

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

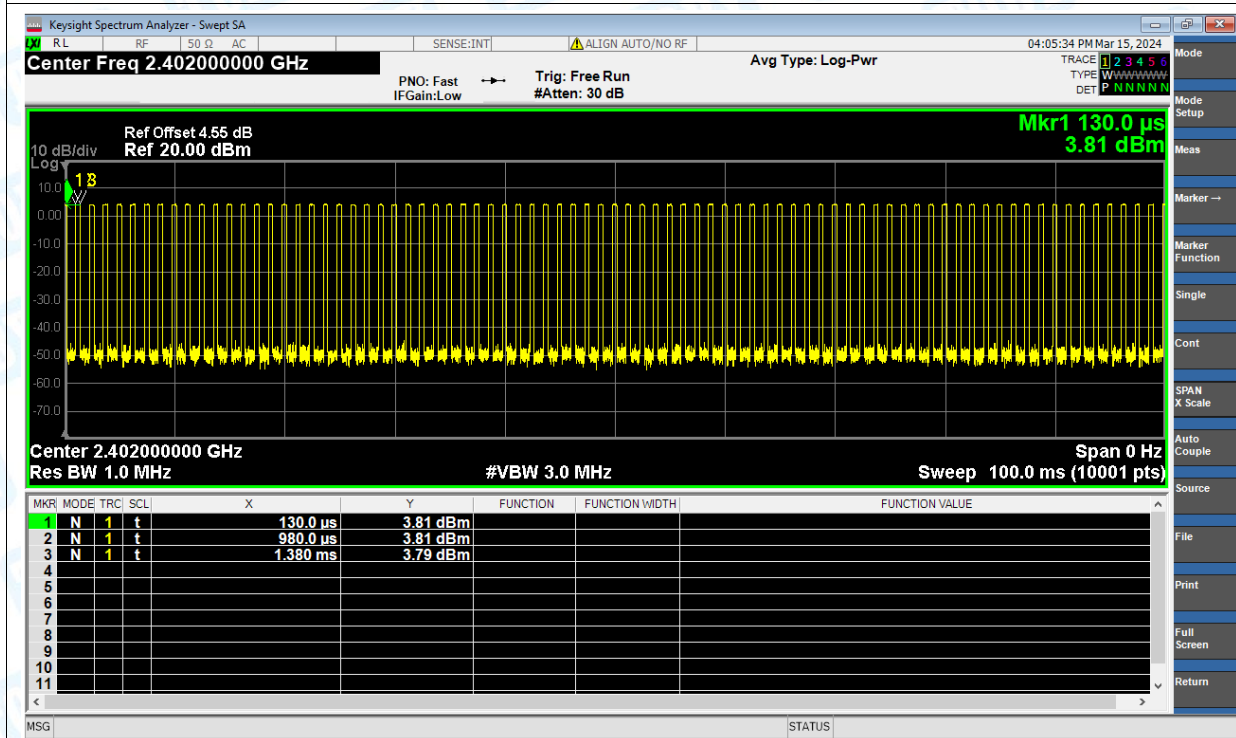
General Description of EUT	
Product Name:	Smart Watch
Test Model:	T12PRO
Sample ID:	RW-C-202403-0106-1-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	ZKN ZHOU
Note: For a more detailed features description, please refer to the report TBR-C-202403-0106-1 The report only show the worst case data.	

1. Duty Cycle

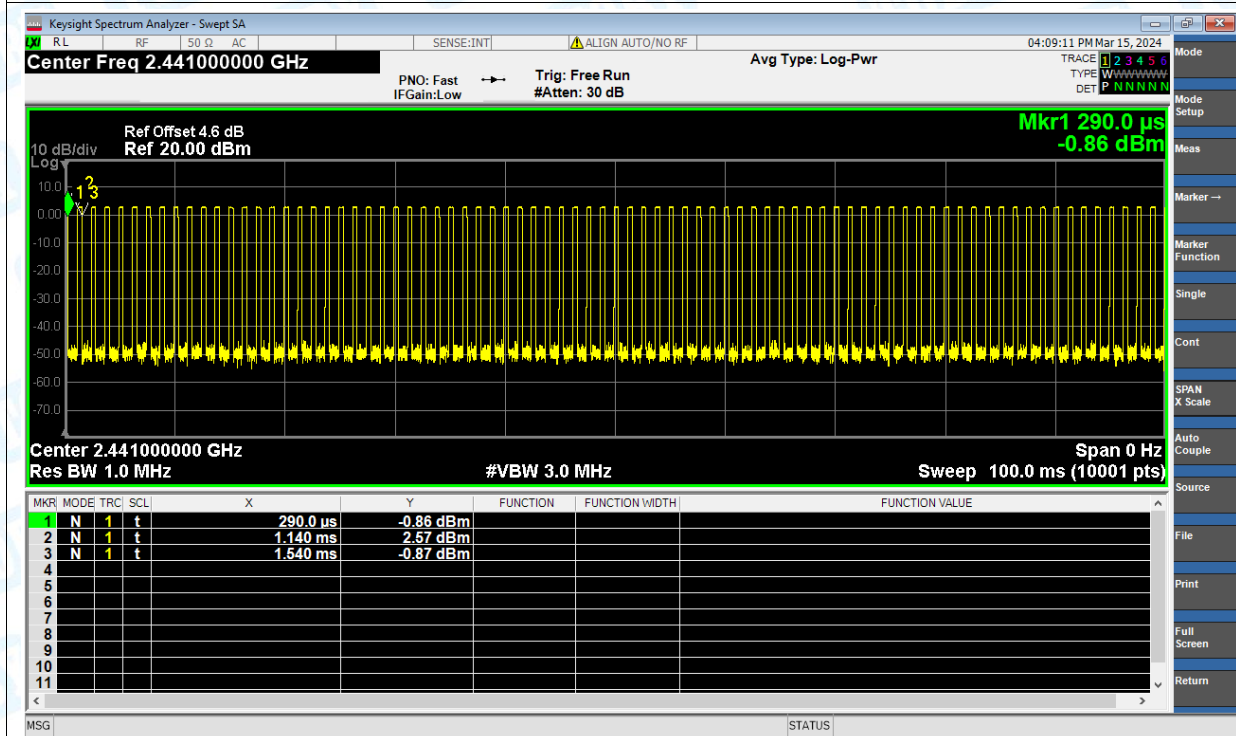
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	32	4.95	2.5
NVNT	1-DH1	2441	Ant1	32	4.95	2.5
NVNT	1-DH1	2480	Ant1	32	4.95	2.5
NVNT	2-DH1	2402	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2441	Ant1	33.6	4.74	2.38
NVNT	2-DH1	2480	Ant1	32.8	4.84	2.44
NVNT	3-DH1	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

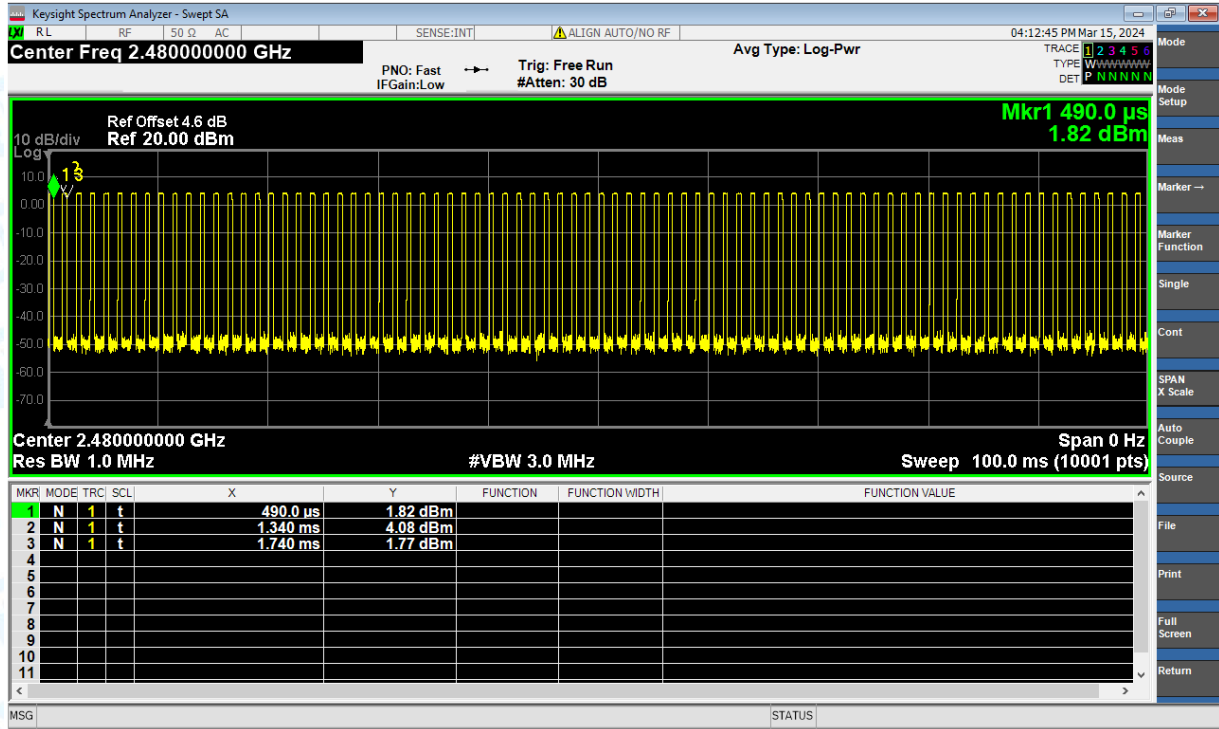
Duty Cycle NVNT 1-DH1 2402MHz Ant1



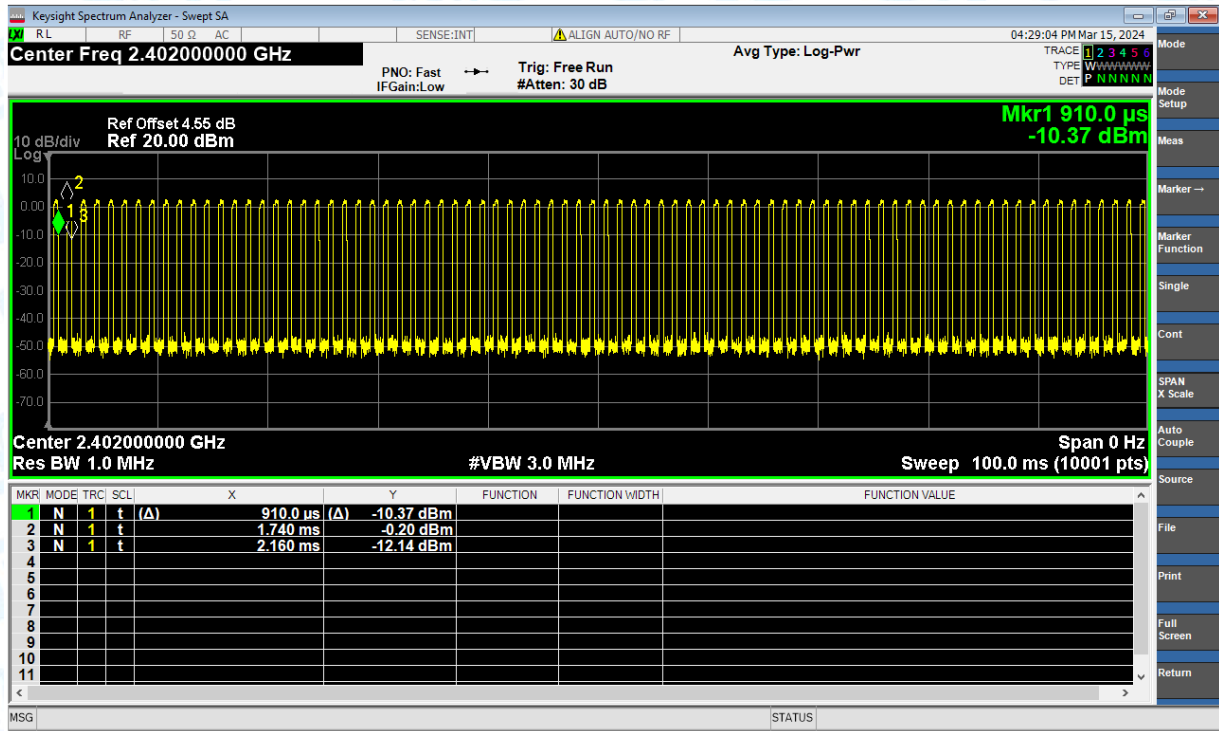
Duty Cycle NVNT 1-DH1 2441MHz Ant1



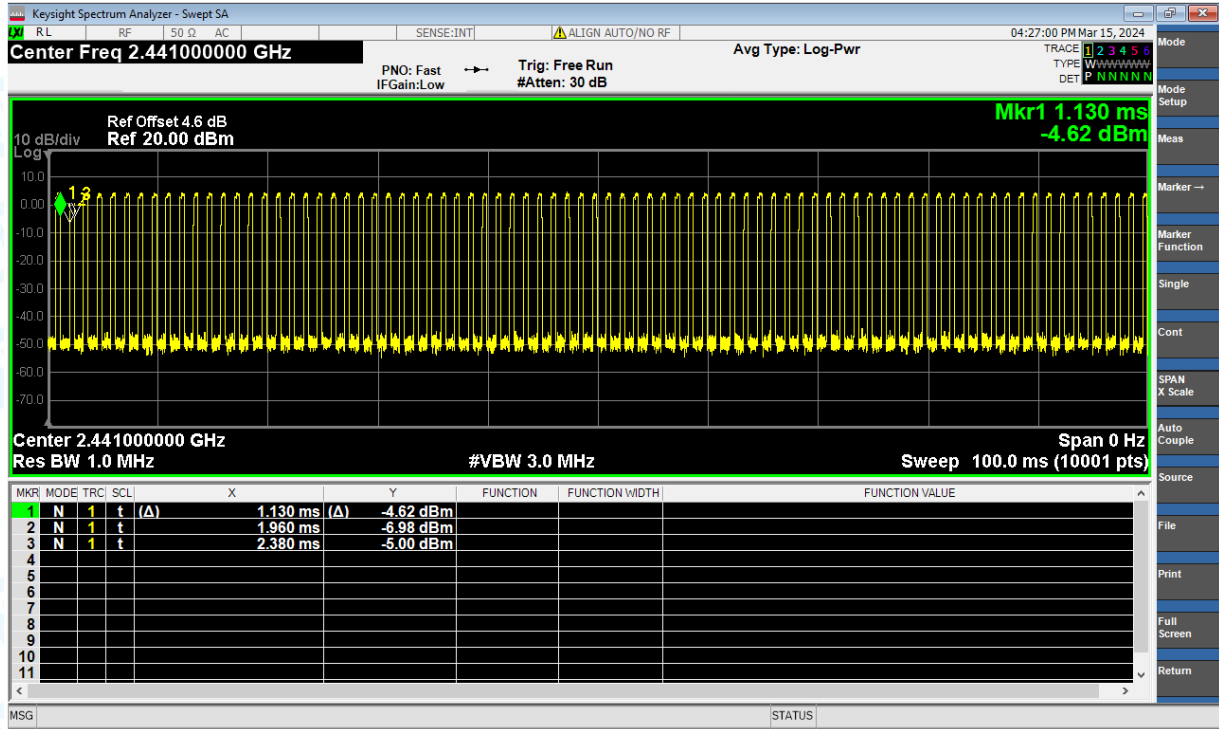
Duty Cycle NVNT 1-DH1 2480MHz Ant1



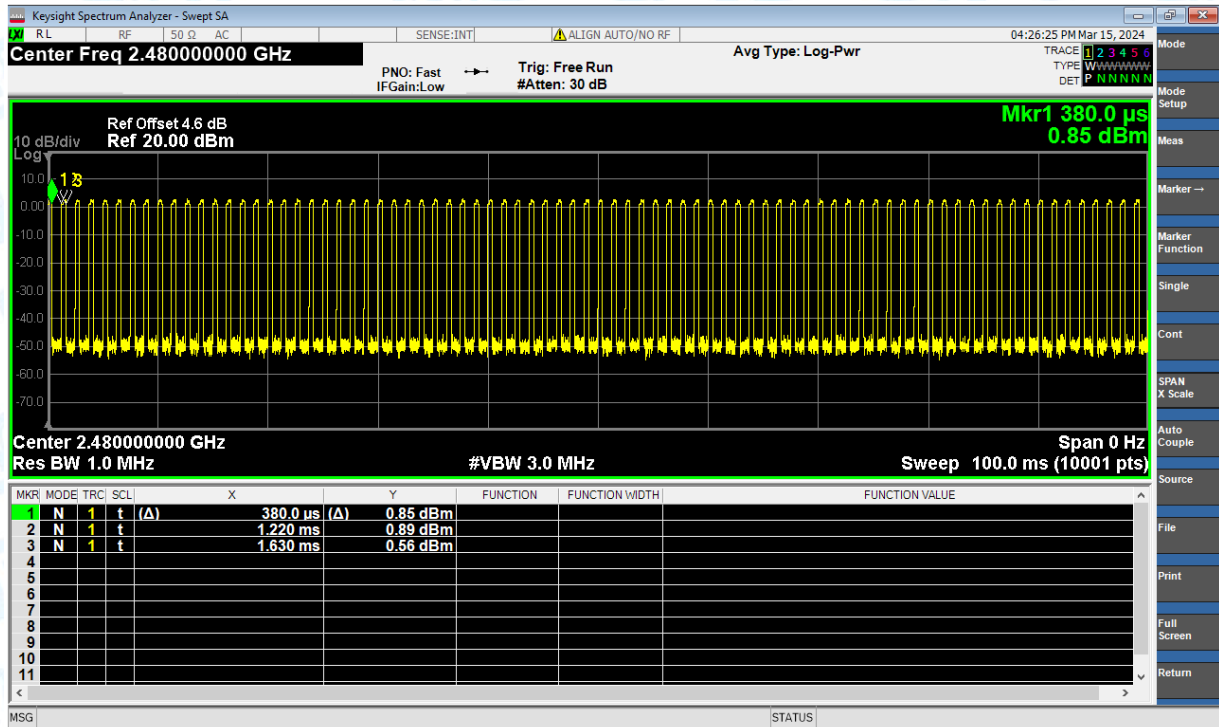
Duty Cycle NVNT 2-DH1 2402MHz Ant1



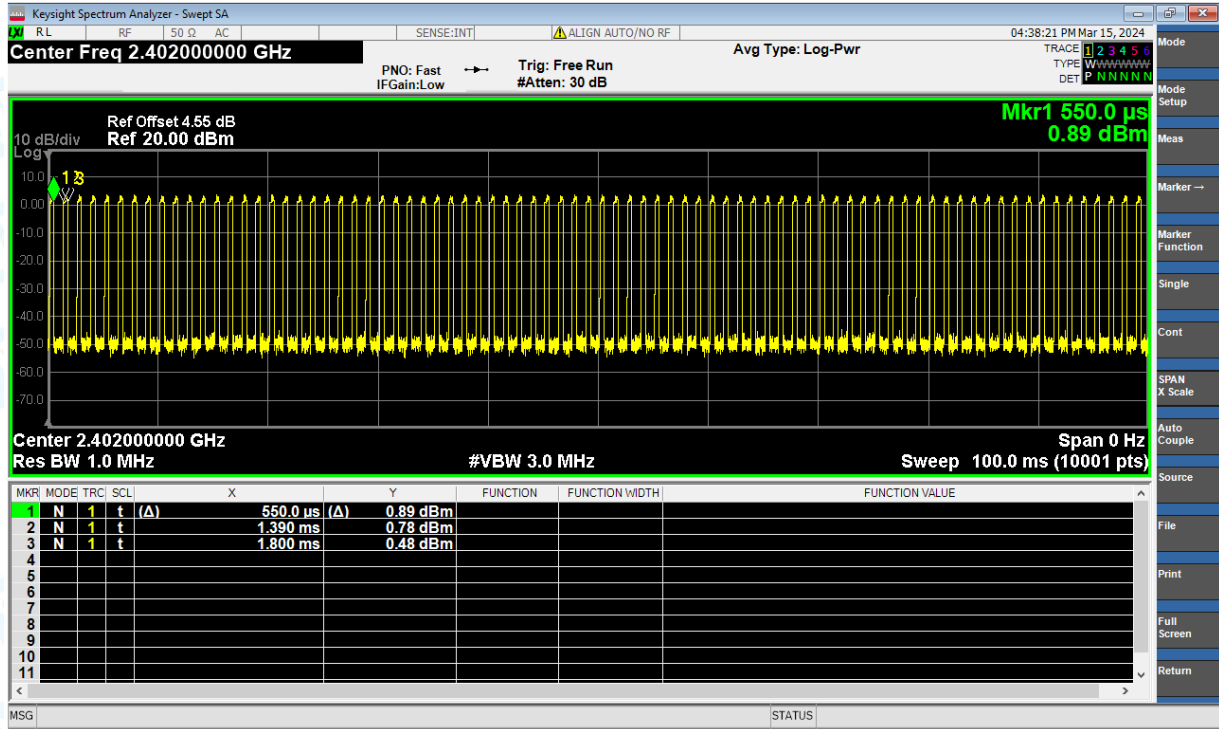
Duty Cycle NVNT 2-DH1 2441MHz Ant1



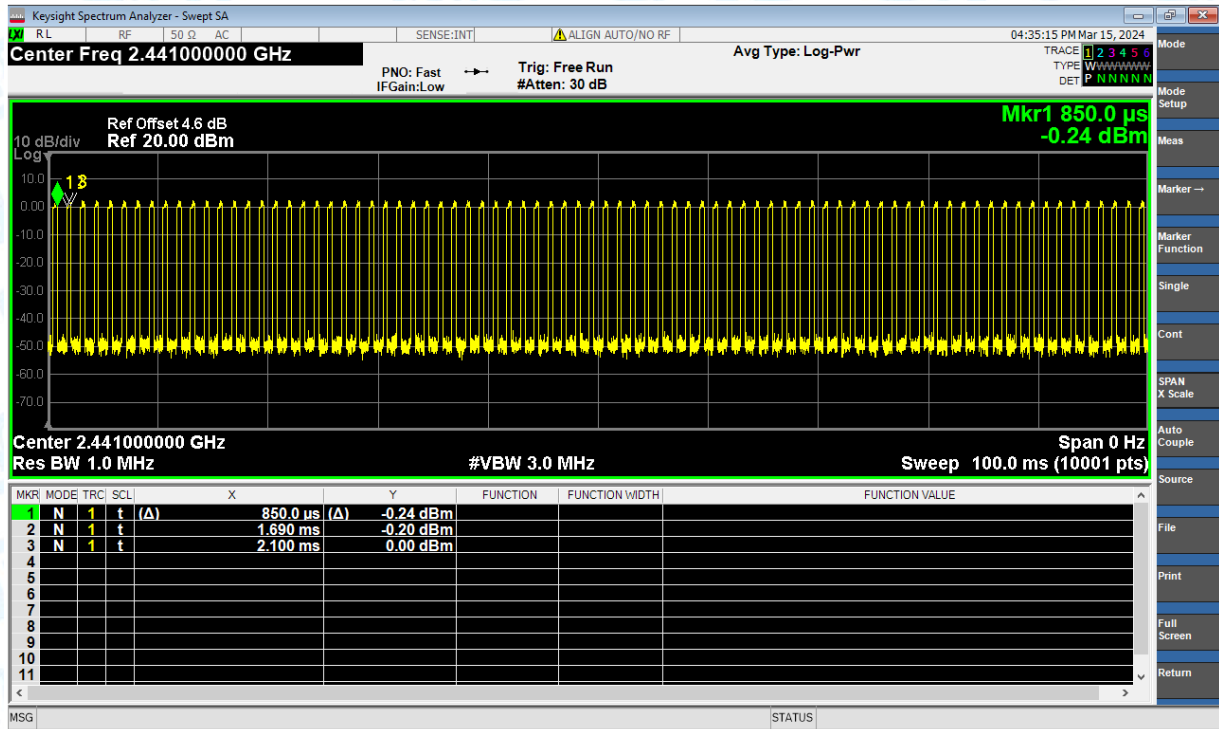
Duty Cycle NVNT 2-DH1 2480MHz Ant1

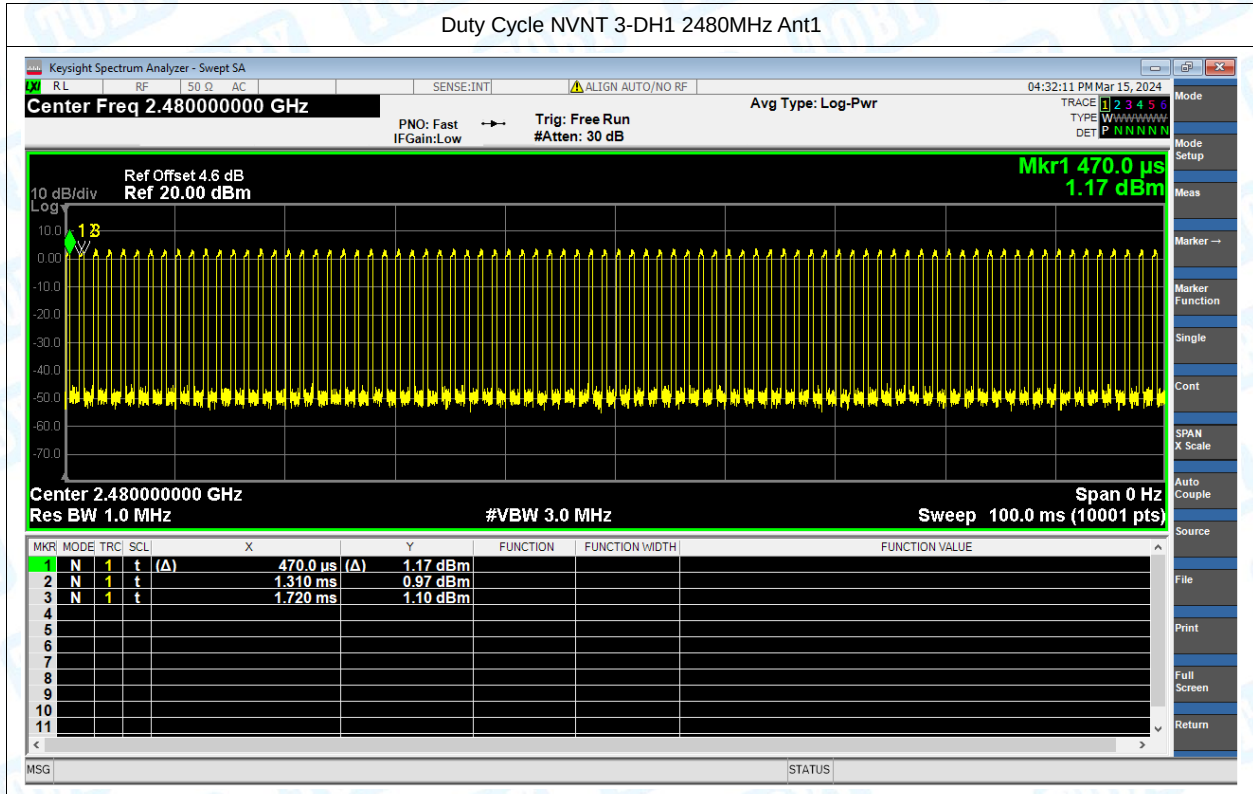


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



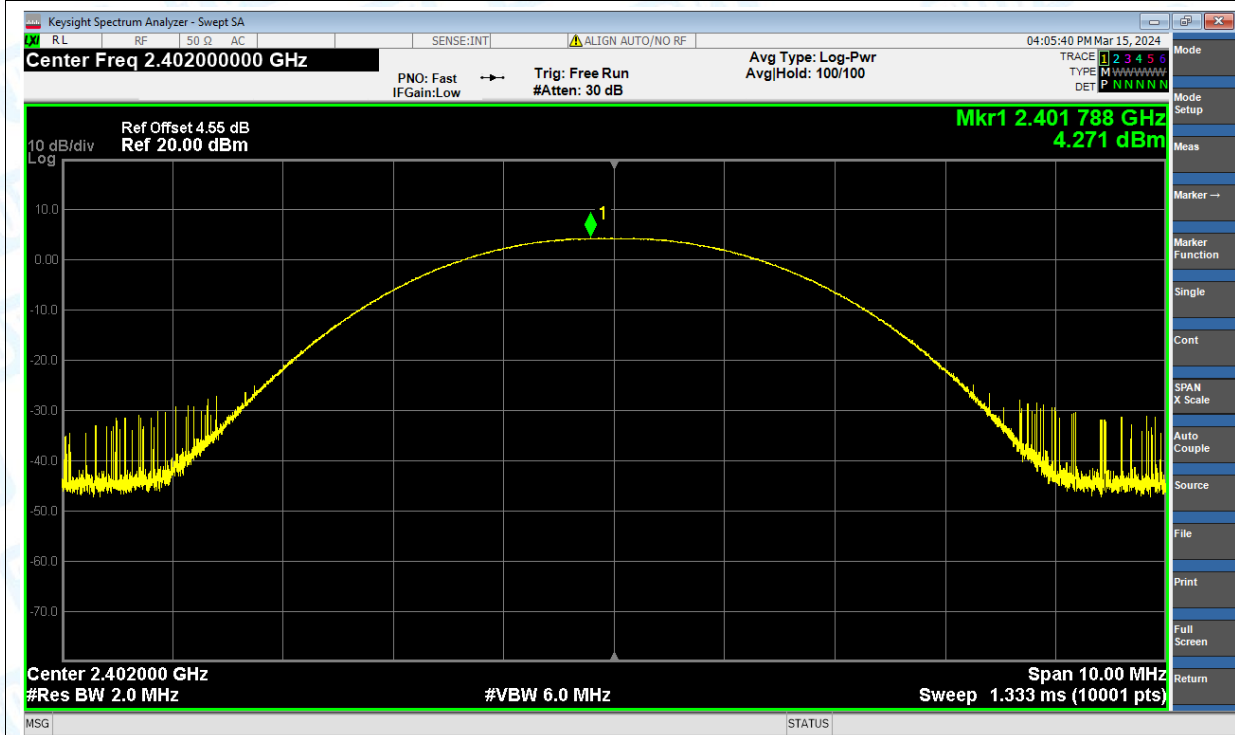


2. Maximum Conducted Output Power

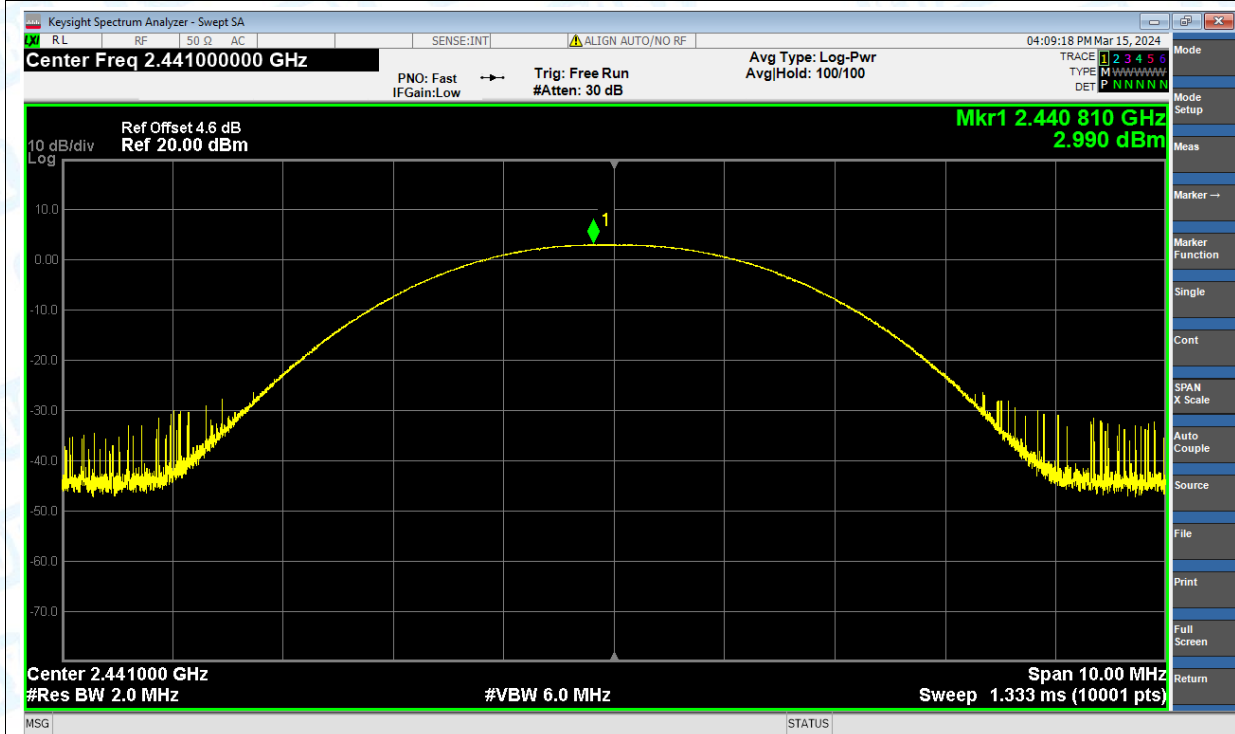
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	4.271	21	Pass
NVNT	1-DH1	2441	Ant1	2.99	21	Pass
NVNT	1-DH1	2480	Ant1	4.30	21	Pass
NVNT	2-DH1	2402	Ant1	3.141	21	Pass
NVNT	2-DH1	2441	Ant1	2.061	21	Pass
NVNT	2-DH1	2480	Ant1	3.311	21	Pass
NVNT	3-DH1	2402	Ant1	4.099	21	Pass
NVNT	3-DH1	2441	Ant1	2.877	21	Pass
NVNT	3-DH1	2480	Ant1	4.014	21	Pass

