



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Bluetooth Speaker

Test Model: CF22

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Summer Wu
Supervised by:	Nick Peng





A.1 -20dB Bandwidth

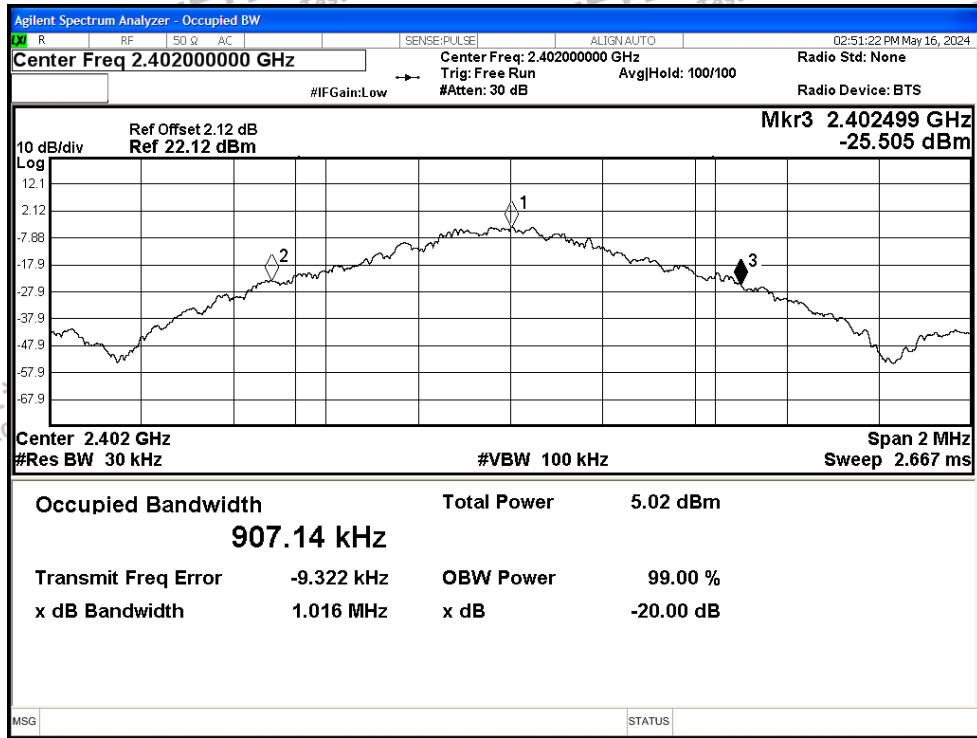
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.016	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.025	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.023	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.284	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.31	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.28	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.293	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.281	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.267	N/A	Pass



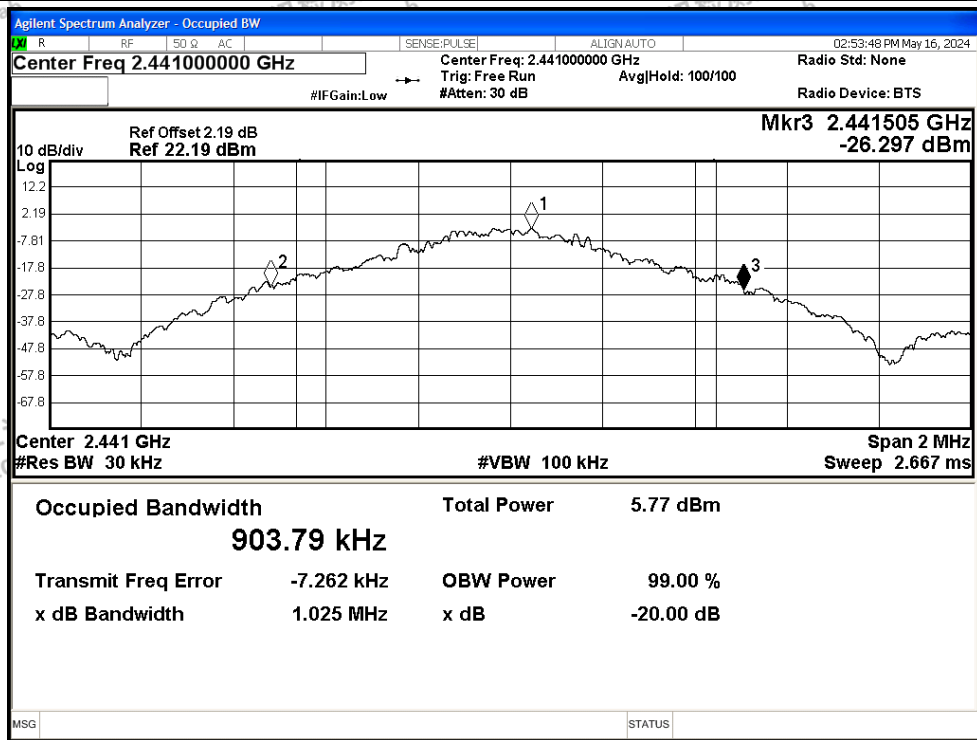


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

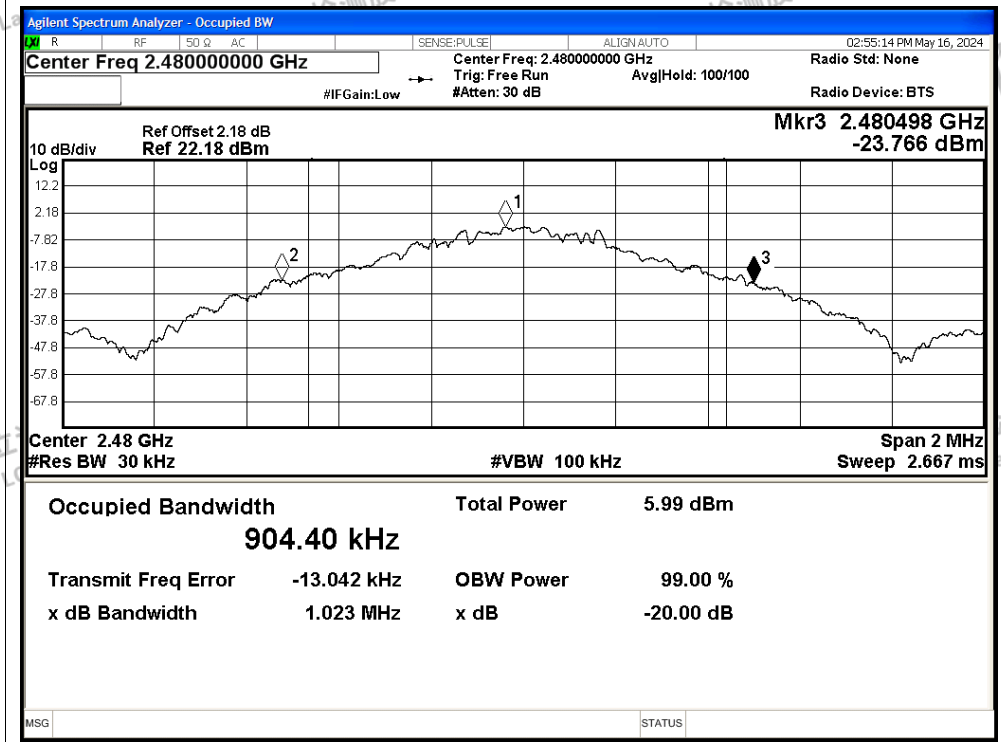


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

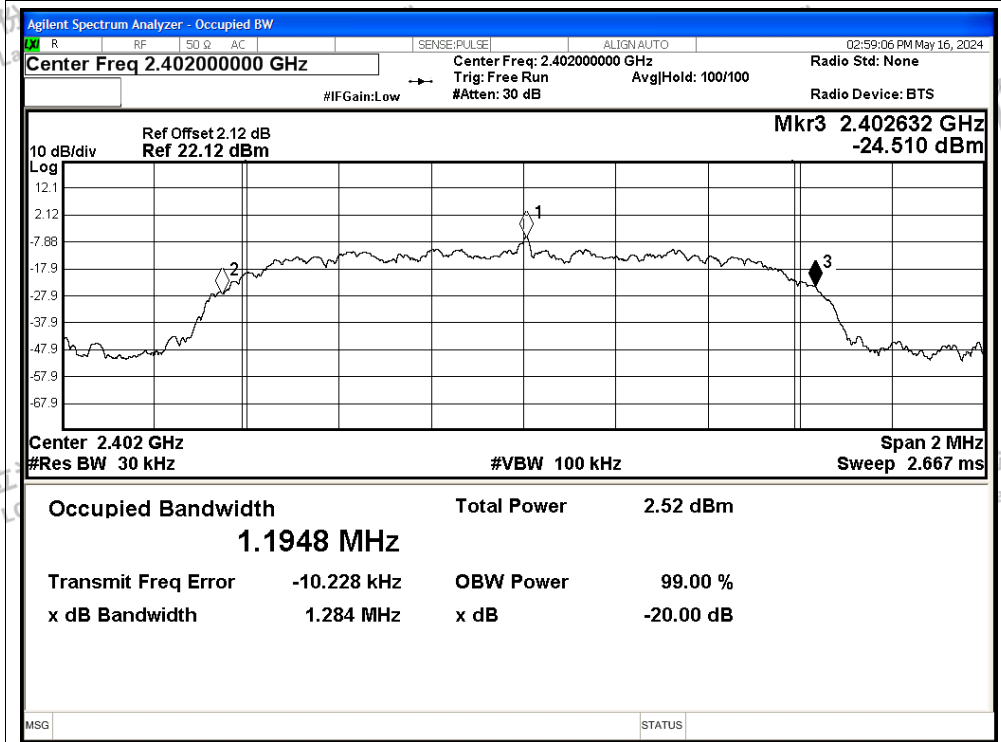




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

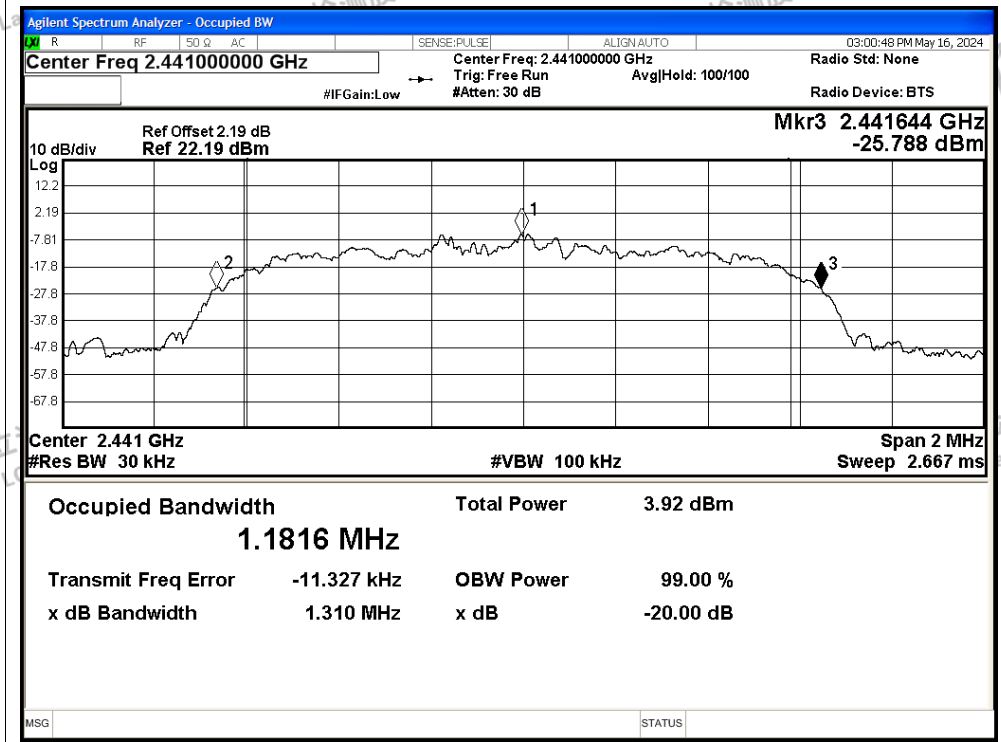


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

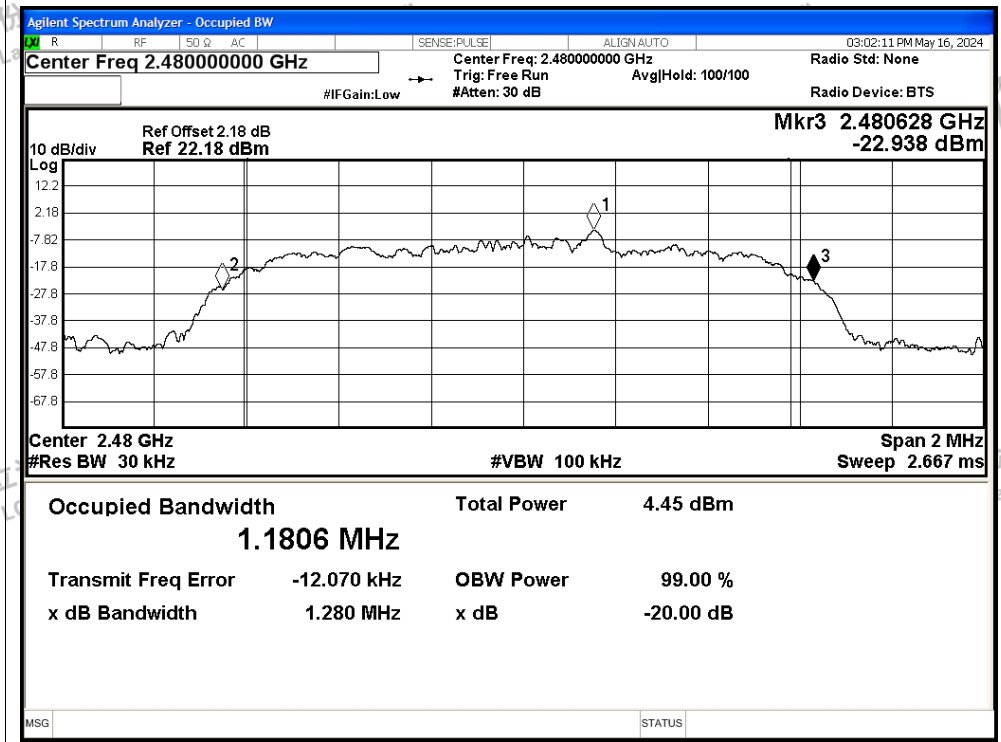




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

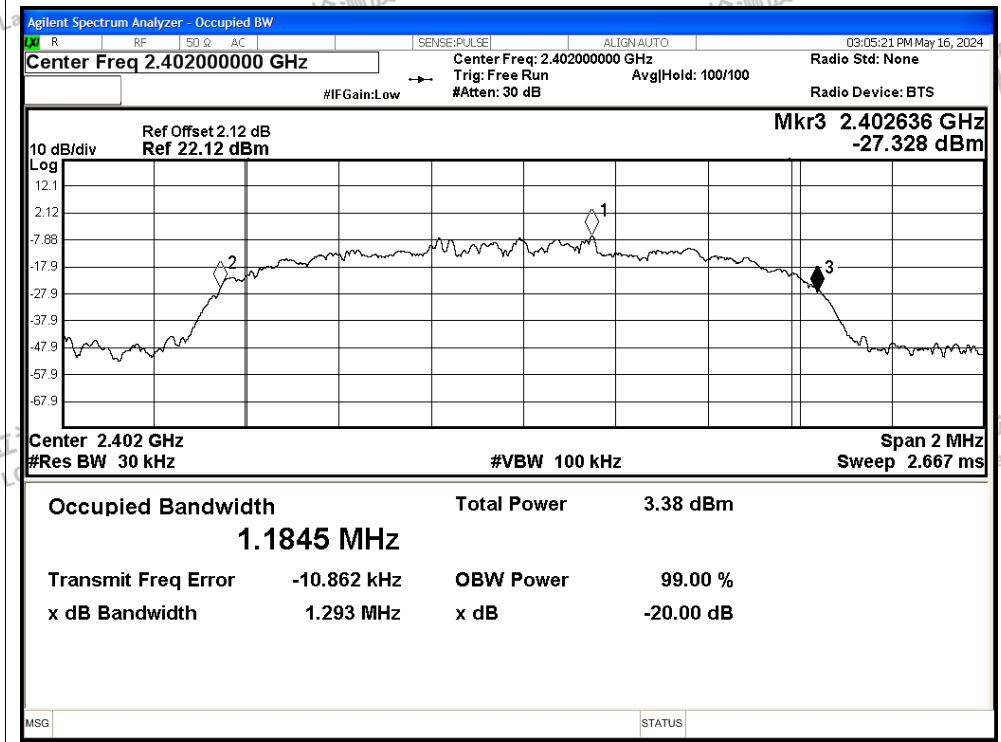


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

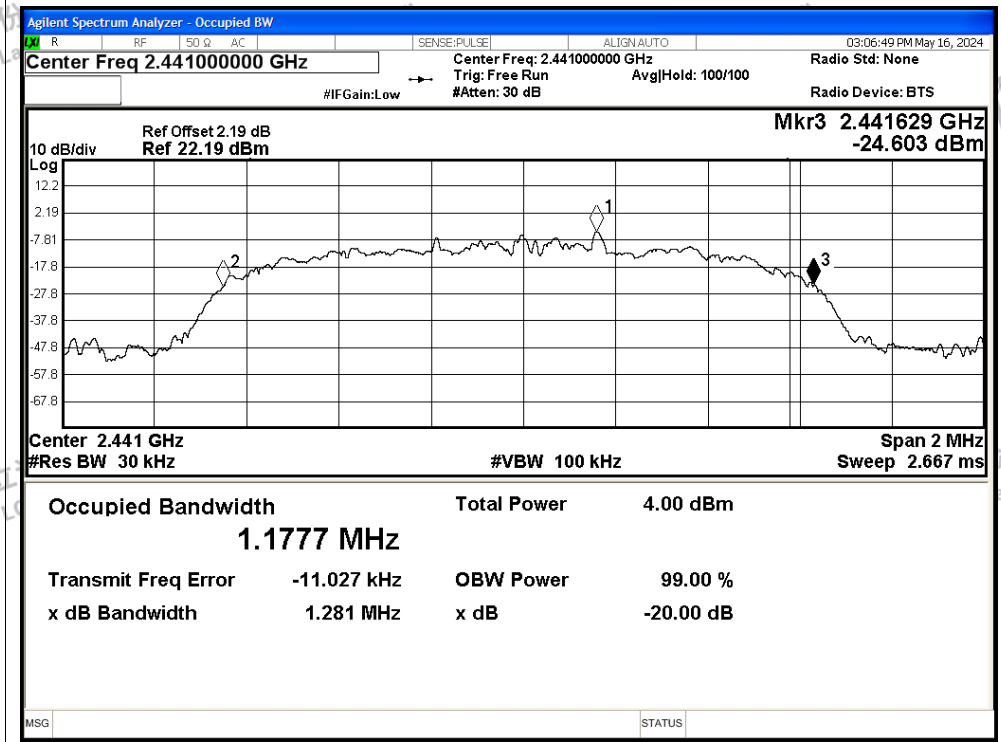


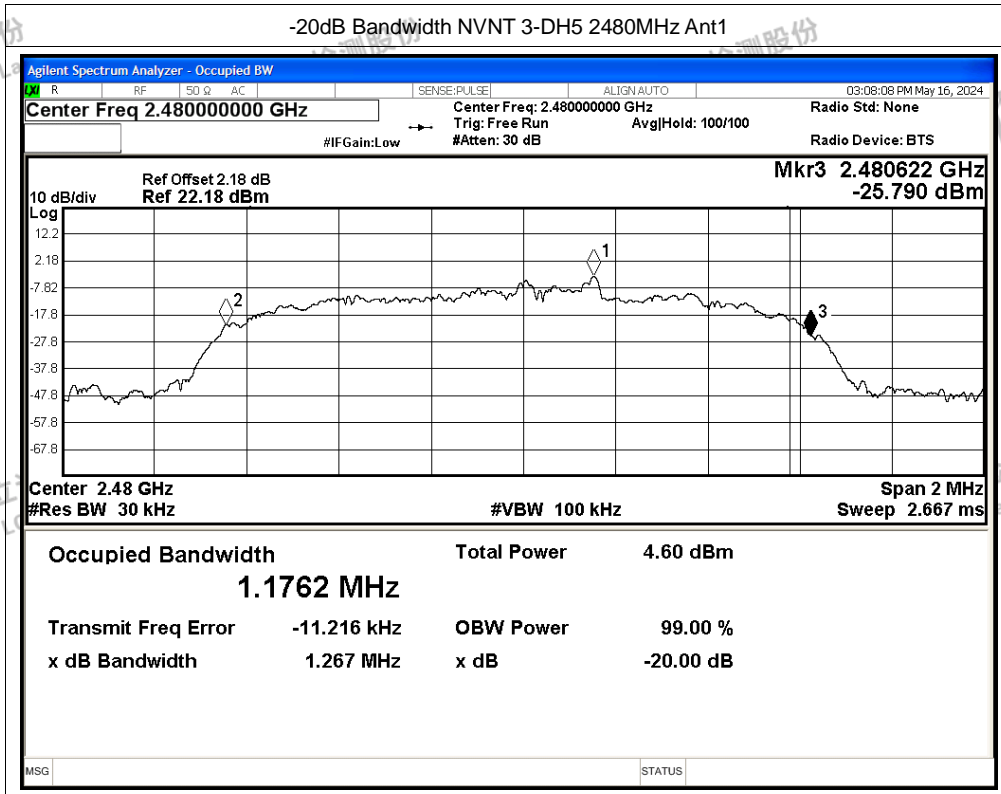


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1







A.2 Maximum Peak Conducted Output Power

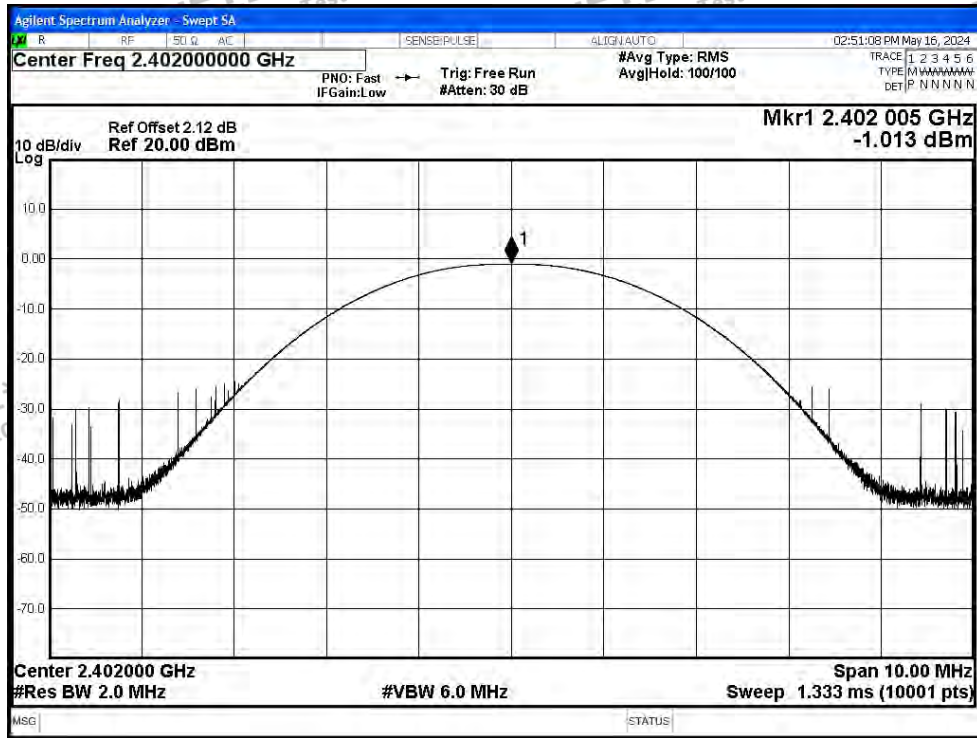
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.01	21	Pass
NVNT	1-DH5	2441	Ant1	-0.29	21	Pass
NVNT	1-DH5	2480	Ant1	0.01	21	Pass
NVNT	2-DH5	2402	Ant1	-1.32	21	Pass
NVNT	2-DH5	2441	Ant1	-0.54	21	Pass
NVNT	2-DH5	2480	Ant1	-0.28	21	Pass
NVNT	3-DH5	2402	Ant1	-1.25	21	Pass
NVNT	3-DH5	2441	Ant1	-0.47	21	Pass
NVNT	3-DH5	2480	Ant1	-0.17	21	Pass



