

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	Smart Watch
Test Model:	KT67
Sample ID:	HC-C-202404-0016-01-01
Environmental Conditions	
Temperature:	24.6℃
Relative Humidity:	50%
Test Voltage:	DC 3.7V
Test Engineer:	Rik Yan
Note: For a more detailed features description, please refer to the report TBR-C-202404-0016-13 The report only show the worst case data.	

Contents

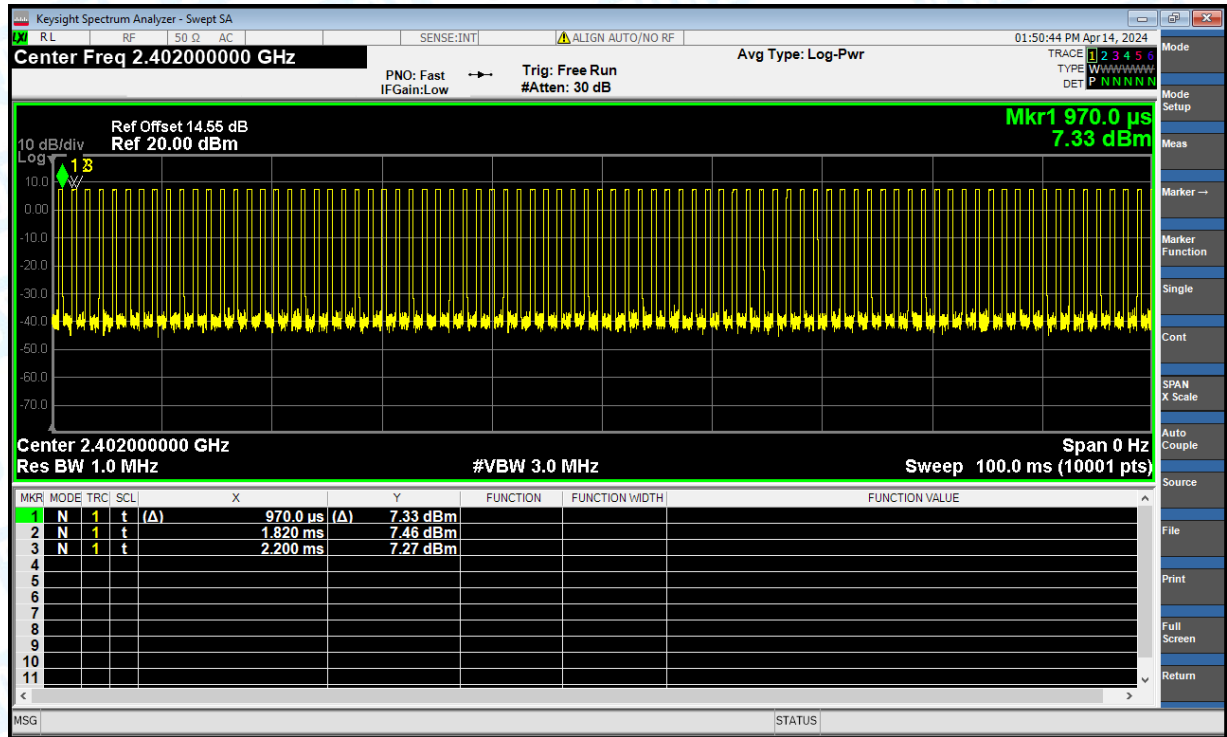
1. Duty Cycle.....	3
2. Maximum Conducted Output Power	9
3. -20dB Bandwidth	18
4. Occupied Channel Bandwidth	24
5. Band Edge	30
6. Band Edge(Hopping).....	37
7. Conducted RF Spurious Emission	44
8. Restrict Band	54
9. Carrier Frequencies Separation.....	61
10. Number of Hopping Channel	64
11. Dwell Time.....	67

1. Duty Cycle

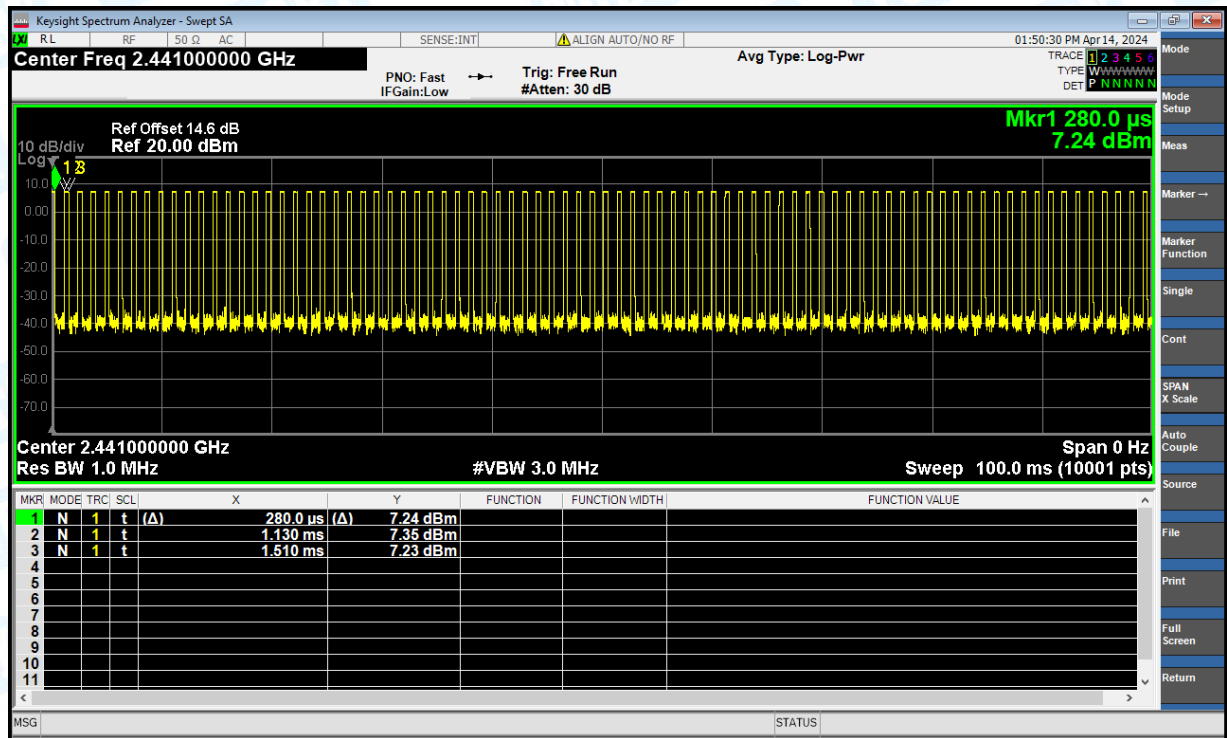
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.89	5.1	2.63
NVNT	1-DH1	2441	Ant1	30.89	5.1	2.63
NVNT	1-DH1	2480	Ant1	30.89	5.1	2.63
NVNT	2-DH1	2402	Ant1	31.71	4.99	2.56
NVNT	2-DH1	2441	Ant1	31.45	5.02	2.56
NVNT	2-DH1	2480	Ant1	31.45	5.02	2.56
NVNT	3-DH1	2402	Ant1	31.45	5.02	2.56
NVNT	3-DH1	2441	Ant1	31.45	5.02	2.56
NVNT	3-DH1	2480	Ant1	31.71	4.99	2.56

Test Graphs

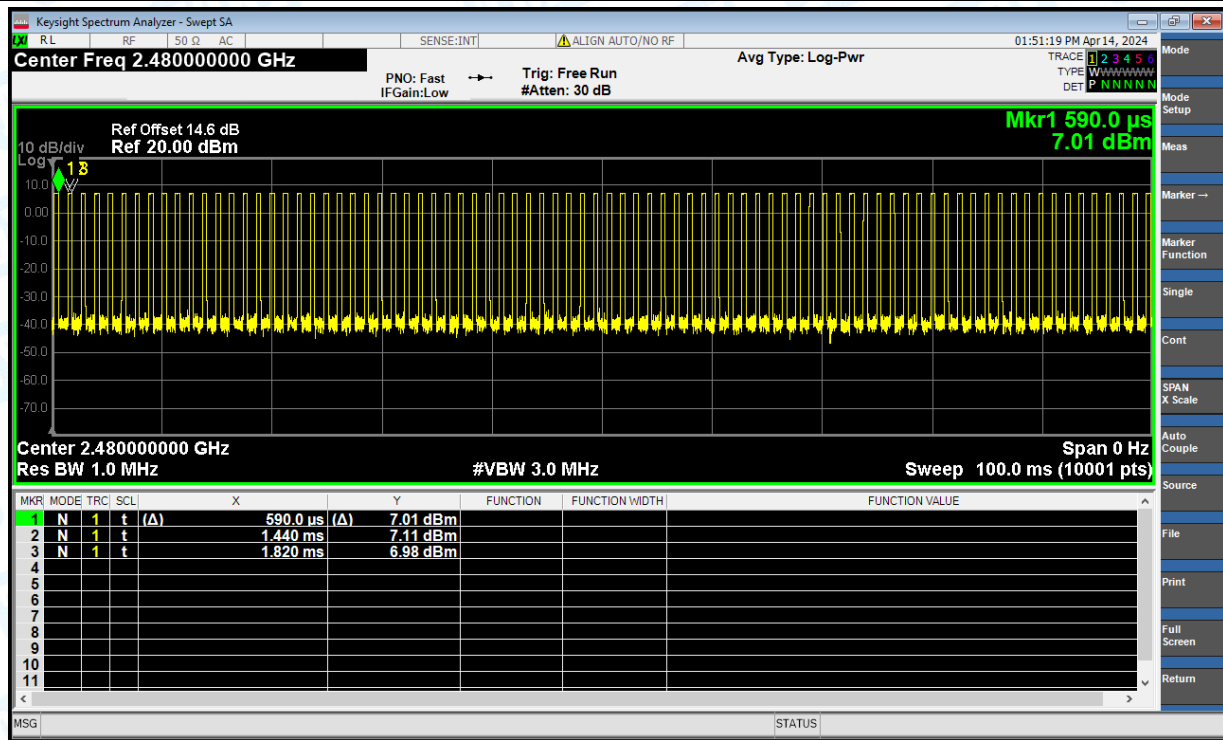
Duty Cycle NVNT 1-DH1 2402MHz Ant1



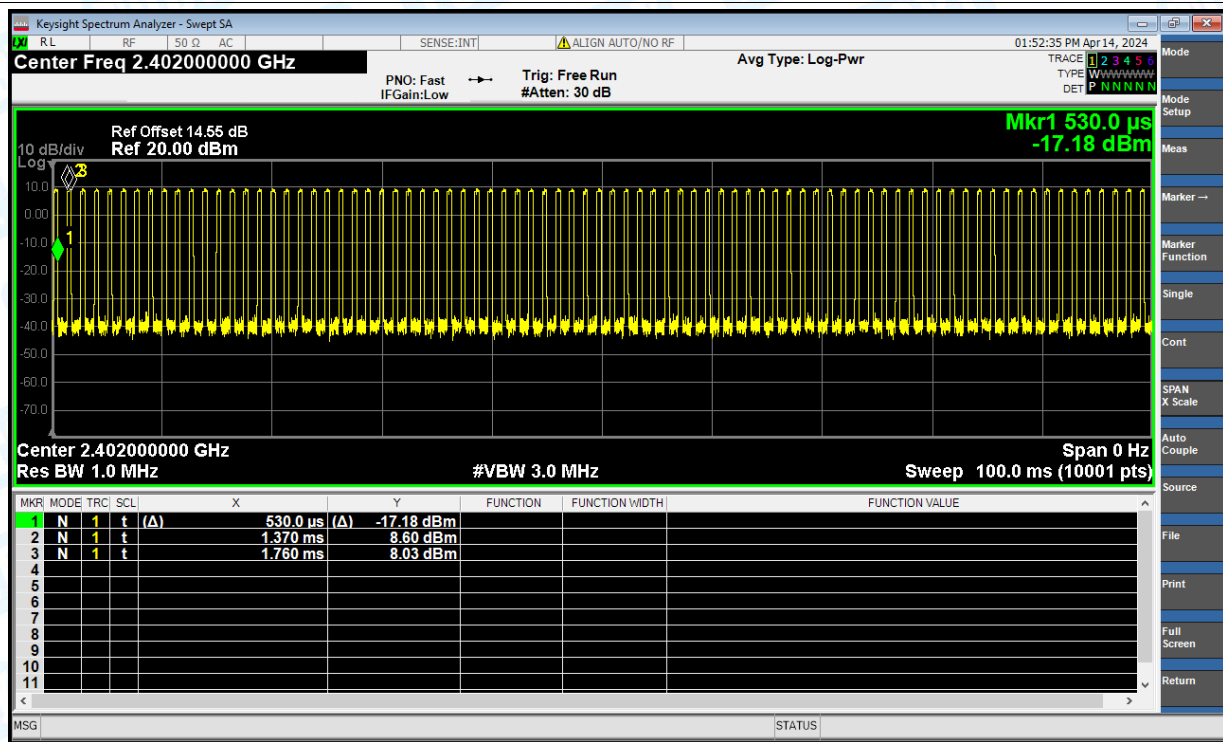
Duty Cycle NVNT 1-DH1 2441MHz Ant1



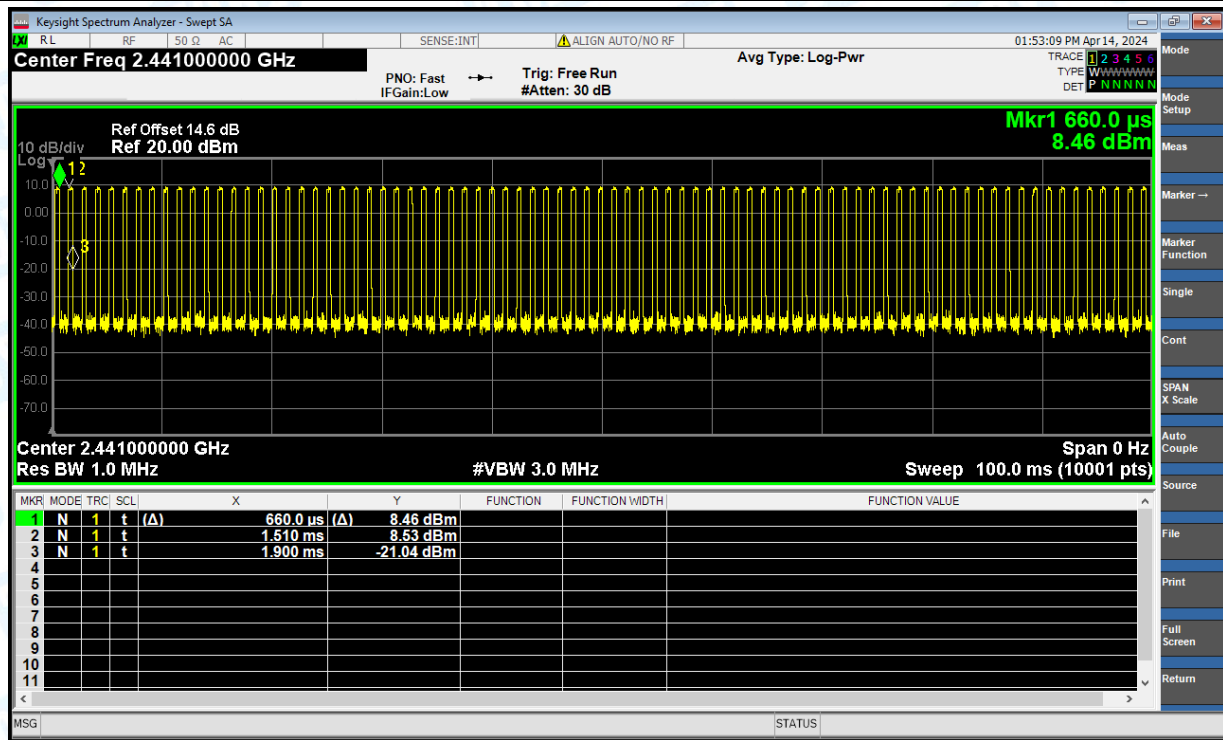
Duty Cycle NVNT 1-DH1 2480MHz Ant1



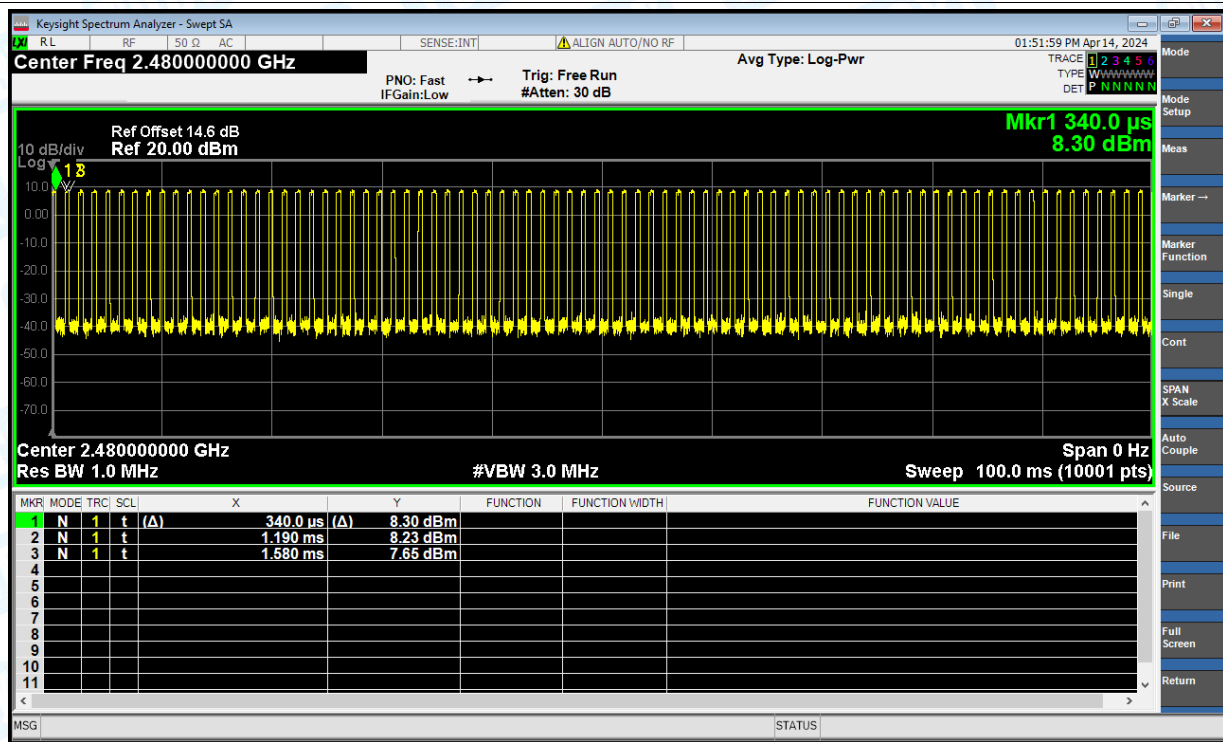
Duty Cycle NVNT 2-DH1 2402MHz Ant1



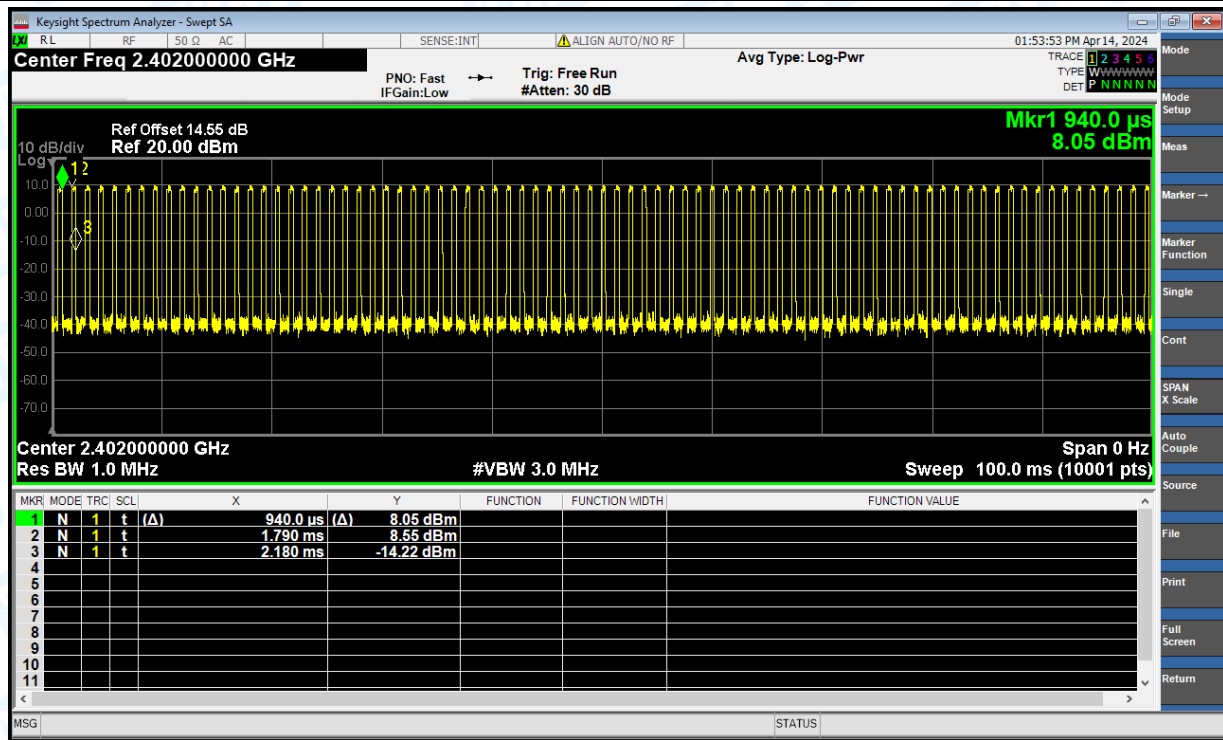
Duty Cycle NVNT 2-DH1 2441MHz Ant1



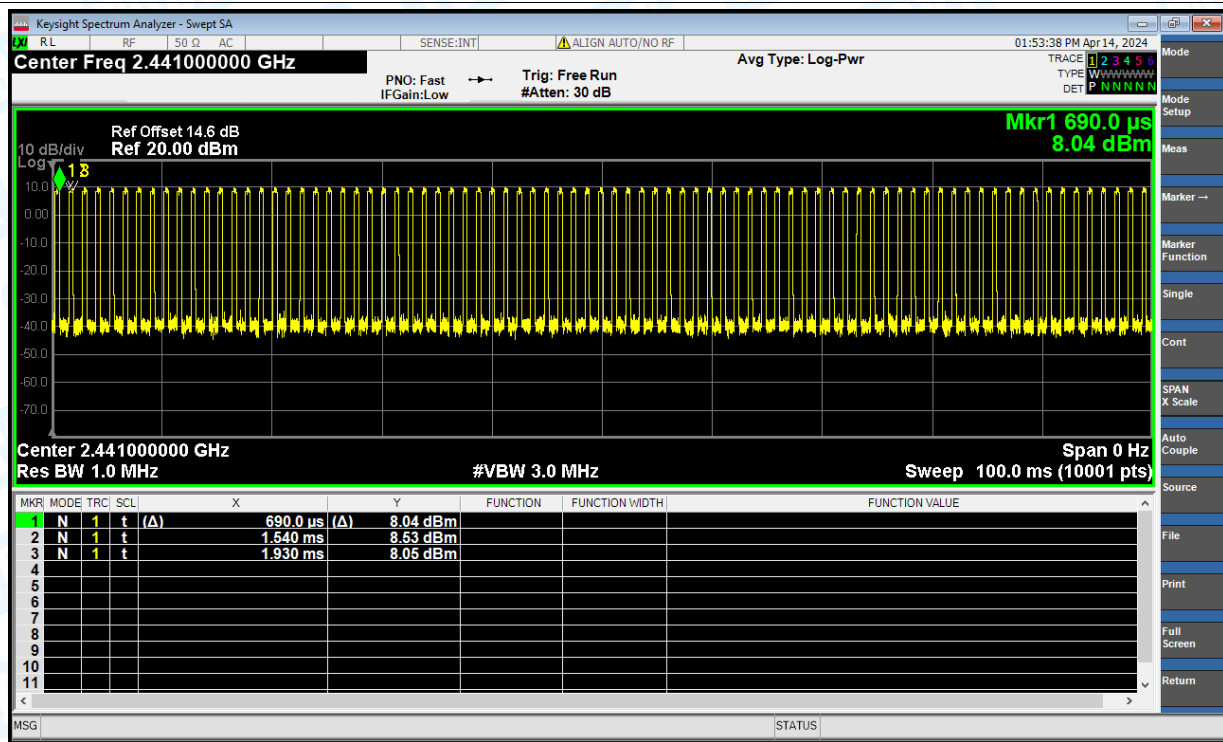
Duty Cycle NVNT 2-DH1 2480MHz Ant1



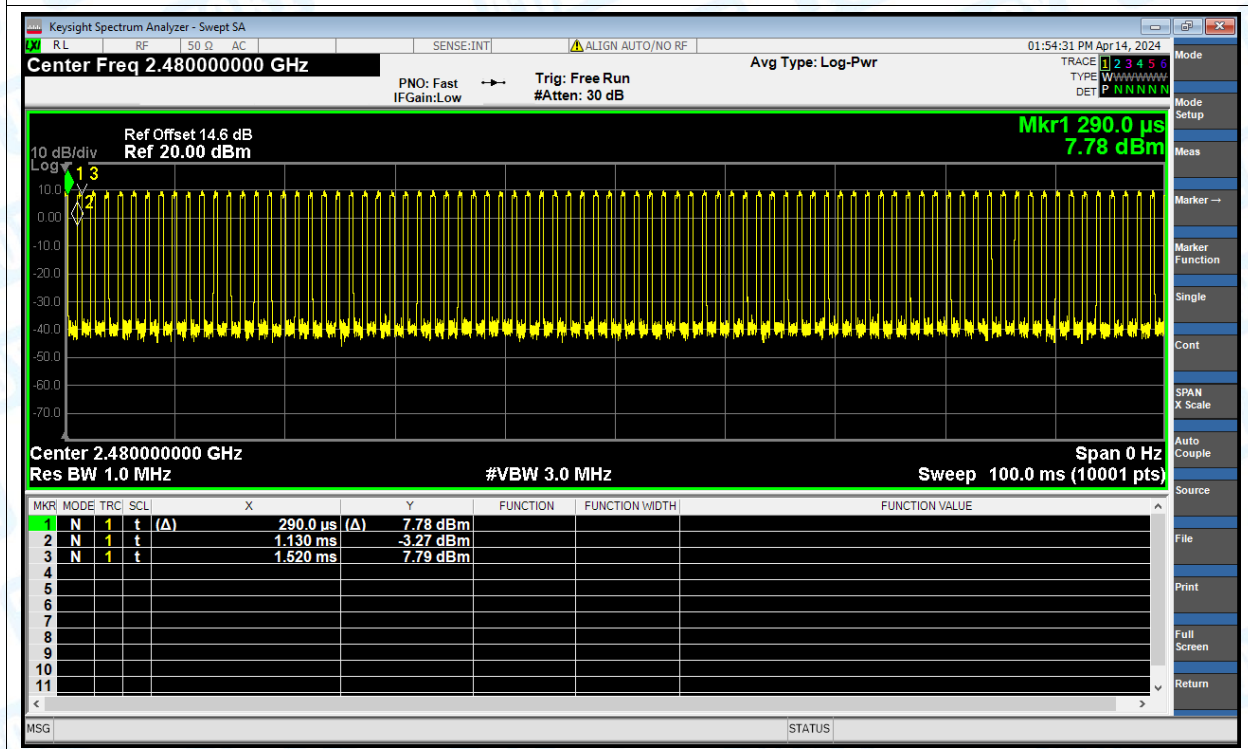
Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



Duty Cycle NVNT 3-DH1 2480MHz Ant1

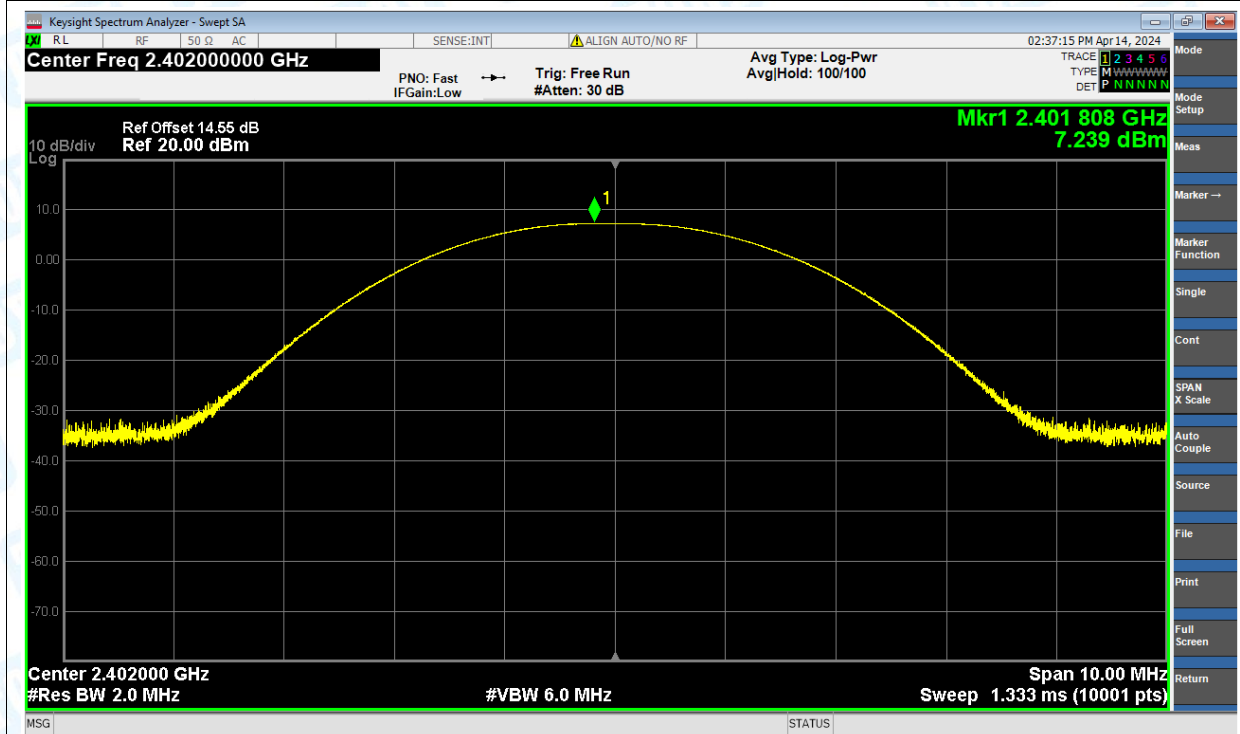


2. Maximum Conducted Output Power

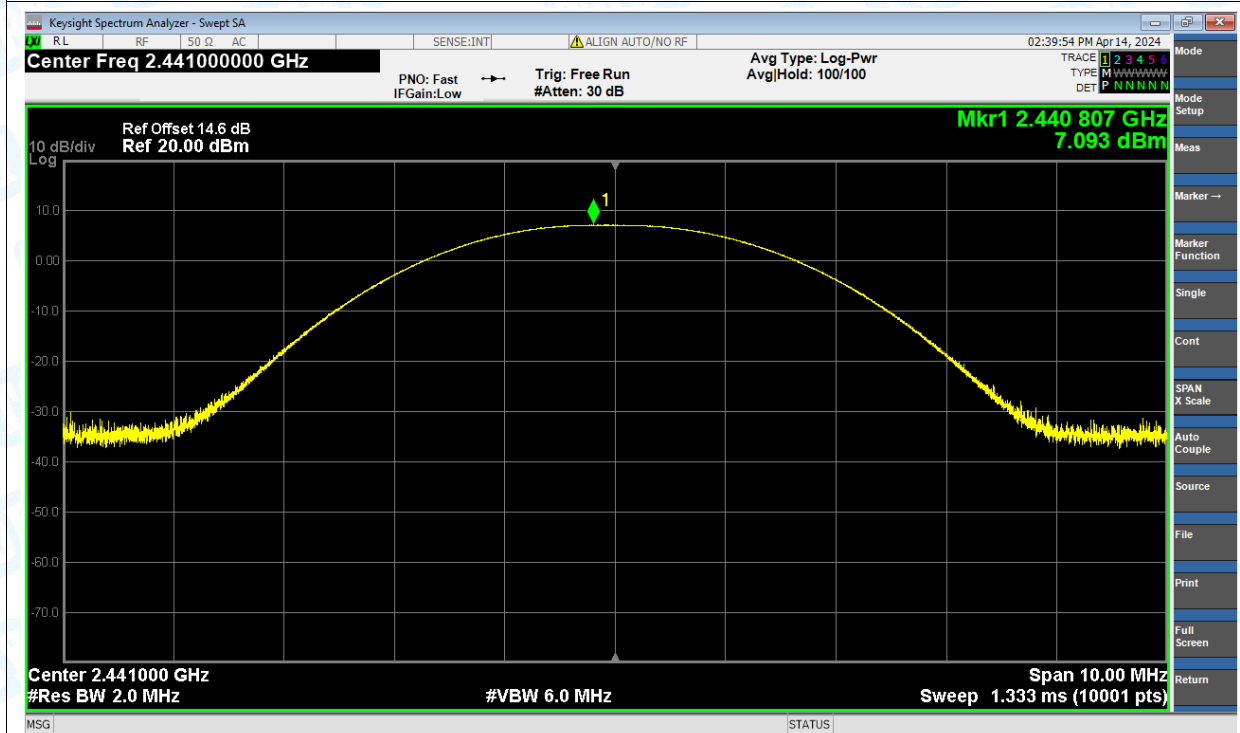
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	7.239	21	Pass
NVNT	1-DH1	2441	Ant1	7.093	21	Pass
NVNT	1-DH1	2480	Ant1	6.844	21	Pass
NVNT	1-DH3	2441	Ant1	7.04	21	Pass
NVNT	1-DH5	2441	Ant1	7.009	21	Pass
NVNT	2-DH1	2402	Ant1	7.594	21	Pass
NVNT	2-DH1	2441	Ant1	7.496	21	Pass
NVNT	2-DH1	2480	Ant1	7.255	21	Pass
NVNT	2-DH3	2441	Ant1	7.399	21	Pass
NVNT	2-DH5	2441	Ant1	7.369	21	Pass
NVNT	3-DH1	2402	Ant1	8.078	21	Pass
NVNT	3-DH1	2441	Ant1	8.09	21	Pass
NVNT	3-DH1	2480	Ant1	7.775	21	Pass
NVNT	3-DH3	2441	Ant1	7.953	21	Pass
NVNT	3-DH5	2441	Ant1	7.932	21	Pass

