



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Karaoke machine

Test Model: V1-MIC

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Luo
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	0.955	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.951	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.957	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.286	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.277	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.324	N/A	Pass



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Scan code to check authenticity

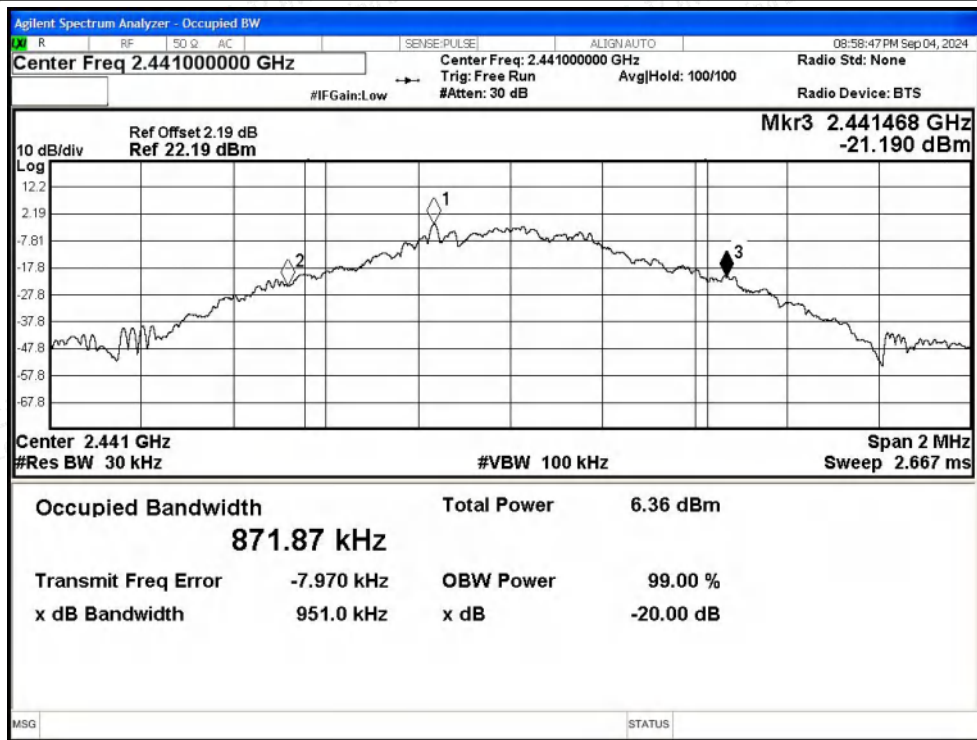


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

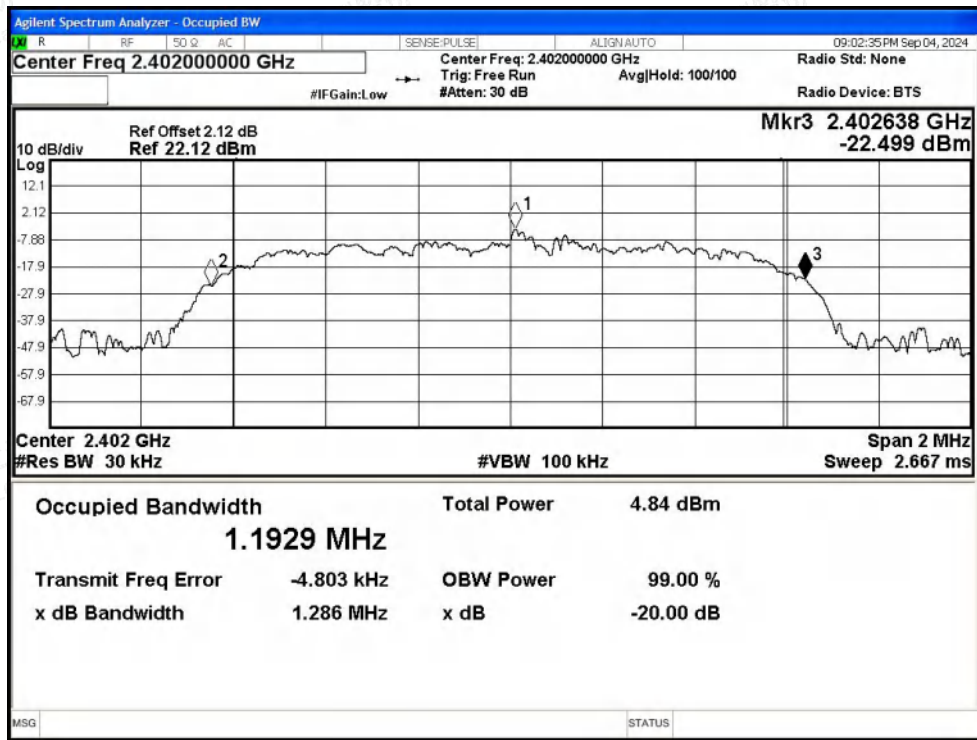




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

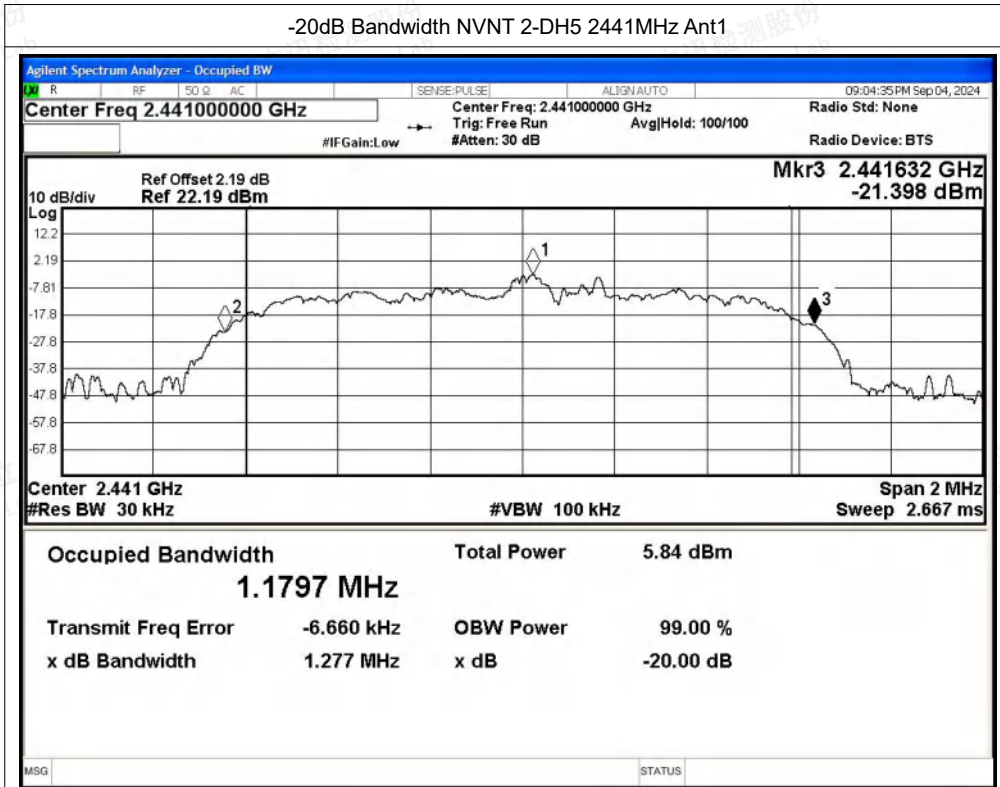


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

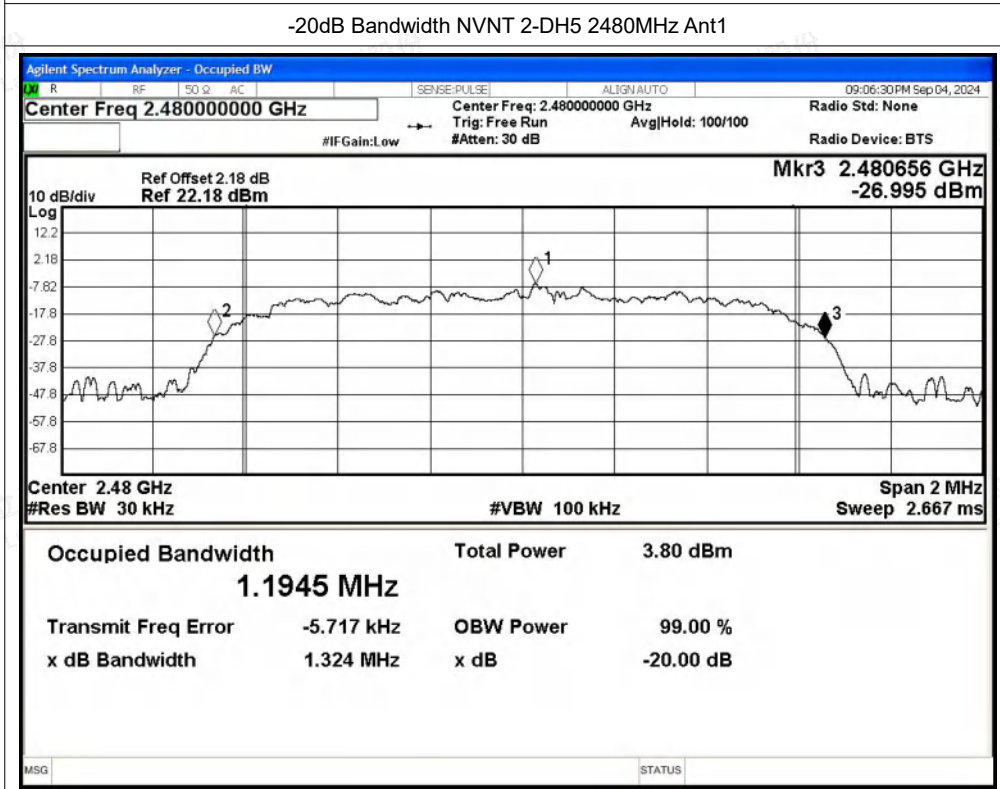




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1





A.2 Maximum Peak Conducted Output Power

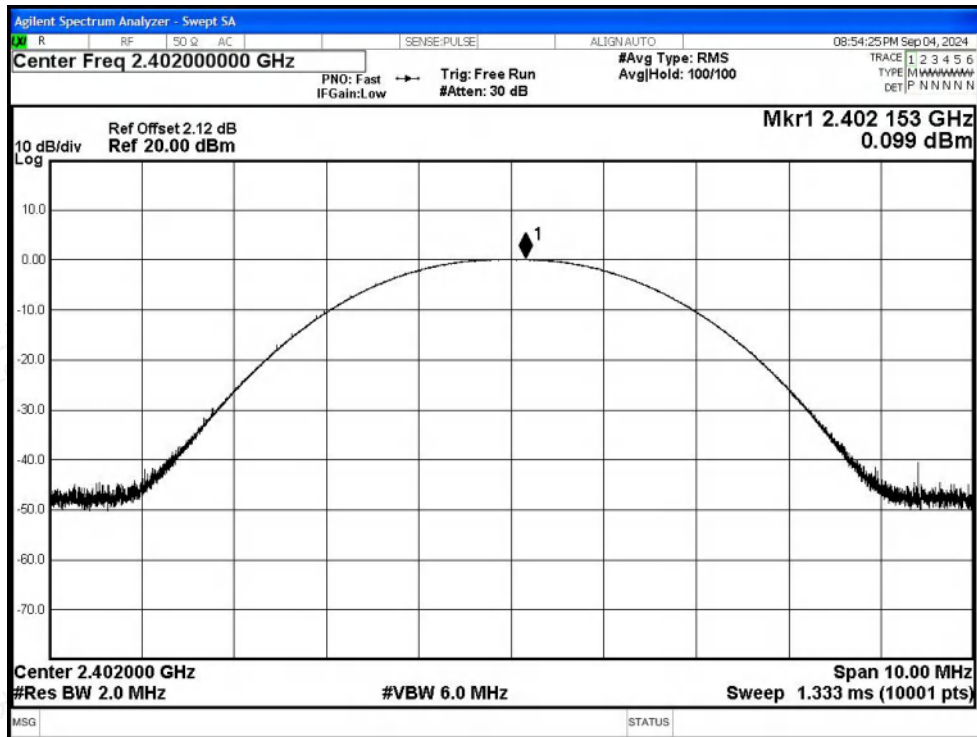
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	0.1	21	Pass
NVNT	1-DH5	2441	Ant1	-0.07	21	Pass
NVNT	1-DH5	2480	Ant1	-0.89	21	Pass
NVNT	2-DH5	2402	Ant1	0.6	21	Pass
NVNT	2-DH5	2441	Ant1	0.89	21	Pass
NVNT	2-DH5	2480	Ant1	-0.23	21	Pass