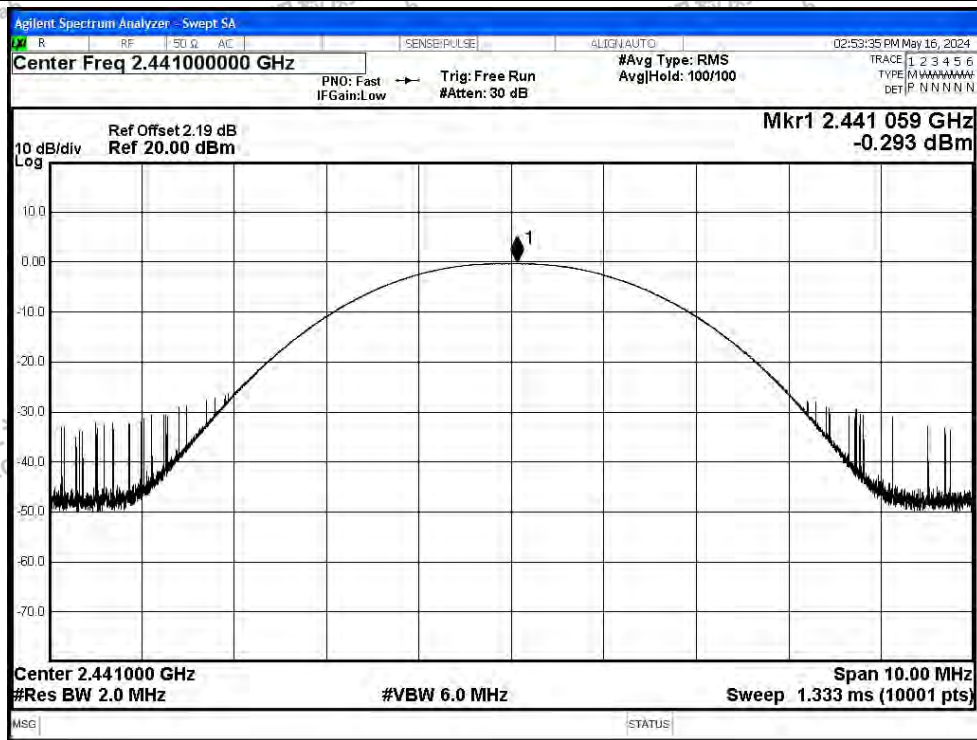


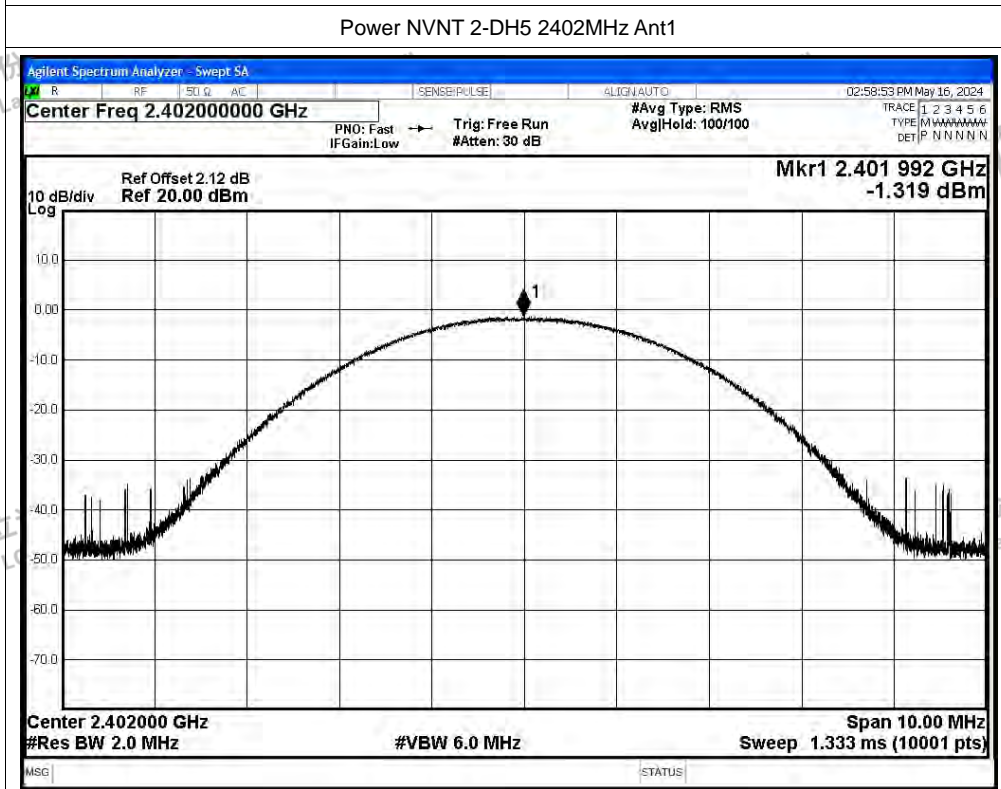
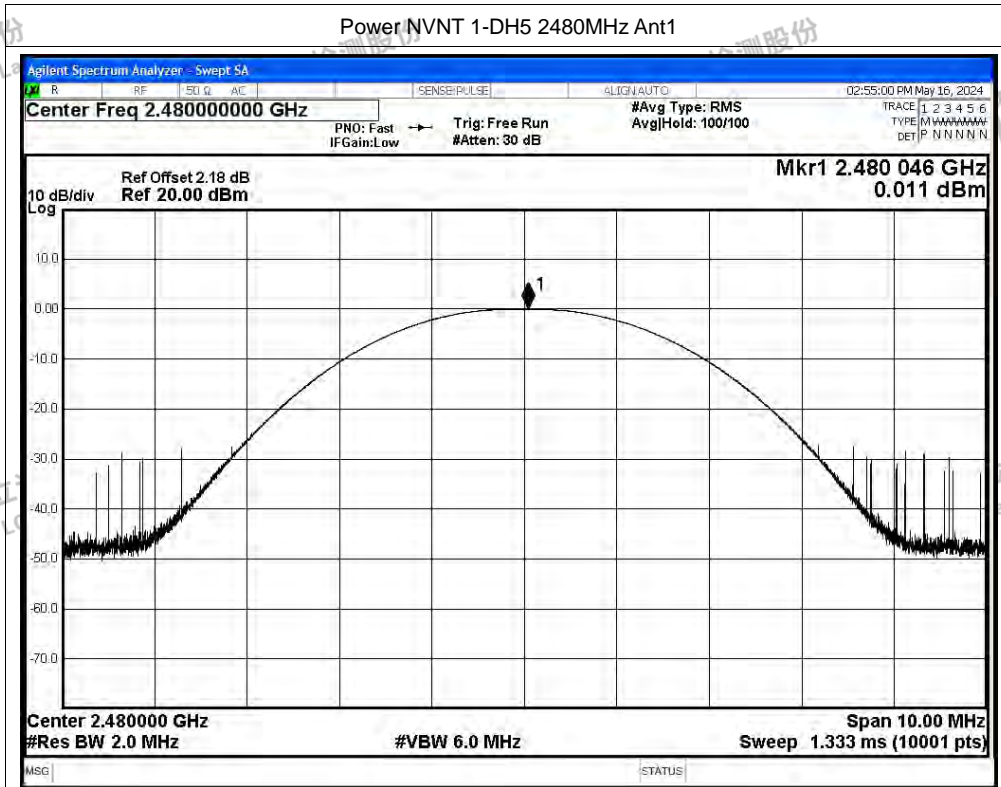
Test Graphs

Power NVNT 1-DH5 2402MHz Ant1



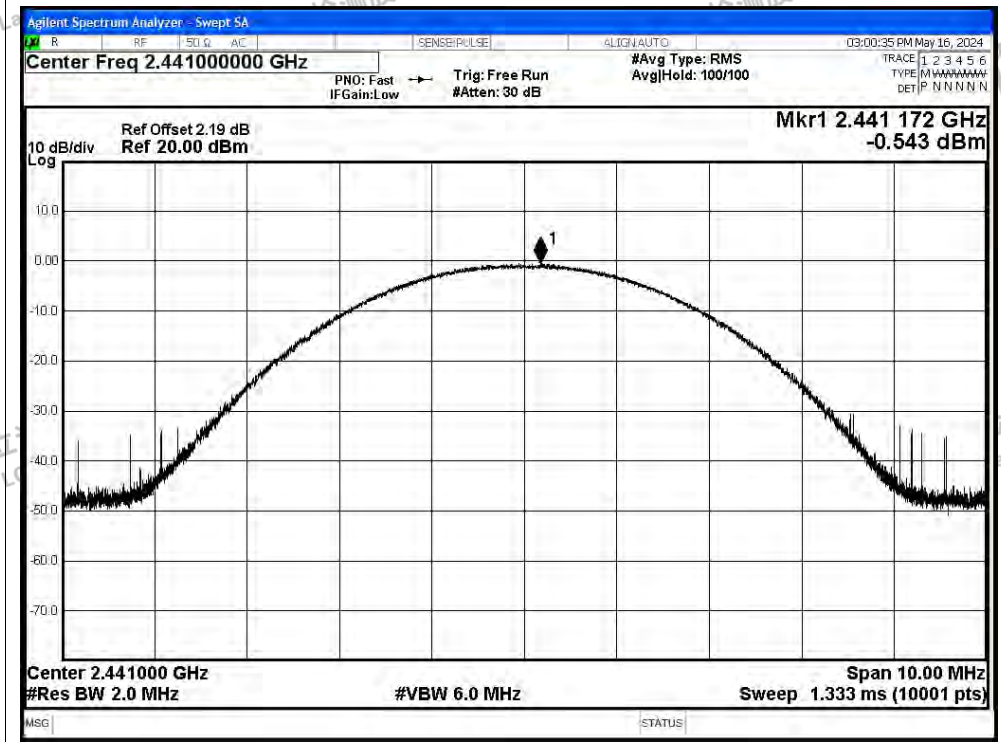
Power NVNT 1-DH5 2441MHz Ant1



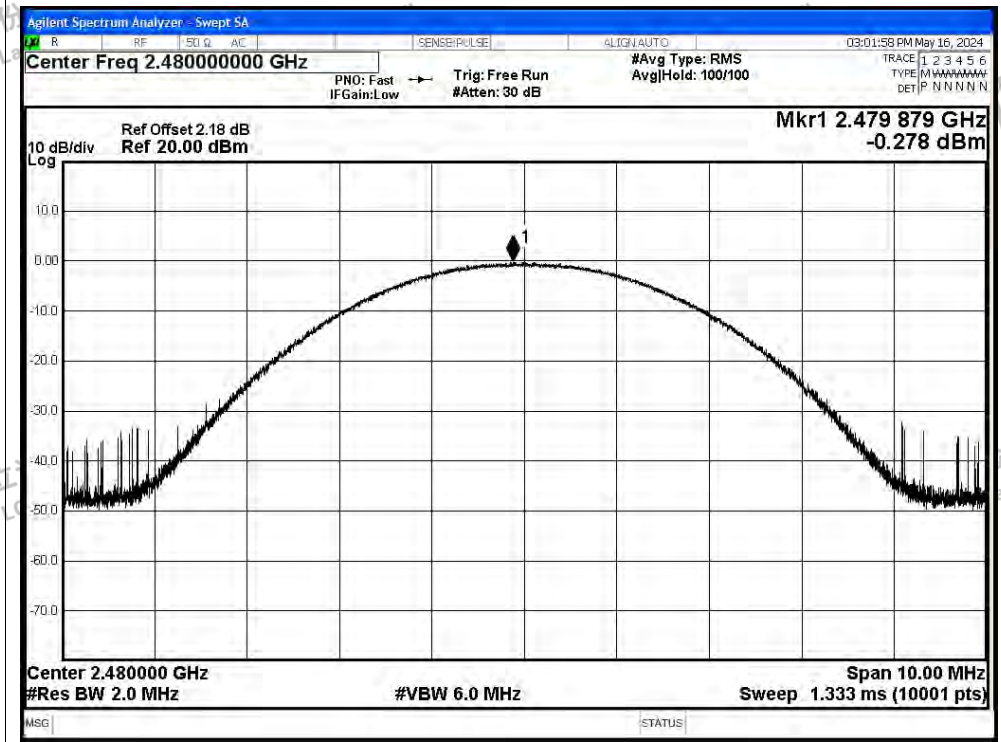




Power NVNT 2-DH5 2441MHz Ant1

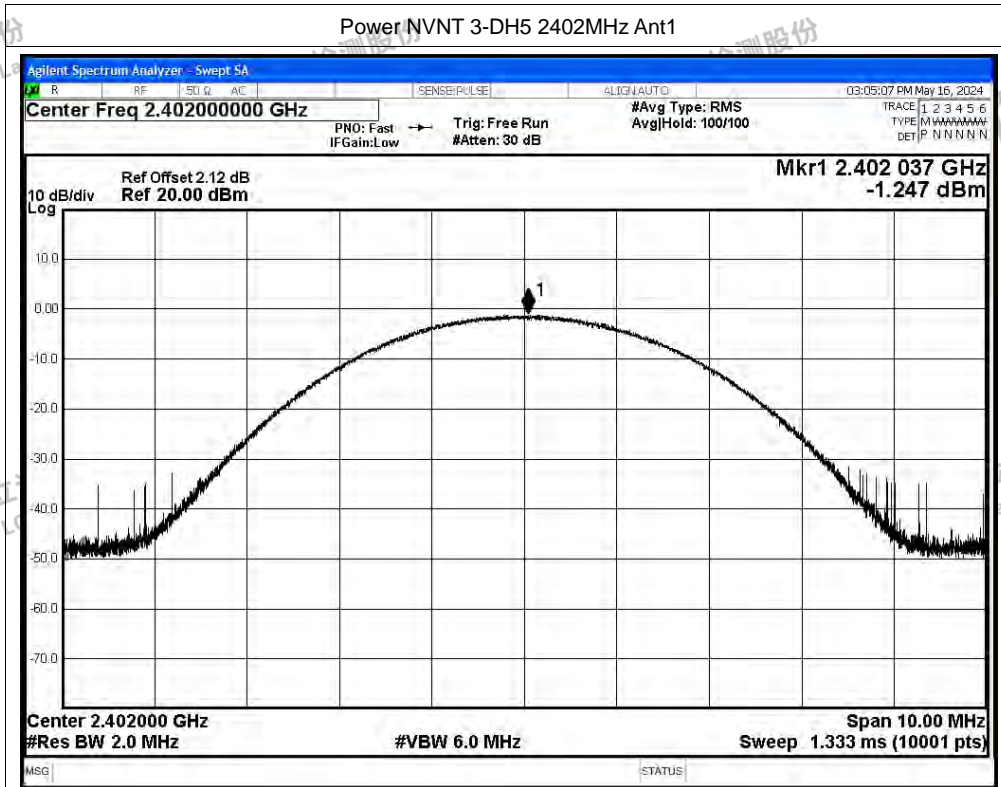


Power NVNT 2-DH5 2480MHz Ant1

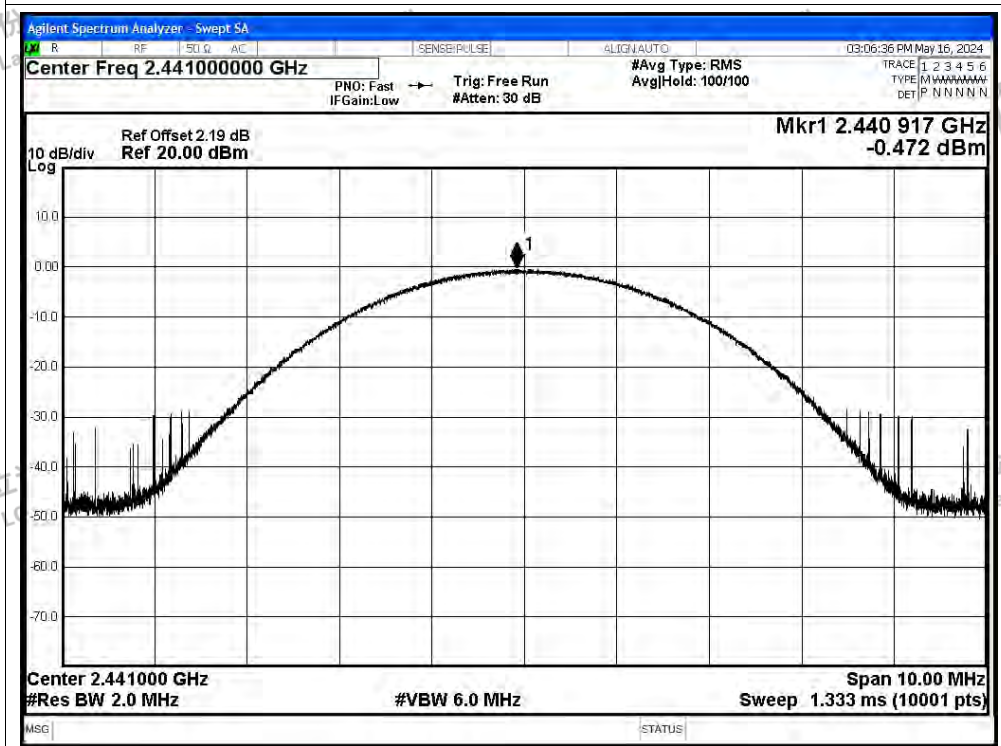


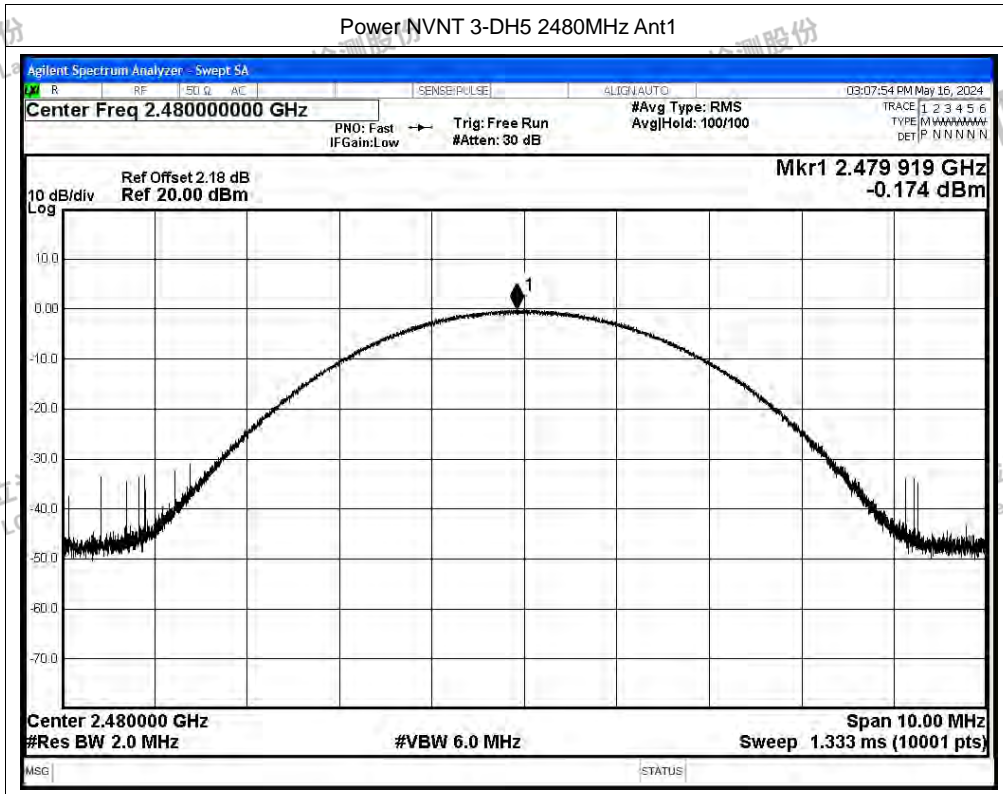


Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1







A.3 Carrier Frequencies Separation

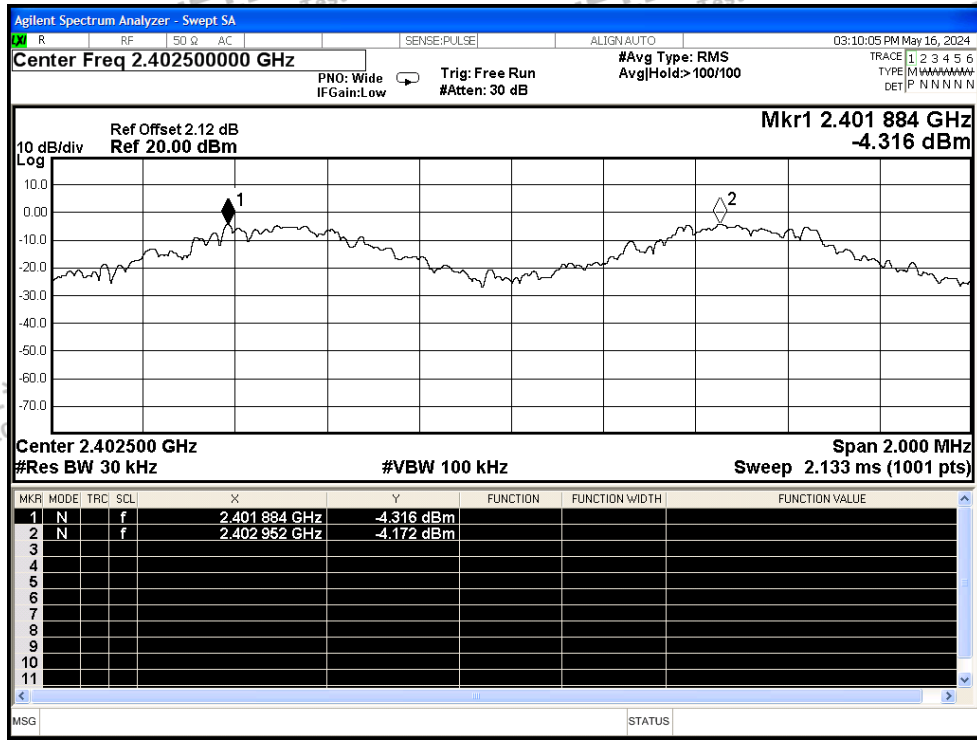
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.884	2402.952	1.068	0.683	Pass
NVNT	2-DH5	Ant1	2402.014	2403.164	1.15	0.873	Pass
NVNT	3-DH5	Ant1	2402.008	2402.9	0.892	0.862	Pass



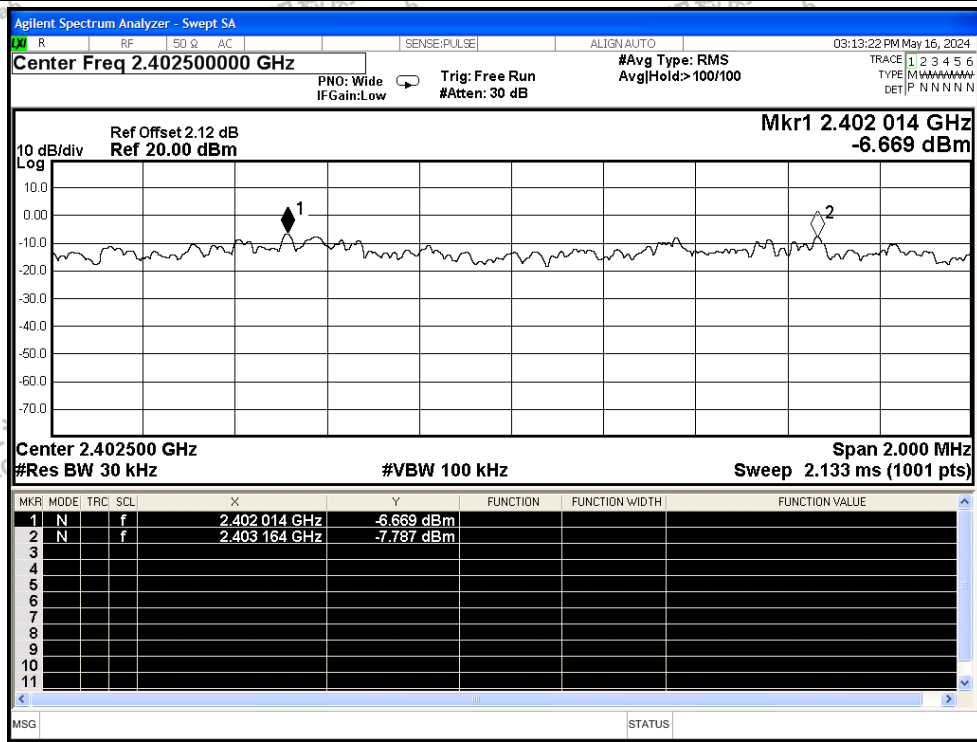


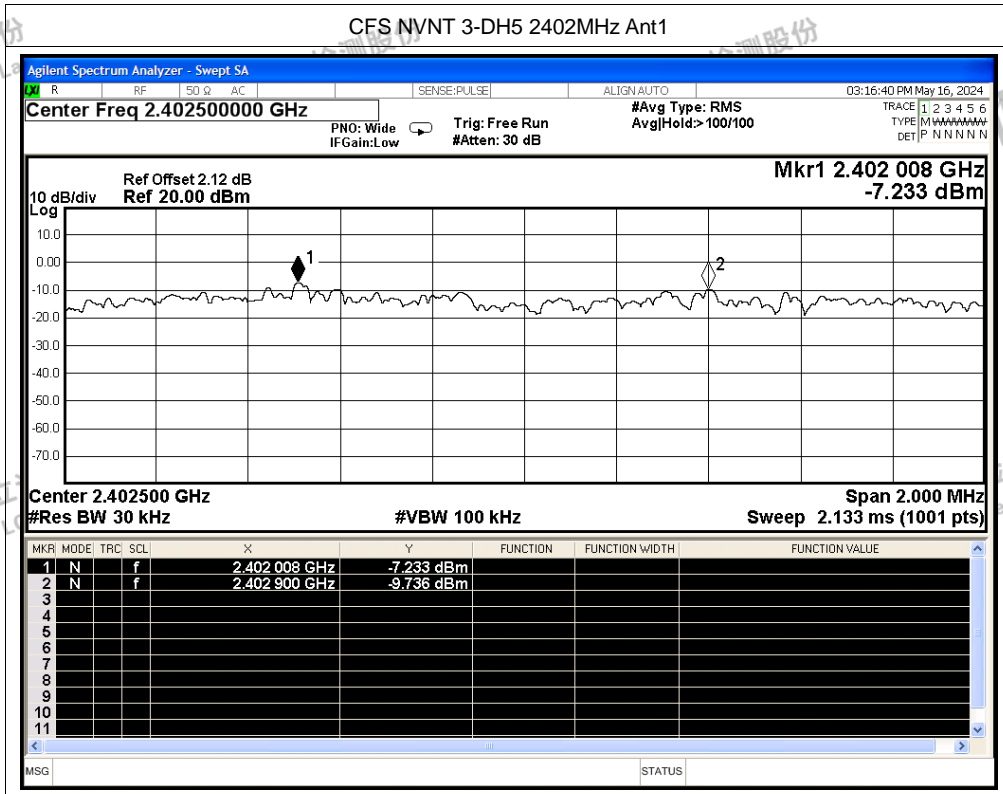
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1







