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

General Description of EUT	
Product Name:	4G Smartphone
Test Model:	Connect Pro
Sample ID:	202304-0231-9-#2
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 3.8V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202304-0231-10 The report only show the worst case data.	

Contents

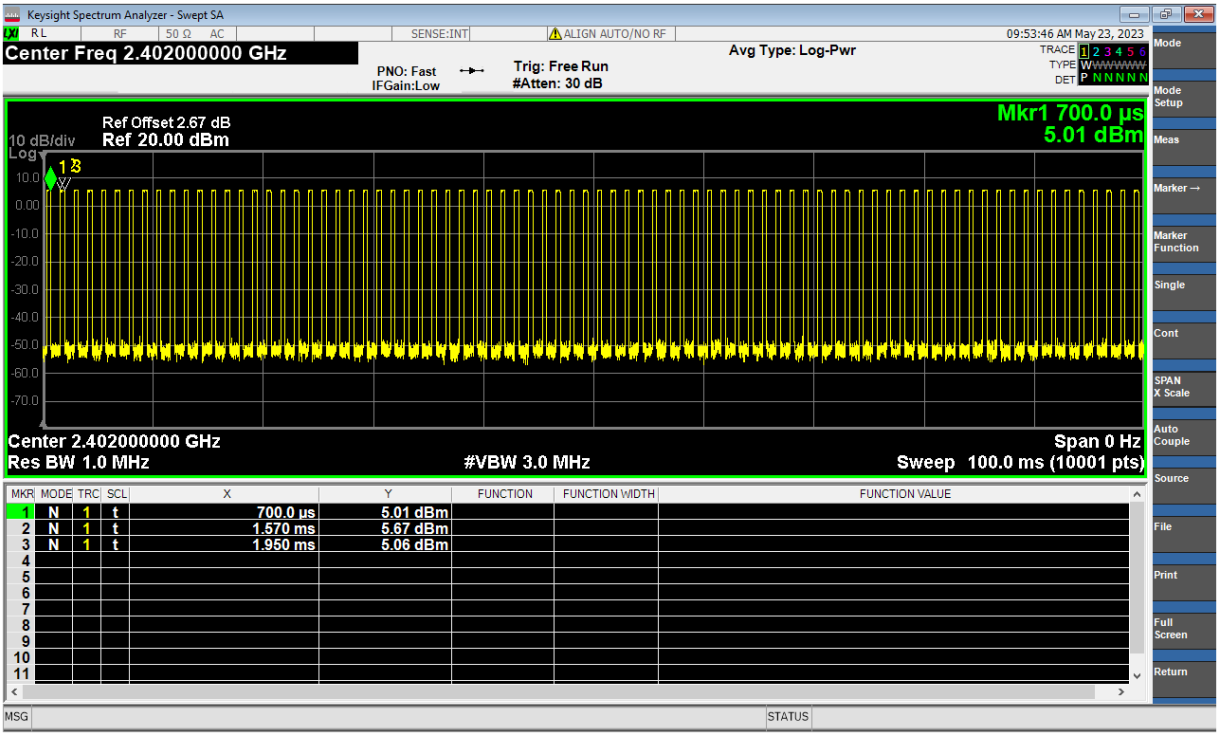
1. Duty Cycle 3
2. Maximum Conducted Output Power 9
3. -20dB Bandwidth 16
4. Occupied Channel Bandwidth 22
5. Band Edge 28
6. Band Edge(Hopping) 35
7. Conducted RF Spurious Emission 42
8. Restrict Band 52
9. Carrier Frequencies Separation 59
10. Number of Hopping Channel 62
11. Dwell Time 65

1. Duty Cycle

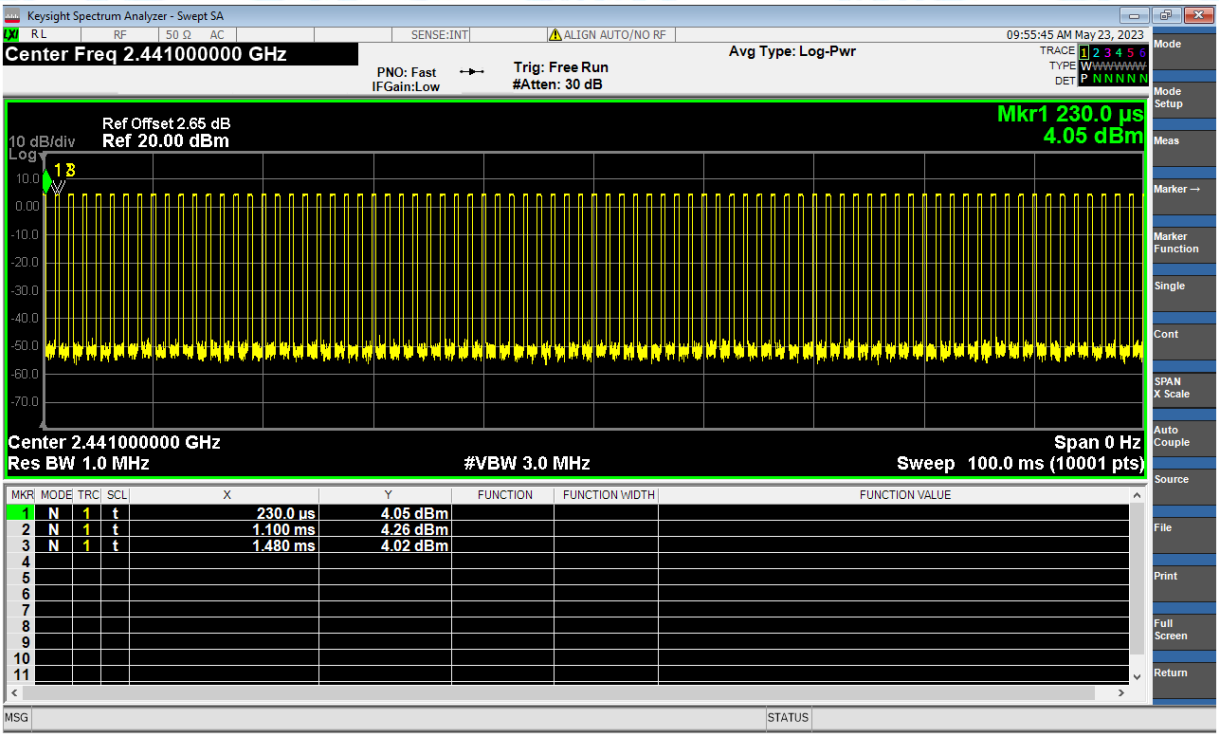
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56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

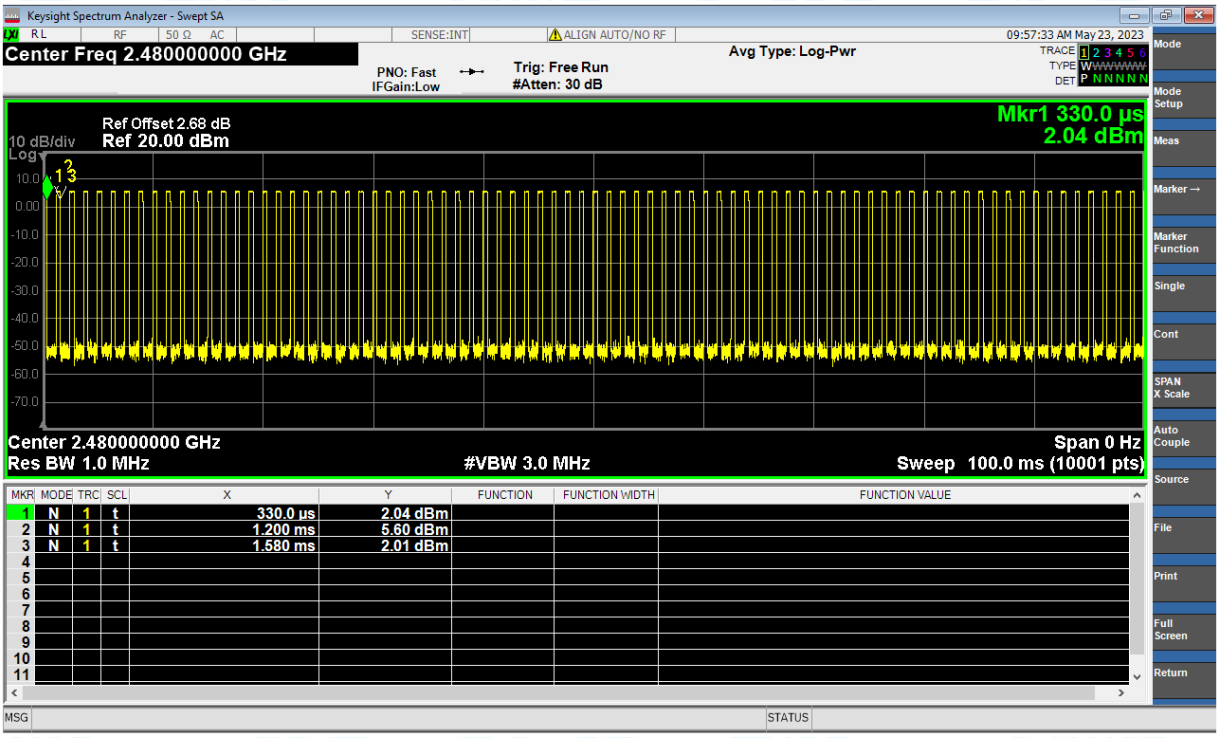
Duty Cycle NVNT 1-DH1 2402MHz Ant1



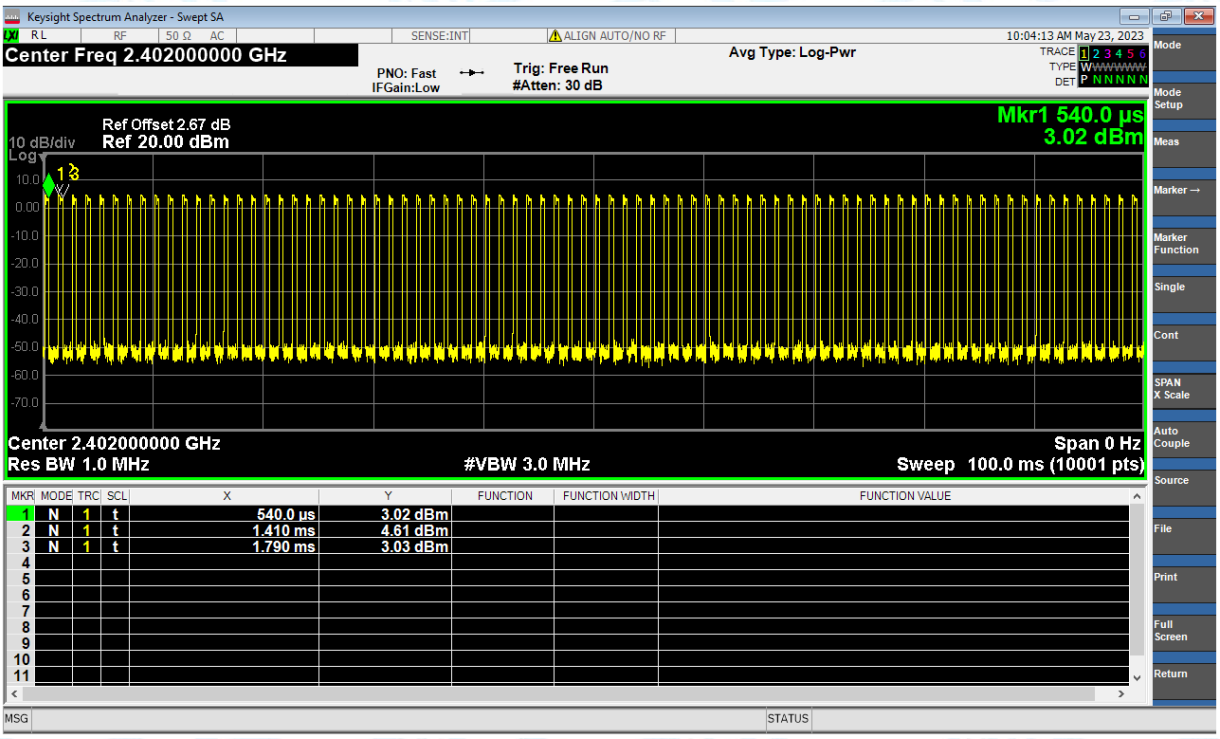
Duty Cycle NVNT 1-DH1 2441MHz Ant1



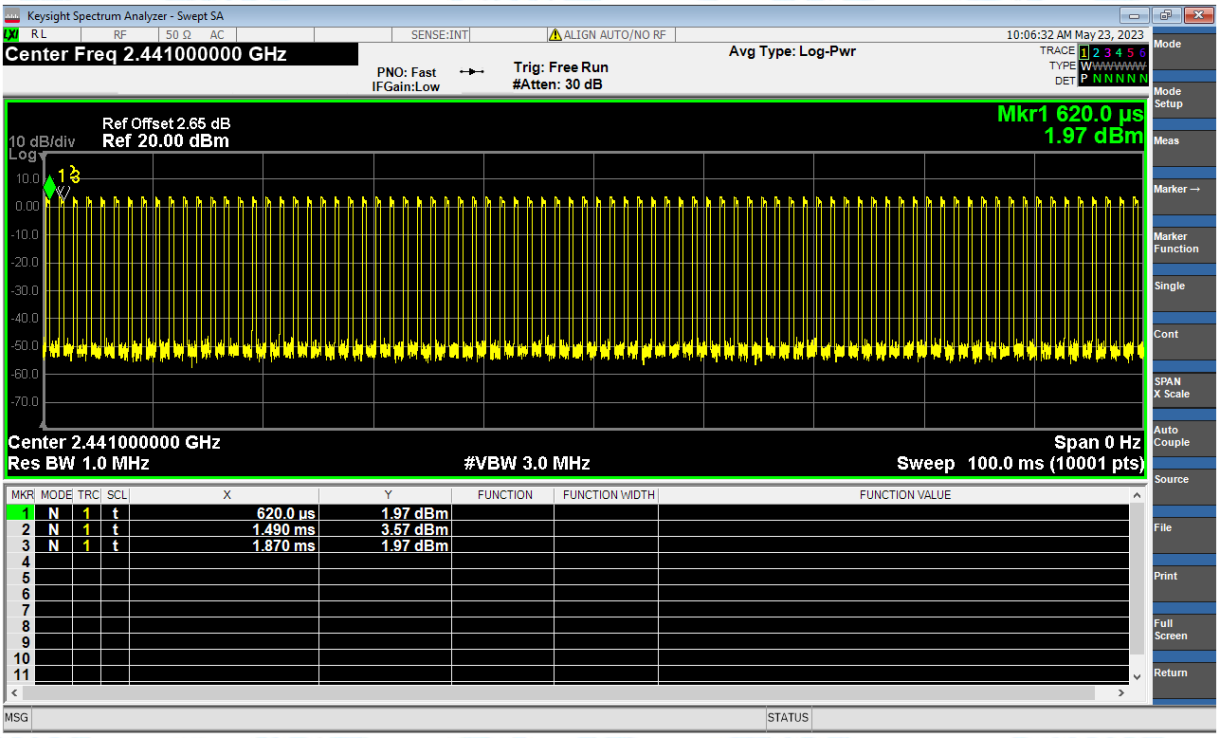
Duty Cycle NVNT 1-DH1 2480MHz Ant1



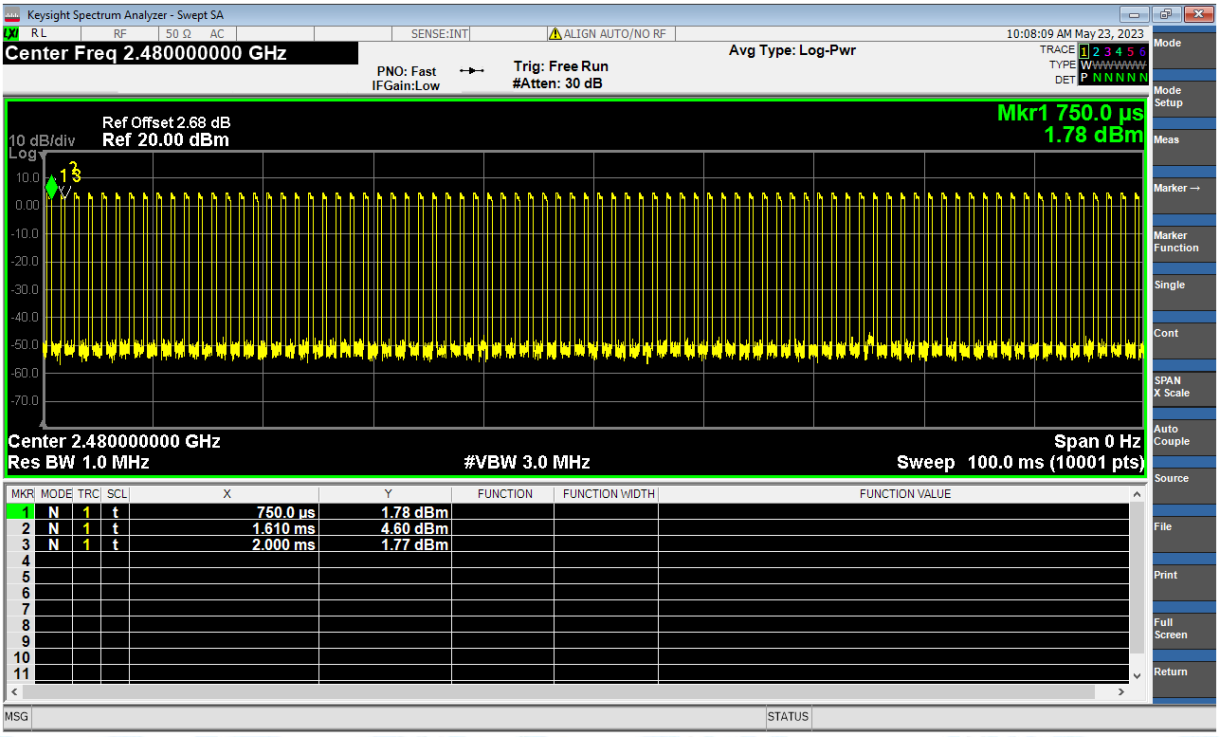
Duty Cycle NVNT 2-DH1 2402MHz Ant1



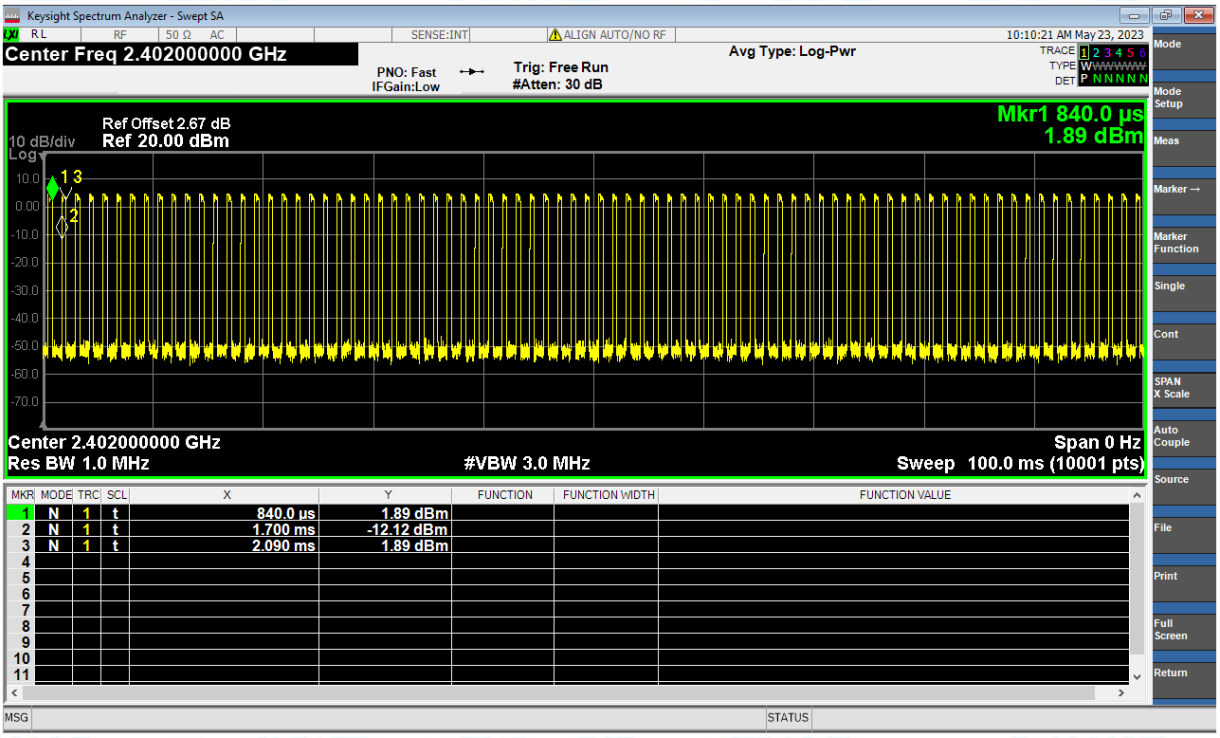
Duty Cycle NVNT 2-DH1 2441MHz Ant1



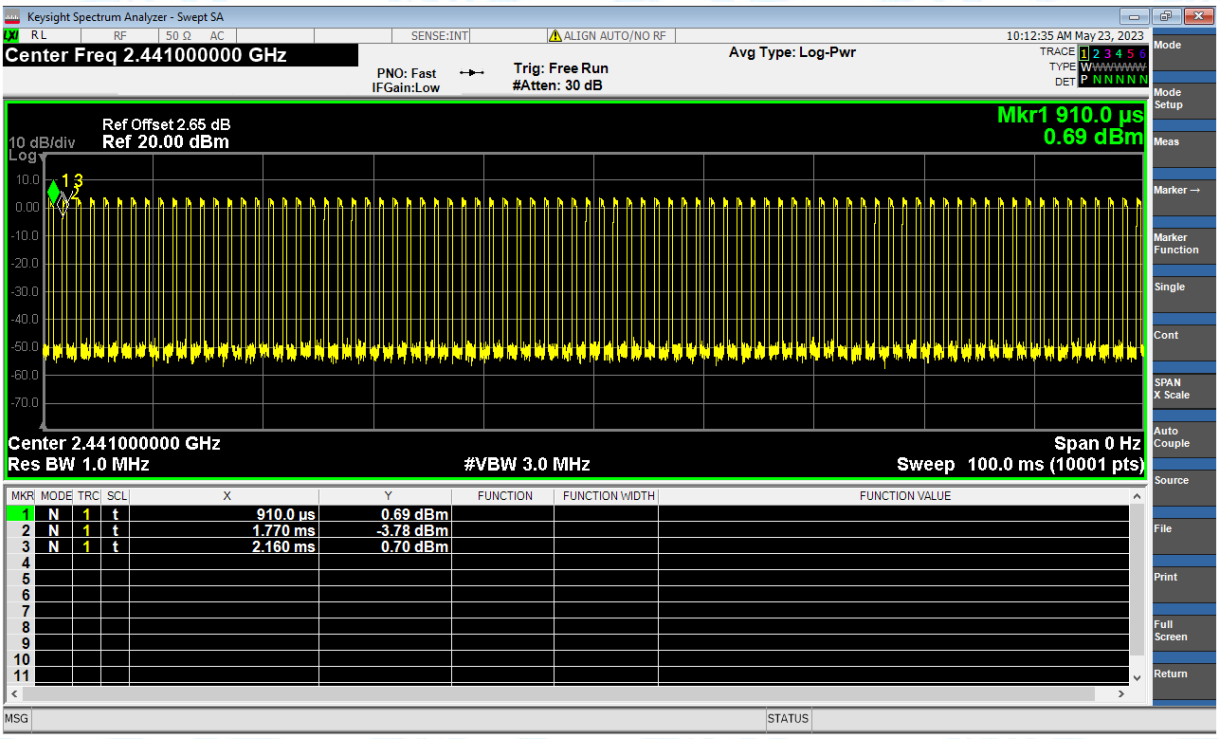
Duty Cycle NVNT 2-DH1 2480MHz Ant1



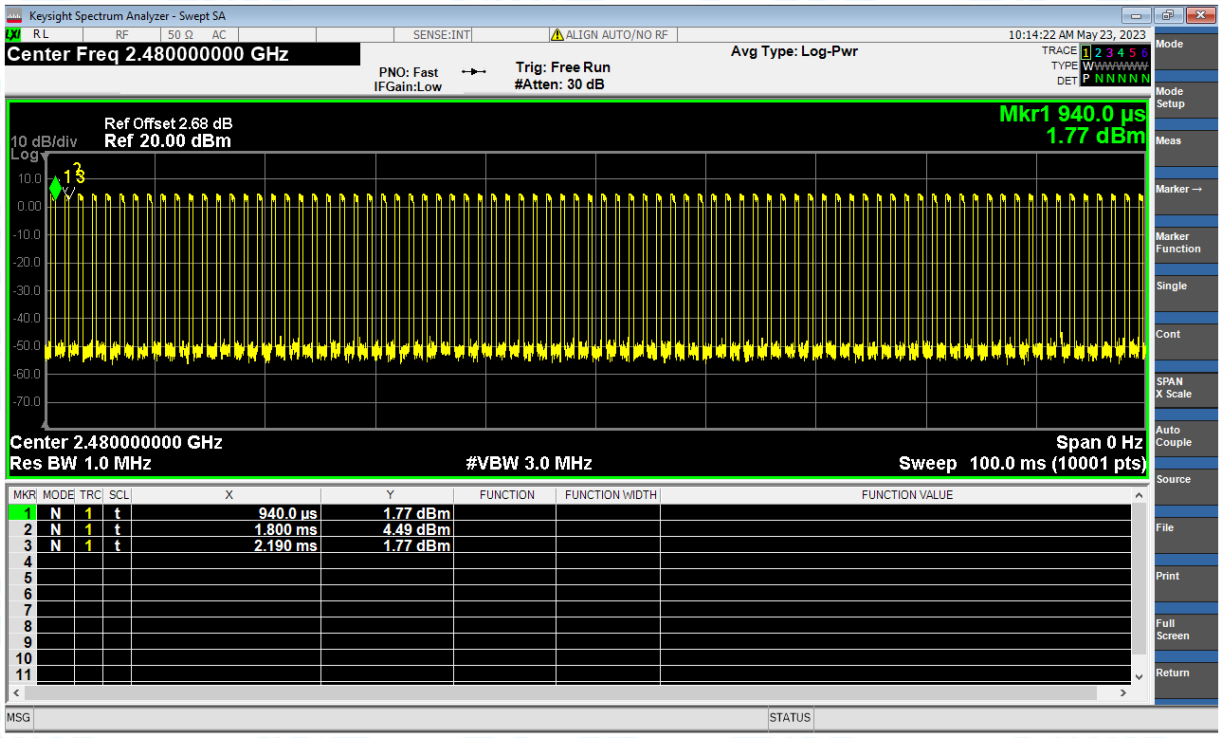
Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



Duty Cycle NVNT 3-DH1 2480MHz Ant1

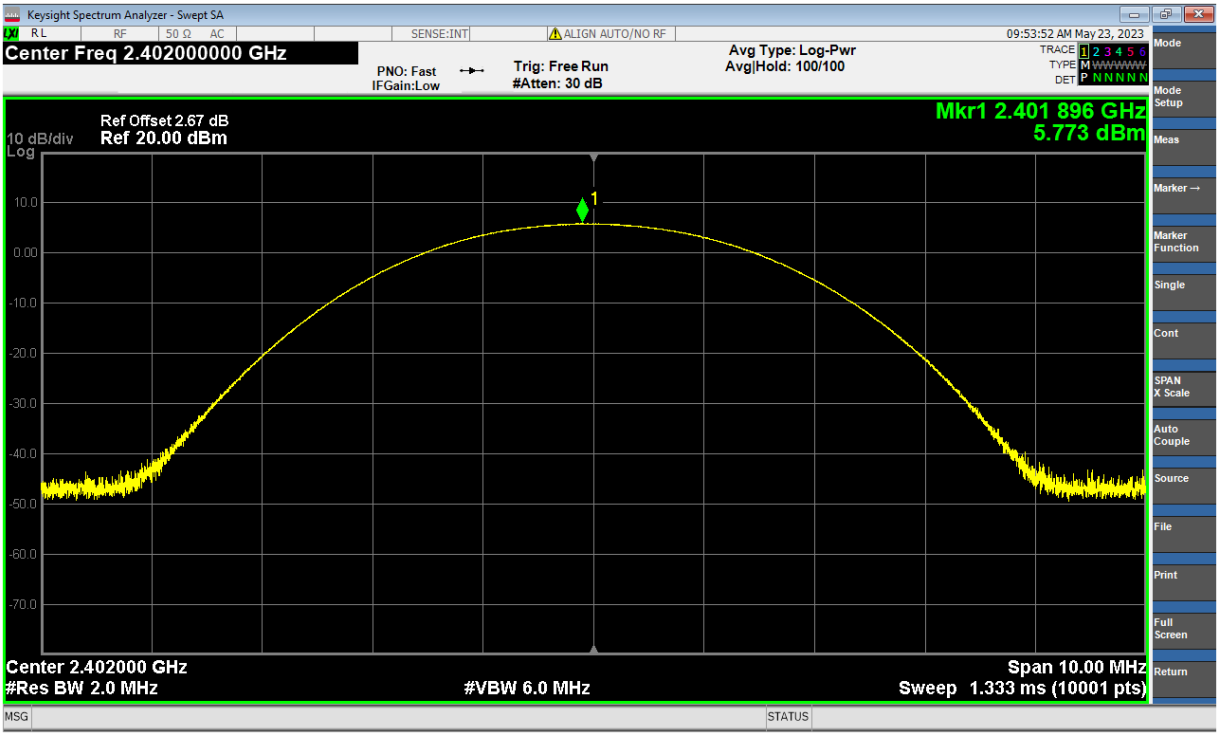


2. Maximum Conducted Output Power

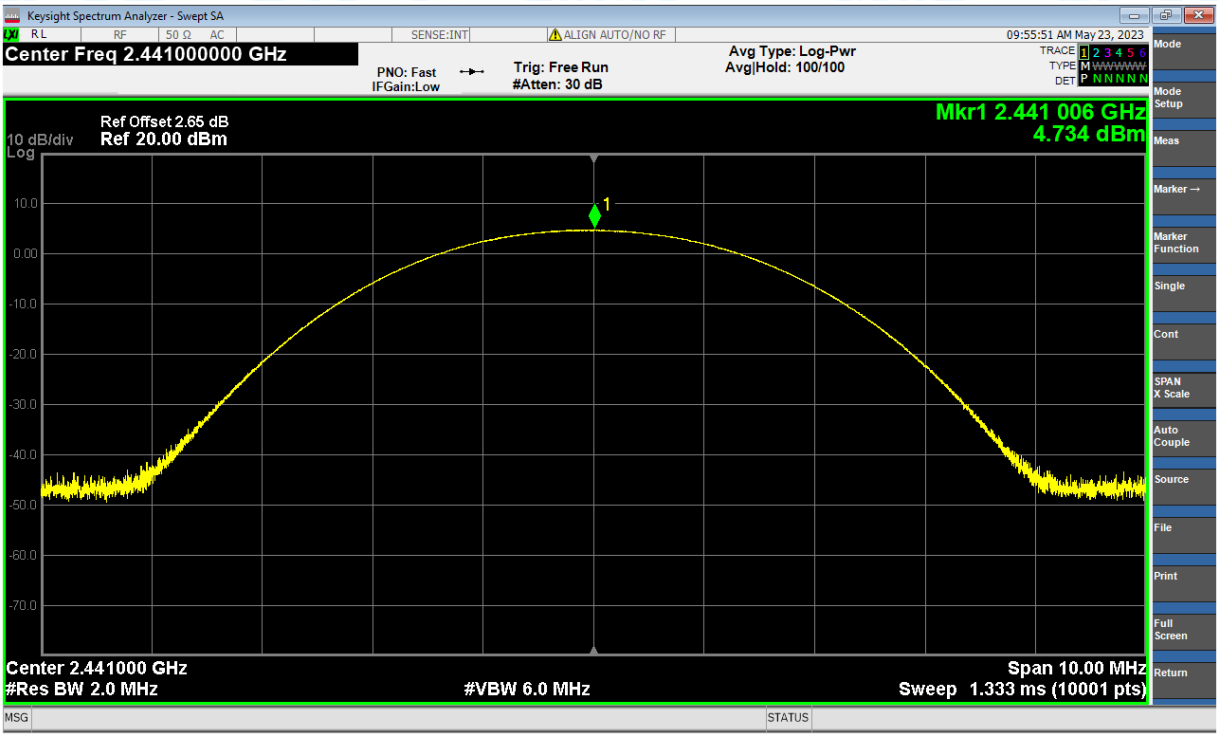
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.773	21	Pass
NVNT	1-DH1	2441	Ant1	4.734	21	Pass
NVNT	1-DH1	2480	Ant1	5.721	21	Pass
NVNT	2-DH1	2402	Ant1	4.693	21	Pass
NVNT	2-DH1	2441	Ant1	3.683	21	Pass
NVNT	2-DH1	2480	Ant1	4.861	21	Pass
NVNT	3-DH1	2402	Ant1	4.703	21	Pass
NVNT	3-DH1	2441	Ant1	3.642	21	Pass
NVNT	3-DH1	2480	Ant1	4.85	21	Pass

