

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	SMART WATCH
Test Model:	J16PRO
Sample ID:	HC-C-202405-0035-01-02
Environmental Conditions	
Temperature:	24.2°C
Relative Humidity:	48.6%
Test Voltage:	DC 3.8V
Test Engineer:	ZKN Zhou
Note: For a more detailed features description, please refer to the report TBR-C-202405-0035-61 The report only show the worst case data.	

Contents

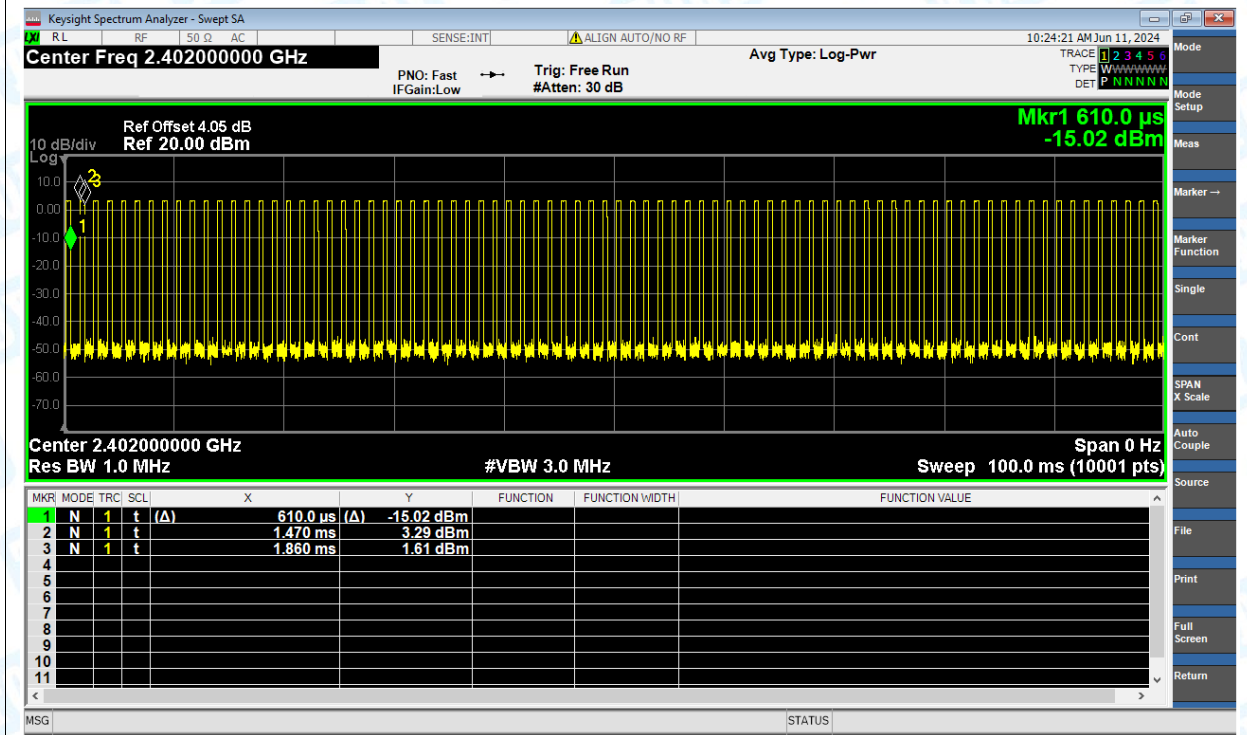
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1. Duty Cycle

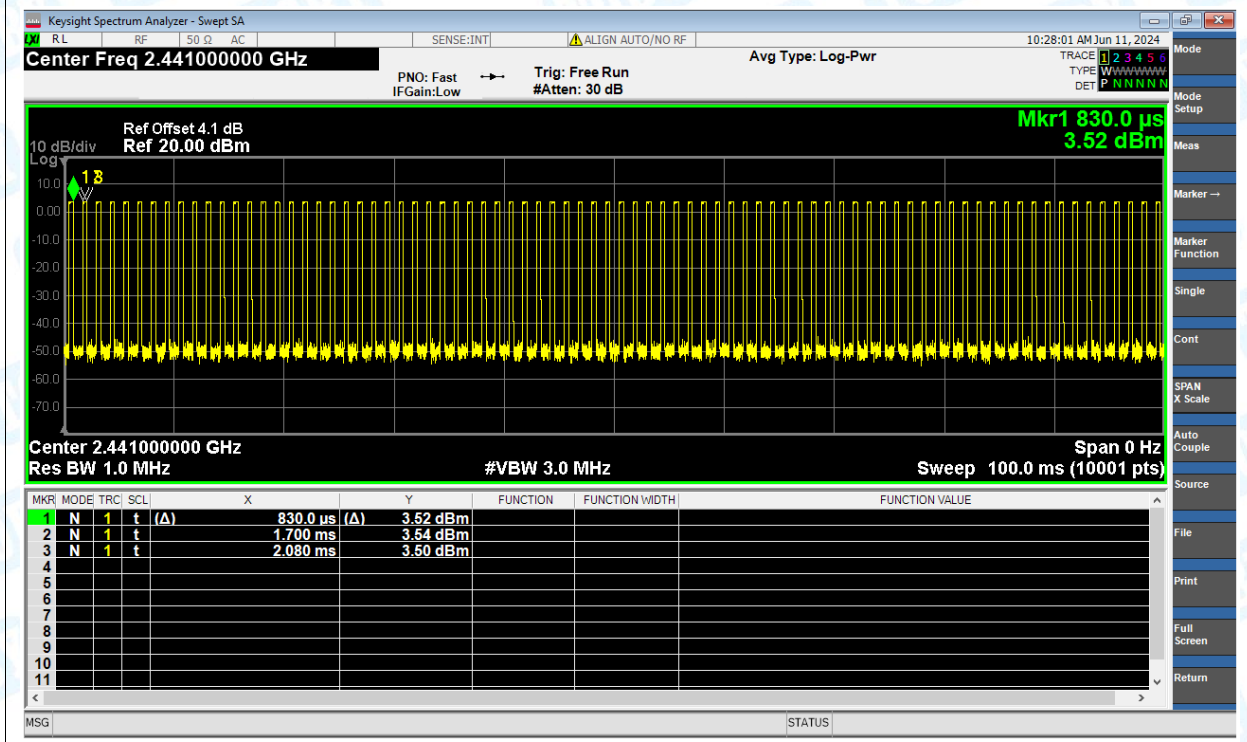
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	32	4.95	2.5
NVNT	2-DH1	2441	Ant1	32	4.95	2.5
NVNT	2-DH1	2480	Ant1	32	4.95	2.5
NVNT	3-DH1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

Test Graphs

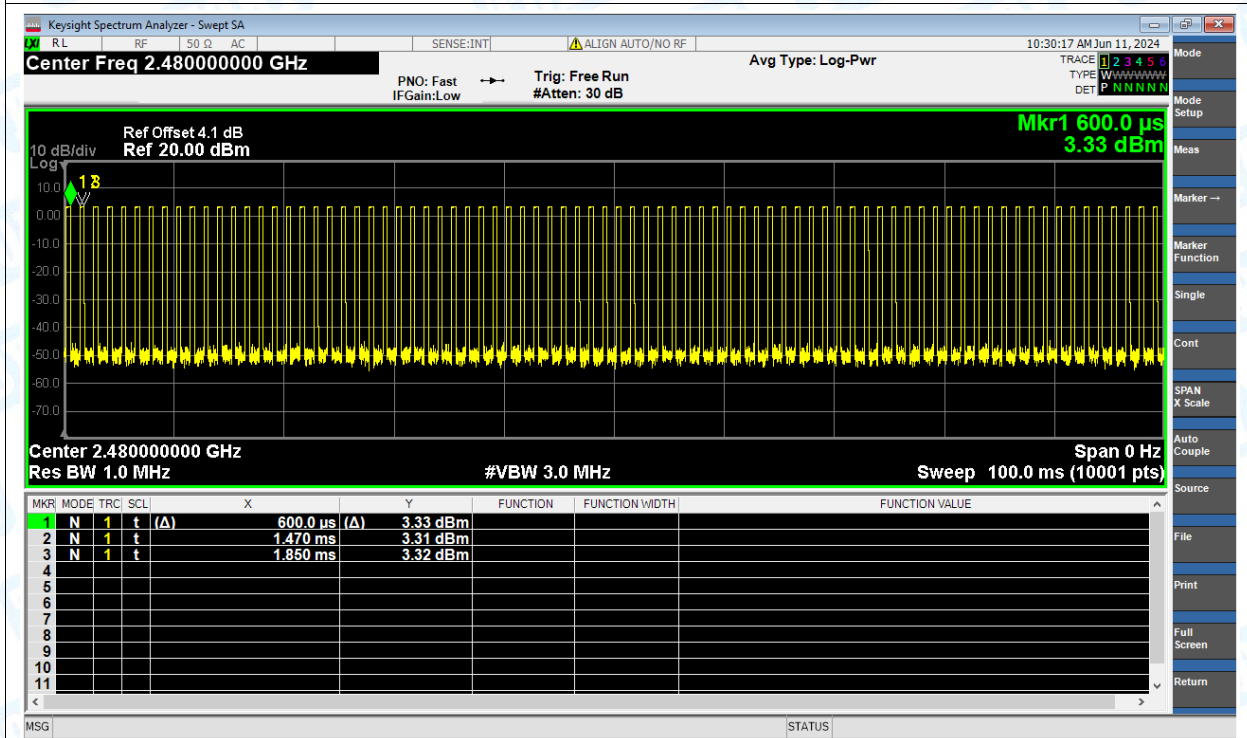
Duty Cycle NVNT 1-DH1 2402MHz Ant1



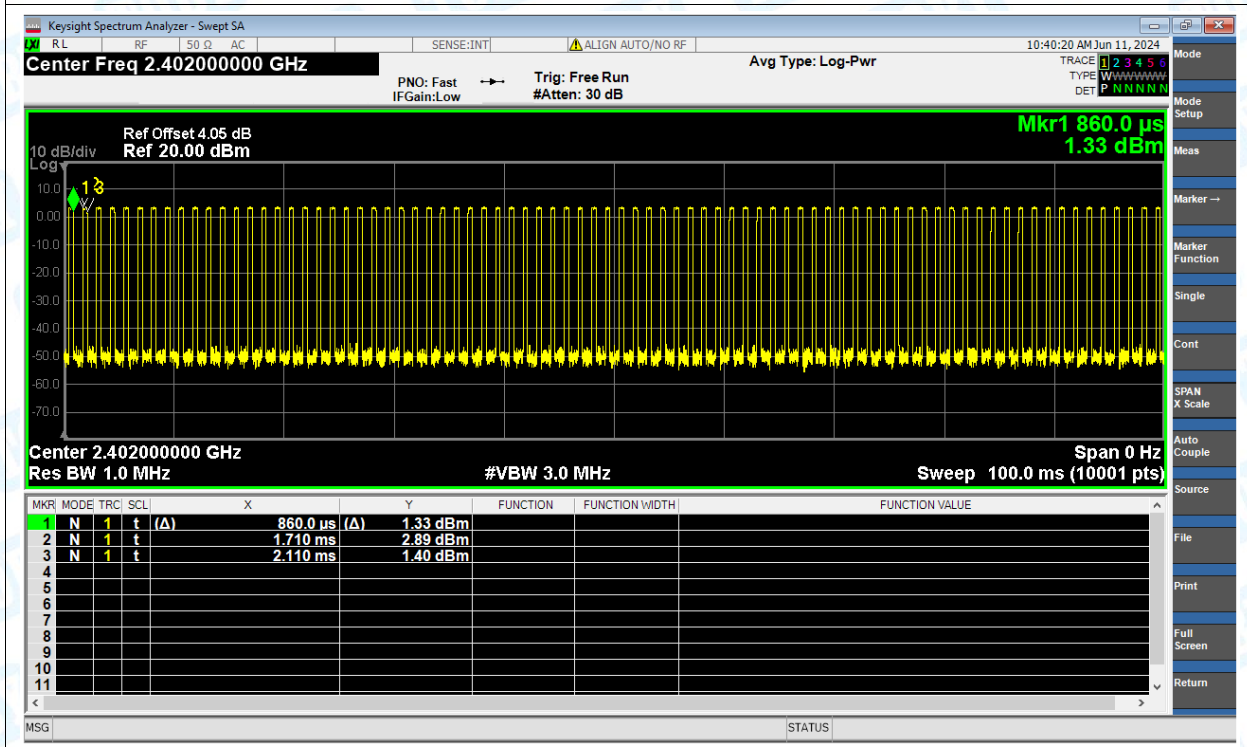
Duty Cycle NVNT 1-DH1 2441MHz Ant1



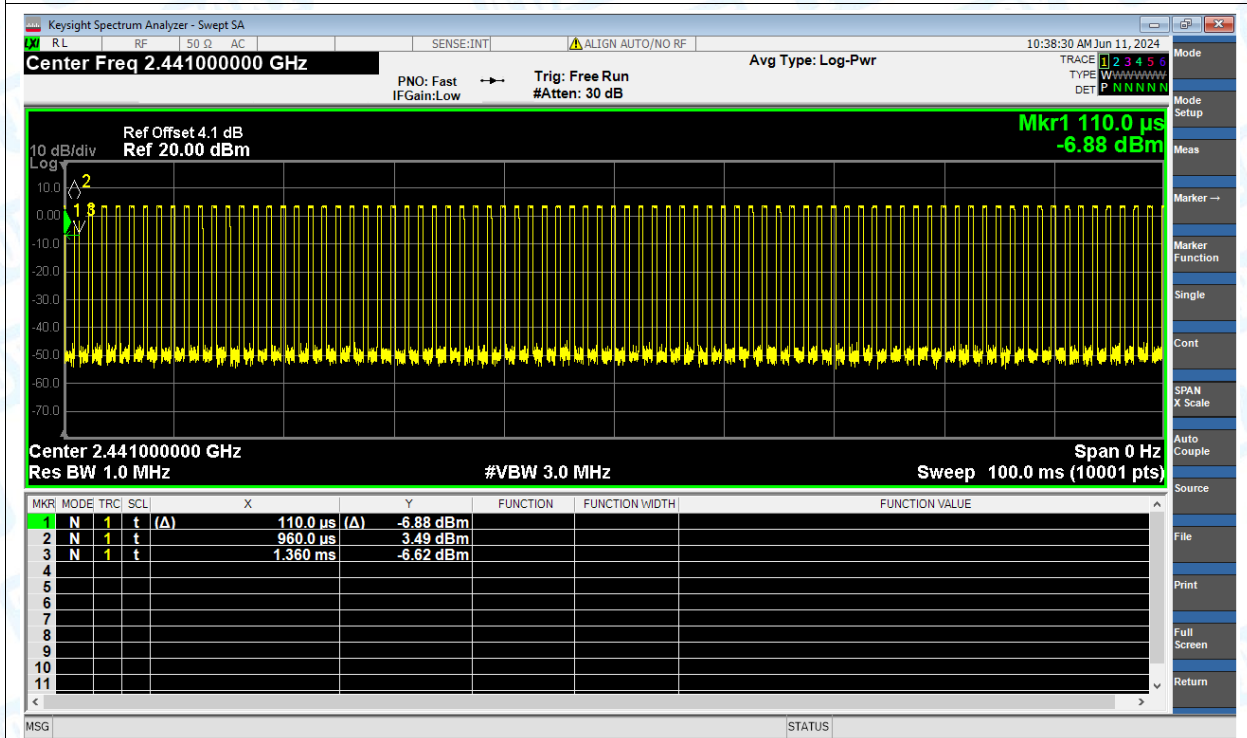
Duty Cycle NVNT 1-DH1 2480MHz Ant1



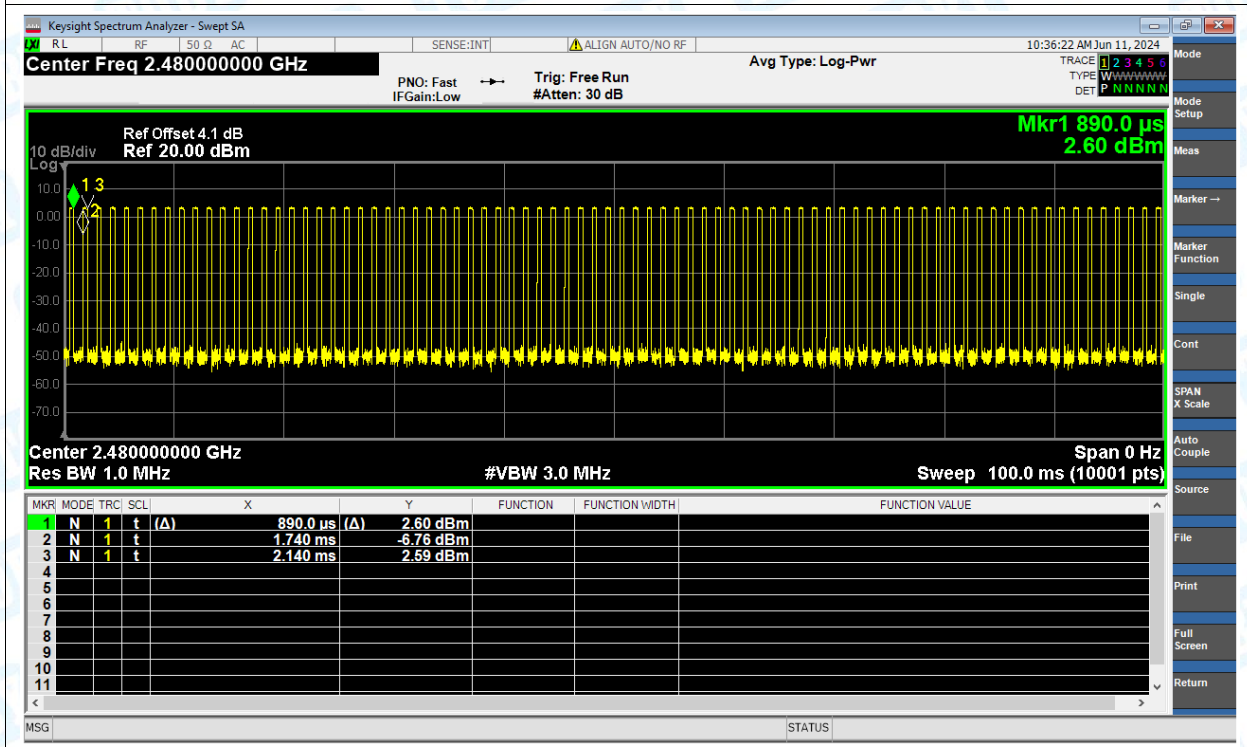
Duty Cycle NVNT 2-DH1 2402MHz Ant1



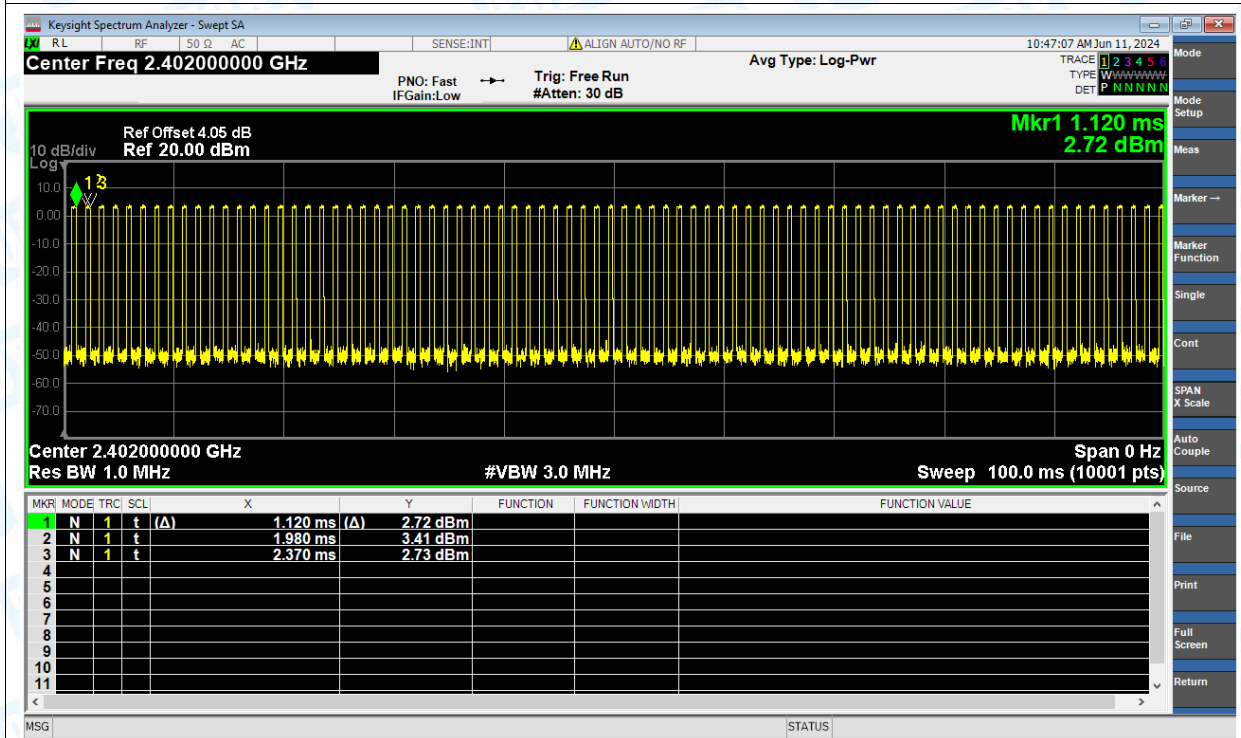
Duty Cycle NVNT 2-DH1 2441MHz Ant1



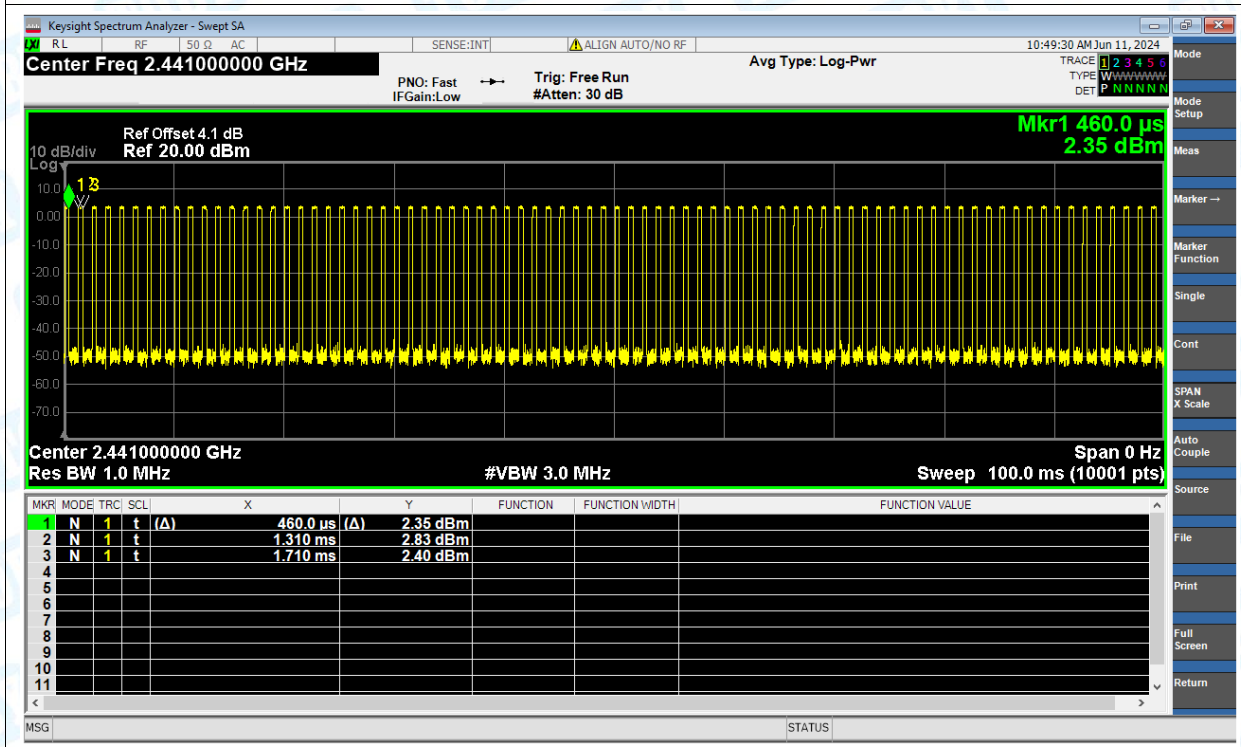
Duty Cycle NVNT 2-DH1 2480MHz Ant1

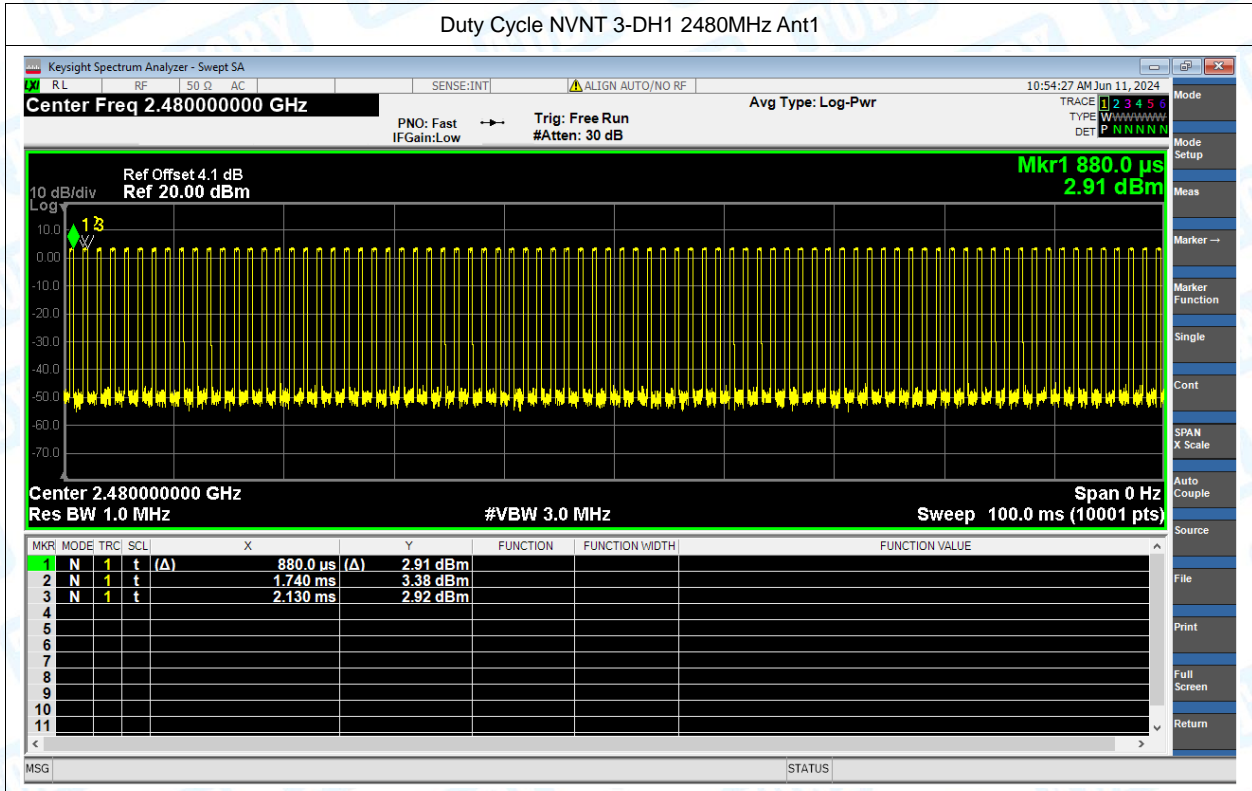


Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



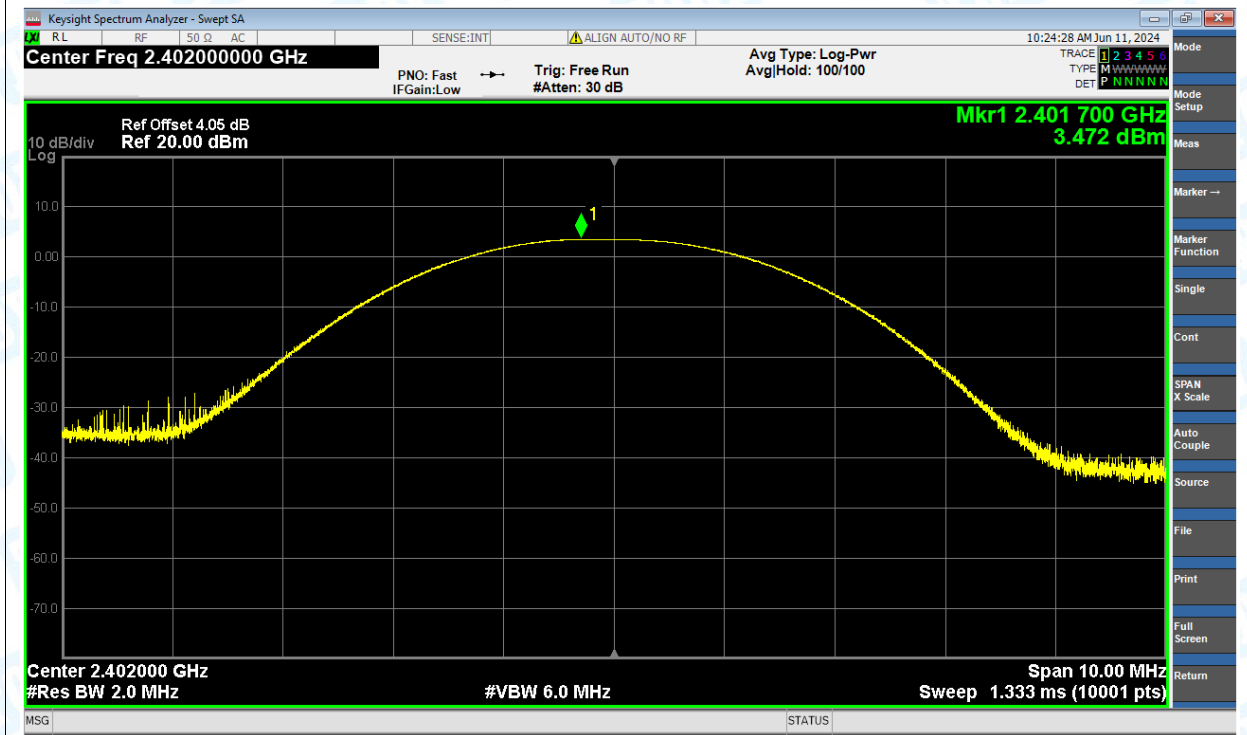


2. Maximum Conducted Output Power

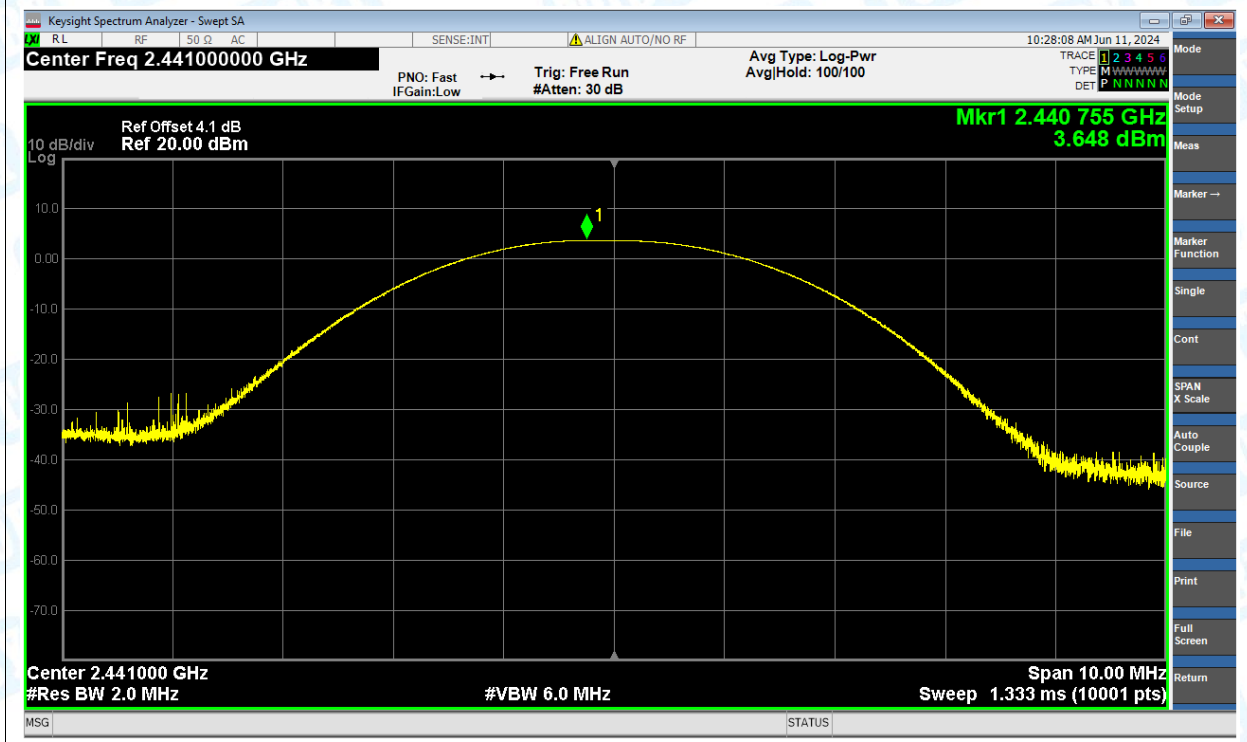
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	3.472	21	Pass
NVNT	1-DH1	2441	Ant1	3.648	21	Pass
NVNT	1-DH1	2480	Ant1	3.466	21	Pass
NVNT	1-DH3	2441	Ant1	3.583	21	Pass
NVNT	1-DH5	2441	Ant1	3.571	21	Pass
NVNT	2-DH1	2402	Ant1	3.908	21	Pass
NVNT	2-DH1	2441	Ant1	3.968	21	Pass
NVNT	2-DH1	2480	Ant1	3.775	21	Pass
NVNT	2-DH3	2441	Ant1	3.938	21	Pass
NVNT	2-DH5	2441	Ant1	3.915	21	Pass
NVNT	3-DH1	2402	Ant1	4.159	21	Pass
NVNT	3-DH1	2441	Ant1	4.198	21	Pass
NVNT	3-DH1	2480	Ant1	4.005	21	Pass
NVNT	3-DH3	2441	Ant1	4.1	21	Pass
NVNT	3-DH5	2441	Ant1	4.071	21	Pass

