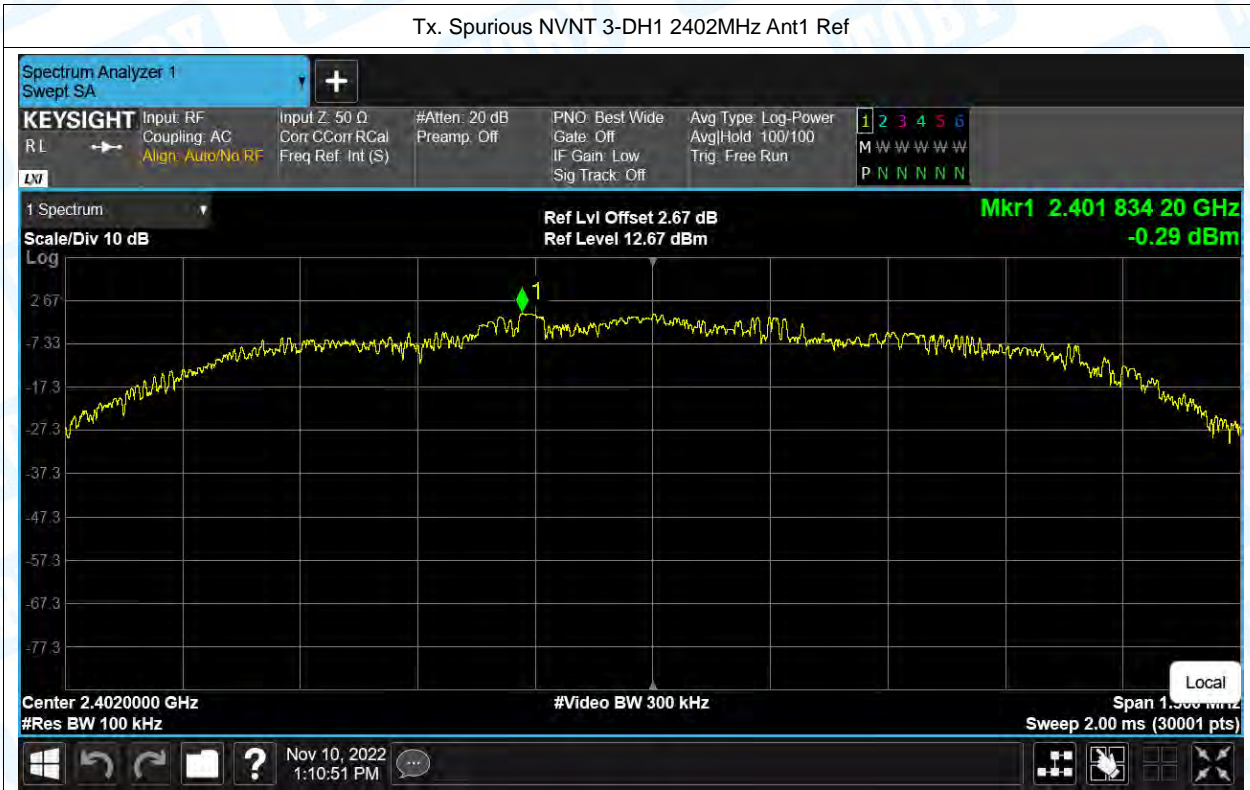


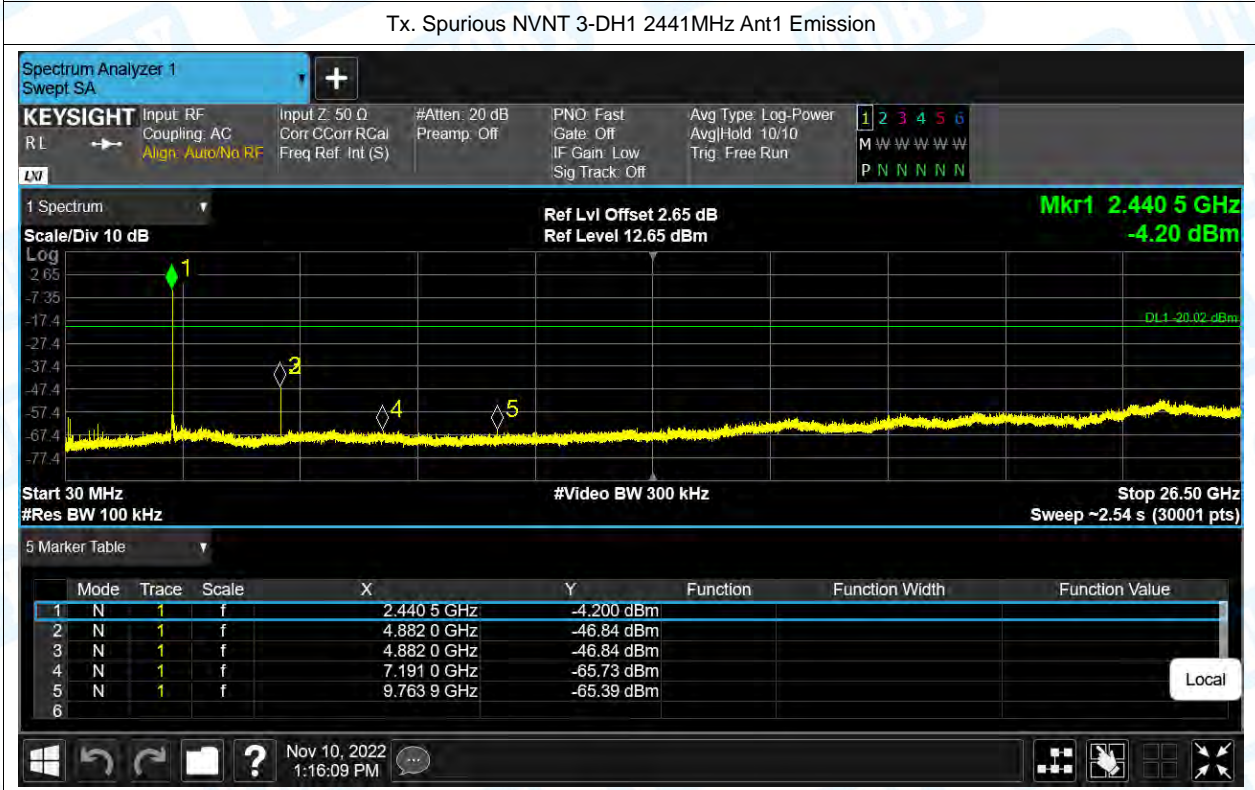
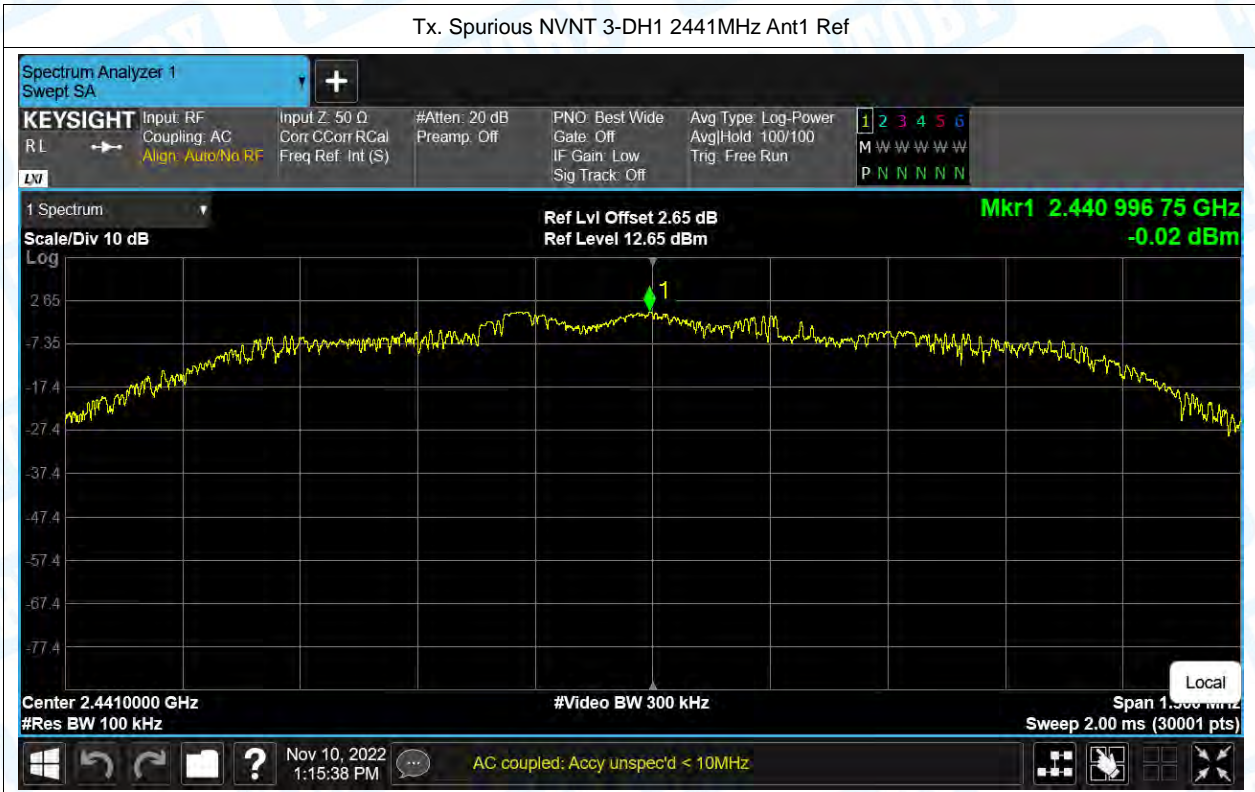
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission

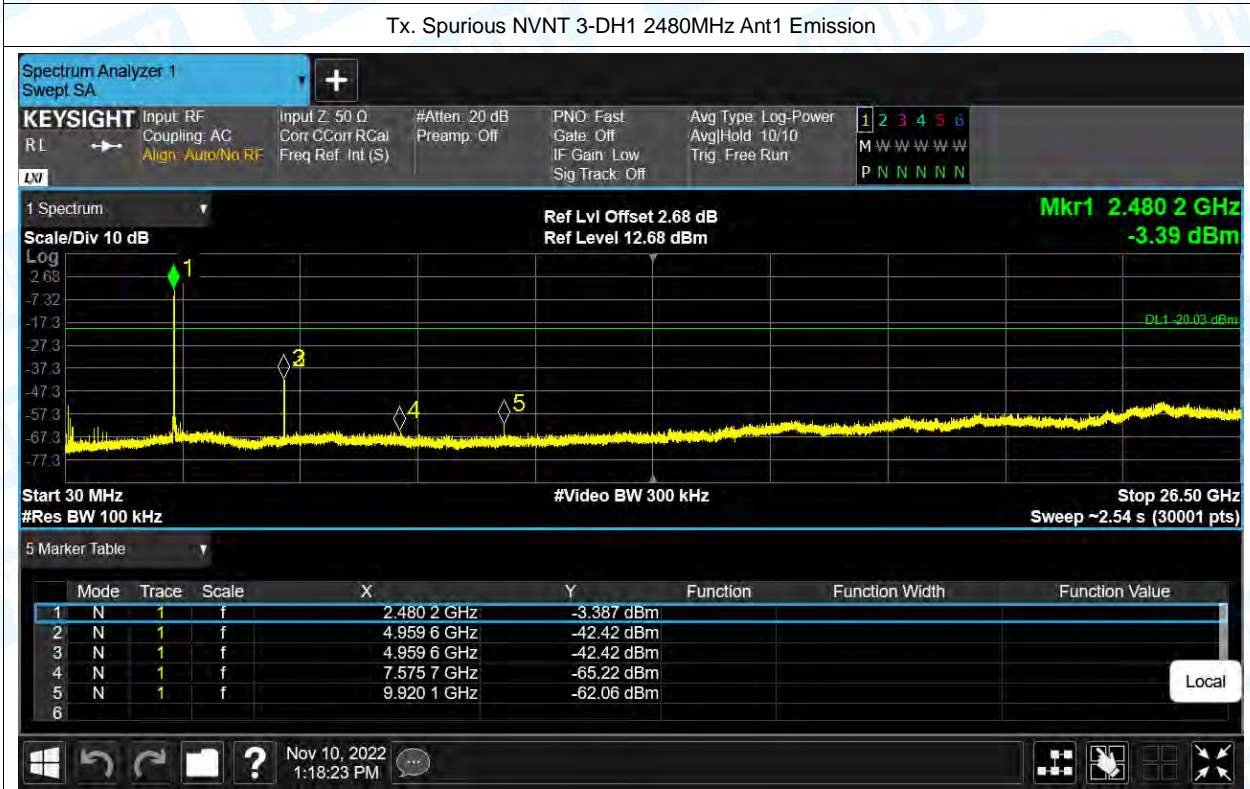
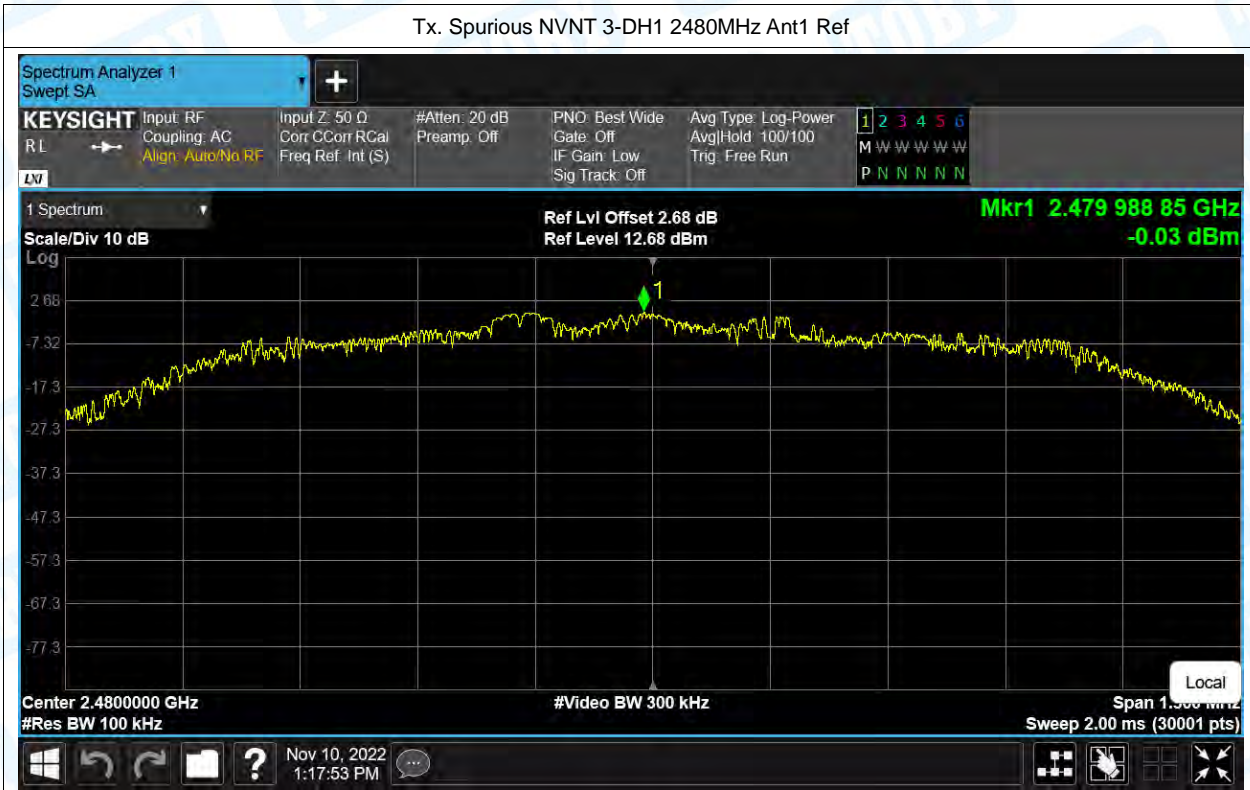










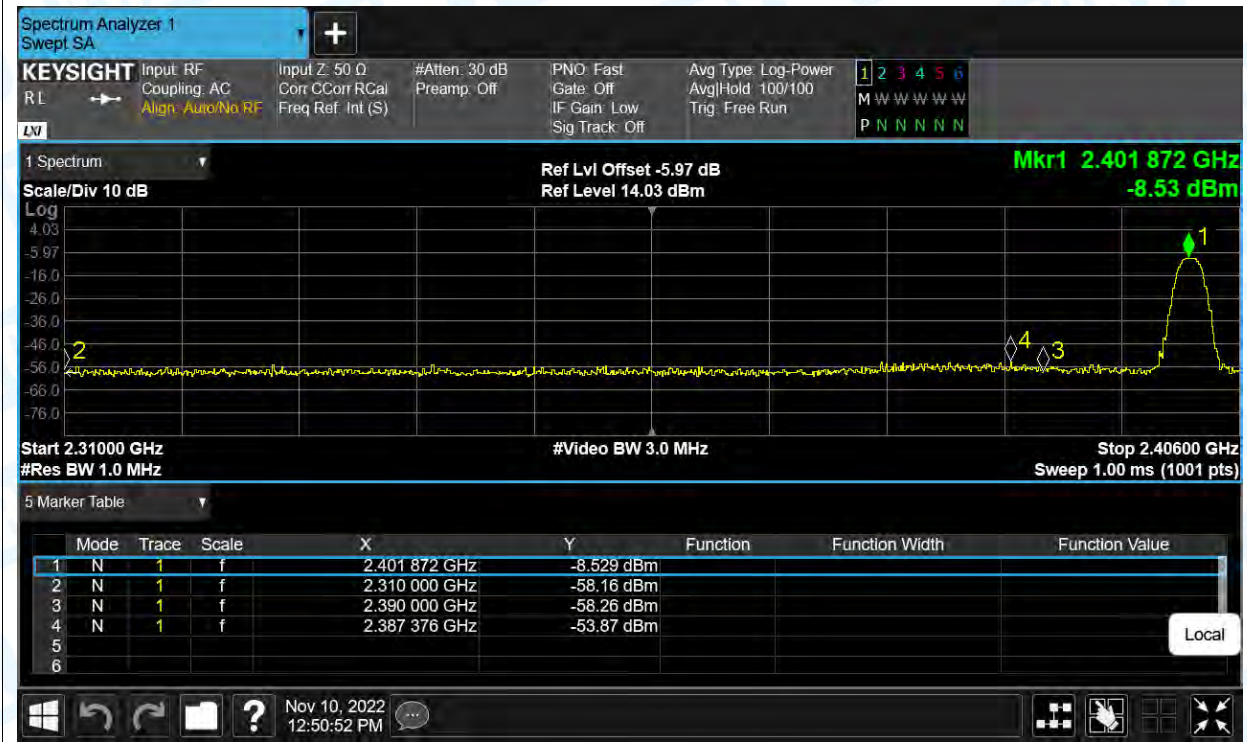


8. Restrict Band

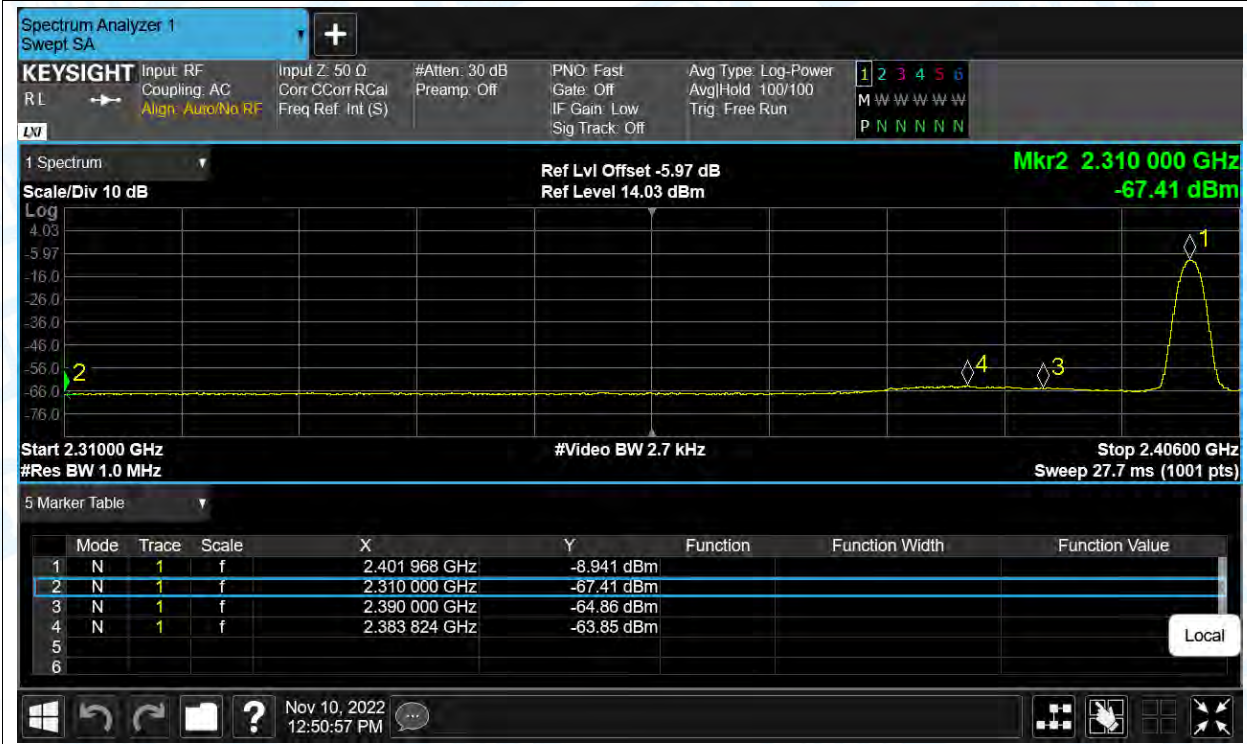
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-58.16	2	39.1	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-67.41	2	29.85	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2387.376	-53.87	2	43.39	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2383.824	-63.85	2	33.41	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-57.56	2	39.7	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-64.9	2	32.36	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-53.42	2	43.84	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-65.49	2	31.77	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2498.752	-52.12	2	45.14	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2497.216	-63.79	2	33.47	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.53	2	41.73	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-64.41	2	32.85	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-59.39	2	37.87	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-67.44	2	29.82	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2383.344	-51.89	2	45.37	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2383.344	-63.91	2	33.35	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-54.78	2	42.48	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-64.95	2	32.31	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-56.68	2	40.58	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-65.31	2	31.95	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2498.728	-52.07	2	45.19	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2498.752	-63.77	2	33.49	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-56.21	2	41.05	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-64.12	2	33.14	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-57.02	2	40.24	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-67.32	2	29.94	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2386.704	-53.62	2	43.64	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2382	-63.89	2	33.37	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-54.83	2	42.43	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-64.8	2	32.46	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-57.13	2	40.13	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-65.28	2	31.98	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2499.16	-52.21	2	45.05	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2498.872	-63.8	2	33.46	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-56.74	2	40.52	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-64.26	2	33	Average	54	Pass

