

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

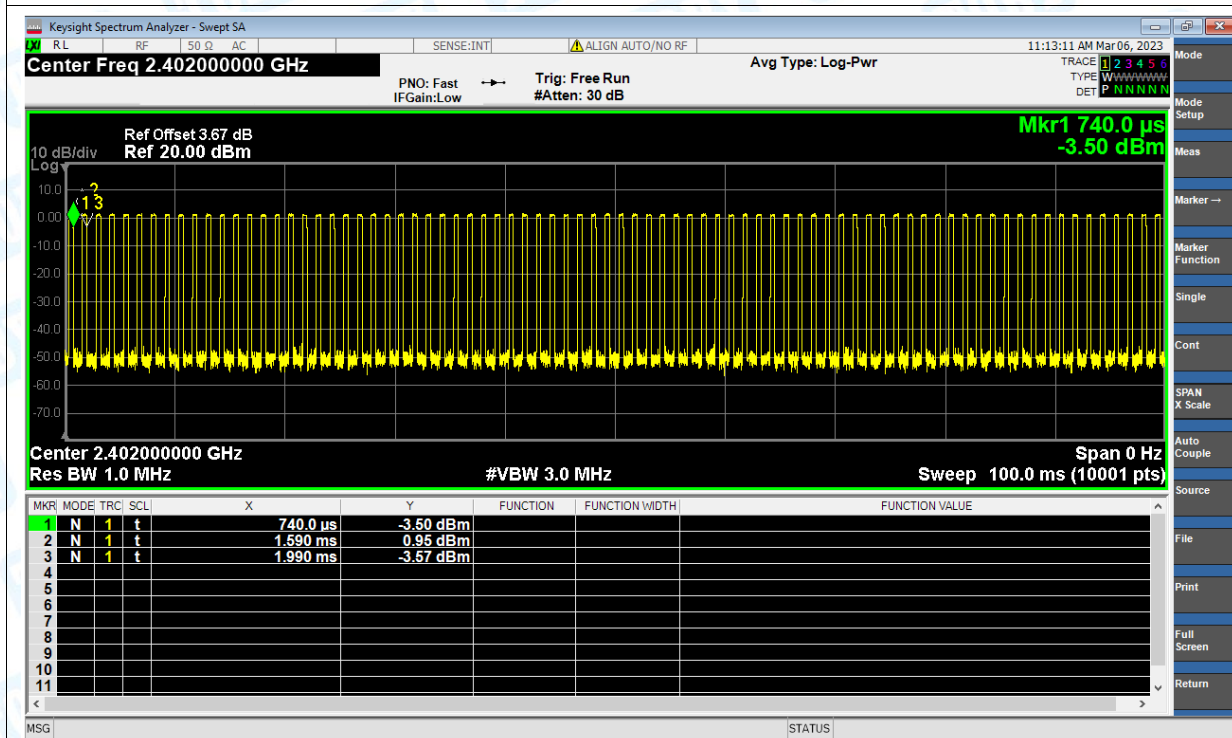
General Description of EUT	
Product Name:	Wireless Earbuds
Test Model:	Mates Pro T10
Sample ID:	RW-C-202302-0302-4-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Liu Ji Ming
Note: For a more detailed features description, please refer to the report TBR-C-202302-0302-4 The report only show the worst case data.	

1. Duty Cycle

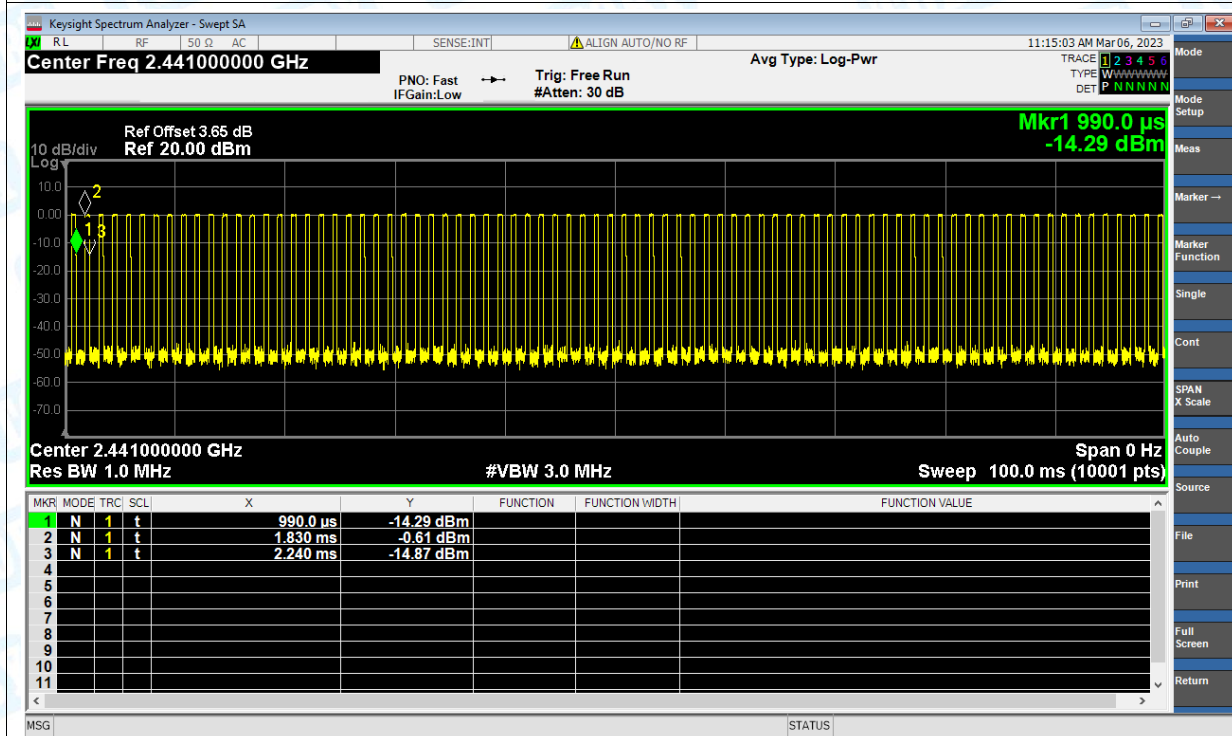
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32	4.95	2.5
NVNT	1-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	1-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	2-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2402	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2441	Ant1	32.8	4.84	2.44
NVNT	3-DH1	2480	Ant1	32.8	4.84	2.44

Test Graphs

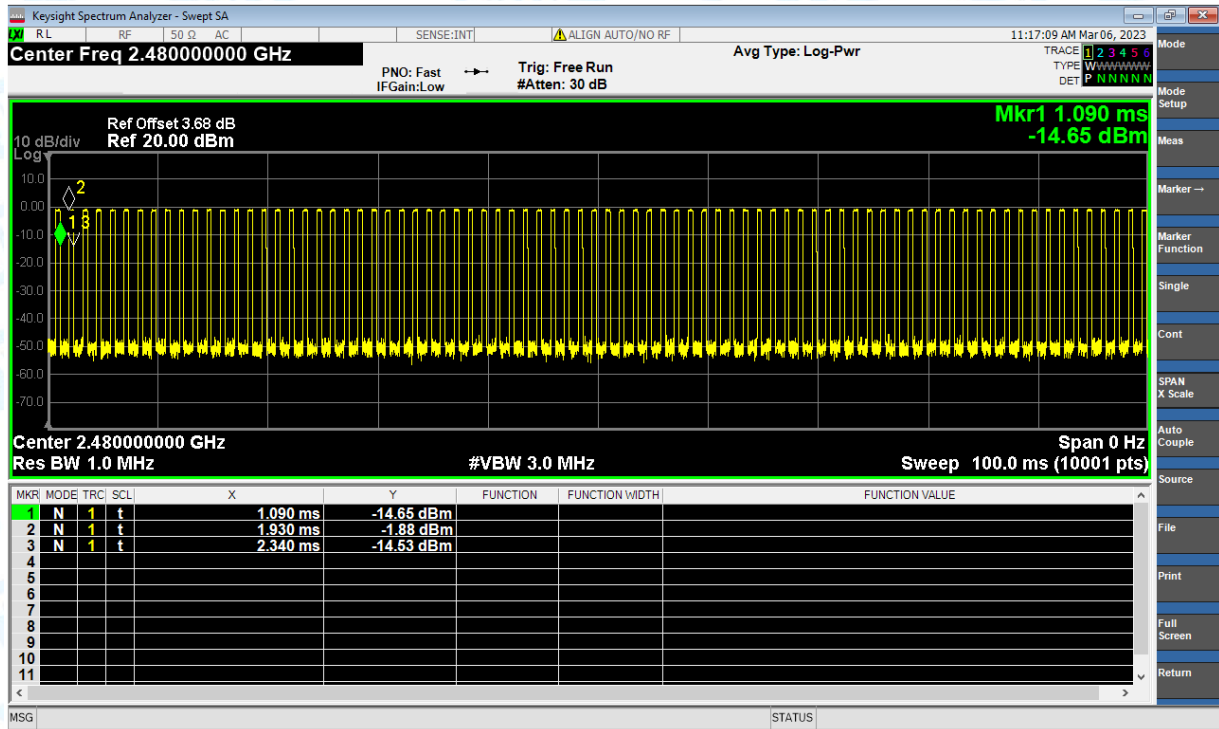
Duty Cycle NVNT 1-DH1 2402MHz Ant1



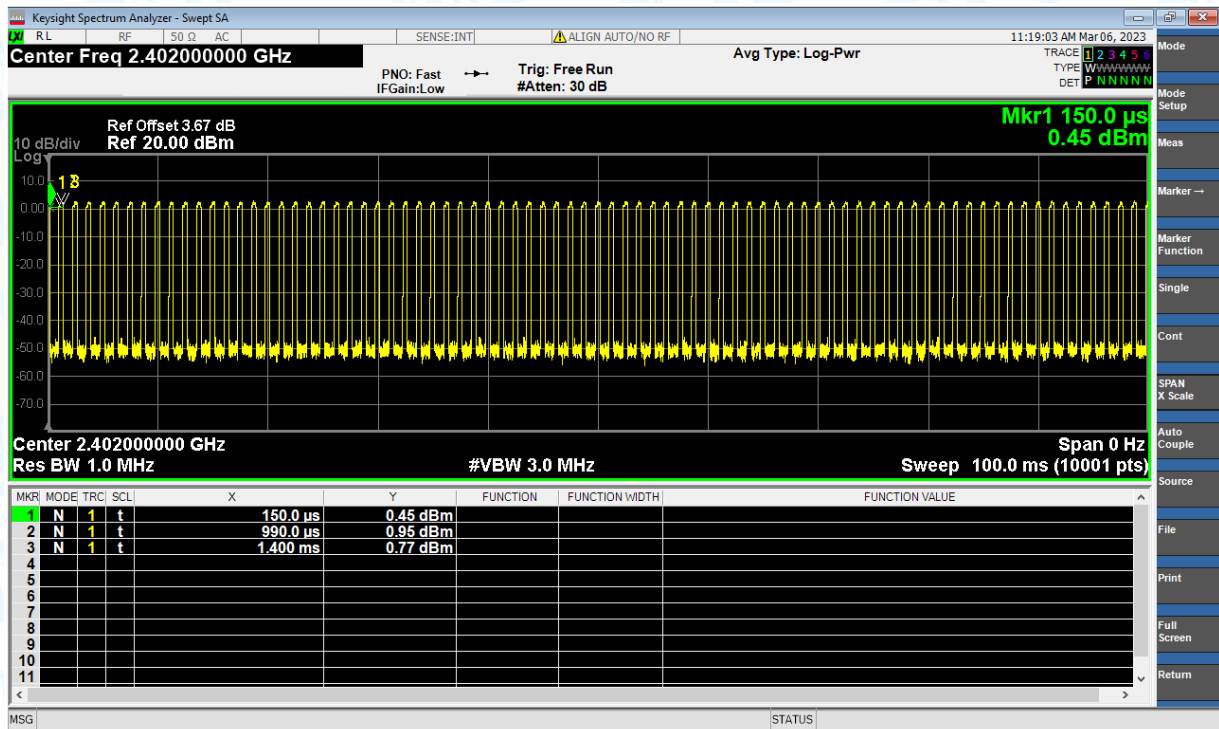
Duty Cycle NVNT 1-DH1 2441MHz Ant1



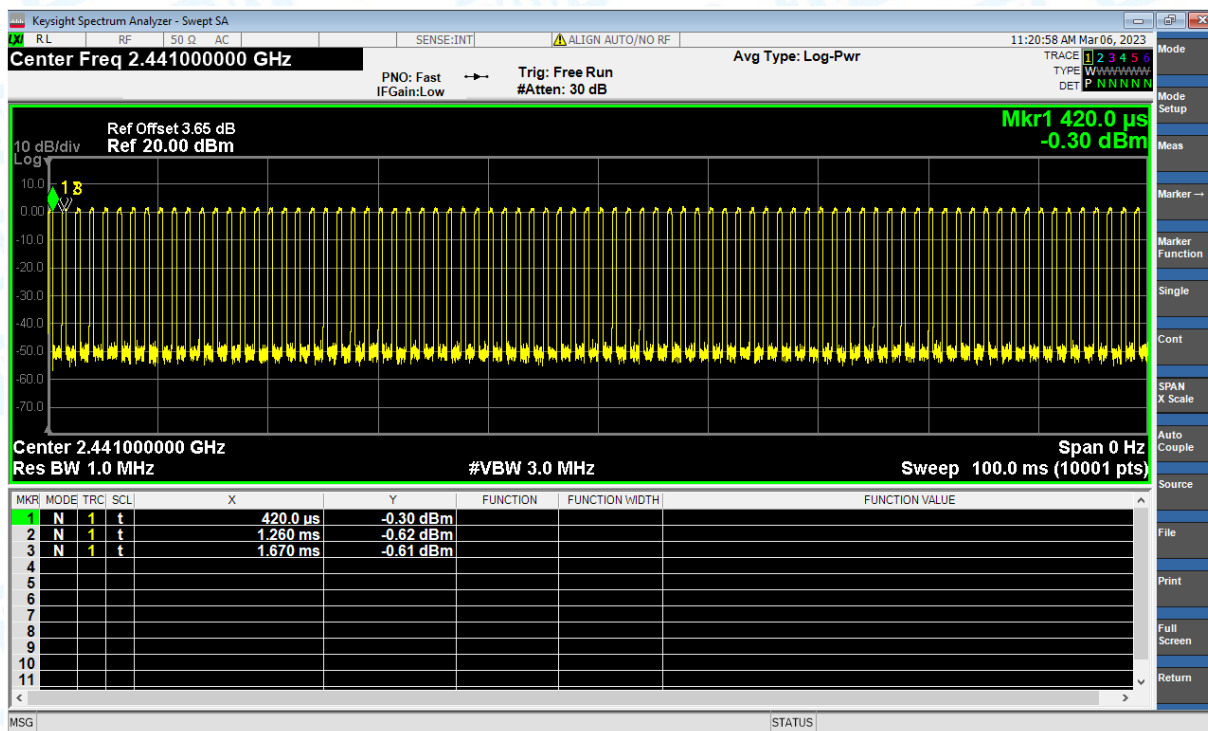
Duty Cycle NVNT 1-DH1 2480MHz Ant1



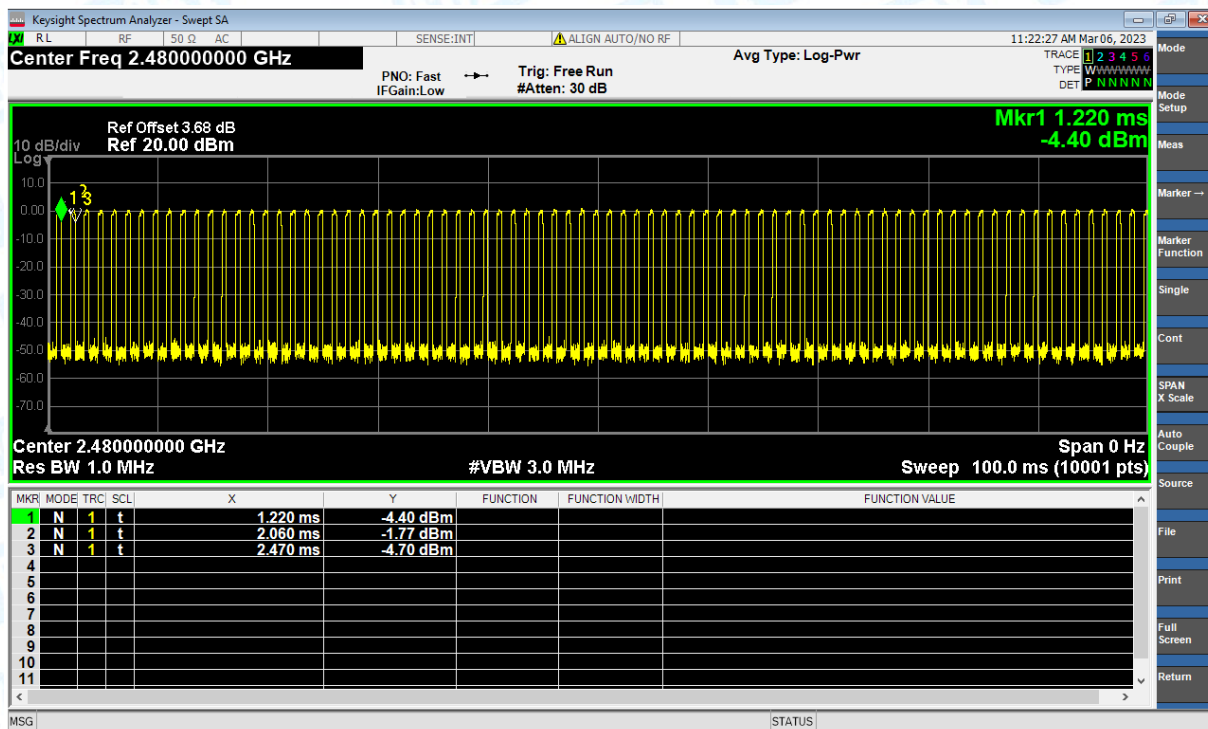
Duty Cycle NVNT 2-DH1 2402MHz Ant1



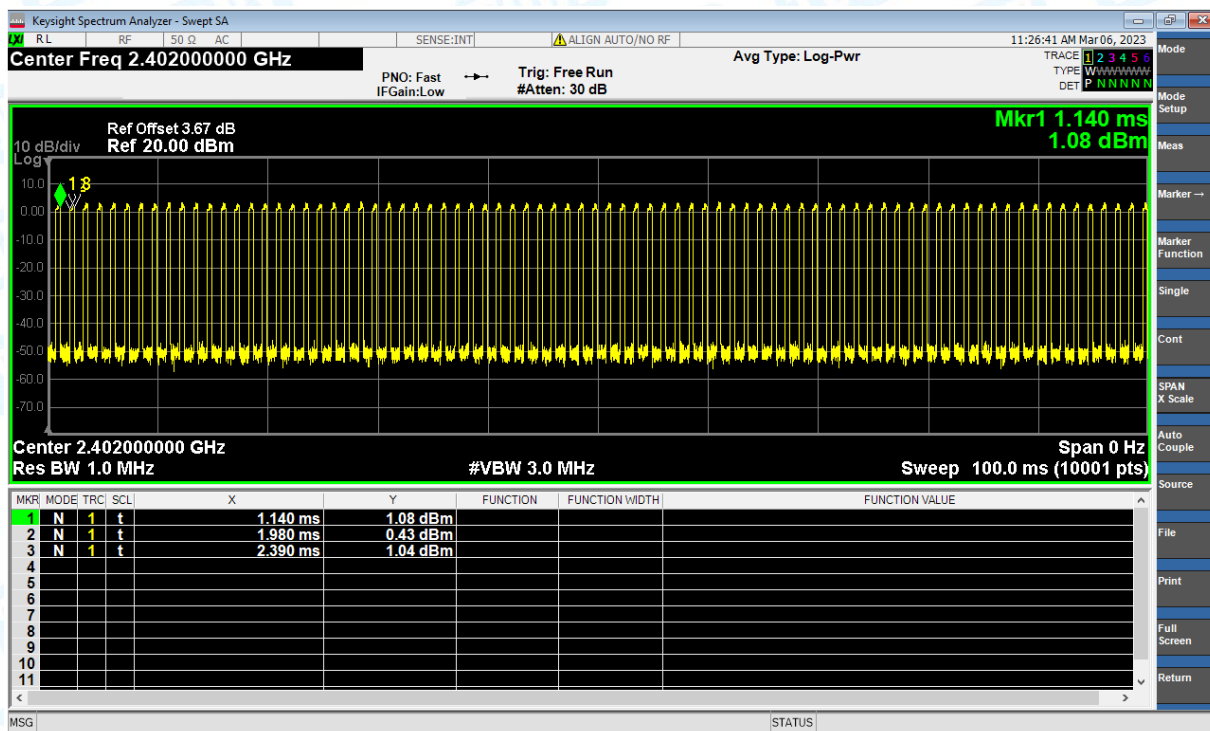
Duty Cycle NVNT 2-DH1 2441MHz Ant1



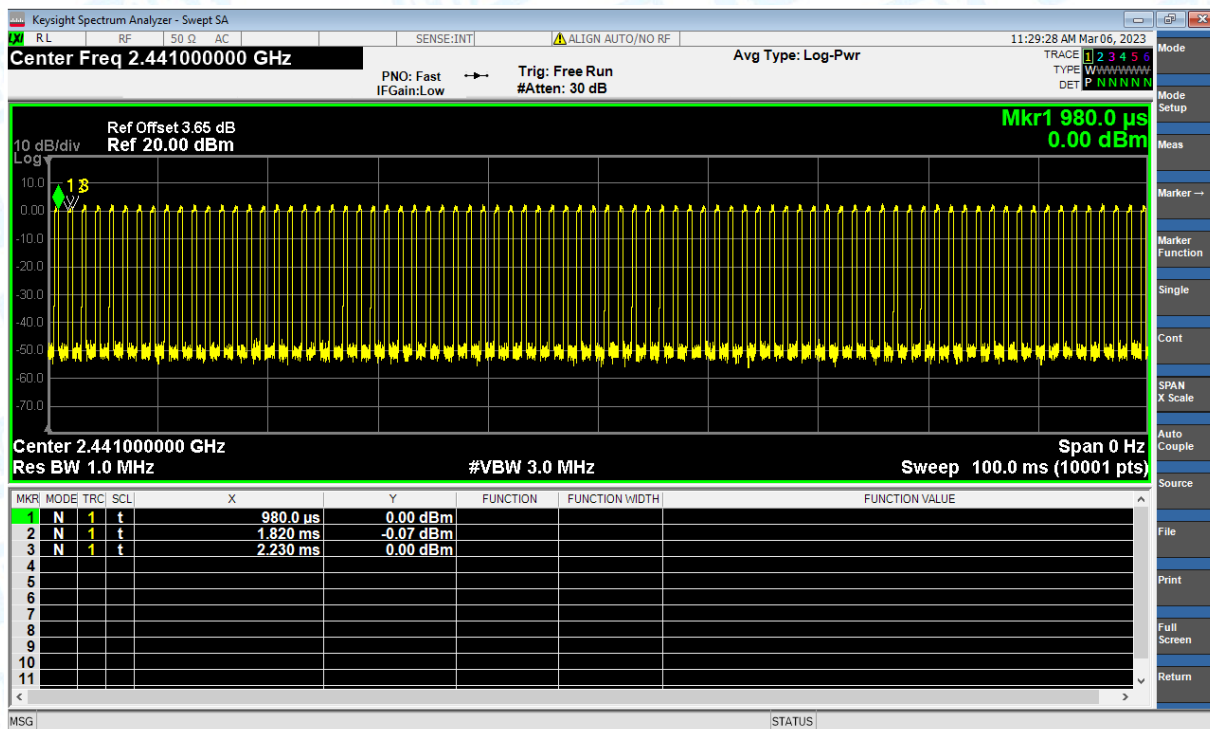
Duty Cycle NVNT 2-DH1 2480MHz Ant1

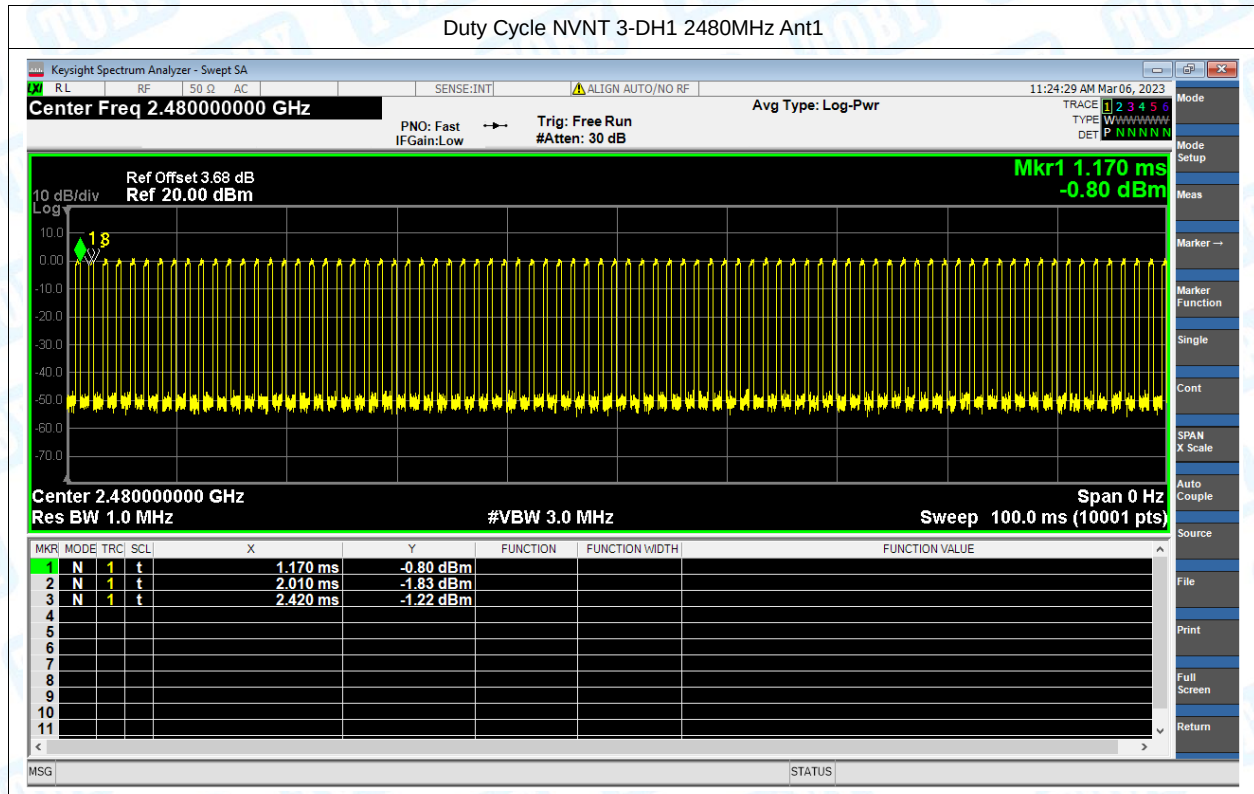


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



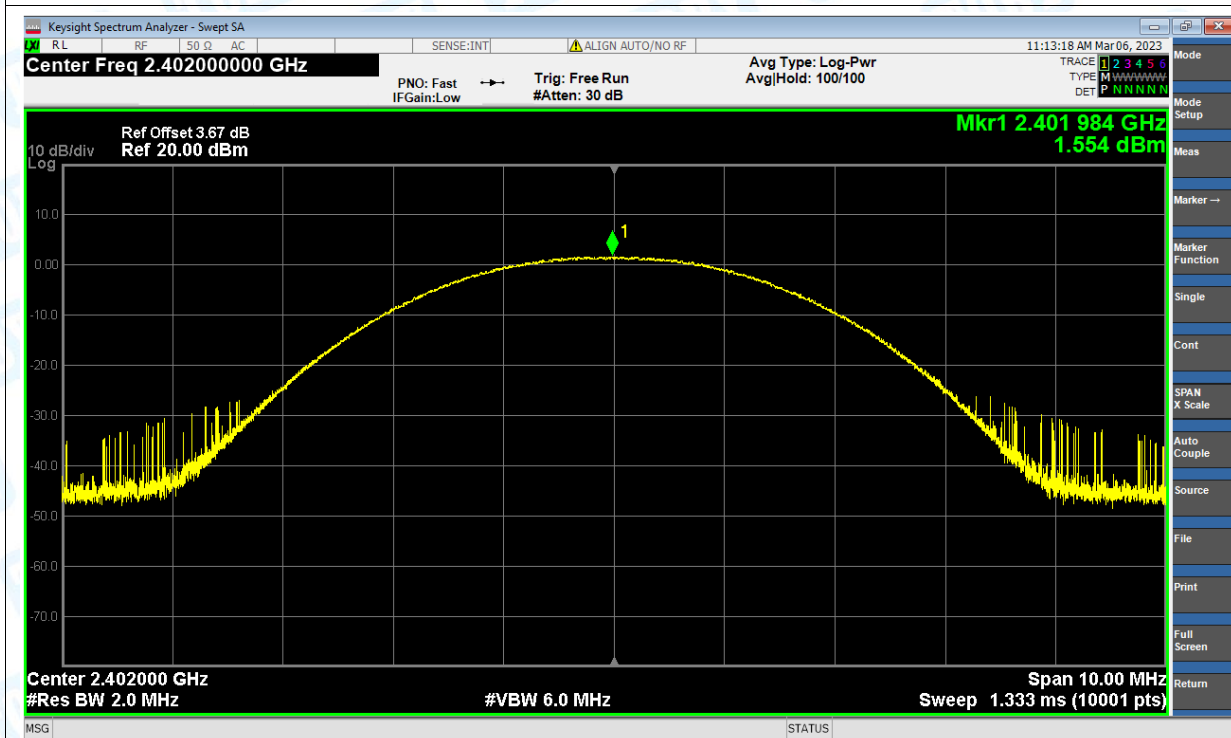


2. Maximum Conducted Output Power

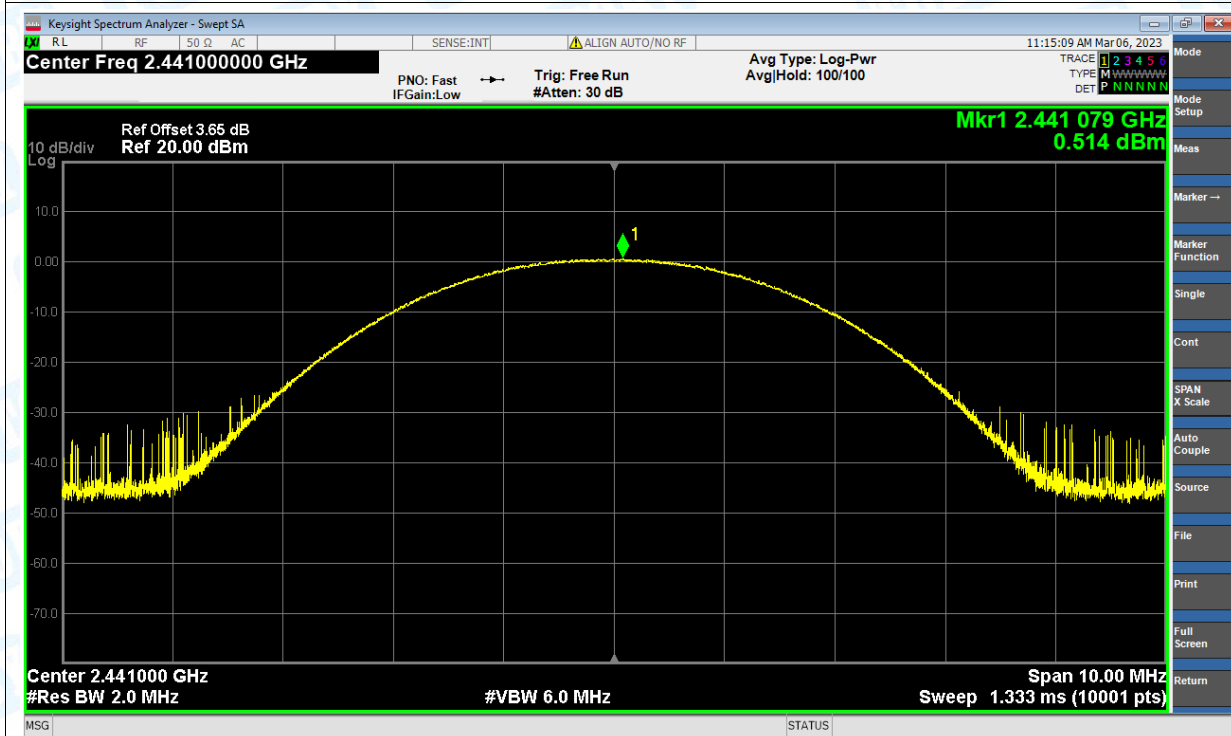
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	1.554	21	Pass
NVNT	1-DH1	2441	Ant1	0.514	21	Pass
NVNT	1-DH1	2480	Ant1	-0.494	21	Pass
NVNT	2-DH1	2402	Ant1	3.504	21	Pass
NVNT	2-DH1	2441	Ant1	2.186	21	Pass
NVNT	2-DH1	2480	Ant1	1.007	21	Pass
NVNT	3-DH1	2402	Ant1	3.866	21	Pass
NVNT	3-DH1	2441	Ant1	2.801	21	Pass
NVNT	3-DH1	2480	Ant1	1.559	21	Pass

