RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	PORTABLE BLUETOOTH SPEAKER
Test Model:	Pl8ty
Sample ID:	HC-C-202409-0264-01-02-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Rick. chen
Note: For a more detailed features description, please refer to the report TBR-C-202409-0264-4 The report only show the worst case data.	

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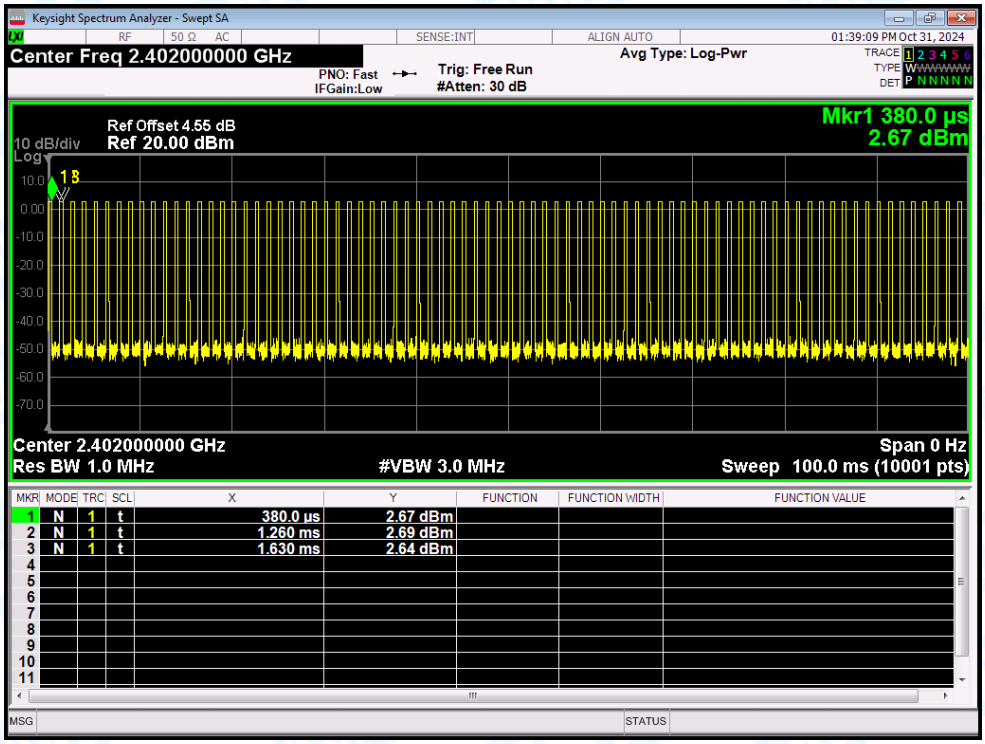
1. Duty Cycle

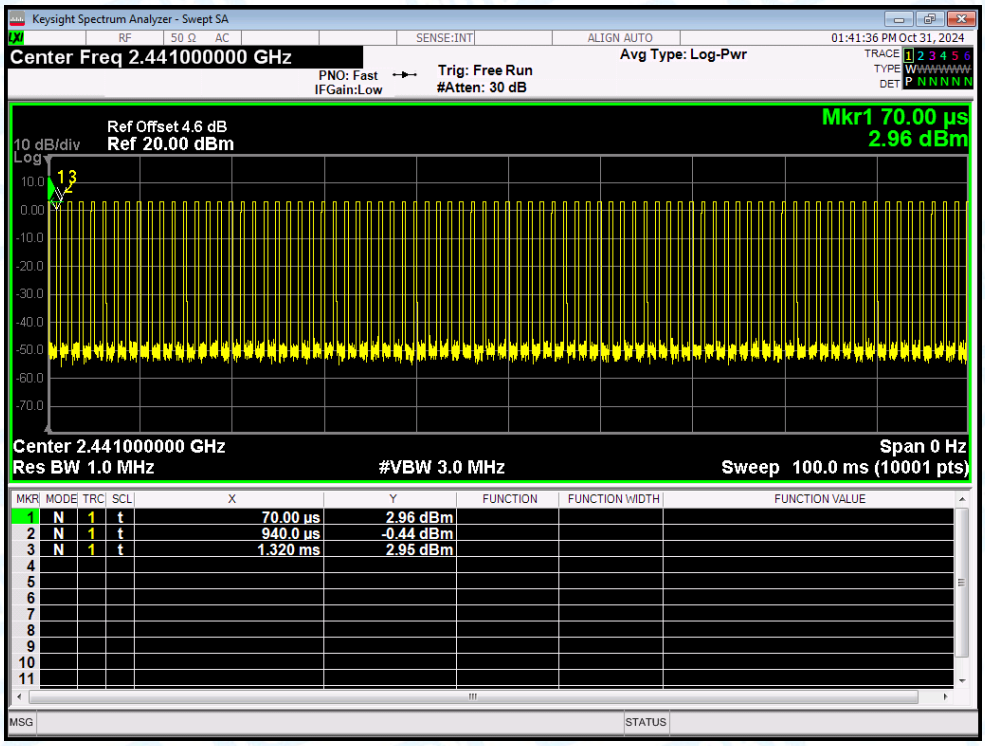
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2480	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2402	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2441	Ant1	31.2	5.06	2.56
NVNT	3-DH1	2480	Ant1	31.2	5.06	2.56

Test Graphs

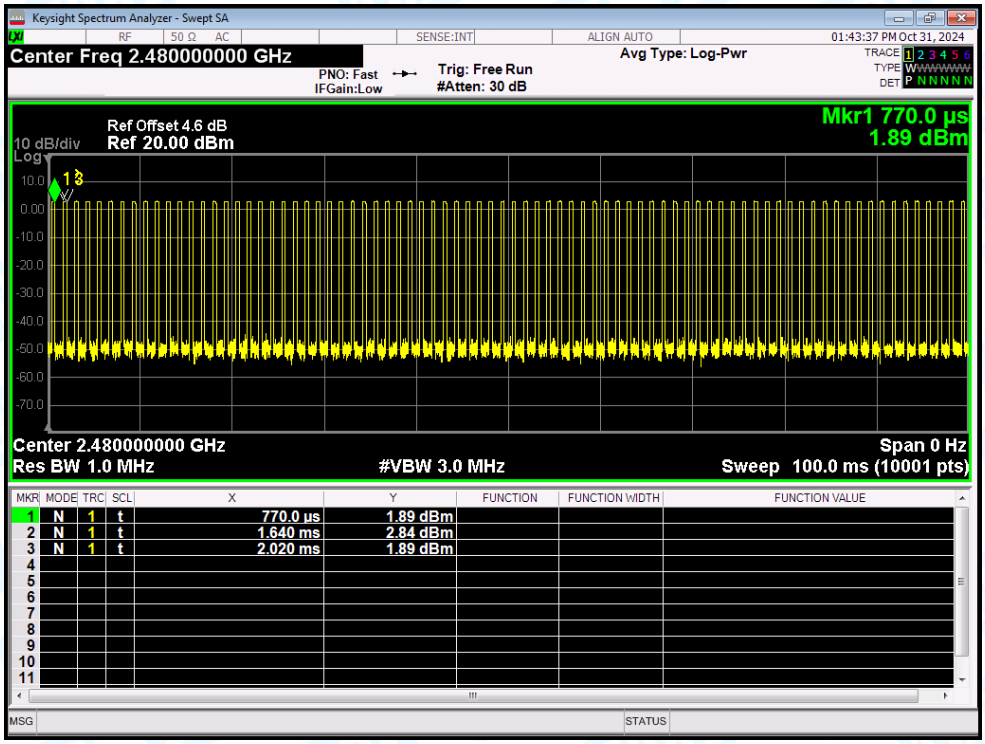
Duty Cycle NVNT 1-DH1 2402MHz Ant1



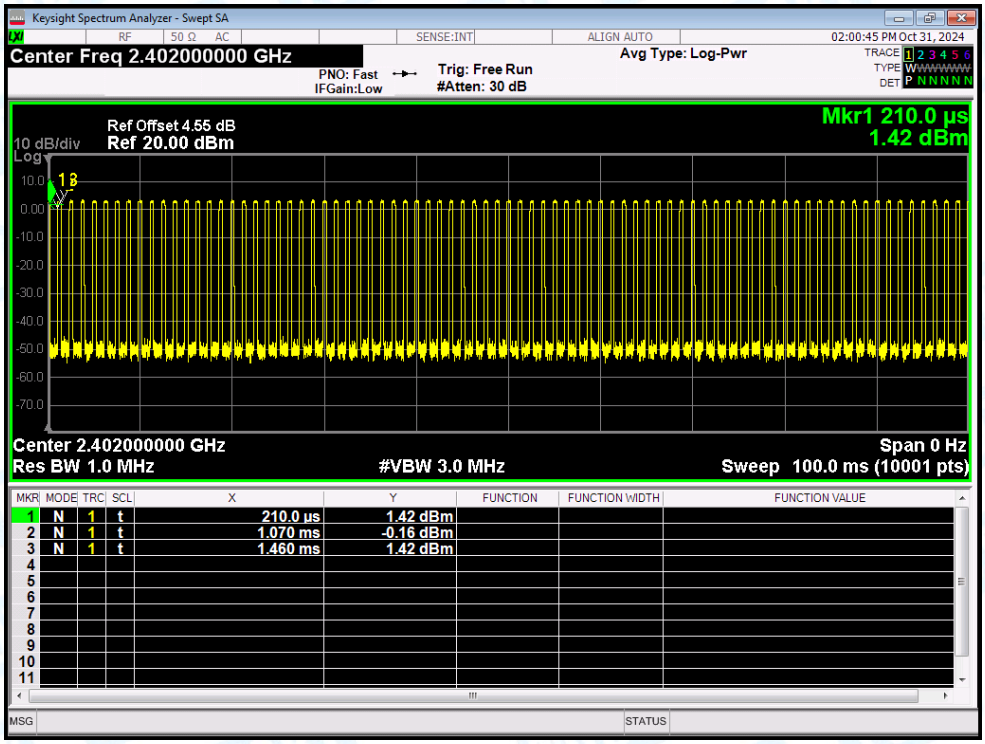
Duty Cycle NVNT 1-DH1 2441MHz Ant1



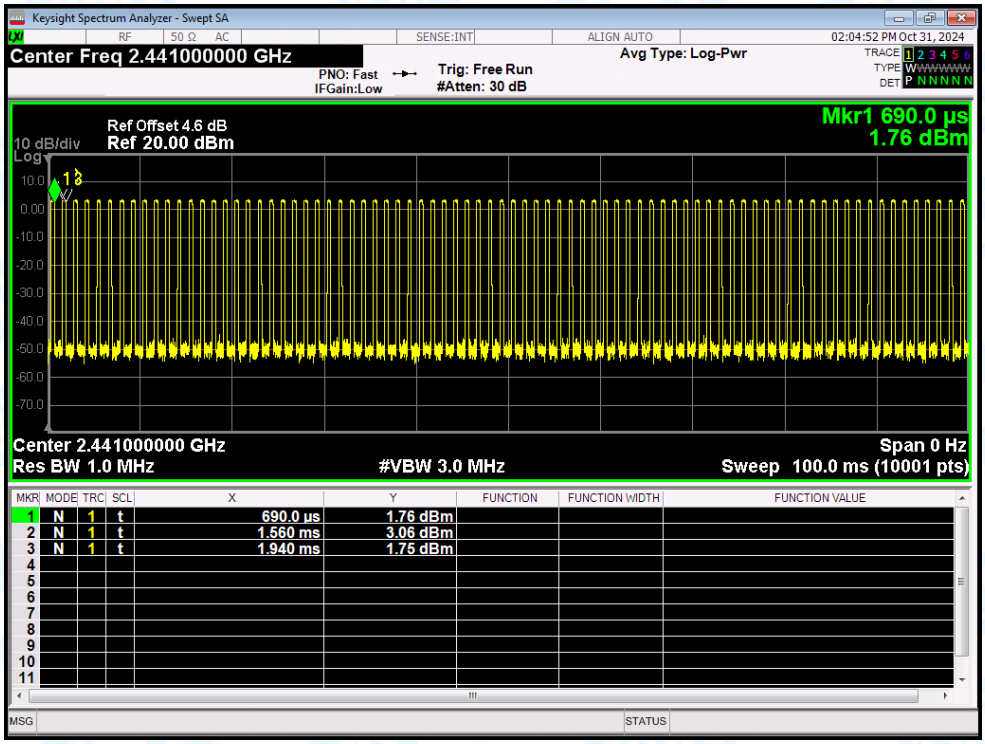
Duty Cycle NVNT 1-DH1 2480MHz Ant1



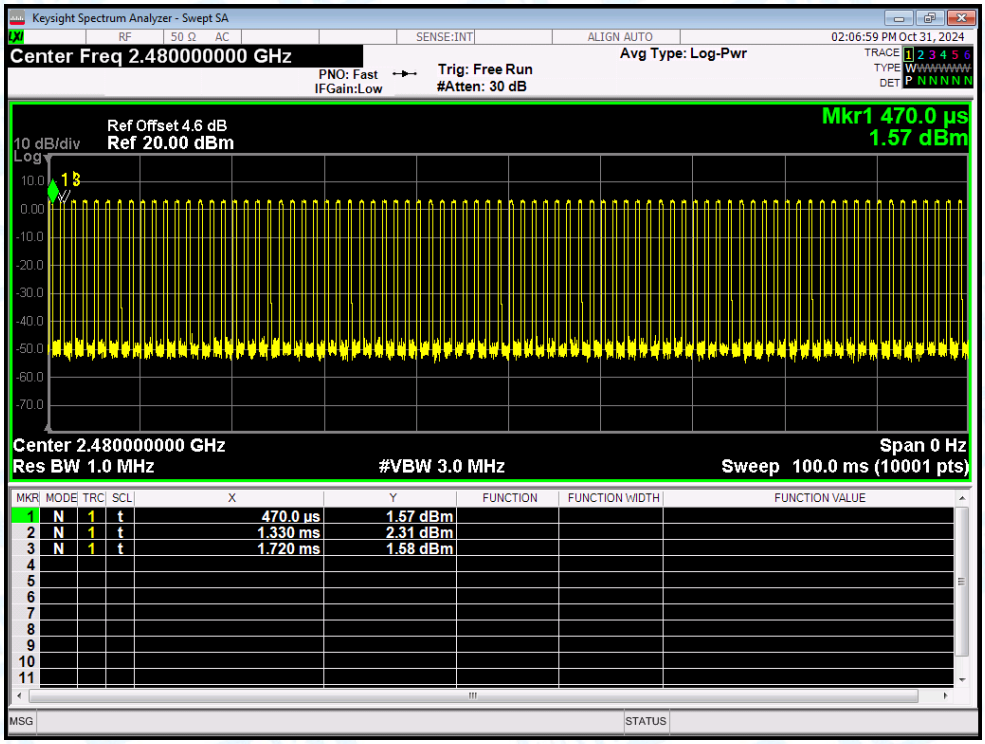
Duty Cycle NVNT 2-DH1 2402MHz Ant1



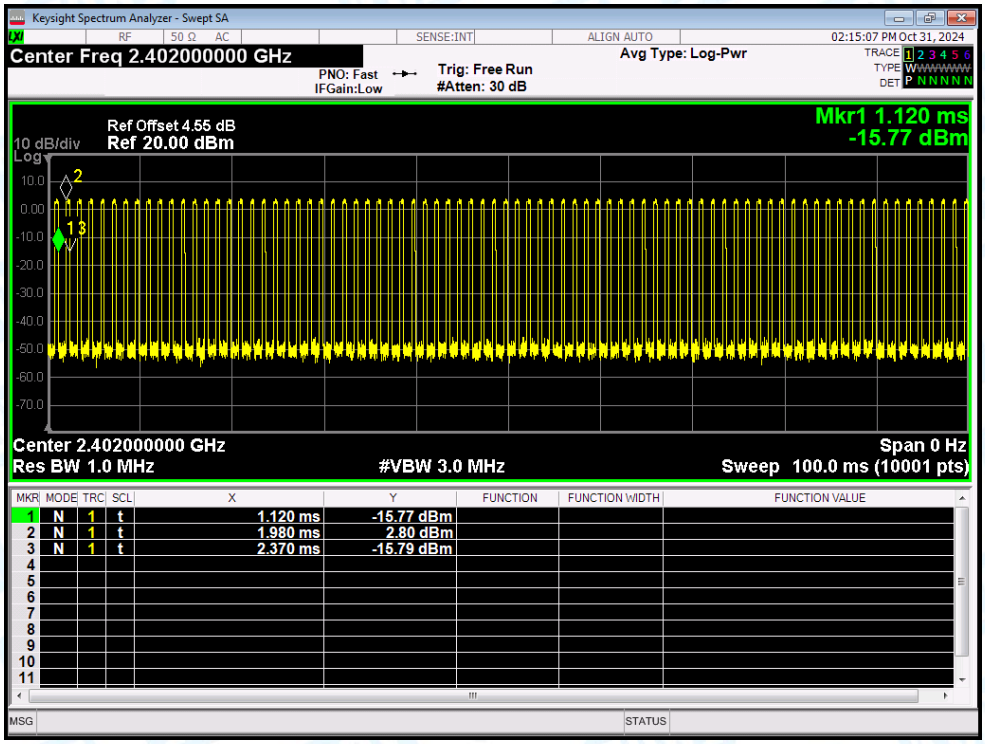
Duty Cycle NVNT 2-DH1 2441MHz Ant1



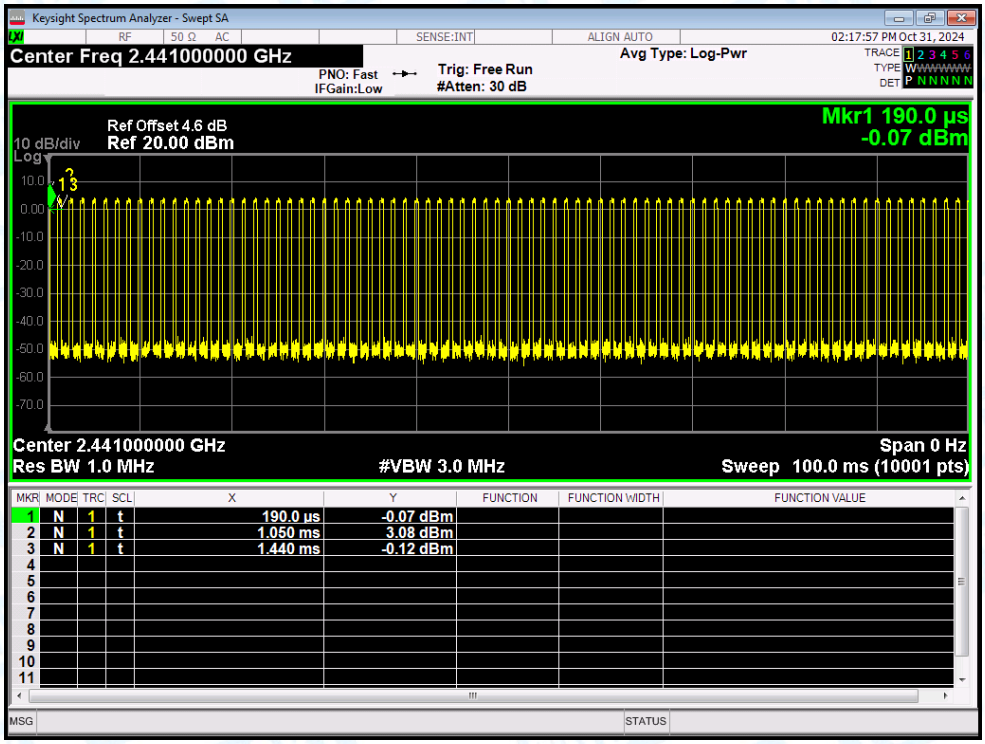
Duty Cycle NVNT 2-DH1 2480MHz Ant1



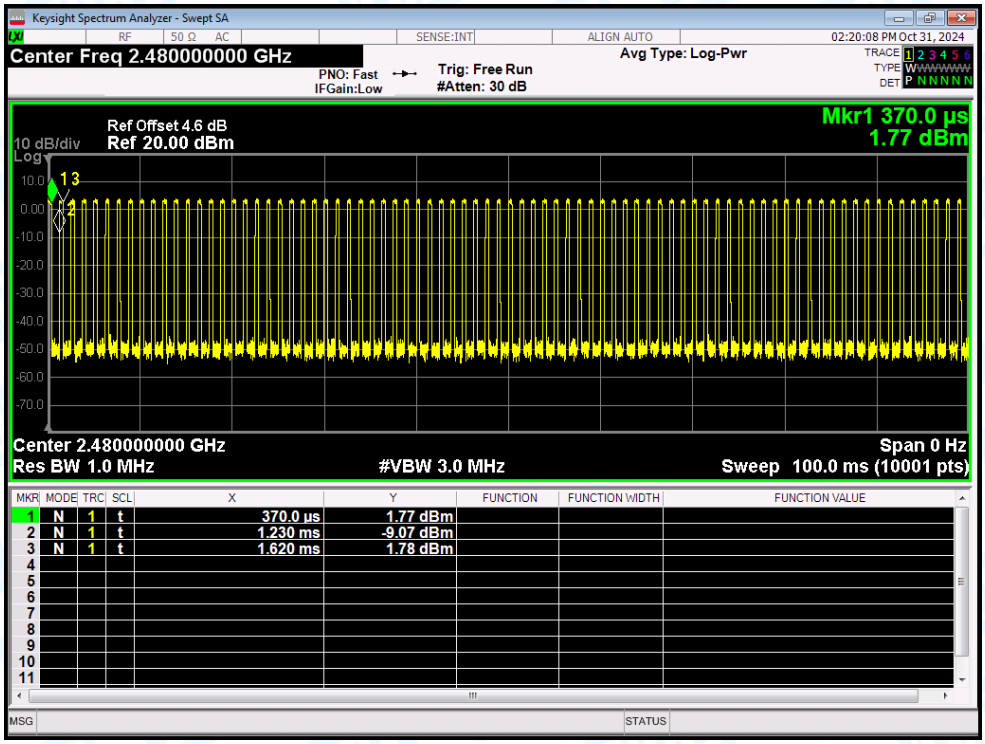
Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



Duty Cycle NVNT 3-DH1 2480MHz Ant1

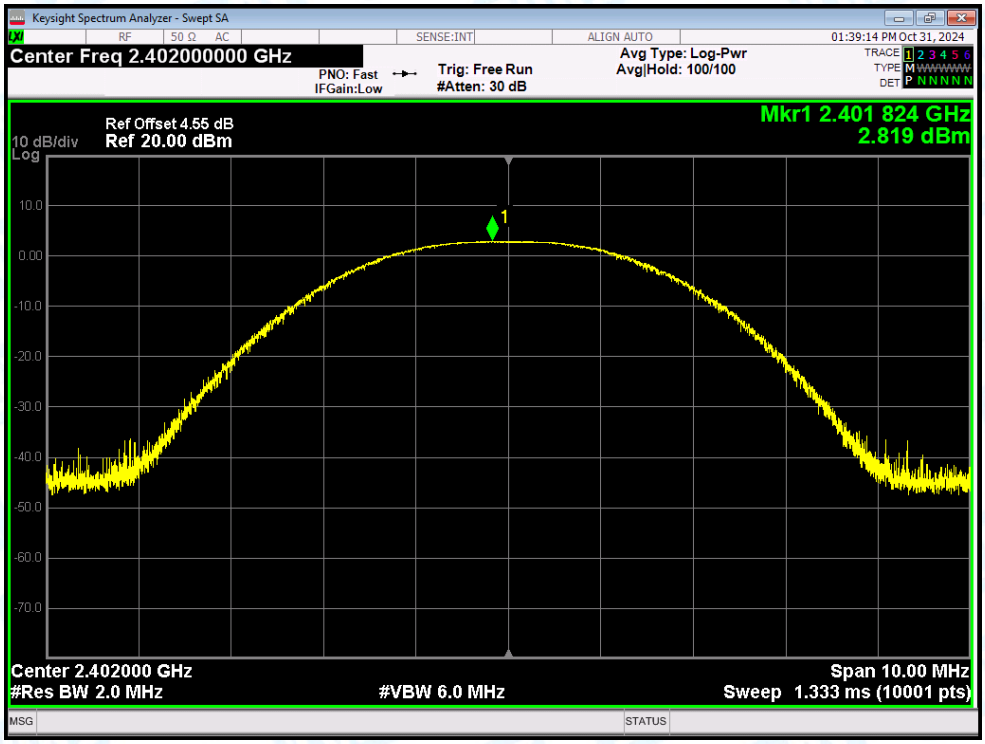


2. Maximum Conducted Peak Output Power

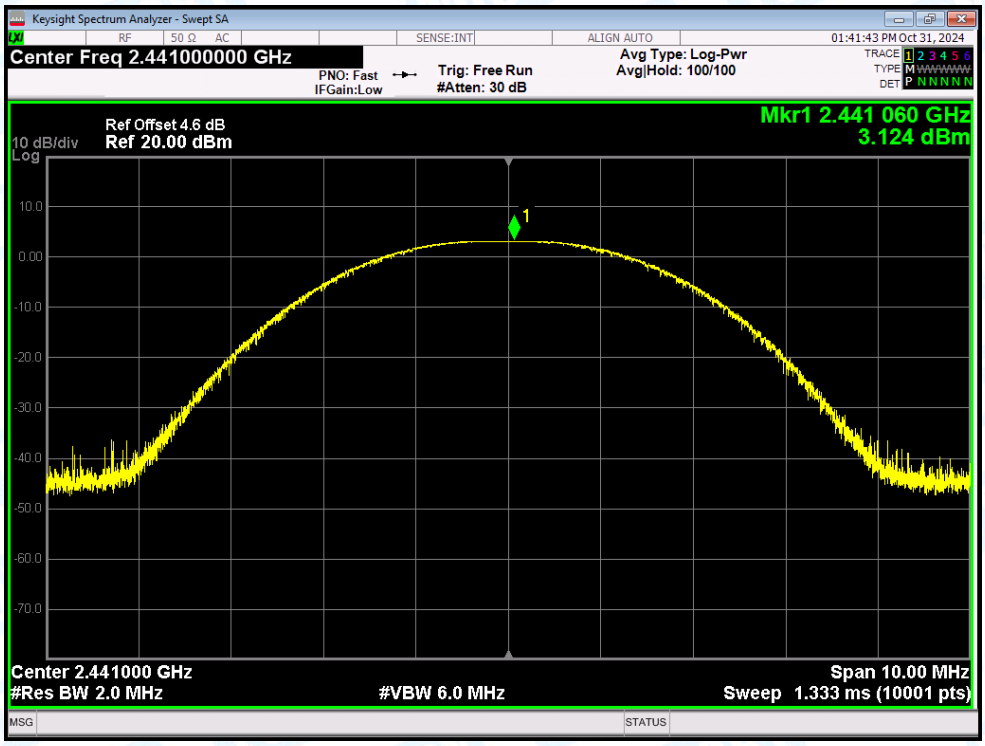
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	2.819	21	Pass
NVNT	1-DH1	2441	Ant1	3.124	21	Pass
NVNT	1-DH1	2480	Ant1	2.978	21	Pass
NVNT	2-DH1	2402	Ant1	3.671	21	Pass
NVNT	2-DH1	2441	Ant1	3.898	21	Pass
NVNT	2-DH1	2480	Ant1	3.699	21	Pass
NVNT	3-DH1	2402	Ant1	4.186	21	Pass
NVNT	3-DH1	2441	Ant1	4.394	21	Pass
NVNT	3-DH1	2480	Ant1	4.146	21	Pass