Test Graphs

Power NVNT 1-DH1 2402MHz Ant1



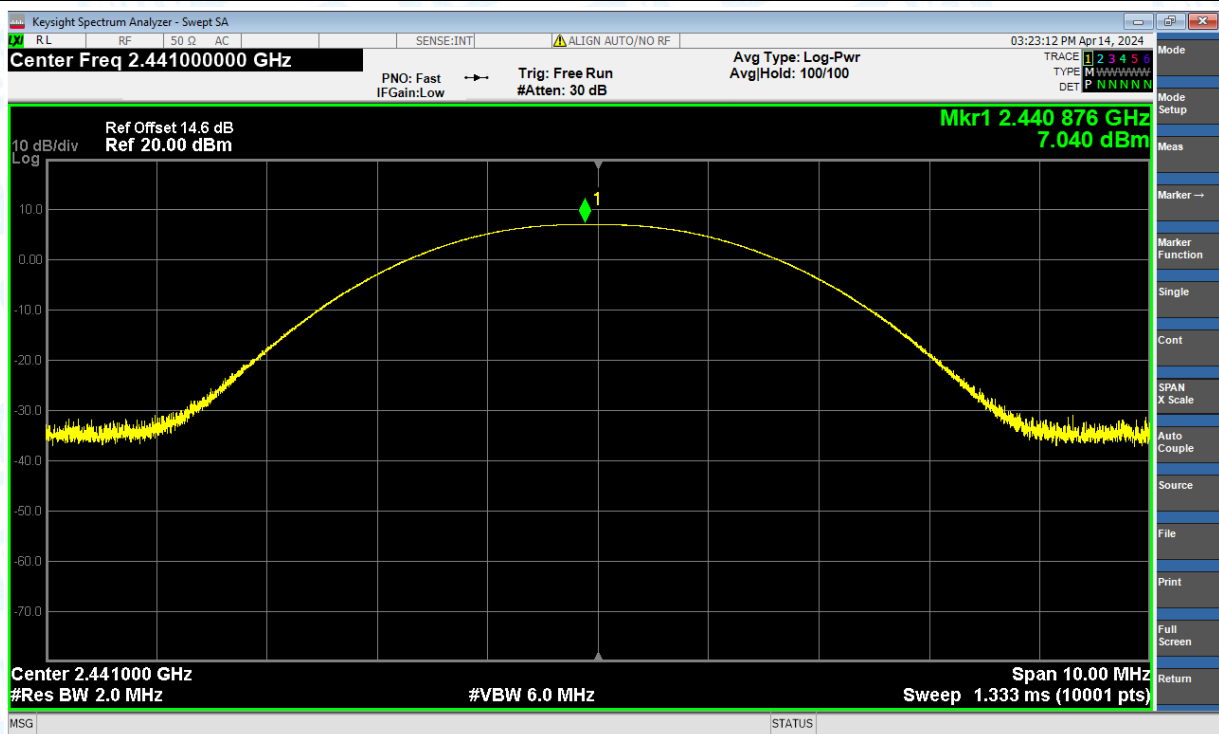
Power NVNT 1-DH1 2441MHz Ant1



Power NVNT 1-DH1 2480MHz Ant1



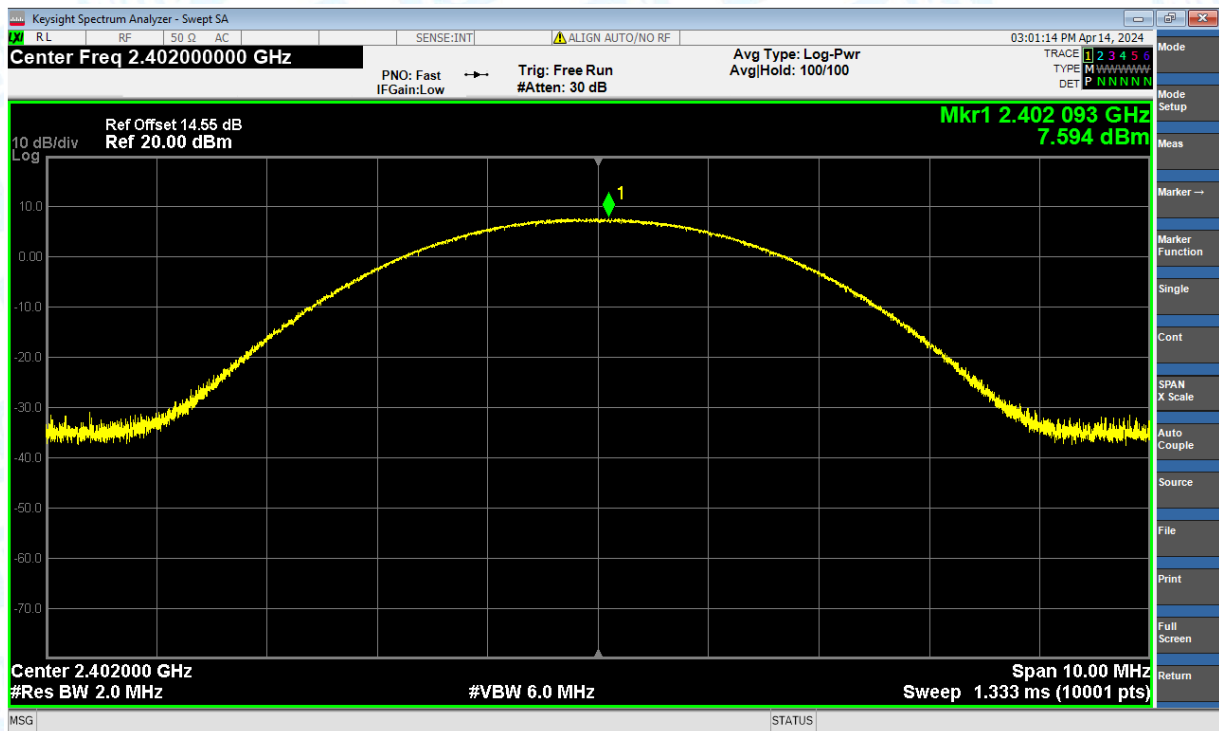
Power NVNT 1-DH3 2441MHz Ant1



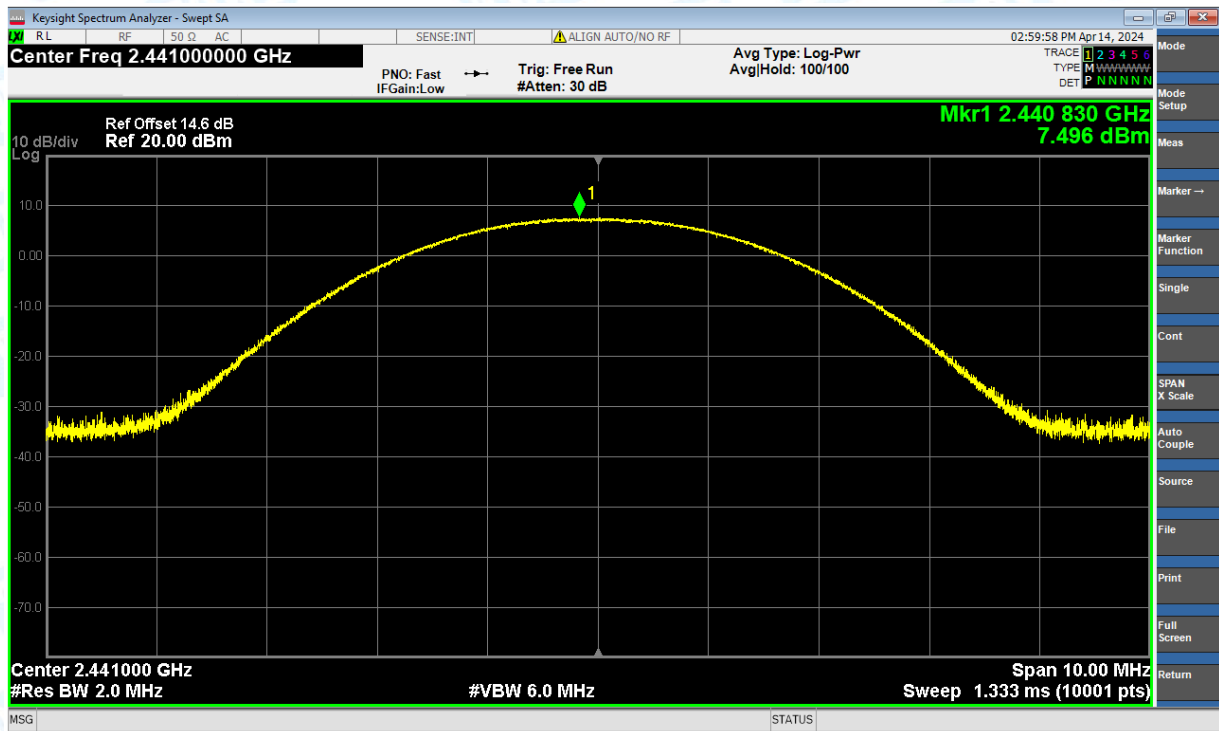
Power NVNT 1-DH5 2441MHz Ant1



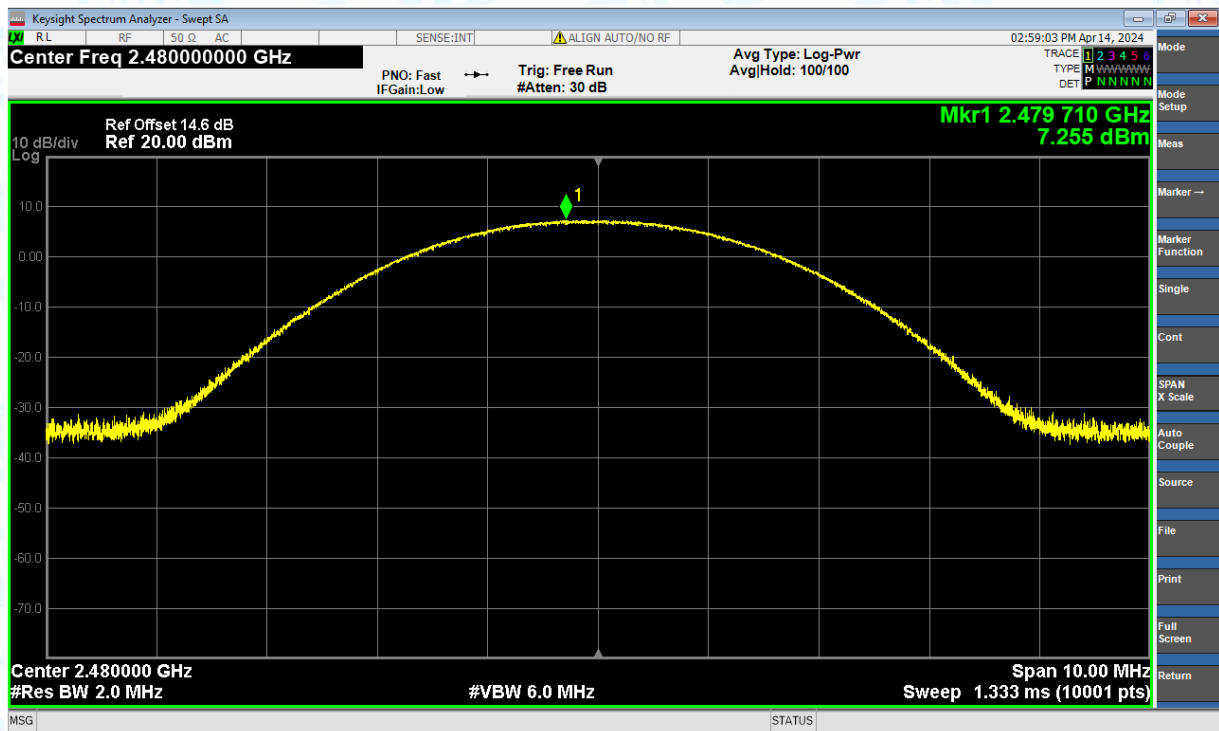
Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



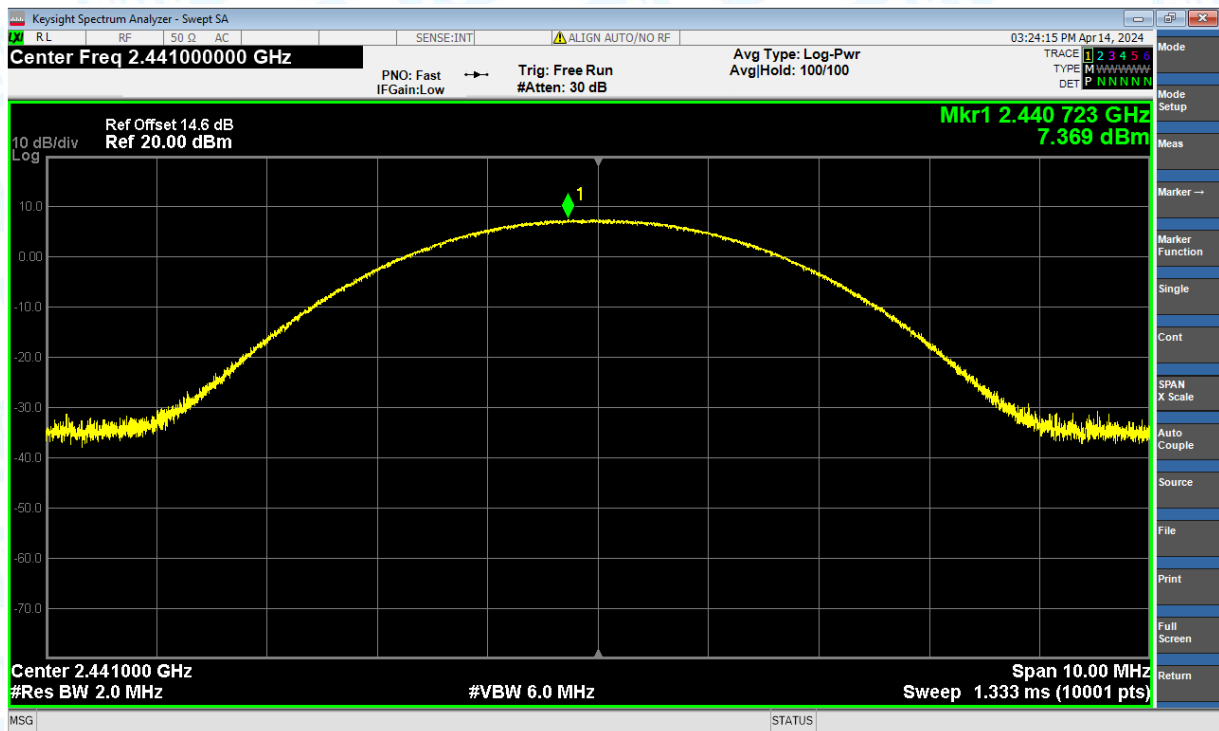
Power NVNT 2-DH1 2480MHz Ant1



Power NVNT 2-DH3 2441MHz Ant1



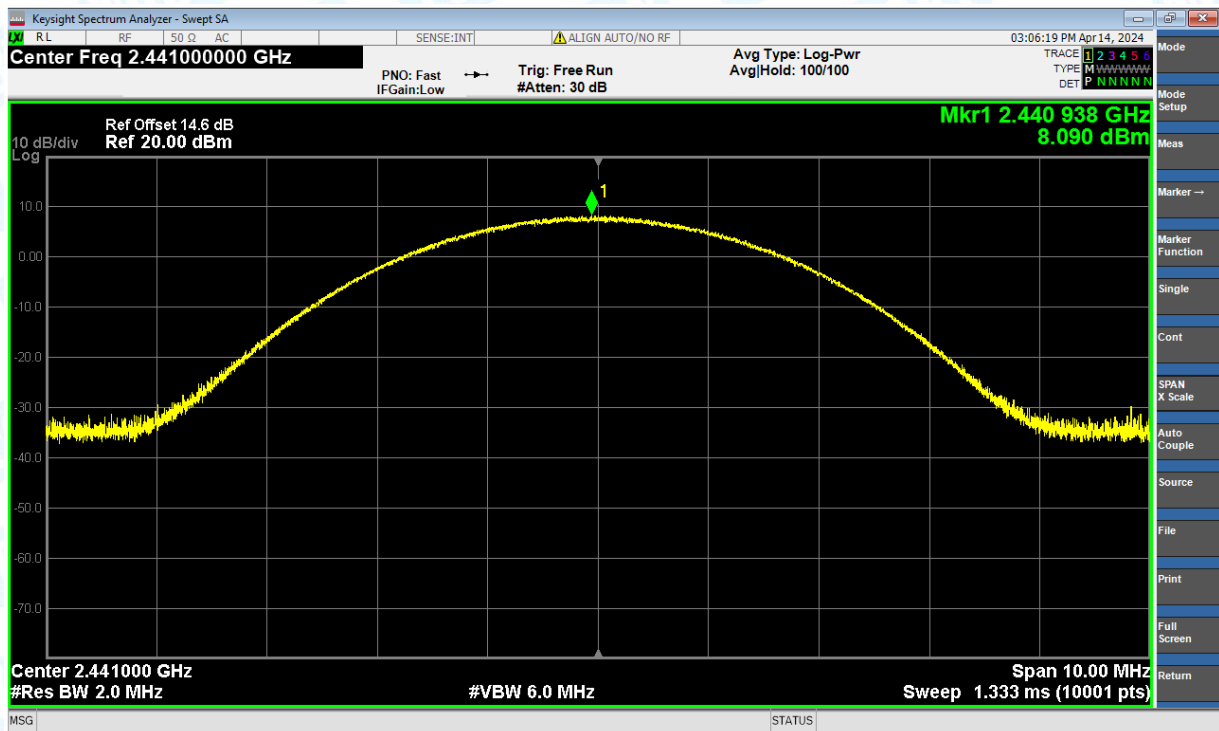
Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1

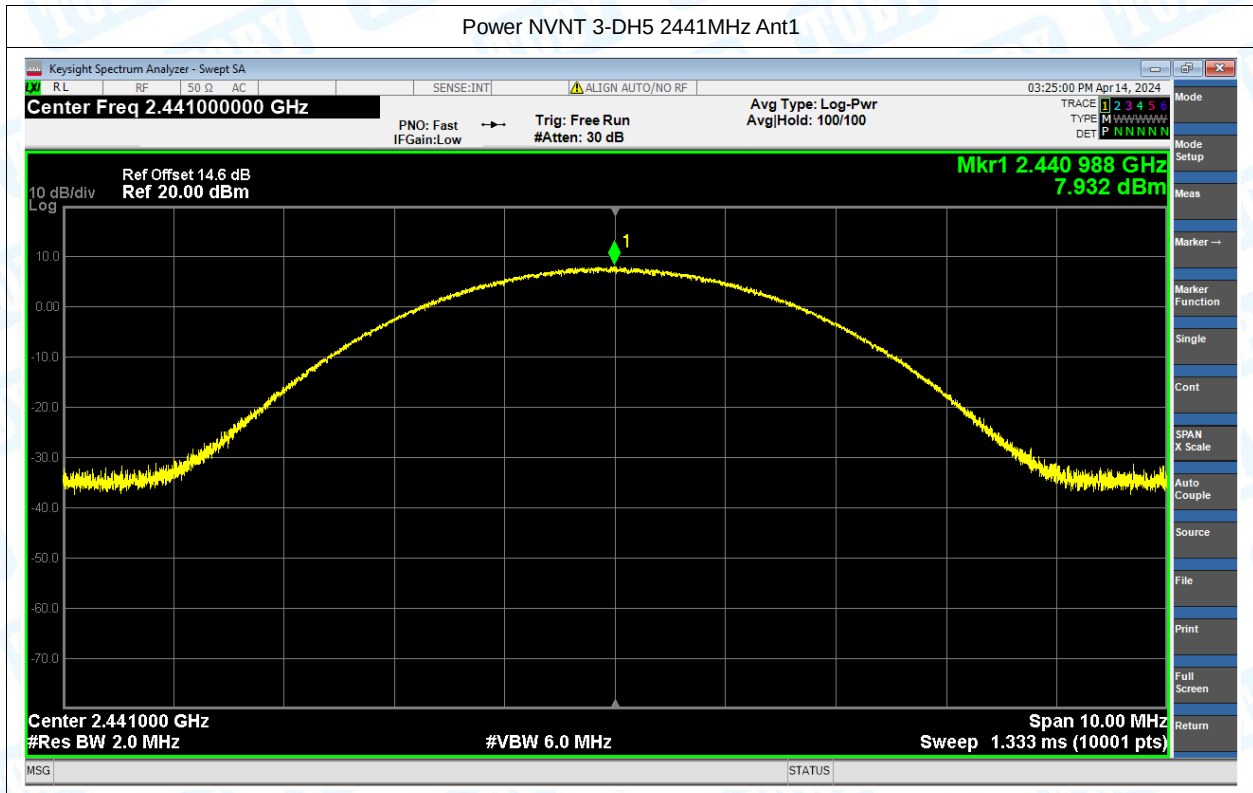


Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1





3. -20dB Bandwidth

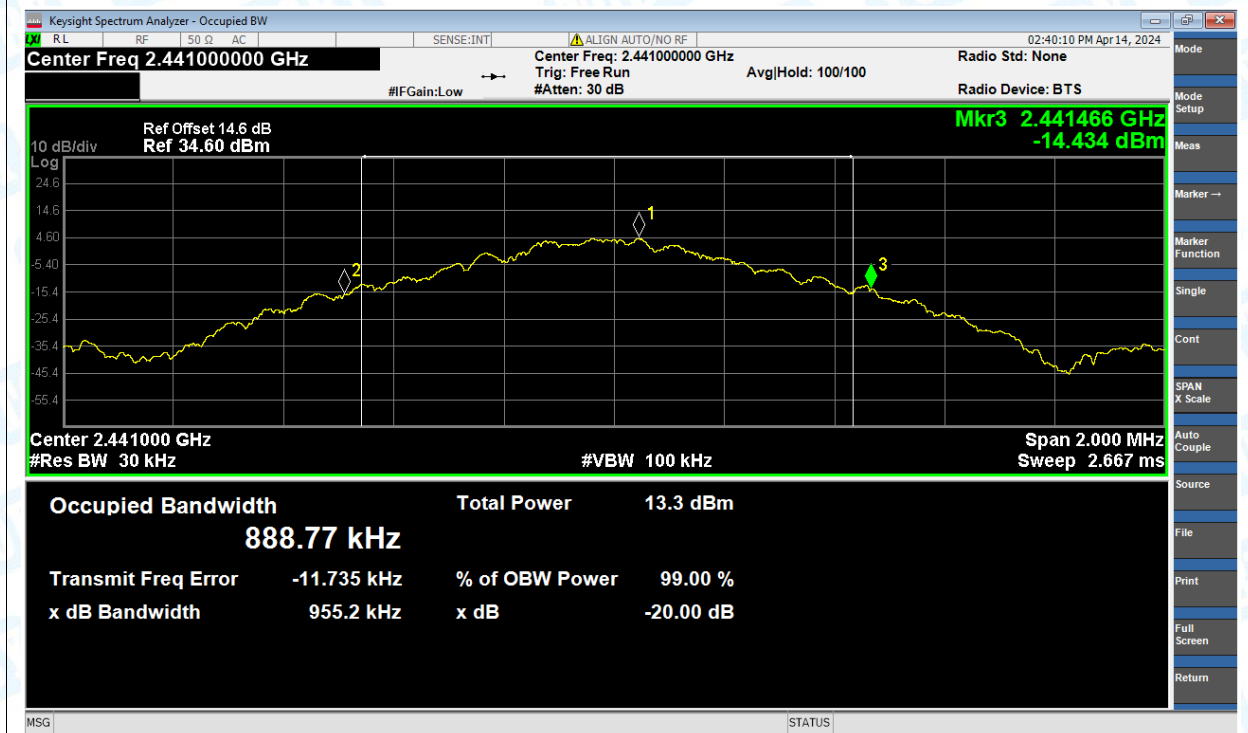
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.96	0	Pass
NVNT	1-DH1	2441	Ant1	0.96	0	Pass
NVNT	1-DH1	2480	Ant1	0.96	0	Pass
NVNT	2-DH1	2402	Ant1	1.37	0	Pass
NVNT	2-DH1	2441	Ant1	1.36	0	Pass
NVNT	2-DH1	2480	Ant1	1.36	0	Pass
NVNT	3-DH1	2402	Ant1	1.35	0	Pass
NVNT	3-DH1	2441	Ant1	1.35	0	Pass
NVNT	3-DH1	2480	Ant1	1.35	0	Pass

Test Graphs

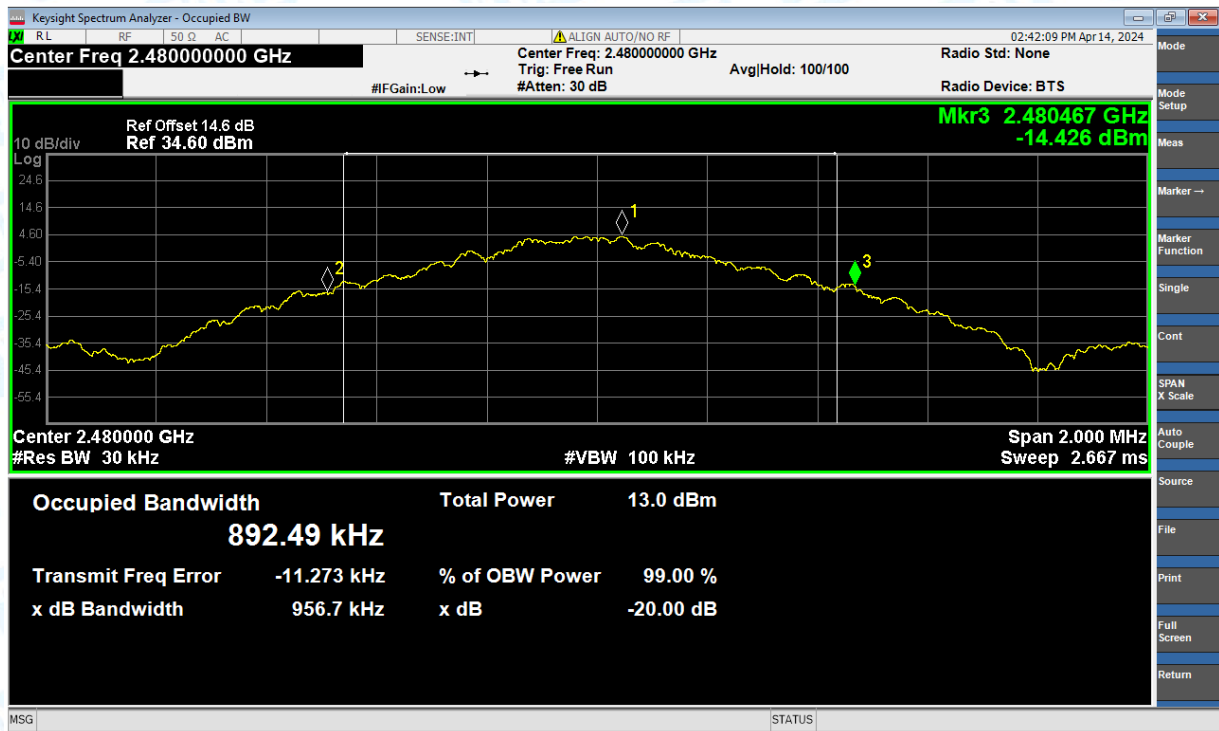
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



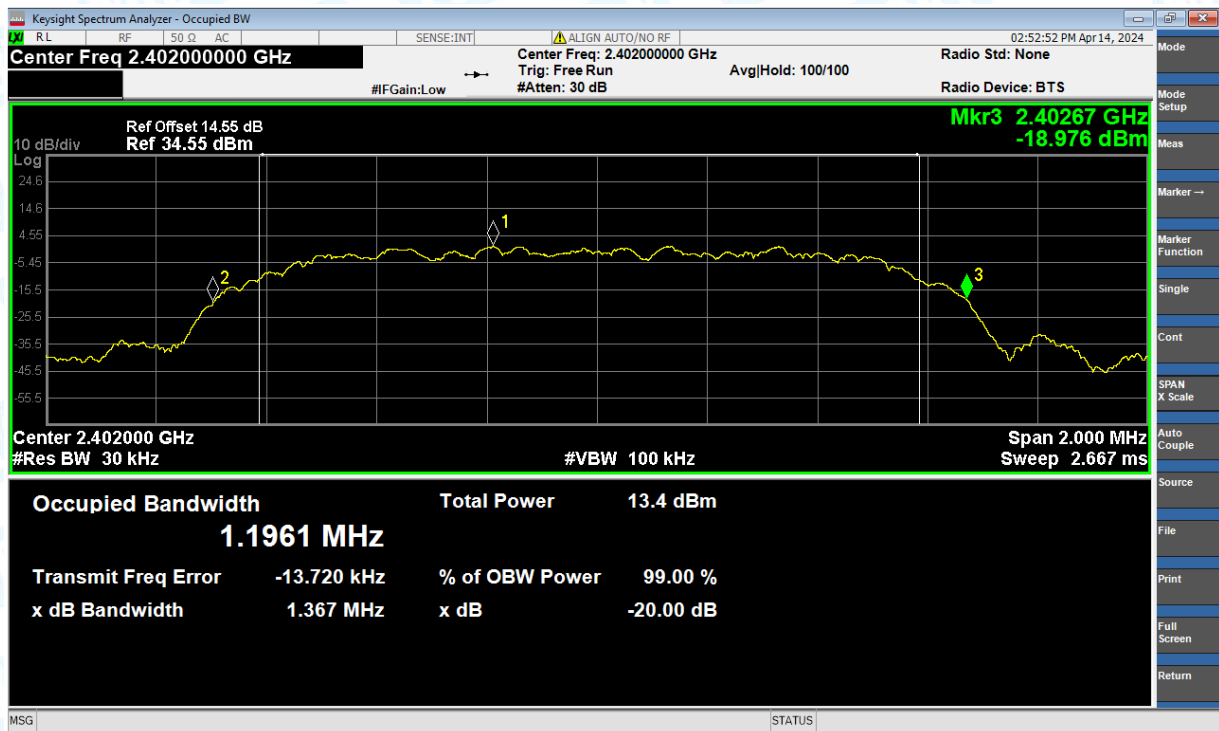
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



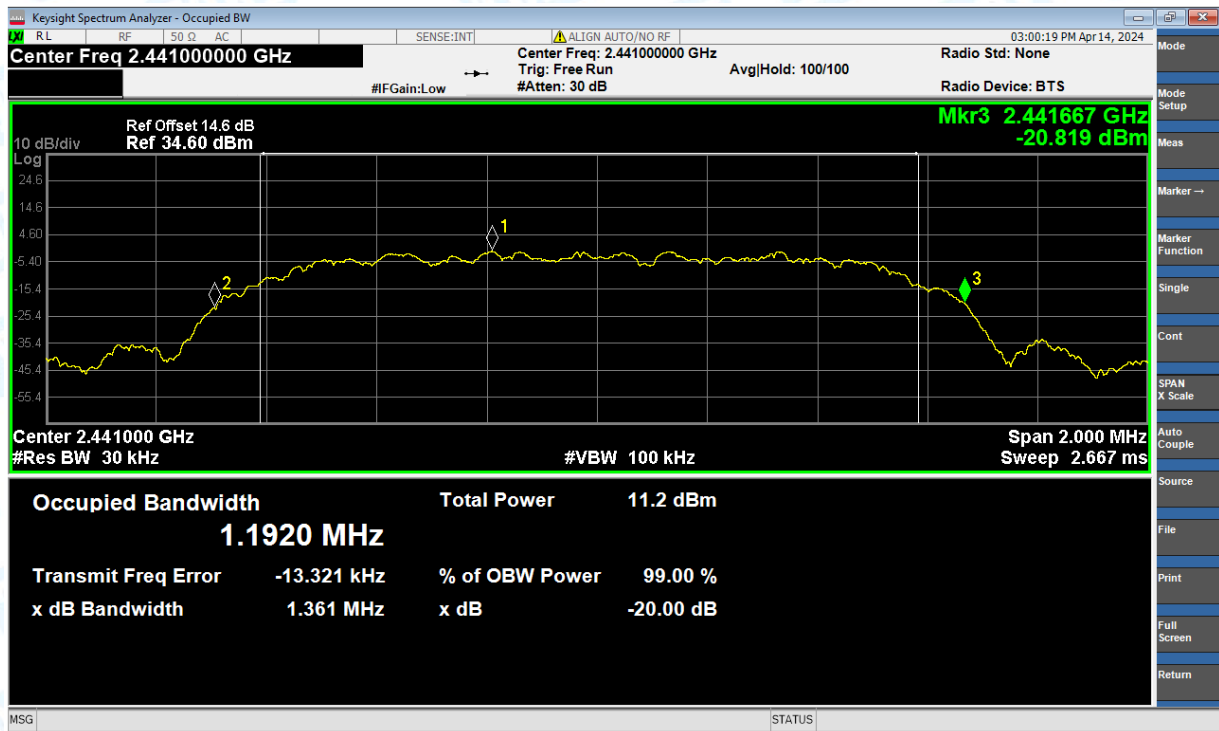
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



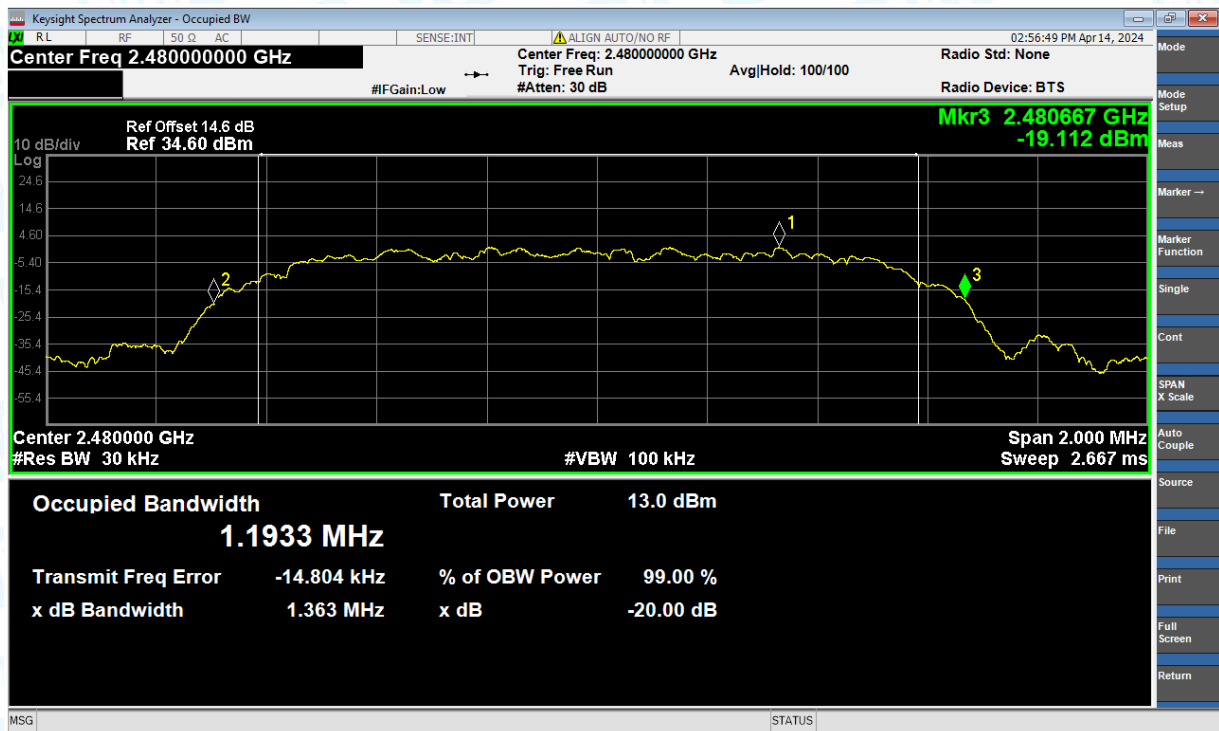
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



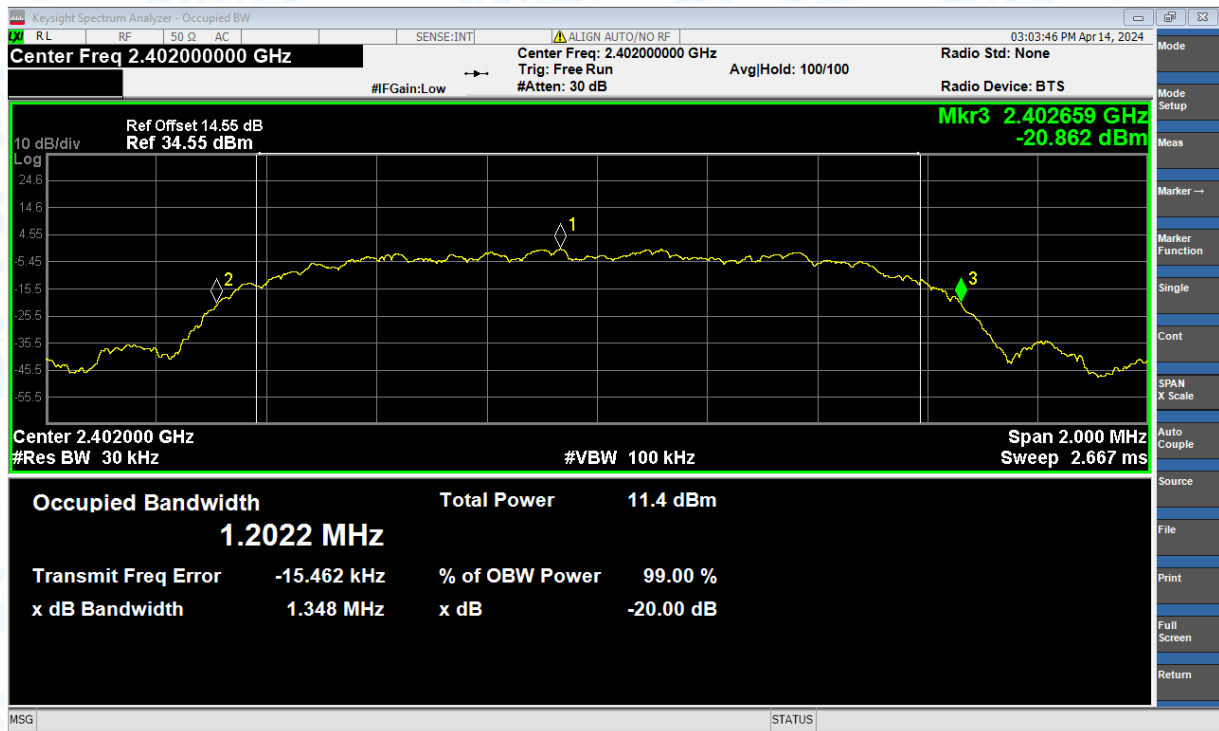
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