Test Graphs

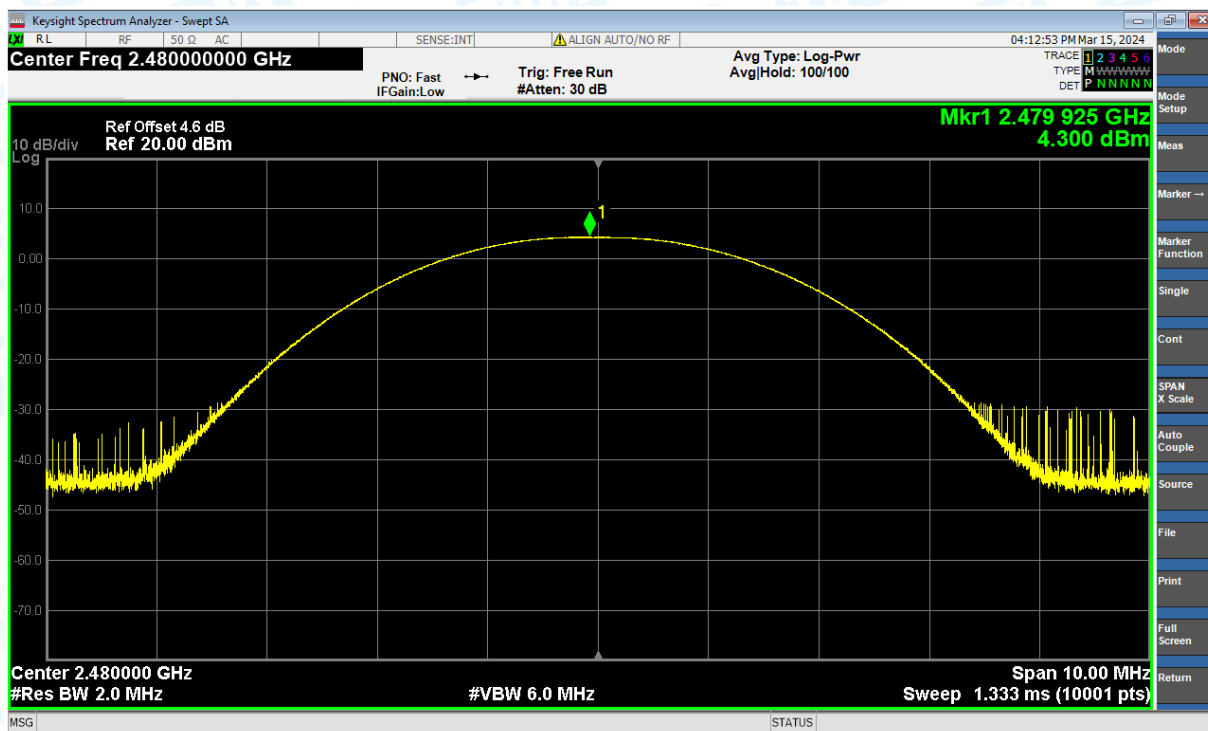
Power NVNT 1-DH1 2402MHz Ant1



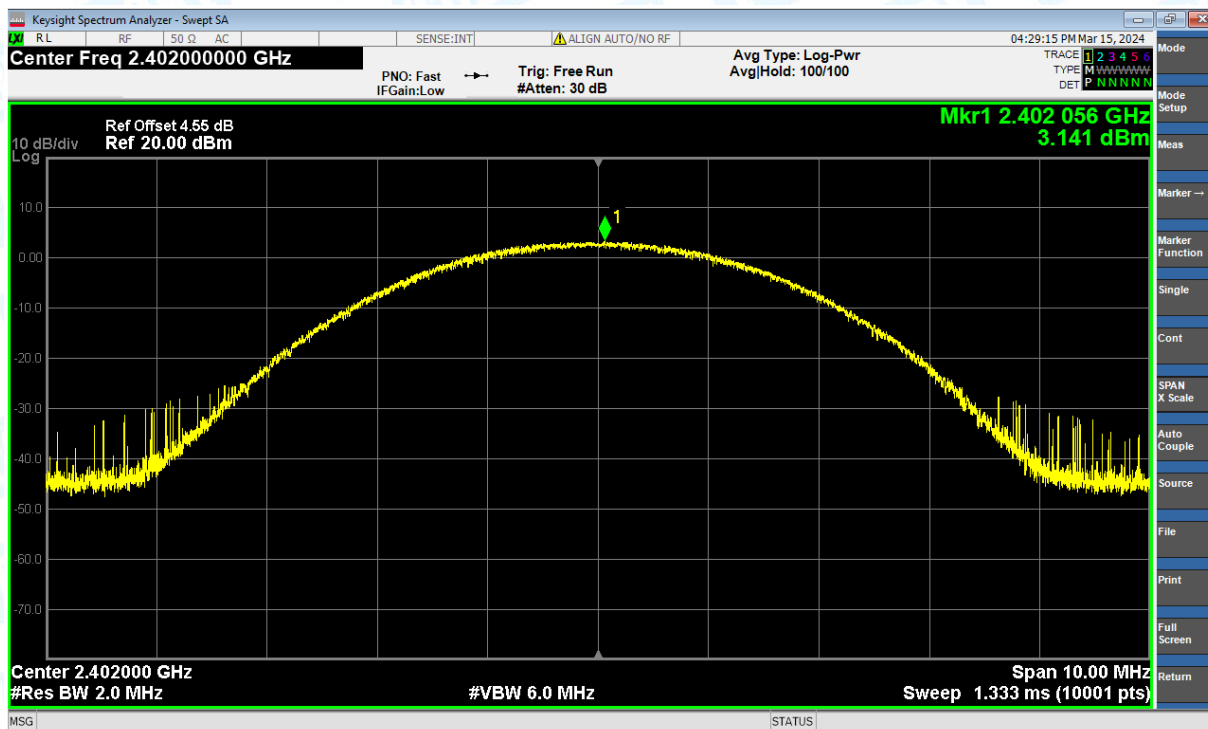
Power NVNT 1-DH1 2441MHz Ant1



Power NVNT 1-DH1 2480MHz Ant1



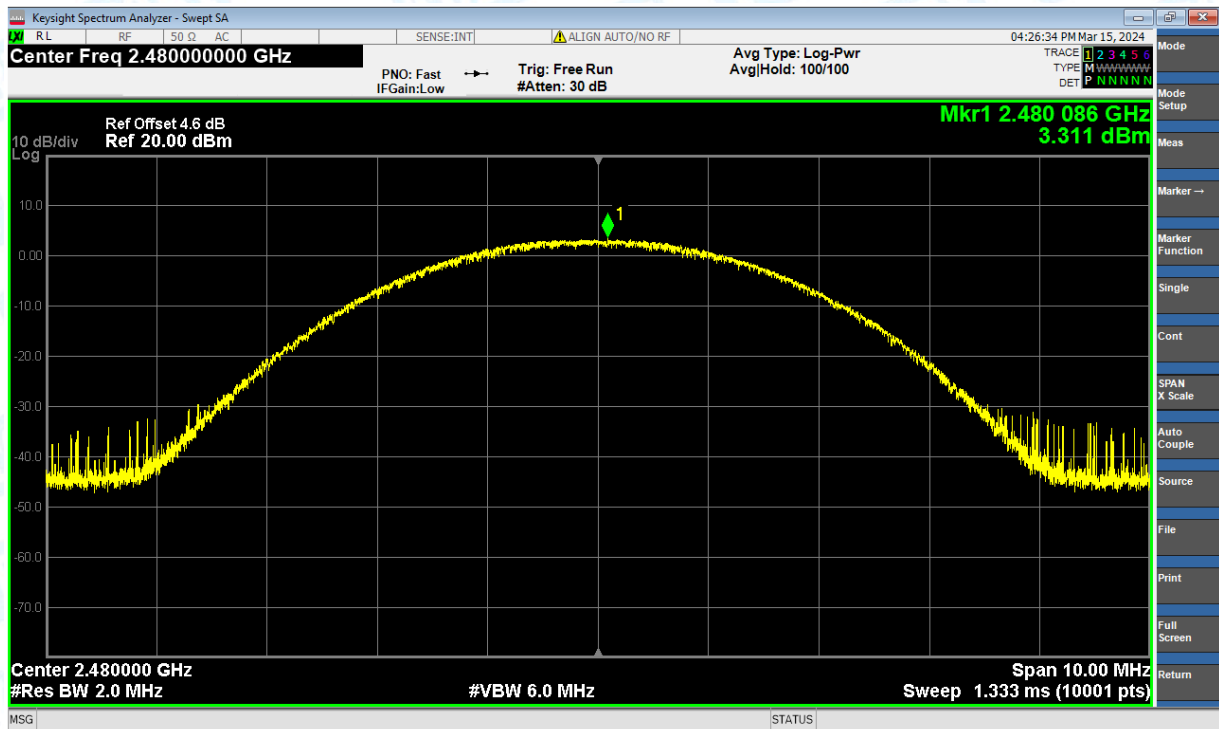
Power NVNT 2-DH1 2402MHz Ant1



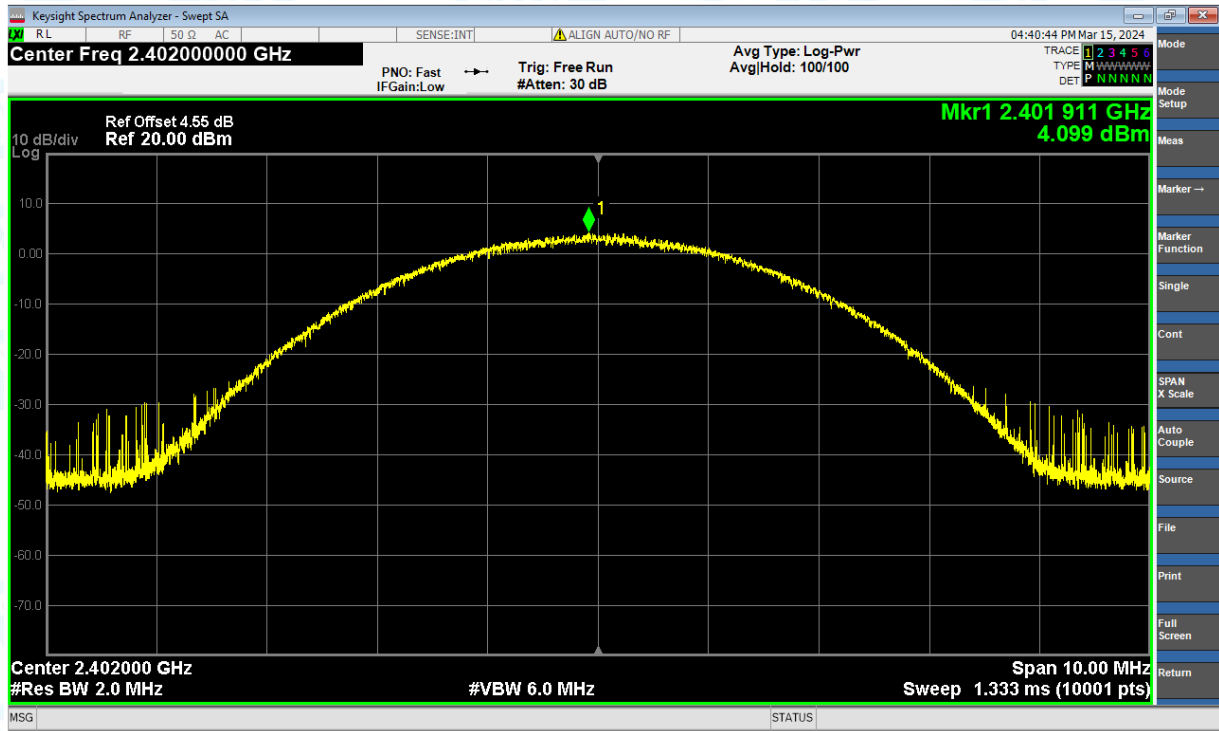
Power NVNT 2-DH1 2441MHz Ant1



Power NVNT 2-DH1 2480MHz Ant1



Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



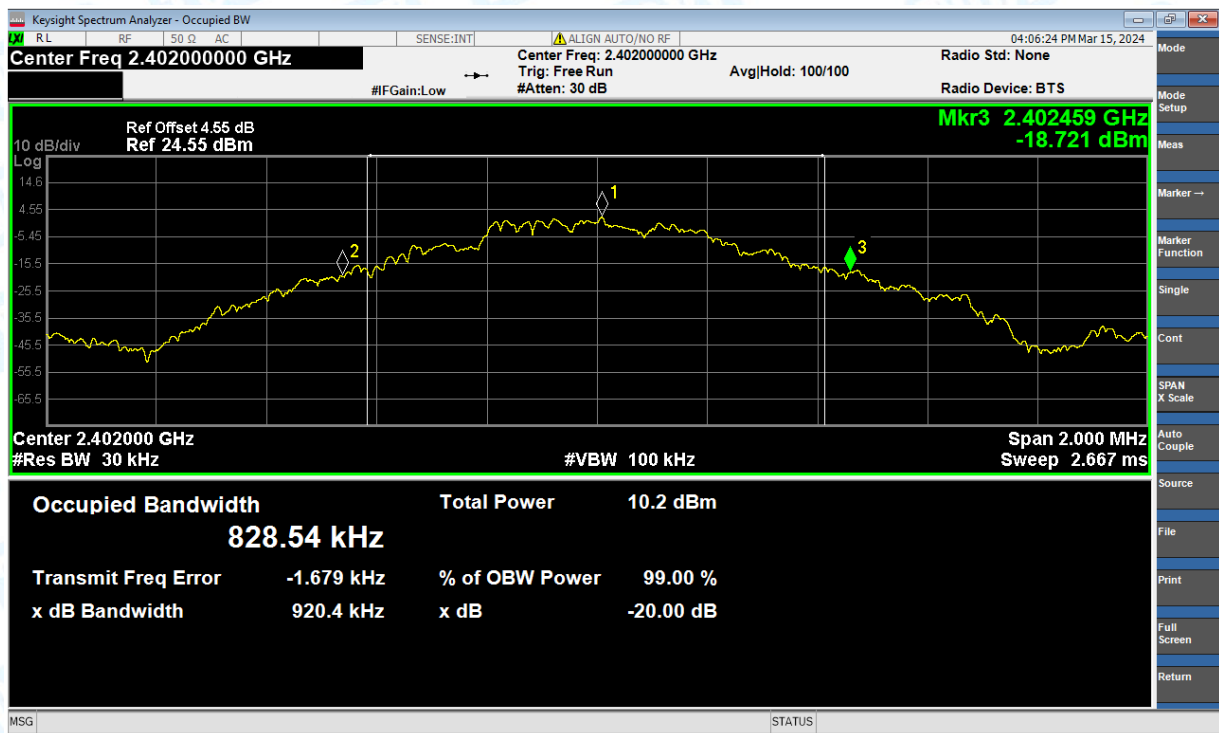


3. -20dB Bandwidth

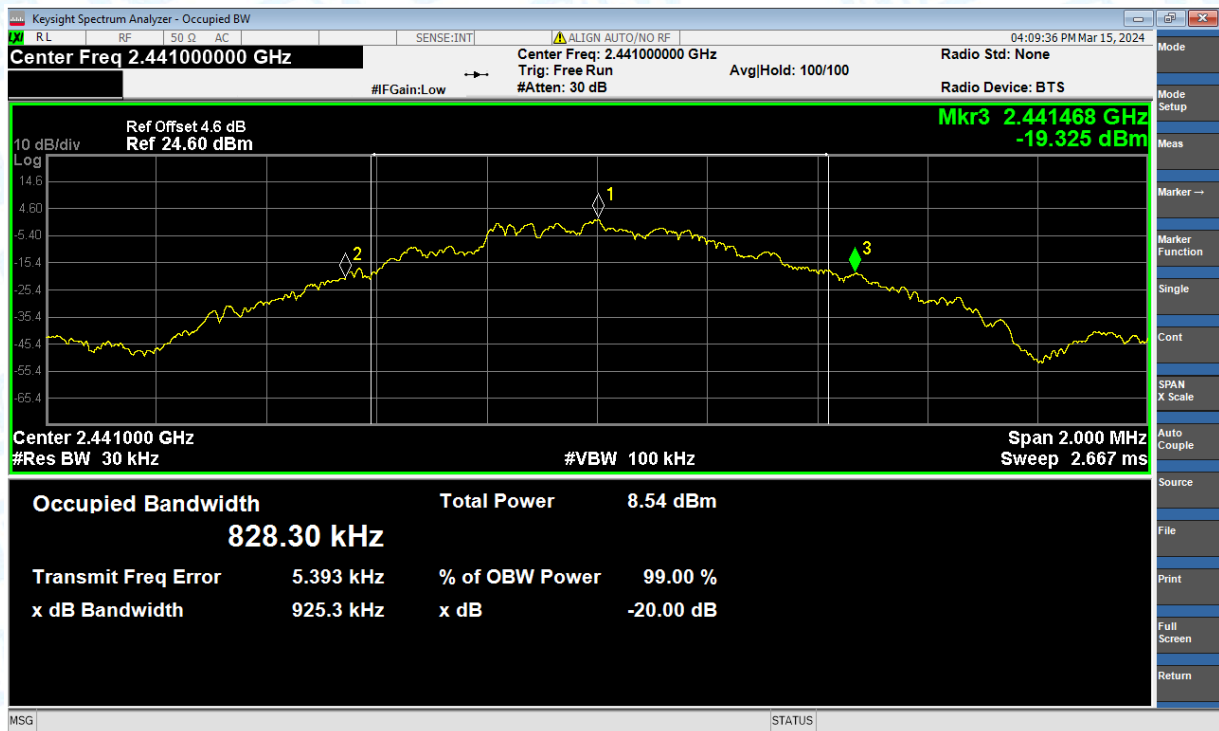
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.92	----	Pass
NVNT	1-DH1	2441	Ant1	0.93	----	Pass
NVNT	1-DH1	2480	Ant1	0.88	----	Pass
NVNT	2-DH1	2402	Ant1	1.28	----	Pass
NVNT	2-DH1	2441	Ant1	1.29	----	Pass
NVNT	2-DH1	2480	Ant1	1.26	----	Pass
NVNT	3-DH1	2402	Ant1	1.22	----	Pass
NVNT	3-DH1	2441	Ant1	1.22	----	Pass
NVNT	3-DH1	2480	Ant1	1.22	----	Pass

Test Graphs

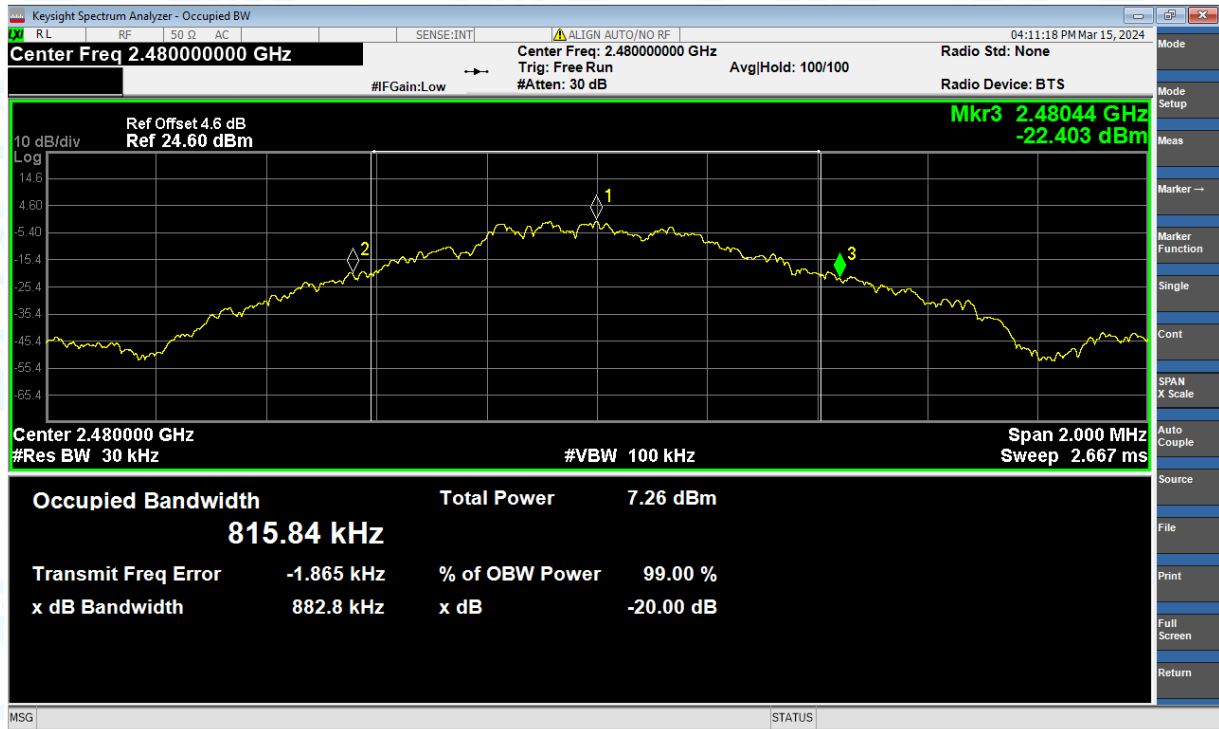
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



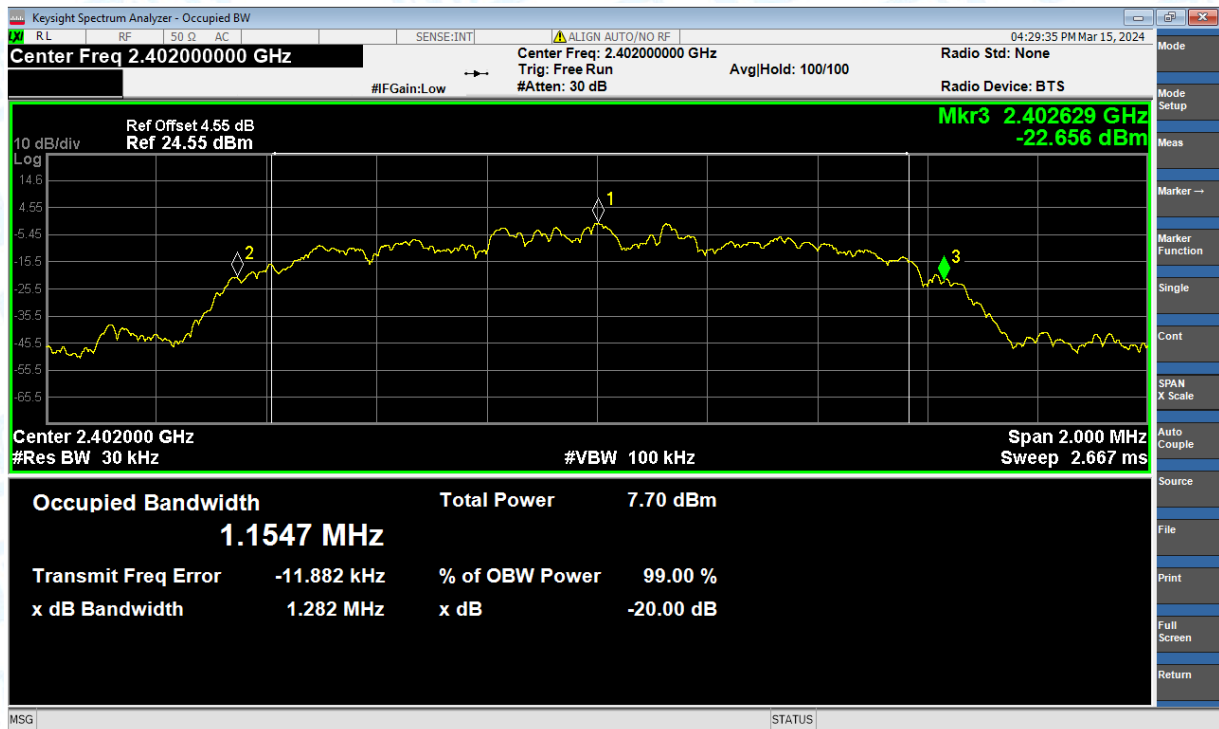
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



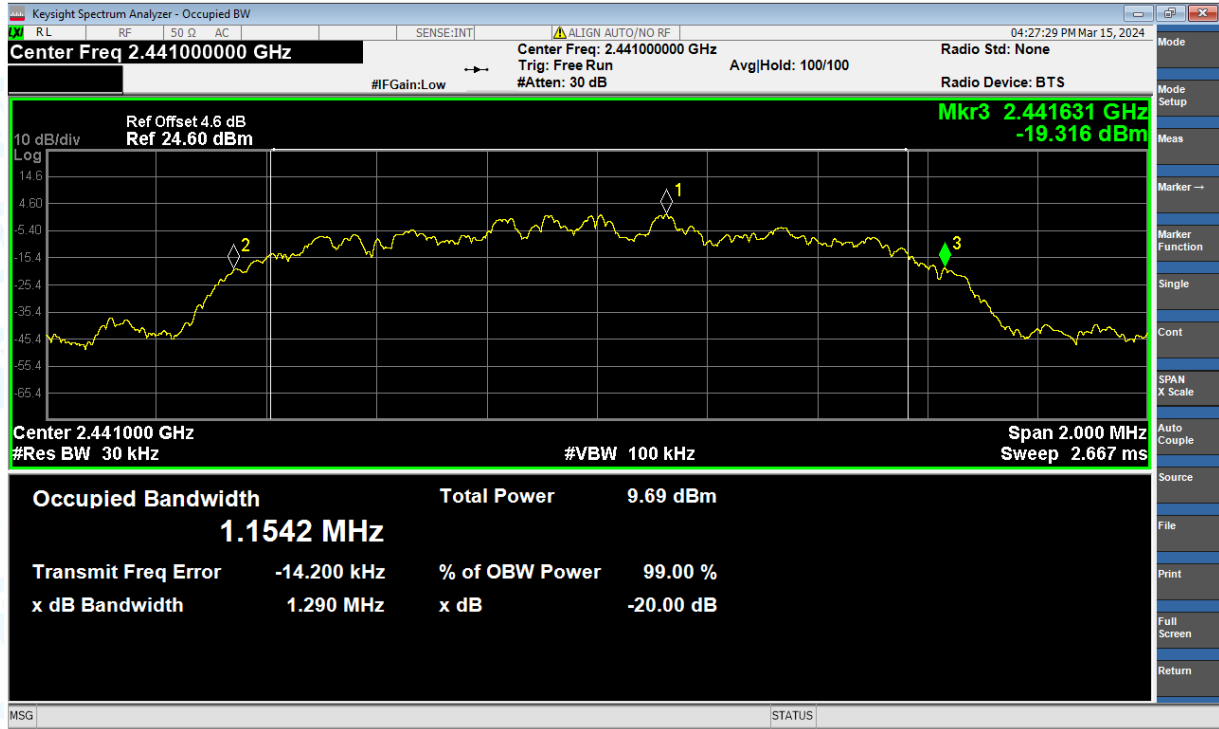
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



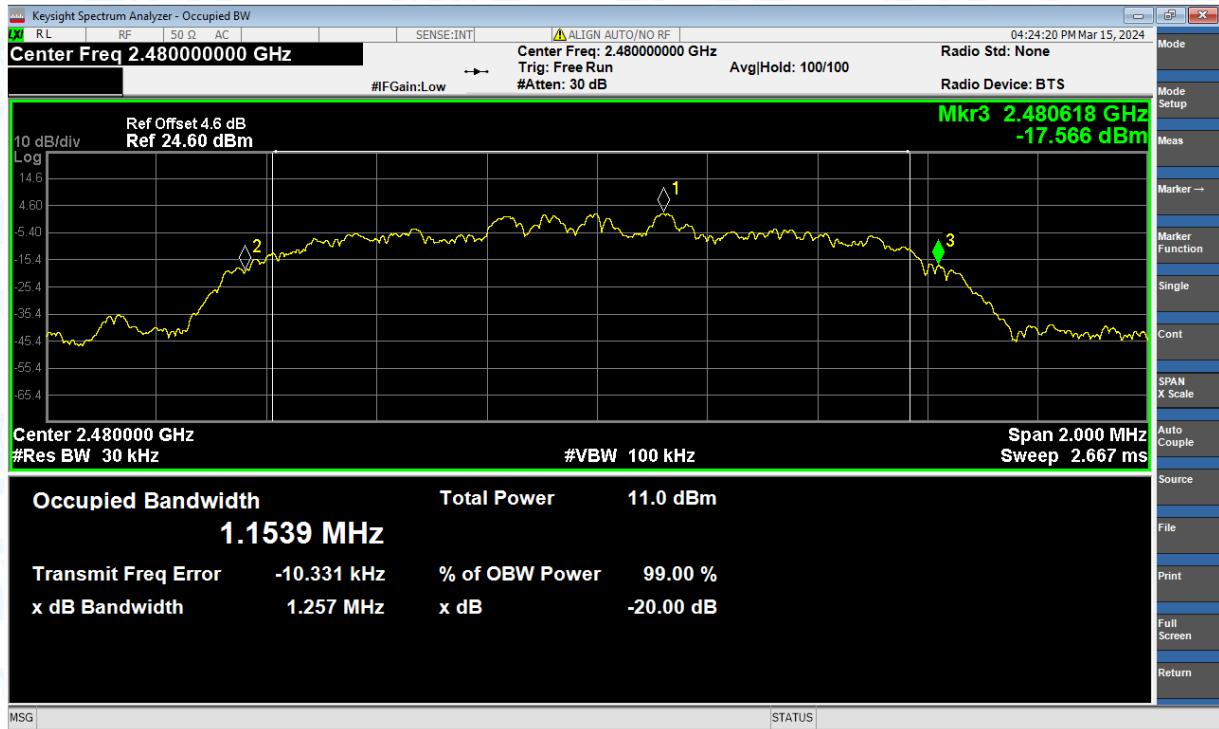
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



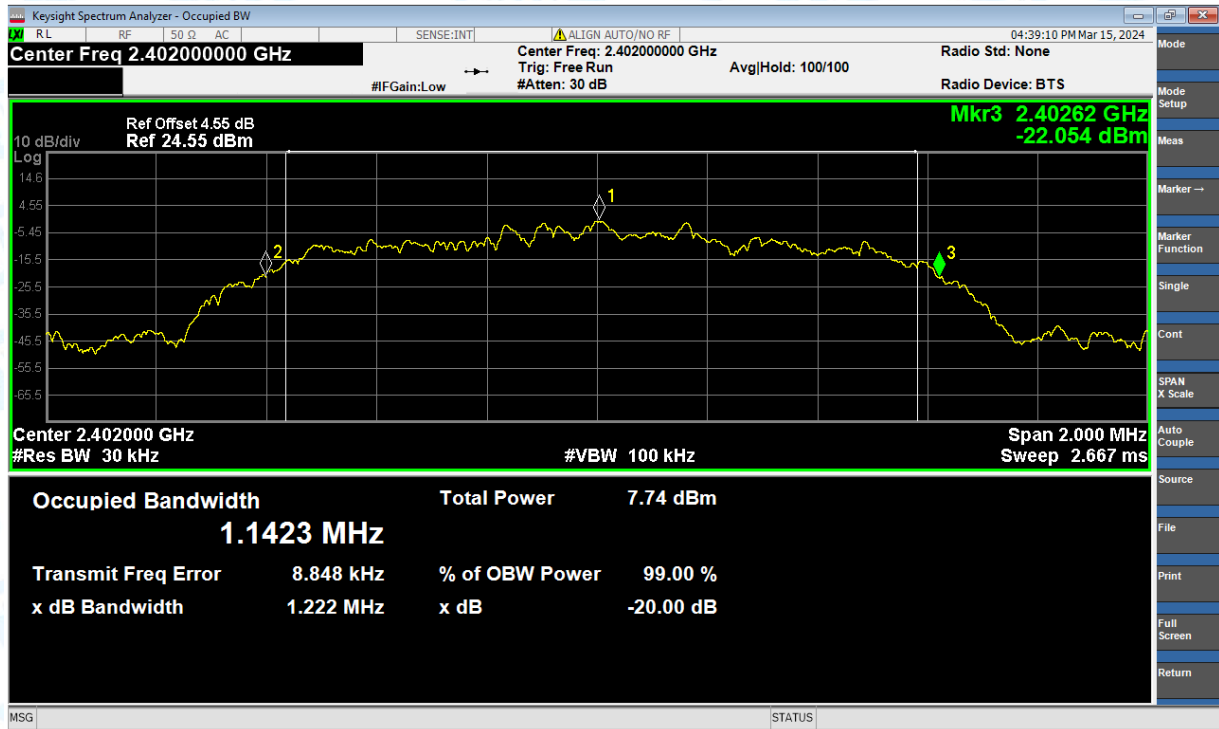
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



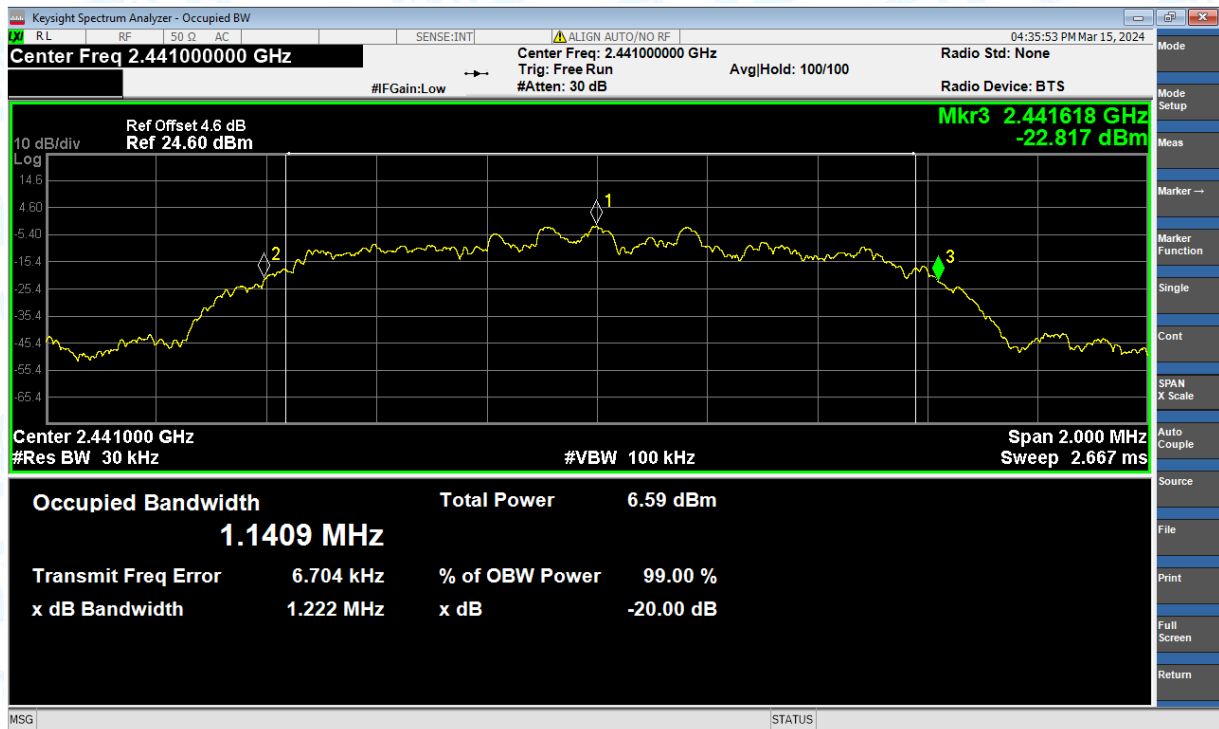
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

