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

General Description of EUT	
Product Name:	**Smart Watch**
Test Model:	**KT77**
Sample ID:	**HC-C-202406-0091-03-02#**
Environmental Conditions	
Temperature:	**24.6℃**
Relative Humidity:	**56%**
Test Voltage:	**DC 3.7V**
Test Engineer:	**ZKN Zhou**
Note: For a more detailed features description, please refer to the report TBR-C-202406-0091-121 The report only show the worst case data.	

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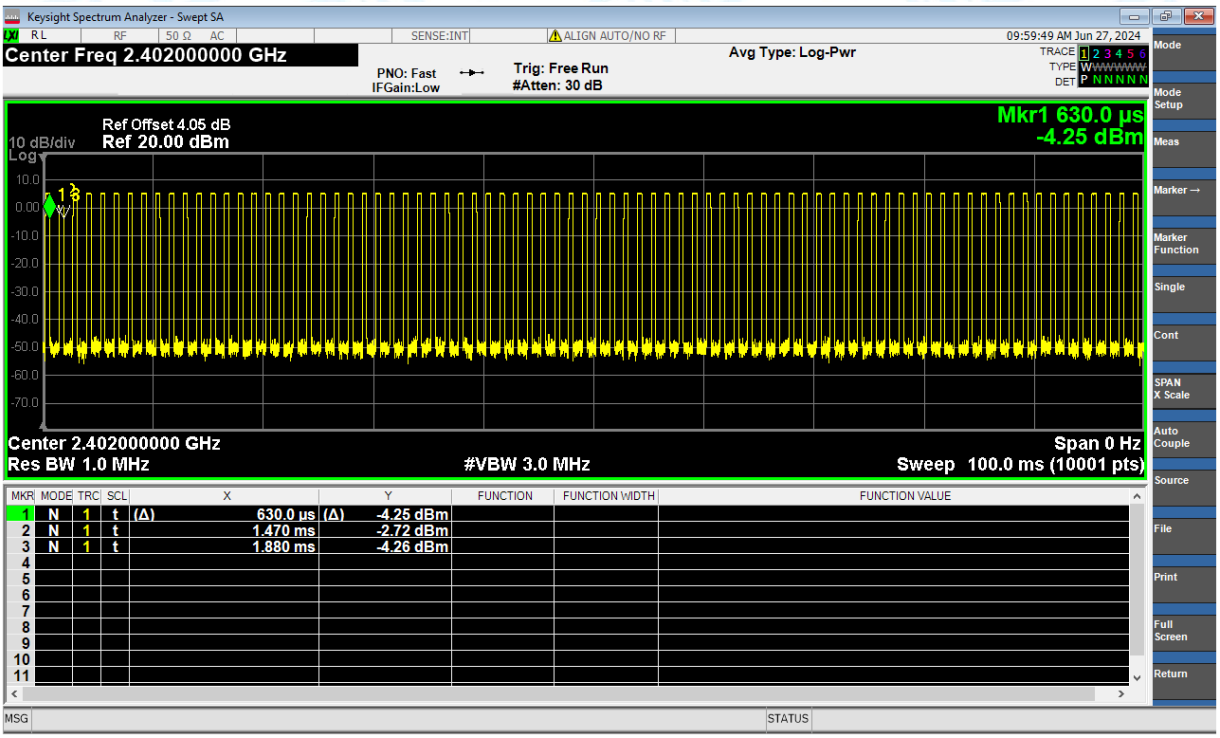
1. Duty Cycle

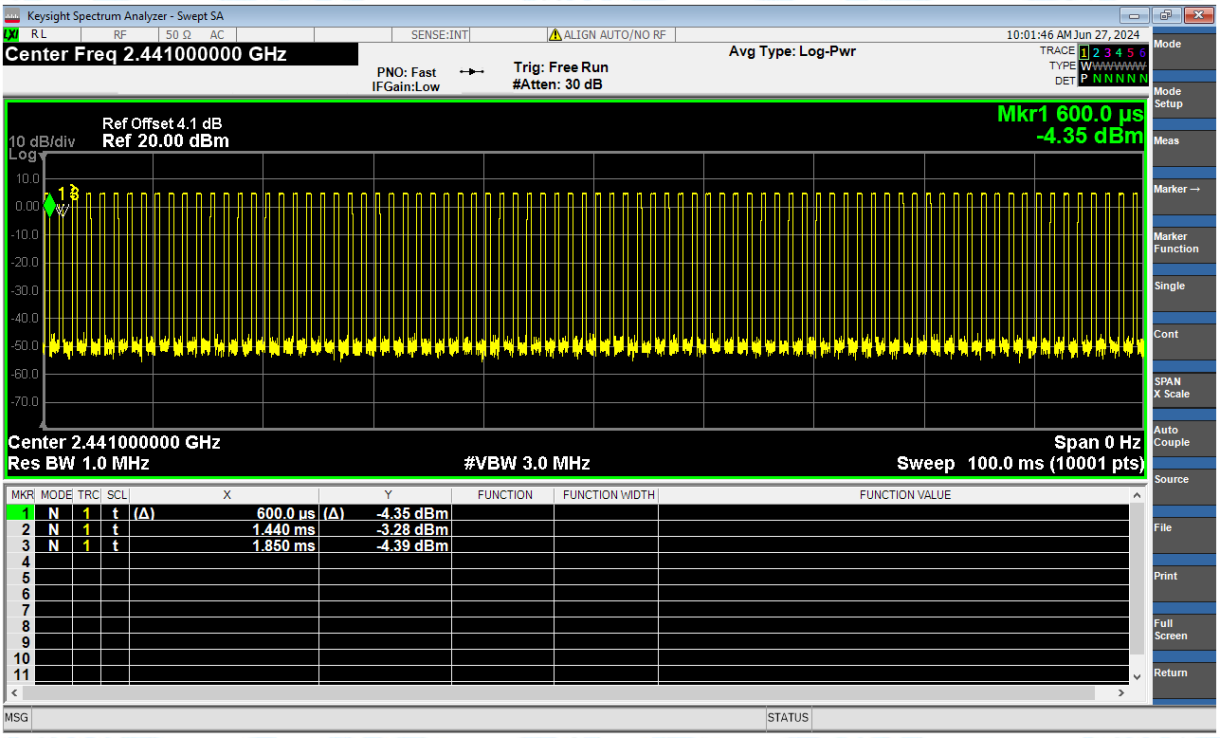
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2441	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2480	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2441	Ant1	33.6	4.74	2.38
NVNT	3-DH1	2480	Ant1	33.6	4.74	2.38

Test Graphs

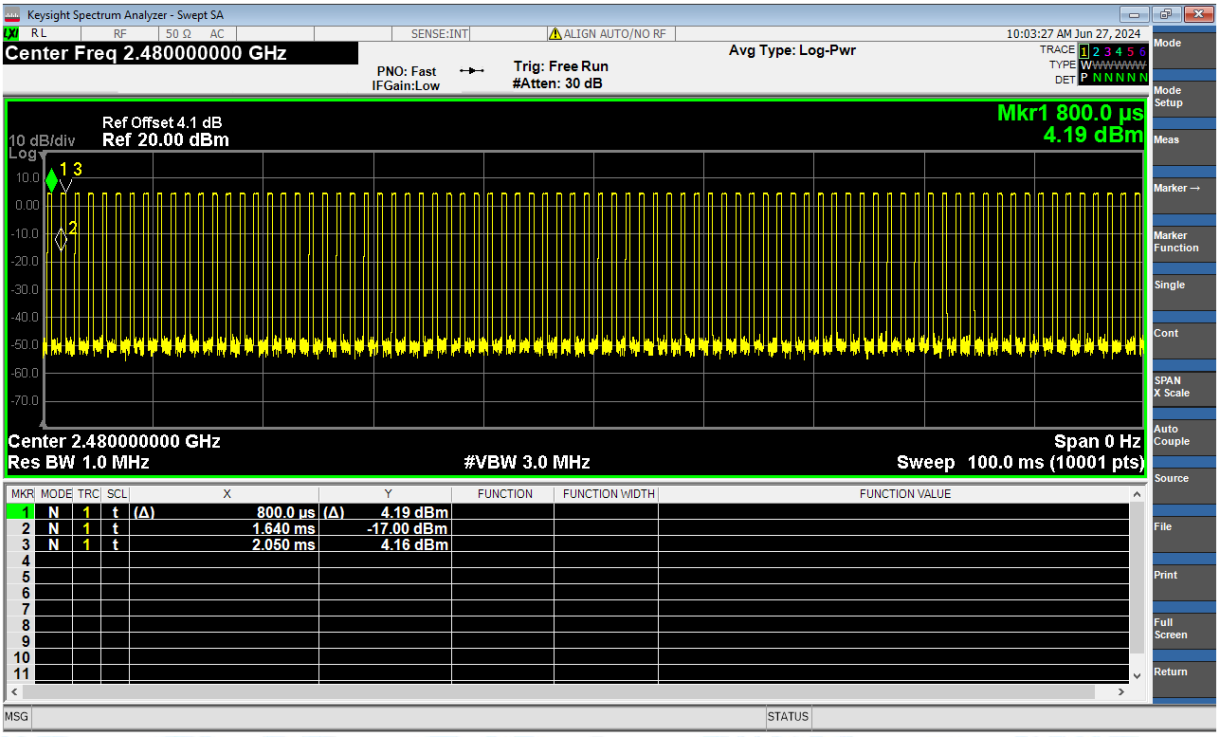
Duty Cycle NVNT 1-DH1 2402MHz Ant1



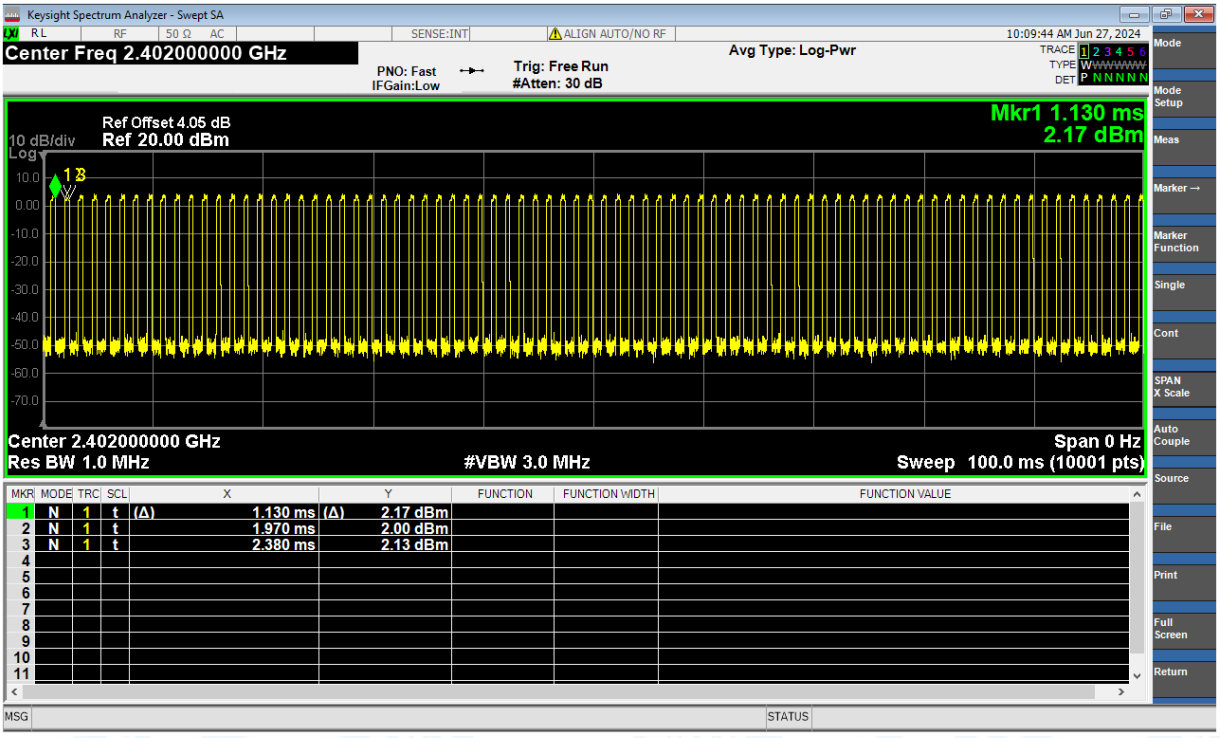
Duty Cycle NVNT 1-DH1 2441MHz Ant1



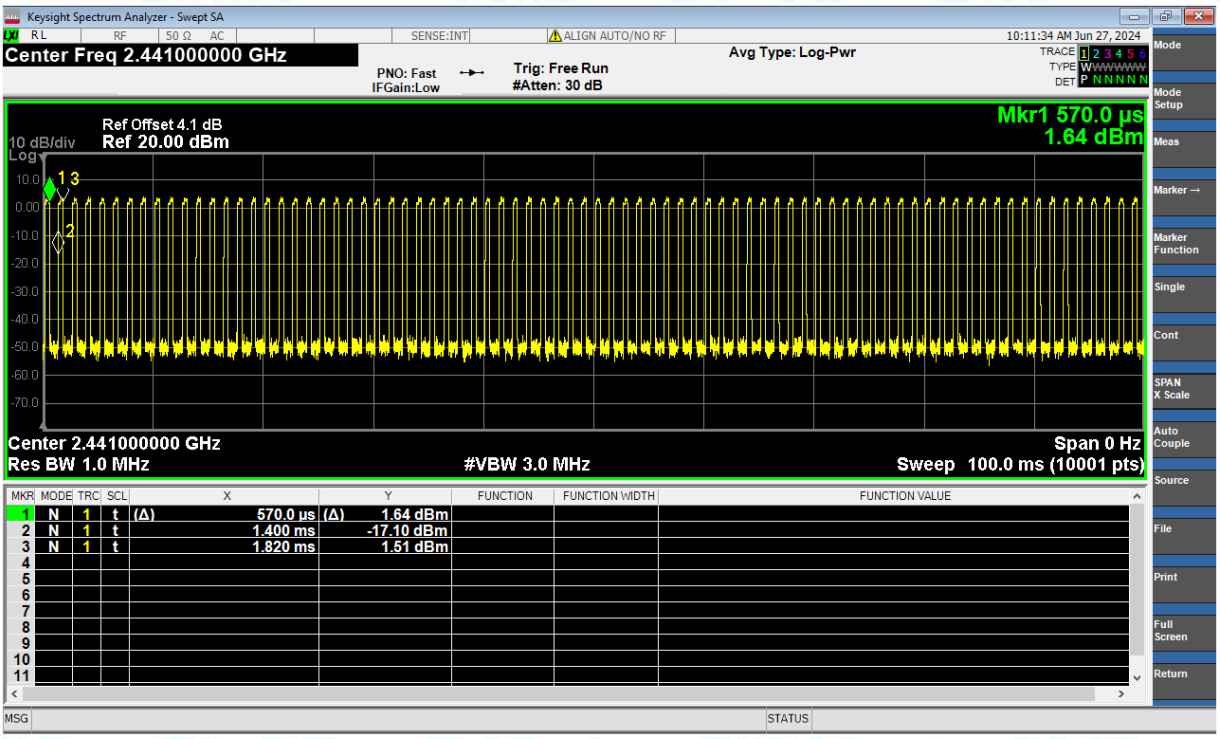
Duty Cycle NVNT 1-DH1 2480MHz Ant1



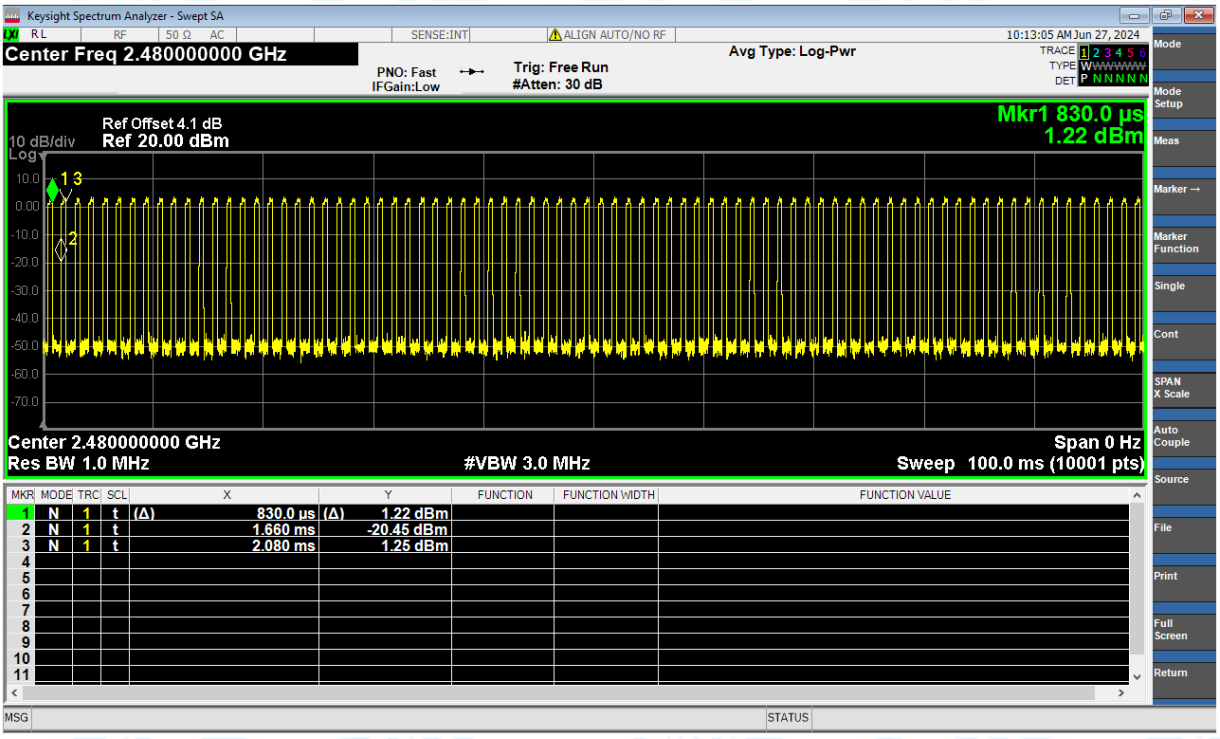
Duty Cycle NVNT 2-DH1 2402MHz Ant1



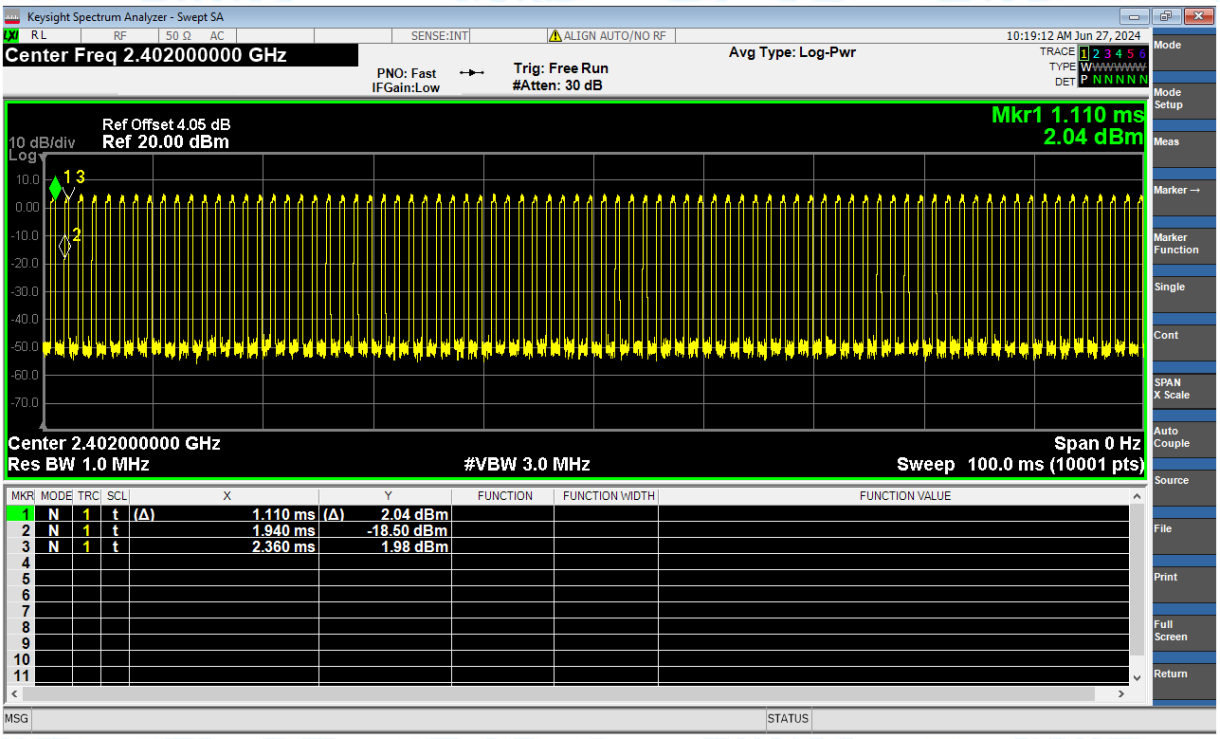
Duty Cycle NVNT 2-DH1 2441MHz Ant1



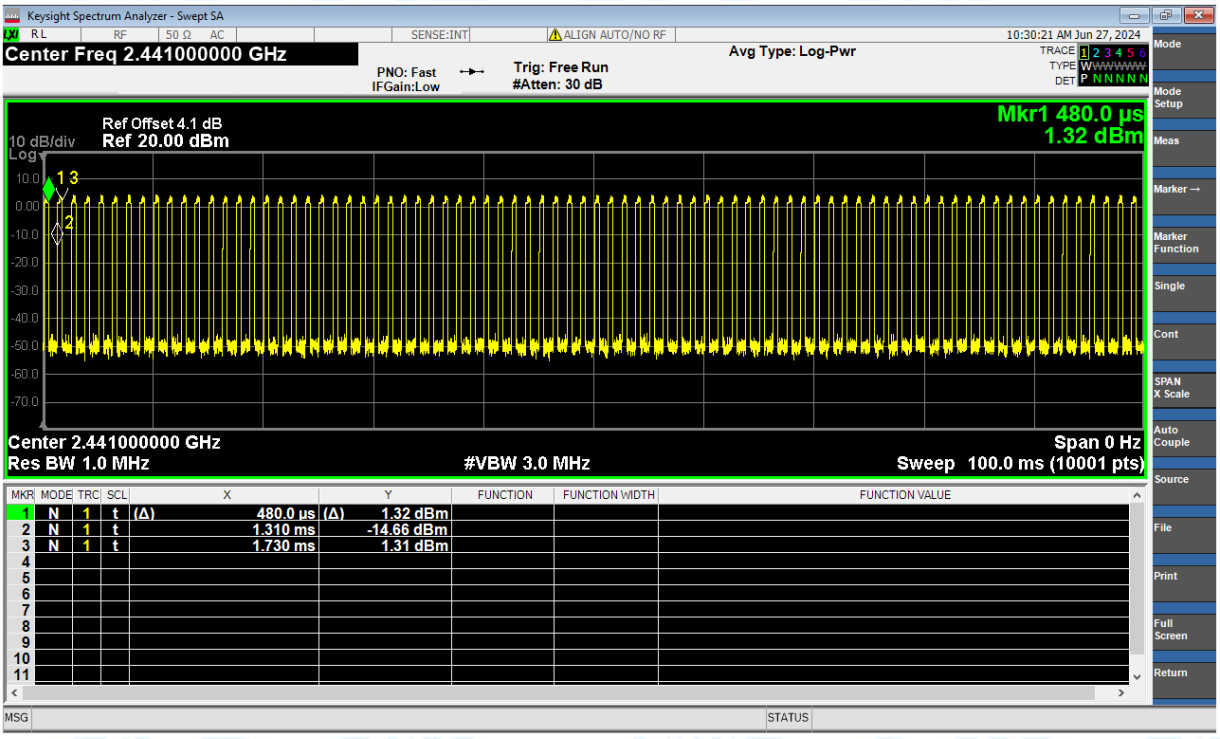
Duty Cycle NVNT 2-DH1 2480MHz Ant1



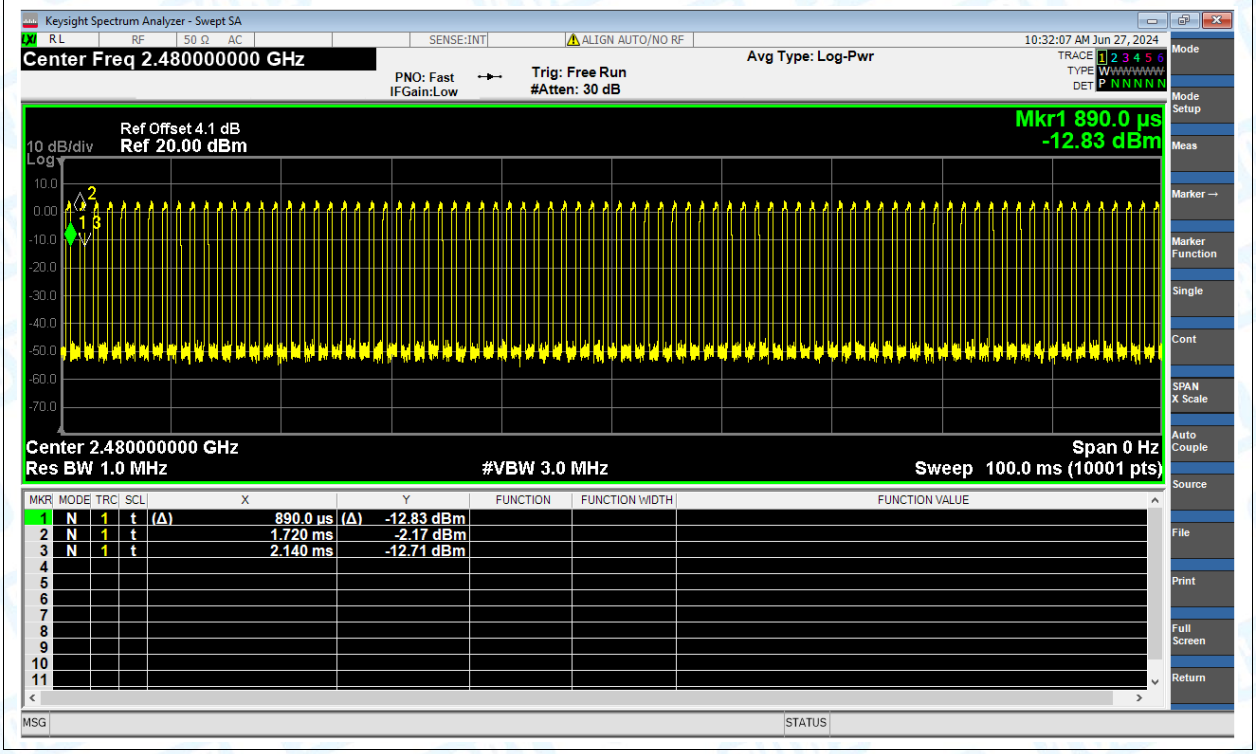
Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



Duty Cycle NVNT 3-DH1 2480MHz Ant1

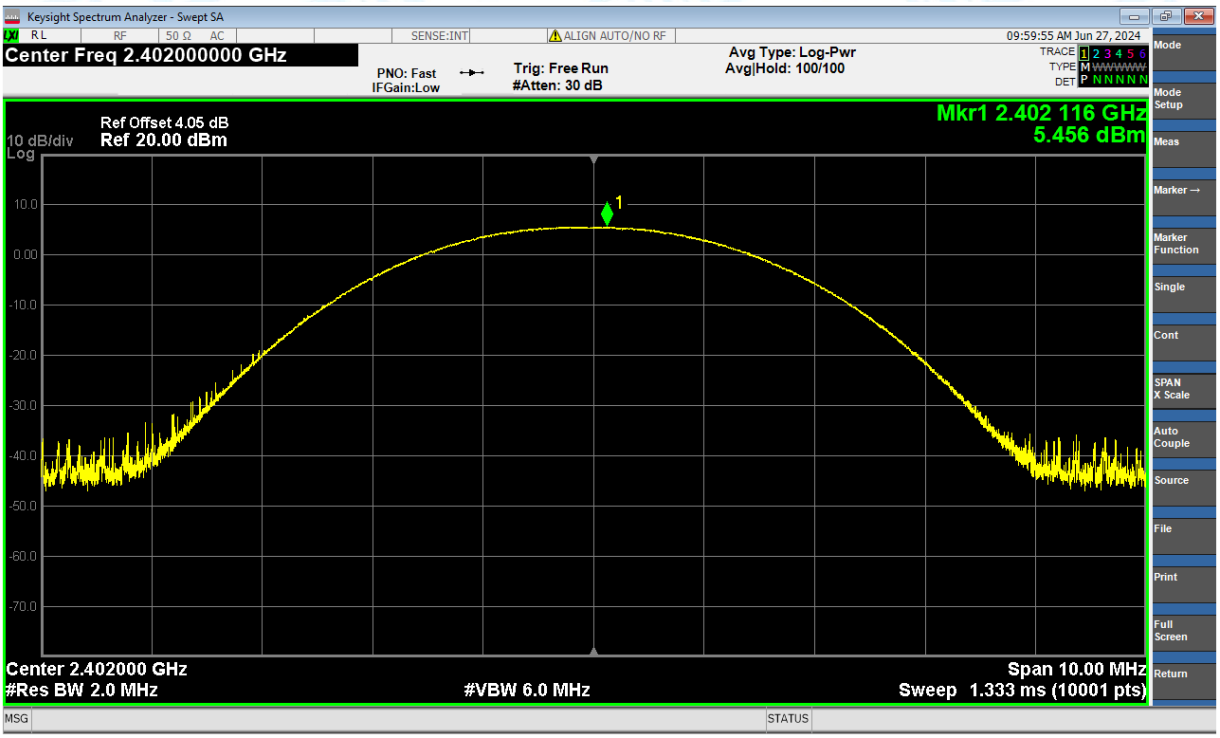


2. Maximum Conducted Output Power

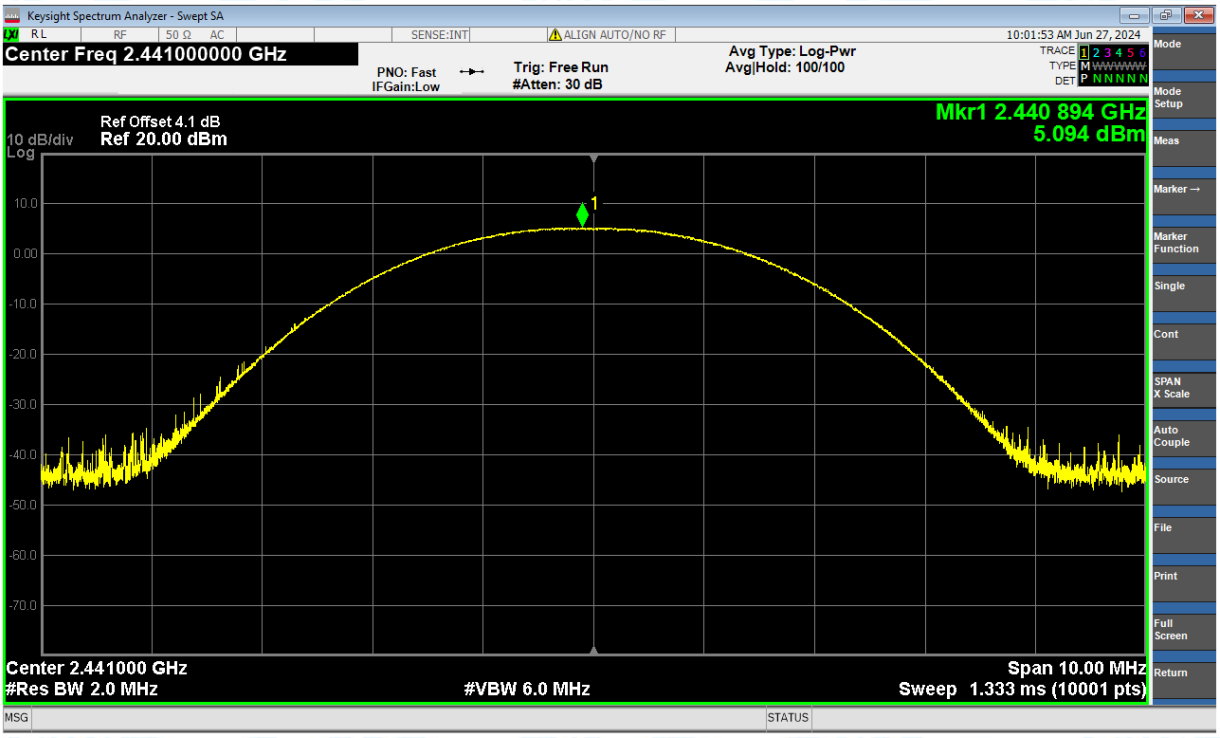
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	5.456	21	Pass
NVNT	1-DH1	2441	Ant1	5.094	21	Pass
NVNT	1-DH1	2480	Ant1	4.73	21	Pass
NVNT	2-DH1	2402	Ant1	4.887	21	Pass
NVNT	2-DH1	2441	Ant1	4.5	21	Pass
NVNT	2-DH1	2480	Ant1	4.087	21	Pass
NVNT	3-DH1	2402	Ant1	5.555	21	Pass
NVNT	3-DH1	2441	Ant1	4.822	21	Pass
NVNT	3-DH1	2480	Ant1	4.499	21	Pass