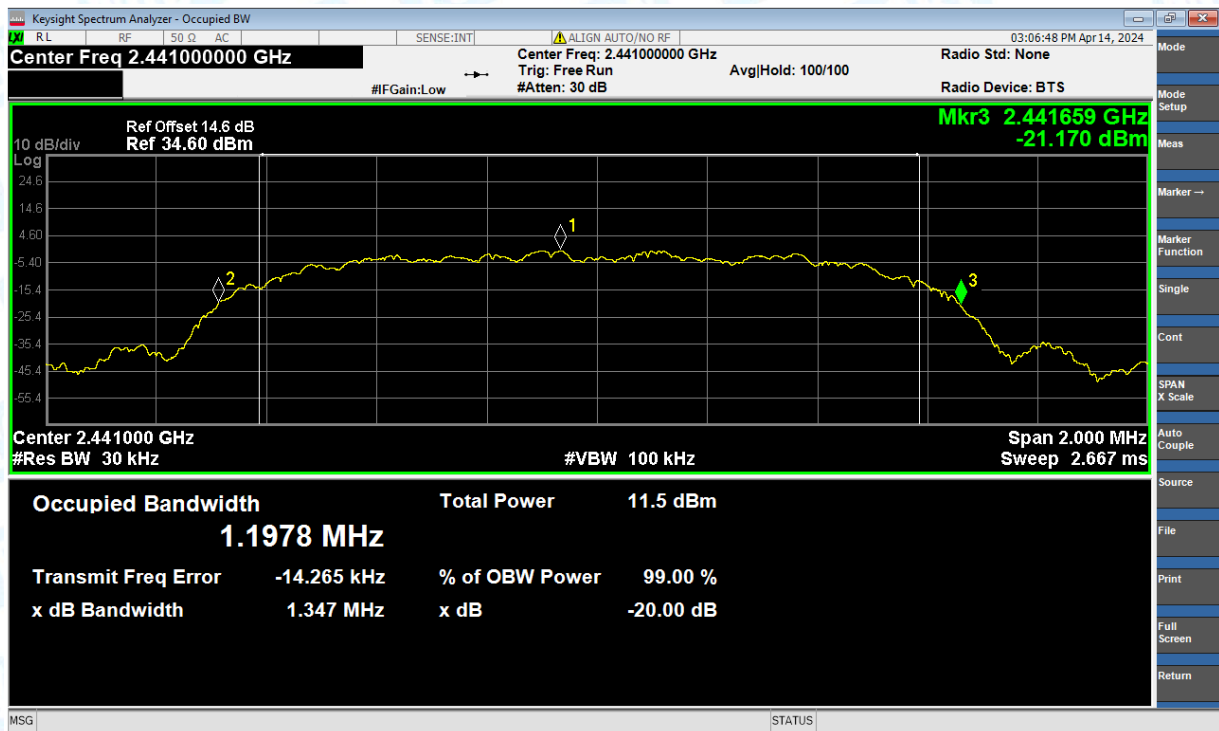
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

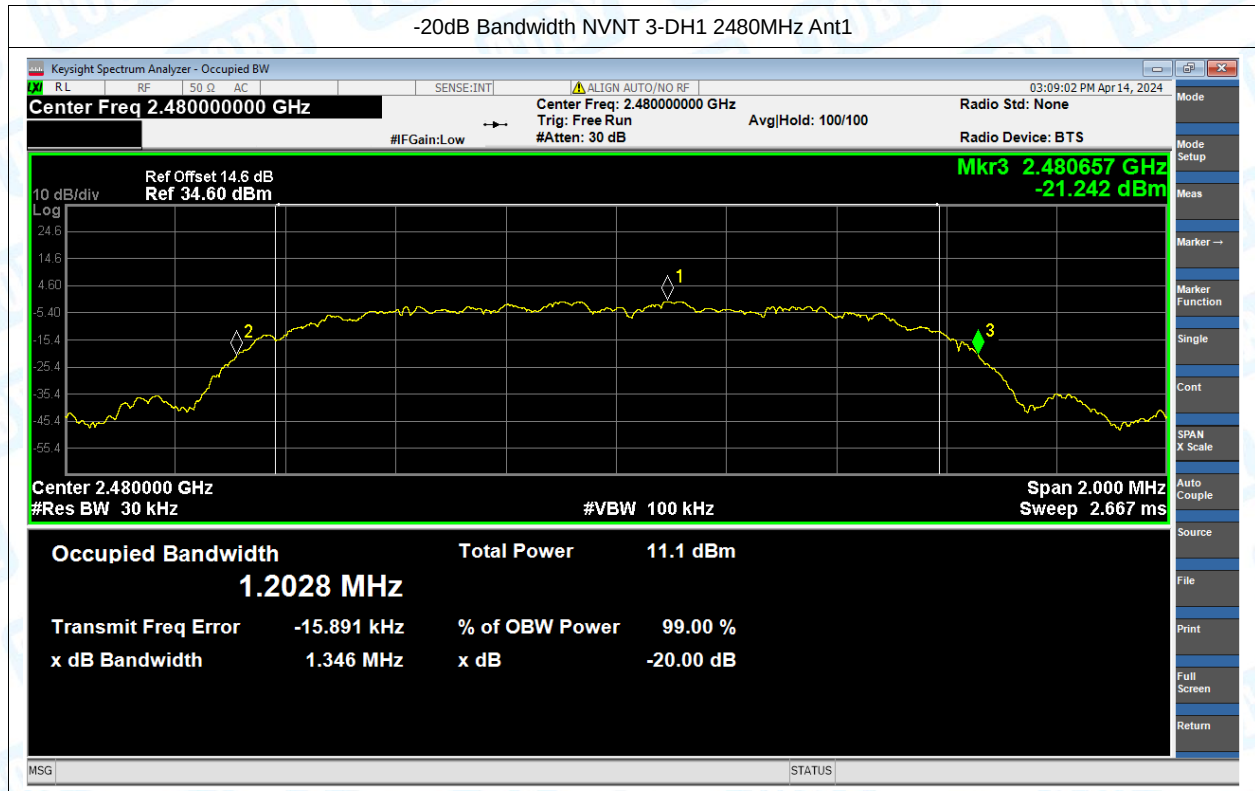


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



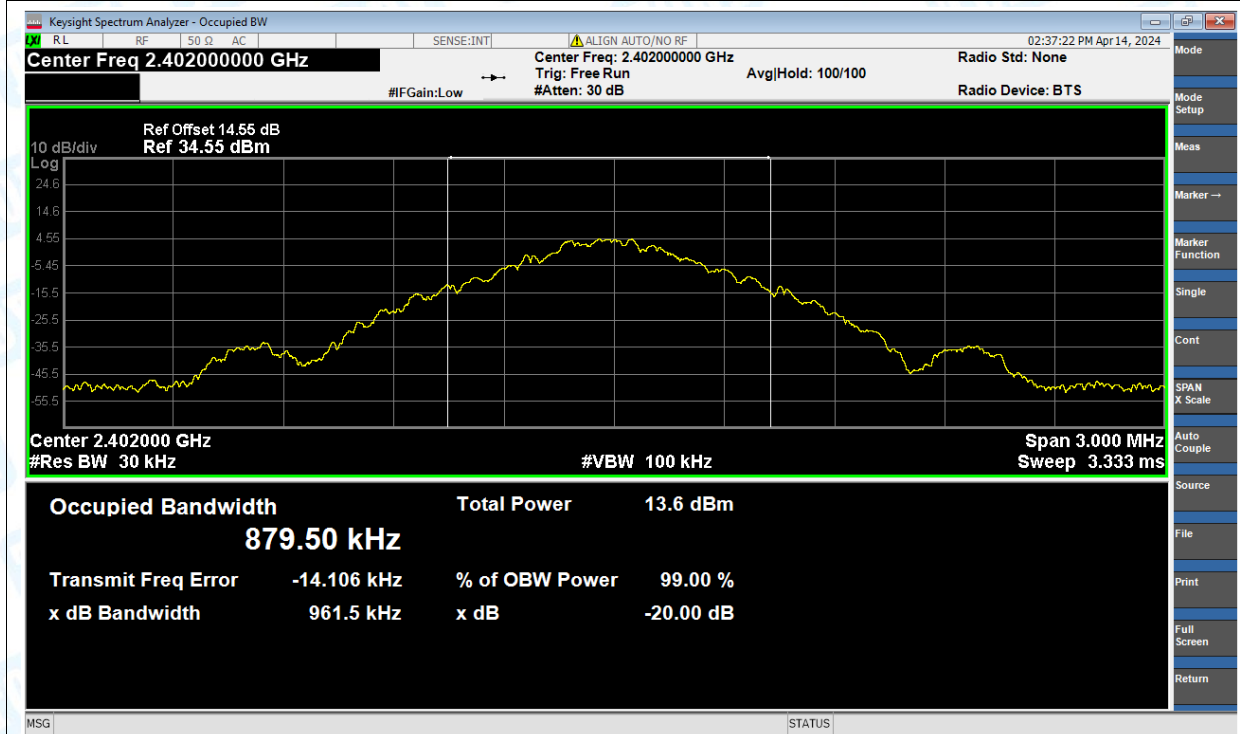


4. Occupied Channel Bandwidth

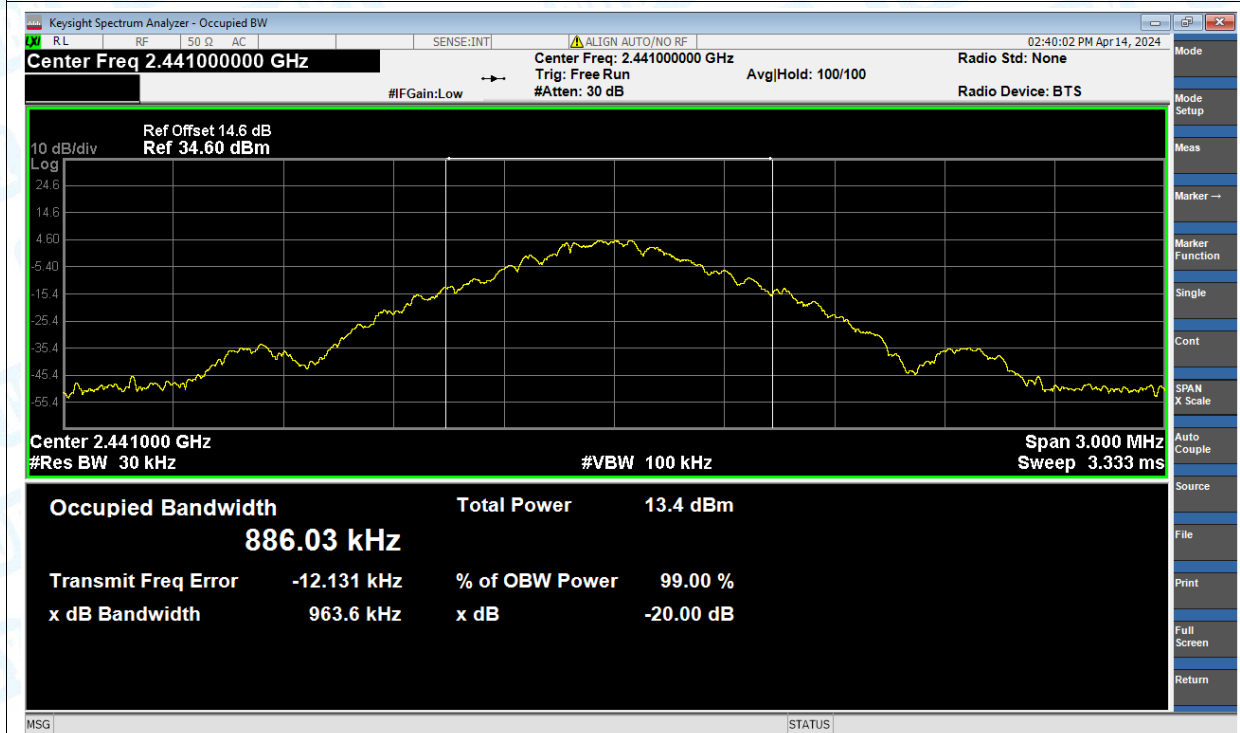
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.879
NVNT	1-DH1	2441	Ant1	0.886
NVNT	1-DH1	2480	Ant1	0.884
NVNT	2-DH1	2402	Ant1	1.193
NVNT	2-DH1	2441	Ant1	1.193
NVNT	2-DH1	2480	Ant1	1.194
NVNT	3-DH1	2402	Ant1	1.204
NVNT	3-DH1	2441	Ant1	1.204
NVNT	3-DH1	2480	Ant1	1.197

Test Graphs

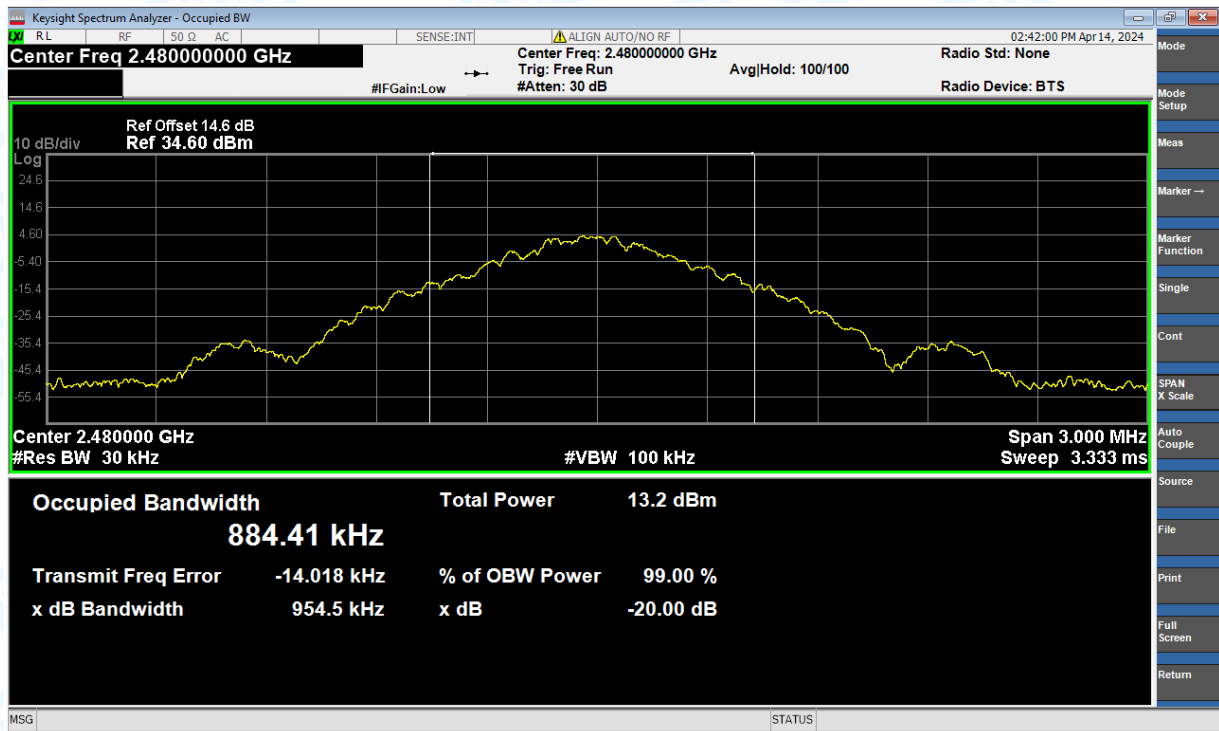
OBW NVNT 1-DH1 2402MHz Ant1



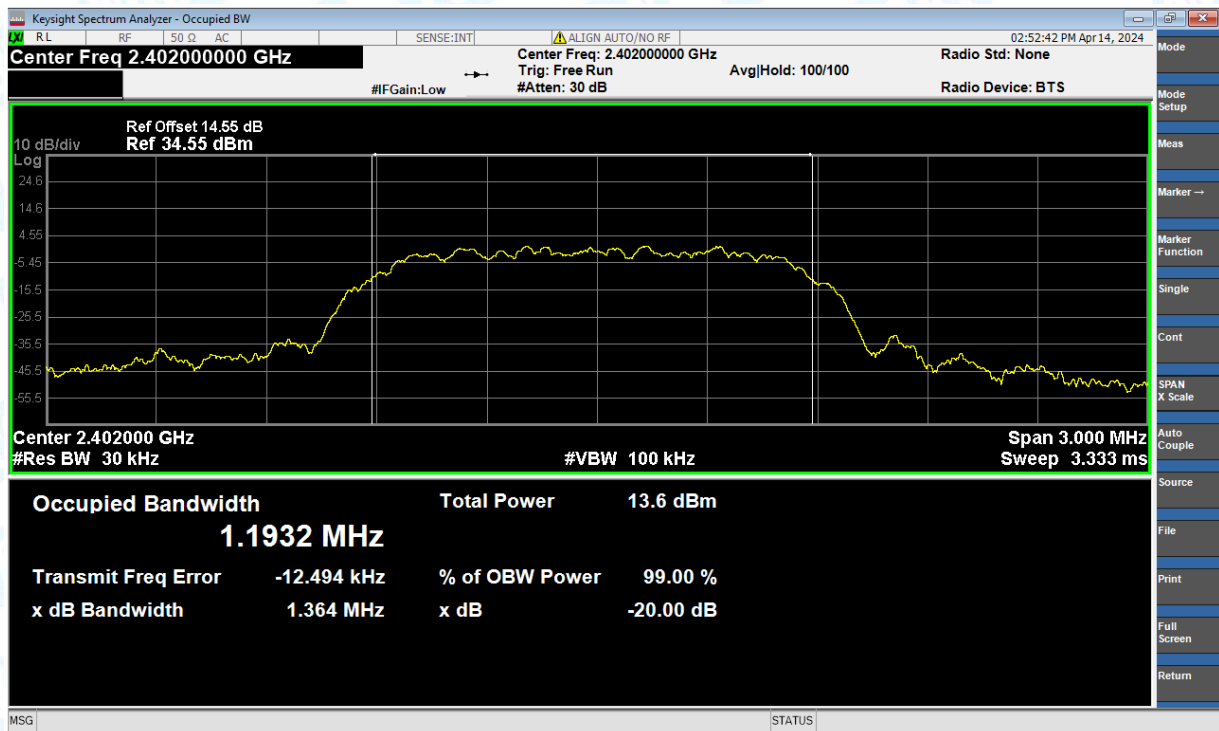
OBW NVNT 1-DH1 2441MHz Ant1



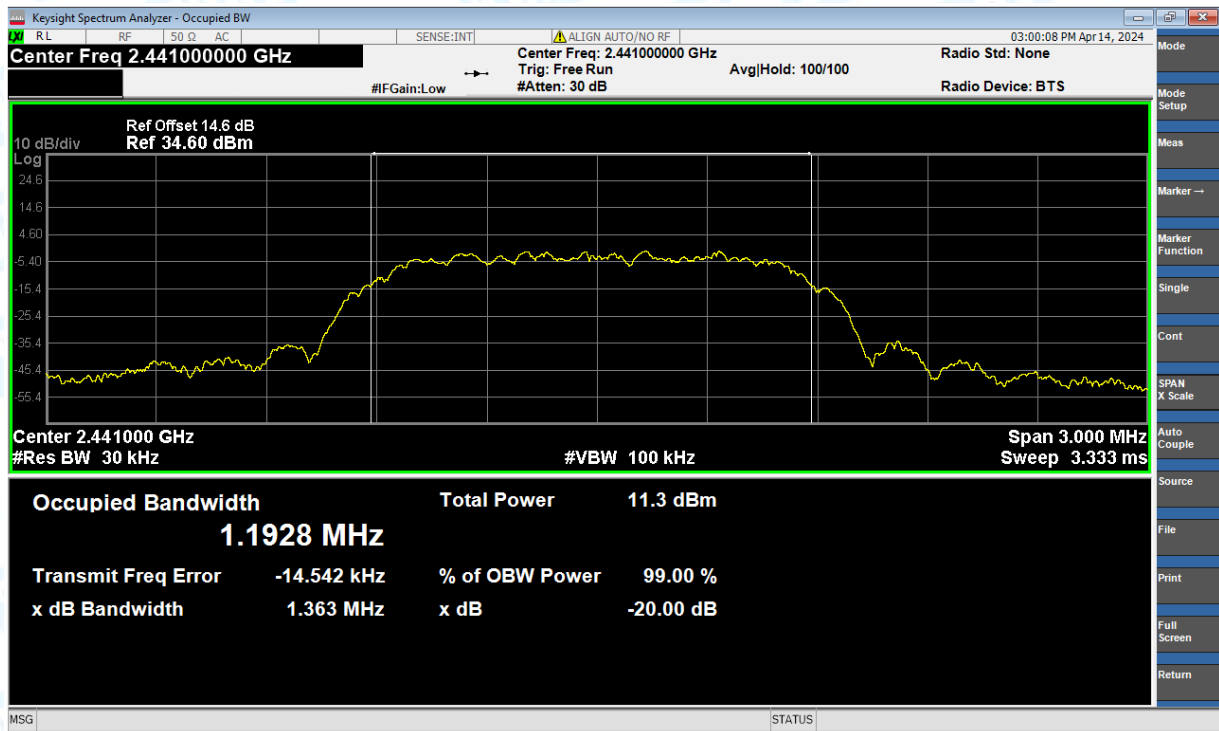
OBW NVNT 1-DH1 2480MHz Ant1



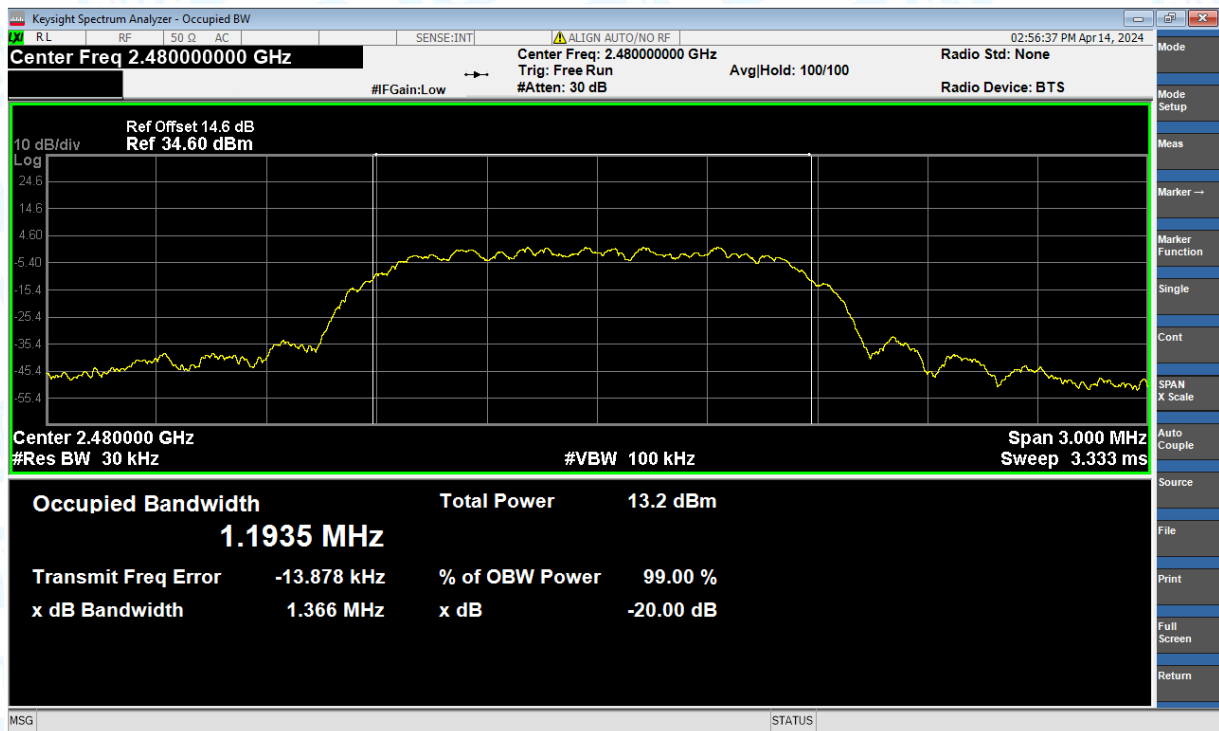
OBW NVNT 2-DH1 2402MHz Ant1



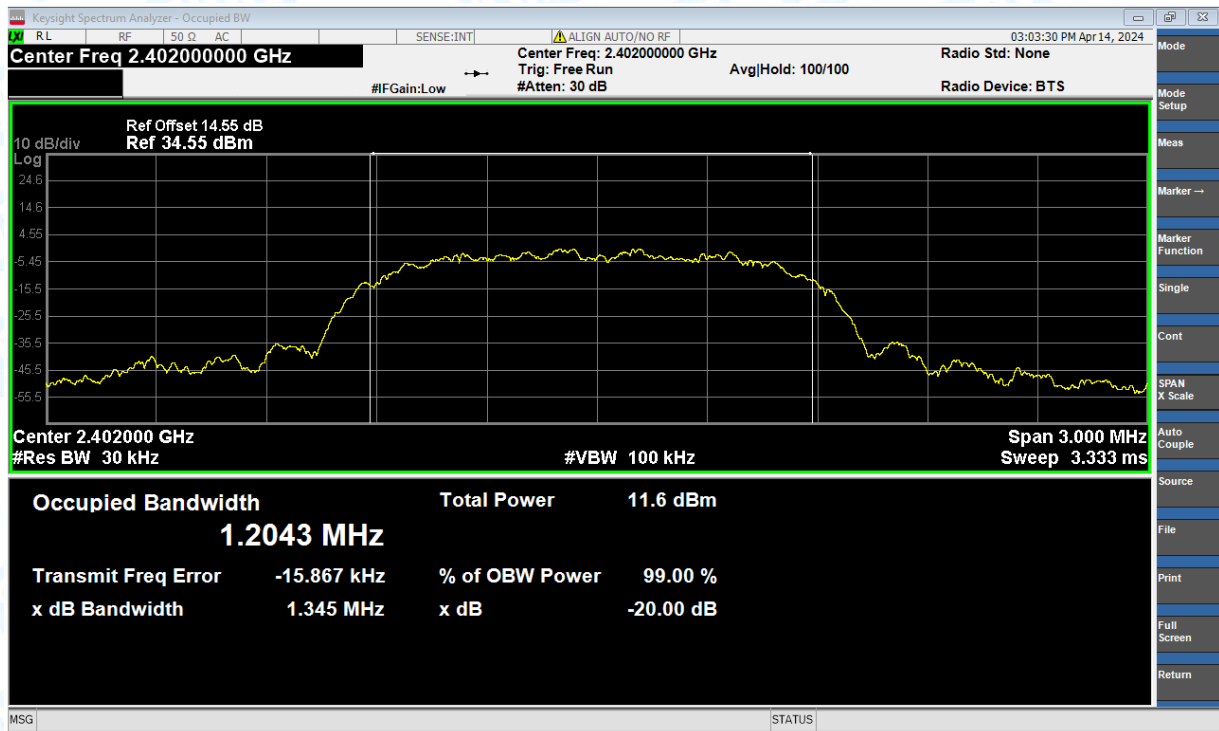
OBW NVNT 2-DH1 2441MHz Ant1



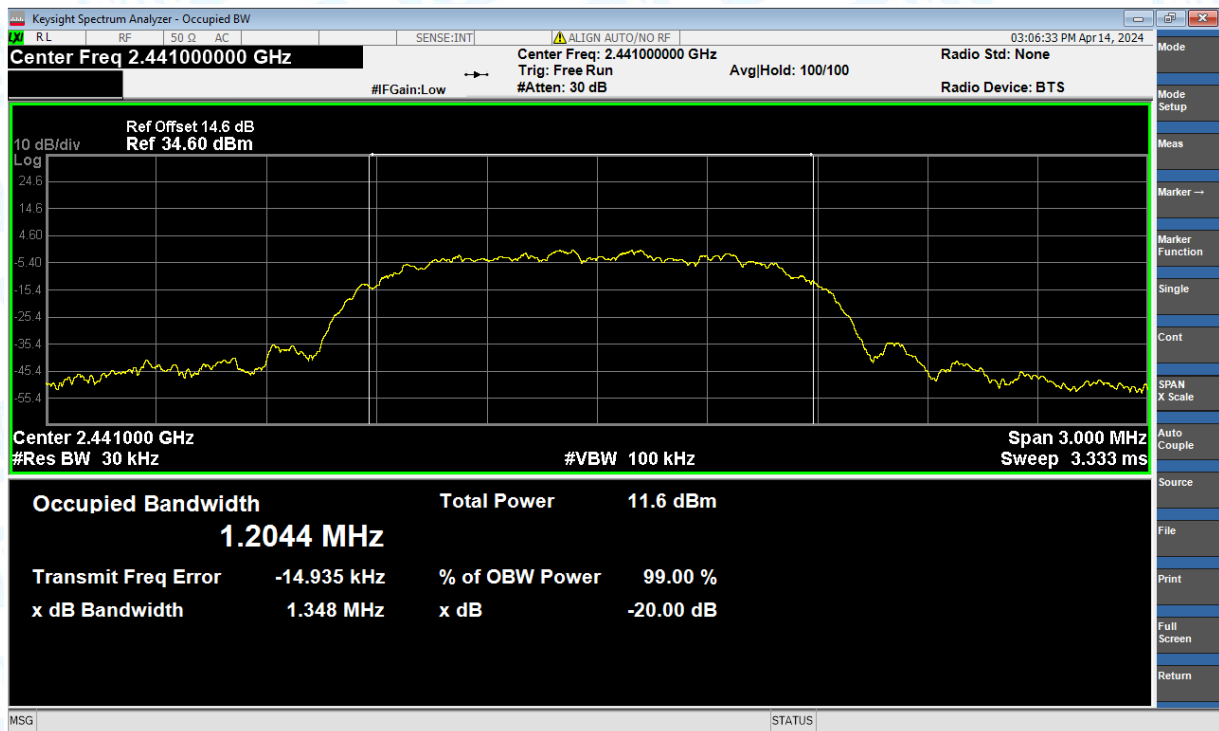
OBW NVNT 2-DH1 2480MHz Ant1

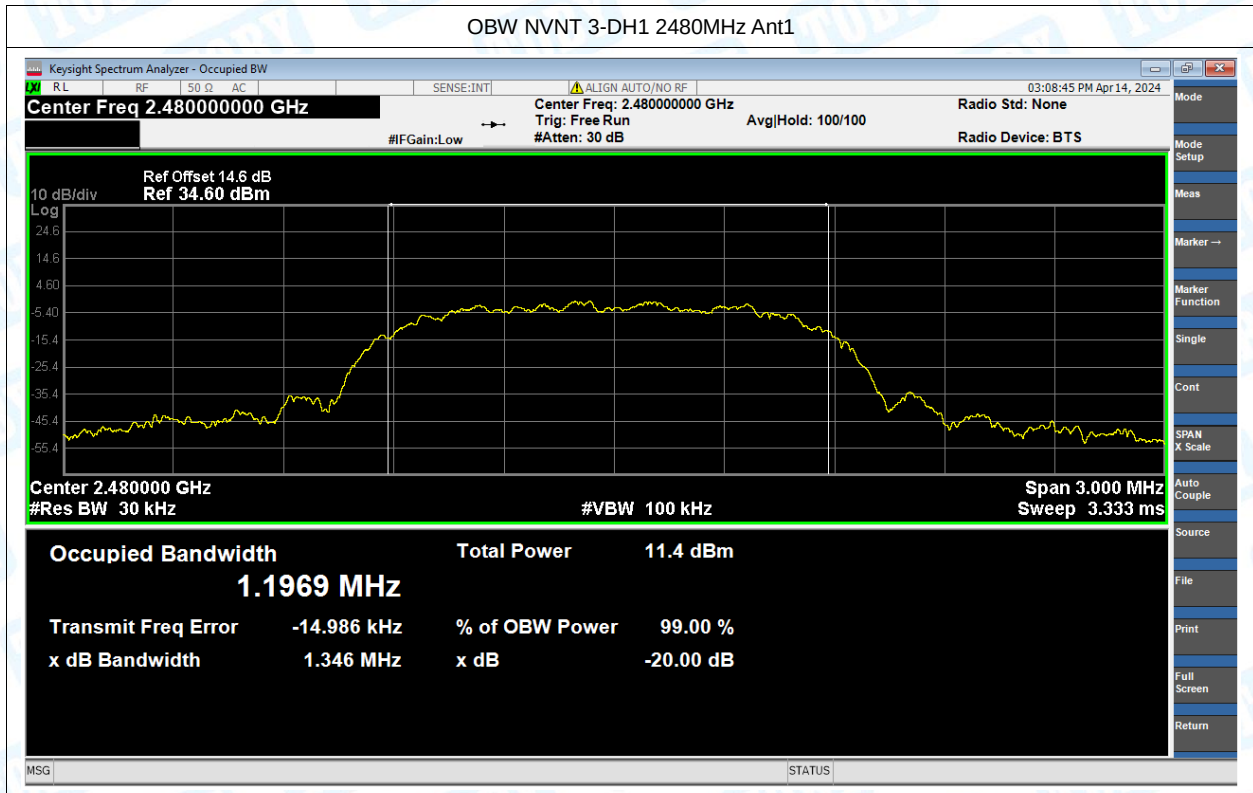


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



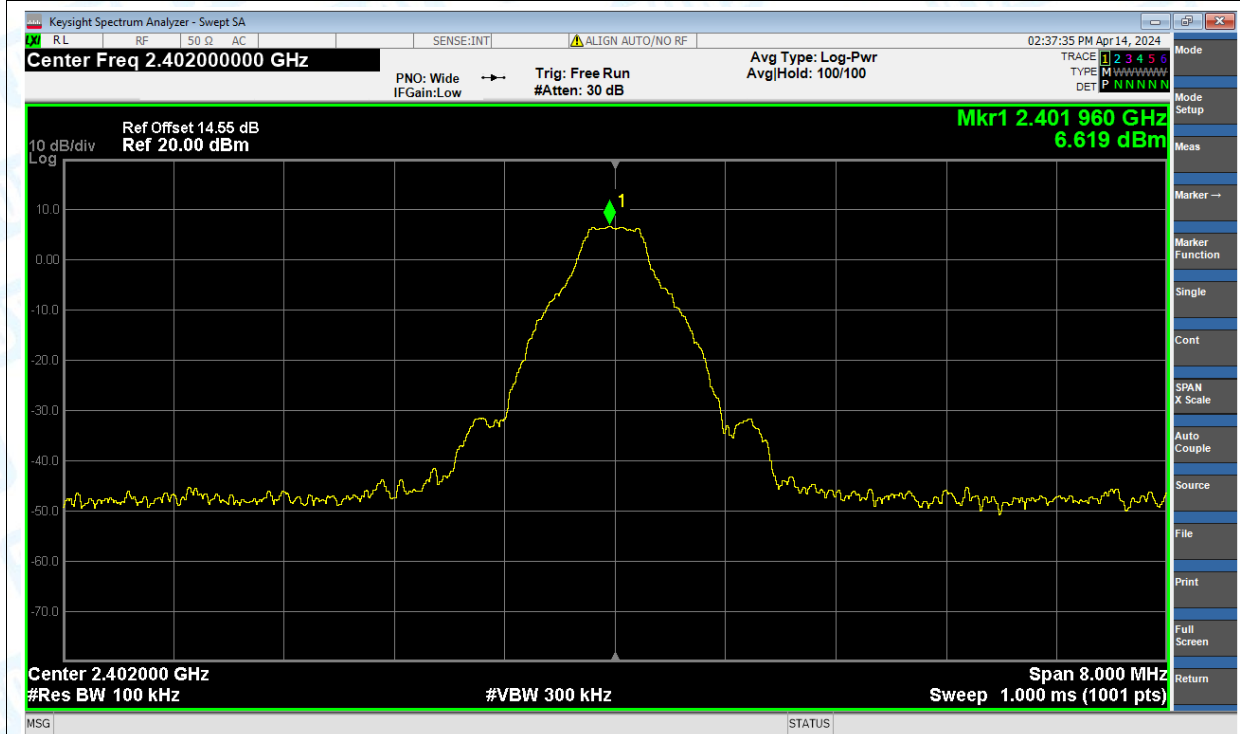


5. Band Edge

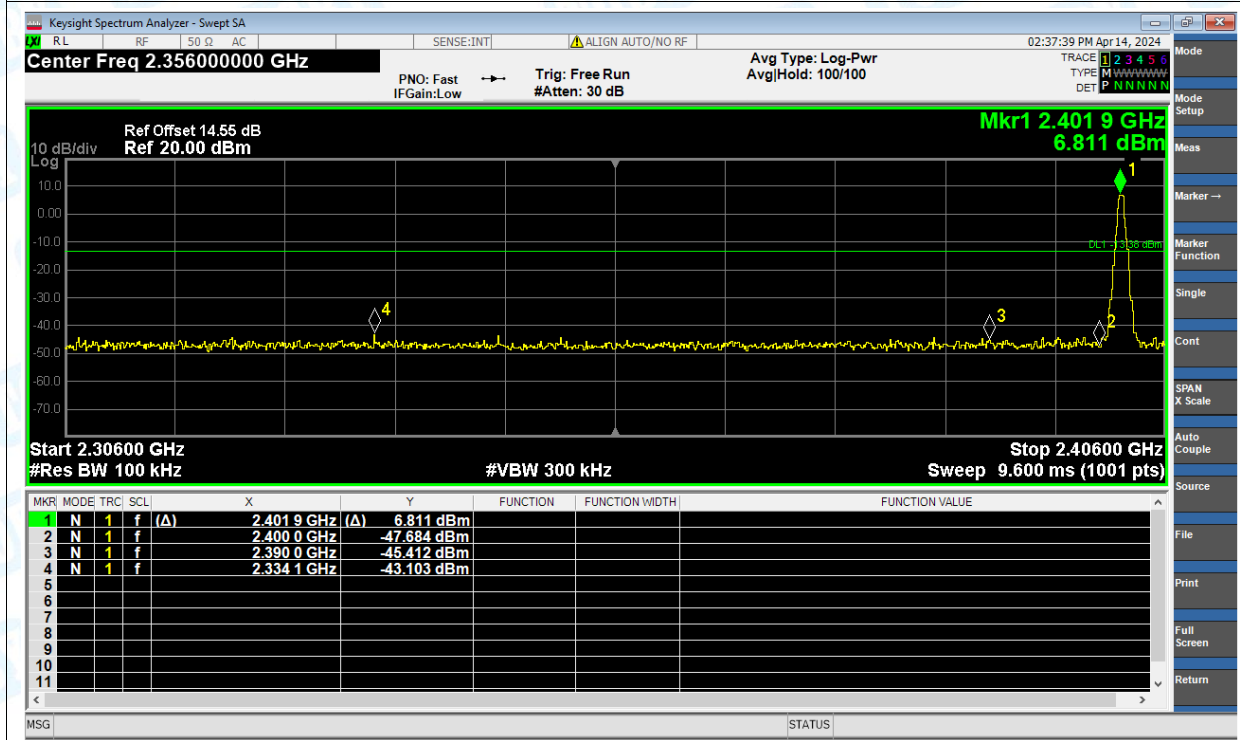
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-49.72	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-50.37	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-48.76	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-48.77	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-47.57	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-47.85	-20	Pass

