

RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	SMART WATCH
Test Model:	Matrix C1
Sample ID:	HC-C-202506-0259-01-01-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.8V
Test Engineer:	Lily. zhang
Note: For a more detailed features description, please refer to the report TBR-C-202506-0259-6 The report only show the worst case data.	

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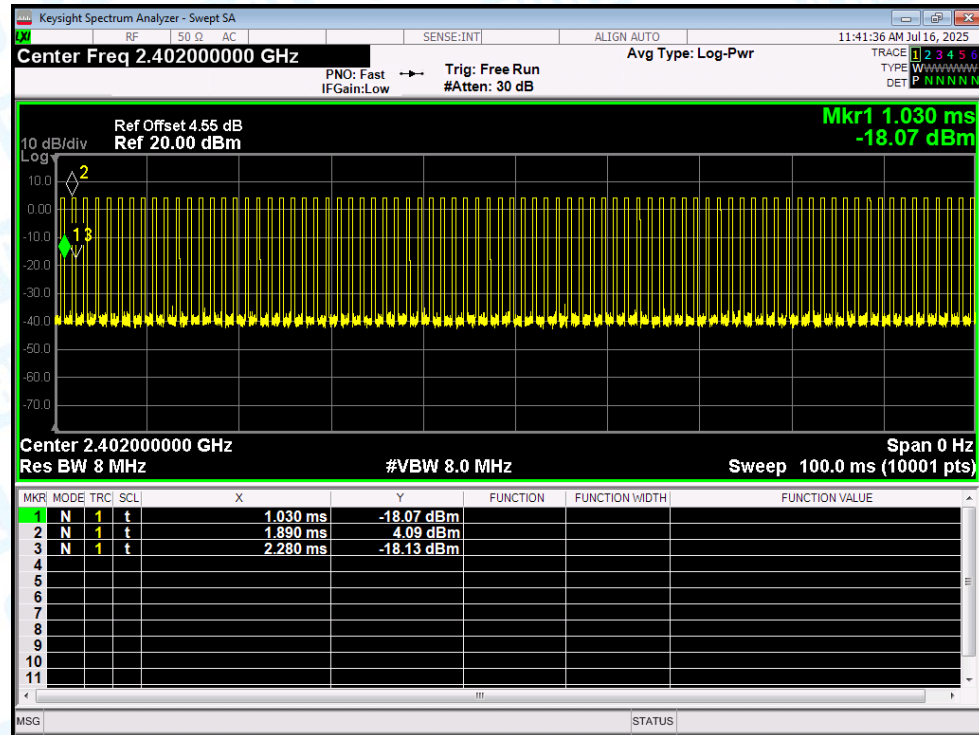
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1. Duty Cycle

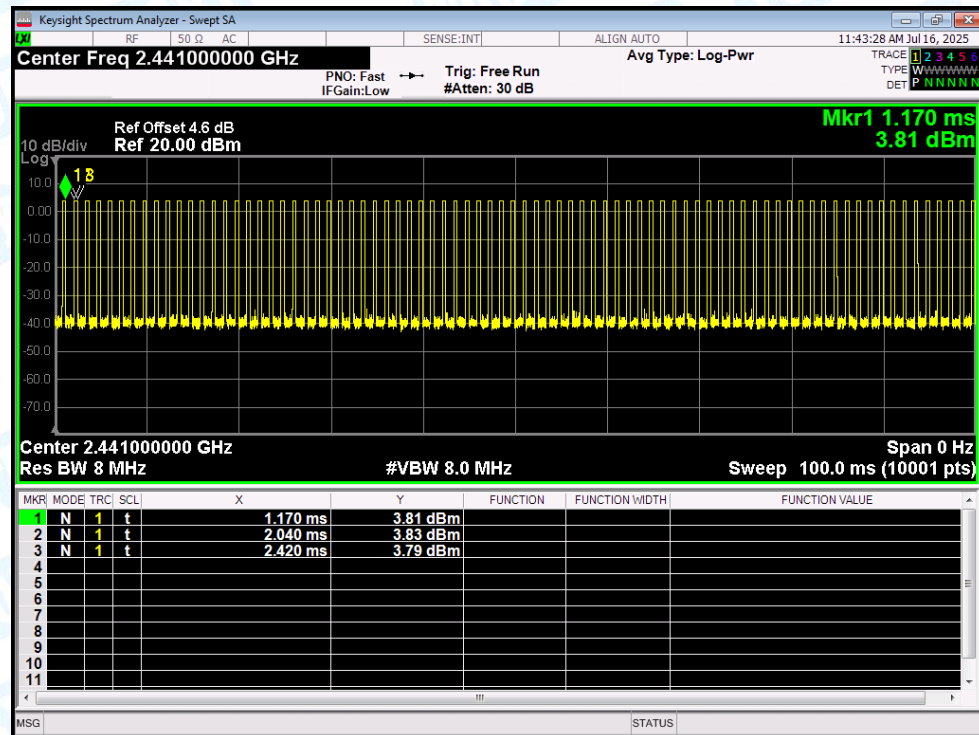
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

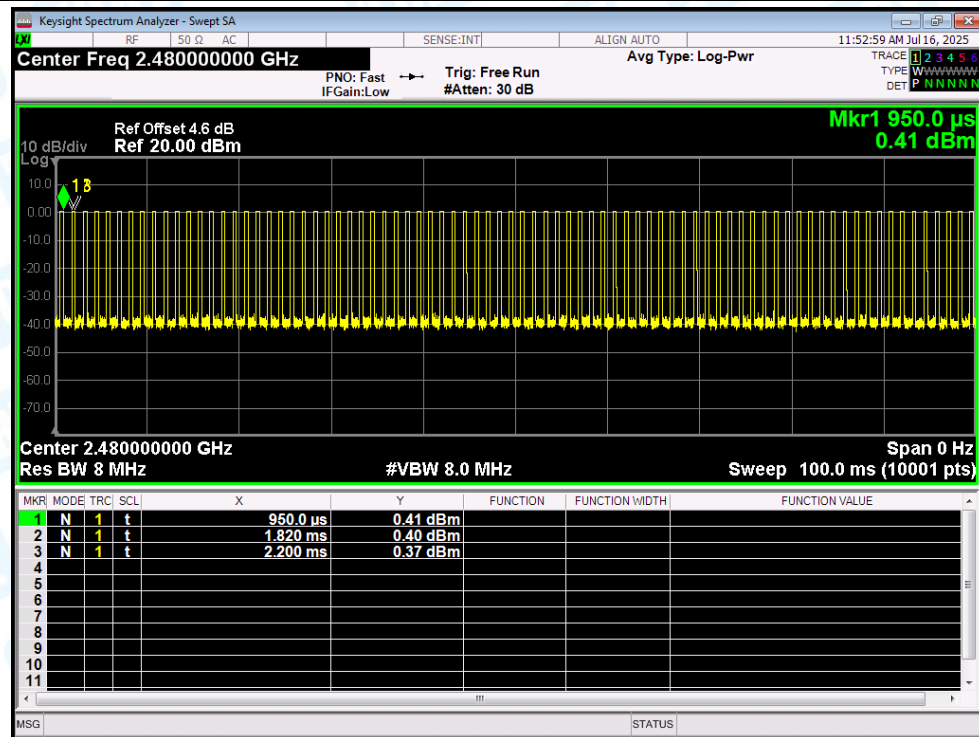
Duty Cycle NVNT 1-DH1 2402MHz Ant1



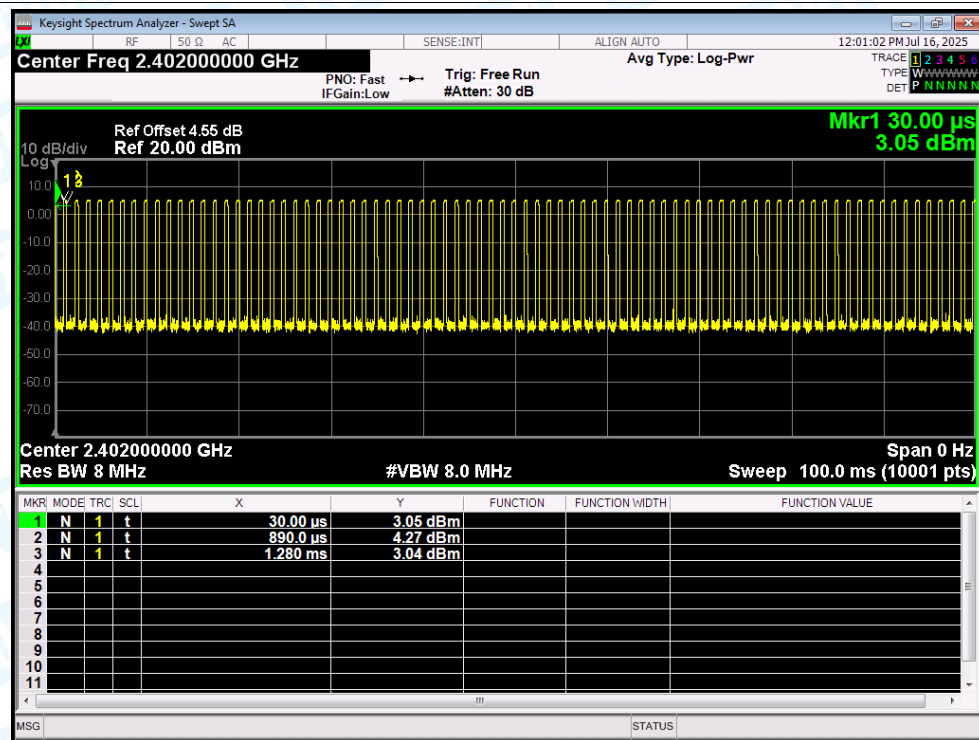
Duty Cycle NVNT 1-DH1 2441MHz Ant1



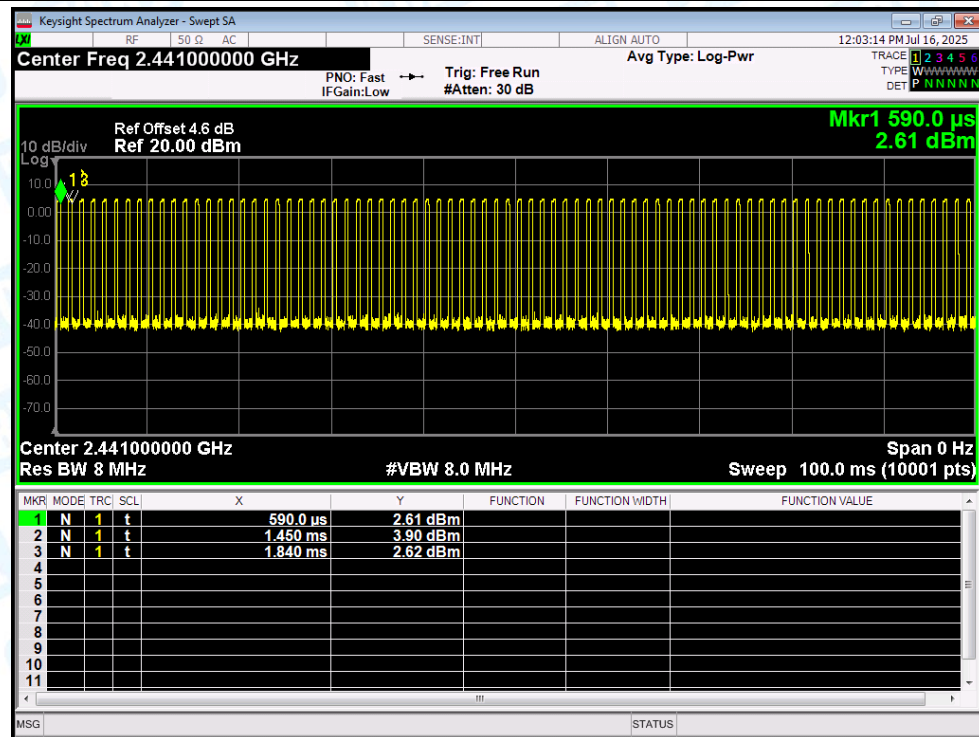
Duty Cycle NVNT 1-DH1 2480MHz Ant1



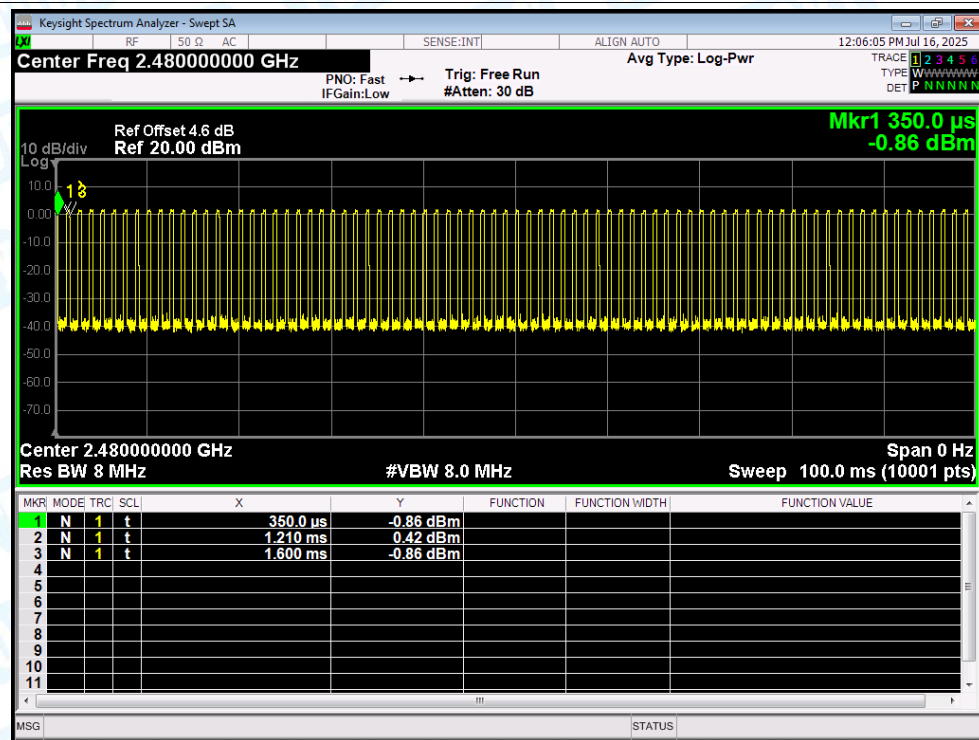
Duty Cycle NVNT 2-DH1 2402MHz Ant1



Duty Cycle NVNT 2-DH1 2441MHz Ant1



Duty Cycle NVNT 2-DH1 2480MHz Ant1

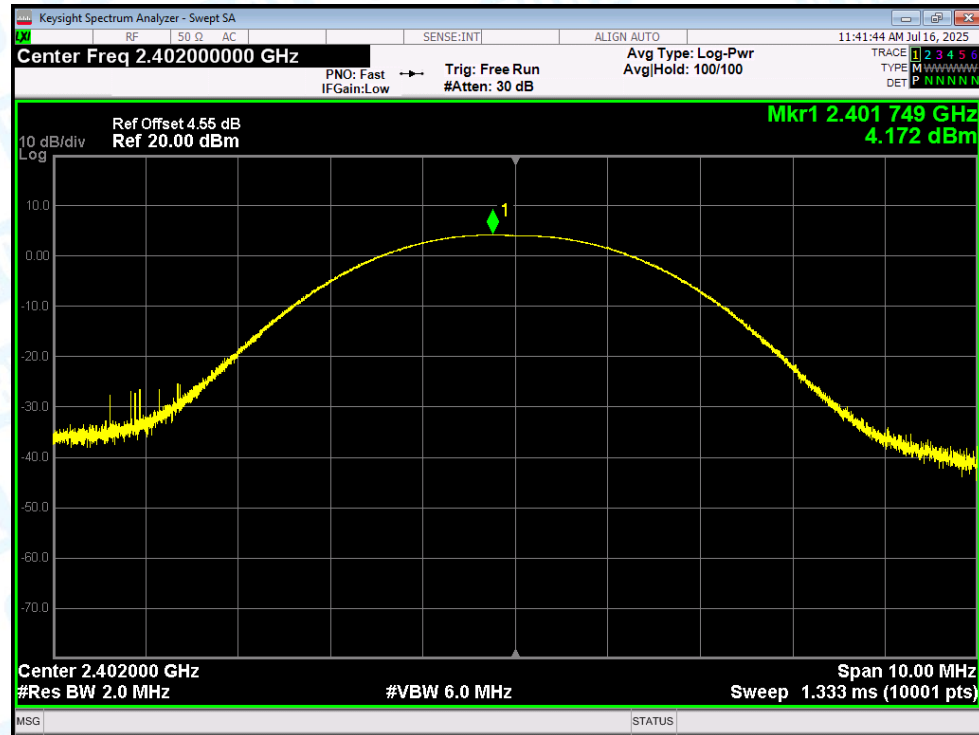


2. Maximum Conducted Output Power

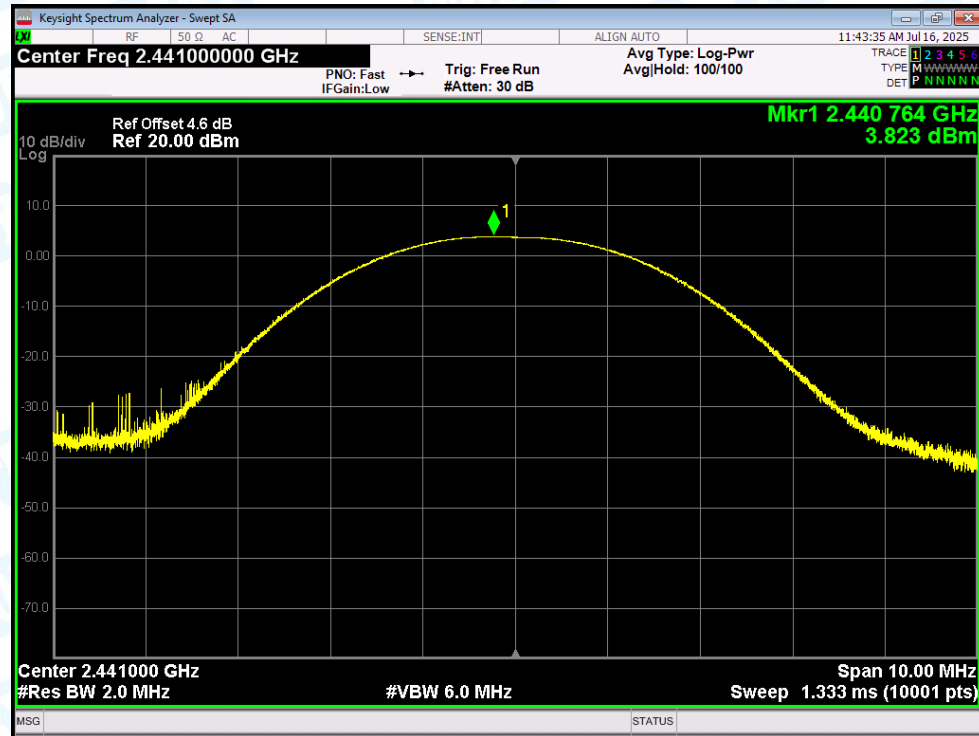
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	4.172	21	Pass
NVNT	1-DH1	2441	Ant1	3.823	21	Pass
NVNT	1-DH1	2480	Ant1	0.416	21	Pass
NVNT	2-DH1	2402	Ant1	4.998	21	Pass
NVNT	2-DH1	2441	Ant1	4.647	21	Pass
NVNT	2-DH1	2480	Ant1	1.273	21	Pass