A.4 Dwell Time

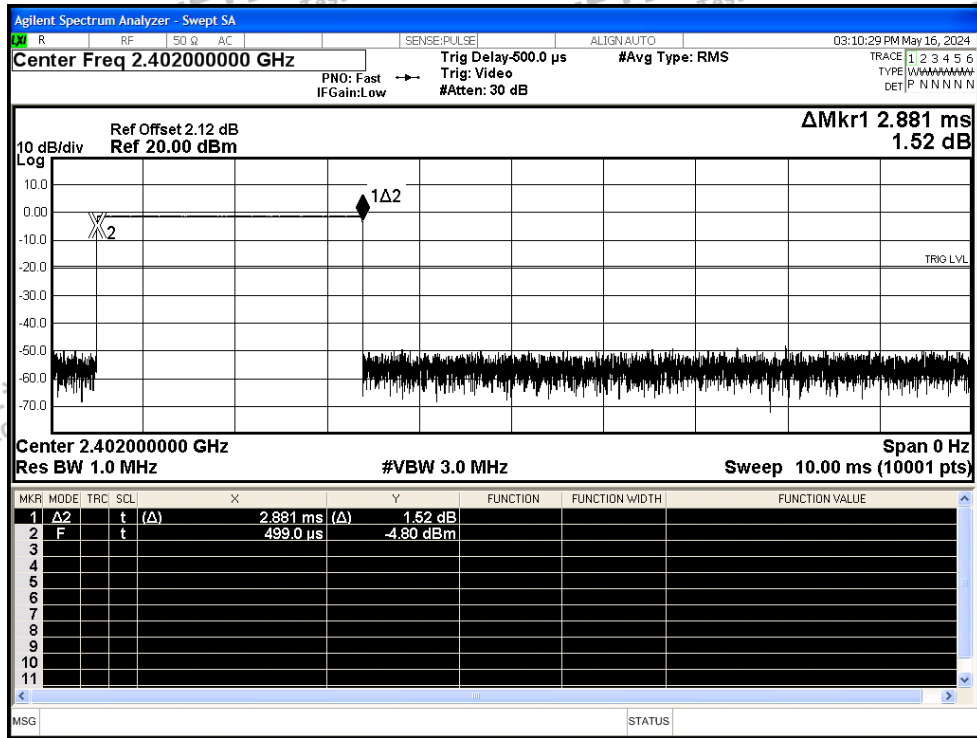
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.881	259.29	90	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.885	279.845	97	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.608	229.504	88	31600	400	Pass



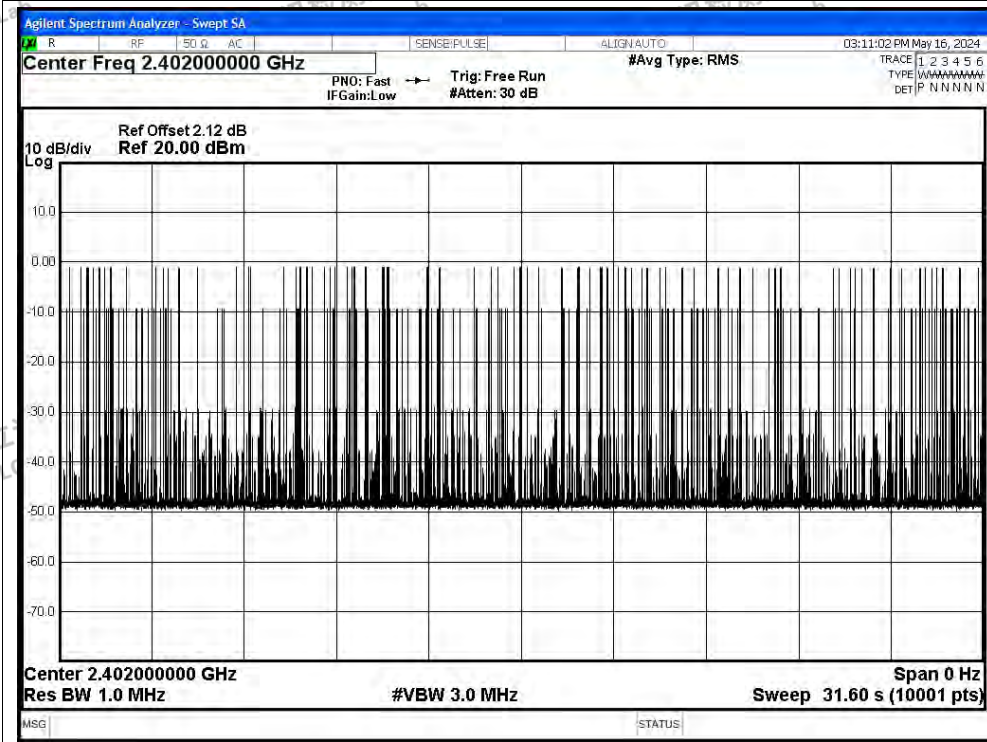


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

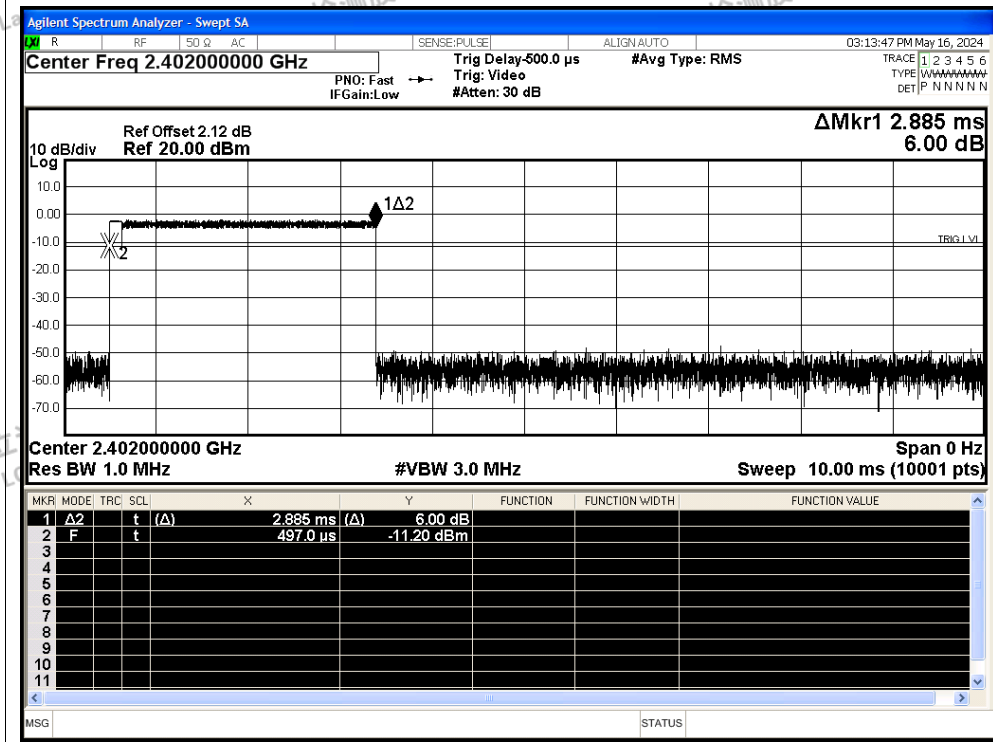


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

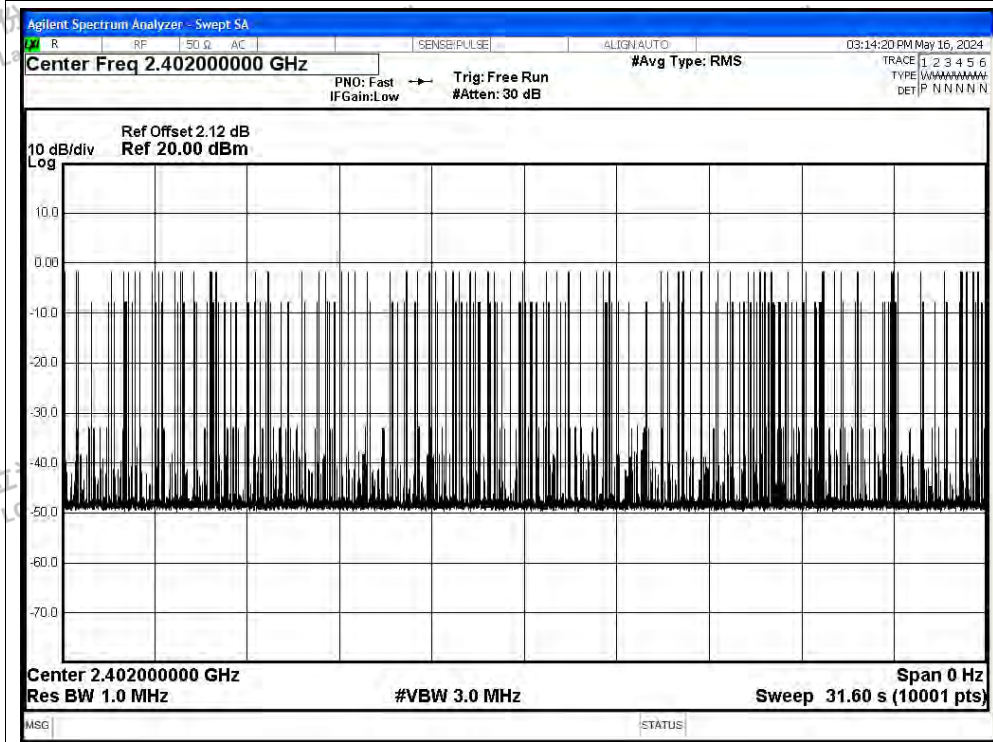




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

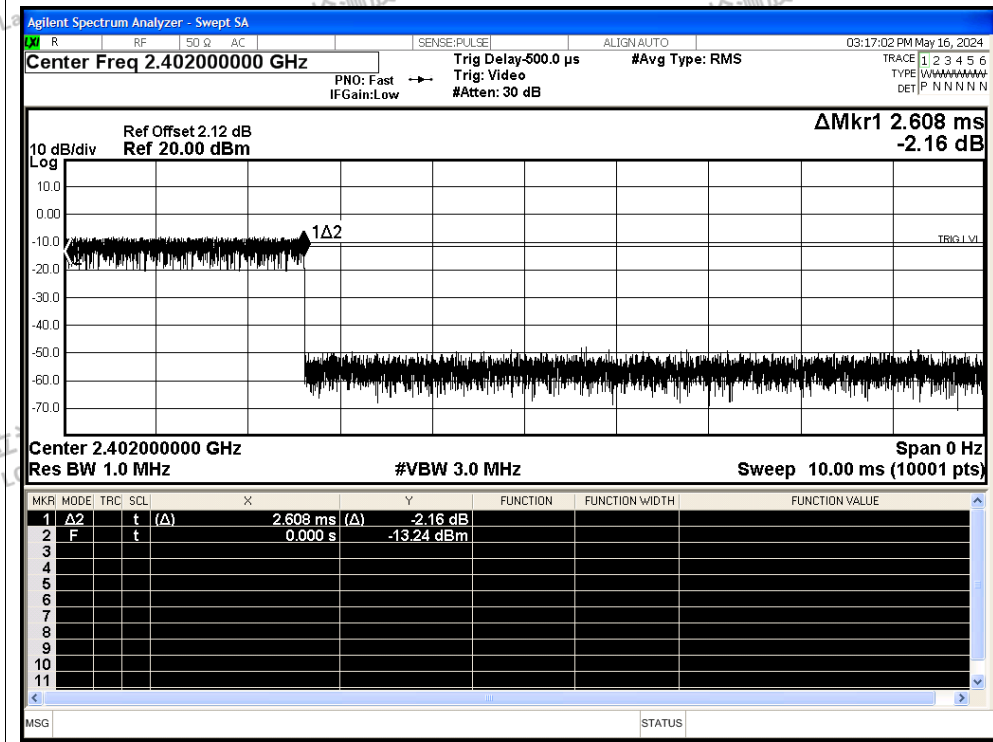


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

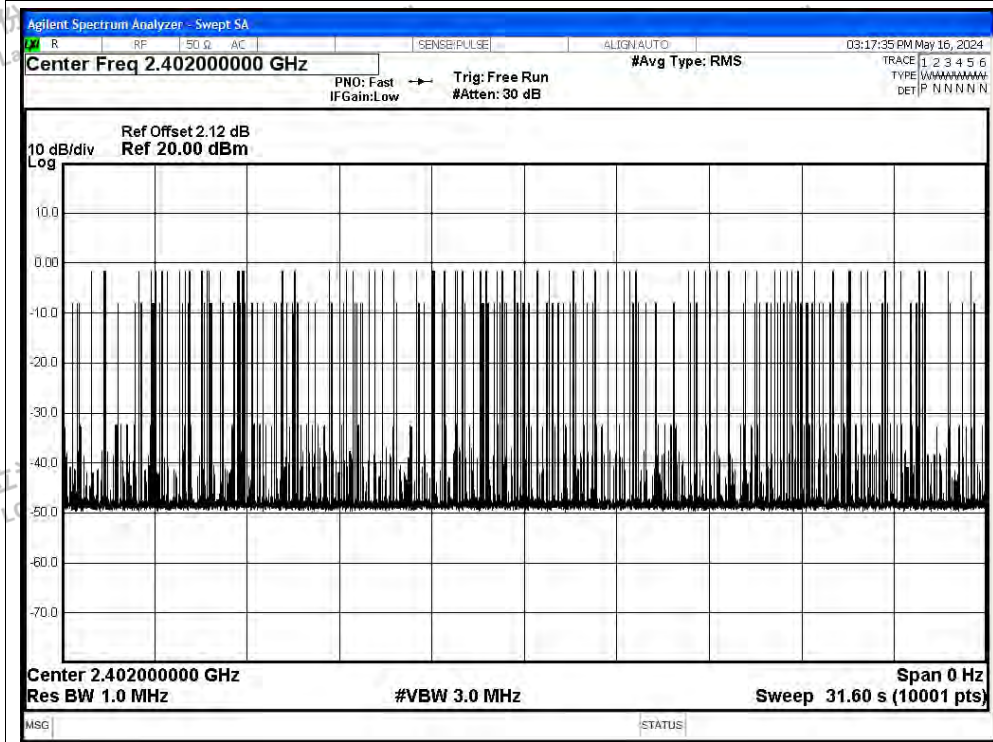




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated





A.5 Number of Hopping Channel

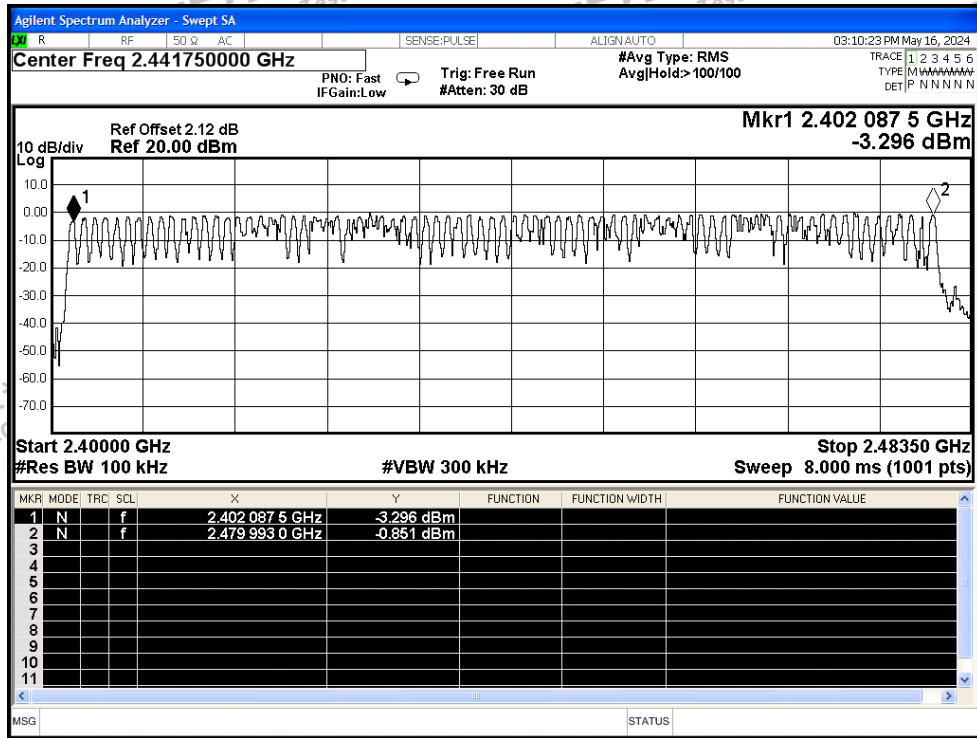
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



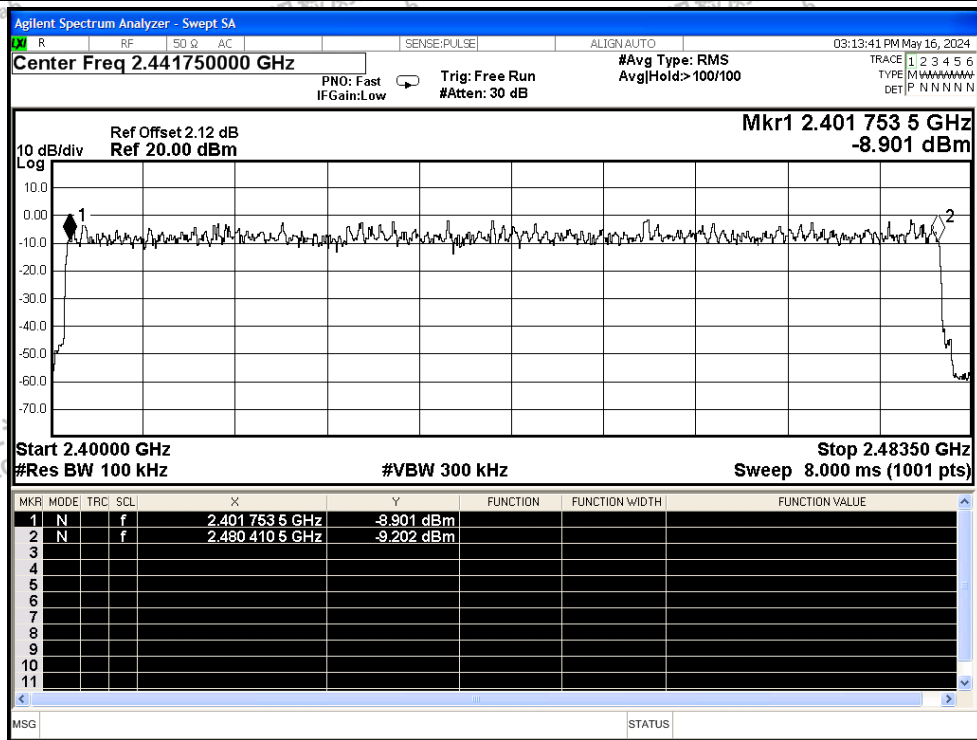


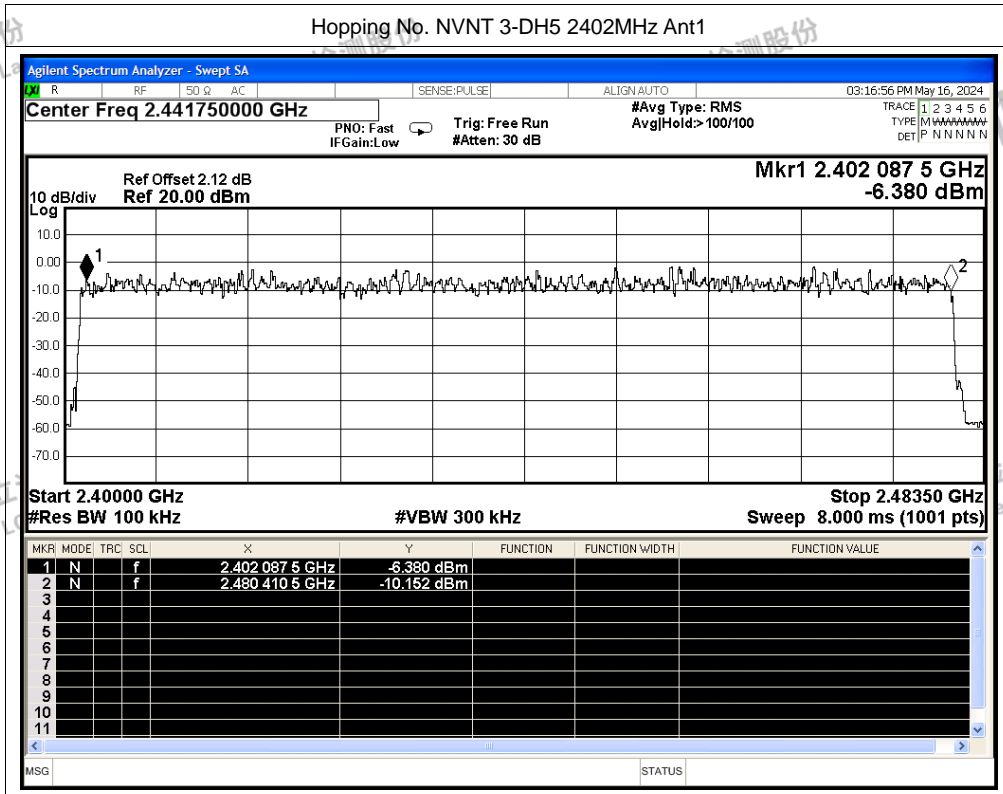
Test Graphs

Hopping No: NVNT 1-DH5 2402MHz Ant1



Hopping No: NVNT 2-DH5 2402MHz Ant1







A.6 Band Edge

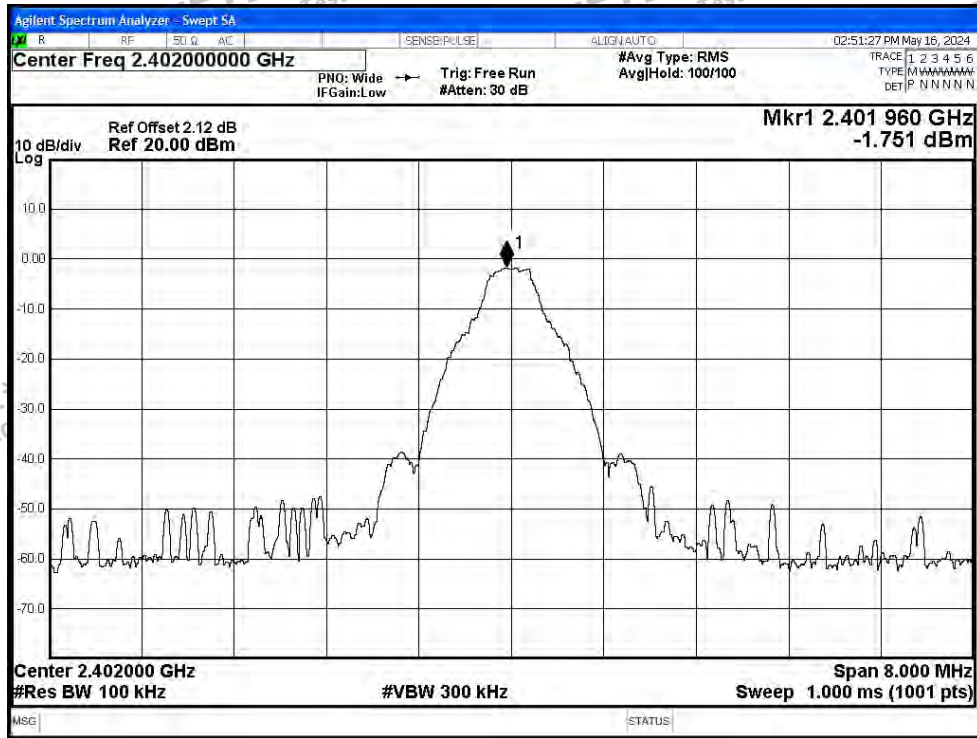
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-50.91	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-53.02	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-50.69	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-52.45	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-48.03	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-56.23	-20	Pass