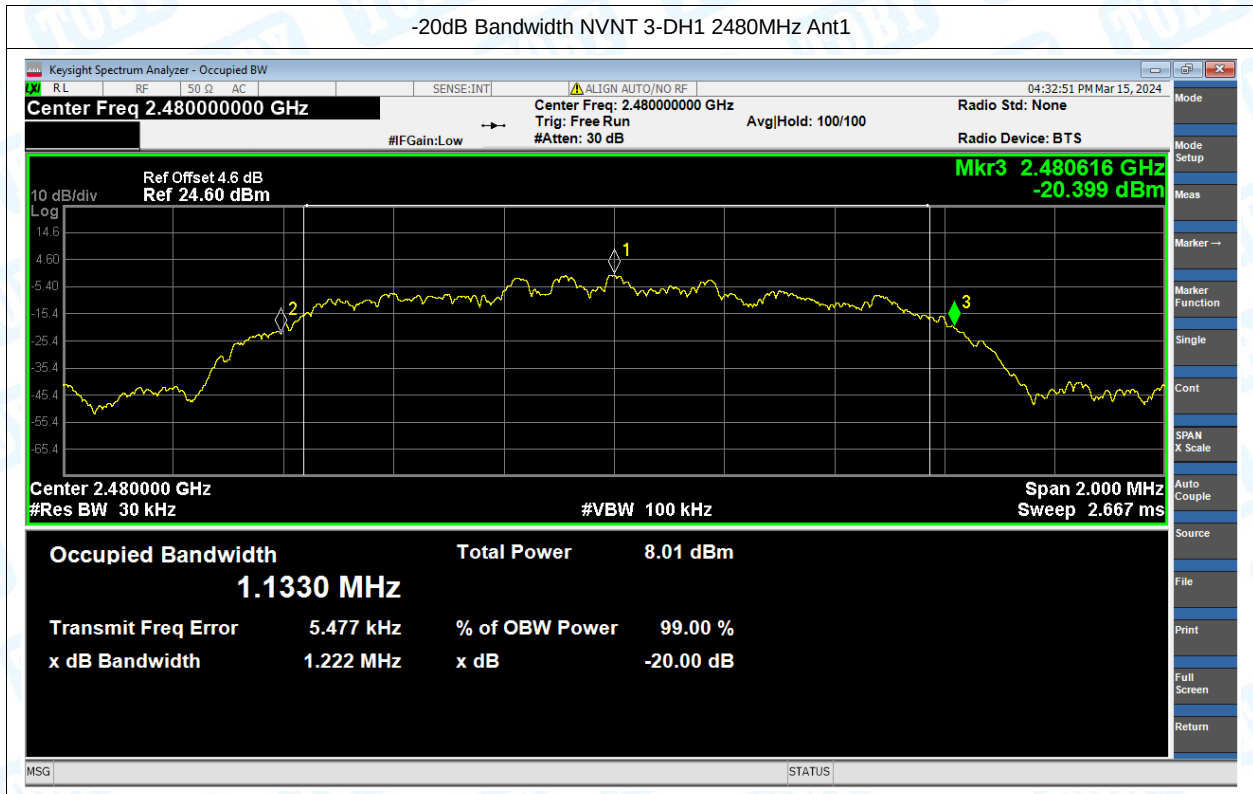


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



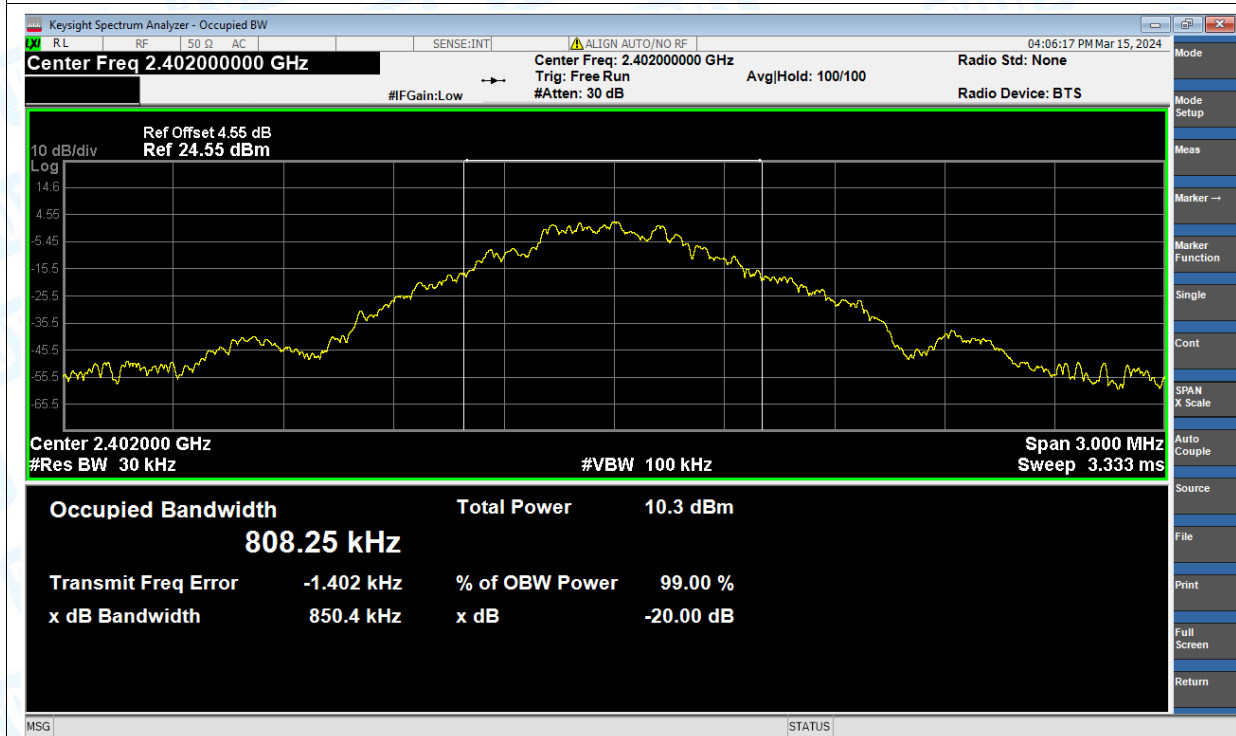


4. Occupied Channel Bandwidth

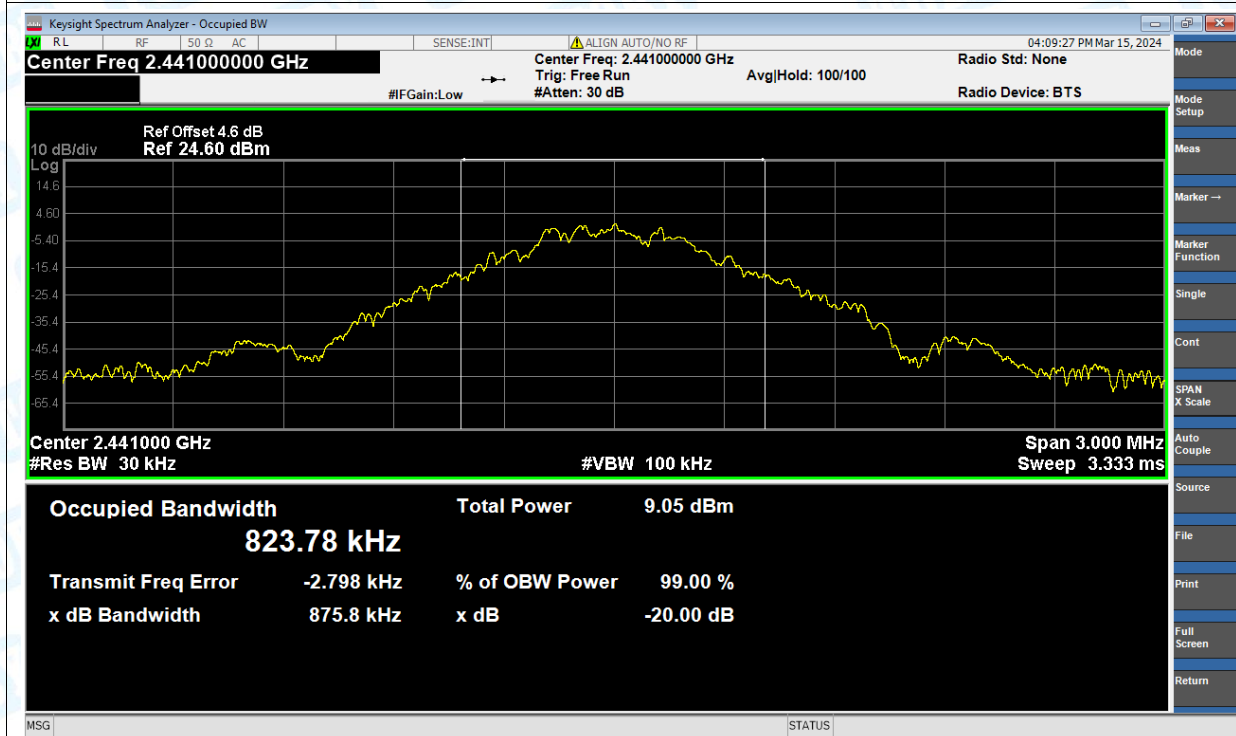
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.808
NVNT	1-DH1	2441	Ant1	0.824
NVNT	1-DH1	2480	Ant1	0.826
NVNT	2-DH1	2402	Ant1	1.152
NVNT	2-DH1	2441	Ant1	1.159
NVNT	2-DH1	2480	Ant1	1.162
NVNT	3-DH1	2402	Ant1	1.153
NVNT	3-DH1	2441	Ant1	1.135
NVNT	3-DH1	2480	Ant1	1.121

Test Graphs

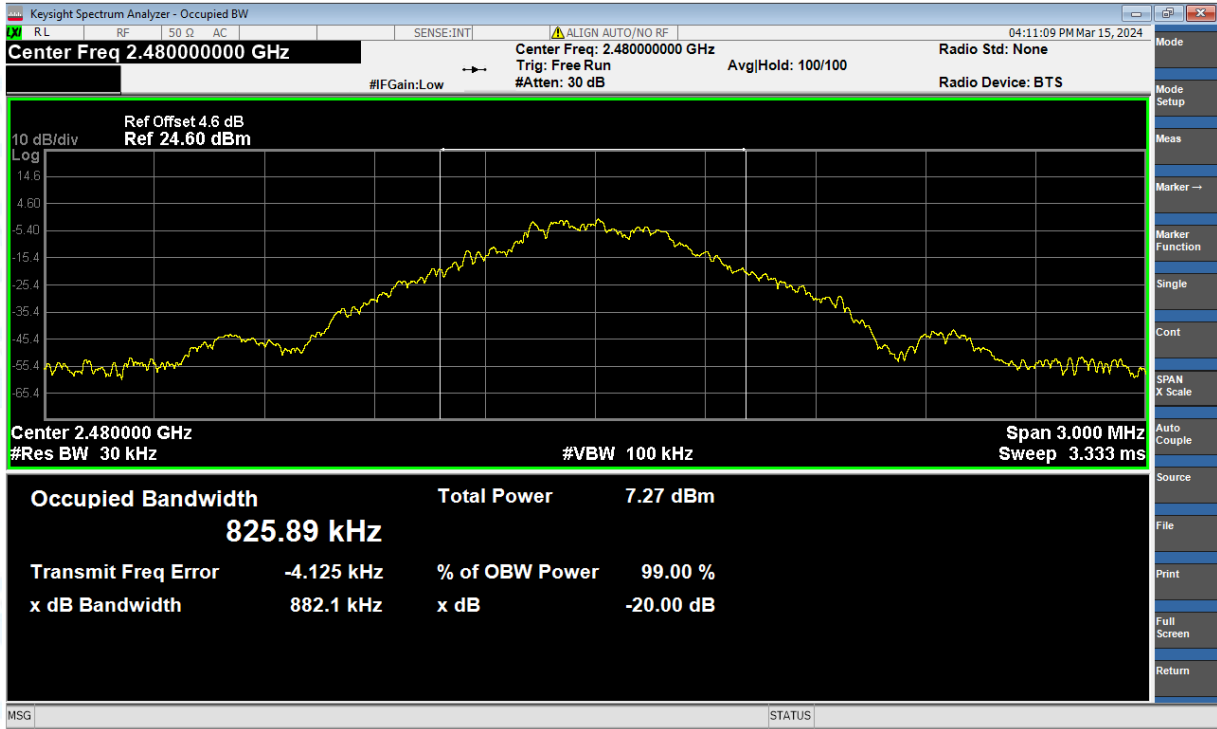
OBW NVNT 1-DH1 2402MHz Ant1



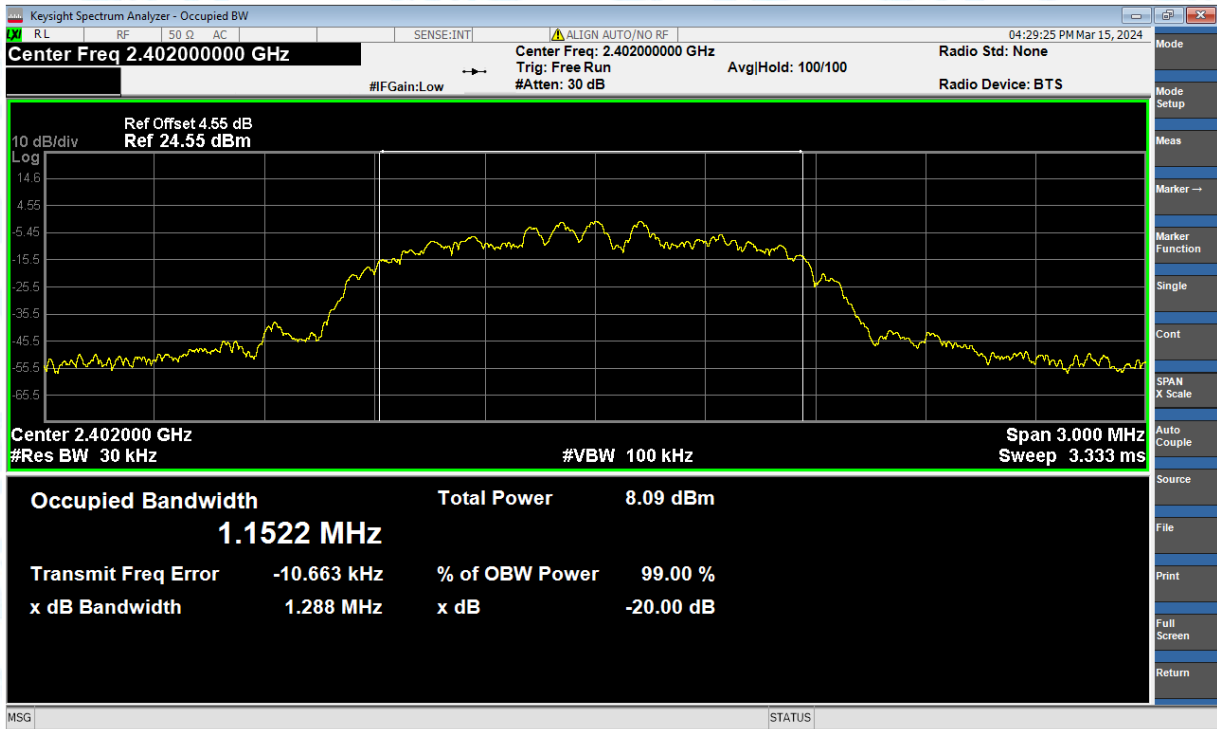
OBW NVNT 1-DH1 2441MHz Ant1



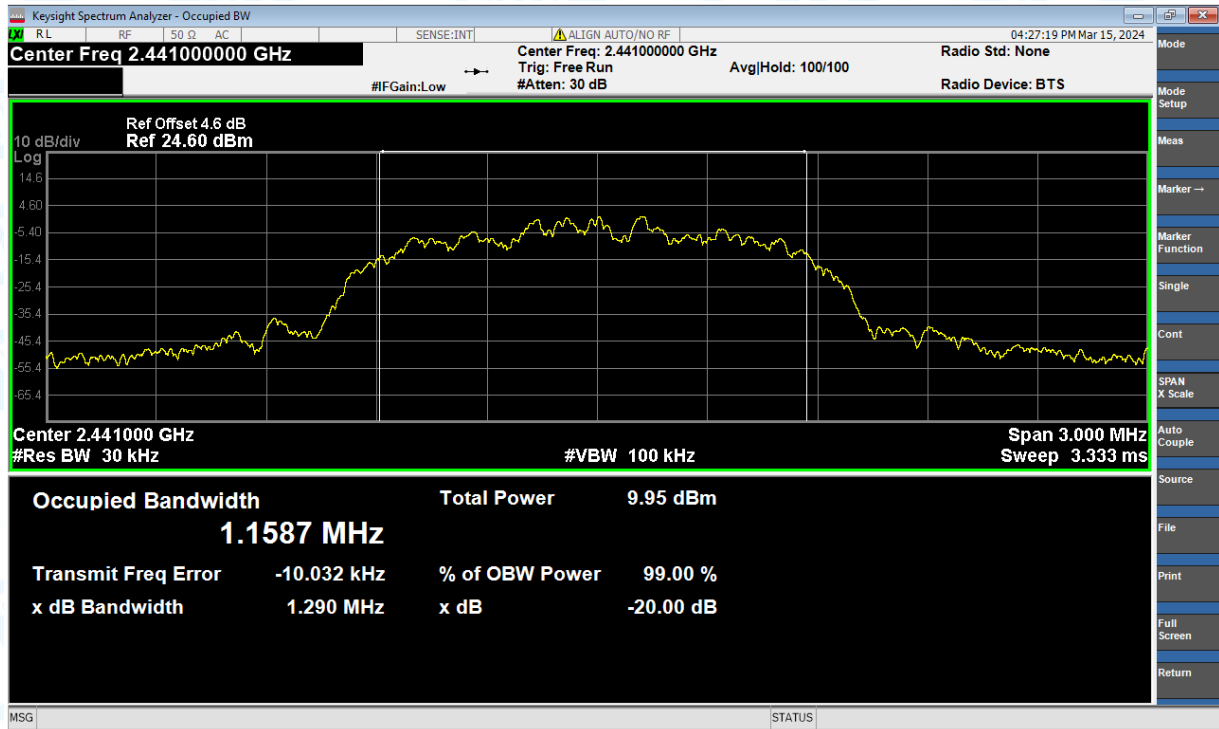
OBW NVNT 1-DH1 2480MHz Ant1



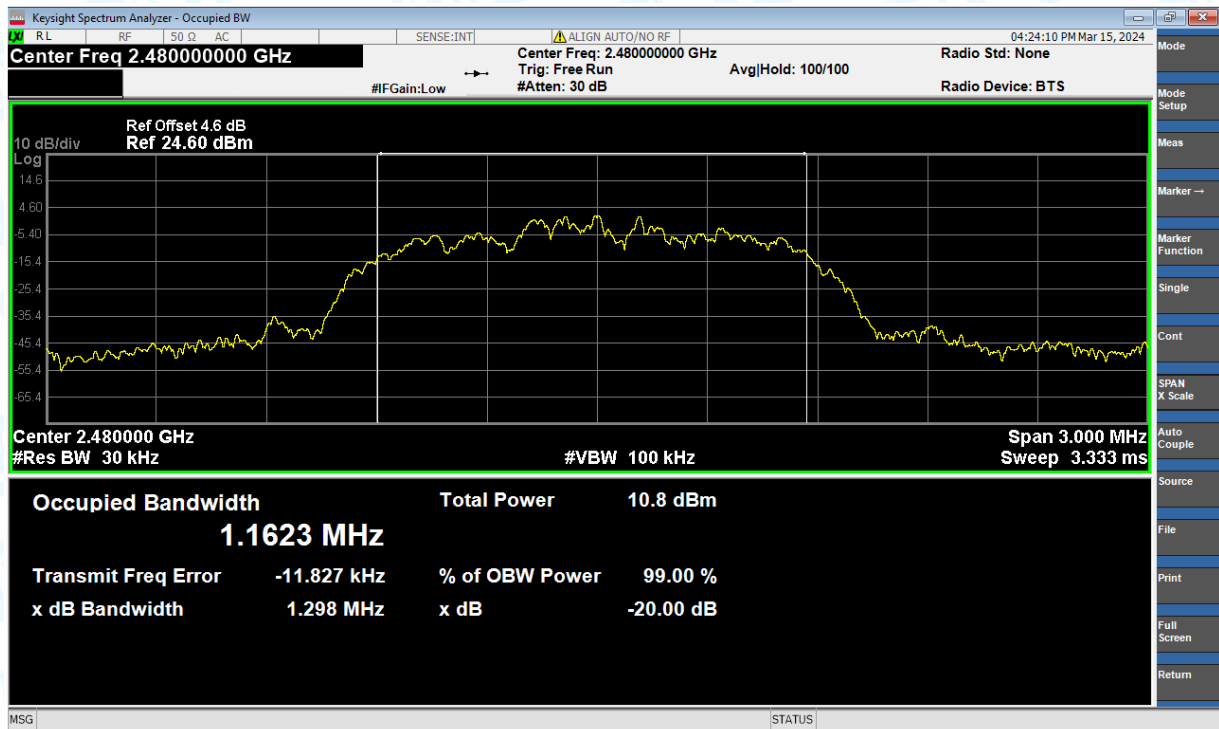
OBW NVNT 2-DH1 2402MHz Ant1



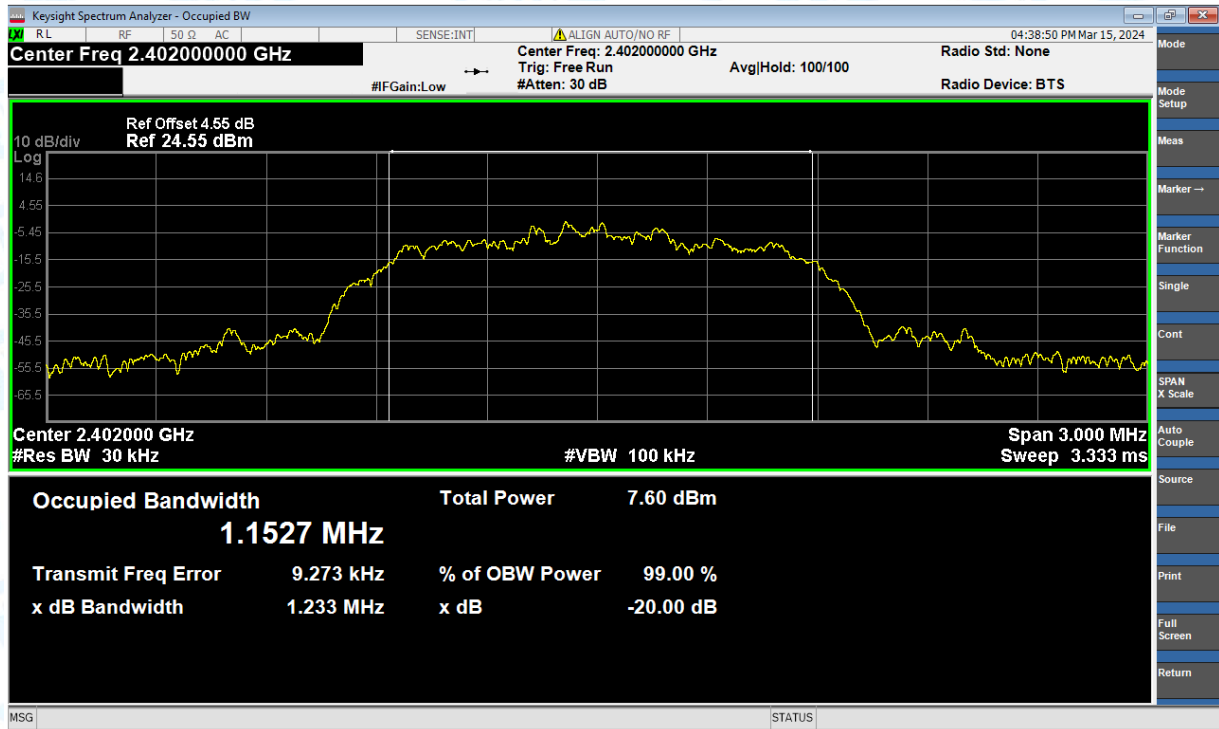
OBW NVNT 2-DH1 2441MHz Ant1



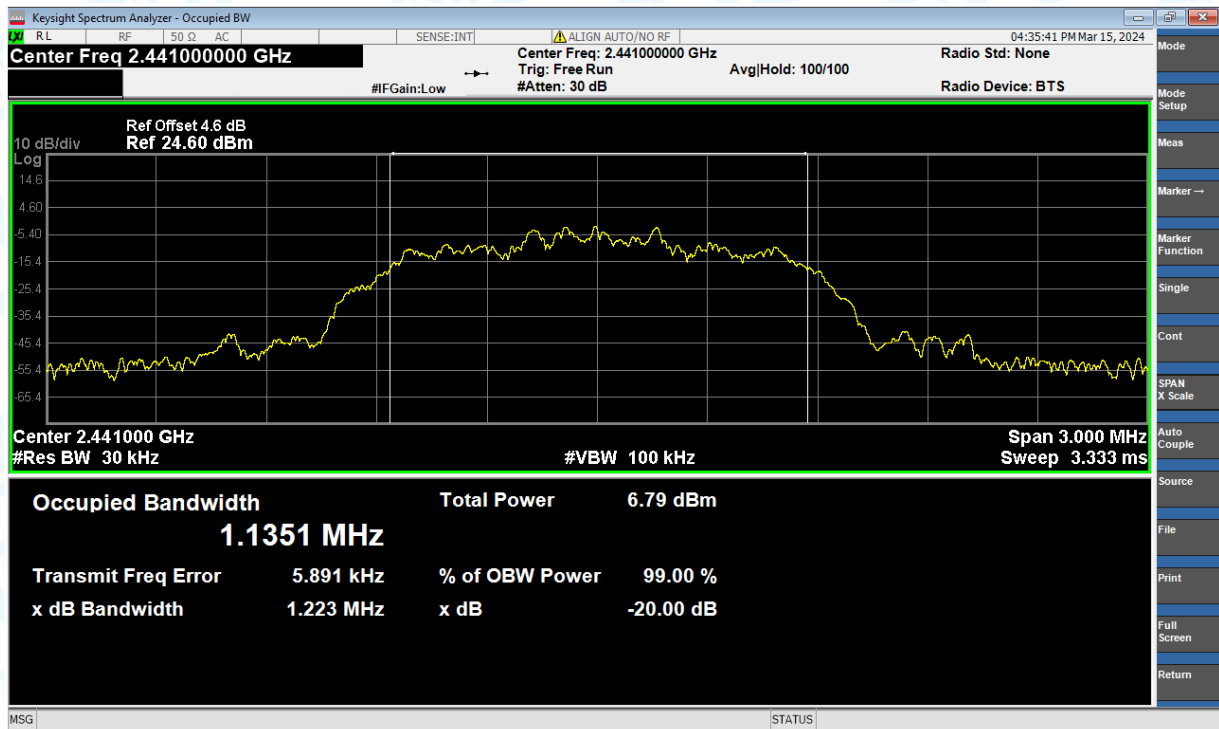
OBW NVNT 2-DH1 2480MHz Ant1

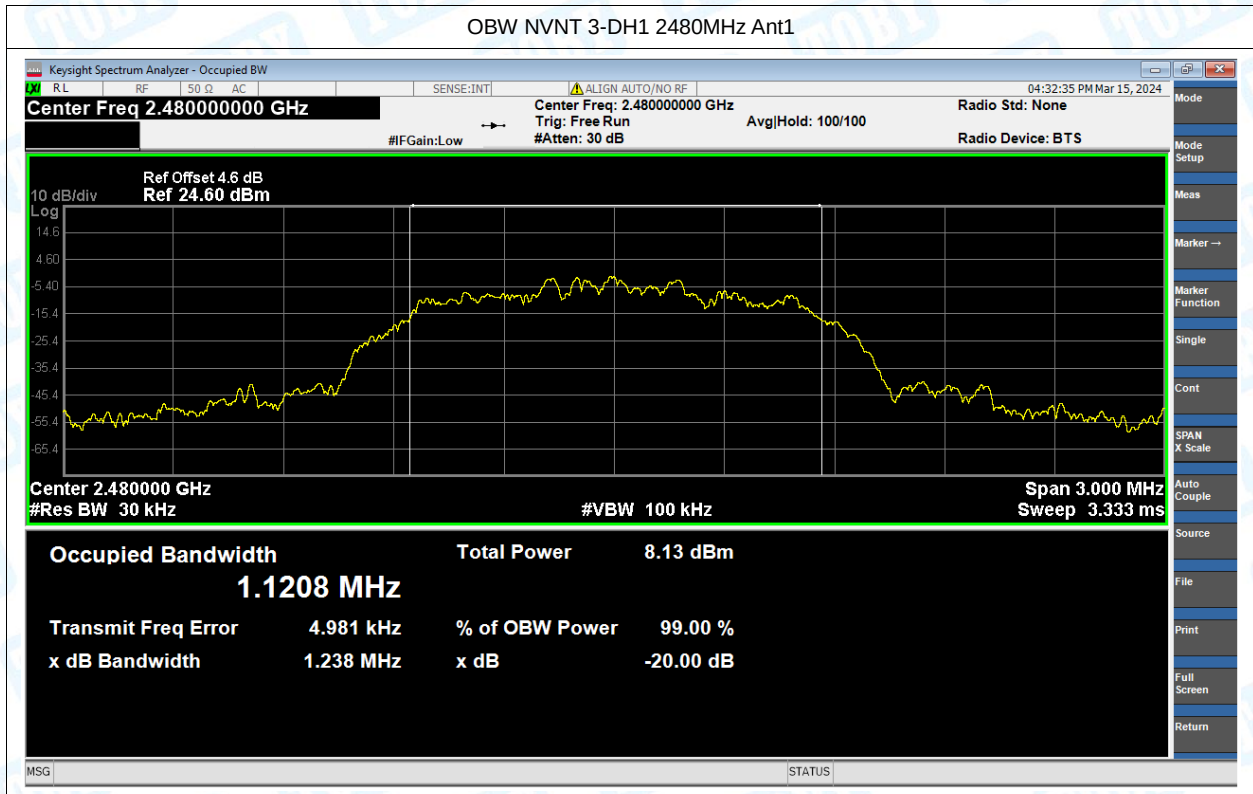


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



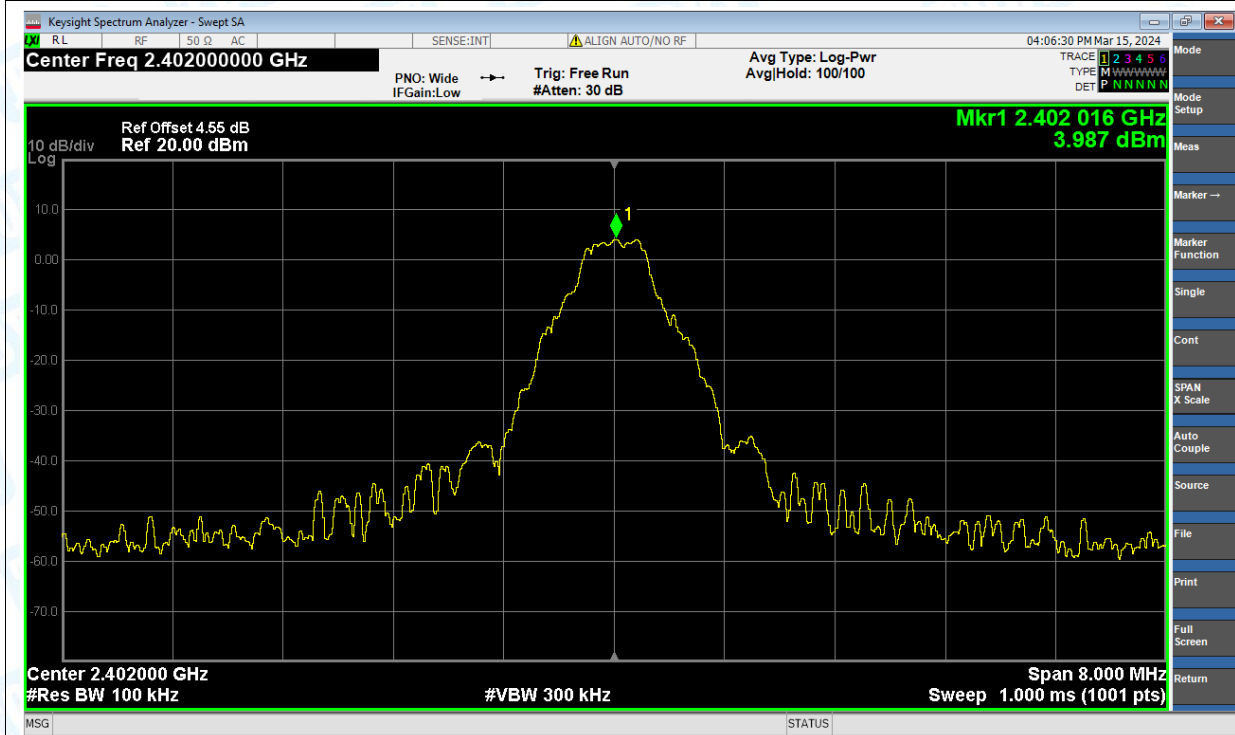


5. Band Edge

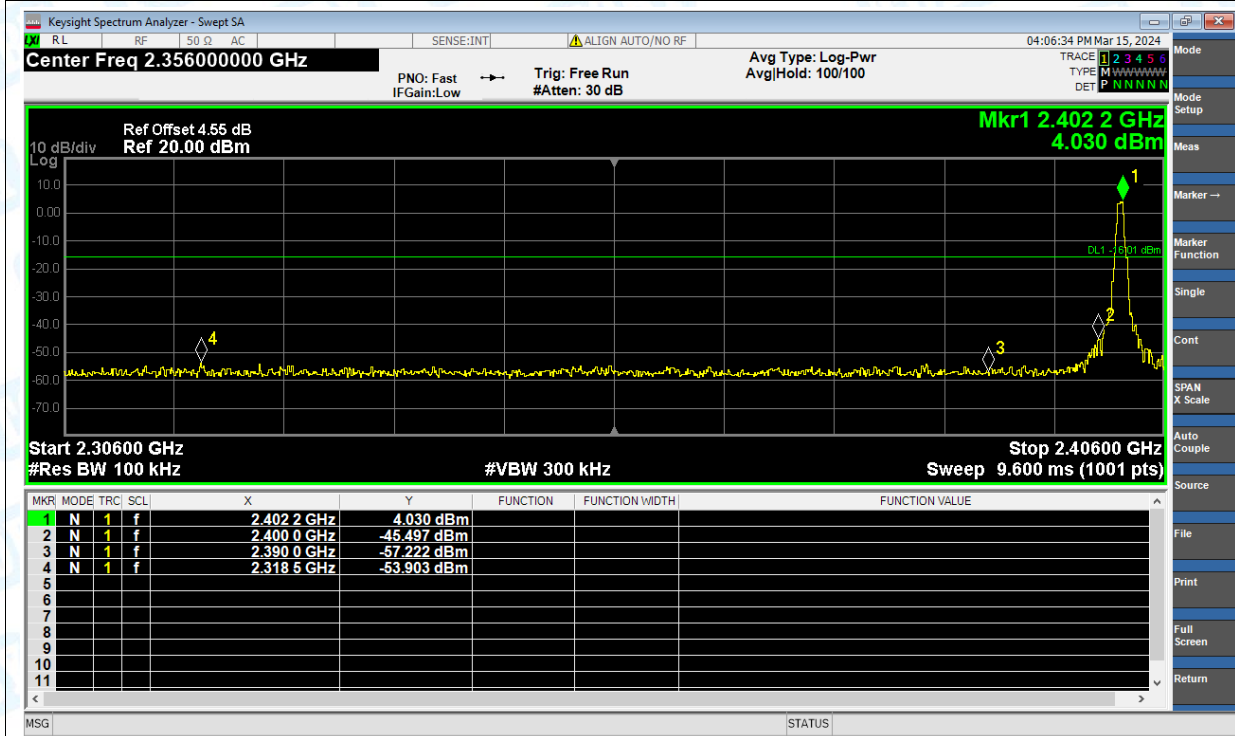
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-57.89	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-55.42	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-54.74	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-55.97	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-54.56	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-54.63	-20	Pass