Test Graphs

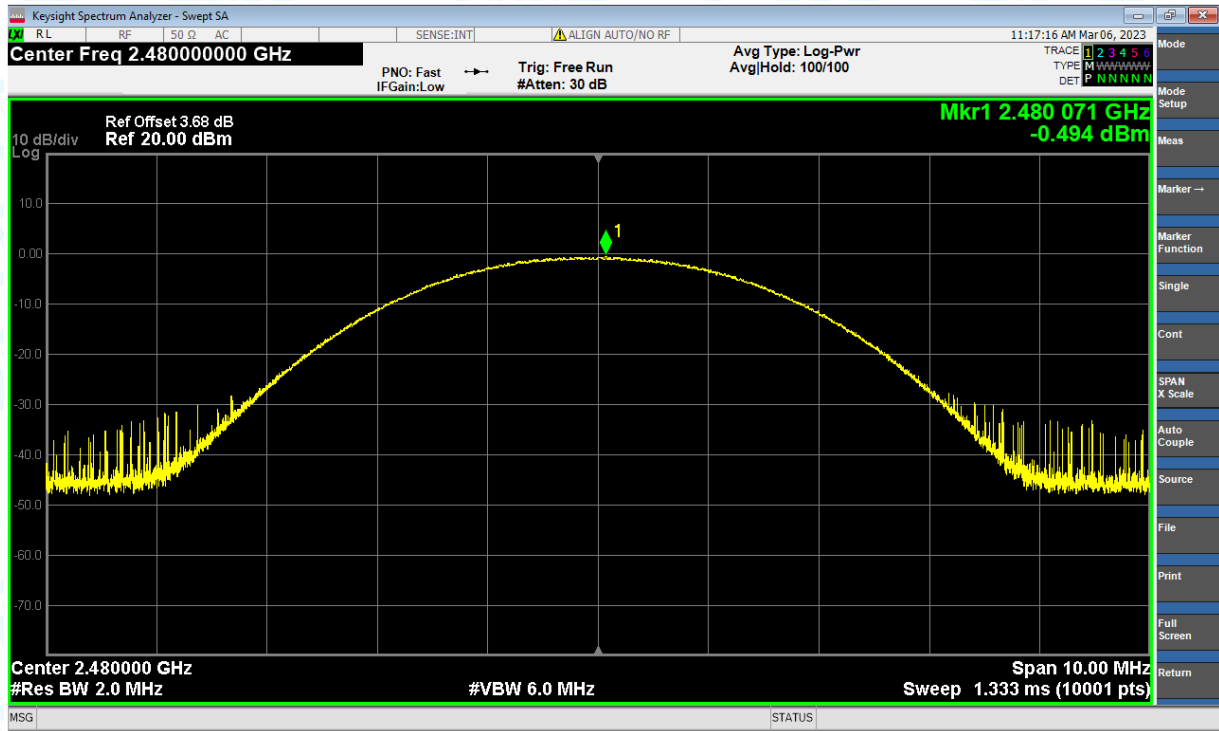
Power NVNT 1-DH1 2402MHz Ant1



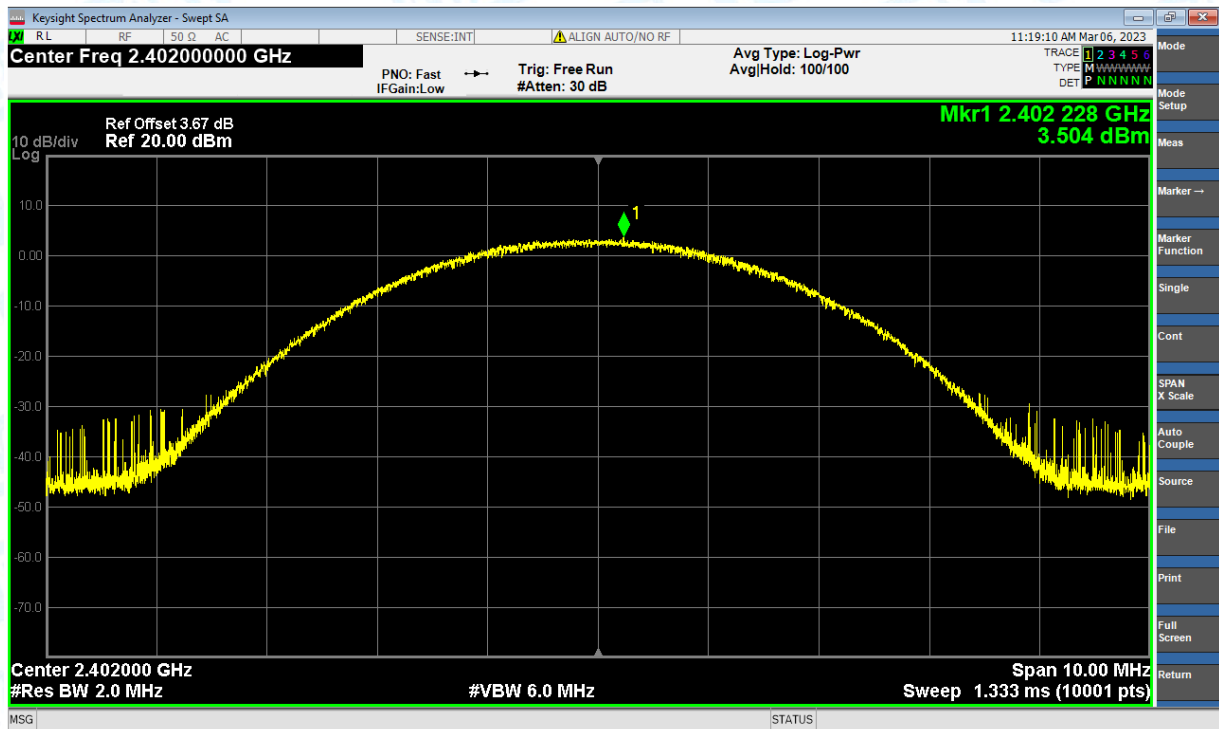
Power NVNT 1-DH1 2441MHz Ant1



Power NVNT 1-DH1 2480MHz Ant1



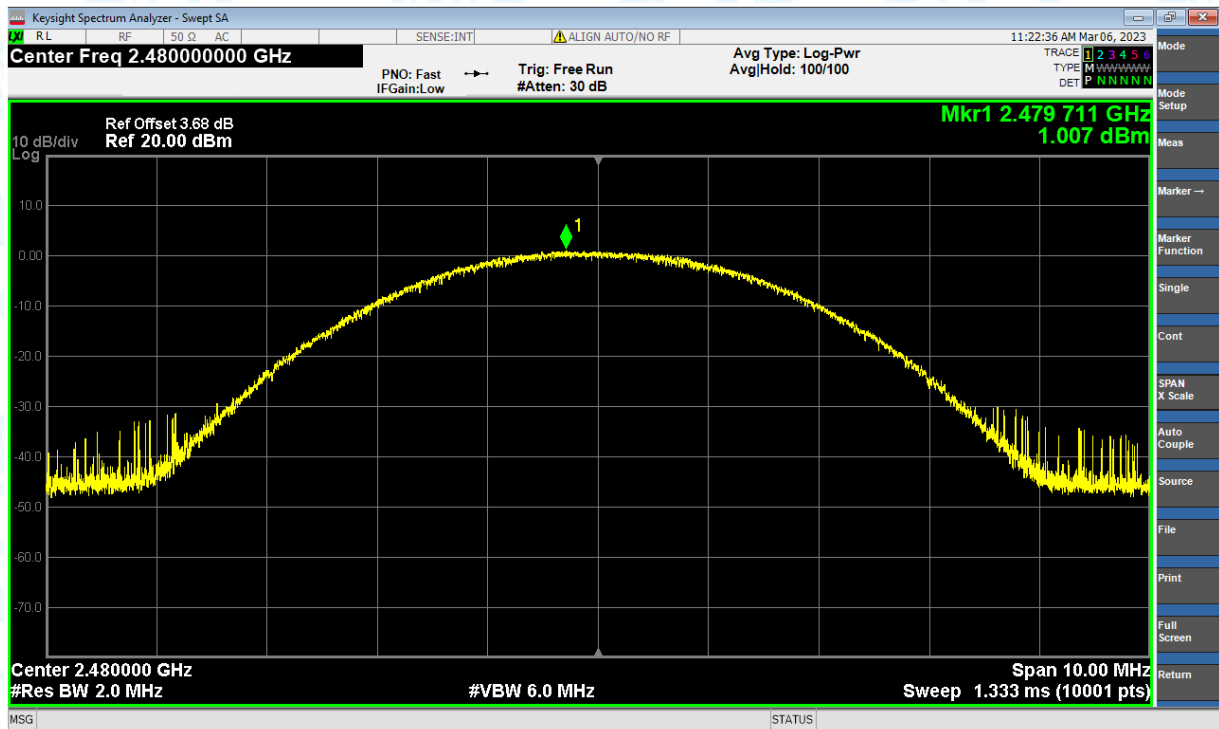
Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



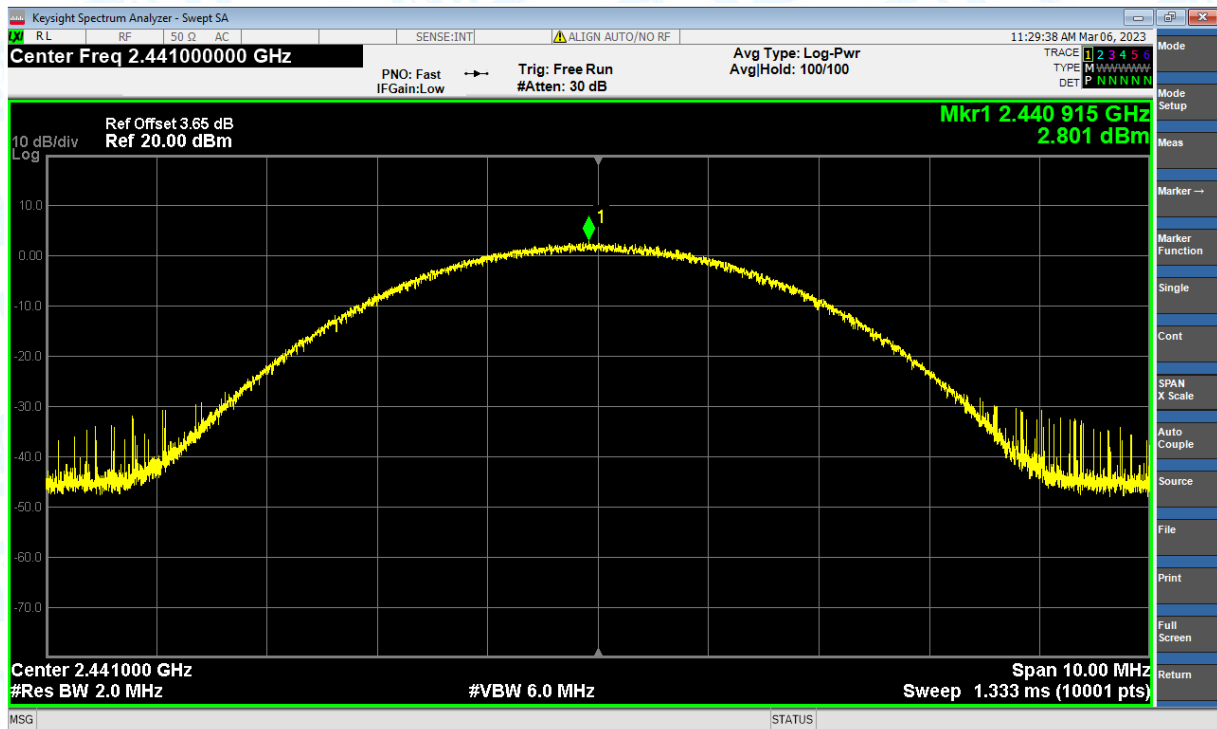
Power NVNT 2-DH1 2480MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



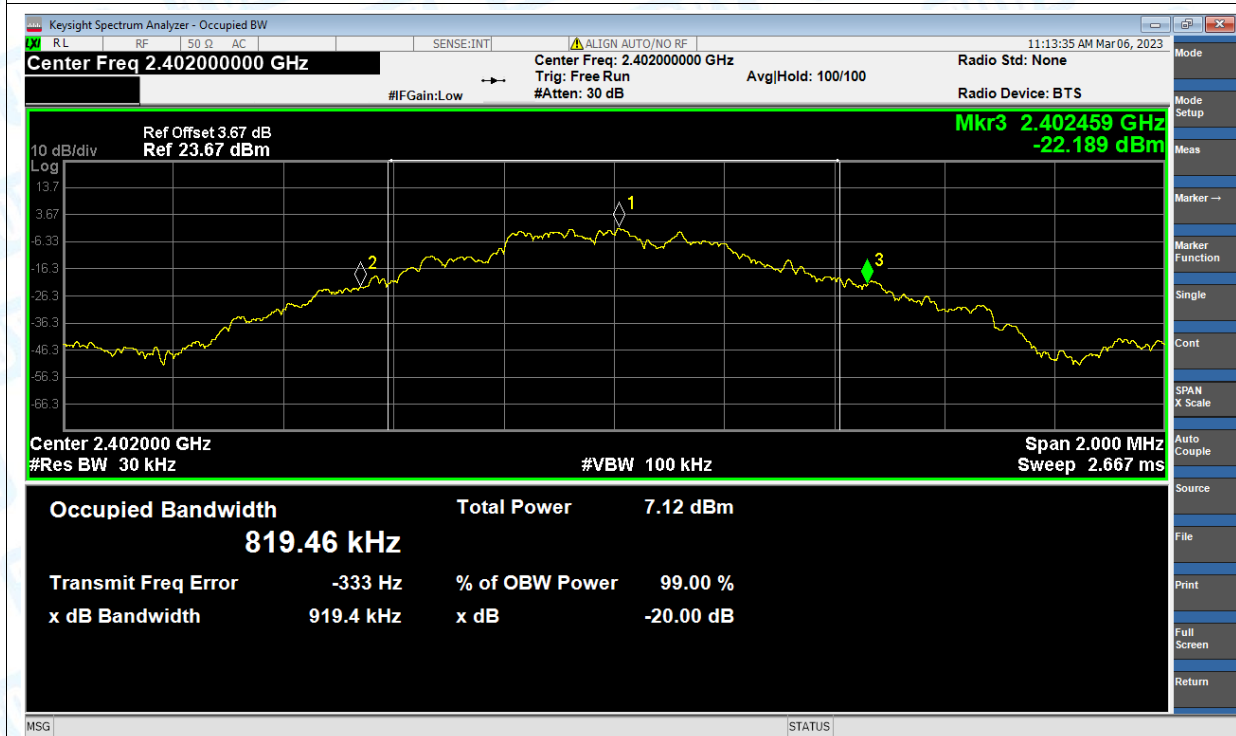


3. -20dB Bandwidth

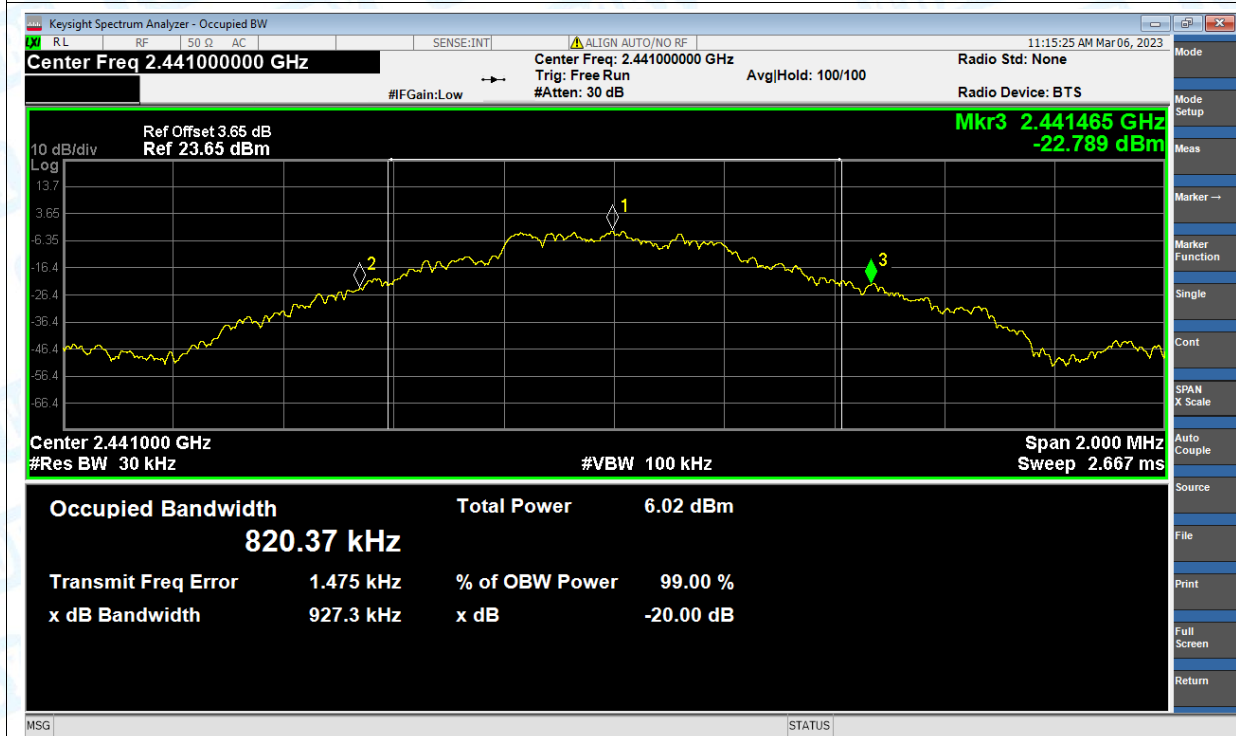
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.92	----	Pass
NVNT	1-DH1	2441	Ant1	0.93	----	Pass
NVNT	1-DH1	2480	Ant1	0.87	----	Pass
NVNT	2-DH1	2402	Ant1	1.27	----	Pass
NVNT	2-DH1	2441	Ant1	1.29	----	Pass
NVNT	2-DH1	2480	Ant1	1.25	----	Pass
NVNT	3-DH1	2402	Ant1	1.23	----	Pass
NVNT	3-DH1	2441	Ant1	1.22	----	Pass
NVNT	3-DH1	2480	Ant1	1.23	----	Pass

Test Graphs

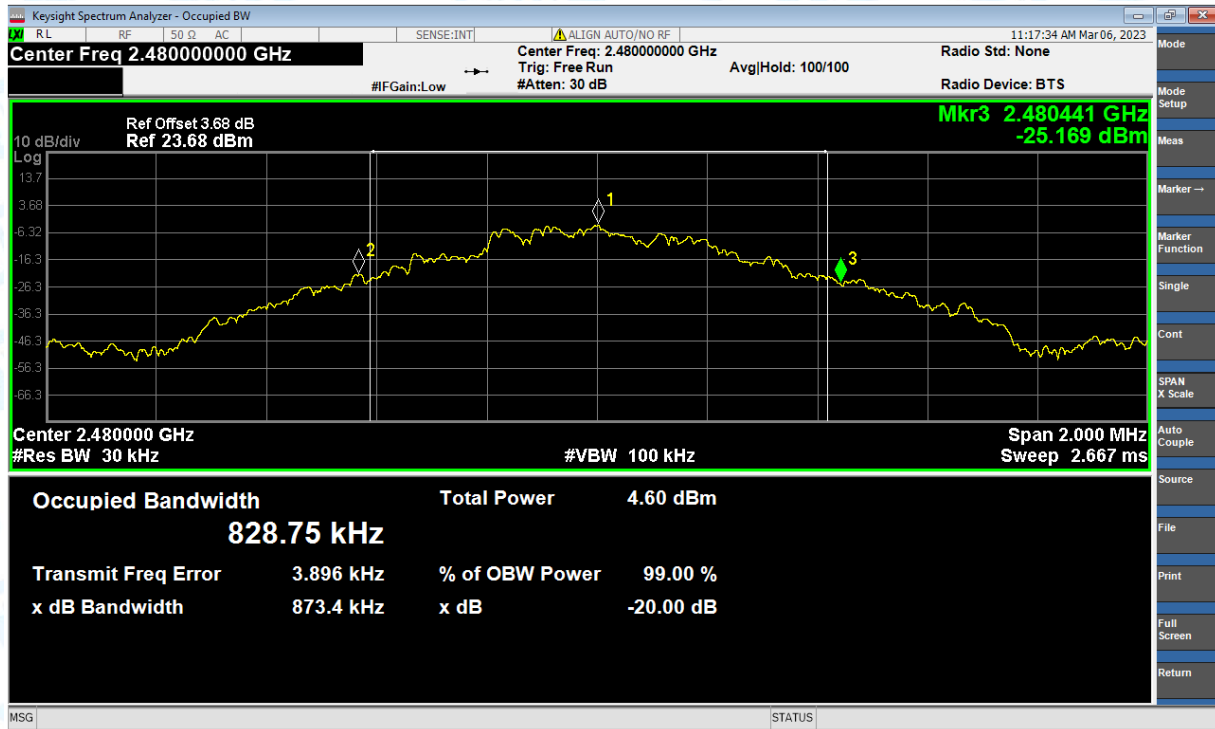
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



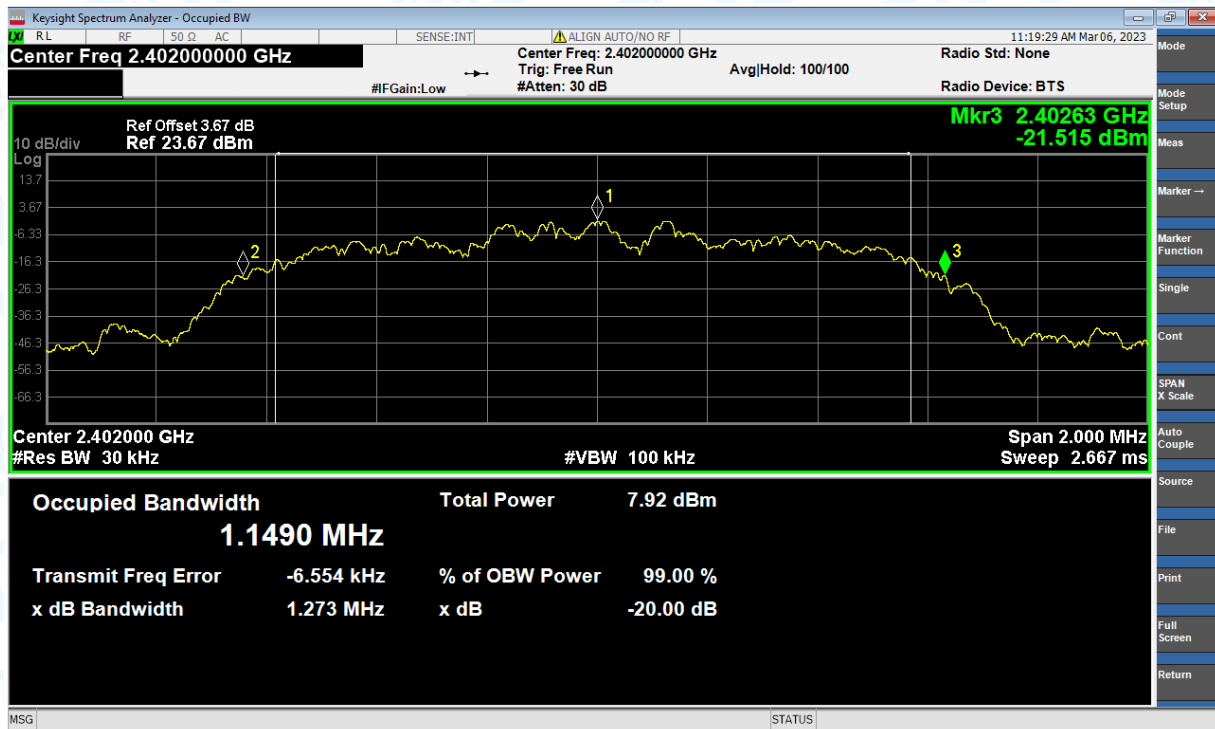
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



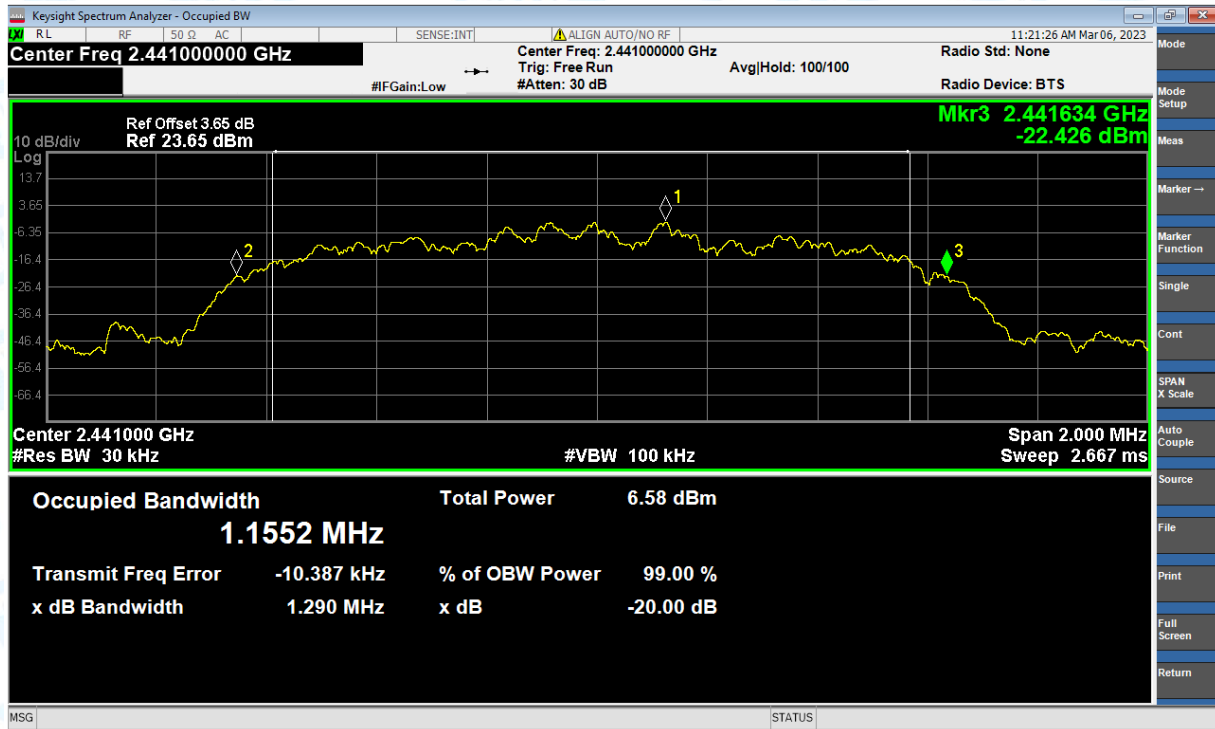
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



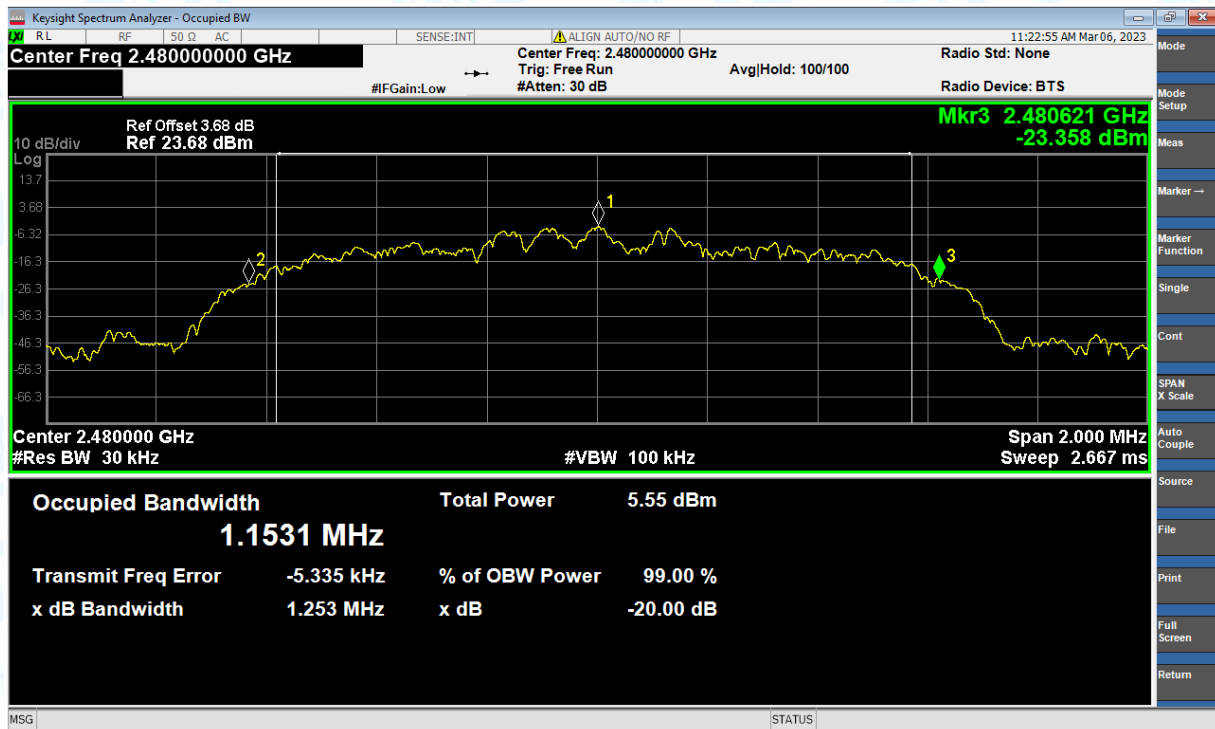
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



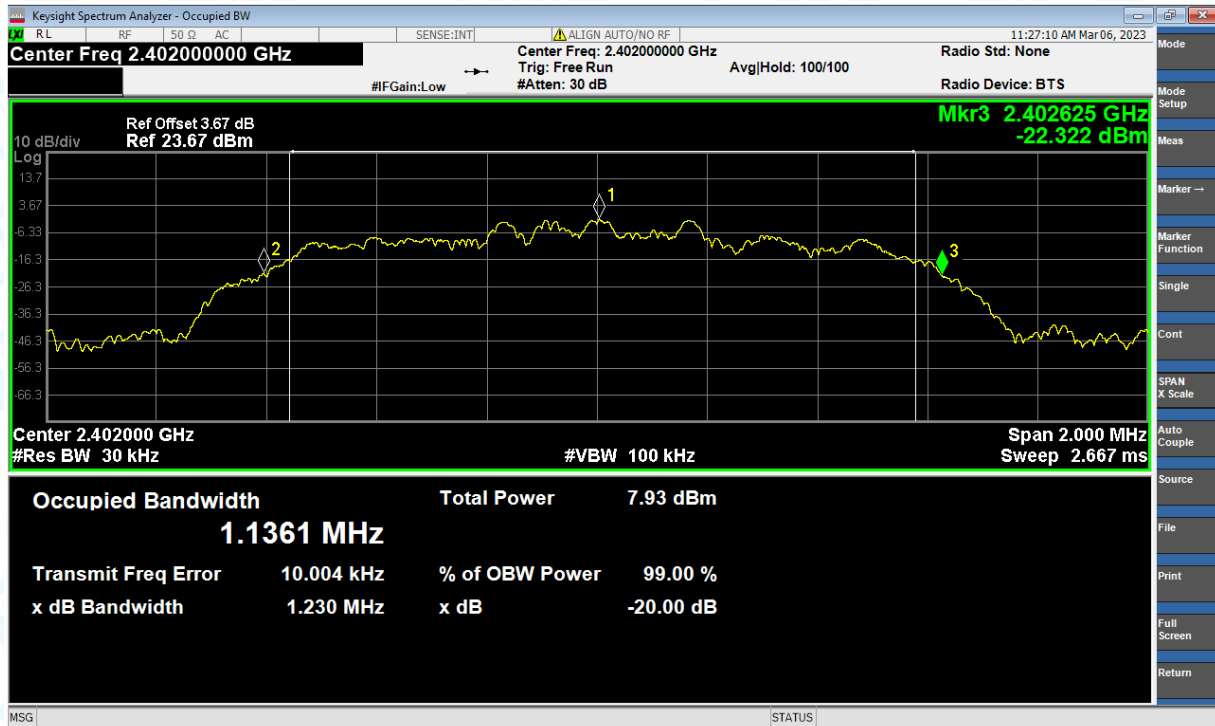
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



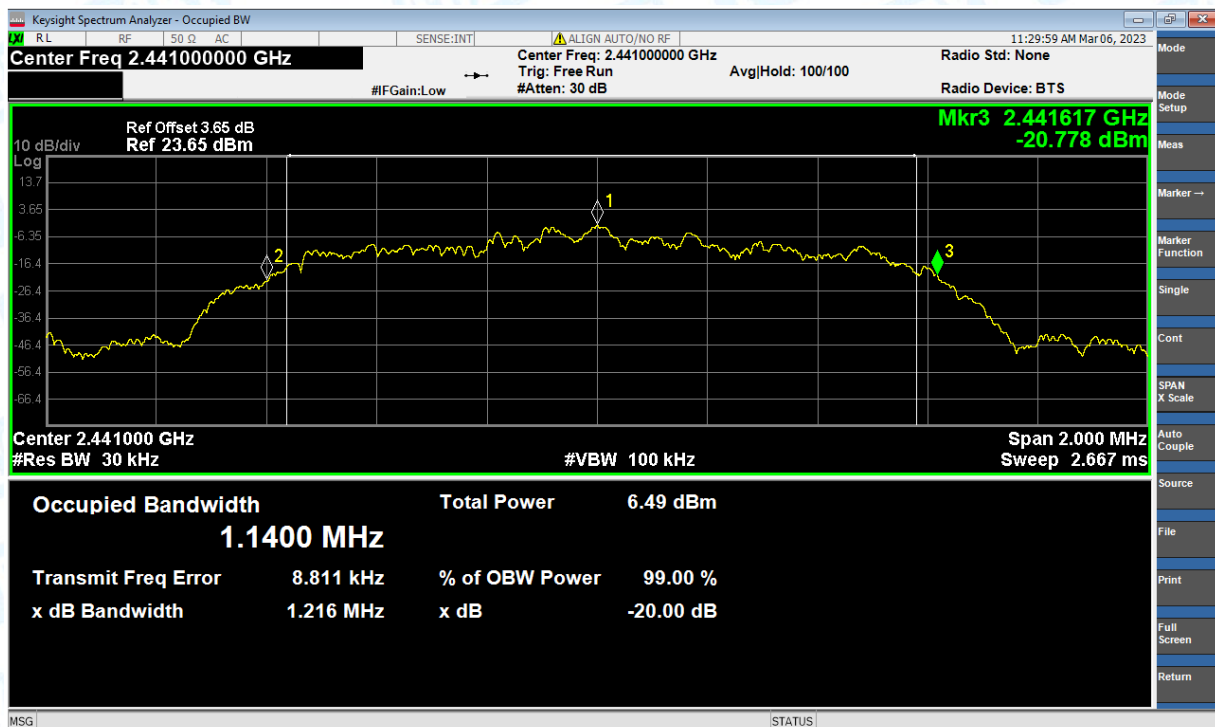
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