Test Graphs

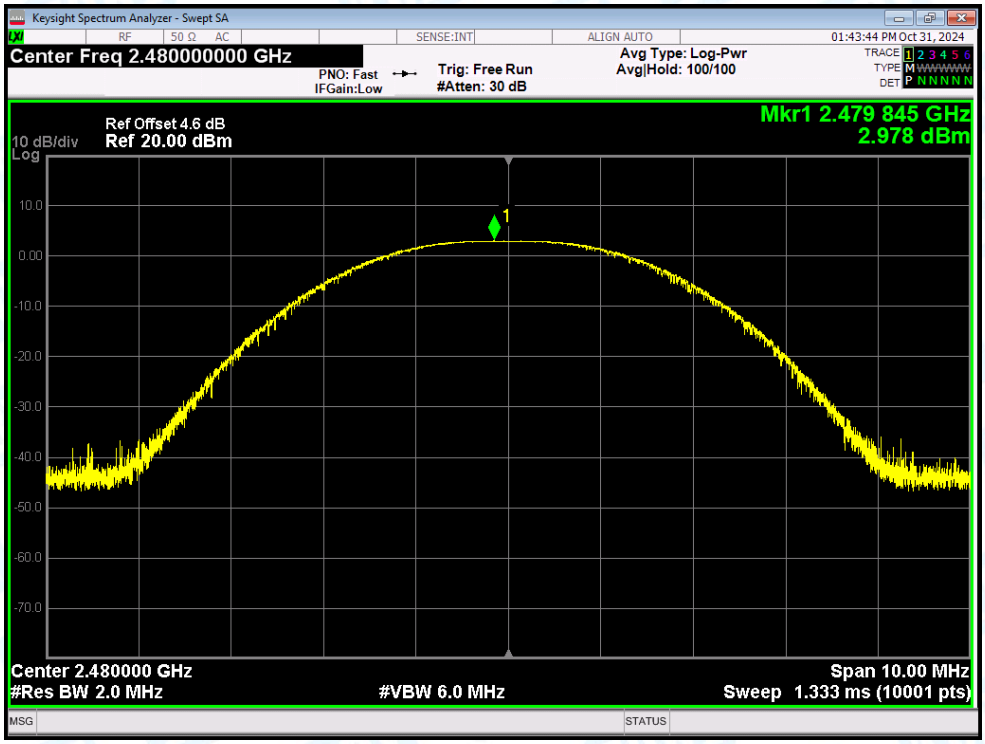
Power NVNT 1-DH1 2402MHz Ant1



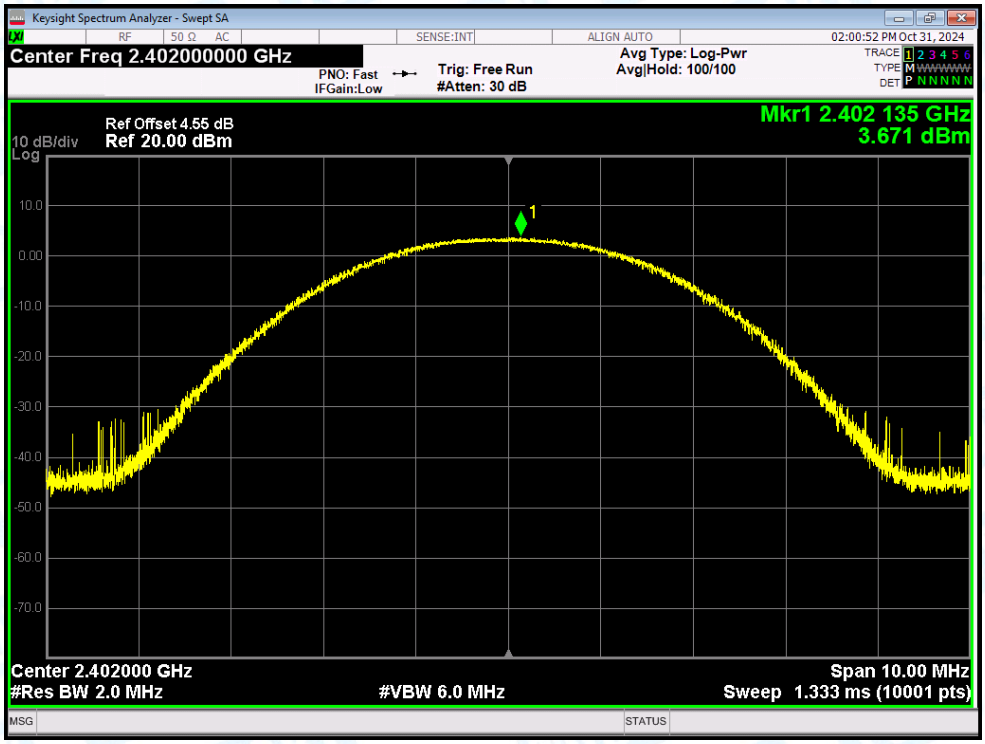
Power NVNT 1-DH1 2441MHz Ant1



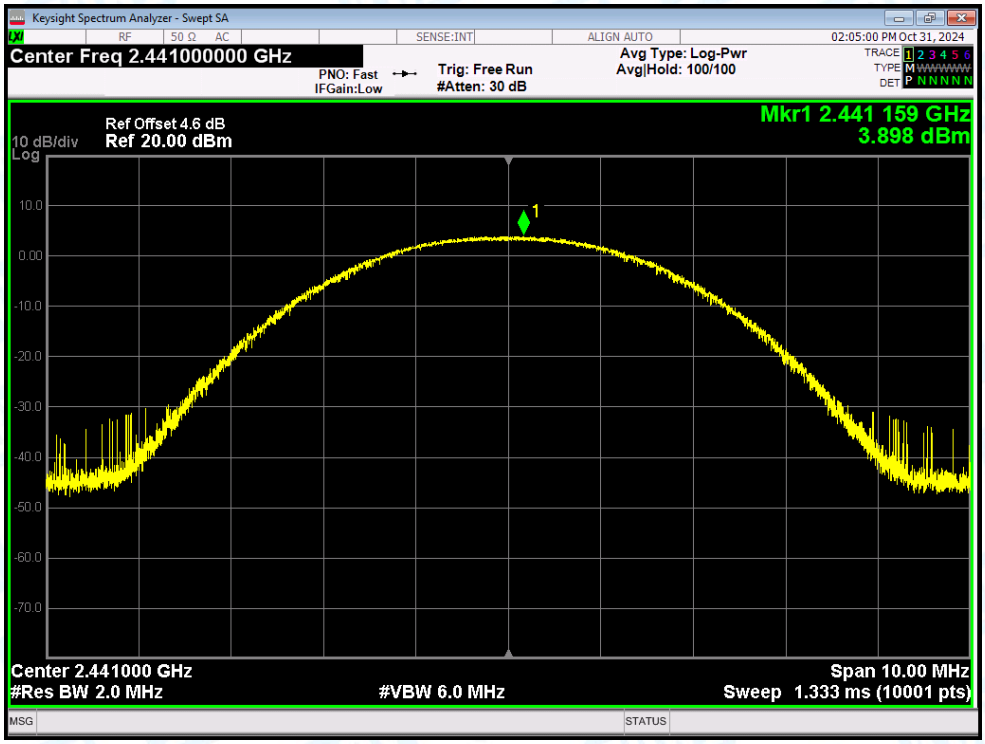
Power NVNT 1-DH1 2480MHz Ant1



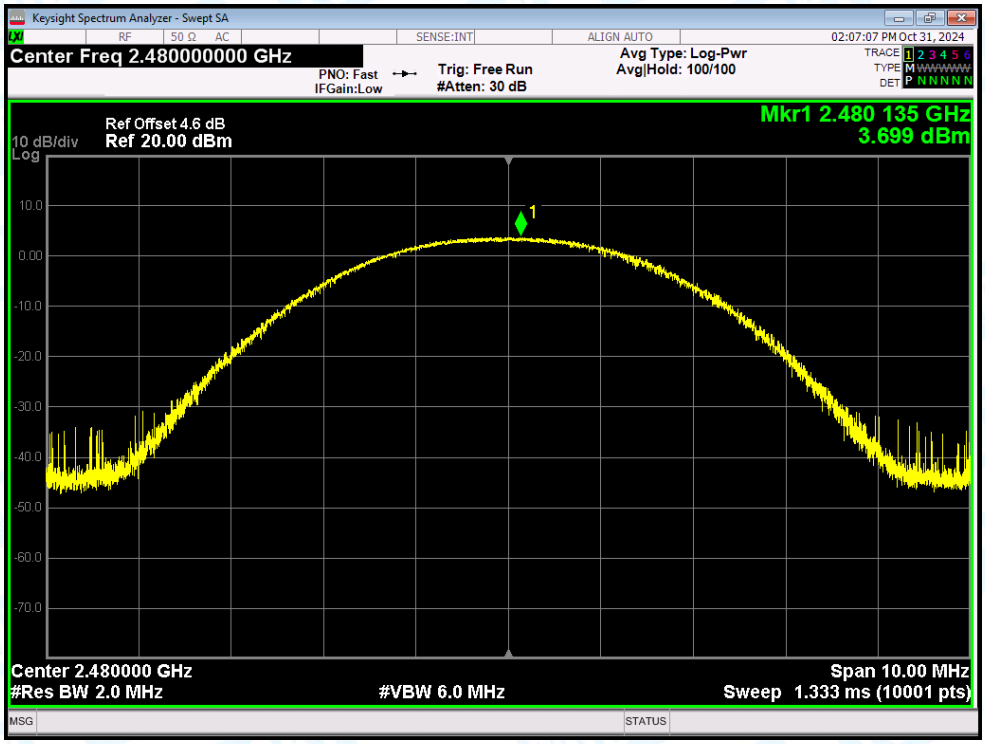
Power NVNT 2-DH1 2402MHz Ant1



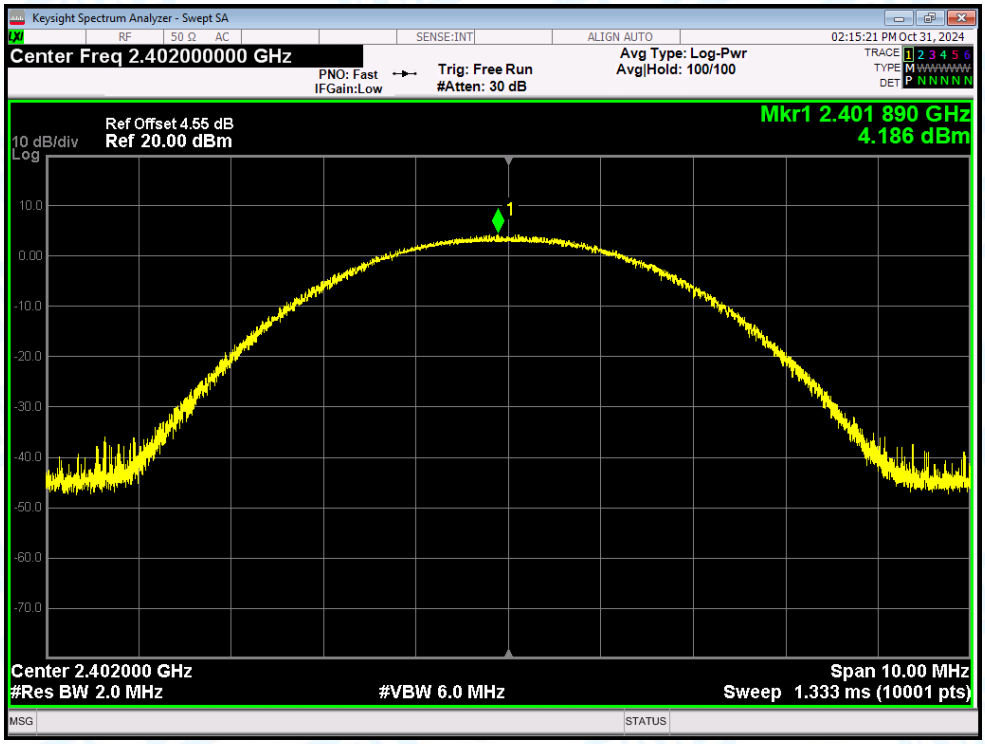
Power NVNT 2-DH1 2441MHz Ant1



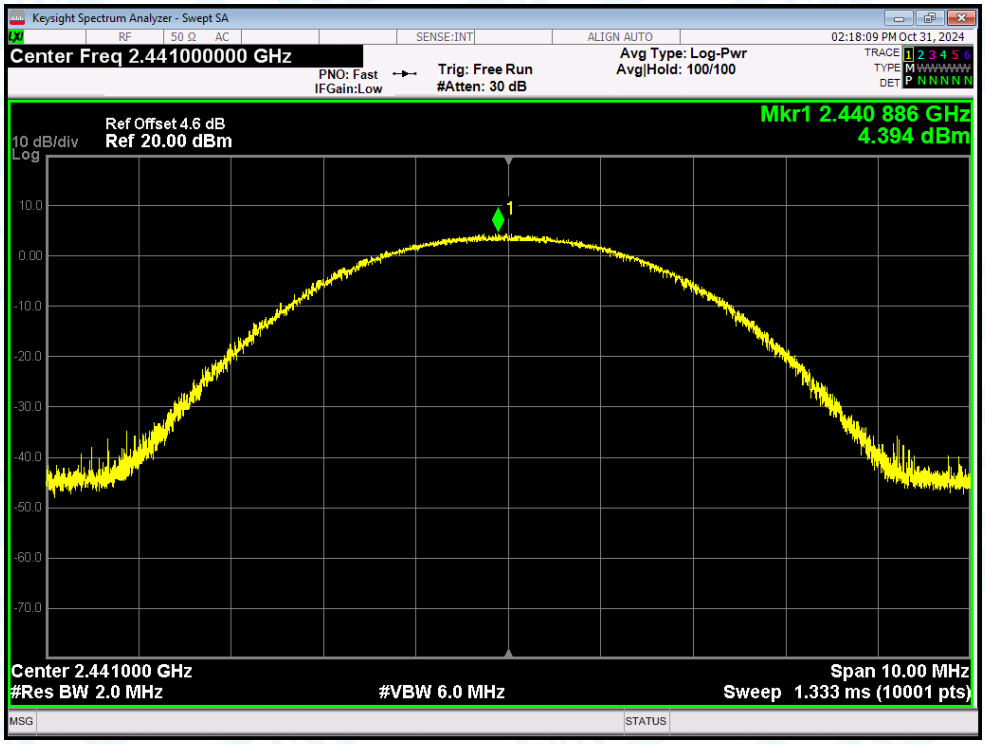
Power NVNT 2-DH1 2480MHz Ant1



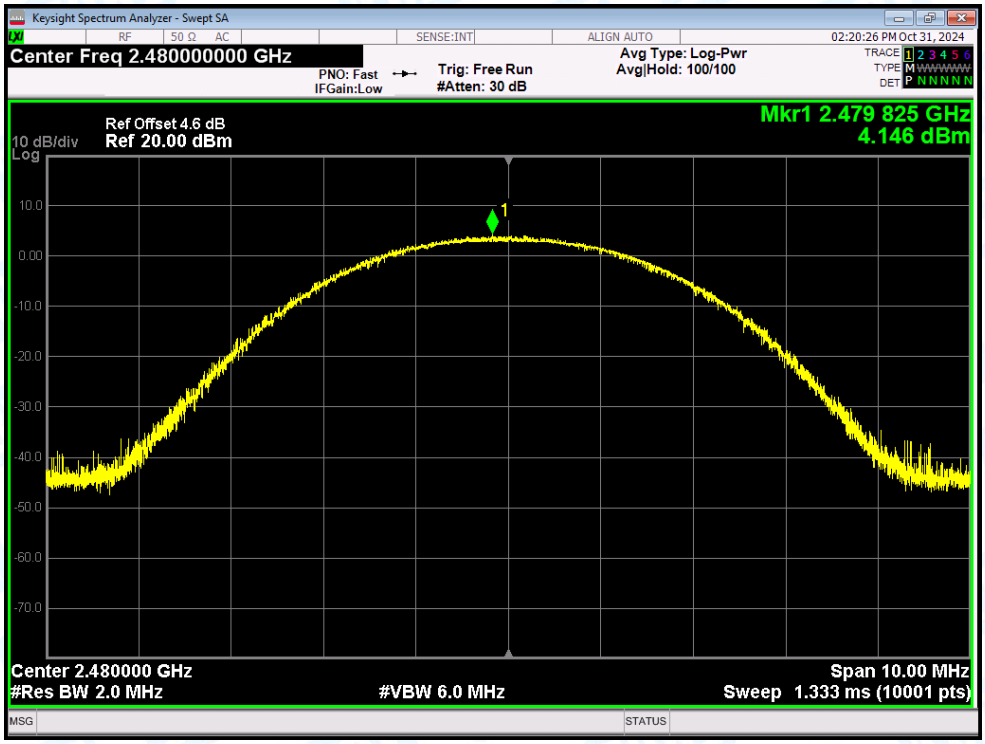
Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



Power NVNT 3-DH1 2480MHz Ant1

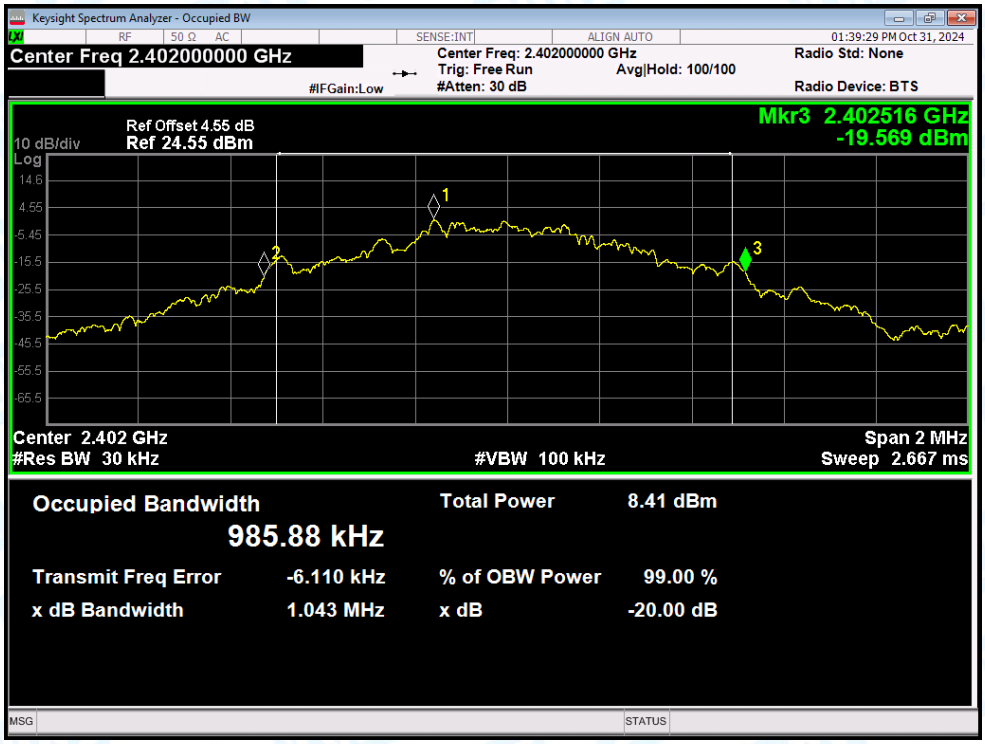


3. -20dB Bandwidth

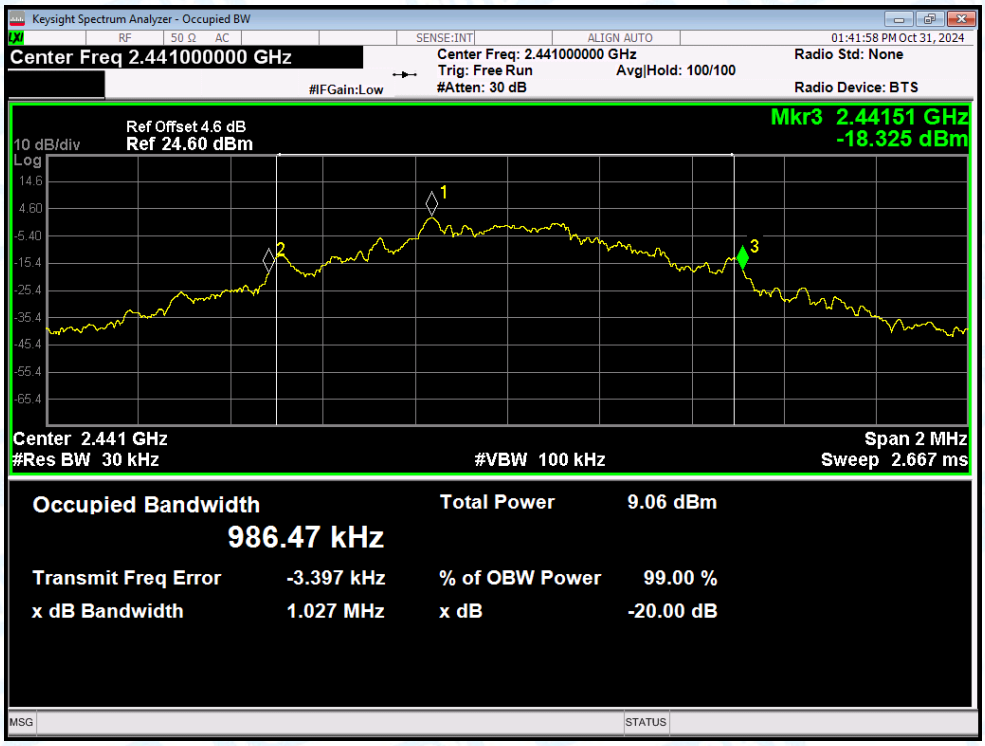
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	1.04	----	Pass
NVNT	1-DH1	2441	Ant1	1.03	----	Pass
NVNT	1-DH1	2480	Ant1	1.04	----	Pass
NVNT	2-DH1	2402	Ant1	1.28	----	Pass
NVNT	2-DH1	2441	Ant1	1.29	----	Pass
NVNT	2-DH1	2480	Ant1	1.3	----	Pass
NVNT	3-DH1	2402	Ant1	1.29	----	Pass
NVNT	3-DH1	2441	Ant1	1.28	----	Pass
NVNT	3-DH1	2480	Ant1	1.26	----	Pass

Test Graphs

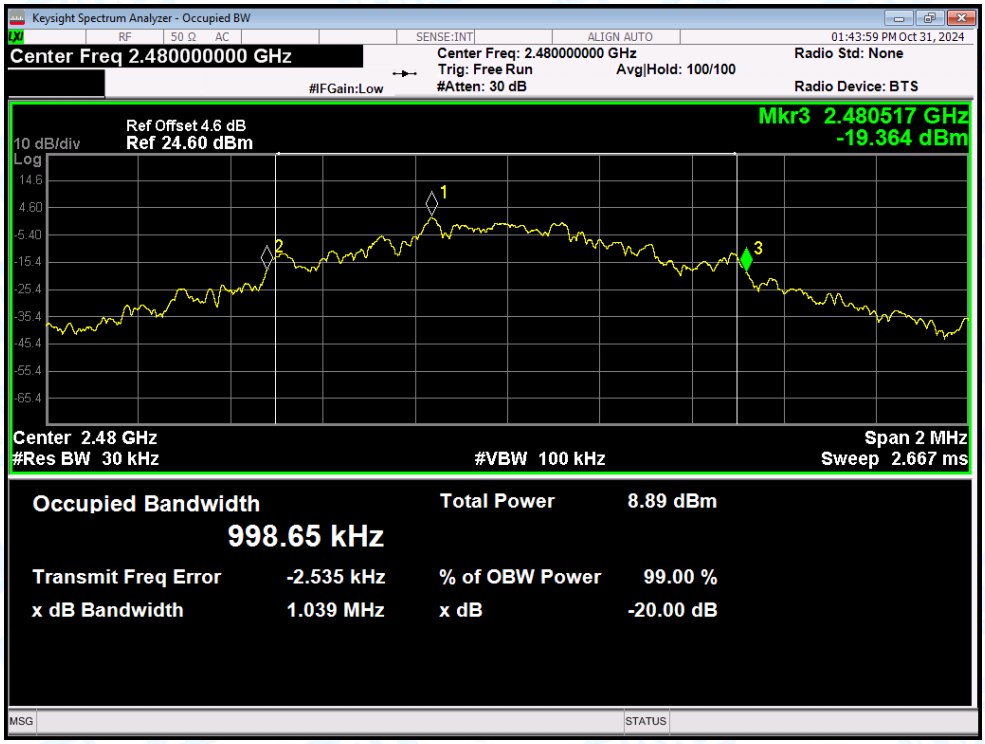
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



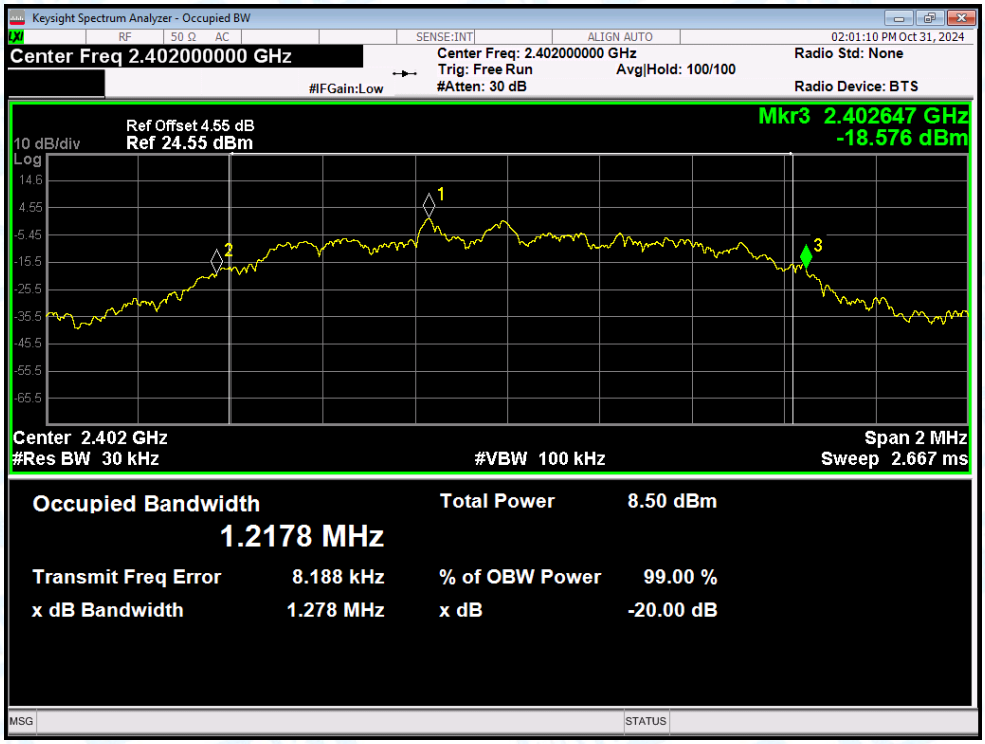
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



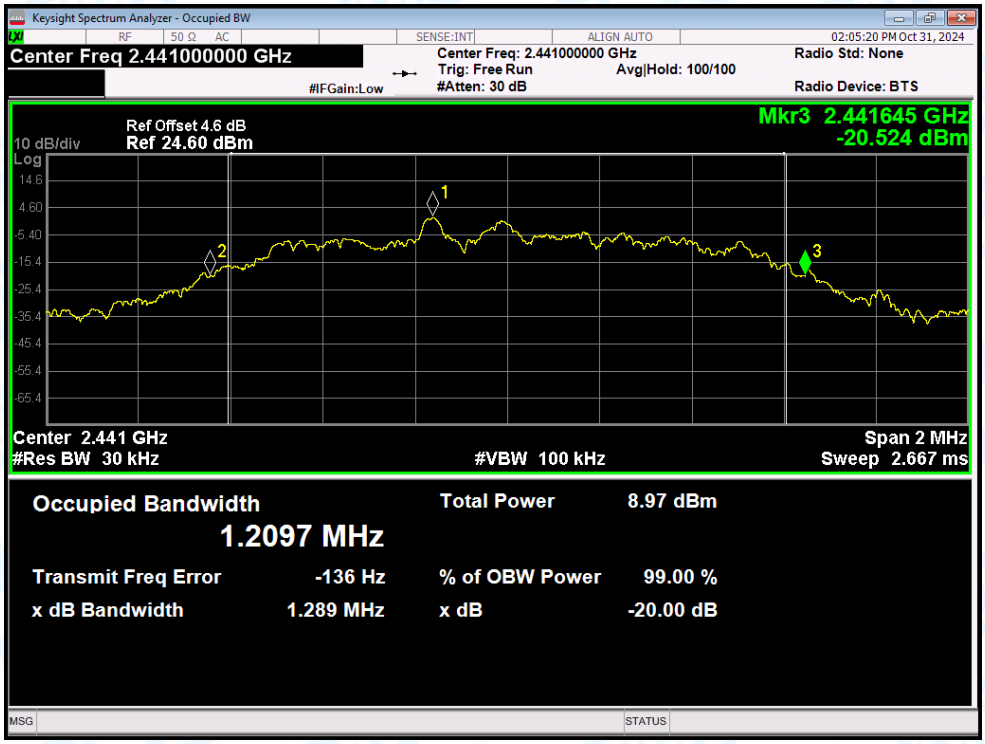
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



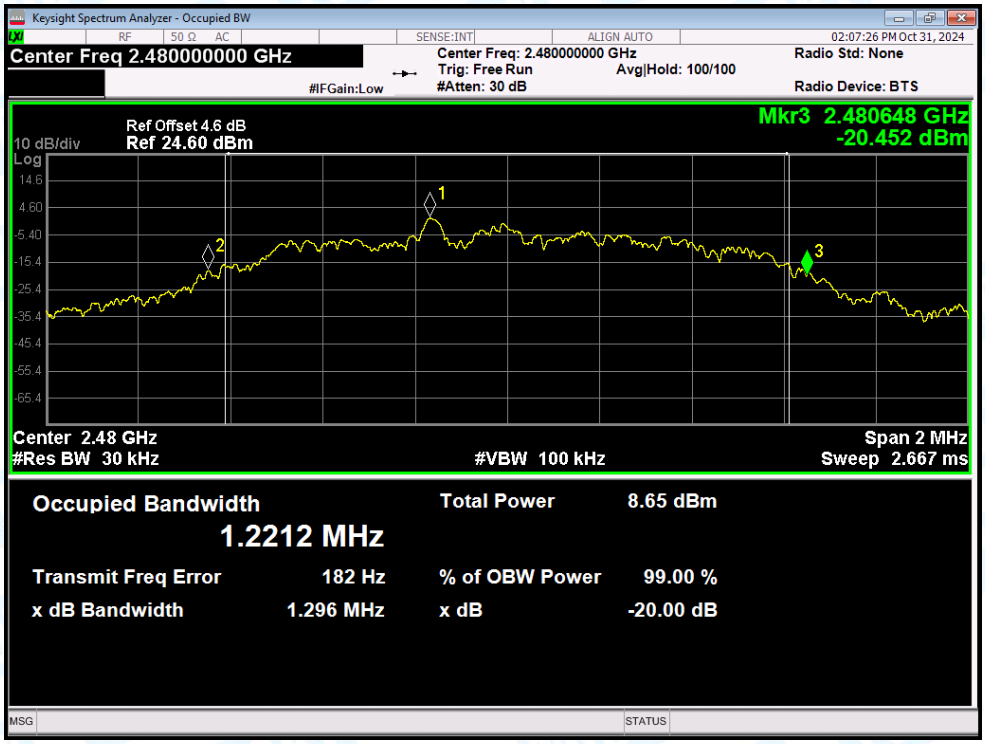
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



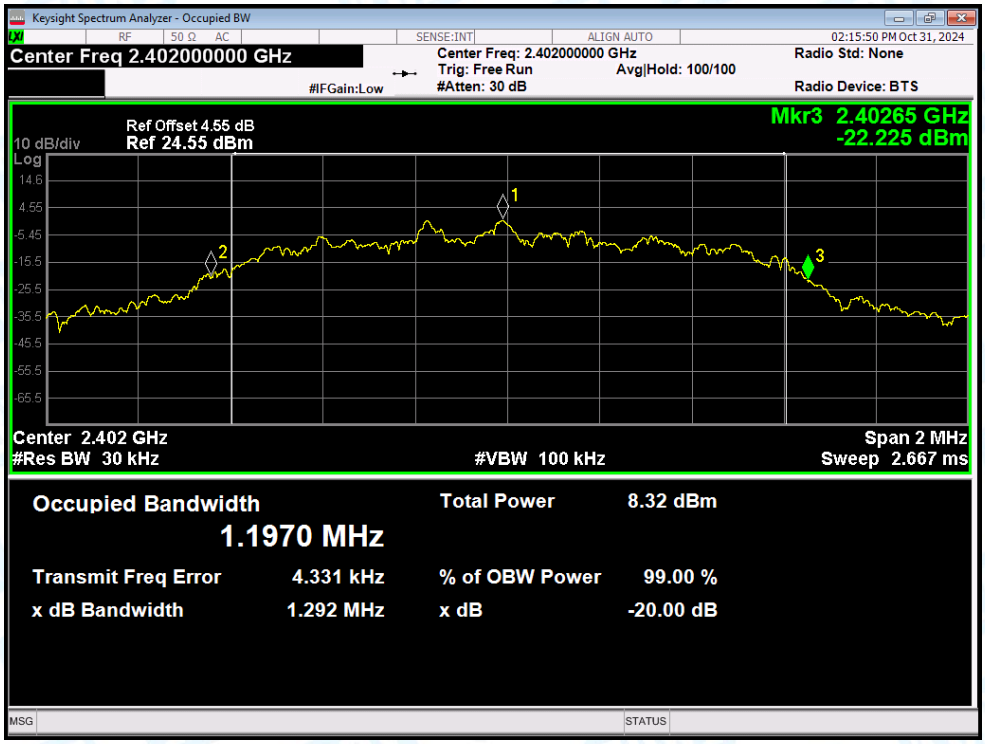
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



