

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

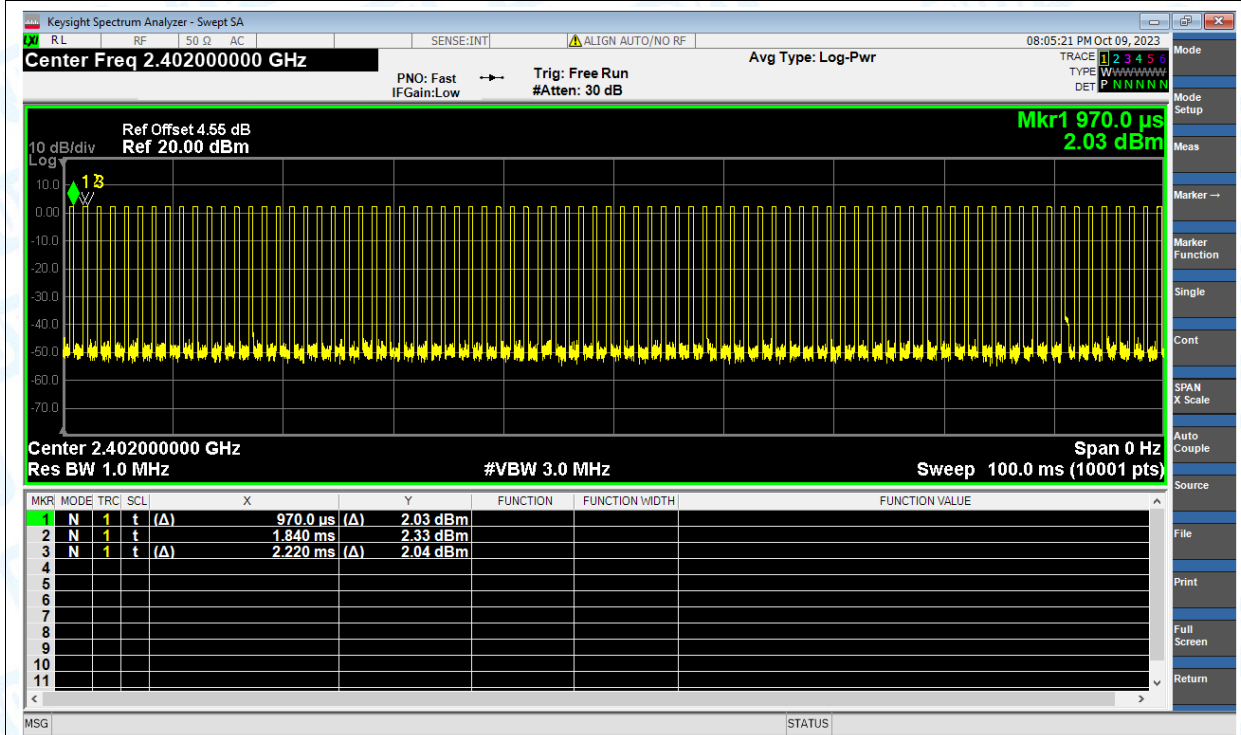
General Description of EUT	
Product Name:	Solar Bluetooth Speaker
Test Model:	EL209/ES-T69 PRO MAX
Sample ID:	HC-C-202309-0047-01-01-2#
Environmental Conditions	
Temperature:	24°C
Relative Humidity:	50%
Test Voltage:	DC 7.4V
Test Engineer:	Zhangchenxi
Note: For a more detailed features description, please refer to the report TBR-C-202309-0047-31 The report only show the worst case data.	

Duty Cycle

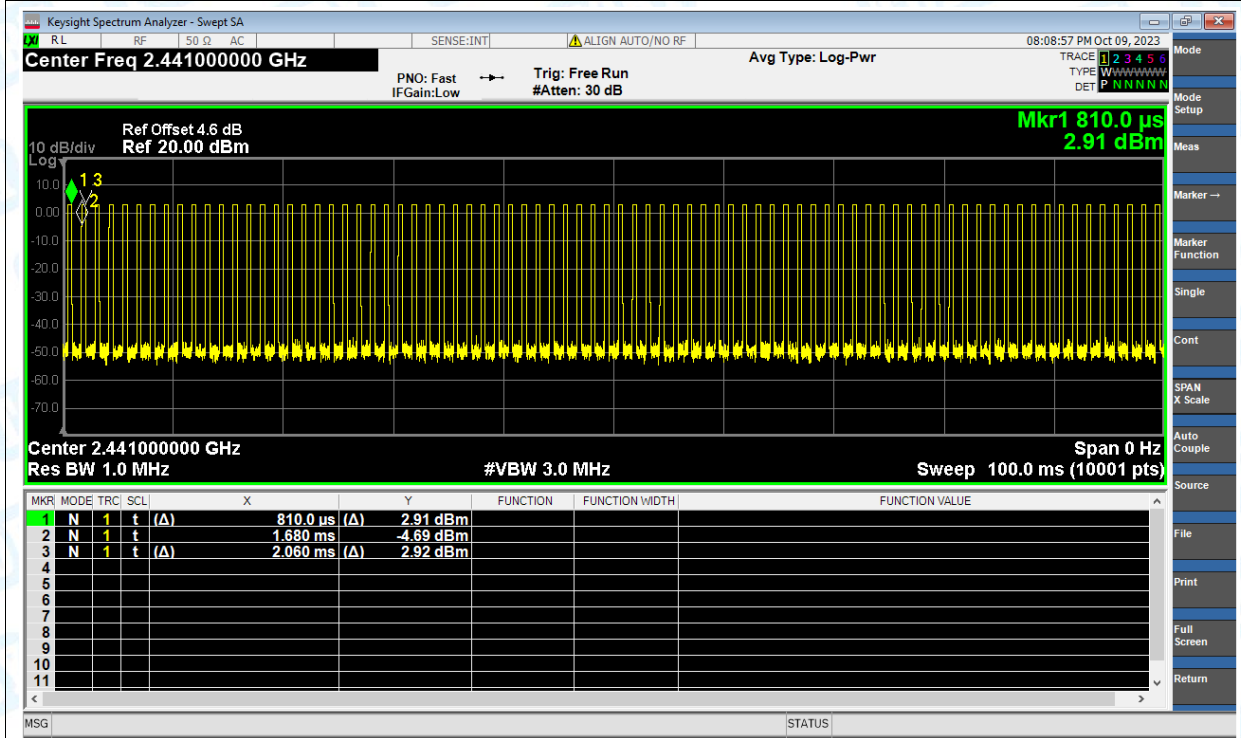
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	30.4	5.17	2.63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

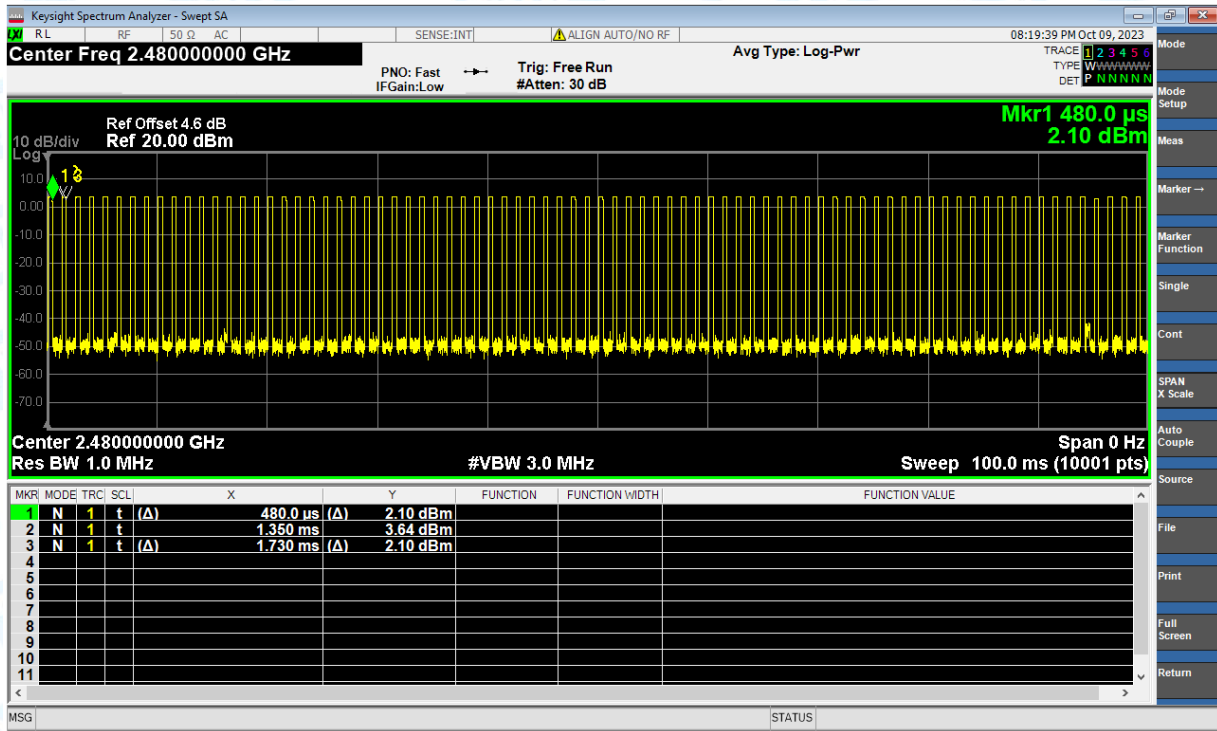
Duty Cycle NVNT 1-DH1 2402MHz Ant1



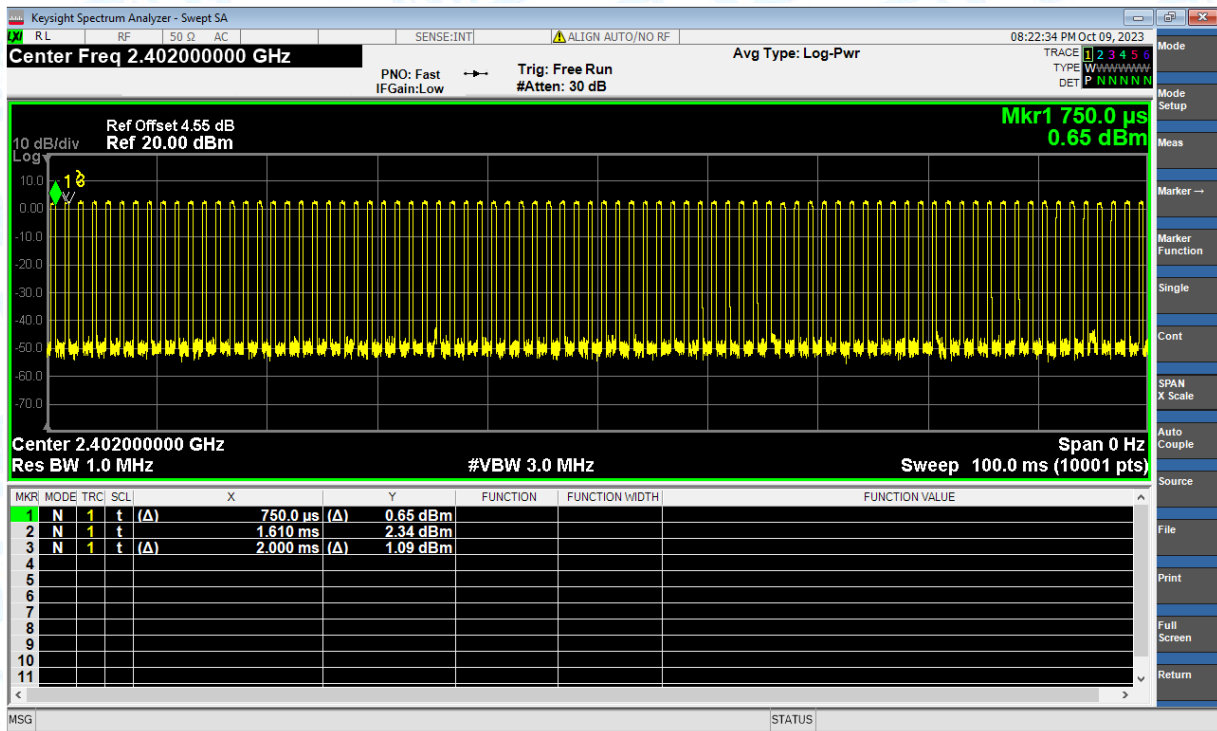
Duty Cycle NVNT 1-DH1 2441MHz Ant1



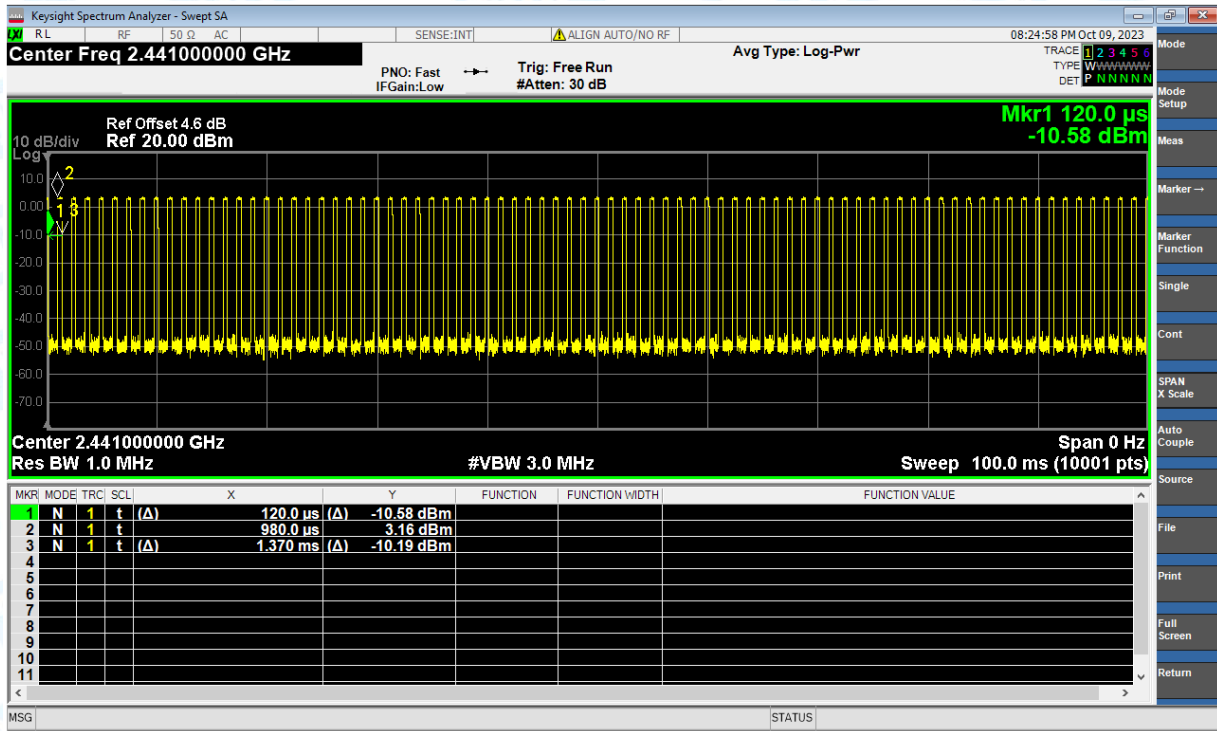
Duty Cycle NVNT 1-DH1 2480MHz Ant1



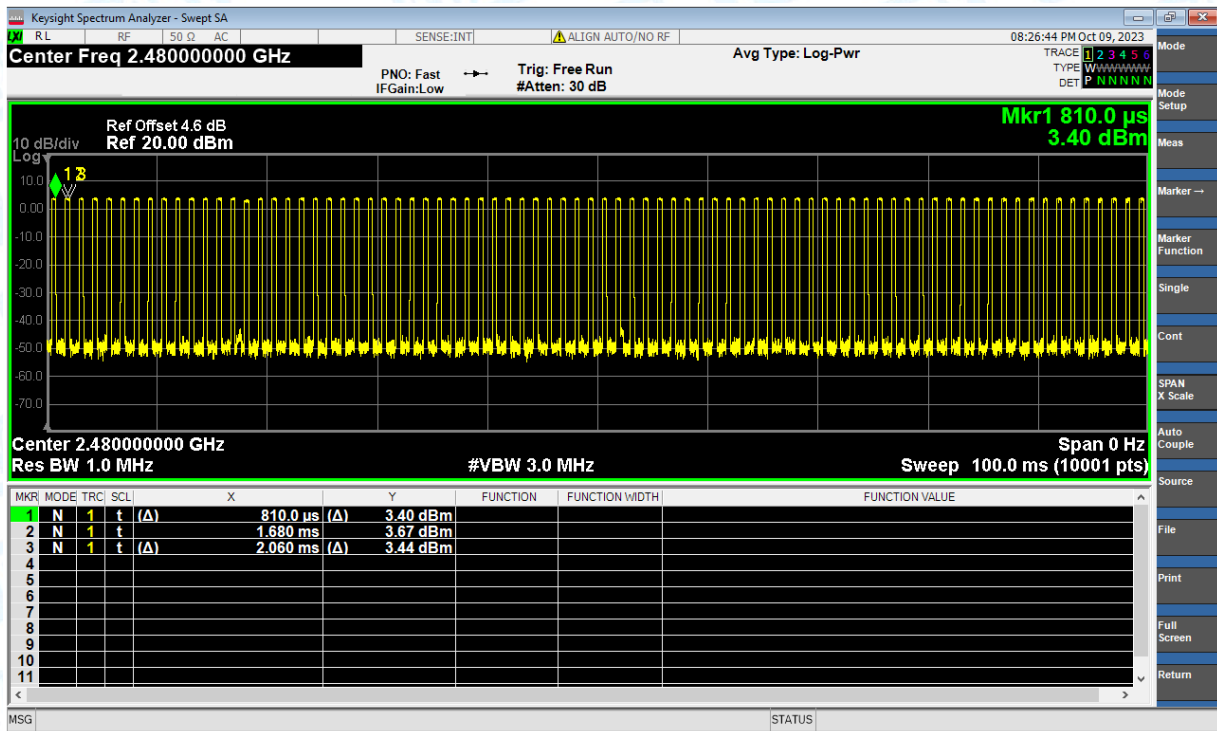
Duty Cycle NVNT 2-DH1 2402MHz Ant1



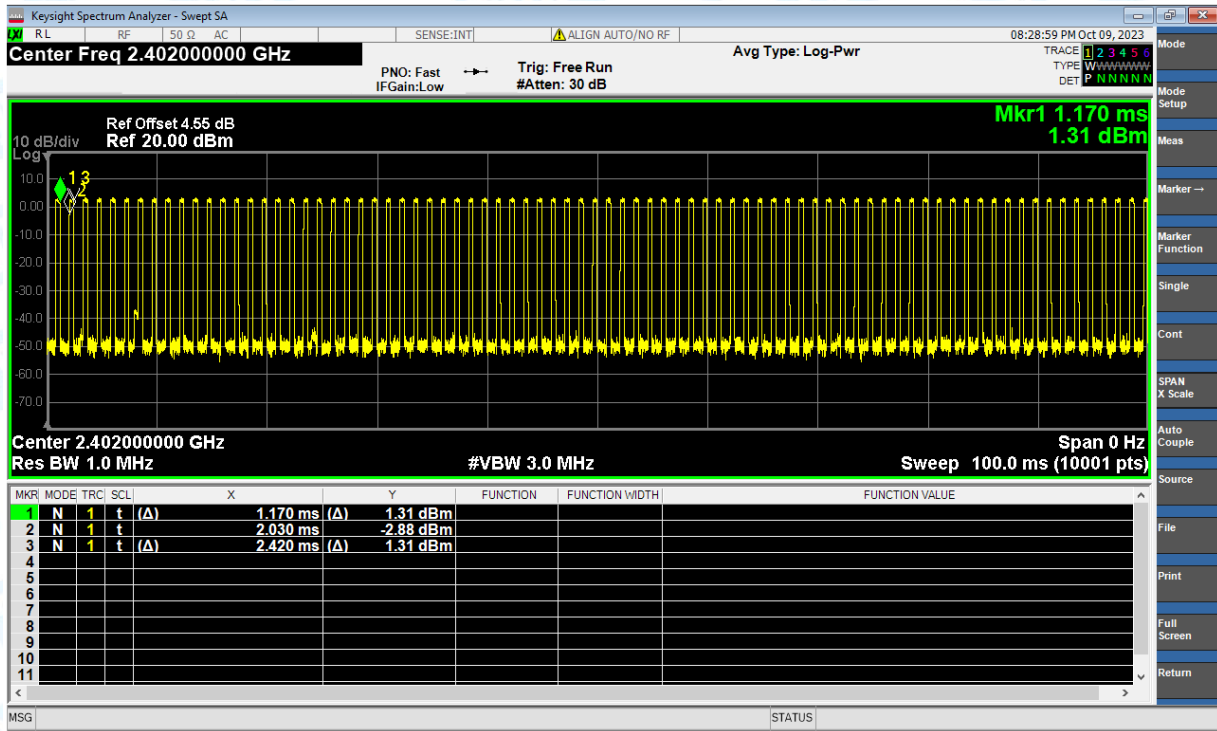
Duty Cycle NVNT 2-DH1 2441MHz Ant1



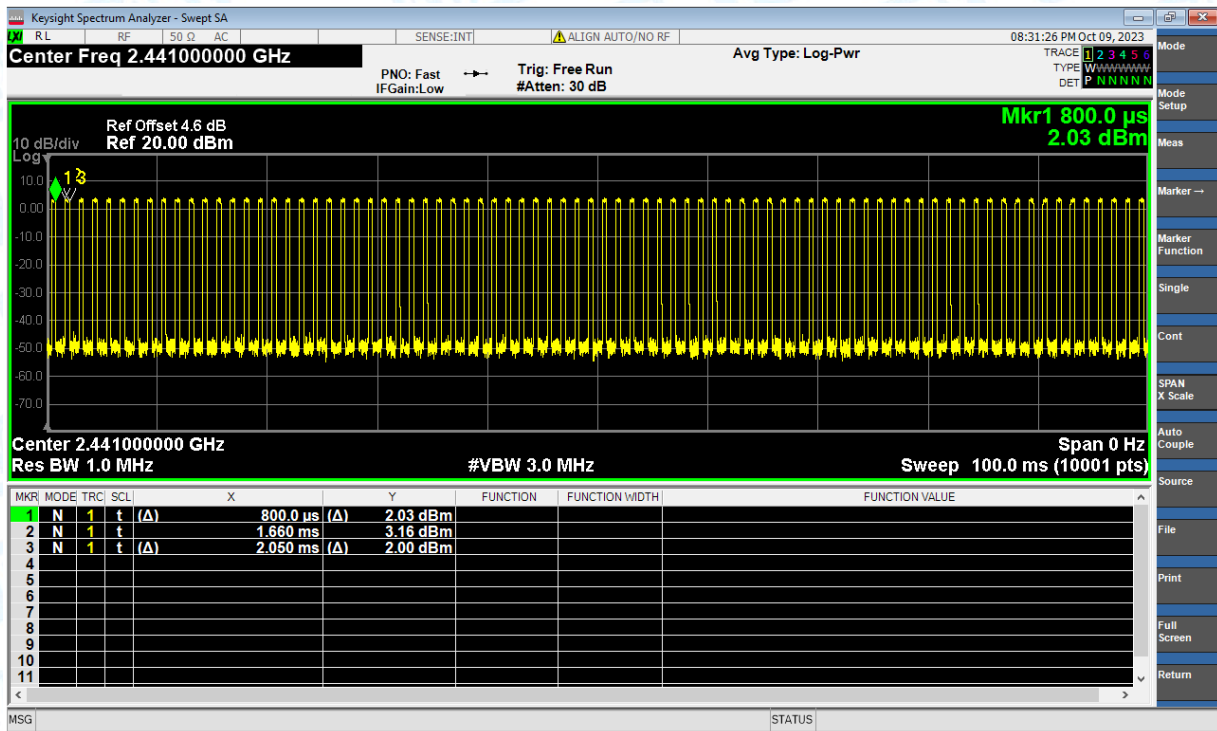
Duty Cycle NVNT 2-DH1 2480MHz Ant1

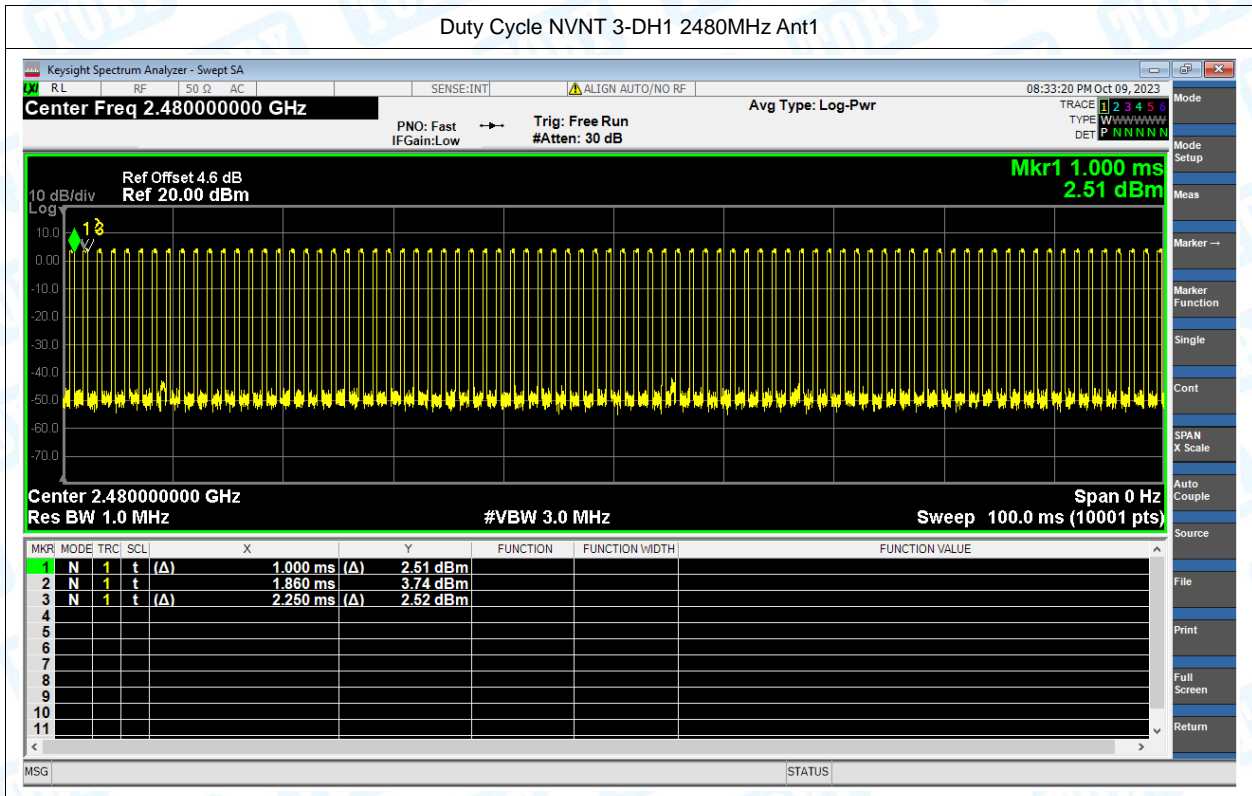


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



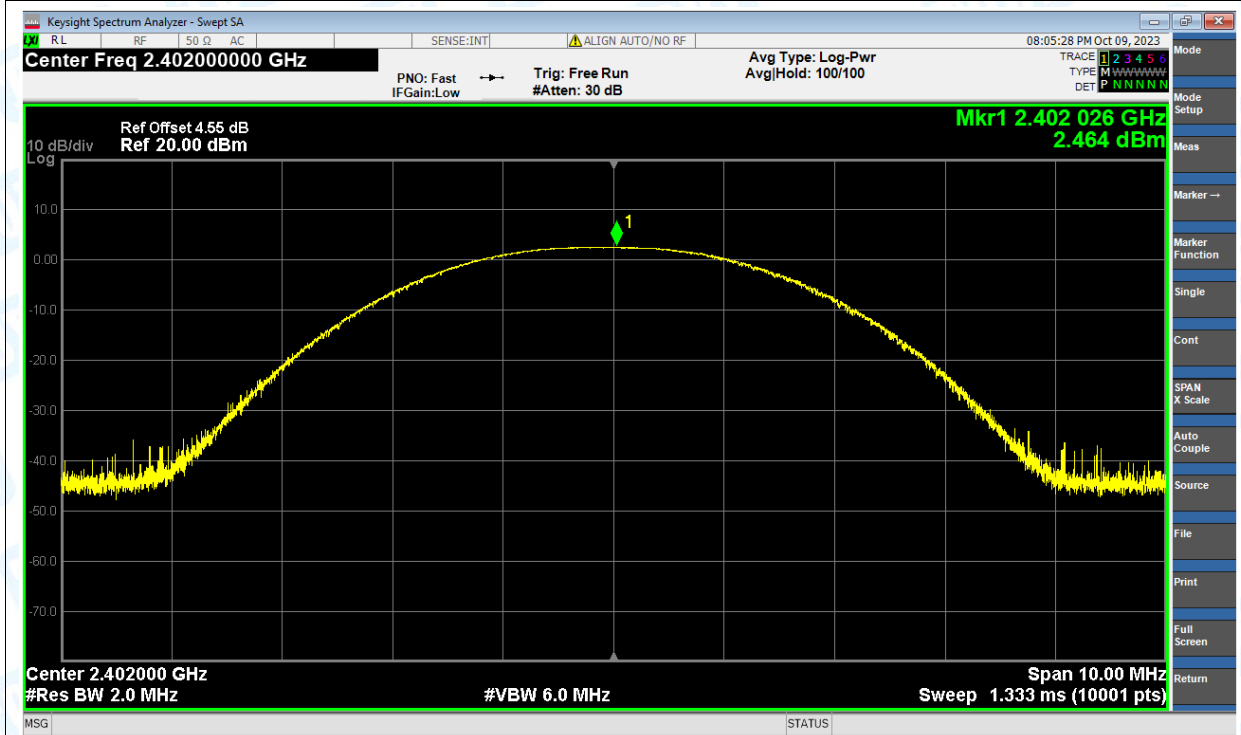


Maximum Conducted Output Power

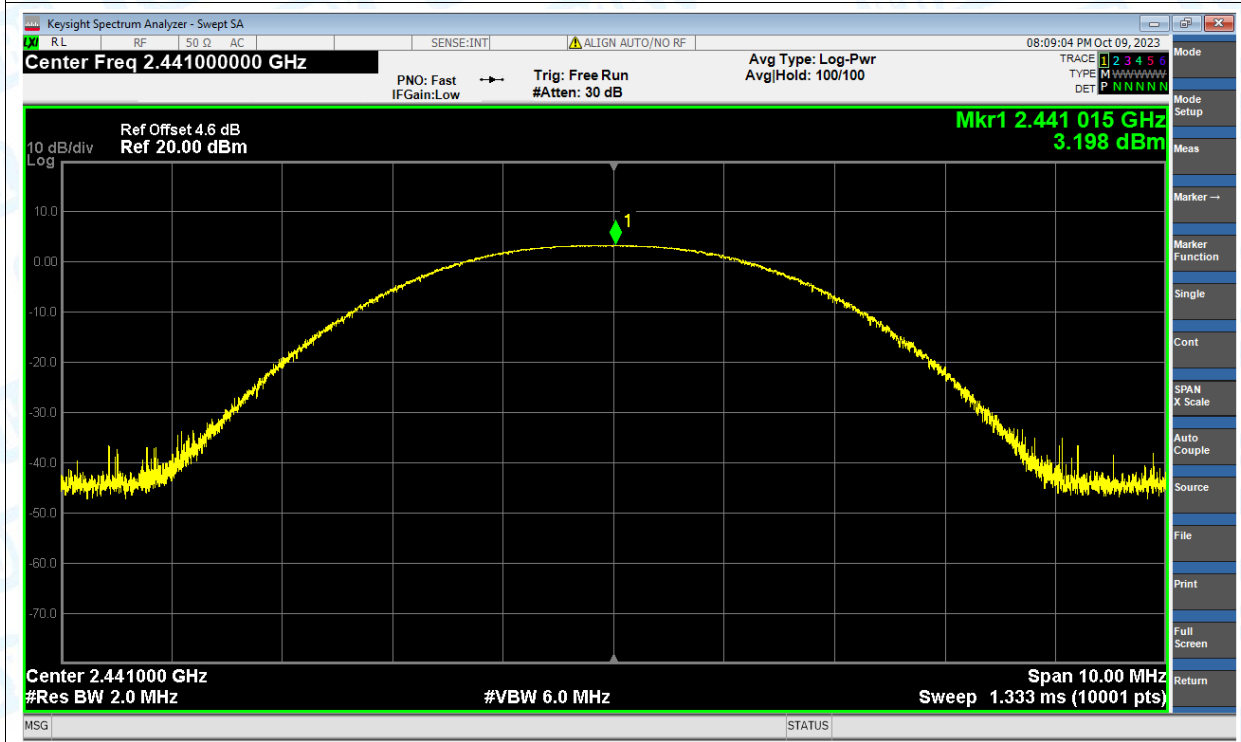
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	2.464	21	Pass
NVNT	1-DH1	2441	Ant1	3.198	21	Pass
NVNT	1-DH1	2480	Ant1	3.728	21	Pass
NVNT	2-DH1	2402	Ant1	3.24	21	Pass
NVNT	2-DH1	2441	Ant1	3.942	21	Pass
NVNT	2-DH1	2480	Ant1	4.487	21	Pass
NVNT	3-DH1	2402	Ant1	3.892	21	Pass
NVNT	3-DH1	2441	Ant1	4.491	21	Pass
NVNT	3-DH1	2480	Ant1	4.955	21	Pass