Test Graphs

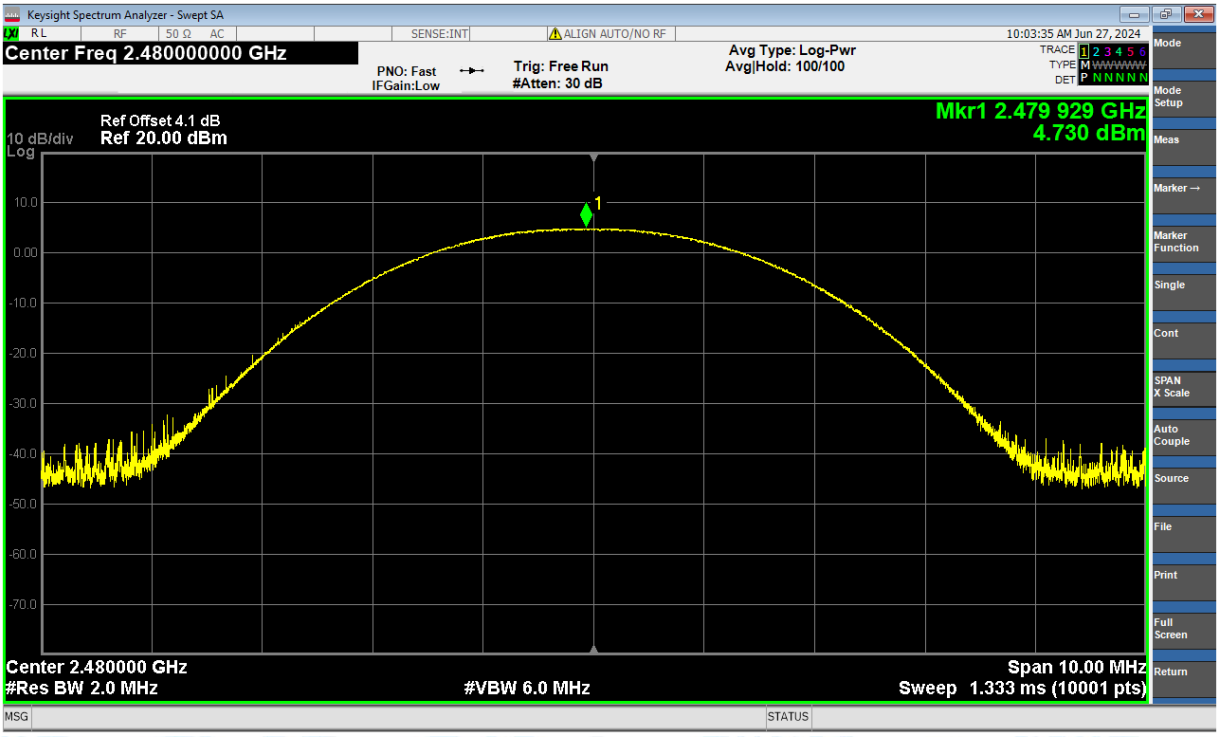
Power NVNT 1-DH1 2402MHz Ant1



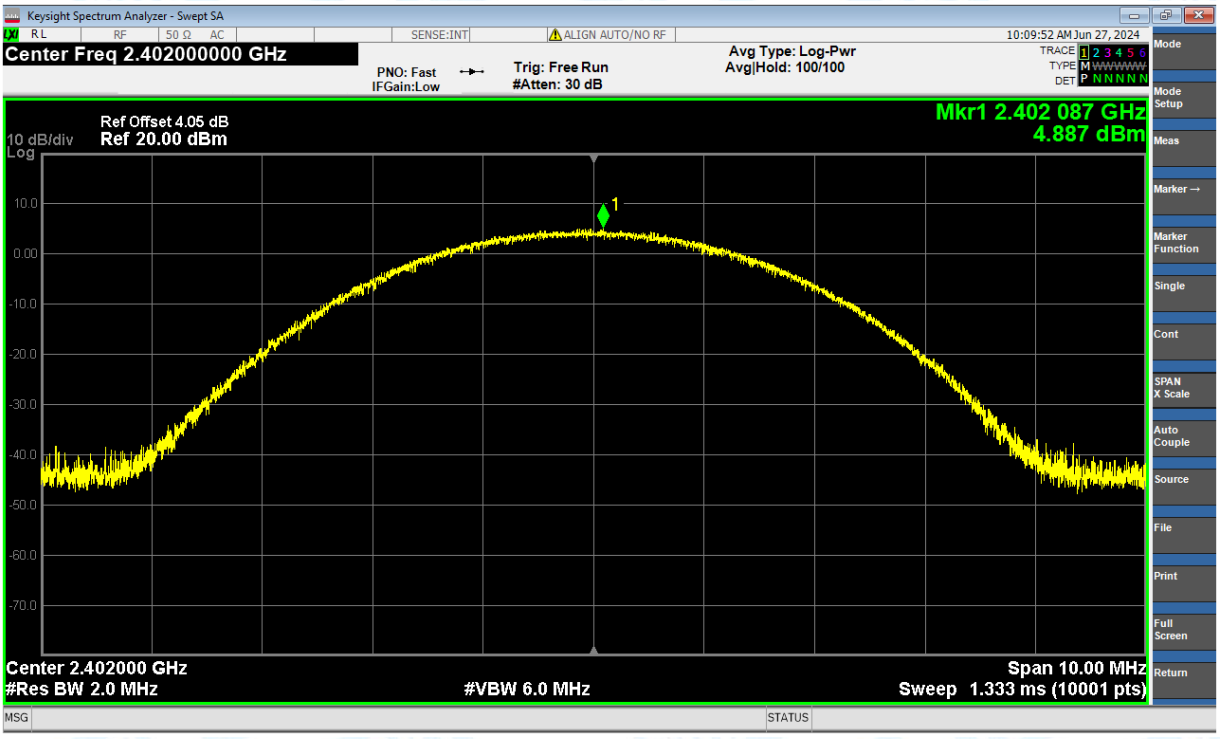
Power NVNT 1-DH1 2441MHz Ant1



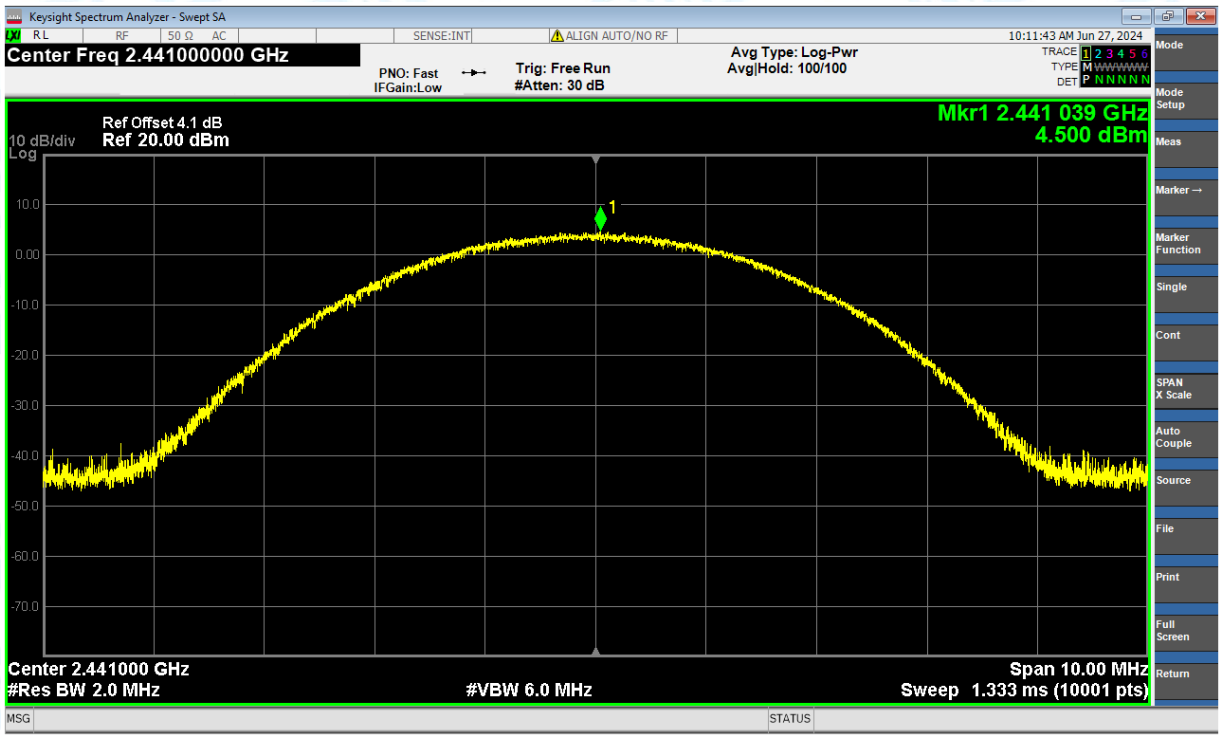
Power NVNT 1-DH1 2480MHz Ant1



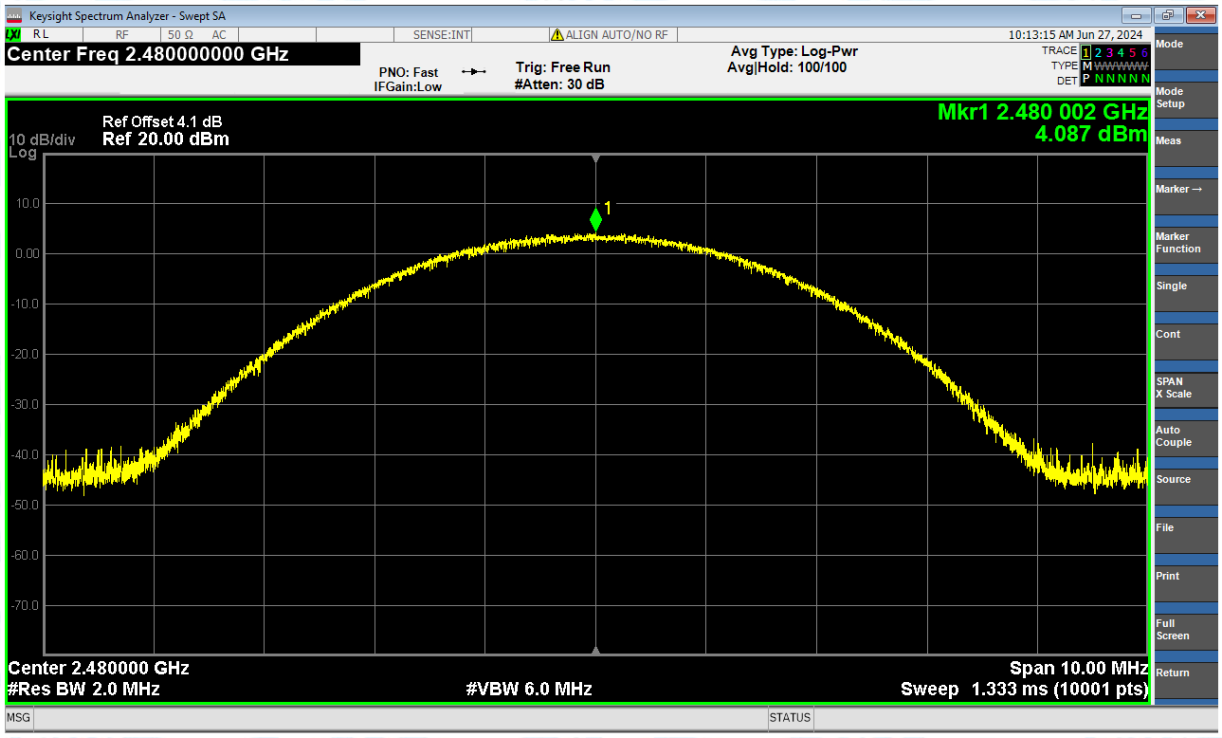
Power NVNT 2-DH1 2402MHz Ant1



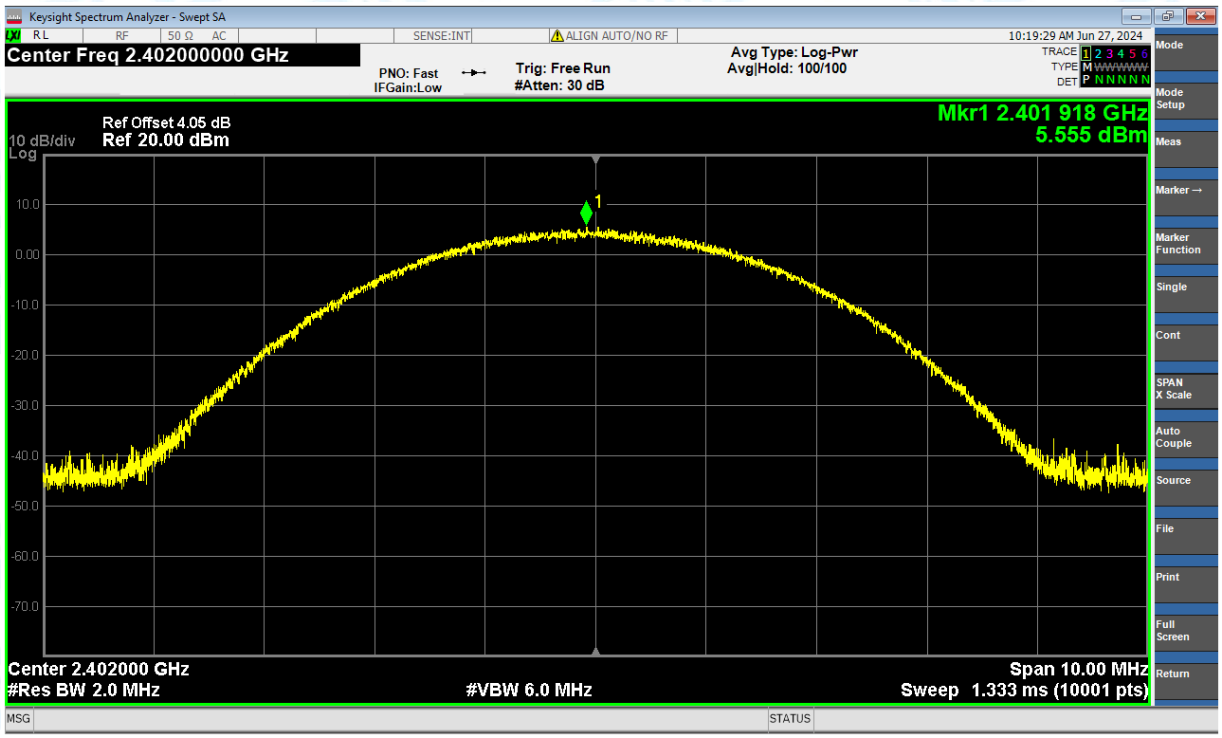
Power NVNT 2-DH1 2441MHz Ant1



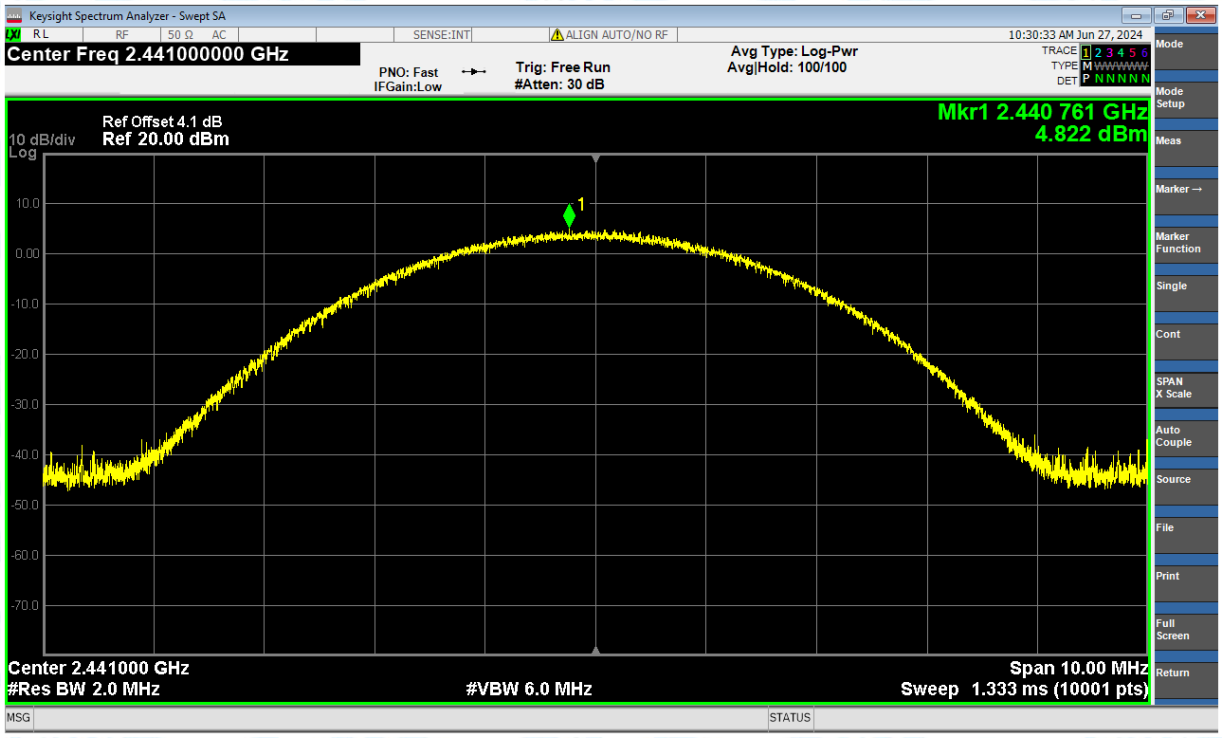
Power NVNT 2-DH1 2480MHz Ant1



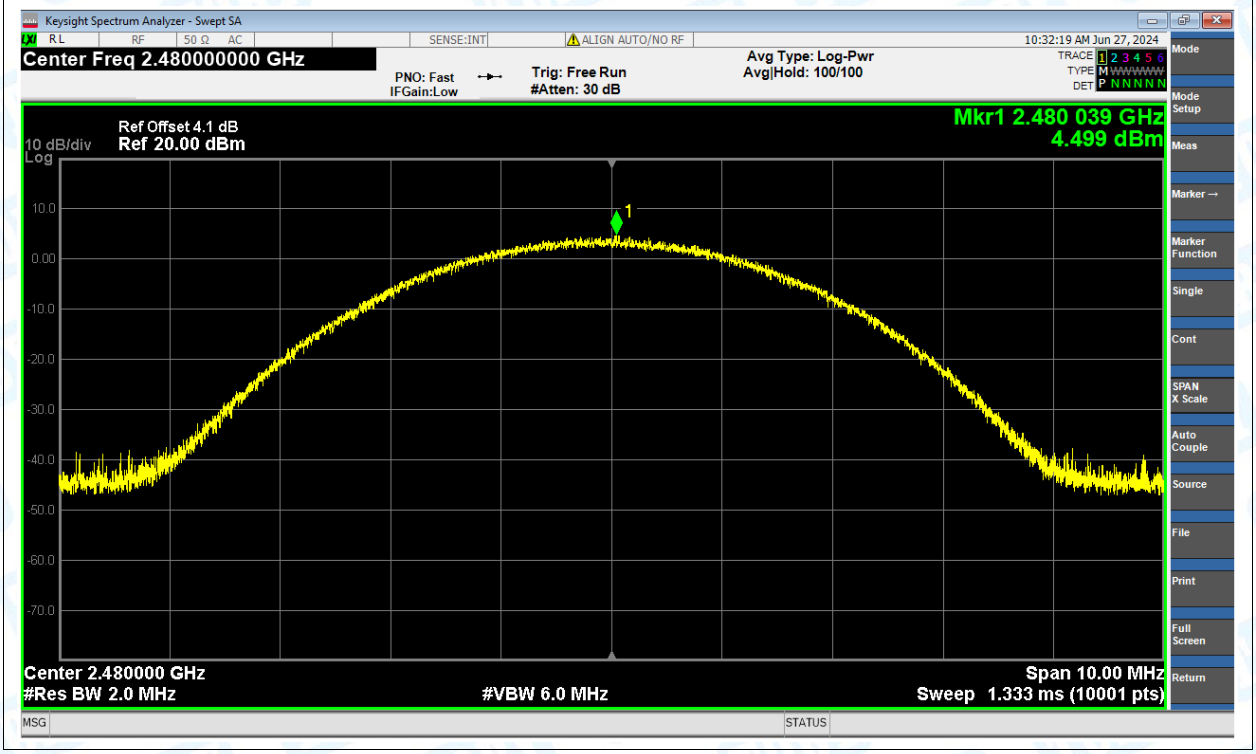
Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



Power NVNT 3-DH1 2480MHz Ant1

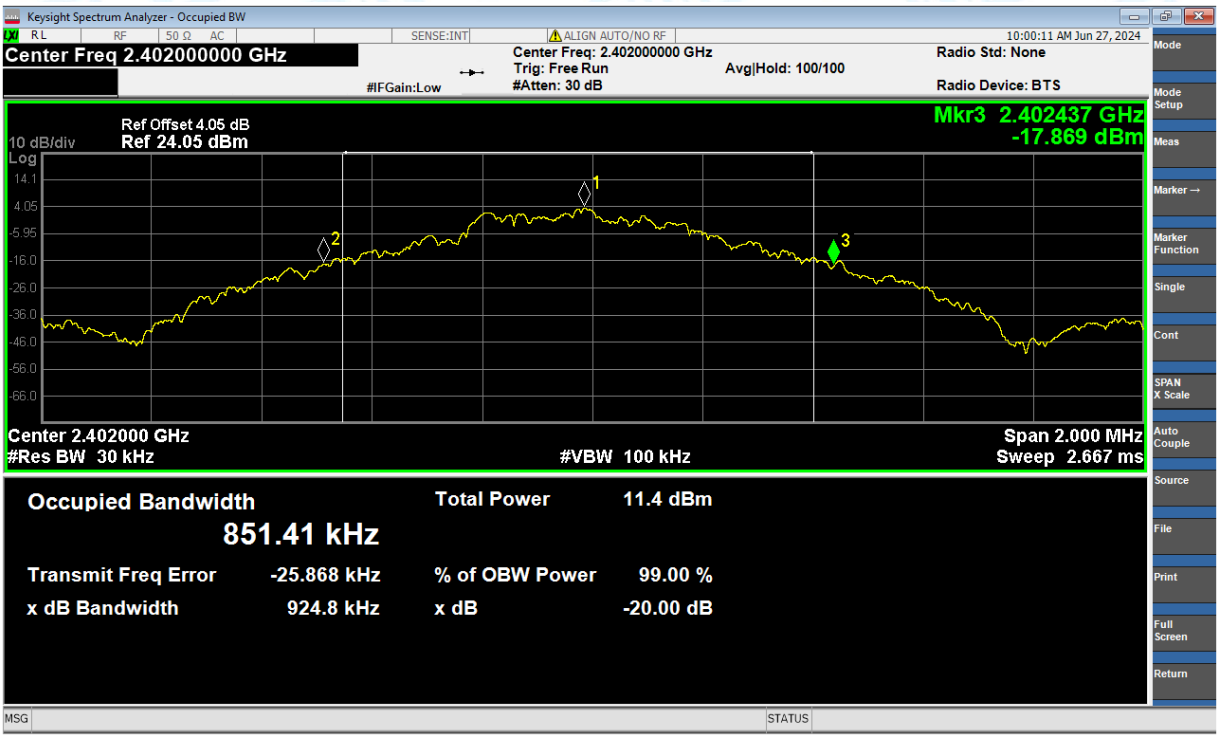


3. -20dB Bandwidth

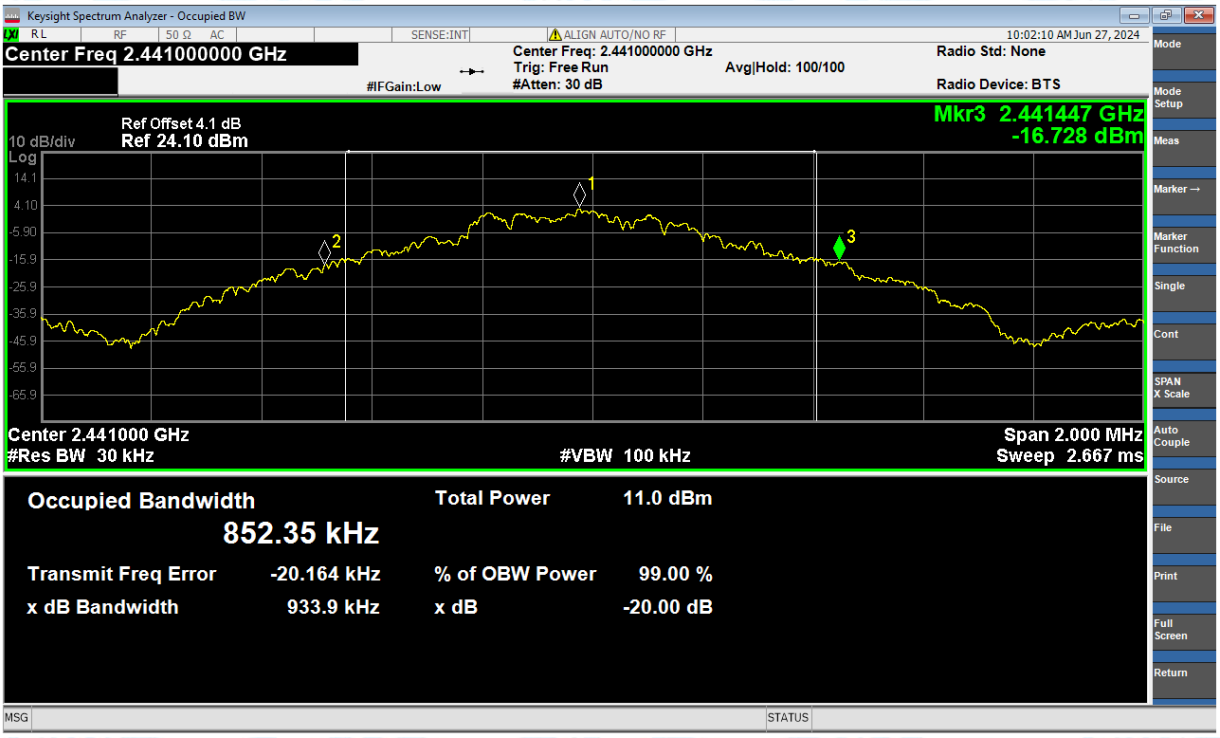
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.92	0	Pass
NVNT	1-DH1	2441	Ant1	0.93	0	Pass
NVNT	1-DH1	2480	Ant1	0.9	0	Pass
NVNT	2-DH1	2402	Ant1	1.26	0	Pass
NVNT	2-DH1	2441	Ant1	1.27	0	Pass
NVNT	2-DH1	2480	Ant1	1.26	0	Pass
NVNT	3-DH1	2402	Ant1	1.21	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.22	0	Pass

Test Graphs

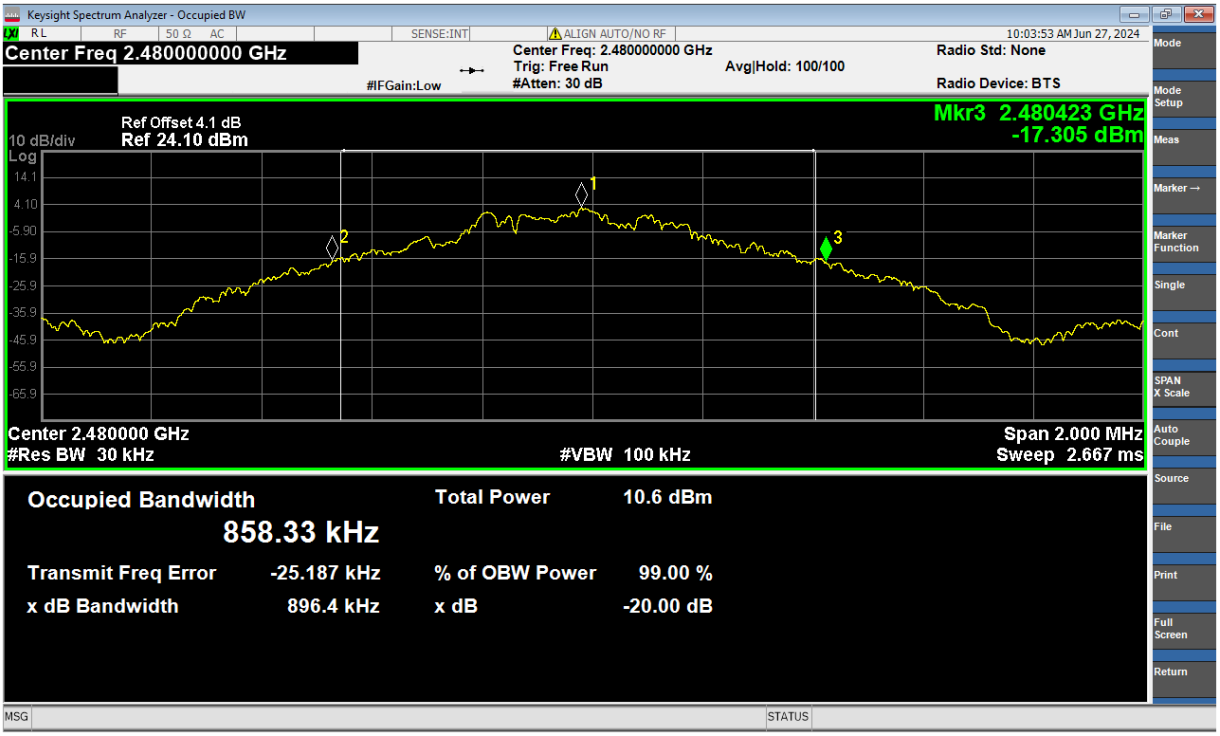
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



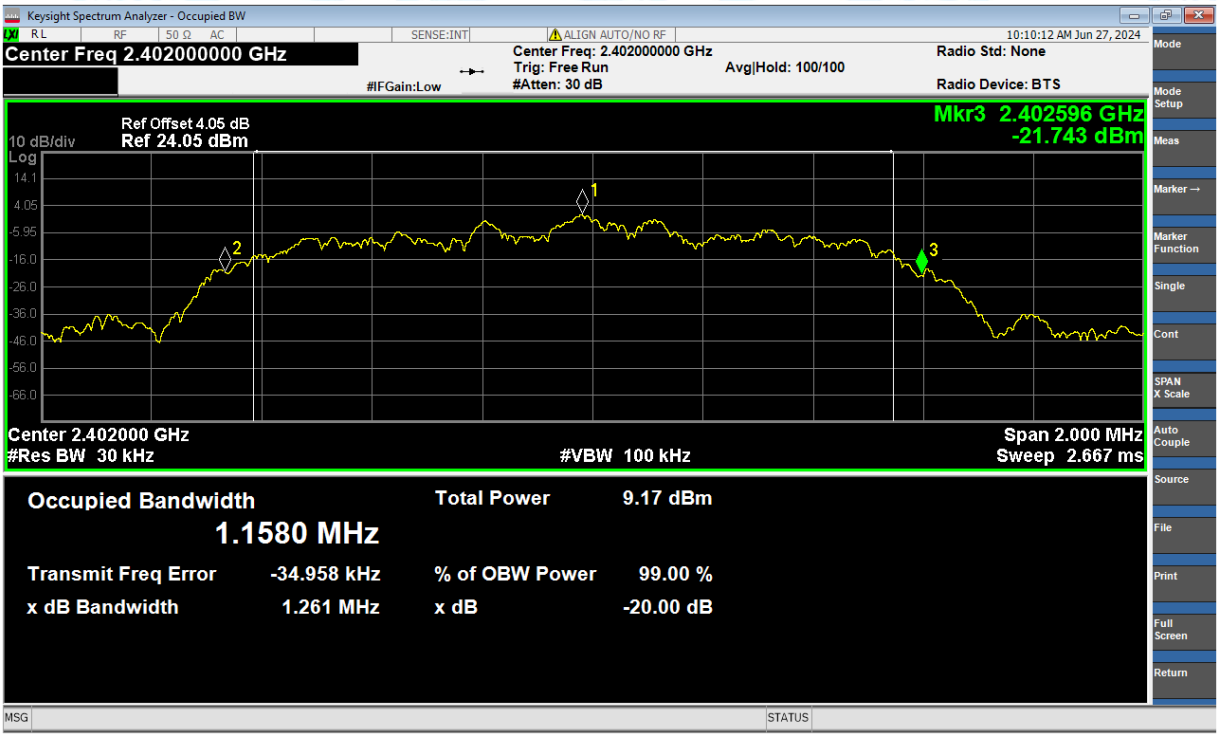
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



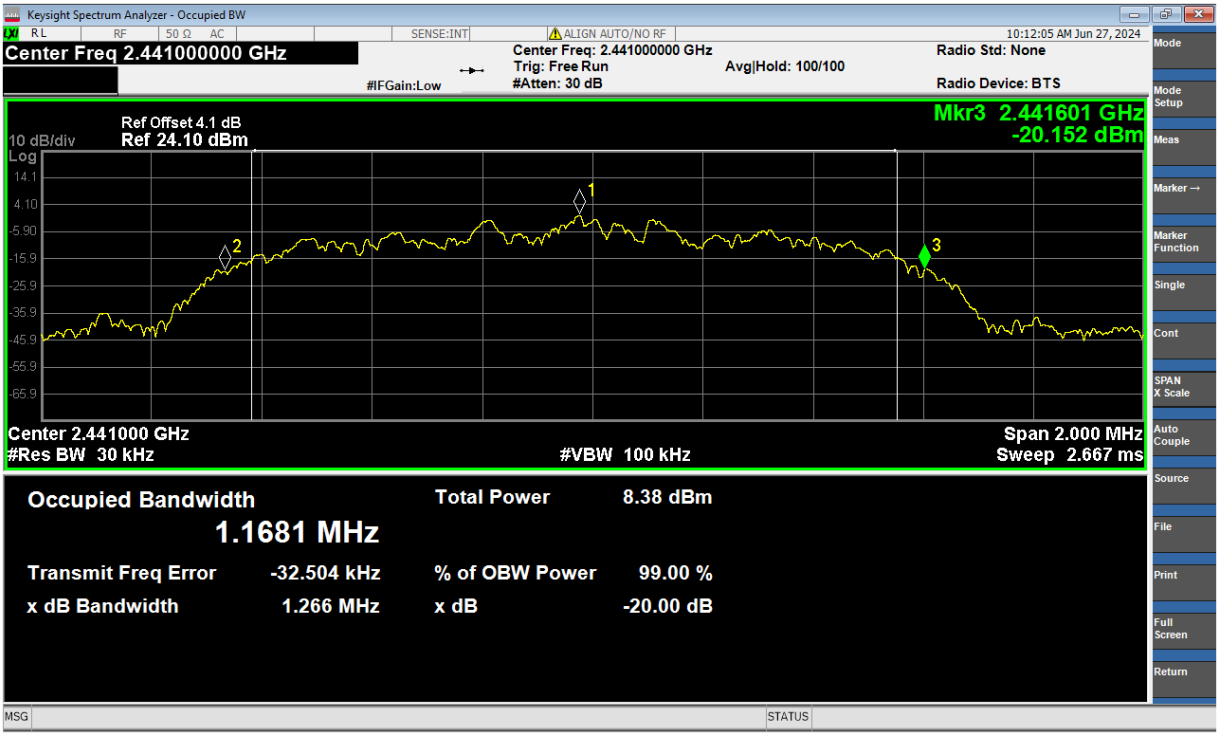
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



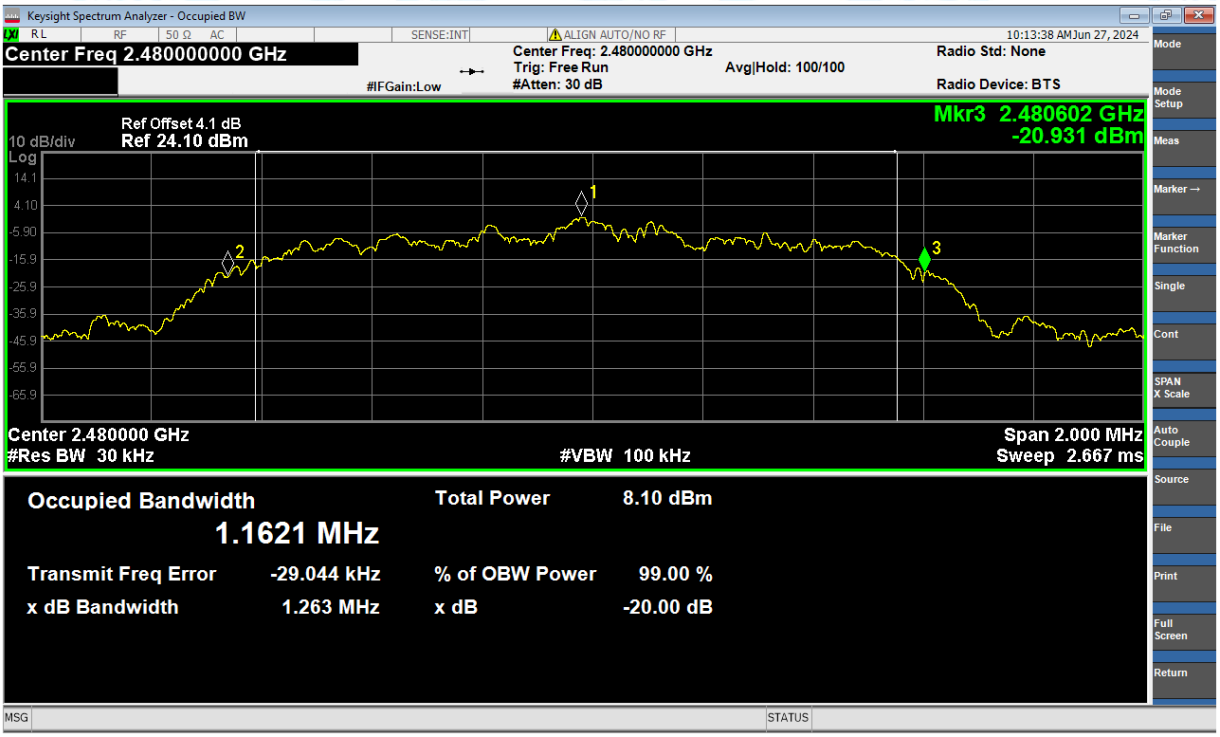
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



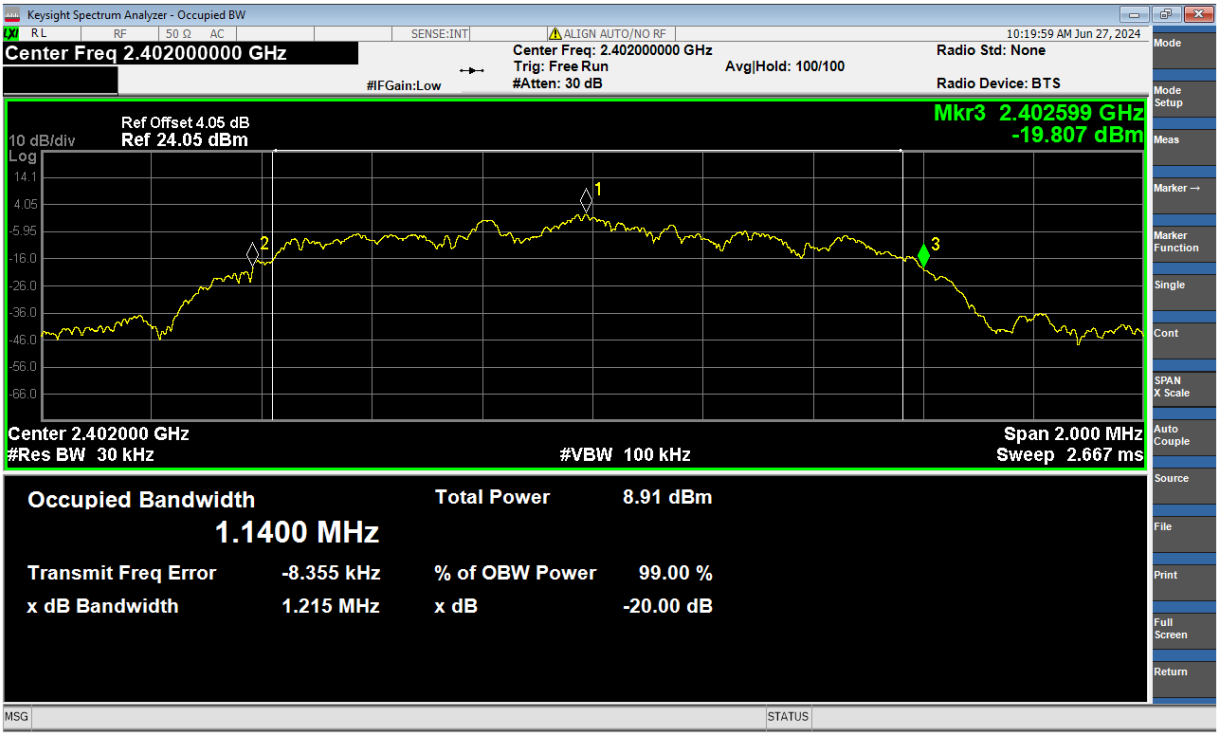
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



