

# RF Test Data for Bluetooth(BR+EDR) (Conducted Measurements)

General Description of EUT	
<b>Product Name:</b>	Smart Watch
<b>Test Model:</b>	KR82
<b>Sample ID:</b>	HC-C-202403-0385-03-01
Environmental Conditions	
<b>Temperature:</b>	24.1°C
<b>Relative Humidity:</b>	51%
<b>Test Voltage:</b>	DC 3.8V
<b>Test Engineer:</b>	ZKN Zhou
Note: For a more detailed features description, please refer to the report TBR-C-202403-0385-31 The report only show the worst case data.	

## Contents

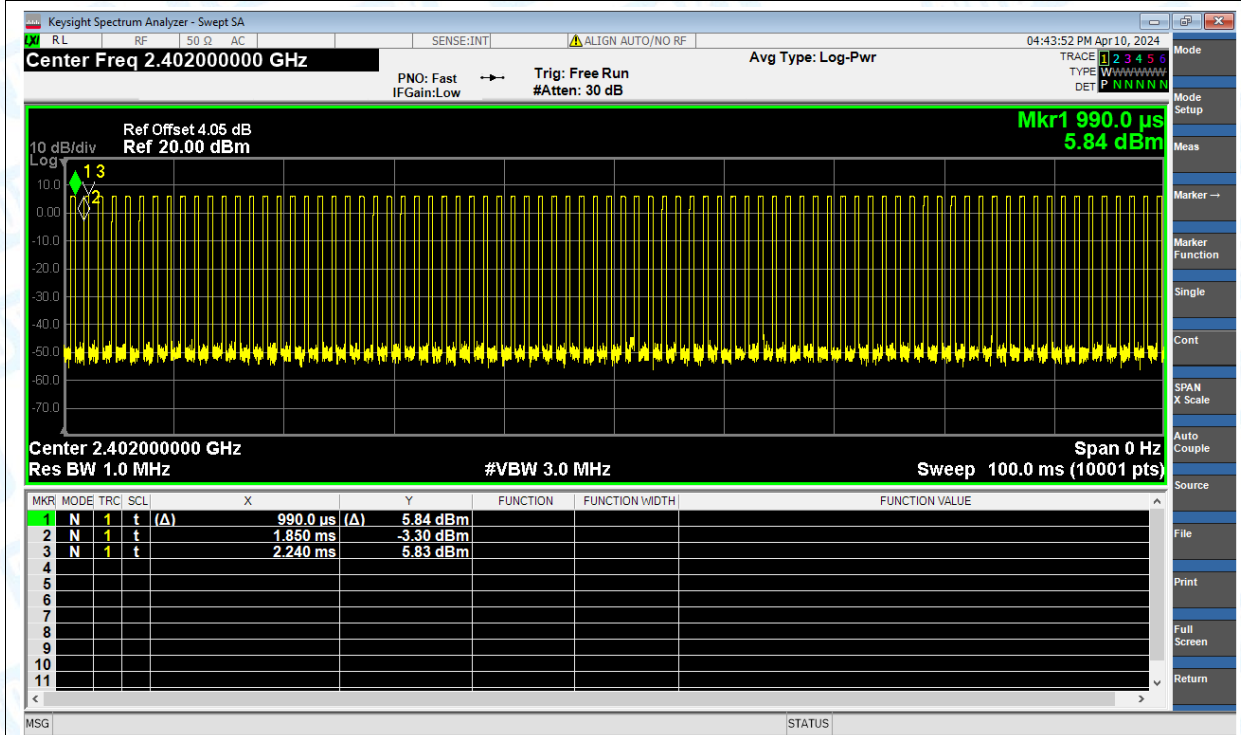
1.	Duty Cycle .....	3
2.	Maximum Conducted Output Power .....	9
3.	-20dB Bandwidth .....	18
4.	Occupied Channel Bandwidth .....	24
5.	Band Edge .....	30
6.	Band Edge(Hopping) .....	37
7.	Conducted RF Spurious Emission .....	44
8.	Restrict Band .....	54
9.	Carrier Frequencies Separation .....	61
10.	Number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

## 1. Duty Cycle

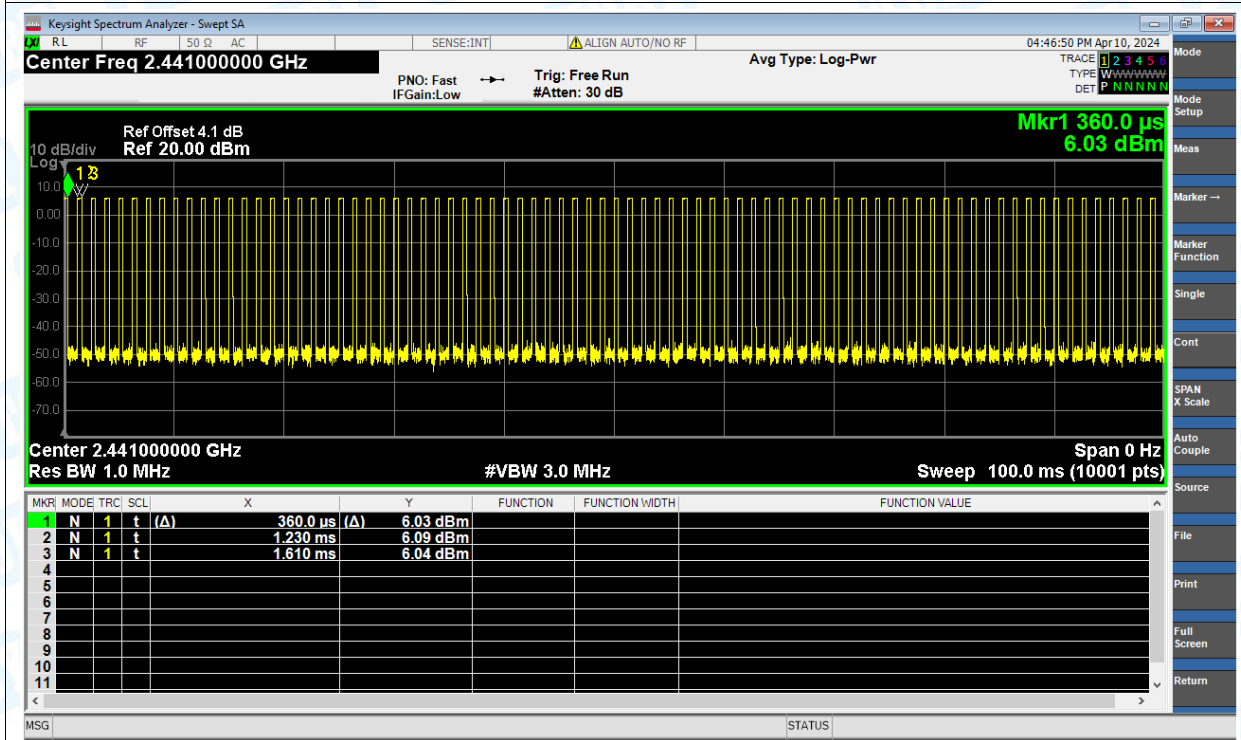
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	32	4.95	2.5
NVNT	2-DH1	2441	Ant1	32	4.95	2.5
NVNT	2-DH1	2480	Ant1	32	4.95	2.5
NVNT	3-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2480	Ant1	31.45	5.02	2.56

Test Graphs

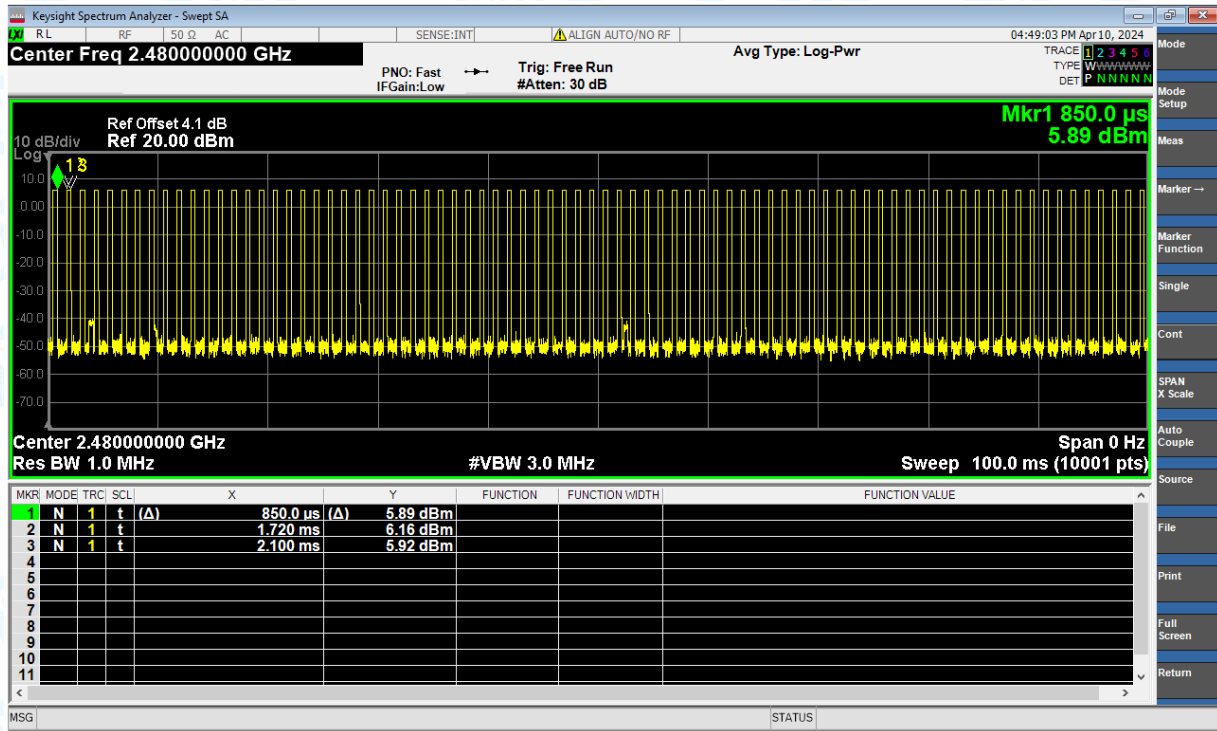
Duty Cycle NVNT 1-DH1 2402MHz Ant1



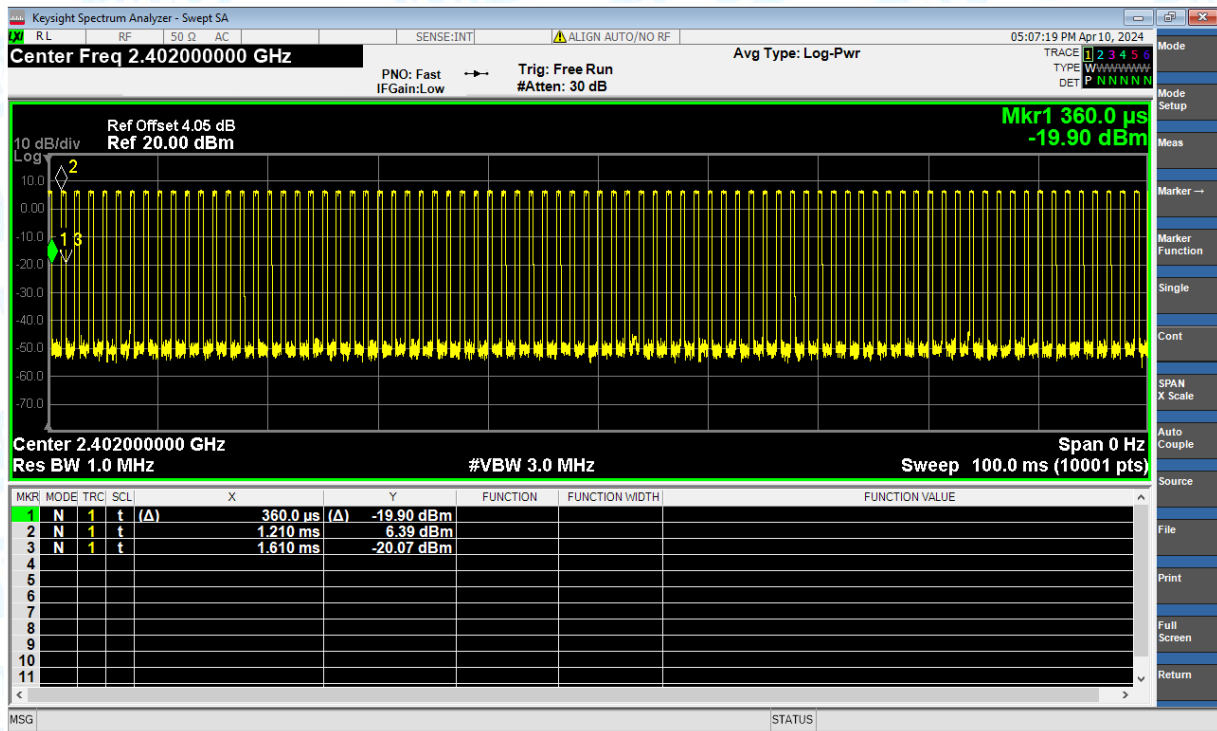
Duty Cycle NVNT 1-DH1 2441MHz Ant1



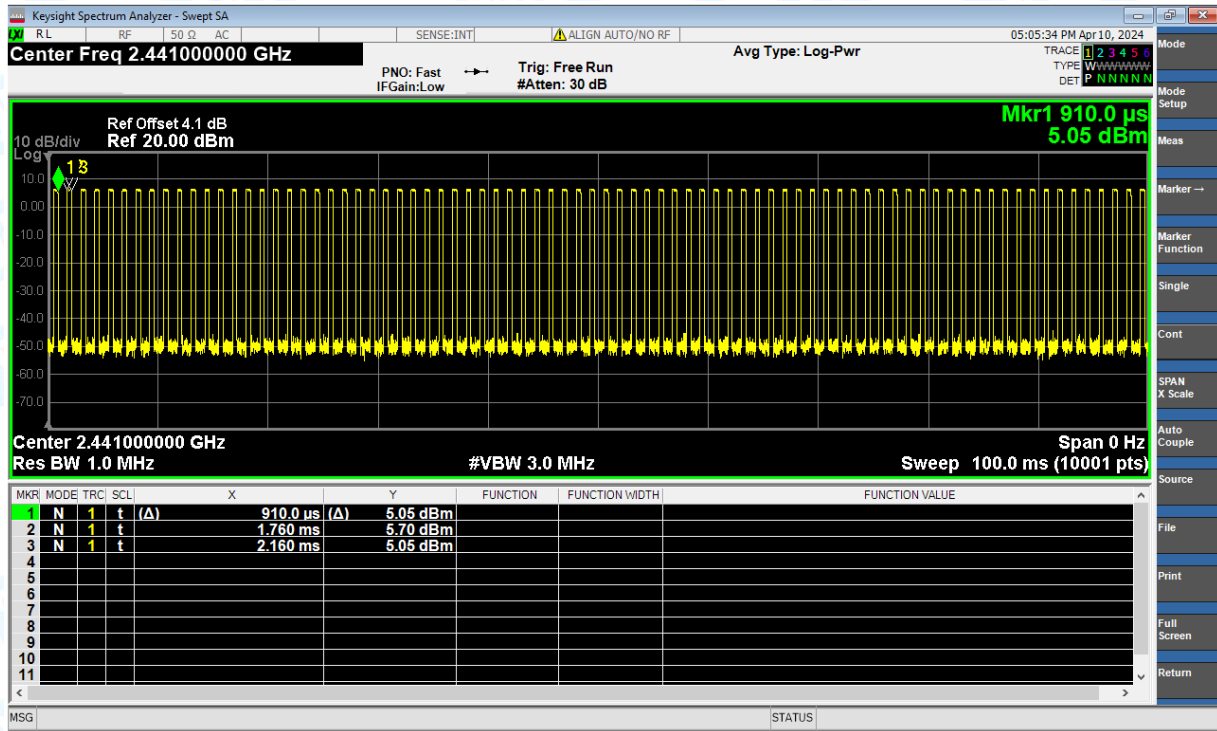
Duty Cycle NVNT 1-DH1 2480MHz Ant1



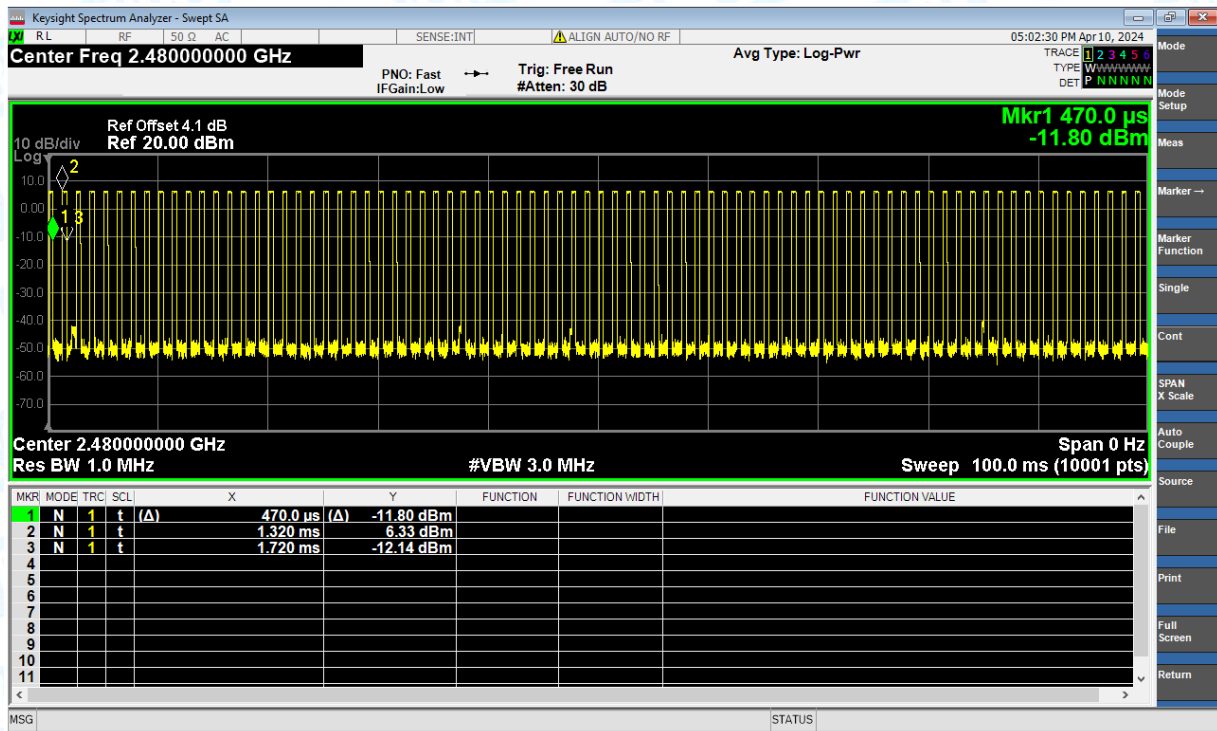
Duty Cycle NVNT 2-DH1 2402MHz Ant1



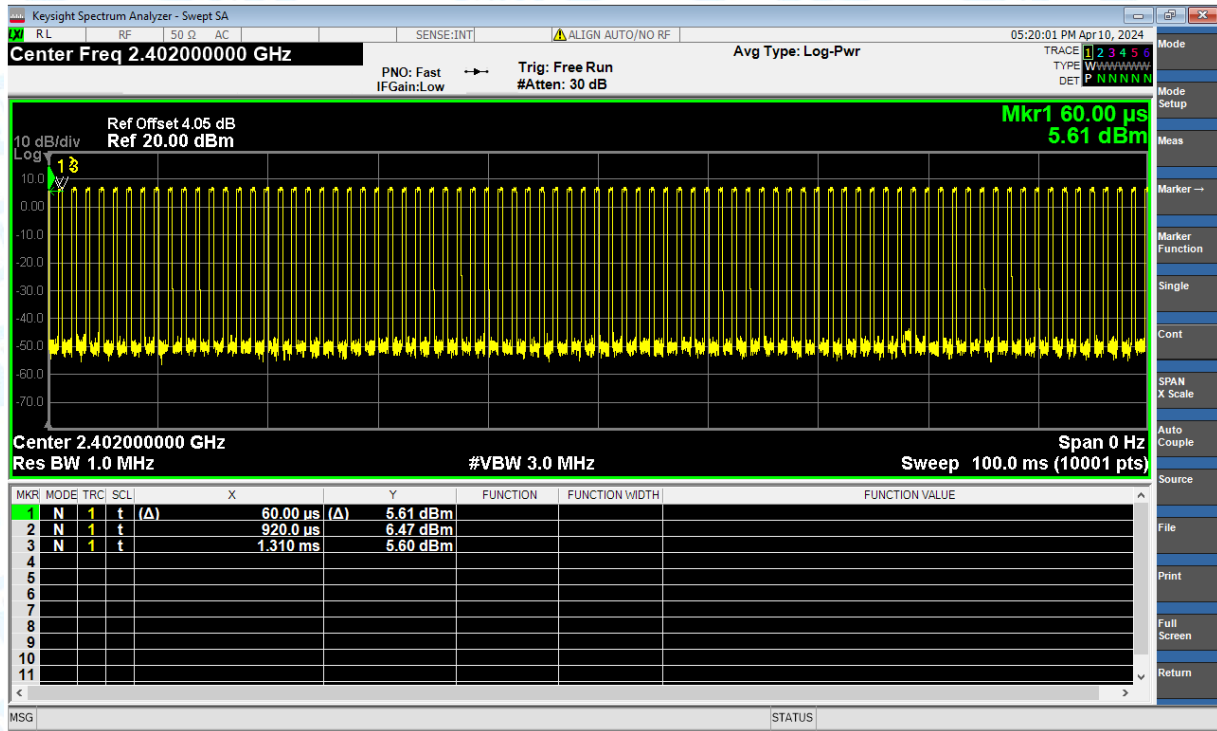
Duty Cycle NVNT 2-DH1 2441MHz Ant1



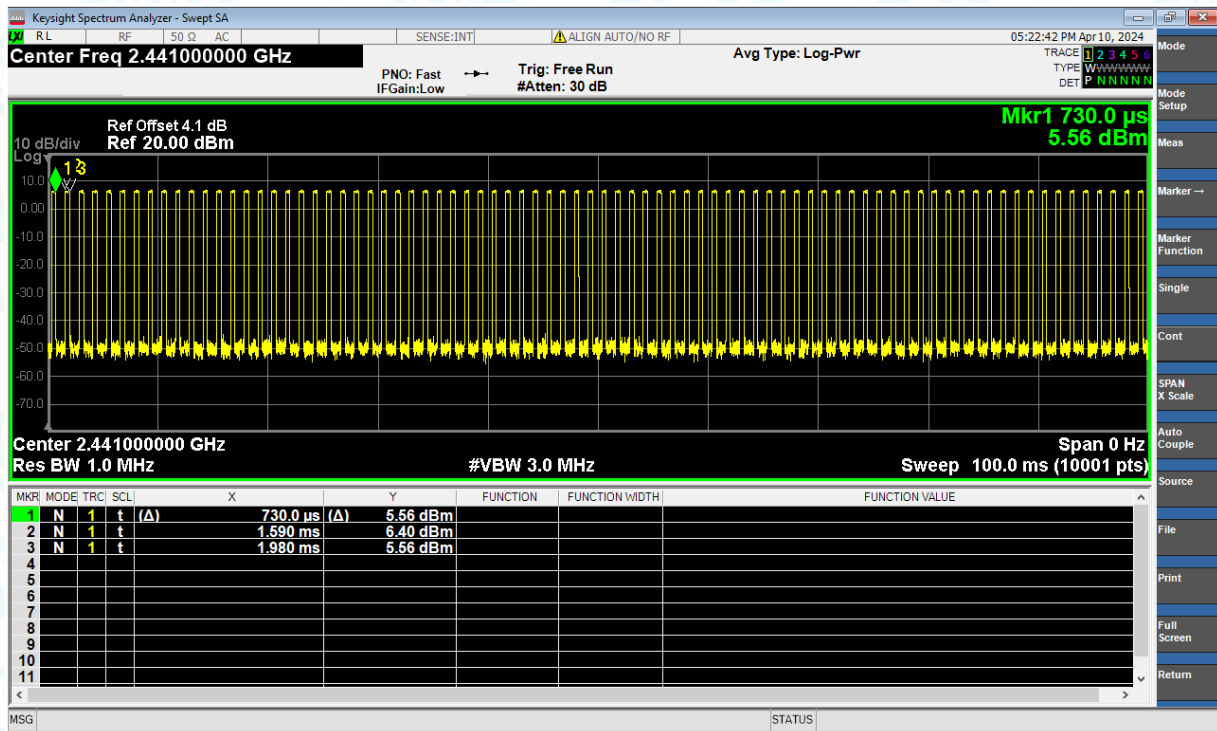
Duty Cycle NVNT 2-DH1 2480MHz Ant1

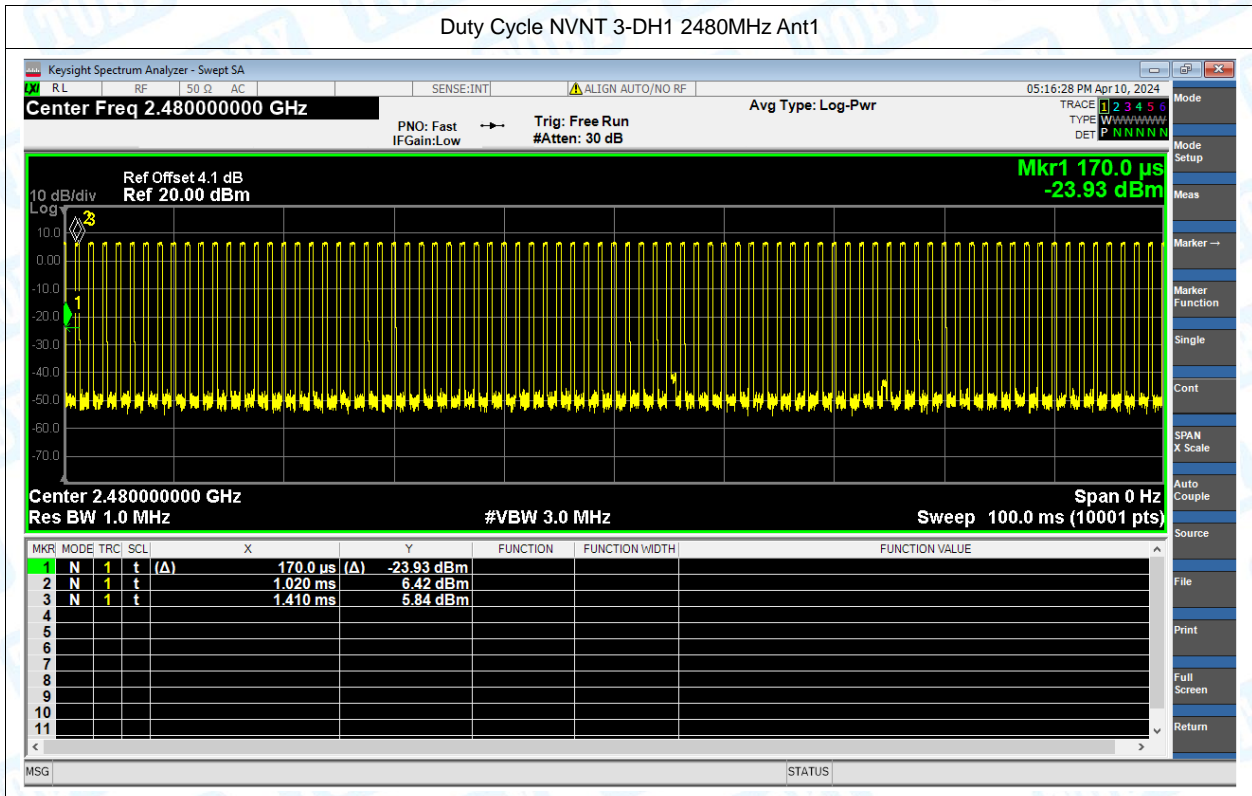


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1





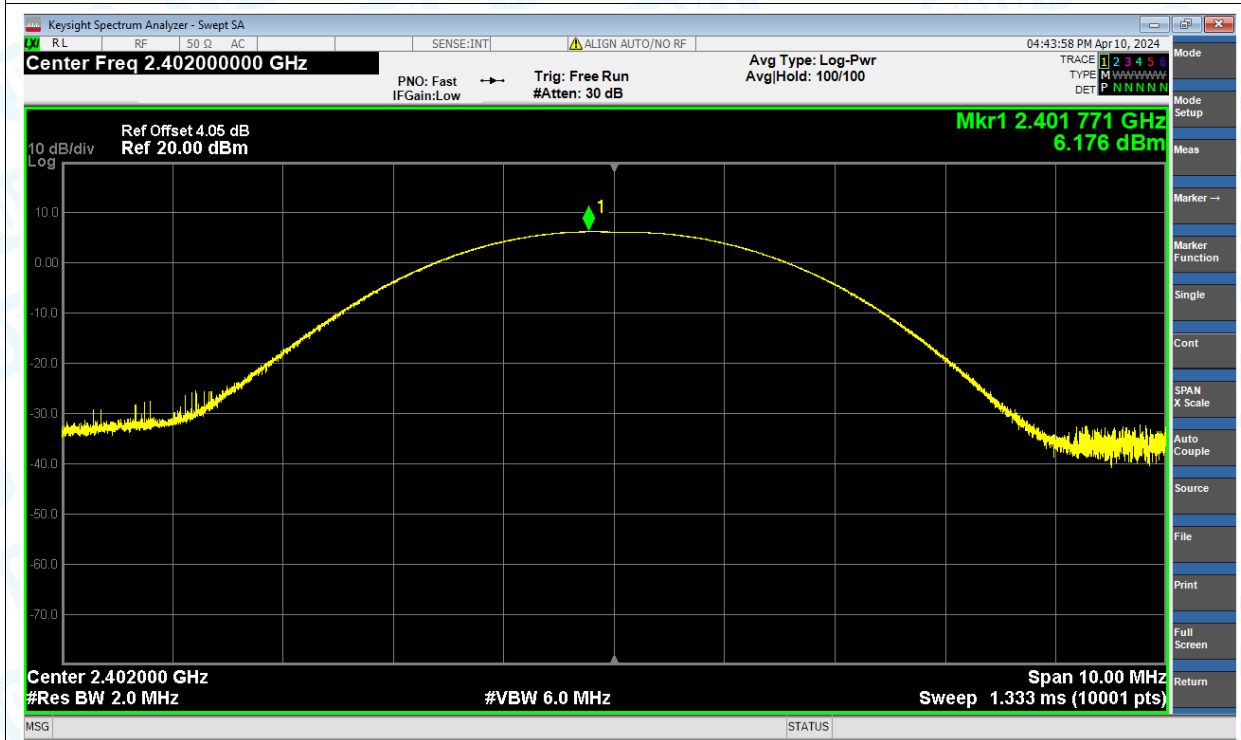


## 2. Maximum Conducted Output Power

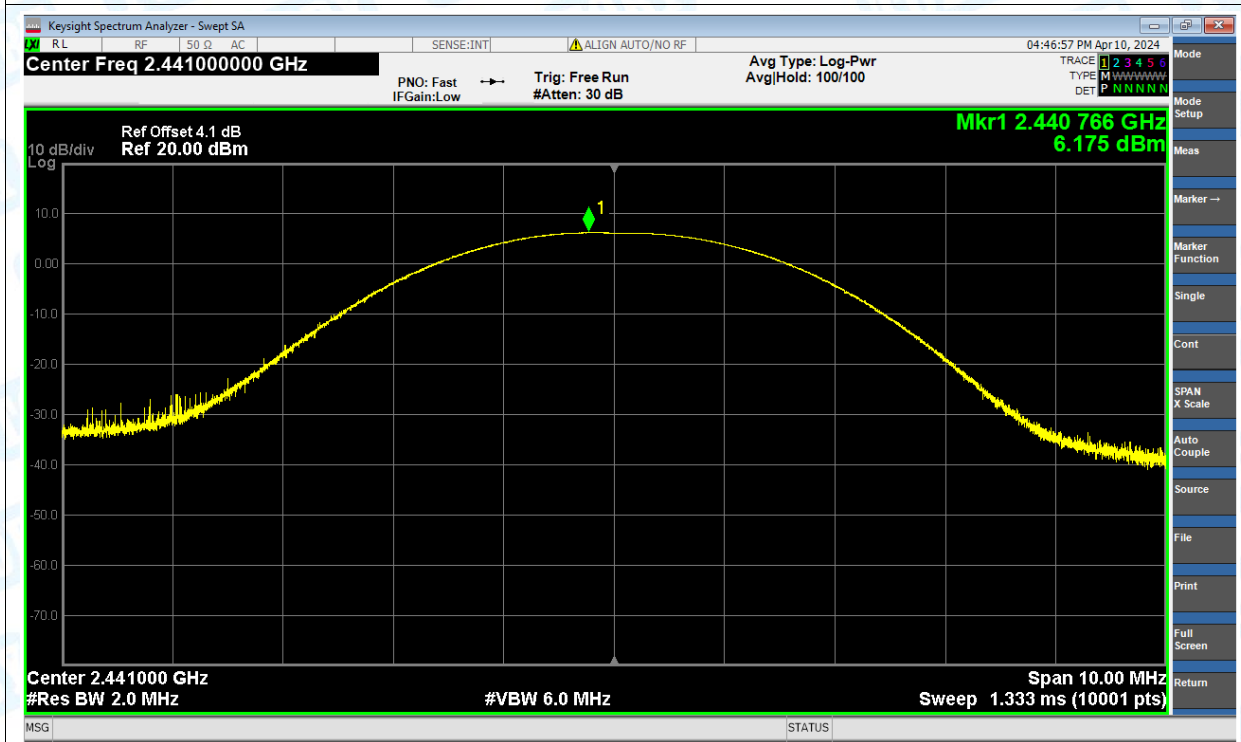
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	6.176	21	Pass
NVNT	1-DH1	2441	Ant1	6.175	21	Pass
NVNT	1-DH1	2480	Ant1	6.263	21	Pass
NVNT	1-DH3	2441	Ant1	6.448	21	Pass
NVNT	1-DH5	2441	Ant1	6.423	21	Pass
NVNT	2-DH1	2402	Ant1	7.033	21	Pass
NVNT	2-DH1	2441	Ant1	6.803	21	Pass
NVNT	2-DH1	2480	Ant1	6.761	21	Pass
NVNT	2-DH3	2441	Ant1	6.89	21	Pass
NVNT	2-DH5	2441	Ant1	6.89	21	Pass
NVNT	3-DH1	2402	Ant1	7.418	21	Pass
NVNT	3-DH1	2441	Ant1	7.062	21	Pass
NVNT	3-DH1	2480	Ant1	7.046	21	Pass
NVNT	3-DH3	2441	Ant1	7.09	21	Pass
NVNT	3-DH5	2441	Ant1	7.064	21	Pass