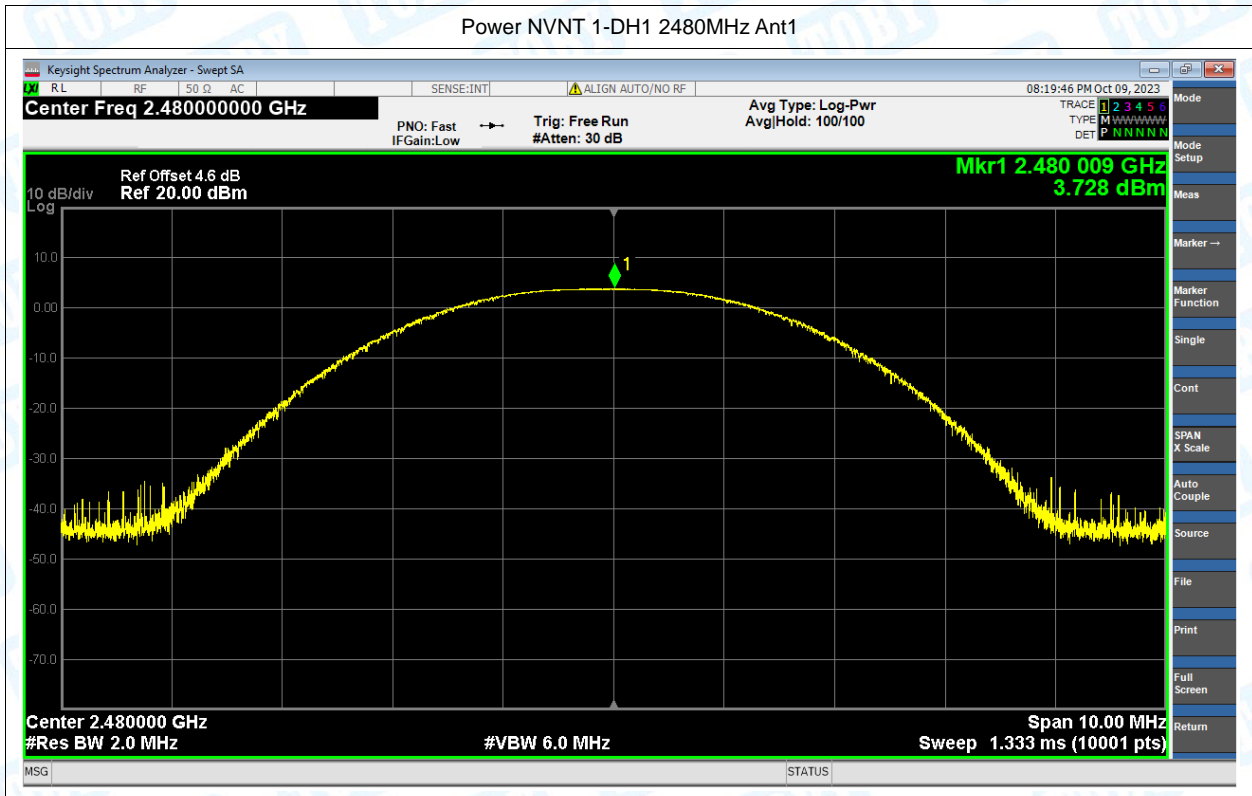
Test Graphs

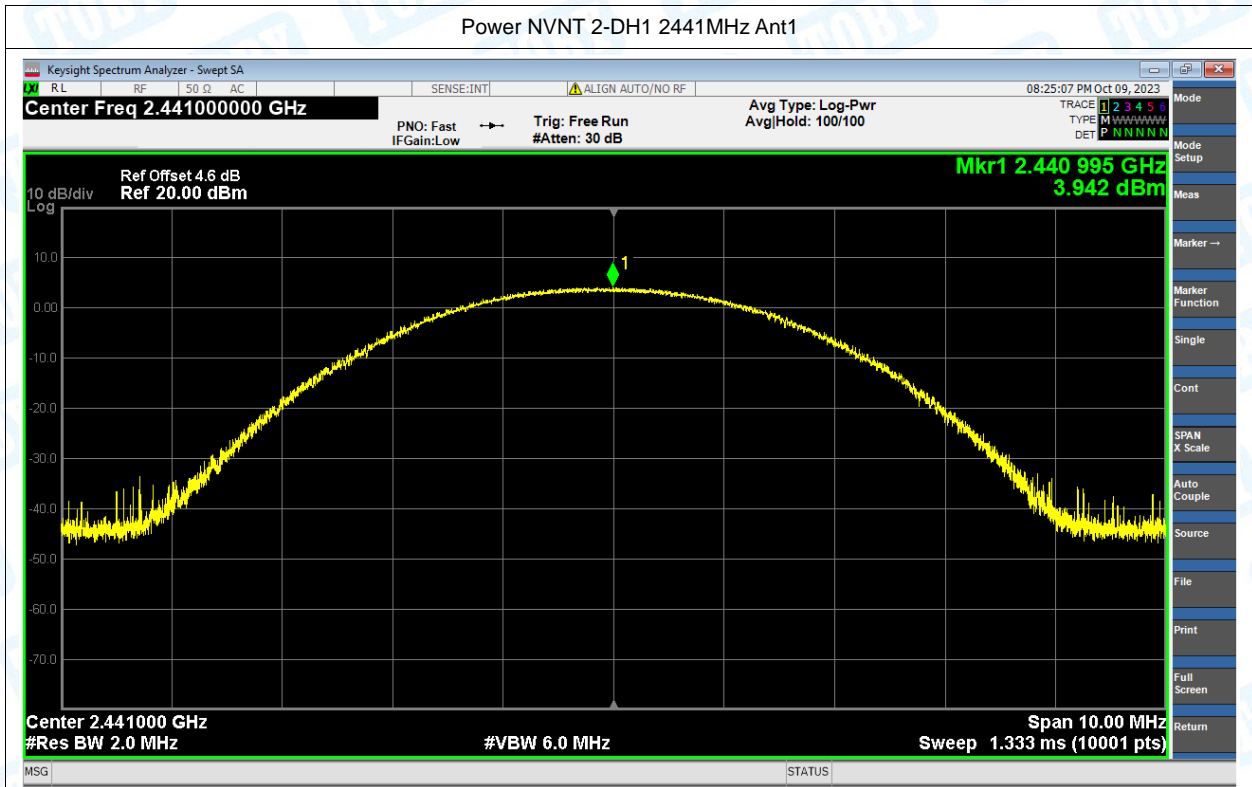
Power NVNT 1-DH1 2402MHz Ant1



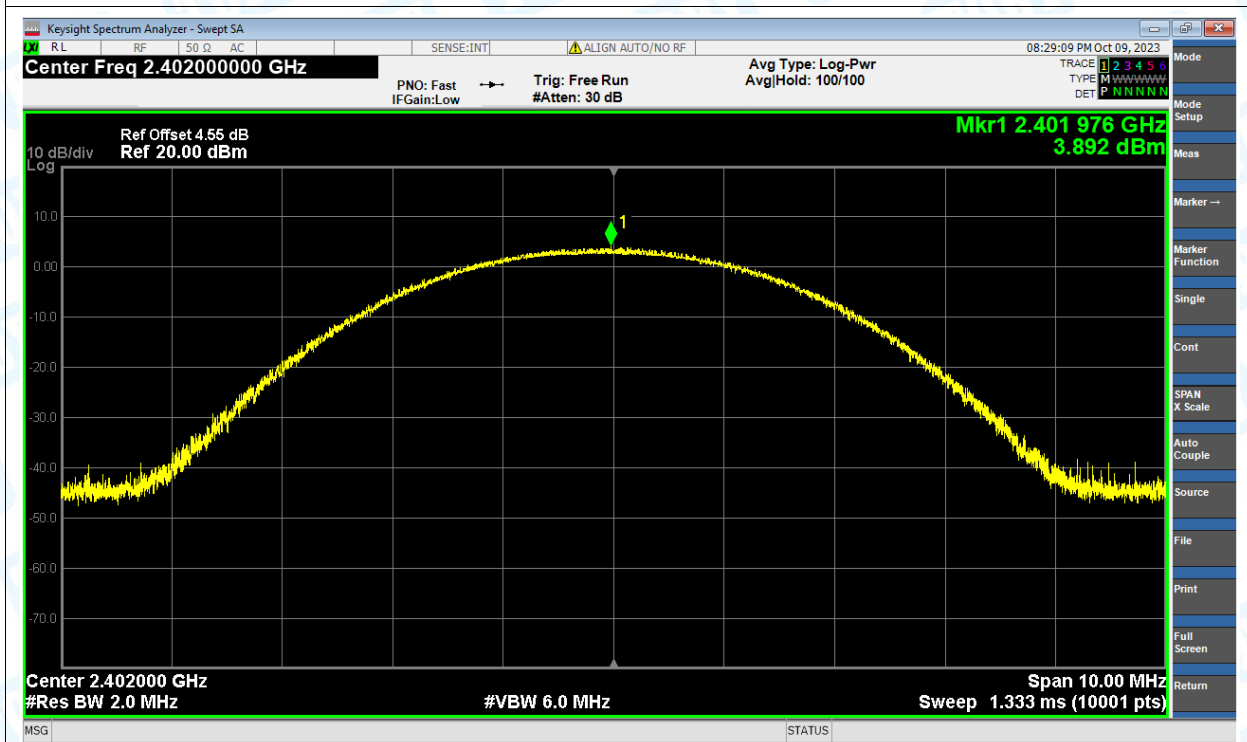
Power NVNT 1-DH1 2441MHz Ant1



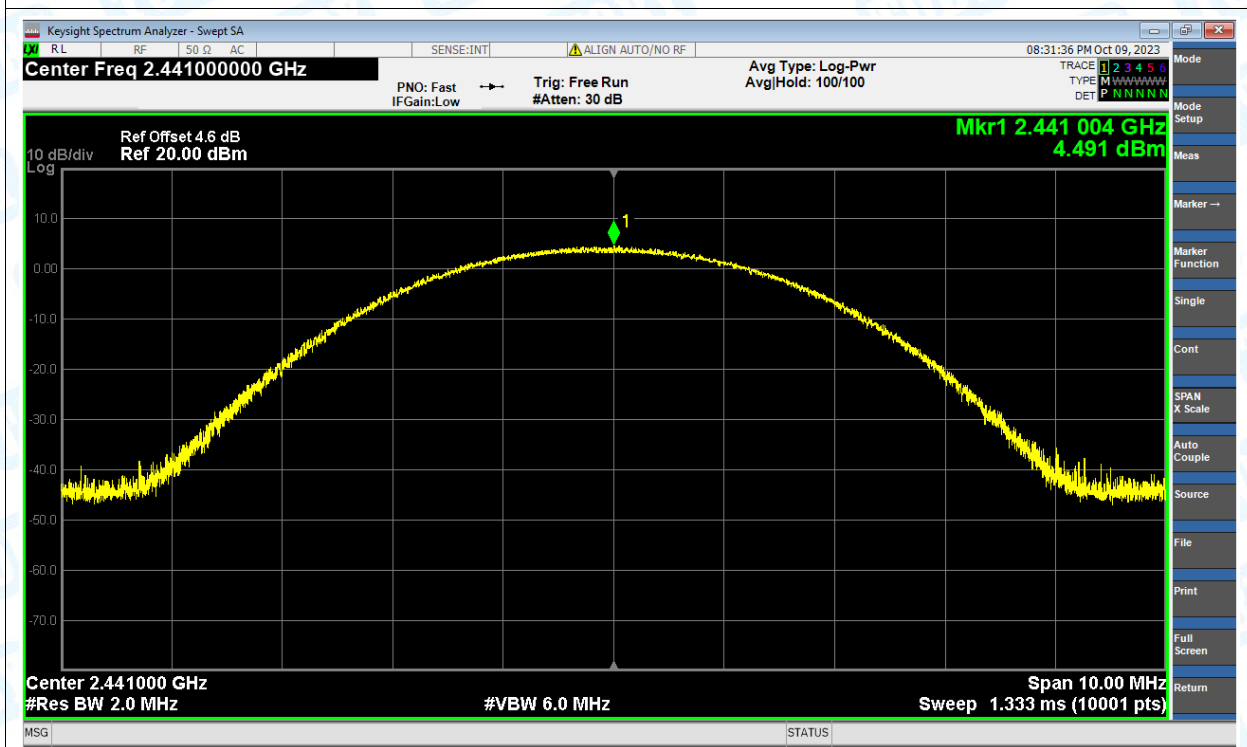


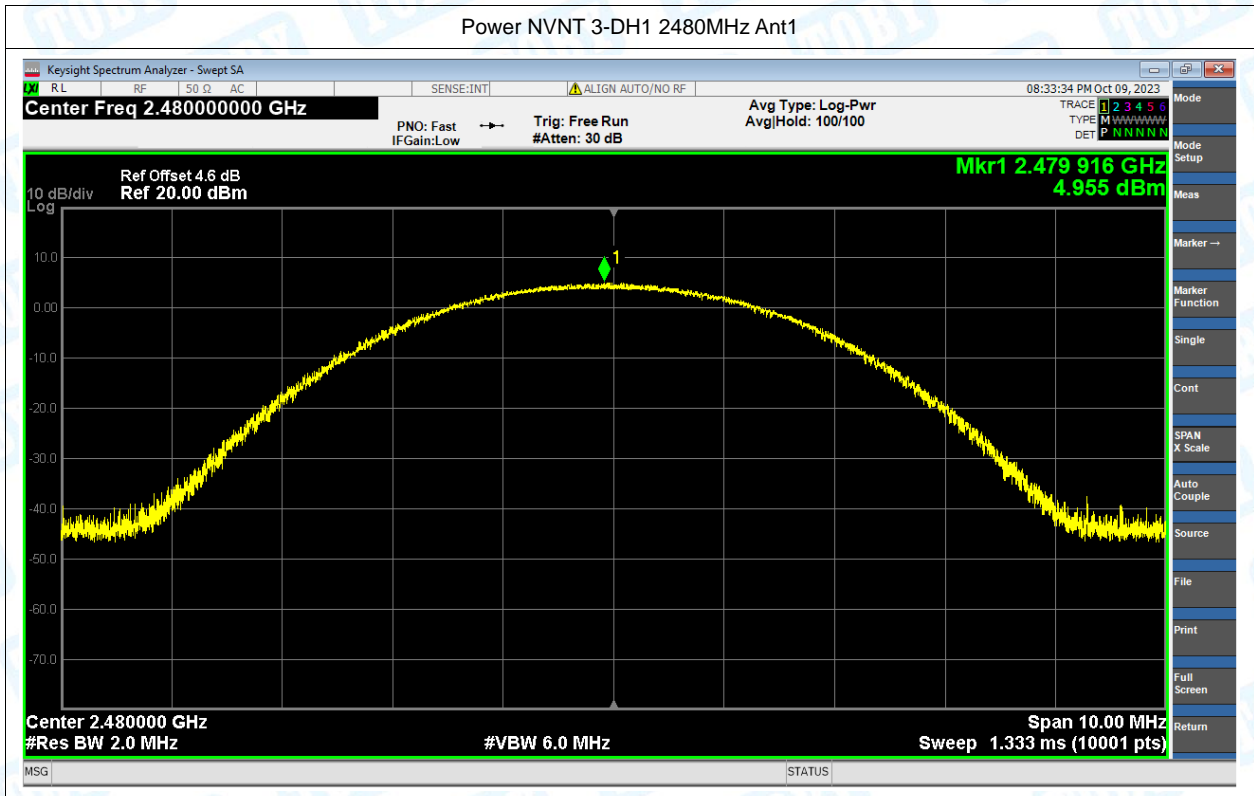


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



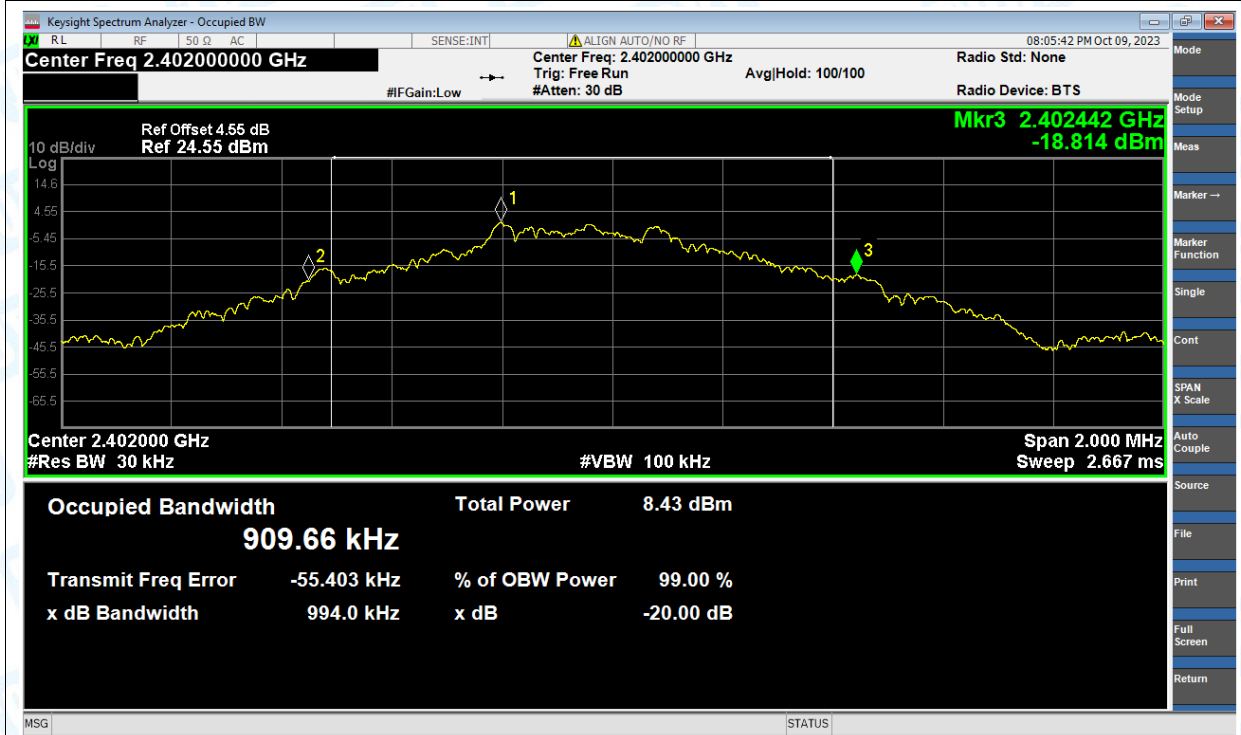


-20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.99	0	Pass
NVNT	1-DH1	2441	Ant1	1.03	0	Pass
NVNT	1-DH1	2480	Ant1	1.03	0	Pass
NVNT	2-DH1	2402	Ant1	1.28	0	Pass
NVNT	2-DH1	2441	Ant1	1.28	0	Pass
NVNT	2-DH1	2480	Ant1	1.32	0	Pass
NVNT	3-DH1	2402	Ant1	1.24	0	Pass
NVNT	3-DH1	2441	Ant1	1.24	0	Pass
NVNT	3-DH1	2480	Ant1	1.26	0	Pass

Test Graphs

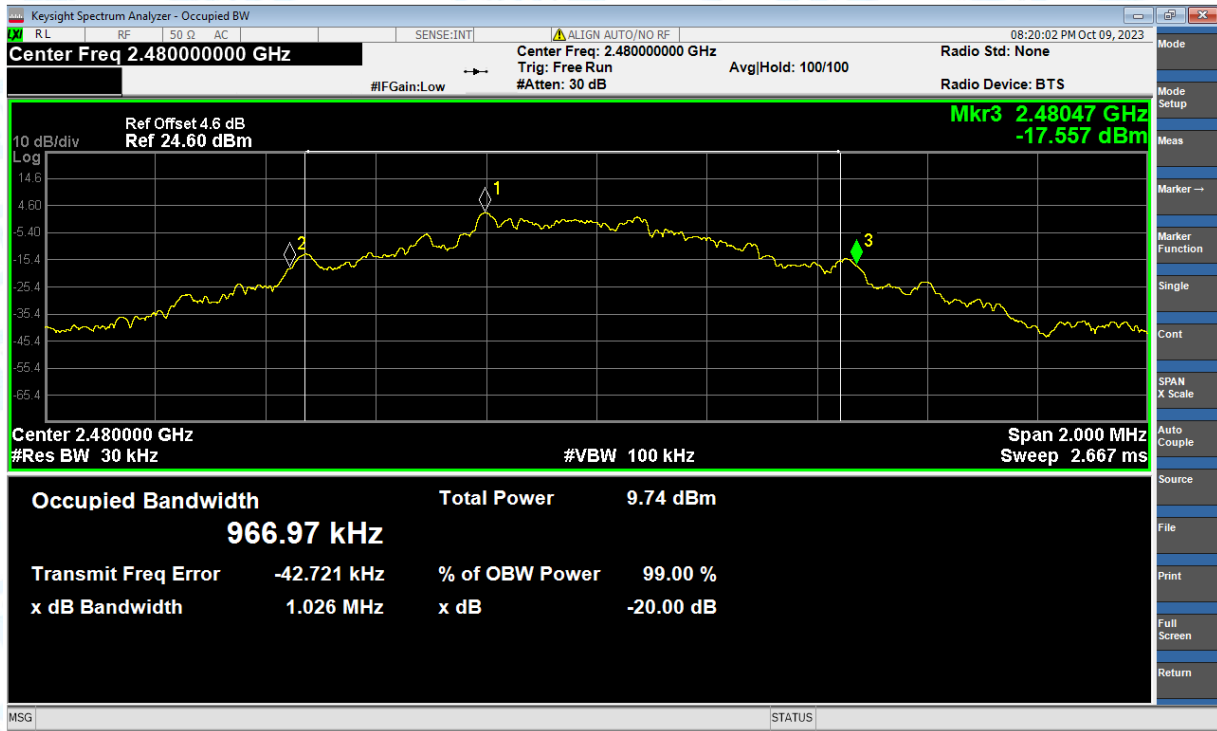
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



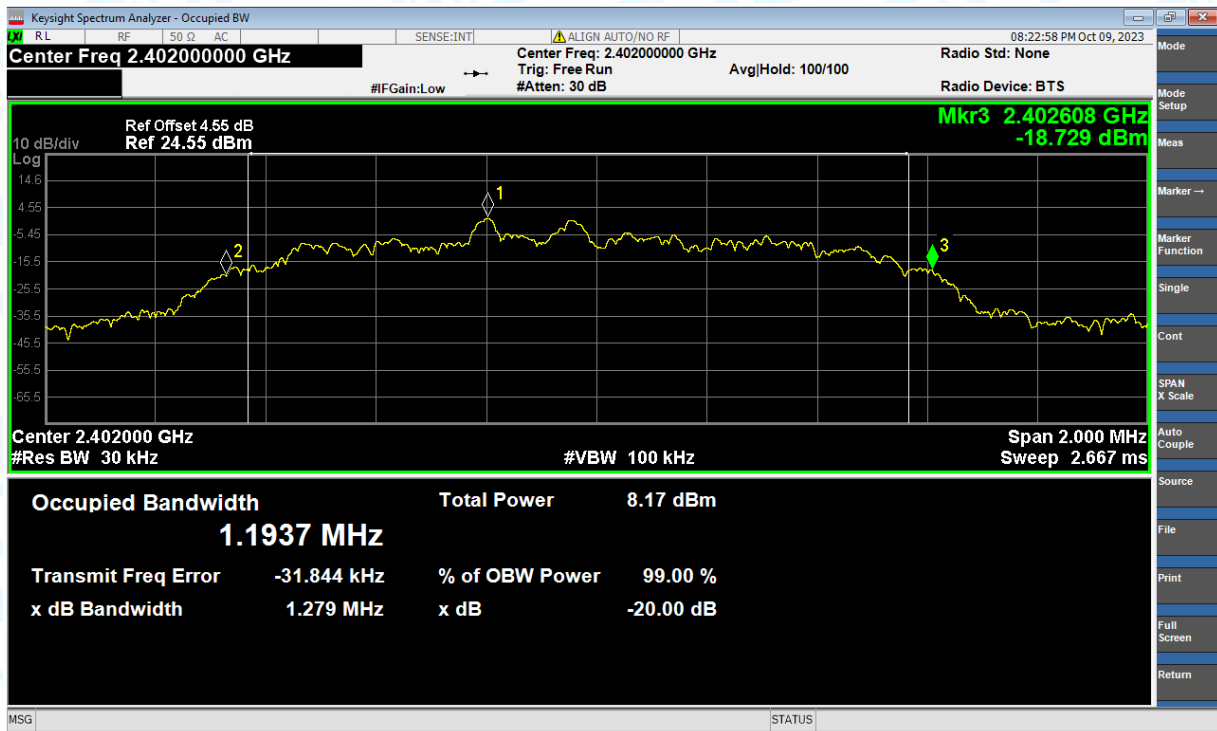
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



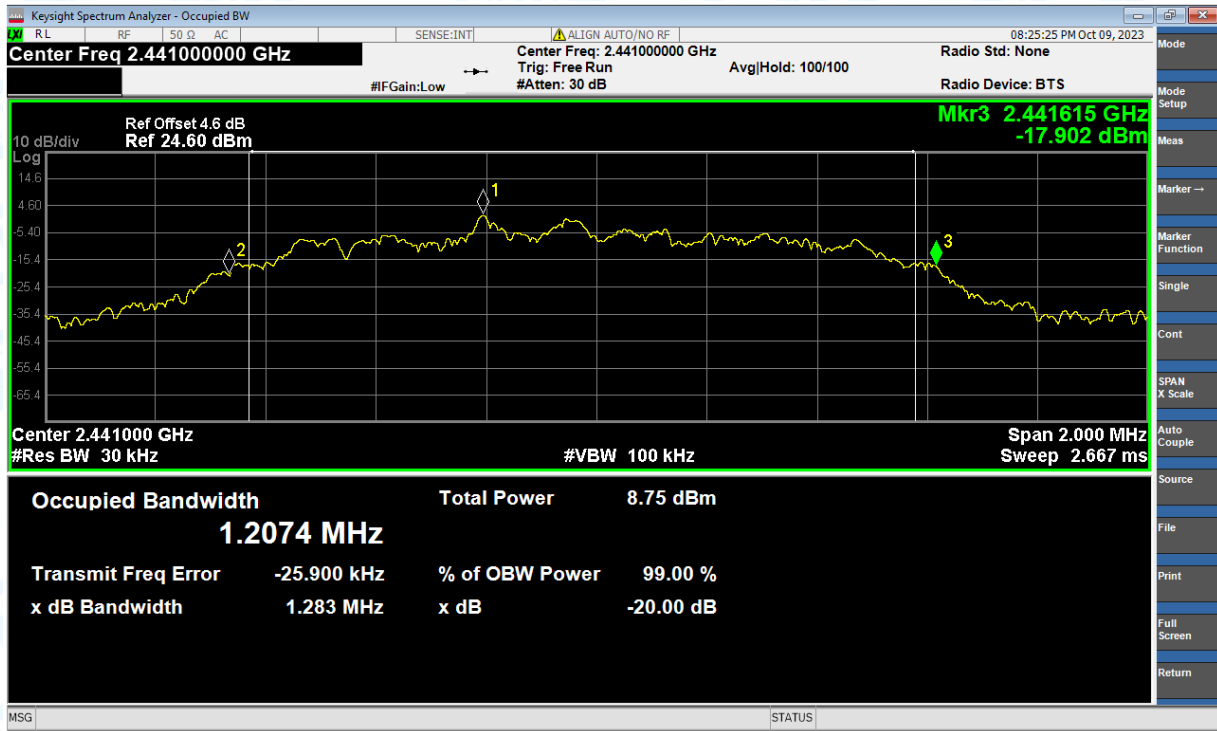
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



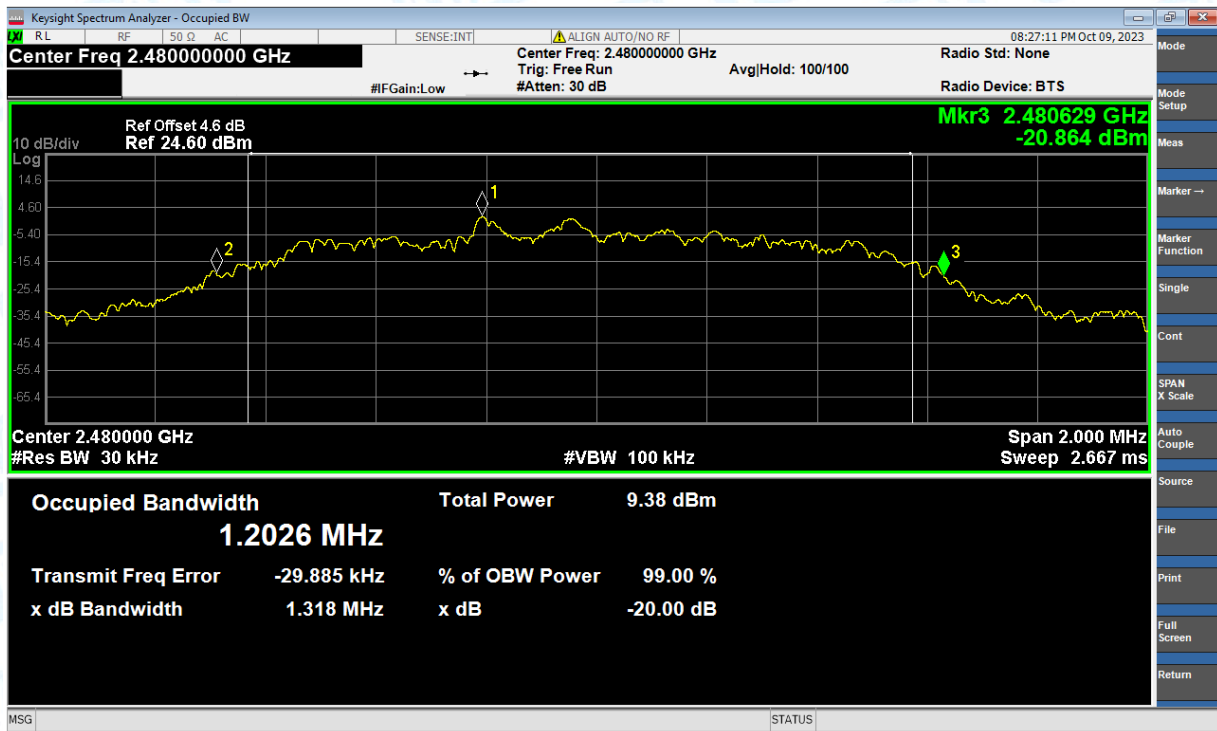
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



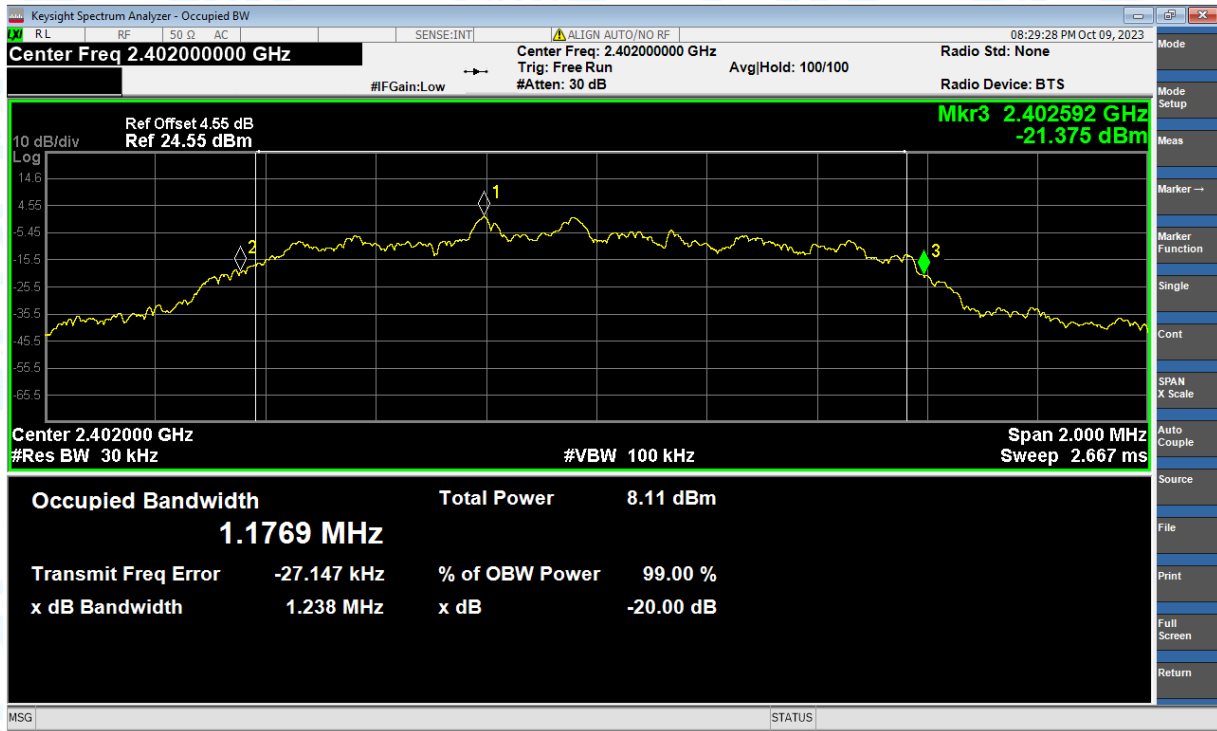
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