Test Graphs

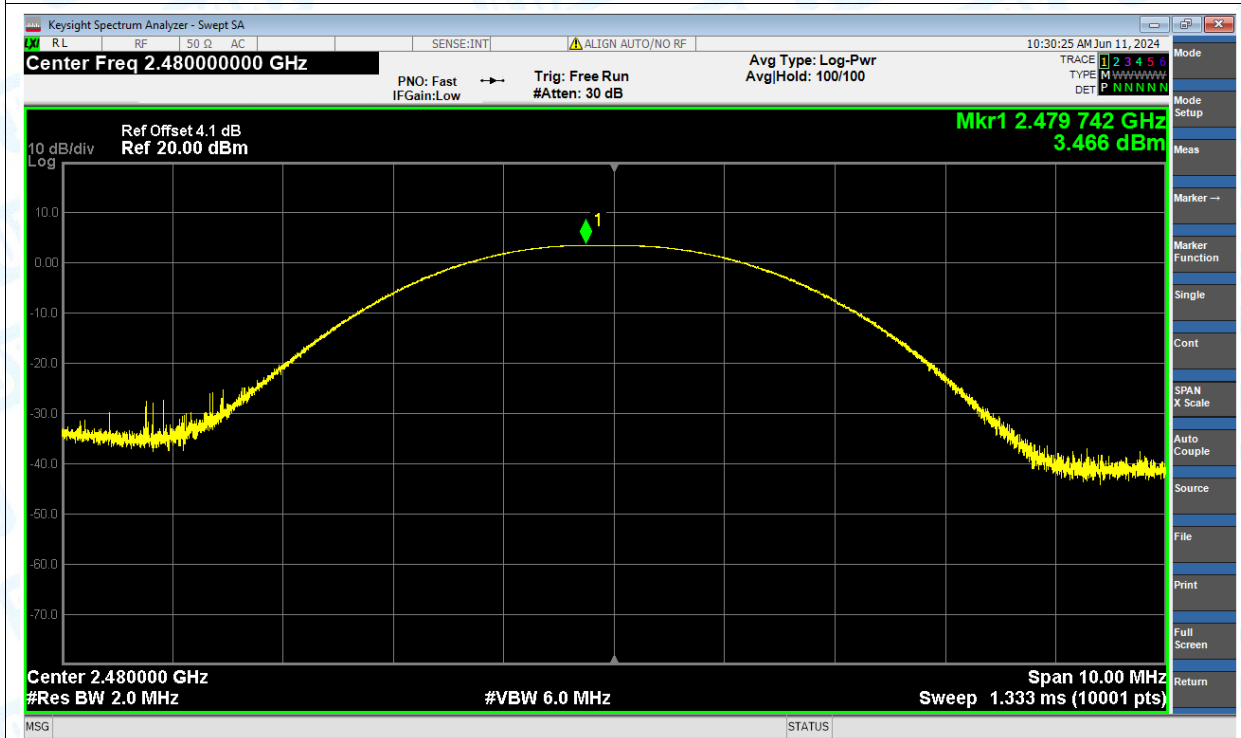
Power NVNT 1-DH1 2402MHz Ant1



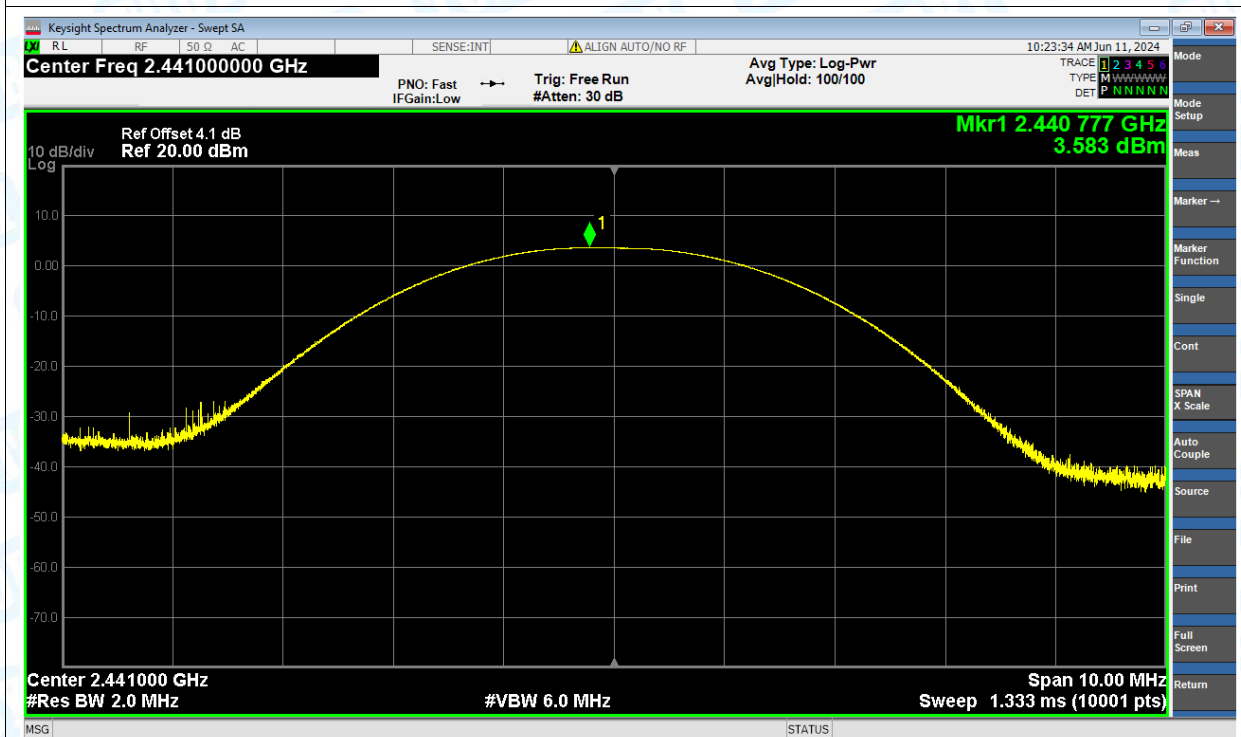
Power NVNT 1-DH1 2441MHz Ant1



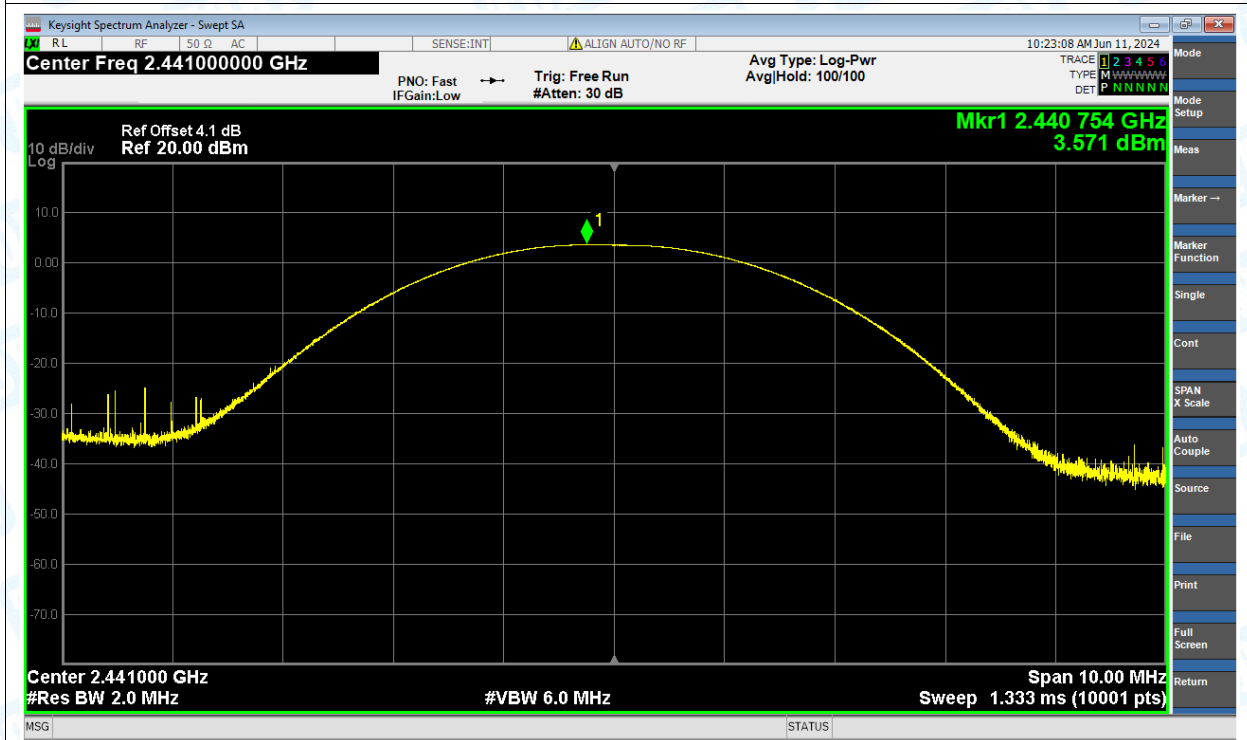
Power NVNT 1-DH1 2480MHz Ant1



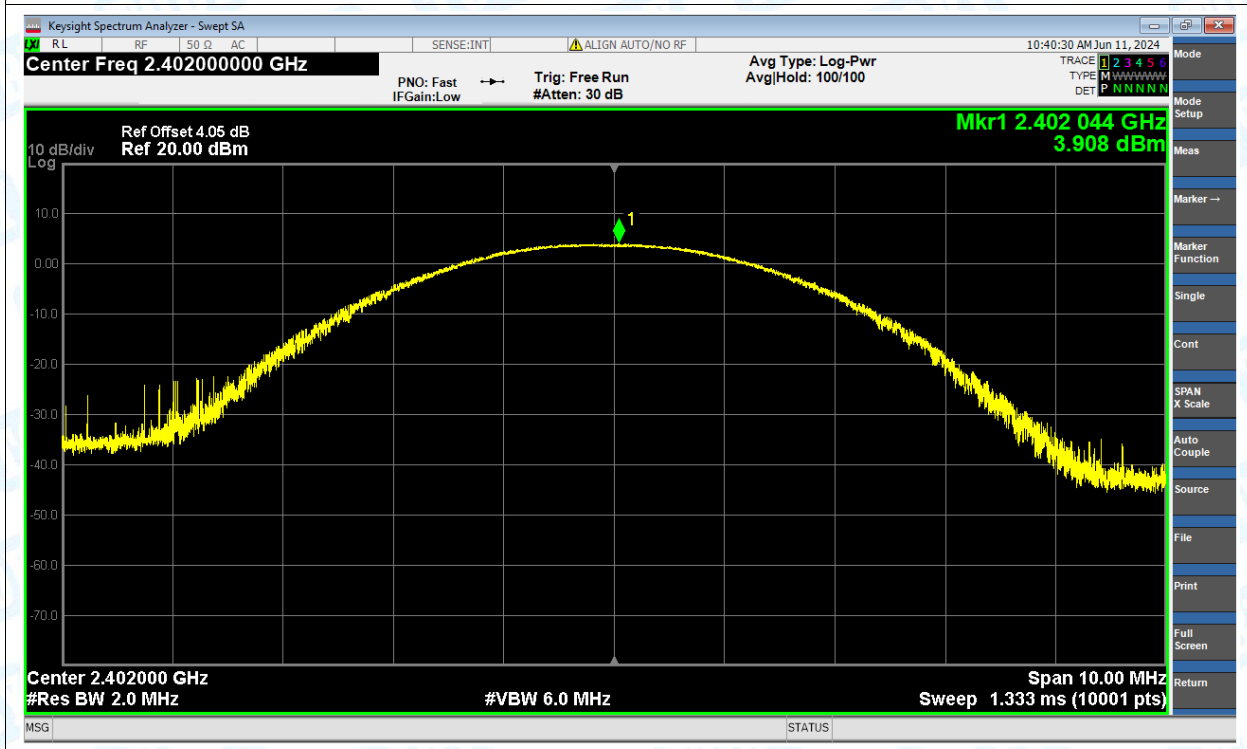
Power NVNT 1-DH3 2441MHz Ant1



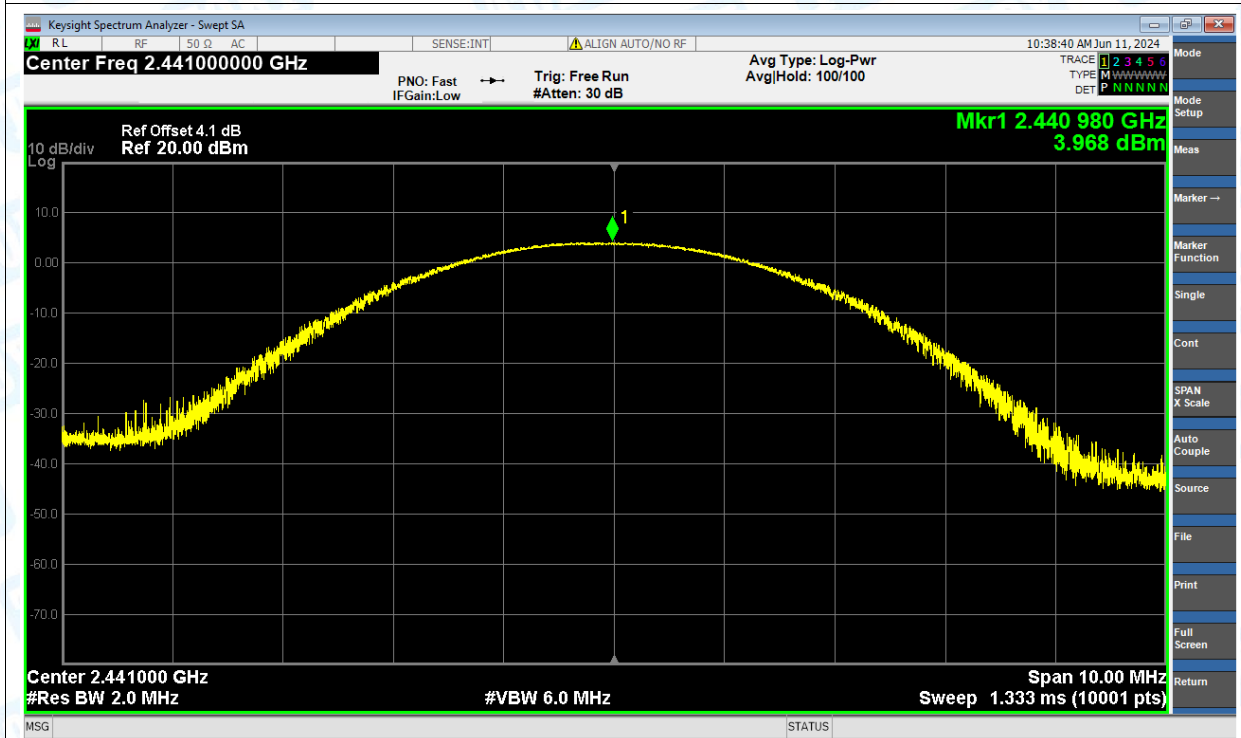
Power NVNT 1-DH5 2441MHz Ant1



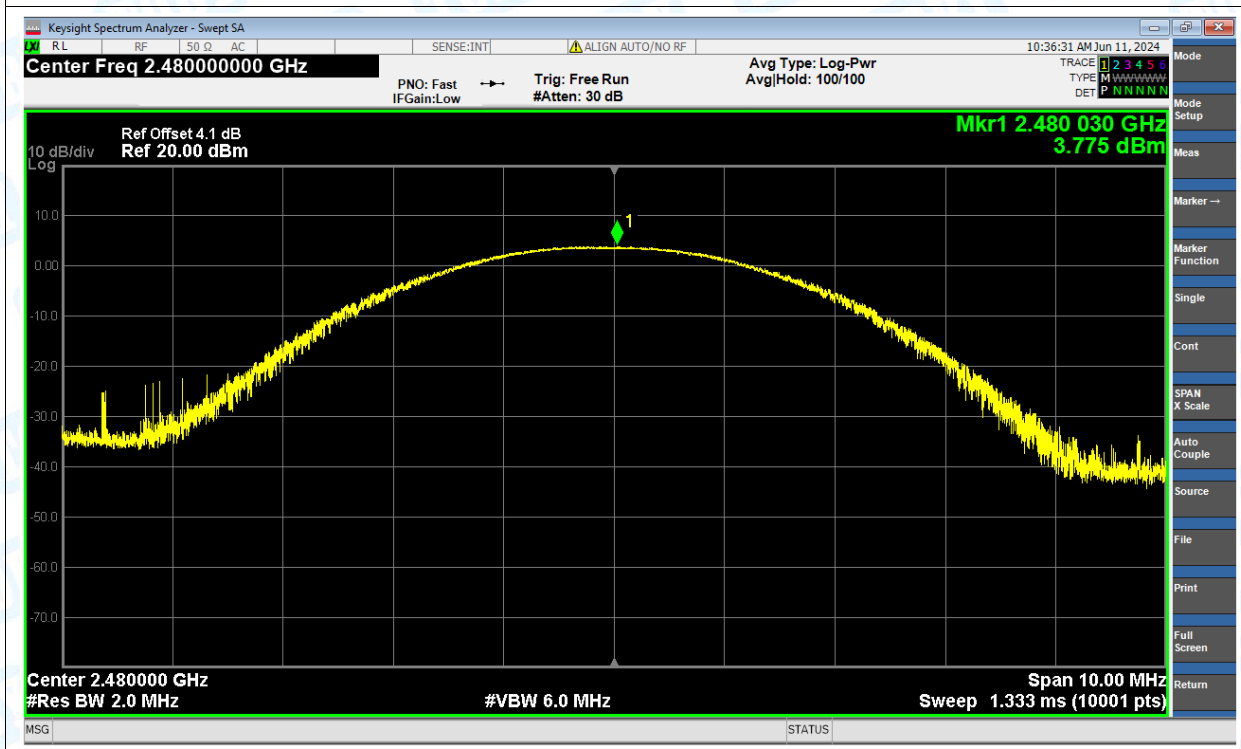
Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



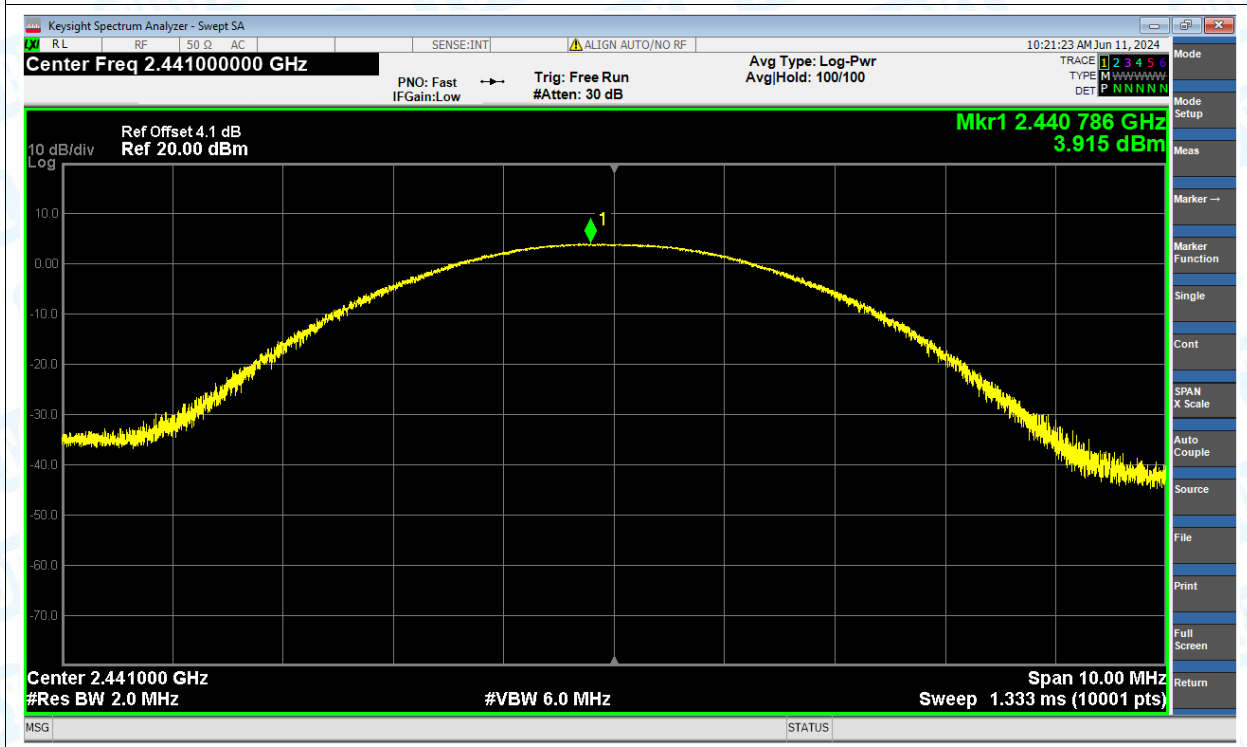
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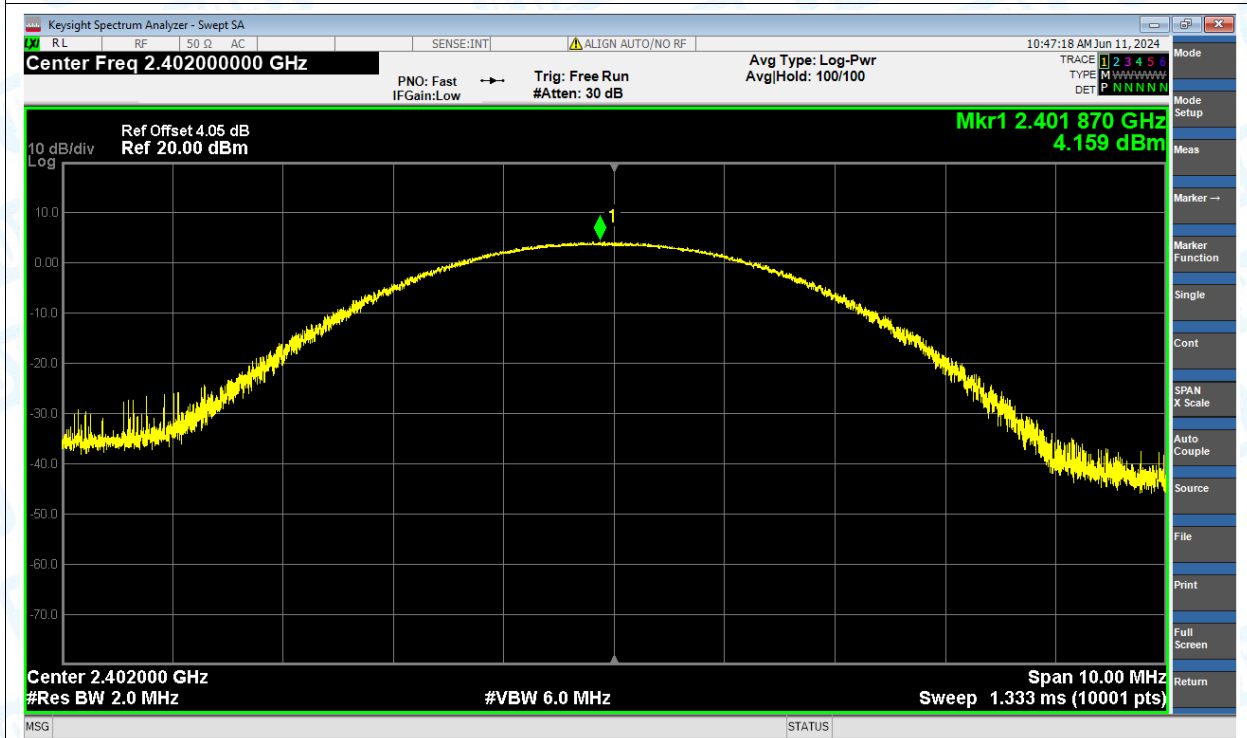
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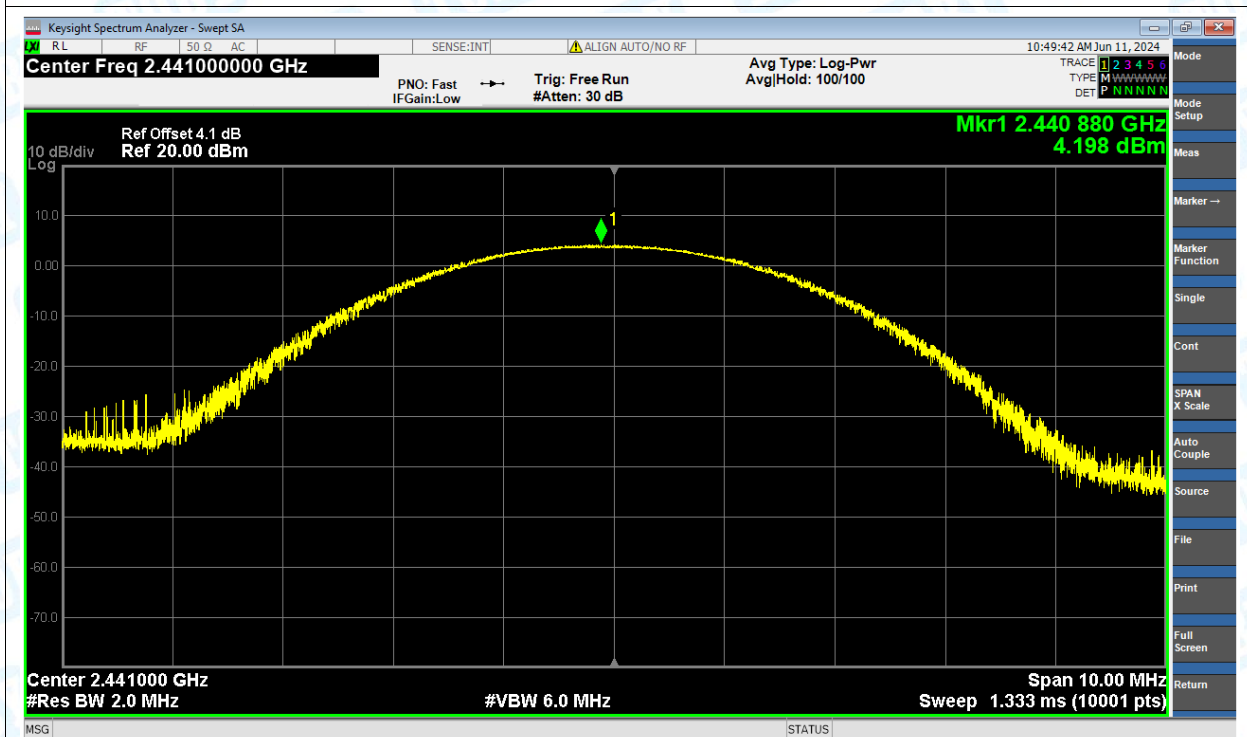
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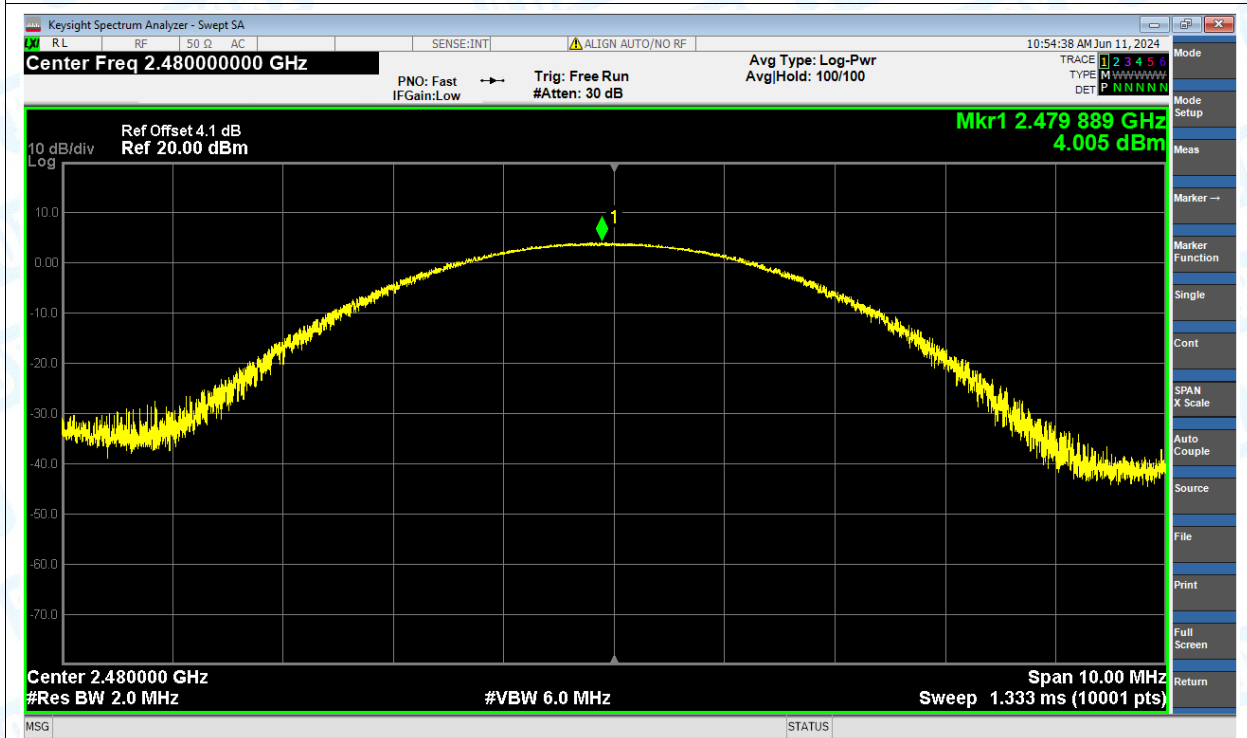
Power NVNT 3-DH1 2402MHz Ant1



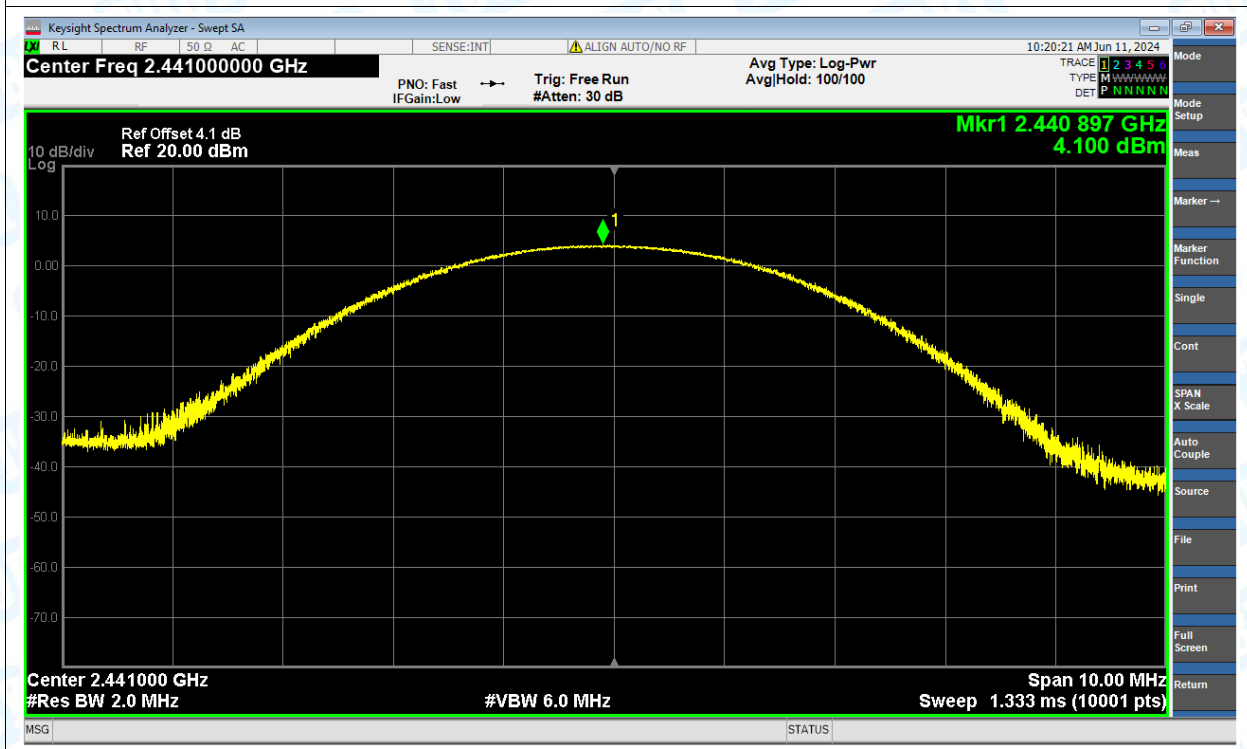
Power NVNT 3-DH1 2441MHz Ant1



Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



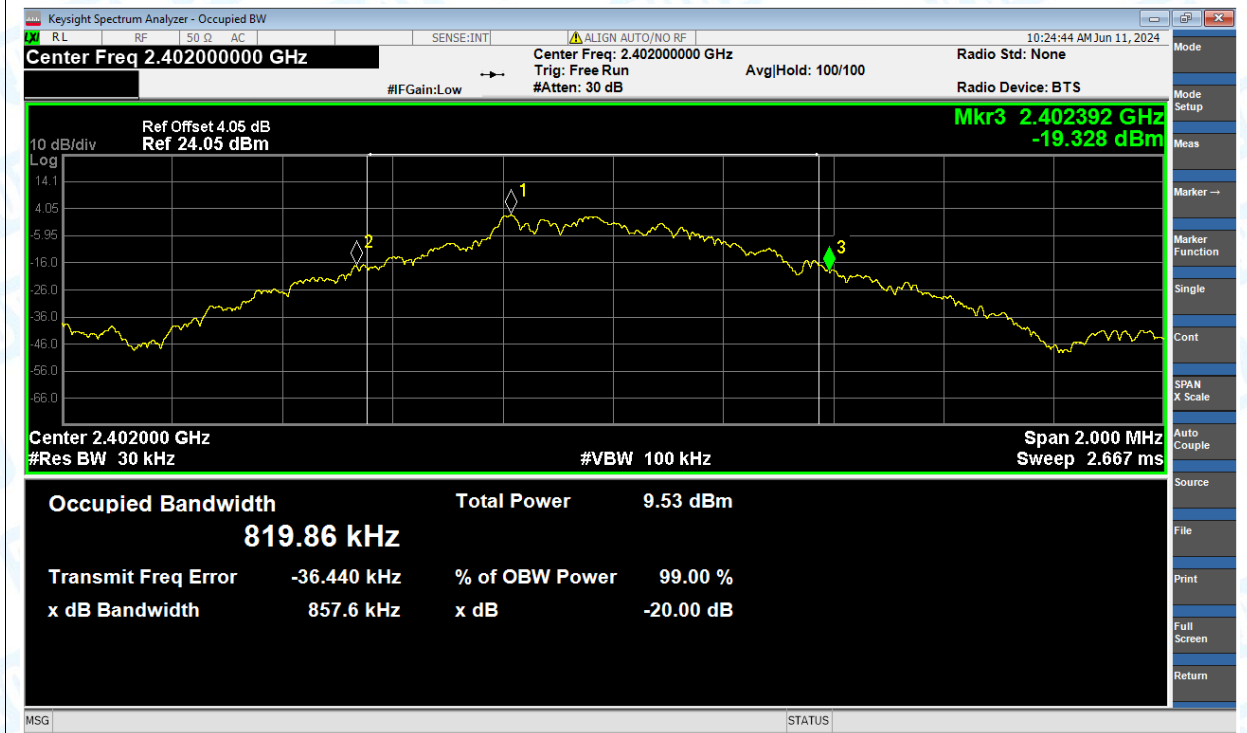


3. -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.86	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	1.28	0	Pass
NVNT	2-DH1	2441	Ant1	1.25	0	Pass
NVNT	2-DH1	2480	Ant1	1.25	0	Pass
NVNT	3-DH1	2402	Ant1	1.21	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.25	0	Pass

Test Graphs

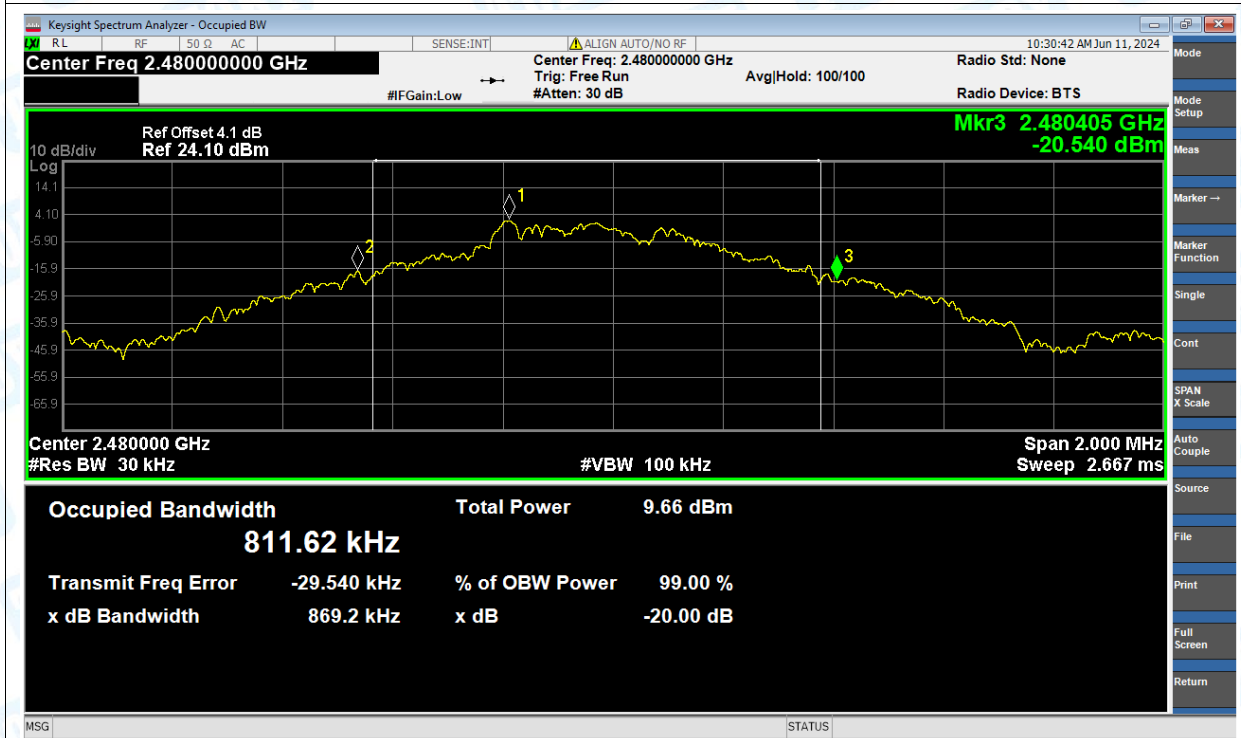
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



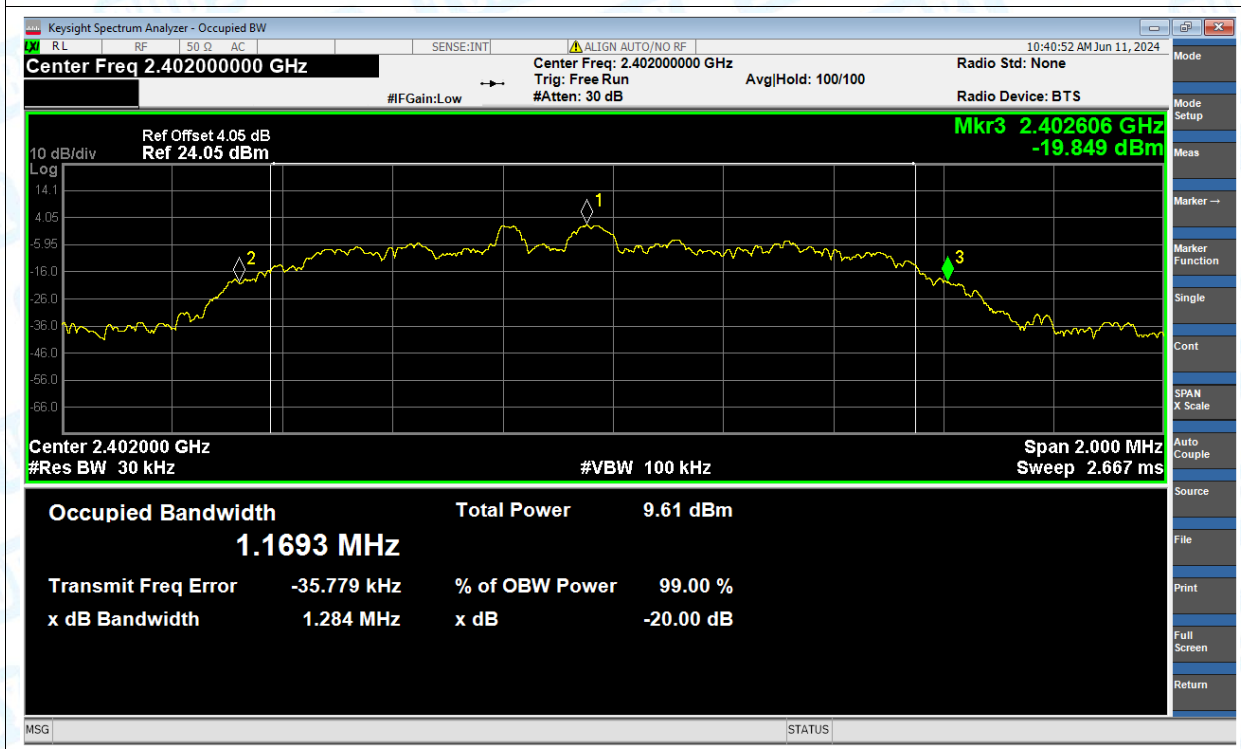
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



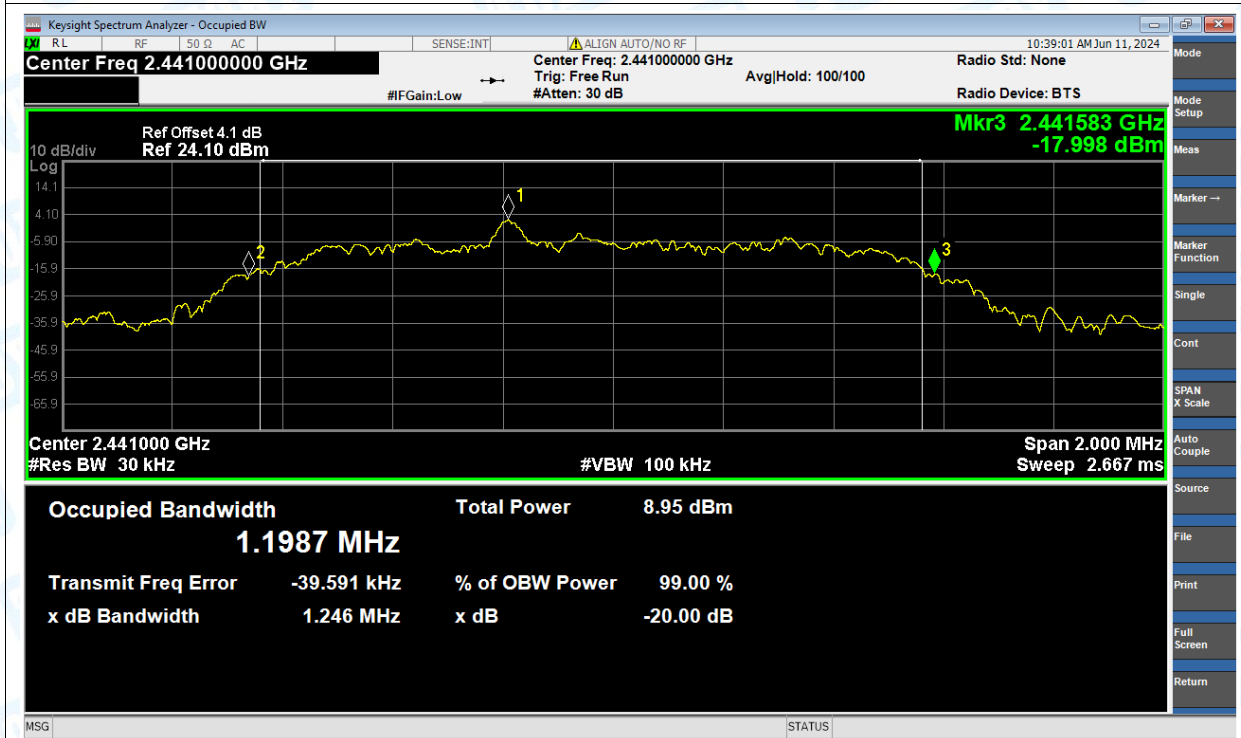
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