Test Graphs

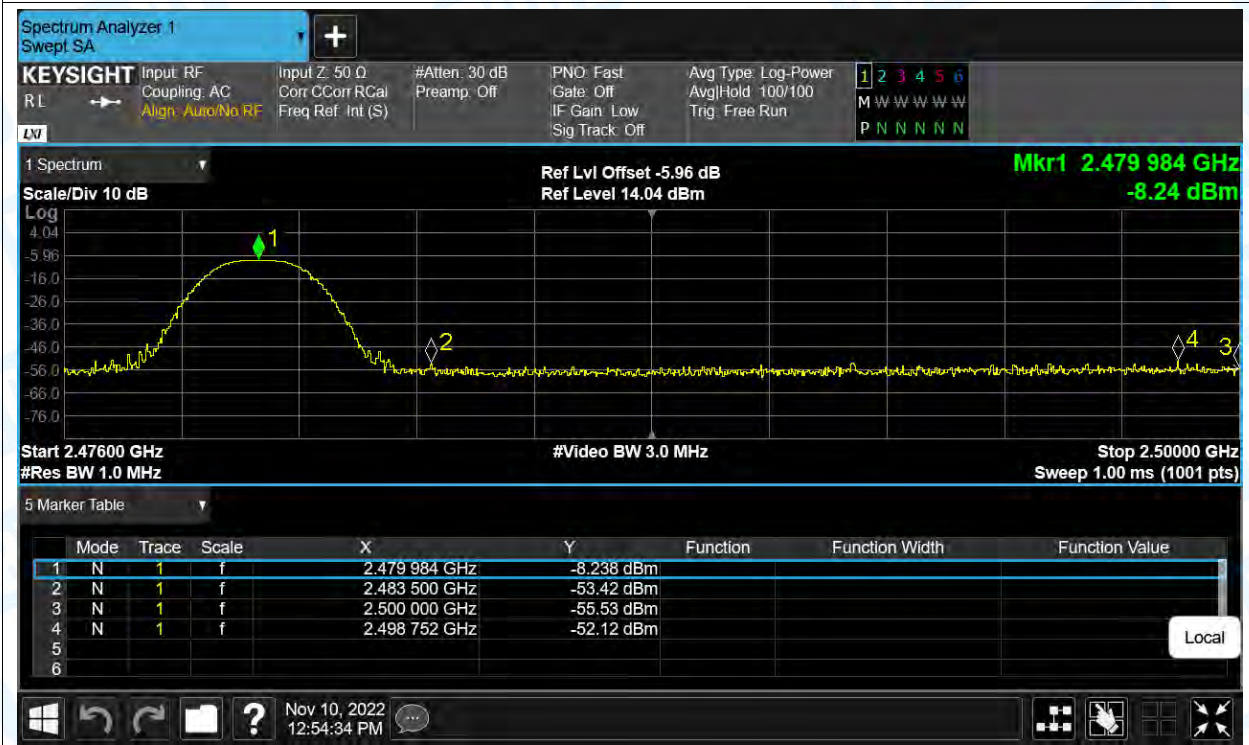
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



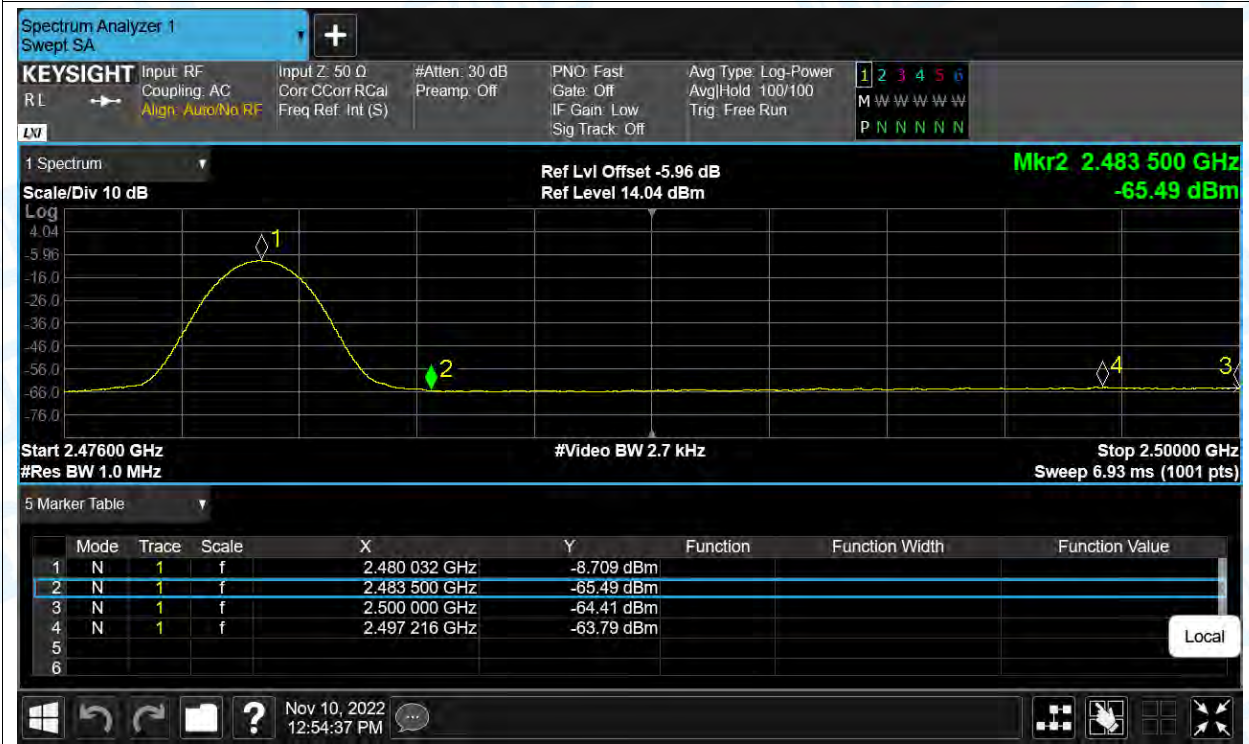
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



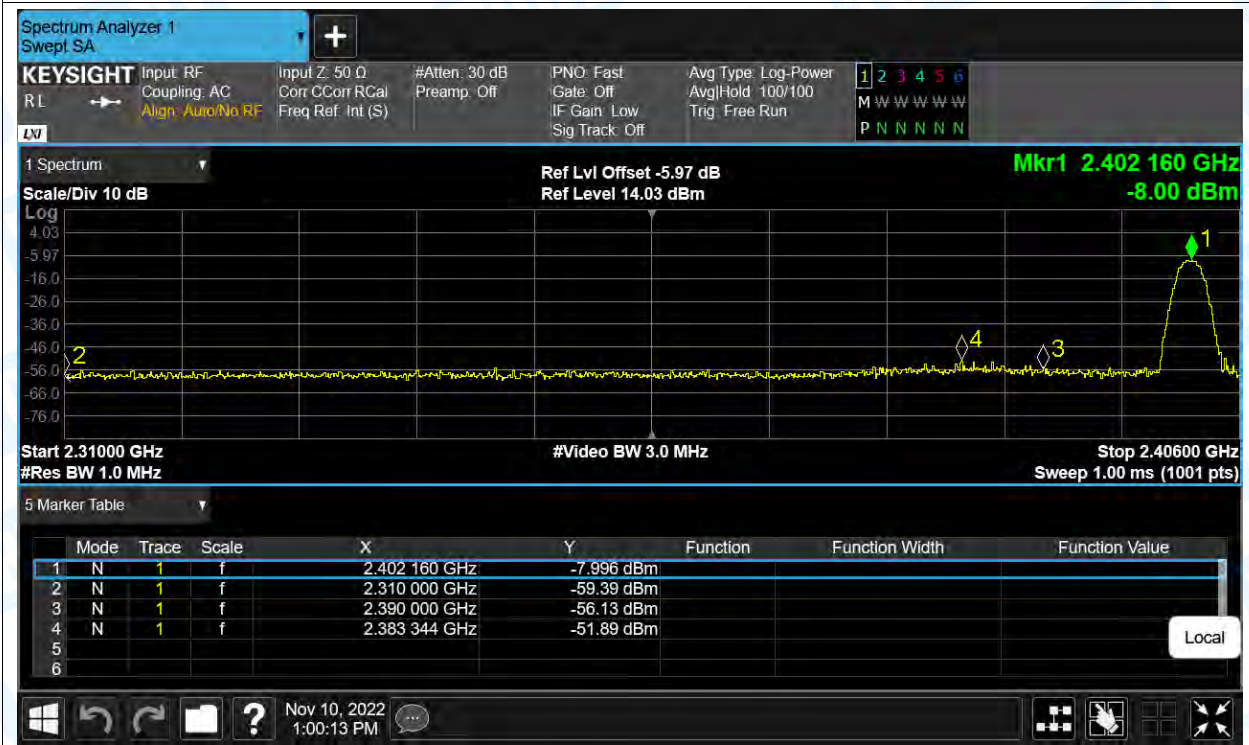
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



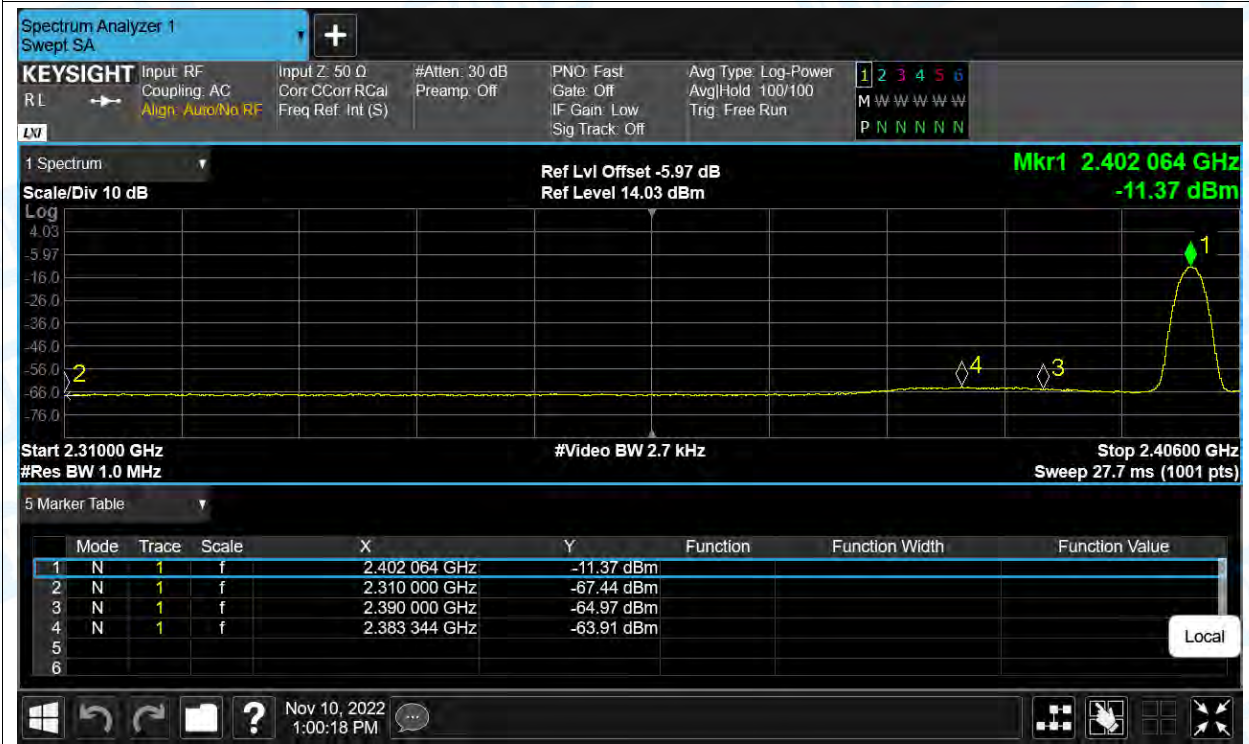
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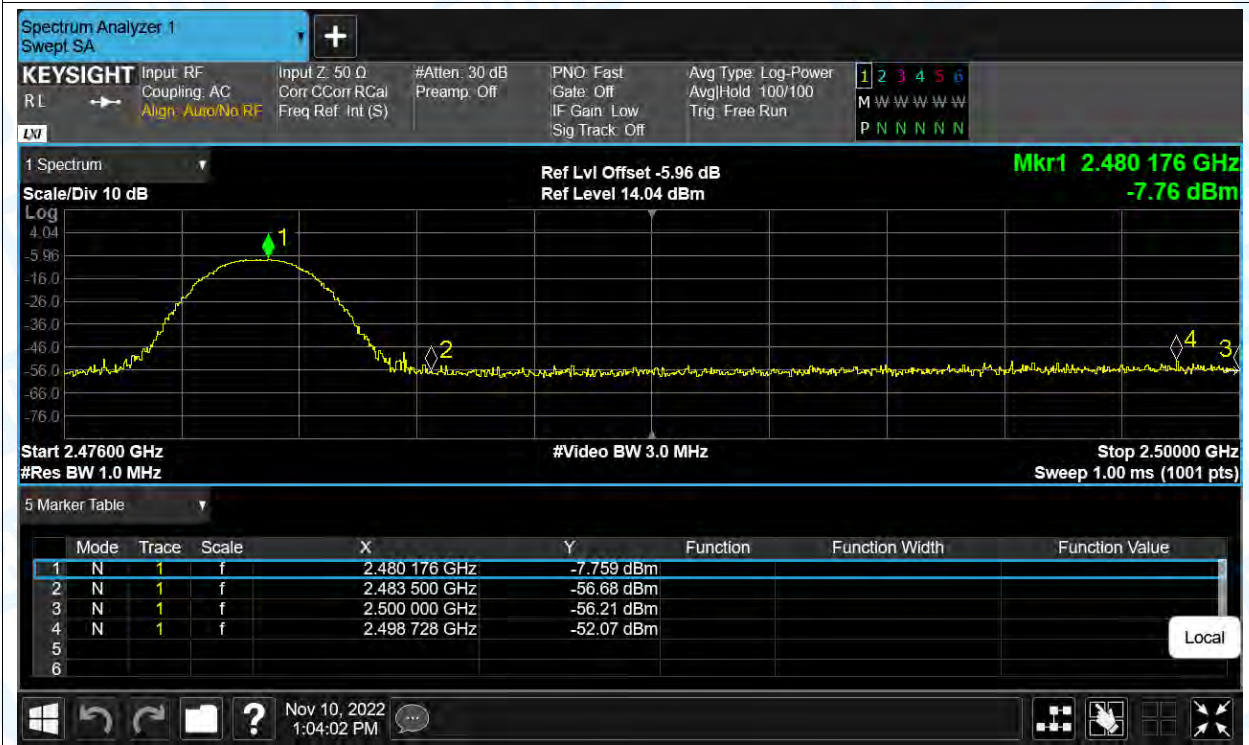
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