Test Graphs

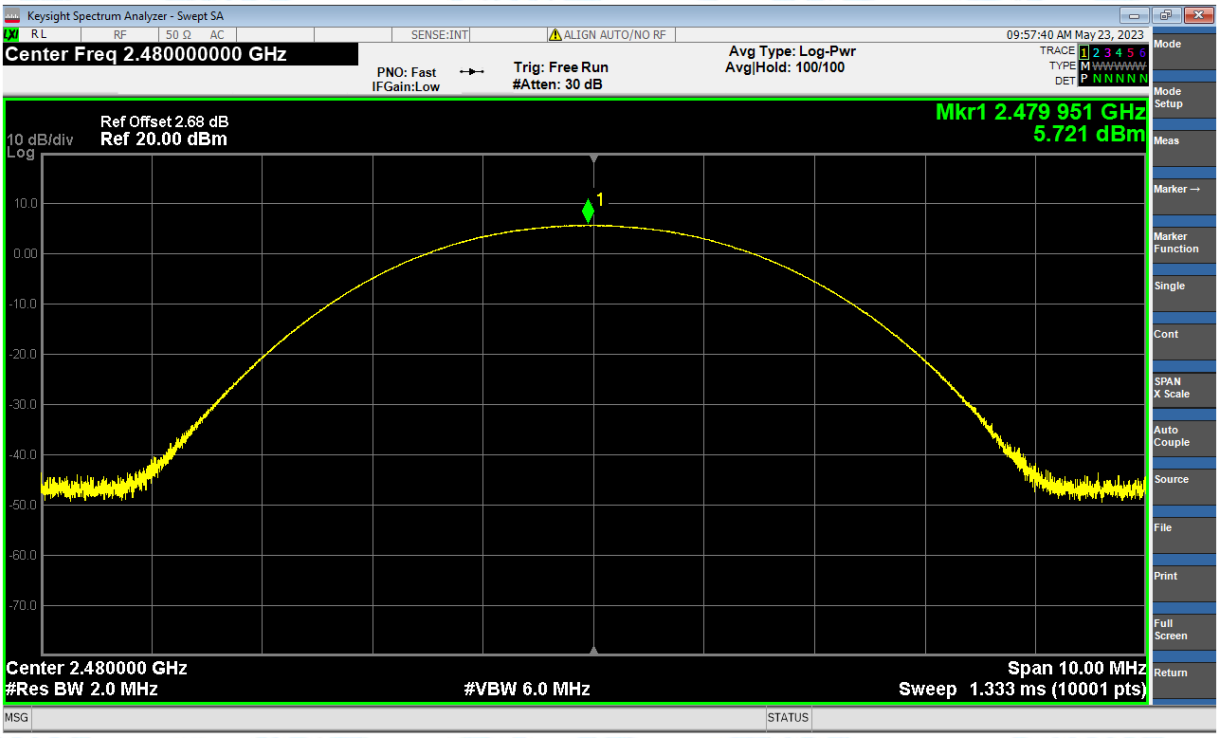
Power NVNT 1-DH1 2402MHz Ant1



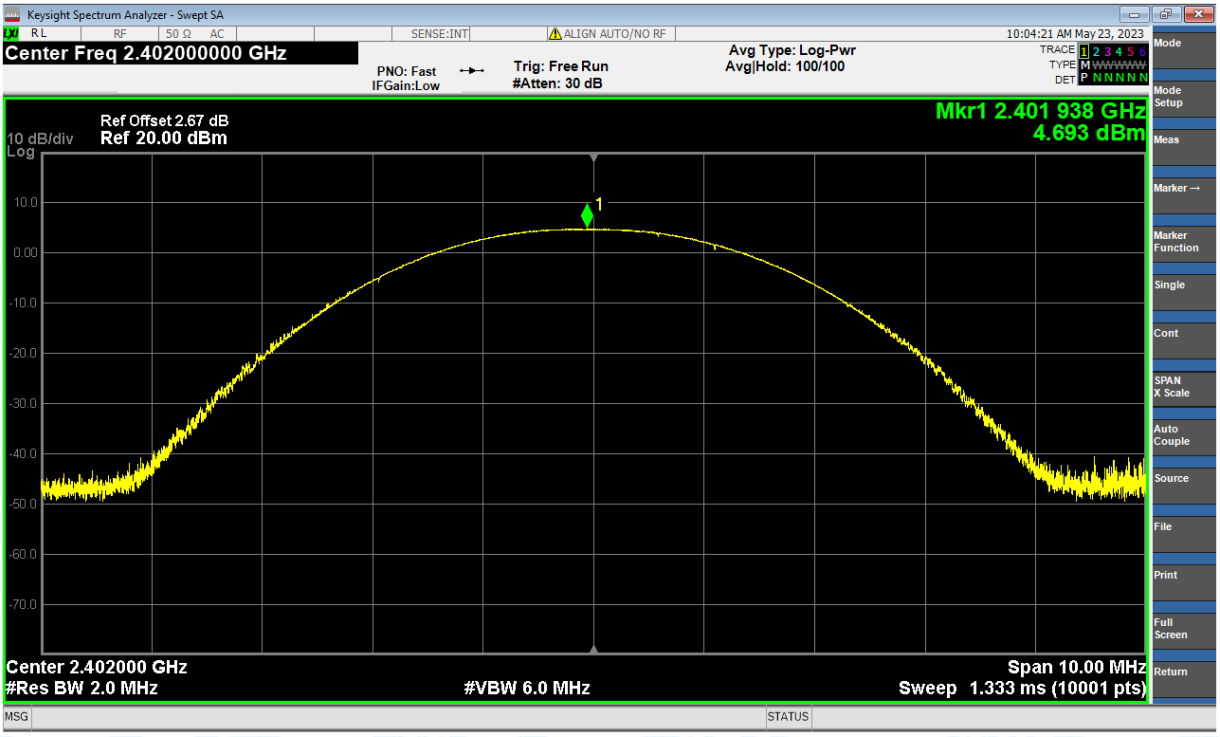
Power NVNT 1-DH1 2441MHz Ant1



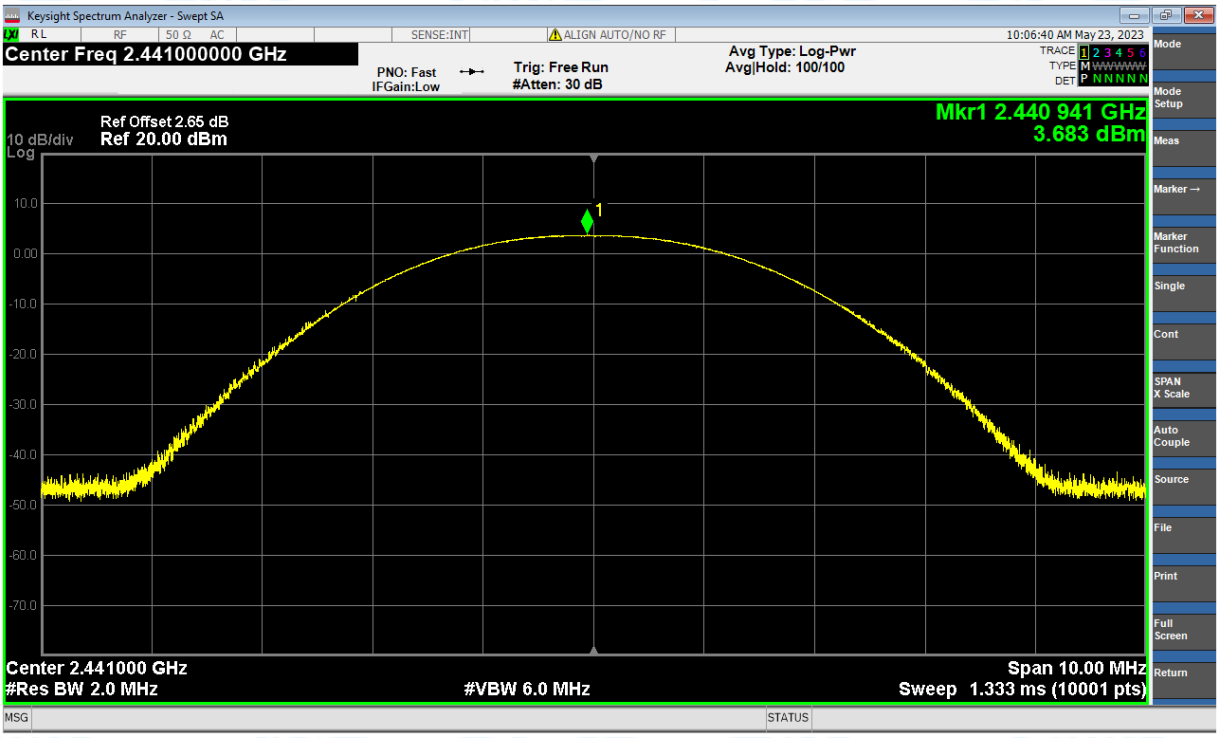
Power NVNT 1-DH1 2480MHz Ant1



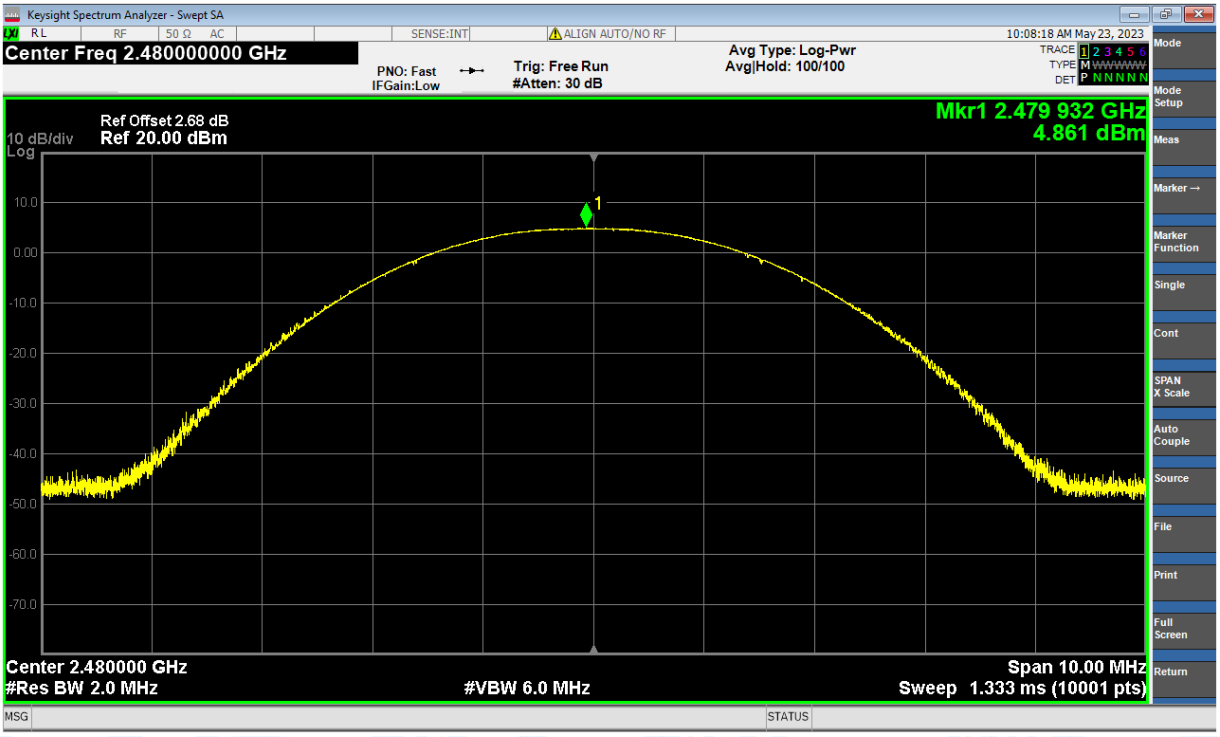
Power NVNT 2-DH1 2402MHz Ant1



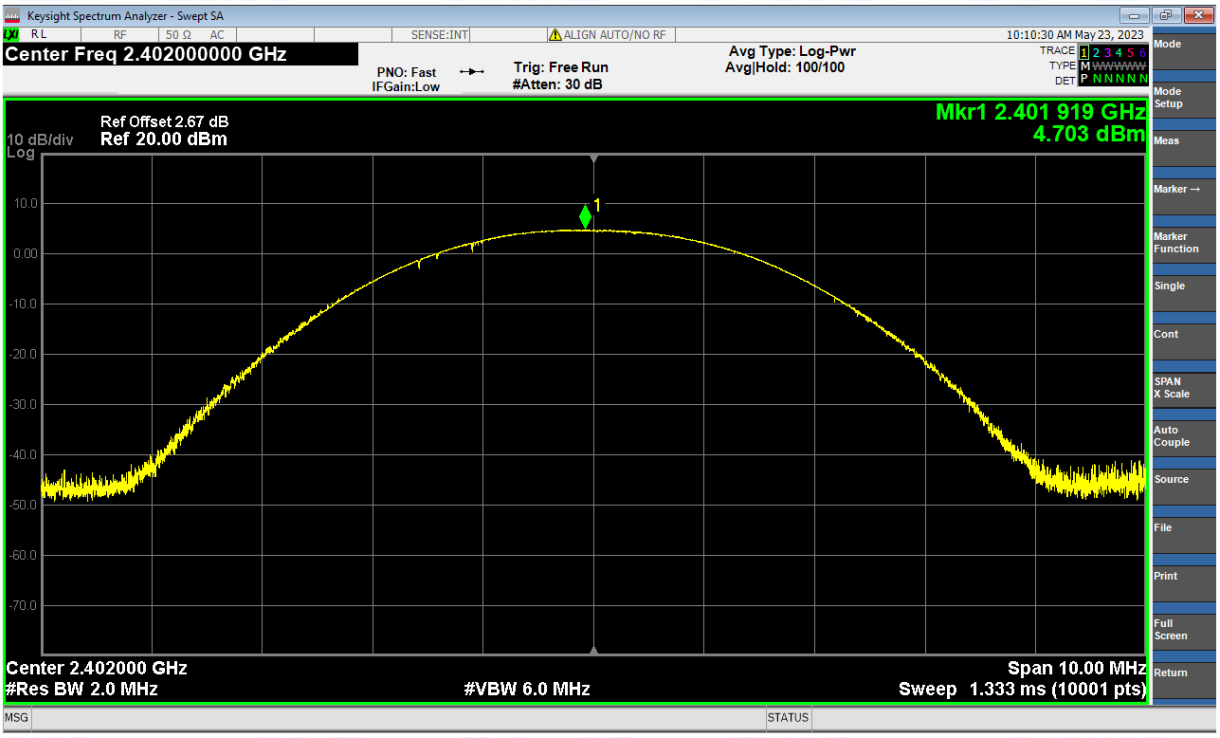
Power NVNT 2-DH1 2441MHz Ant1



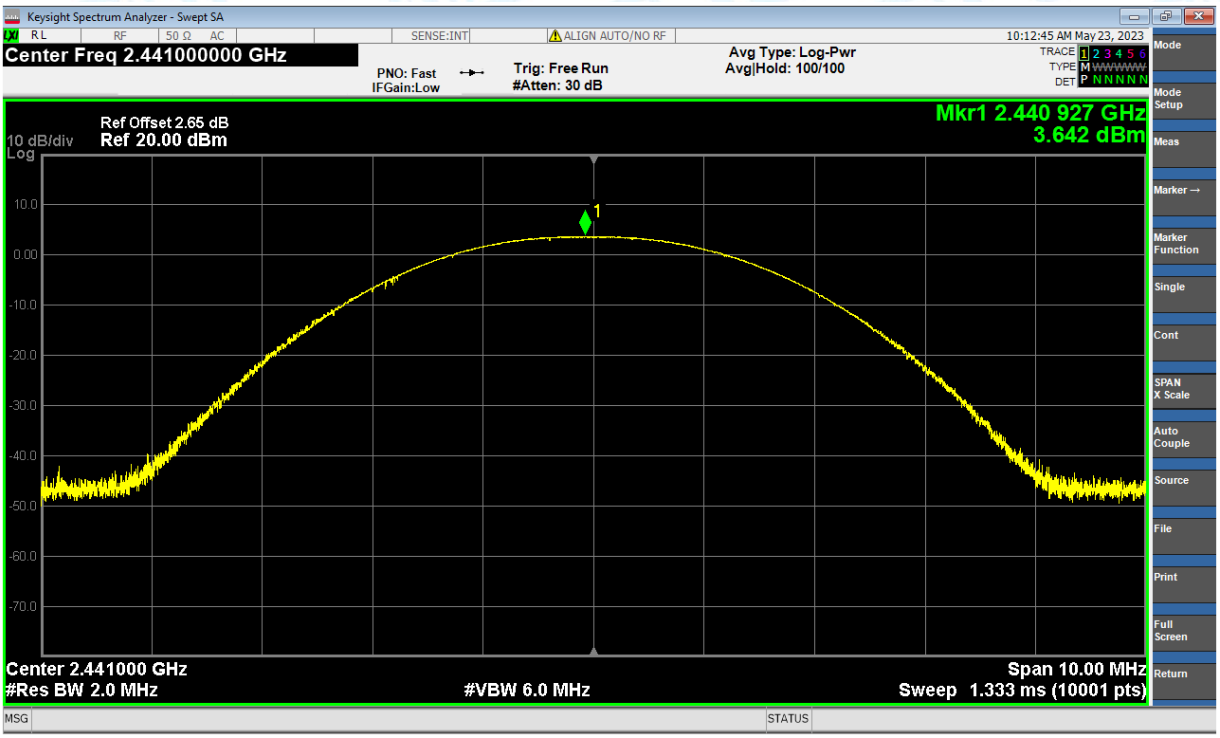
Power NVNT 2-DH1 2480MHz Ant1



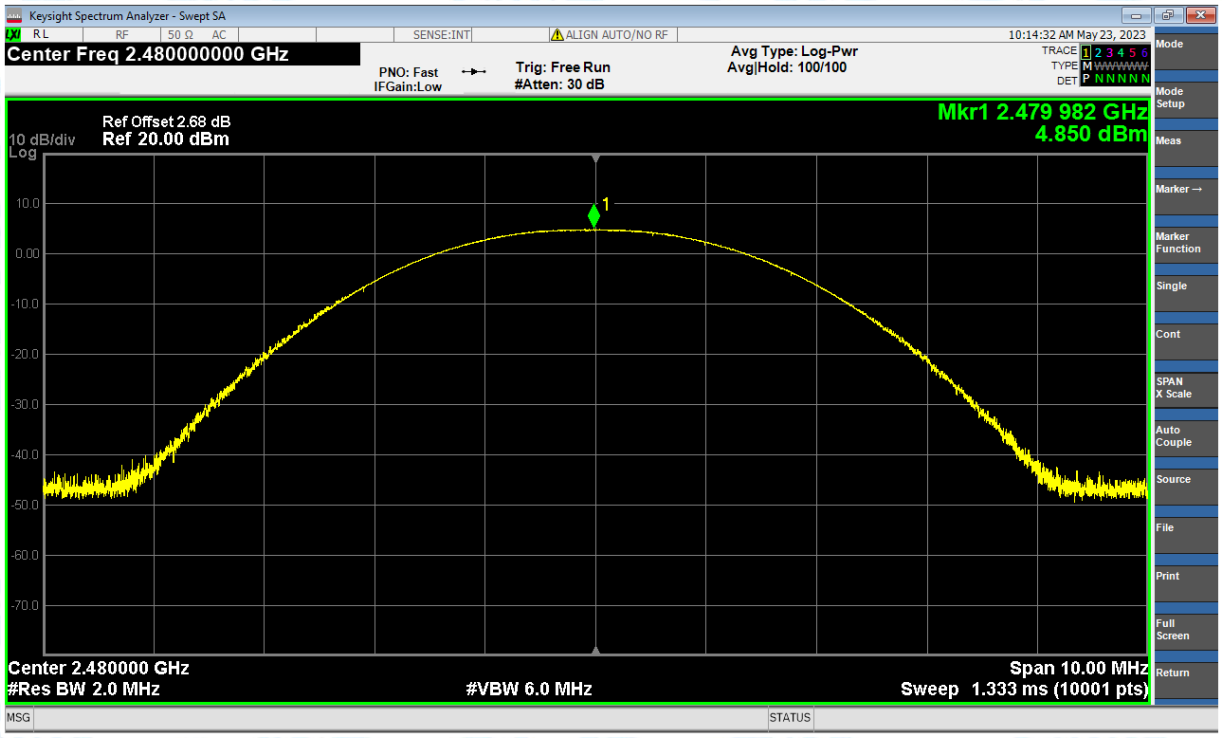
Power NVNT 3-DH1 2402MHz Ant1



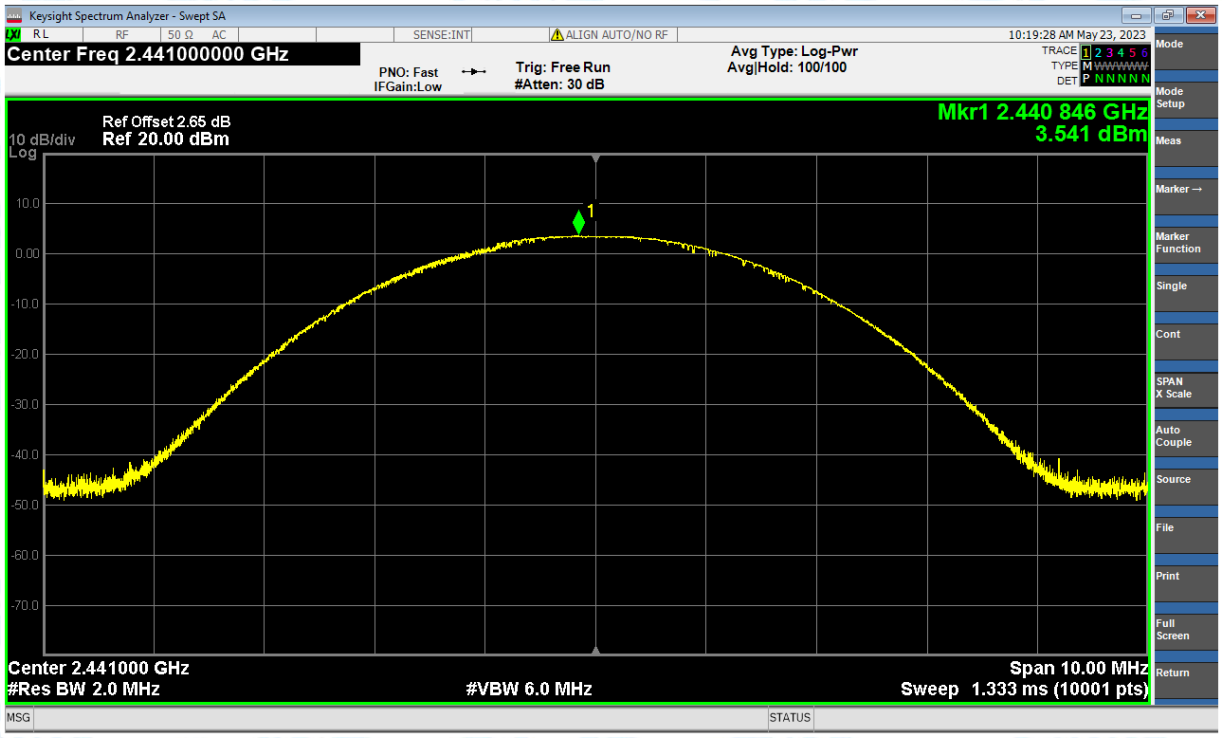
Power NVNT 3-DH1 2441MHz Ant1



Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1

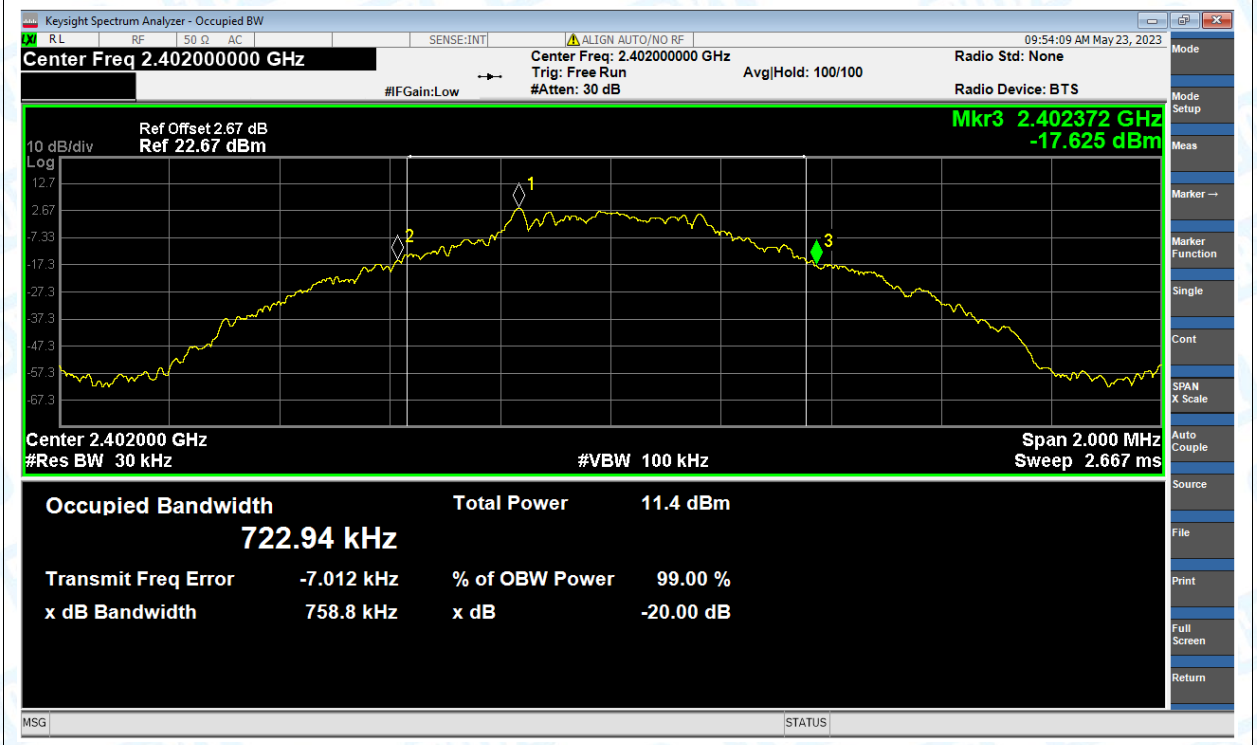


3. -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.76	0	Pass
NVNT	1-DH1	2441	Ant1	0.78	0	Pass
NVNT	1-DH1	2480	Ant1	0.78	0	Pass
NVNT	2-DH1	2402	Ant1	1.19	0	Pass
NVNT	2-DH1	2441	Ant1	1.18	0	Pass
NVNT	2-DH1	2480	Ant1	1.23	0	Pass
NVNT	3-DH1	2402	Ant1	1.22	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.22	0	Pass

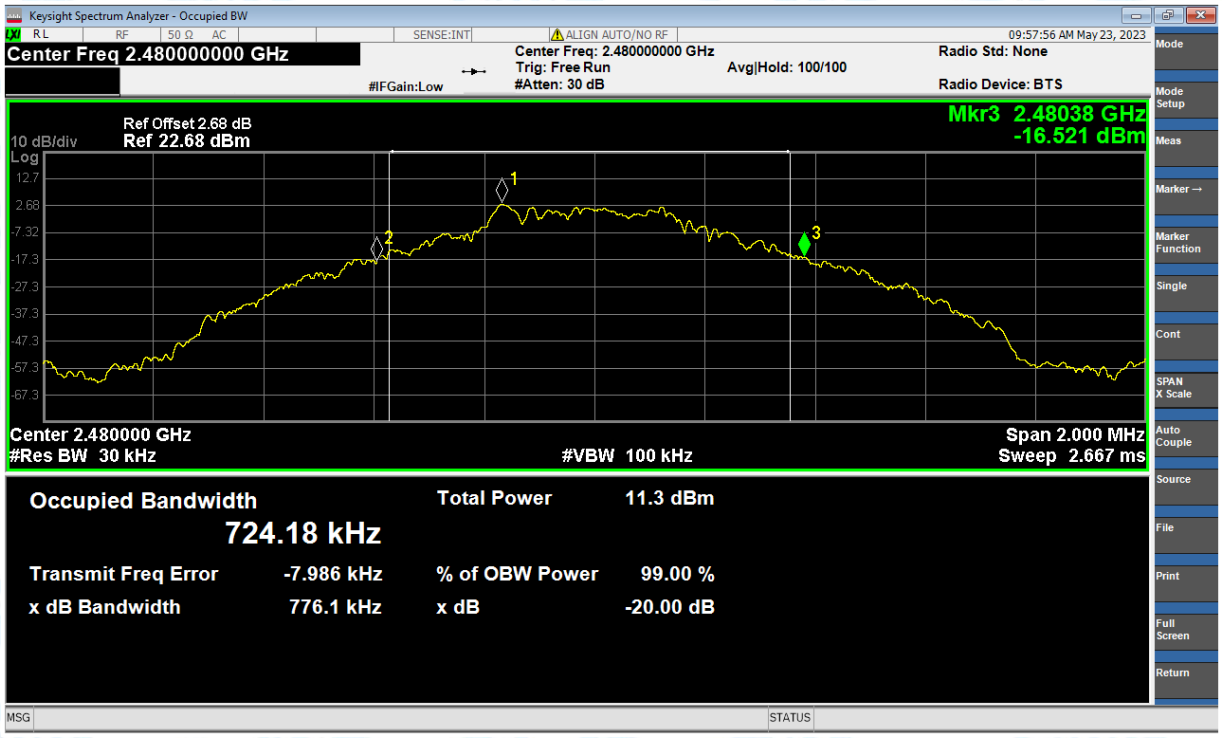
Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1

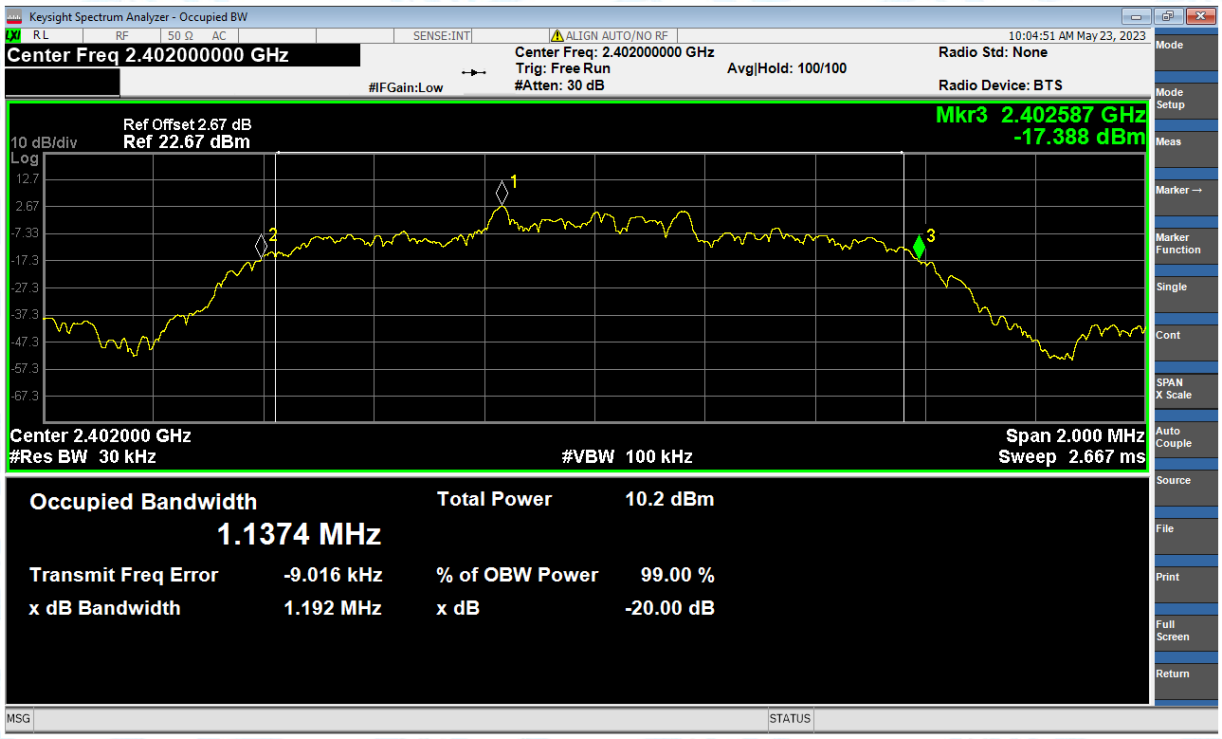


-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1

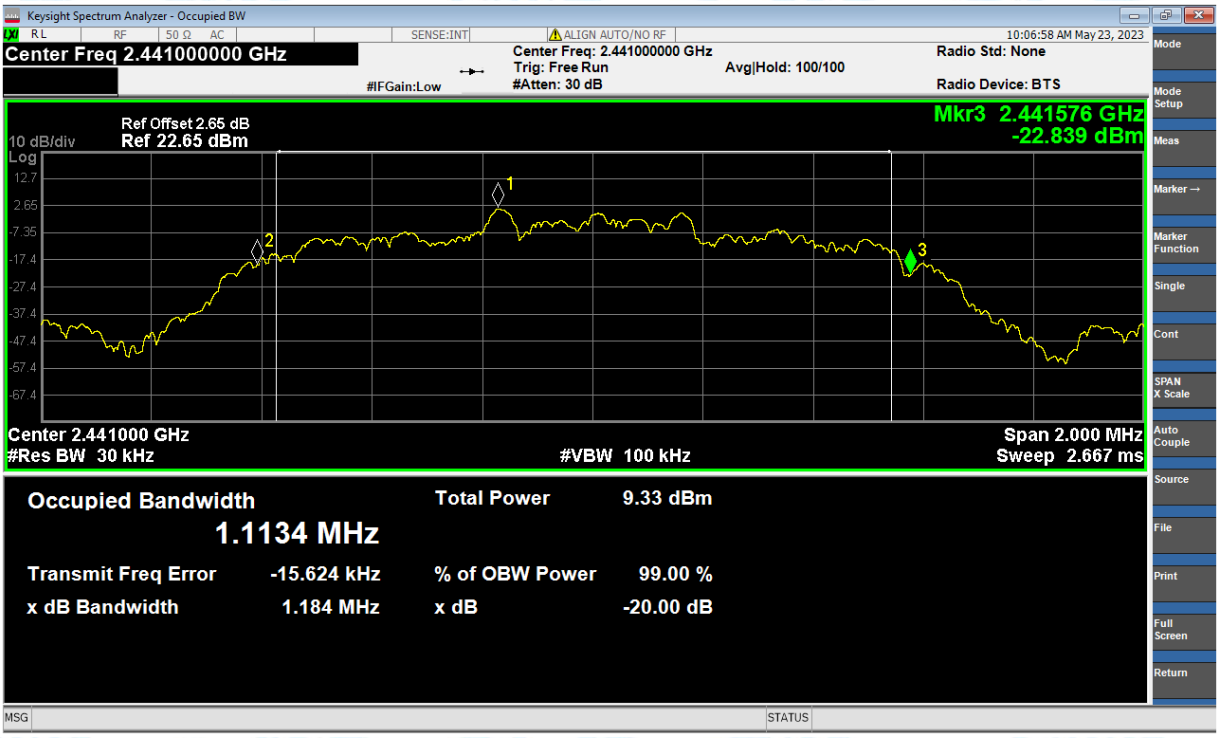
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



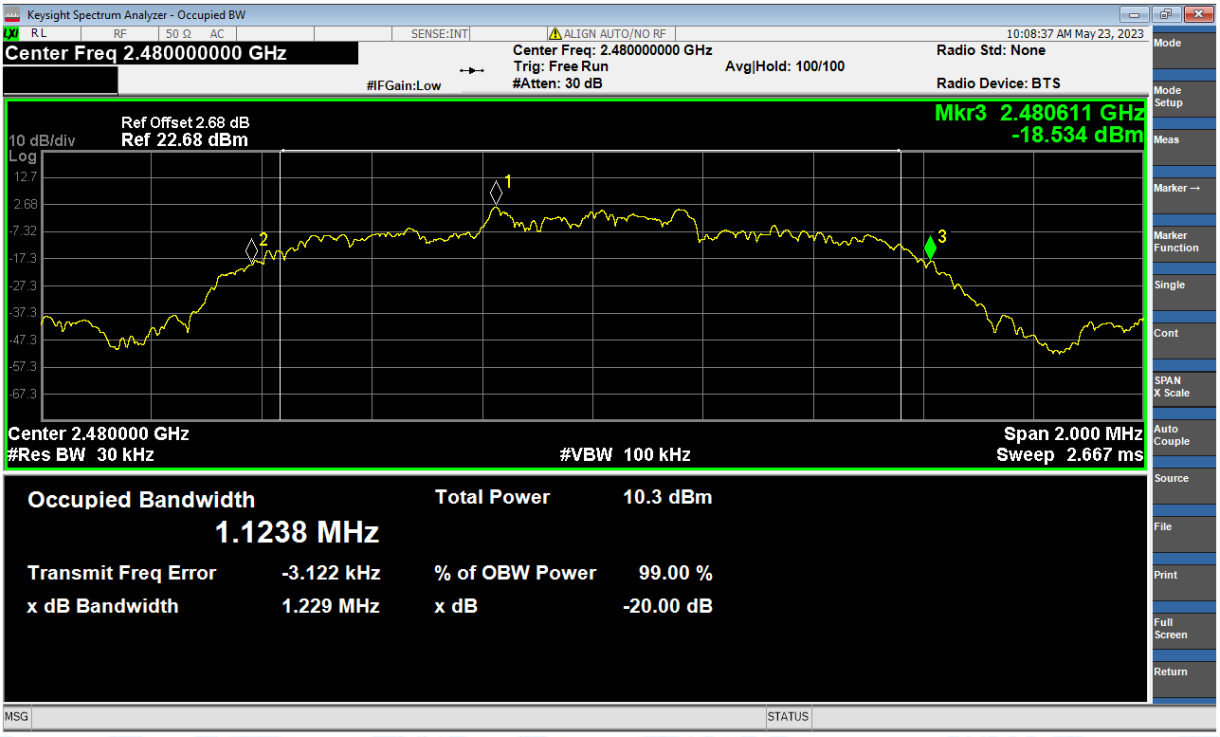
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