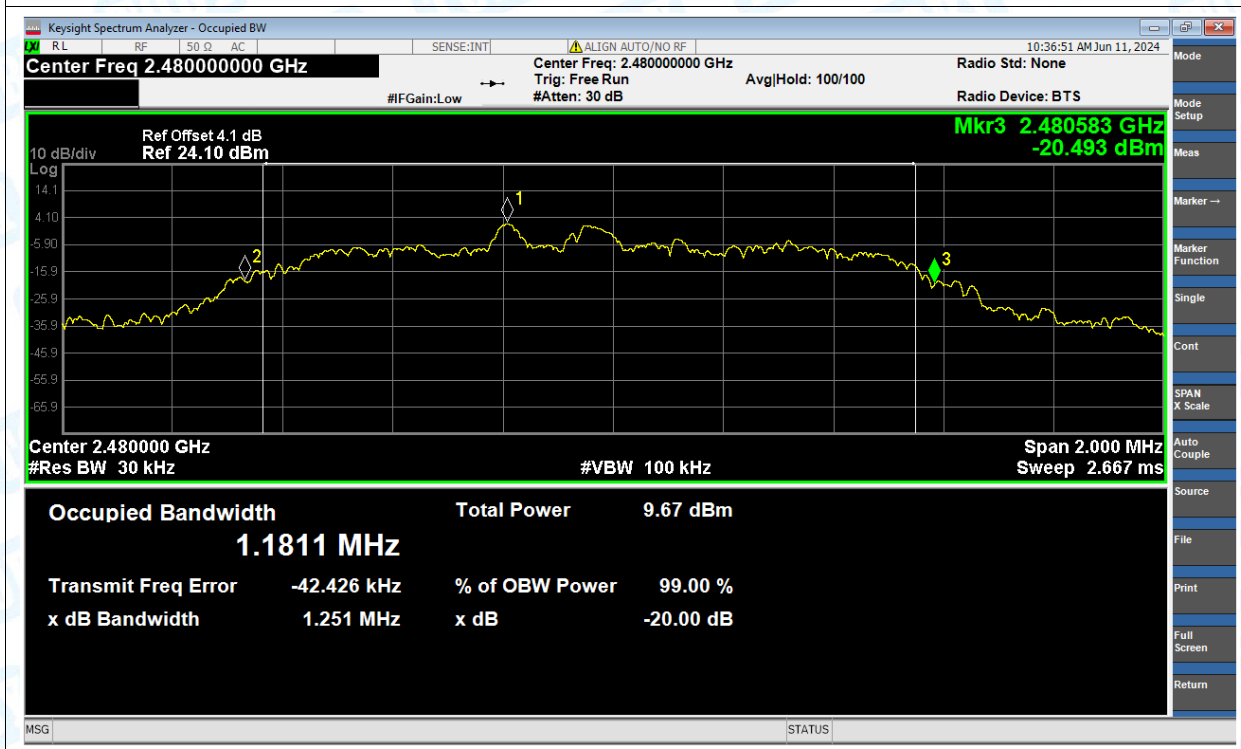
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



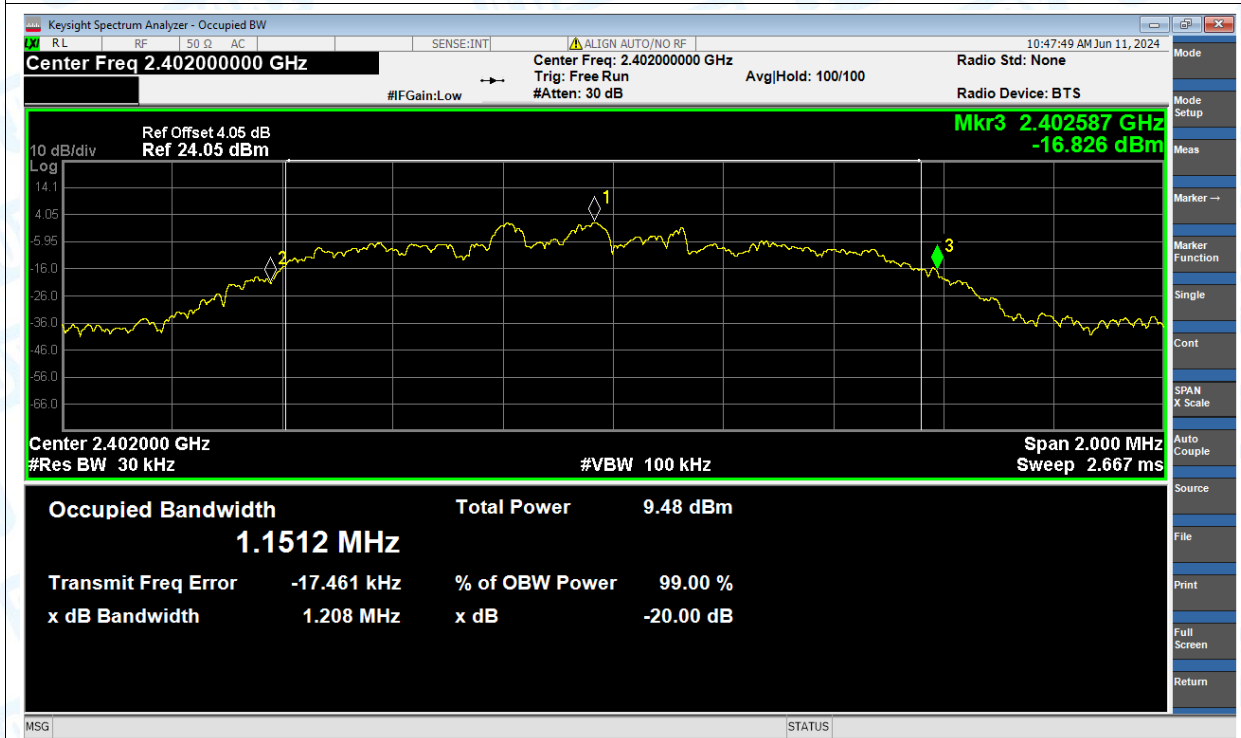
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



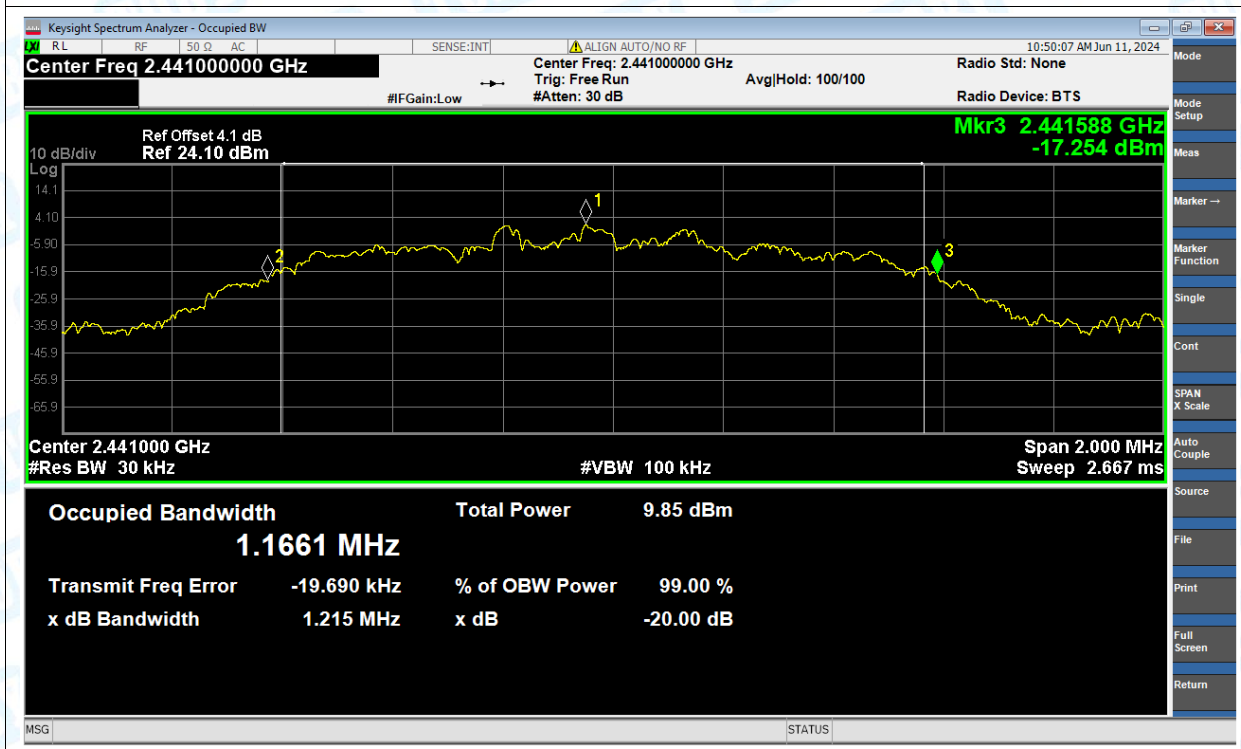
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

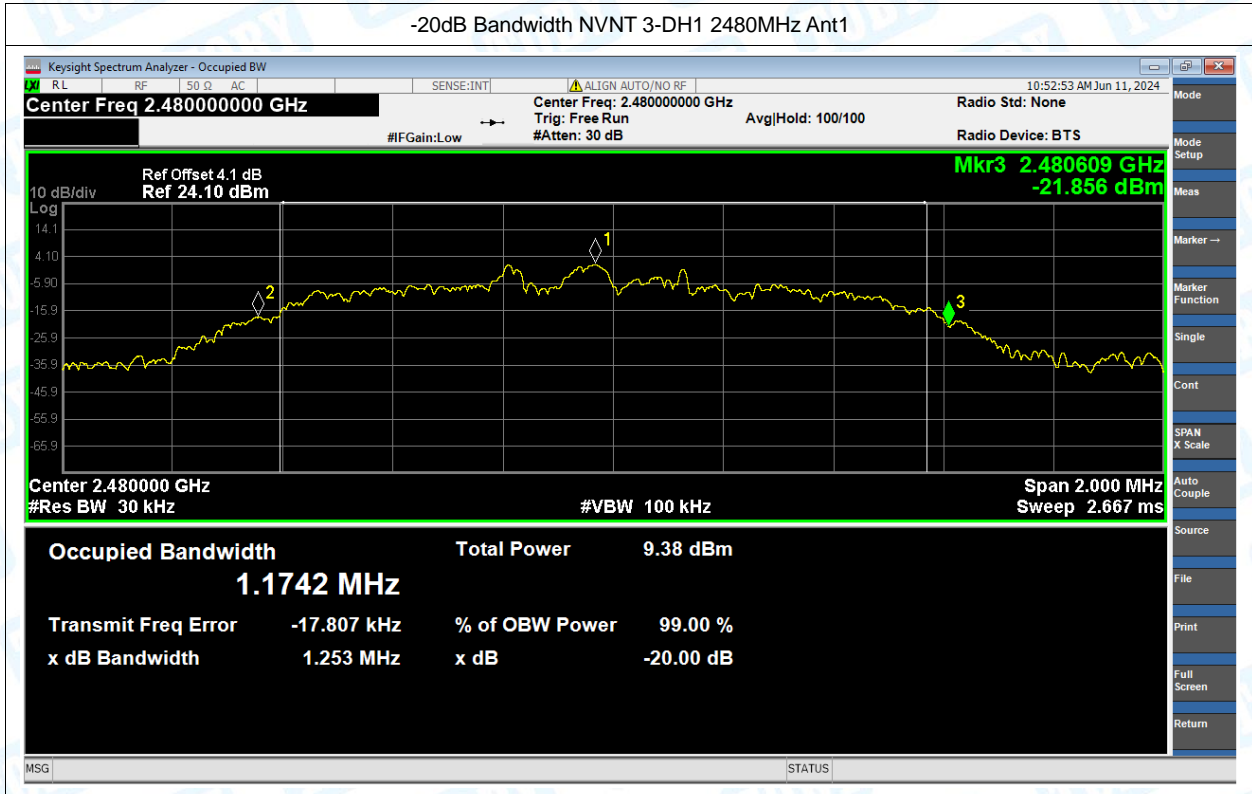


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



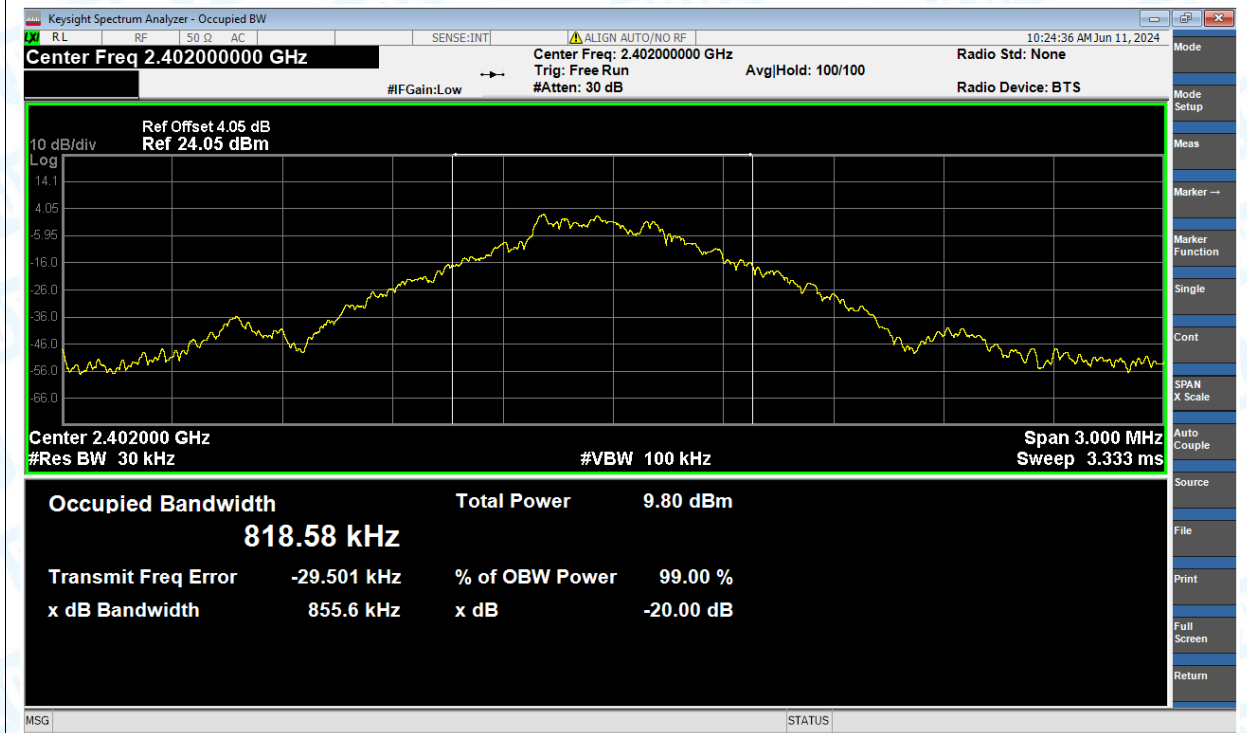


4. Occupied Channel Bandwidth

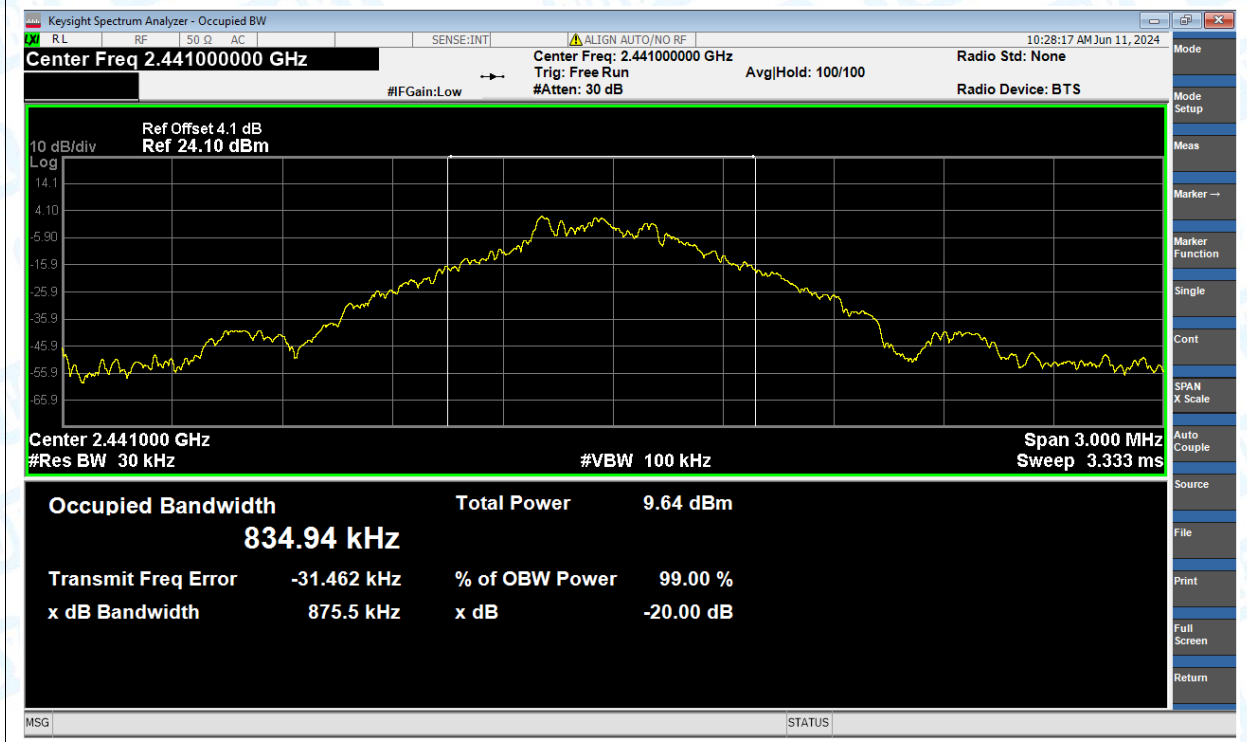
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.819
NVNT	1-DH1	2441	Ant1	0.835
NVNT	1-DH1	2480	Ant1	0.835
NVNT	2-DH1	2402	Ant1	1.182
NVNT	2-DH1	2441	Ant1	1.193
NVNT	2-DH1	2480	Ant1	1.17
NVNT	3-DH1	2402	Ant1	1.168
NVNT	3-DH1	2441	Ant1	1.172
NVNT	3-DH1	2480	Ant1	1.196

