RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	SMART WATCH
Test Model:	G40PLUS
Sample ID:	HC-C-202506-0052-02-3#
Environmental Conditions	
Temperature:	23.9℃
Relative Humidity:	48%
Test Voltage:	DC 5V
Test Engineer:	Lily Zhang
Note: For a more detailed features description, please refer to the report TBR-C-202506-0052-31 The report only show the worst case data.	

Contents

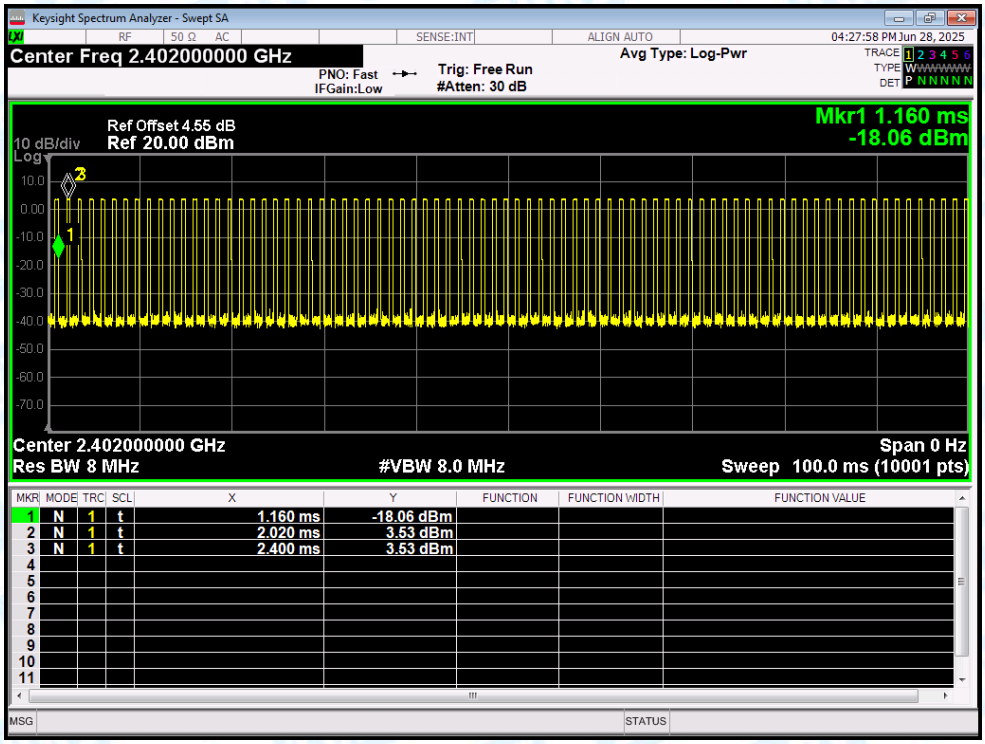
1. Duty Cycle....3
2. Maximum Conducted Output Power....9
3. -20dB Bandwidth....18
4. Occupied Channel Bandwidth....24
5. Band Edge....30
6. Band Edge(Hopping)....37
7. Conducted RF Spurious Emission....44
8. Restrict Band....54
9. Carrier Frequencies Separation....61
10. Number of Hopping Channel....64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

1. Duty Cycle

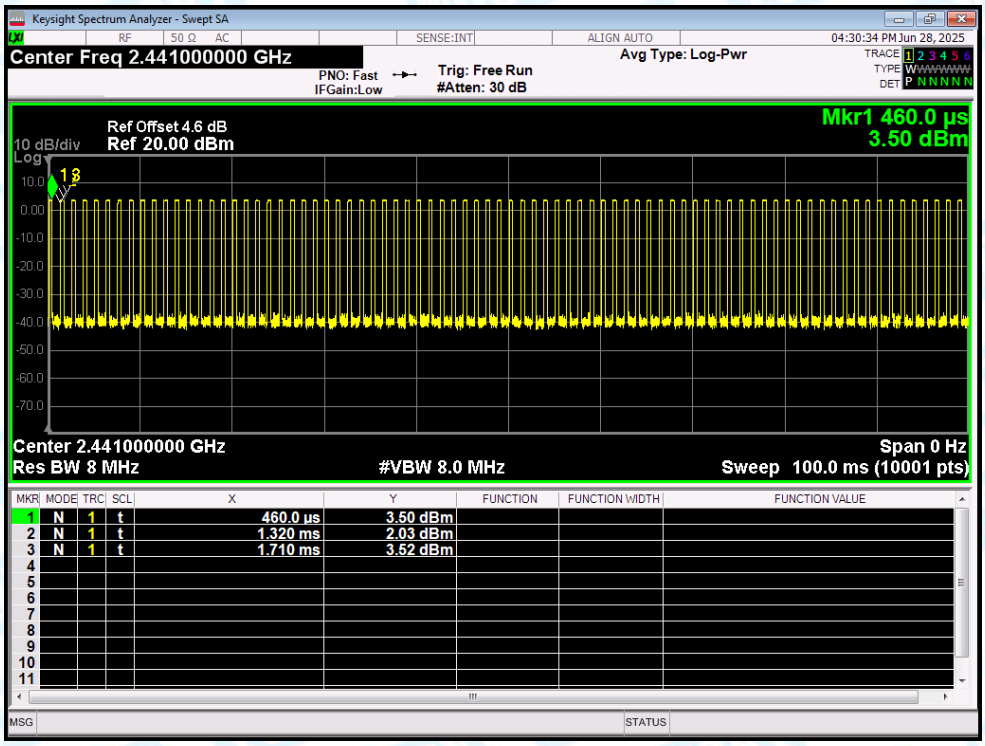
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.65	5.14	2.63
NVNT	1-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	32	4.95	2.5
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2402	Ant1	32	4.95	2.5
NVNT	3-DH1	2441	Ant1	31.45	5.02	2.56
NVNT	3-DH1	2480	Ant1	32	4.95	2.5

Test Graphs

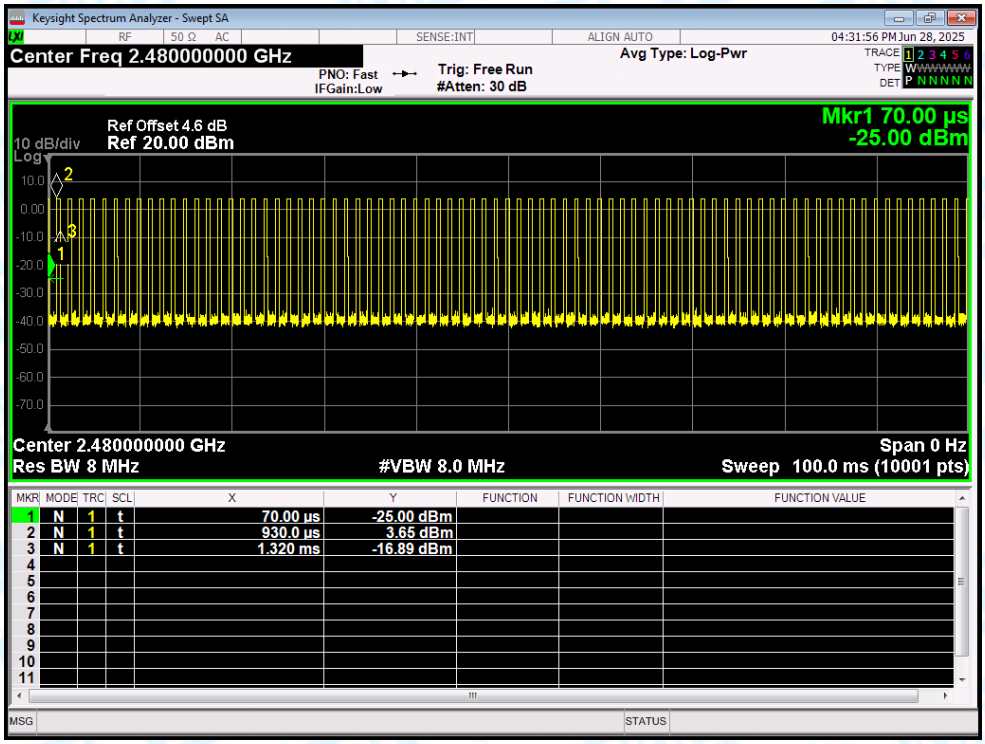
Duty Cycle NVNT 1-DH1 2402MHz Ant1



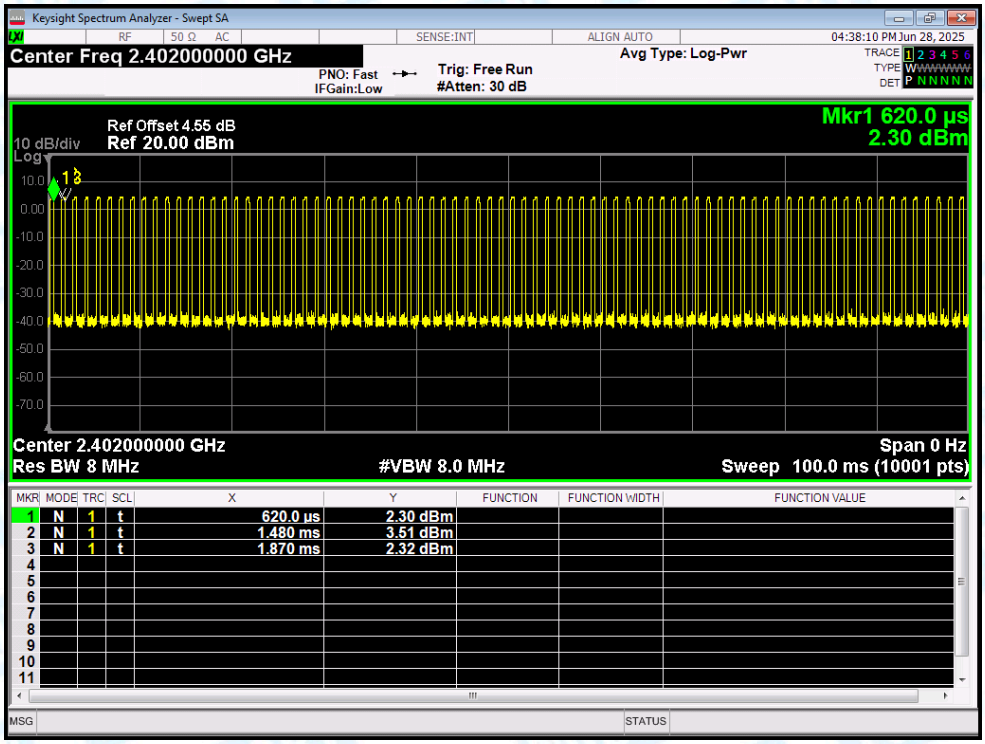
Duty Cycle NVNT 1-DH1 2441MHz Ant1



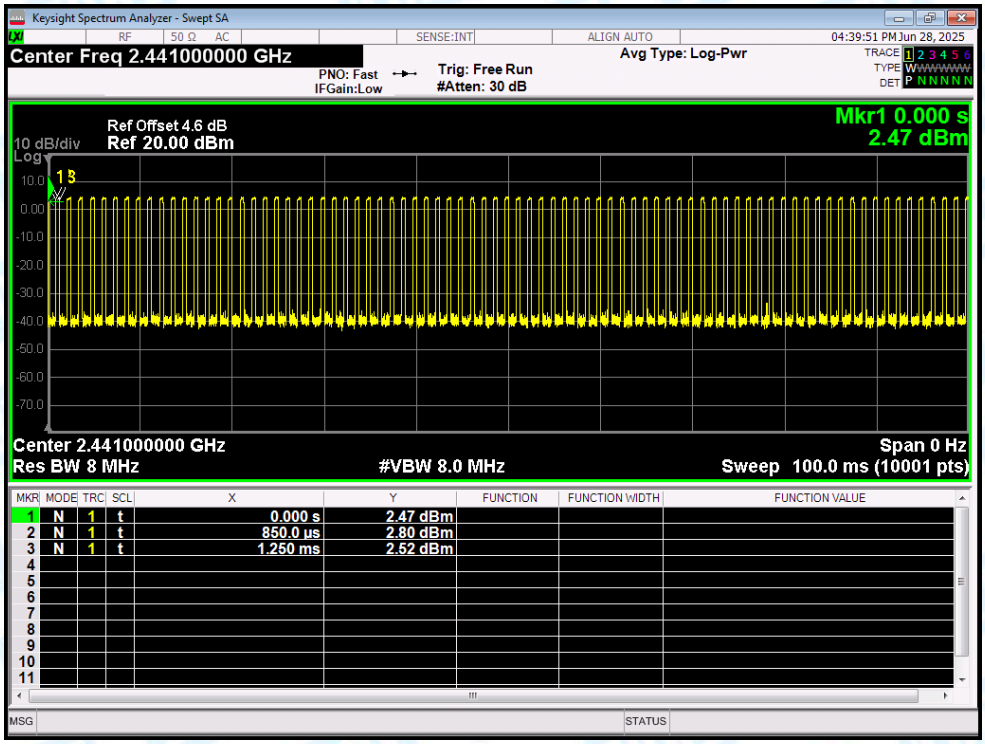
Duty Cycle NVNT 1-DH1 2480MHz Ant1



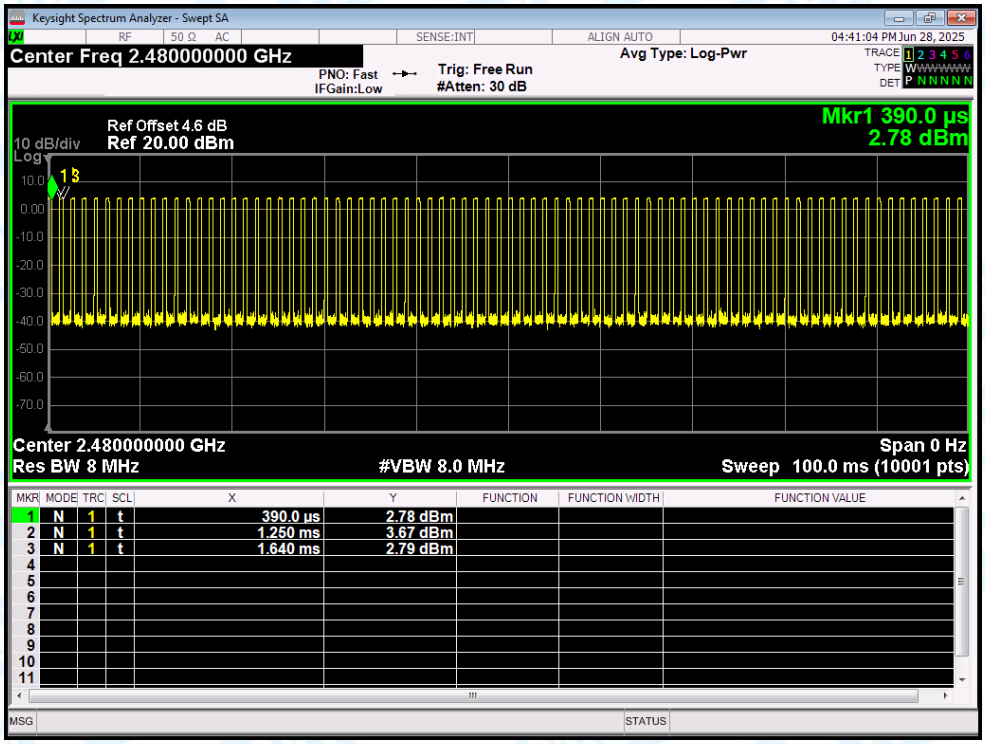
Duty Cycle NVNT 2-DH1 2402MHz Ant1



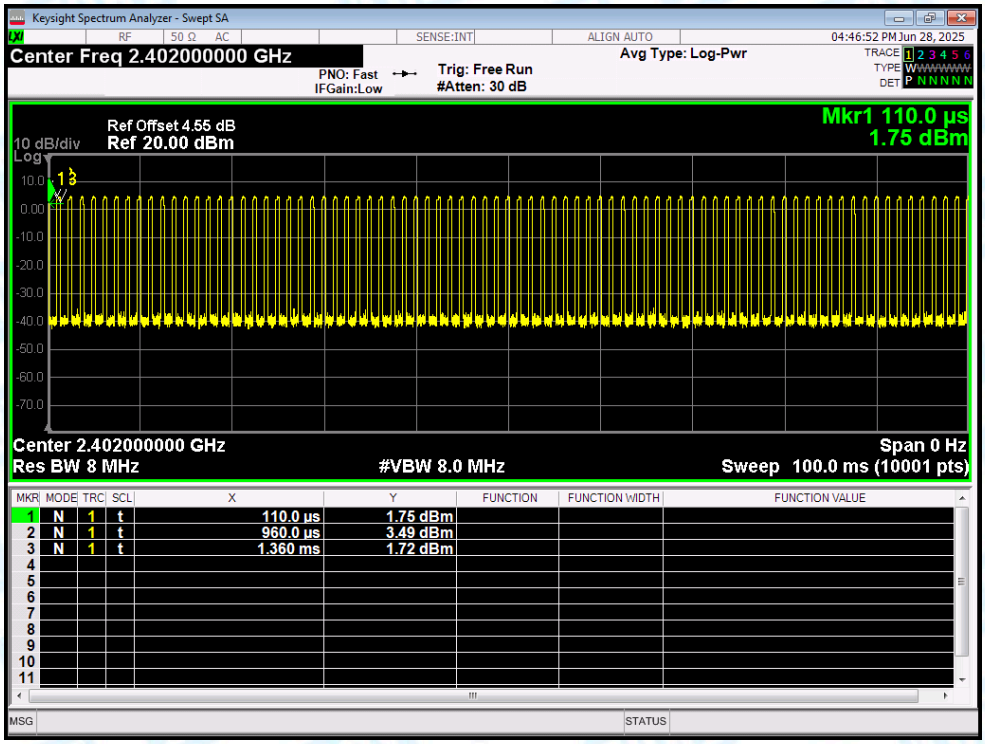
Duty Cycle NVNT 2-DH1 2441MHz Ant1



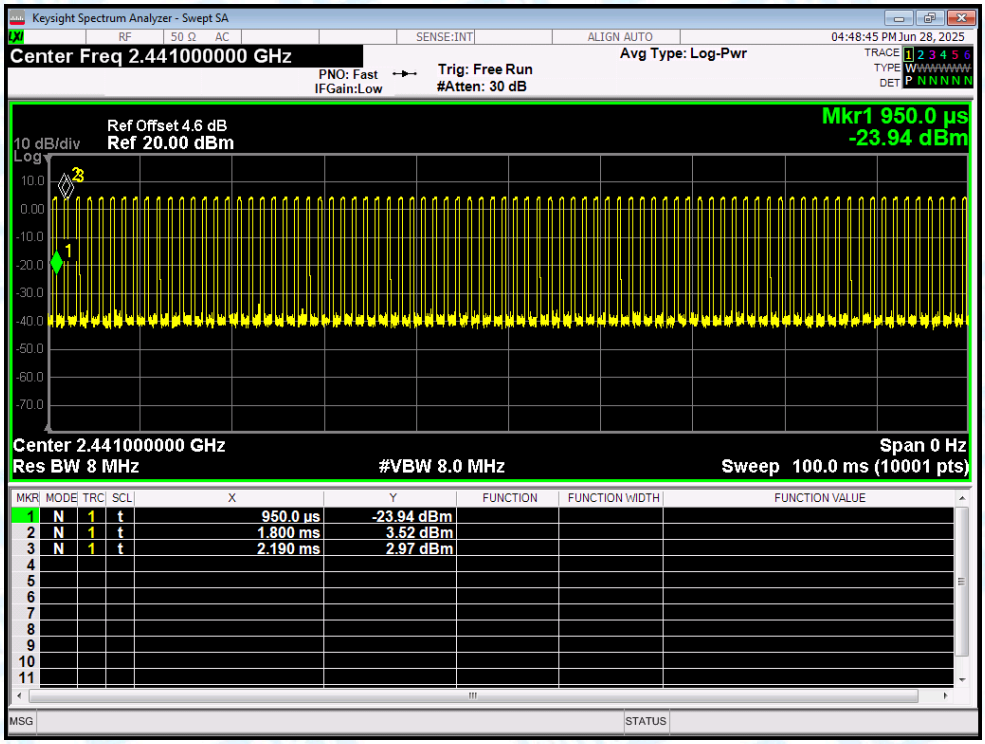
Duty Cycle NVNT 2-DH1 2480MHz Ant1



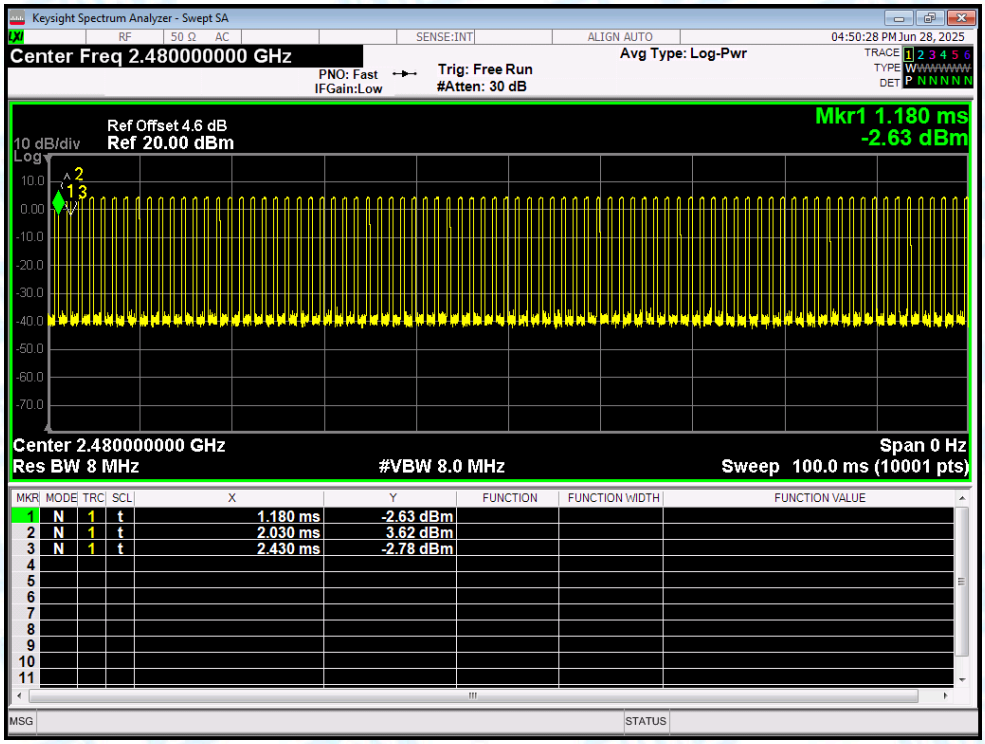
Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



Duty Cycle NVNT 3-DH1 2480MHz Ant1

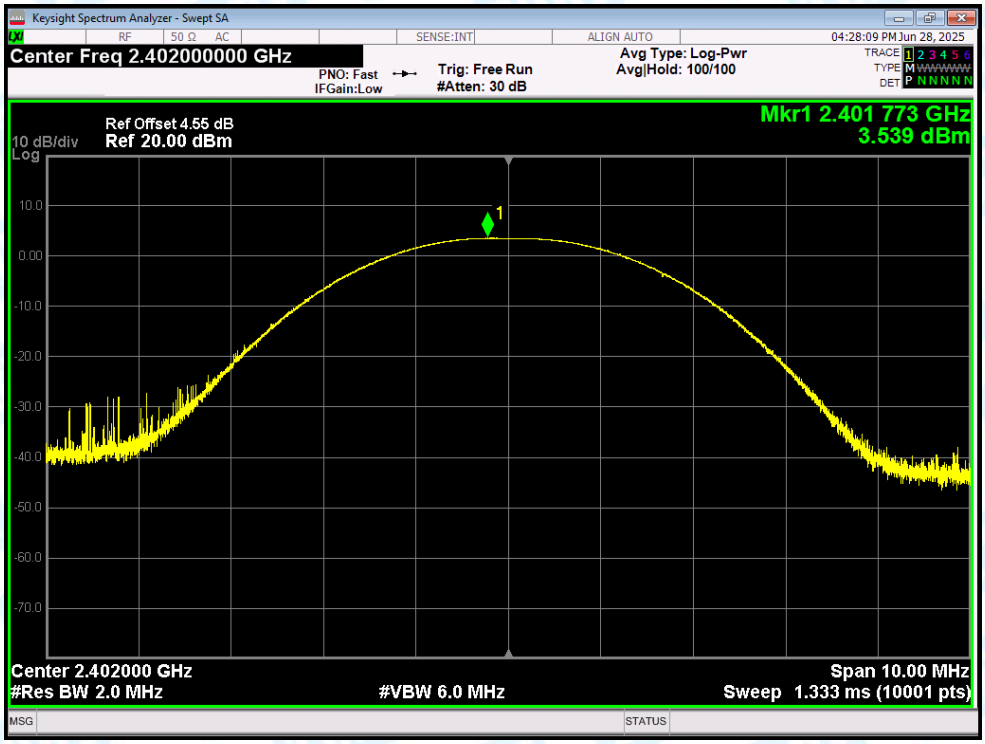


2. Maximum Conducted Output Power

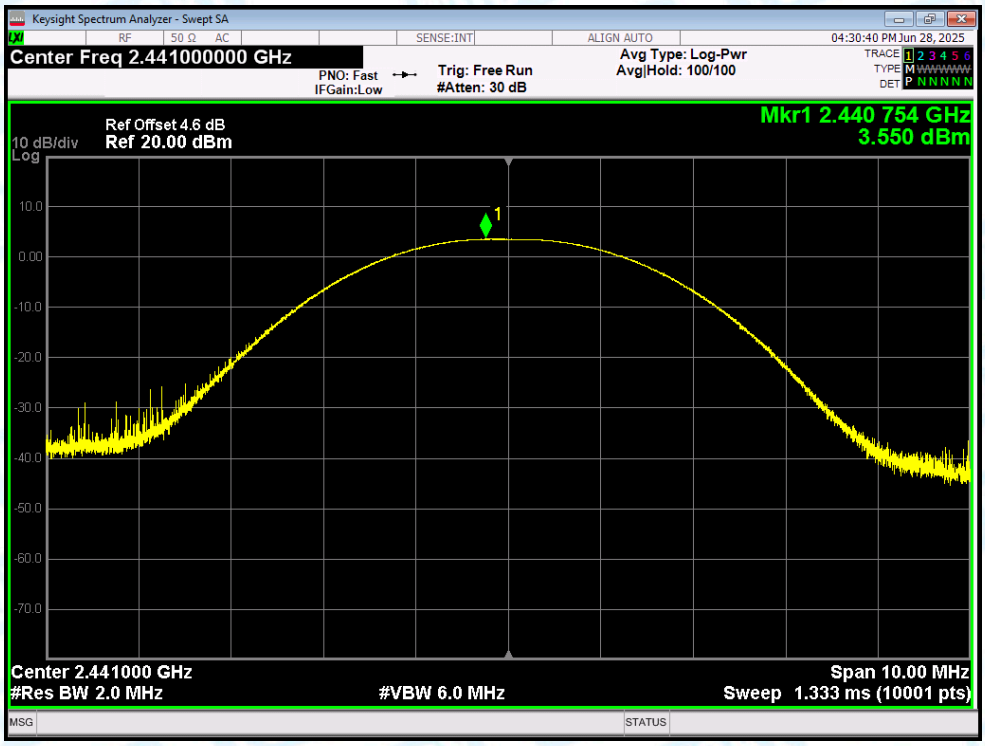
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	3.539	21	Pass
NVNT	1-DH1	2441	Ant1	3.55	21	Pass
NVNT	1-DH1	2480	Ant1	3.663	21	Pass
NVNT	1-DH3	2441	Ant1	3.538	21	Pass
NVNT	1-DH5	2441	Ant1	3.518	21	Pass
NVNT	2-DH1	2402	Ant1	4.214	21	Pass
NVNT	2-DH1	2441	Ant1	4.124	21	Pass
NVNT	2-DH1	2480	Ant1	4.082	21	Pass
NVNT	2-DH3	2441	Ant1	4.331	21	Pass
NVNT	2-DH5	2441	Ant1	4.077	21	Pass
NVNT	3-DH1	2402	Ant1	4.637	21	Pass
NVNT	3-DH1	2441	Ant1	4.395	21	Pass
NVNT	3-DH1	2480	Ant1	4.35	21	Pass
NVNT	3-DH3	2441	Ant1	4.315	21	Pass
NVNT	3-DH5	2441	Ant1	4.338	21	Pass