Test Graphs

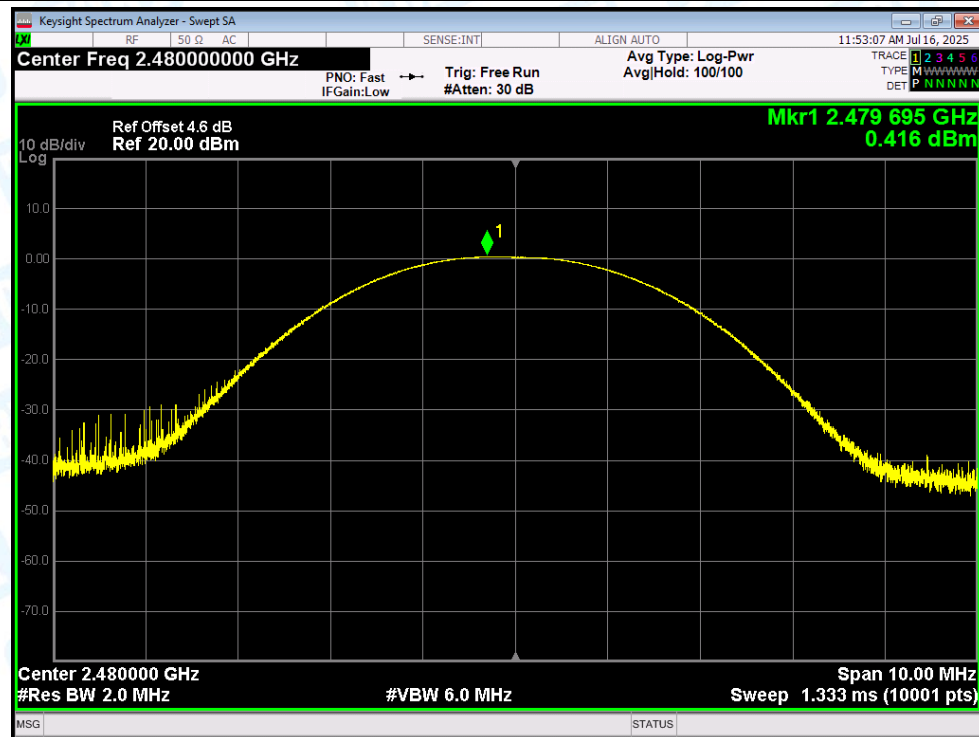
Power NVNT 1-DH1 2402MHz Ant1



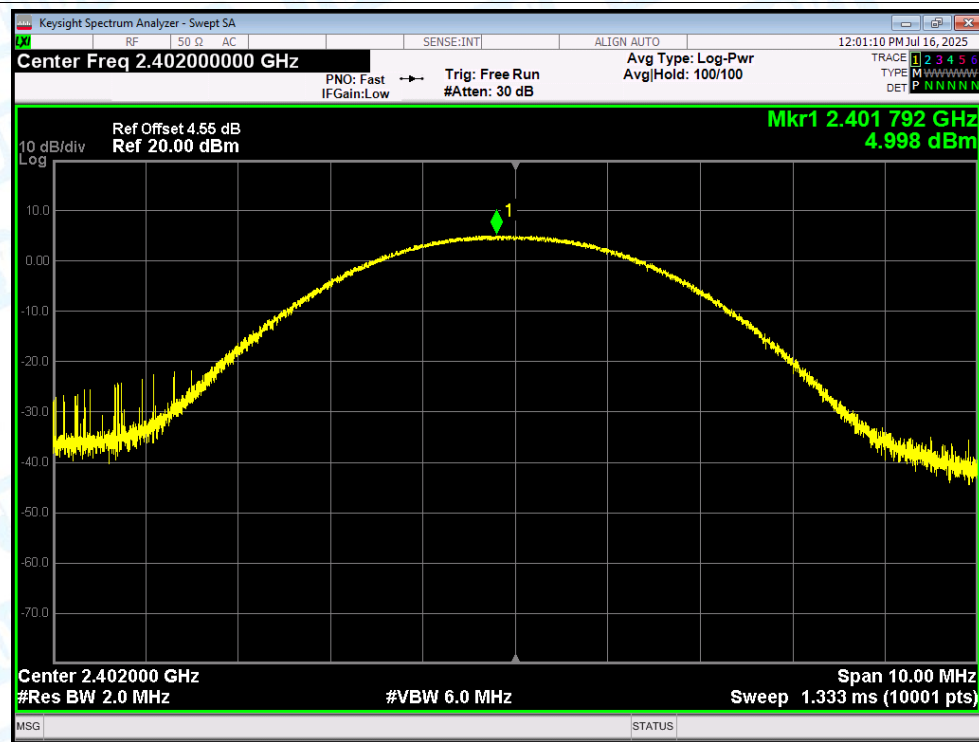
Power NVNT 1-DH1 2441MHz Ant1



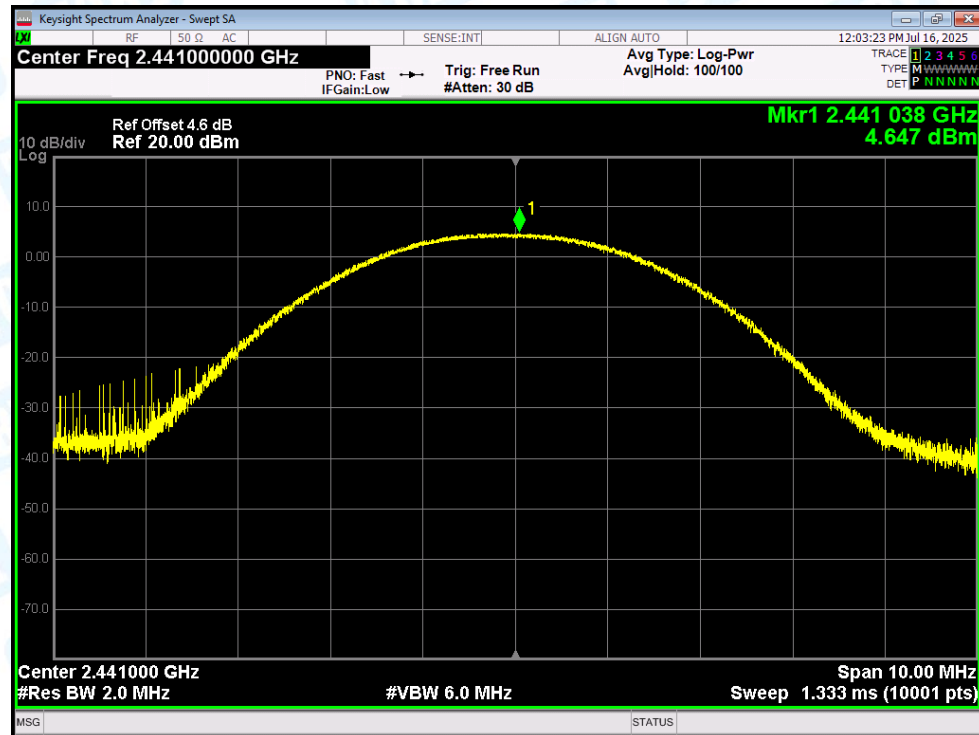
Power NVNT 1-DH1 2480MHz Ant1



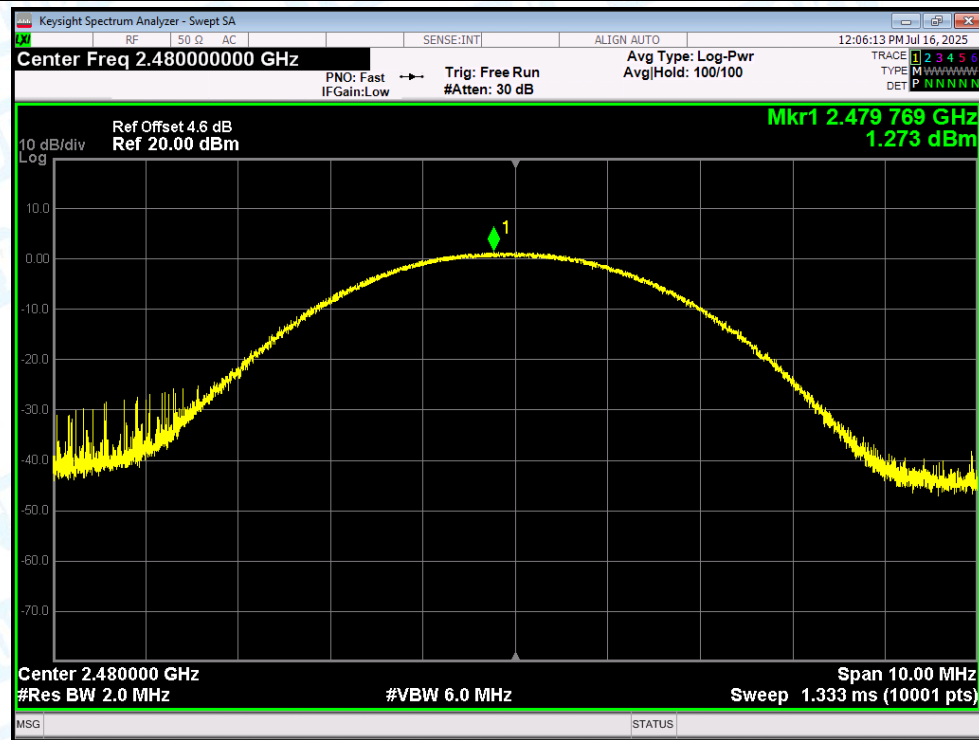
Power NVNT 2-DH1 2402MHz Ant1



Power NVNT 2-DH1 2441MHz Ant1



Power NVNT 2-DH1 2480MHz Ant1

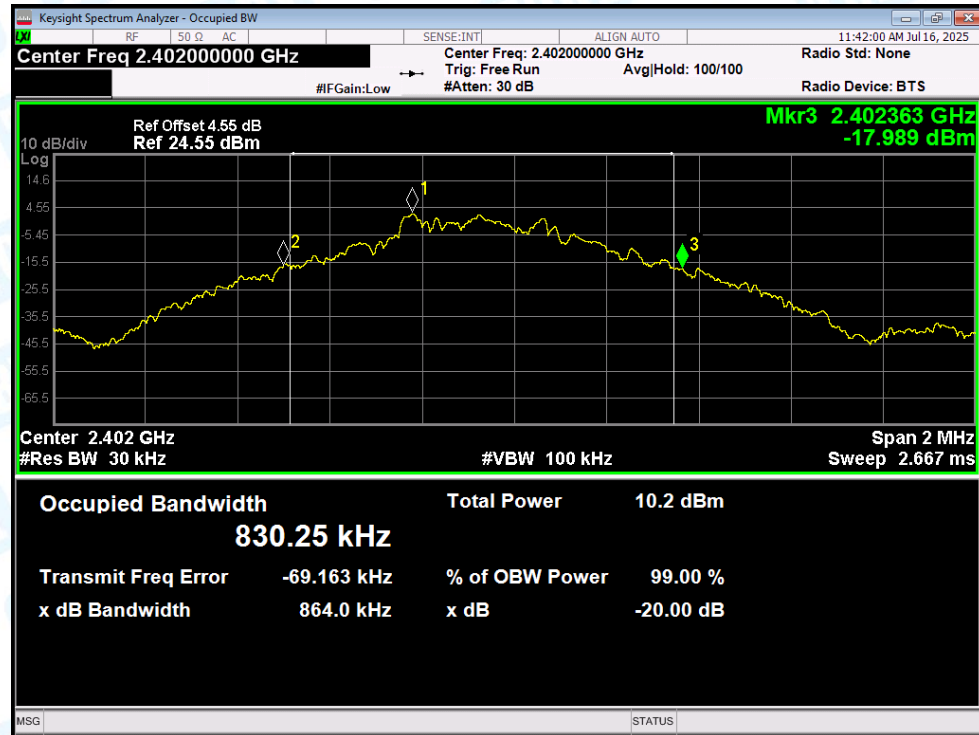


3. -20dB Bandwidth

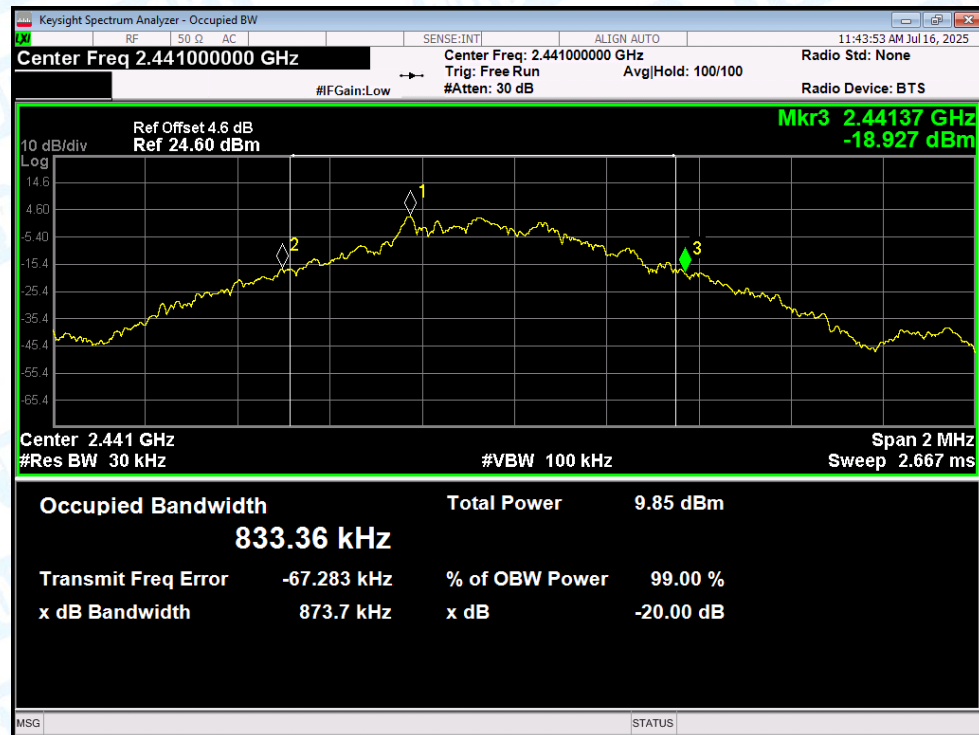
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.86	----	Pass
NVNT	1-DH1	2441	Ant1	0.87	----	Pass
NVNT	1-DH1	2480	Ant1	0.88	----	Pass
NVNT	2-DH1	2402	Ant1	1.23	----	Pass
NVNT	2-DH1	2441	Ant1	1.22	----	Pass
NVNT	2-DH1	2480	Ant1	1.22	----	Pass

Test Graphs

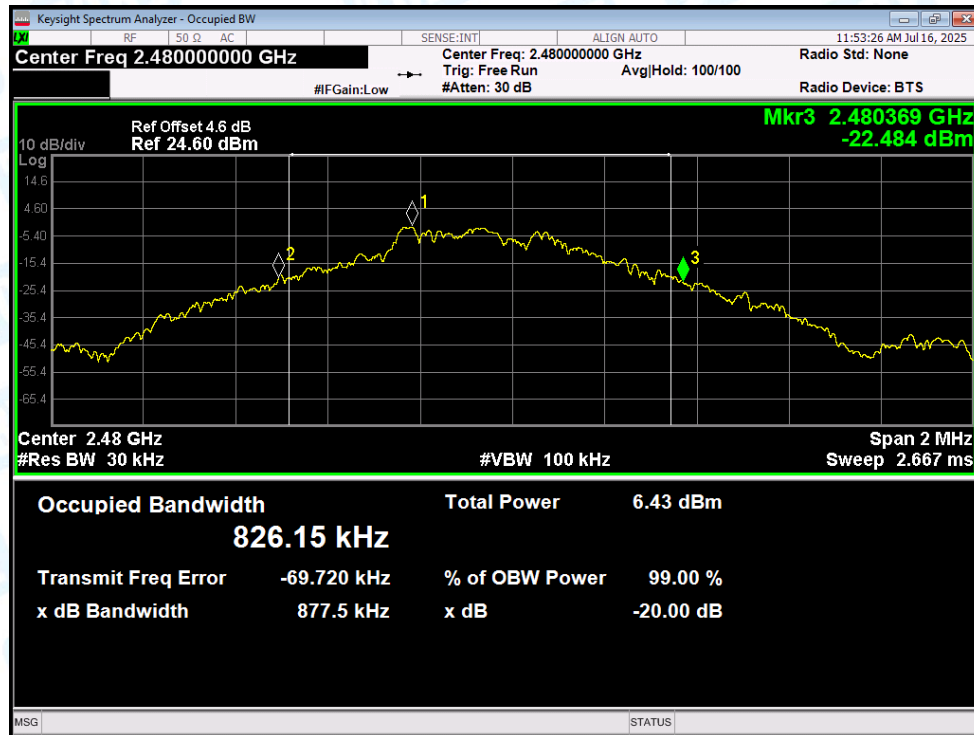
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



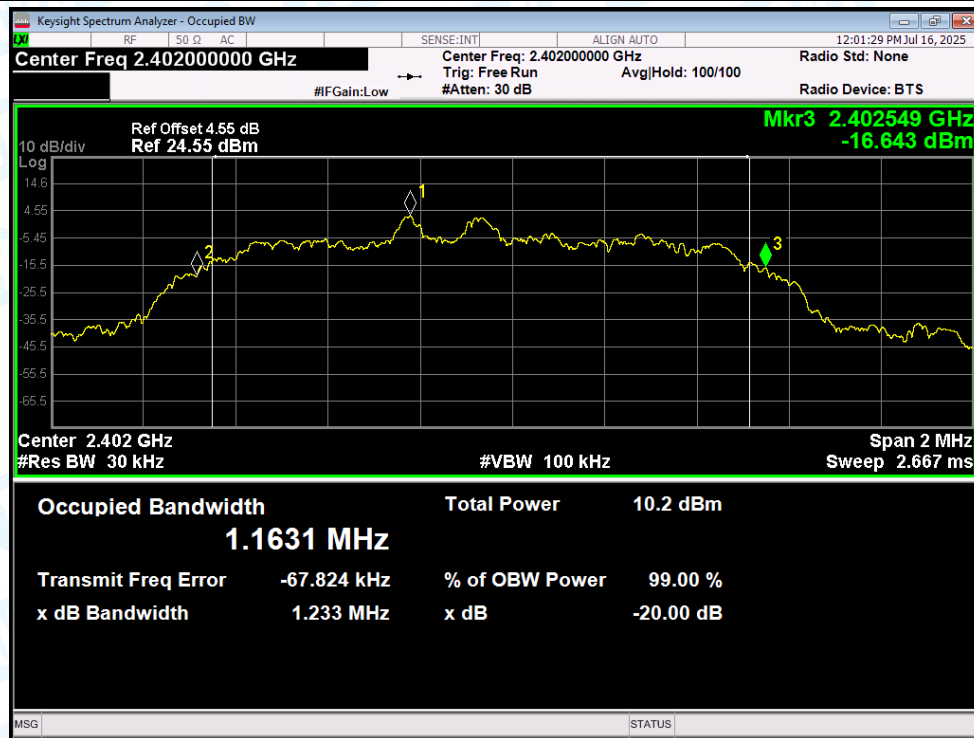
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