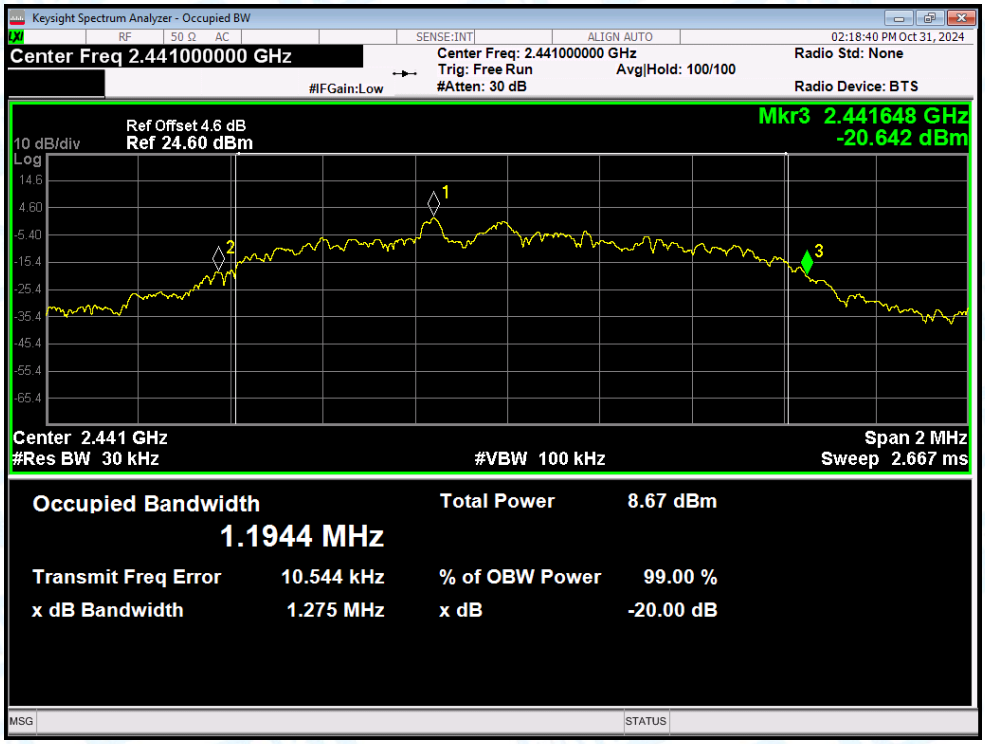
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



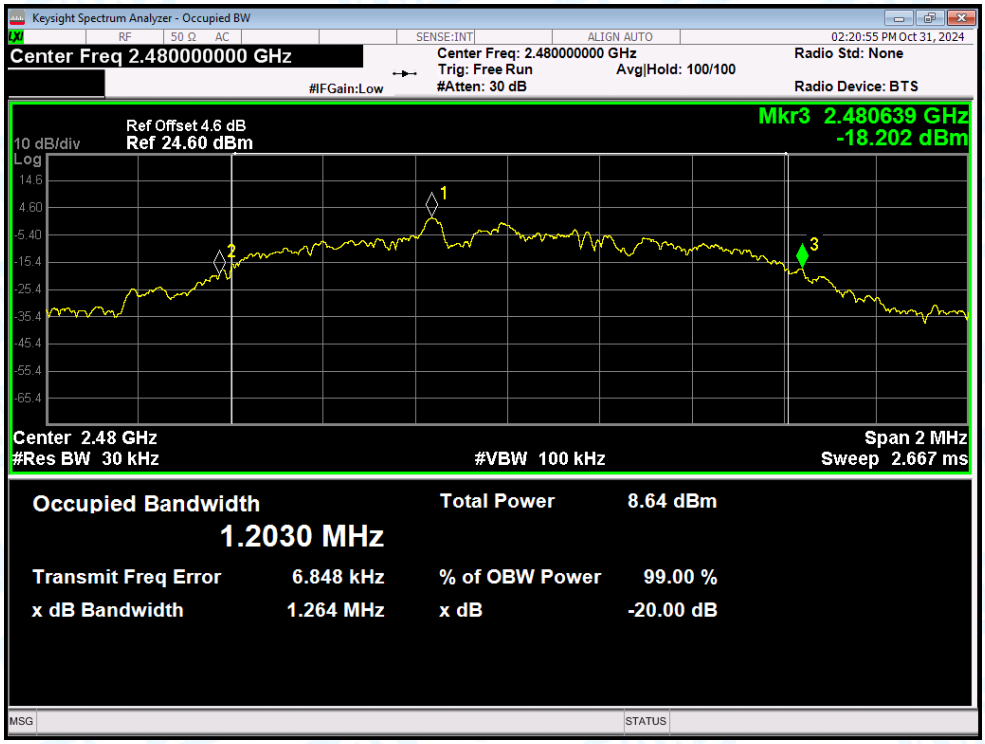
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1

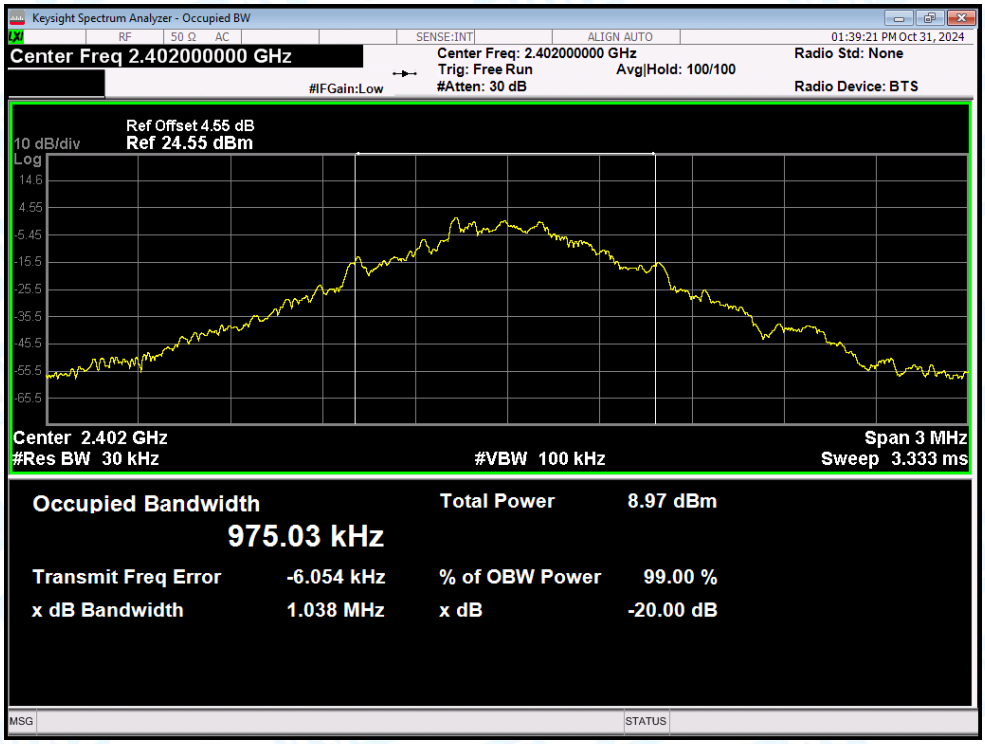


4. Occupied Channel Bandwidth

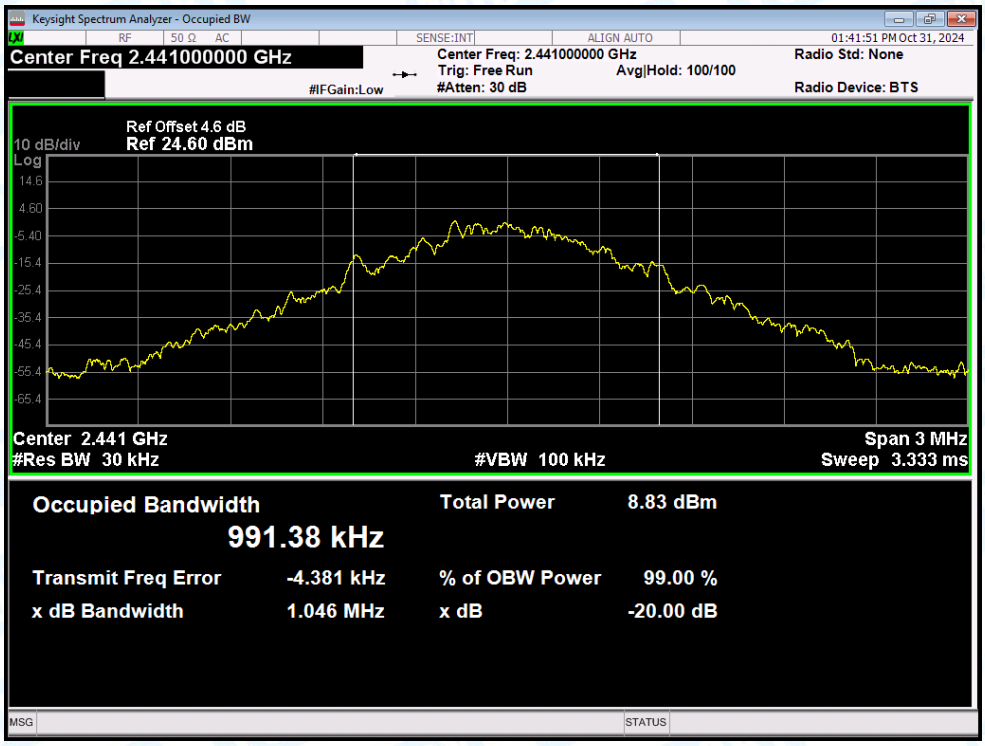
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.975
NVNT	1-DH1	2441	Ant1	0.991
NVNT	1-DH1	2480	Ant1	0.998
NVNT	2-DH1	2402	Ant1	1.214
NVNT	2-DH1	2441	Ant1	1.224
NVNT	2-DH1	2480	Ant1	1.237
NVNT	3-DH1	2402	Ant1	1.192
NVNT	3-DH1	2441	Ant1	1.216
NVNT	3-DH1	2480	Ant1	1.233

Test Graphs

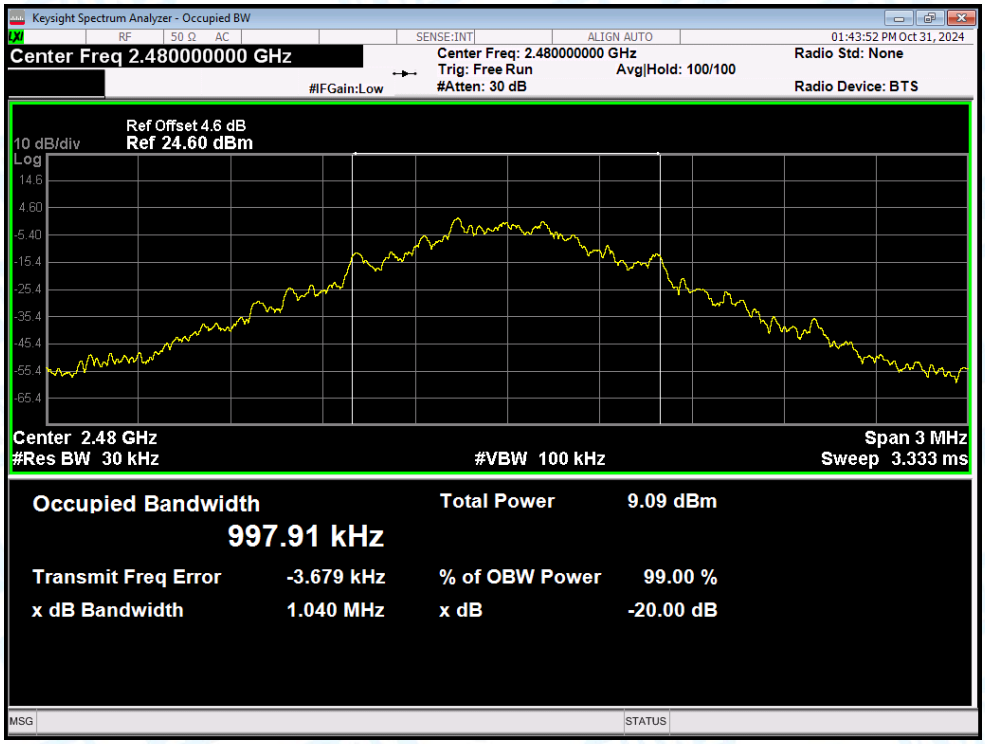
OBW NVNT 1-DH1 2402MHz Ant1



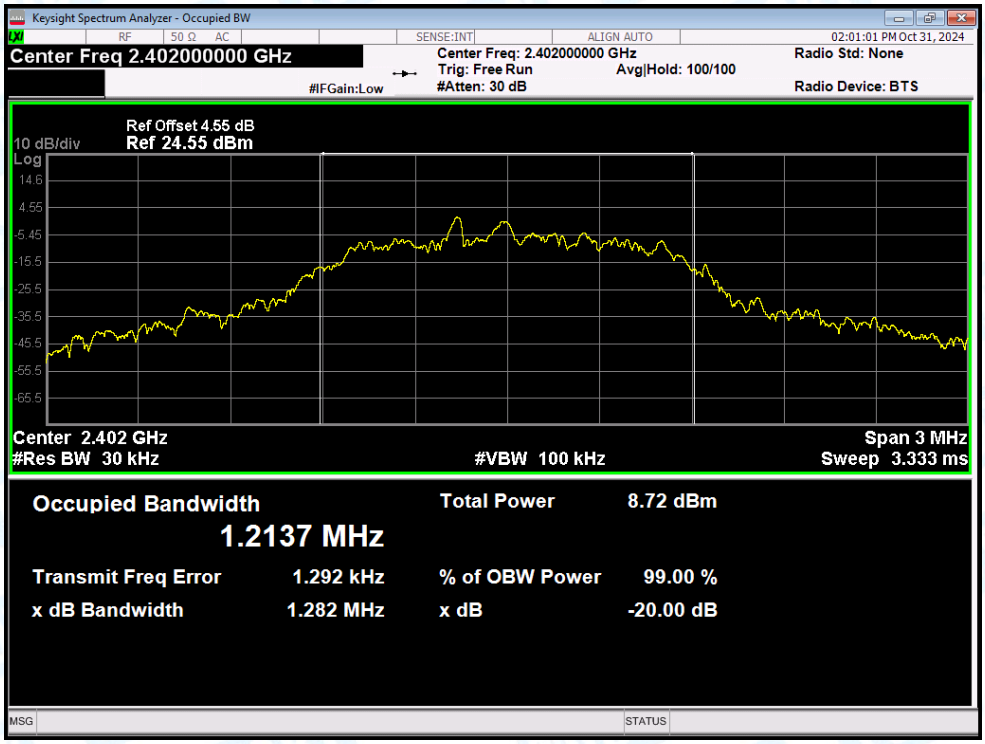
OBW NVNT 1-DH1 2441MHz Ant1



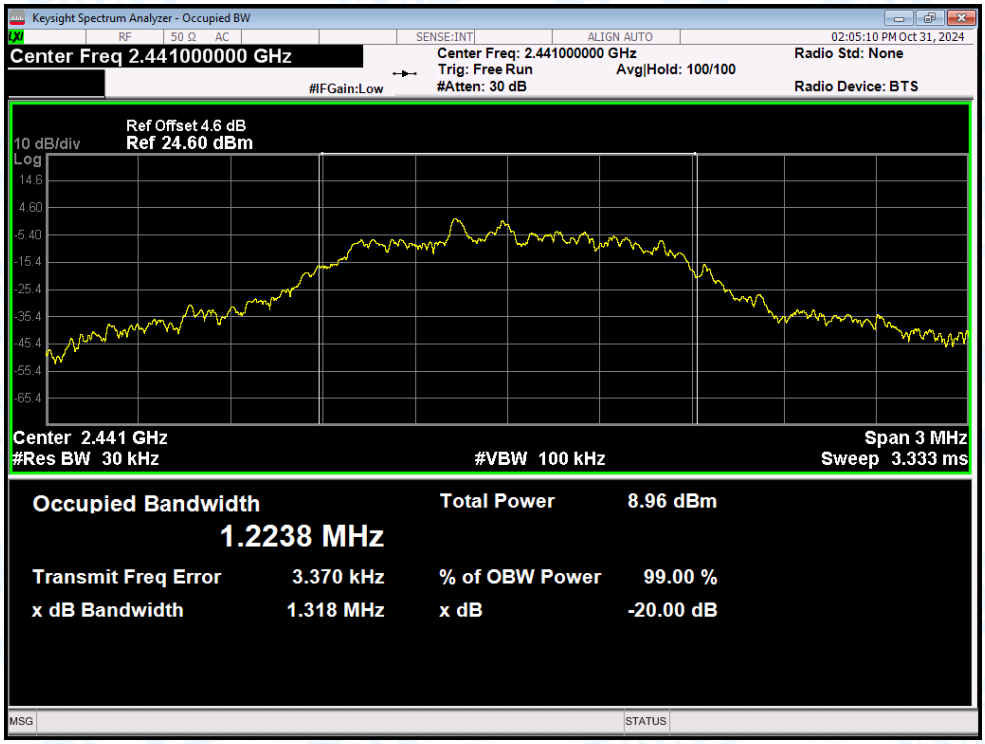
OBW NVNT 1-DH1 2480MHz Ant1



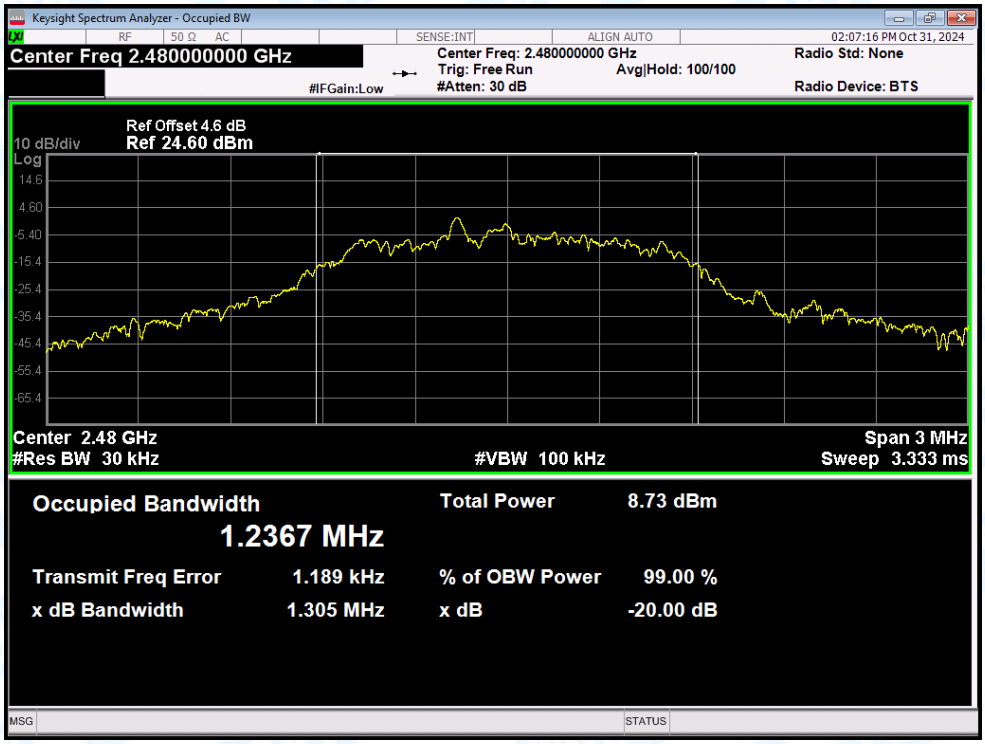
OBW NVNT 2-DH1 2402MHz Ant1



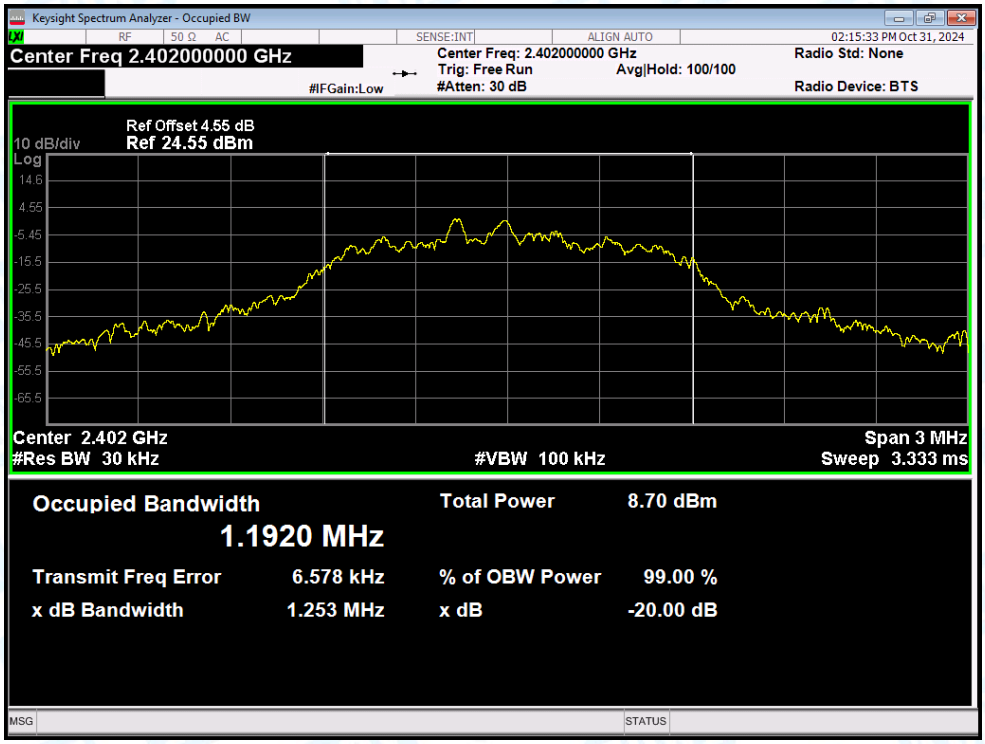
OBW NVNT 2-DH1 2441MHz Ant1



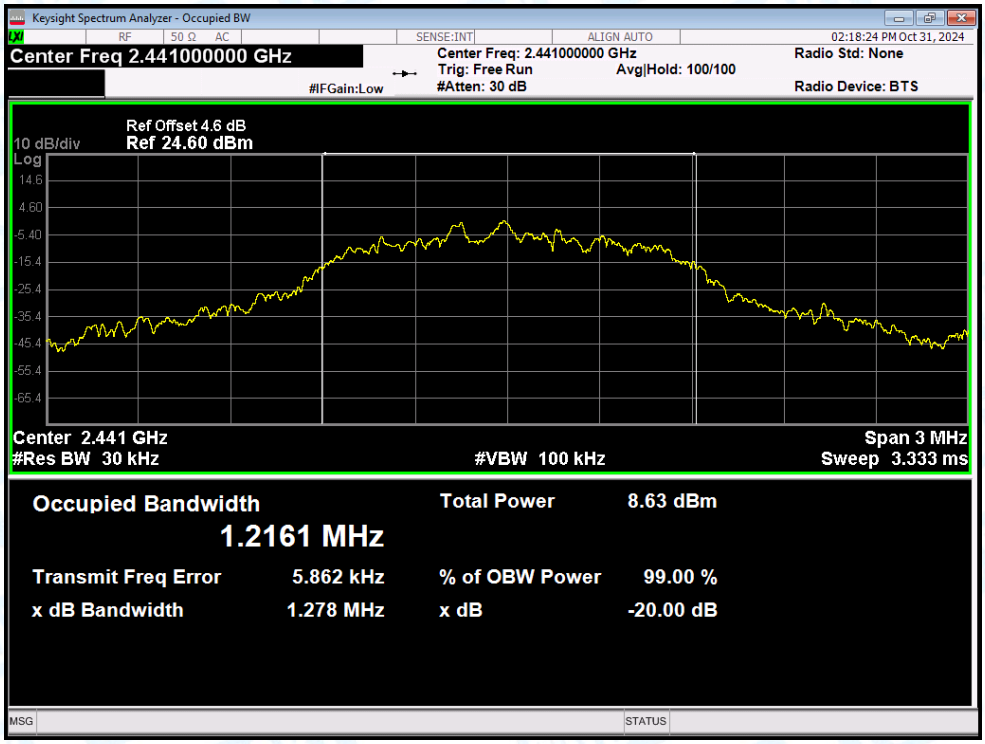
OBW NVNT 2-DH1 2480MHz Ant1



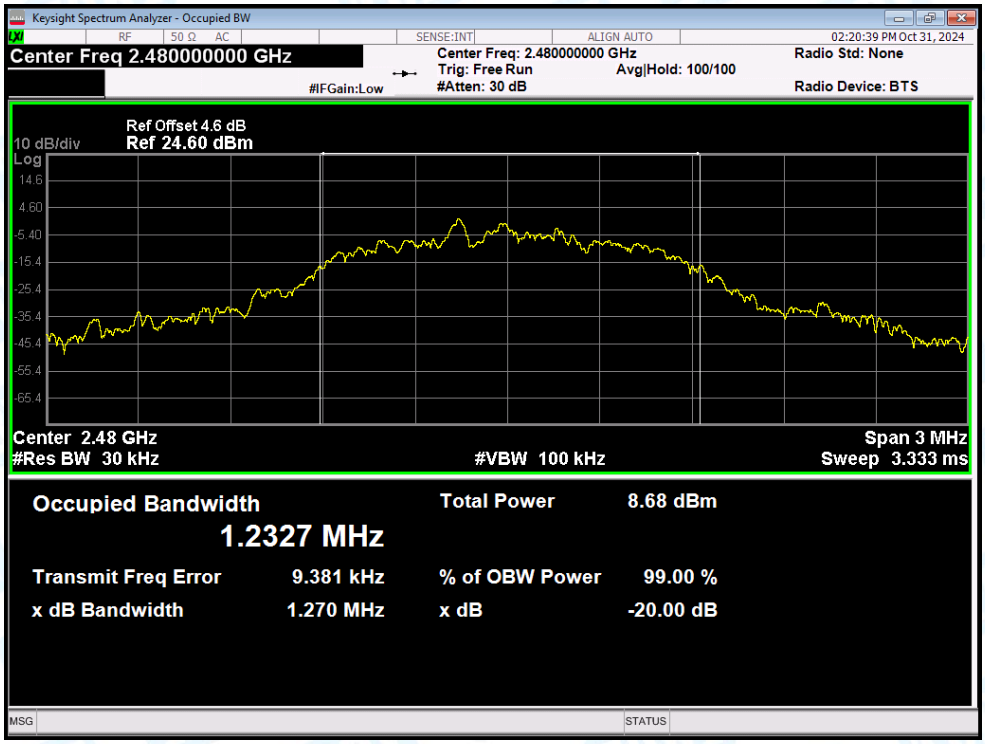
OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