Test Graphs

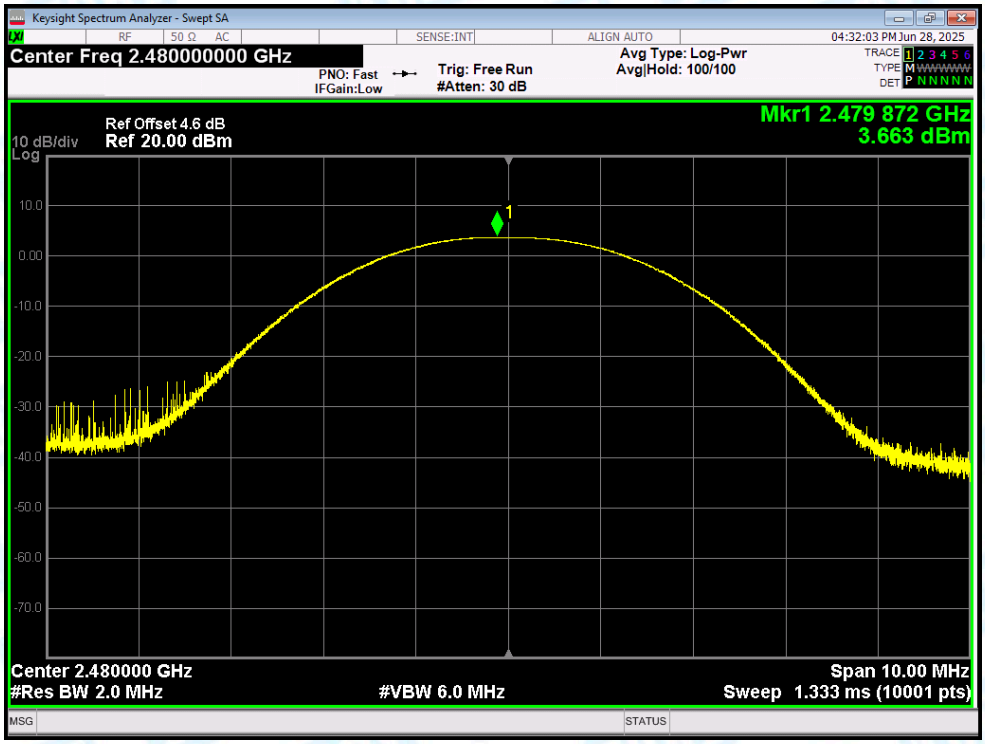
Power NVNT 1-DH1 2402MHz Ant1



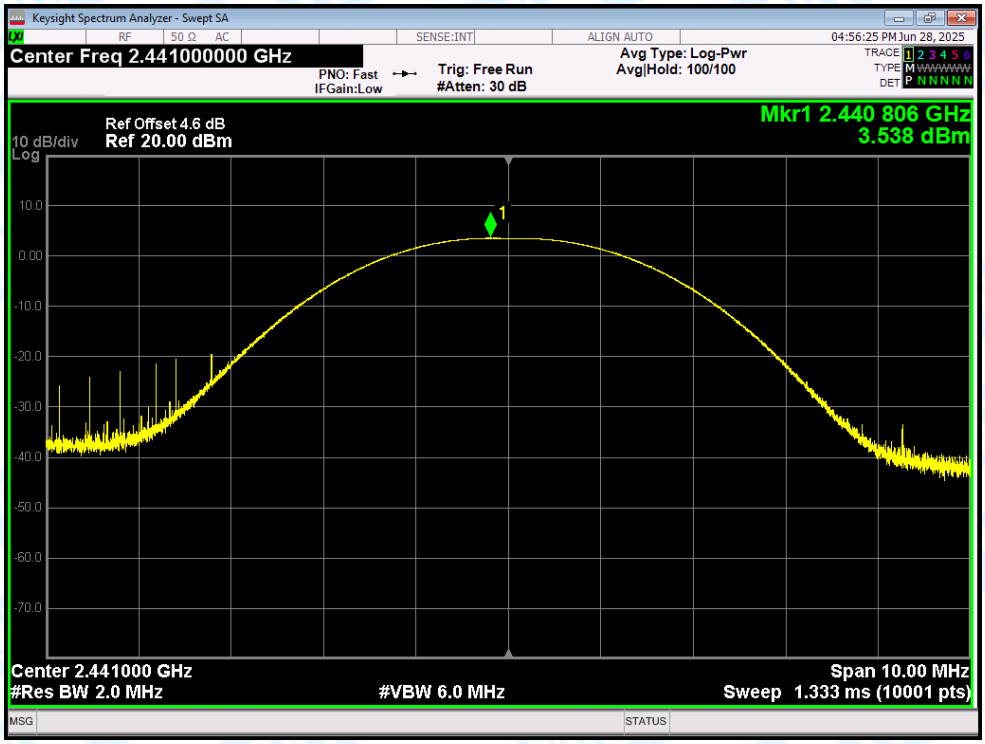
Power NVNT 1-DH1 2441MHz Ant1



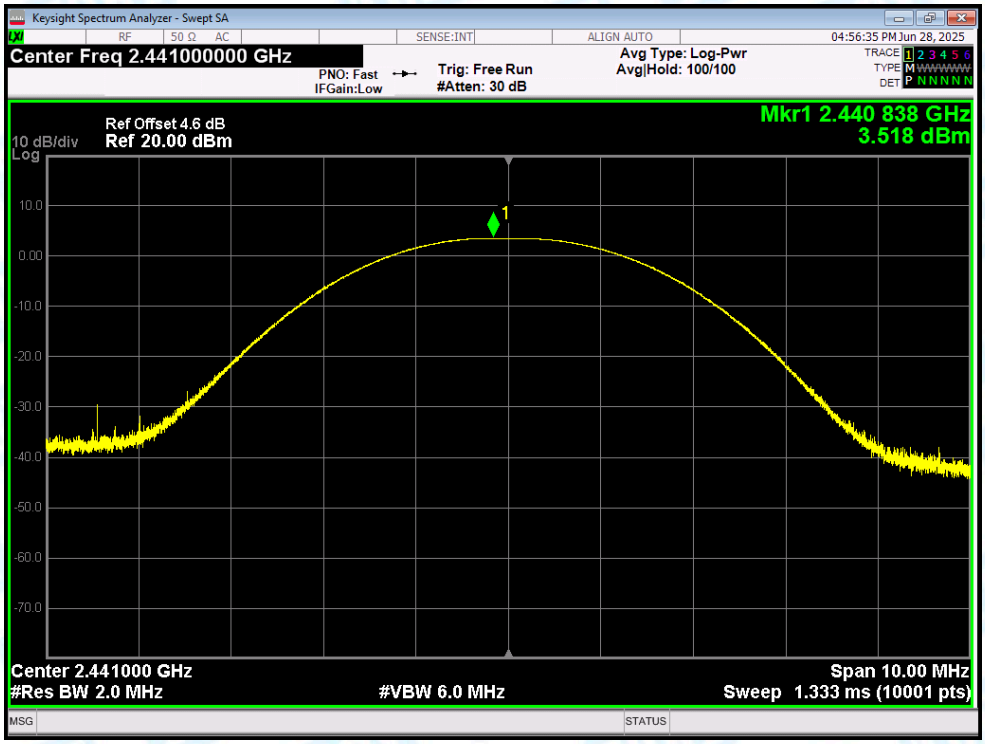
Power NVNT 1-DH1 2480MHz Ant1



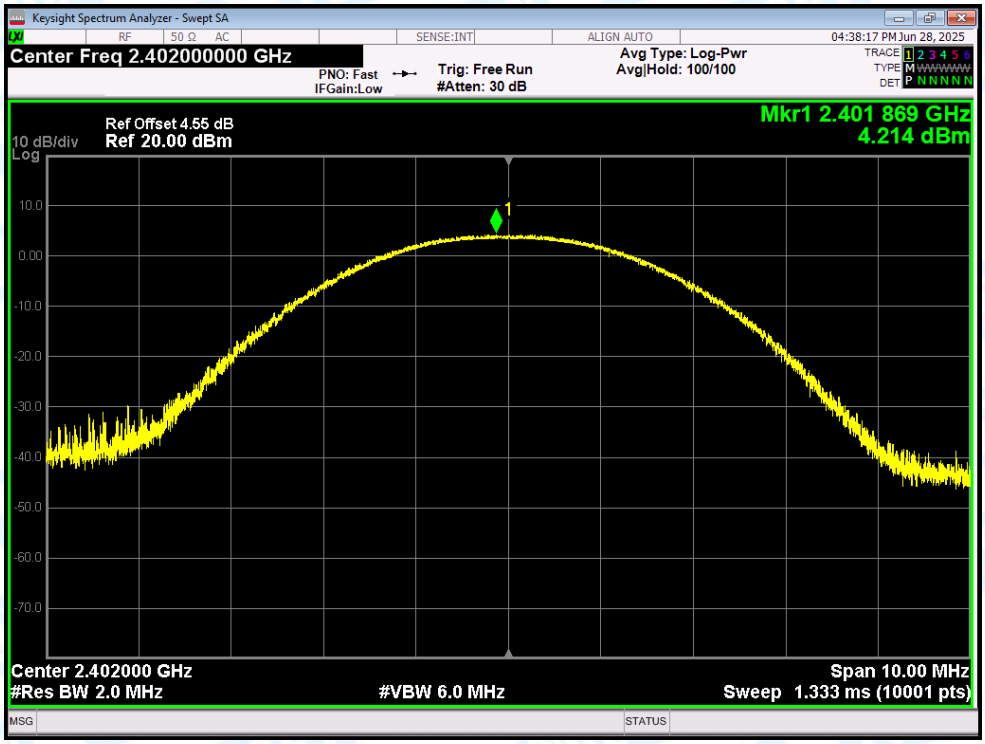
Power NVNT 1-DH3 2441MHz Ant1



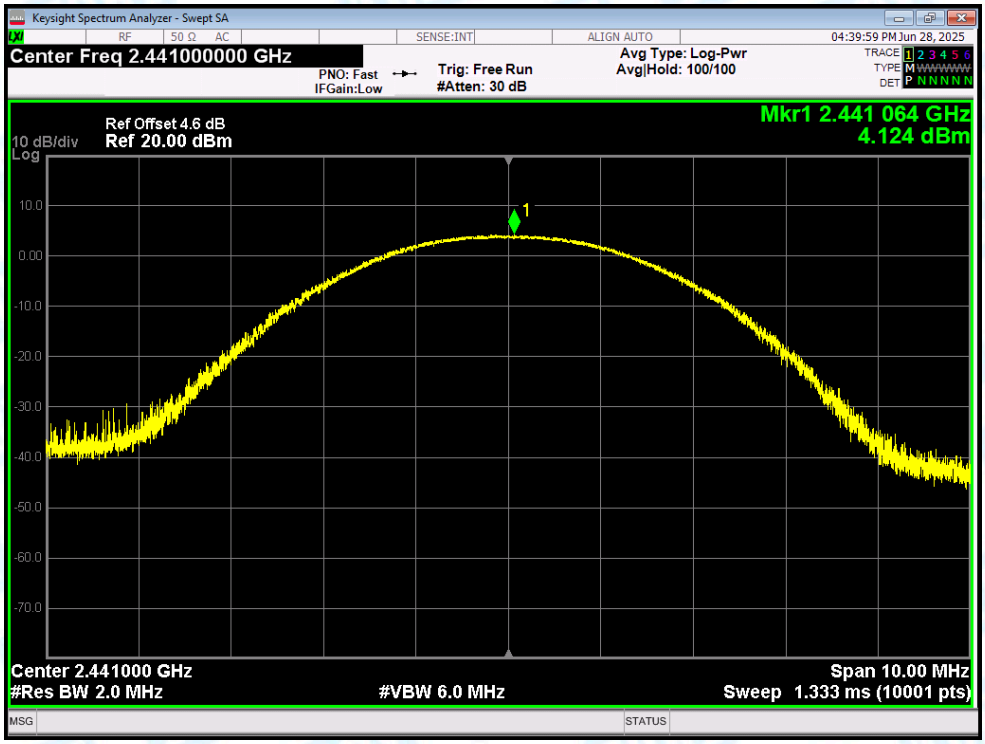
Power NVNT 1-DH5 2441MHz Ant1



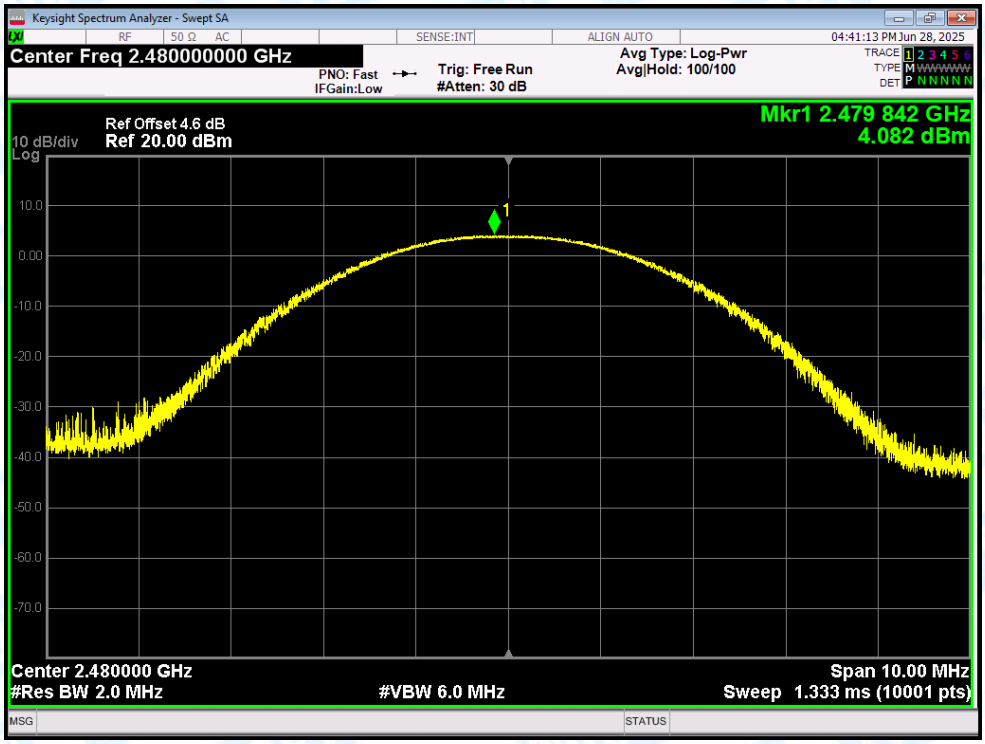
Power NVNT 2-DH1 2402MHz Ant1



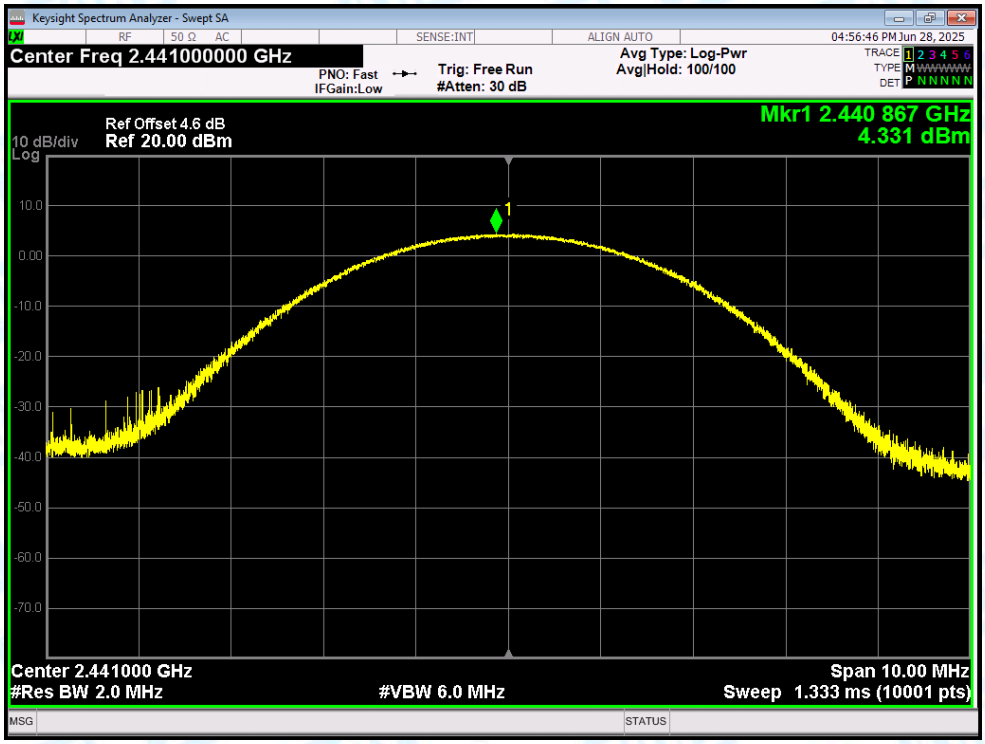
Power NVNT 2-DH1 2441MHz Ant1



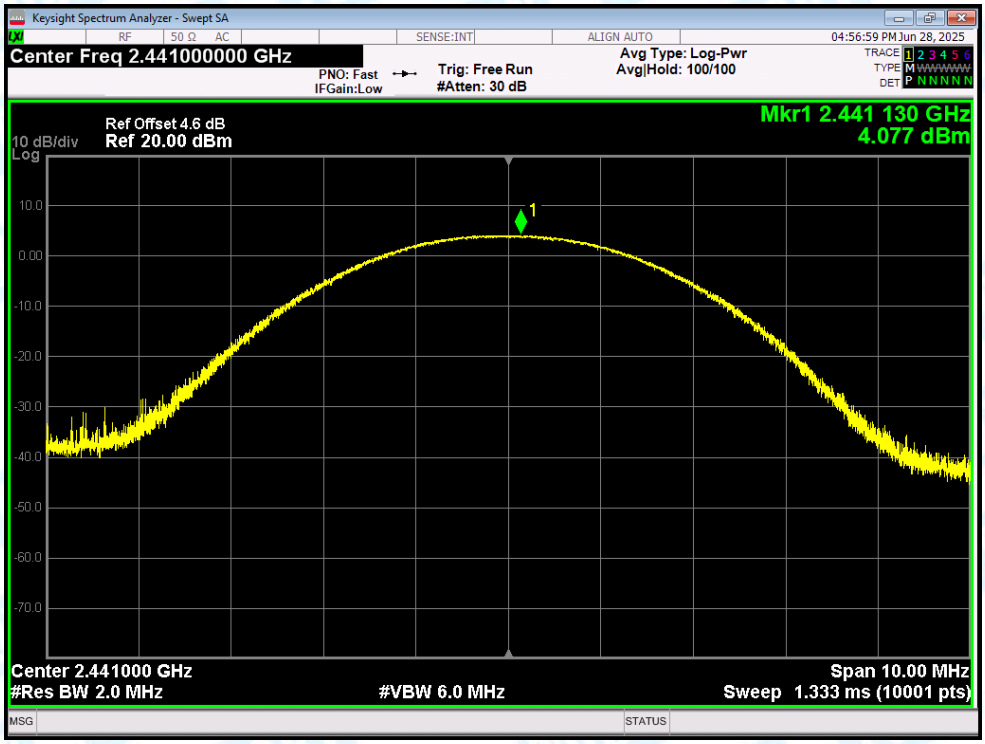
Power NVNT 2-DH1 2480MHz Ant1



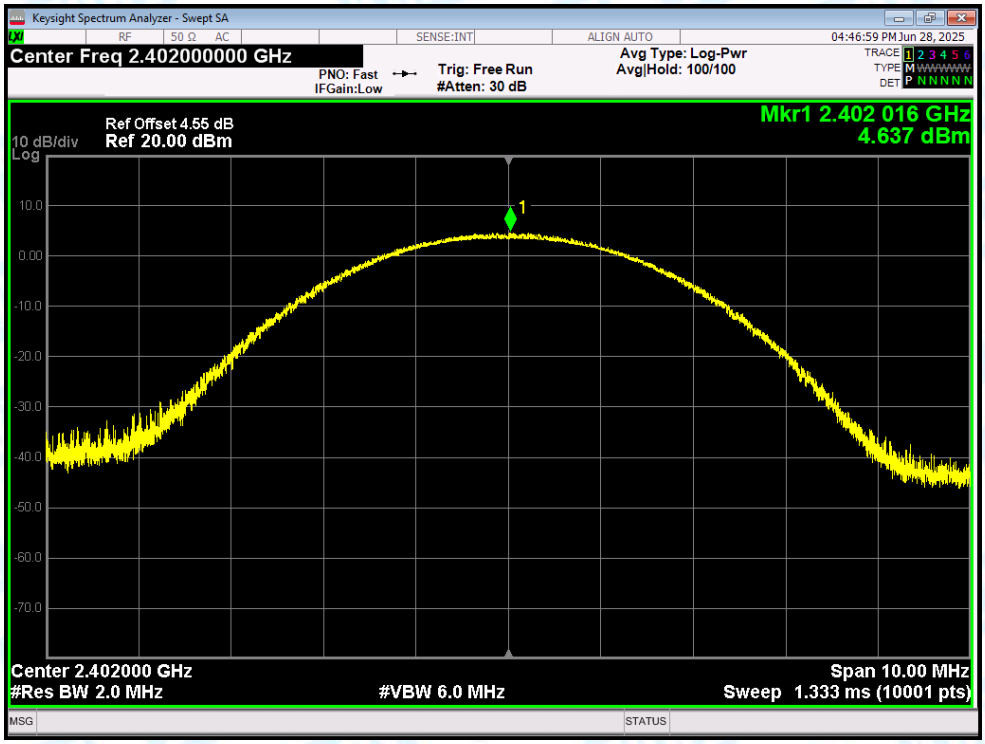
Power NVNT 2-DH3 2441MHz Ant1



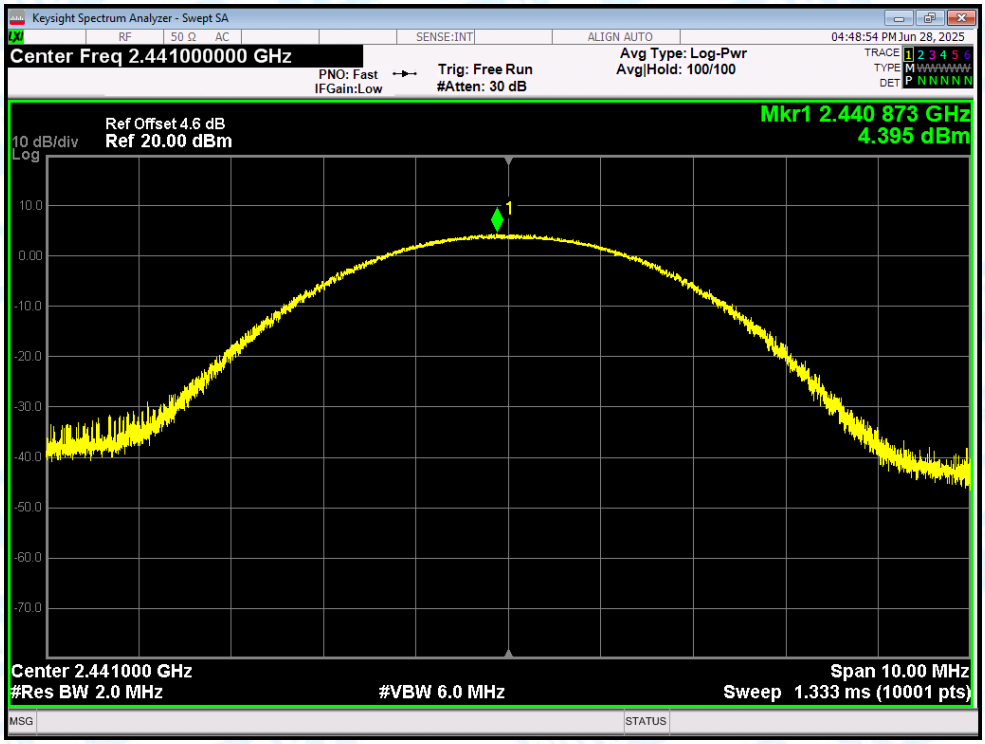
Power NVNT 2-DH5 2441MHz Ant1



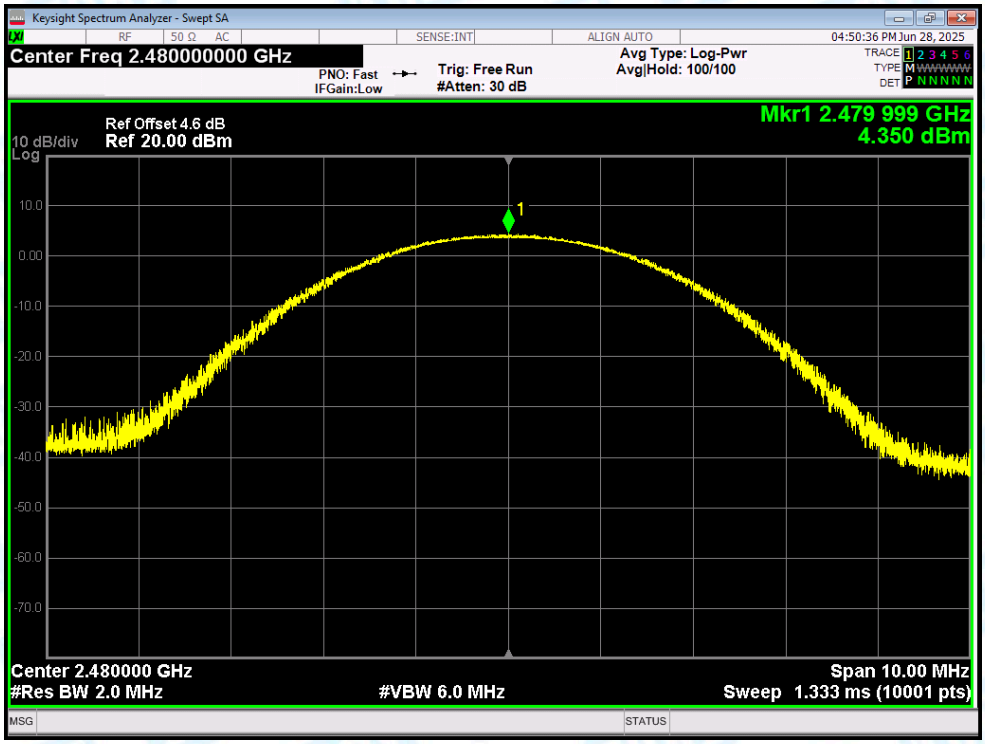
Power NVNT 3-DH1 2402MHz Ant1



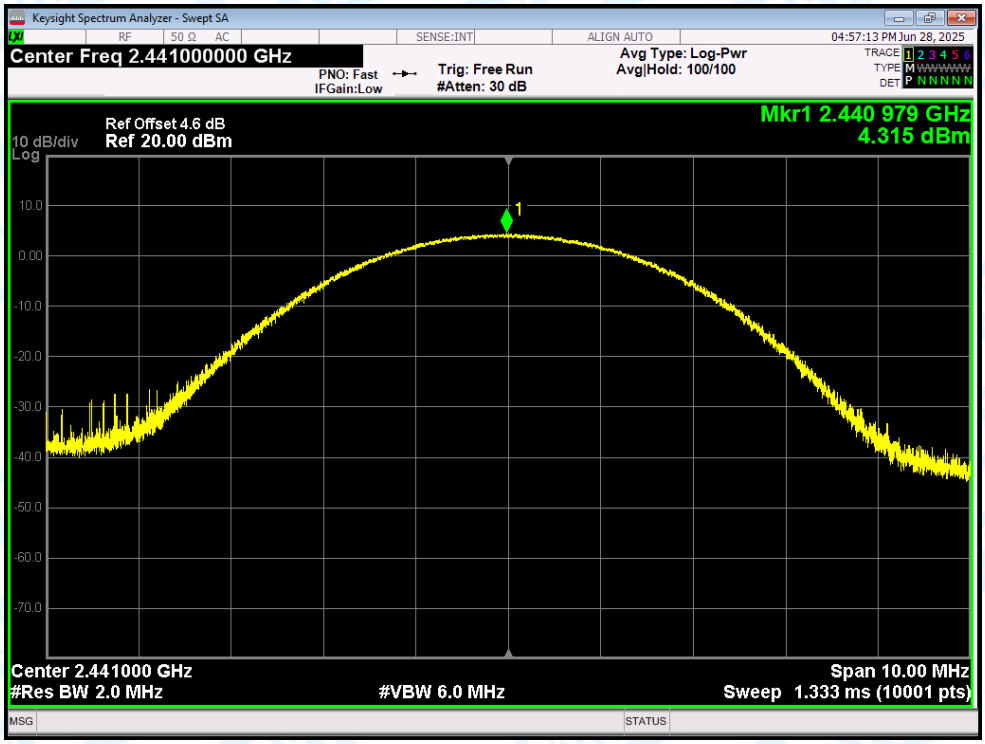
Power NVNT 3-DH1 2441MHz Ant1



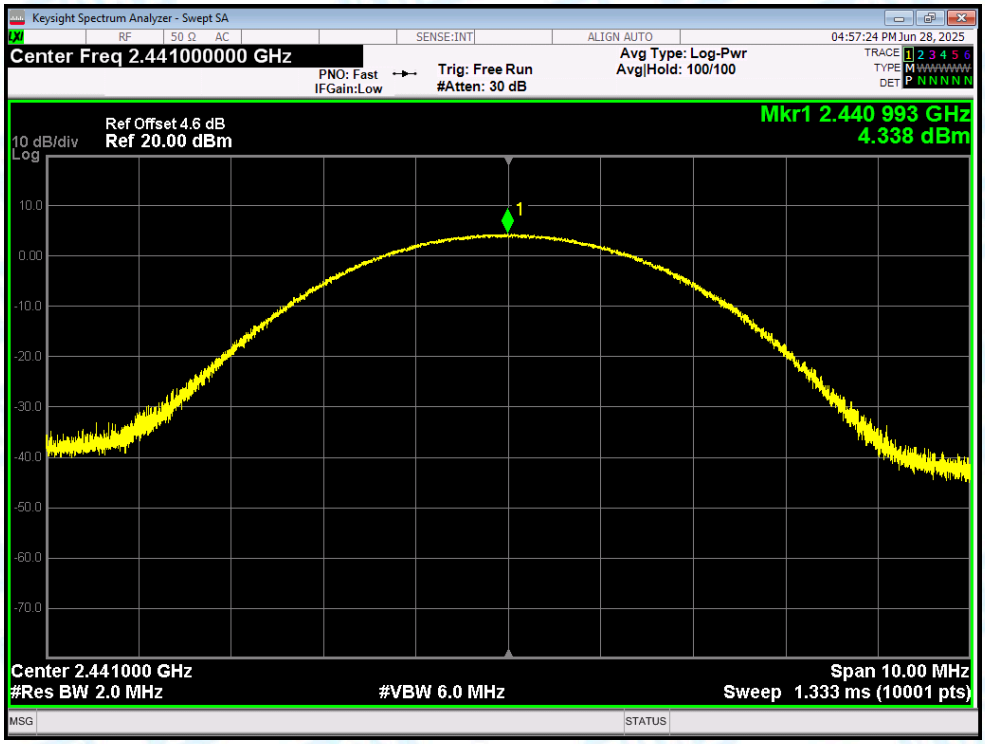
Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1

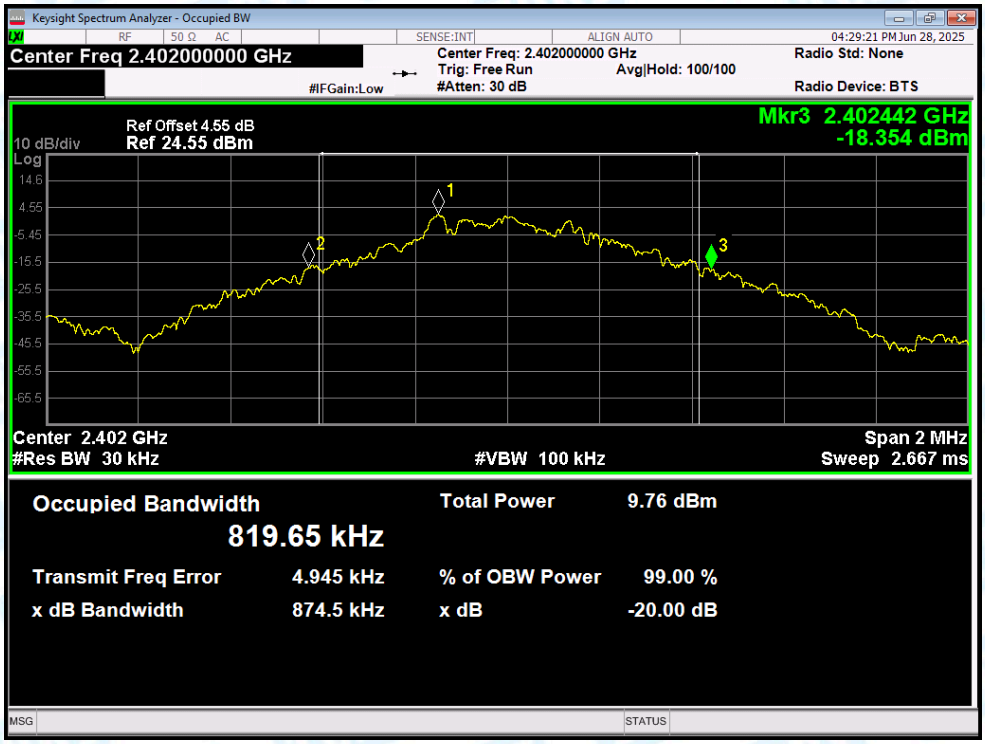


3. -20dB Bandwidth

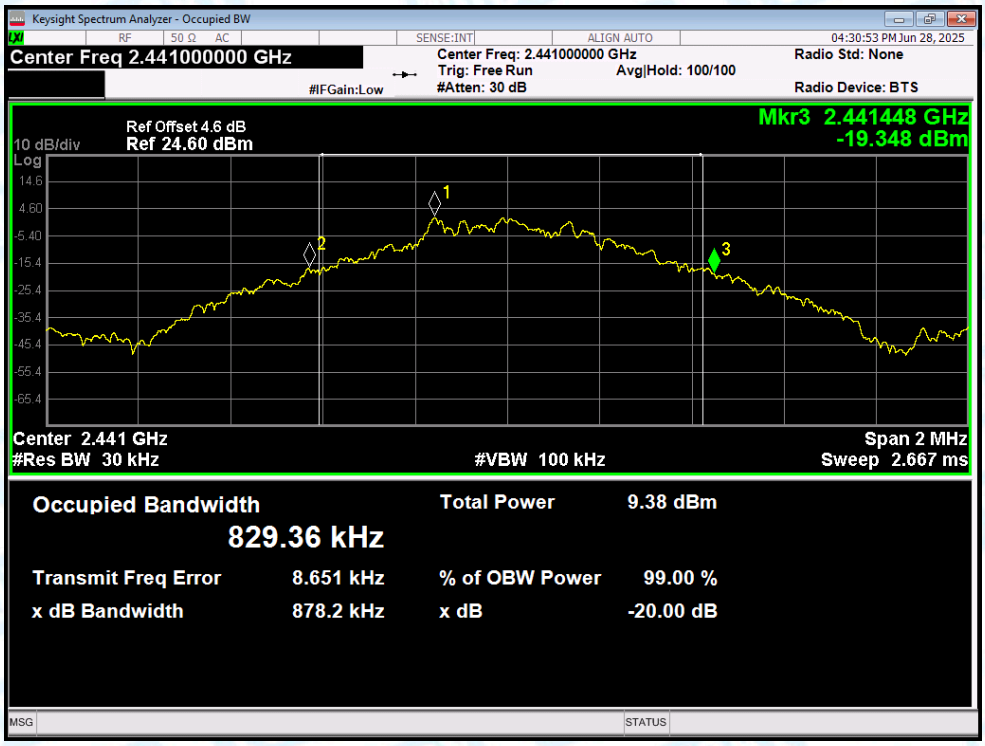
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.87	0	Pass
NVNT	1-DH1	2441	Ant1	0.88	0	Pass
NVNT	1-DH1	2480	Ant1	0.87	0	Pass
NVNT	2-DH1	2402	Ant1	1.23	0	Pass
NVNT	2-DH1	2441	Ant1	1.26	0	Pass
NVNT	2-DH1	2480	Ant1	1.22	0	Pass
NVNT	3-DH1	2402	Ant1	1.24	0	Pass
NVNT	3-DH1	2441	Ant1	1.24	0	Pass
NVNT	3-DH1	2480	Ant1	1.24	0	Pass