Test Graphs

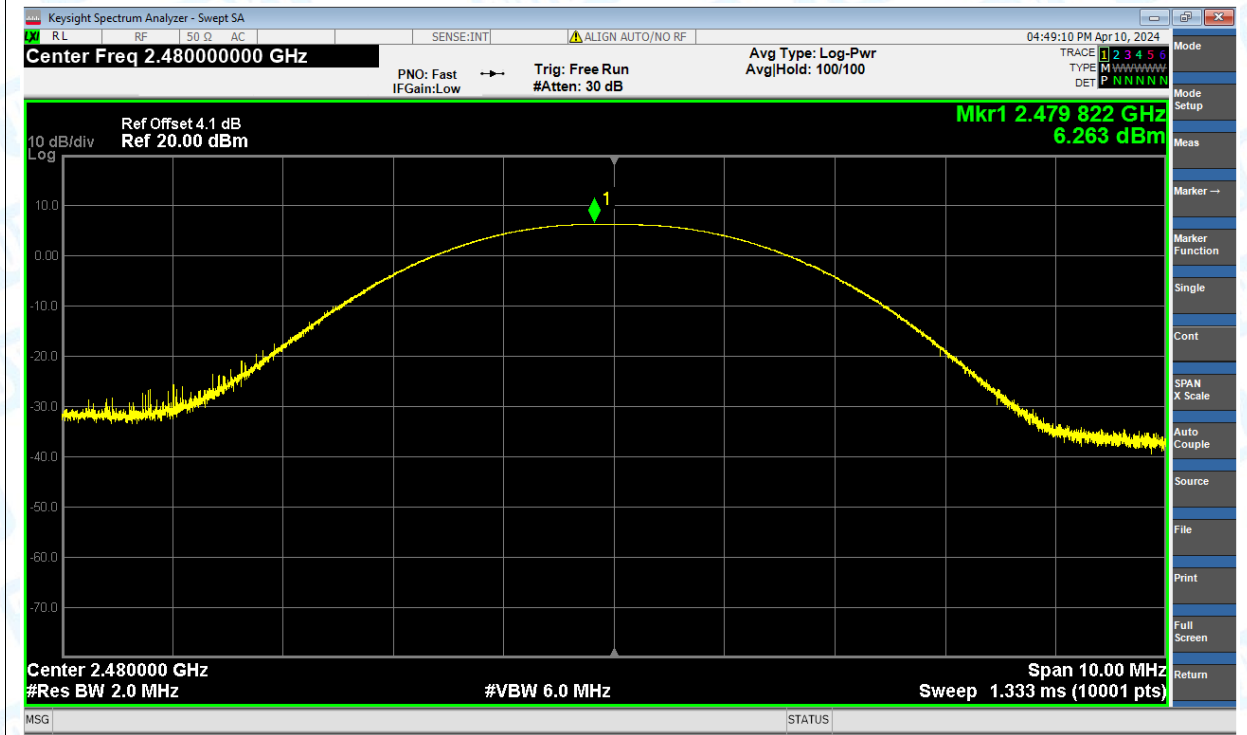
Power NVNT 1-DH1 2402MHz Ant1



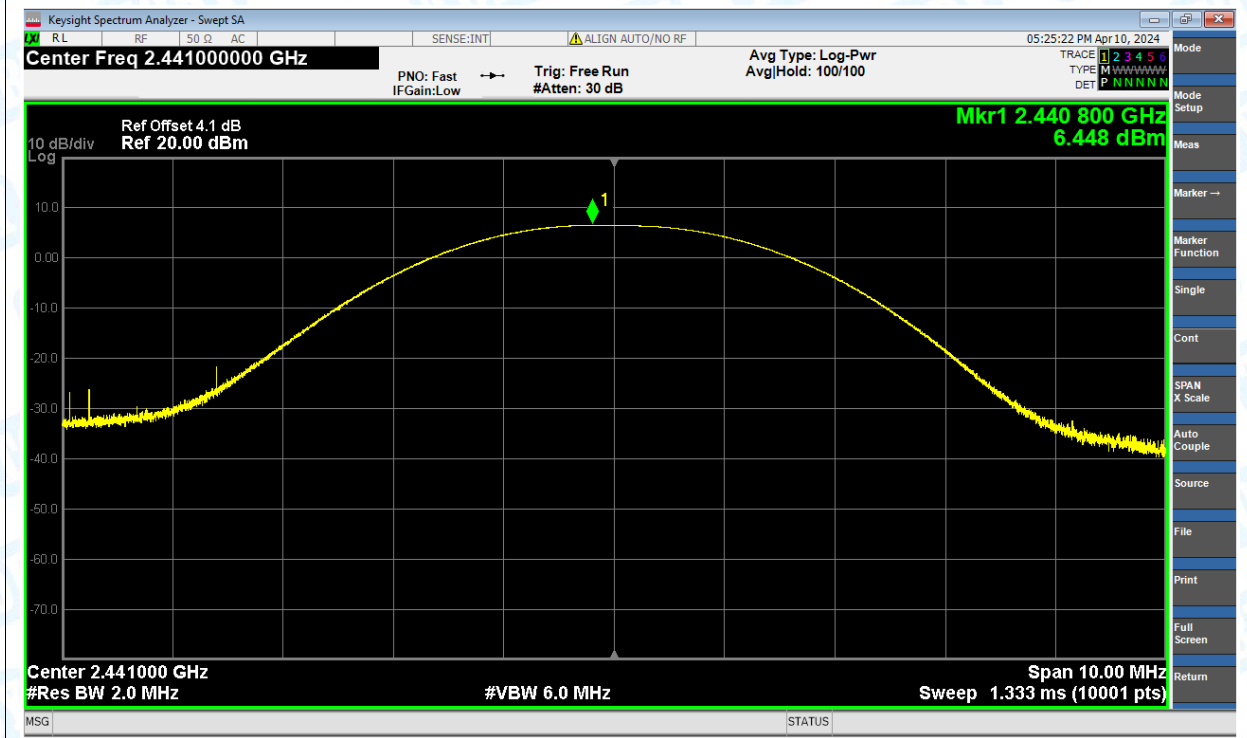
Power NVNT 1-DH1 2441MHz Ant1



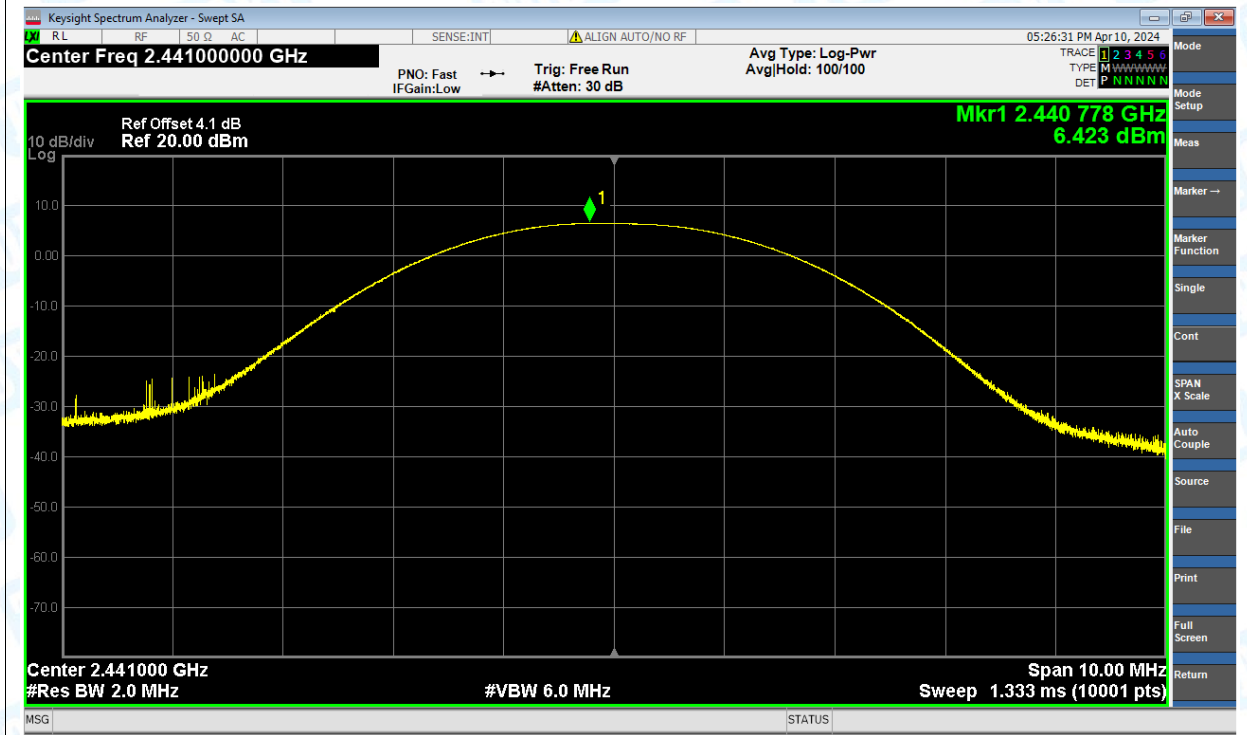
Power NVNT 1-DH1 2480MHz Ant1



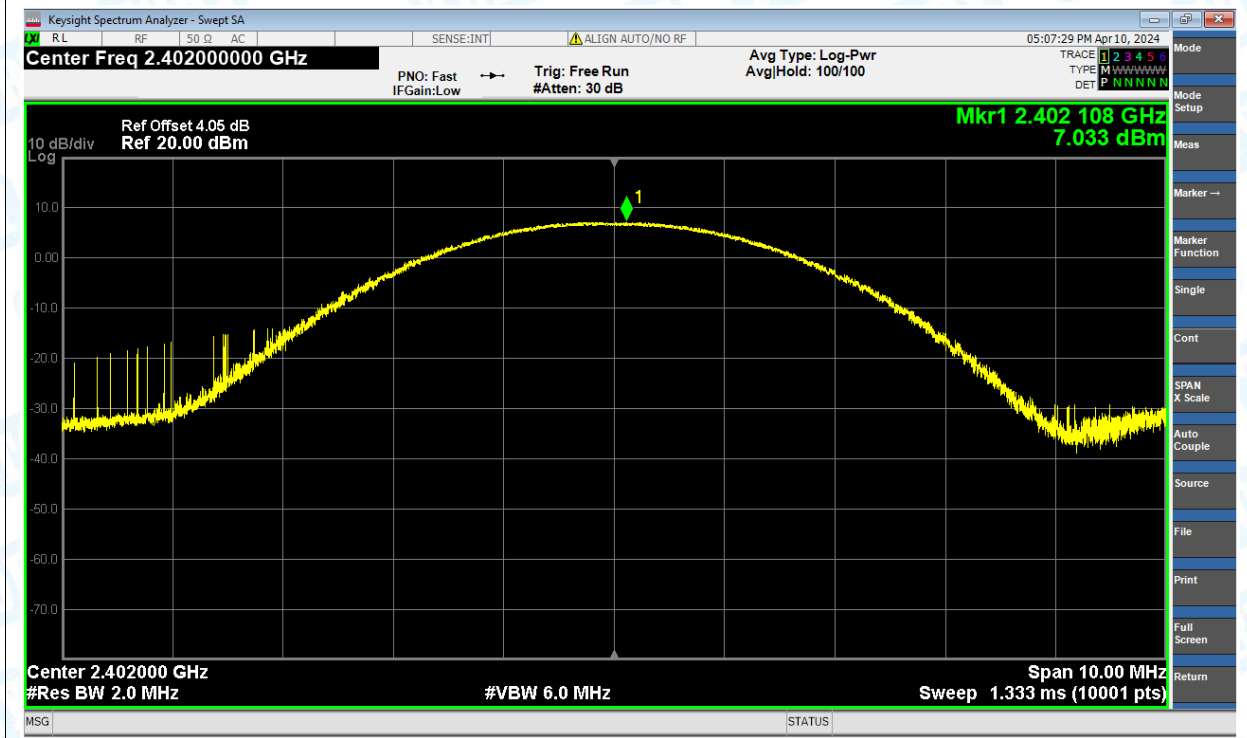
Power NVNT 1-DH3 2441MHz Ant1



Power NVNT 1-DH5 2441MHz Ant1



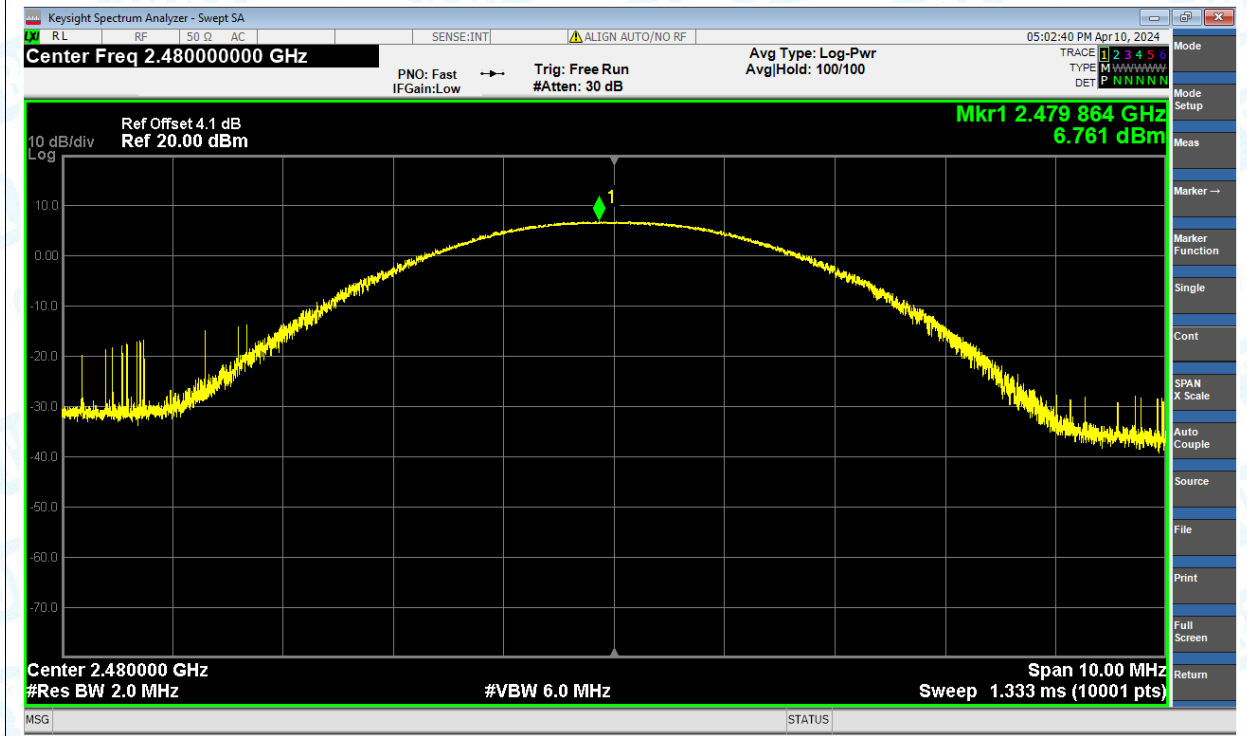
Power NVNT 2-DH1 2402MHz Ant1



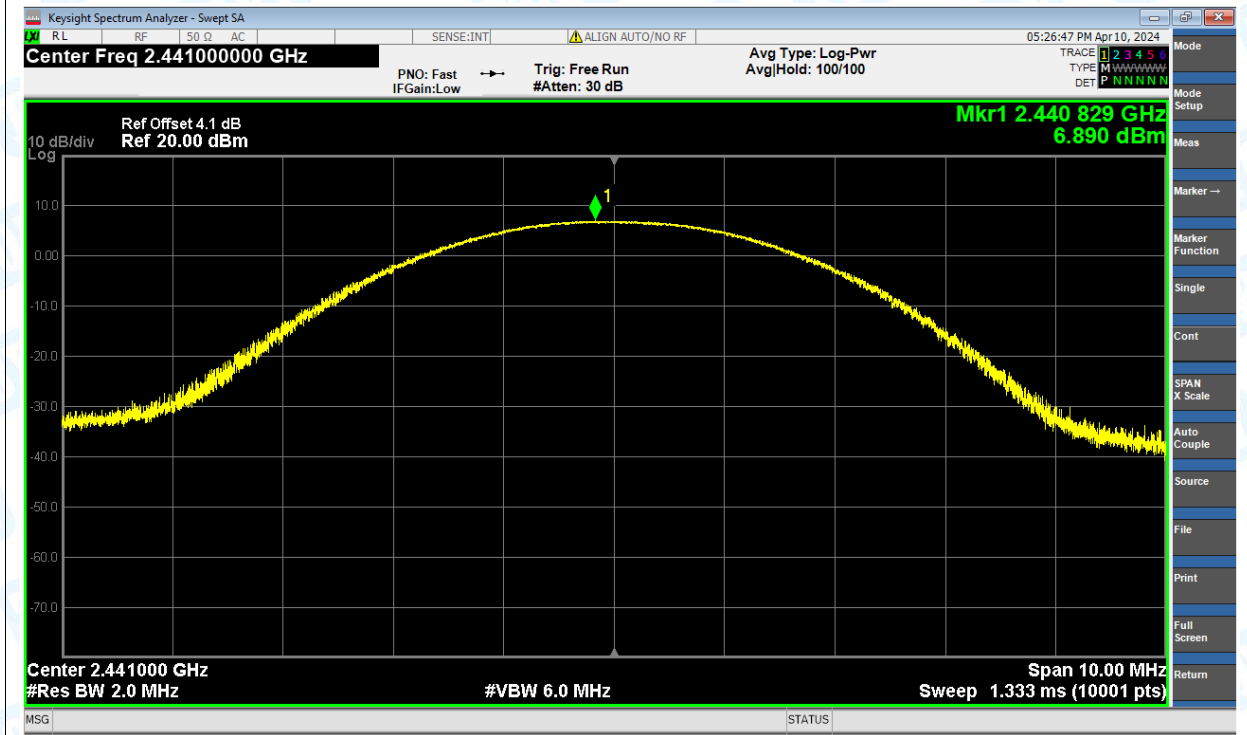
Power NVNT 2-DH1 2441MHz Ant1



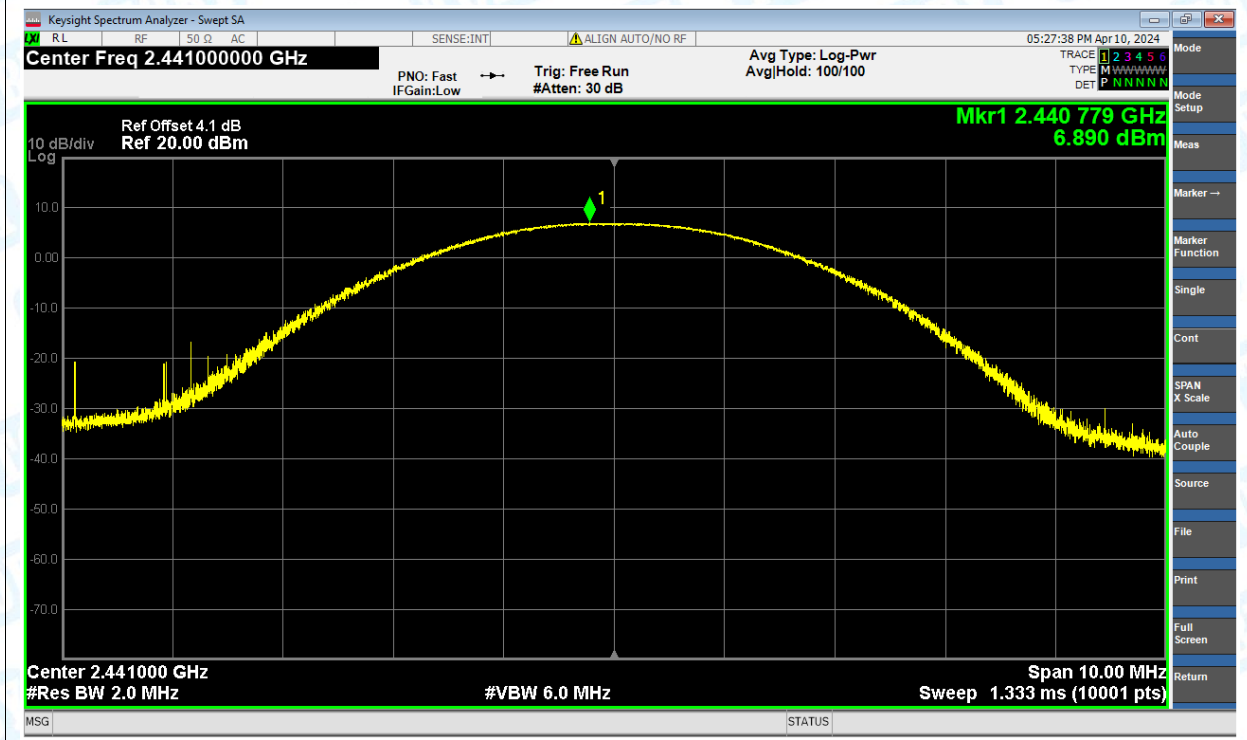
Power NVNT 2-DH1 2480MHz Ant1



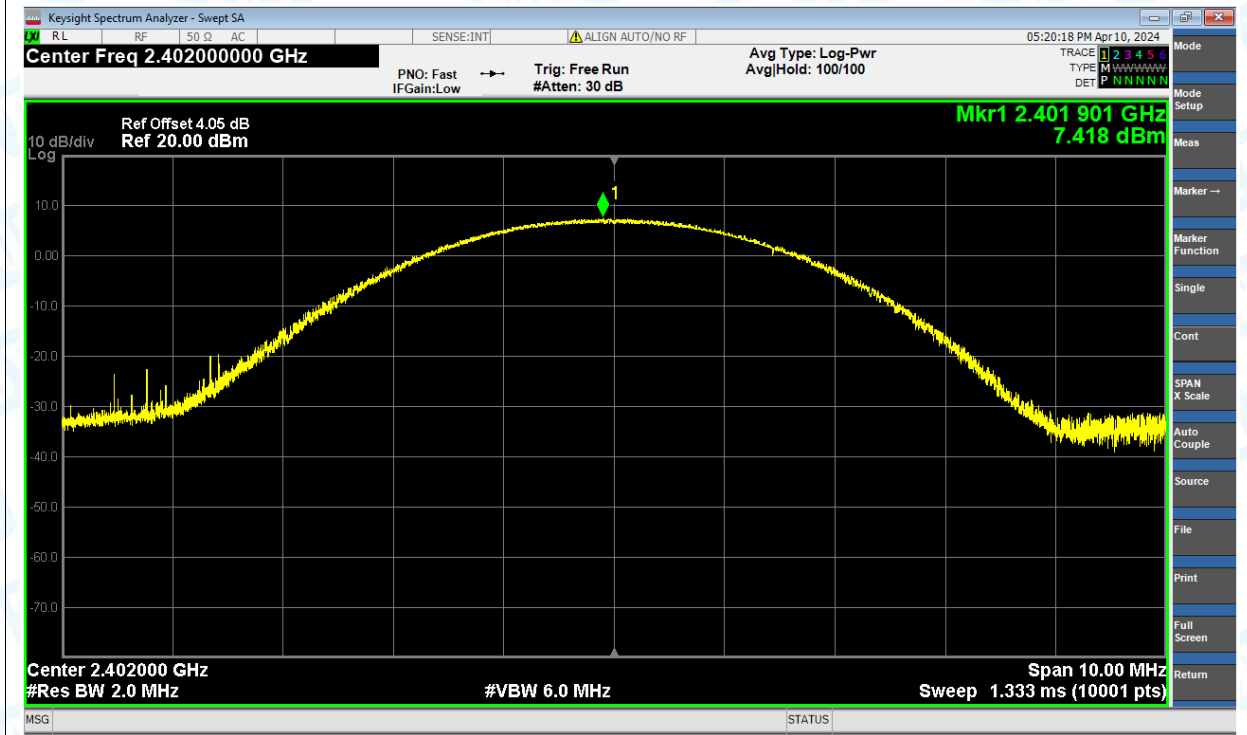
Power NVNT 2-DH3 2441MHz Ant1



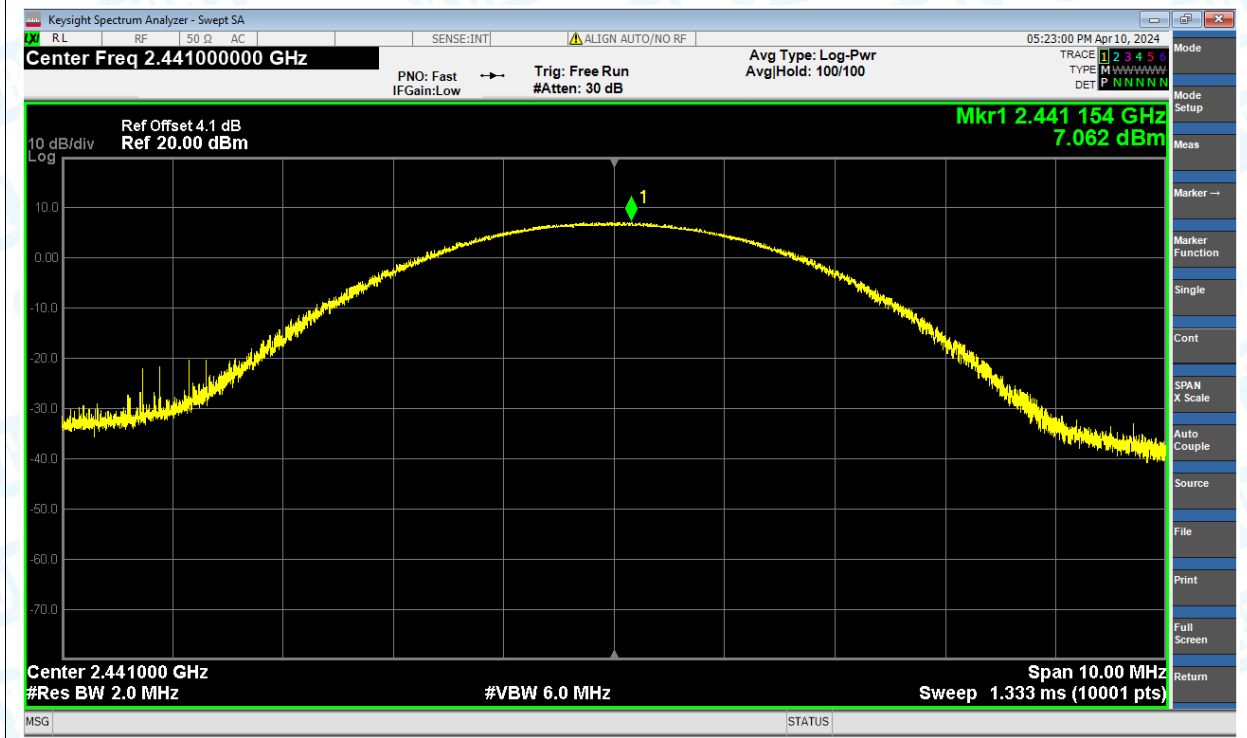
Power NVNT 2-DH5 2441MHz Ant1



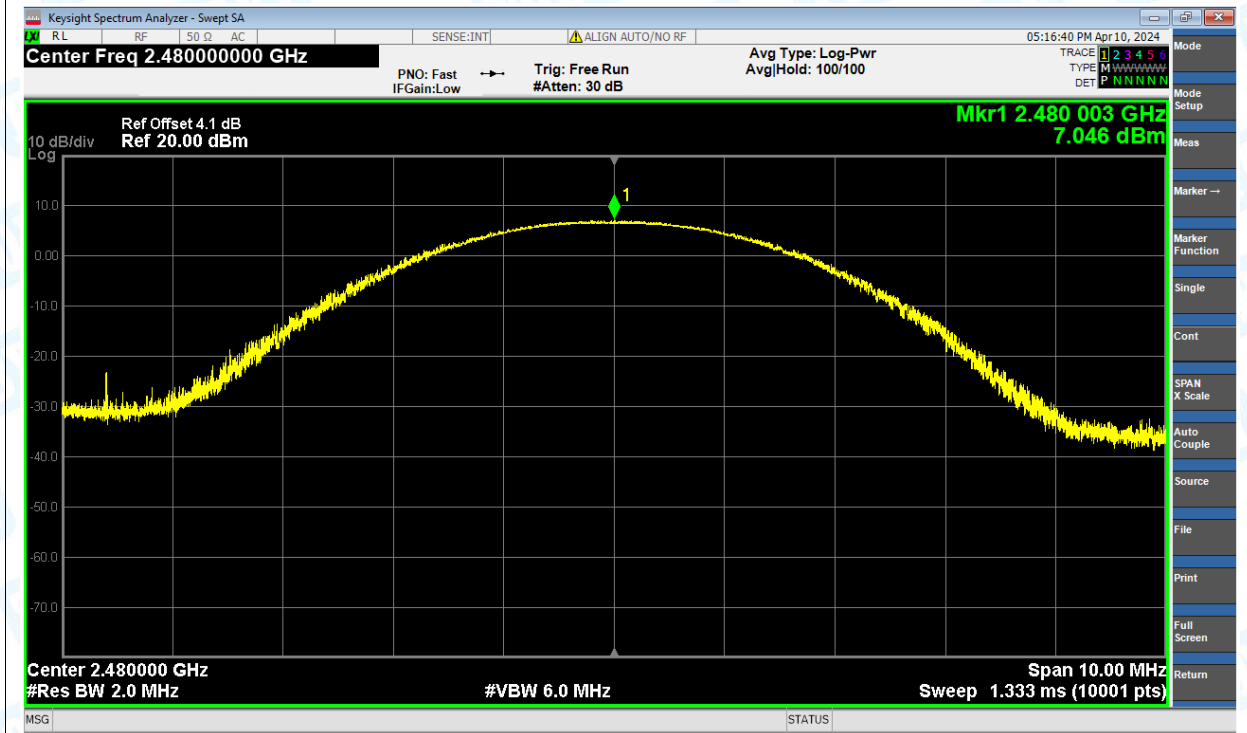
Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



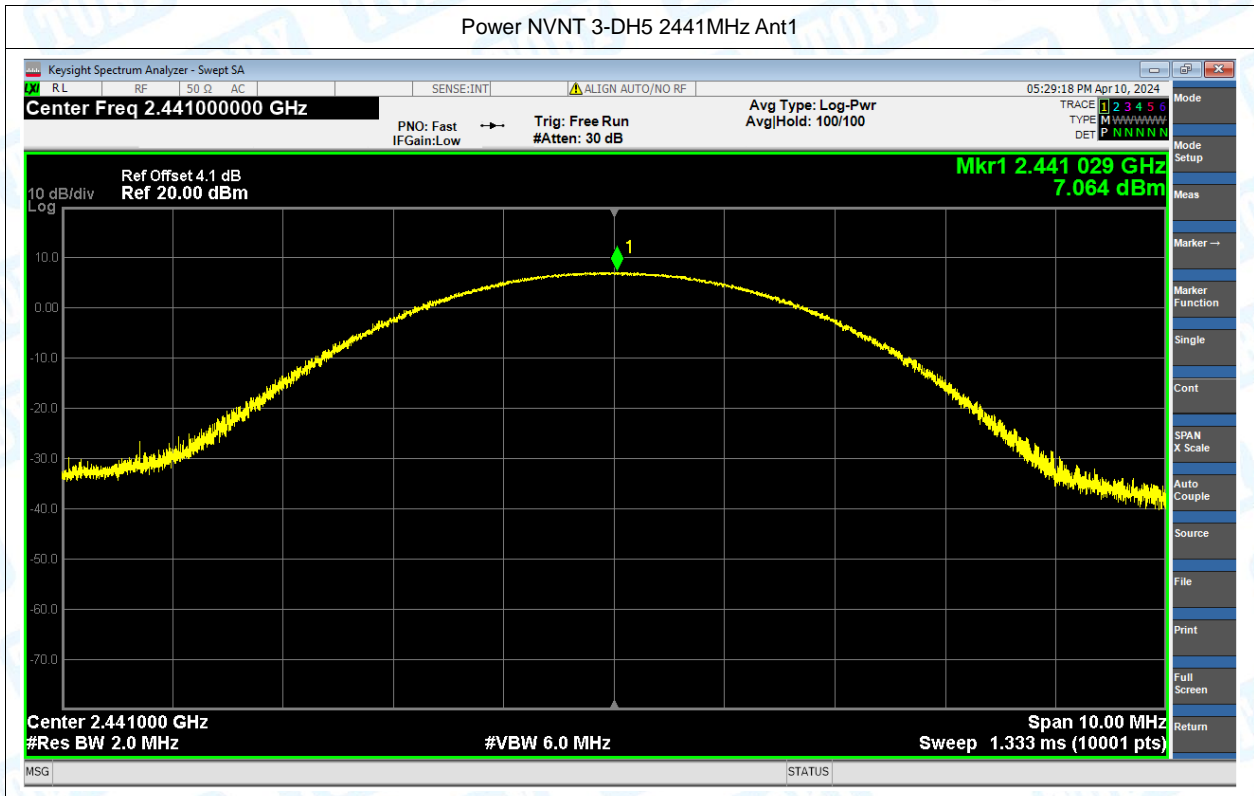
Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1





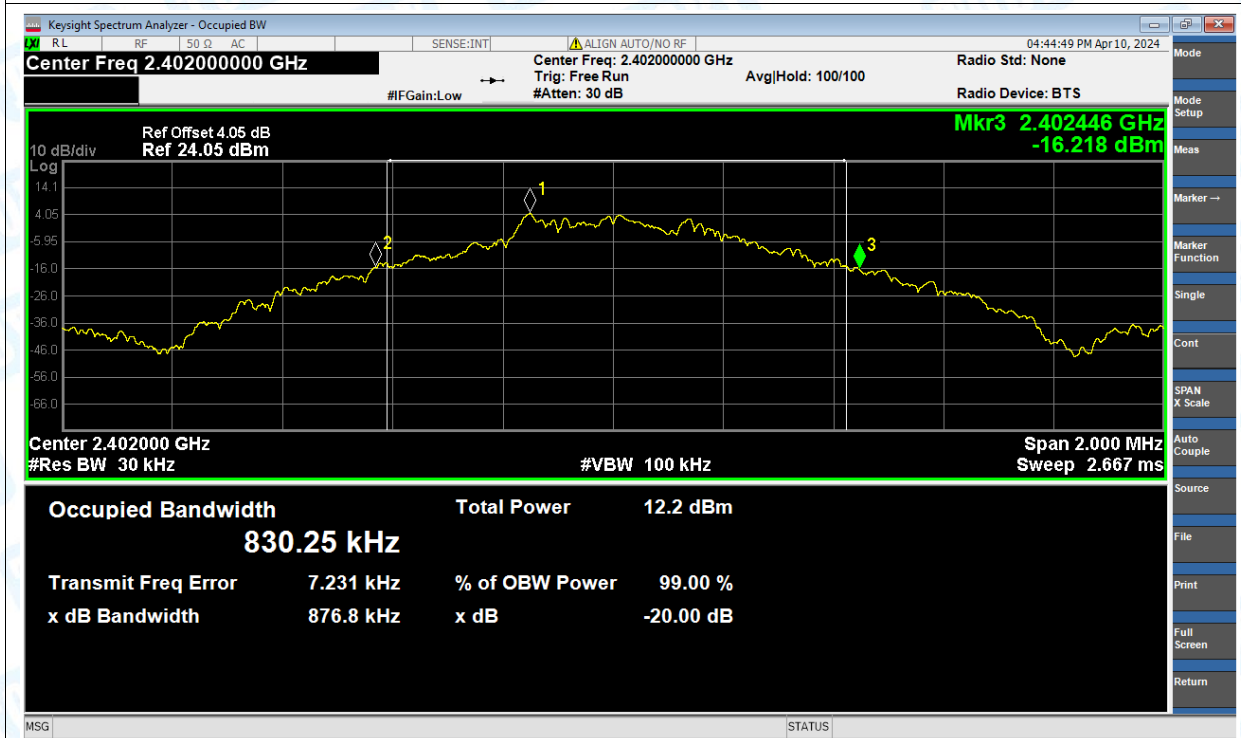


### 3. -20dB Bandwidth

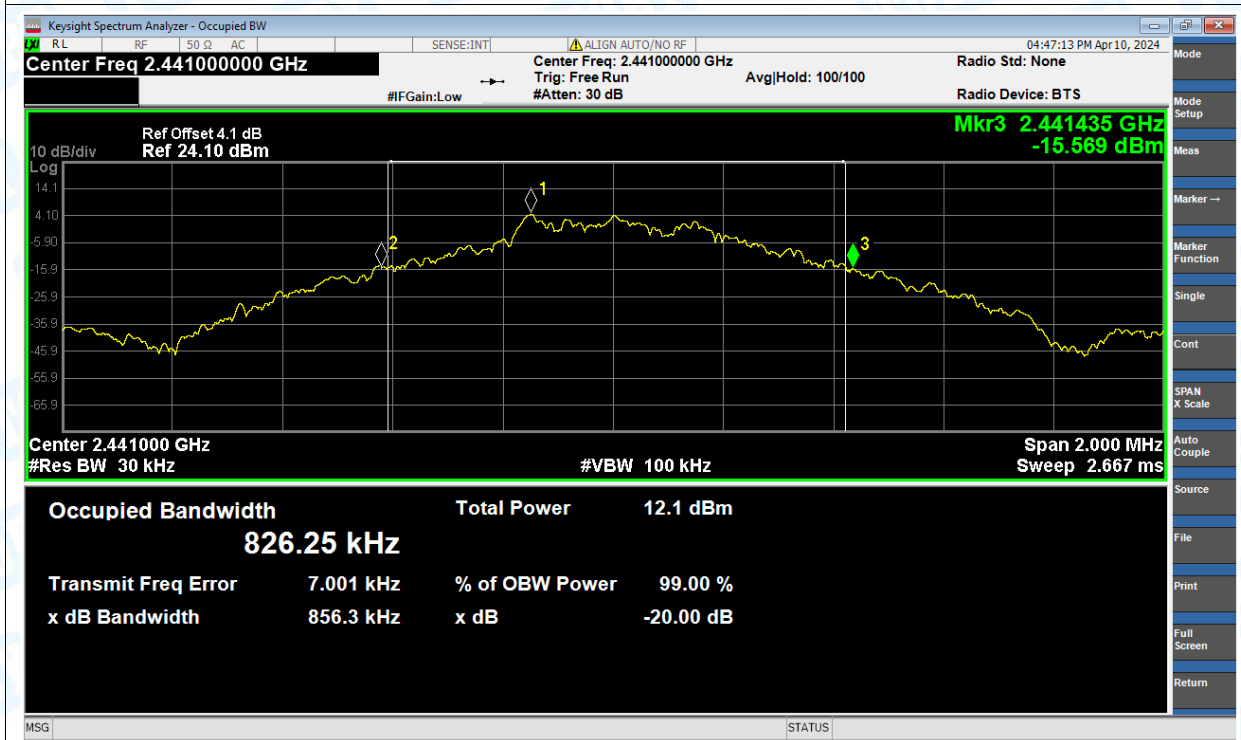
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.88	0	Pass
NVNT	1-DH1	2441	Ant1	0.86	0	Pass
NVNT	1-DH1	2480	Ant1	0.86	0	Pass
NVNT	2-DH1	2402	Ant1	1.21	0	Pass
NVNT	2-DH1	2441	Ant1	1.22	0	Pass
NVNT	2-DH1	2480	Ant1	1.24	0	Pass
NVNT	3-DH1	2402	Ant1	1.21	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.24	0	Pass