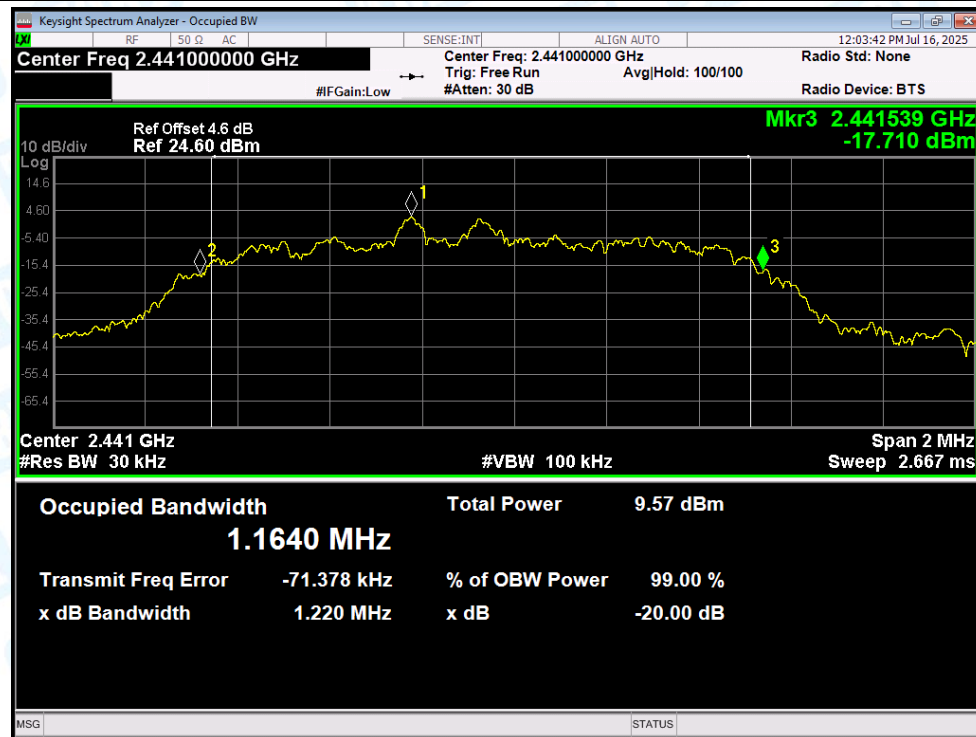
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



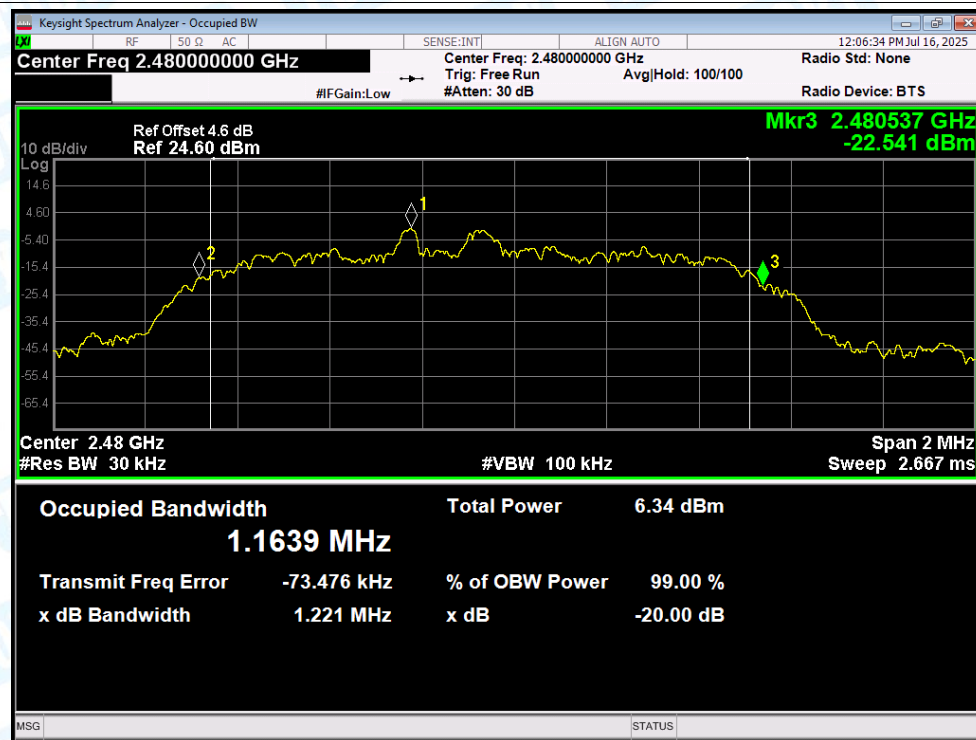
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

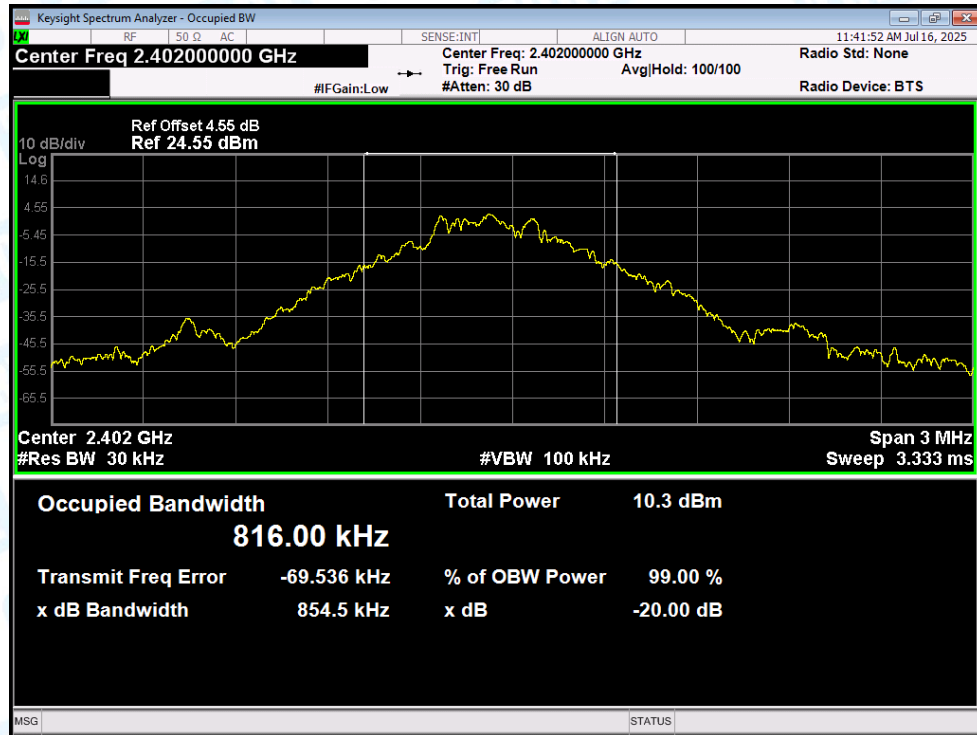


4. Occupied Channel Bandwidth

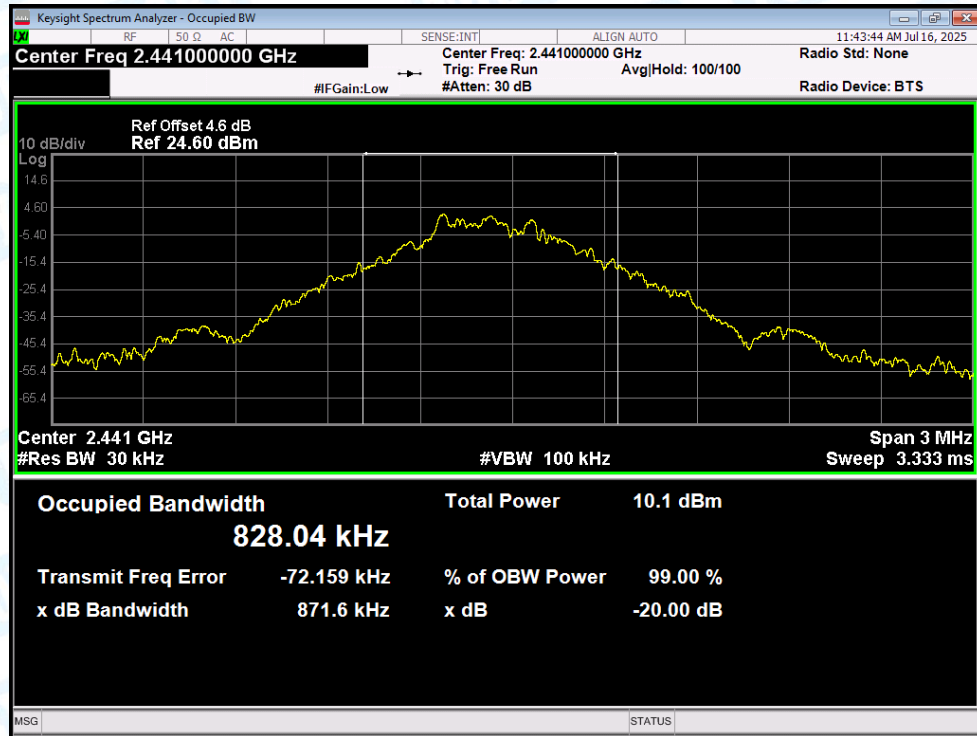
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.816
NVNT	1-DH1	2441	Ant1	0.828
NVNT	1-DH1	2480	Ant1	0.826
NVNT	2-DH1	2402	Ant1	1.171
NVNT	2-DH1	2441	Ant1	1.163
NVNT	2-DH1	2480	Ant1	1.148