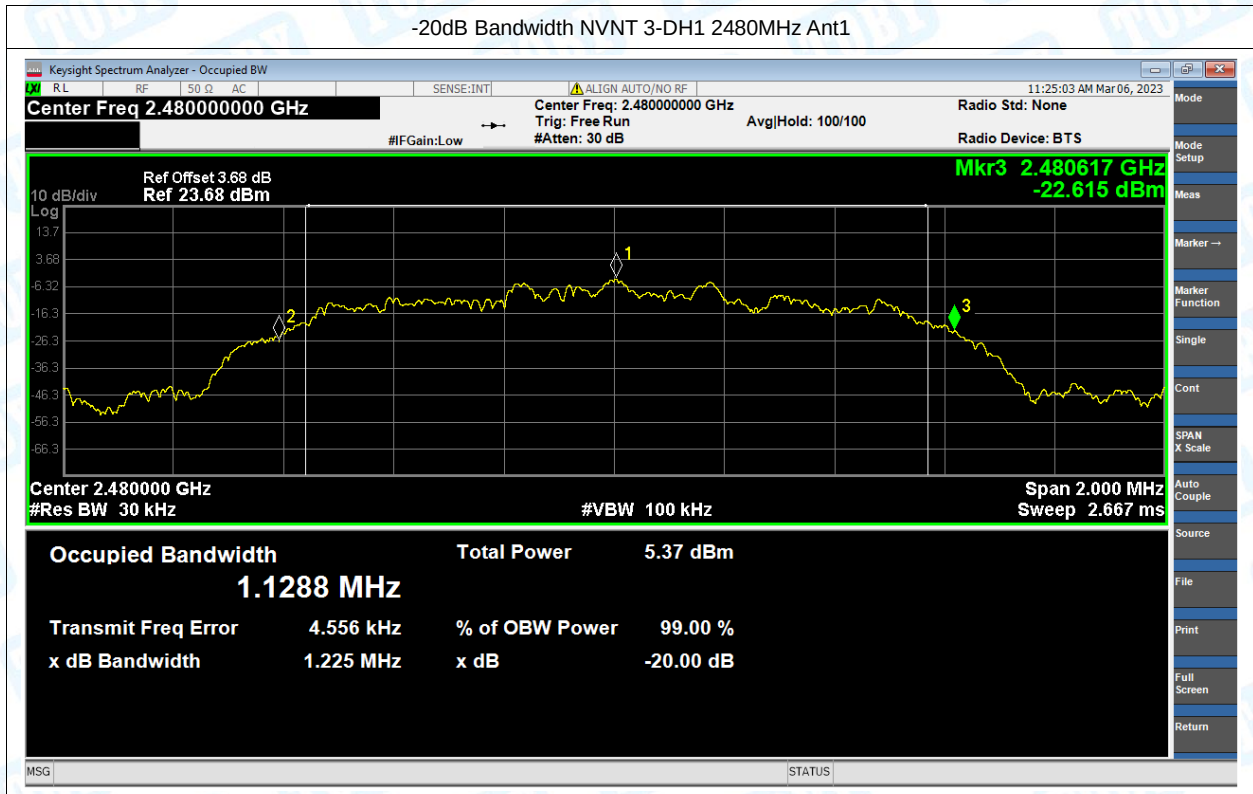


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



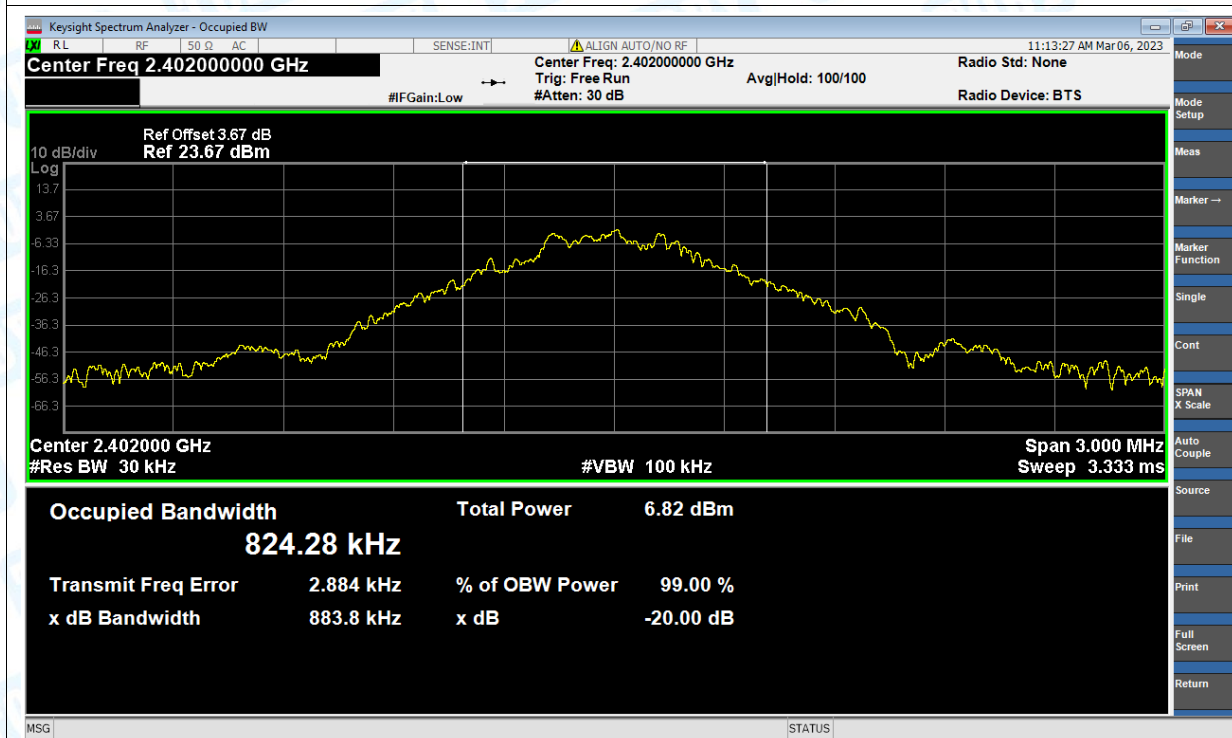


4. Occupied Channel Bandwidth

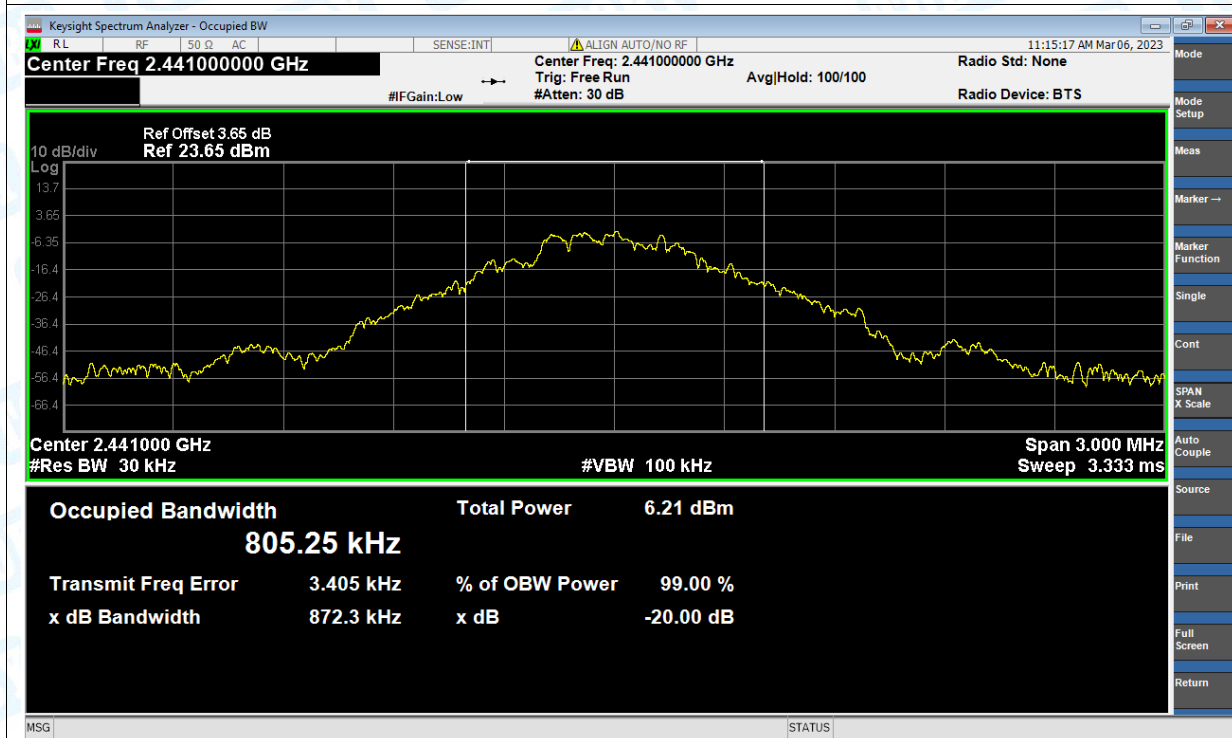
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.824
NVNT	1-DH1	2441	Ant1	0.805
NVNT	1-DH1	2480	Ant1	0.814
NVNT	2-DH1	2402	Ant1	1.167
NVNT	2-DH1	2441	Ant1	1.159
NVNT	2-DH1	2480	Ant1	1.168
NVNT	3-DH1	2402	Ant1	1.136
NVNT	3-DH1	2441	Ant1	1.147
NVNT	3-DH1	2480	Ant1	1.141

Test Graphs

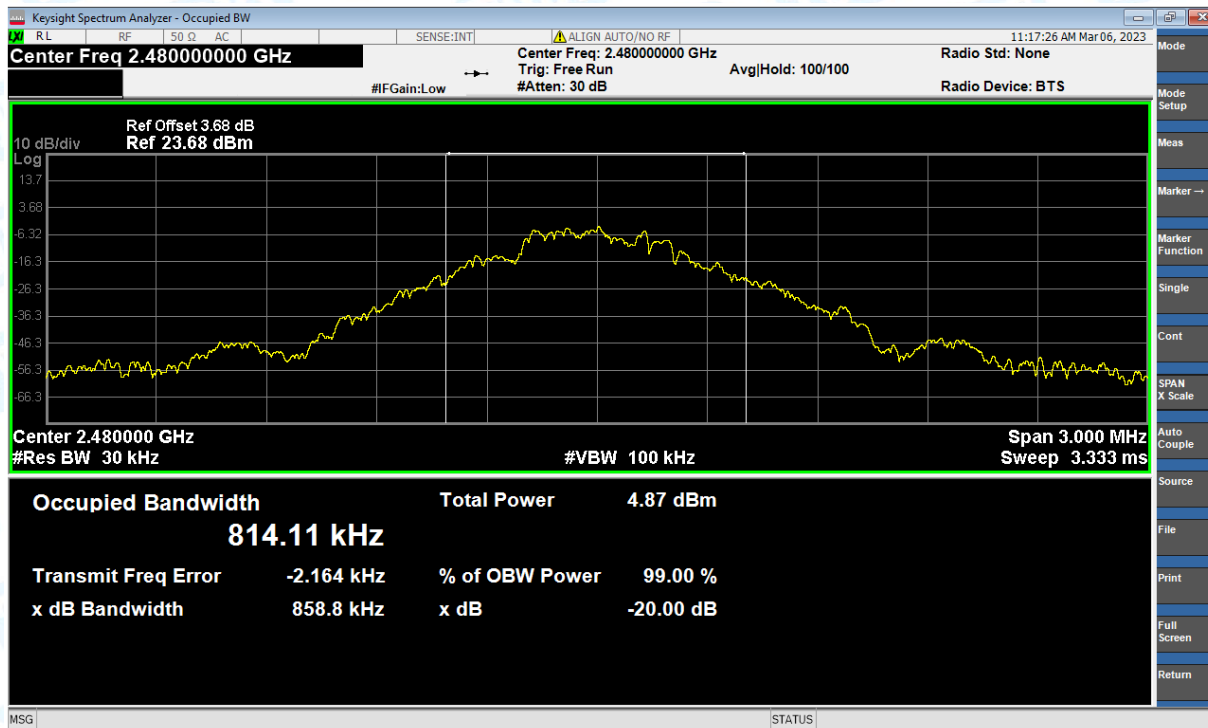
OBW NVNT 1-DH1 2402MHz Ant1



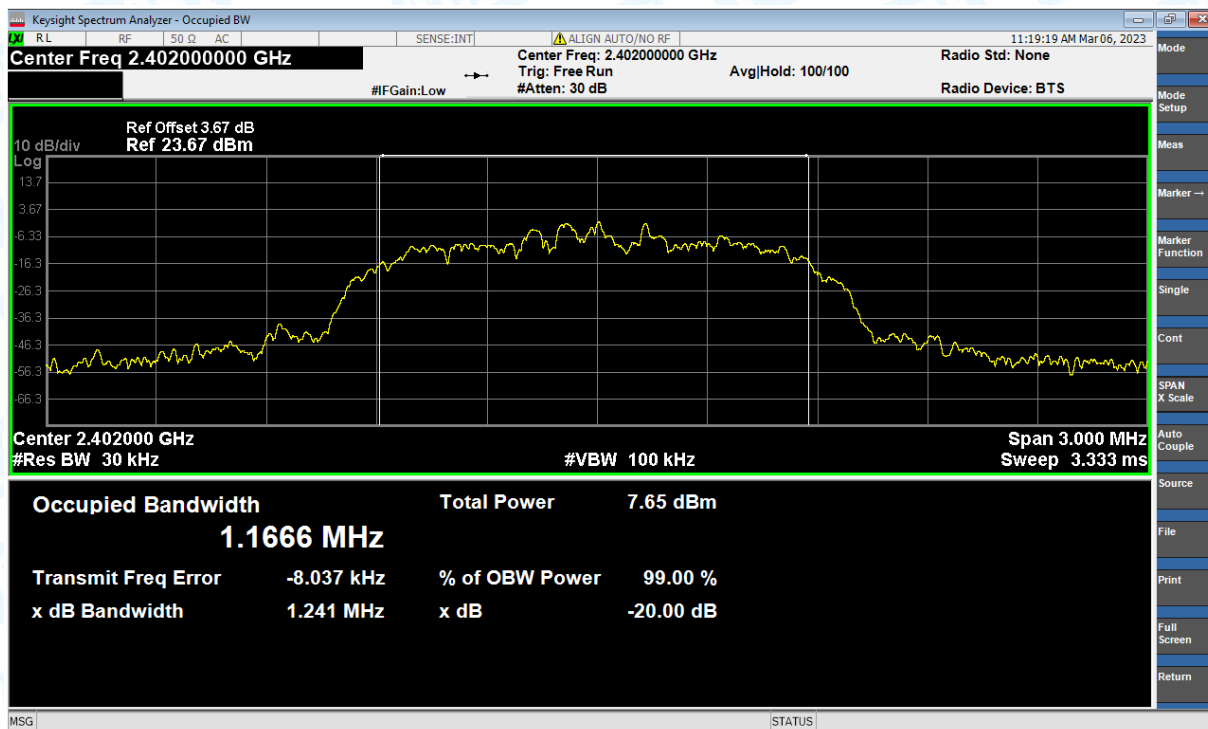
OBW NVNT 1-DH1 2441MHz Ant1



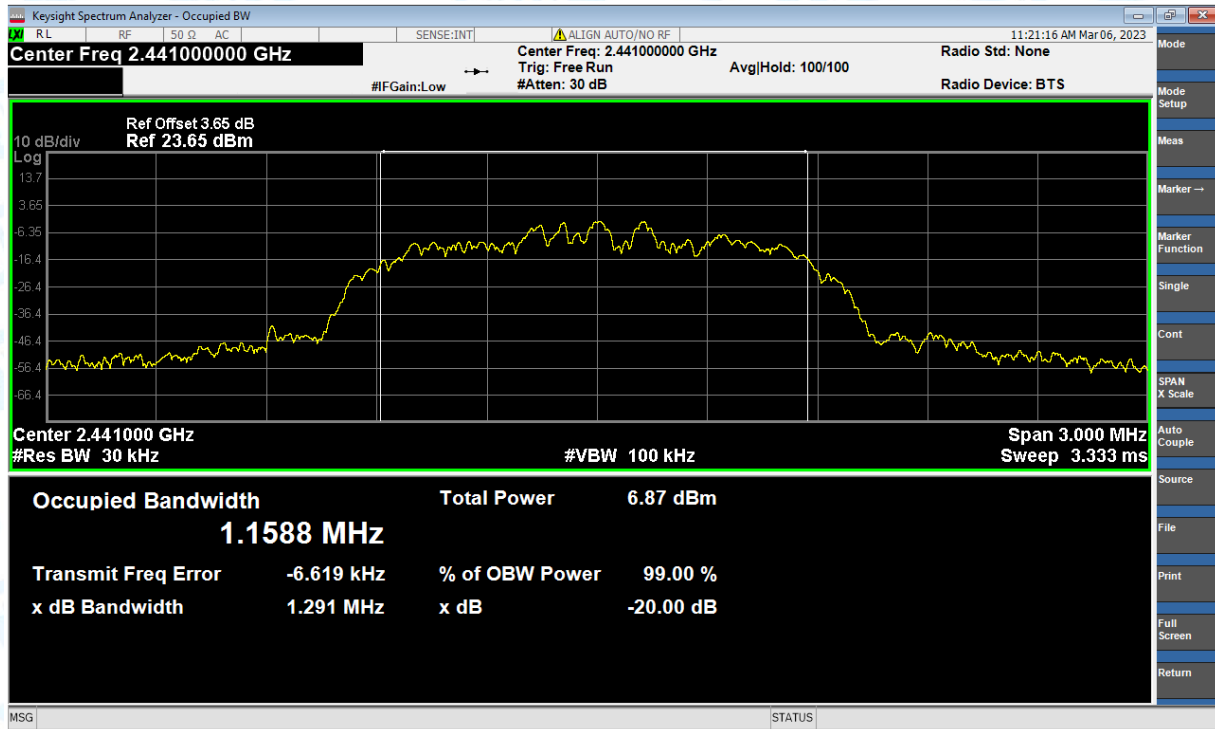
OBW NVNT 1-DH1 2480MHz Ant1



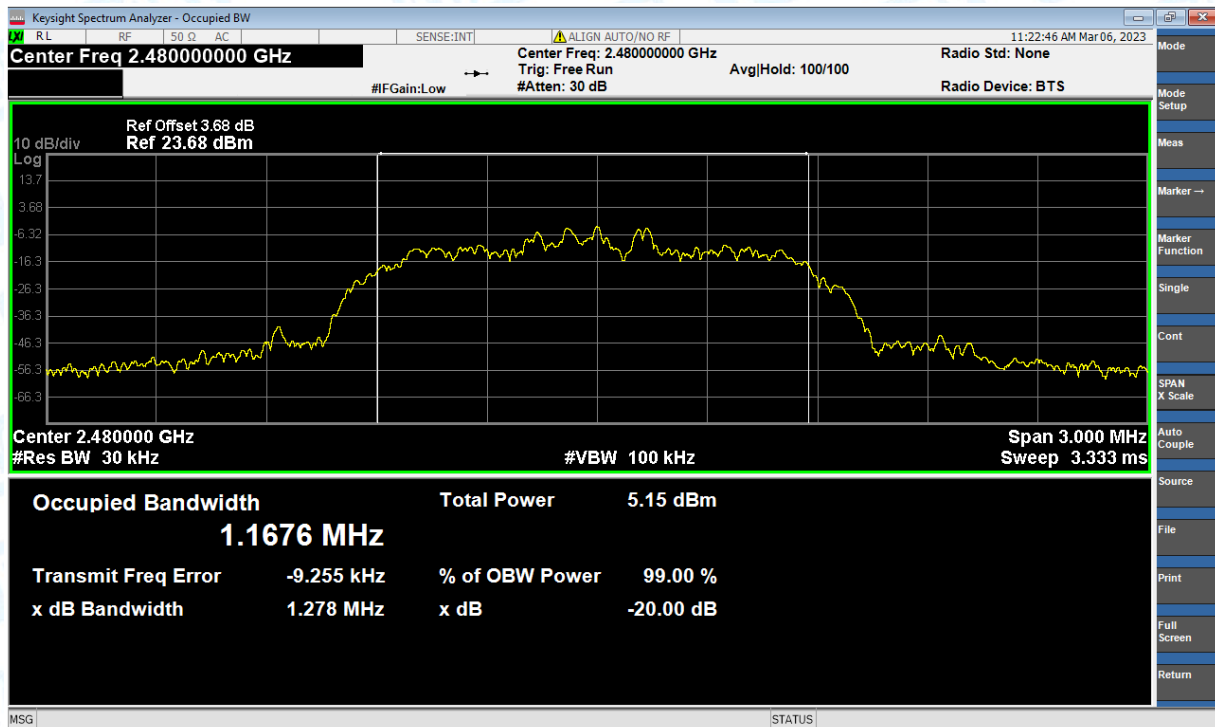
OBW NVNT 2-DH1 2402MHz Ant1



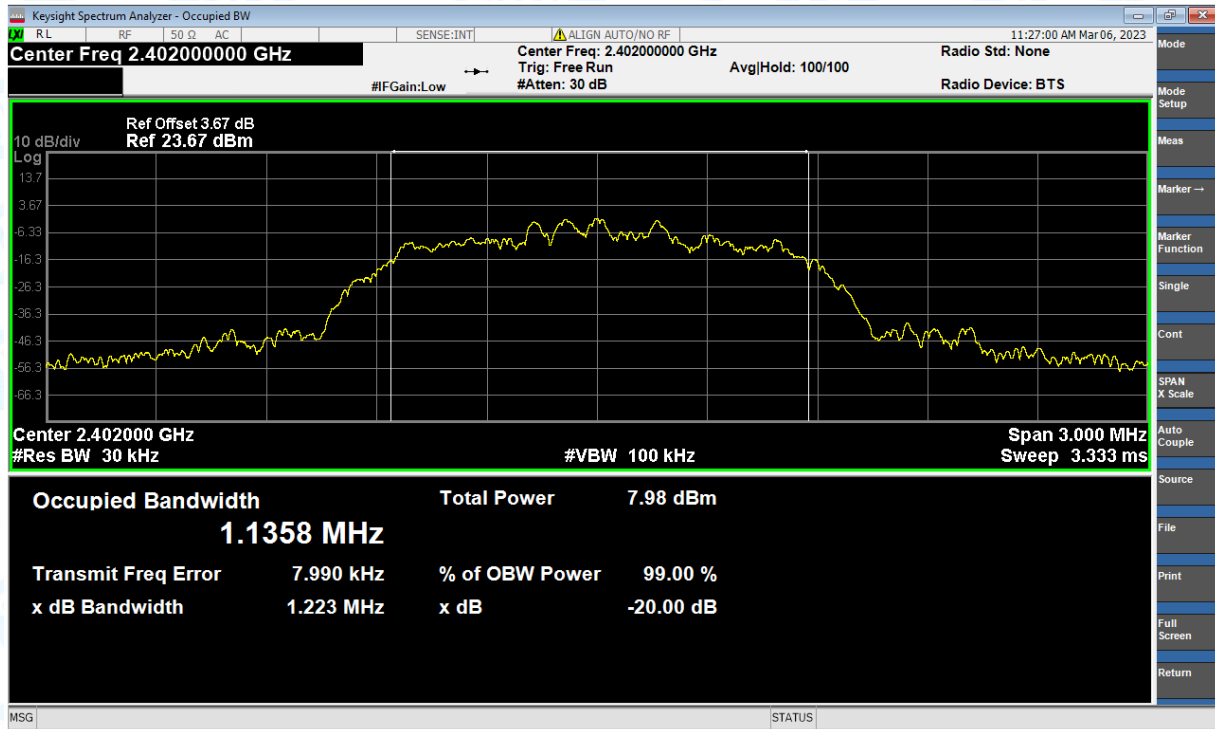
OBW NVNT 2-DH1 2441MHz Ant1



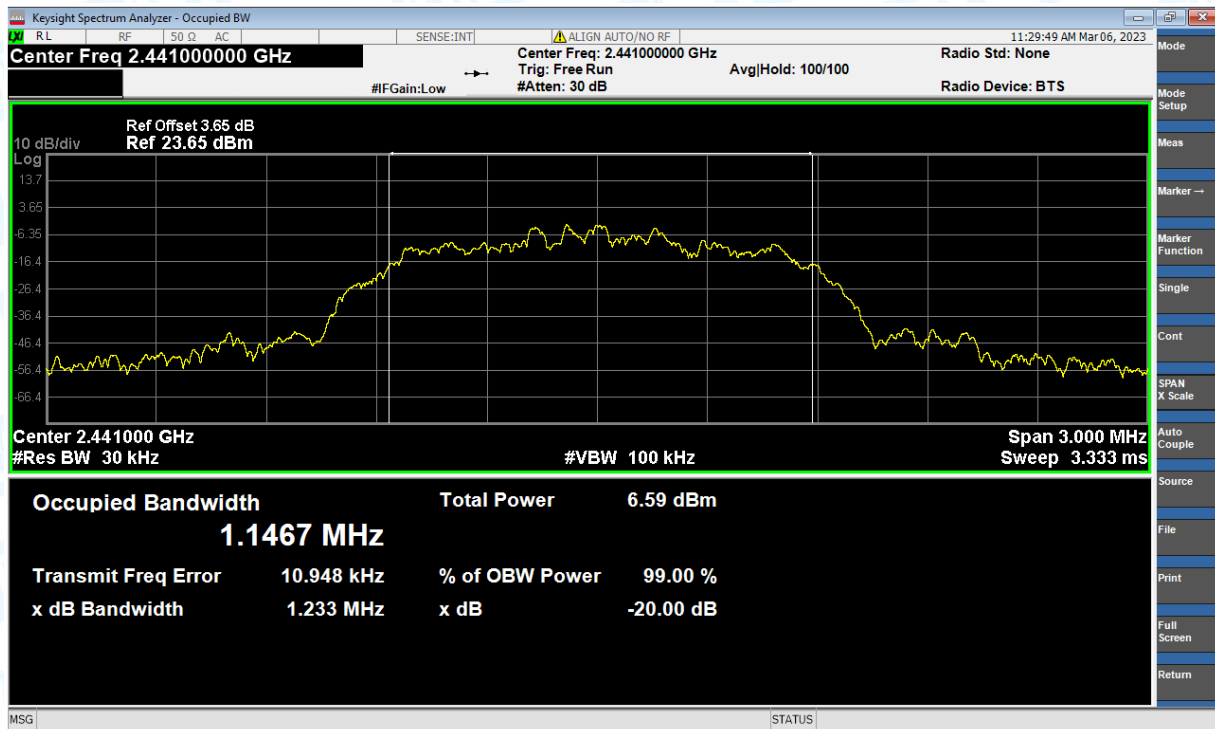
OBW NVNT 2-DH1 2480MHz Ant1

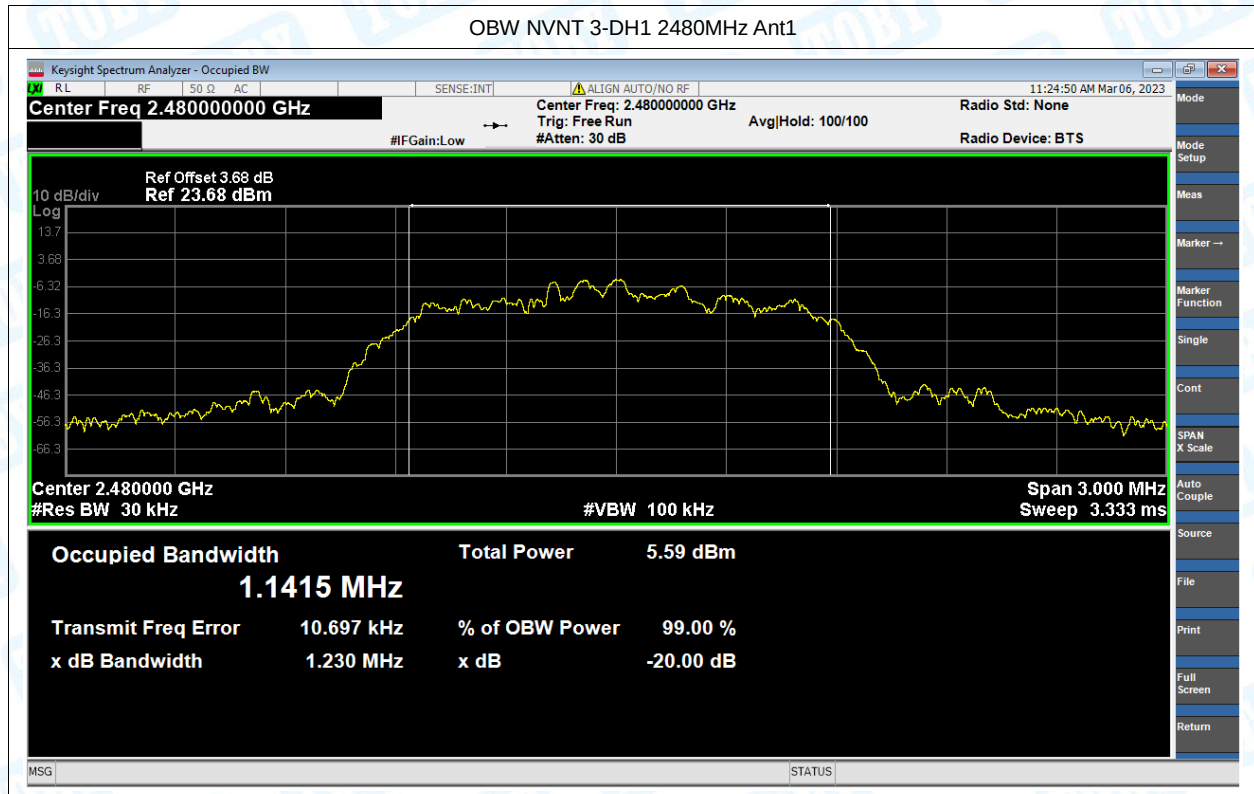


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



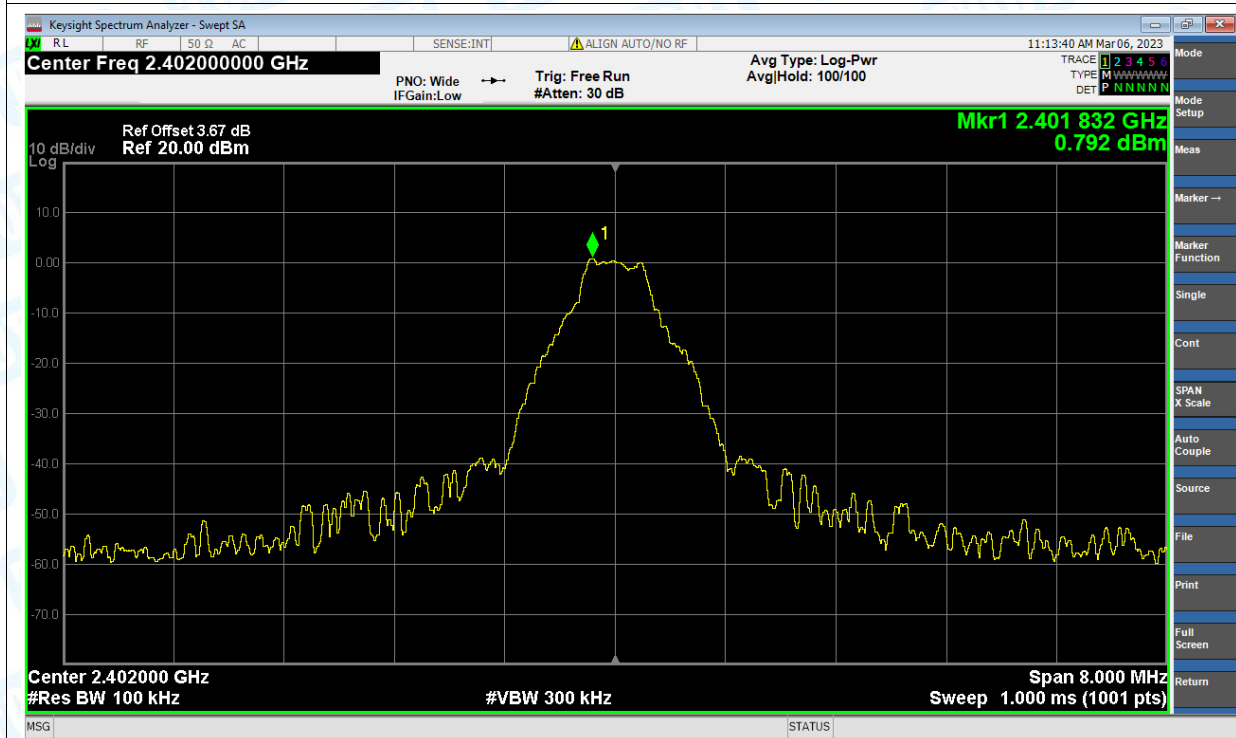


5. Band Edge

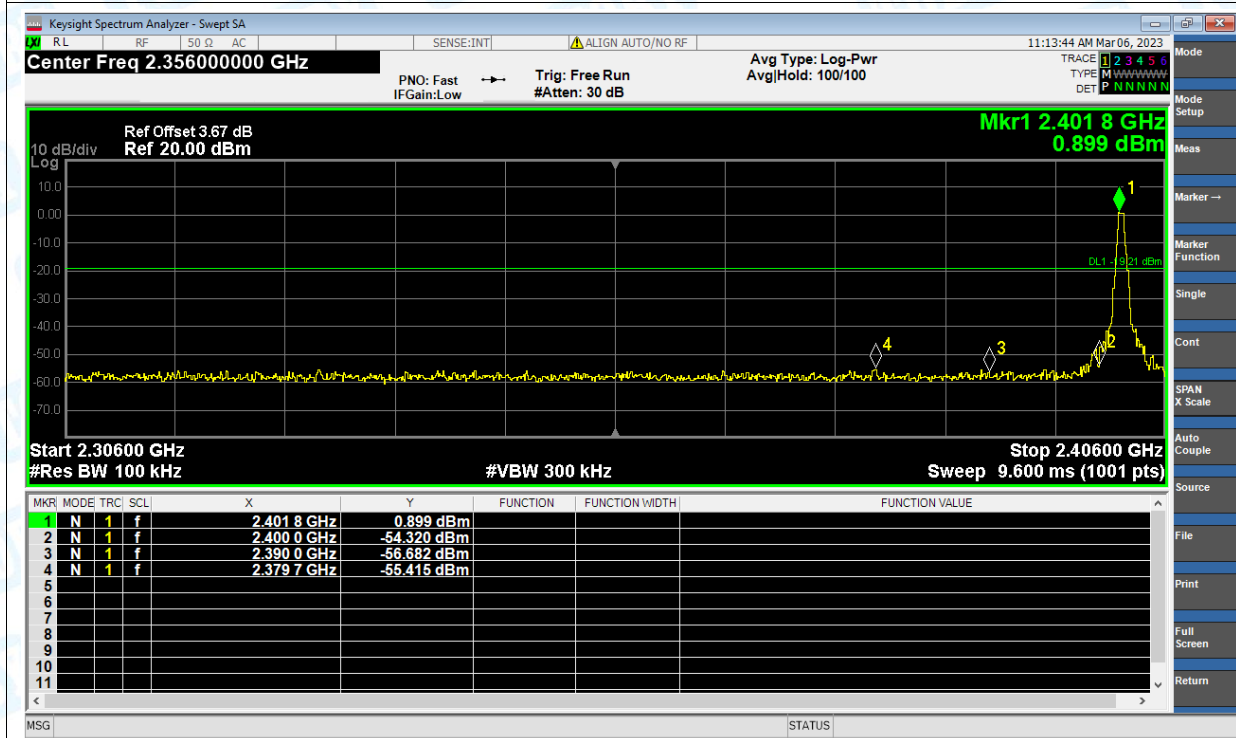
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-56.2	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-53.71	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-56.38	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-52.86	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-55.47	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-54.3	-20	Pass

Test Graphs

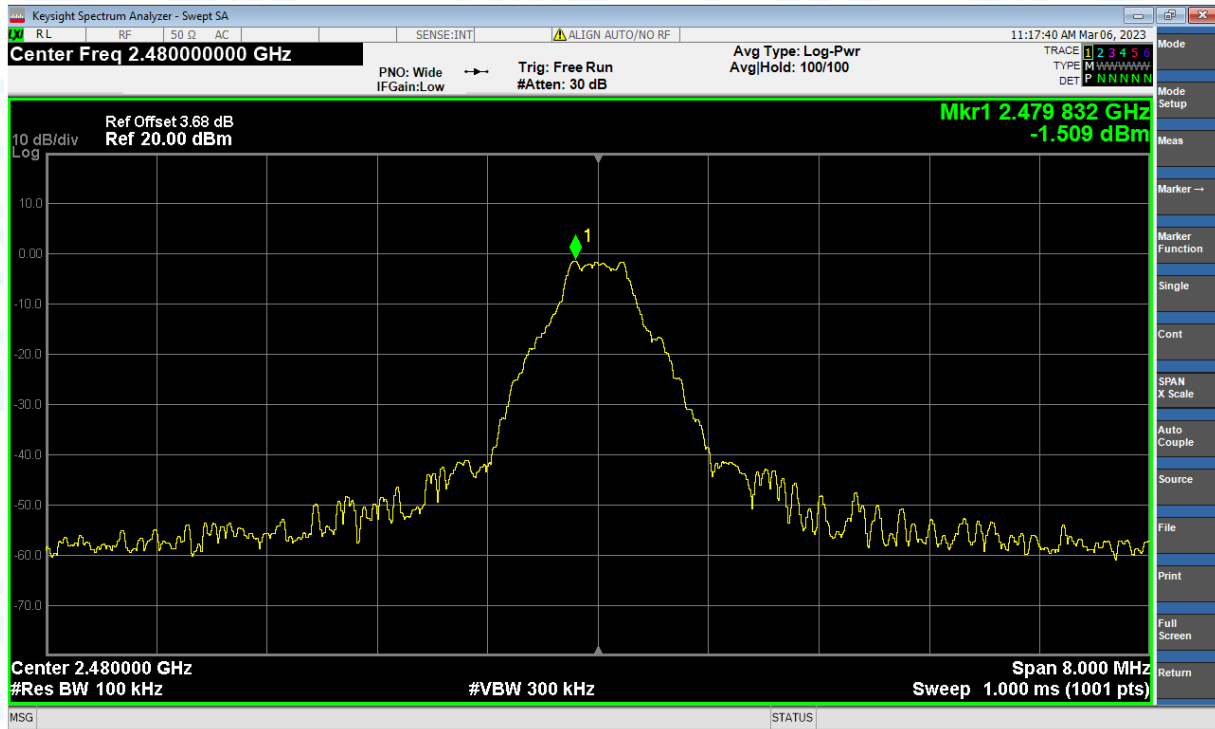
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