Test Graphs

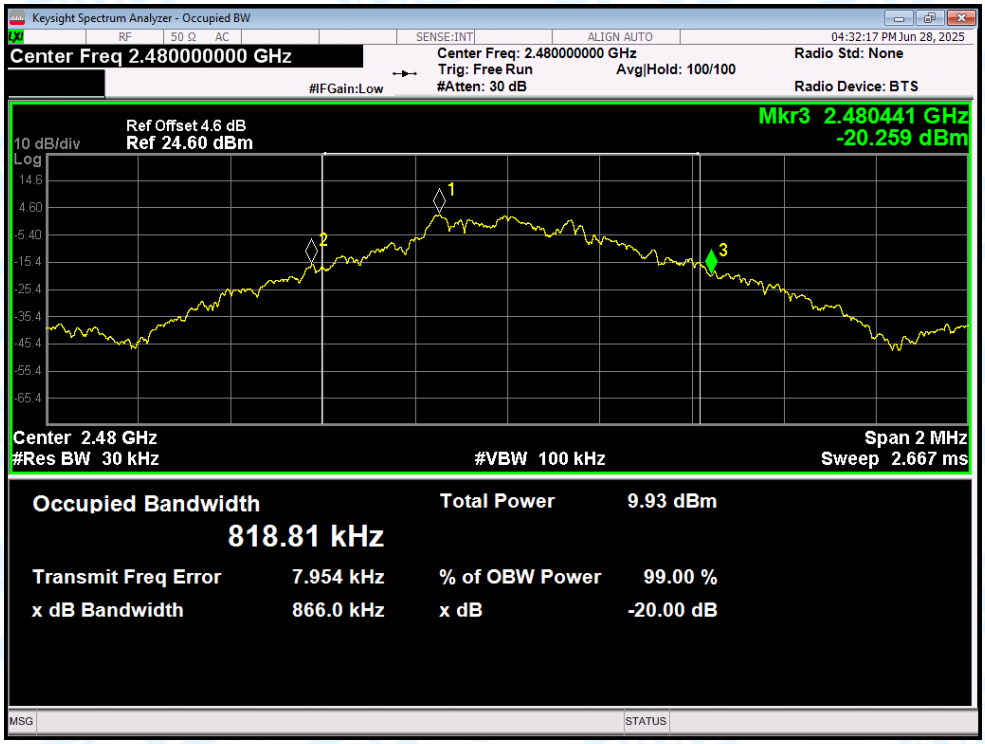
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



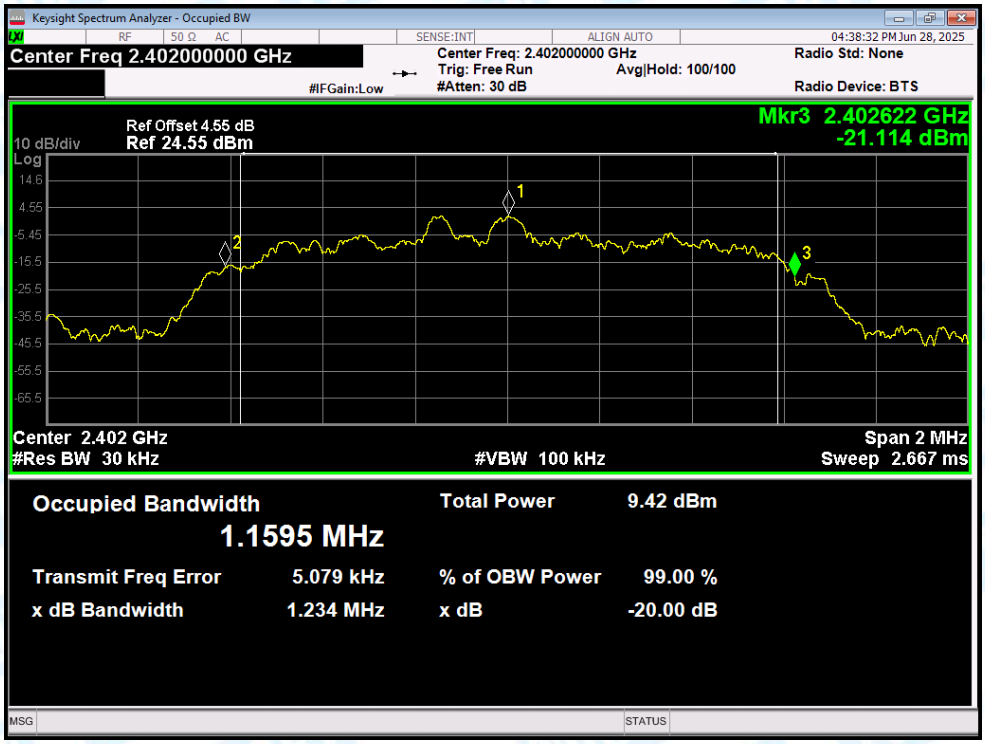
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



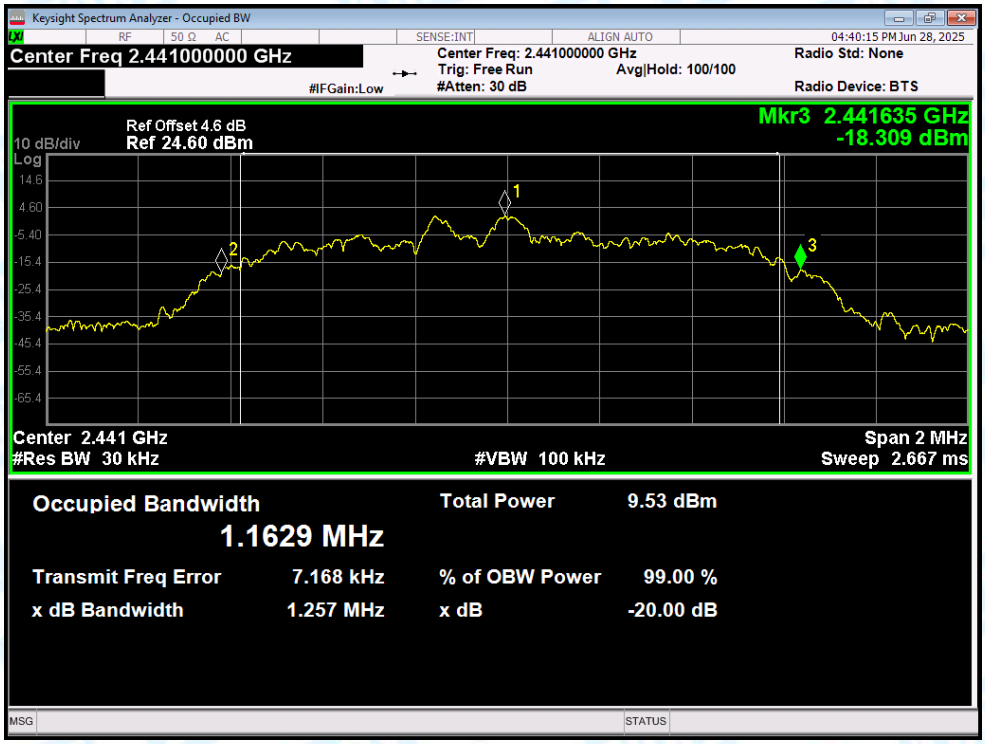
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



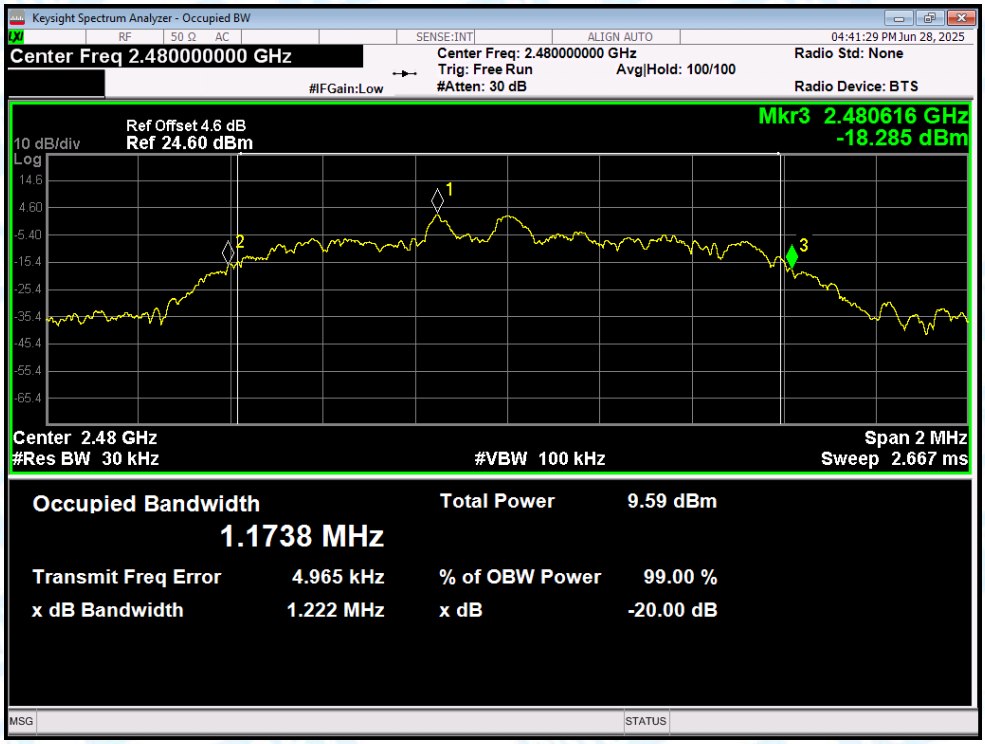
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



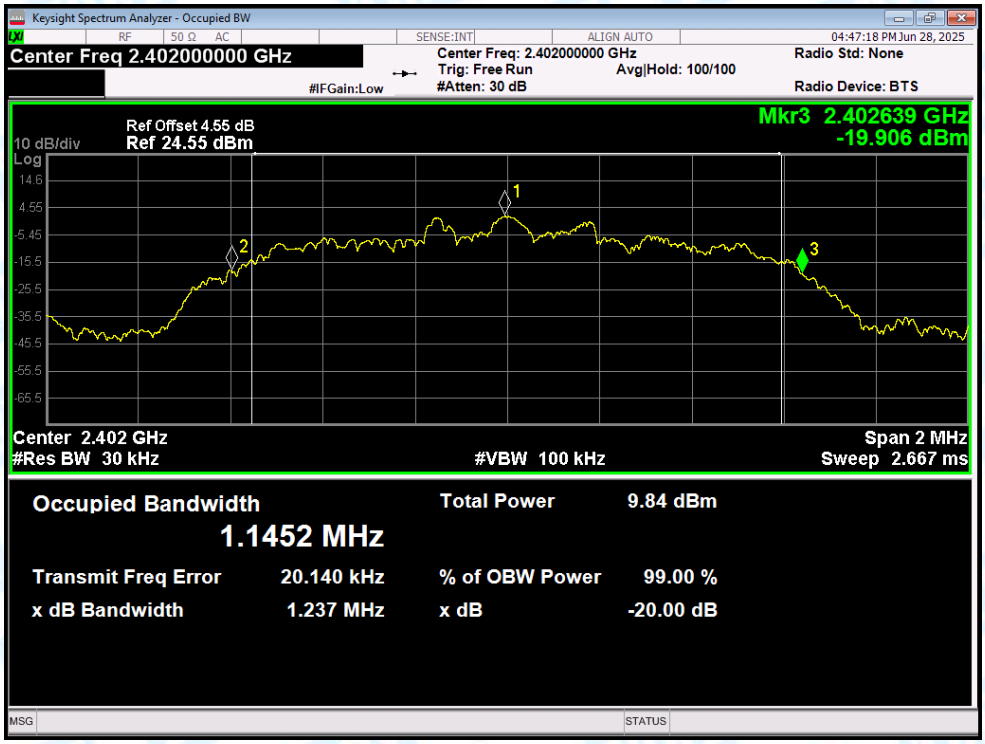
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



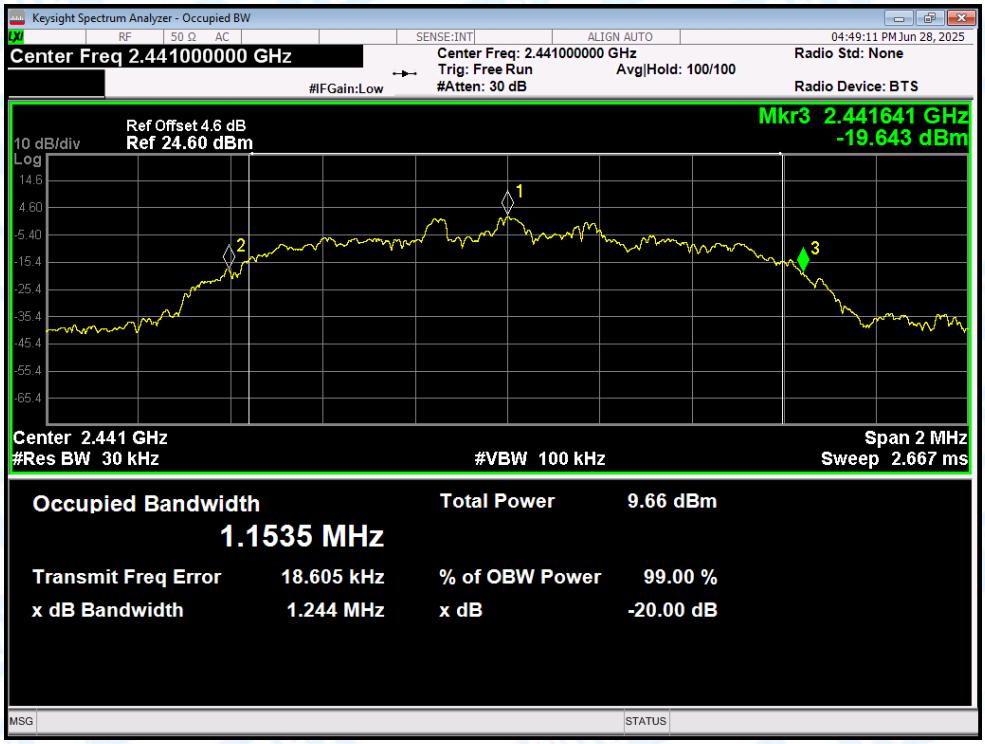
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



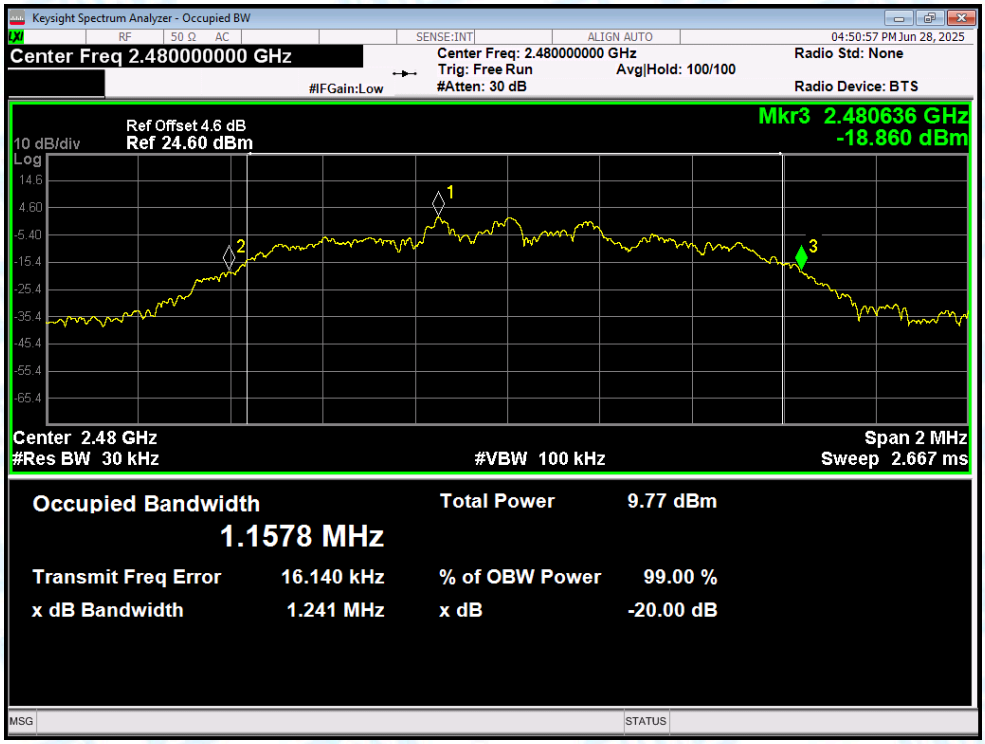
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1

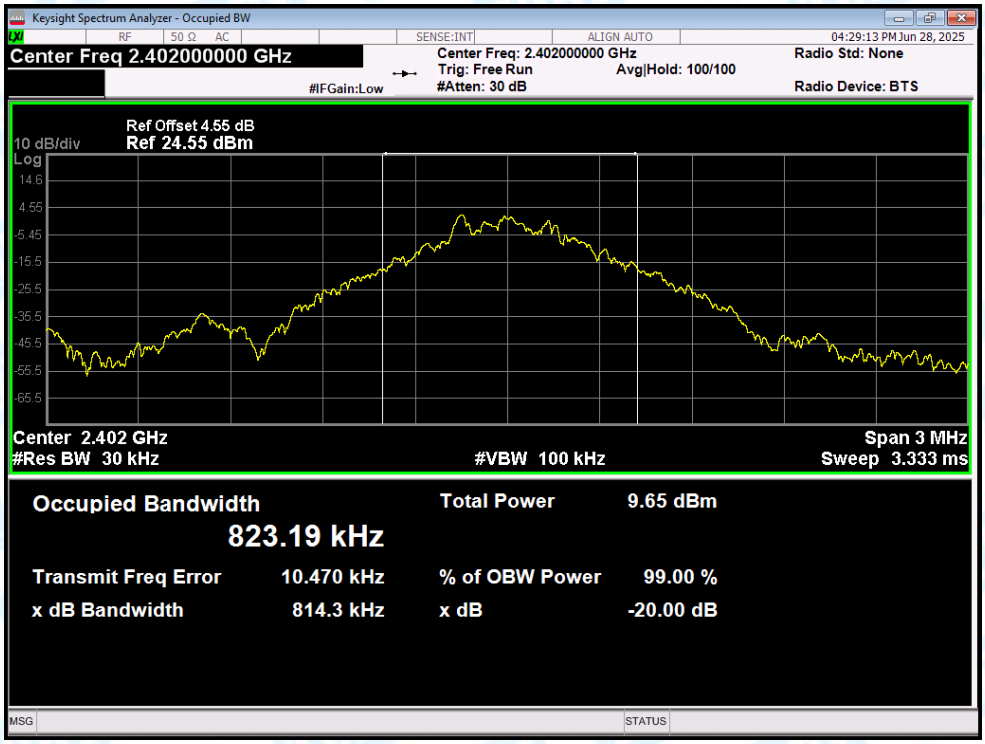


4. Occupied Channel Bandwidth

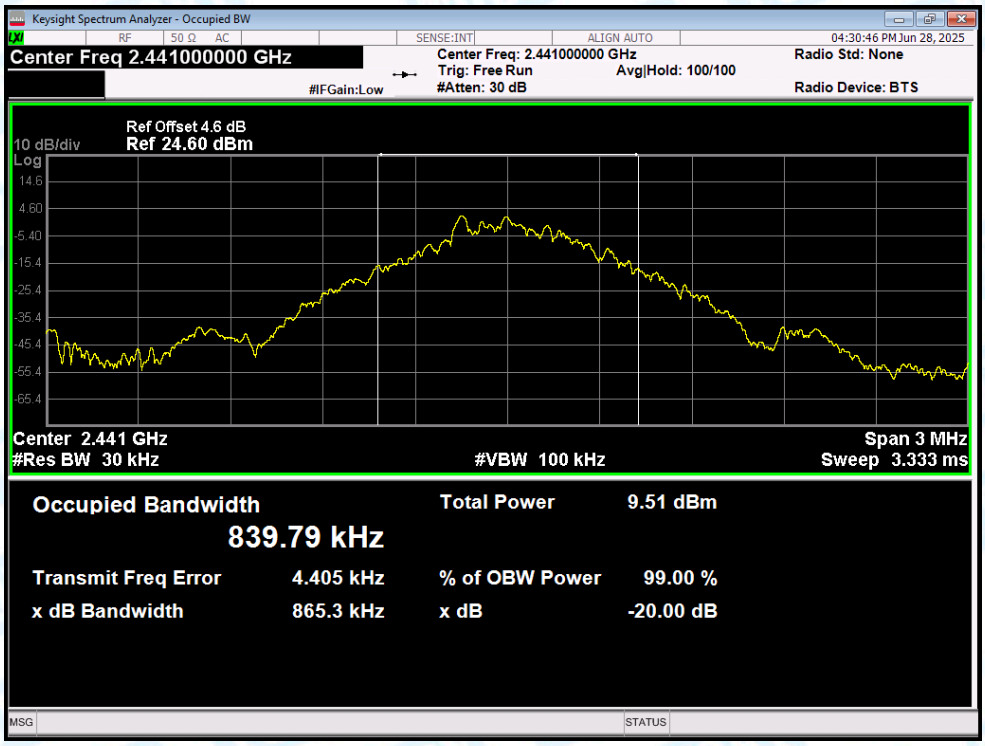
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.823
NVNT	1-DH1	2441	Ant1	0.84
NVNT	1-DH1	2480	Ant1	0.828
NVNT	2-DH1	2402	Ant1	1.171
NVNT	2-DH1	2441	Ant1	1.16
NVNT	2-DH1	2480	Ant1	1.196
NVNT	3-DH1	2402	Ant1	1.149
NVNT	3-DH1	2441	Ant1	1.167
NVNT	3-DH1	2480	Ant1	1.172