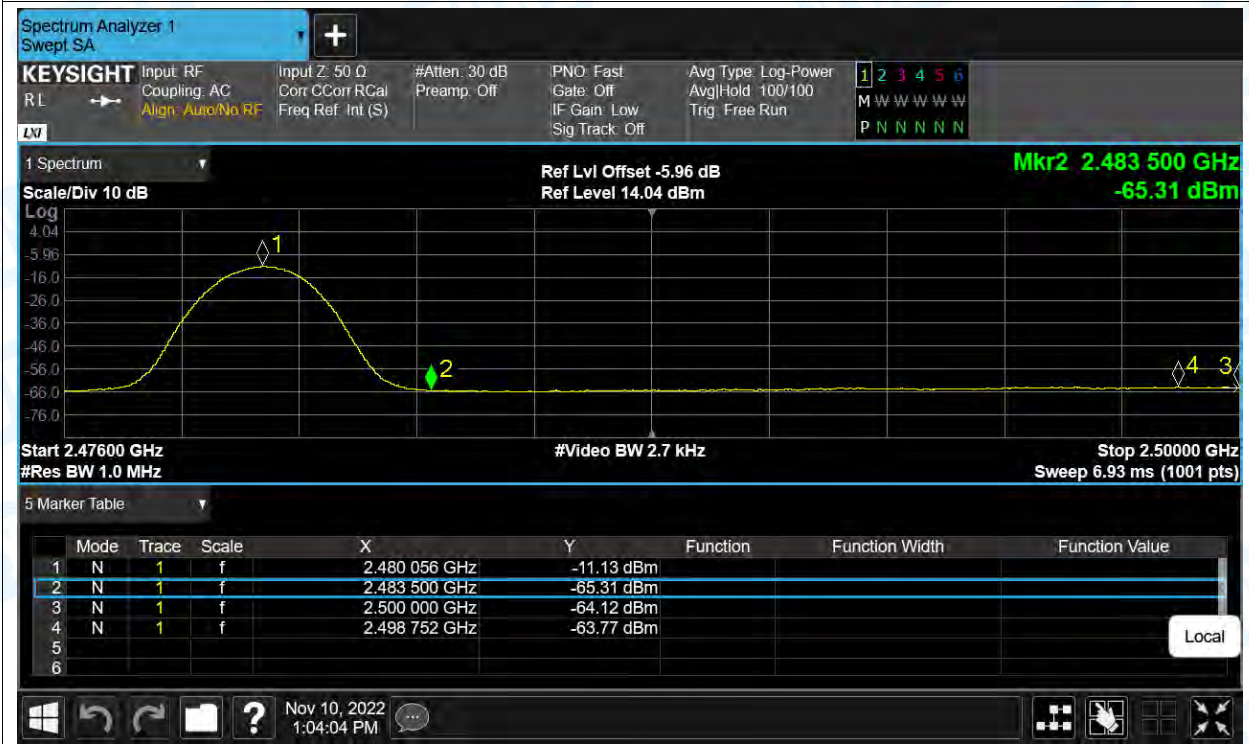
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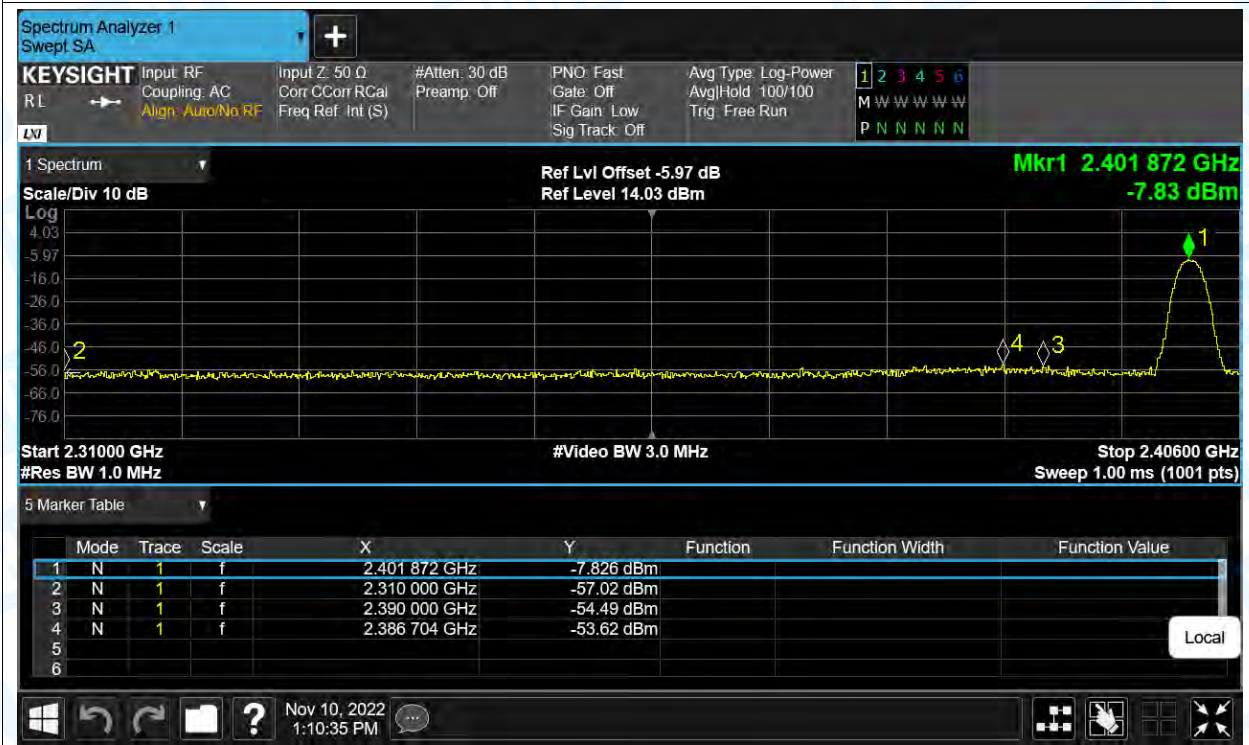
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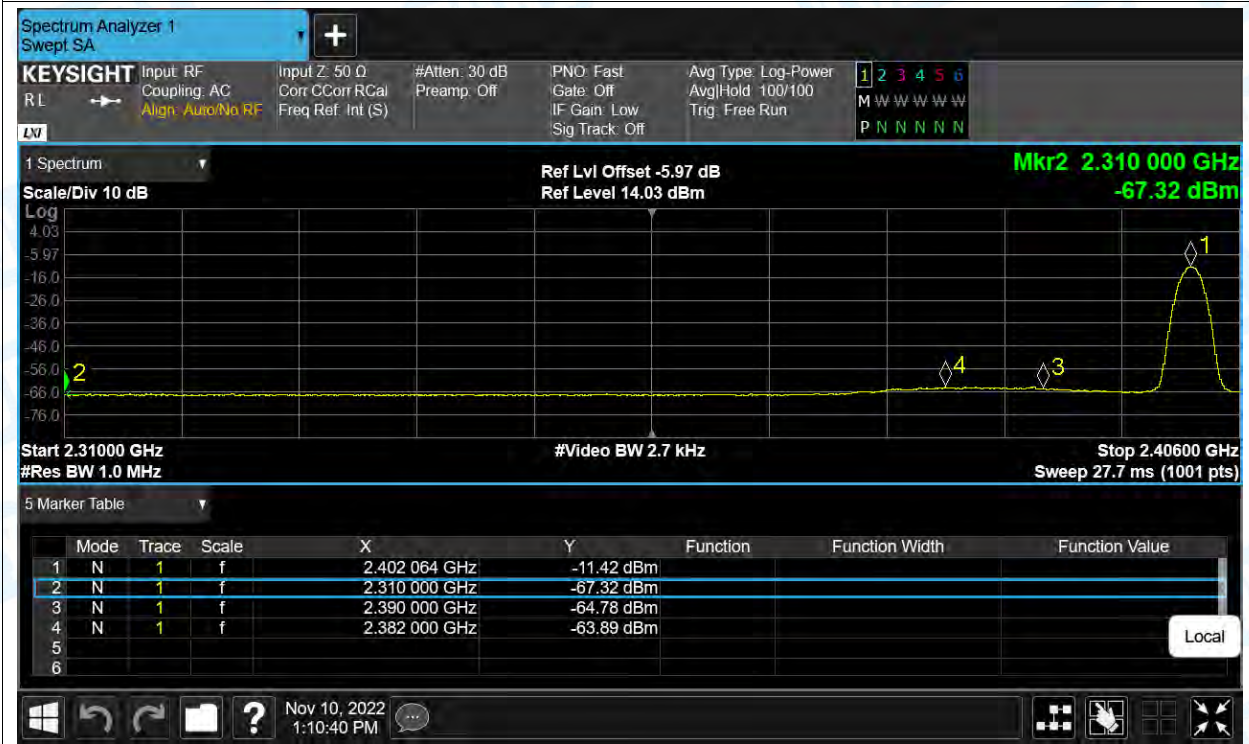
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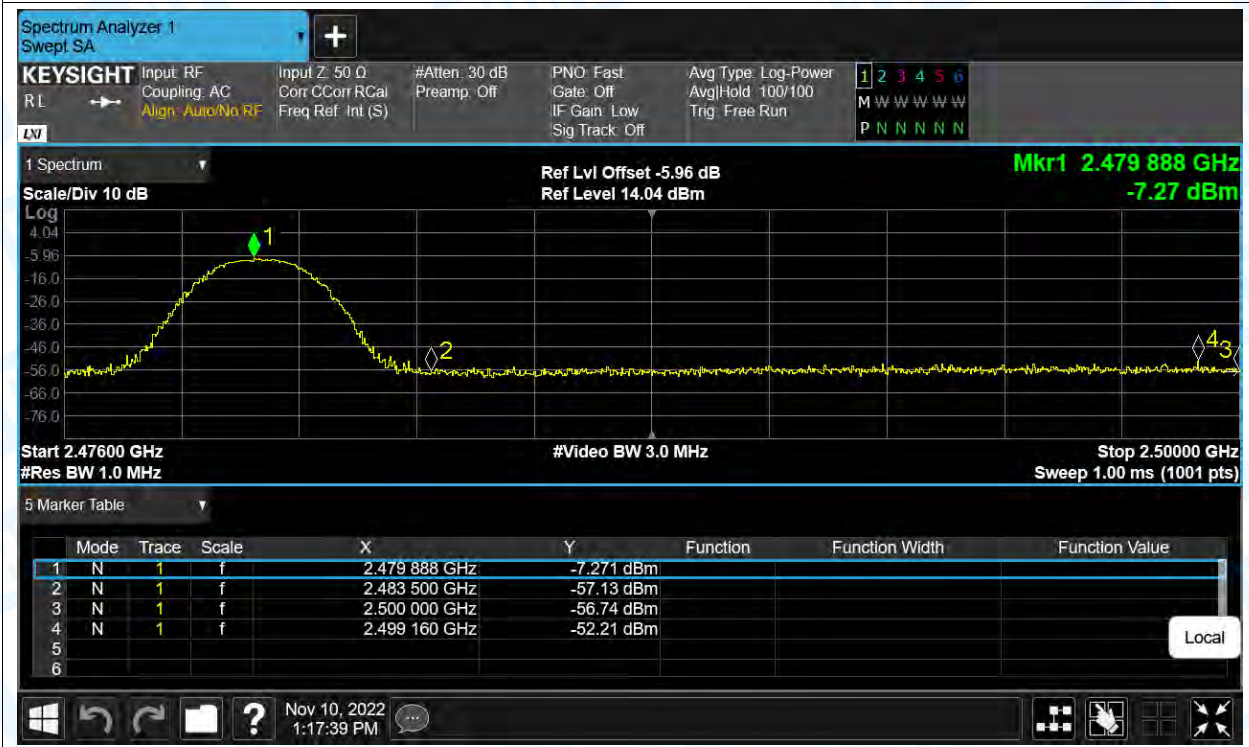
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