Test Graphs

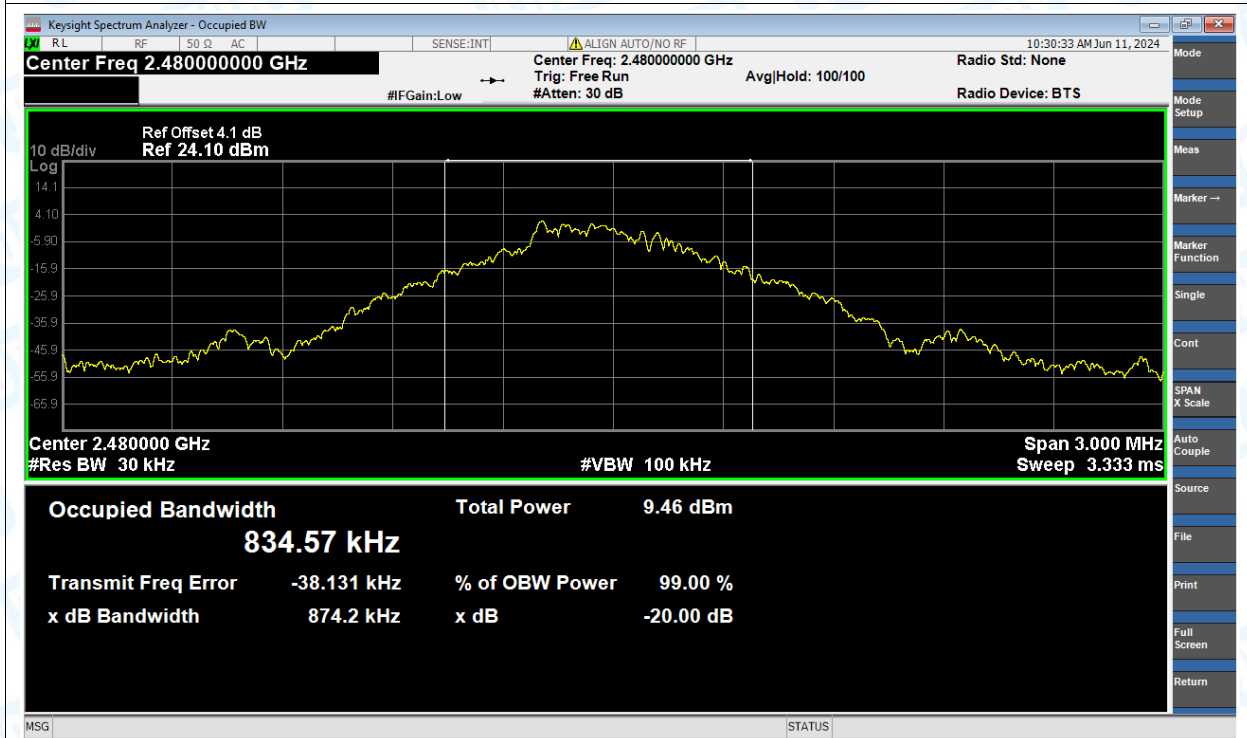
OBW NVNT 1-DH1 2402MHz Ant1



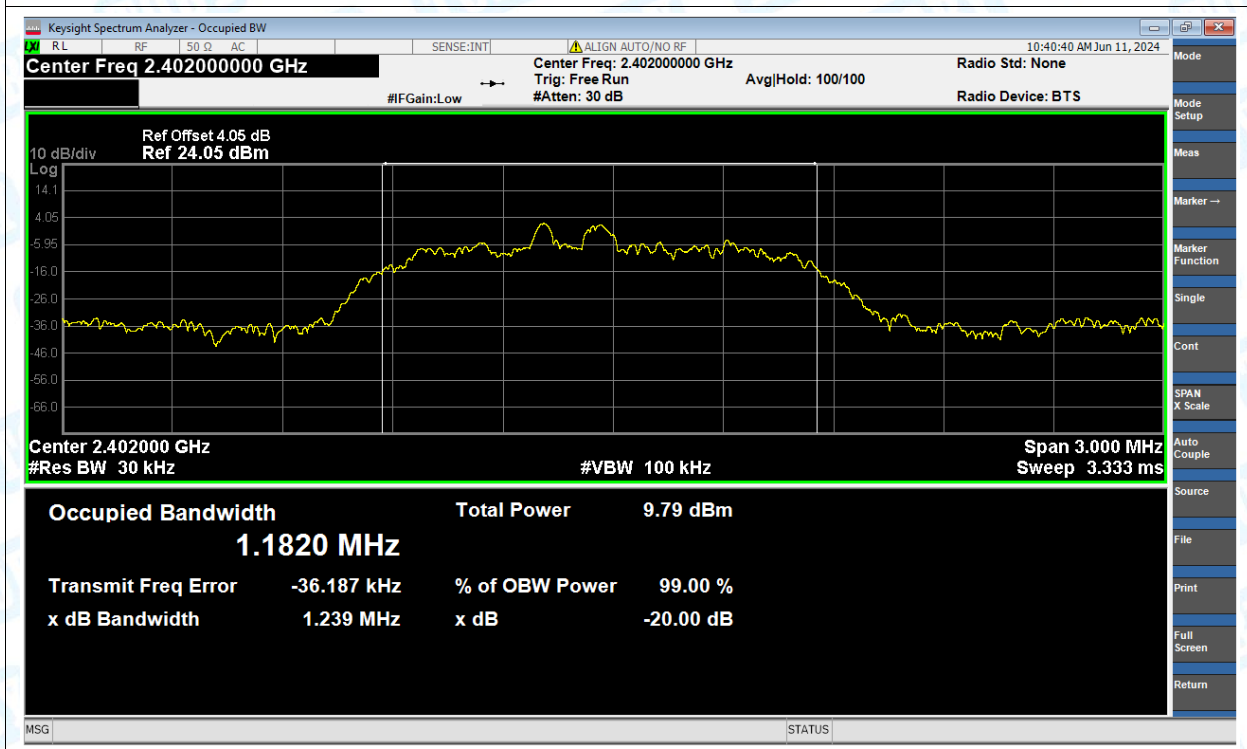
OBW NVNT 1-DH1 2441MHz Ant1



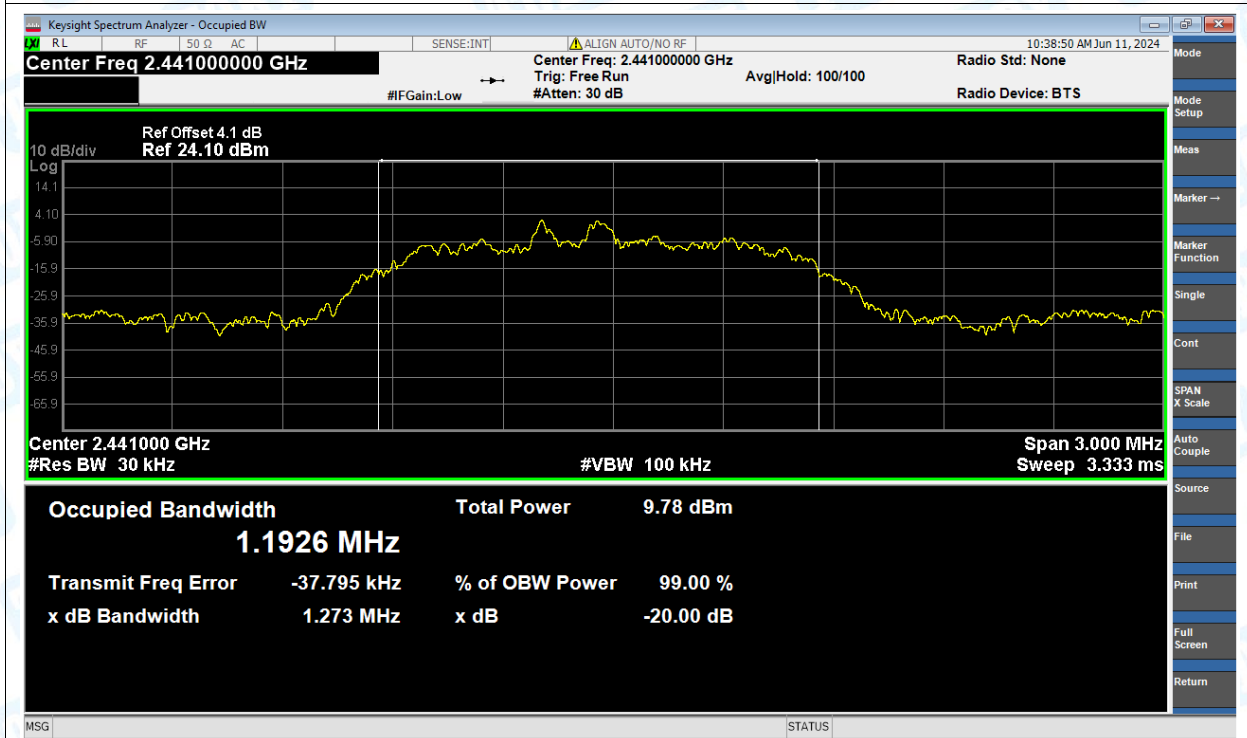
OBW NVNT 1-DH1 2480MHz Ant1



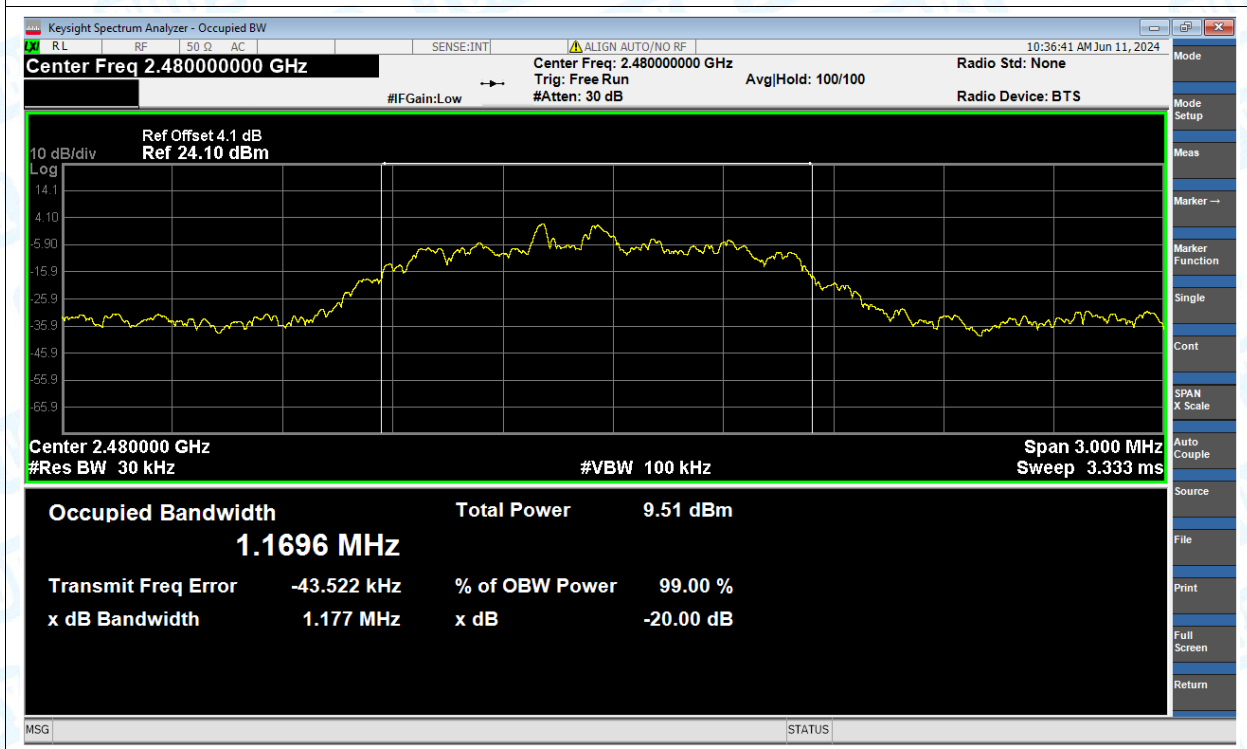
OBW NVNT 2-DH1 2402MHz Ant1



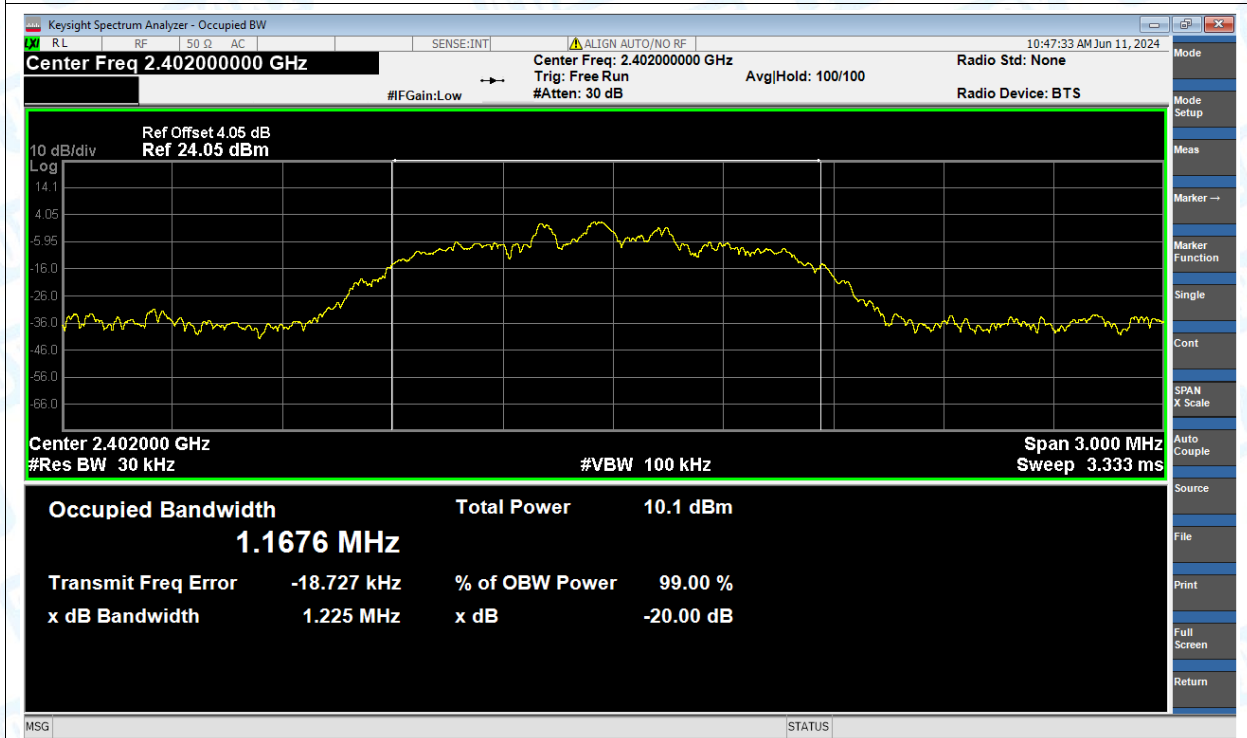
OBW NVNT 2-DH1 2441MHz Ant1



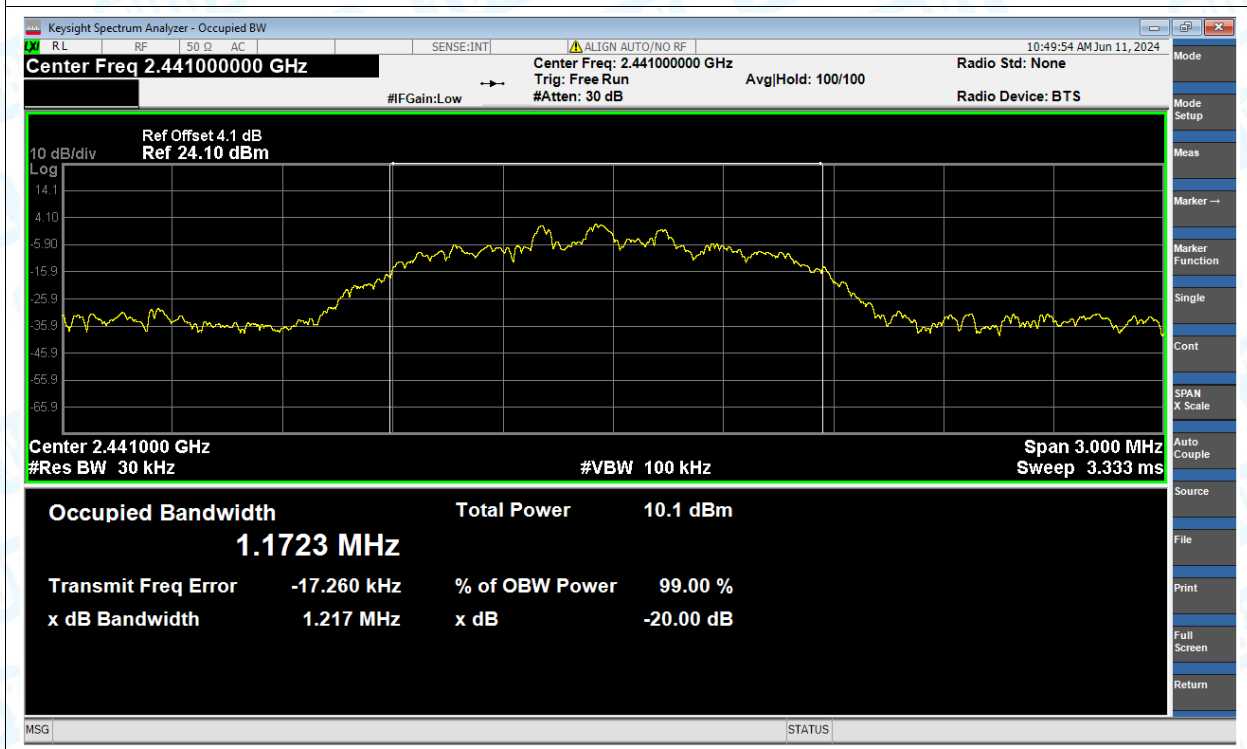
OBW NVNT 2-DH1 2480MHz Ant1

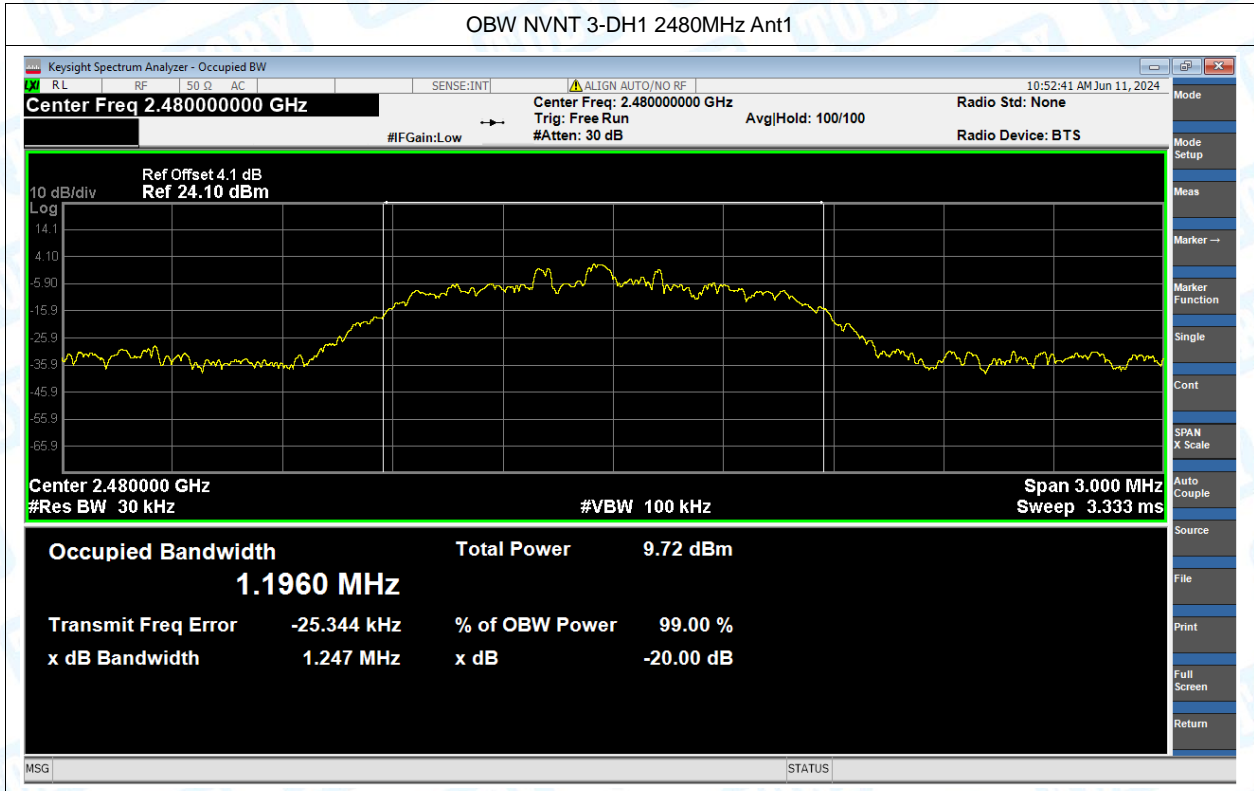


OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



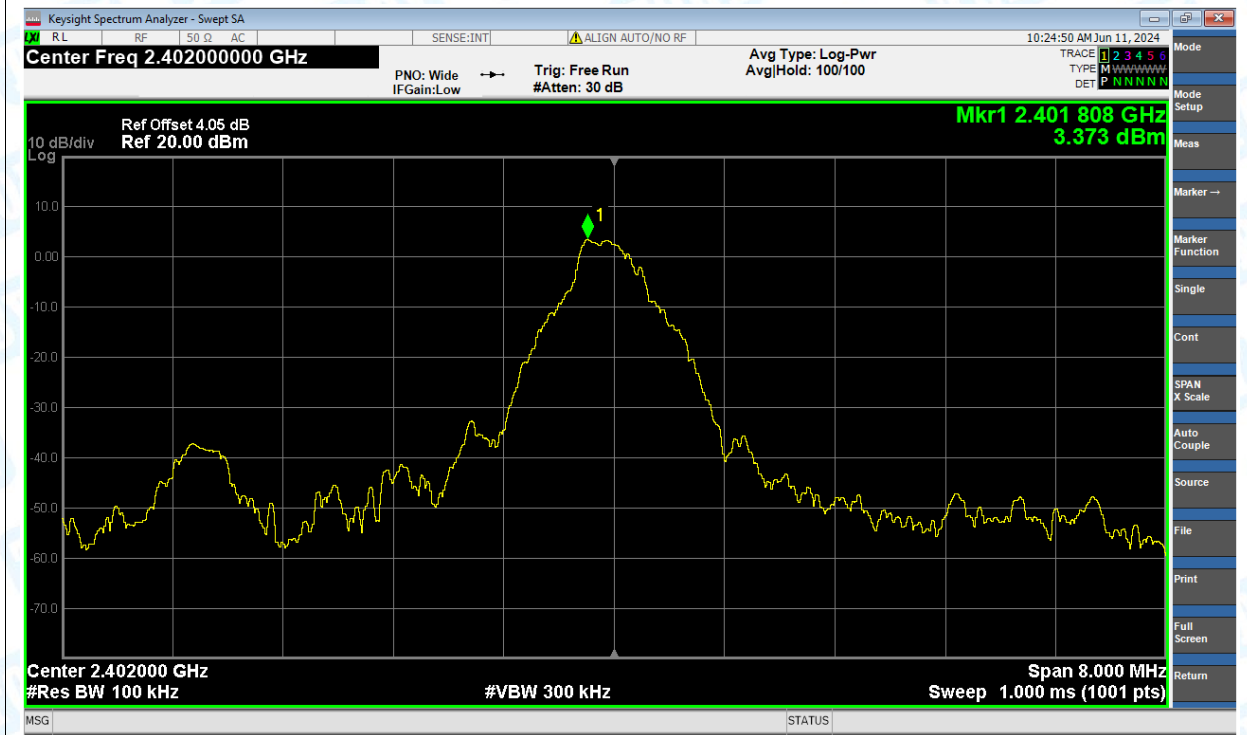


5. Band Edge

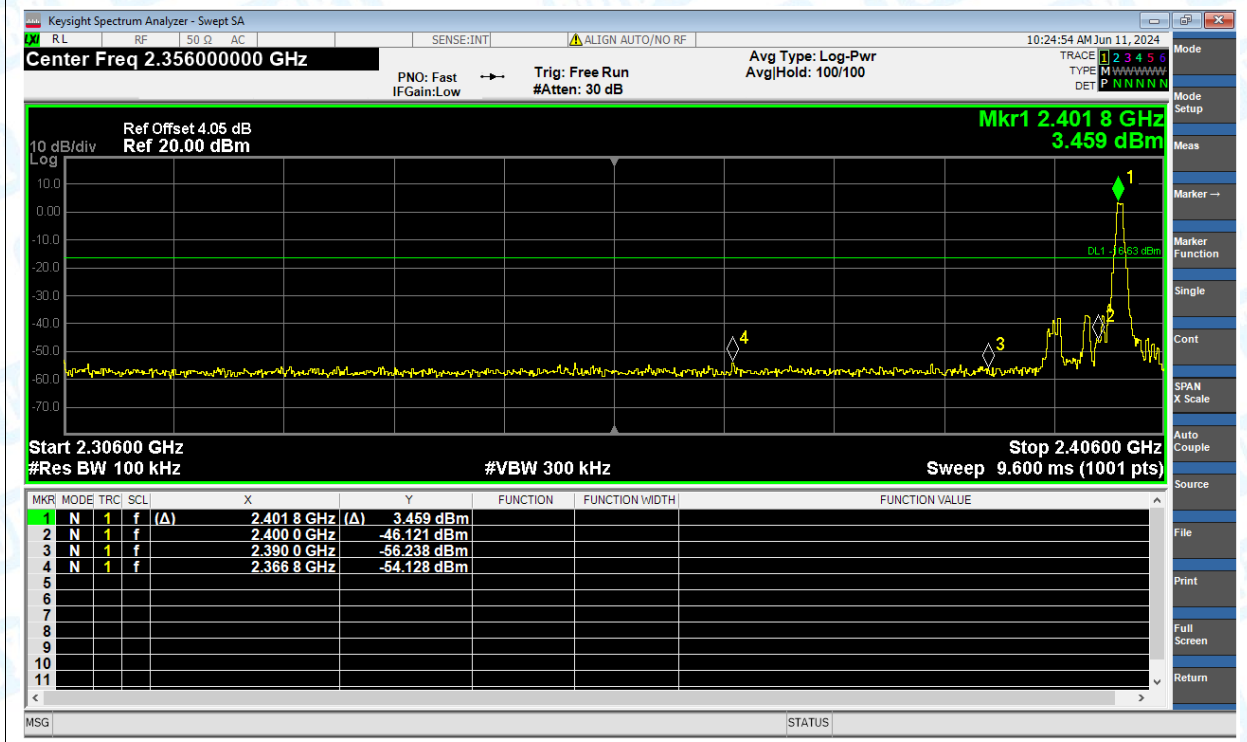
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-57.5	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-48.52	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-57.67	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-49.09	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-56.45	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-47.79	-20	Pass

Test Graphs

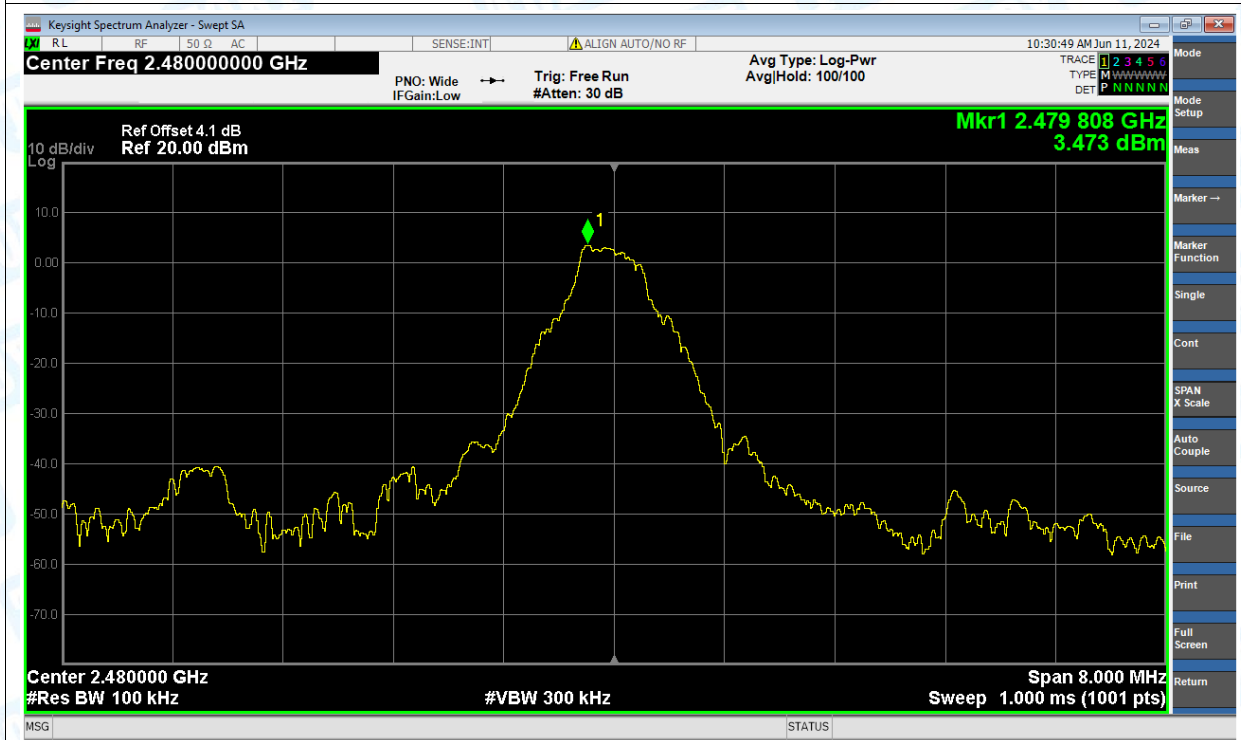
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



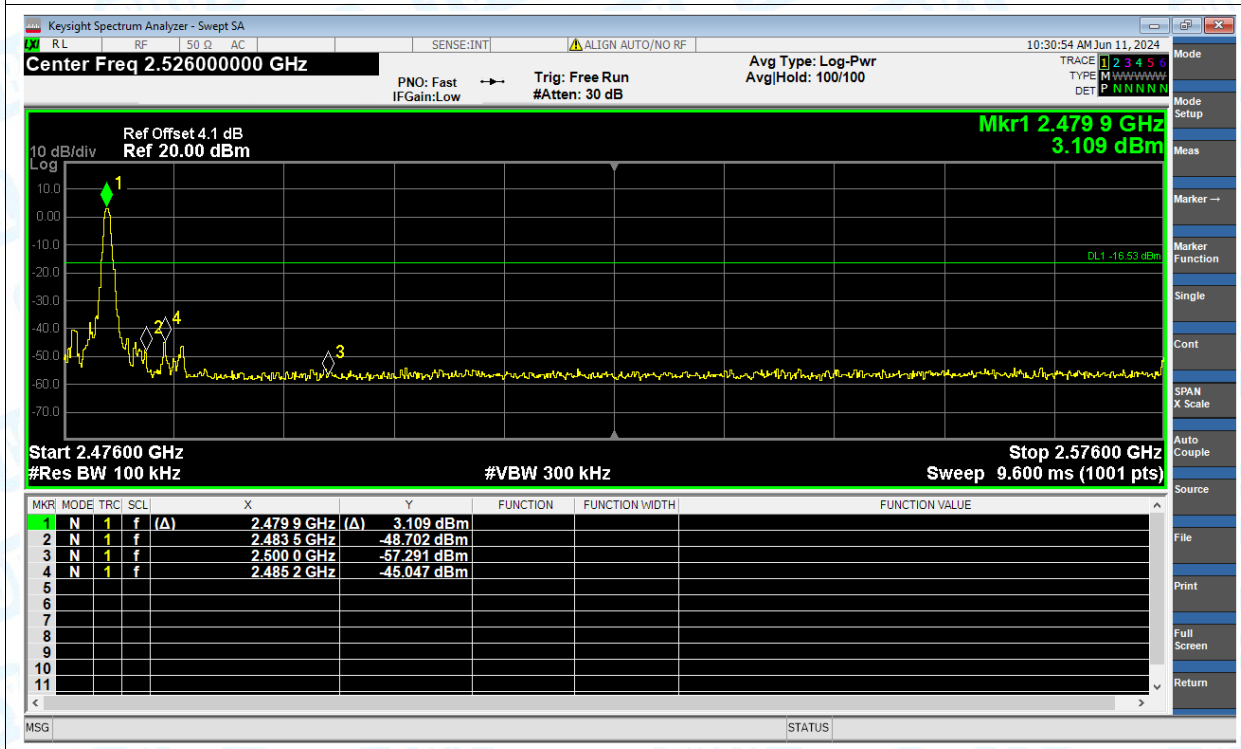
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

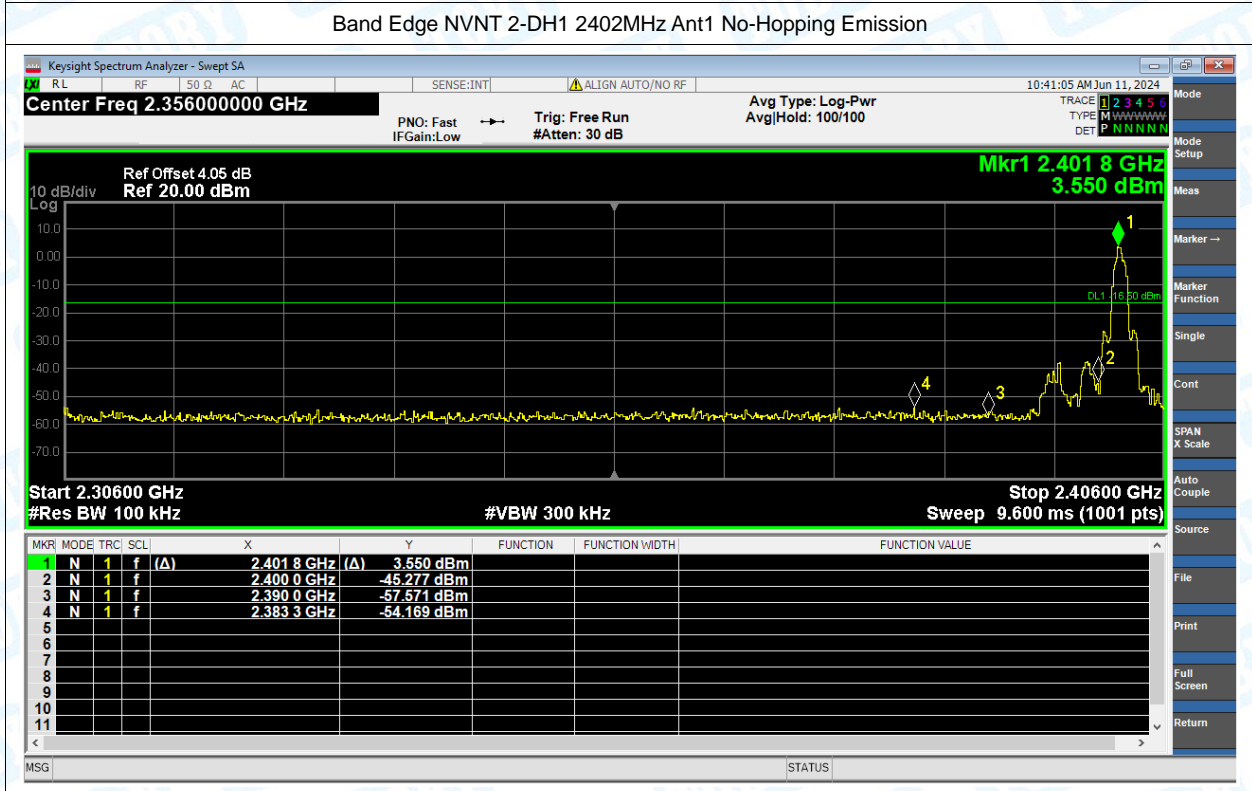
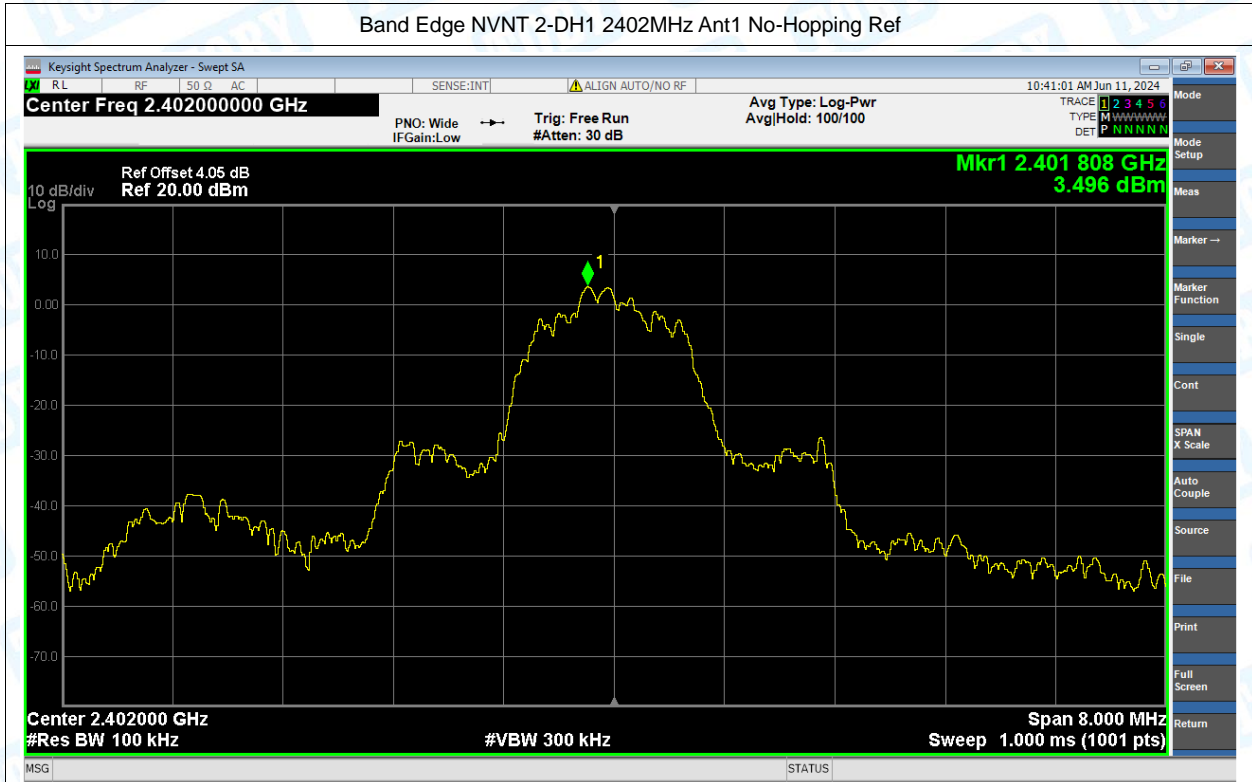


Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref

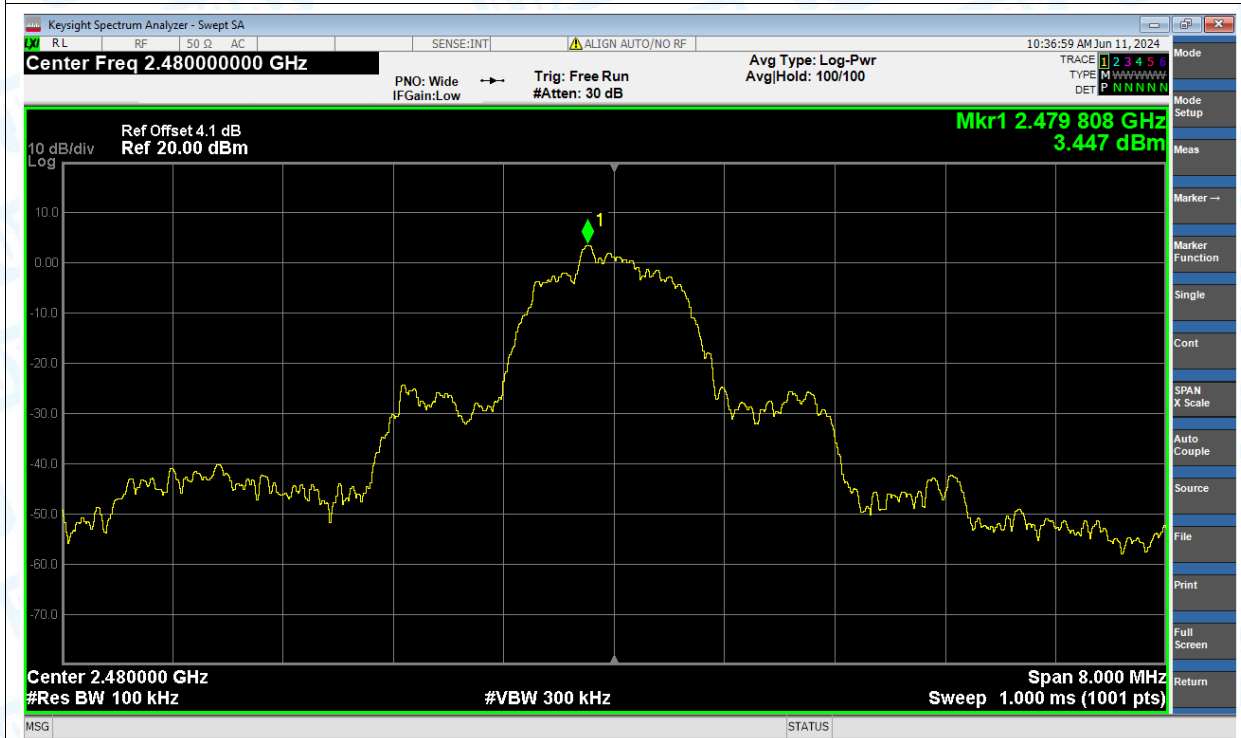


Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission

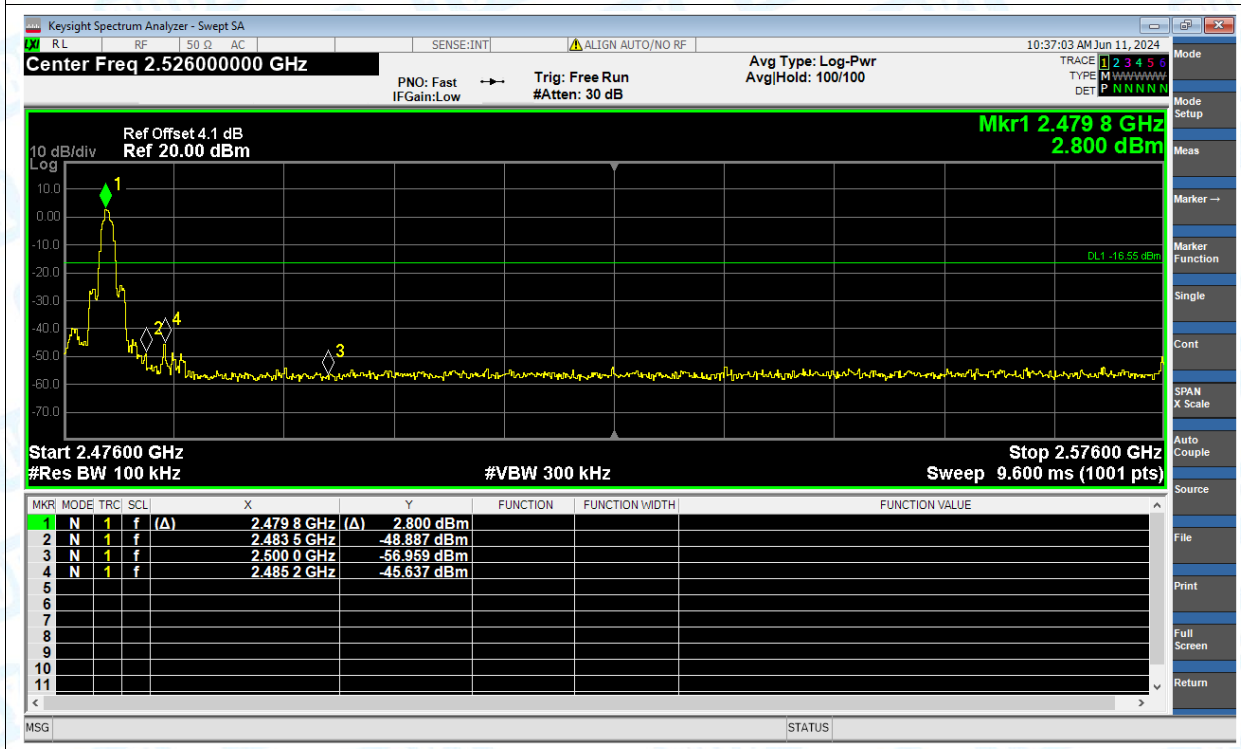


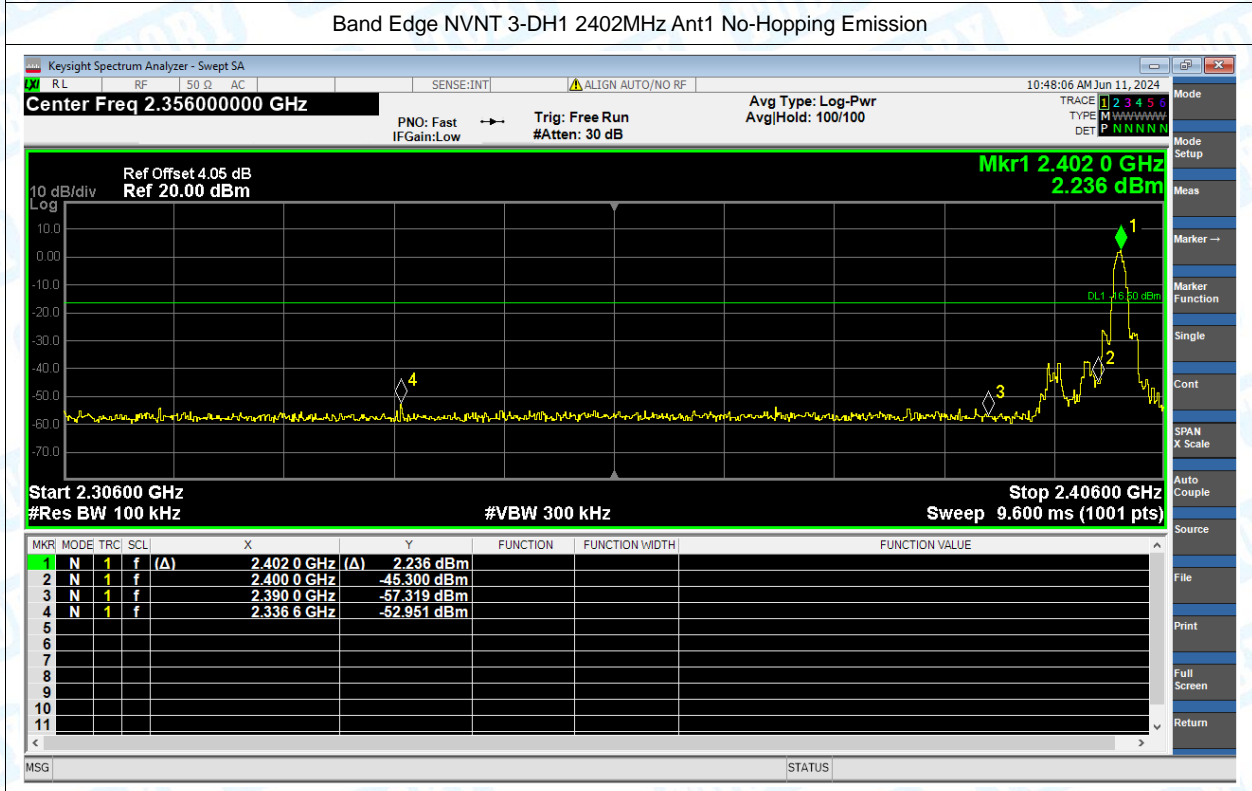
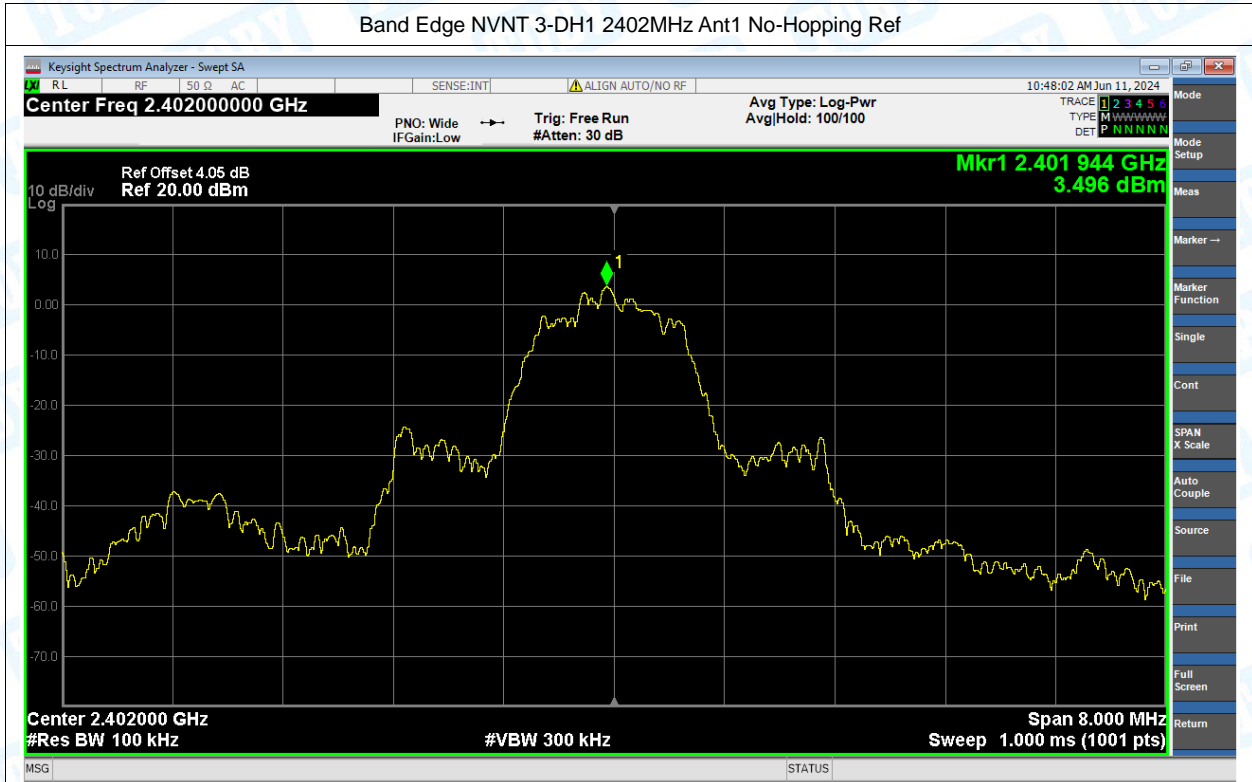


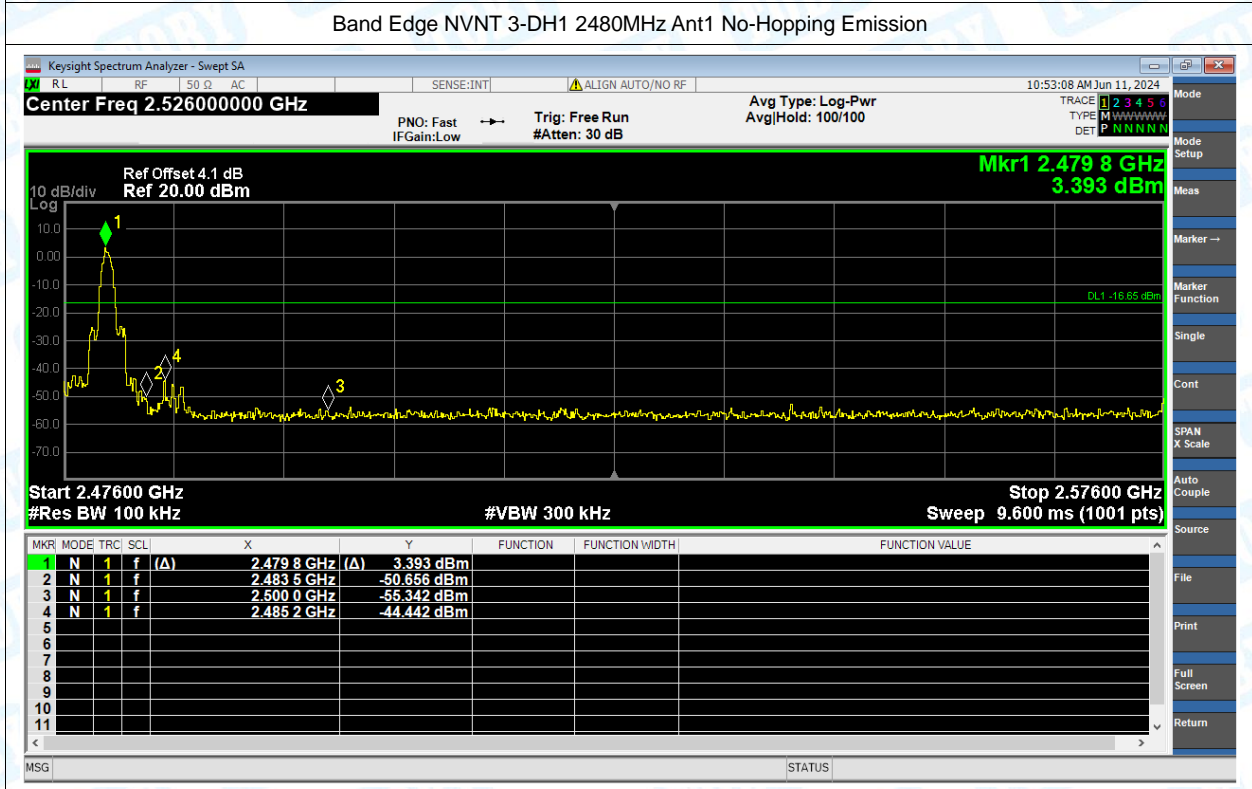
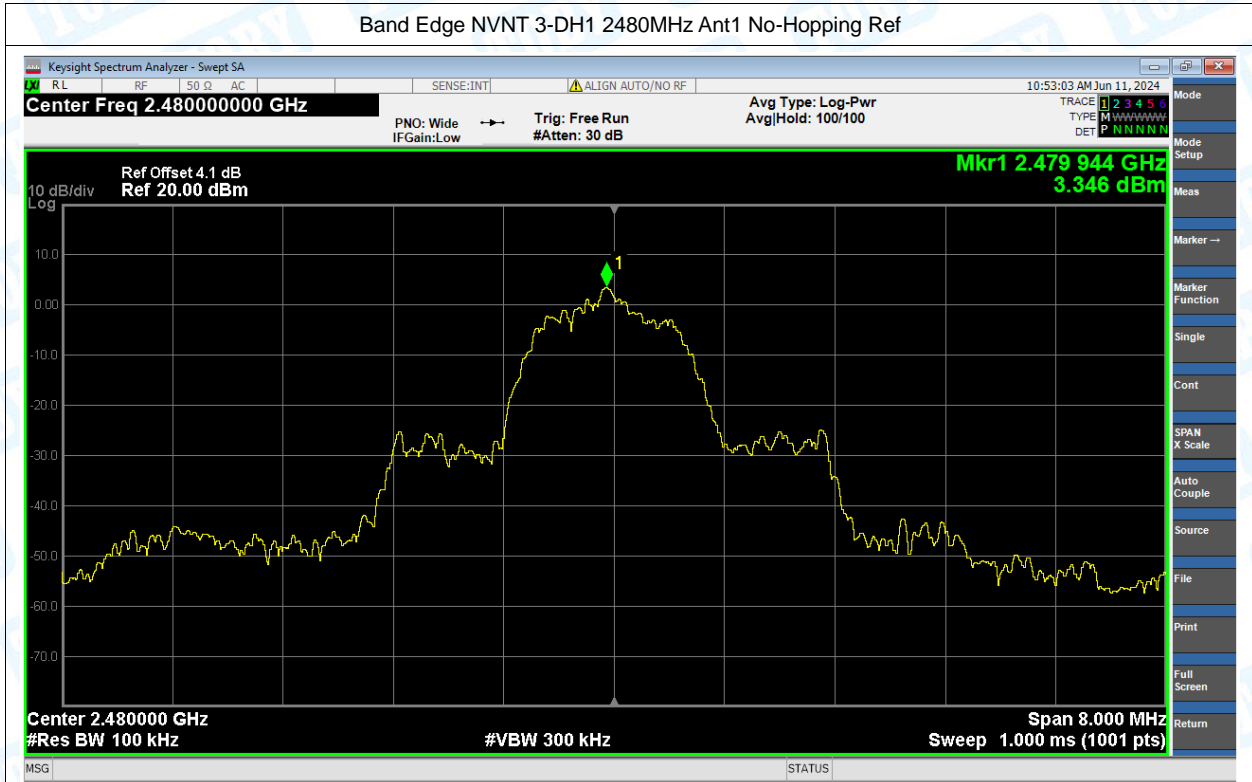
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