Test Graphs

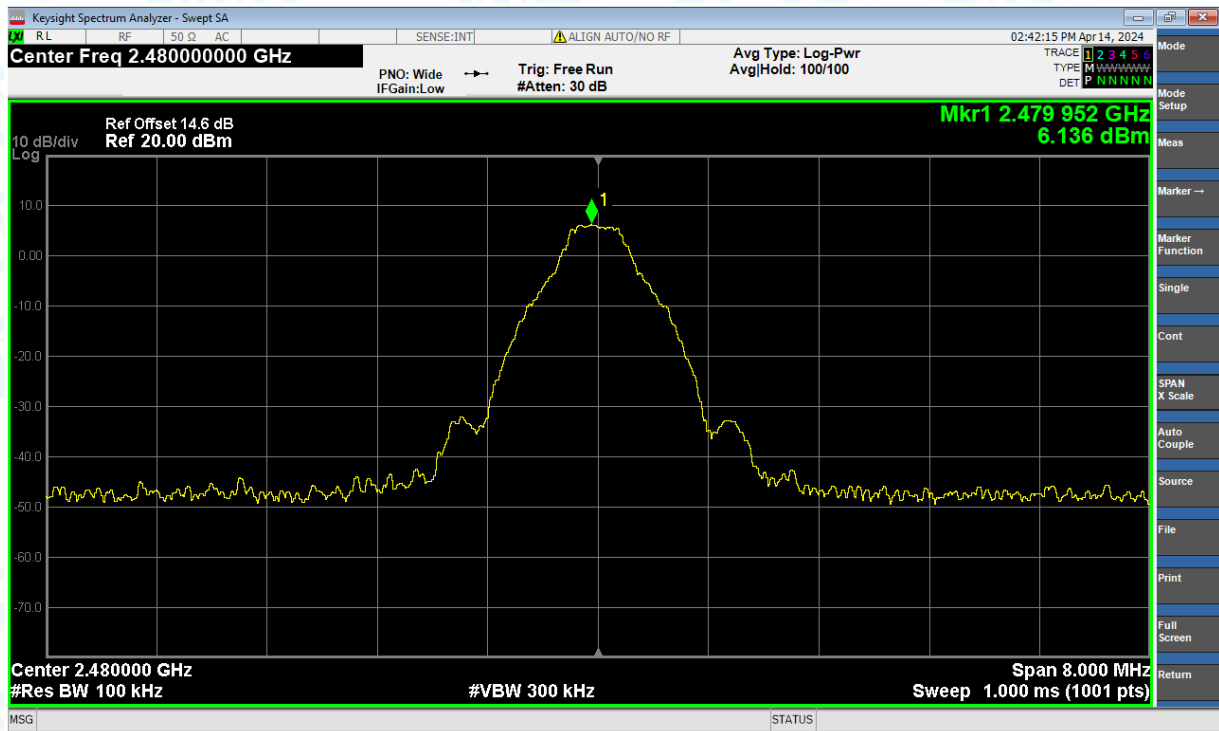
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



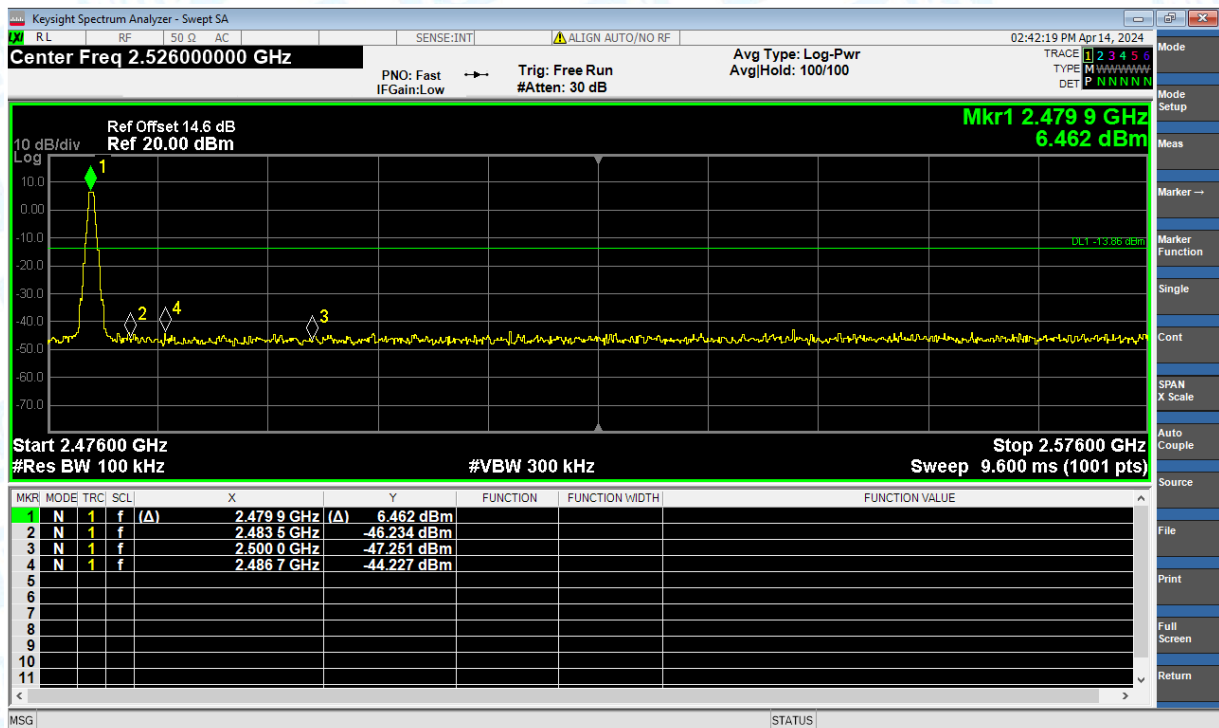
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



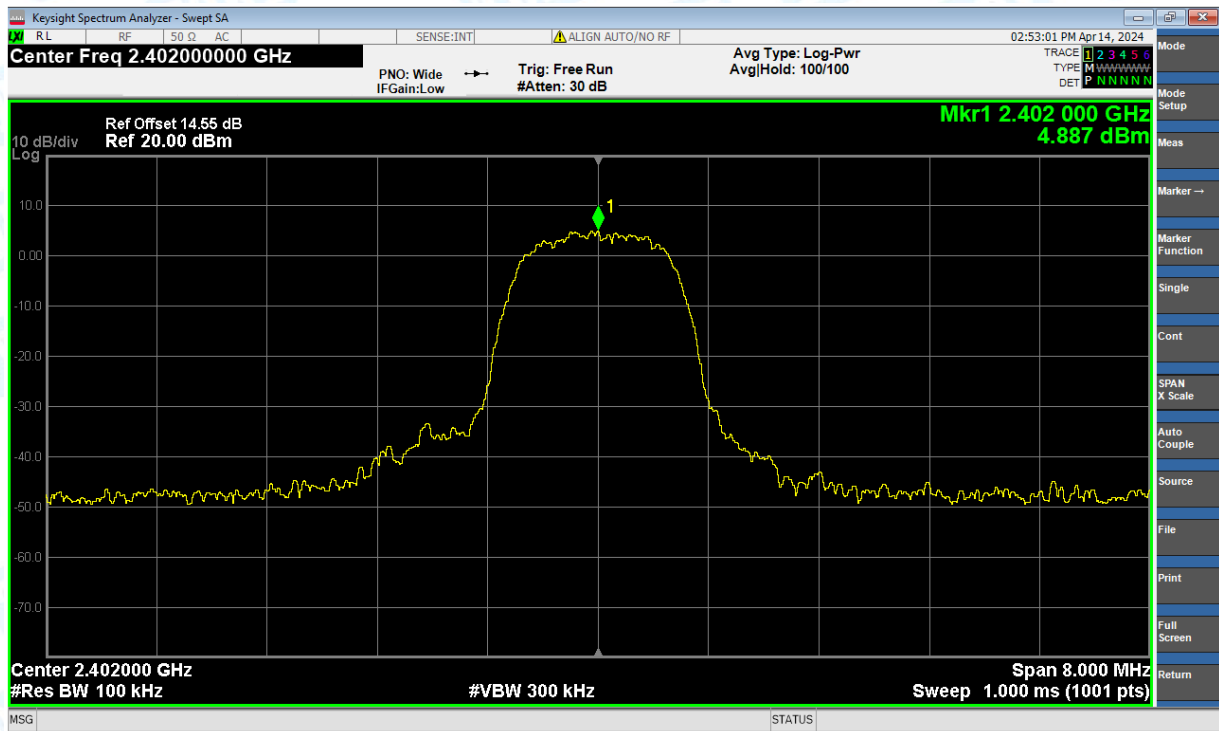
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



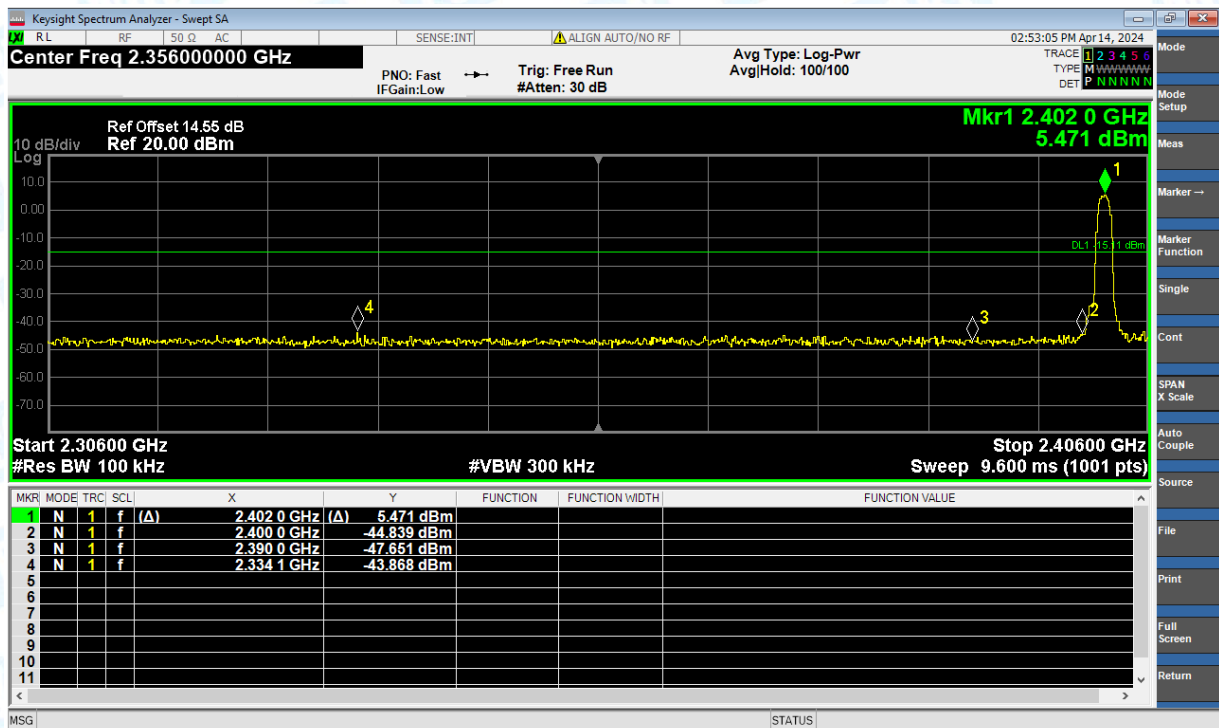
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



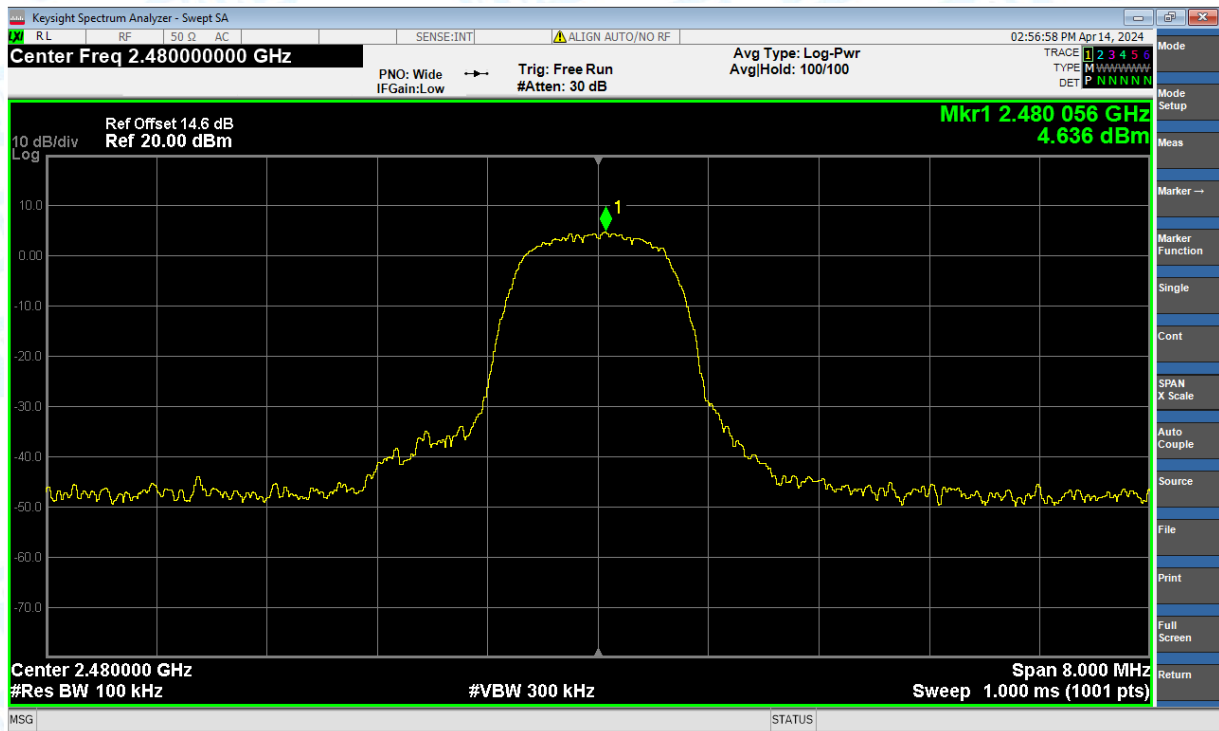
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



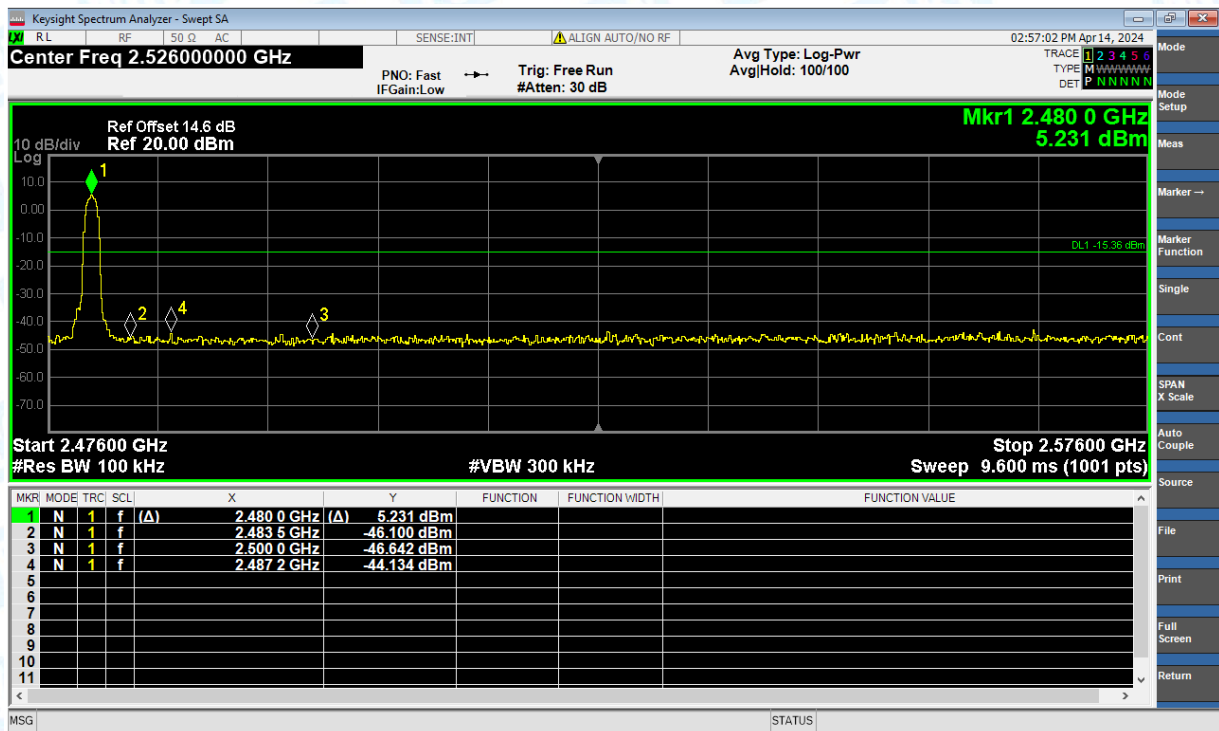
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



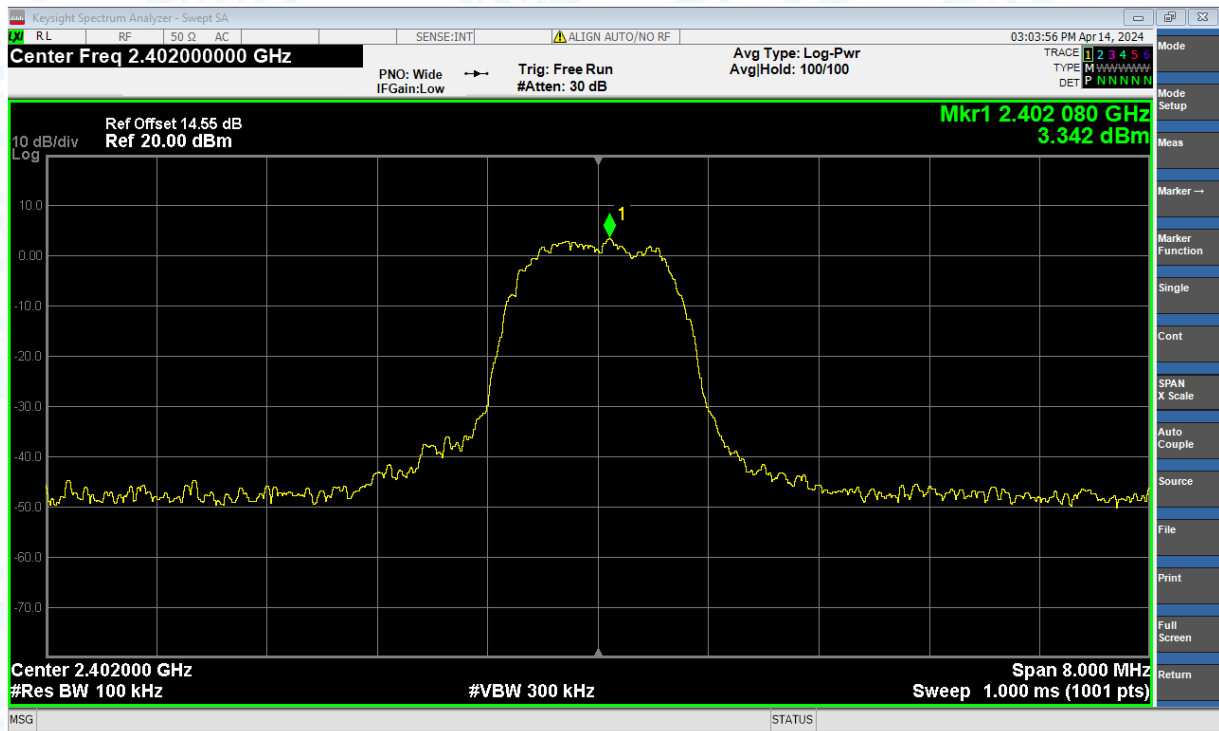
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



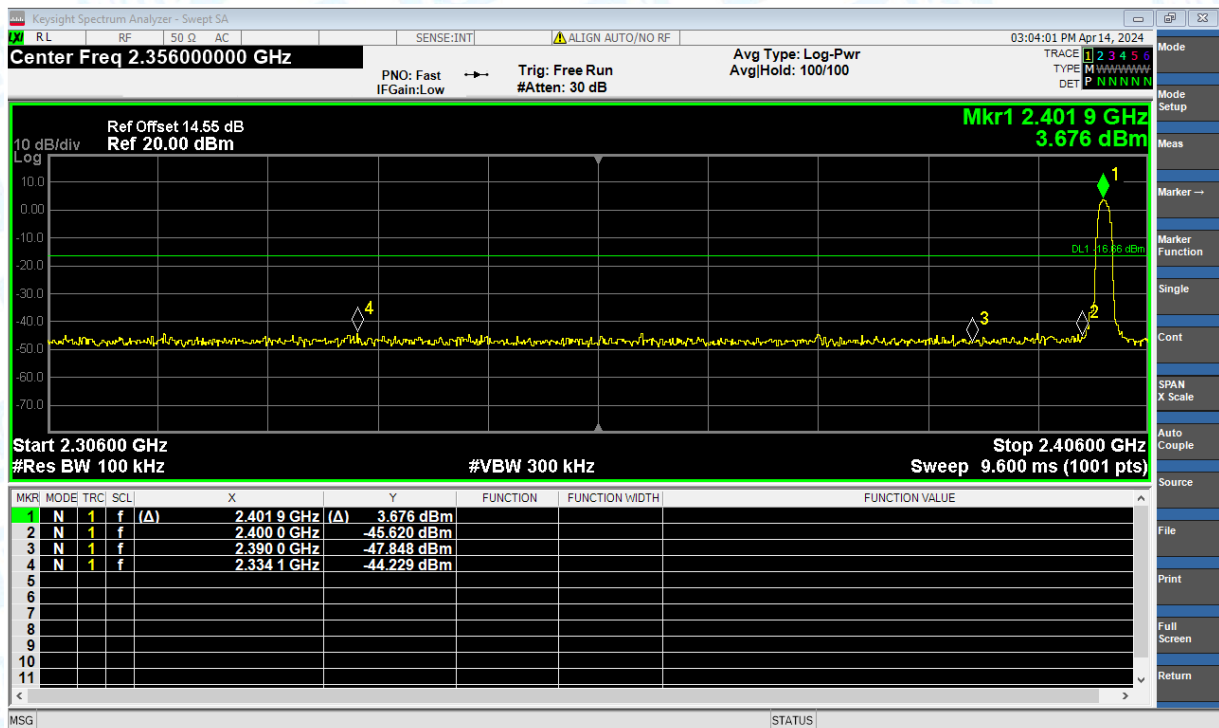
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



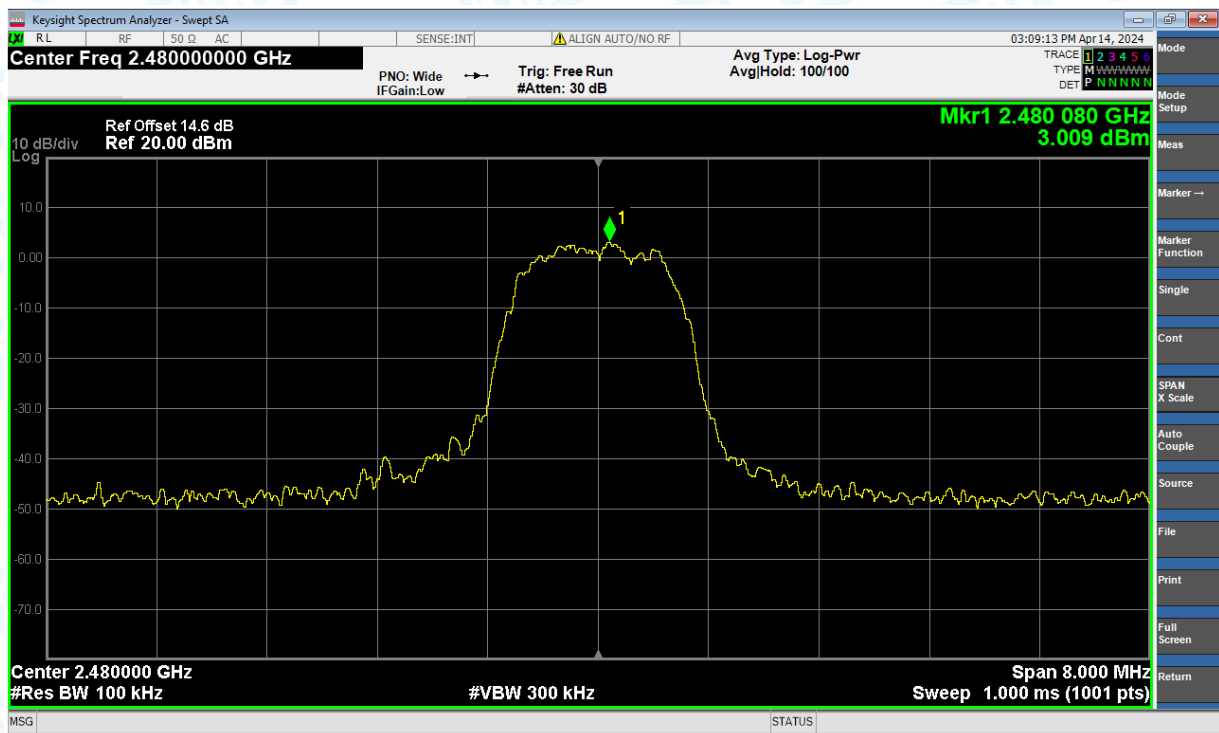
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



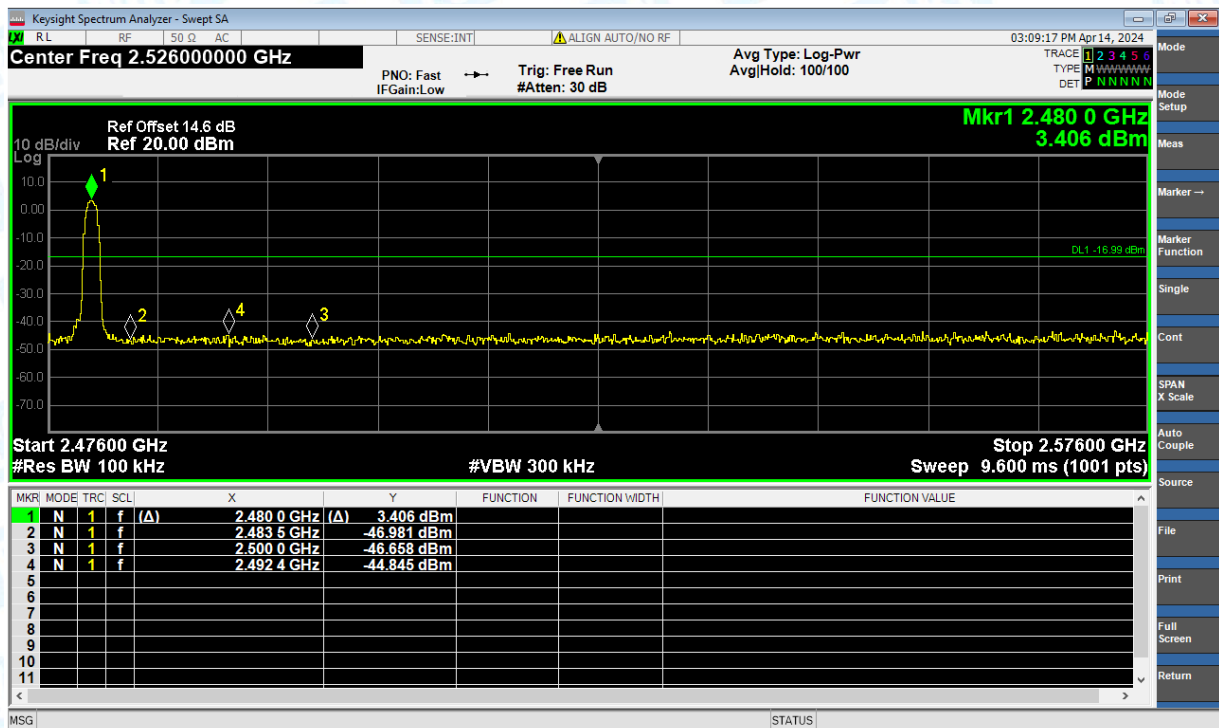
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

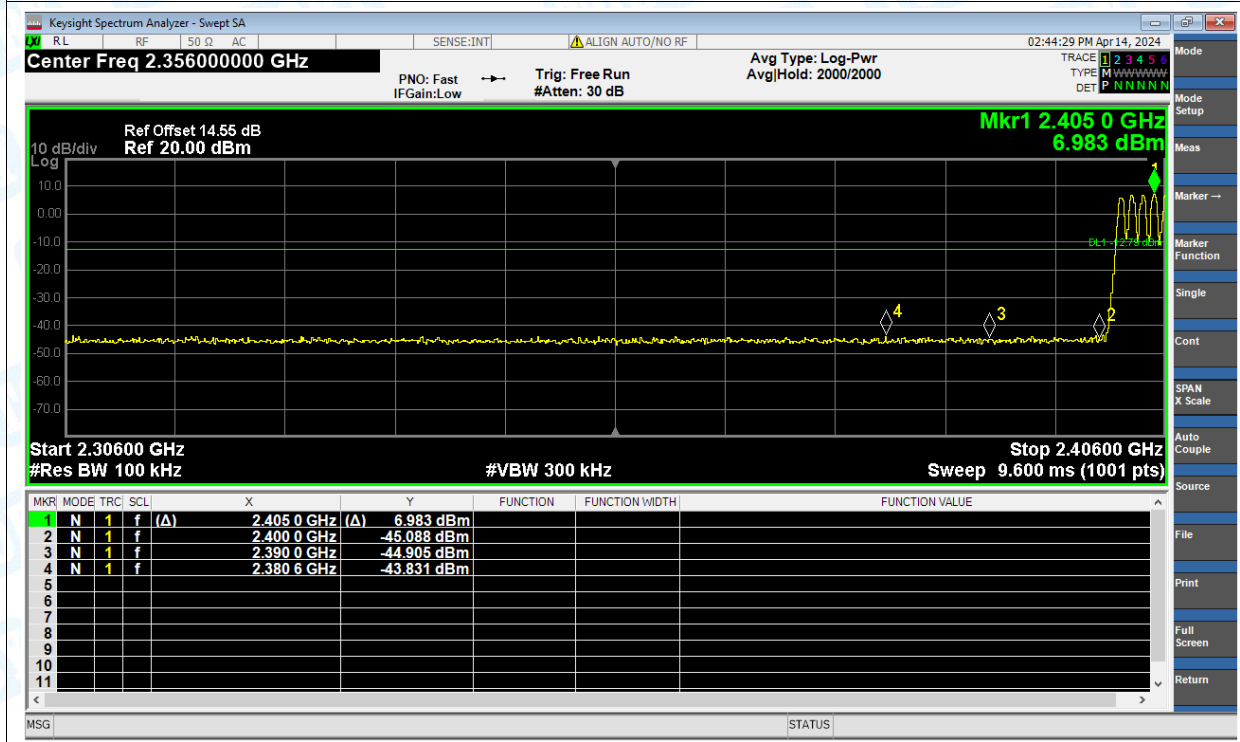
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-51.04	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-50.05	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-51.6	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-50.82	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-49.77	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-49.41	-20	Pass