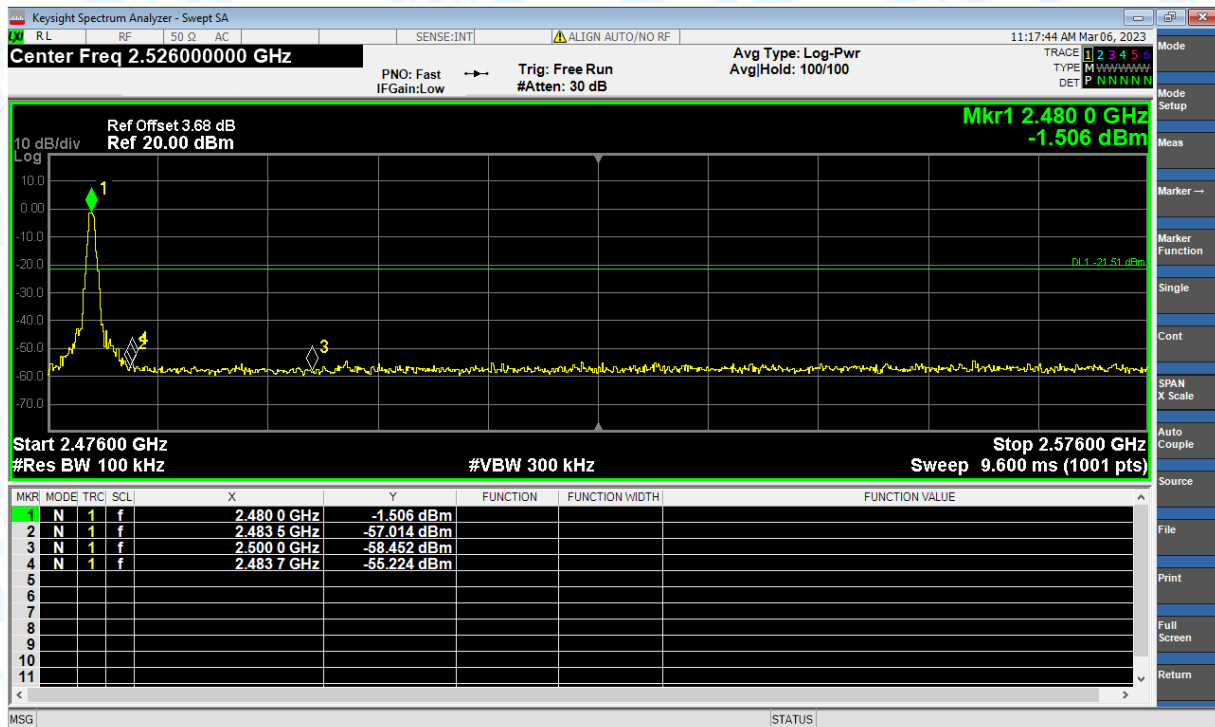
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



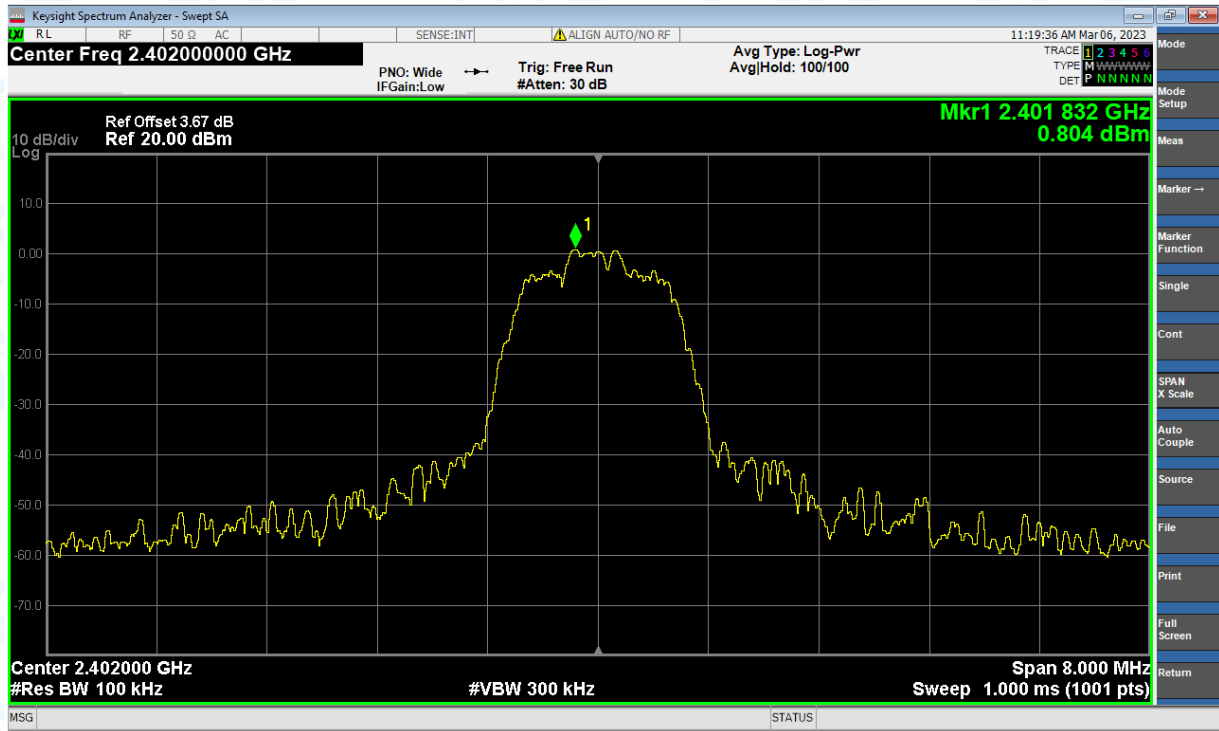
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



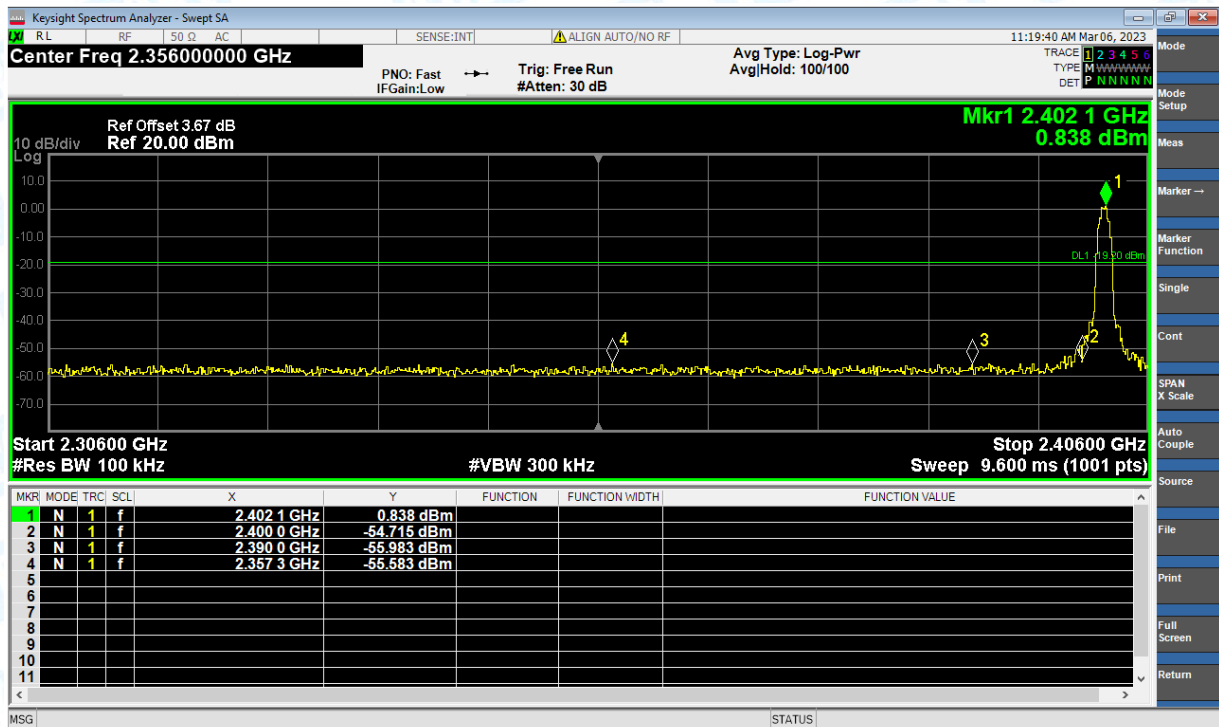
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



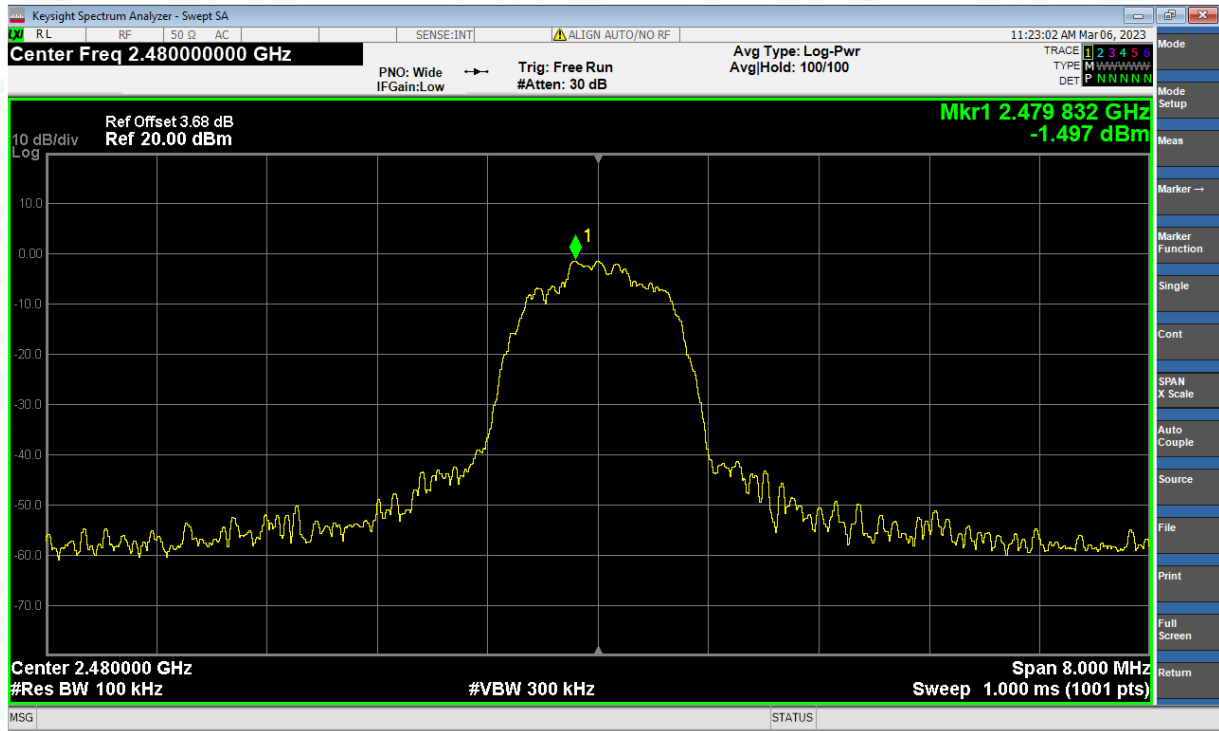
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



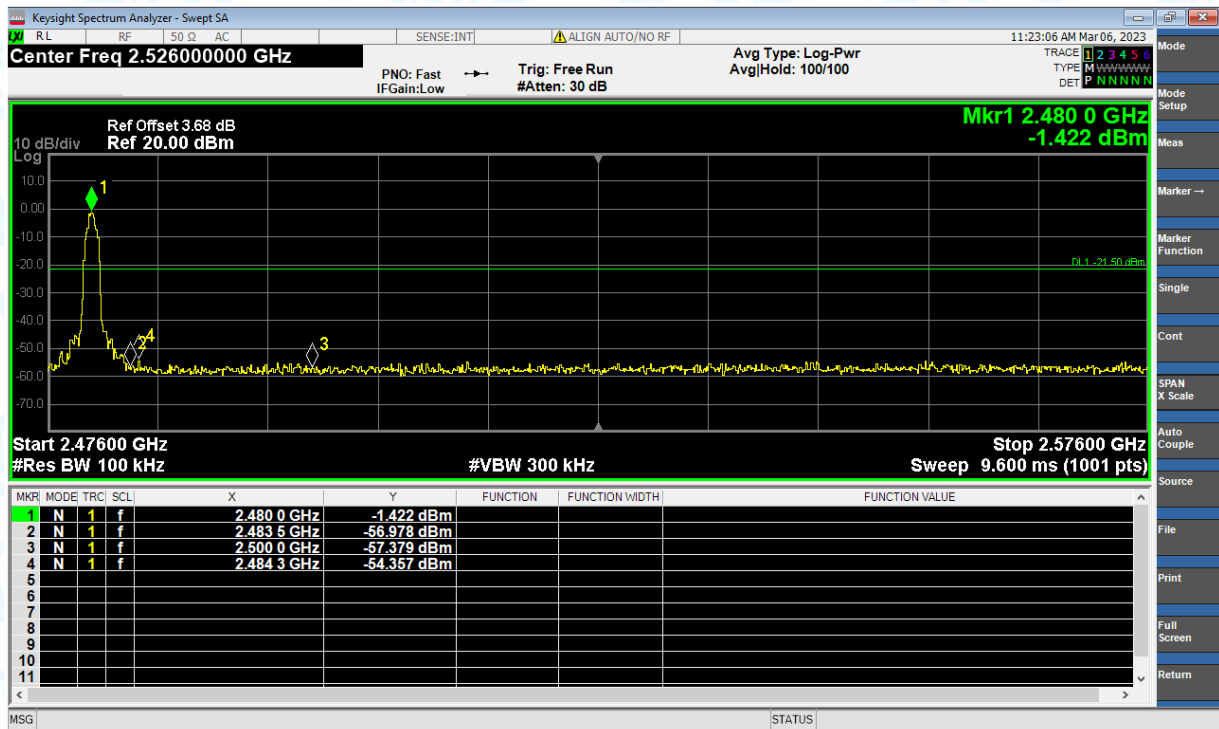
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



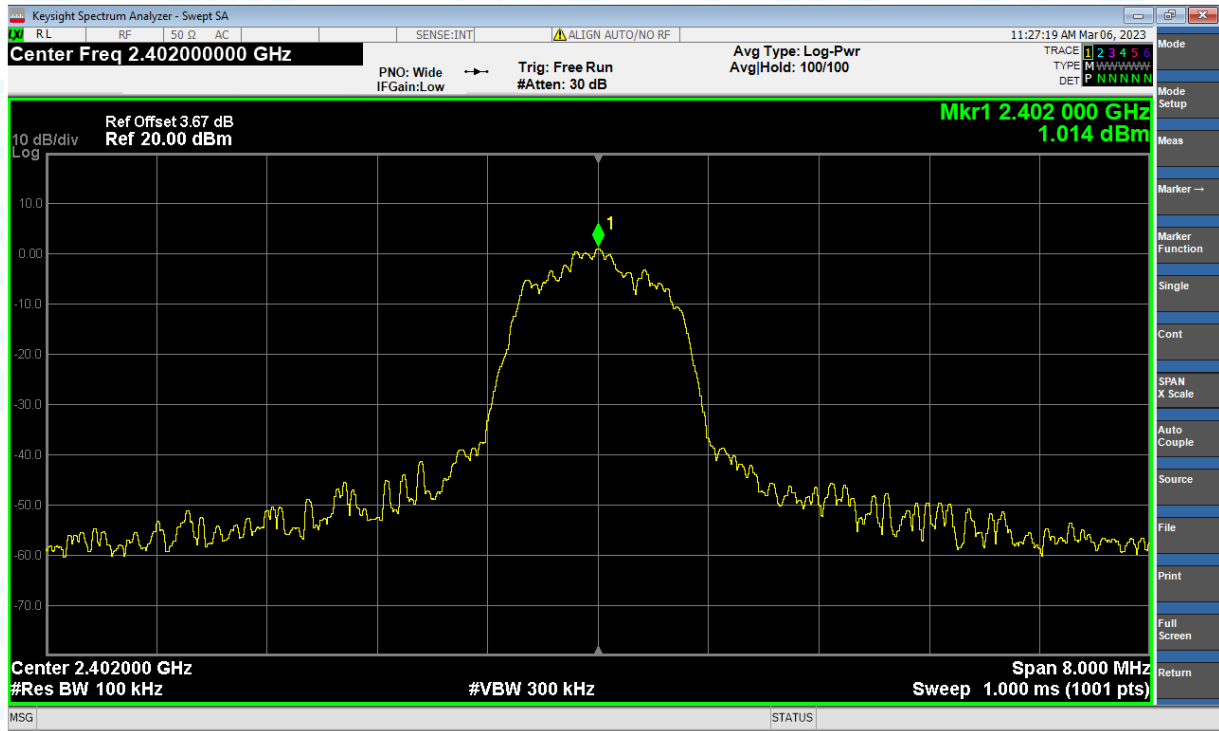
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



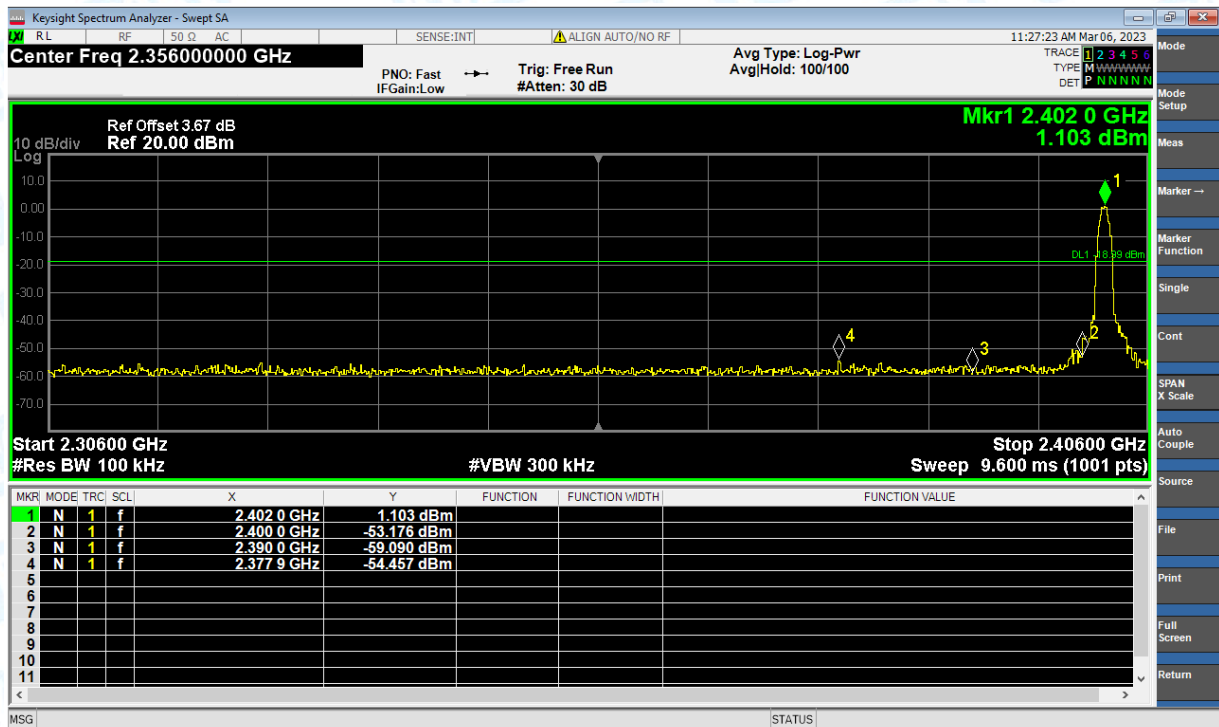
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



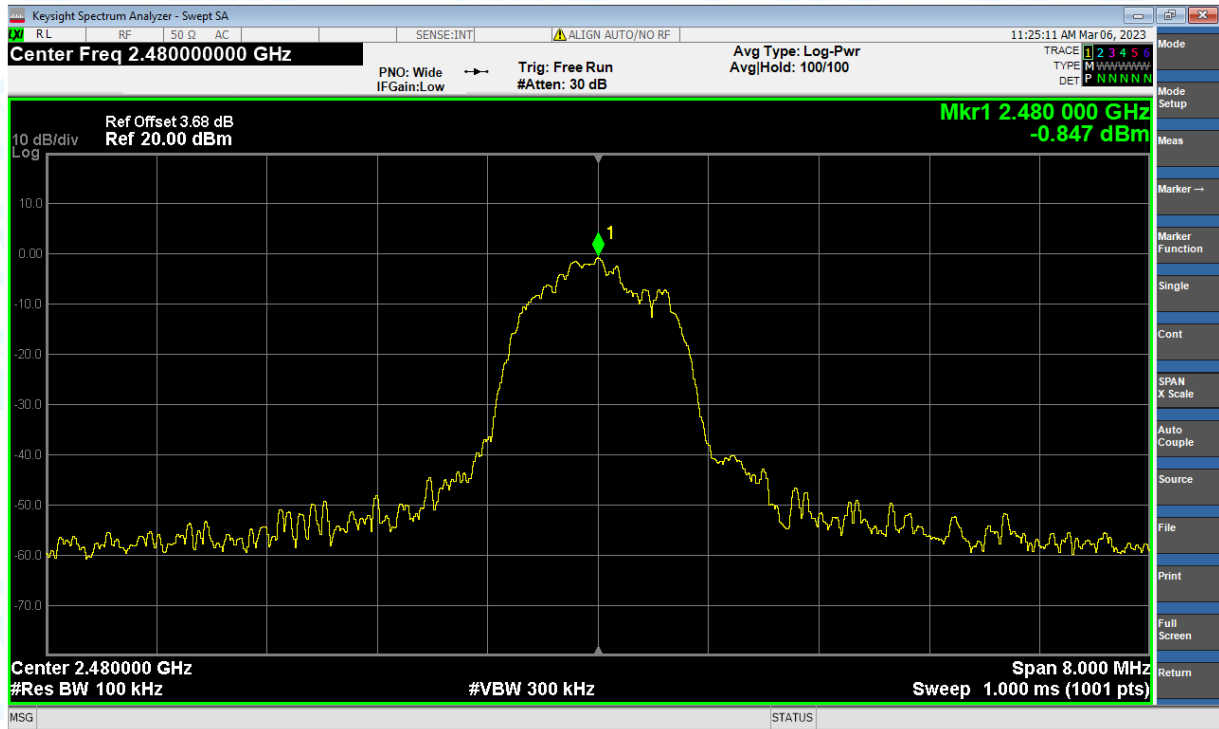
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



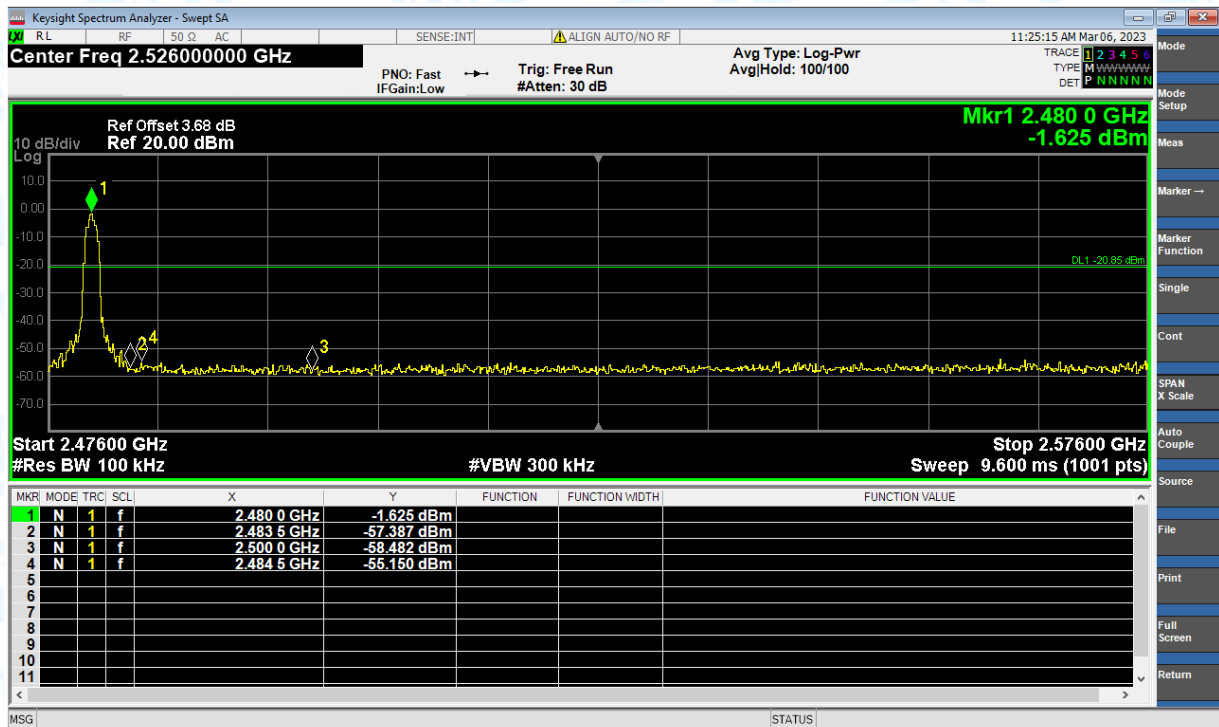
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

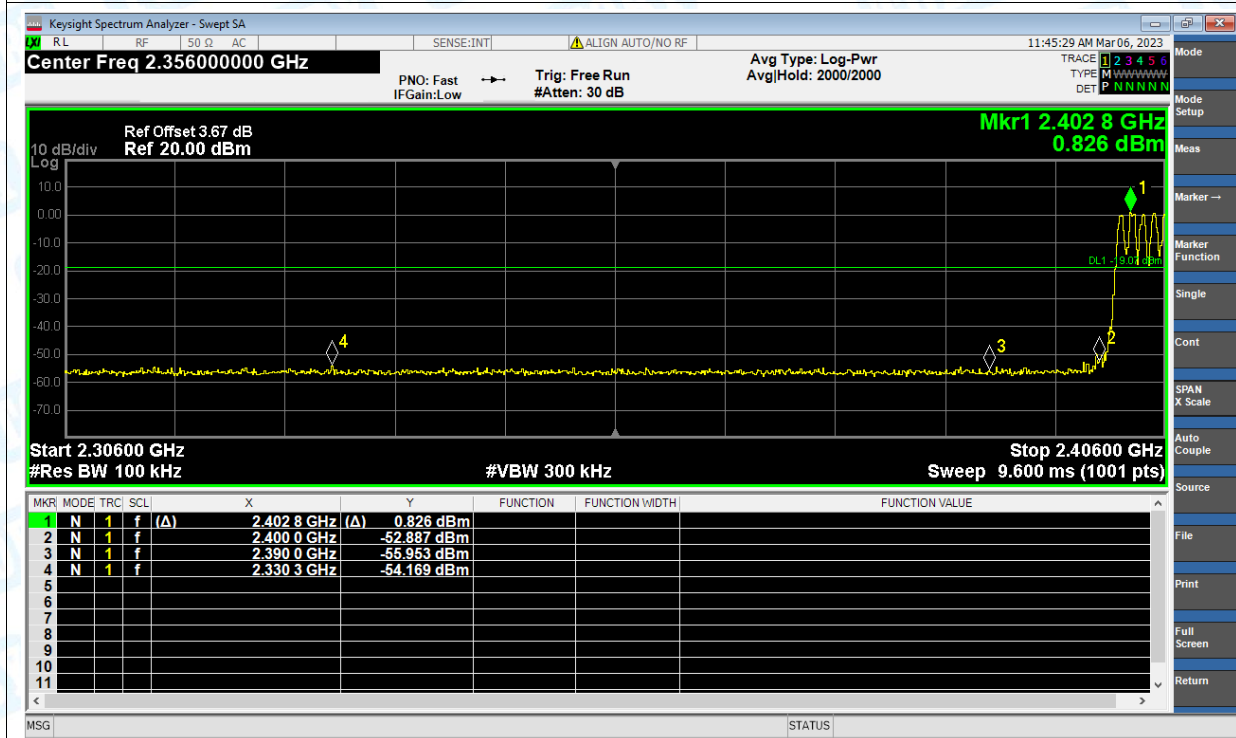
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-55.1	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-53.54	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-54.3	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-52.82	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-55.48	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-53.26	-20	Pass

Test Graphs

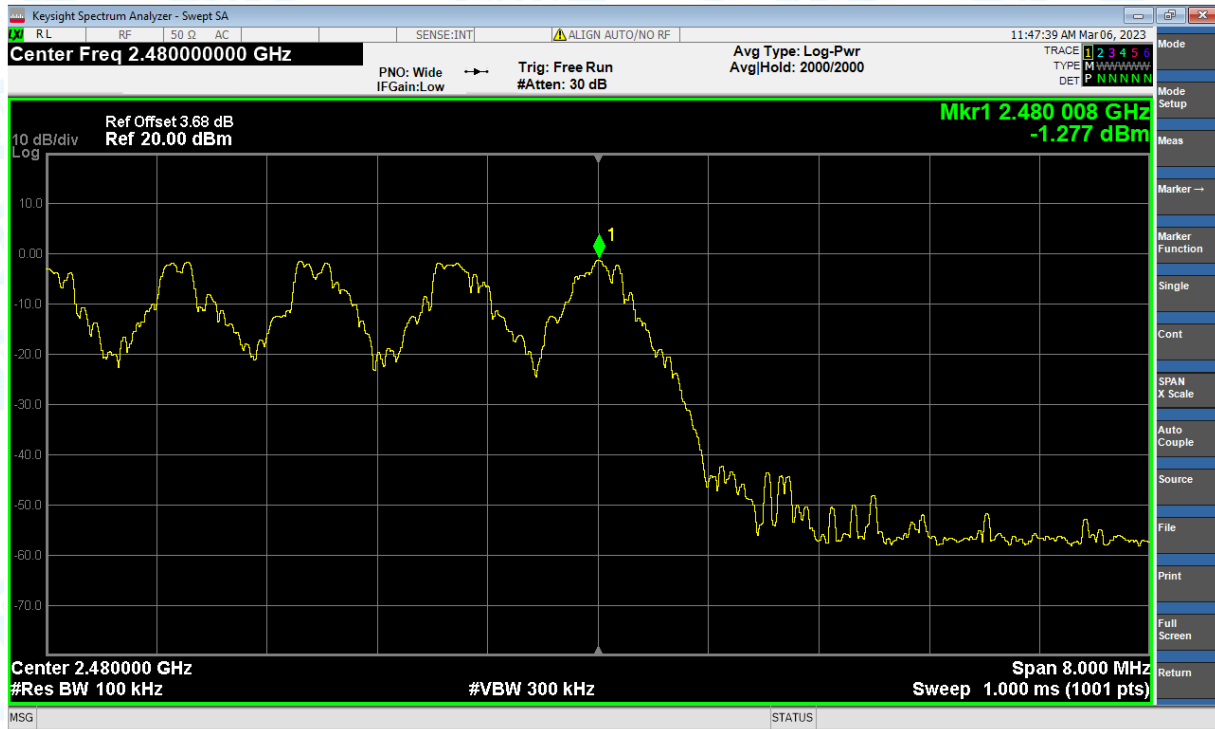
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



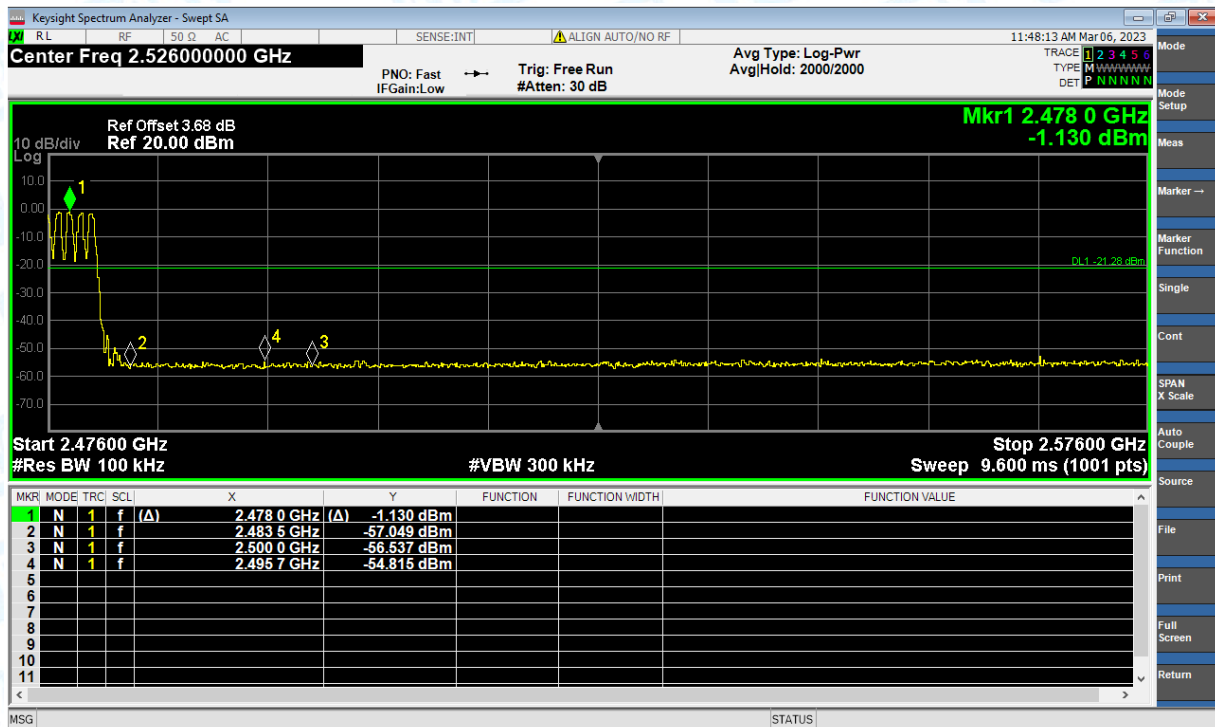
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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