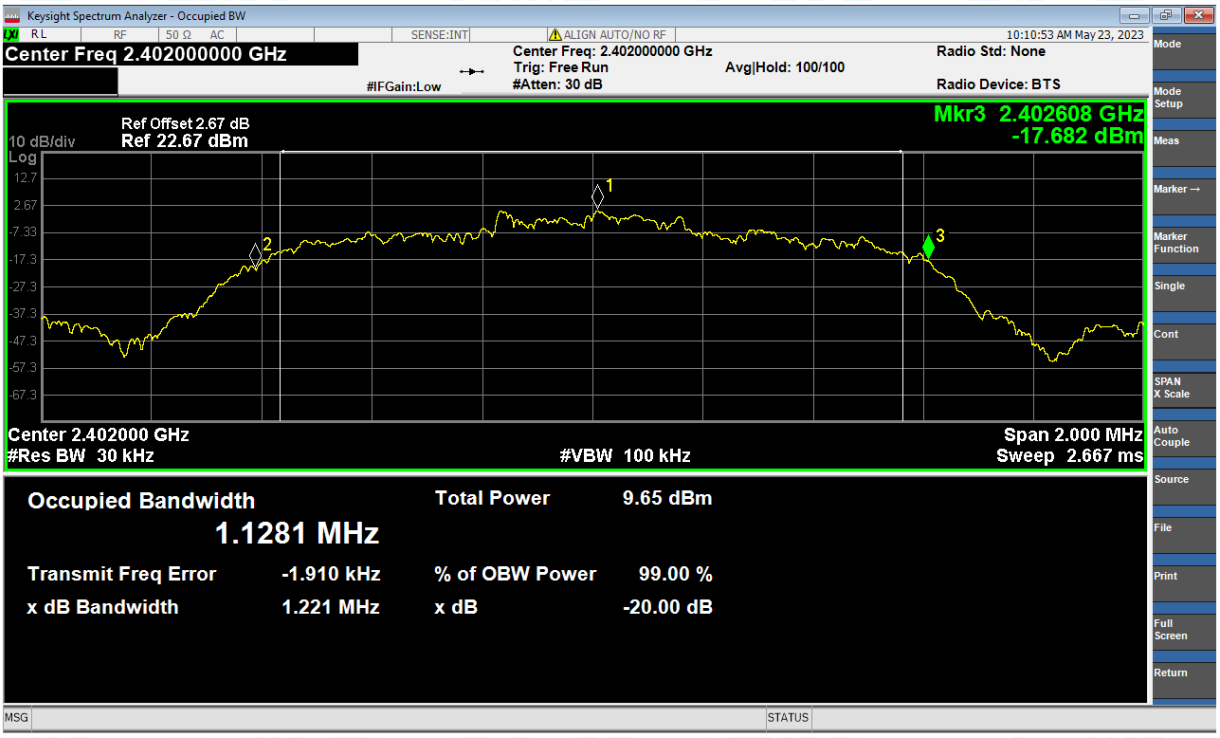
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



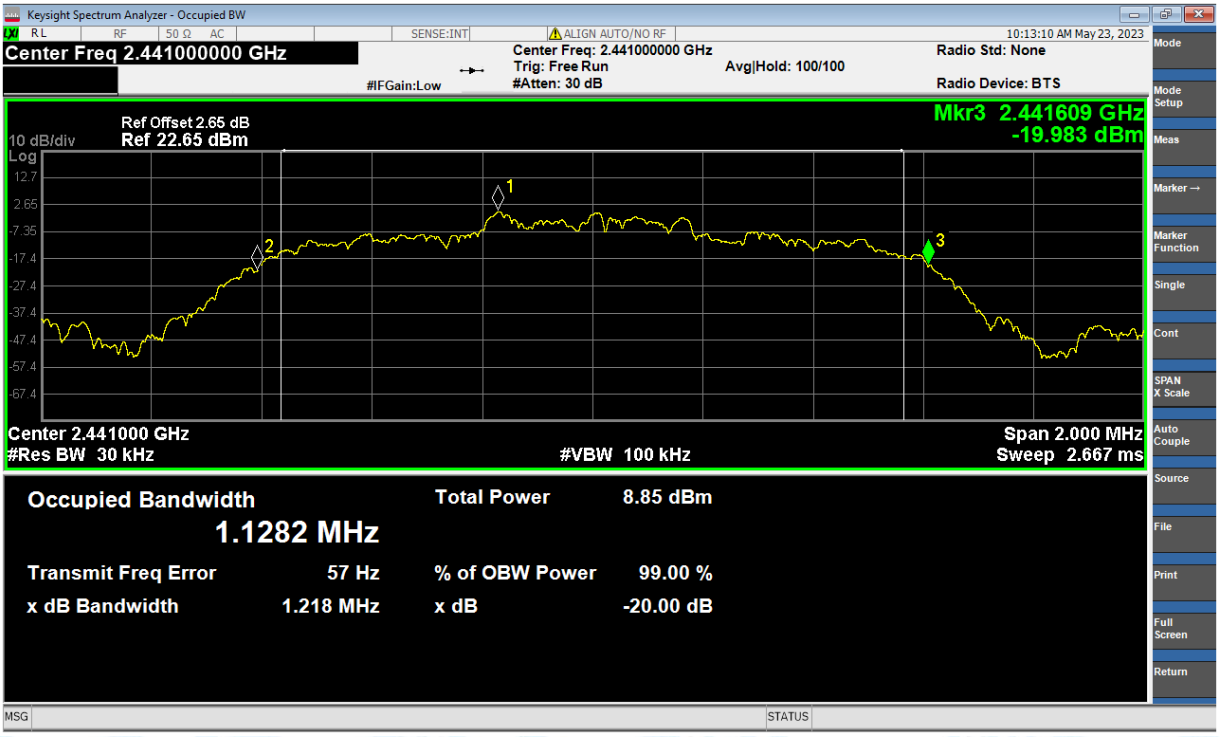
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



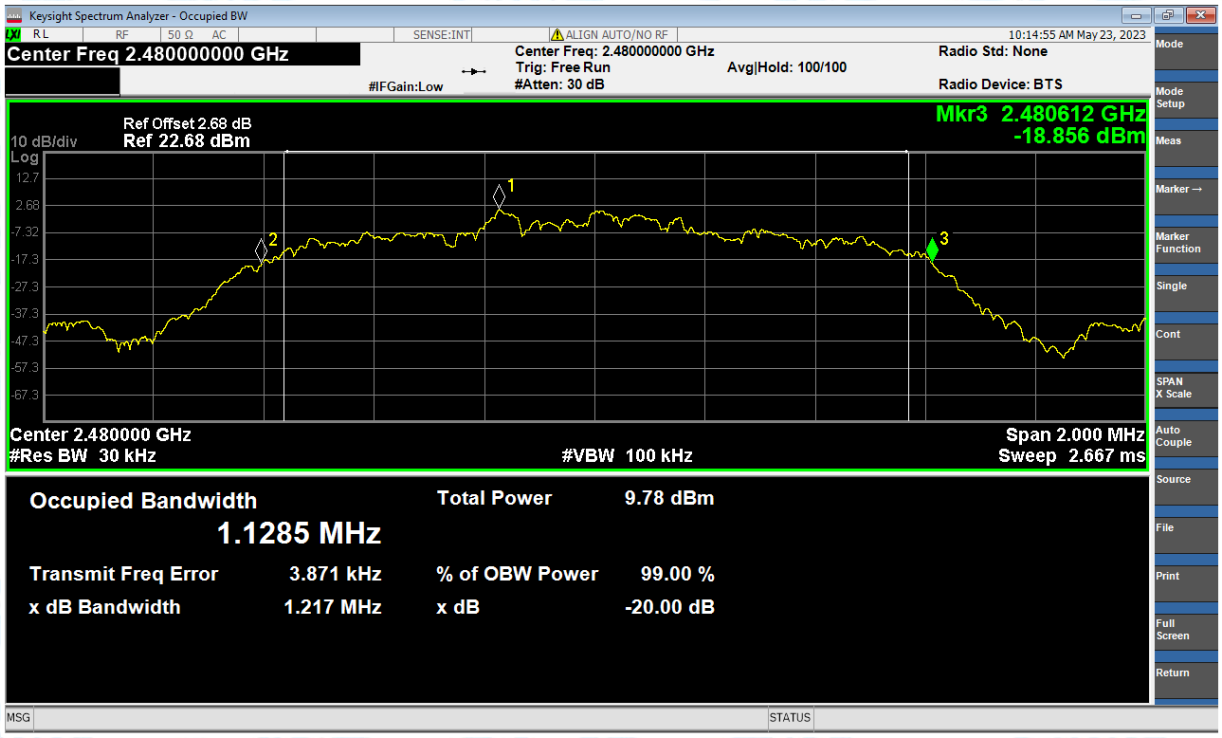
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1

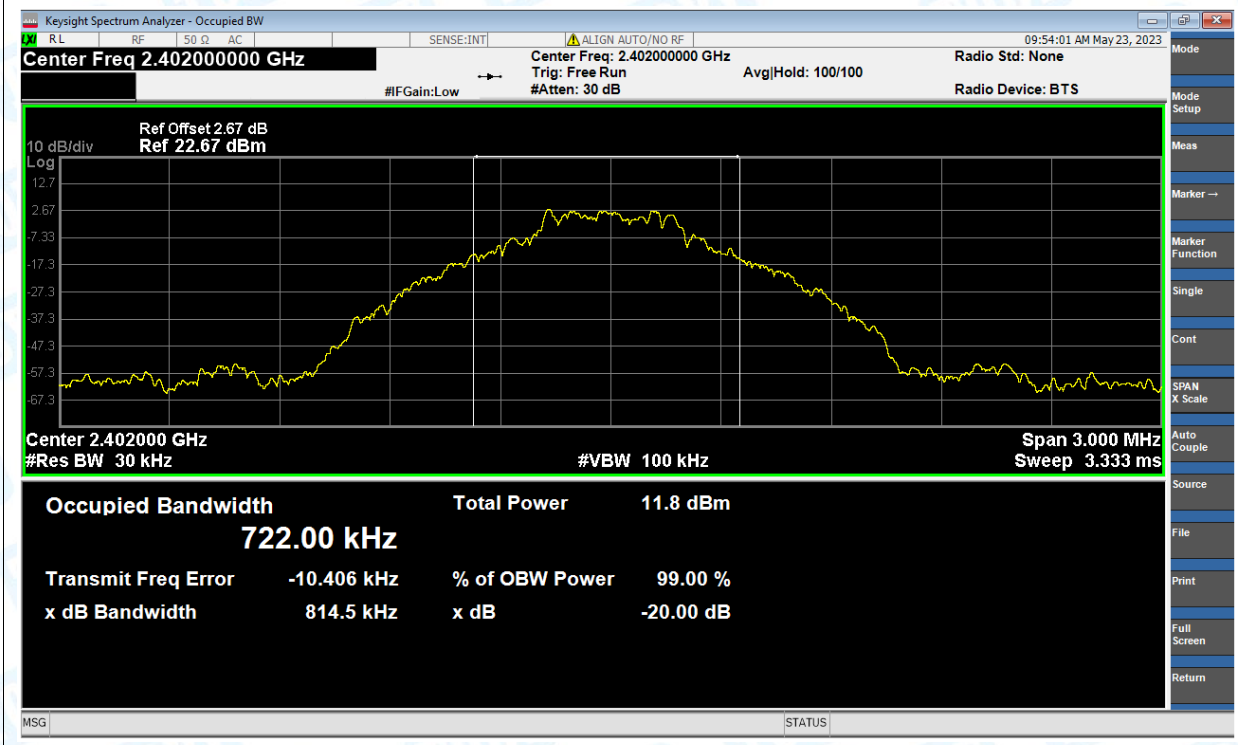


4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.722
NVNT	1-DH1	2441	Ant1	0.742
NVNT	1-DH1	2480	Ant1	0.729
NVNT	2-DH1	2402	Ant1	1.117
NVNT	2-DH1	2441	Ant1	1.154
NVNT	2-DH1	2480	Ant1	1.116
NVNT	3-DH1	2402	Ant1	1.127
NVNT	3-DH1	2441	Ant1	1.118
NVNT	3-DH1	2480	Ant1	1.126

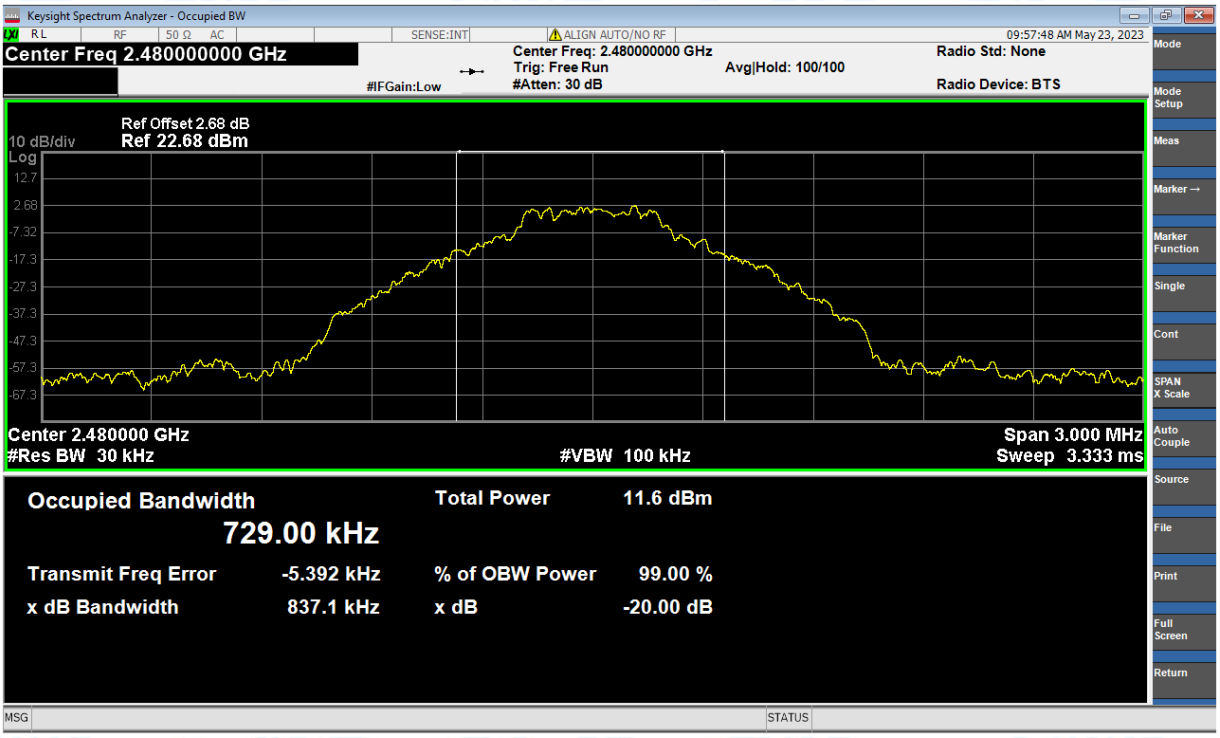
Test Graphs

OBW NVNT 1-DH1 2402MHz Ant1

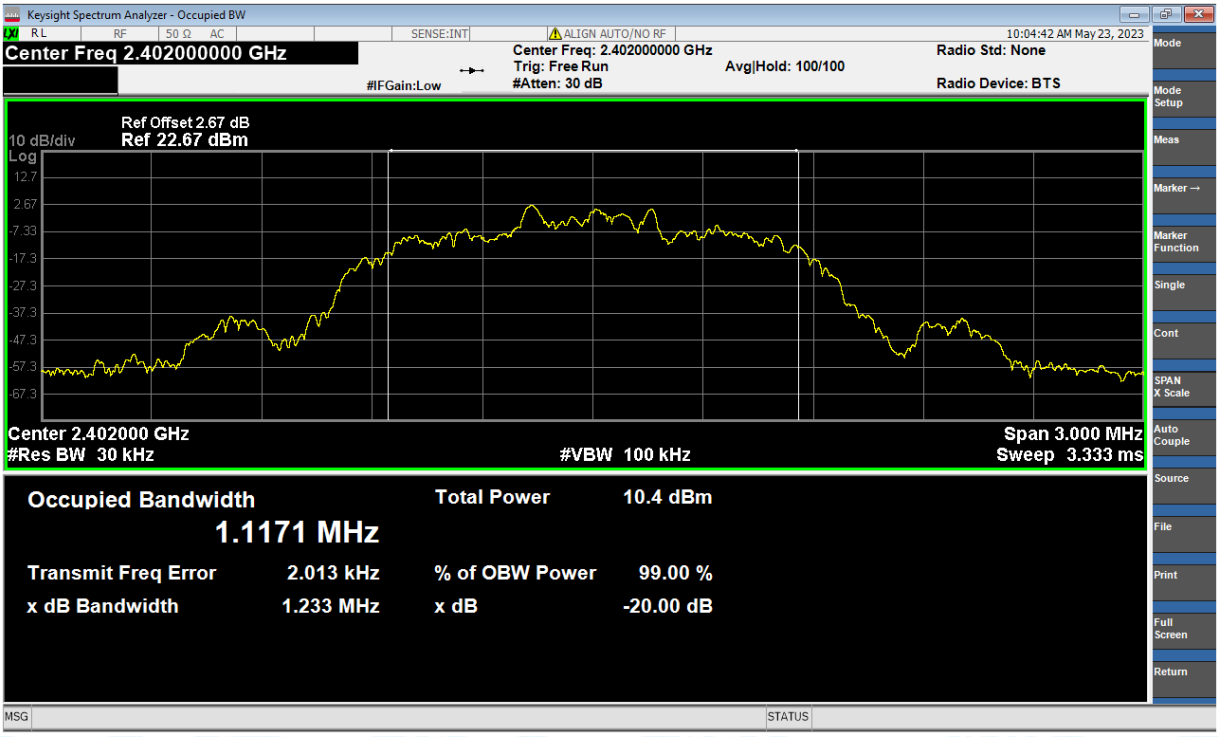


OBW NVNT 1-DH1 2441MHz Ant1

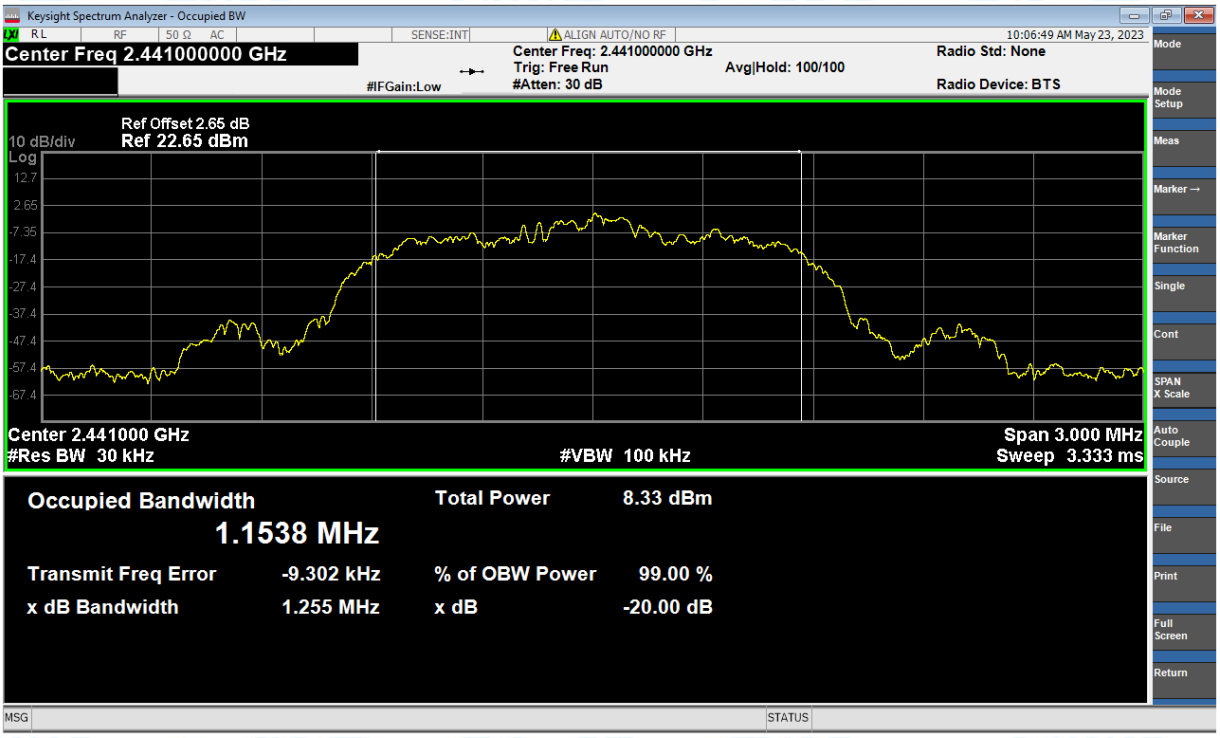
OBW NVNT 1-DH1 2480MHz Ant1



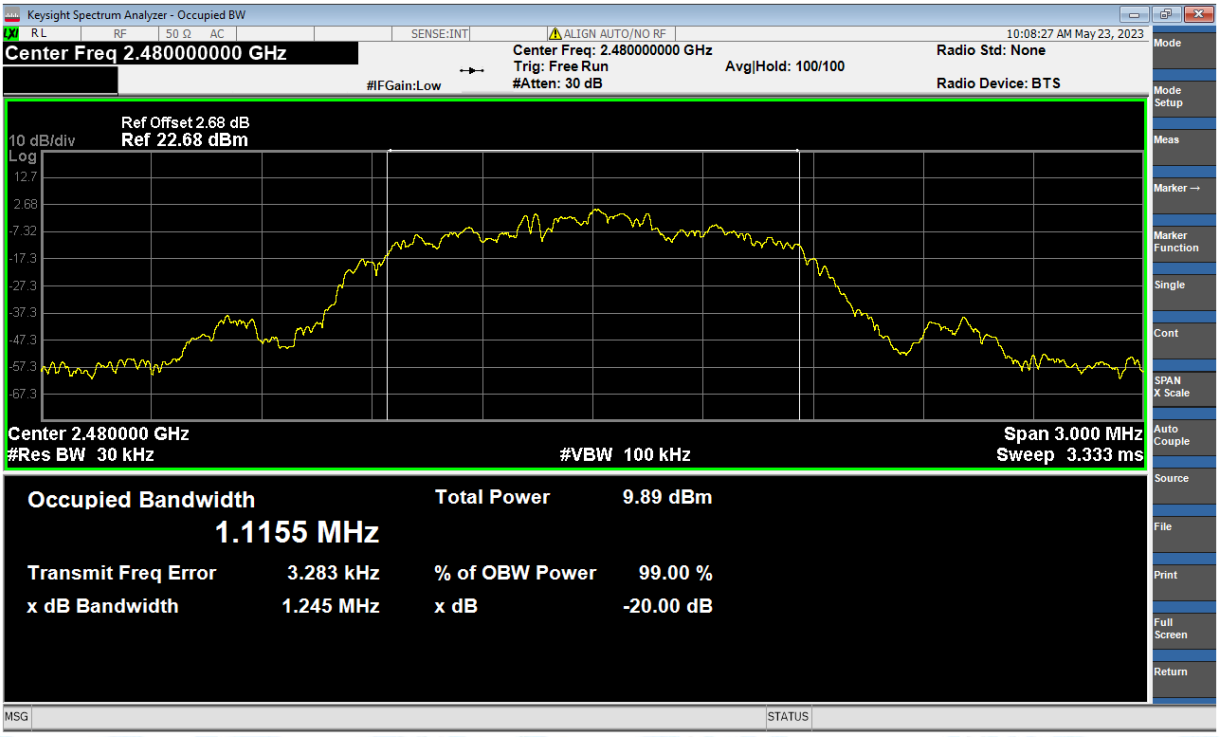
OBW NVNT 2-DH1 2402MHz Ant1



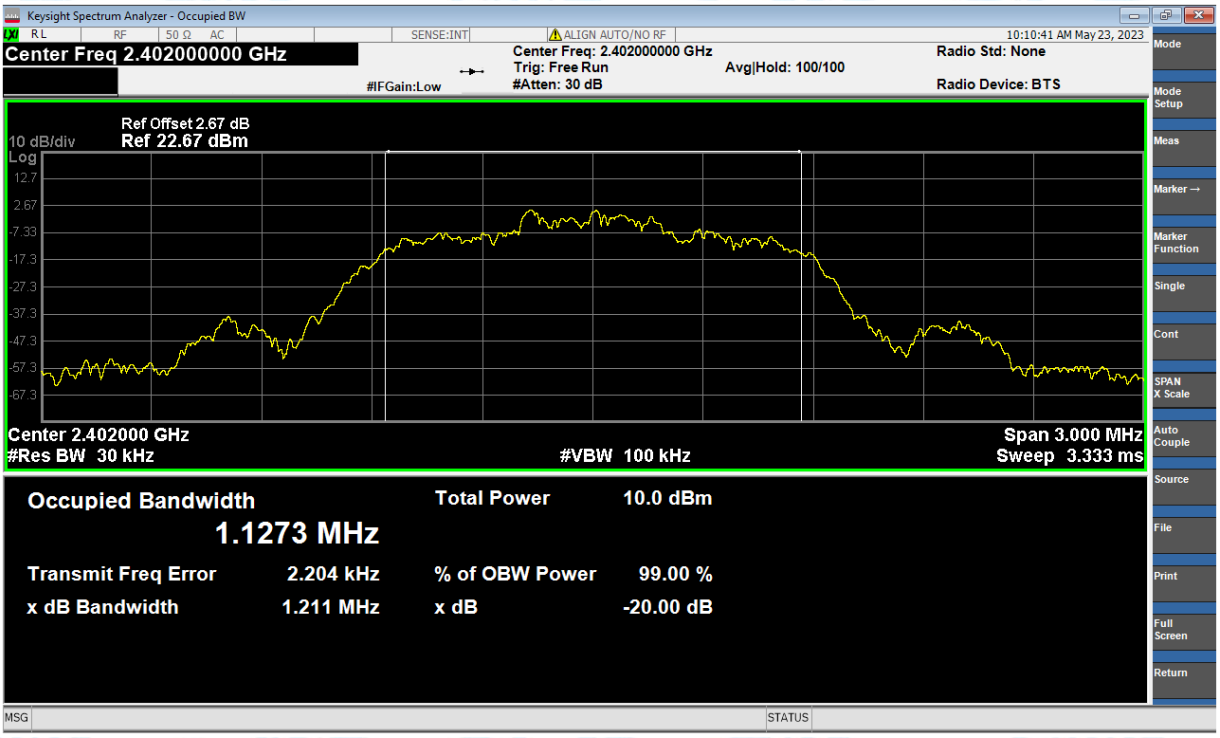
OBW NVNT 2-DH1 2441MHz Ant1



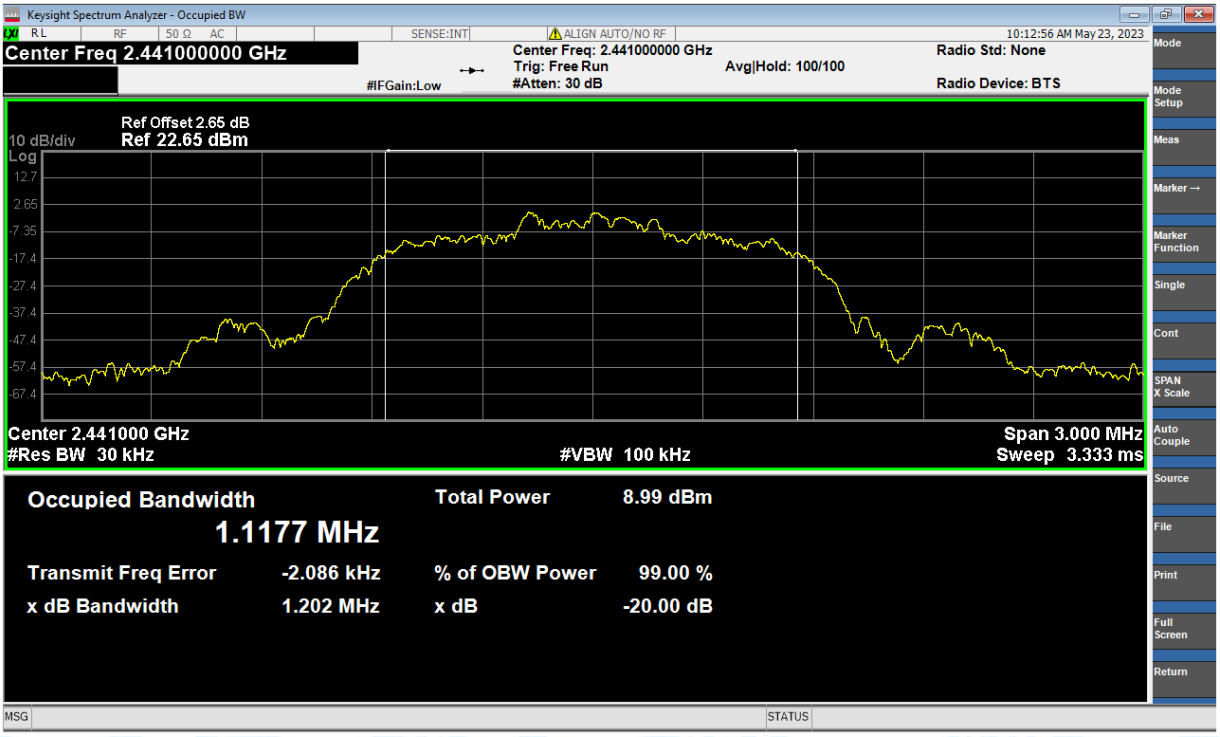
OBW NVNT 2-DH1 2480MHz Ant1



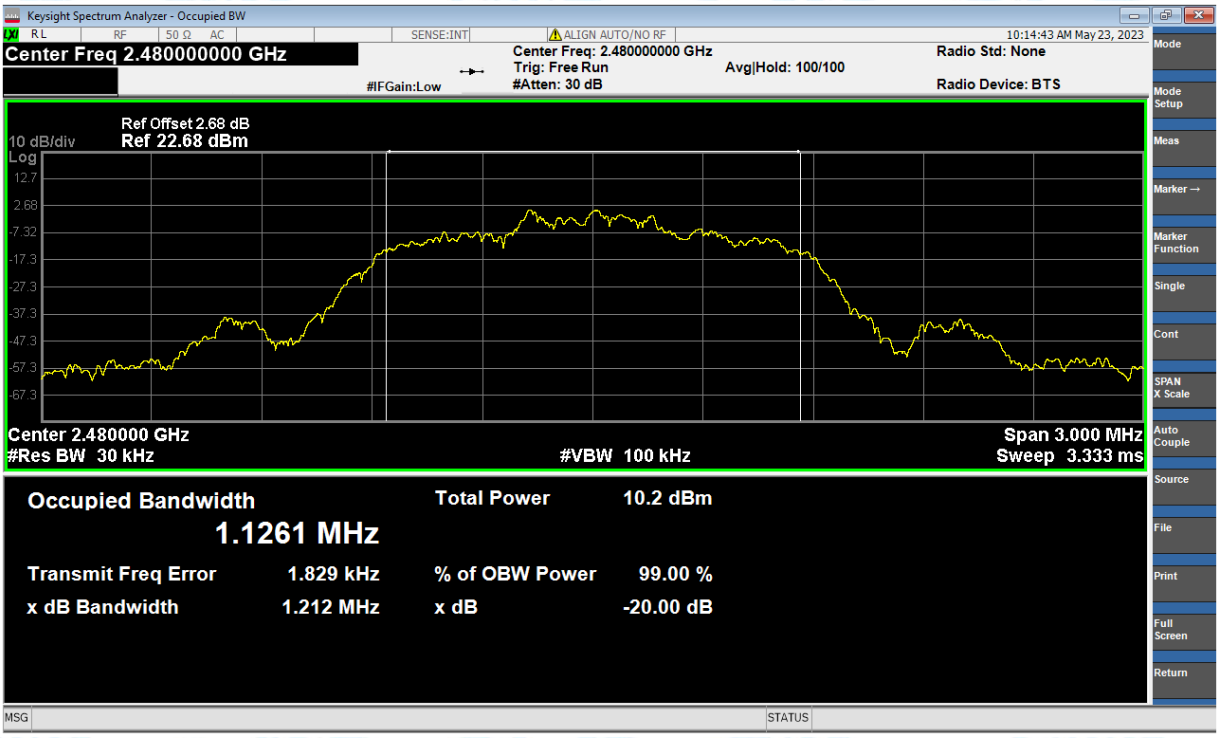
OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



OBW NVNT 3-DH1 2480MHz Ant1

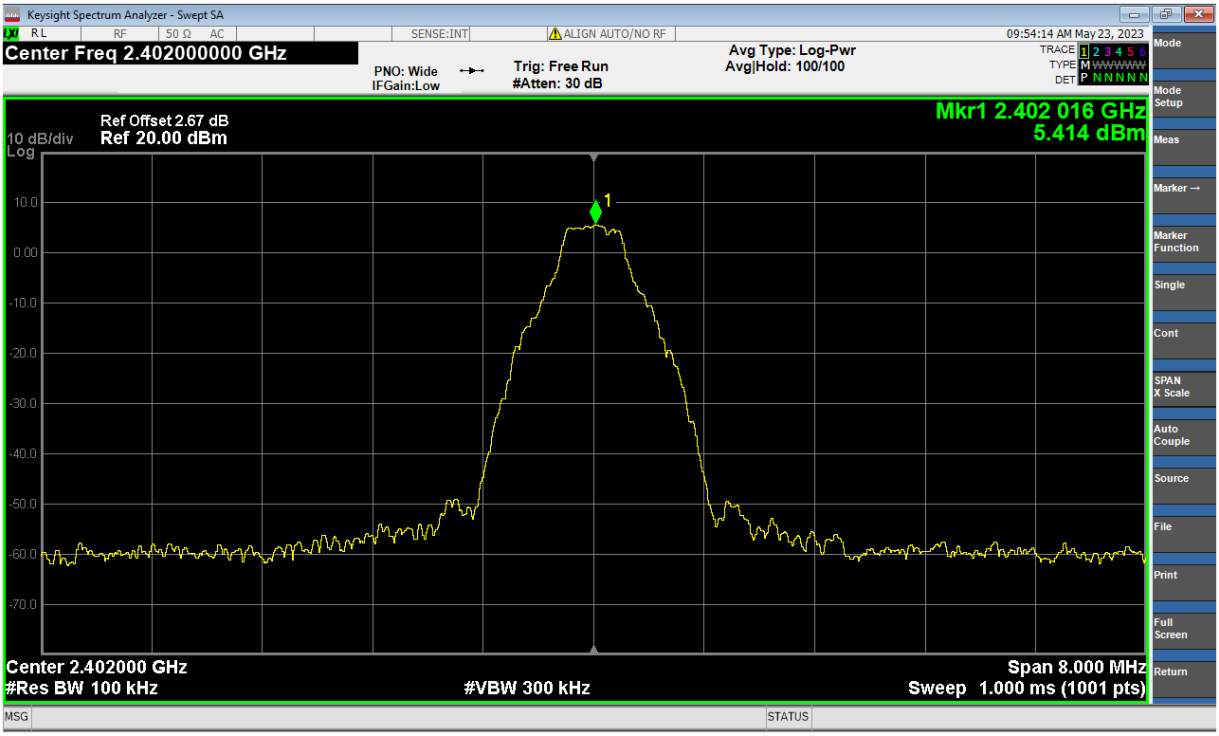


5. Band Edge

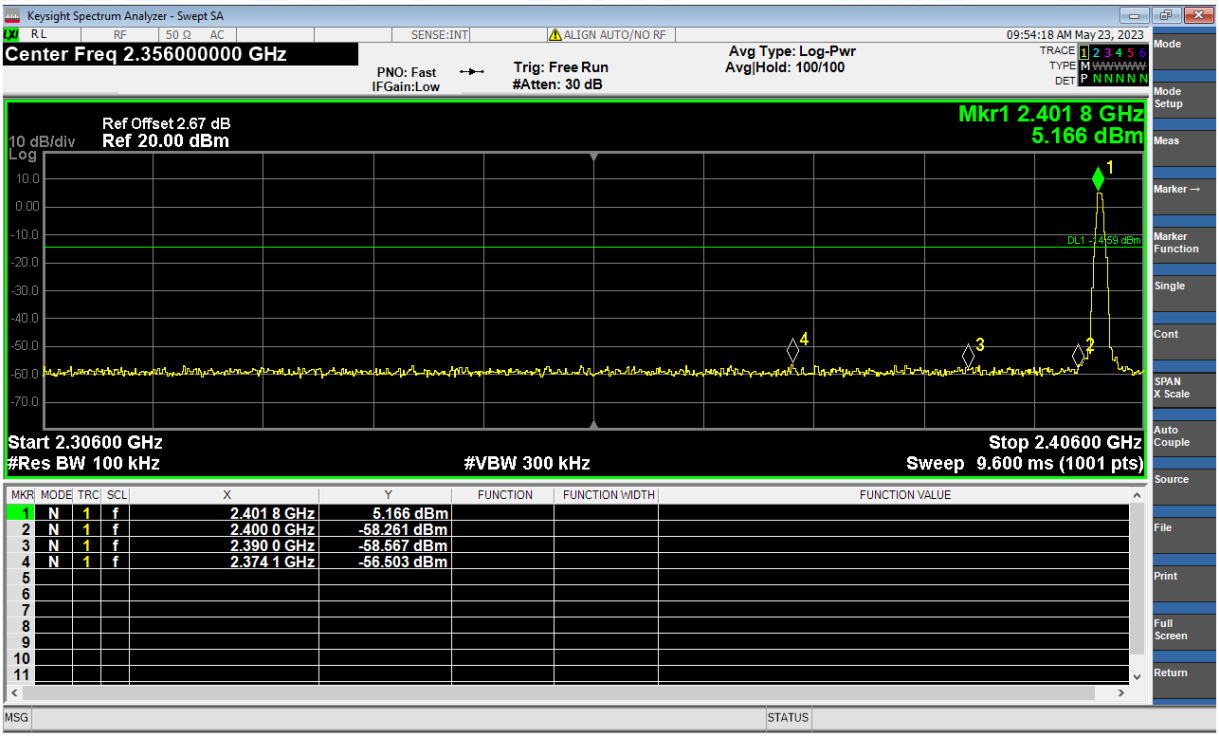
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-61.91	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-60.52	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-60.31	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-60.18	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-60.37	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-61.44	-20	Pass