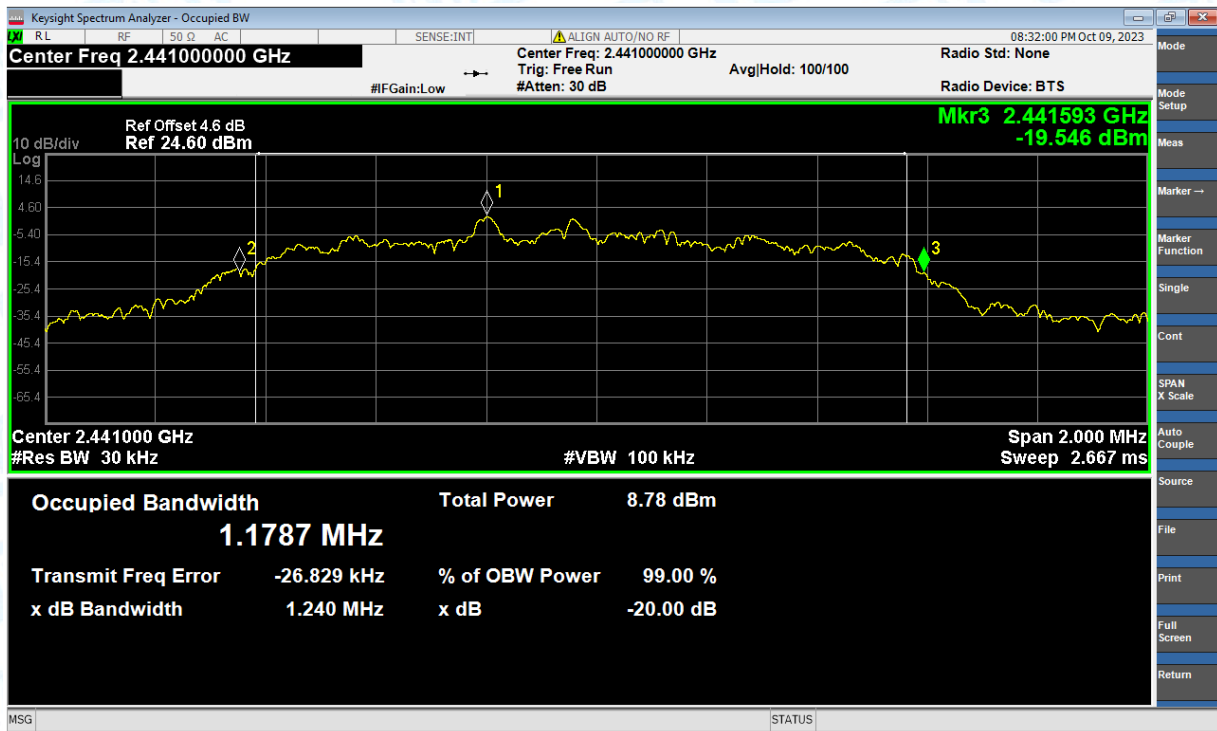
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

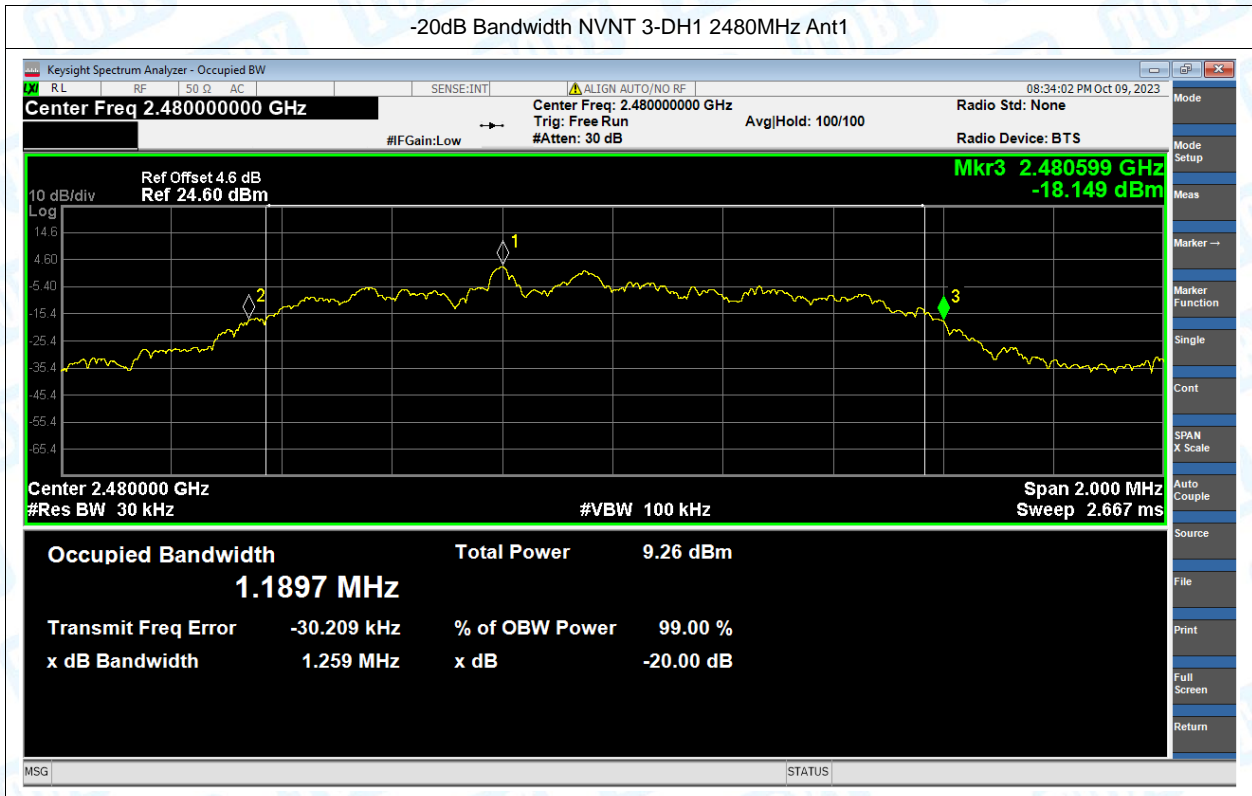


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



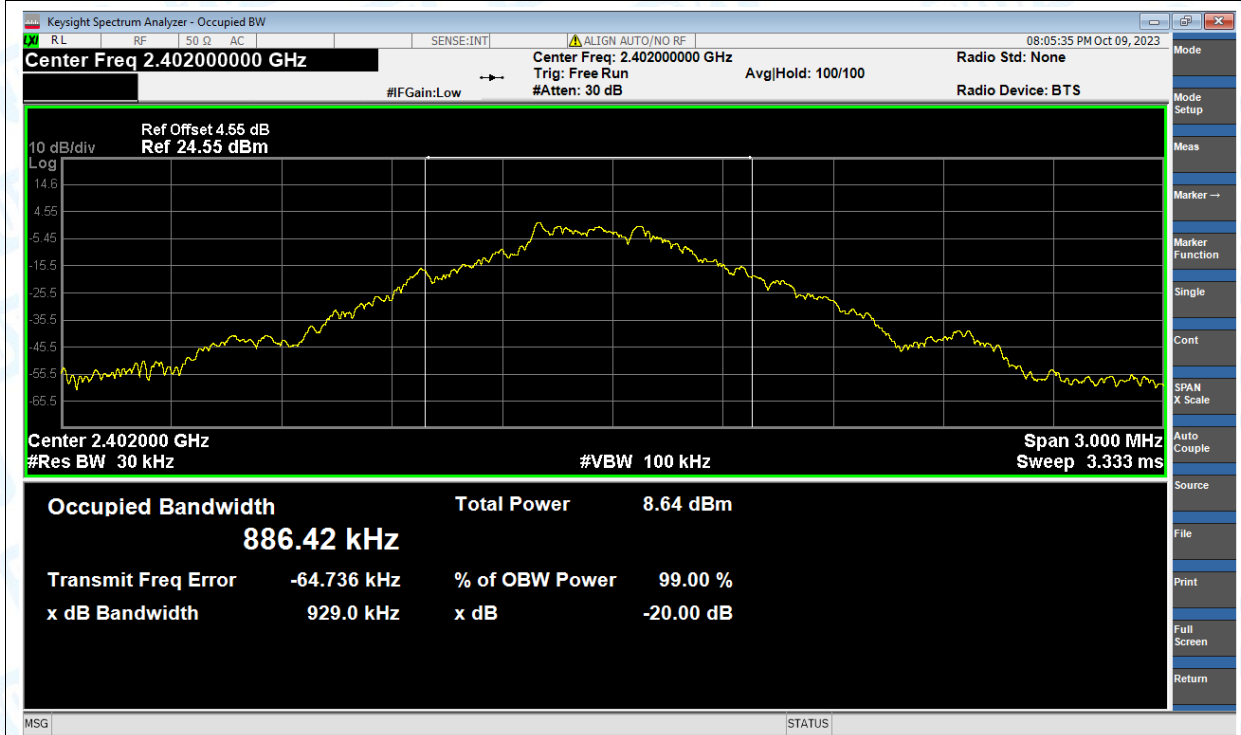


Occupied Channel Bandwidth

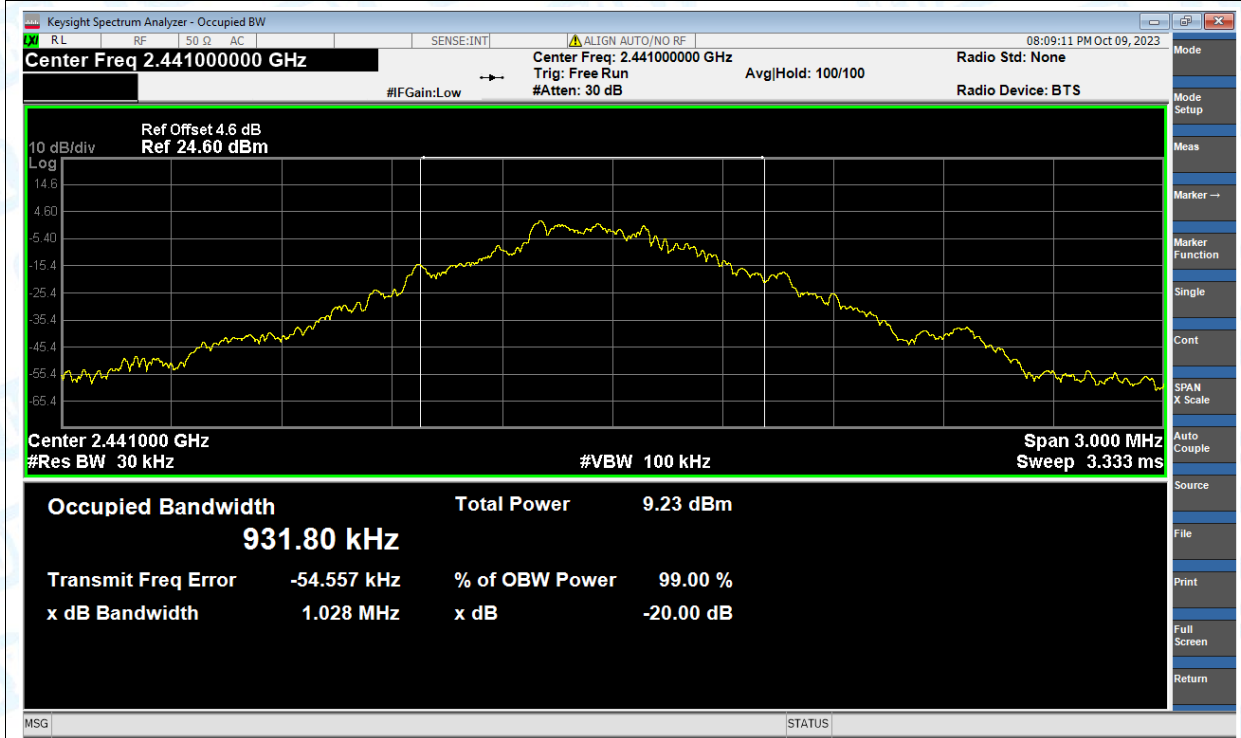
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.886
NVNT	1-DH1	2441	Ant1	0.932
NVNT	1-DH1	2480	Ant1	0.98
NVNT	2-DH1	2402	Ant1	1.161
NVNT	2-DH1	2441	Ant1	1.186
NVNT	2-DH1	2480	Ant1	1.199
NVNT	3-DH1	2402	Ant1	1.173
NVNT	3-DH1	2441	Ant1	1.191
NVNT	3-DH1	2480	Ant1	1.196