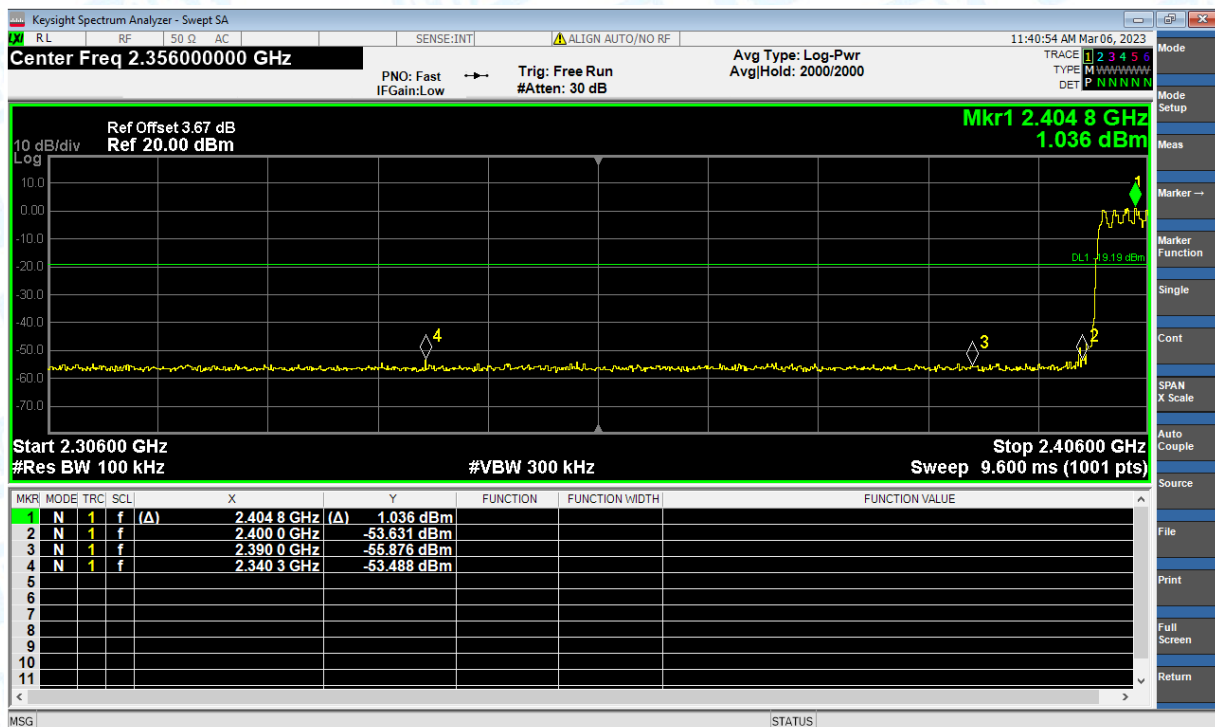
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



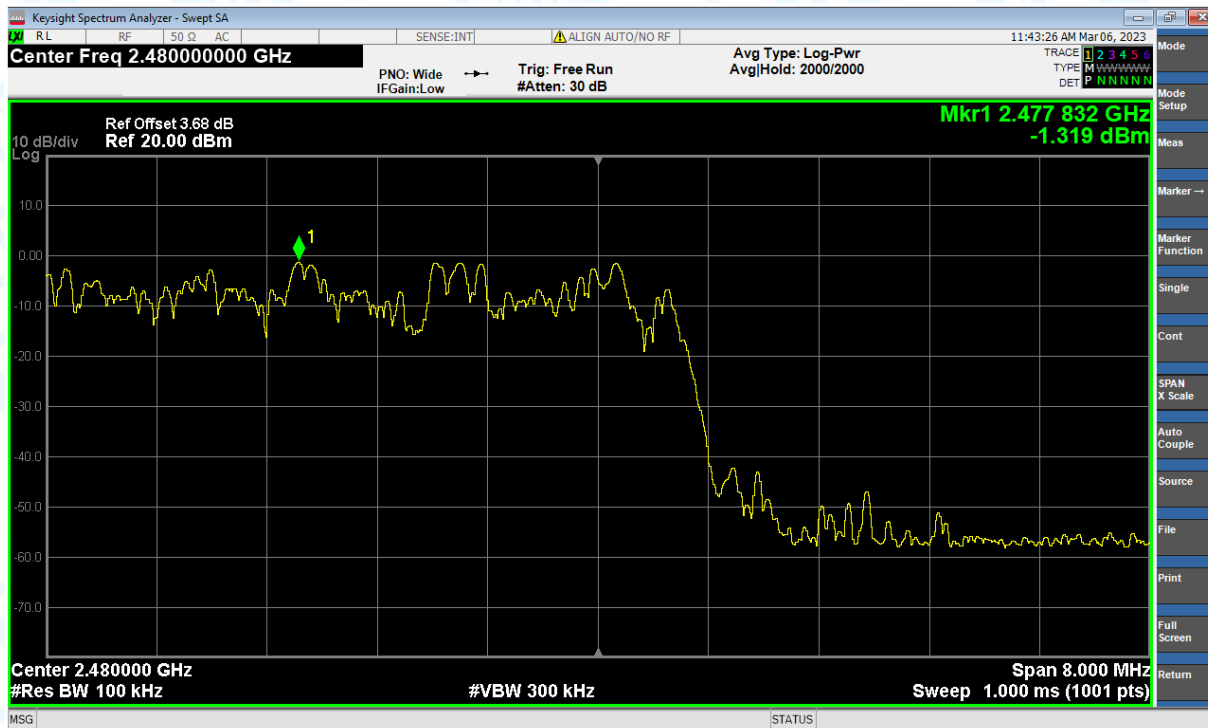
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



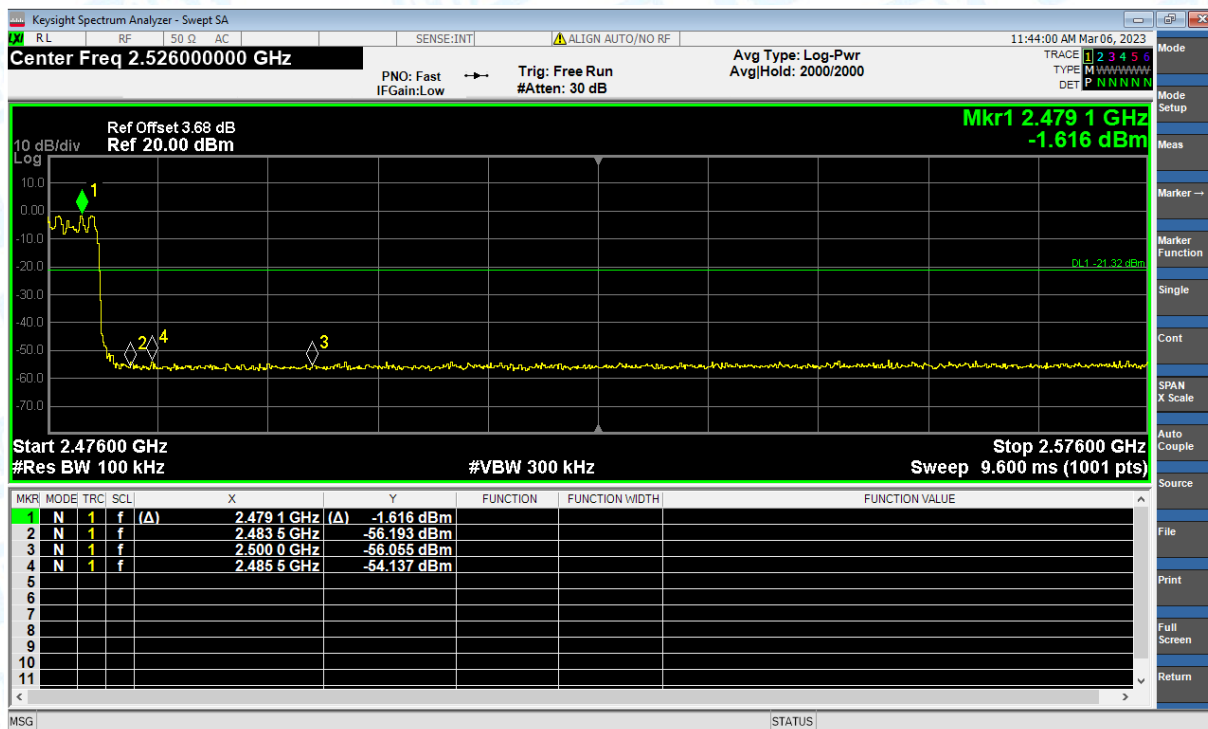
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



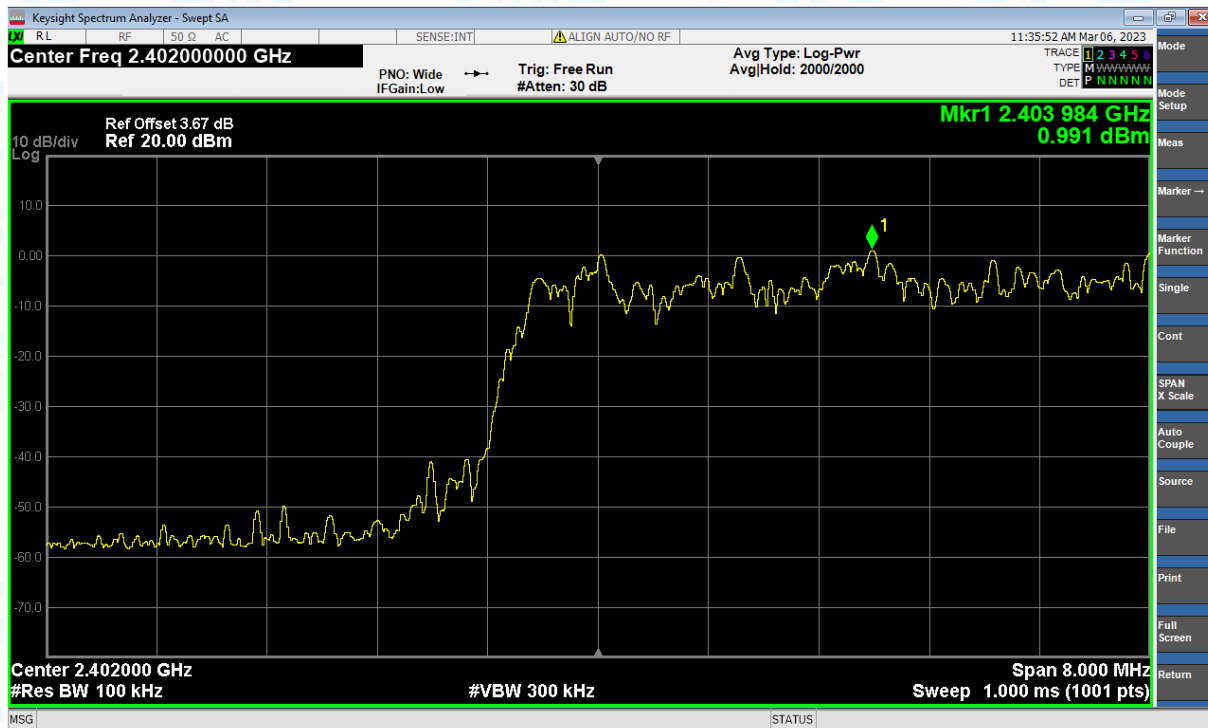
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



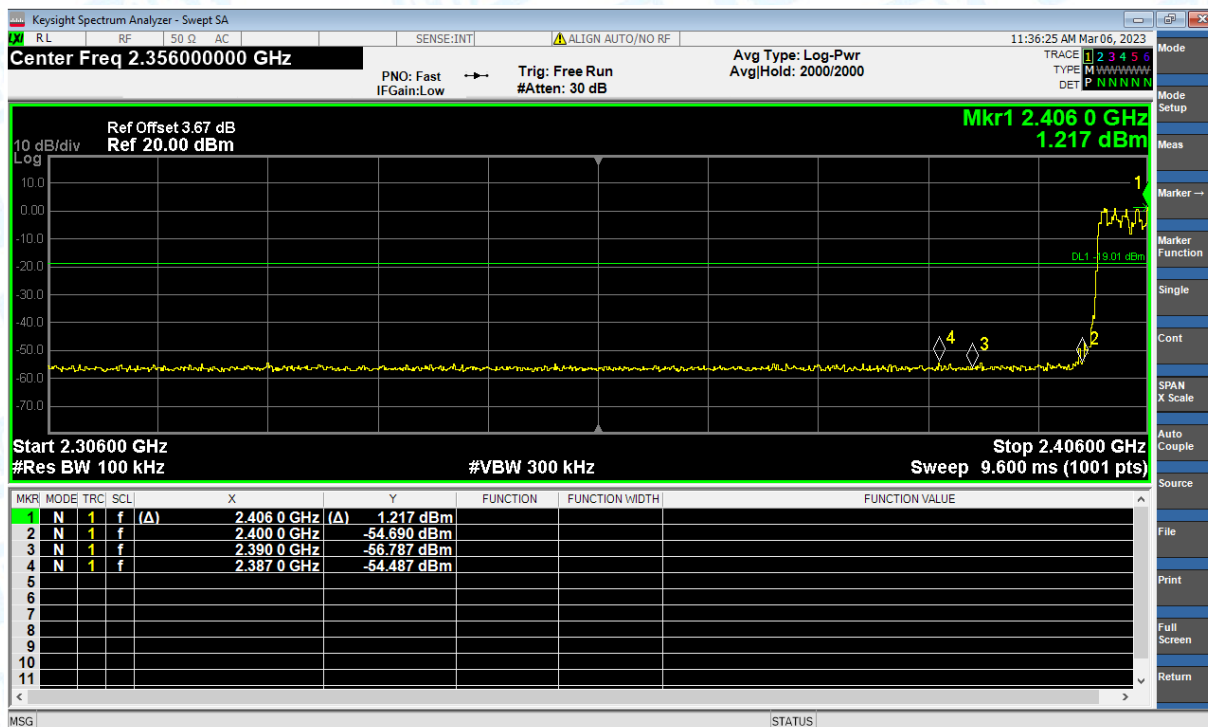
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



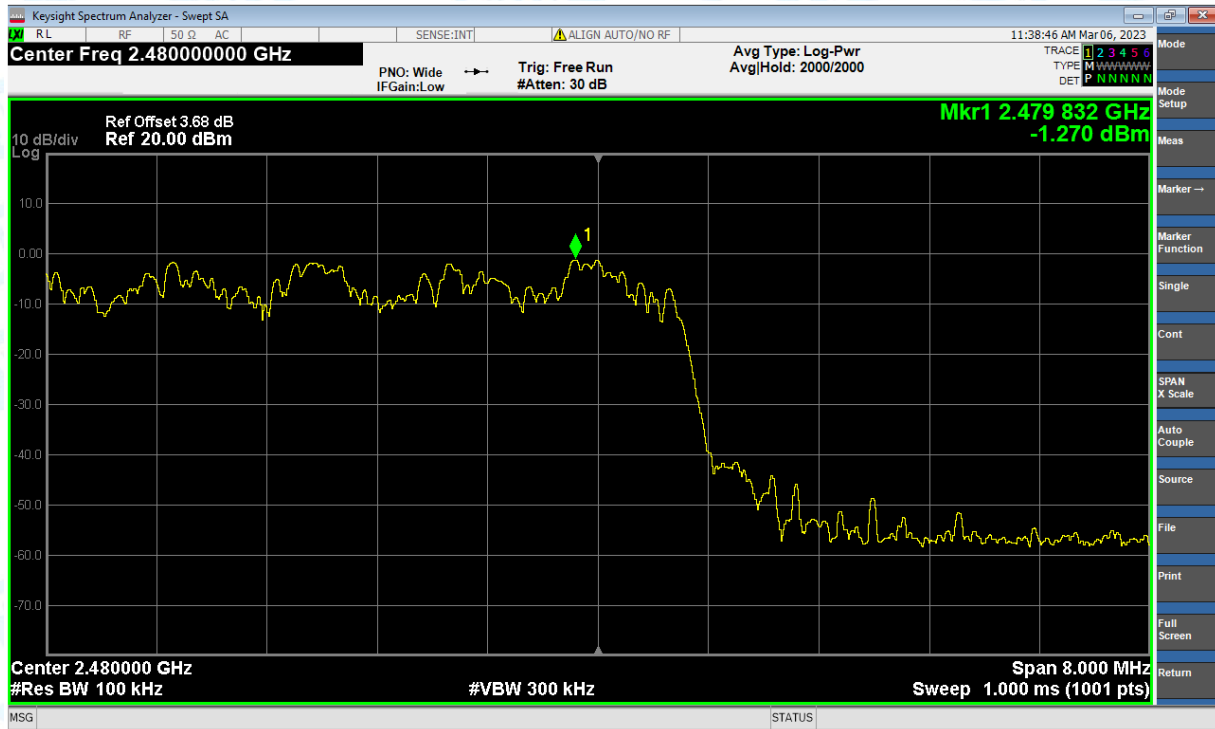
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



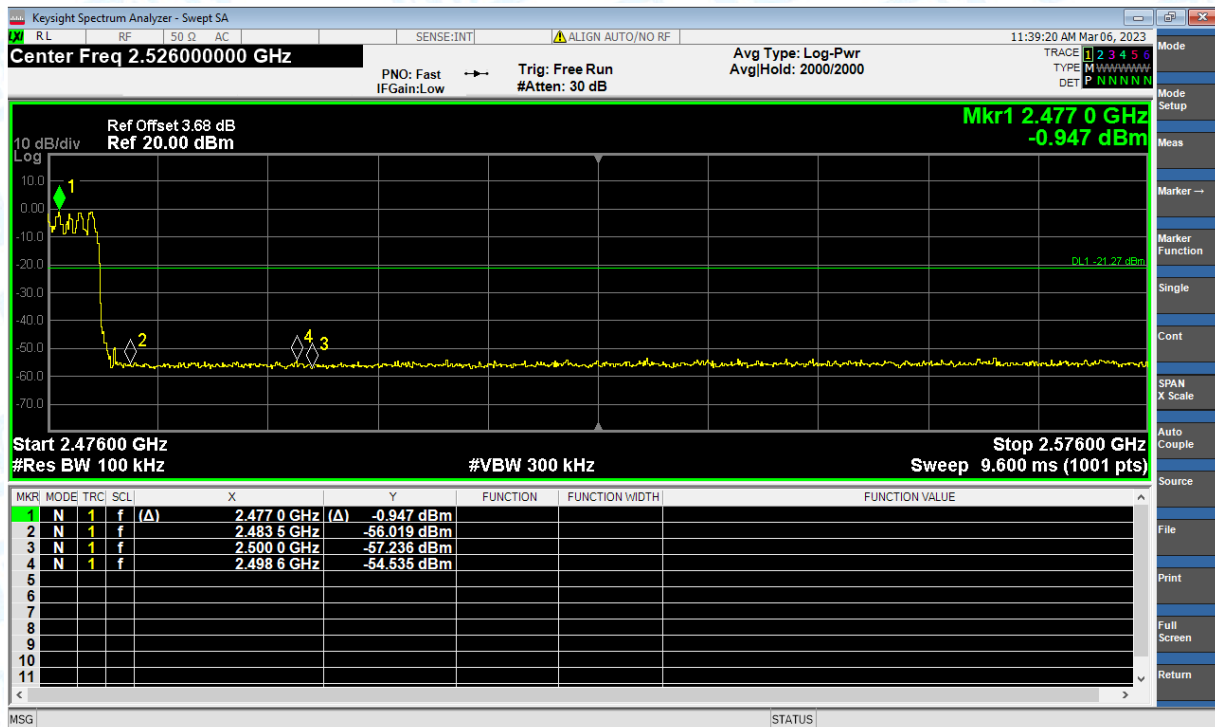
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

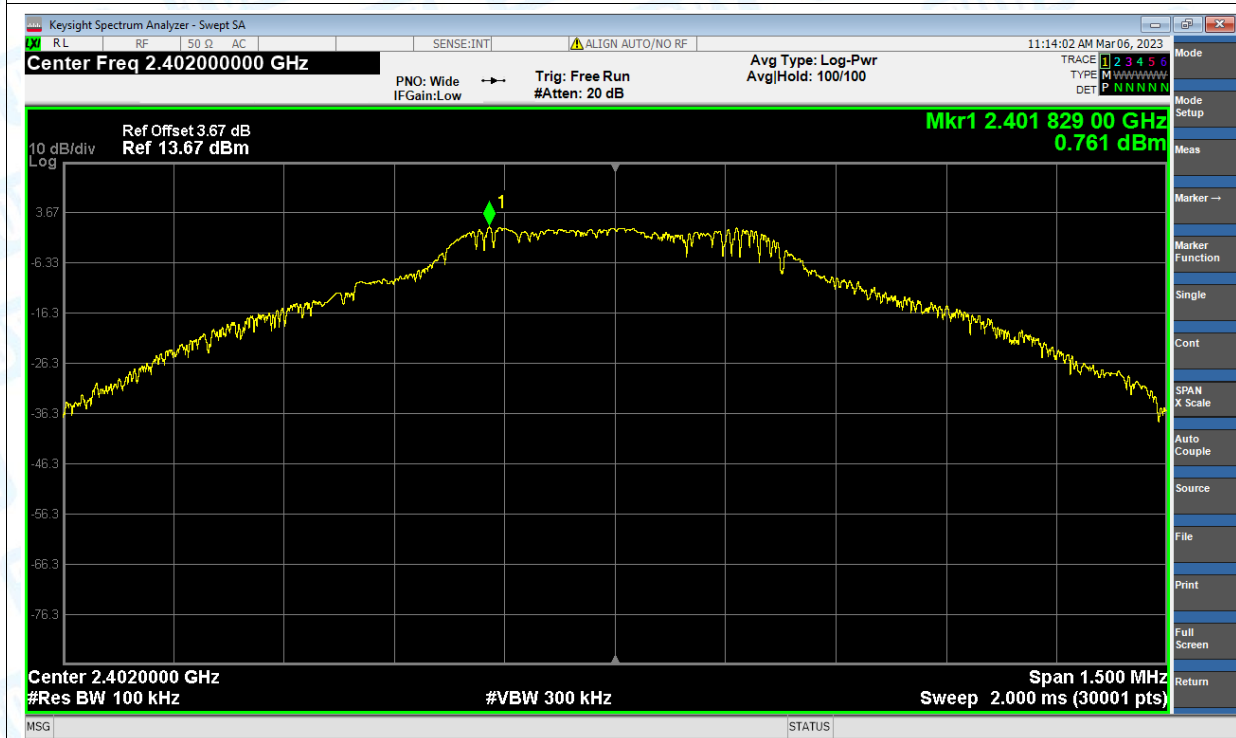


7. Conducted RF Spurious Emission

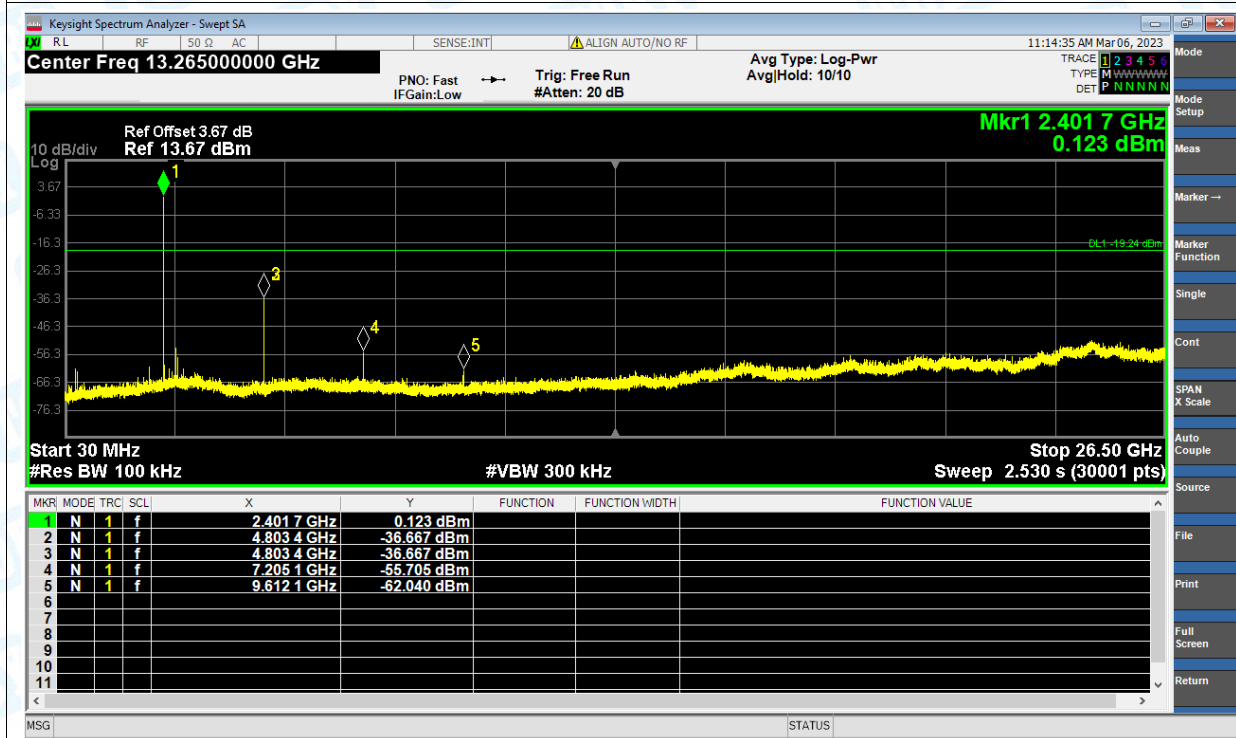
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-37.43	-20	Pass
NVNT	1-DH1	2441	Ant1	-35.5	-20	Pass
NVNT	1-DH1	2480	Ant1	-38.18	-20	Pass
NVNT	2-DH1	2402	Ant1	-37.71	-20	Pass
NVNT	2-DH1	2441	Ant1	-36.06	-20	Pass
NVNT	2-DH1	2480	Ant1	-39.02	-20	Pass
NVNT	3-DH1	2402	Ant1	-36.53	-20	Pass
NVNT	3-DH1	2441	Ant1	-35.89	-20	Pass
NVNT	3-DH1	2480	Ant1	-40.3	-20	Pass

Test Graphs

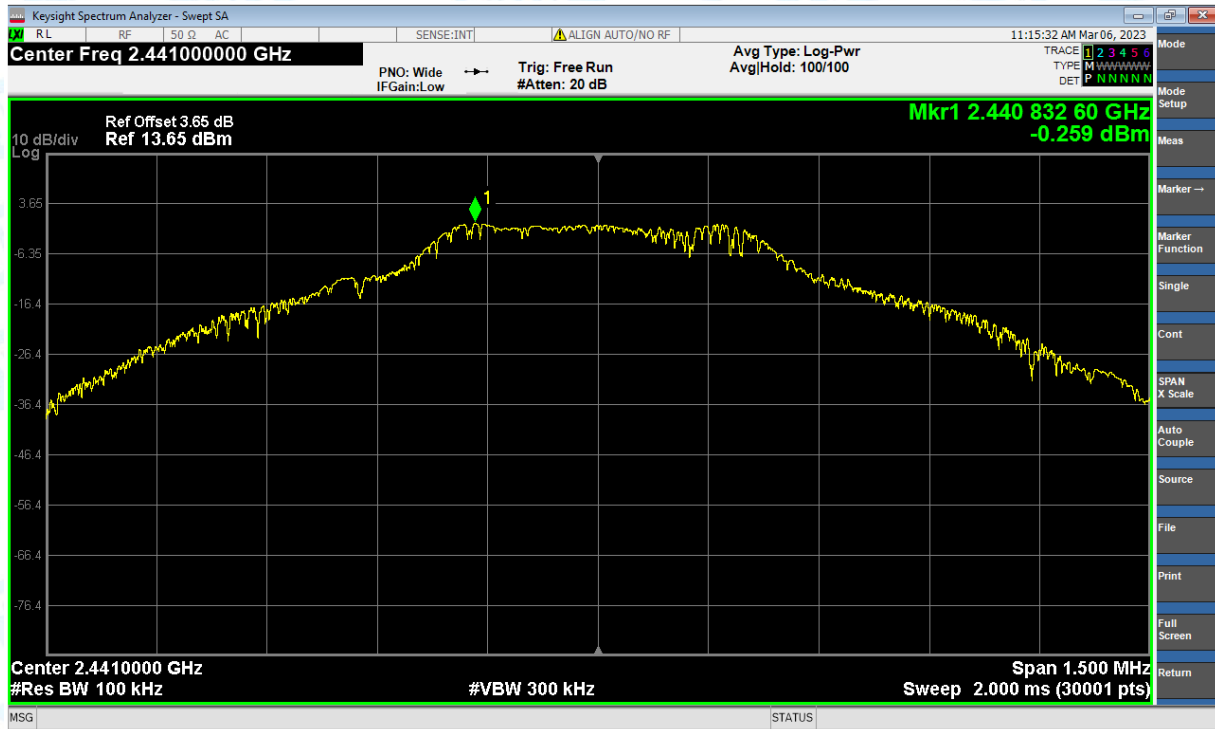
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



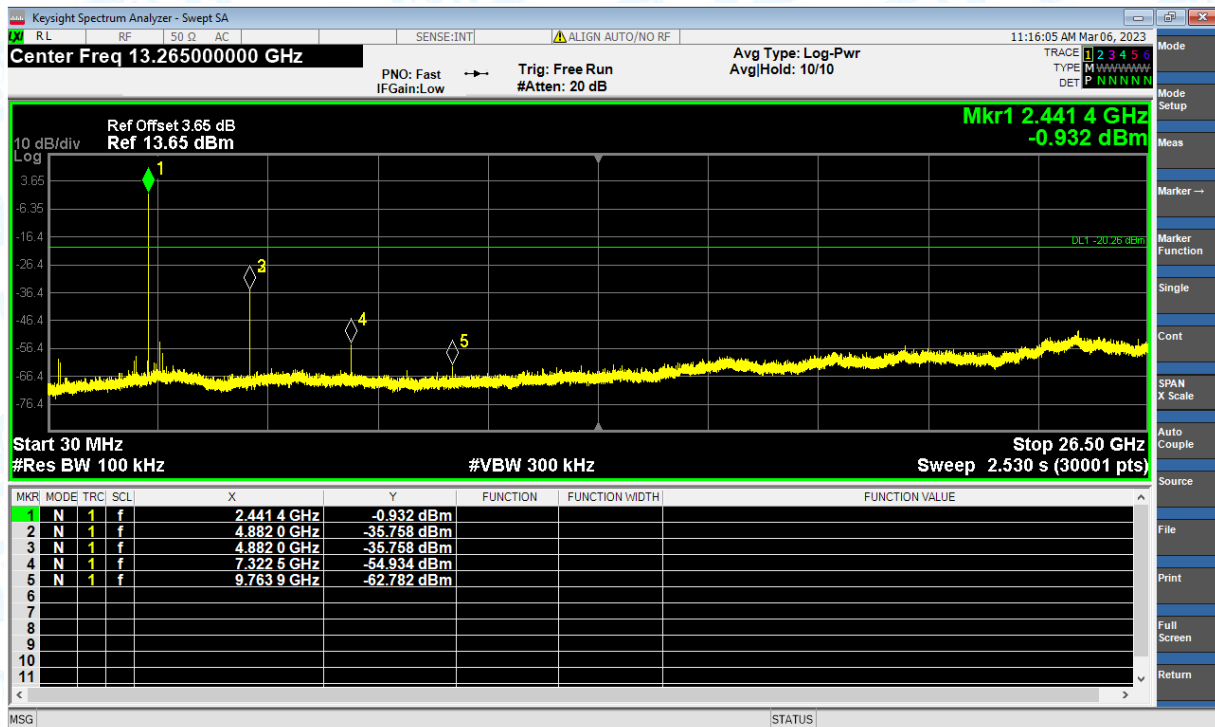
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



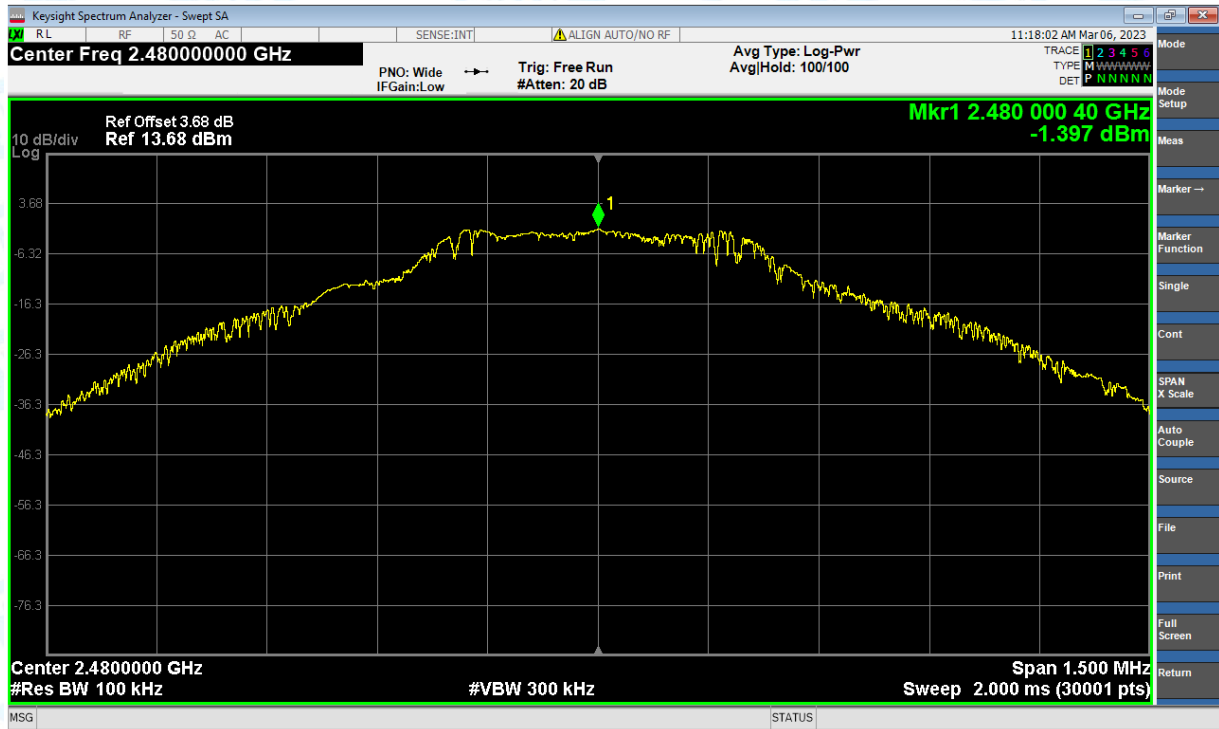
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



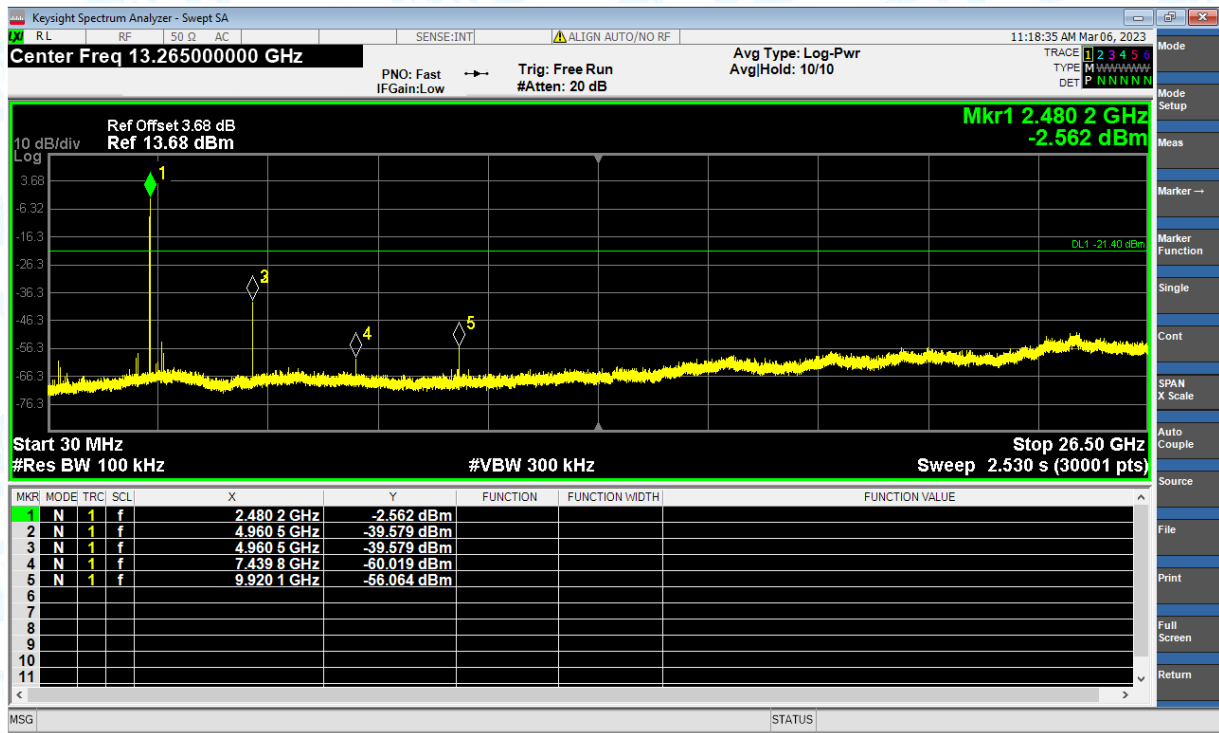
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