Test Graphs

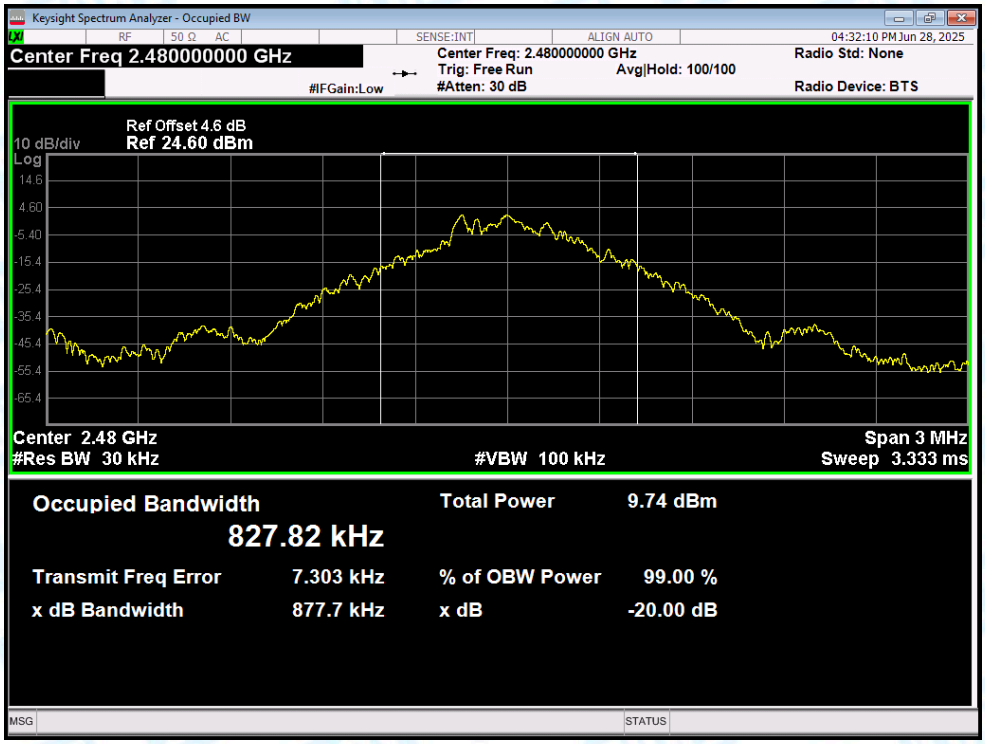
OBW NVNT 1-DH1 2402MHz Ant1



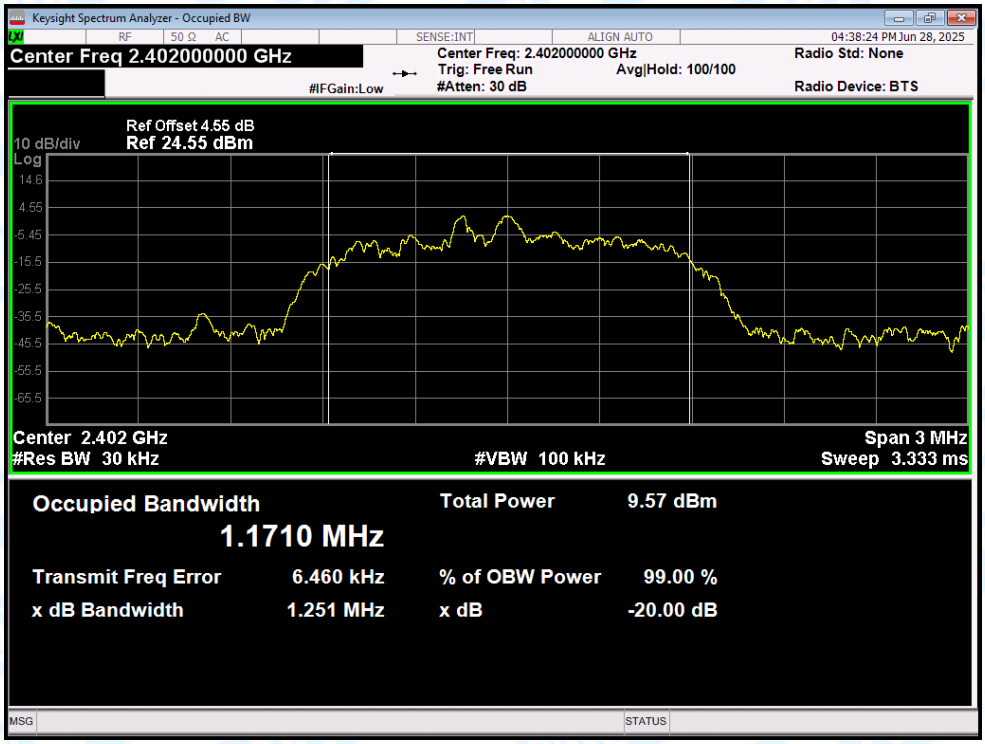
OBW NVNT 1-DH1 2441MHz Ant1



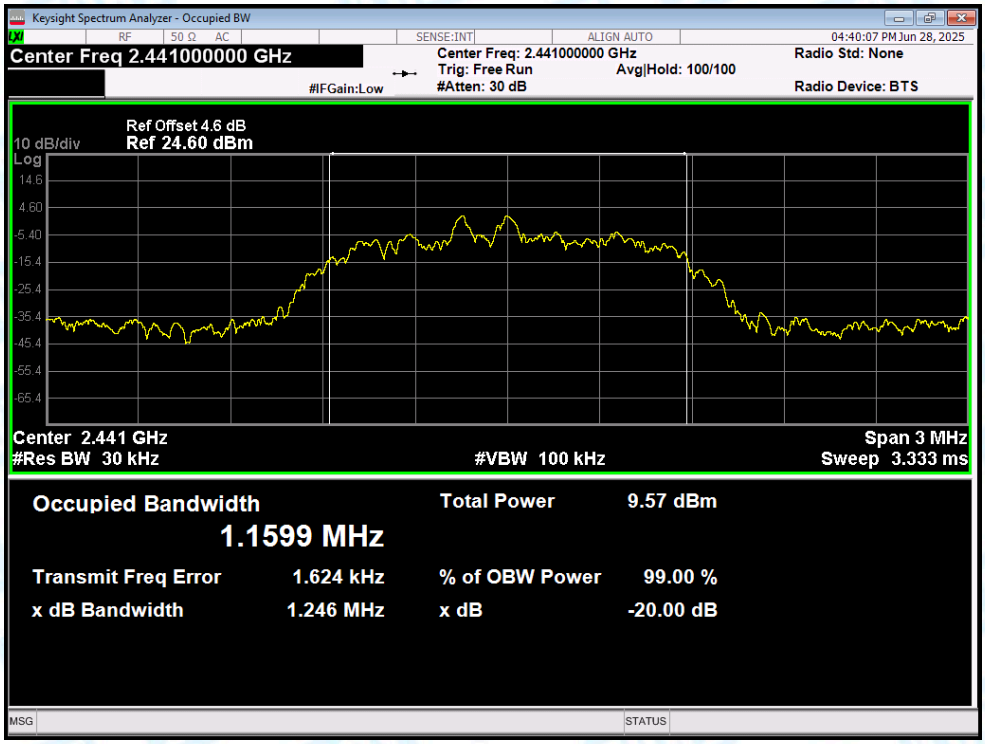
OBW NVNT 1-DH1 2480MHz Ant1



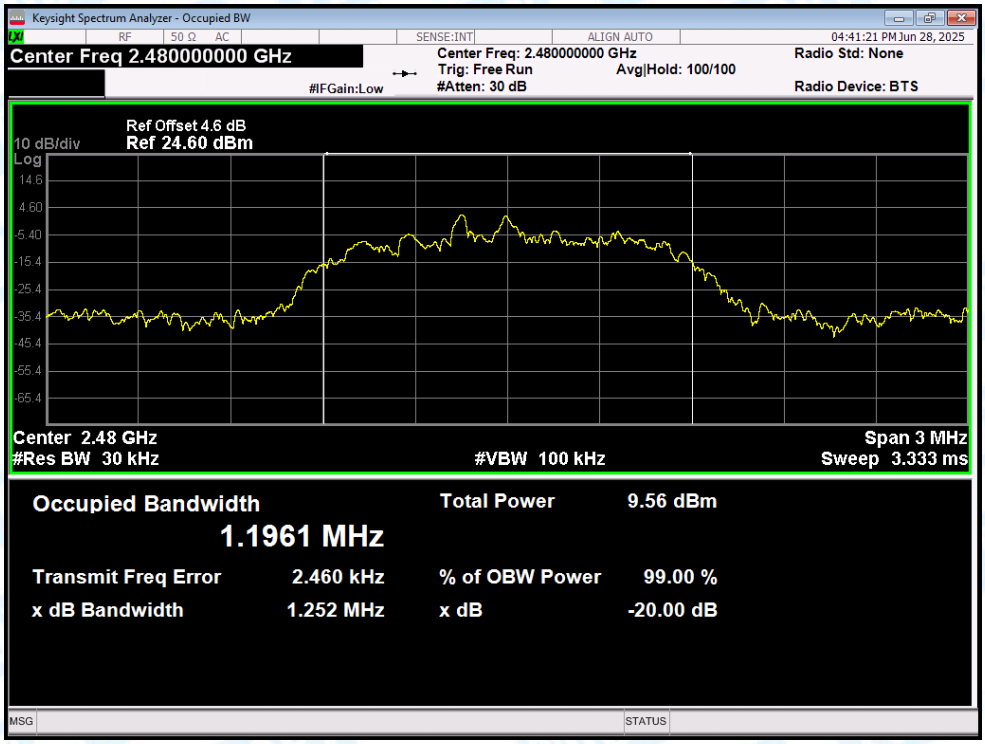
OBW NVNT 2-DH1 2402MHz Ant1



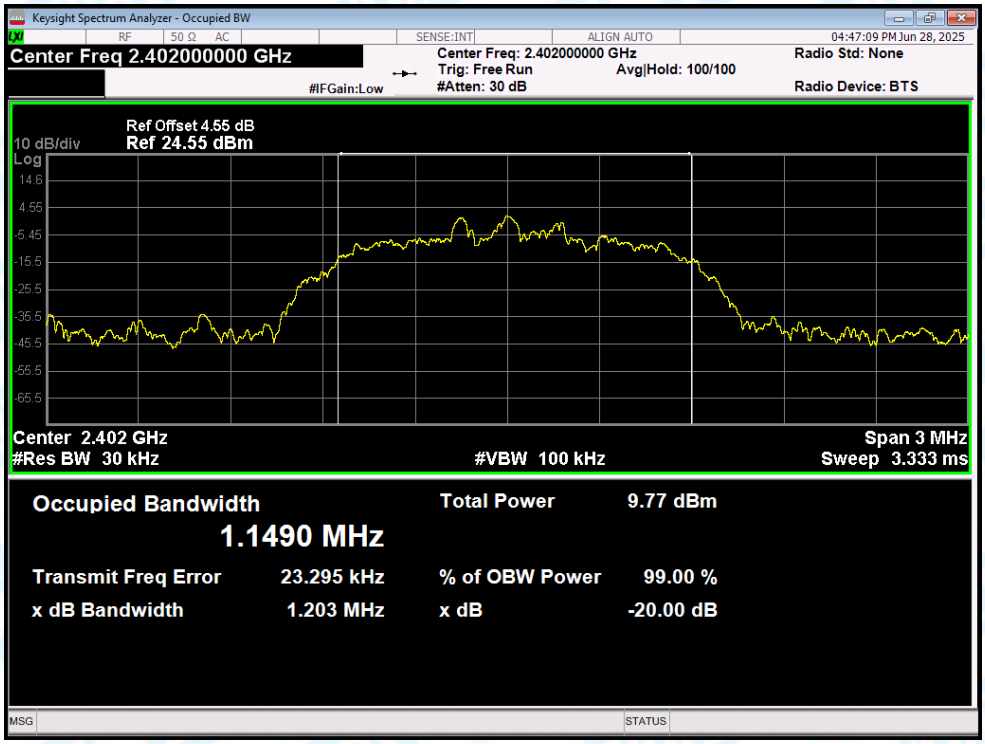
OBW NVNT 2-DH1 2441MHz Ant1



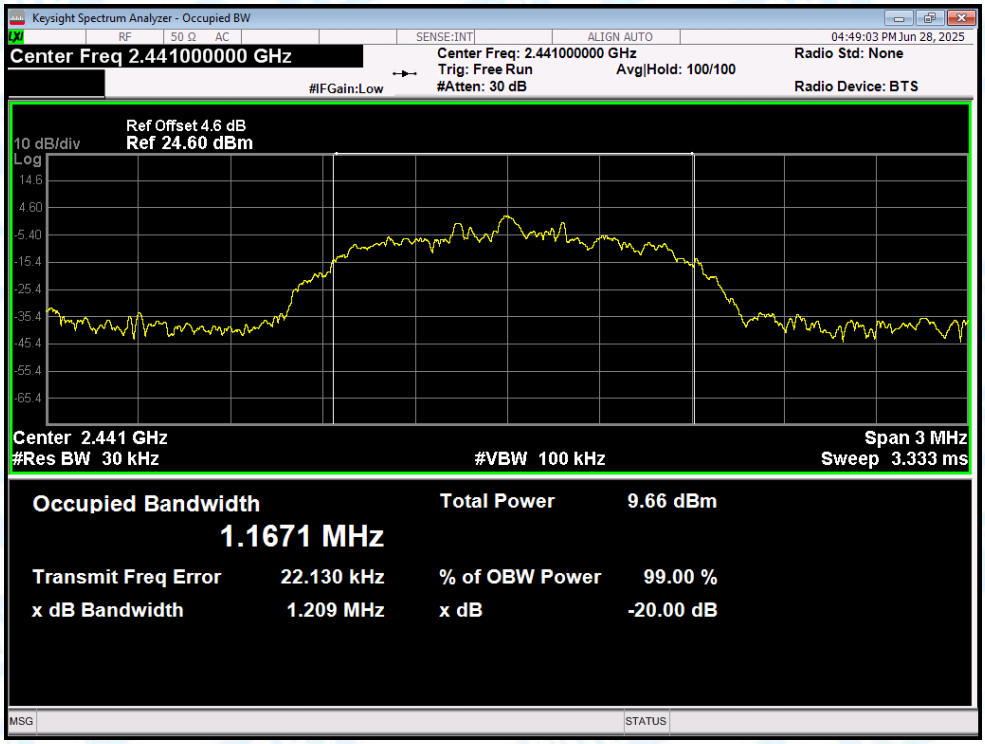
OBW NVNT 2-DH1 2480MHz Ant1



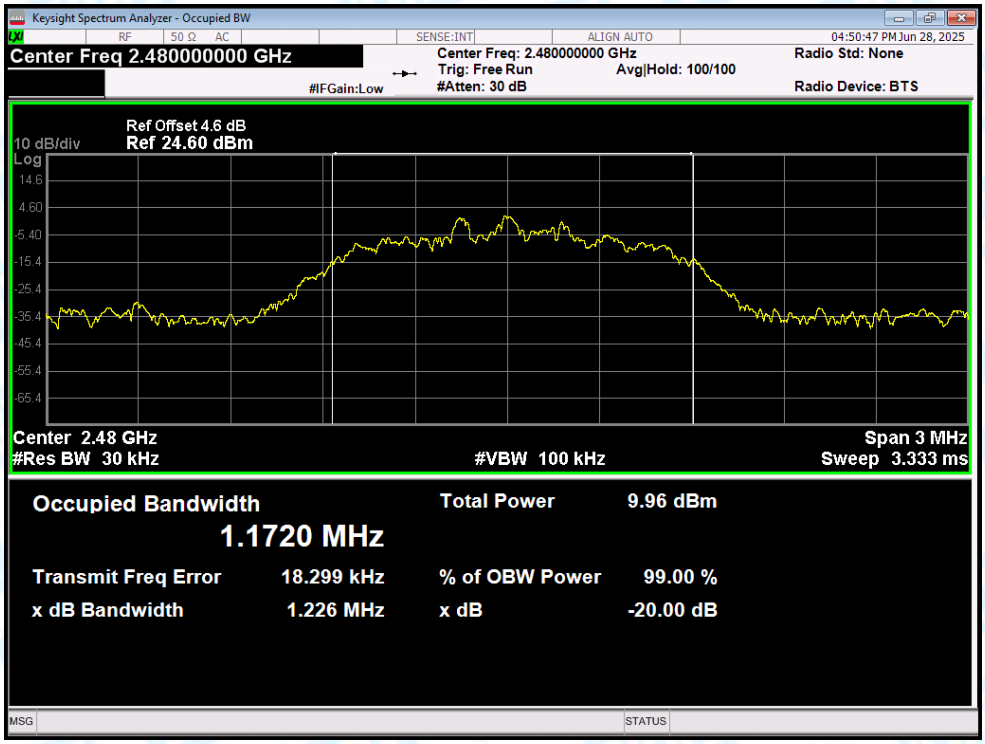
OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



OBW NVNT 3-DH1 2480MHz Ant1

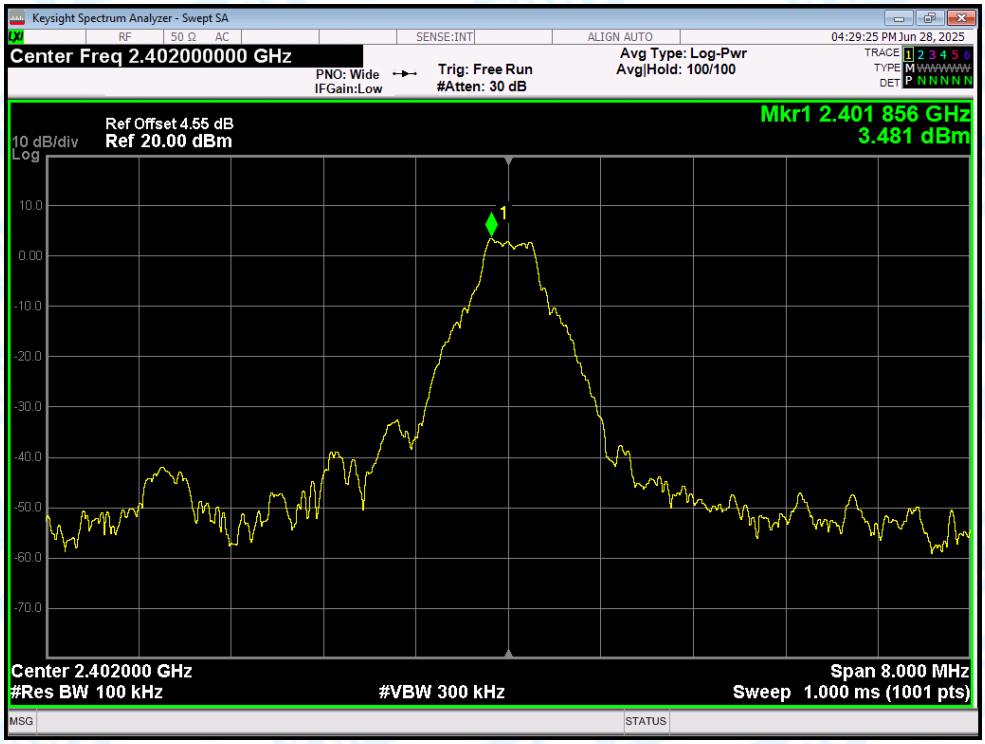


5. Band Edge

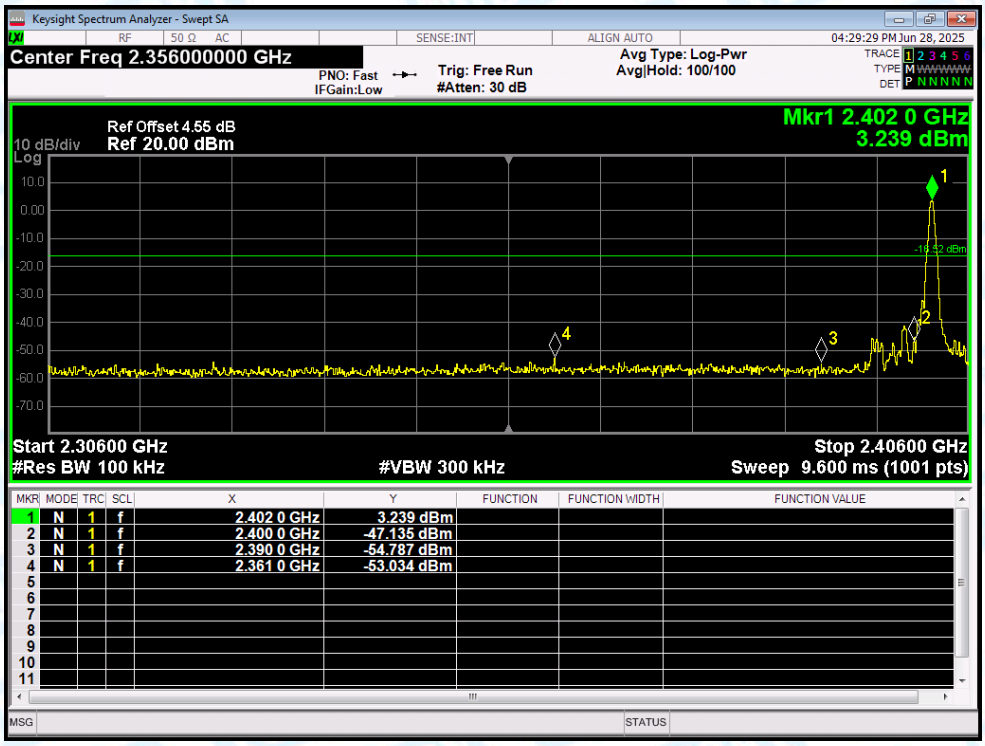
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-56.51	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-49.89	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-58.16	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-52.96	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-57.23	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-48.36	-20	Pass

Test Graphs

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

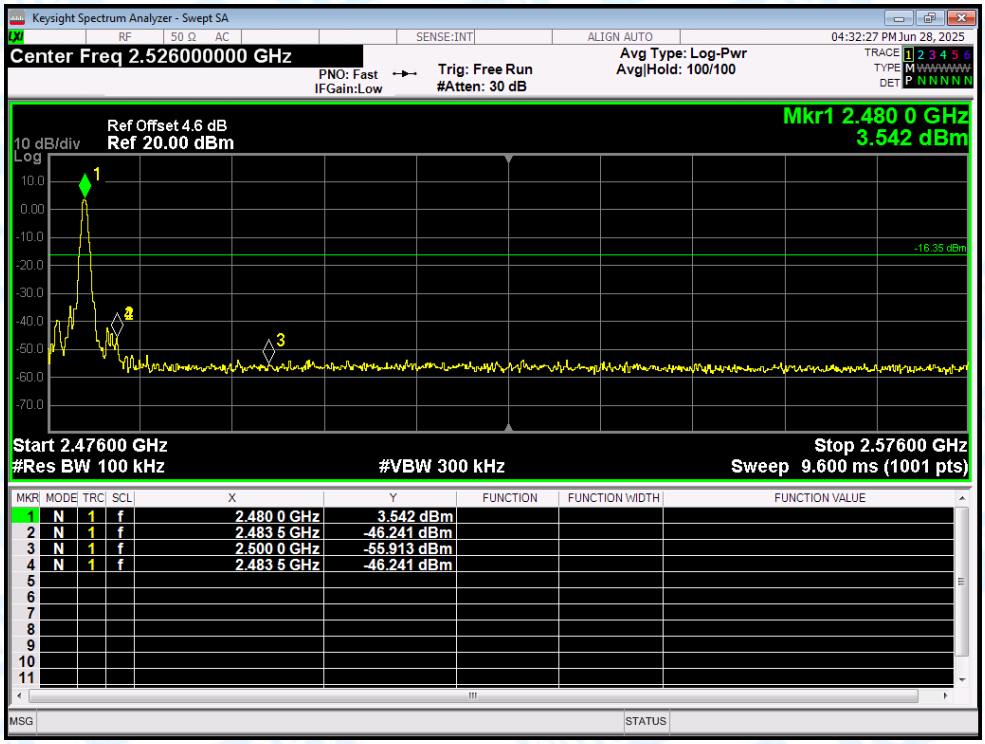


Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



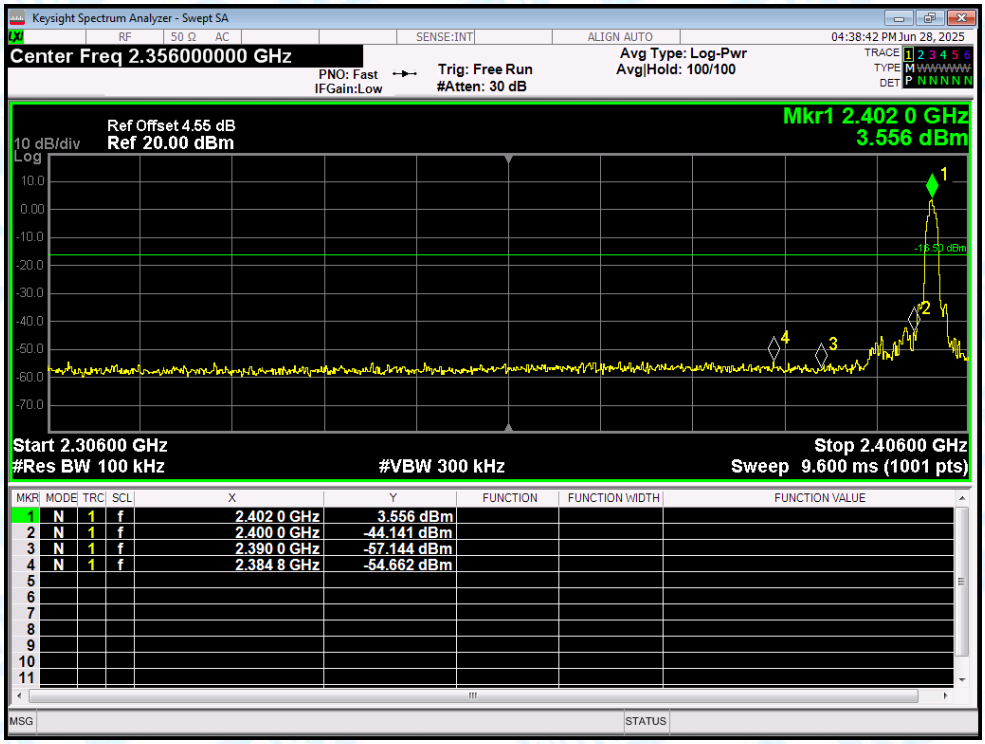
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref

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



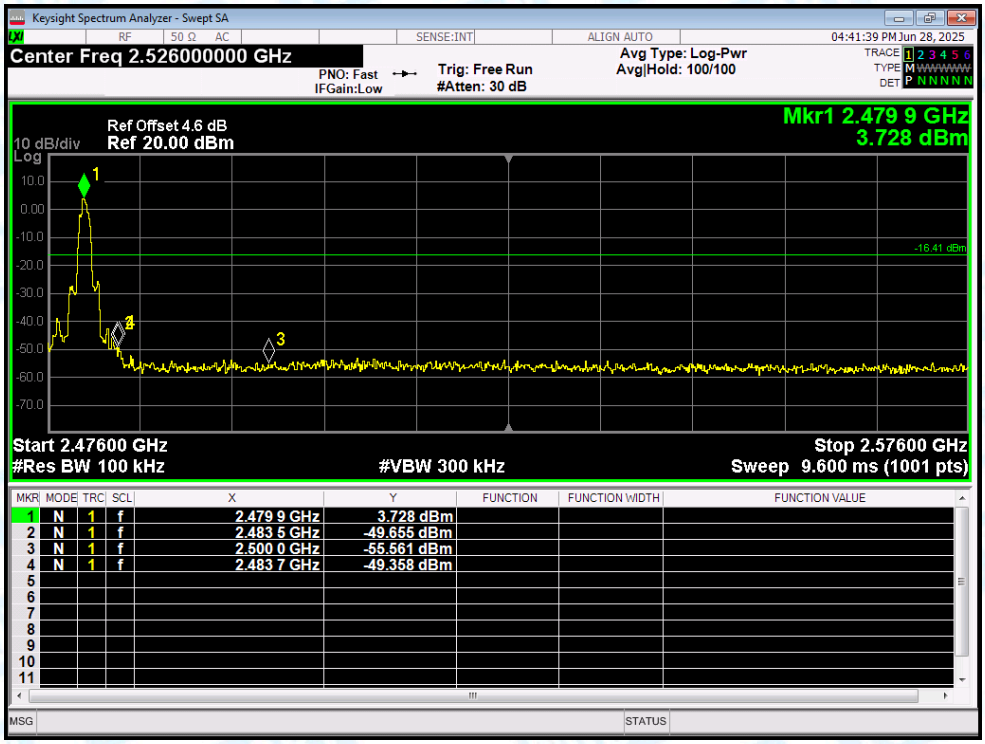
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref

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



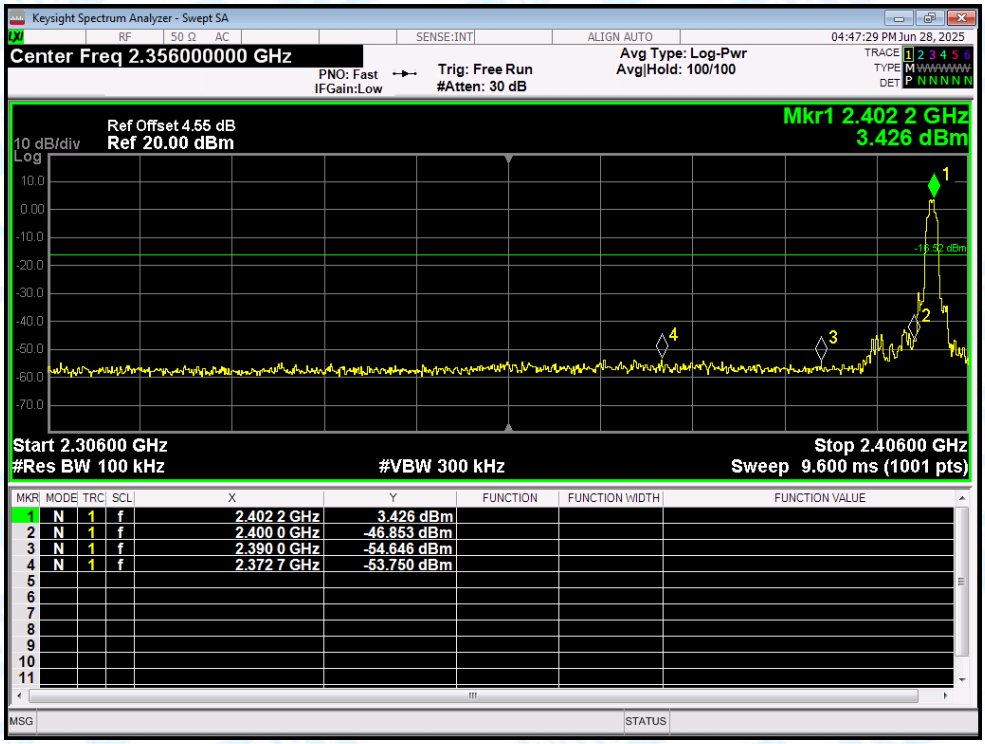
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref

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

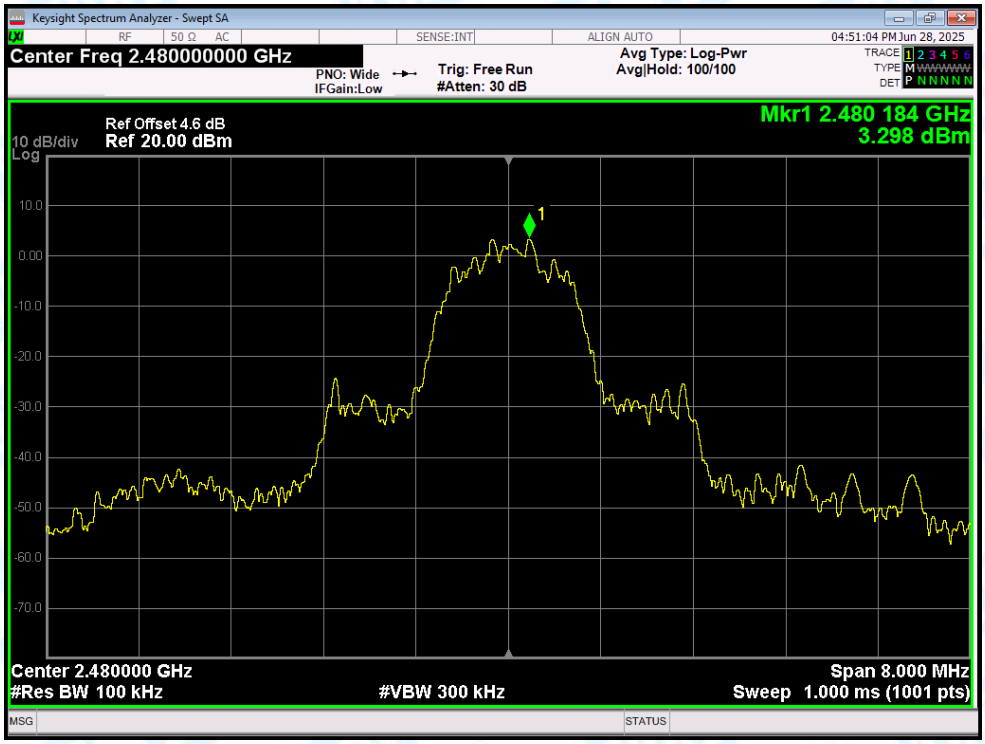


Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref

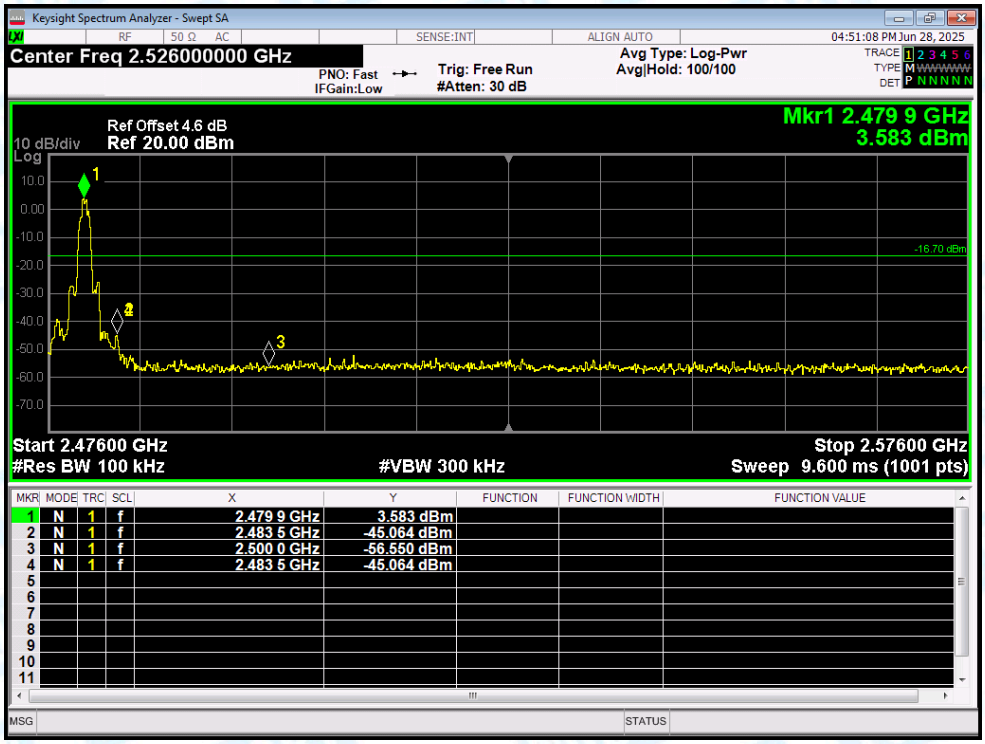
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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

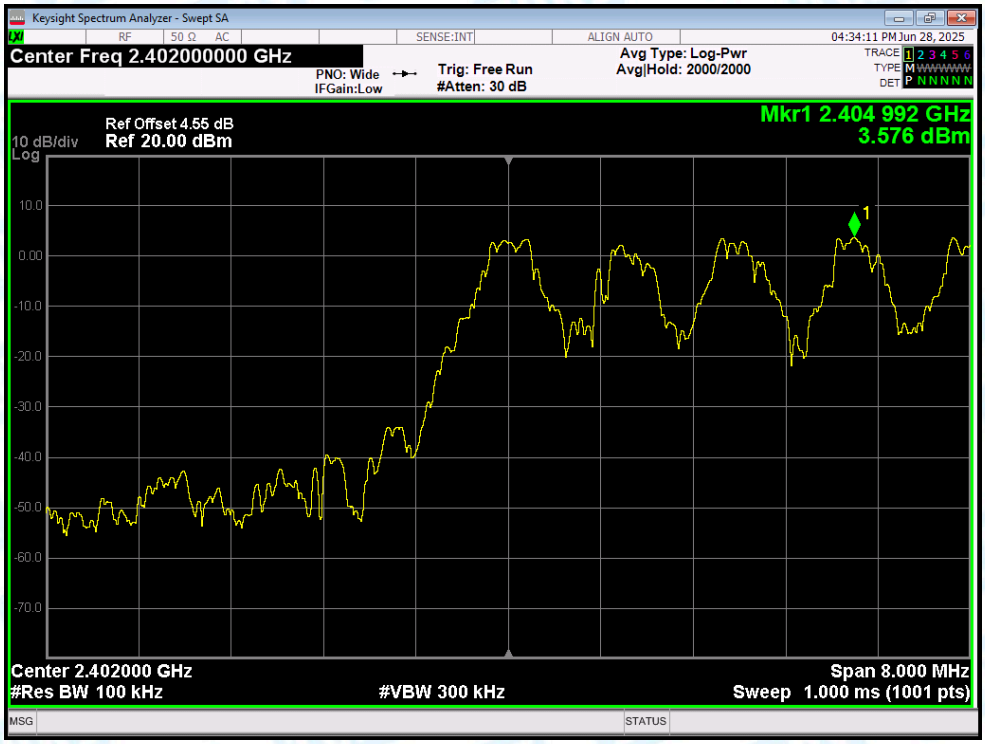


6. Band Edge(Hopping)

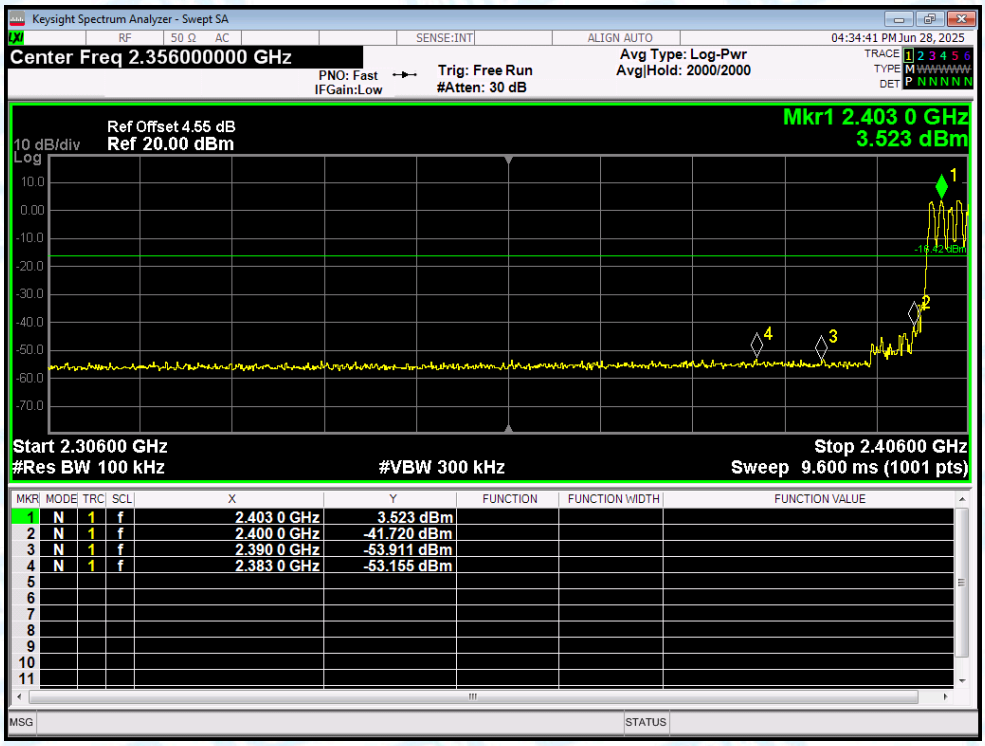
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-56.74	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-48.4	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-56.38	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-49.99	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-55.91	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-50.42	-20	Pass