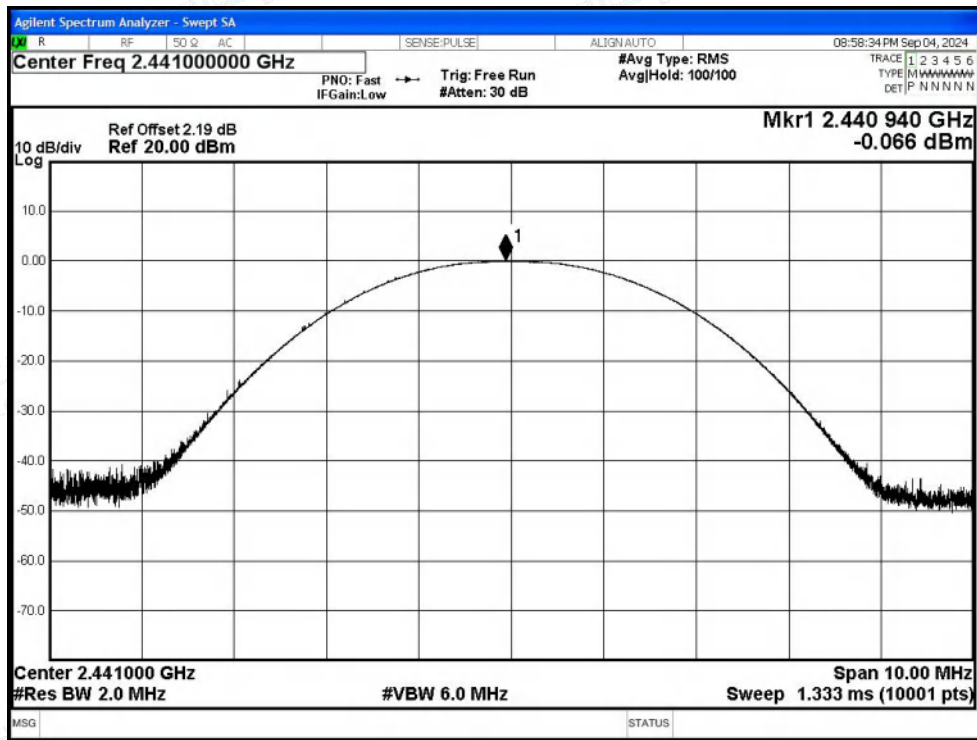


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

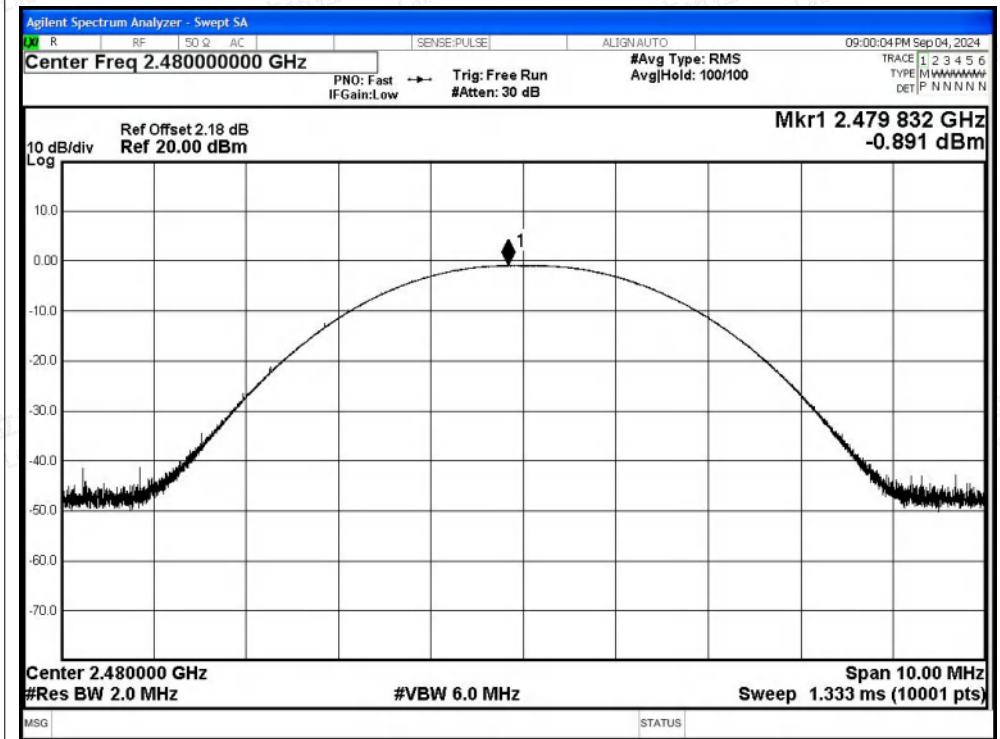


Power NVNT 1-DH5 2441MHz Ant1

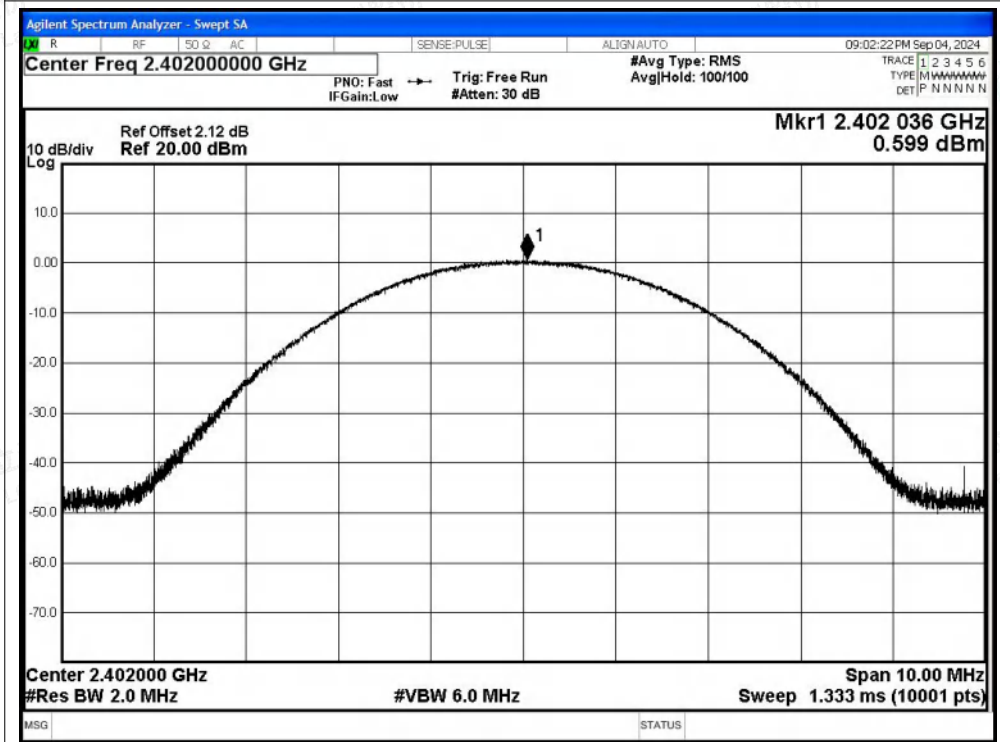




Power NVNT 1-DH5 2480MHz Ant1

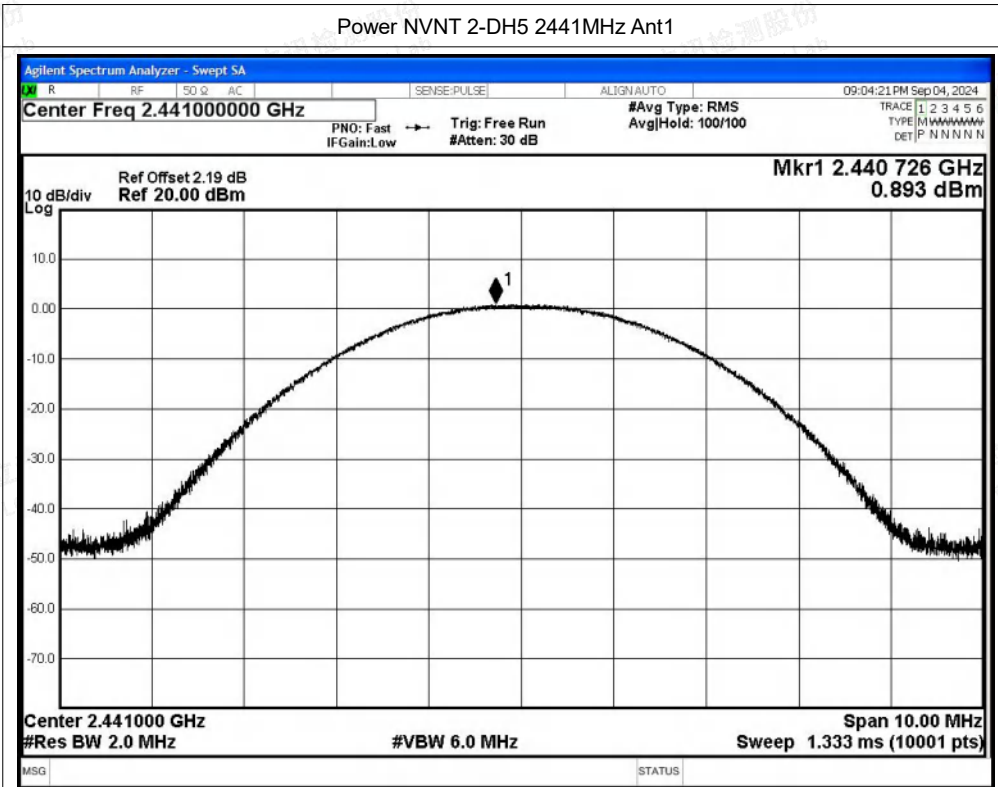


Power NVNT 2-DH5 2402MHz Ant1

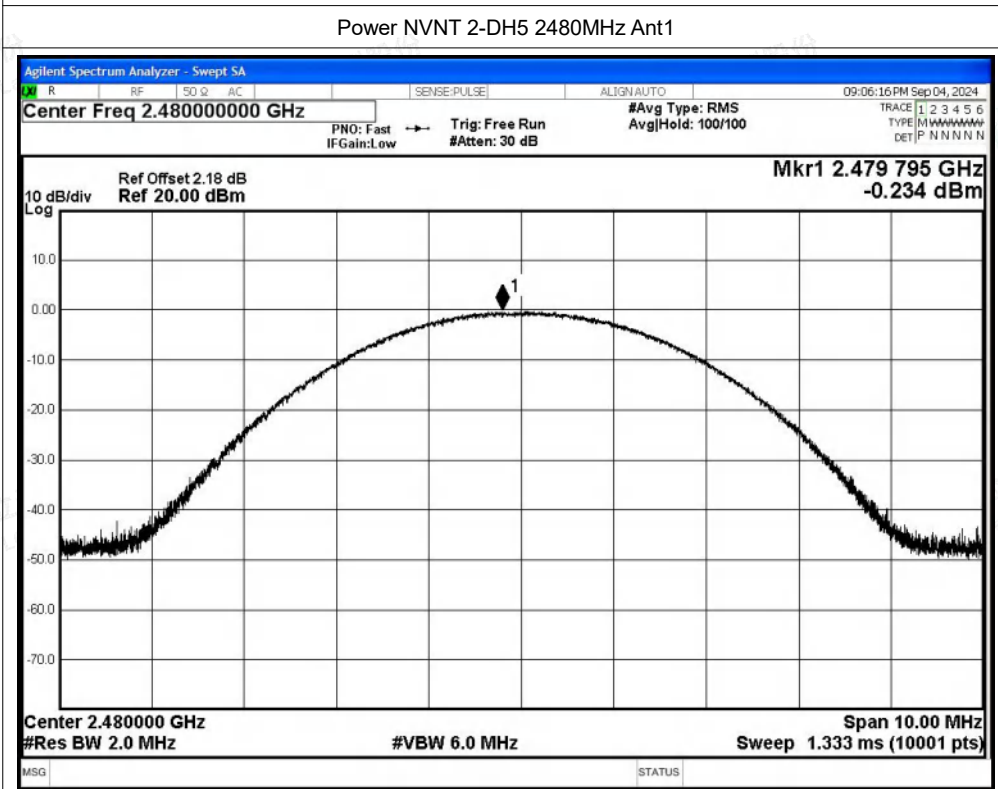




Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1





A.3 Carrier Frequencies Separation

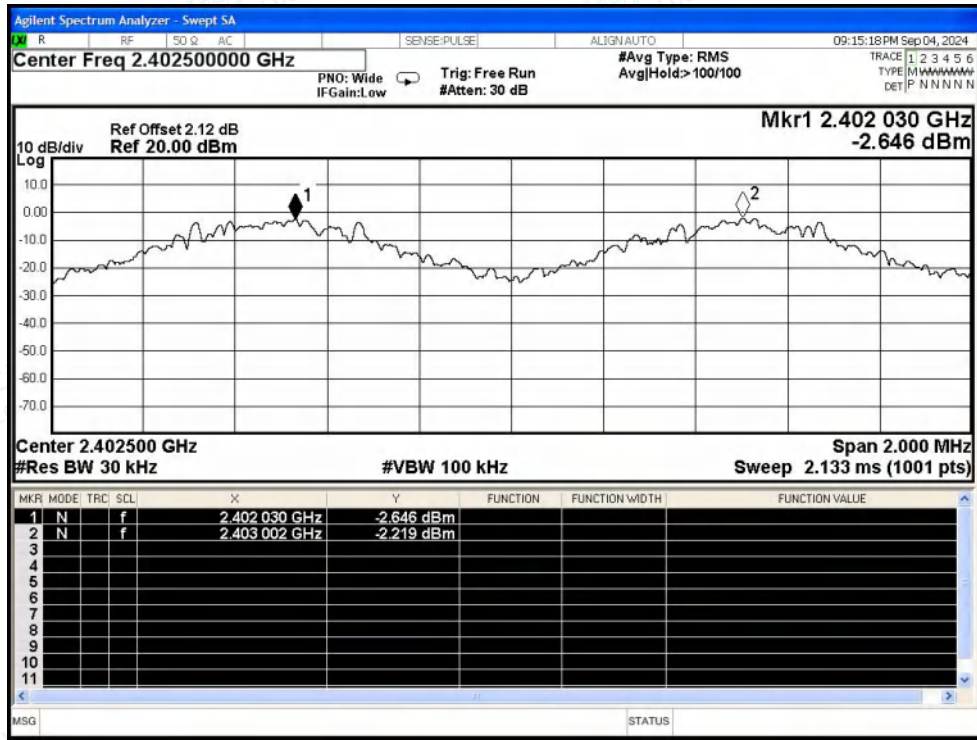
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.03	2403.002	0.972	0.638	Pass
NVNT	2-DH5	Ant1	2401.992	2403	1.008	0.883	Pass