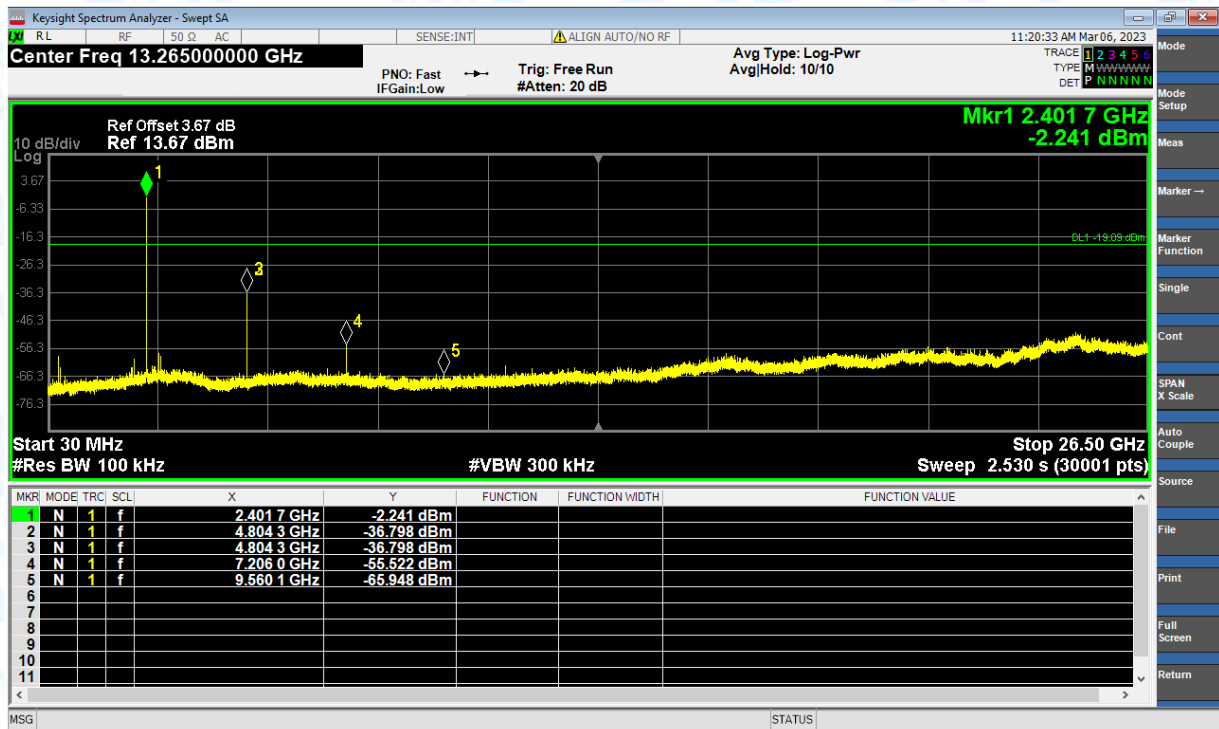
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



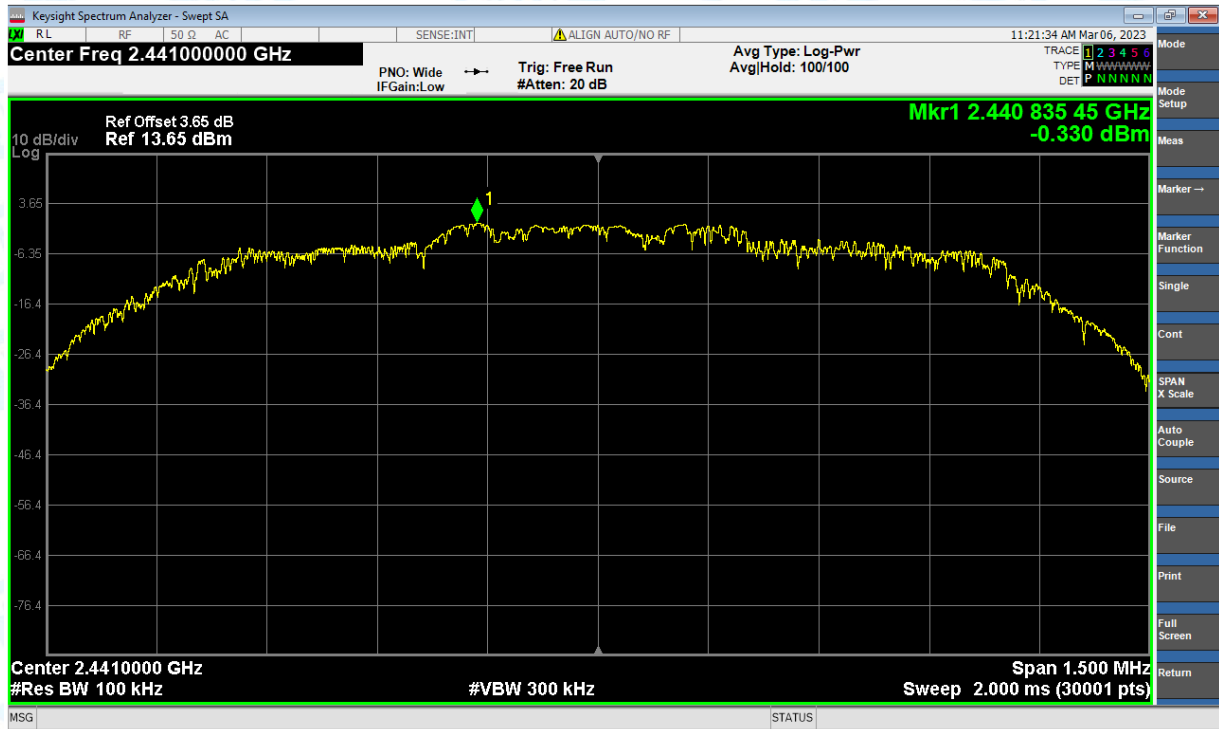
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



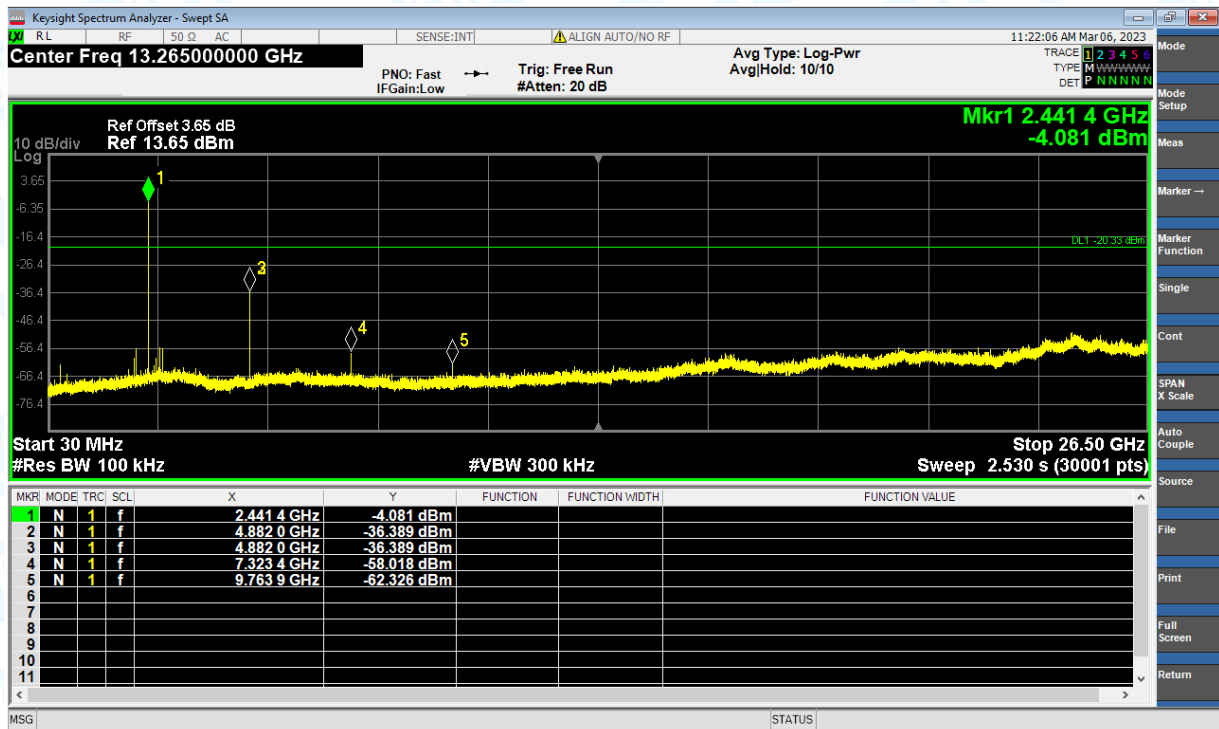
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



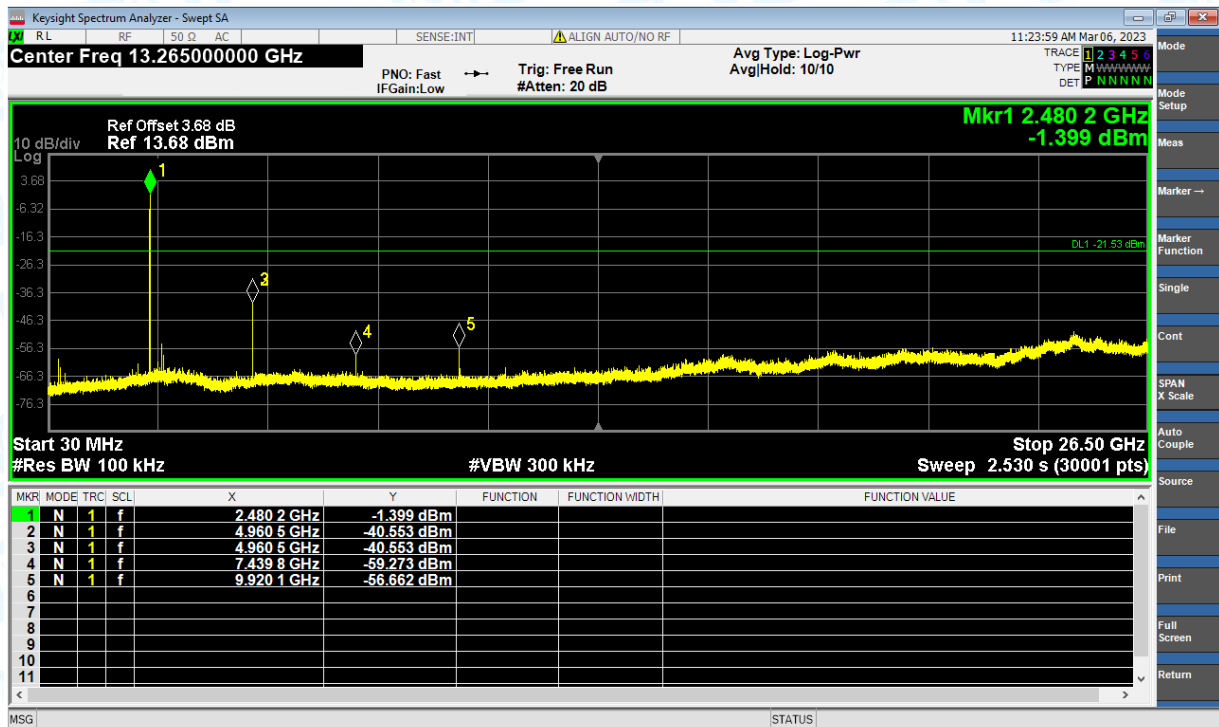
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



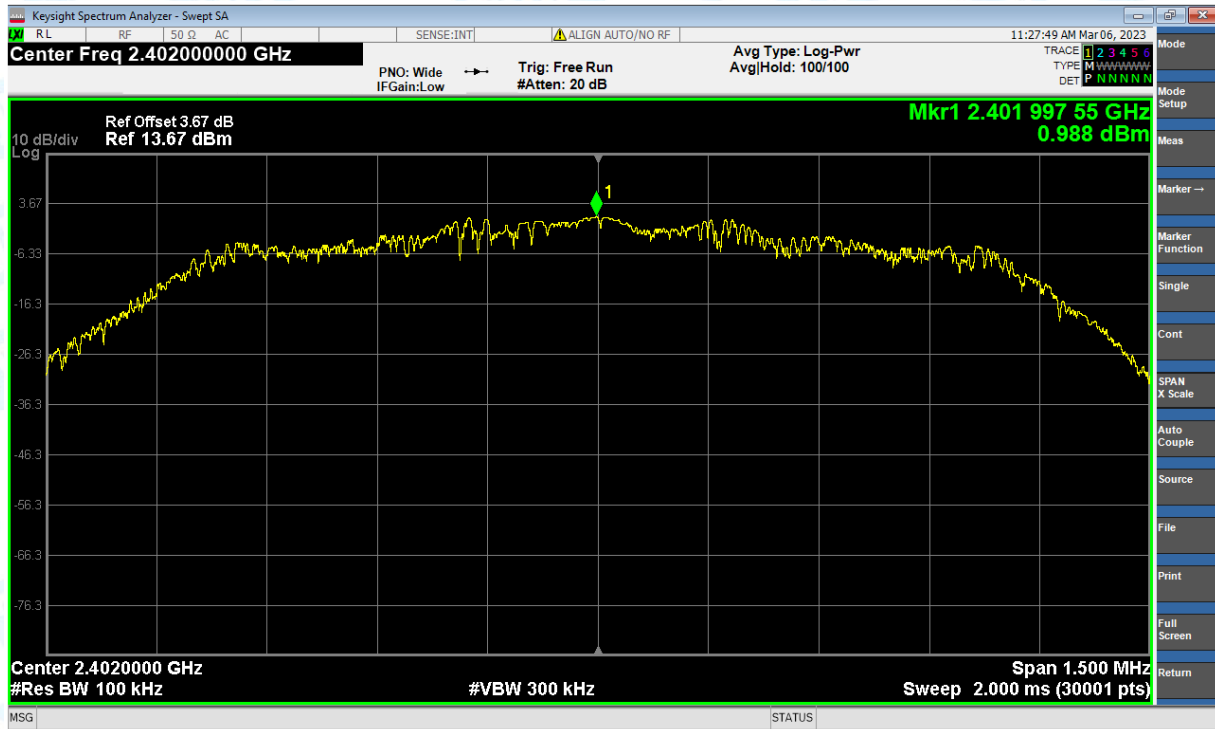
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



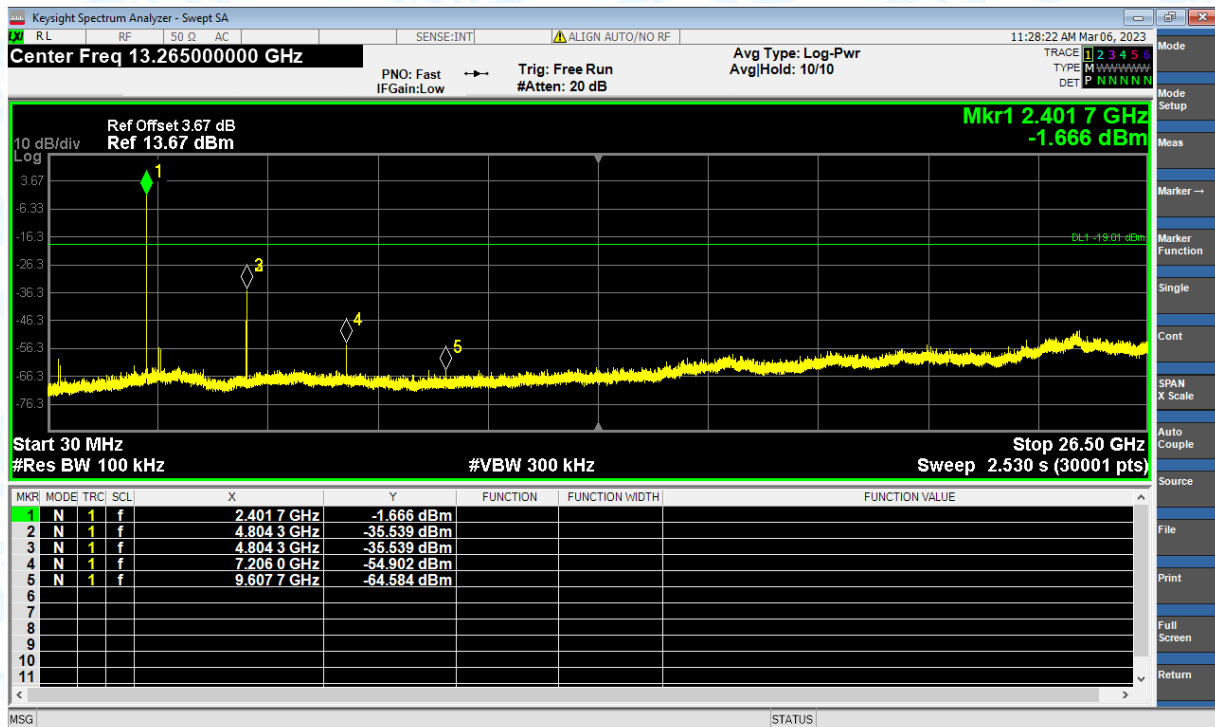
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



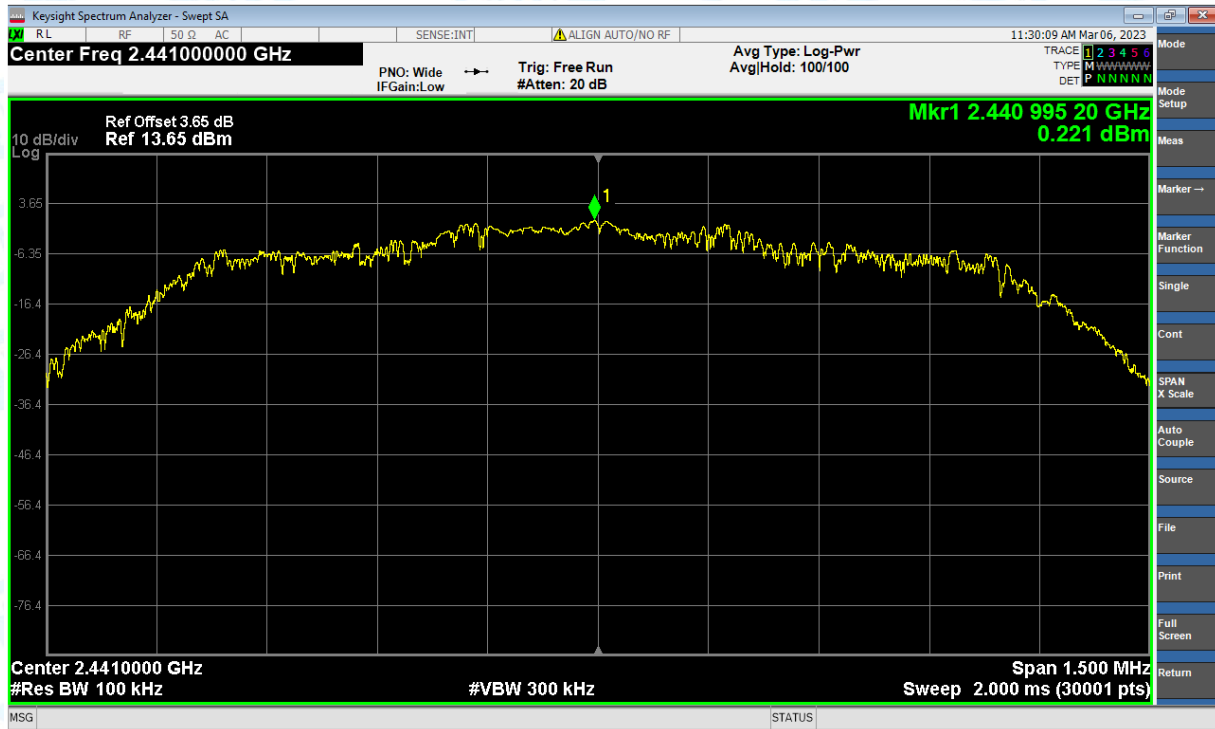
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



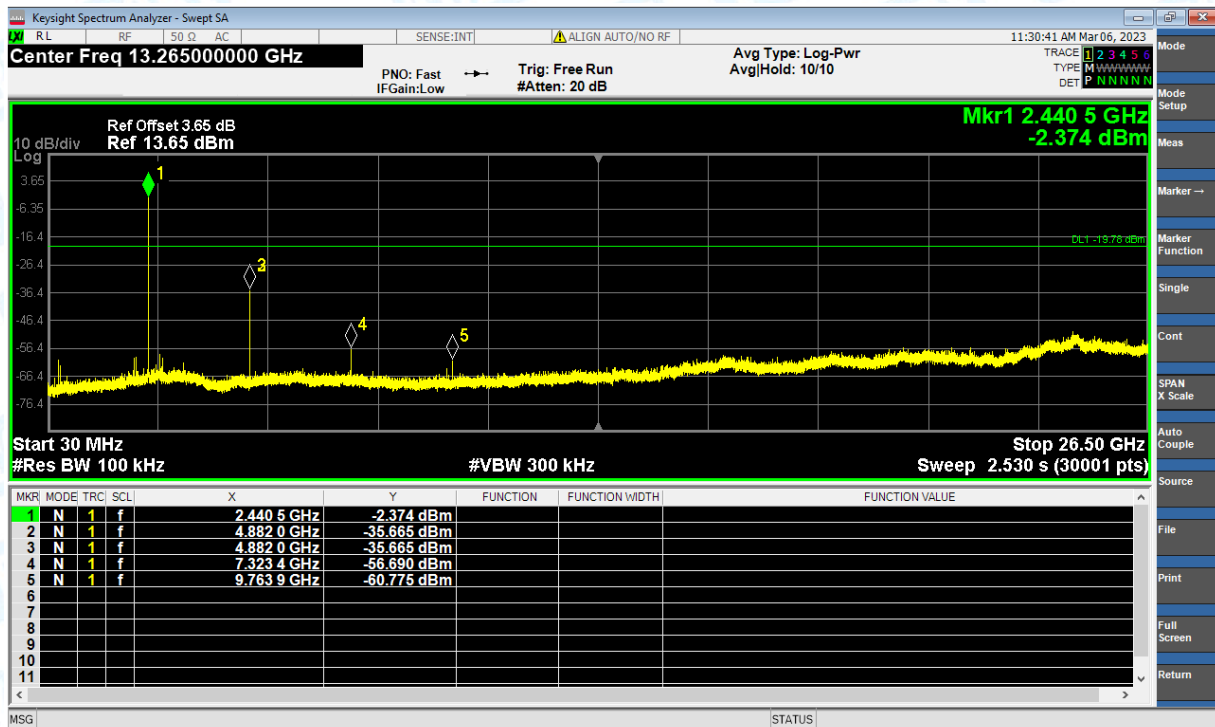
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



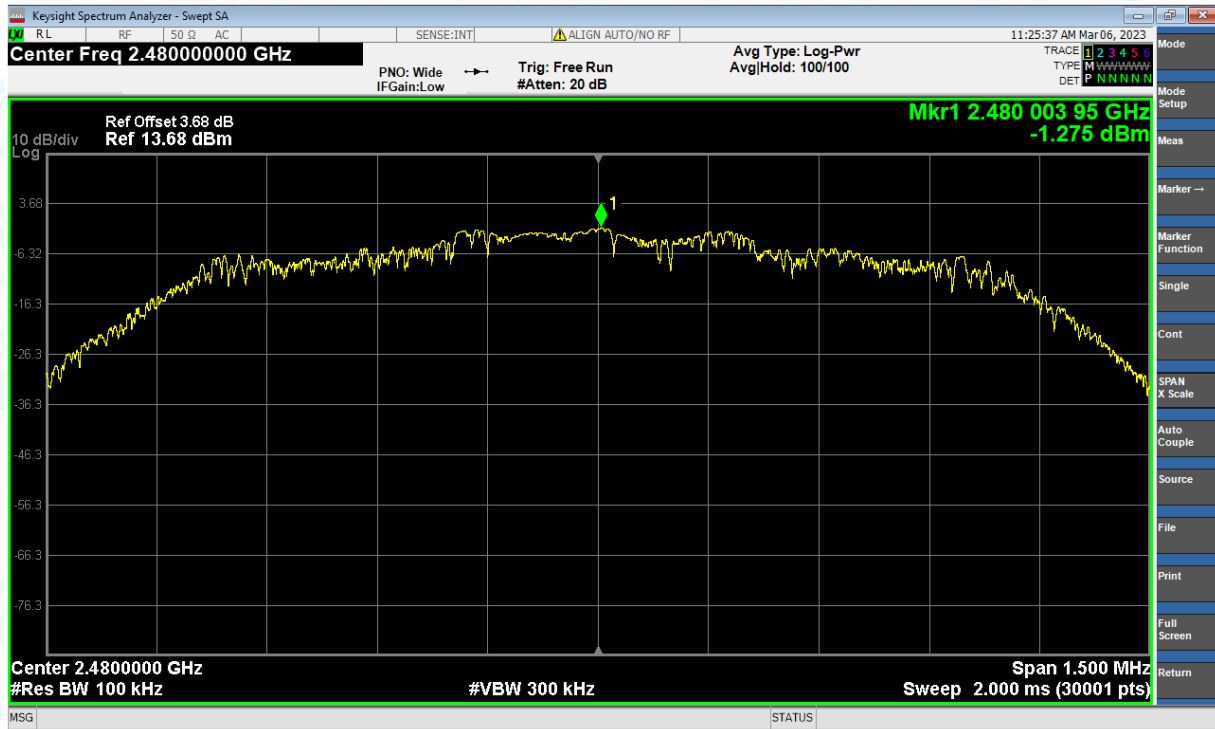
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



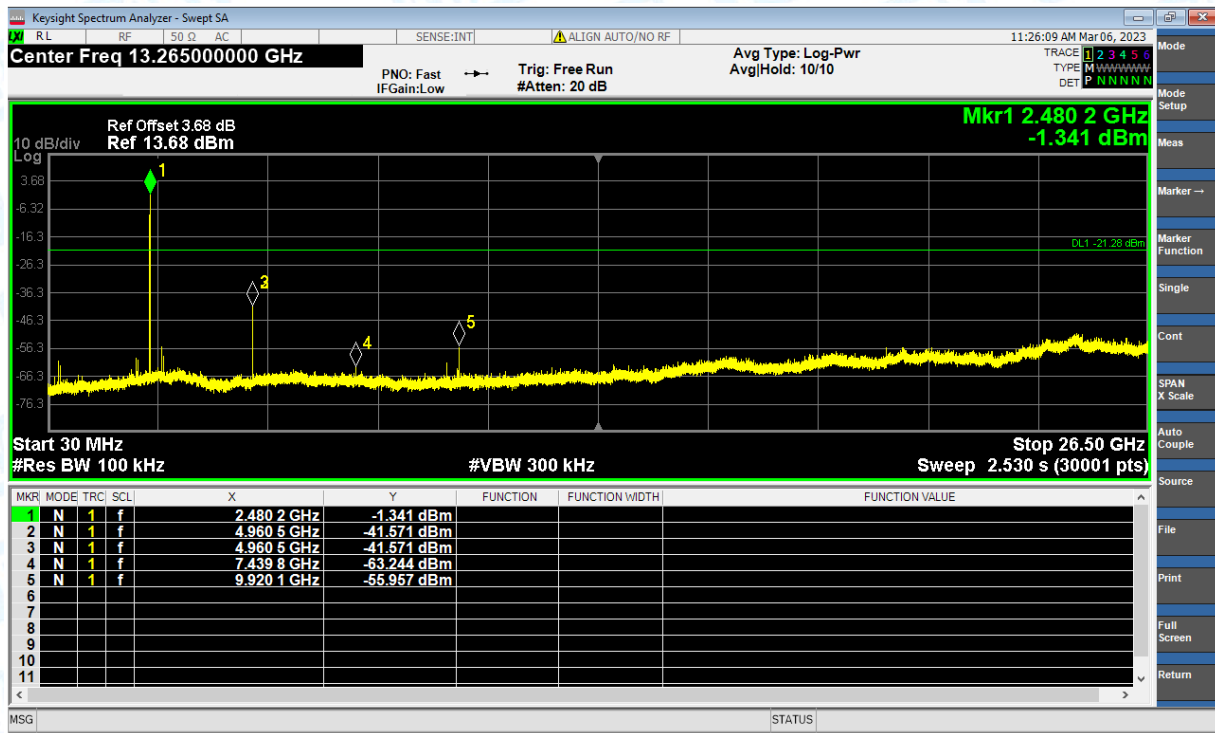
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

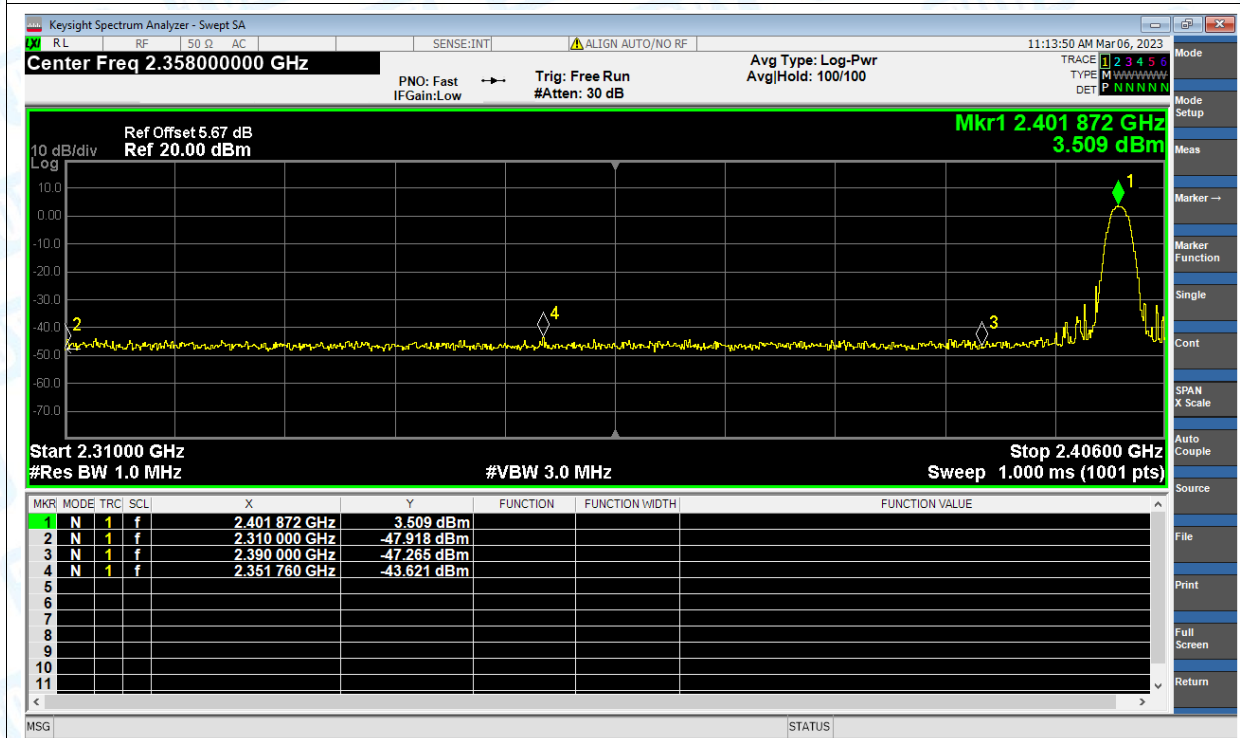


8. Restrict Band

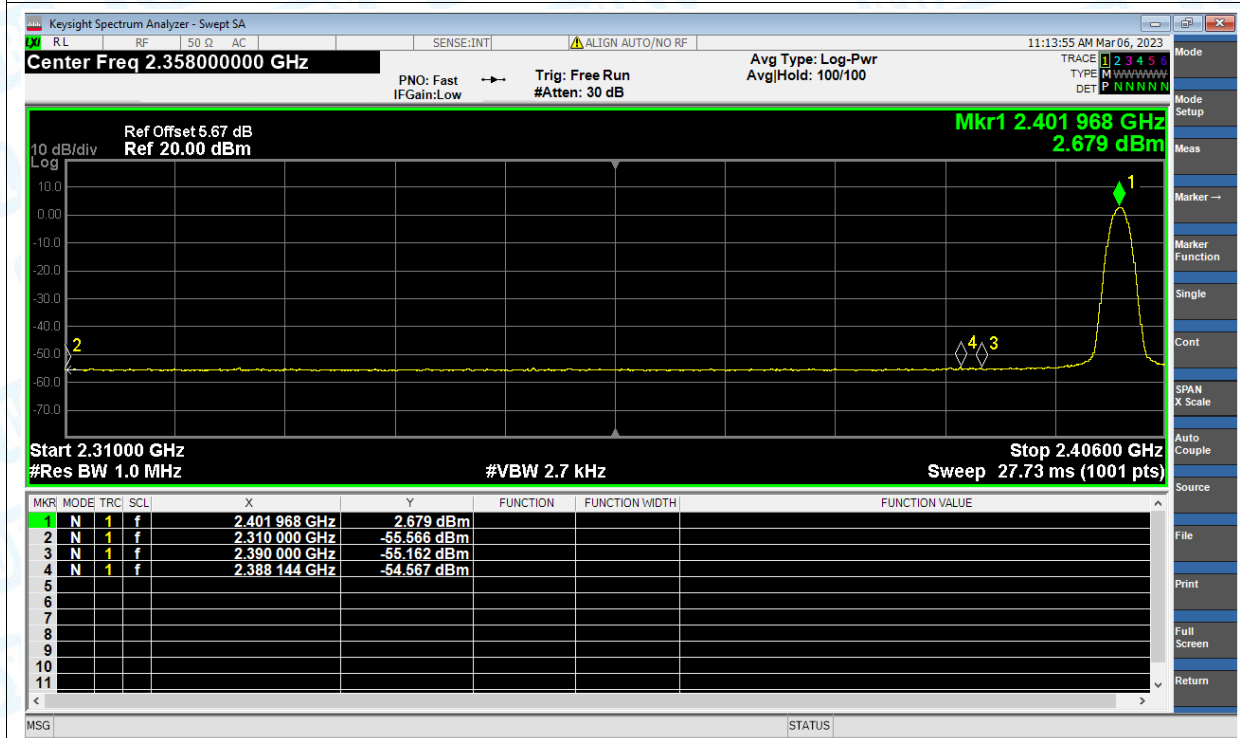
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.92	2.5	49.84	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-55.57	2.5	42.19	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2351.76	-43.62	2.5	54.14	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2388.144	-54.57	2.5	43.19	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.01	2.5	51.75	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.1	2.5	42.66	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-46.13	2.5	51.63	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.13	2.5	43.63	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.536	-36.85	2.5	60.91	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.704	-54.03	2.5	43.73	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.26	2.5	51.5	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.34	2.5	42.42	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-46.68	2.5	51.08	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-55.52	2.5	42.24	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2381.904	-43.98	2.5	53.78	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2323.728	-54.77	2.5	42.99	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-46.63	2.5	51.13	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.13	2.5	42.63	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-45.56	2.5	52.2	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.17	2.5	43.59	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.608	-36.79	2.5	60.97	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.68	-53.99	2.5	43.77	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.09	2.5	51.67	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.15	2.5	42.61	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-46.37	2.5	51.39	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-55.48	2.5	42.28	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2375.184	-44.12	2.5	53.64	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2387.28	-54.91	2.5	42.85	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.94	2.5	50.82	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-54.94	2.5	42.82	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-45.2	2.5	52.56	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.23	2.5	43.53	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.656	-37.01	2.5	60.75	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.776	-53.83	2.5	43.93	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.61	2.5	50.15	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.27	2.5	42.49	Average	54	Pass