OBW NVNT 3-DH1 2480MHz Ant1

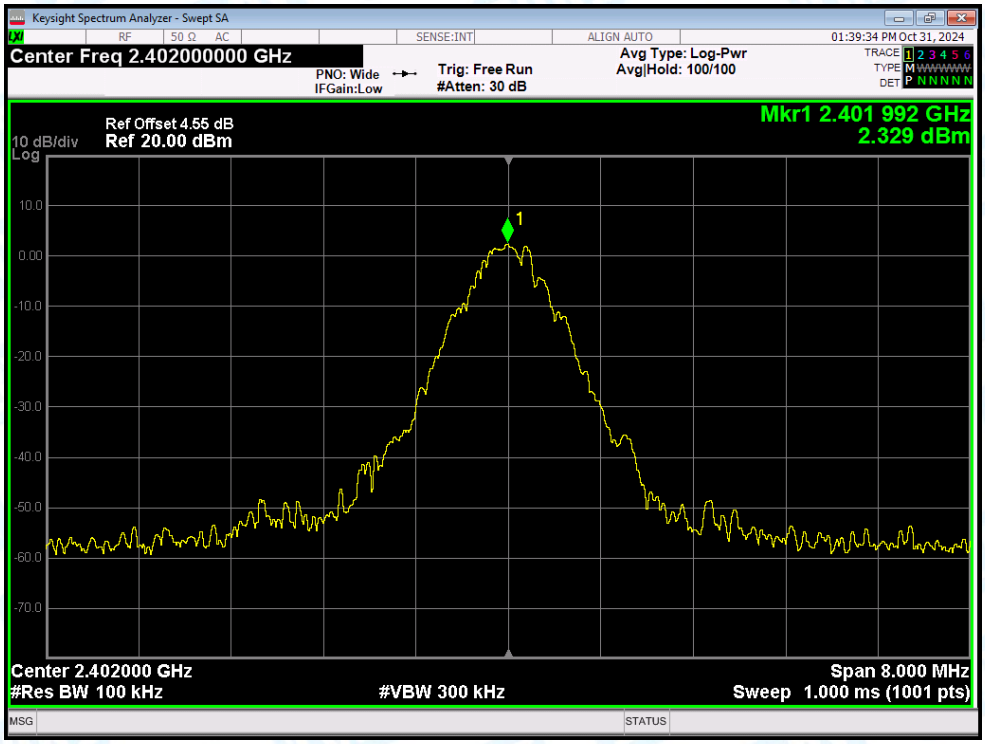


5. Band Edge

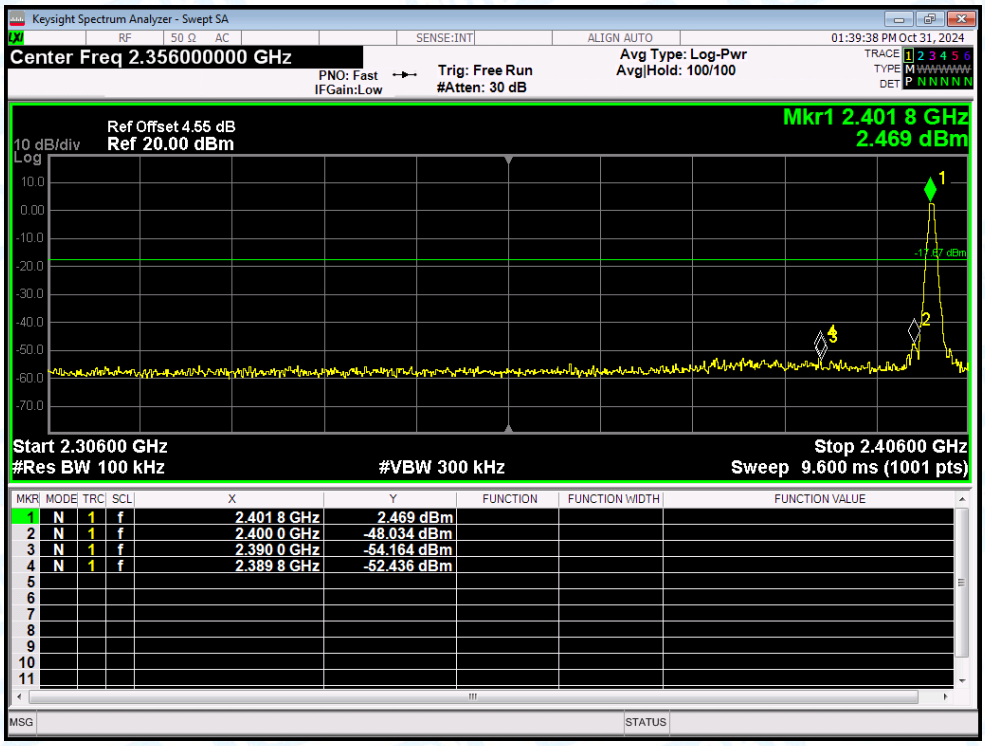
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-54.77	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-54.98	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-55.3	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-55.1	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-54.65	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-54.89	-20	Pass

Test Graphs

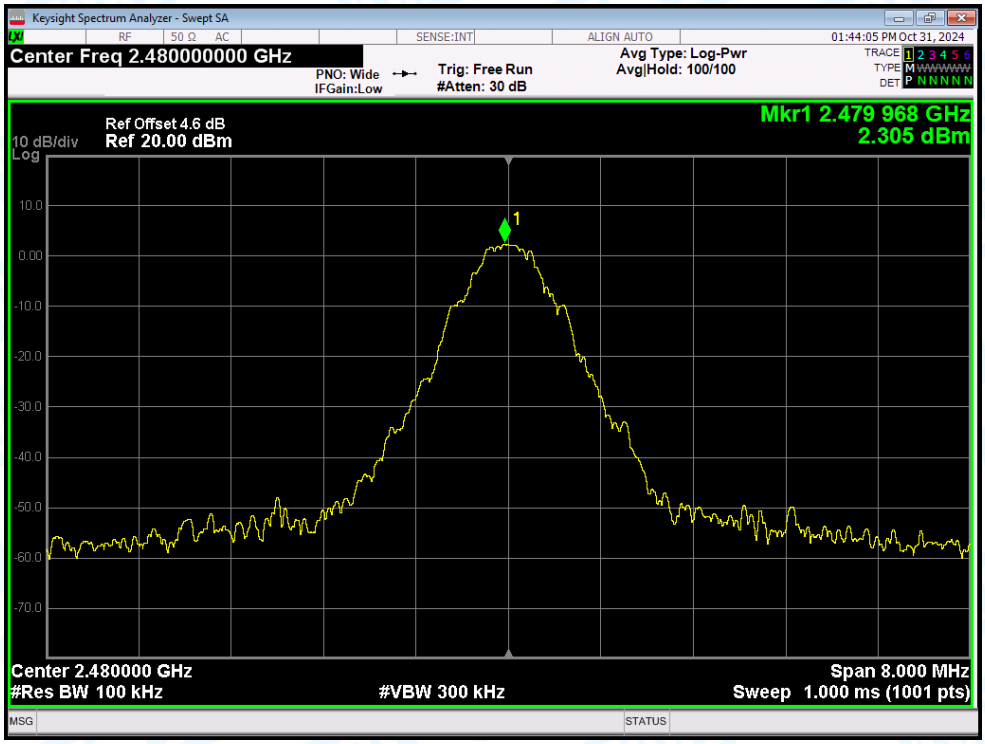
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



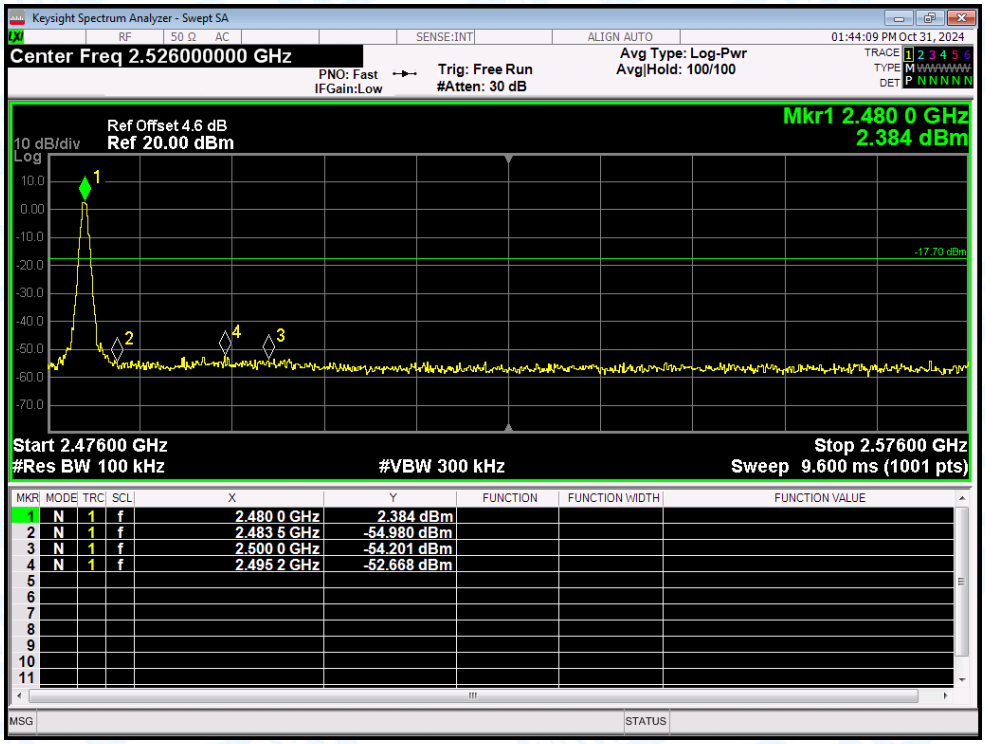
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



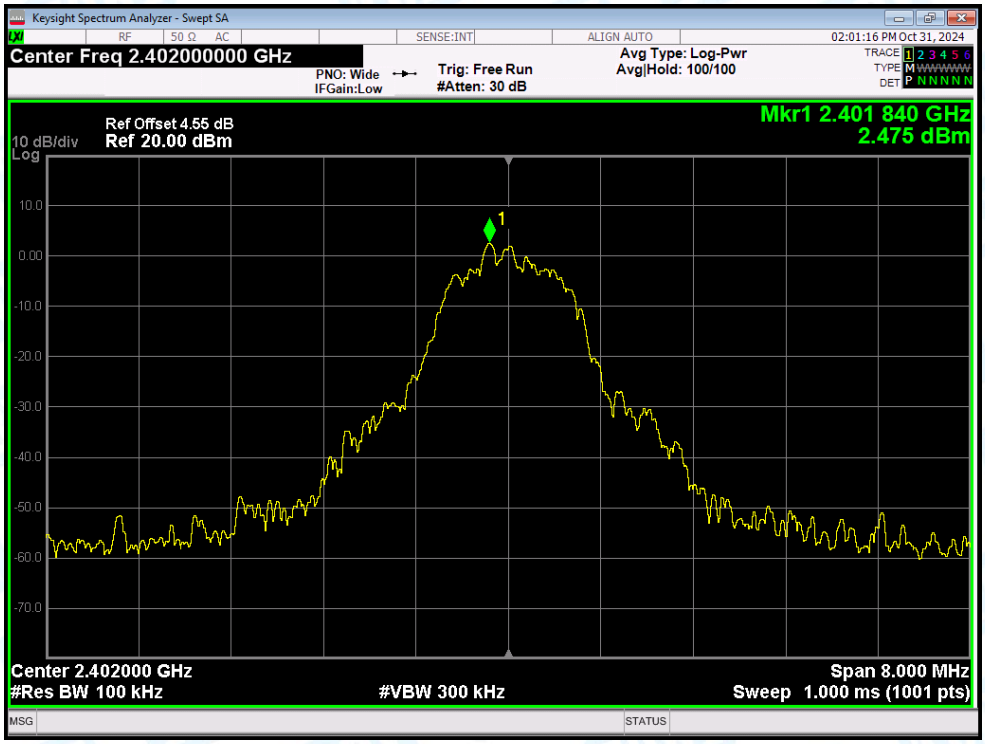
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



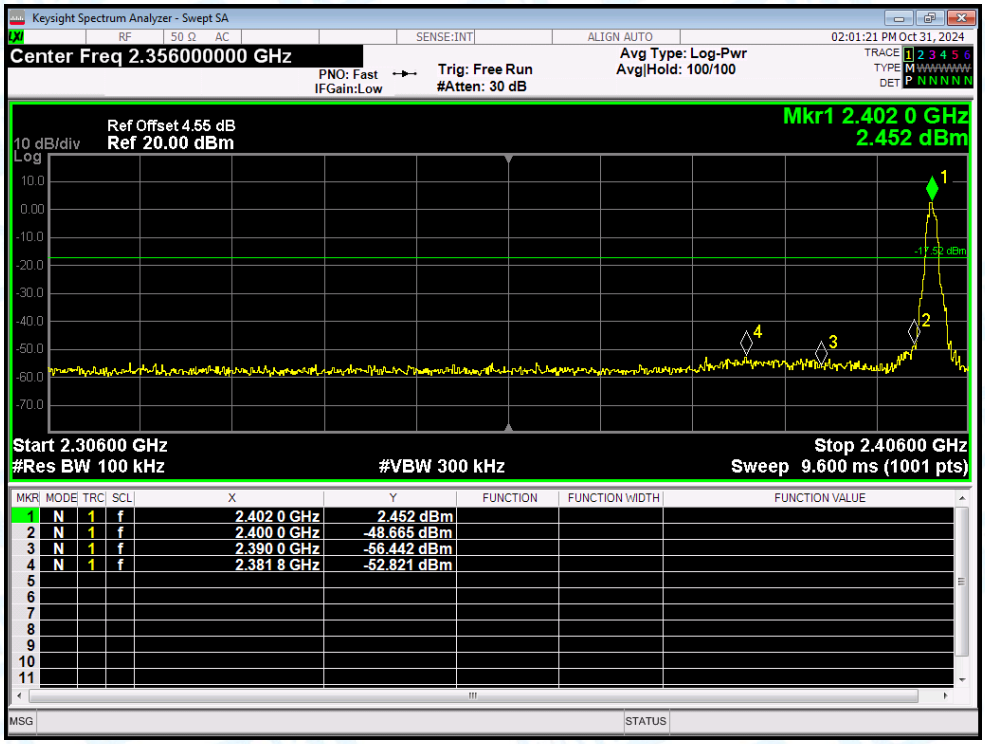
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



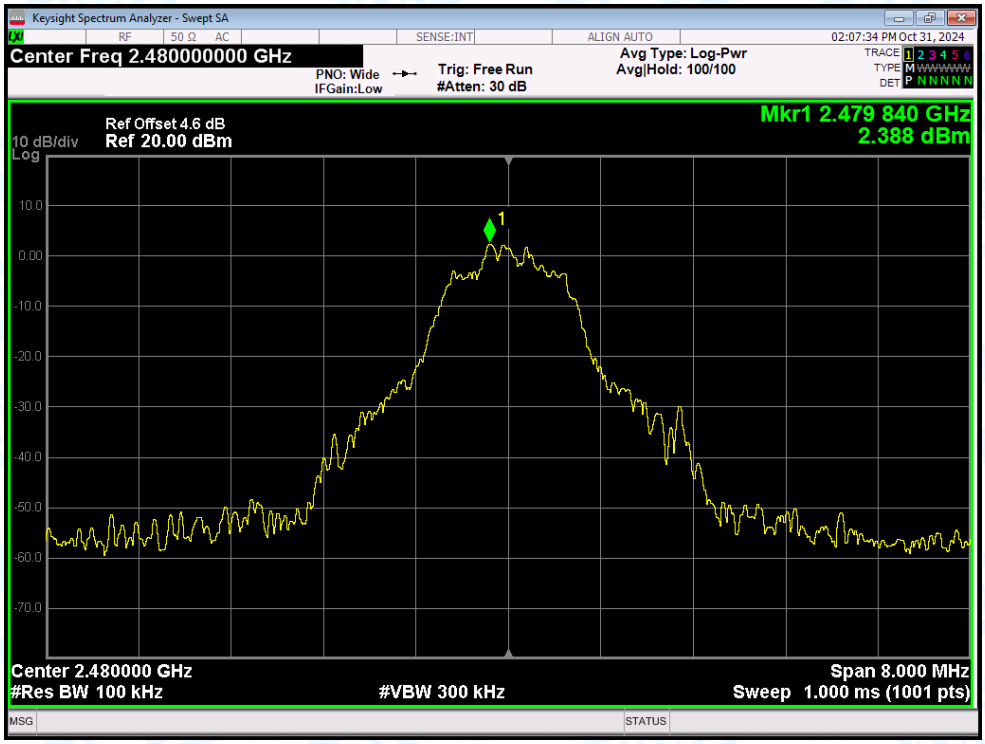
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



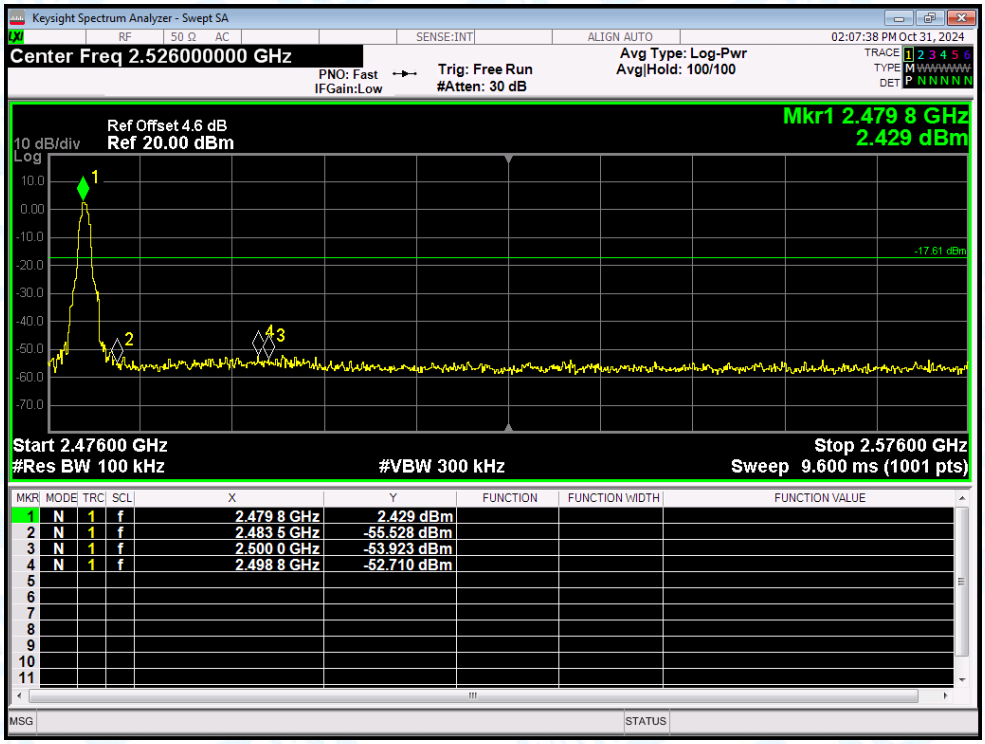
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



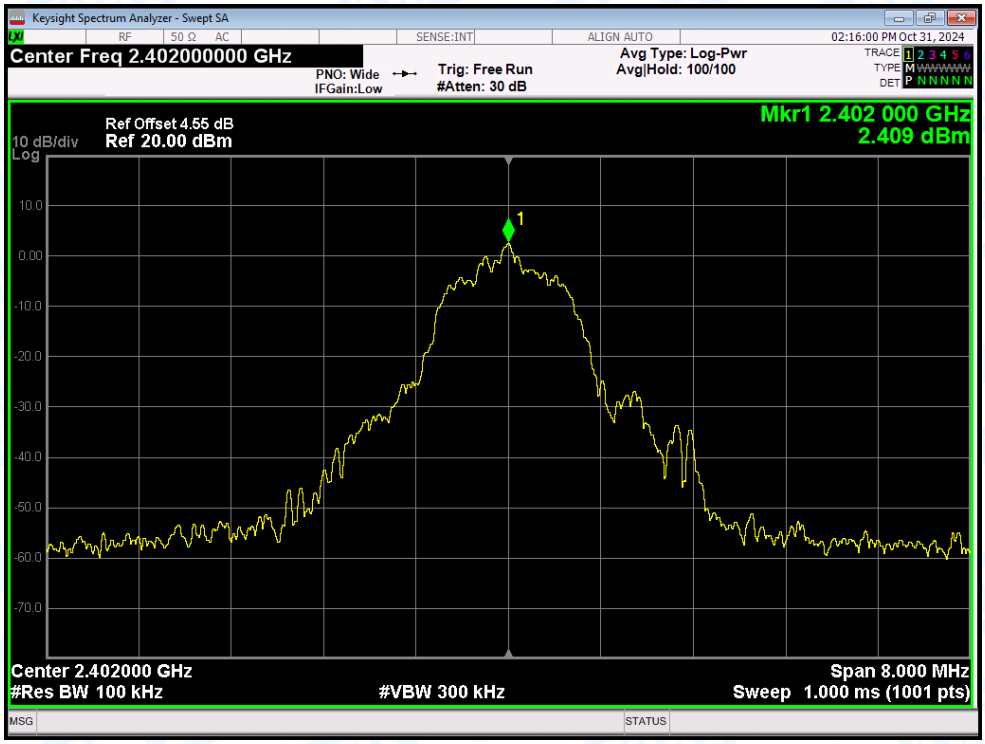
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



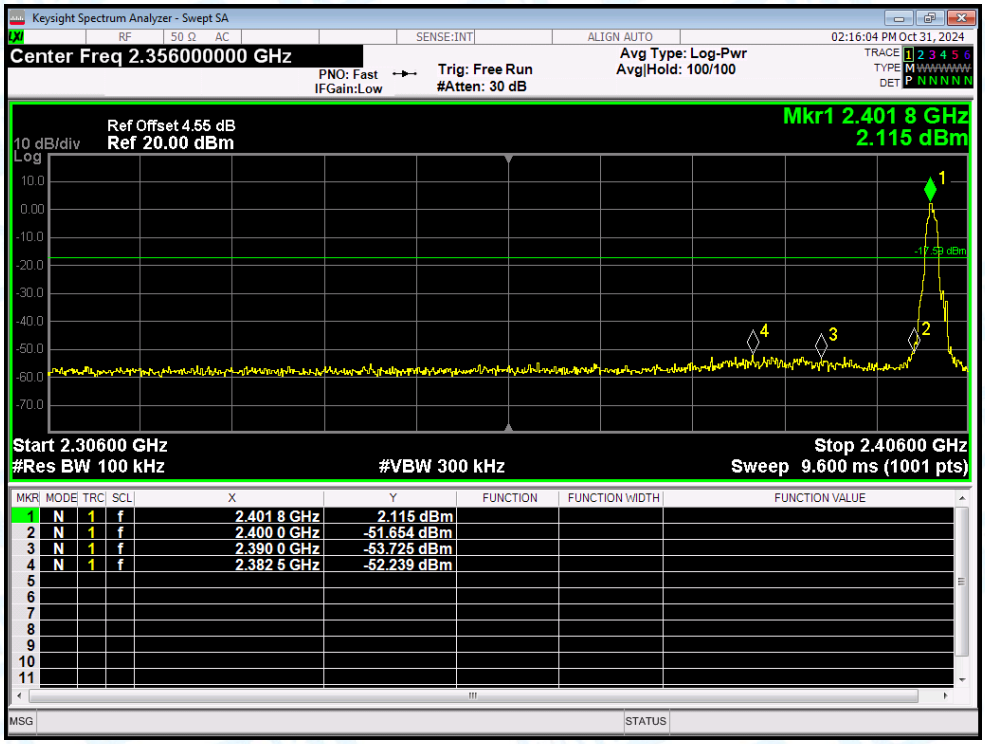
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



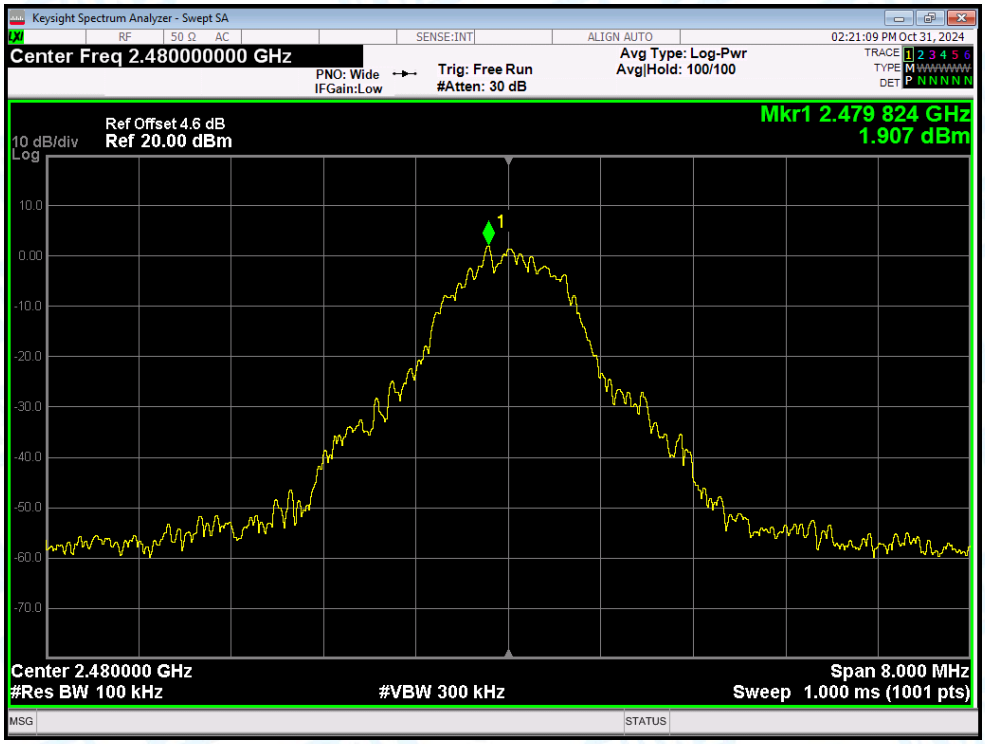
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



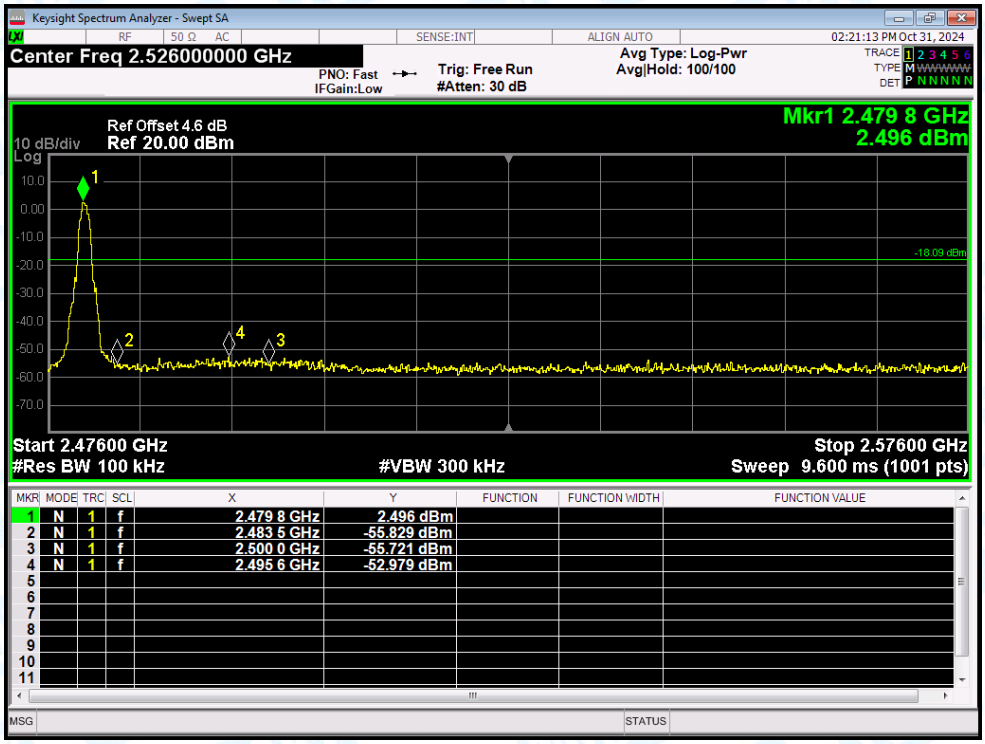
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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



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



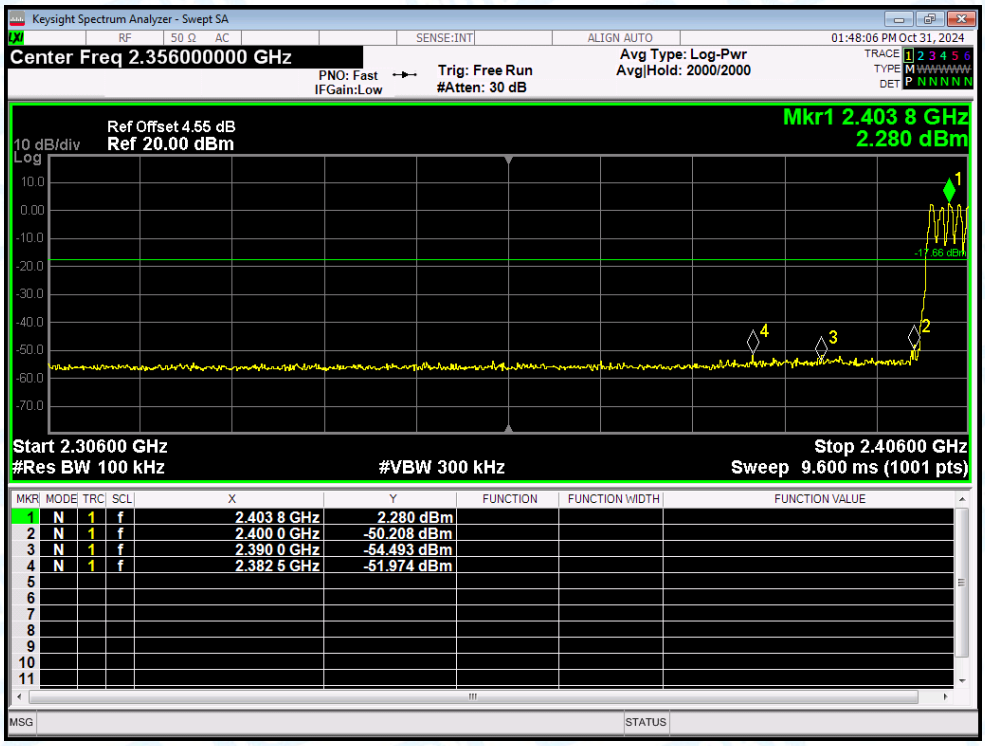
6. Band Edge(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-54.31	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-53.67	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-55.04	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-54.2	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-55.15	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-54.27	-20	Pass

Test Graphs

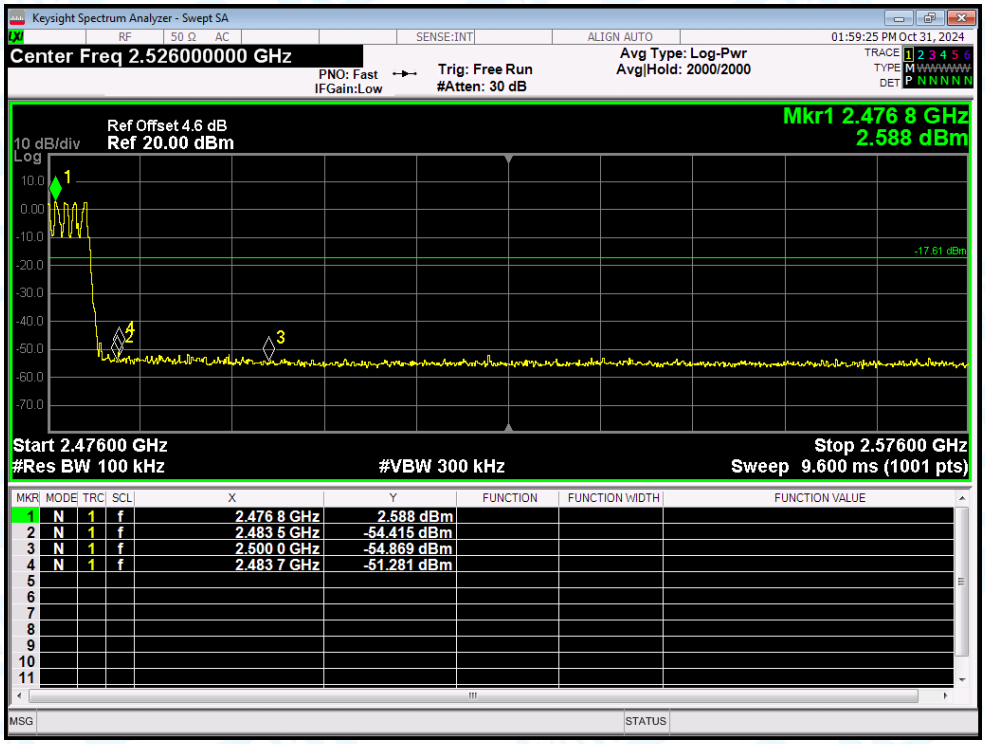
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