Test Graphs

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



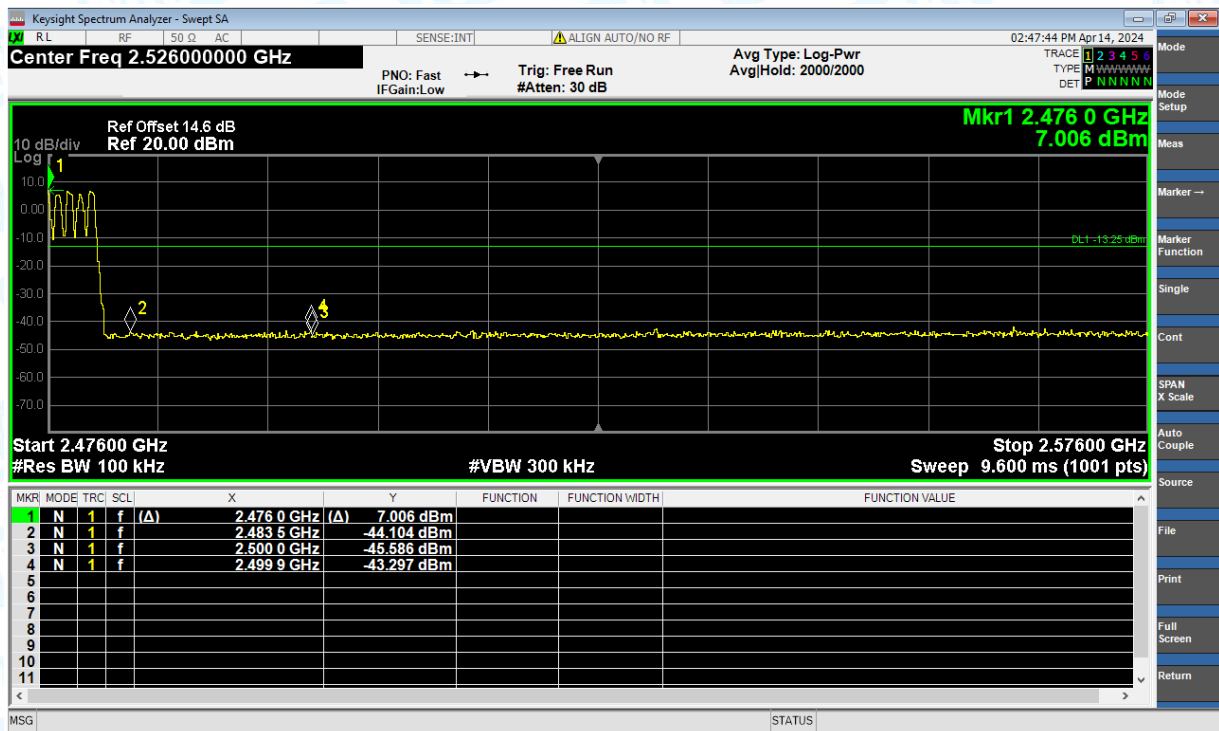
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



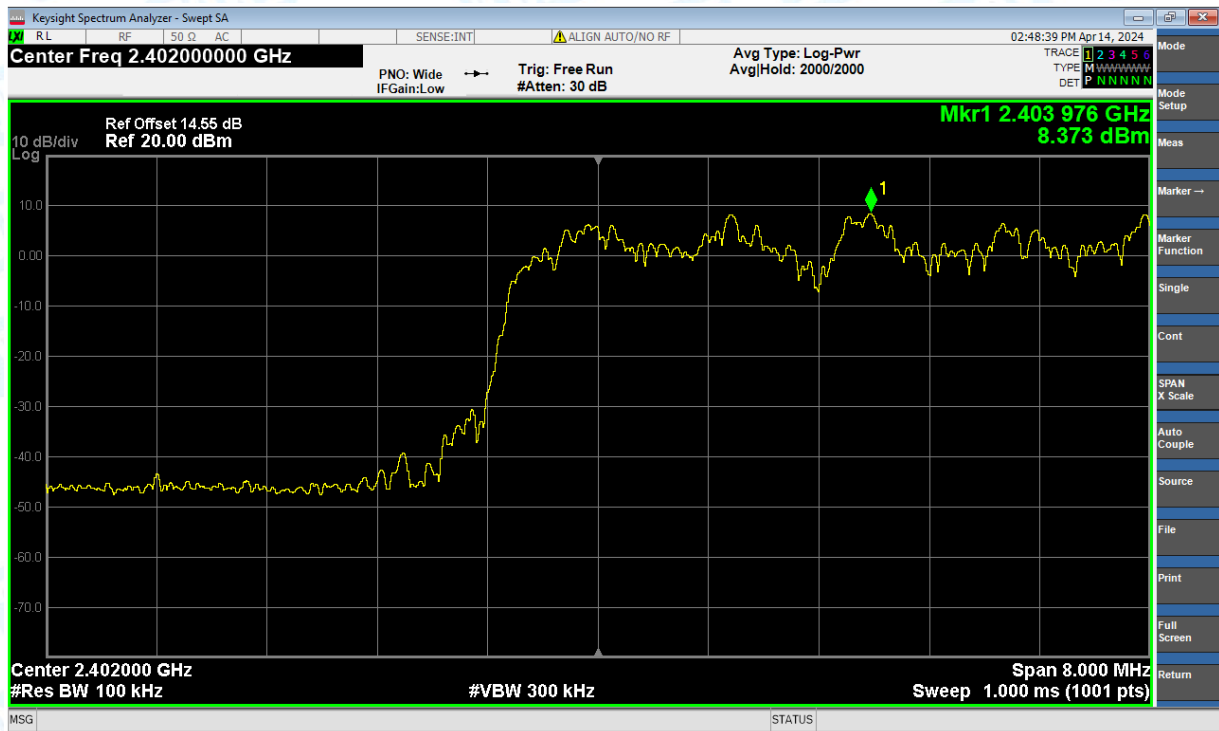
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



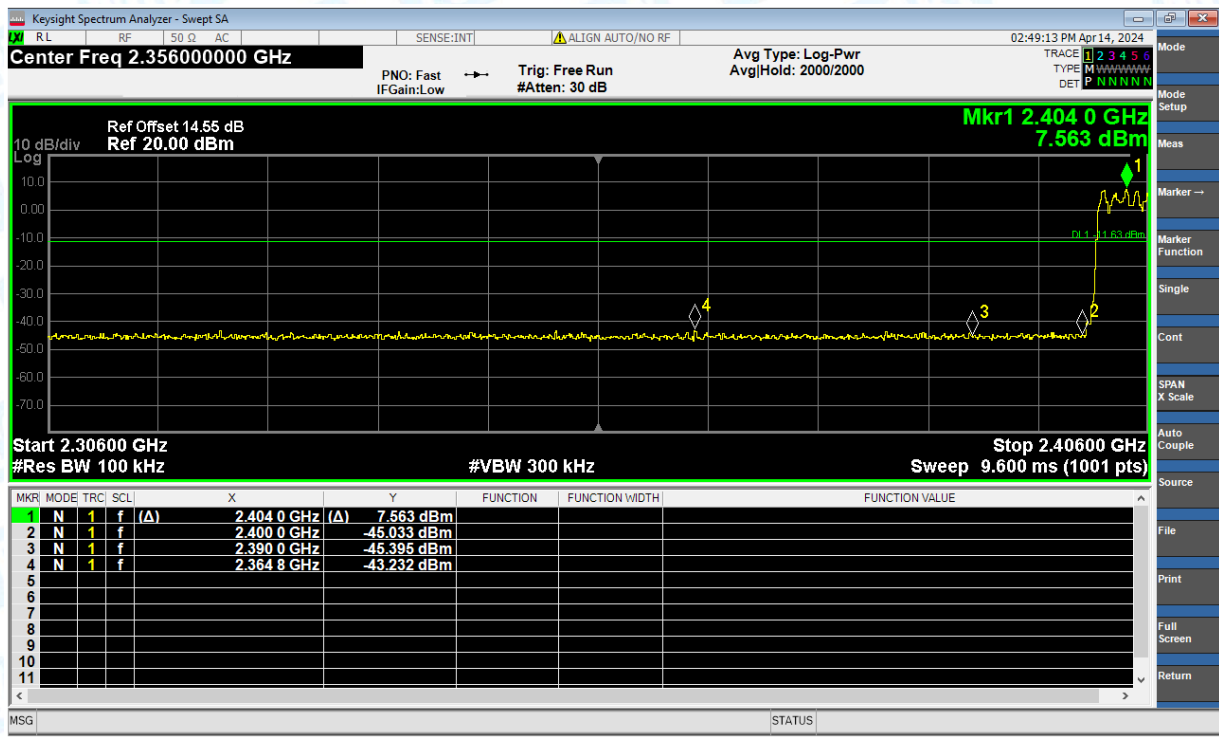
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



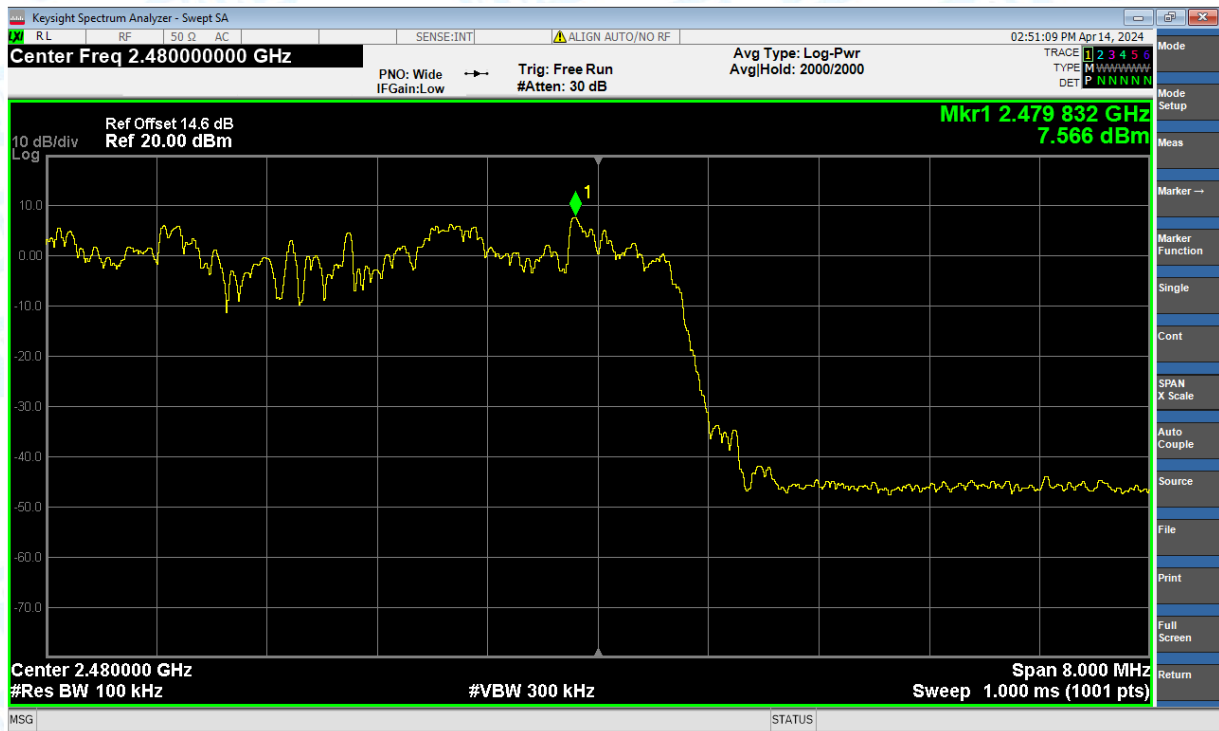
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



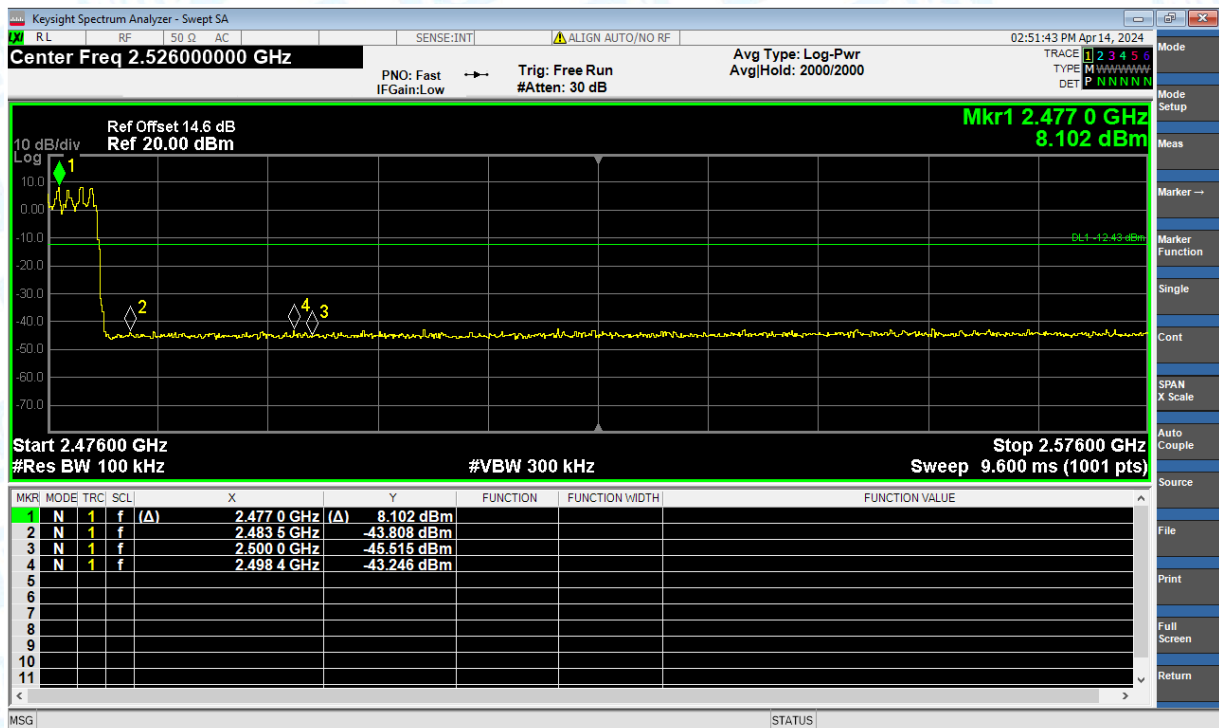
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



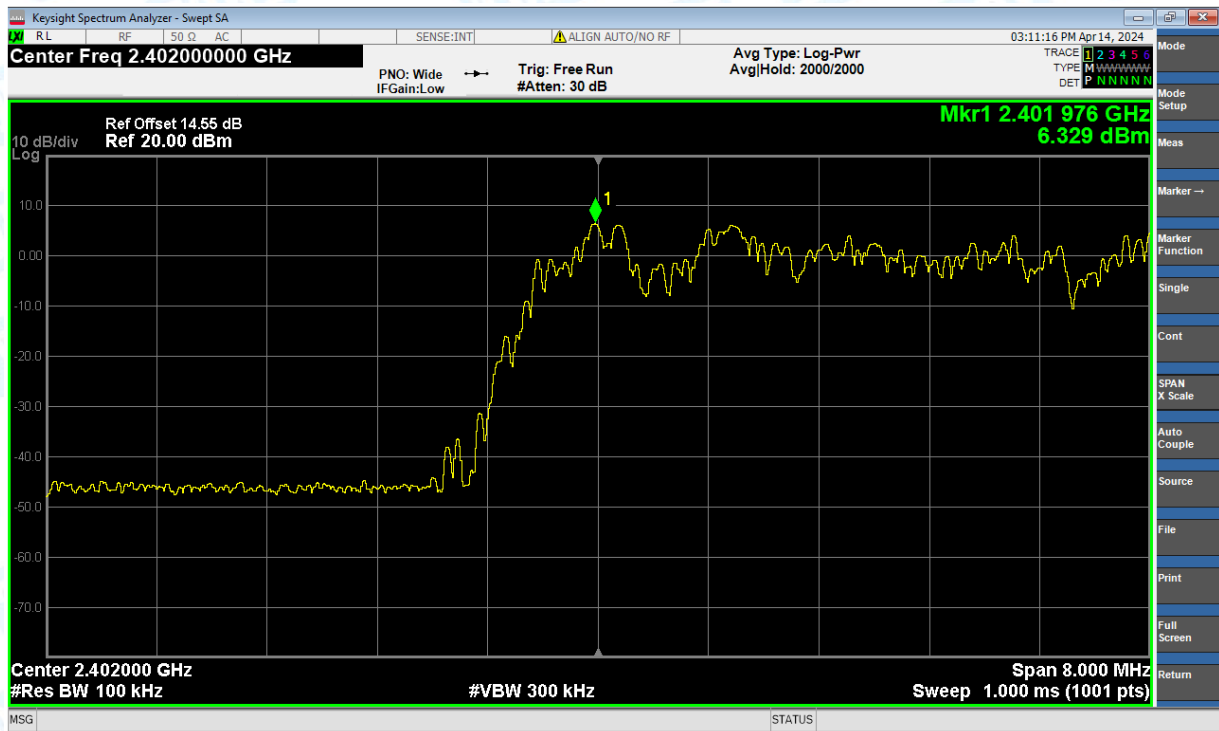
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



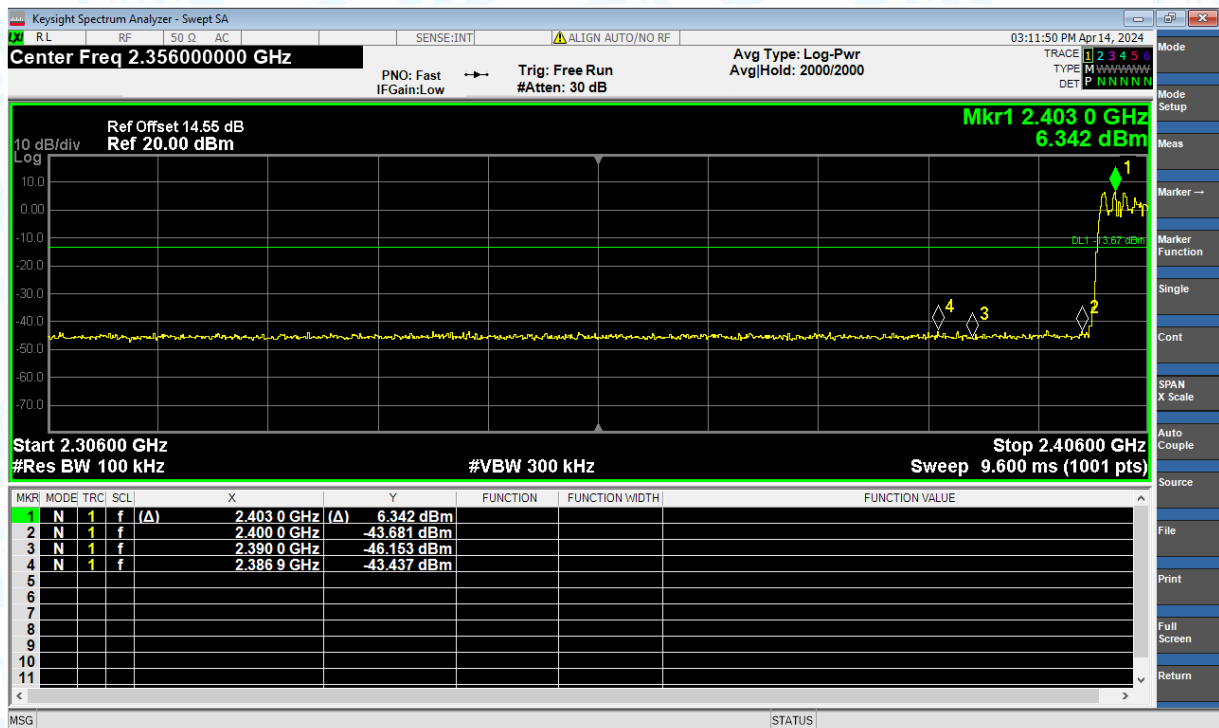
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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



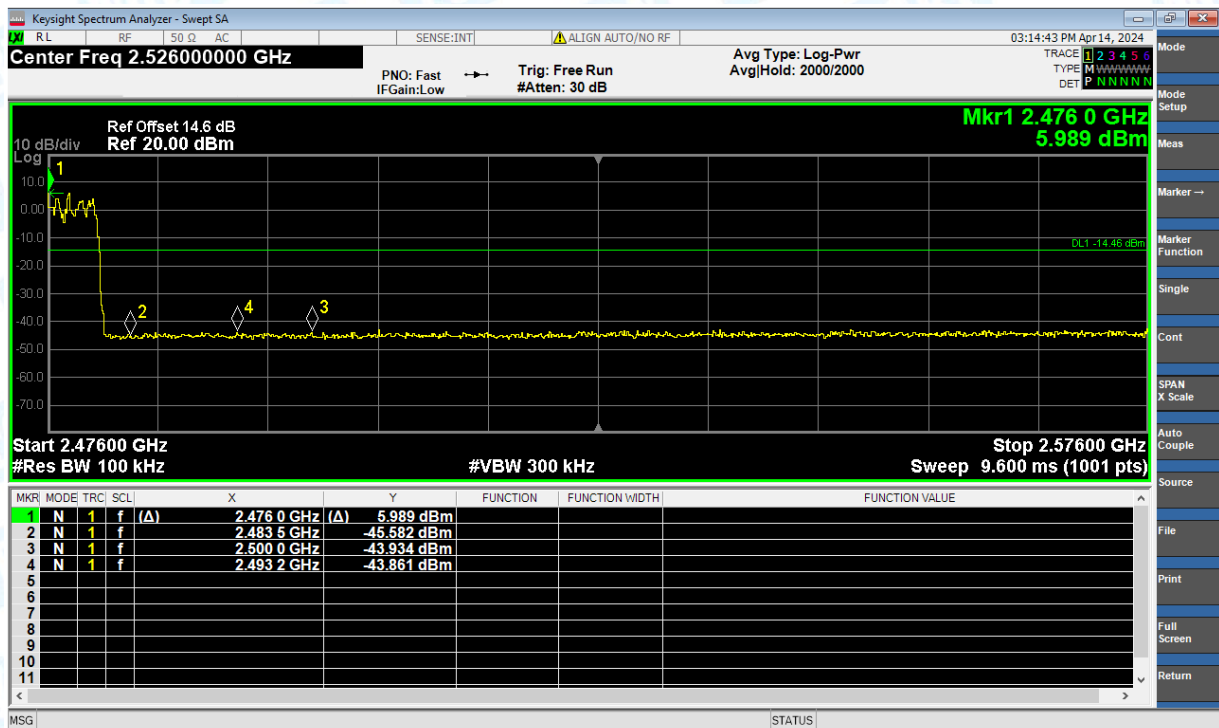
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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

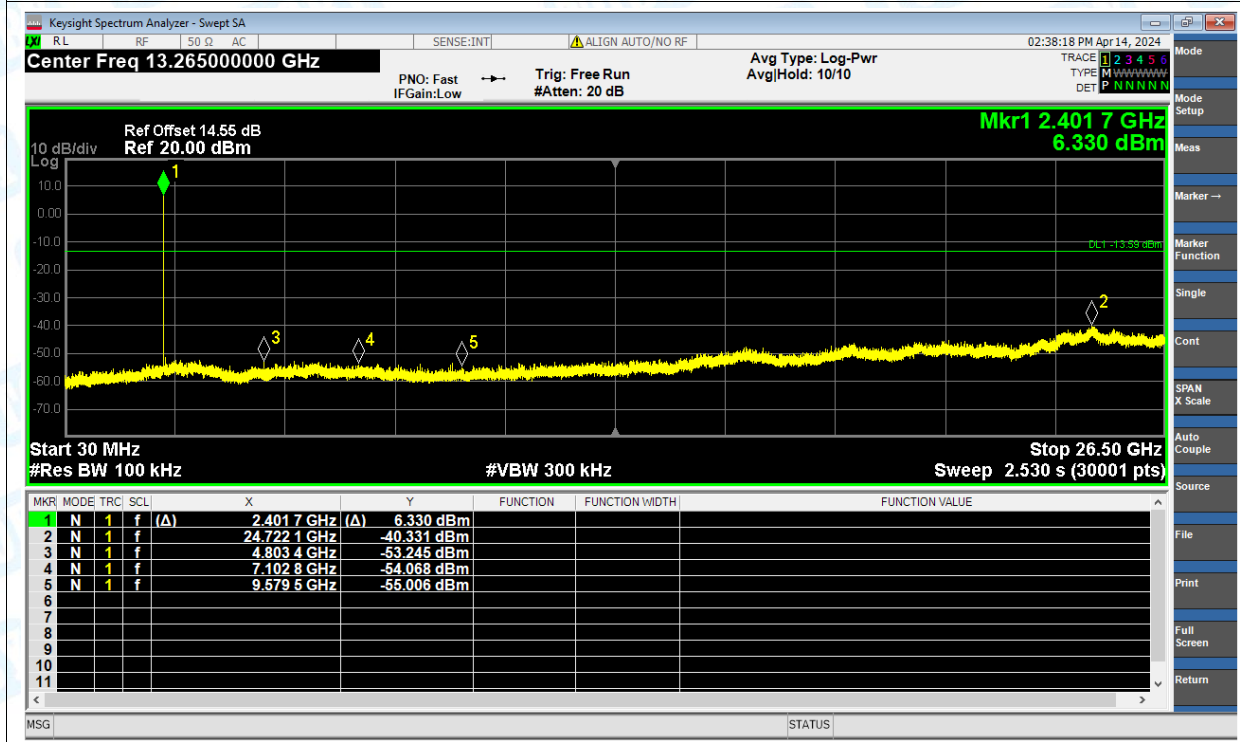
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-46.74	-20	Pass
NVNT	1-DH1	2441	Ant1	-45.04	-20	Pass
NVNT	1-DH1	2480	Ant1	-44.26	-20	Pass
NVNT	2-DH1	2402	Ant1	-45.84	-20	Pass
NVNT	2-DH1	2441	Ant1	-45.79	-20	Pass
NVNT	2-DH1	2480	Ant1	-44.88	-20	Pass
NVNT	3-DH1	2402	Ant1	-43.43	-20	Pass
NVNT	3-DH1	2441	Ant1	-43.36	-20	Pass
NVNT	3-DH1	2480	Ant1	-42.27	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



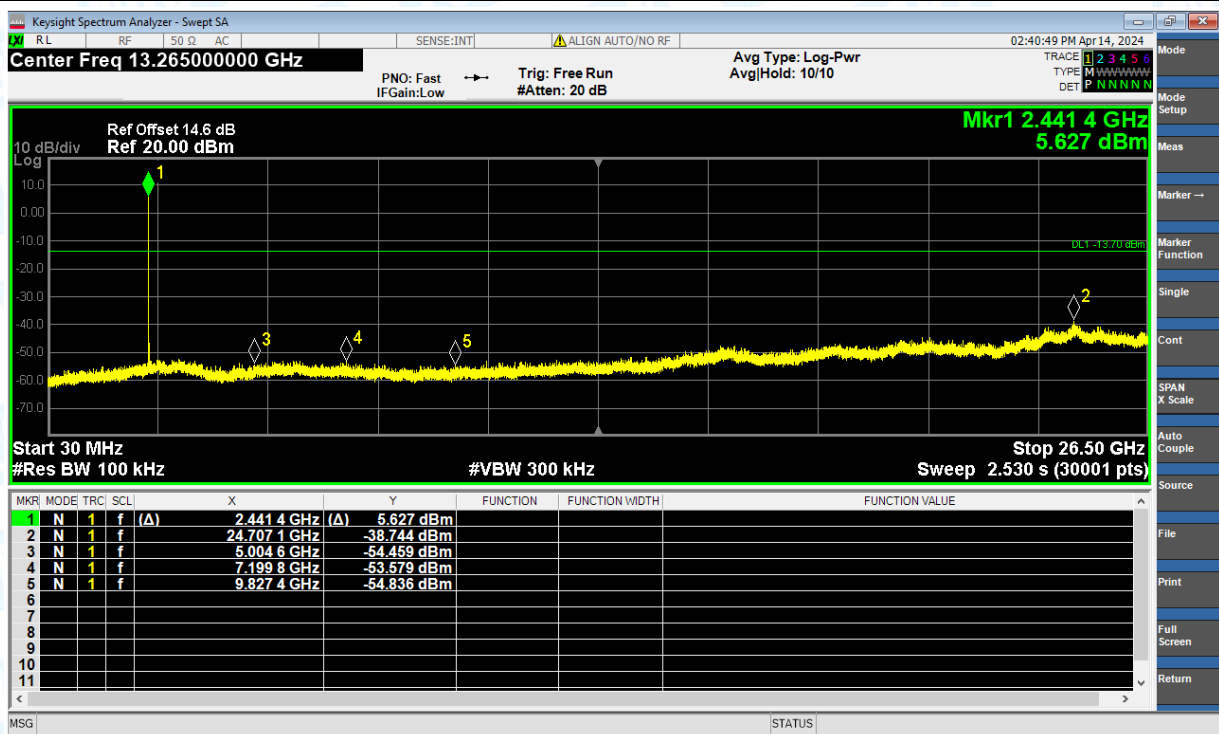
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



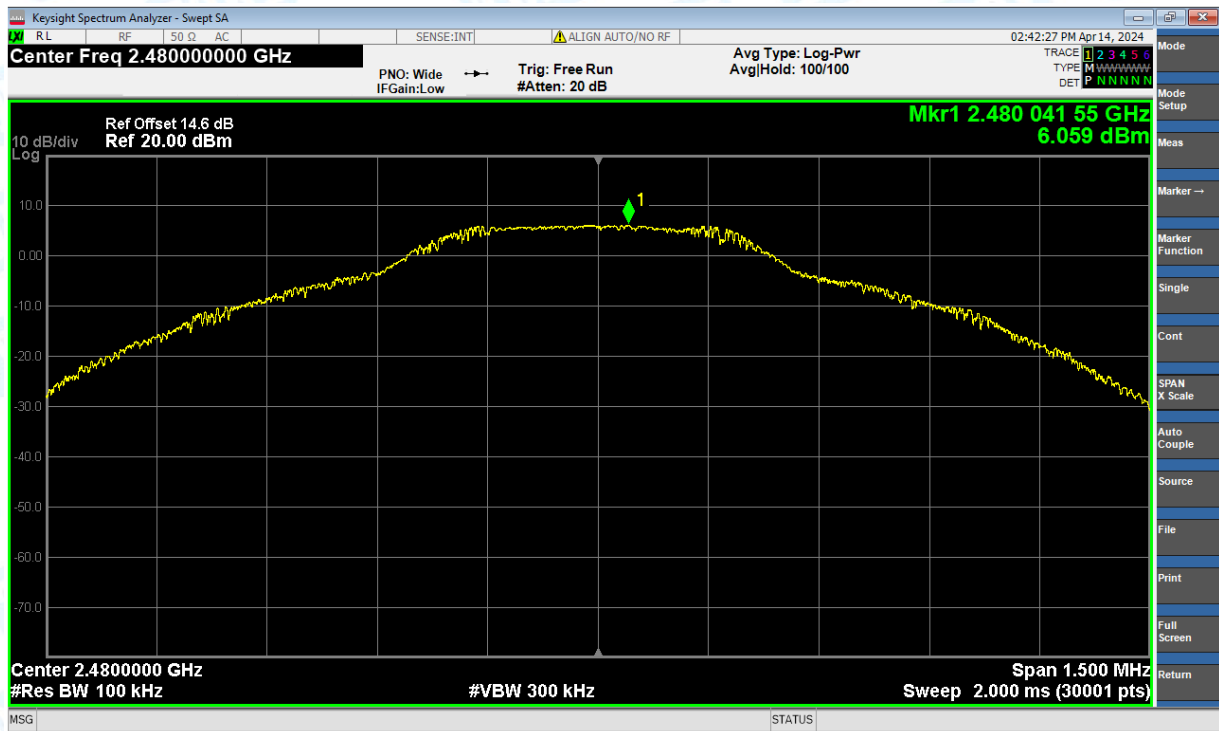
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



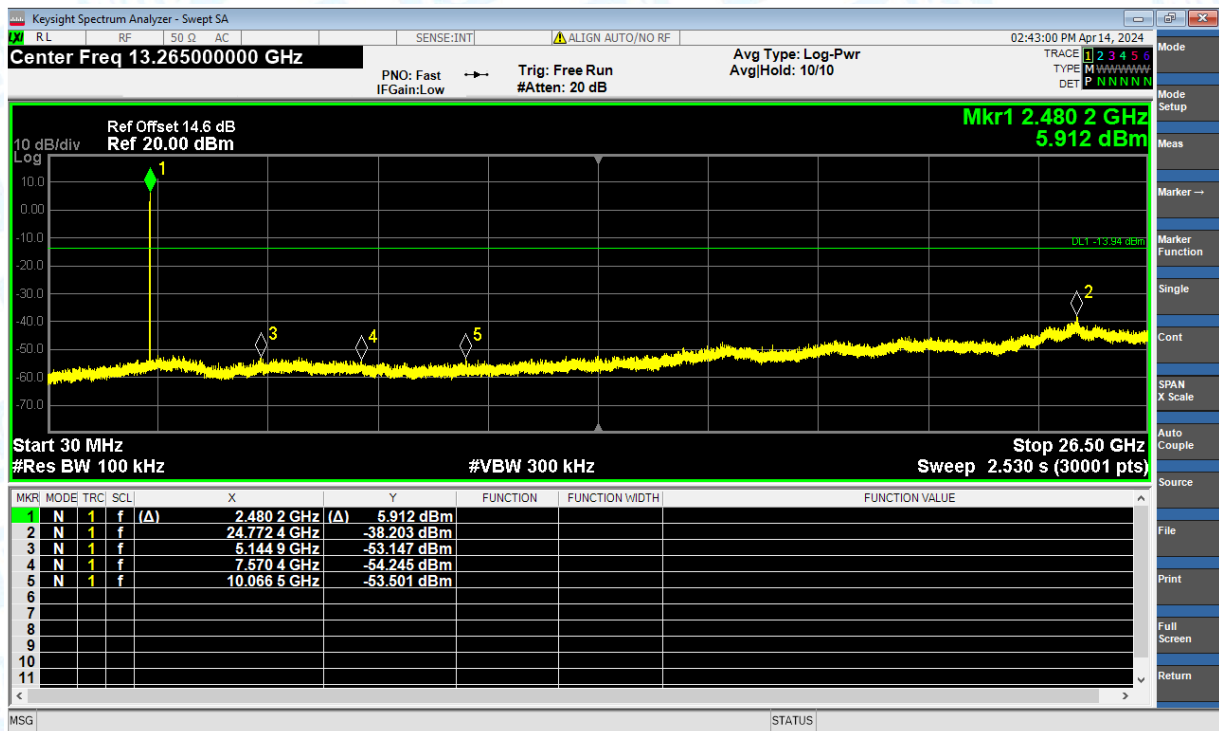
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



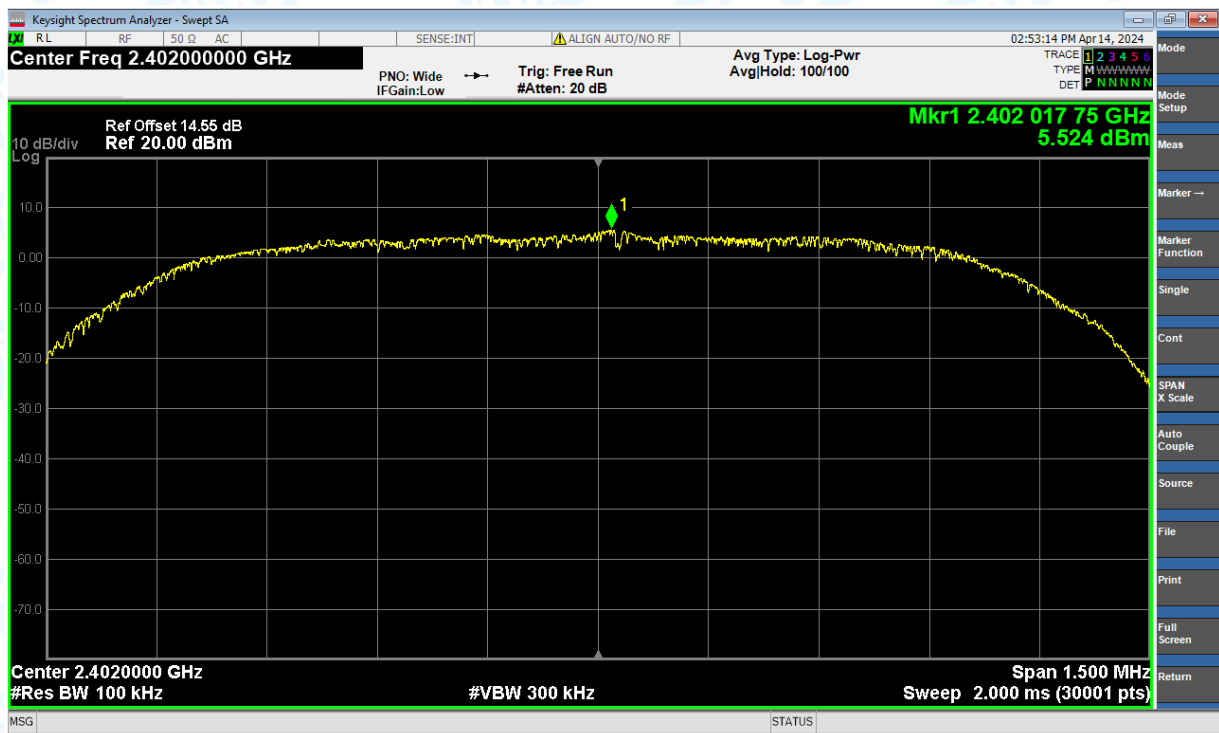
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