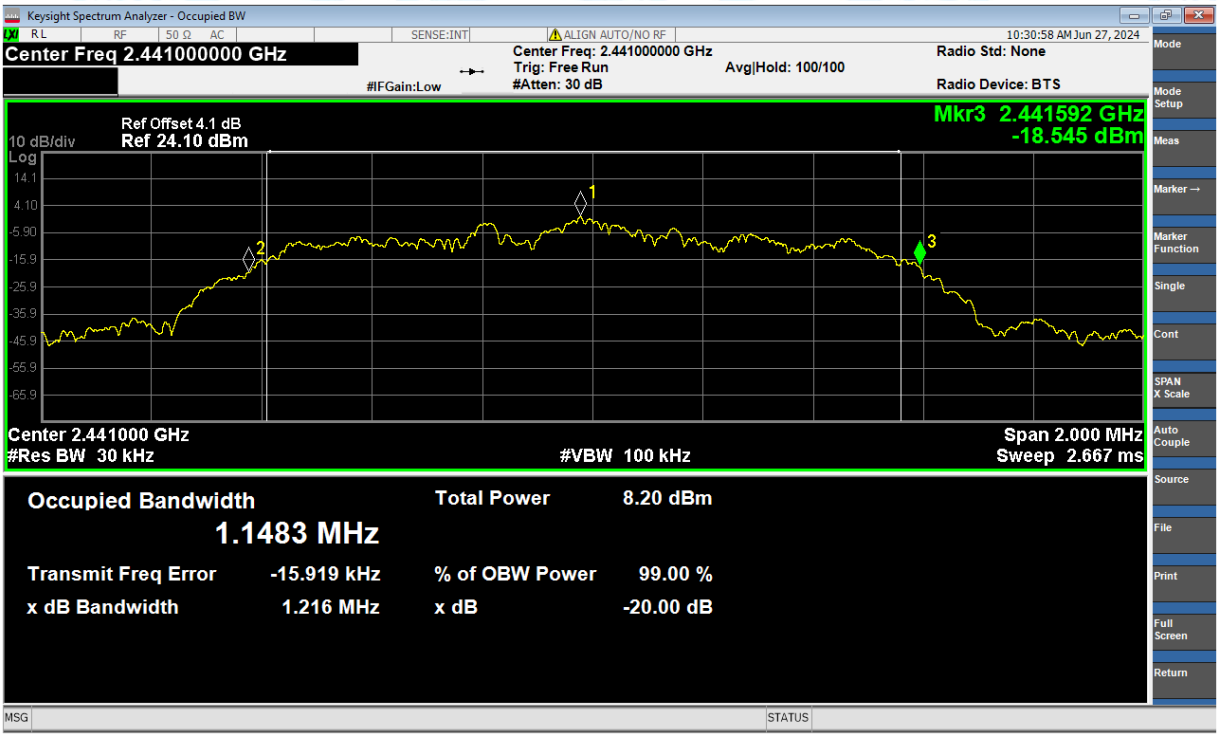
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



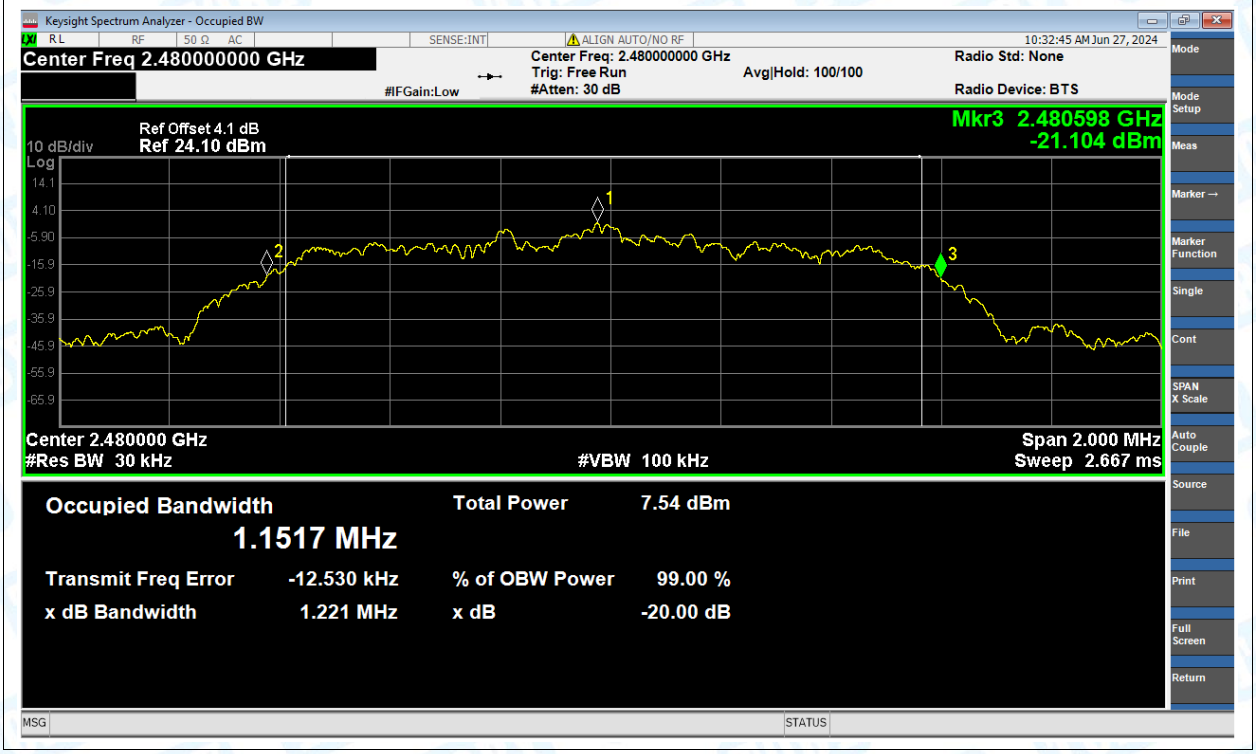
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1

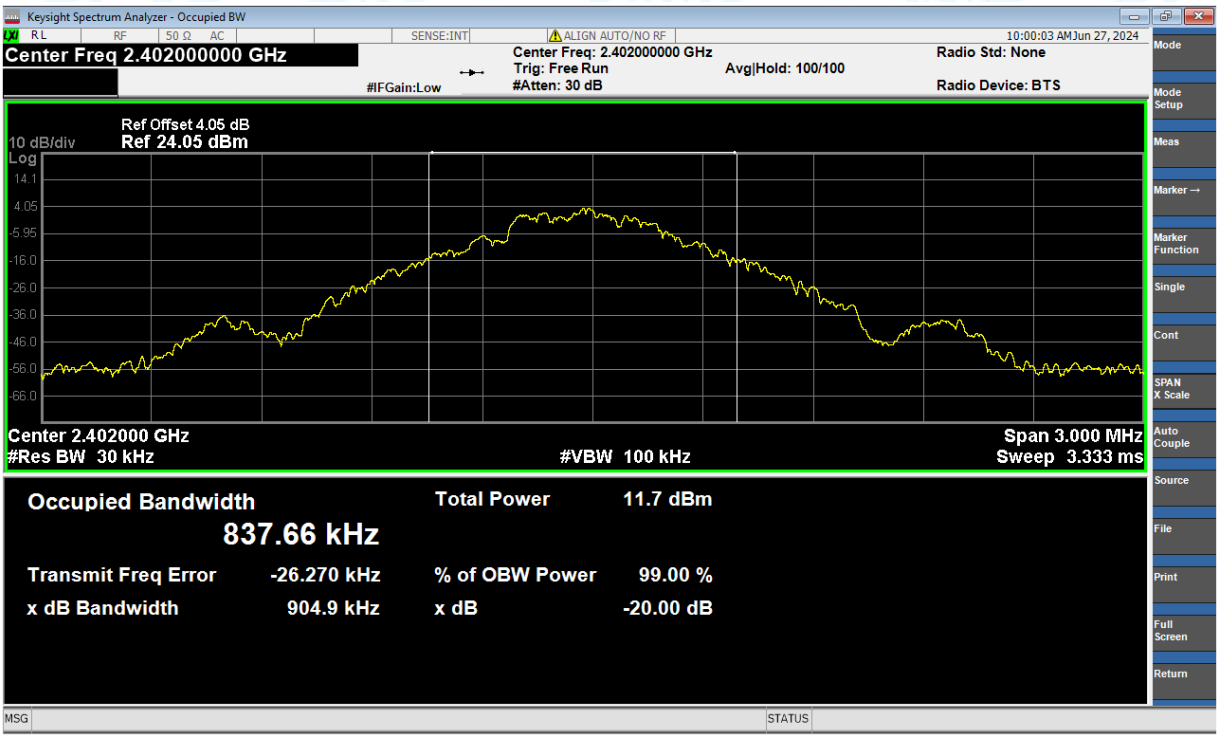


4. Occupied Channel Bandwidth

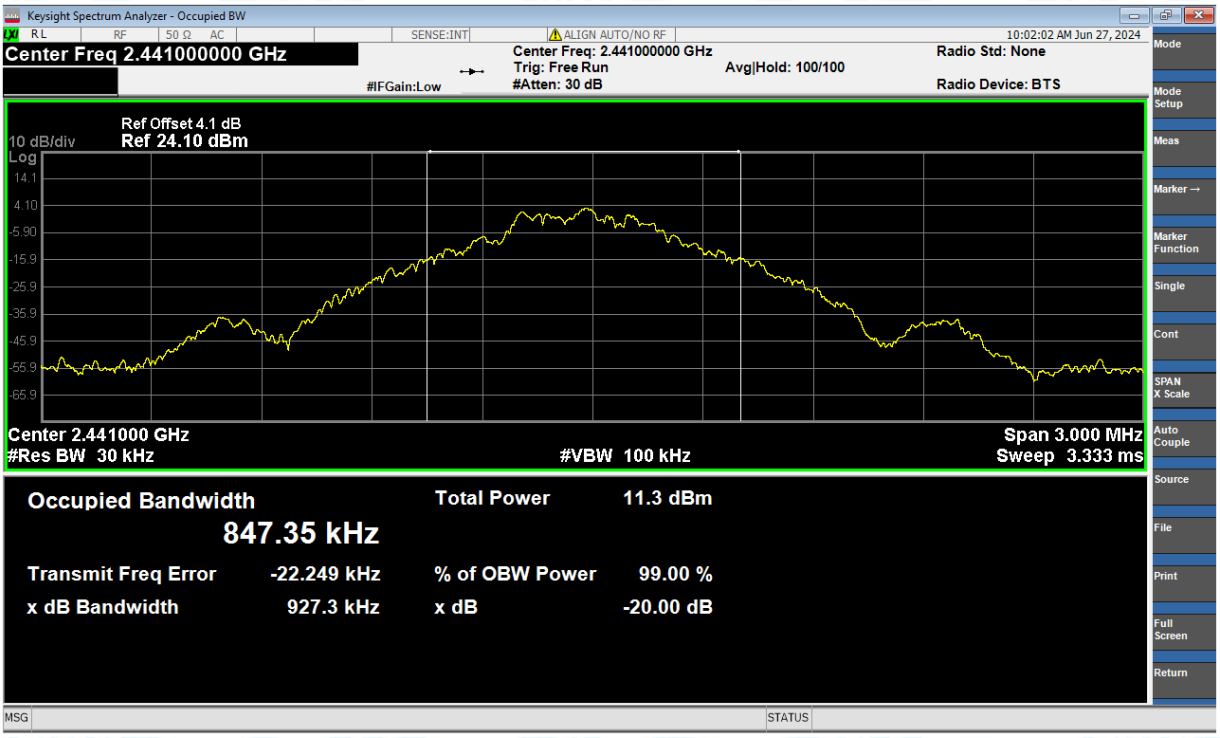
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.838
NVNT	1-DH1	2441	Ant1	0.847
NVNT	1-DH1	2480	Ant1	0.858
NVNT	2-DH1	2402	Ant1	1.168
NVNT	2-DH1	2441	Ant1	1.164
NVNT	2-DH1	2480	Ant1	1.171
NVNT	3-DH1	2402	Ant1	1.149
NVNT	3-DH1	2441	Ant1	1.142
NVNT	3-DH1	2480	Ant1	1.146

Test Graphs

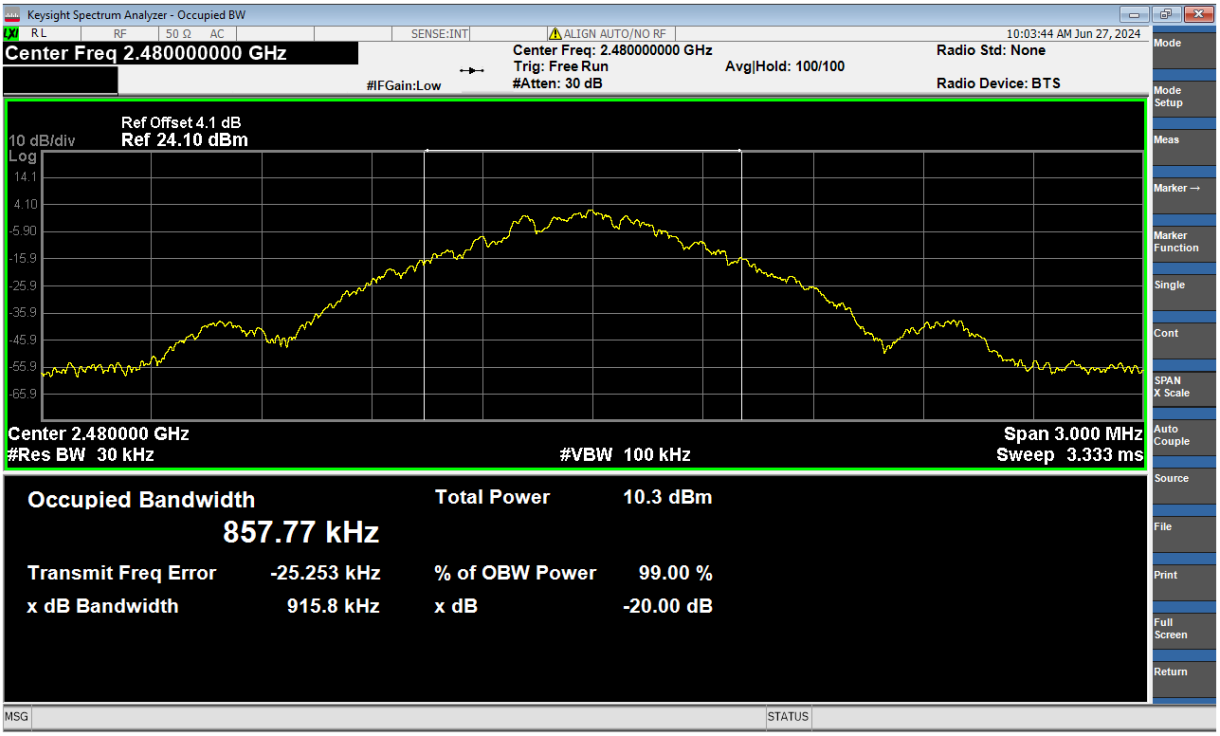
OBW NVNT 1-DH1 2402MHz Ant1



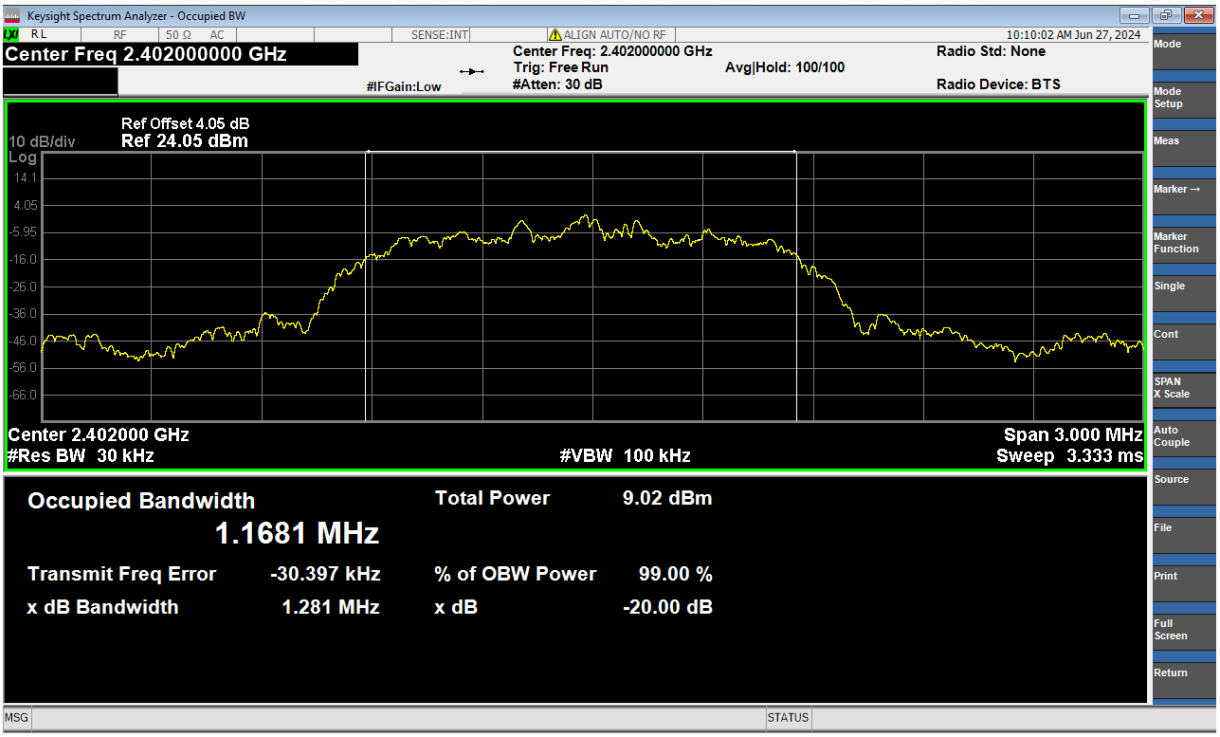
OBW NVNT 1-DH1 2441MHz Ant1



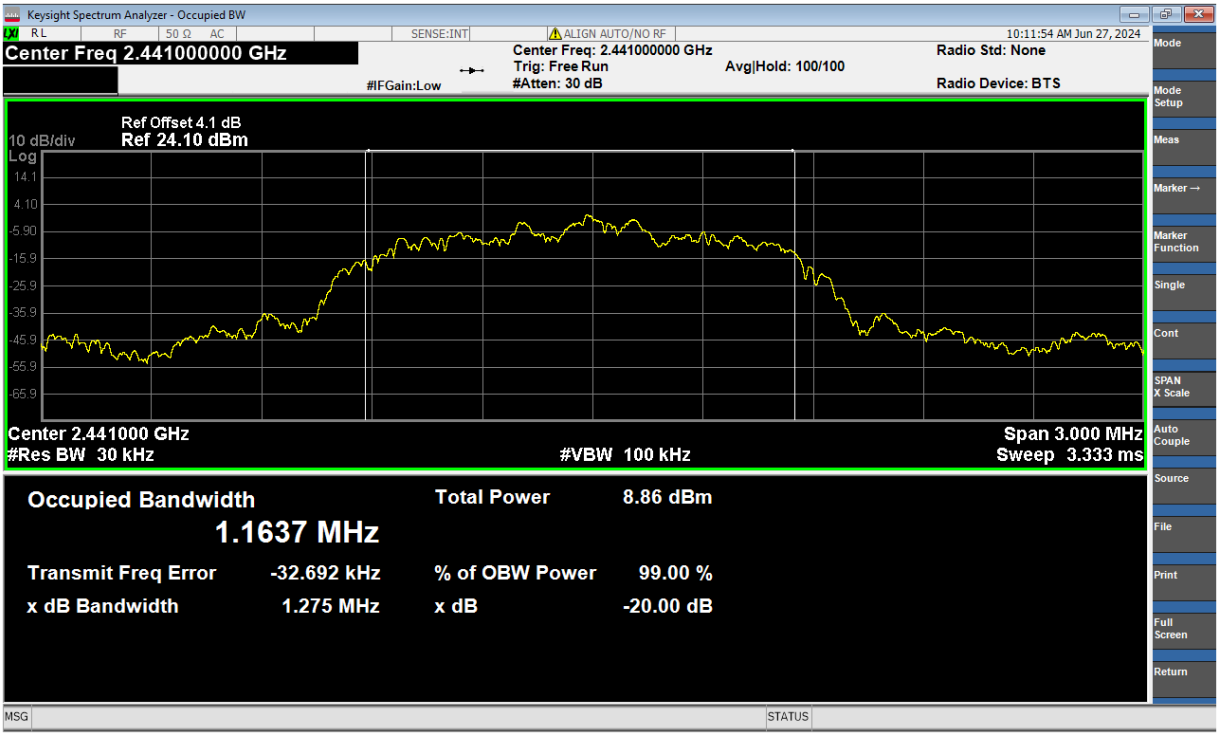
OBW NVNT 1-DH1 2480MHz Ant1



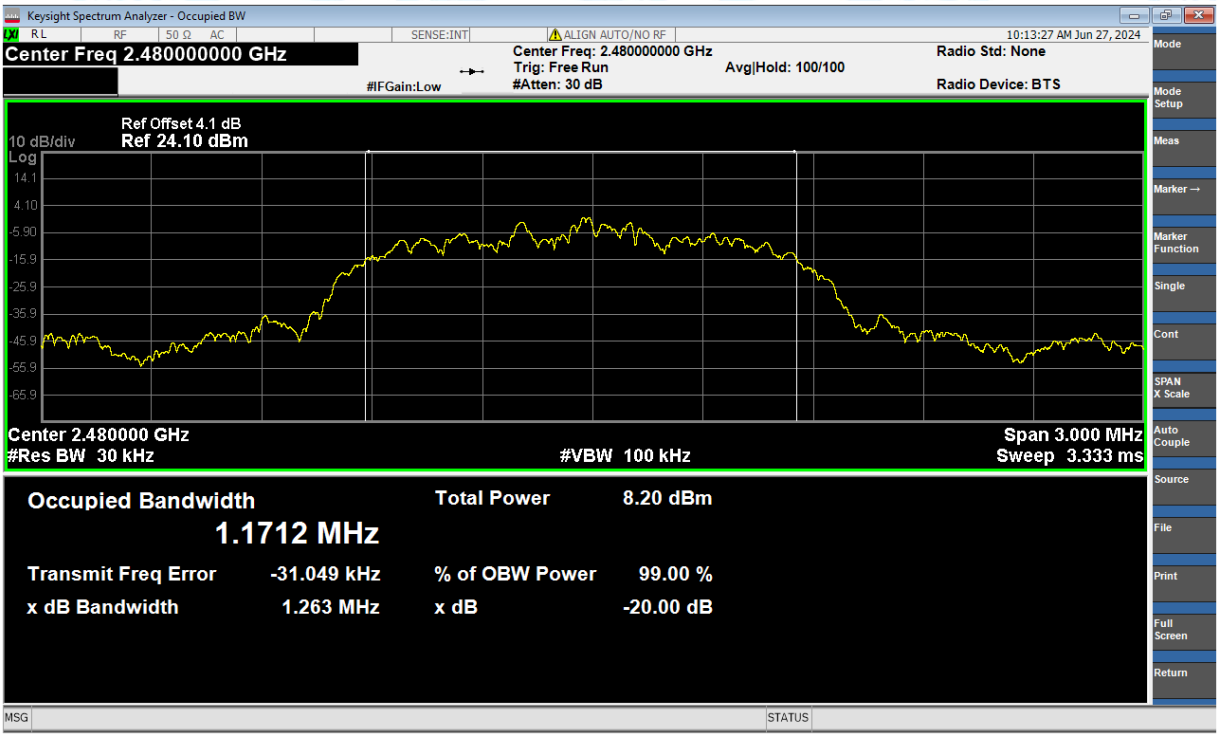
OBW NVNT 2-DH1 2402MHz Ant1



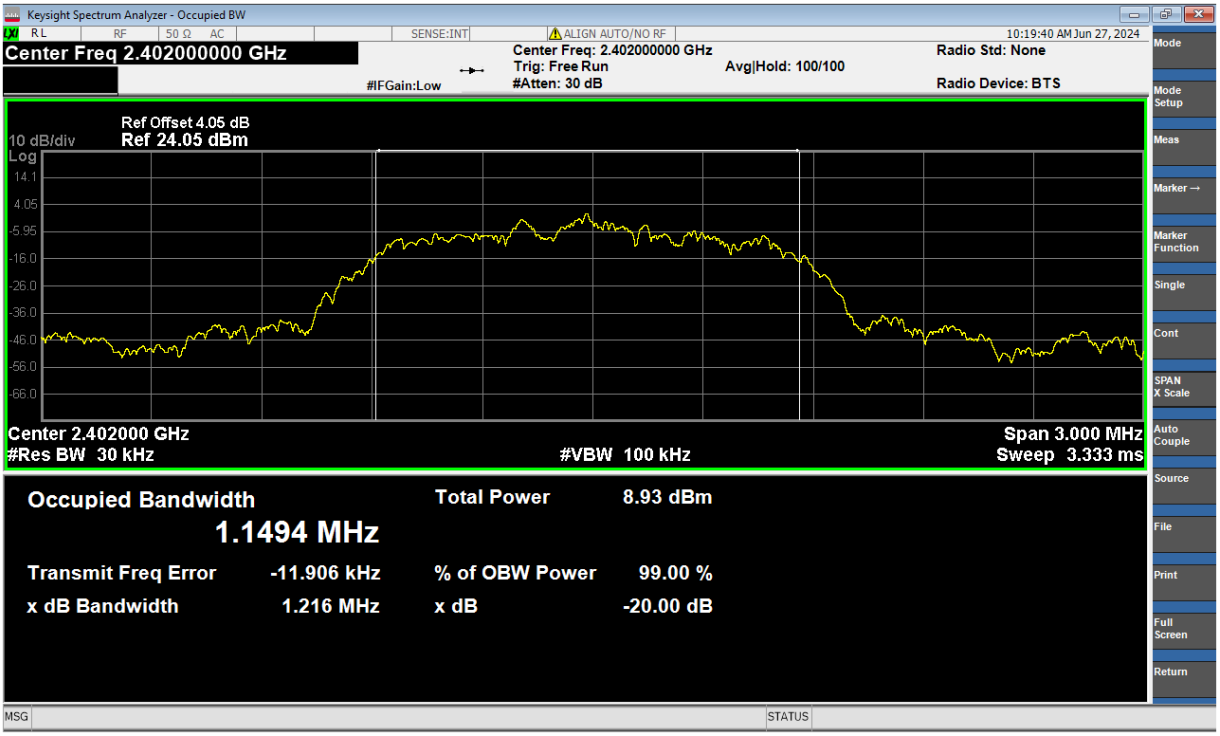
OBW NVNT 2-DH1 2441MHz Ant1



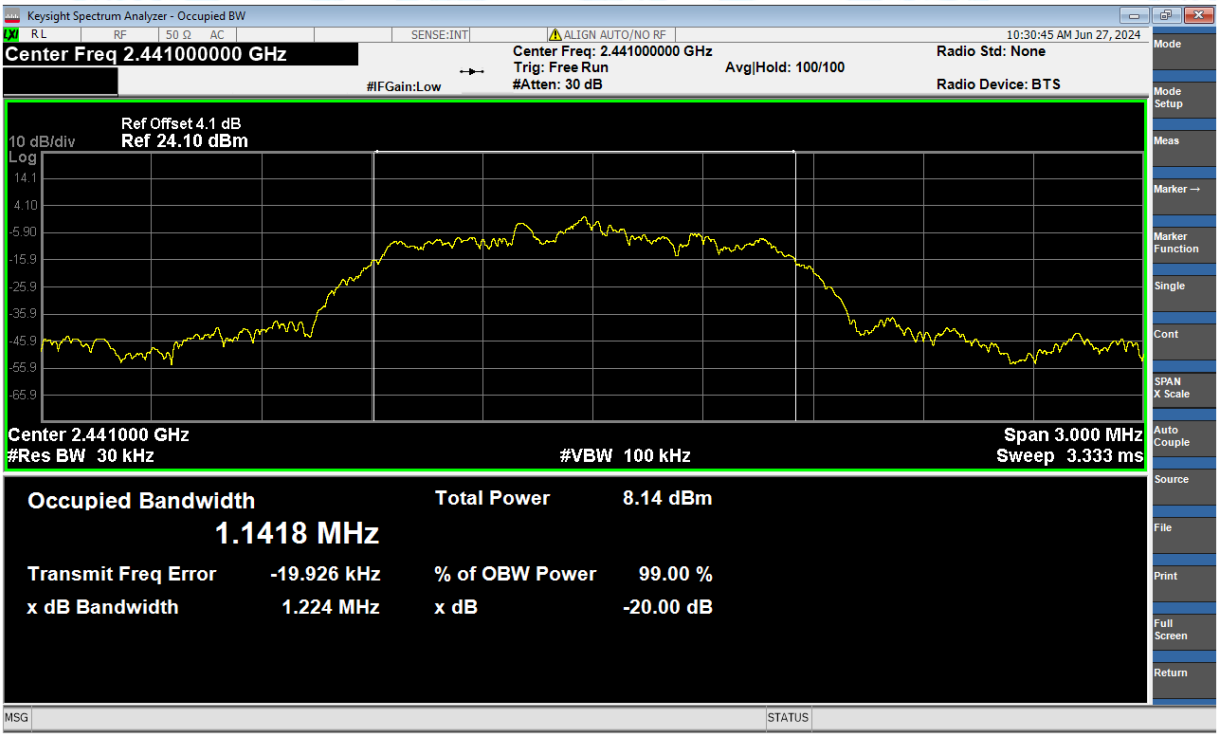
OBW NVNT 2-DH1 2480MHz Ant1



OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



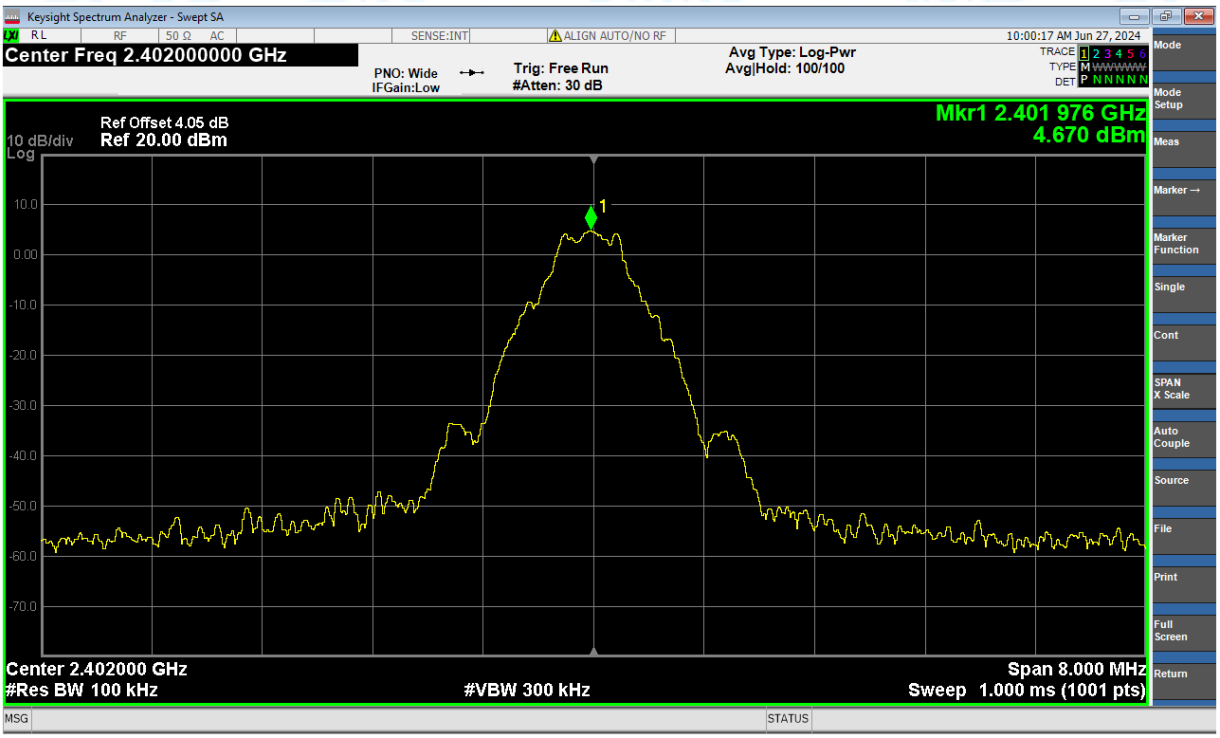
OBW NVNT 3-DH1 2480MHz Ant1

5. Band Edge

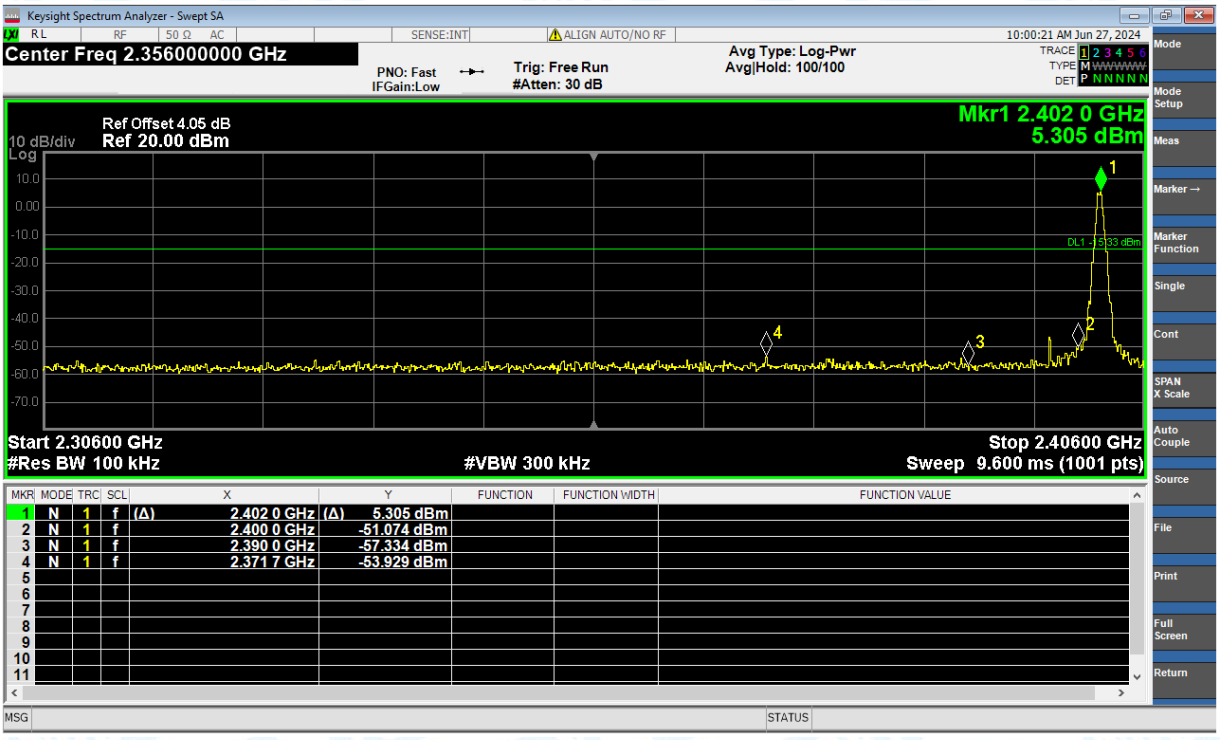
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-58.6	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-51.52	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-54.77	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-52.24	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-56.11	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-50.8	-20	Pass

Test Graphs

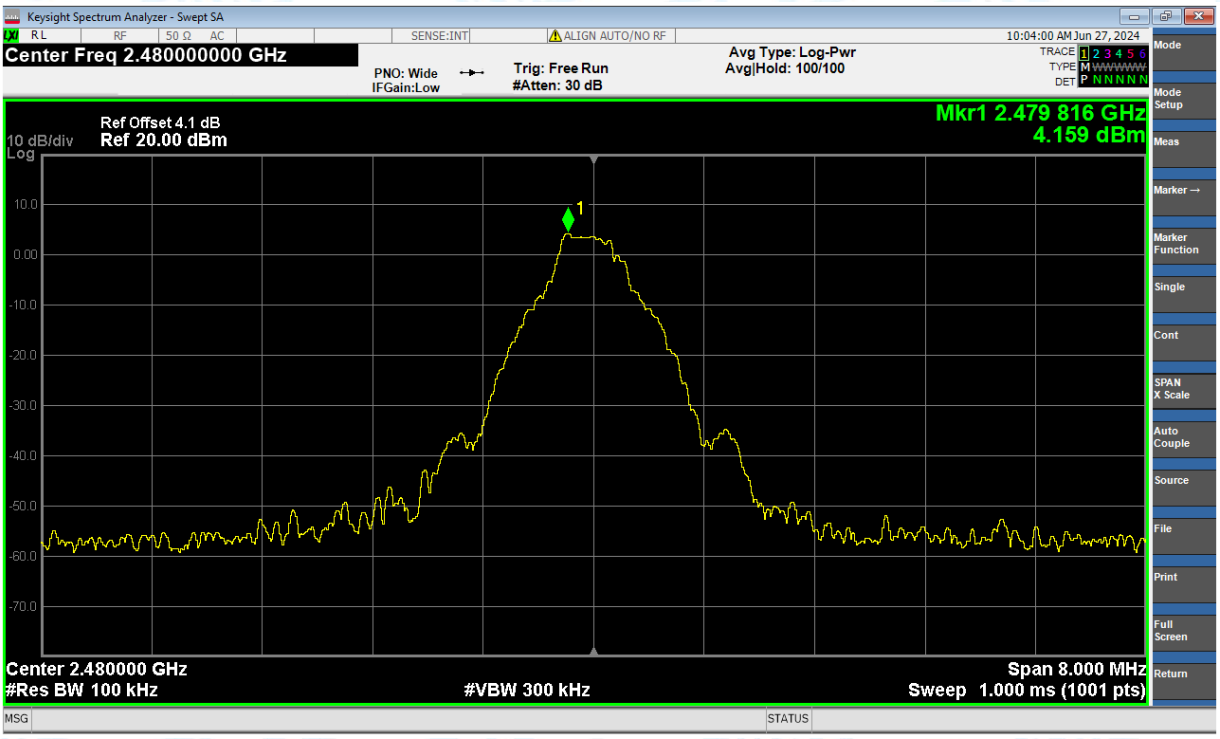
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