Test Graphs

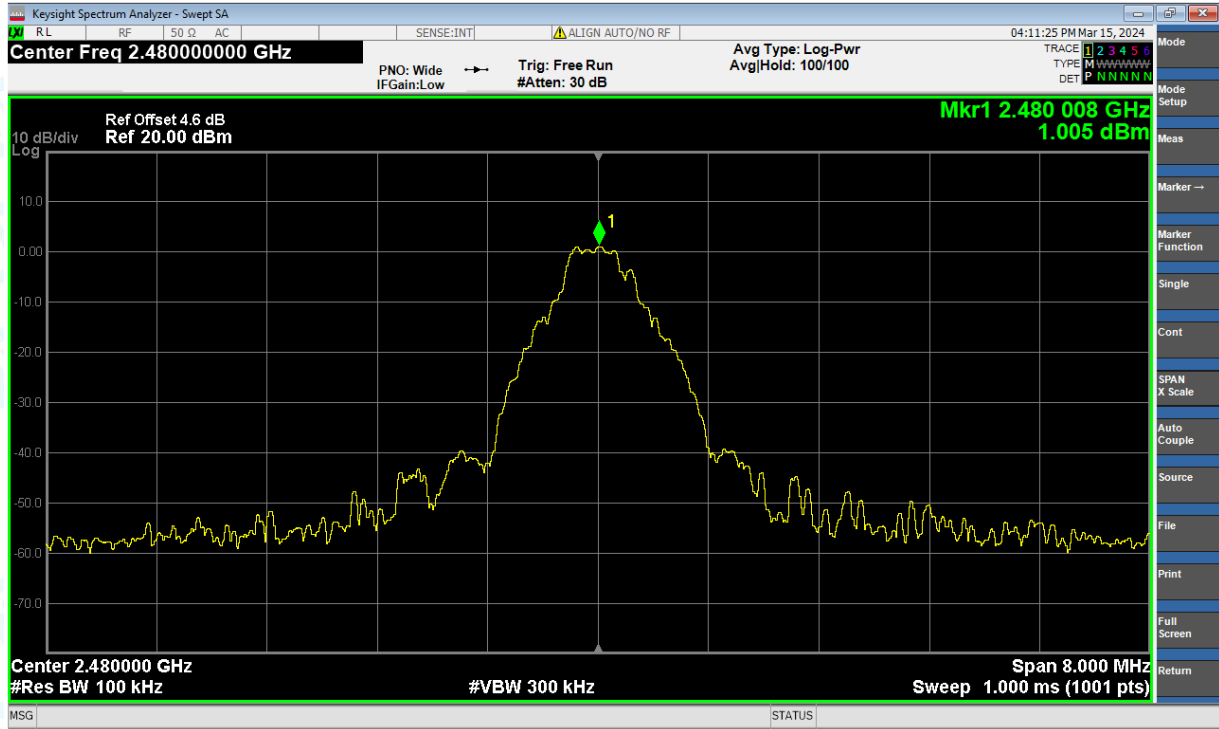
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



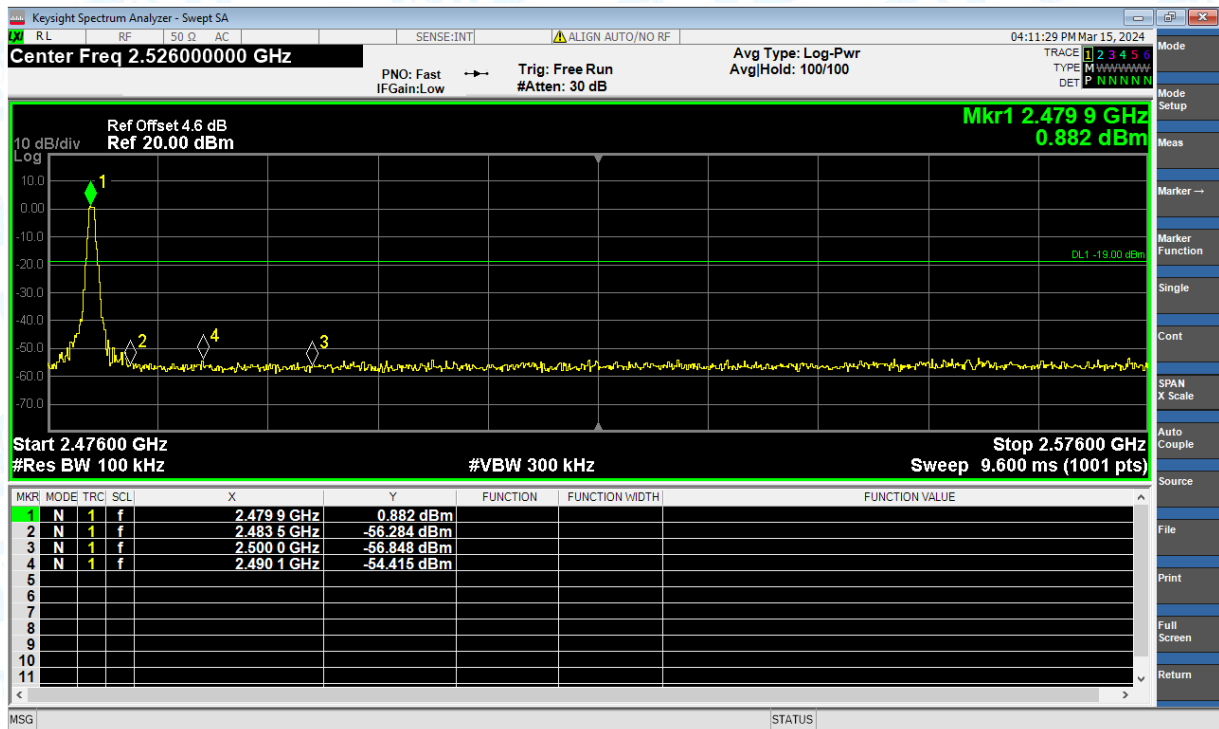
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



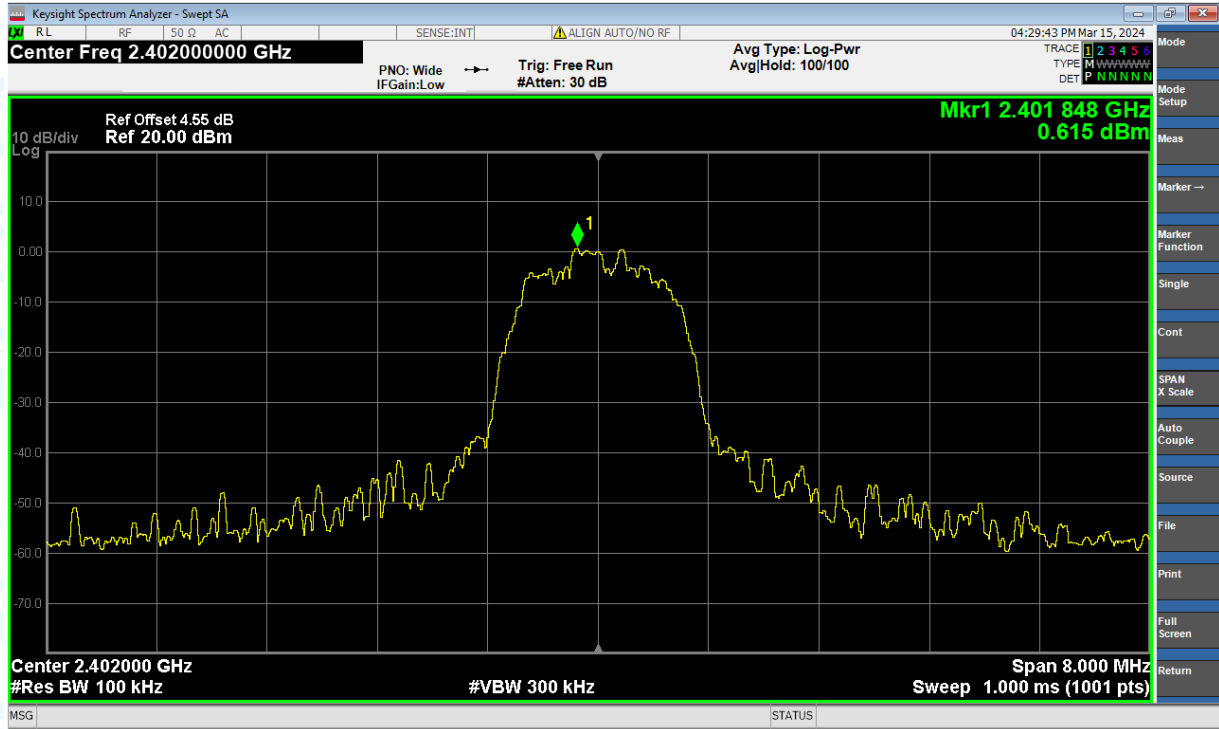
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



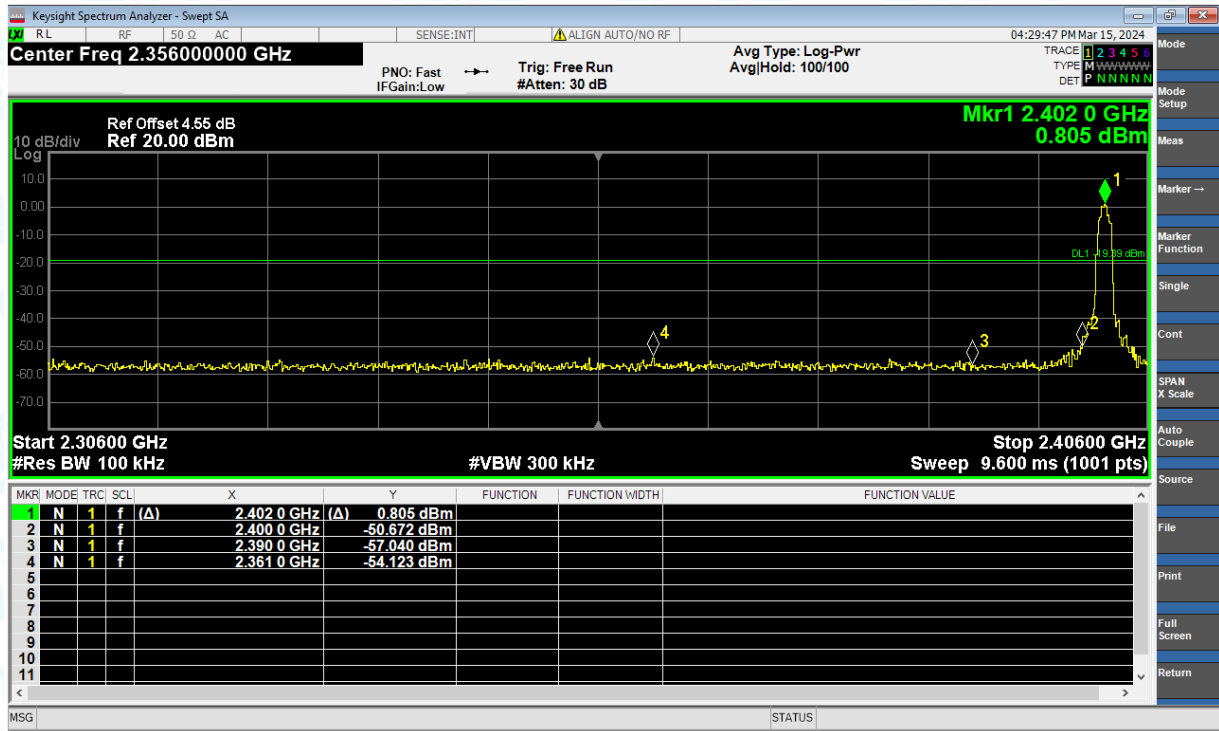
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



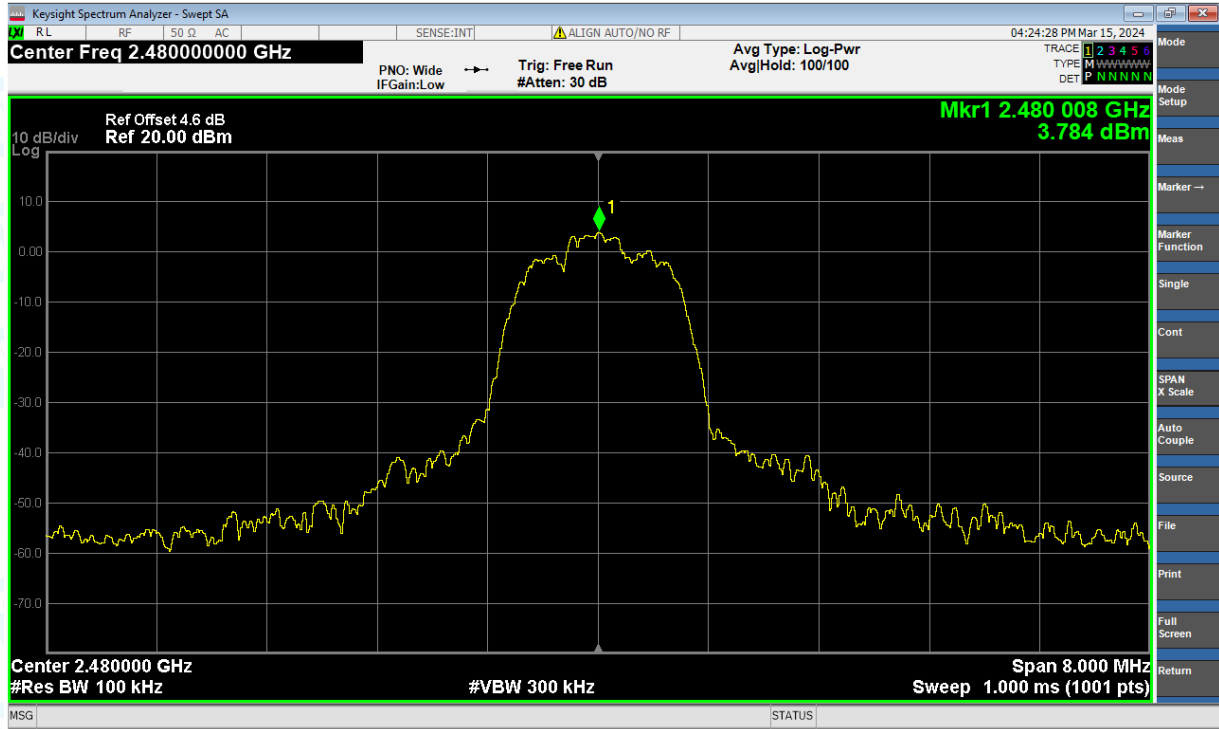
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



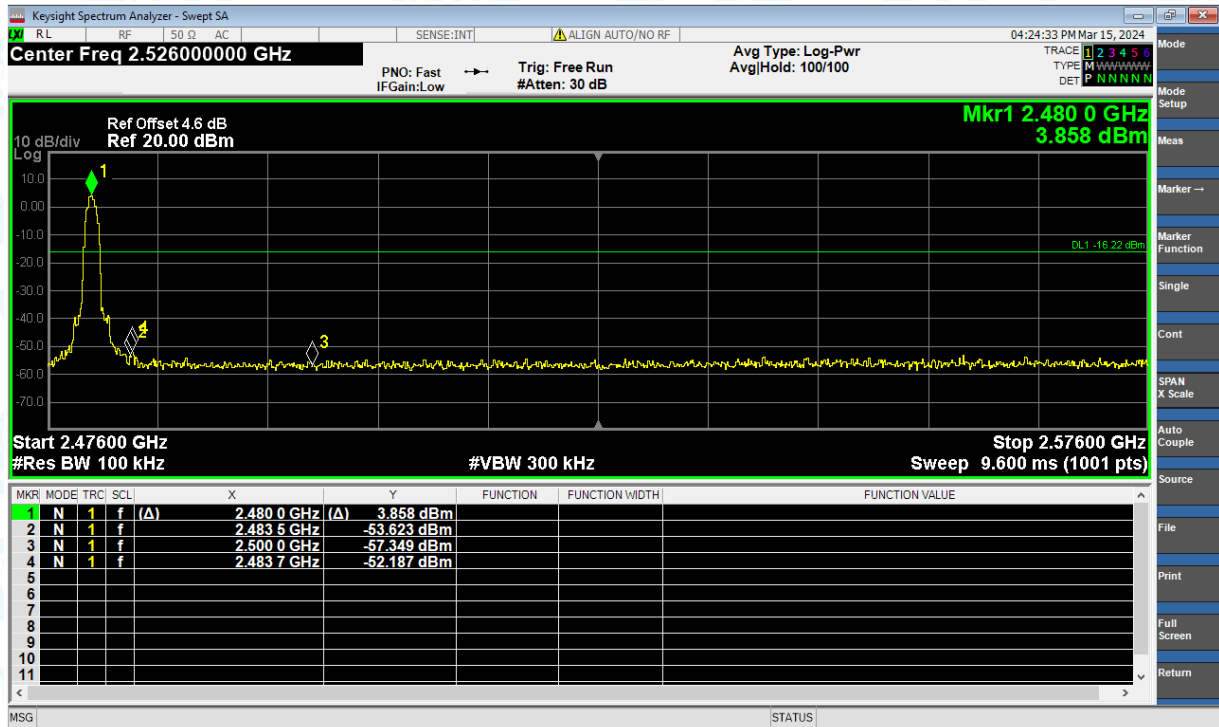
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



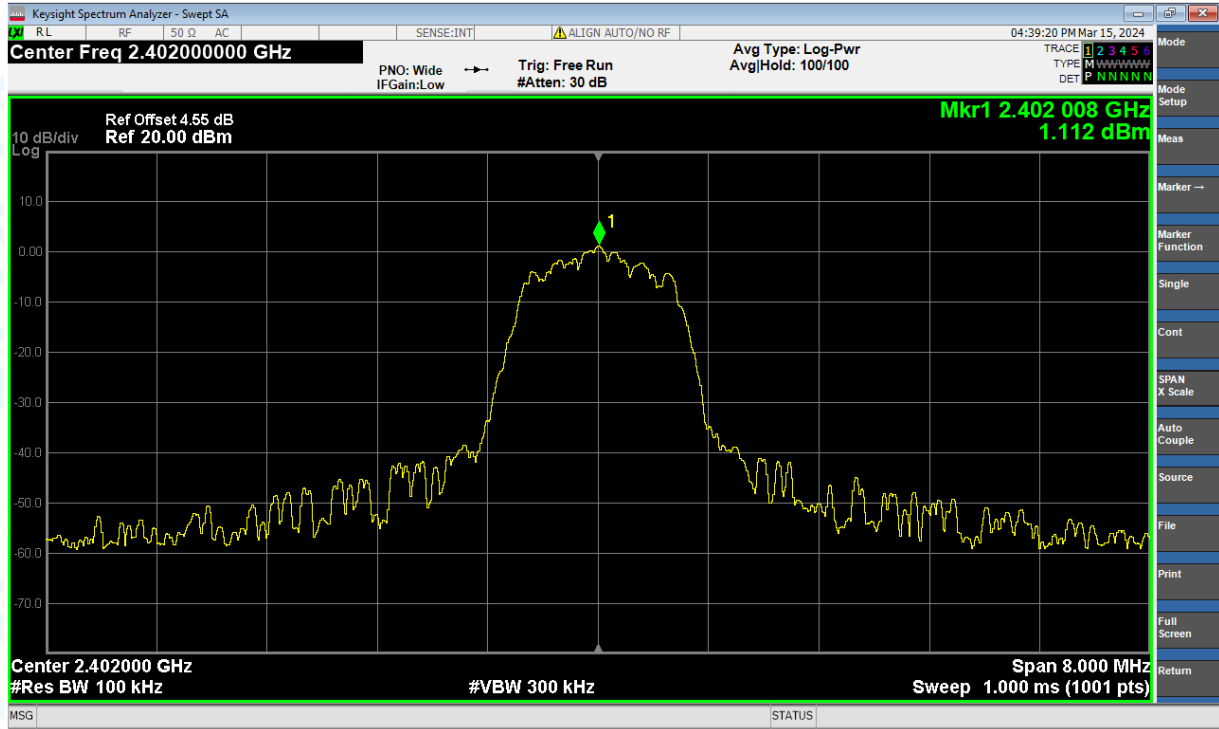
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



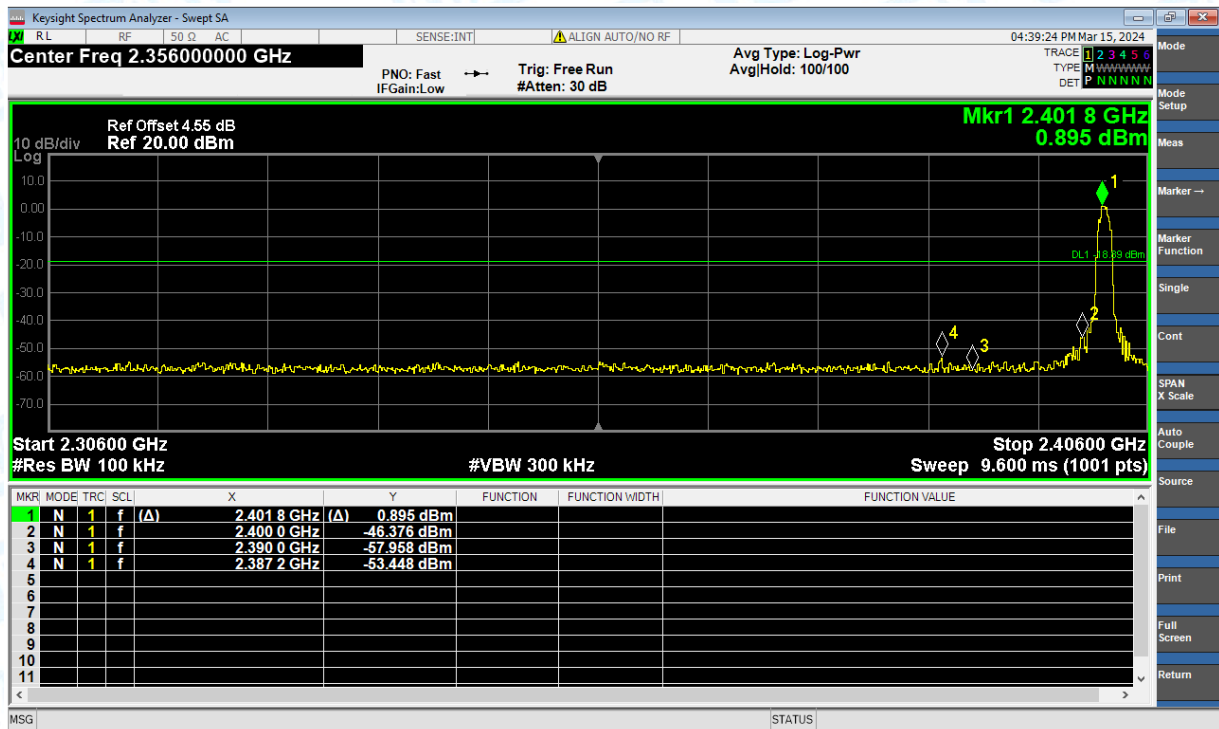
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



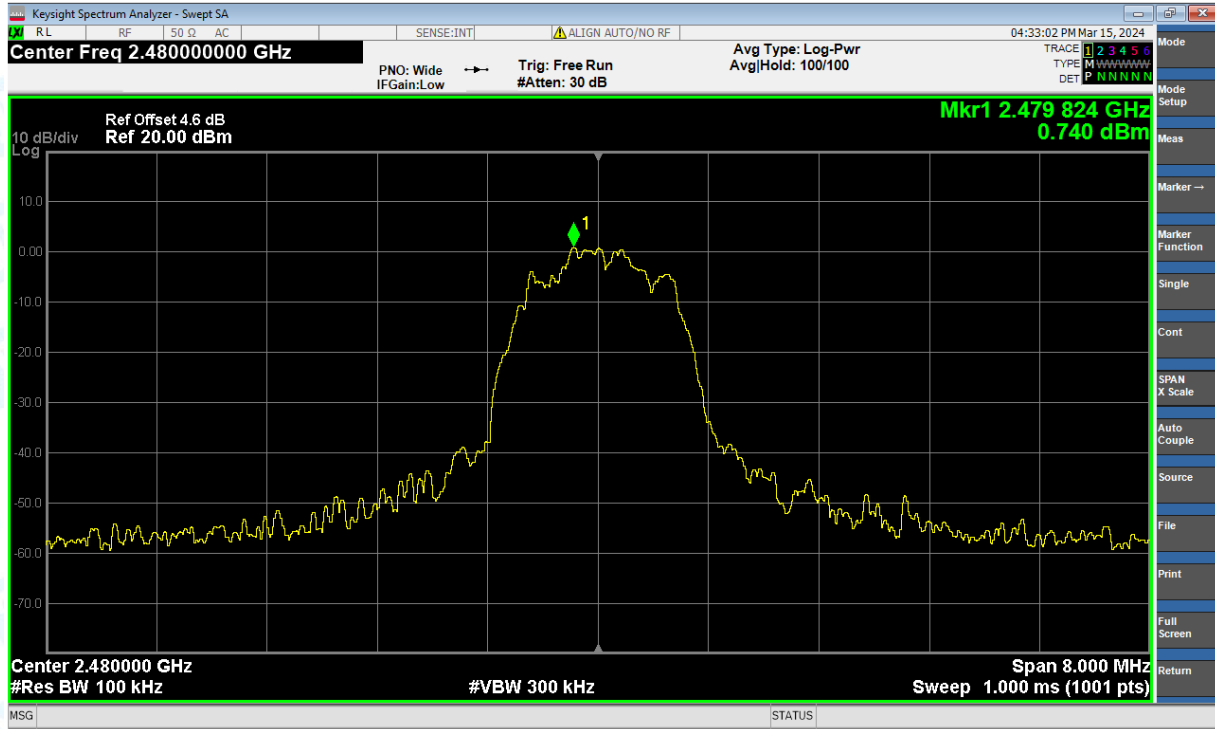
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



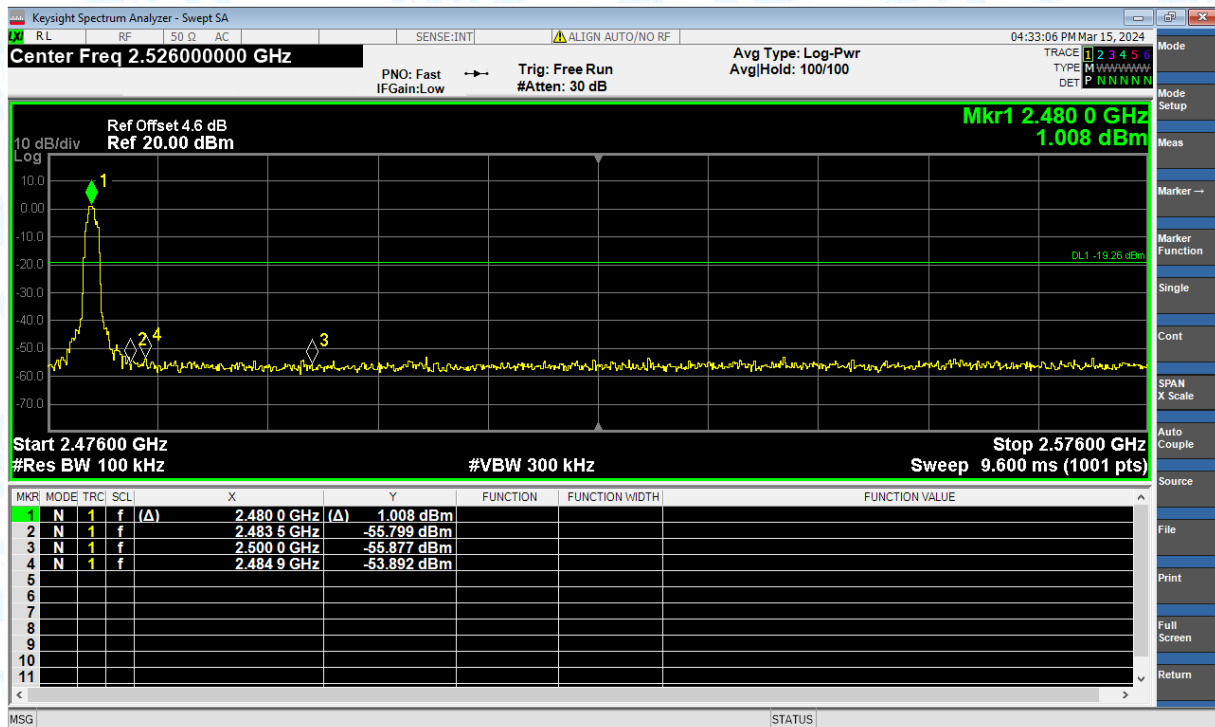
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



6. Band Edge(Hopping)

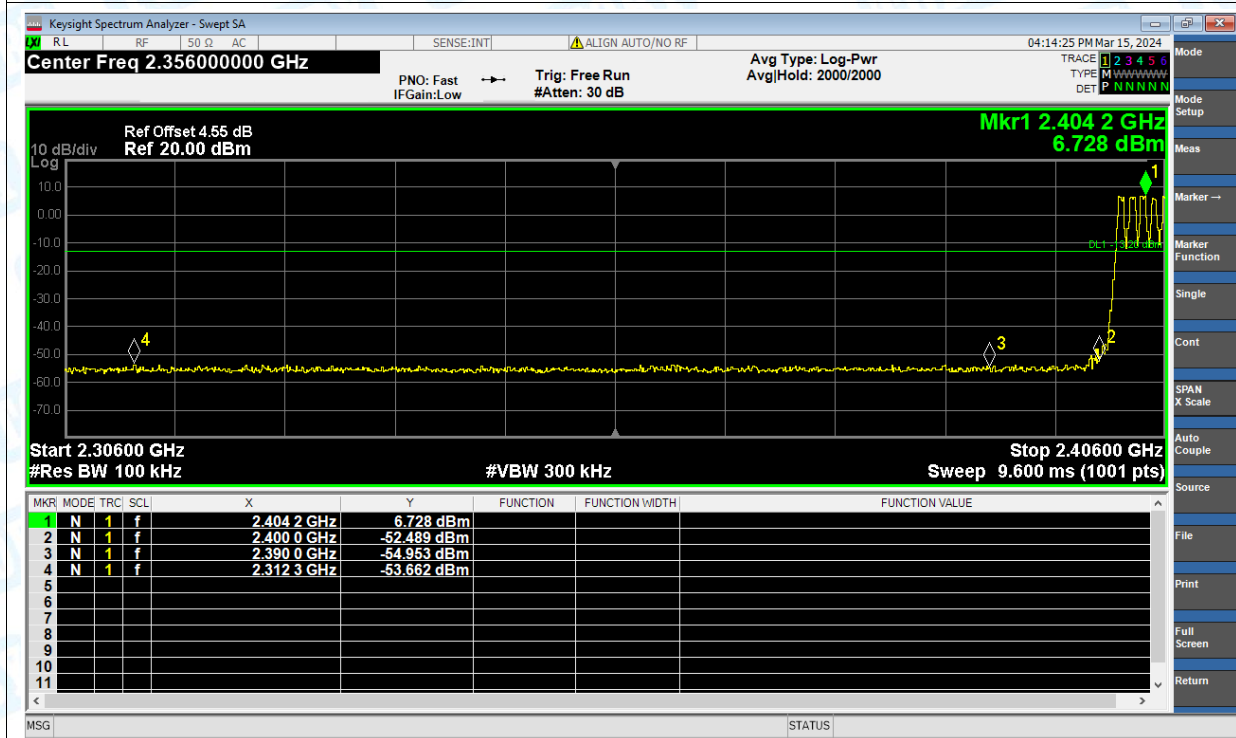
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-60.46	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-56.96	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-59.78	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-57.09	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-56.81	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-55.03	-20	Pass