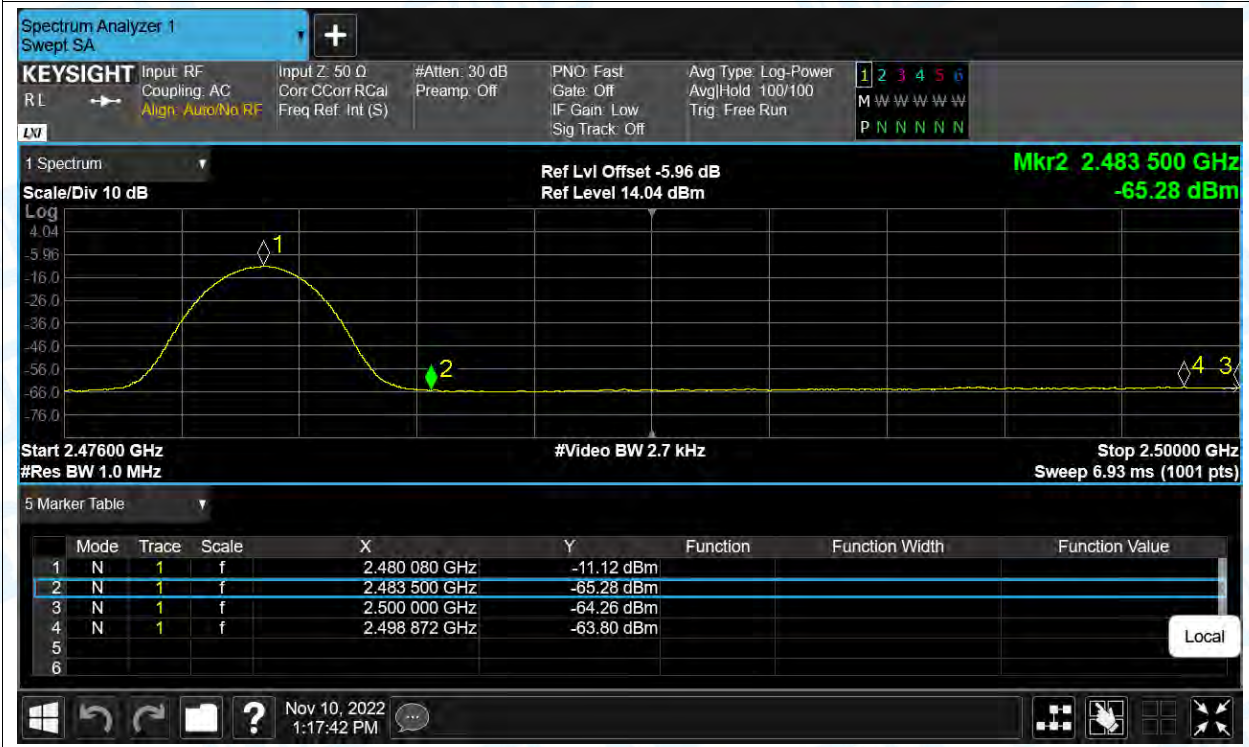
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Average

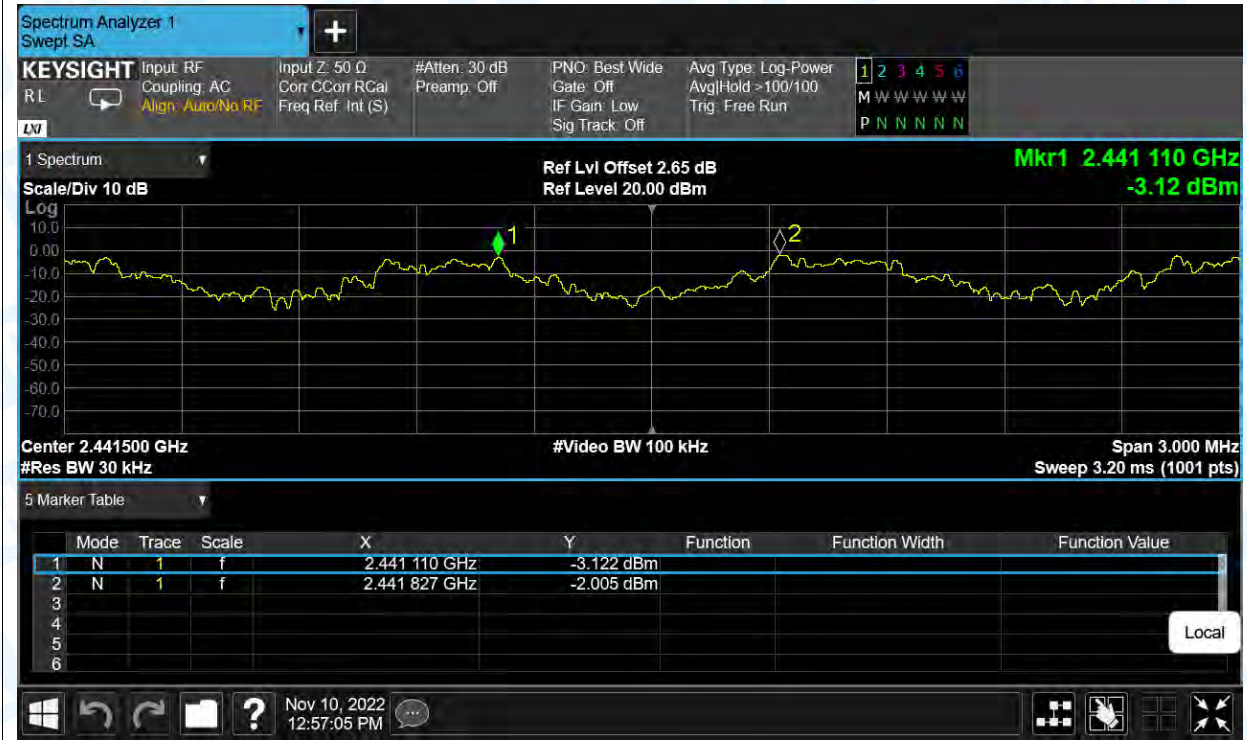


9. Carrier Frequencies Separation

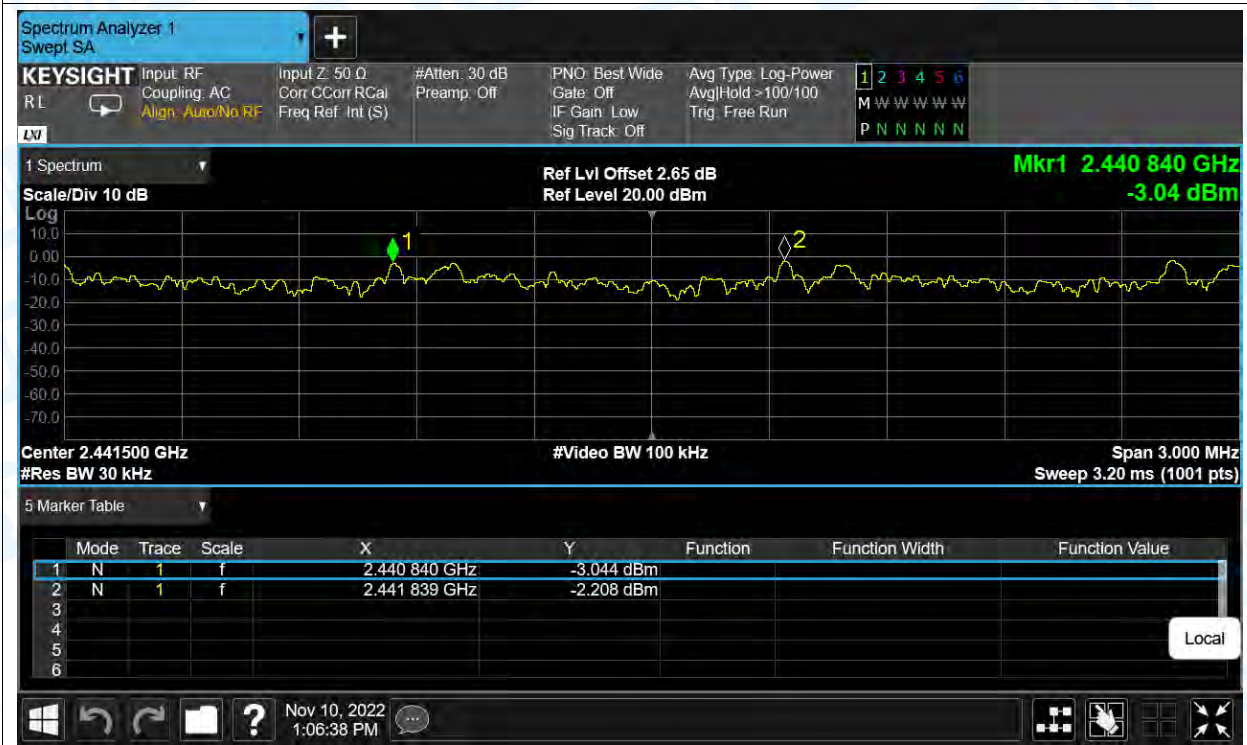
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.11	2441.827	0.717	0.693	Pass
NVNT	2-DH1	Ant1	2440.84	2441.839	0.999	0.84	Pass
NVNT	3-DH1	Ant1	2440.831	2441.83	0.999	0.847	Pass