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







6. Band Edge(Hopping)

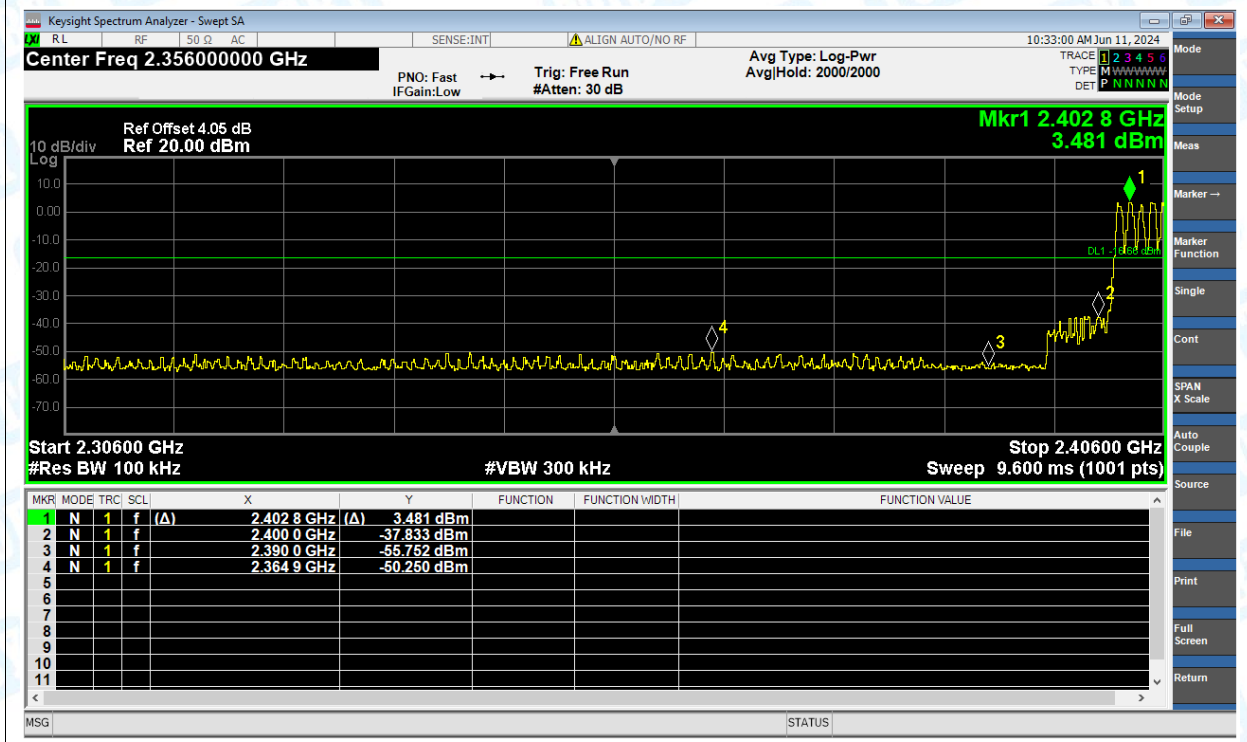
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-53.59	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-48.11	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-52.89	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-49.37	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-53.61	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-49.54	-20	Pass

Test Graphs

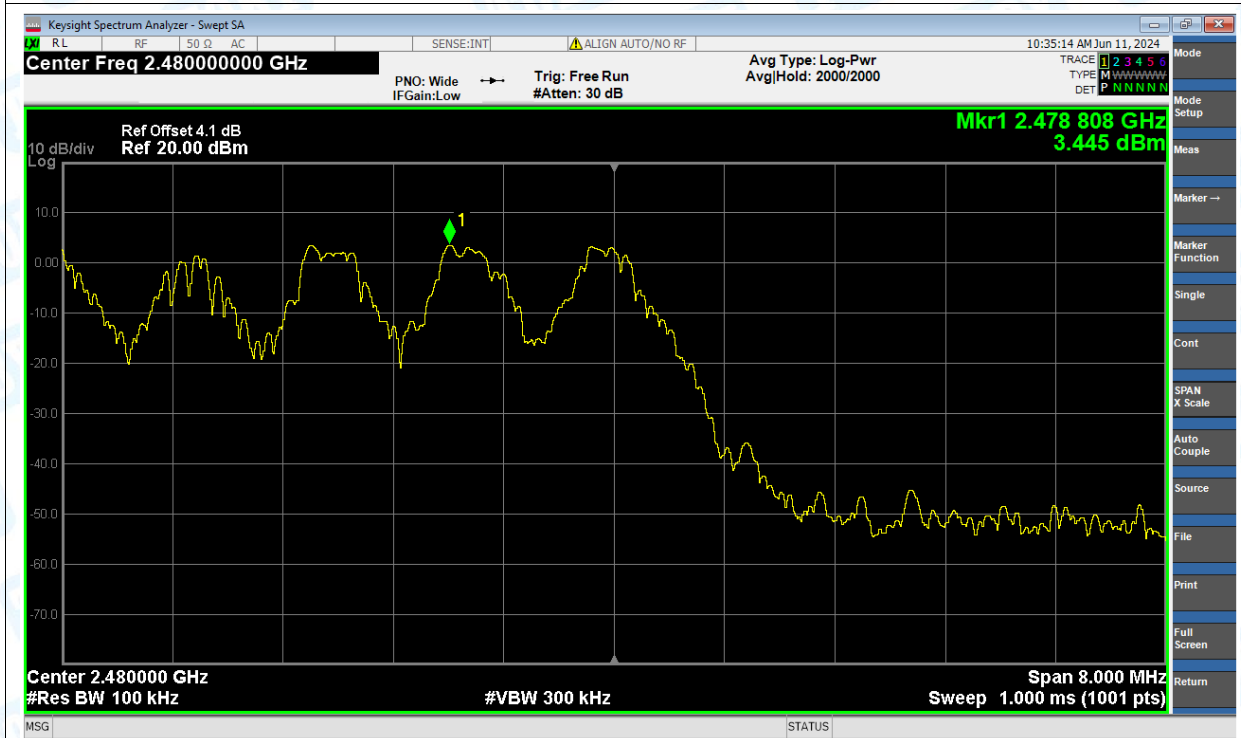
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



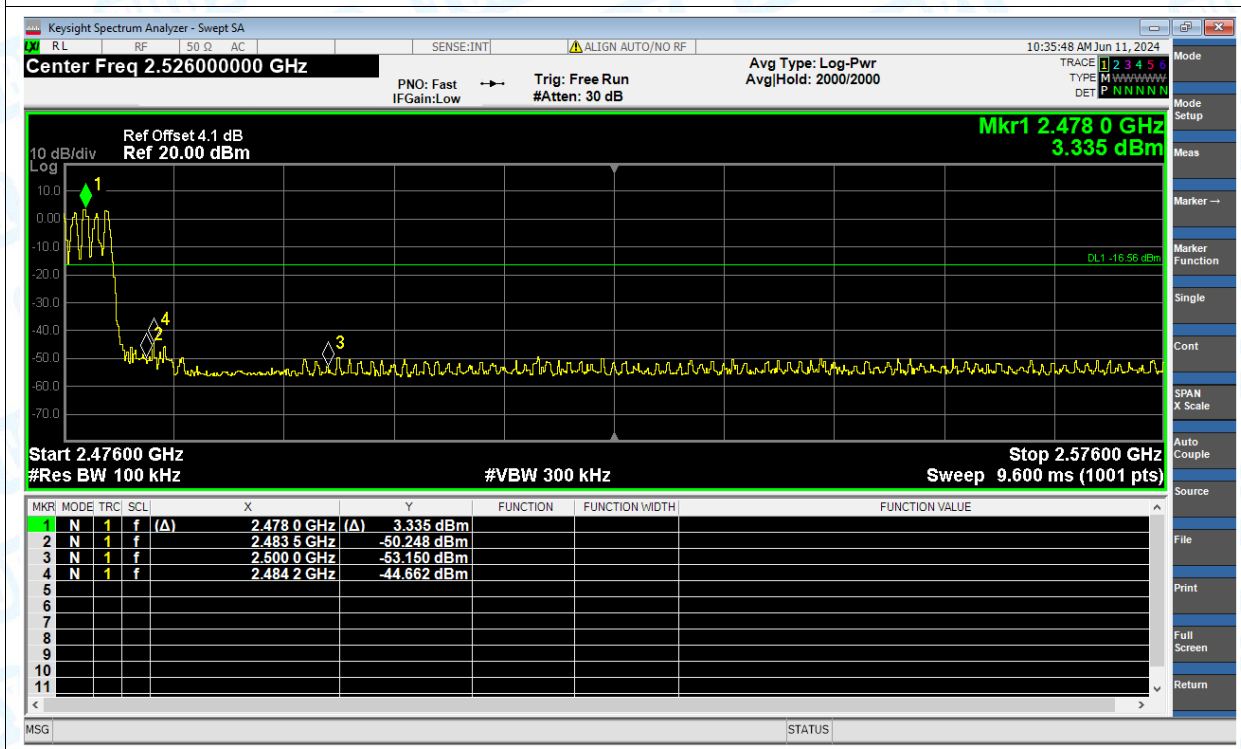
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



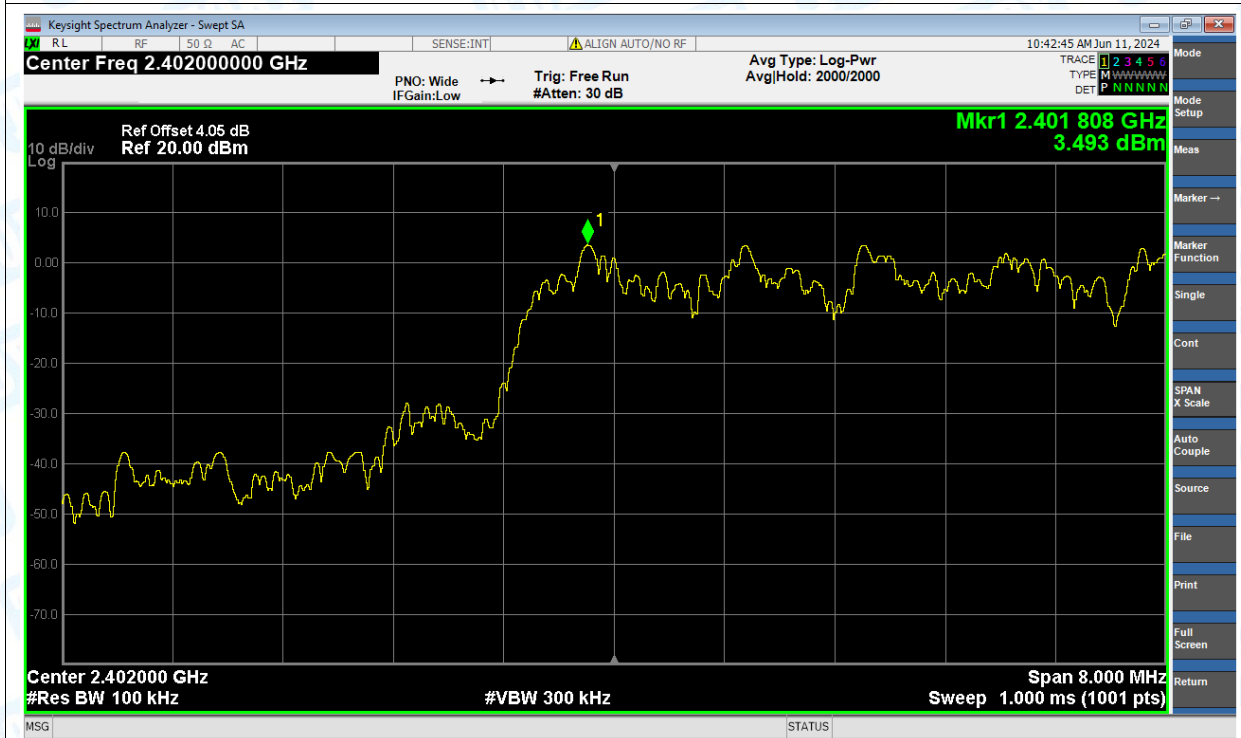
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



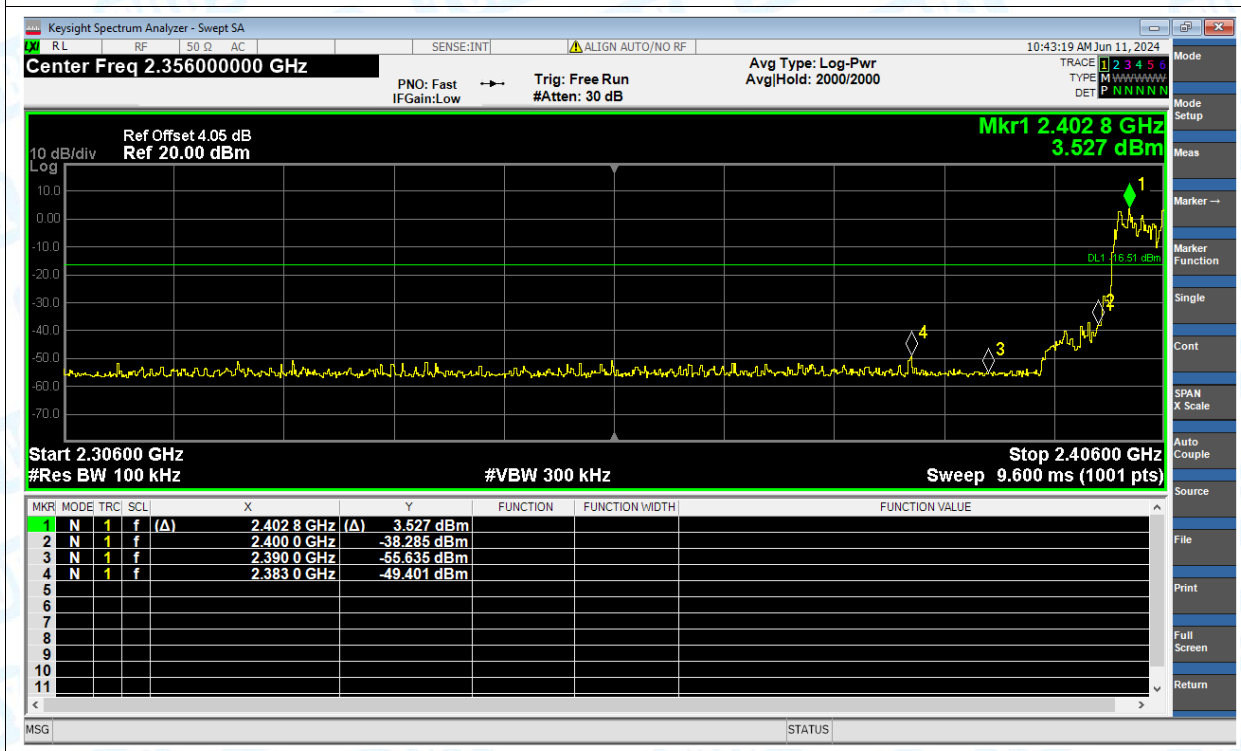
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



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



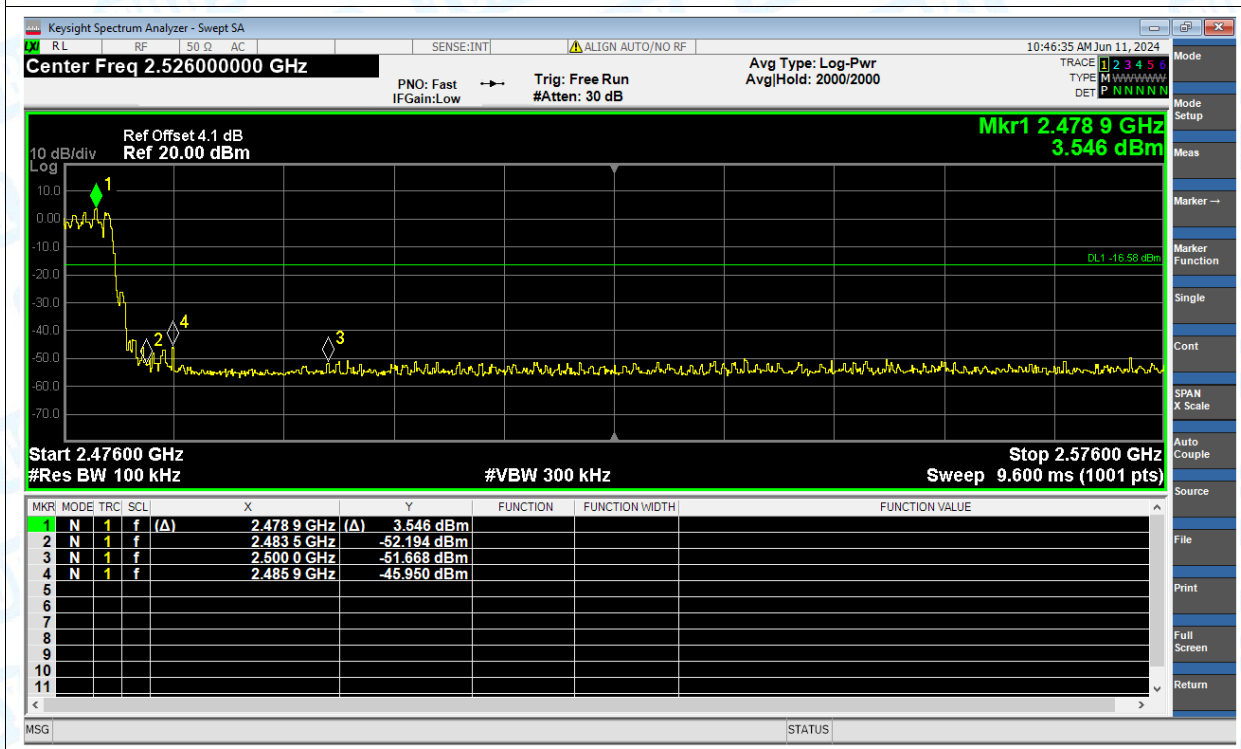
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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



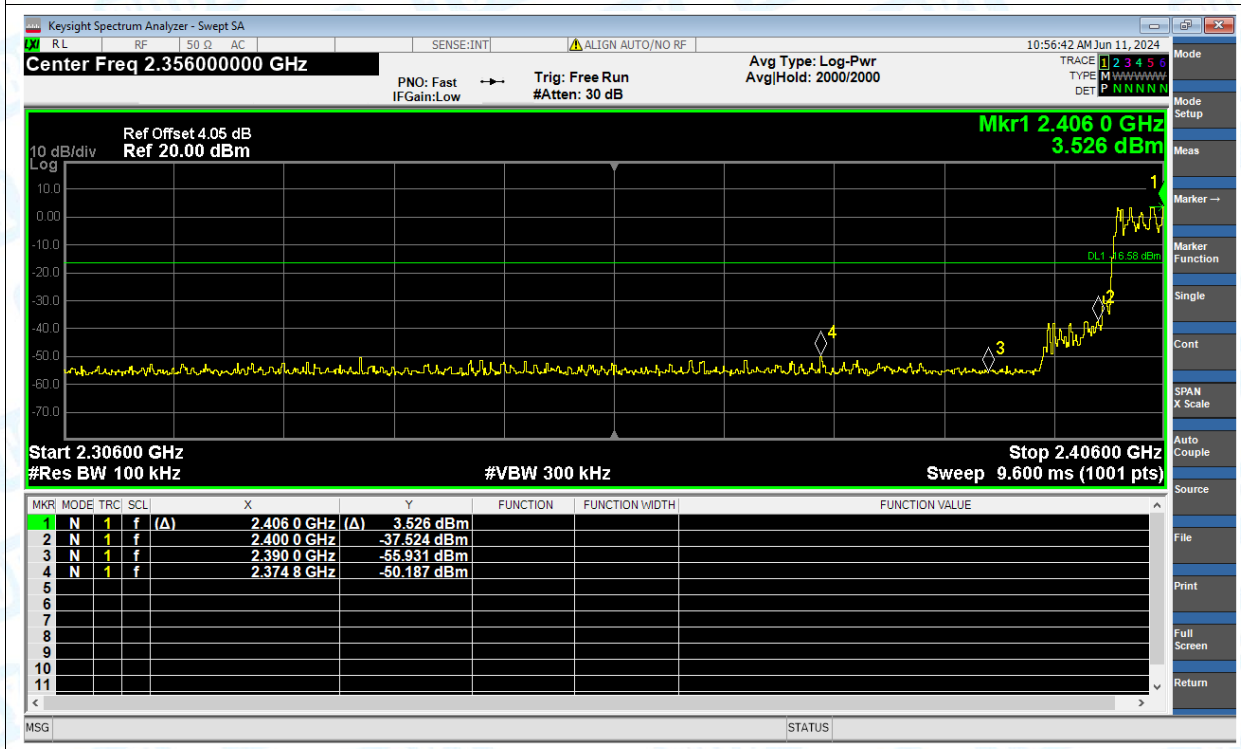
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



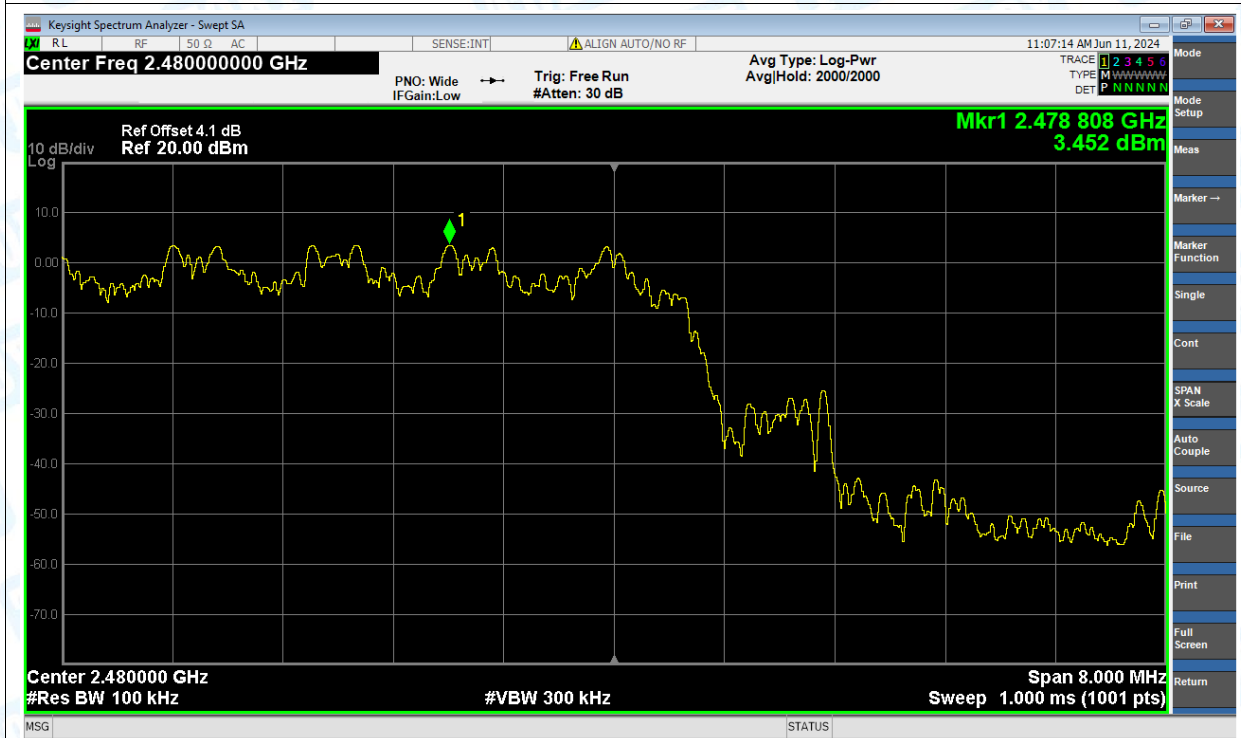
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



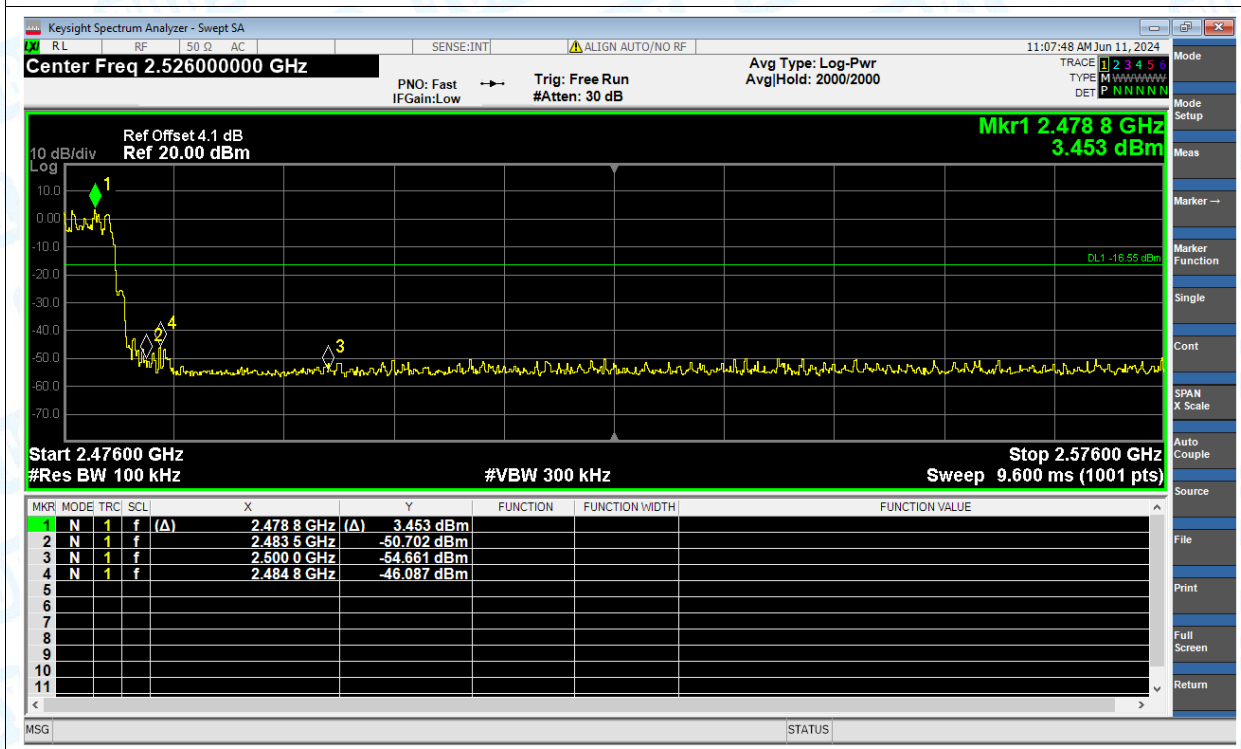
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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



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

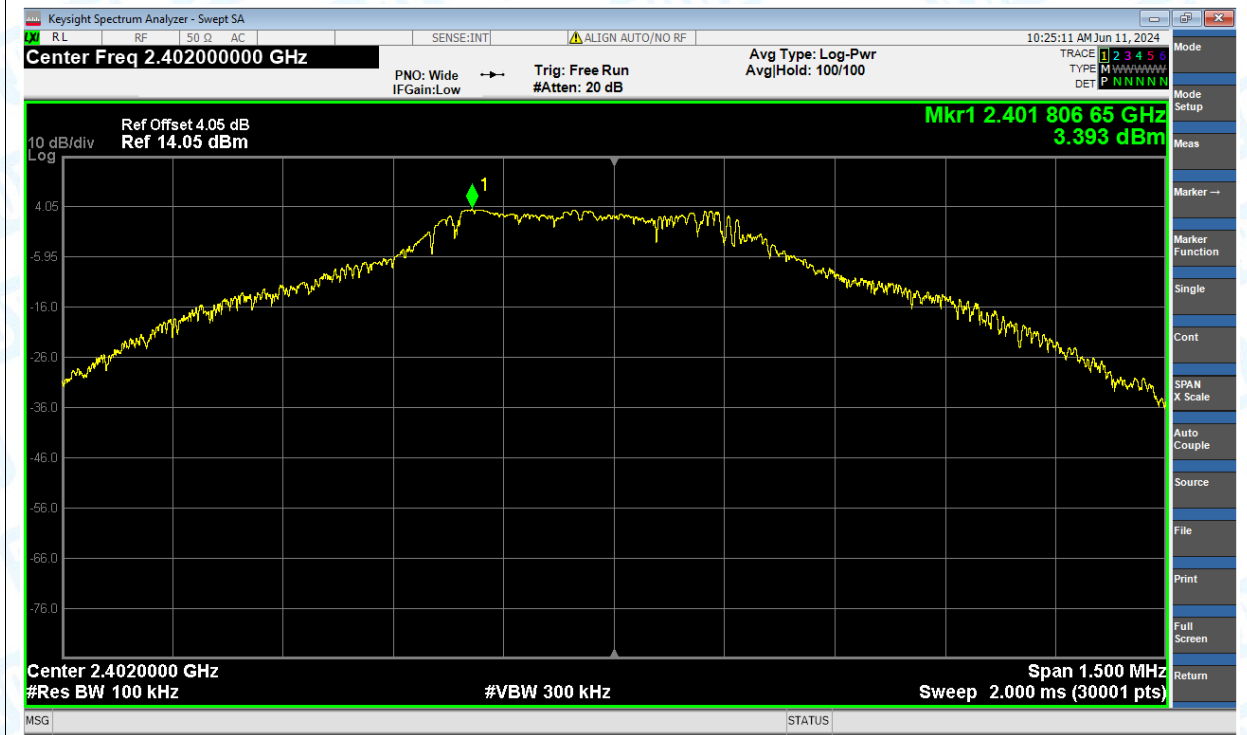


7. Conducted RF Spurious Emission

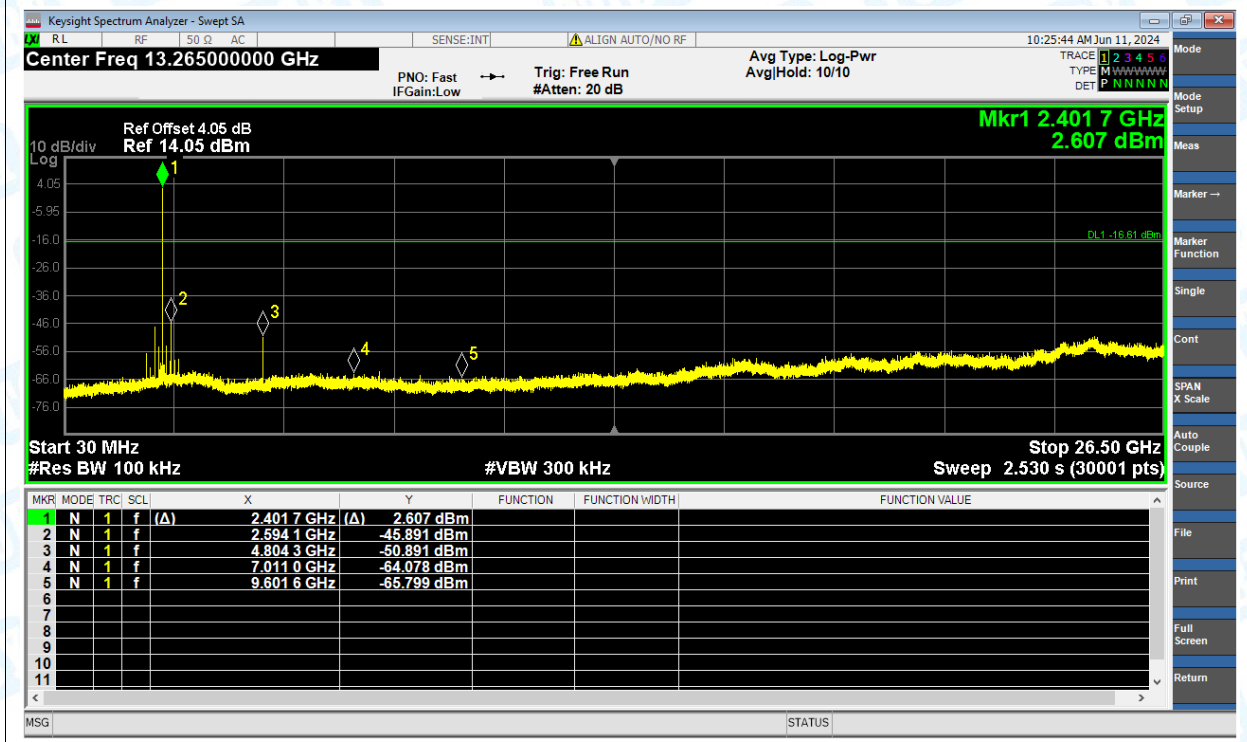
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-49.28	-20	Pass
NVNT	1-DH1	2441	Ant1	-48.12	-20	Pass
NVNT	1-DH1	2480	Ant1	-46.45	-20	Pass
NVNT	2-DH1	2402	Ant1	-49.33	-20	Pass
NVNT	2-DH1	2441	Ant1	-50.01	-20	Pass
NVNT	2-DH1	2480	Ant1	-46.35	-20	Pass
NVNT	3-DH1	2402	Ant1	-47.37	-20	Pass
NVNT	3-DH1	2441	Ant1	-48.37	-20	Pass
NVNT	3-DH1	2480	Ant1	-47.43	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



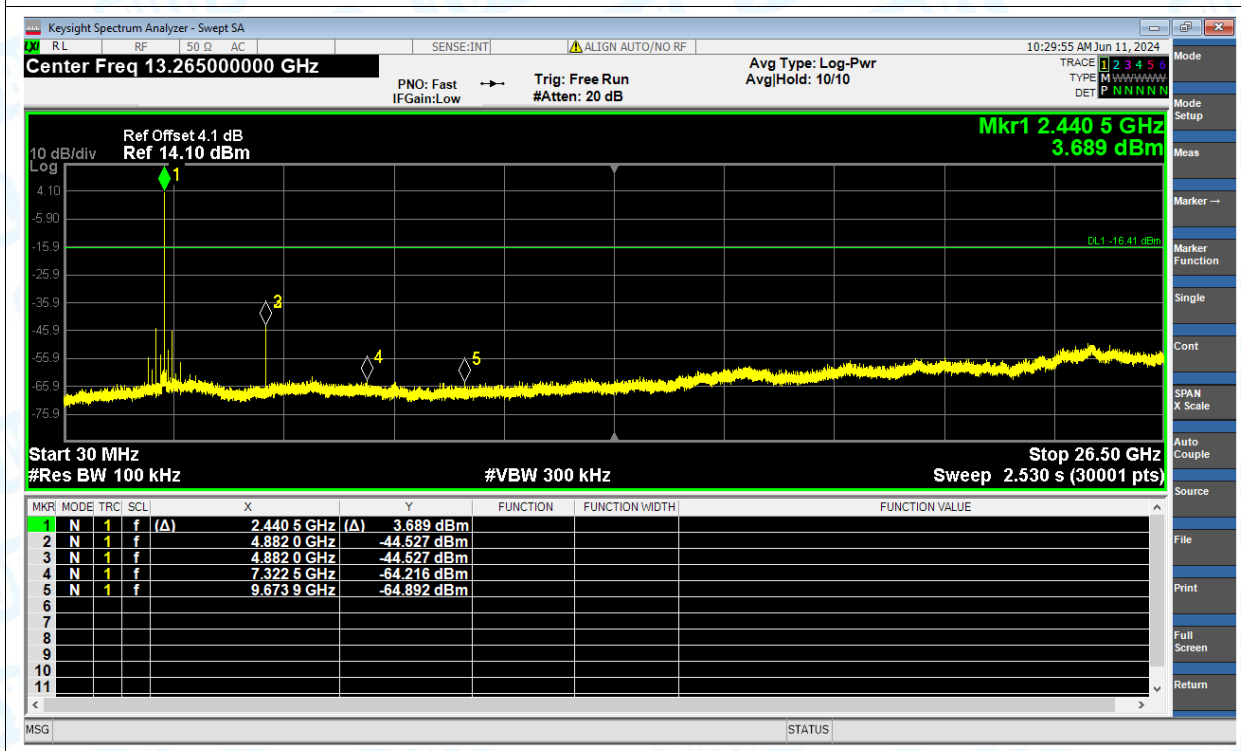
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



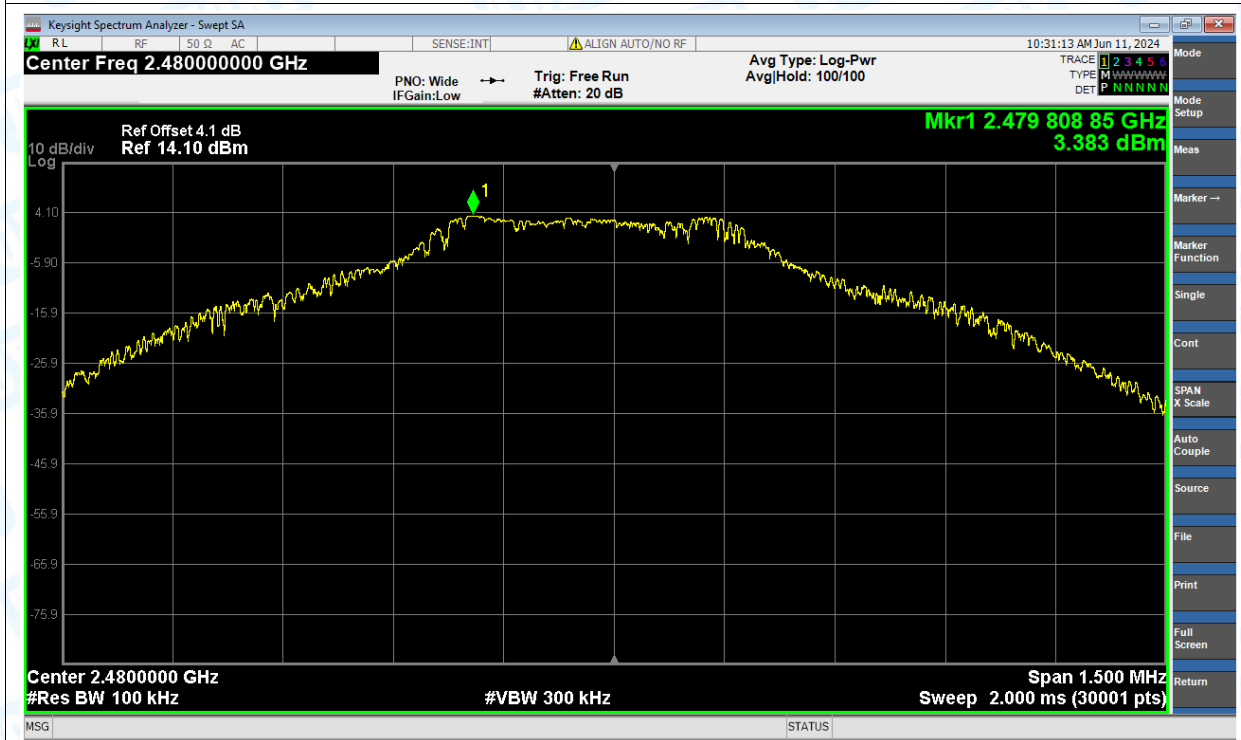
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