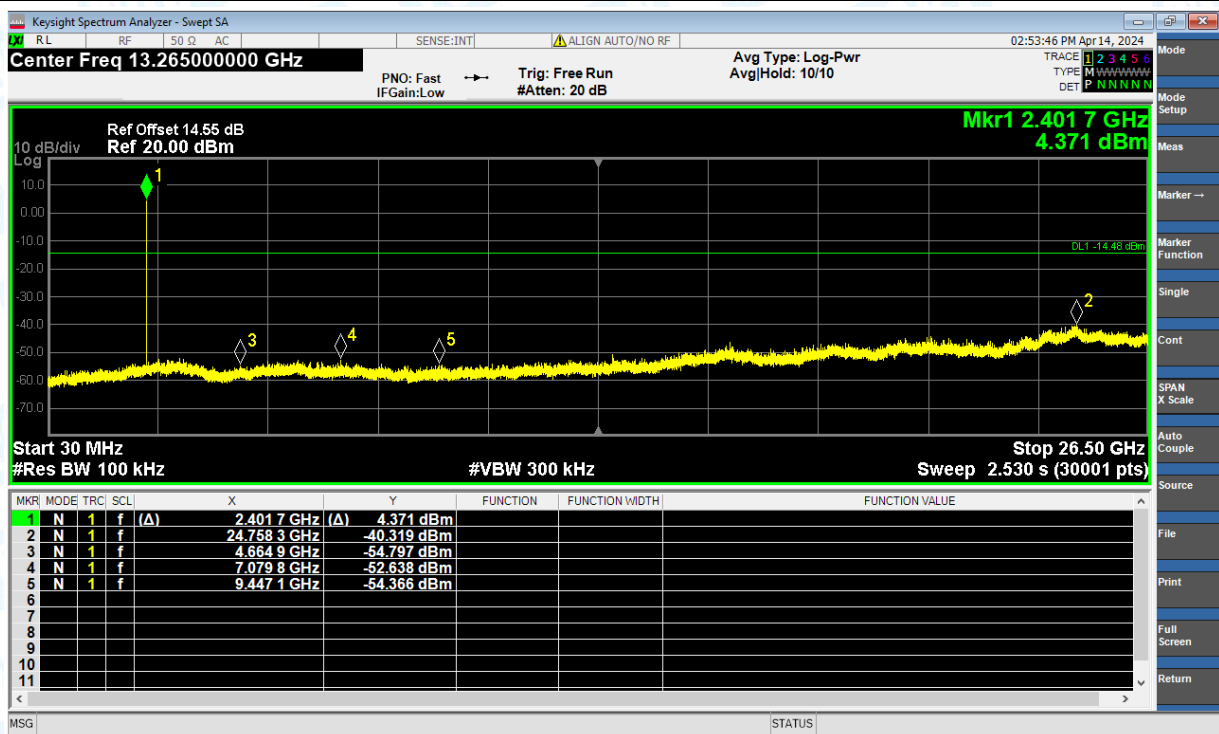
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



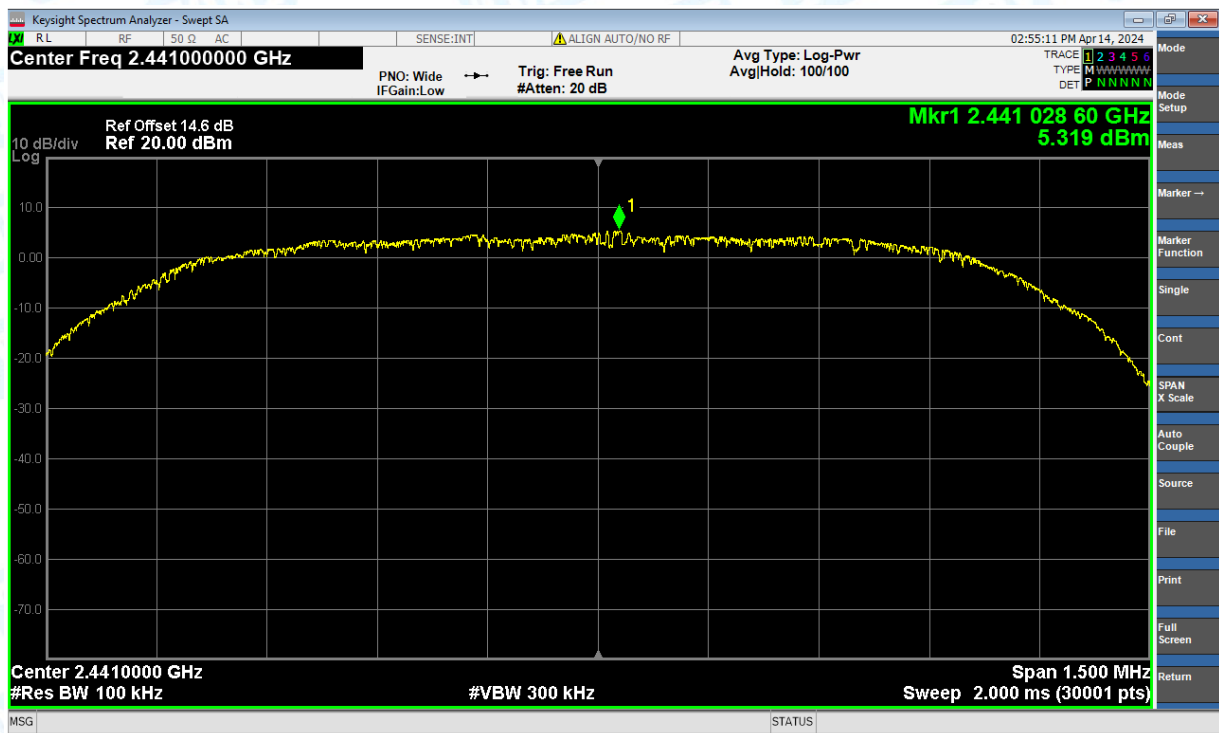
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



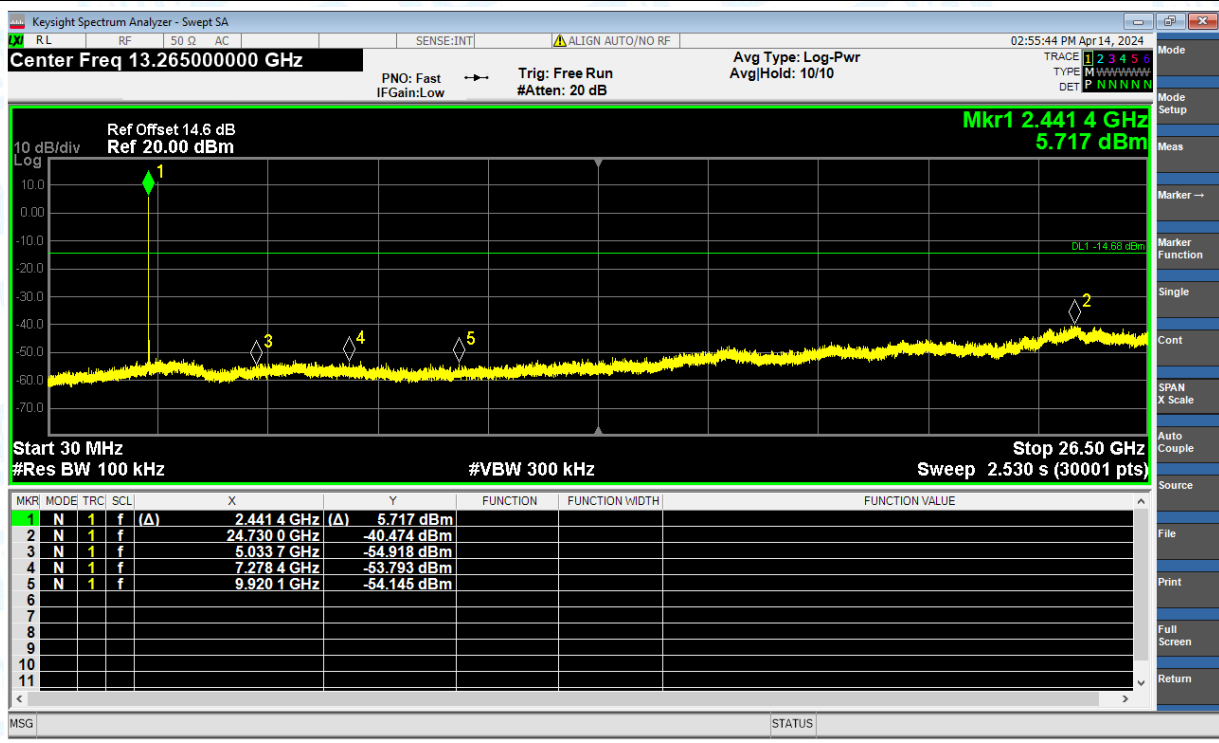
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



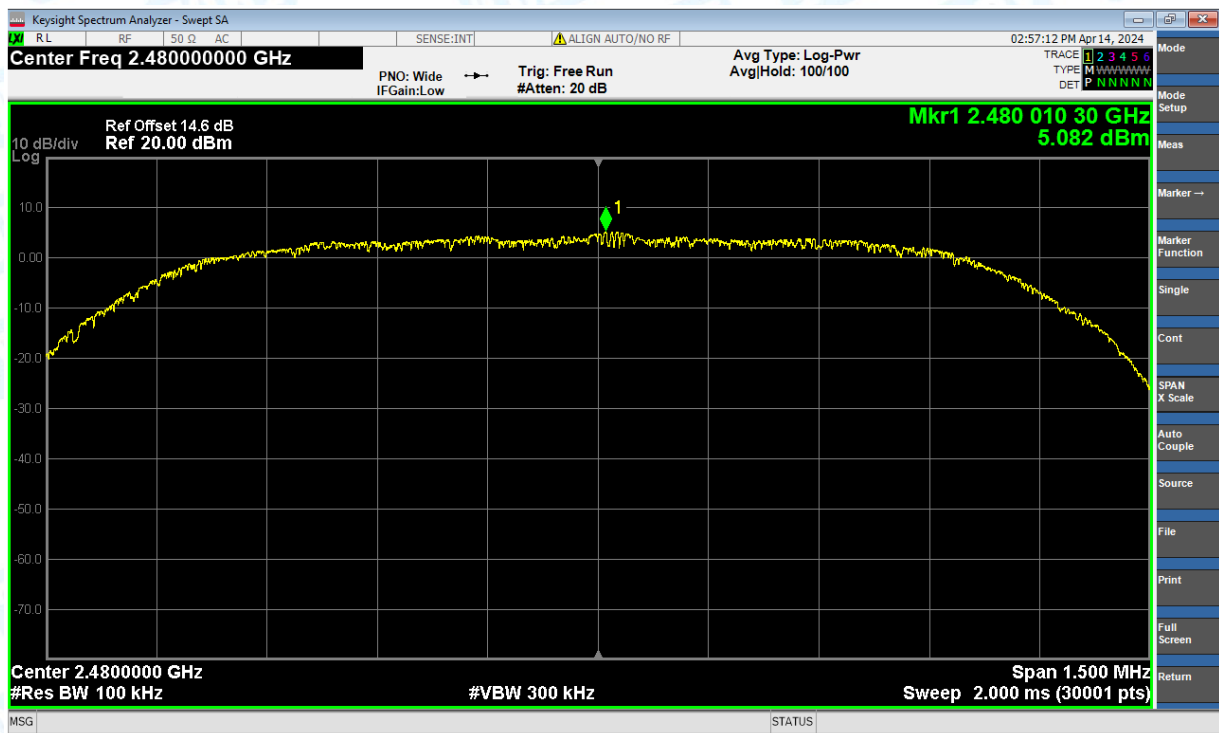
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



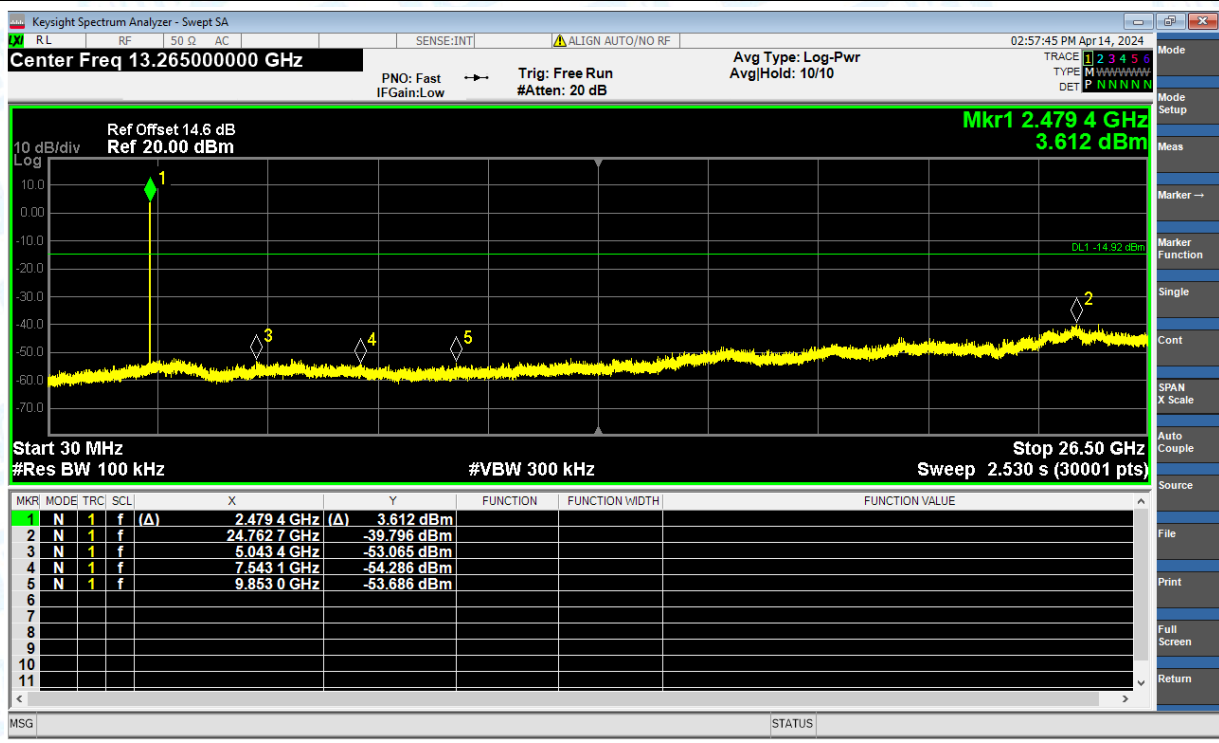
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



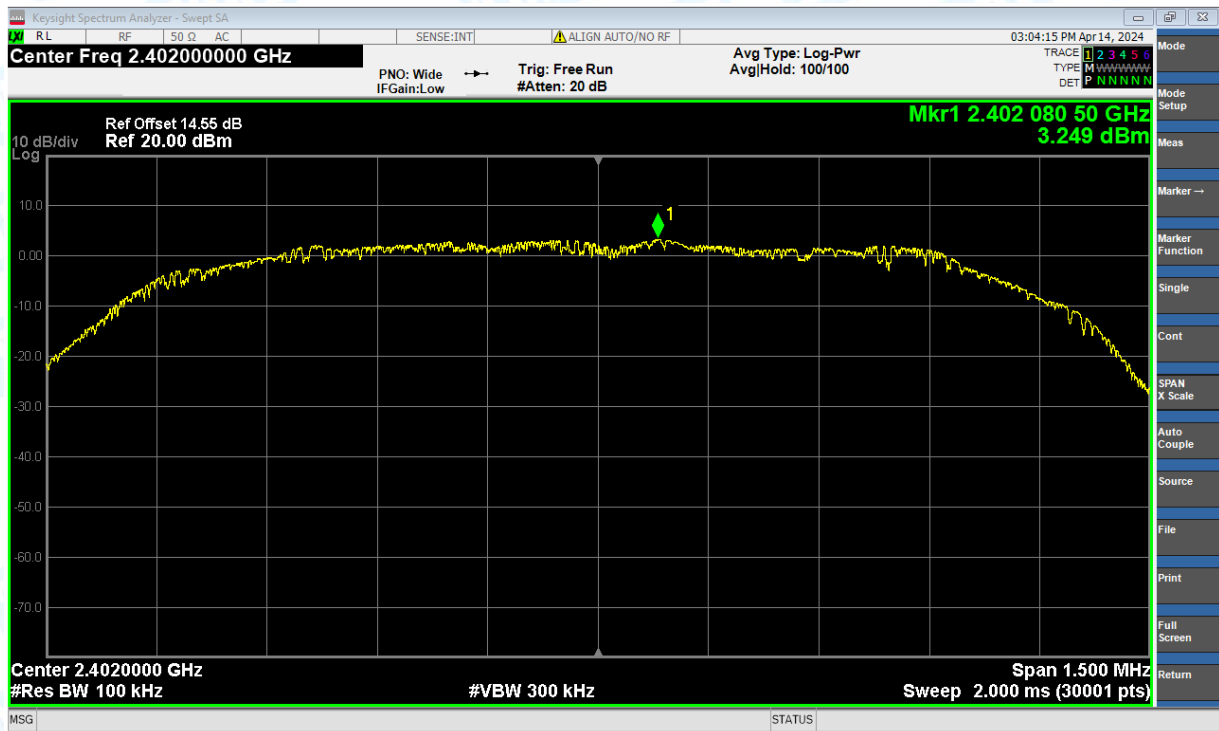
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



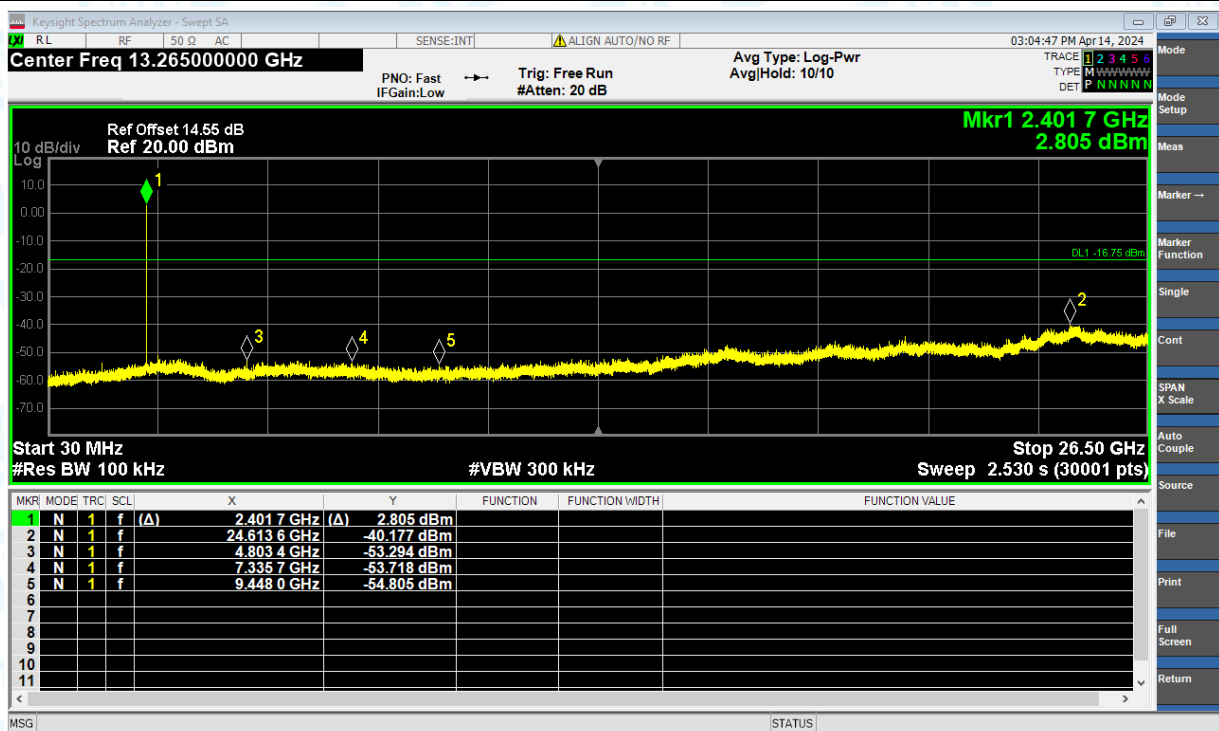
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



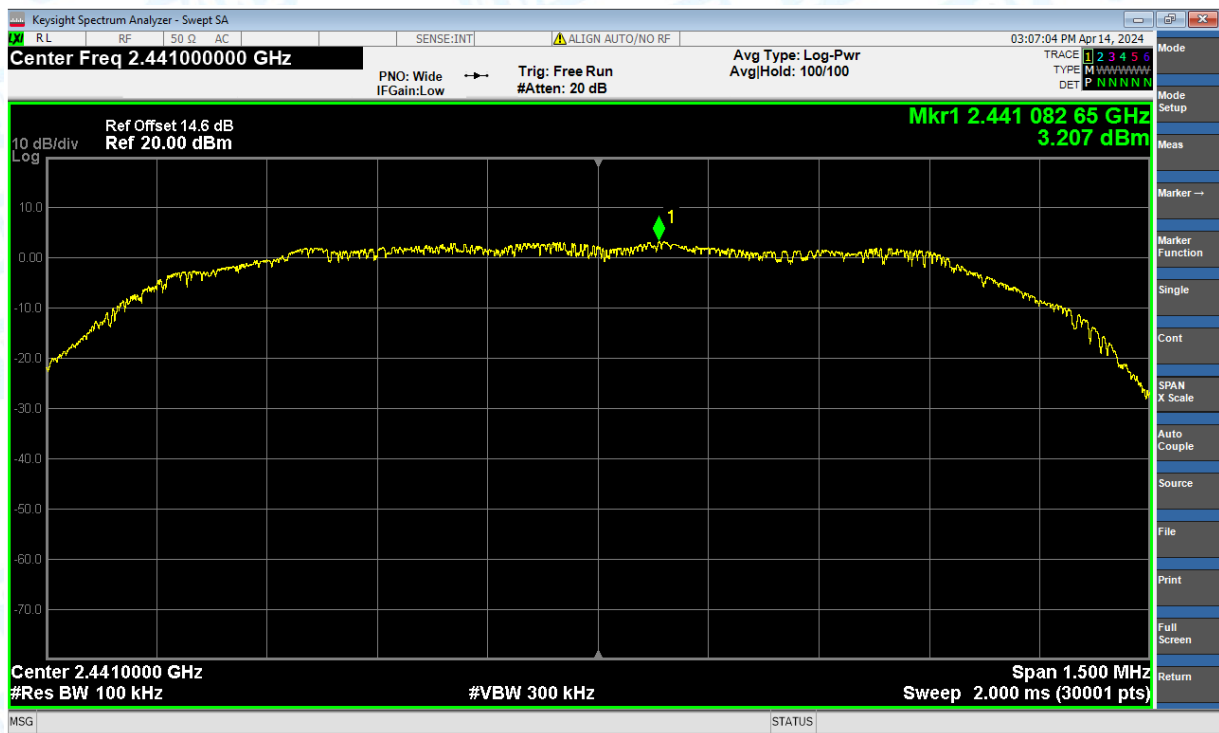
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



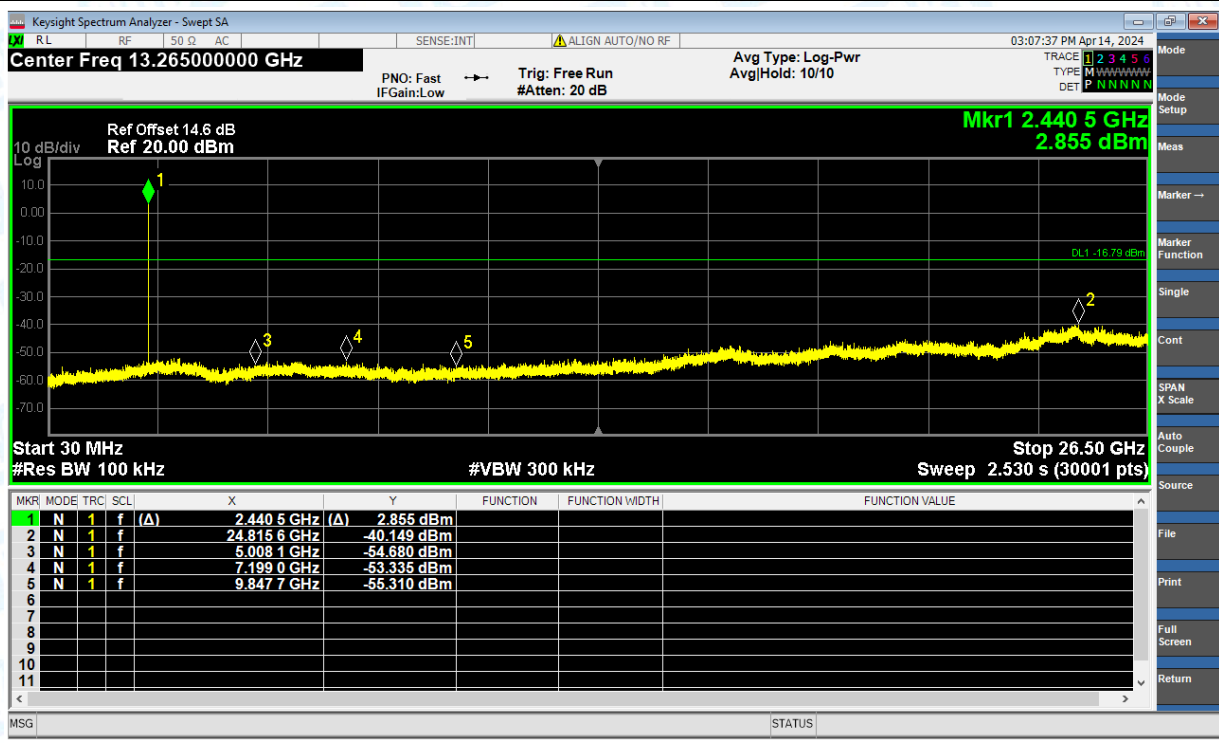
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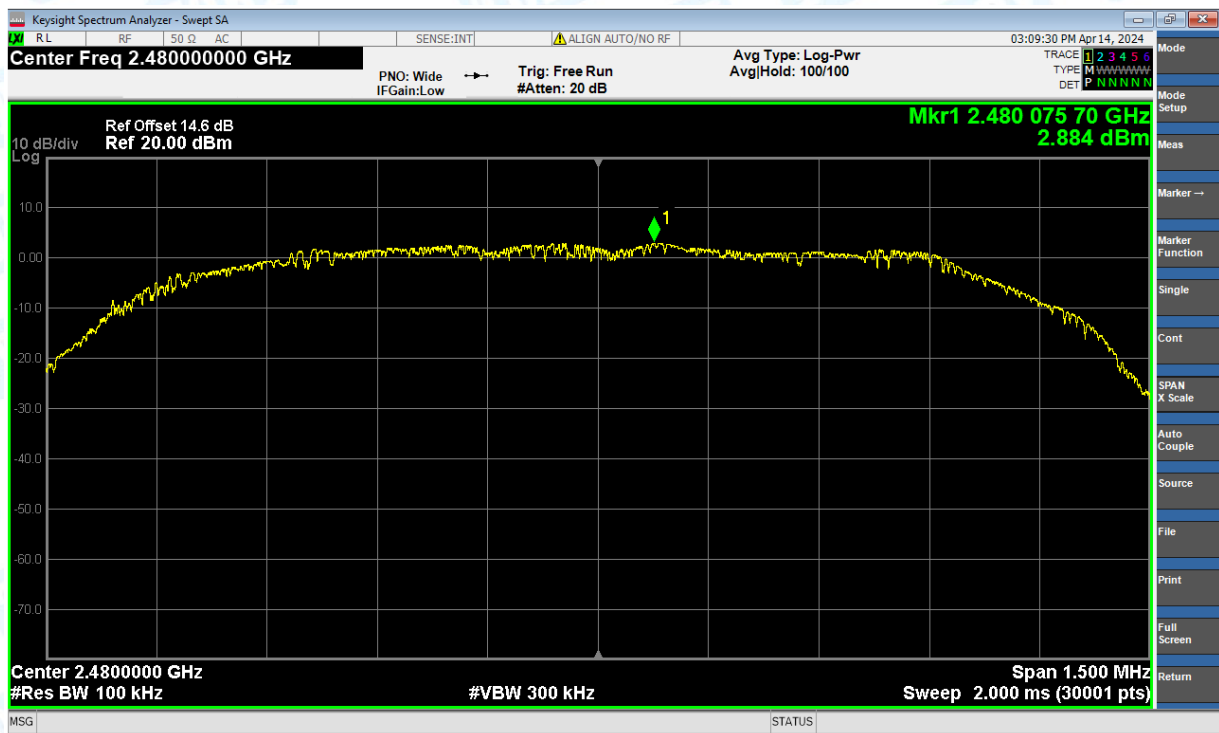
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

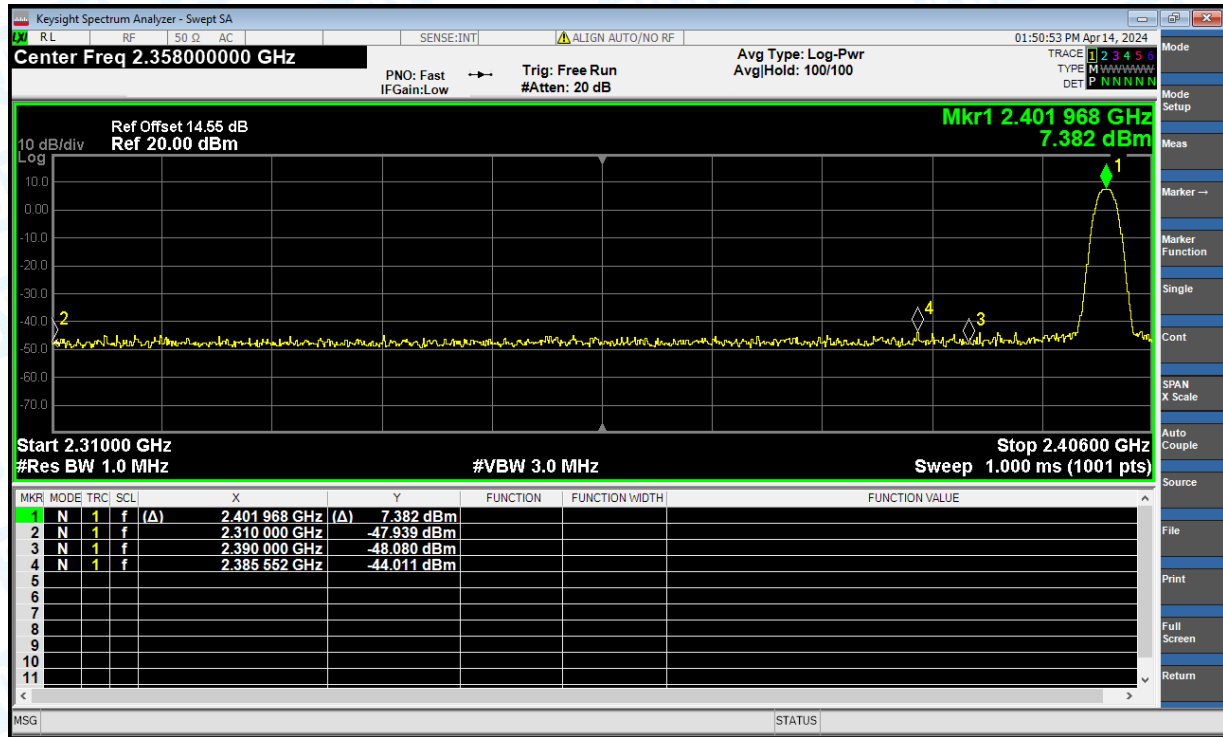


8. Restrict Band

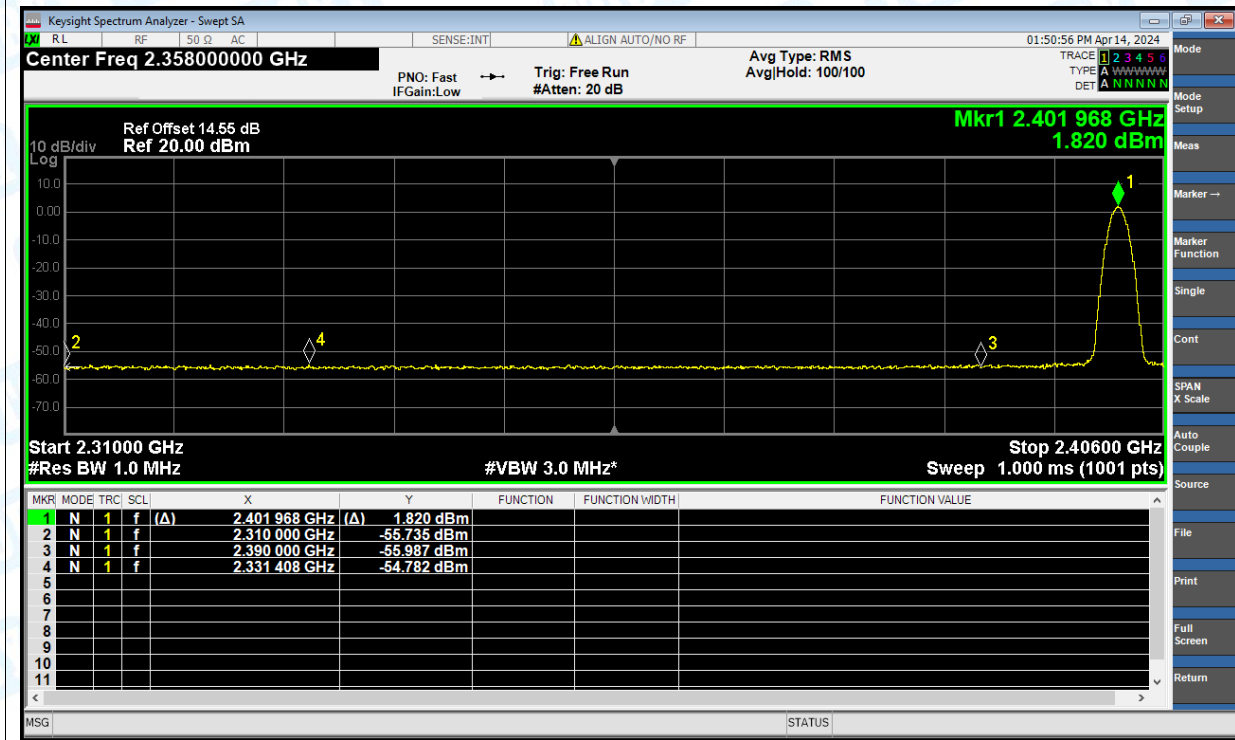
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.94	2	-	49.32	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-55.74	2	5.1	46.62	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2385.552	-44.01	2	-	53.25	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2331.408	-54.78	2	5.1	47.58	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.08	2	-	49.18	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.99	2	5.1	46.37	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-46.52	2	-	50.74	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.59	2	5.1	47.77	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2488.624	-44.27	2	-	52.99	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.776	-53.91	2	5.1	48.45	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.63	2	-	49.63	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-54.98	2	5.1	47.38	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-47.15	2	-	50.11	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.05	2	4.99	46.2	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2389.104	-44.2	2	-	53.06	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2386.704	-54.46	2	4.99	47.79	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-44.89	2	-	52.37	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-54.96	2	4.99	47.29	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-43.71	2	-	53.55	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-53.9	2	5.02	48.38	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2485.864	-43.07	2	-	54.19	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-53.9	2	5.02	48.38	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-48.23	2	-	49.03	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.64	2	5.02	46.64	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.46	2	-	48.8	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-55.41	2	5.02	46.87	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2389.488	-44.1	2	-	53.16	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2362.416	-54.78	2	5.02	47.5	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-45.82	2	-	51.44	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.53	2	5.02	46.75	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-45.76	2	-	51.5	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-53.86	2	4.99	48.39	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.208	-43.55	2	-	53.71	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.536	-53.36	2	4.99	48.89	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.57	2	-	50.69	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.58	2	4.99	46.67	Average	54	Pass