Test Graphs

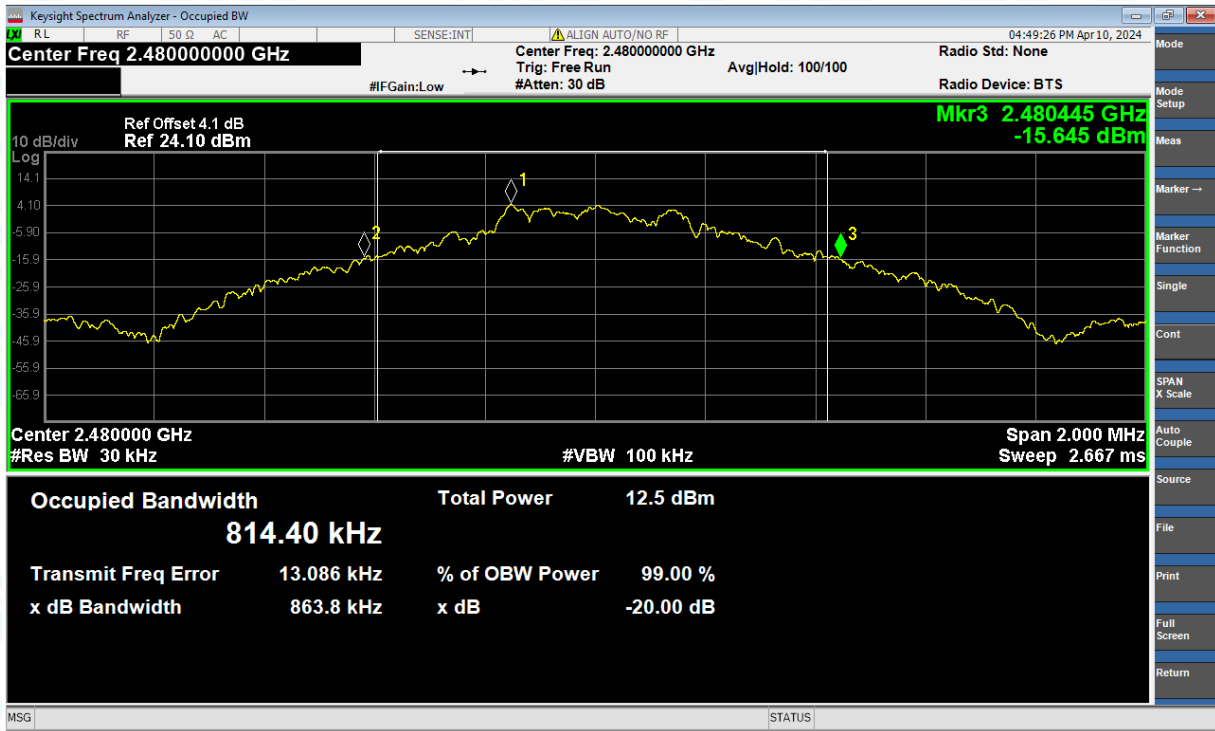
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



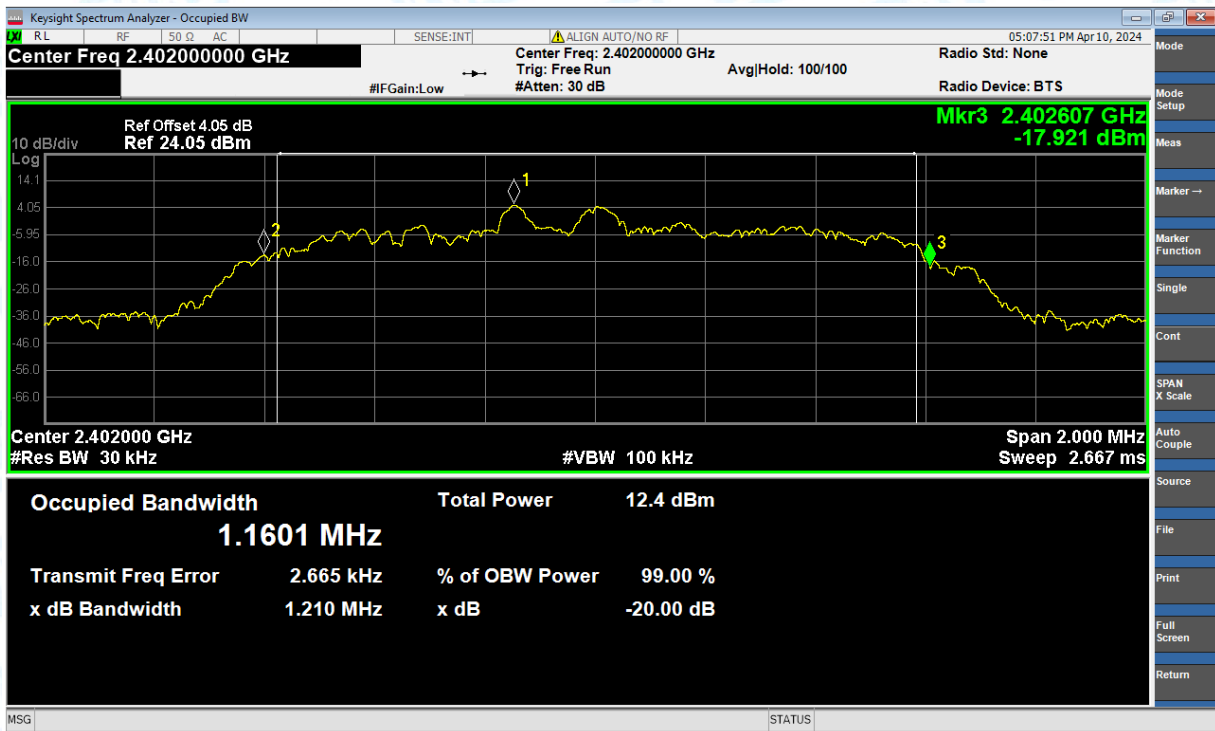
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



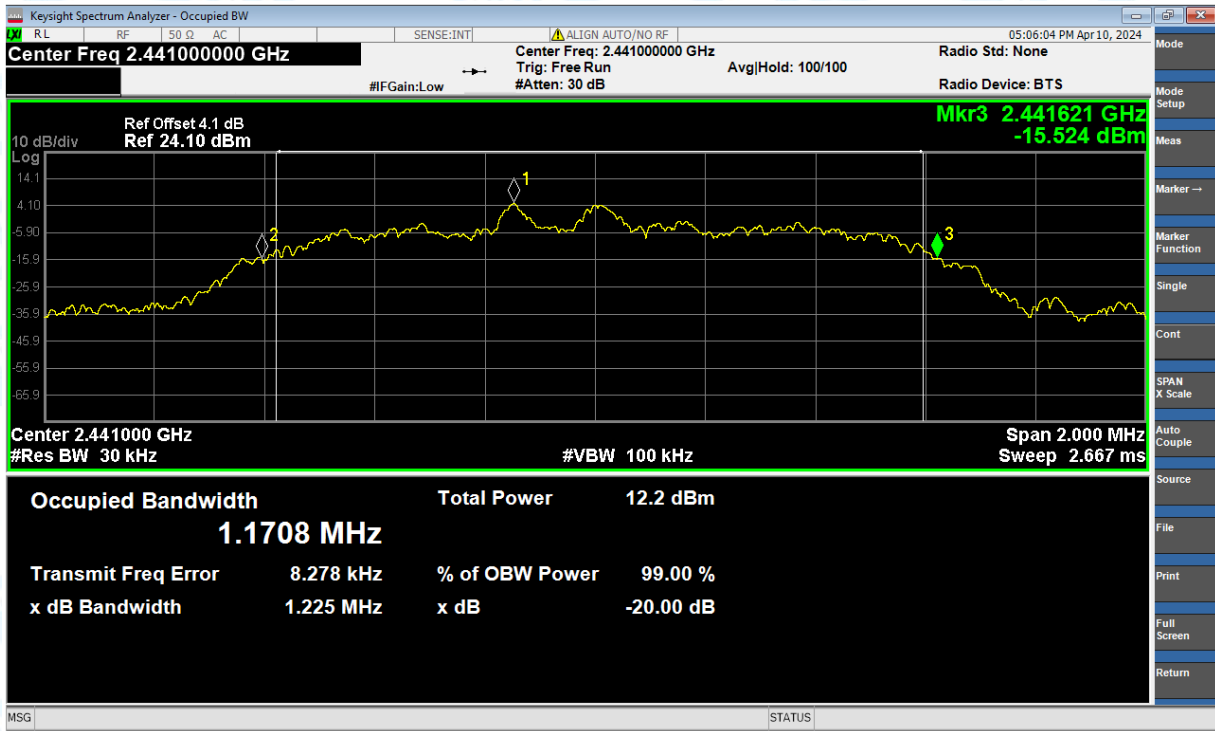
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



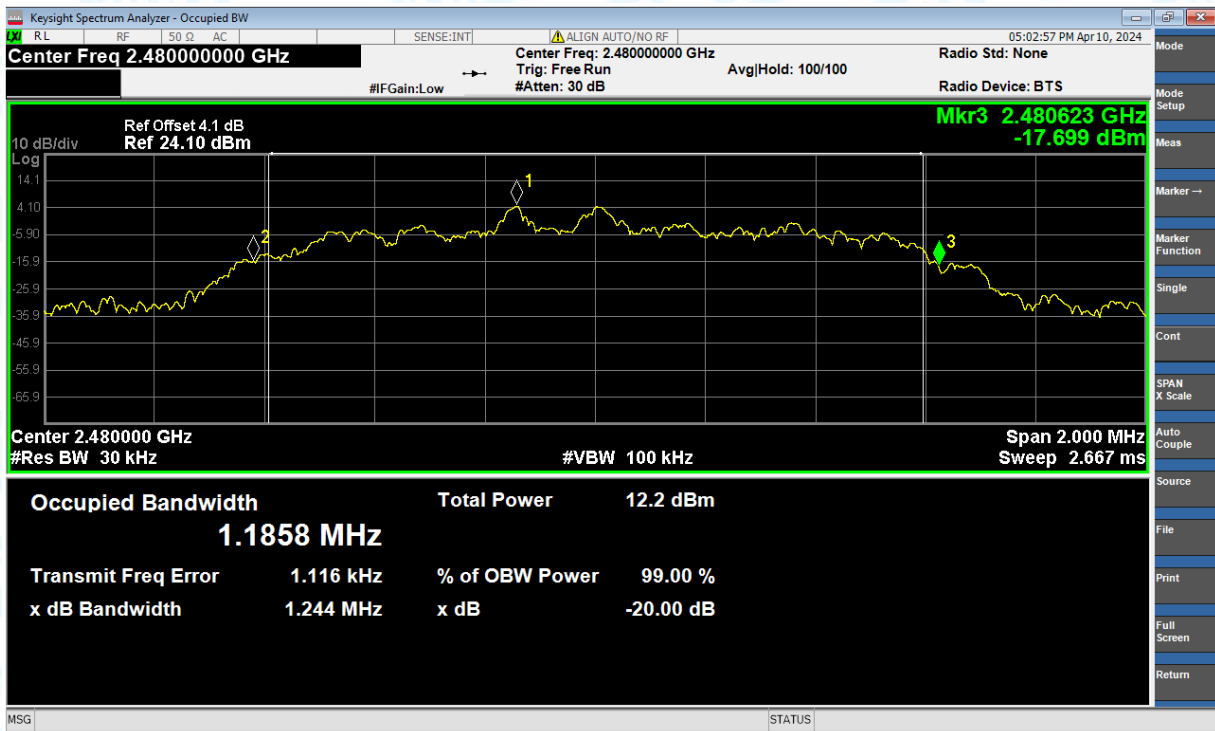
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



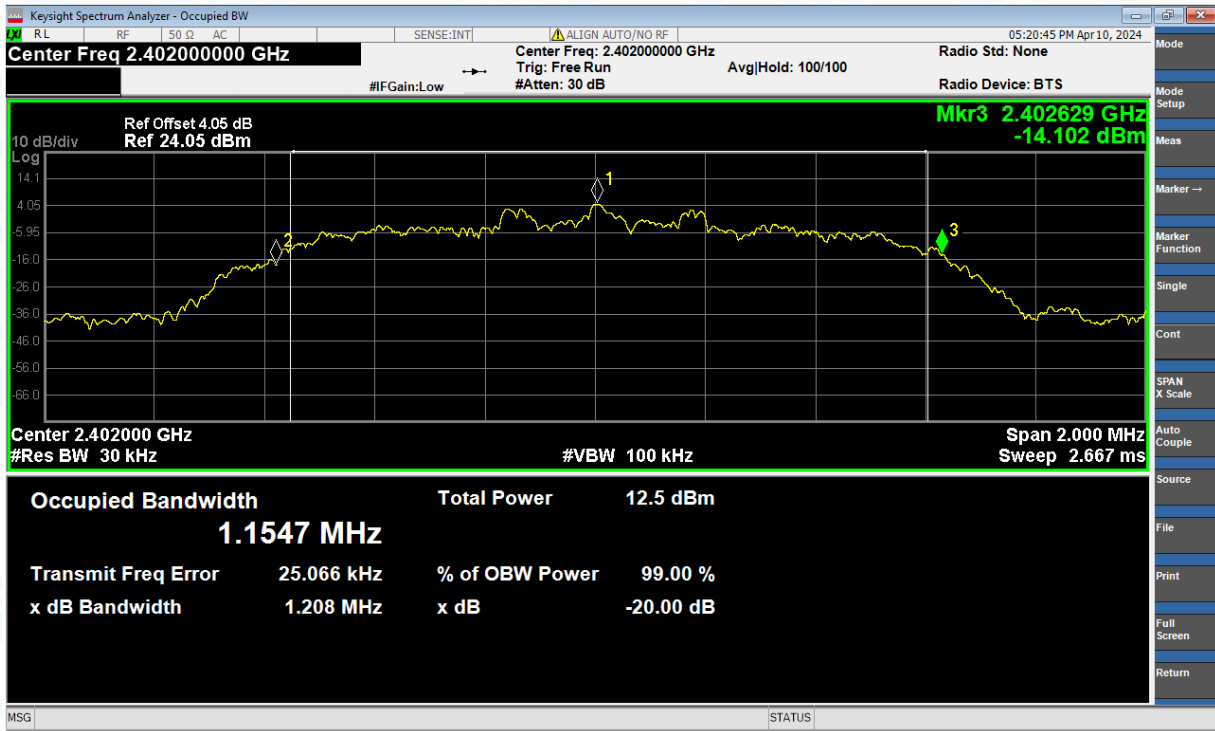
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



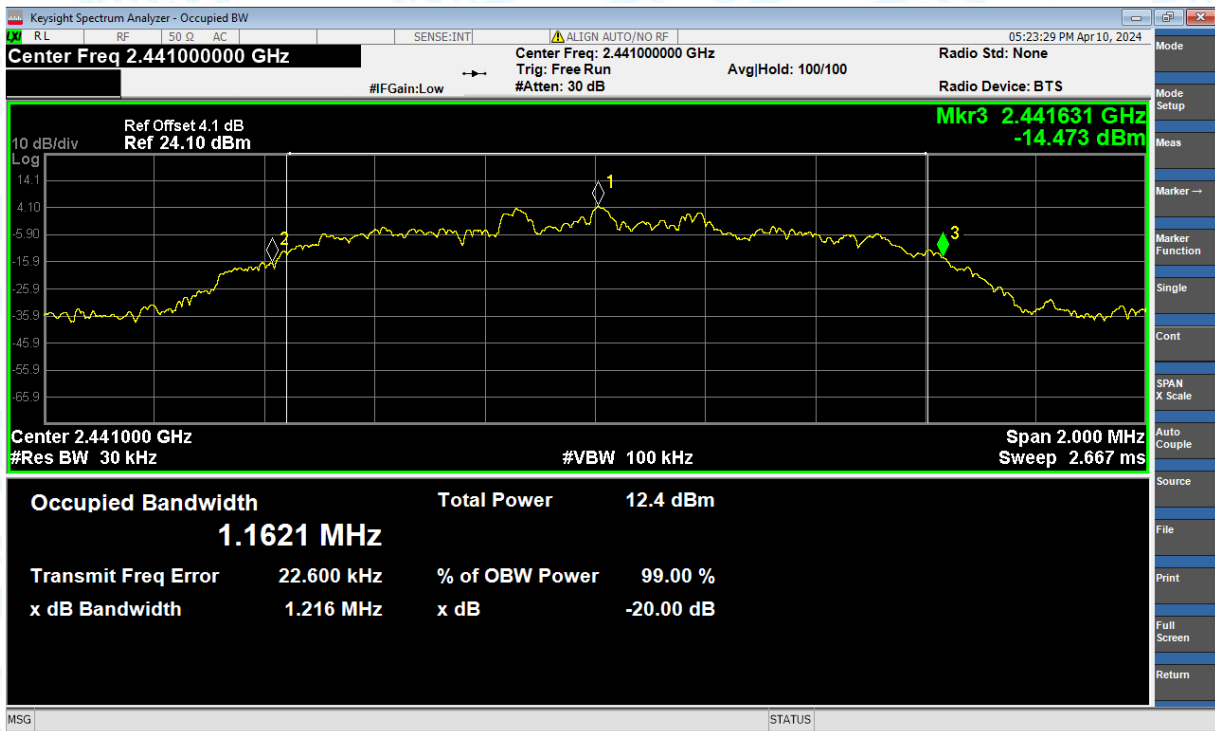
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

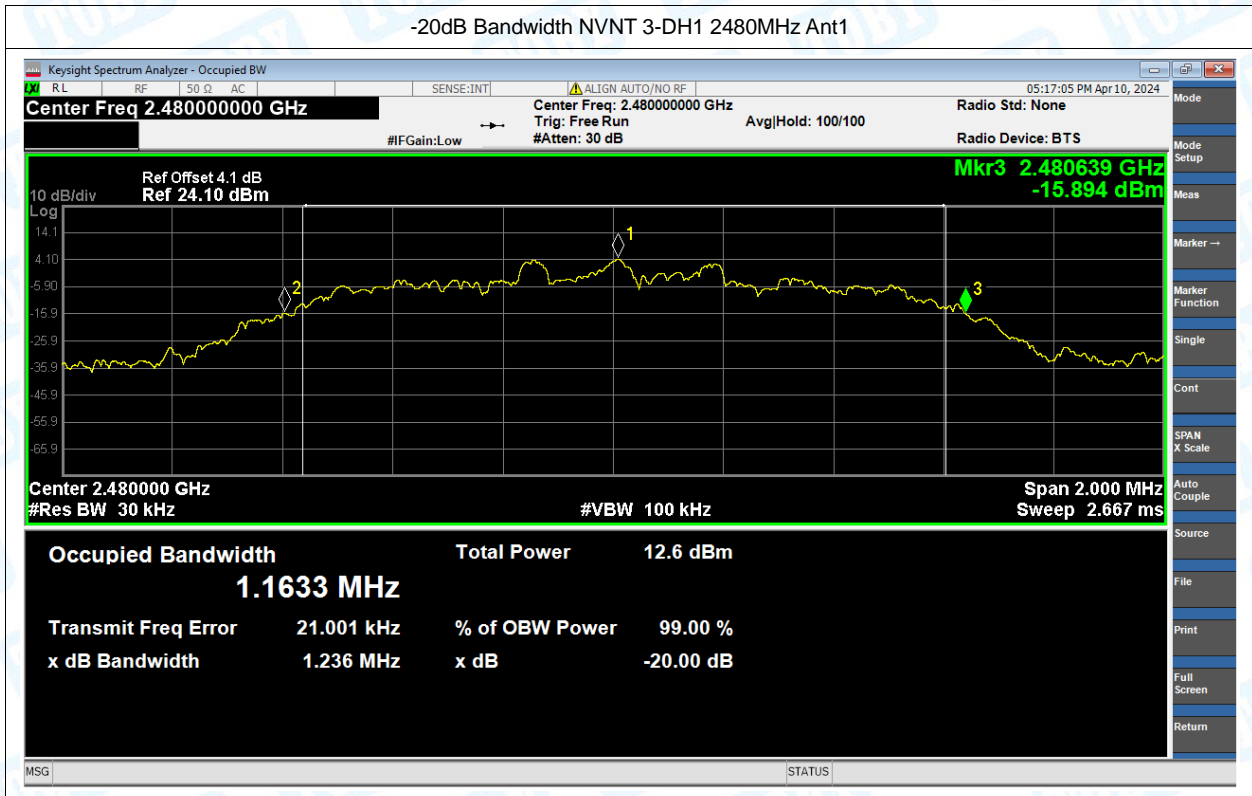


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1





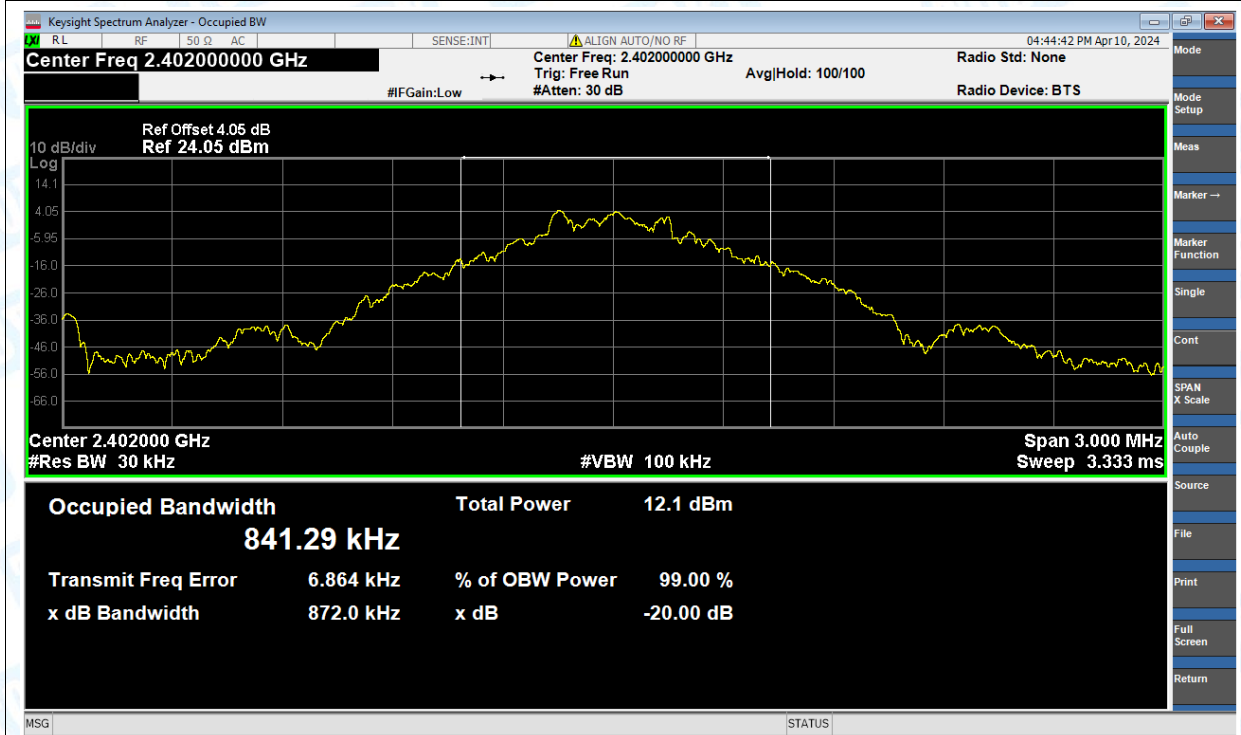
## 4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.841
NVNT	1-DH1	2441	Ant1	0.822
NVNT	1-DH1	2480	Ant1	0.821
NVNT	2-DH1	2402	Ant1	1.163
NVNT	2-DH1	2441	Ant1	1.181
NVNT	2-DH1	2480	Ant1	1.19
NVNT	3-DH1	2402	Ant1	1.161
NVNT	3-DH1	2441	Ant1	1.172
NVNT	3-DH1	2480	Ant1	1.173