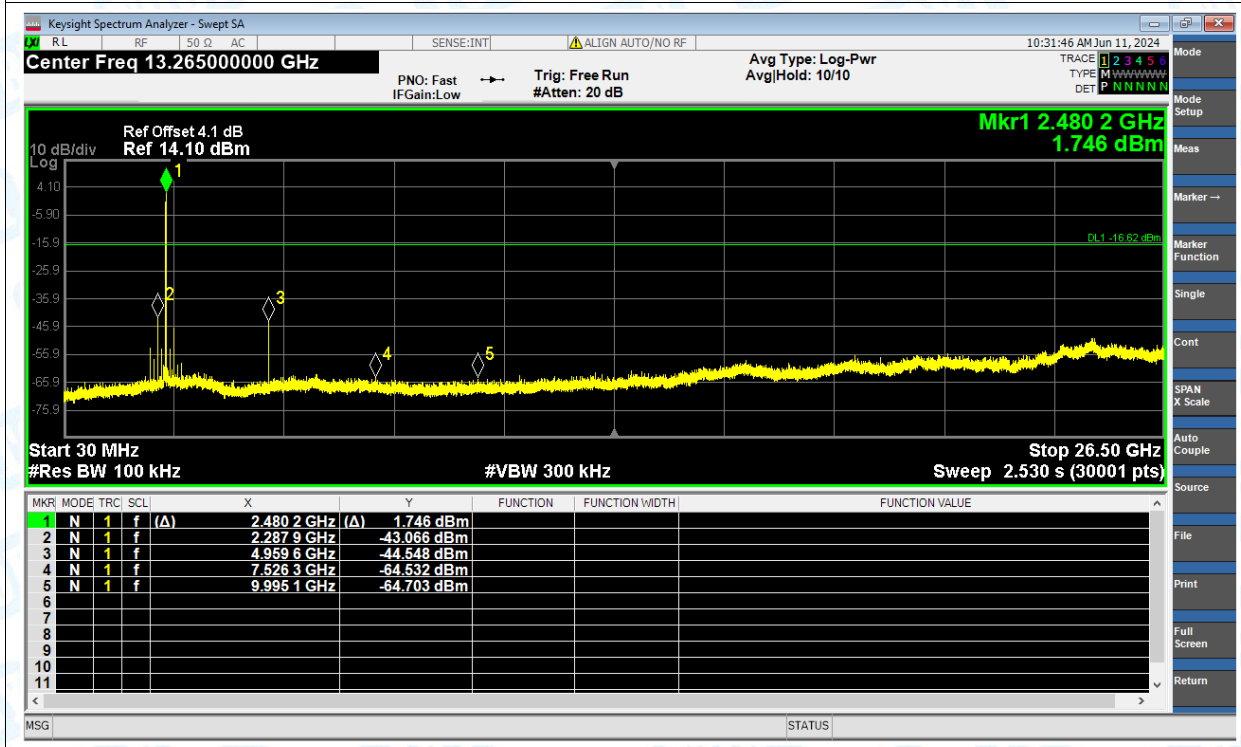
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



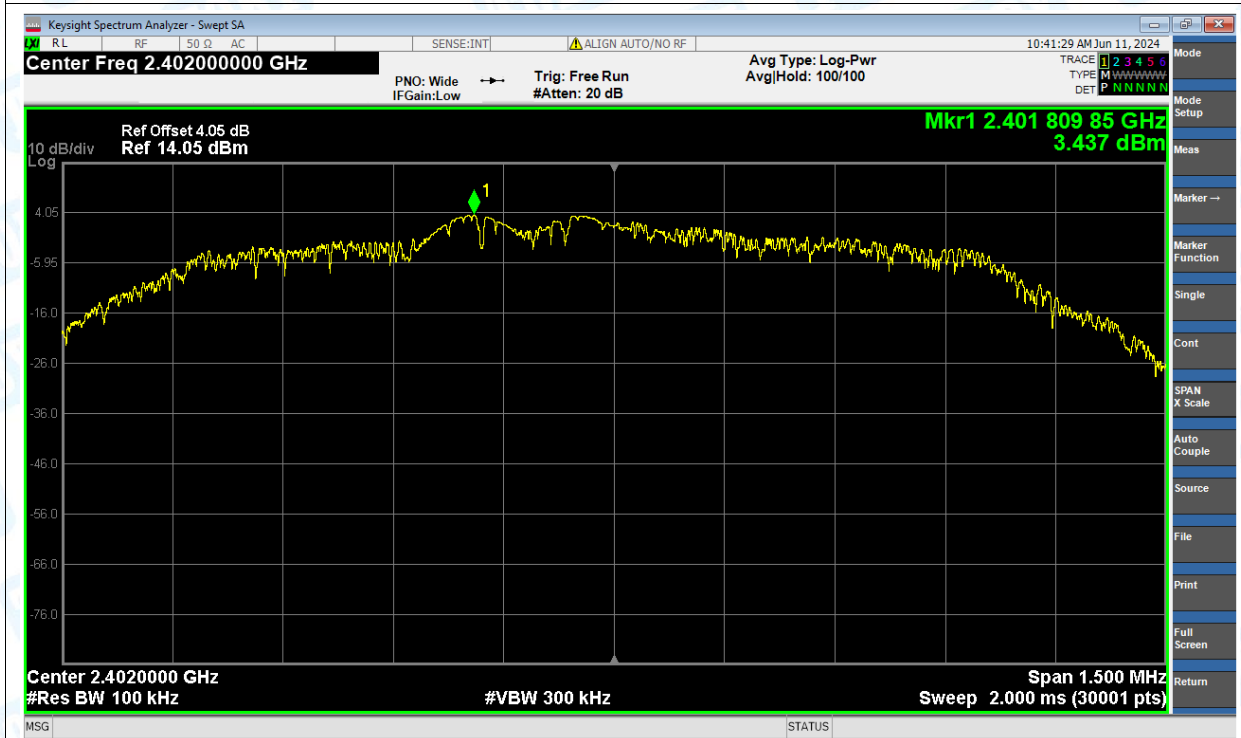
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



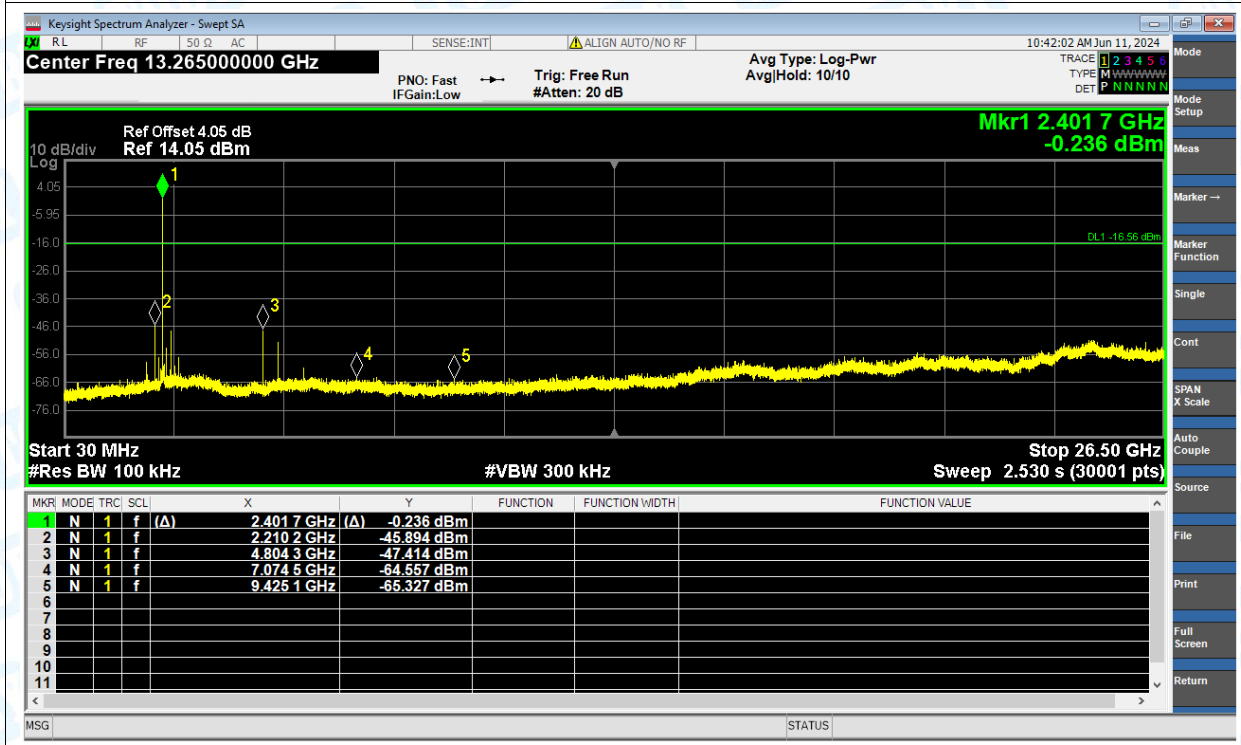
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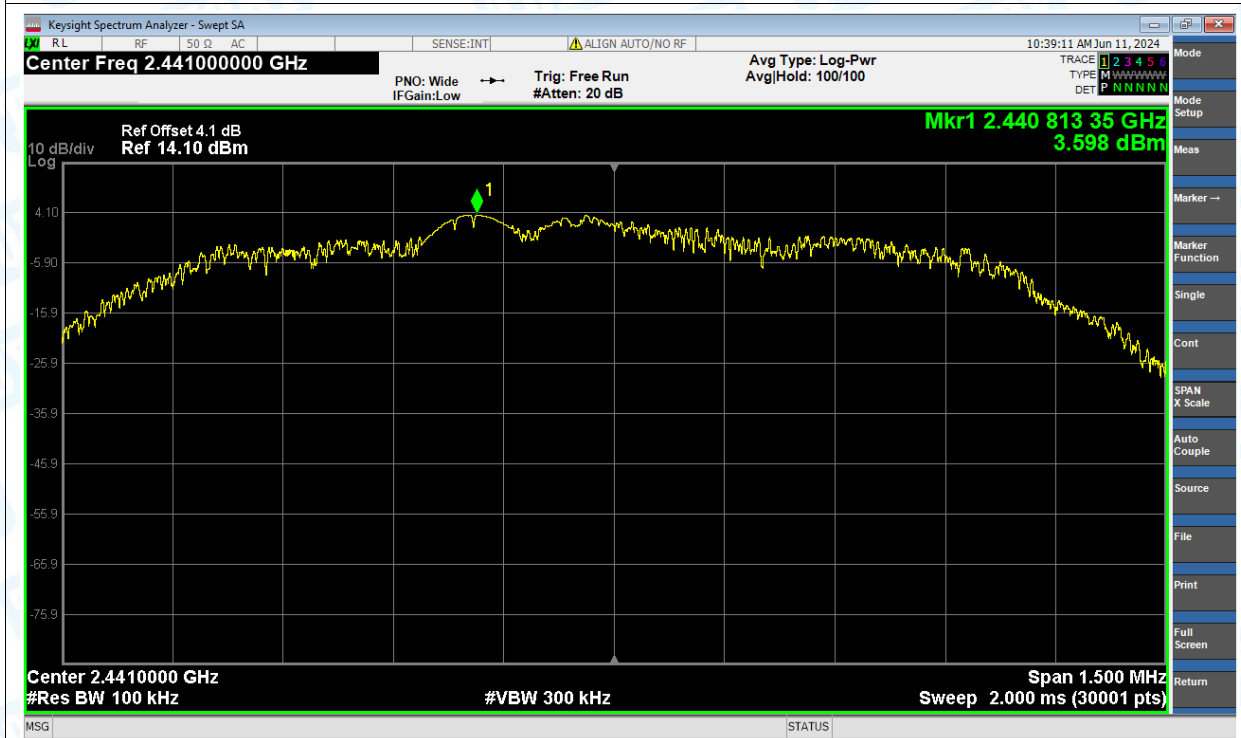
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



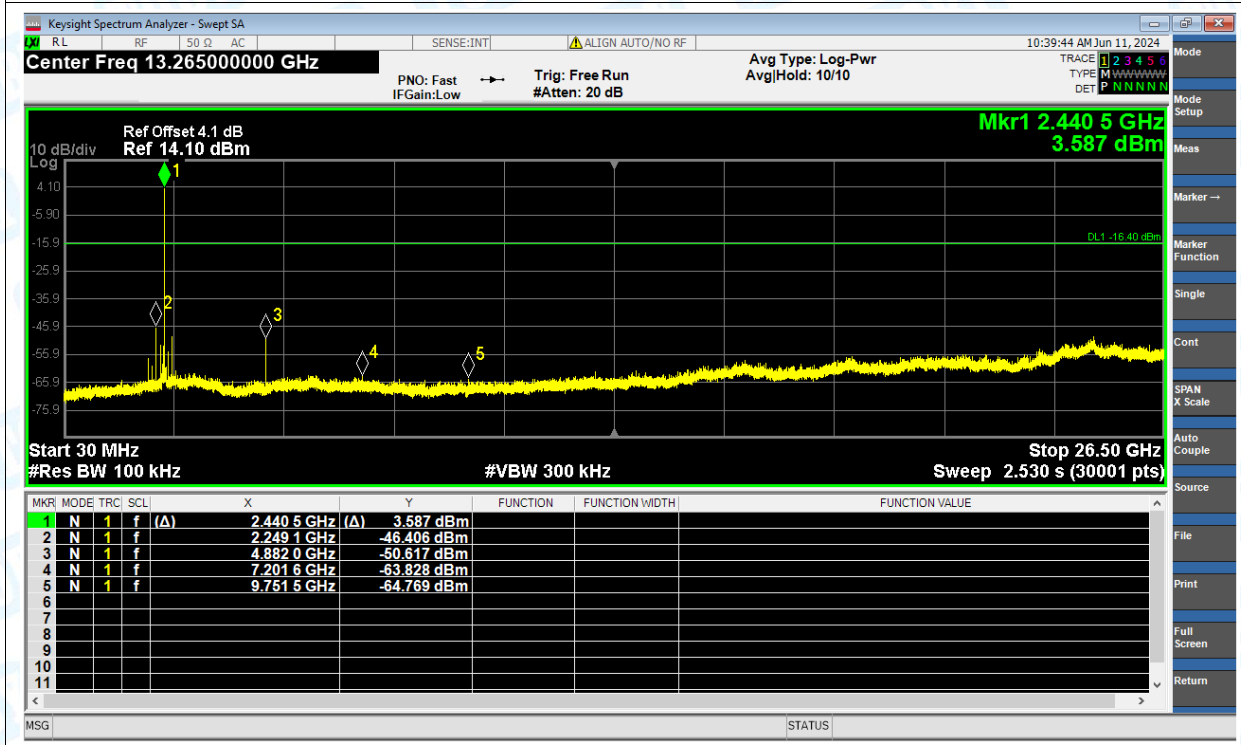
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



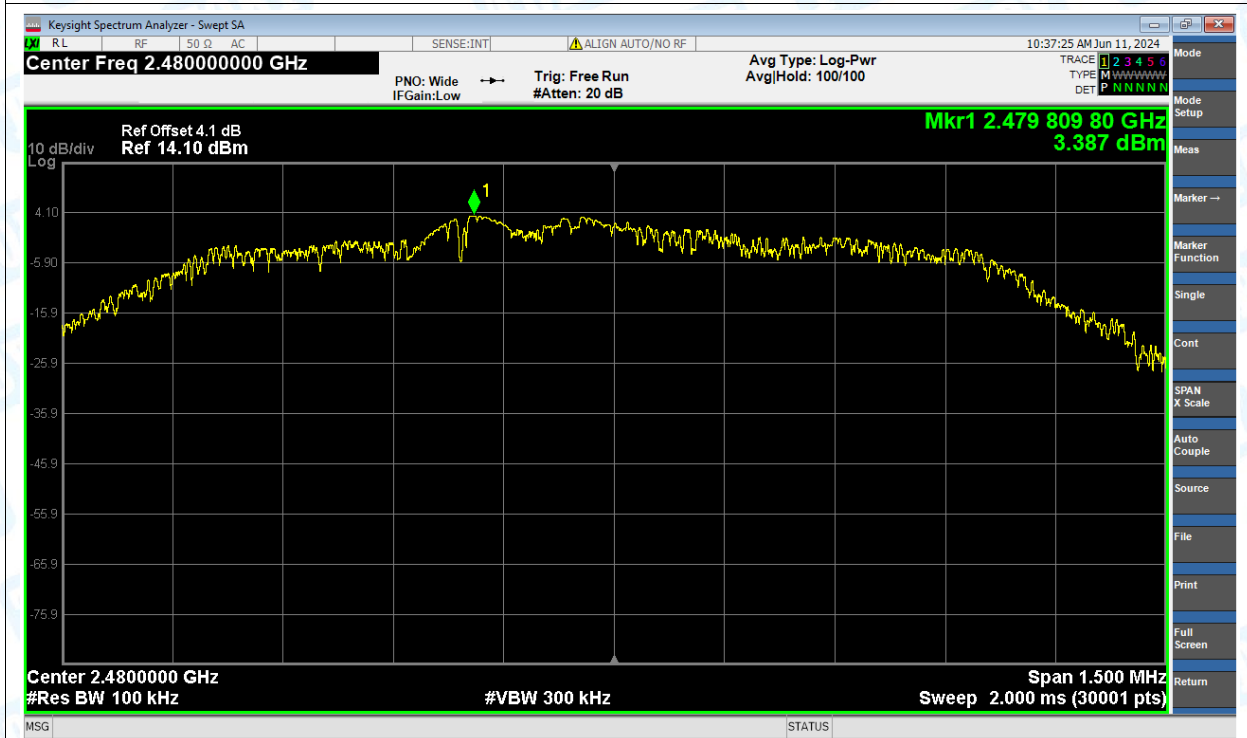
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



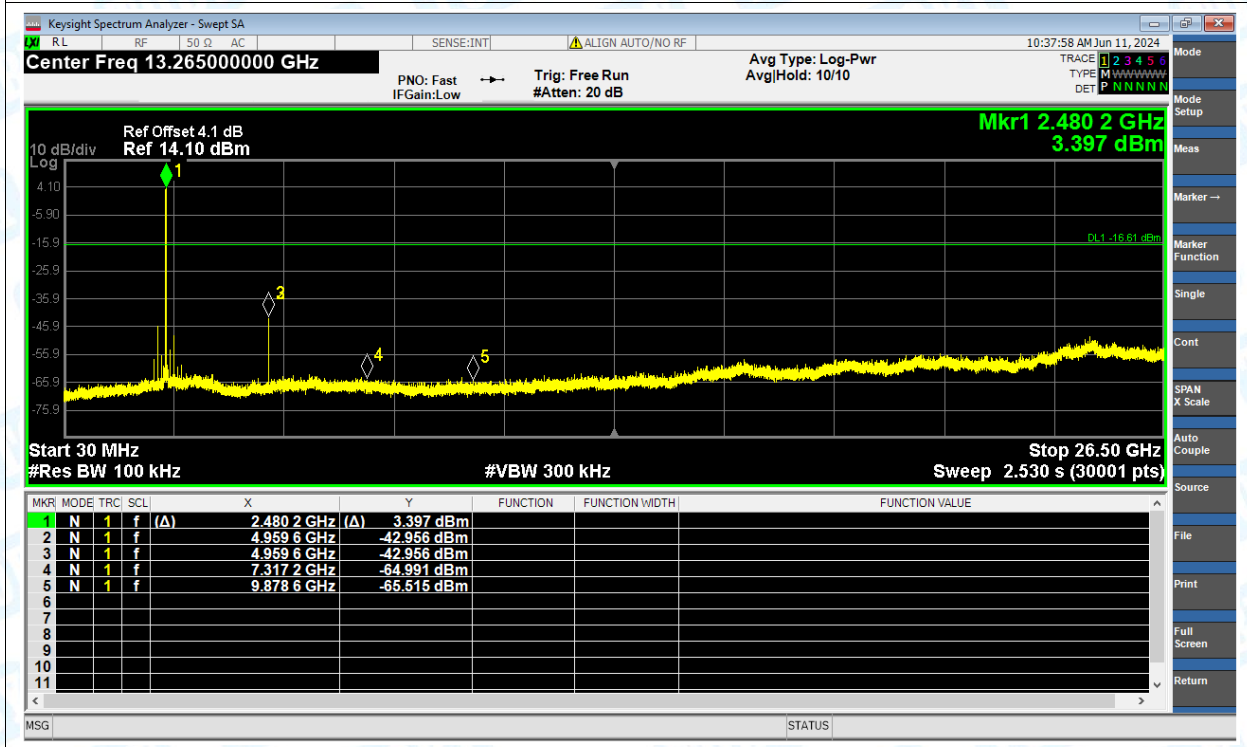
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



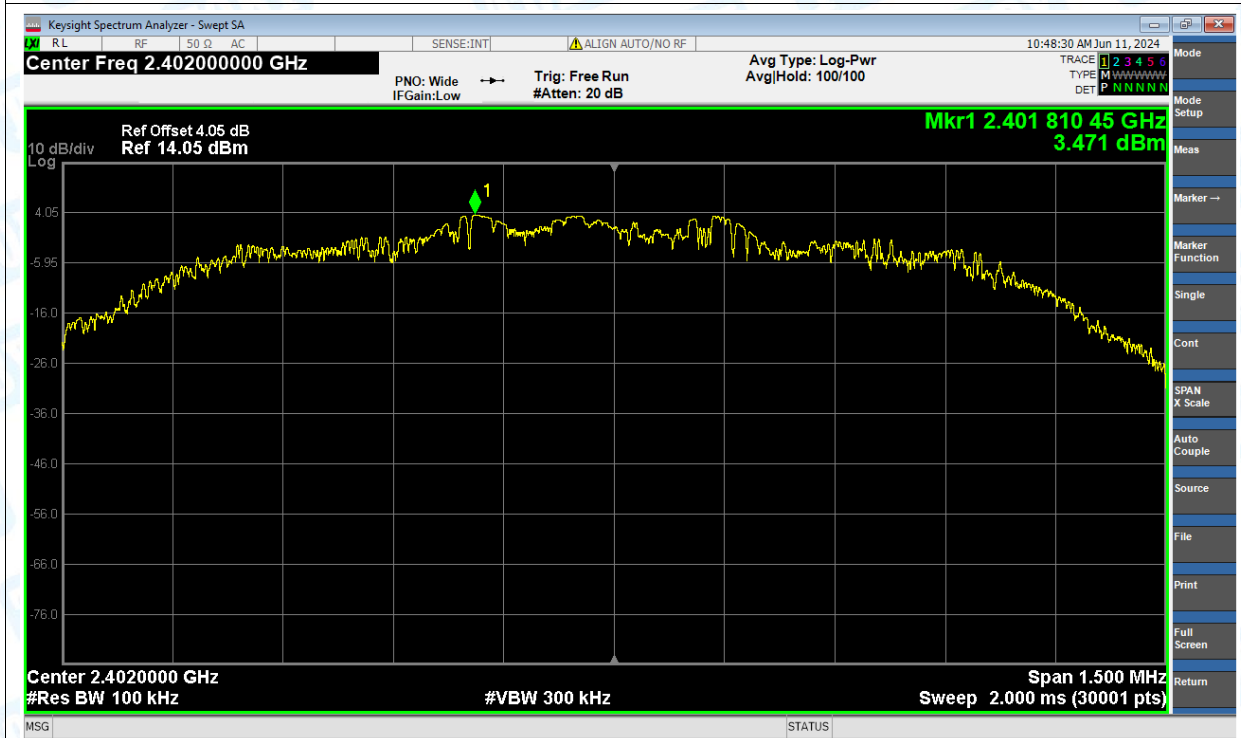
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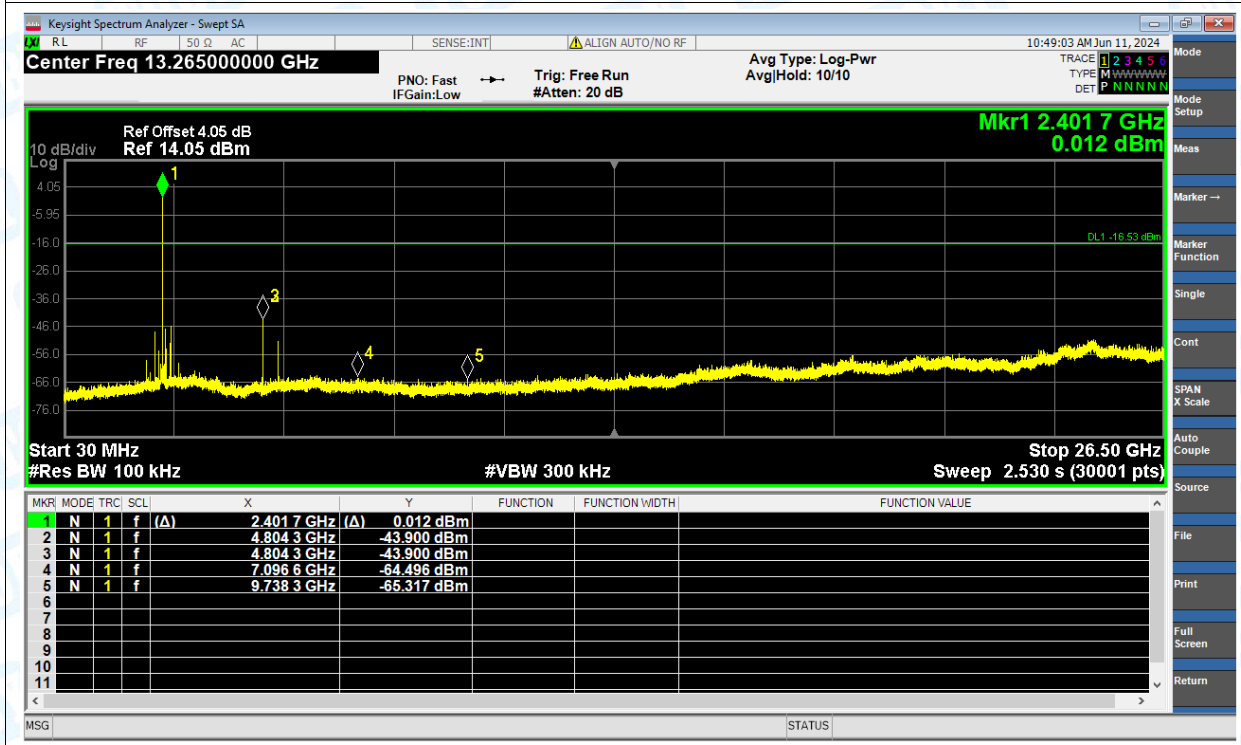
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



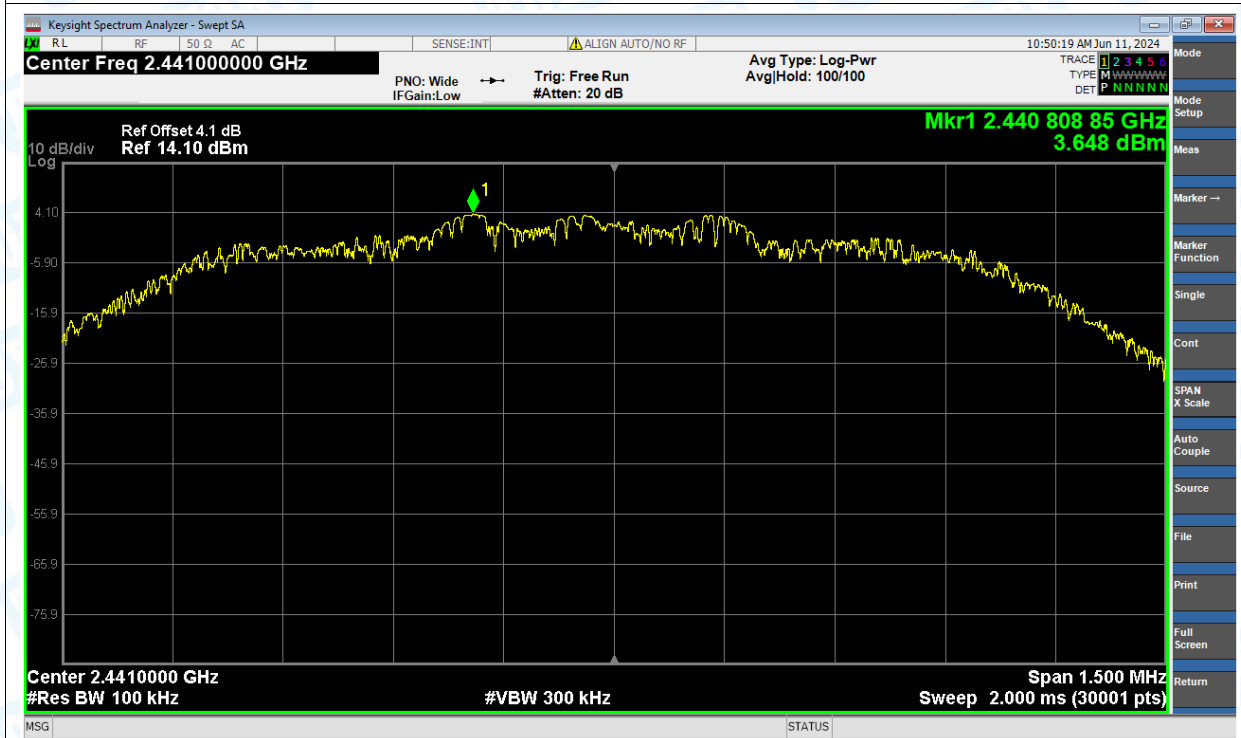
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



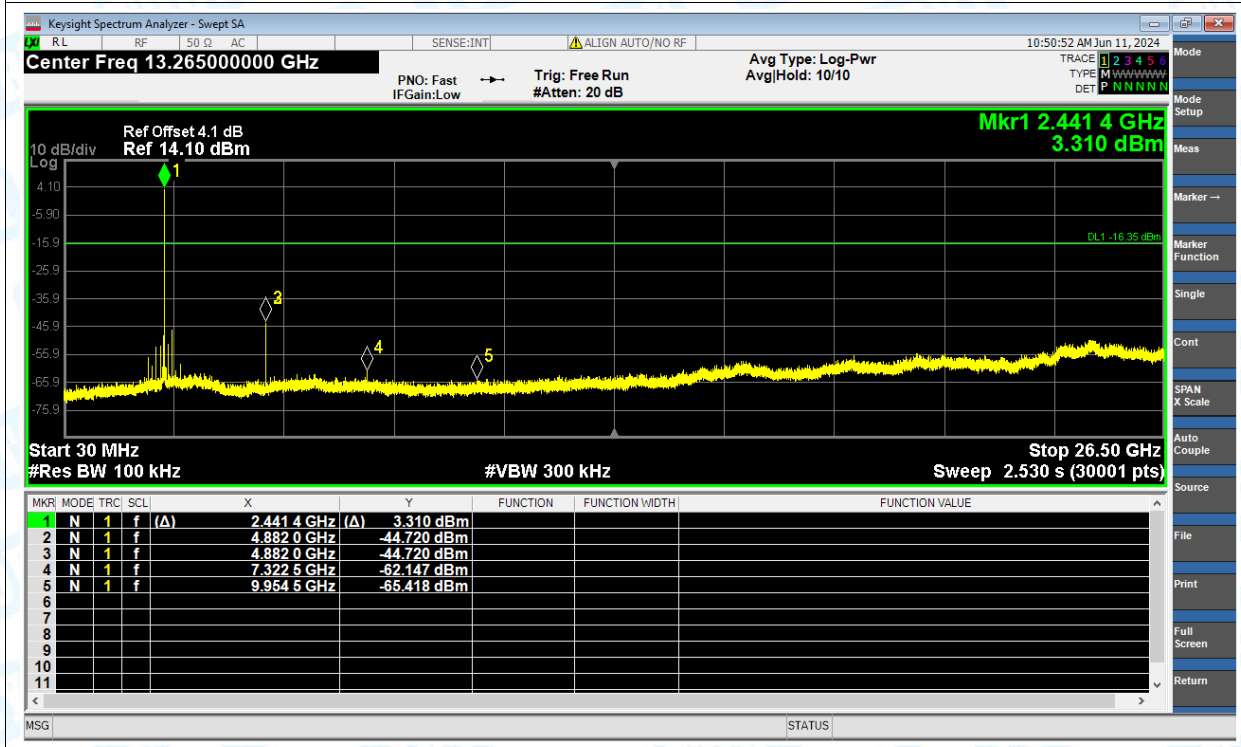
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



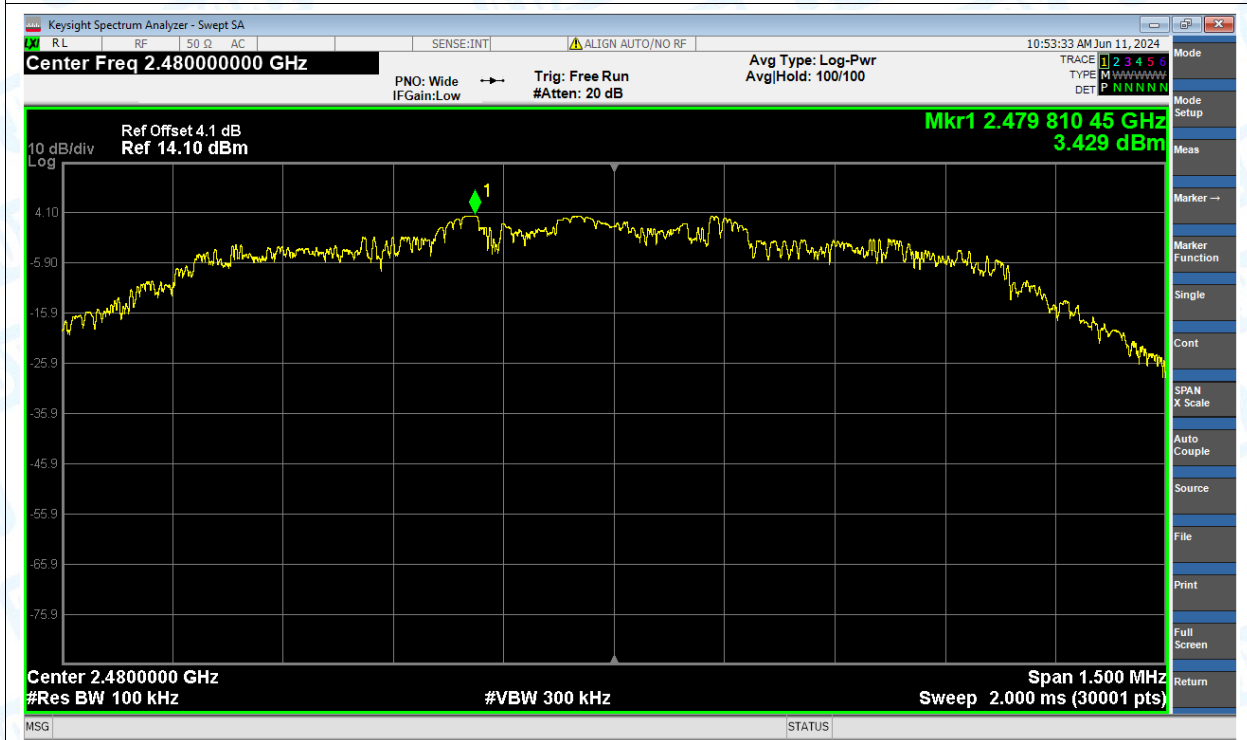
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



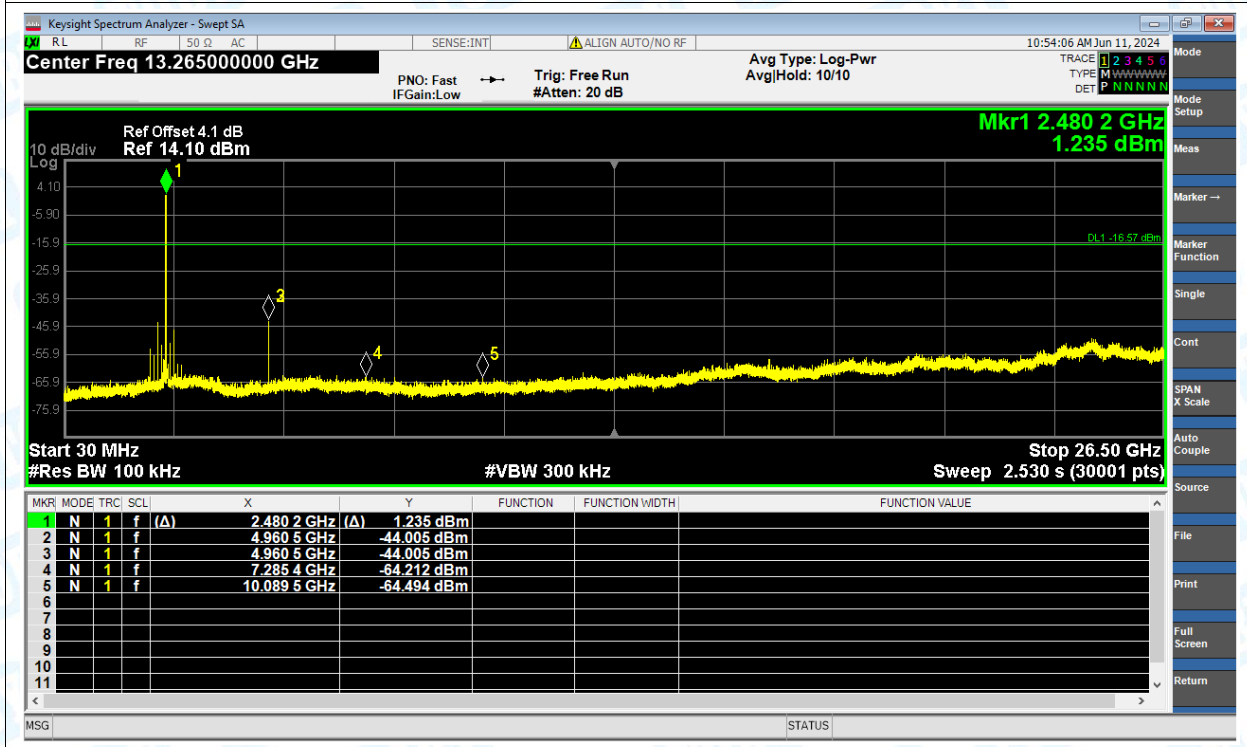
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