Test Graphs

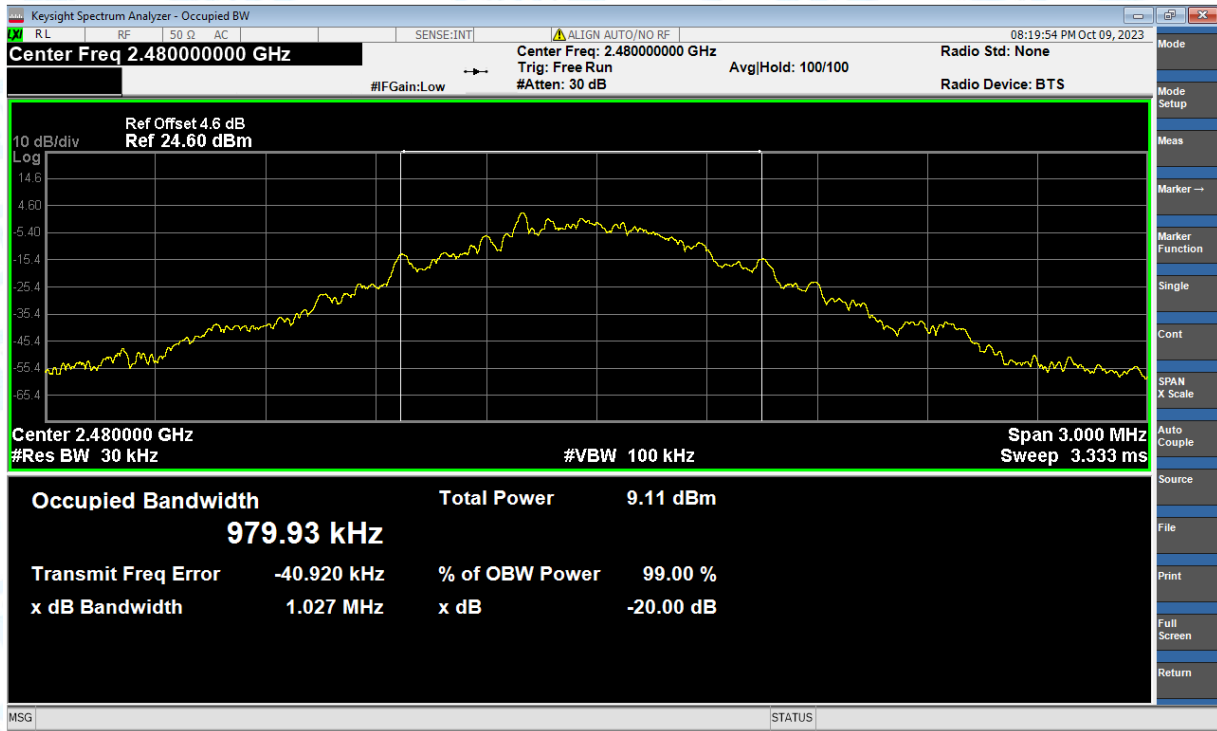
OBW NVNT 1-DH1 2402MHz Ant1



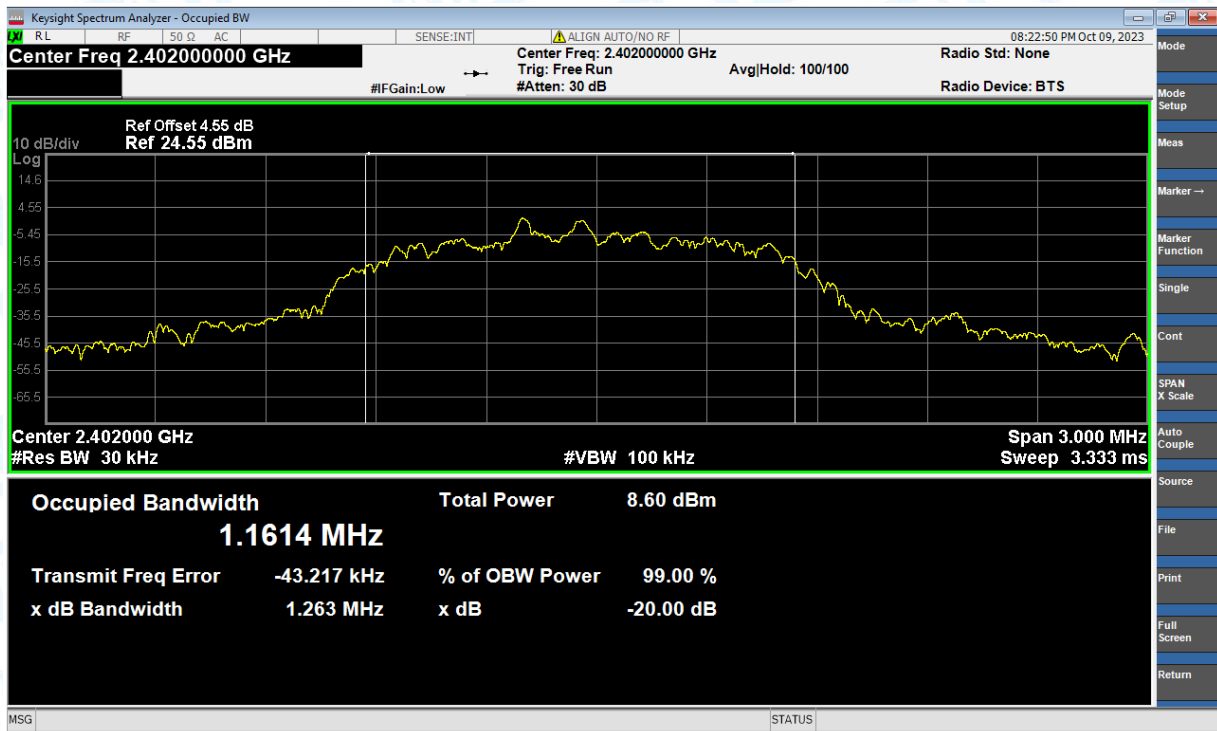
OBW NVNT 1-DH1 2441MHz Ant1



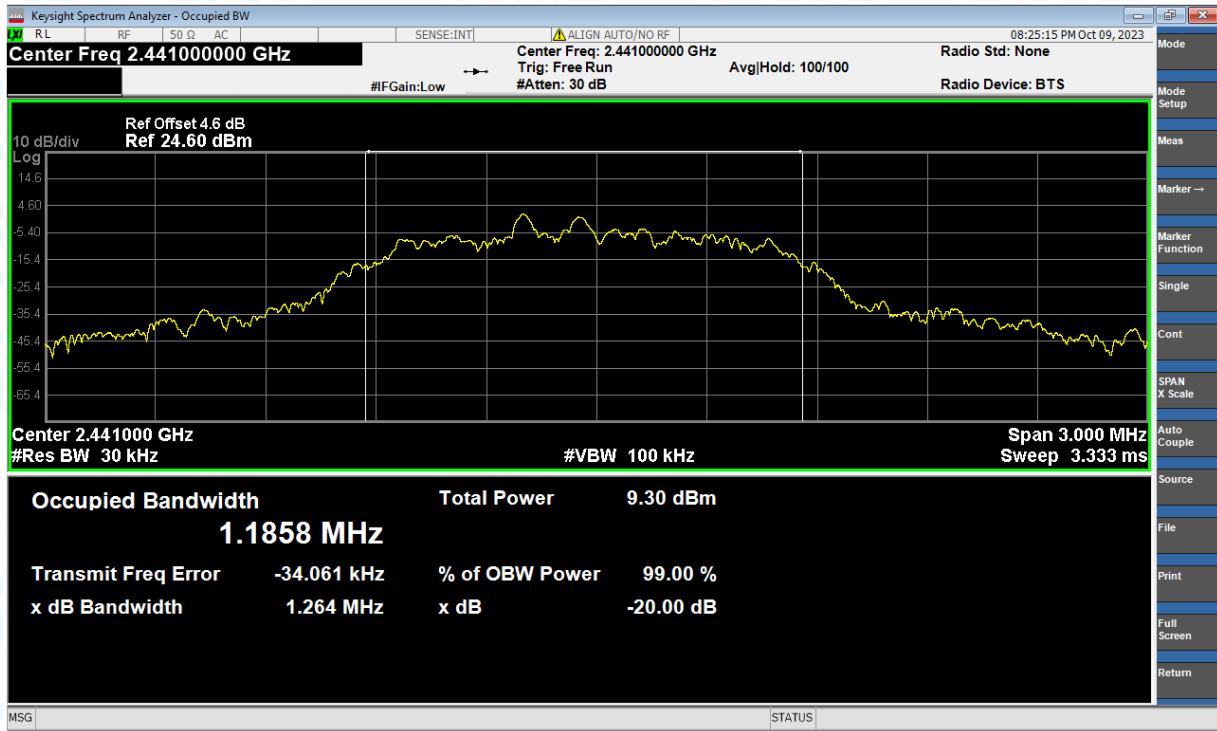
OBW NVNT 1-DH1 2480MHz Ant1



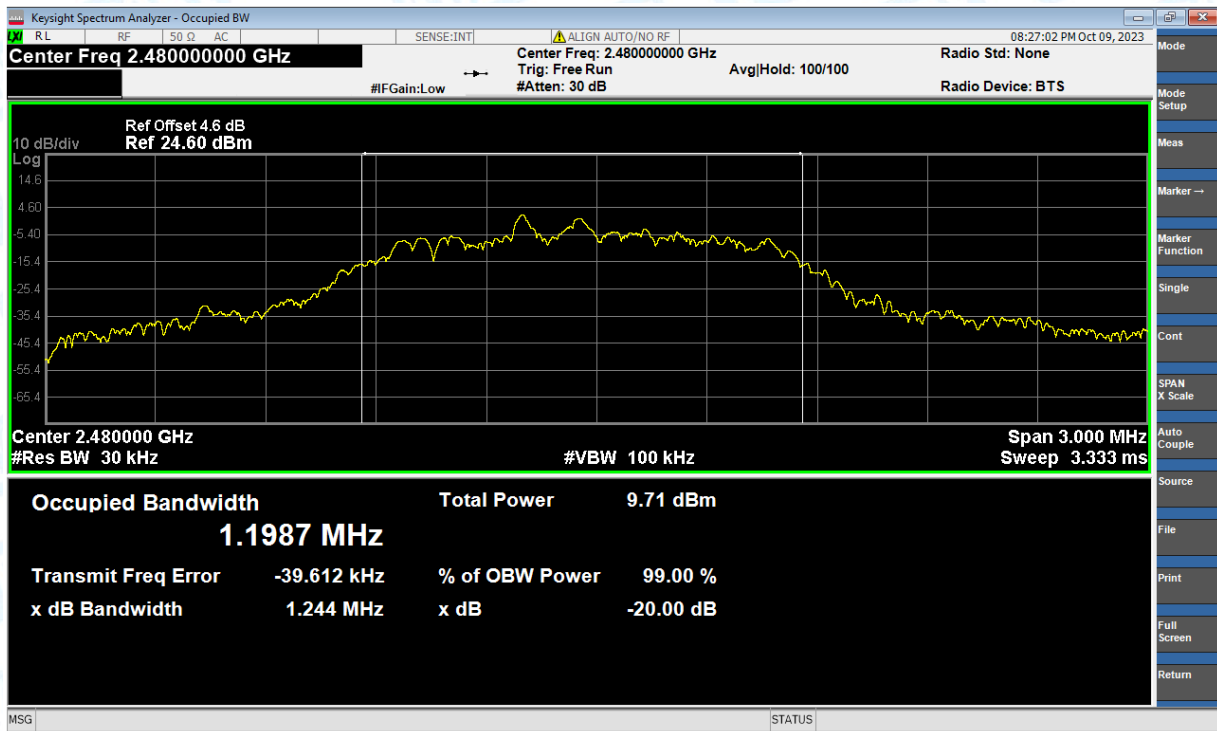
OBW NVNT 2-DH1 2402MHz Ant1



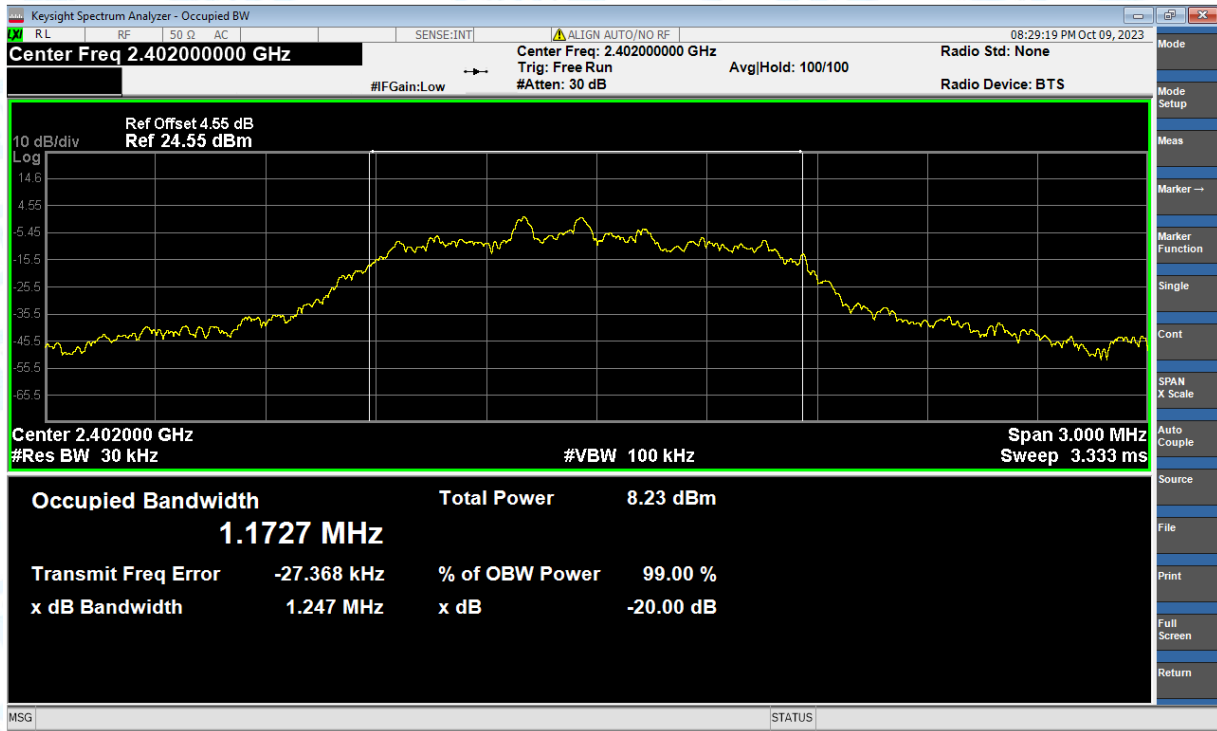
OBW NVNT 2-DH1 2441MHz Ant1



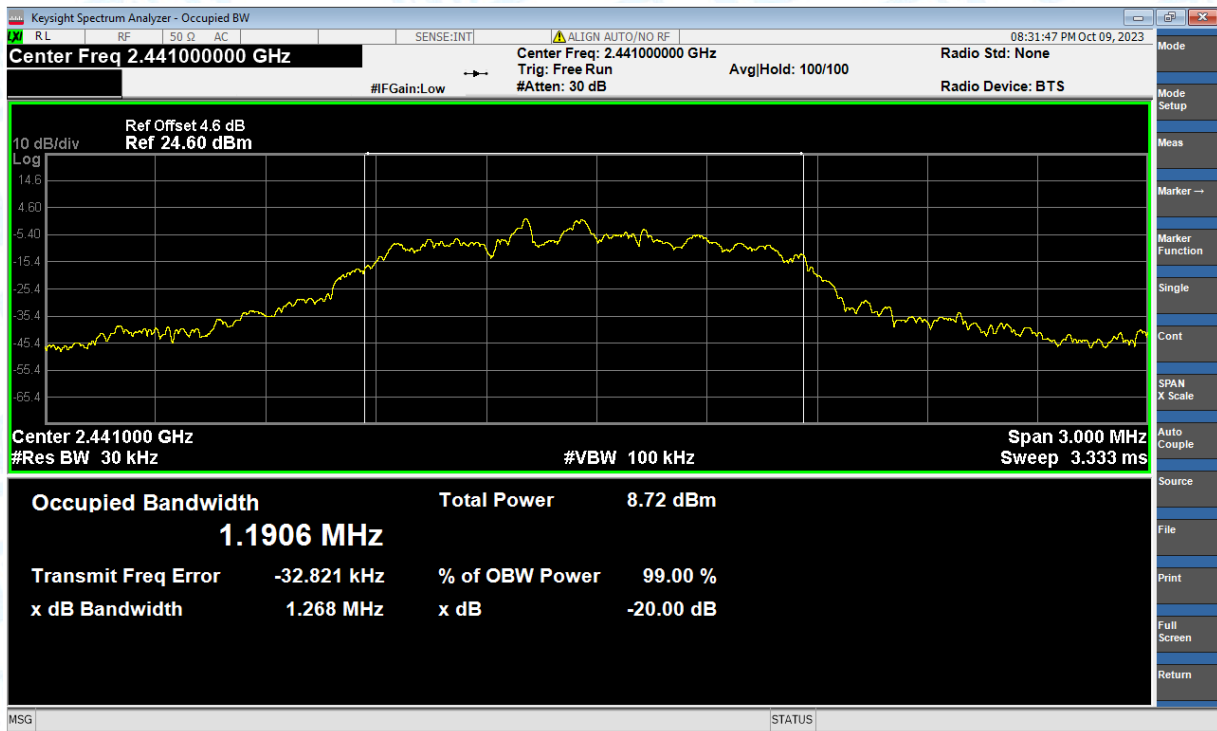
OBW NVNT 2-DH1 2480MHz Ant1

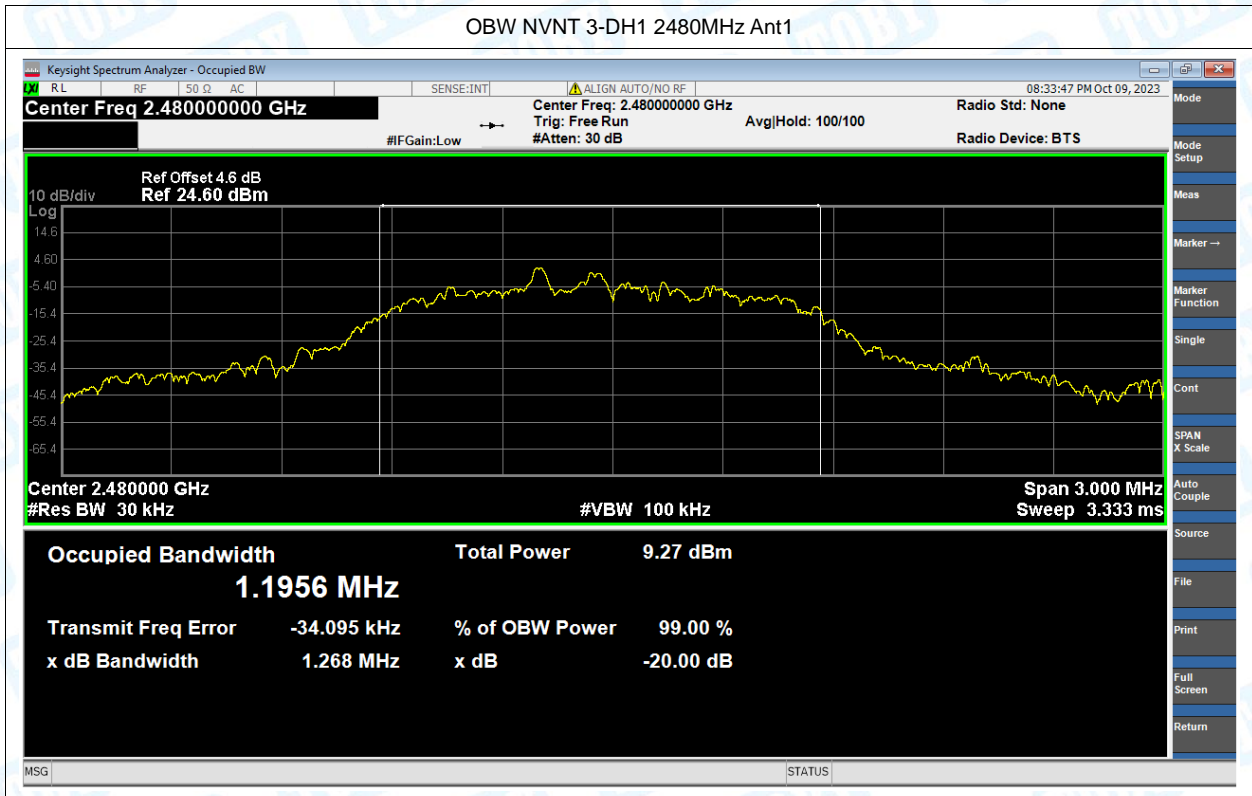


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



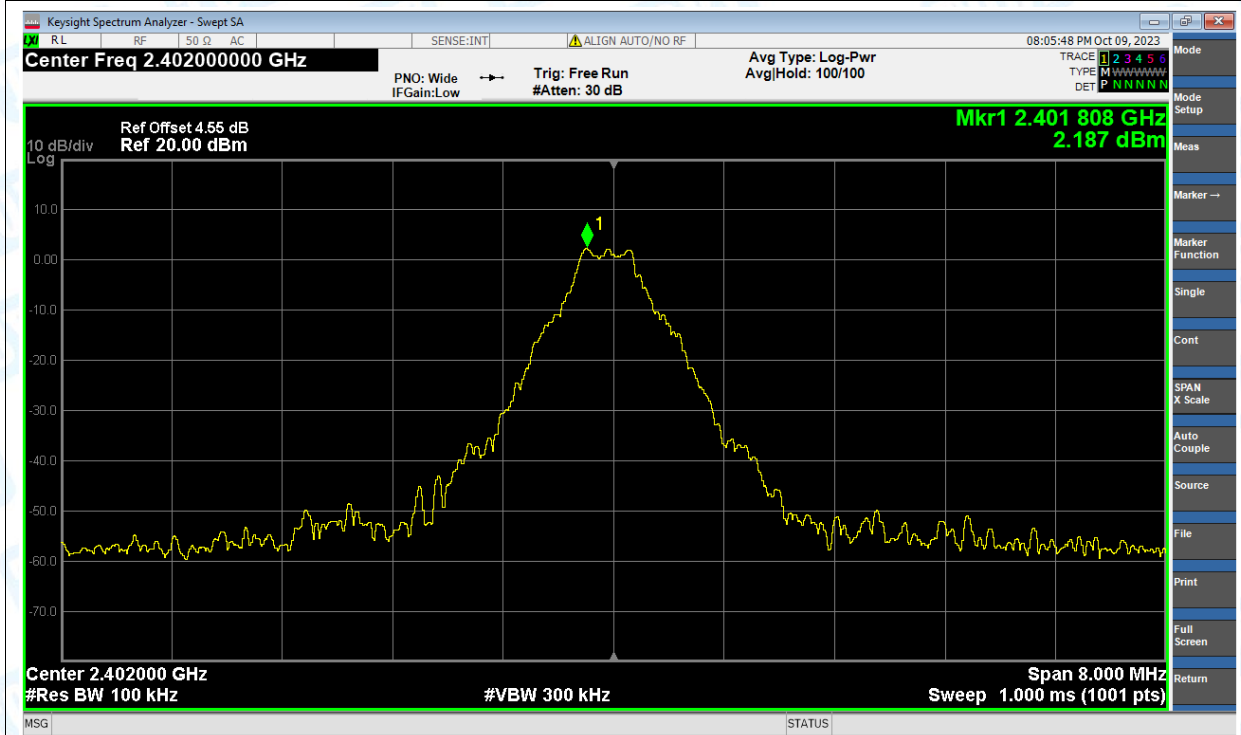


Band Edge

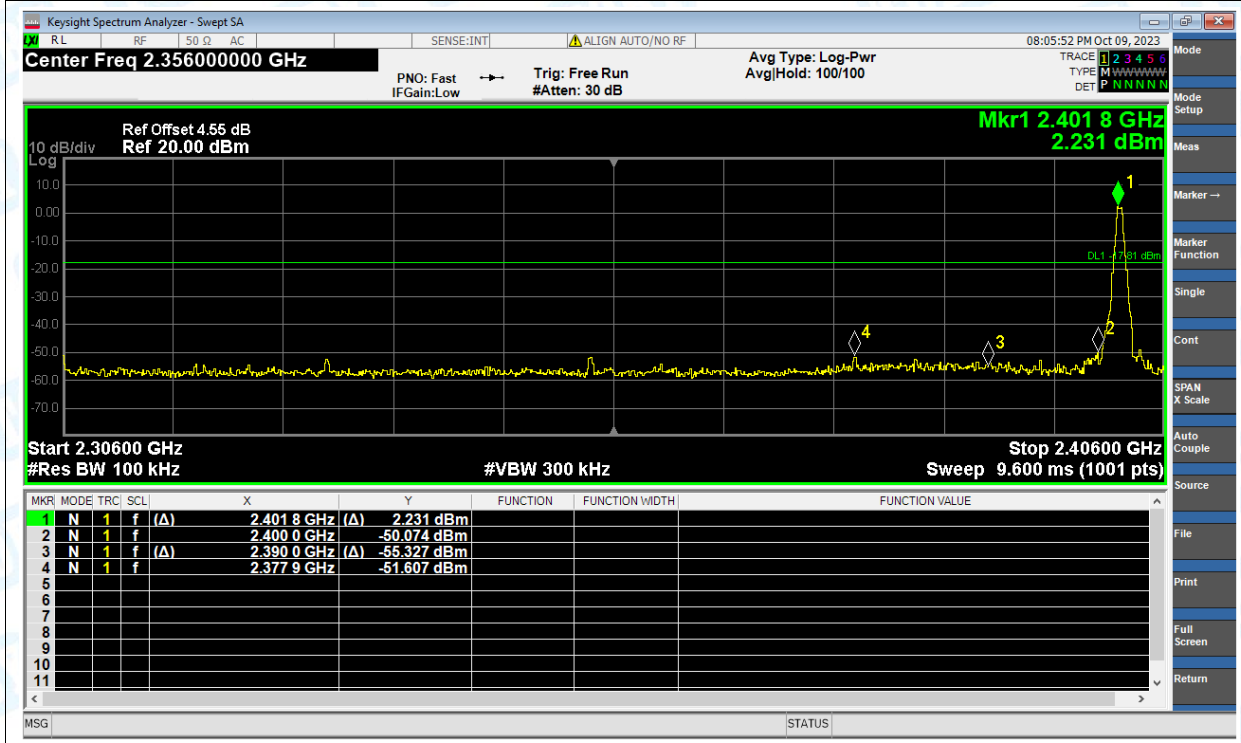
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-53.8	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-54.07	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-52.41	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-53.32	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-53.78	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-53.15	-20	Pass

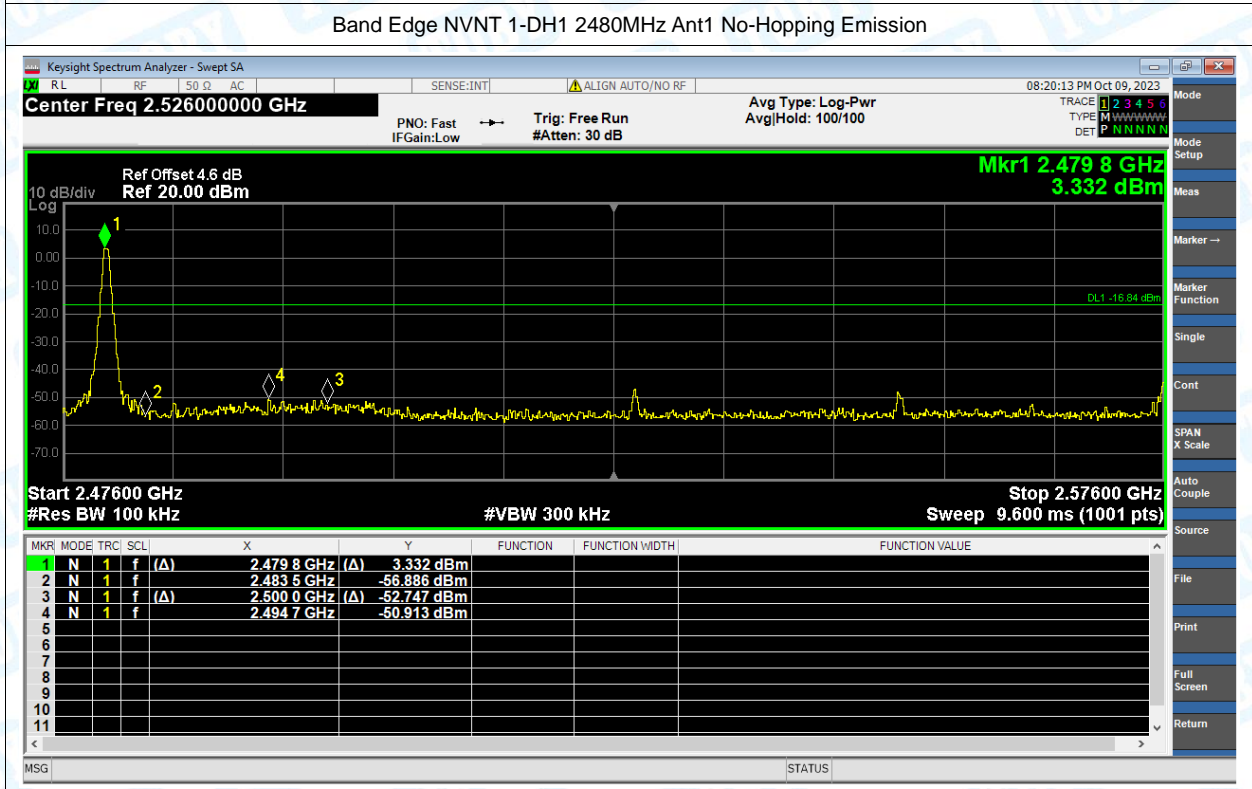
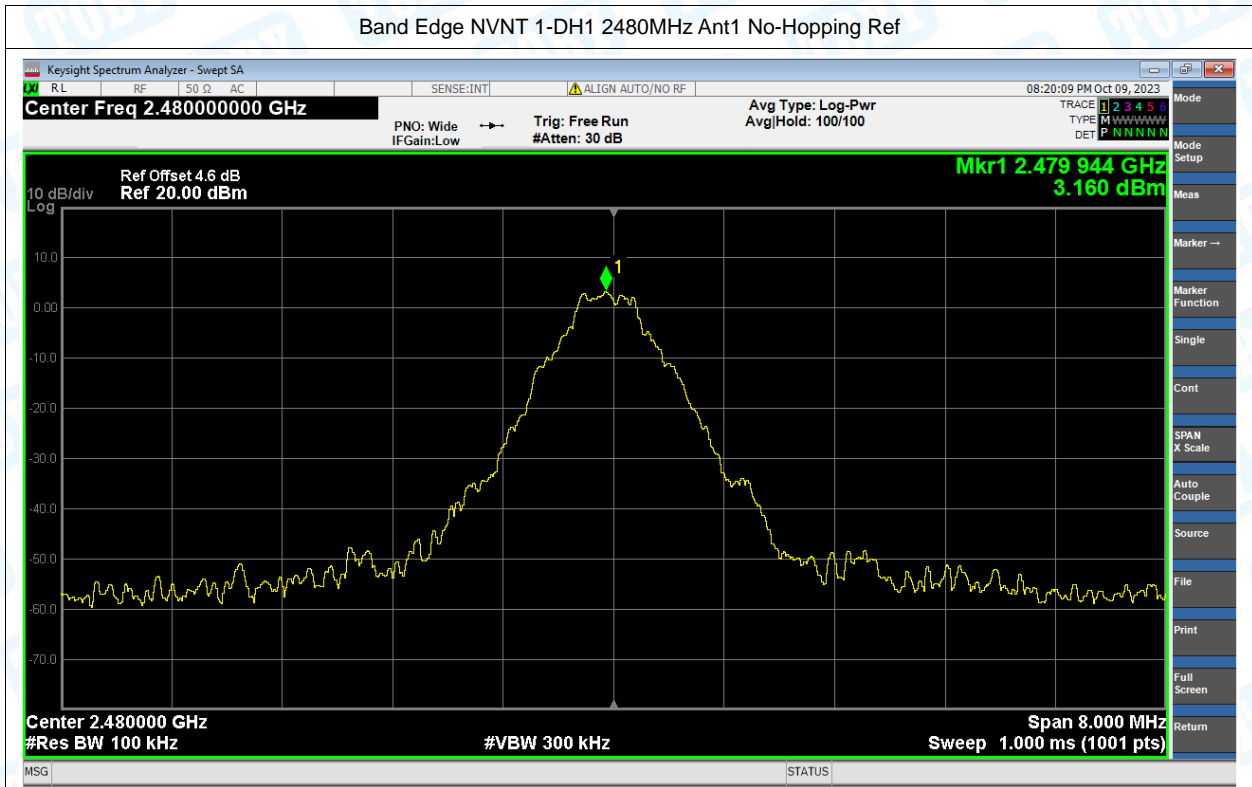
Test Graphs

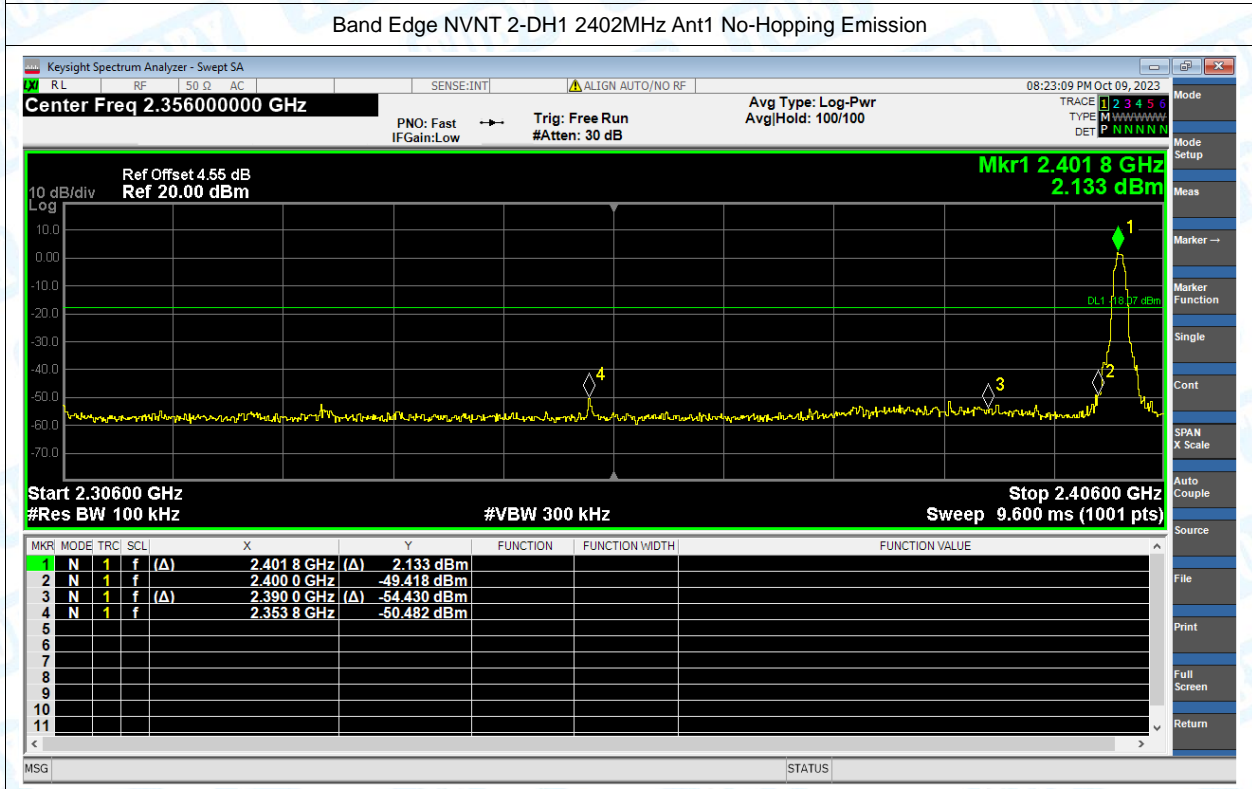
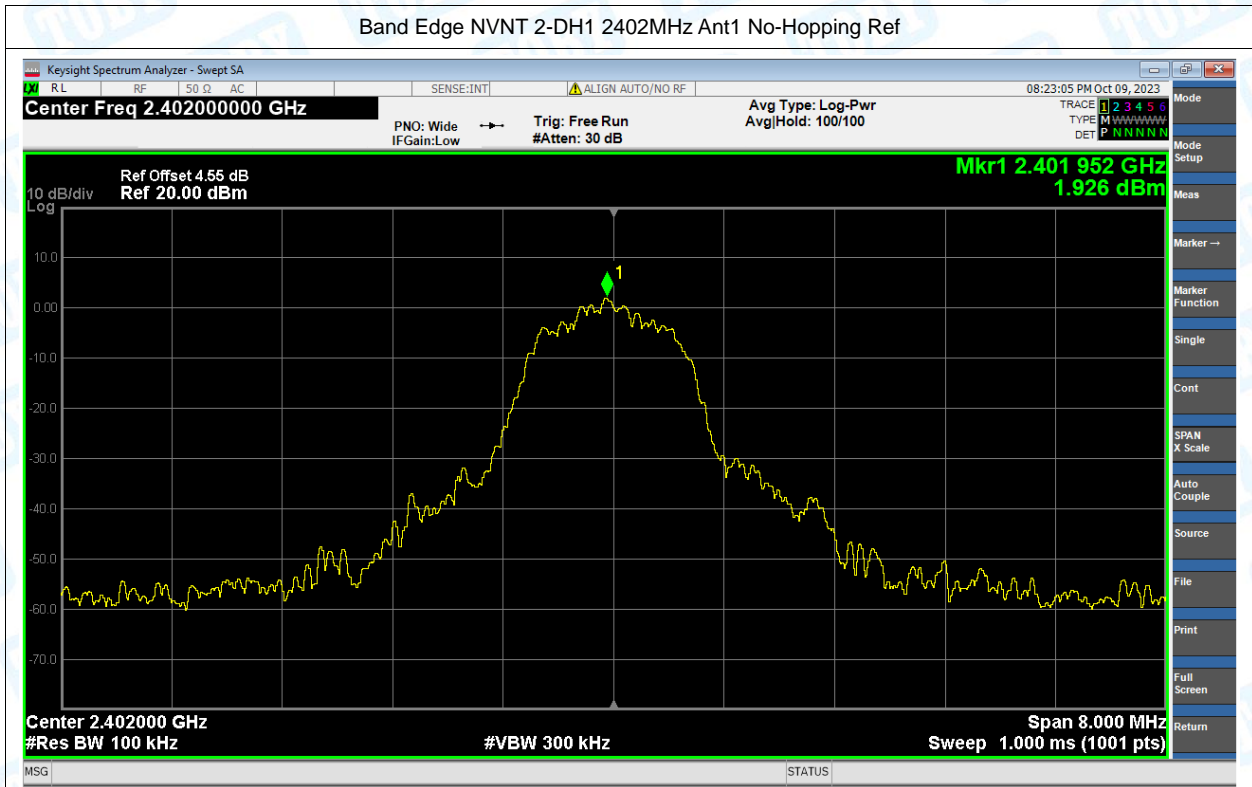
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

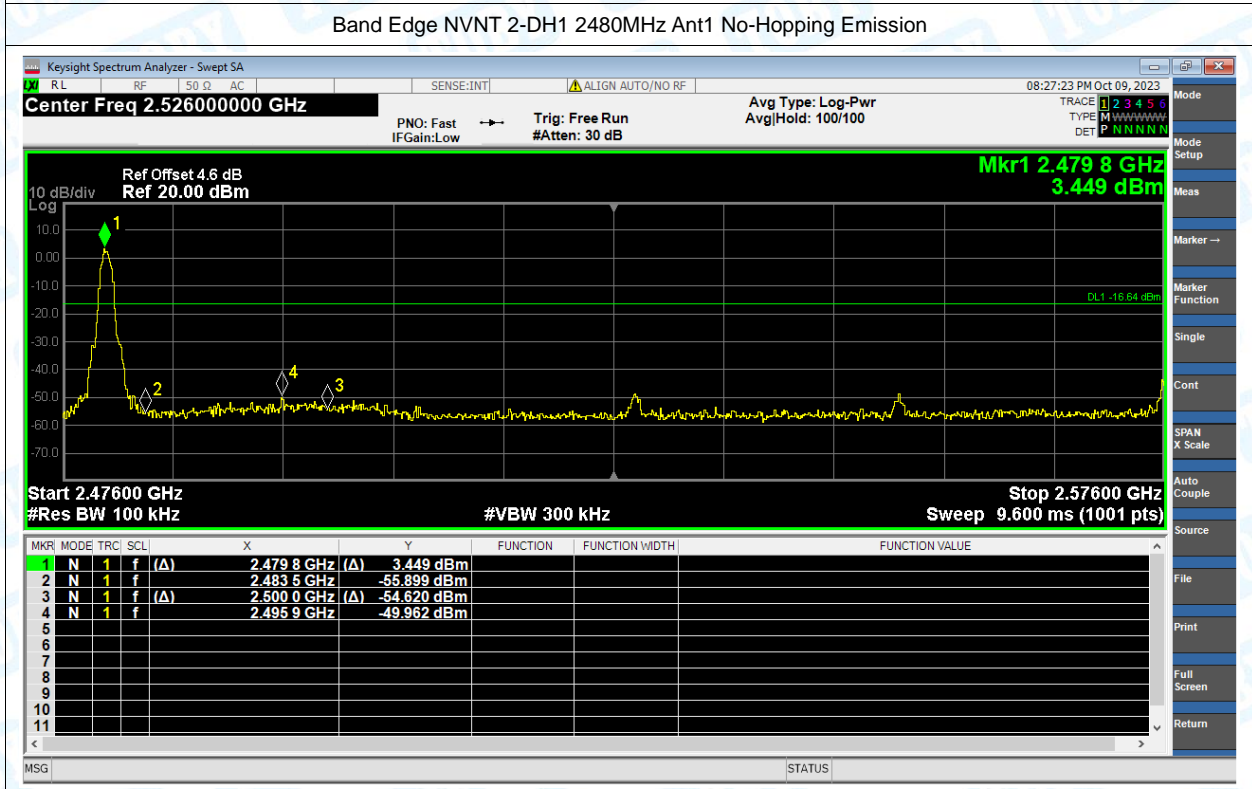
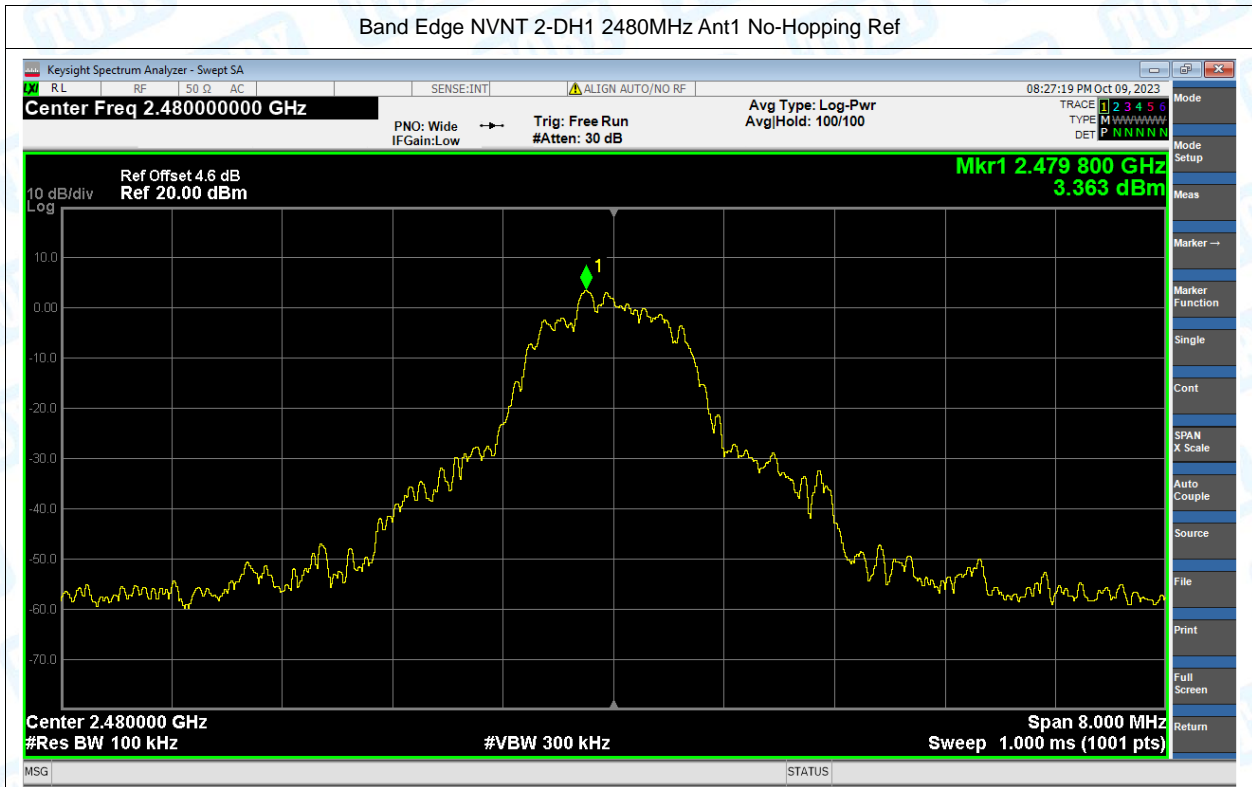


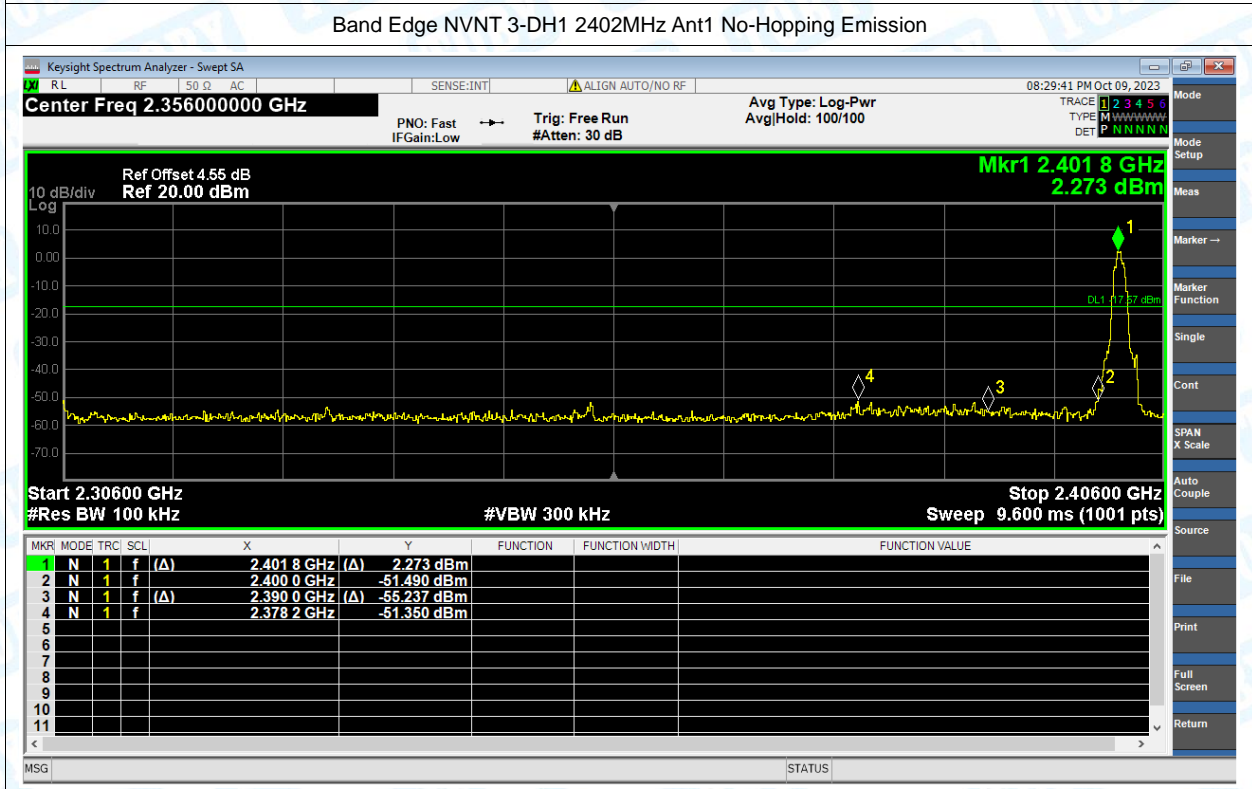
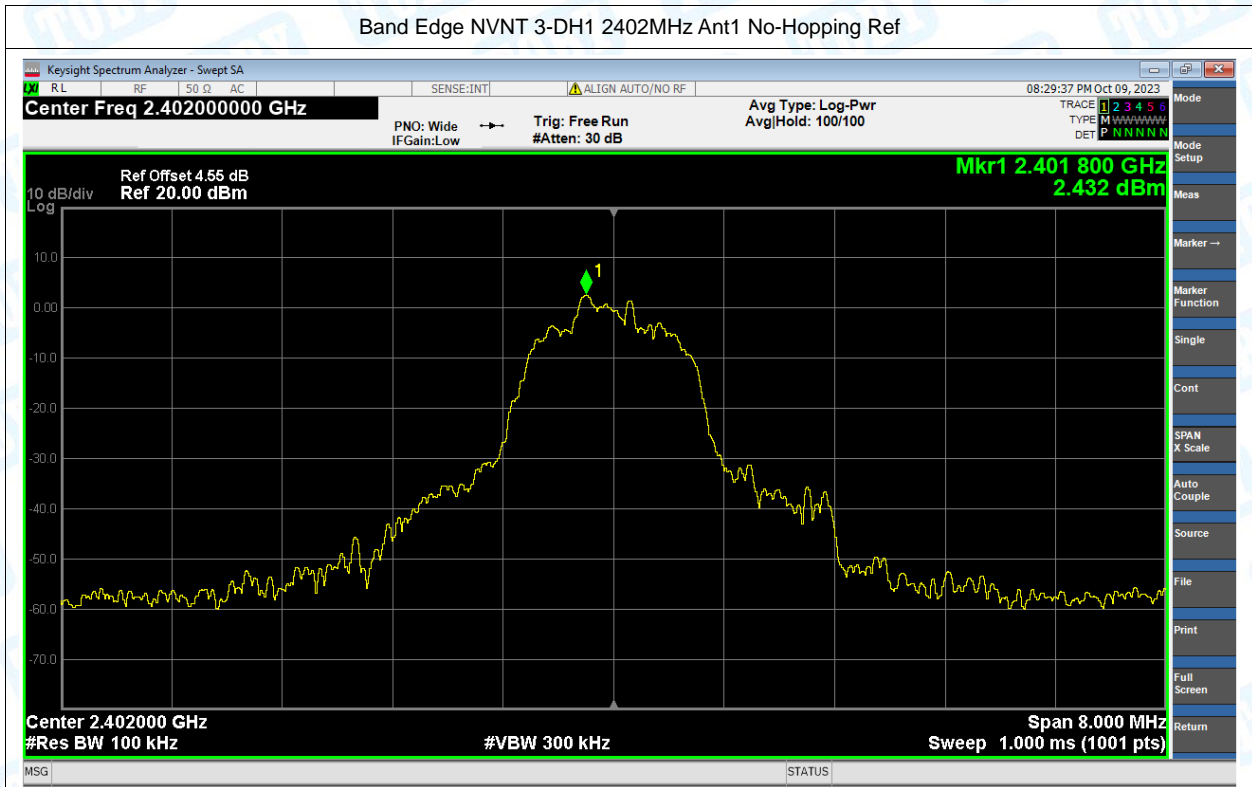
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