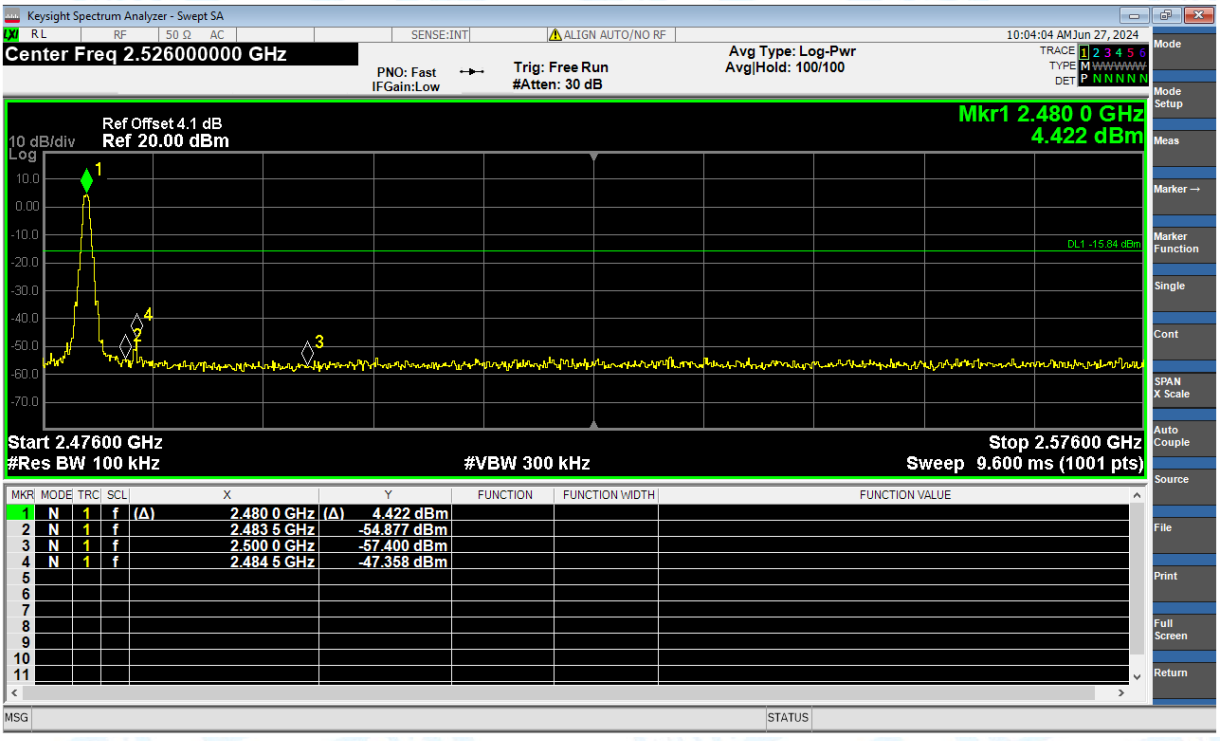
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



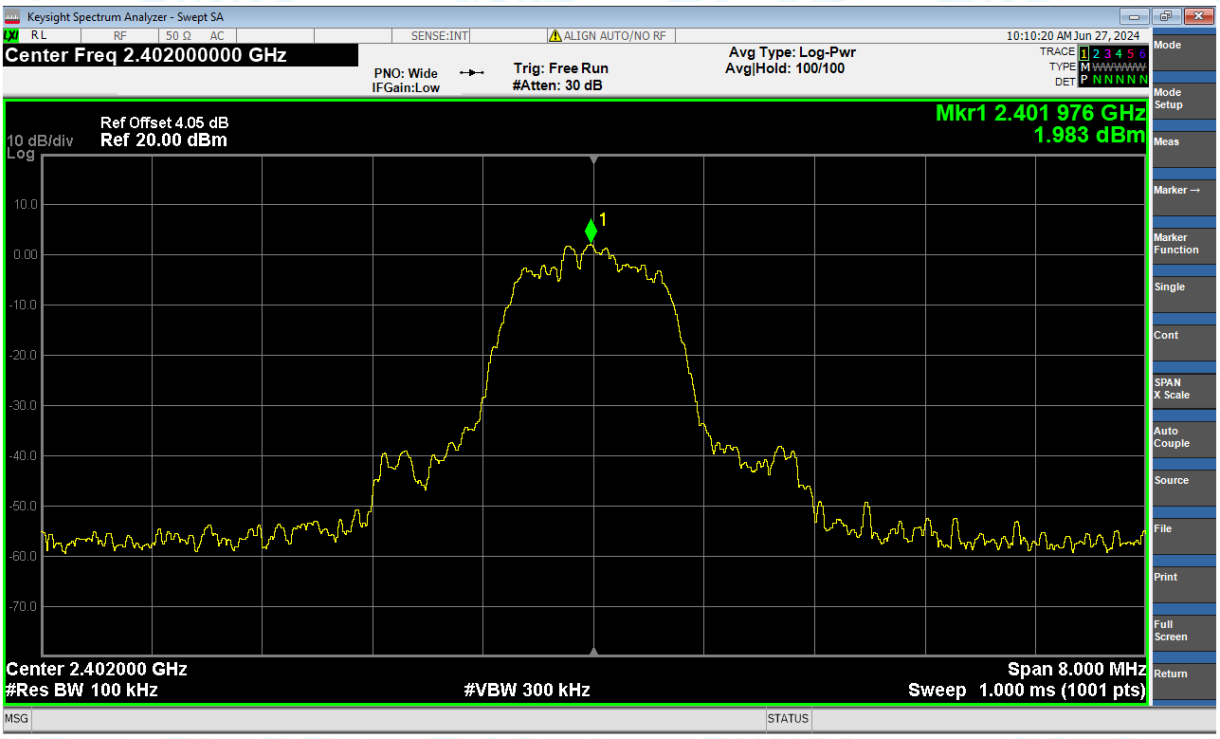
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



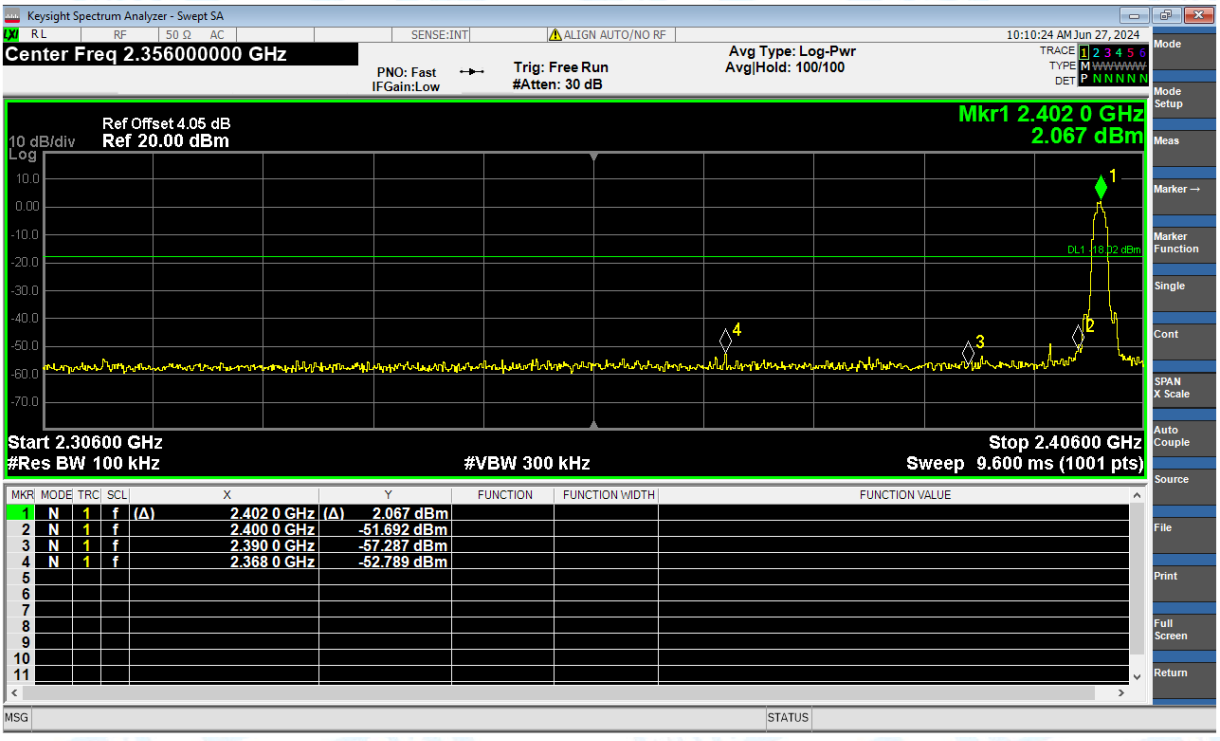
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



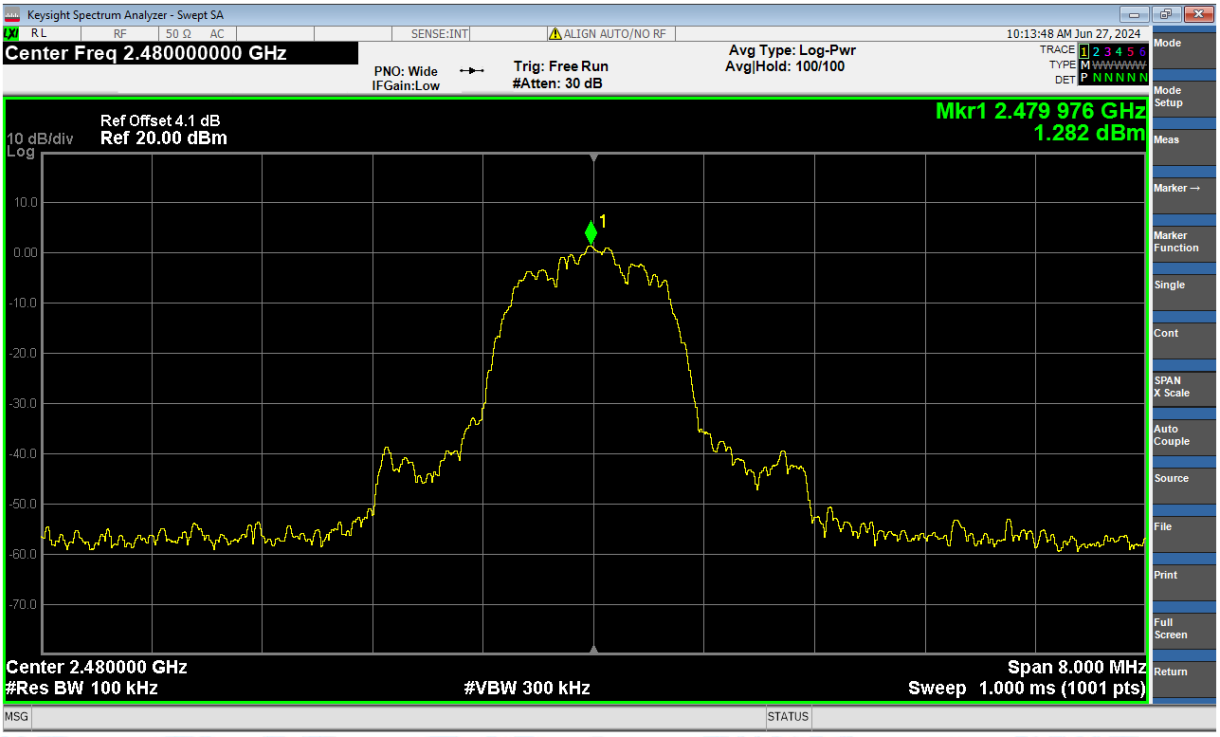
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



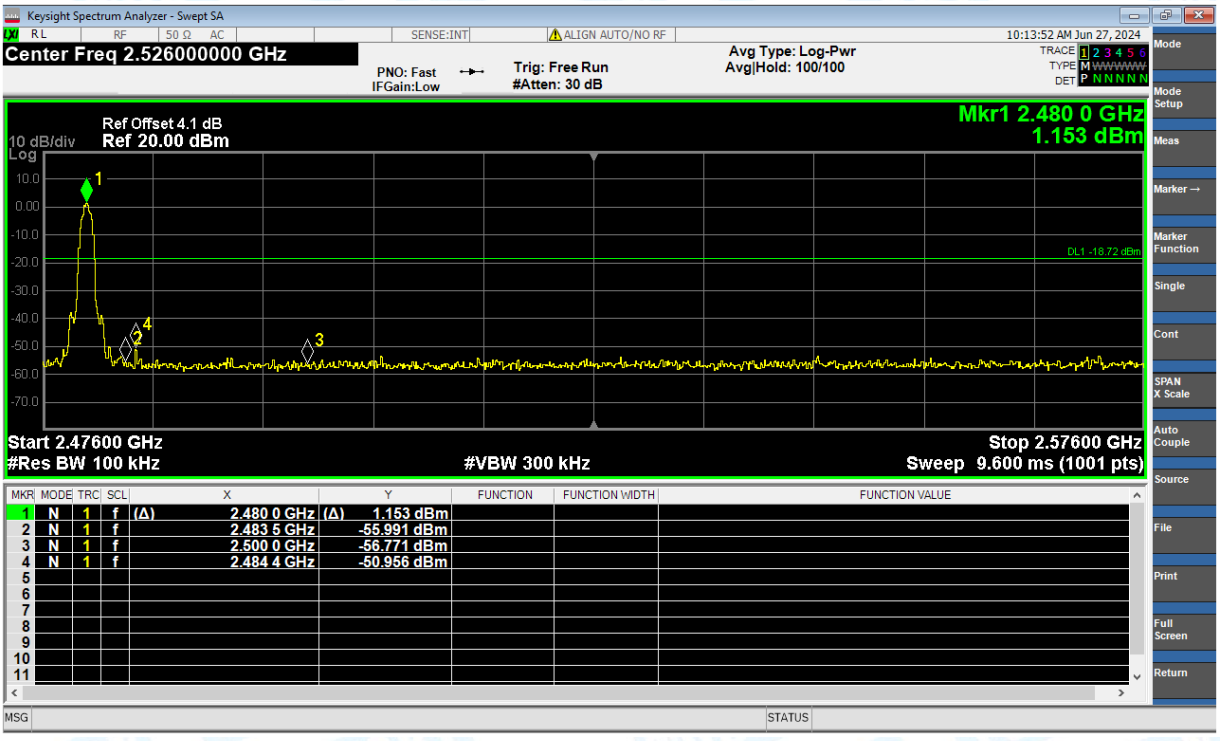
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



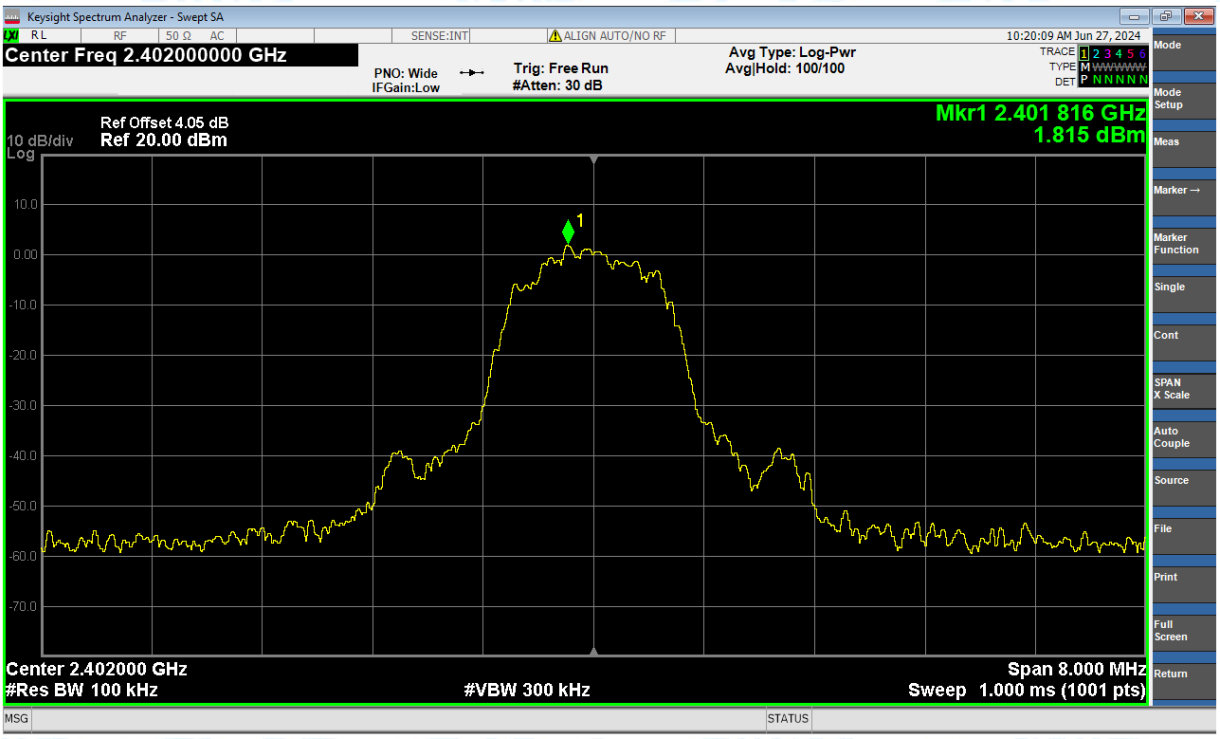
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



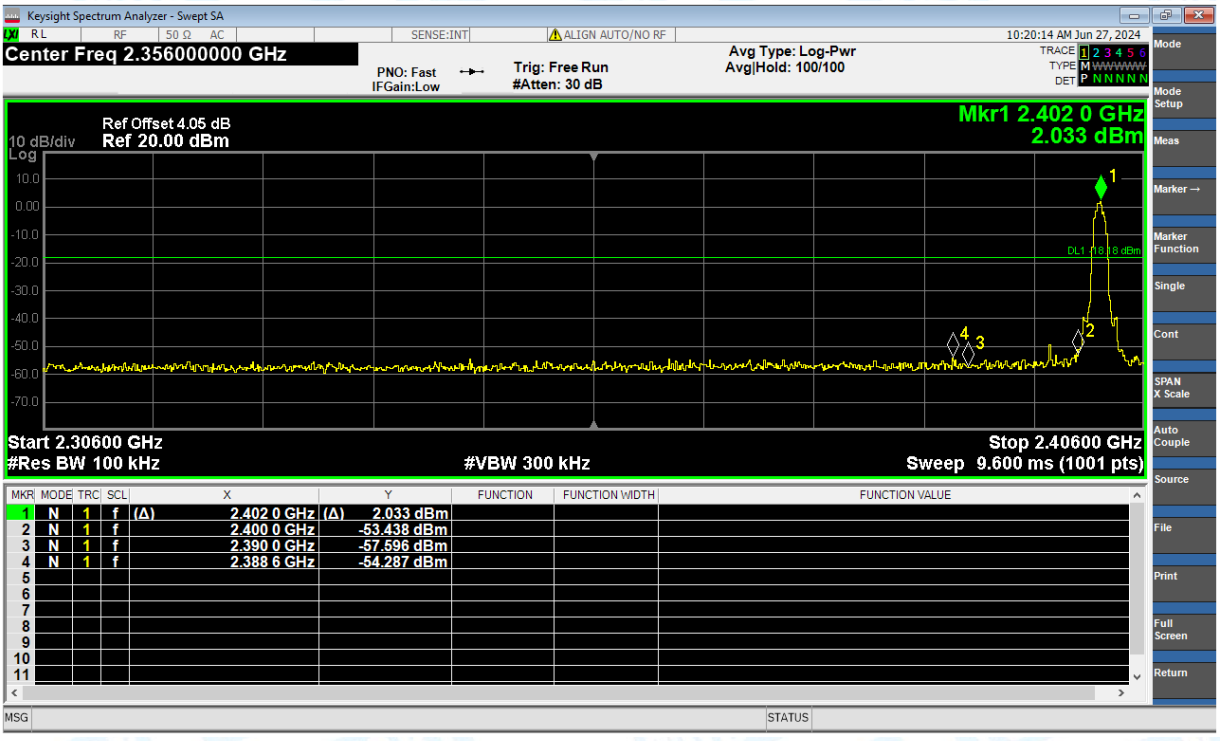
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



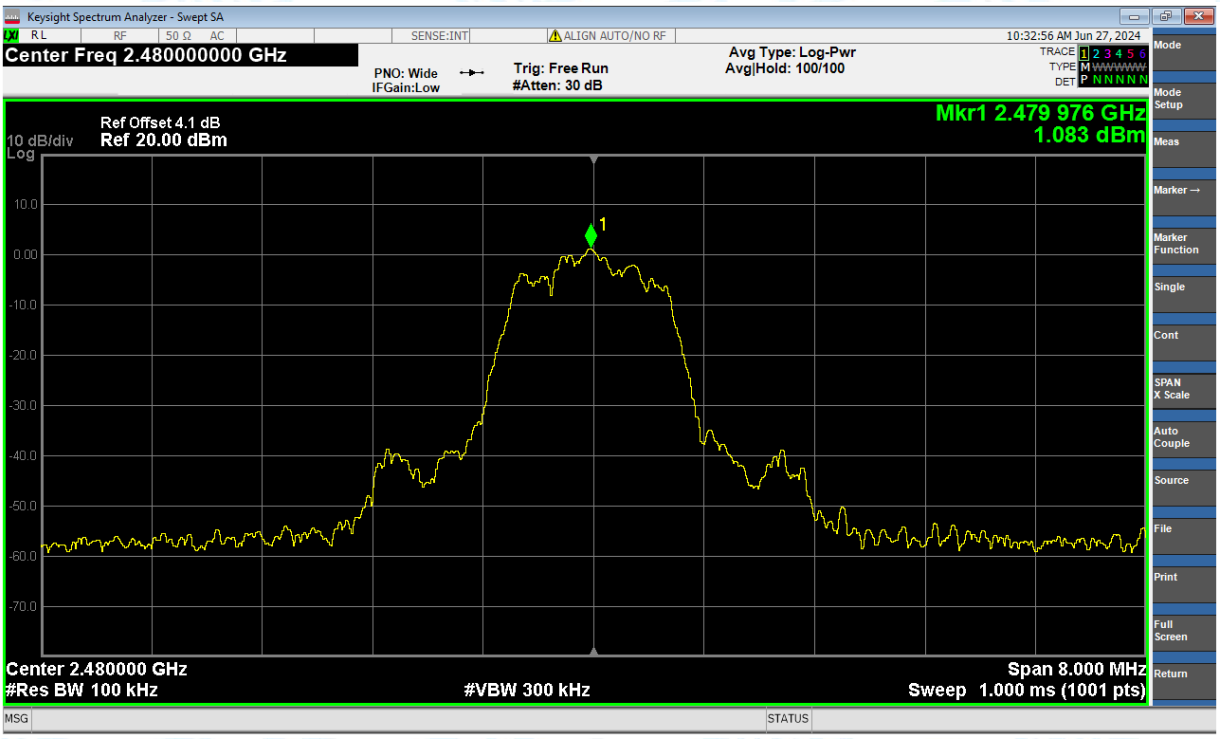
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



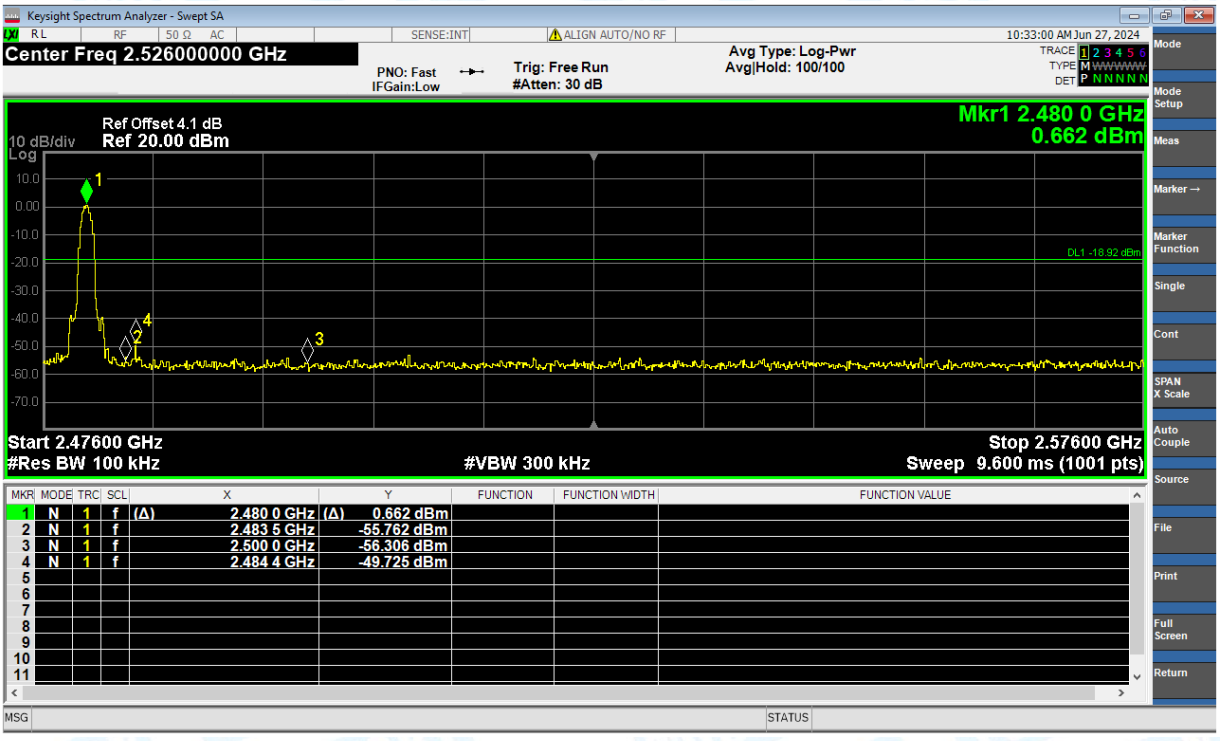
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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

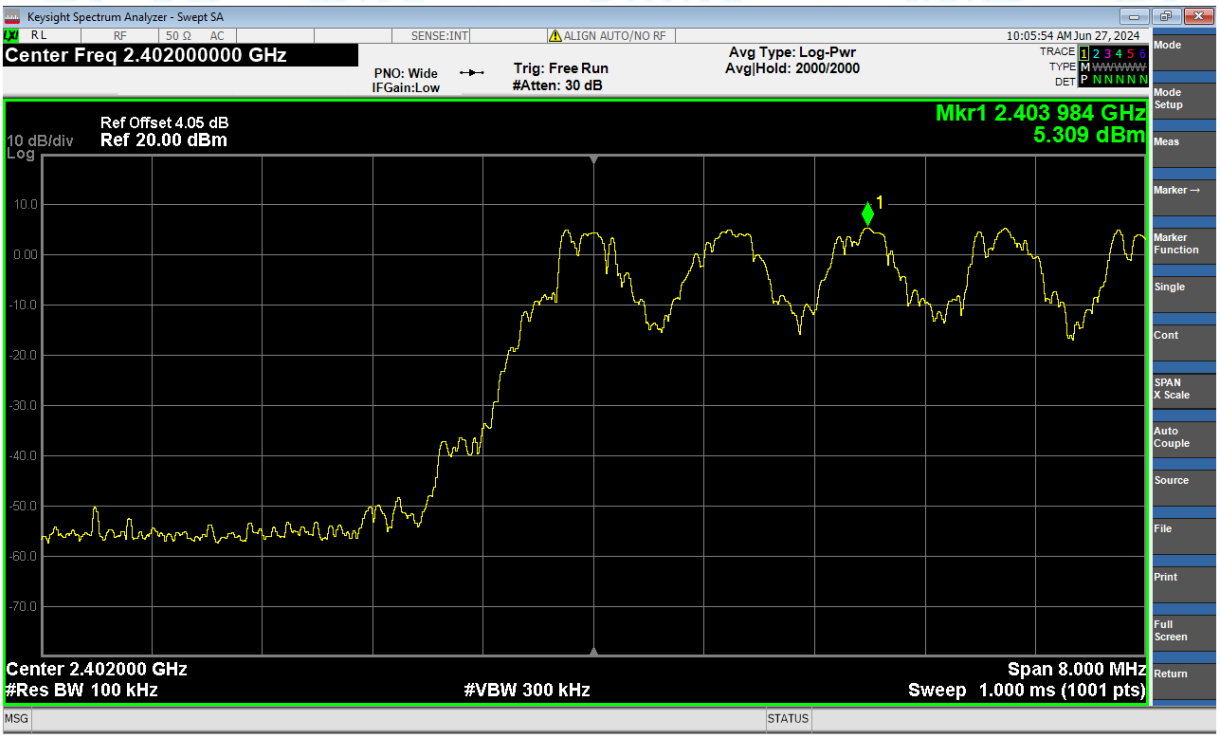


6. Band Edge(Hopping)

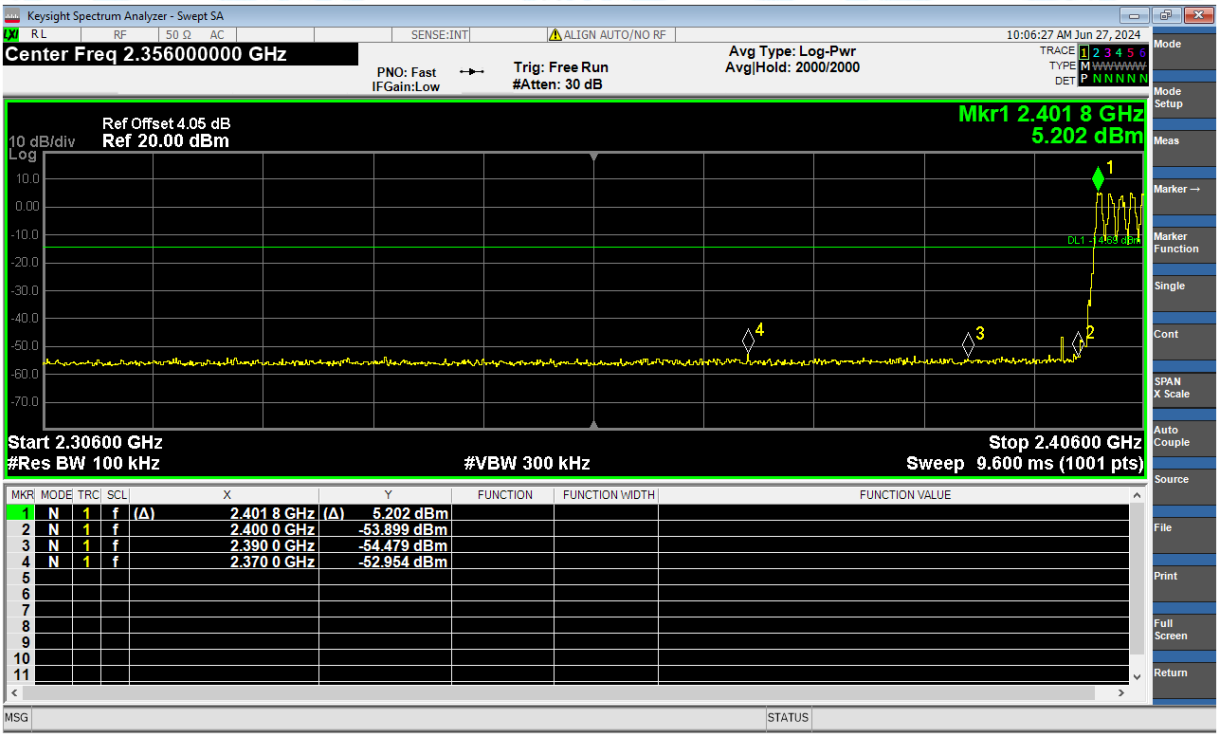
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-58.26	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-52.7	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-55.28	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-54.53	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-54.8	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-52.36	-20	Pass

Test Graphs

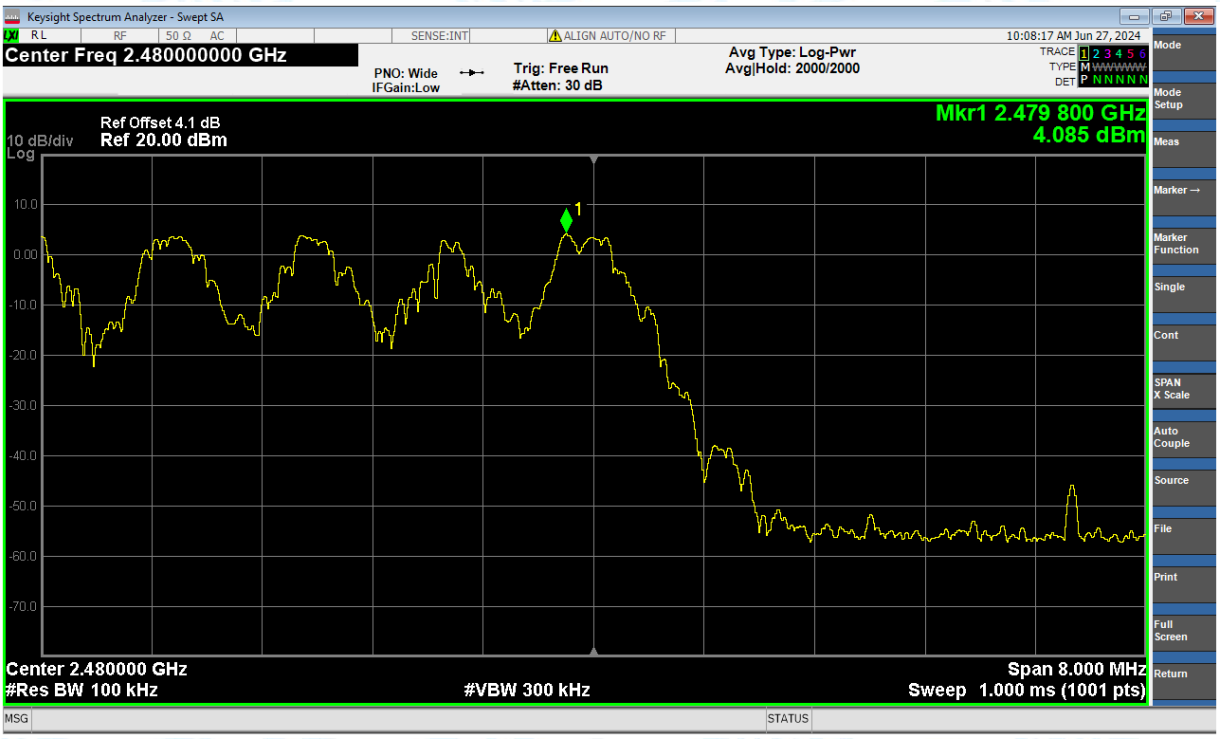
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