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



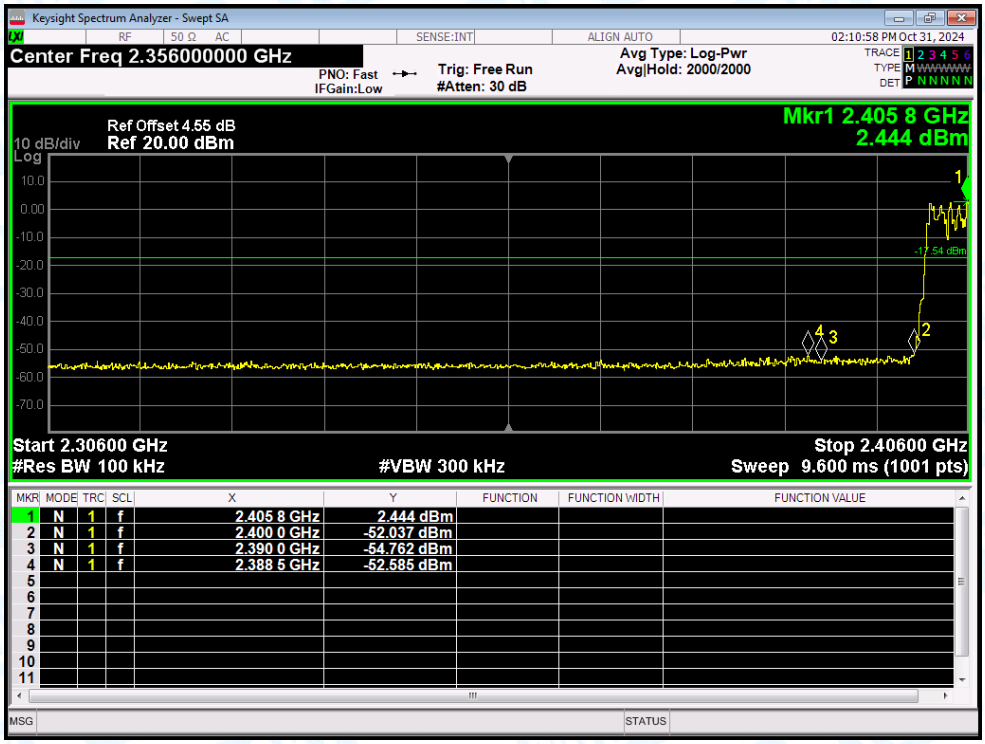
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref

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

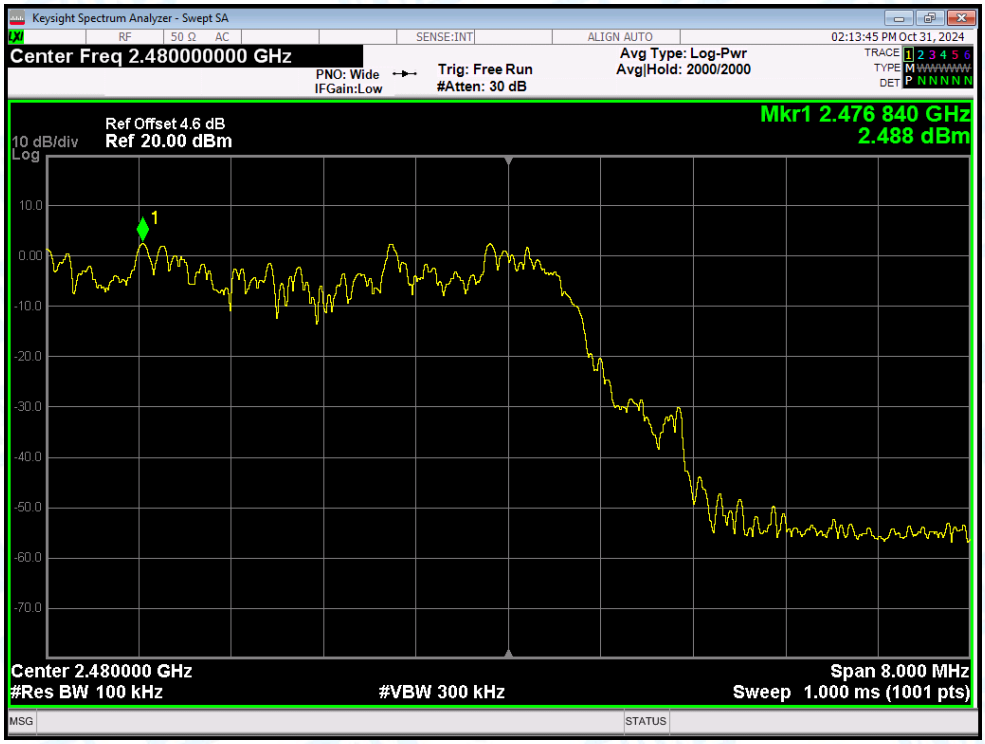


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref

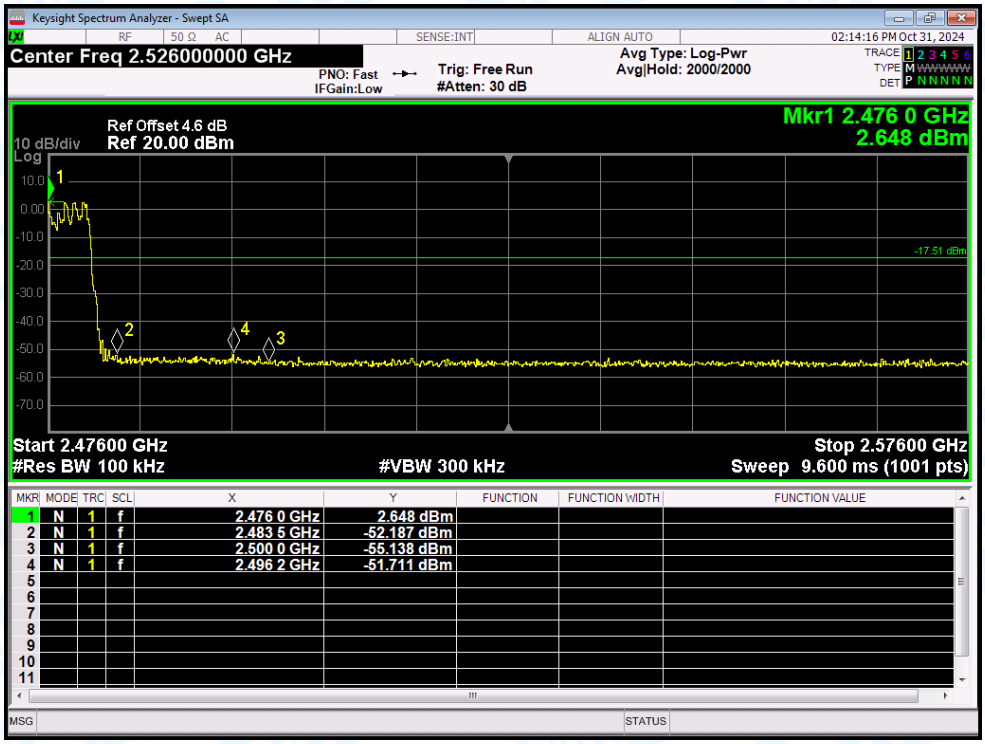
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



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

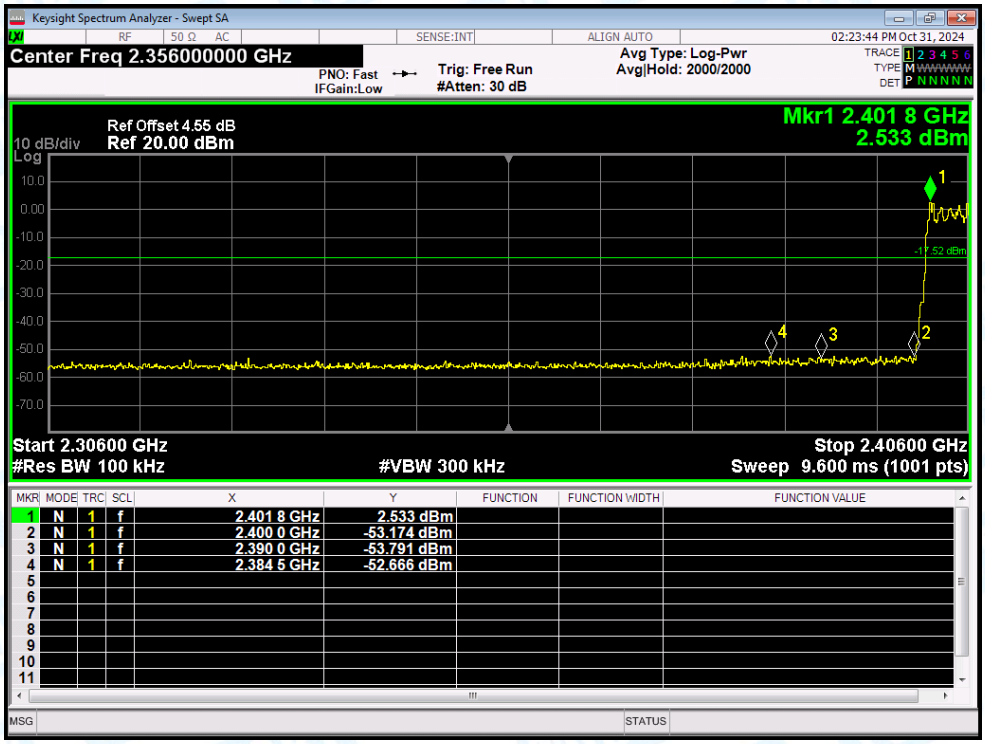


Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



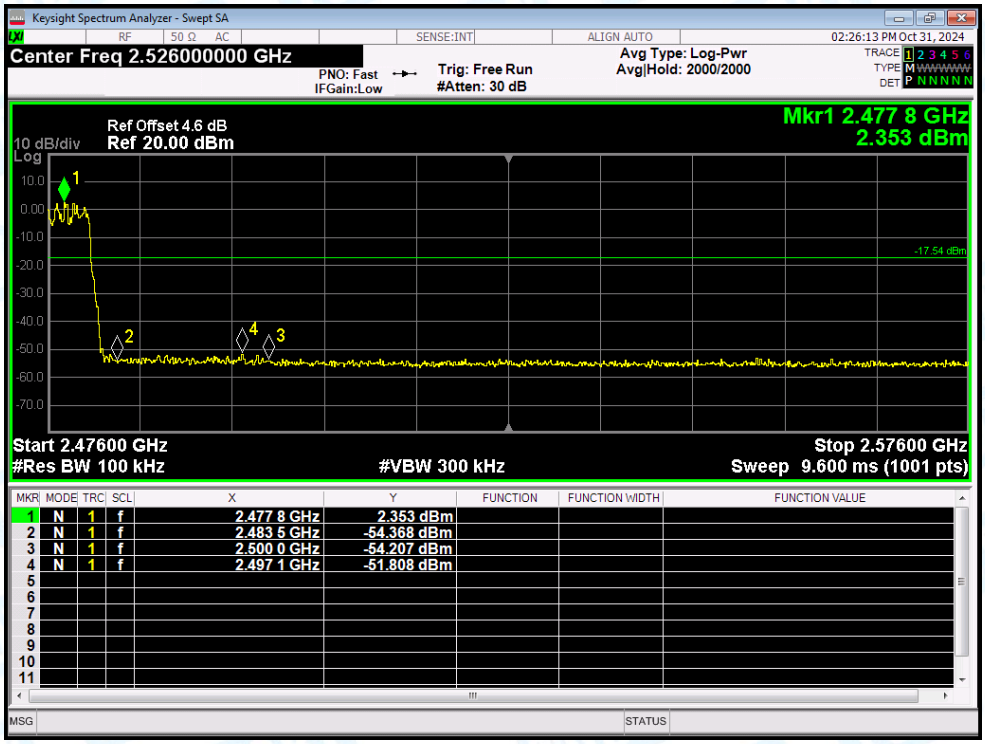
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref

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

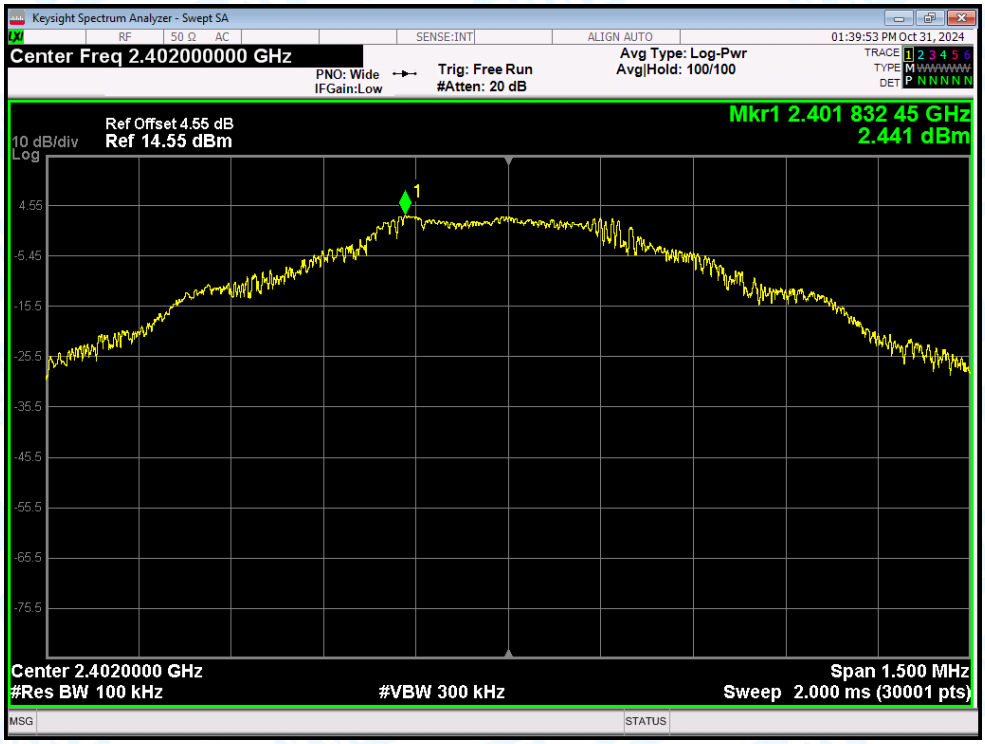


7. Conducted RF Spurious Emission

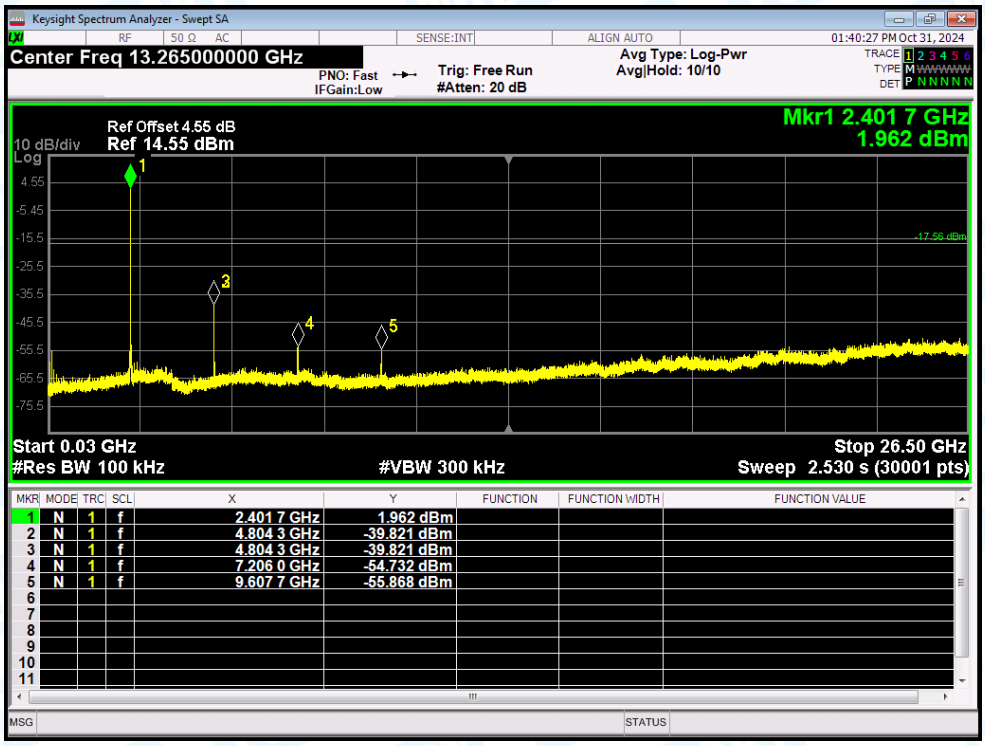
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-42.26	-20	Pass
NVNT	1-DH1	2441	Ant1	-42.9	-20	Pass
NVNT	1-DH1	2480	Ant1	-39.11	-20	Pass
NVNT	2-DH1	2402	Ant1	-39.93	-20	Pass
NVNT	2-DH1	2441	Ant1	-43.53	-20	Pass
NVNT	2-DH1	2480	Ant1	-40.05	-20	Pass
NVNT	3-DH1	2402	Ant1	-45.19	-20	Pass
NVNT	3-DH1	2441	Ant1	-41.69	-20	Pass
NVNT	3-DH1	2480	Ant1	-41.55	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref

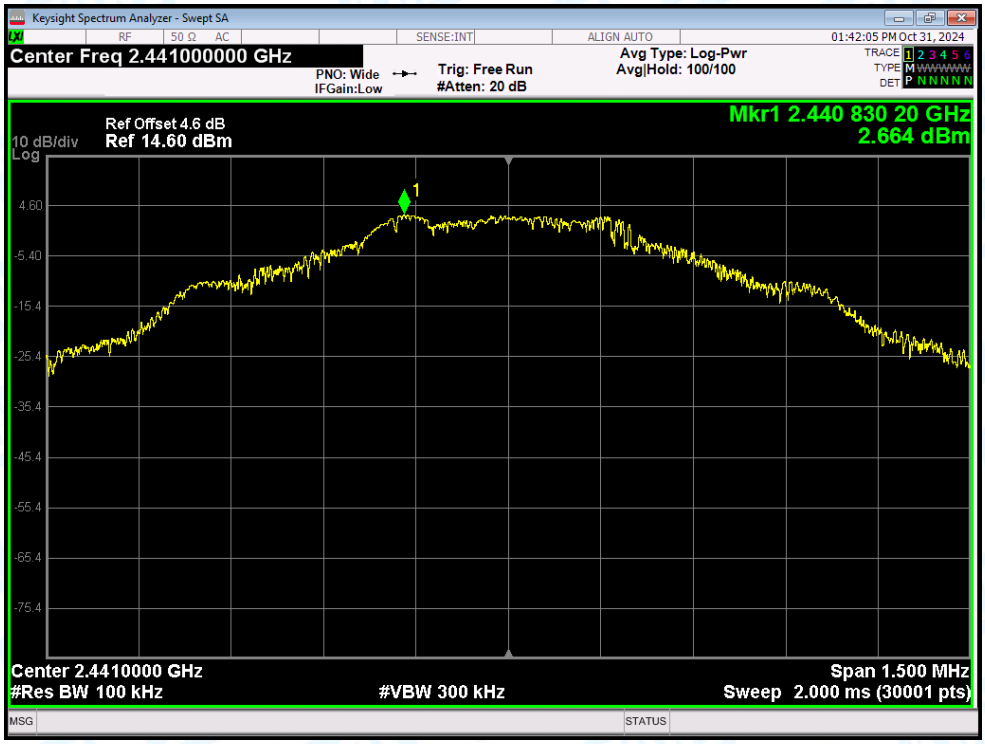


Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission

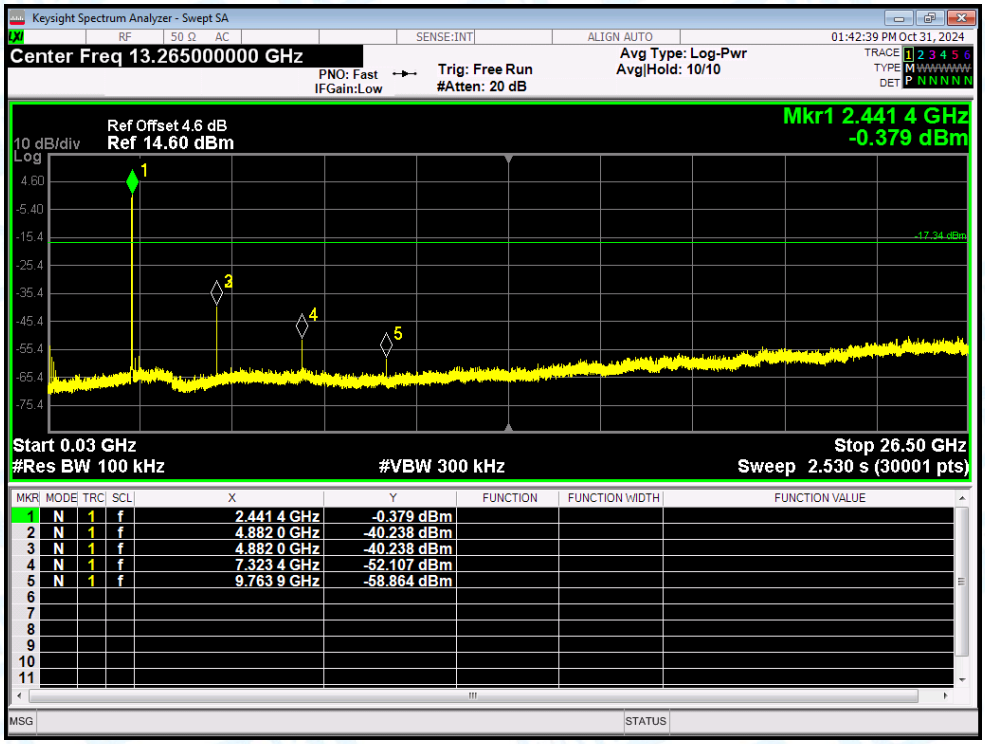


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401 7 GHz	1.962 dBm			
2	N	1	f	4.804 3 GHz	-39.821 dBm			
3	N	1	f	4.804 3 GHz	-39.821 dBm			
4	N	1	f	7.206 0 GHz	-54.732 dBm			
5	N	1	f	9.607 7 GHz	-55.868 dBm			
6								
7								
8								
9								
10								
11								

Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref

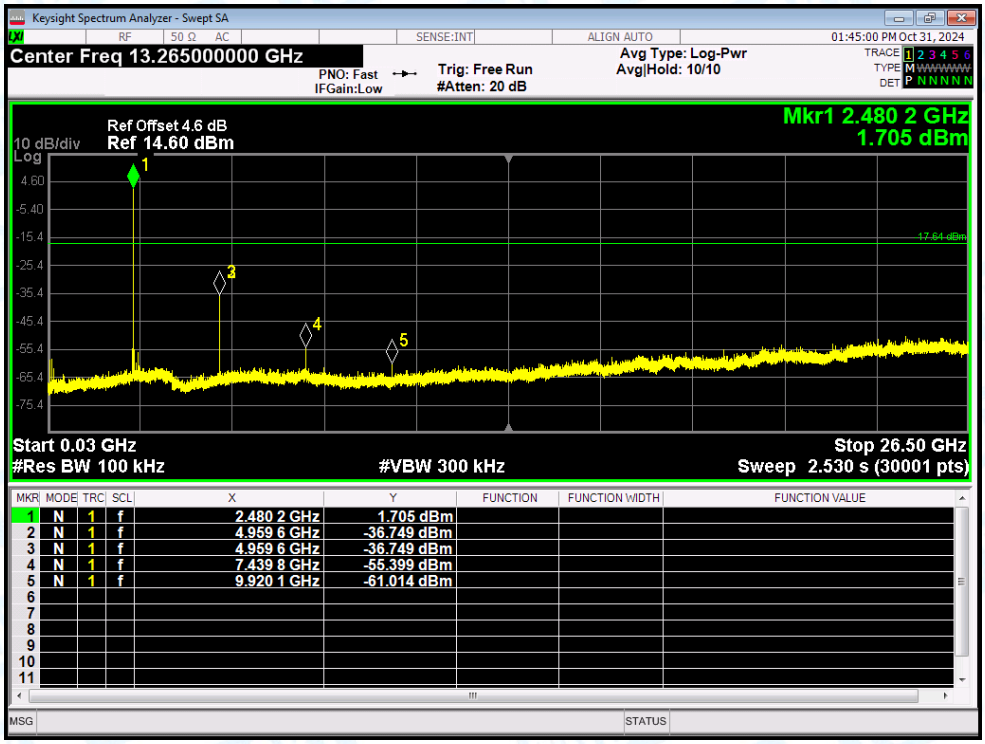


Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission

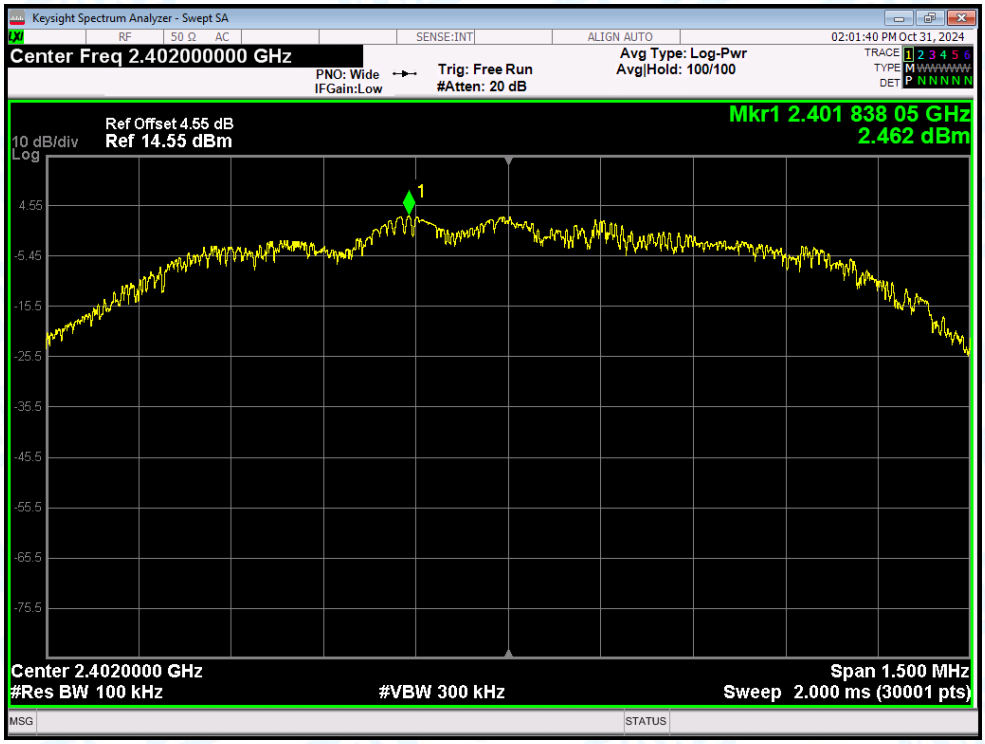


Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref

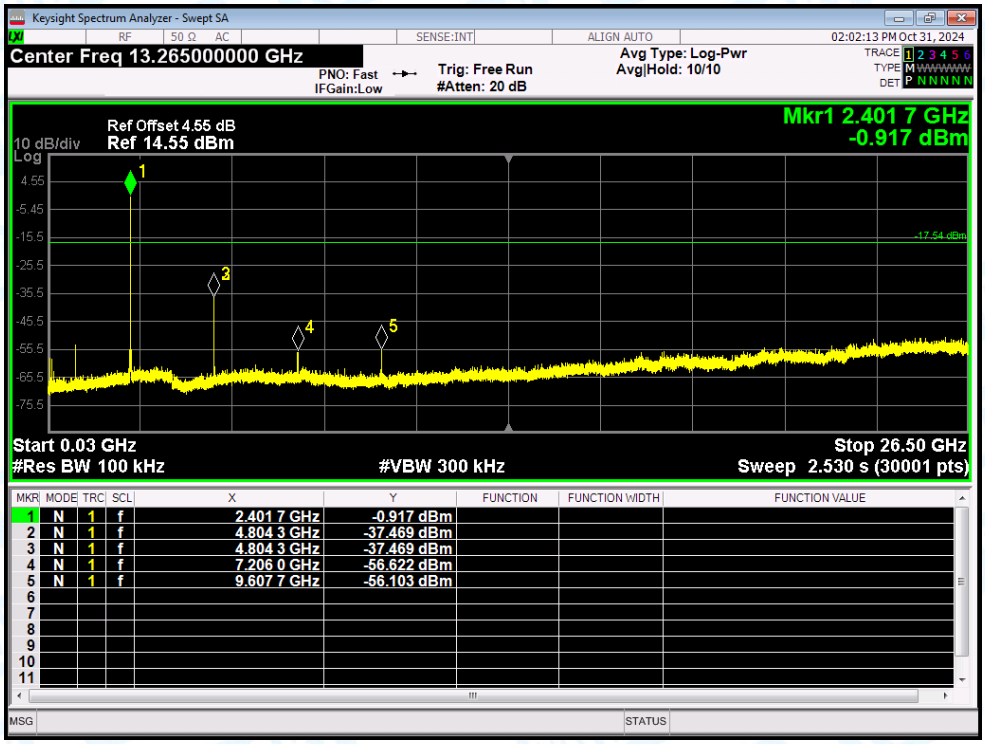
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



