

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	White Noise Machine
Test Model:	HFD-W50B
Sample ID:	HC-C-202605-0106-01-01
Environmental Conditions	
Temperature:	24.2℃
Relative Humidity:	48.6%
Test Voltage:	DC 3.7V
Test Engineer:	Kael Li
Note: For a more detailed features description, please refer to the report TBR-C-202605-0106-19 The report only show the worst case data.	

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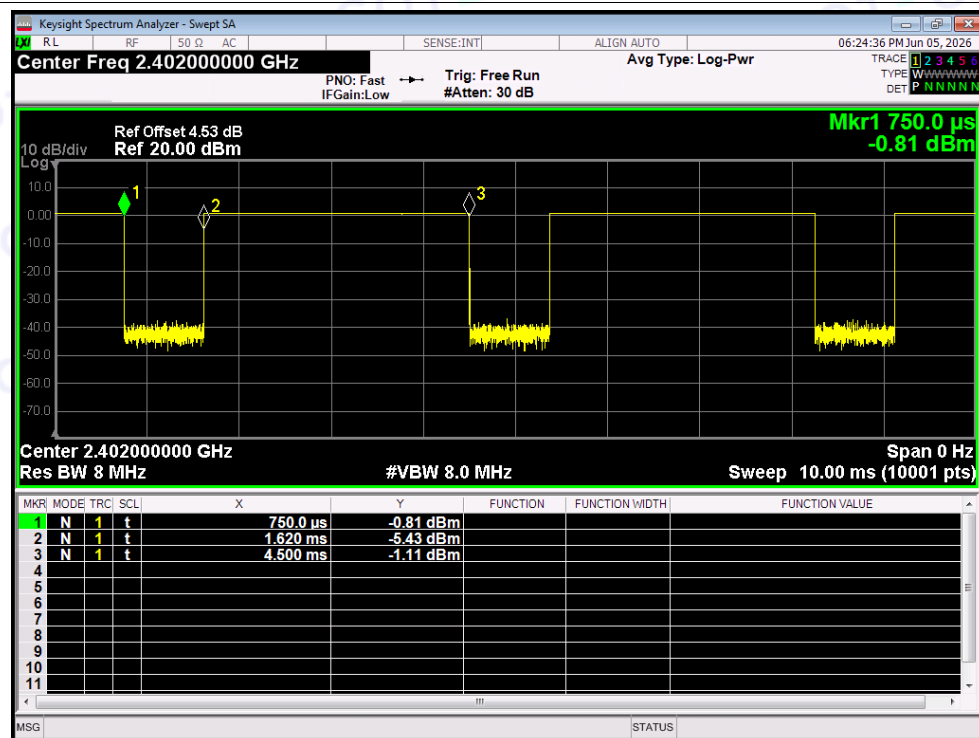
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1. Duty Cycle

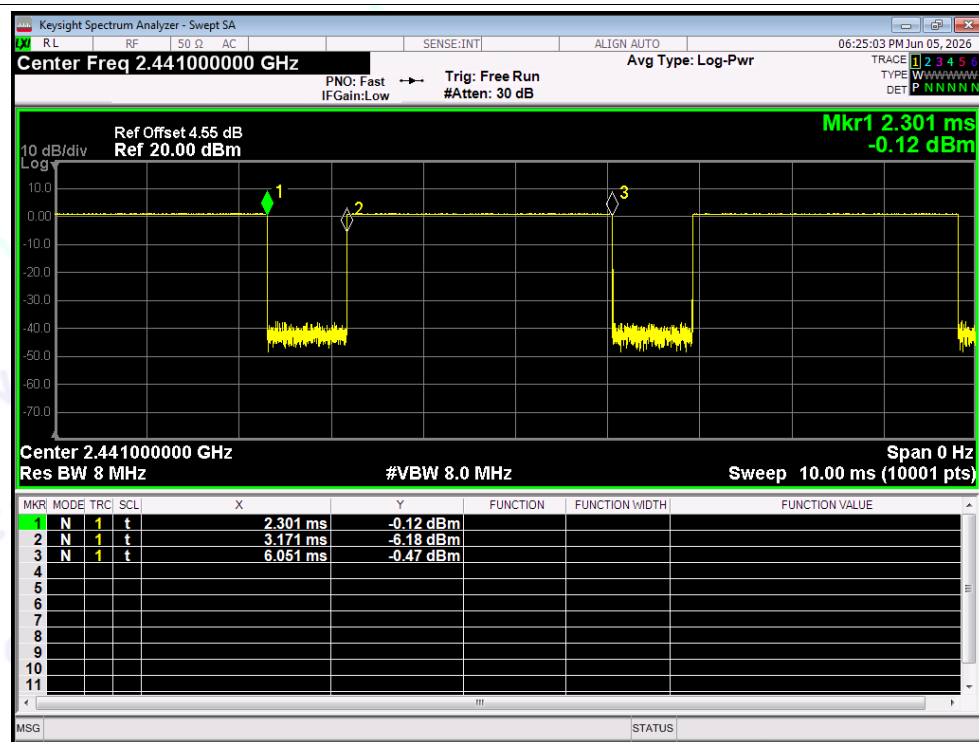
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.8	1.15	0.35
NVNT	1-DH5	2441	Ant1	76.8	1.15	0.35
NVNT	1-DH5	2480	Ant1	76.8	1.15	0.35
NVNT	2-DH5	2402	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.96	1.14	0.35
NVNT	3-DH5	2402	Ant1	77.04	1.13	0.35
NVNT	3-DH5	2441	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2480	Ant1	77.01	1.13	0.35

Test Graphs

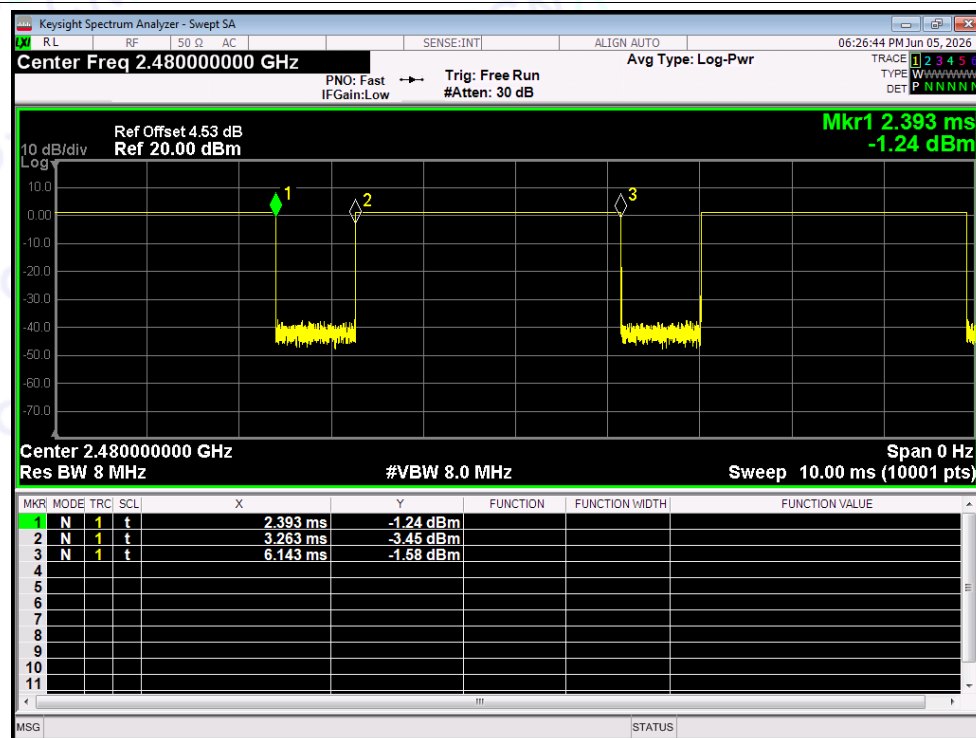
Duty Cycle NVNT 1-DH5 2402MHz Ant1



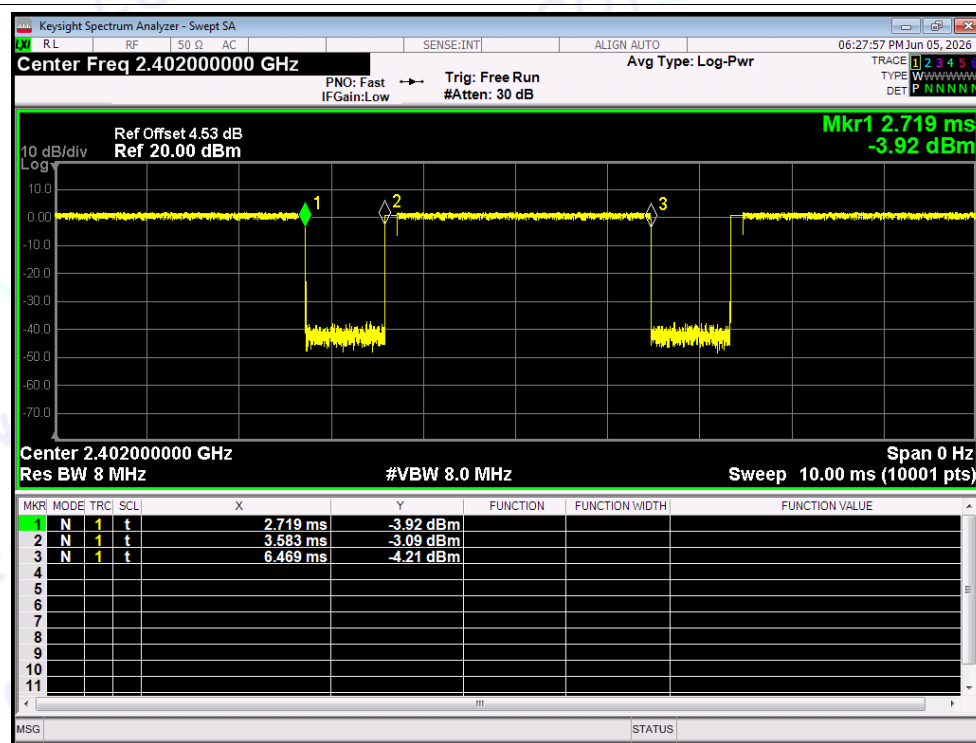
Duty Cycle NVNT 1-DH5 2441MHz Ant1



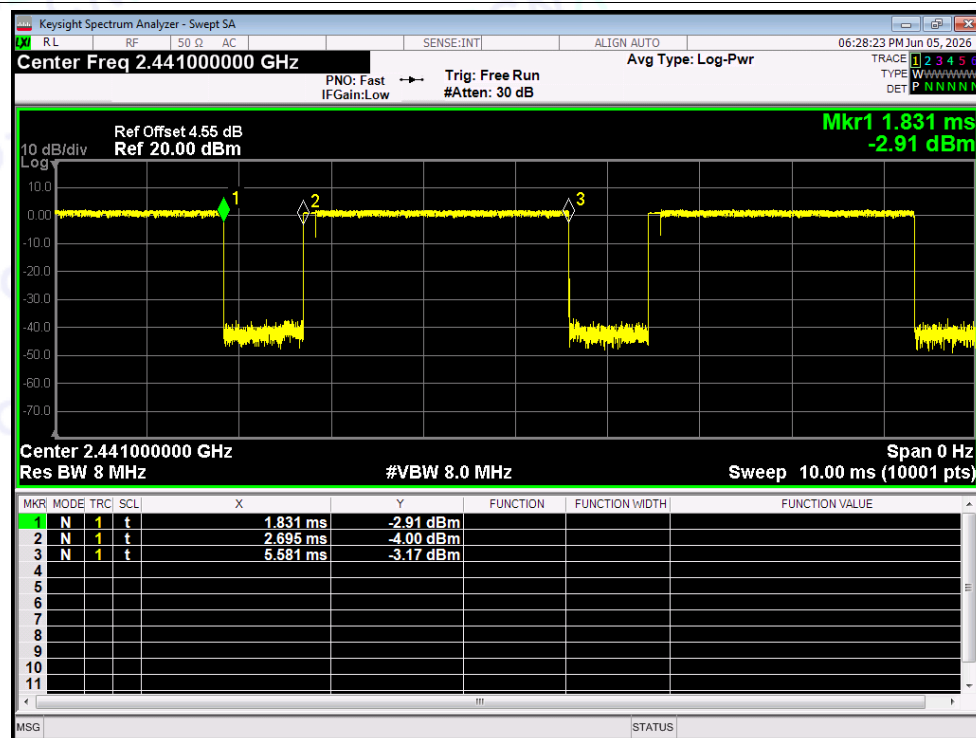
Duty Cycle NVNT 1-DH5 2480MHz Ant1



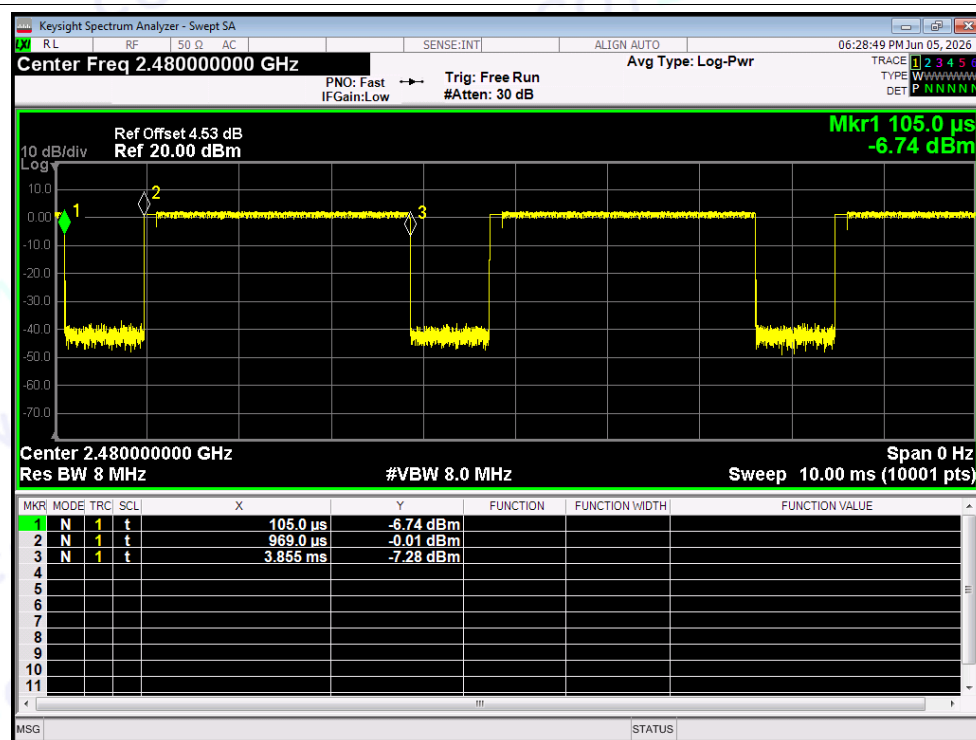
Duty Cycle NVNT 2-DH5 2402MHz Ant1



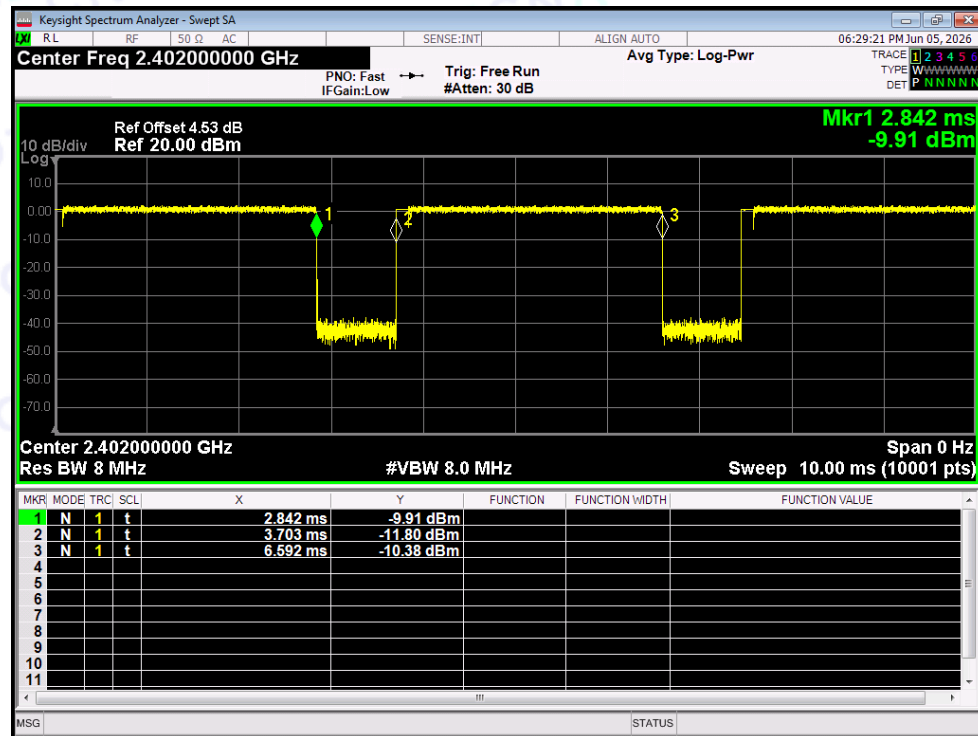
Duty Cycle NVNT 2-DH5 2441MHz Ant1



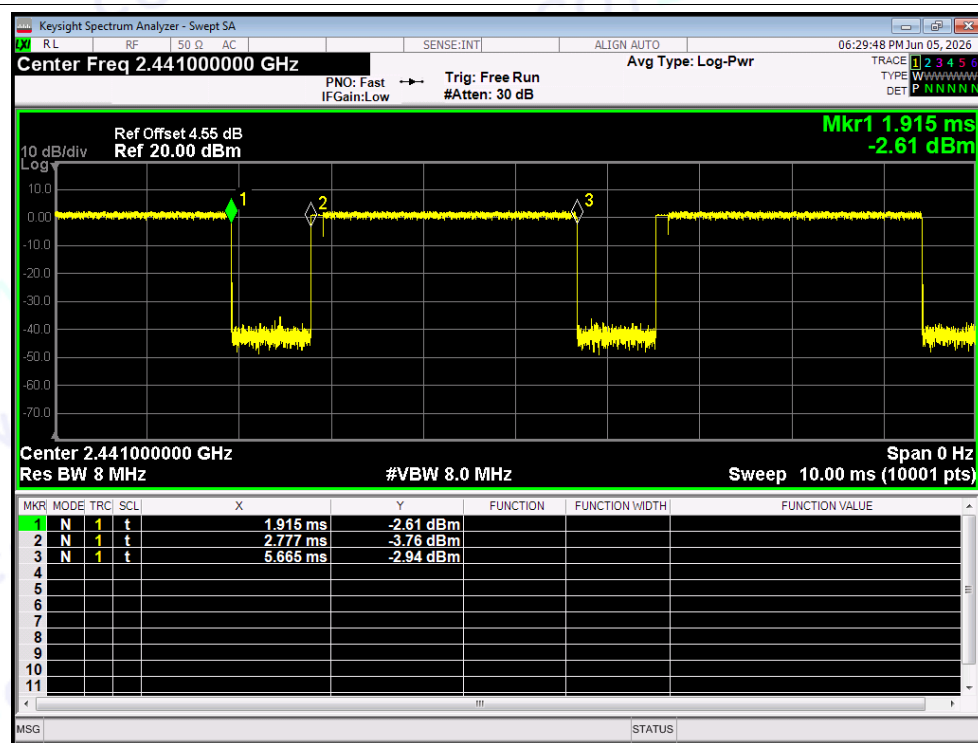
Duty Cycle NVNT 2-DH5 2480MHz Ant1

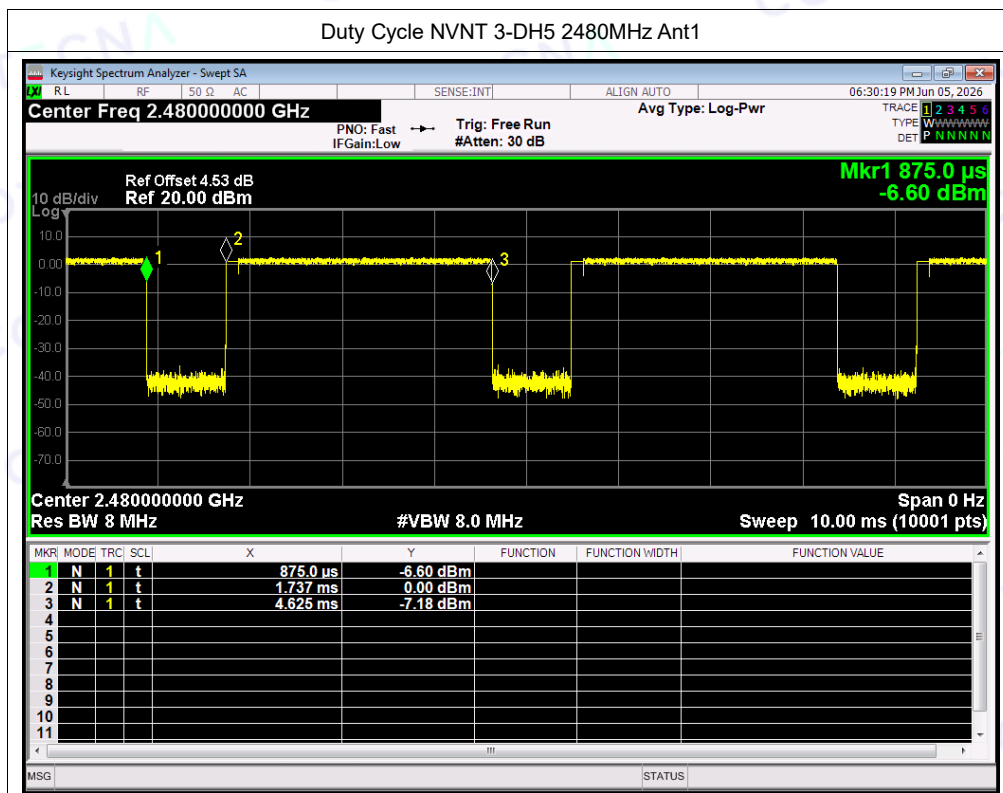


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



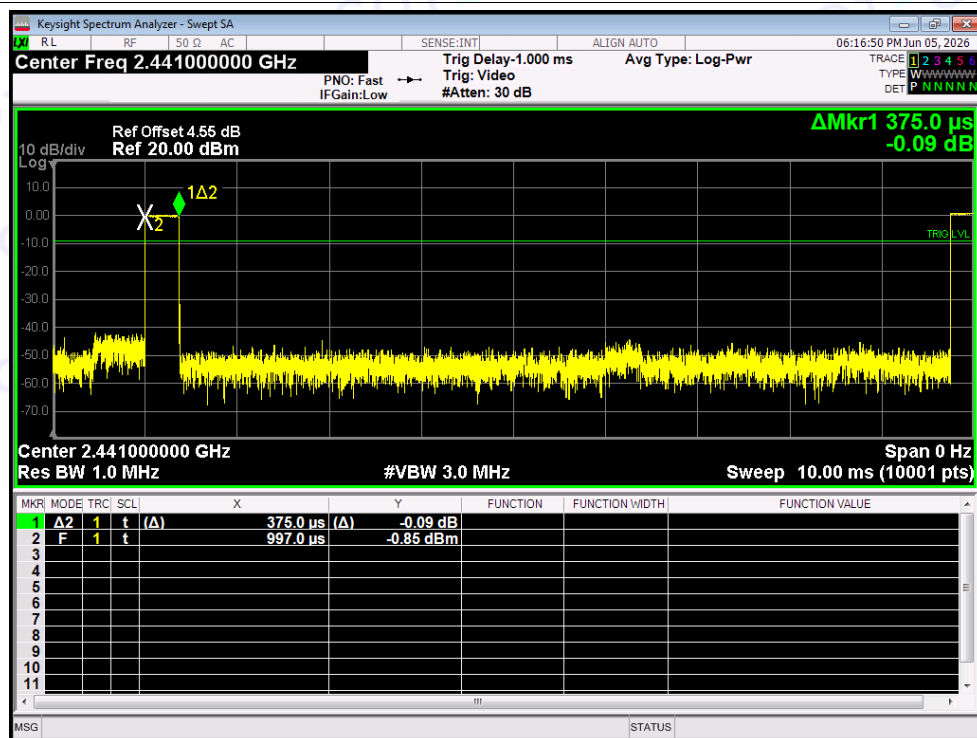


2. Dwell Time

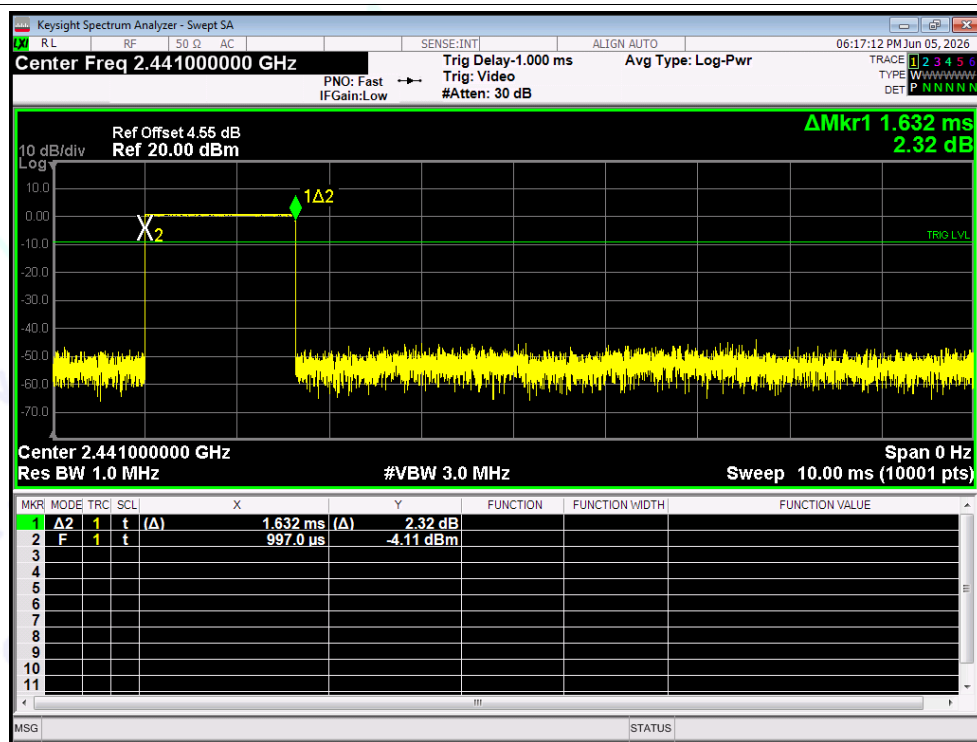
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.375	120	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.88	307.2	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.638	262.08	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.885	307.733	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.387	123.84	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.636	261.76	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.887	307.947	31600	400	Pass