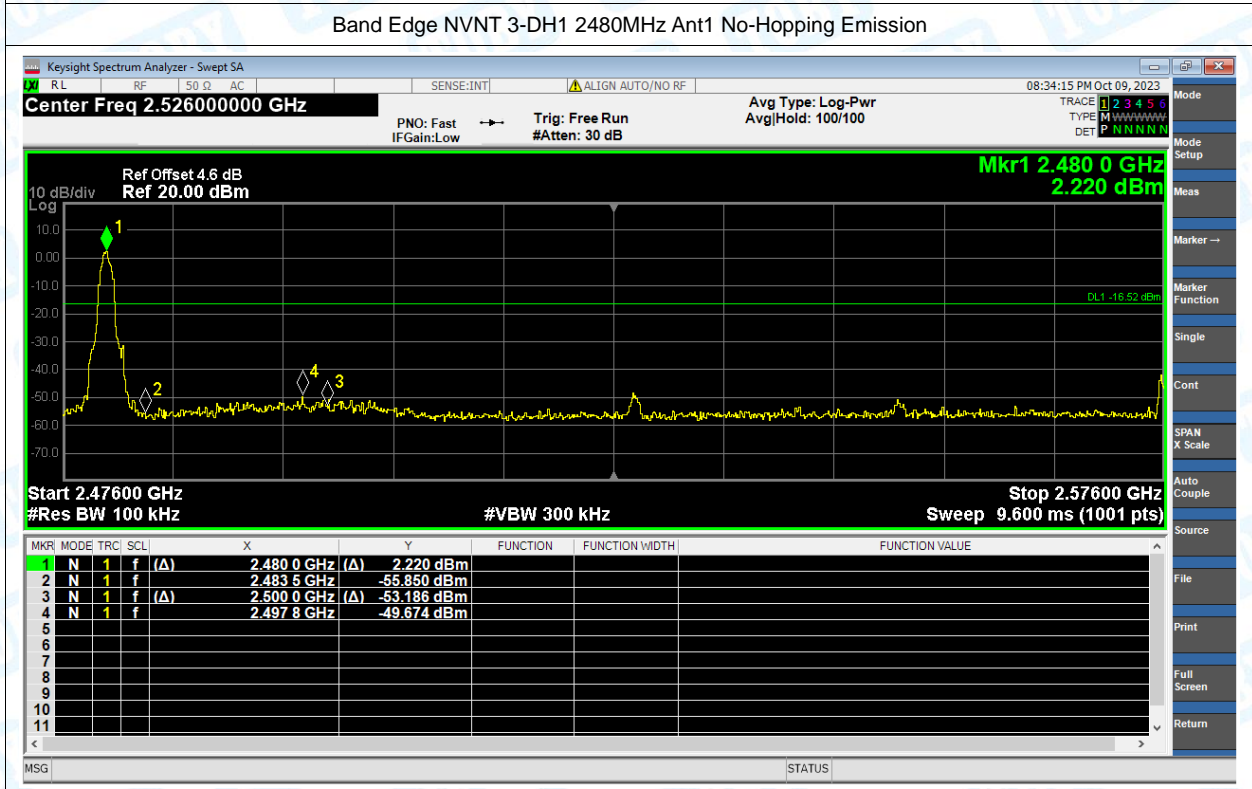
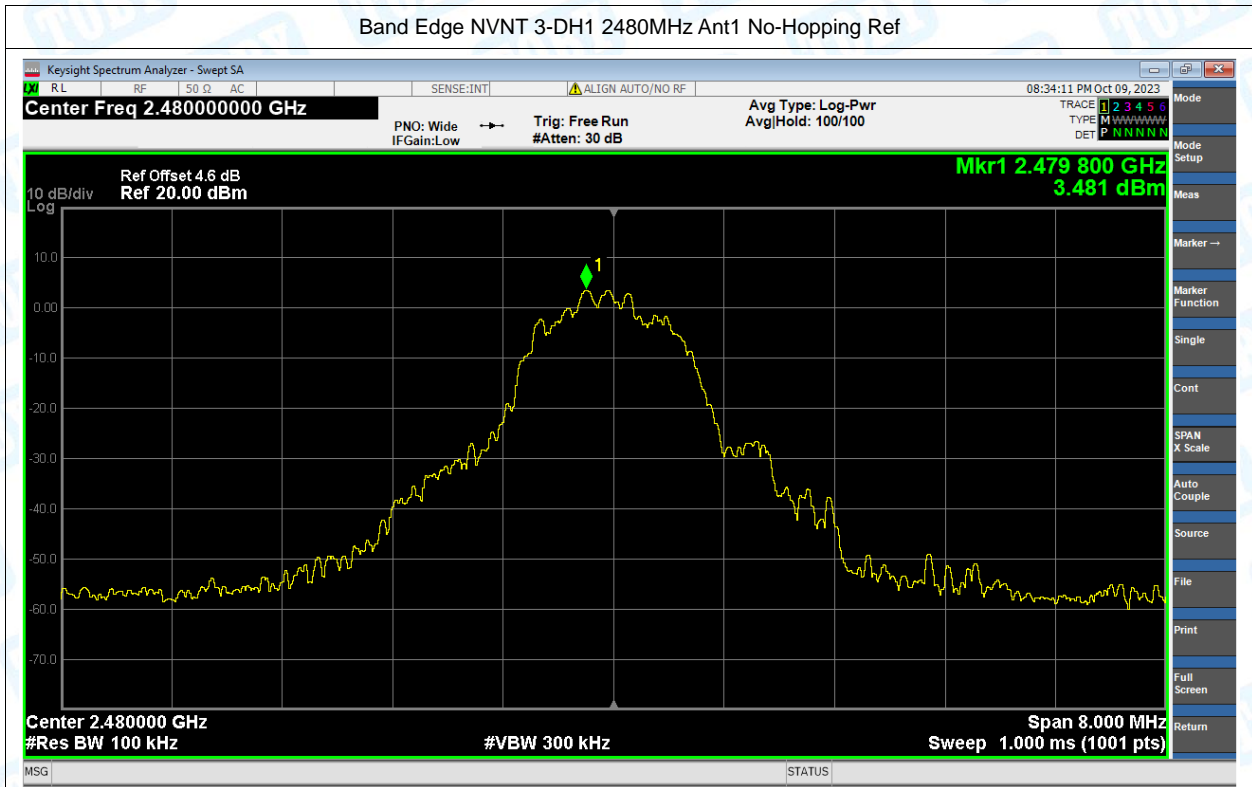










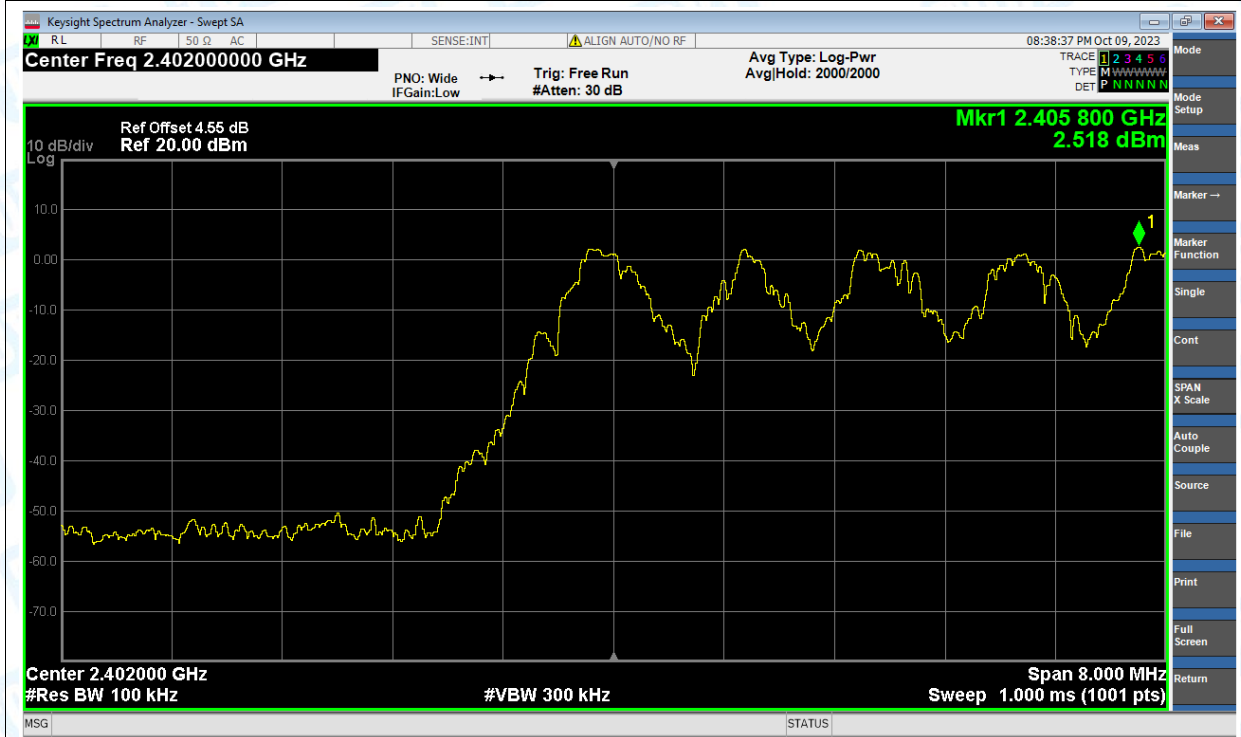


Band Edge(Hopping)

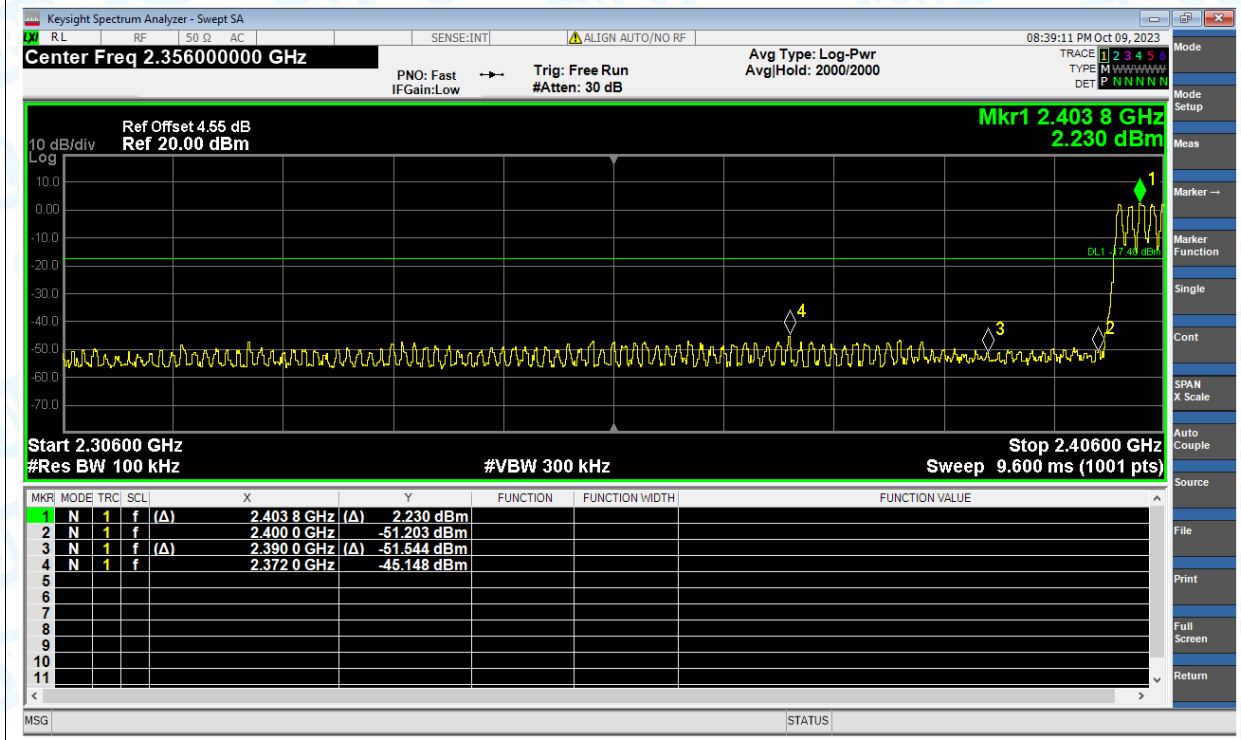
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-47.67	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-47.48	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-48.01	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-47.81	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-46.72	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-46.84	-20	Pass

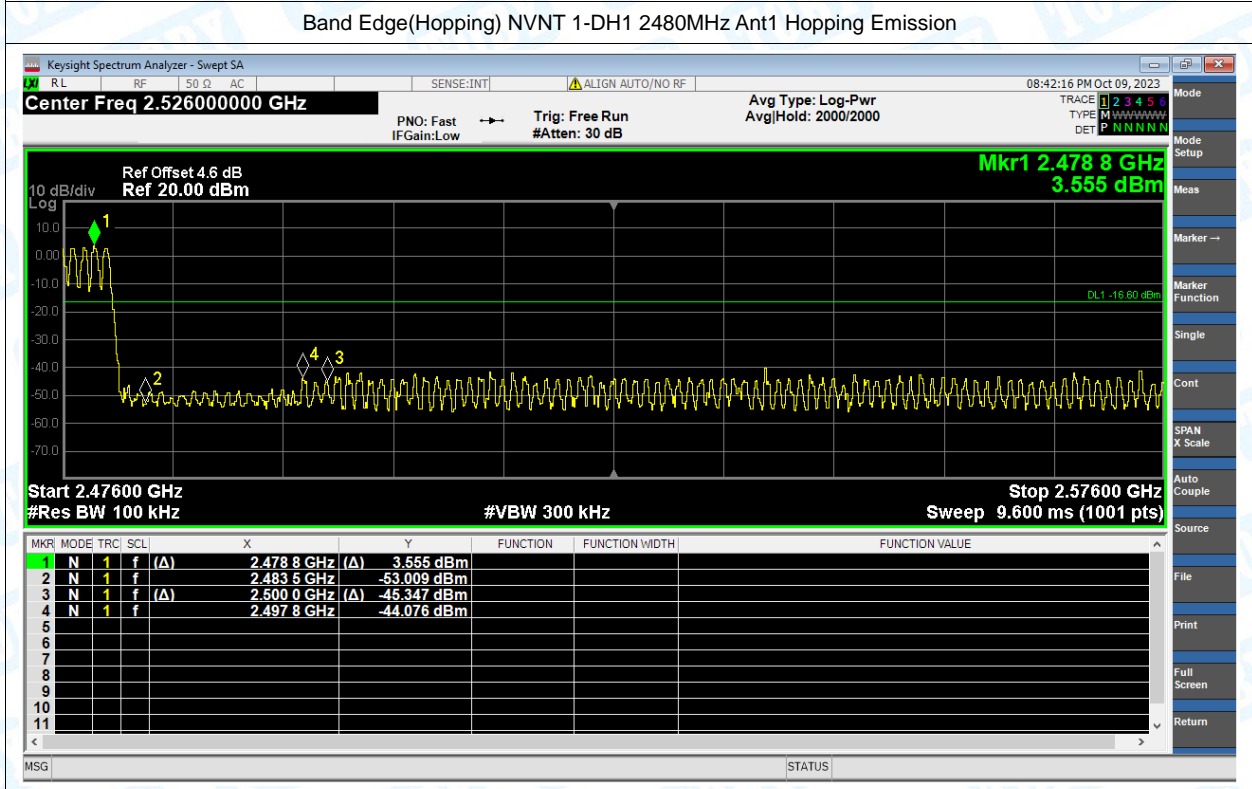
Test Graphs

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

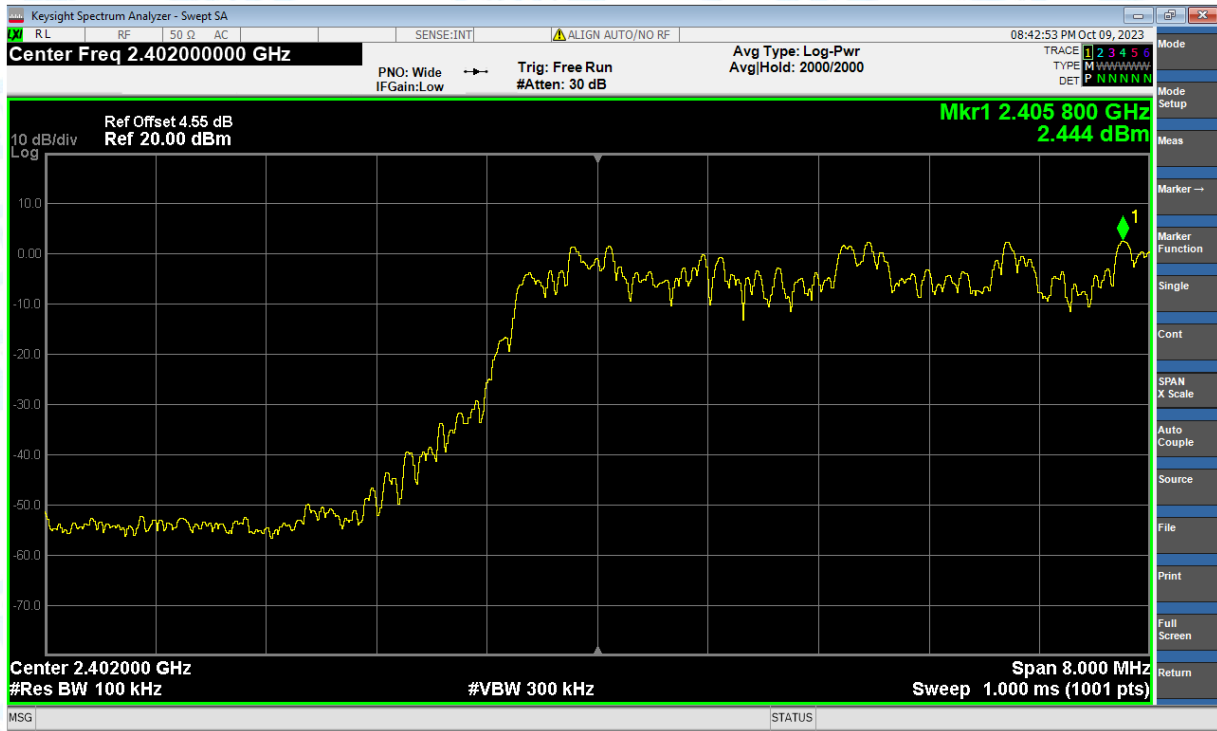


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

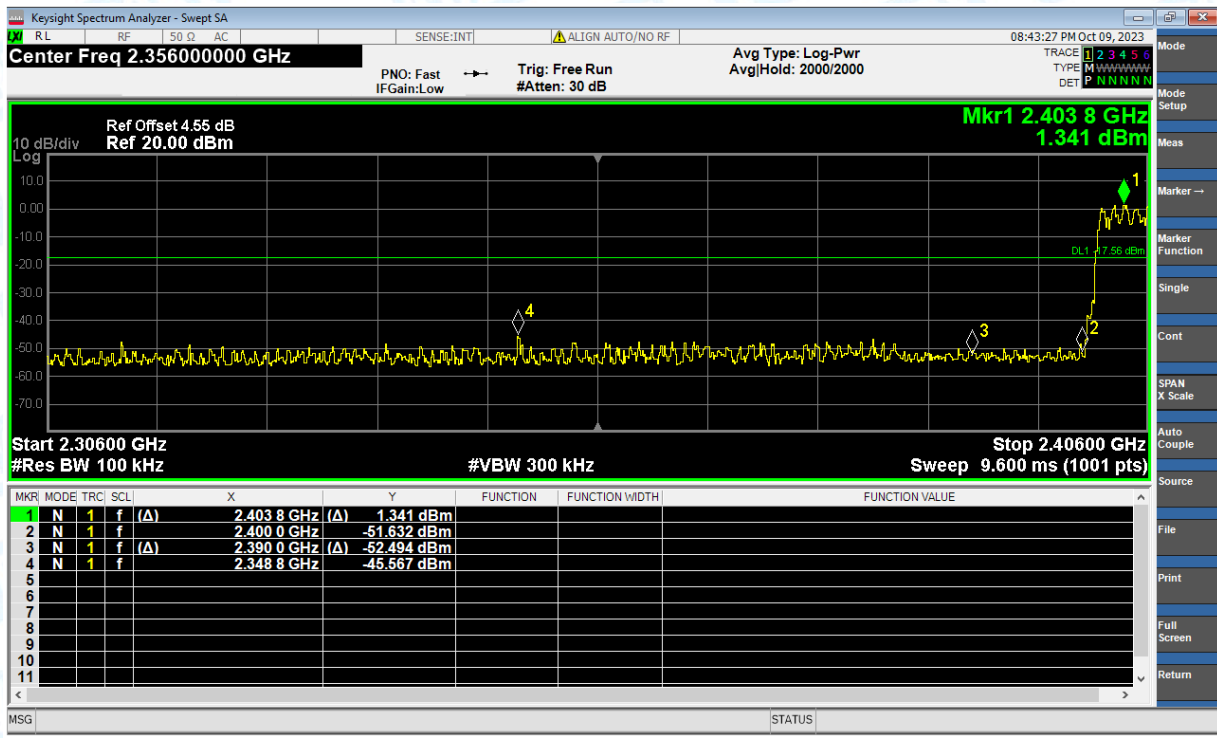




Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



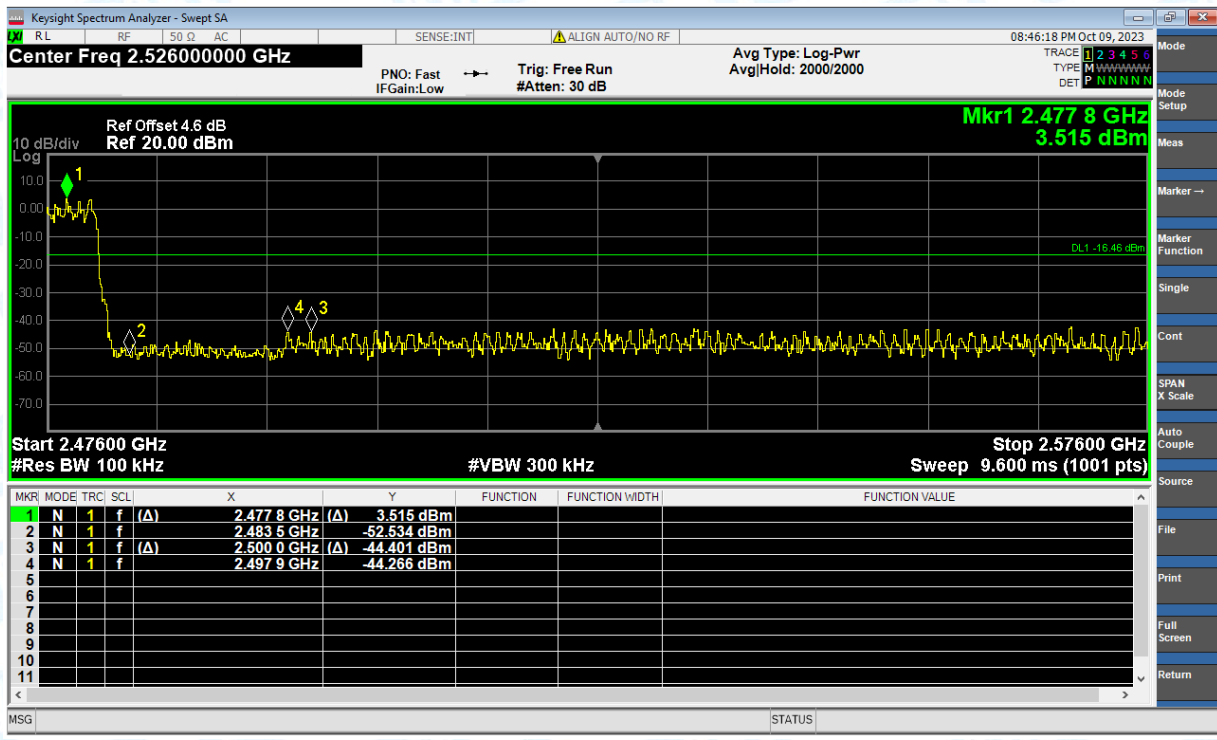
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



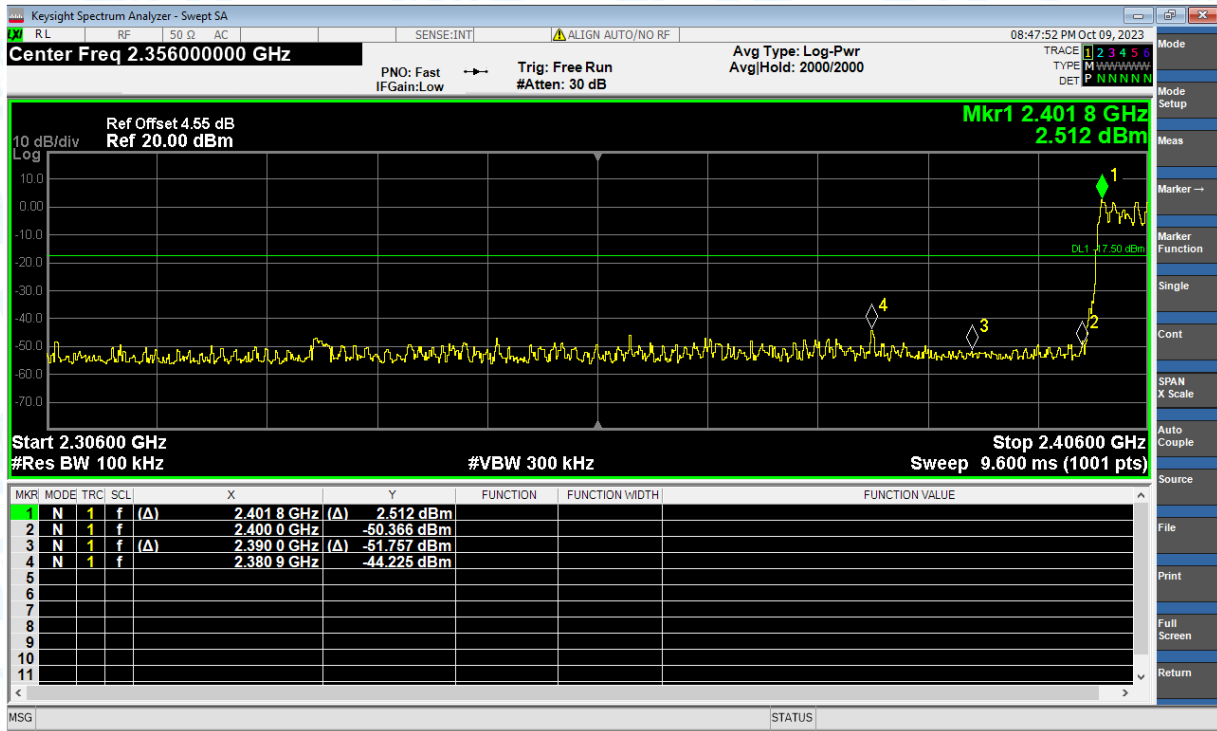
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission

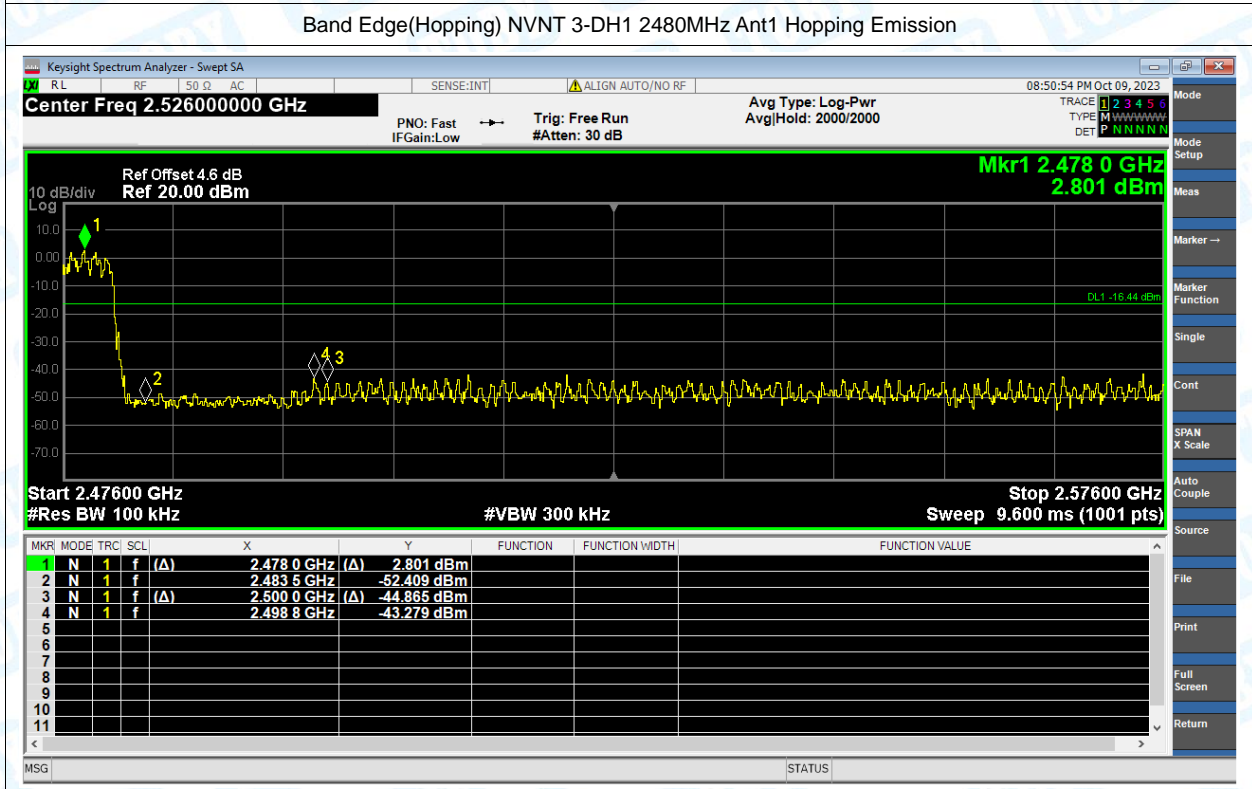


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



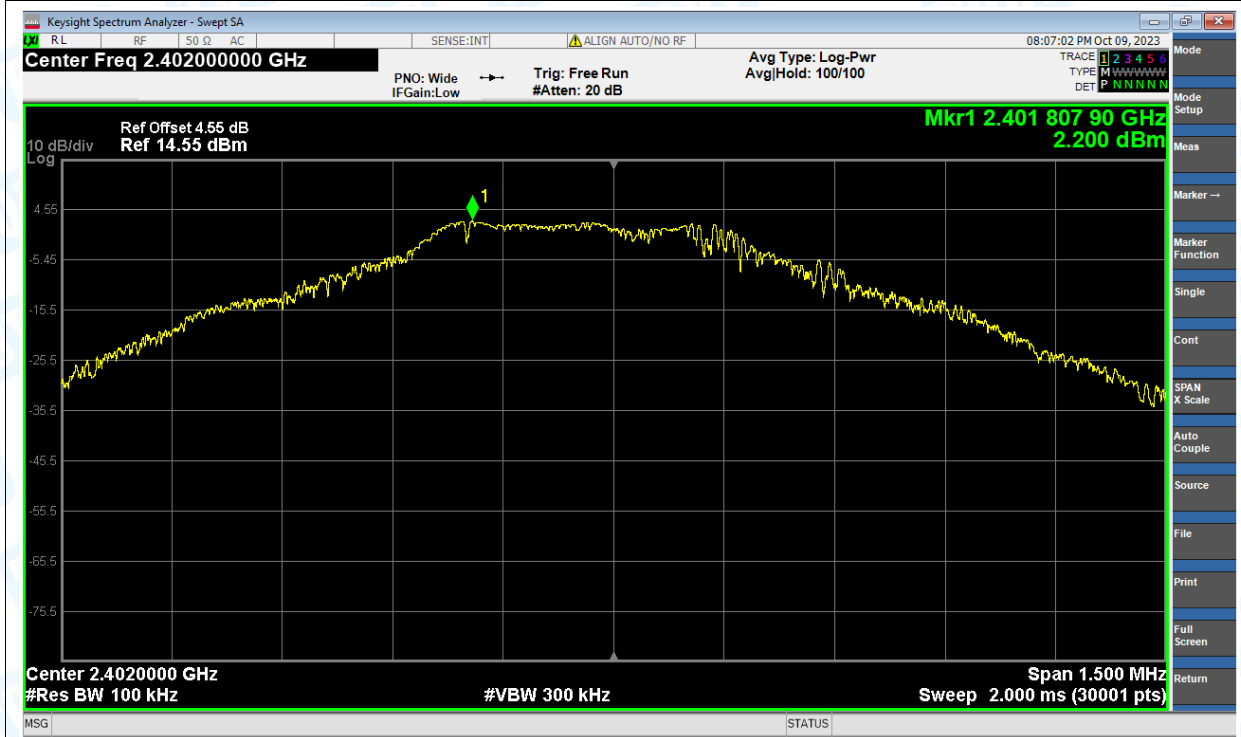


Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-50.62	-20	Pass
NVNT	1-DH1	2441	Ant1	-48.27	-20	Pass
NVNT	1-DH1	2480	Ant1	-48.24	-20	Pass
NVNT	2-DH1	2402	Ant1	-52.06	-20	Pass
NVNT	2-DH1	2441	Ant1	-48.72	-20	Pass
NVNT	2-DH1	2480	Ant1	-53.21	-20	Pass
NVNT	3-DH1	2402	Ant1	-51.92	-20	Pass
NVNT	3-DH1	2441	Ant1	-46.78	-20	Pass
NVNT	3-DH1	2480	Ant1	-50.58	-20	Pass