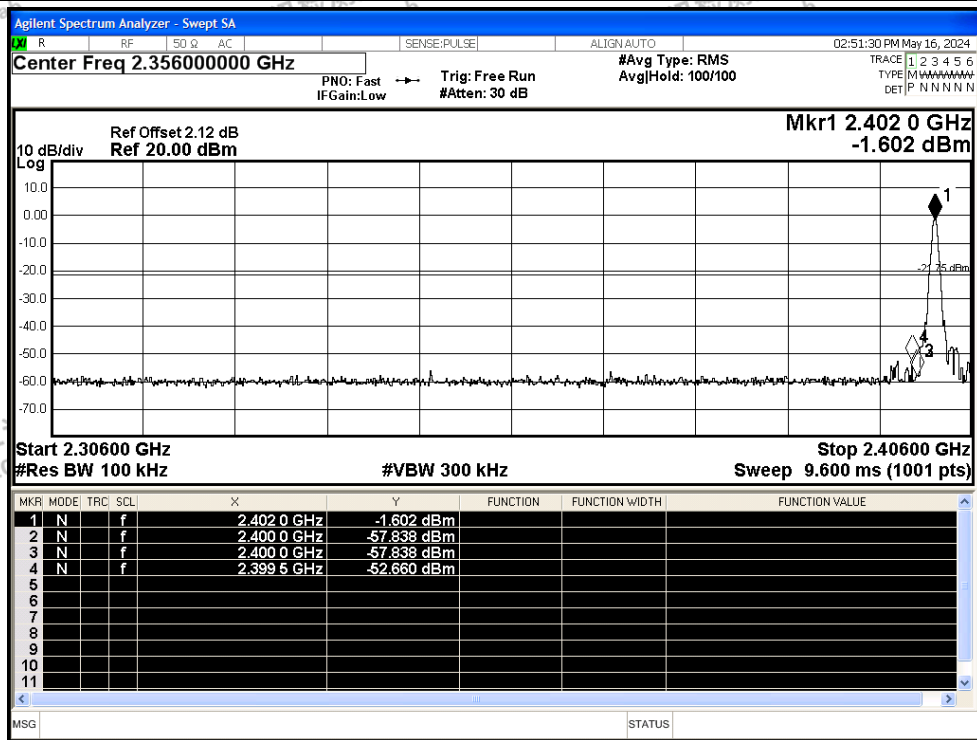


Test Graphs

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

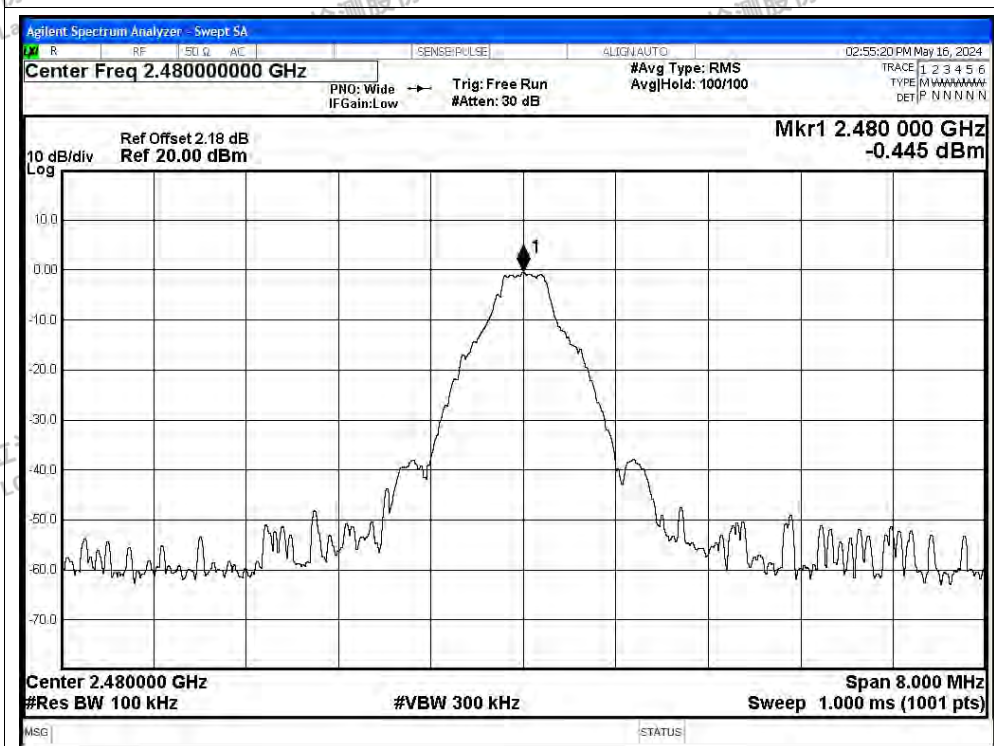


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

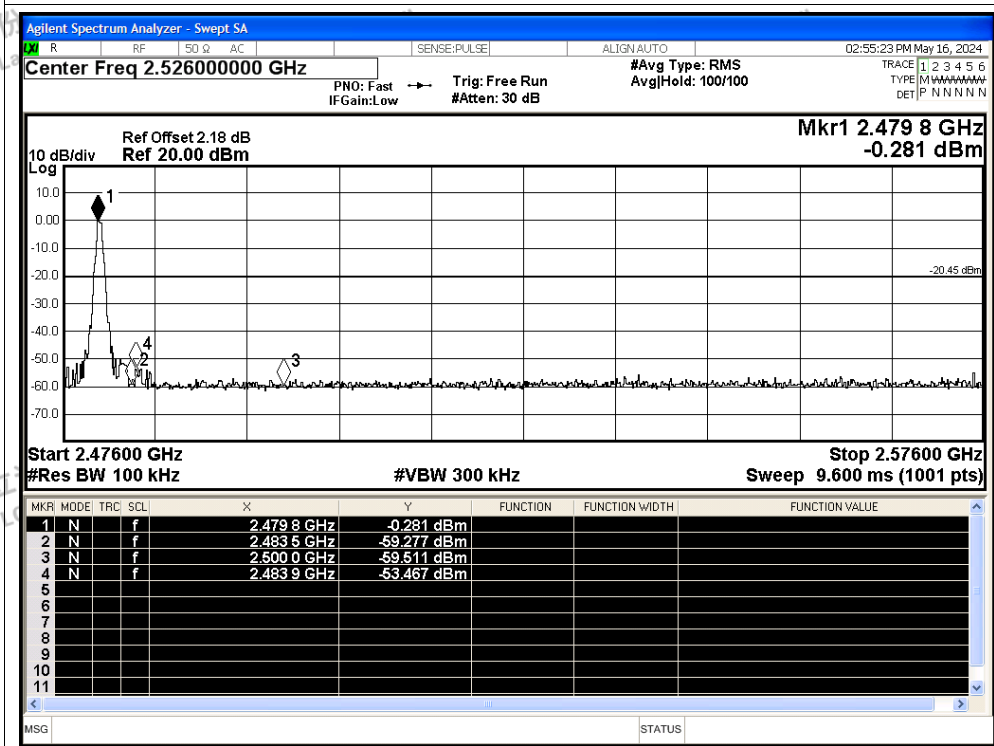




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

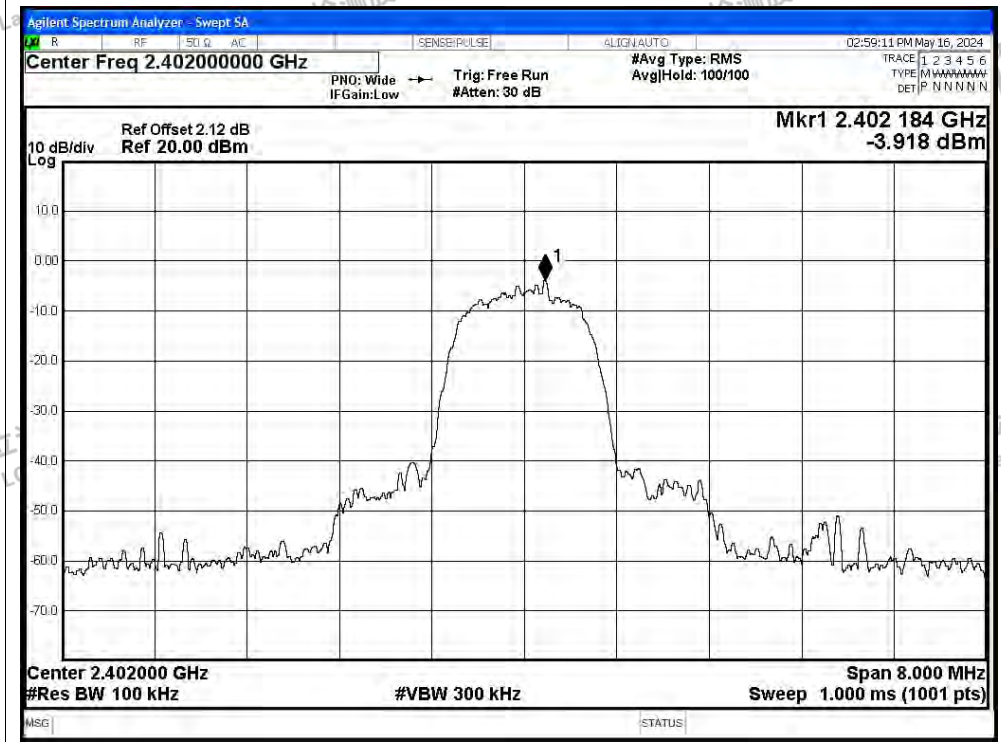


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

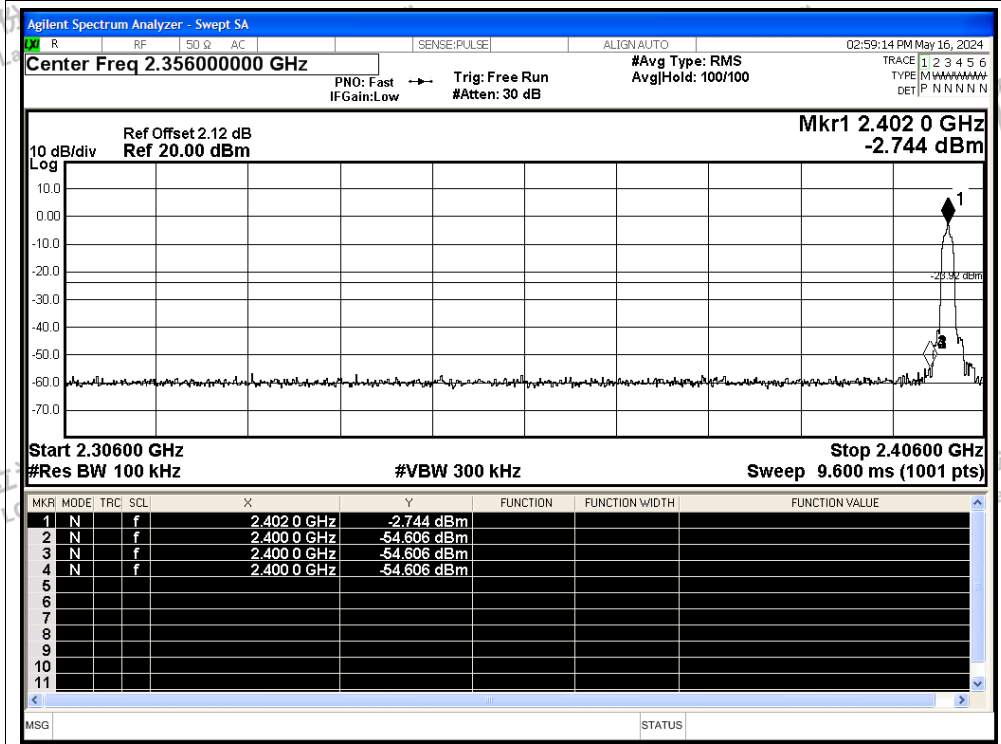




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

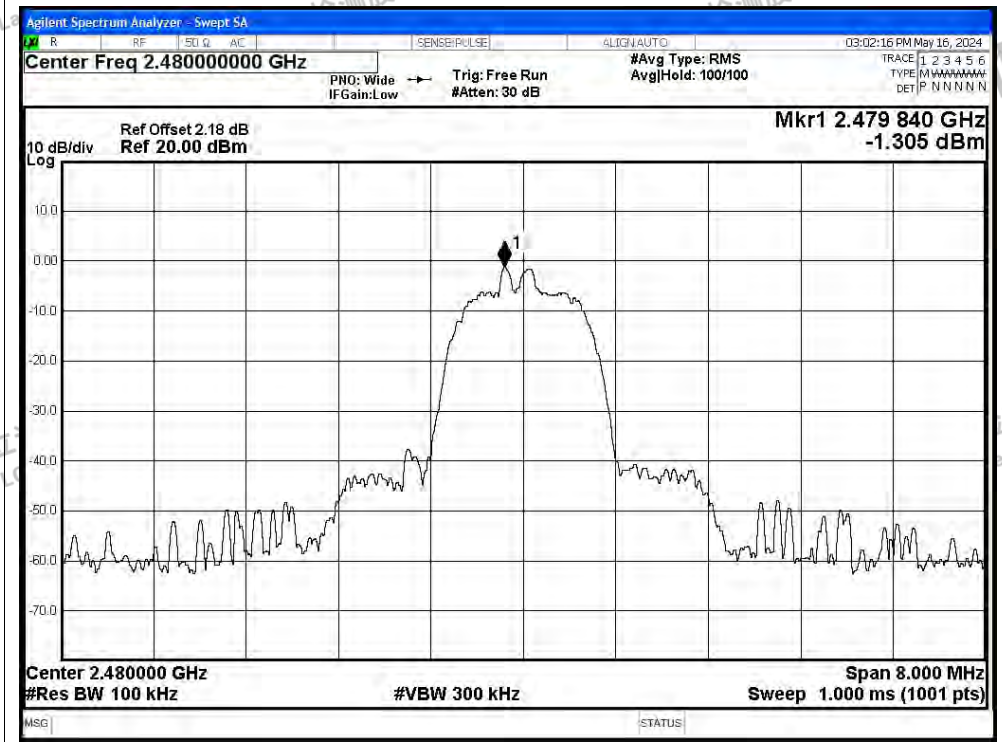


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

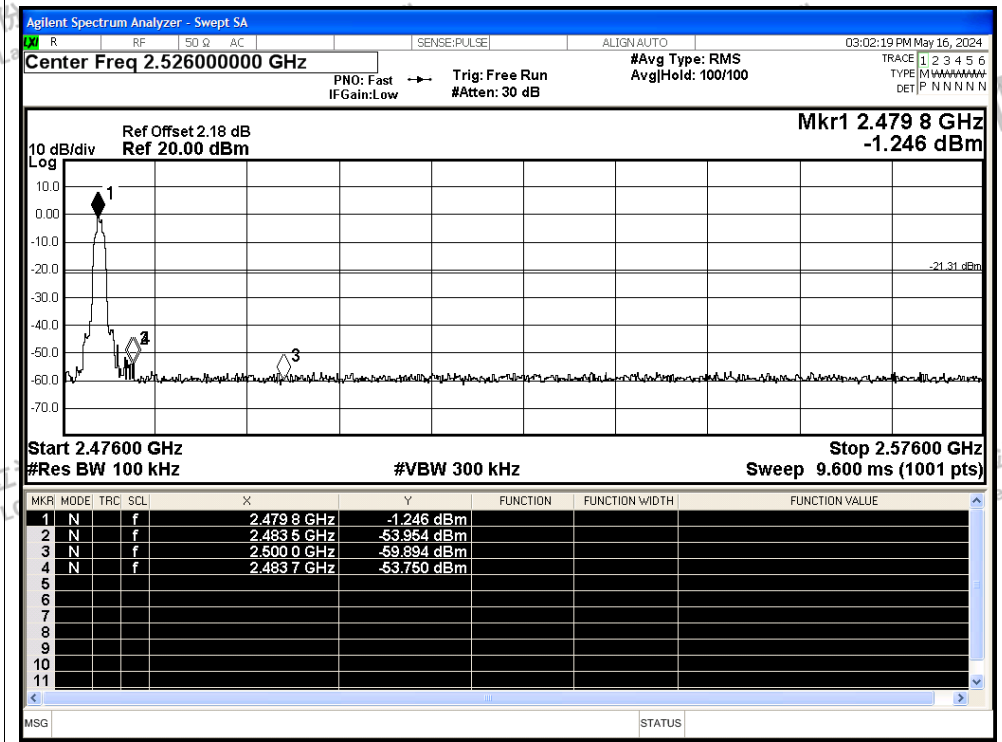




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

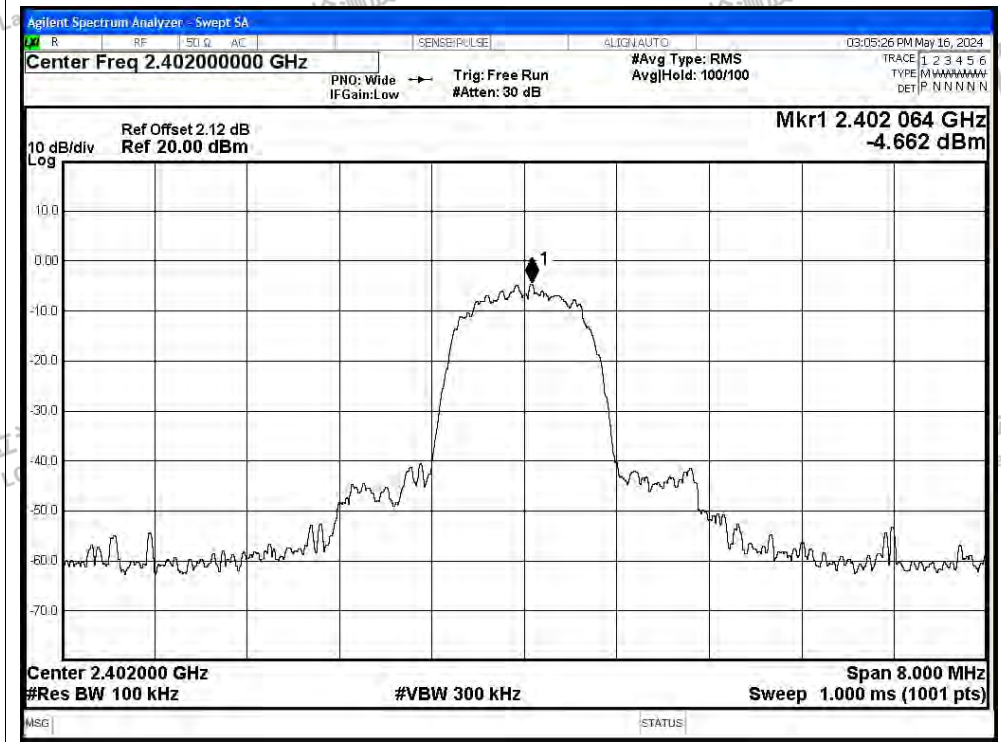


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

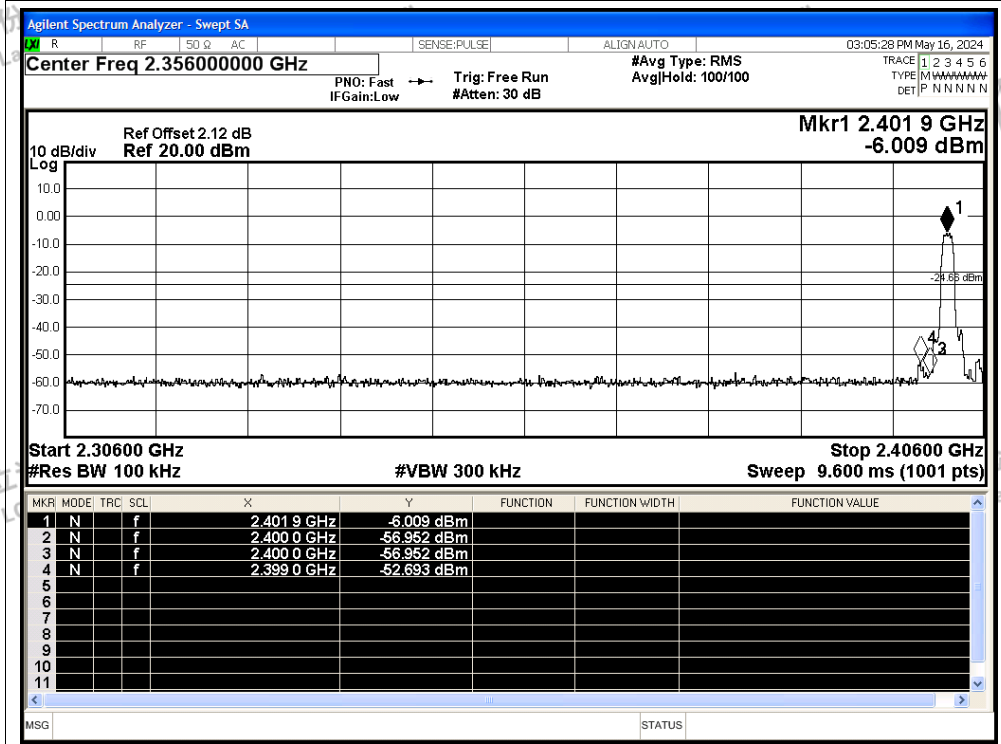




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



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

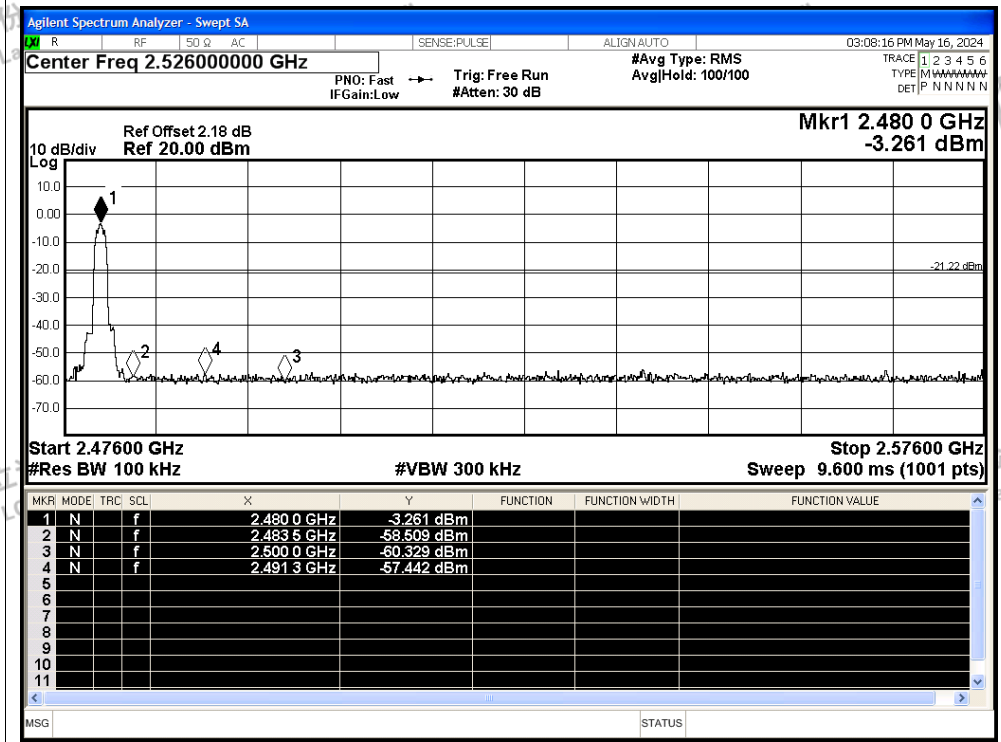




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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





(Hopping)

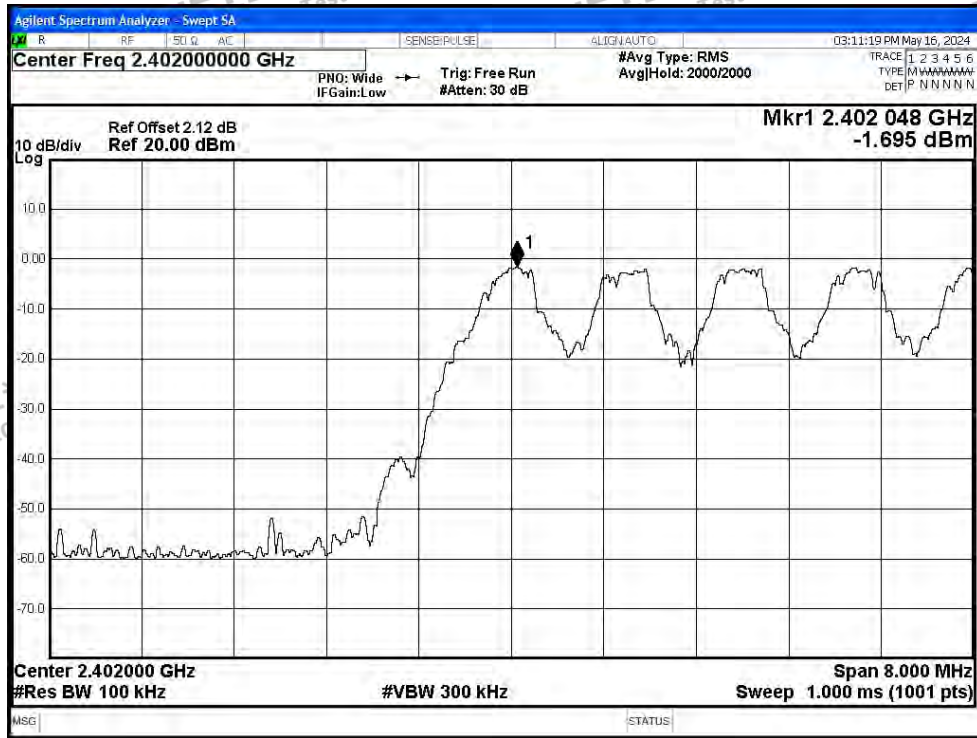
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-54.45	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-52.78	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.87	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-31.7	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-43.61	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-54.3	-20	Pass