Test Graphs

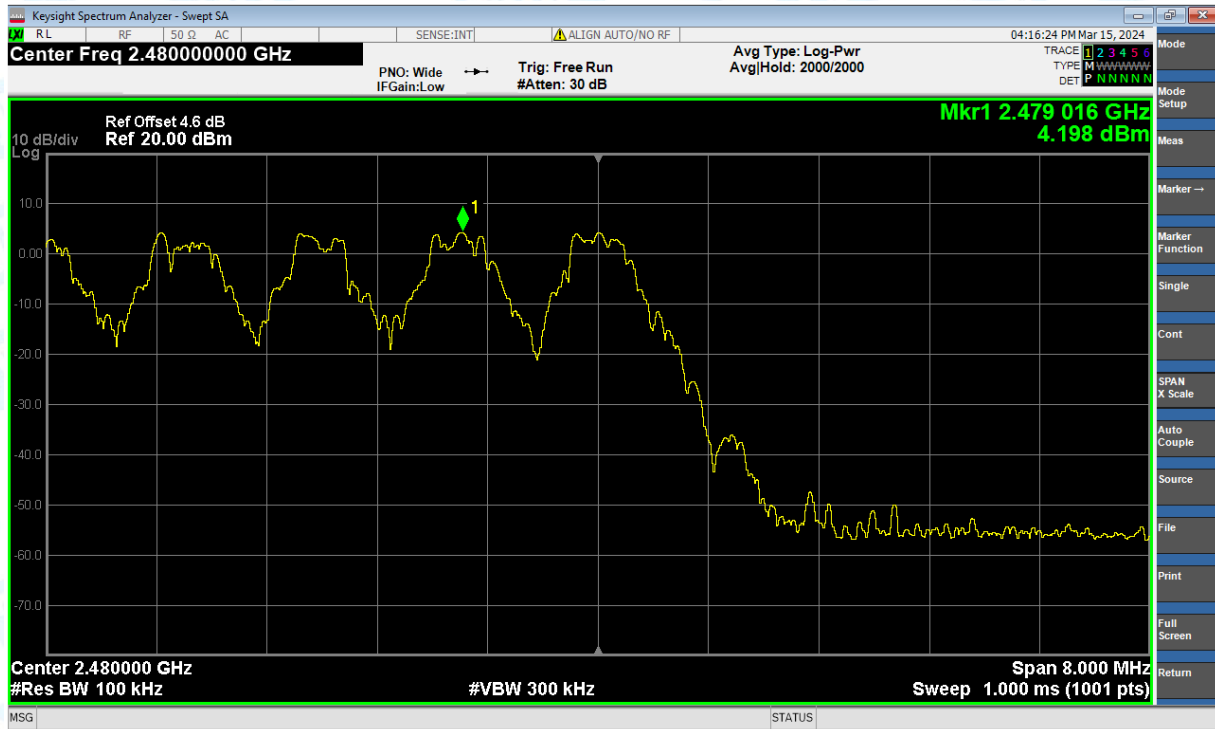
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



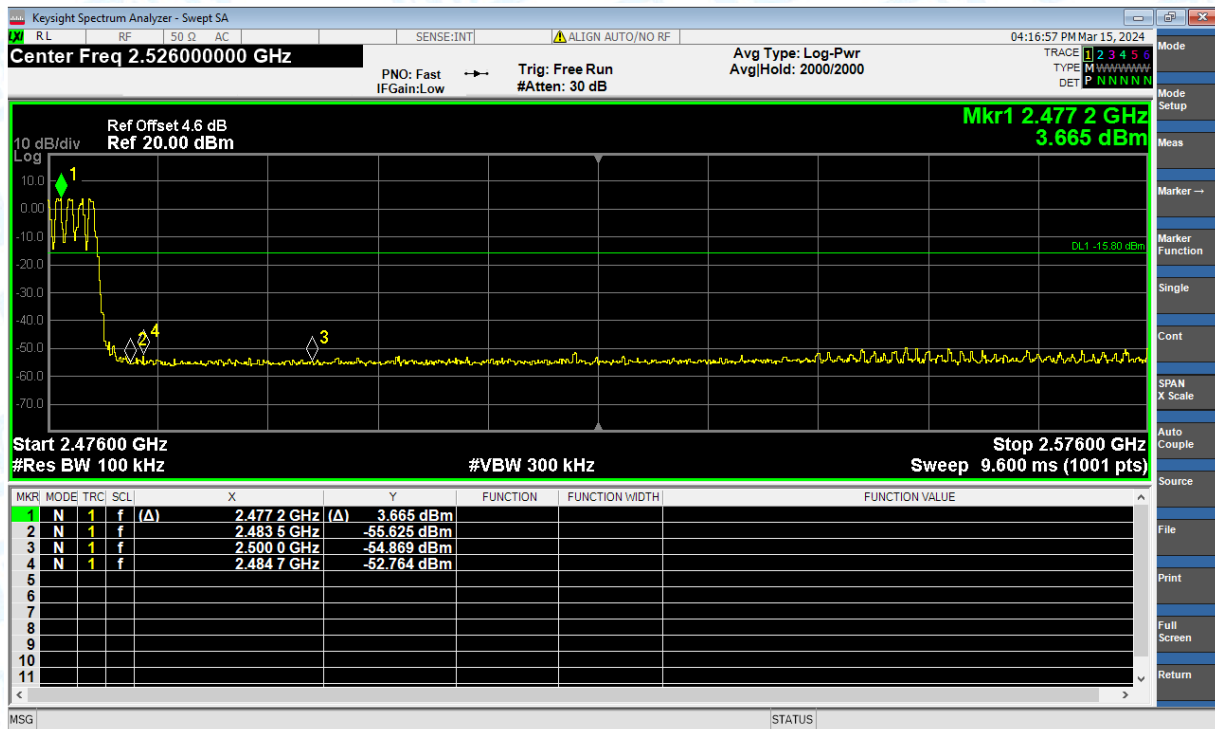
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



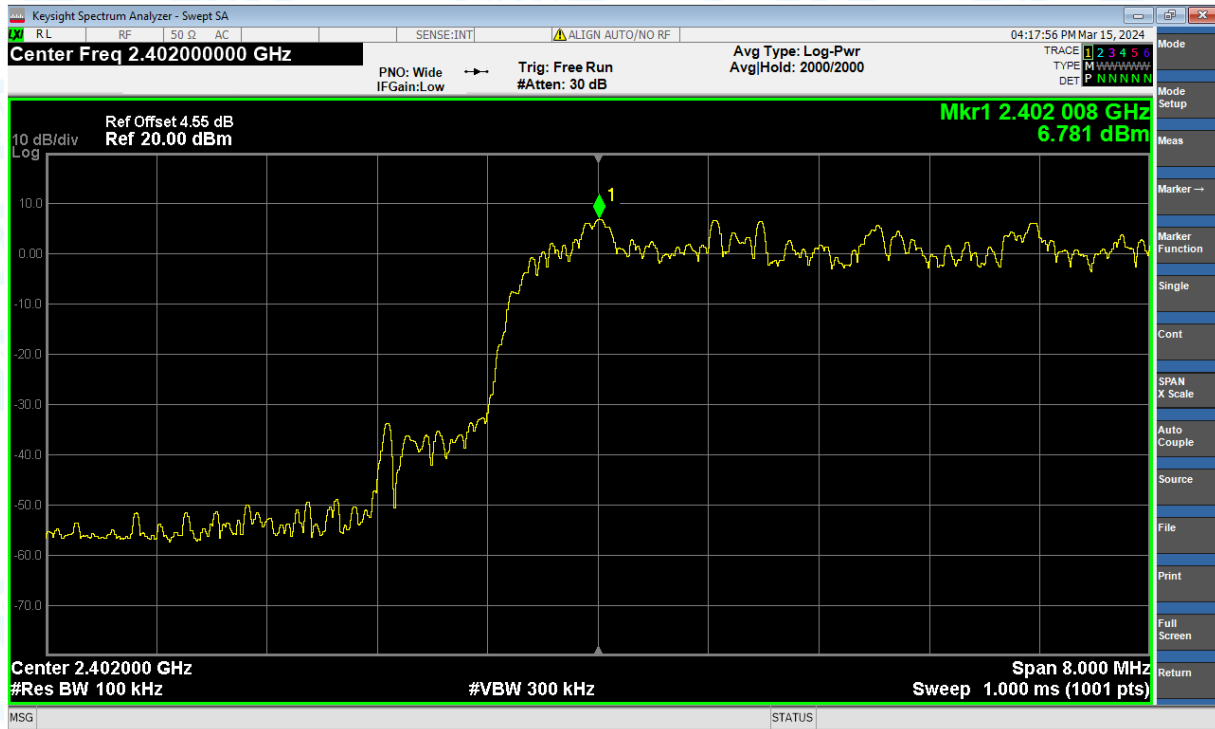
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



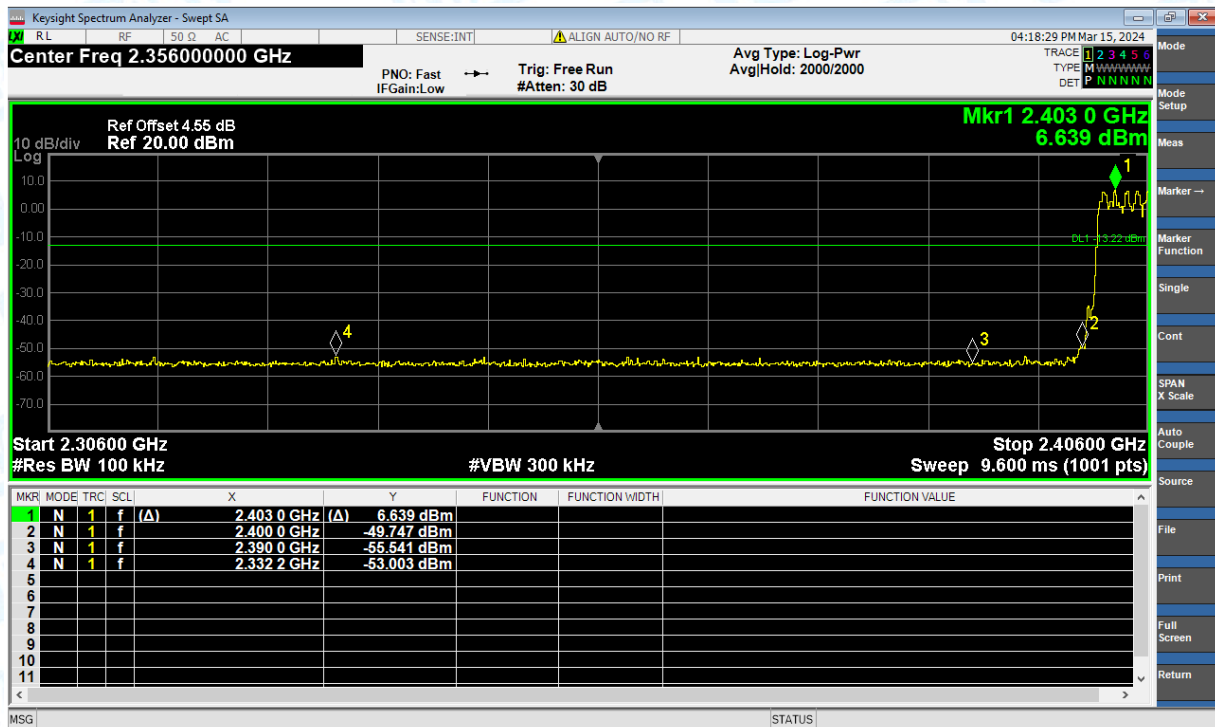
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



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



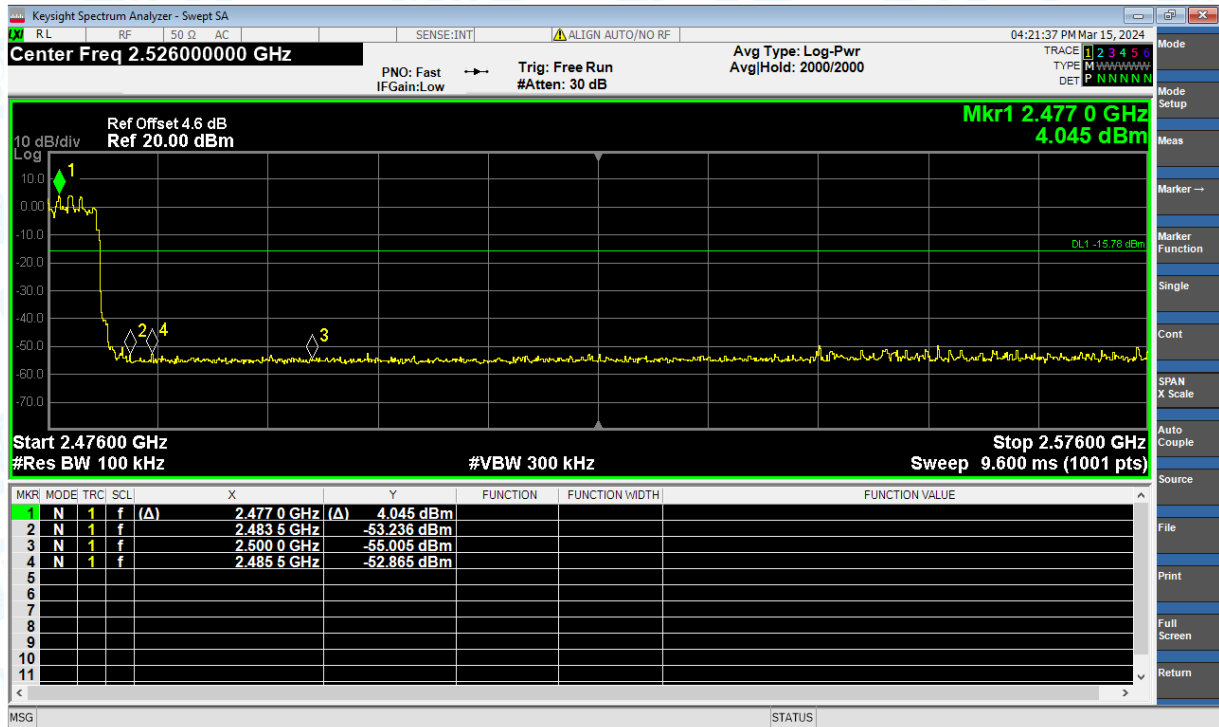
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



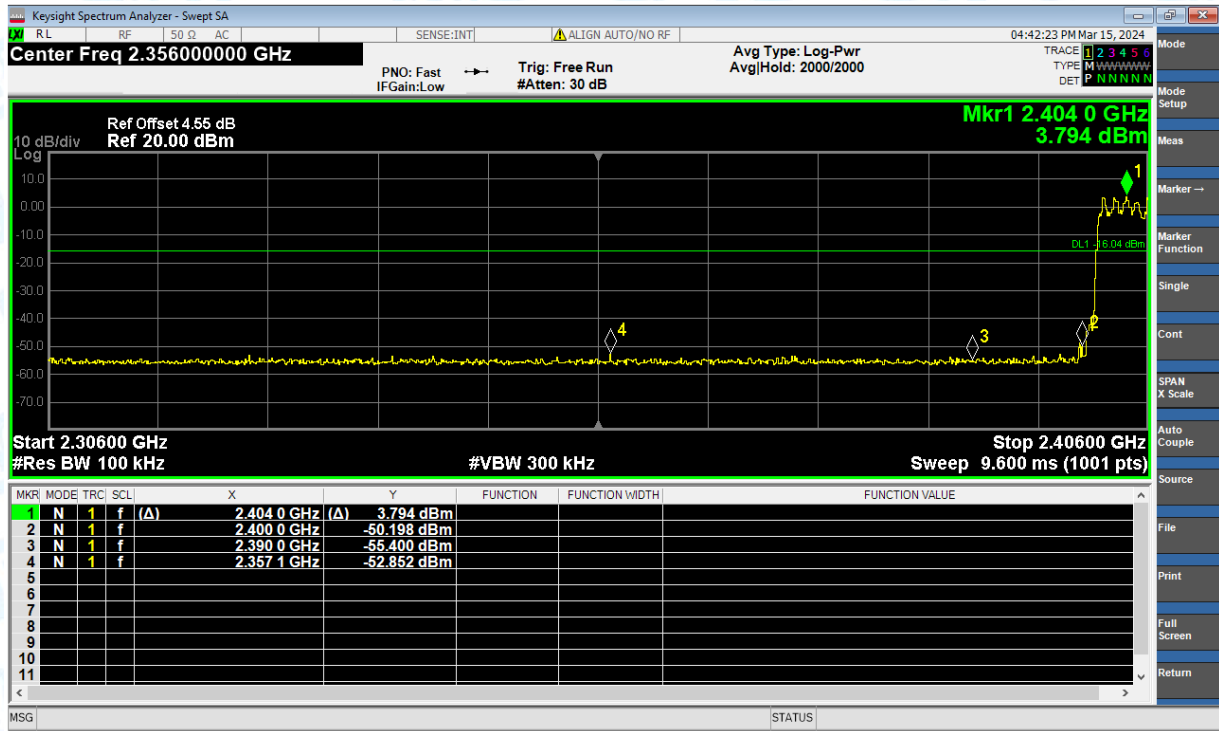
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



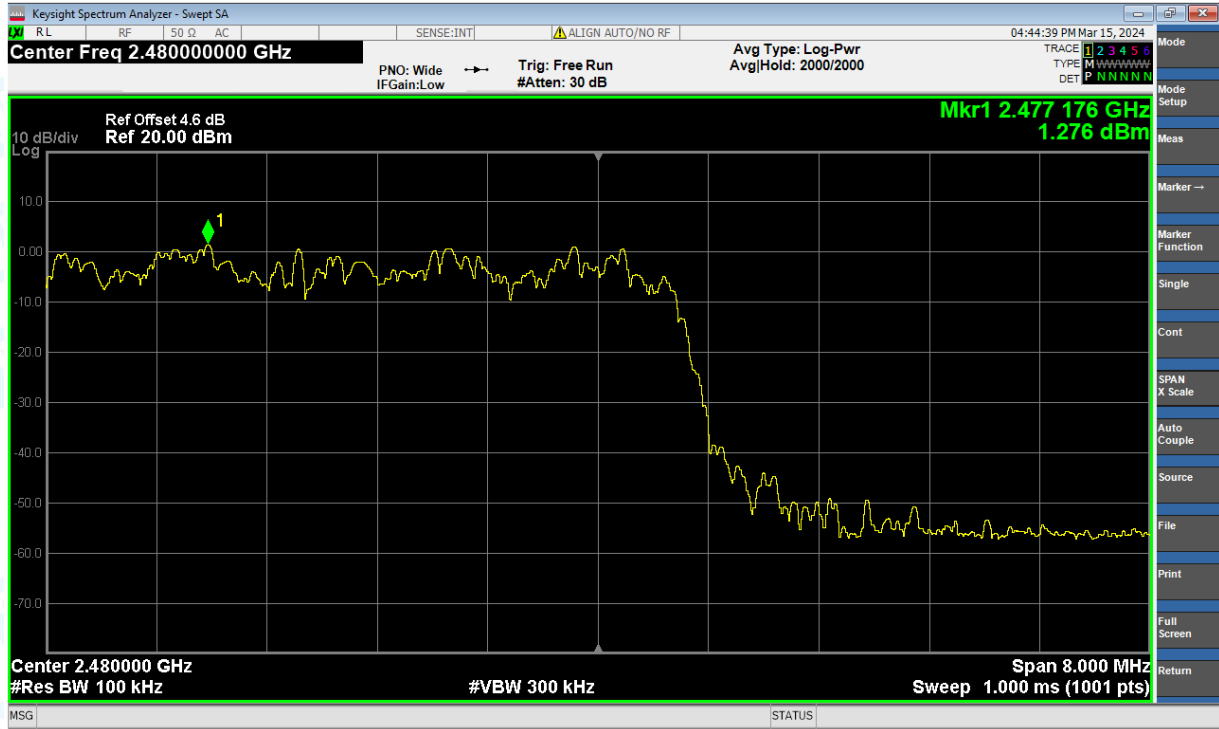
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



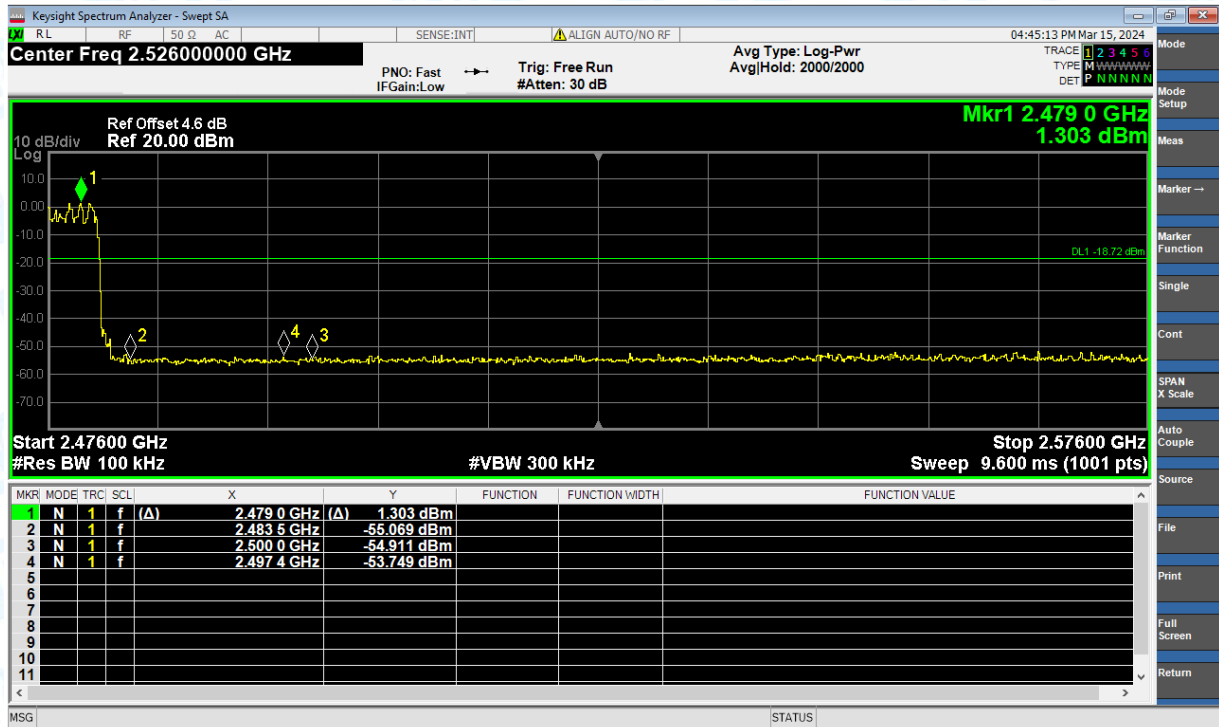
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

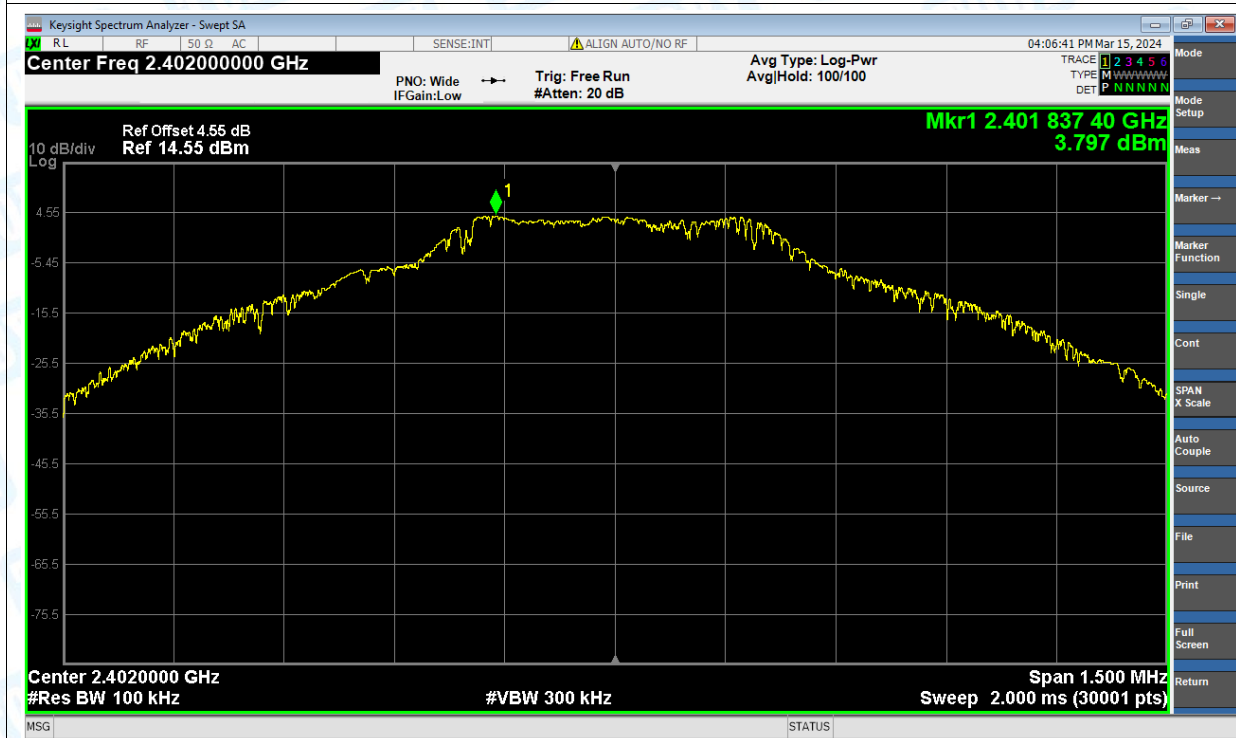


7. Conducted RF Spurious Emission

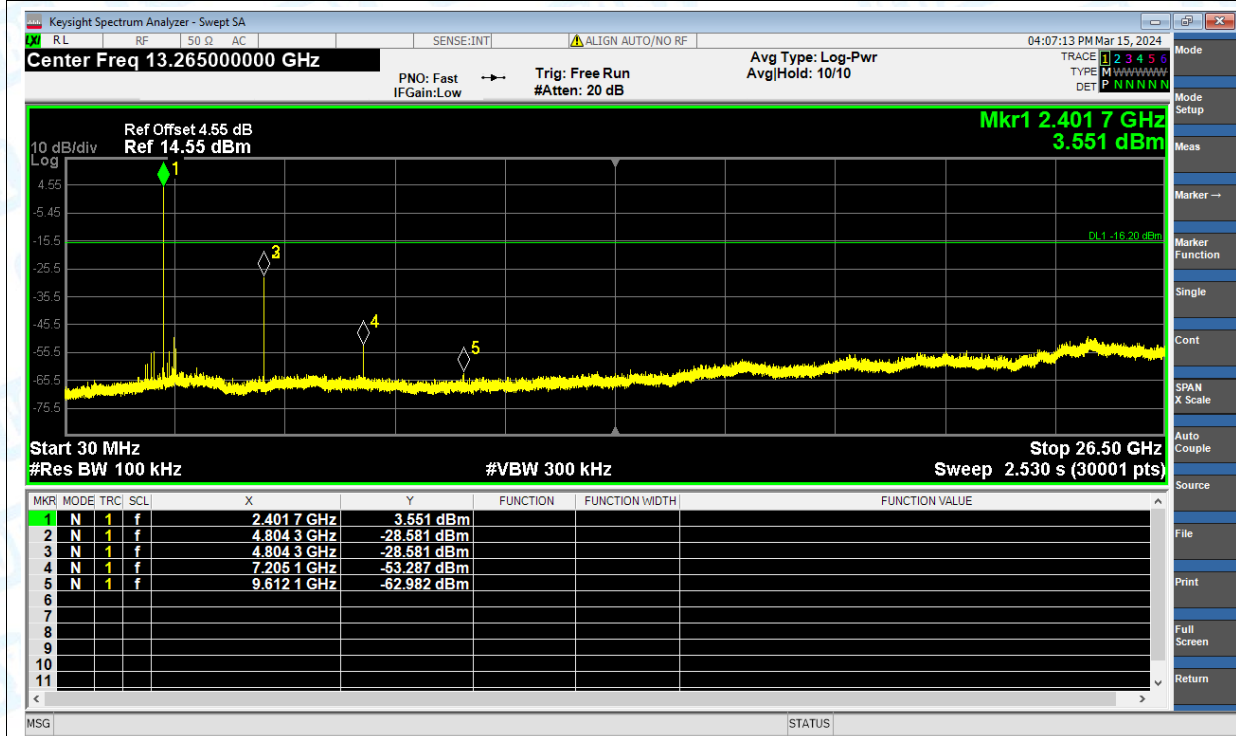
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-32.38	-20	Pass
NVNT	1-DH1	2441	Ant1	-33.05	-20	Pass
NVNT	1-DH1	2480	Ant1	-34.13	-20	Pass
NVNT	2-DH1	2402	Ant1	-33.33	-20	Pass
NVNT	2-DH1	2441	Ant1	-30.86	-20	Pass
NVNT	2-DH1	2480	Ant1	-32.30	-20	Pass
NVNT	3-DH1	2402	Ant1	-48.58	-20	Pass
NVNT	3-DH1	2441	Ant1	-33.61	-20	Pass
NVNT	3-DH1	2480	Ant1	-34.21	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



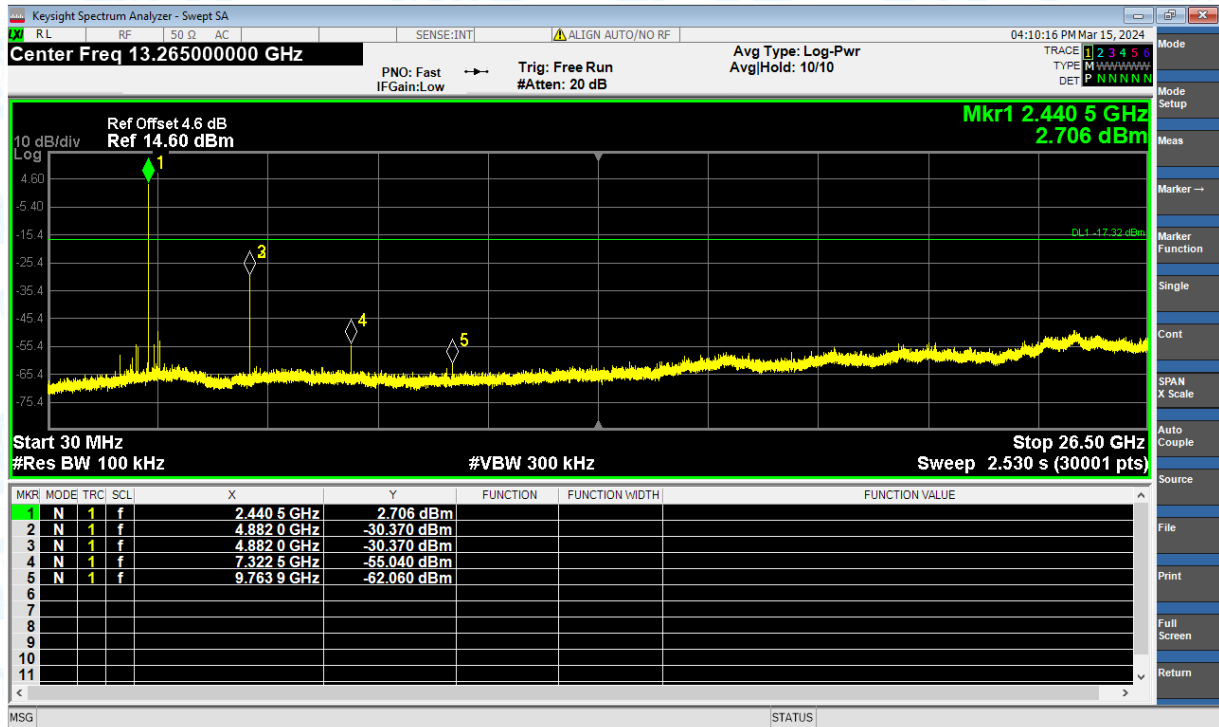
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



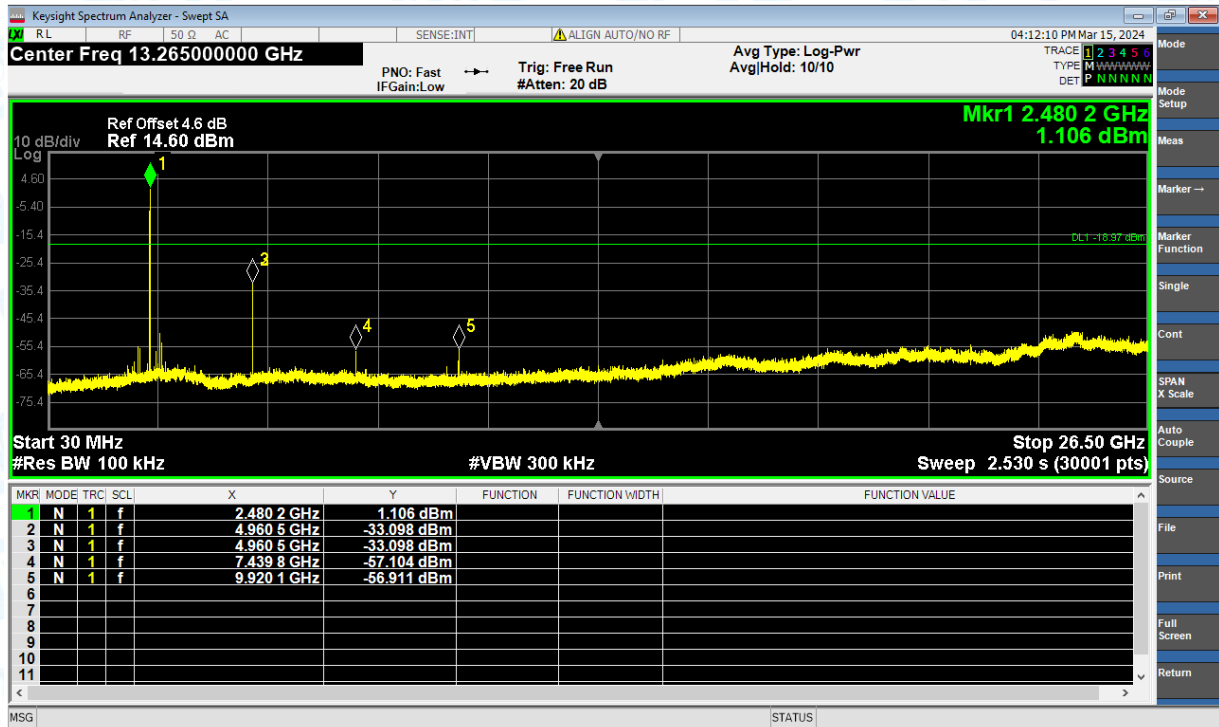
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