Test Graphs

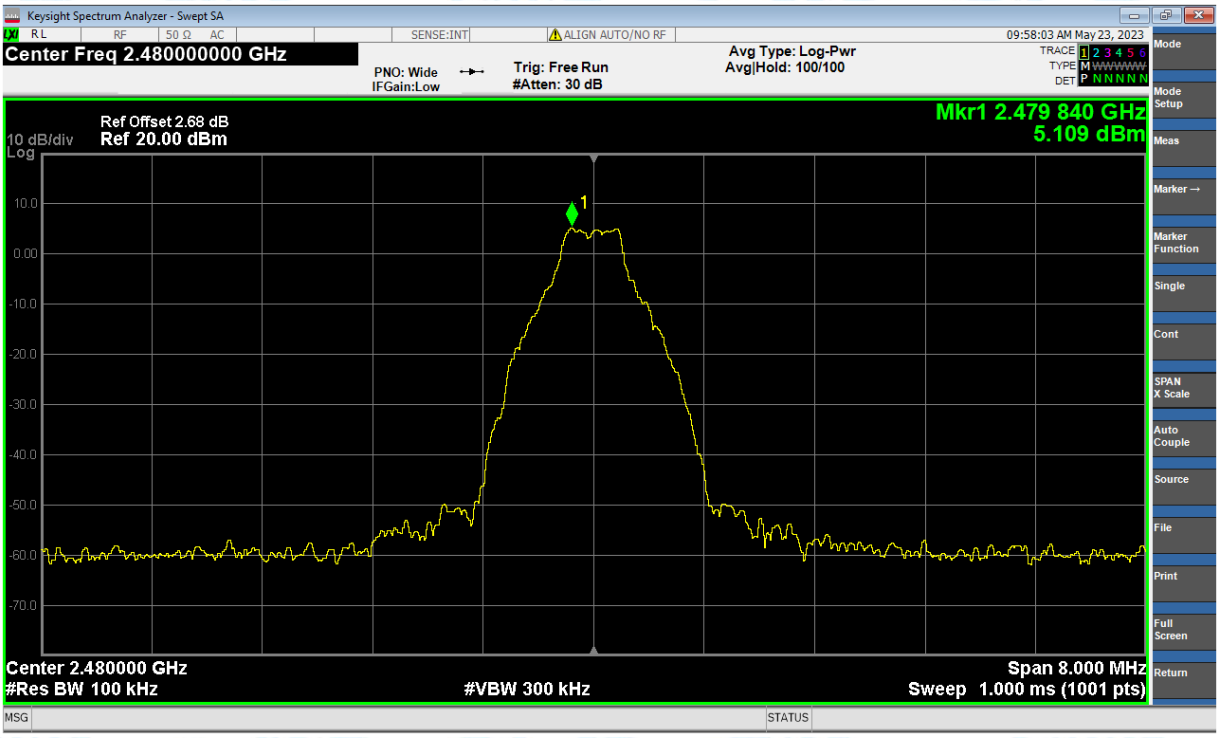
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



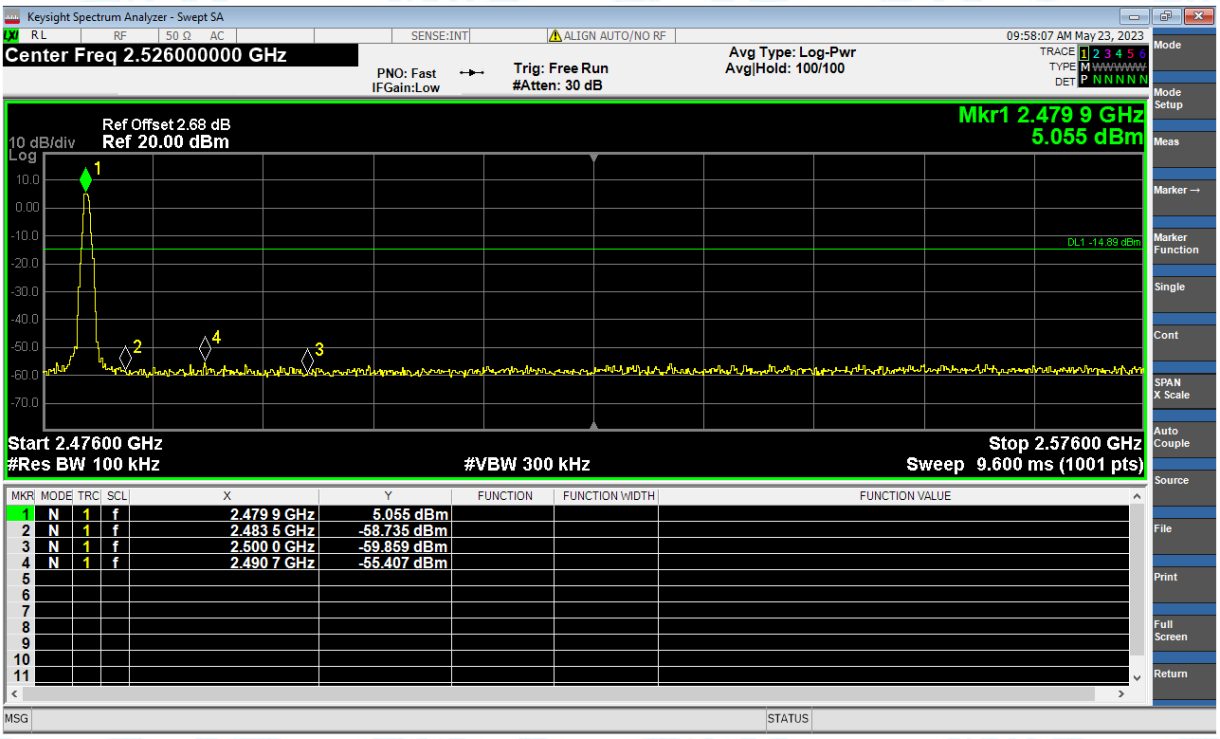
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



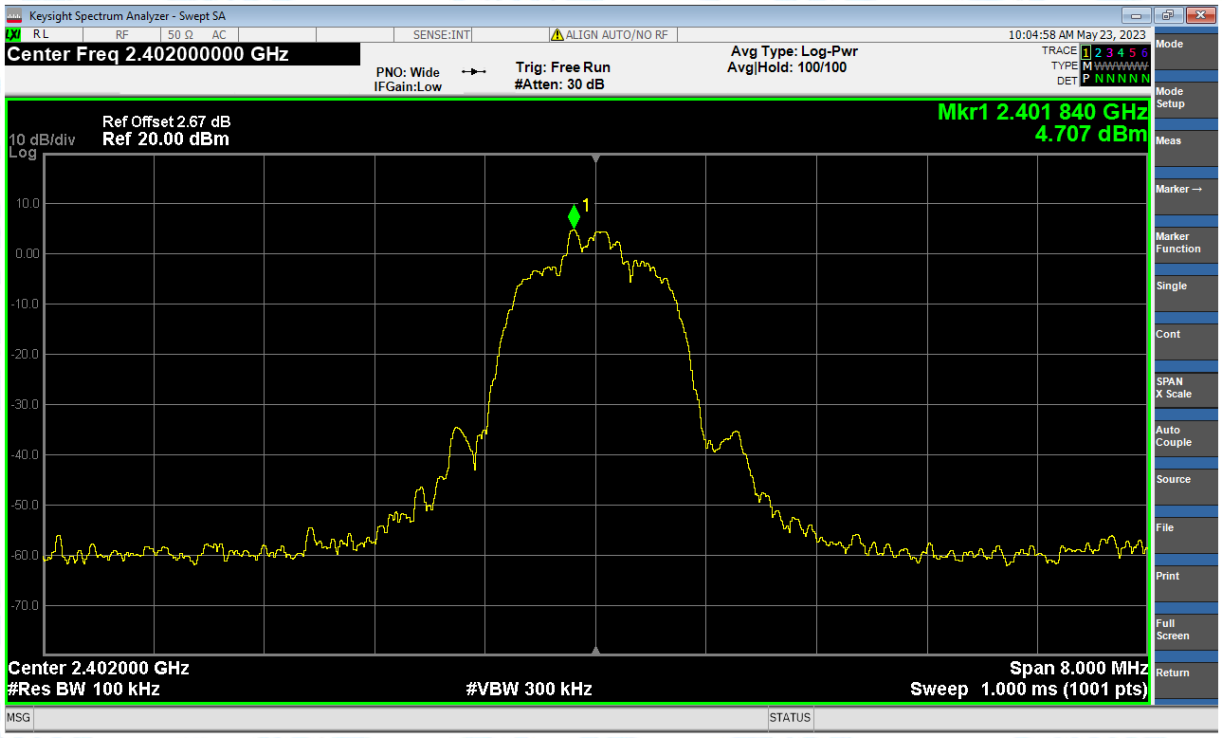
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



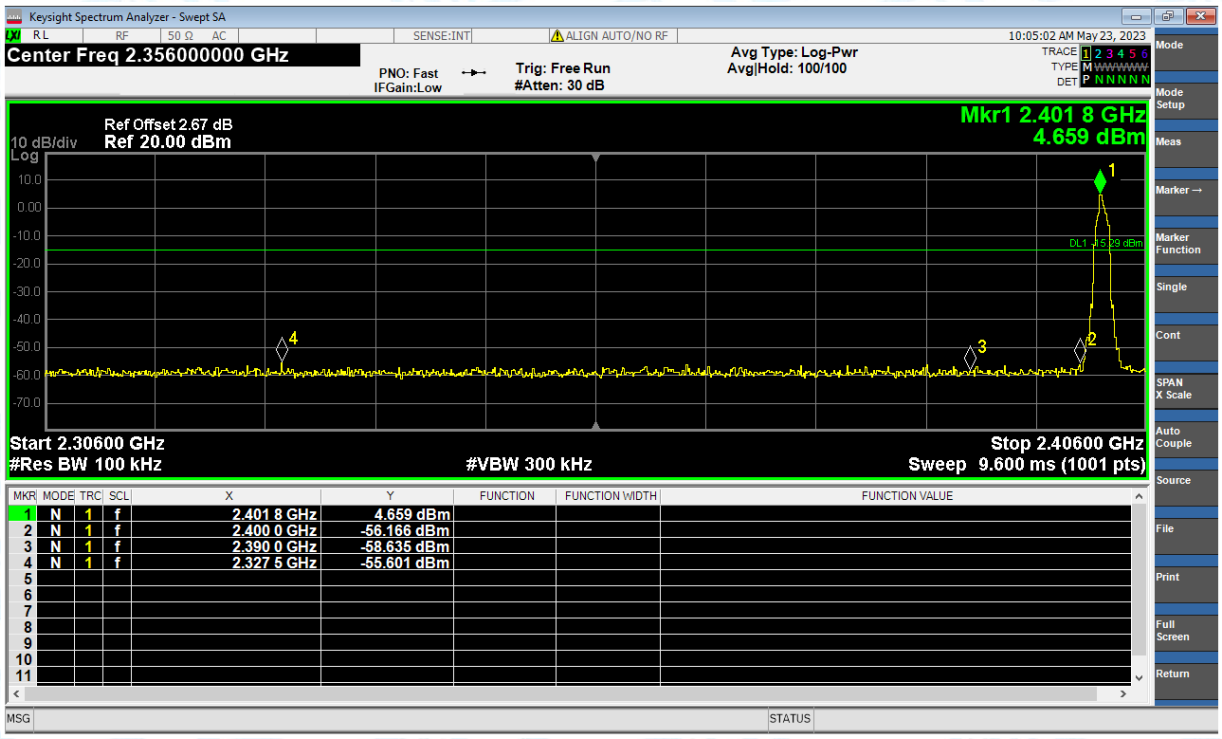
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



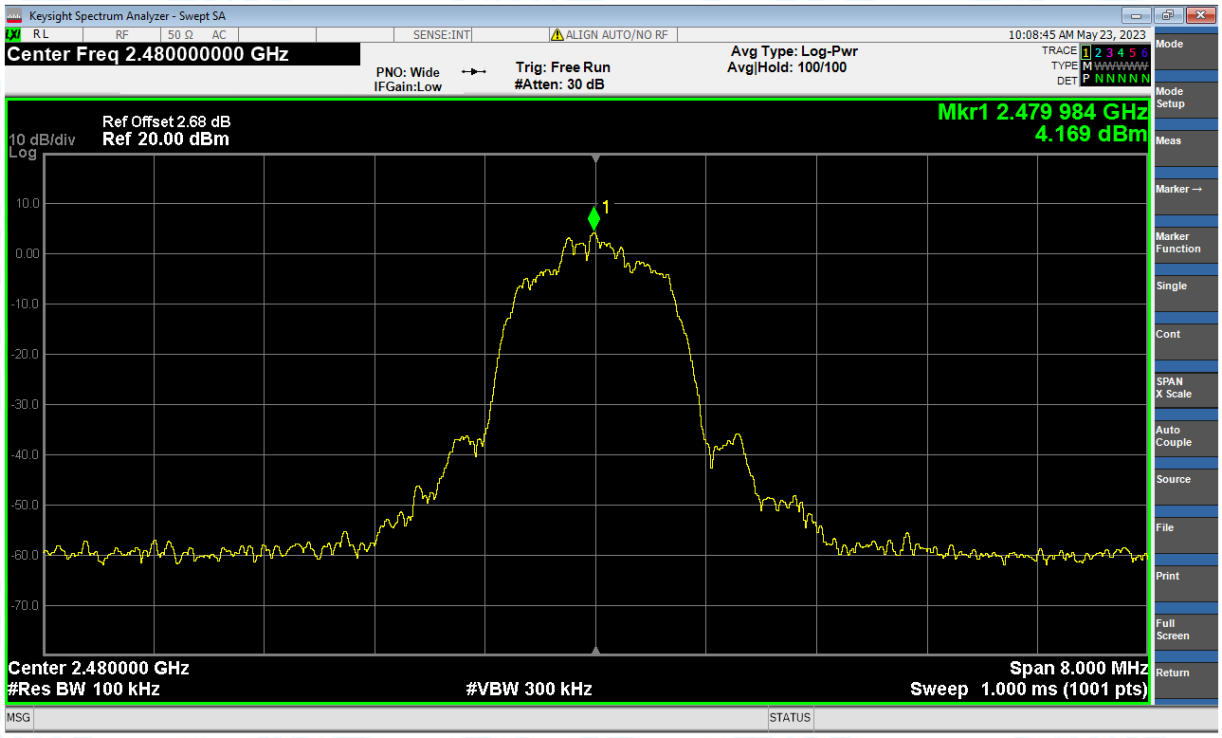
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



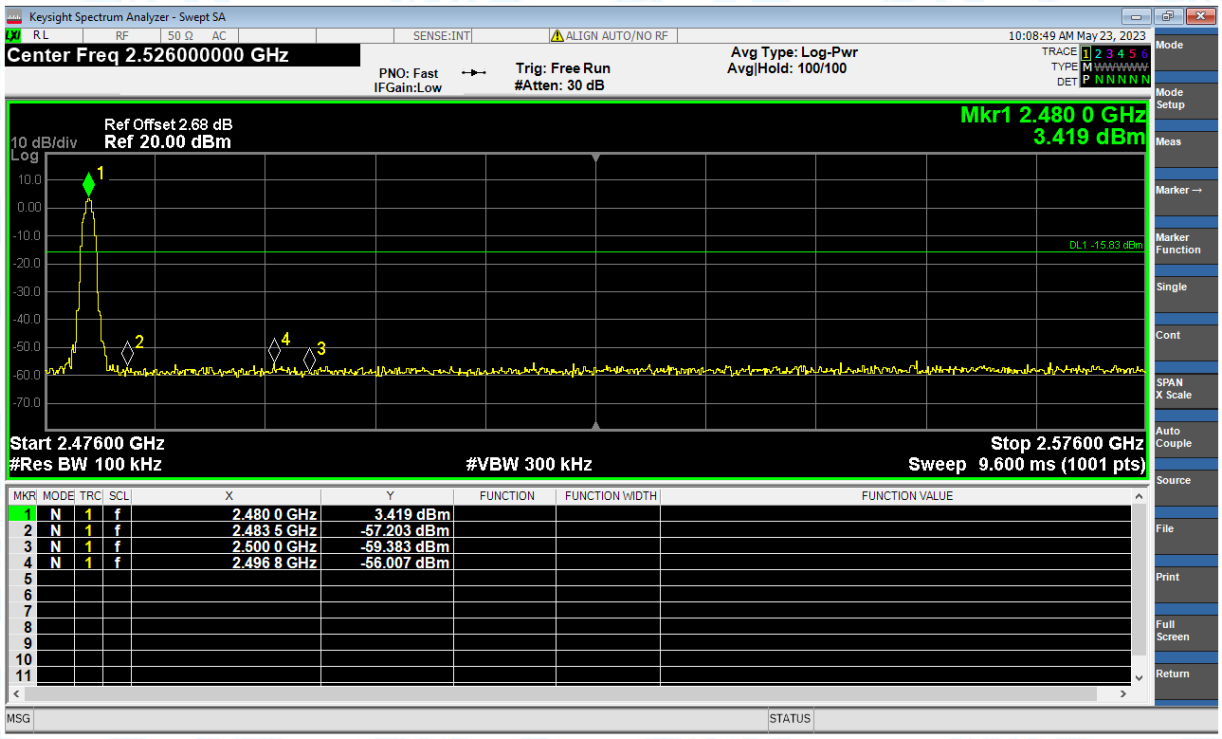
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



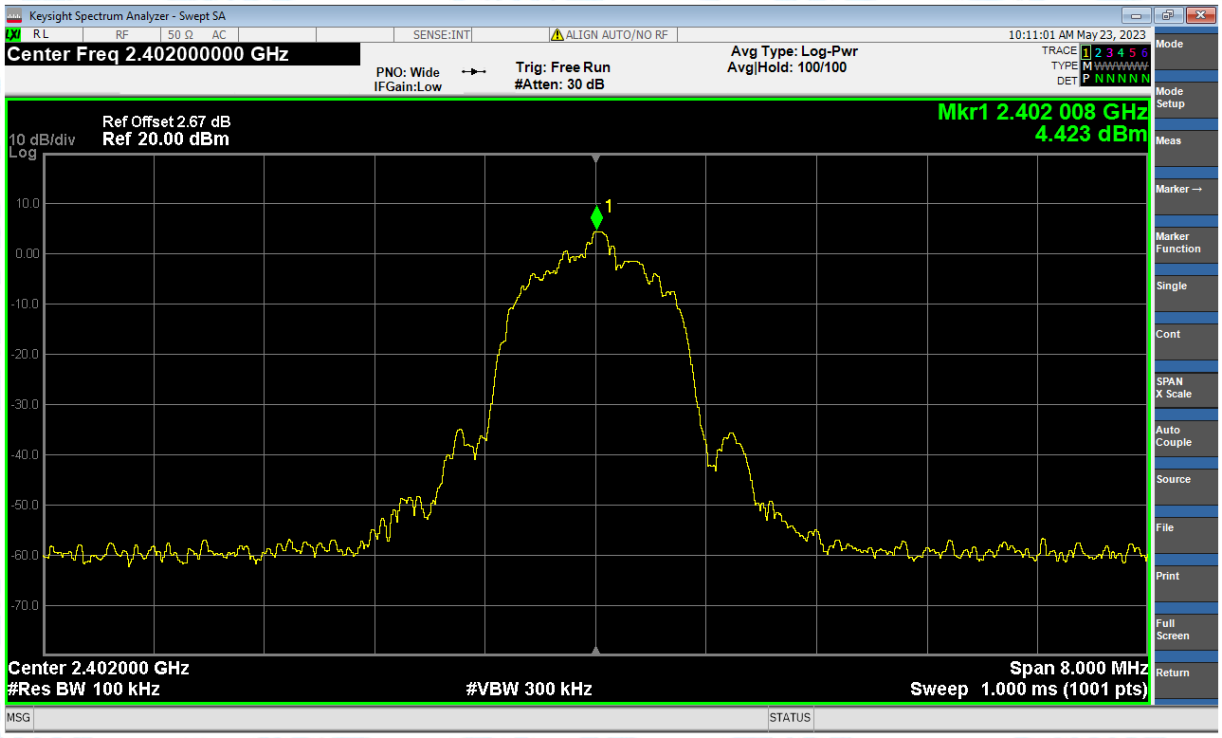
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



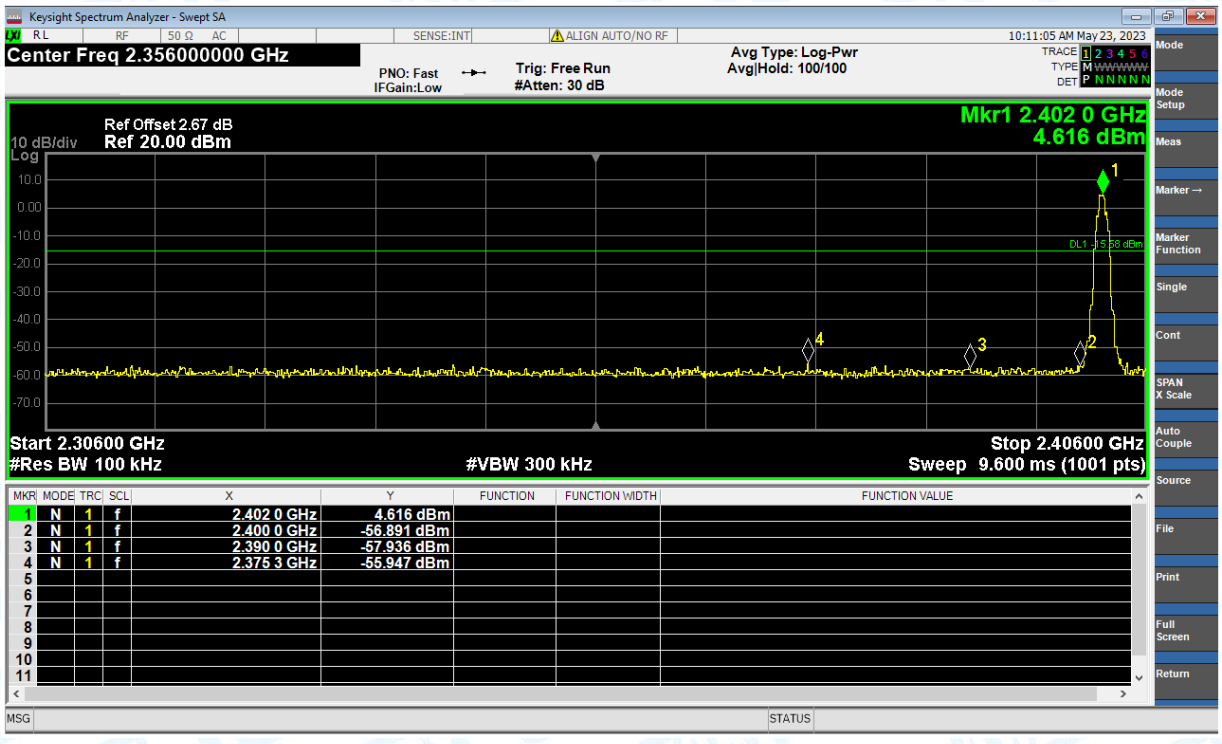
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



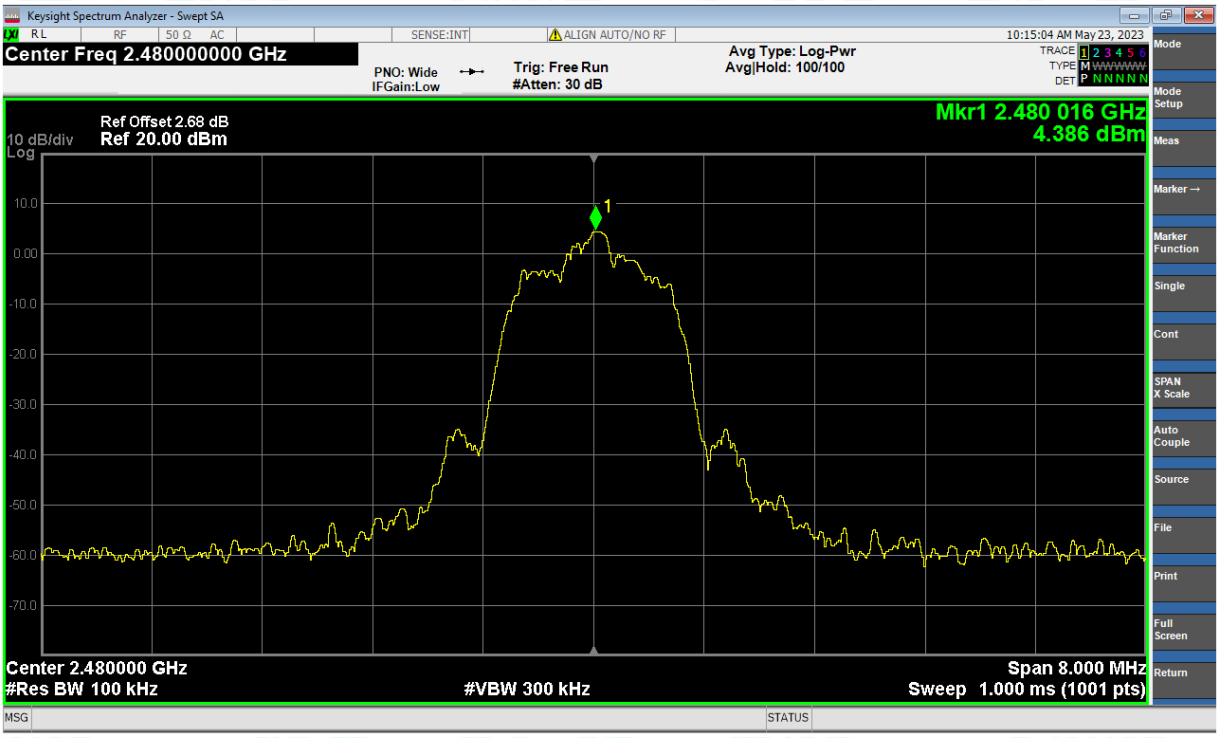
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



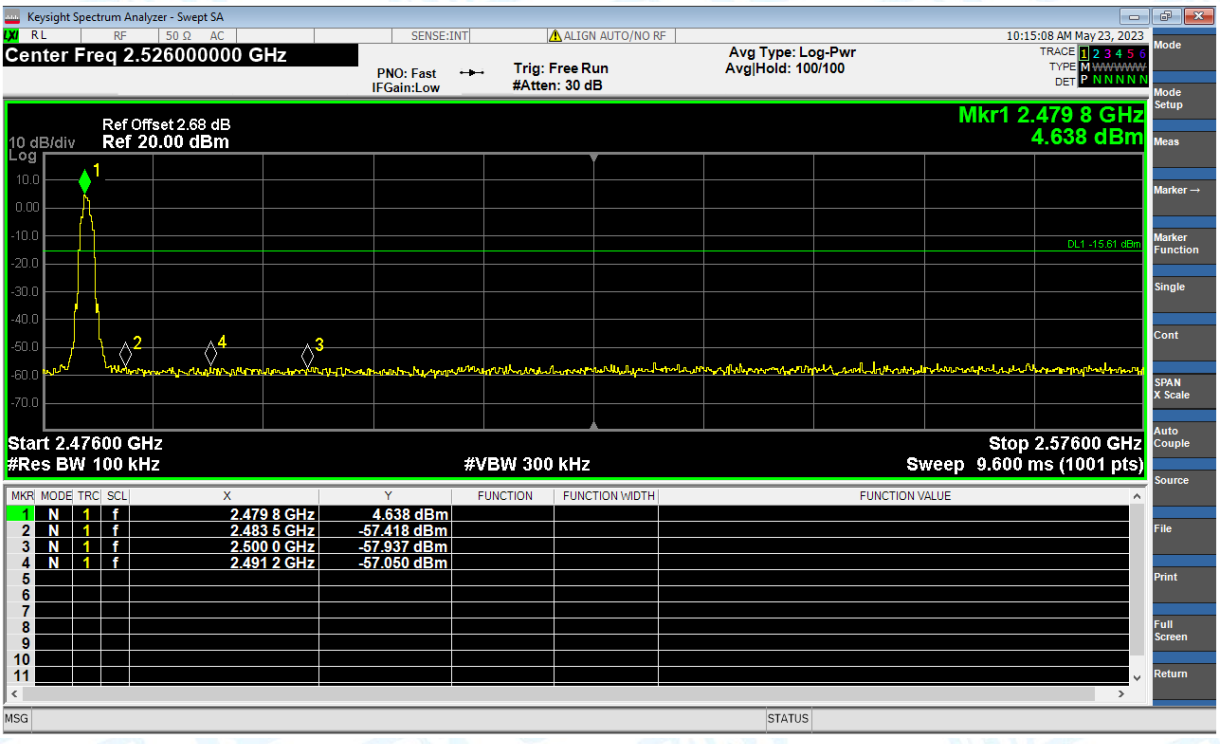
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission

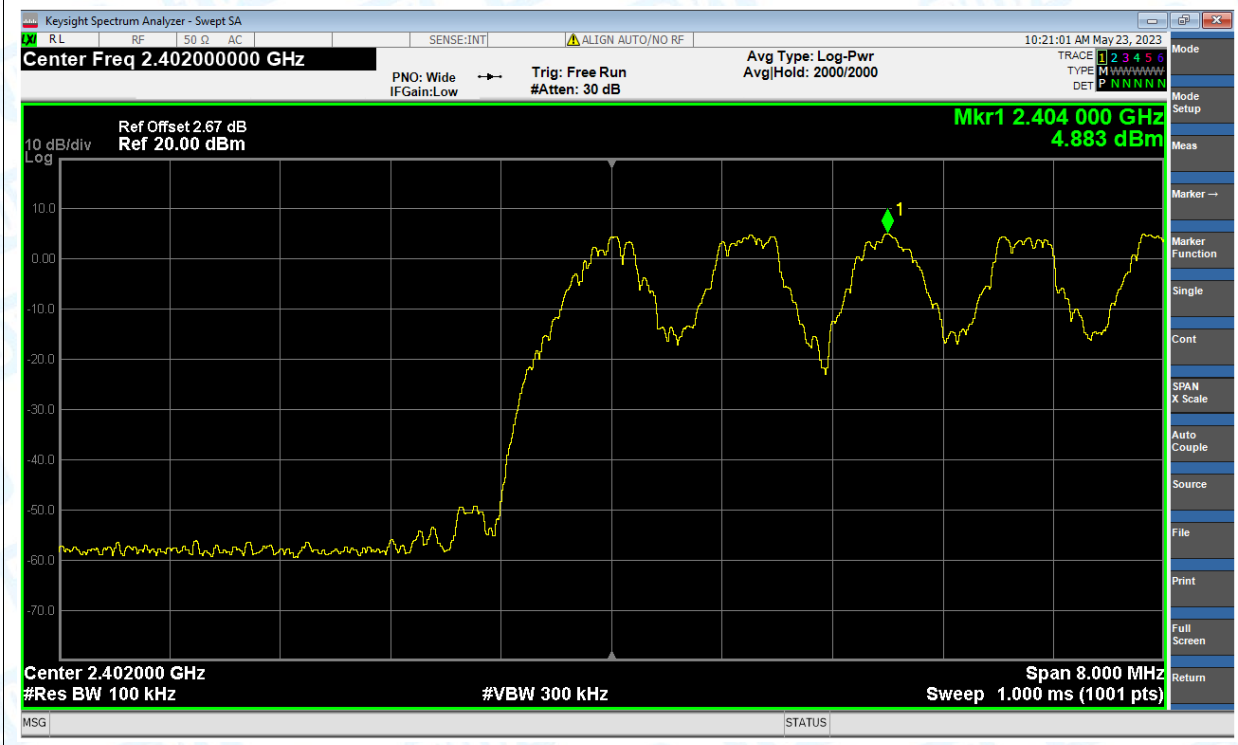


6. Band Edge(Hopping)

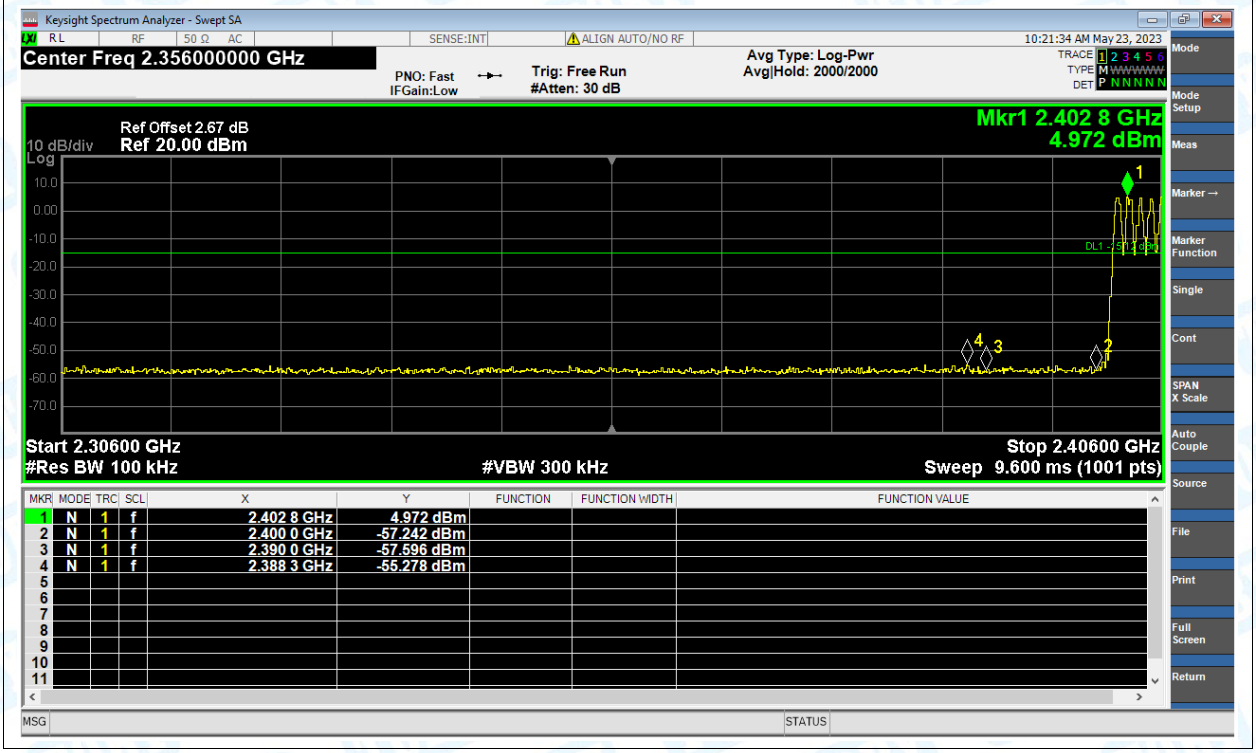
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-60.16	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-59.55	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-59.76	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-59.43	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-59.85	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-59.75	-20	Pass