Test Graphs

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

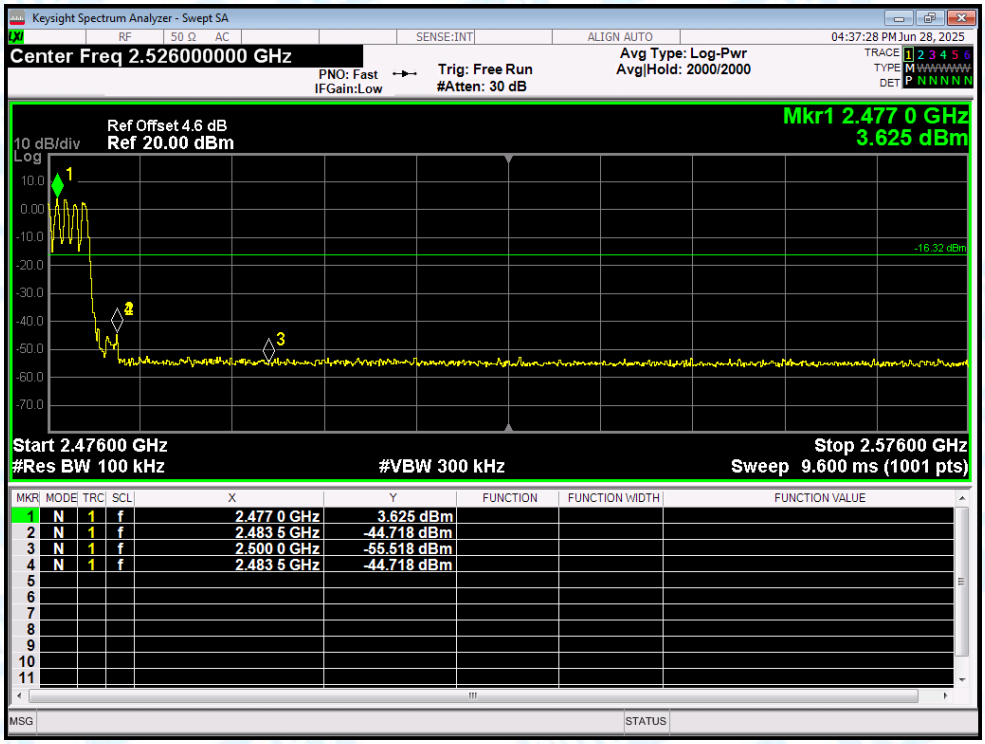


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

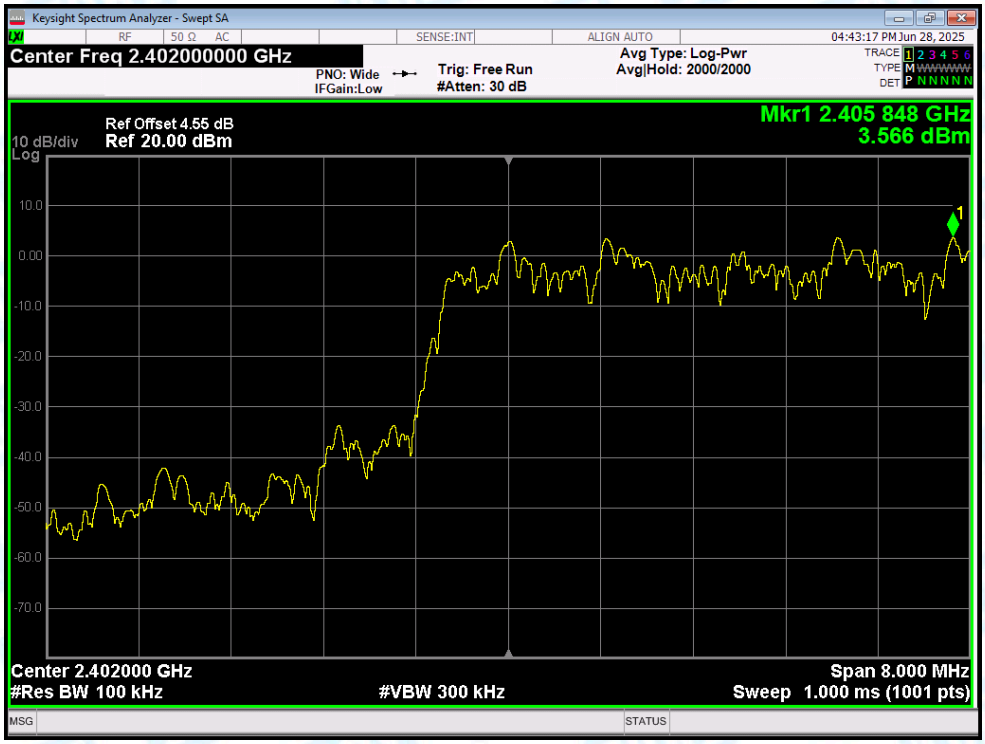


Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref

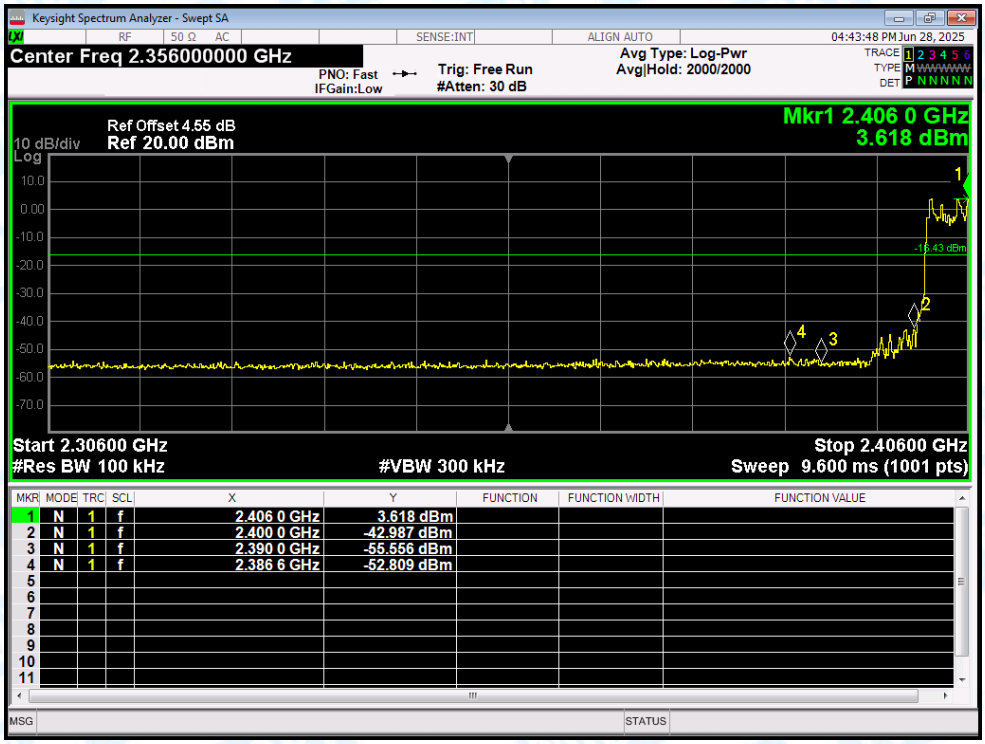
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



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

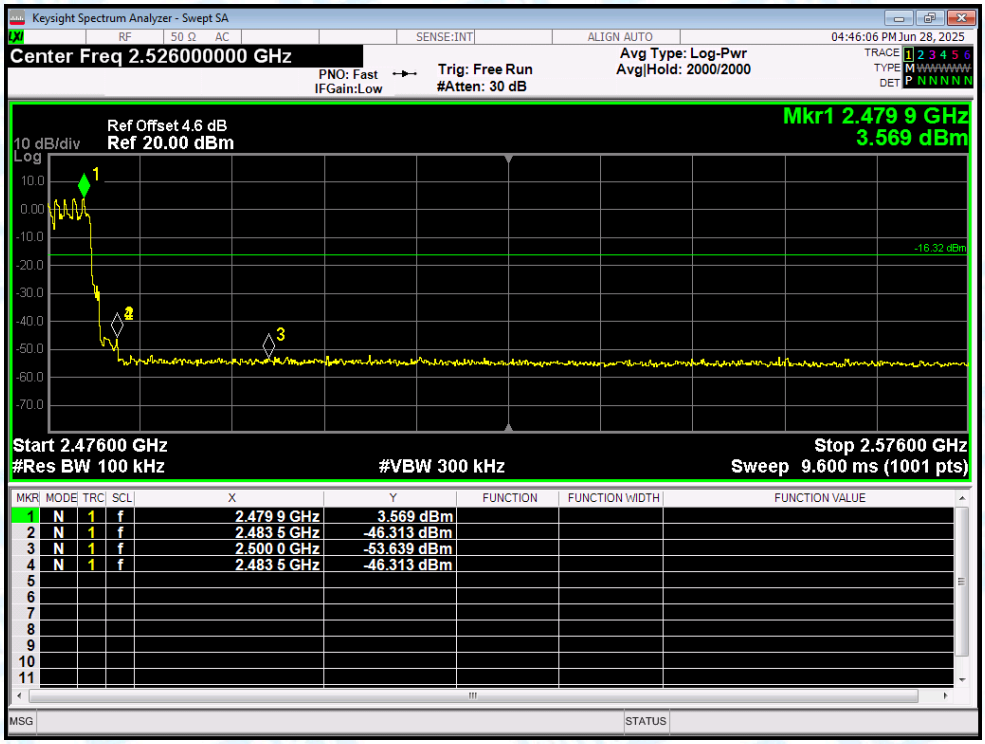


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission

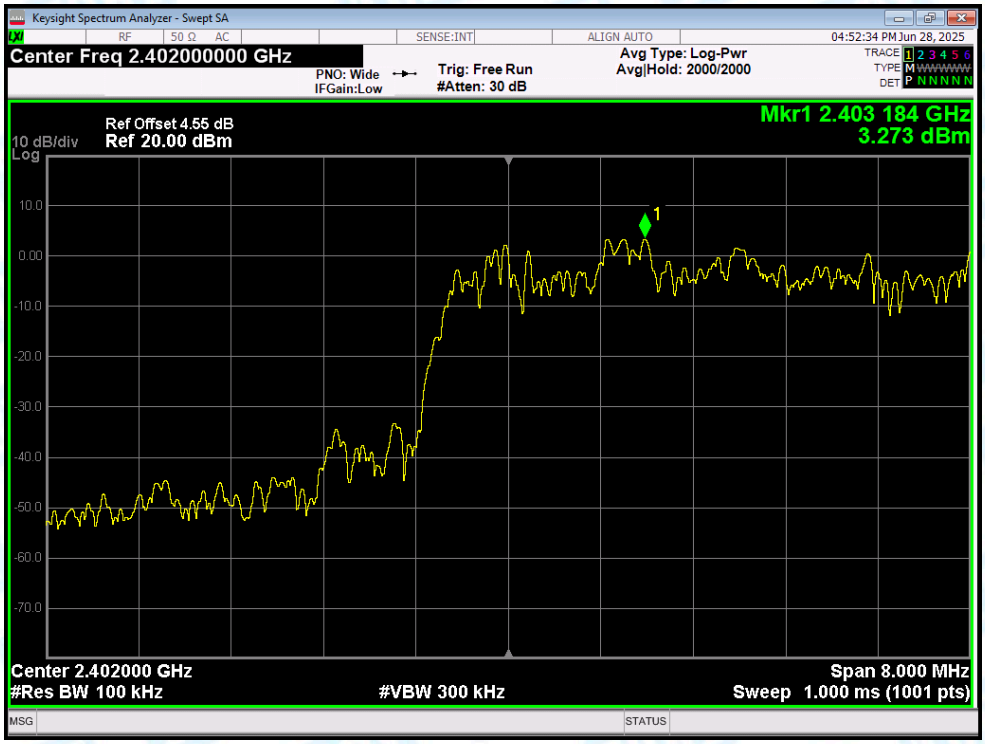


Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref

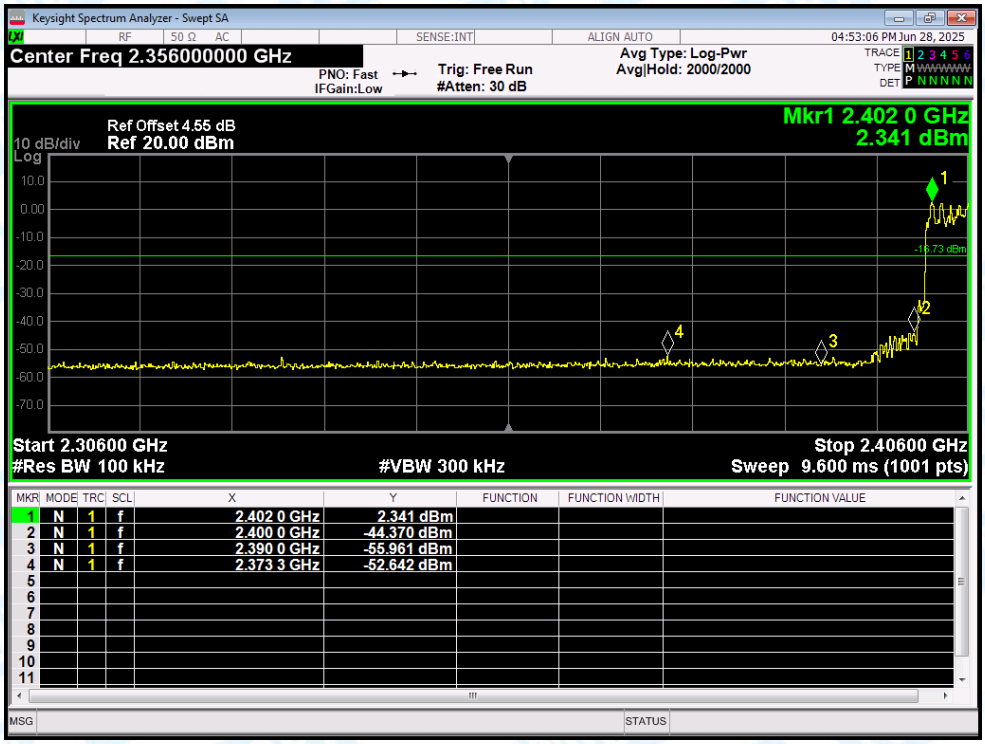
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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

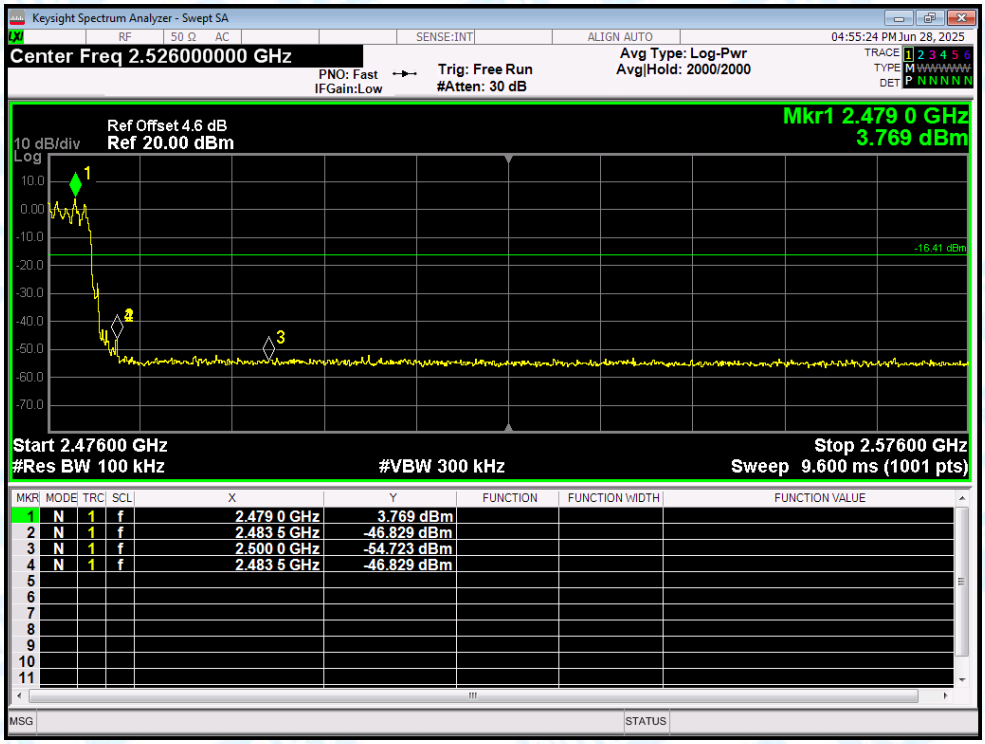


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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

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

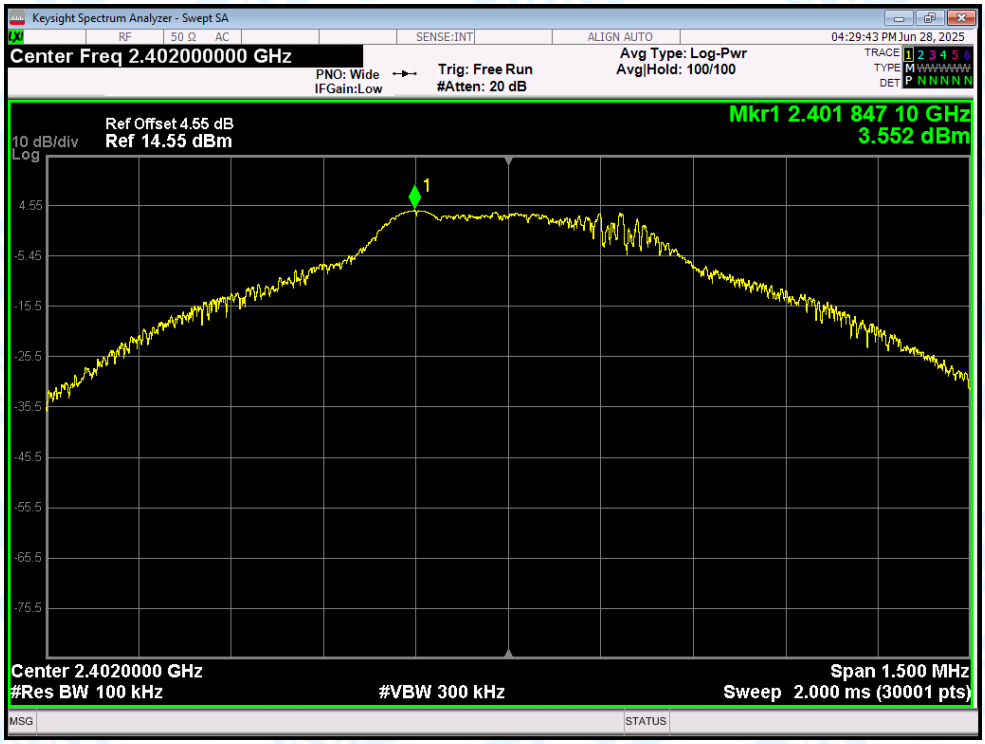


7. Conducted RF Spurious Emission

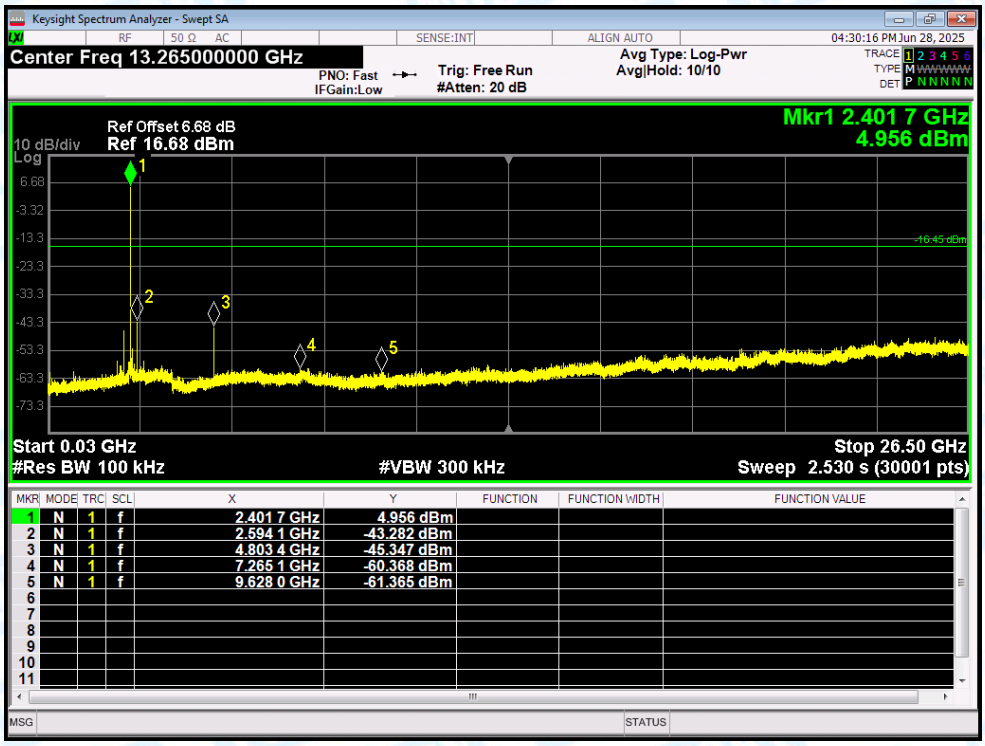
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-46.83	-20	Pass
NVNT	1-DH1	2441	Ant1	-48.73	-20	Pass
NVNT	1-DH1	2480	Ant1	-50.5	-20	Pass
NVNT	2-DH1	2402	Ant1	-46.22	-20	Pass
NVNT	2-DH1	2441	Ant1	-50.78	-20	Pass
NVNT	2-DH1	2480	Ant1	-51.44	-20	Pass
NVNT	3-DH1	2402	Ant1	-48.24	-20	Pass
NVNT	3-DH1	2441	Ant1	-48.22	-20	Pass
NVNT	3-DH1	2480	Ant1	-47.3	-20	Pass

Test Graphs

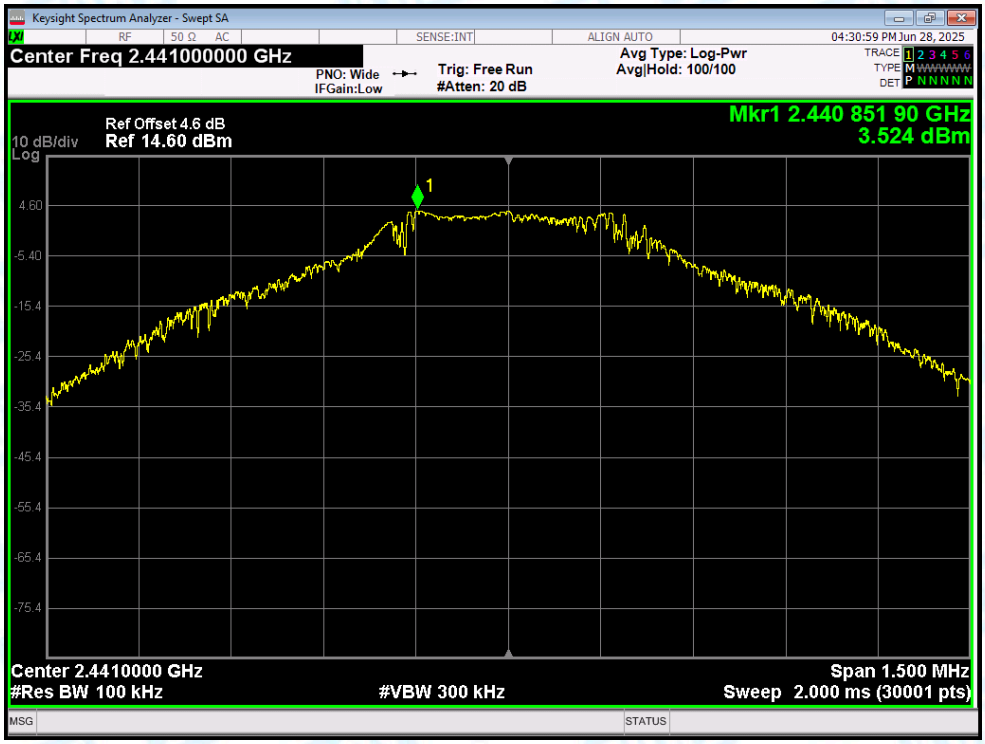
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



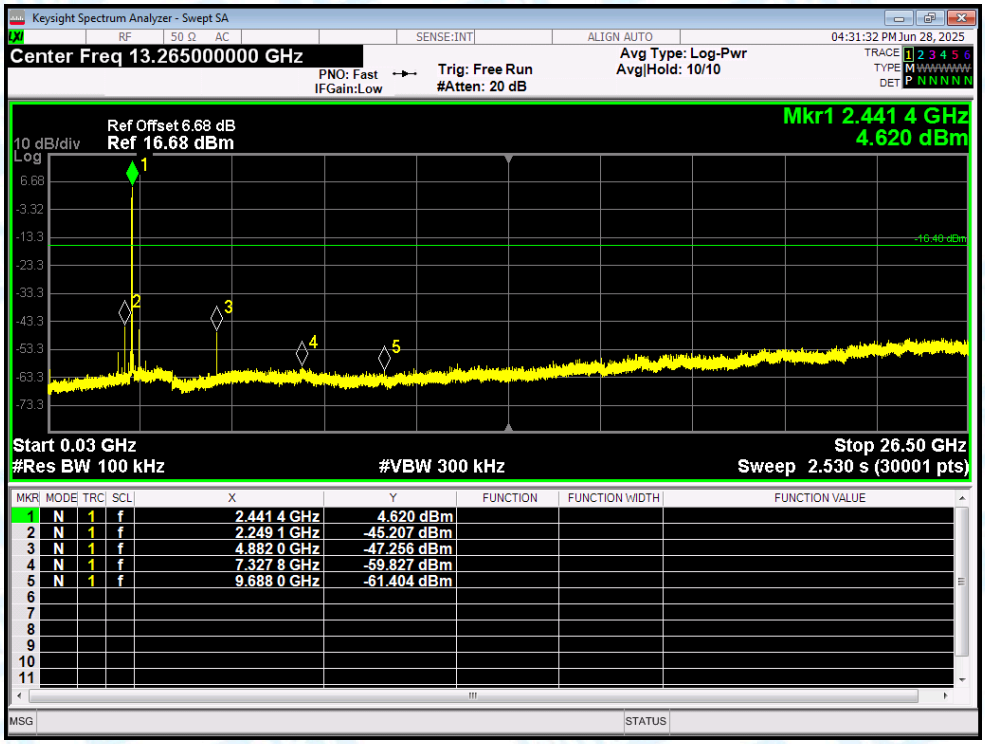
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



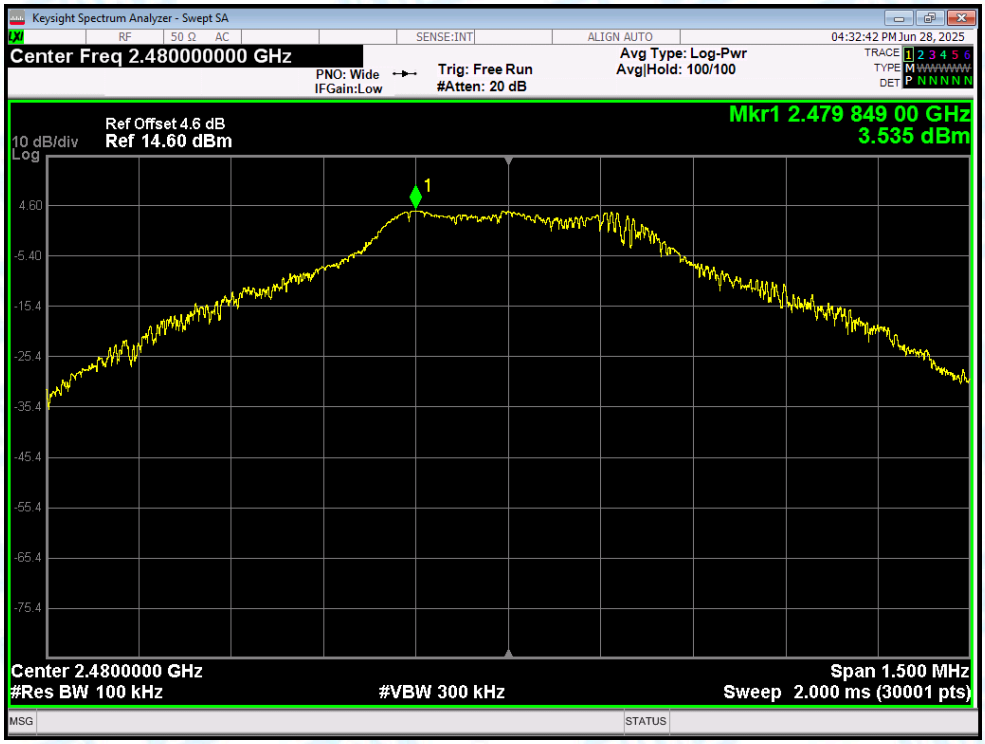
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



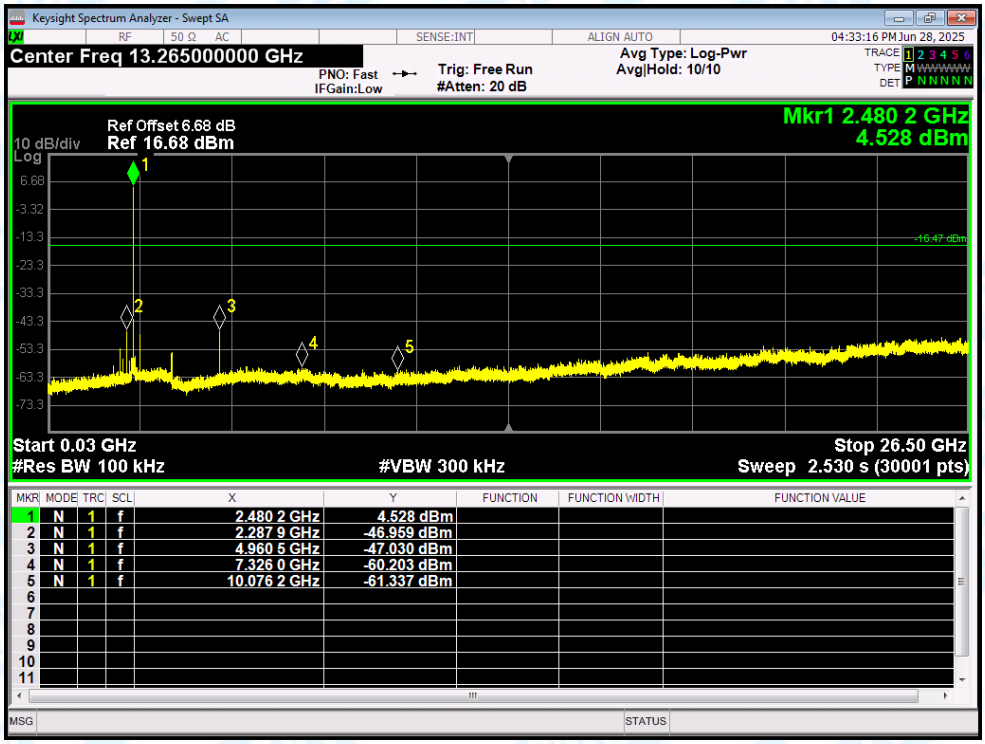
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