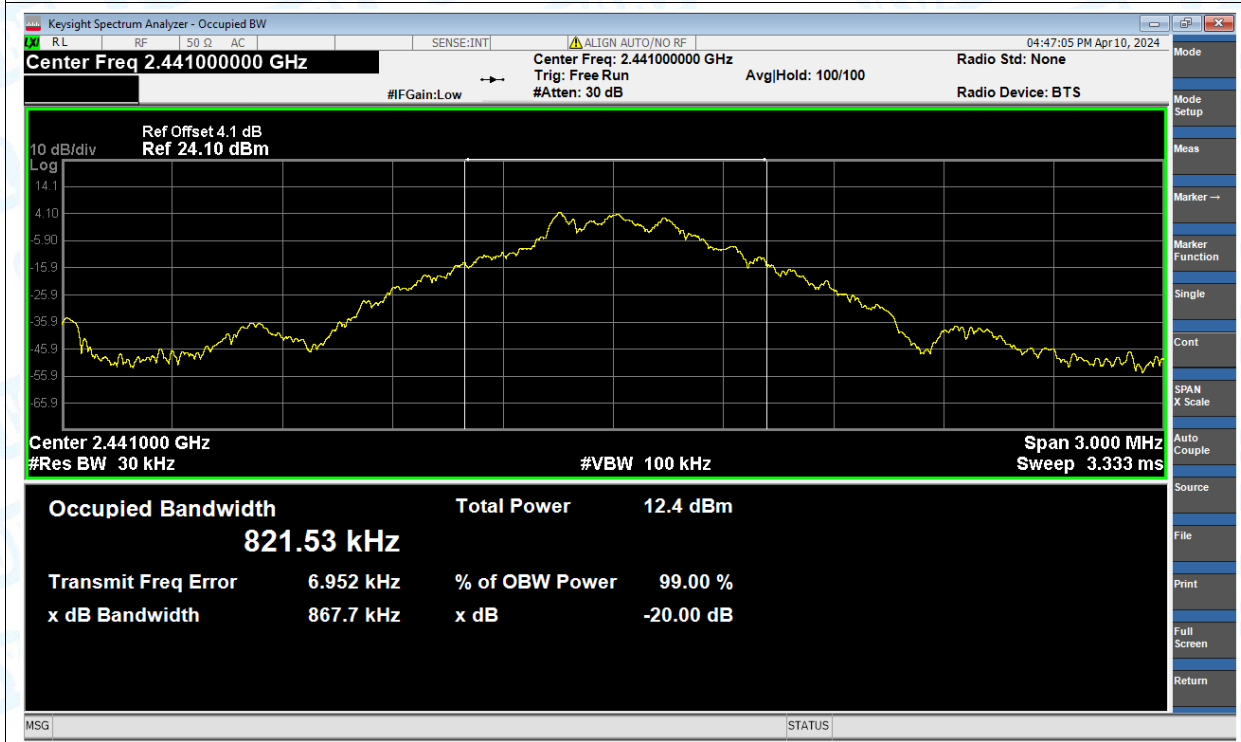


Test Graphs

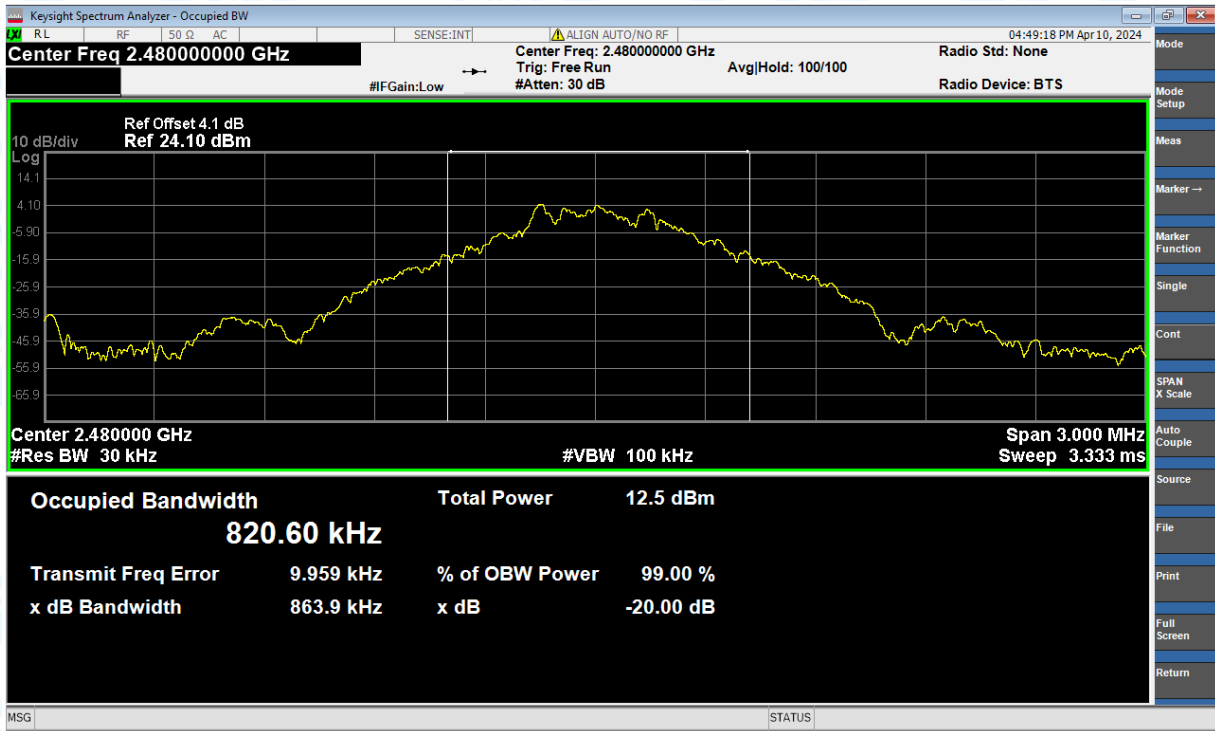
OBW NVNT 1-DH1 2402MHz Ant1



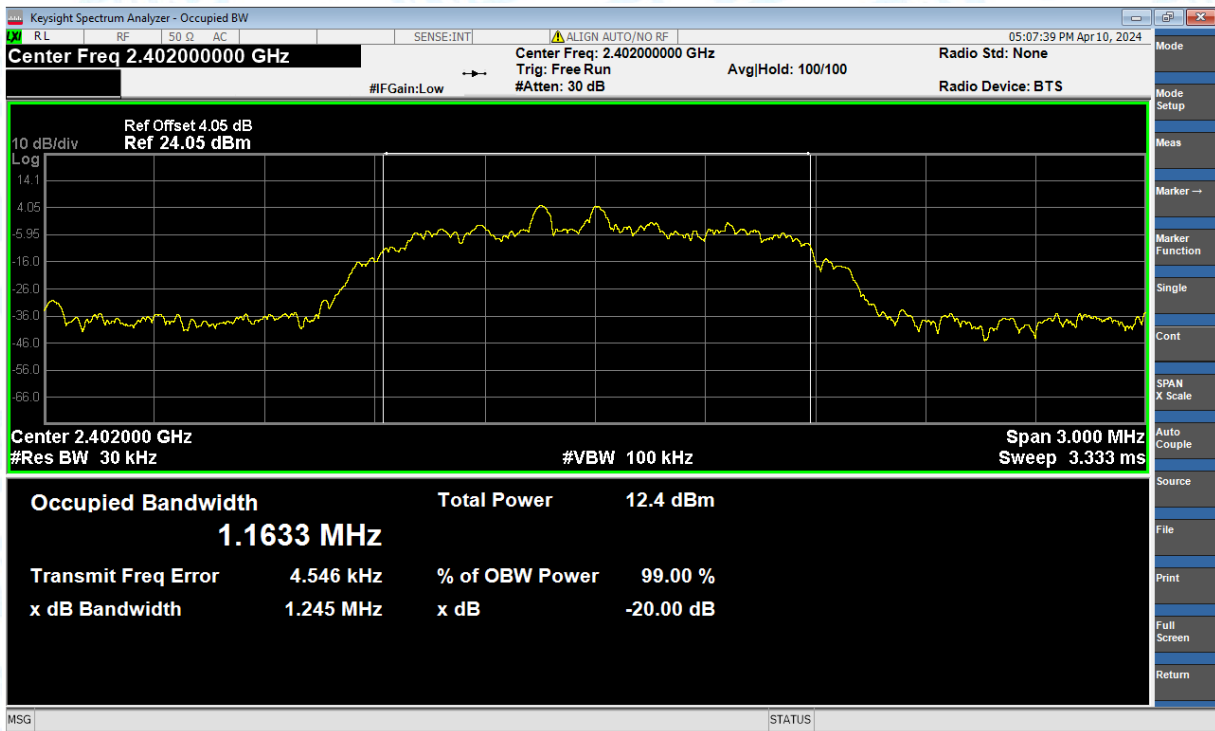
OBW NVNT 1-DH1 2441MHz Ant1



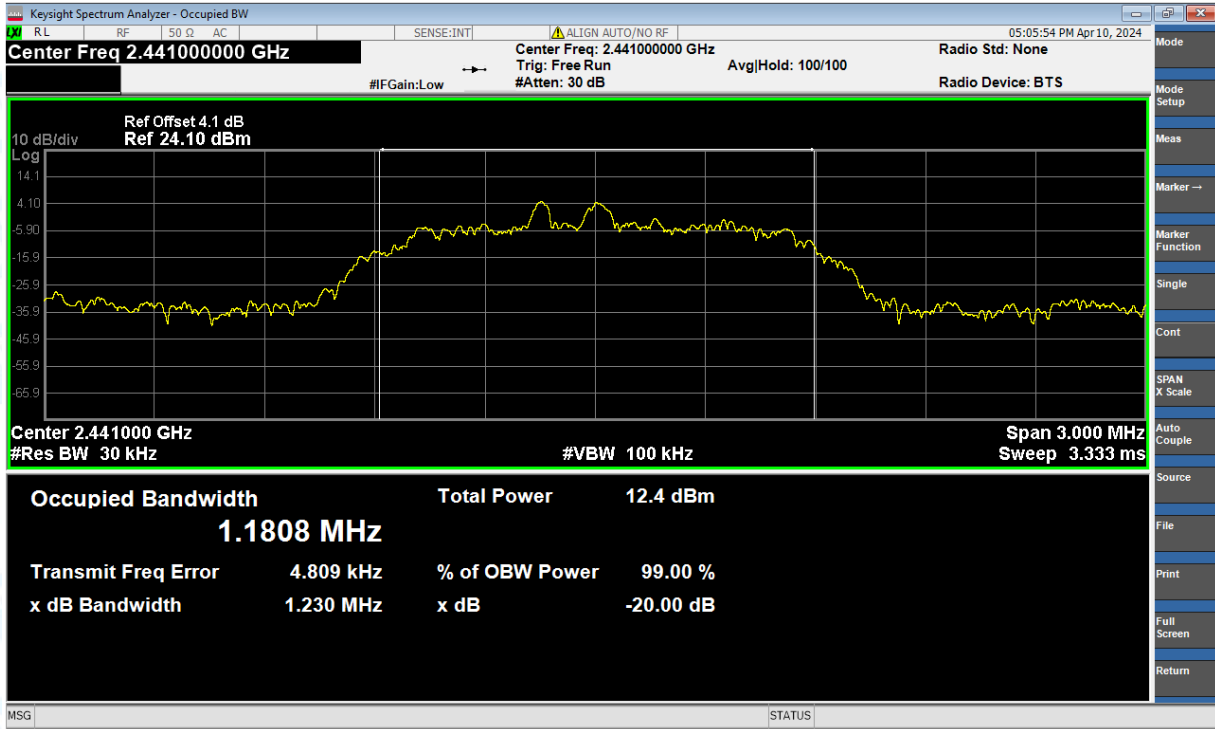
OBW NVNT 1-DH1 2480MHz Ant1



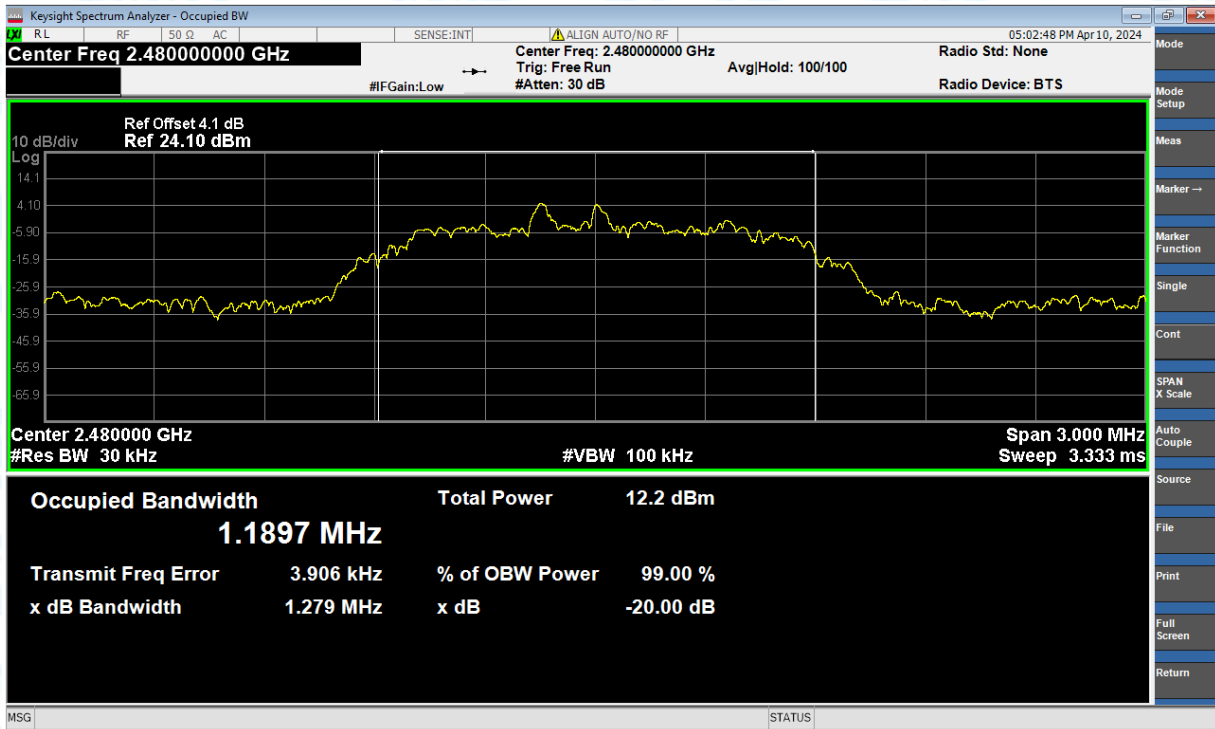
OBW NVNT 2-DH1 2402MHz Ant1



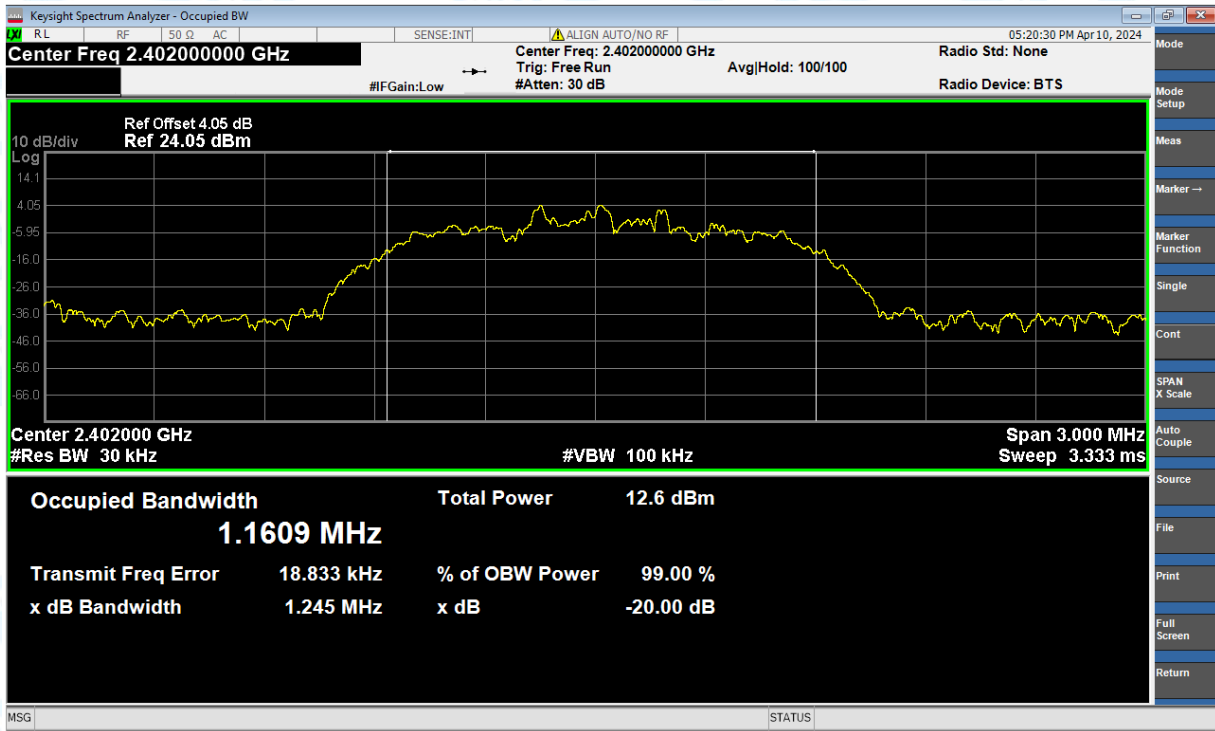
OBW NVNT 2-DH1 2441MHz Ant1



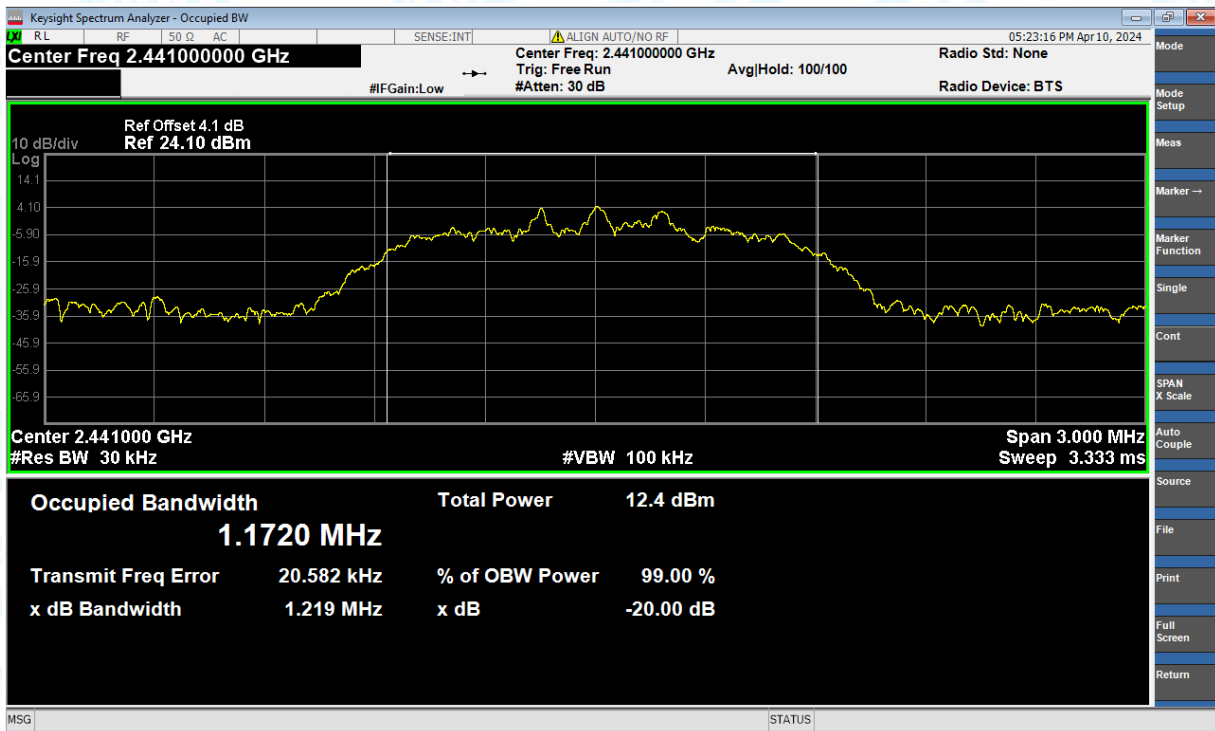
OBW NVNT 2-DH1 2480MHz Ant1

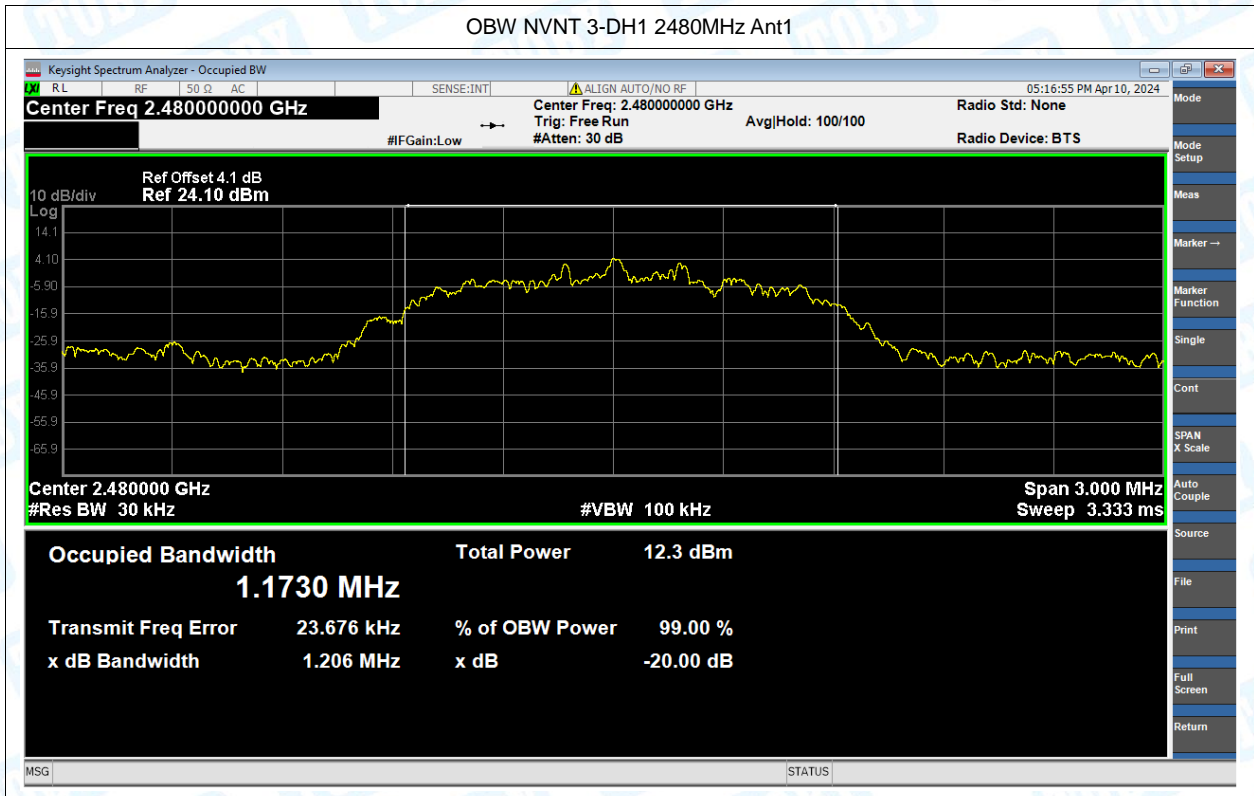


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1





## 5. Band Edge

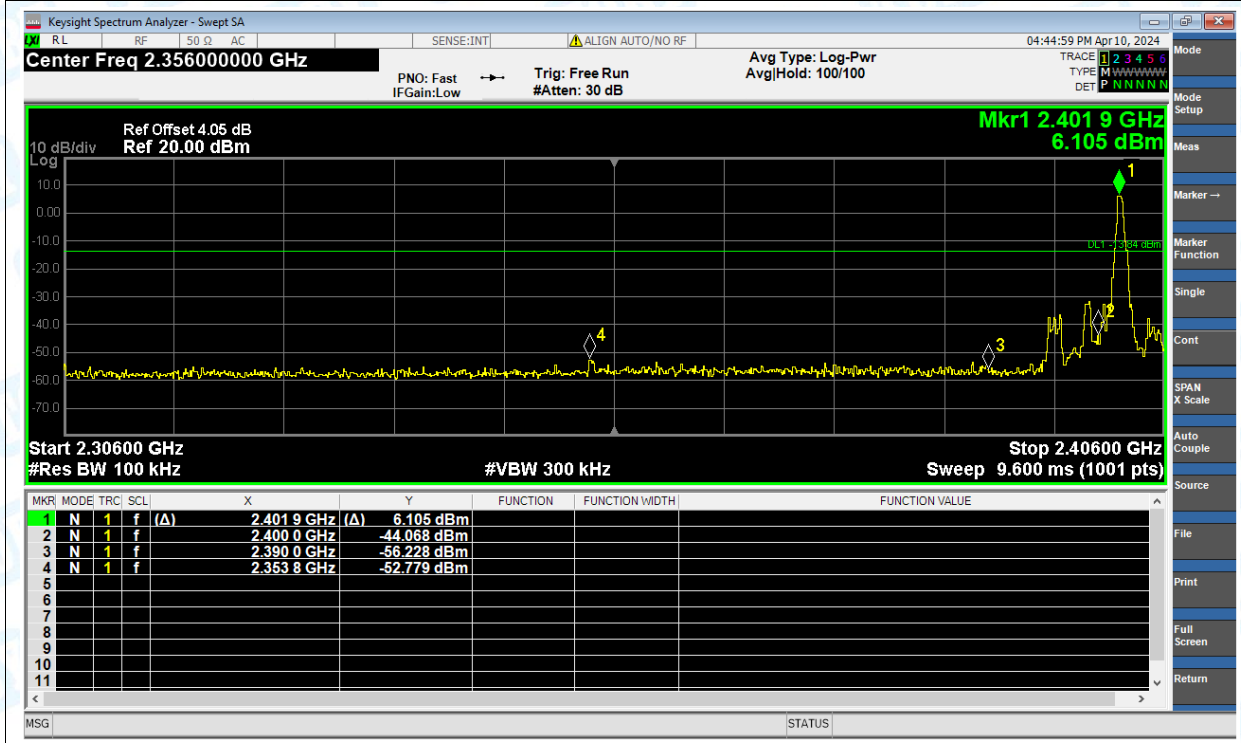
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-58.94	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-46.89	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-58.49	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-46.51	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-58.59	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-46.64	-20	Pass

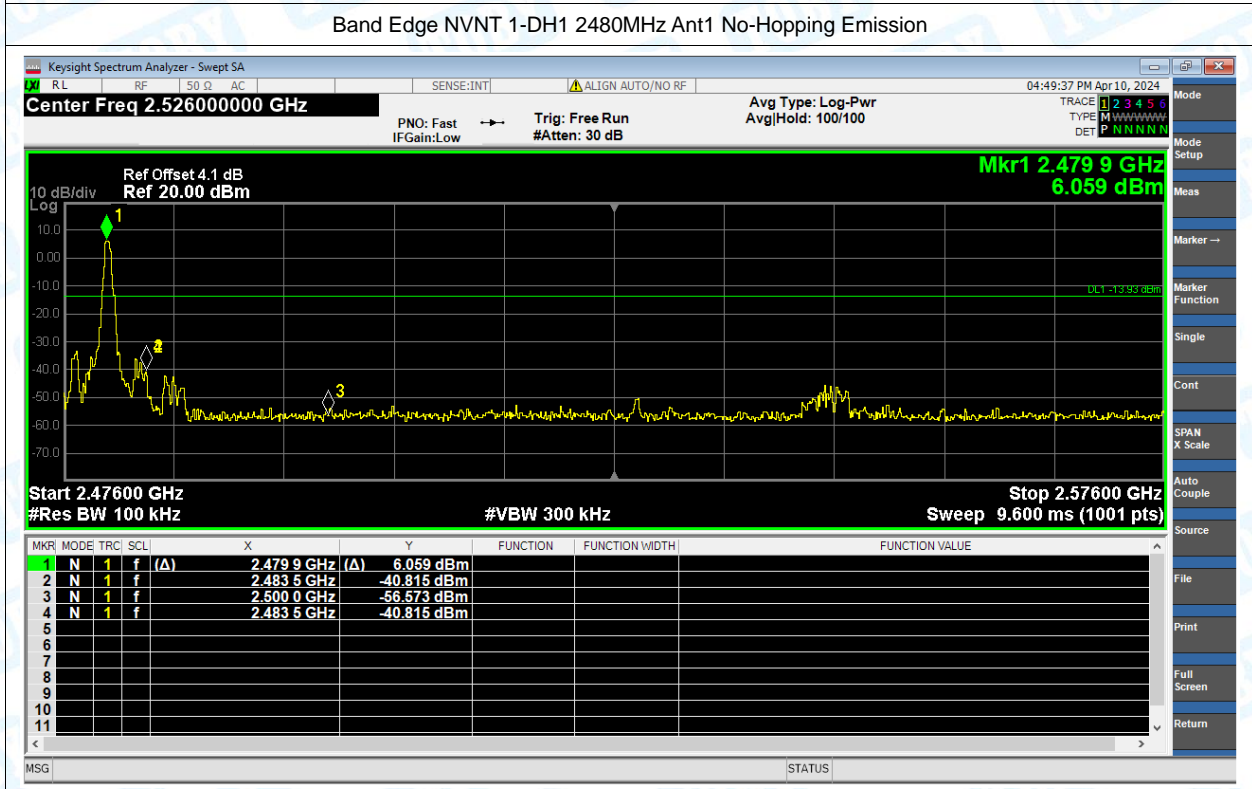
Test Graphs

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

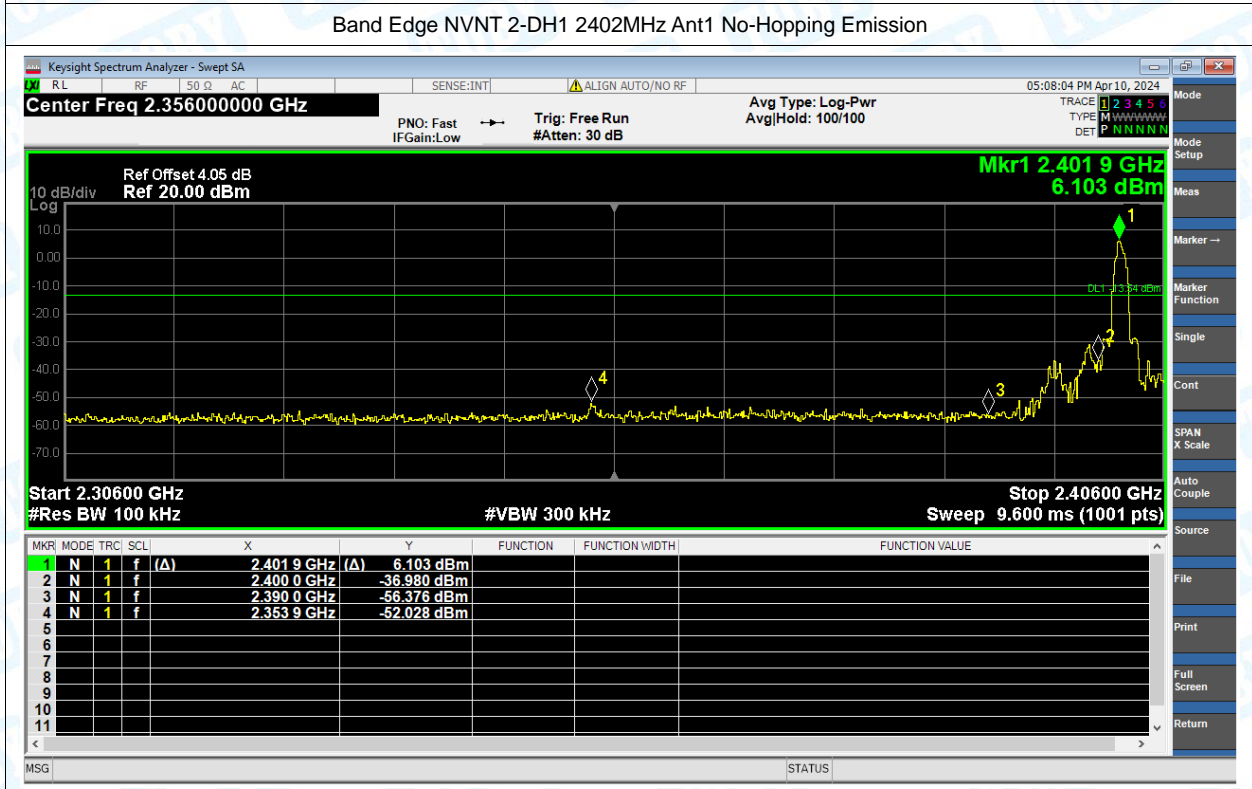
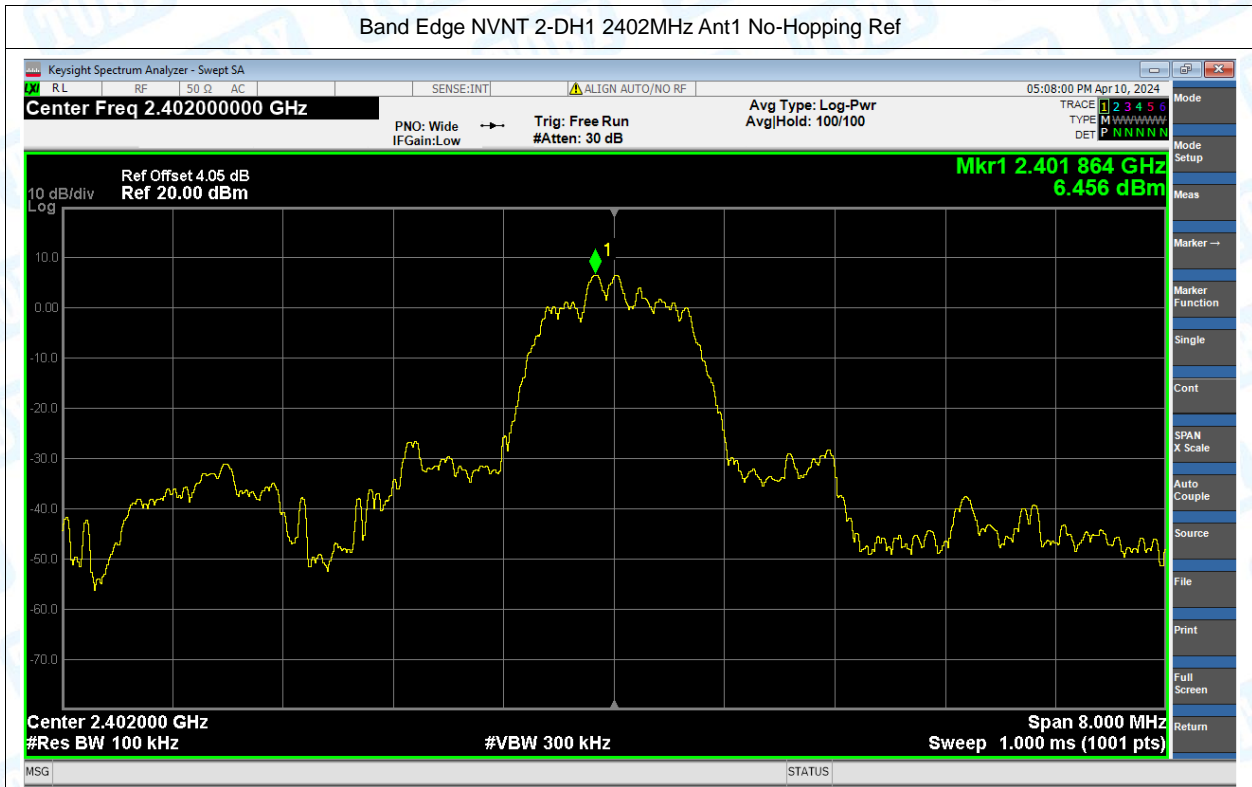


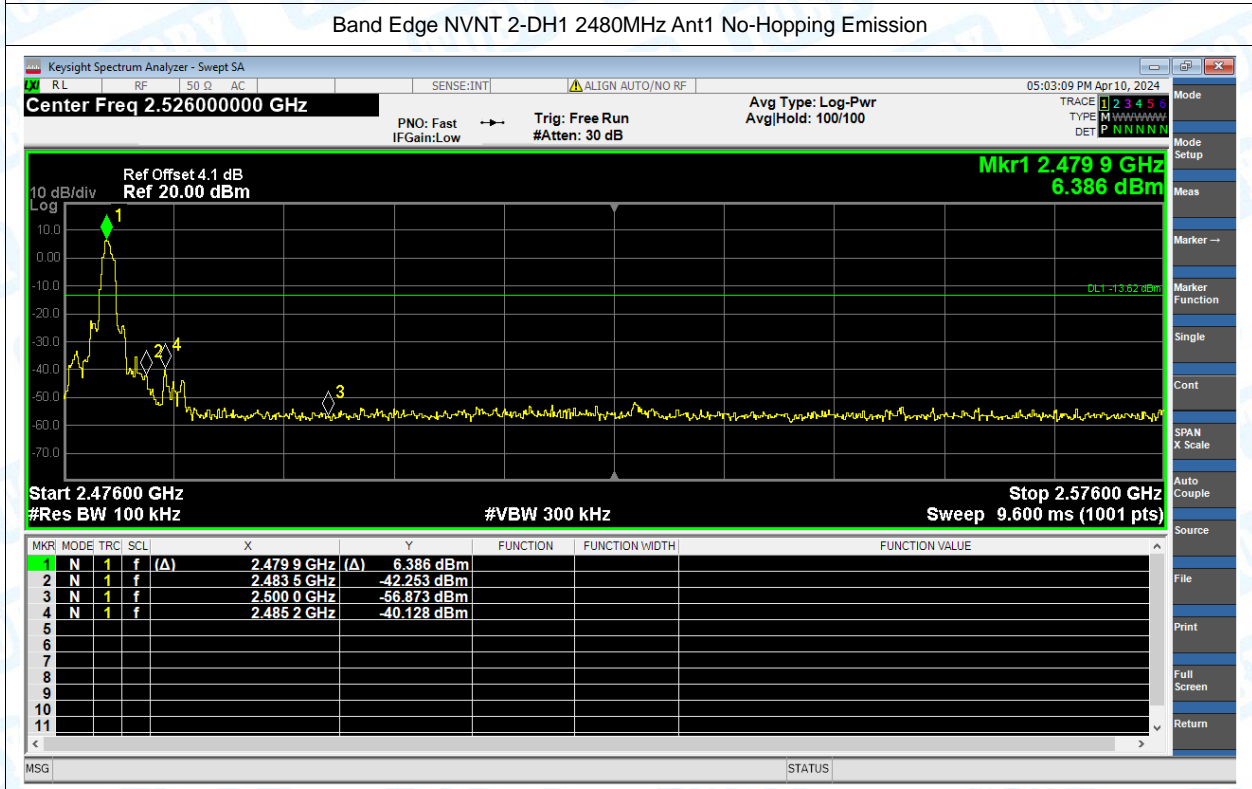
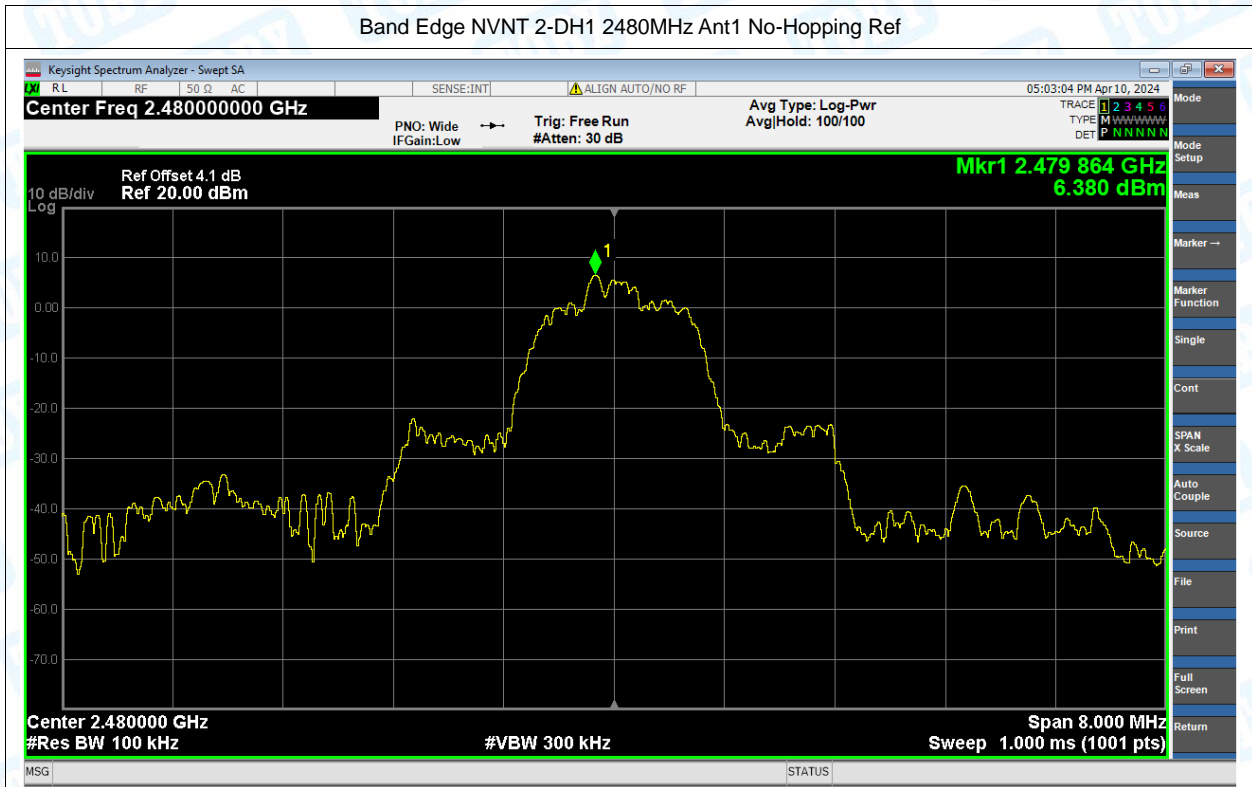
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

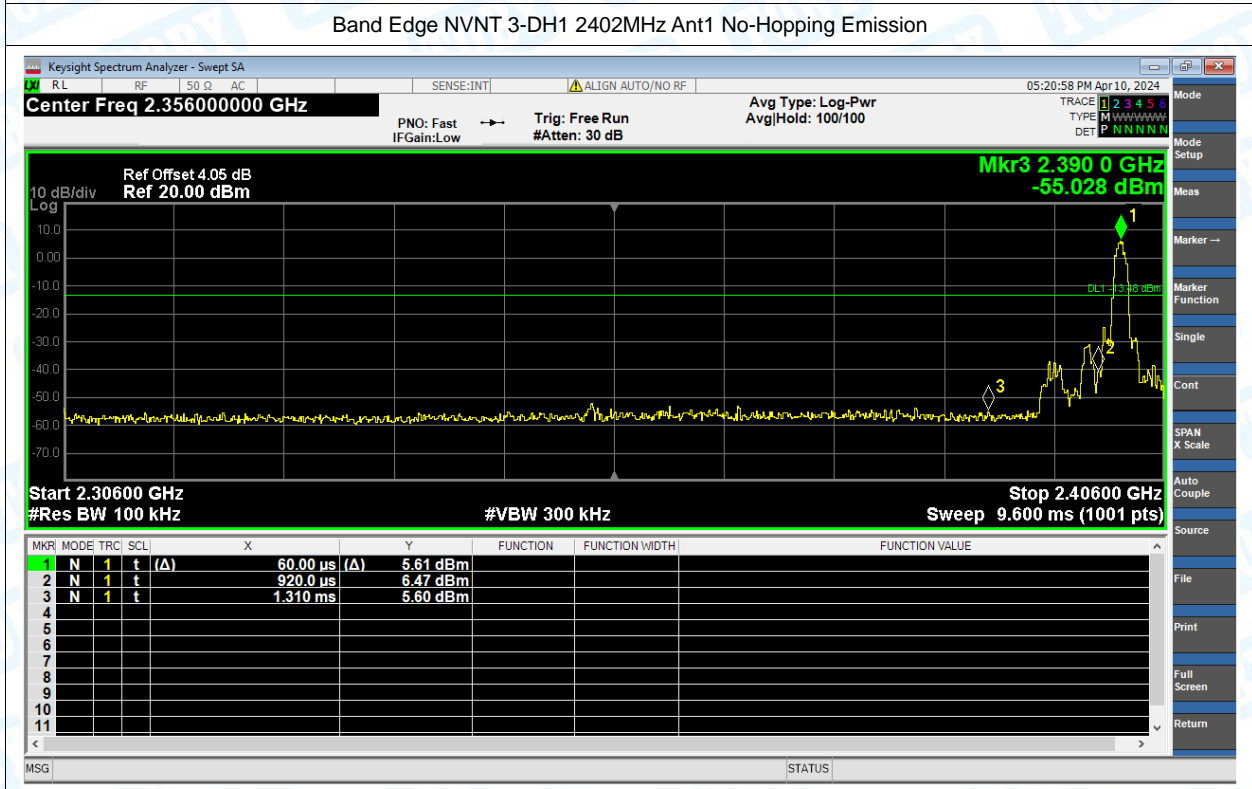


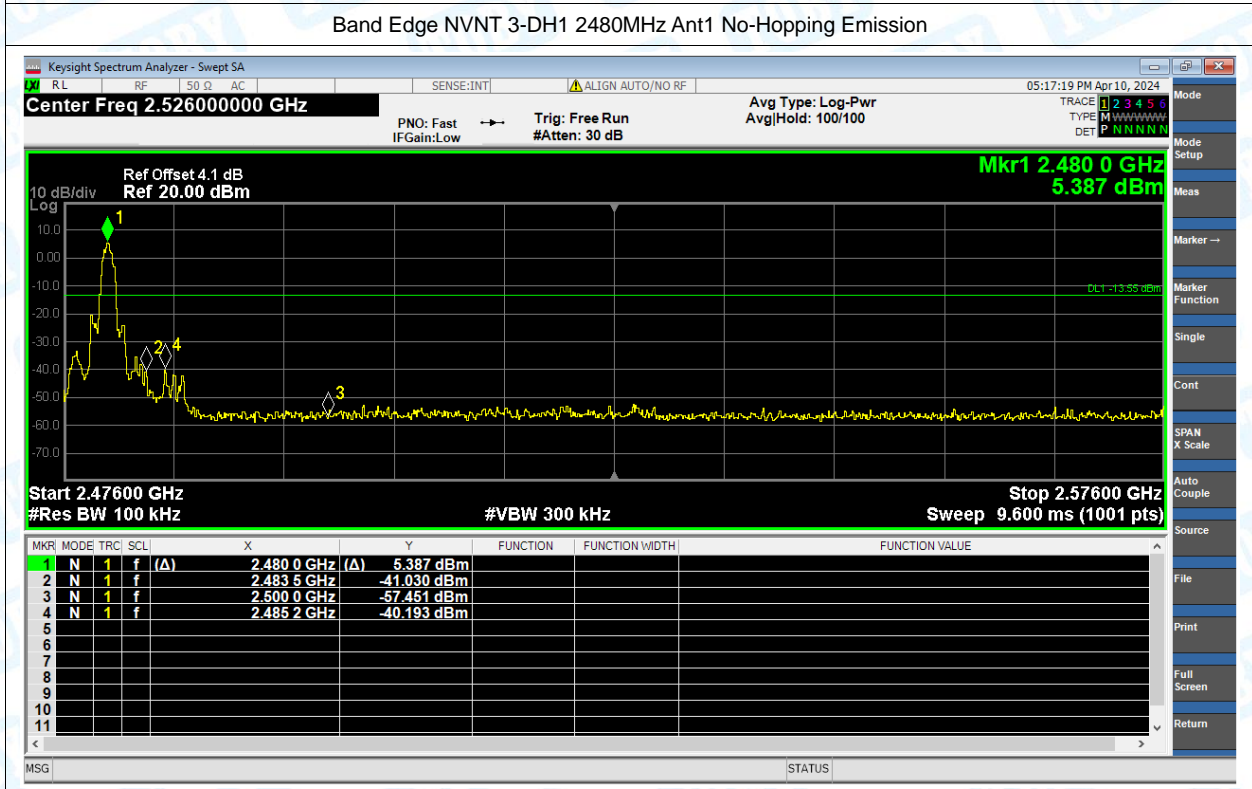
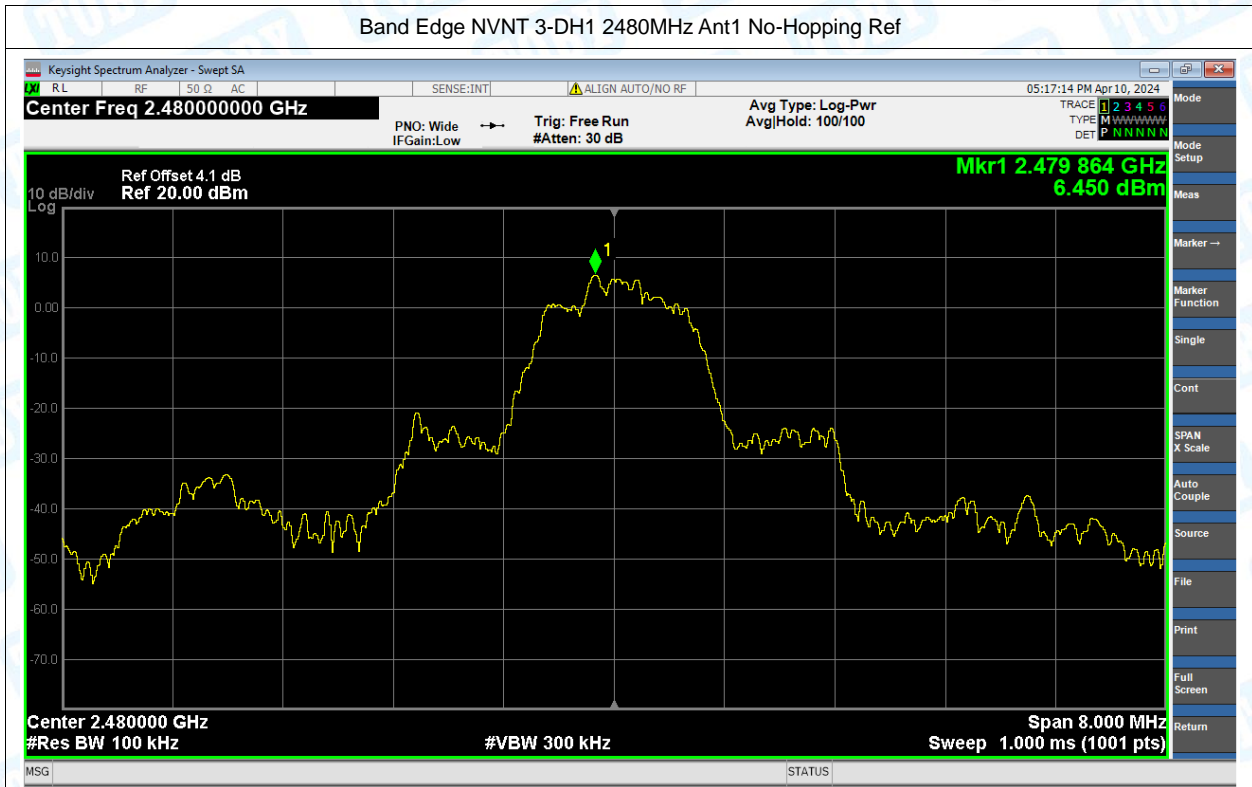