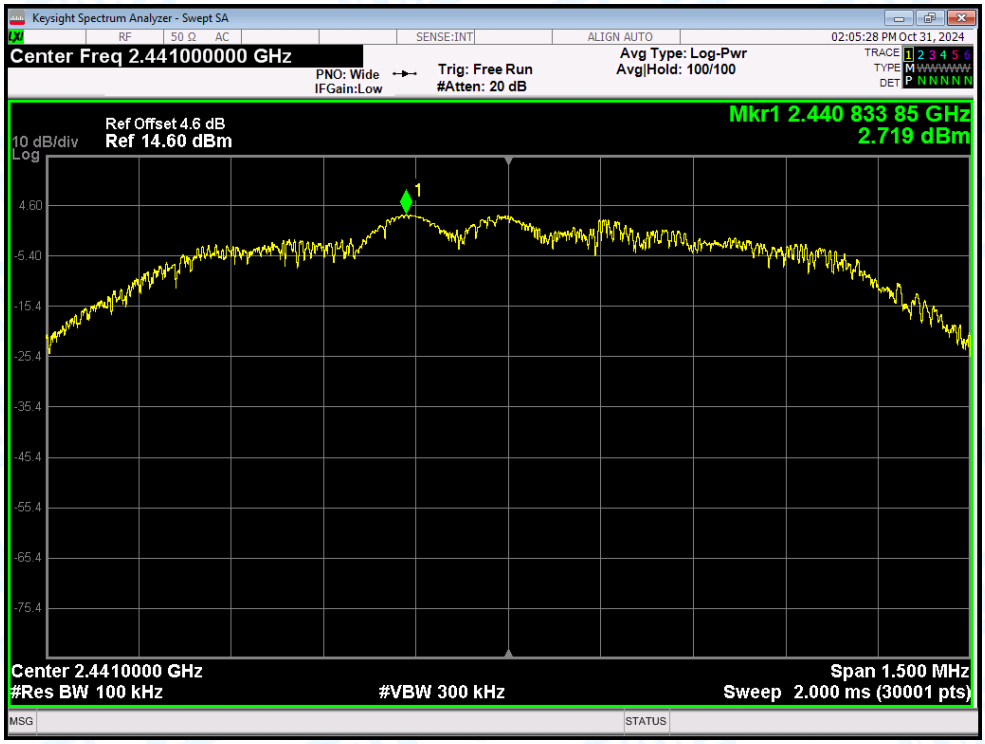
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



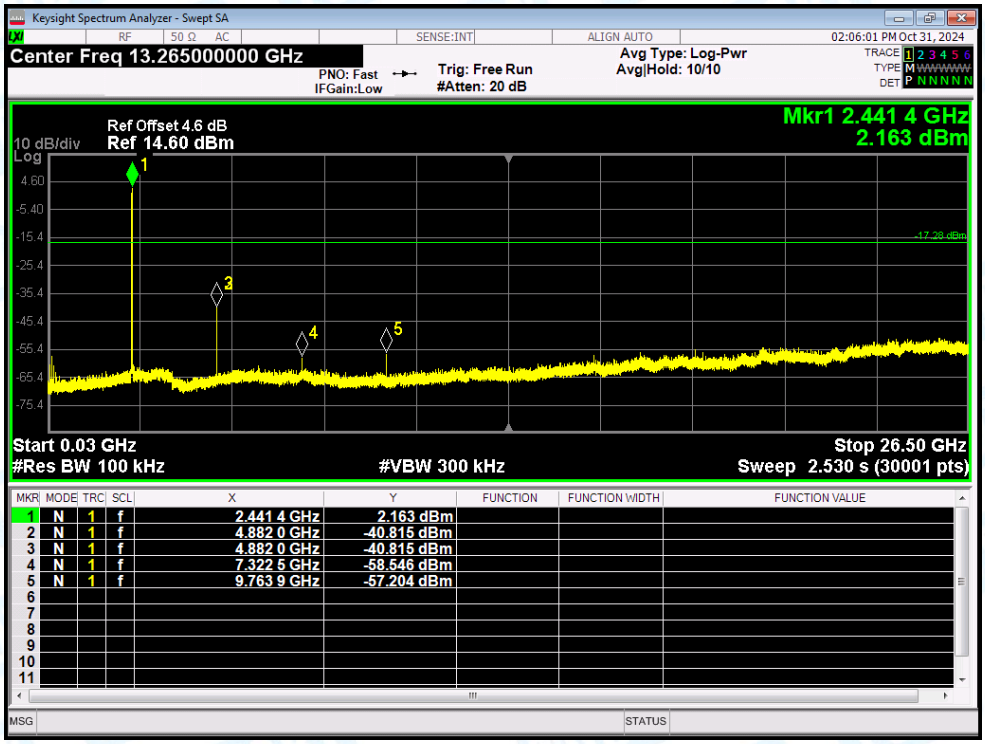
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



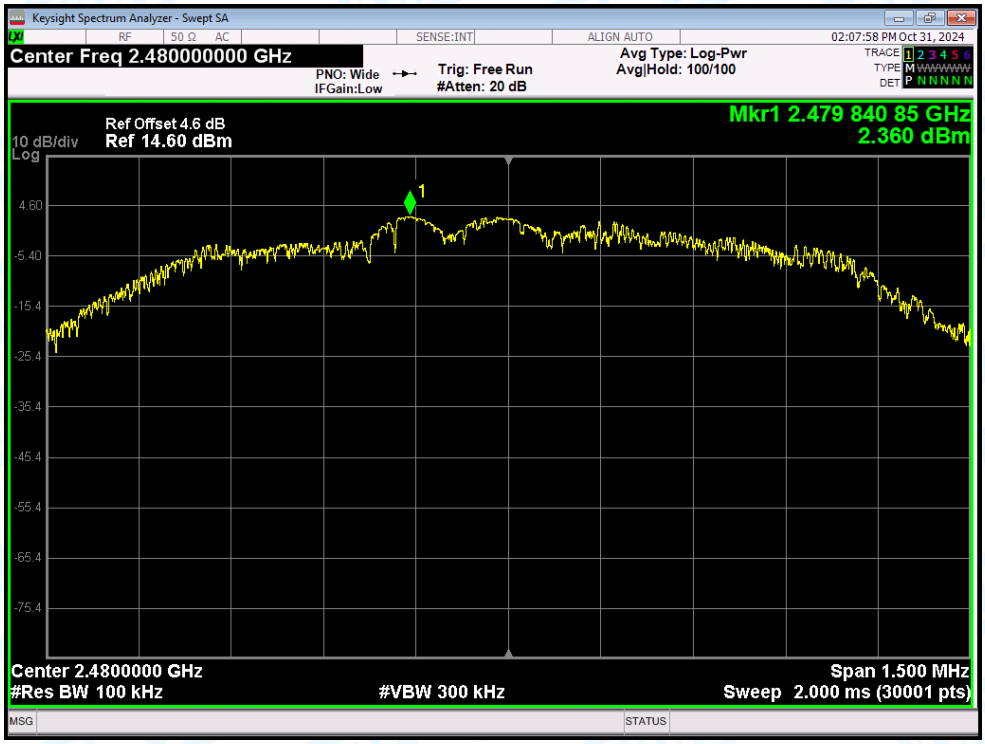
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



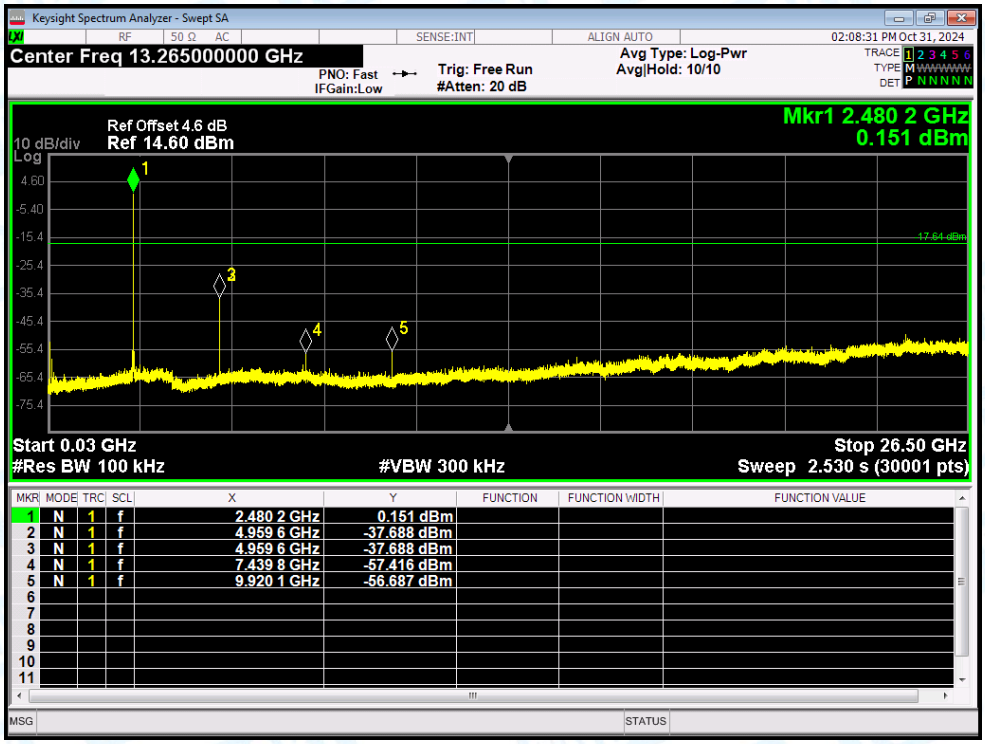
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref

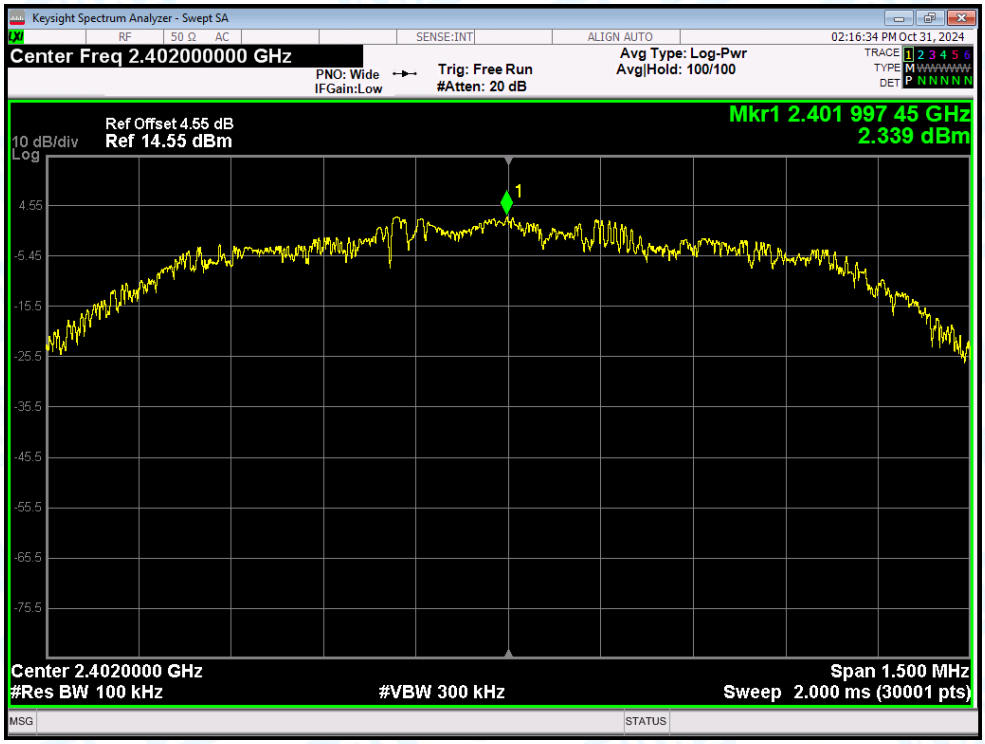


Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission

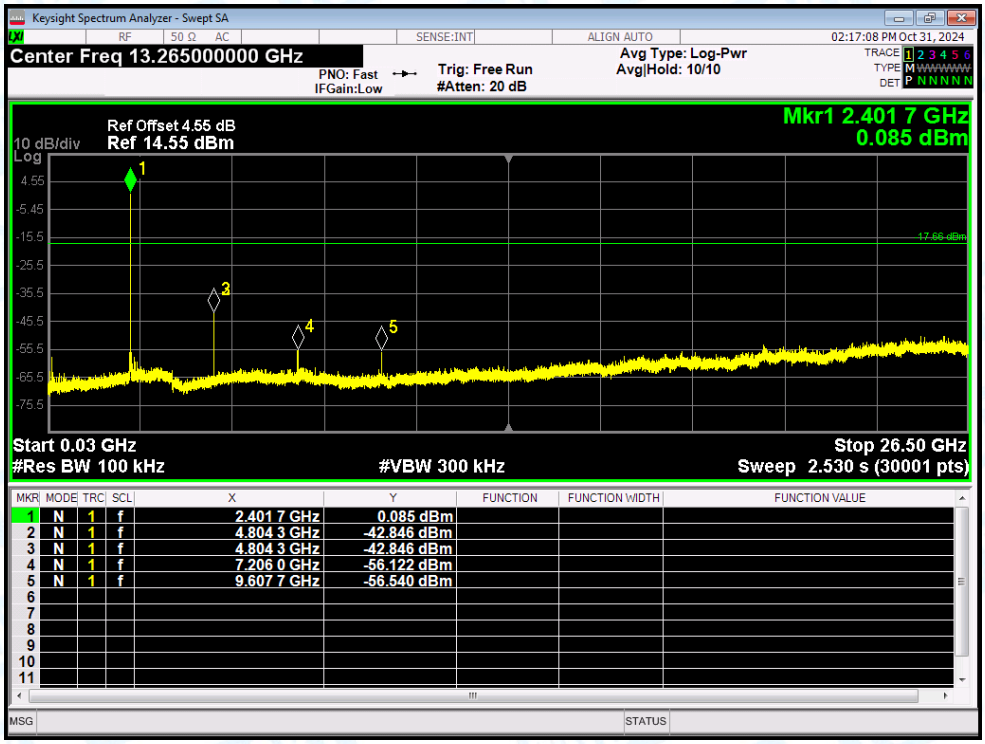


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.480 2 GHz	0.151 dBm			
2	N	1	f	4.959 6 GHz	-37.688 dBm			
3	N	1	f	4.959 6 GHz	-37.688 dBm			
4	N	1	f	7.439 8 GHz	-57.416 dBm			
5	N	1	f	9.920 1 GHz	-56.687 dBm			
6								
7								
8								
9								
10								
11								

Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref

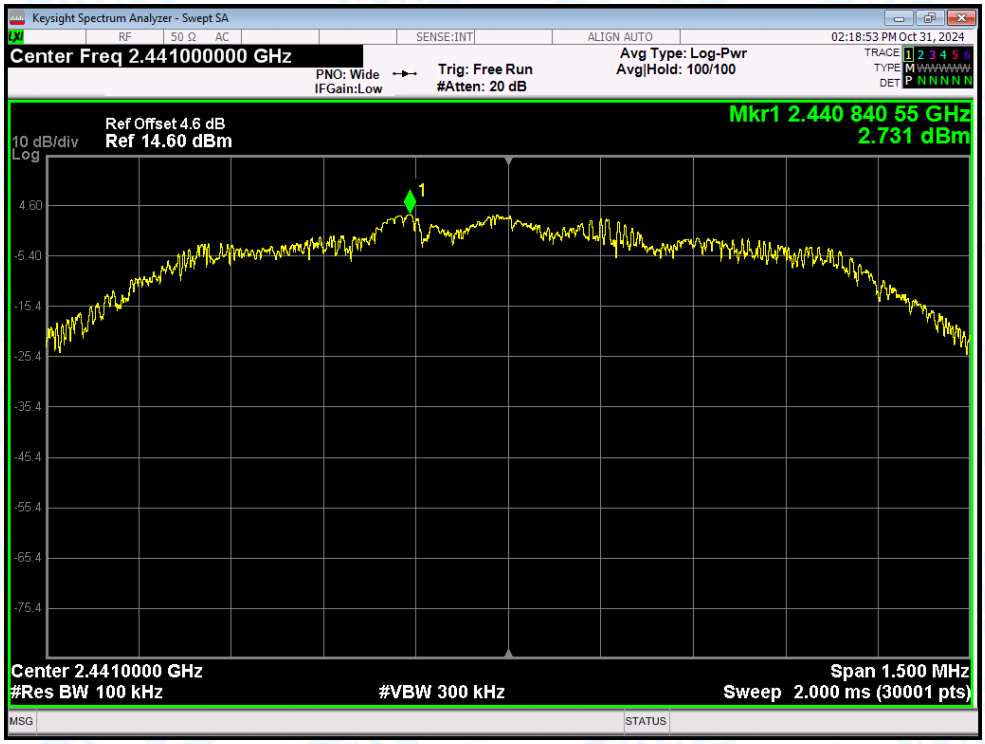


Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission

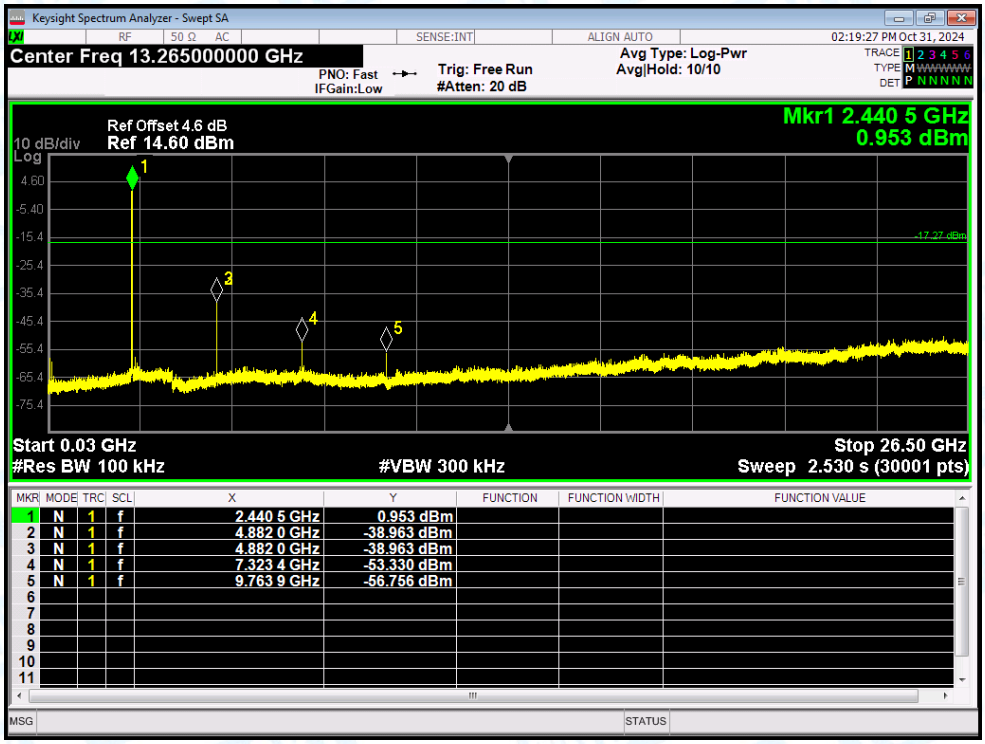


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401 7 GHz	0.085 dBm			
2	N	1	f	4.804 3 GHz	-42.846 dBm			
3	N	1	f	4.804 3 GHz	-42.846 dBm			
4	N	1	f	7.206 0 GHz	-56.122 dBm			
5	N	1	f	9.607 7 GHz	-56.540 dBm			
6								
7								
8								
9								
10								
11								

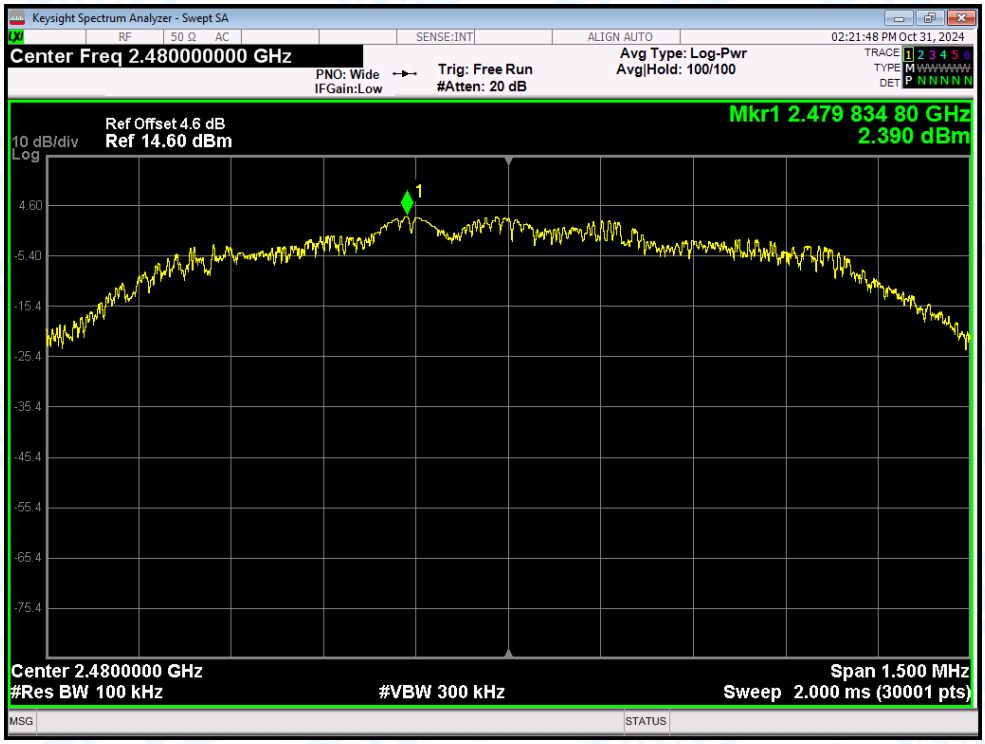
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



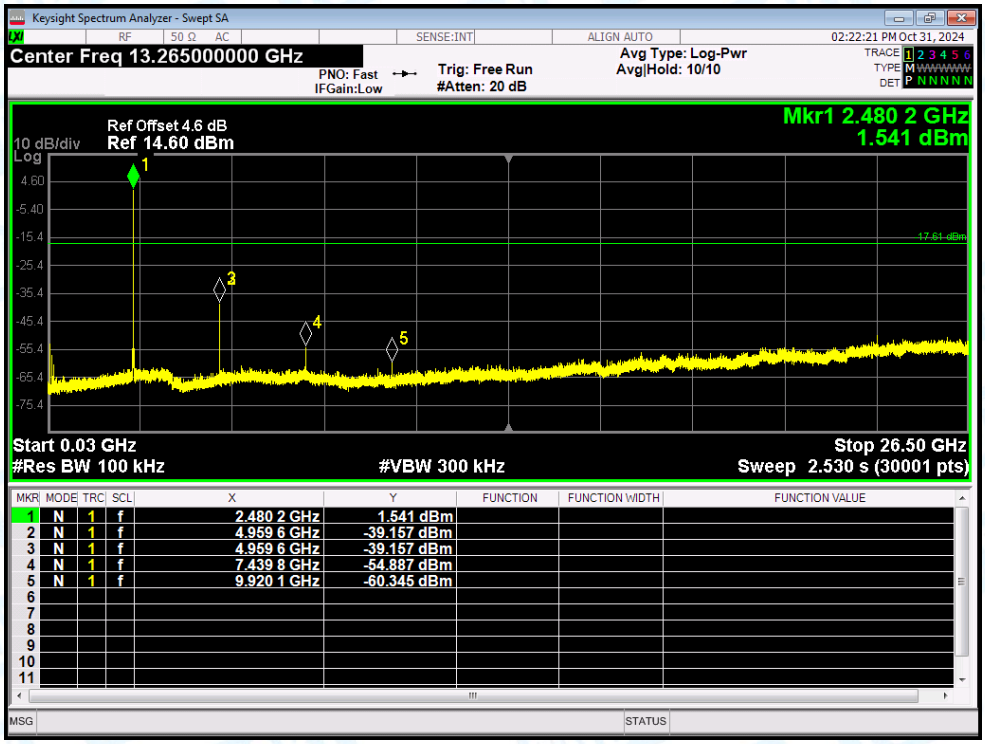
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

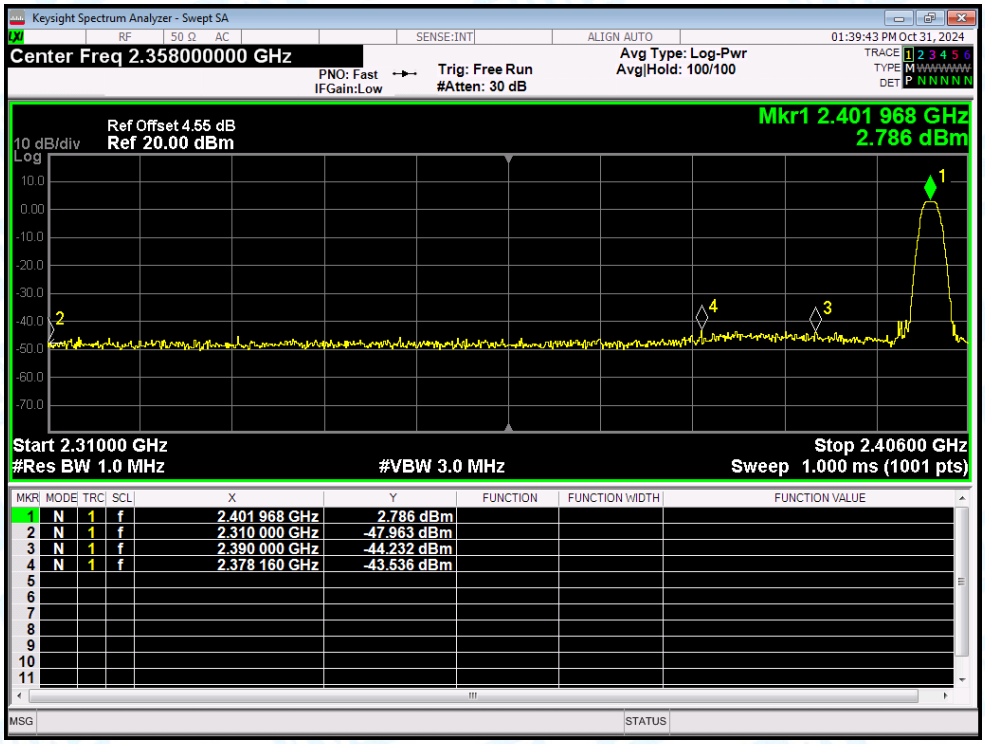


8. Restrict Band

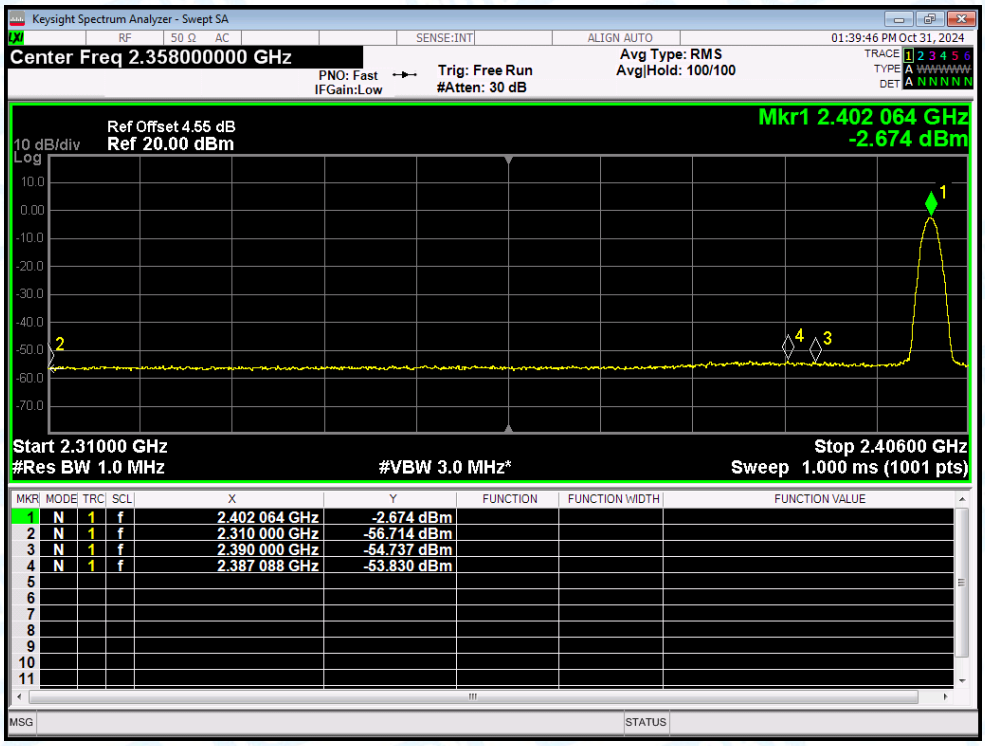
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-47.96	2	-	49.3	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-56.71	2	5.29	45.84	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2378.16	-43.54	2	-	53.72	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2387.088	-53.83	2	5.29	48.72	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-44.23	2	-	53.03	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-54.74	2	5.29	47.81	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-46.93	2	-	50.33	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-54.24	2	5.17	48.19	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2496.52	-41.3	2	-	55.96	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2499.808	-53.71	2	5.17	48.72	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-45.45	2	-	51.81	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-54.53	2	5.17	47.9	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-48.26	2	-	49	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.33	2	5.06	45.99	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2389.296	-43.28	2	-	53.98	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2387.184	-54	2	5.06	48.32	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.55	2	-	49.71	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-55.12	2	5.06	47.2	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-46.9	2	-	50.36	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-54.16	2	5.06	48.16	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2484.184	-38.26	2	-	59	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2493.088	-53.45	2	5.06	48.87	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-47	2	-	50.26	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-54.3	2	5.06	48.02	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-47.62	2	-	49.64	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-57.02	2	5.06	45.3	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2382.288	-42.77	2	-	54.49	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2387.568	-53.83	2	5.06	48.49	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-44.85	2	-	52.41	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-54.62	2	5.06	47.7	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-47.53	2	-	49.73	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-54.76	2	5.06	47.56	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2484.208	-41.79	2	-	55.47	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2496.952	-53.19	2	5.06	49.13	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-43.74	2	-	53.52	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-54.75	2	5.06	47.57	Average	54	Pass