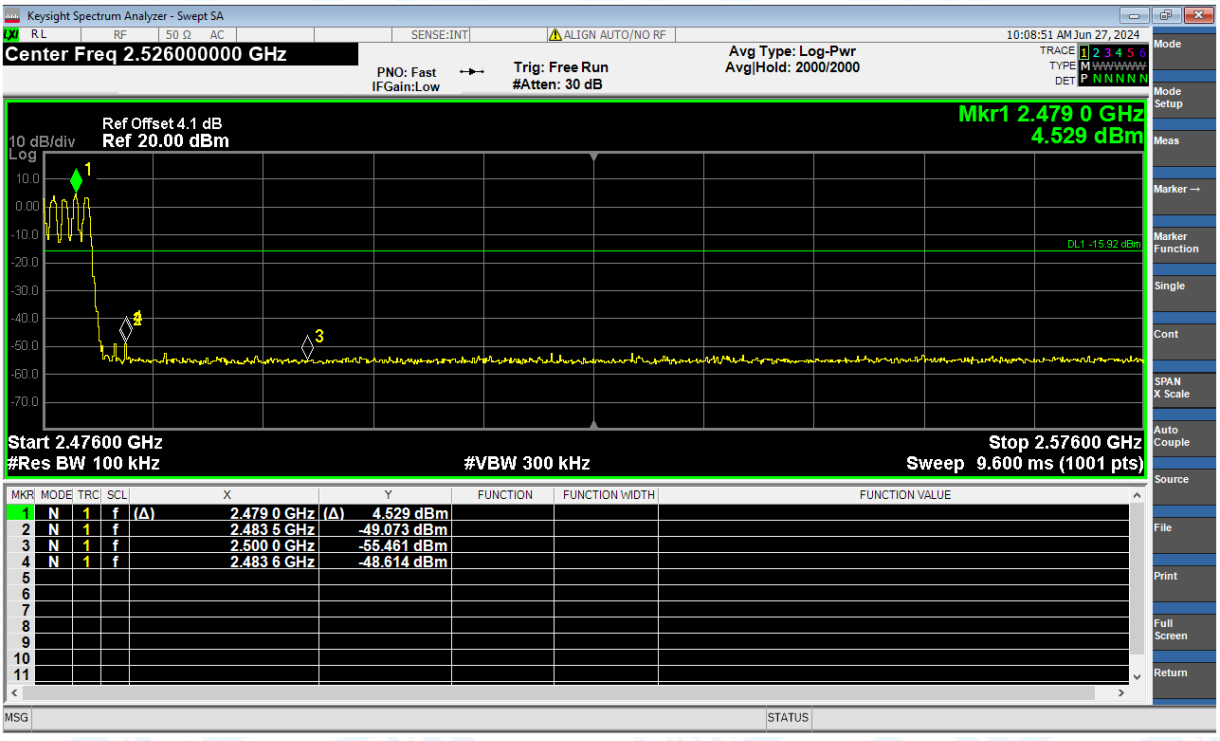
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



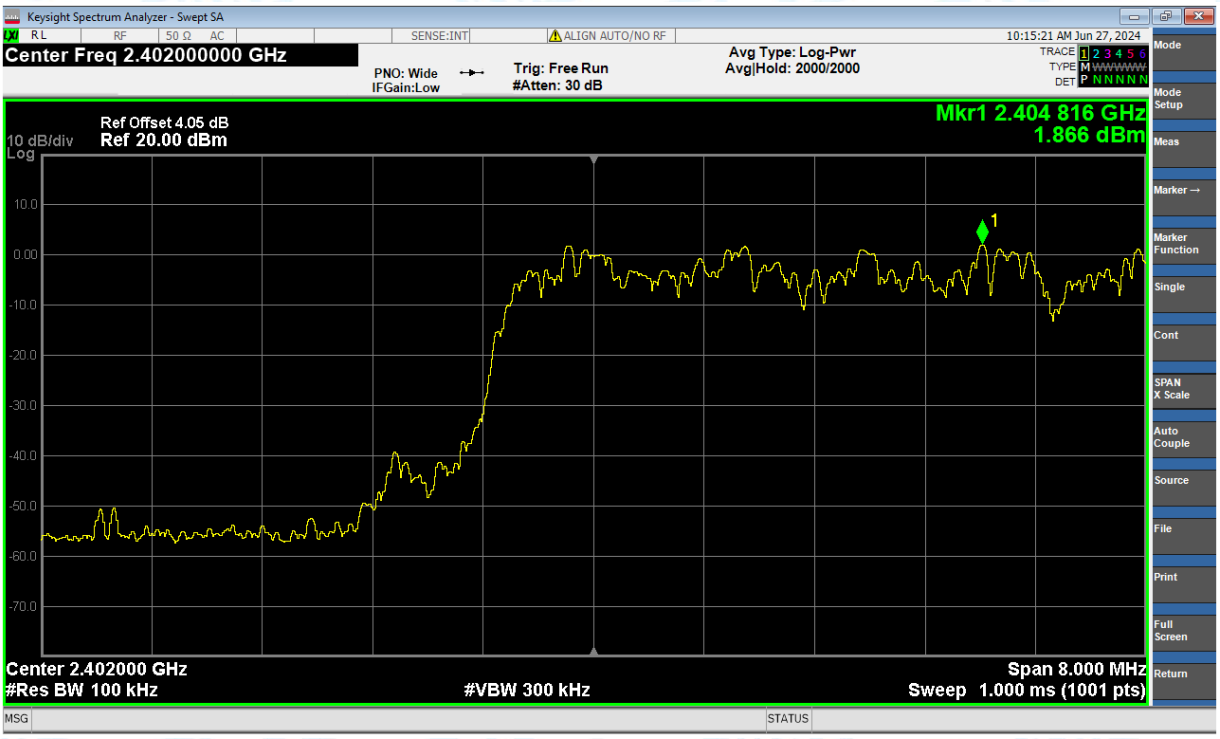
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



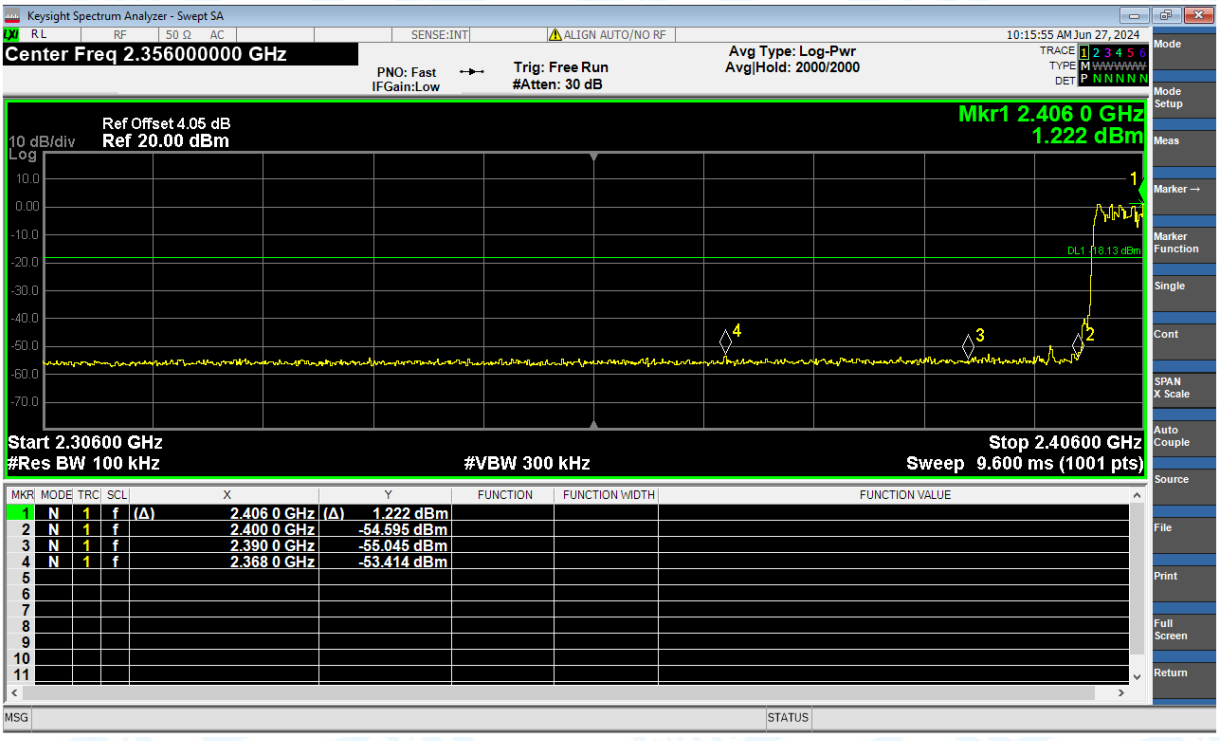
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



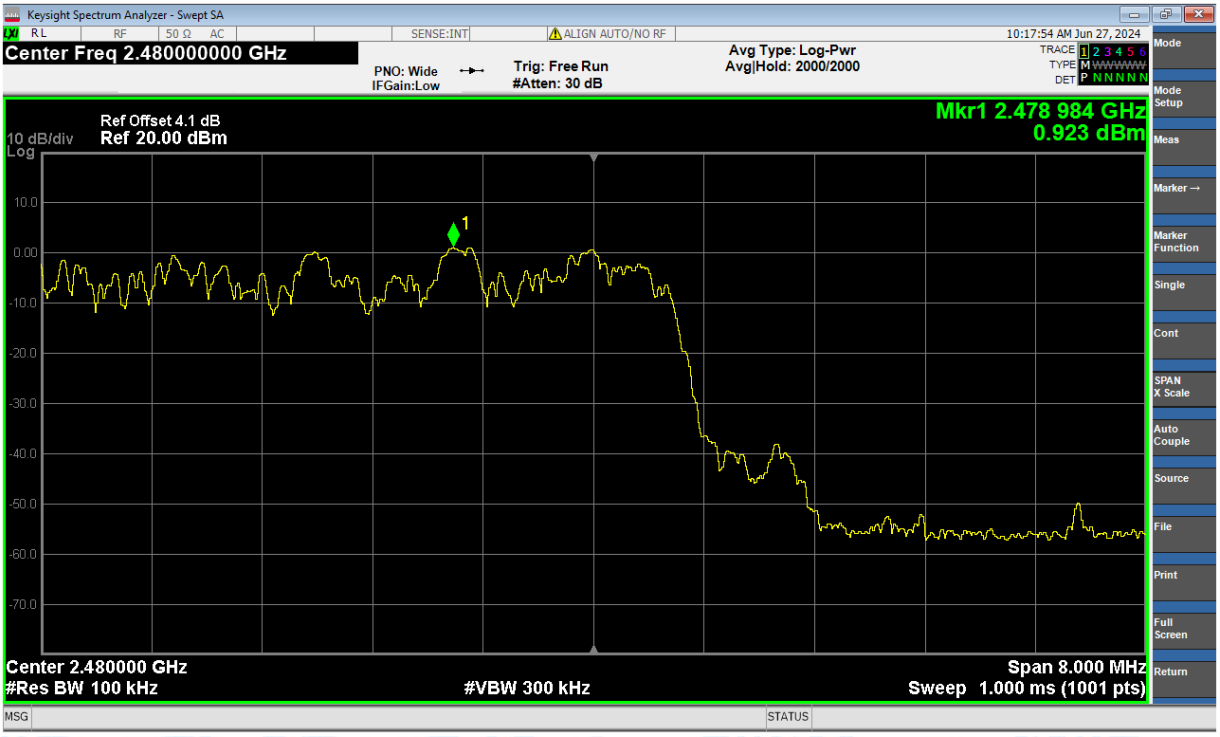
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



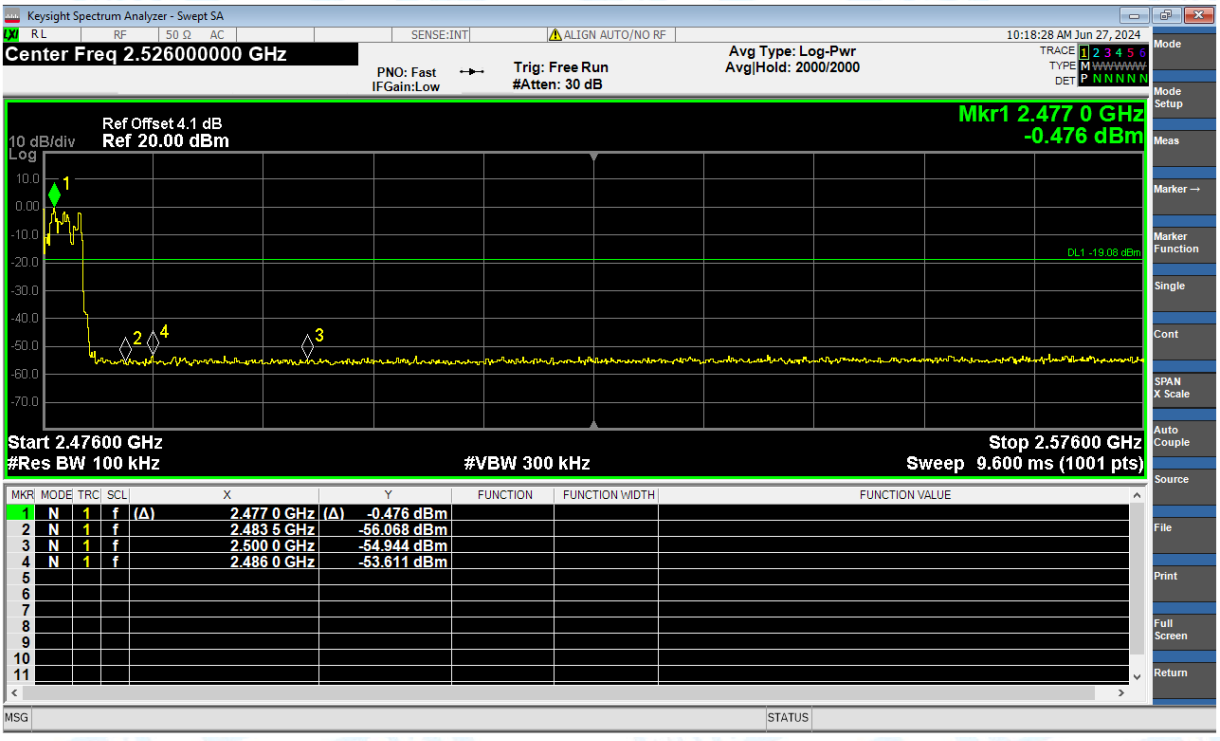
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



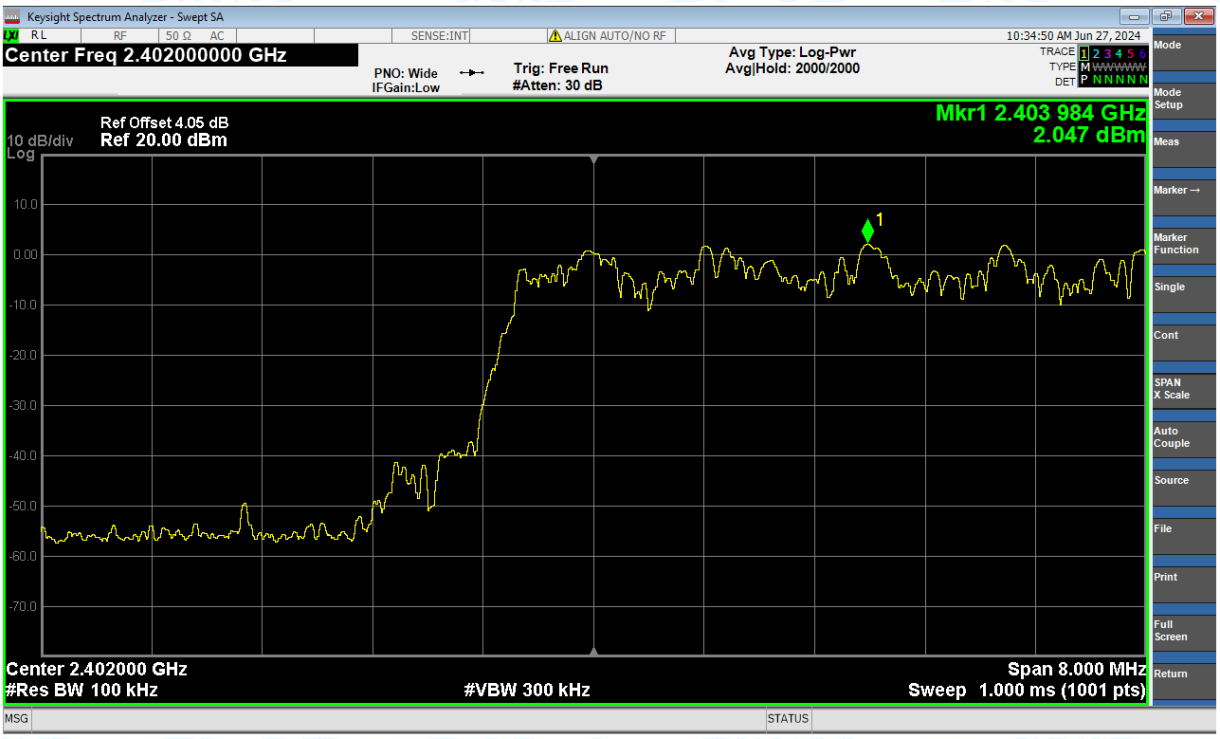
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



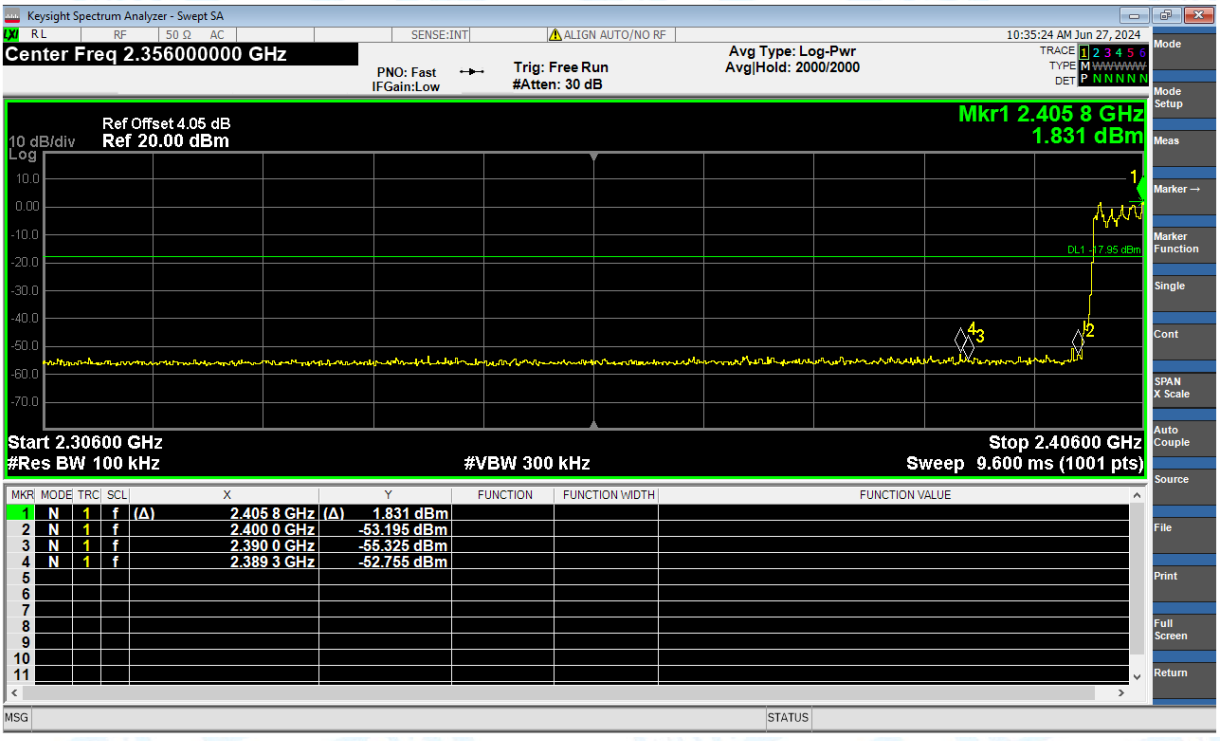
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



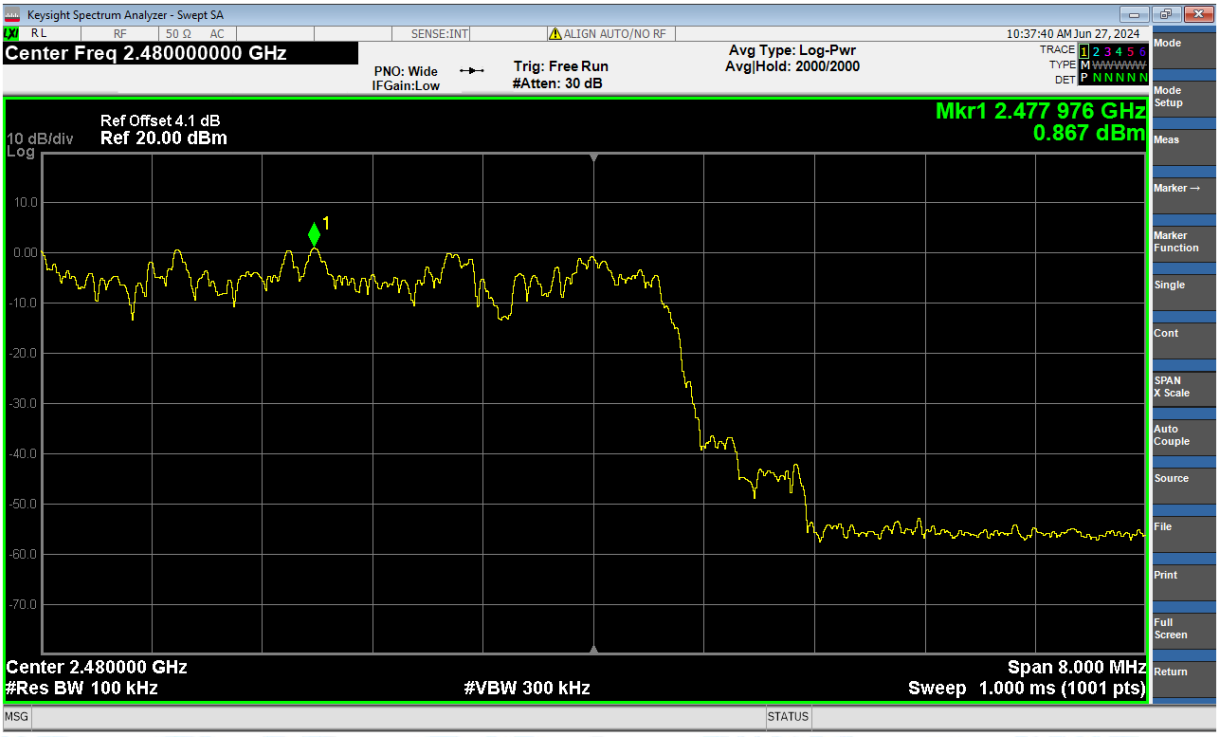
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



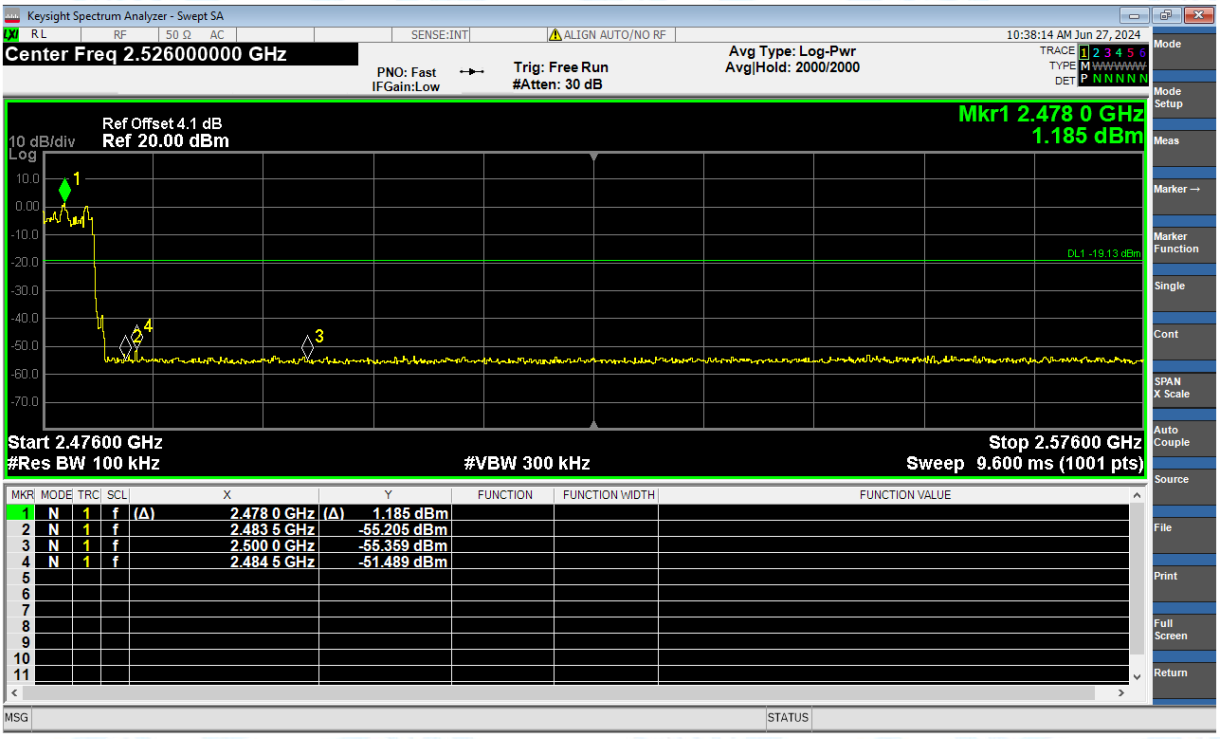
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

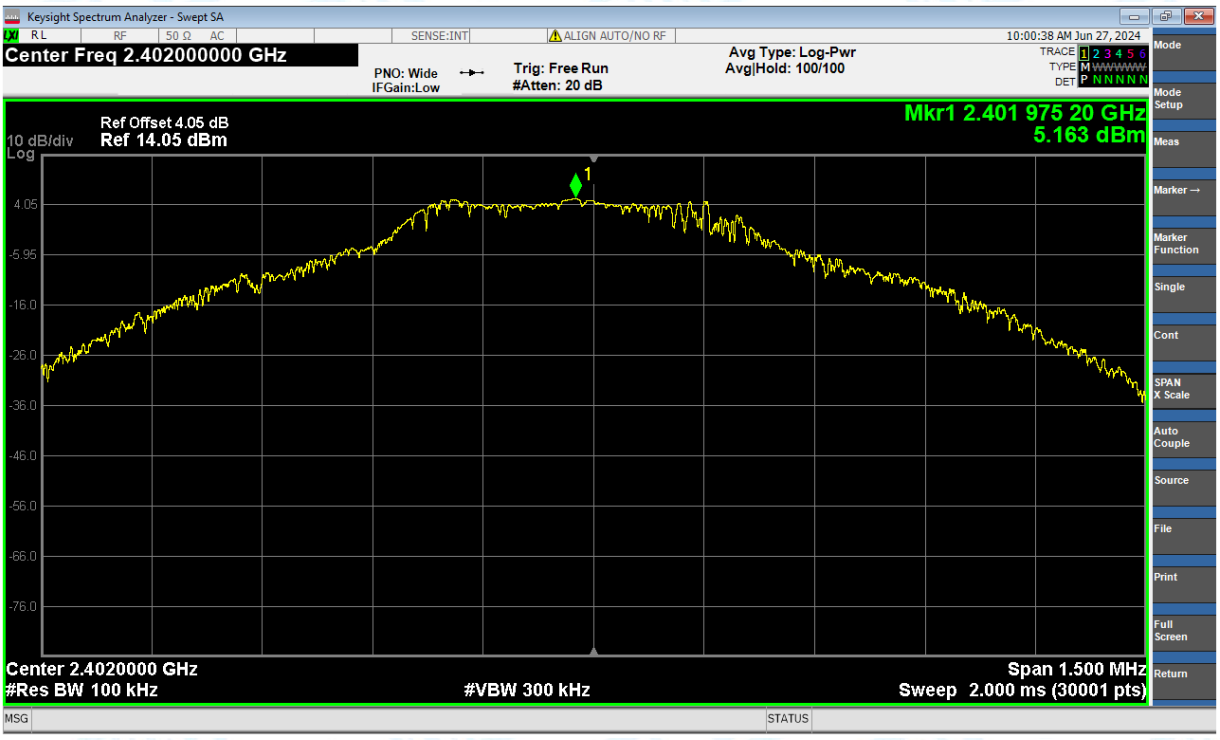


7. Conducted RF Spurious Emission

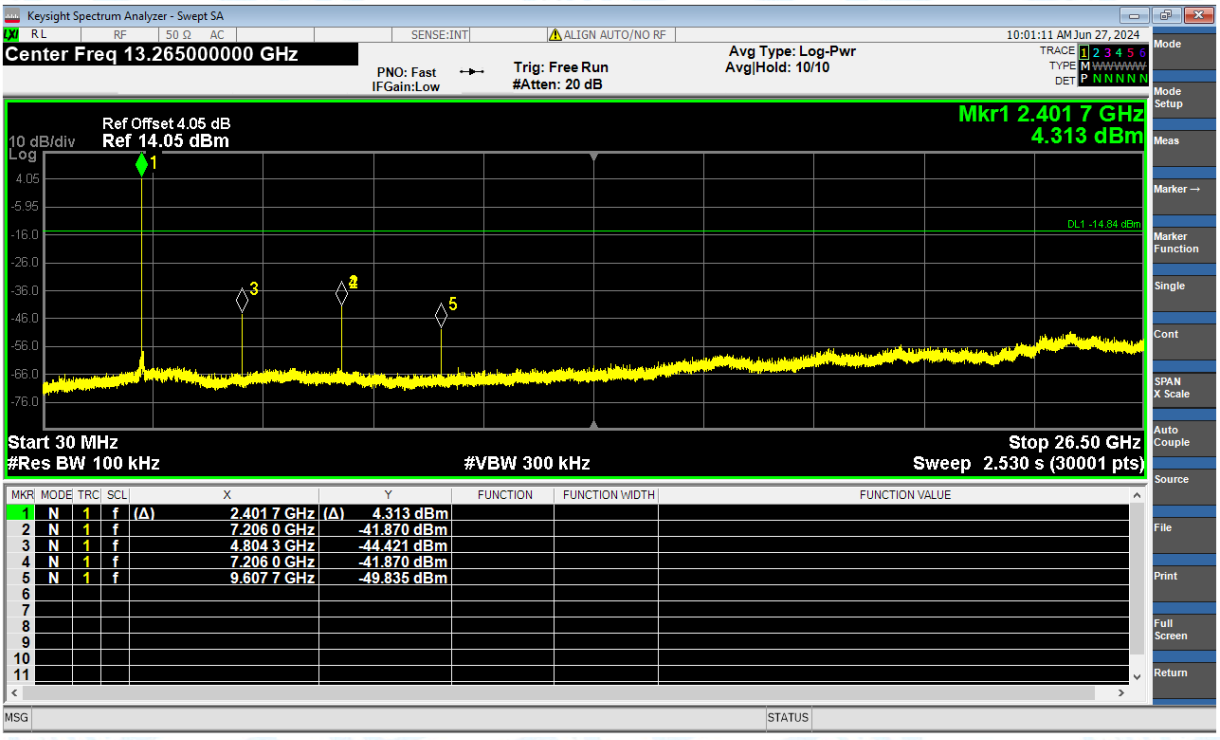
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-47.03	-20	Pass
NVNT	1-DH1	2441	Ant1	-46.31	-20	Pass
NVNT	1-DH1	2480	Ant1	-48.92	-20	Pass
NVNT	2-DH1	2402	Ant1	-48.59	-20	Pass
NVNT	2-DH1	2441	Ant1	-48.27	-20	Pass
NVNT	2-DH1	2480	Ant1	-48.64	-20	Pass
NVNT	3-DH1	2402	Ant1	-49.69	-20	Pass
NVNT	3-DH1	2441	Ant1	-50.88	-20	Pass
NVNT	3-DH1	2480	Ant1	-48.64	-20	Pass

Test Graphs

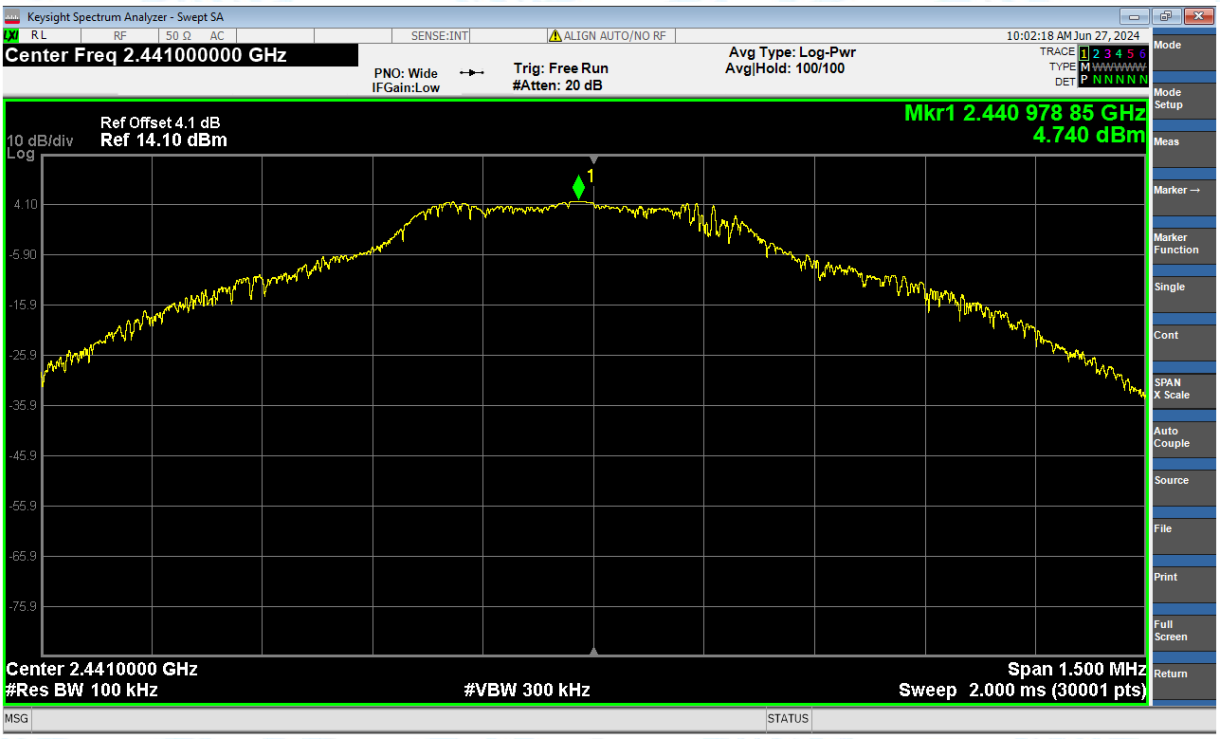
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



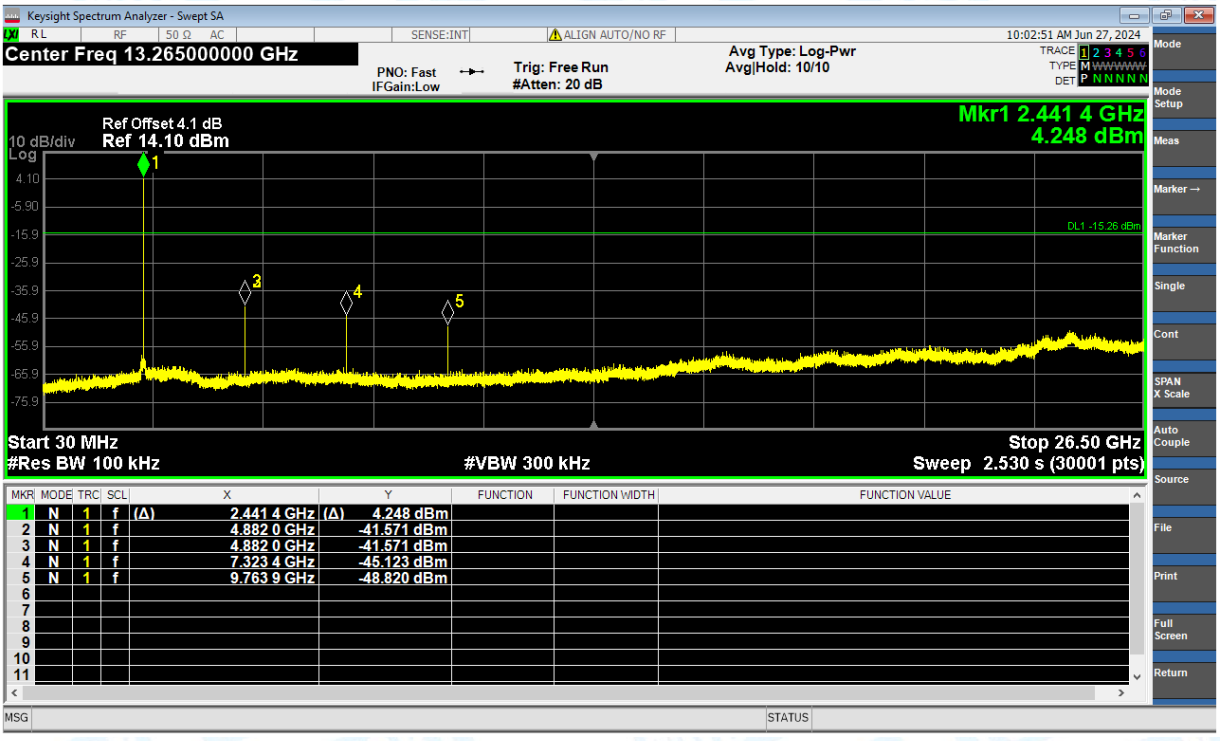
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