## 6. Band Edge(Hopping)

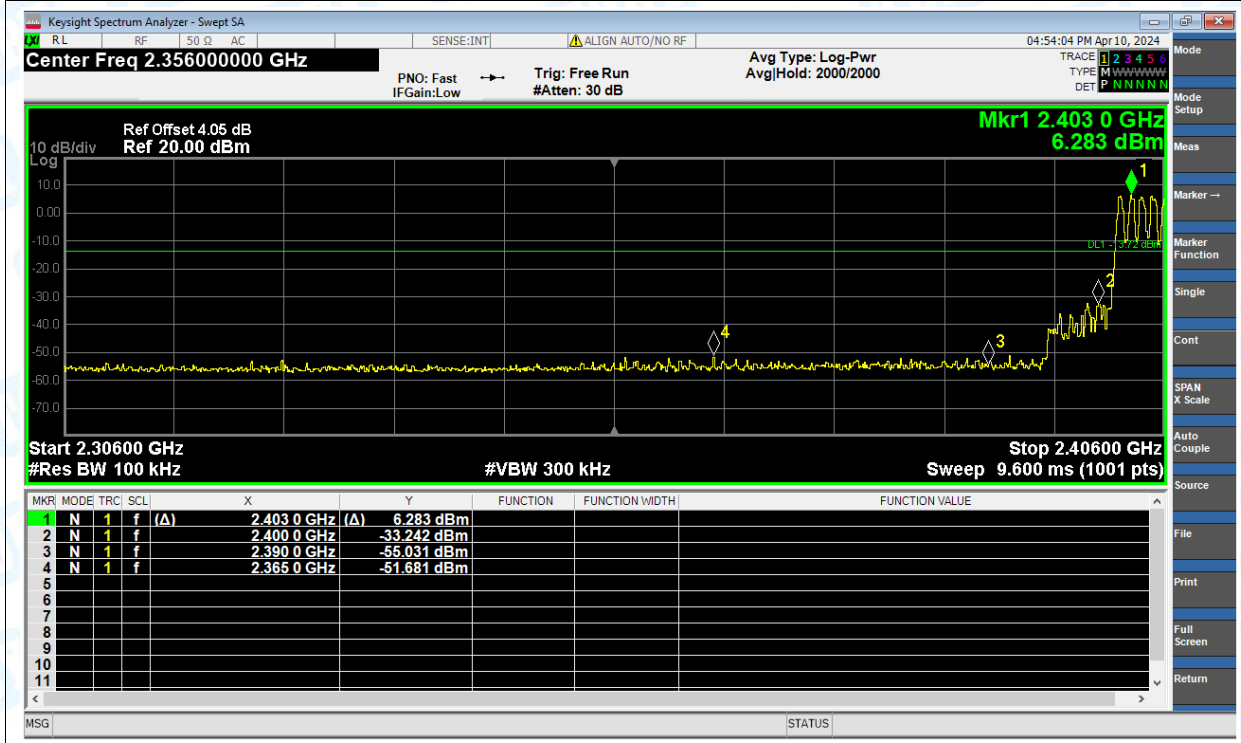
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-57.96	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-47.55	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-57.41	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-46.31	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-57.67	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-43.53	-20	Pass

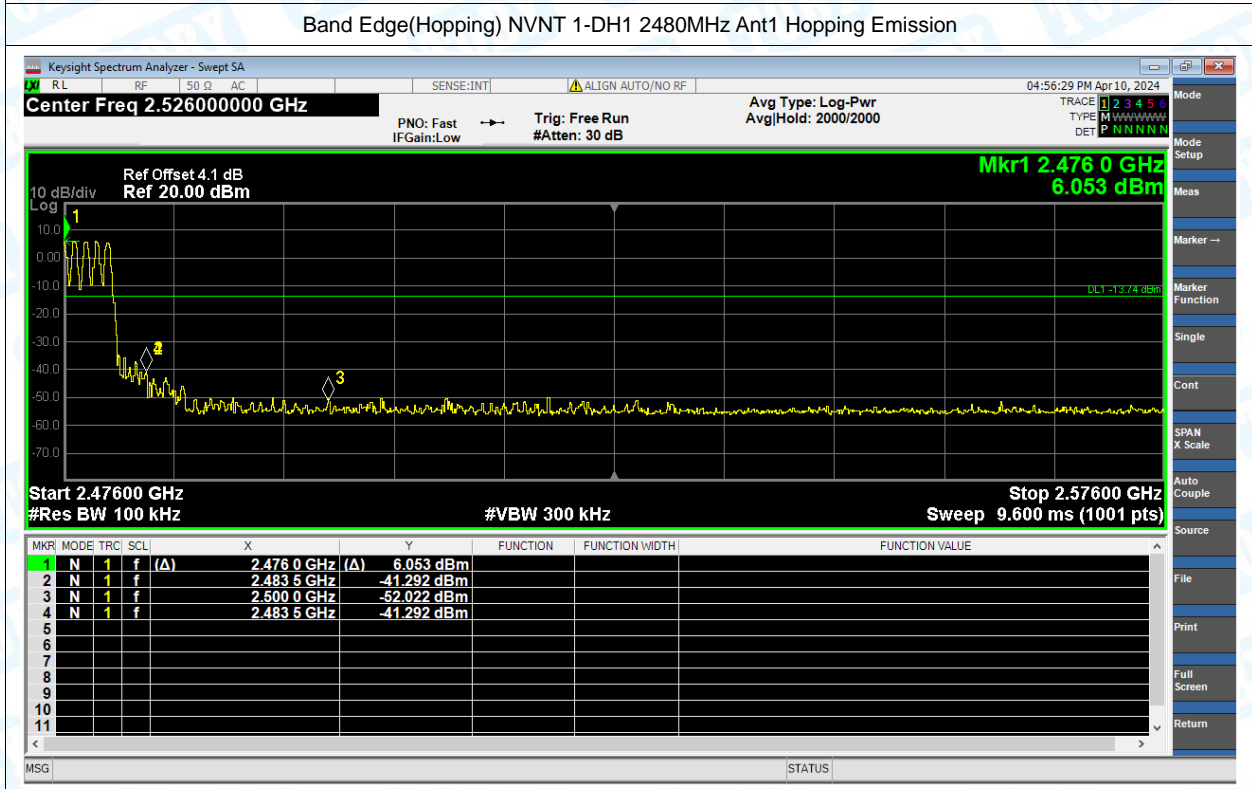
Test Graphs

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



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

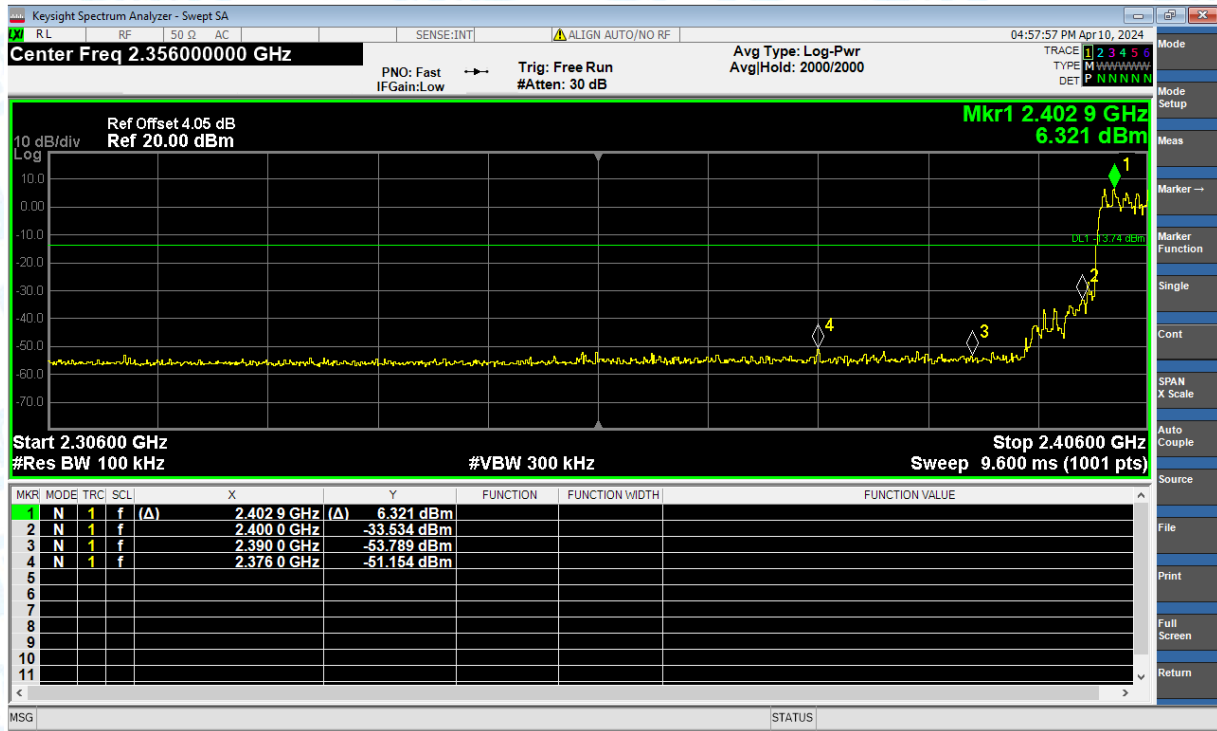




Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



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

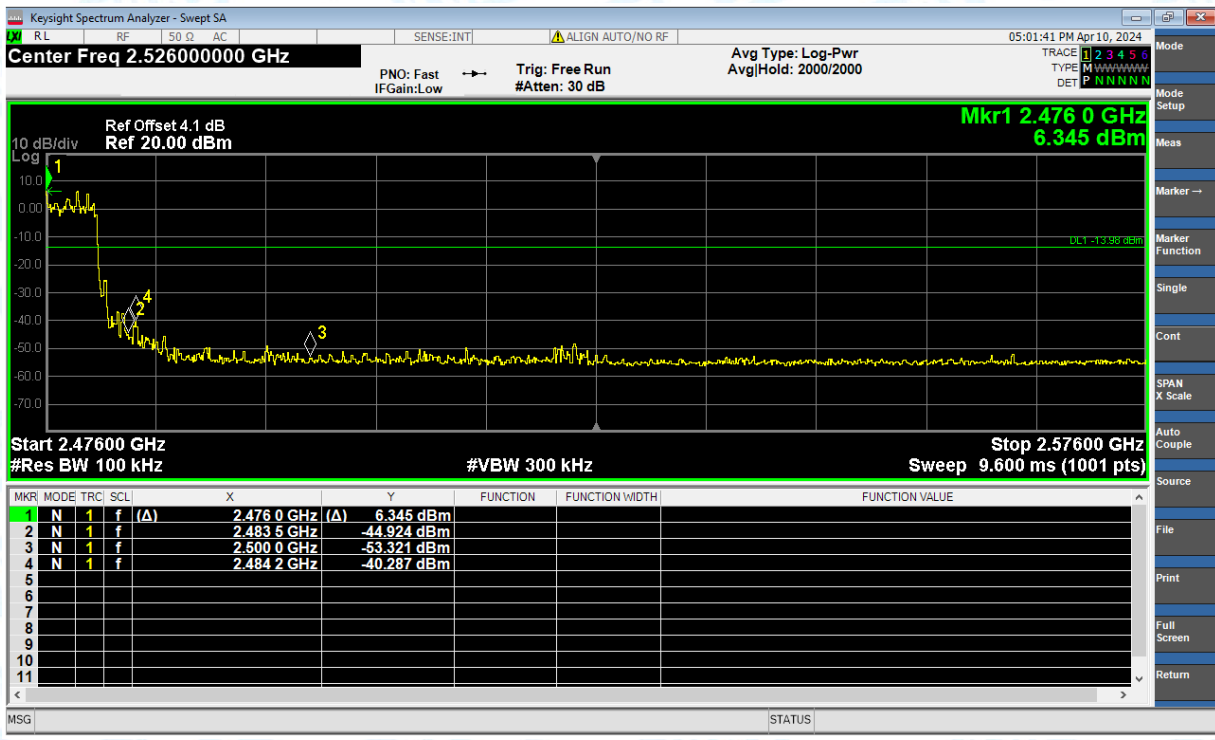


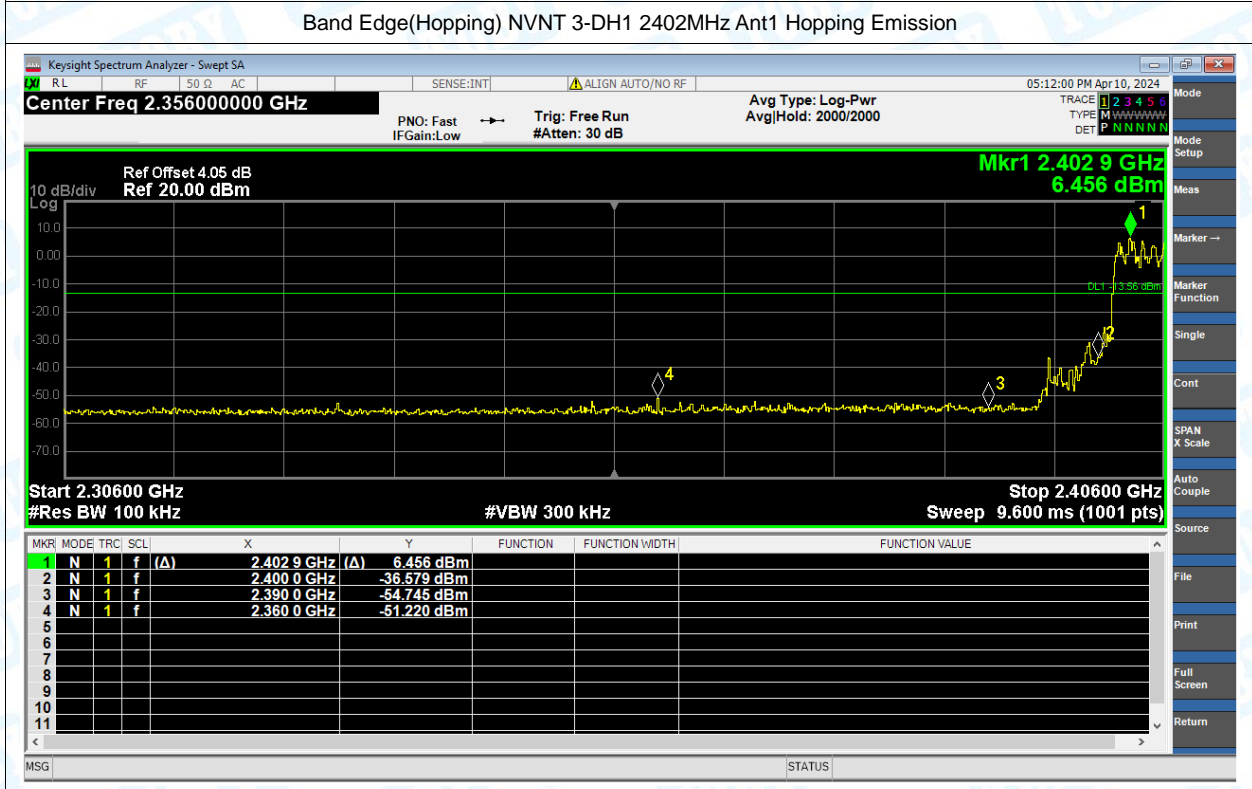
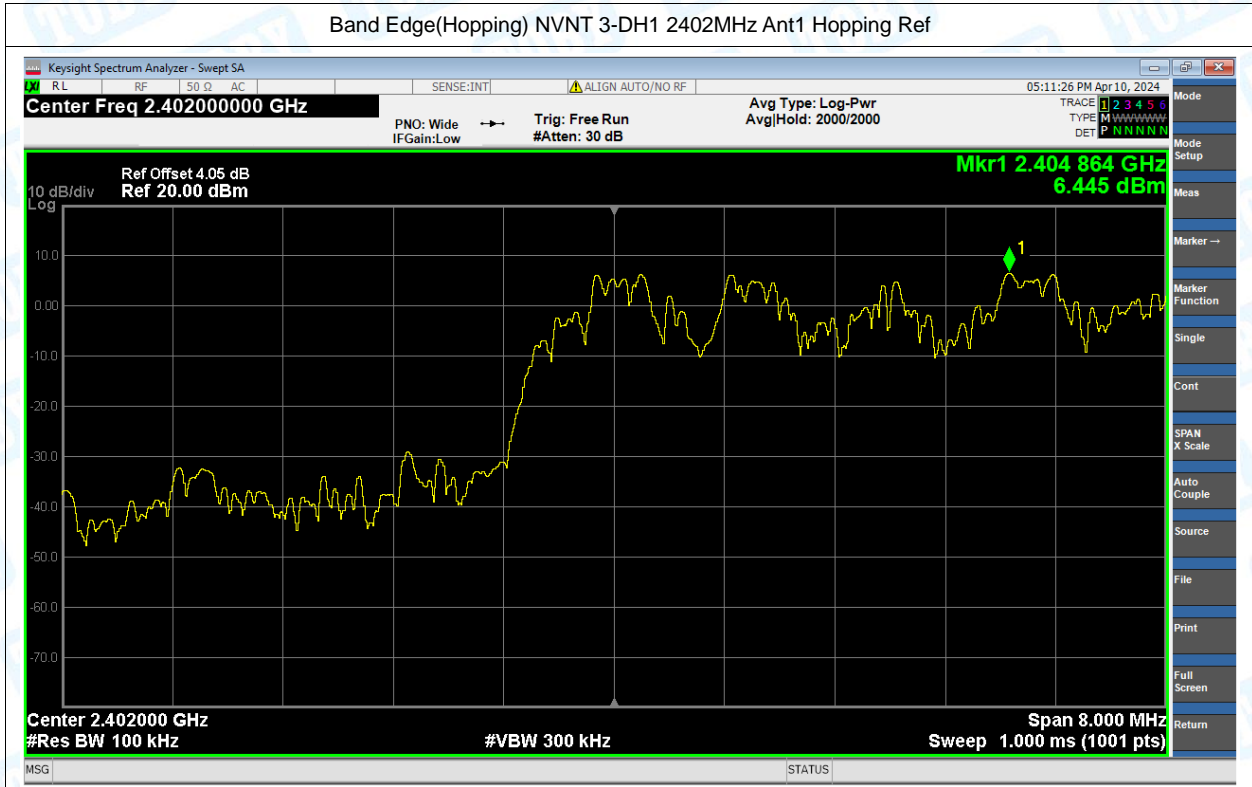


Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref

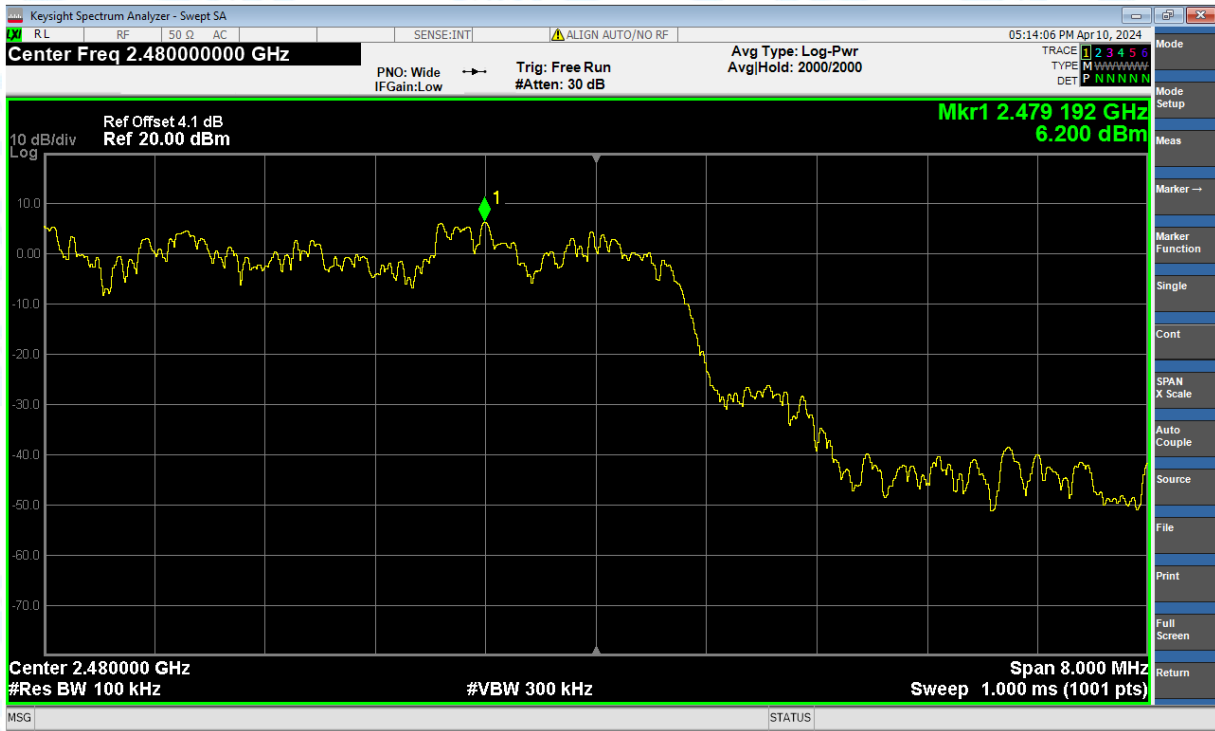


Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission

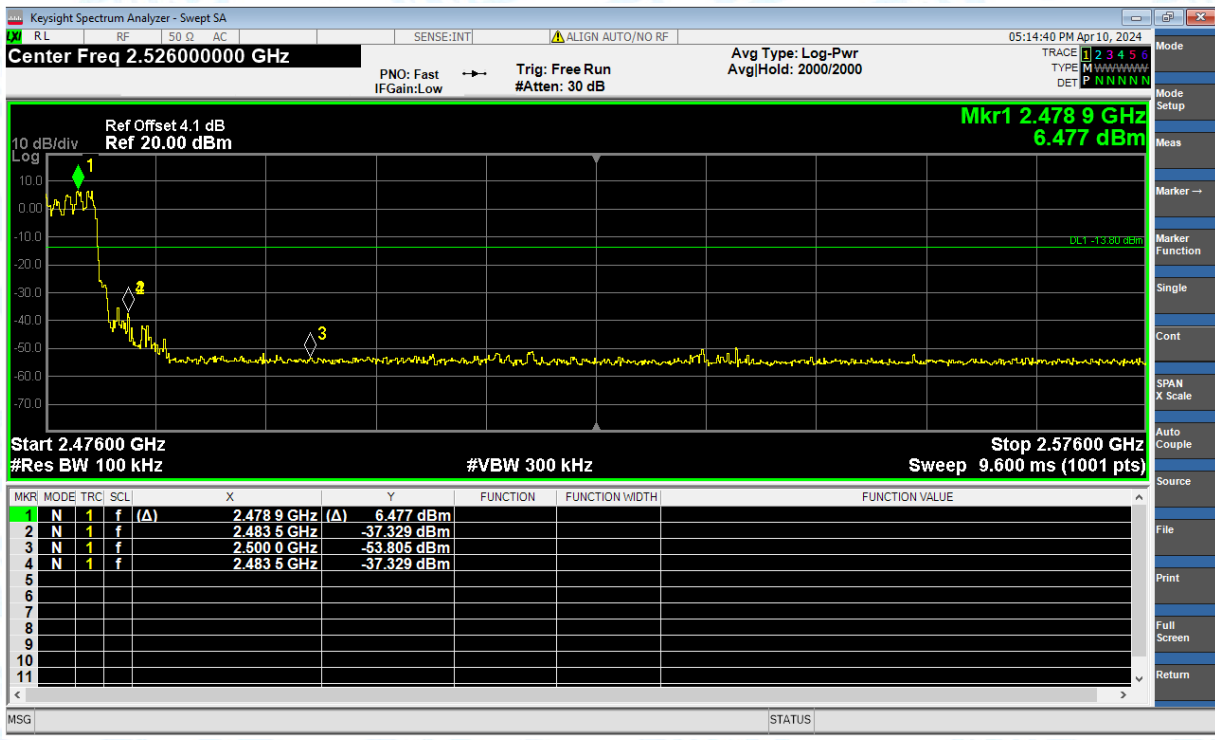




Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref



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

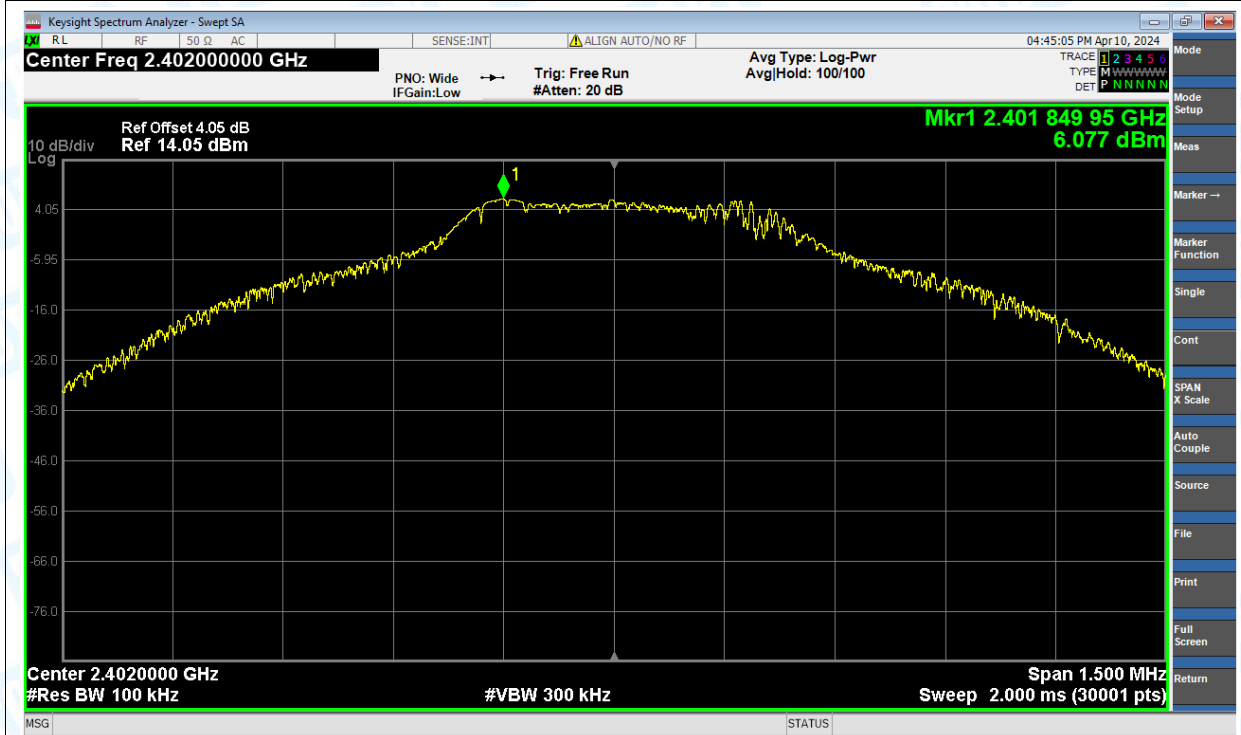


## 7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-47.14	-20	Pass
NVNT	1-DH1	2441	Ant1	-47.26	-20	Pass
NVNT	1-DH1	2480	Ant1	-46.85	-20	Pass
NVNT	2-DH1	2402	Ant1	-50.32	-20	Pass
NVNT	2-DH1	2441	Ant1	-47.46	-20	Pass
NVNT	2-DH1	2480	Ant1	-48.58	-20	Pass
NVNT	3-DH1	2402	Ant1	-49.03	-20	Pass
NVNT	3-DH1	2441	Ant1	-45.4	-20	Pass
NVNT	3-DH1	2480	Ant1	-47.31	-20	Pass

Test Graphs

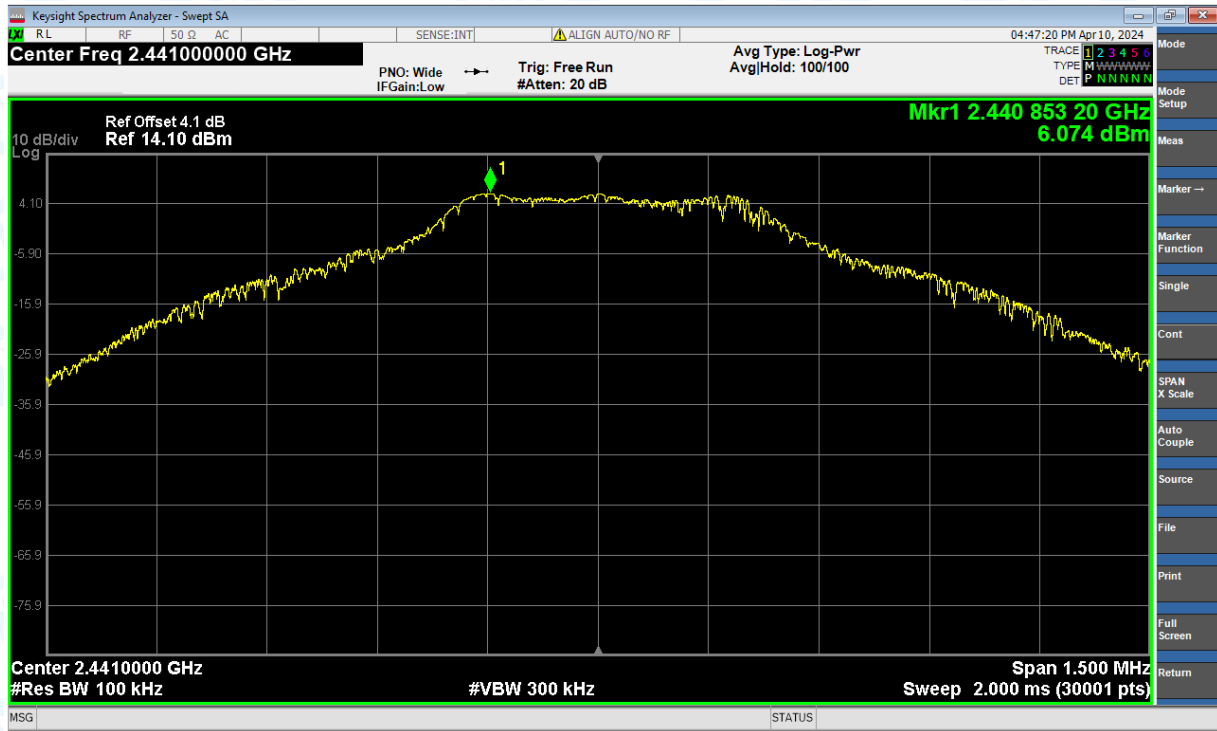
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



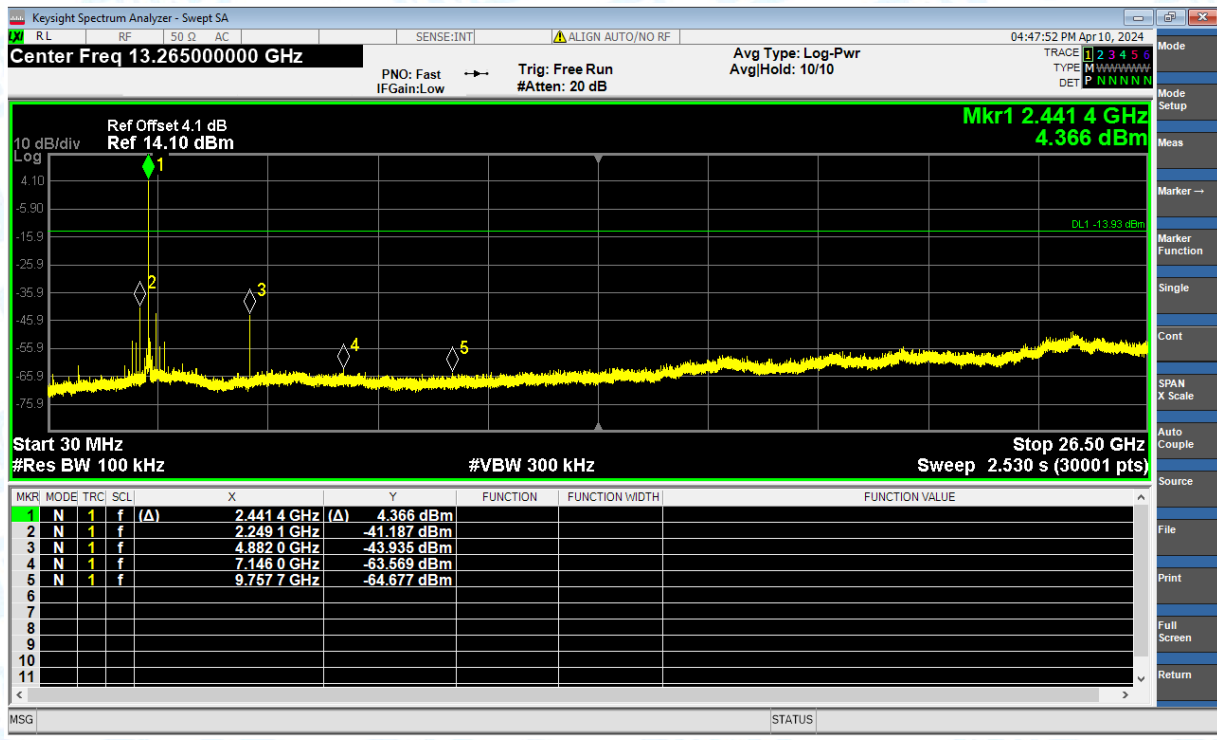
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



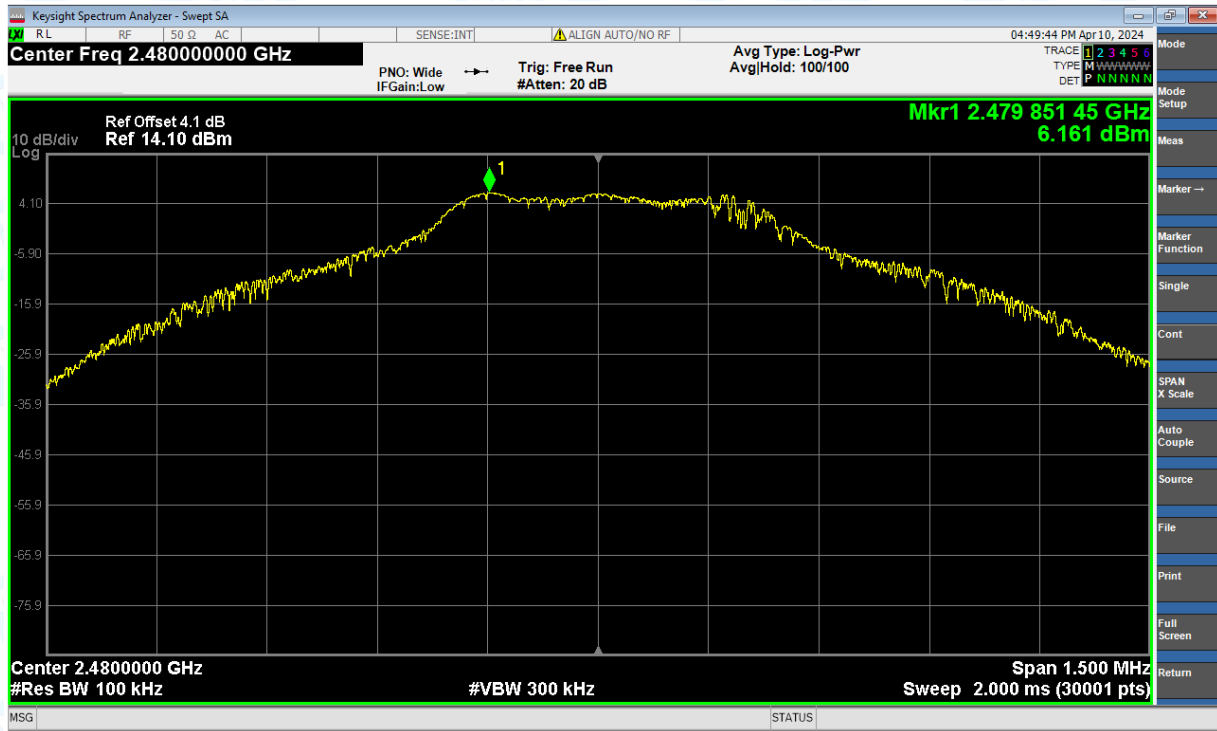
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