Test Graphs

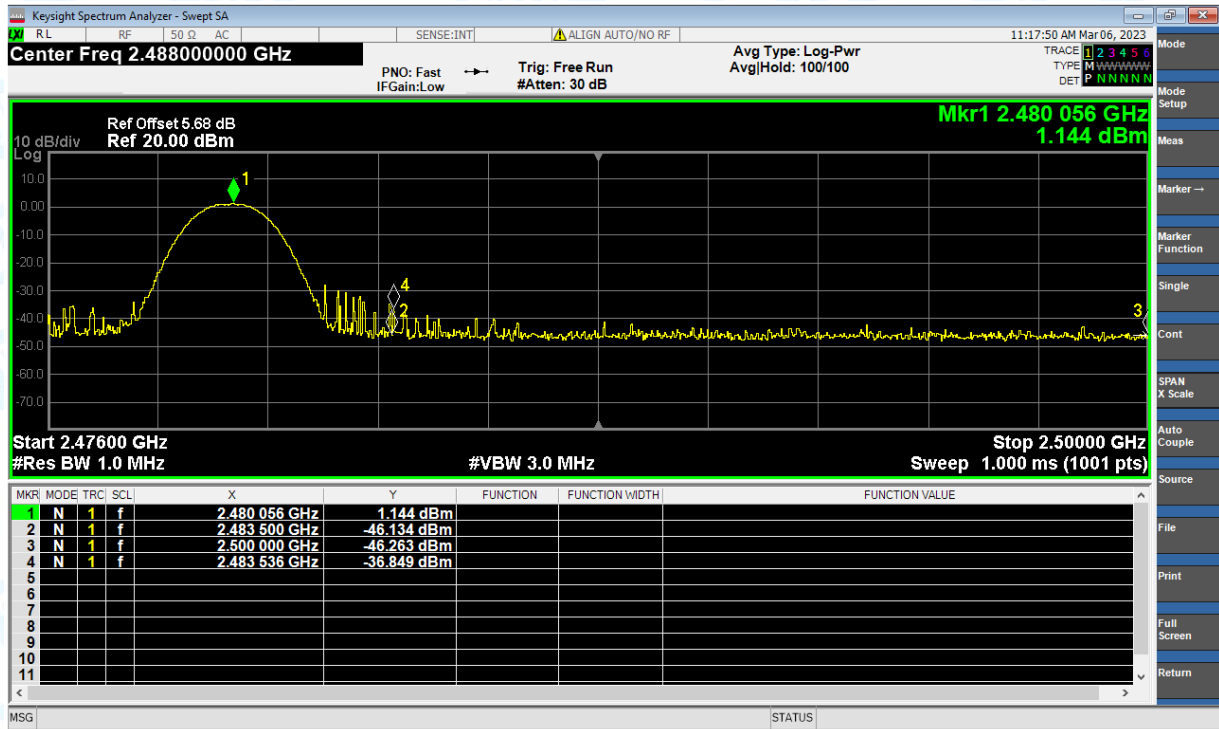
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



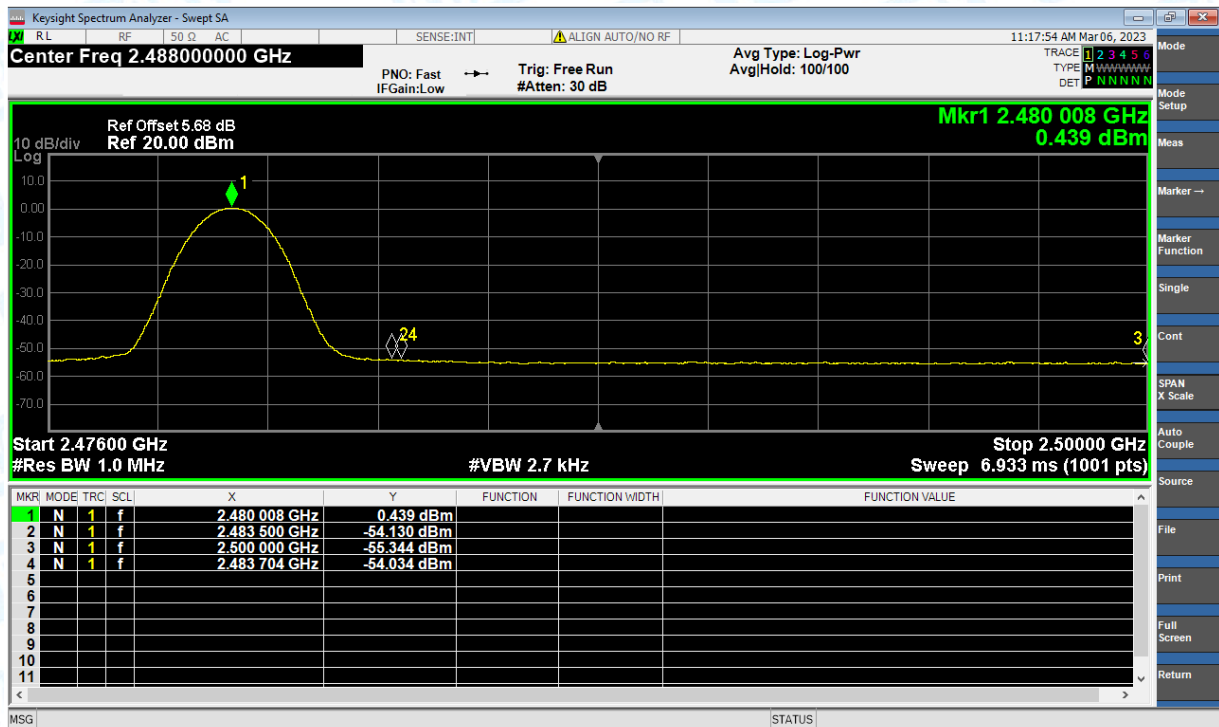
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



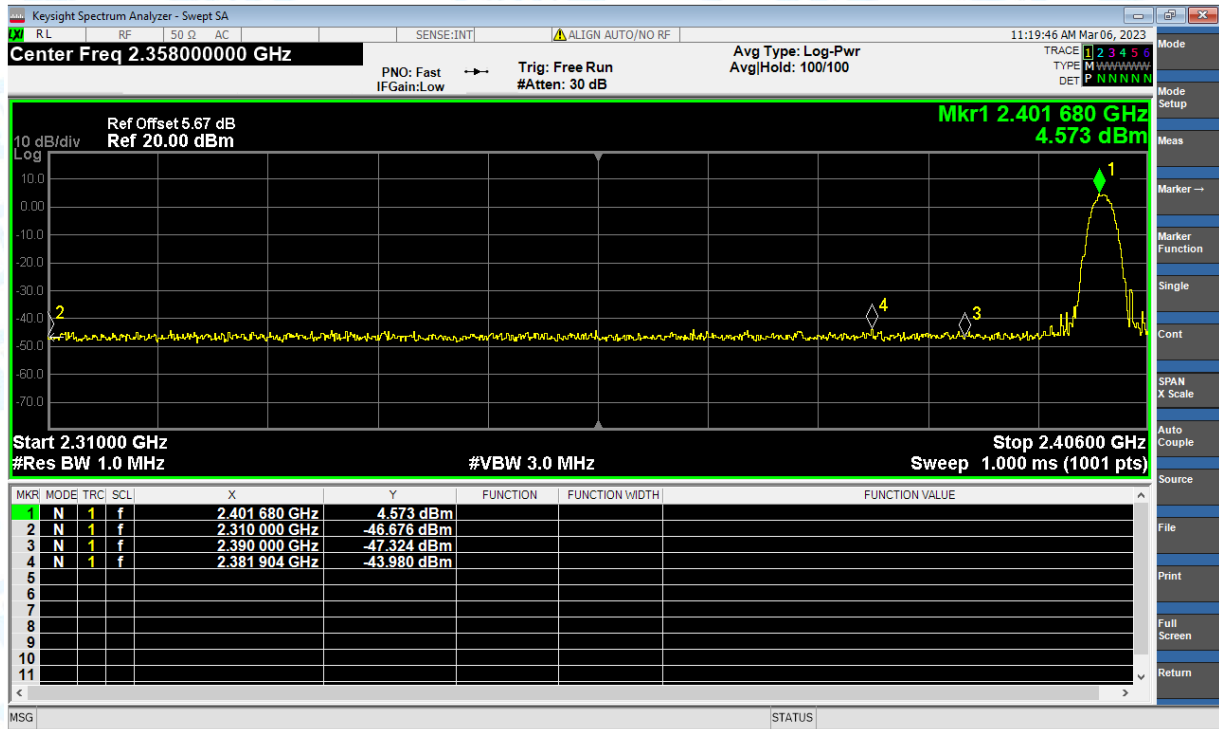
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



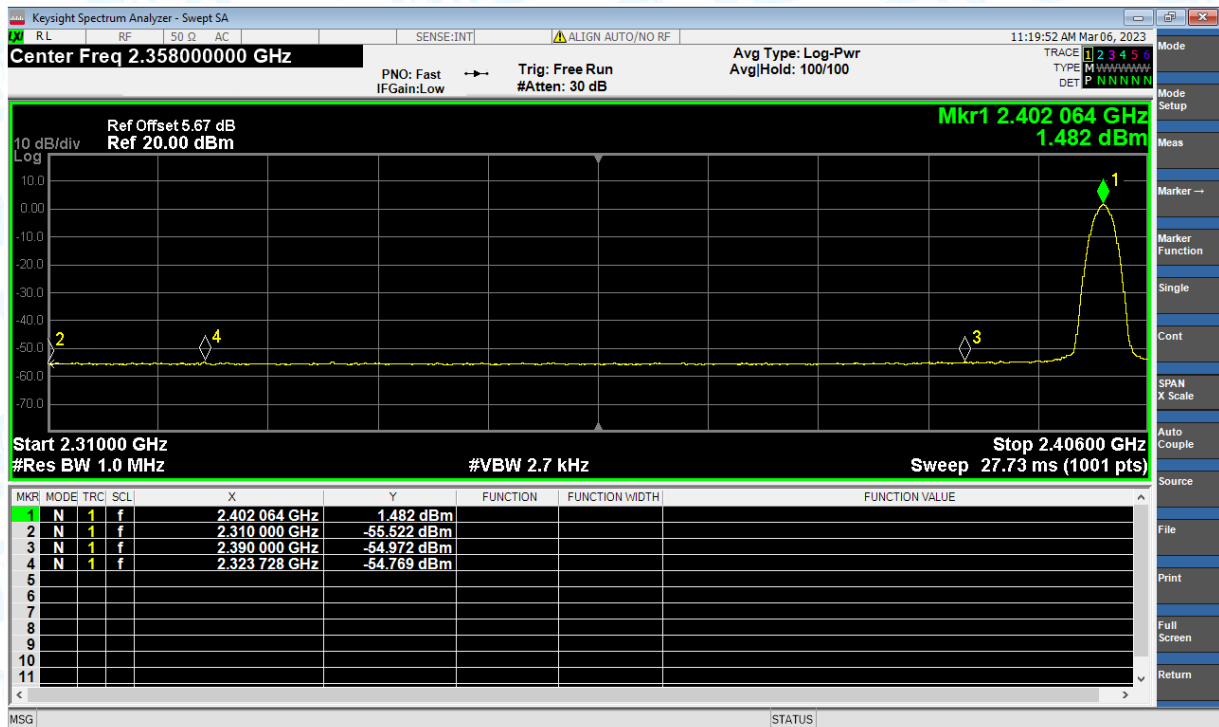
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



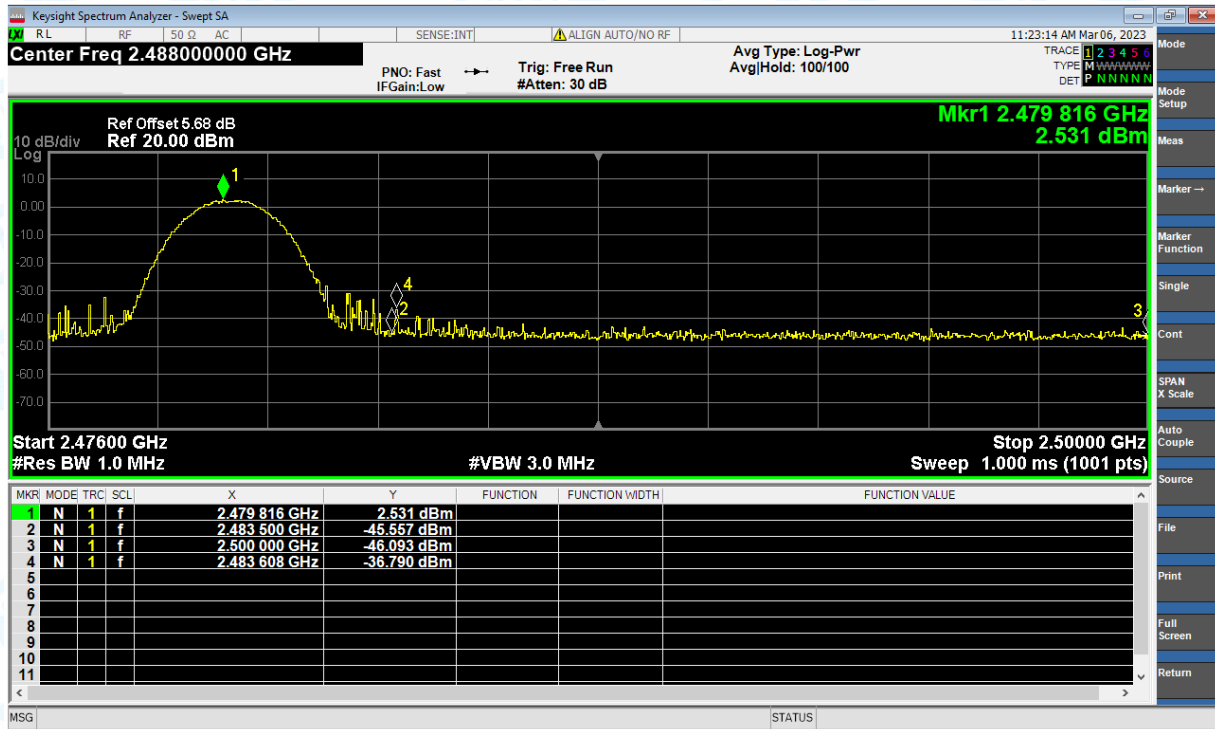
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



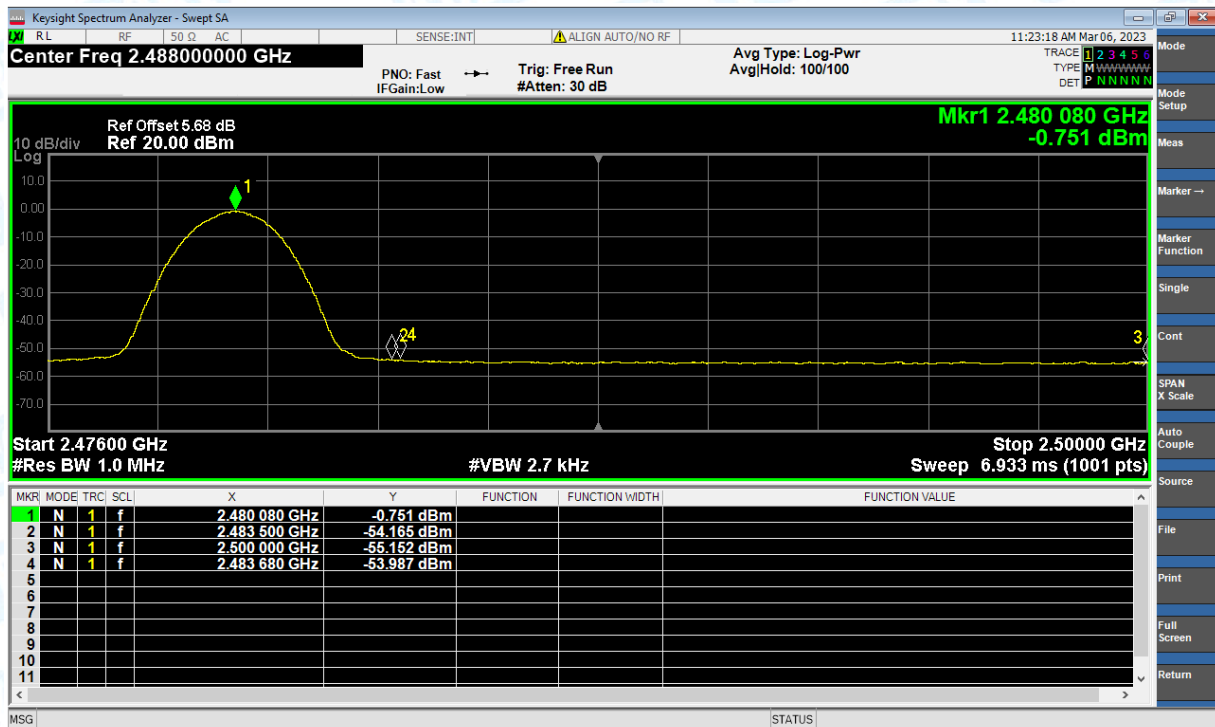
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



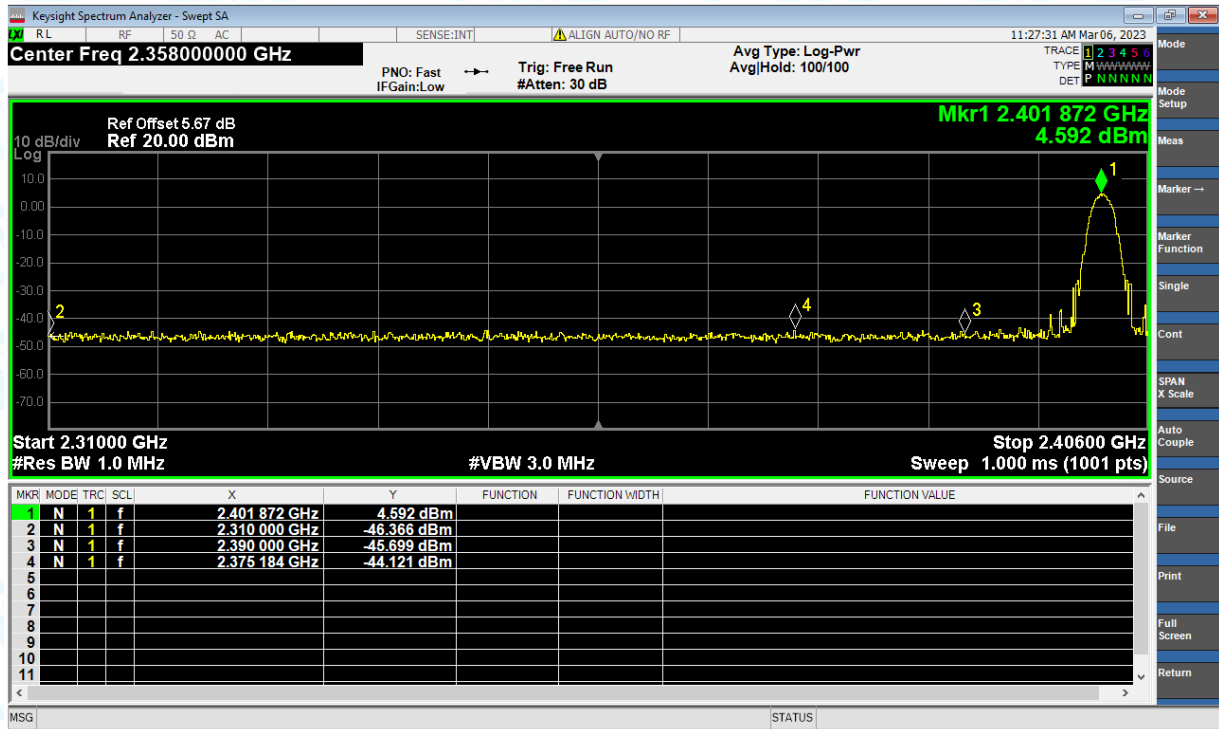
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



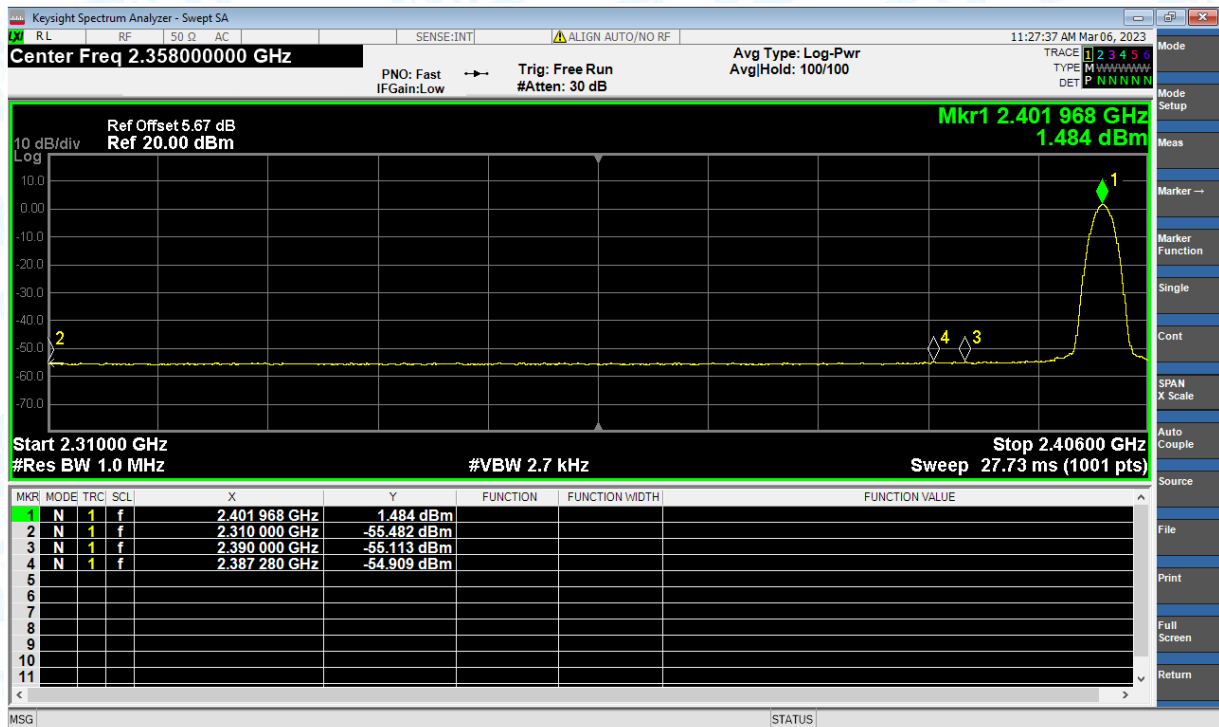
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



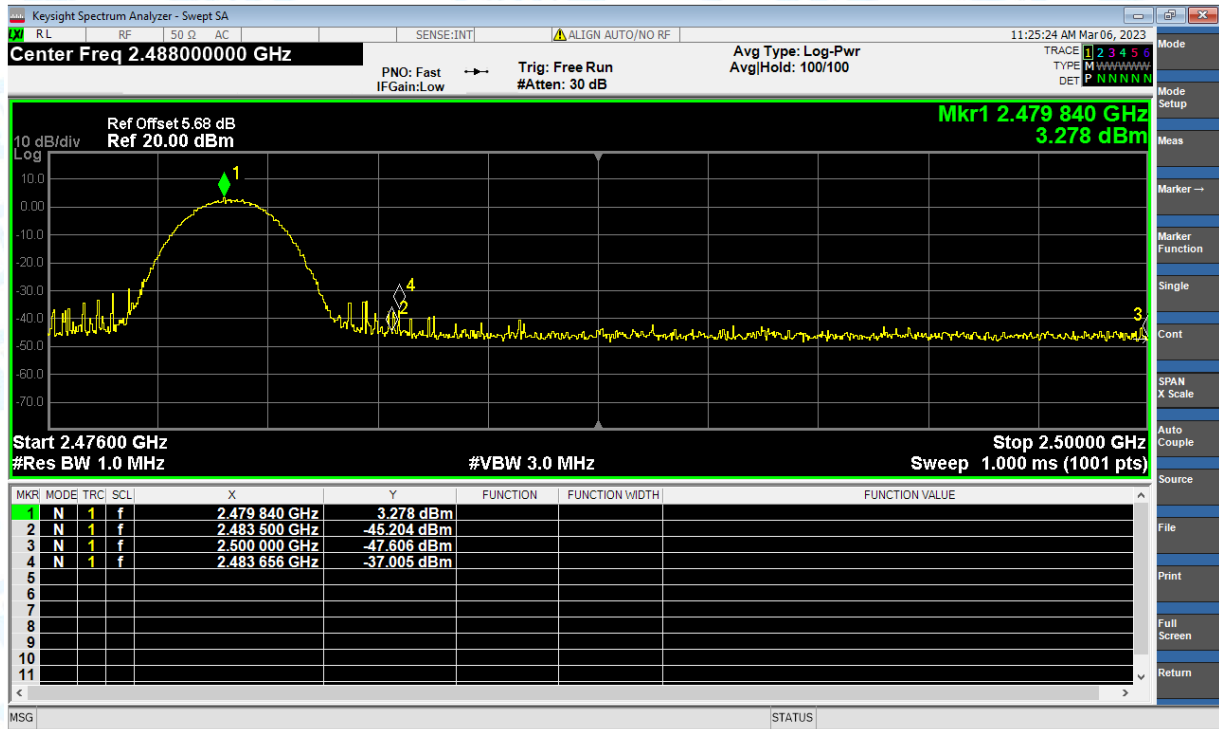
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



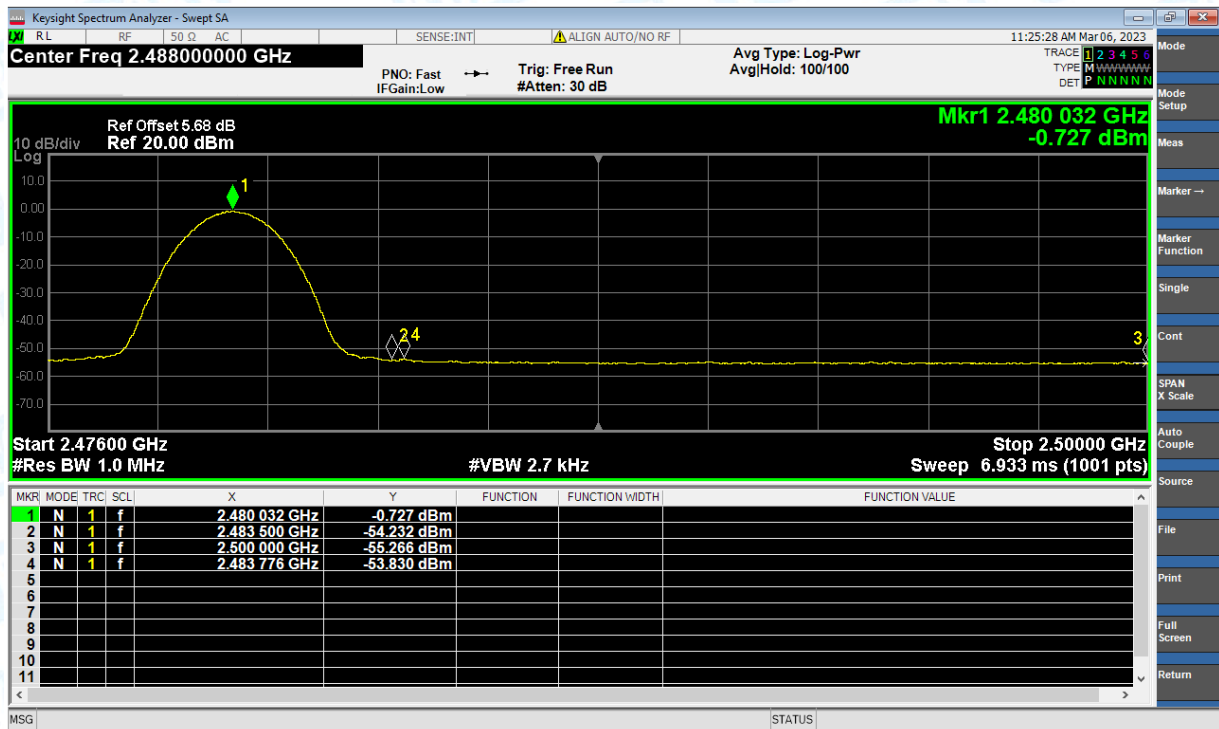
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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



9. Carrier Frequencies Separation

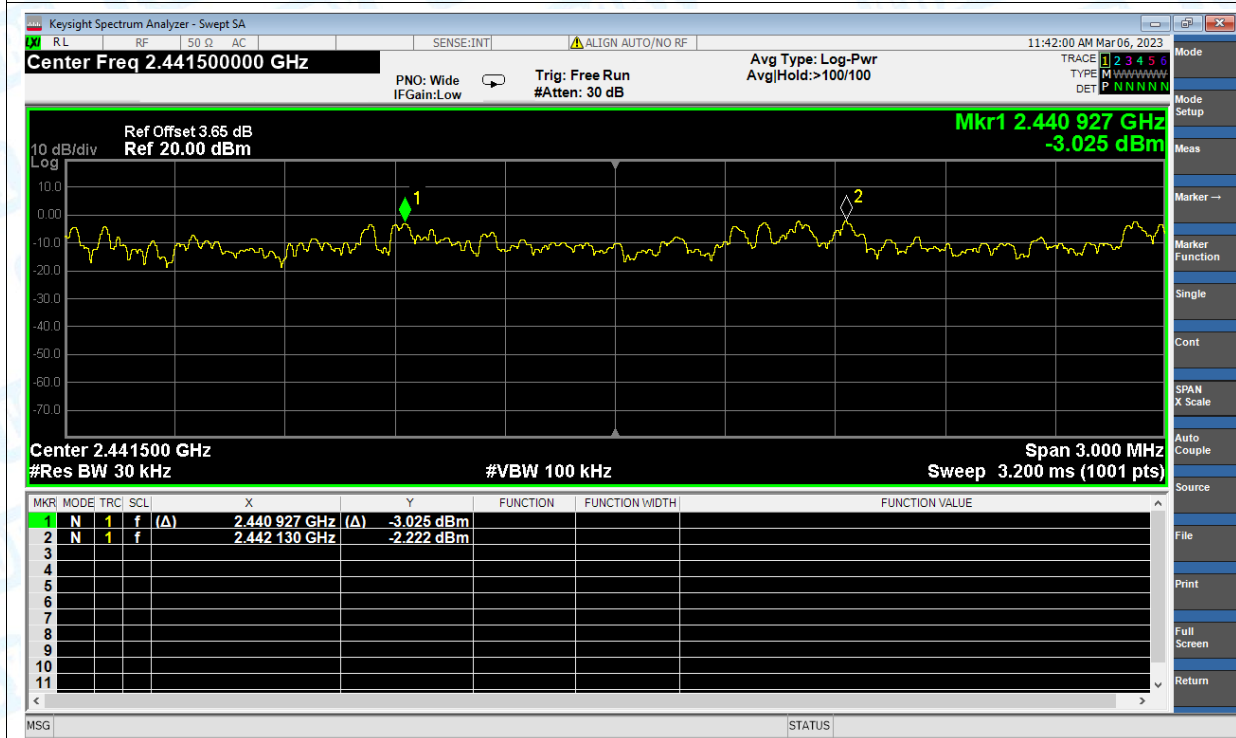
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.993	2442.007	1.014	0.62	Pass
NVNT	2-DH1	Ant1	2440.927	2442.13	1.203	0.86	Pass
NVNT	3-DH1	Ant1	2440.927	2442.001	1.074	0.82	Pass

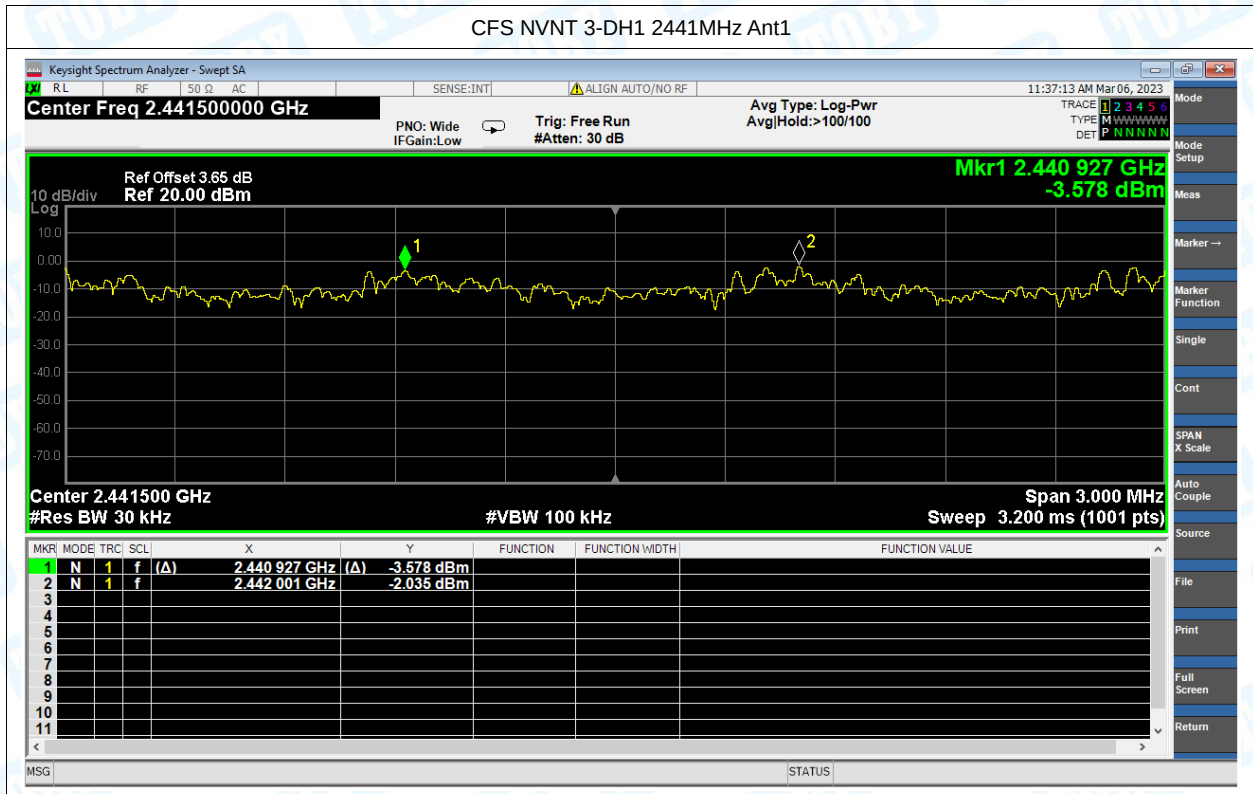
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