Test Graphs

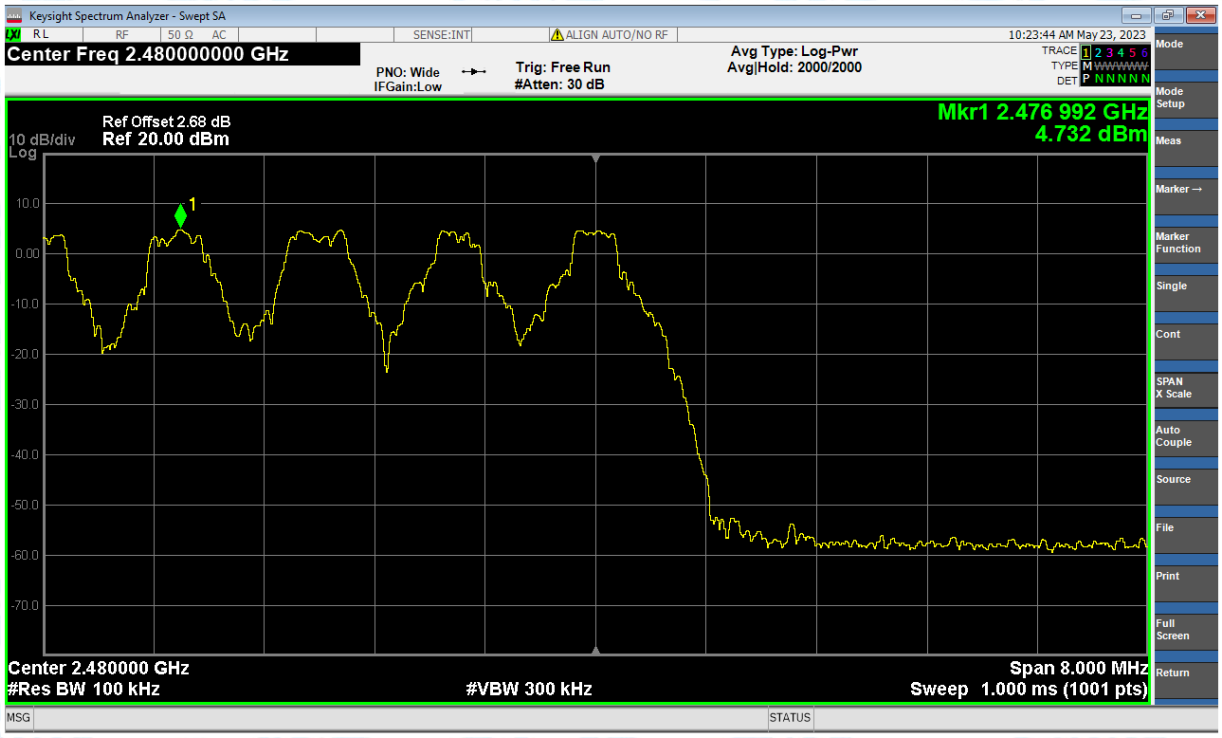
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



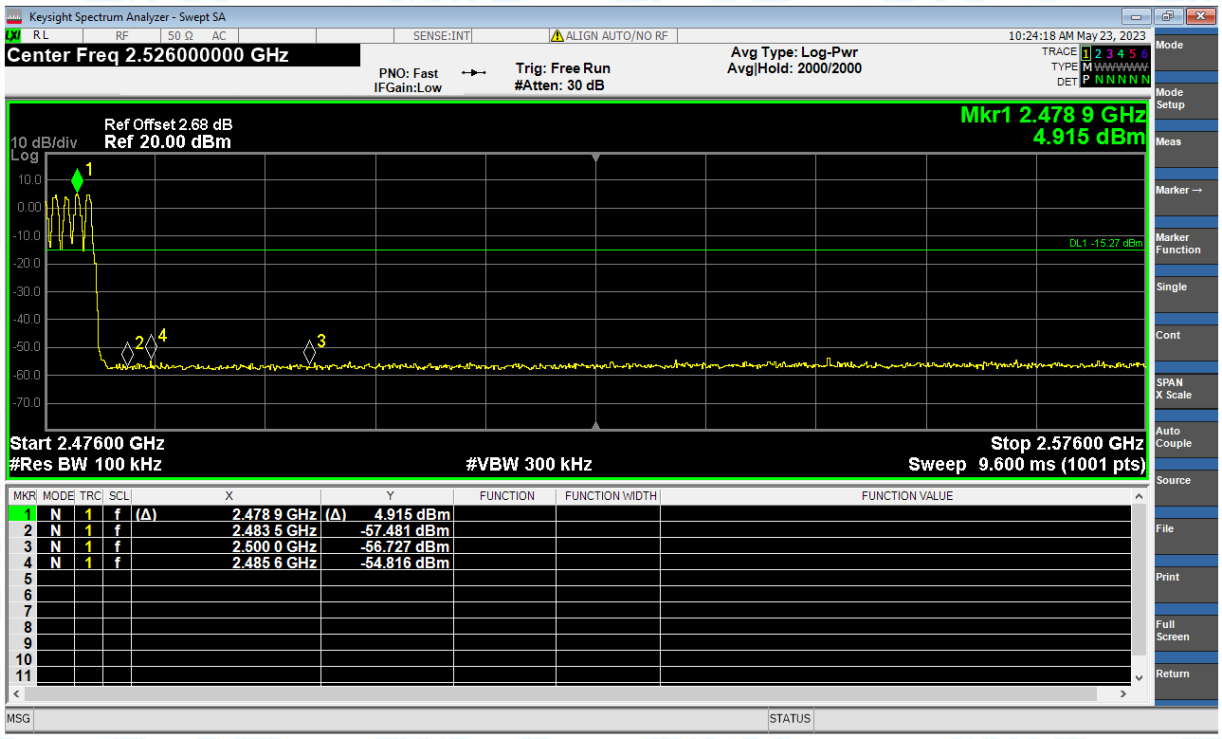
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



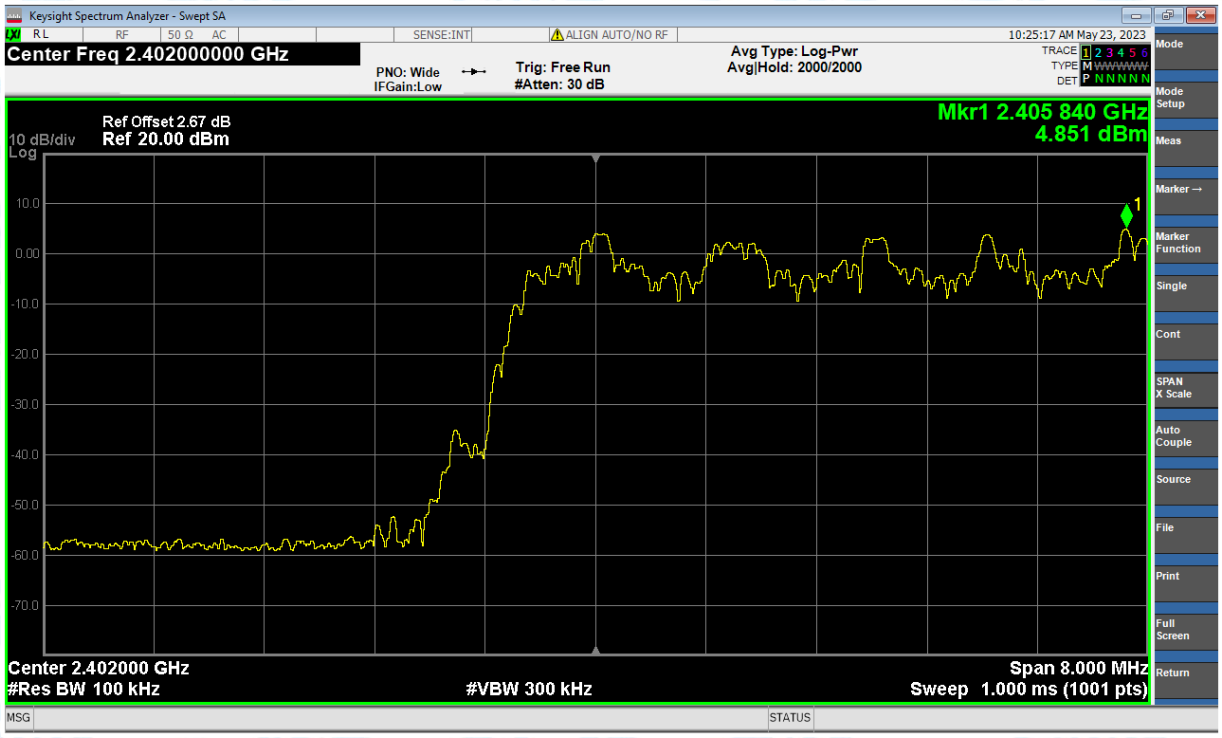
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



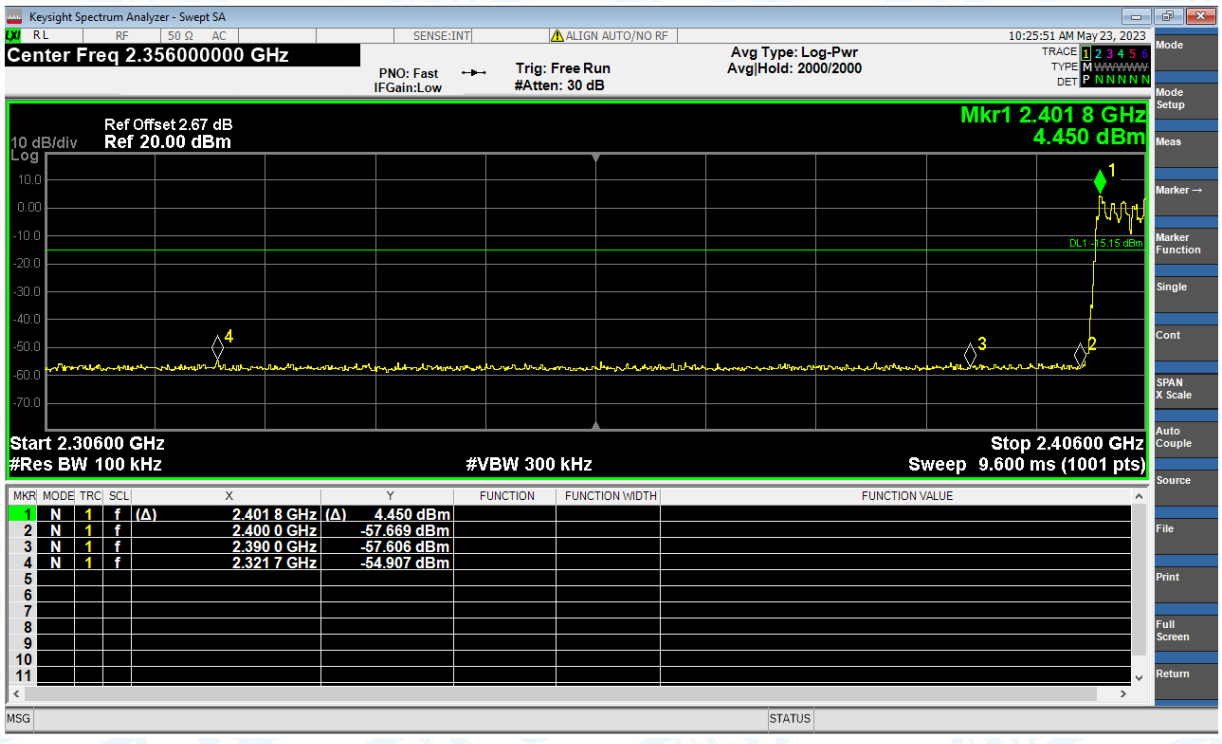
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



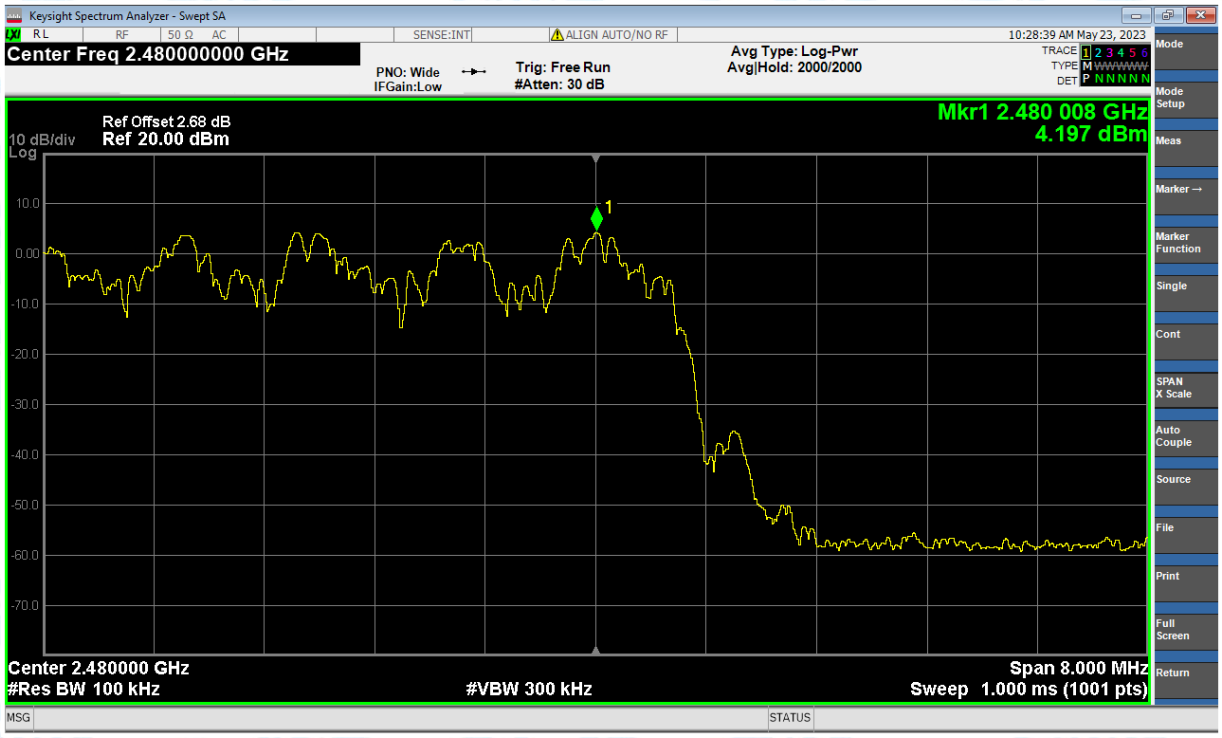
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



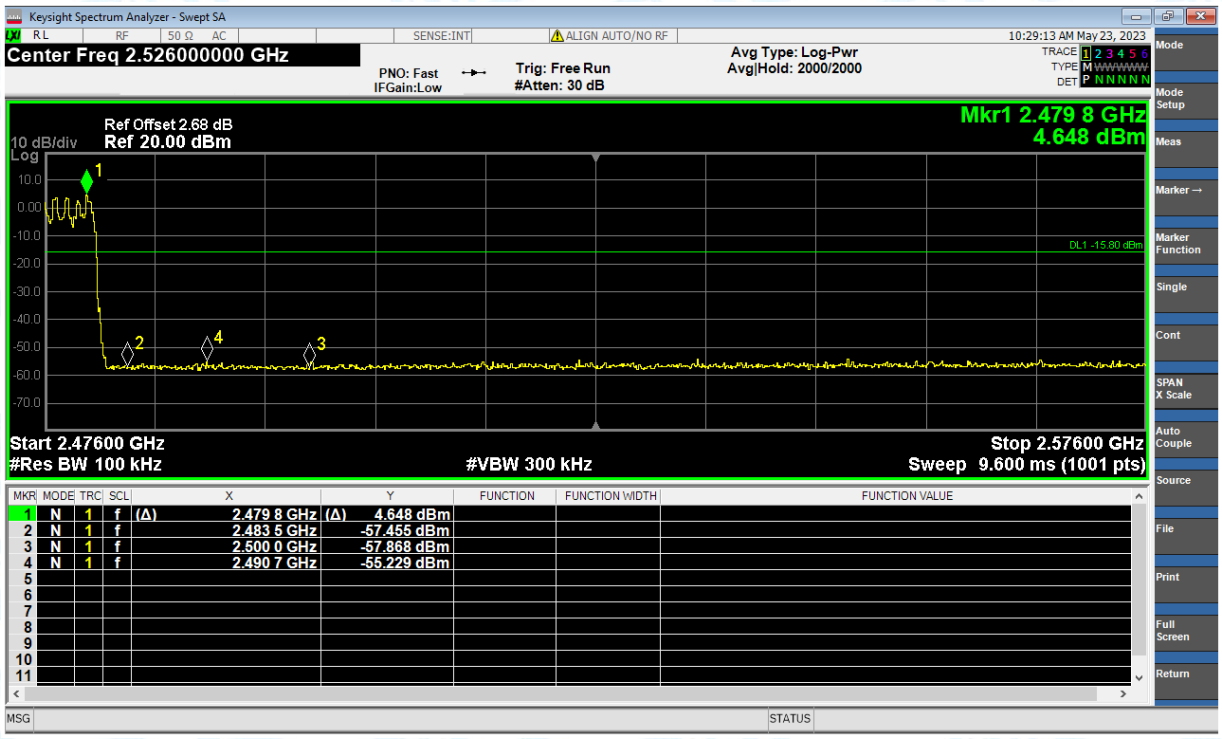
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



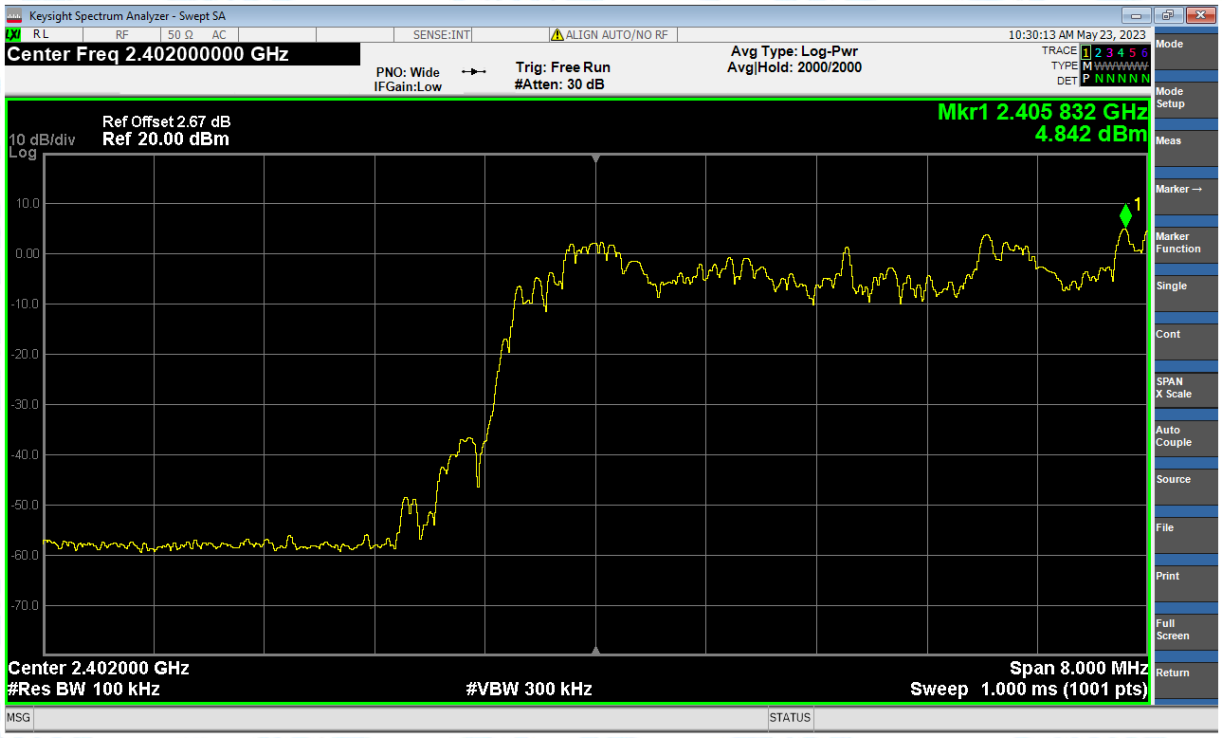
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



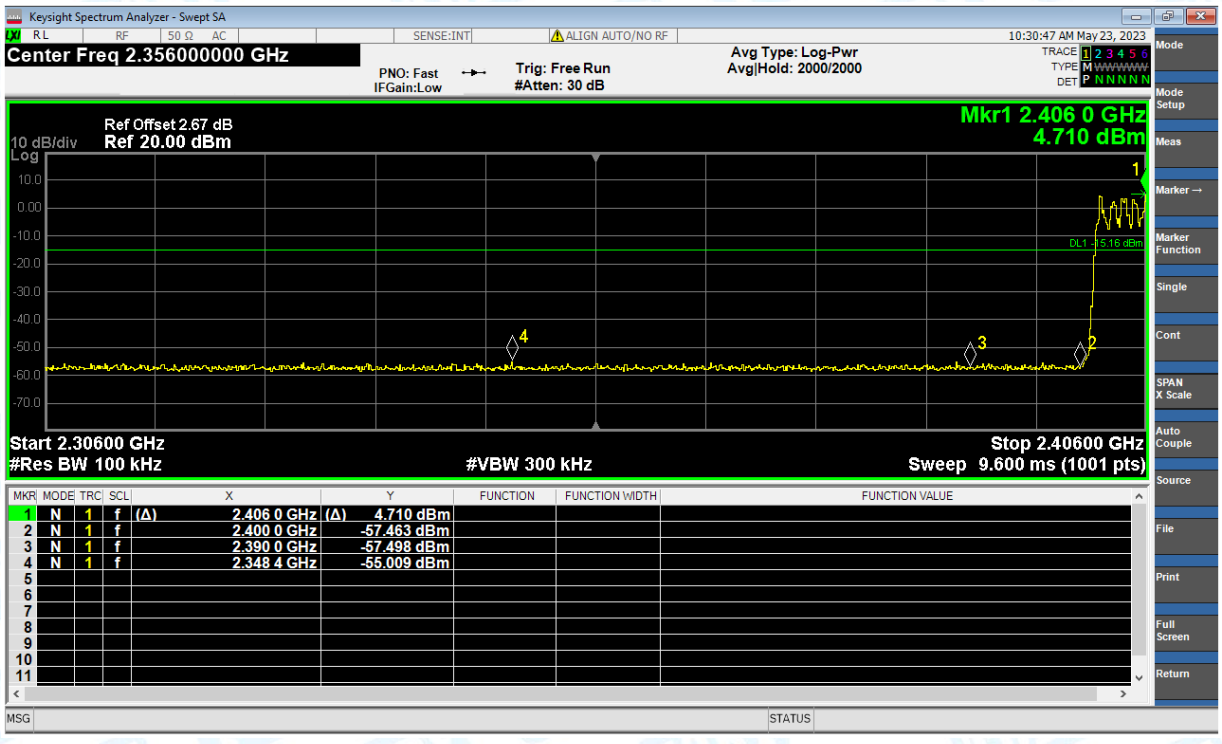
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



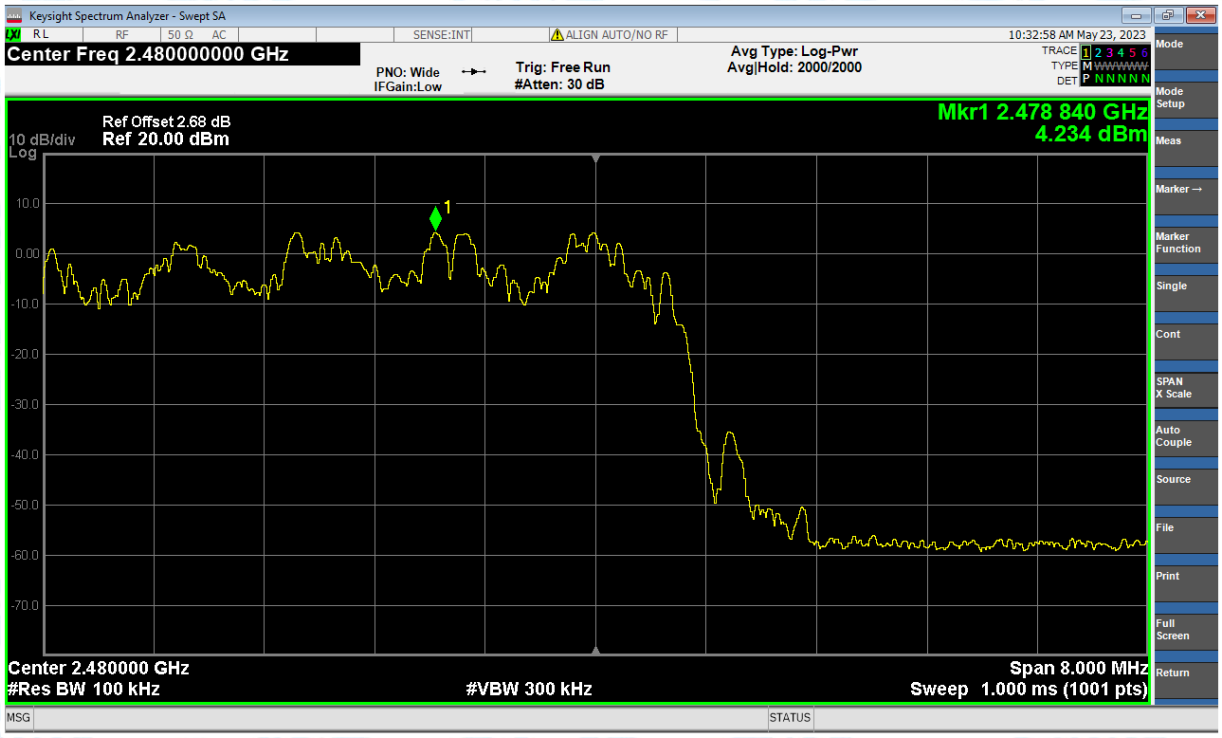
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



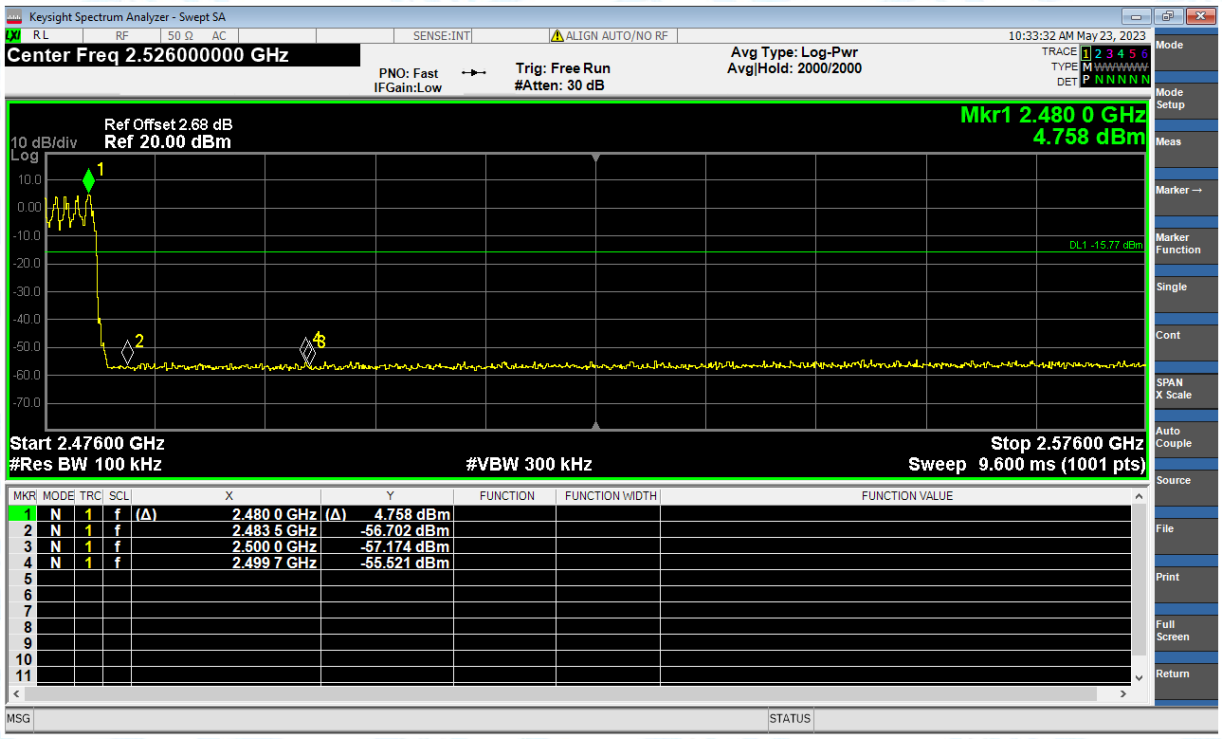
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission

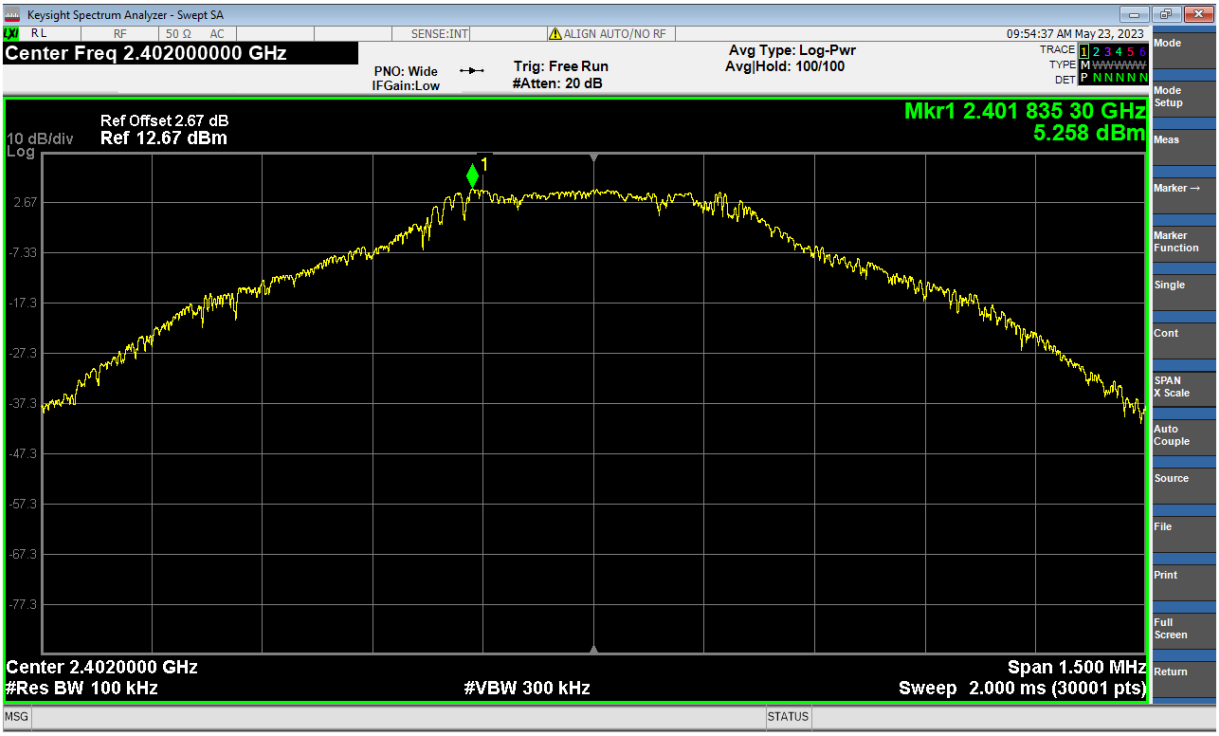


7. Conducted RF Spurious Emission

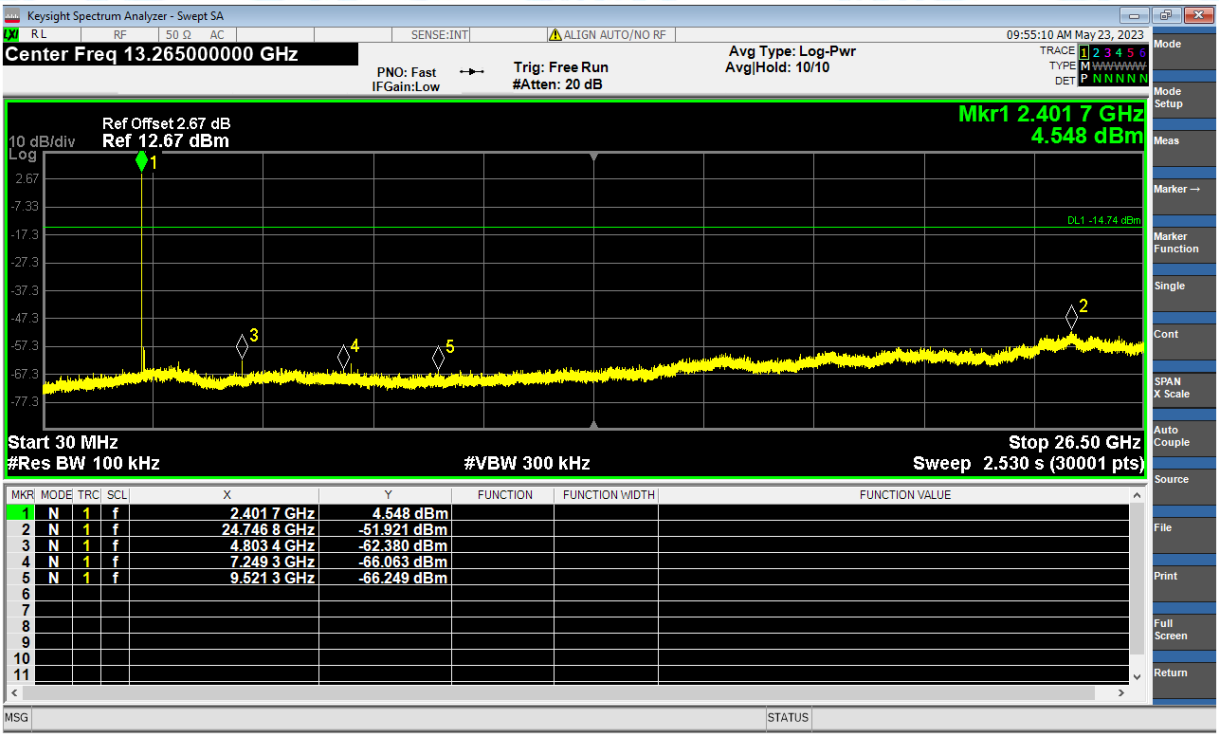
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-57.18	-20	Pass
NVNT	1-DH1	2441	Ant1	-55.26	-20	Pass
NVNT	1-DH1	2480	Ant1	-57.31	-20	Pass
NVNT	2-DH1	2402	Ant1	-56.39	-20	Pass
NVNT	2-DH1	2441	Ant1	-55.2	-20	Pass
NVNT	2-DH1	2480	Ant1	-56.2	-20	Pass
NVNT	3-DH1	2402	Ant1	-56.19	-20	Pass
NVNT	3-DH1	2441	Ant1	-55.18	-20	Pass
NVNT	3-DH1	2480	Ant1	-54.86	-20	Pass