Test Graphs

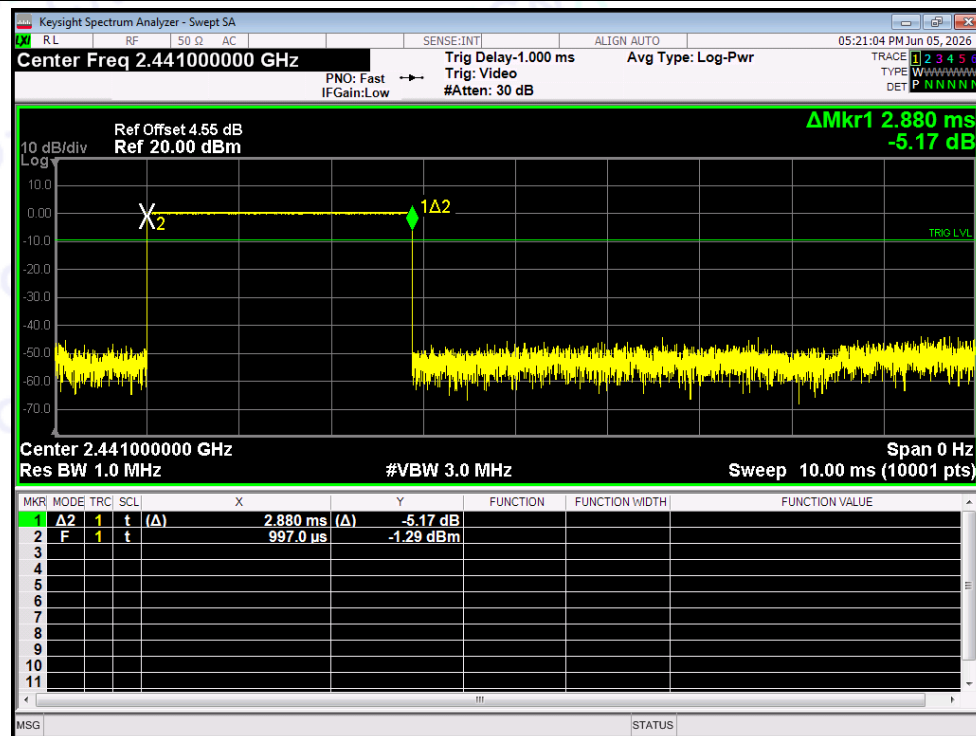
Dwell NVNT 1-DH1 2441MHz Ant1



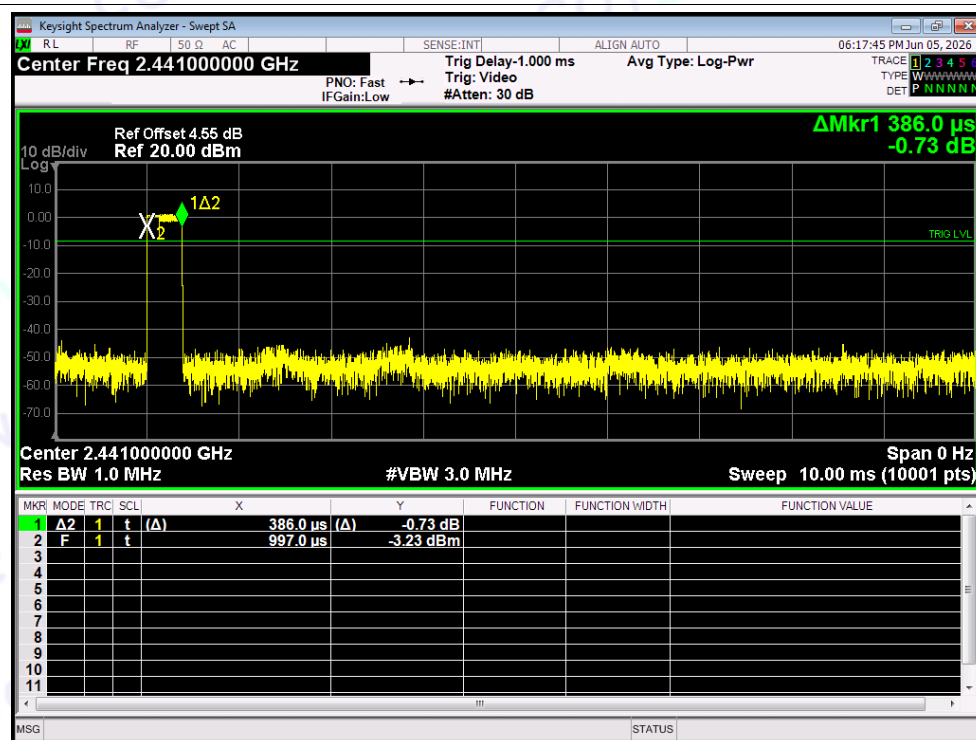
Dwell NVNT 1-DH3 2441MHz Ant1



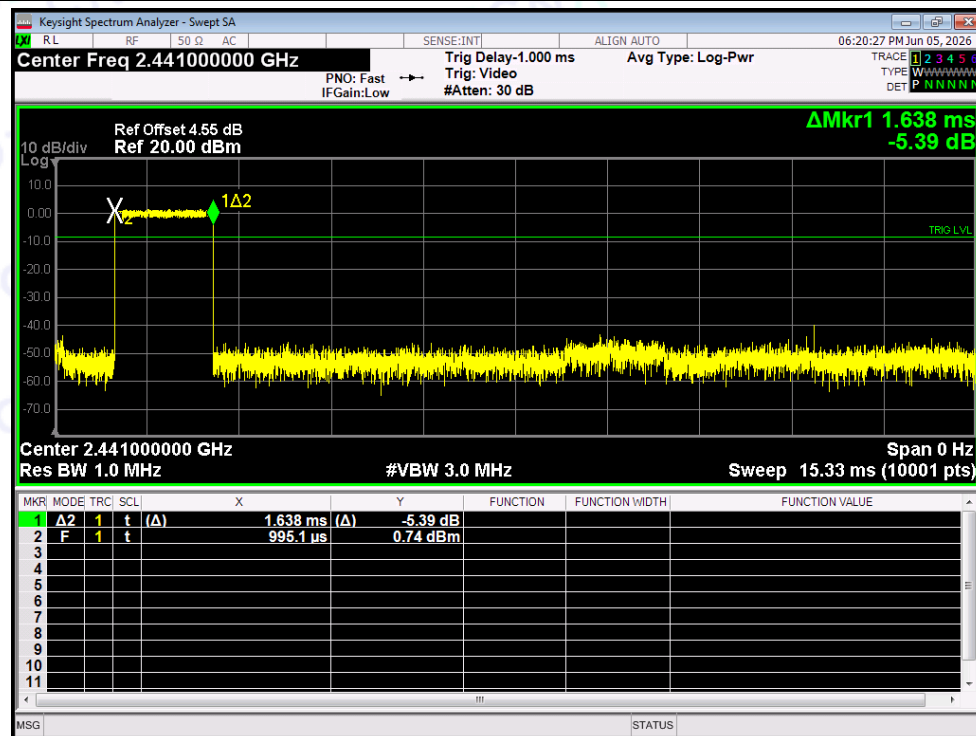
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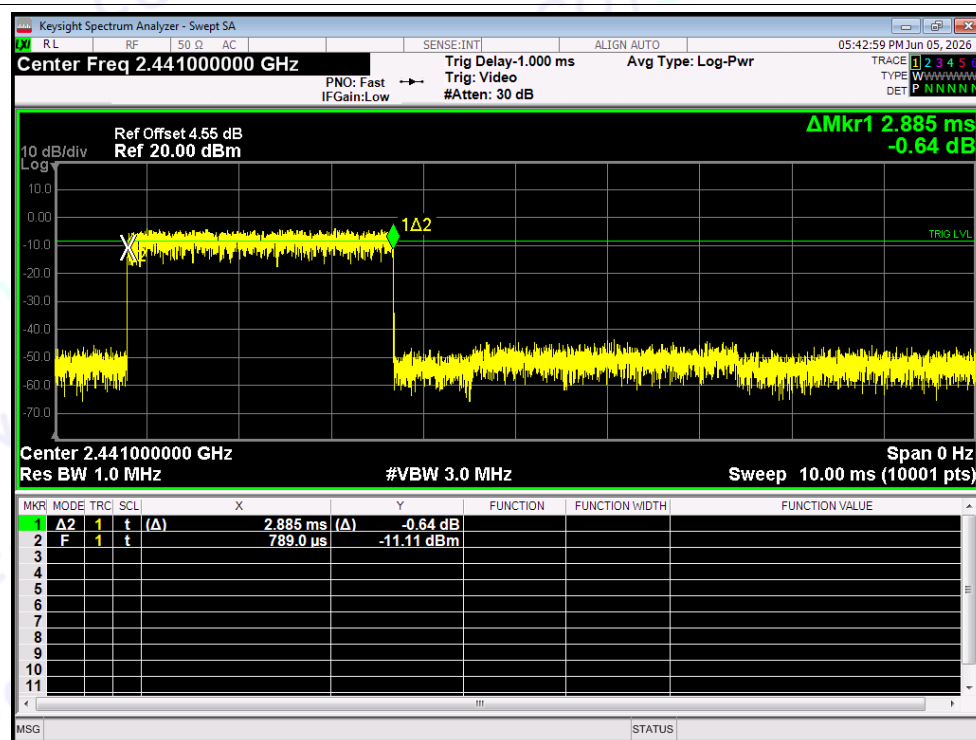
Dwell NVNT 2-DH1 2441MHz Ant1



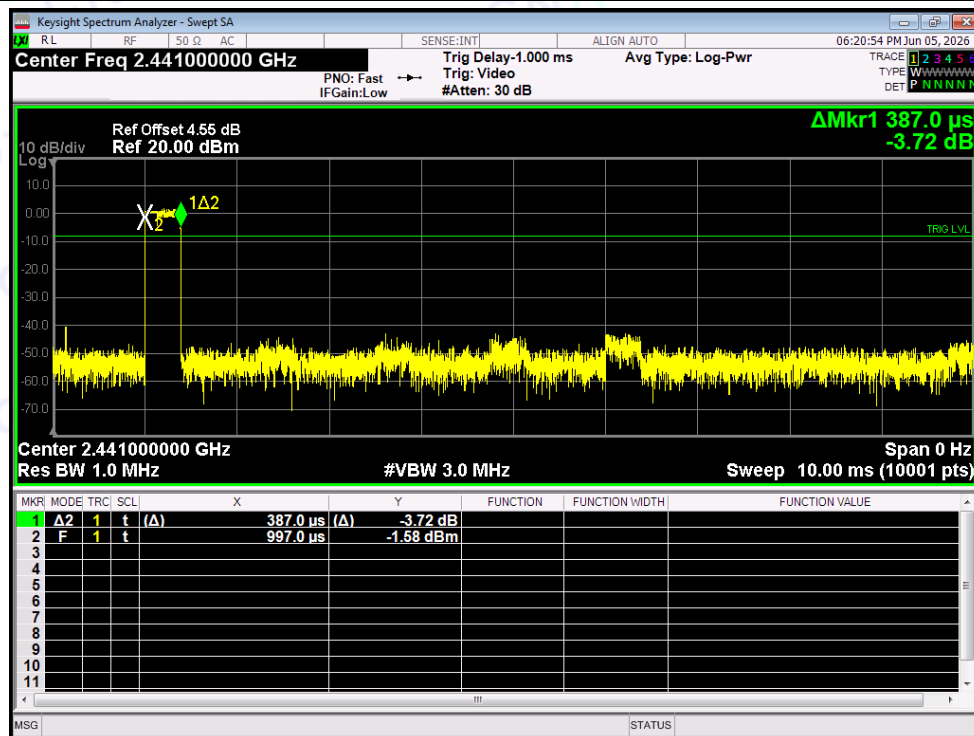
Dwell NVNT 2-DH3 2441MHz Ant1



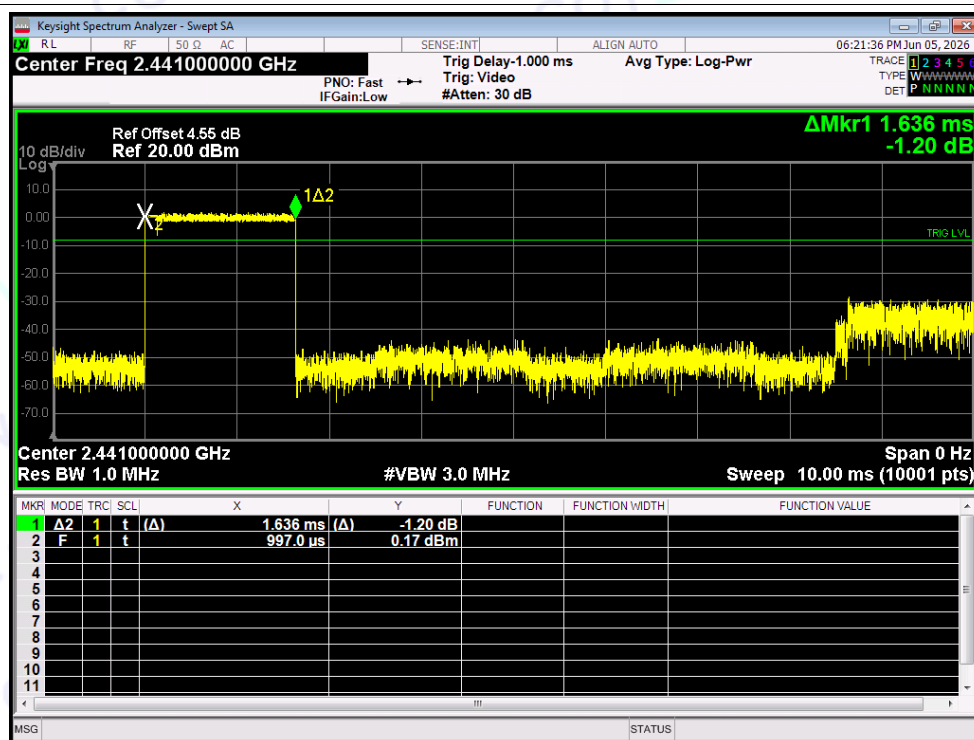
Dwell NVNT 2-DH5 2441MHz Ant1

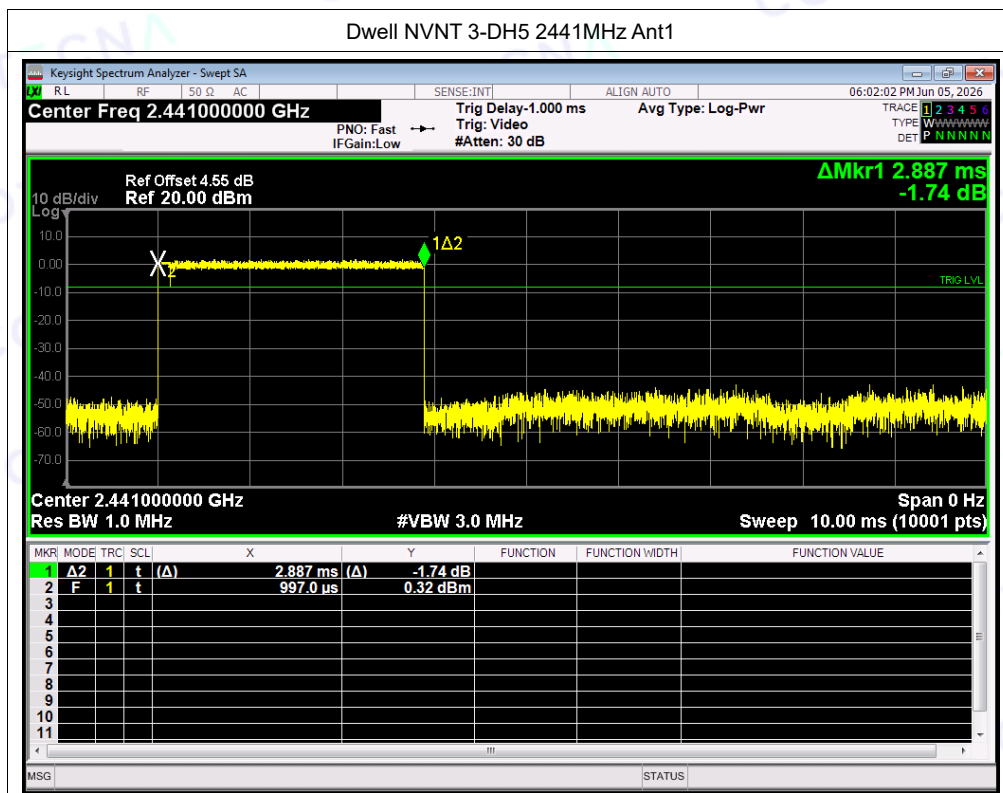


Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1



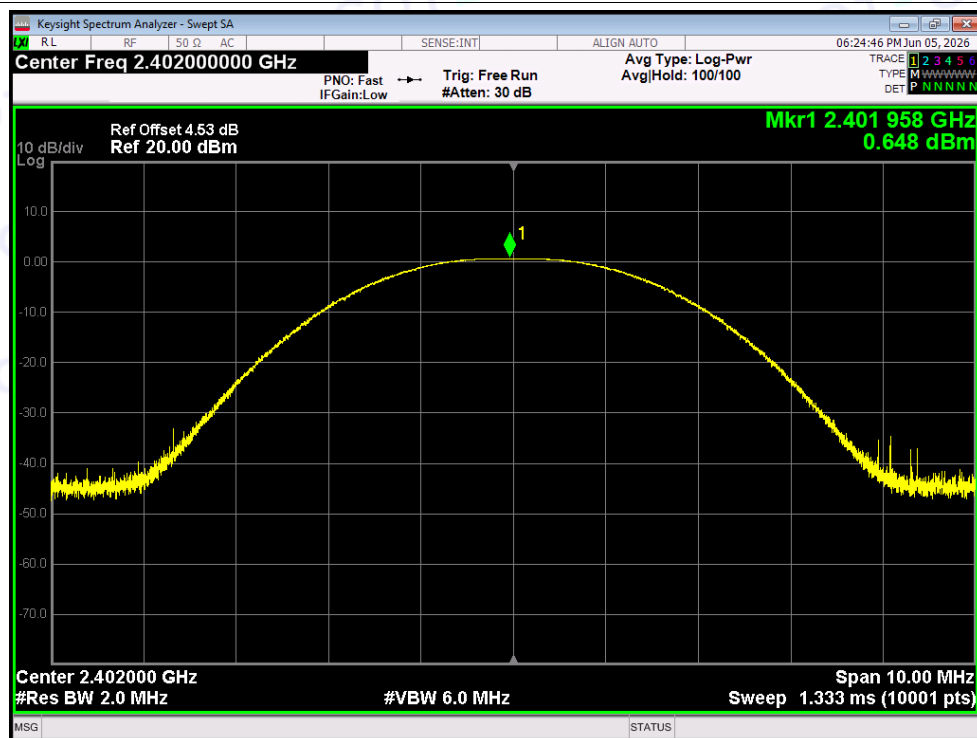


3. Maximum Conducted Output Power

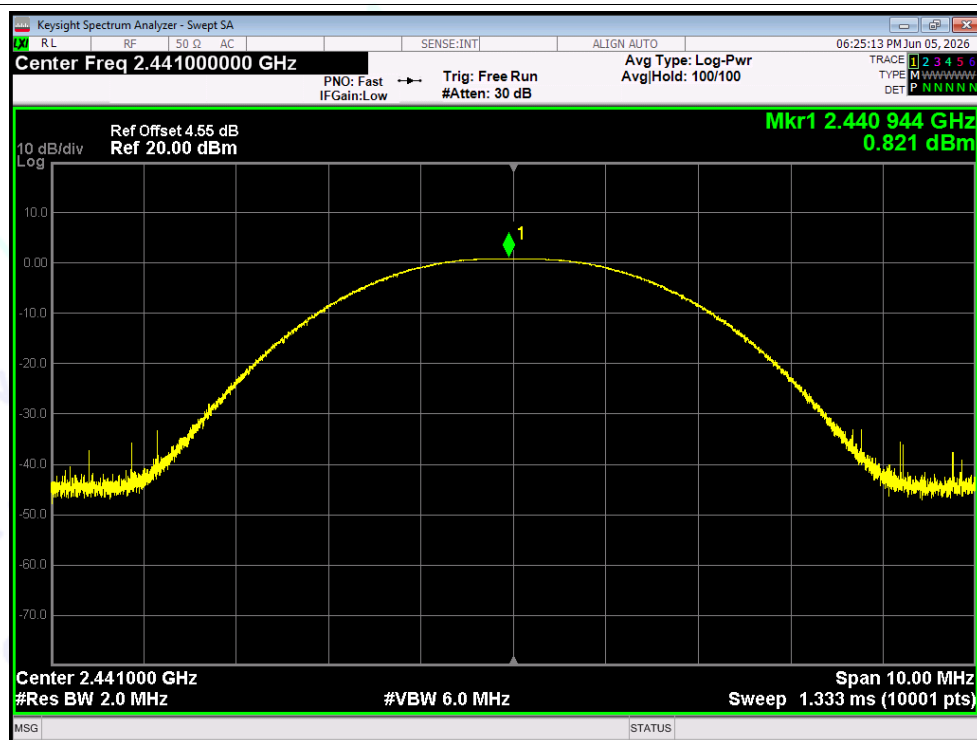
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	0.648	30	Pass
NVNT	1-DH5	2441	Ant1	0.821	30	Pass
NVNT	1-DH5	2480	Ant1	1.082	30	Pass
NVNT	2-DH5	2402	Ant1	1.5	30	Pass
NVNT	2-DH5	2441	Ant1	1.686	30	Pass
NVNT	2-DH5	2480	Ant1	1.929	30	Pass
NVNT	3-DH5	2402	Ant1	1.932	30	Pass
NVNT	3-DH5	2441	Ant1	2.115	30	Pass
NVNT	3-DH5	2480	Ant1	2.334	30	Pass