Test Graphs

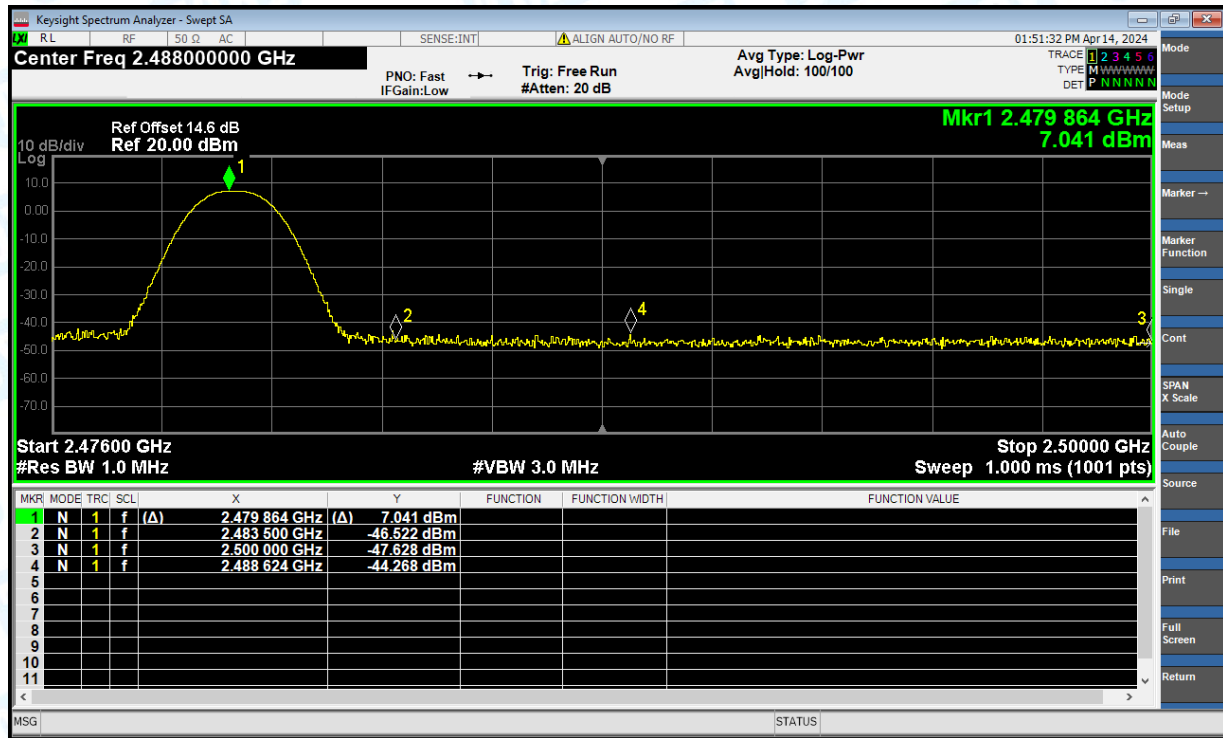
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



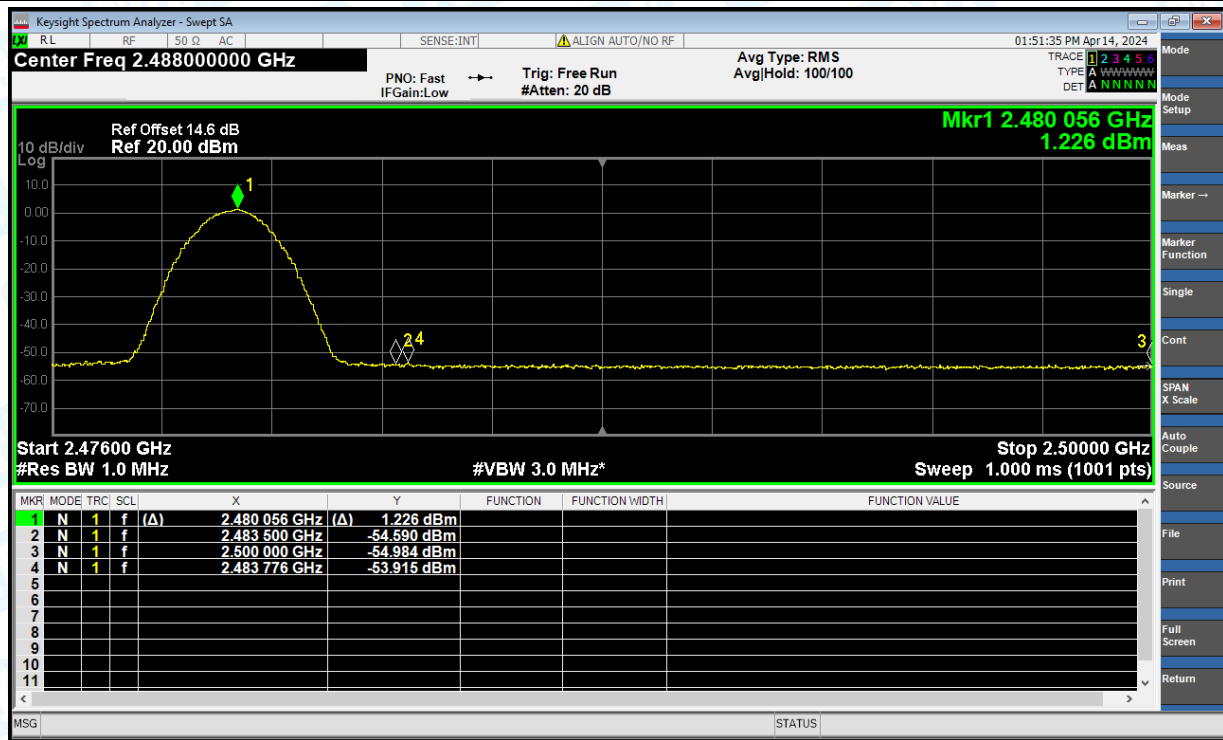
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



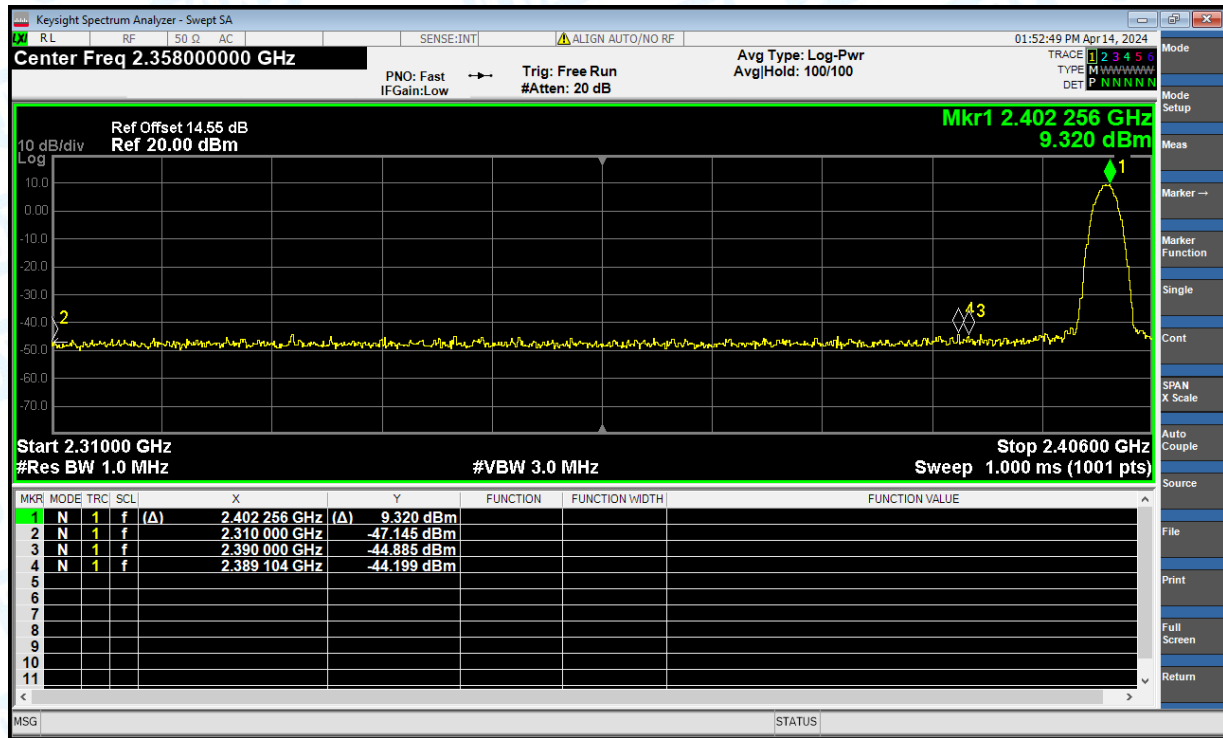
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



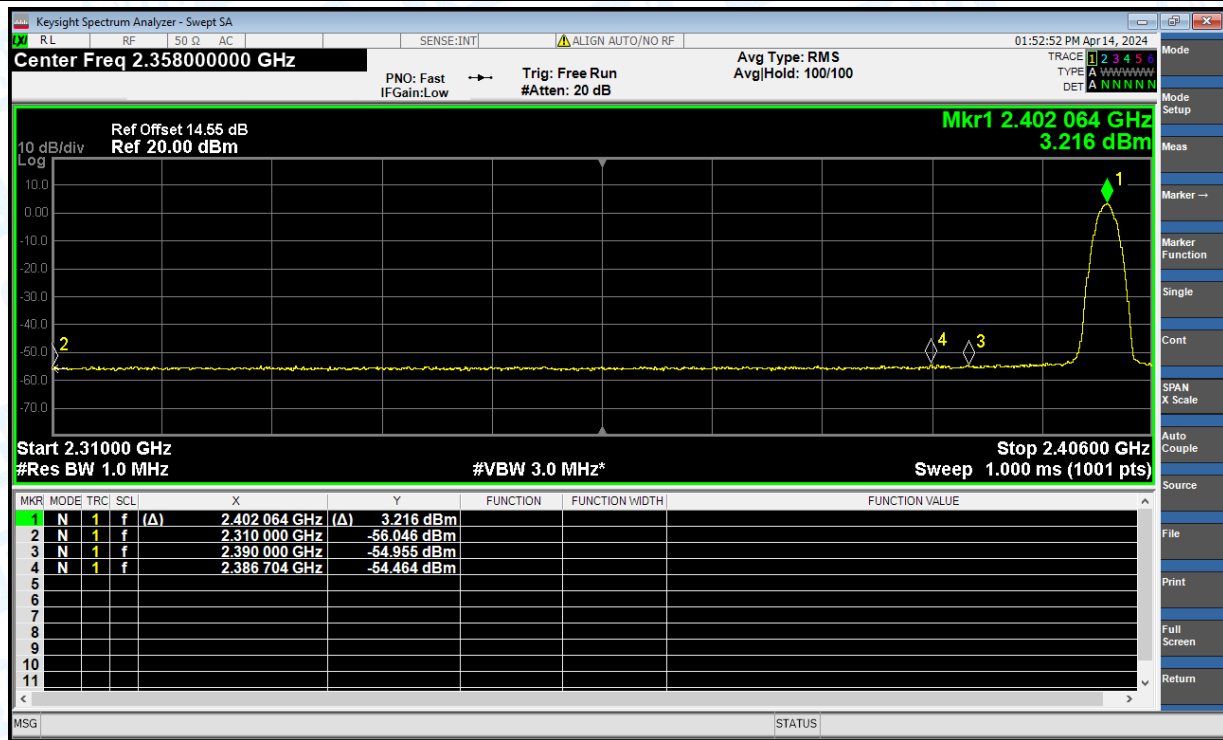
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



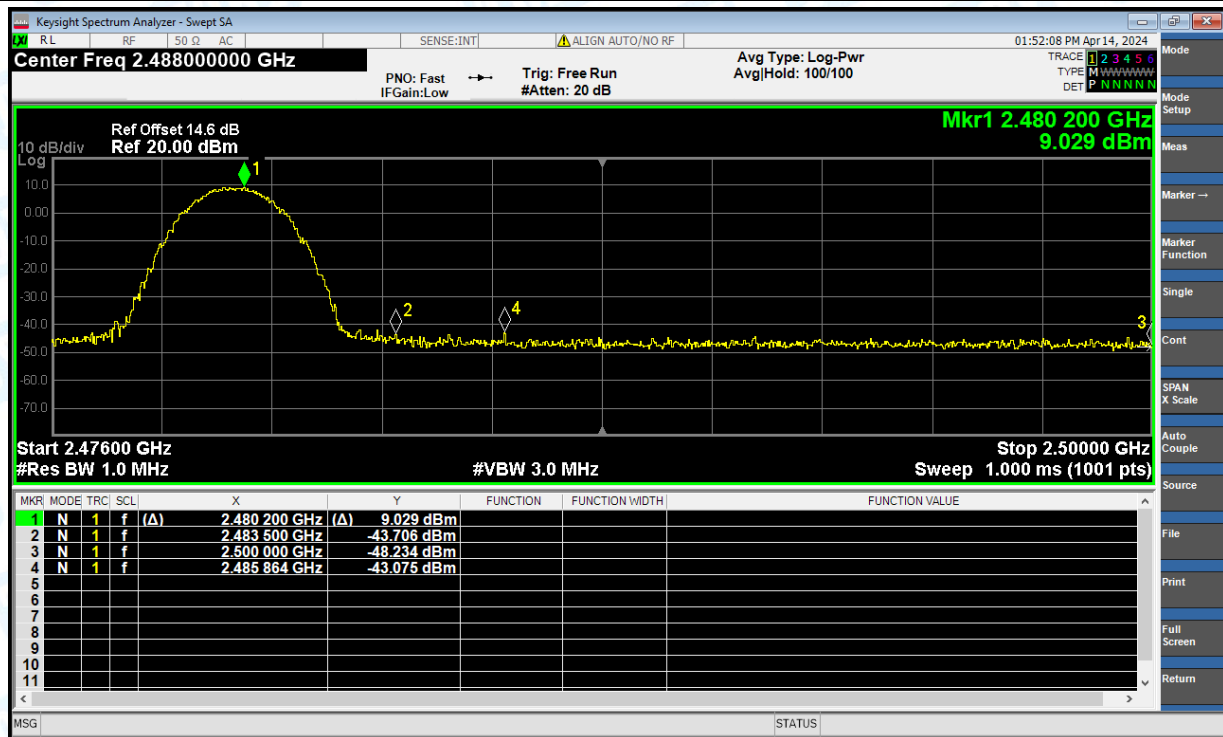
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



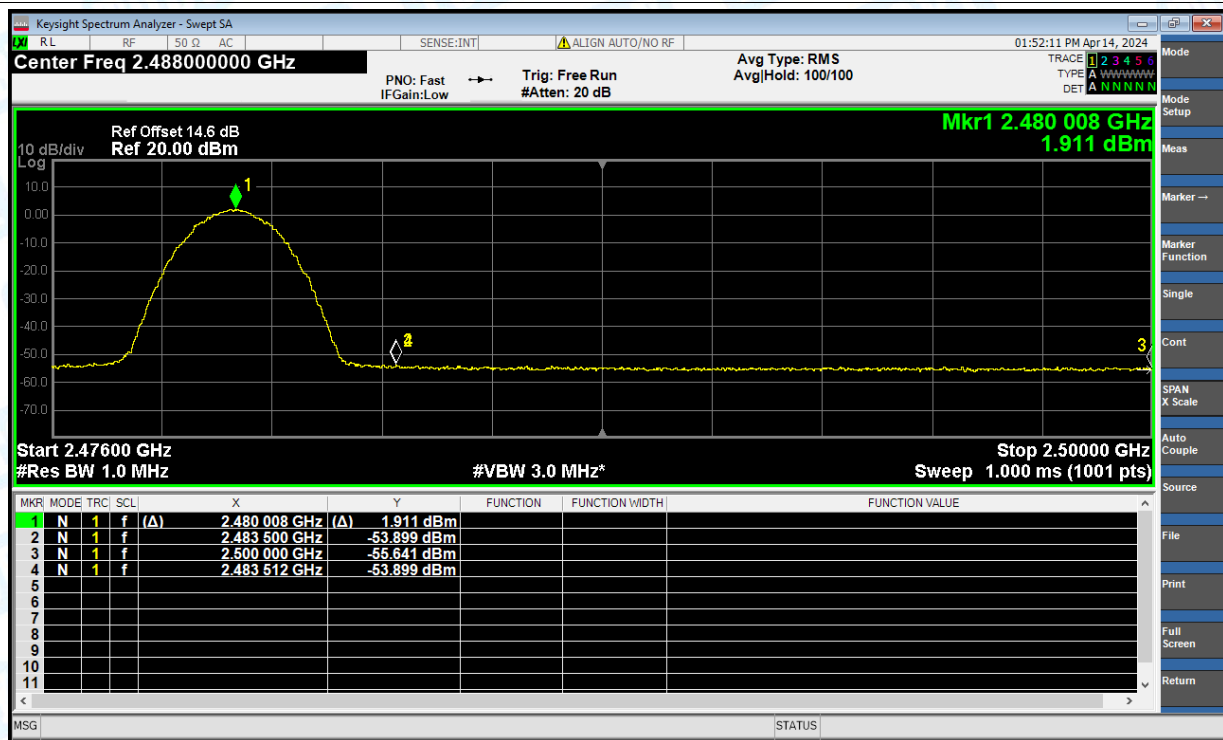
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



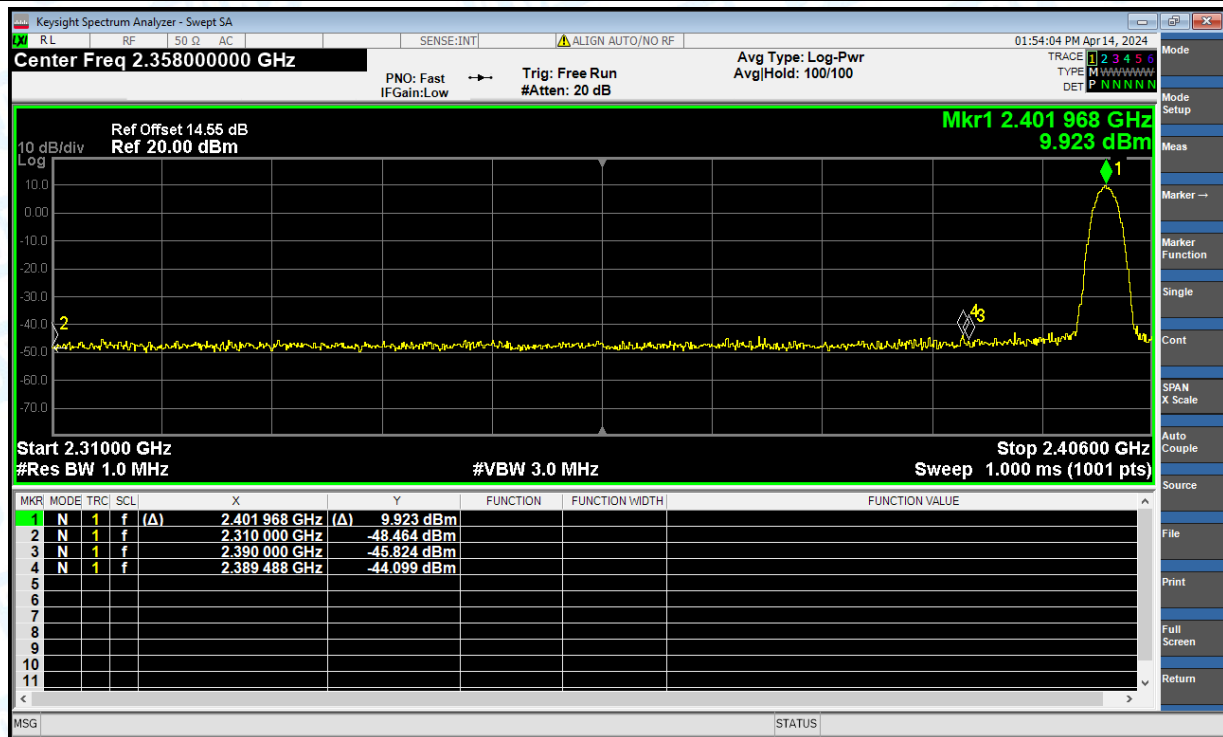
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



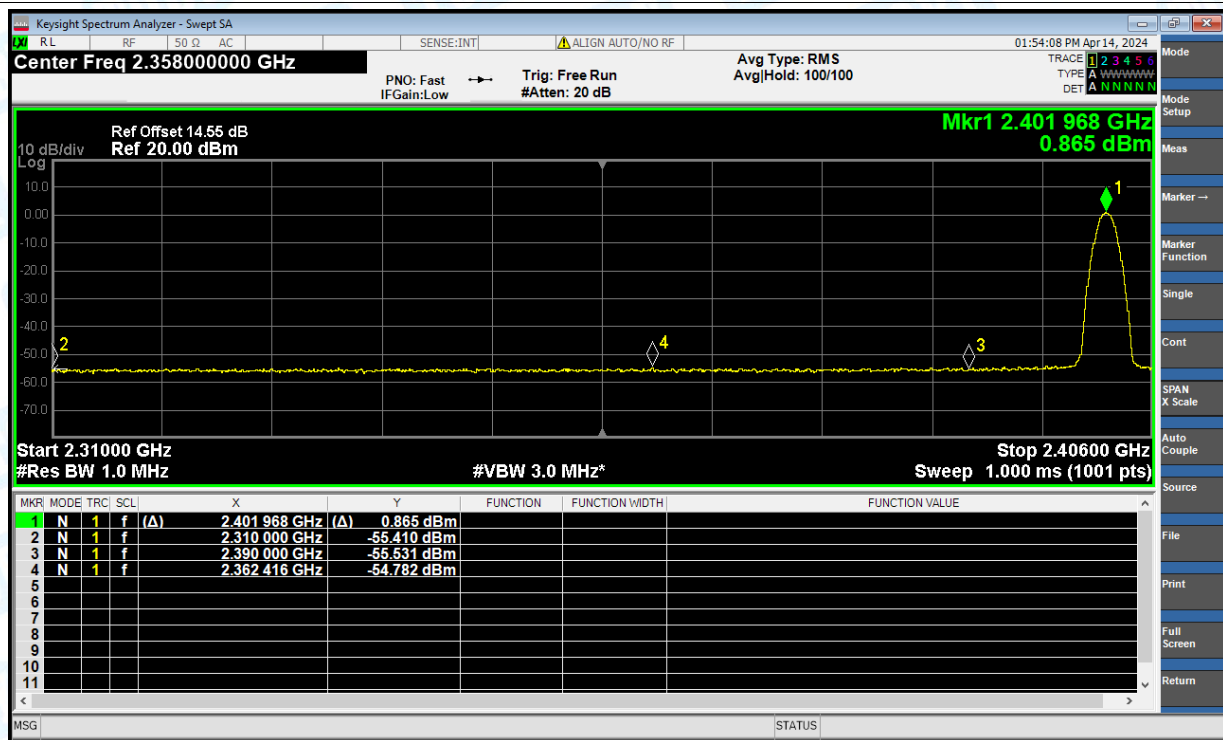
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



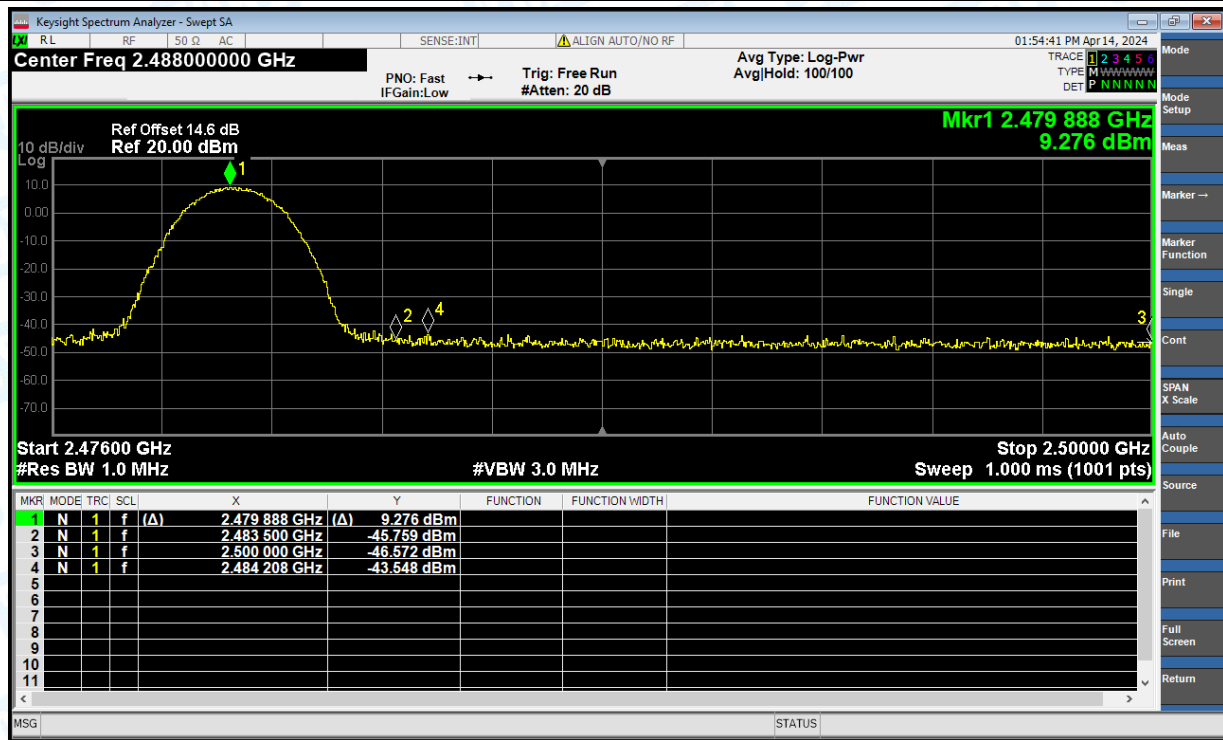
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



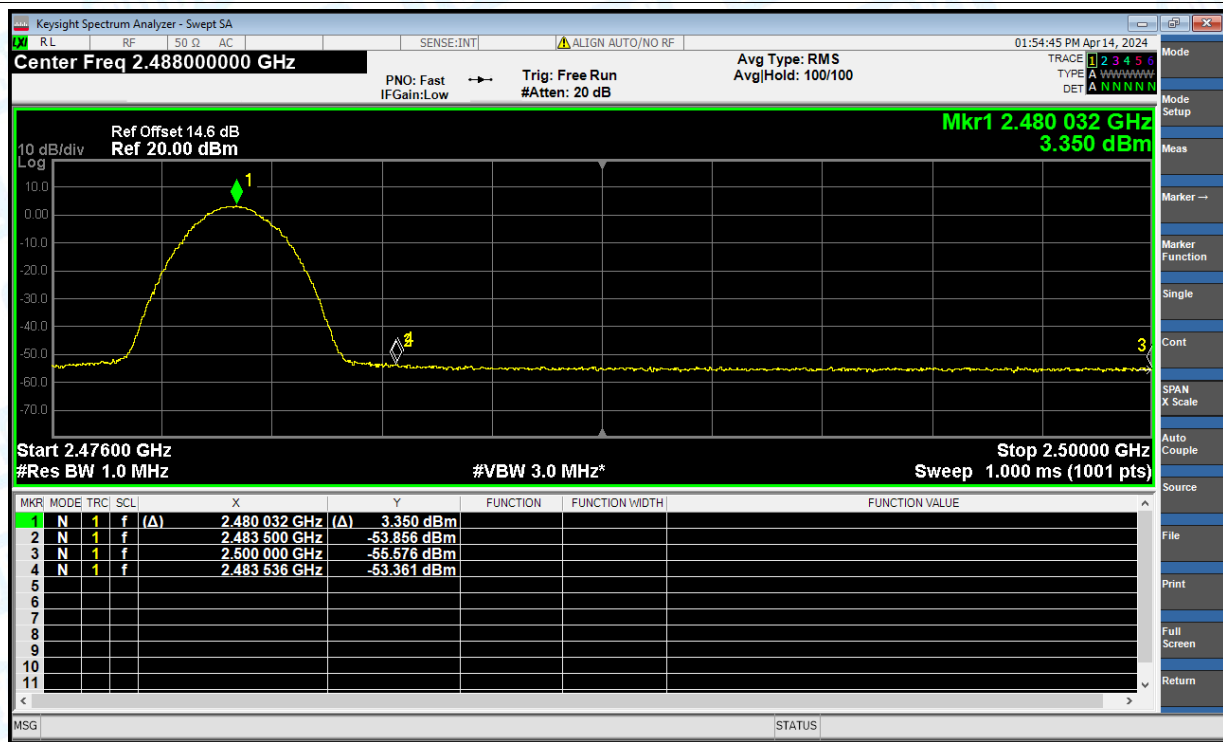
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

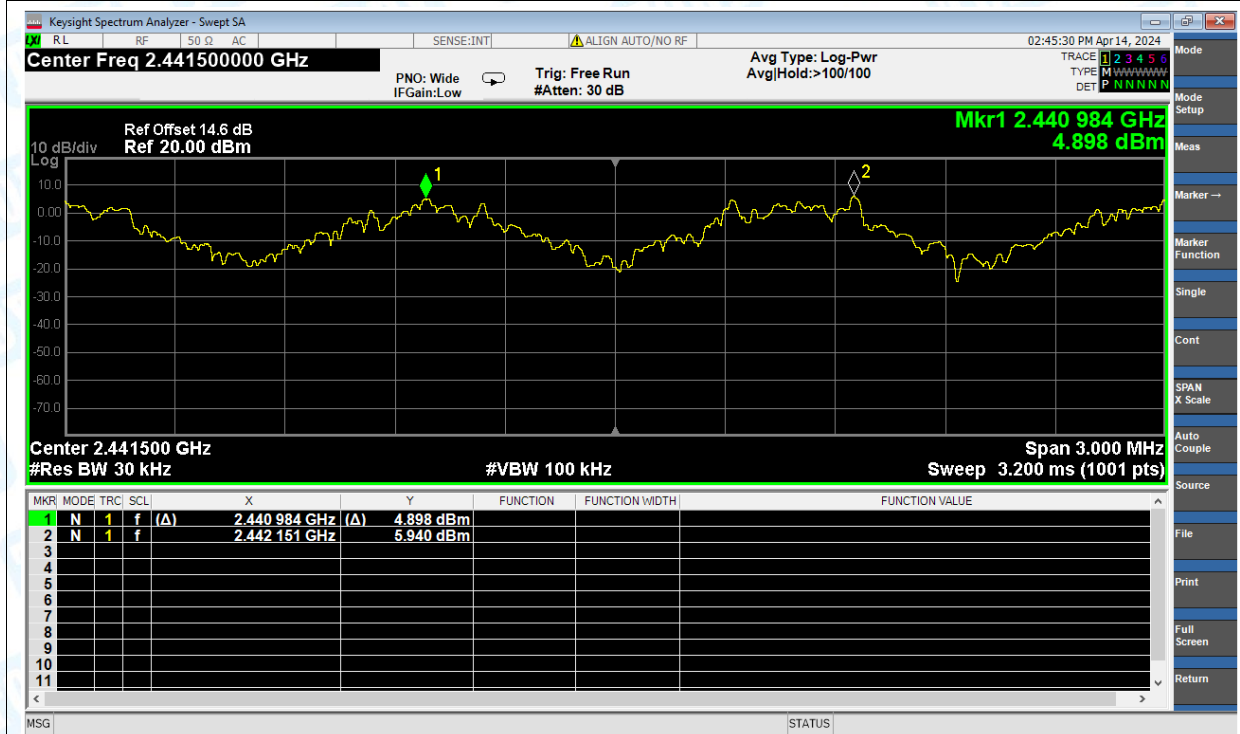


9. Carrier Frequencies Separation

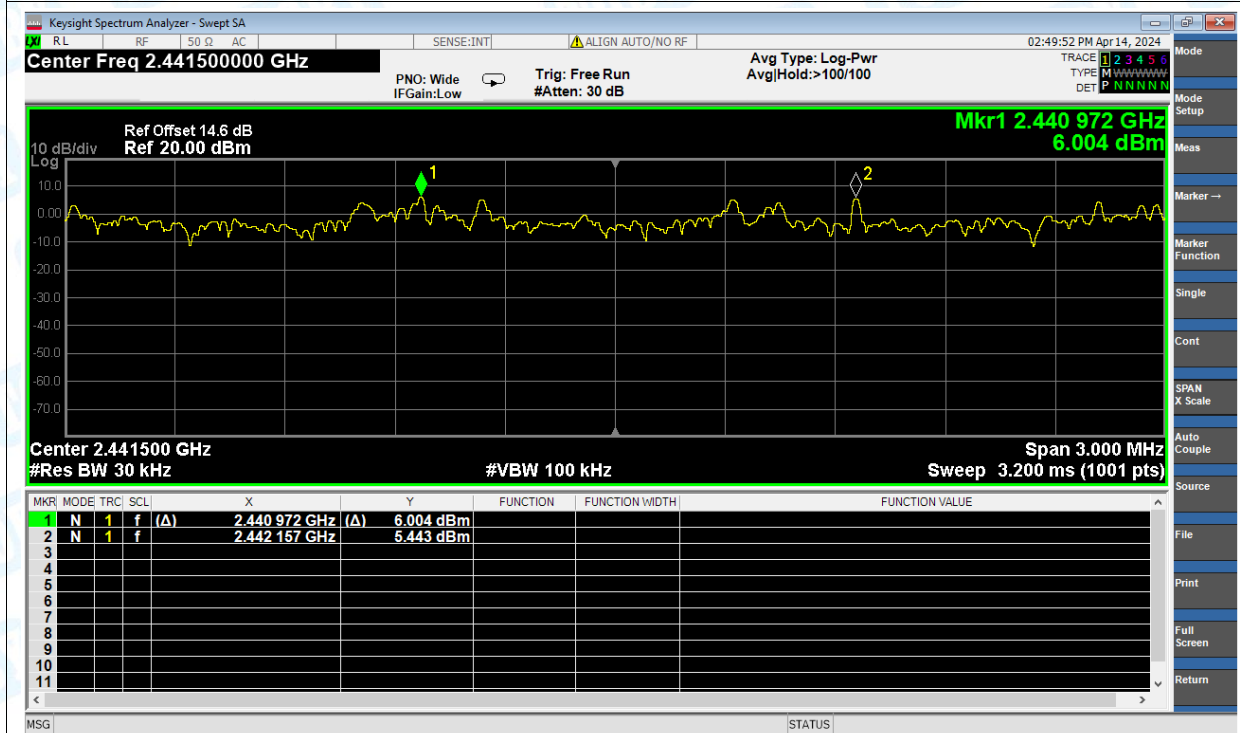
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.984	2442.151	1.167	0.64	Pass
NVNT	2-DH1	Ant1	2440.972	2442.157	1.185	0.025	Pass
NVNT	3-DH1	Ant1	2440.813	2441.98	1.167	0.9	Pass