Test Graphs

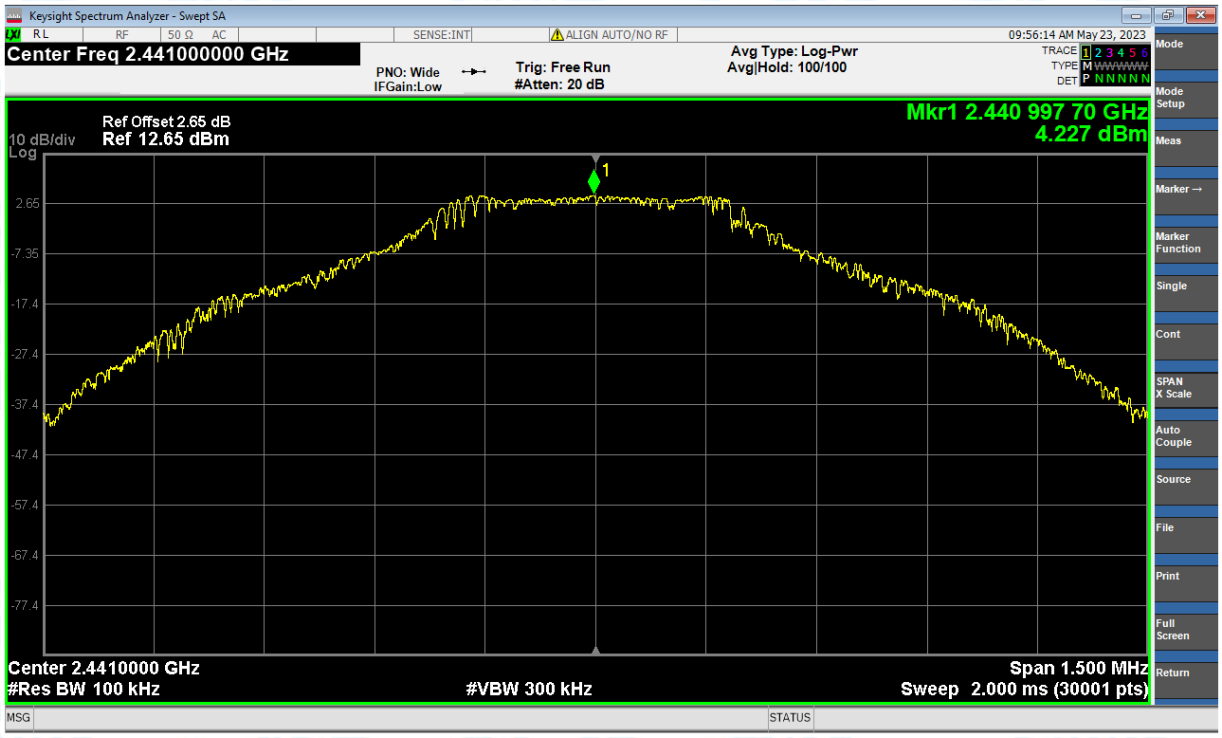
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



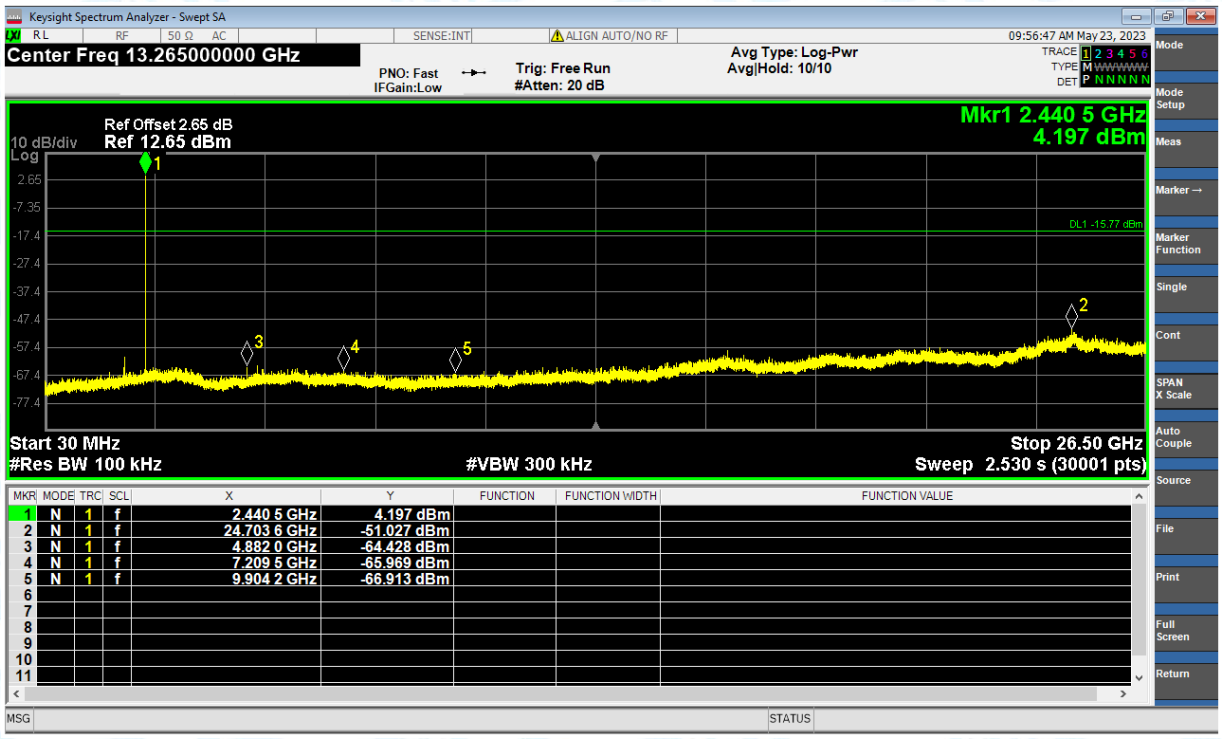
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



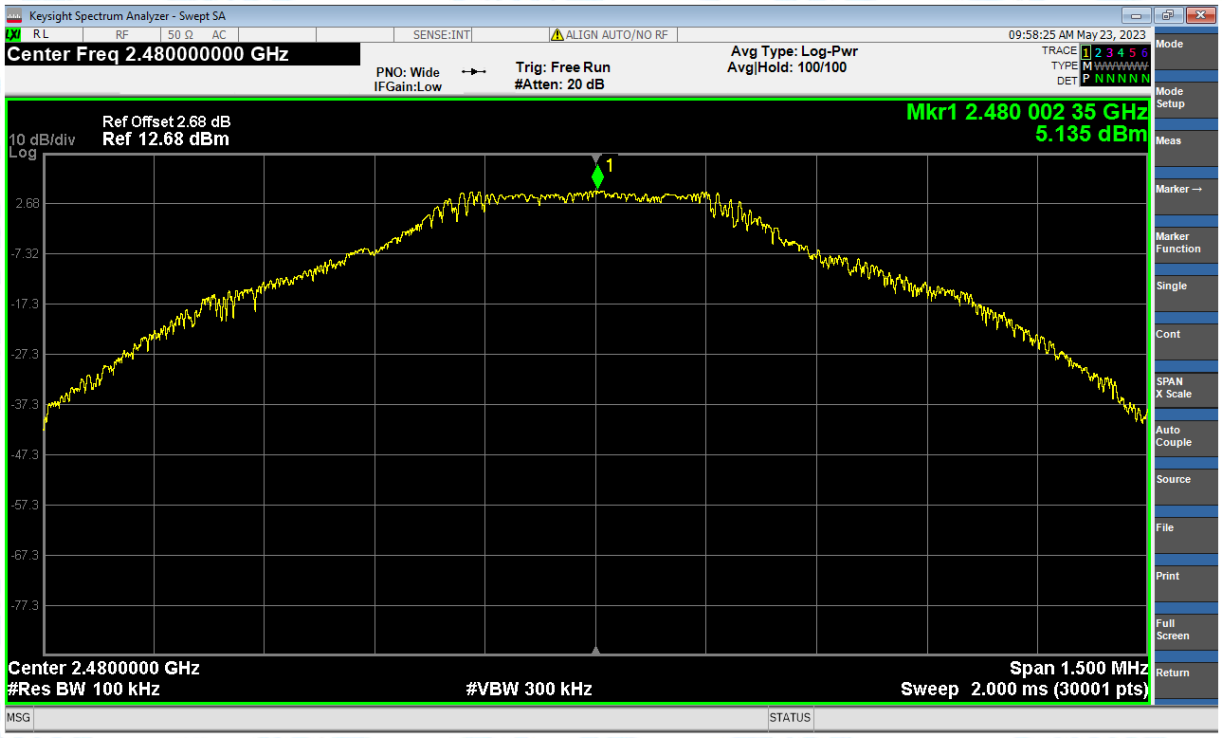
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



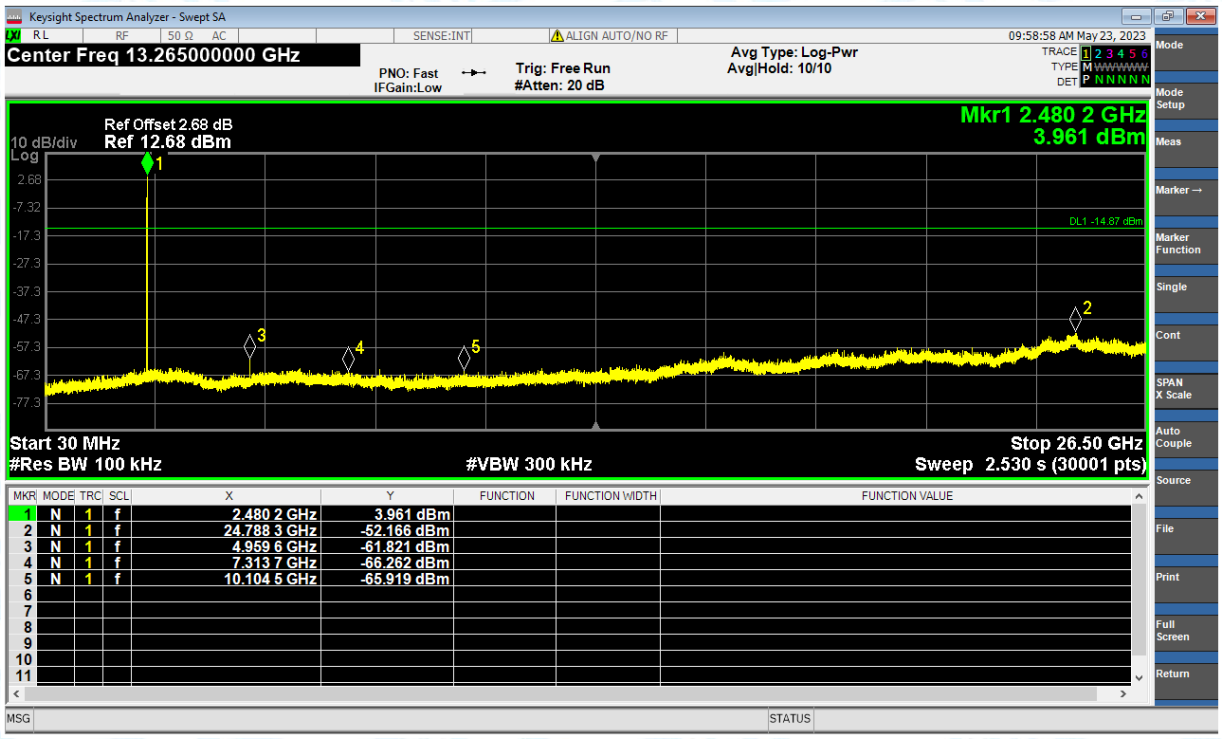
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



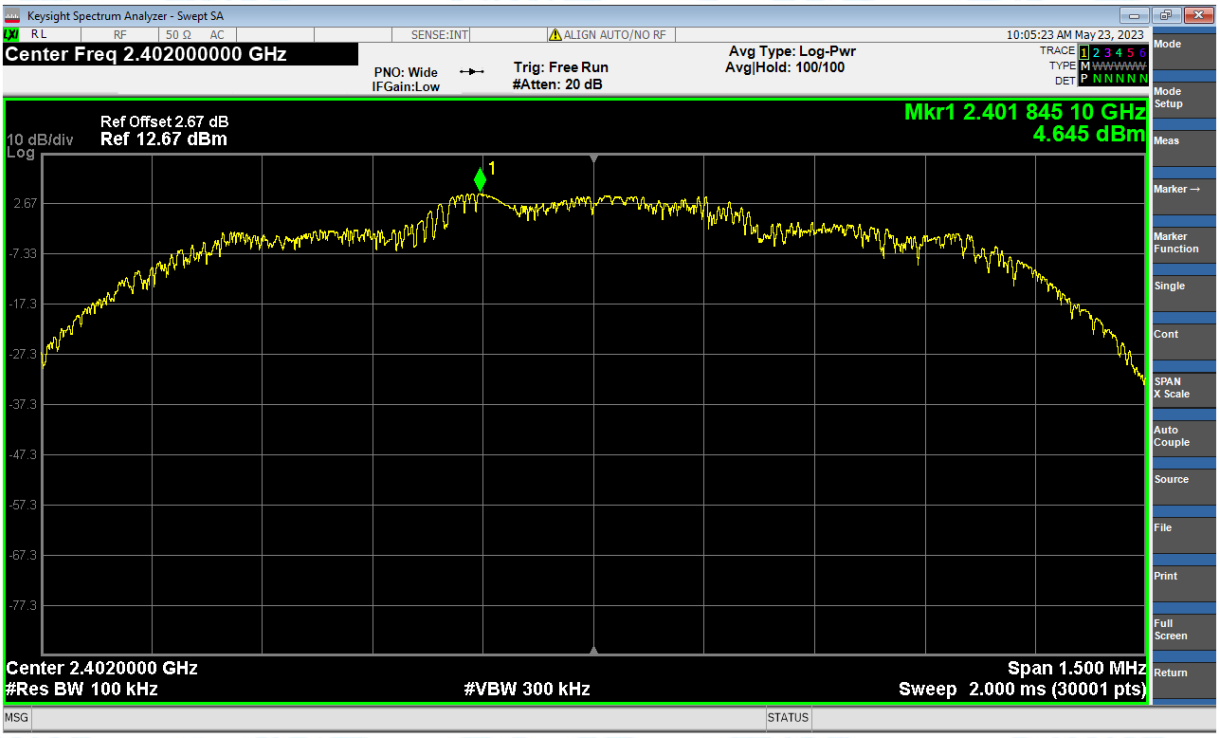
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



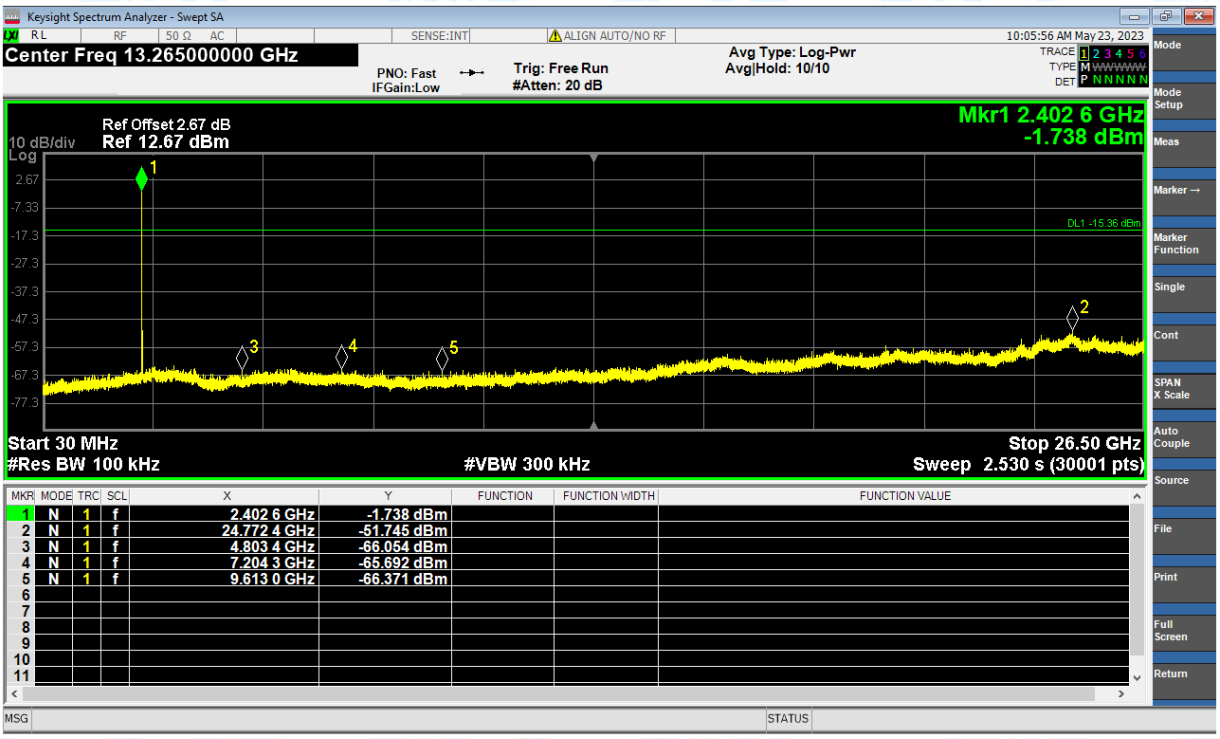
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



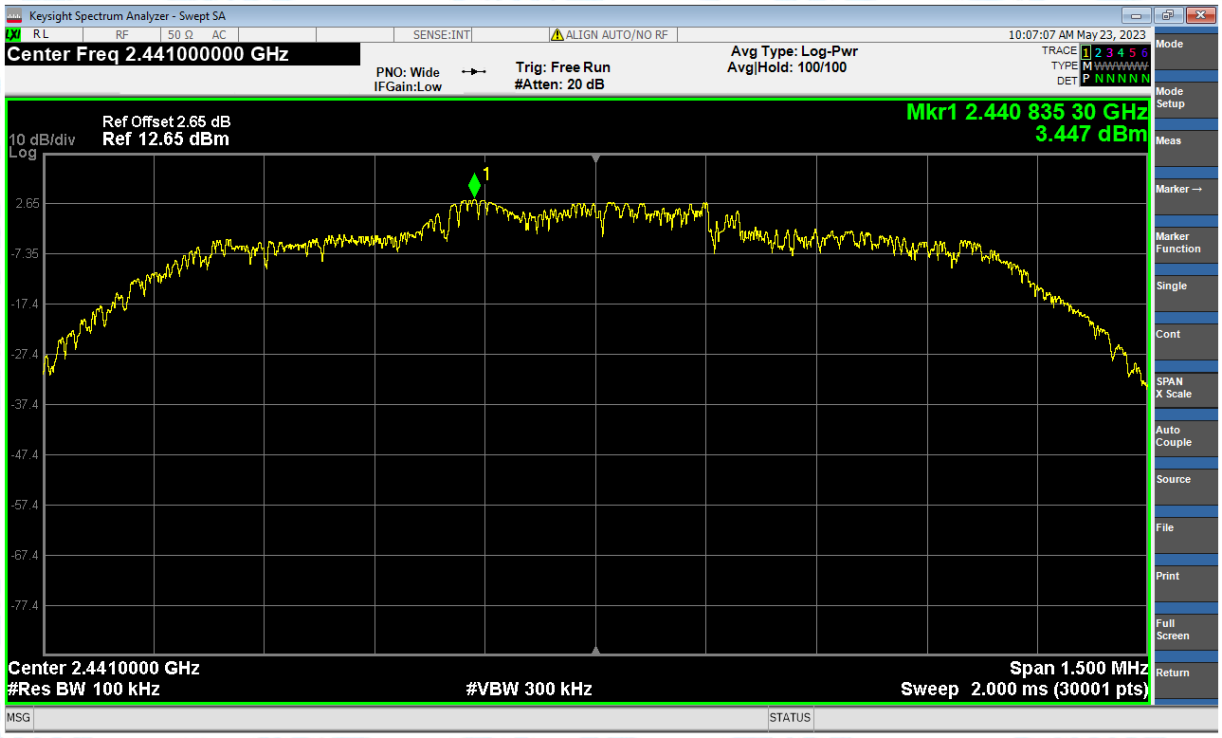
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission

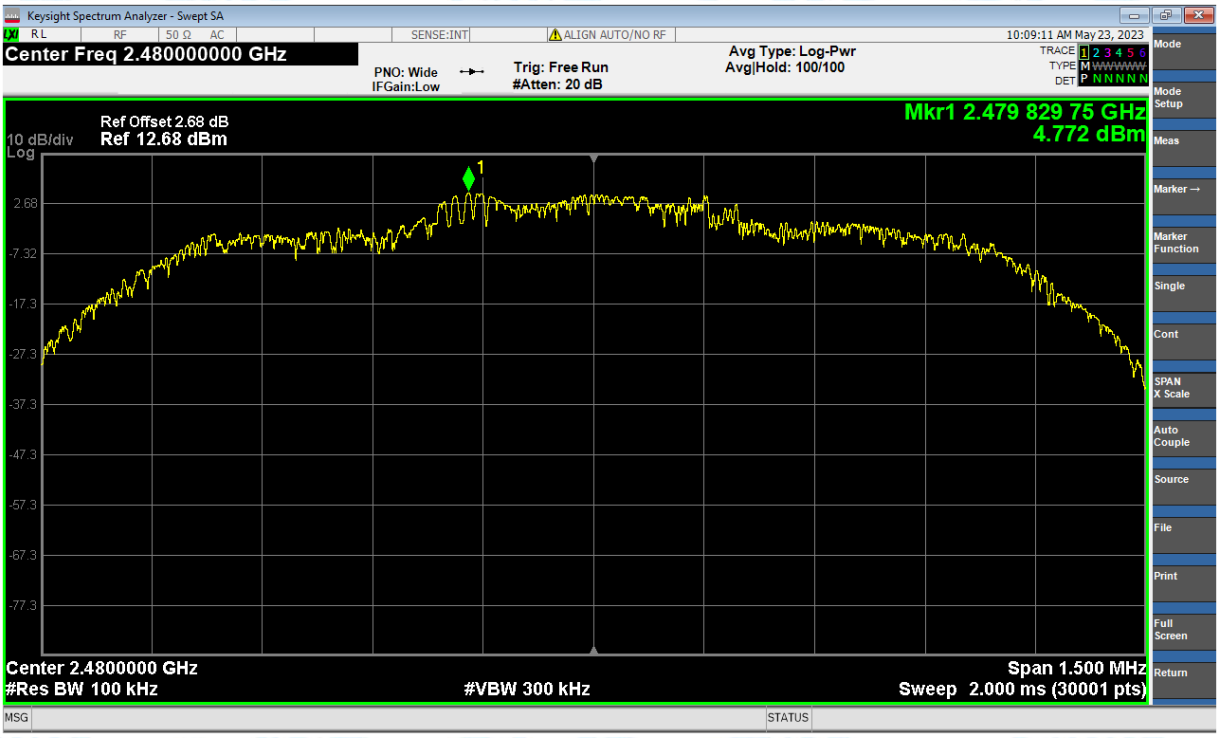


Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



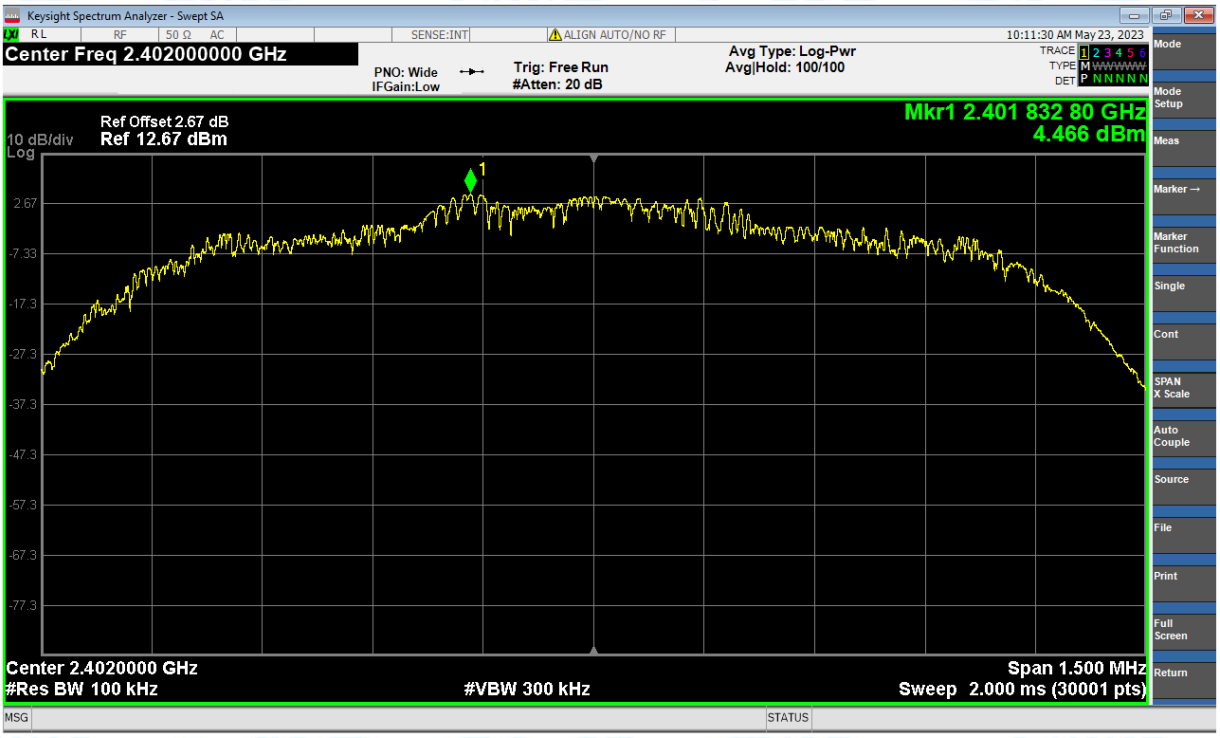
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission

Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref

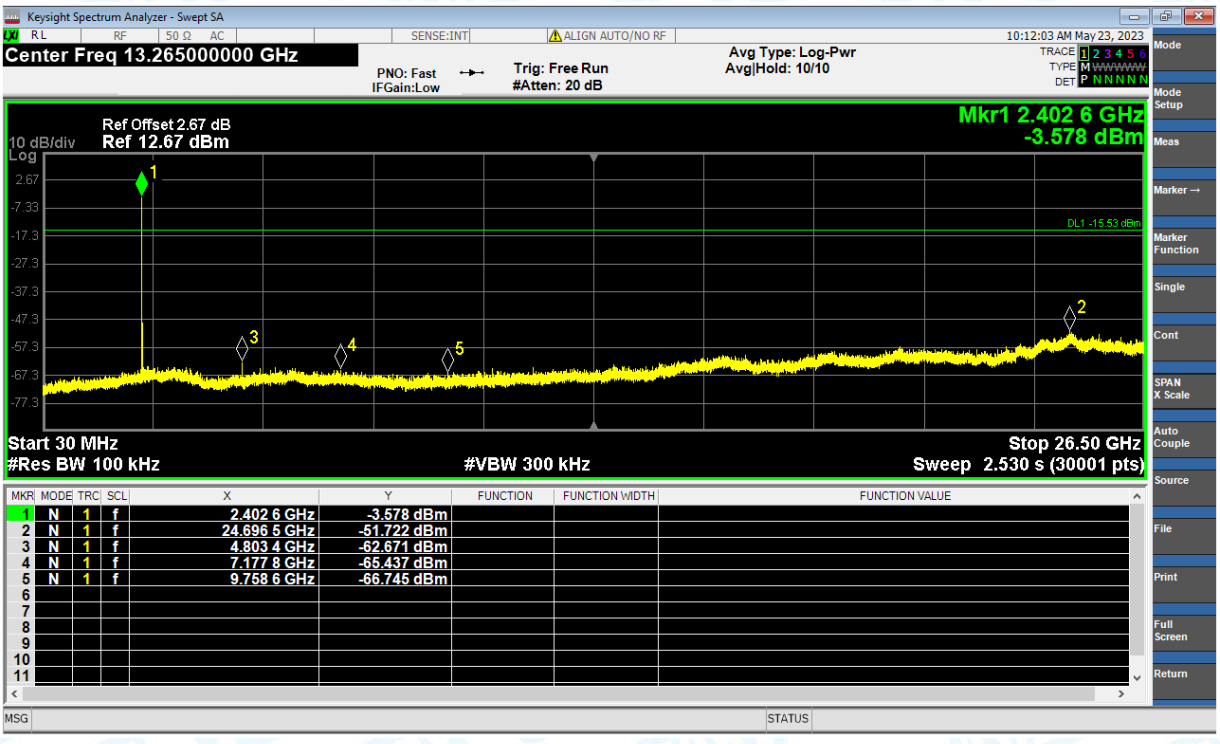


Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission

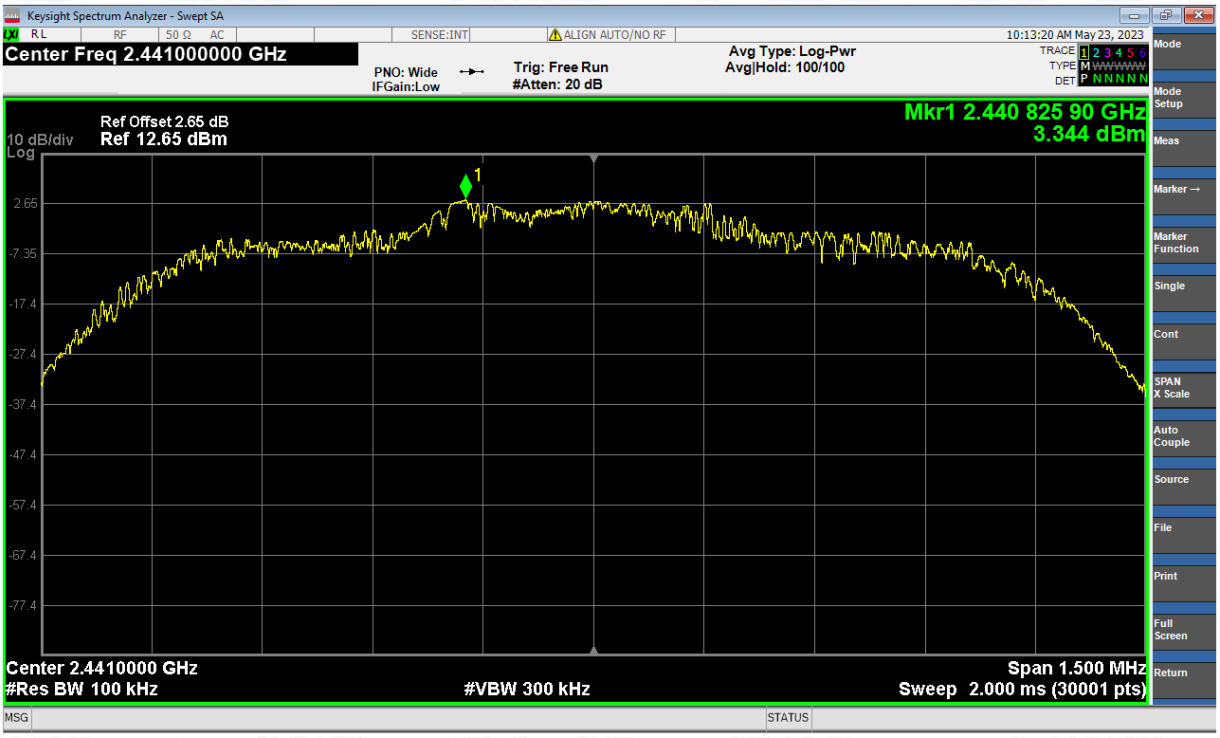
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



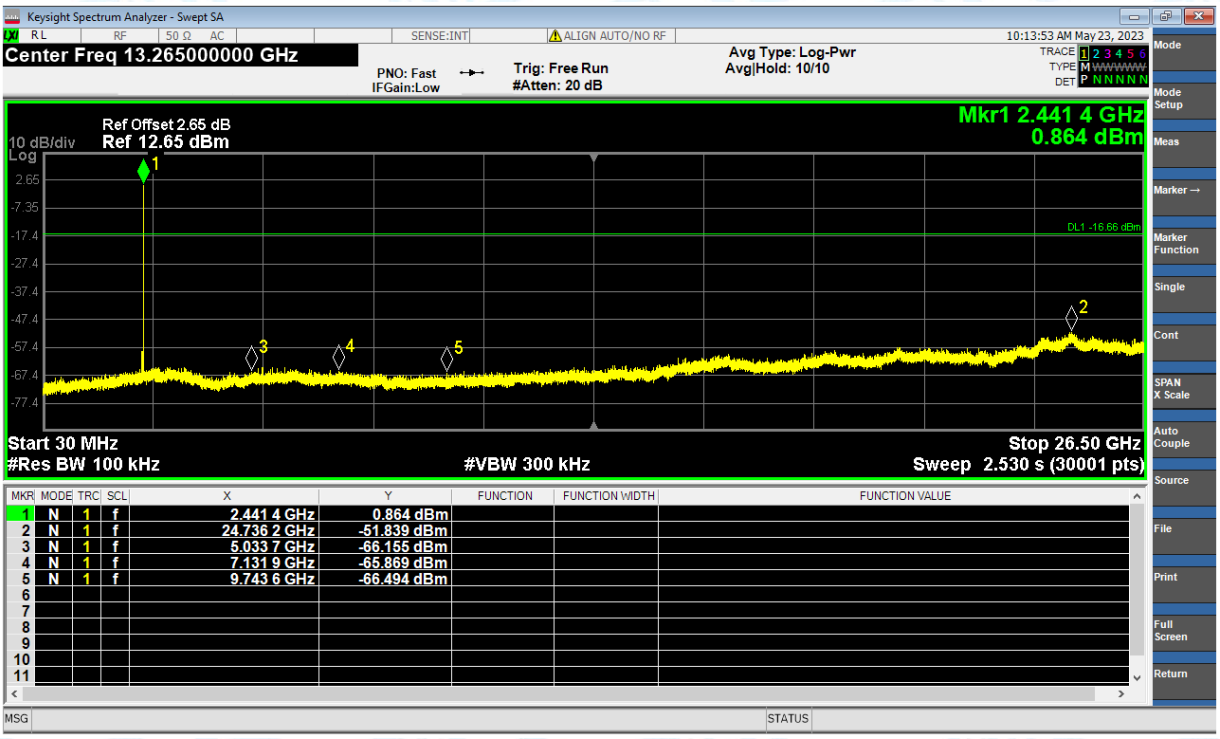
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



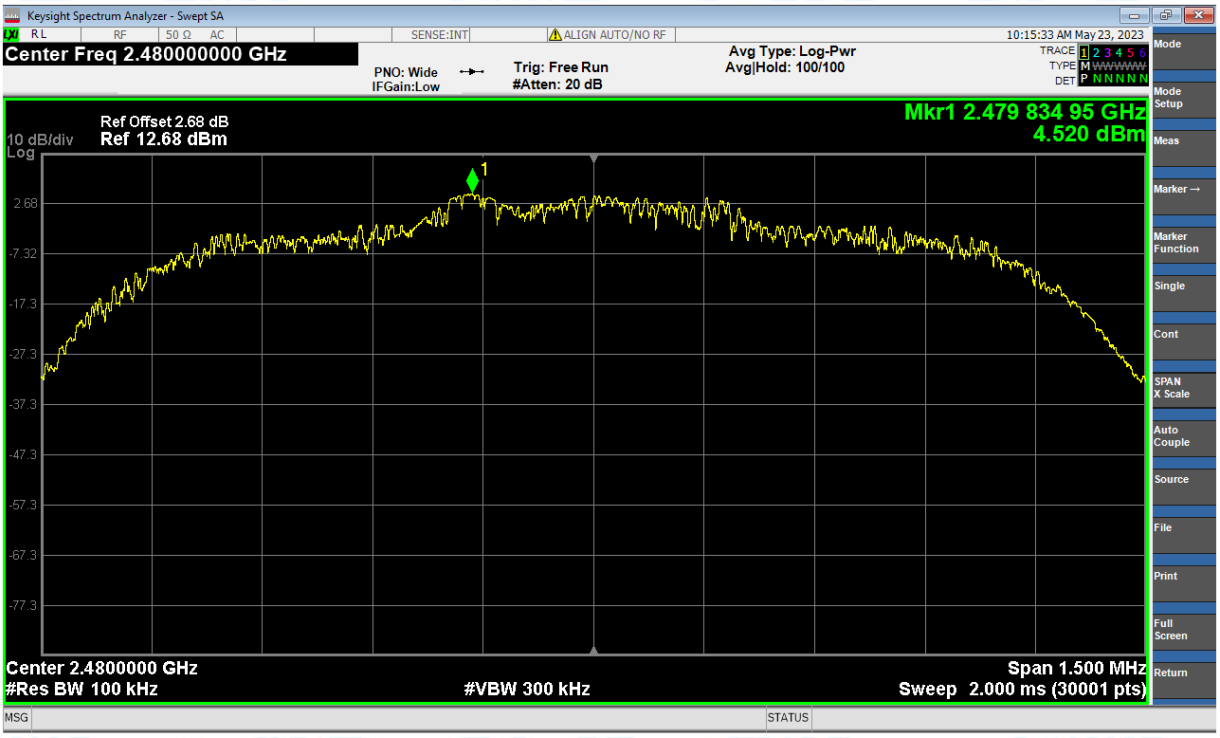
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