Test Graphs

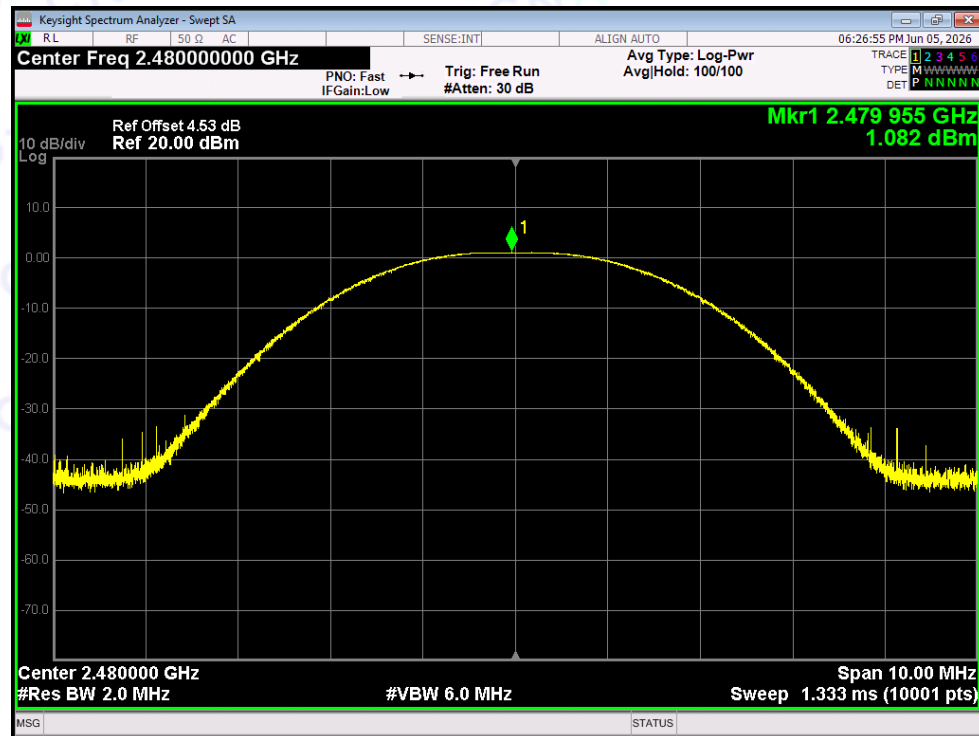
Power NVNT 1-DH5 2402MHz Ant1



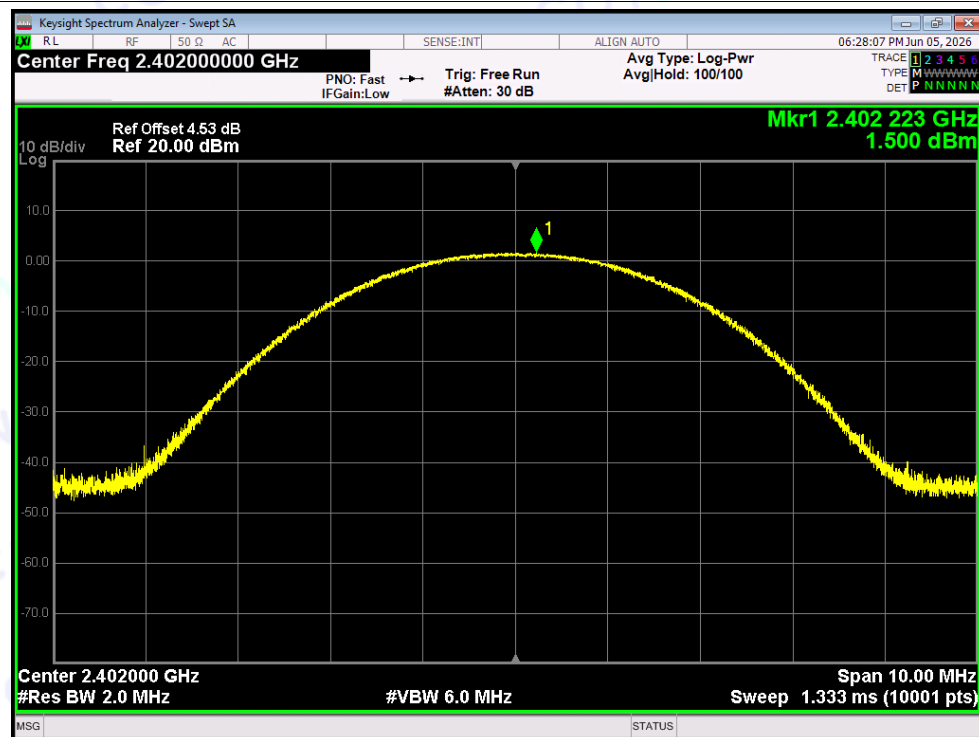
Power NVNT 1-DH5 2441MHz Ant1



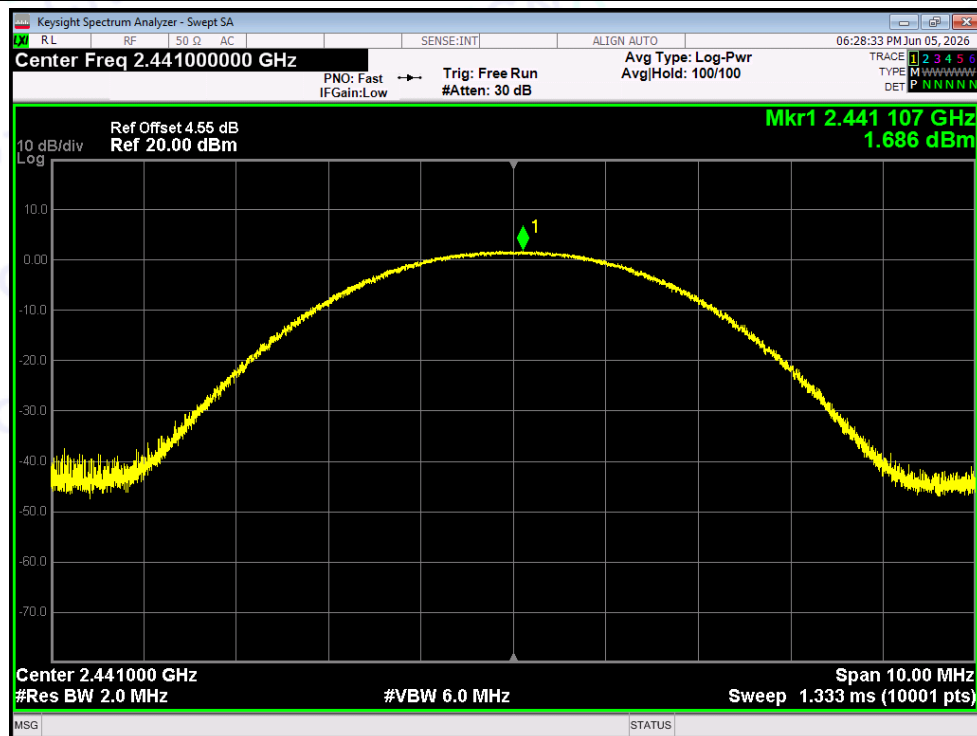
Power NVNT 1-DH5 2480MHz Ant1



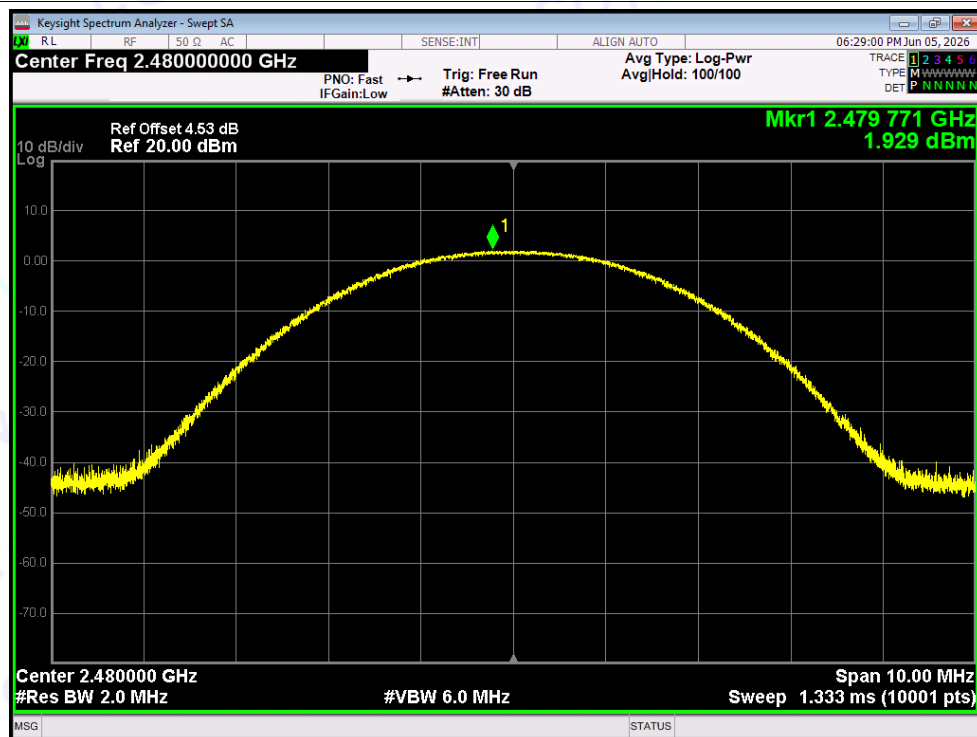
Power NVNT 2-DH5 2402MHz Ant1



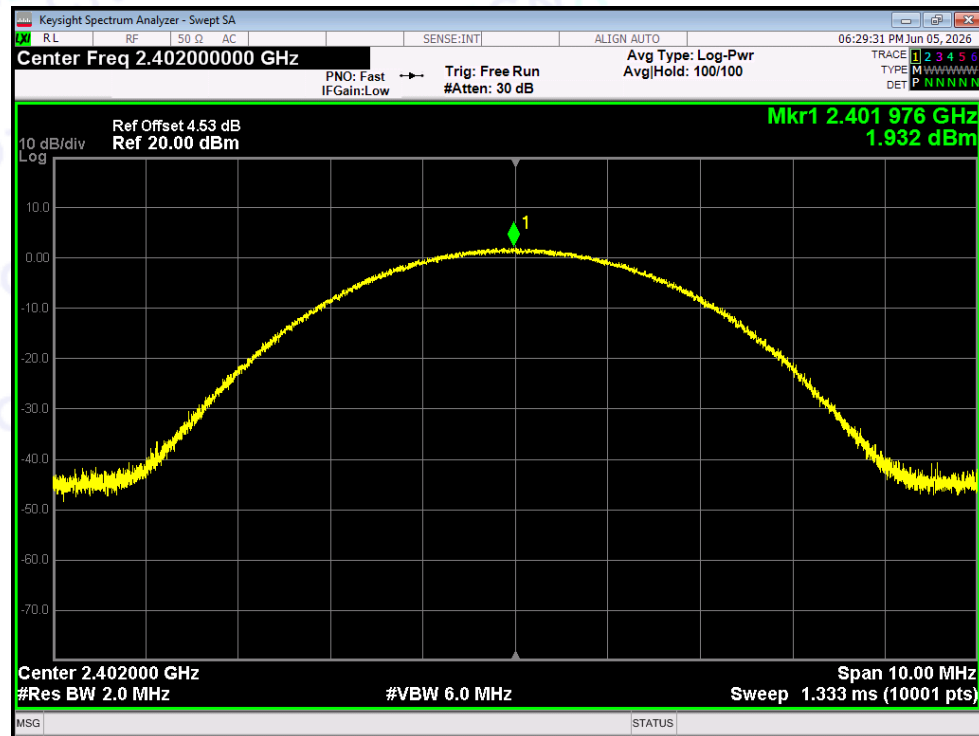
Power NVNT 2-DH5 2441MHz Ant1



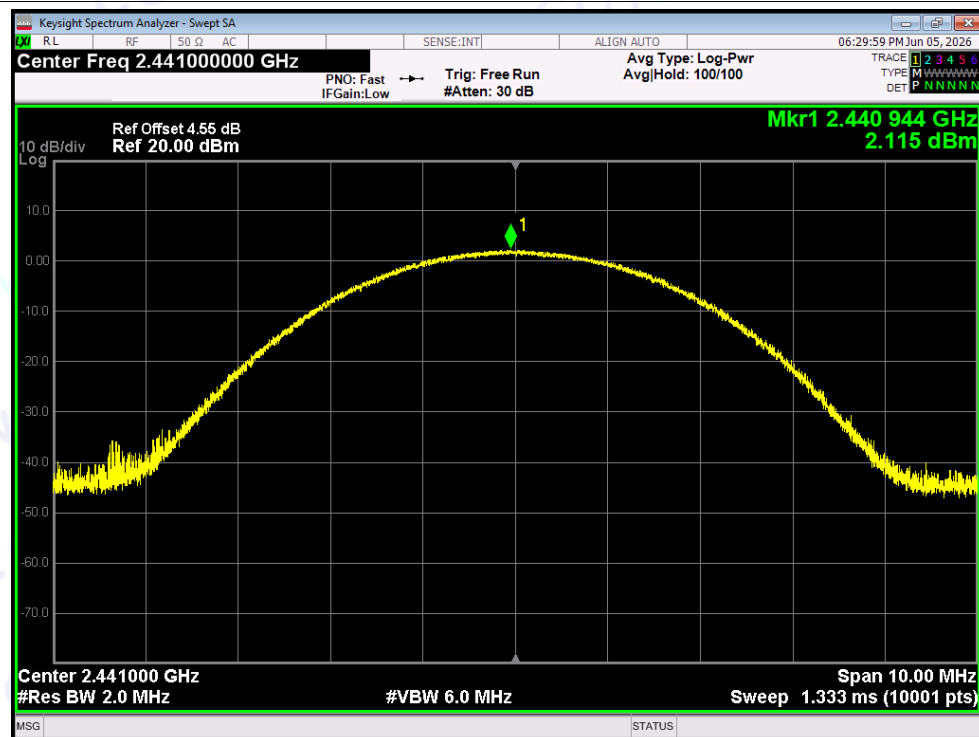
Power NVNT 2-DH5 2480MHz Ant1

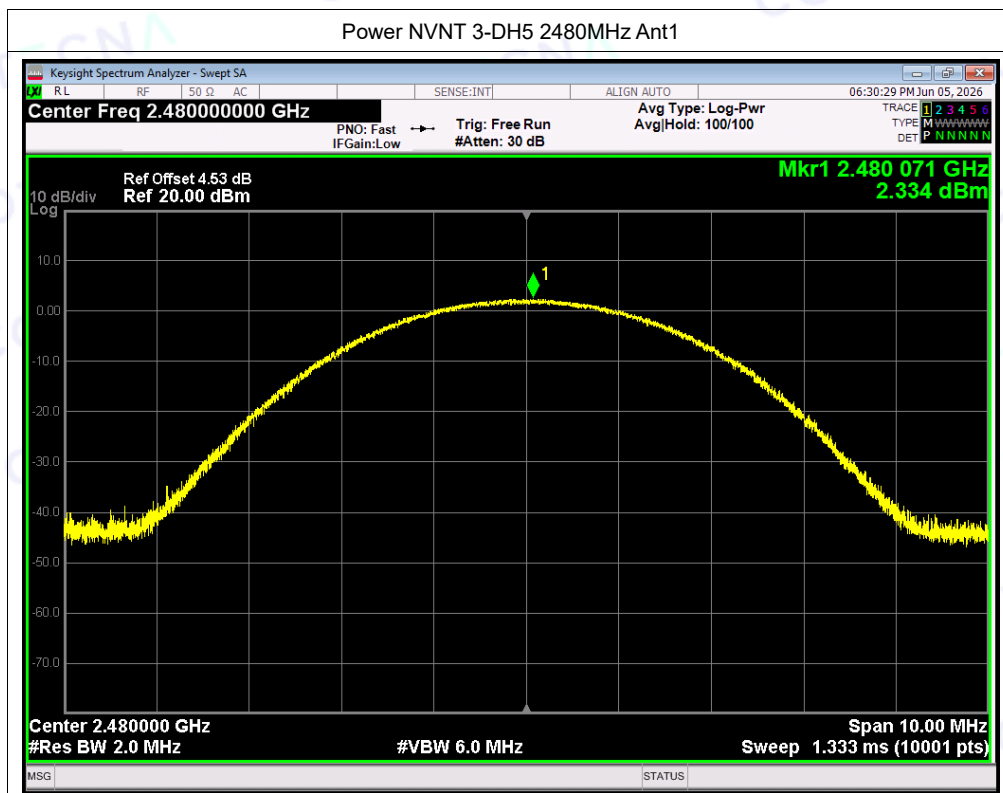


Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



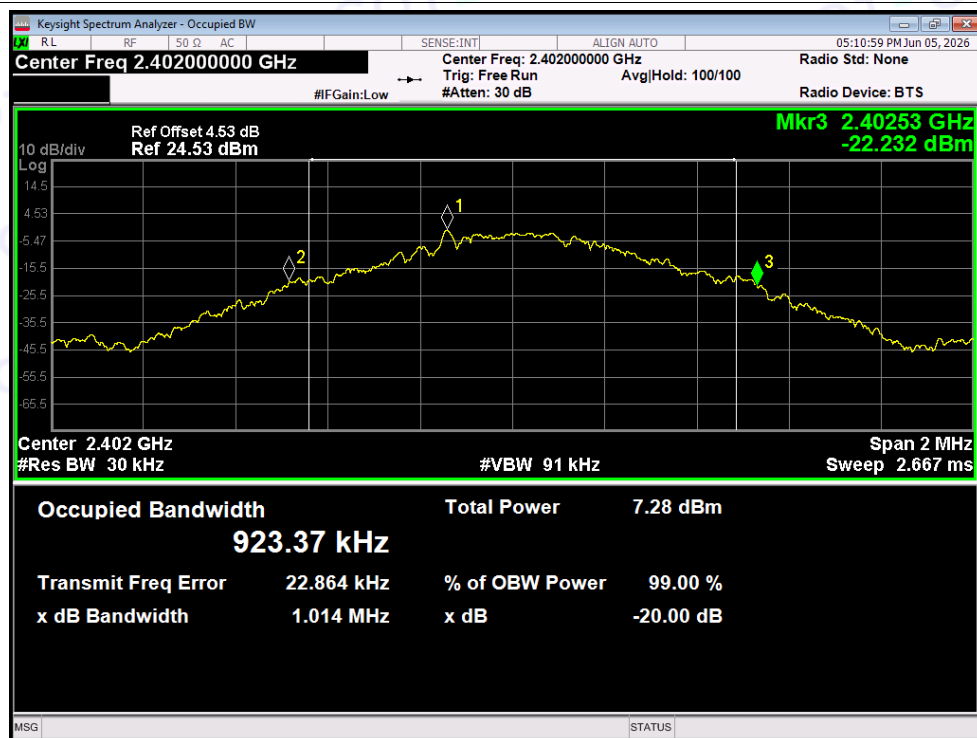


4.-20dB Bandwidth

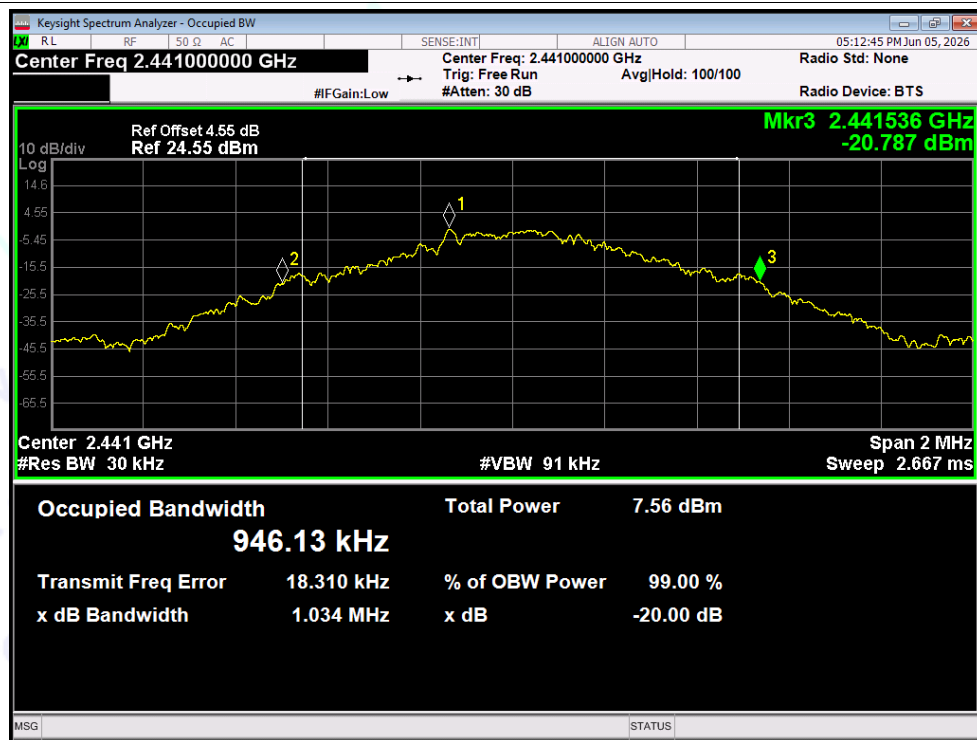
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.01	/	Pass
NVNT	1-DH5	2441	Ant1	1.03	/	Pass
NVNT	1-DH5	2480	Ant1	1.06	/	Pass
NVNT	2-DH5	2402	Ant1	1.35	/	Pass
NVNT	2-DH5	2441	Ant1	1.3	/	Pass
NVNT	2-DH5	2480	Ant1	1.31	/	Pass
NVNT	3-DH5	2402	Ant1	1.31	/	Pass
NVNT	3-DH5	2441	Ant1	1.29	/	Pass
NVNT	3-DH5	2480	Ant1	1.3	/	Pass

Test Graphs

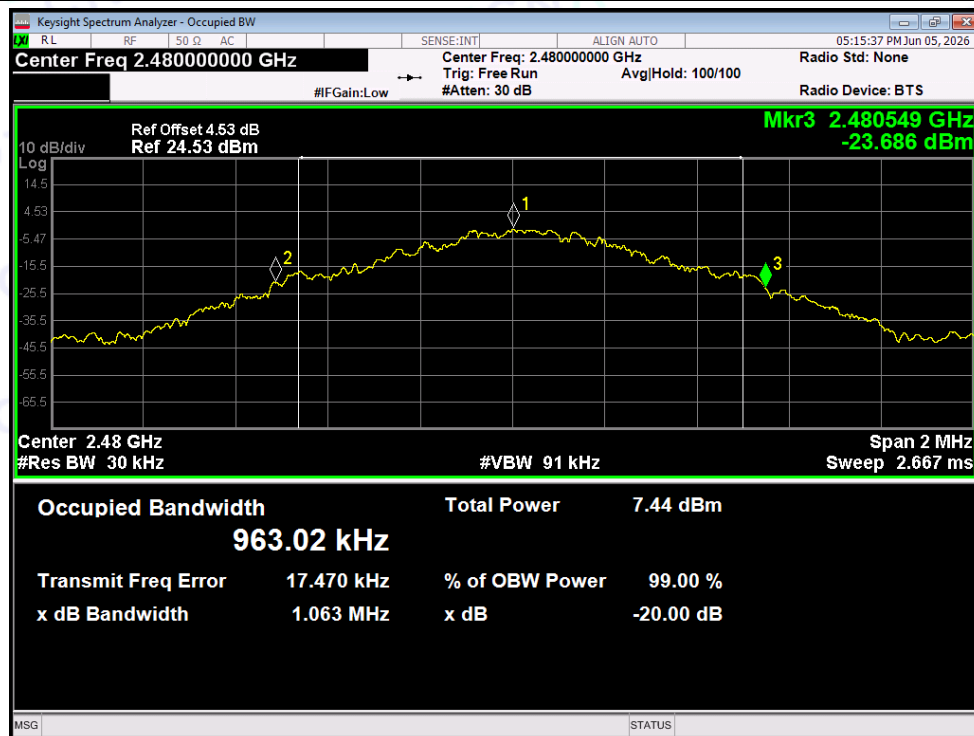
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



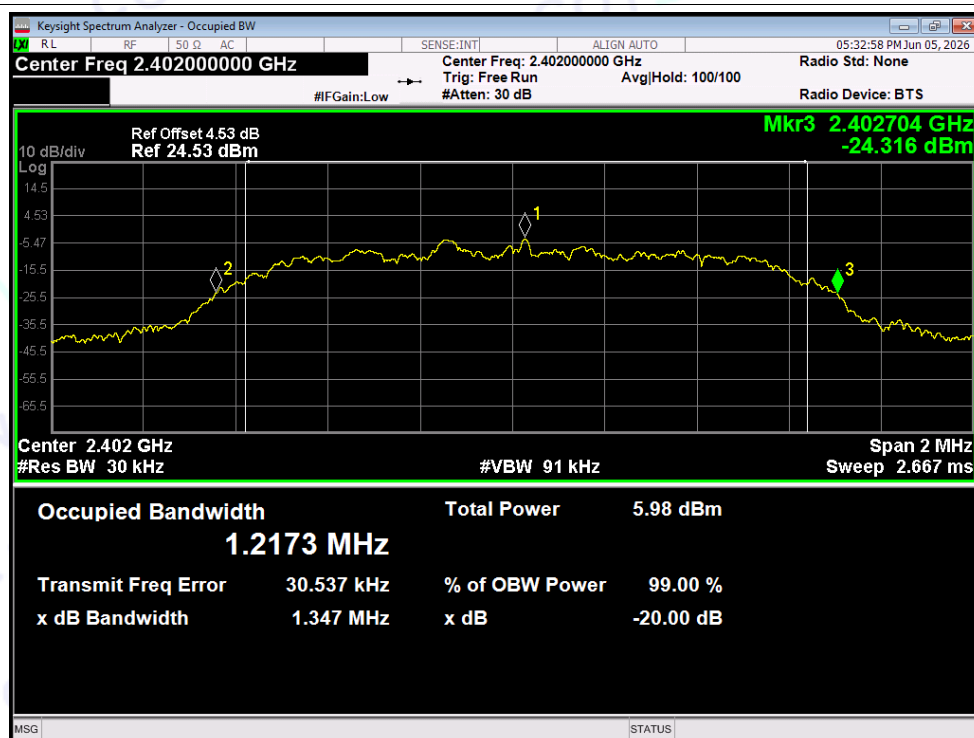
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



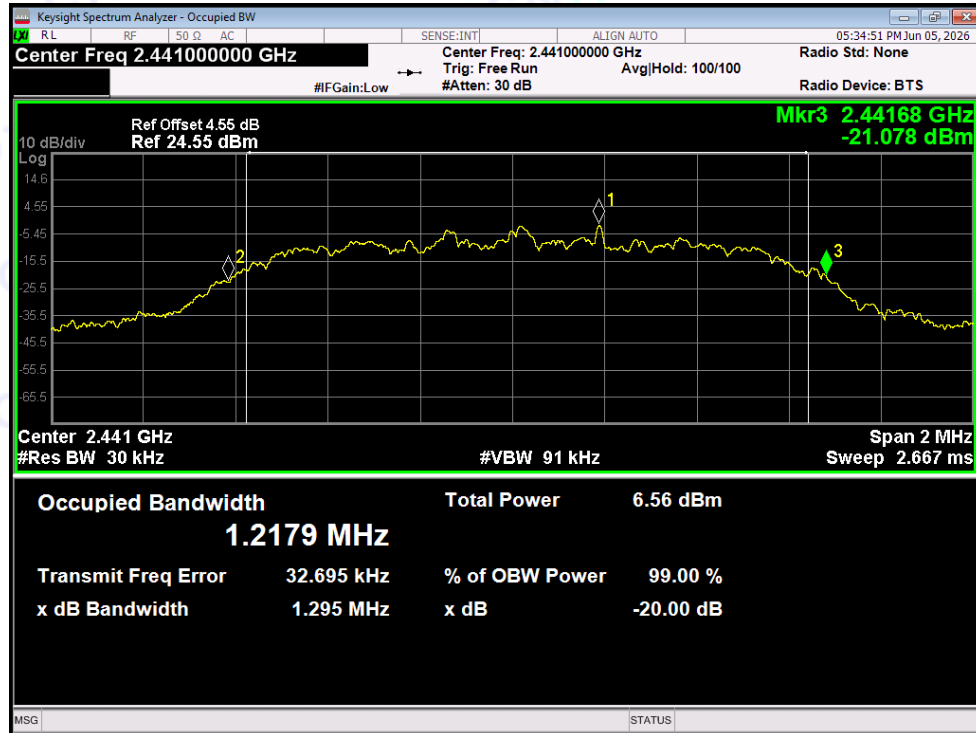
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



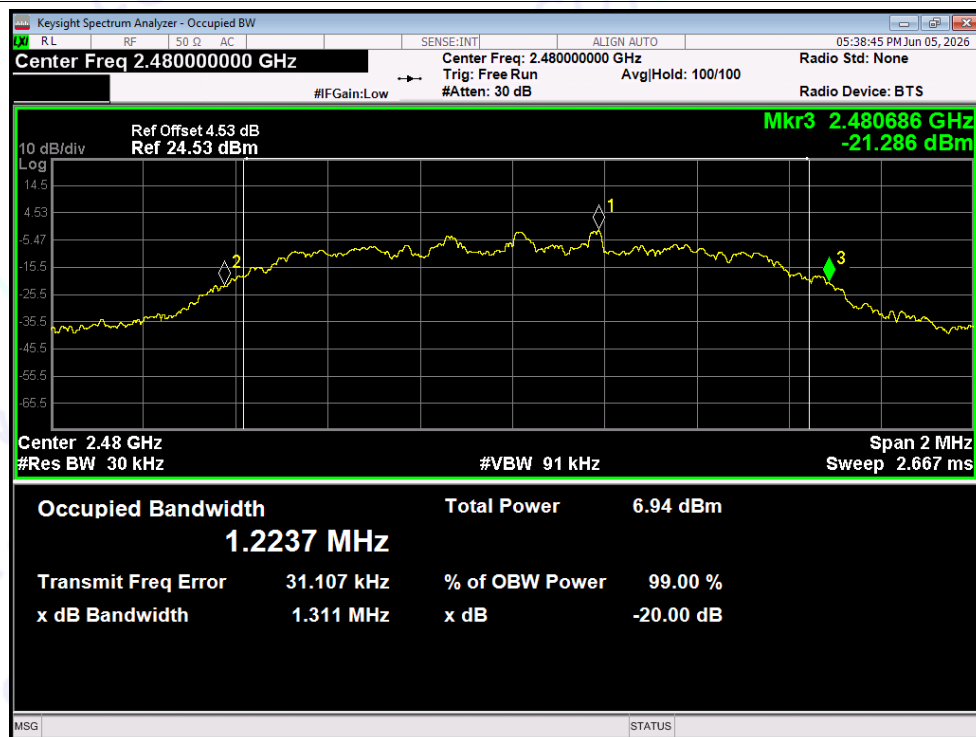
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



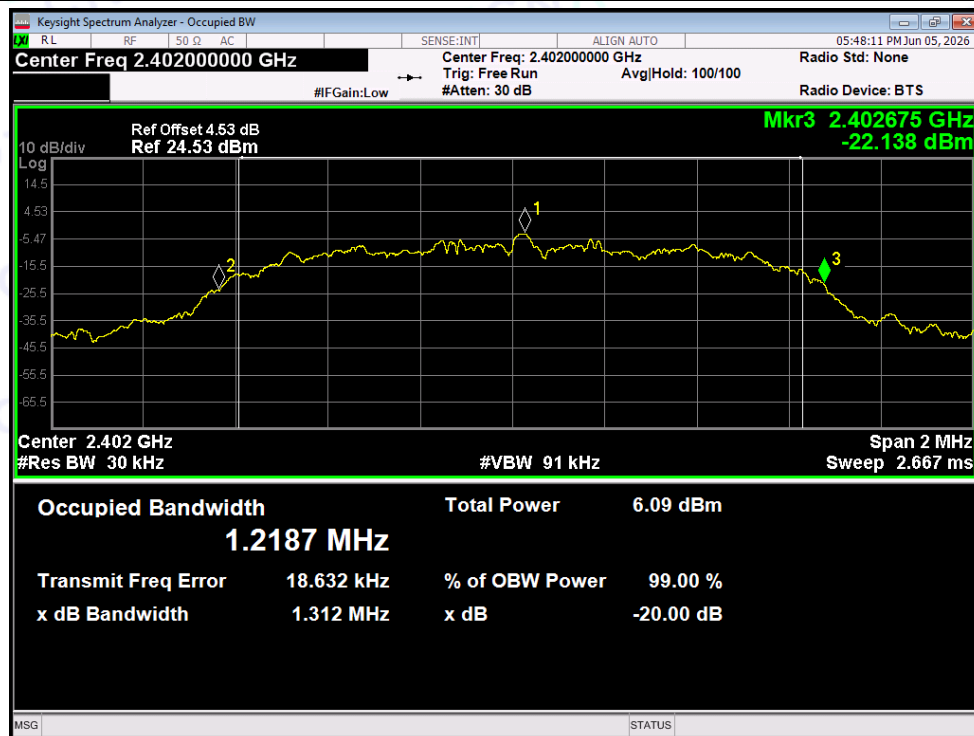
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



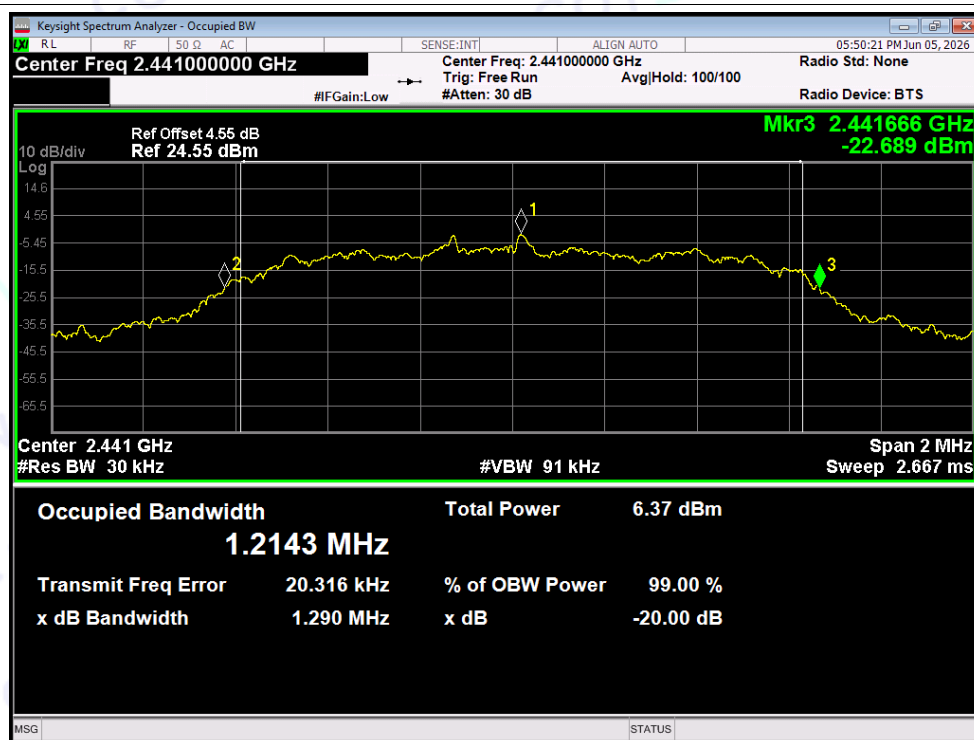
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

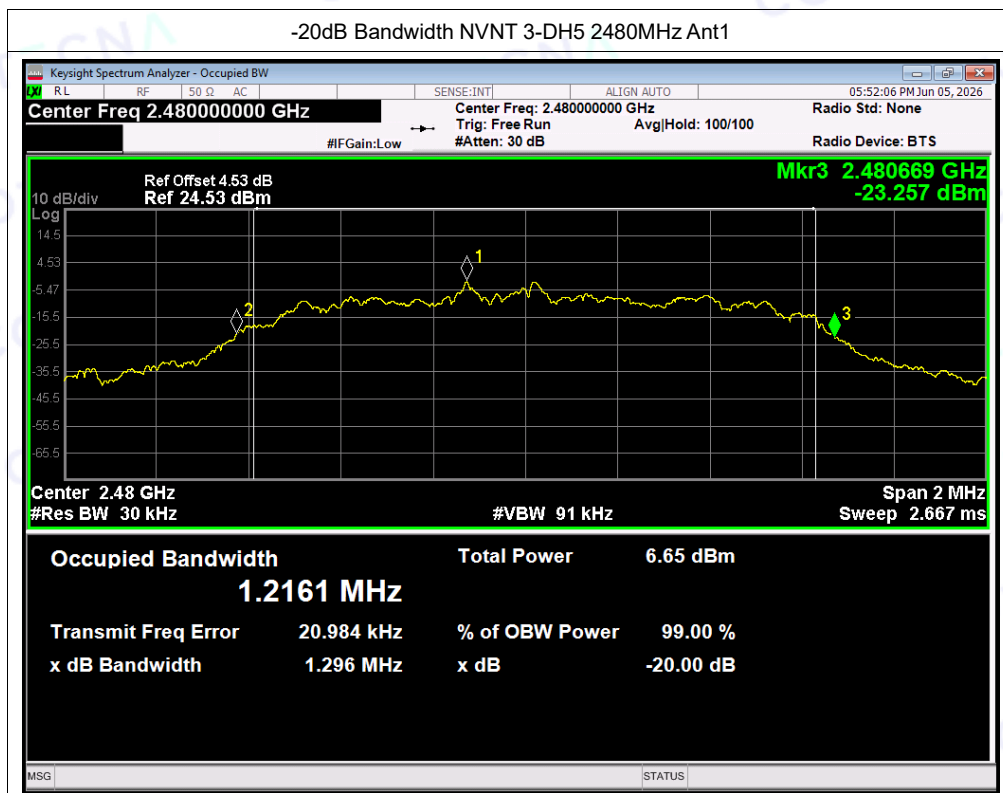


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



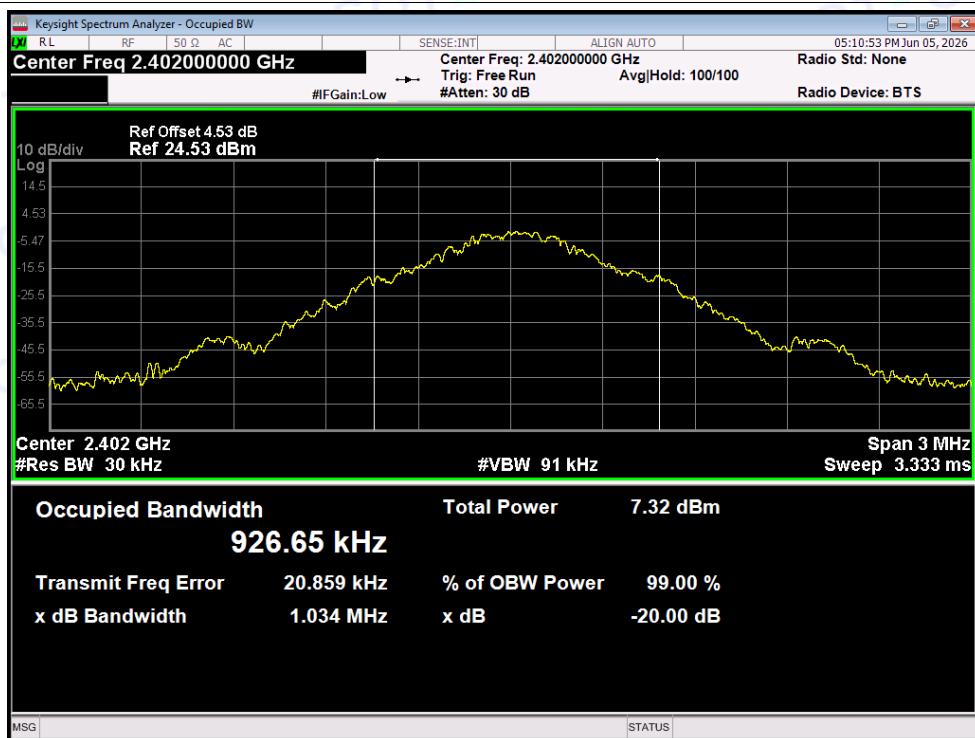


5. Occupied Channel Bandwidth

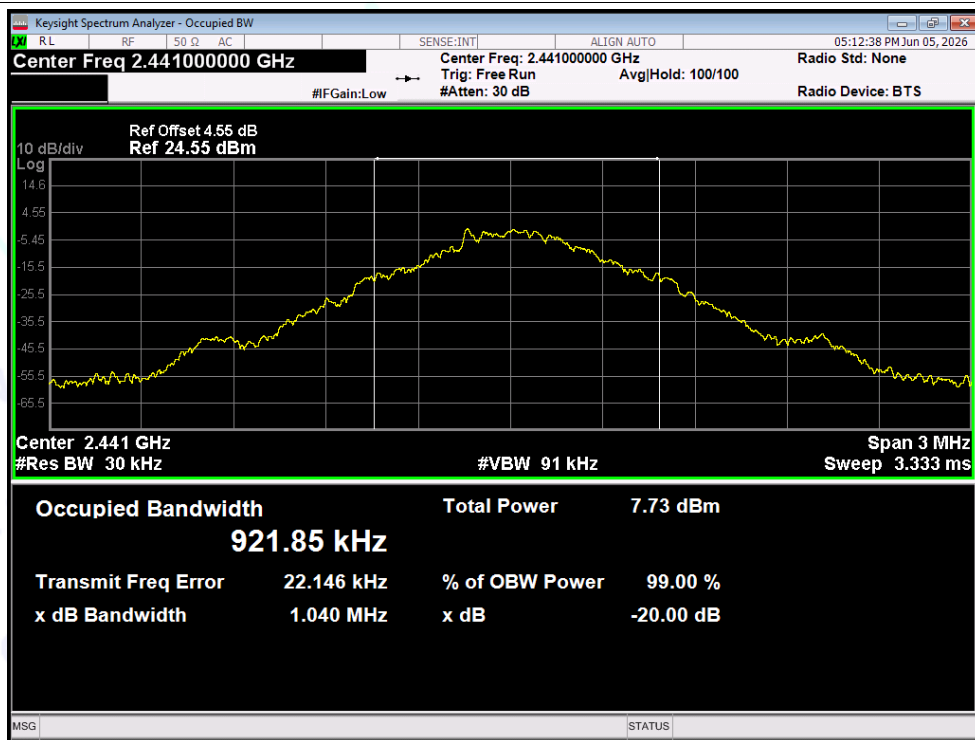
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH5	2402	Ant1	0.927
NVNT	1-DH5	2441	Ant1	0.922
NVNT	1-DH5	2480	Ant1	0.964
NVNT	2-DH5	2402	Ant1	1.209
NVNT	2-DH5	2441	Ant1	1.222
NVNT	2-DH5	2480	Ant1	1.229
NVNT	3-DH5	2402	Ant1	1.218
NVNT	3-DH5	2441	Ant1	1.213
NVNT	3-DH5	2480	Ant1	1.214