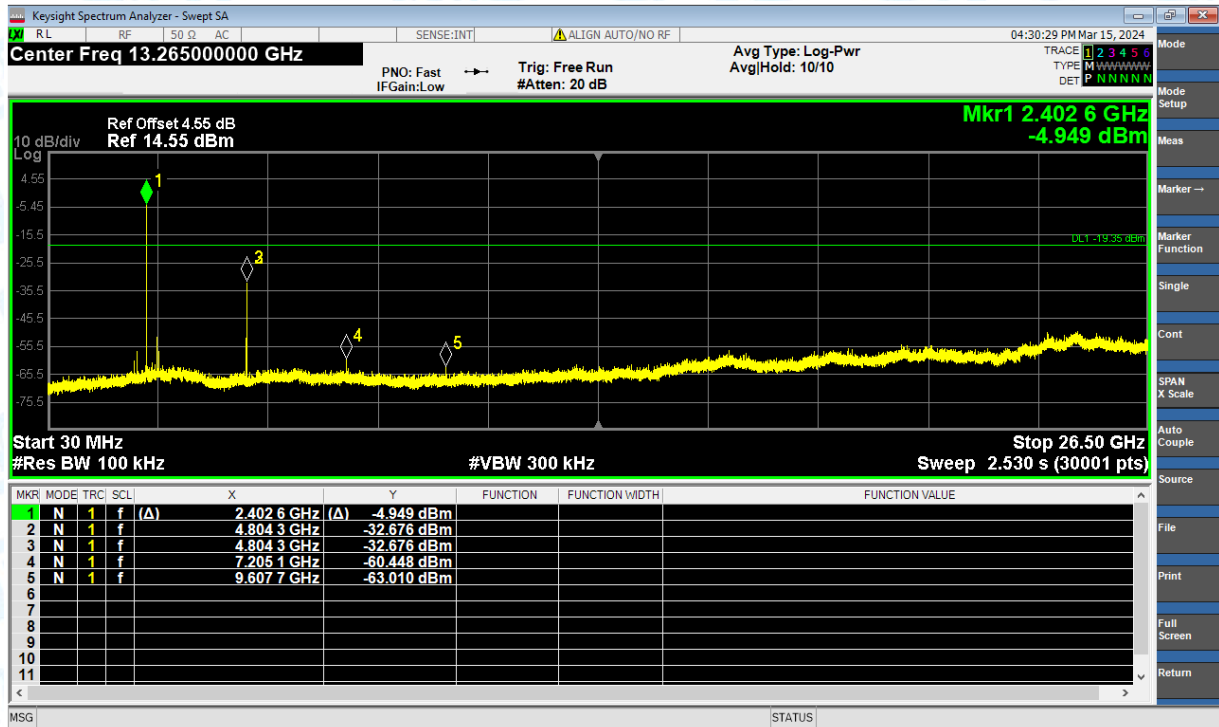
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



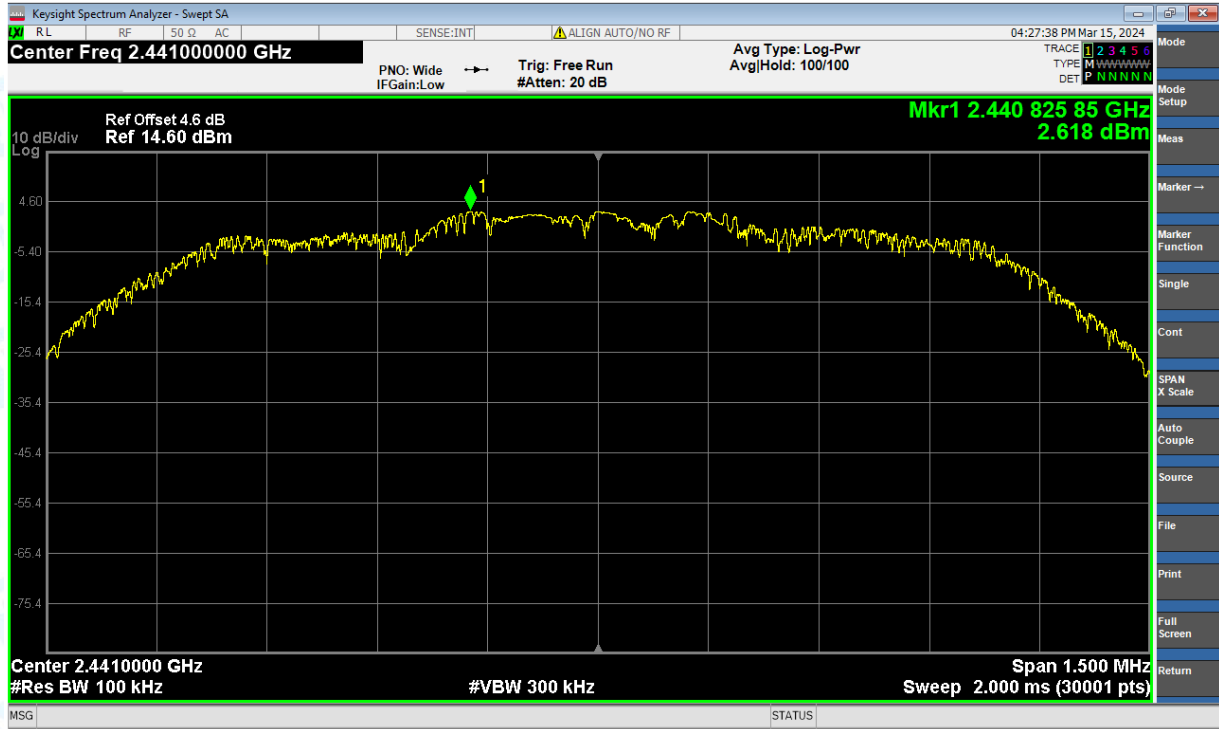
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



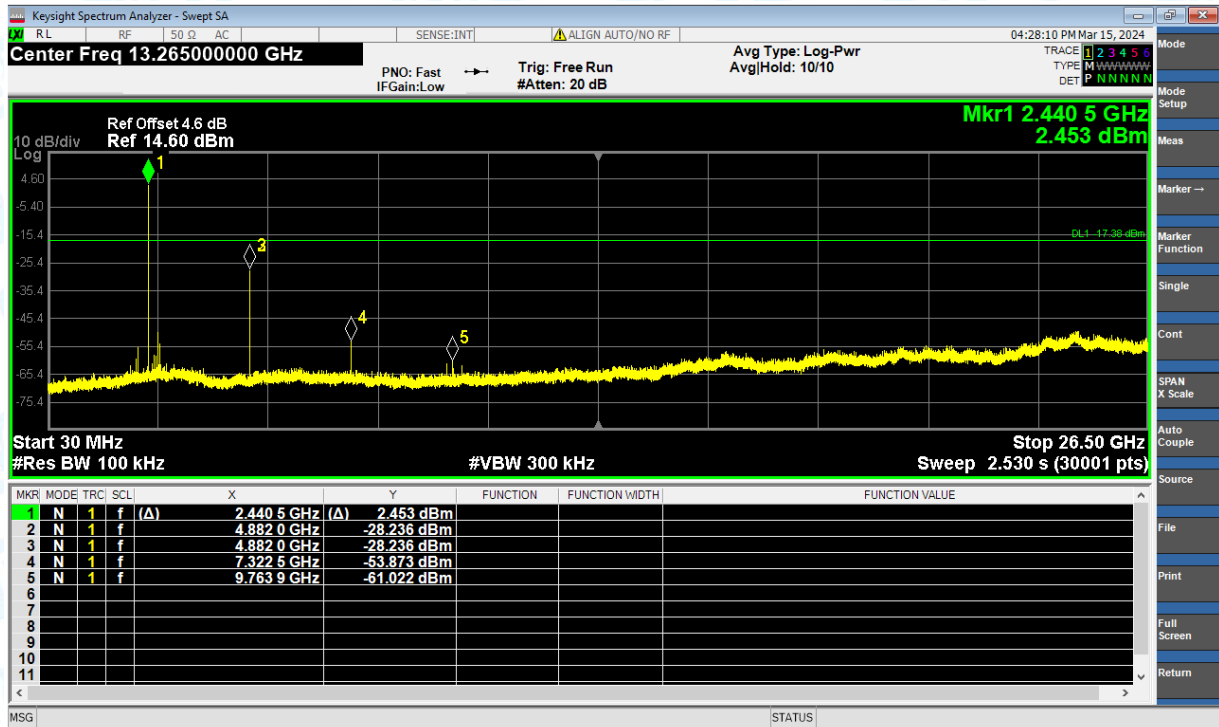
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



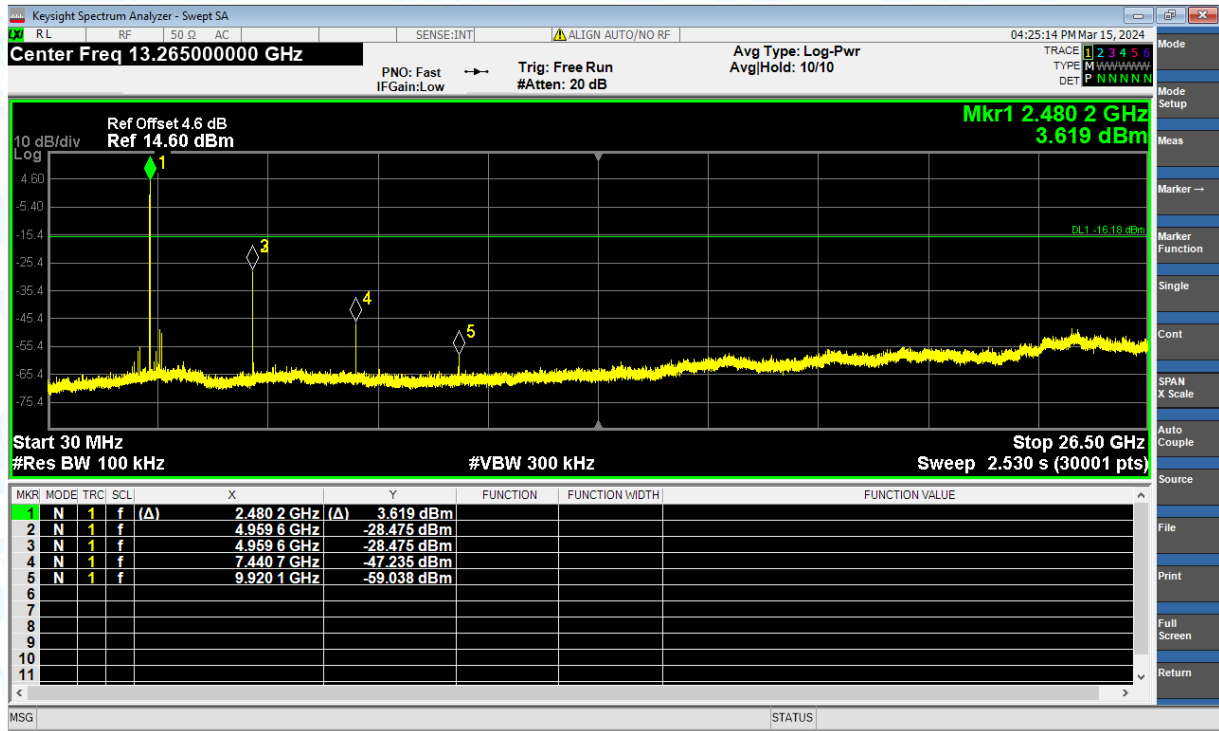
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



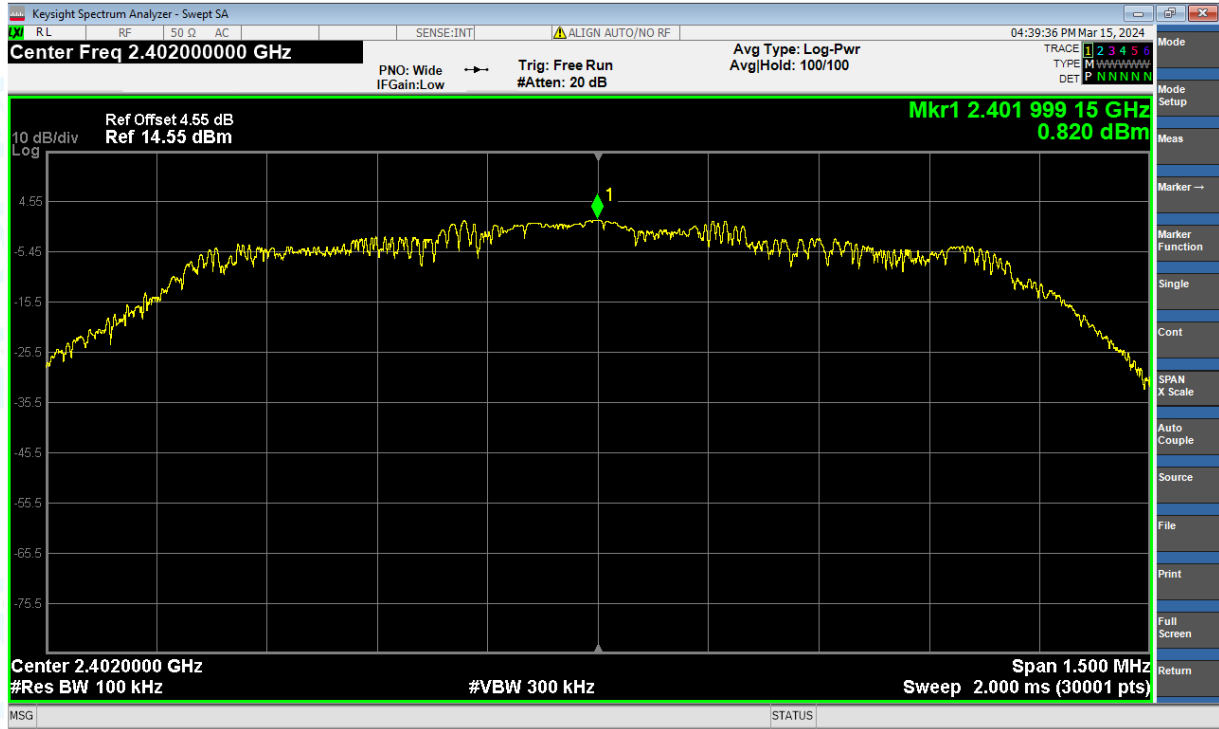
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



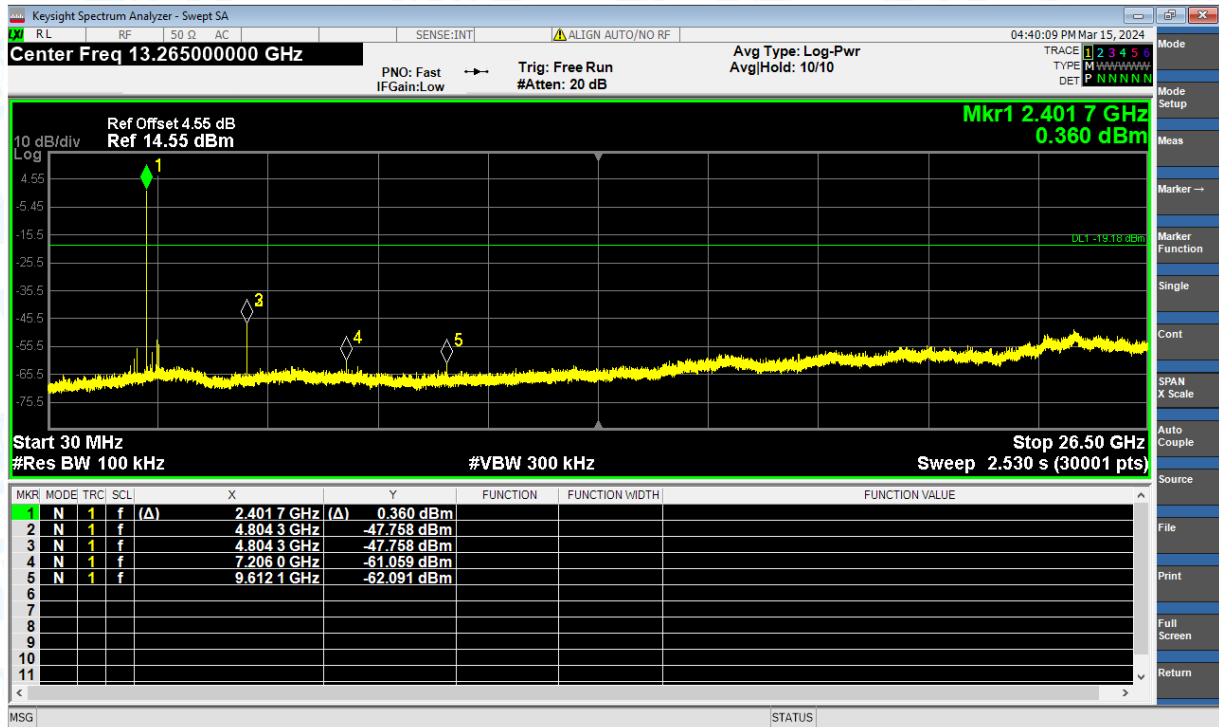
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



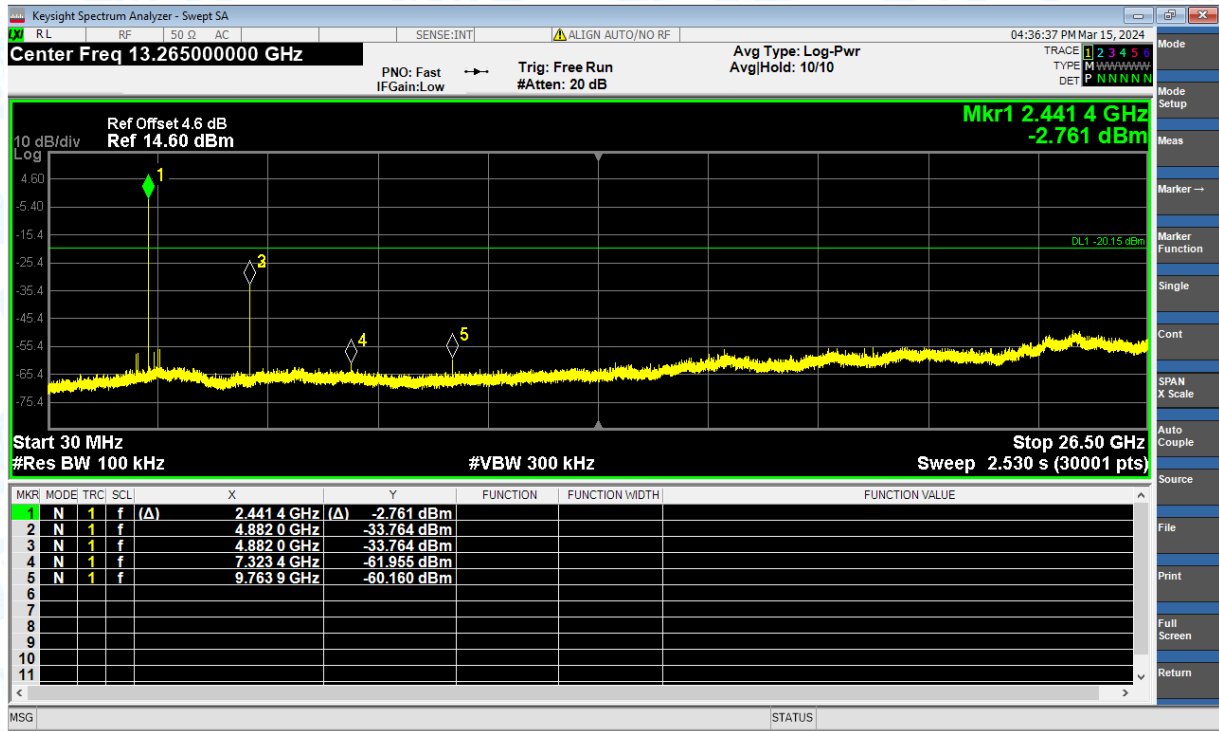
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



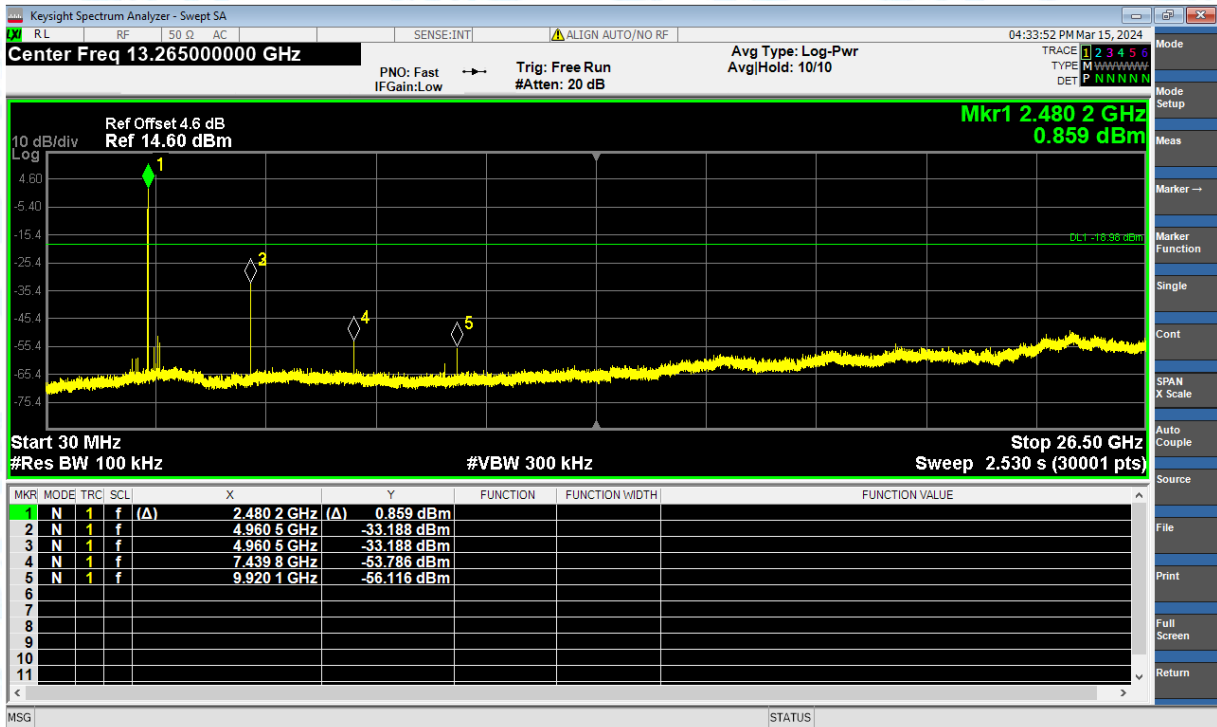
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

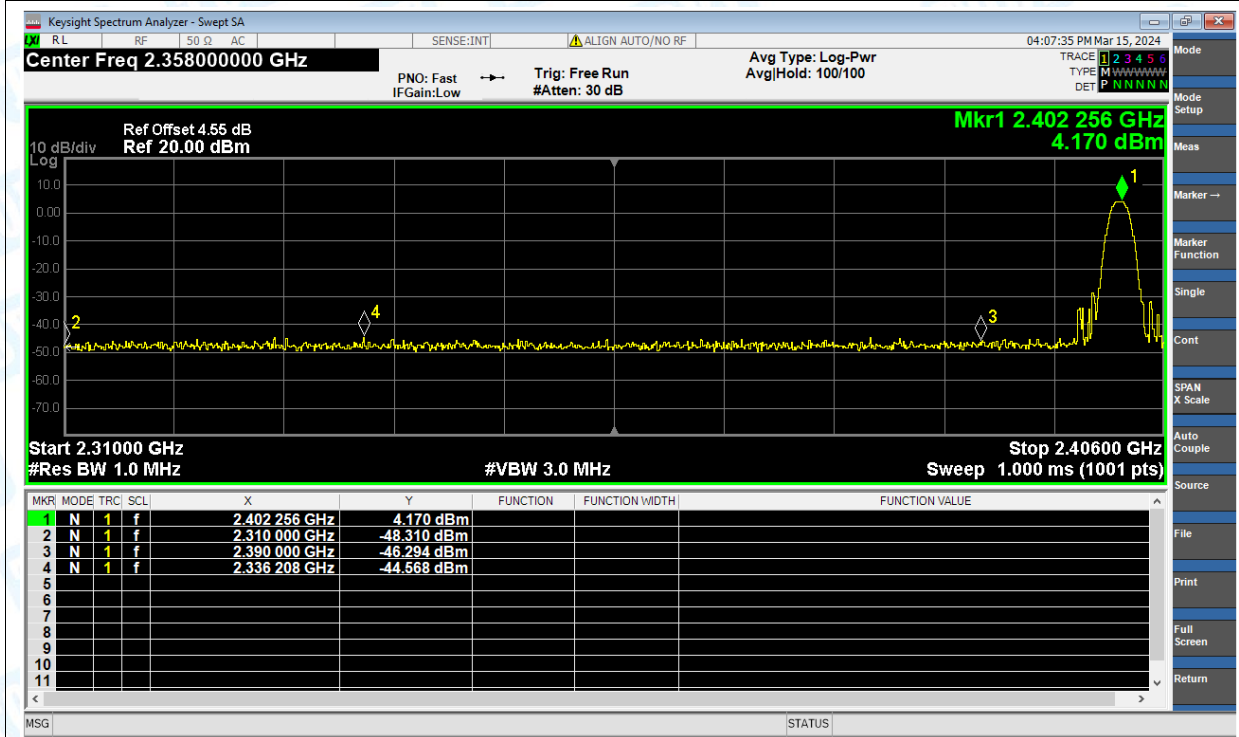


8. Restrict Band

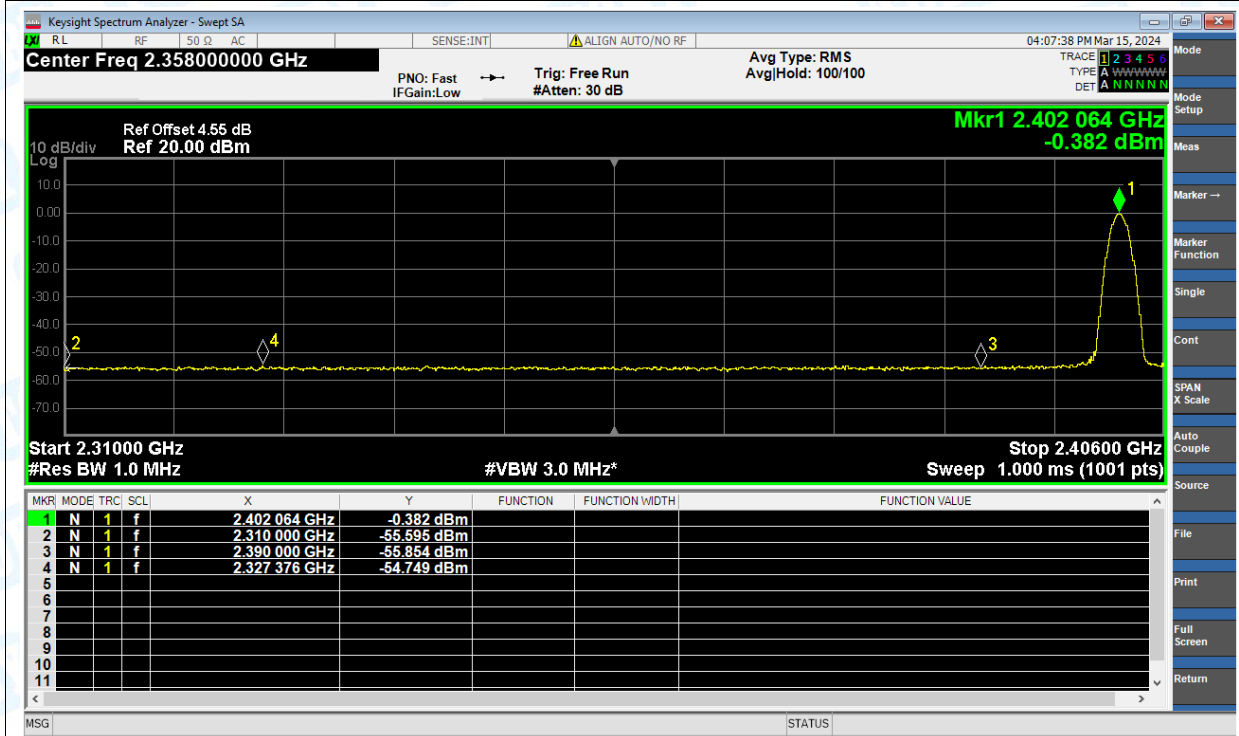
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.31	2	-	48.95	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-55.6	2	4.95	46.61	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2336.208	-44.57	2	-	52.69	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2327.376	-54.75	2	4.95	47.46	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.29	2	-	50.97	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.85	2	4.95	46.36	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-45.8	2	-	51.46	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.91	2	4.95	47.3	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2485.84	-36.96	2	-	60.3	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2484.856	-53.17	2	4.95	49.04	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.78	2	-	49.48	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.2	2	4.95	47.01	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.06	2	-	49.2	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-55.75	2	4.74	46.25	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2313.168	-44.79	2	-	52.47	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2389.392	-54.77	2	4.74	47.23	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.03	2	-	49.23	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.6	2	4.74	46.4	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-39.52	2	-	57.74	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.12	2	4.84	46.98	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.656	-38.33	2	-	58.93	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.064	-54.21	2	4.84	47.89	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47.59	2	-	49.67	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.25	2	4.84	46.85	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.1	2	-	49.16	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-55.37	2	4.84	46.73	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2355.024	-43.72	2	-	53.54	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2316.144	-54.82	2	4.84	47.28	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.01	2	-	50.25	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.64	2	4.84	46.46	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-46.94	2	-	50.32	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.93	2	4.84	47.17	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.704	-38.67	2	-	58.59	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2485.288	-54.04	2	4.84	48.06	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-47.15	2	-	50.11	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.32	2	4.84	46.78	Average	54	Pass

Test Graphs

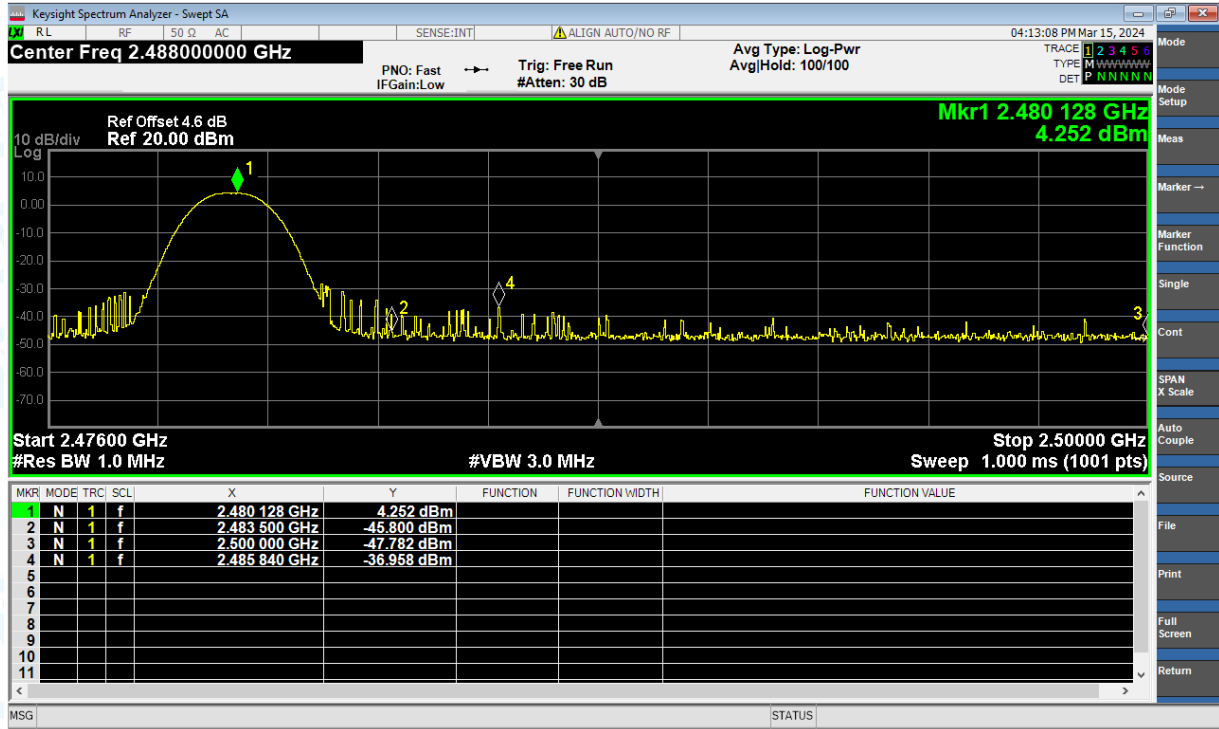
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



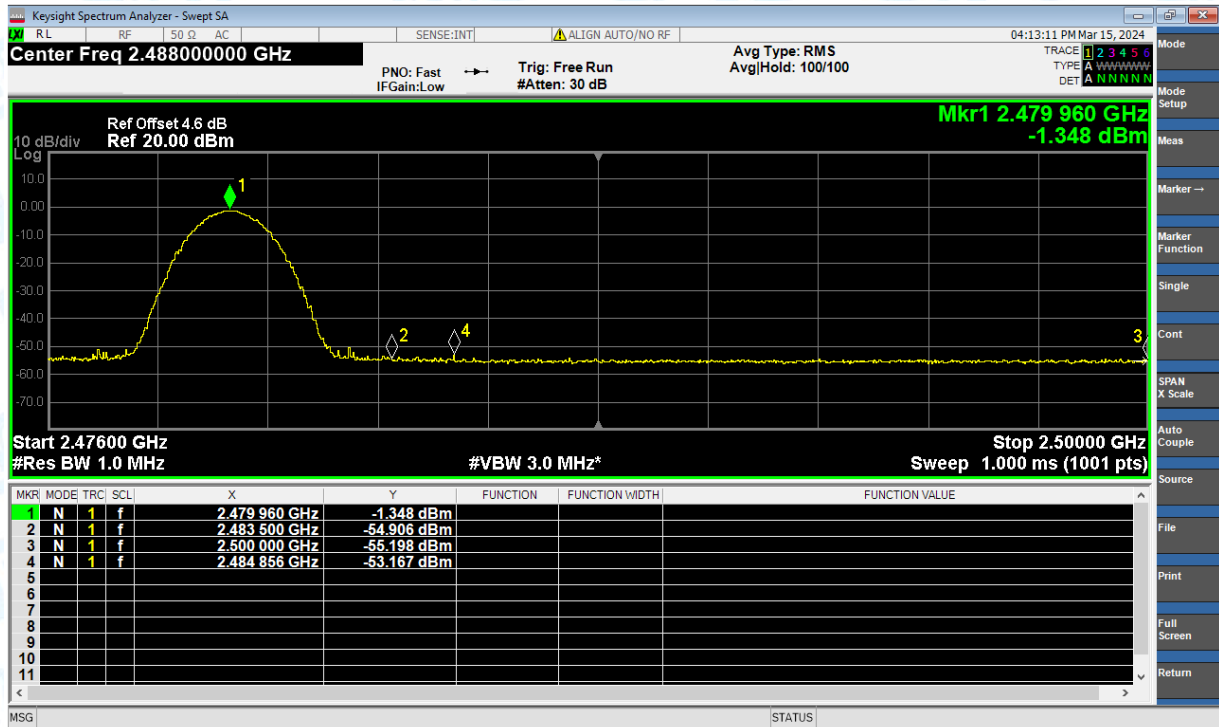
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