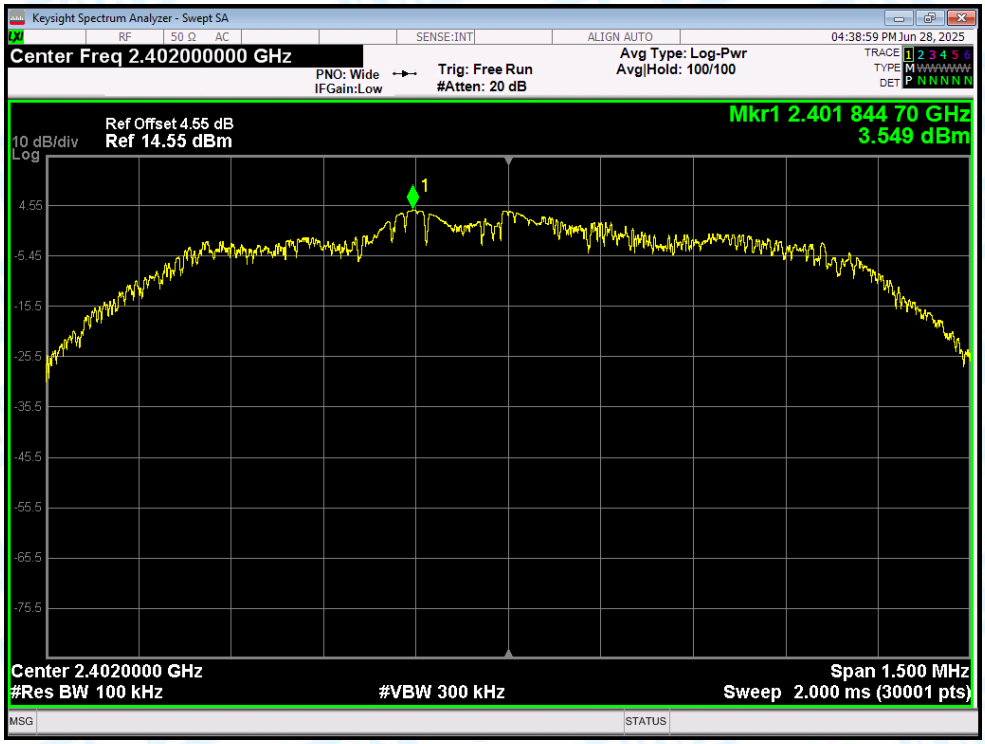
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



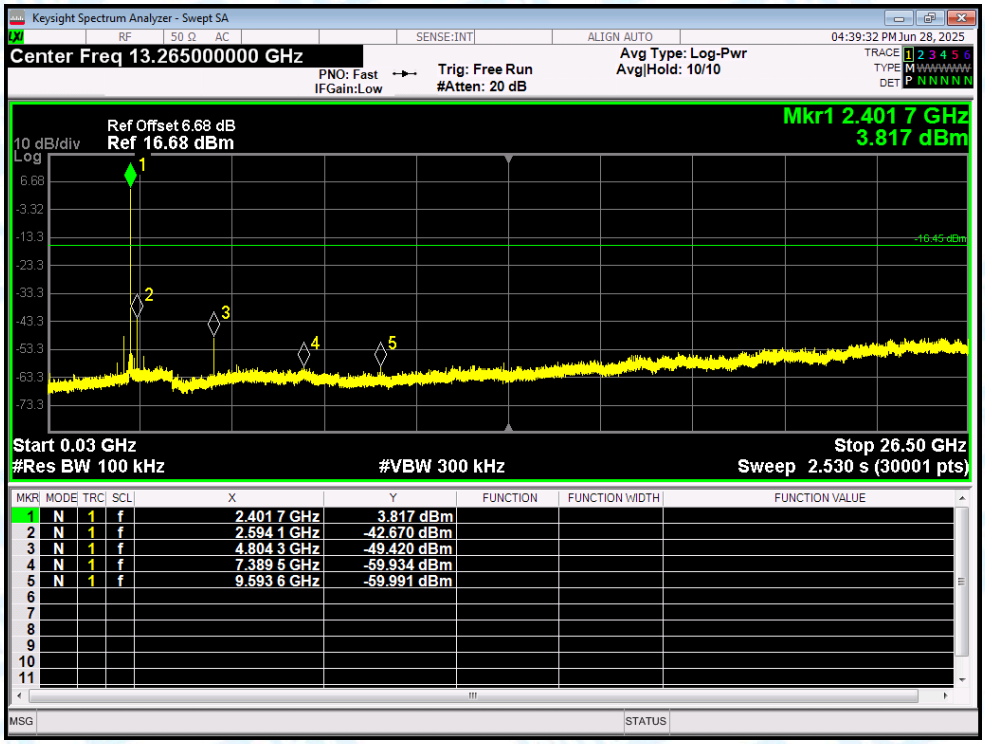
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



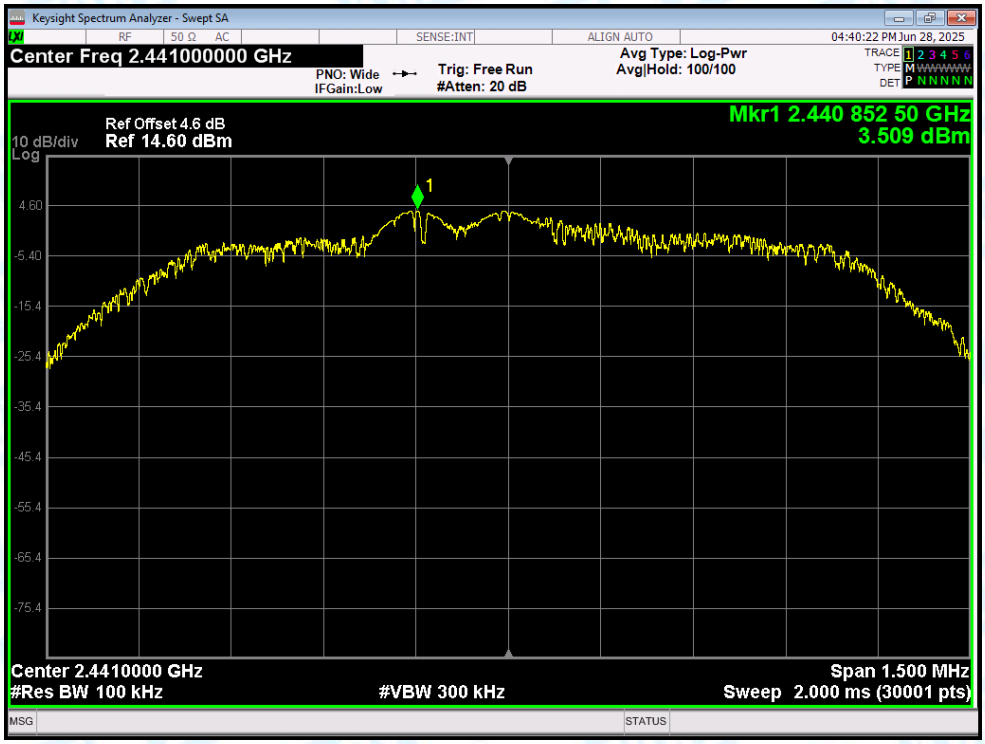
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



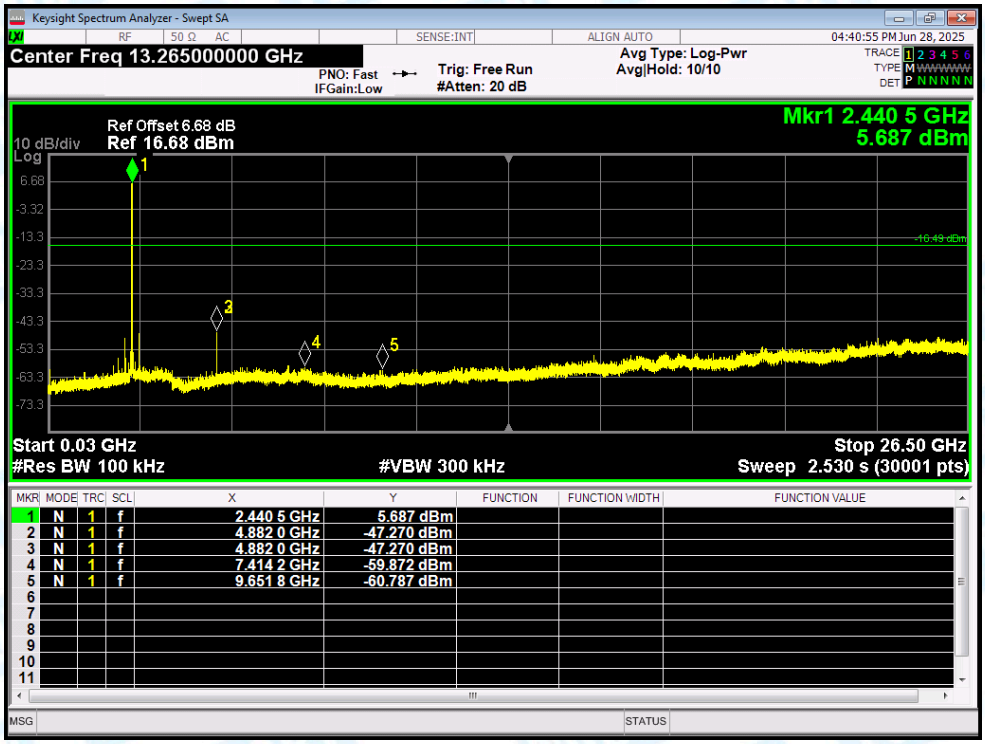
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



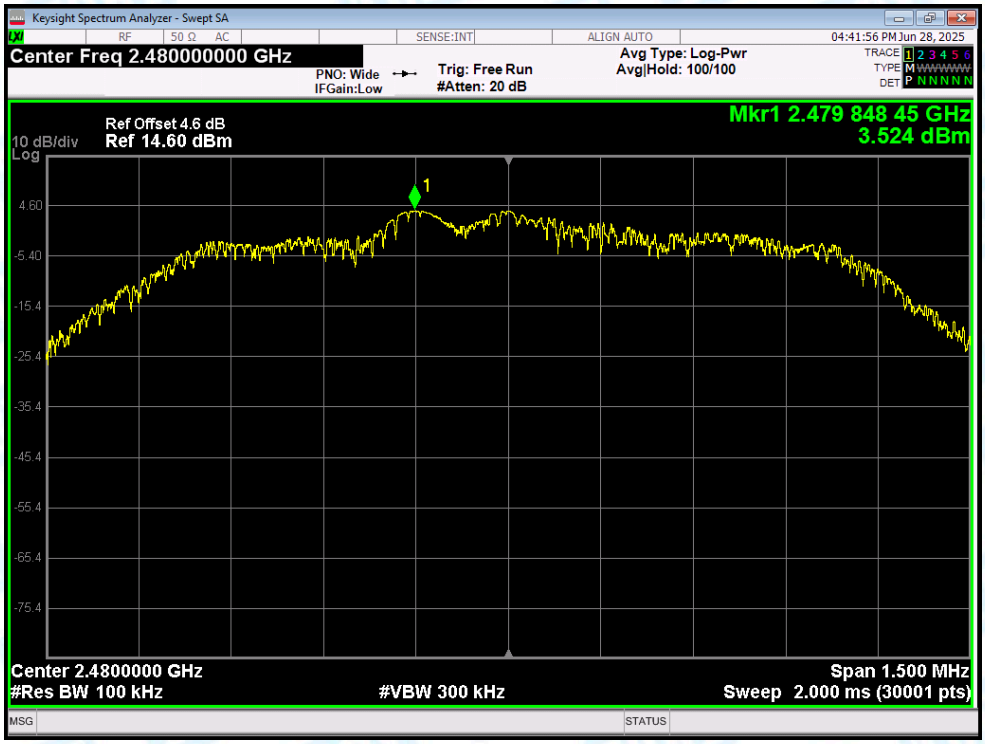
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



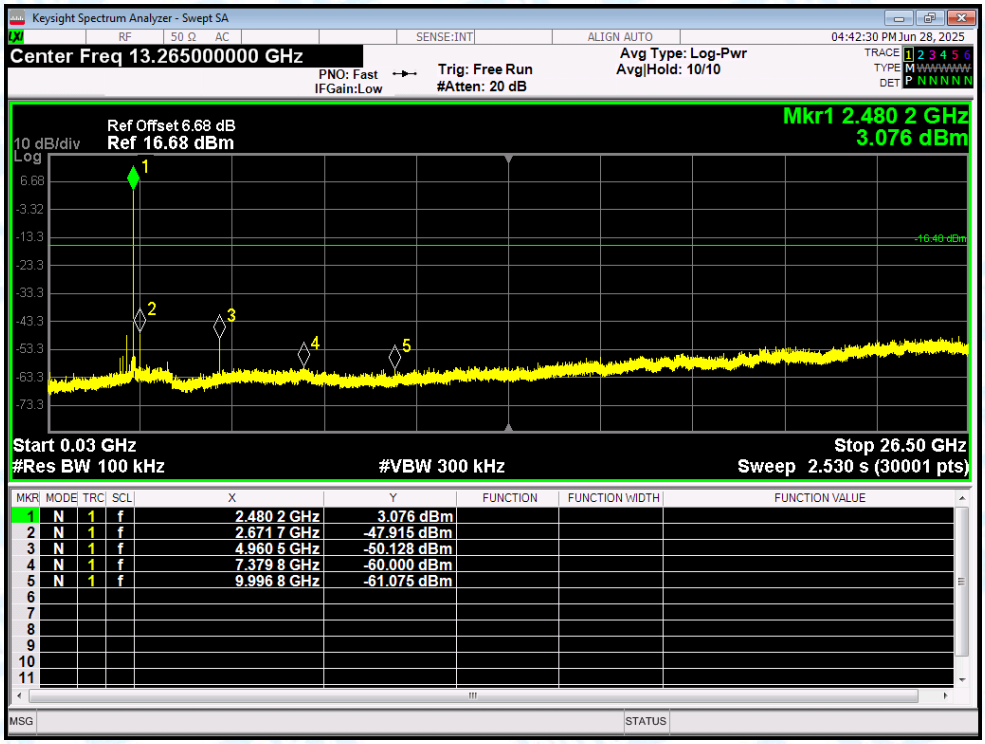
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



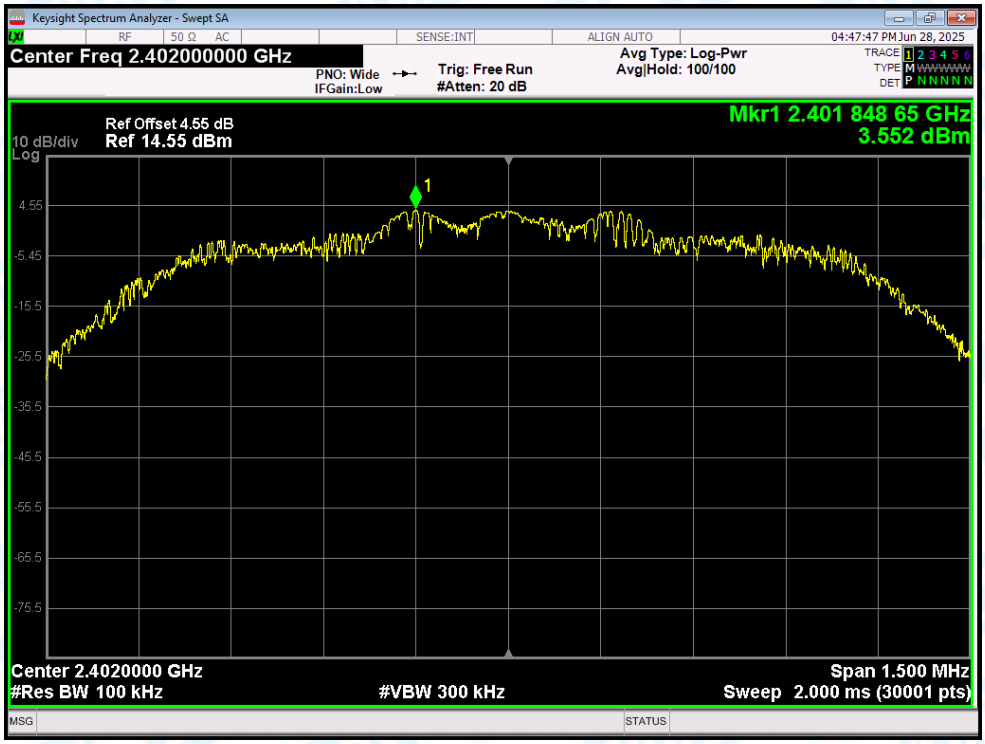
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



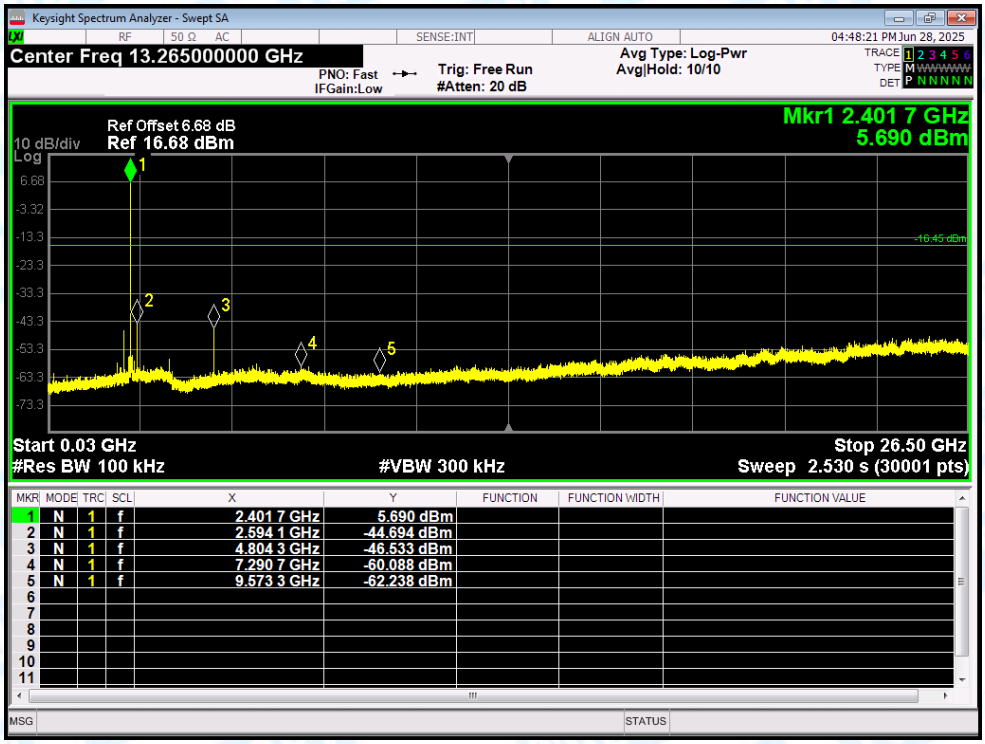
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



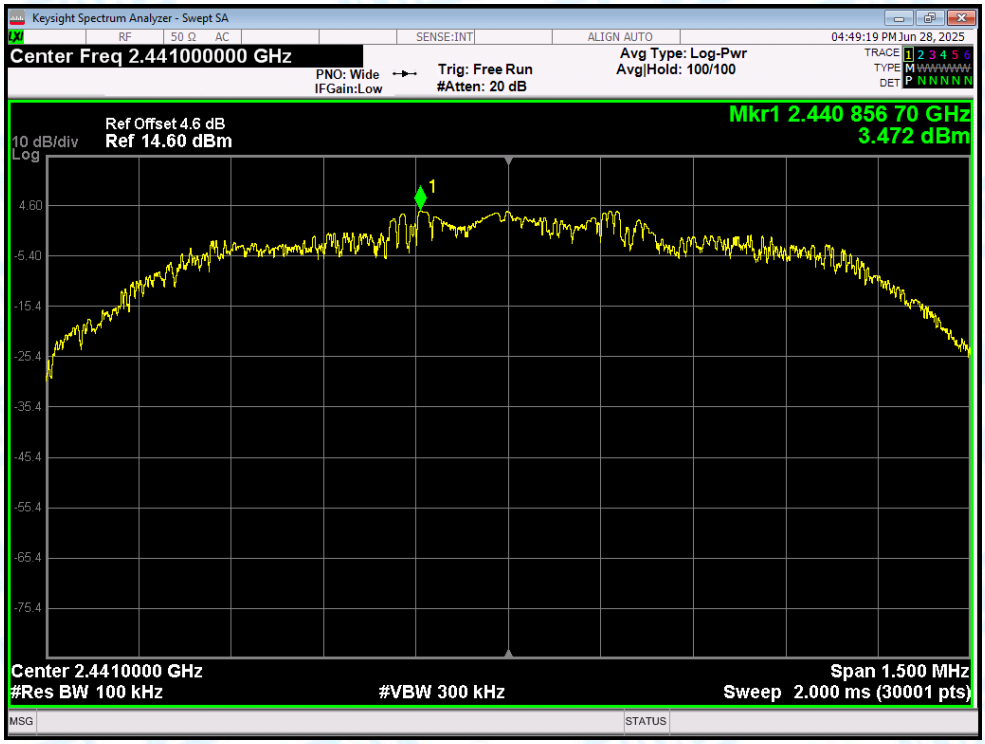
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



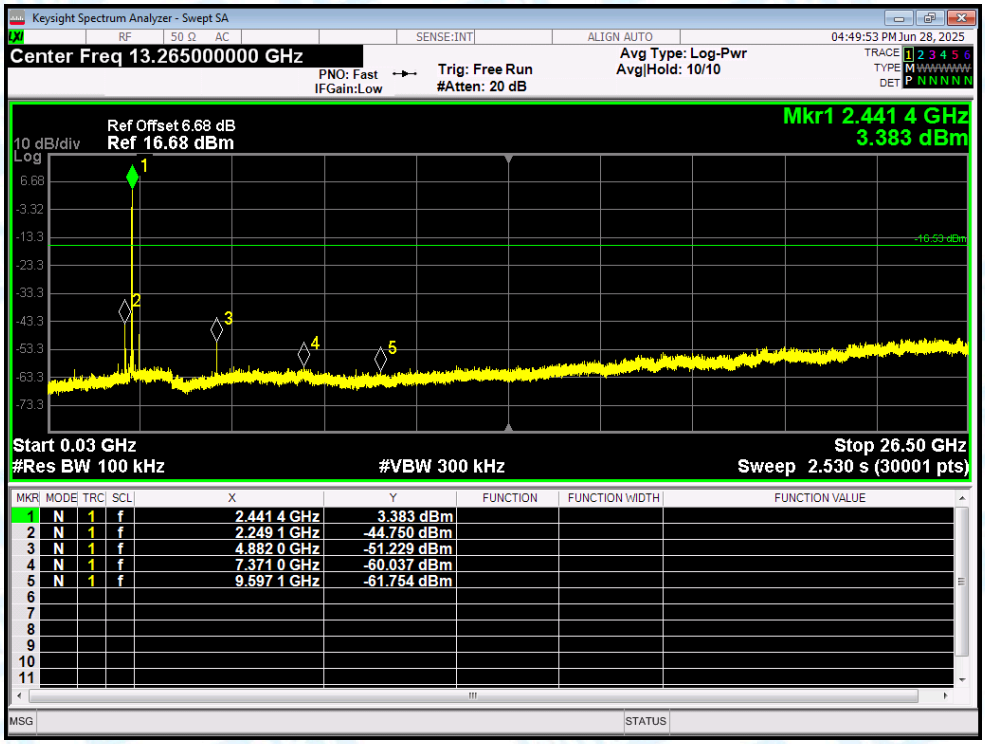
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



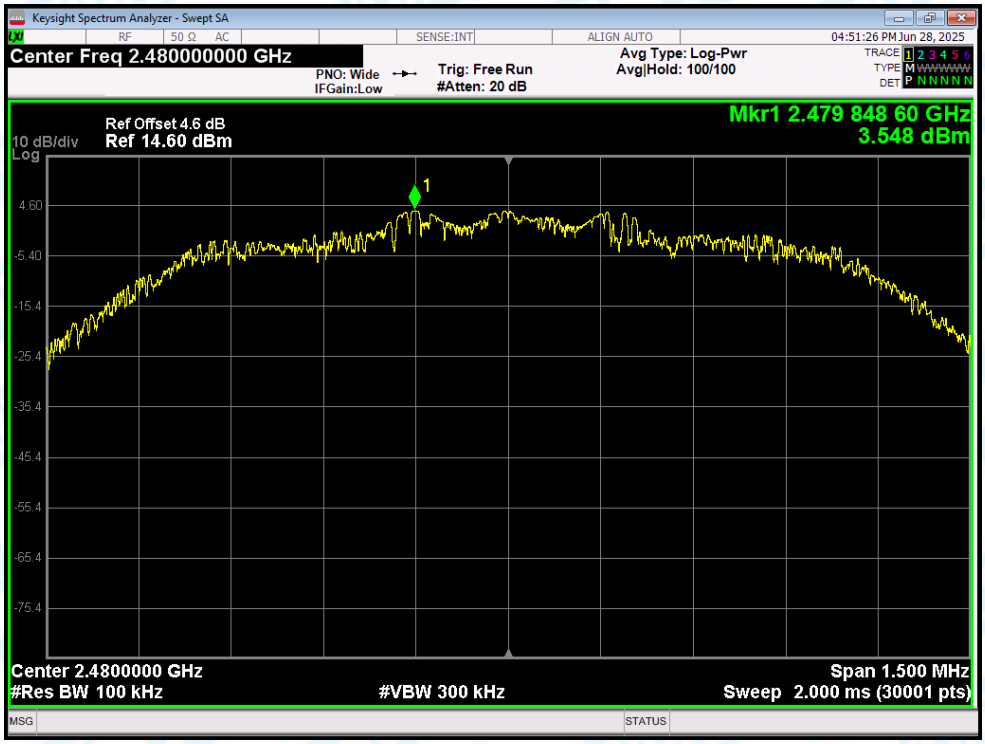
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



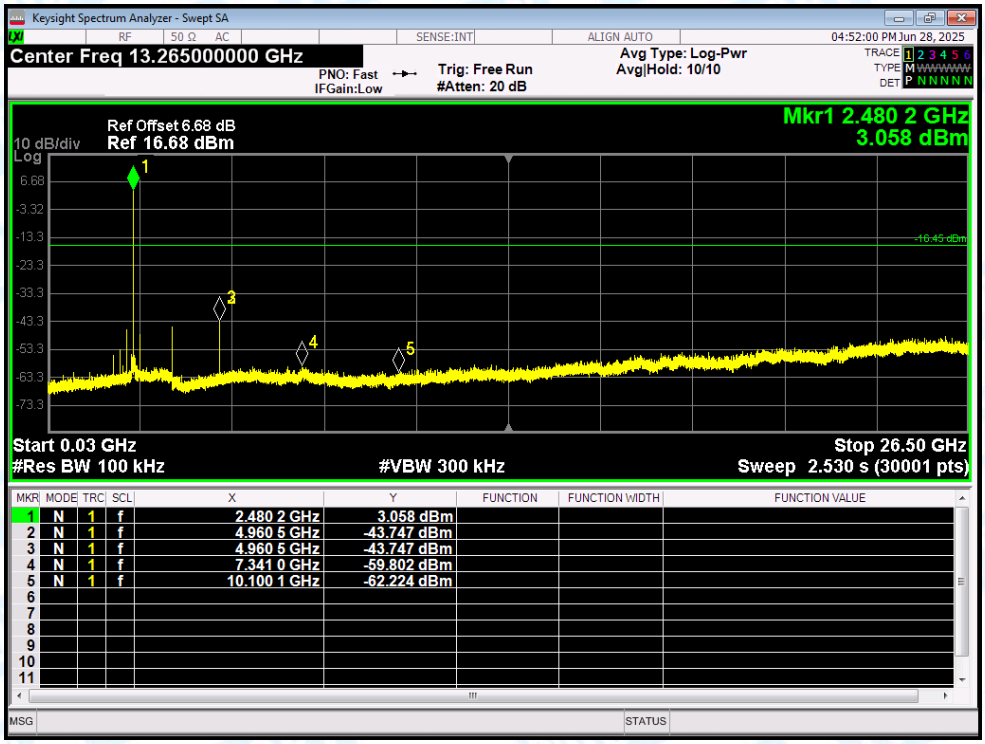
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