Test Graphs

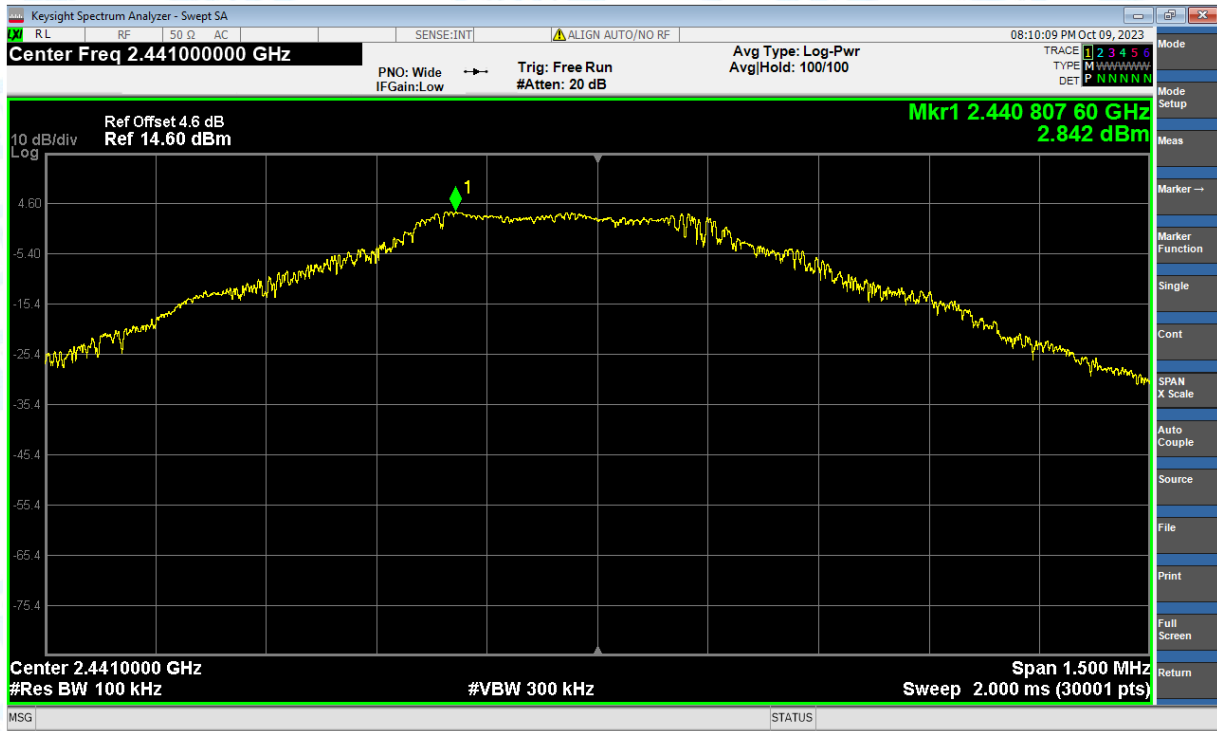
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



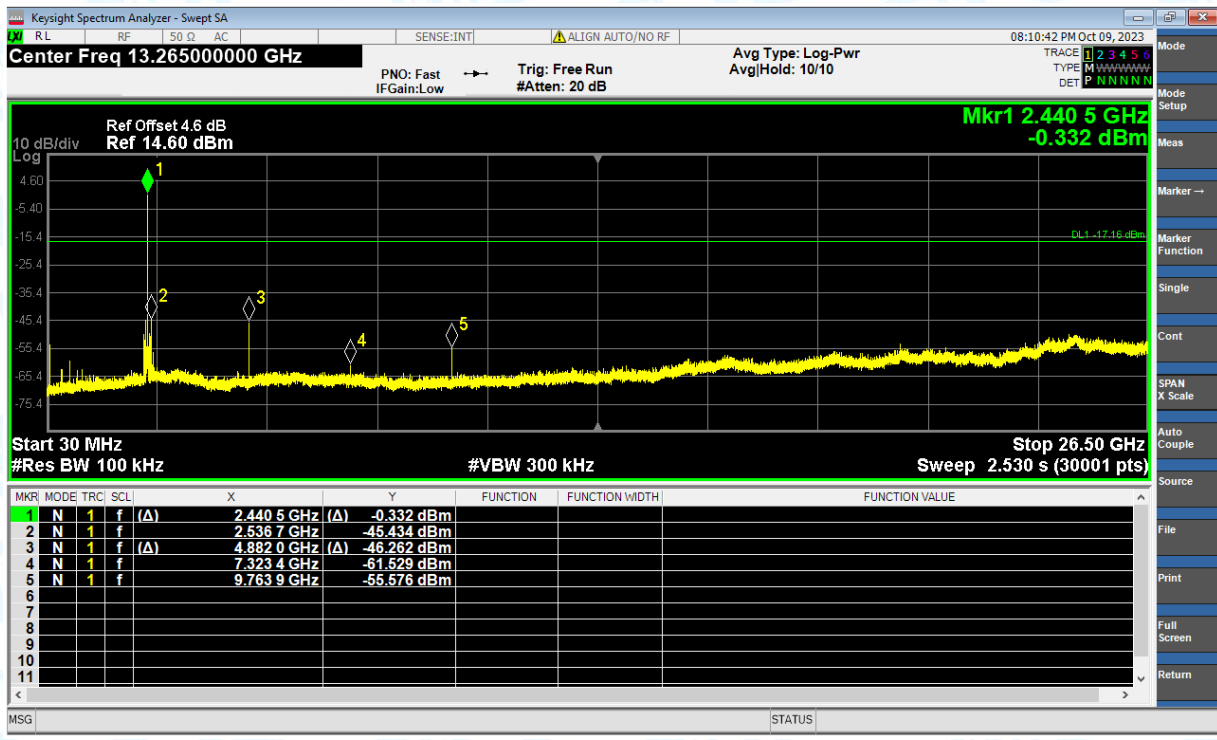
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



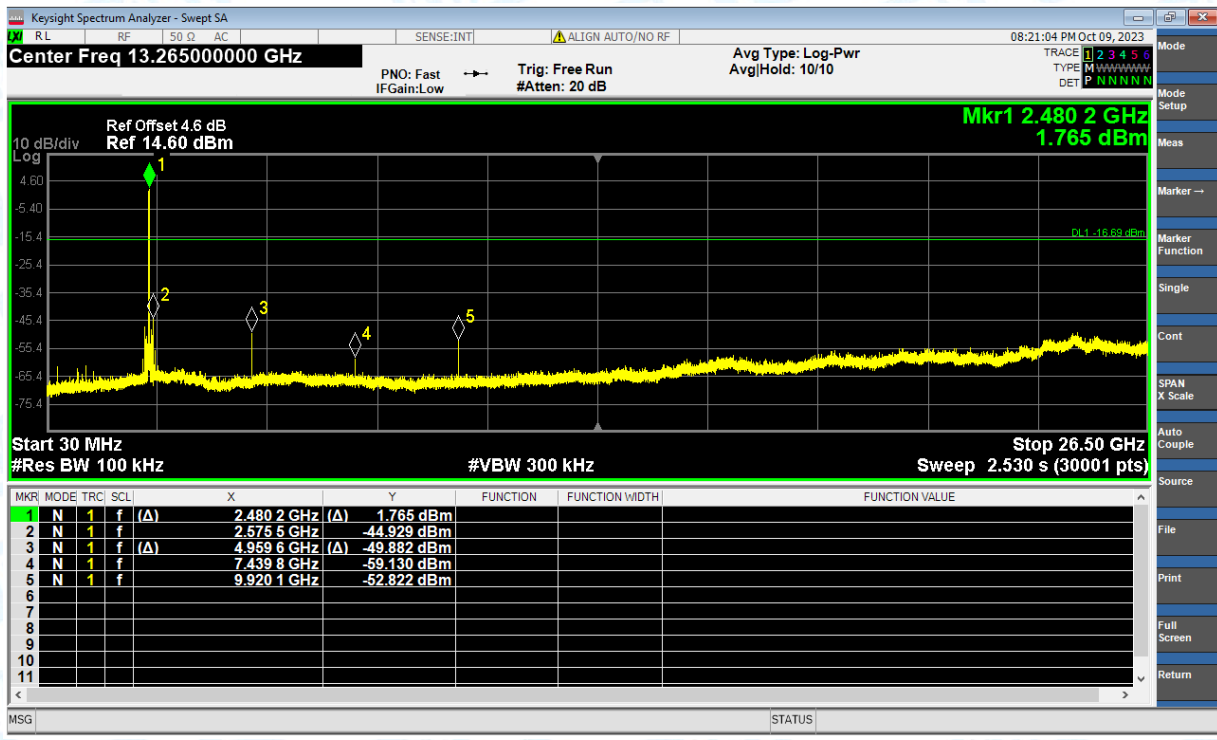
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



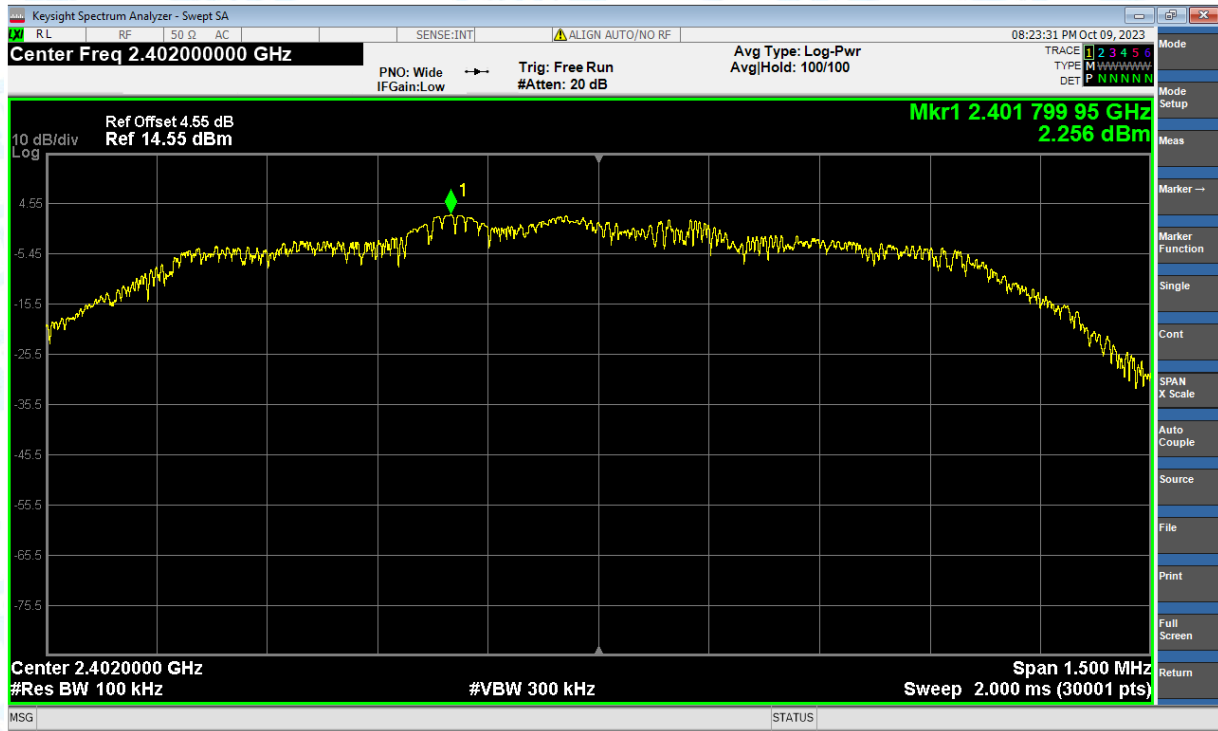
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



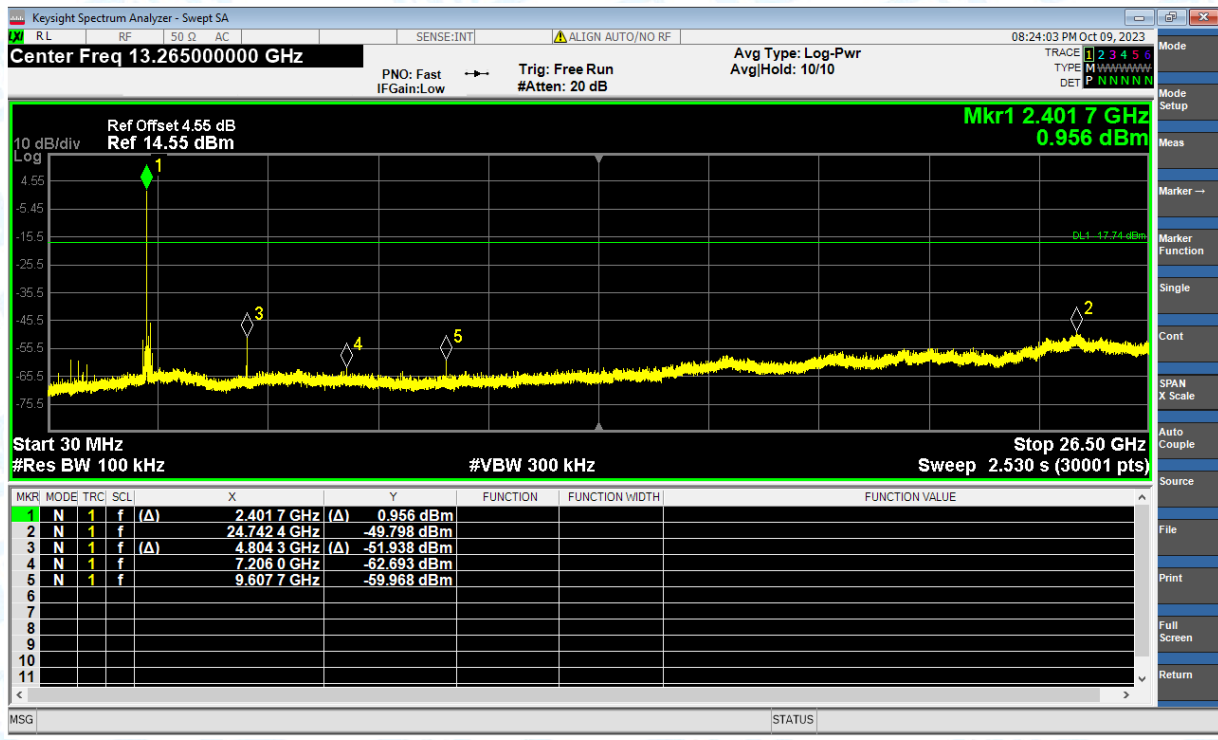
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



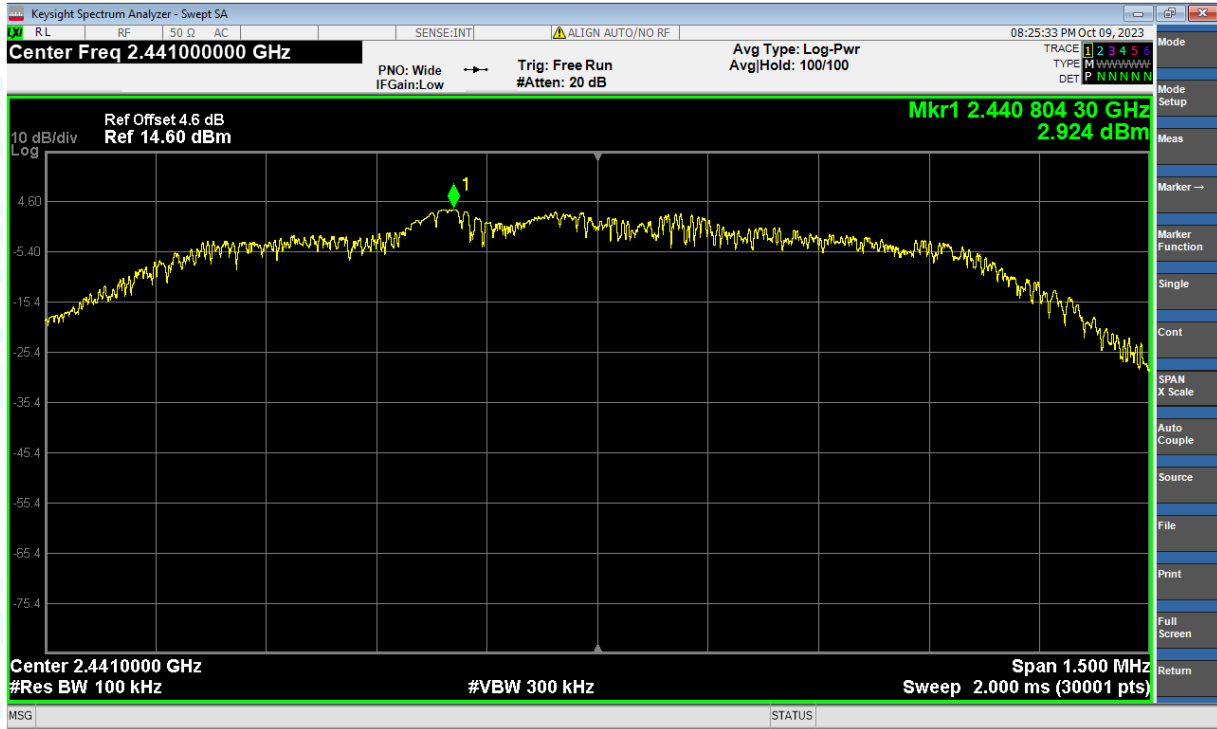
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



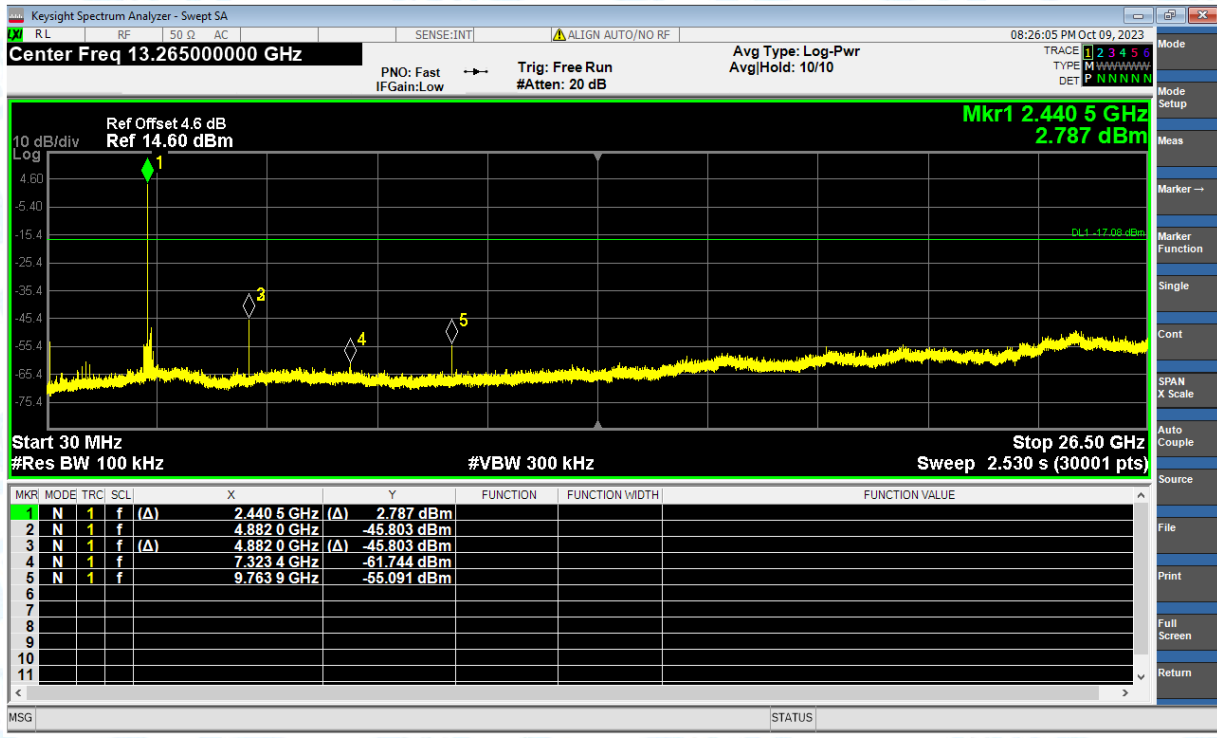
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



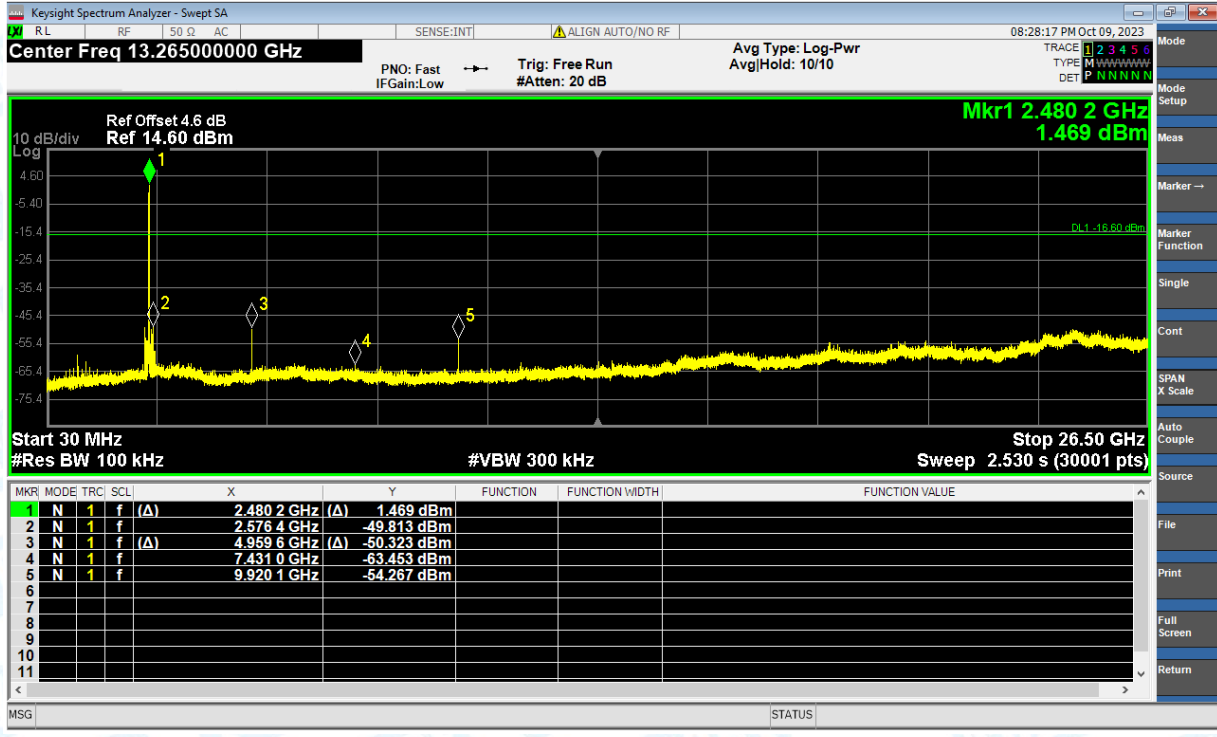
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



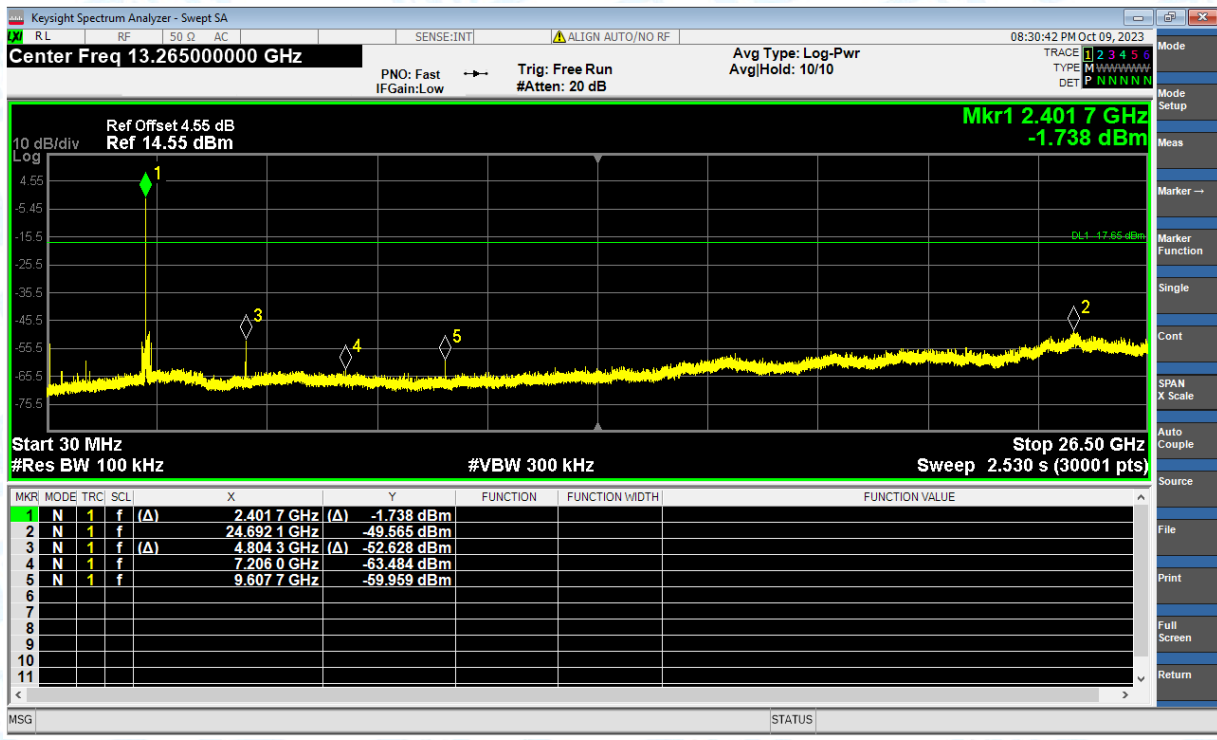
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



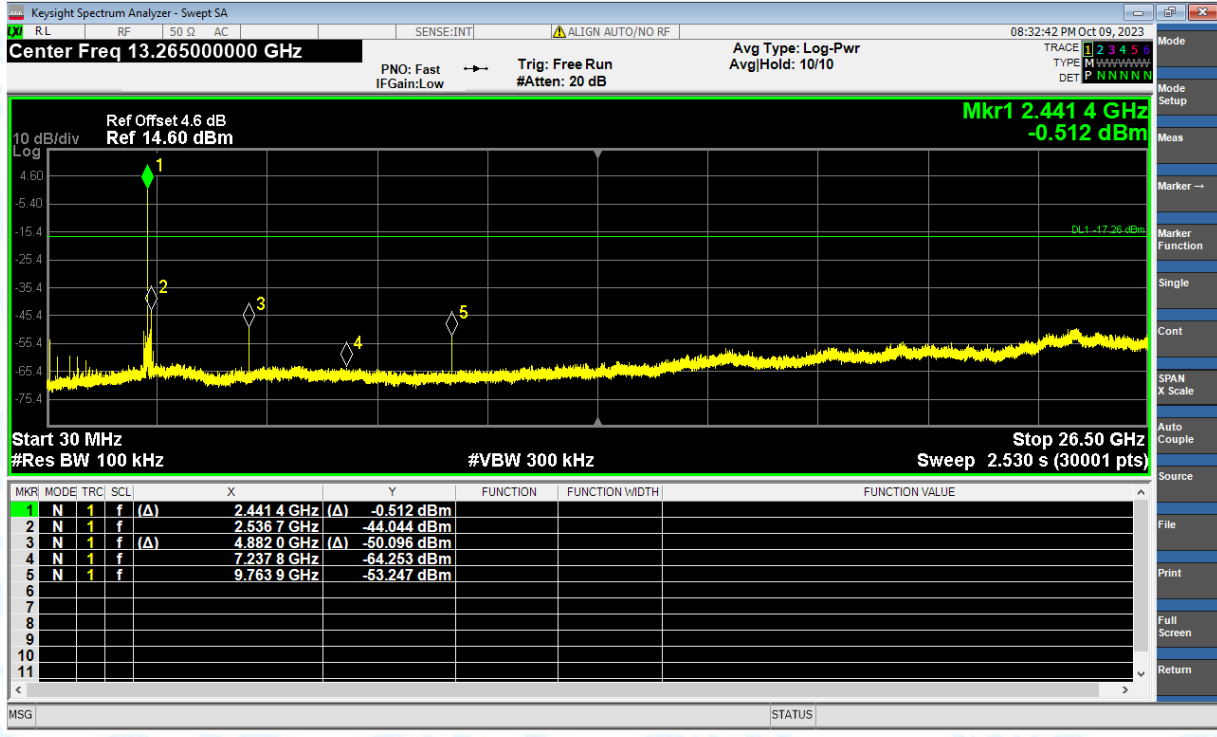
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



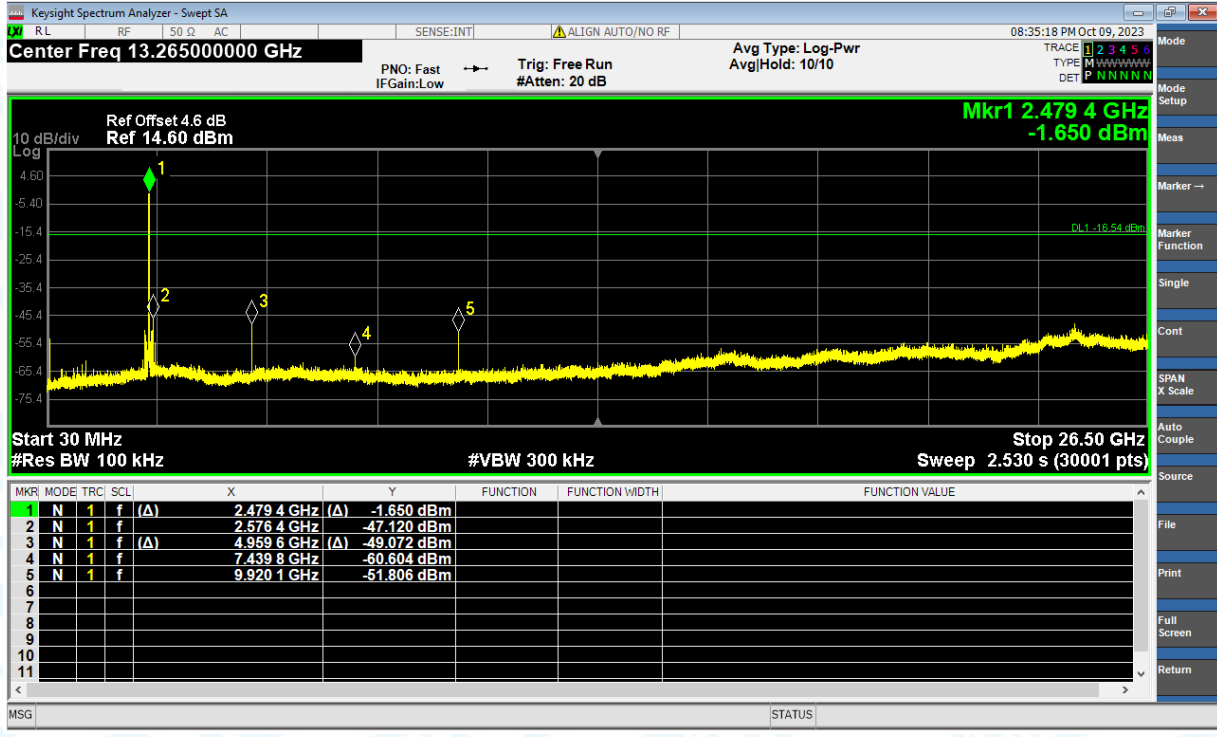
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