Test Graphs

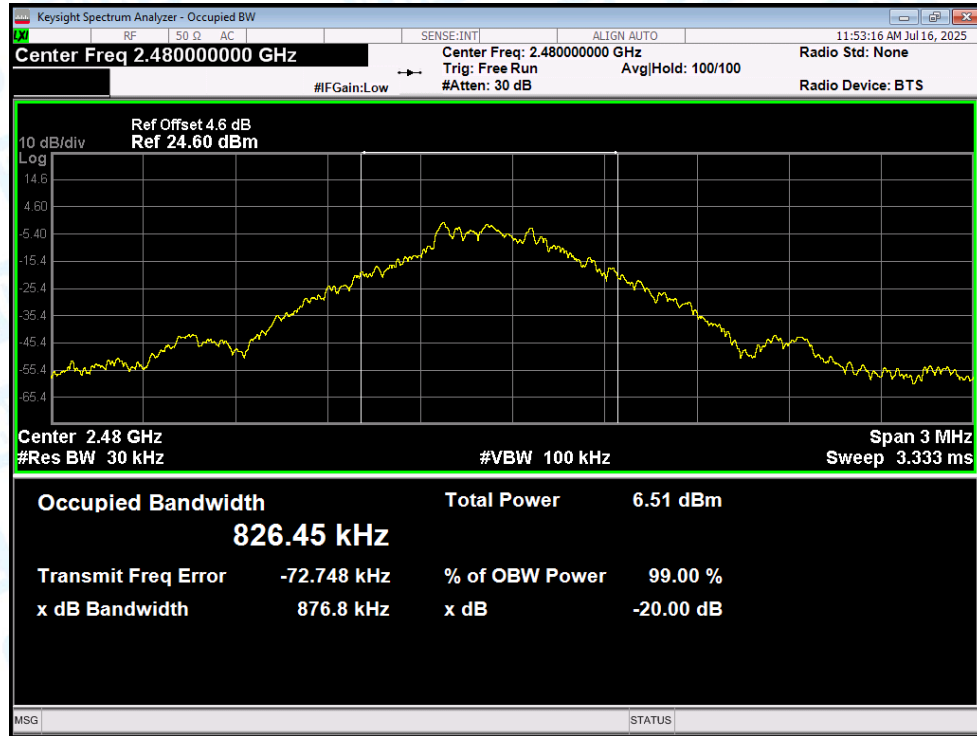
OBW NVNT 1-DH1 2402MHz Ant1



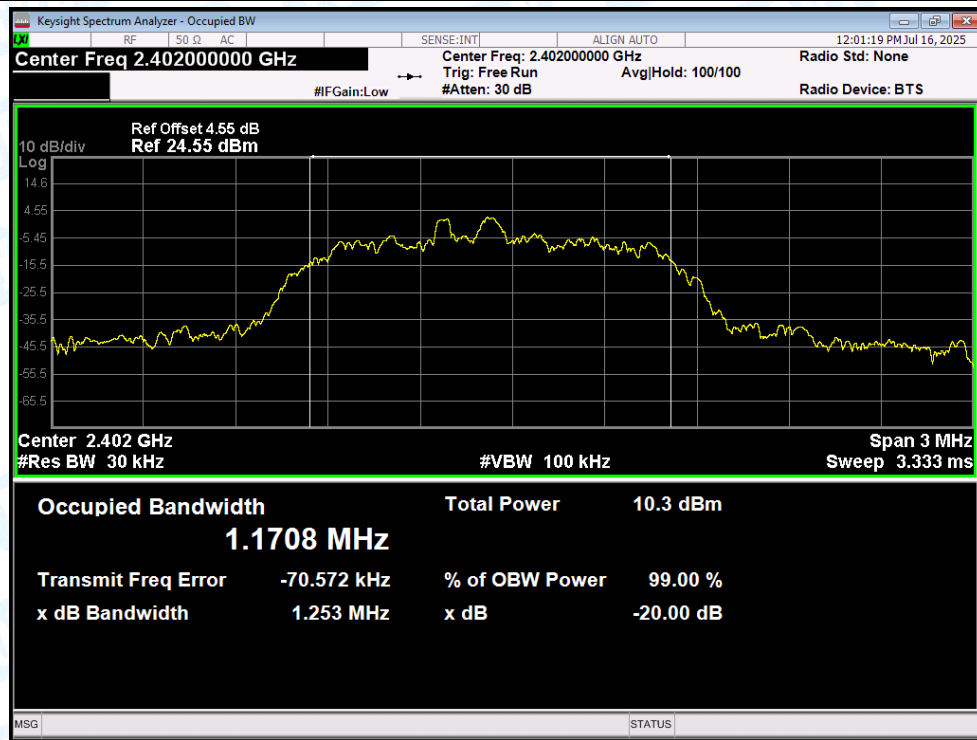
OBW NVNT 1-DH1 2441MHz Ant1



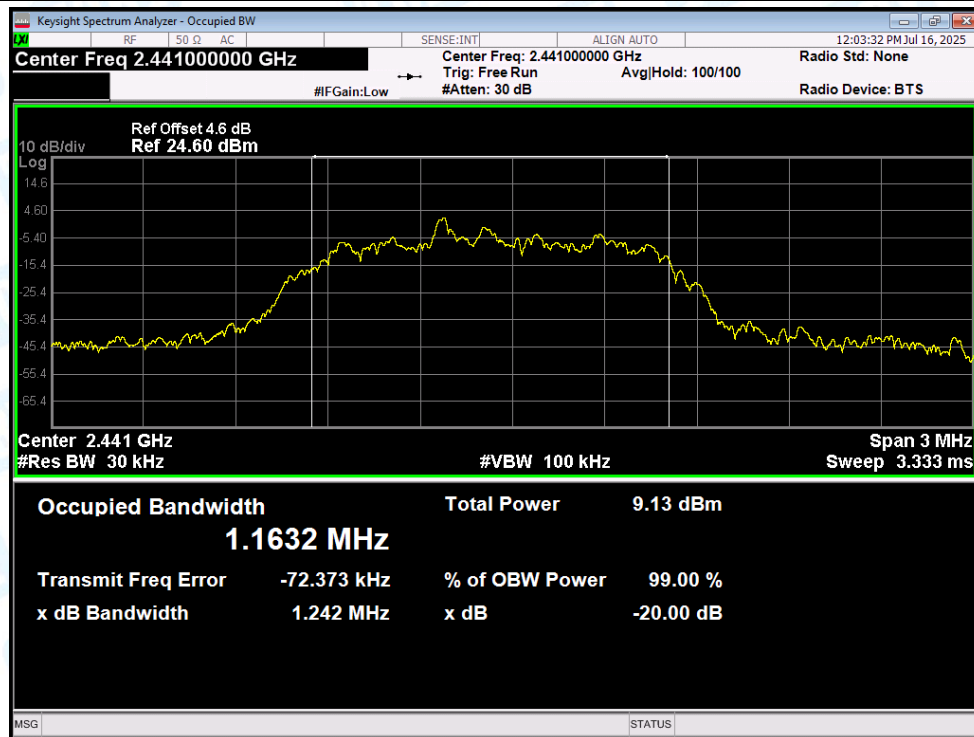
OBW NVNT 1-DH1 2480MHz Ant1



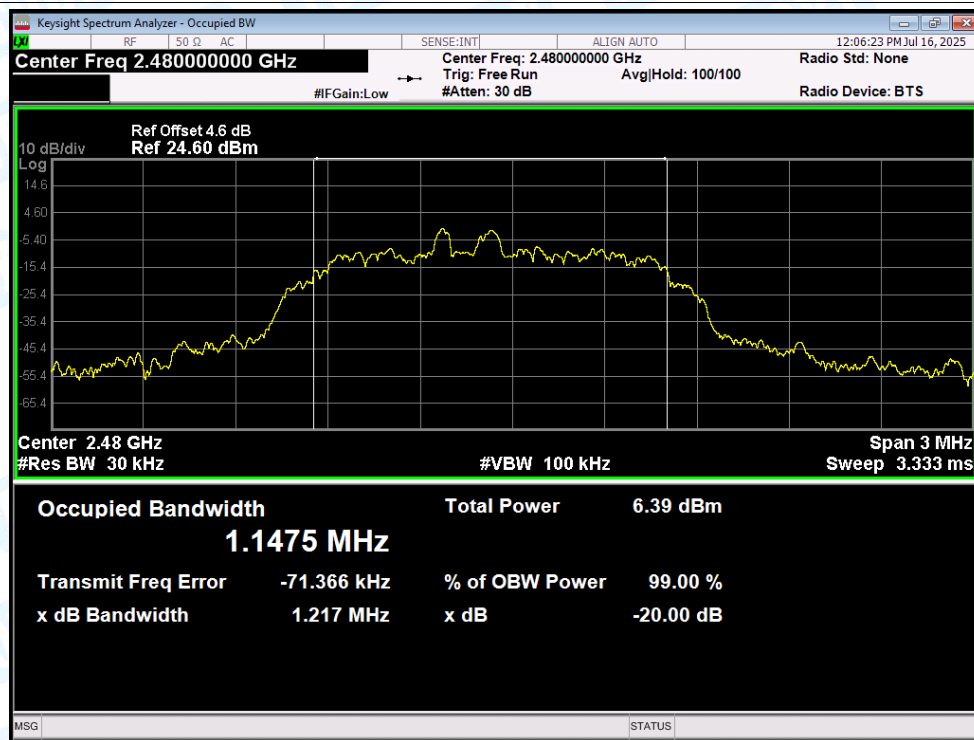
OBW NVNT 2-DH1 2402MHz Ant1



OBW NVNT 2-DH1 2441MHz Ant1



OBW NVNT 2-DH1 2480MHz Ant1



5. Band Edge

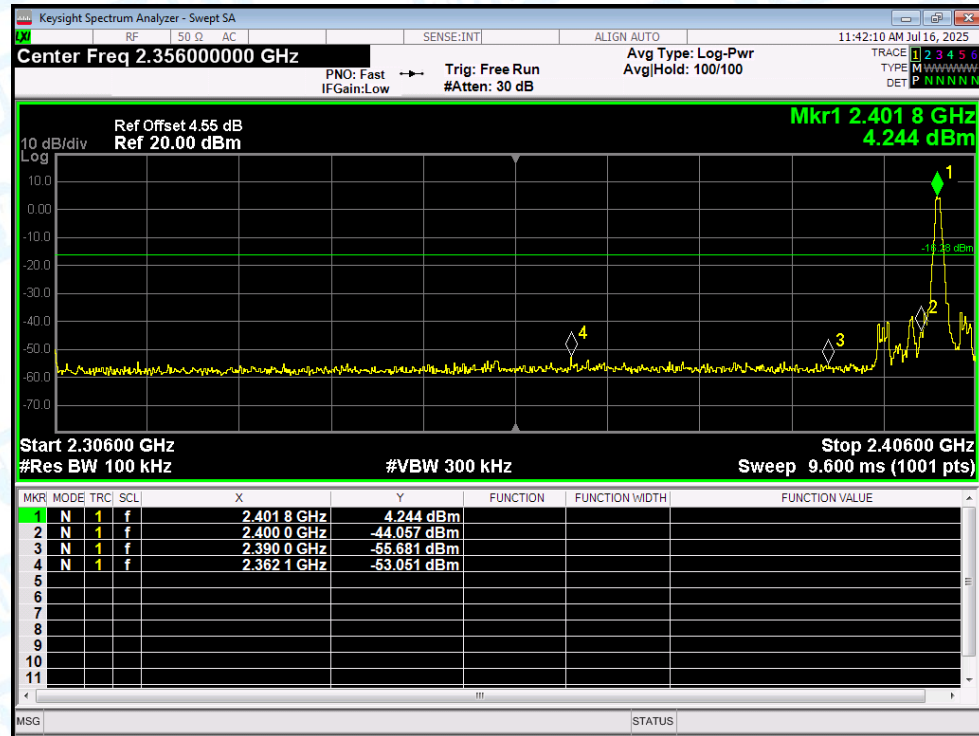
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-56.77	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-51.15	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-58.16	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-51.33	-20	Pass

Test Graphs

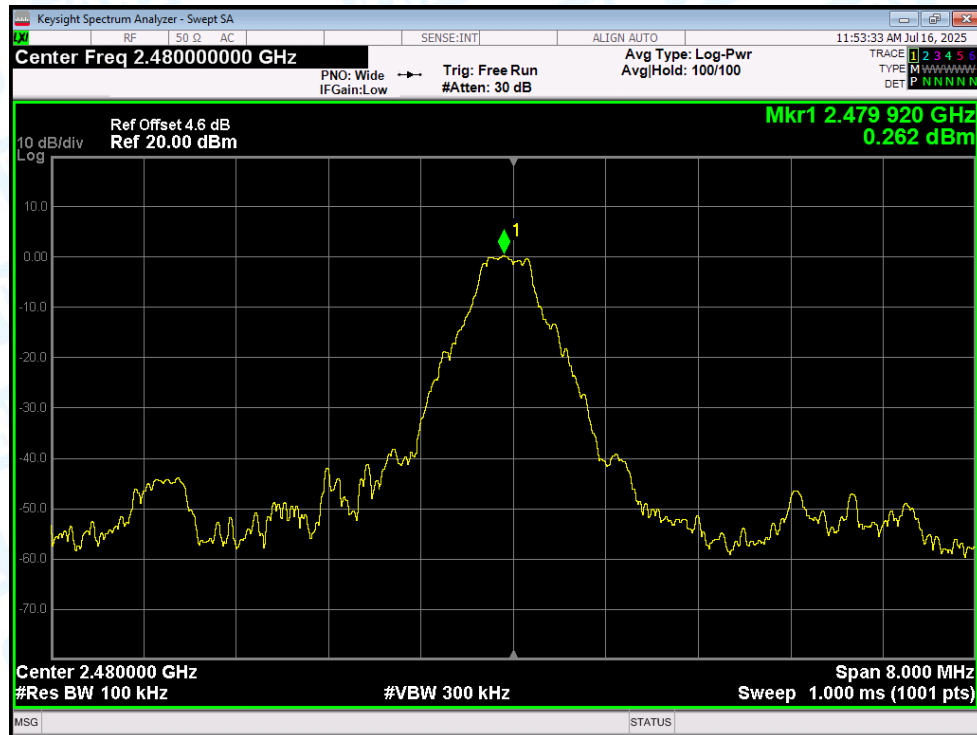
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



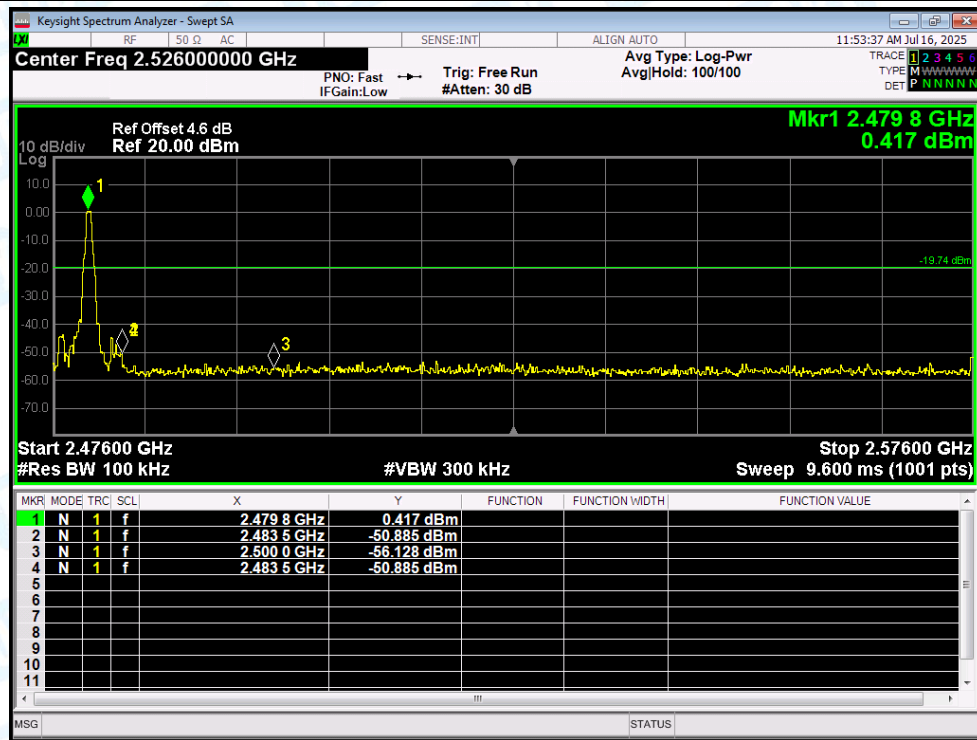
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



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



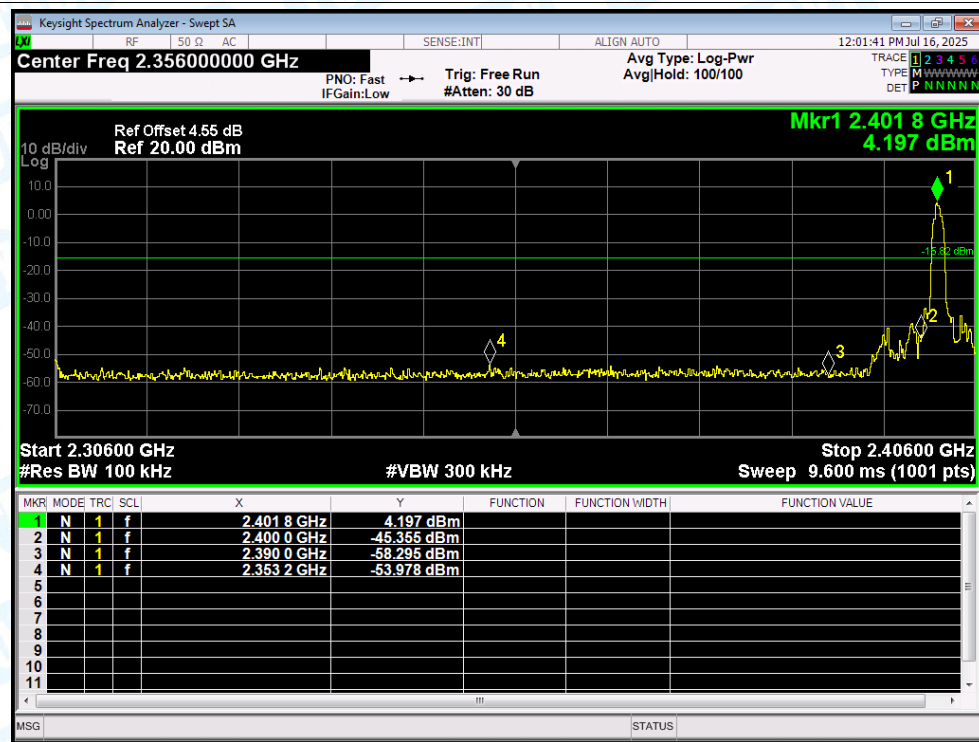
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



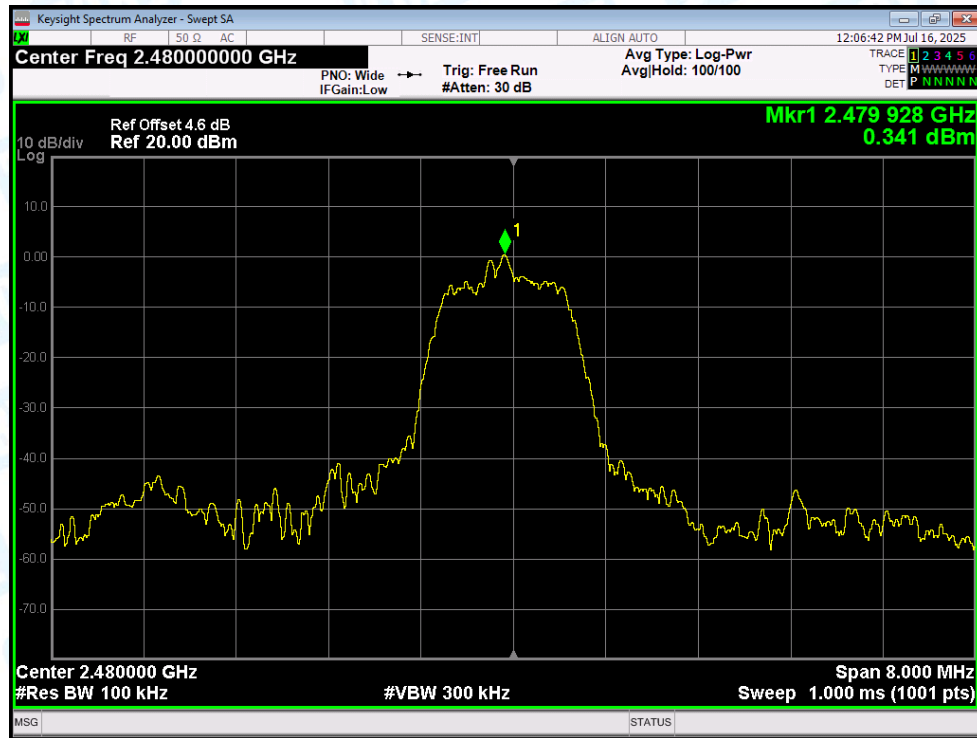
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



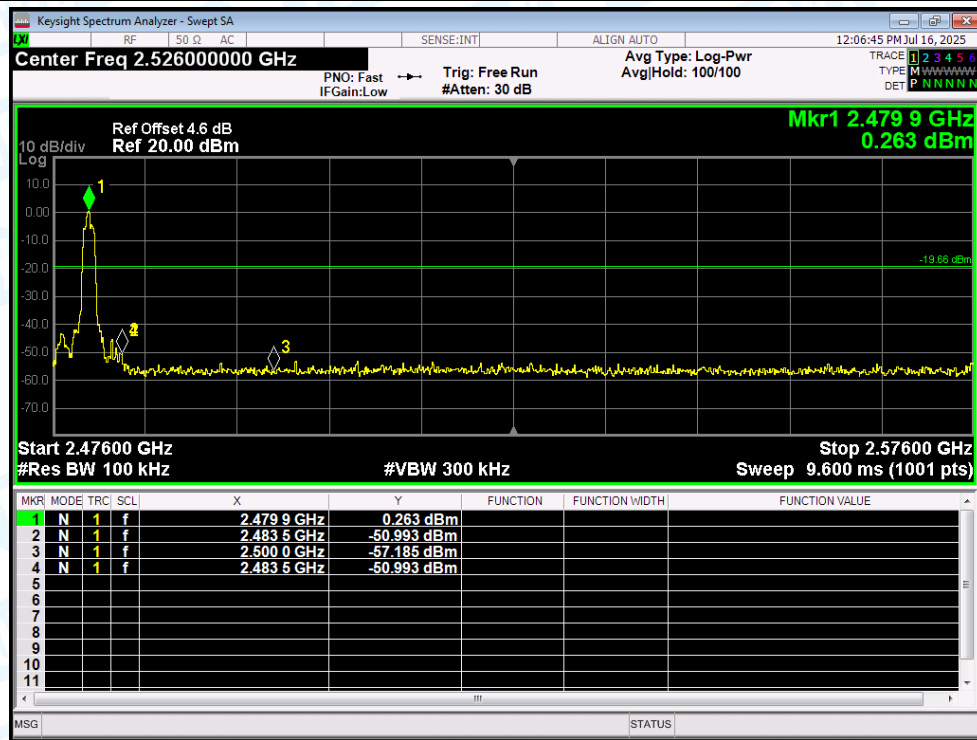
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



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



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

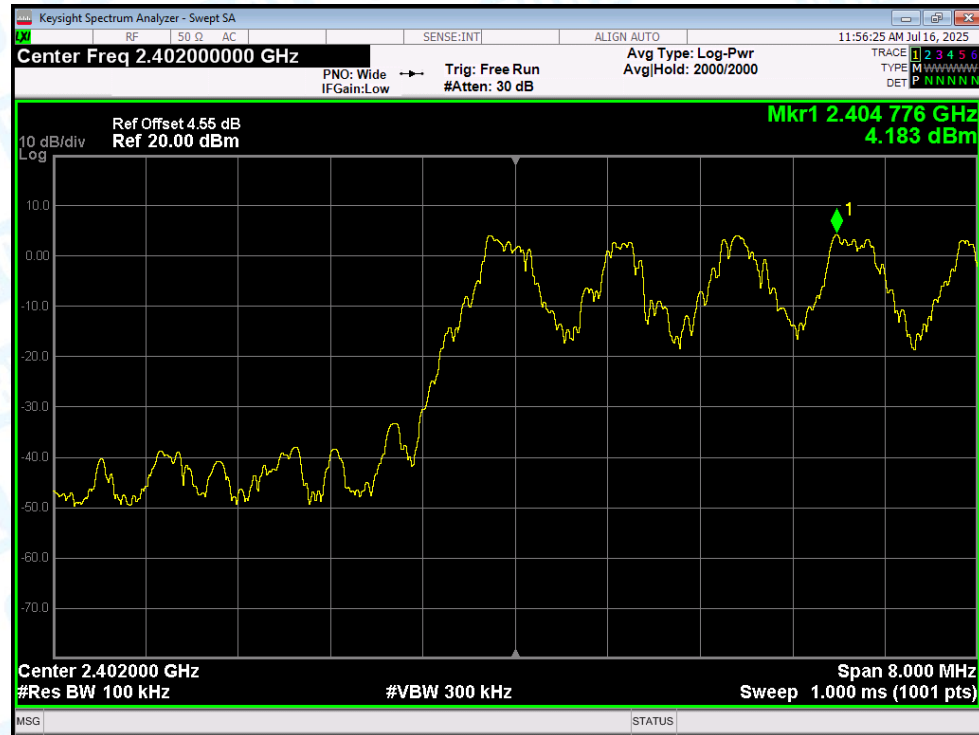


6. Band Edge(Hopping)

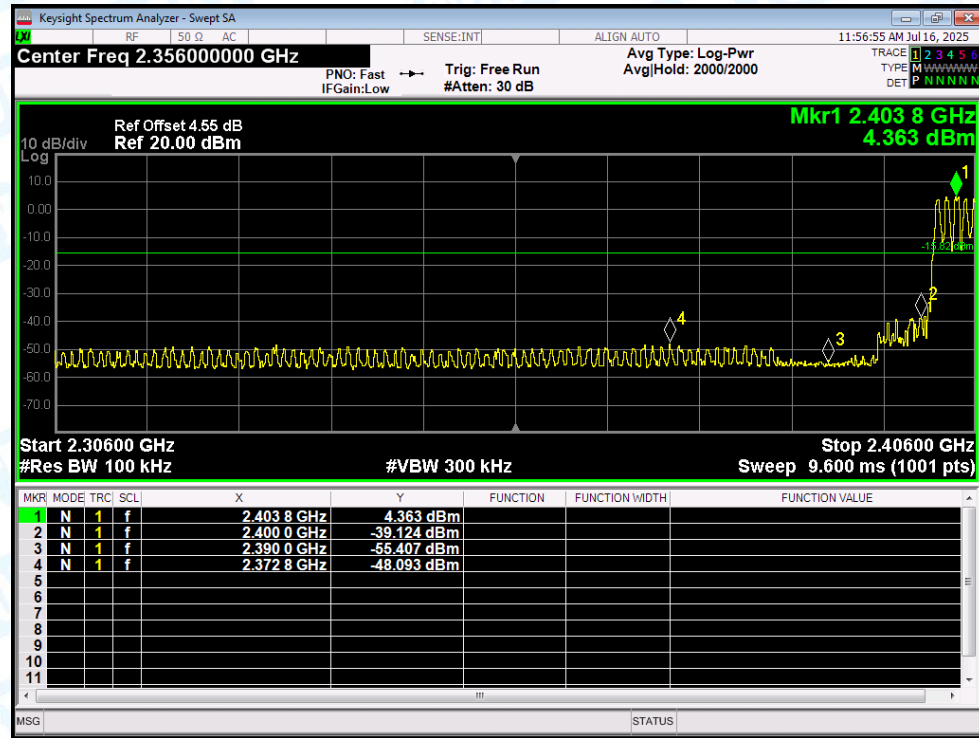
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-52.27	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-44.83	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-51.96	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-50.97	-20	Pass