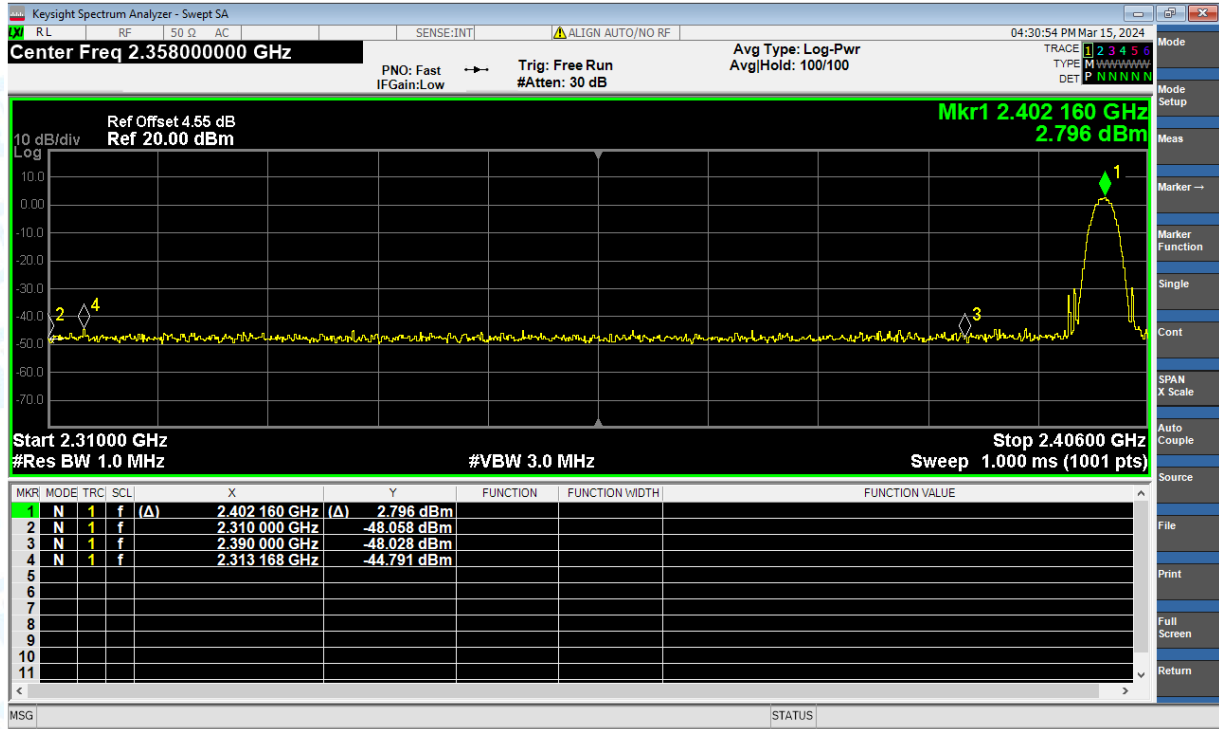
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



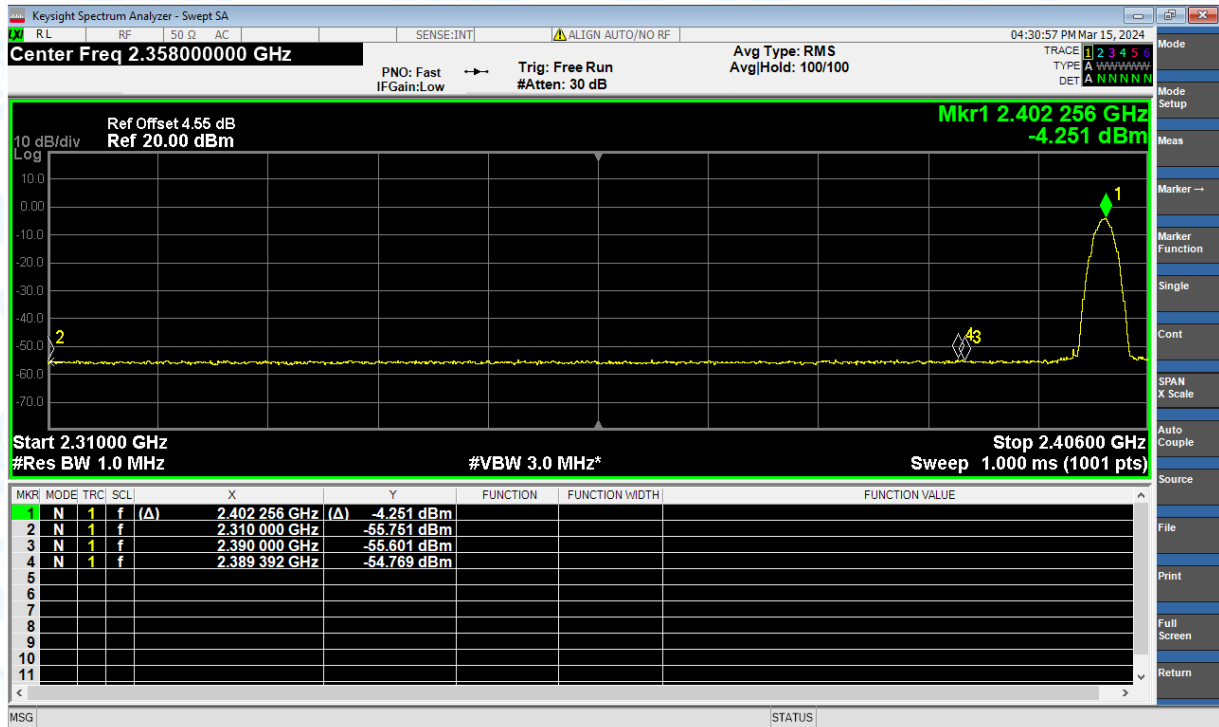
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



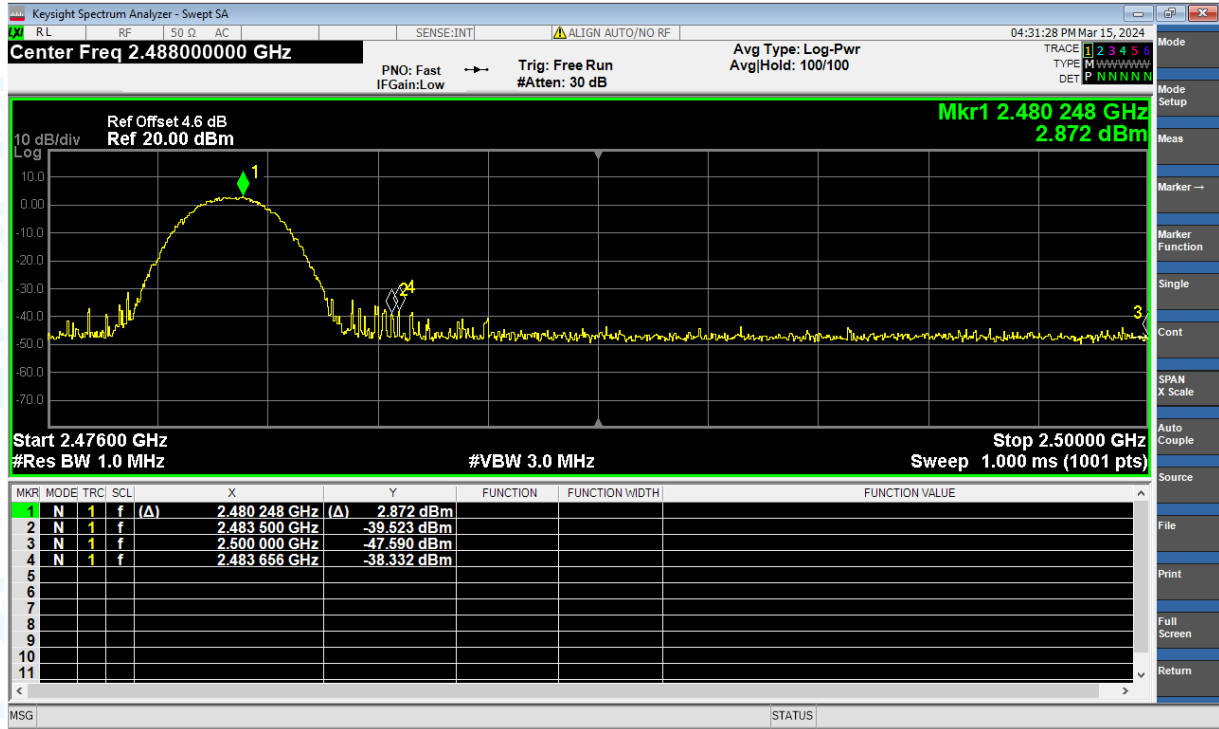
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



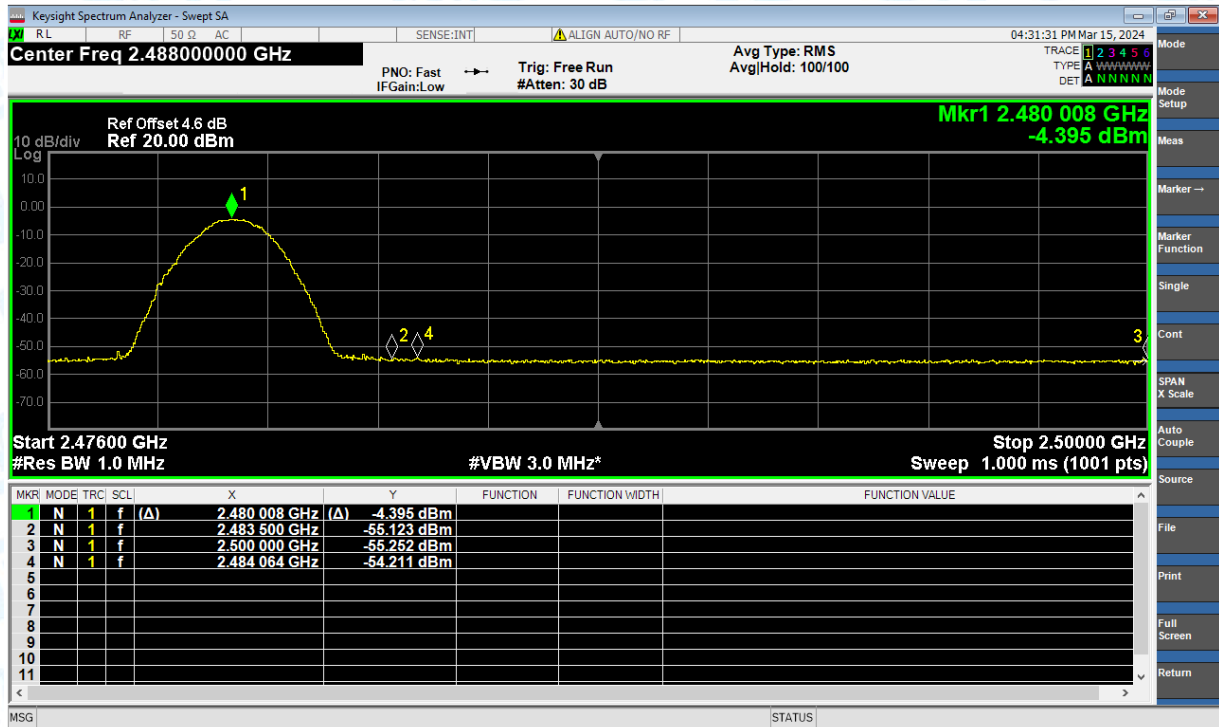
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



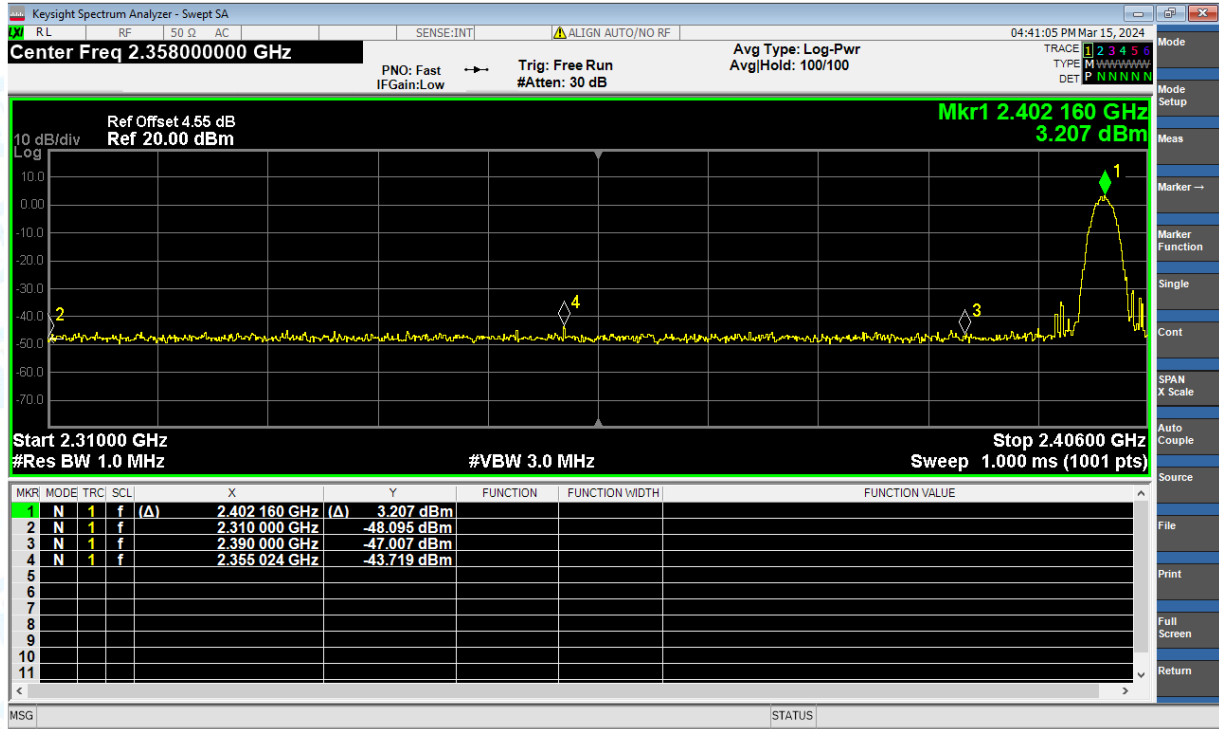
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



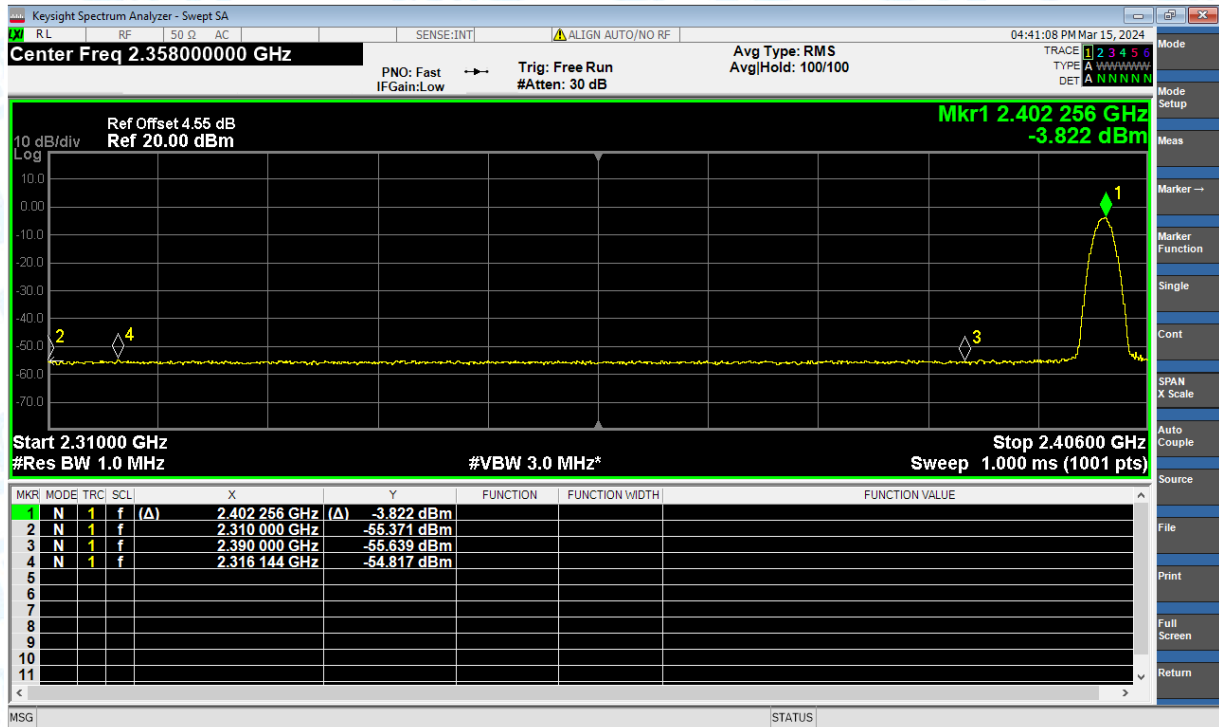
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



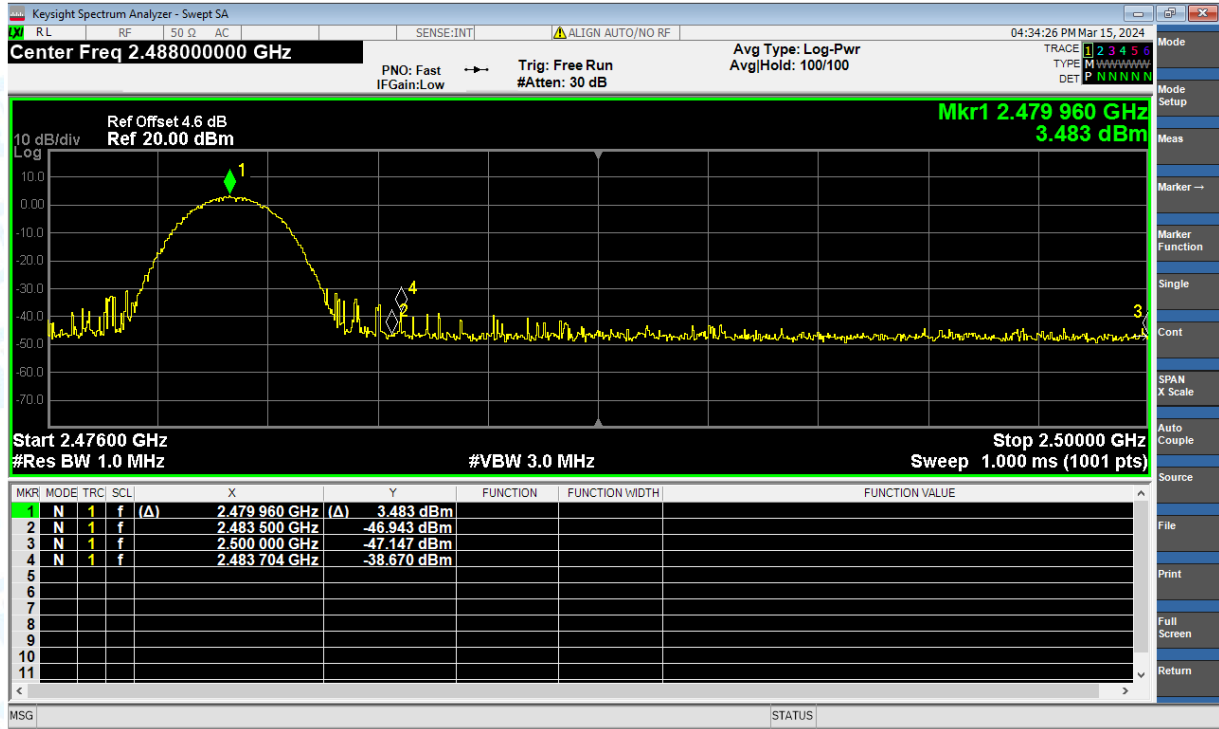
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



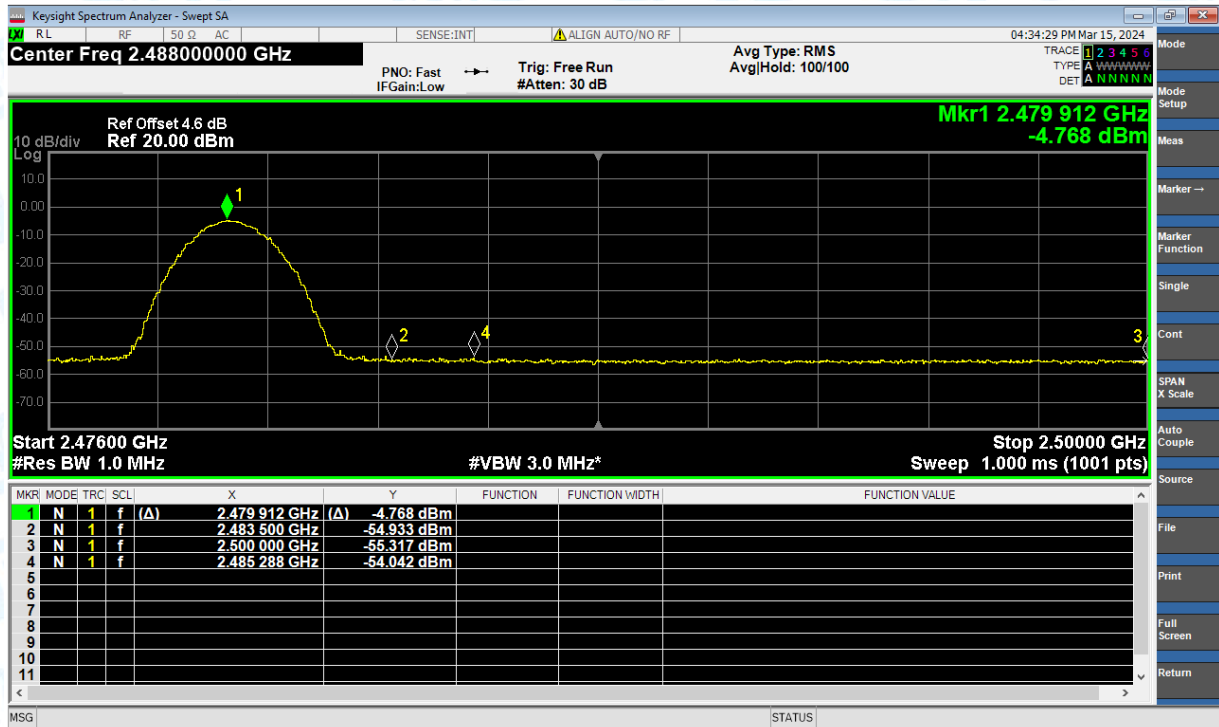
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

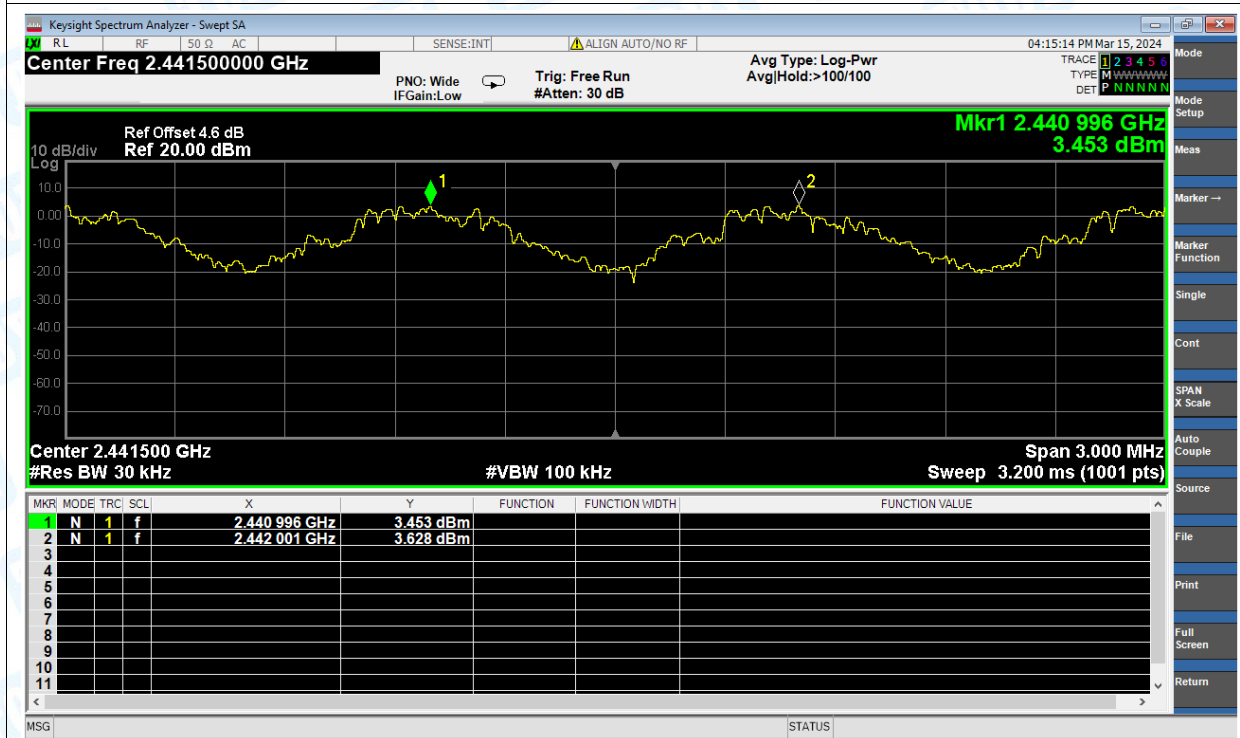


9. Carrier Frequencies Separation

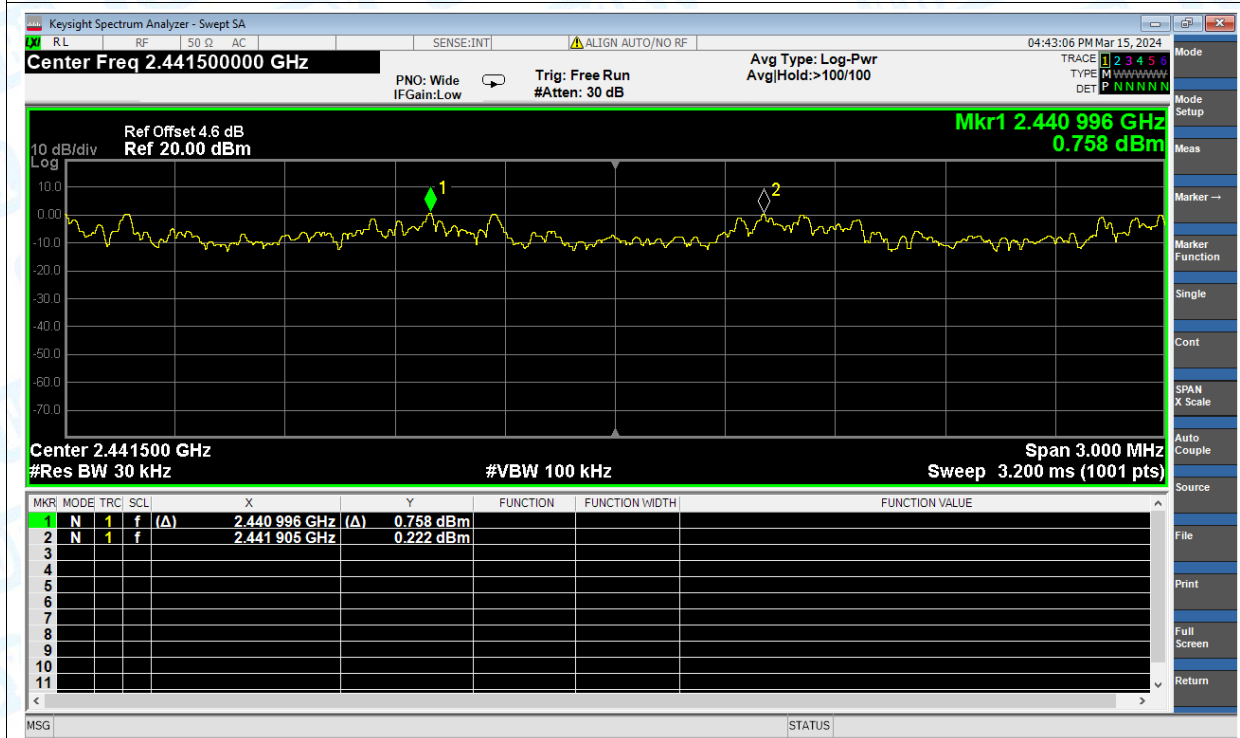
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.996	2442.001	1.005	0.620	Pass
NVNT	2-DH1	Ant1	2440.996	2441.905	0.909	0.813	Pass
NVNT	3-DH1	Ant1	2440.996	2441.905	0.909	0.813	Pass

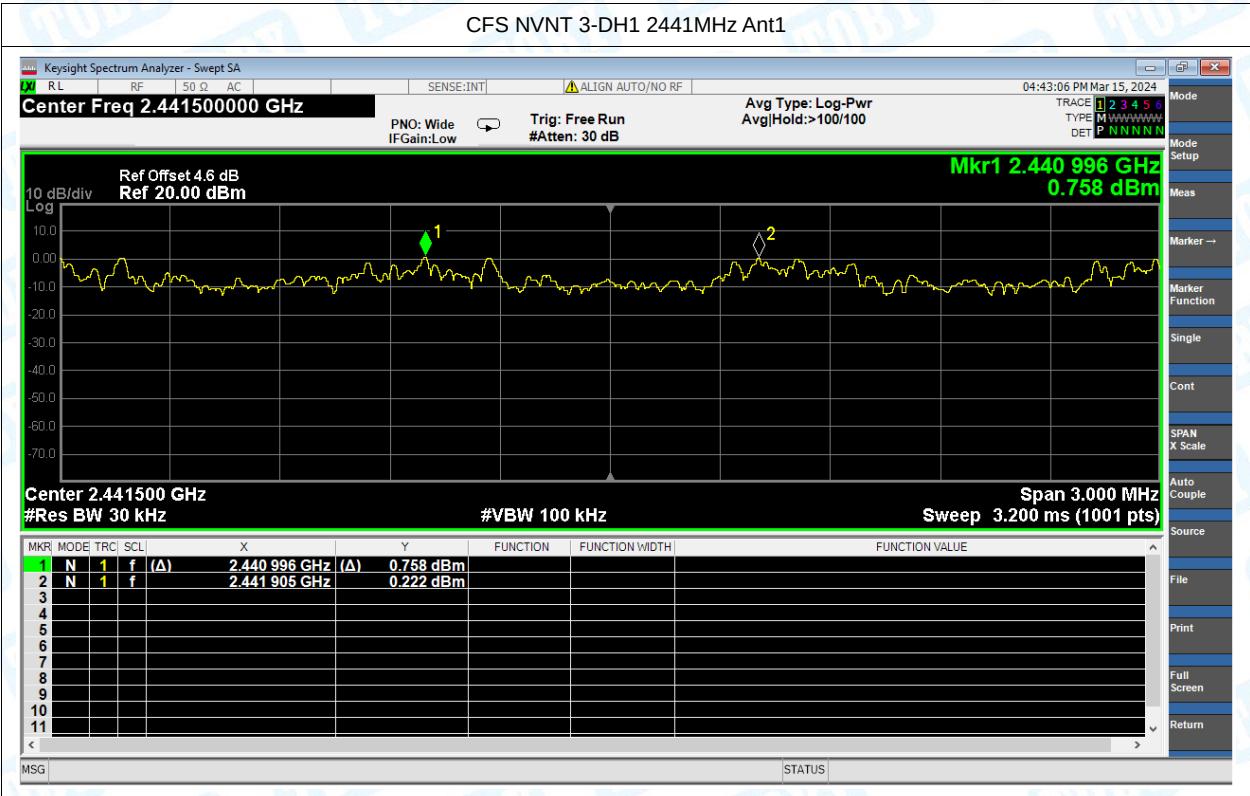
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