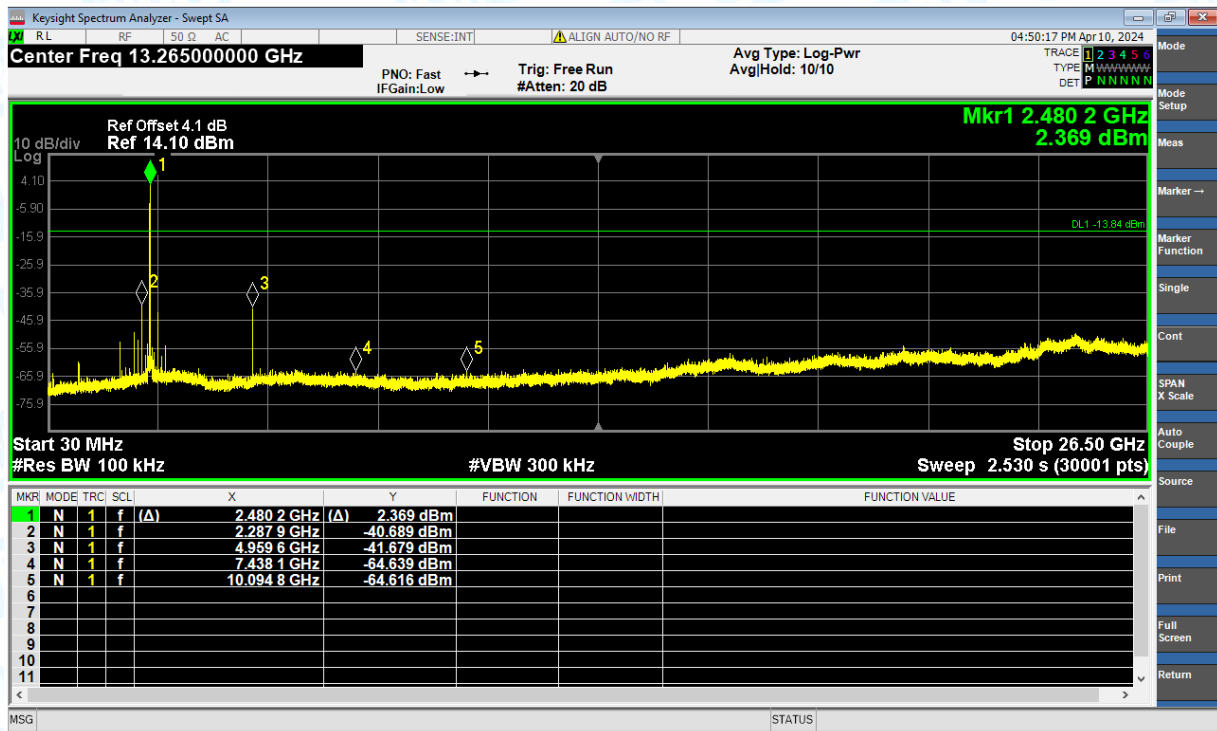
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



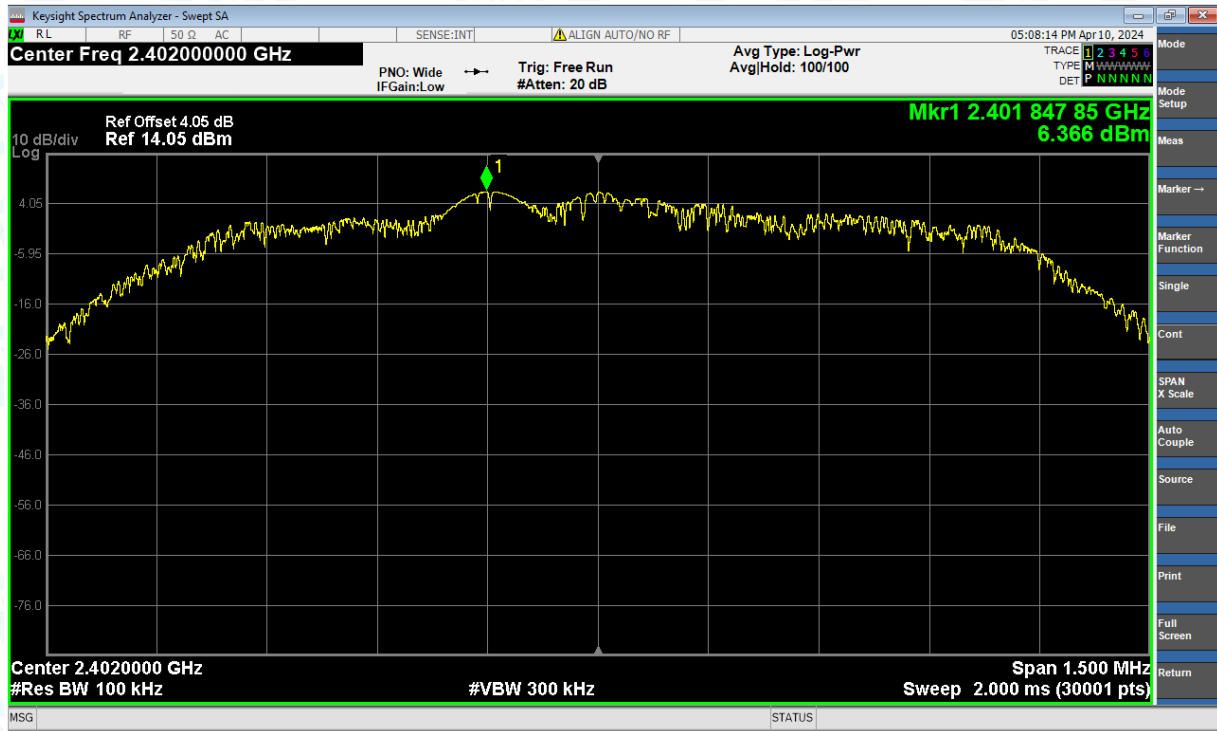
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



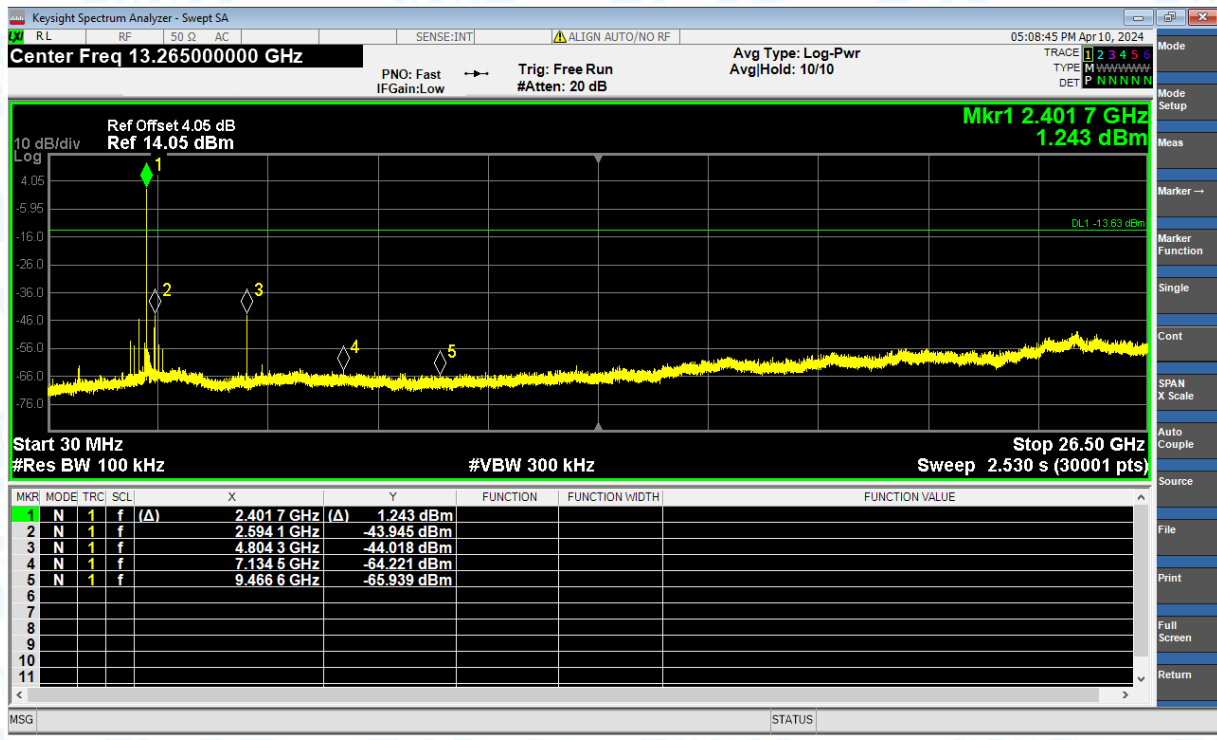
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref

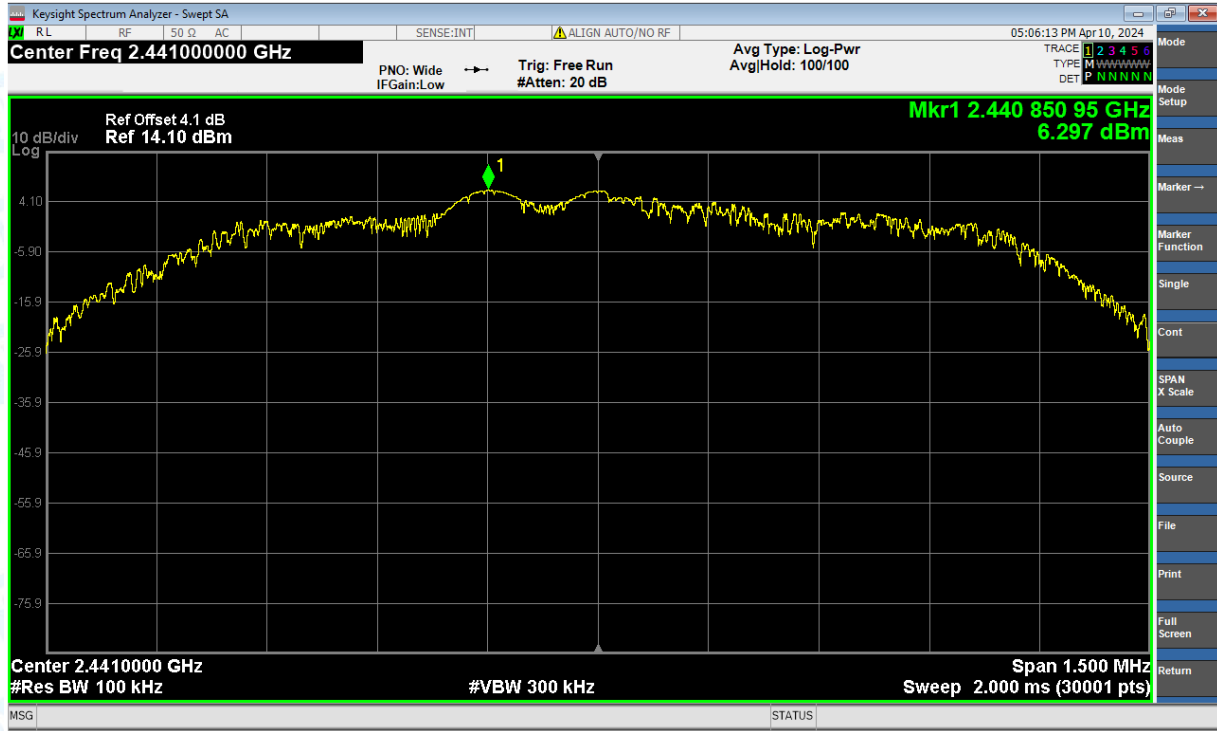


Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission

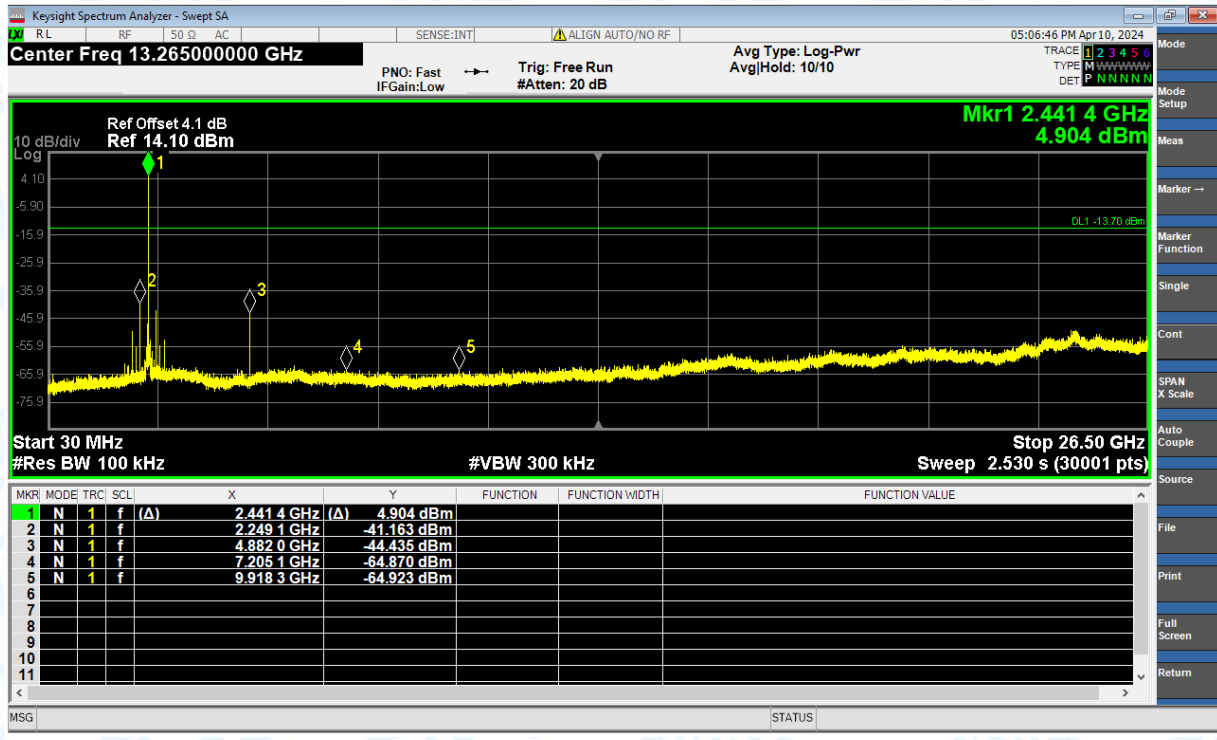




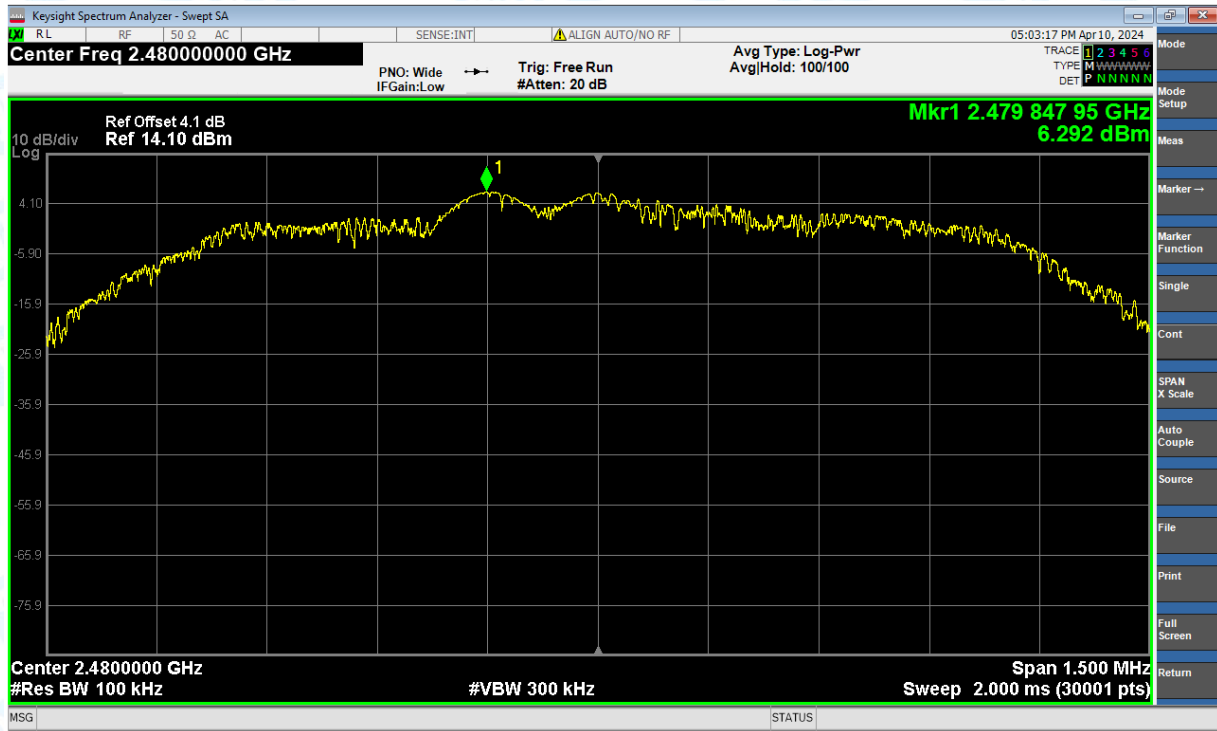
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



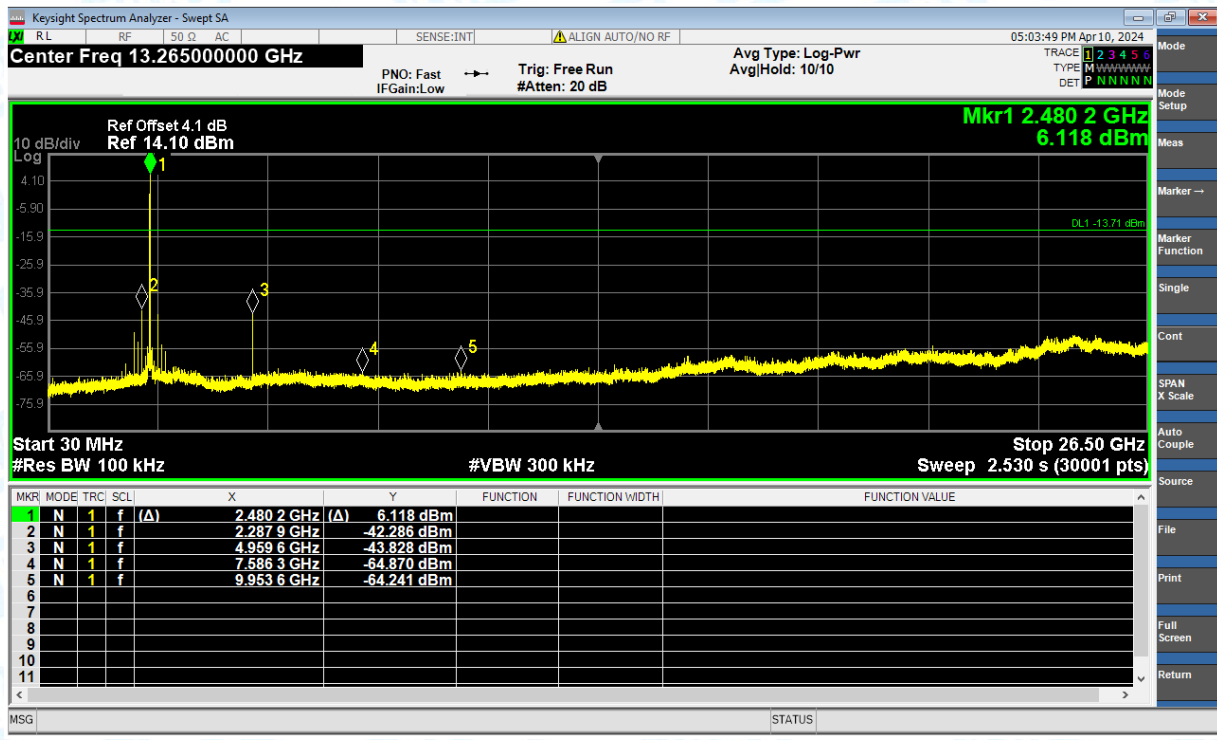
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



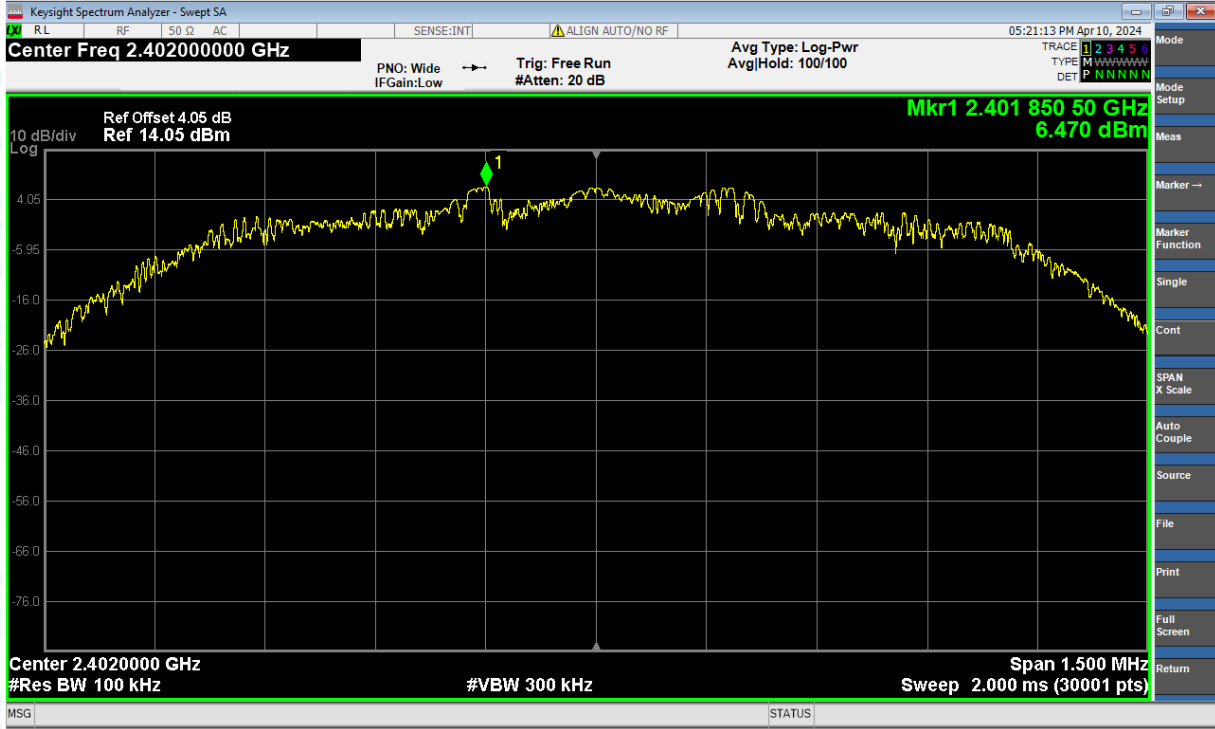
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



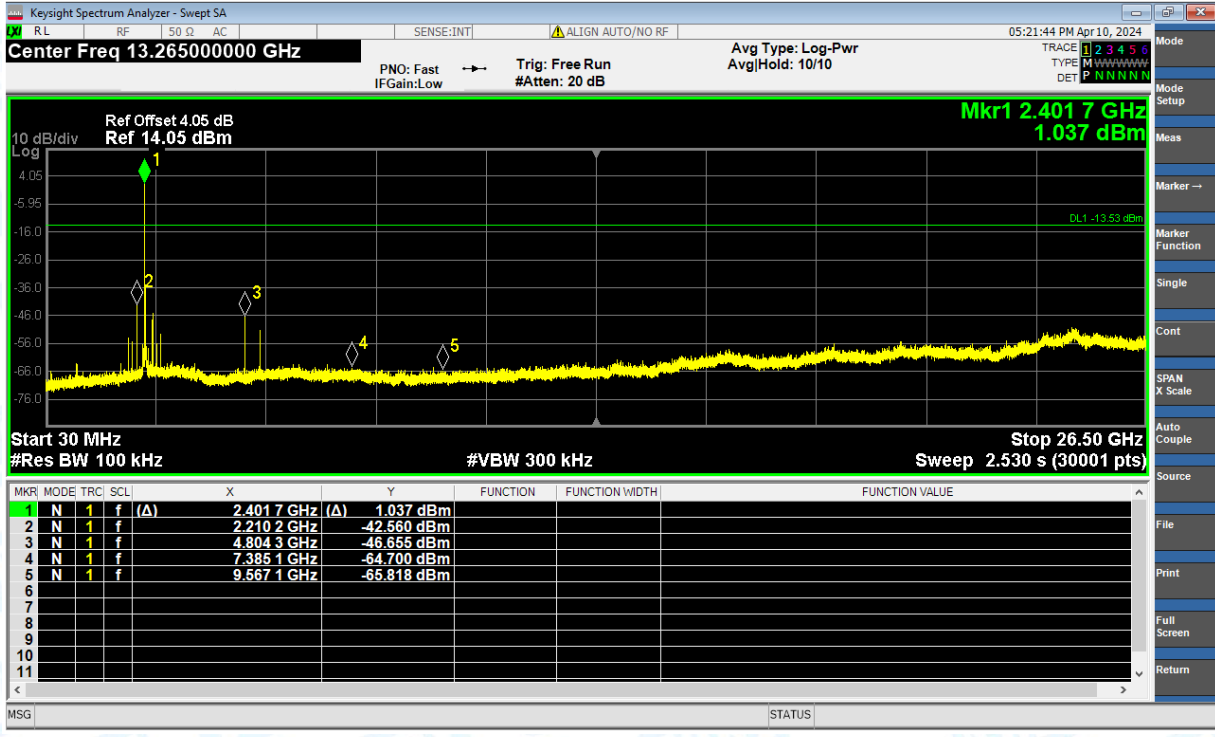
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



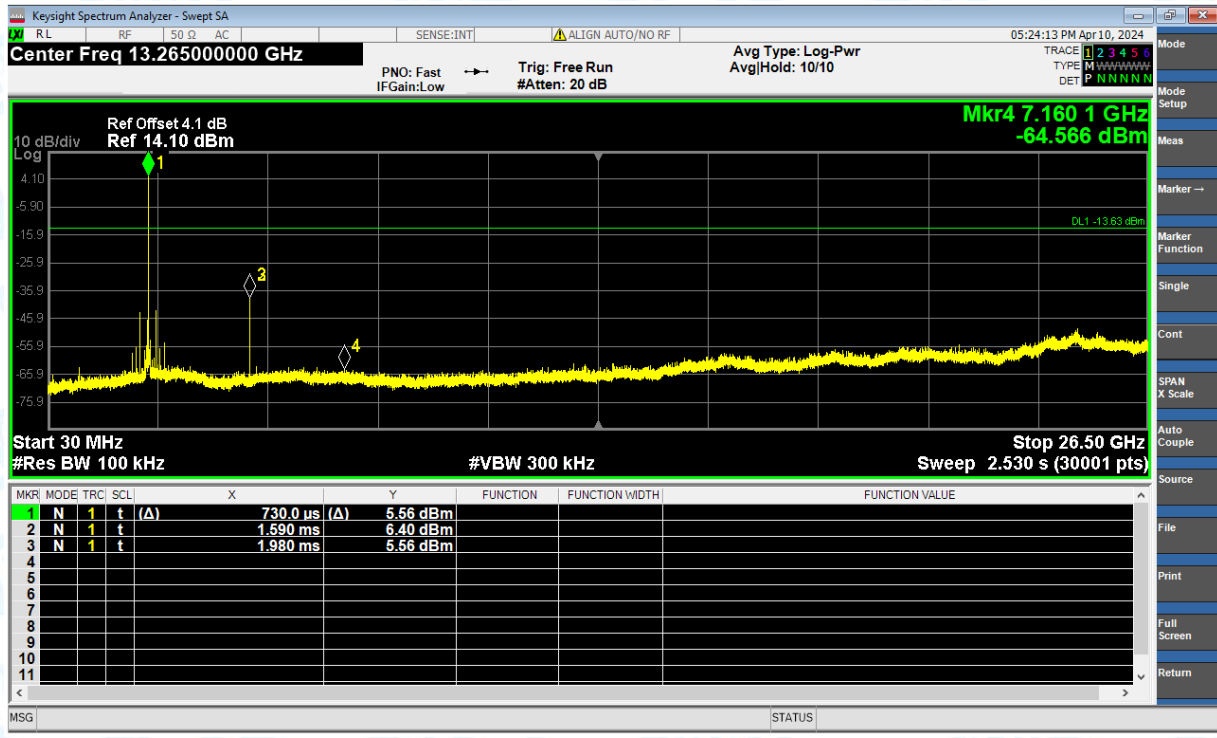
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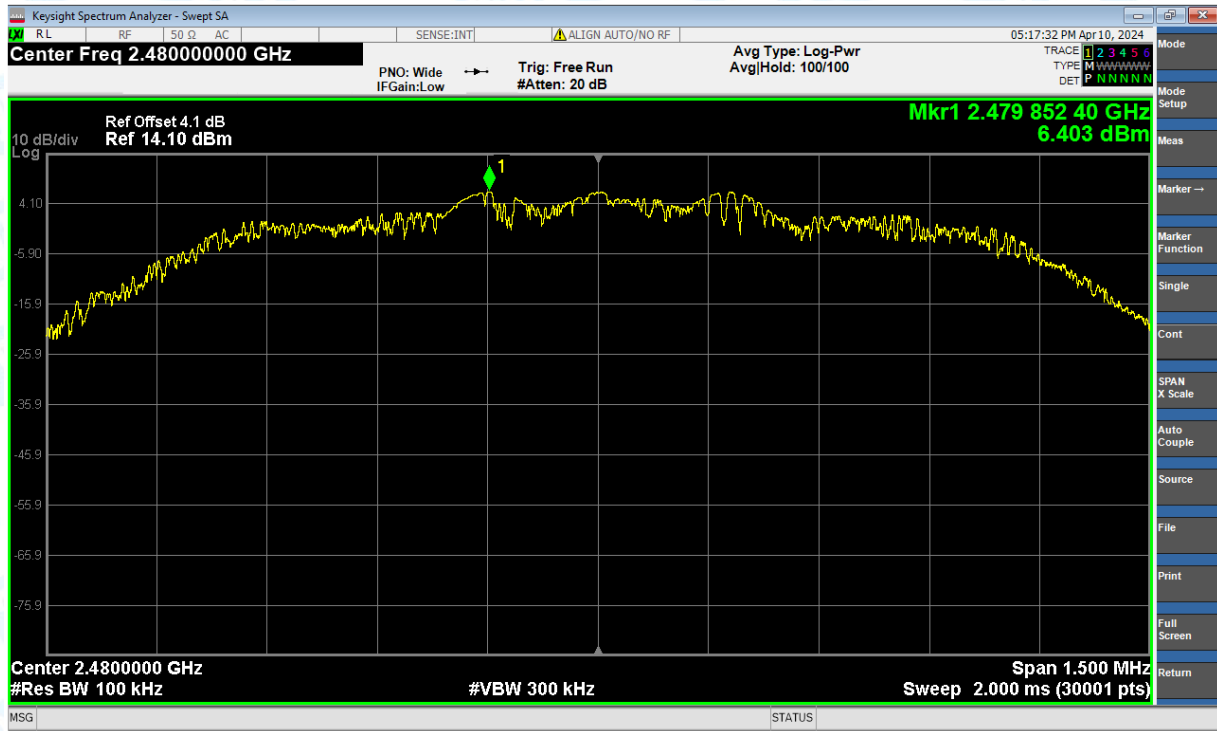
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



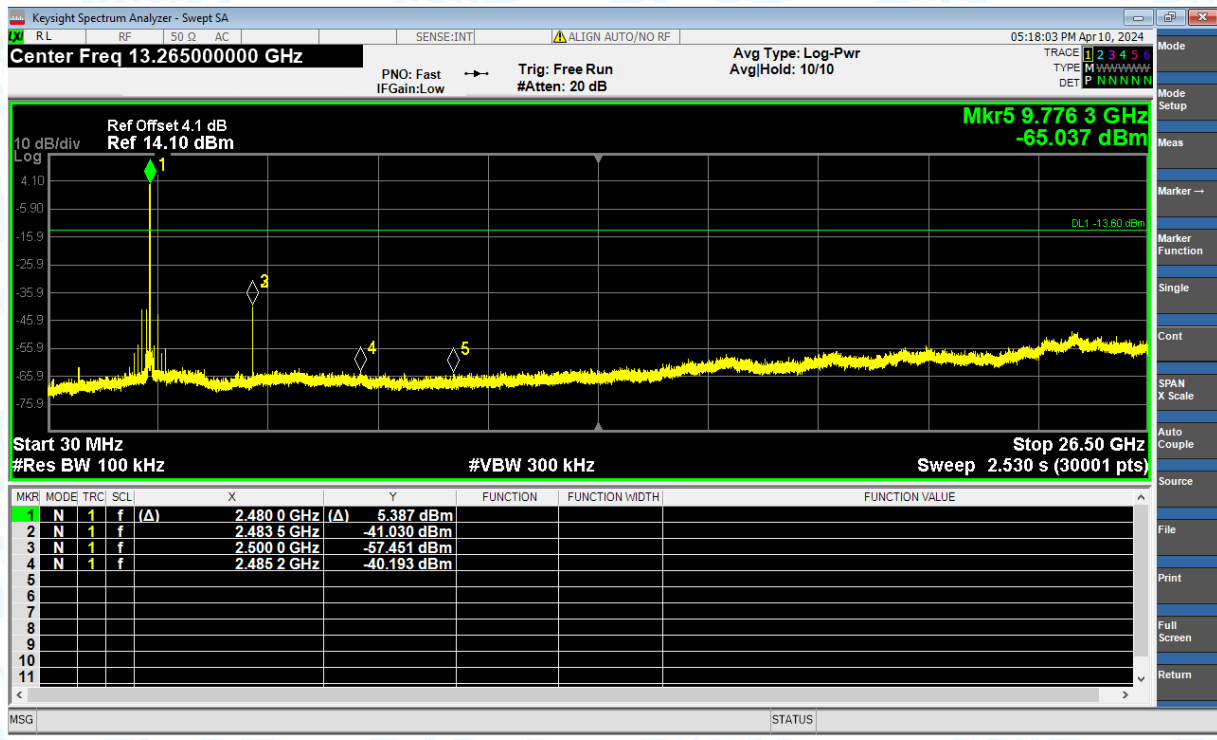
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