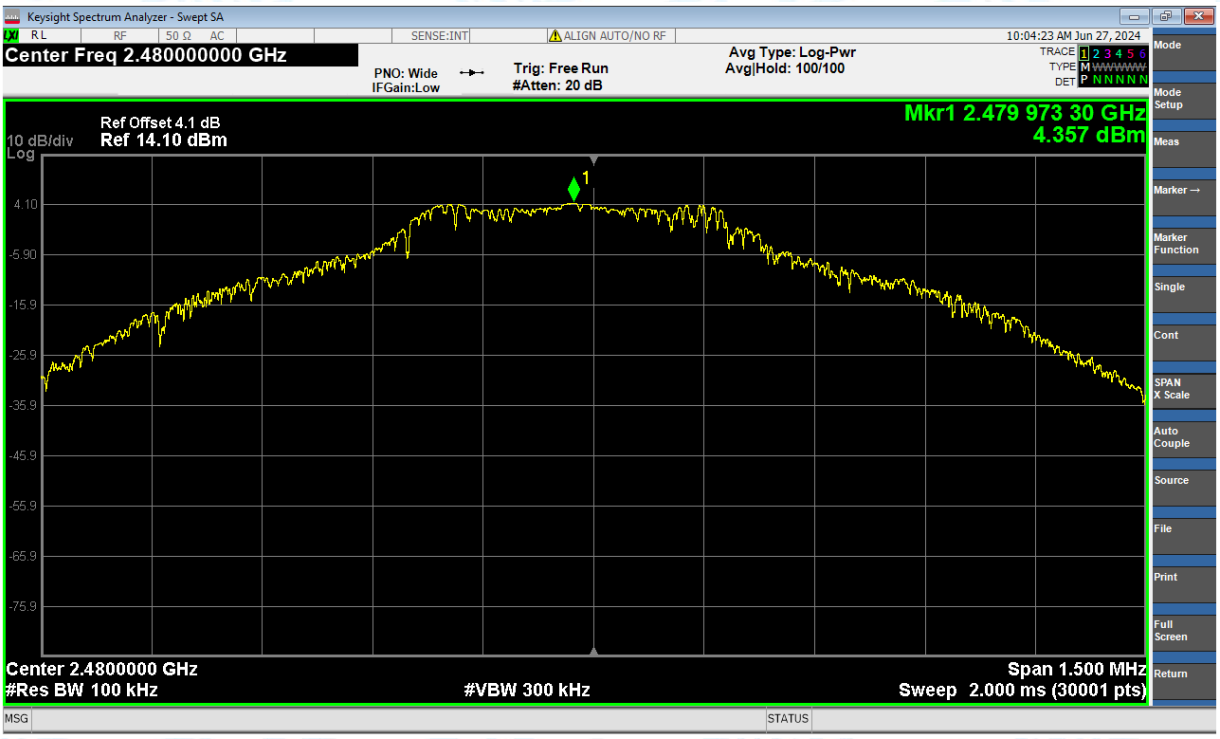
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



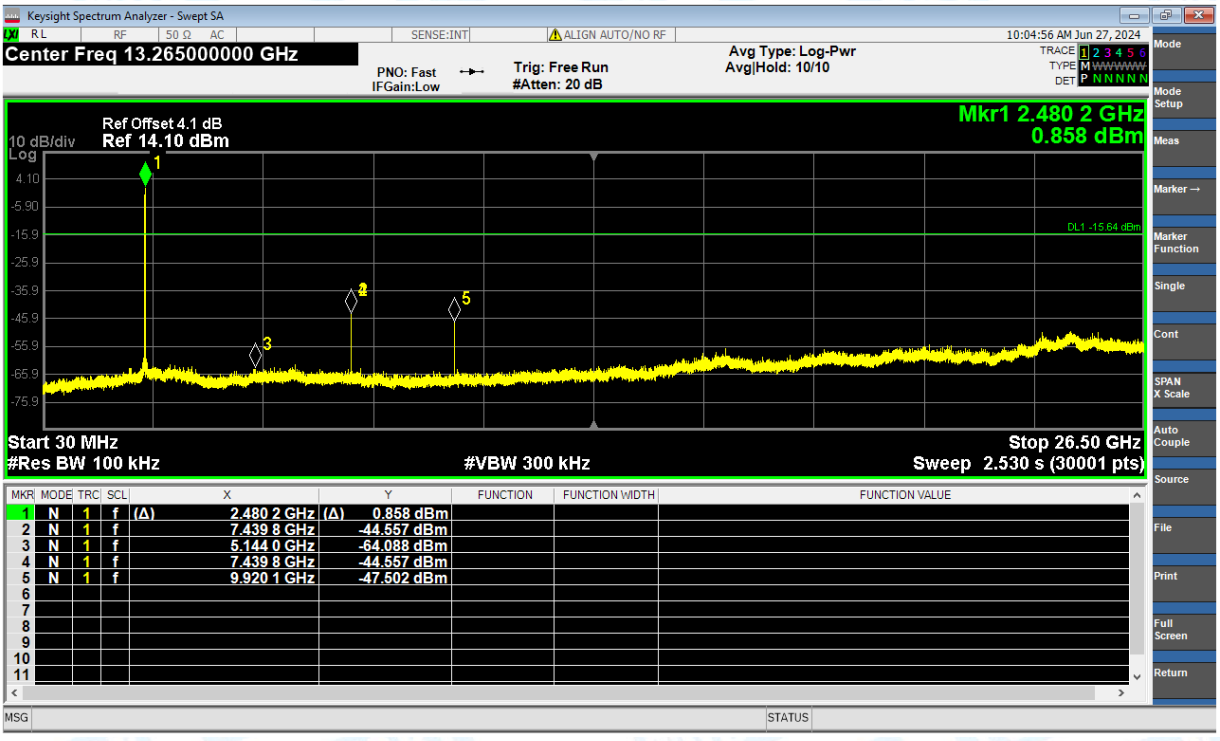
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref

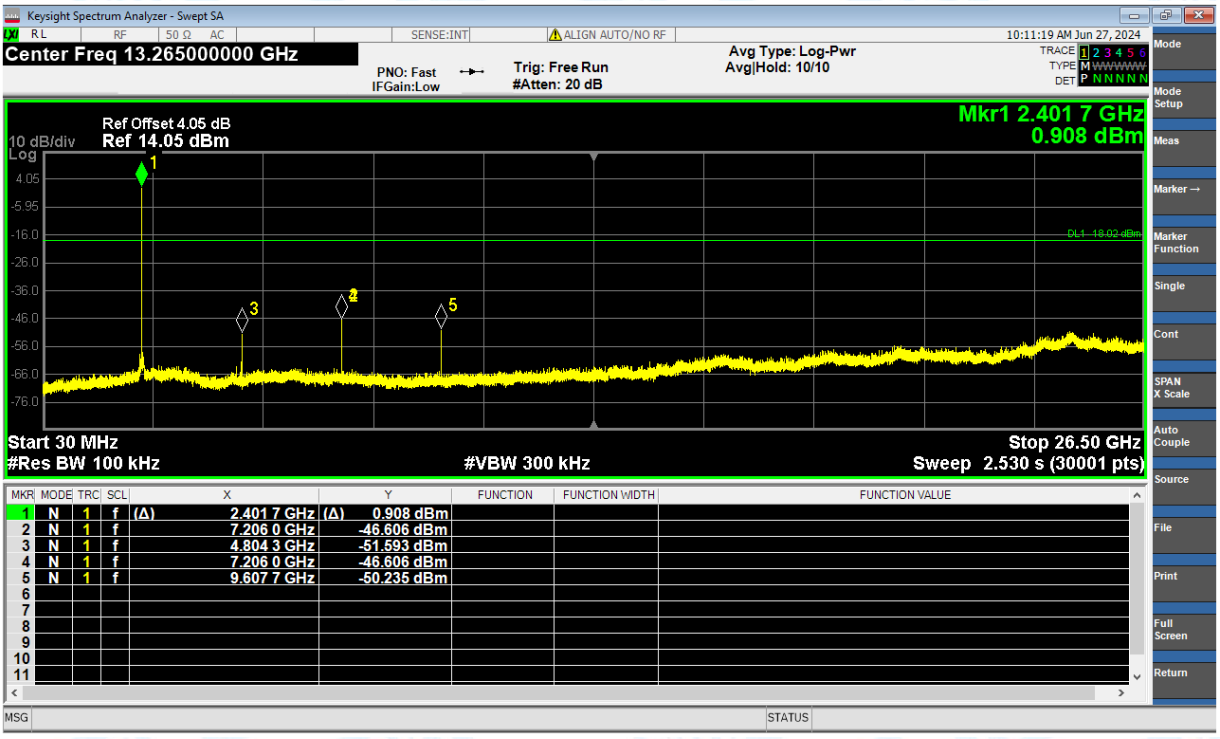


Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



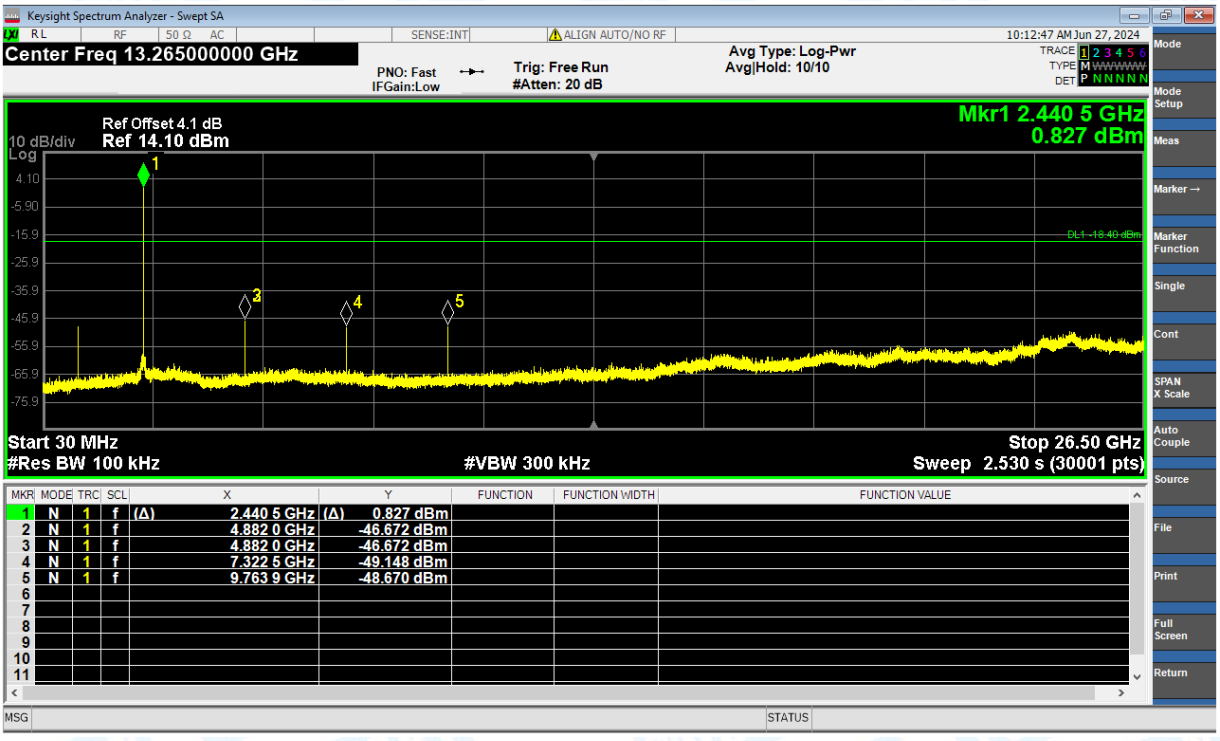
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref

Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission

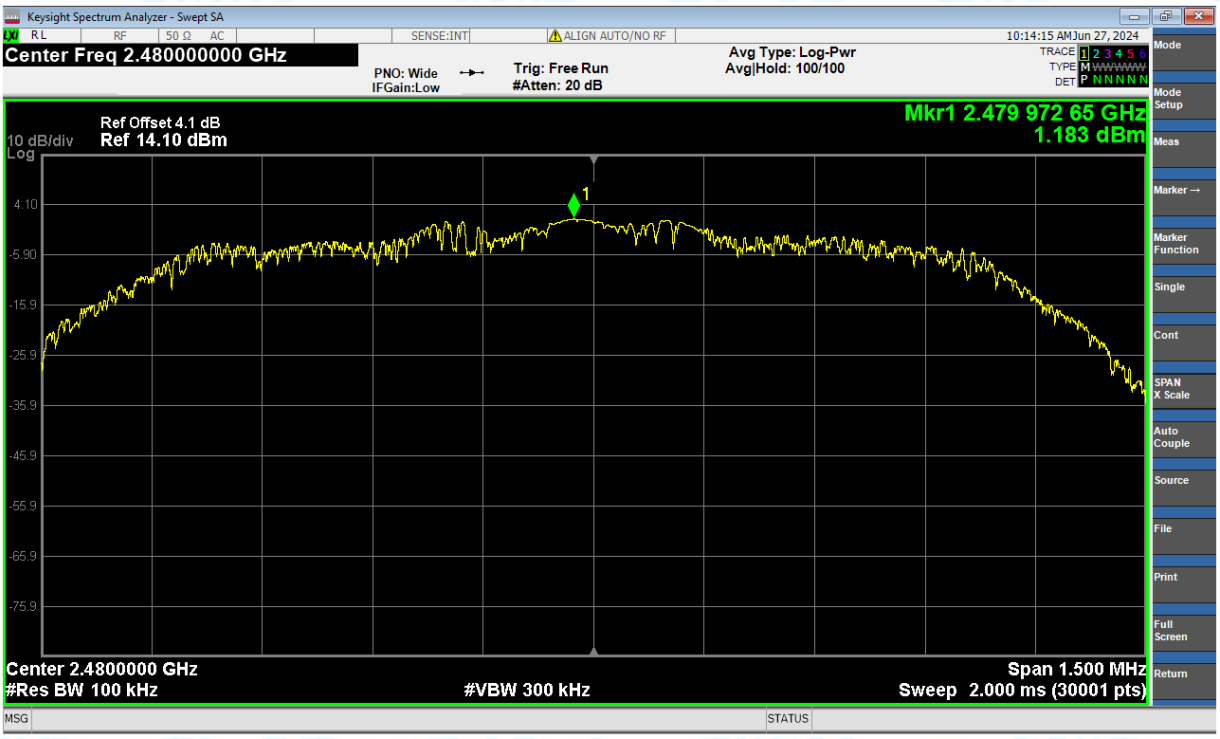


Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref

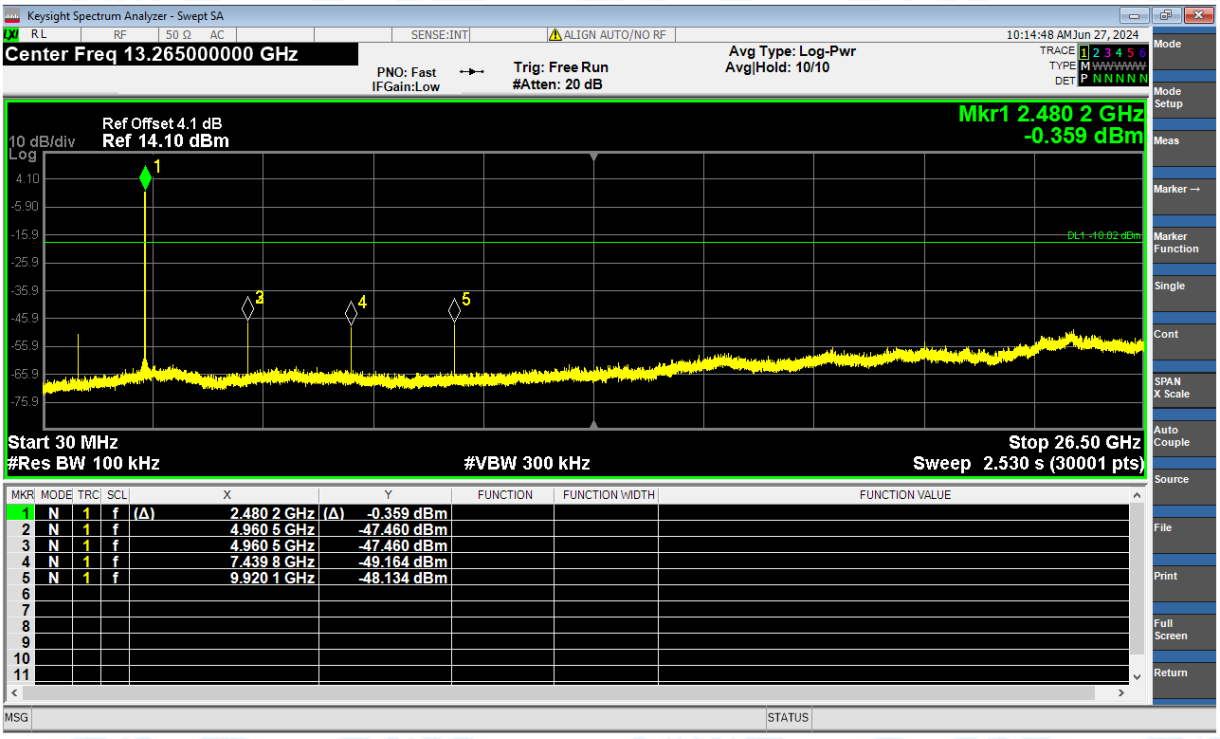
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref

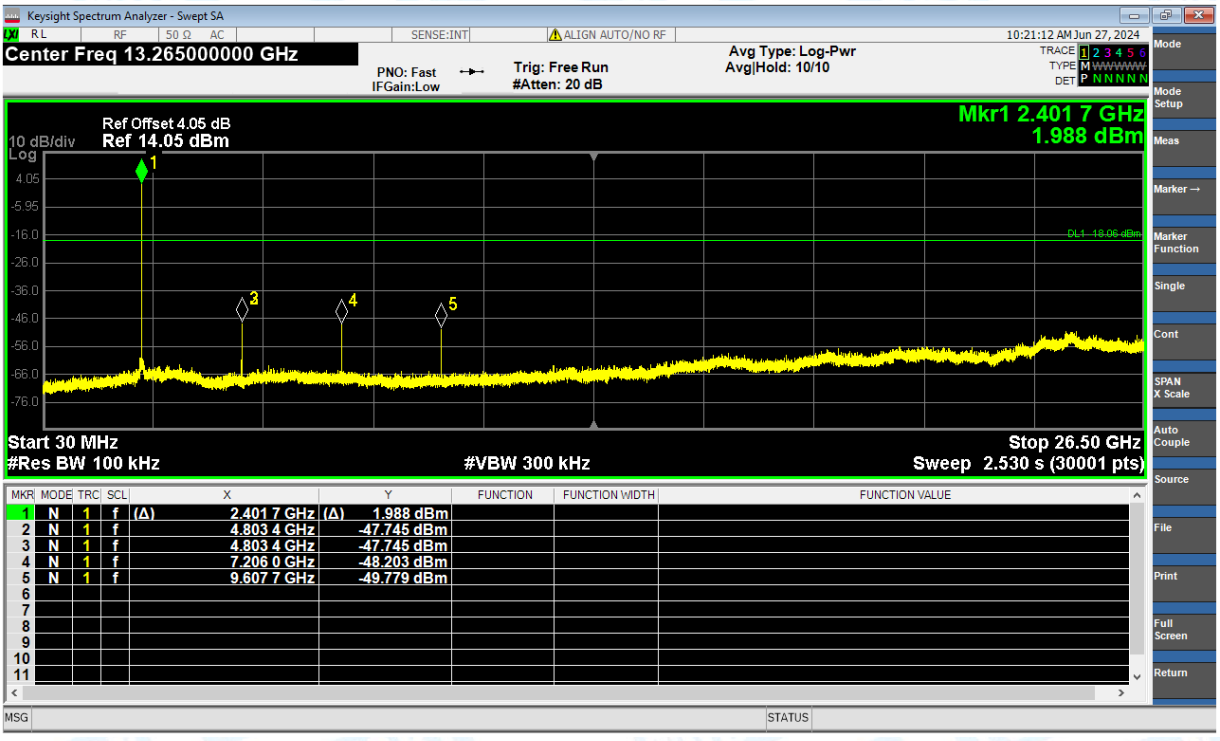


Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission

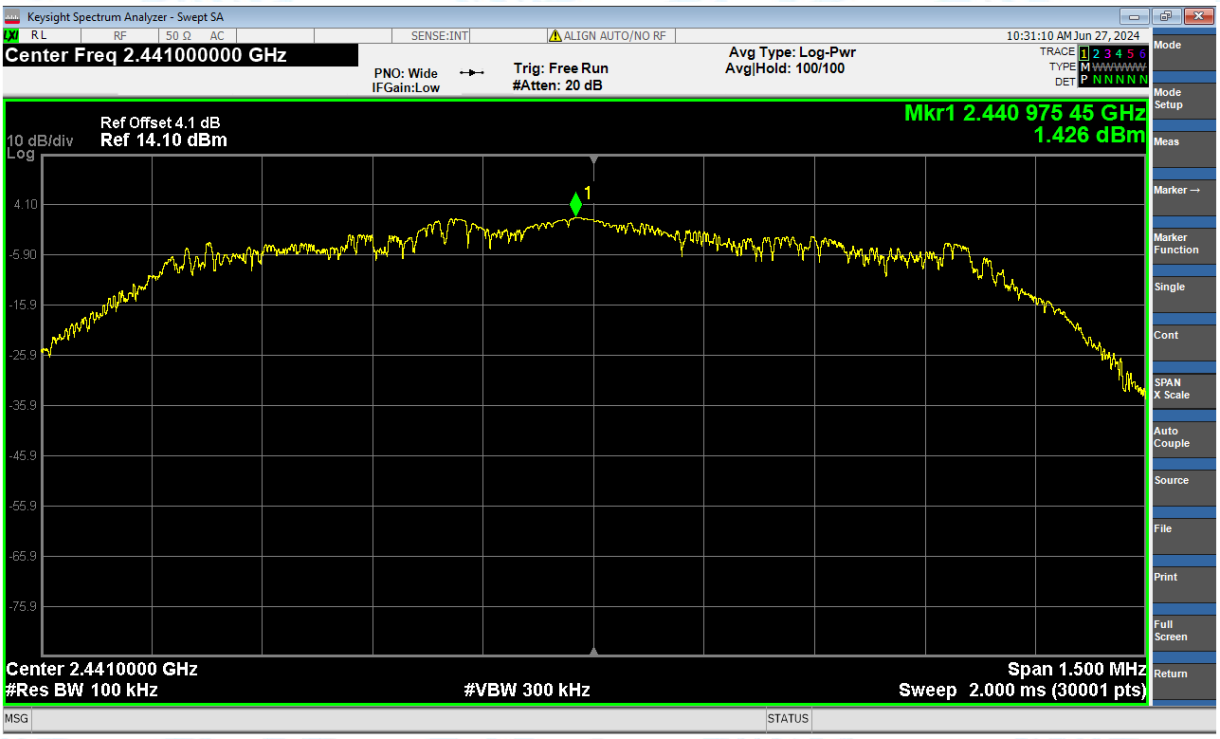


Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref

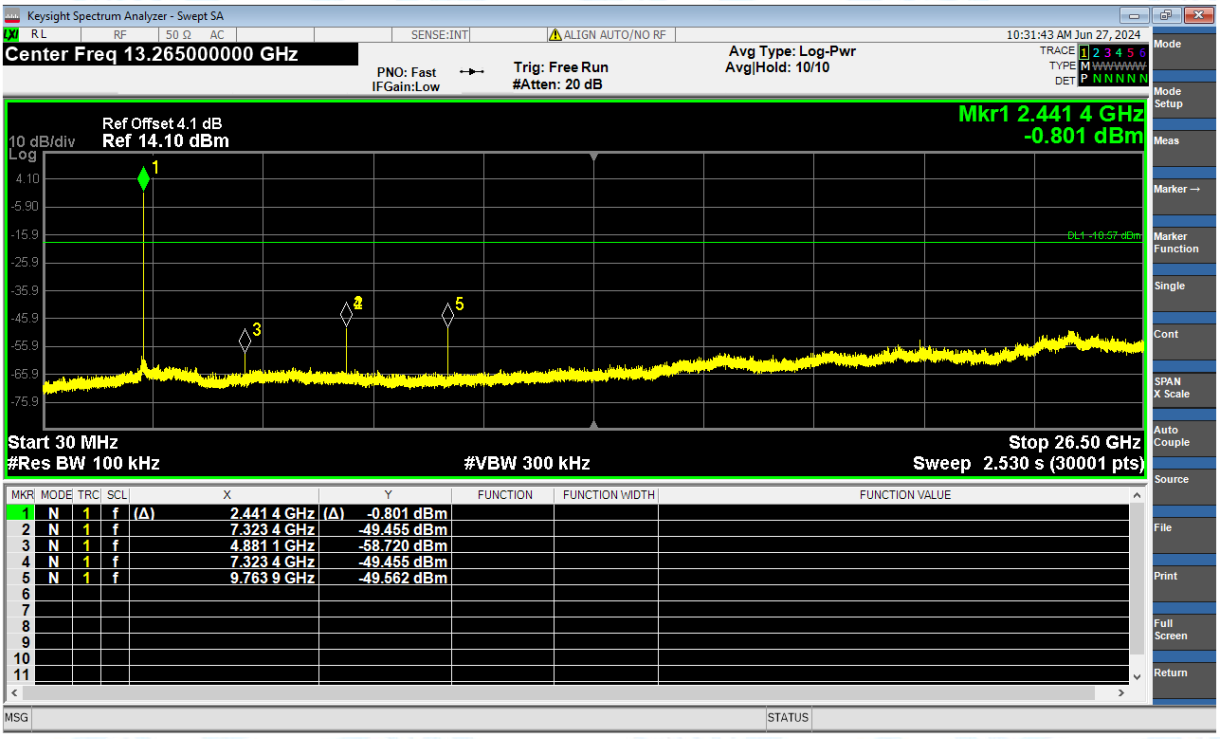
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



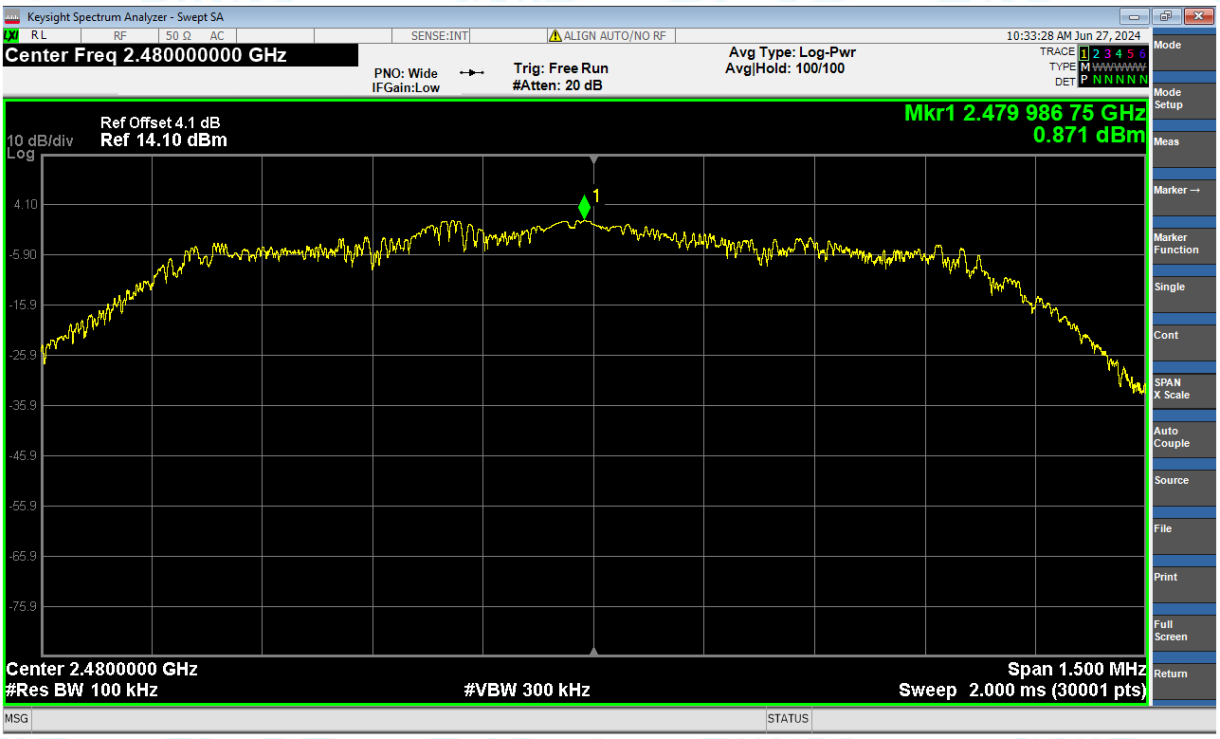
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



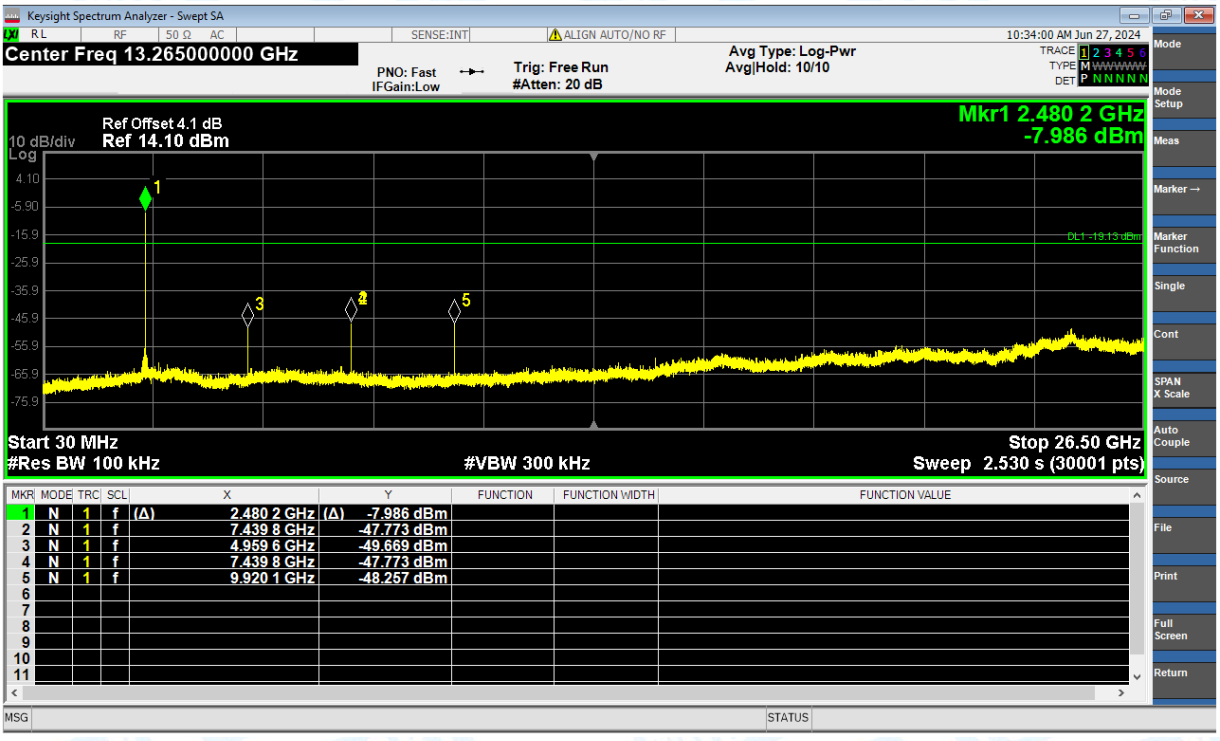
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

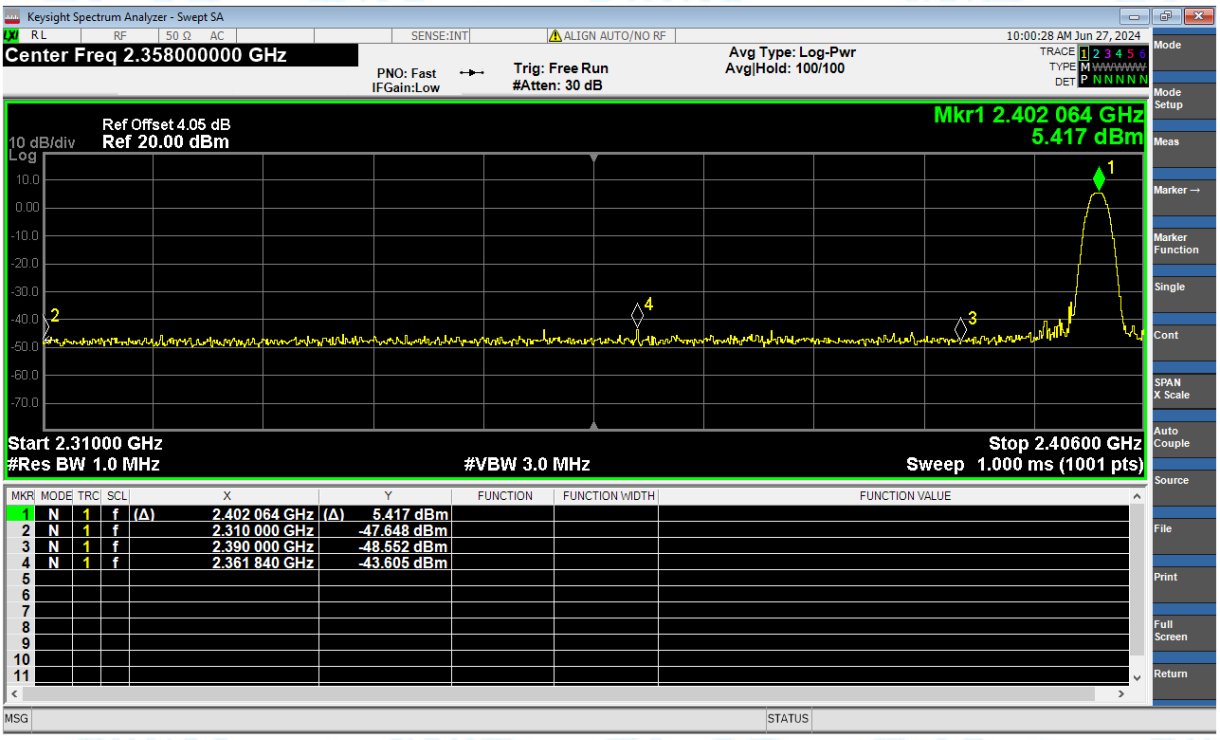


8. Restrict Band

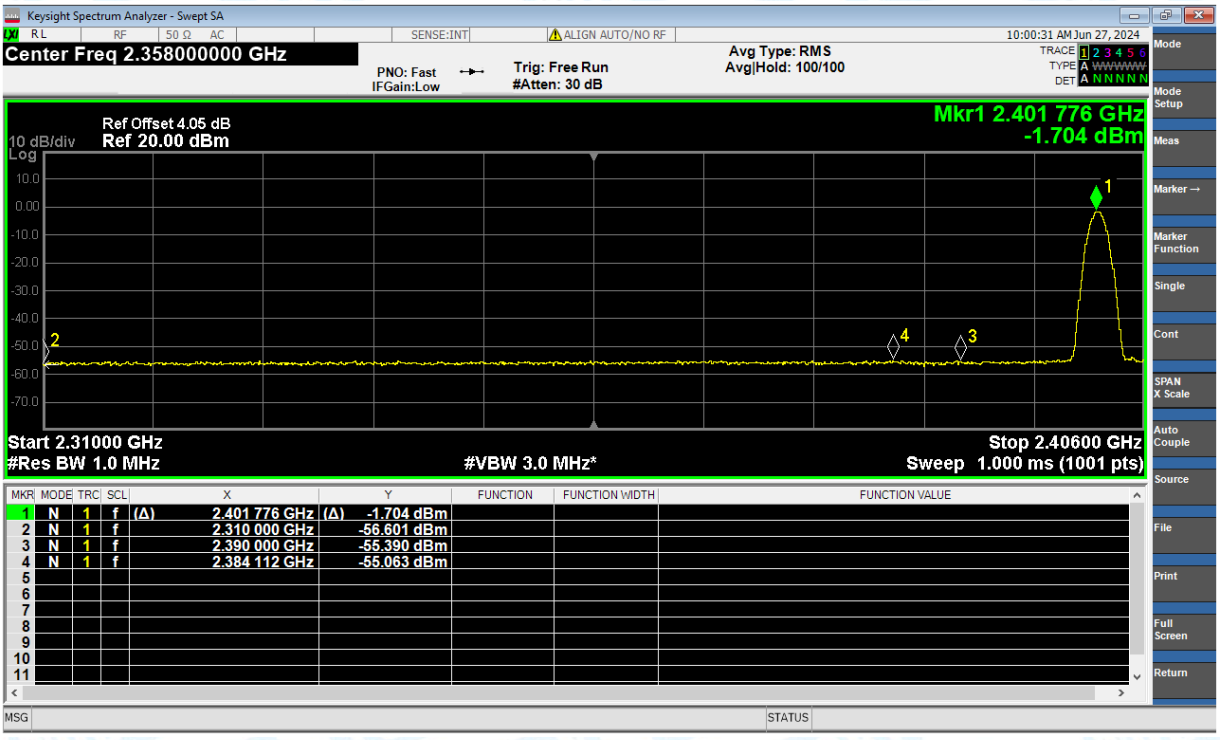
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.65	2	-	49.61	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.6	2	4.84	45.5	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2361.84	-43.6	2	-	53.66	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2384.112	-55.06	2	4.84	47.04	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-48.55	2	-	48.71	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.39	2	4.84	46.71	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-45.72	2	-	51.54	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.74	2	4.84	47.36	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.784	-40.68	2	-	56.58	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.448	-53.24	2	4.84	48.86	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.26	2	-	50	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.74	2	4.84	46.36	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.32	2	-	48.94	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.17	2	4.84	45.93	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2369.52	-44.69	2	-	52.57	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2389.776	-54.83	2	4.84	47.27	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.19	2	-	49.07	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.35	2	4.84	46.75	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-43.48	2	-	53.78	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.98	2	4.74	47.02	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.184	-40.84	2	-	56.42	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.68	-54.36	2	4.74	47.64	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.33	2	-	50.93	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.59	2	4.74	46.41	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.48	2	-	48.78	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.53	2	4.74	45.47	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2383.632	-44.15	2	-	53.11	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2365.776	-54.76	2	4.74	47.24	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.41	2	-	50.85	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.47	2	4.74	46.53	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.05	2	-	51.21	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.97	2	4.74	47.03	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.376	-40.8	2	-	56.46	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.944	-54.24	2	4.74	47.76	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.71	2	-	50.55	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.71	2	4.74	46.29	Average	54	Pass