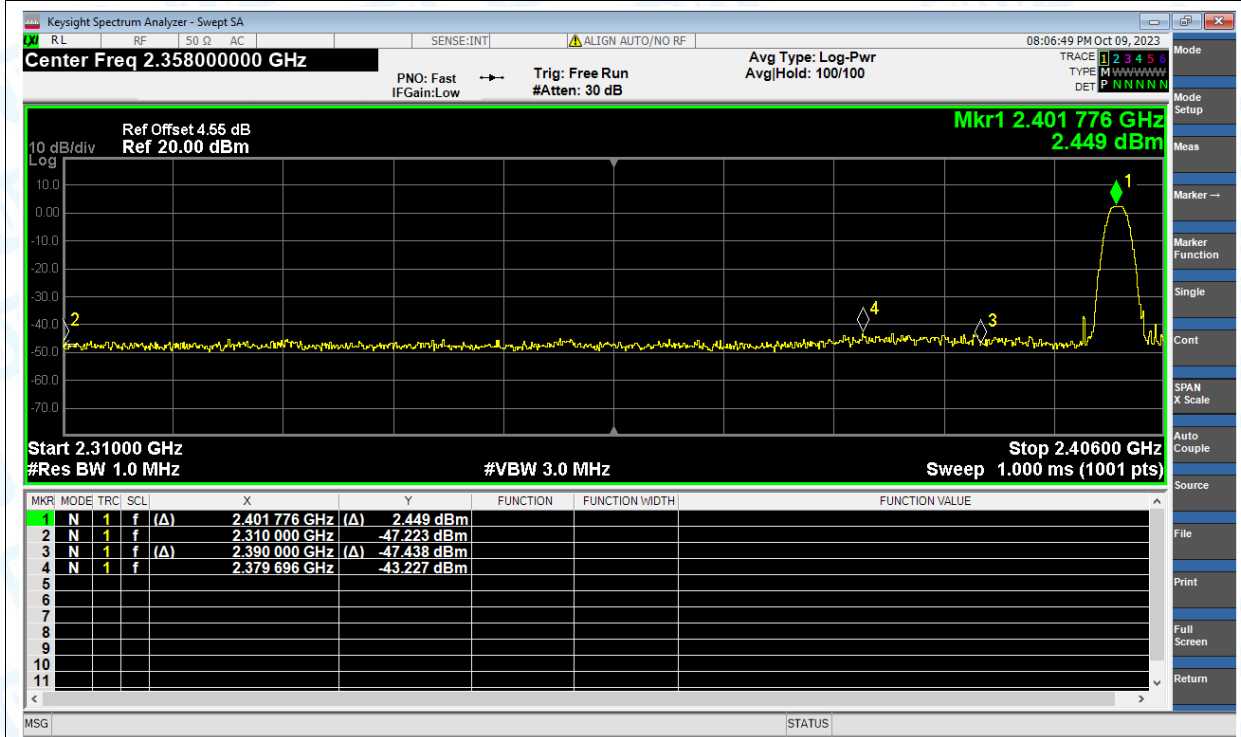


Restrict Band

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	-47.22	2	50.04	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.74	2	40.52	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2379.696	-43.23	2	54.03	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2353.872	-52.2	2	45.06	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.08	2	51.18	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-54.11	2	43.15	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-47.19	2	50.07	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.09	2	42.17	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.56	-39.47	2	57.79	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2499.208	-51.73	2	45.53	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-42.3	2	54.96	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-52.61	2	44.65	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-46.67	2	50.59	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.45	2	40.81	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2379.216	-42.11	2	55.15	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2382.768	-52.92	2	44.34	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-44.78	2	52.48	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-53.97	2	43.29	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-47.31	2	49.95	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.03	2	42.23	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.896	-39.8	2	57.46	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2499.736	-51.27	2	45.99	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-42.96	2	54.3	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-51.72	2	45.54	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-49.27	2	47.99	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.82	2	40.44	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2382.384	-41.9	2	55.36	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2383.344	-52.97	2	44.29	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-42.68	2	54.58	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-53.96	2	43.3	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-44.92	2	52.34	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.04	2	42.22	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2497.432	-40.98	2	56.28	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2499.112	-51.63	2	45.63	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-44.63	2	52.63	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-52.29	2	44.97	Average	54	Pass

Test Graphs

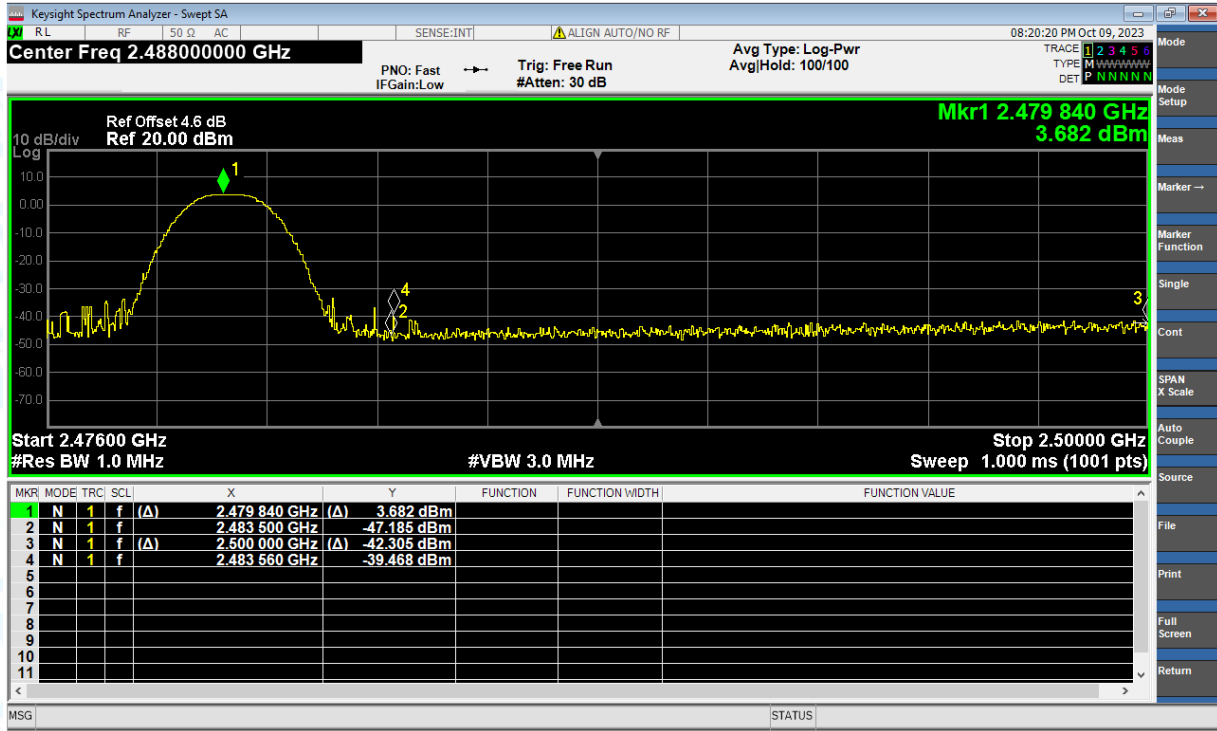
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



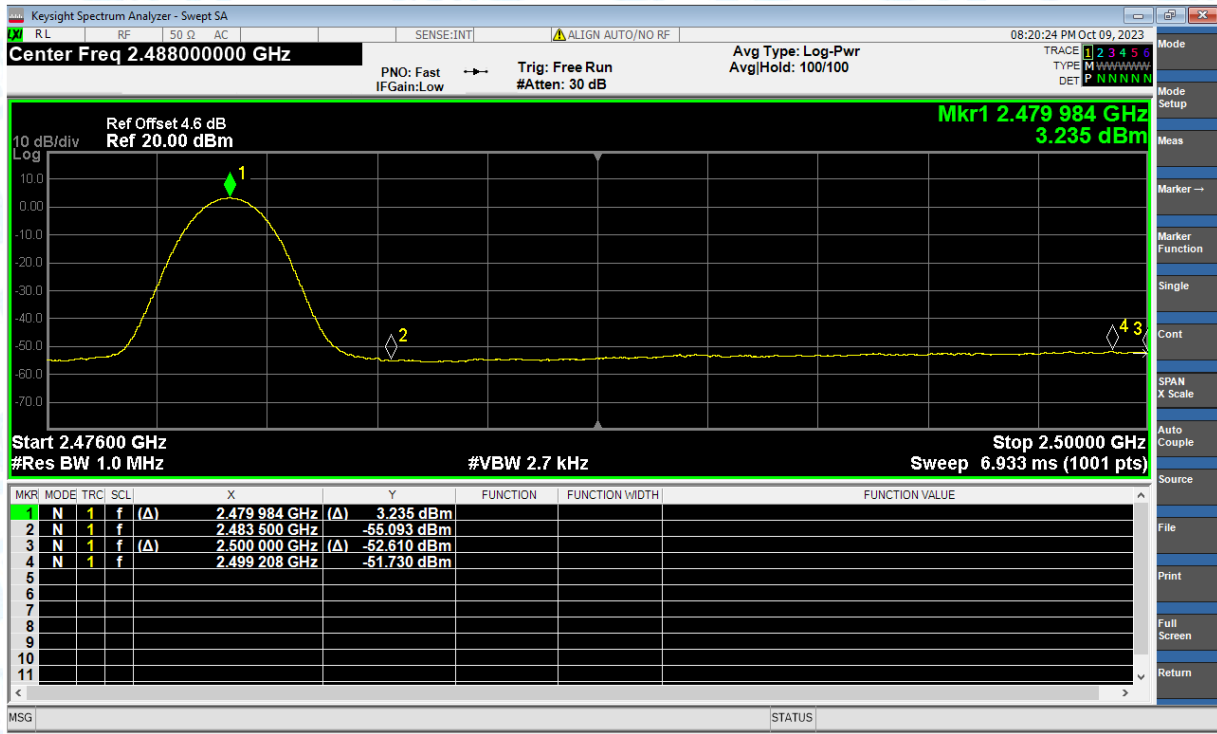
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



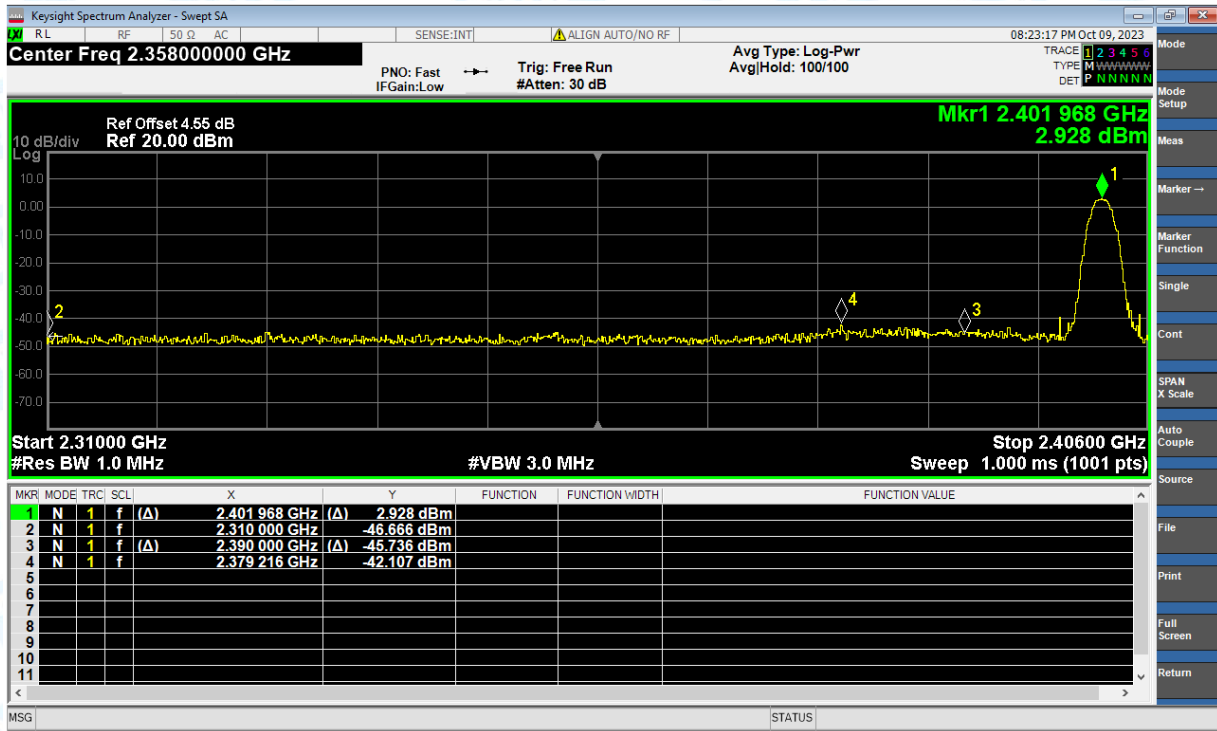
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



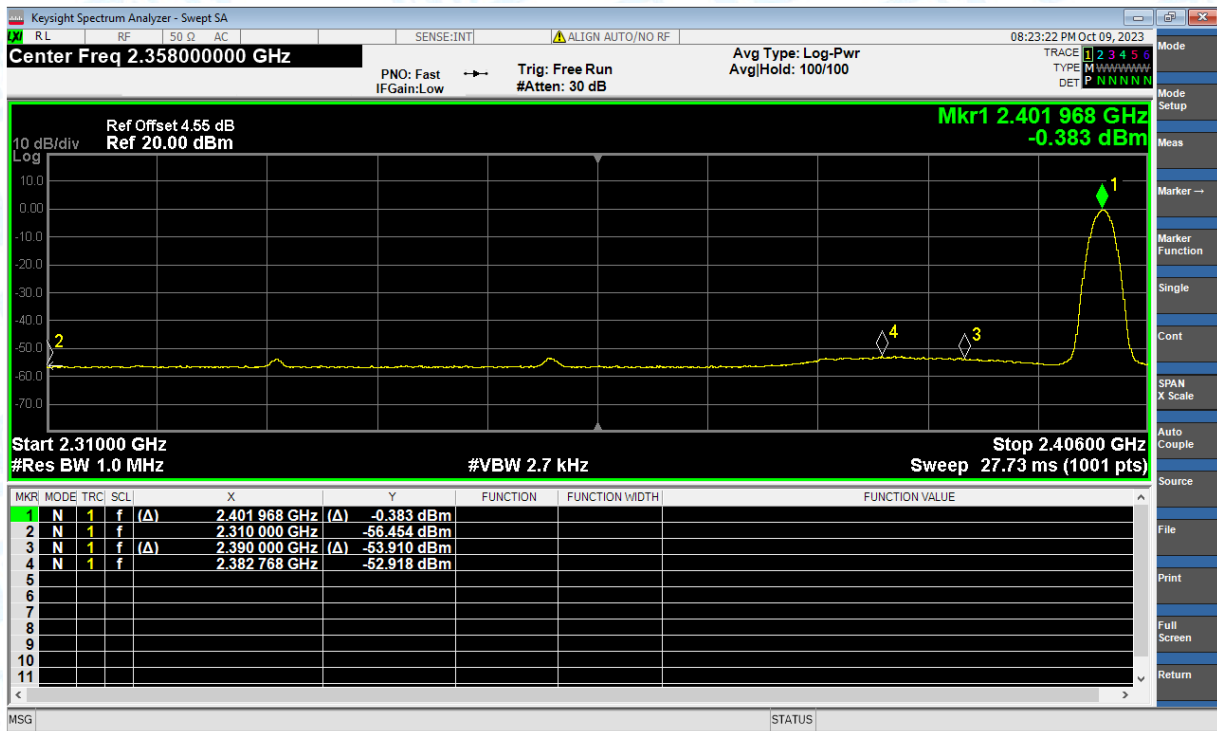
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



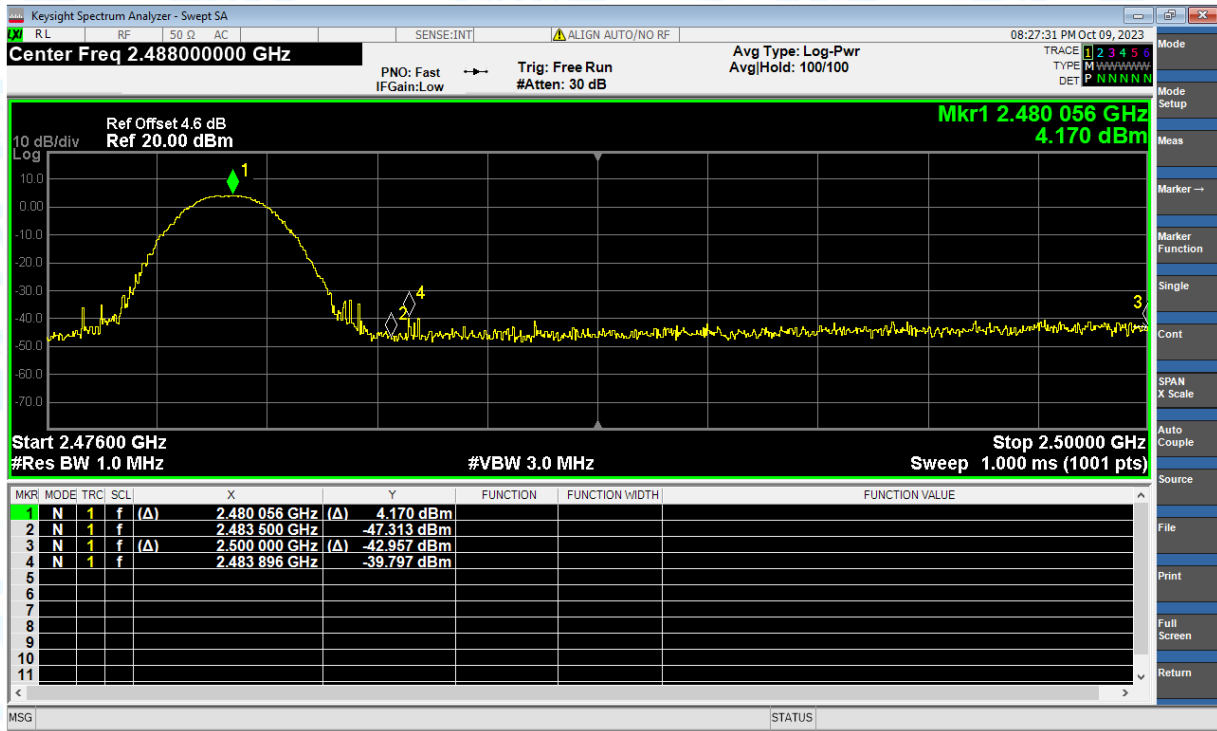
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



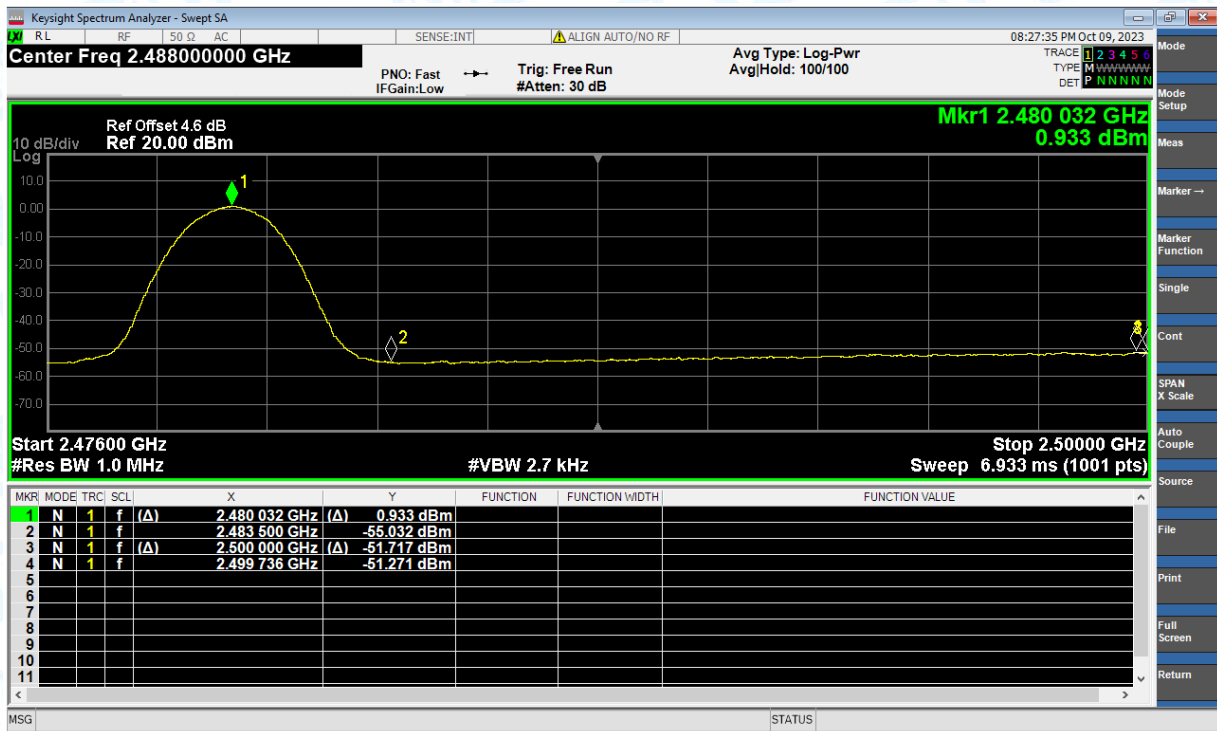
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



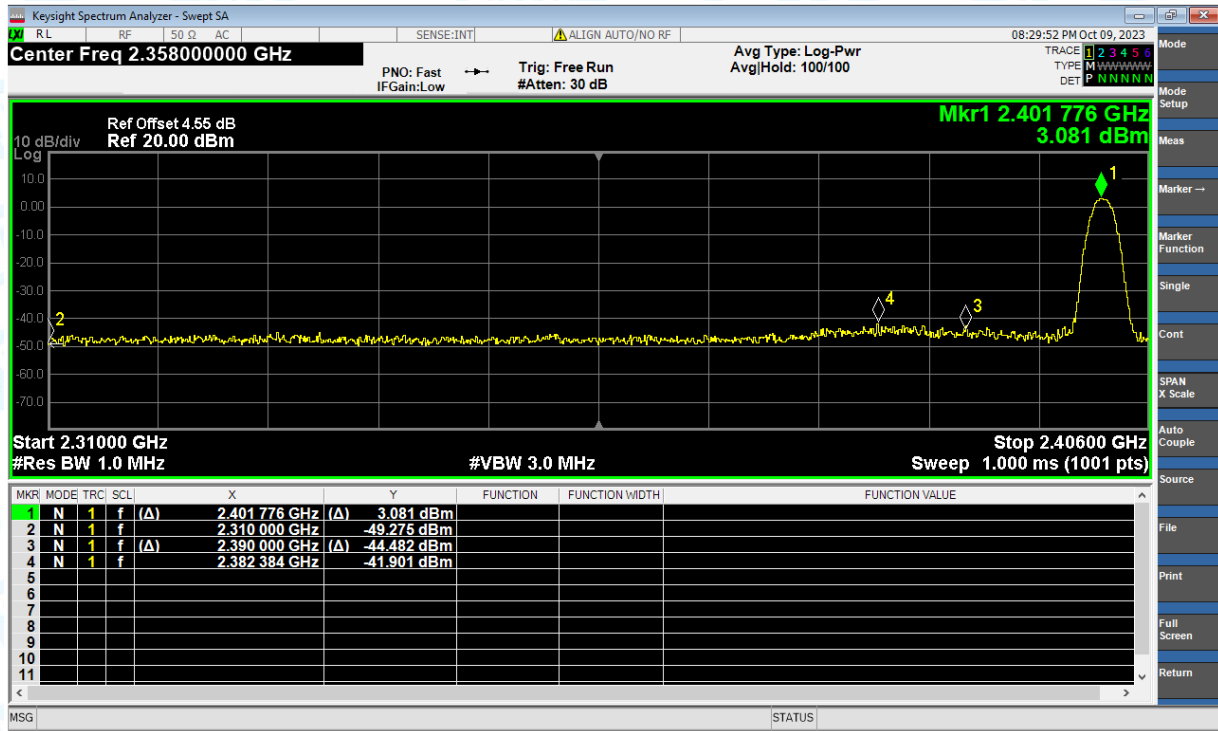
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



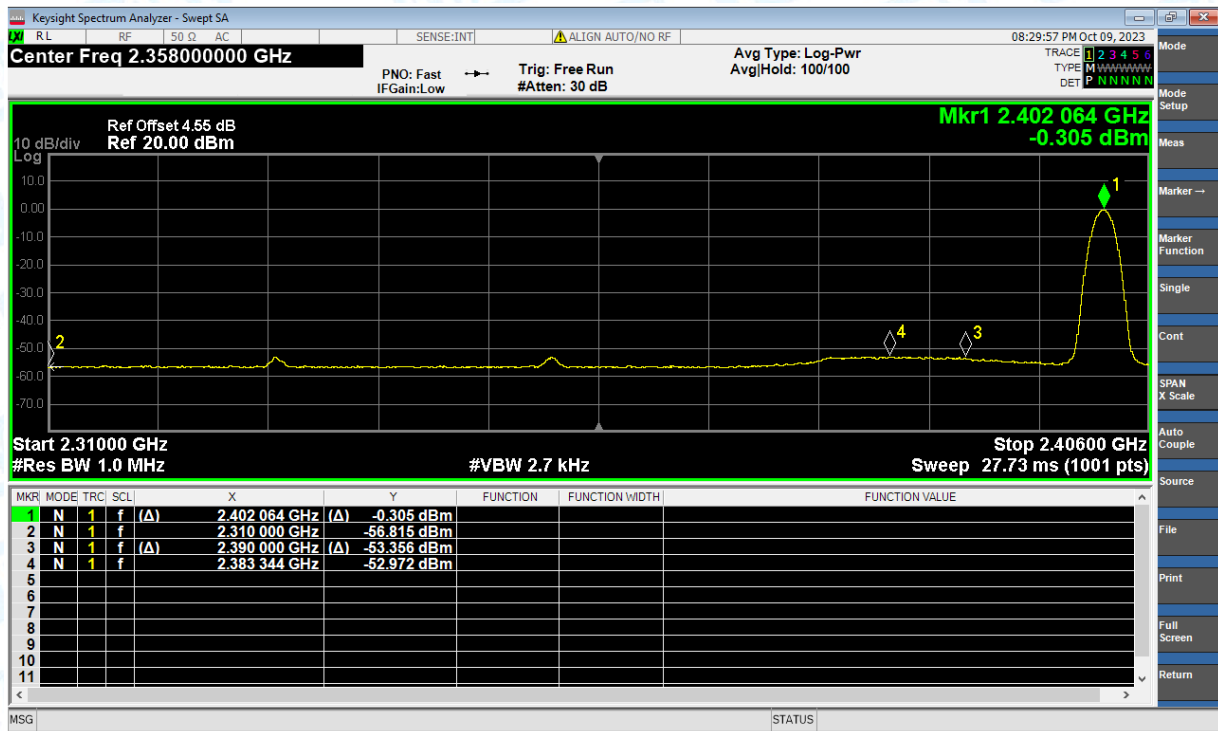
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



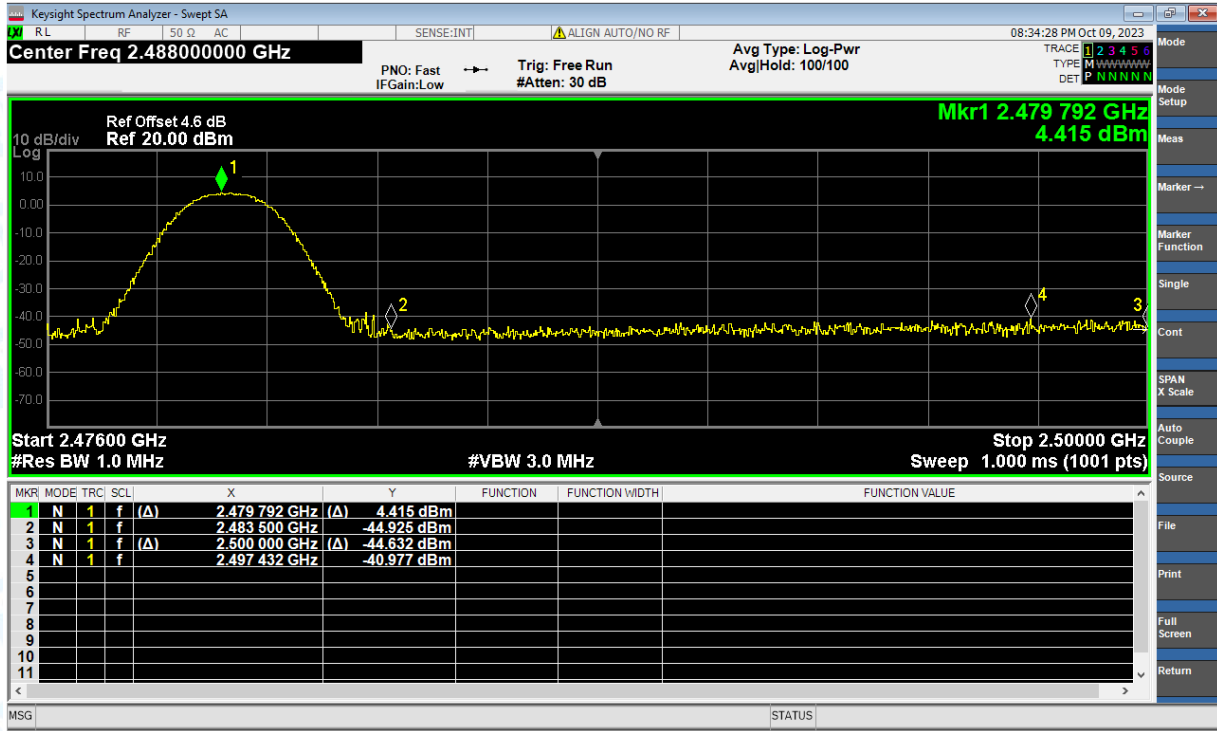
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



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



Carrier Frequencies Separation

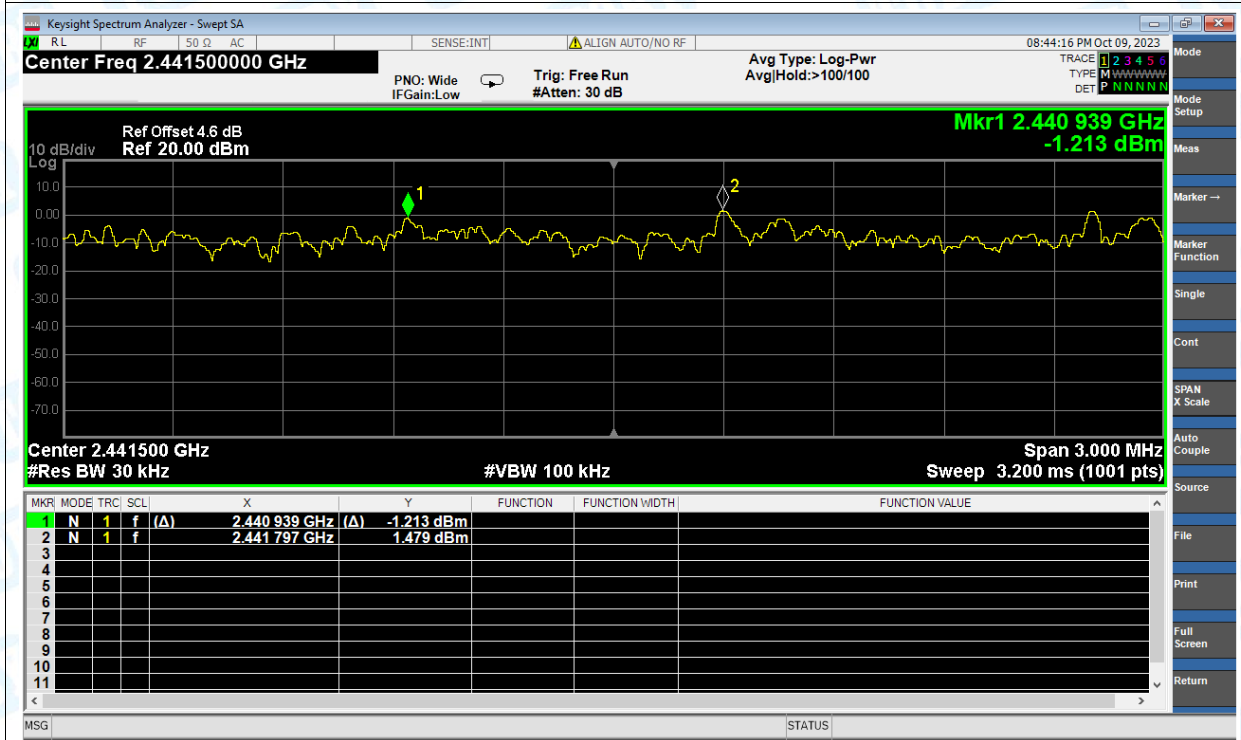
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.795	2442.079	1.284	0.687	Pass
NVNT	2-DH1	Ant1	2440.939	2441.797	0.858	0.853	Pass
NVNT	3-DH1	Ant1	2440.795	2441.797	1.002	0.827	Pass