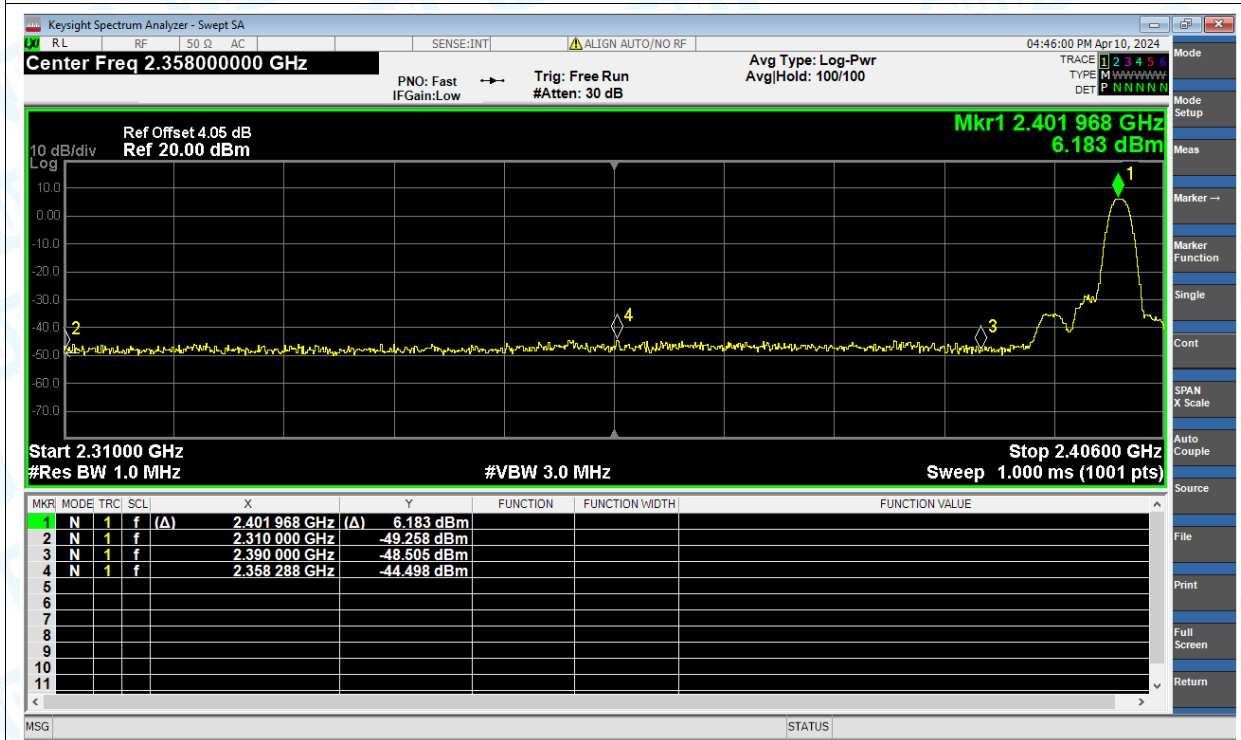


## 8. Restrict Band

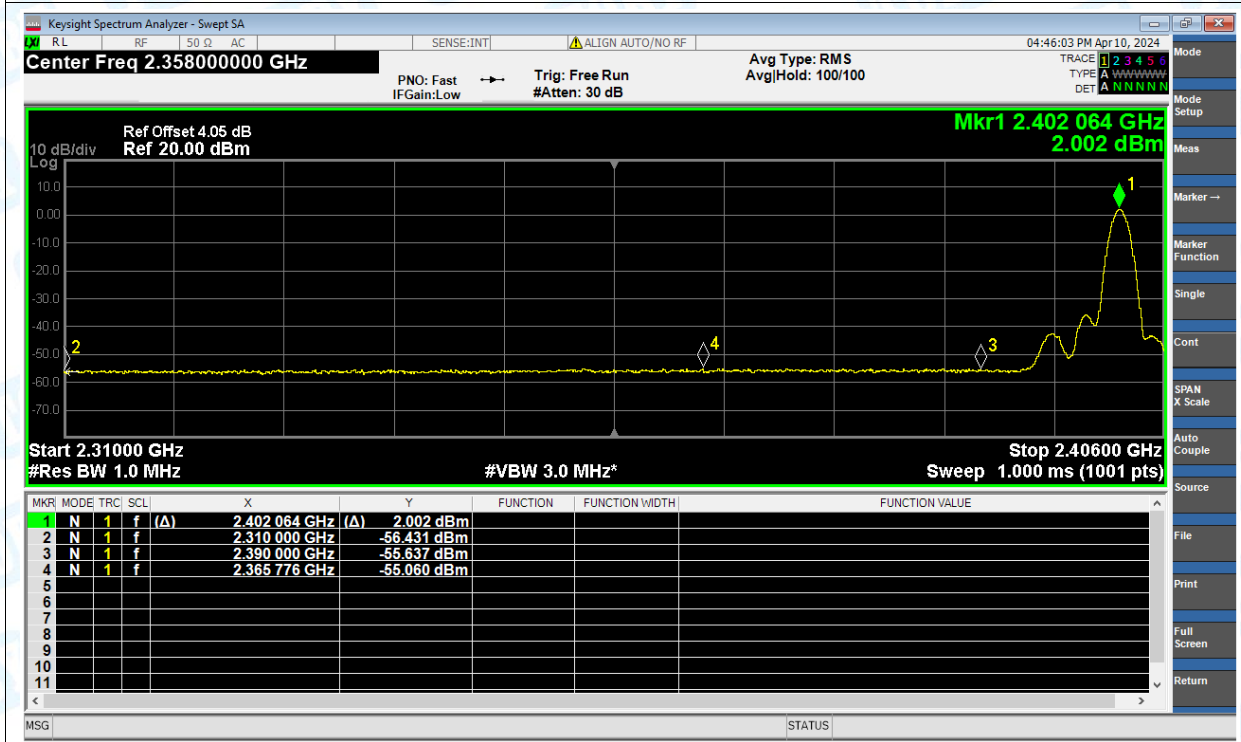
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-49.26	2	-	48	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.43	2	5.06	45.89	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2358.288	-44.5	2	-	52.76	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2365.776	-55.06	2	5.06	47.26	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.51	2	-	48.75	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.64	2	5.06	46.68	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-38.58	2	-	58.68	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-48.72	2	5.17	53.71	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.536	-38.57	2	-	58.69	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-48.72	2	5.17	53.71	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-54.39	2	-	42.87	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-63.63	2	5.17	38.8	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-46.54	2	-	50.72	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-55.92	2	4.95	46.29	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2388.624	-38.44	2	-	58.82	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2354.16	-54.25	2	4.95	47.96	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-42.73	2	-	54.53	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.51	2	4.95	46.7	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-41.56	2	-	55.7	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.96	2	4.95	46.25	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.904	-34.3	2	-	62.96	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2485.648	-53.86	2	4.95	48.35	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-51.01	2	-	46.25	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-59.94	2	4.95	42.27	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.14	2	-	49.12	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.09	2	5.06	46.23	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2364.144	-42.92	2	-	54.34	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2353.68	-54.75	2	5.06	47.57	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-45.42	2	-	51.84	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.78	2	5.06	46.54	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-42.91	2	-	54.35	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-53.68	2	5.02	48.6	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2485.12	-39.83	2	-	57.43	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.512	-53.68	2	5.02	48.6	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-49.2	2	-	48.06	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-62.24	2	5.02	40.04	Average	54	Pass

Test Graphs

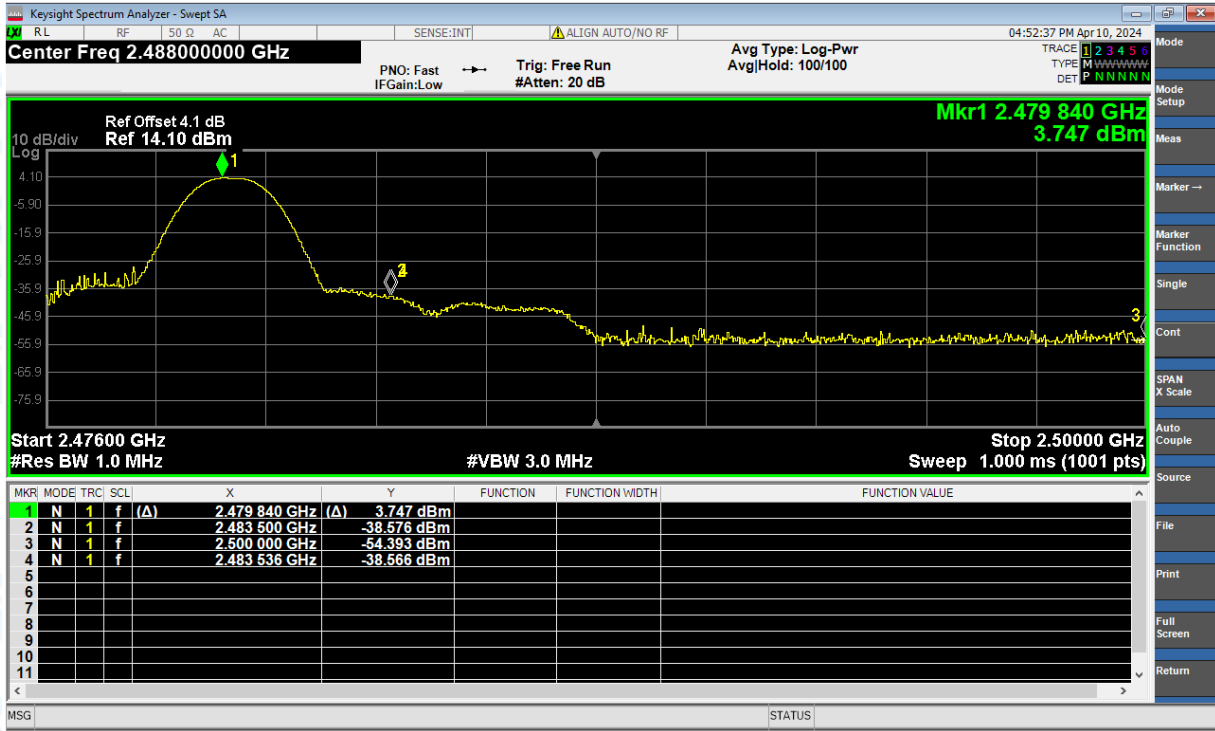
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



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



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

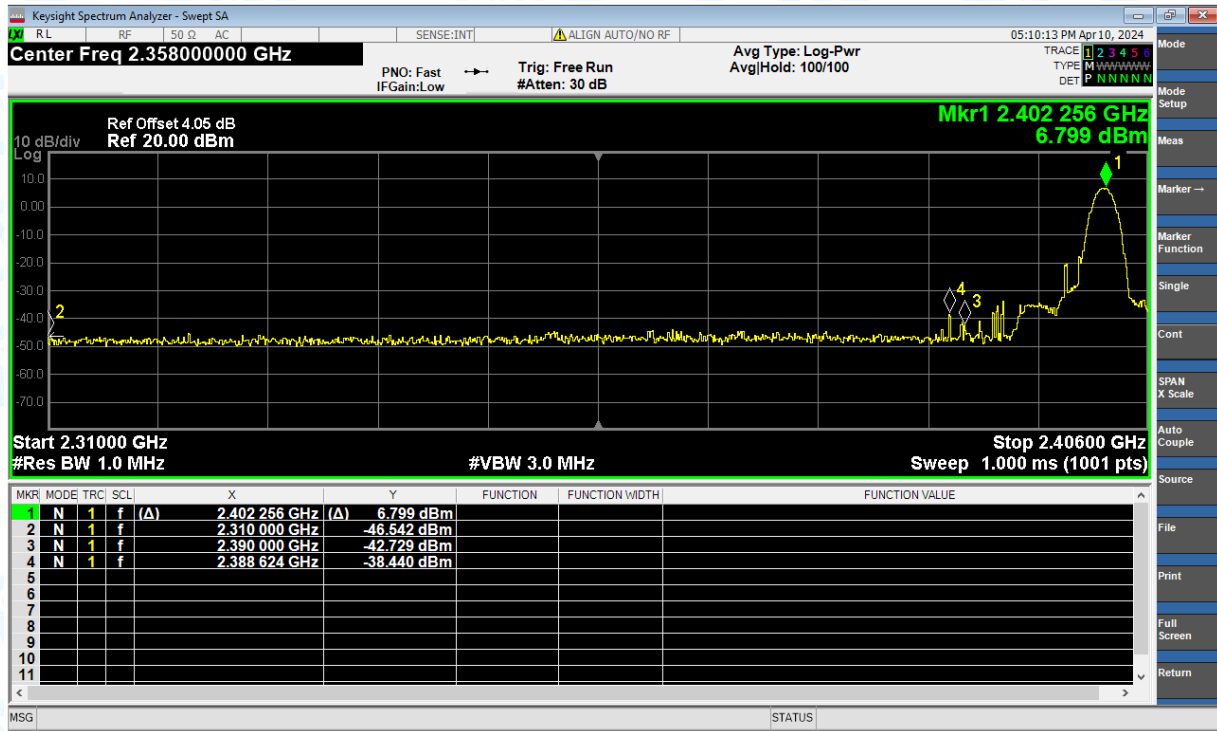


Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average

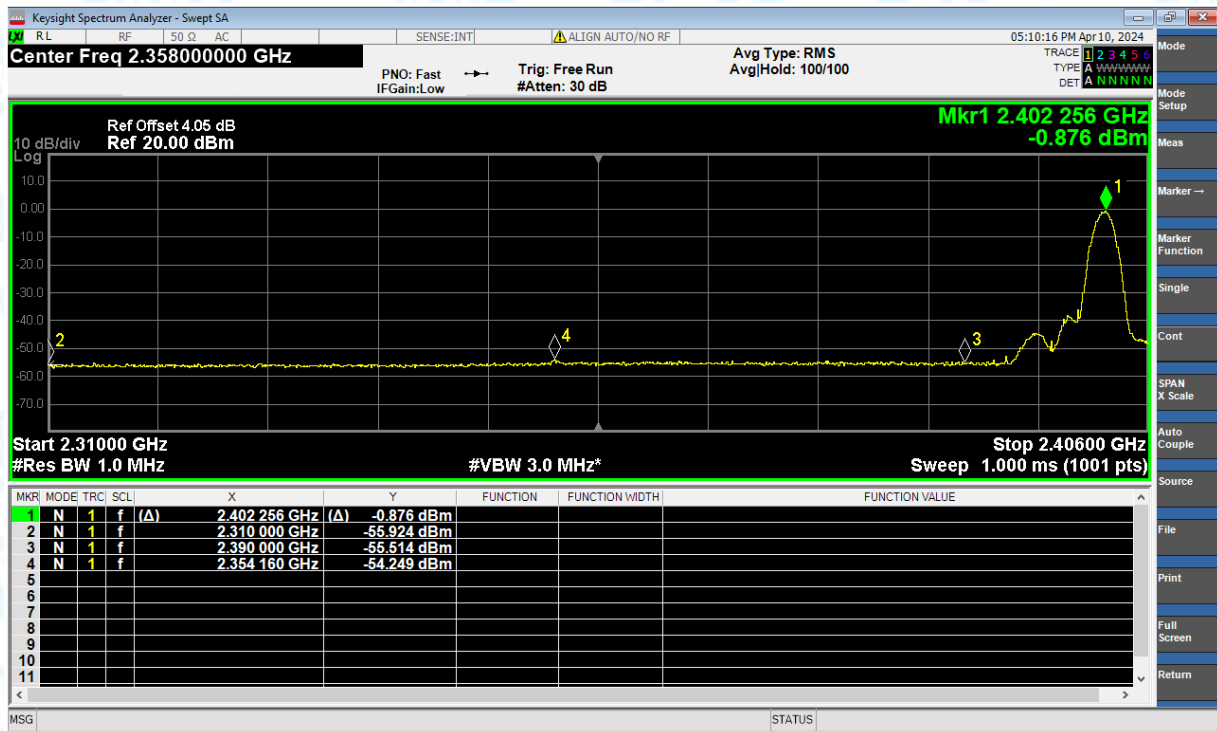




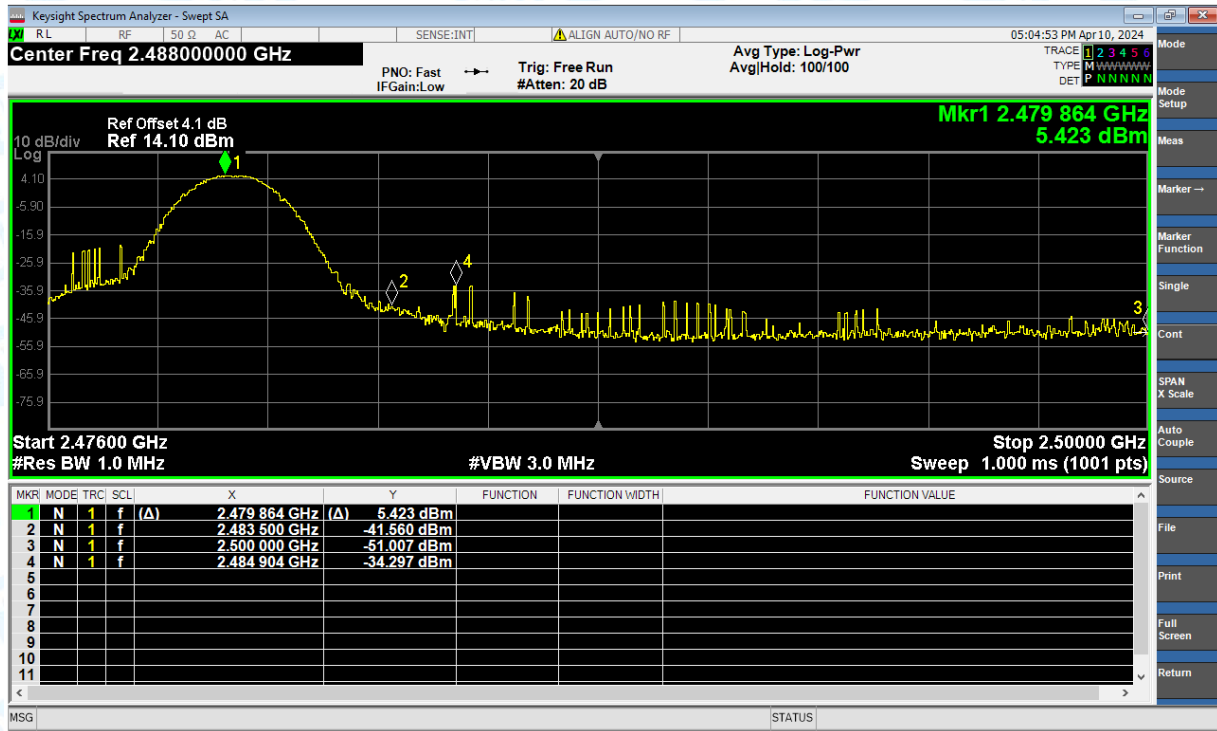
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



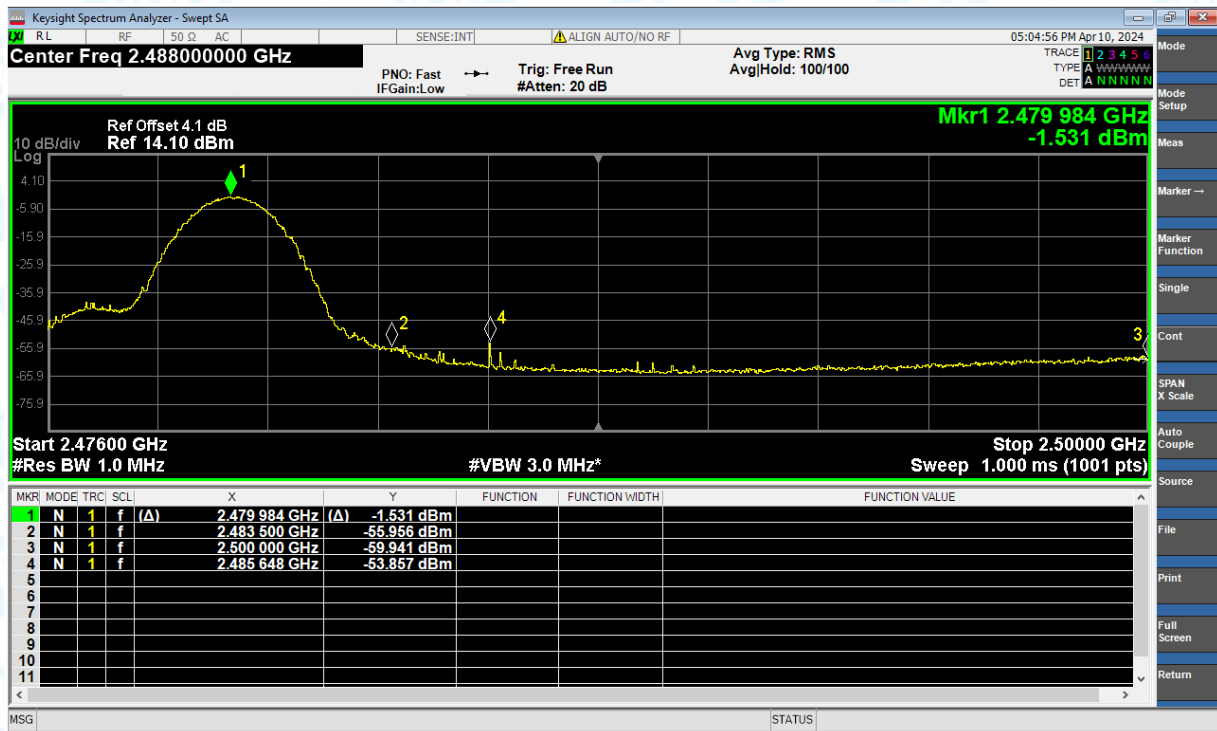
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



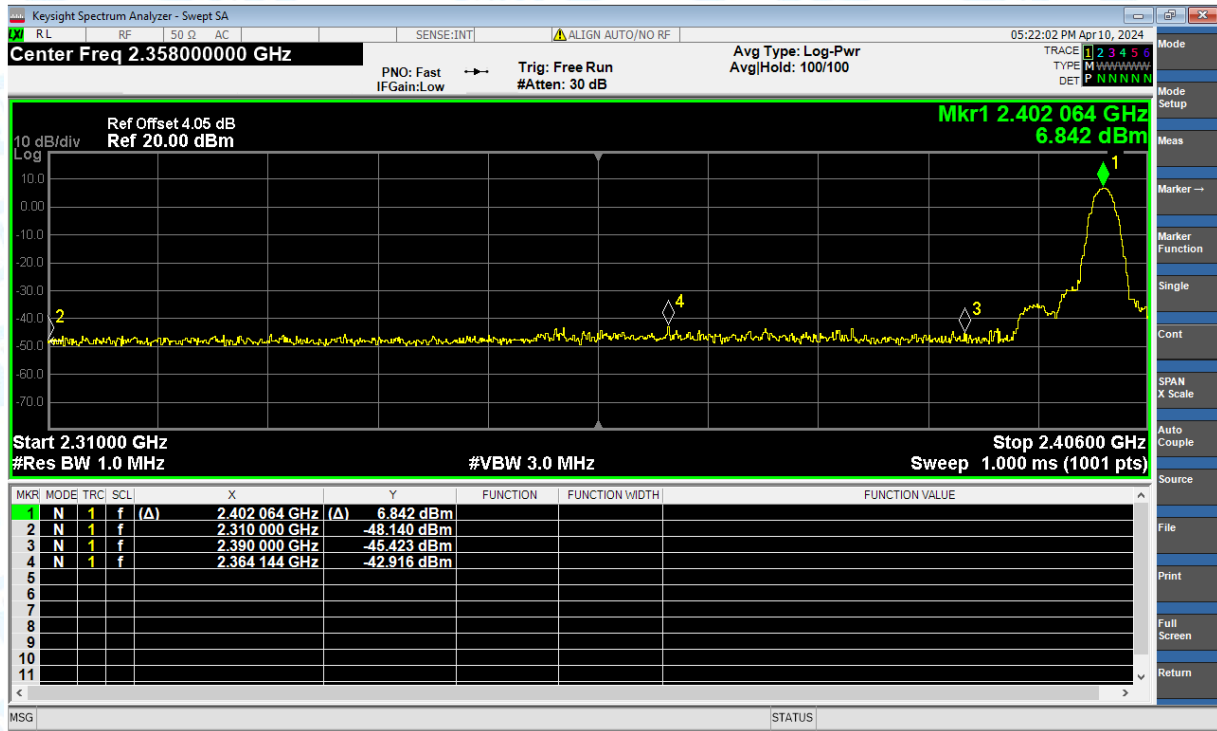
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



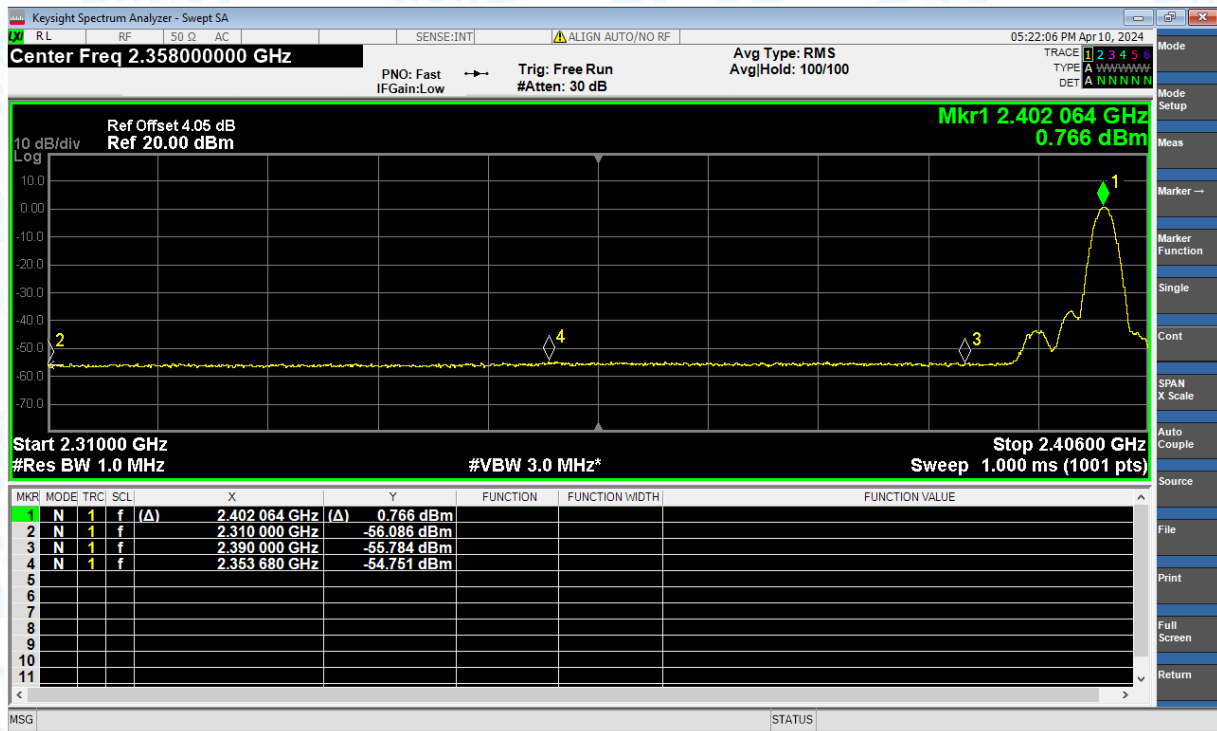
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



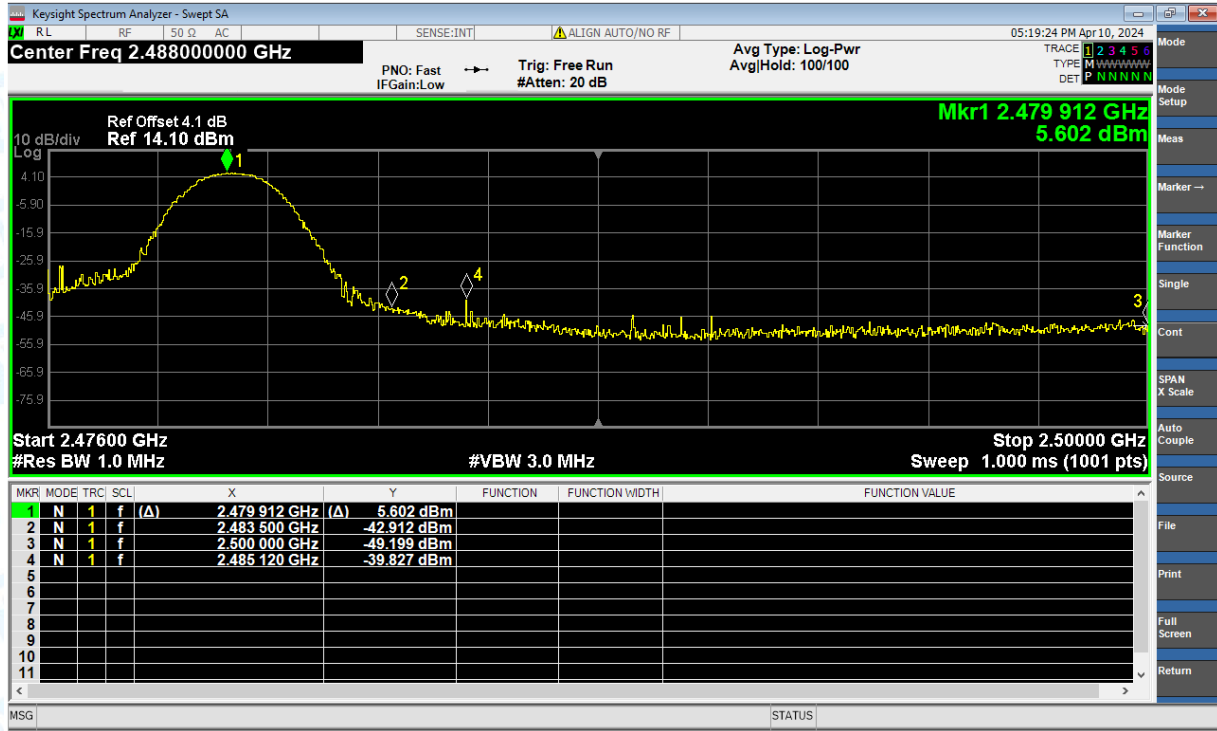
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



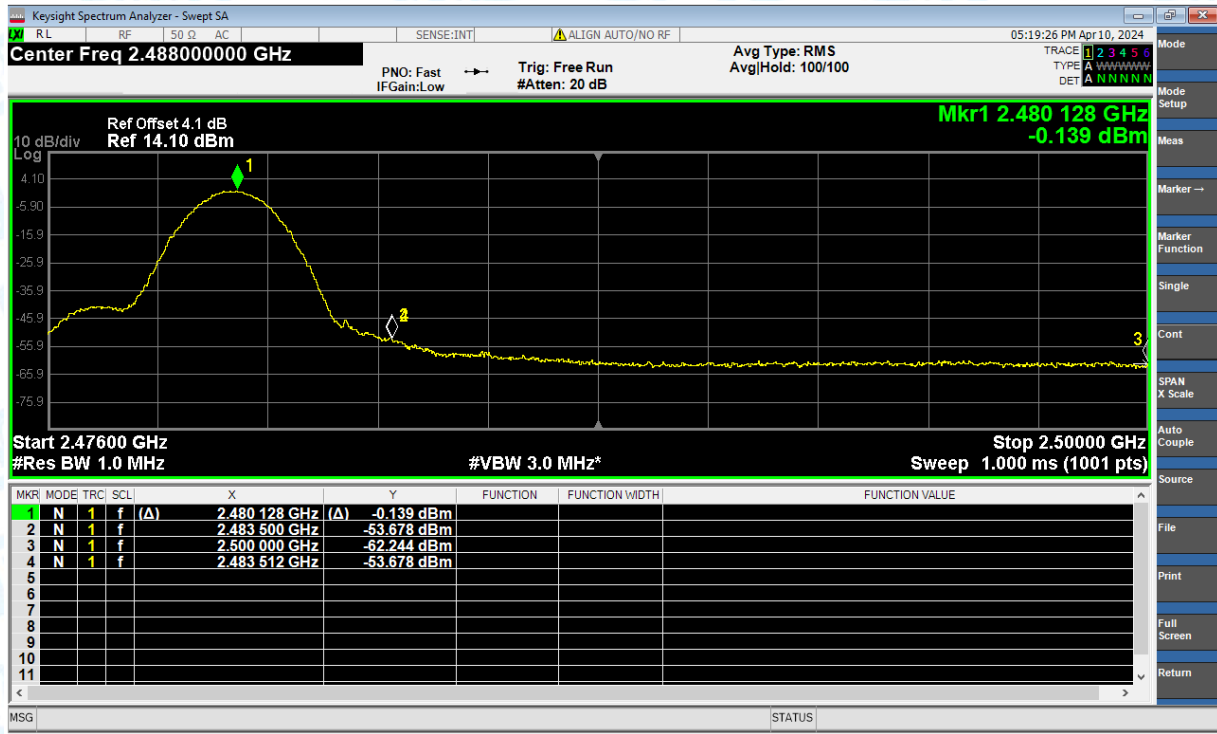
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

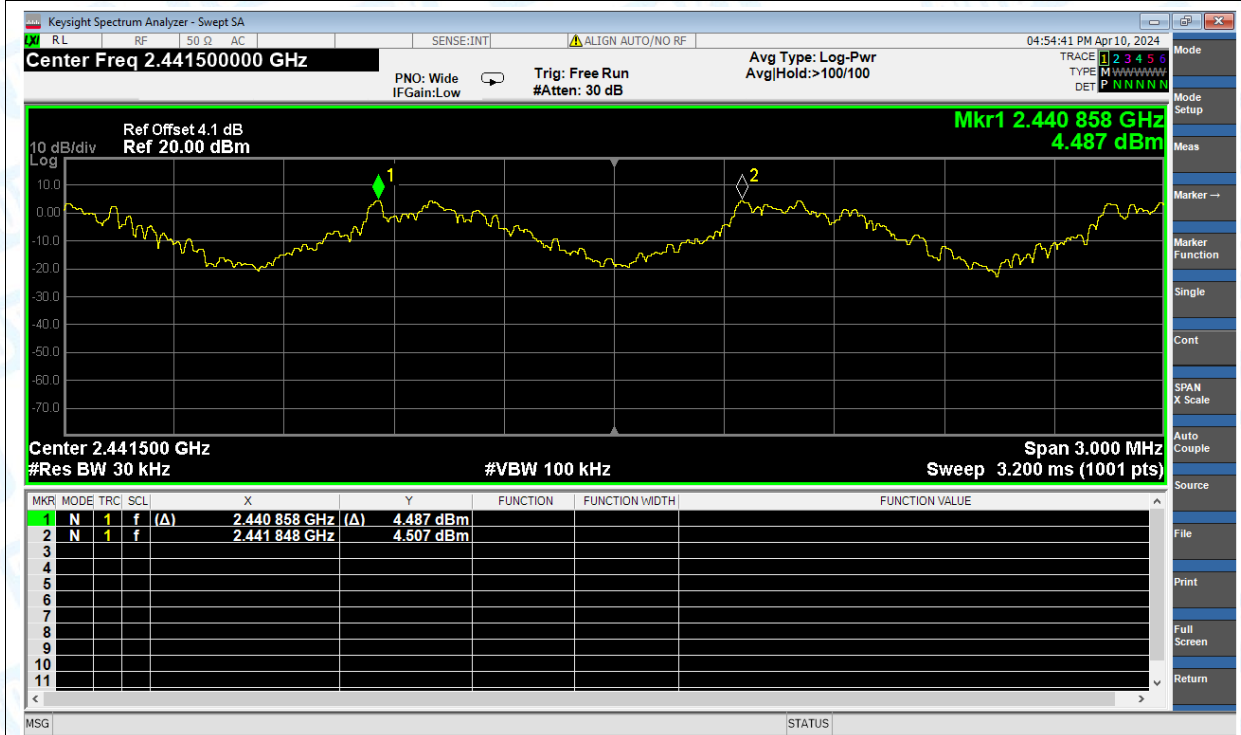


## 9. Carrier Frequencies Separation

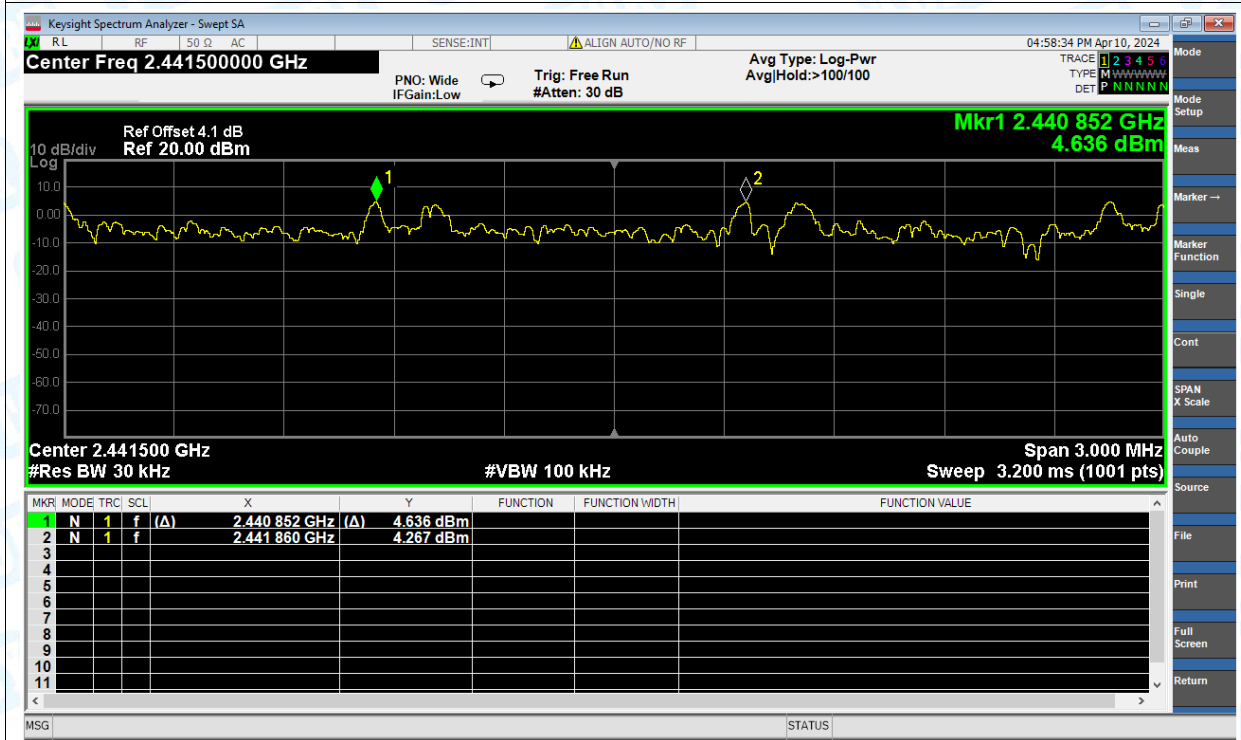
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.858	2441.848	0.99	0.573	Pass
NVNT	2-DH1	Ant1	2440.852	2441.86	1.008	0.025	Pass
NVNT	3-DH1	Ant1	2441.005	2441.995	0.99	0.025	Pass

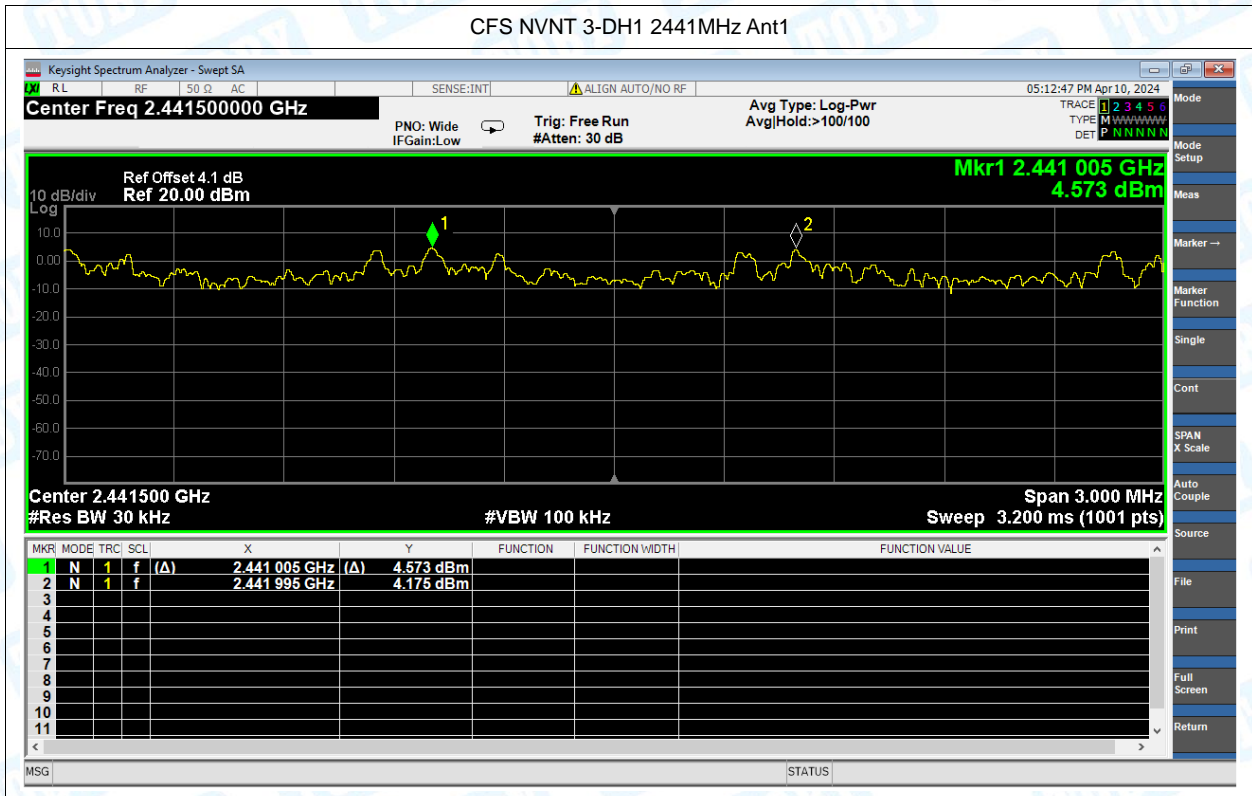
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1