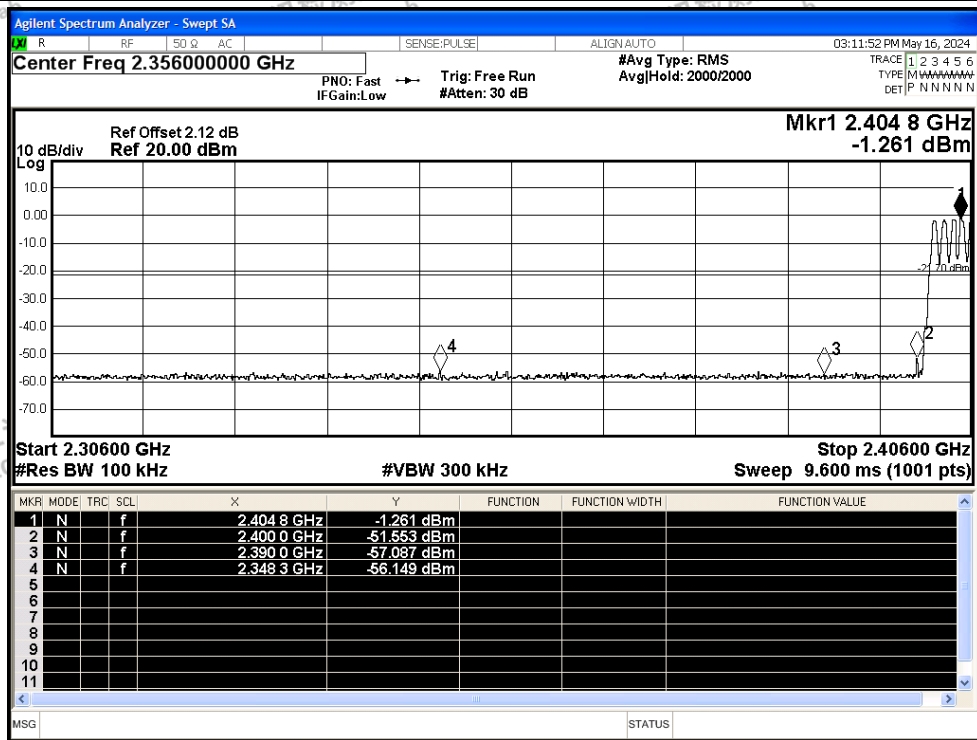


Test Graphs

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

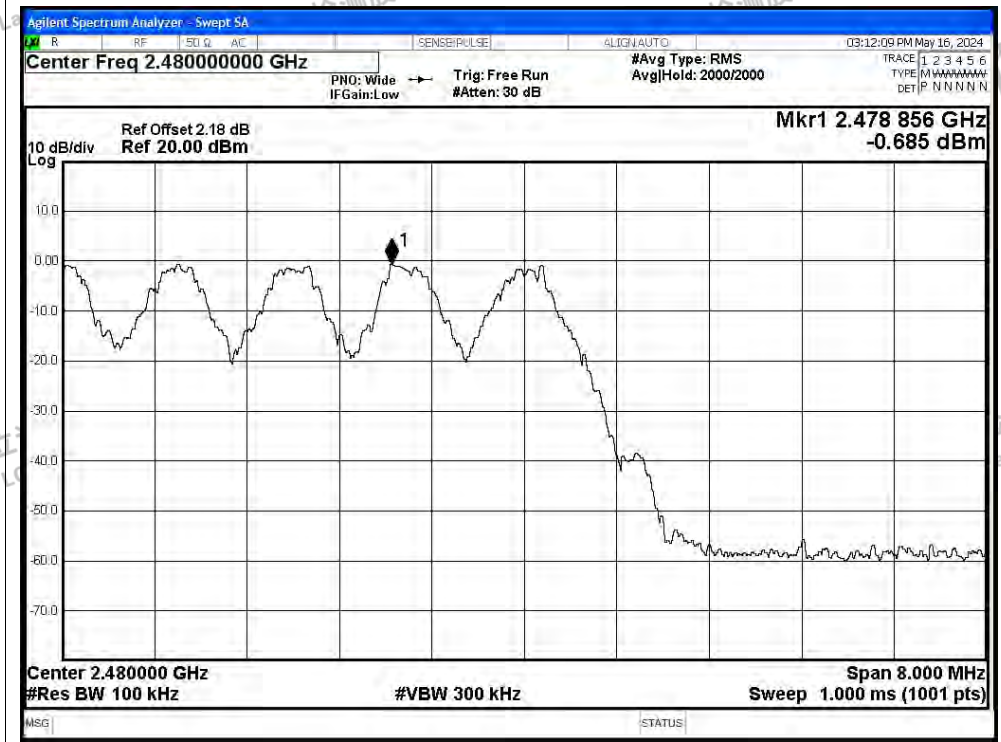


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

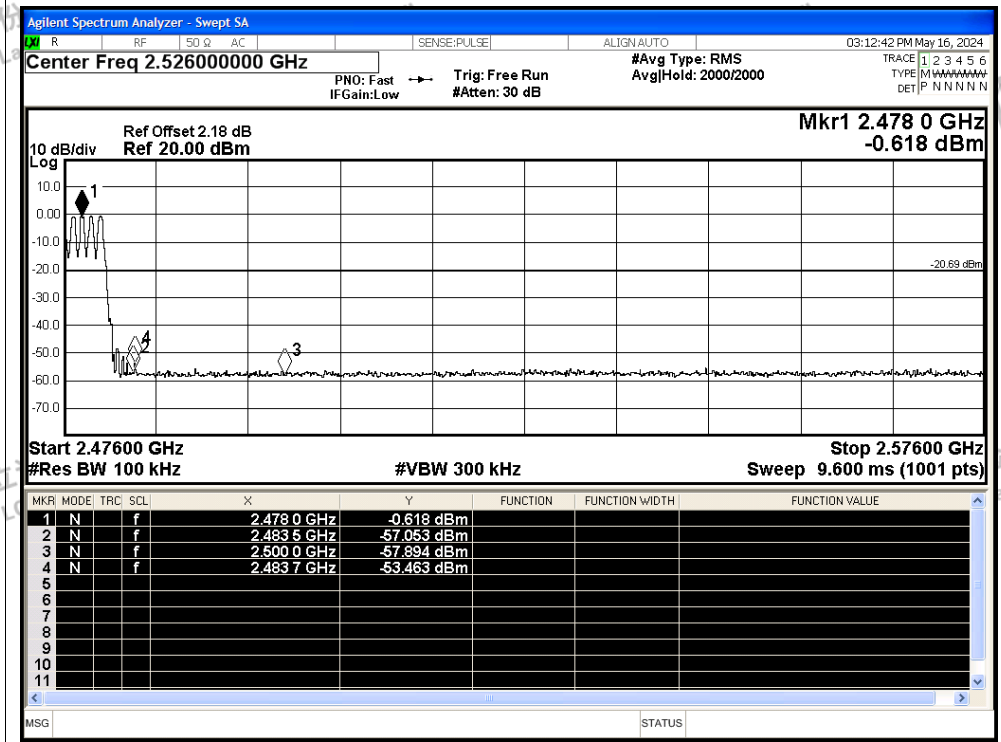




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



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

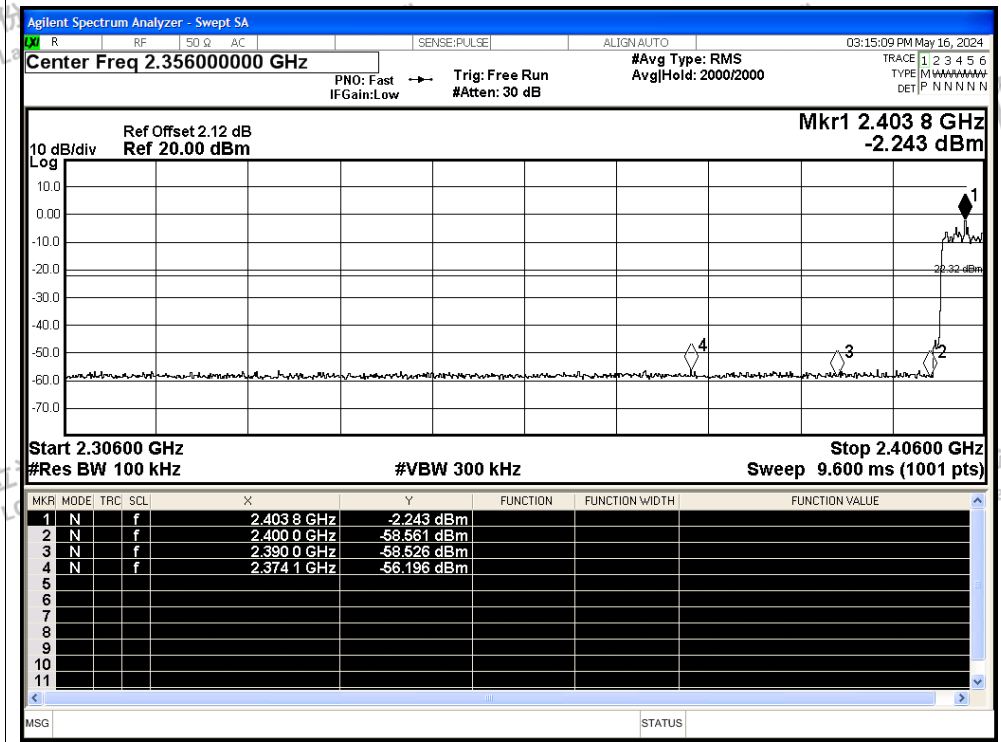




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

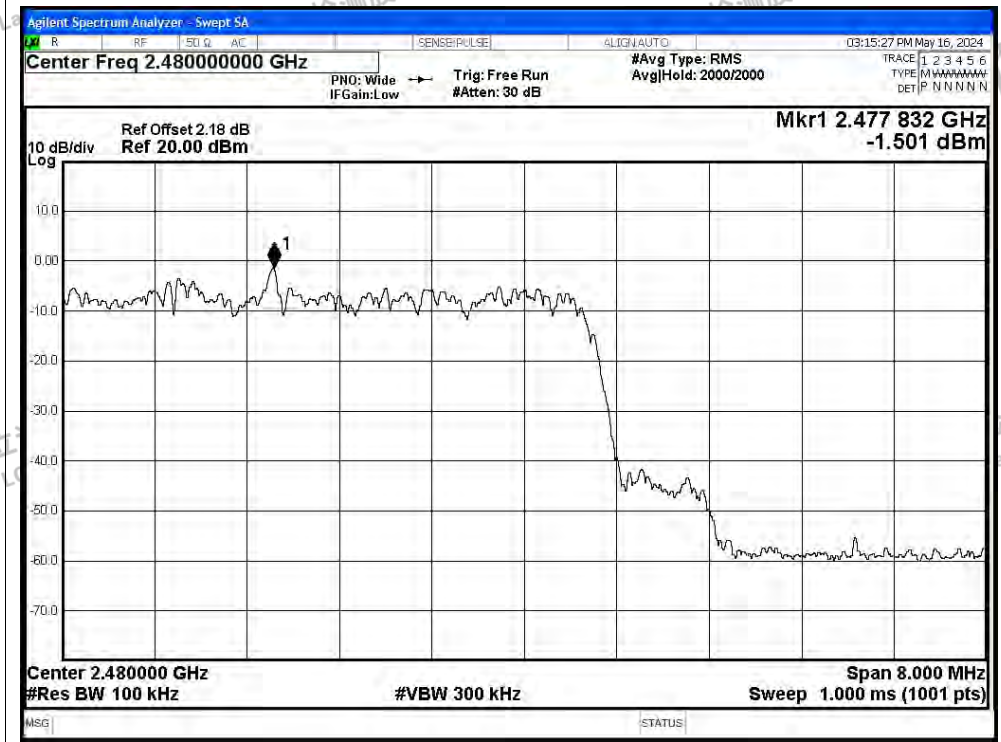


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

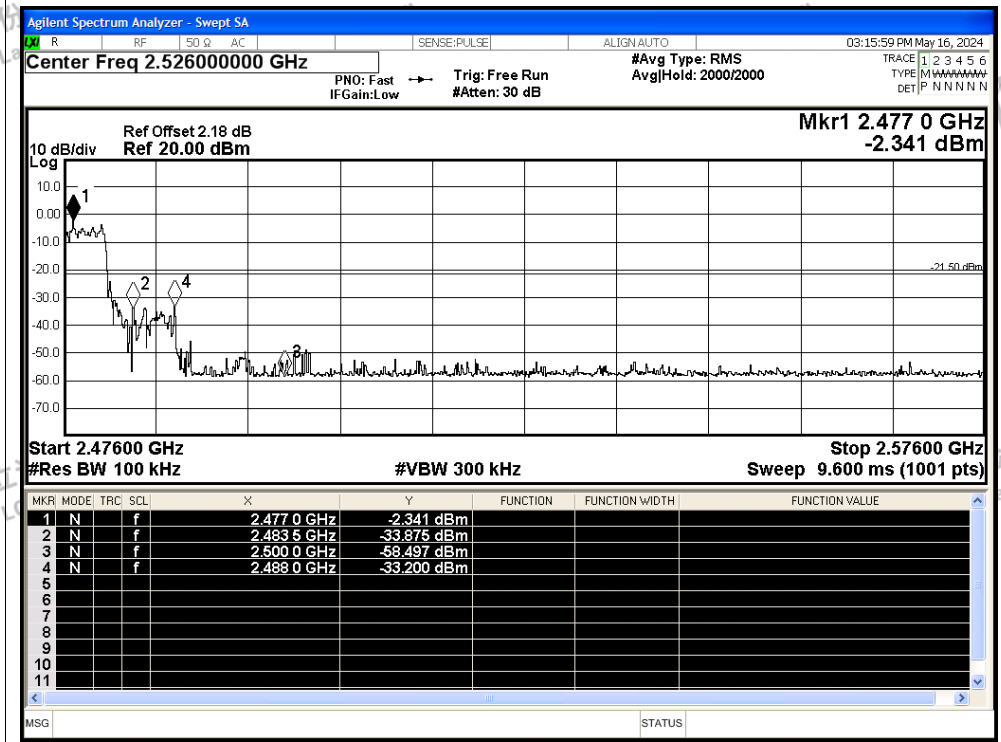




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



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

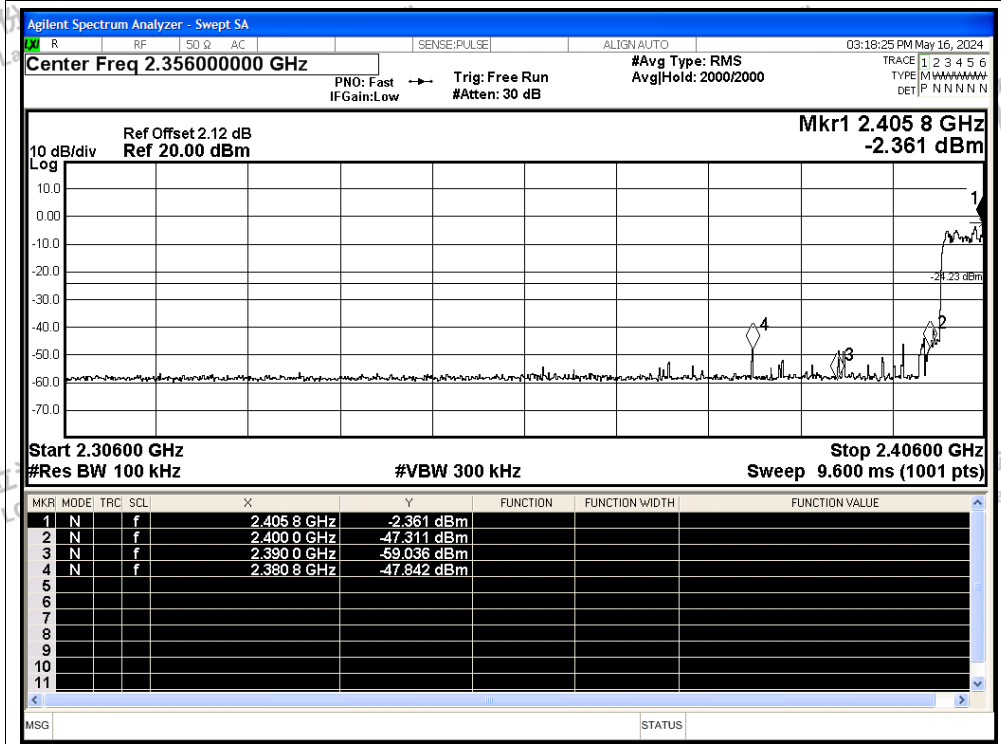




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

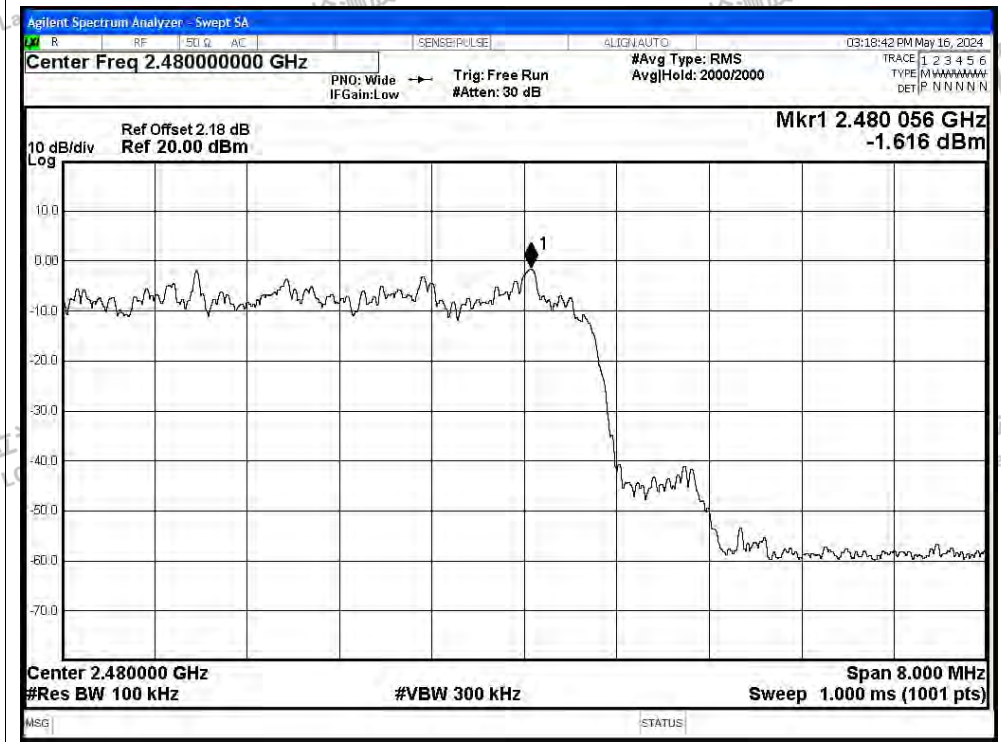


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission

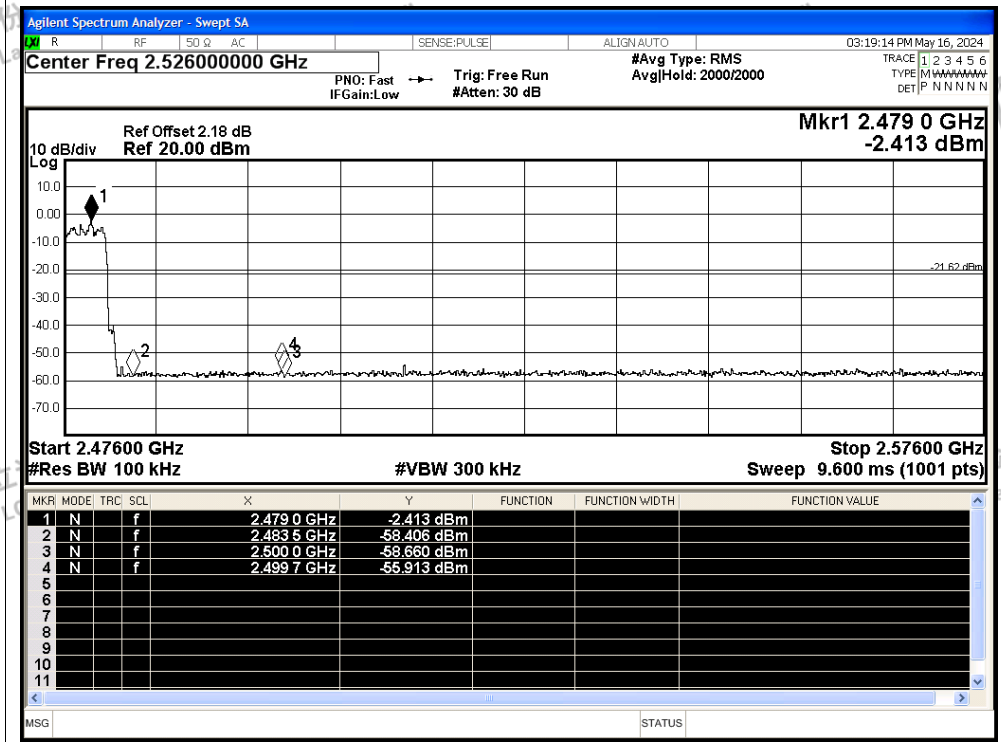




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



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





A.7 Conducted RF Spurious Emission

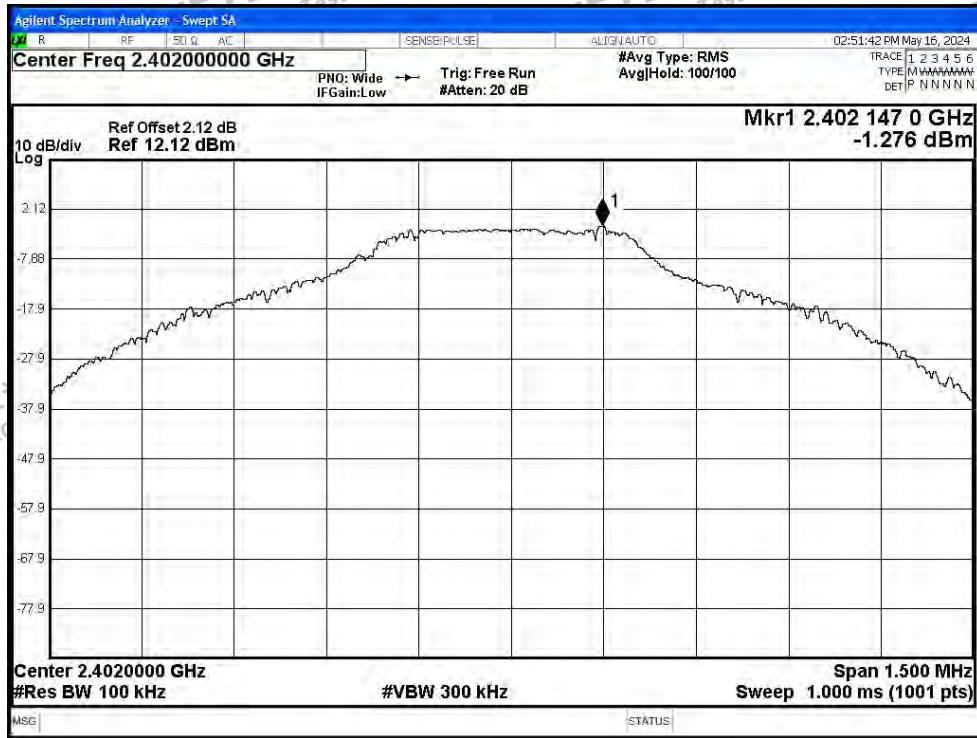
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.71	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.47	-20	Pass
NVNT	1-DH5	2480	Ant1	-55.25	-20	Pass
NVNT	2-DH5	2402	Ant1	-52.75	-20	Pass
NVNT	2-DH5	2441	Ant1	-52.87	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.4	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.17	-20	Pass
NVNT	3-DH5	2441	Ant1	-53.97	-20	Pass
NVNT	3-DH5	2480	Ant1	-53.95	-20	Pass