Test Graphs

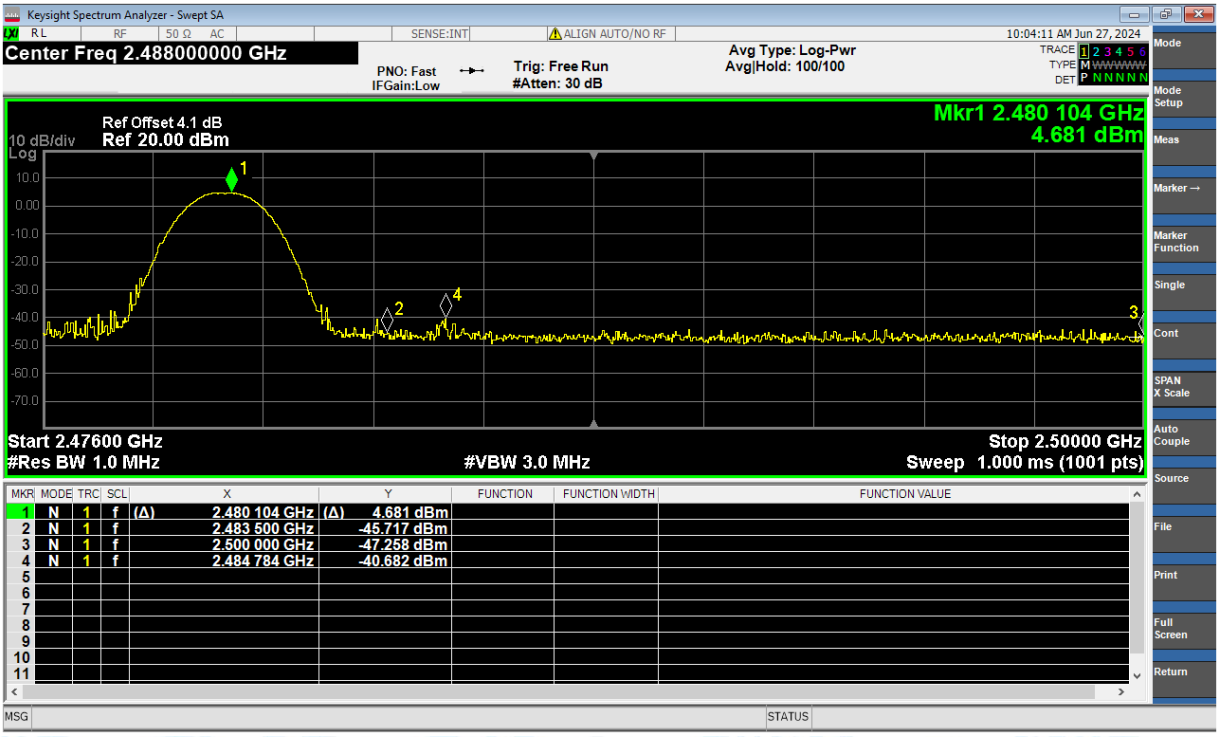
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



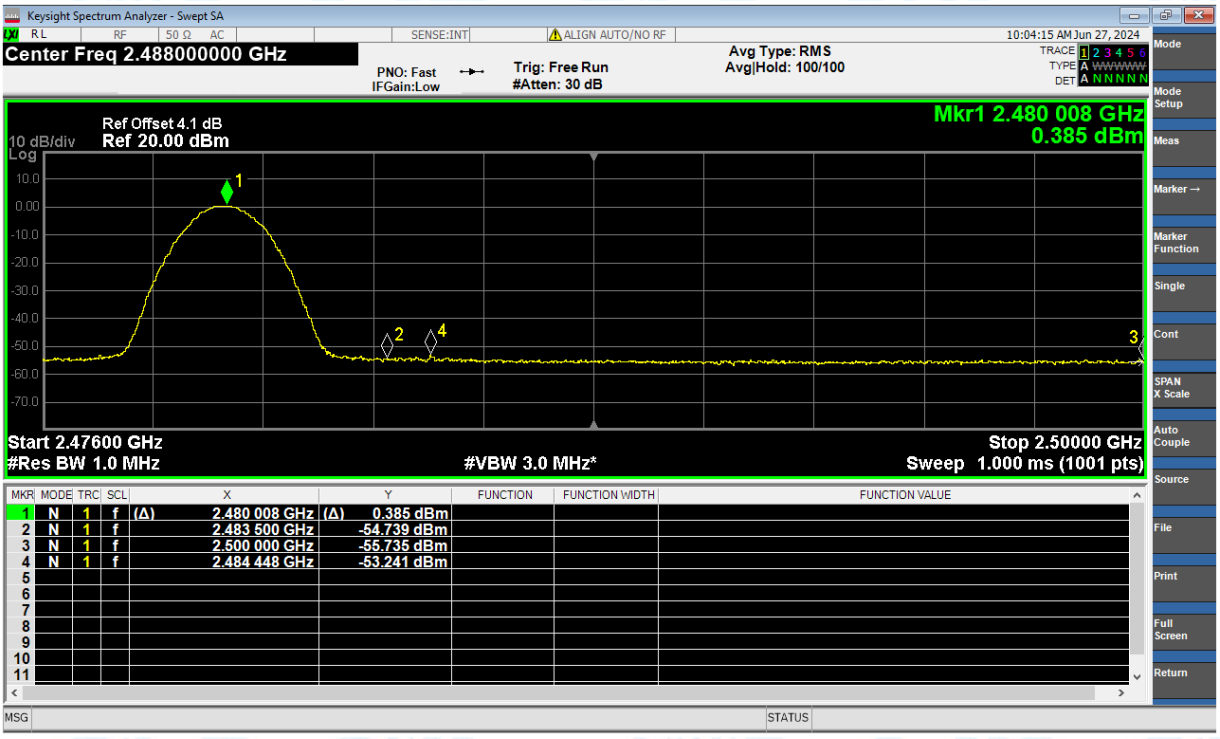
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



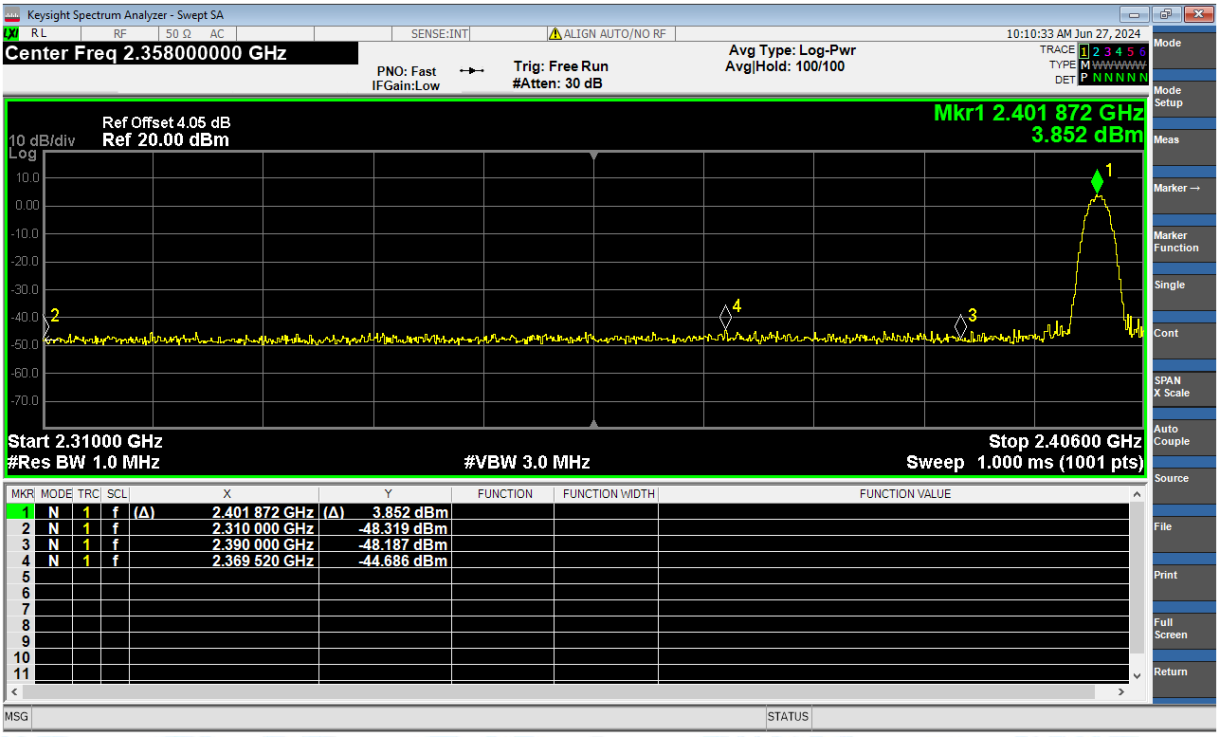
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



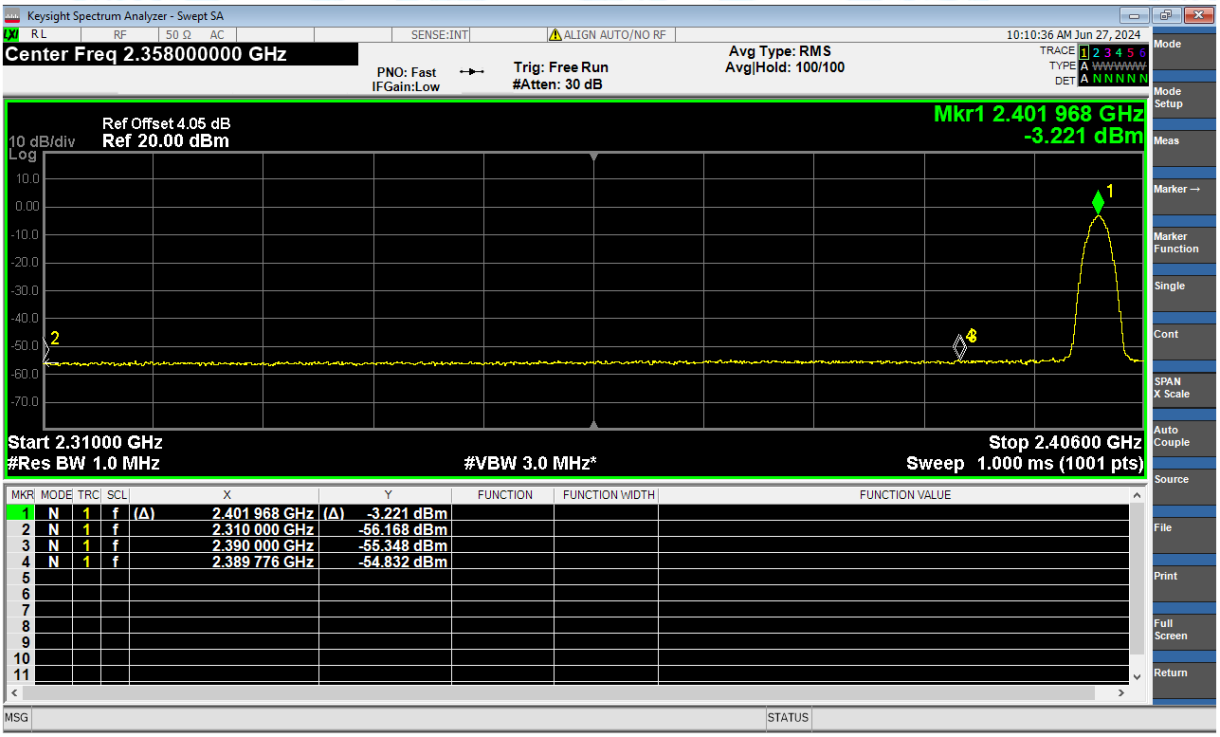
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



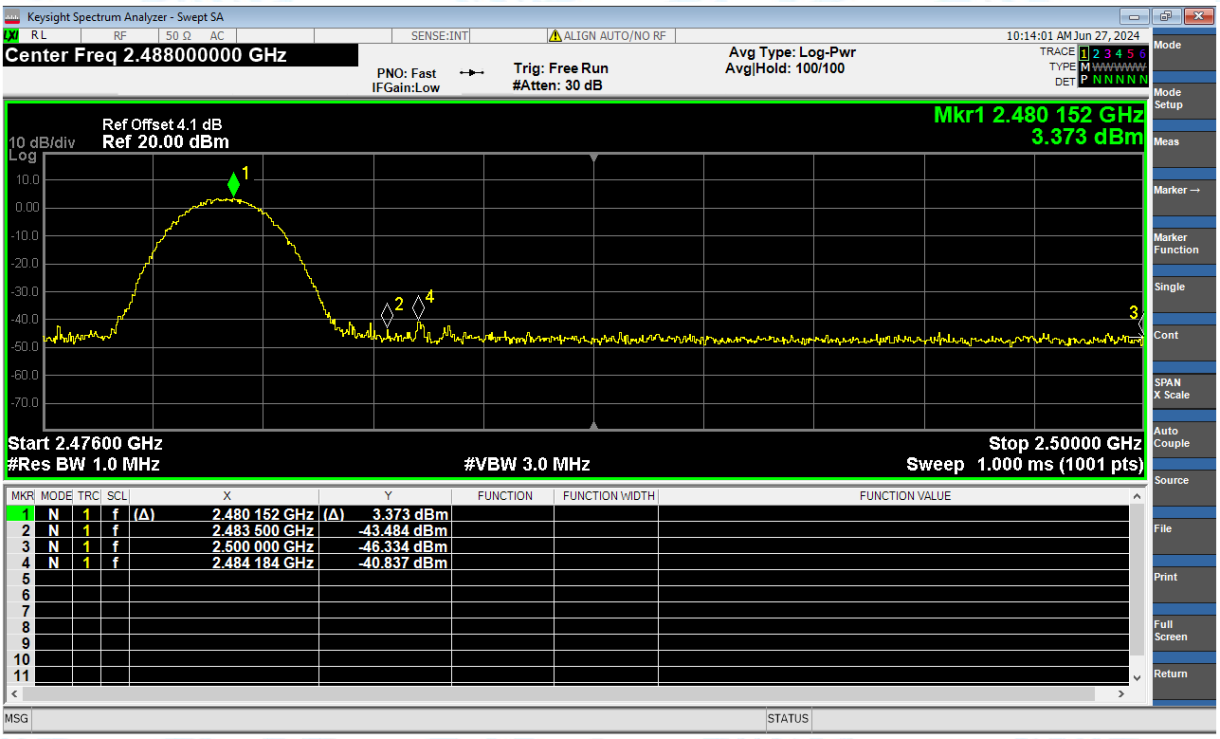
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



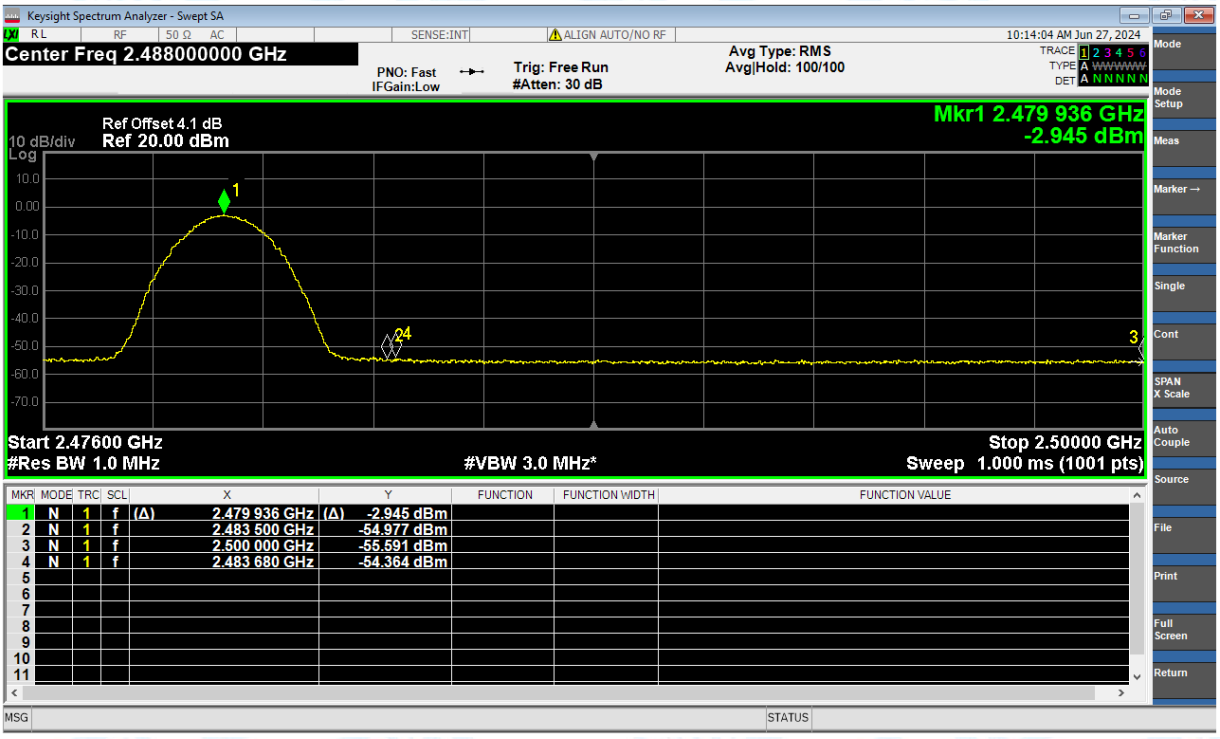
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



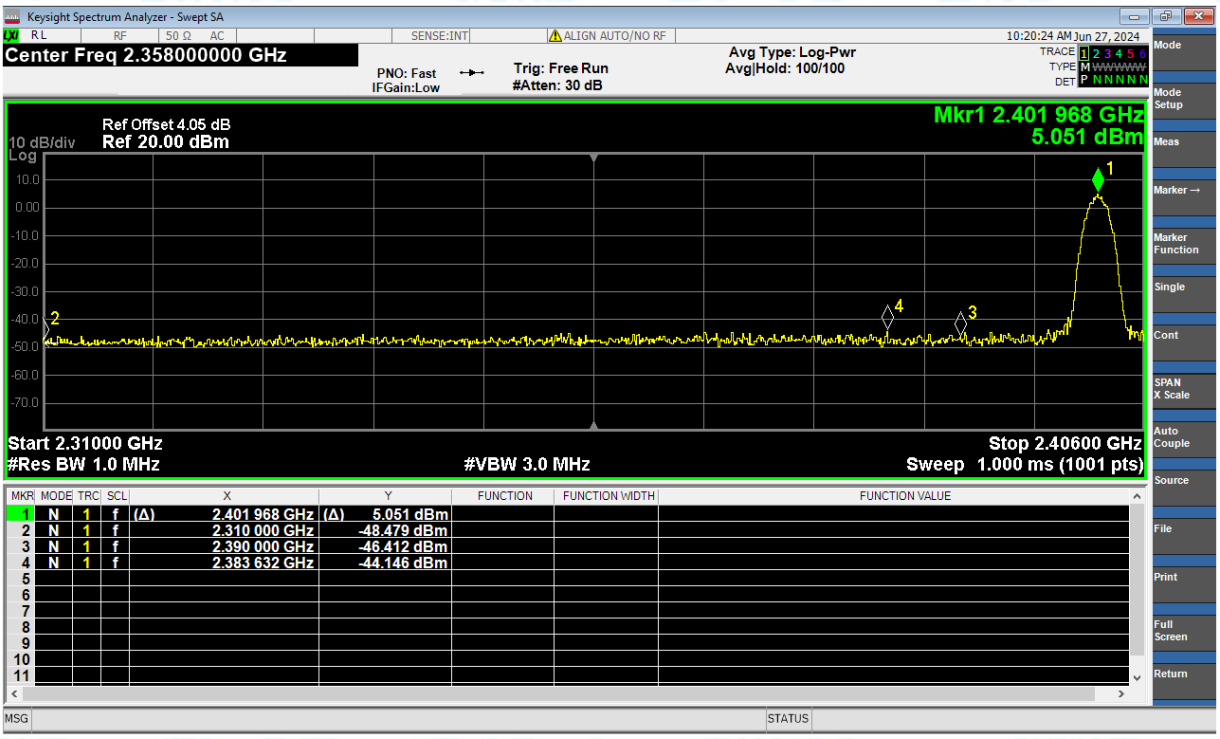
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



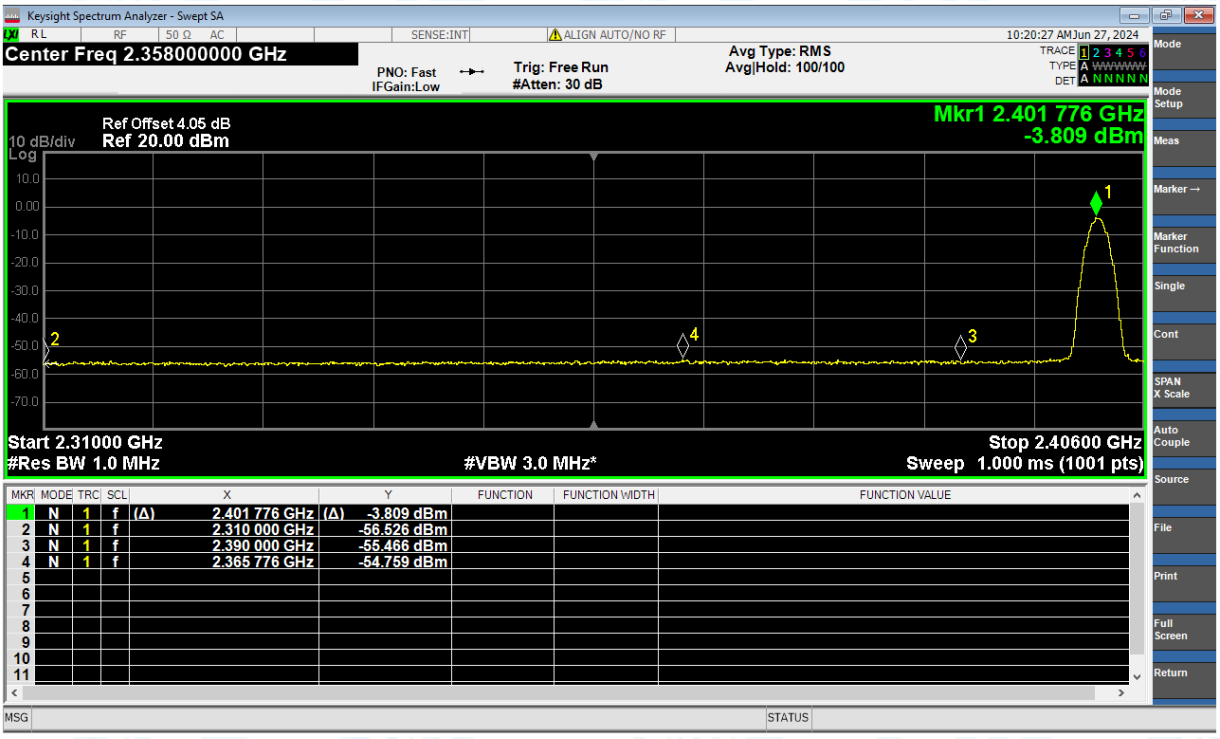
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



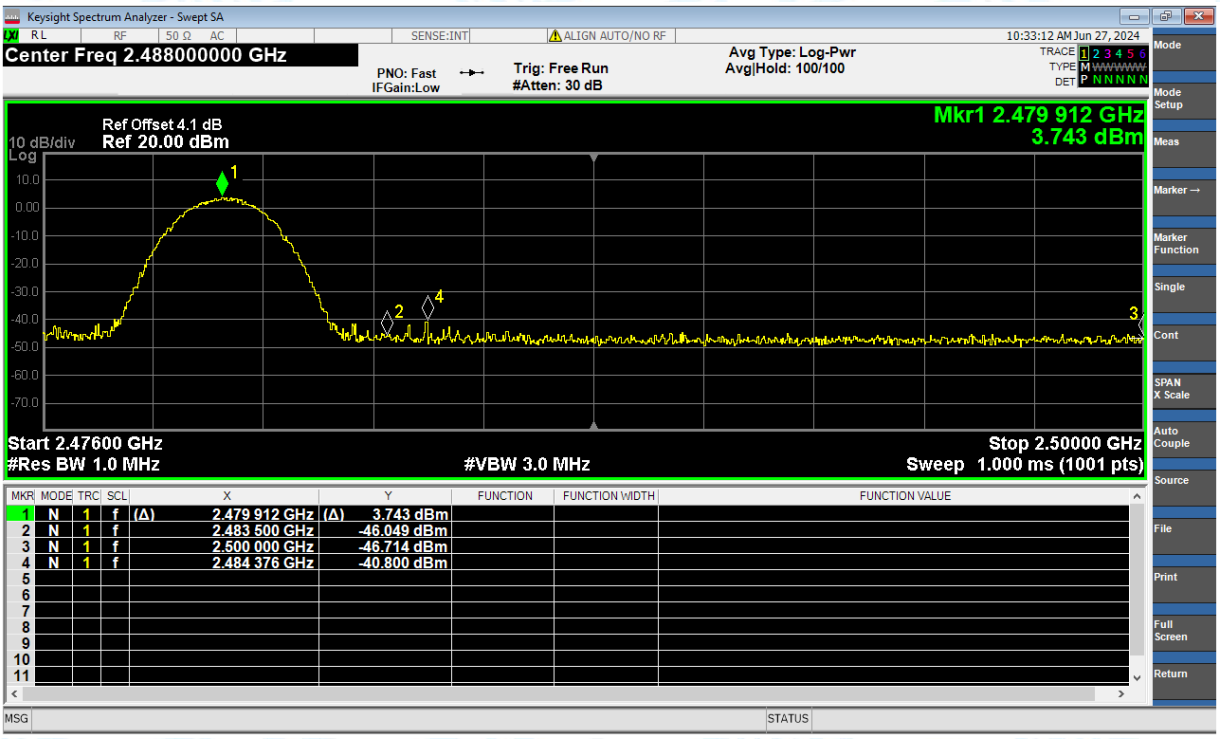
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



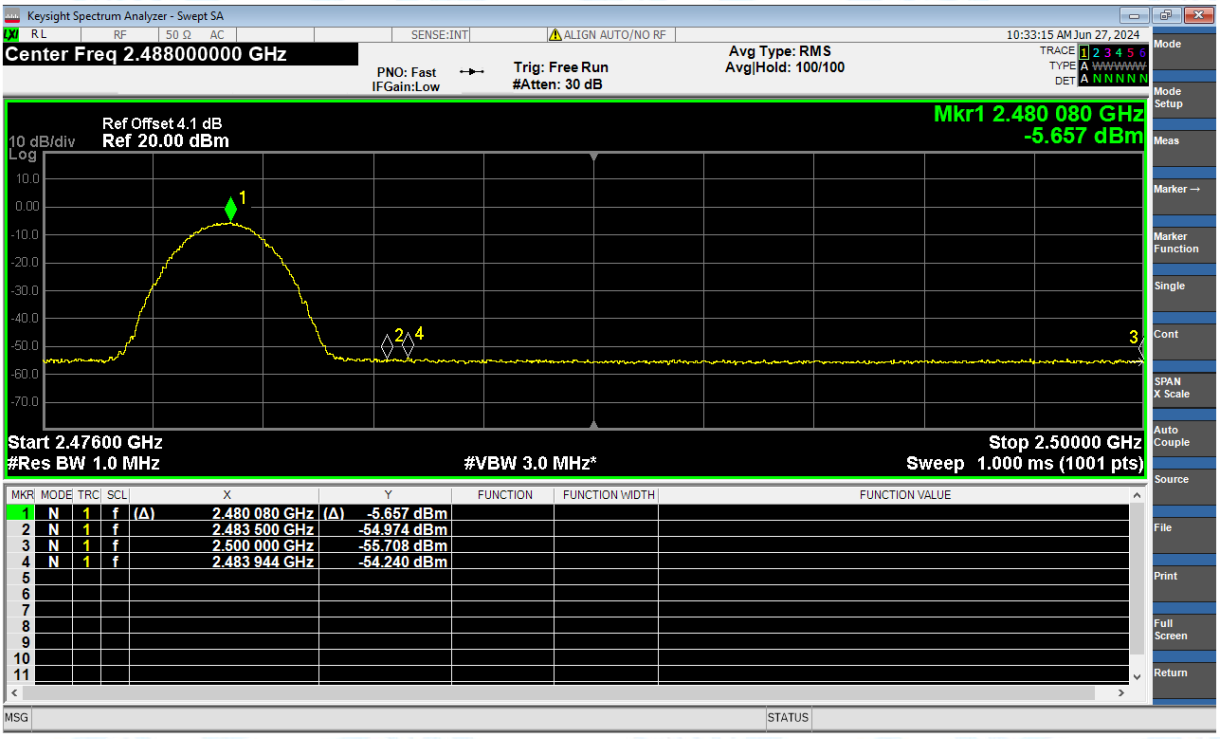
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

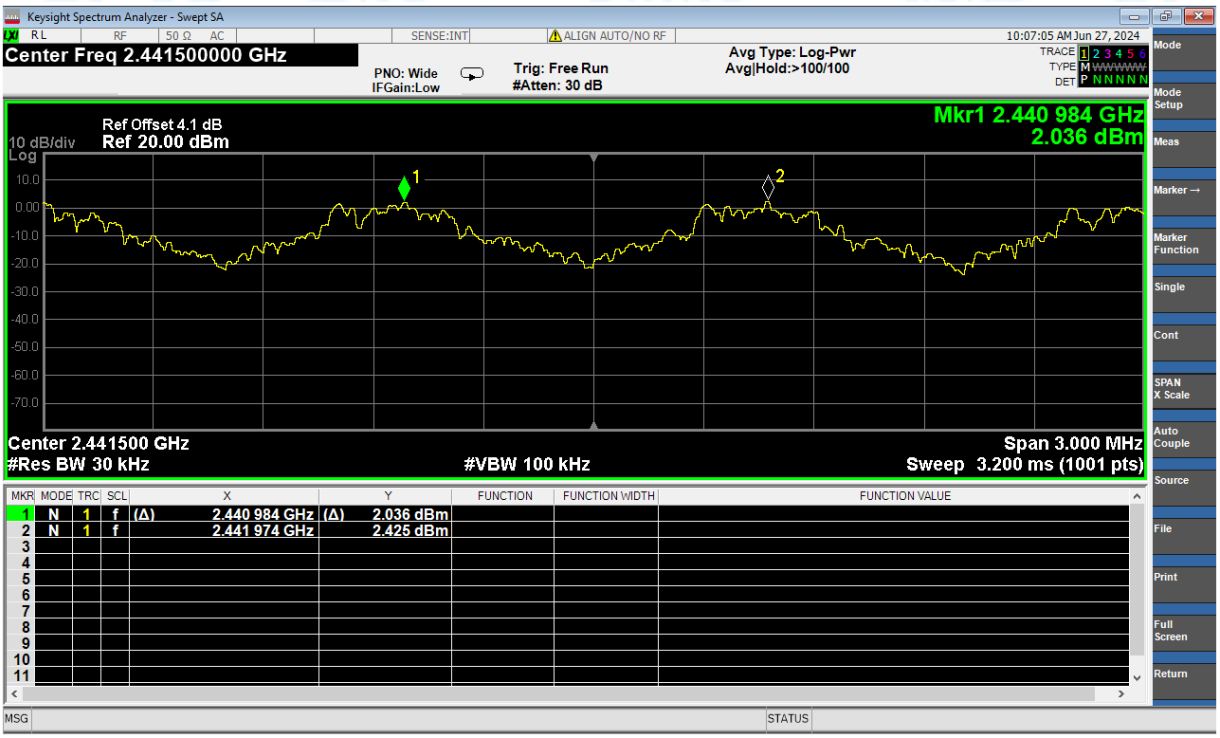


9. Carrier Frequencies Separation

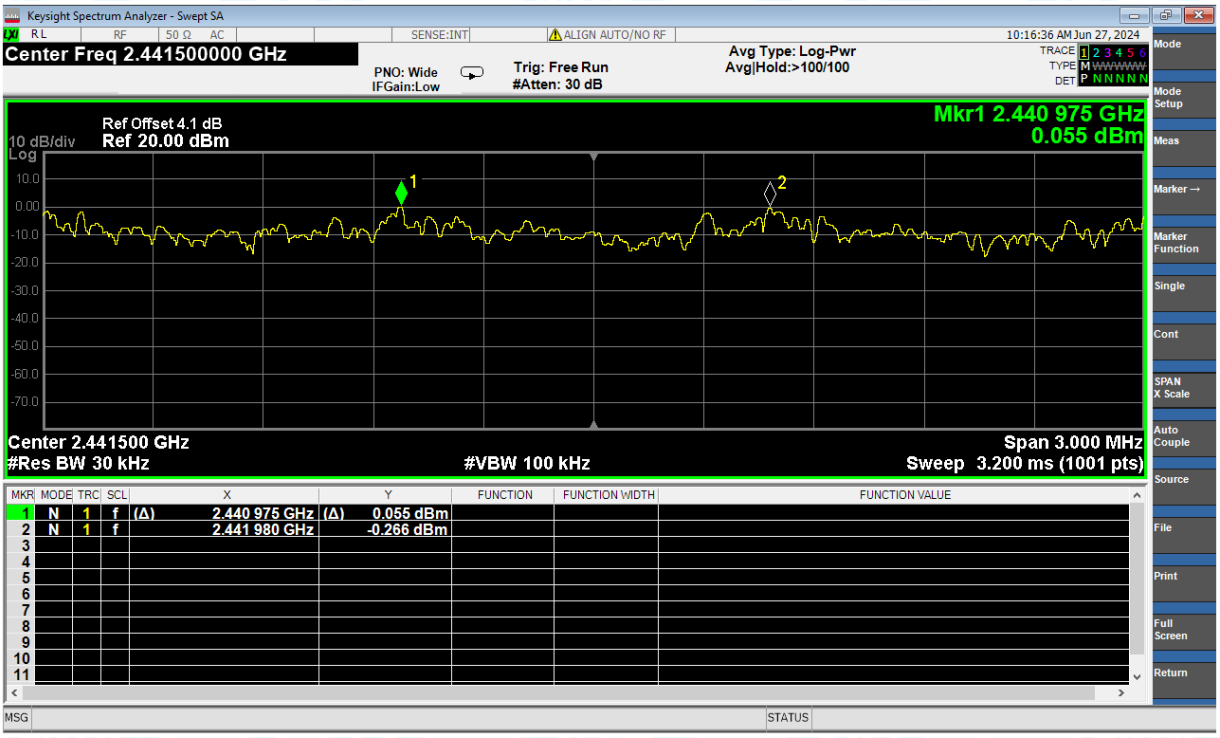
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.984	2441.974	0.99	0.62	Pass
NVNT	2-DH1	Ant1	2440.975	2441.98	1.005	0.847	Pass
NVNT	3-DH1	Ant1	2441.014	2441.983	0.969	0.813	Pass