Test Graphs

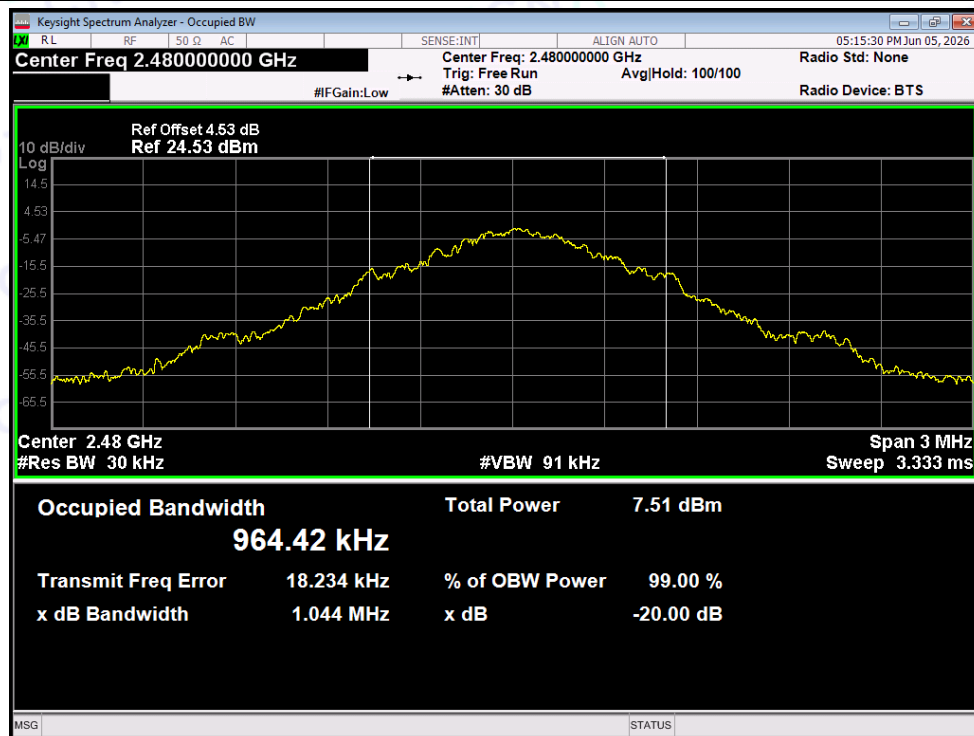
OBW NVNT 1-DH5 2402MHz Ant1



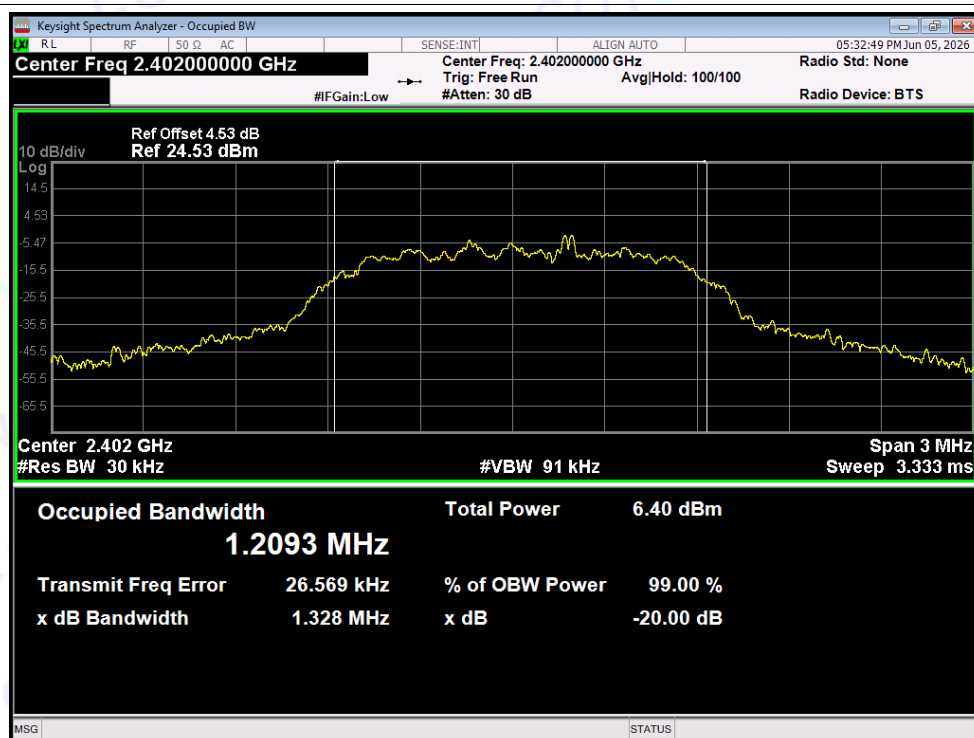
OBW NVNT 1-DH5 2441MHz Ant1



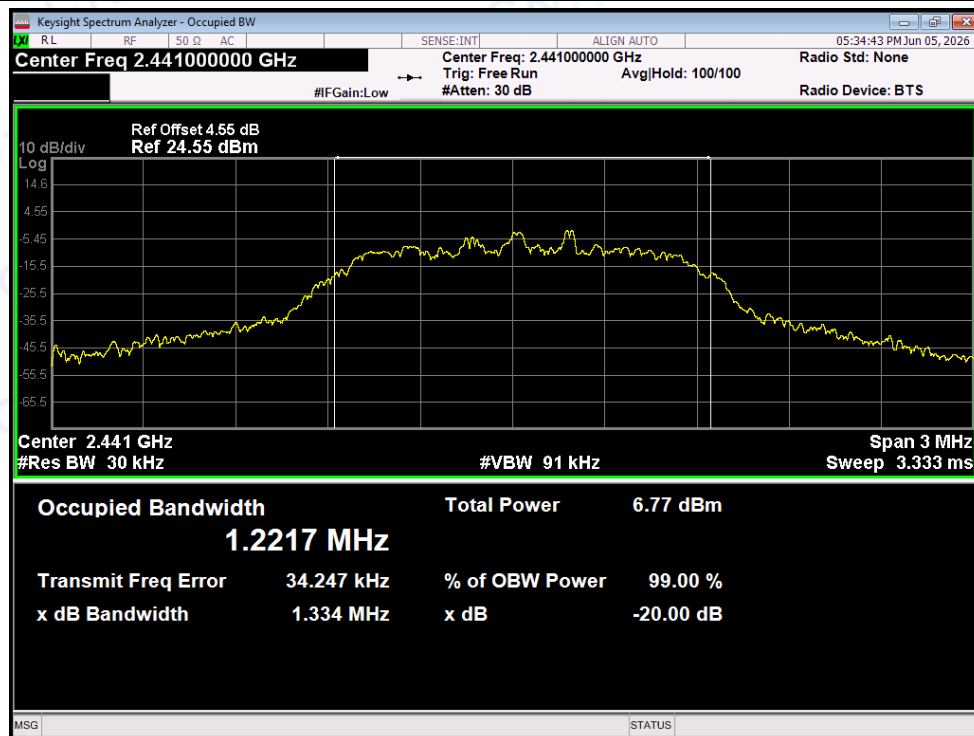
OBW NVNT 1-DH5 2480MHz Ant1



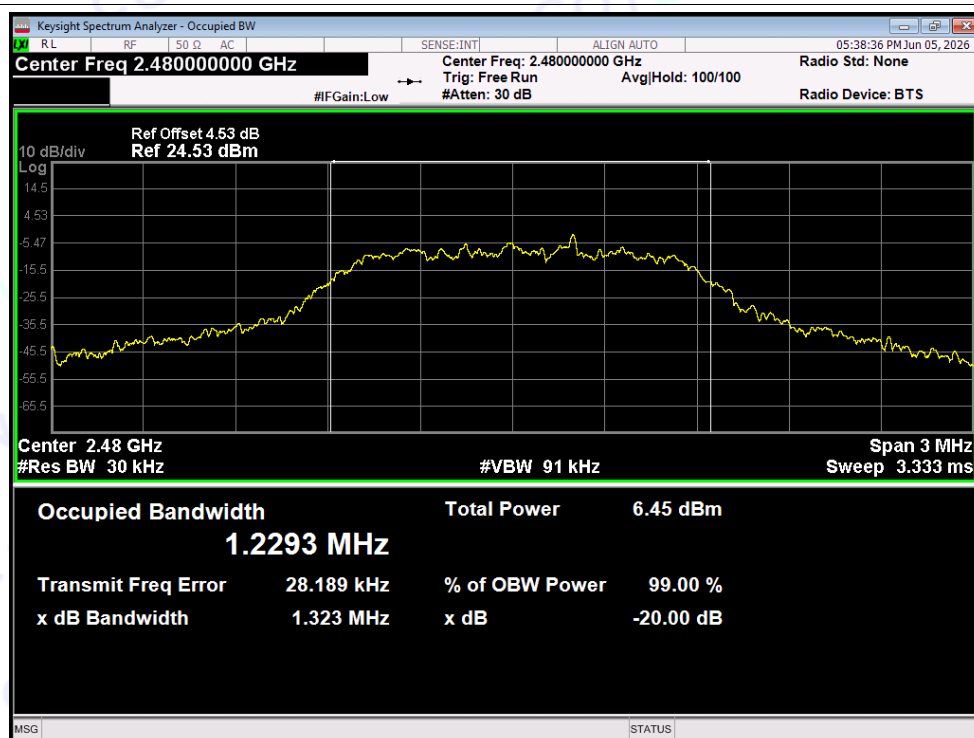
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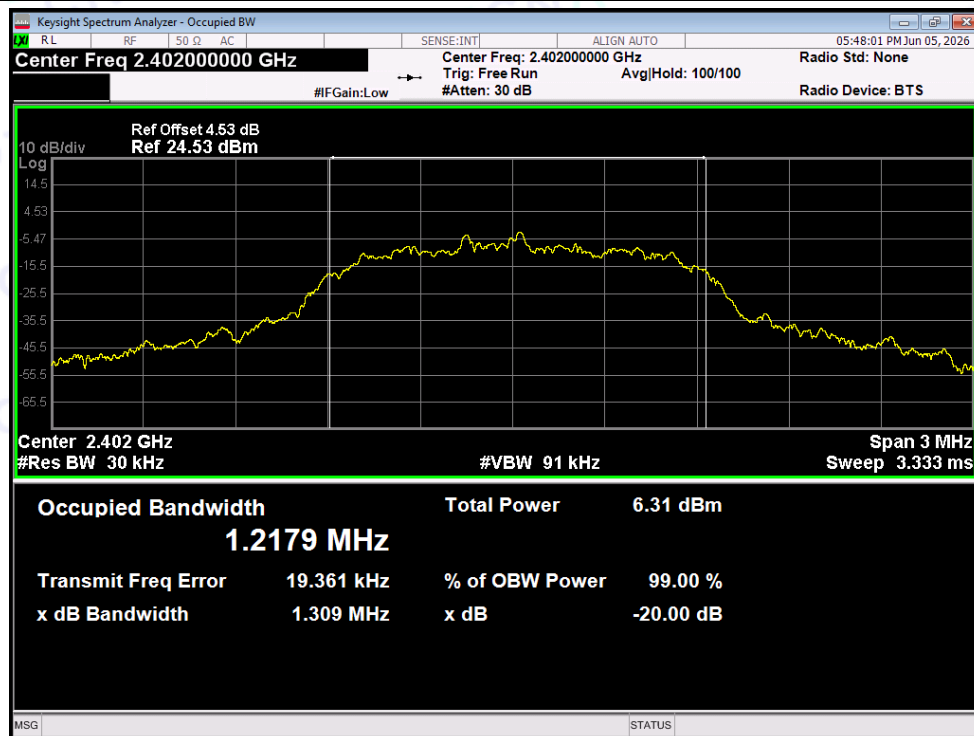
OBW NVNT 2-DH5 2441MHz Ant1



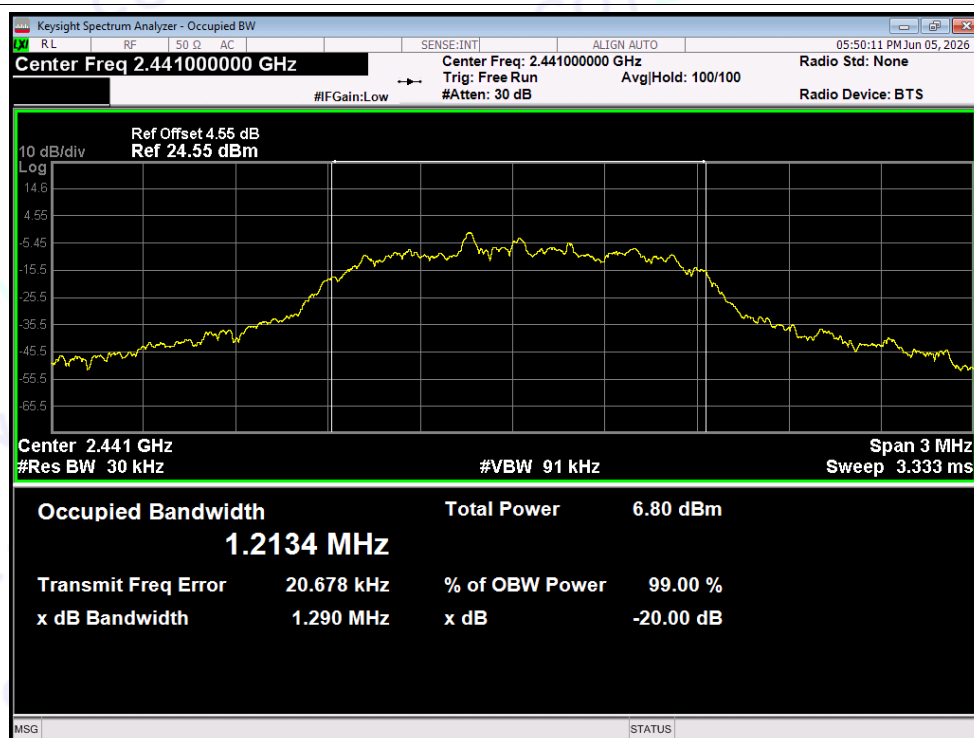
OBW NVNT 2-DH5 2480MHz Ant1

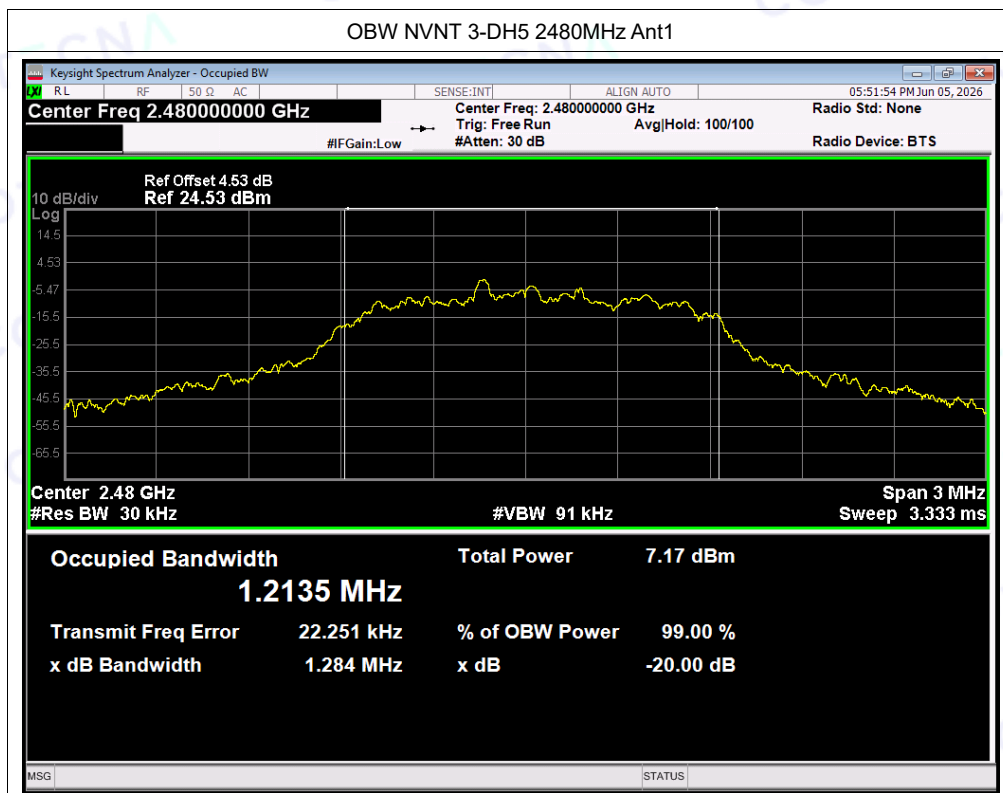


OBW NVNT 3-DH5 2402MHz Ant1



OBW NVNT 3-DH5 2441MHz Ant1



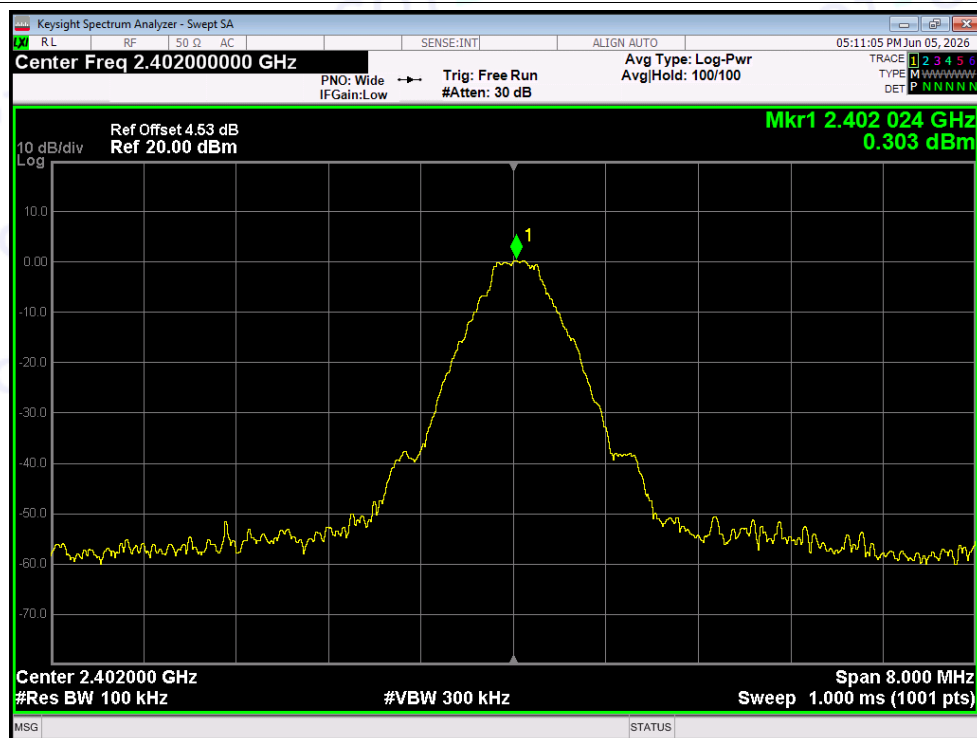


6. Band Edge

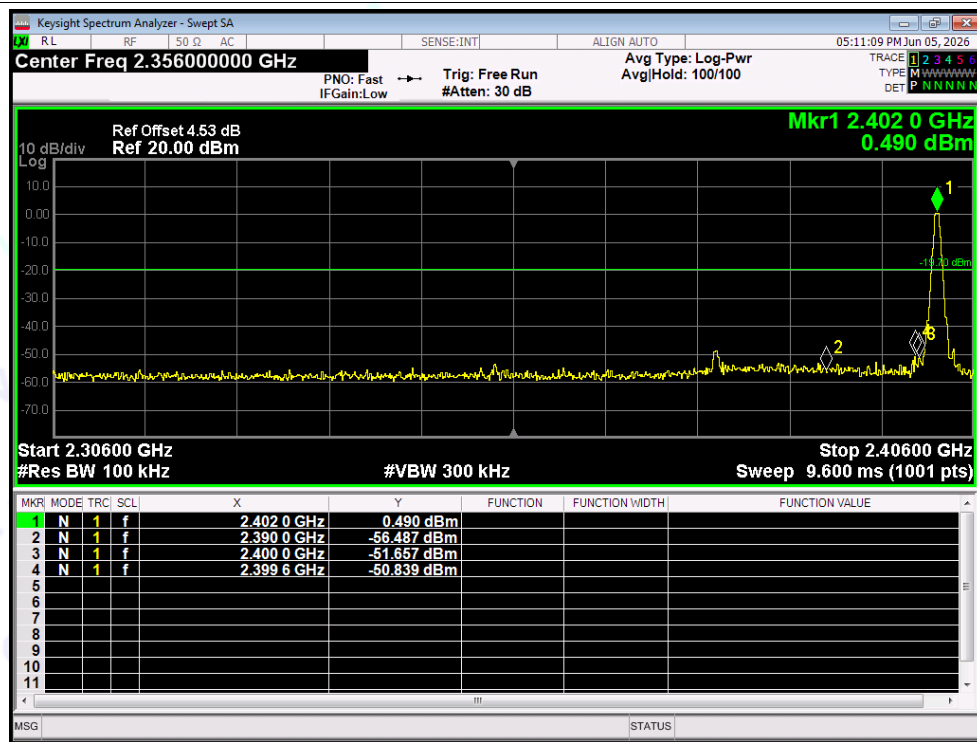
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-51.14	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-52.82	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-54.38	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-48.97	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.75	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-52.37	-20	Pass

Test Graphs

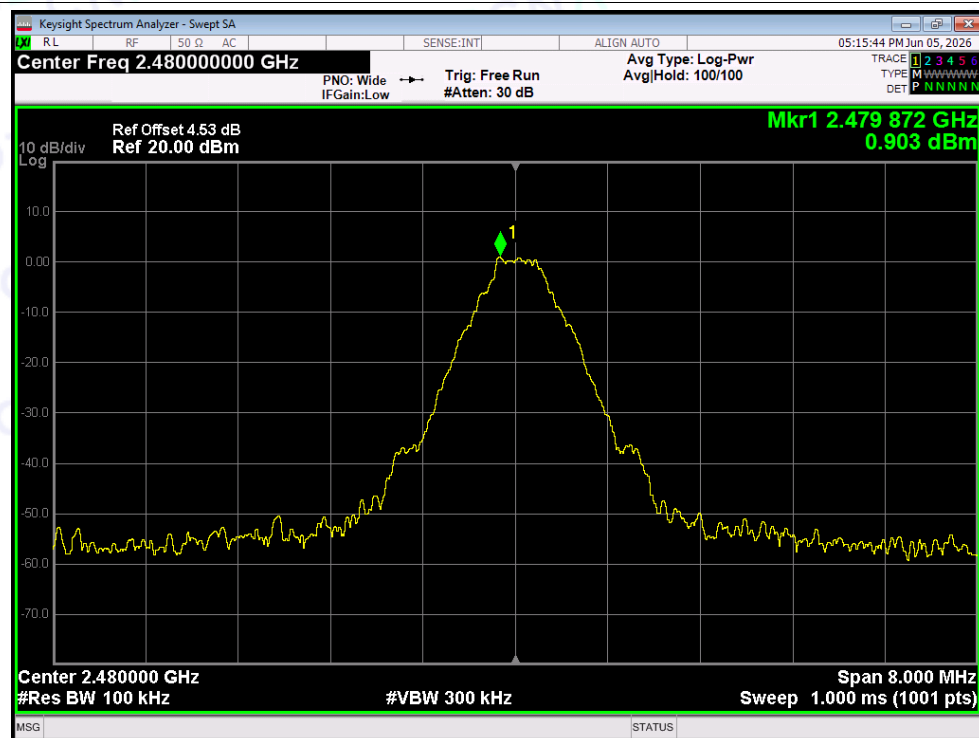
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



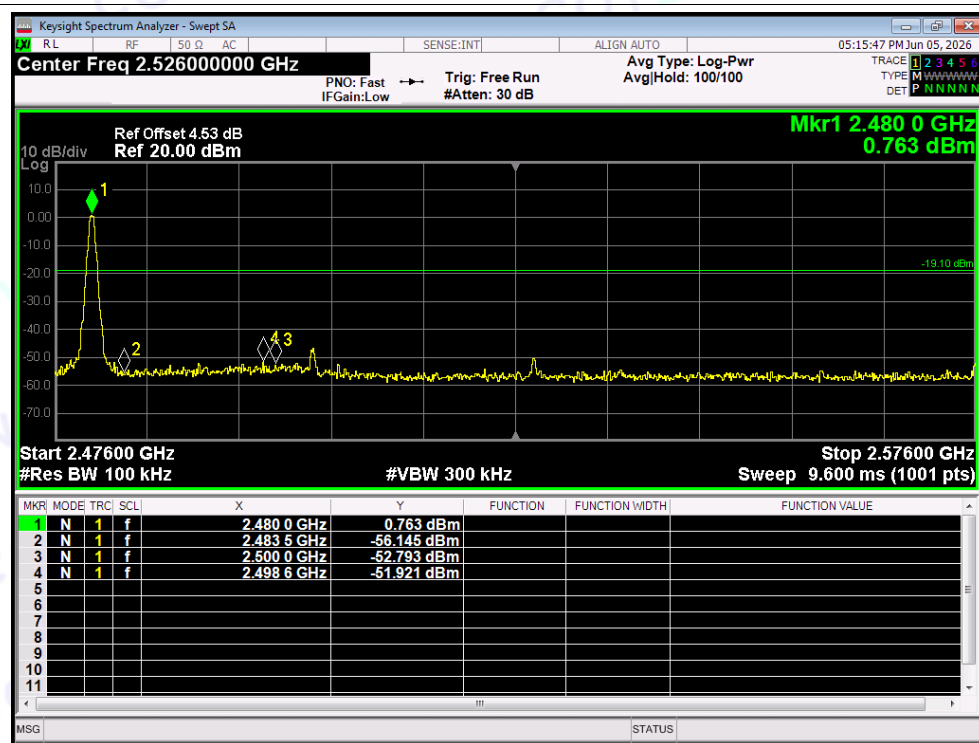
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