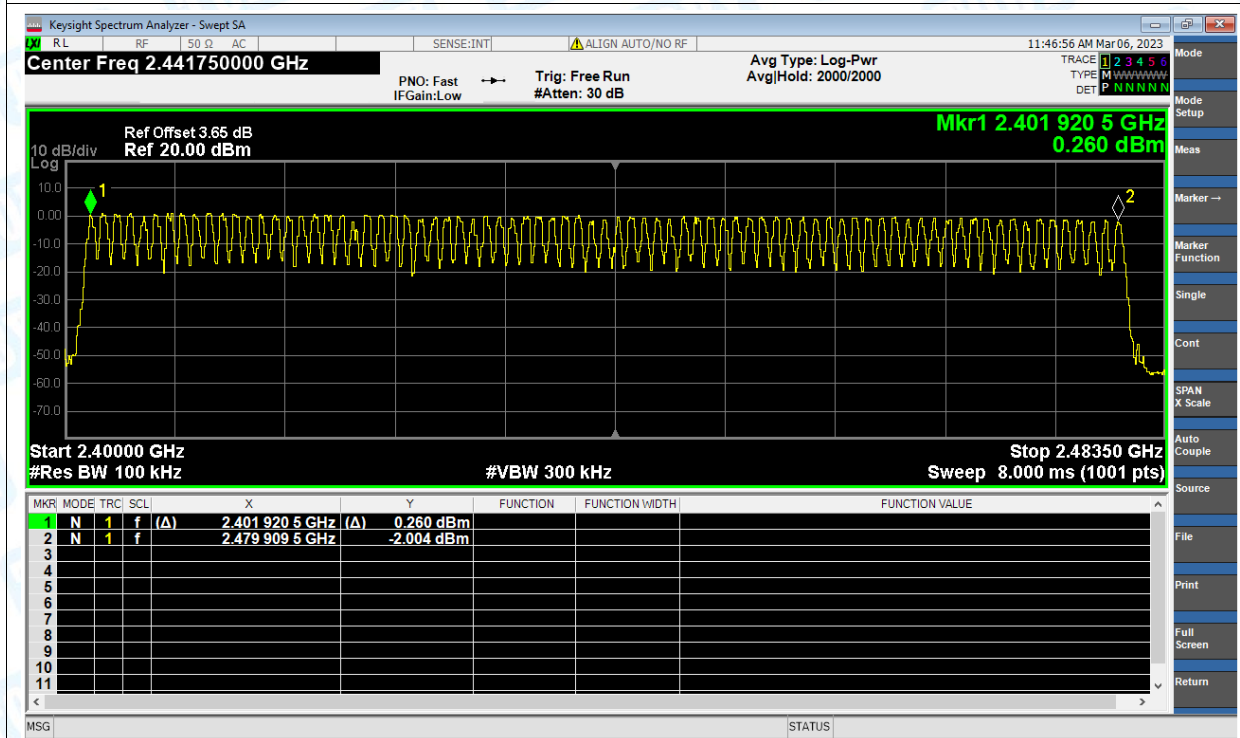


10. Number of Hopping Channel

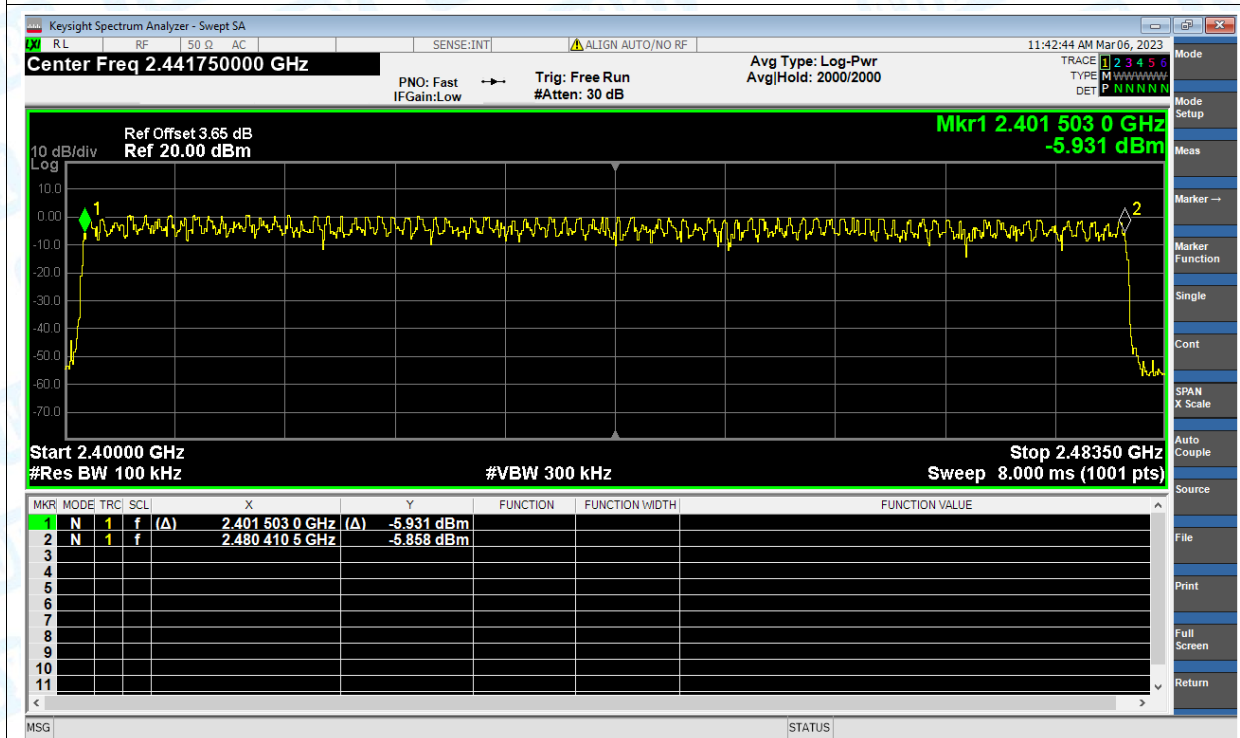
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

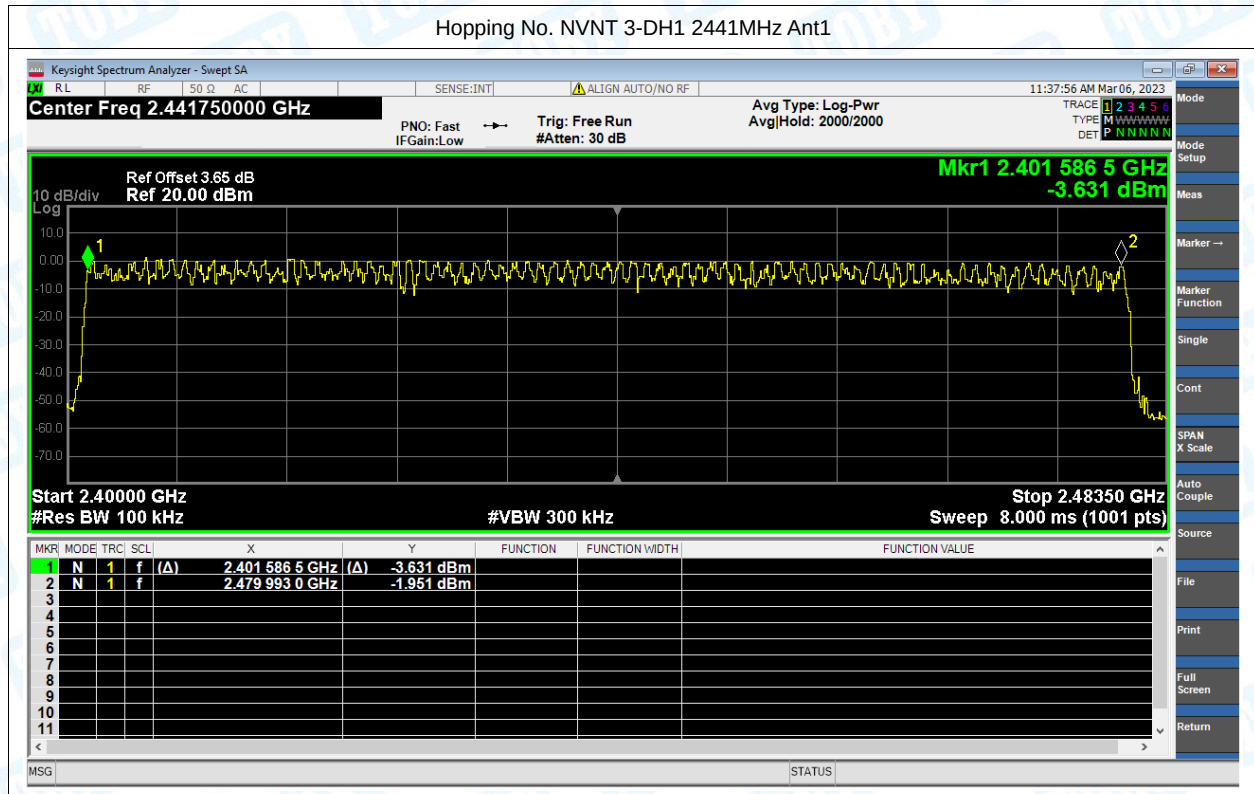
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



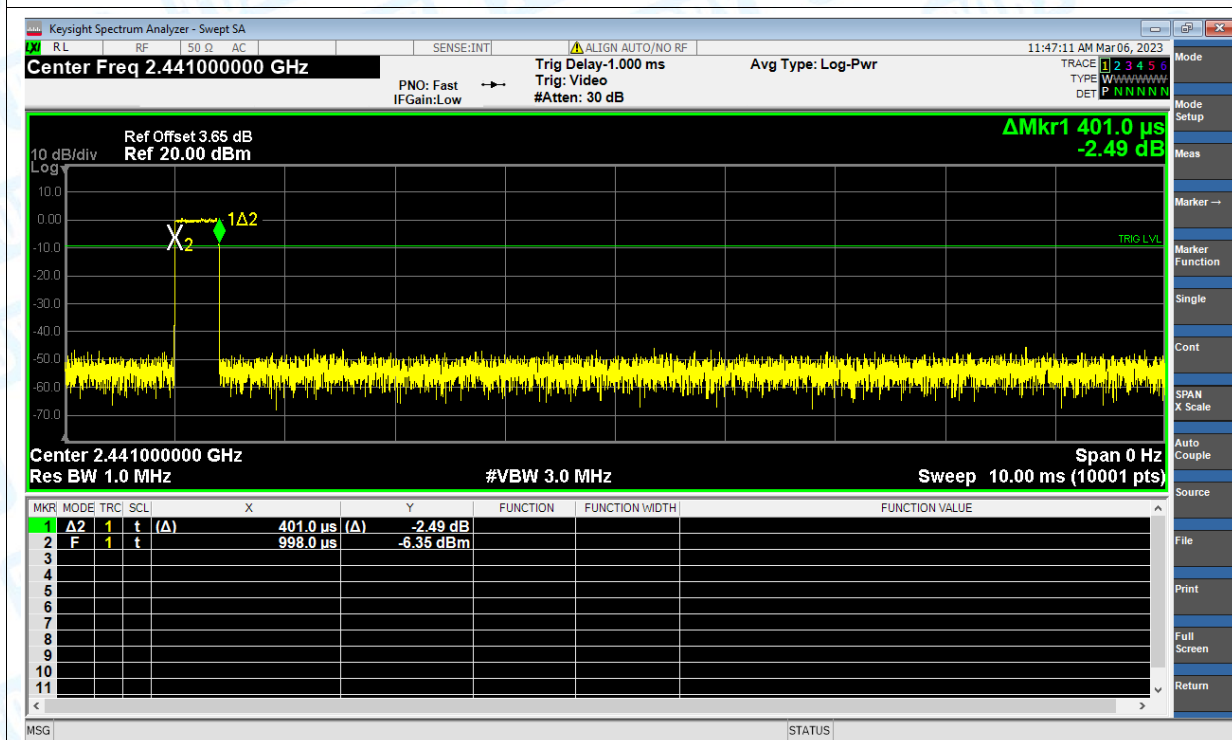


11. Dwell Time

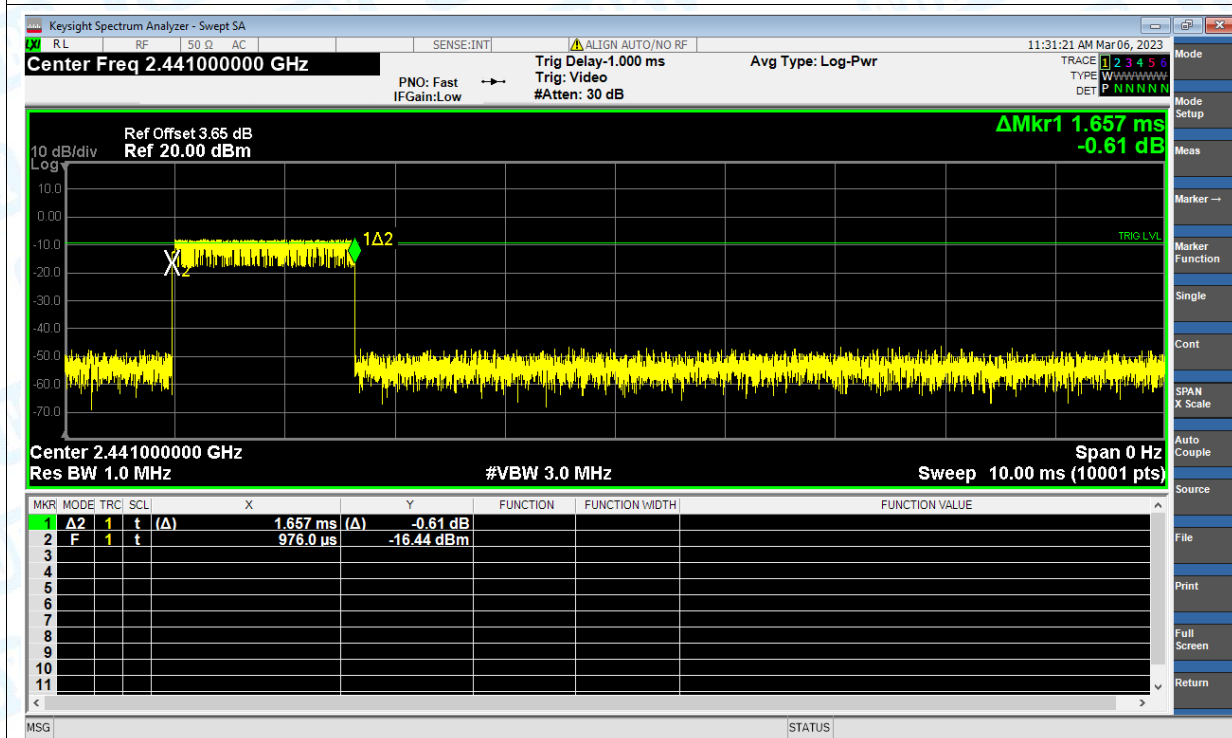
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.401	128.32	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.657	265.12	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.903	309.653	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.41	131.2	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.661	265.76	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.894	308.693	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.408	130.56	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.66	265.6	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.909	310.293	31600	400	Pass

Test Graphs

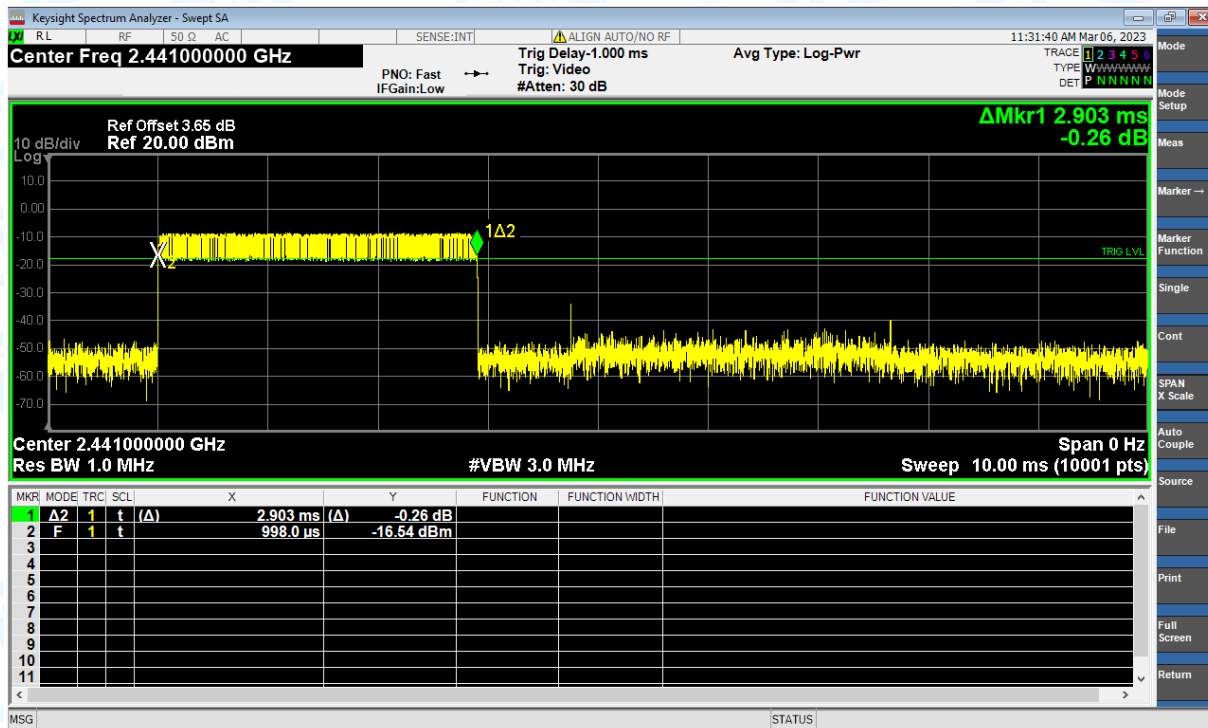
Dwell NVNT 1-DH1 2441MHz Ant1



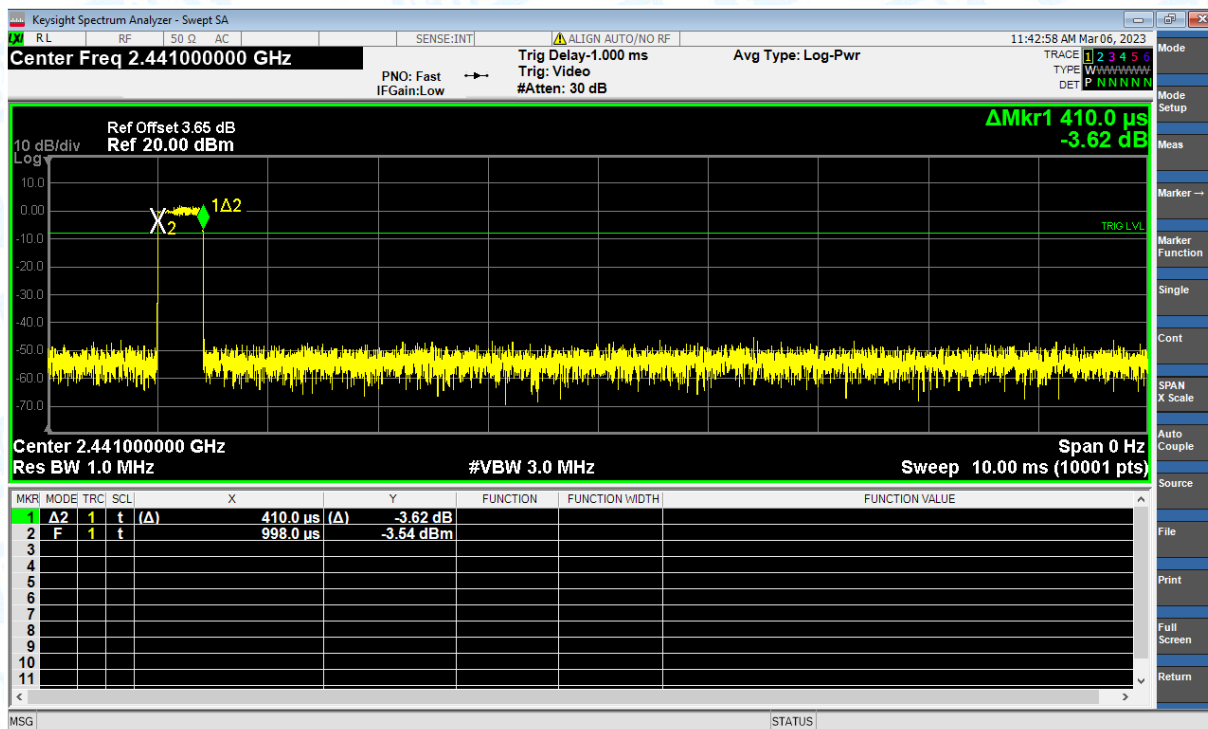
Dwell NVNT 1-DH3 2441MHz Ant1



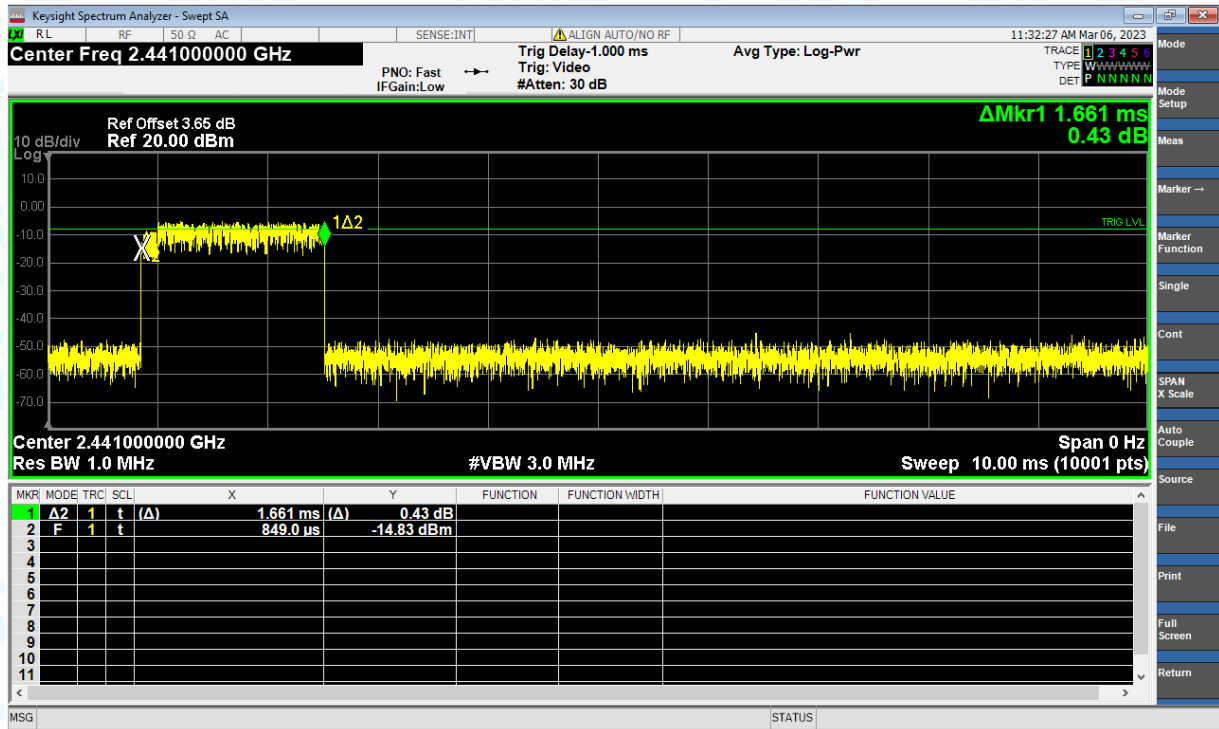
Dwell NVNT 1-DH5 2441MHz Ant1



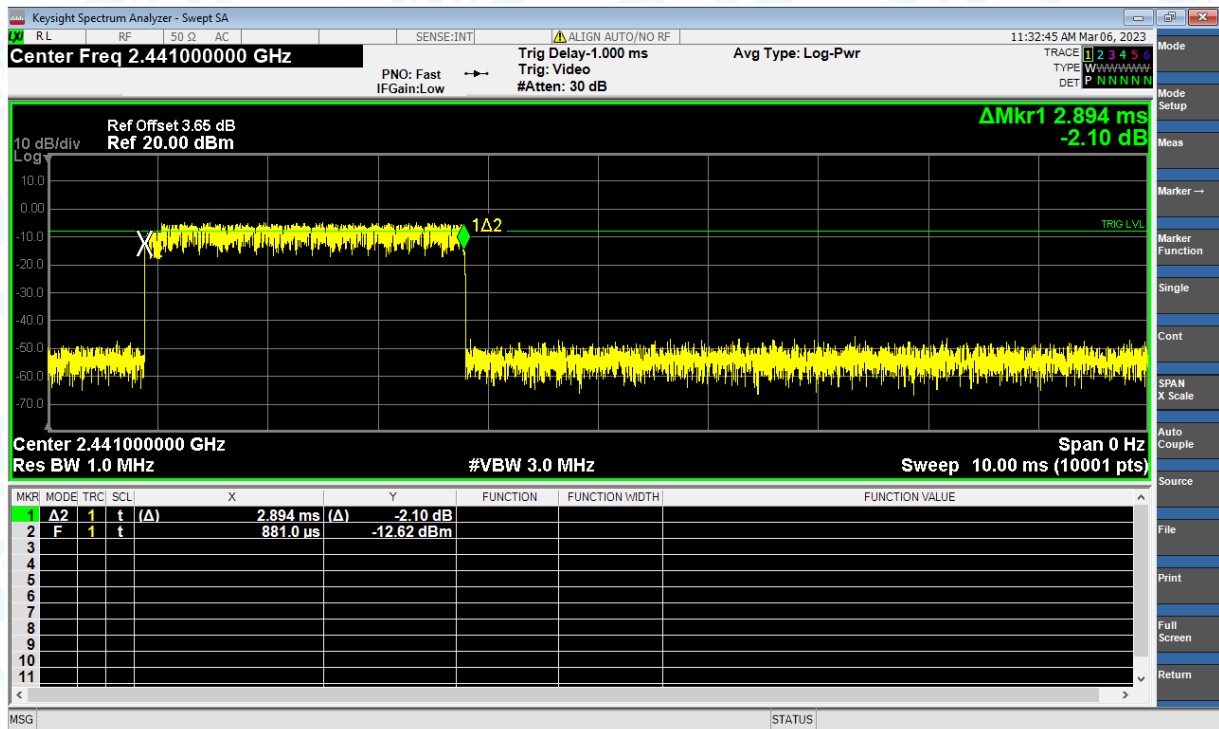
Dwell NVNT 2-DH1 2441MHz Ant1



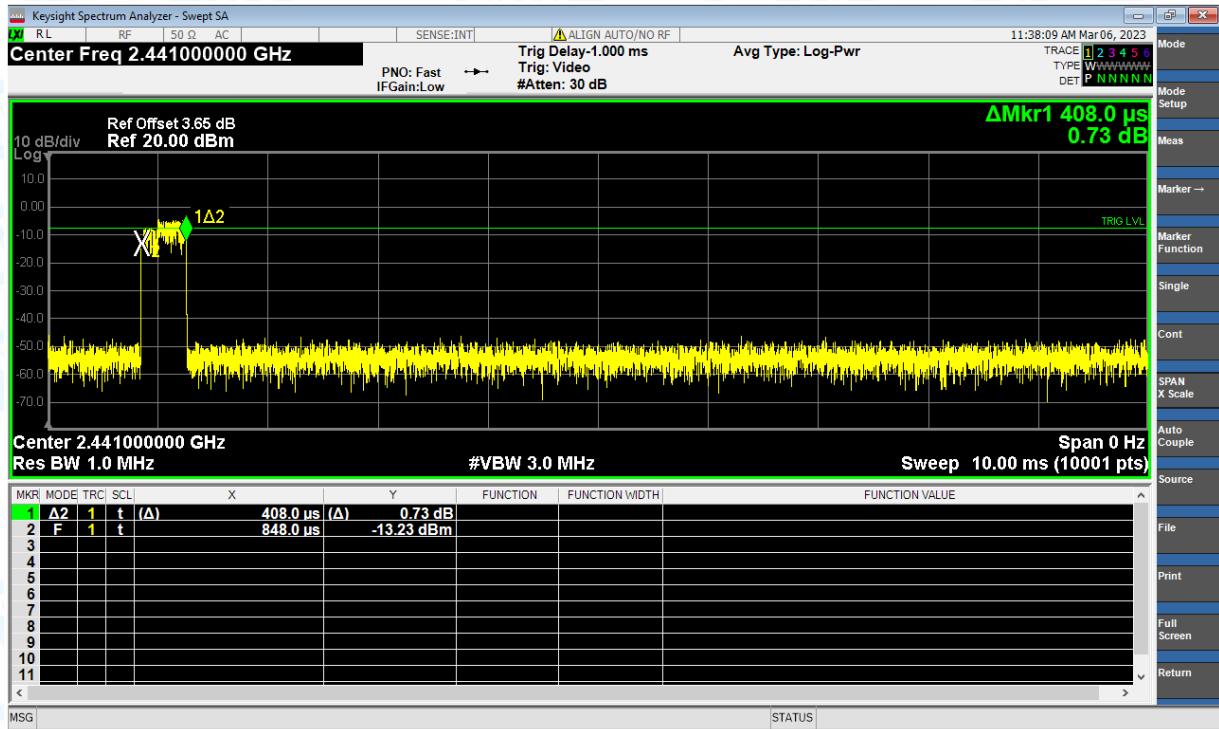
Dwell NVNT 2-DH3 2441MHz Ant1



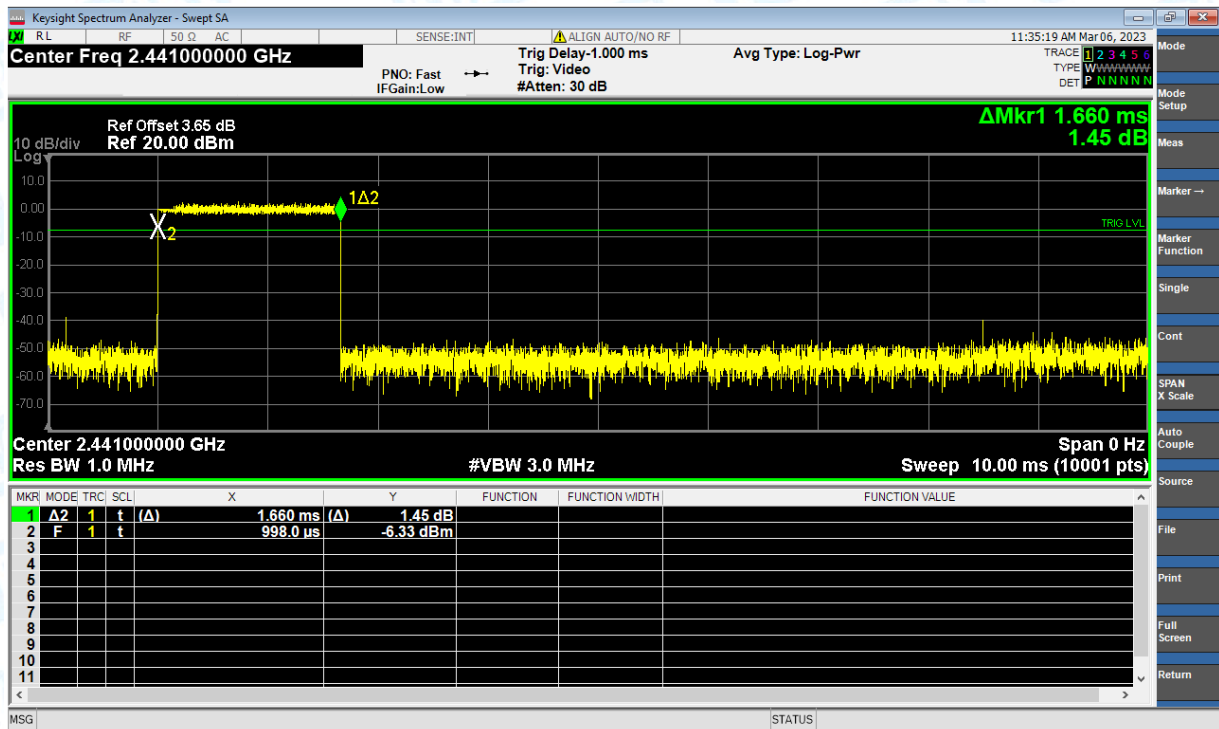
Dwell NVNT 2-DH5 2441MHz Ant1

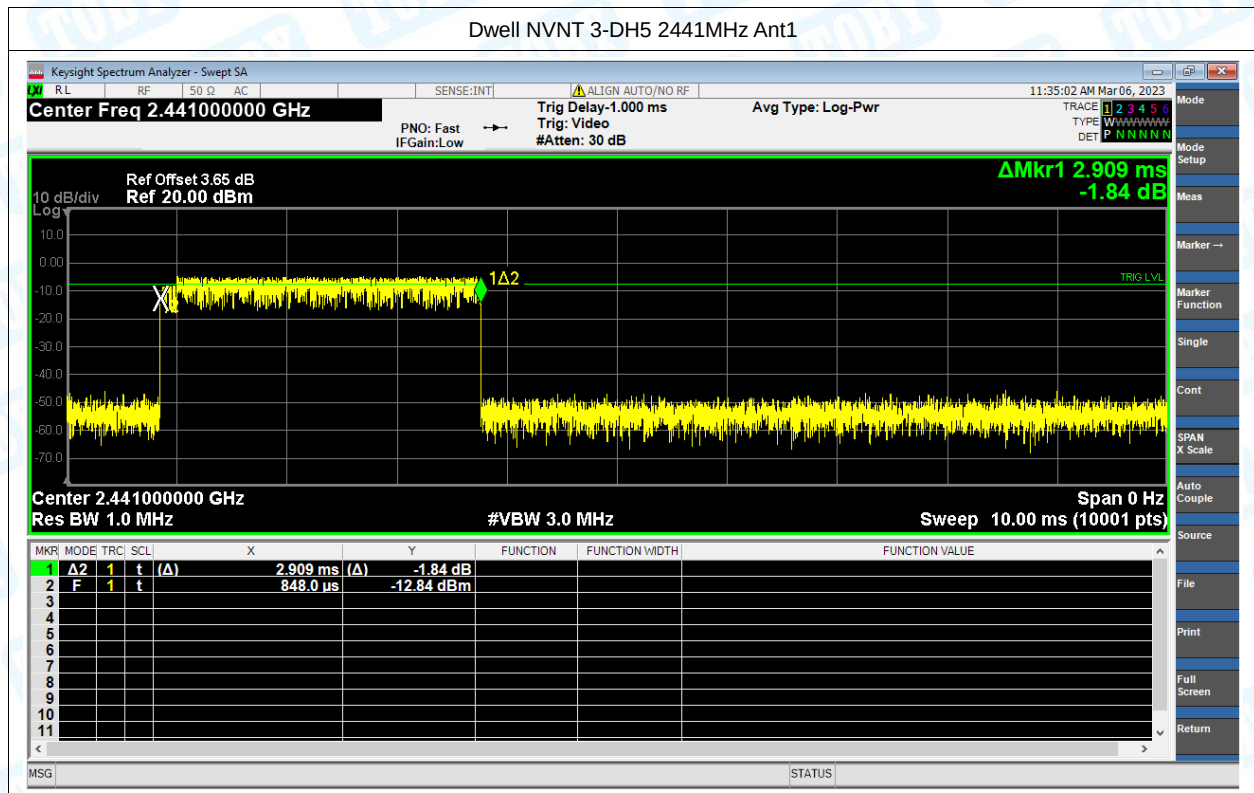


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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