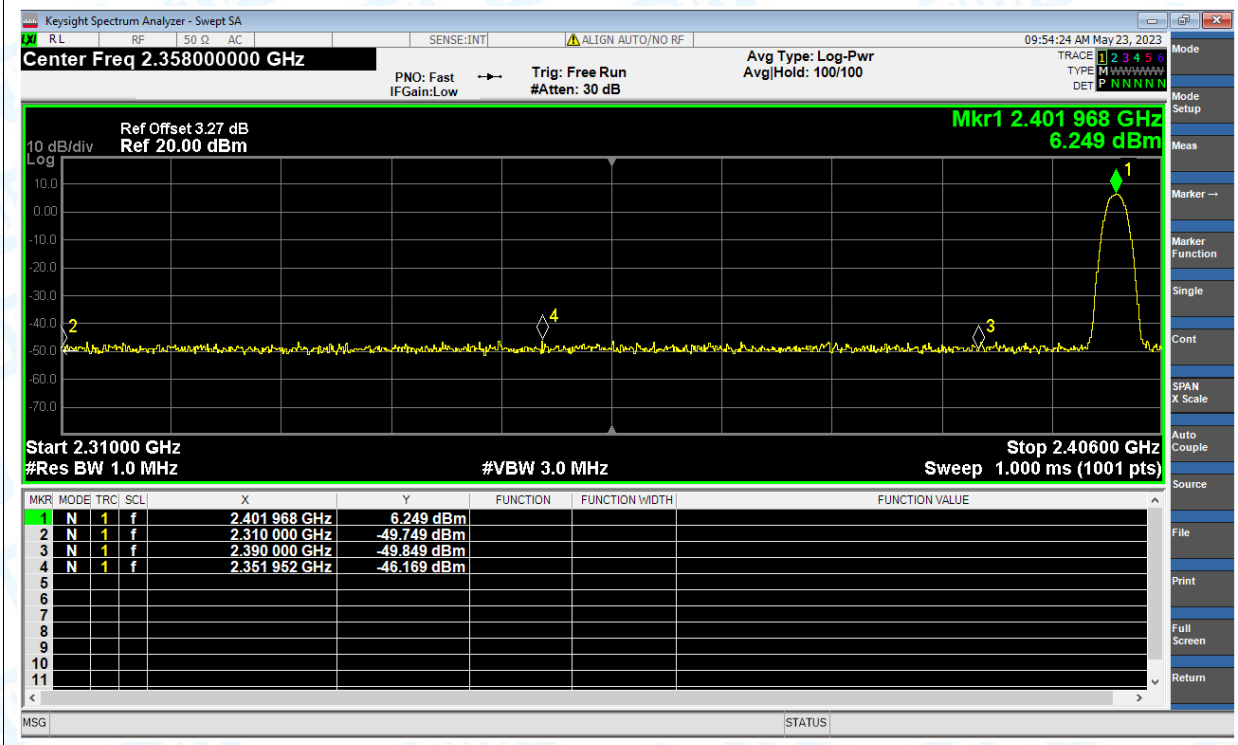
Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

8. Restrict Band

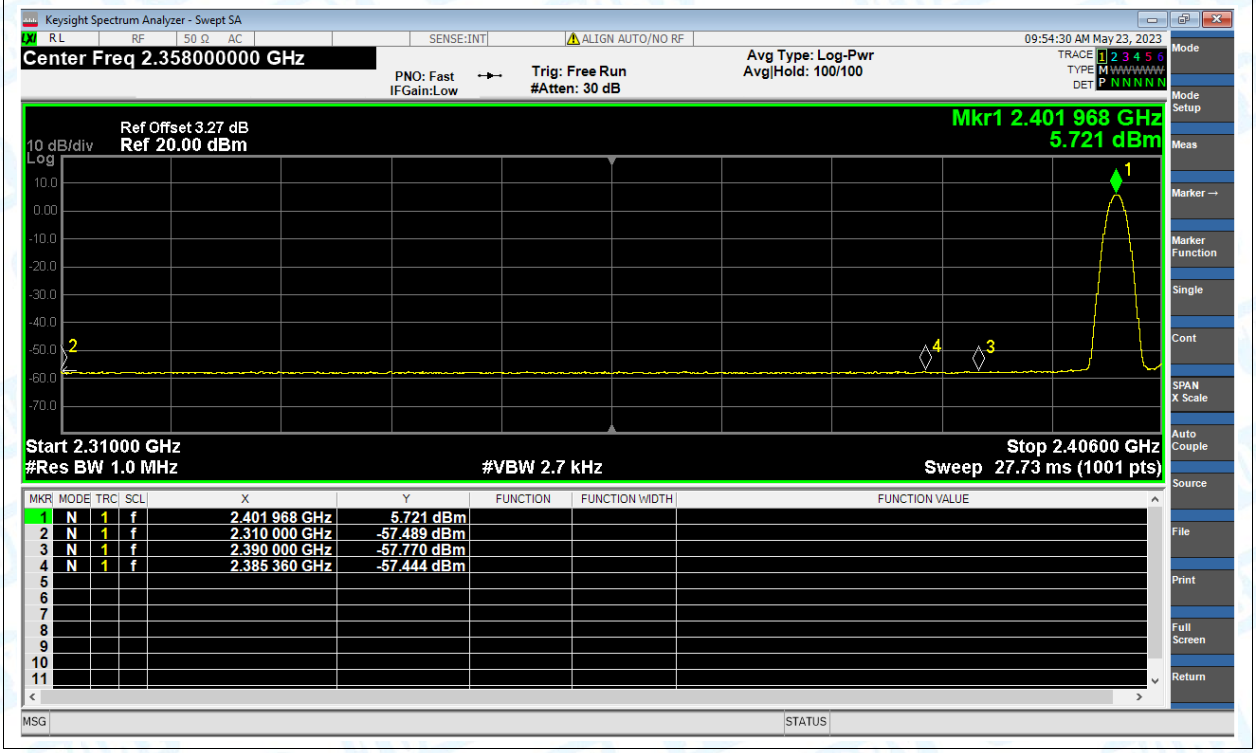
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.75	2	47.51	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-57.49	2	39.77	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2351.952	-46.17	2	51.09	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2385.36	-57.44	2	39.82	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.84	2	48.42	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-57.92	2	39.34	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-49.16	2	48.1	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-56.94	2	40.32	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2489.176	-45.6	2	51.66	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.848	-56.83	2	40.43	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-49.03	2	48.23	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-57.8	2	39.46	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-49.19	2	48.07	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-58.03	2	39.23	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2374.8	-45.82	2	51.44	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2357.616	-56.98	2	40.28	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48	2	49.26	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-57.51	2	39.75	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-47.5	2	49.76	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-56.94	2	40.32	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.736	-45.67	2	51.59	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.536	-56.91	2	40.35	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.68	2	49.58	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-57.65	2	39.61	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-47.56	2	49.7	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-57.86	2	39.4	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2356.272	-46.31	2	50.95	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2377.296	-57.44	2	39.82	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-50.03	2	47.23	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-57.7	2	39.56	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-48.08	2	49.18	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-57.44	2	39.82	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2485.408	-45.89	2	51.37	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.608	-57.2	2	40.06	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.71	2	49.55	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-57.6	2	39.66	Average	54	Pass

Test Graphs

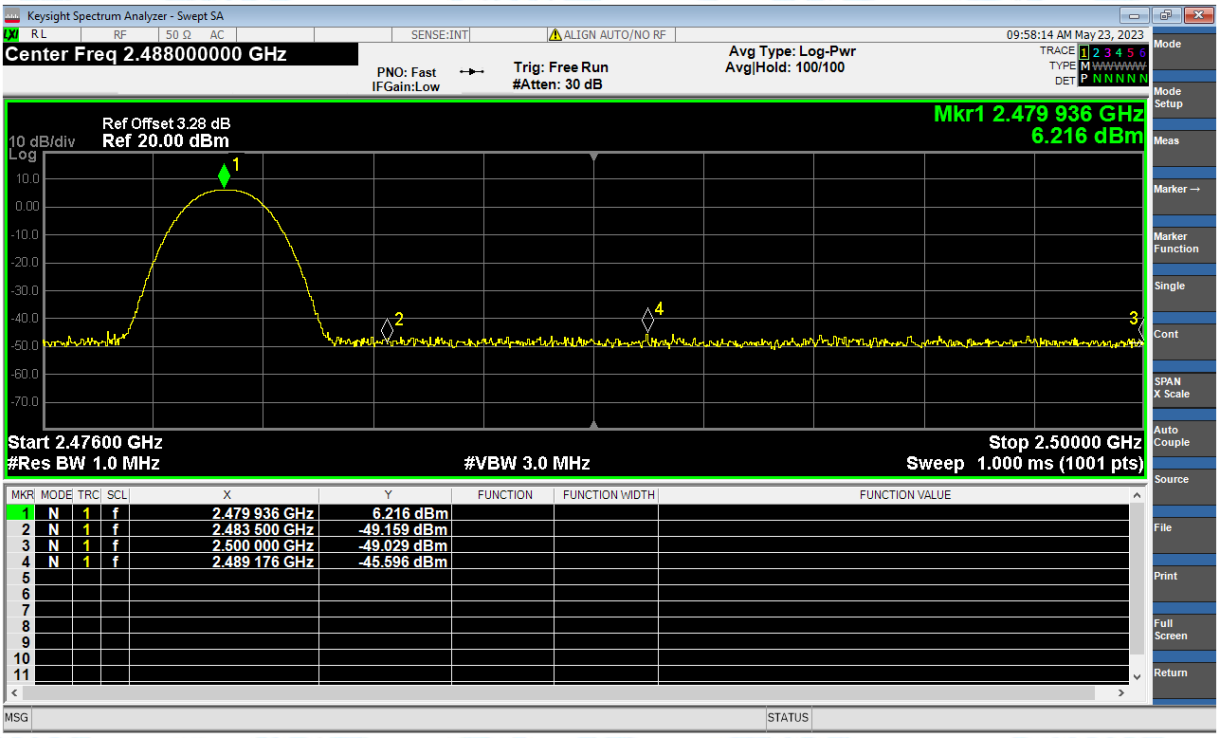
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



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

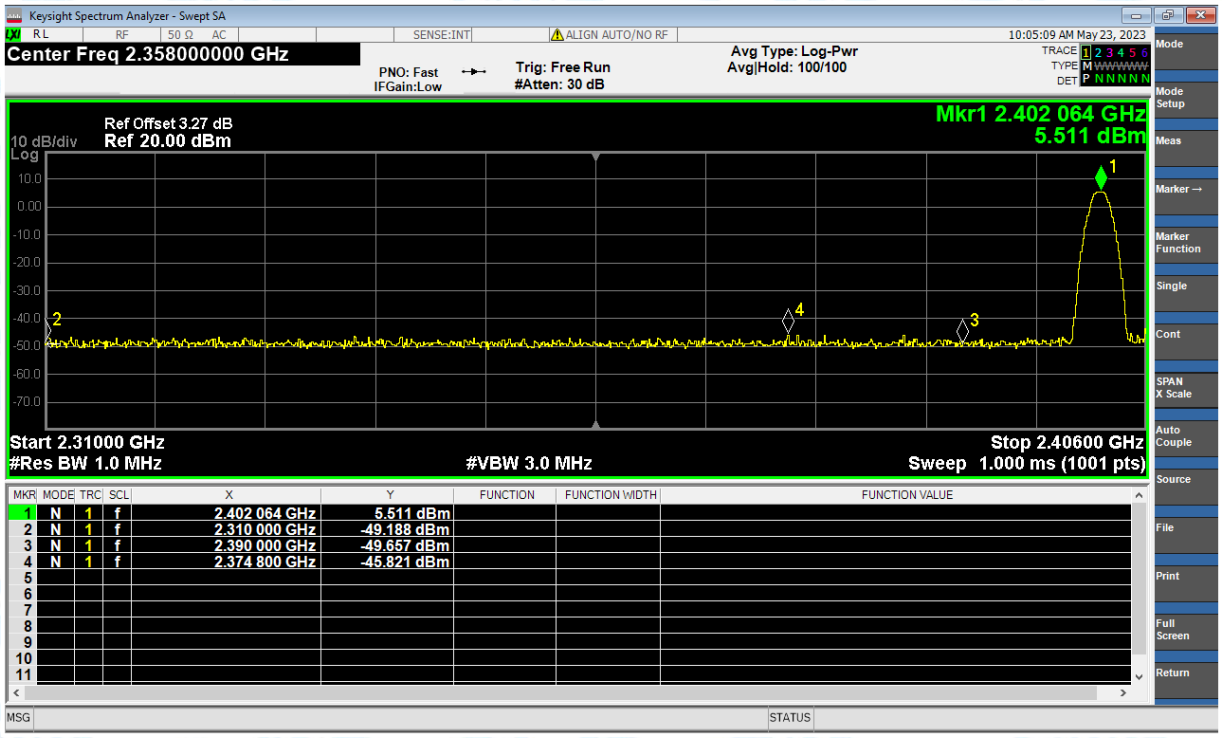


Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak

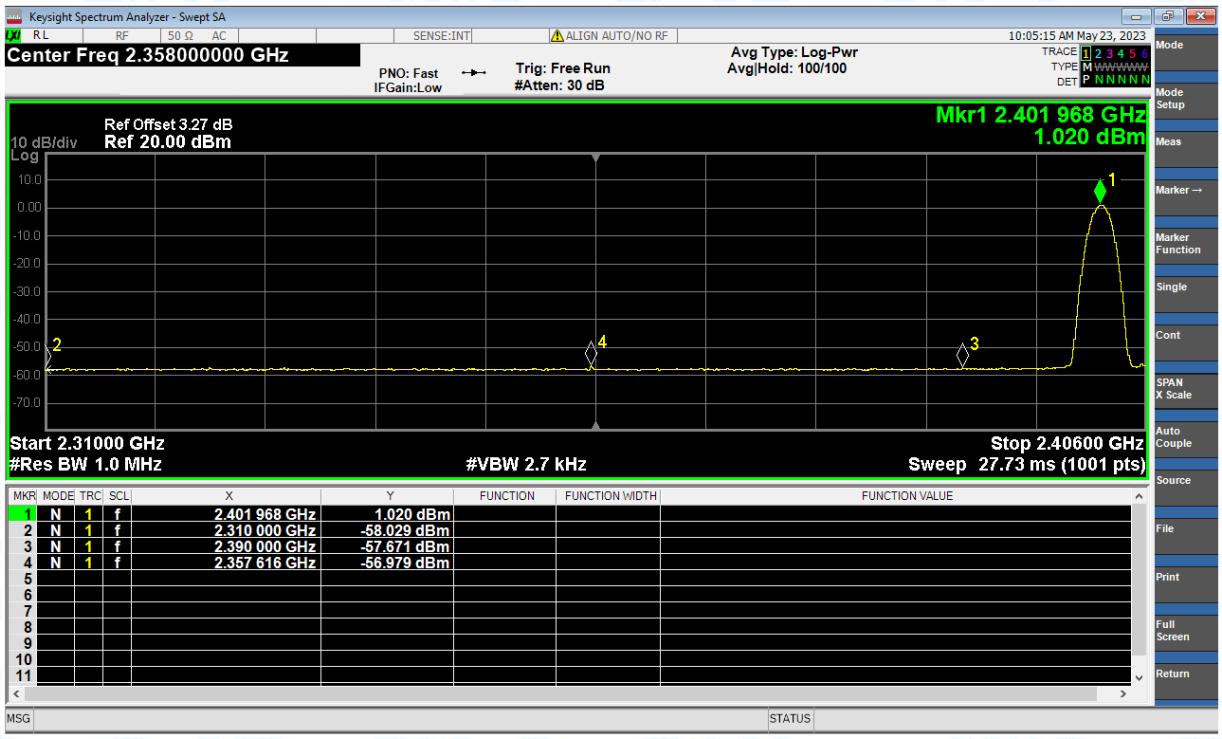


Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average

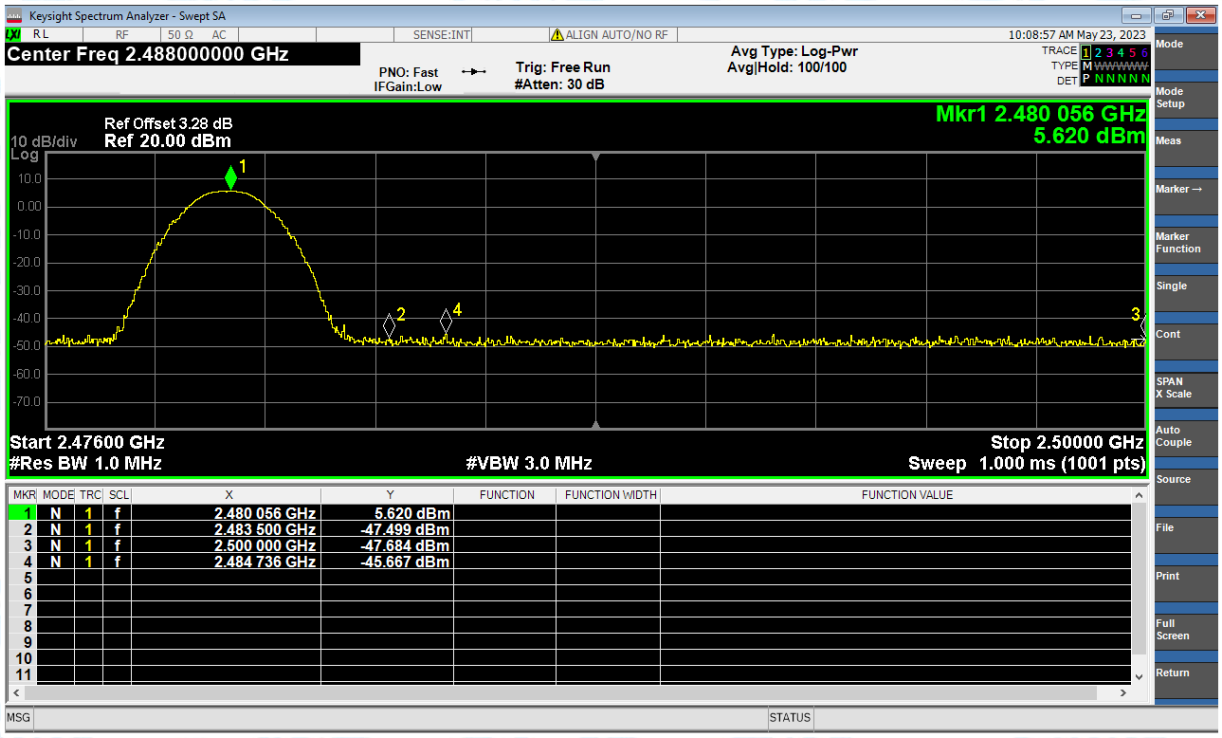
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



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

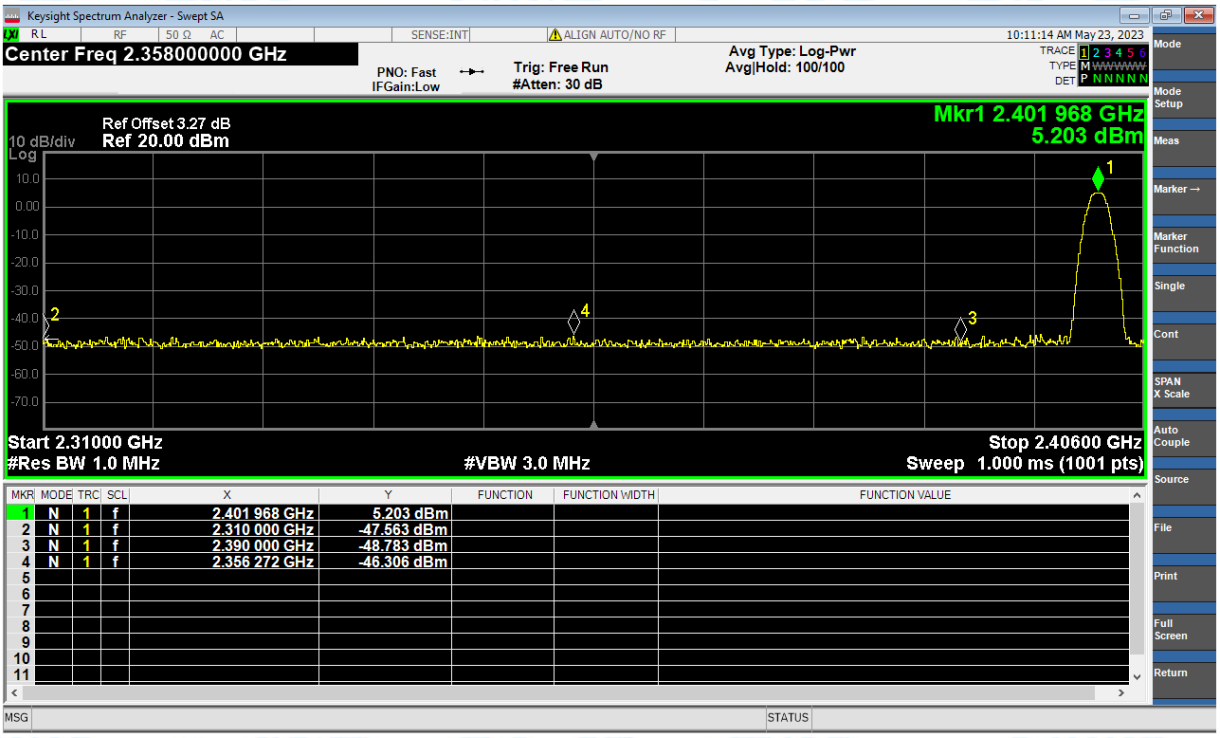


Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak

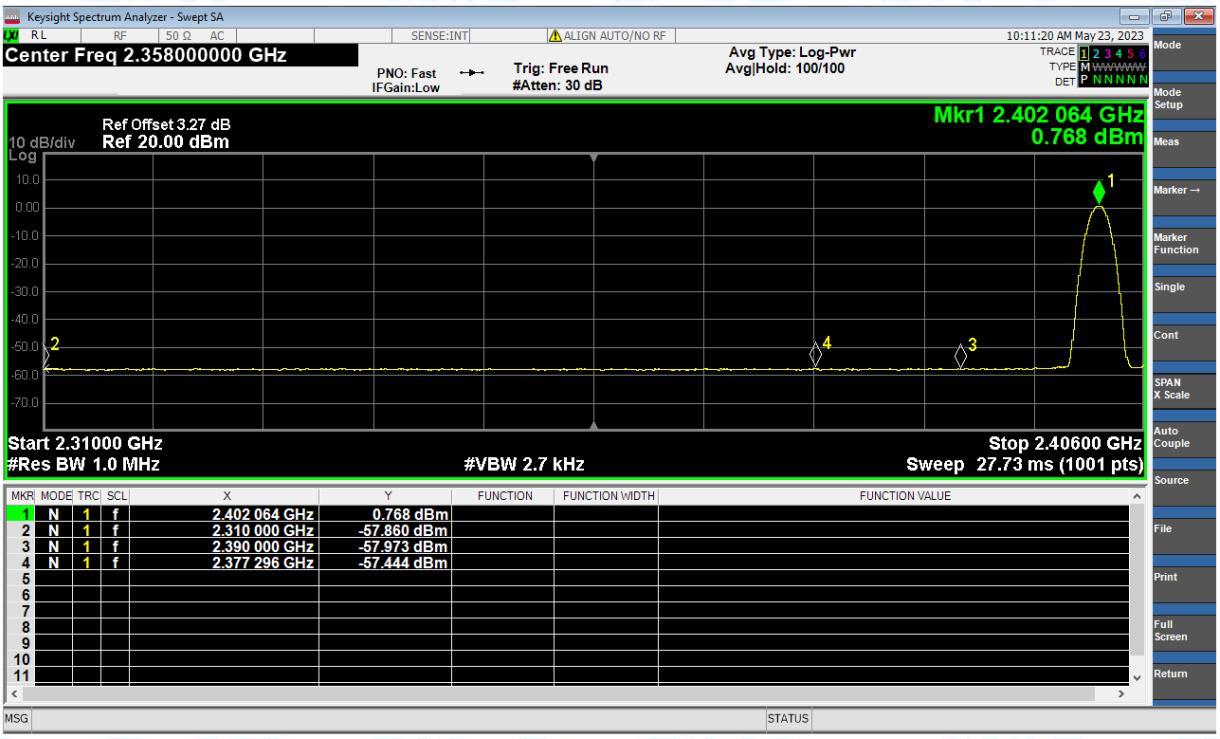


Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average

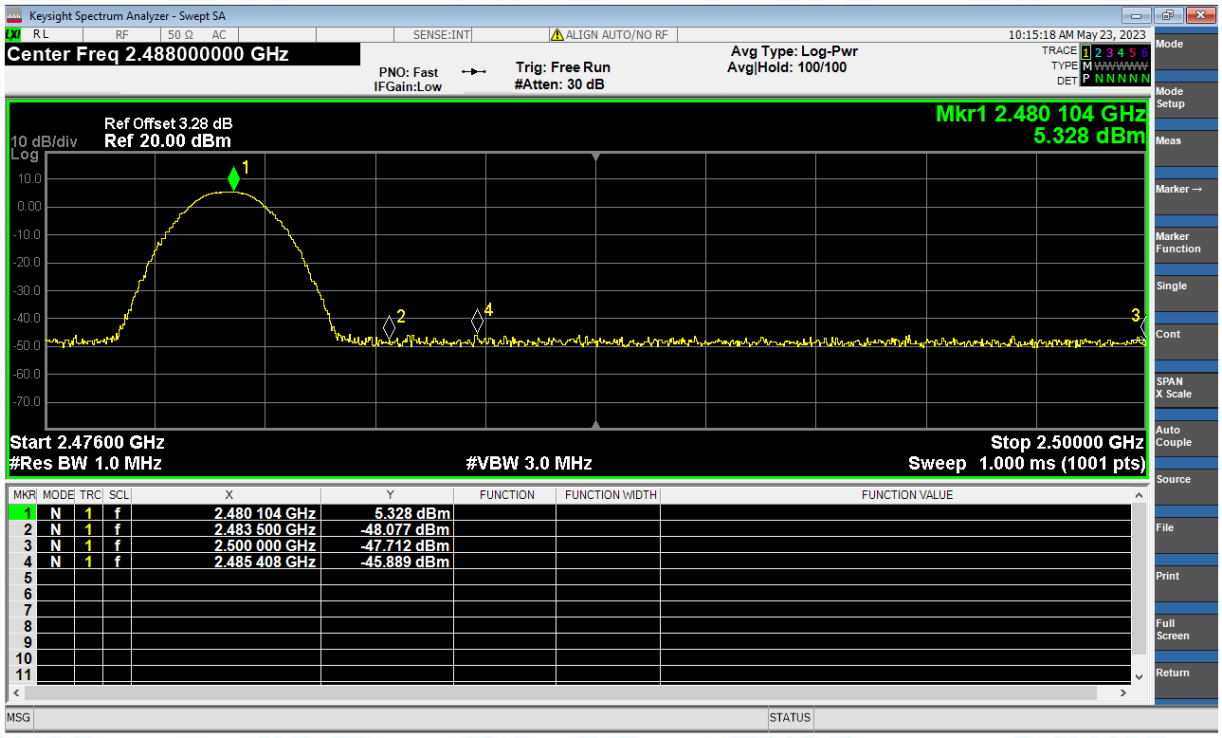
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



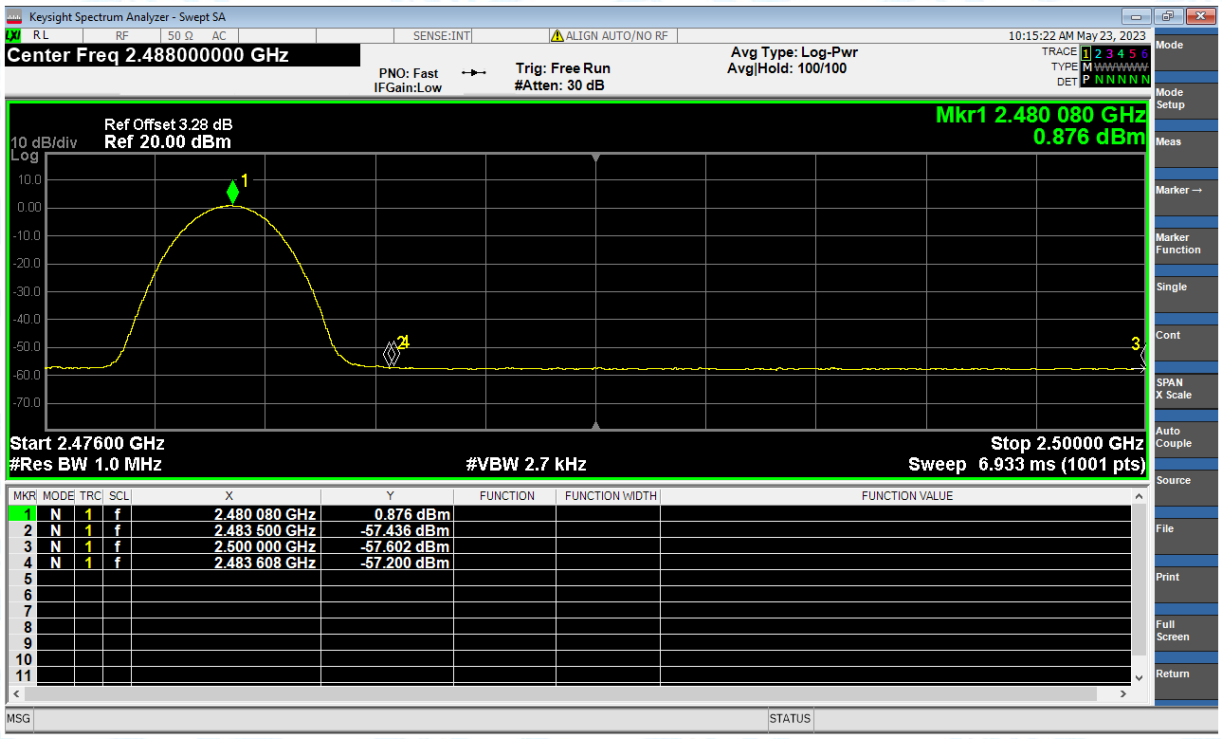
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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



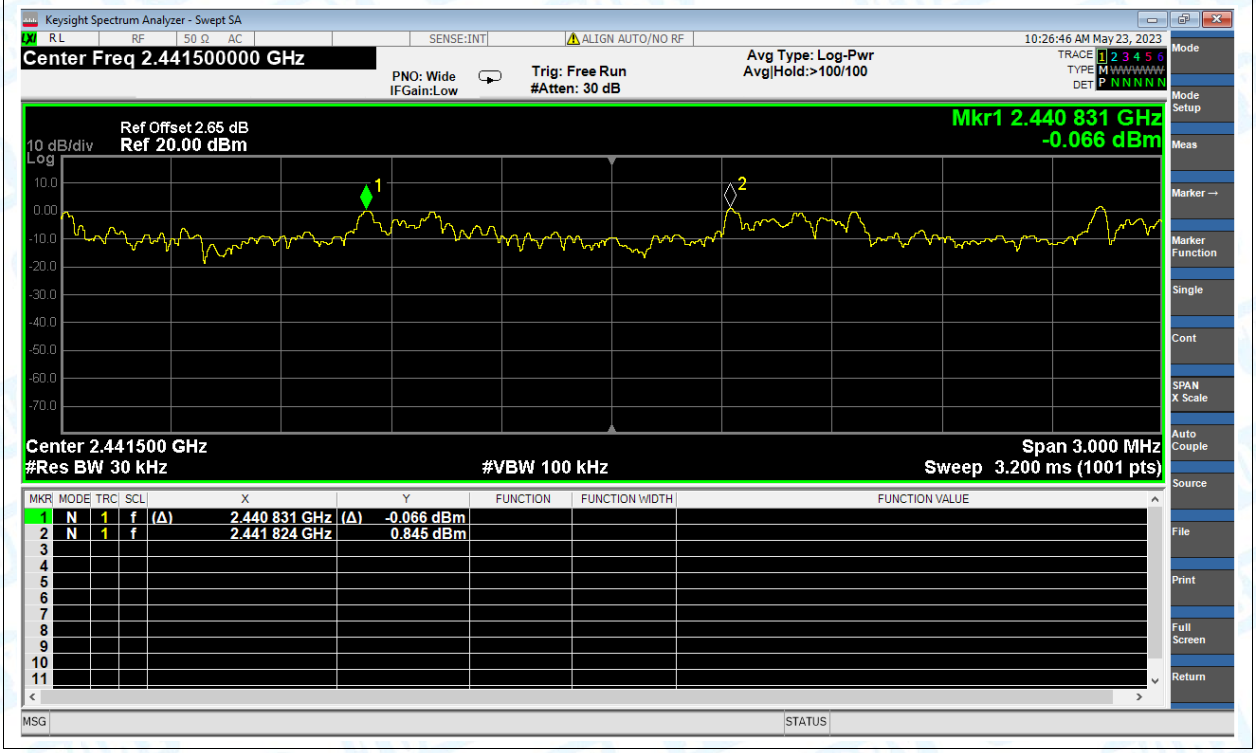
9. Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2441.113	2441.968	0.855	0.52	Pass
NVNT	2-DH1	Ant1	2440.831	2441.824	0.993	0.787	Pass
NVNT	3-DH1	Ant1	2441.014	2441.833	0.819	0.813	Pass

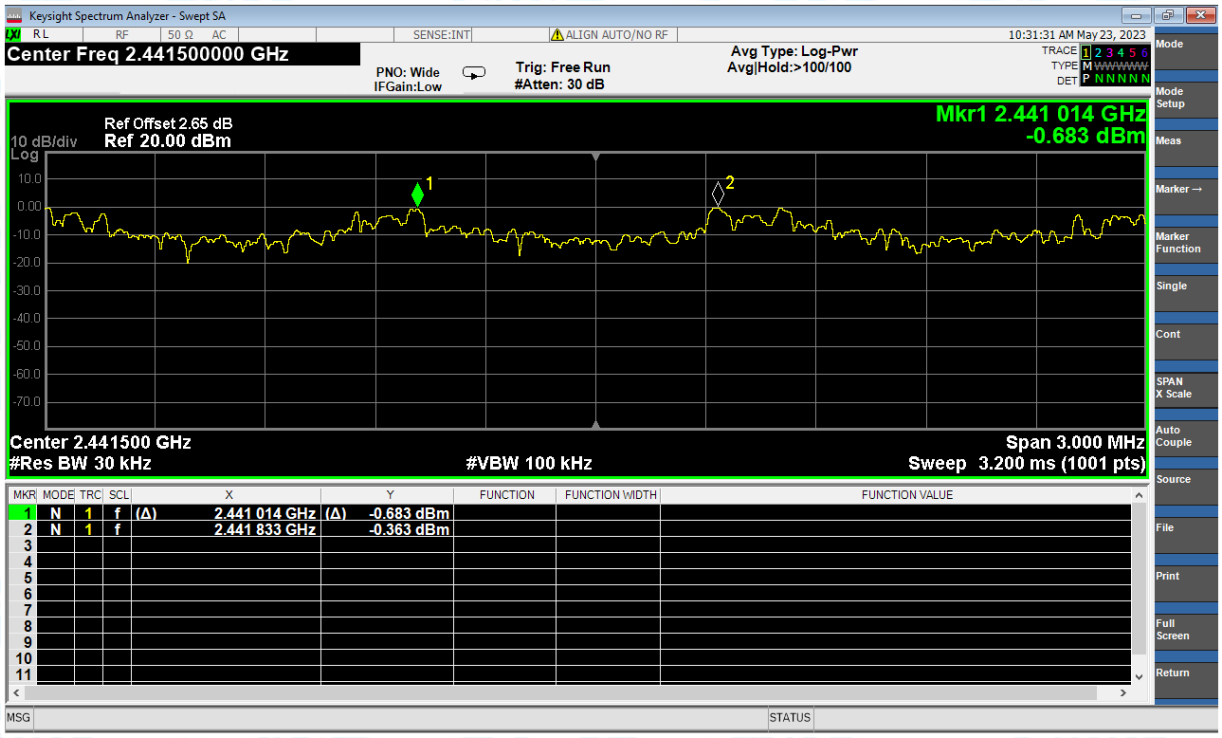
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1