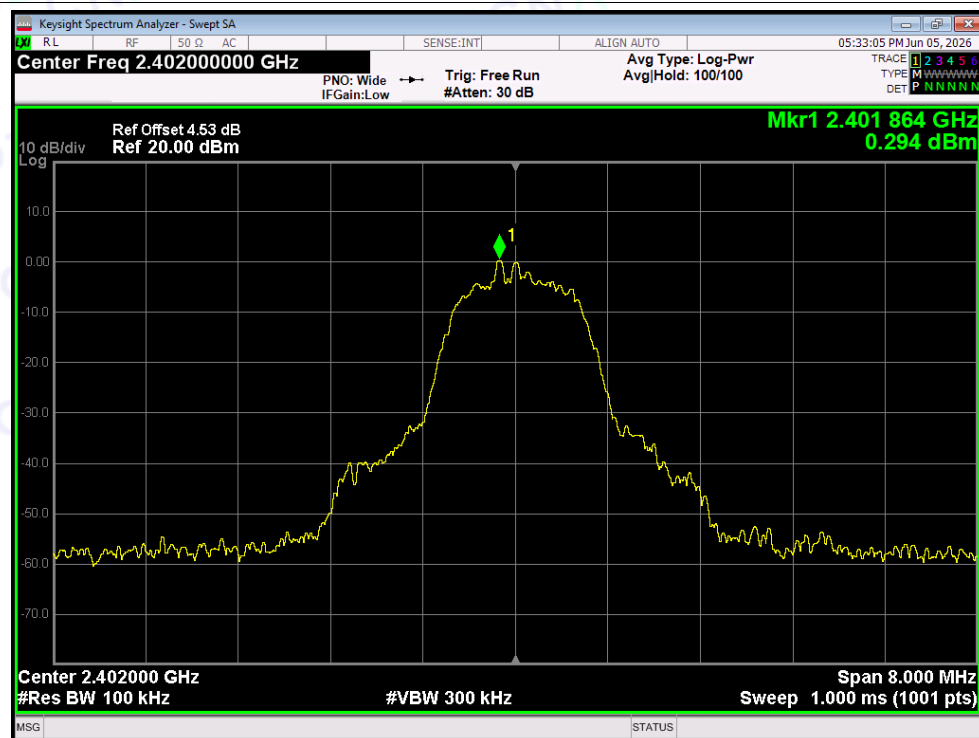
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



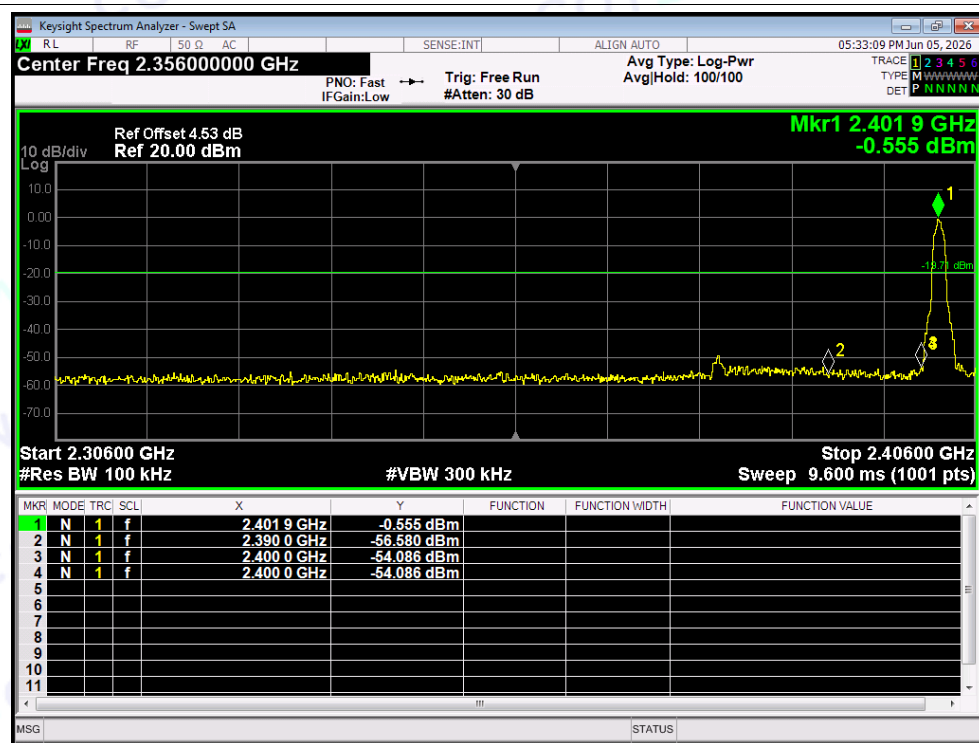
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



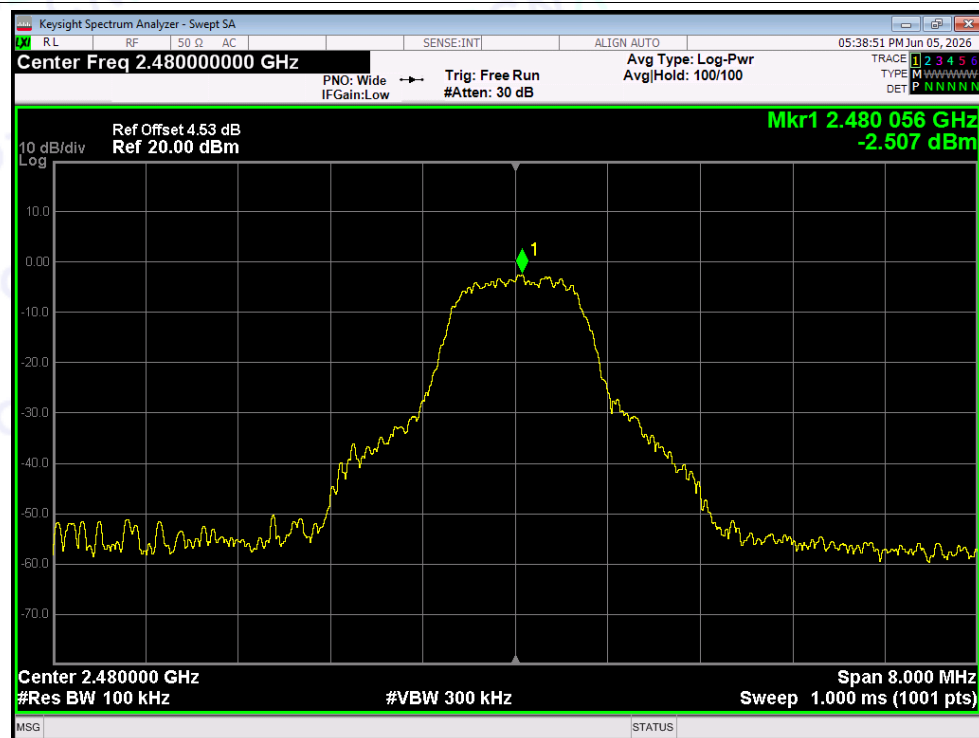
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



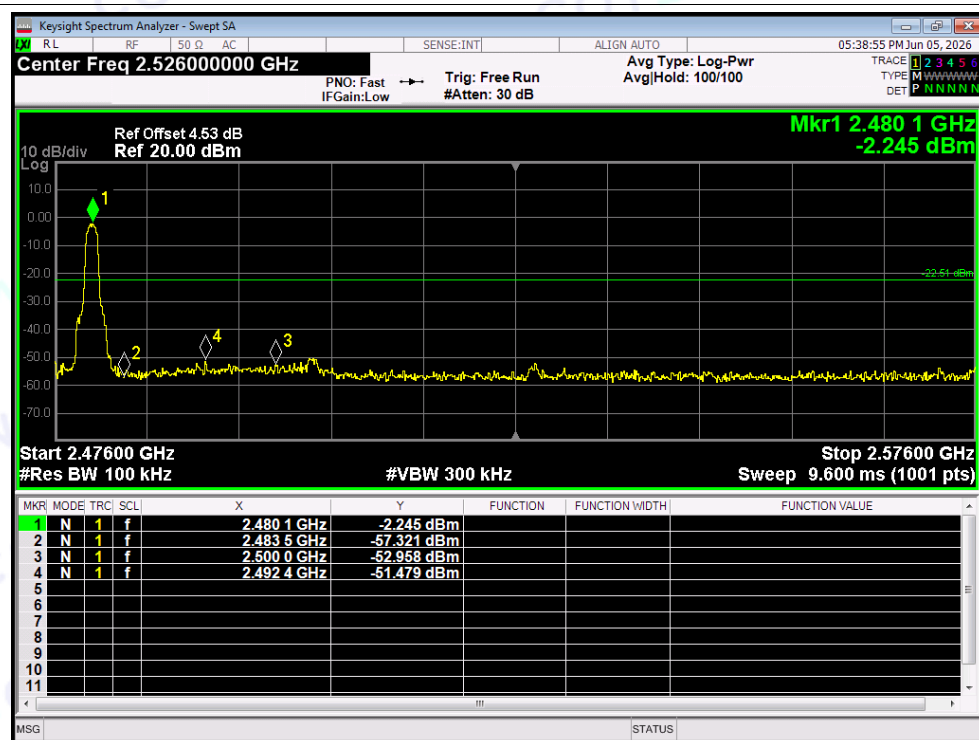
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



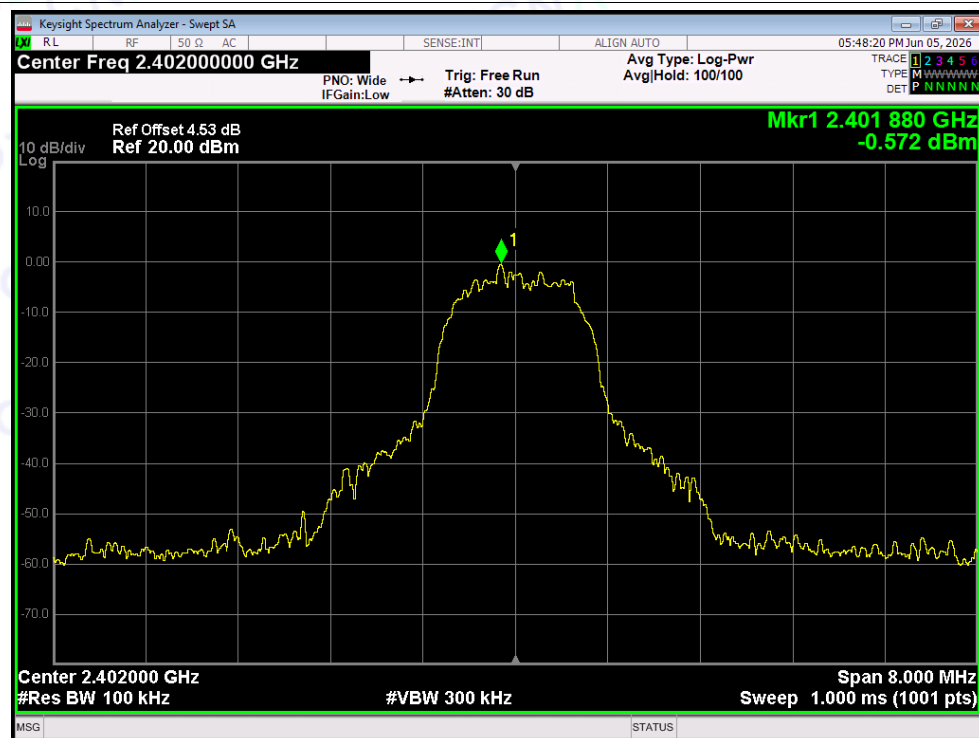
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



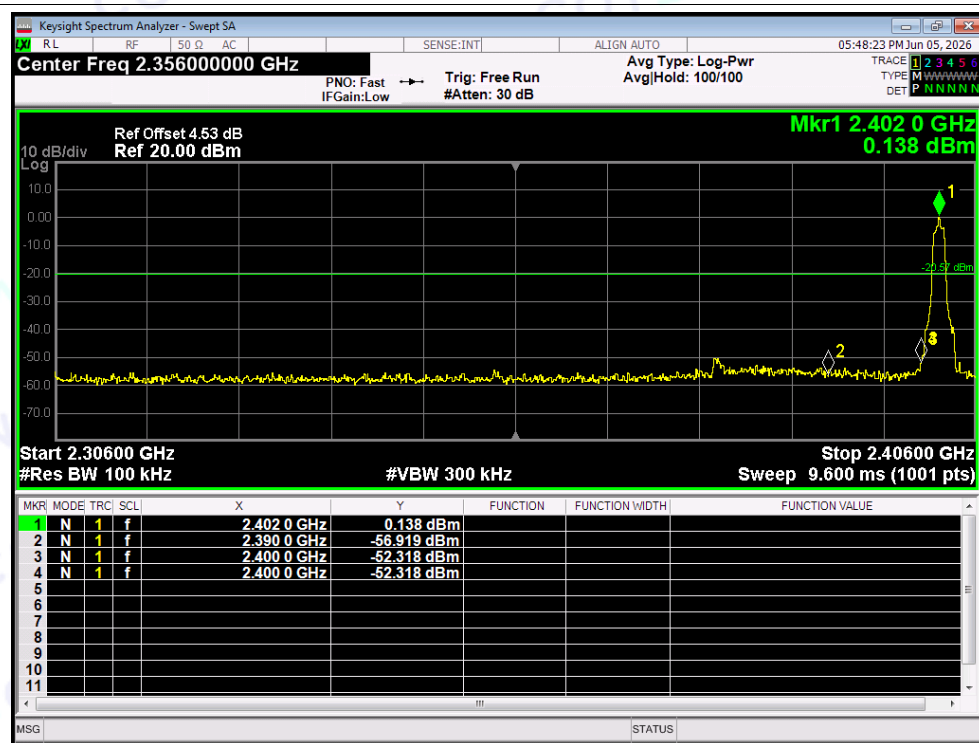
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



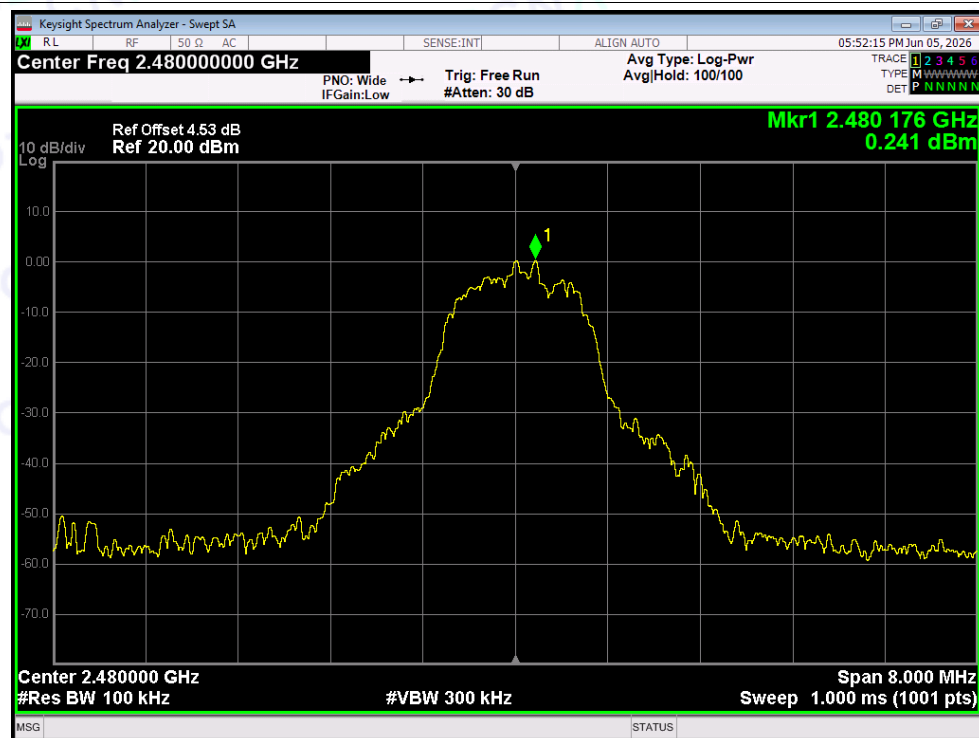
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



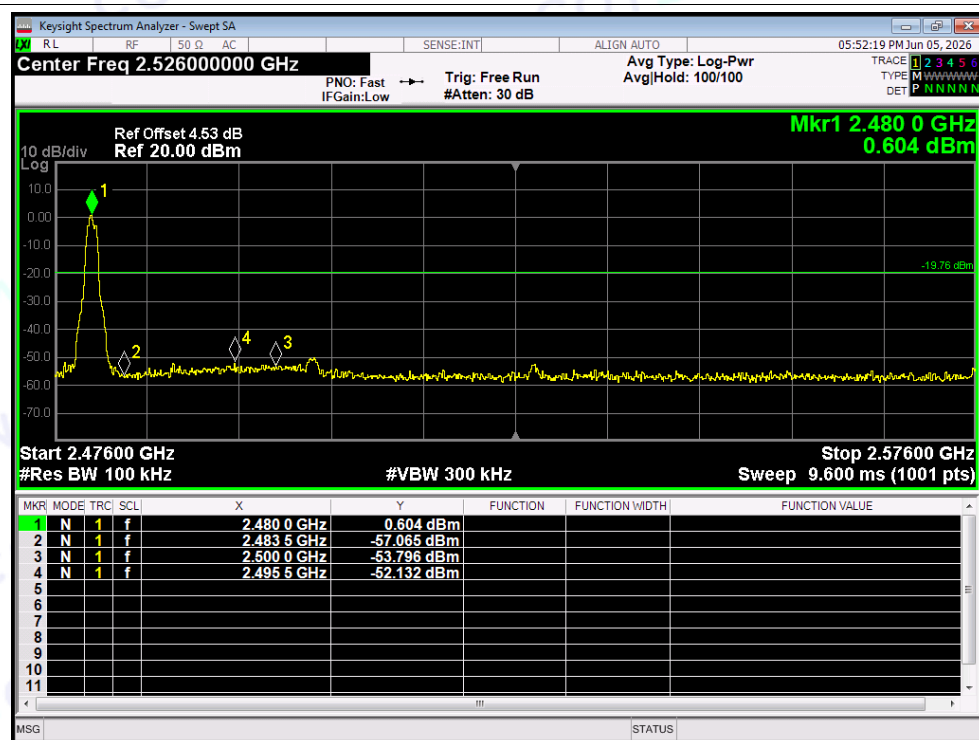
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission



7. Band Edge(Hopping)

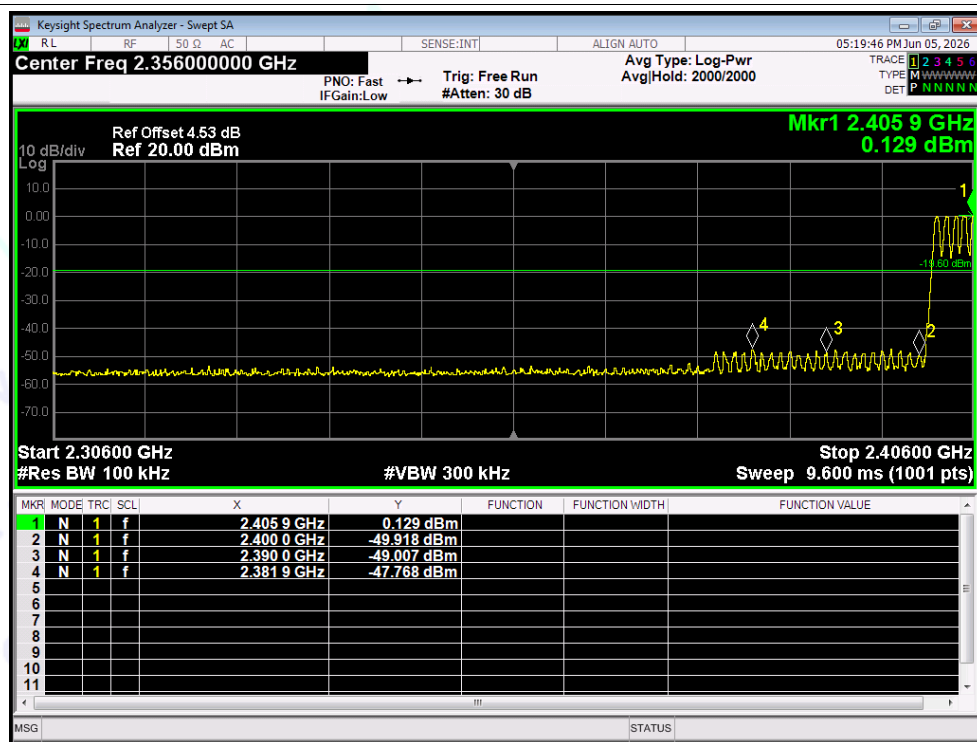
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-48.17	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-47.6	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-48.95	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-47.66	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-49.04	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-49.2	-20	Pass

Test Graphs

Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



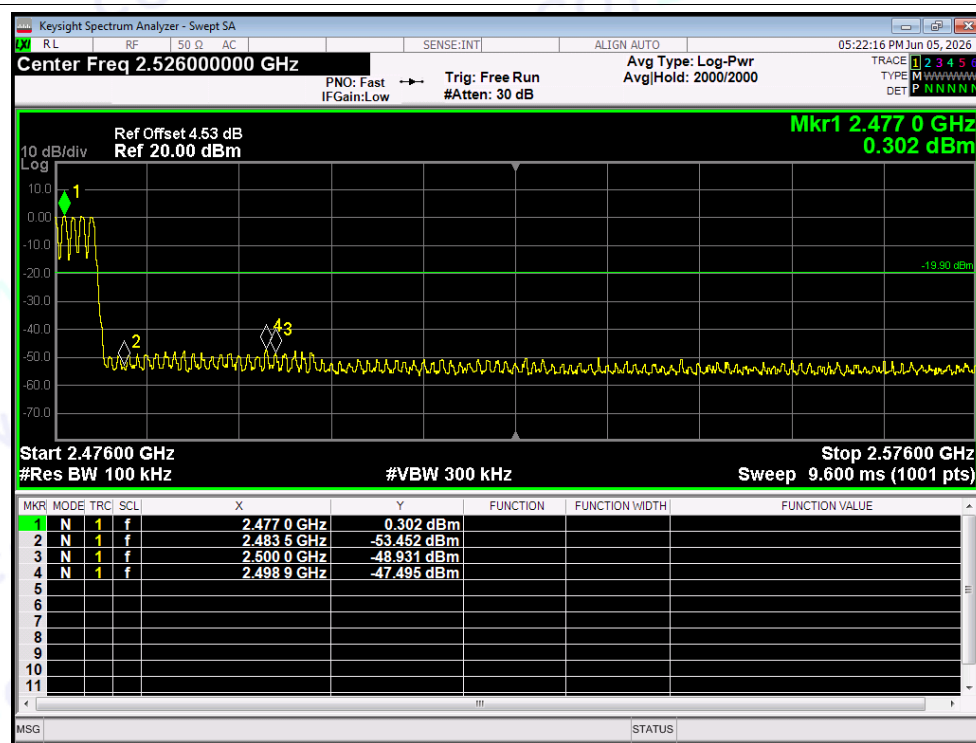
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



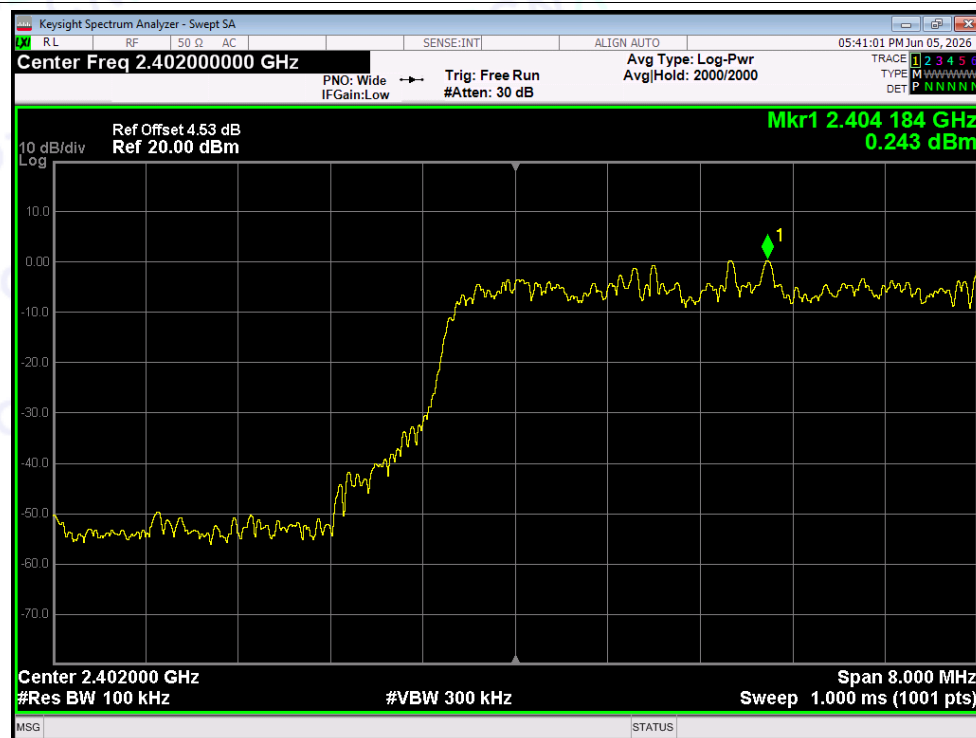
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



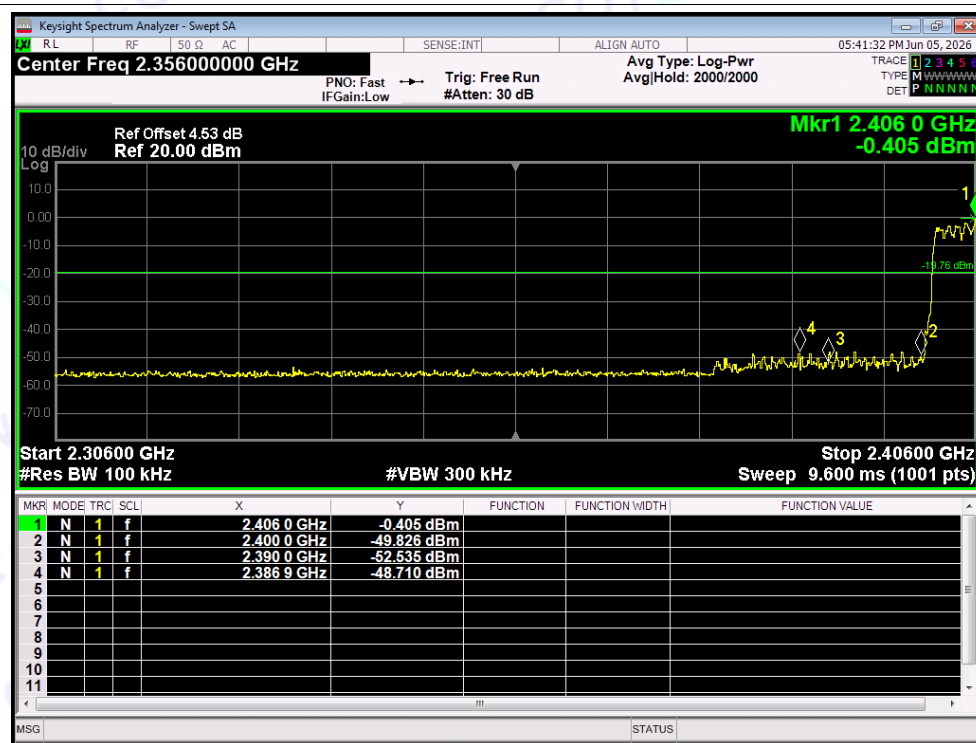
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



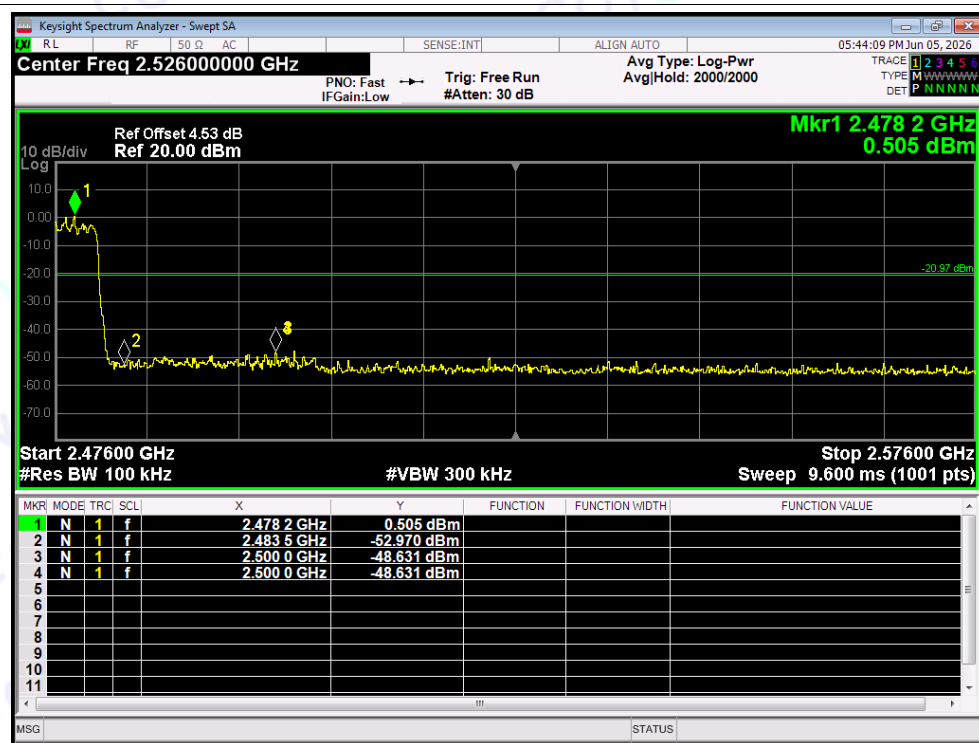
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