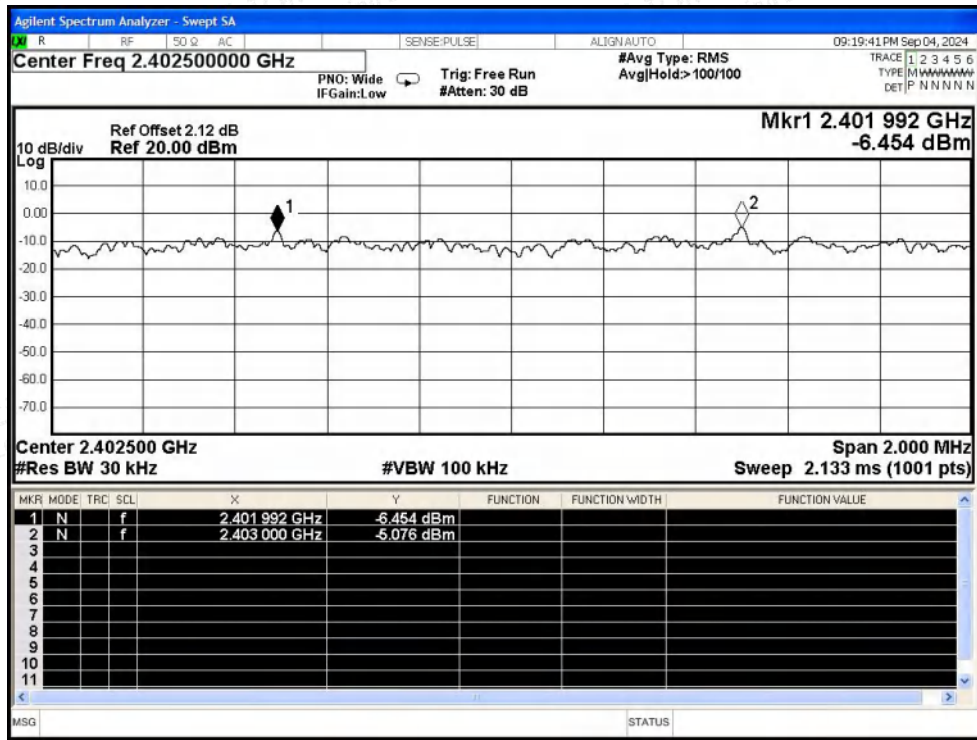


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1





A.4 Dwell Time

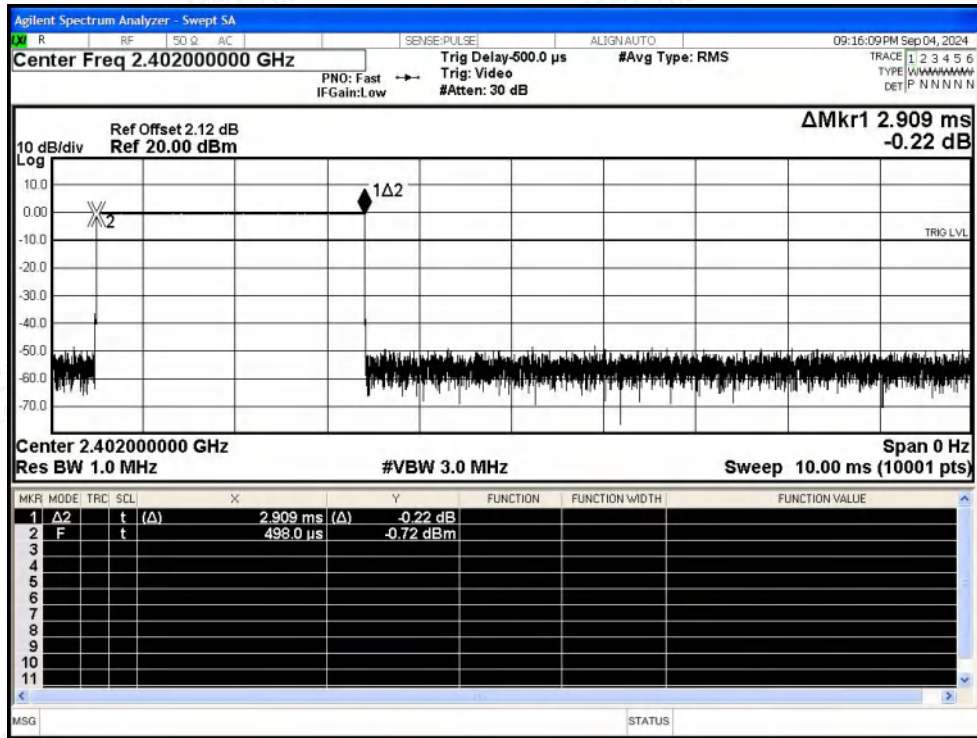
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	314.172	108	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	304.29	105	31600	400	Pass



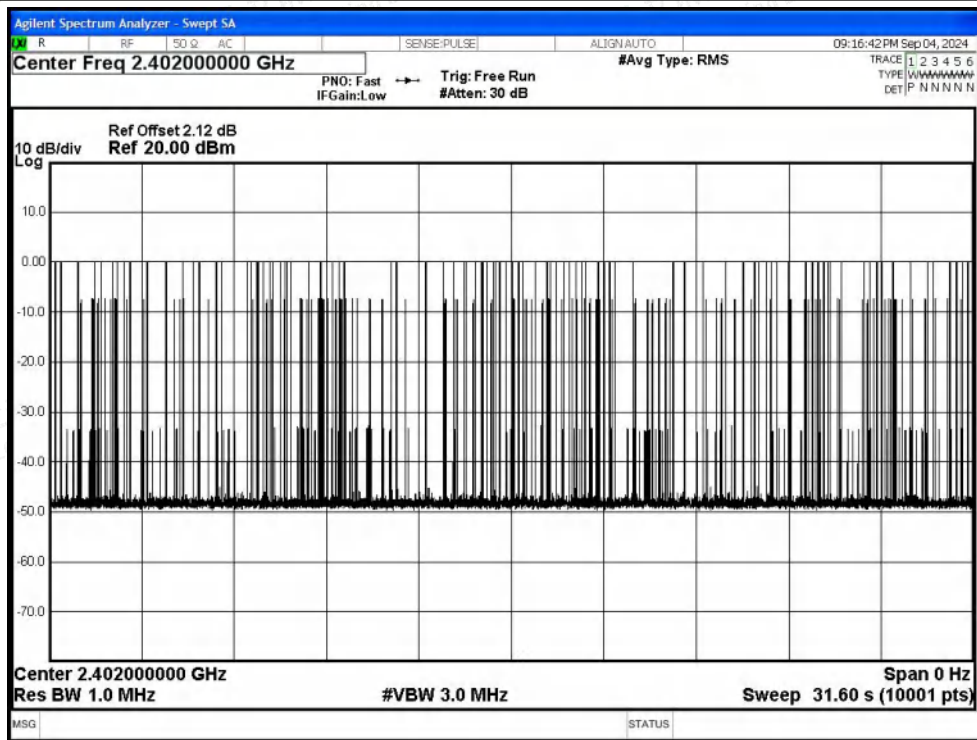


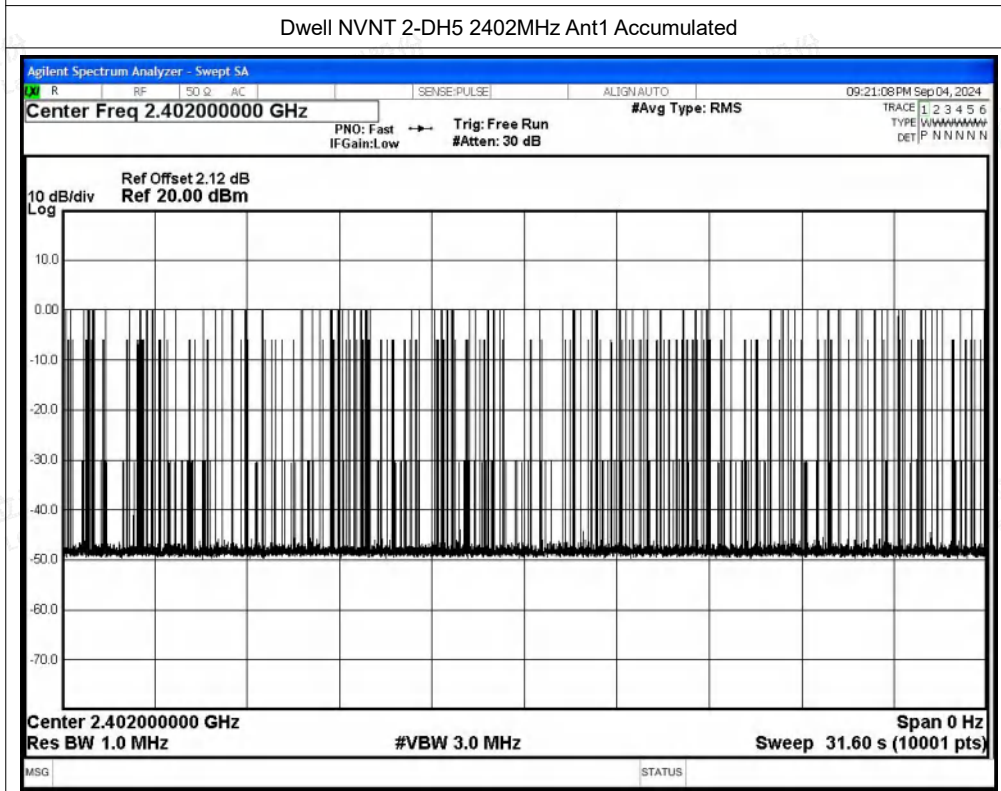
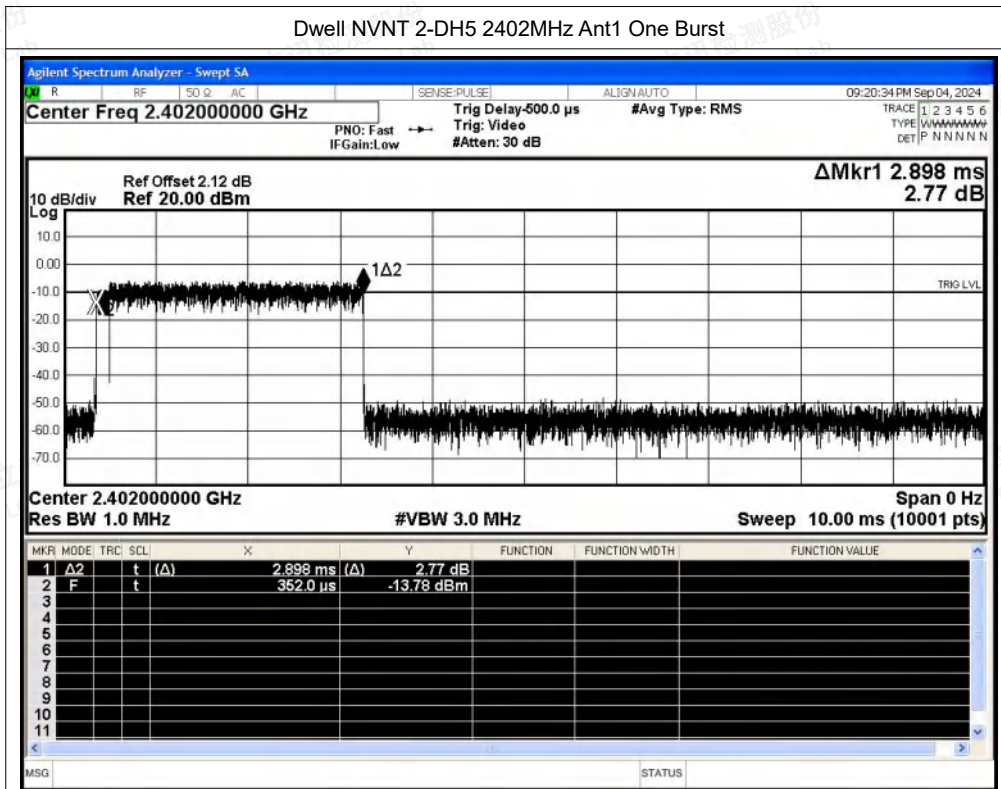
Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated







A.5 Number of Hopping Channel

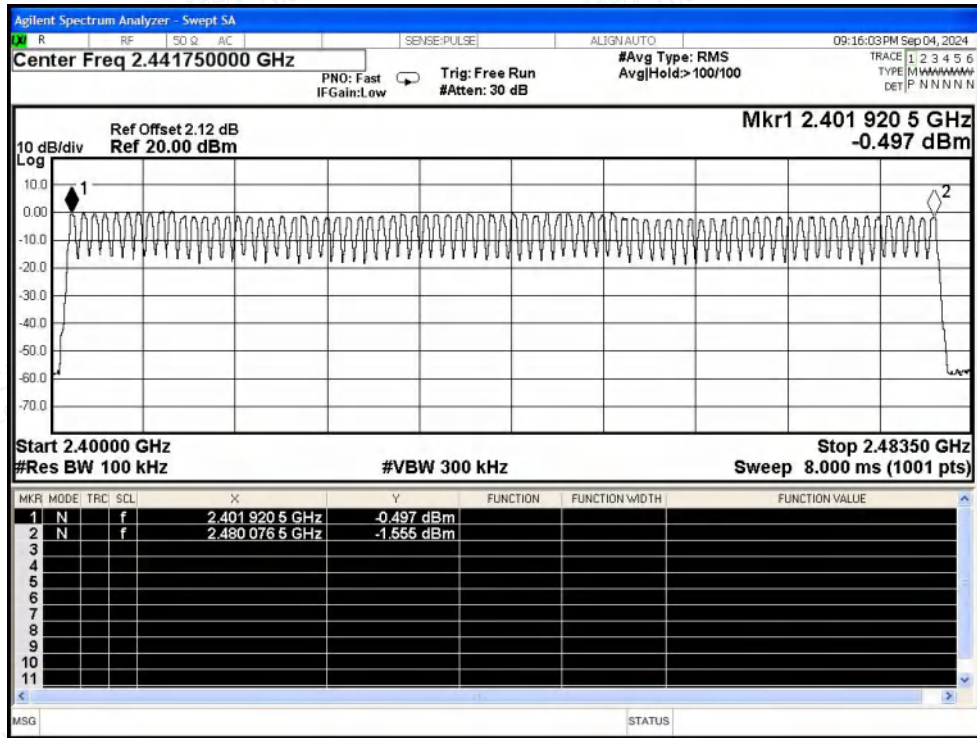
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass



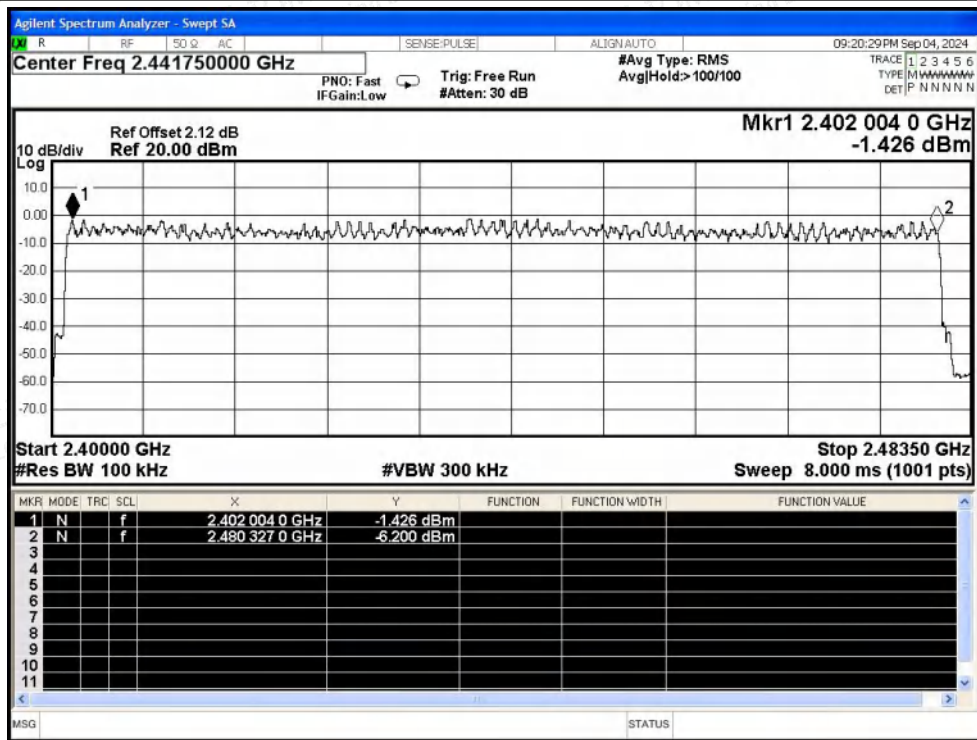


Test Graphs

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	-55.73	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.53	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-54.72	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.47	-20	Pass

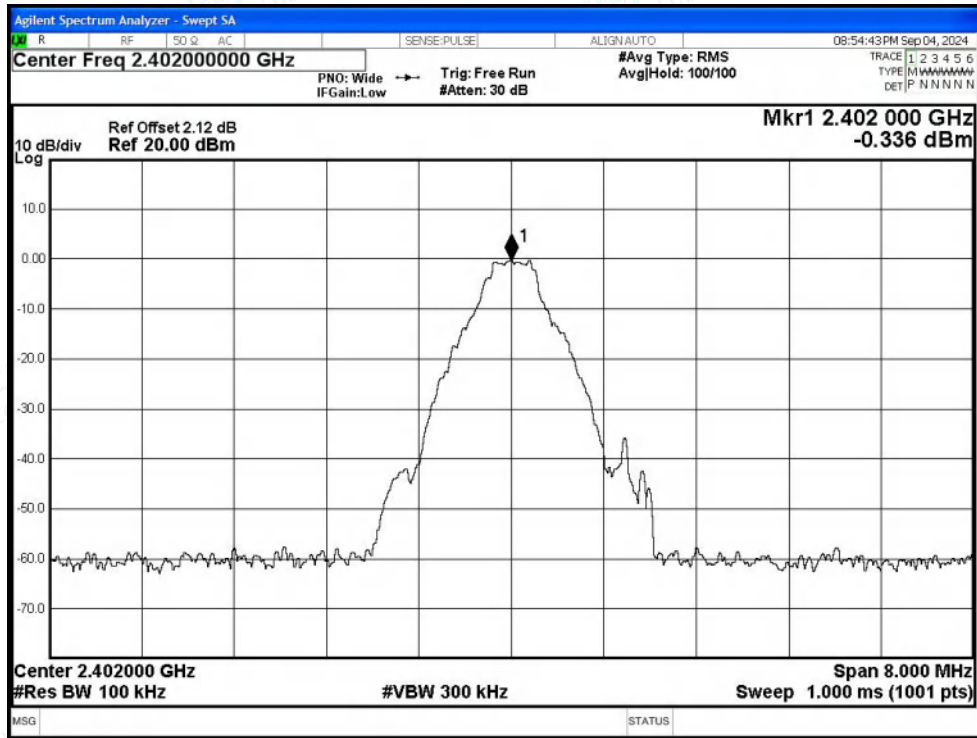


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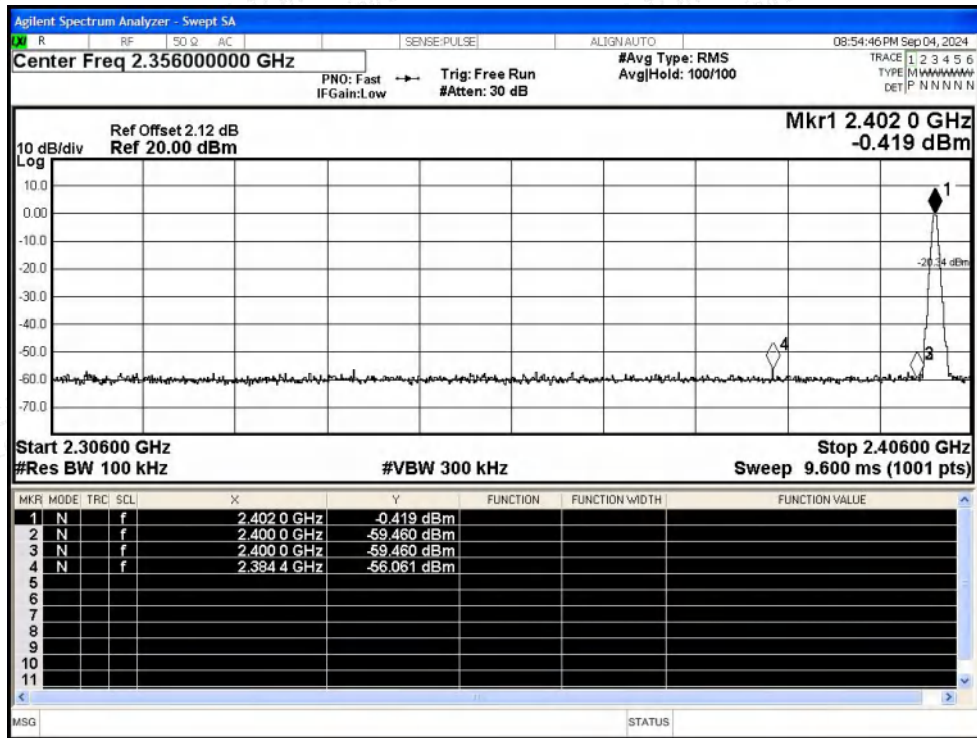