Test Graphs

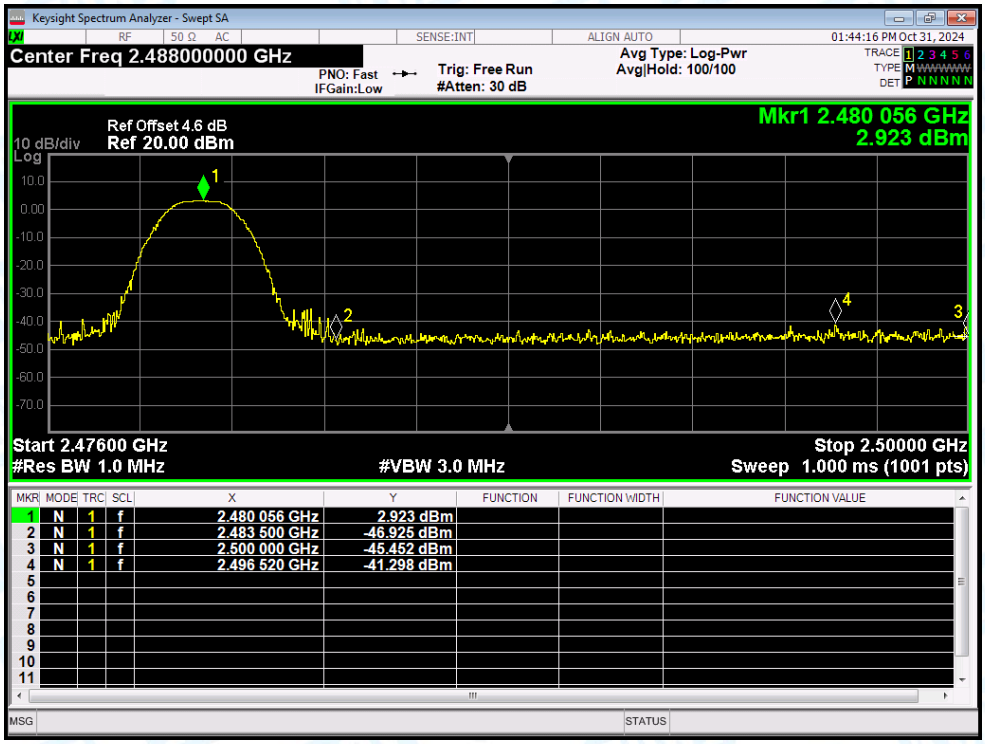
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



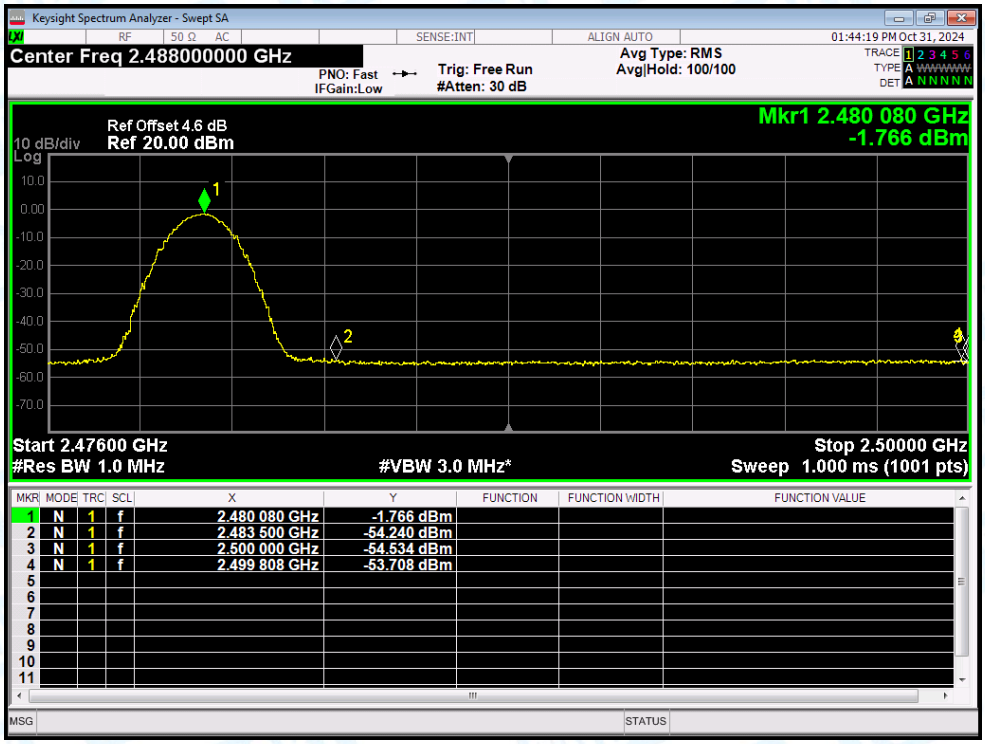
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



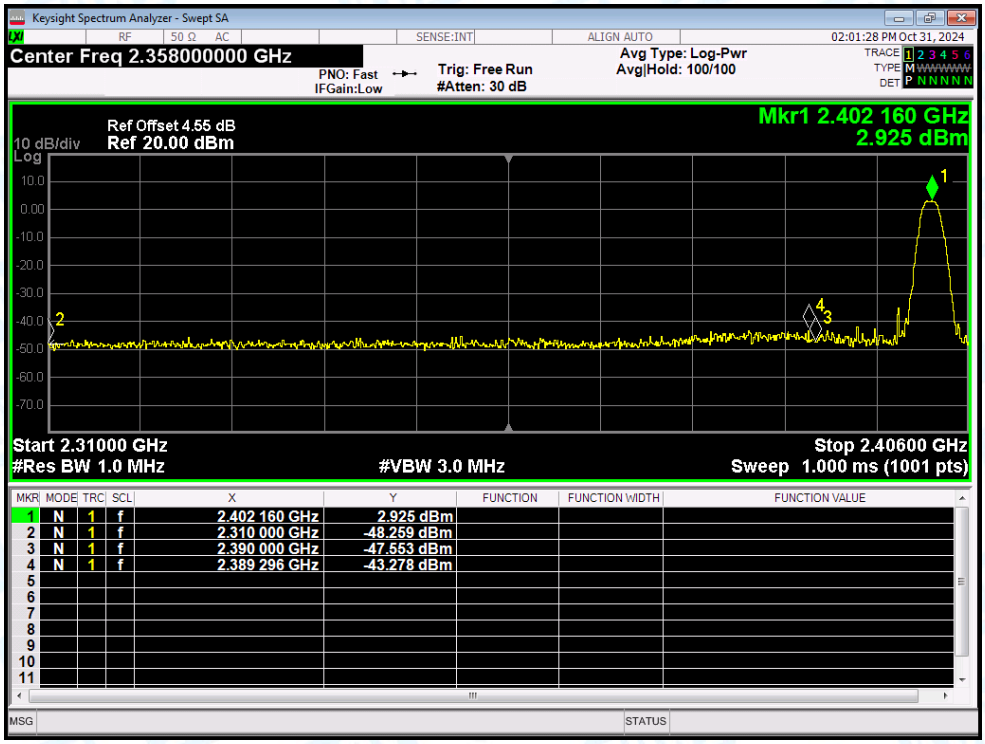
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak



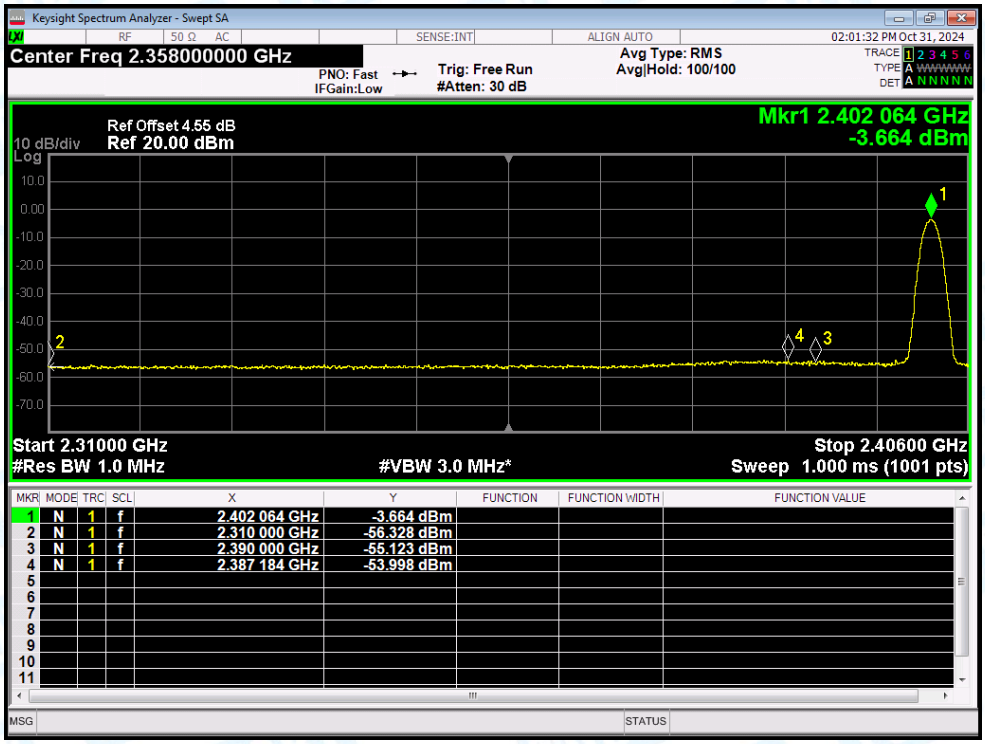
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average



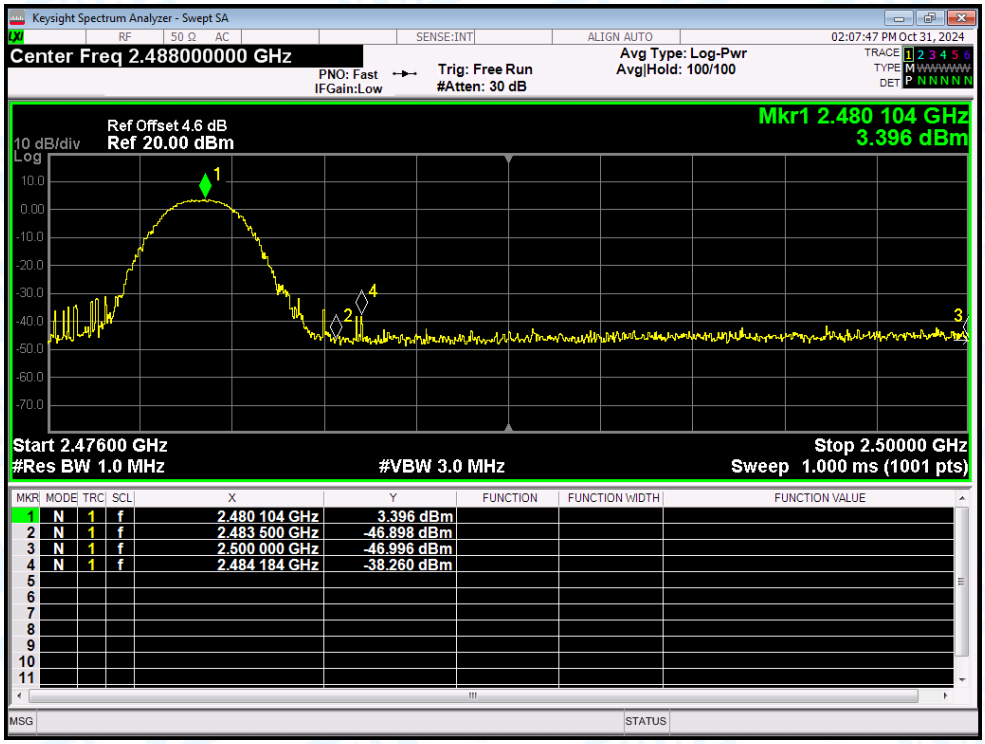
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak



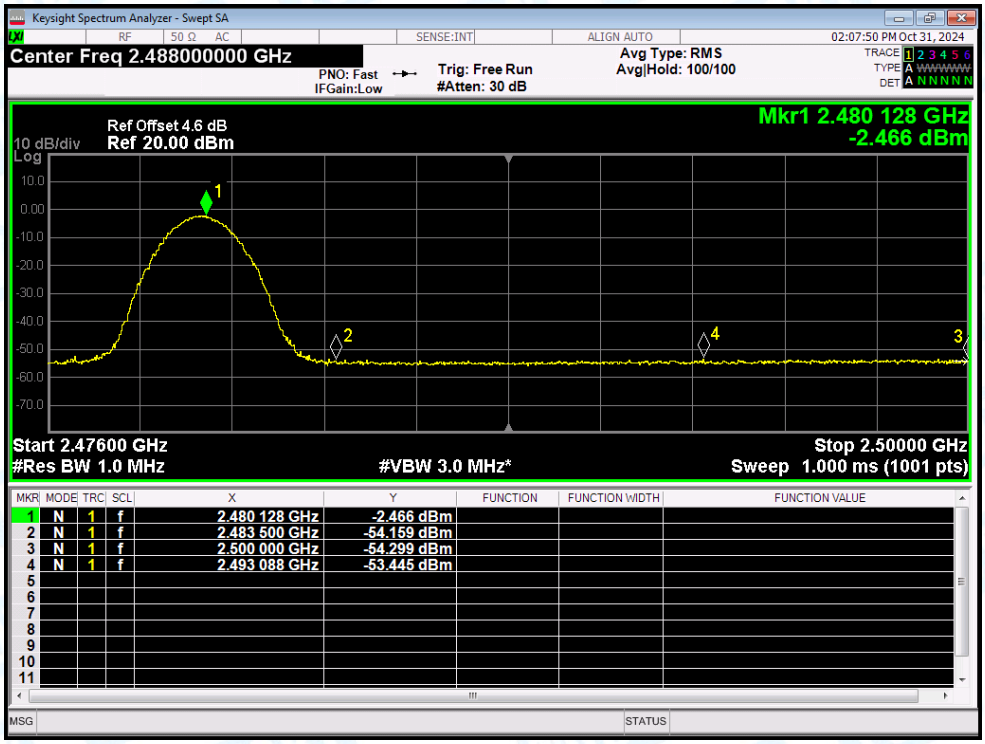
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average



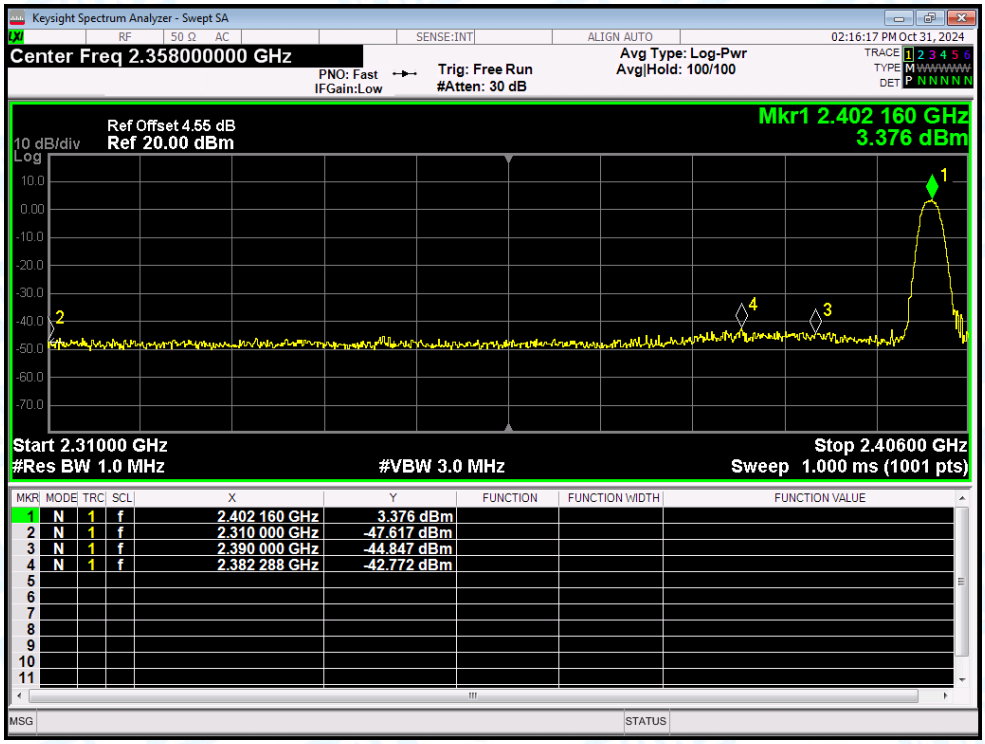
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



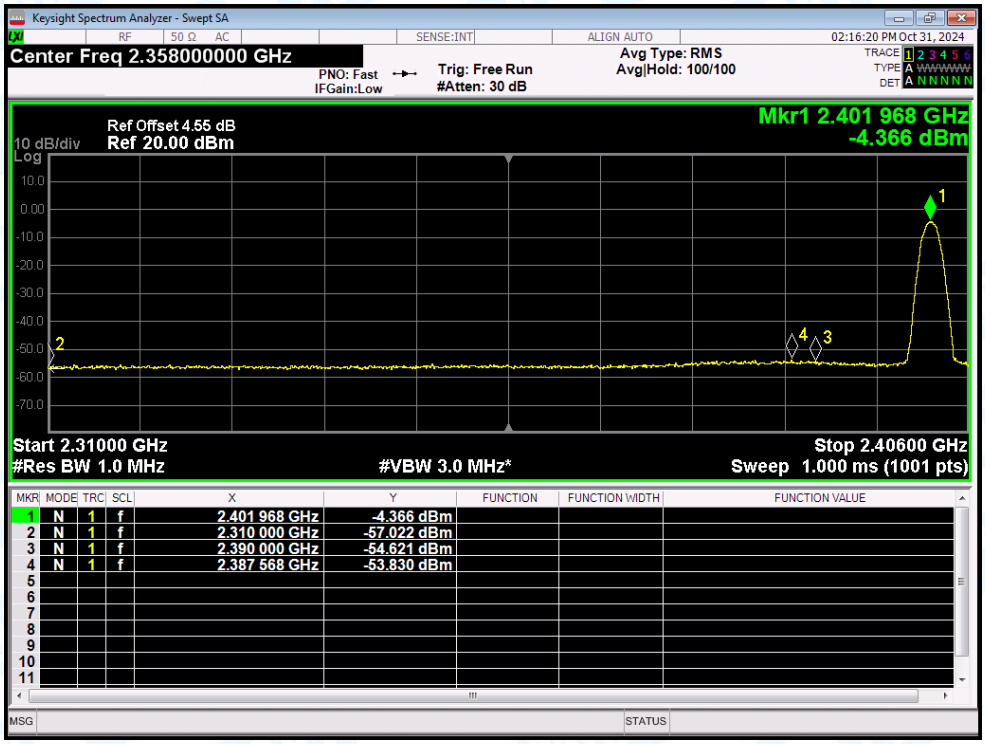
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average



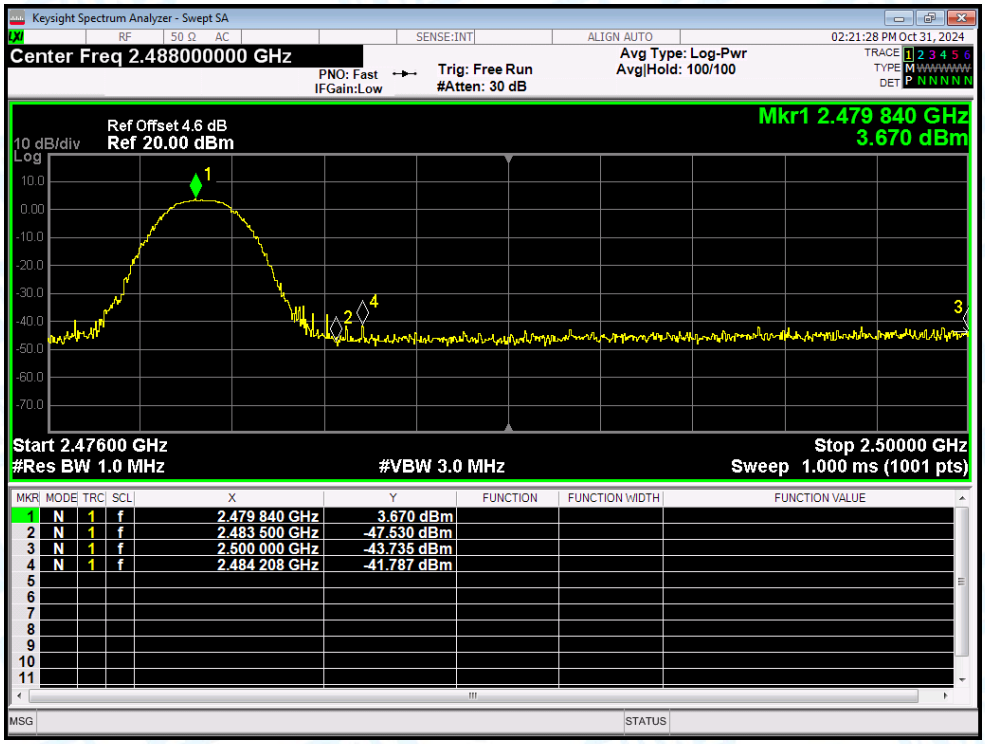
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



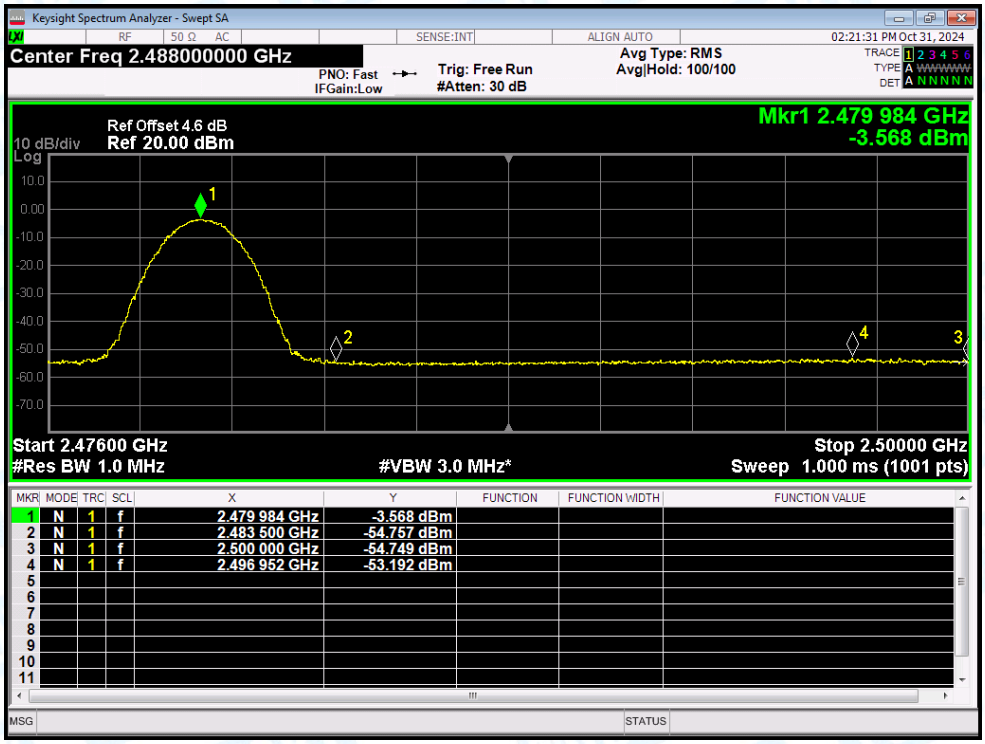
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



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



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

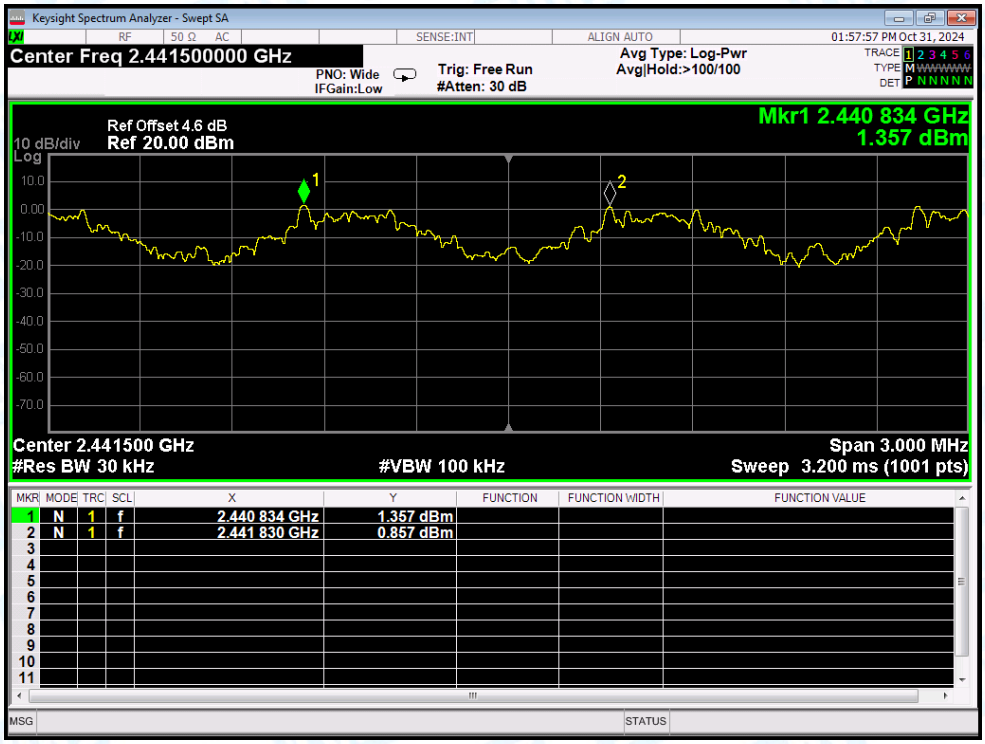


9. Carrier Frequencies Separation

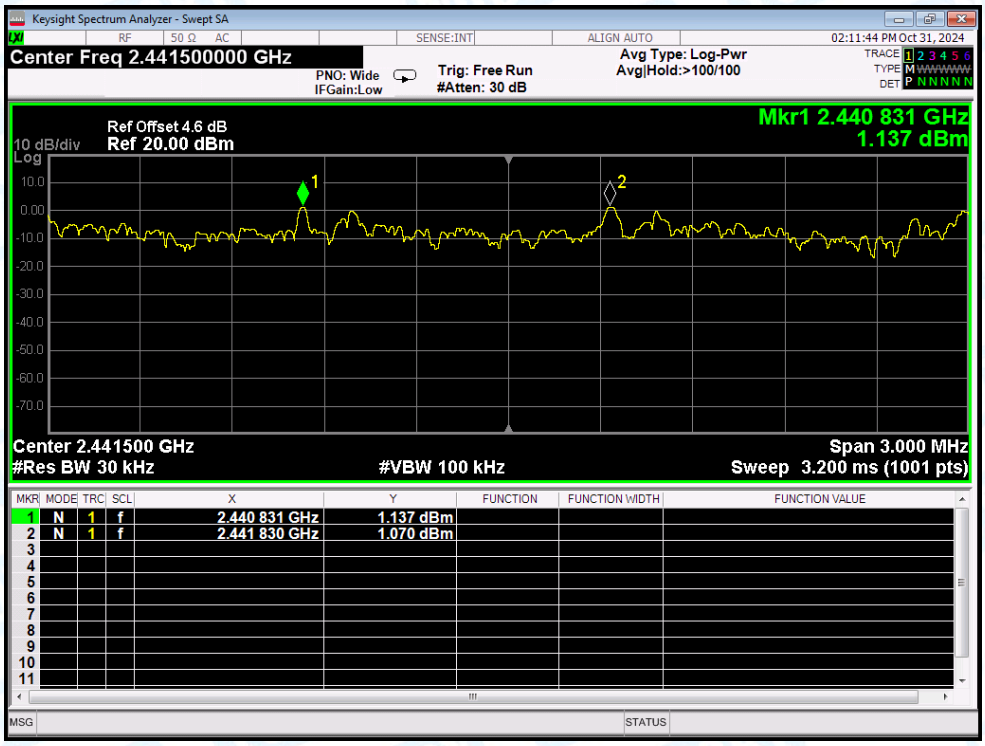
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.834	2441.83	0.996	0.693	Pass
NVNT	2-DH1	Ant1	2440.831	2441.83	0.999	0.867	Pass
NVNT	3-DH1	Ant1	2440.834	2441.836	1.002	0.860	Pass

Test Graphs

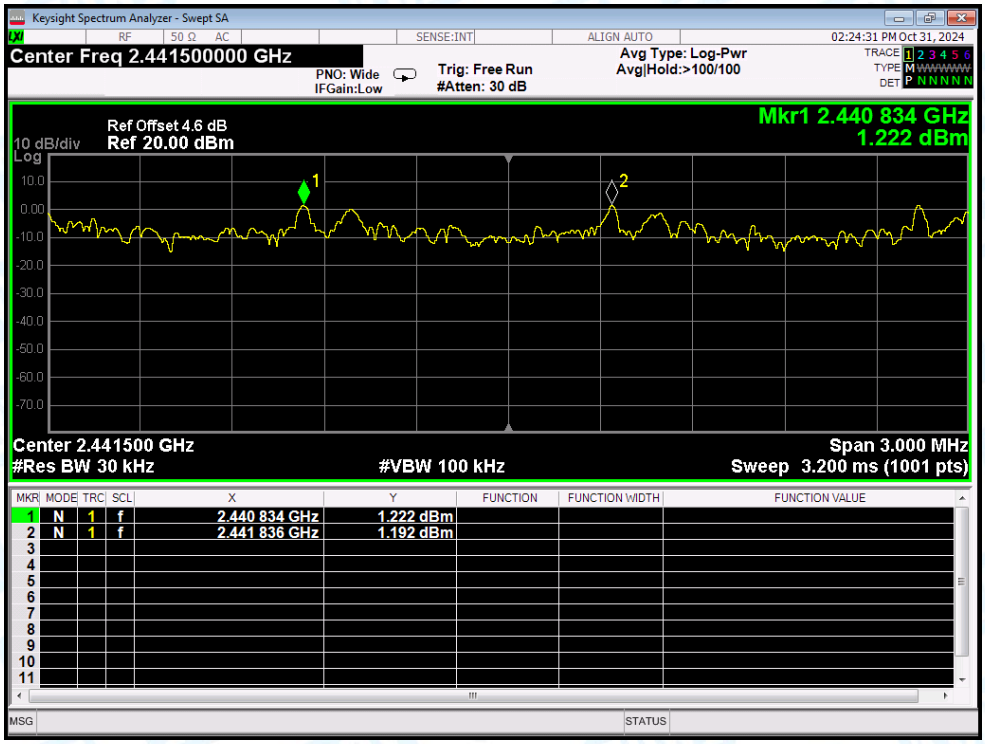
CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