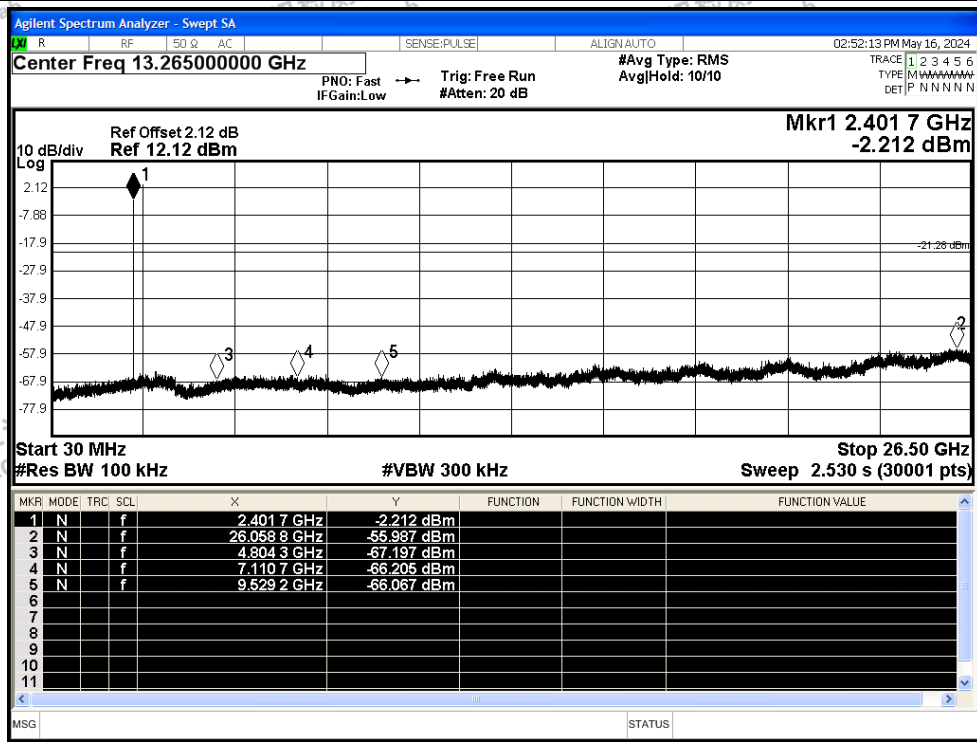


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

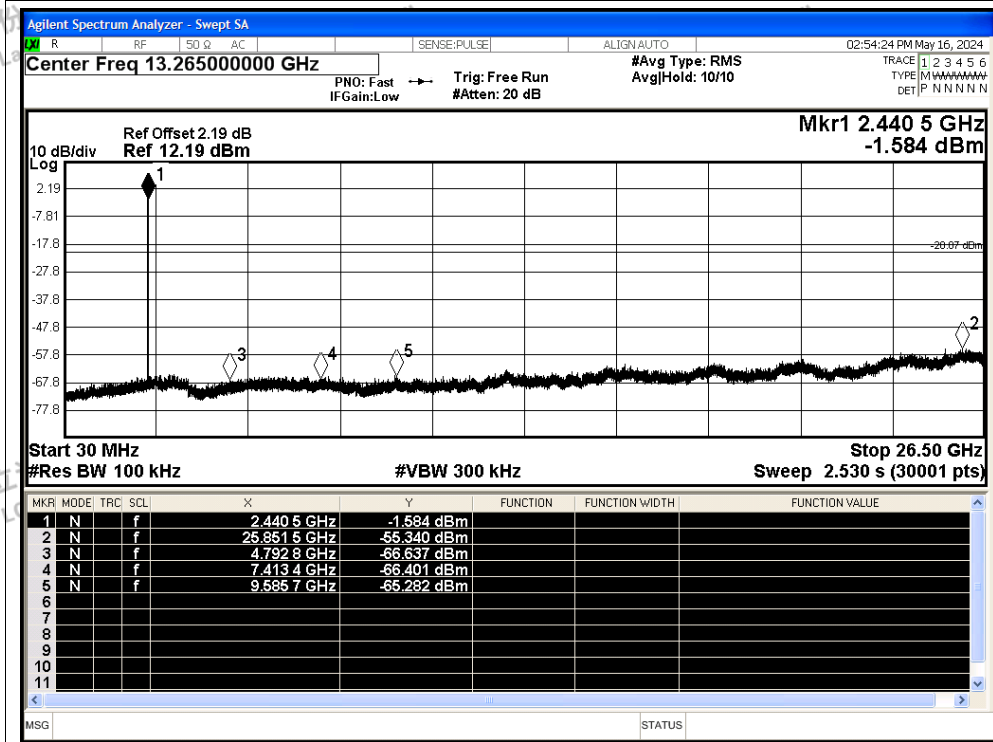




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

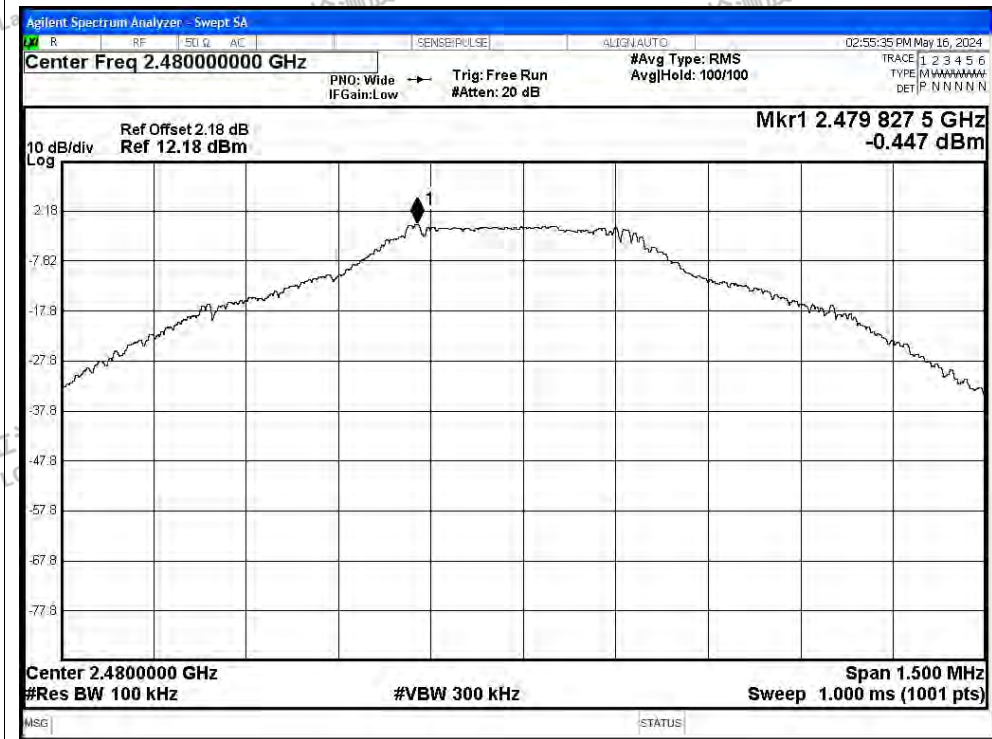


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

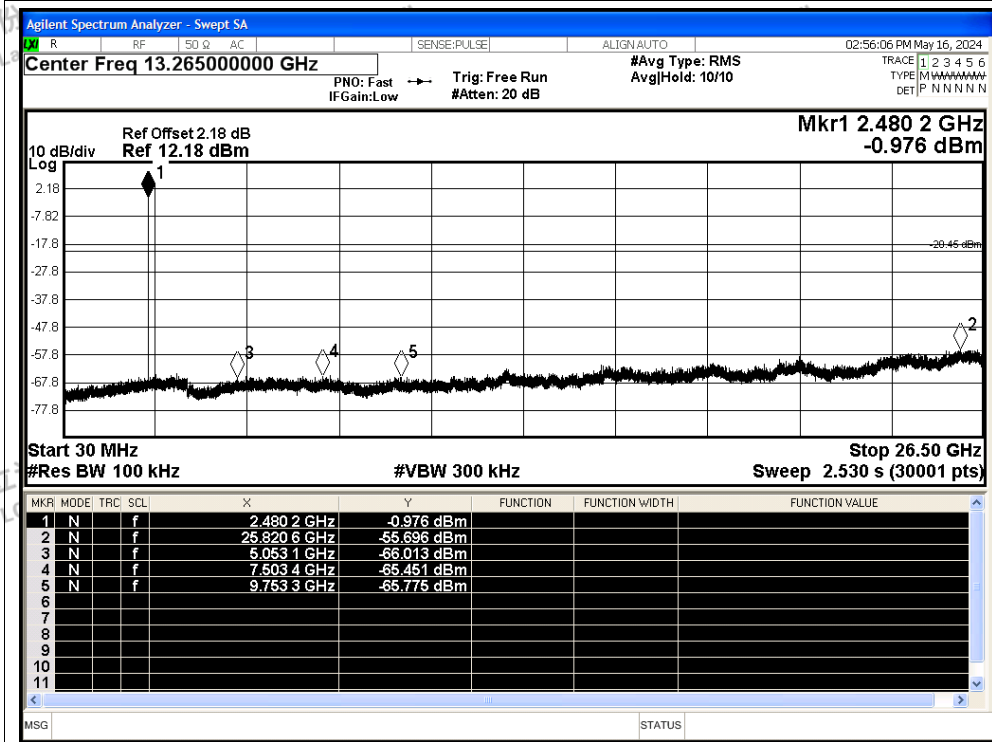




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

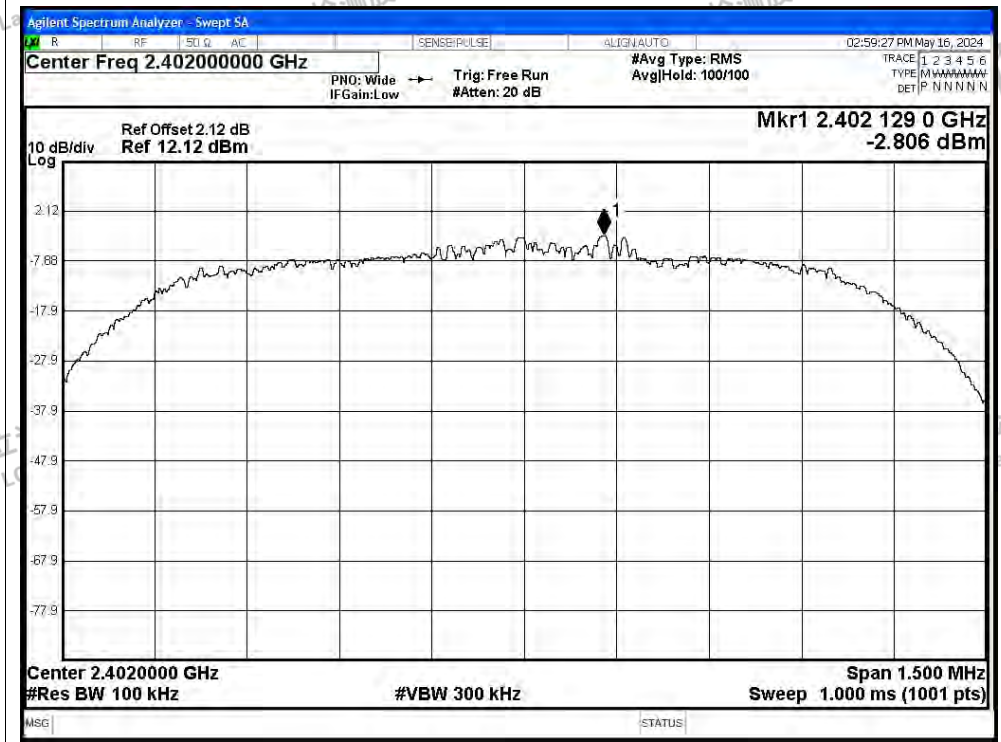


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

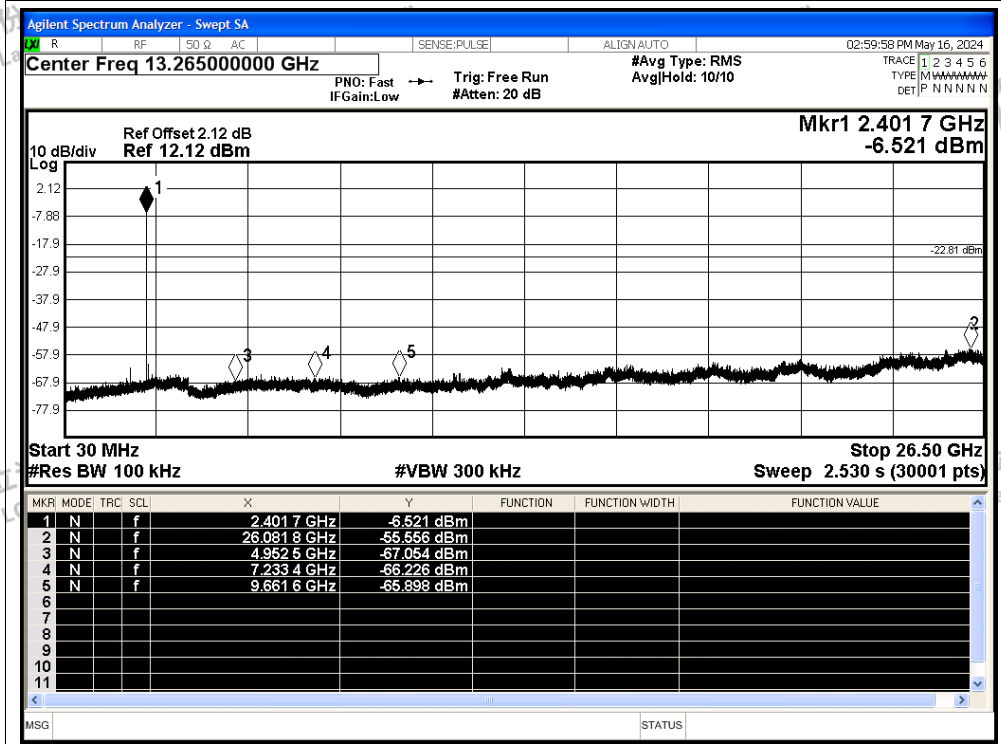




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

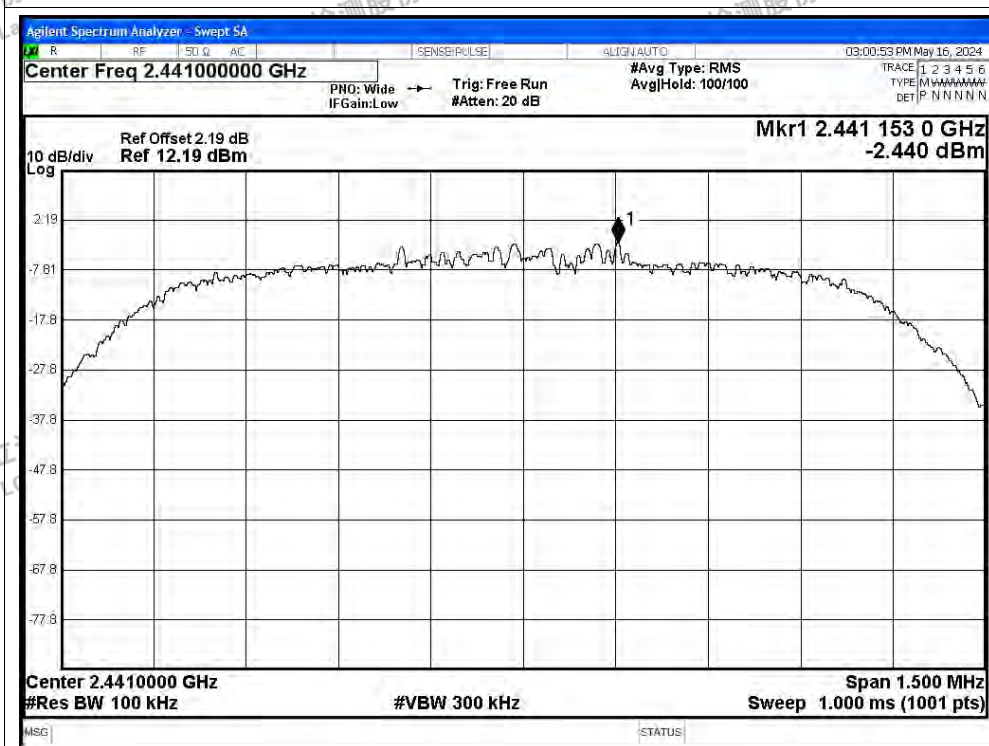


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

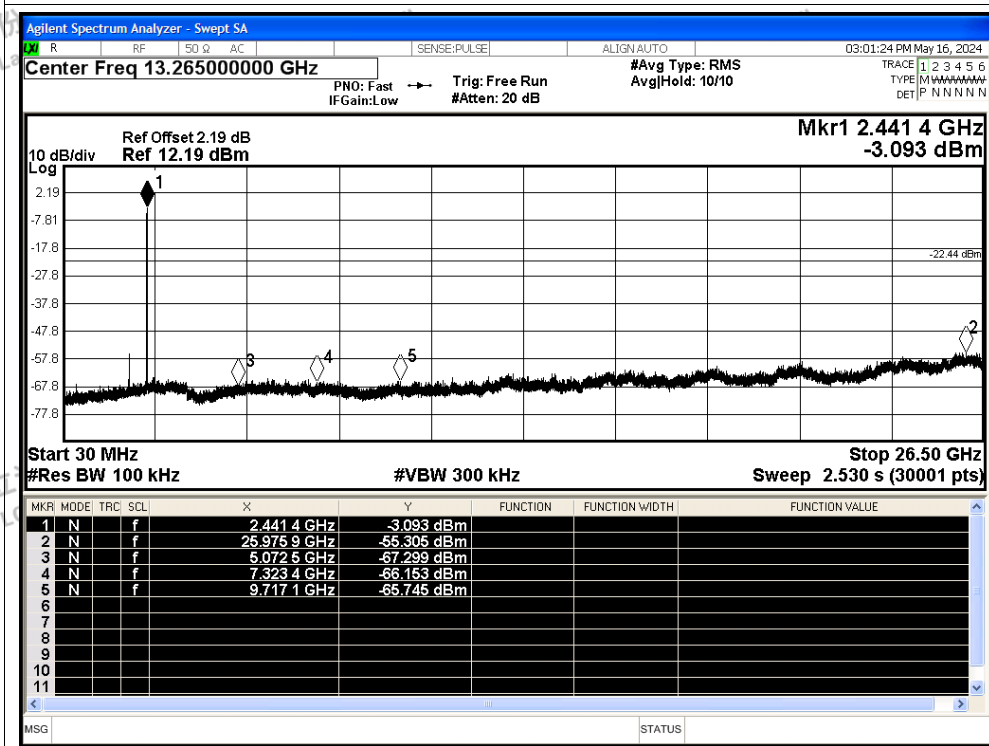




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

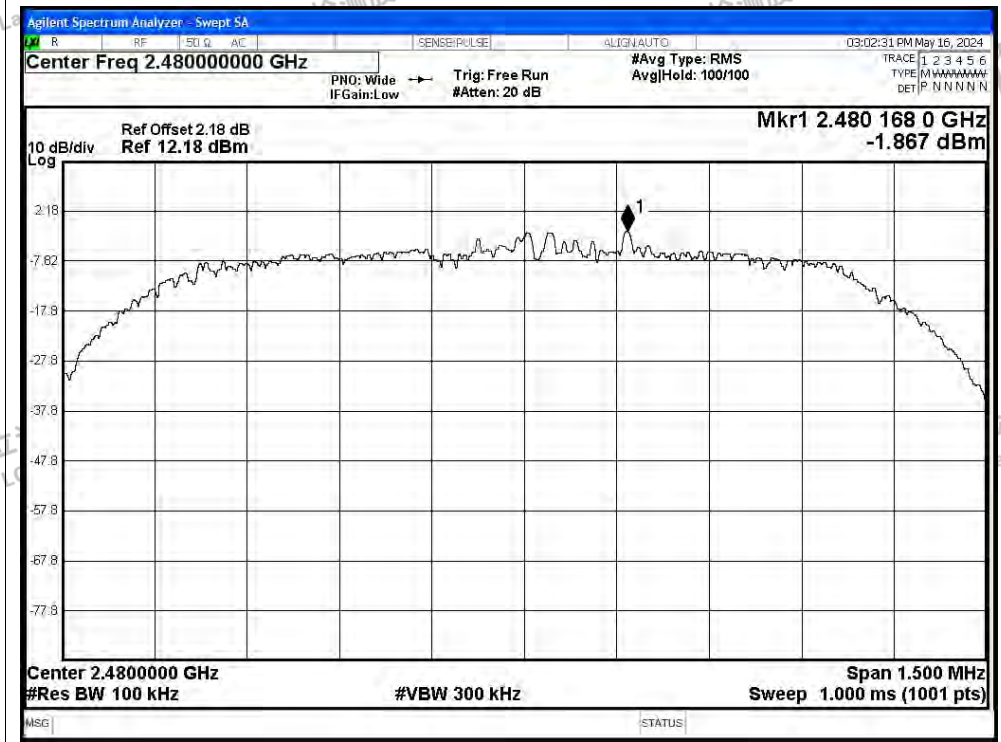


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

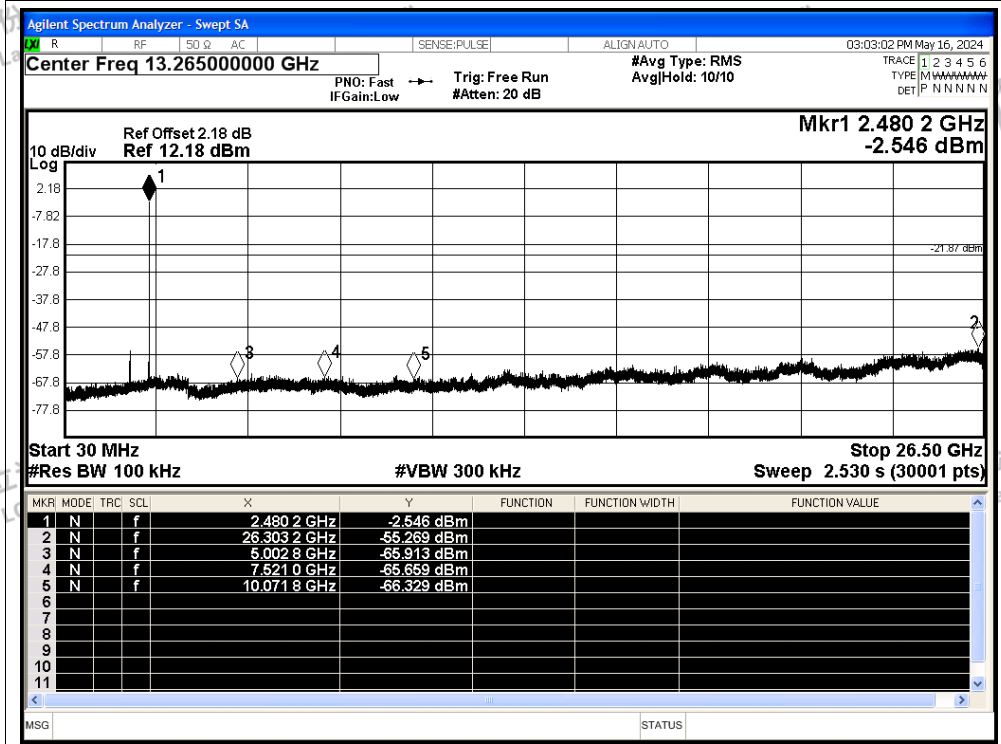




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

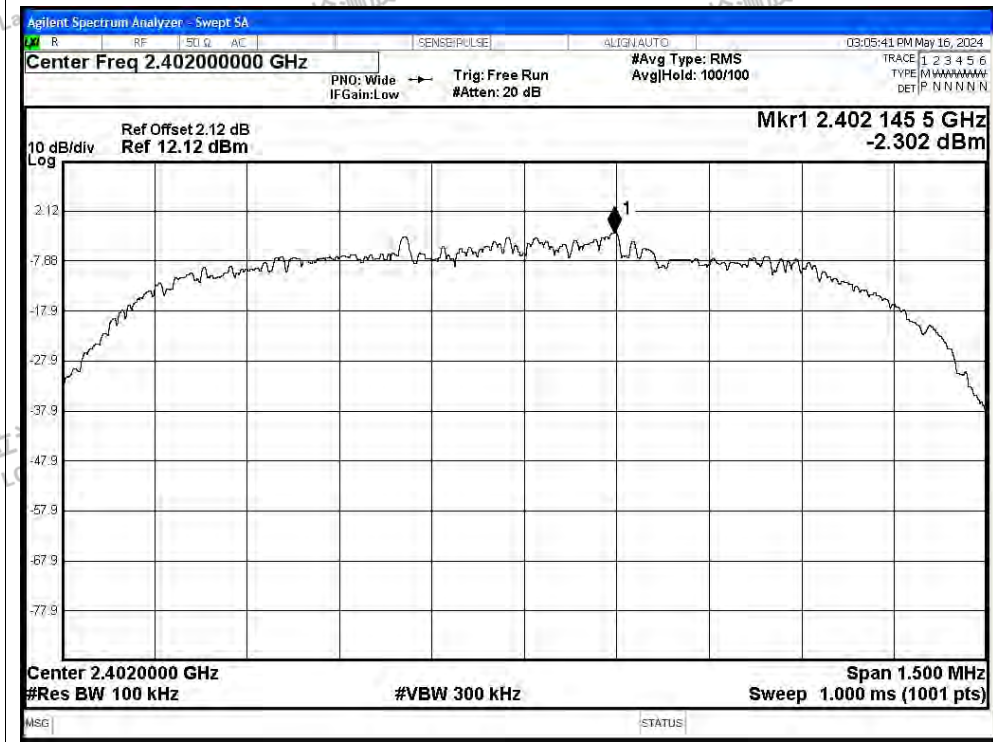


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

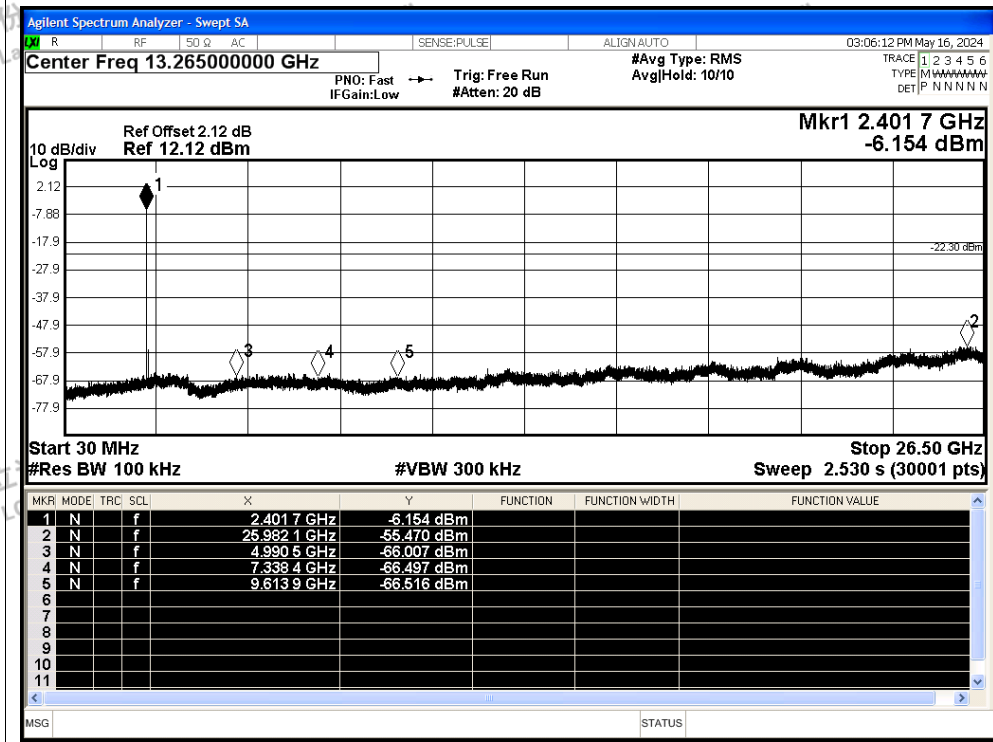




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

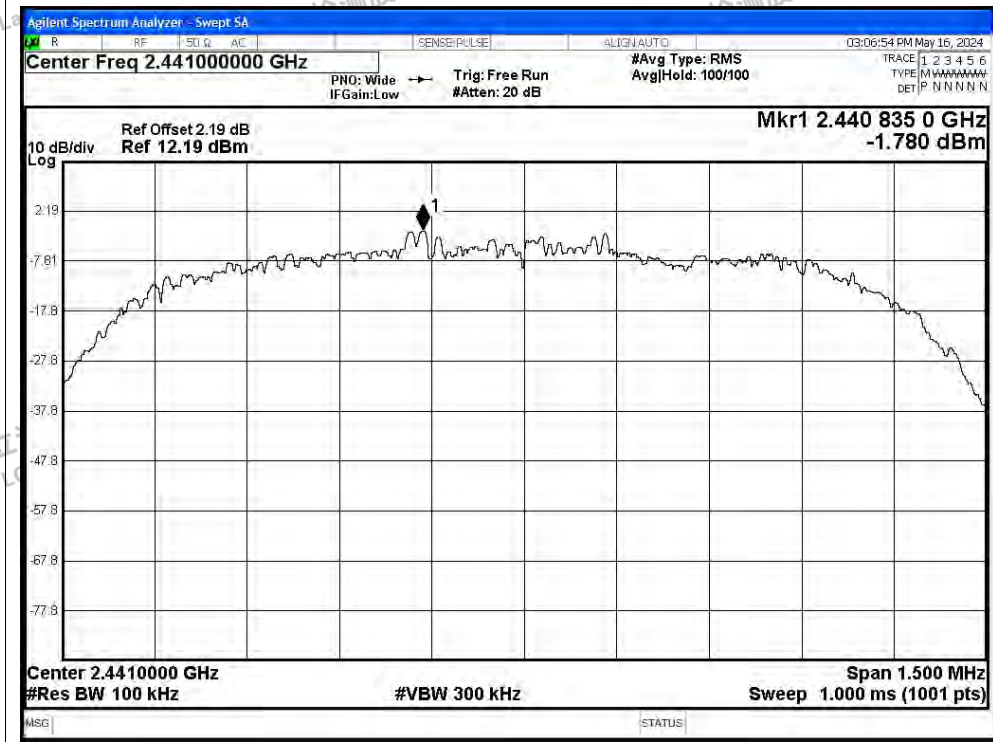


Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

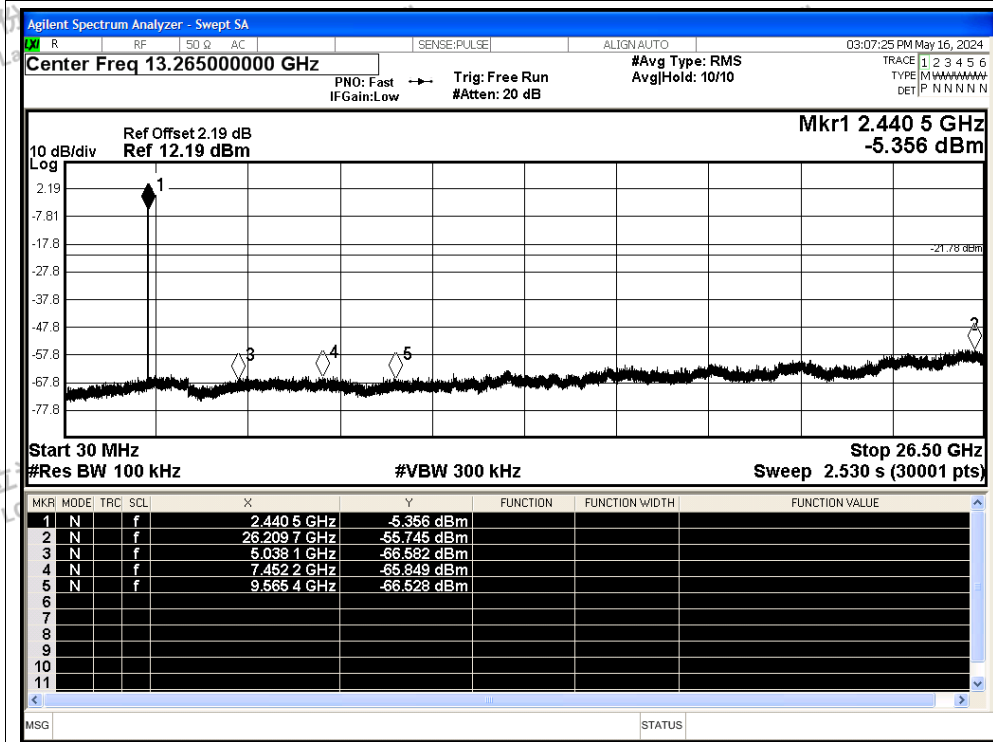




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

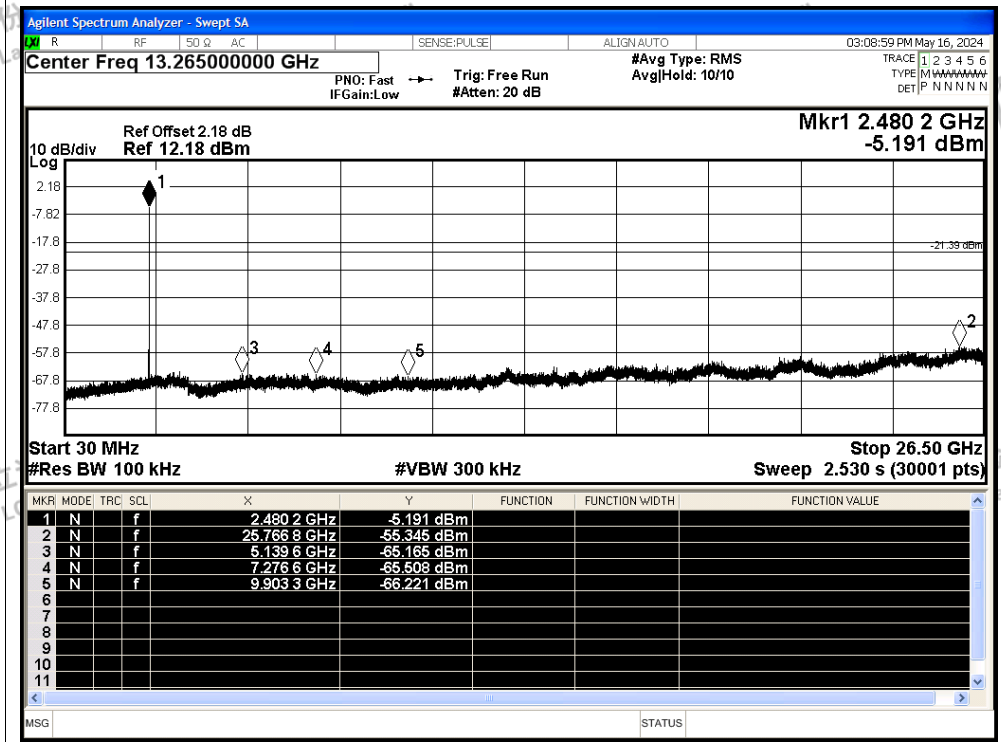




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Duty Cycle

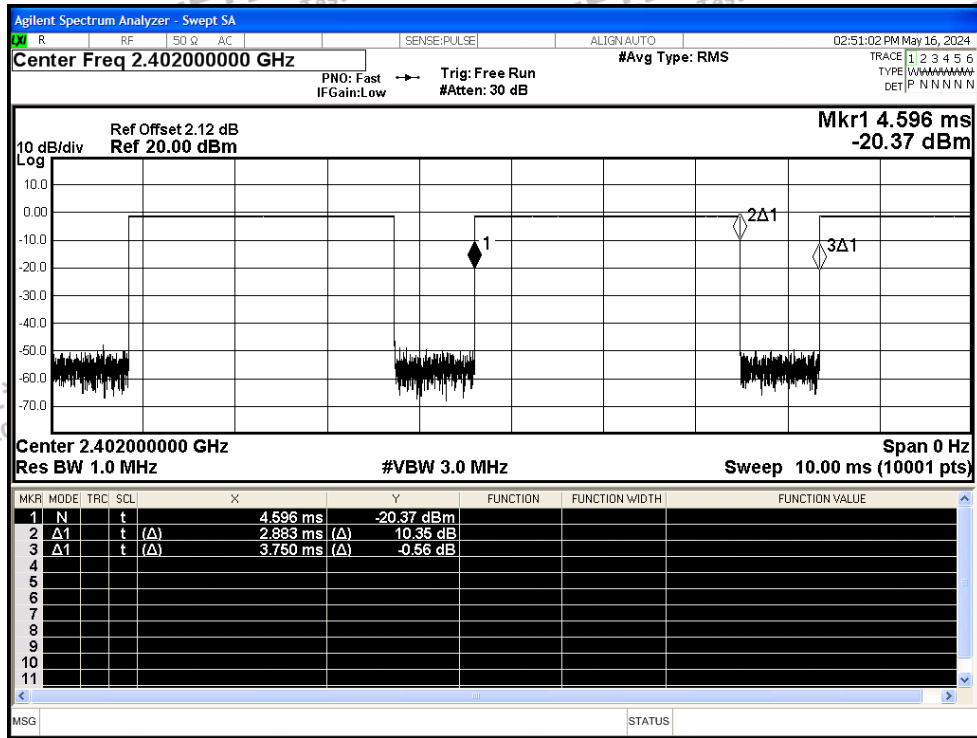
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2441	Ant1	76.93	1.14	0.35
NVNT	1-DH5	2480	Ant1	76.85	1.14	0.35
NVNT	2-DH5	2402	Ant1	76.99	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.96	1.14	0.35
NVNT	3-DH5	2402	Ant1	77.07	1.13	0.35
NVNT	3-DH5	2441	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2480	Ant1	76.99	1.14	0.35



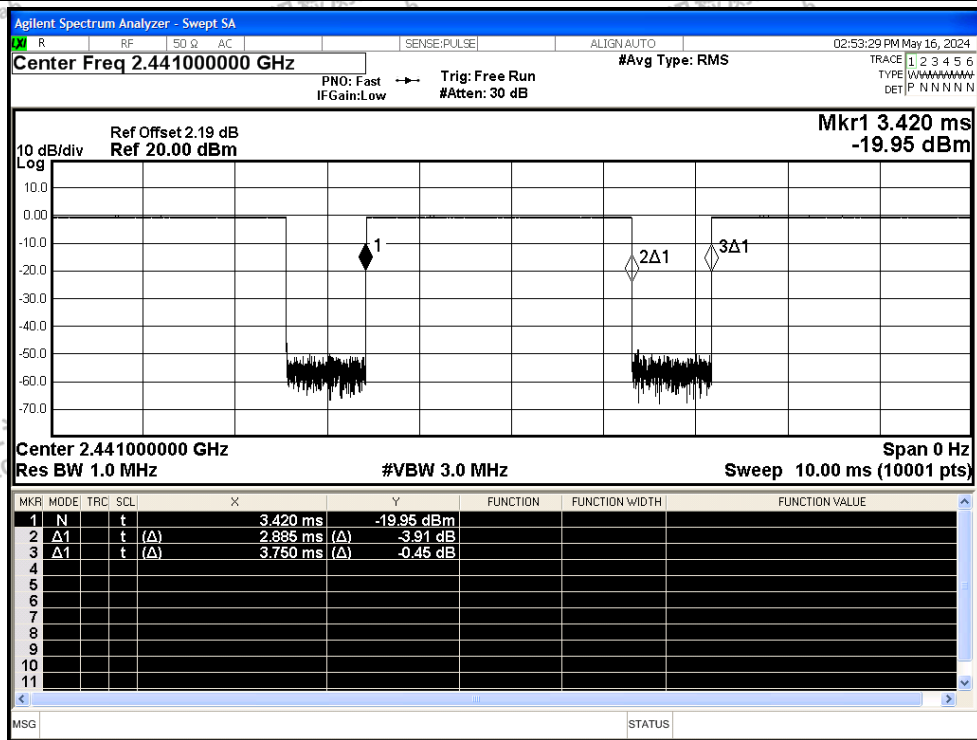


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

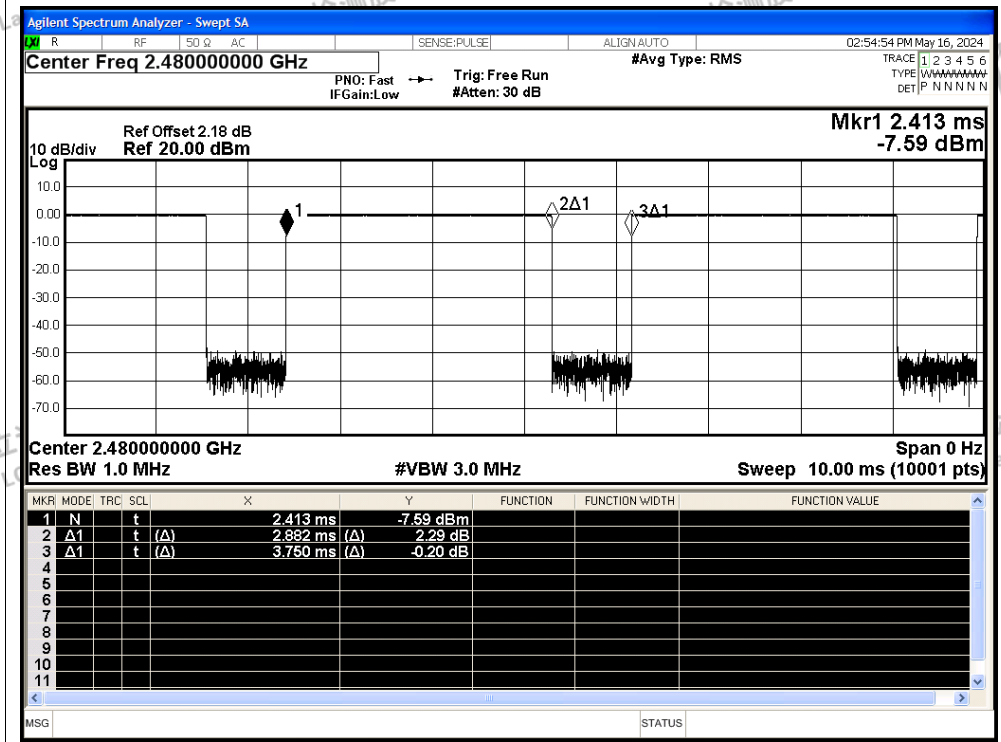


Duty Cycle NVNT 1-DH5 2441MHz Ant1

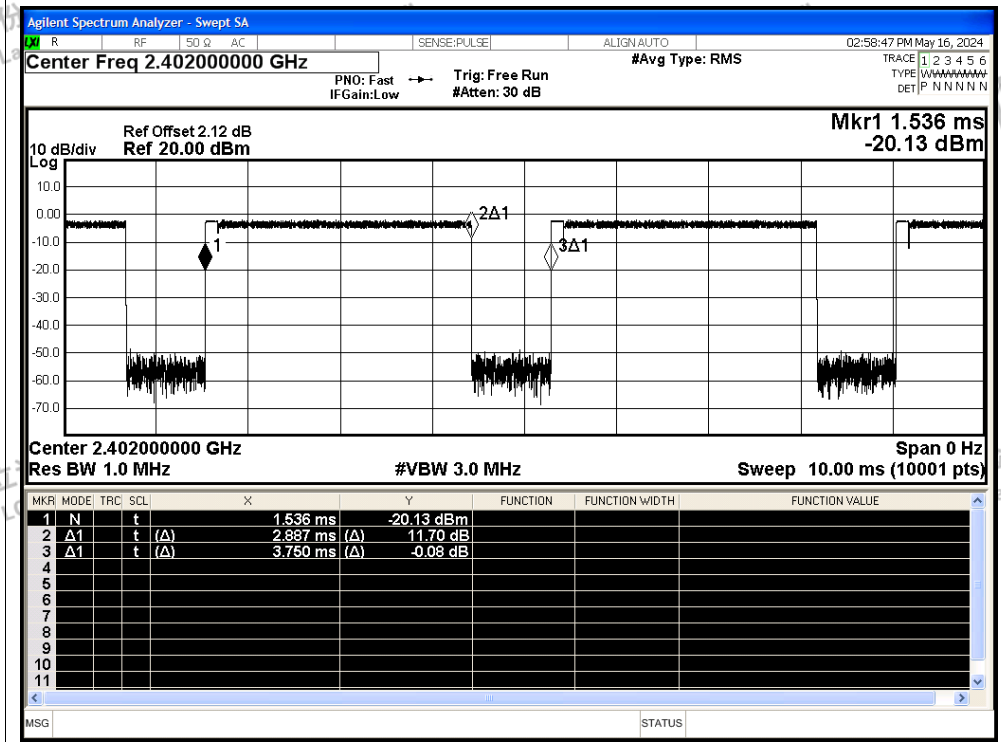




Duty Cycle NVNT 1-DH5 2480MHz Ant1

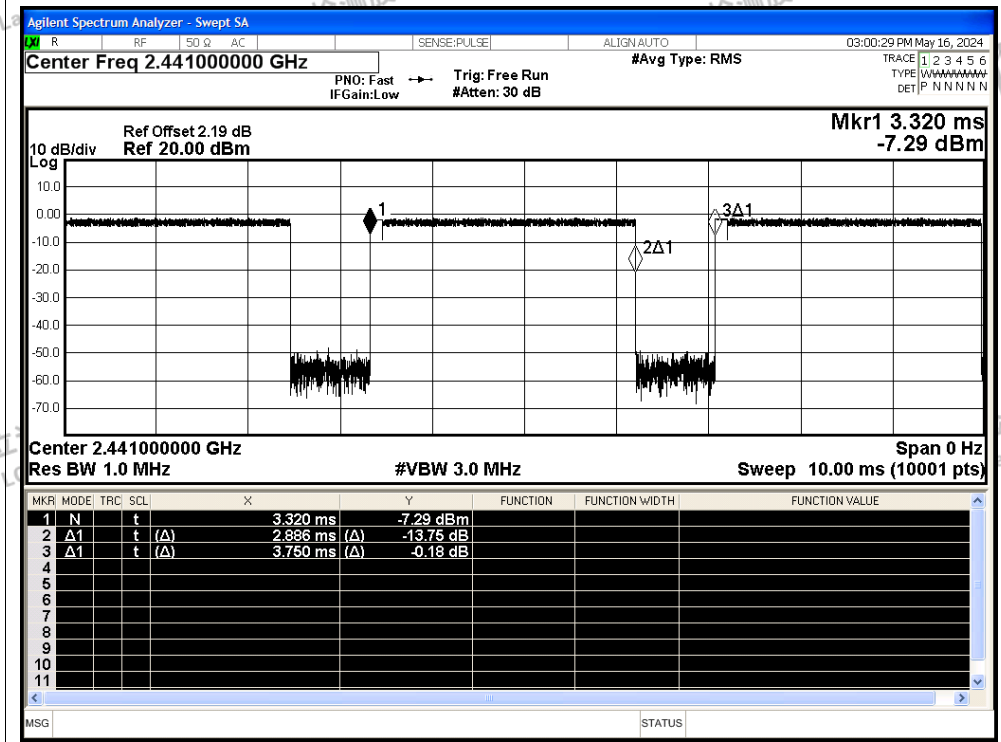


Duty Cycle NVNT 2-DH5 2402MHz Ant1

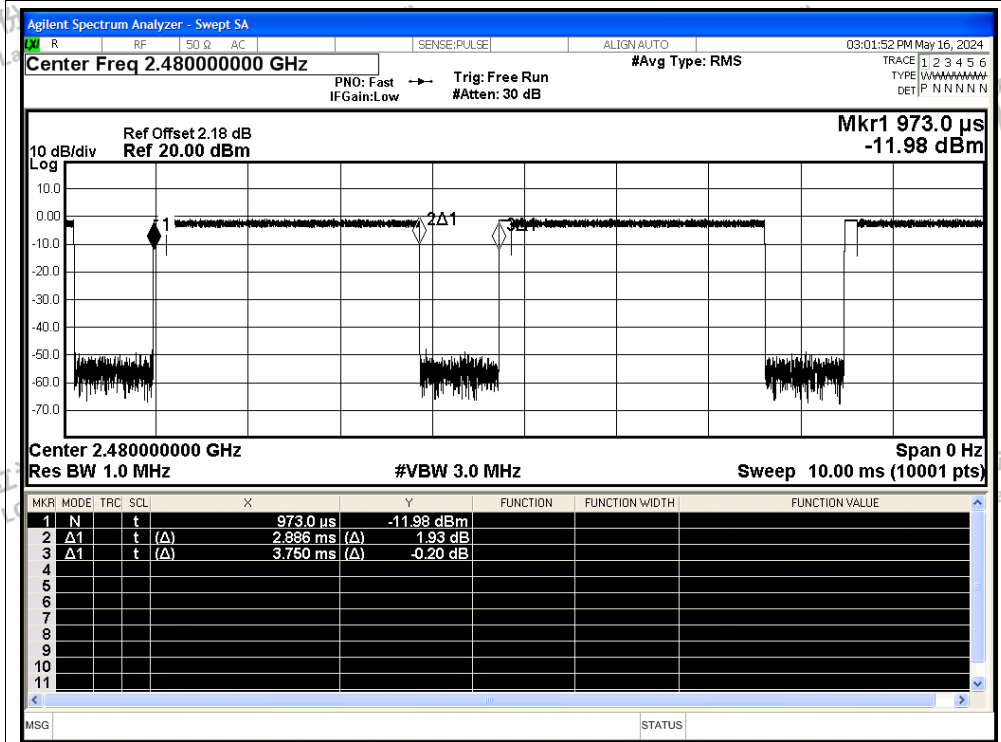




Duty Cycle NVNT 2-DH5 2441MHz Ant1

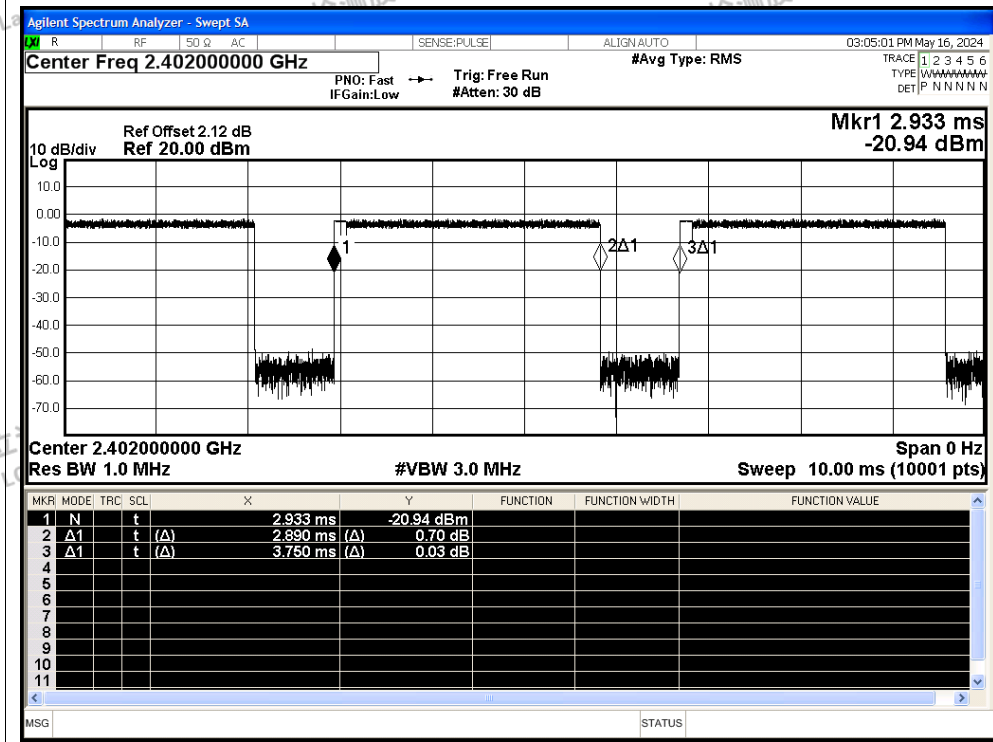


Duty Cycle NVNT 2-DH5 2480MHz Ant1

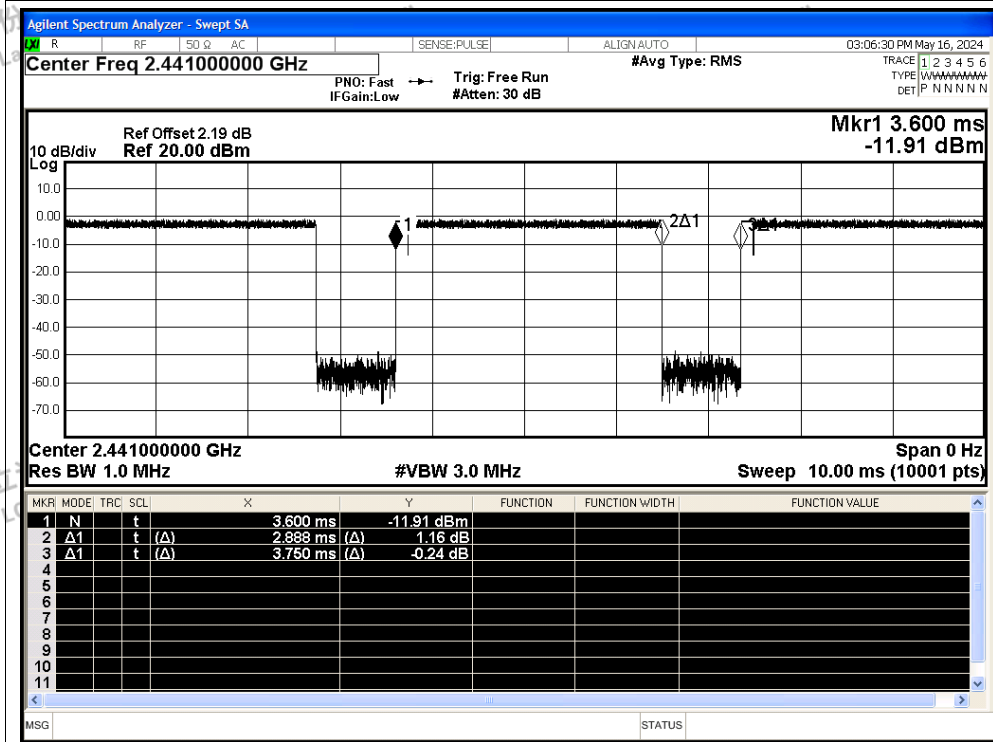


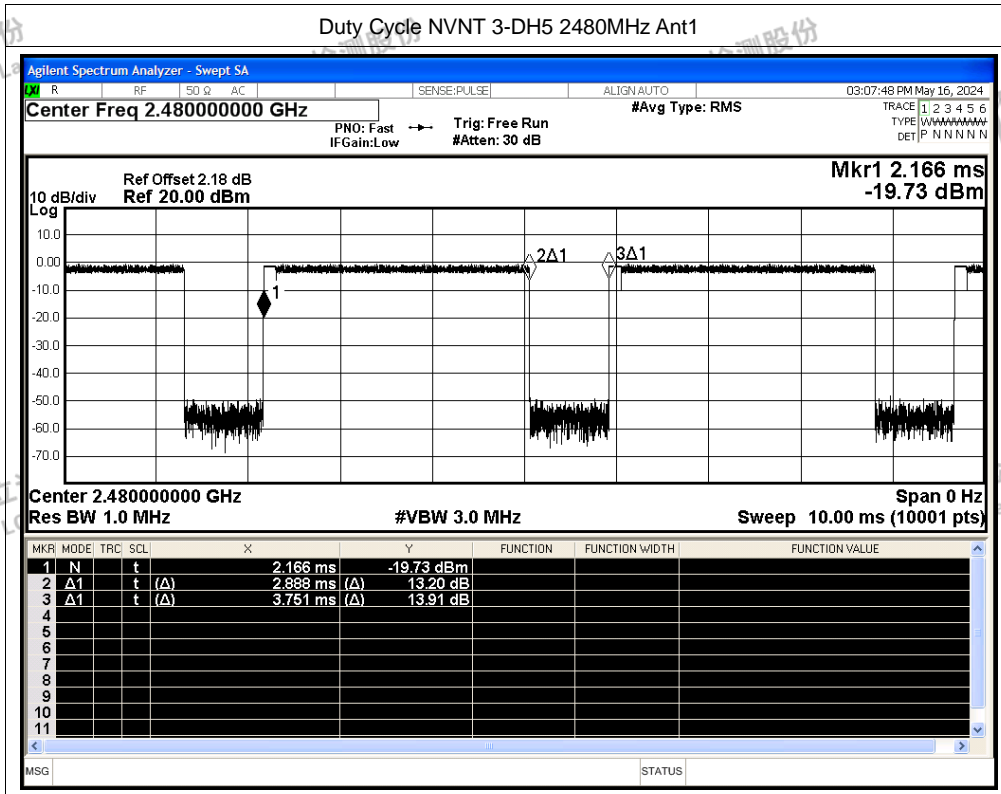


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1







A.9 Restrict Band

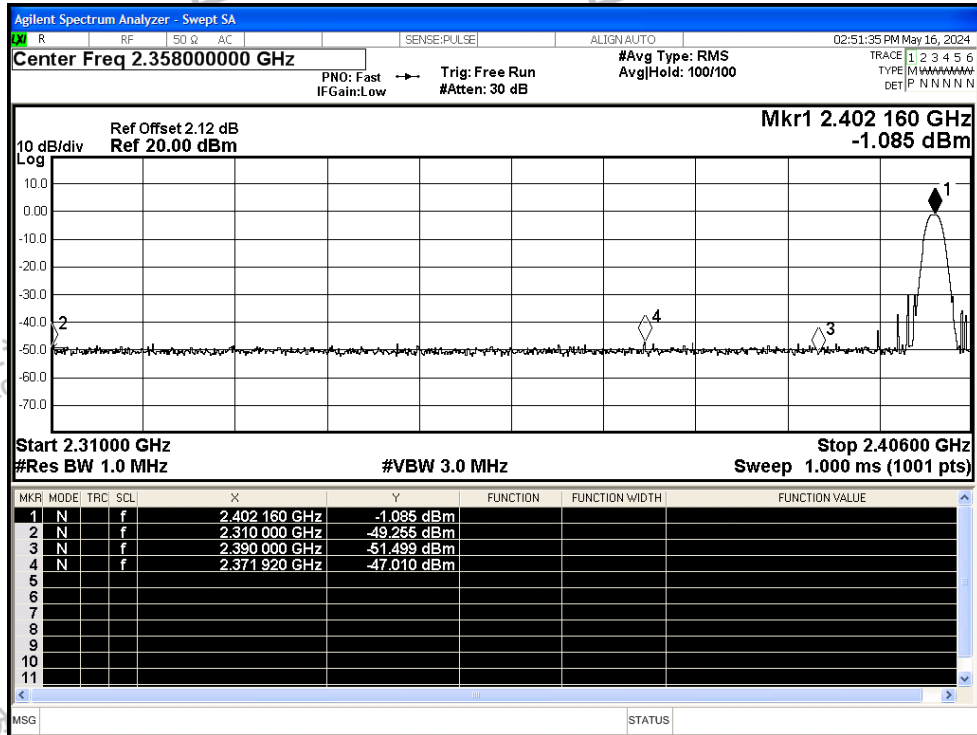