Test Graphs

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

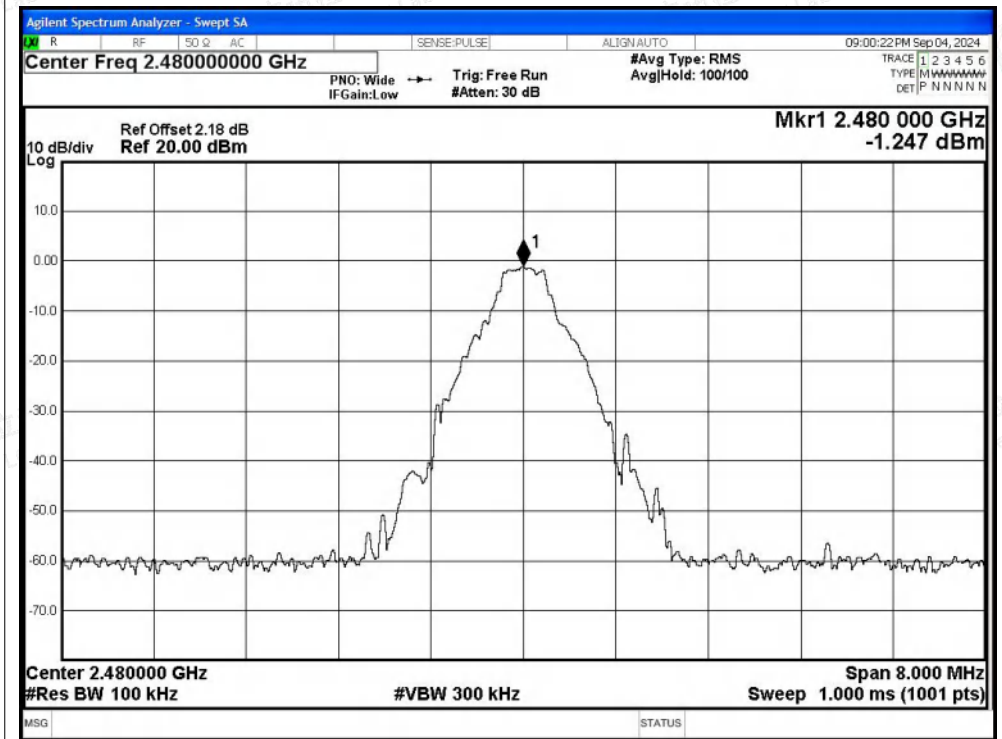


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

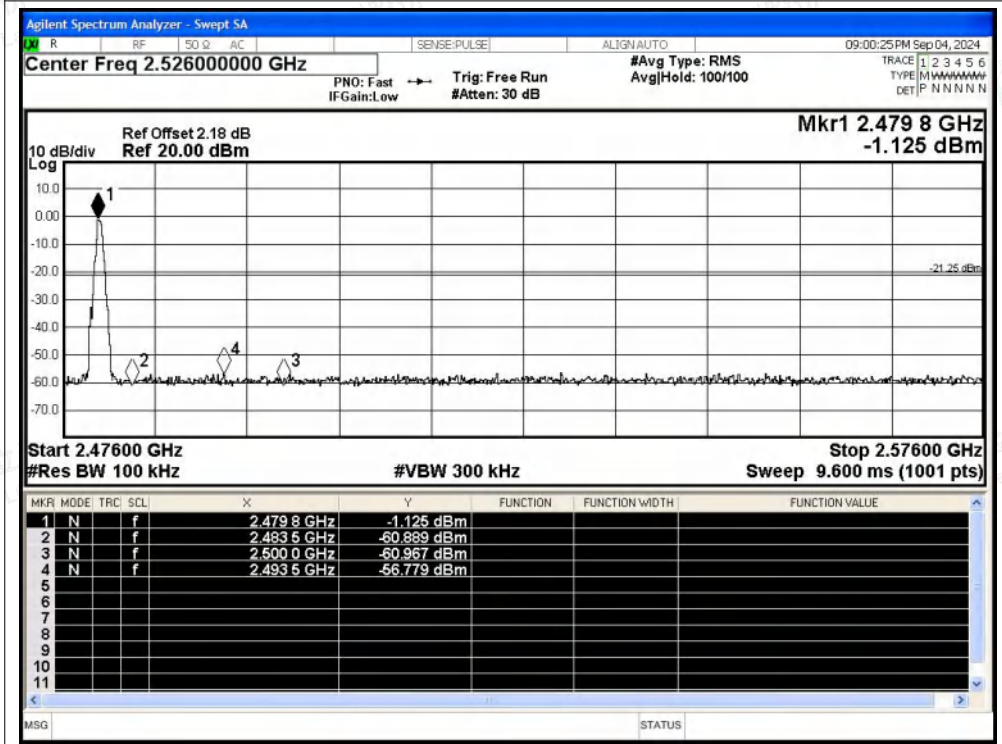




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

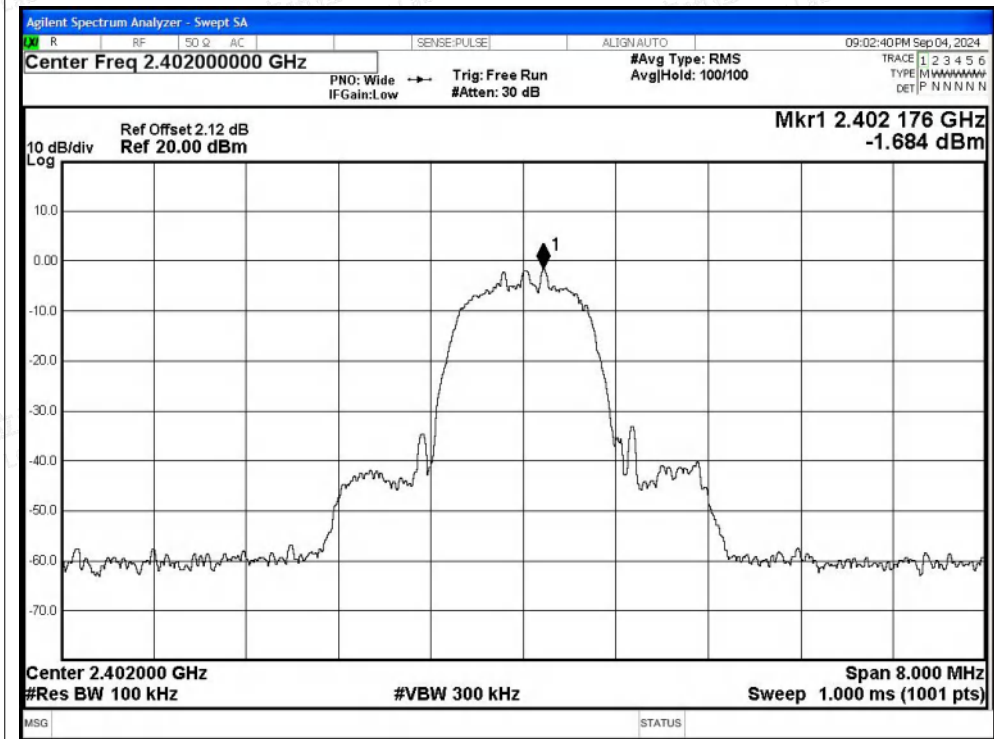


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

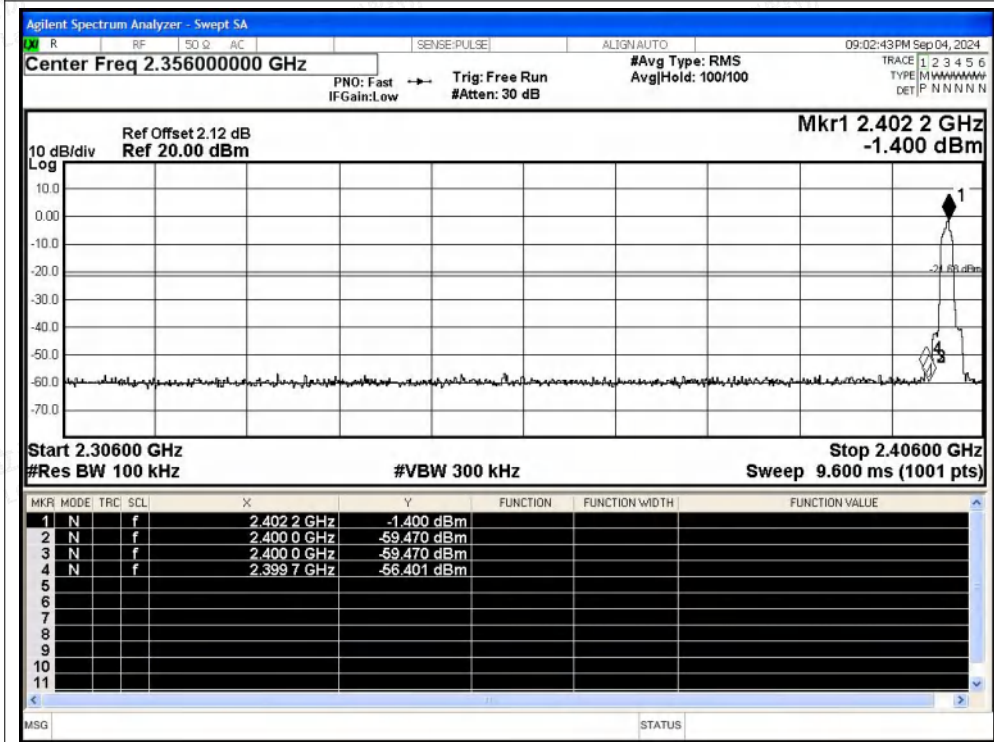




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

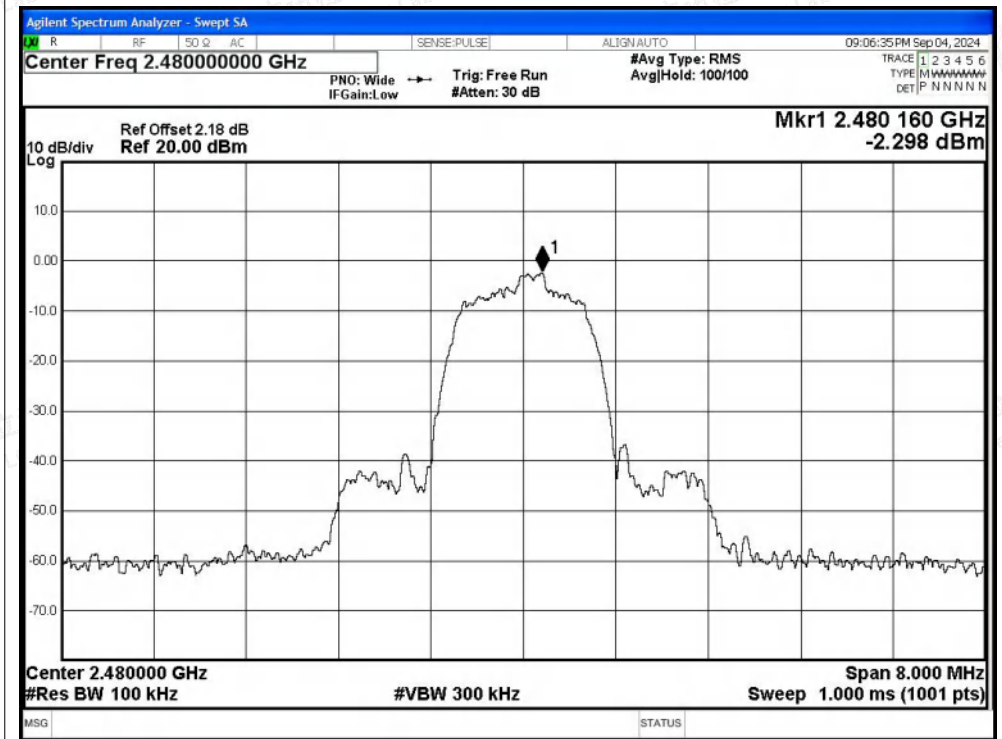


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

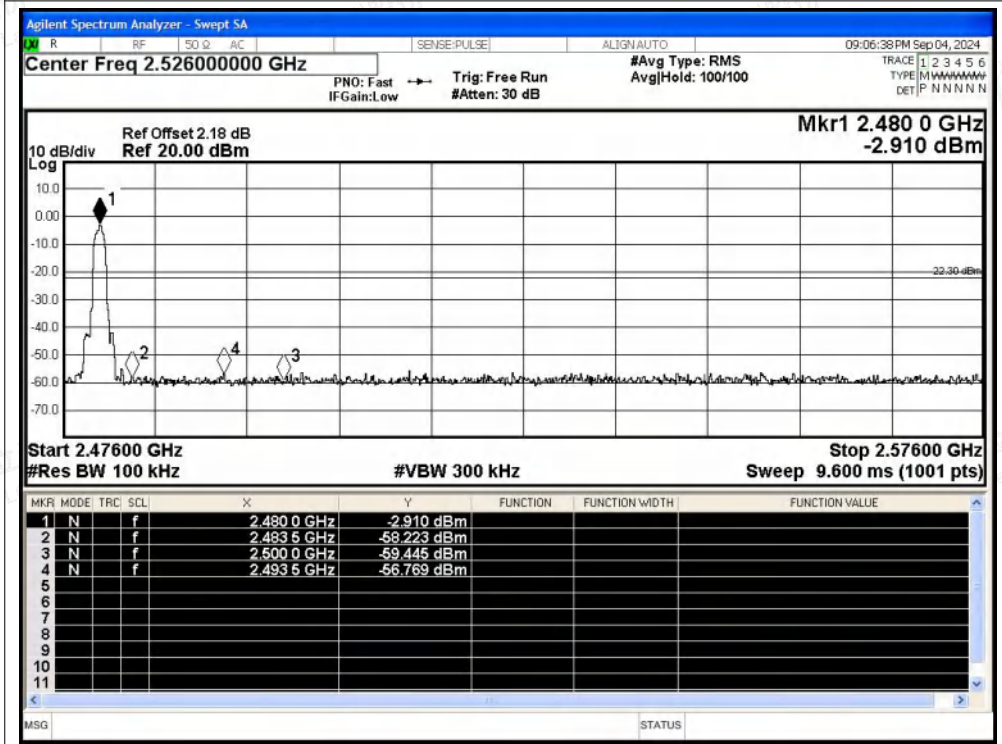




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



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





(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-56.22	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.25	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.77	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.52	-20	Pass

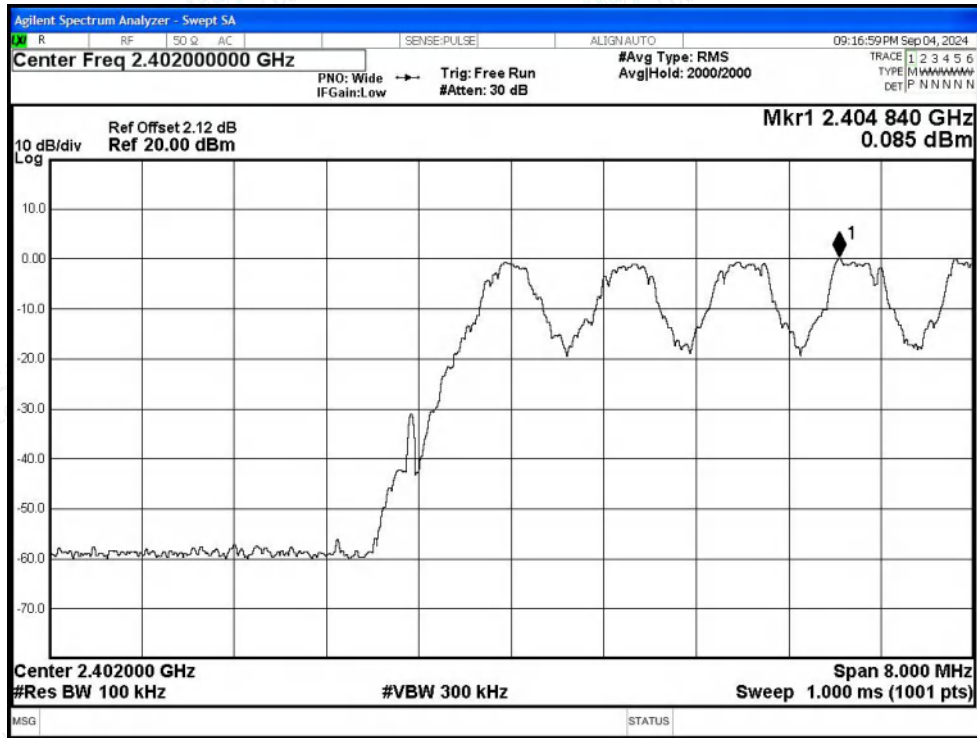


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Scan code to check authenticity