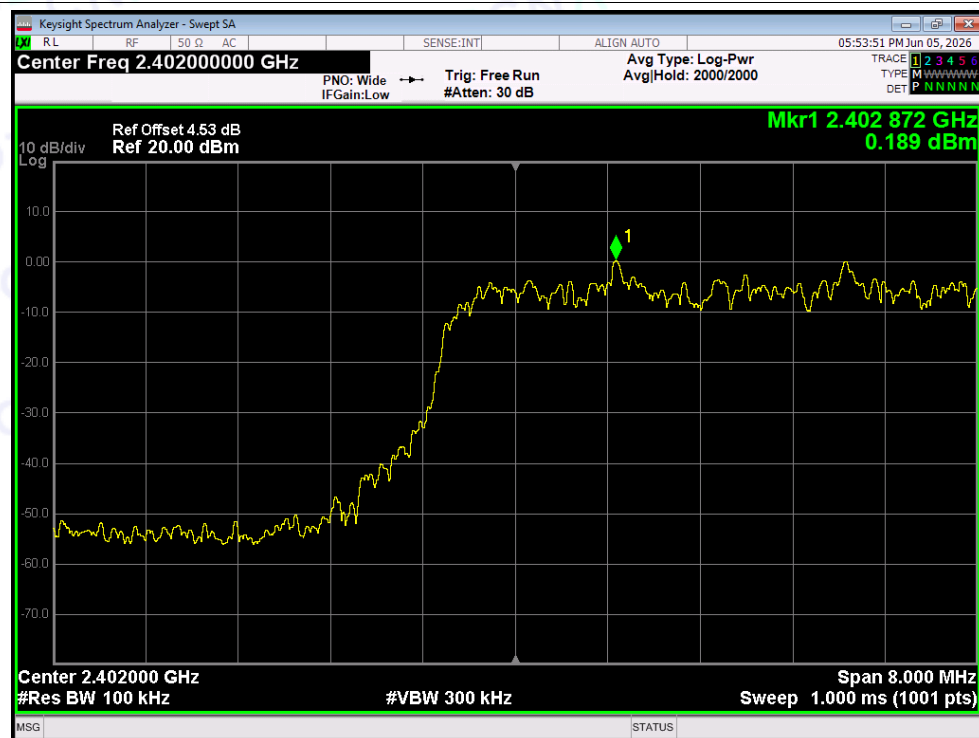
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



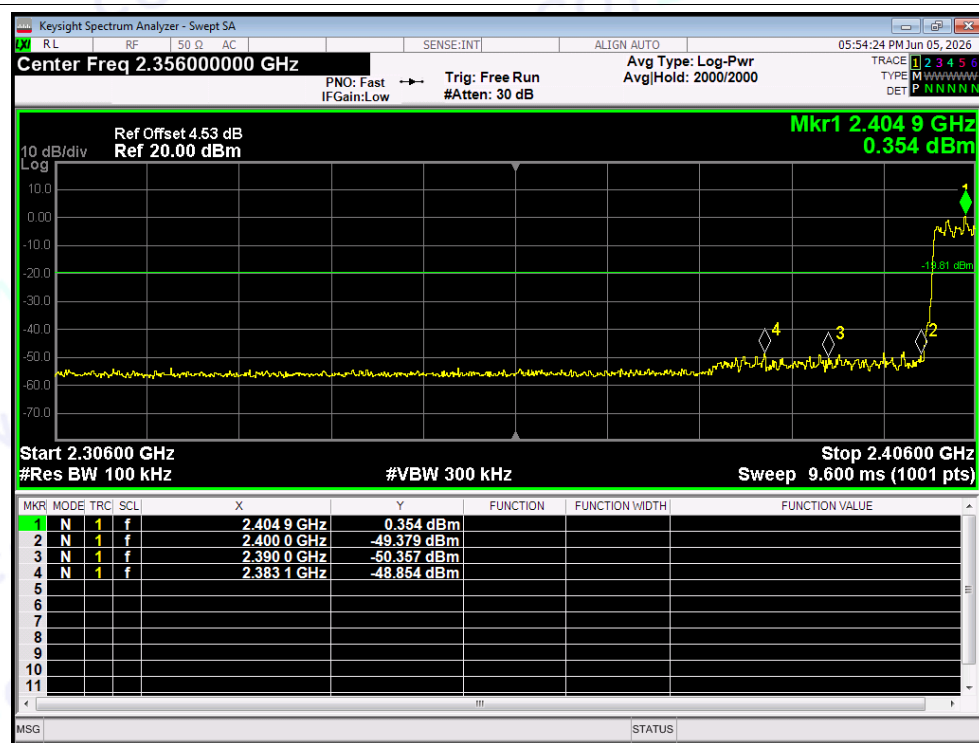
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



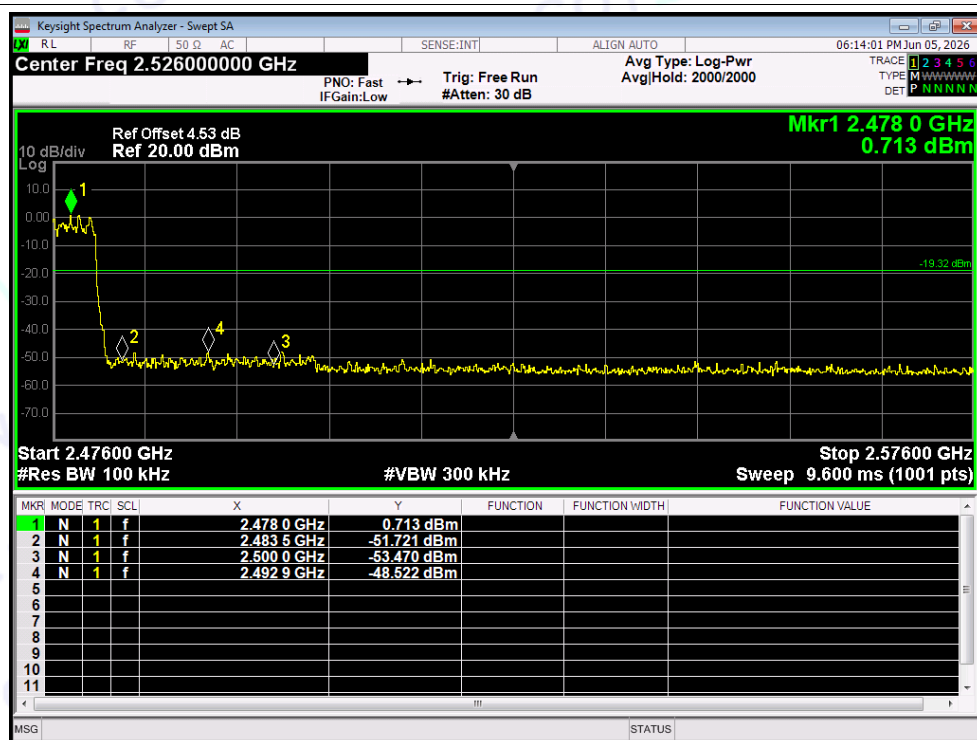
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Emission

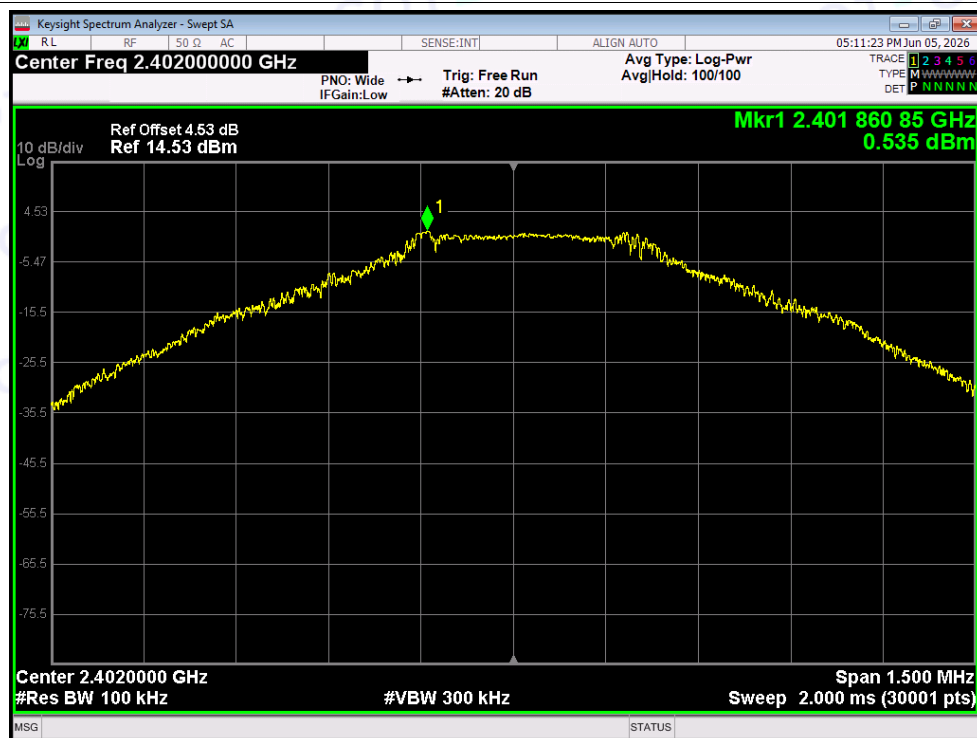


8. Conducted RF Spurious Emission

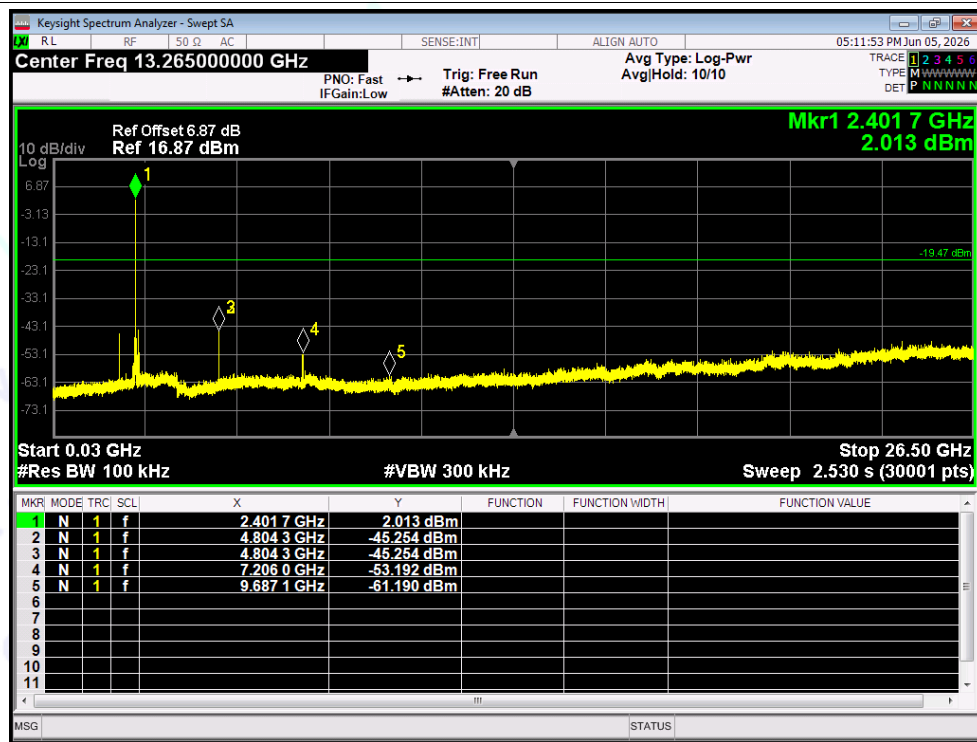
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-45.79	-20	Pass
NVNT	1-DH5	2441	Ant1	-44.63	-20	Pass
NVNT	1-DH5	2480	Ant1	-41.28	-20	Pass
NVNT	2-DH5	2402	Ant1	-47.95	-20	Pass
NVNT	2-DH5	2441	Ant1	-44.76	-20	Pass
NVNT	2-DH5	2480	Ant1	-44.71	-20	Pass
NVNT	3-DH5	2402	Ant1	-47.82	-20	Pass
NVNT	3-DH5	2441	Ant1	-46.44	-20	Pass
NVNT	3-DH5	2480	Ant1	-42.75	-20	Pass

Test Graphs

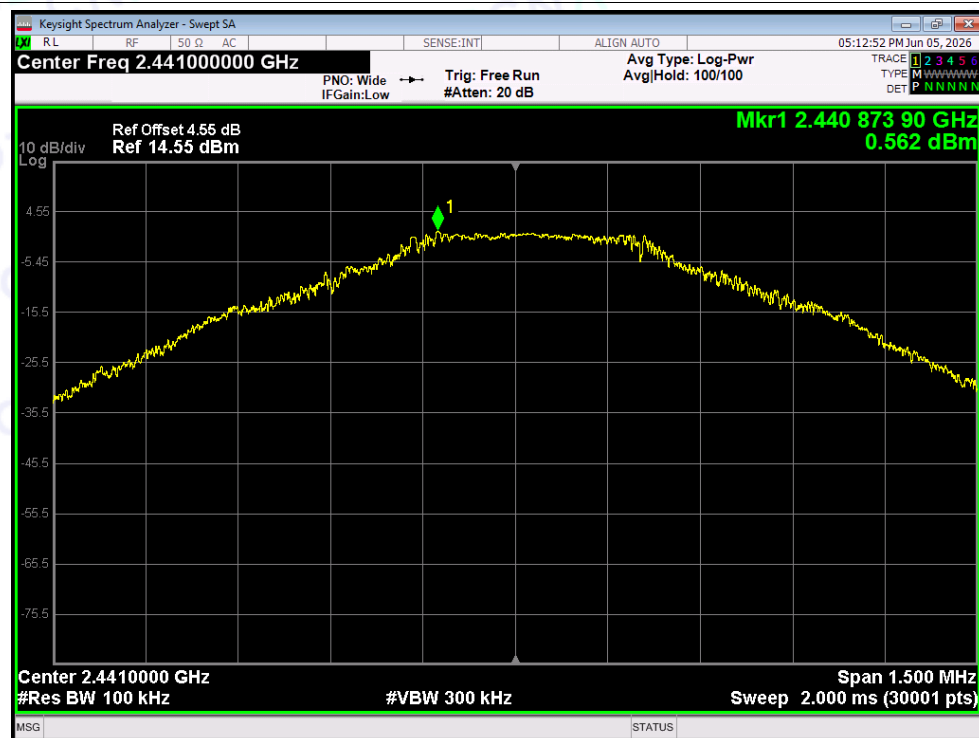
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



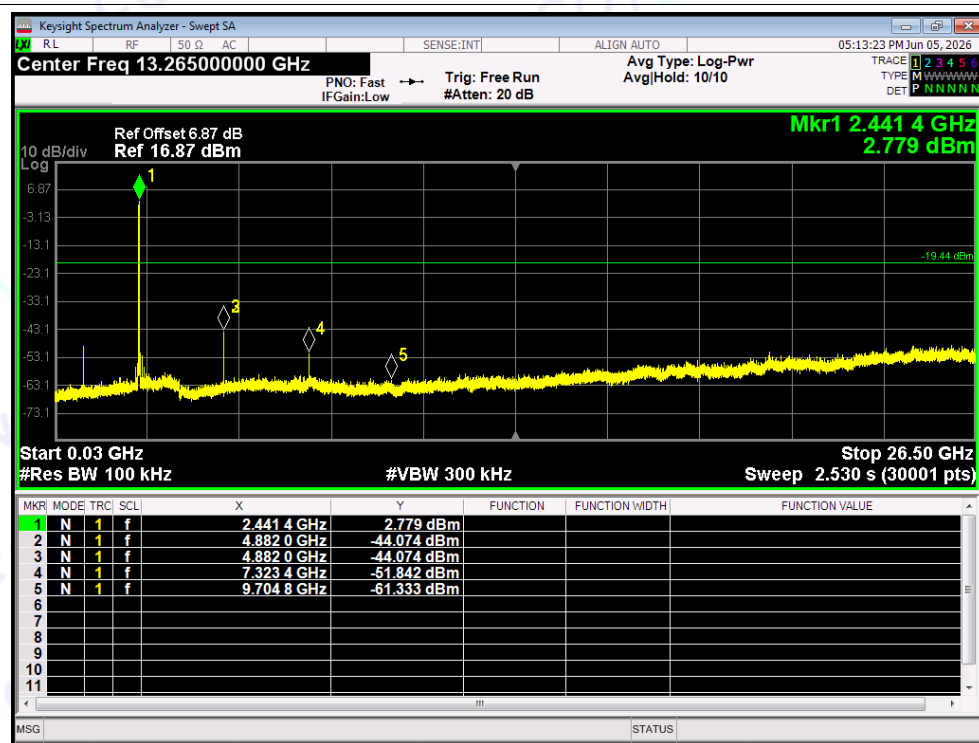
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



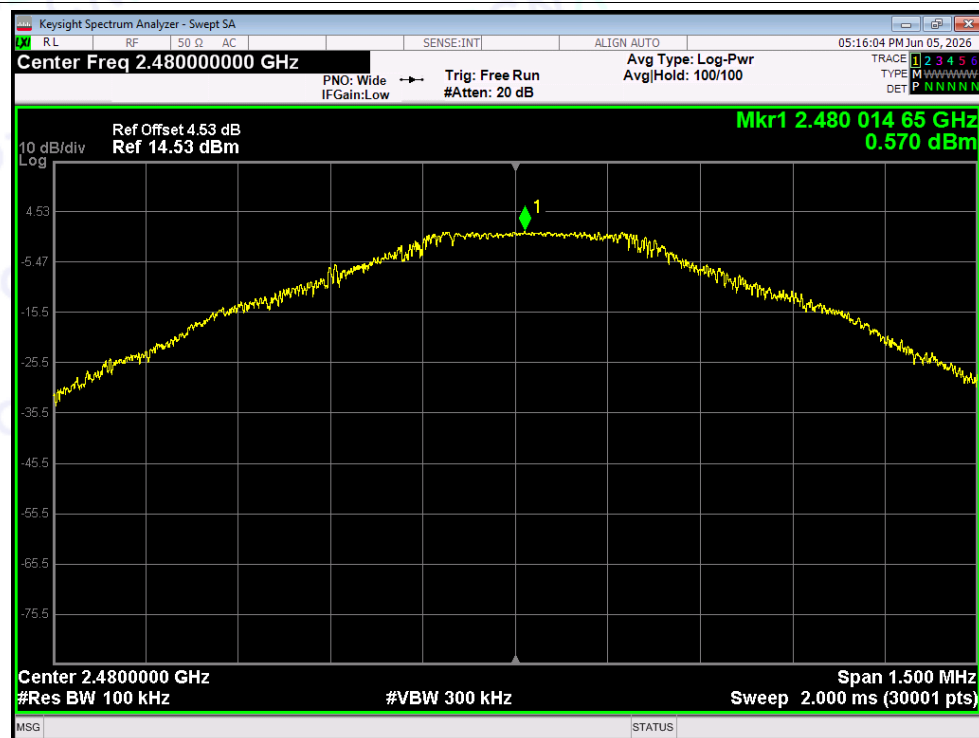
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



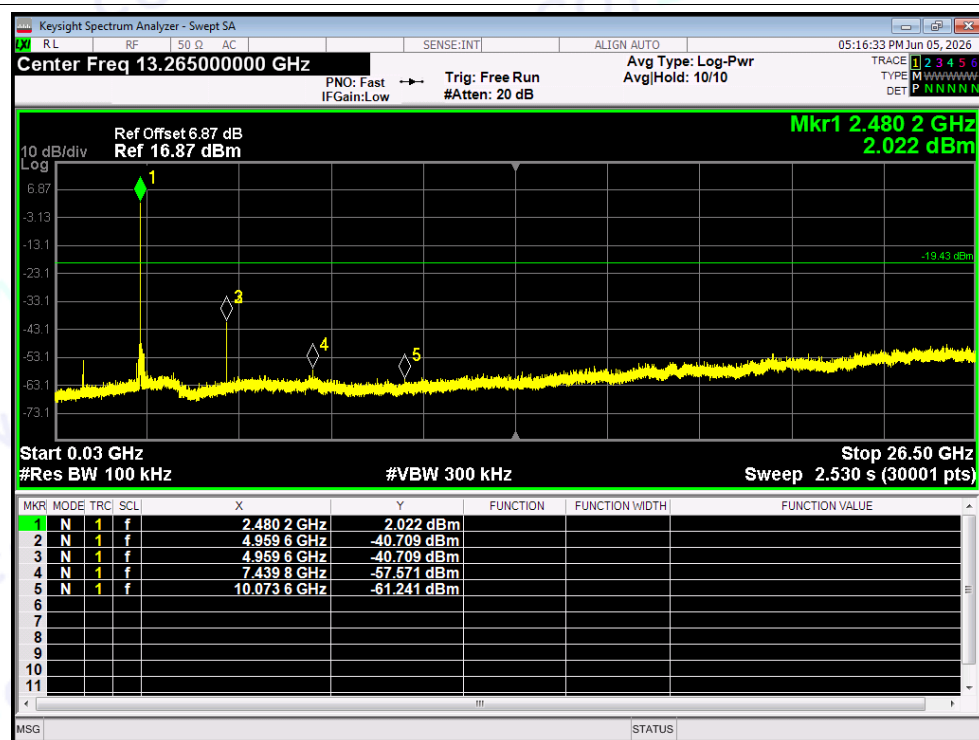
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



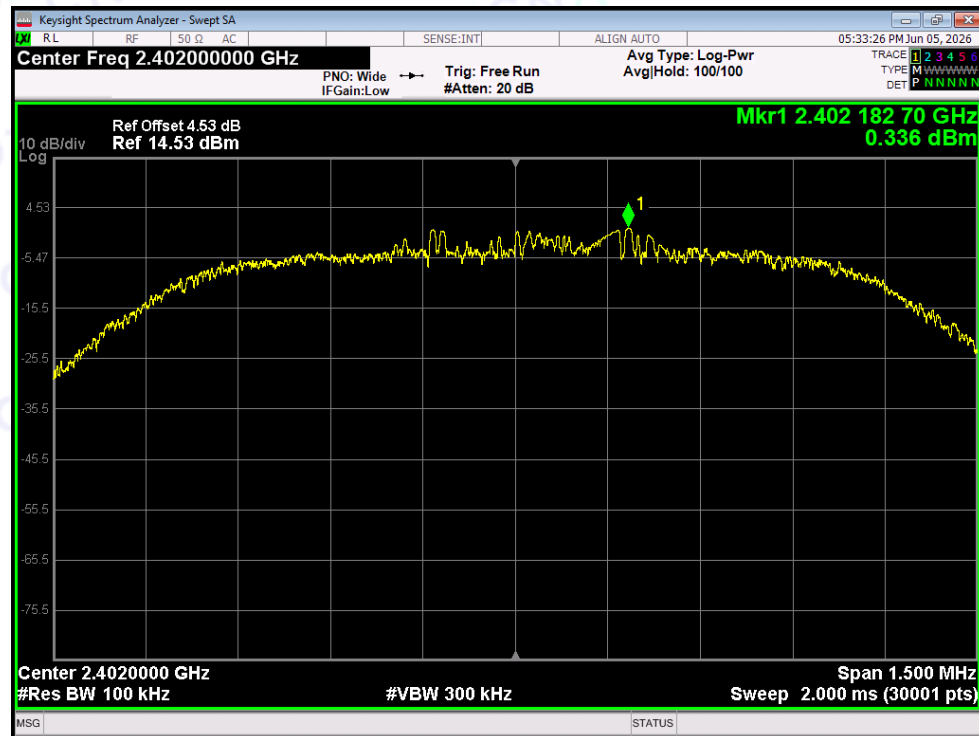
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



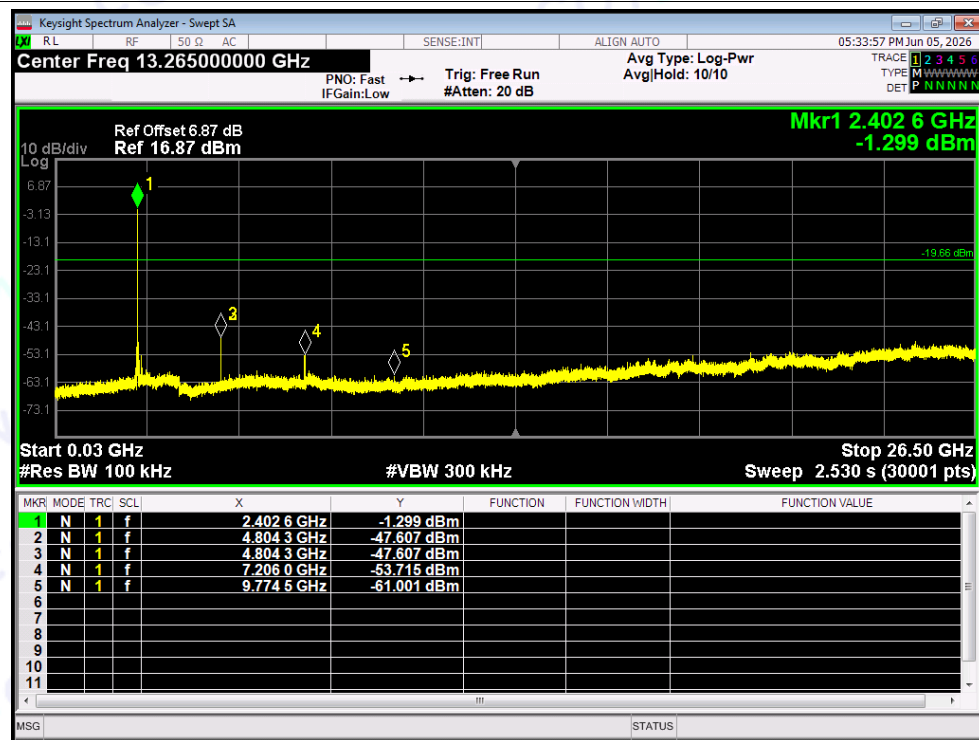
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



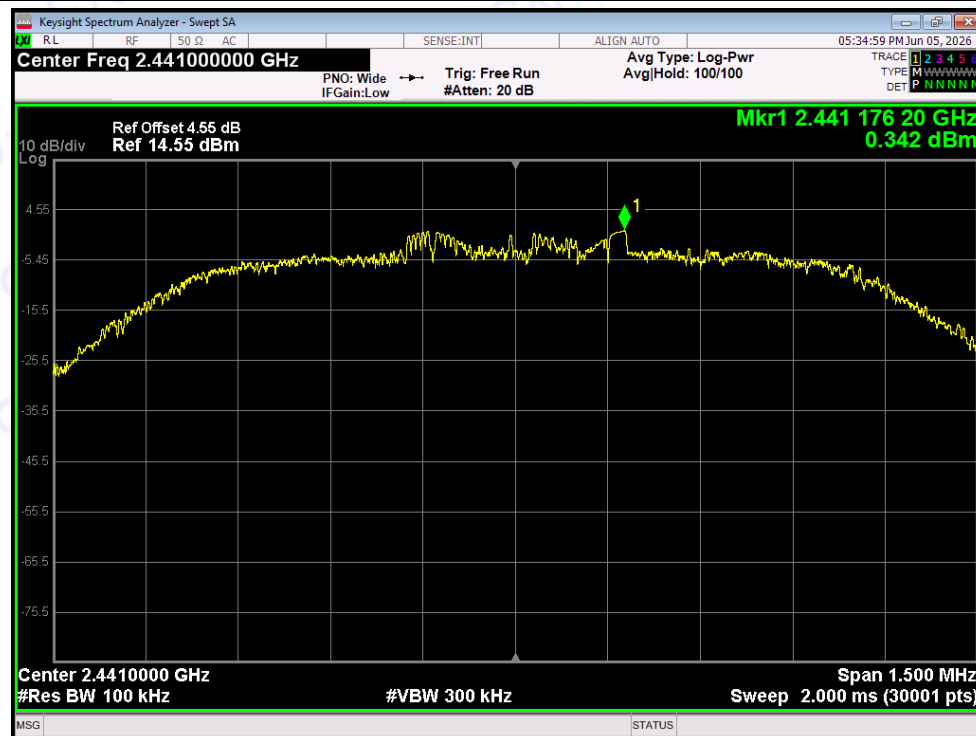
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