Test Graphs

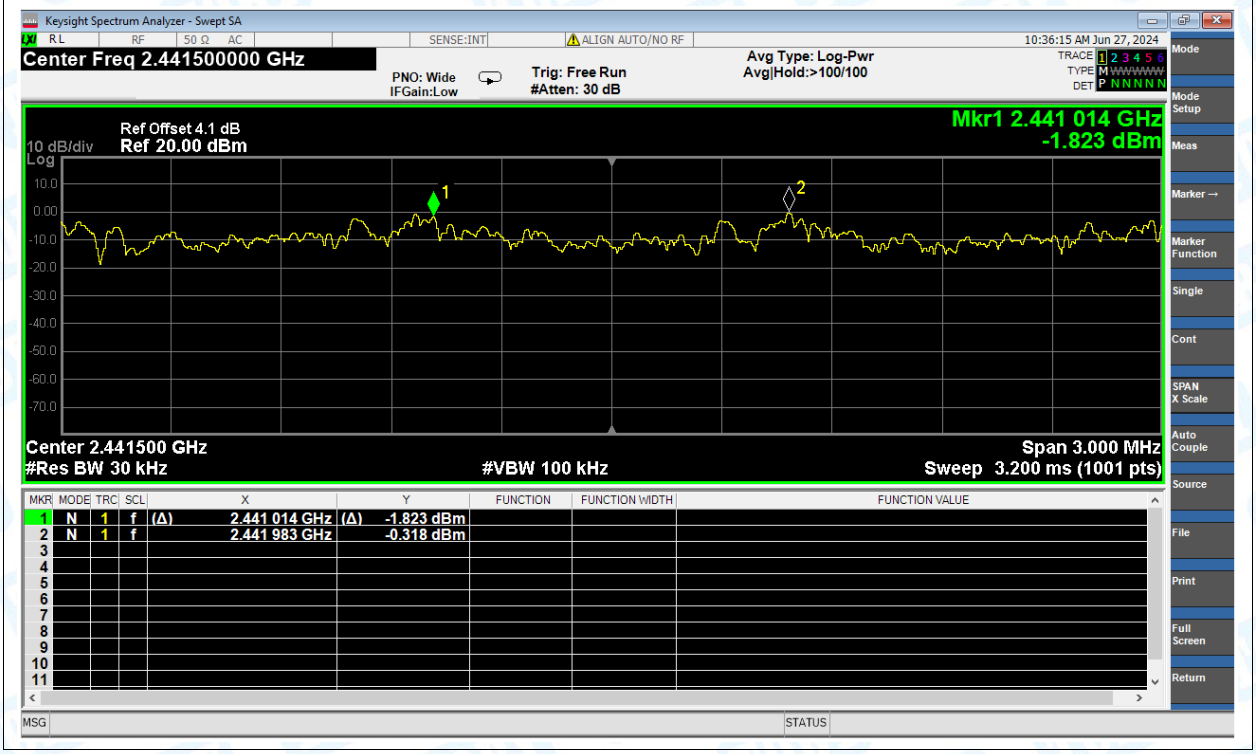
CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



CFS NVNT 3-DH1 2441MHz Ant1

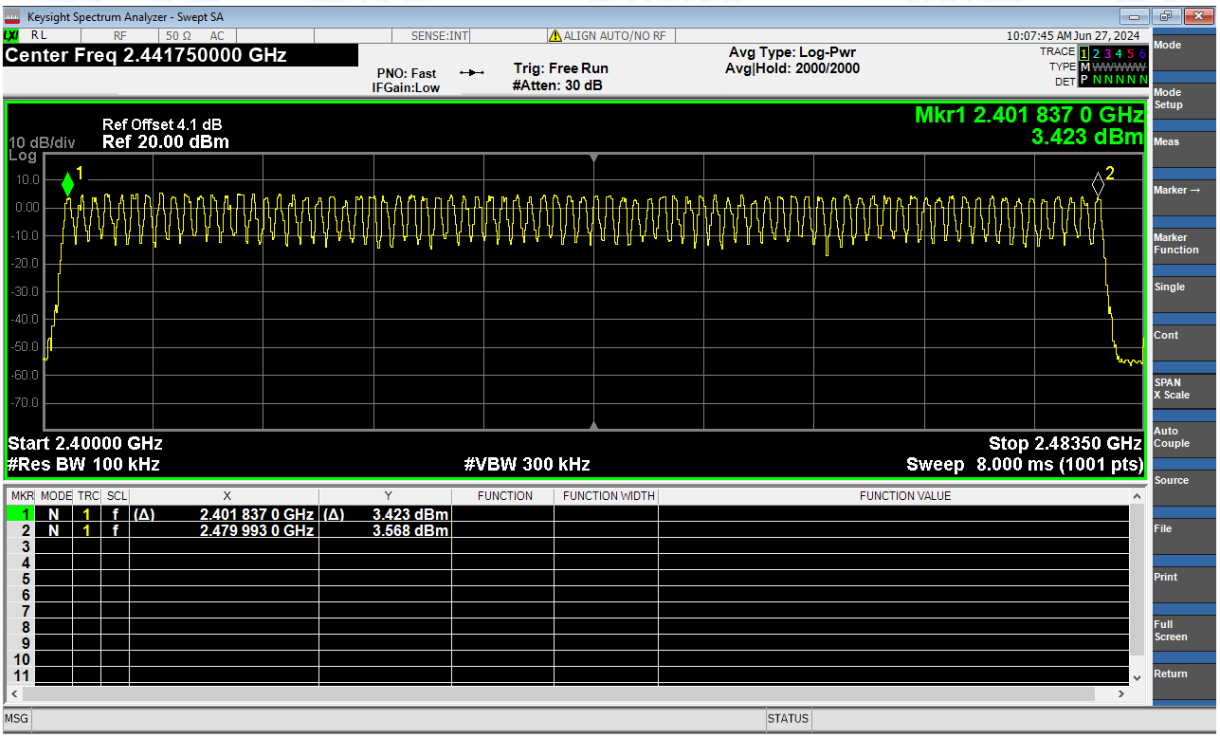


10. Number of Hopping Channel

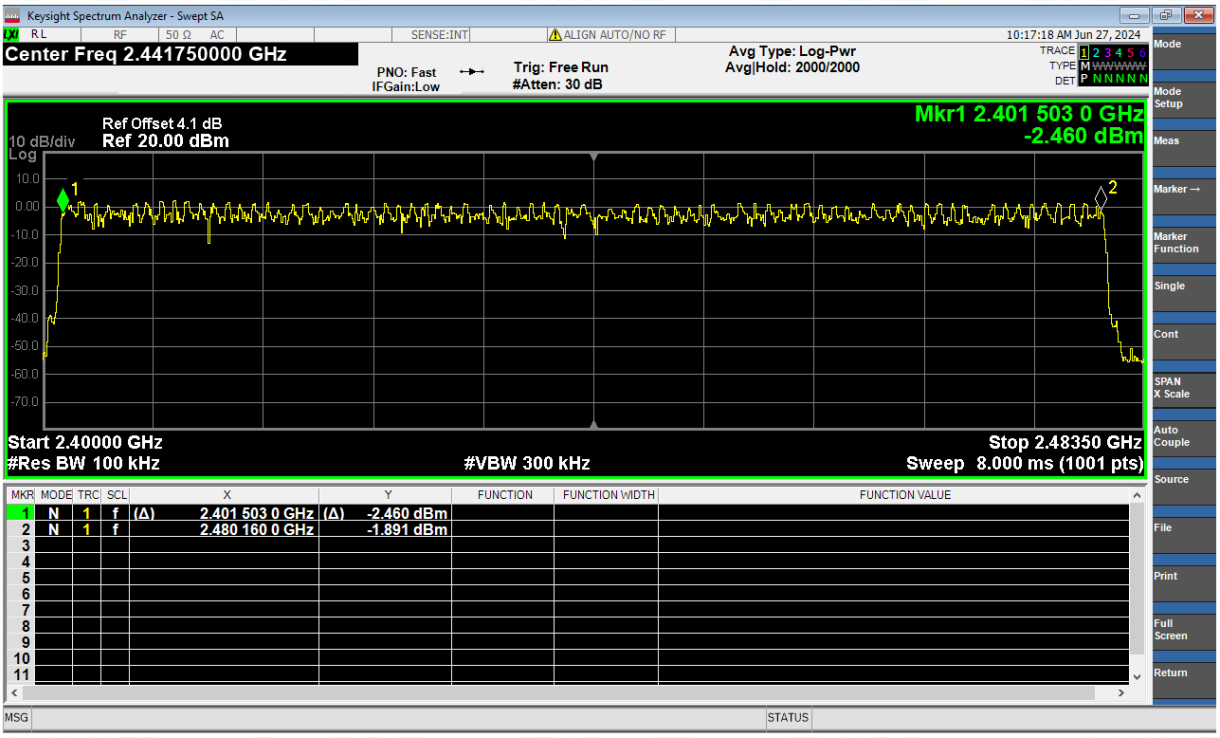
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

Test Graphs

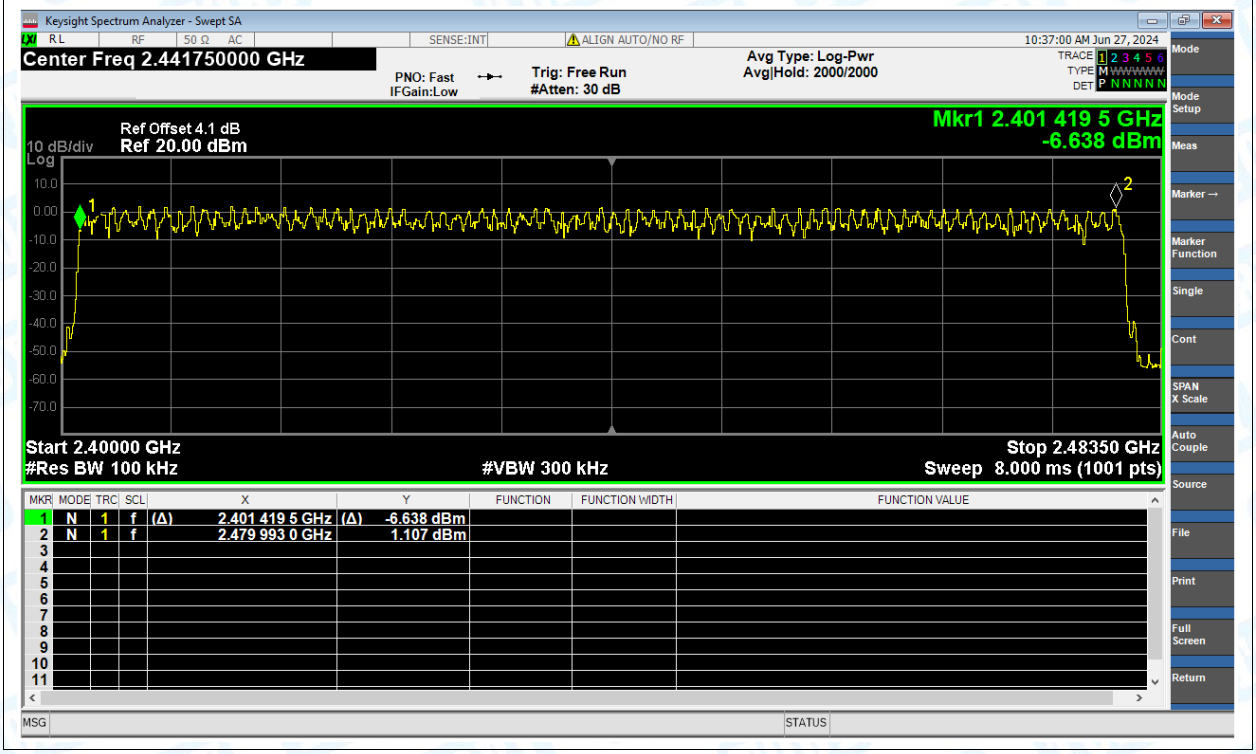
Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



Hopping No. NVNT 3-DH1 2441MHz Ant1

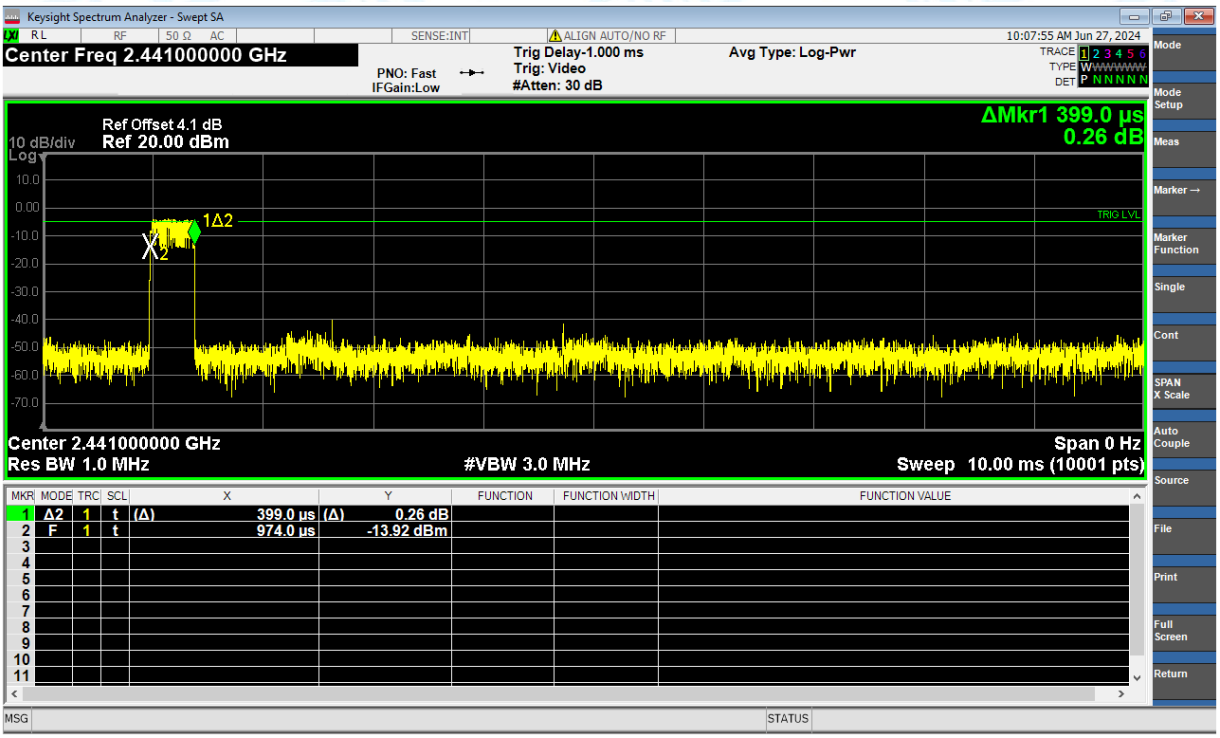


11. Dwell Time

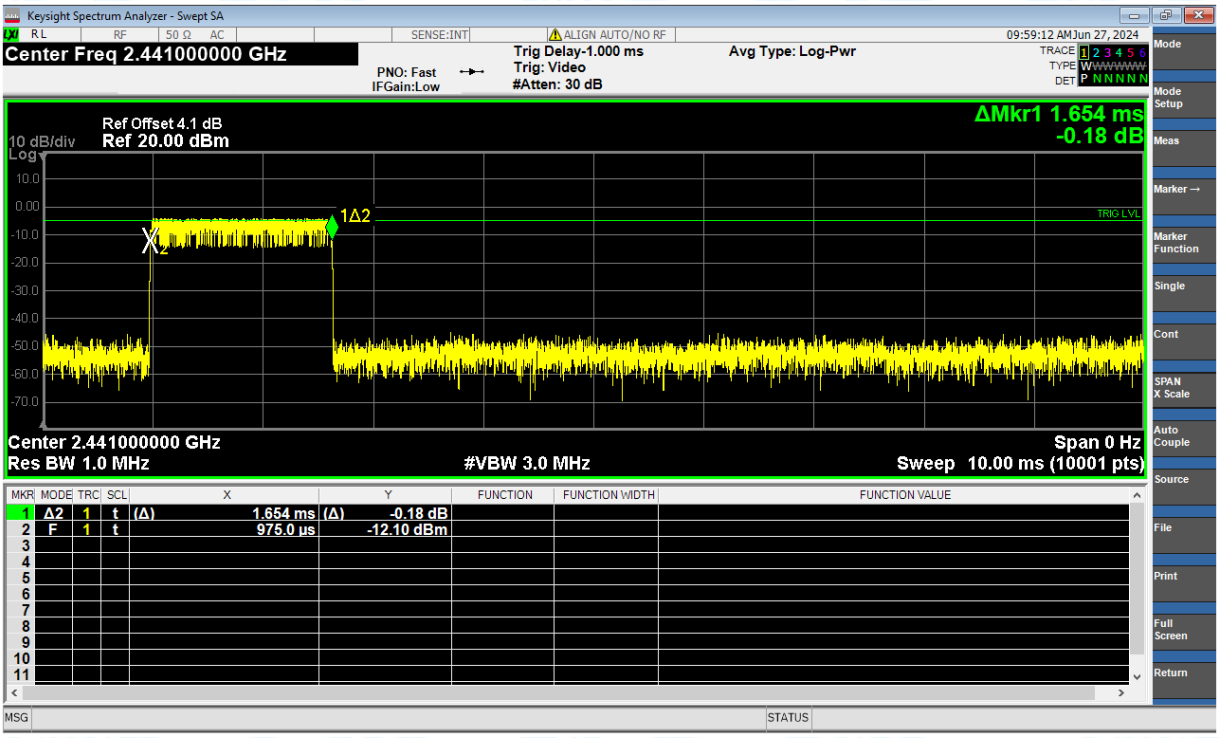
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.399	127.68	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.654	264.64	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.905	309.867	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.411	131.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.66	265.6	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.907	310.08	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.409	130.88	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.661	265.76	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.908	310.187	31600	400	Pass

Test Graphs

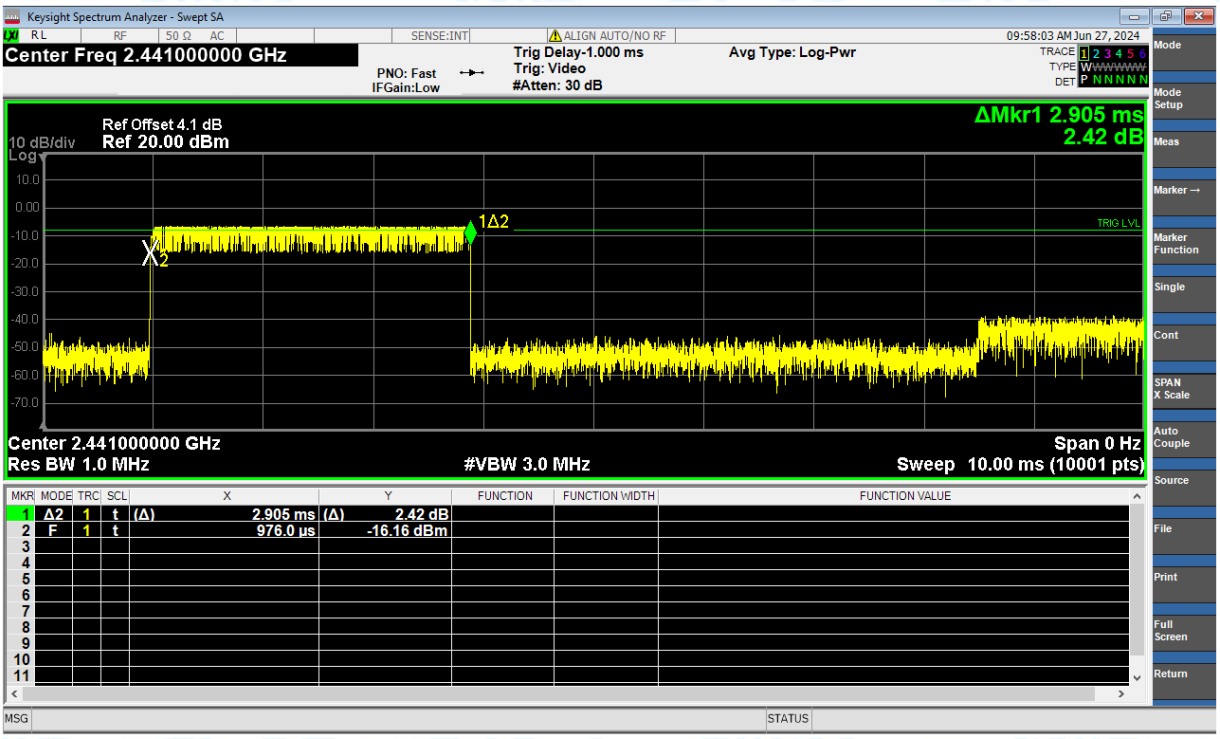
Dwell NVNT 1-DH1 2441MHz Ant1



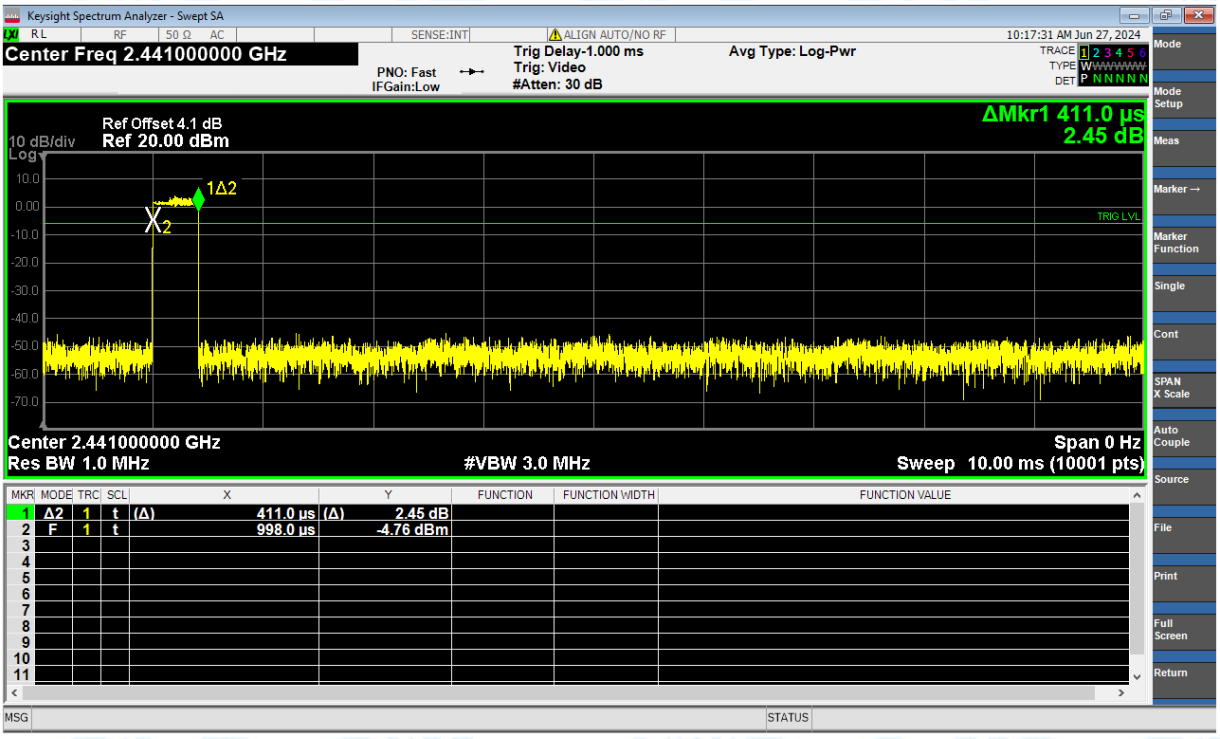
Dwell NVNT 1-DH3 2441MHz Ant1



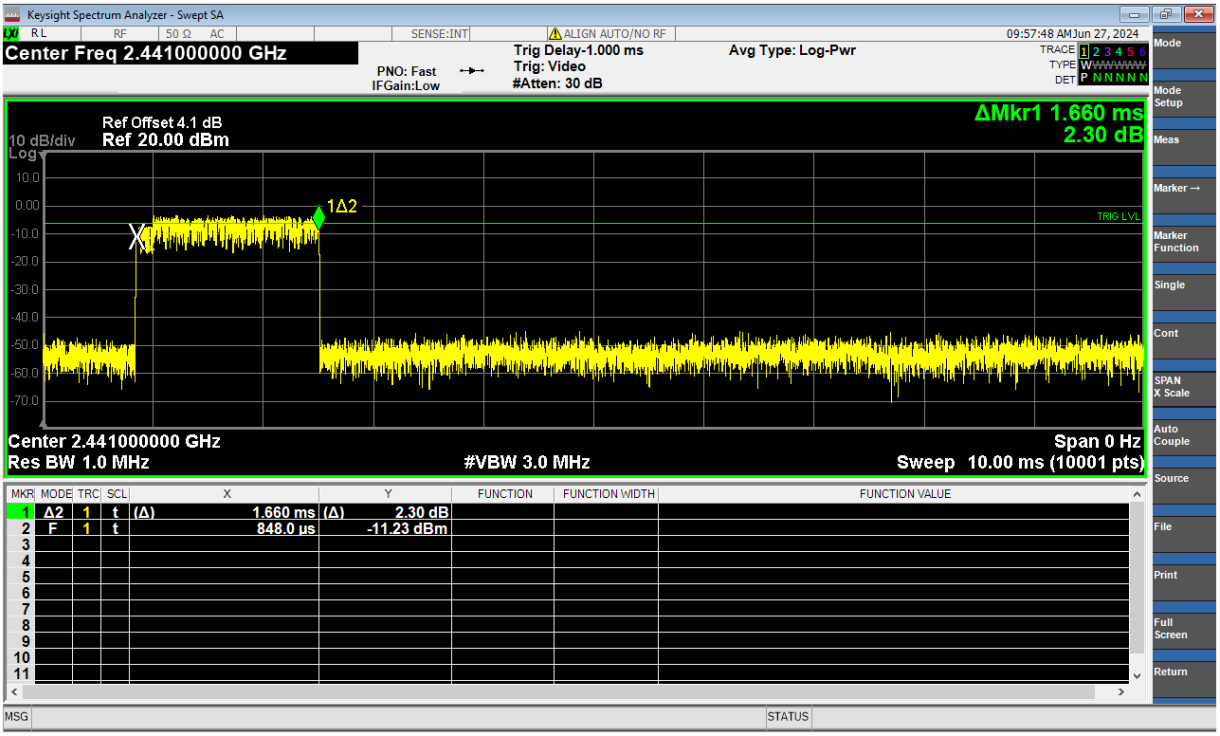
Dwell NVNT 1-DH5 2441MHz Ant1



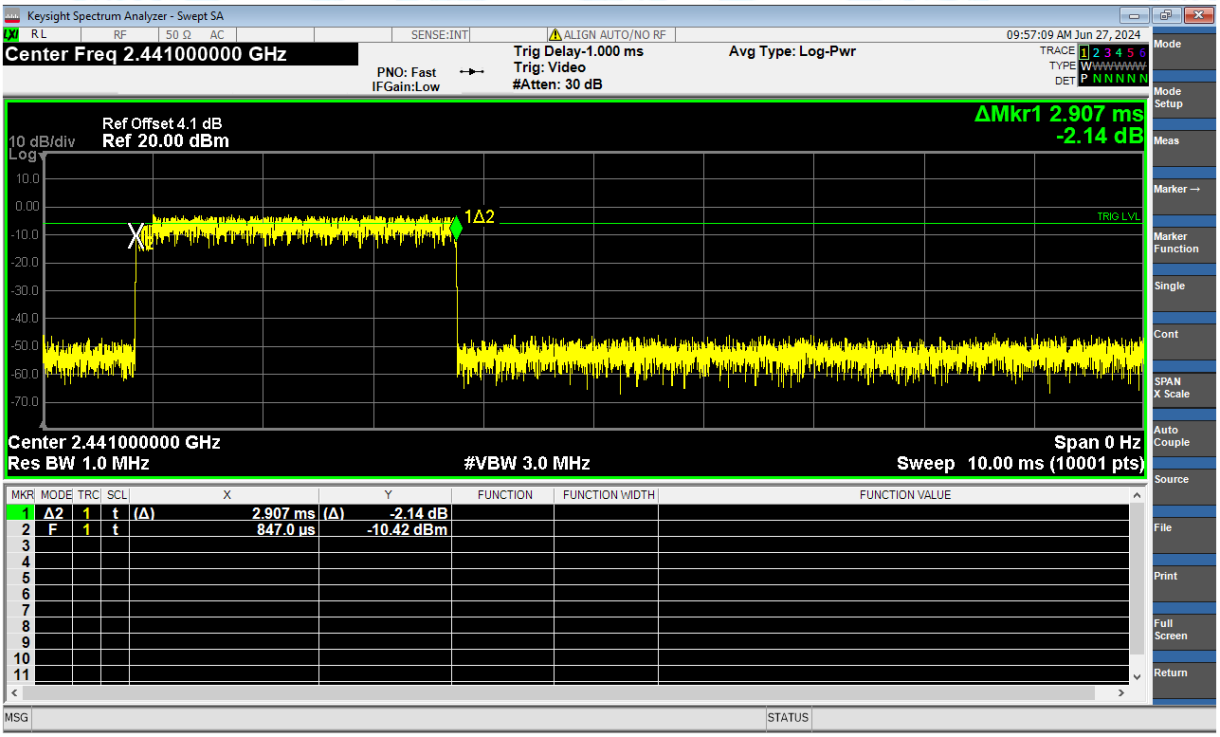
Dwell NVNT 2-DH1 2441MHz Ant1



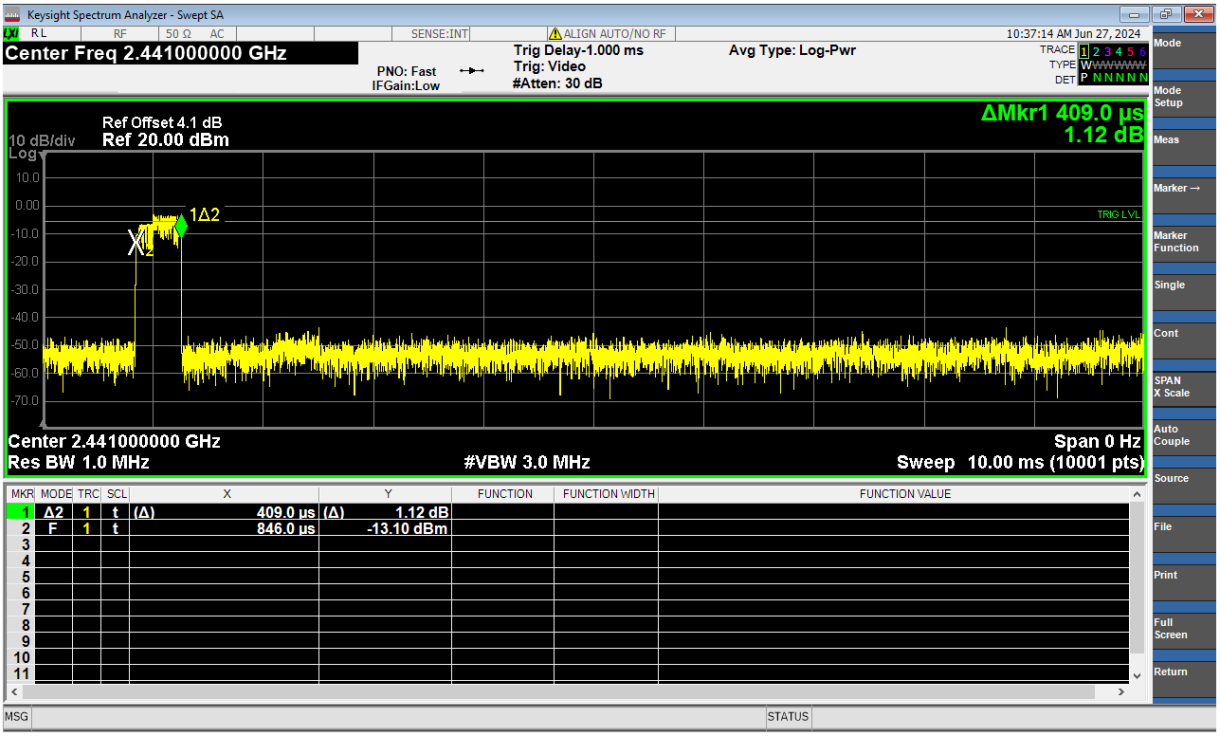
Dwell NVNT 2-DH3 2441MHz Ant1



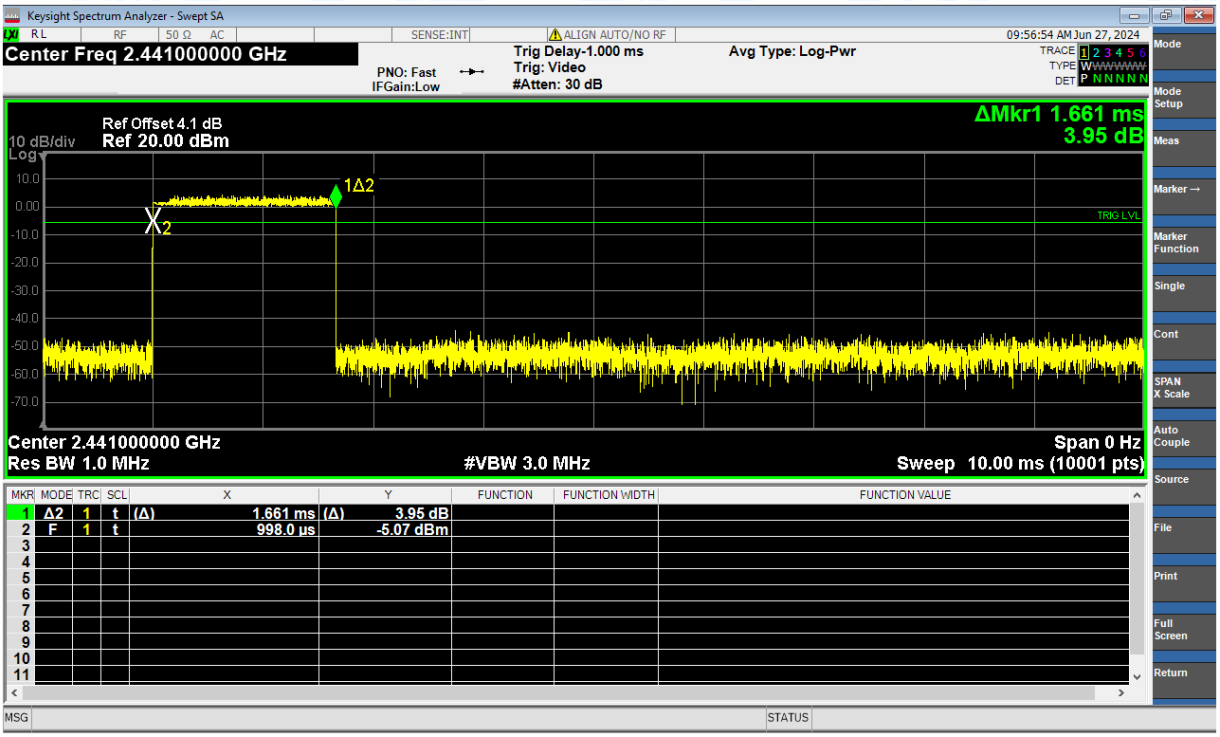
Dwell NVNT 2-DH5 2441MHz Ant1



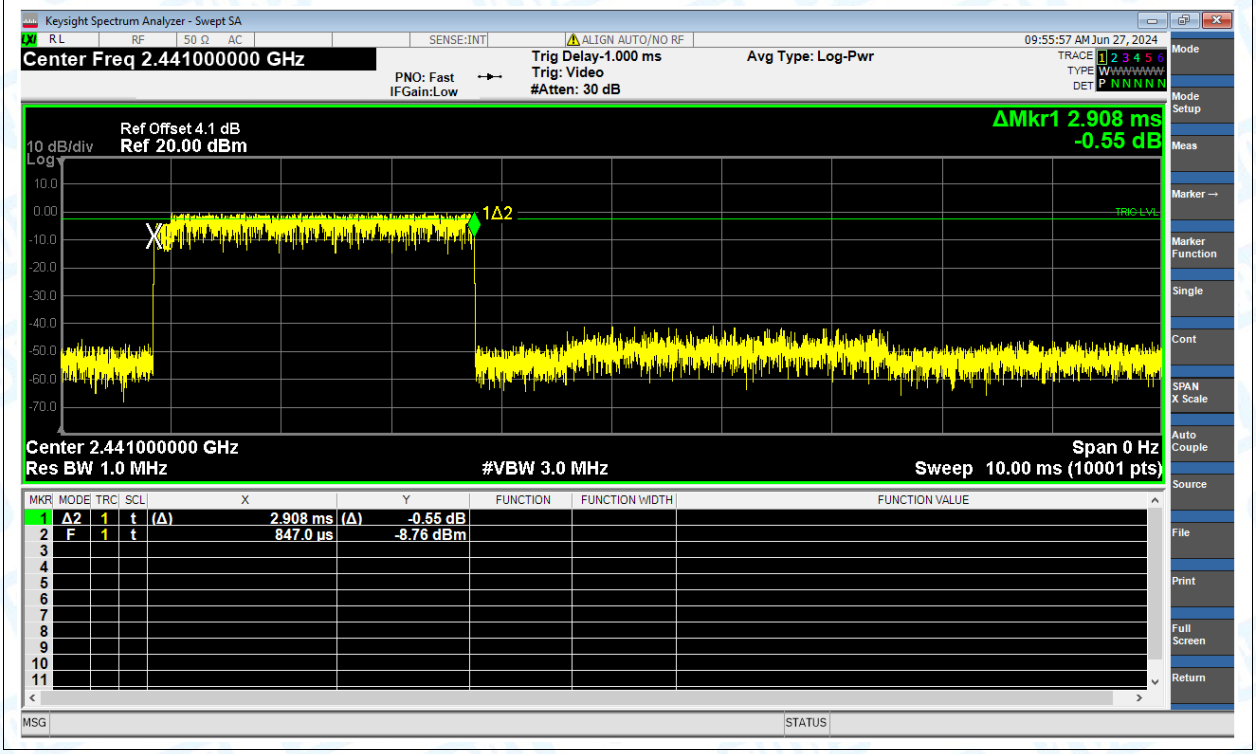
Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1



Dwell NVNT 3-DH5 2441MHz Ant1



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