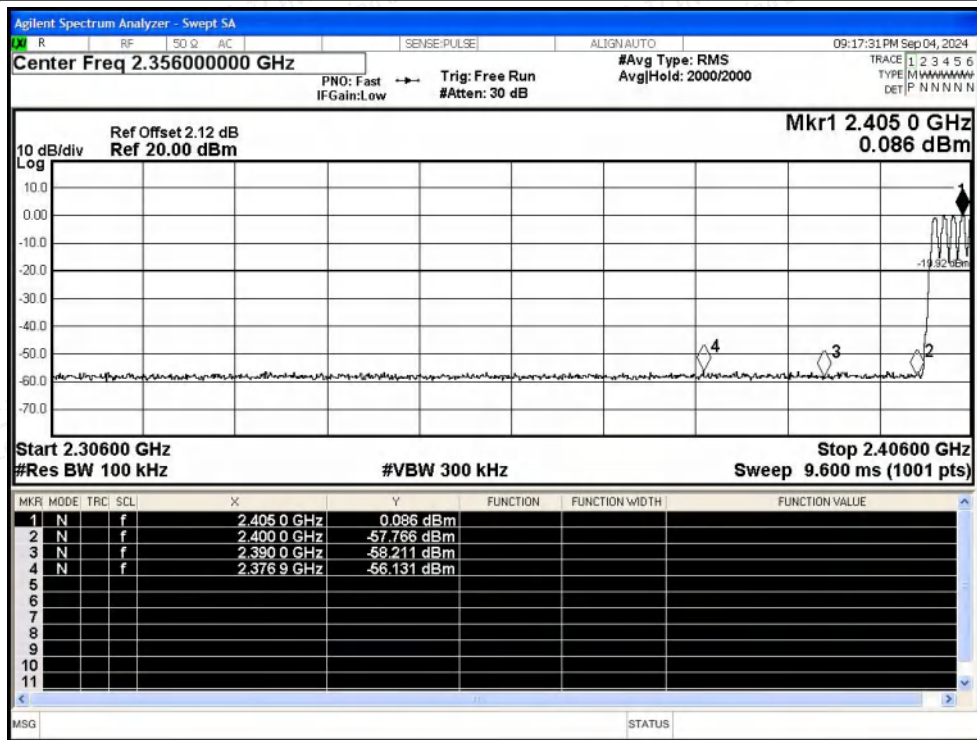


Test Graphs

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

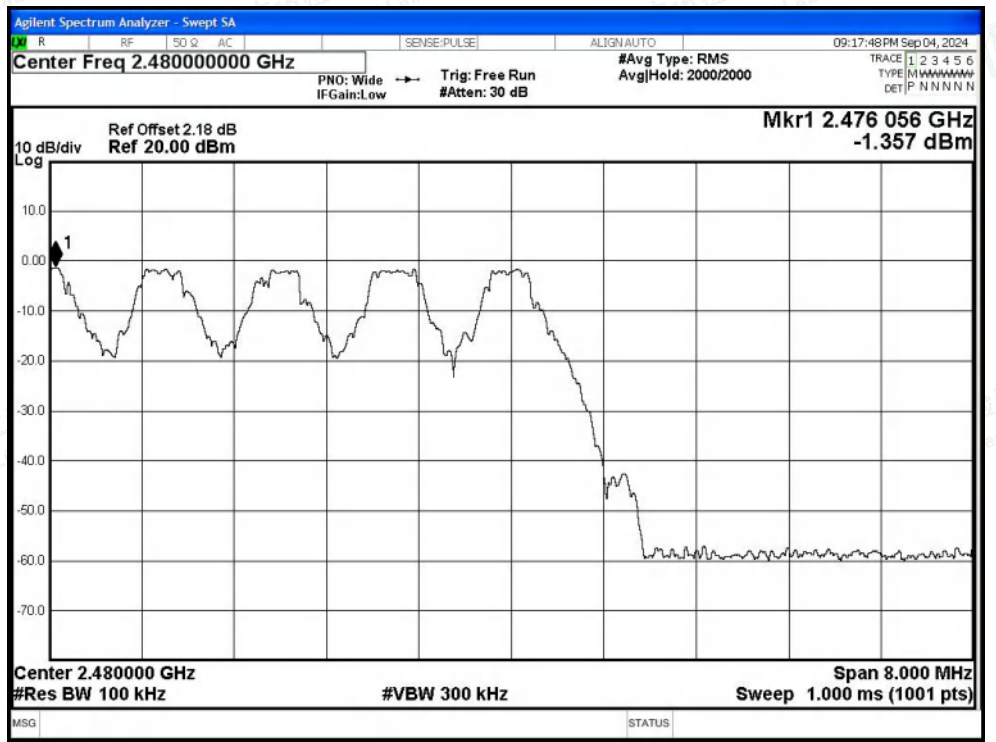


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

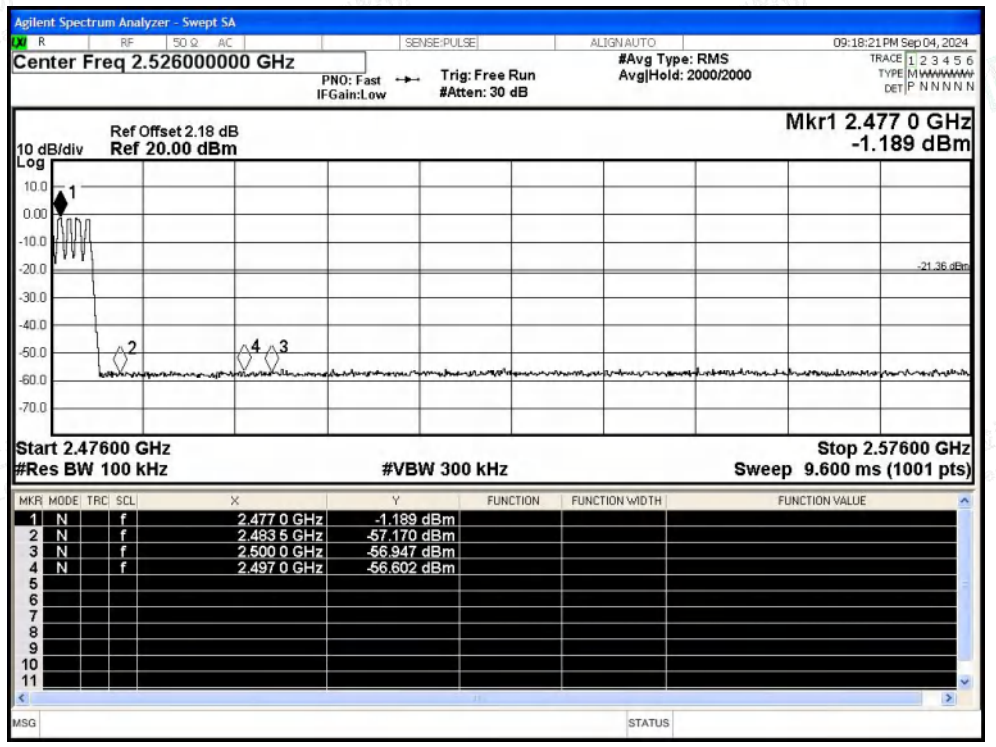




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

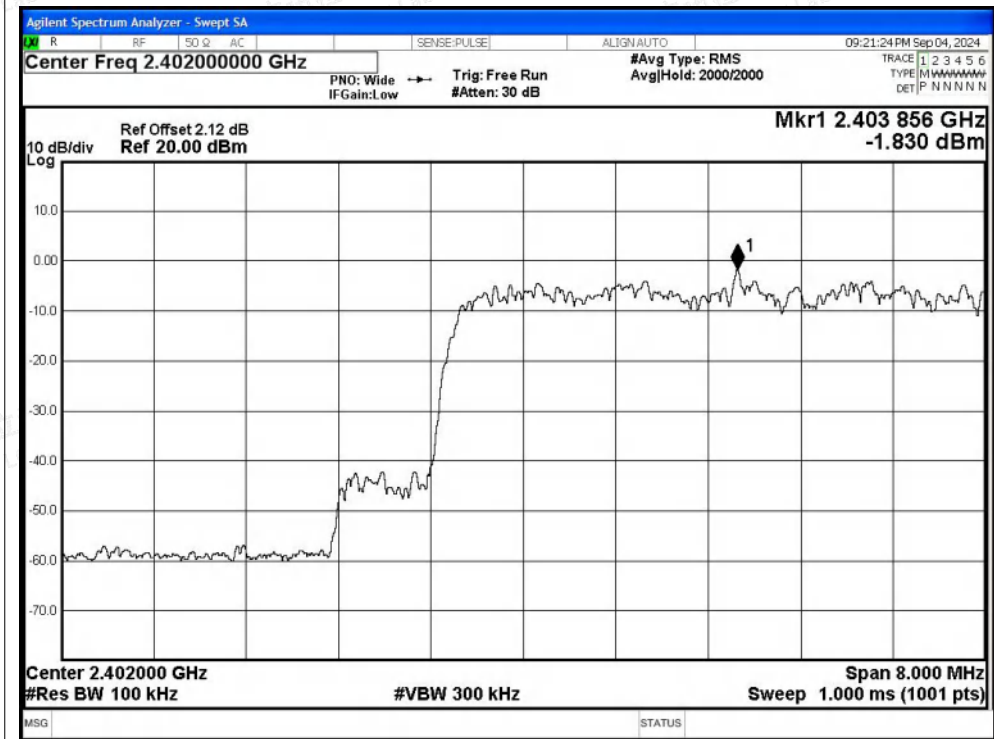


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

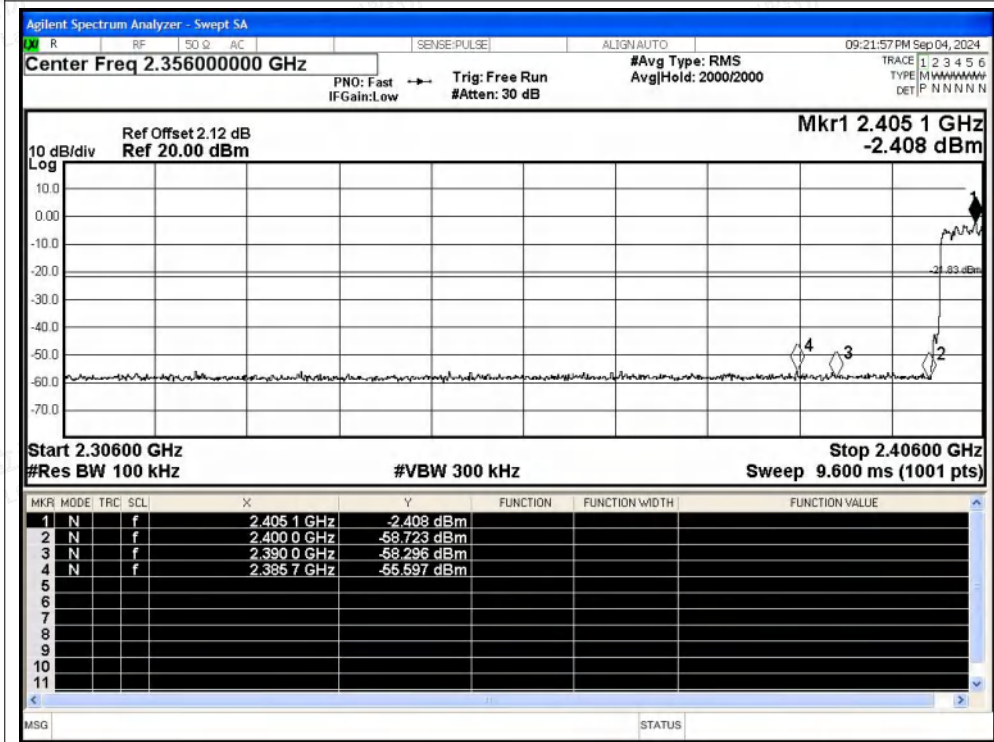




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

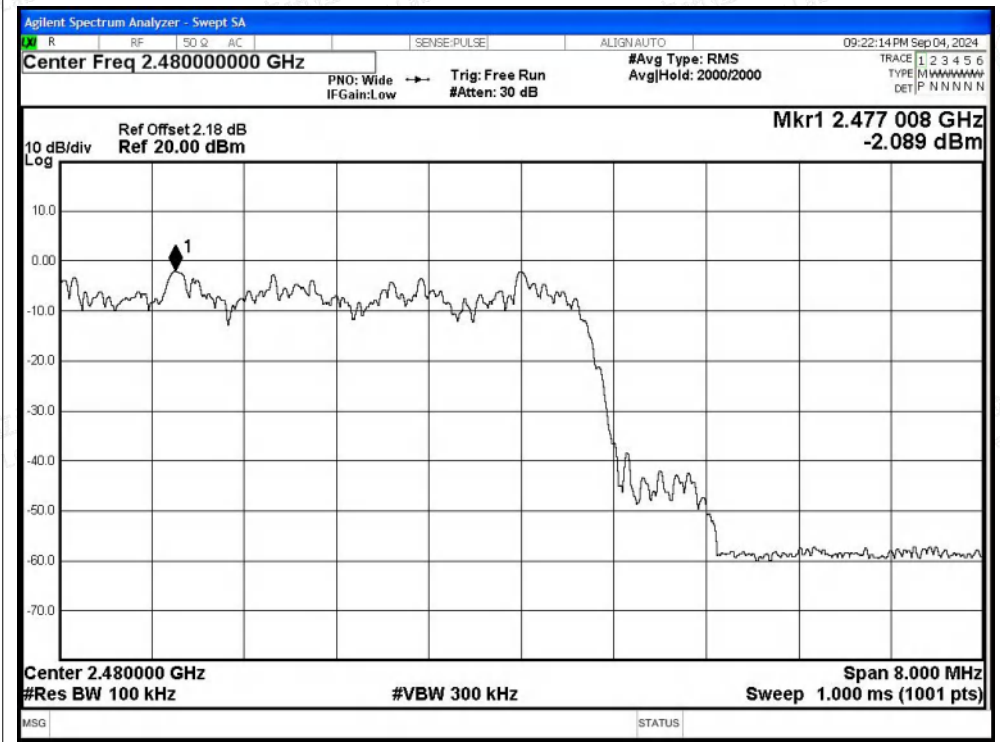


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

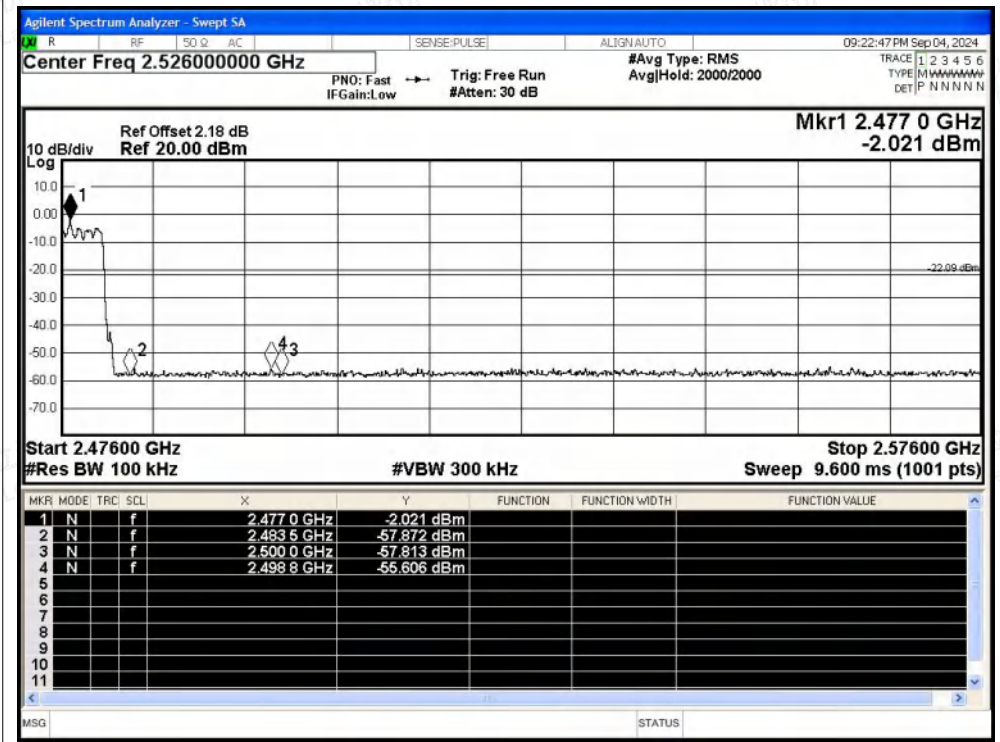




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



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





A.7 Conducted RF Spurious Emission

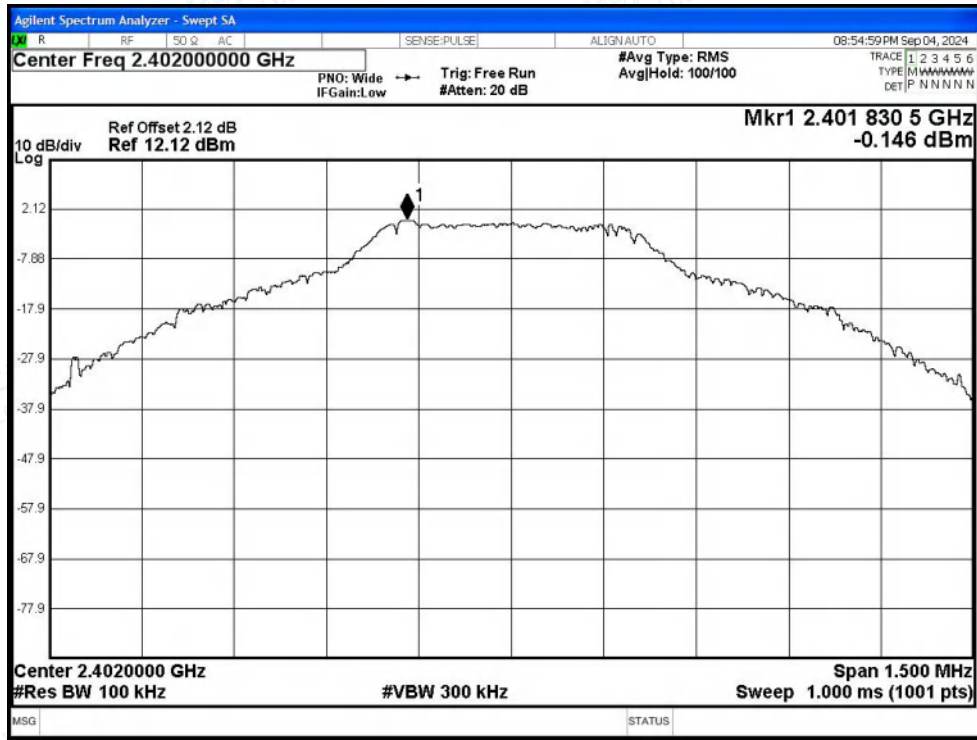
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.95	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.64	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.4	-20	Pass
NVNT	2-DH5	2402	Ant1	-52.01	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.79	-20	Pass
NVNT	2-DH5	2480	Ant1	-51.87	-20	Pass