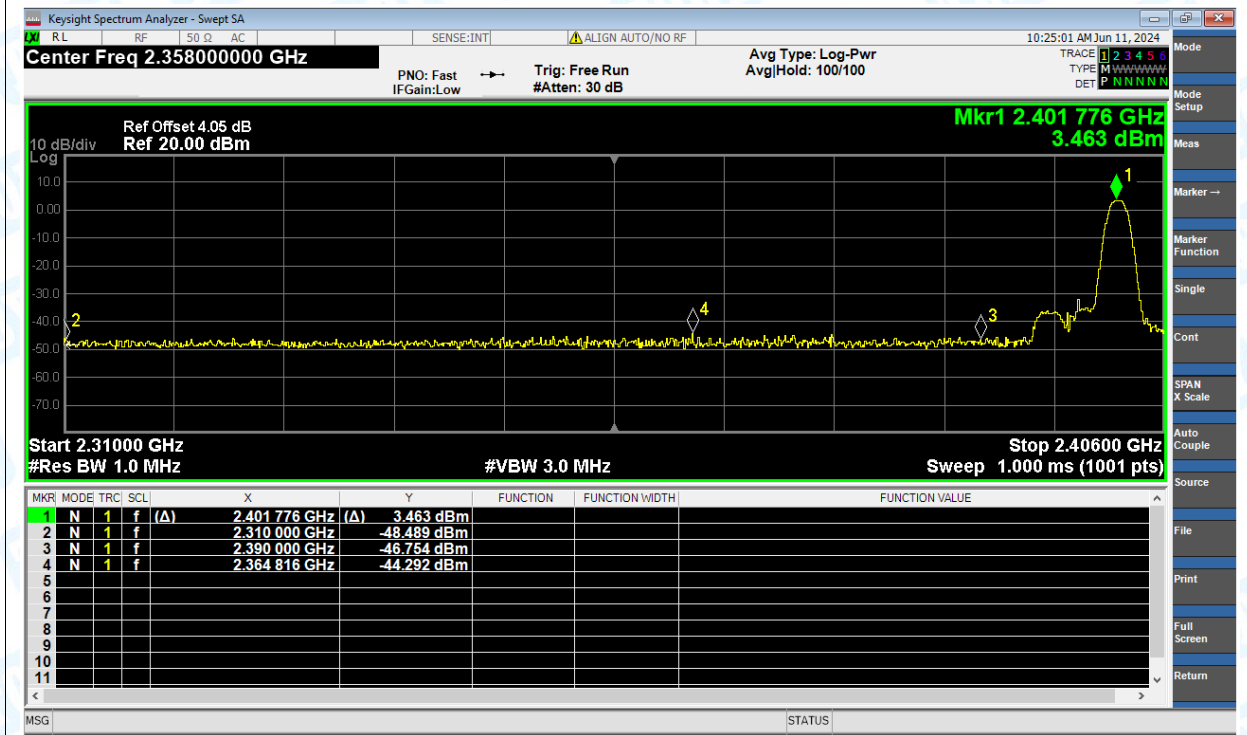


8. Restrict Band

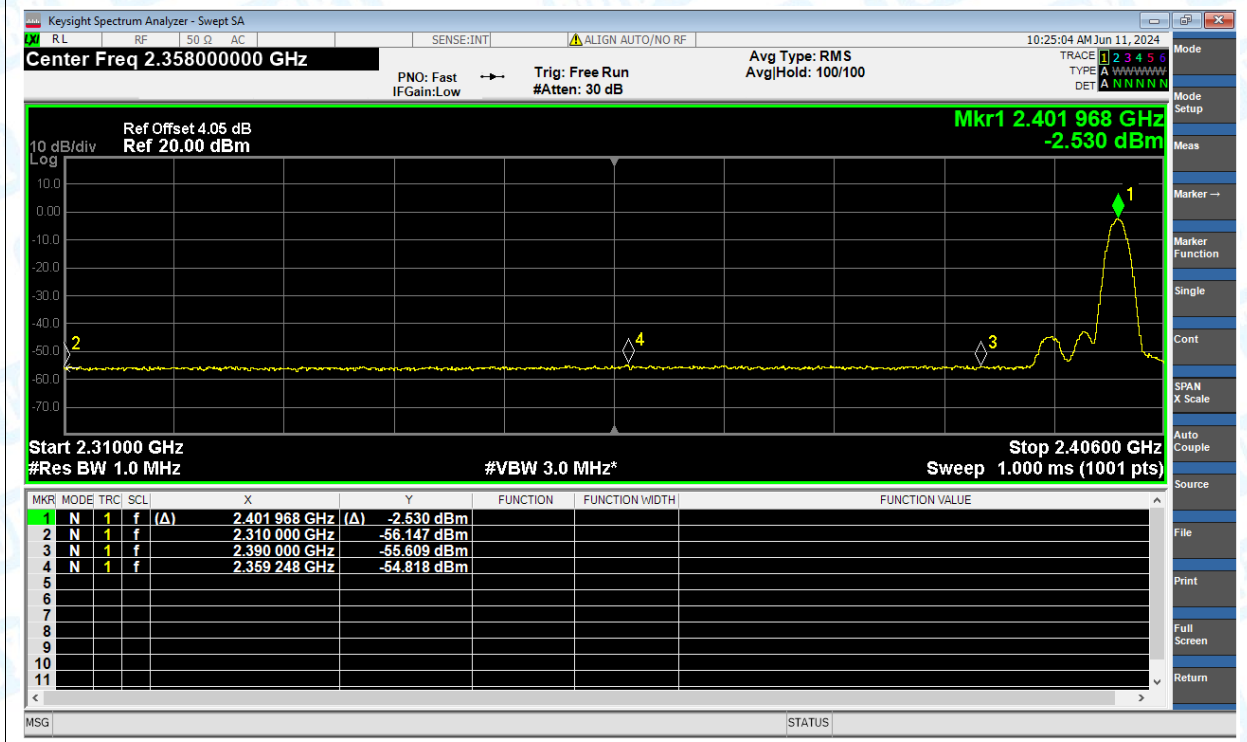
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.49	2	-	48.77	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.15	2	5.06	46.17	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2364.816	-44.29	2	-	52.97	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2359.248	-54.82	2	5.06	47.5	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.75	2	-	50.51	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.61	2	5.06	46.71	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-43.05	2	-	54.21	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-52.72	2	5.17	49.71	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2486.152	-40.67	2	-	56.59	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2485.24	-50.82	2	5.17	51.61	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.68	2	-	50.58	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.59	2	5.17	46.84	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-47.48	2	-	49.78	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-55.81	2	4.95	46.4	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2383.152	-44.01	2	-	53.25	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2364.912	-54.88	2	4.95	47.33	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.64	2	-	49.62	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.31	2	4.95	45.9	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-43.14	2	-	54.12	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-52.39	2	4.95	49.82	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.592	-38.45	2	-	58.81	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2485.168	-51.47	2	4.95	50.74	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.54	2	-	50.72	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.29	2	4.95	46.92	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-48.41	2	-	48.85	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.28	2	5.06	46.04	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2345.424	-44.76	2	-	52.5	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2360.688	-54.89	2	5.06	47.43	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-47.88	2	-	49.38	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-55.11	2	5.06	47.21	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-44.76	2	-	52.5	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.58	2	5.06	47.74	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2485.72	-40.13	2	-	57.13	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2485.24	-51.76	2	5.06	50.56	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.87	2	-	50.39	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.46	2	5.06	46.86	Average	54	Pass

Test Graphs

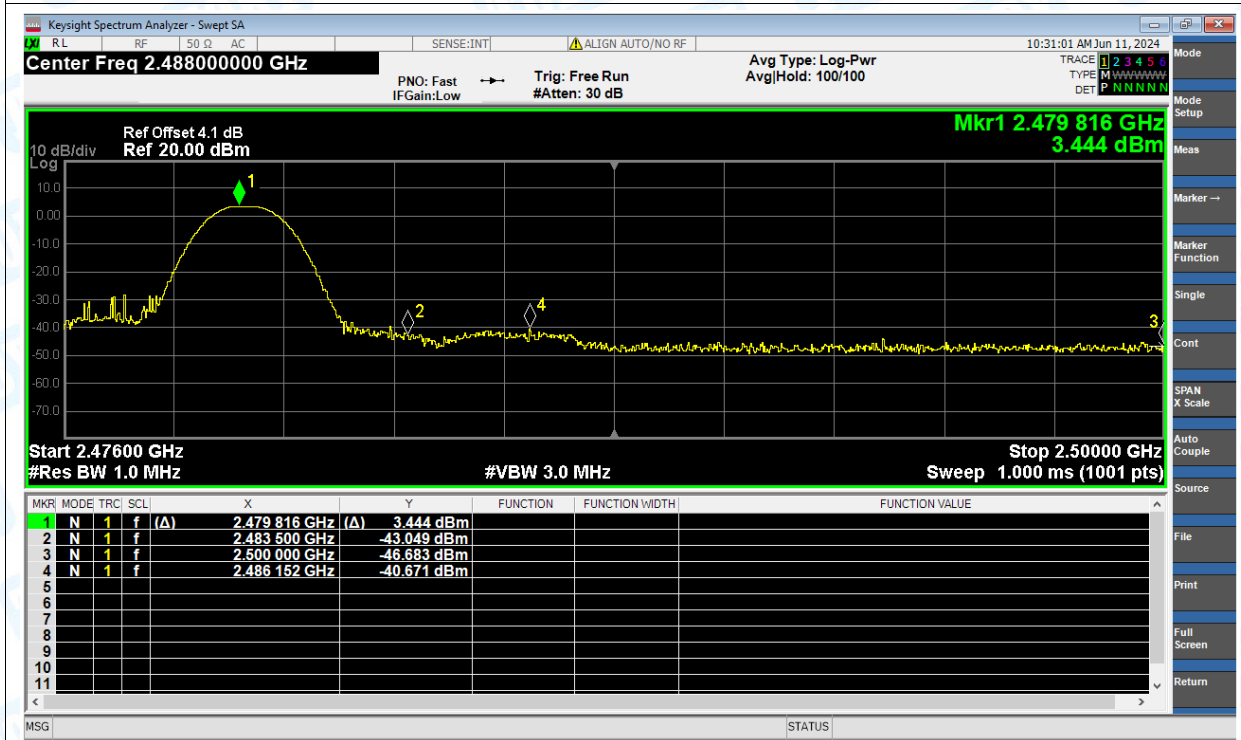
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



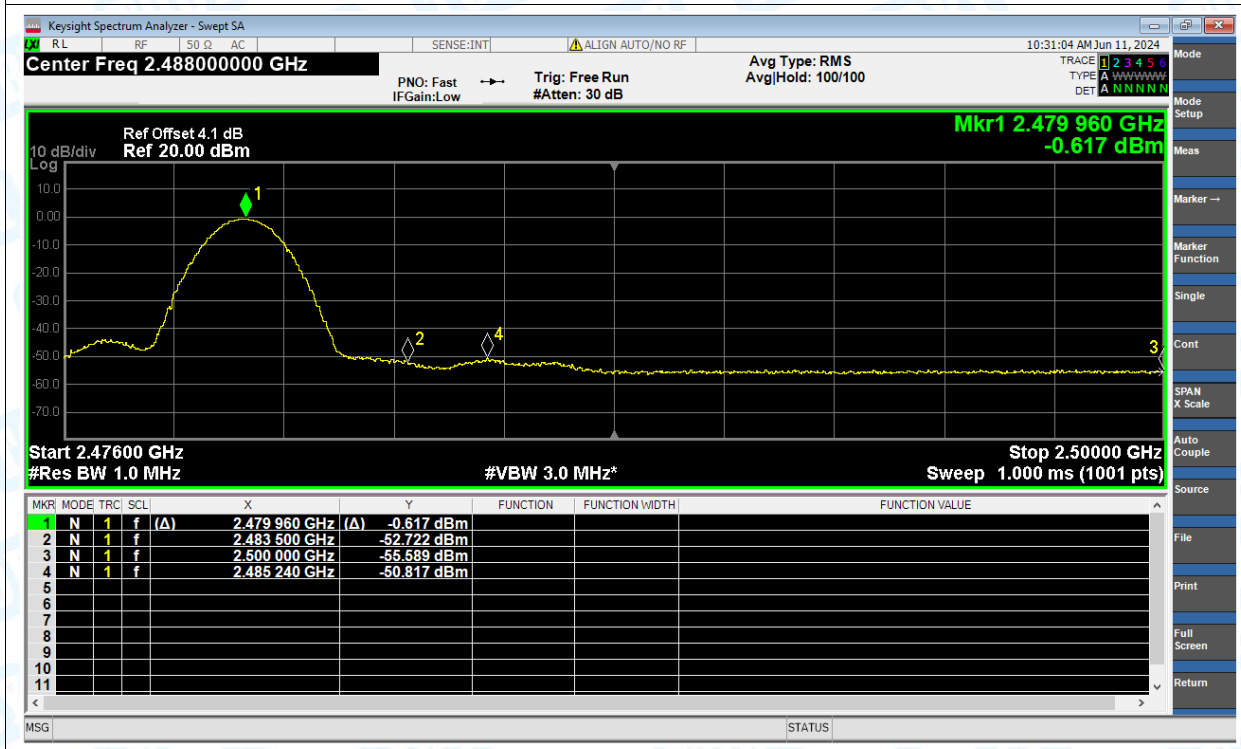
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



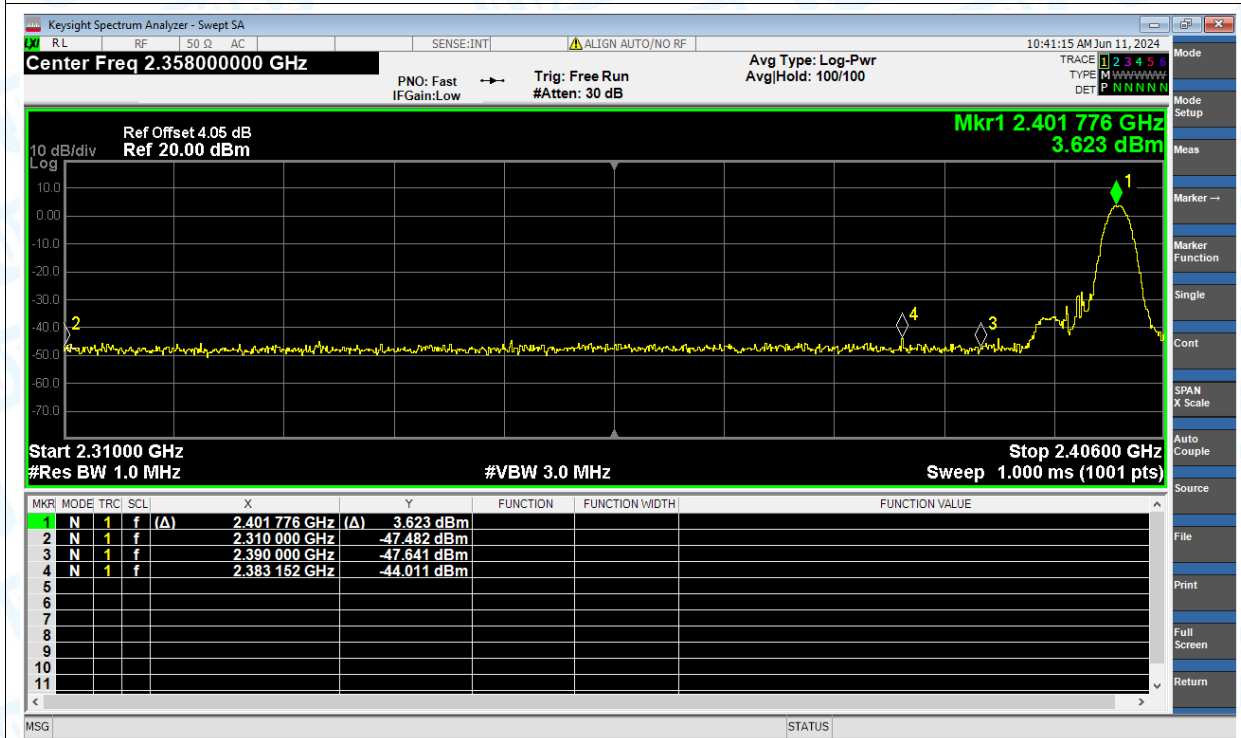
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



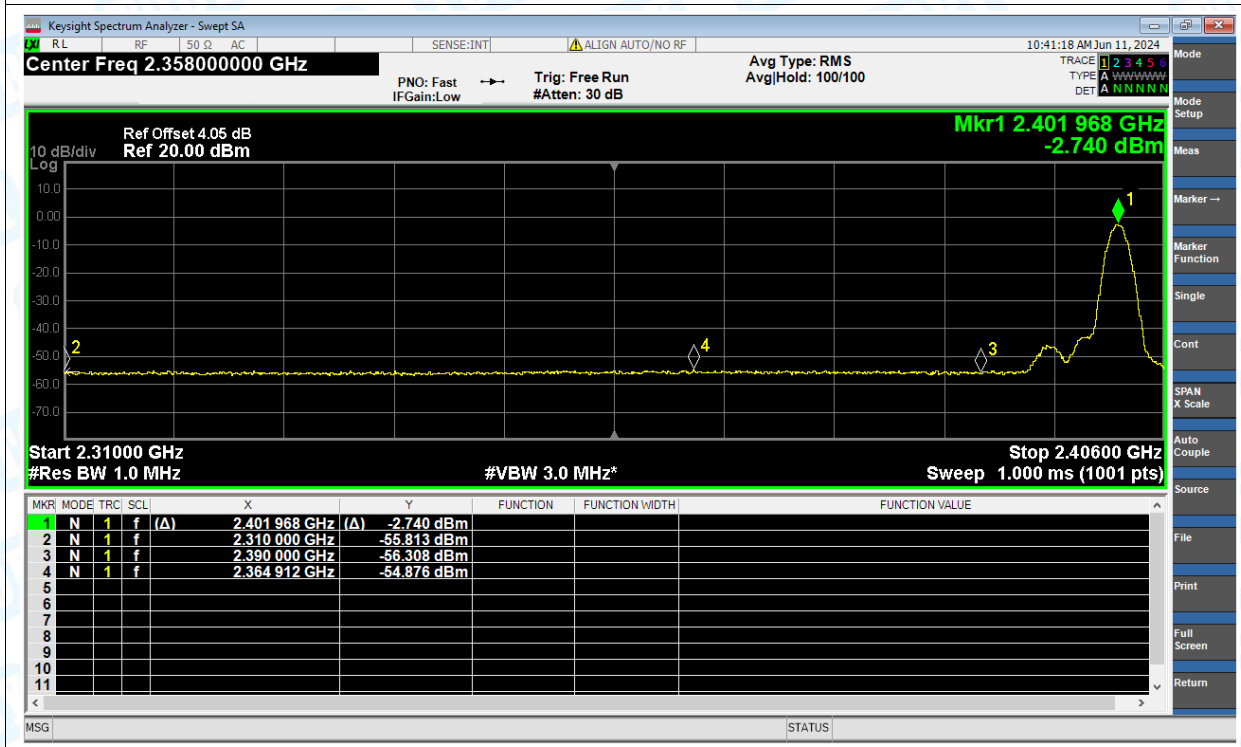
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



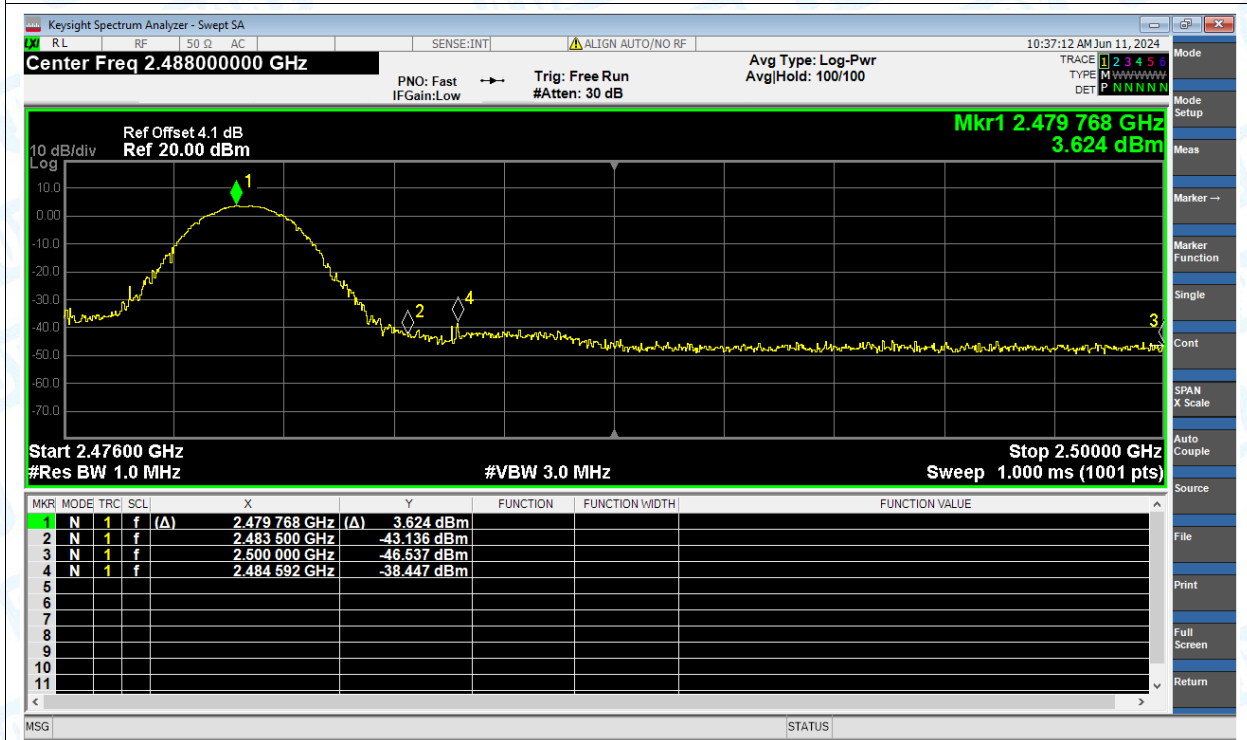
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



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



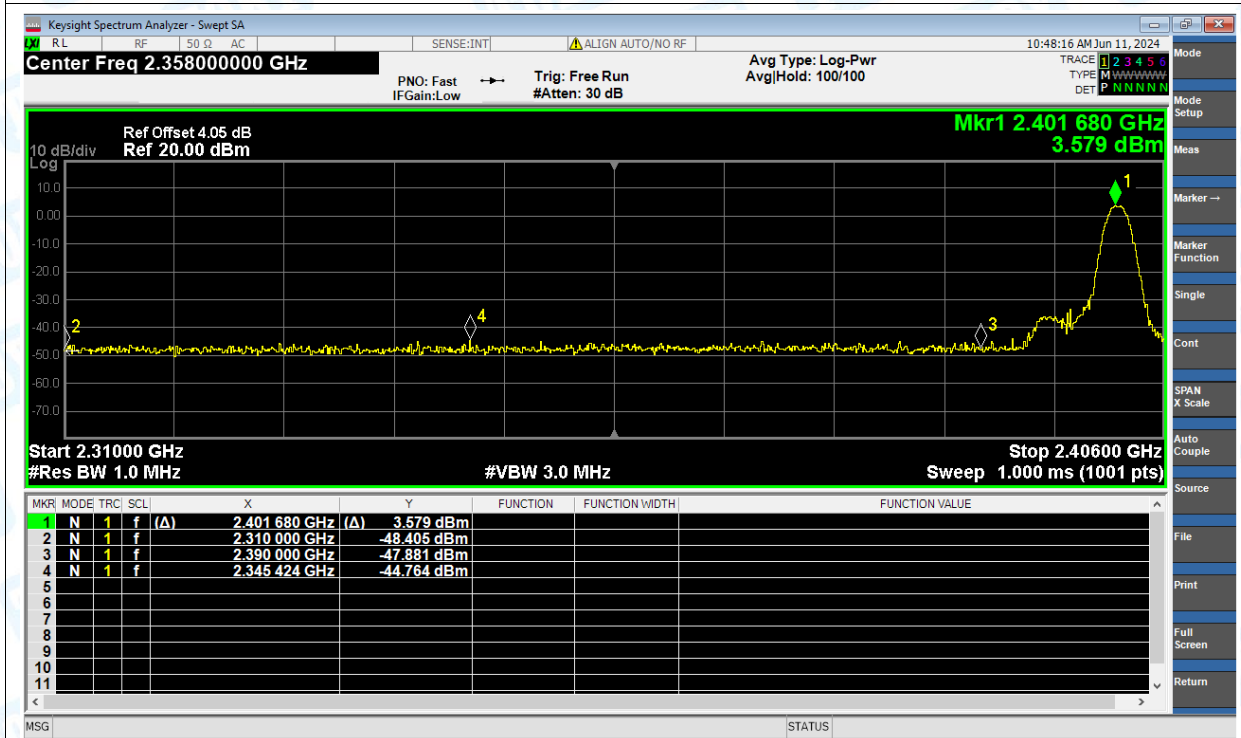
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



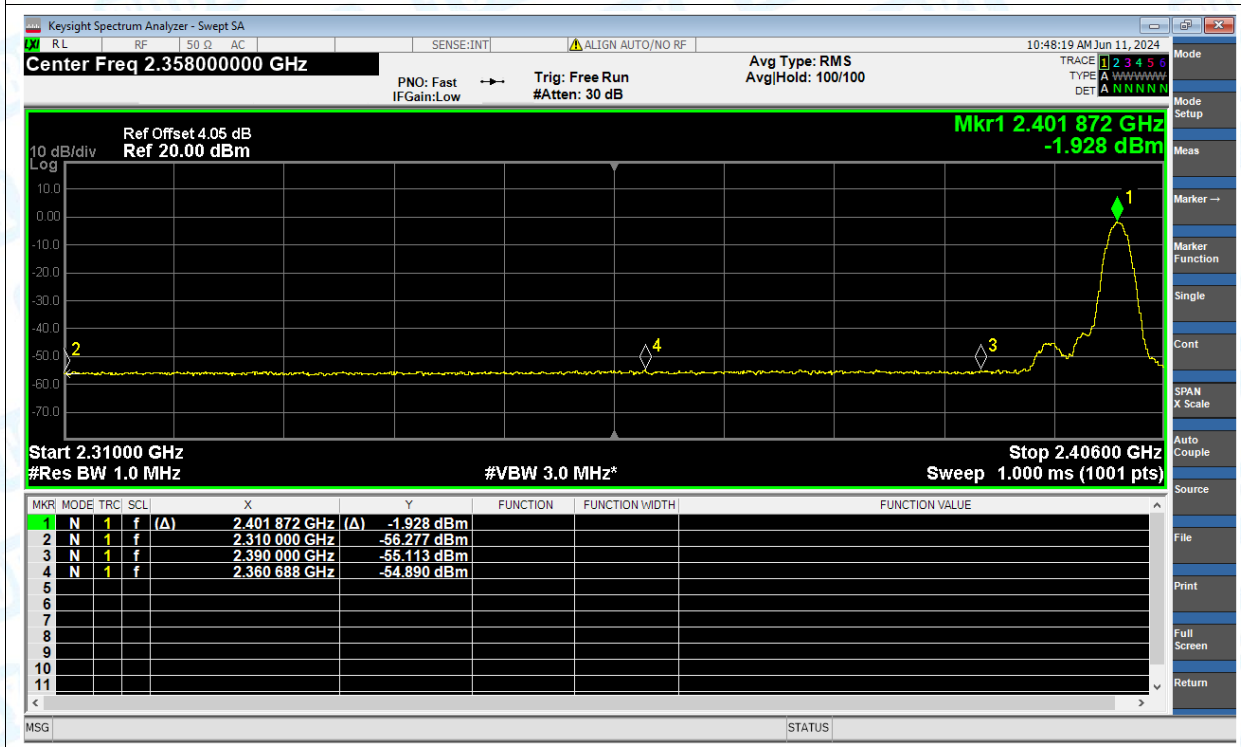
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



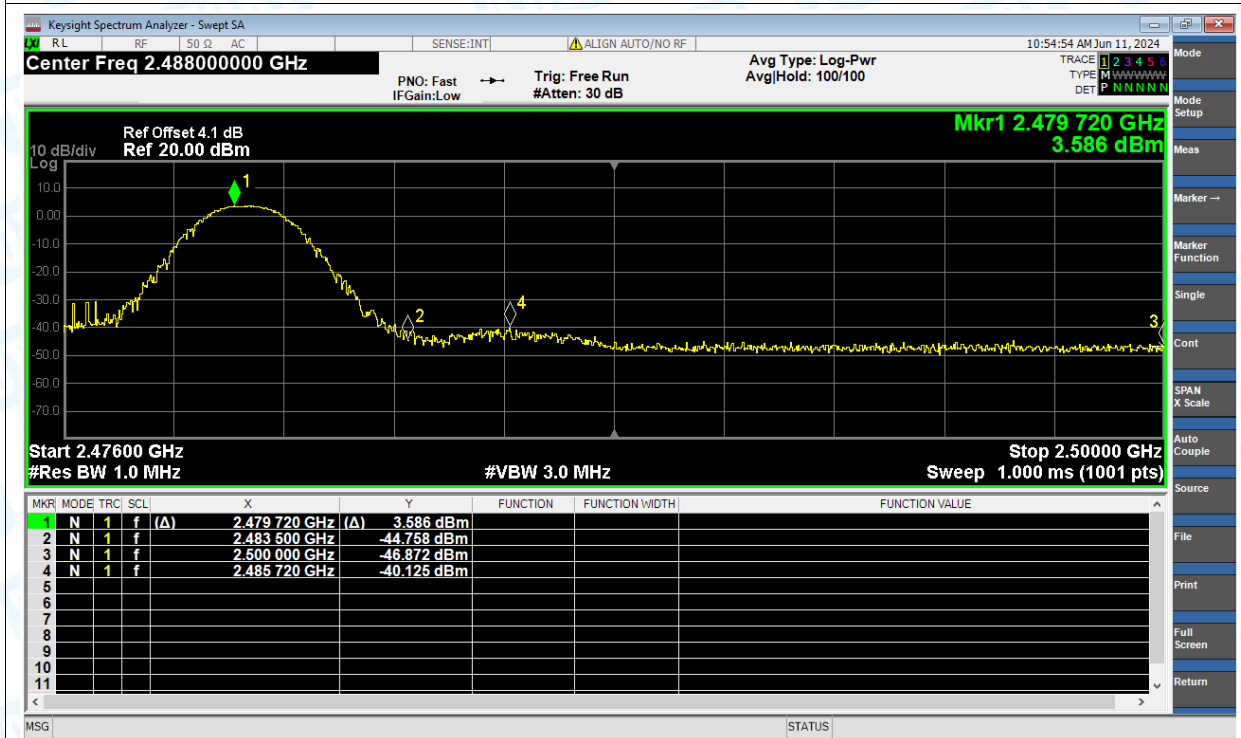
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



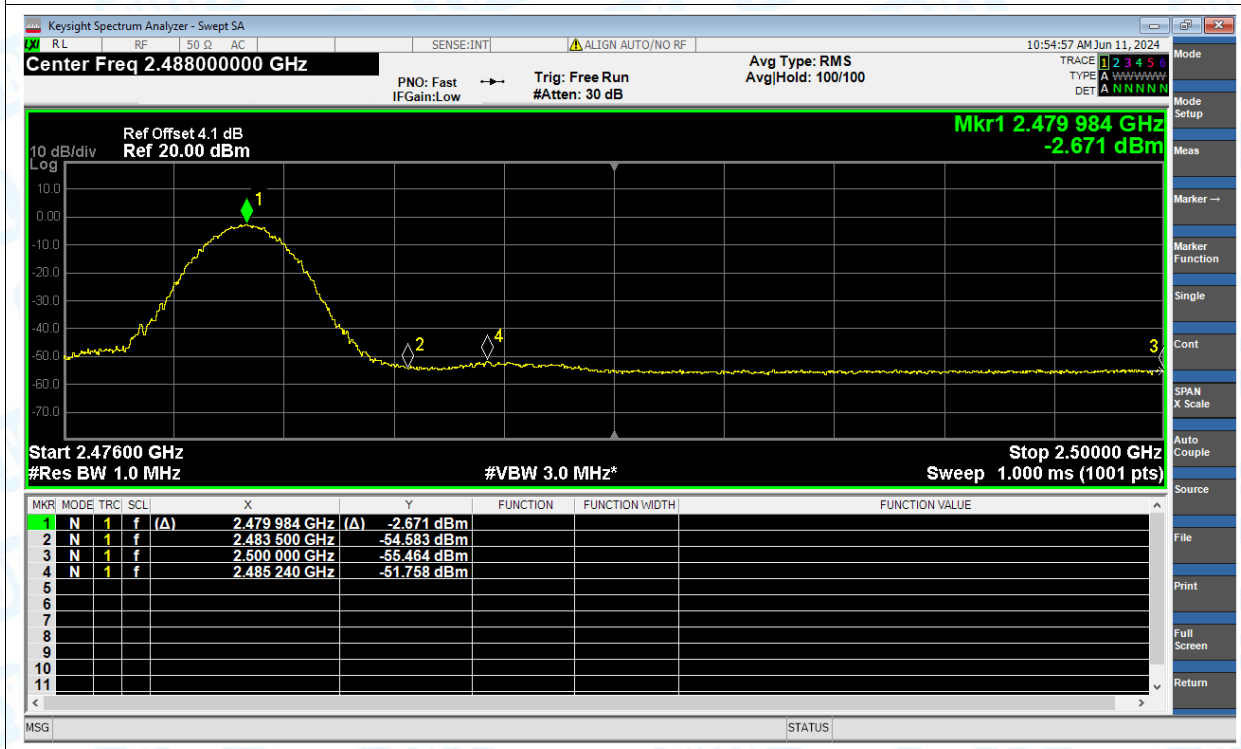
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

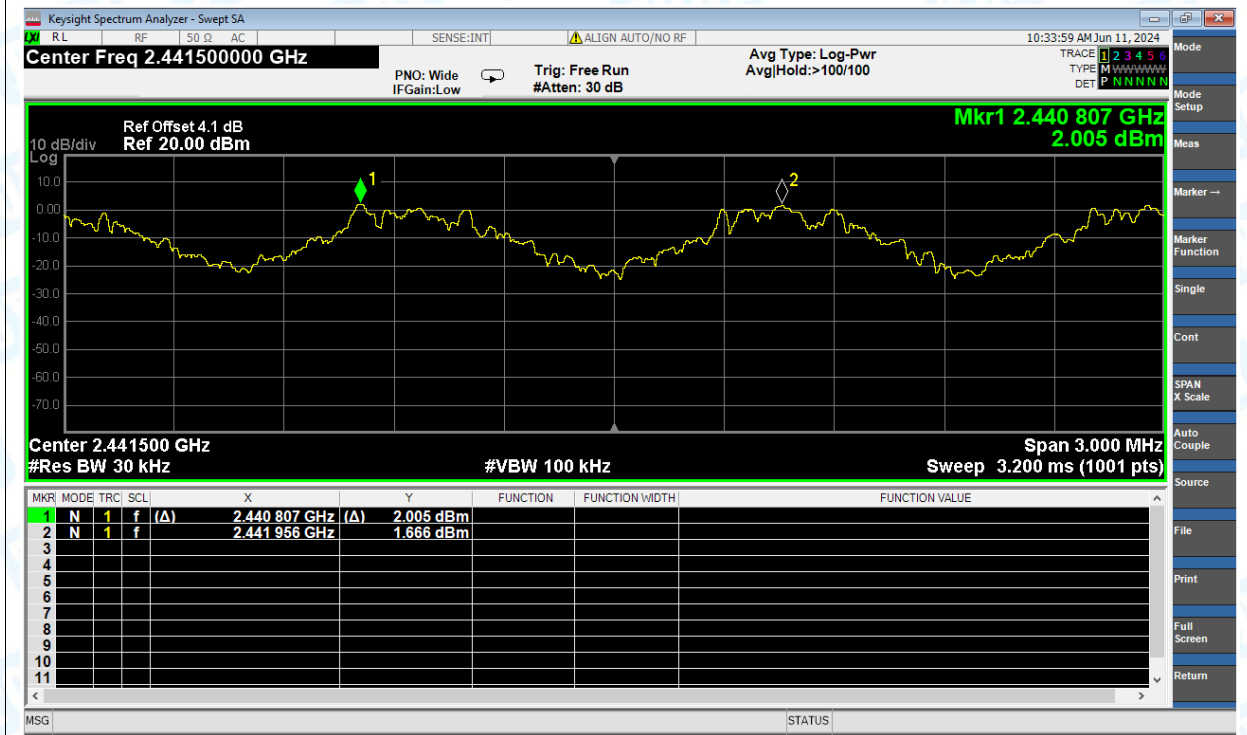


9. Carrier Frequencies Separation

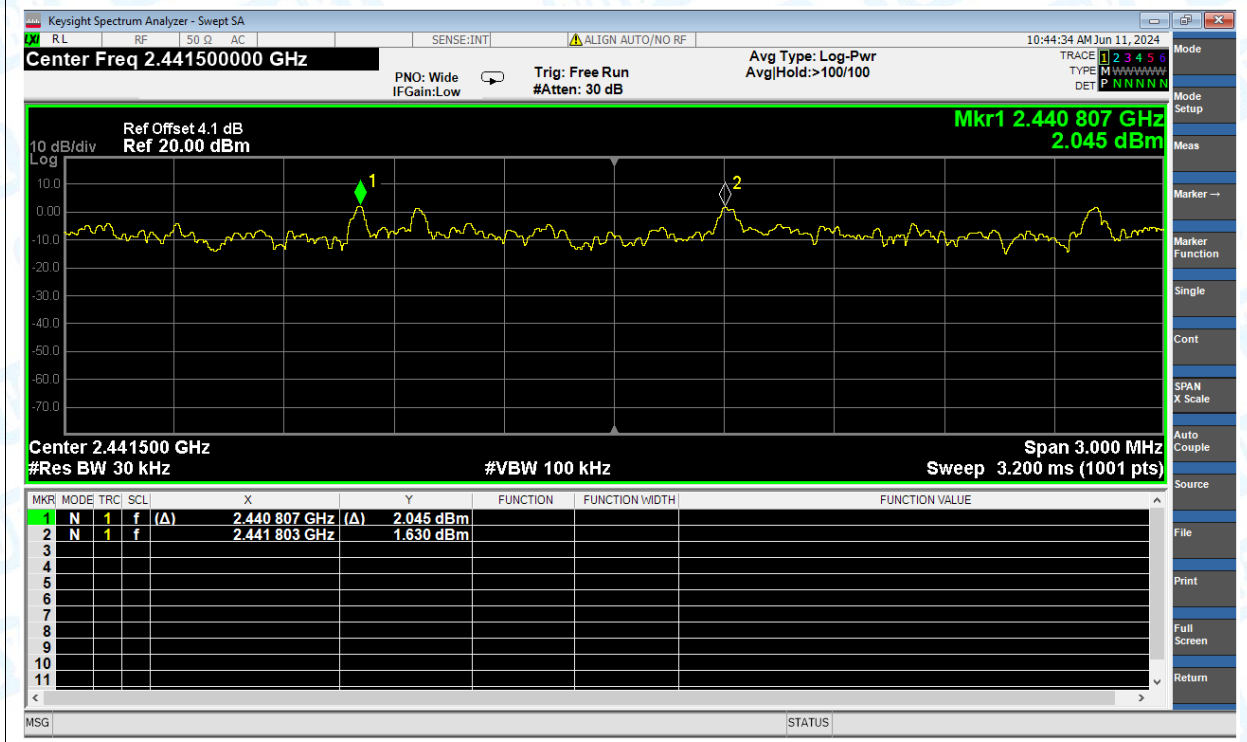
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.807	2441.956	1.149	0.587	Pass
NVNT	2-DH1	Ant1	2440.807	2441.803	0.996	0.833	Pass
NVNT	3-DH1	Ant1	2440.801	2441.806	1.005	0.813	Pass