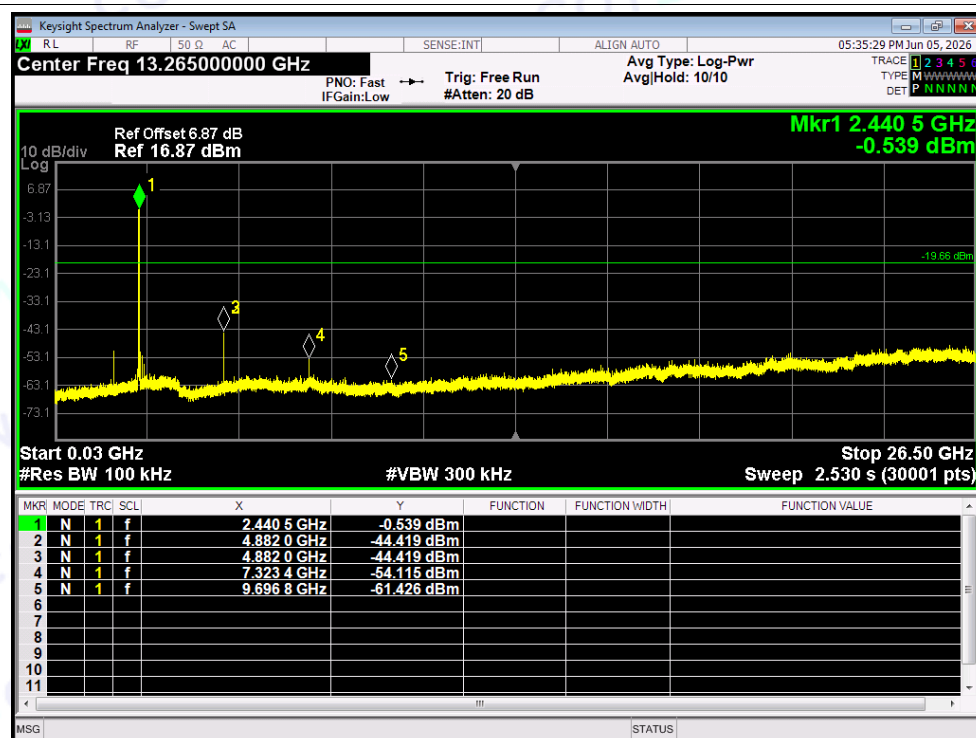
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



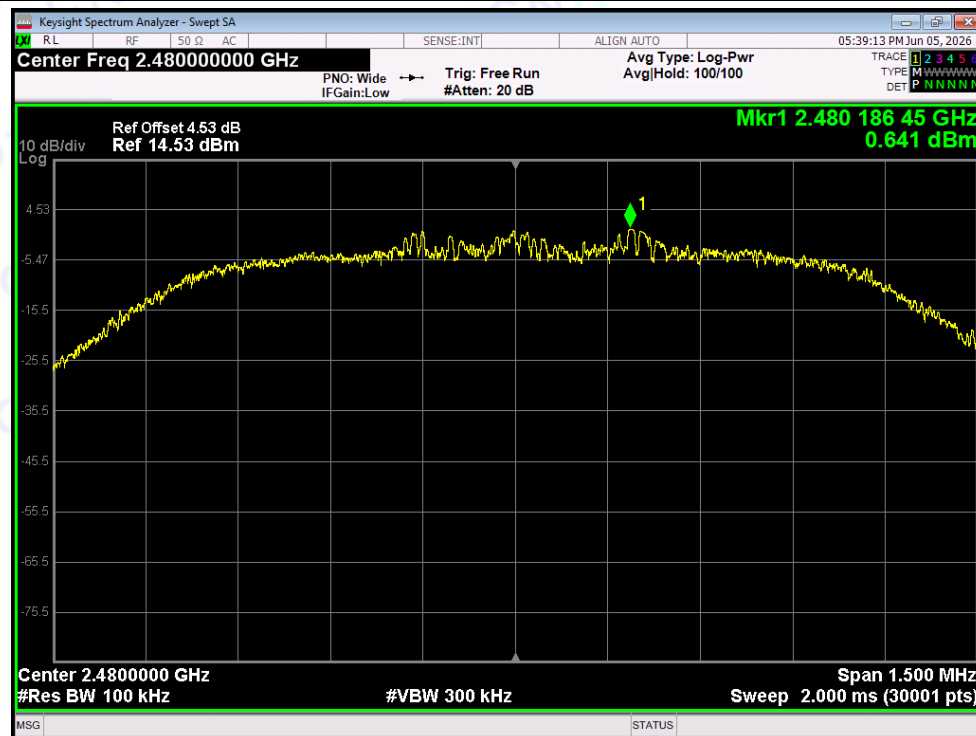
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



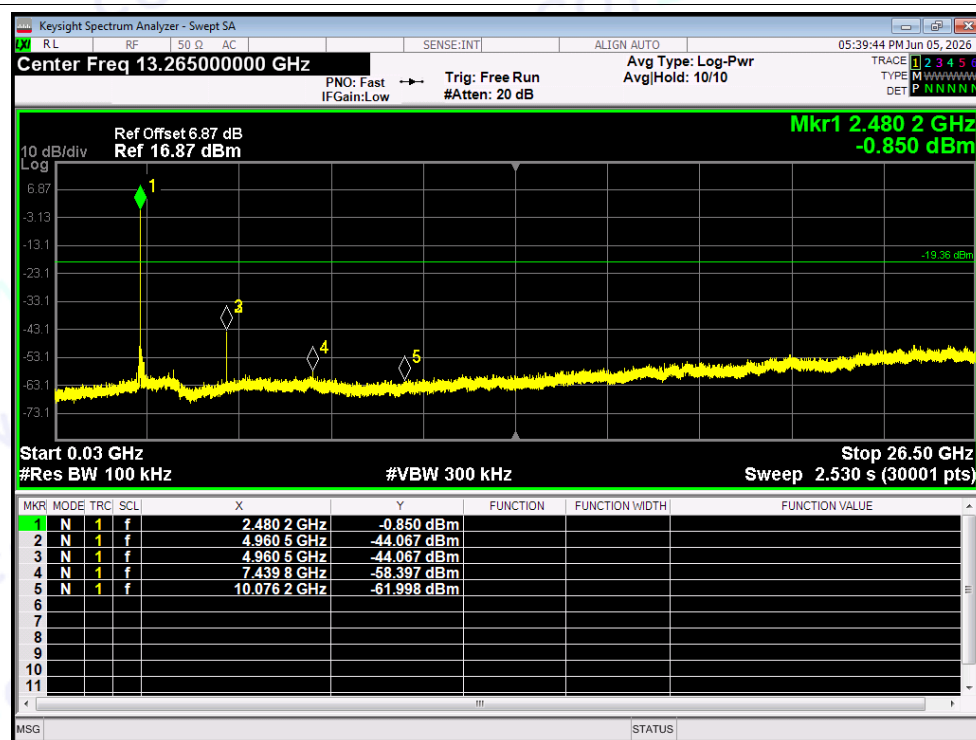
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



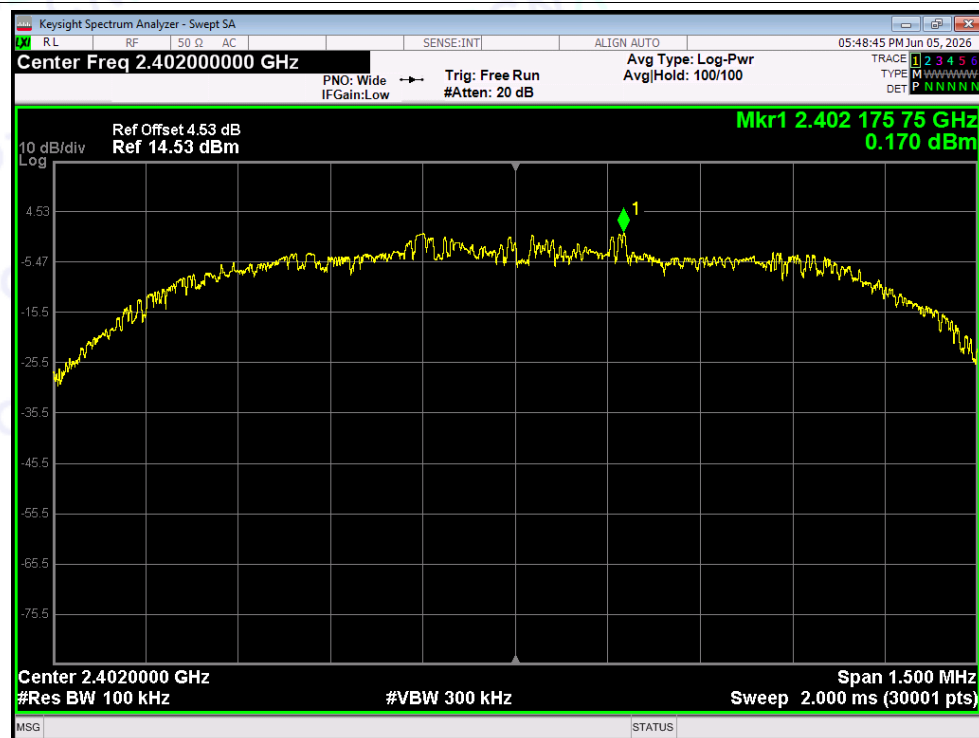
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



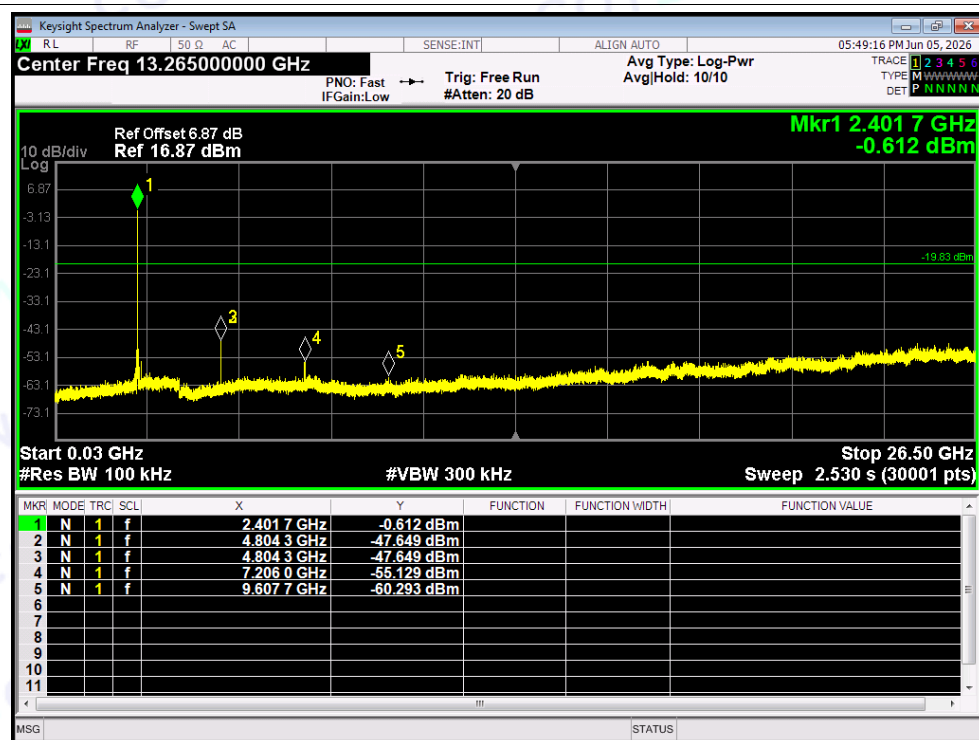
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



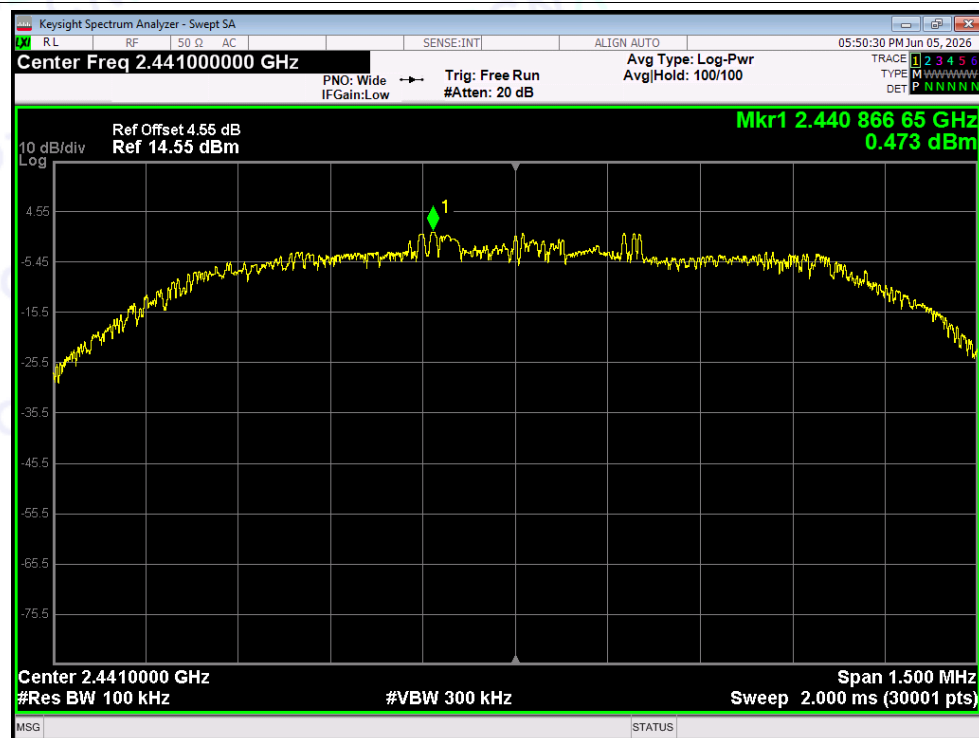
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



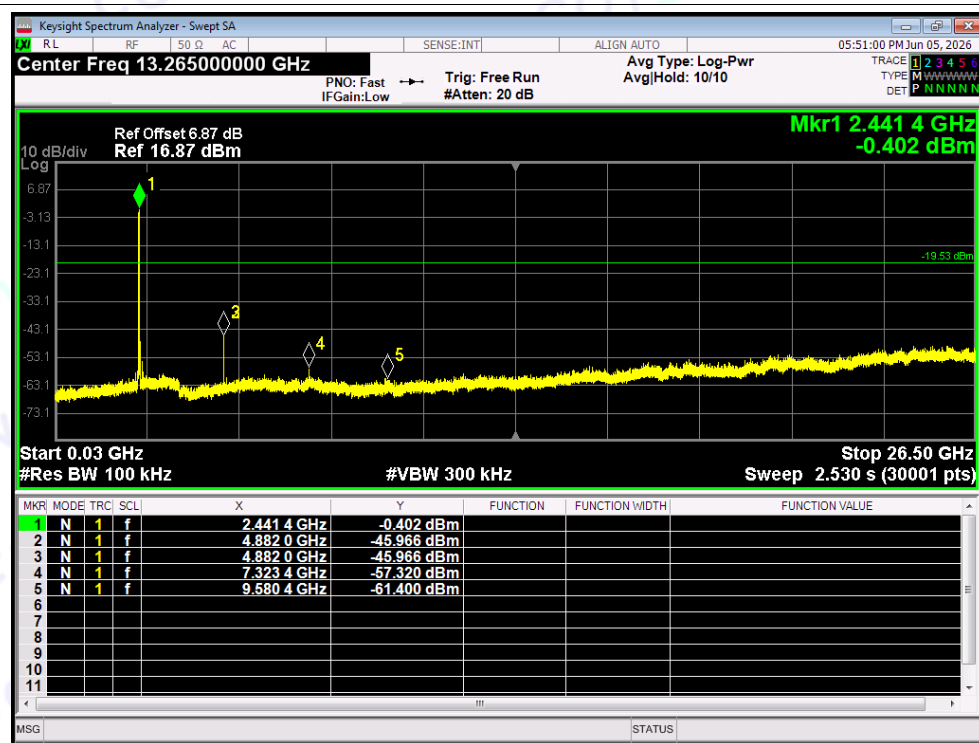
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



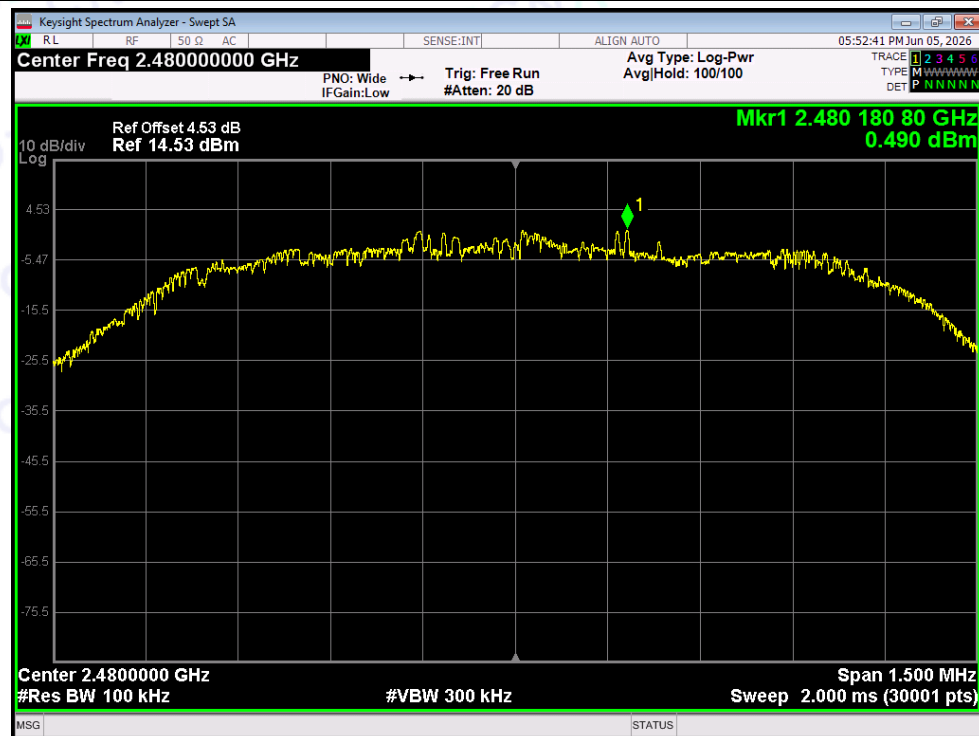
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



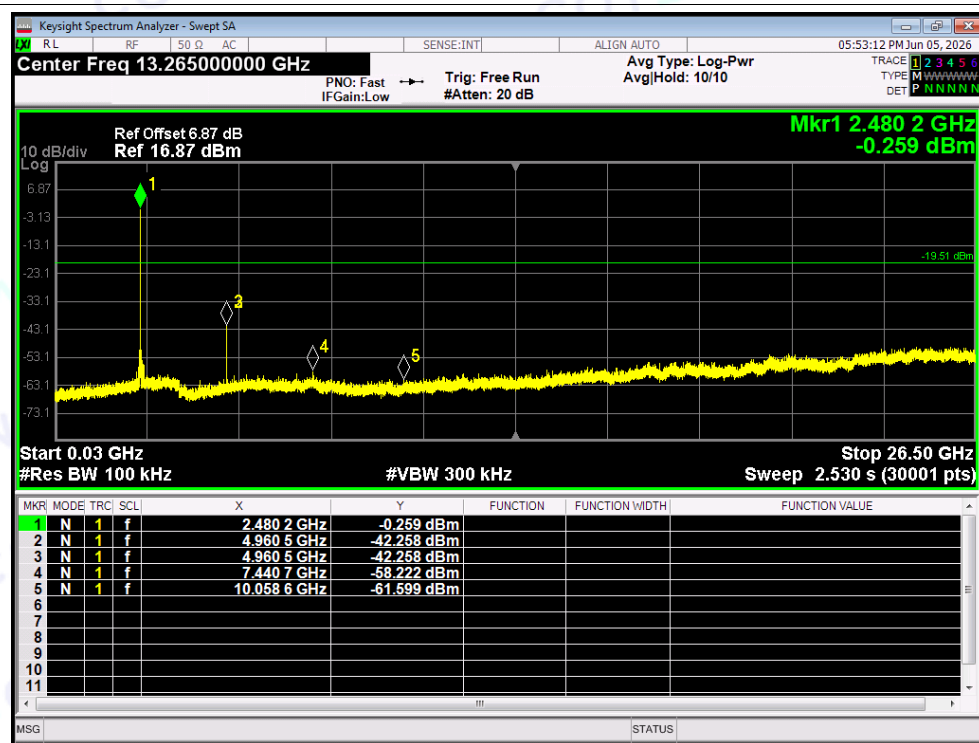
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

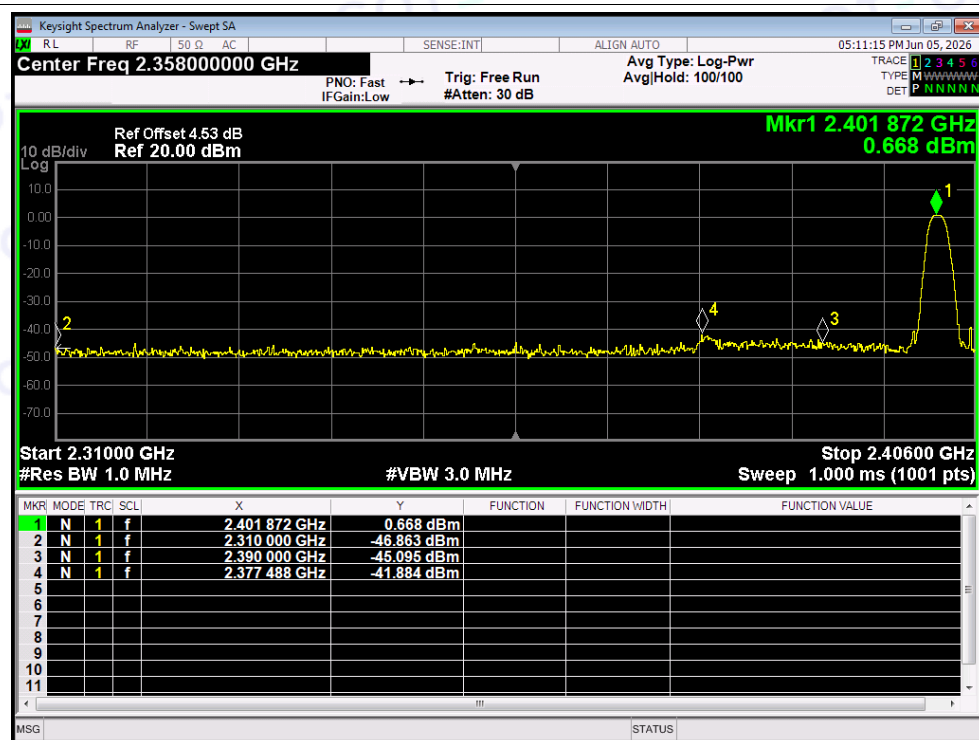


9. Restrict Band

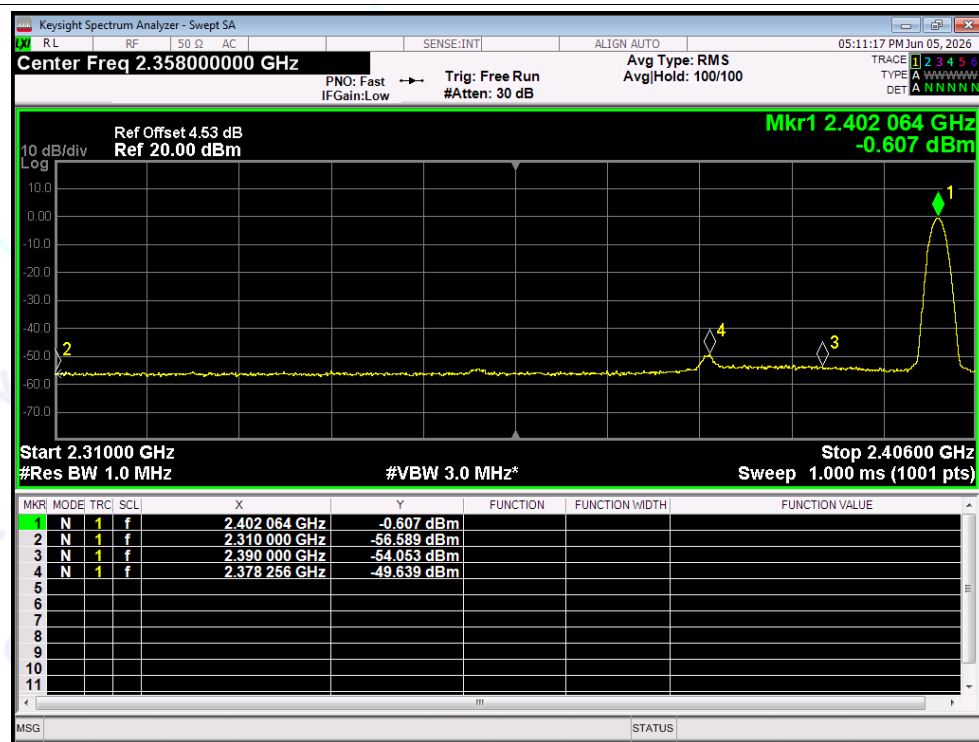
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-46.86	2	-	50.4	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-56.59	2	1.15	40.67	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2377.488	-41.88	2	-	55.38	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2378.256	-49.64	2	1.15	47.62	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-45.1	2	-	52.16	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-54.05	2	1.15	43.21	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-45.84	2	-	51.42	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-54.72	2	1.15	42.54	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.424	-42.02	2	-	55.24	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.952	-52.28	2	1.15	44.98	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-44.75	2	-	52.51	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-53.26	2	1.15	44	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-48.74	2	-	48.52	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-56.65	2	1.14	40.61	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2377.68	-42.24	2	-	55.02	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2378.064	-50.38	2	1.14	46.88	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-43.51	2	-	53.75	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-54.03	2	1.14	43.23	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-46.56	2	-	50.7	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-55.05	2	1.14	42.21	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2496.472	-42.28	2	-	54.98	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2499.352	-52.41	2	1.14	44.85	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-43.36	2	-	53.9	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-53.42	2	1.14	43.84	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-47.52	2	-	49.74	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-56.39	2	1.13	40.87	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2386.128	-41.5	2	-	55.76	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2378.16	-51.34	2	1.13	45.92	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-47.25	2	-	50.01	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-55.22	2	1.13	42.04	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-45.88	2	-	51.38	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-54.45	2	1.13	42.81	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2493.928	-42.24	2	-	55.02	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2498.272	-52.45	2	1.13	44.81	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-44.78	2	-	52.48	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-53.04	2	1.13	44.22	Average	54	Pass

Test Graphs

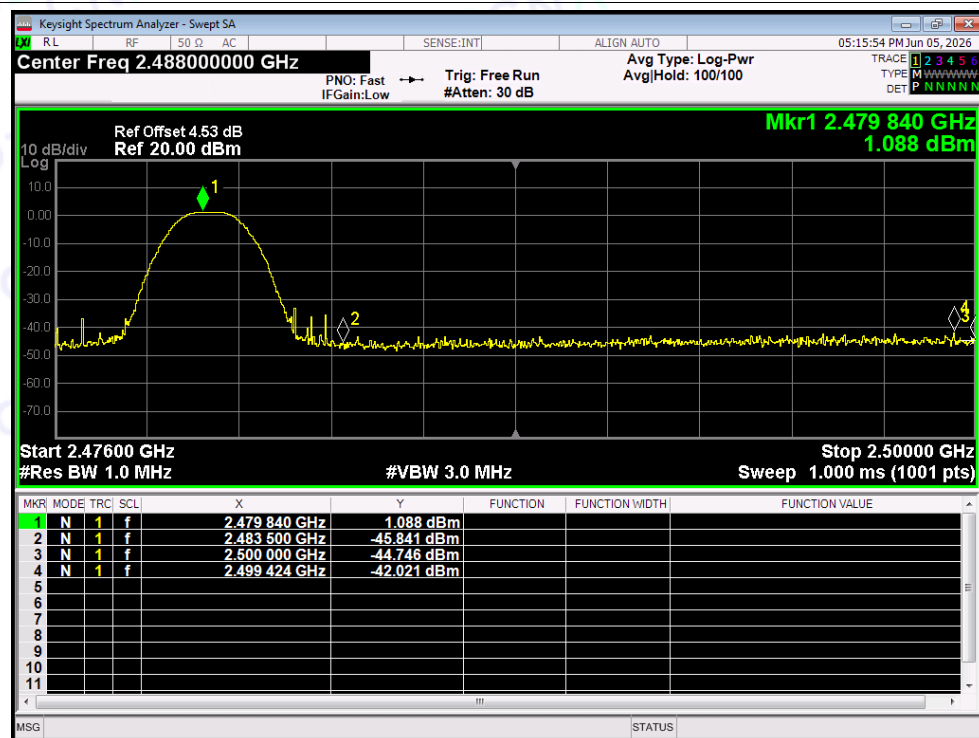
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