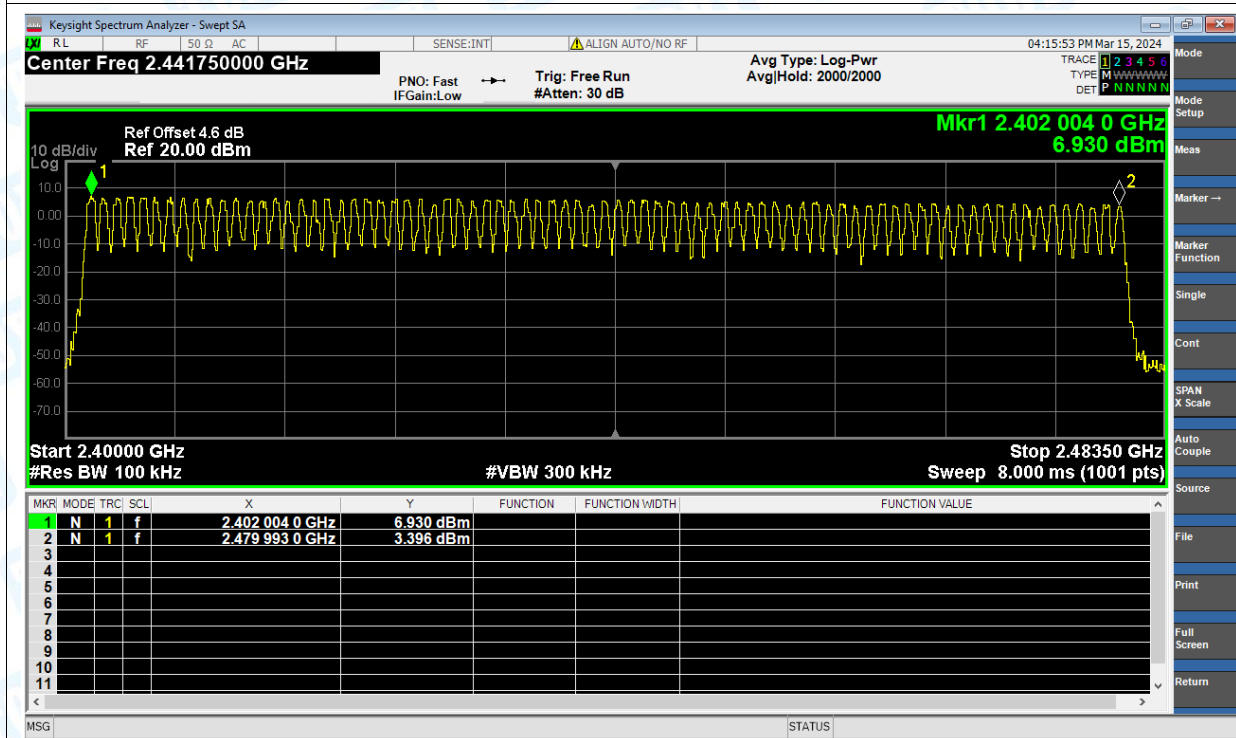


10. Number of Hopping Channel

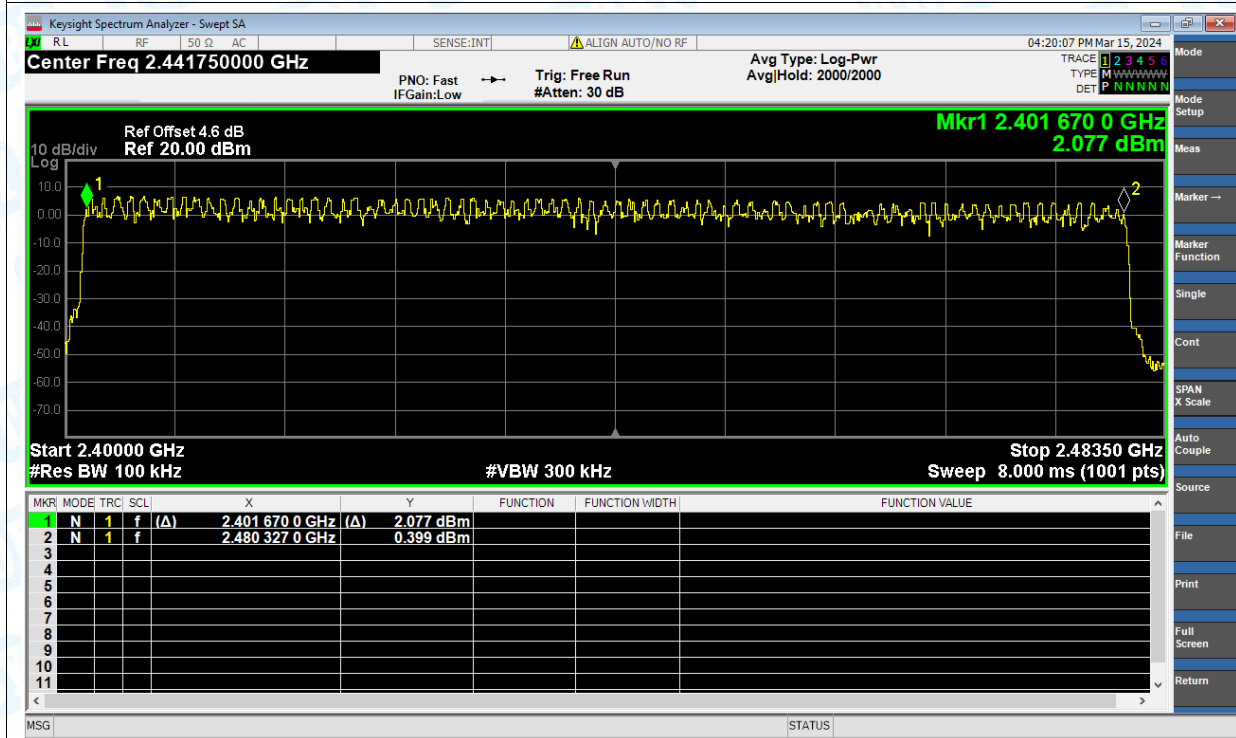
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

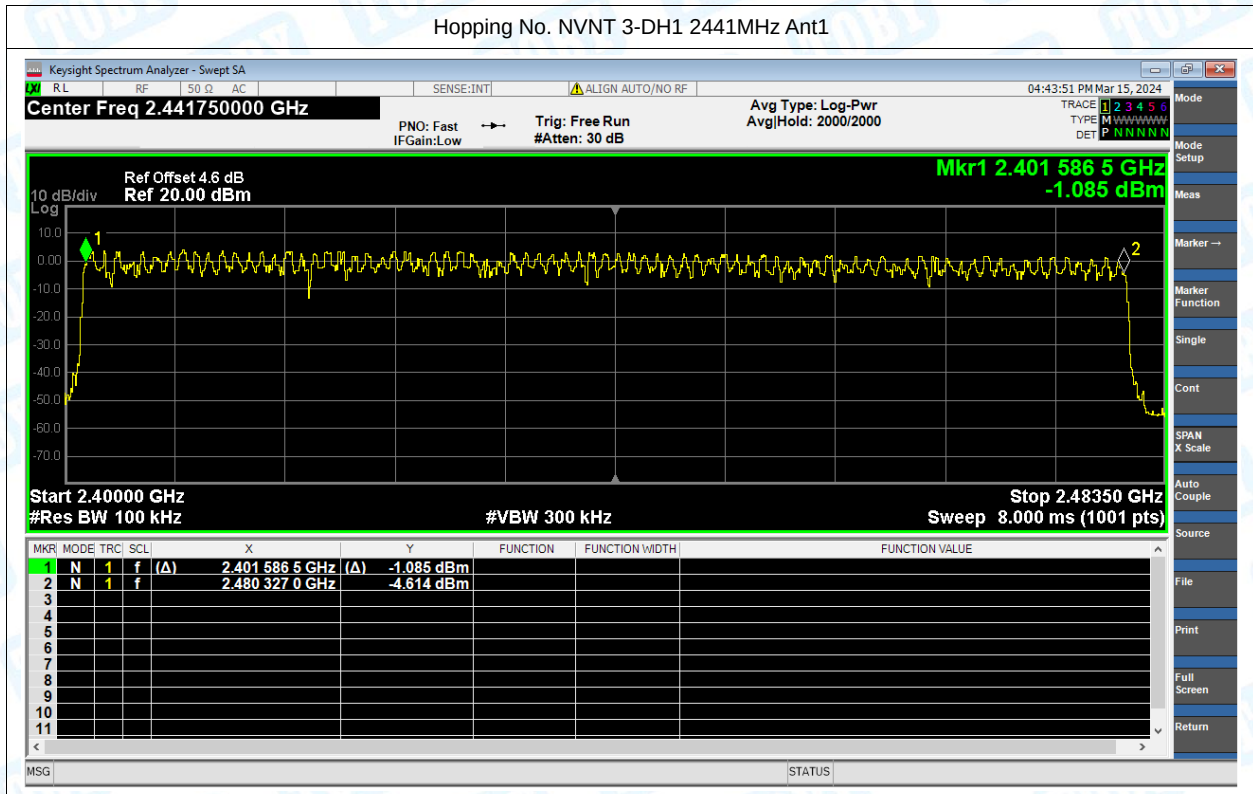
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



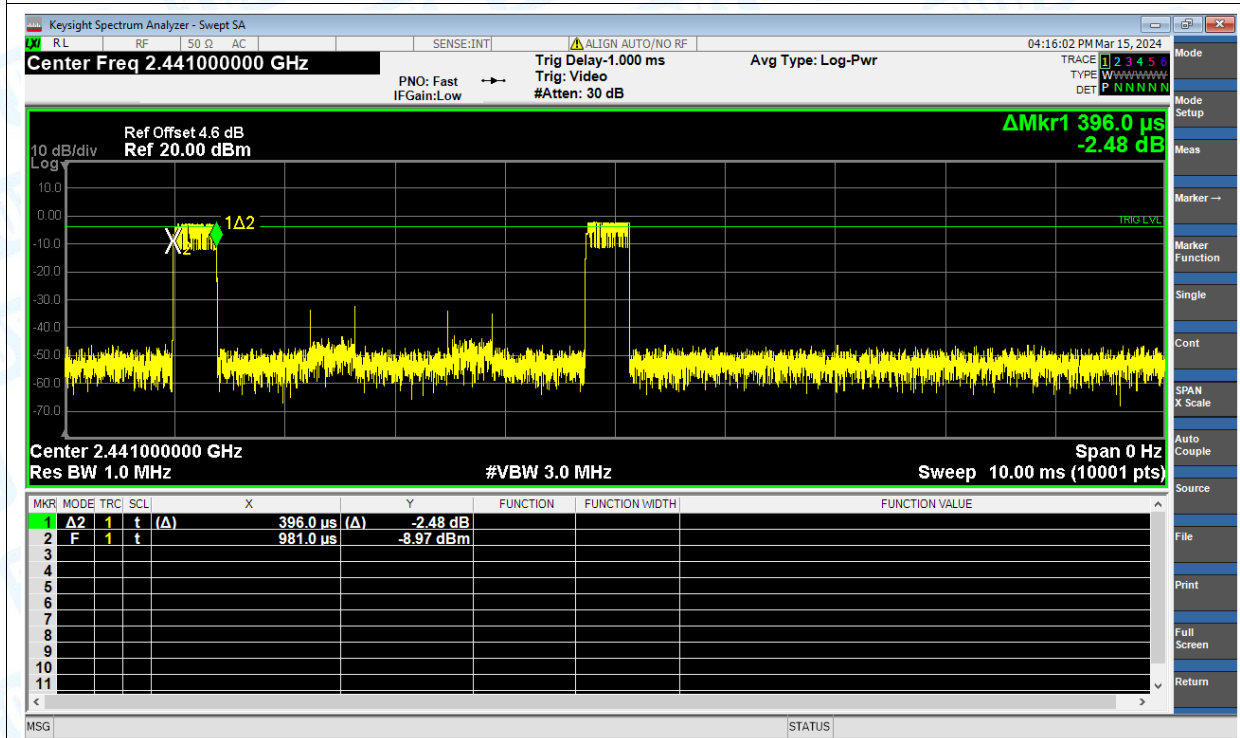


11. Dwell Time

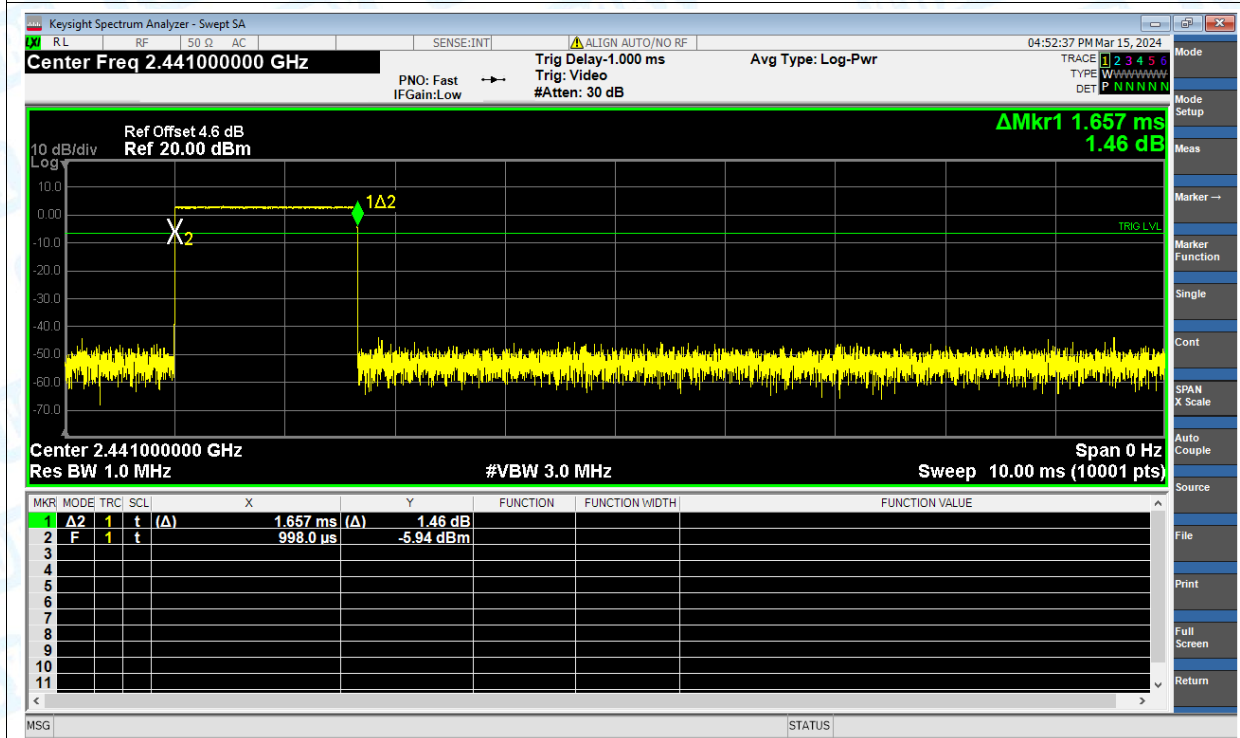
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.396	126.72	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.657	265.12	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.903	309.653	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.402	128.64	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.661	265.76	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.91	310.4	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.41	131.2	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.657	265.12	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.909	310.293	31600	400	Pass

Test Graphs

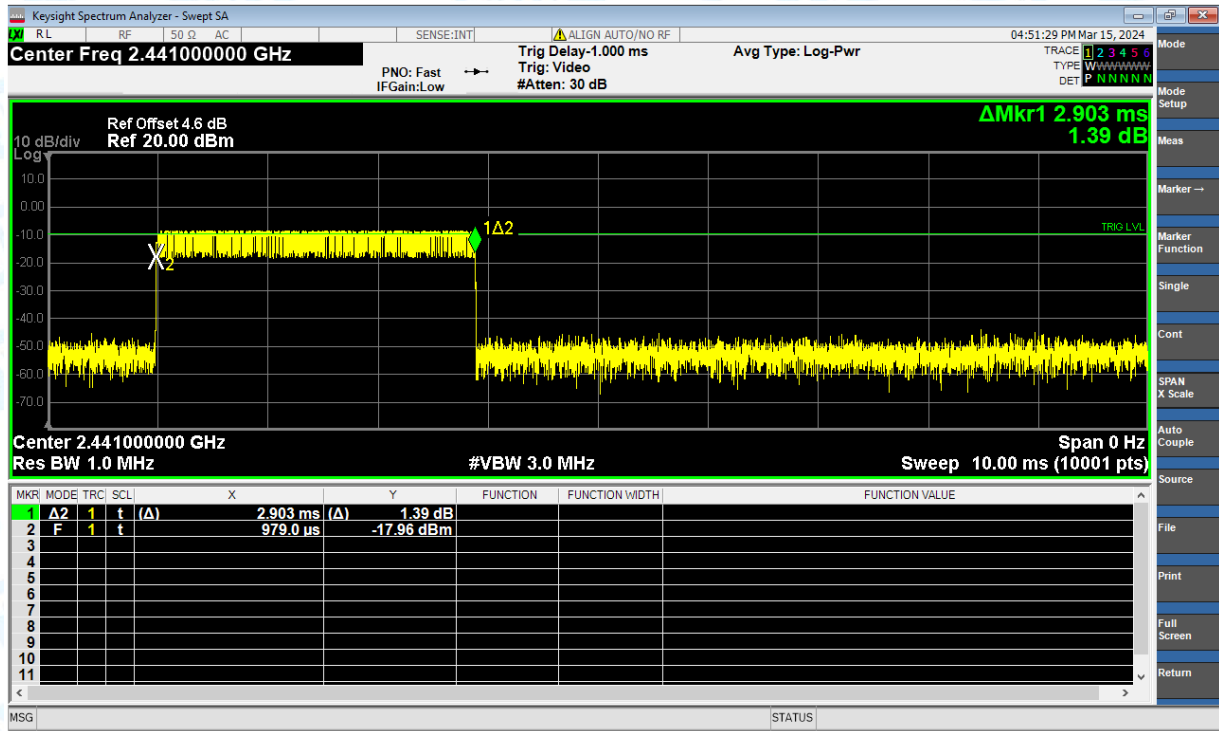
Dwell NVNT 1-DH1 2441MHz Ant1



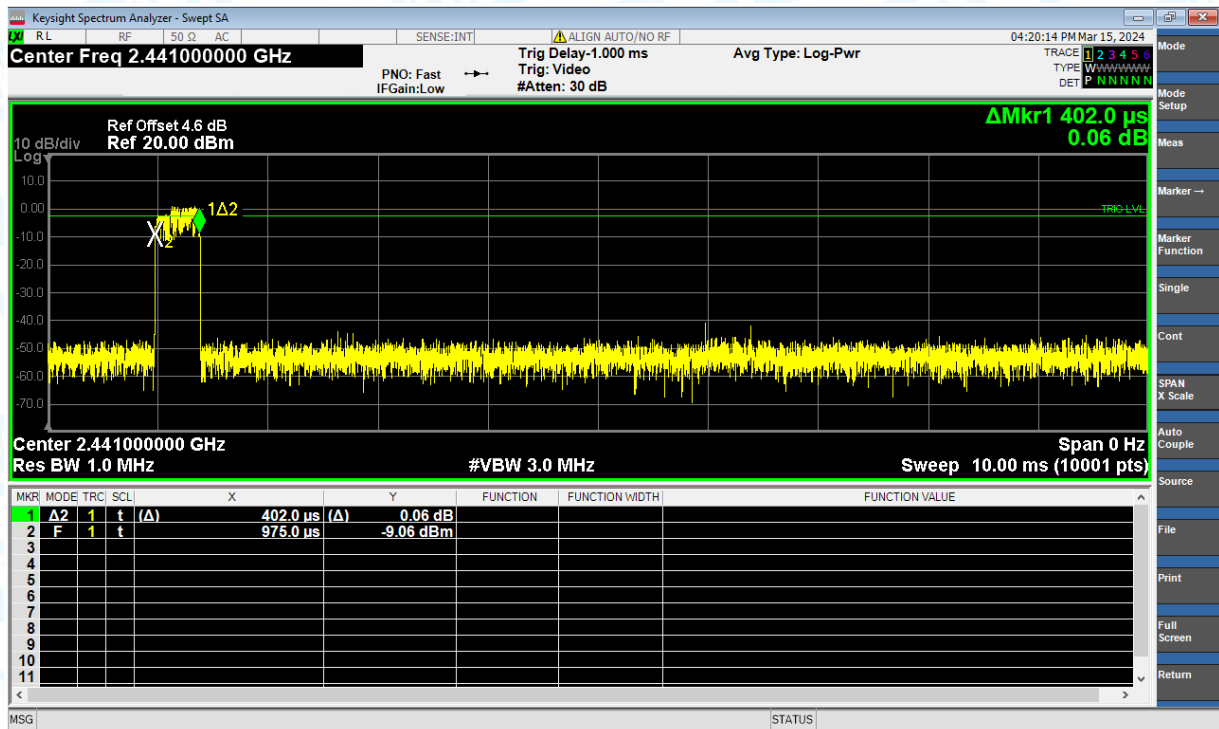
Dwell NVNT 1-DH3 2441MHz Ant1



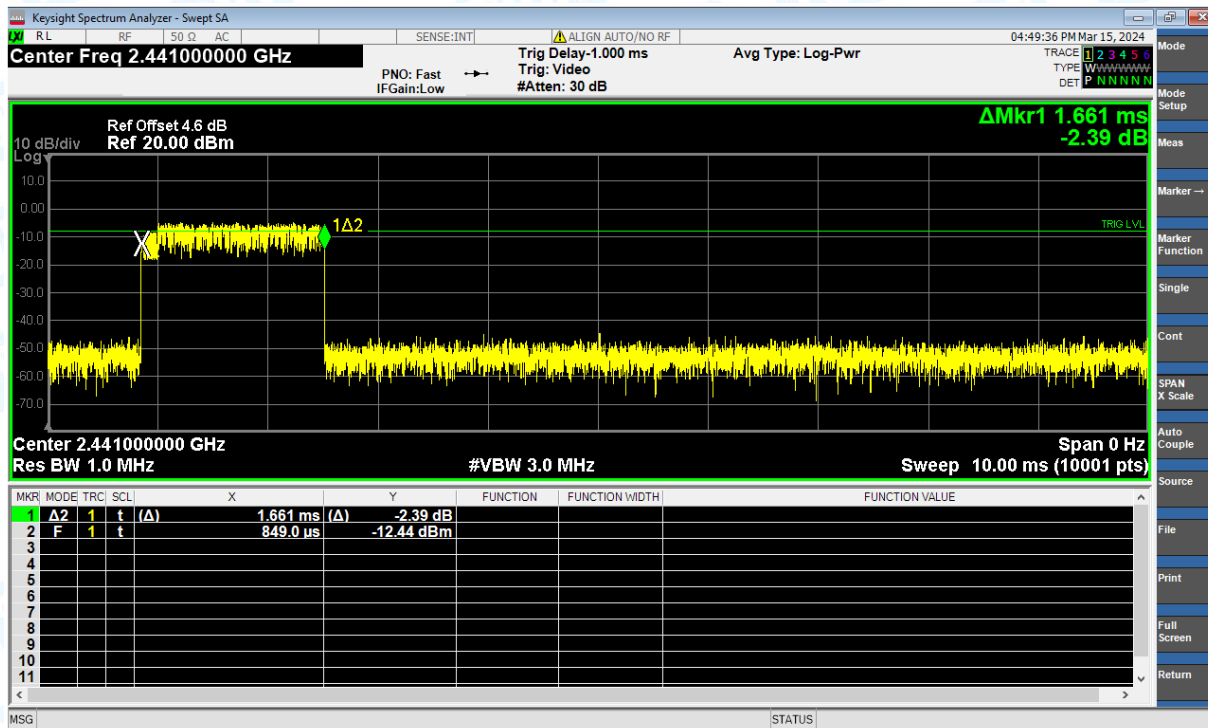
Dwell NVNT 1-DH5 2441MHz Ant1



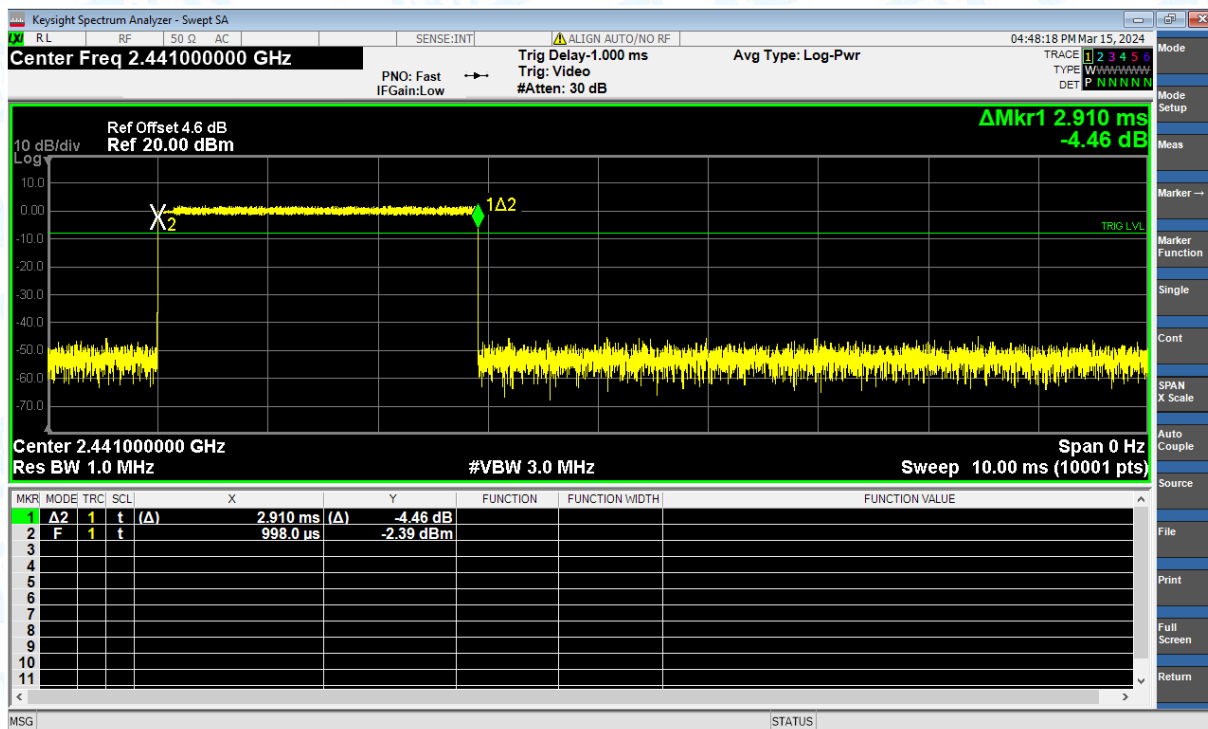
Dwell NVNT 2-DH1 2441MHz Ant1



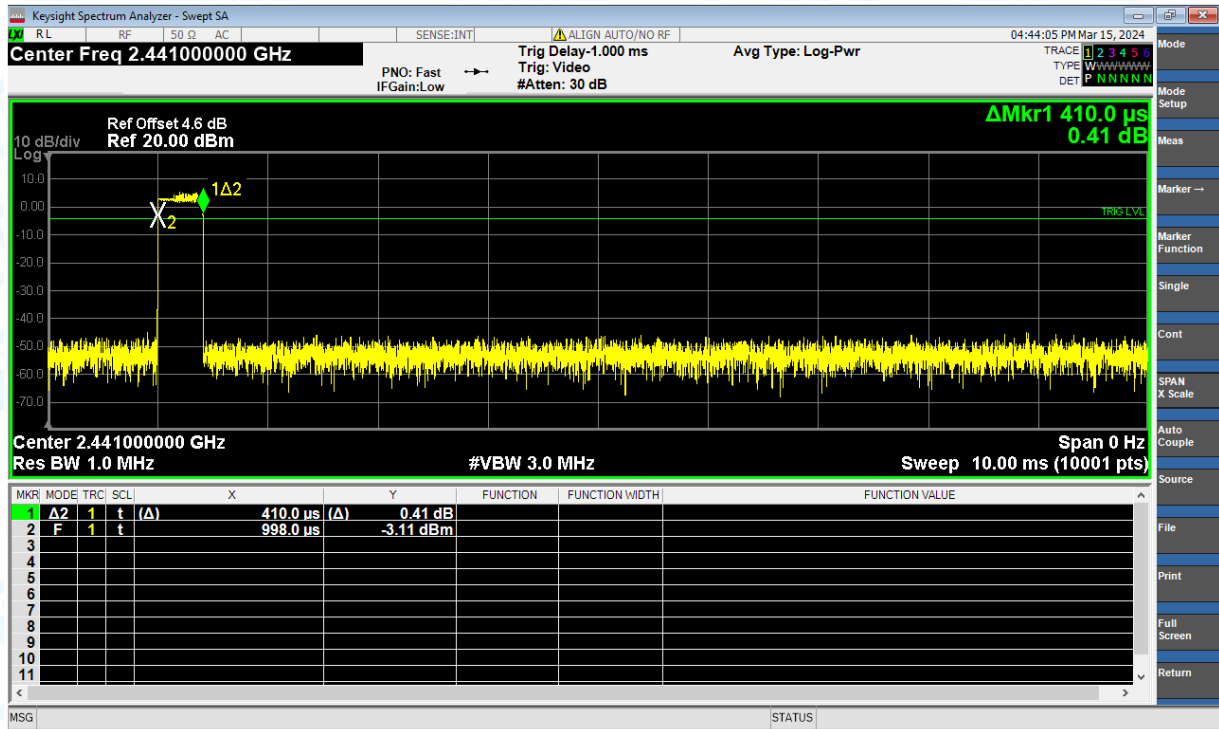
Dwell NVNT 2-DH3 2441MHz Ant1



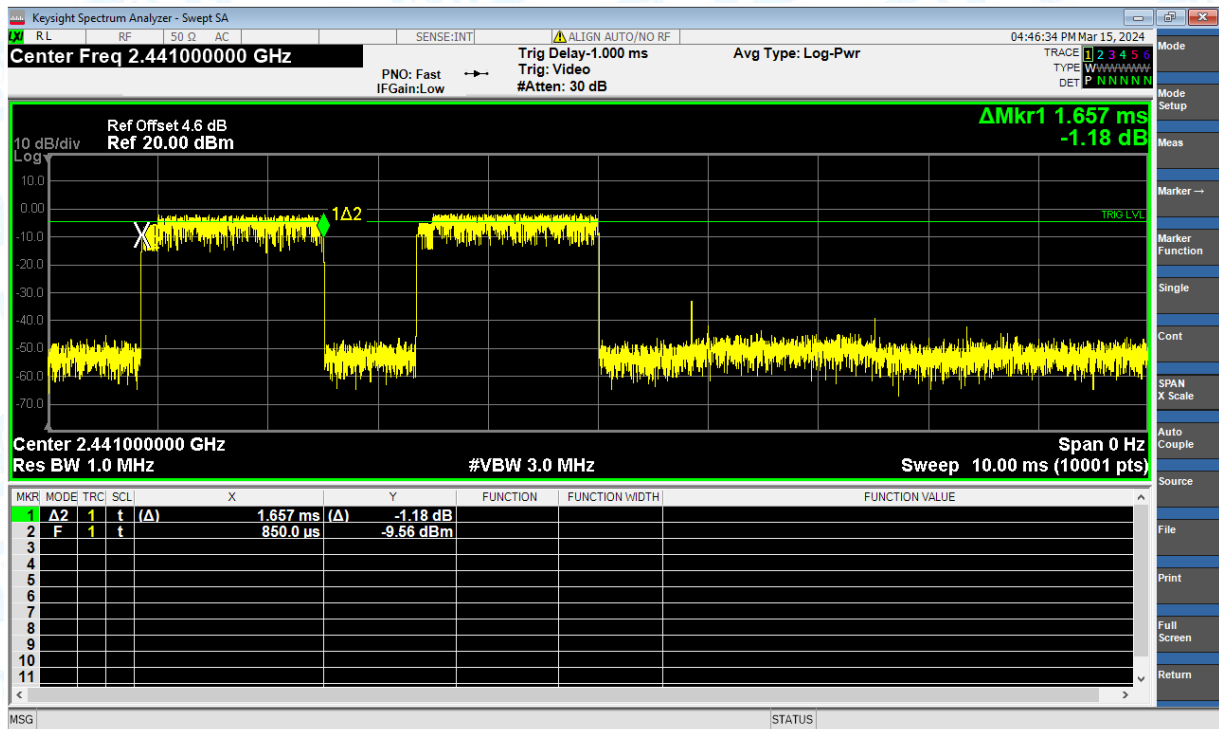
Dwell NVNT 2-DH5 2441MHz Ant1

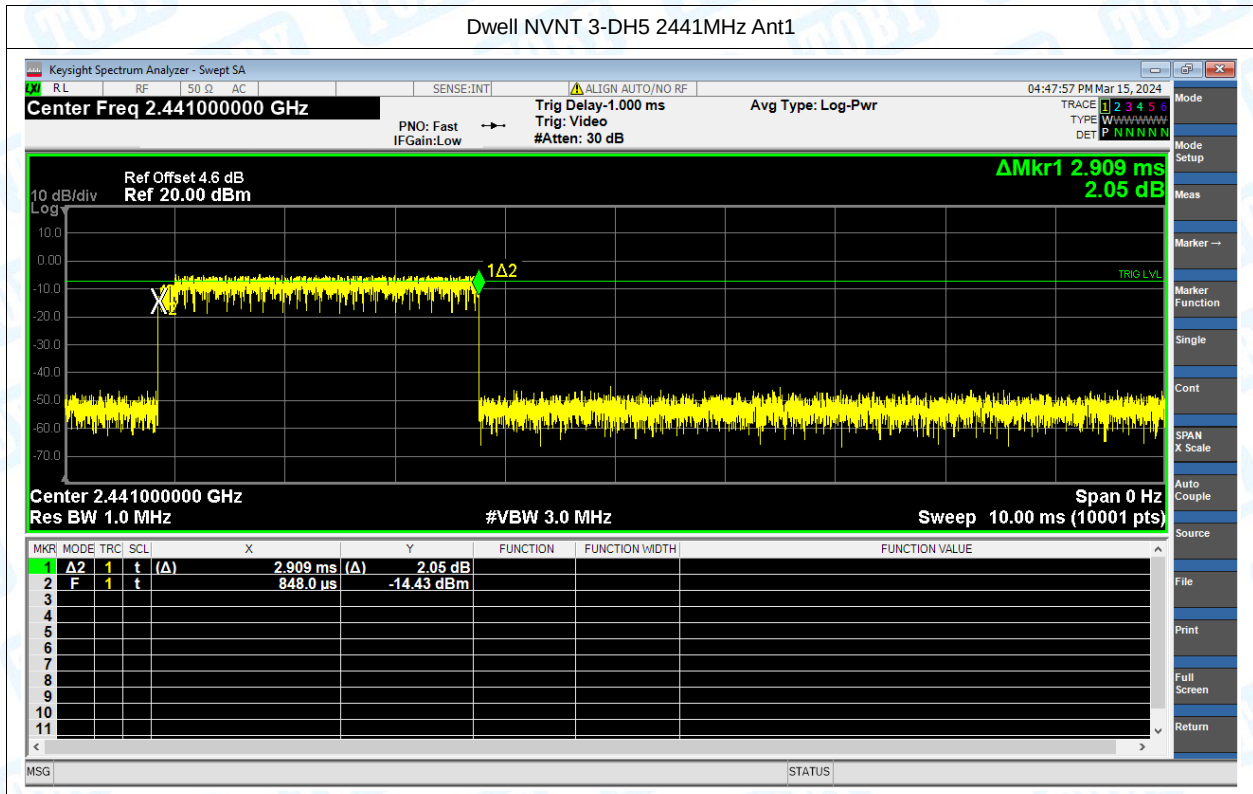


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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