CFS NVNT 2-DH1 2441MHz Ant1



CFS NVNT 3-DH1 2441MHz Ant1

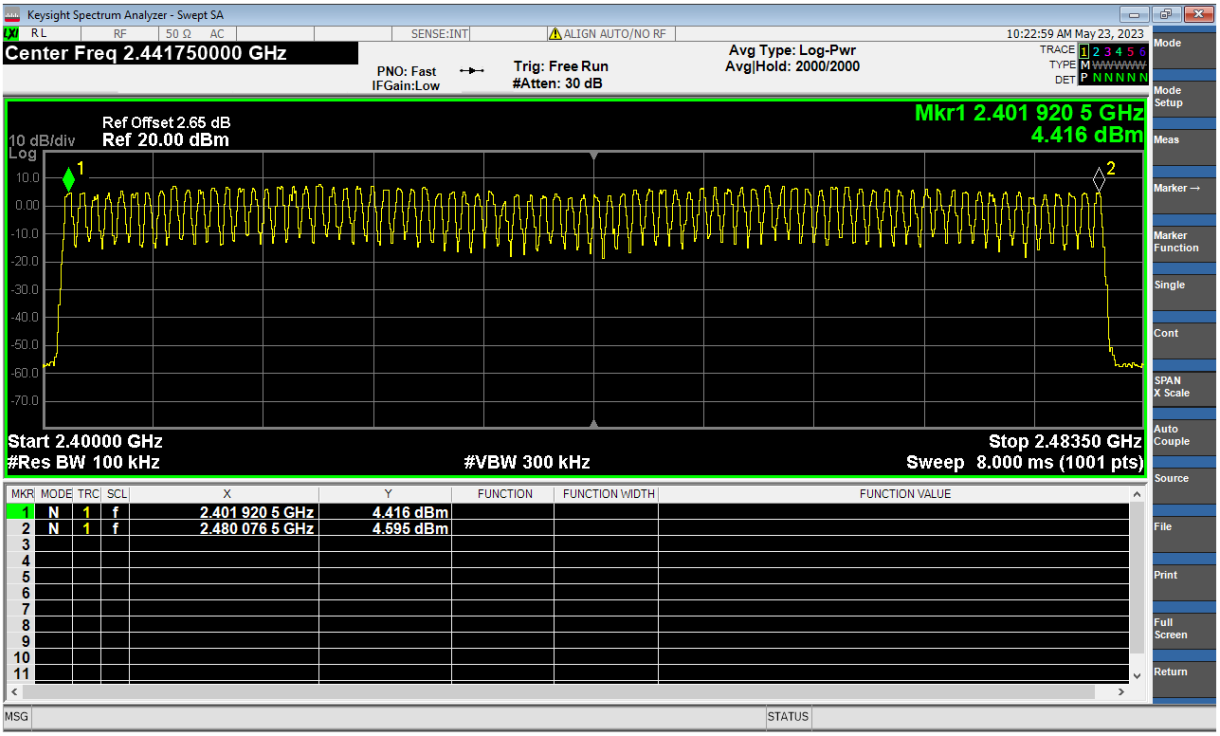


10. Number of Hopping Channel

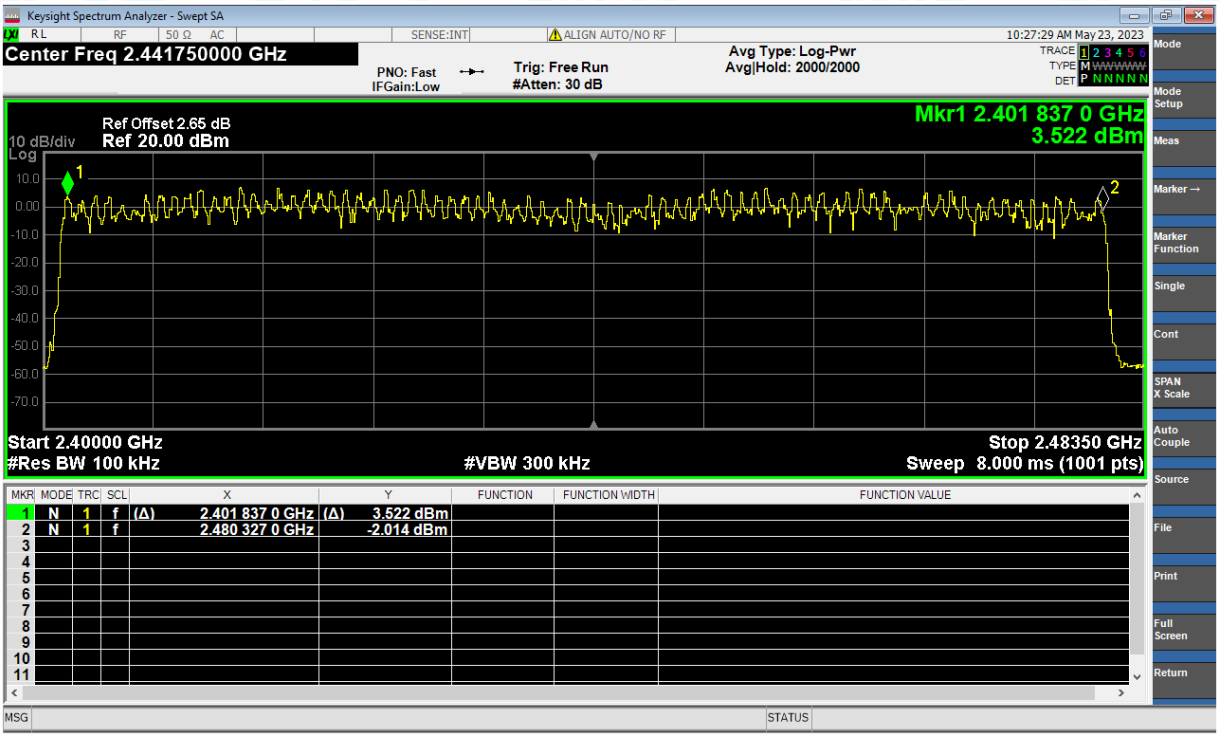
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

Test Graphs

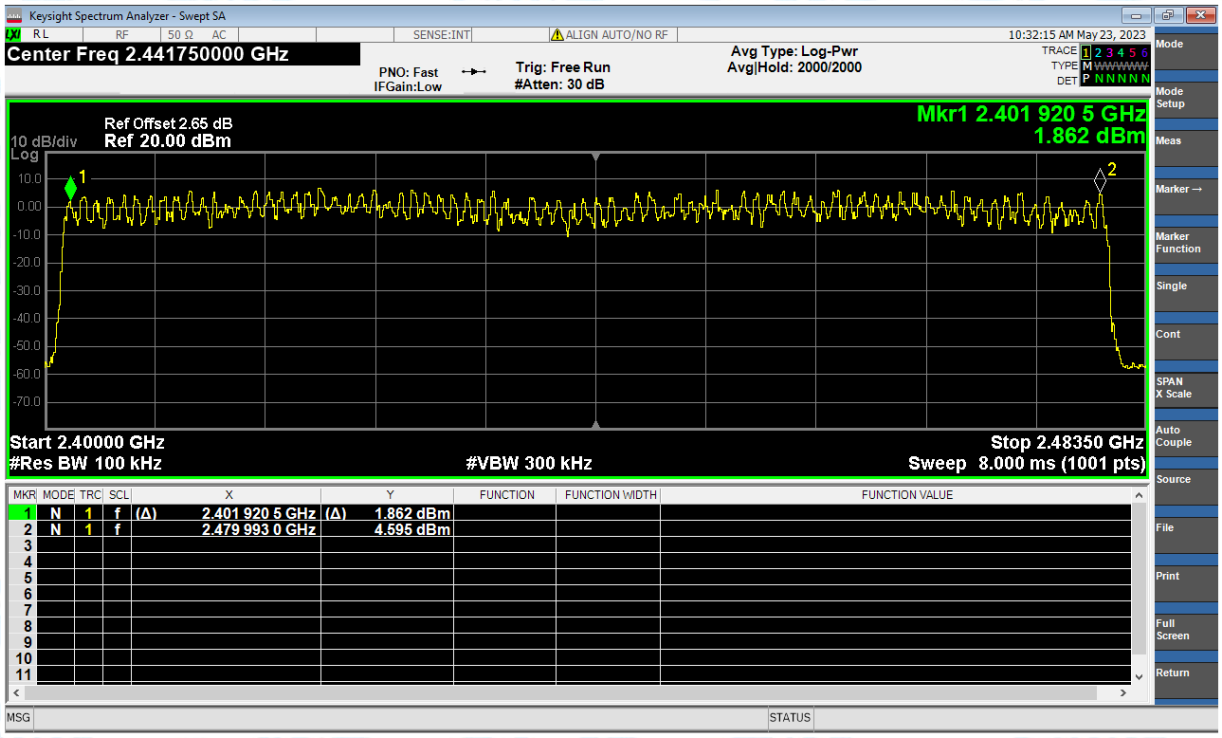
Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



Hopping No. NVNT 3-DH1 2441MHz Ant1

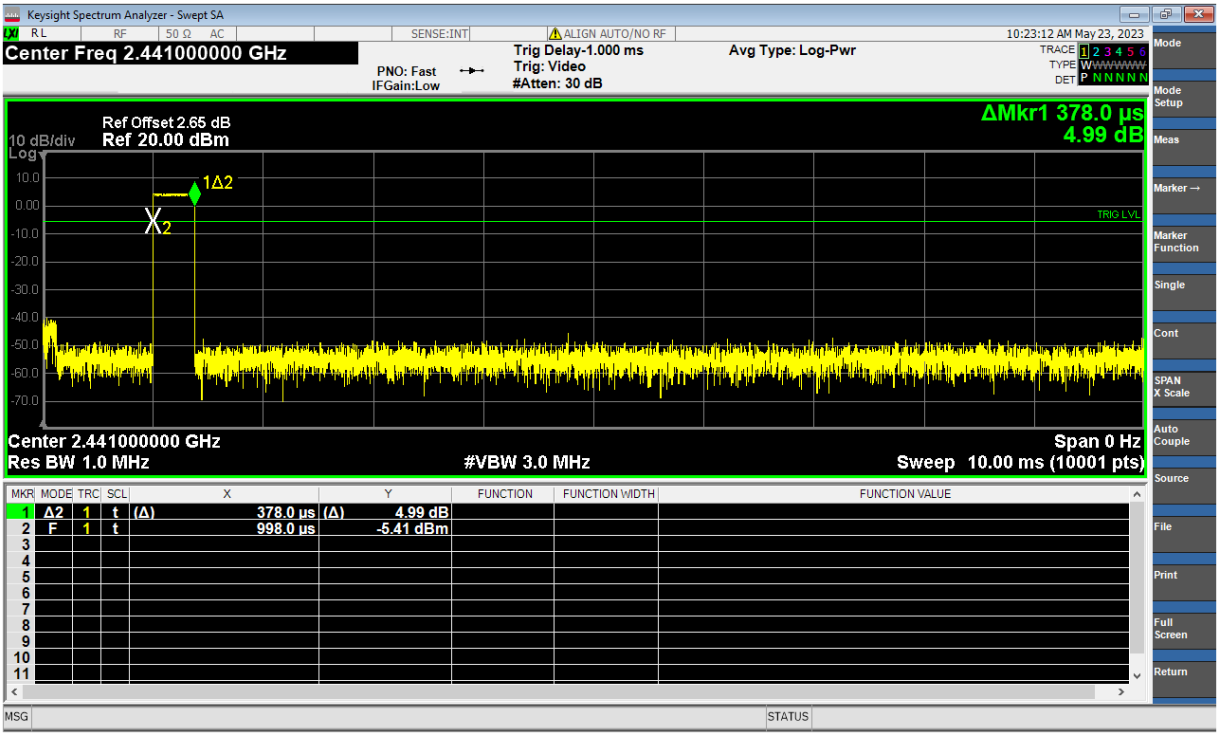


11. Dwell Time

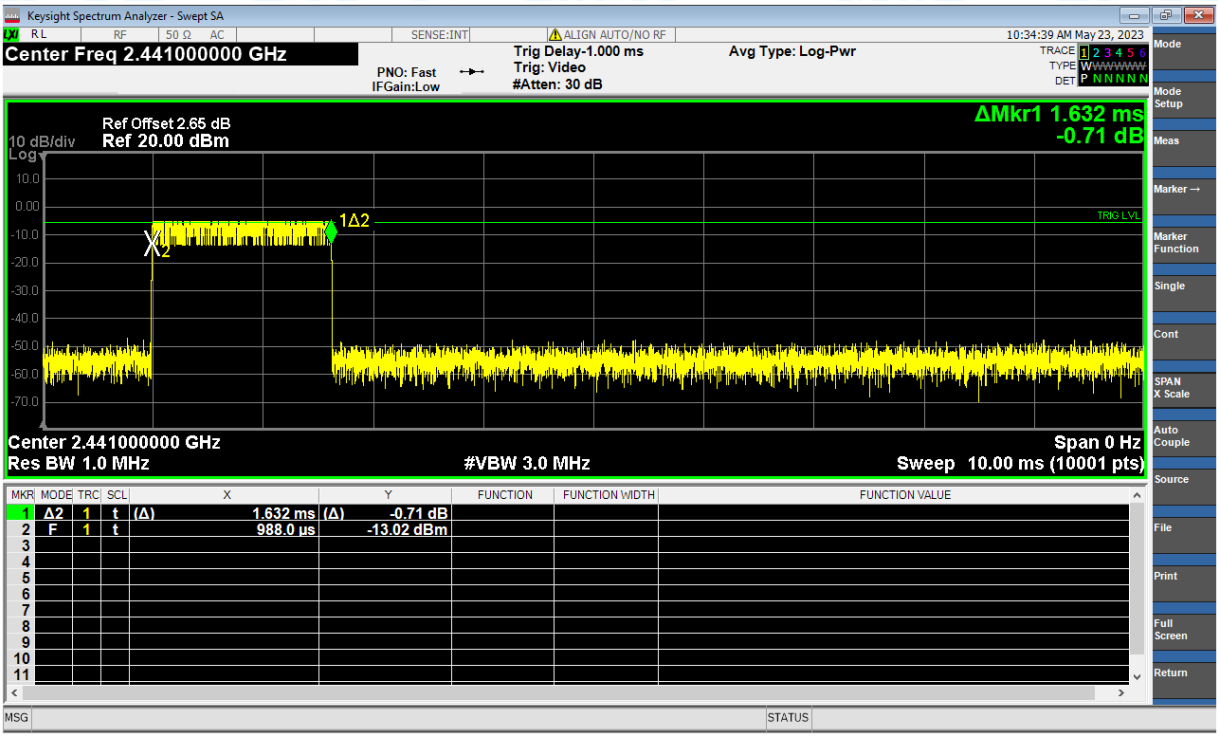
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.378	120.96	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.88	307.2	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.385	123.2	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.635	261.6	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.881	307.307	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.369	219.04	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.885	307.733	31600	400	Pass

Test Graphs

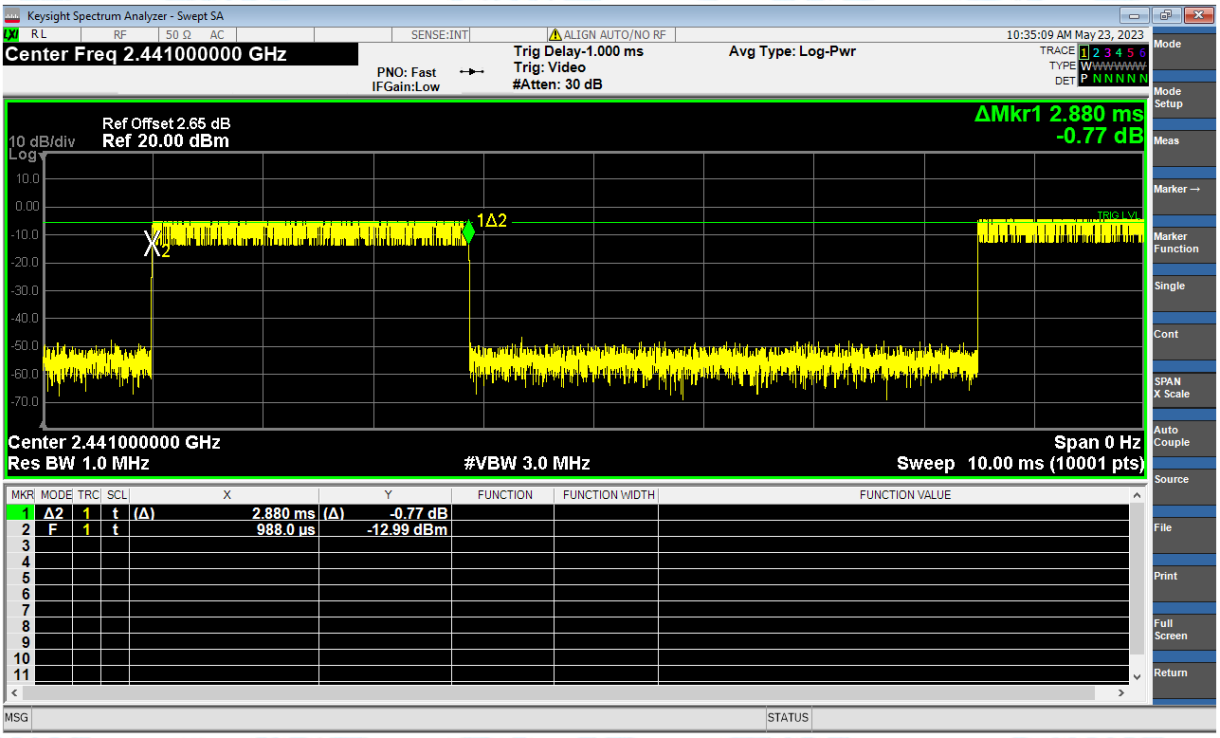
Dwell NVNT 1-DH1 2441MHz Ant1



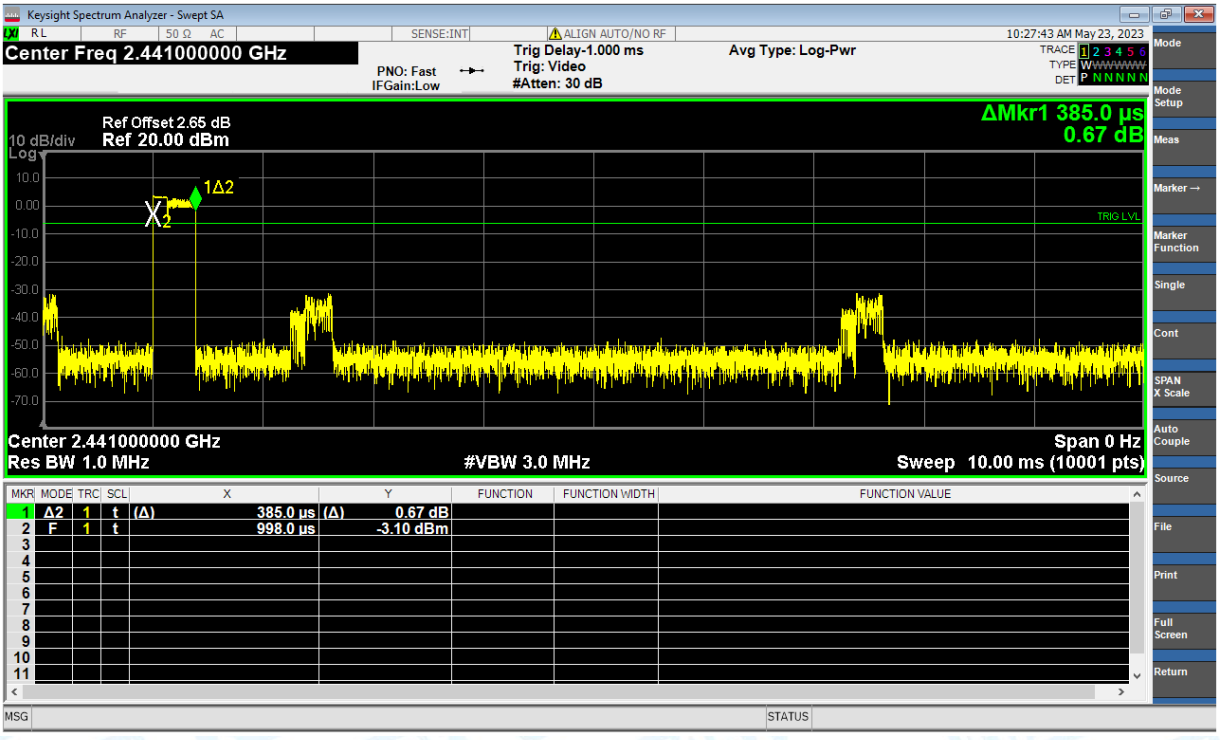
Dwell NVNT 1-DH3 2441MHz Ant1



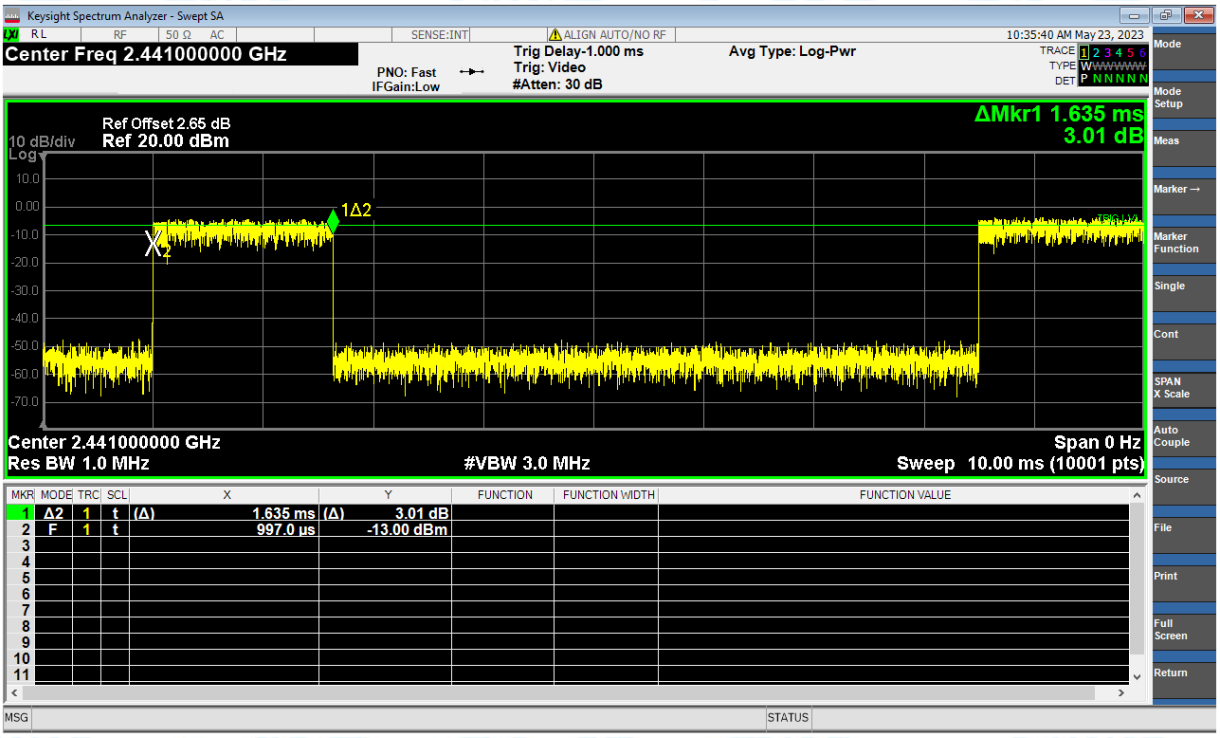
Dwell NVNT 1-DH5 2441MHz Ant1



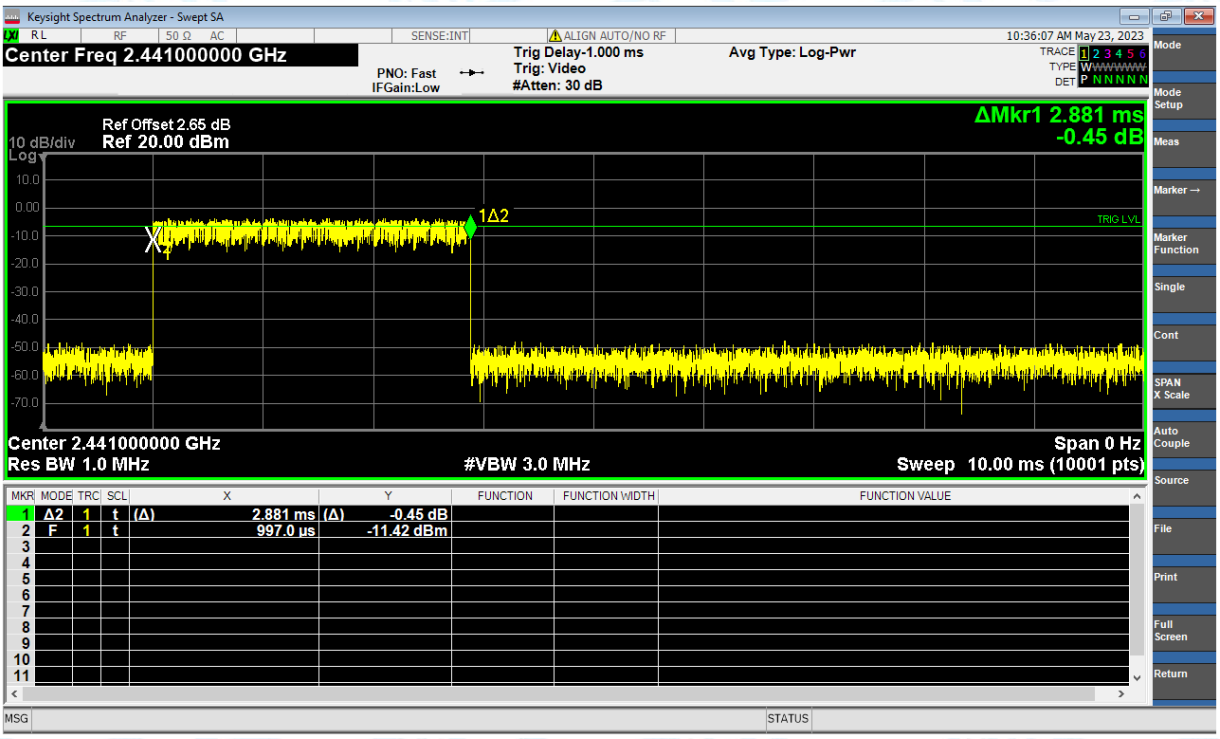
Dwell NVNT 2-DH1 2441MHz Ant1



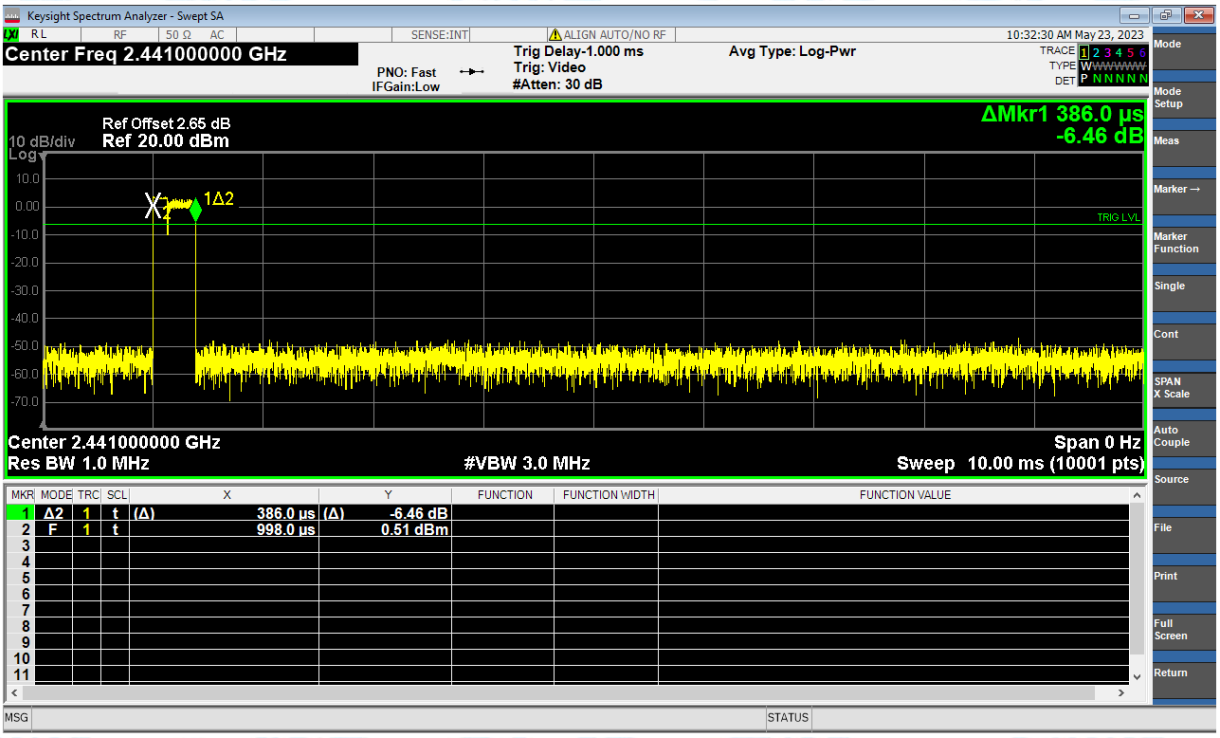
Dwell NVNT 2-DH3 2441MHz Ant1



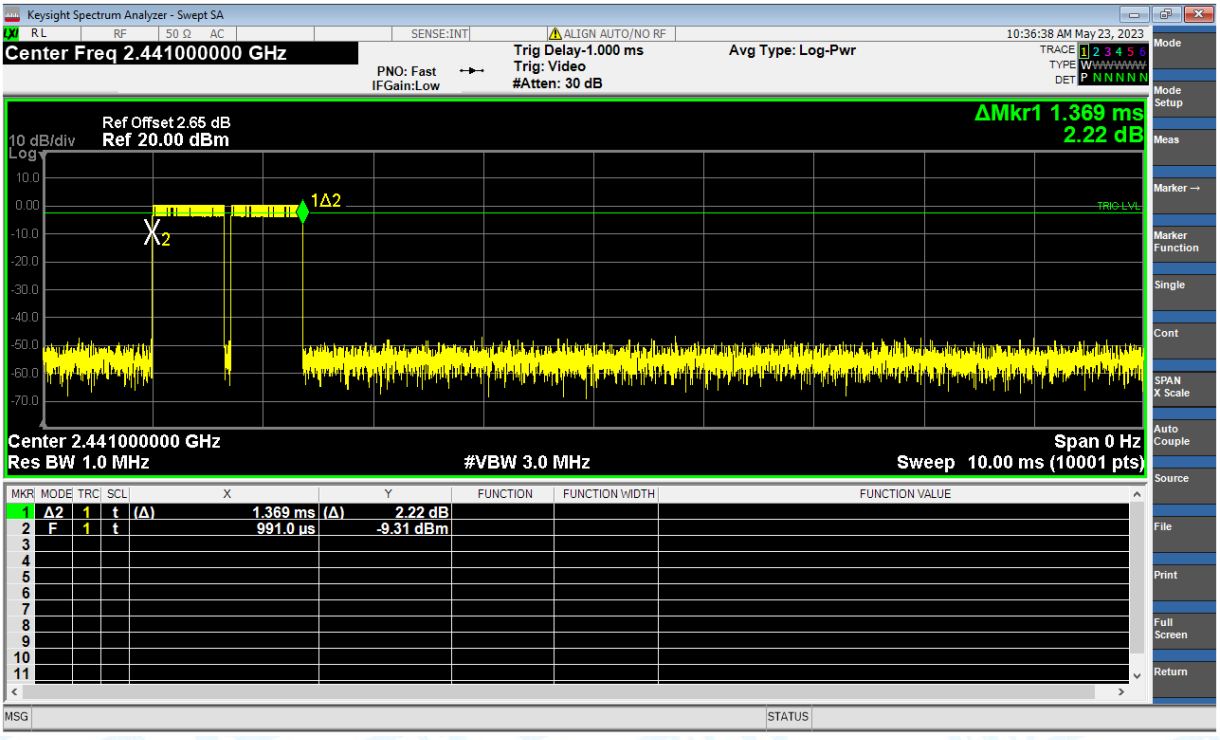
Dwell NVNT 2-DH5 2441MHz Ant1



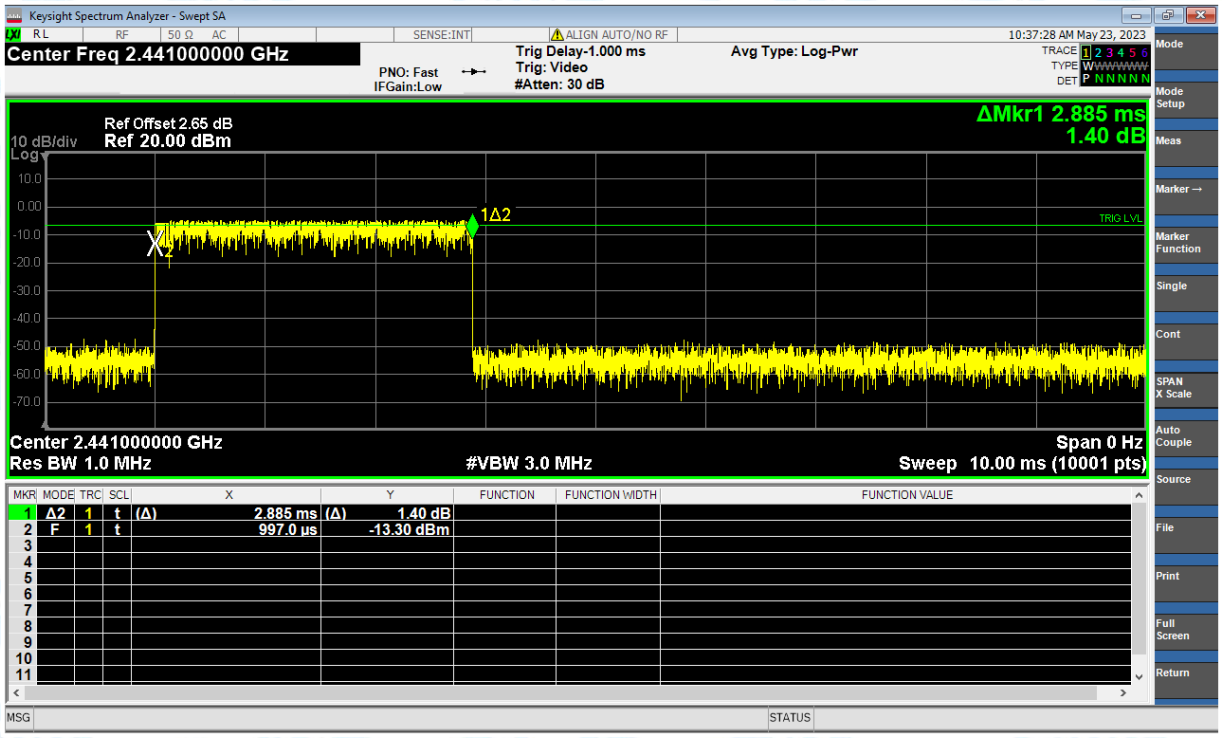
Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1



Dwell NVNT 3-DH5 2441MHz Ant1



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