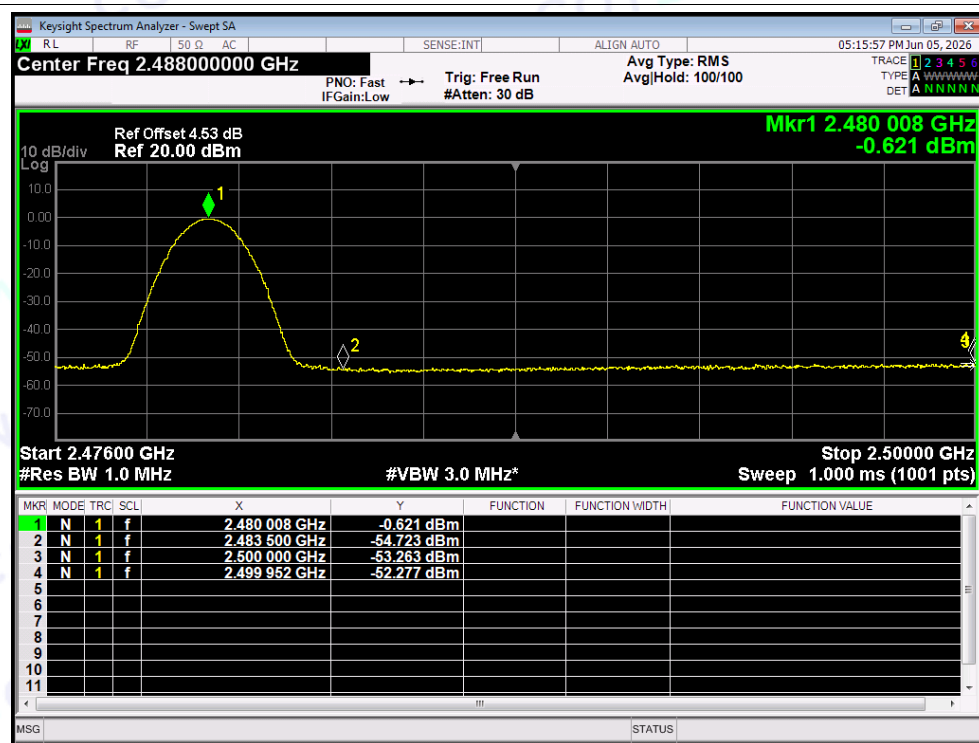
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



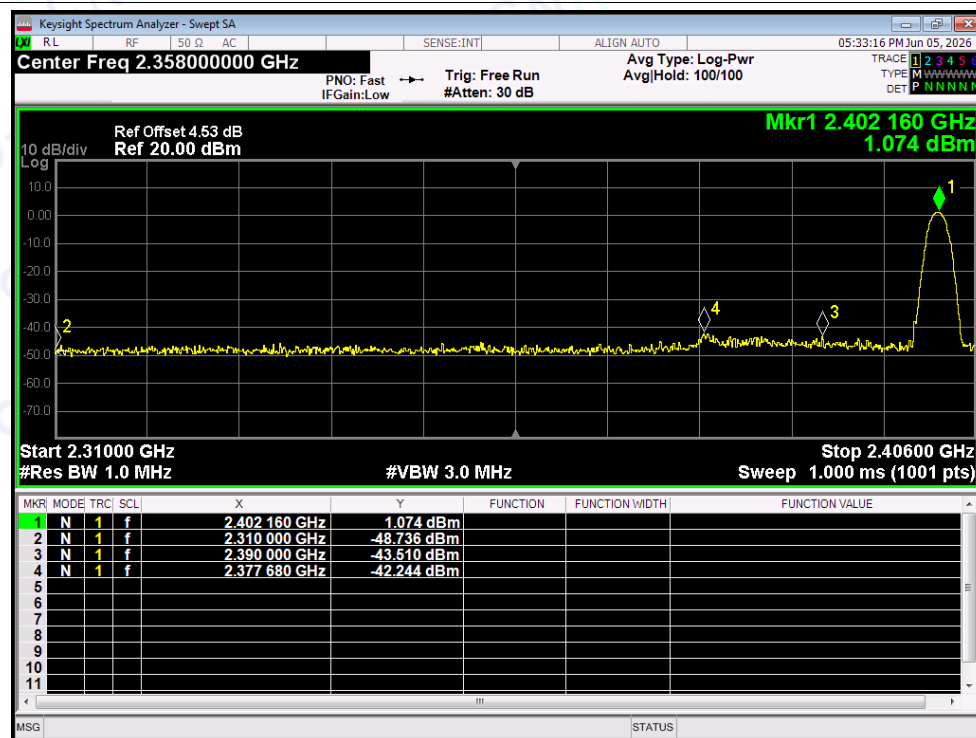
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



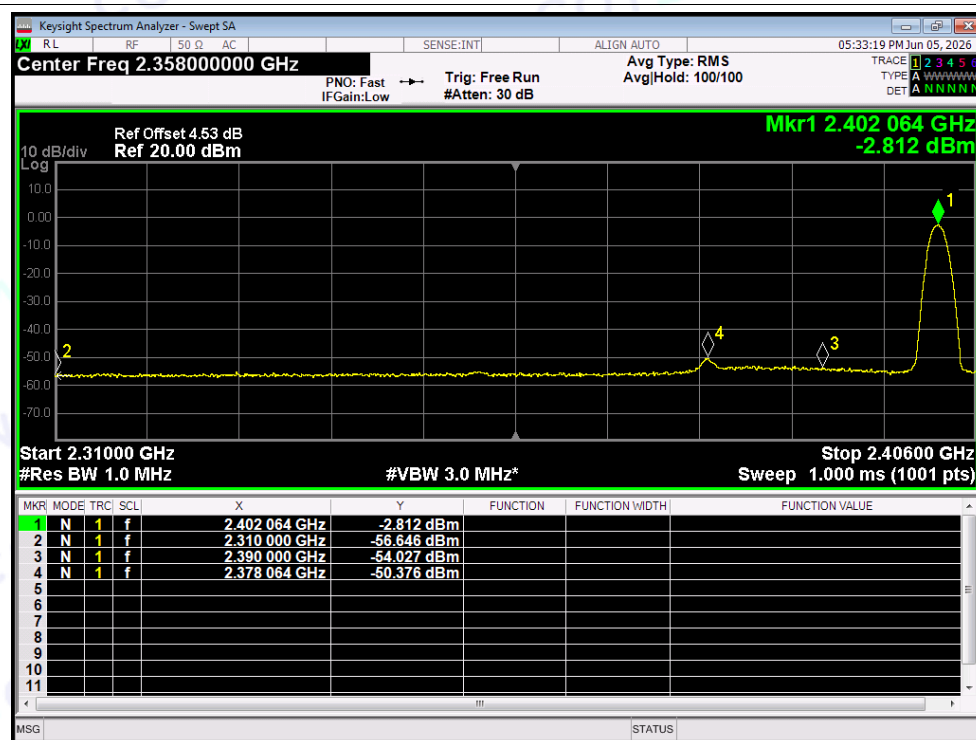
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



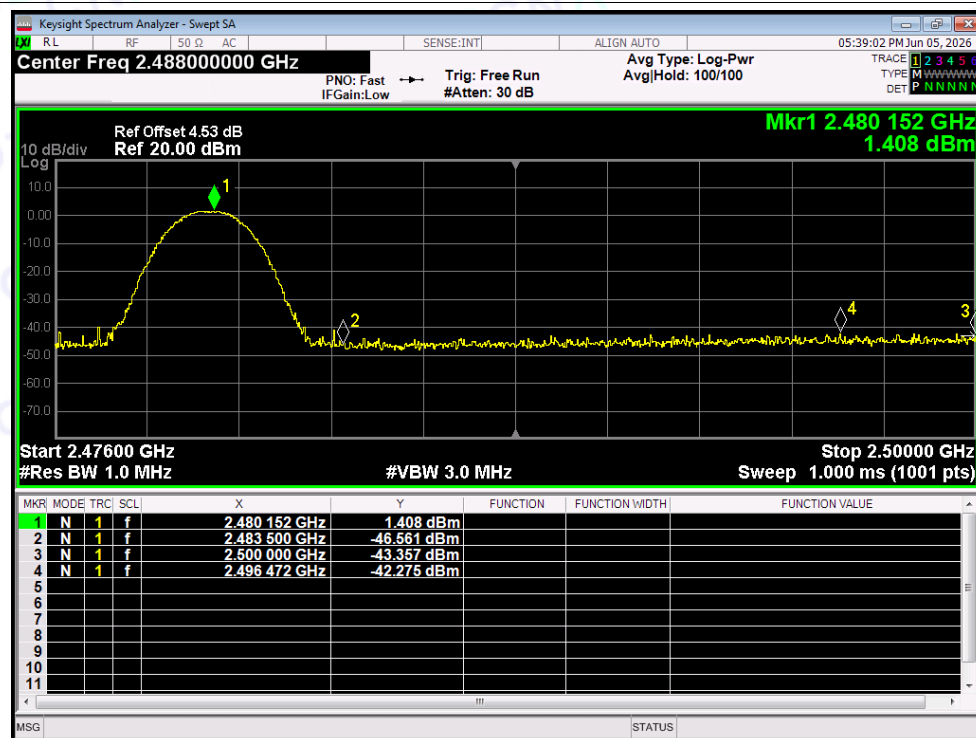
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



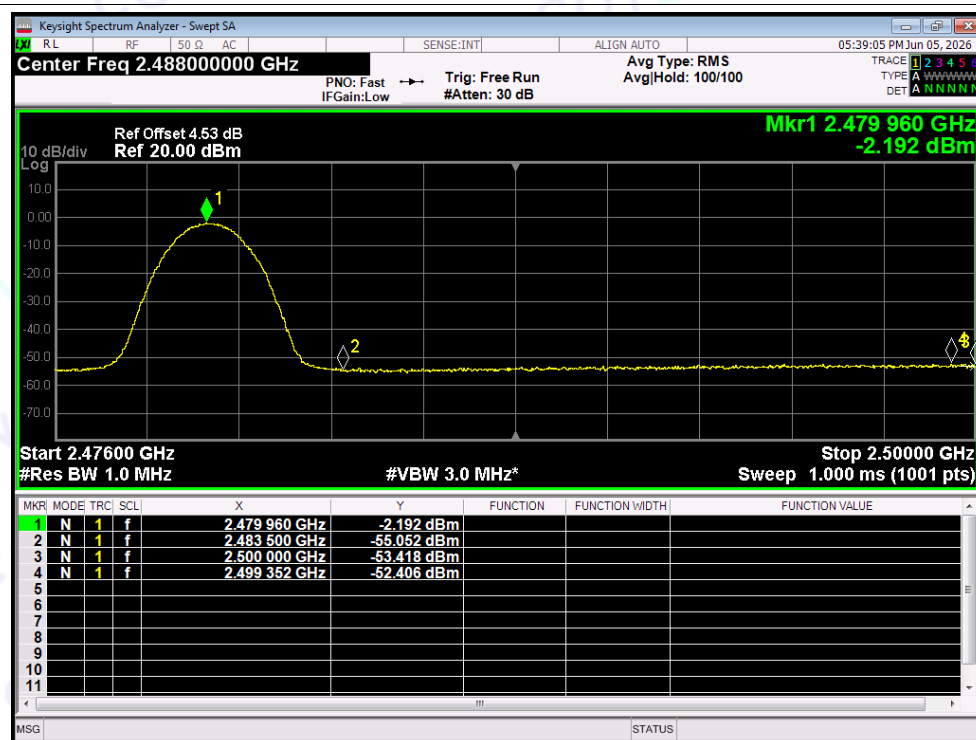
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



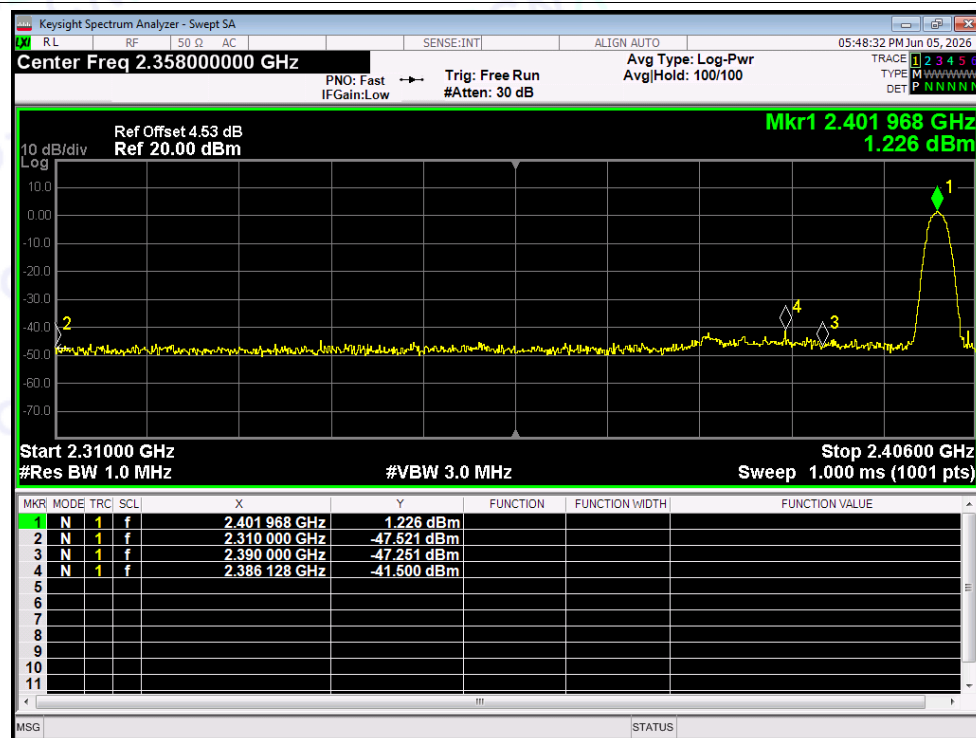
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



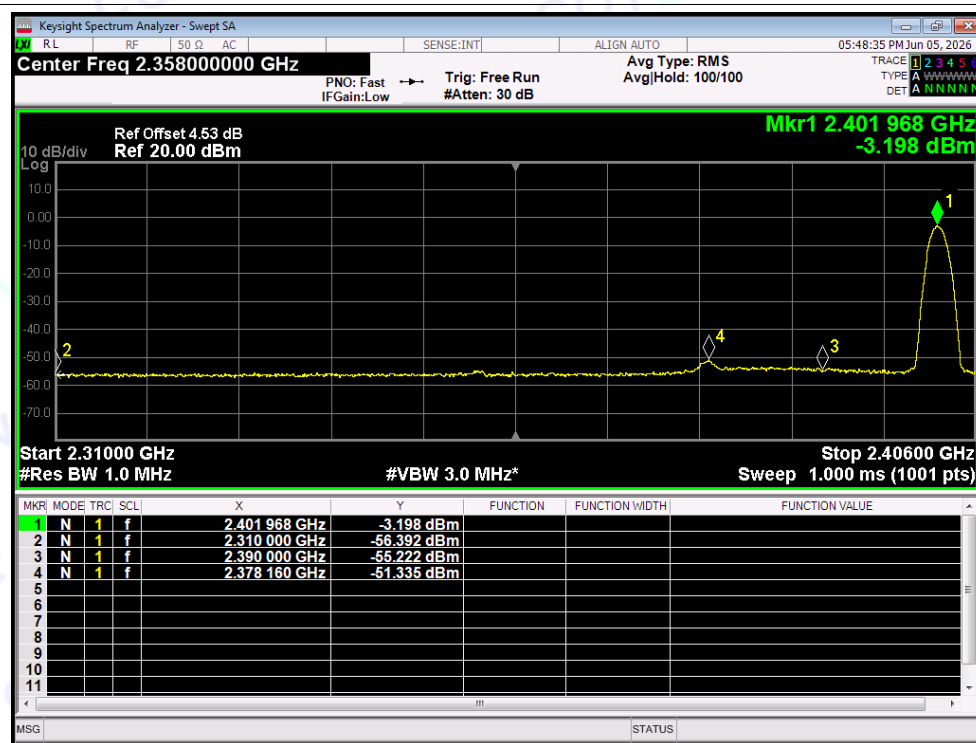
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



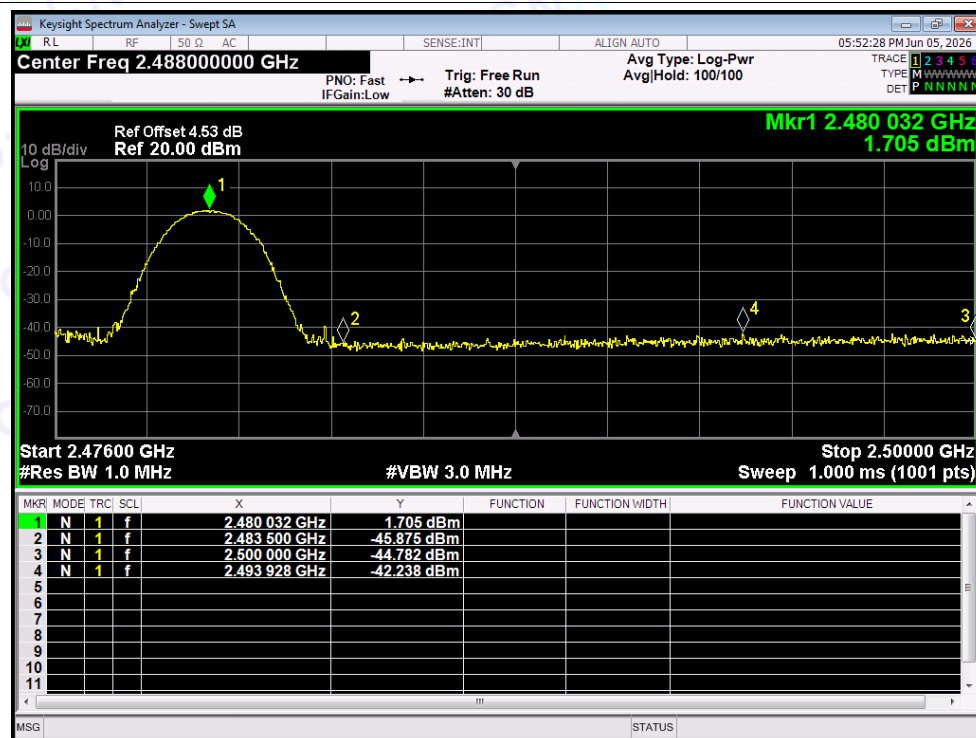
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



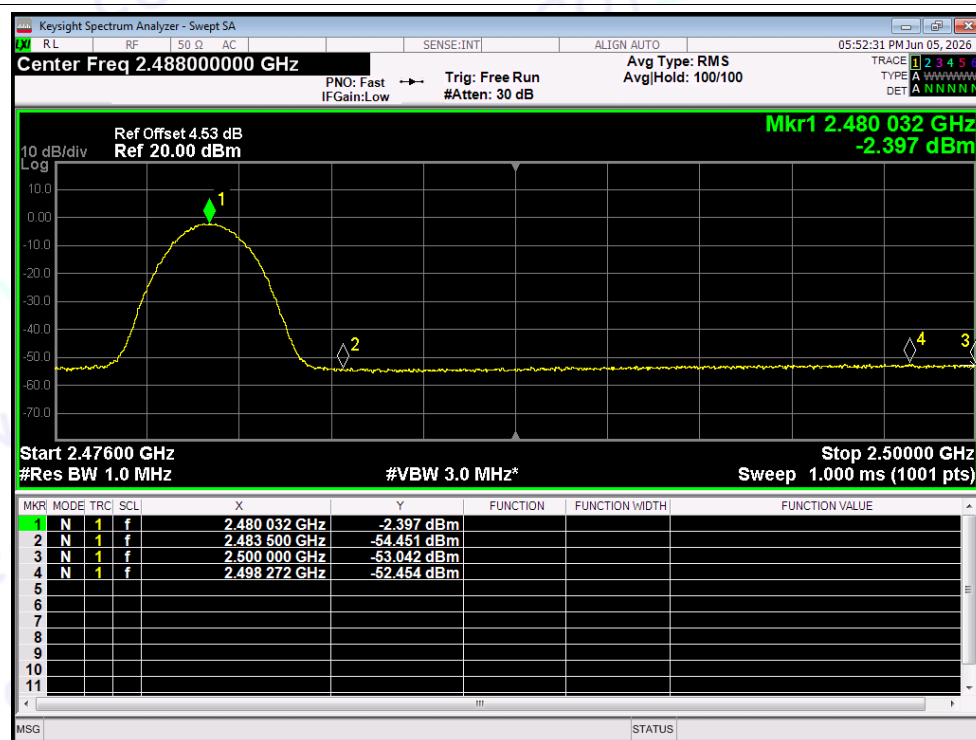
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average

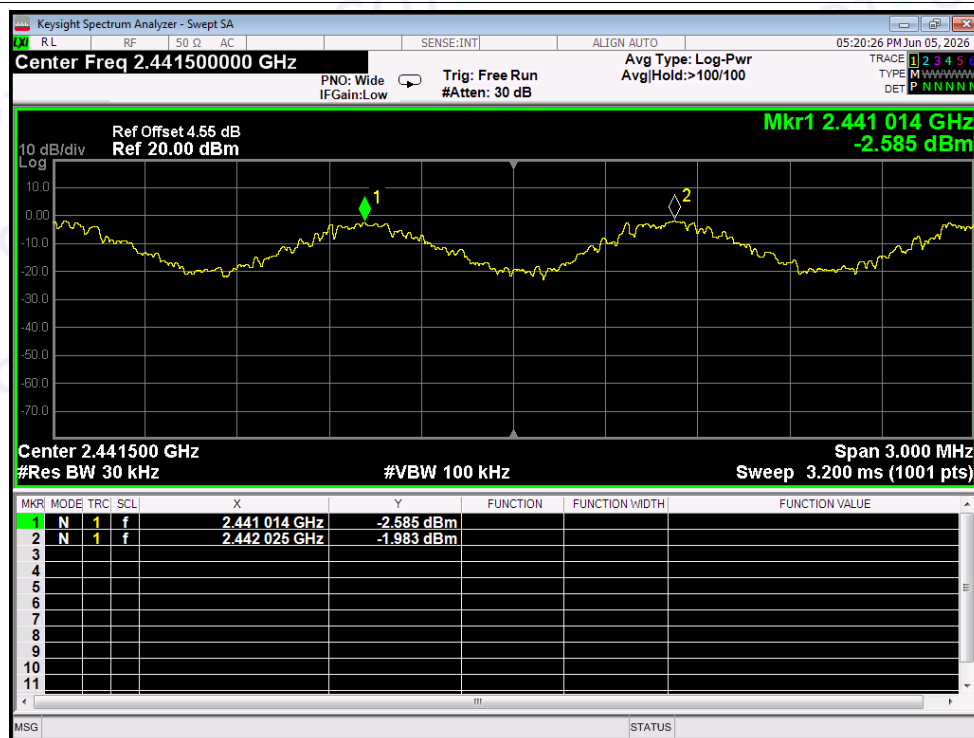


10. Carrier Frequencies Separation

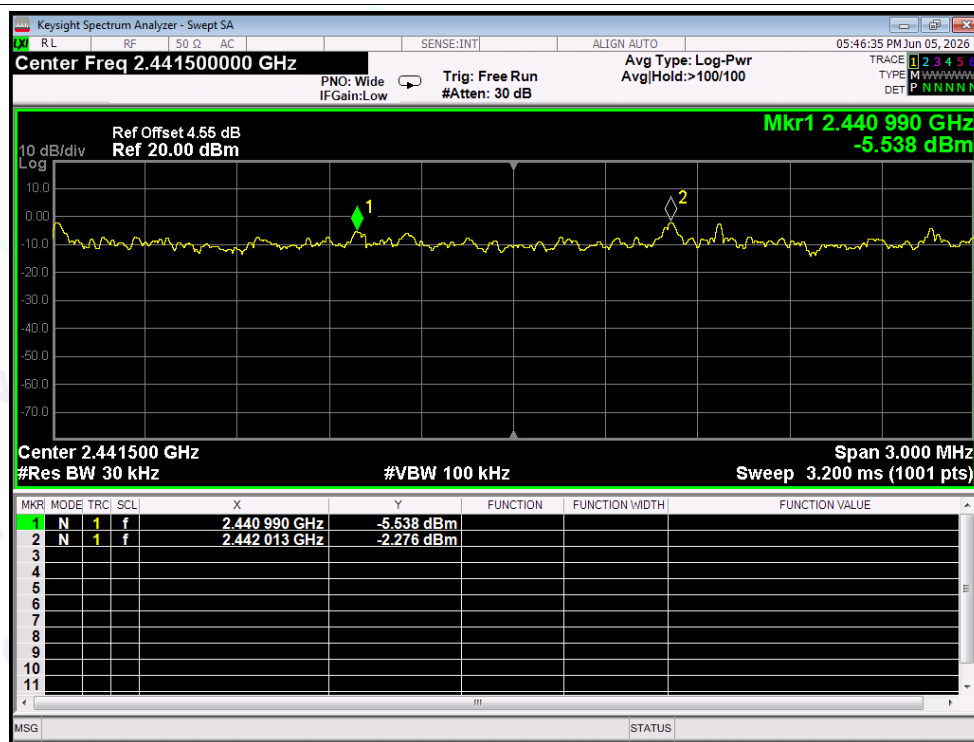
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2441.014	2442.025	1.011	0.687	Pass
NVNT	2-DH5	Ant1	2440.99	2442.013	1.023	0.867	Pass
NVNT	3-DH5	Ant1	2441.023	2442.022	0.999	0.86	Pass

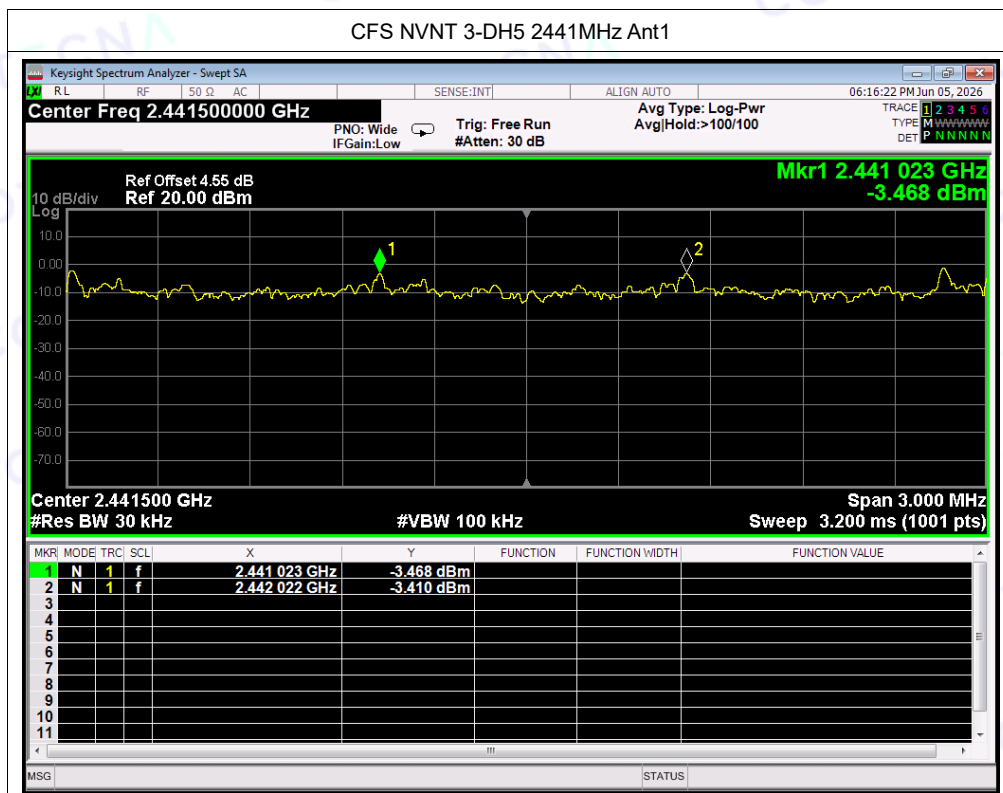
Test Graphs

CFS NVNT 1-DH5 2441MHz Ant1



CFS NVNT 2-DH5 2441MHz Ant1



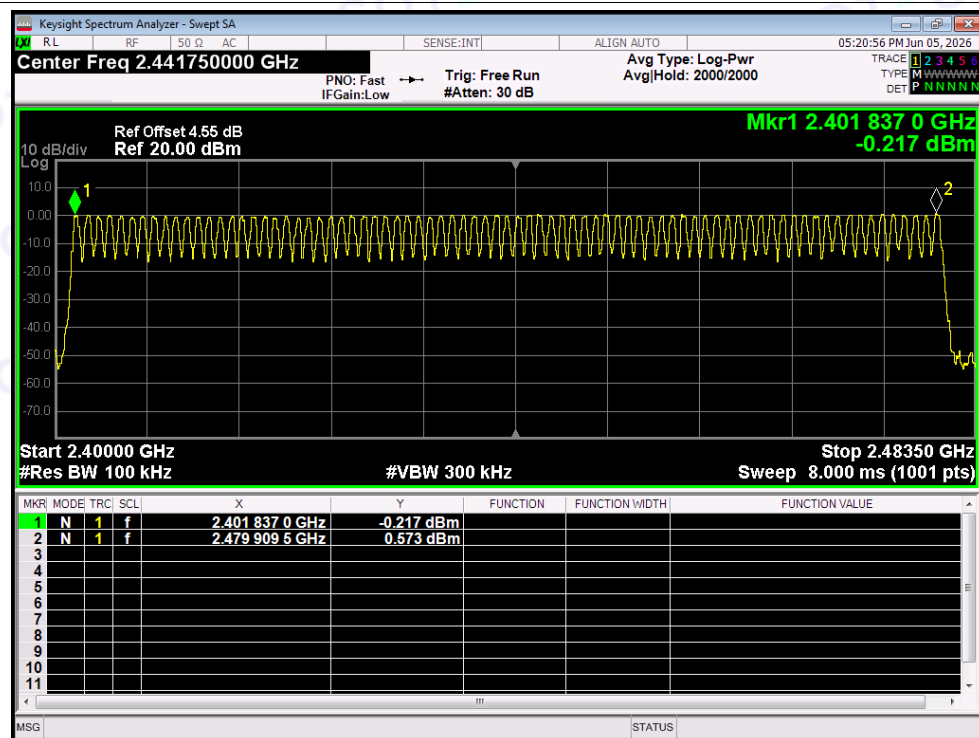


11. Number of Hopping Channel

Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH5 2441MHz Ant1



Hopping No. NVNT 2-DH5 2441MHz Ant1