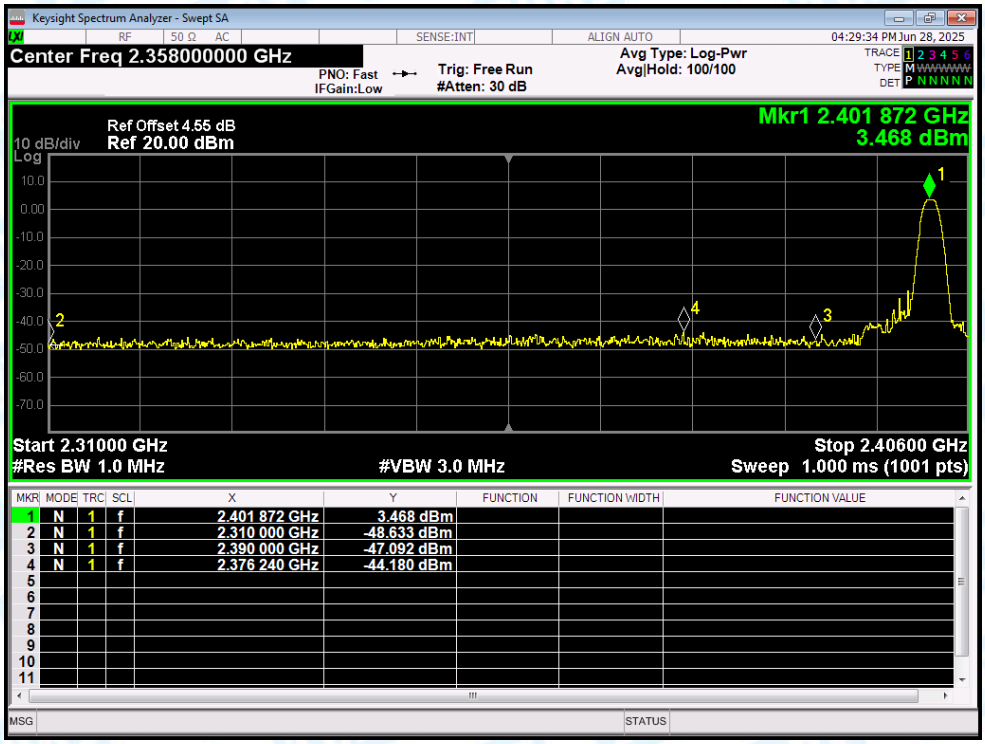


8. Restrict Band

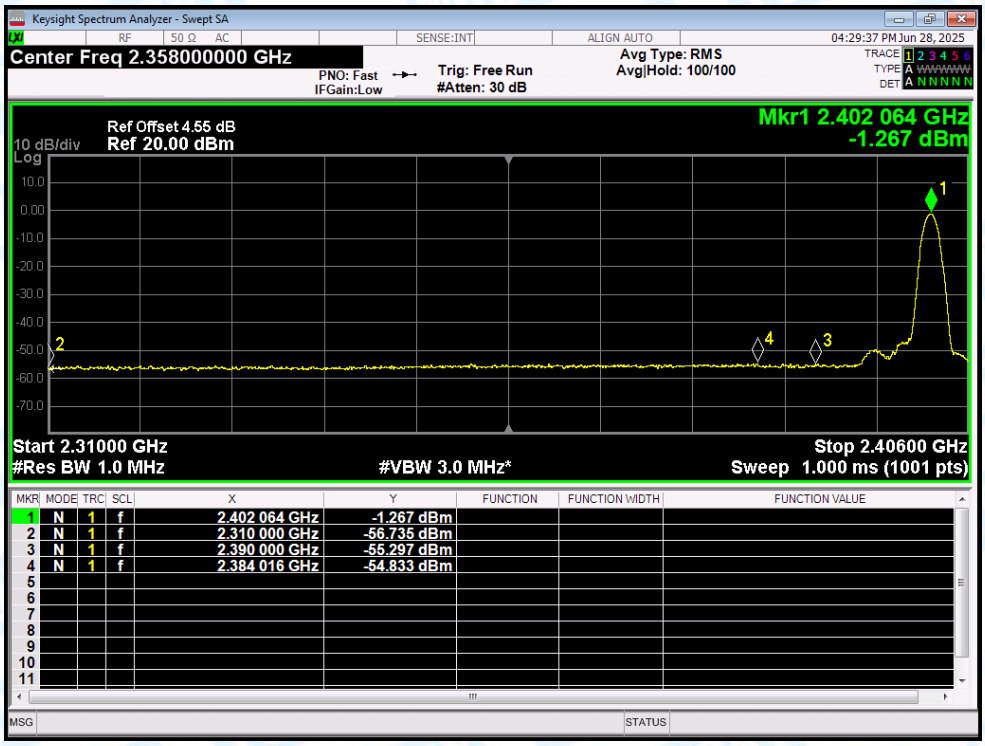
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.63	2	-	48.63	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.74	2	0	40.52	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2376.24	-44.18	2	-	53.08	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2384.016	-54.83	2	0	42.43	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-47.09	2	-	50.17	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.3	2	0	41.96	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-41.38	2	-	55.88	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-49.73	2	5.06	52.59	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.56	-39.54	2	-	57.72	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.536	-49.58	2	5.06	52.74	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.91	2	-	50.35	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.44	2	5.06	46.88	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.52	2	-	48.74	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-55.9	2	5.06	46.42	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2362.608	-44.41	2	-	52.85	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2364.24	-54.85	2	5.06	47.47	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.68	2	-	49.58	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.61	2	5.06	46.71	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-38.09	2	-	59.17	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-50.81	2	5.06	51.51	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.512	-38.09	2	-	59.17	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.776	-50.76	2	5.06	51.56	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-45.56	2	-	51.7	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.41	2	5.06	46.91	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.53	2	-	48.73	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.34	2	4.95	45.87	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2355.216	-44.2	2	-	53.06	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2374.512	-54.84	2	4.95	47.37	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-48.16	2	-	49.1	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.8	2	4.95	46.41	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-41.29	2	-	55.97	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-50.81	2	4.95	51.4	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.632	-39.33	2	-	57.93	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.512	-50.81	2	4.95	51.4	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.72	2	-	49.54	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.23	2	4.95	46.98	Average	54	Pass

Test Graphs

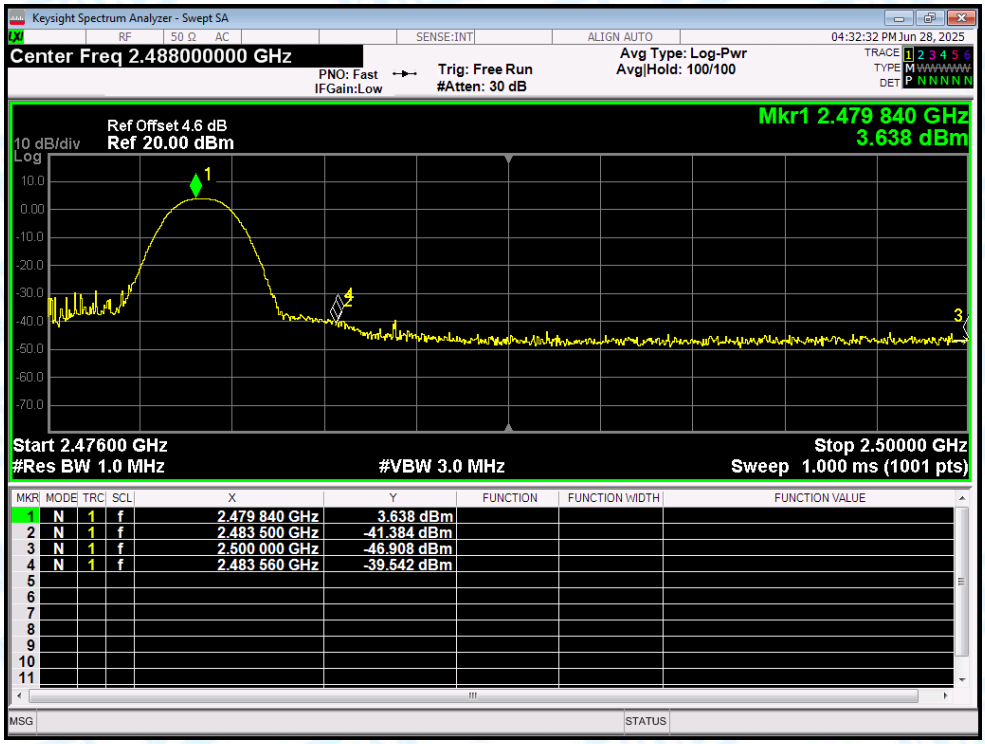
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



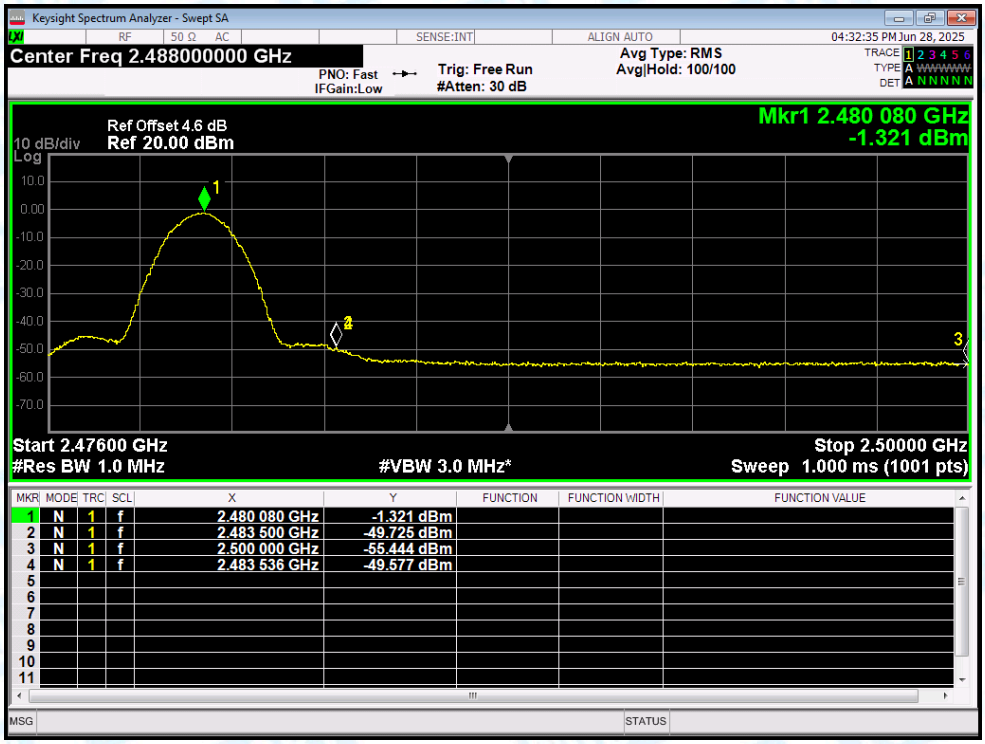
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



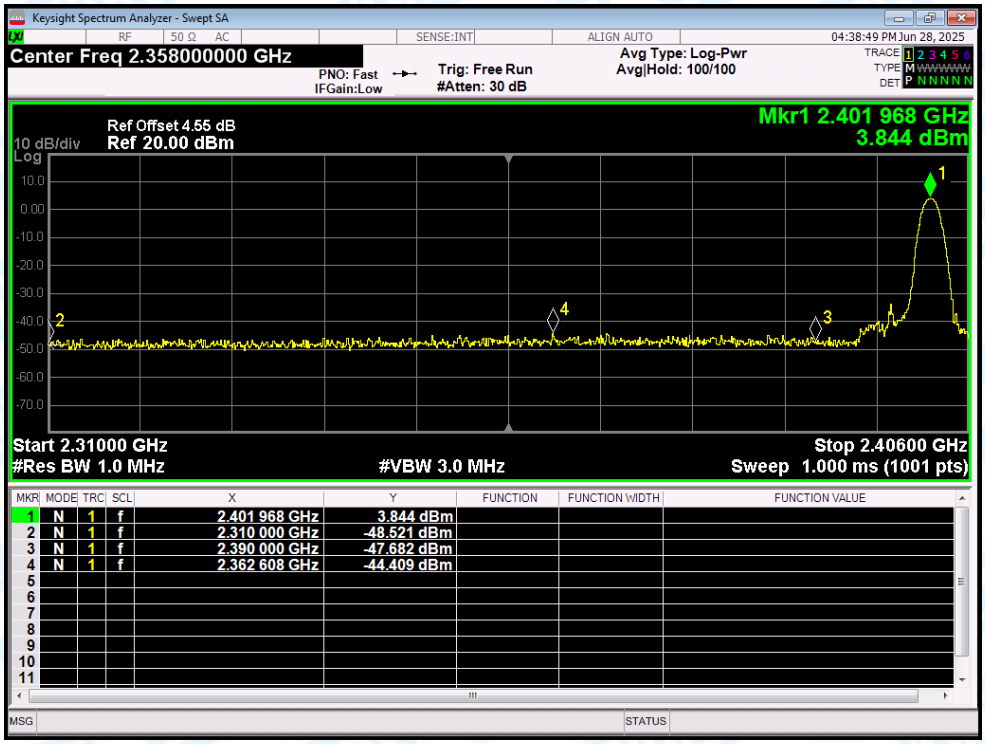
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



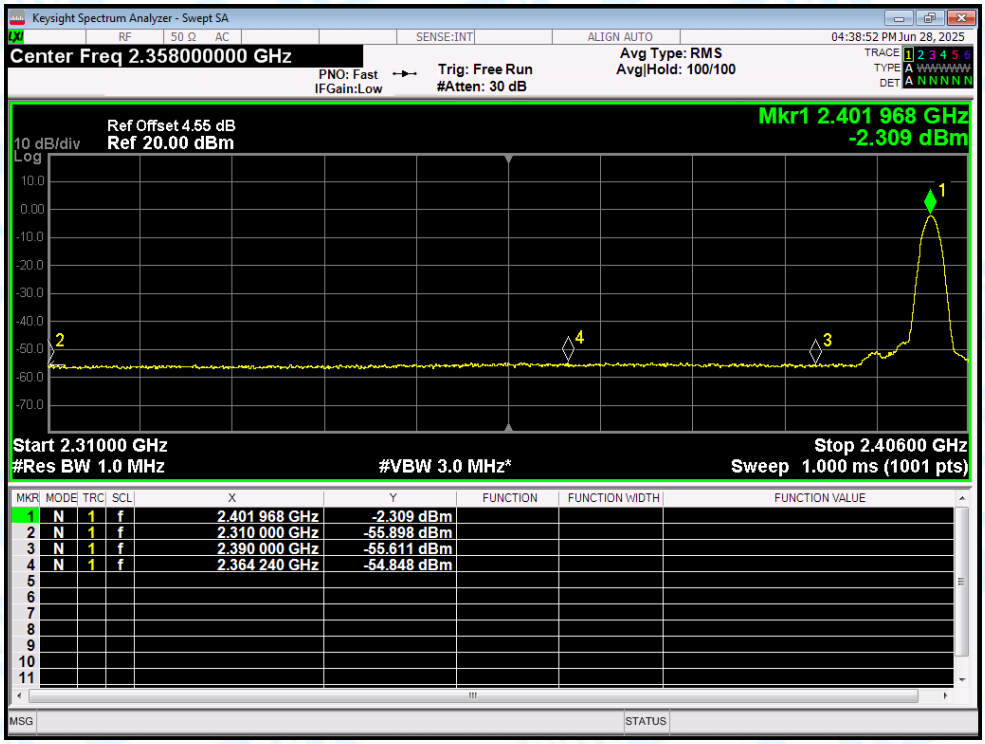
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



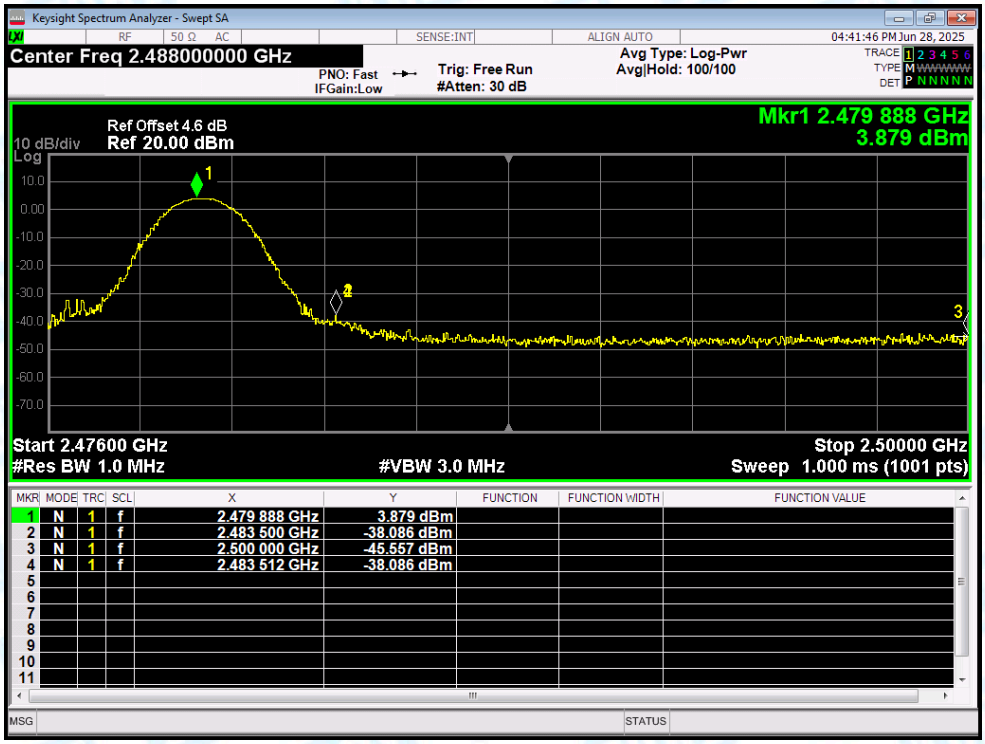
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



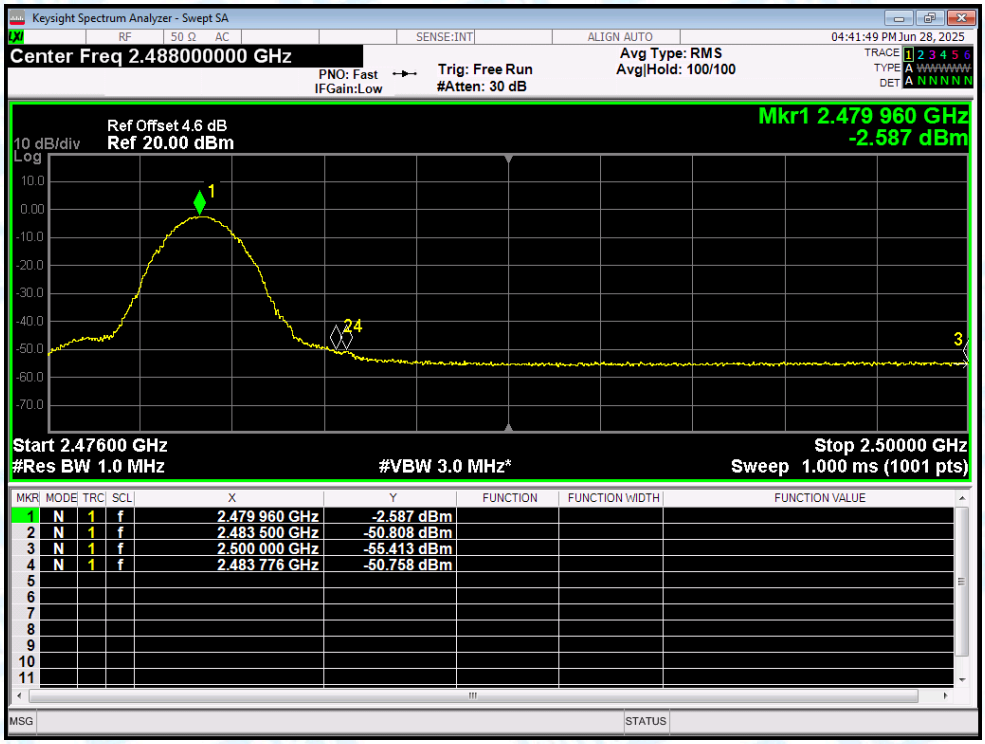
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



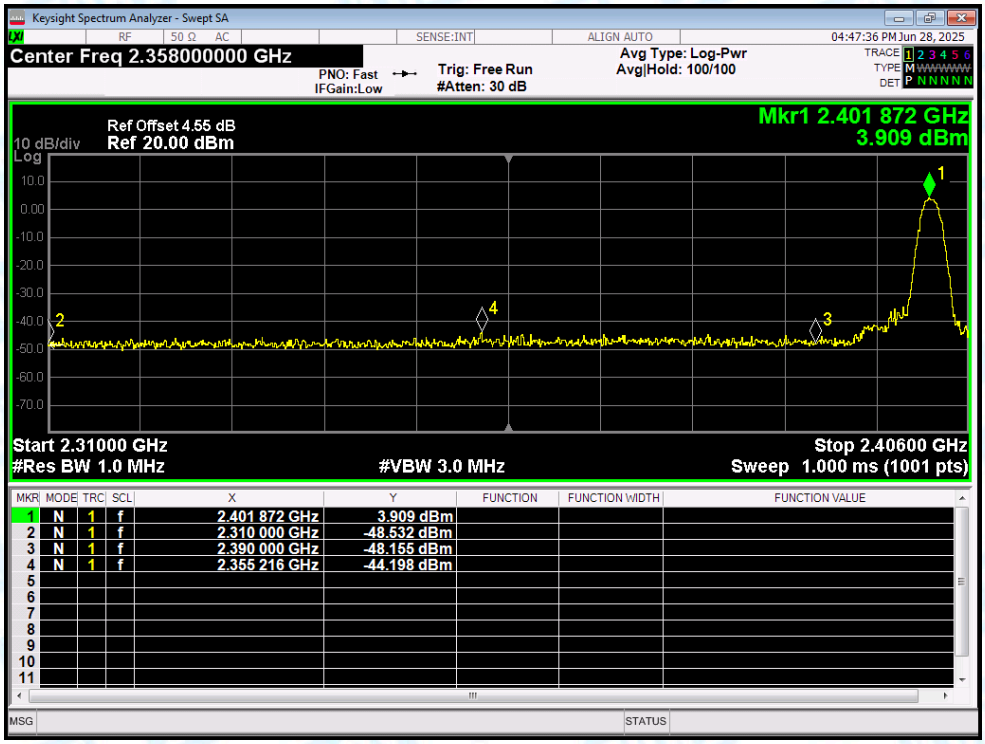
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



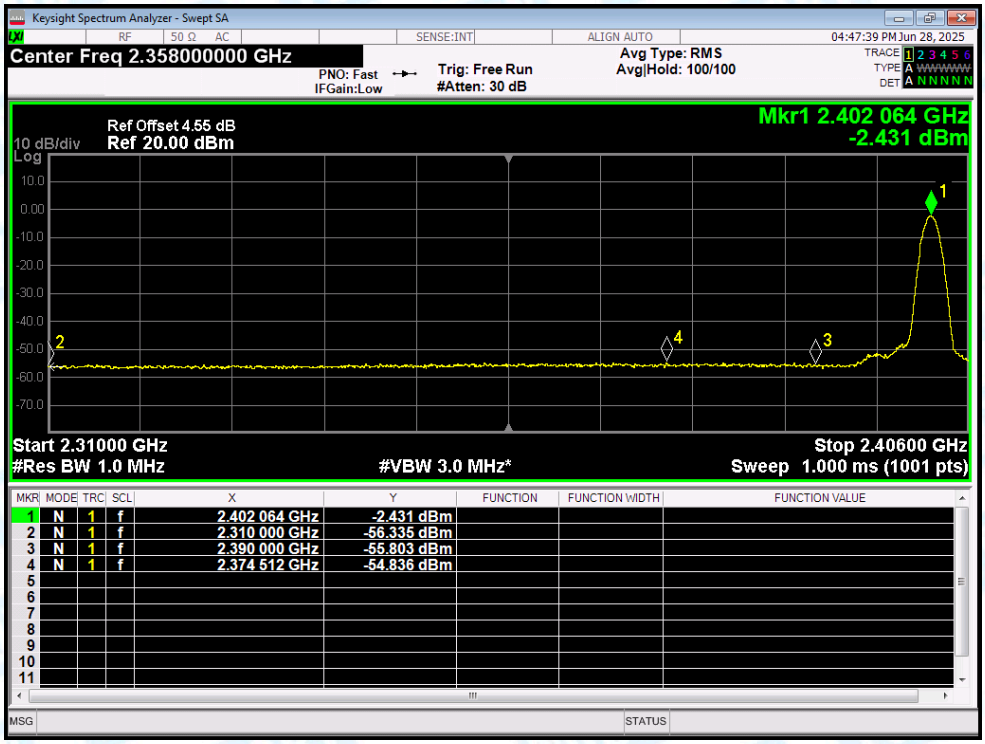
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



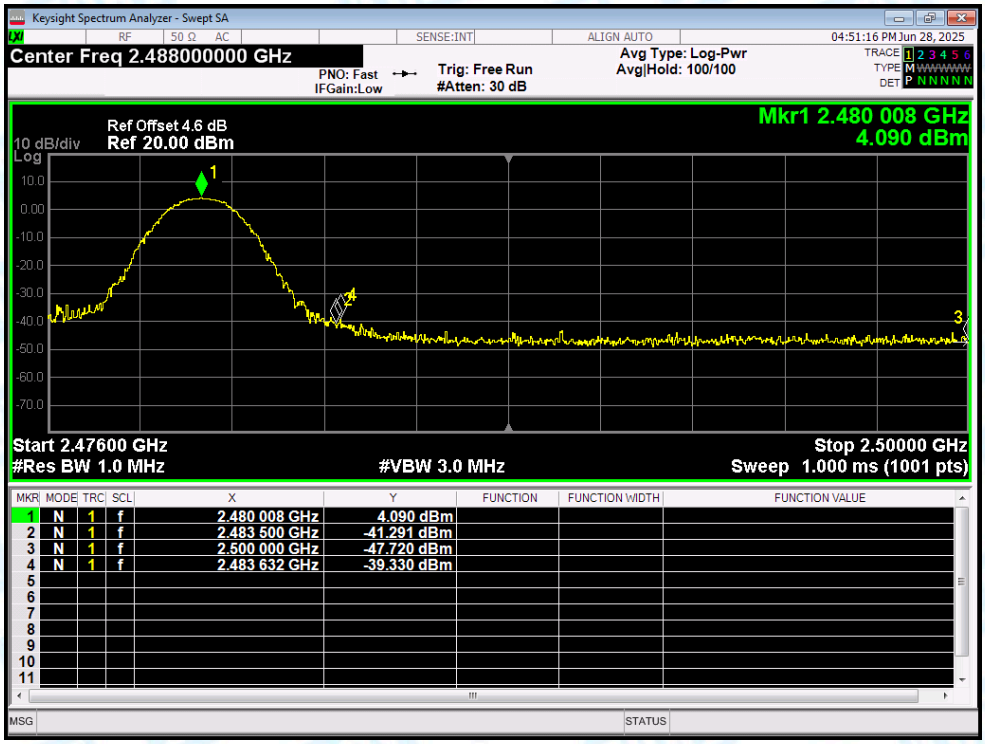
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



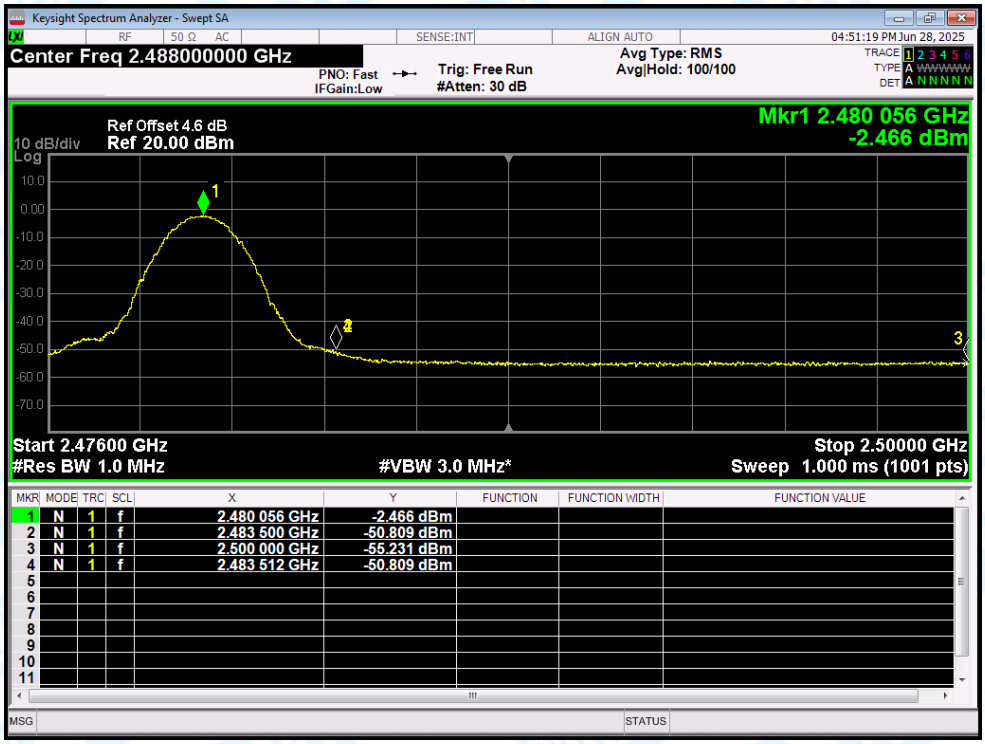
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

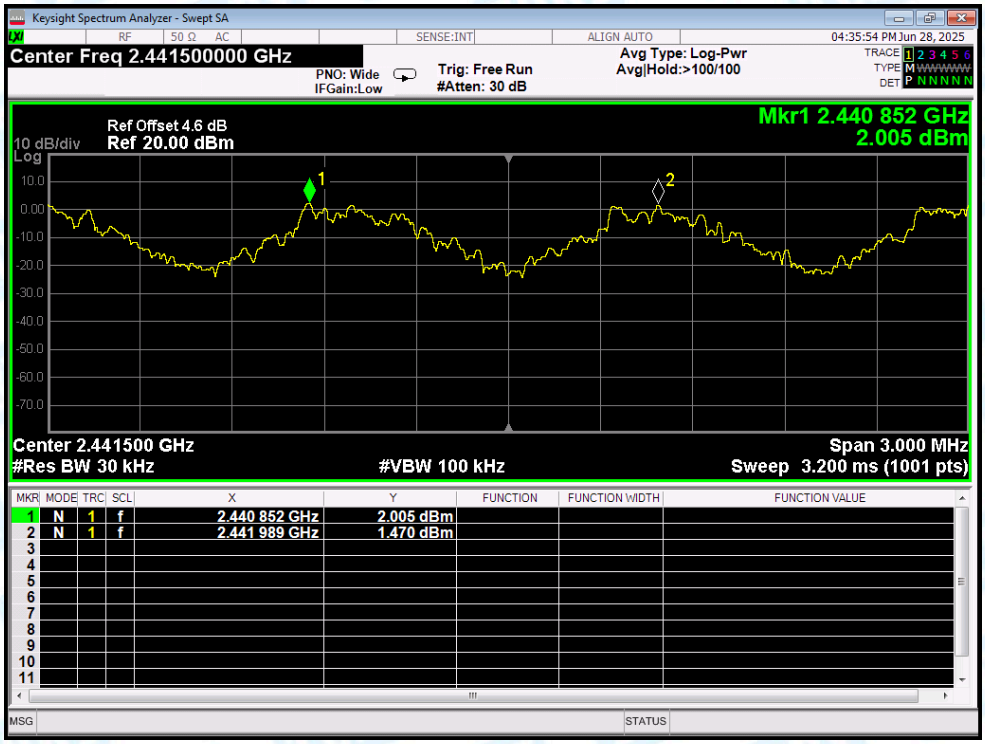


9. Carrier Frequencies Separation

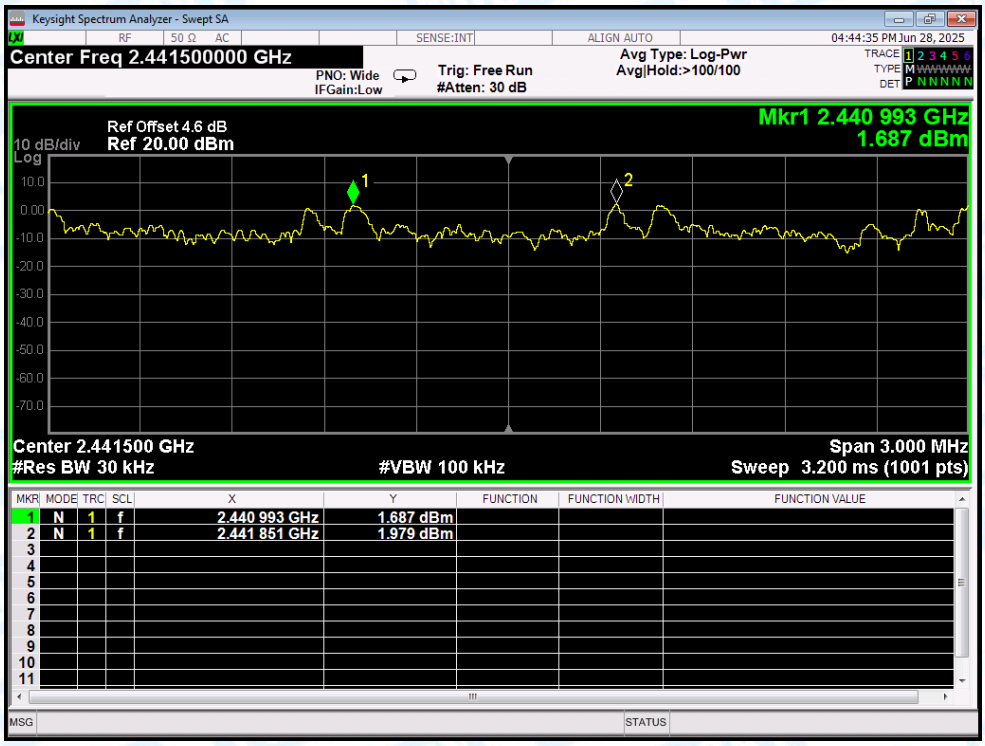
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.852	2441.989	1.137	0.587	Pass
NVNT	2-DH1	Ant1	2440.993	2441.851	0.858	0.84	Pass
NVNT	3-DH1	Ant1	2441.002	2441.989	0.987	0.827	Pass