Test Graphs

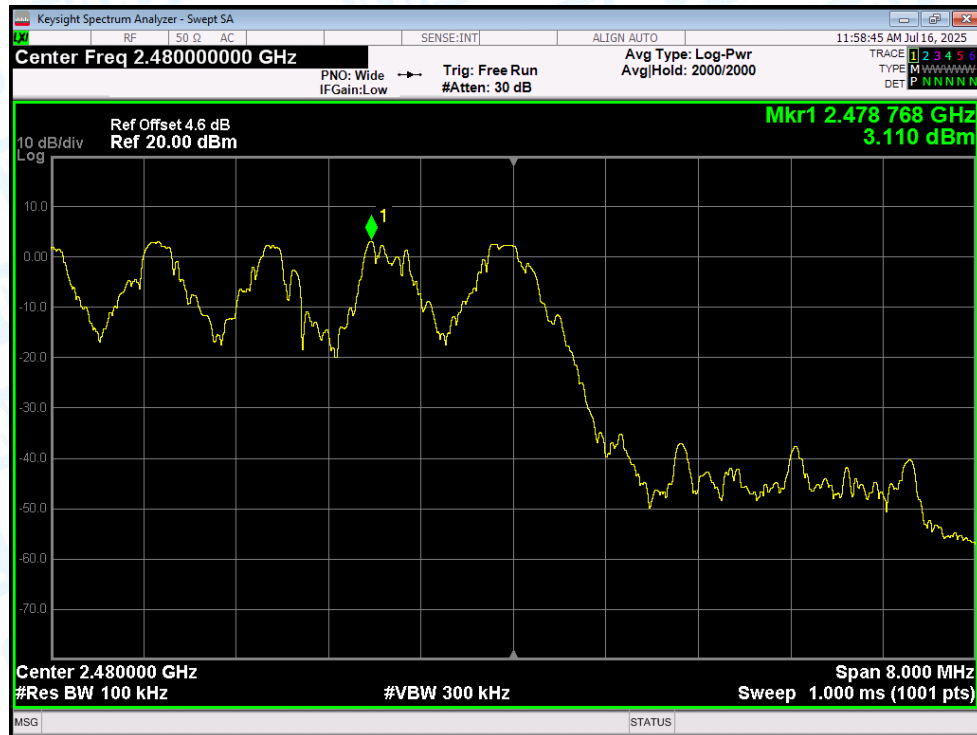
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



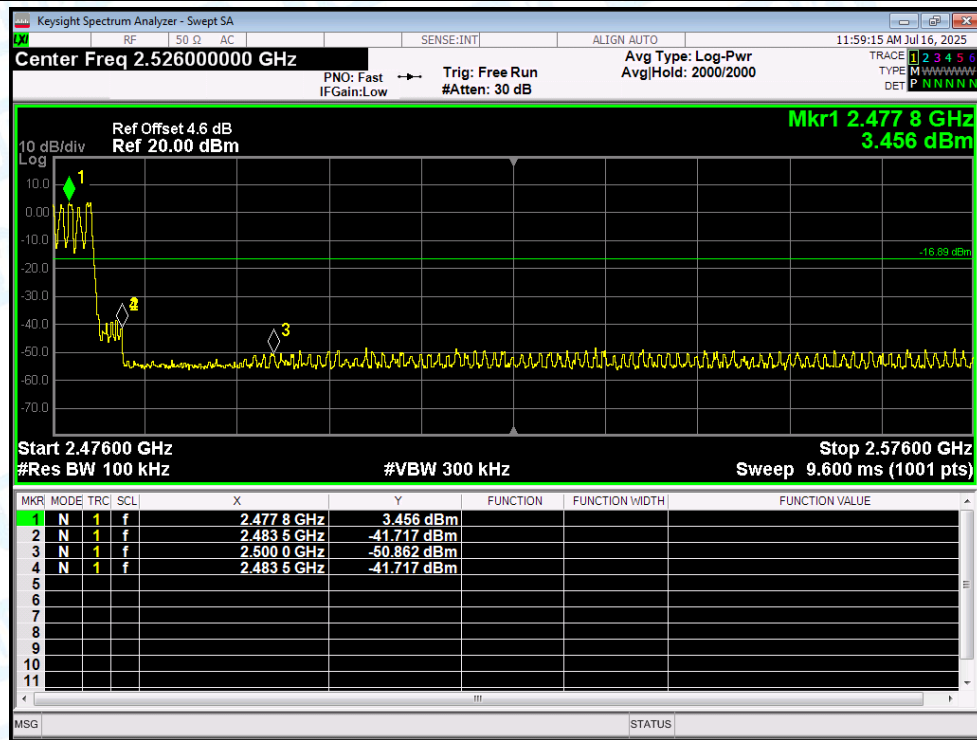
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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



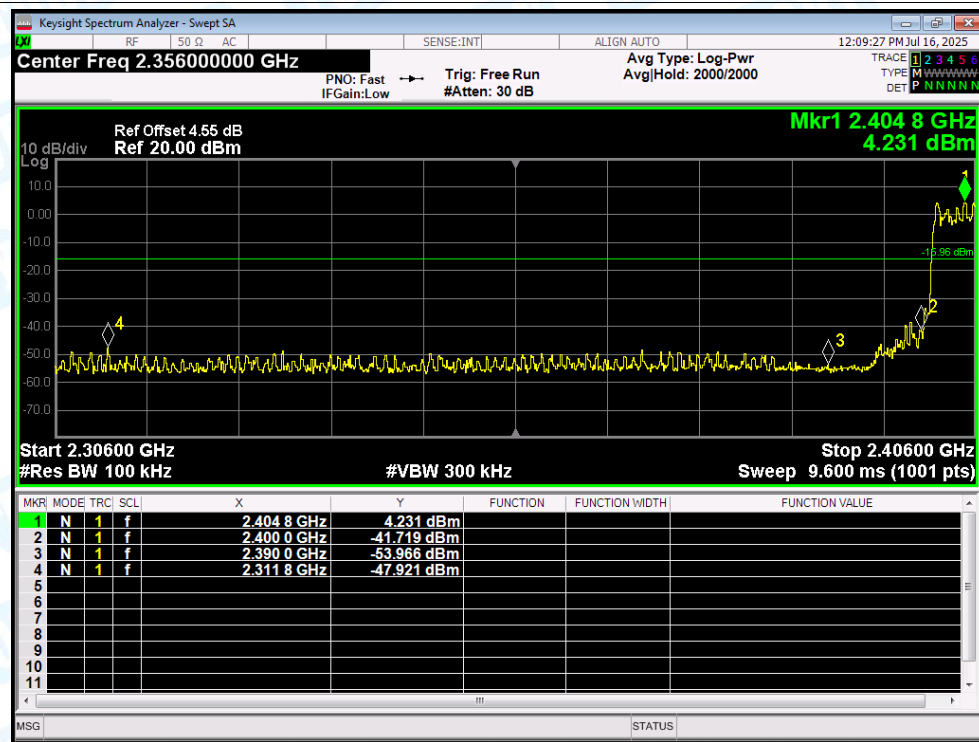
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission

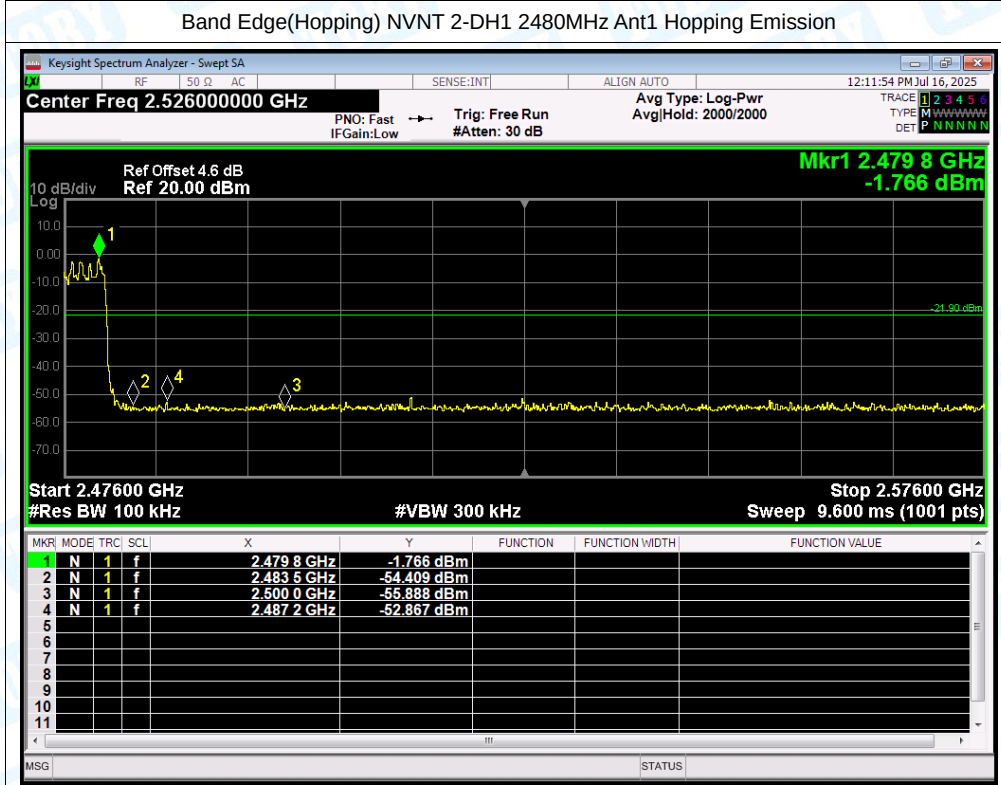
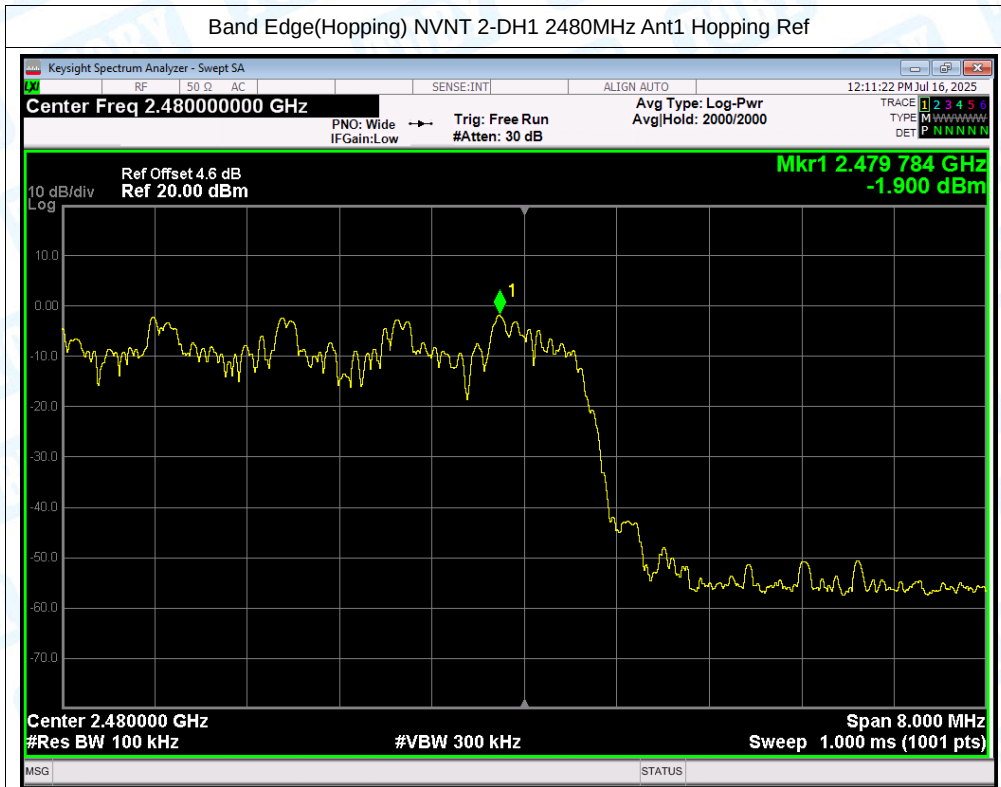


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



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



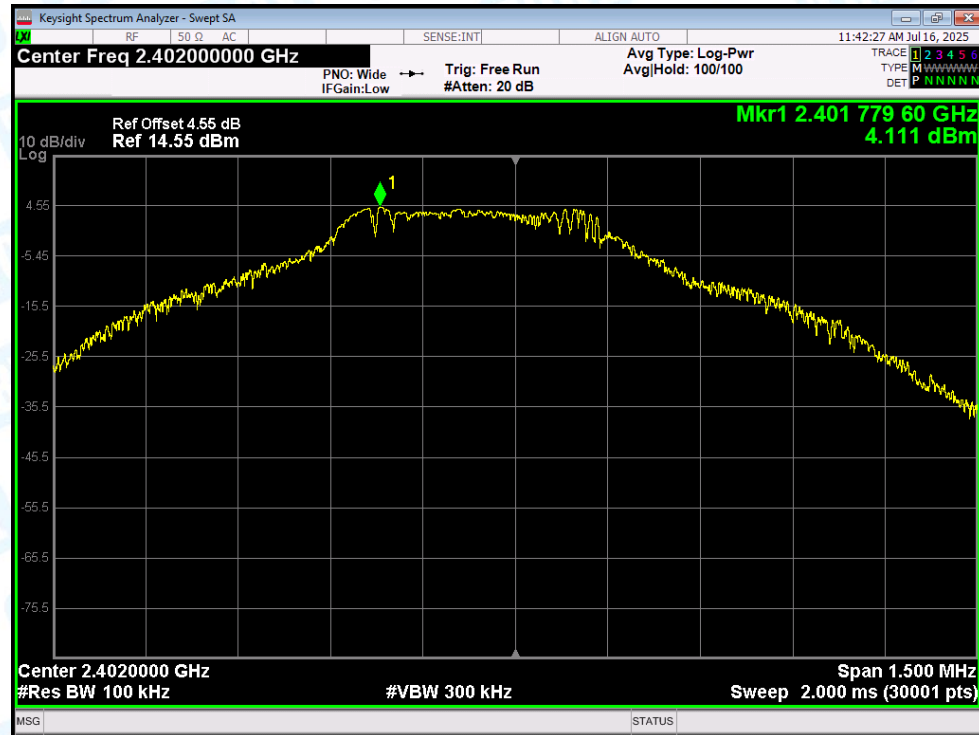


7. Conducted RF Spurious Emission

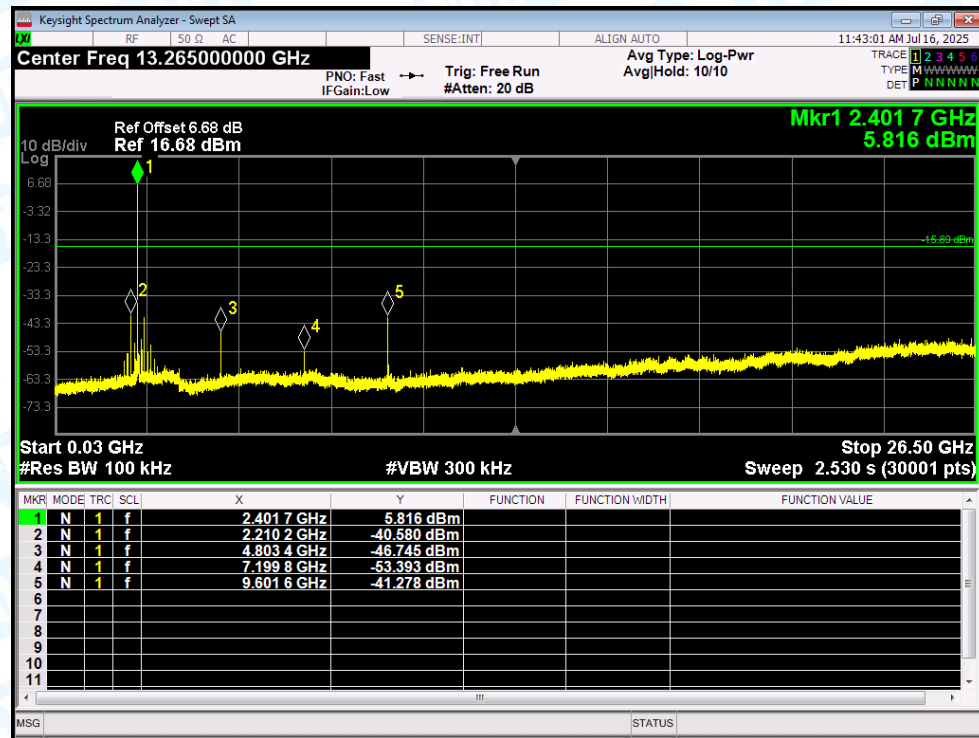
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-44.69	-20	Pass
NVNT	1-DH1	2441	Ant1	-42.75	-20	Pass
NVNT	1-DH1	2480	Ant1	-42.89	-20	Pass
NVNT	2-DH1	2402	Ant1	-44.73	-20	Pass
NVNT	2-DH1	2441	Ant1	-43.58	-20	Pass
NVNT	2-DH1	2480	Ant1	-42.91	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