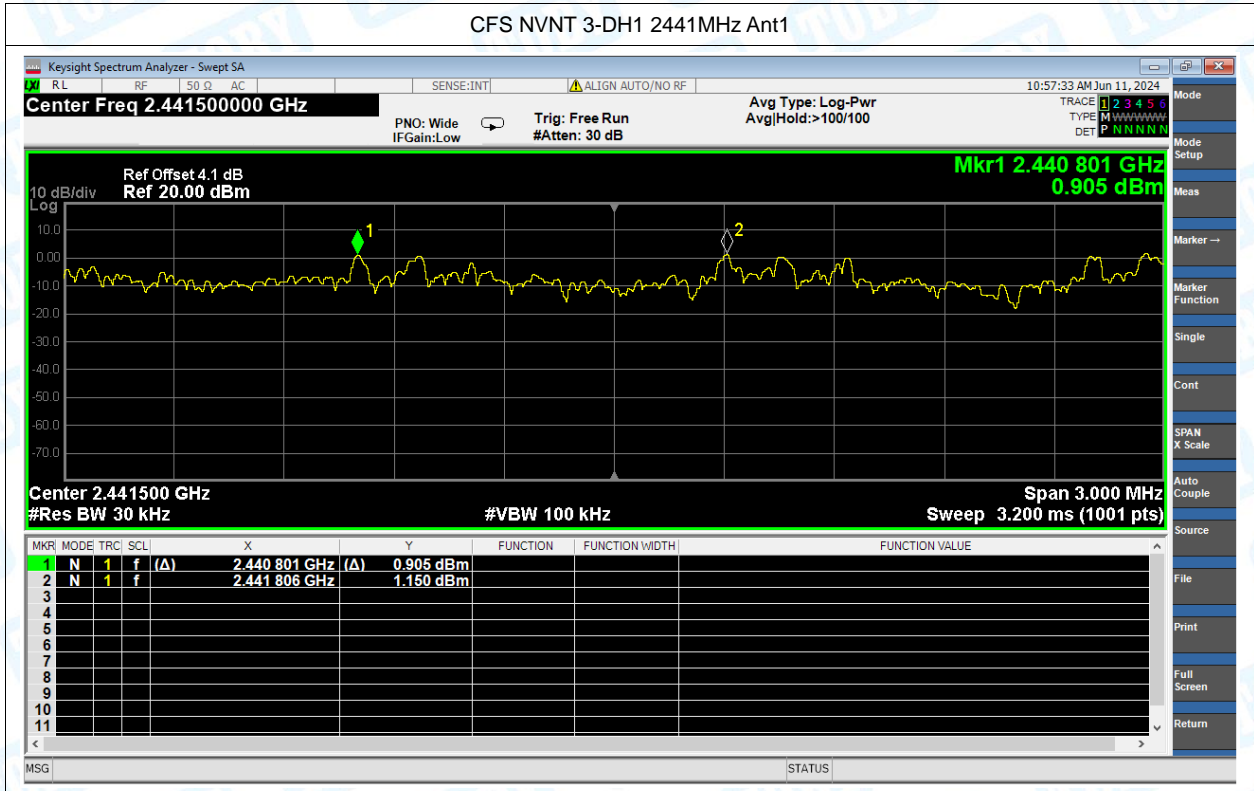
Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



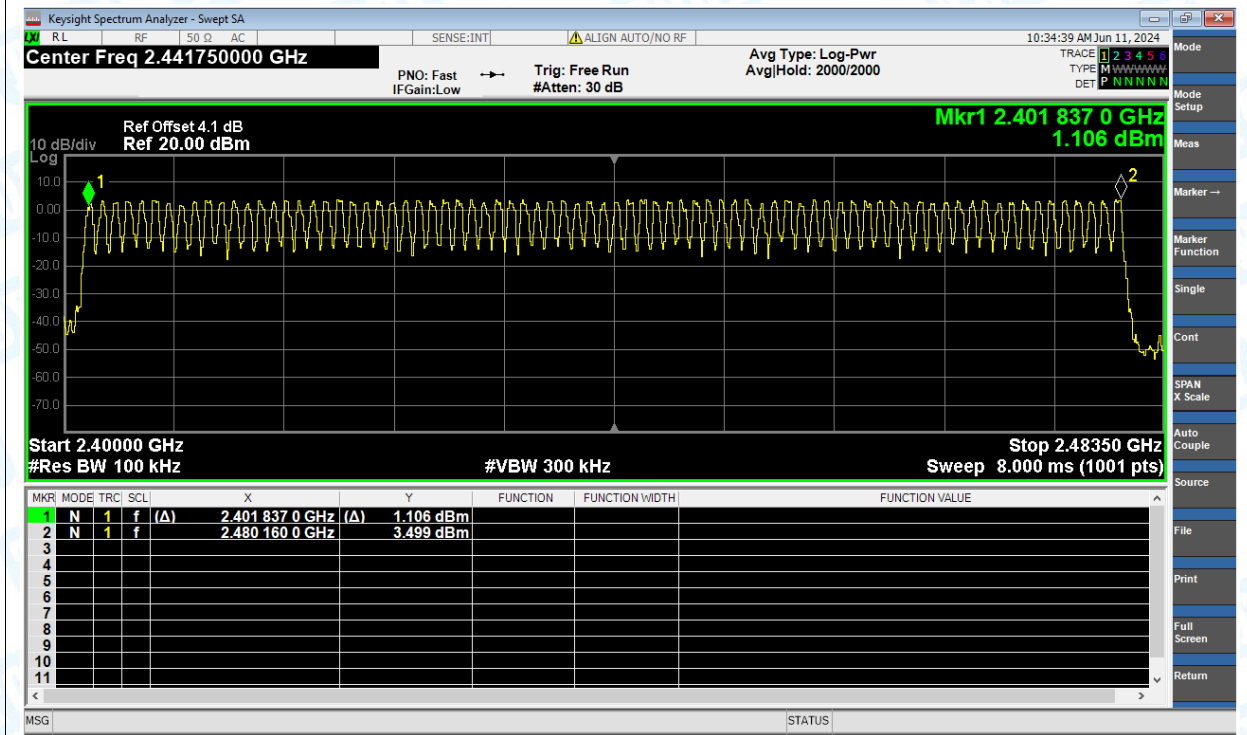


10. Number of Hopping Channel

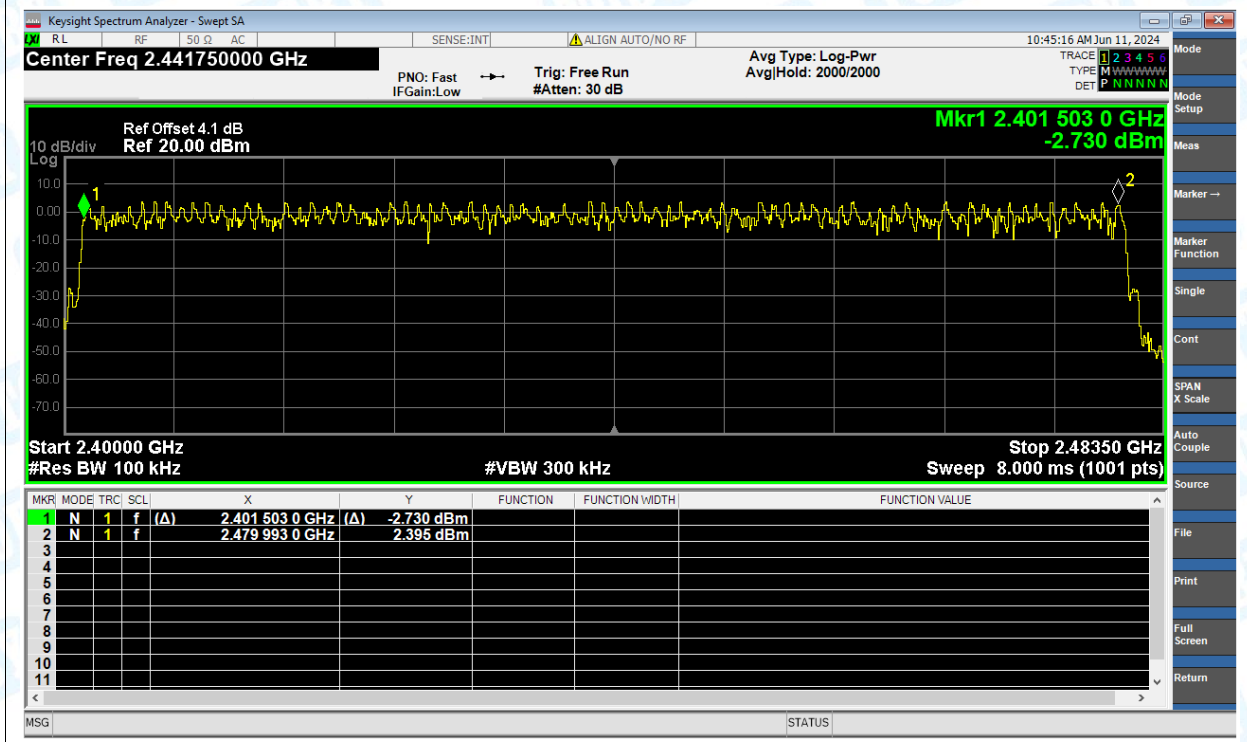
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

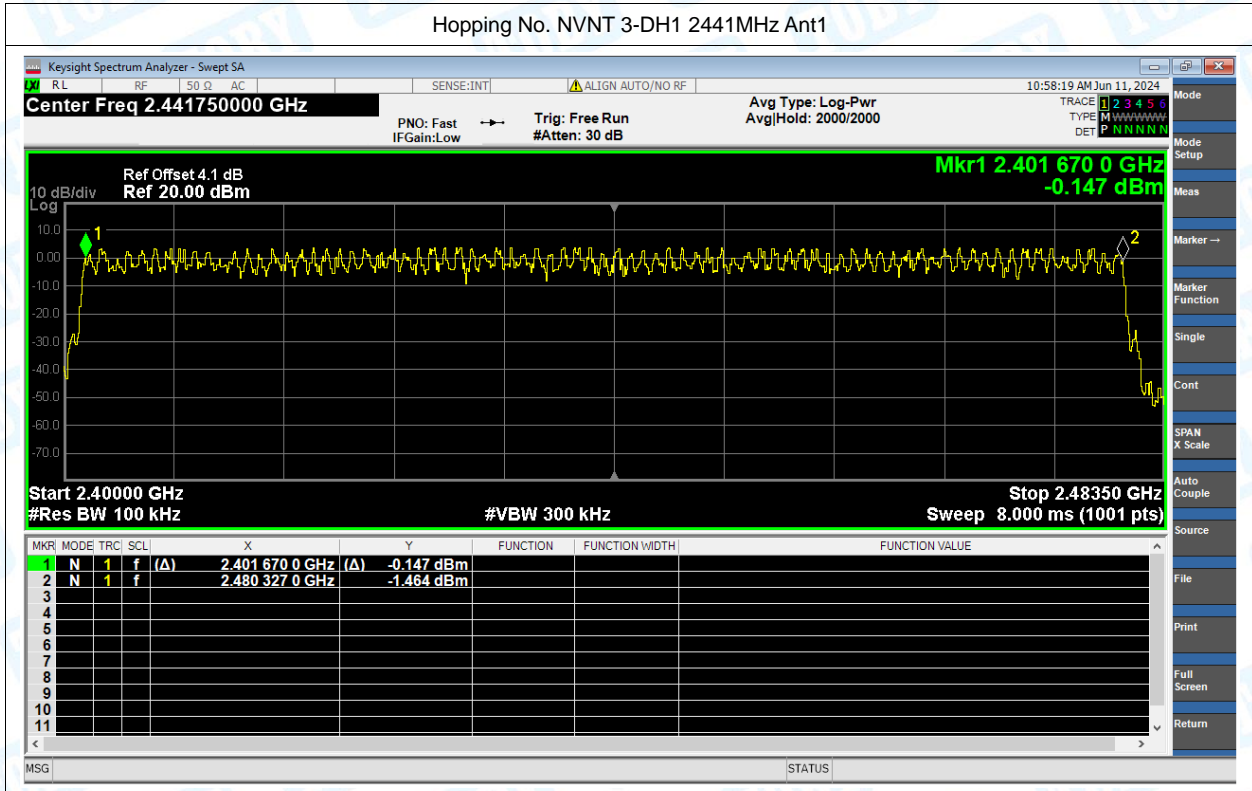
Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



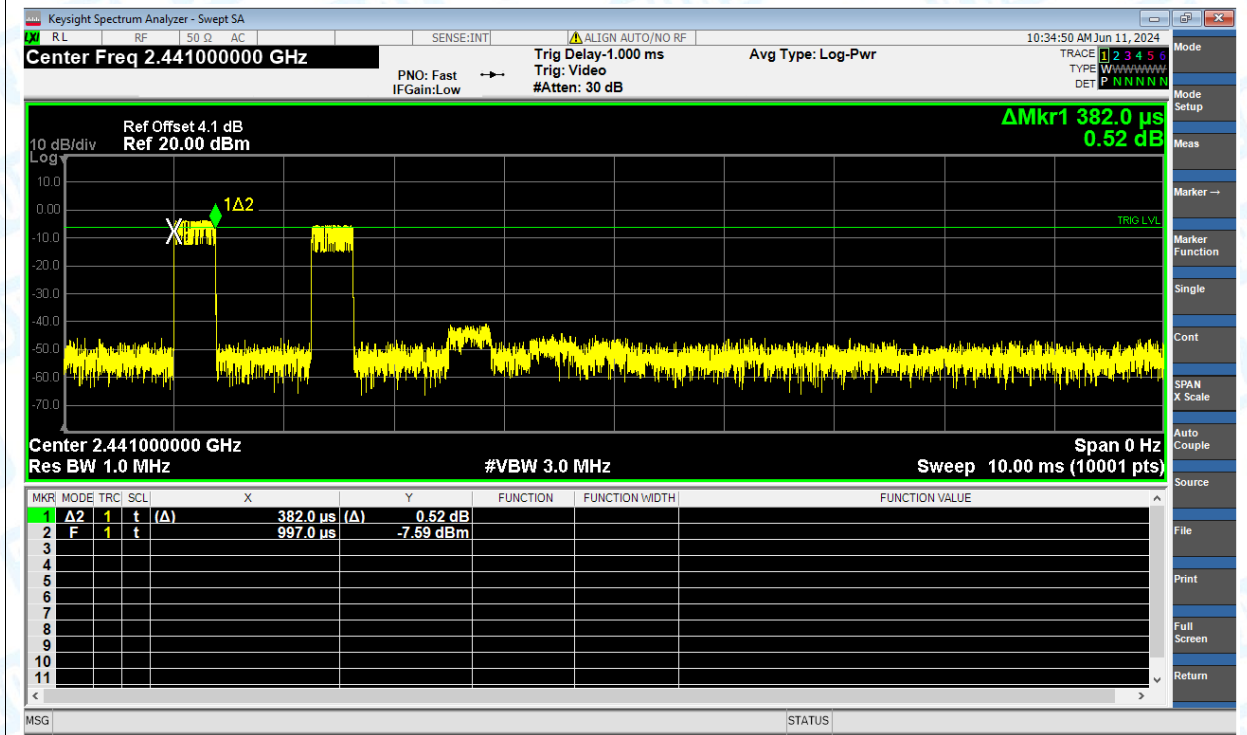


11. Dwell Time

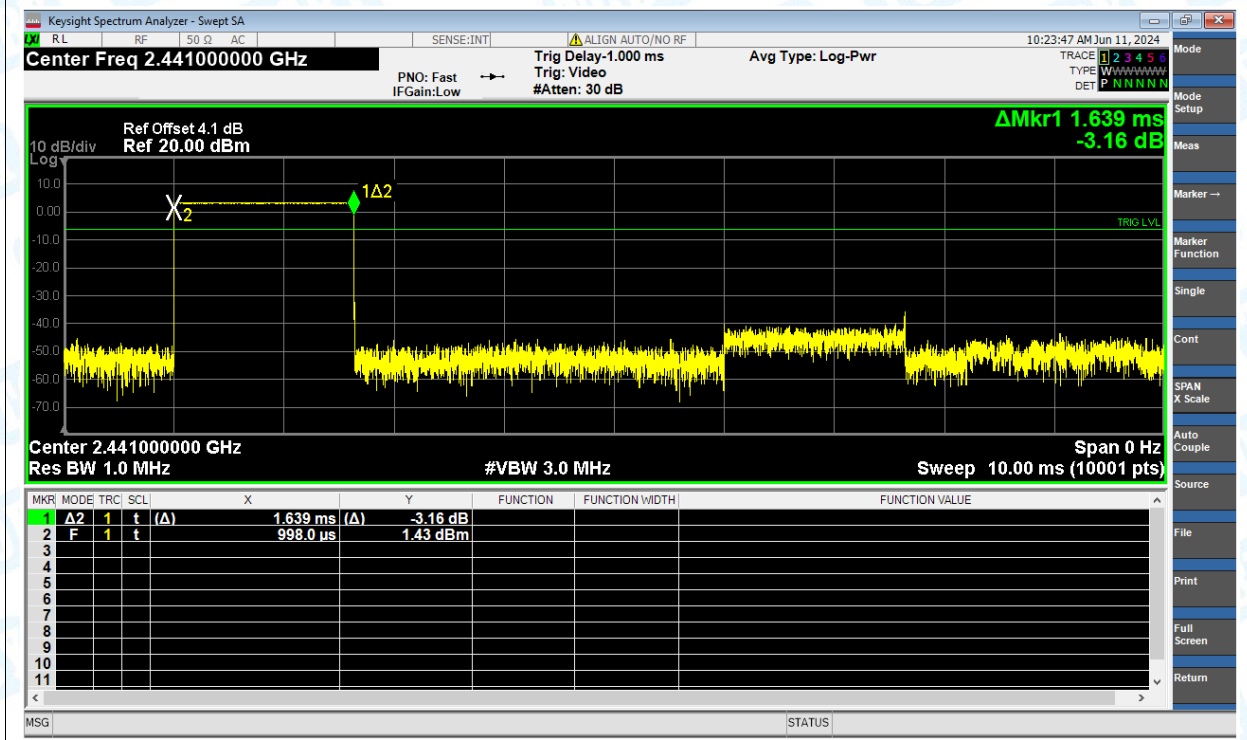
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.382	122.24	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	262.24	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.392	125.44	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.644	263.04	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.892	308.48	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.892	308.48	31600	400	Pass

Test Graphs

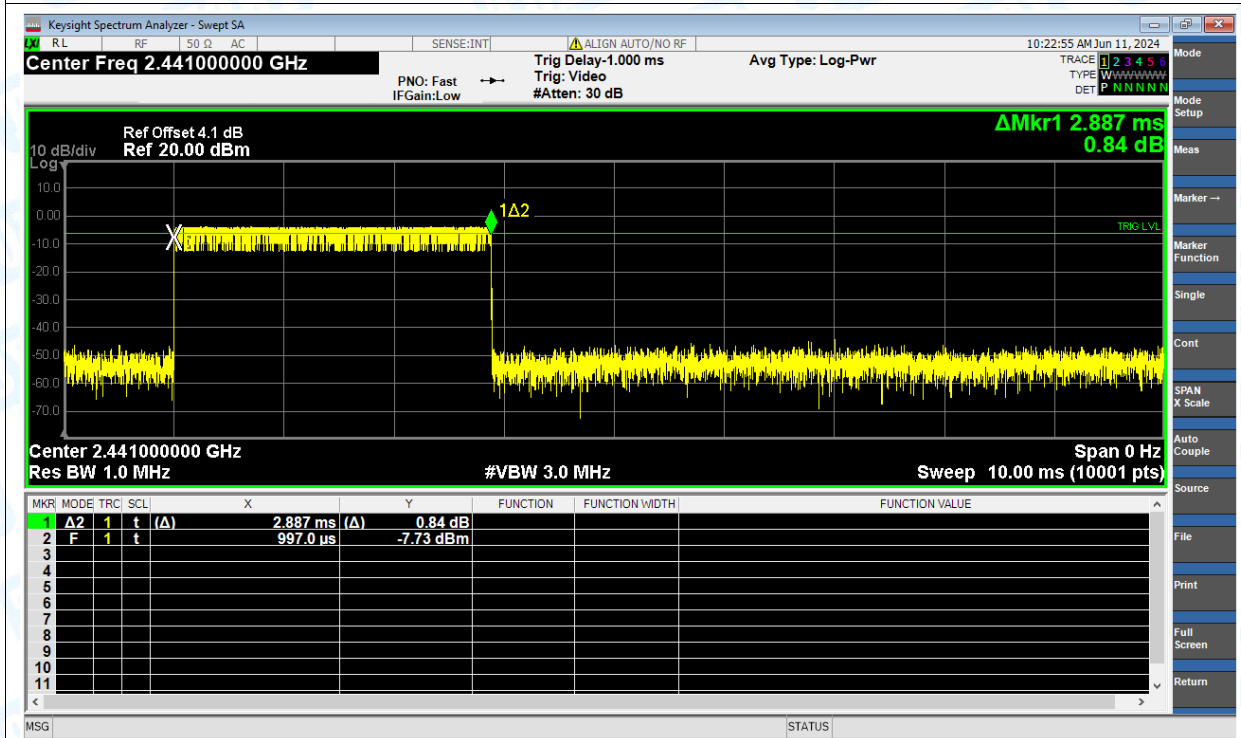
Dwell NVNT 1-DH1 2441MHz Ant1



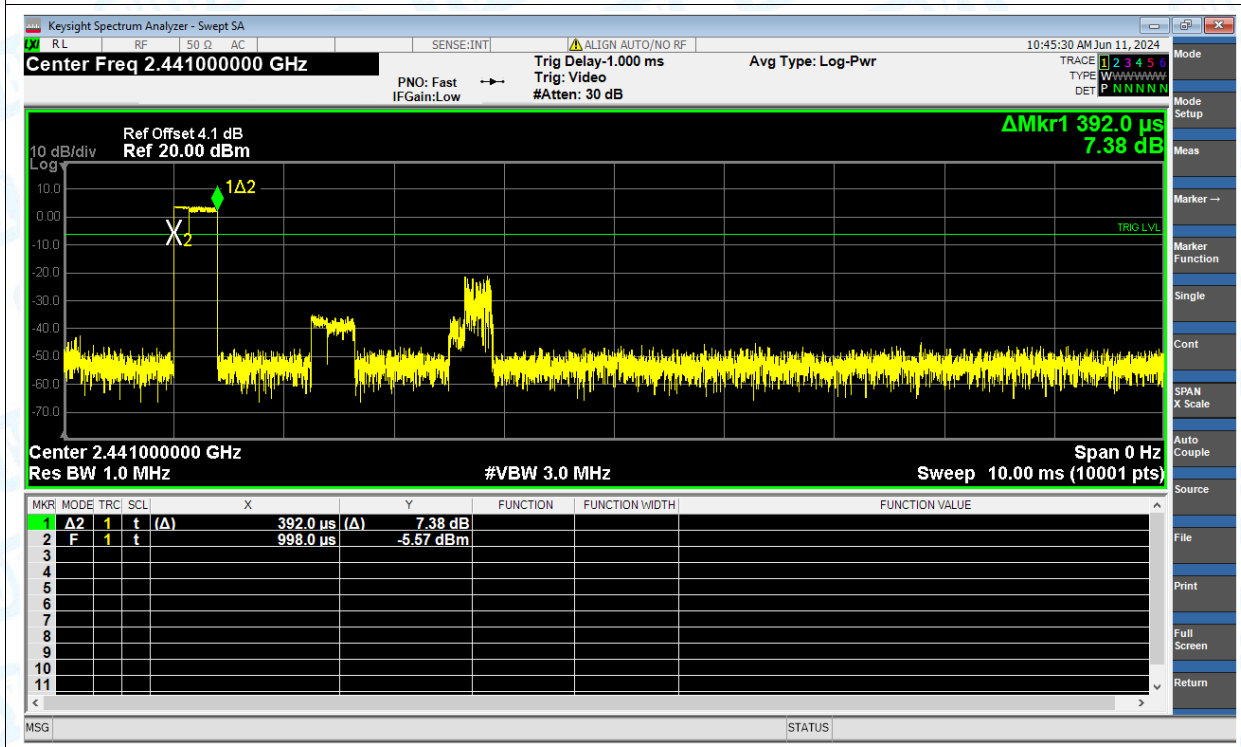
Dwell NVNT 1-DH3 2441MHz Ant1



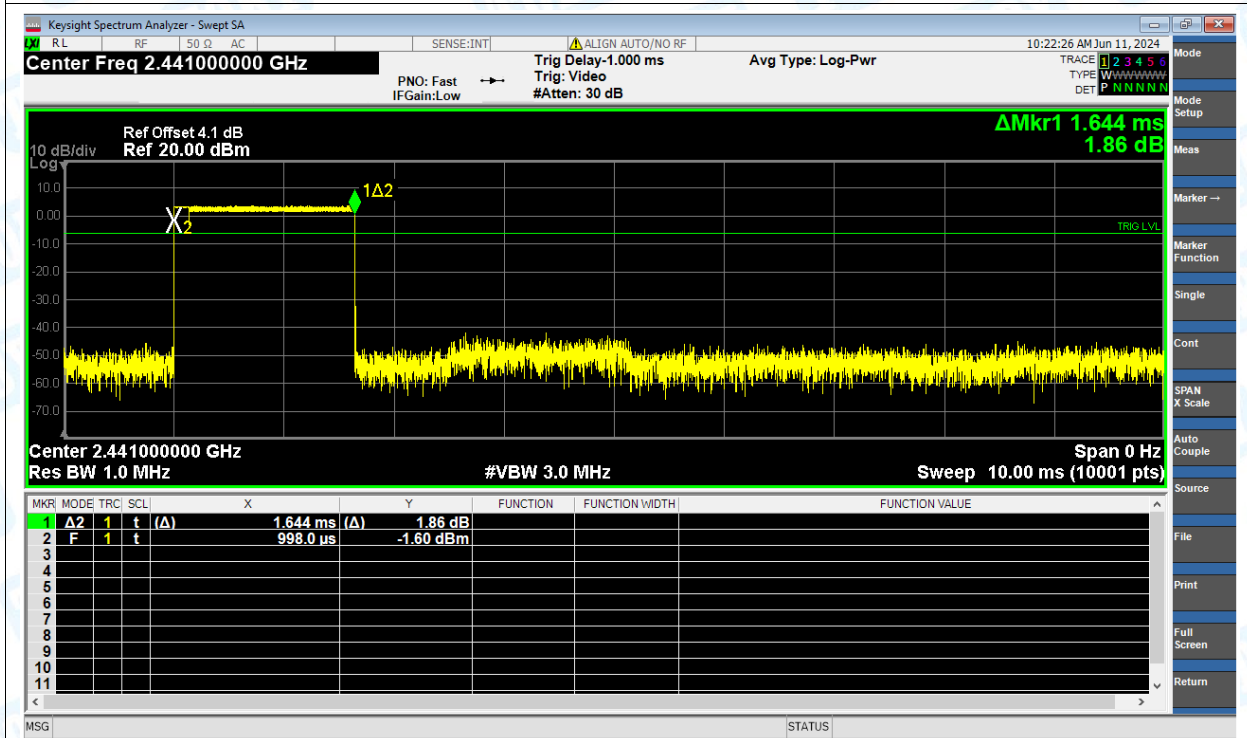
Dwell NVNT 1-DH5 2441MHz Ant1



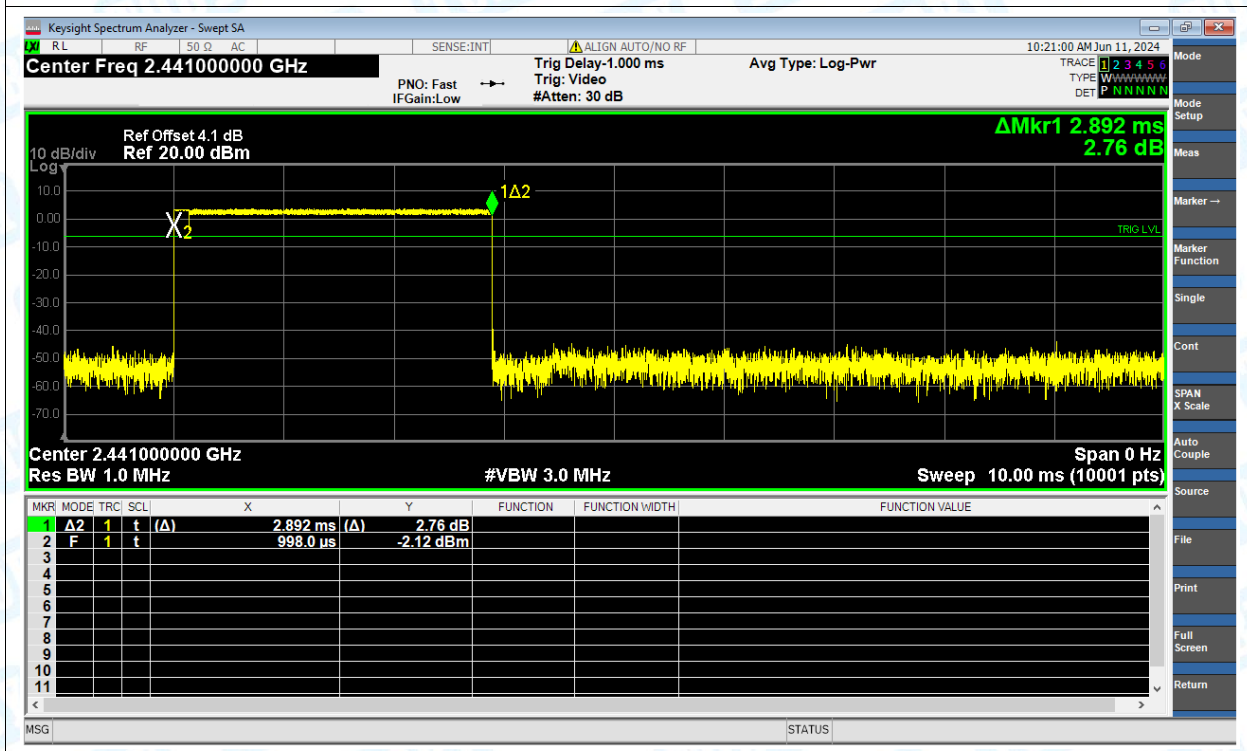
Dwell NVNT 2-DH1 2441MHz Ant1



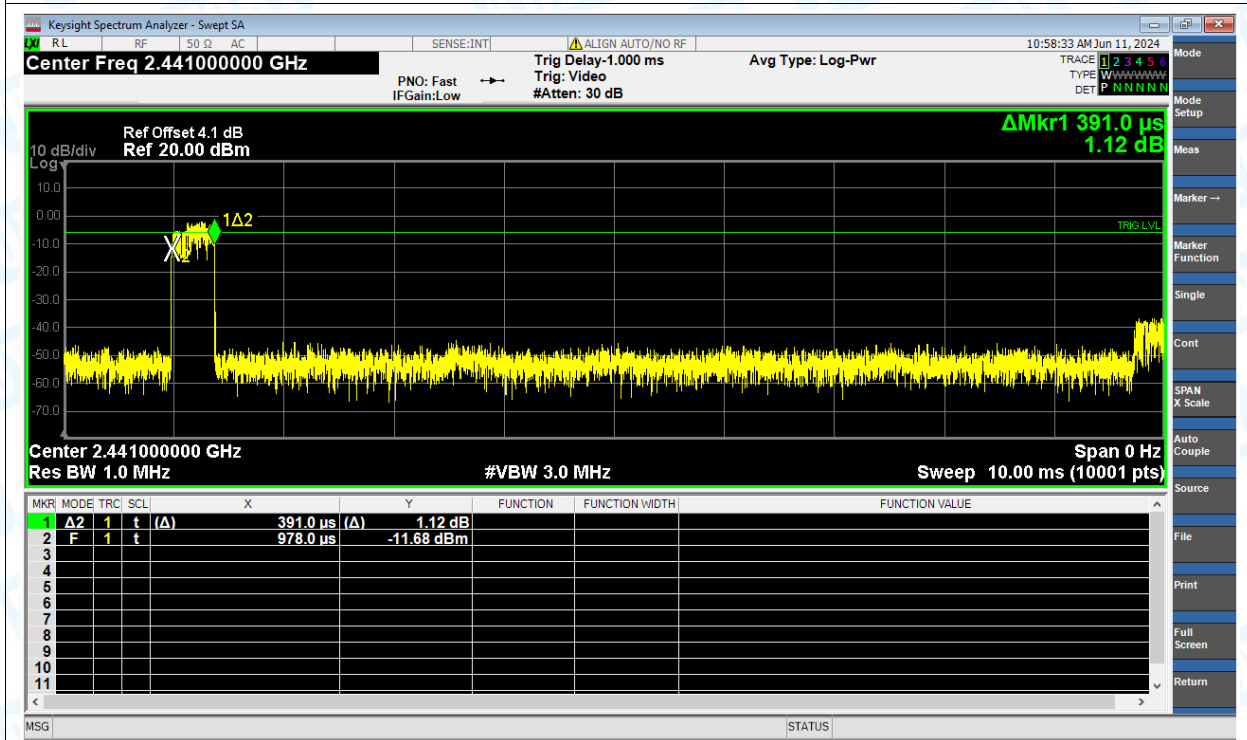
Dwell NVNT 2-DH3 2441MHz Ant1



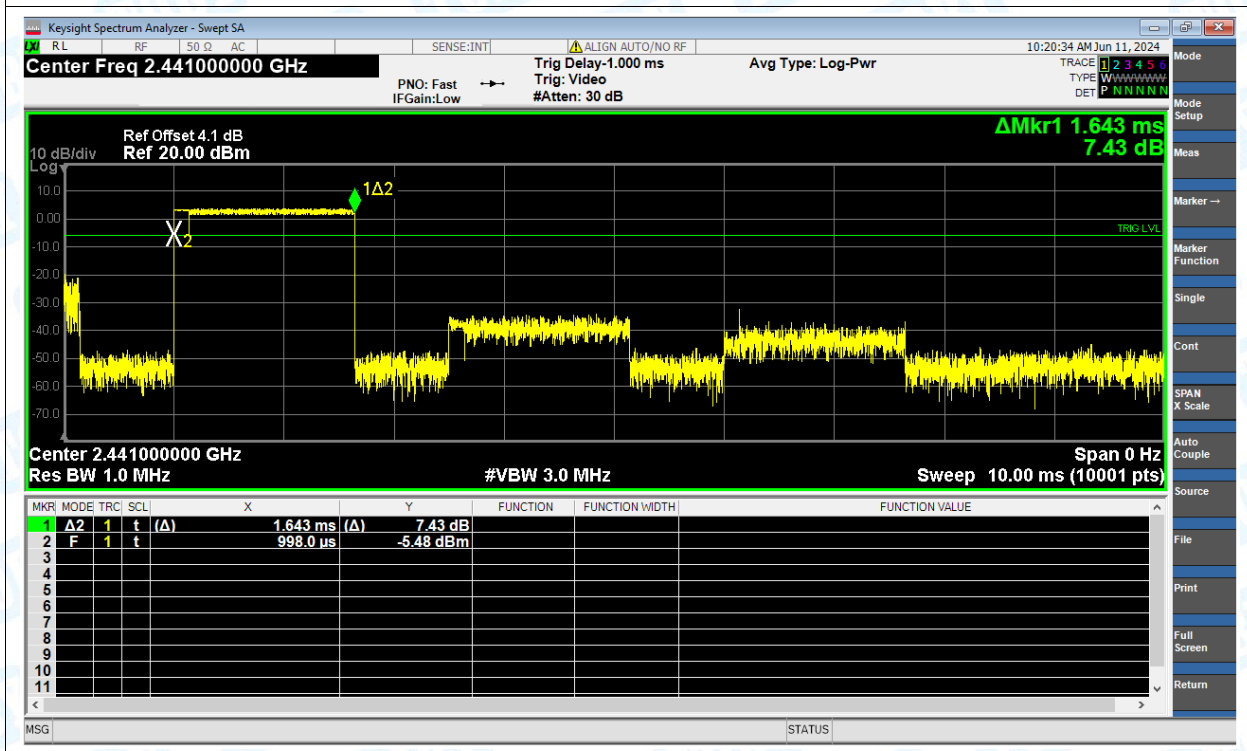
Dwell NVNT 2-DH5 2441MHz Ant1

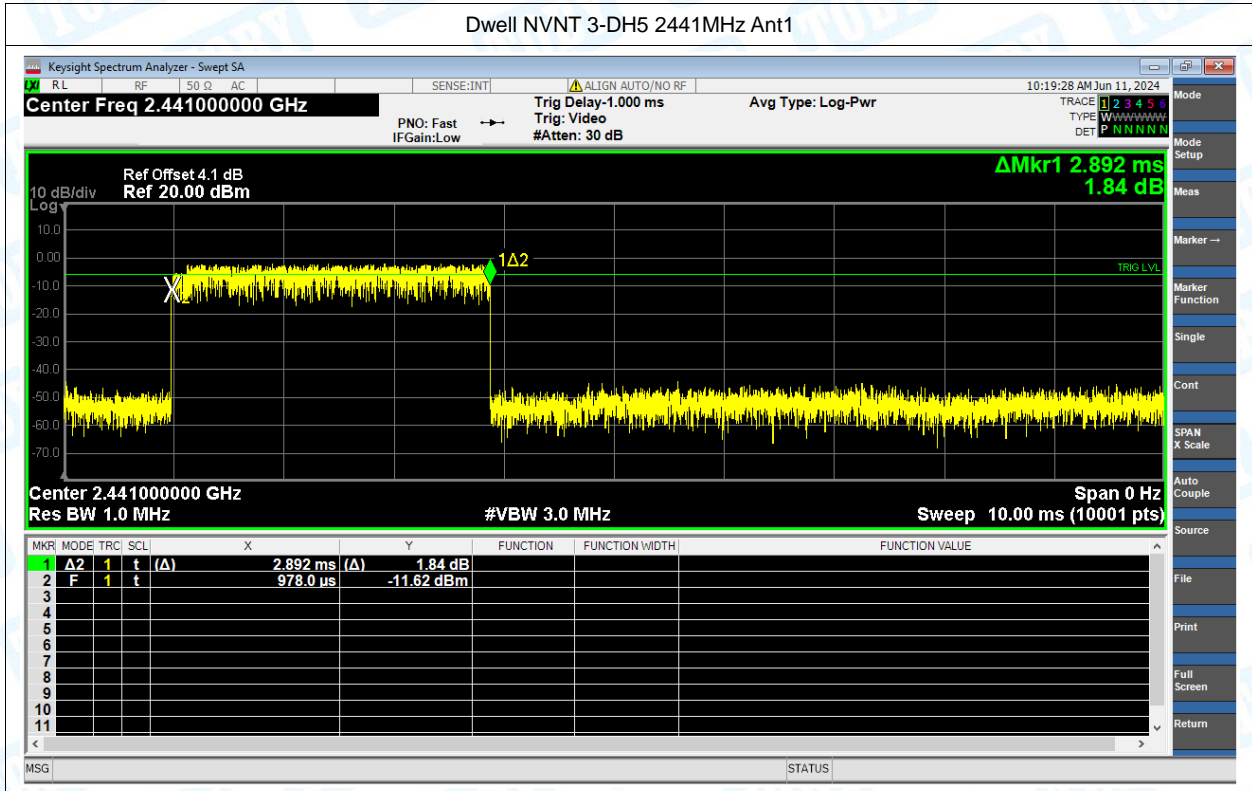


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1





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