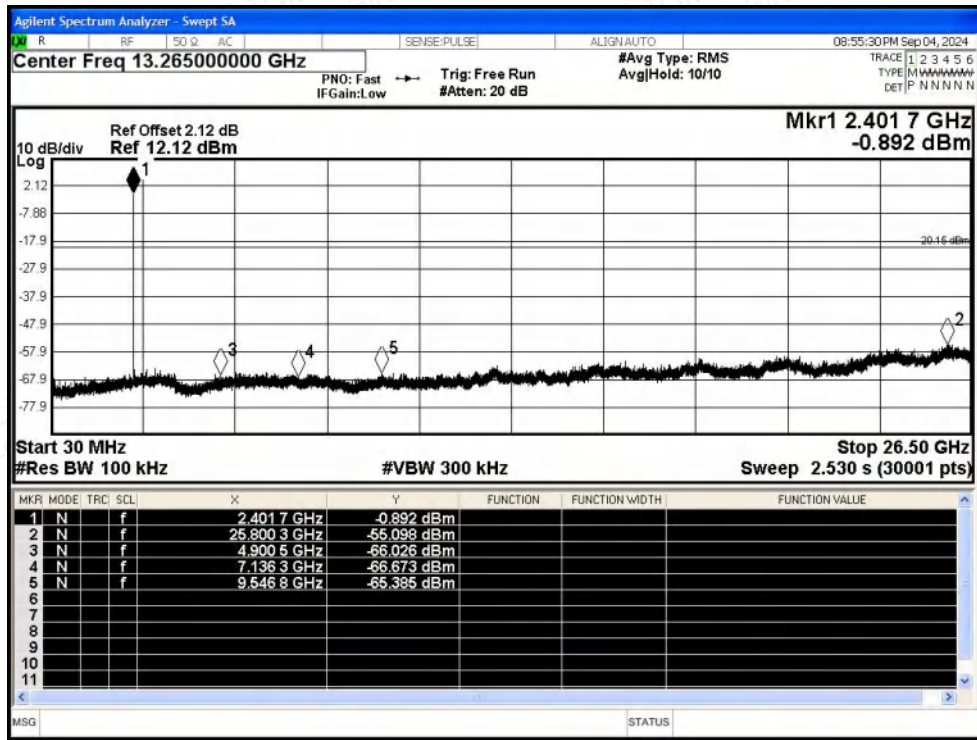


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

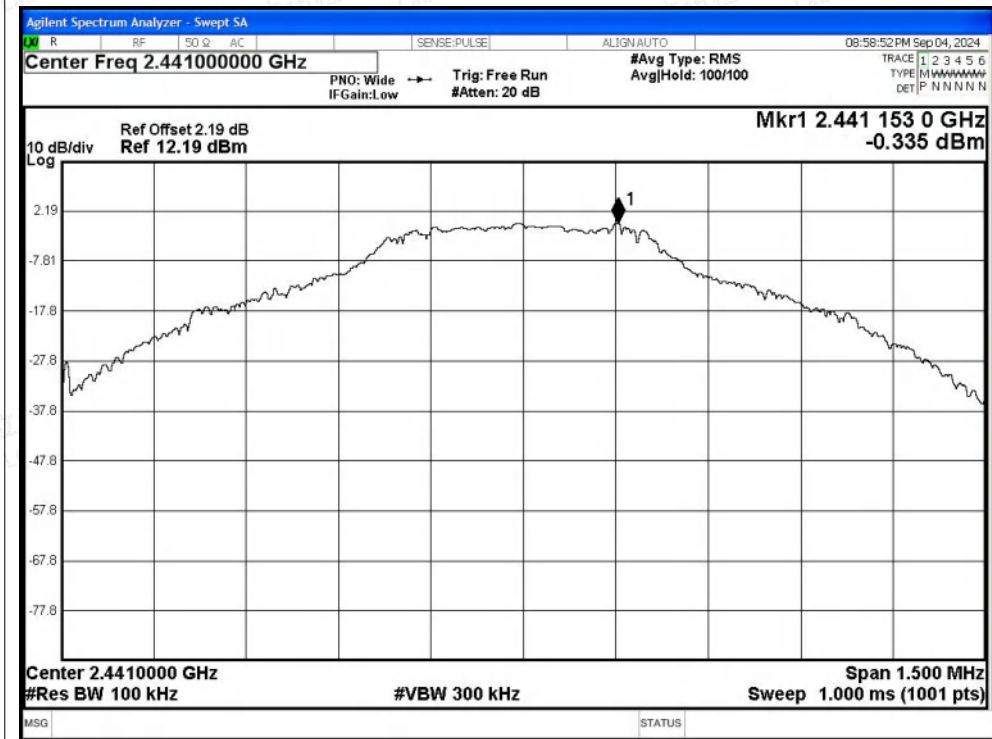


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

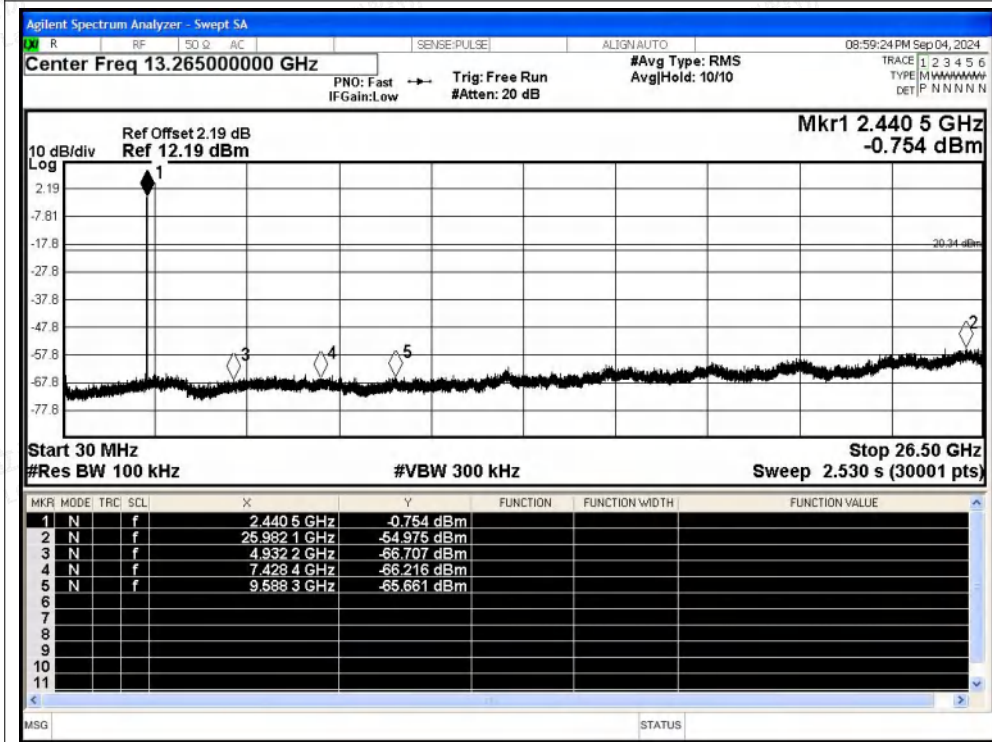




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

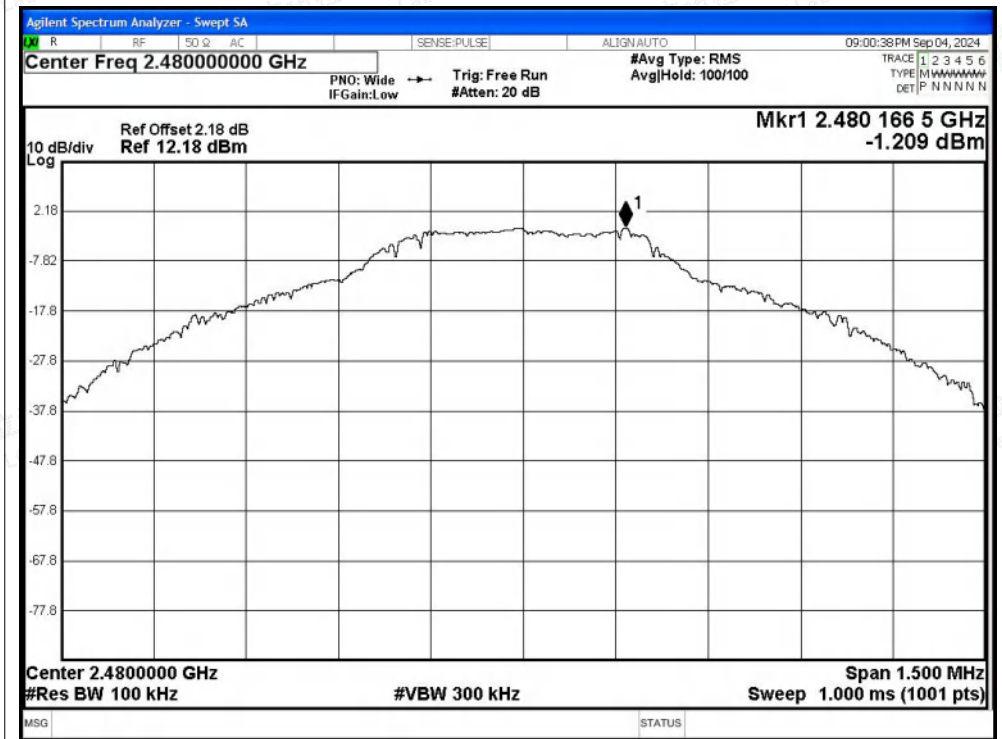


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

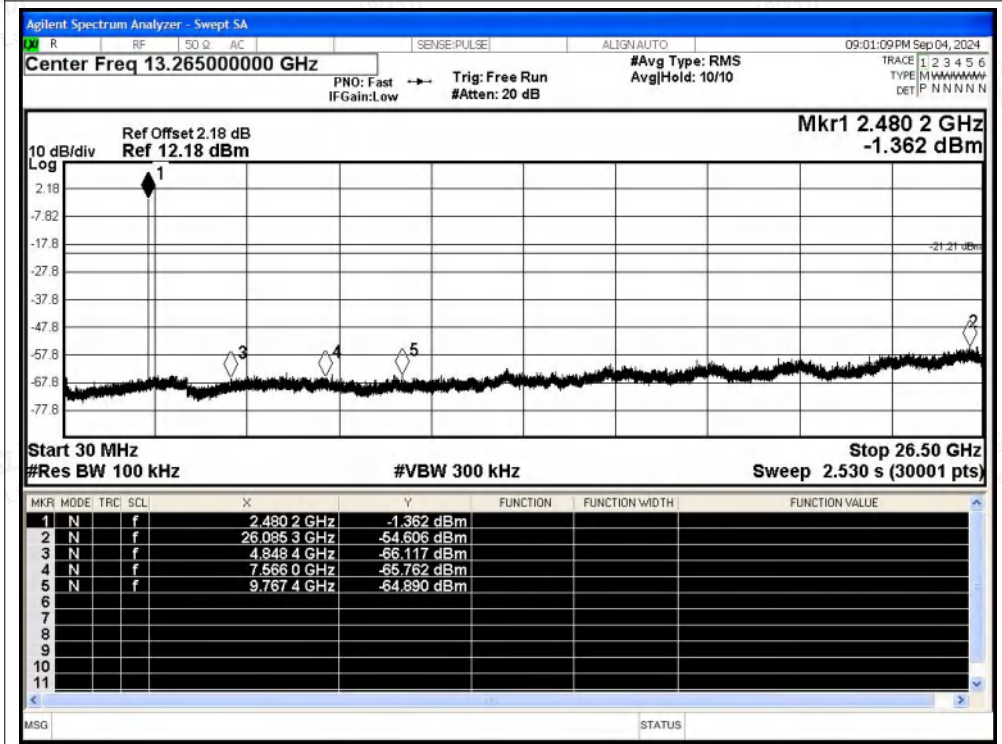