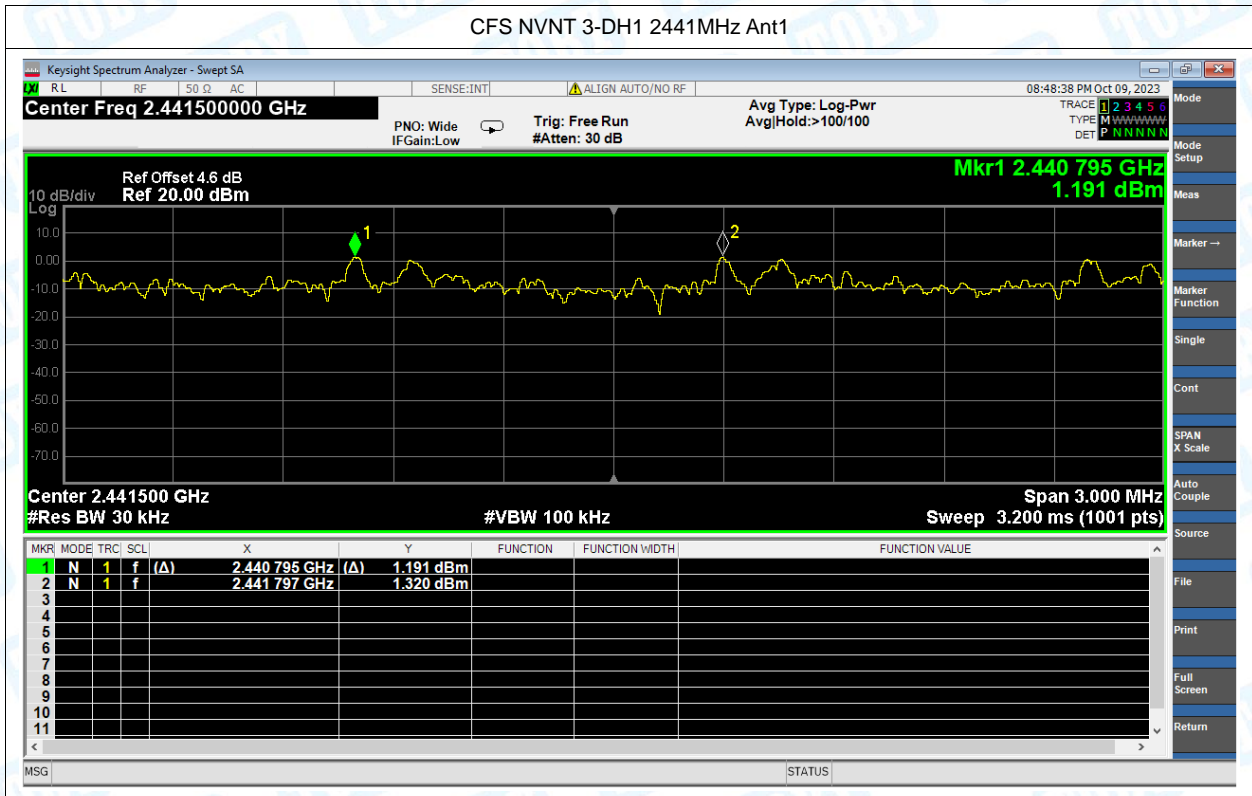
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



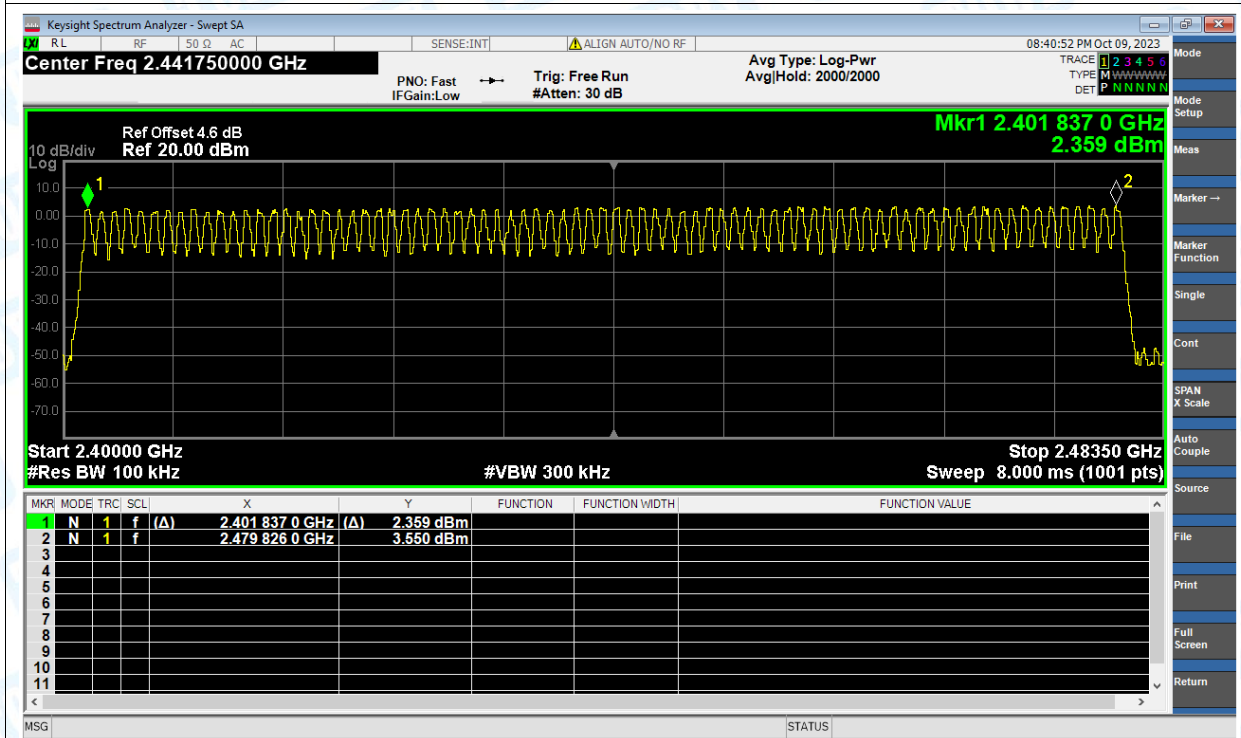


Number of Hopping Channel

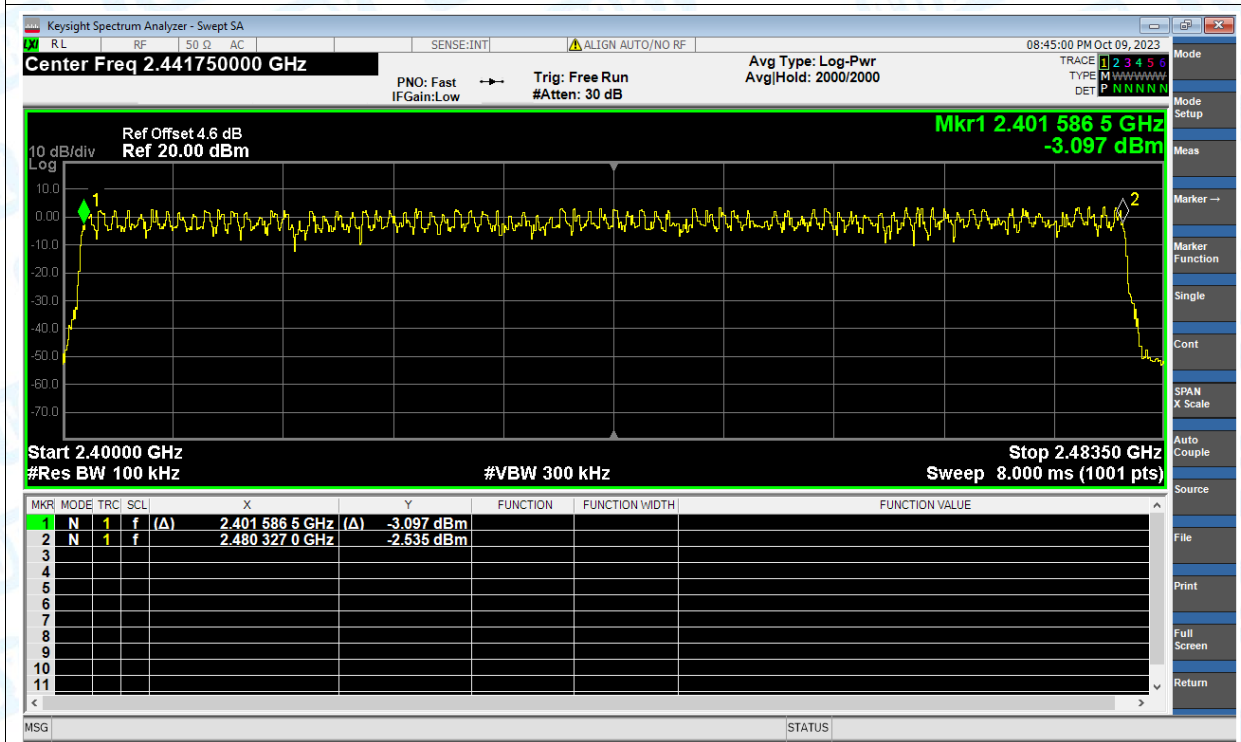
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

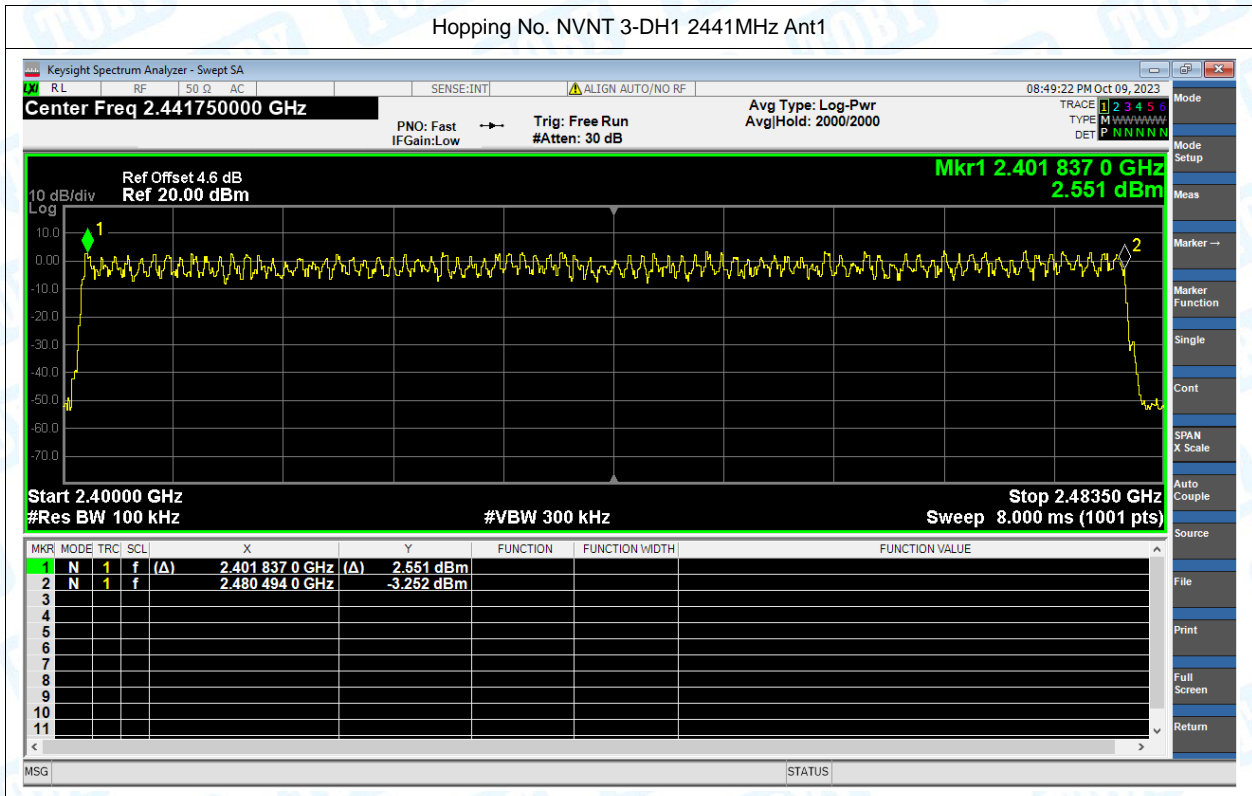
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



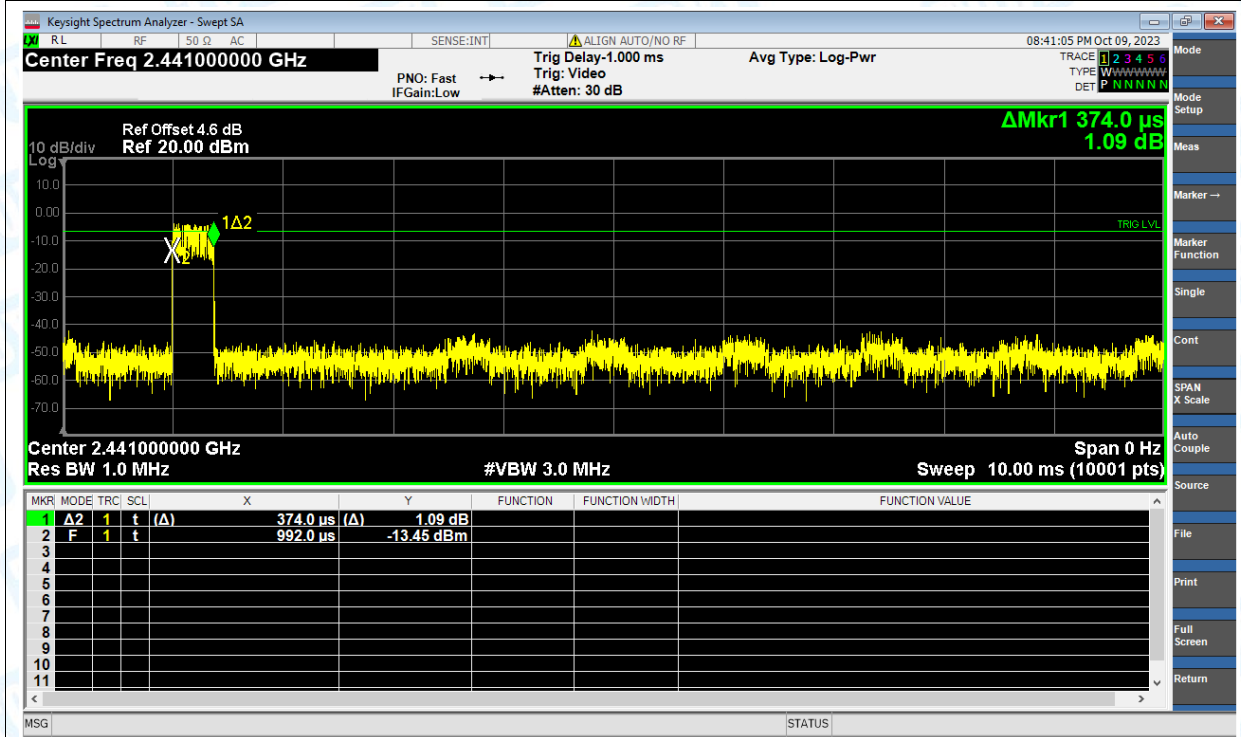


Dwell Time

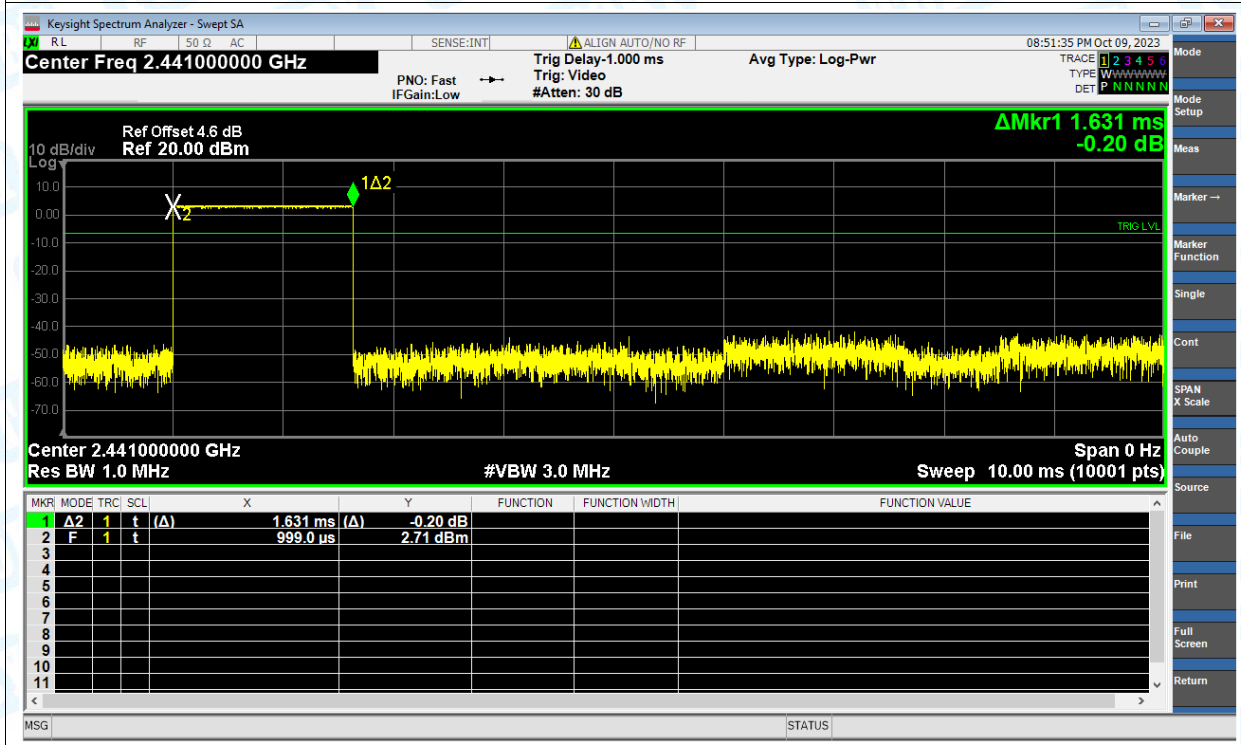
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.374	119.68	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.631	260.96	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.879	307.093	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.385	123.2	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.638	262.08	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.885	307.733	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.637	261.92	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.888	308.053	31600	400	Pass

Test Graphs

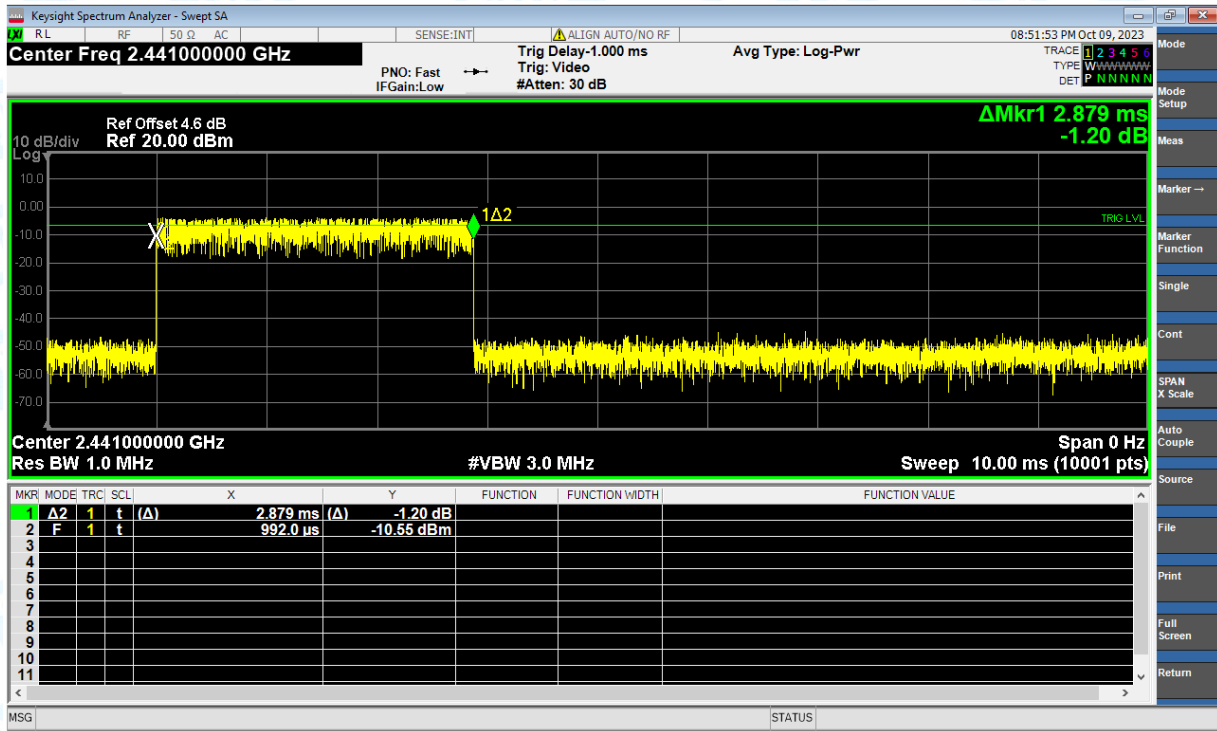
Dwell NVNT 1-DH1 2441MHz Ant1



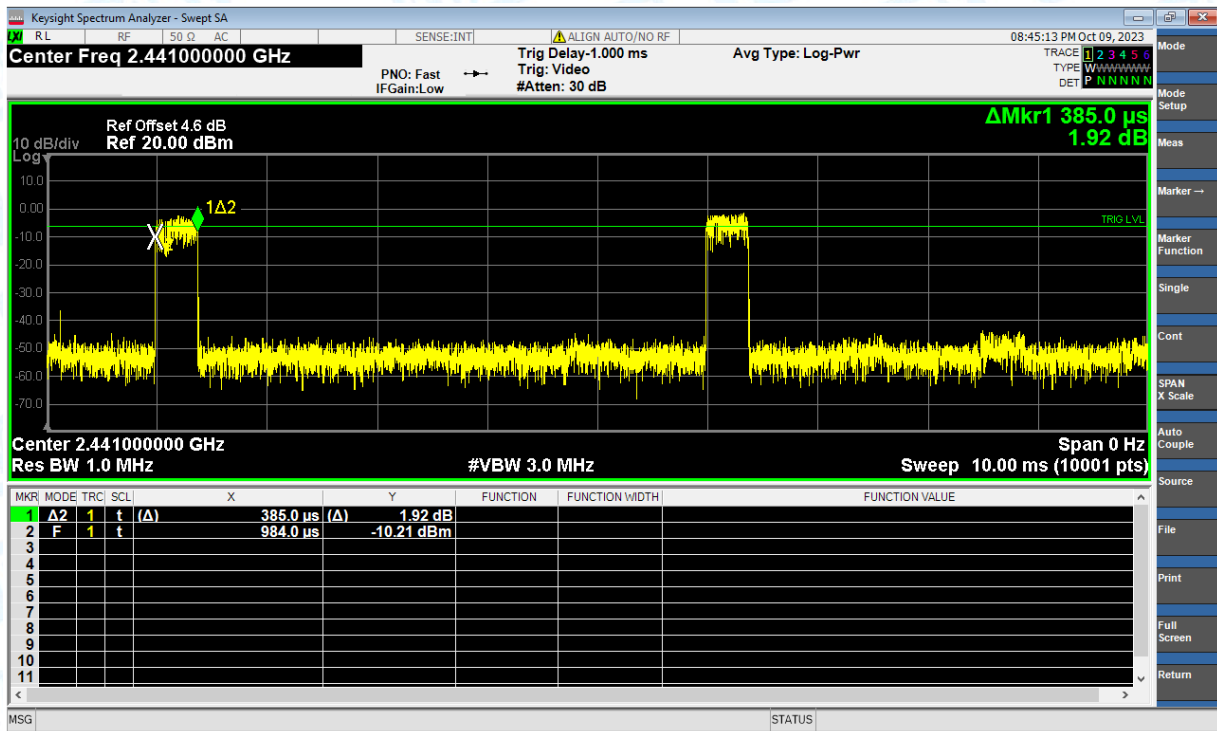
Dwell NVNT 1-DH3 2441MHz Ant1



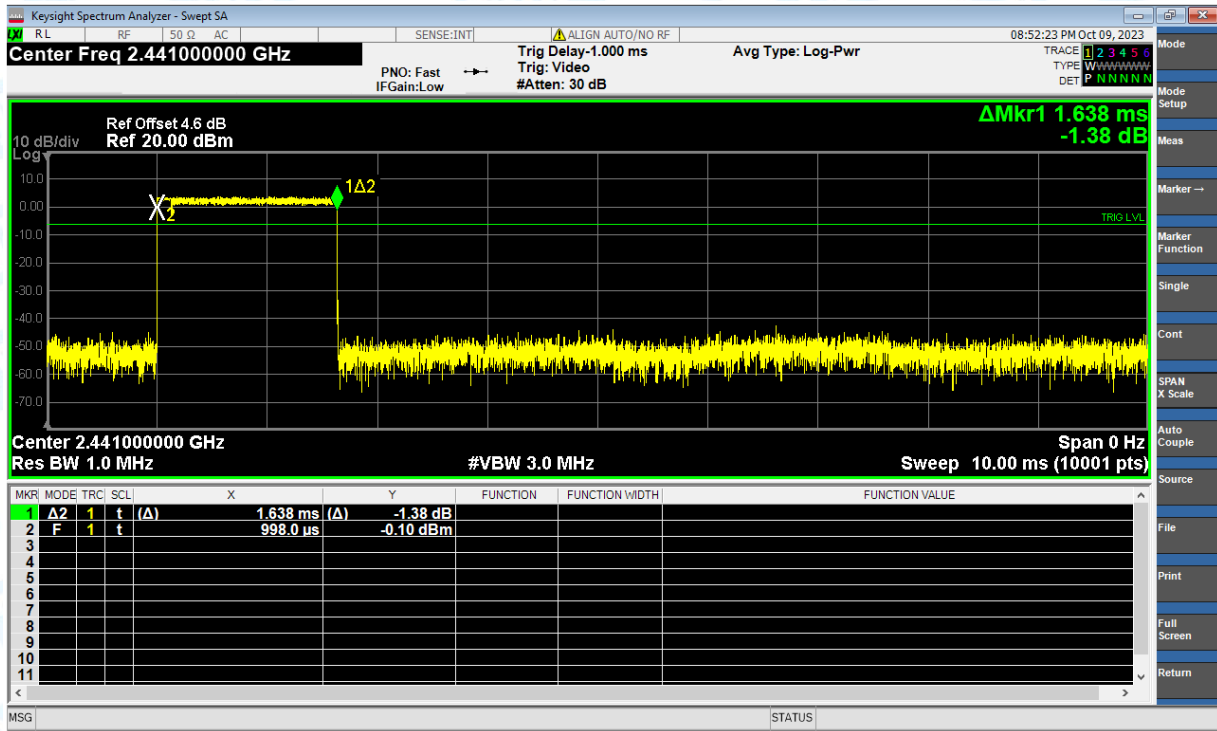
Dwell NVNT 1-DH5 2441MHz Ant1



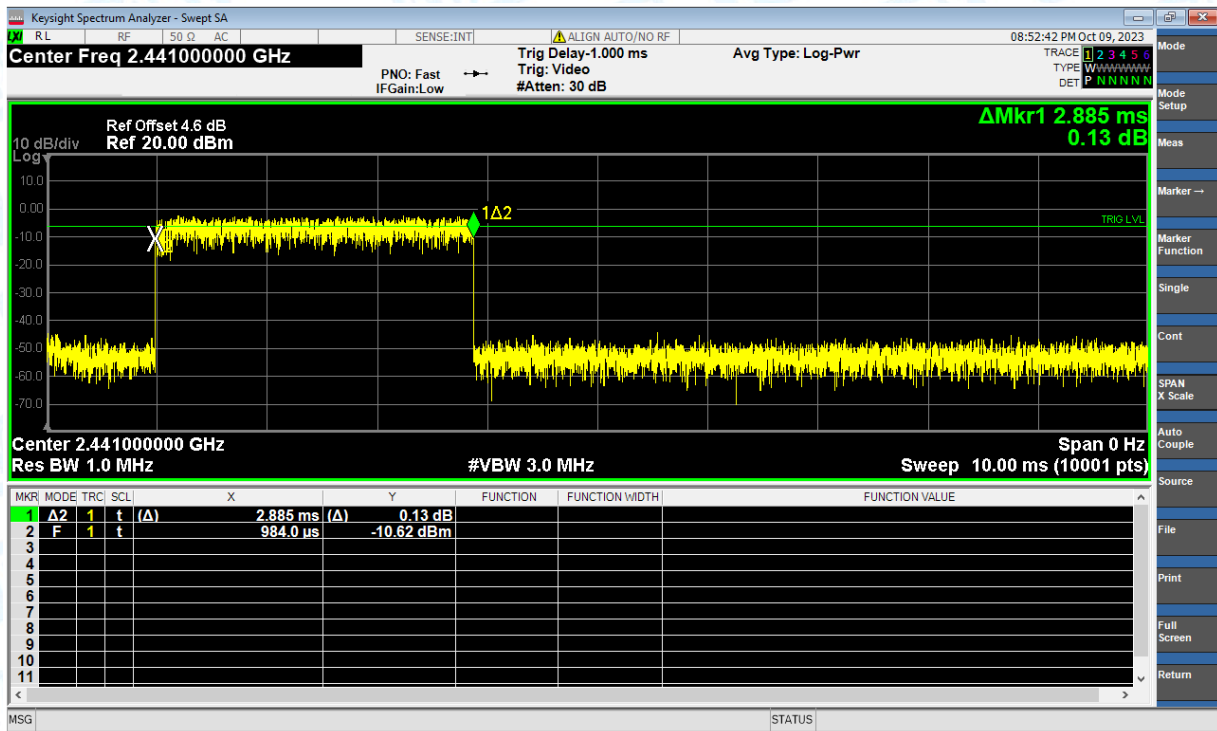
Dwell NVNT 2-DH1 2441MHz Ant1



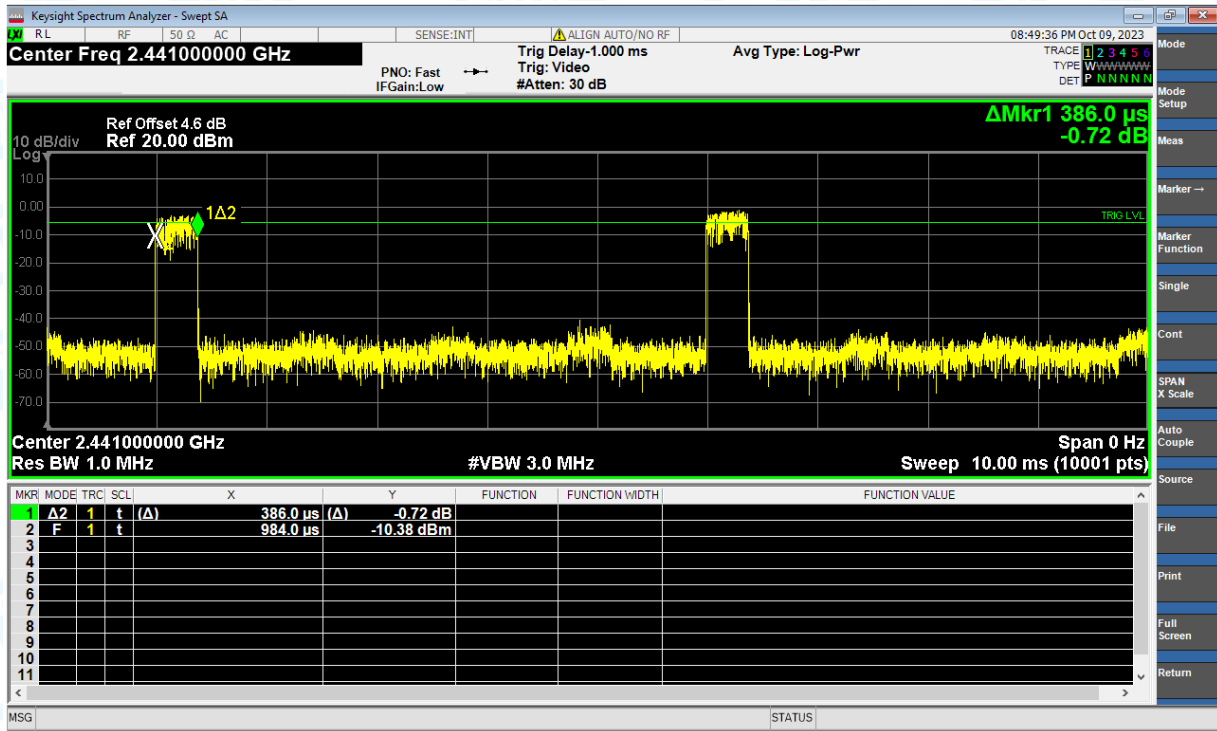
Dwell NVNT 2-DH3 2441MHz Ant1



Dwell NVNT 2-DH5 2441MHz Ant1



Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1