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-49.26	2.10	-	48.10	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.75	2.10	1.14	39.75	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2371.92	-47.01	2.10	-	50.35	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2382.096	-57.43	2.10	1.14	41.07	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.5	2.10	-	45.86	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.26	2.10	1.14	40.24	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50	2.10	-	47.36	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.36	2.10	1.14	40.14	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.52	-34.82	2.10	-	62.54	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.728	-54.19	2.10	1.14	44.31	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.49	2.10	-	46.87	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.96	2.10	1.14	40.54	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.3	2.10	-	47.06	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.94	2.10	1.14	39.56	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2338.608	-47.32	2.10	-	50.04	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2368.656	-57.67	2.10	1.14	40.83	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.69	2.10	-	46.67	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.71	2.10	1.14	39.79	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.42	2.10	-	47.94	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.41	2.10	1.14	41.09	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.872	-37.62	2.10	-	59.74	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.632	-55.51	2.10	1.14	42.99	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.45	2.10	-	46.91	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.57	2.10	1.14	39.93	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-51.43	2.10	-	45.93	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.73	2.10	1.13	39.76	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2330.64	-47.62	2.10	-	49.74	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2388.336	-57.52	2.10	1.13	40.97	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.98	2.10	-	46.38	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.28	2.10	1.13	40.21	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.05	2.10	-	48.31	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-58.09	2.10	1.14	40.41	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.728	-39.81	2.10	-	57.55	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2498.344	-57.14	2.10	1.14	41.36	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.23	2.10	-	47.13	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.17	2.10	1.14	40.33	Average	54	Pass