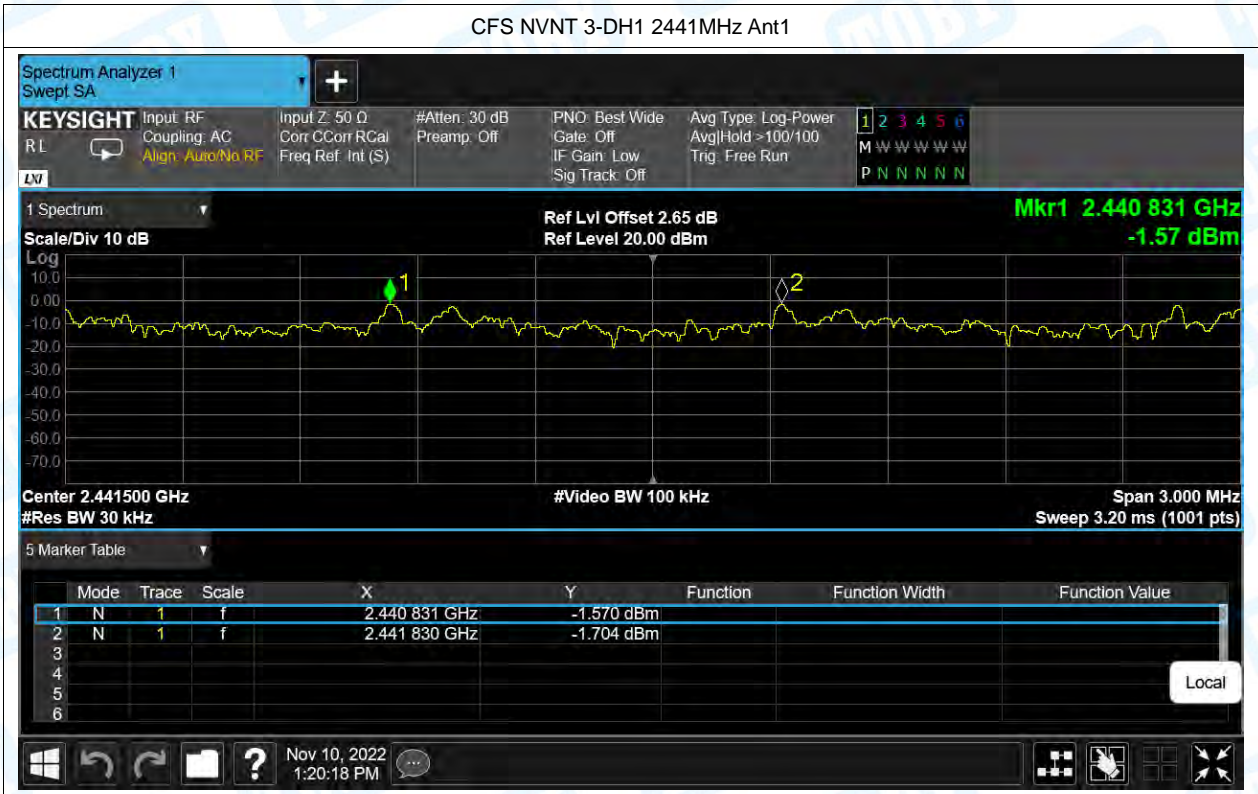
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



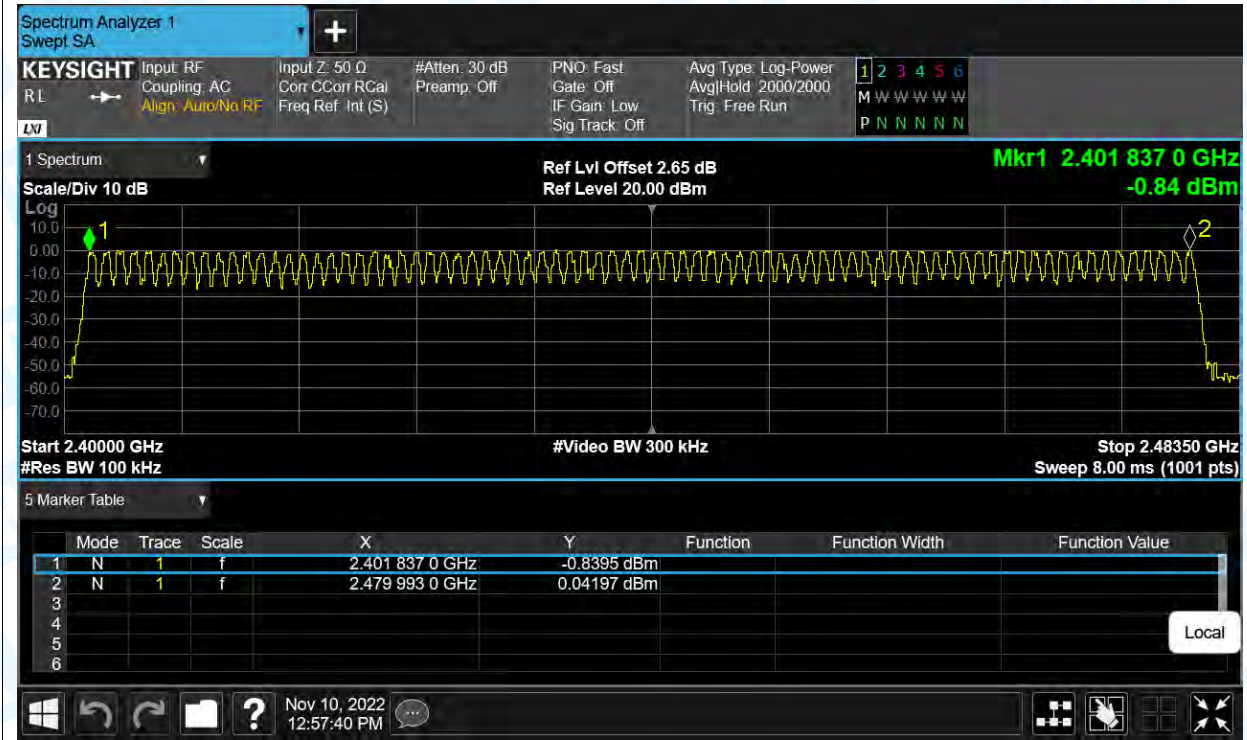


10. Number of Hopping Channel

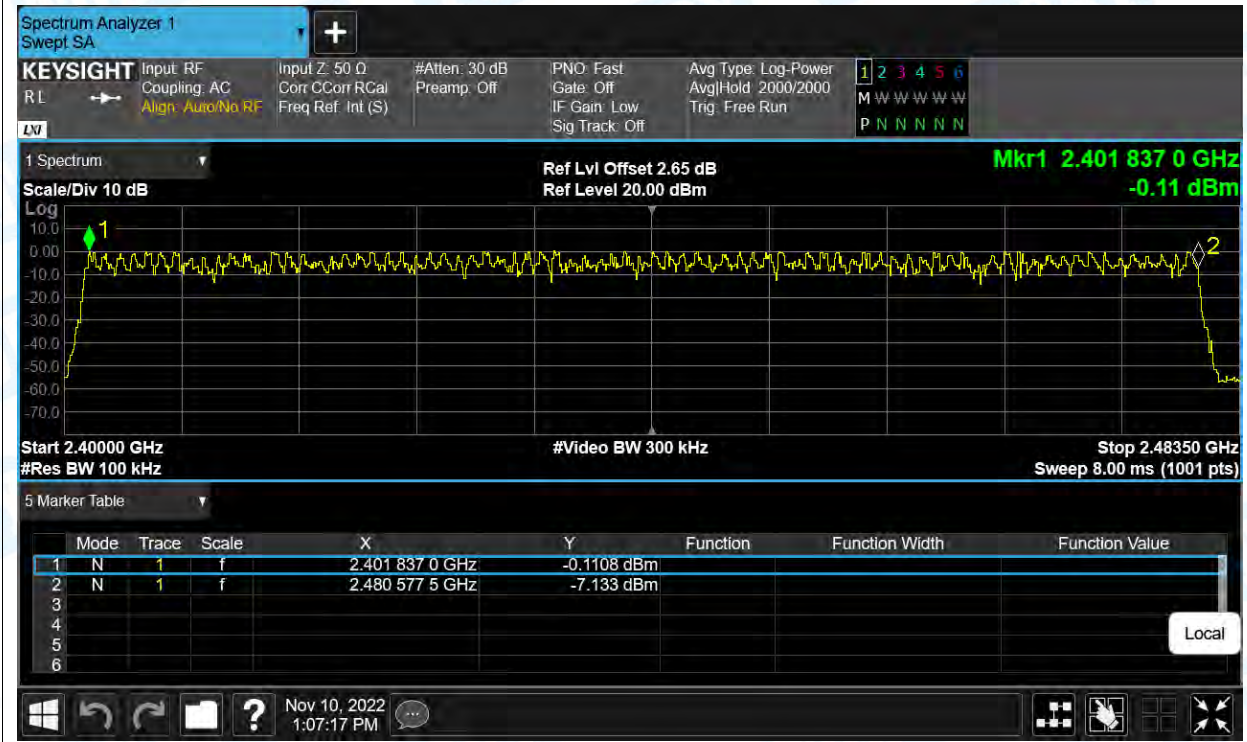
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

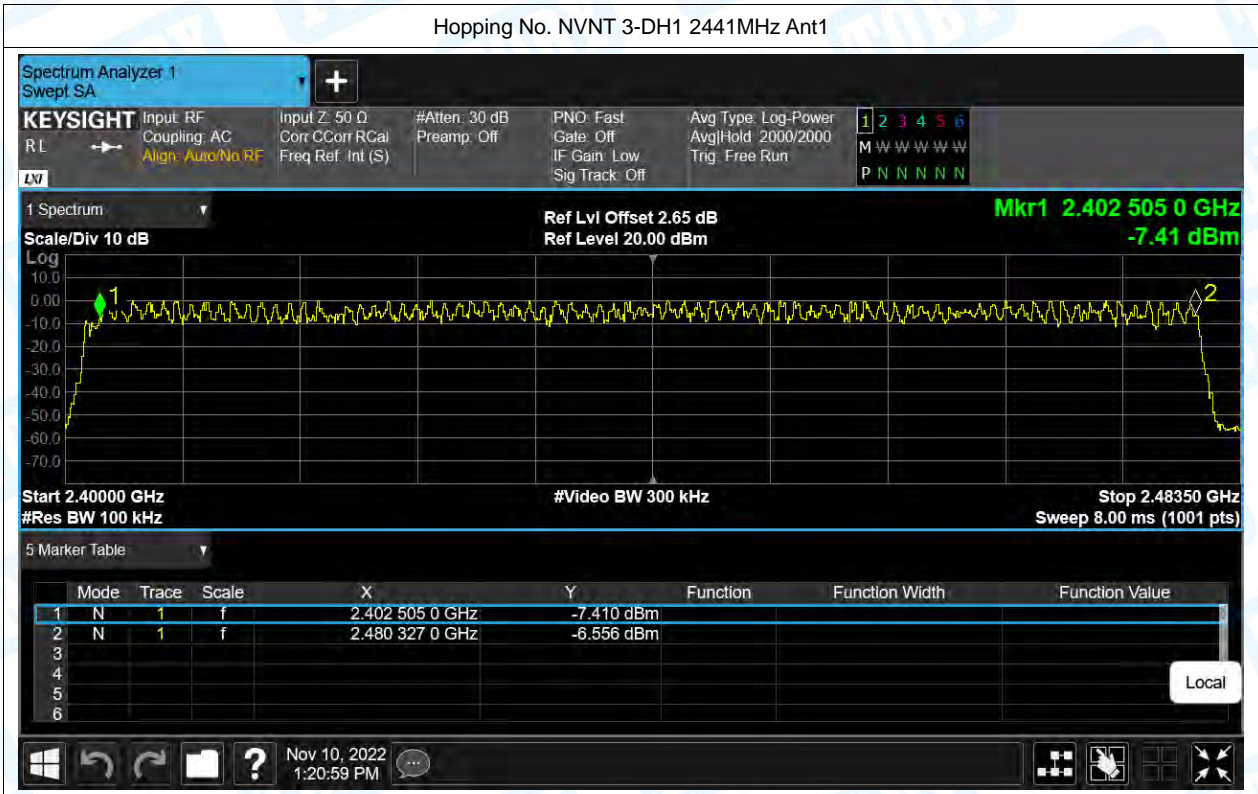
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