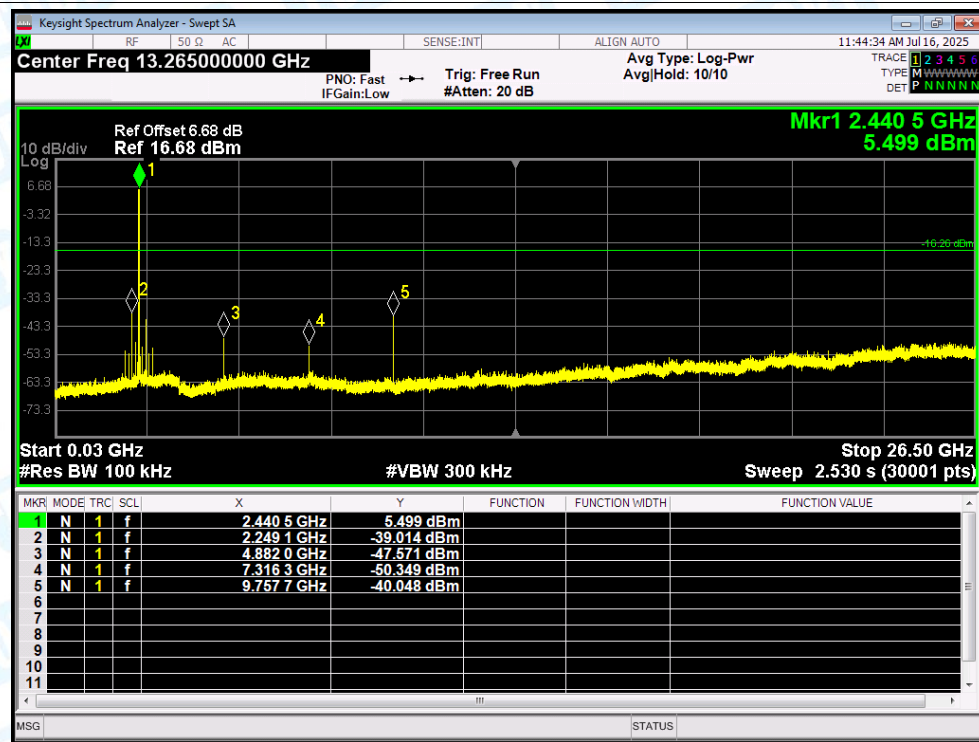
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



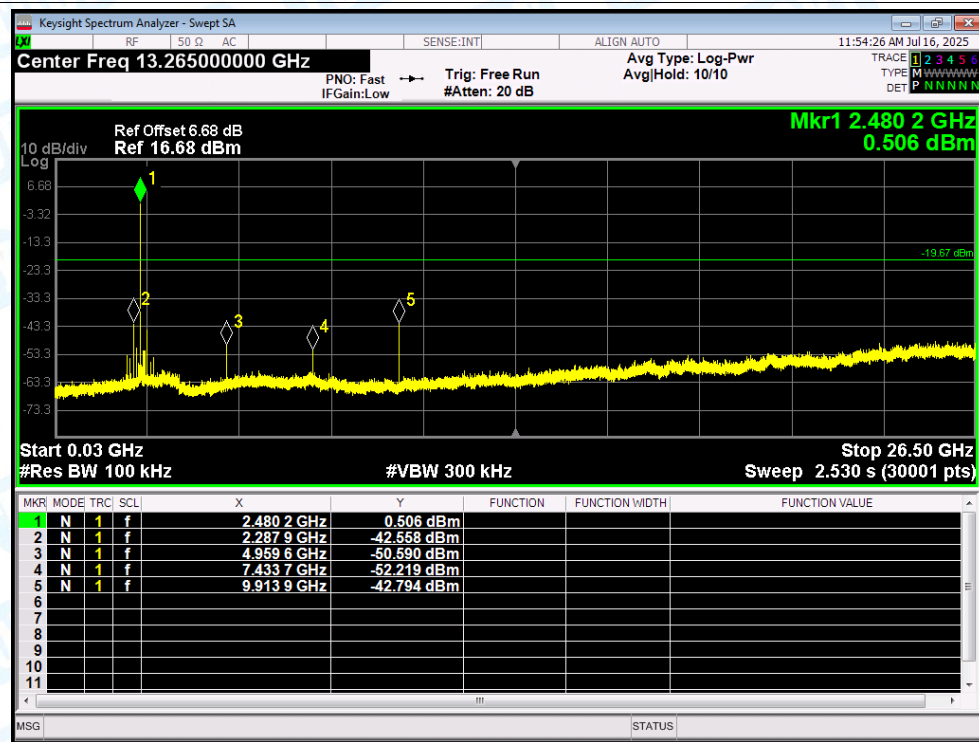
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



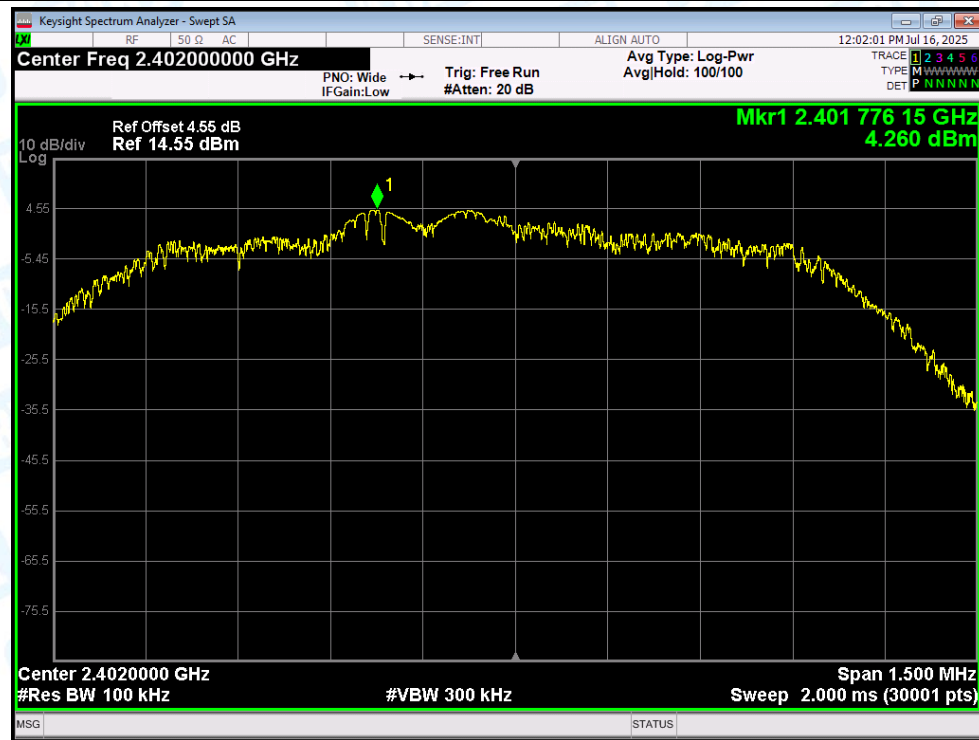
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



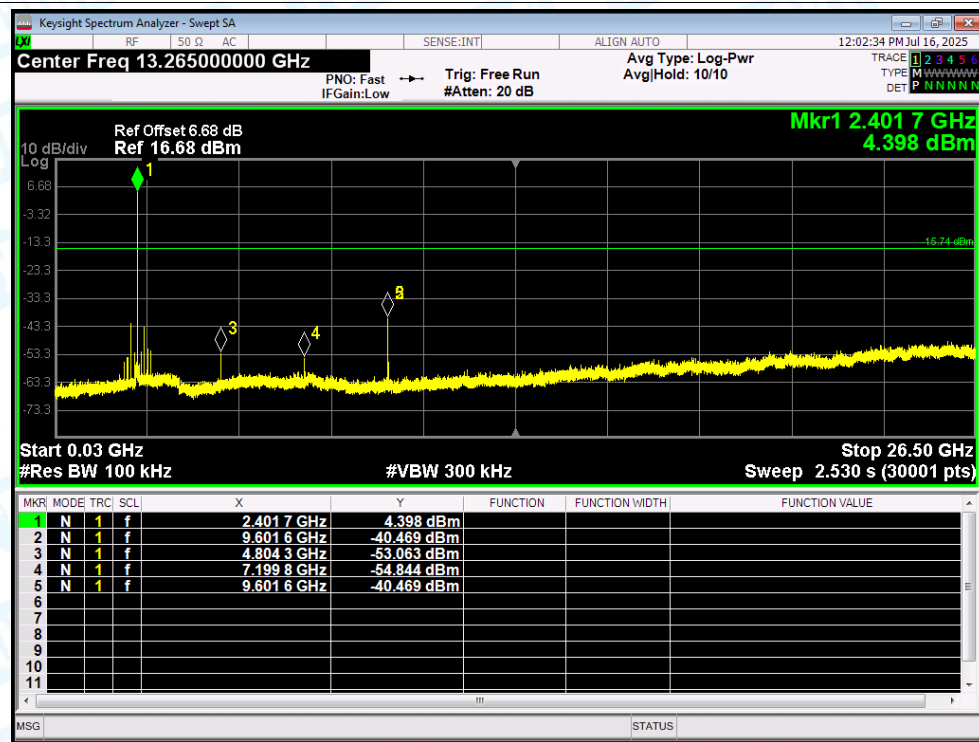
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



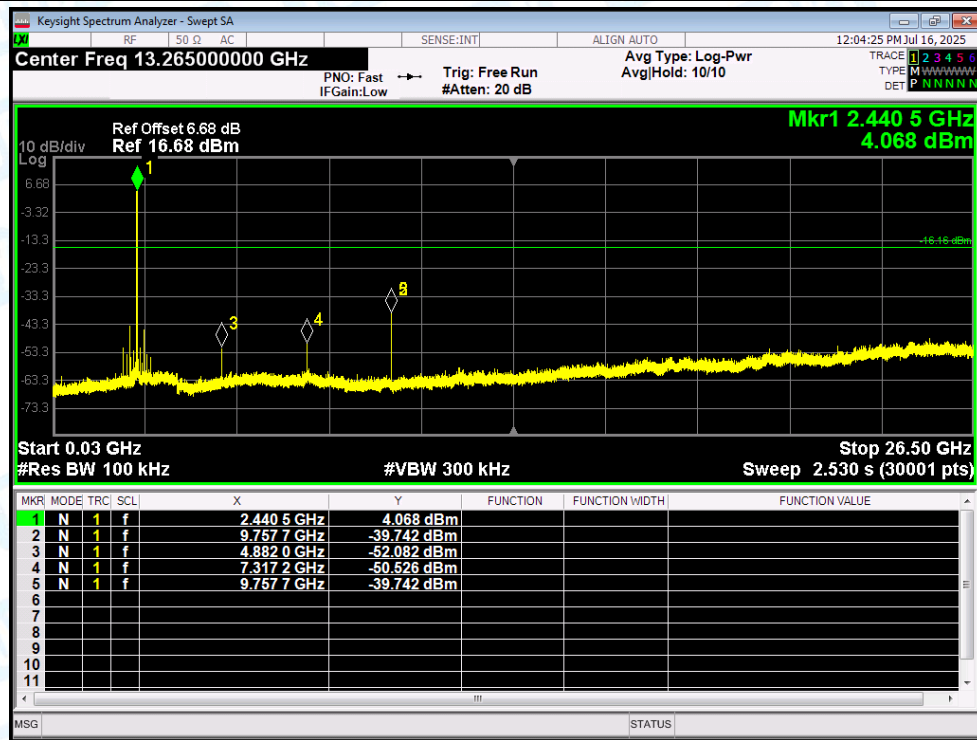
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



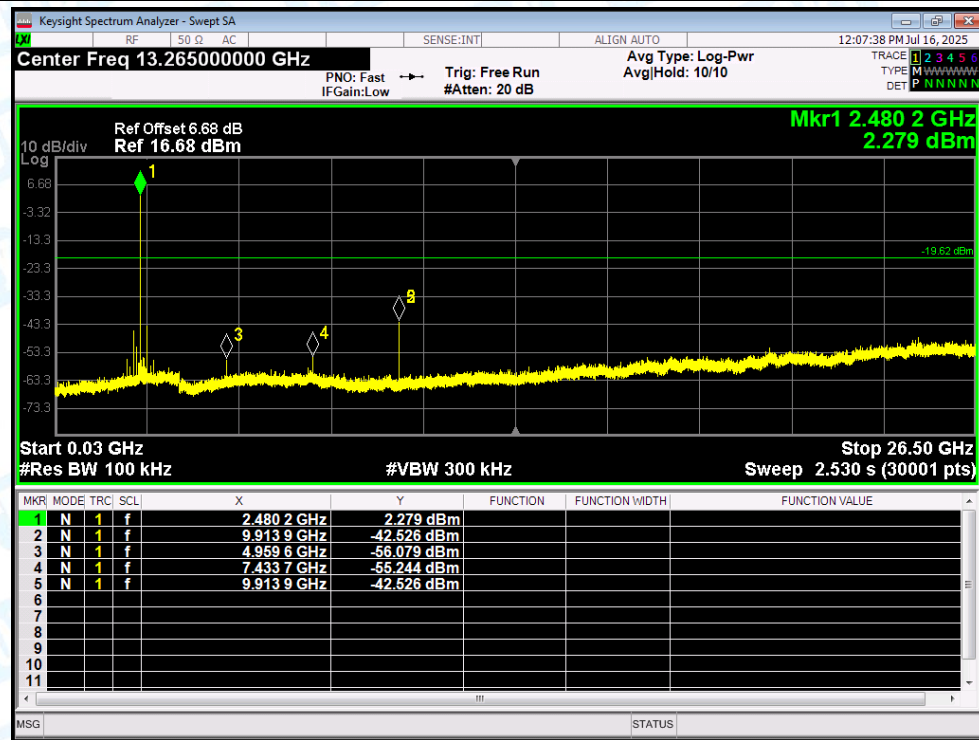
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission

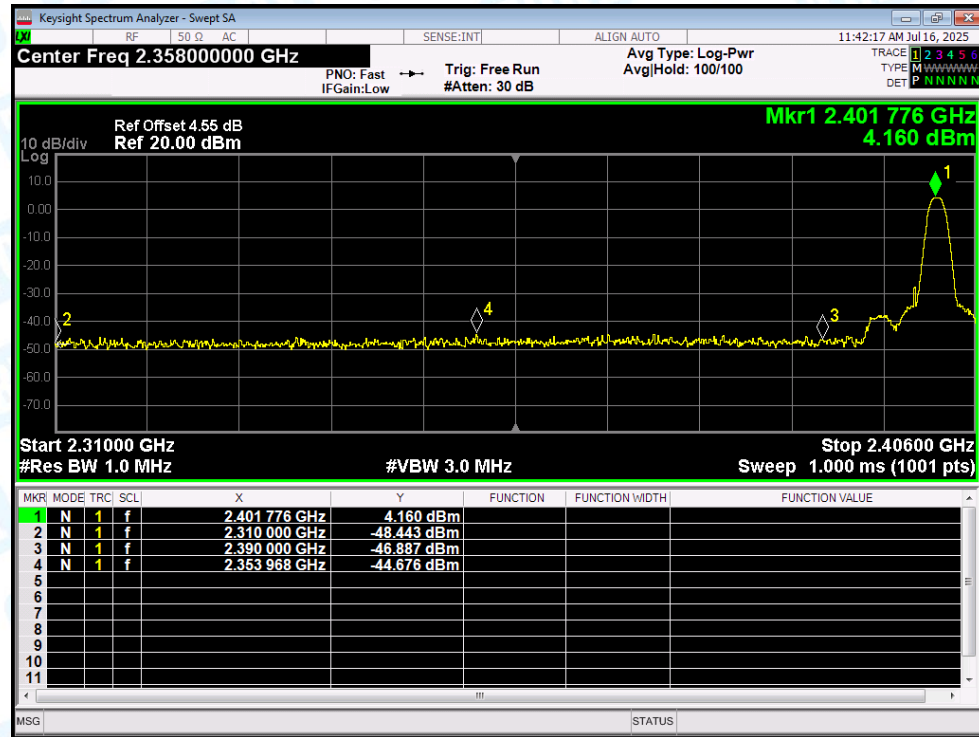


8. Restrict Band

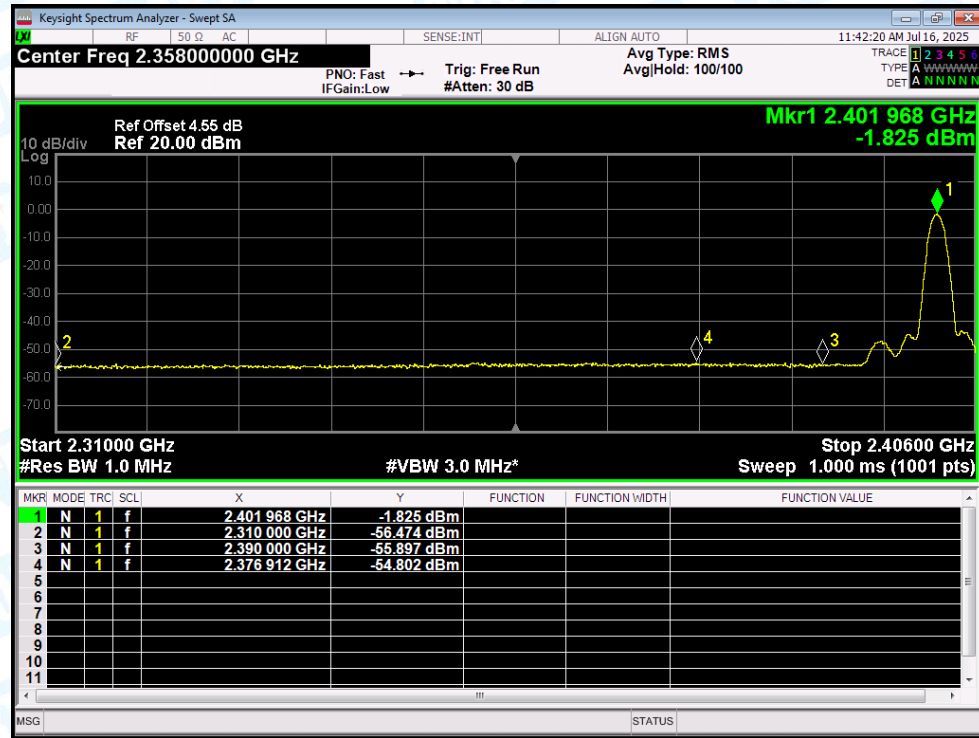
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-48.44	2	-	48.82	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.47	2	5.06	45.85	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2353.968	-44.68	2	-	52.58	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2376.912	-54.8	2	5.06	47.52	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-46.89	2	-	50.37	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.9	2	5.06	46.42	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-44.14	2	-	53.12	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-52.4	2	5.06	49.92	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.656	-42.34	2	-	54.92	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.512	-52.4	2	5.06	49.92	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-47.11	2	-	50.15	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.53	2	5.06	46.79	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.57	2	-	48.69	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.56	2	5.06	45.76	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2389.68	-43.25	2	-	54.01	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2361.552	-54.78	2	5.06	47.54	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-48.45	2	-	48.81	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.94	2	5.06	46.38	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-43.79	2	-	53.47	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-53.34	2	5.06	48.98	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.68	-43.32	2	-	53.94	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.632	-52.83	2	5.06	49.49	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-46.62	2	-	50.64	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.48	2	5.06	46.84	Average	54	Pass