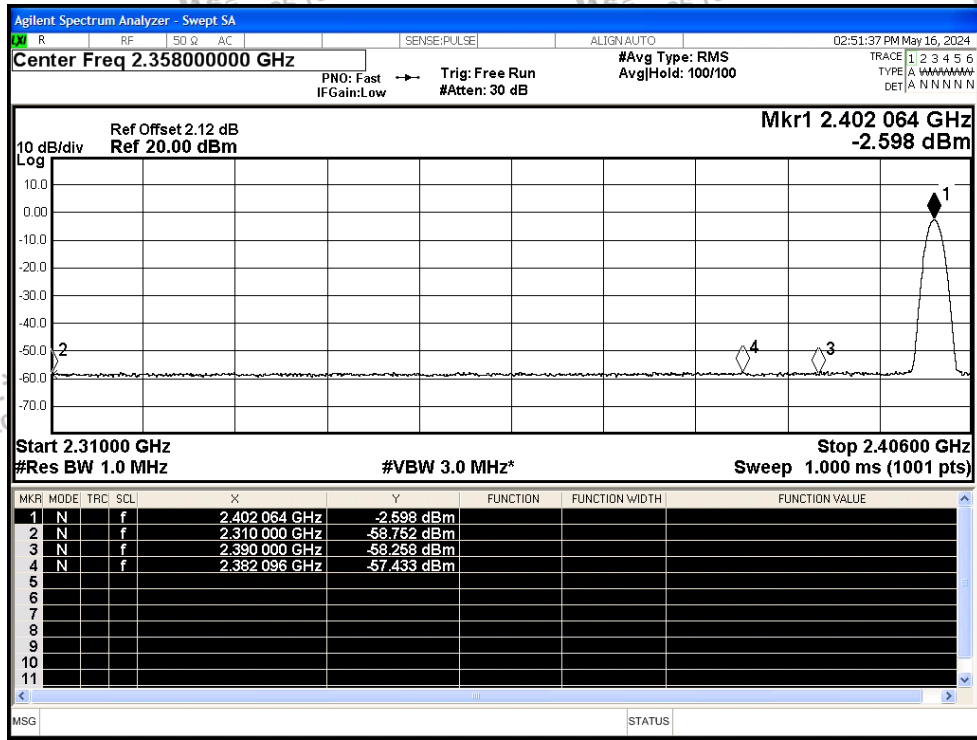


Test Graphs

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

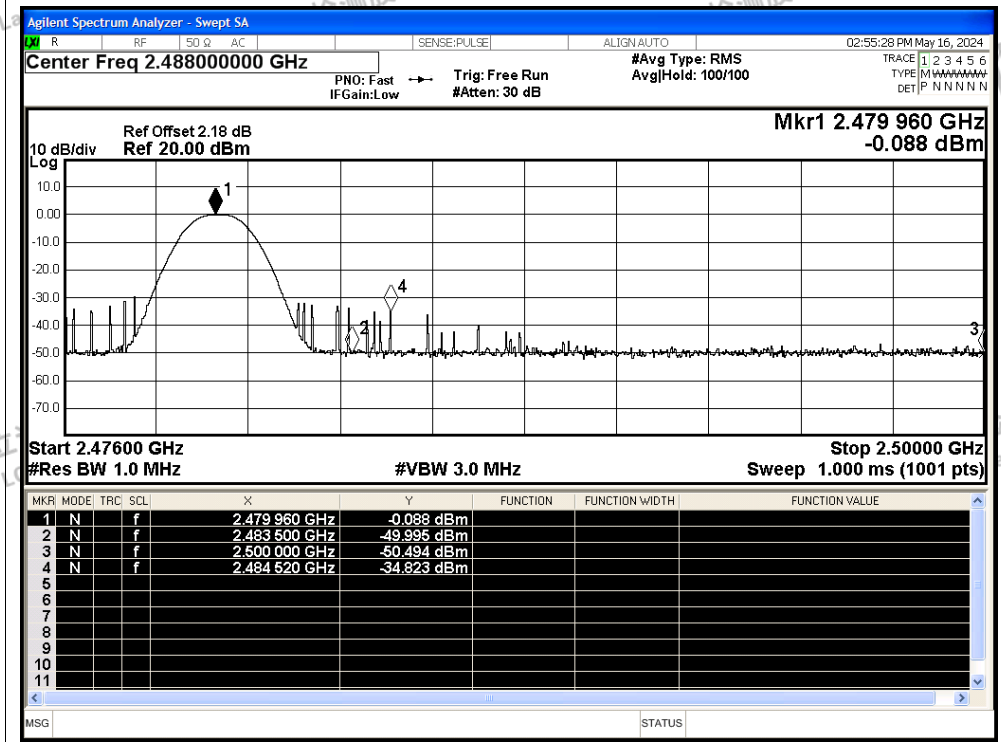


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

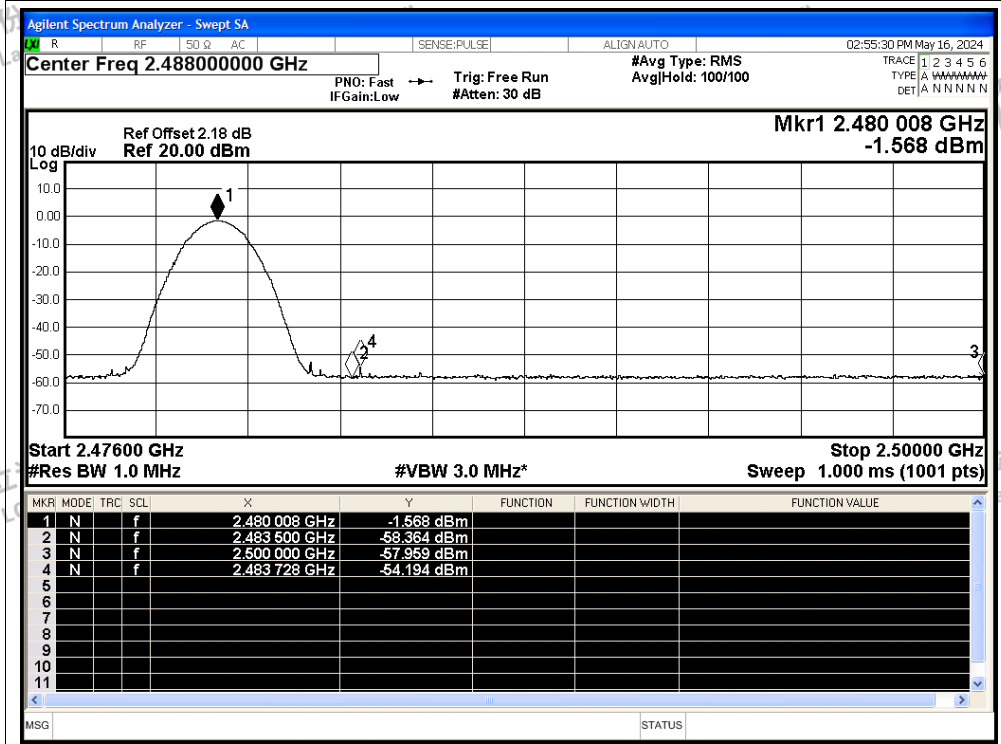




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

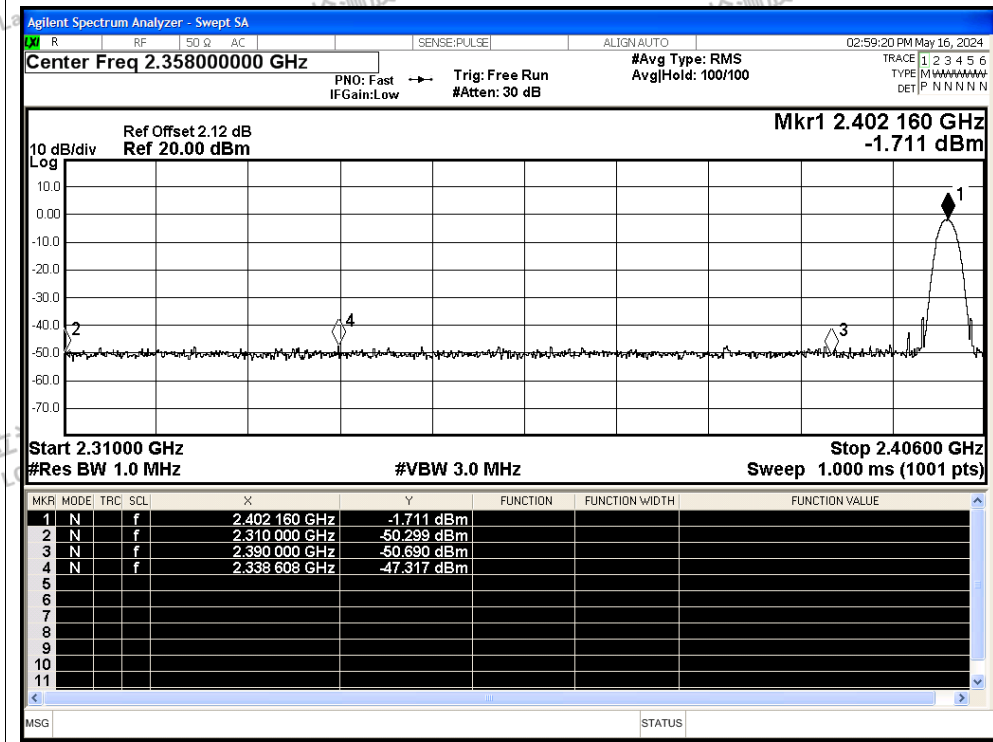


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

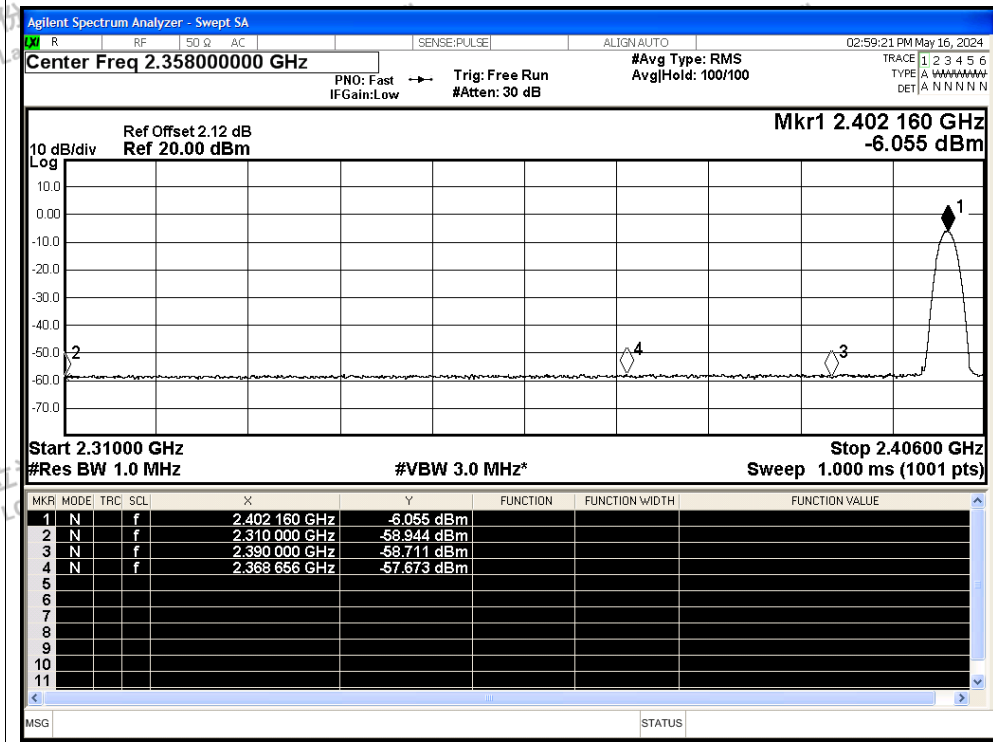




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

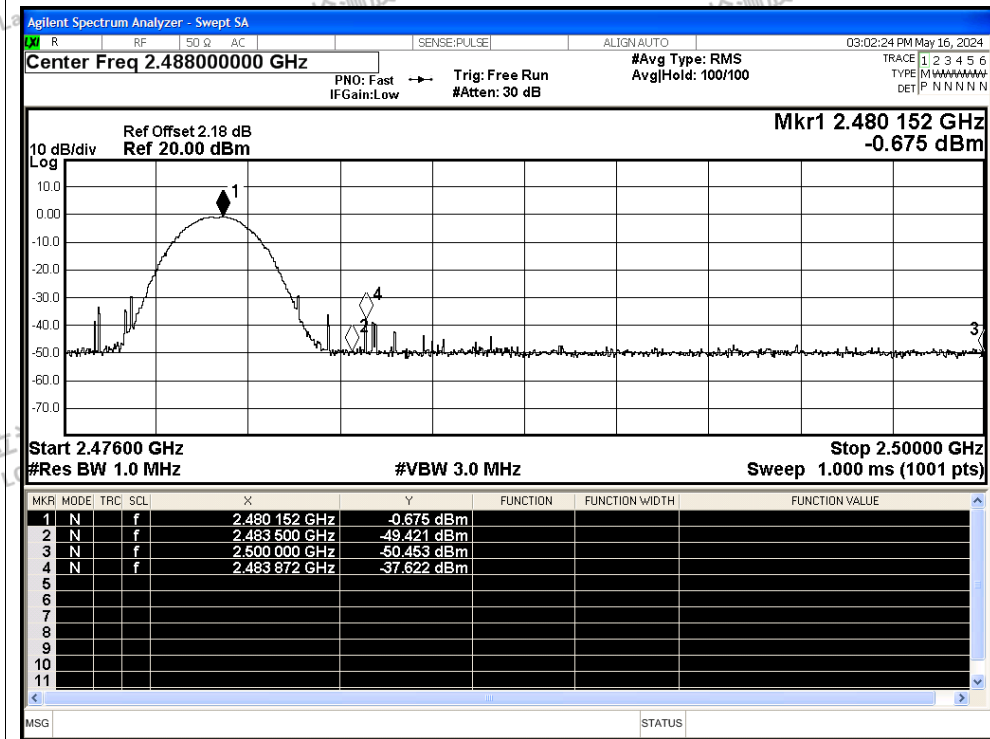


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average

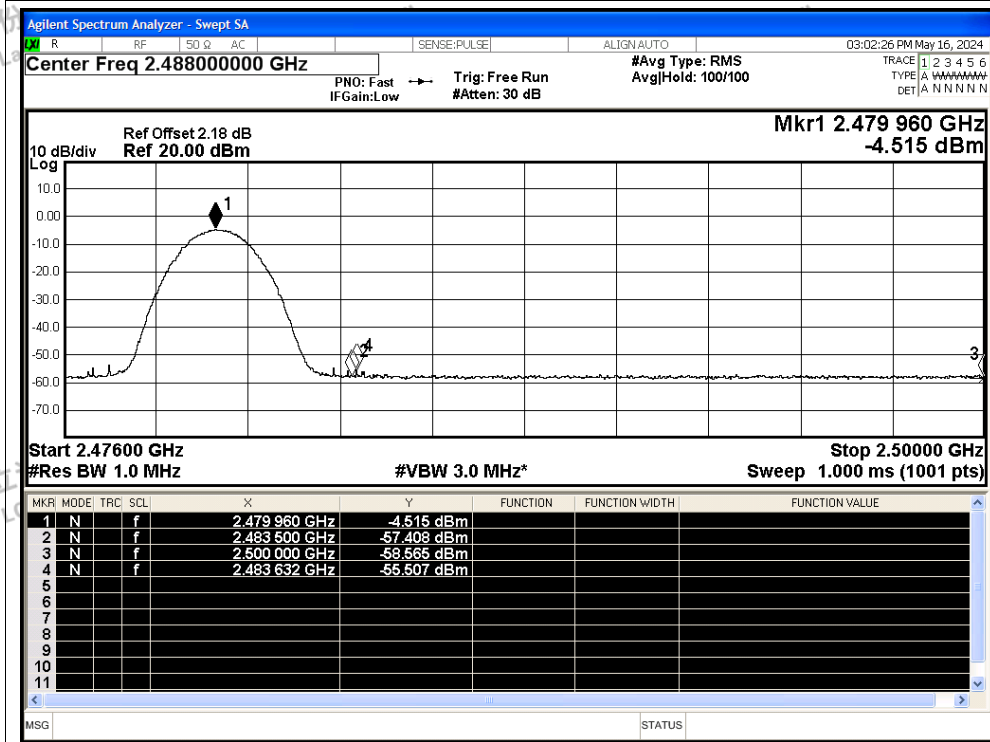




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

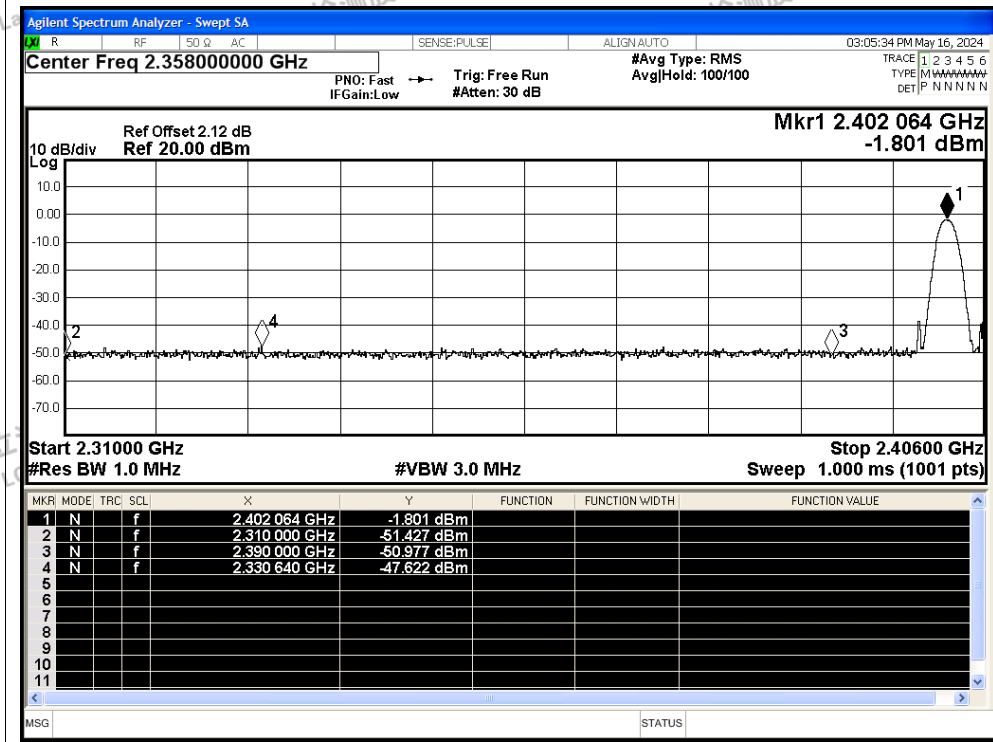


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

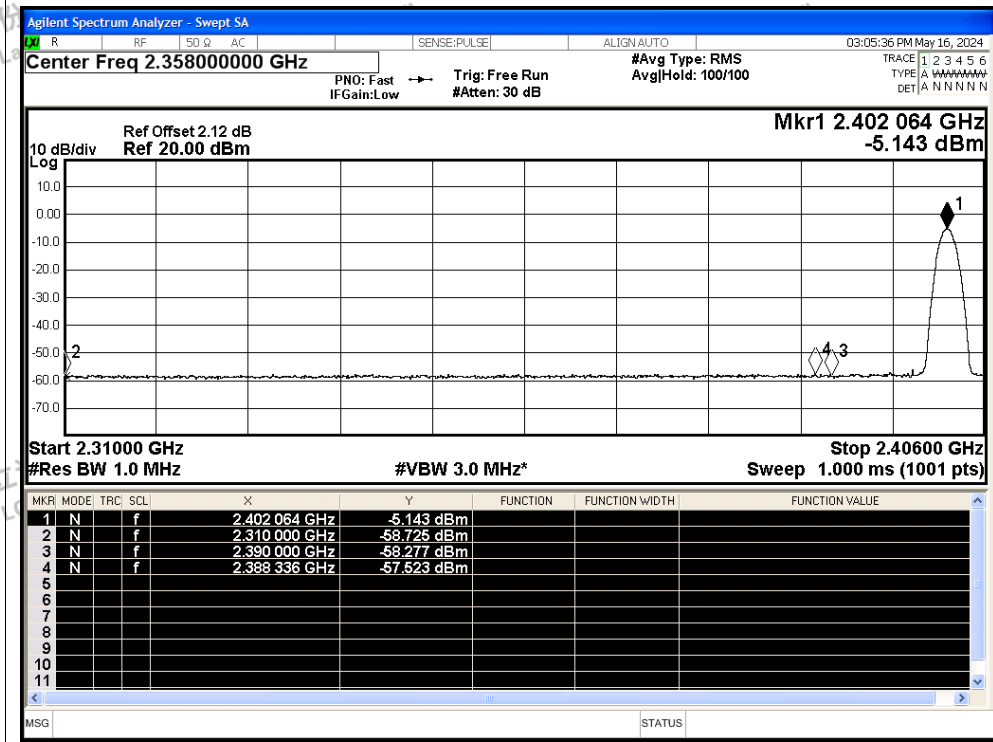




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

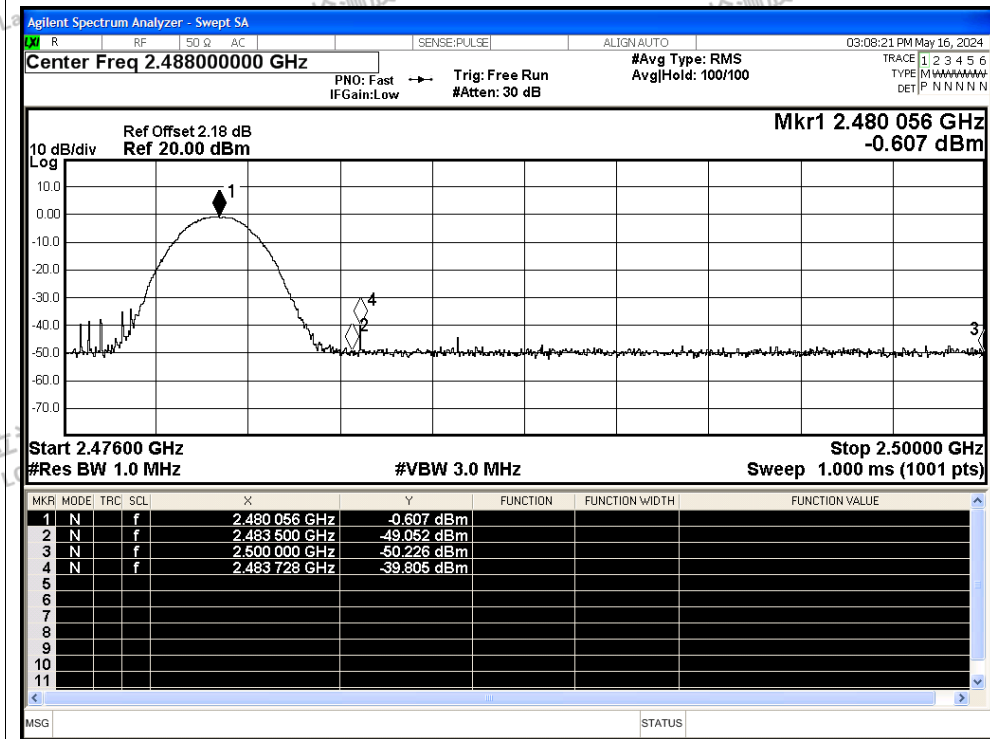


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