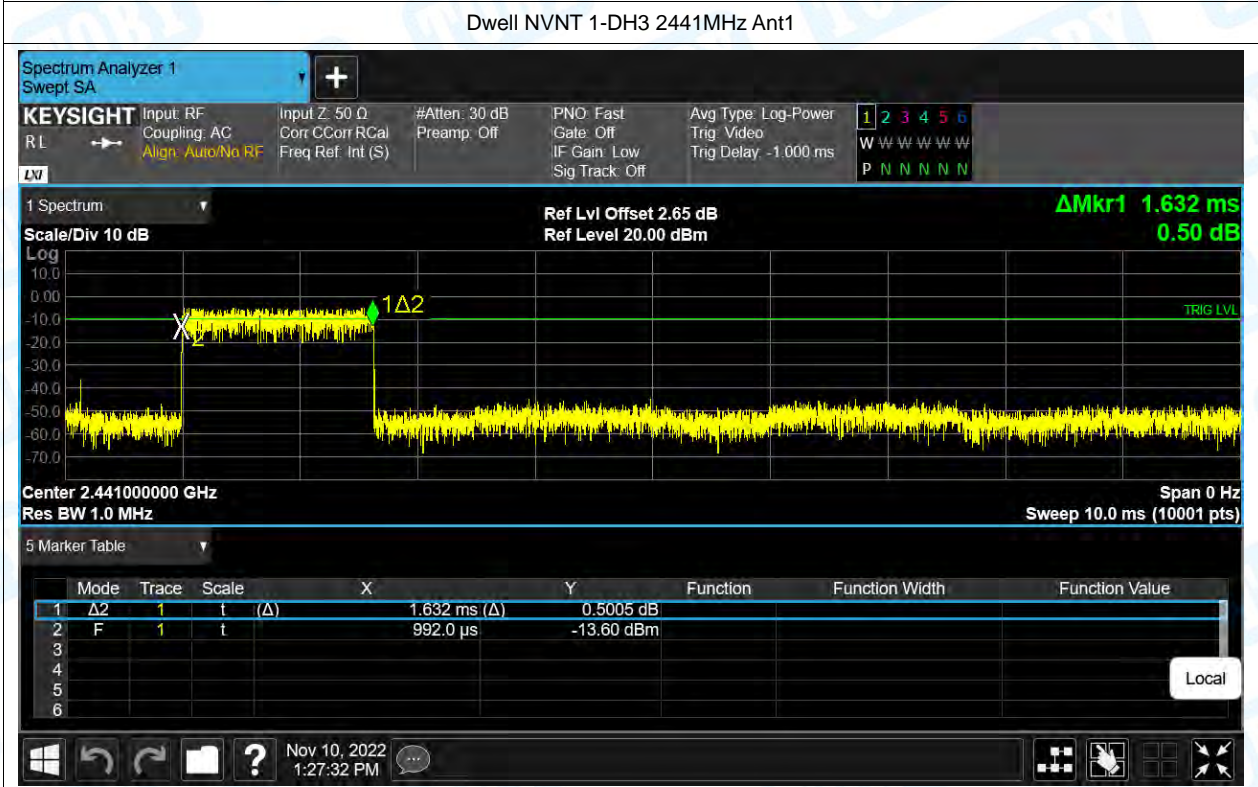
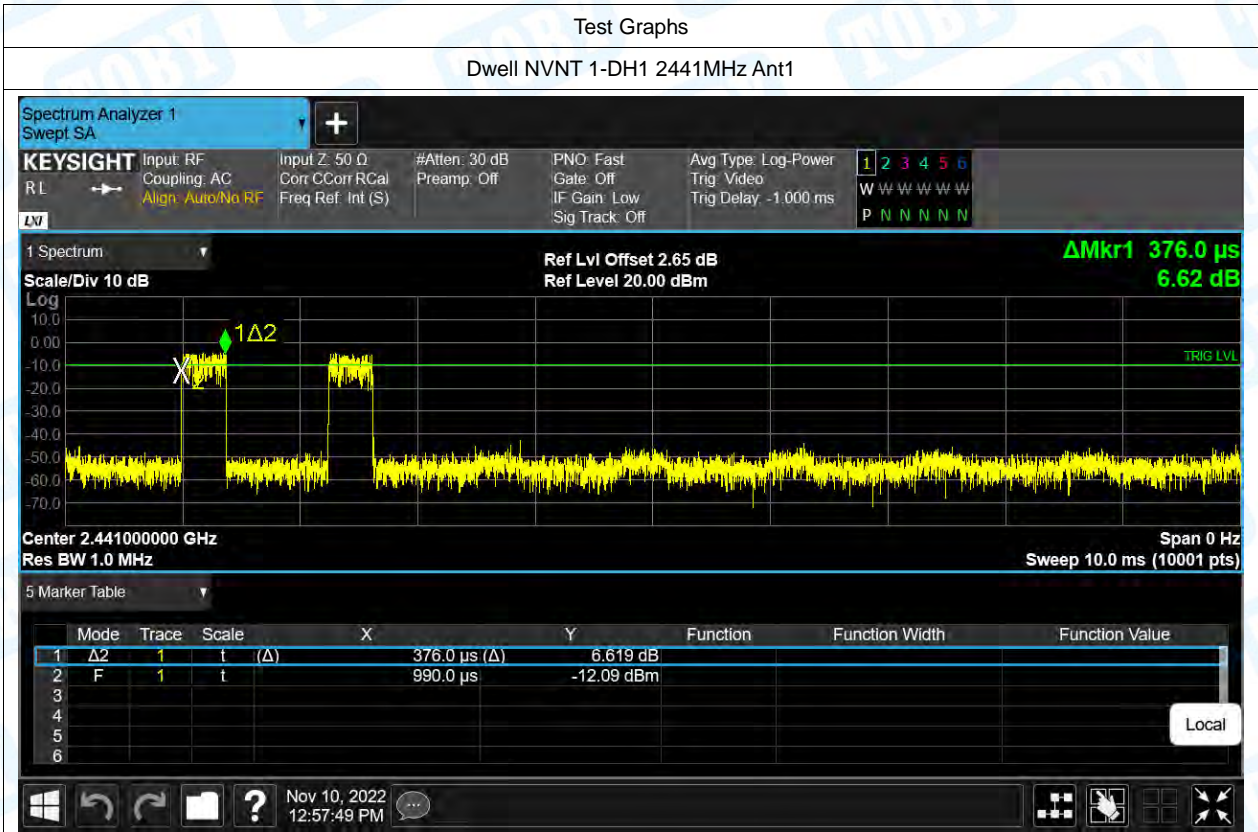
Hopping No. NVNT 2-DH1 2441MHz Ant1

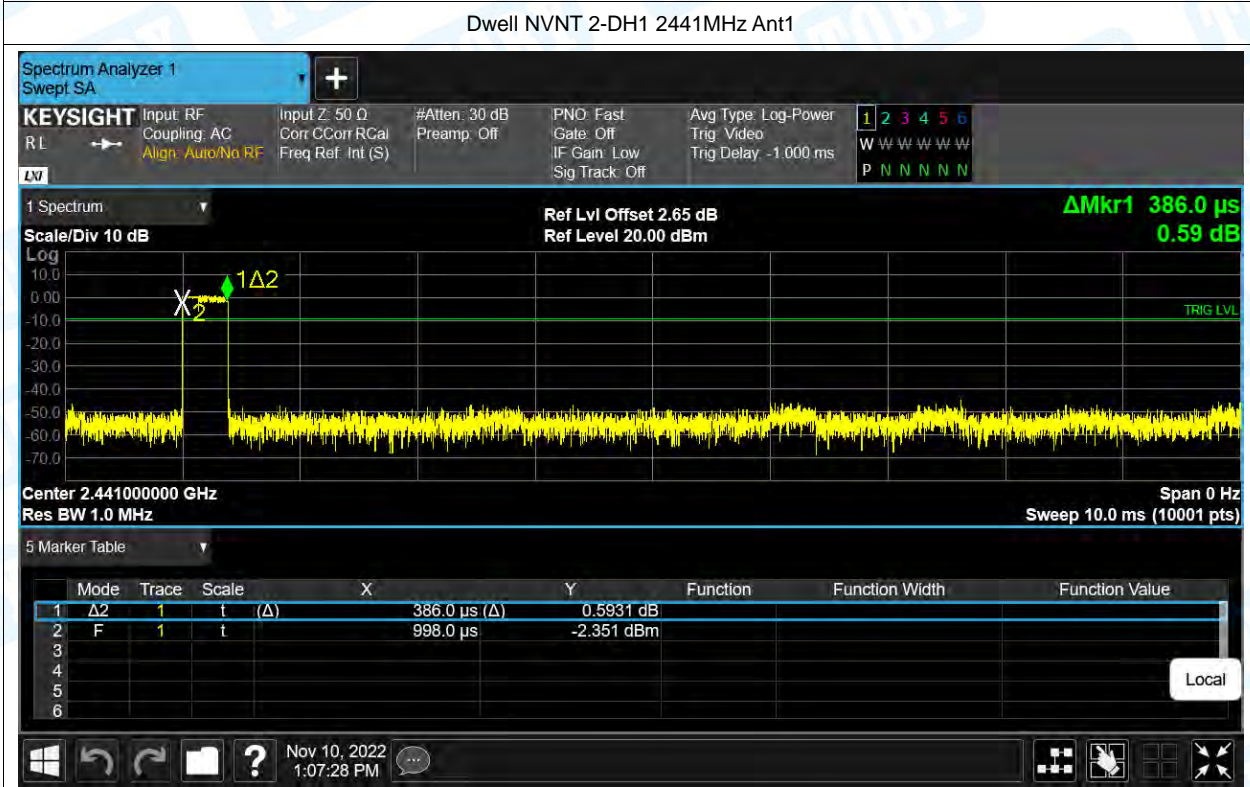
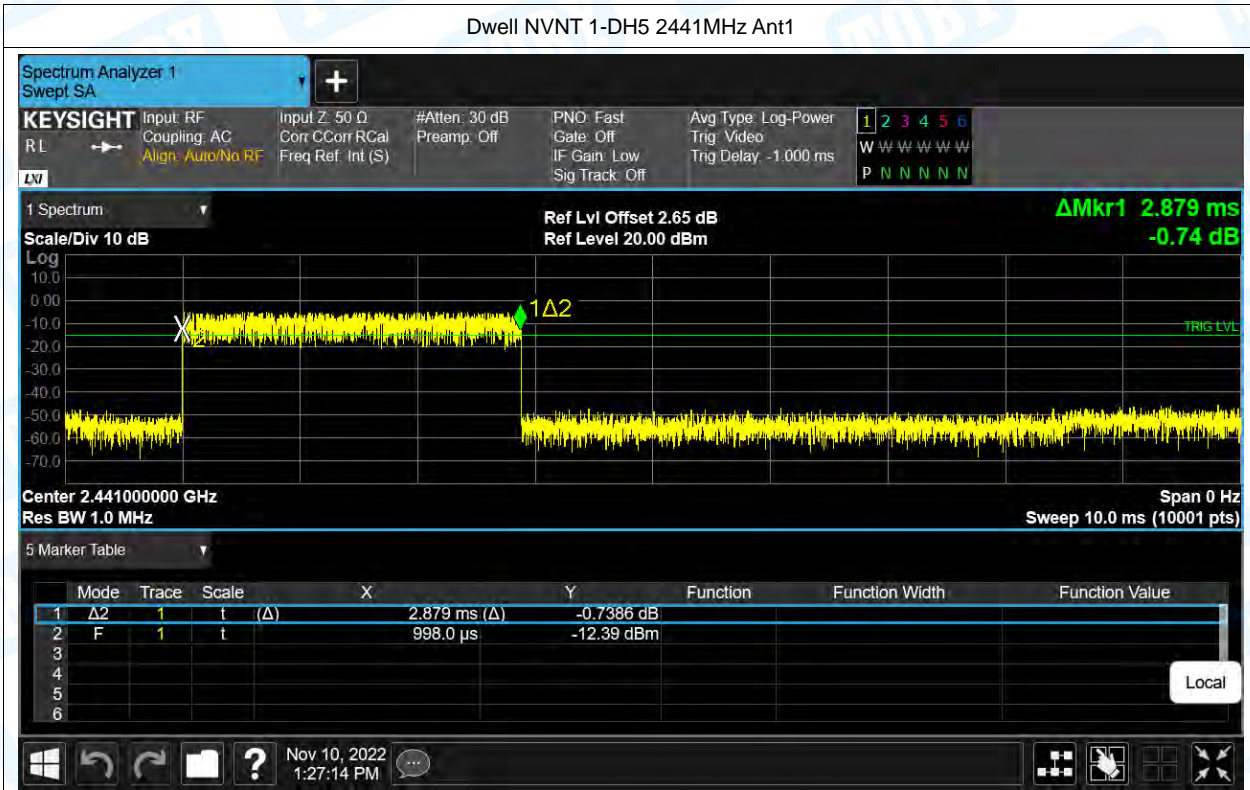




11. Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.376	120.32	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.879	307.093	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.638	262.08	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.886	307.84	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.387	123.84	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.636	261.76	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.888	308.053	31600	400	Pass



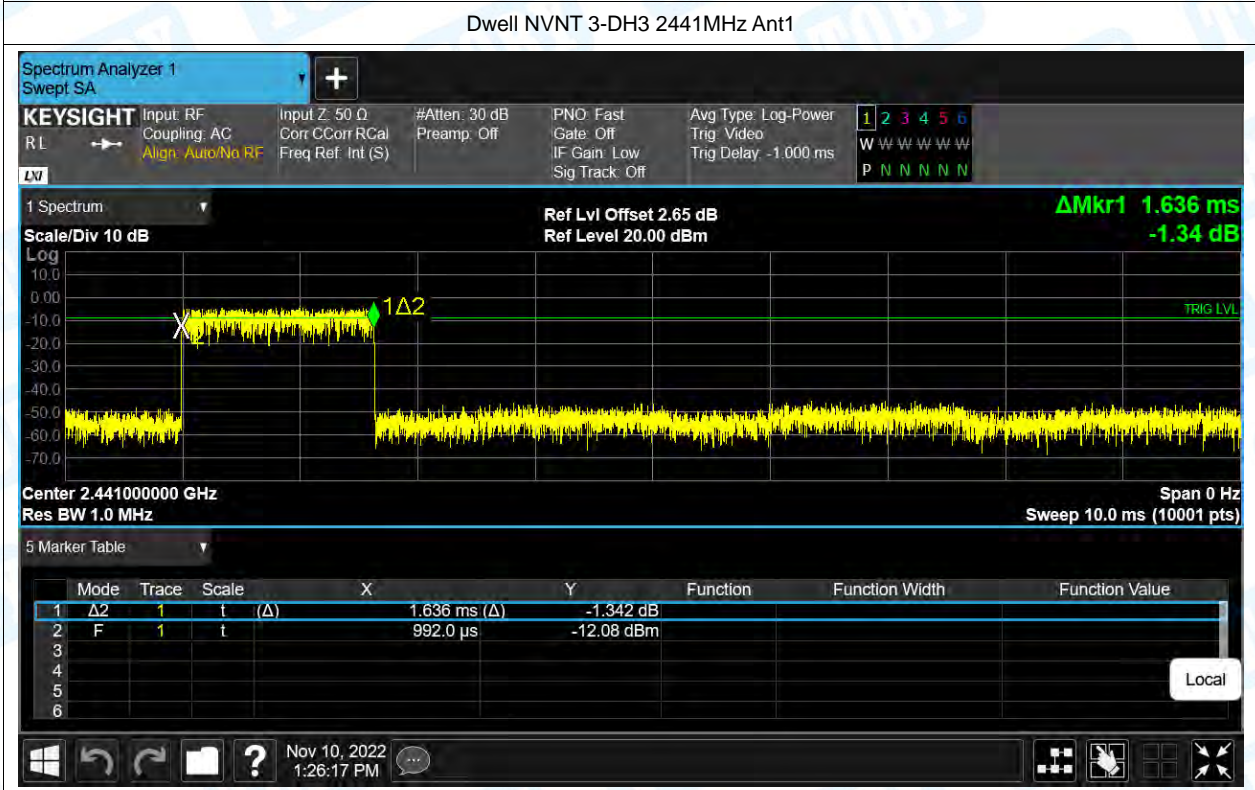
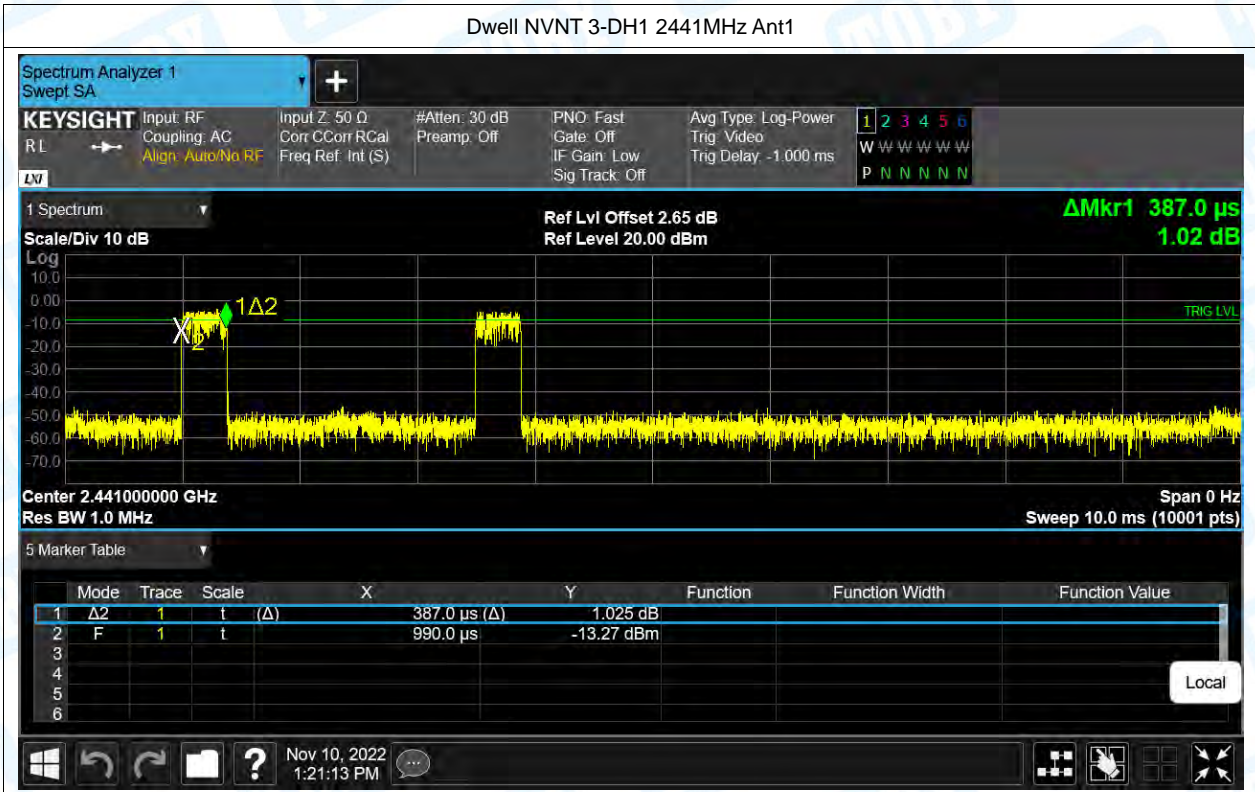


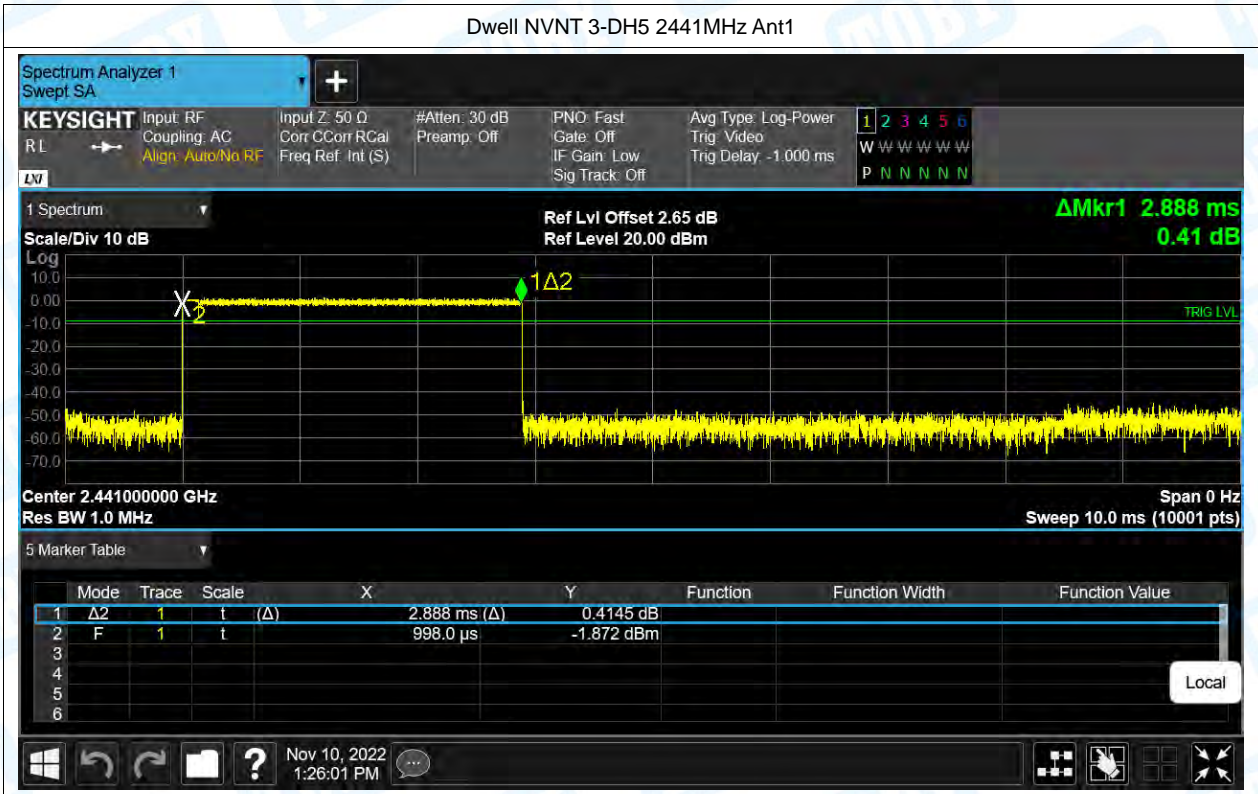
Dwell NVNT 2-DH3 2441MHz Ant1



Dwell NVNT 2-DH5 2441MHz Ant1







-----END OF THE REPORT-----