Test Graphs

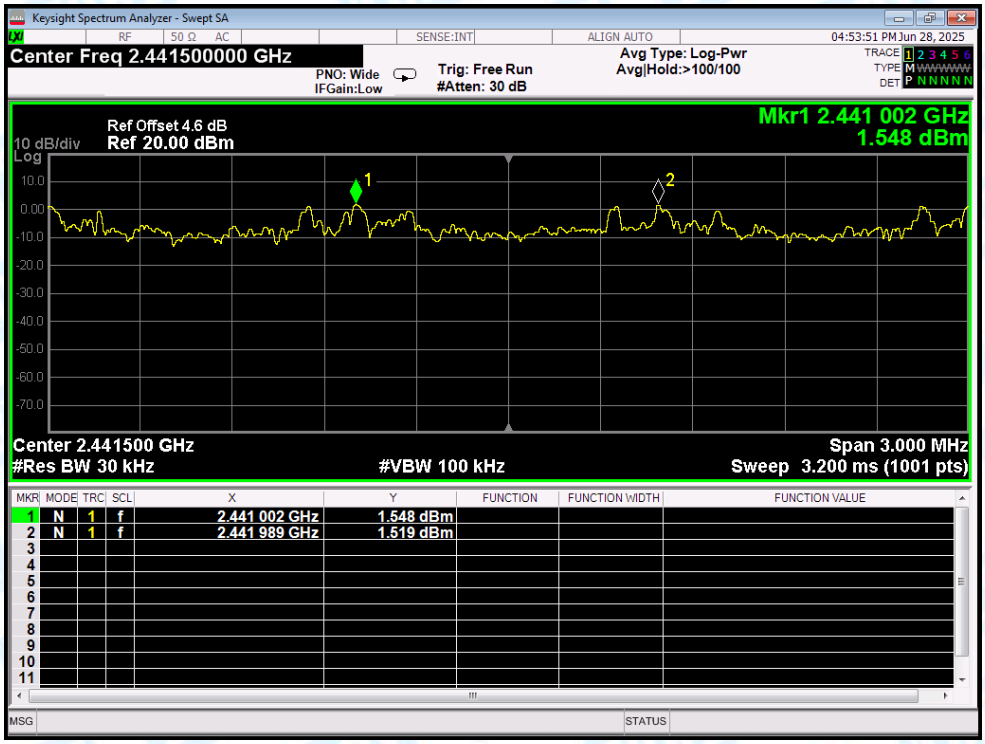
CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



CFS NVNT 3-DH1 2441MHz Ant1

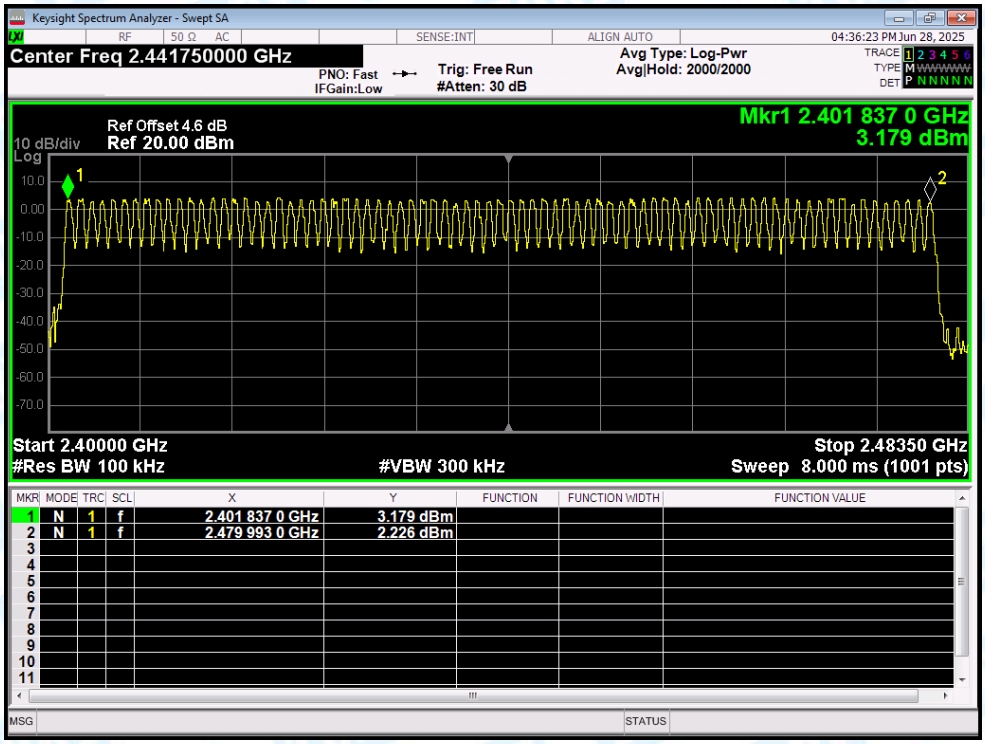


10. Number of Hopping Channel

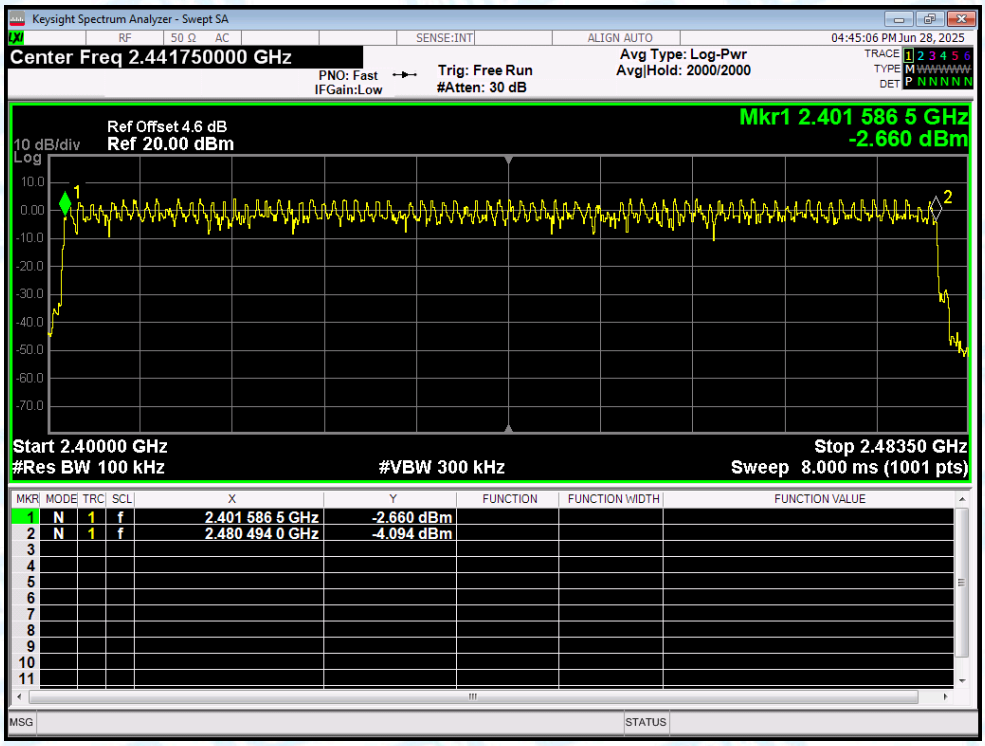
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

Test Graphs

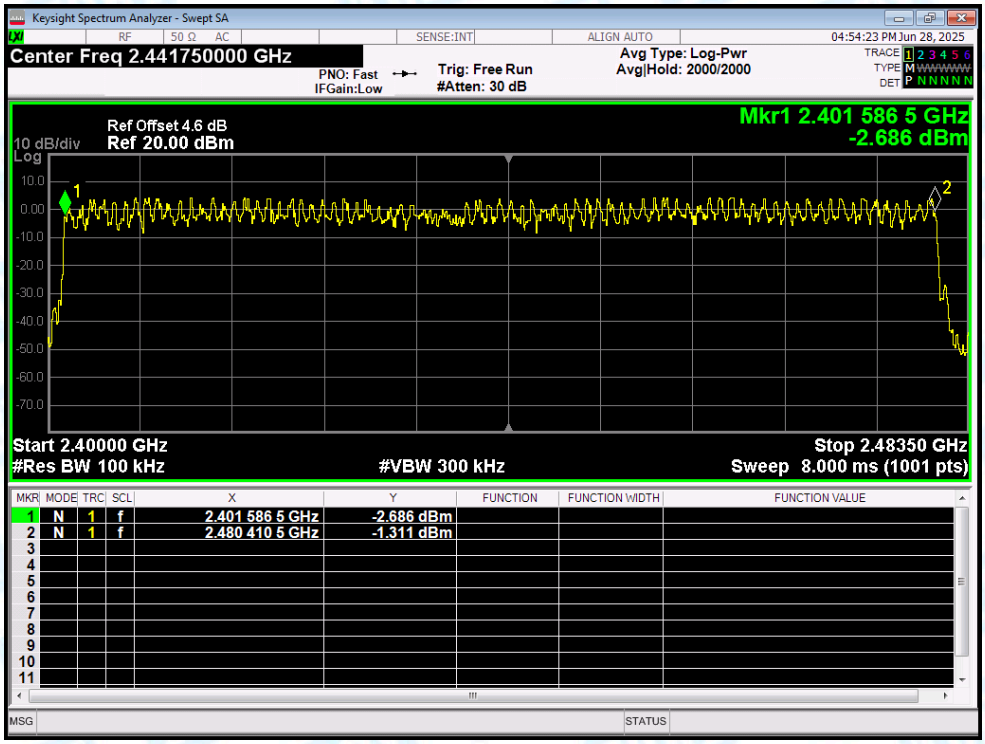
Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



Hopping No. NVNT 3-DH1 2441MHz Ant1

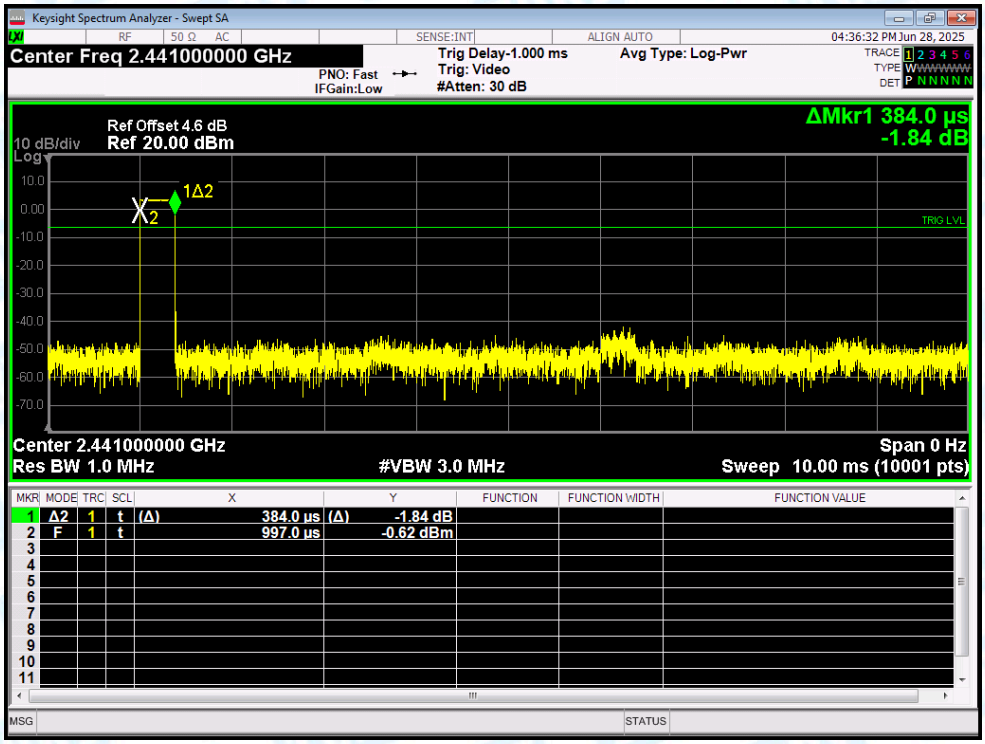


11. Dwell Time

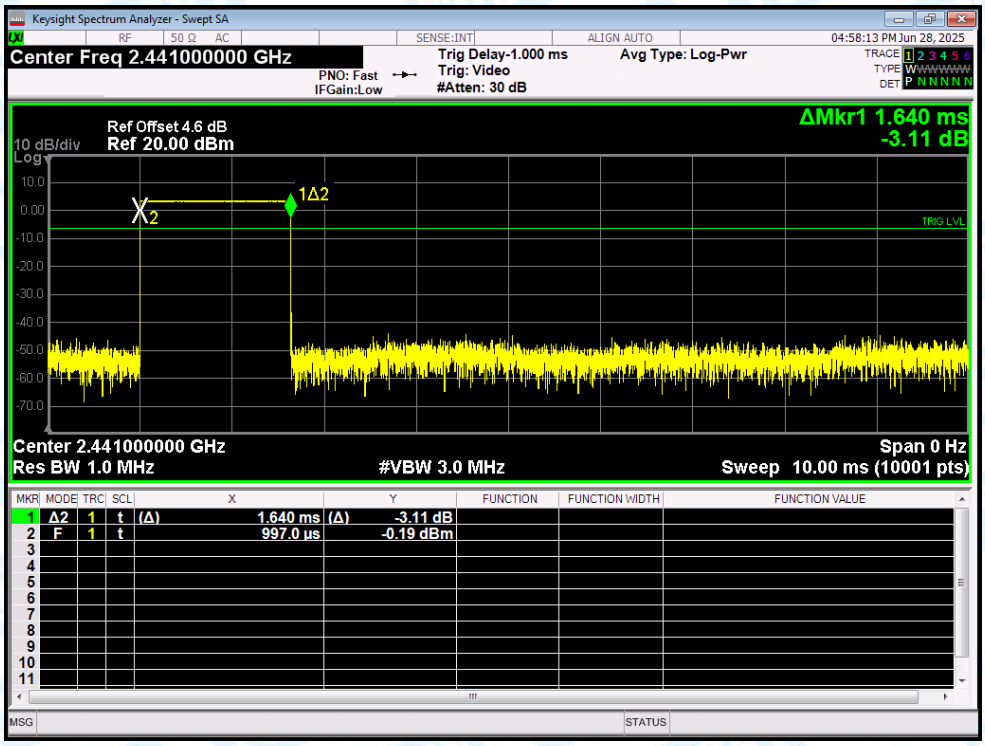
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.384	122.88	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.64	262.4	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.888	308.053	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.393	125.76	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.645	263.2	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.893	308.587	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.393	125.76	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.895	308.8	31600	400	Pass

Test Graphs

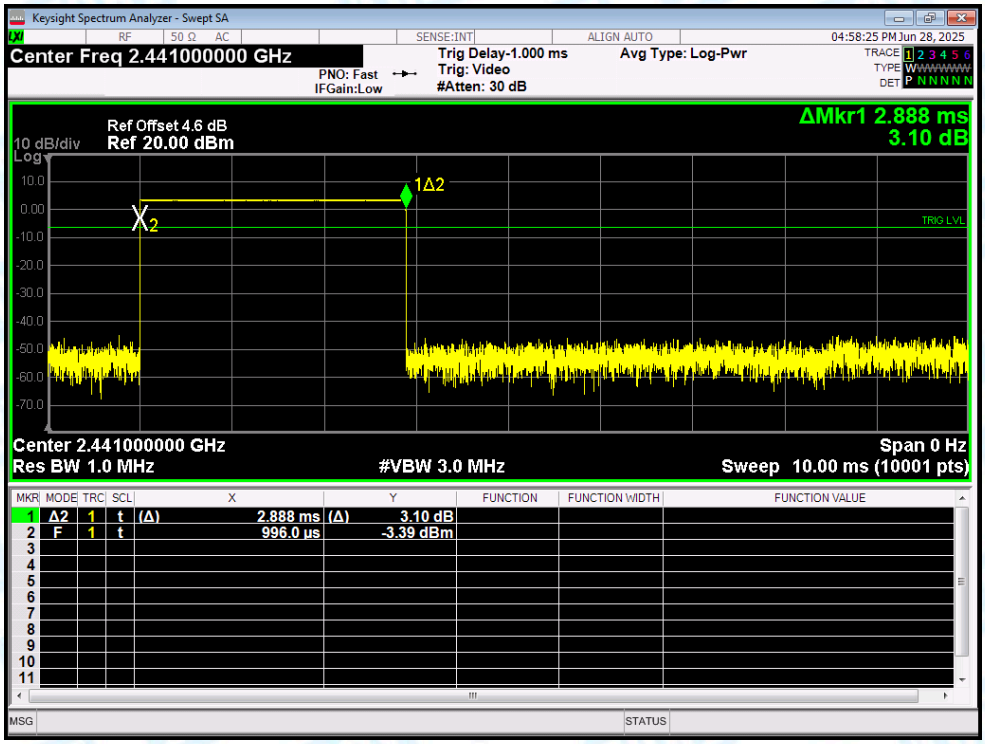
Dwell NVNT 1-DH1 2441MHz Ant1



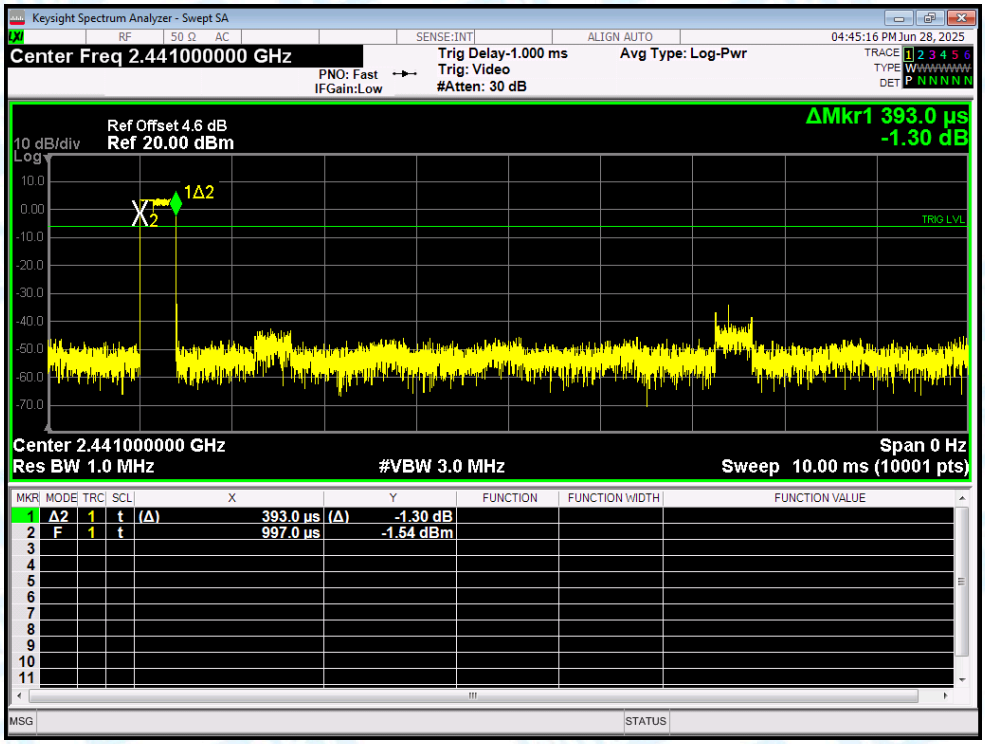
Dwell NVNT 1-DH3 2441MHz Ant1



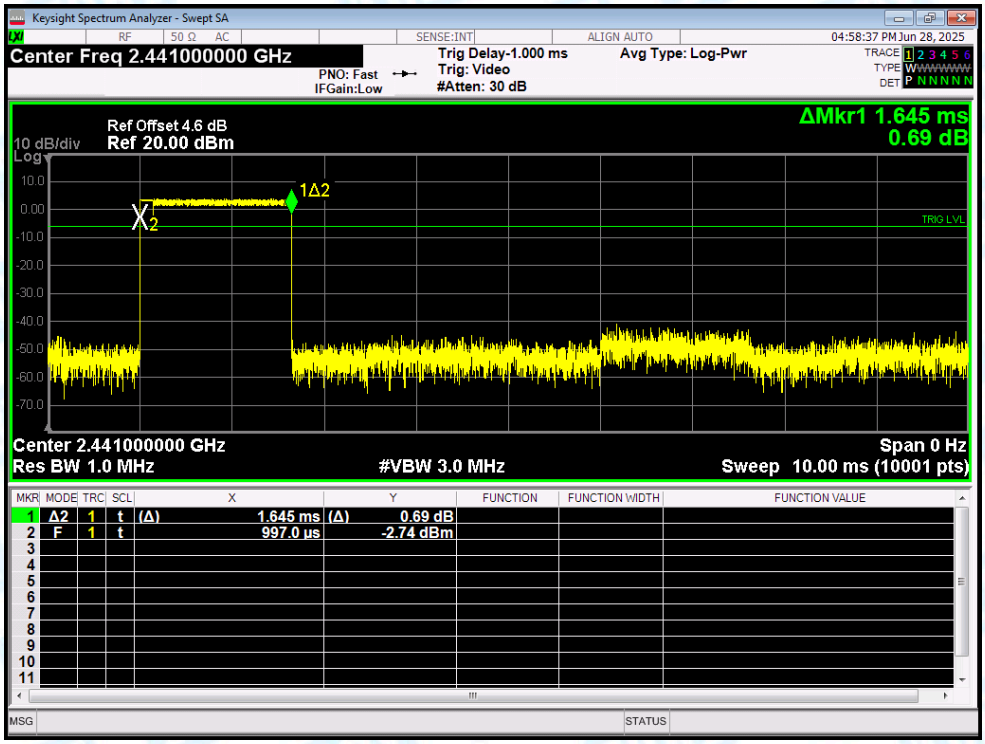
Dwell NVNT 1-DH5 2441MHz Ant1



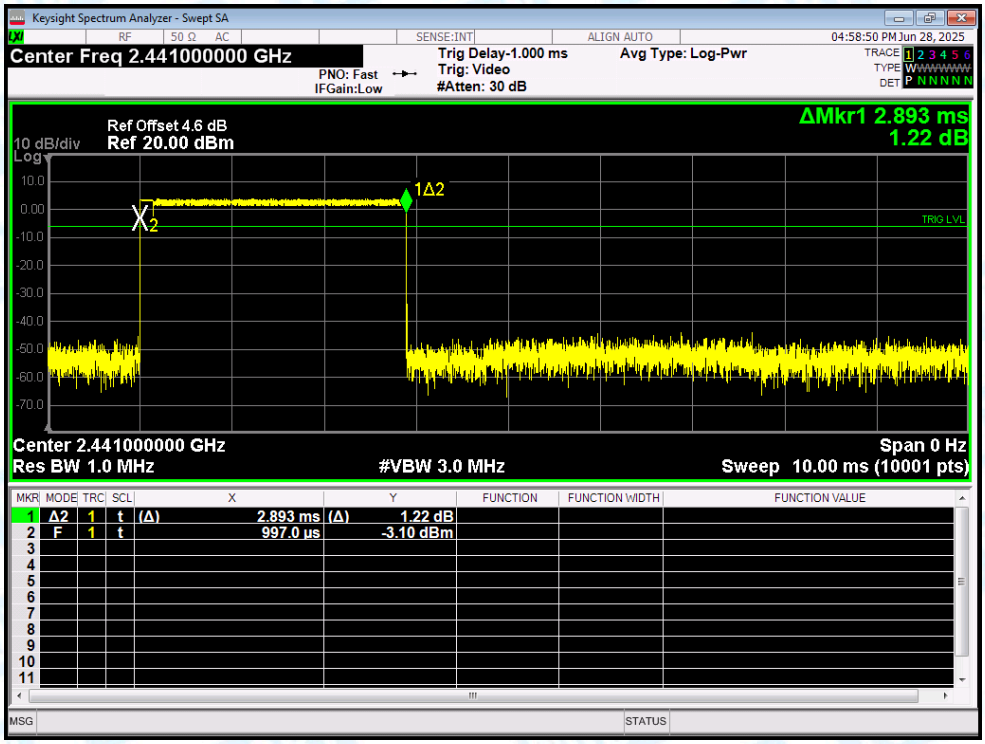
Dwell NVNT 2-DH1 2441MHz Ant1



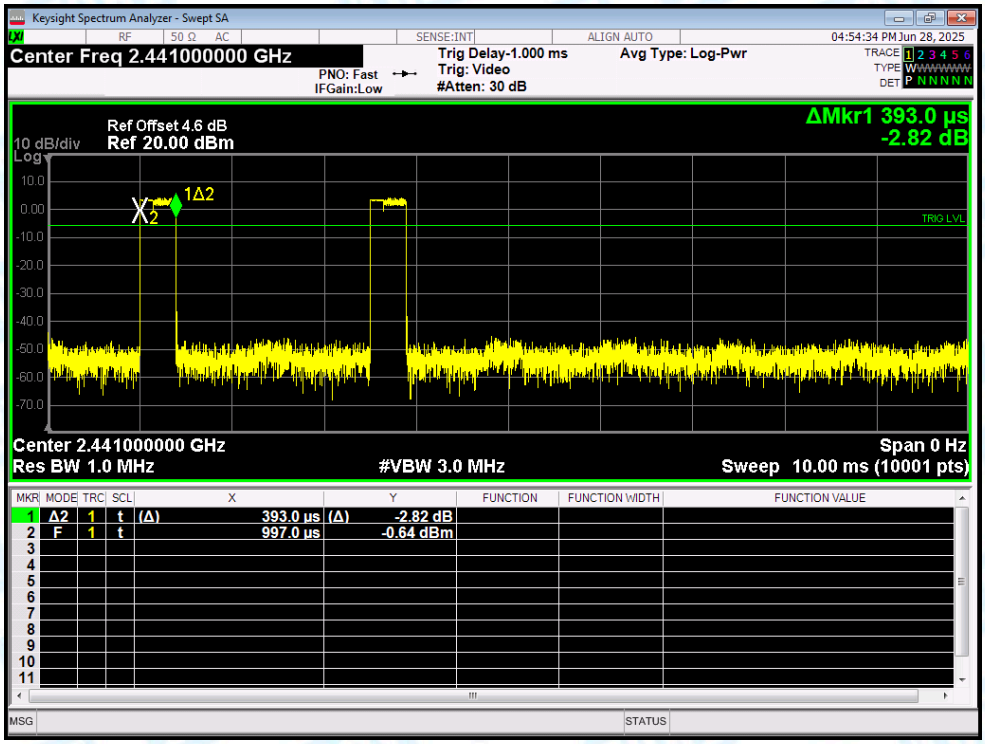
Dwell NVNT 2-DH3 2441MHz Ant1



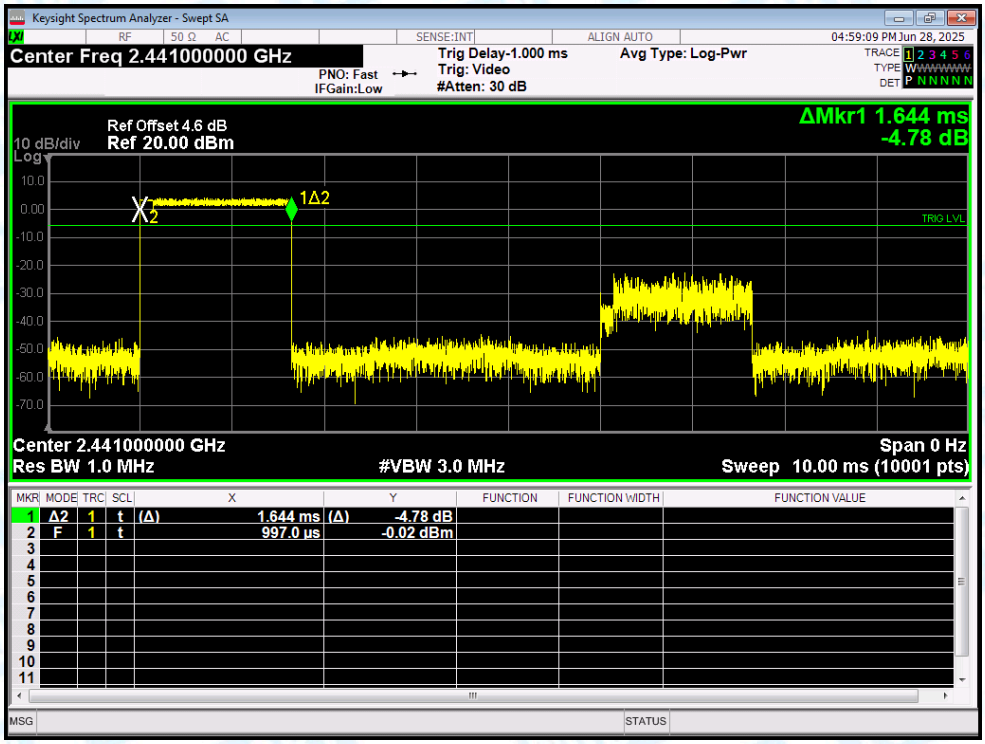
Dwell NVNT 2-DH5 2441MHz Ant1



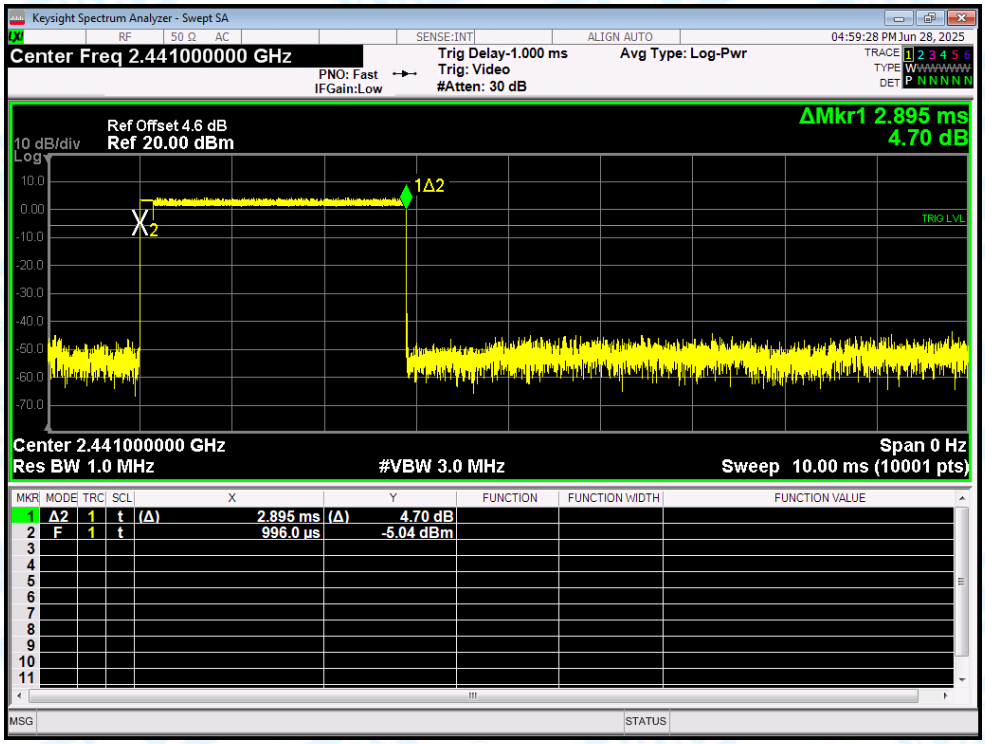
Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1



Dwell NVNT 3-DH5 2441MHz Ant1



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