CFS NVNT 3-DH1 2441MHz Ant1

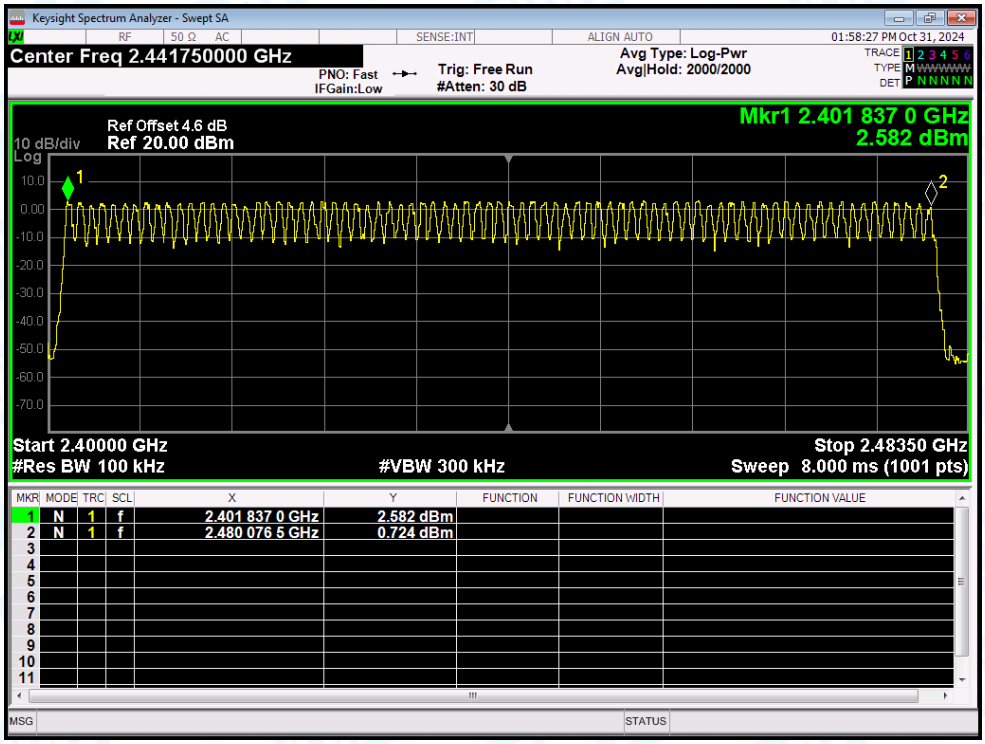


10. Number of Hopping Channel

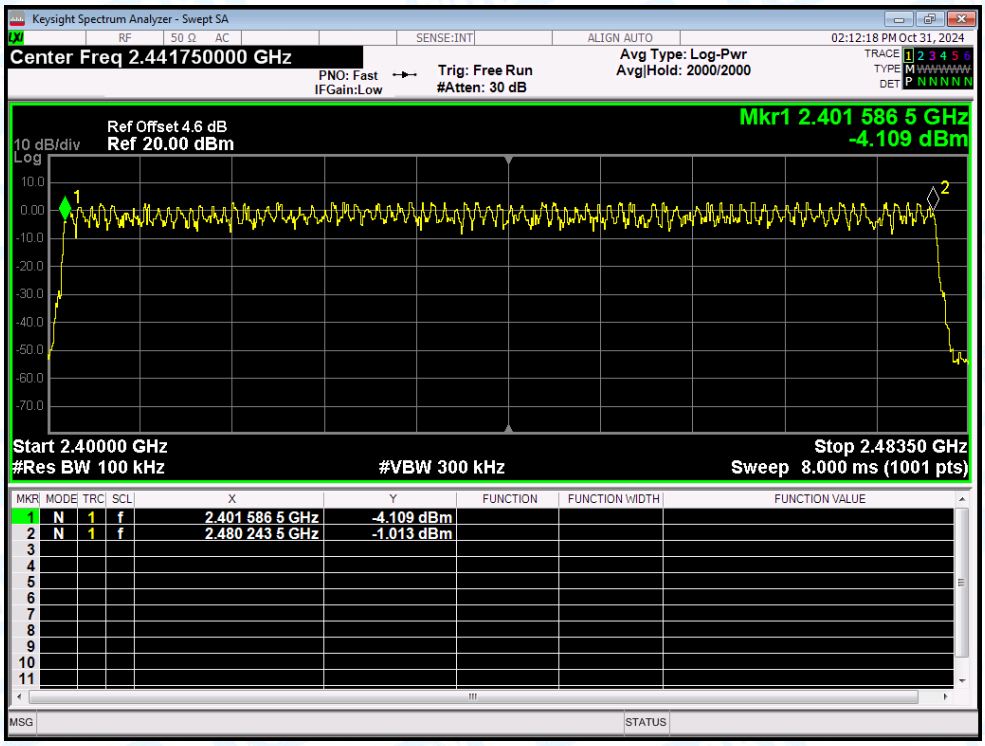
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

Test Graphs

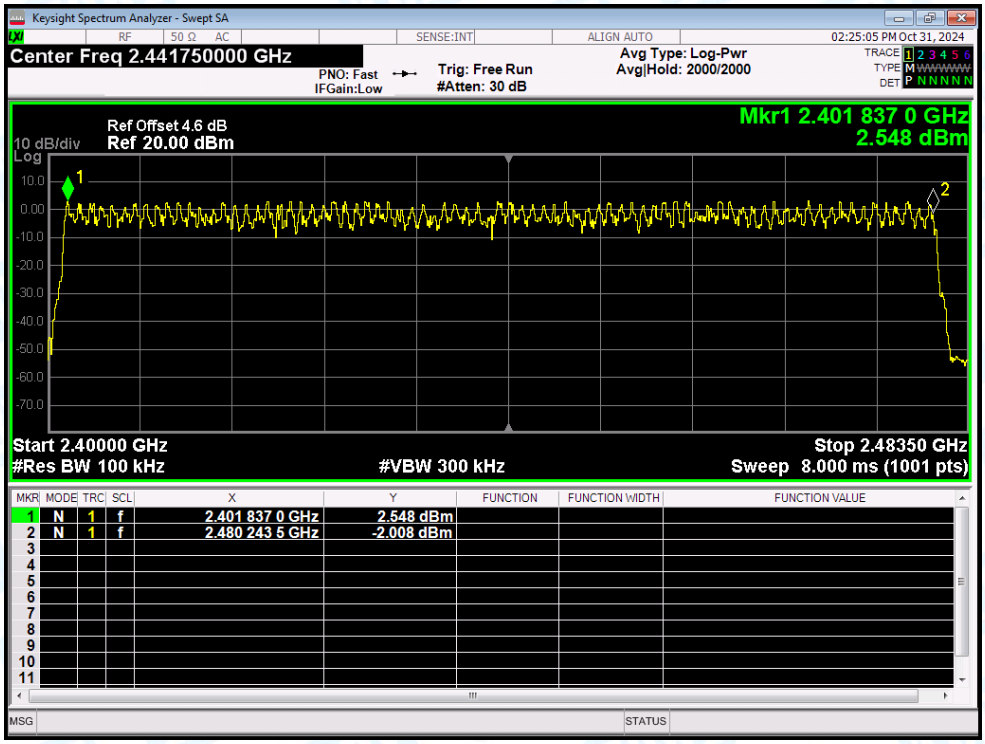
Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



Hopping No. NVNT 3-DH1 2441MHz Ant1

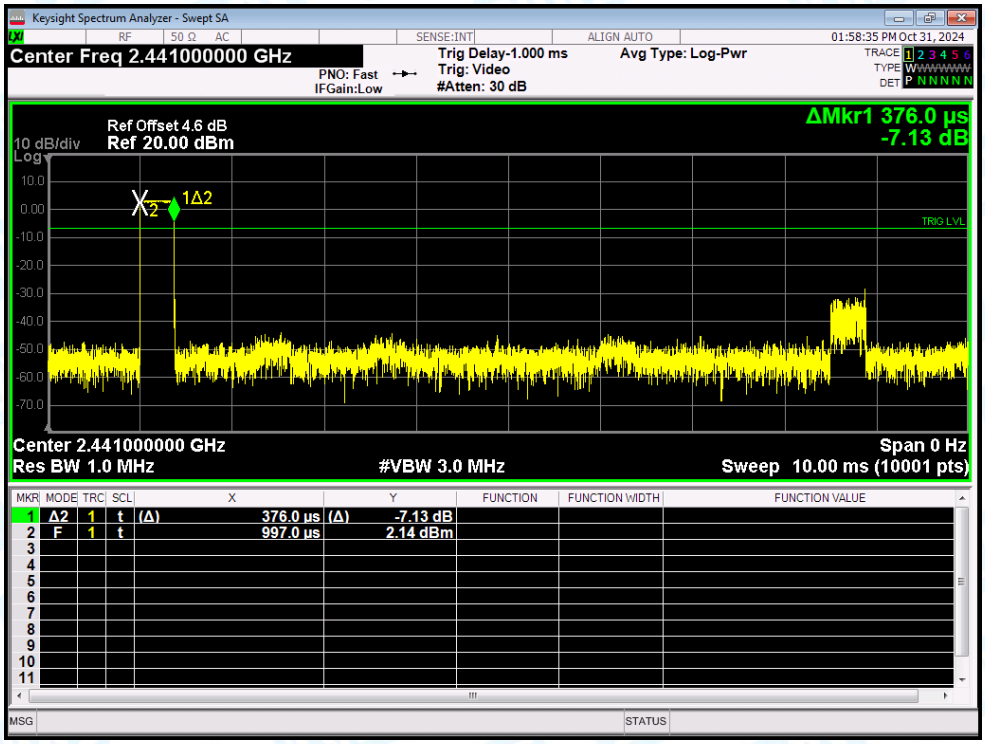


11. Dwell Time

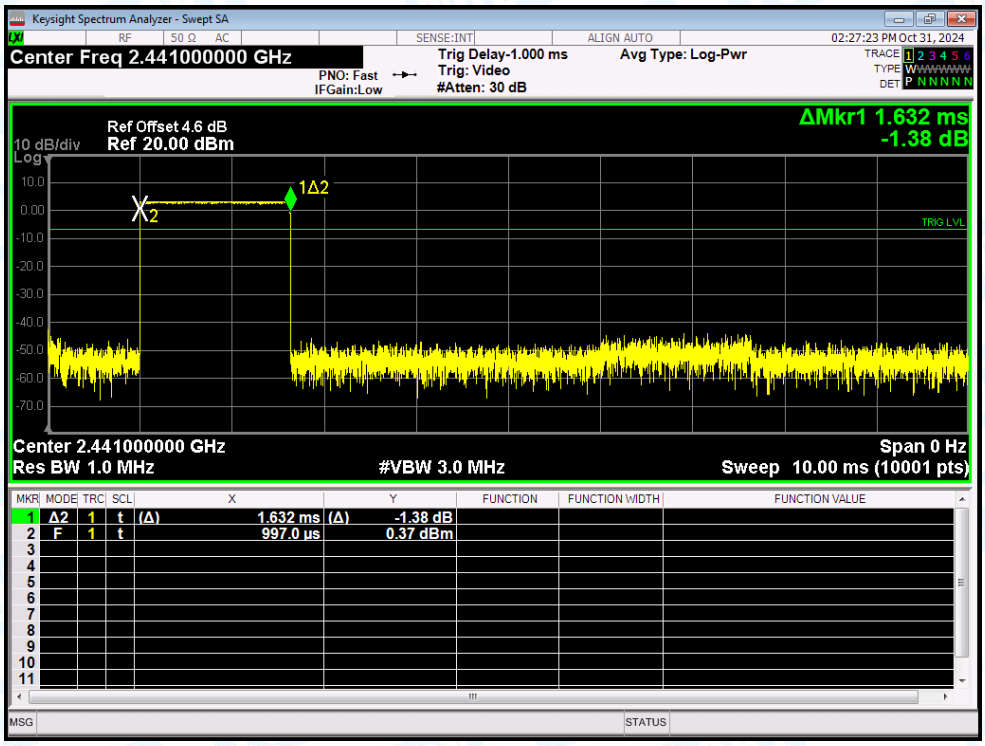
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.376	120.32	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.632	261.12	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.88	307.2	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.386	123.52	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.638	262.08	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.883	307.52	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.387	123.84	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.637	261.92	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.887	307.947	31600	400	Pass

Test Graphs

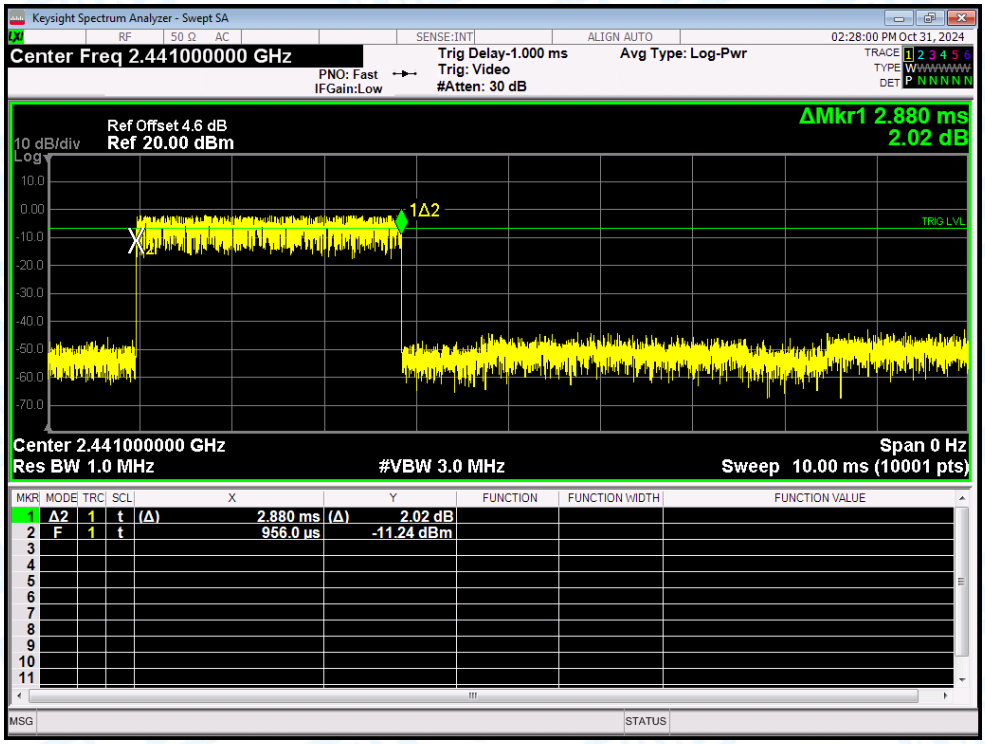
Dwell NVNT 1-DH1 2441MHz Ant1



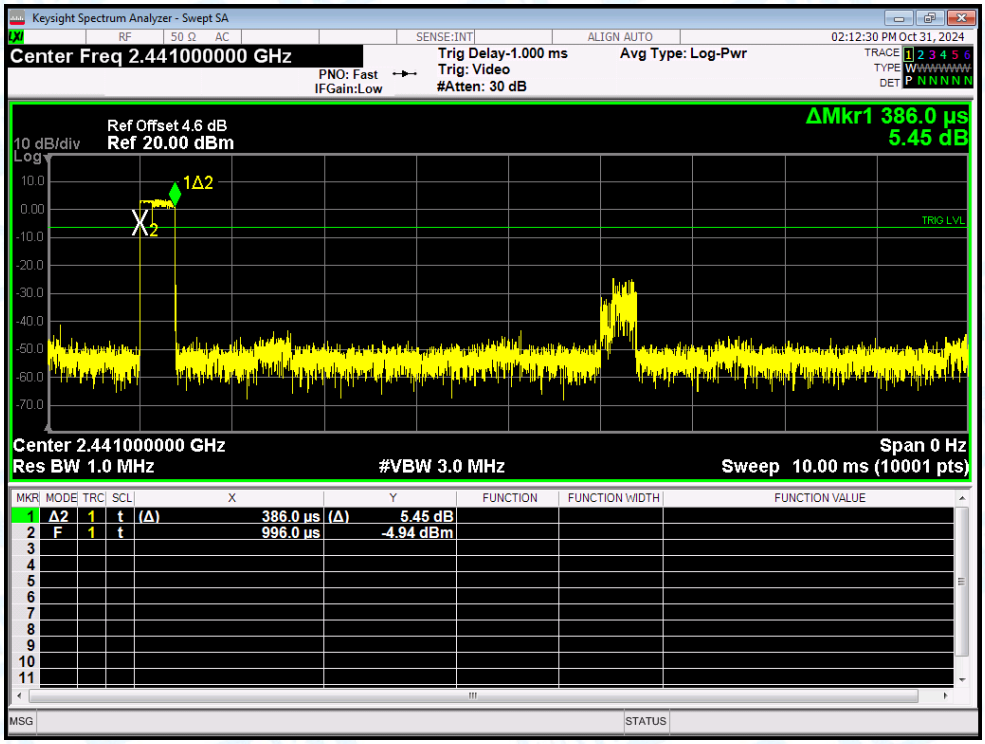
Dwell NVNT 1-DH3 2441MHz Ant1



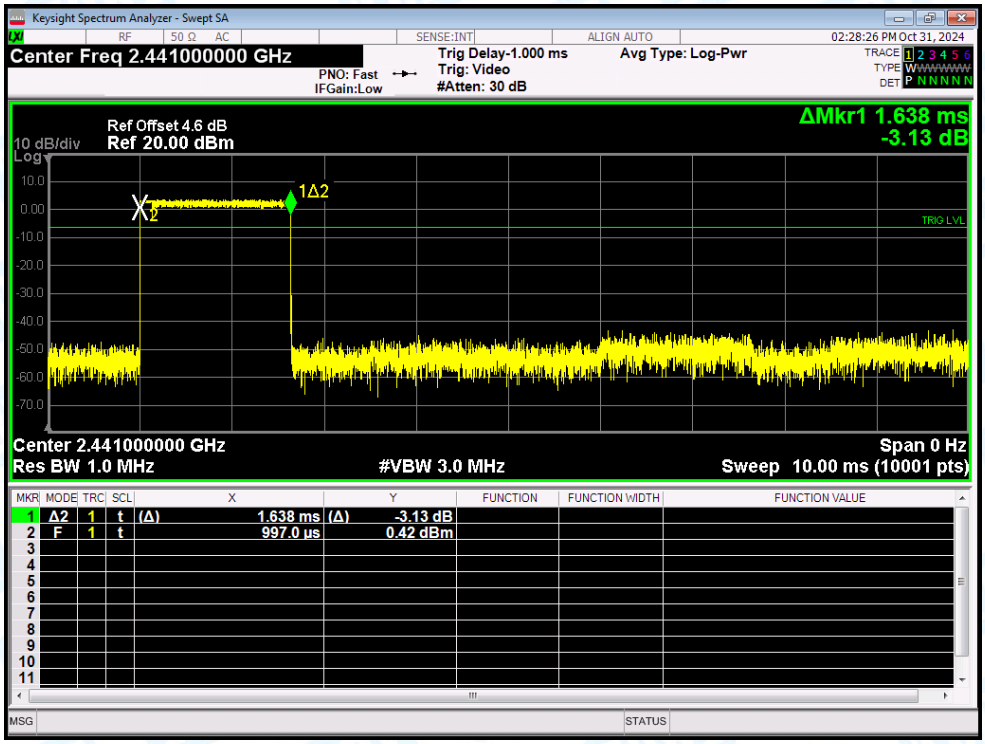
Dwell NVNT 1-DH5 2441MHz Ant1



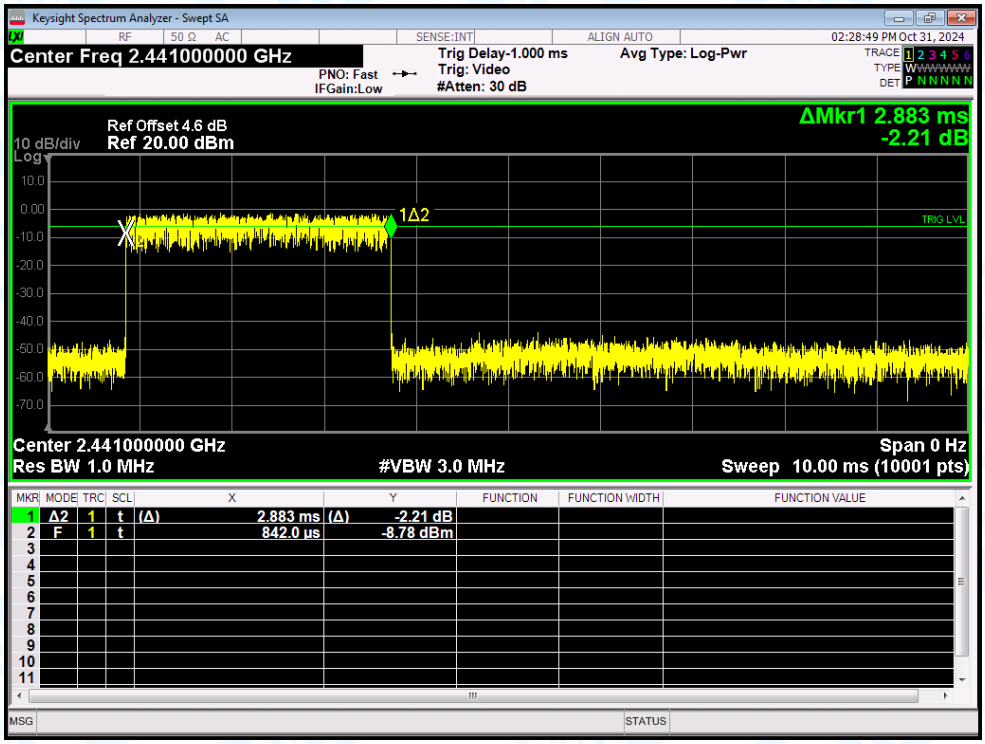
Dwell NVNT 2-DH1 2441MHz Ant1



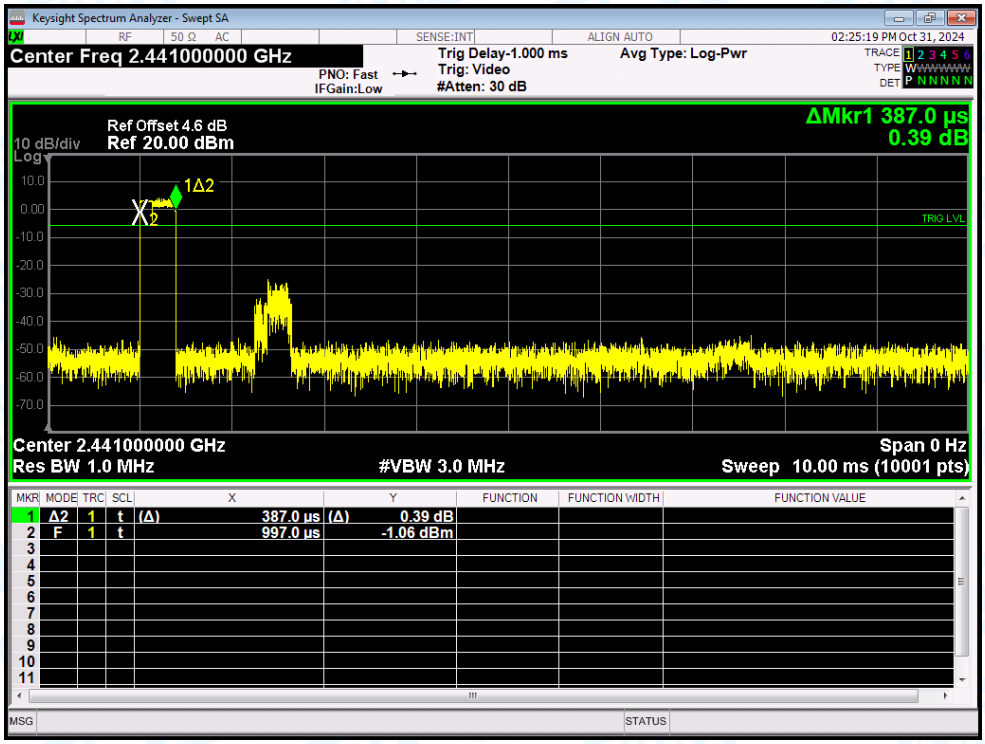
Dwell NVNT 2-DH3 2441MHz Ant1



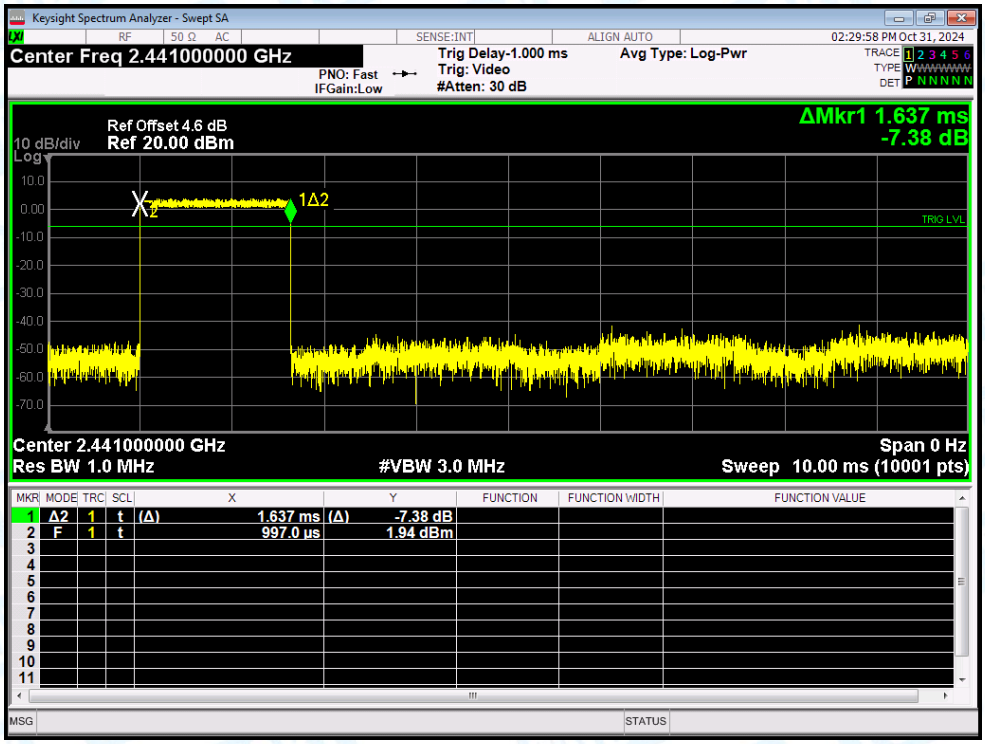
Dwell NVNT 2-DH5 2441MHz Ant1



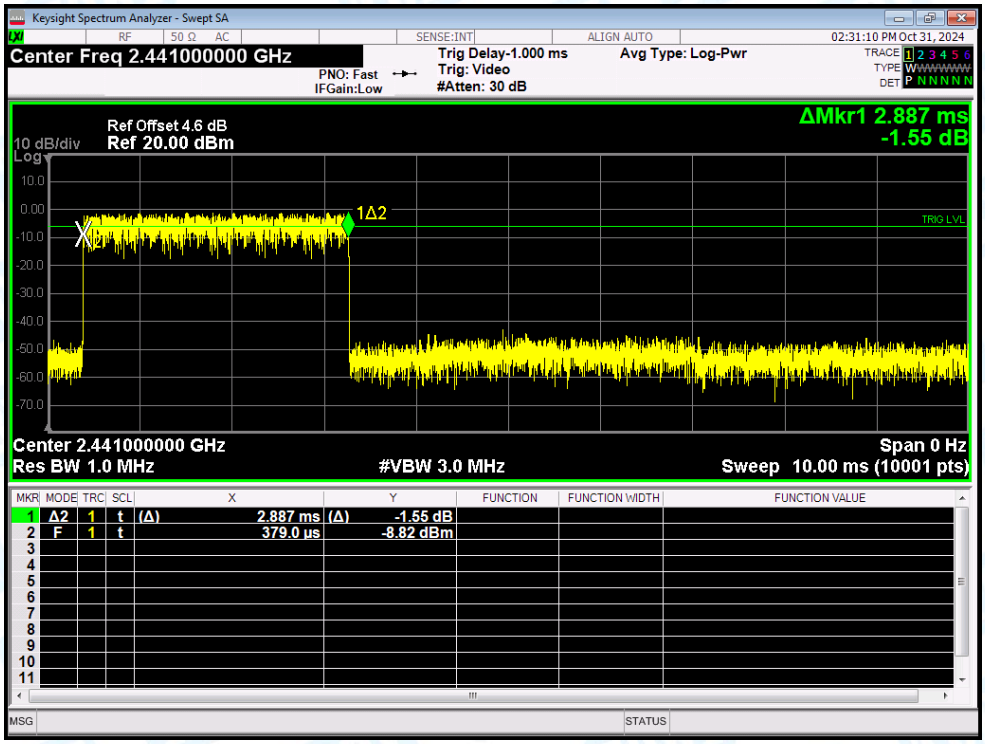
Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1



Dwell NVNT 3-DH5 2441MHz Ant1



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