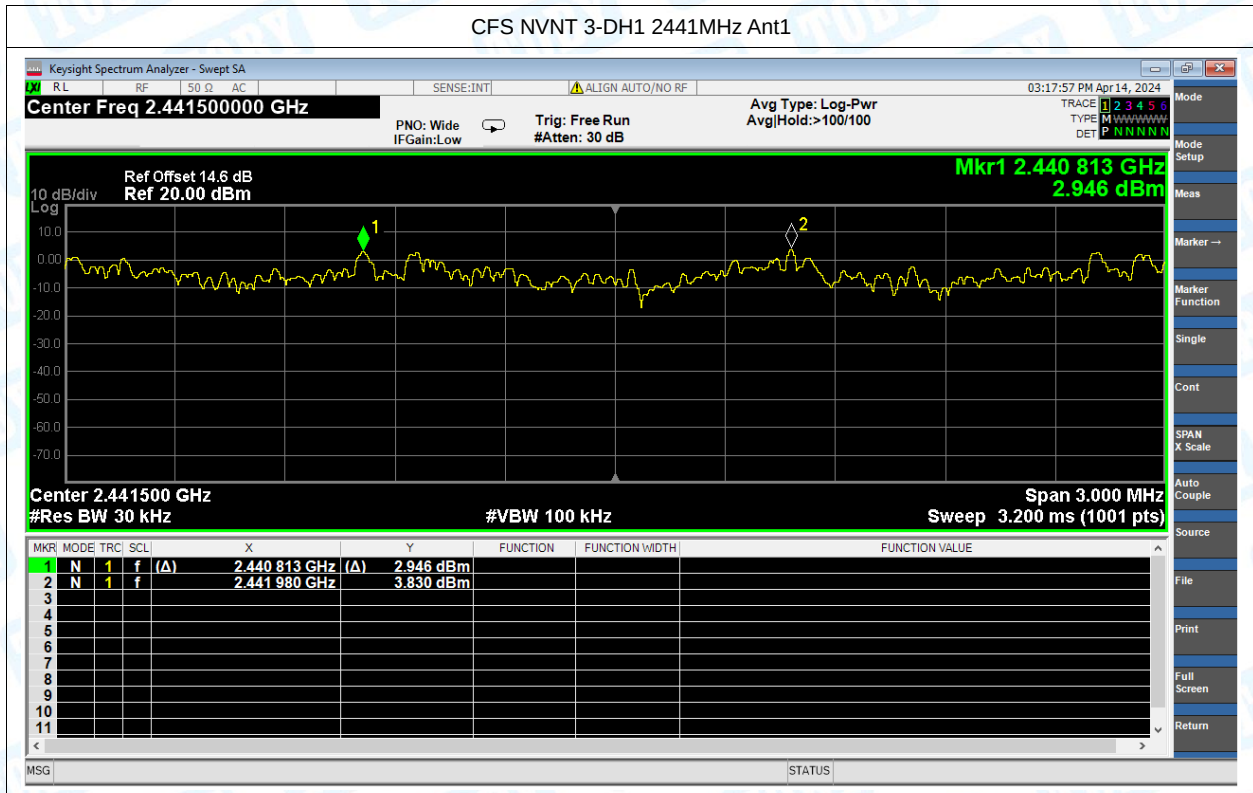
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



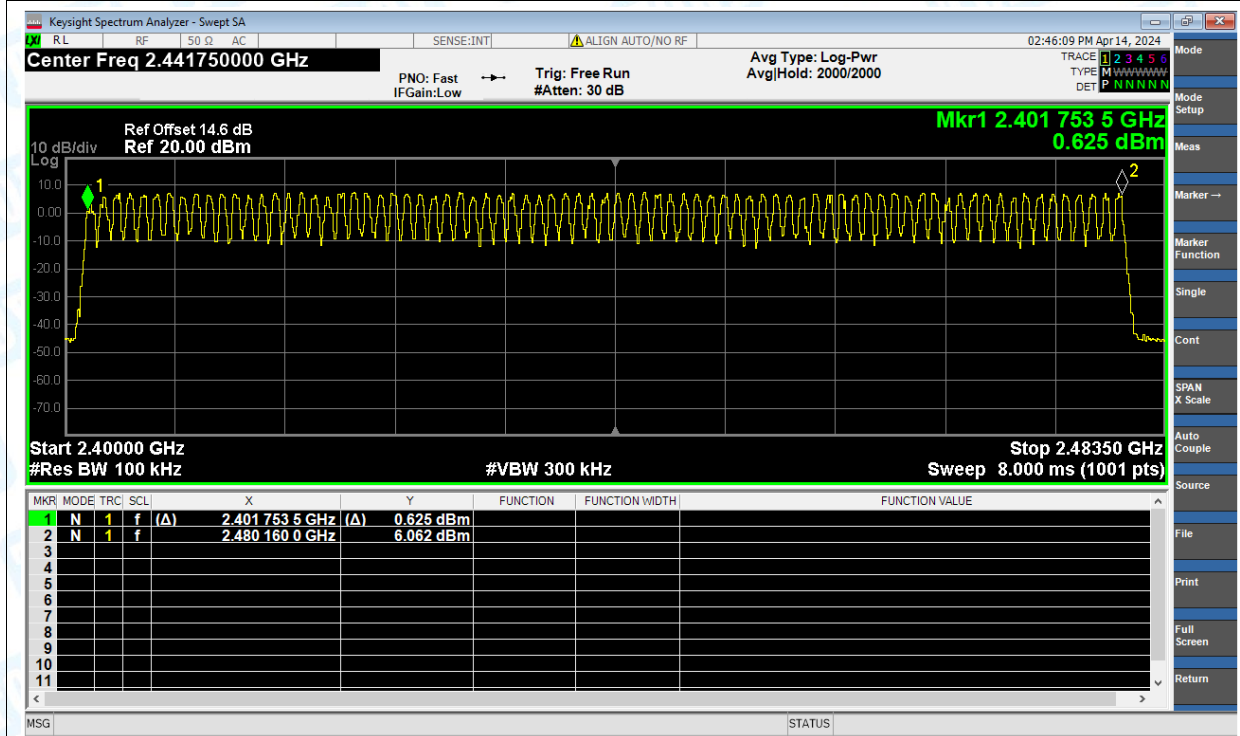


10. Number of Hopping Channel

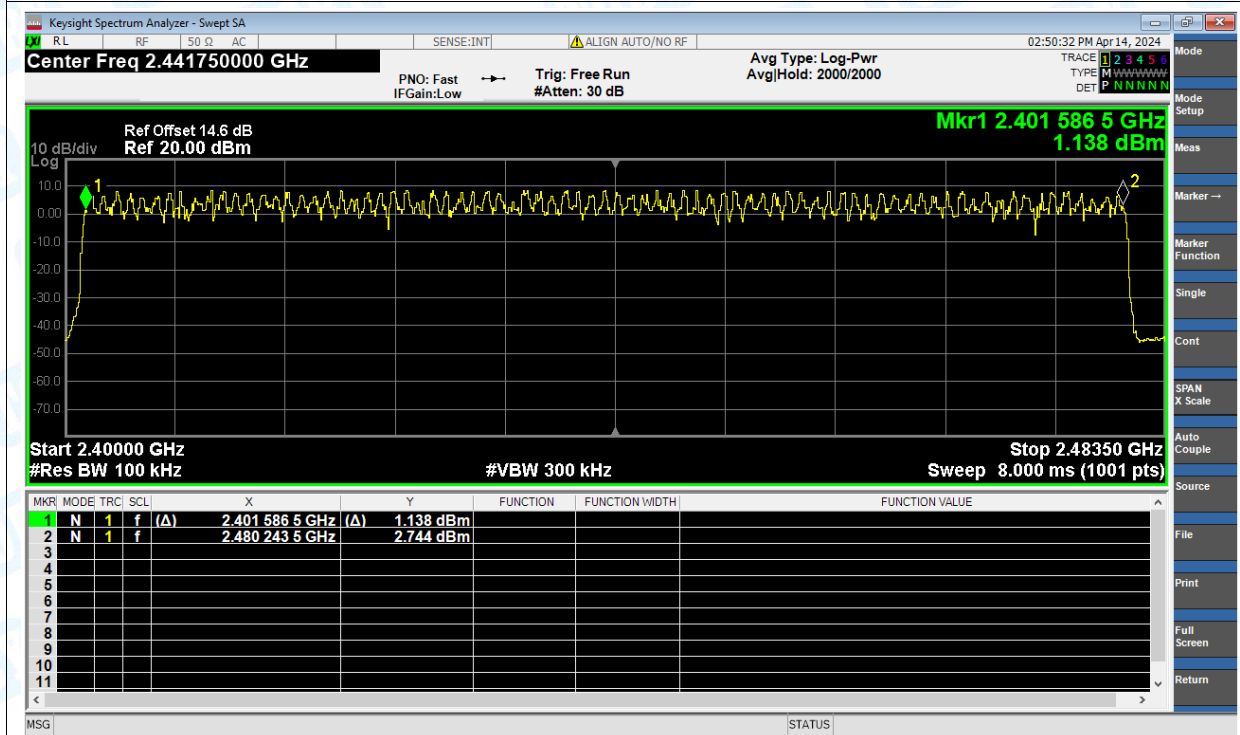
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

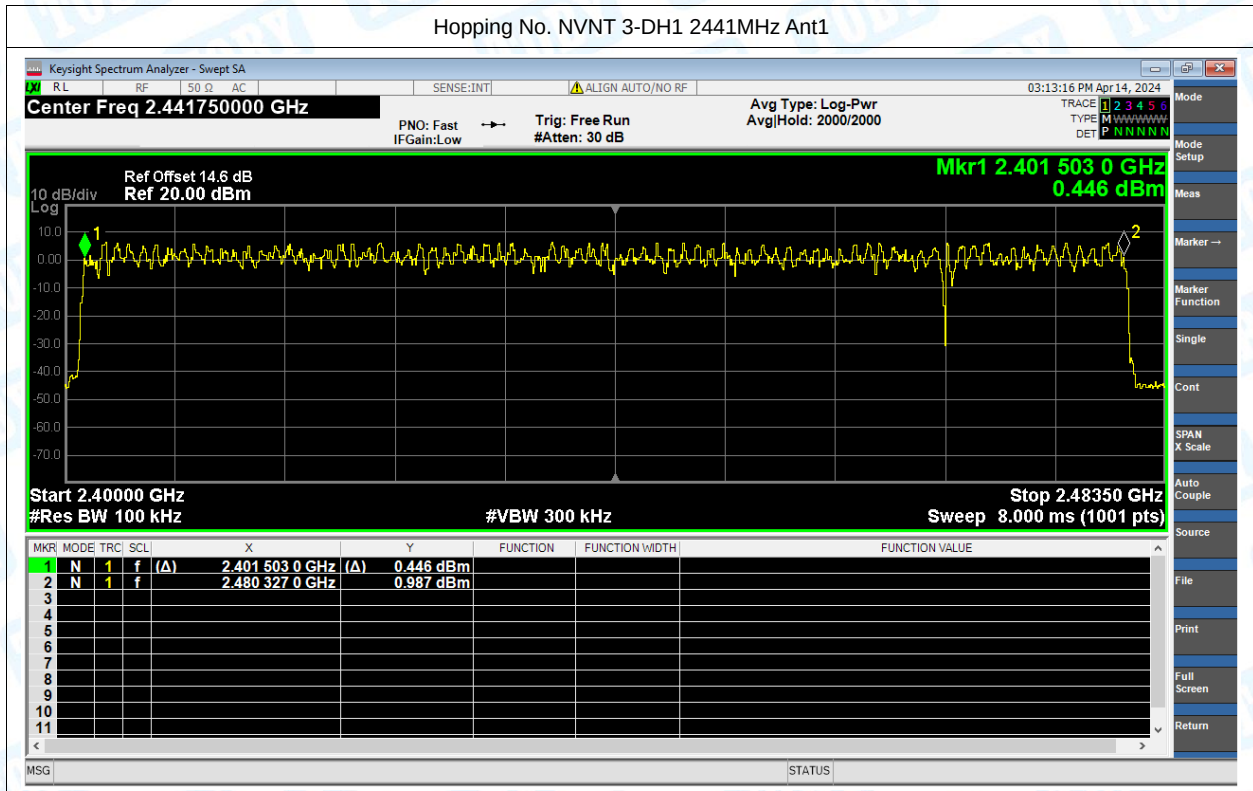
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



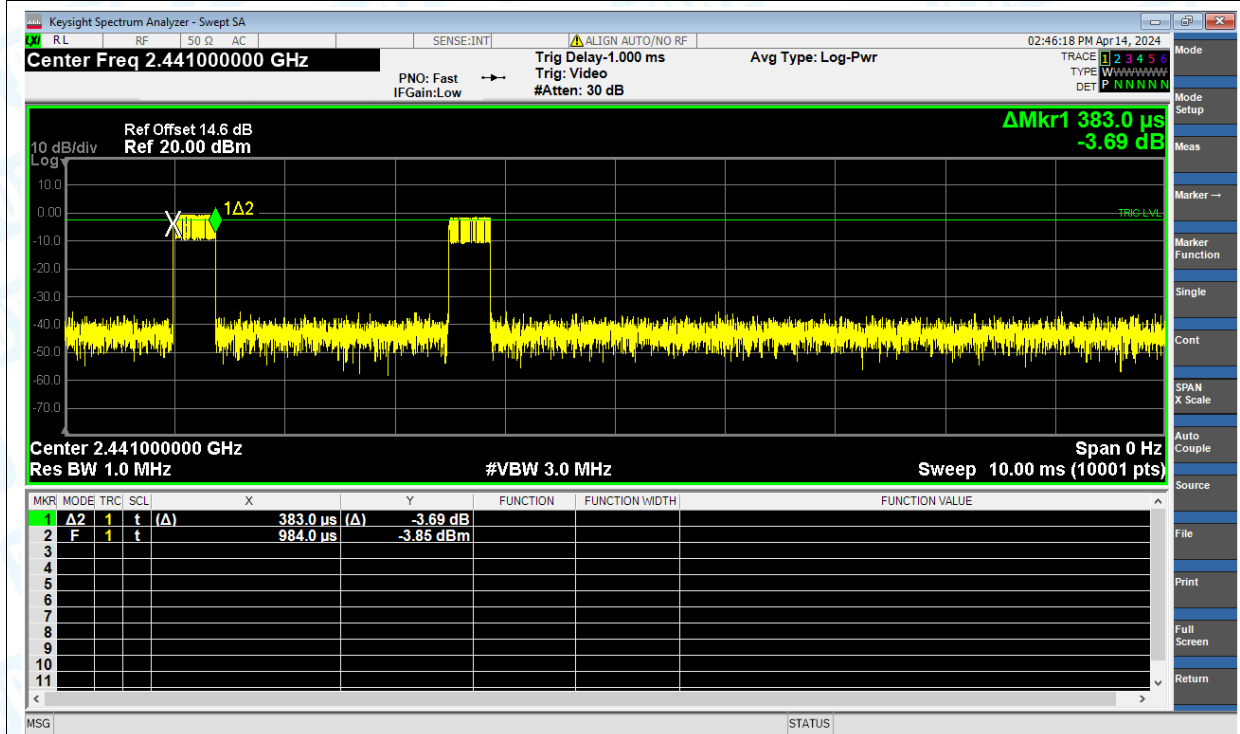


11. Dwell Time

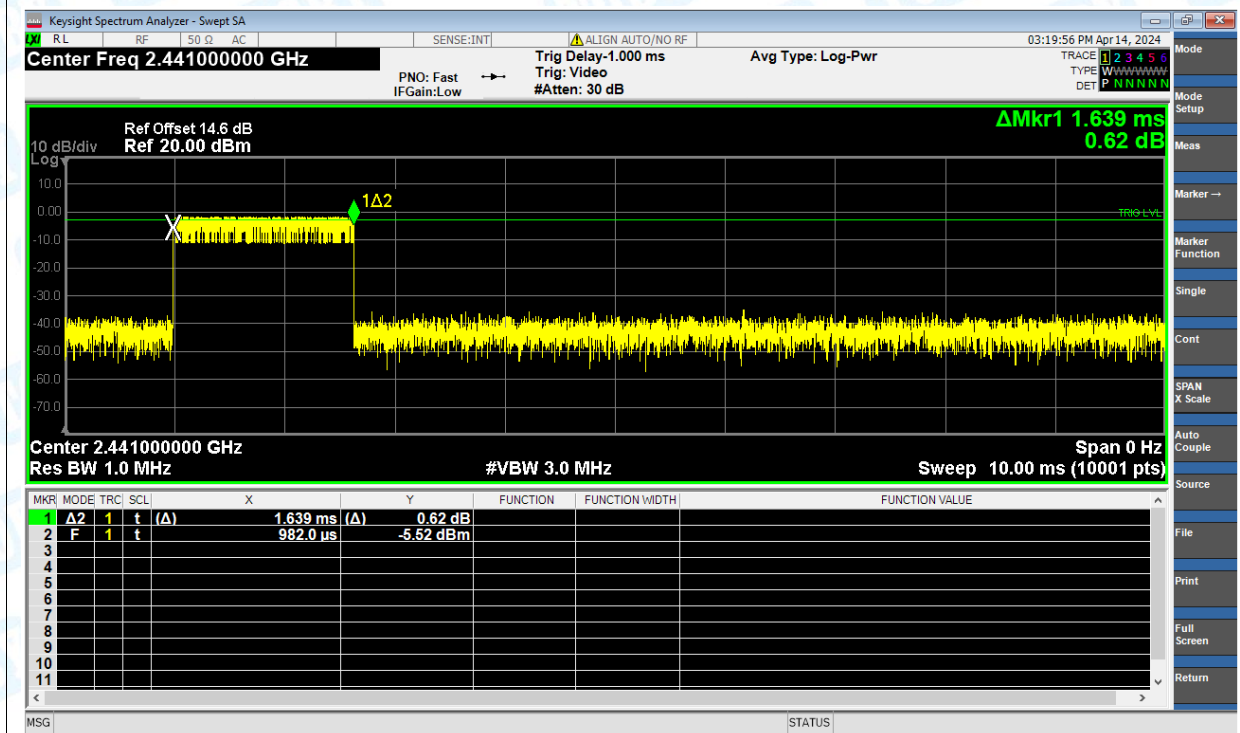
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.892	308.48	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.642	262.72	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.894	308.693	31600	400	Pass

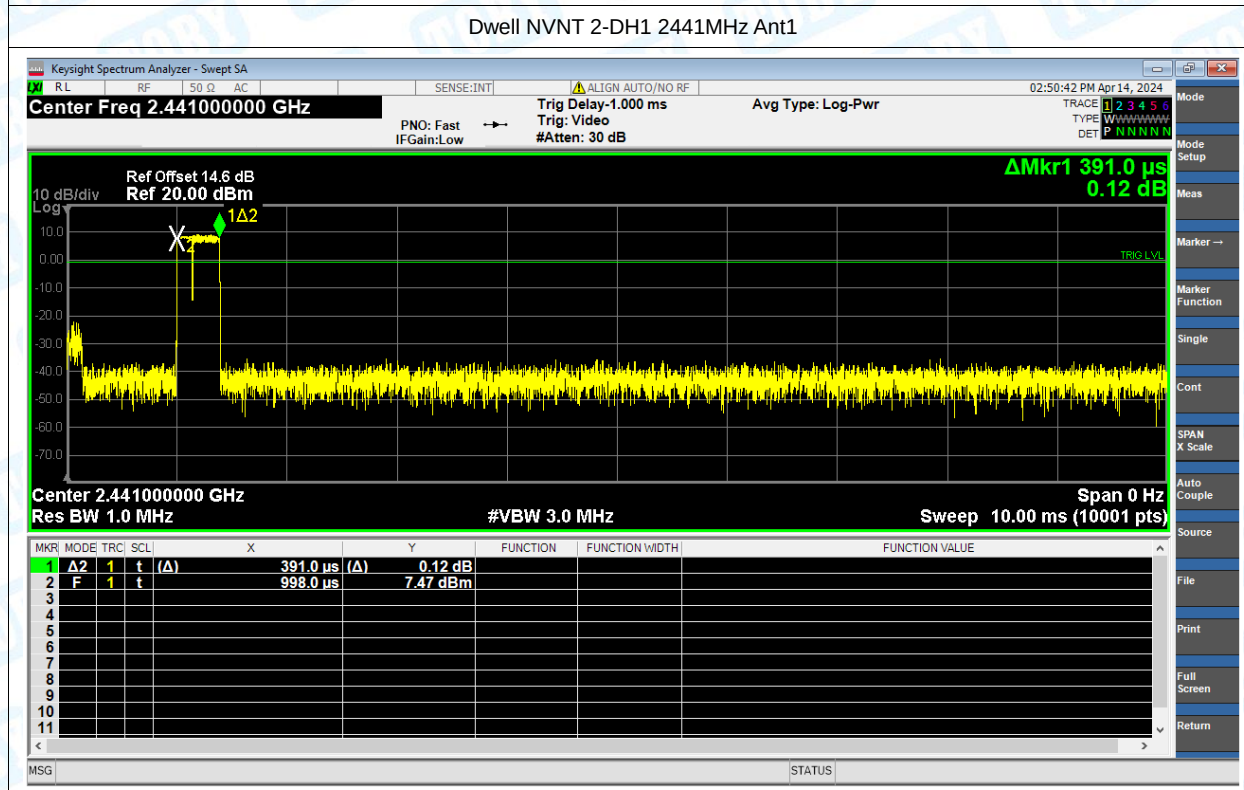
Test Graphs

Dwell NVNT 1-DH1 2441MHz Ant1

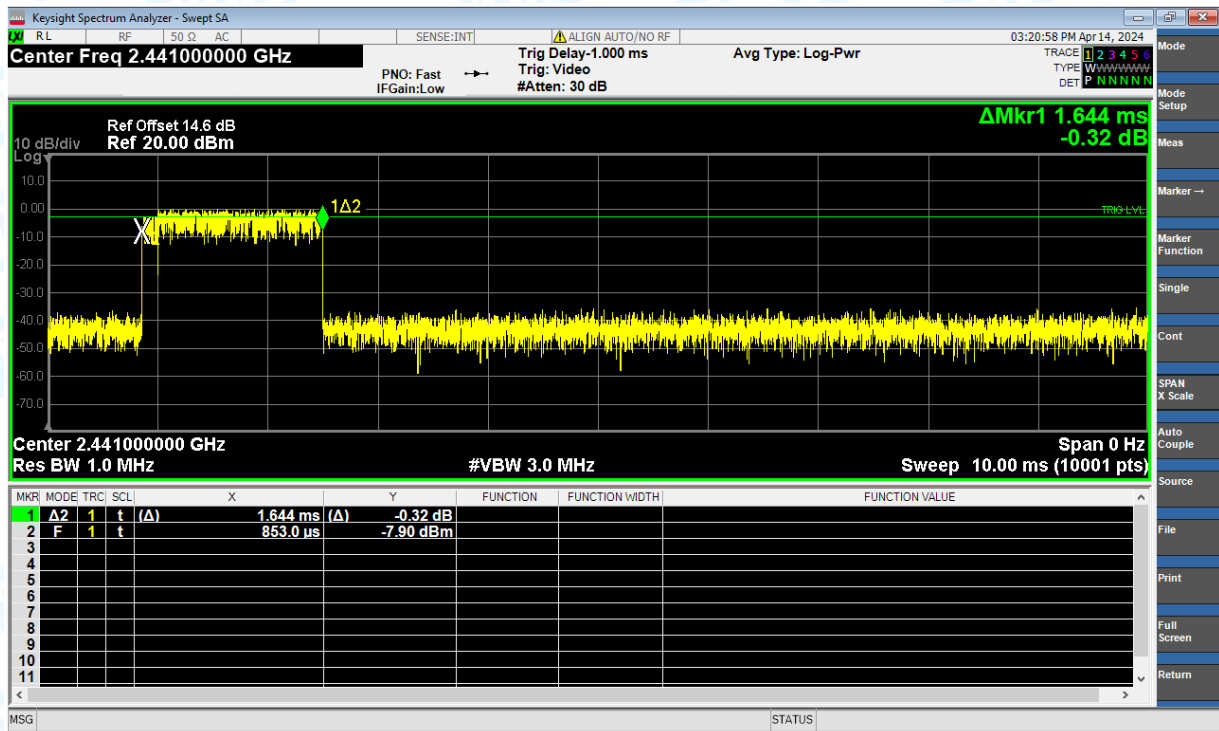


Dwell NVNT 1-DH3 2441MHz Ant1

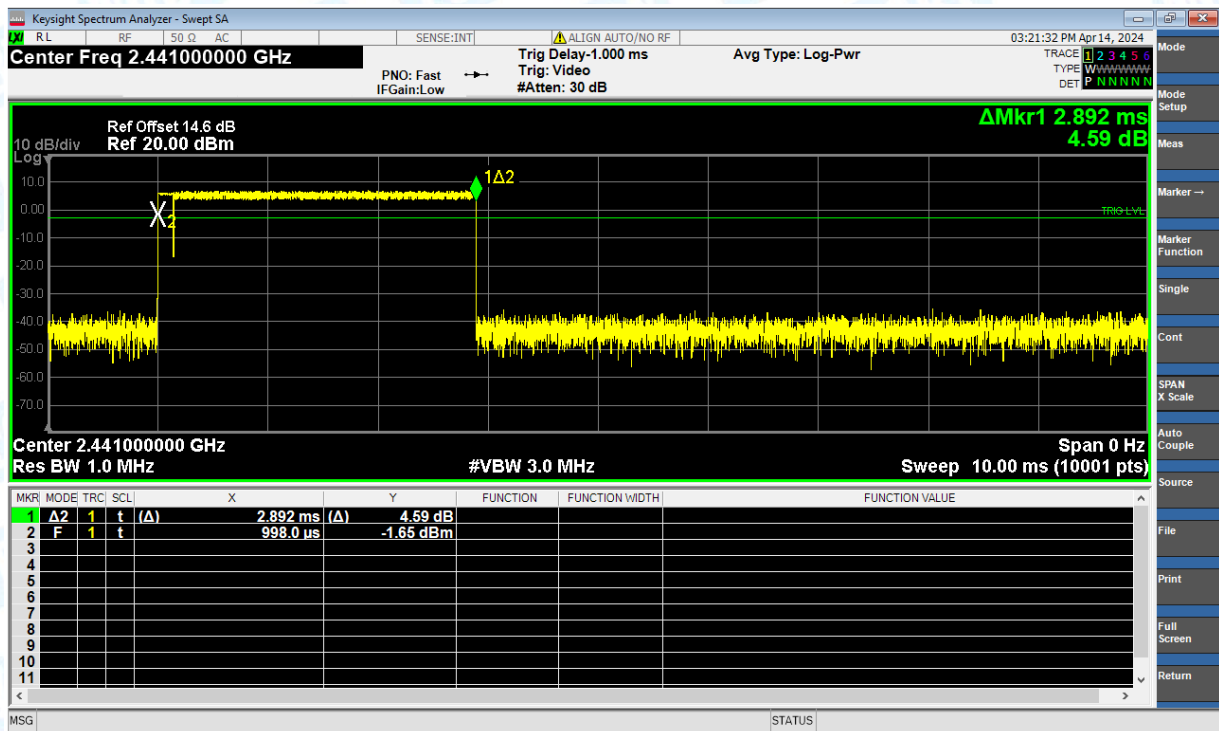




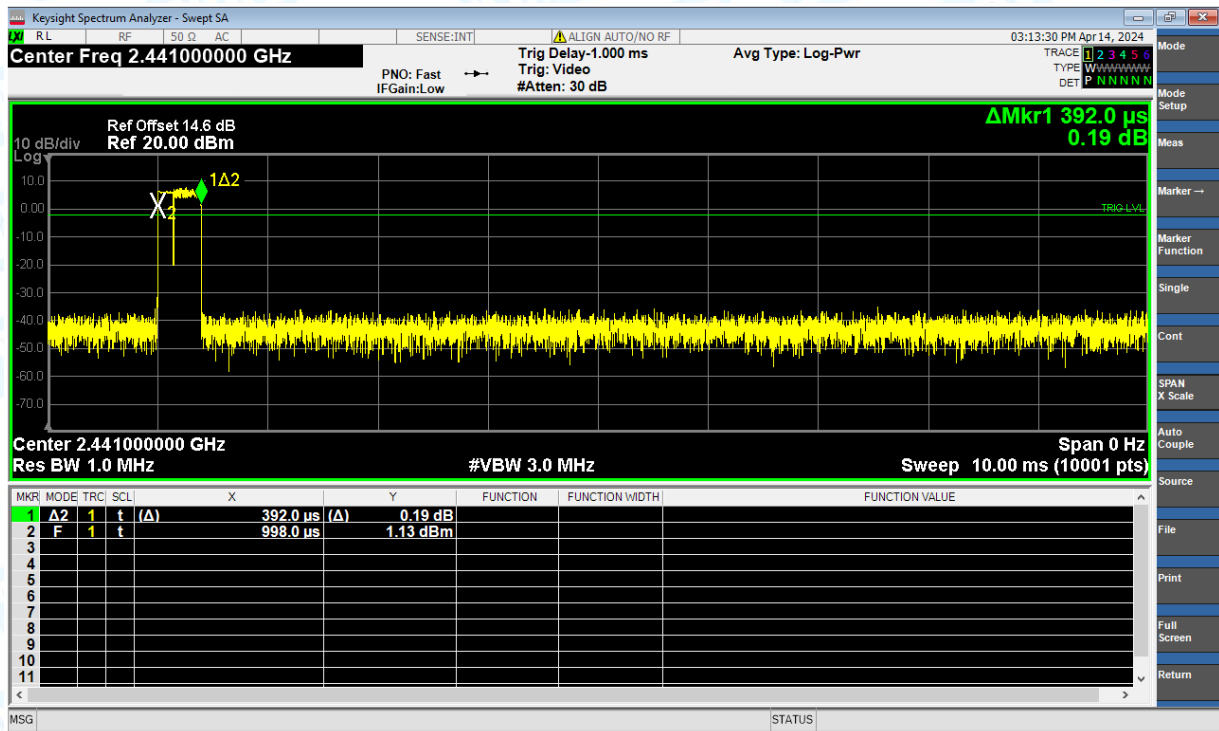
Dwell NVNT 2-DH3 2441MHz Ant1



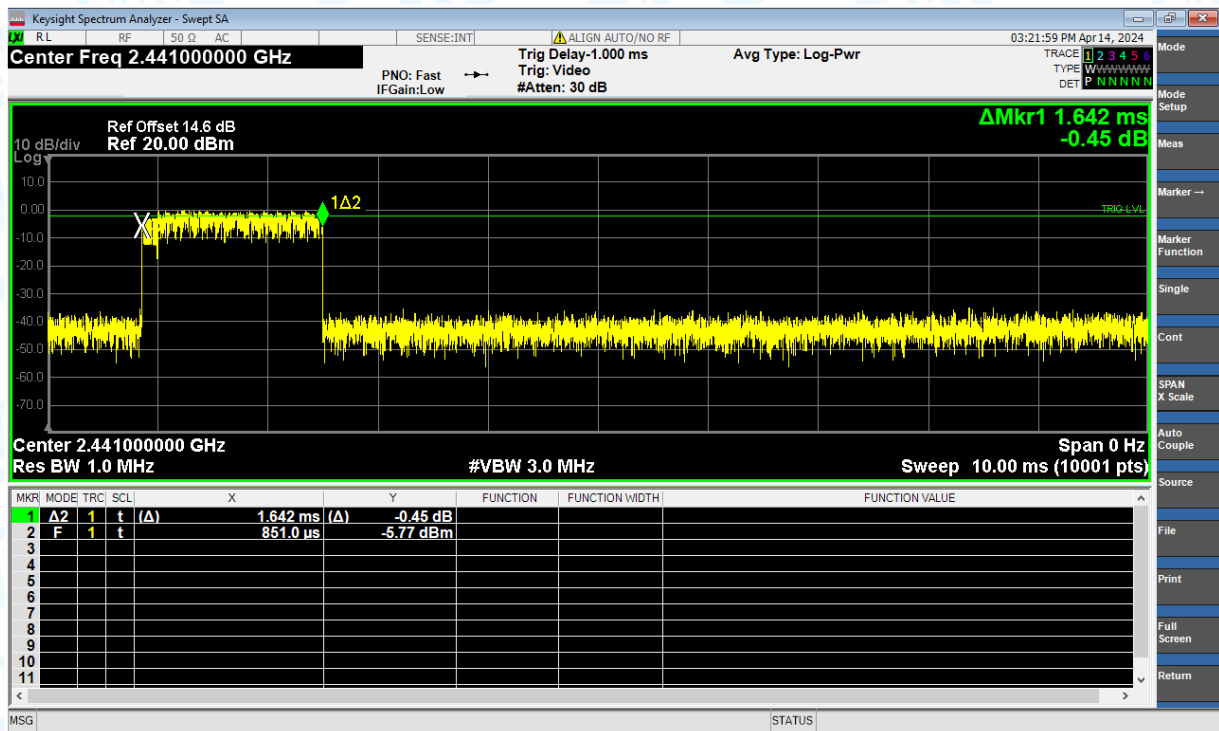
Dwell NVNT 2-DH5 2441MHz Ant1

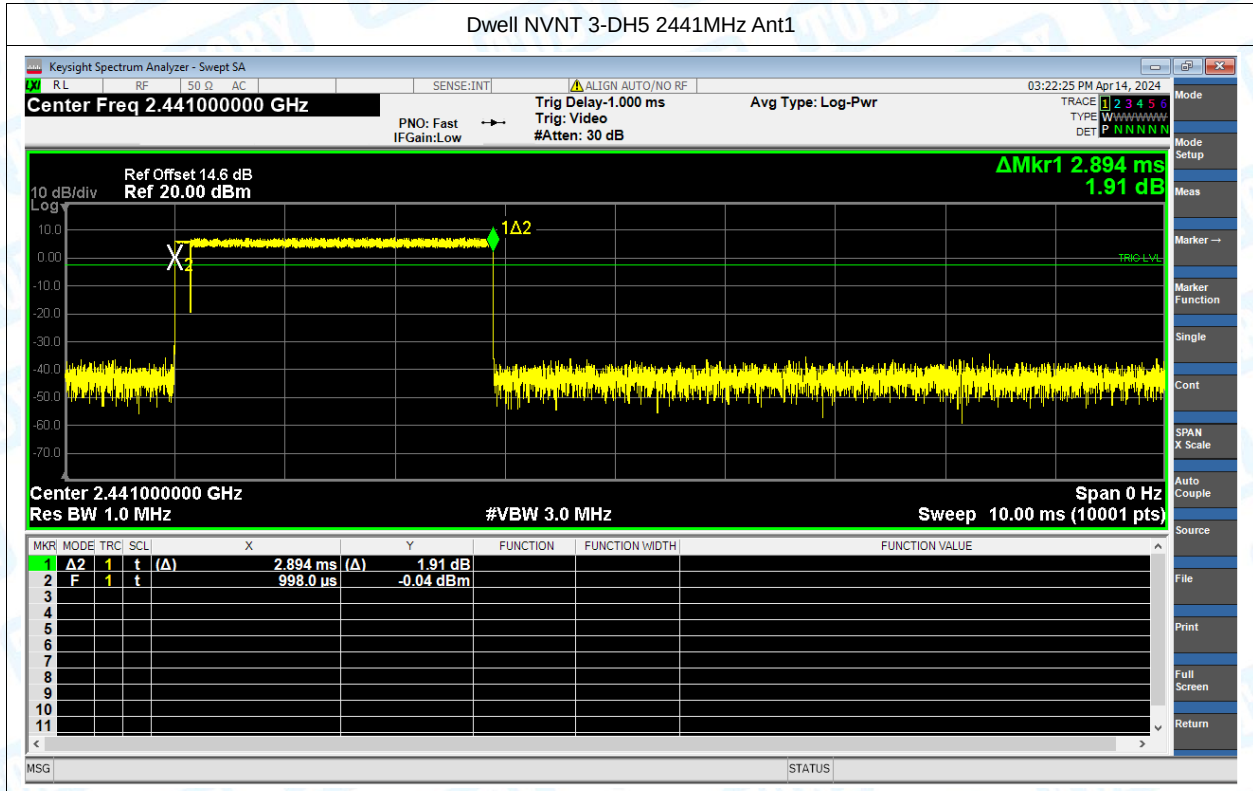


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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