Test Graphs

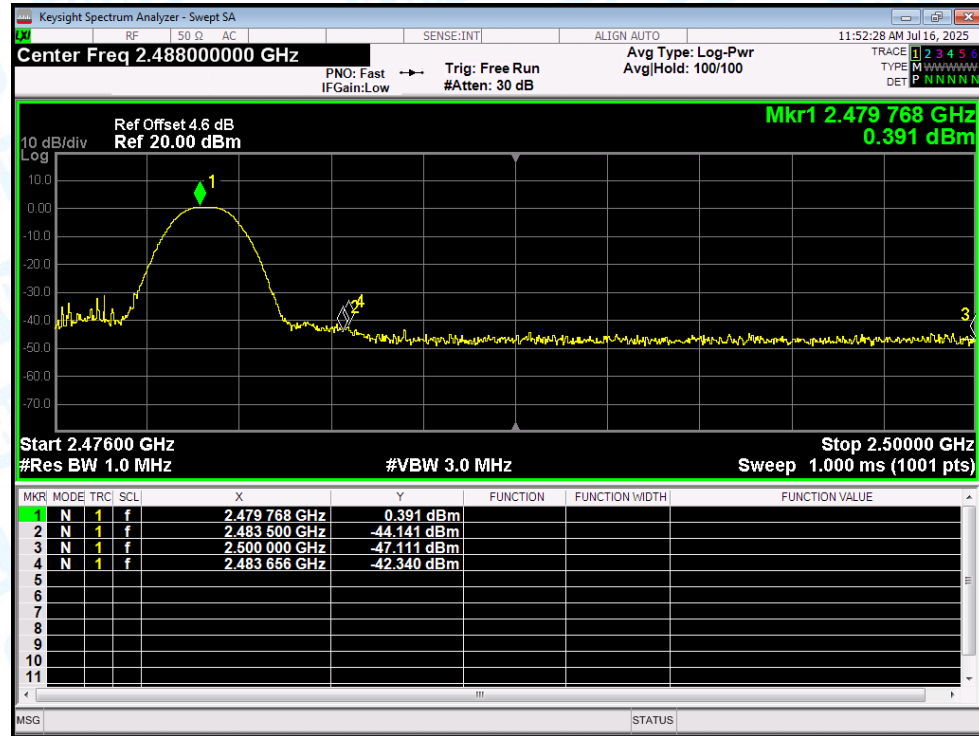
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



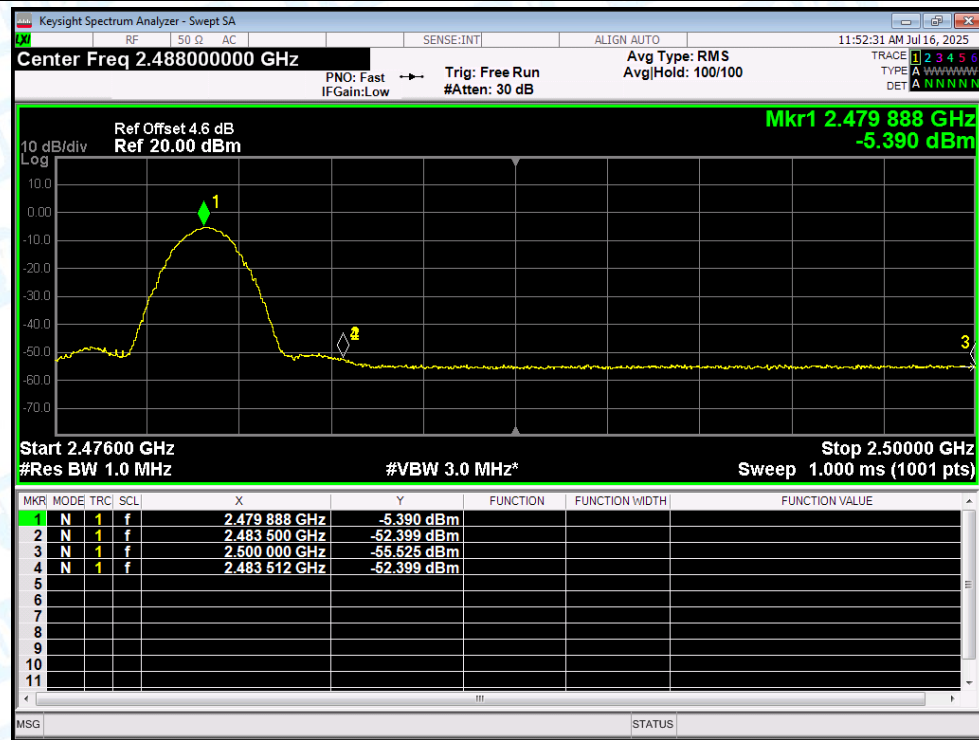
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



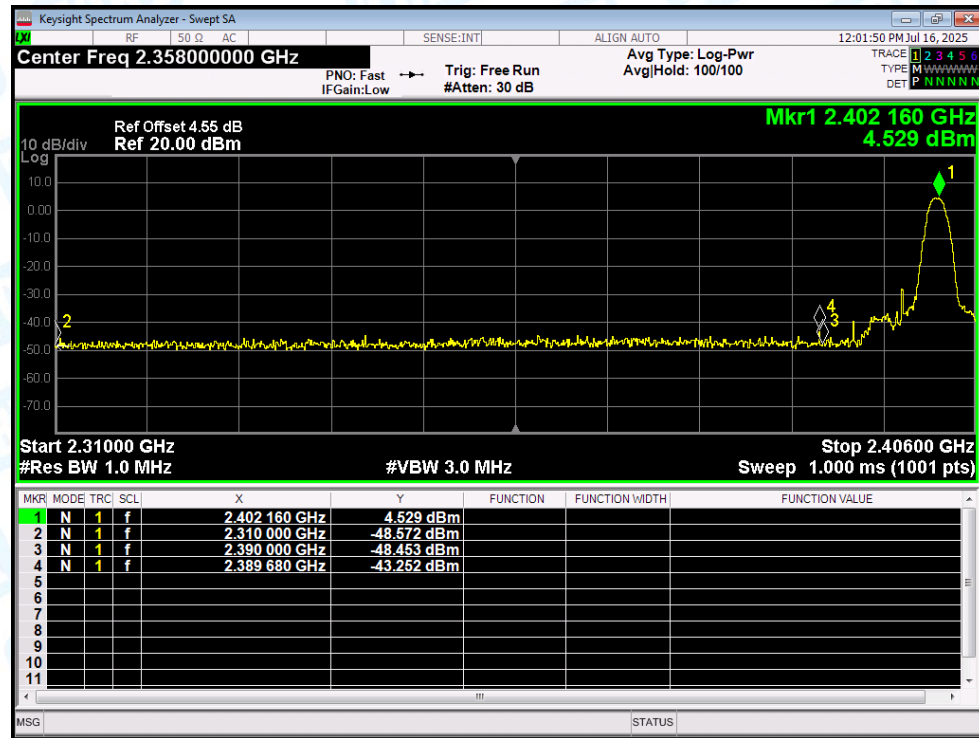
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



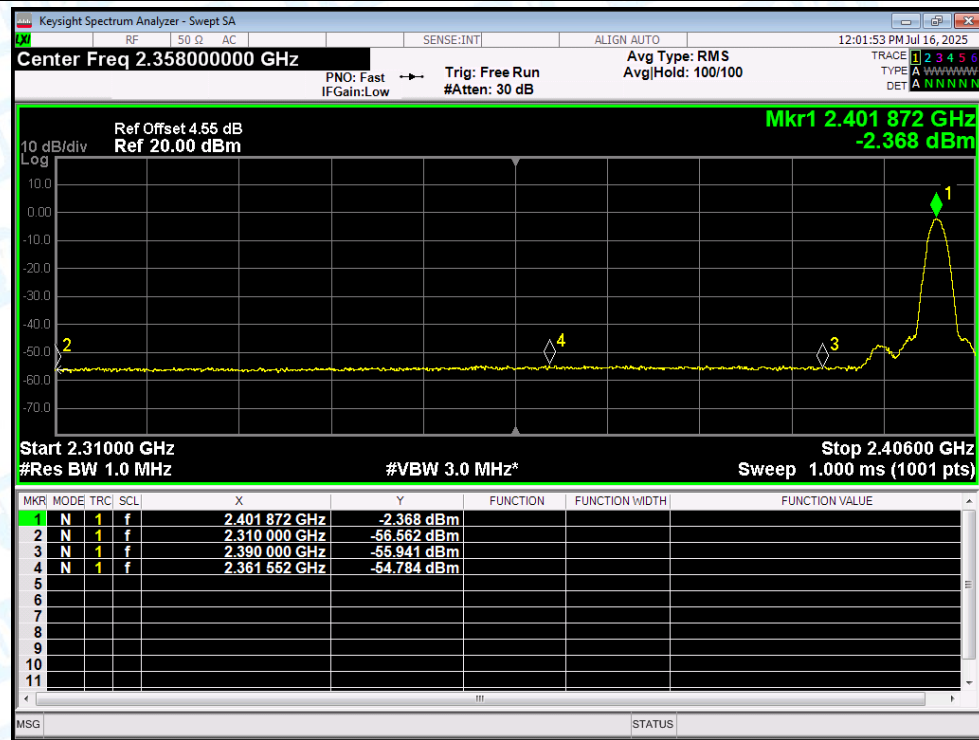
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



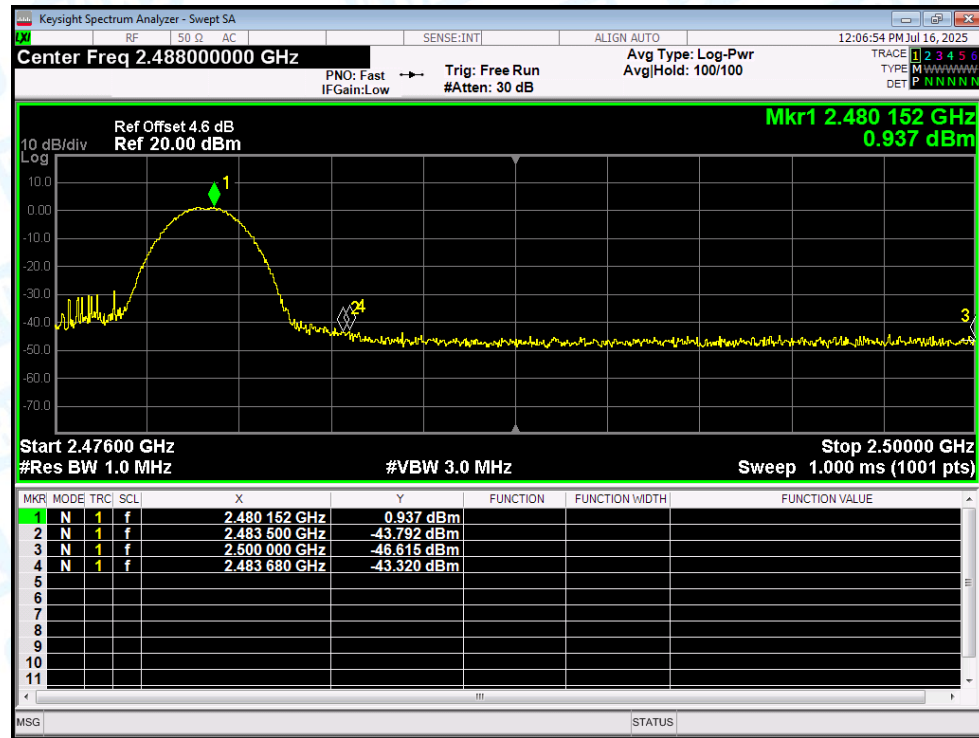
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



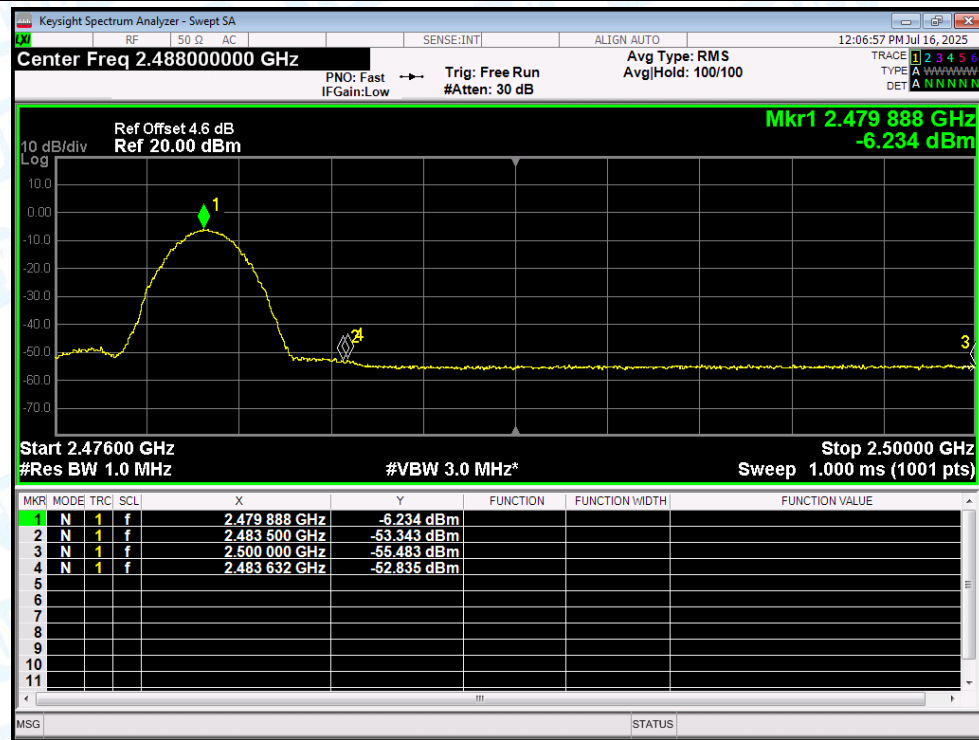
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



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



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

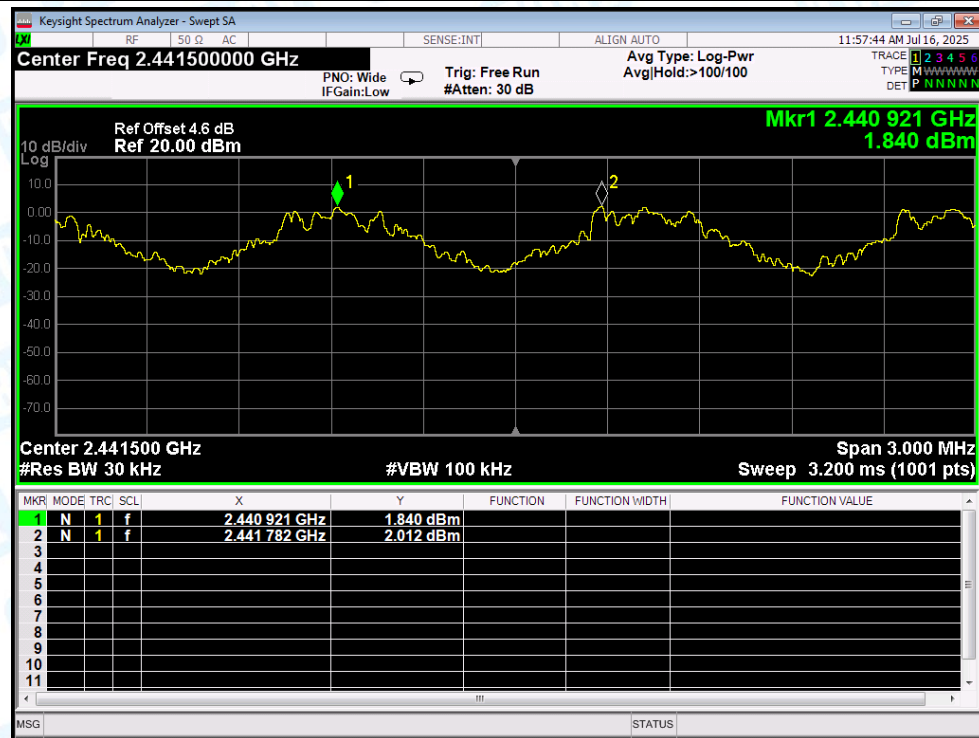


9. Carrier Frequencies Separation

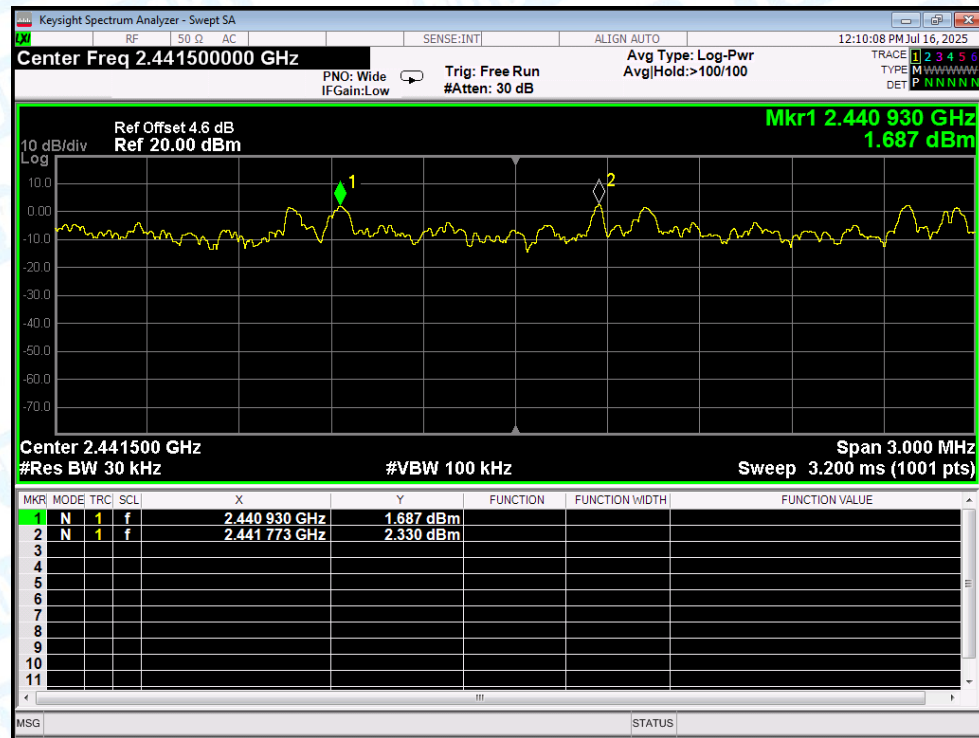
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.921	2441.782	0.861	0.587	Pass
NVNT	2-DH1	Ant1	2440.93	2441.773	0.843	0.82	Pass

Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1

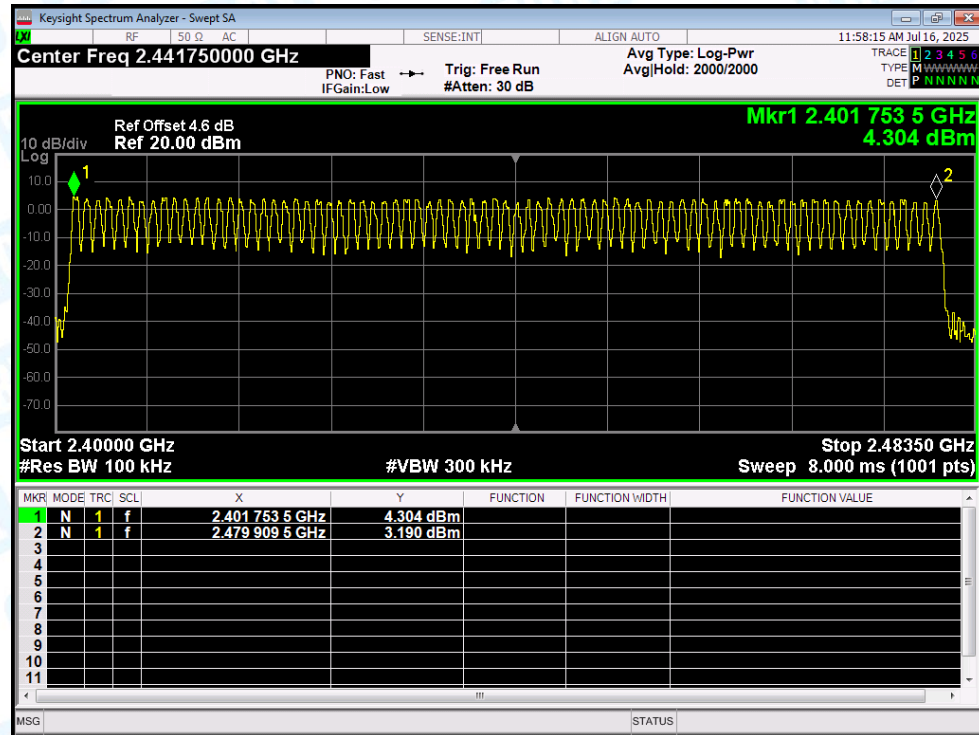


10. Number of Hopping Channel

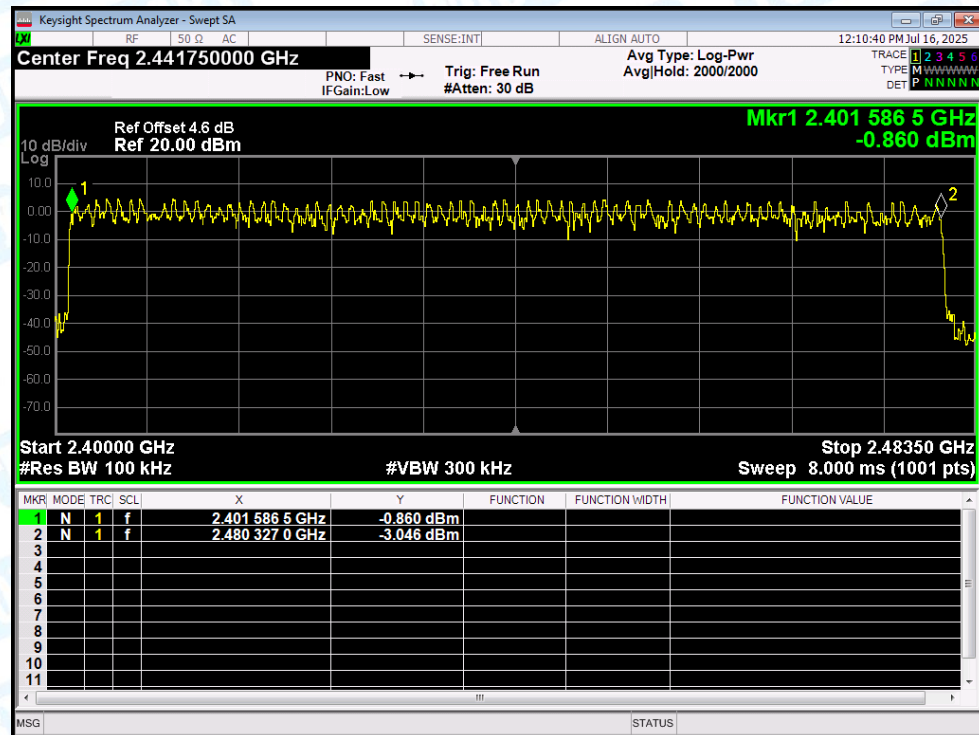
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1

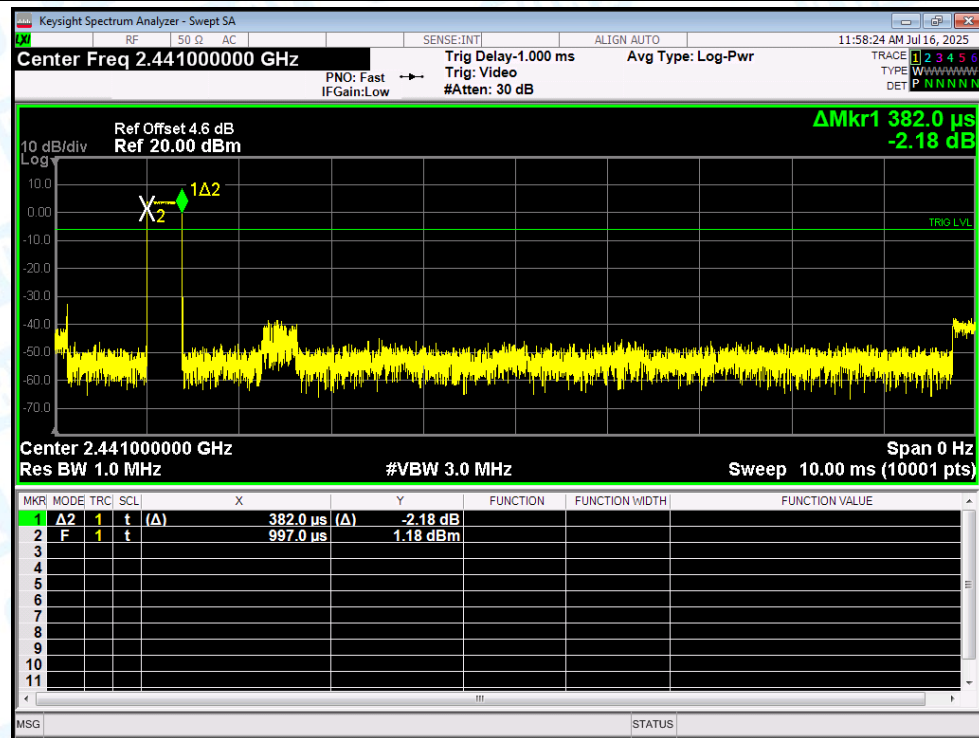


11. Dwell Time

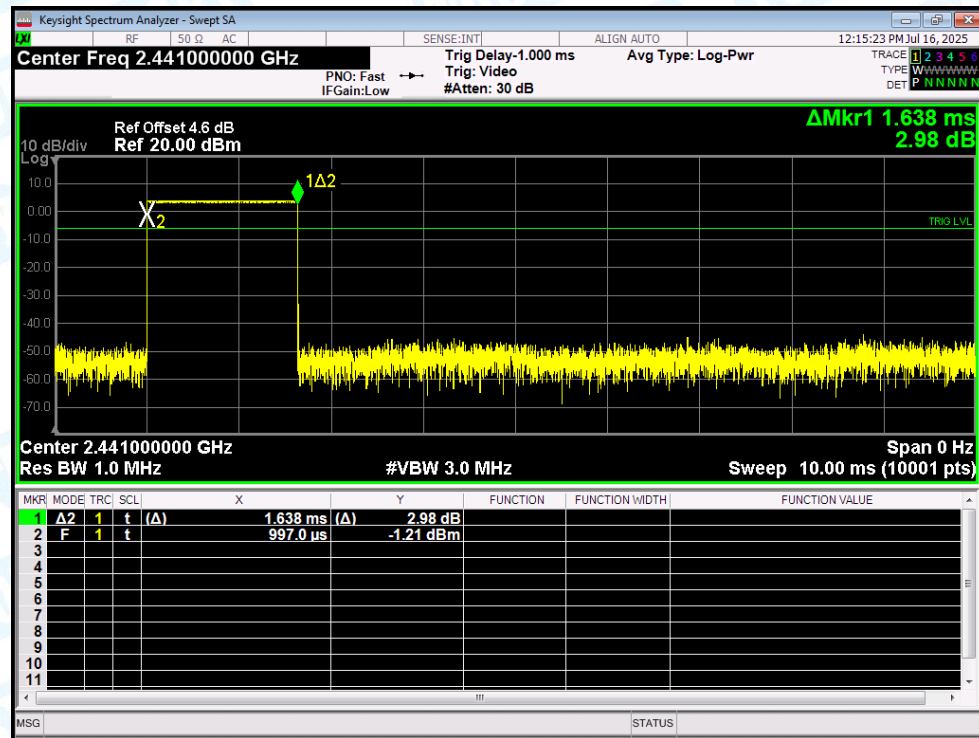
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.382	122.24	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.638	262.08	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.887	307.947	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.643	262.88	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.891	308.373	31600	400	Pass

Test Graphs

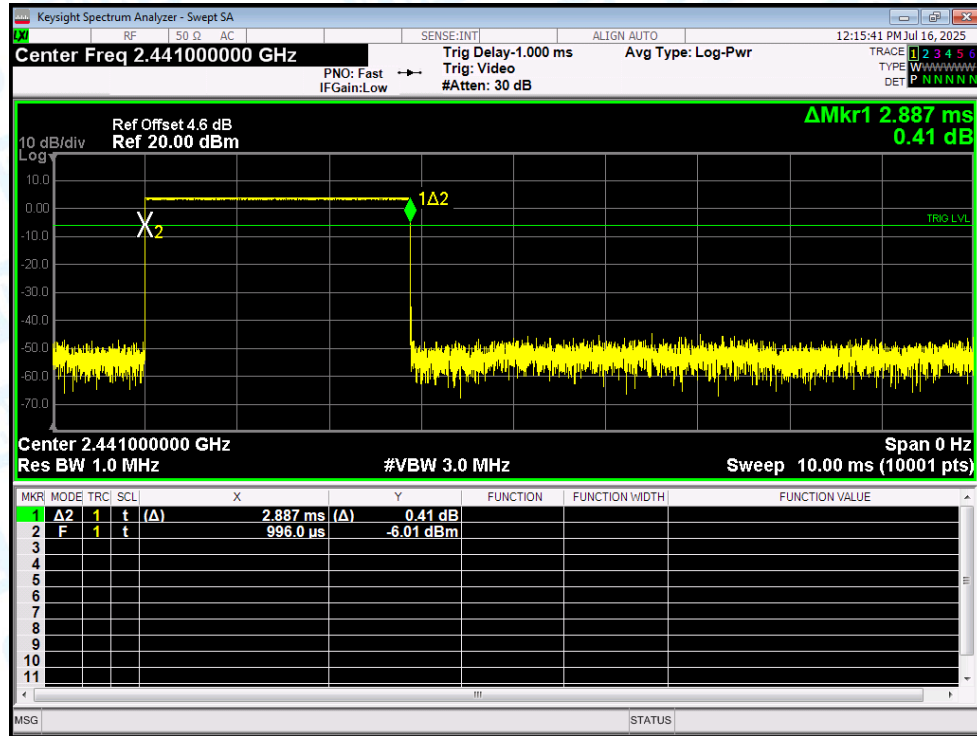
Dwell NVNT 1-DH1 2441MHz Ant1



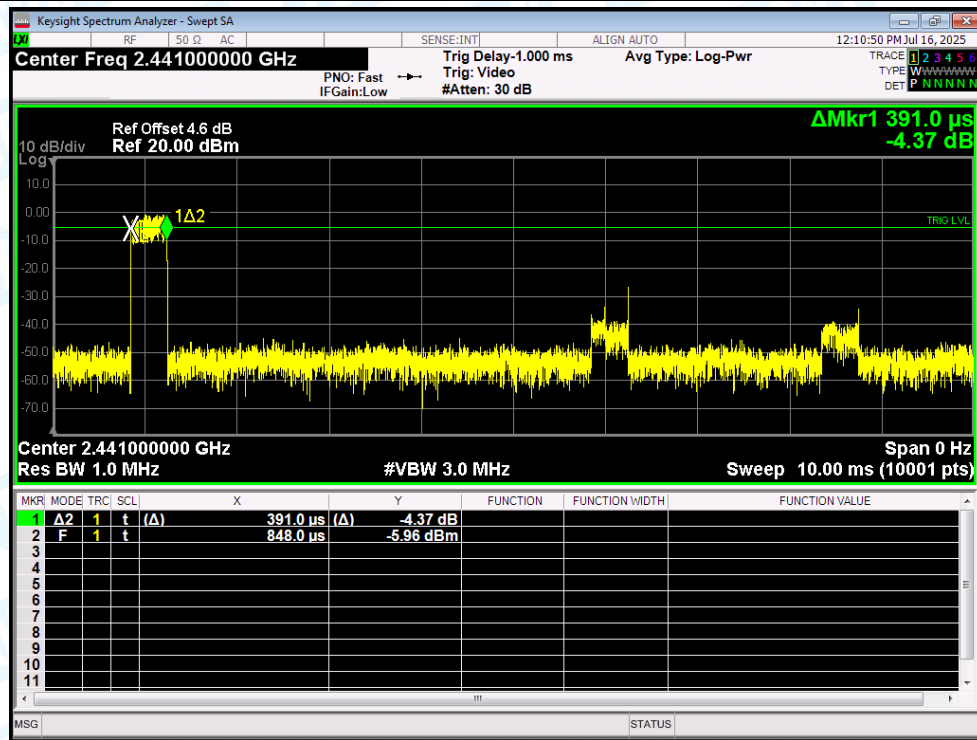
Dwell NVNT 1-DH3 2441MHz Ant1



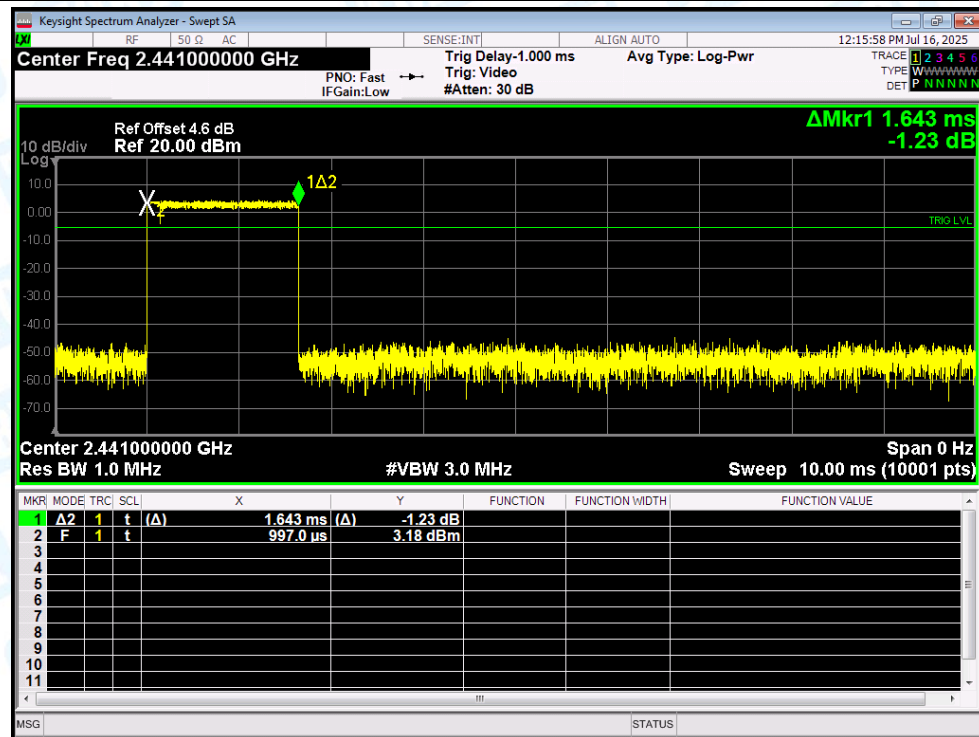
Dwell NVNT 1-DH5 2441MHz Ant1



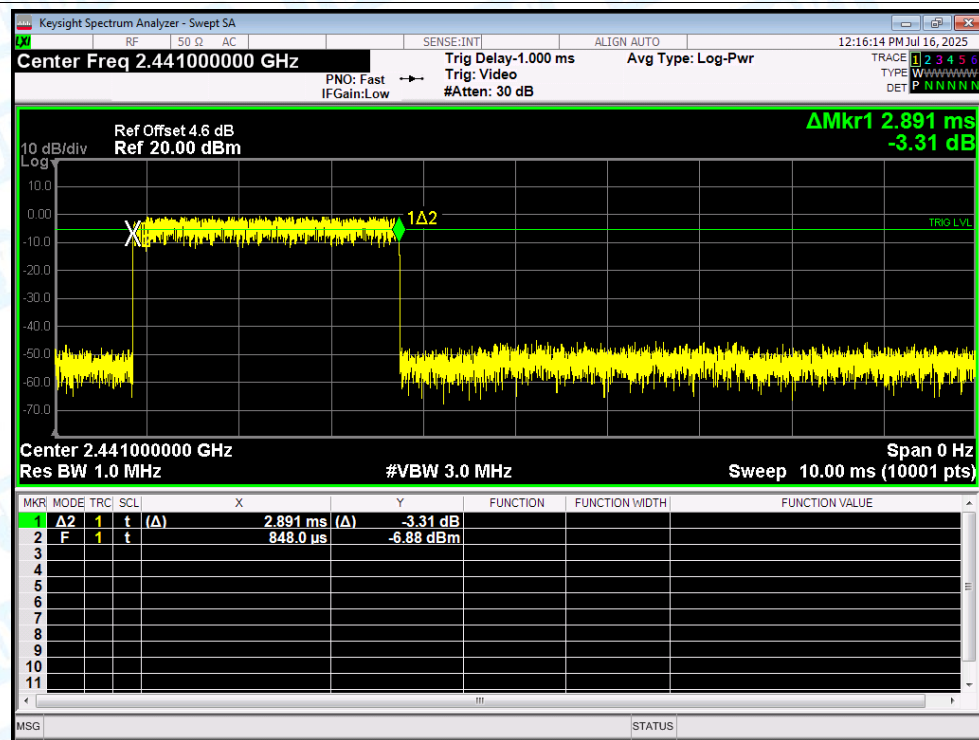
Dwell NVNT 2-DH1 2441MHz Ant1



Dwell NVNT 2-DH3 2441MHz Ant1



Dwell NVNT 2-DH5 2441MHz Ant1



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