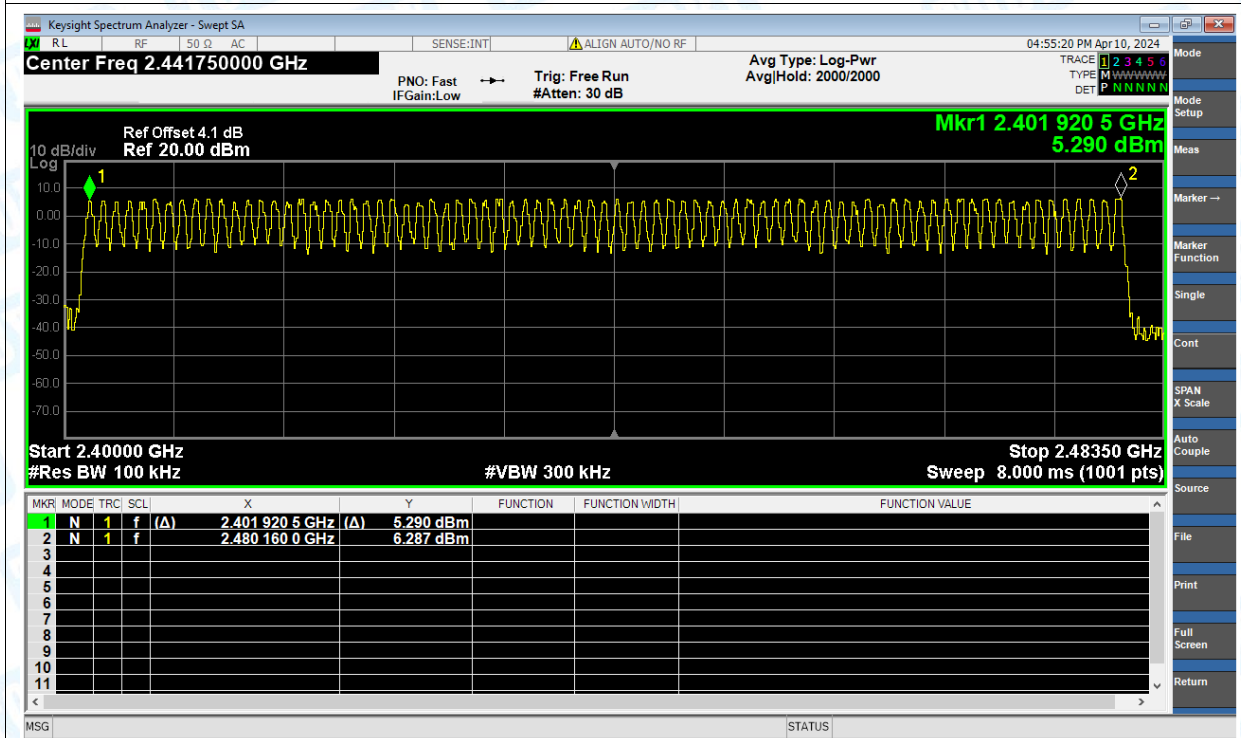
## 10. Number of Hopping Channel

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

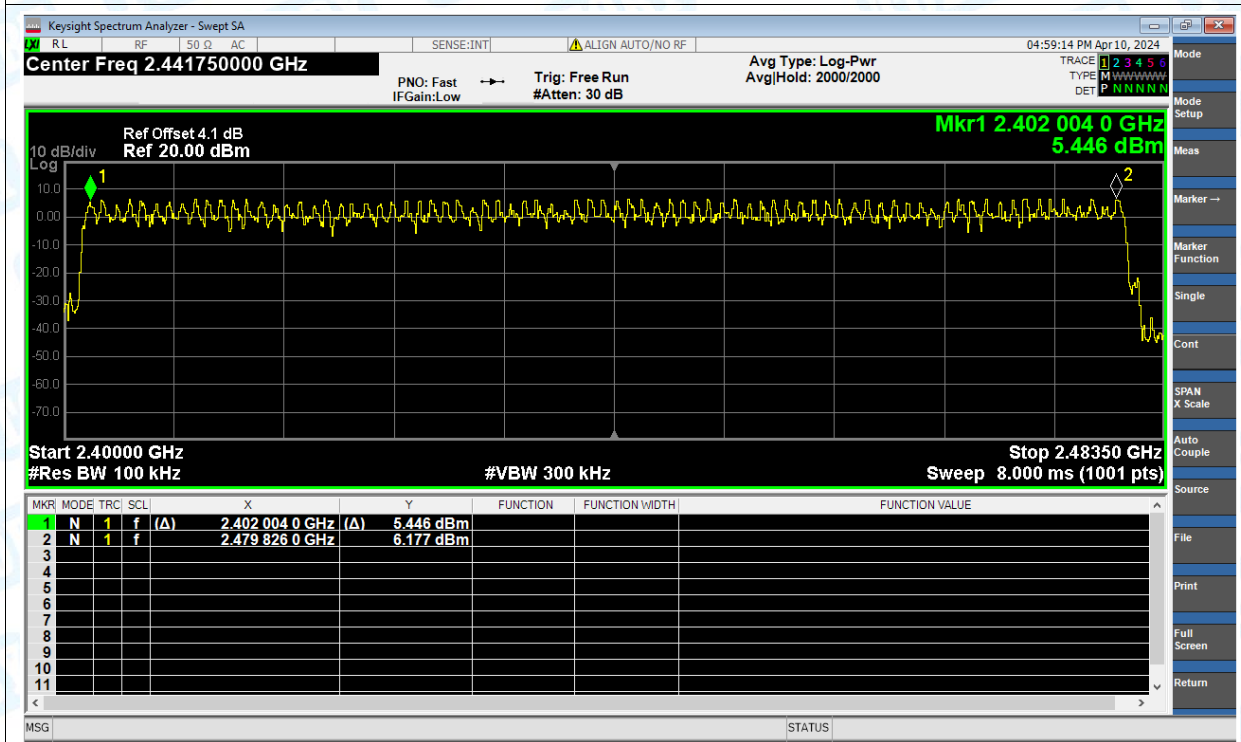


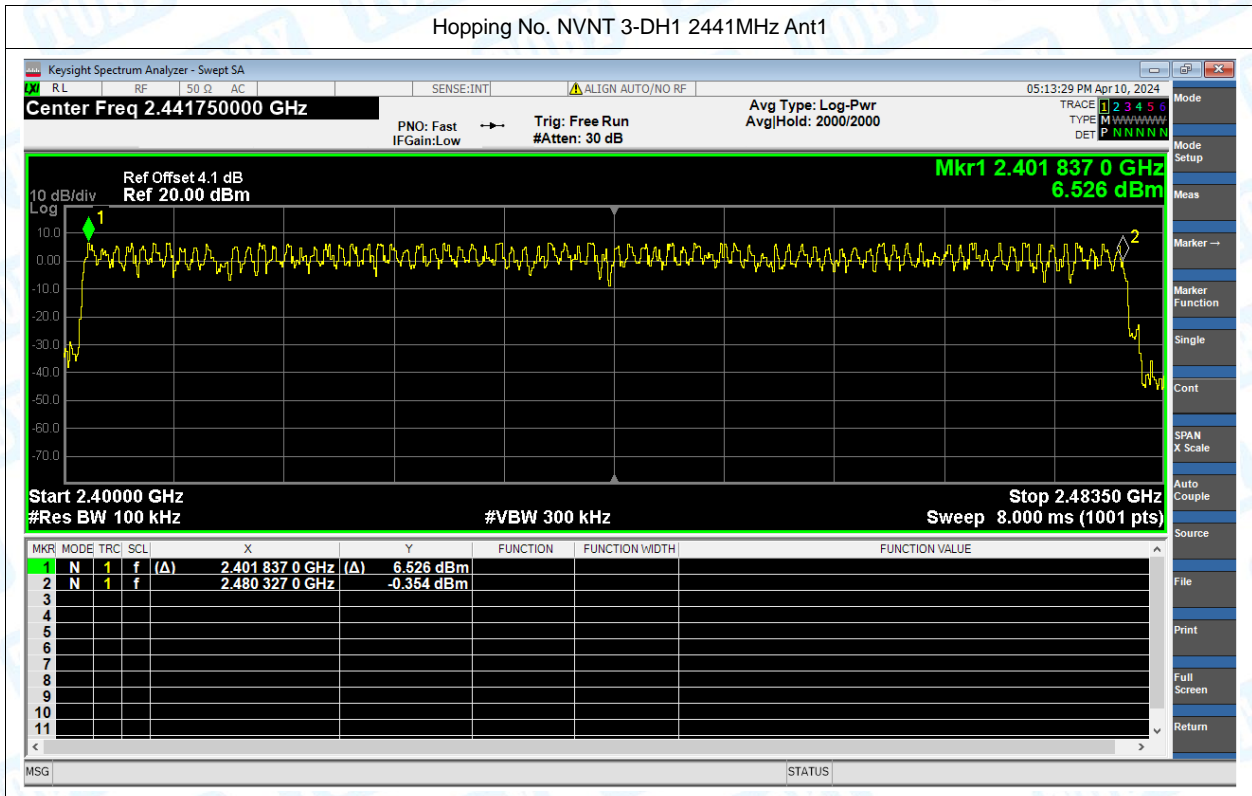
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



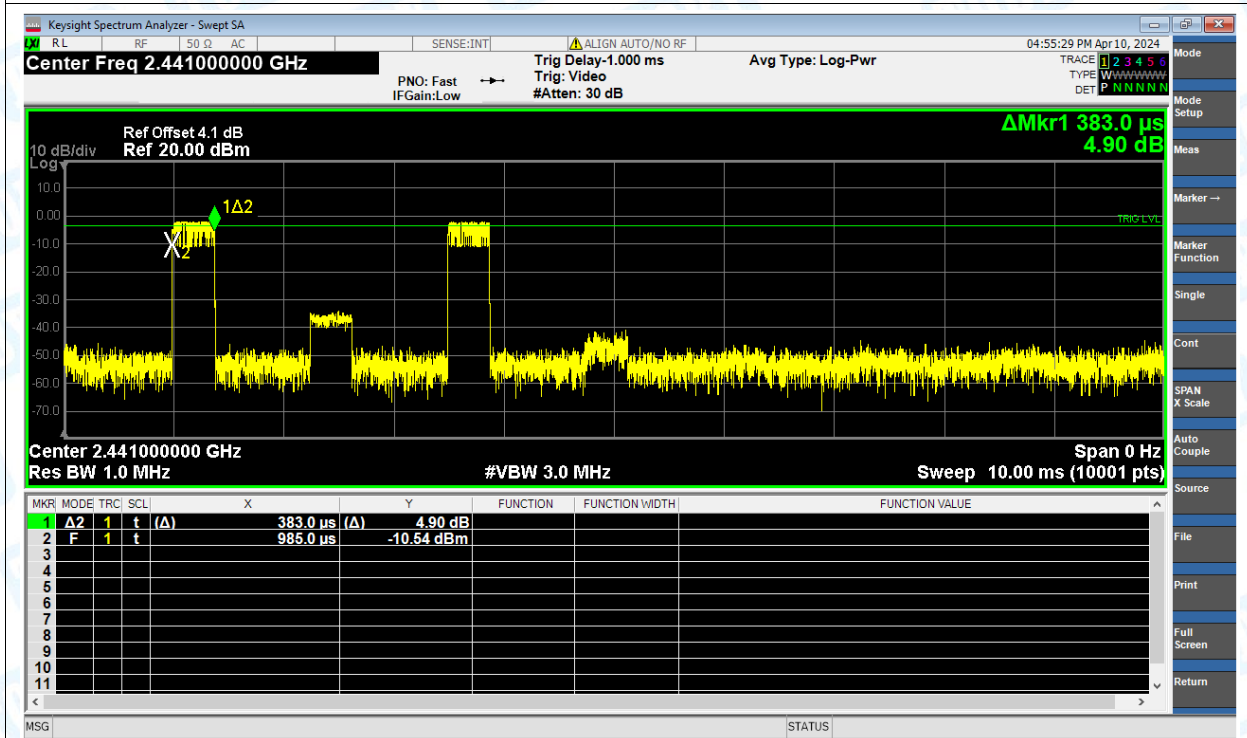


## 11. Dwell Time

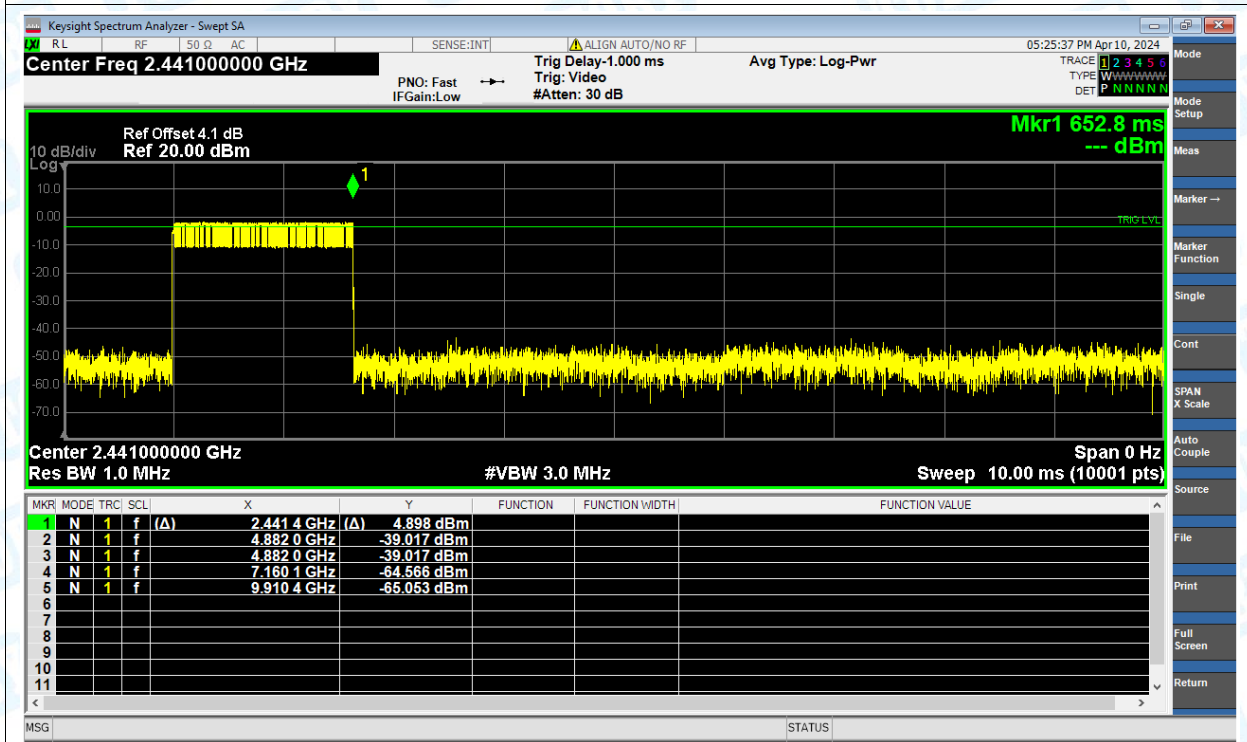
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.56	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.886	307.84	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.637	261.92	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	1.643	262.88	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.893	308.587	31600	400	Pass

Test Graphs

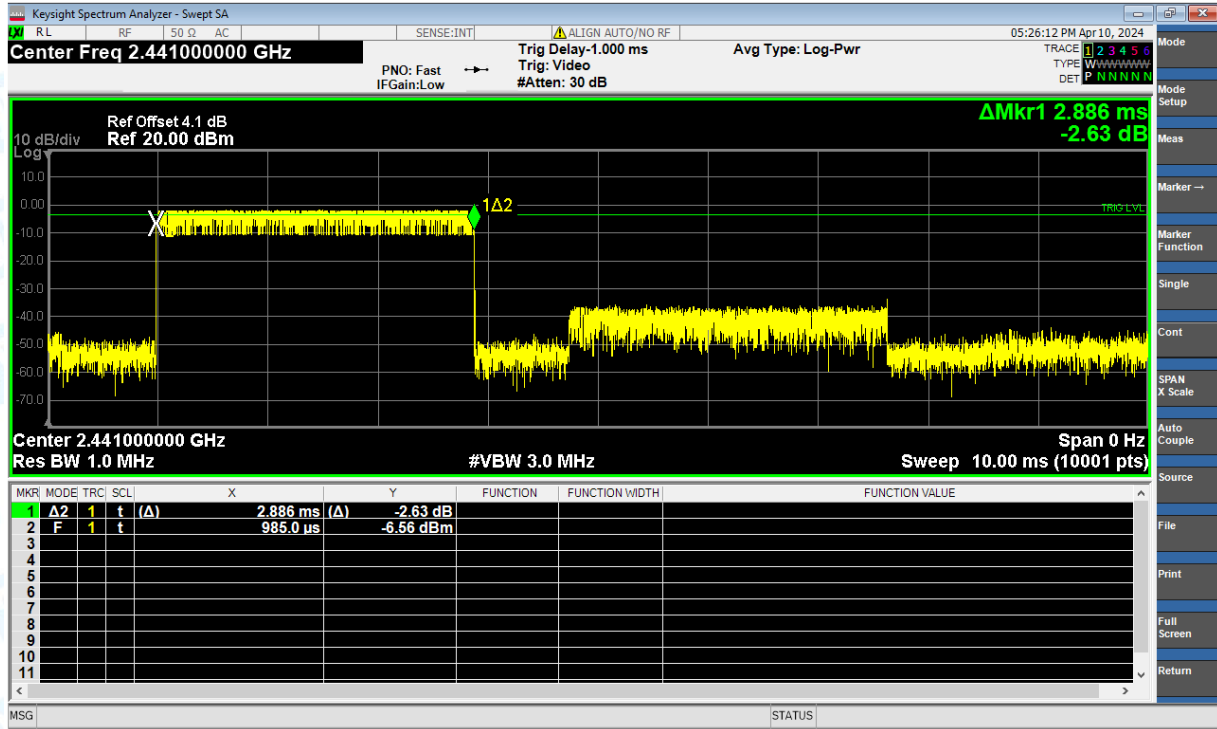
Dwell NVNT 1-DH1 2441MHz Ant1



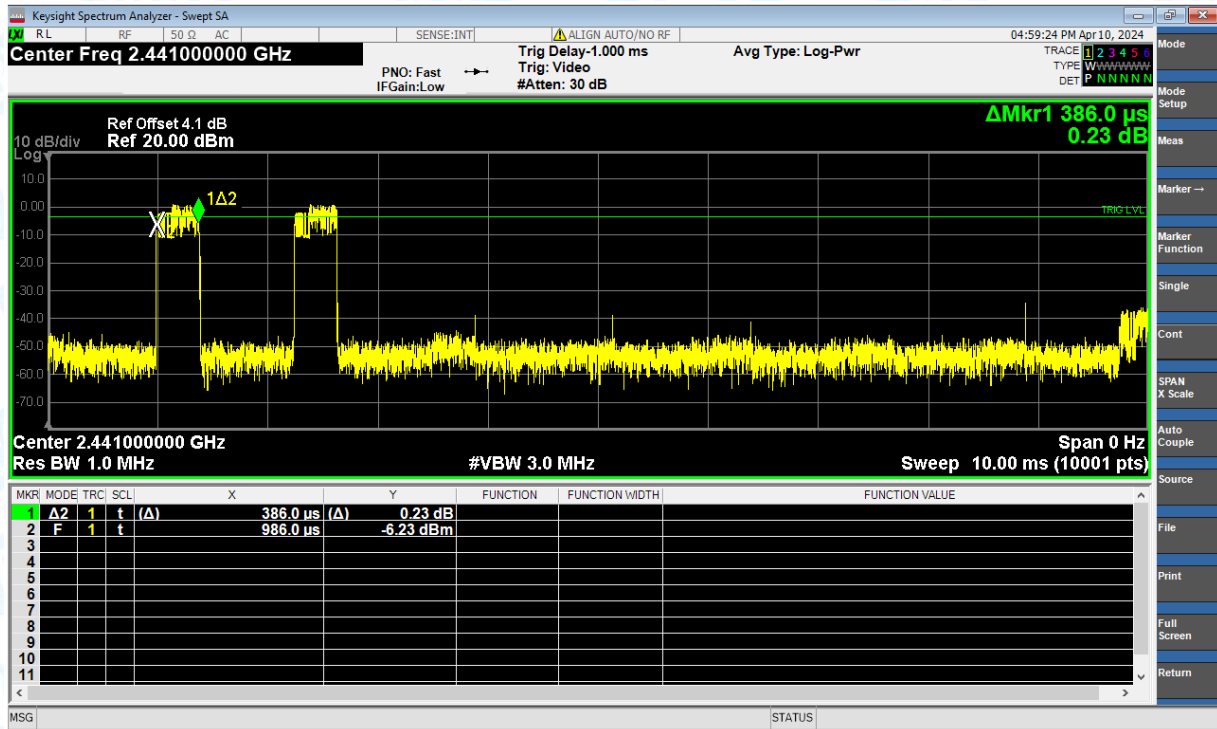
Dwell NVNT 1-DH3 2441MHz Ant1



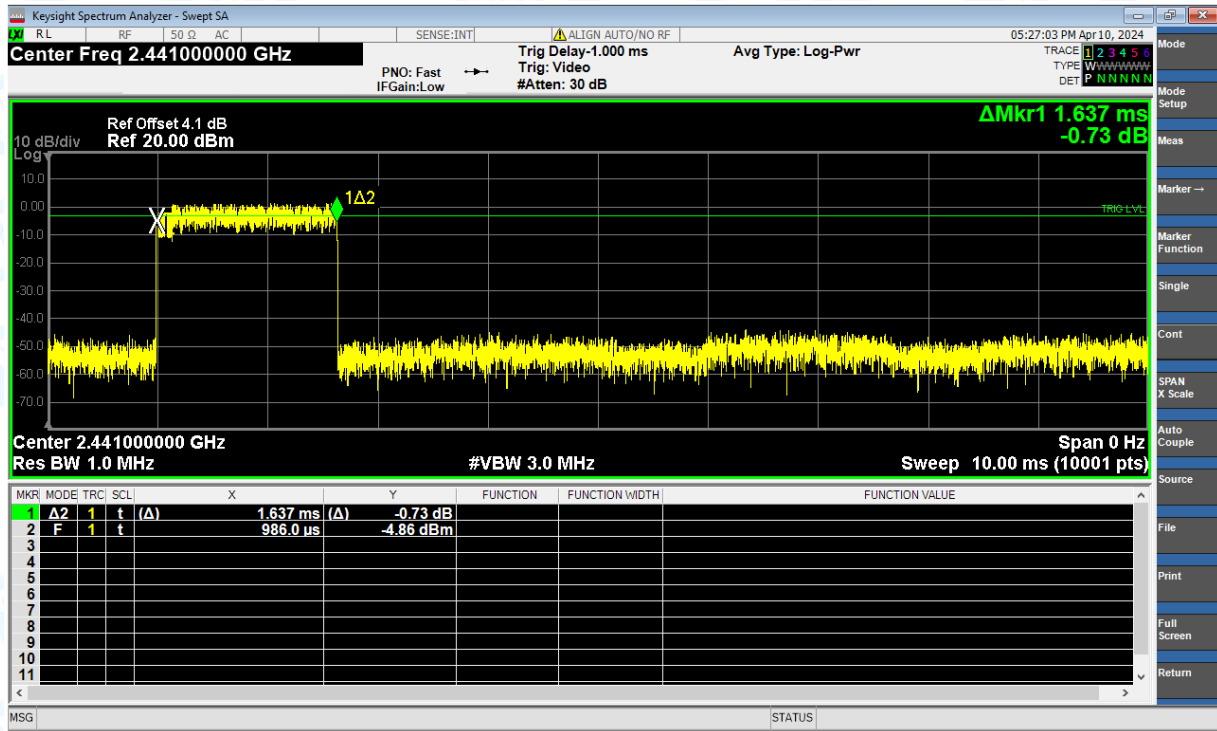
Dwell NVNT 1-DH5 2441MHz Ant1



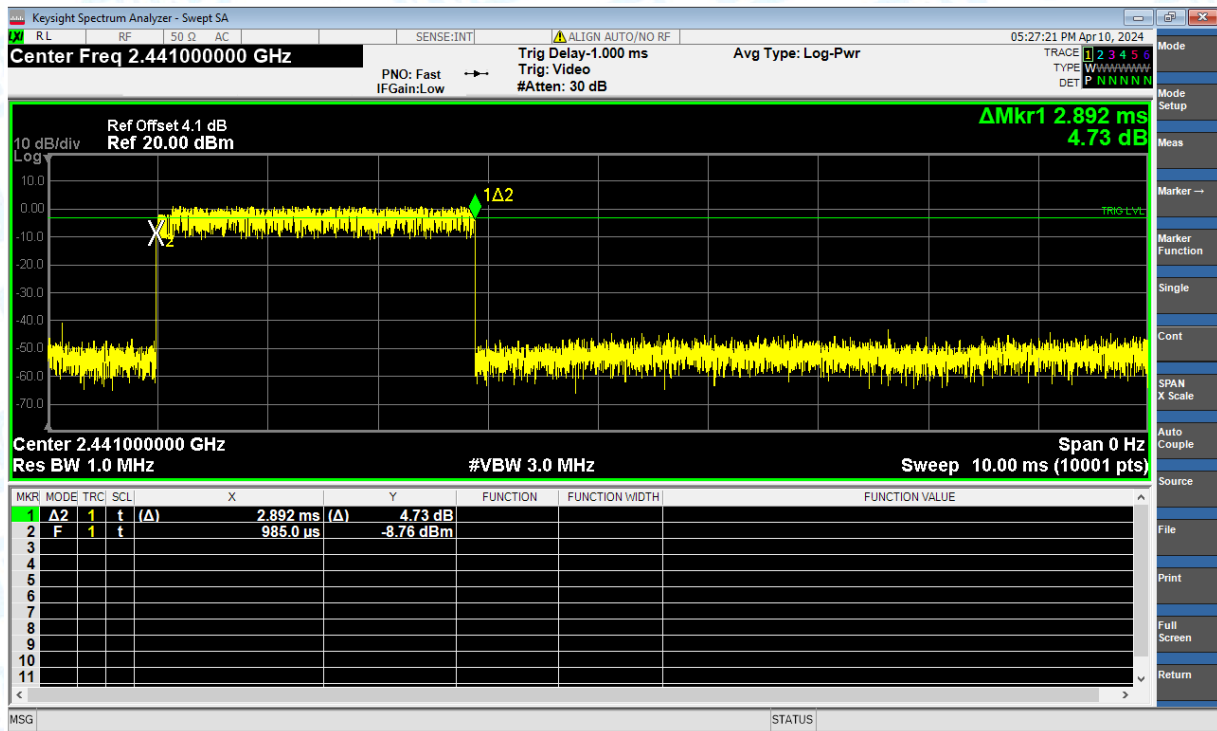
Dwell NVNT 2-DH1 2441MHz Ant1



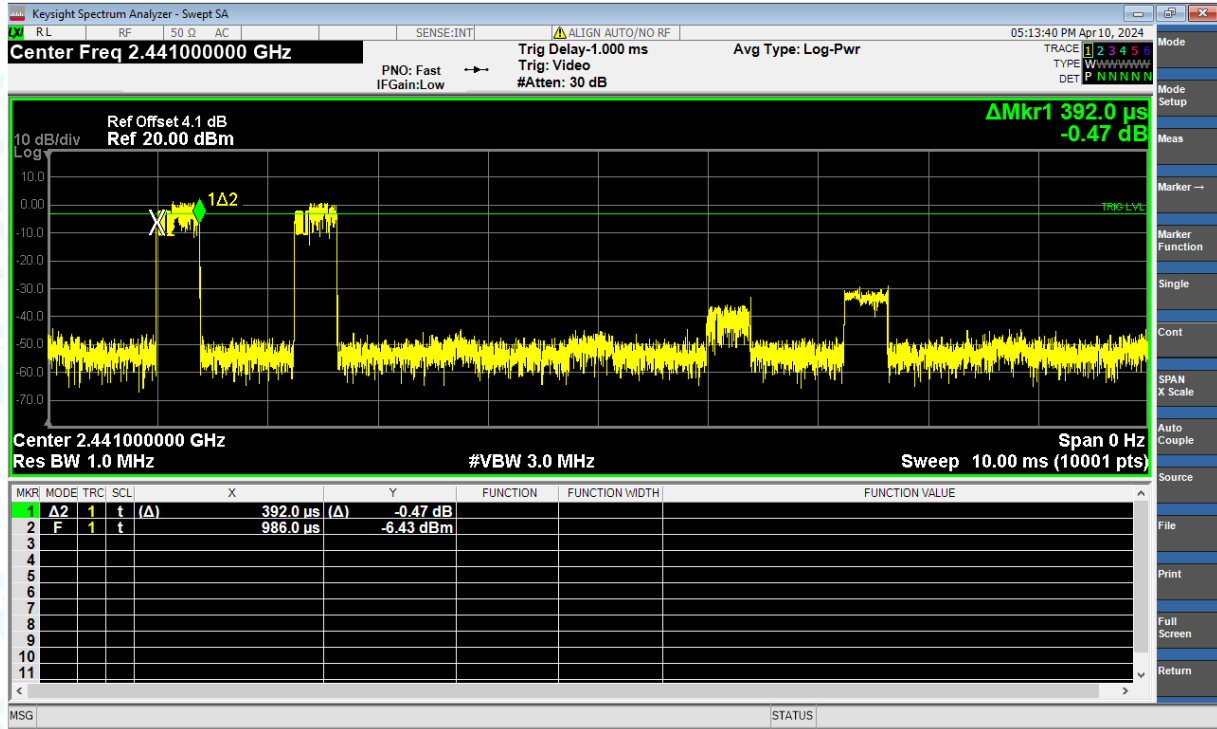
Dwell NVNT 2-DH3 2441MHz Ant1



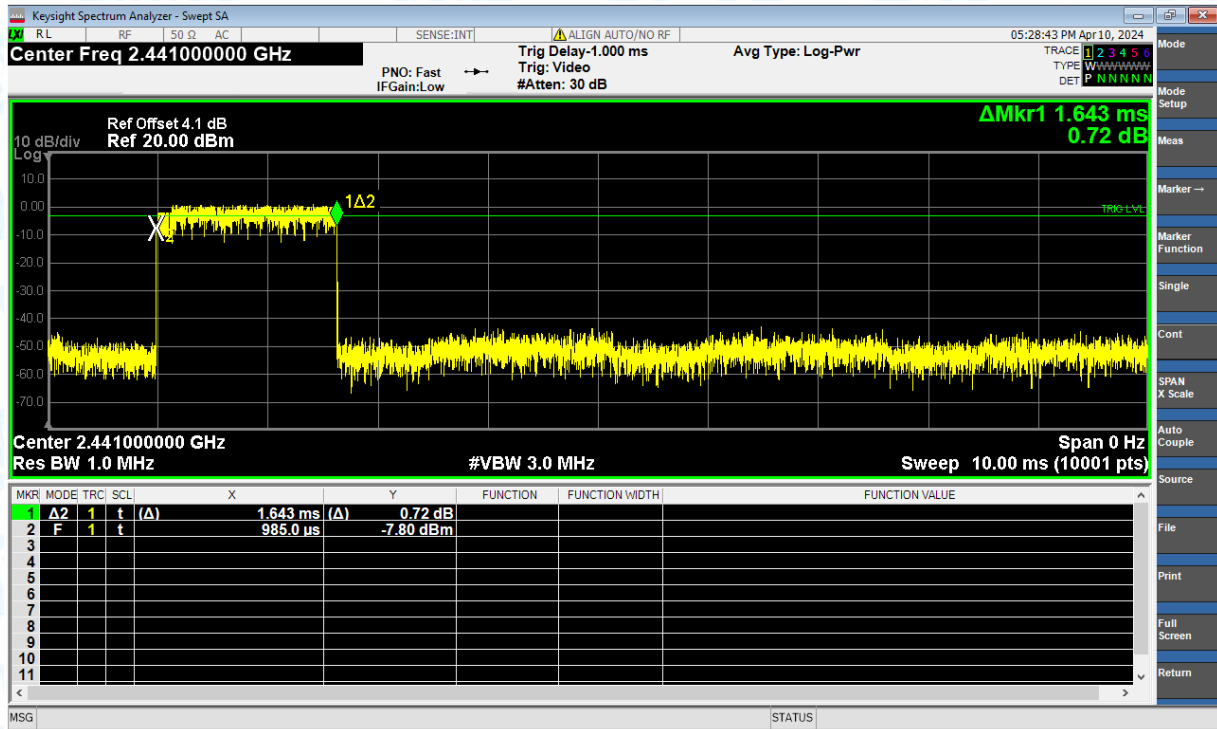
Dwell NVNT 2-DH5 2441MHz Ant1

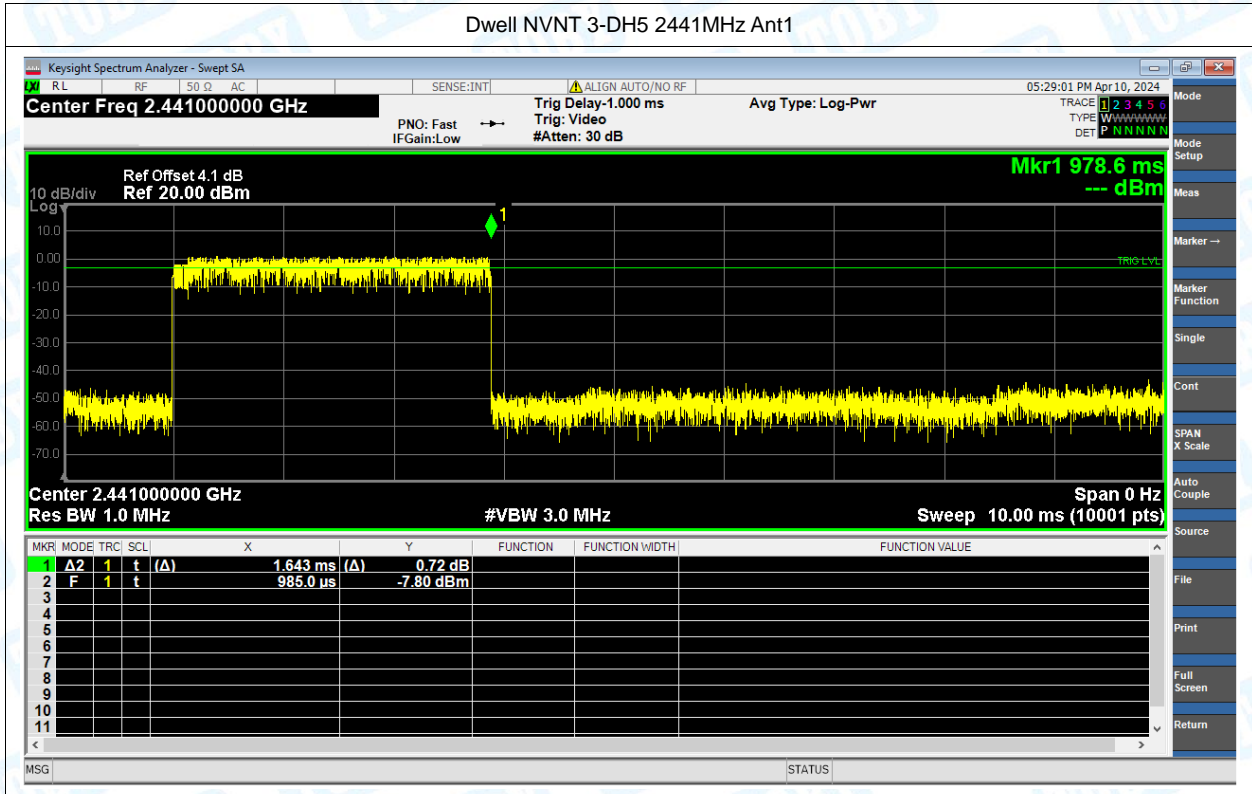


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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