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

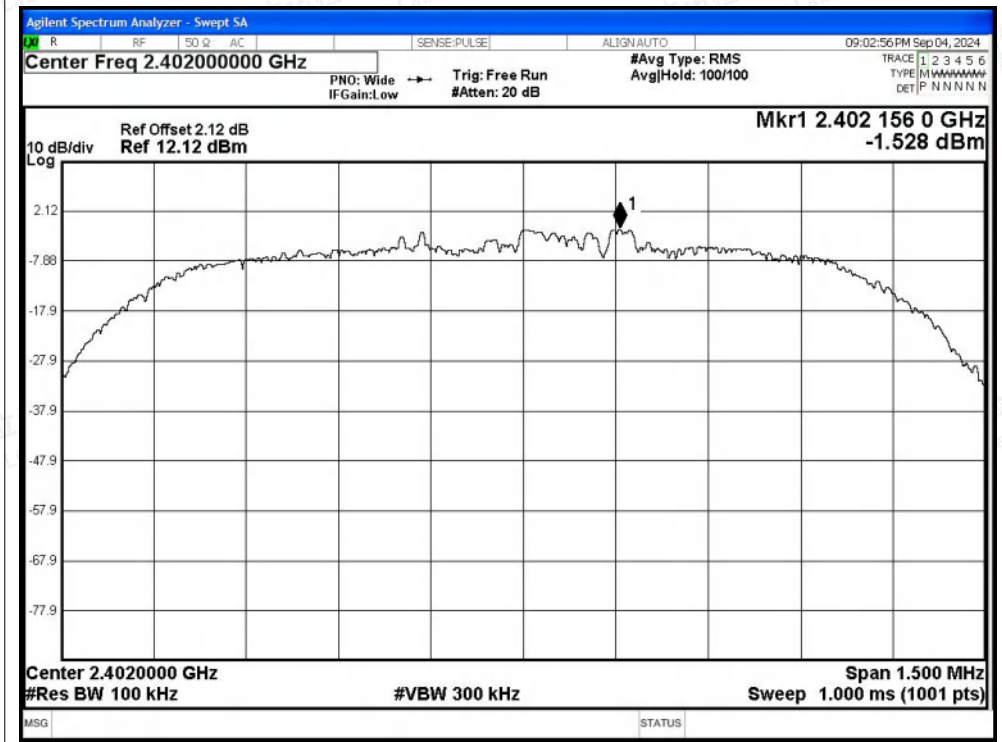


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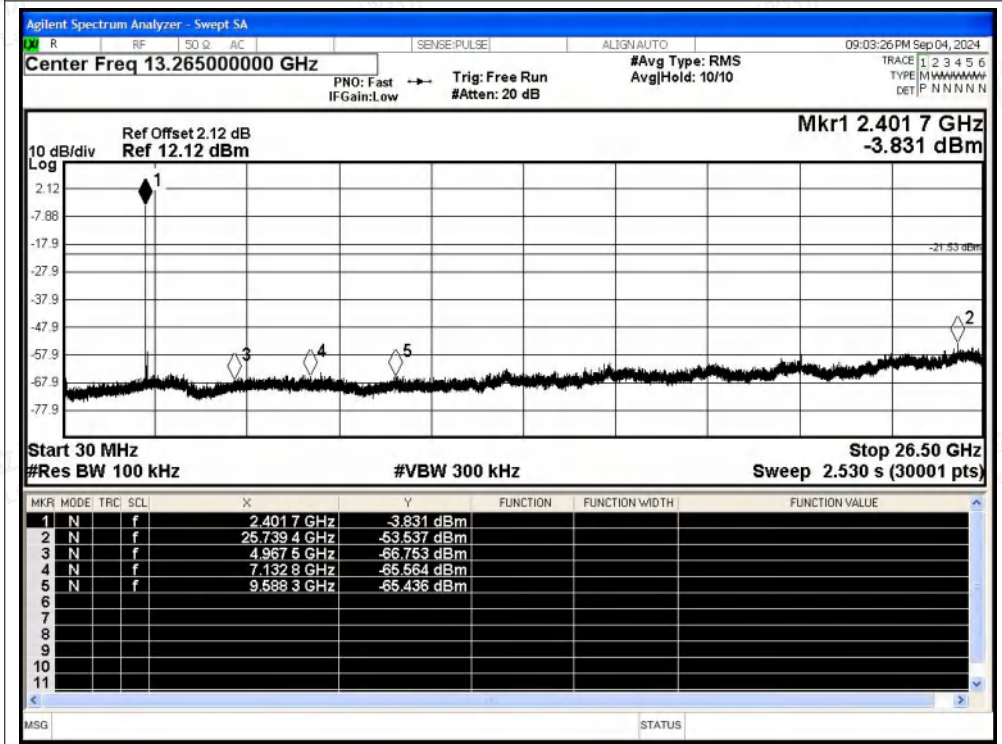




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

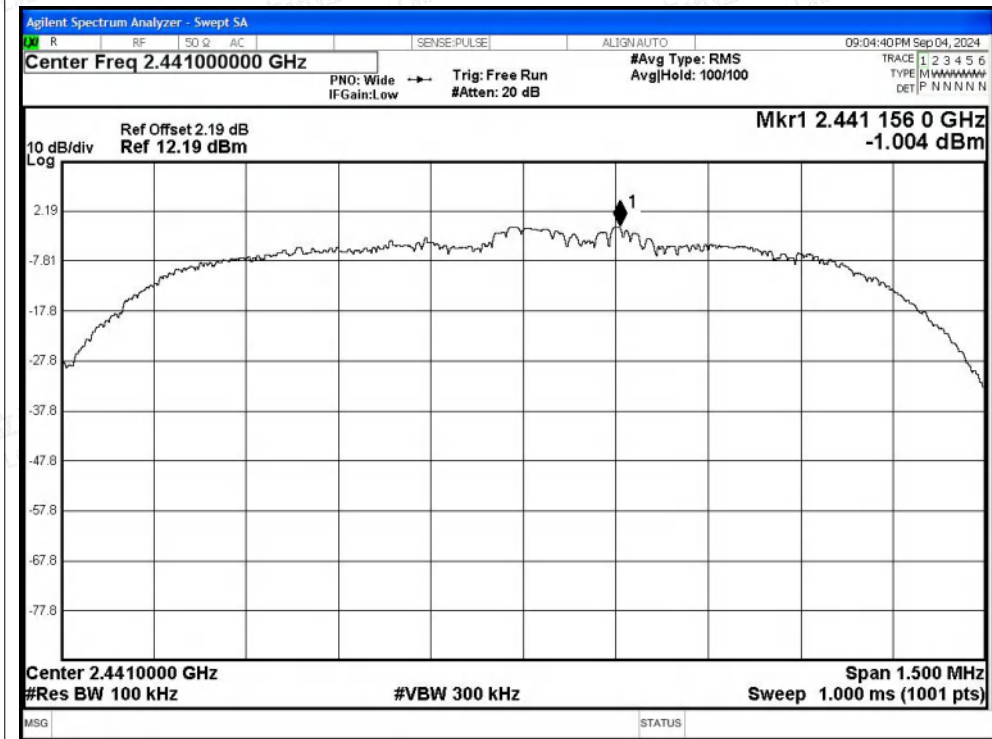


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

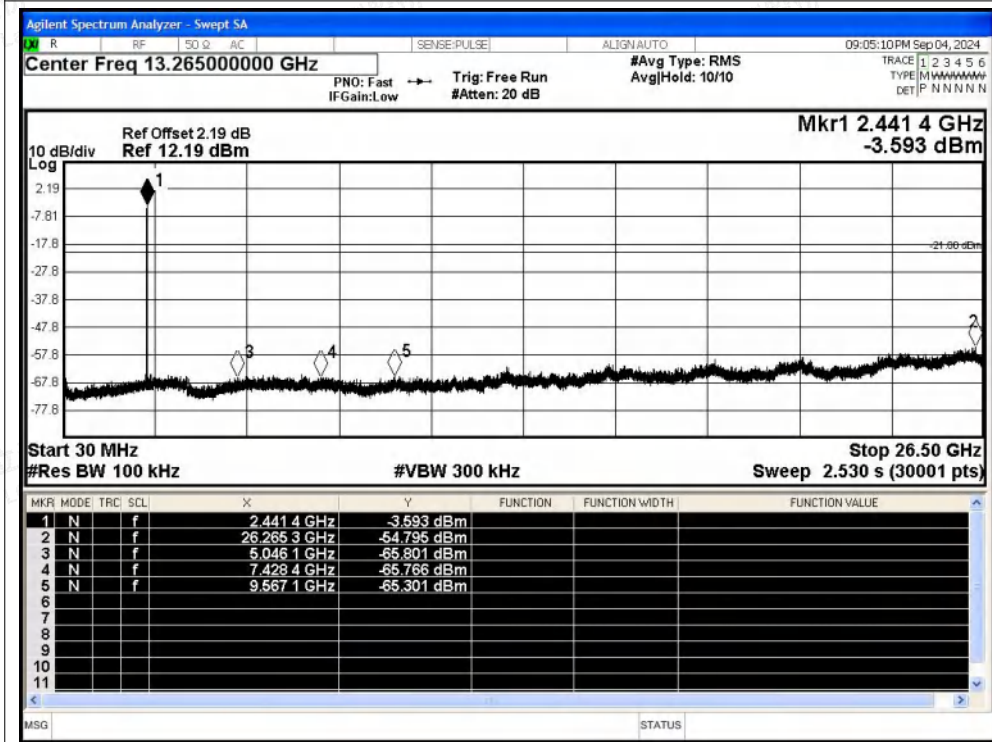




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

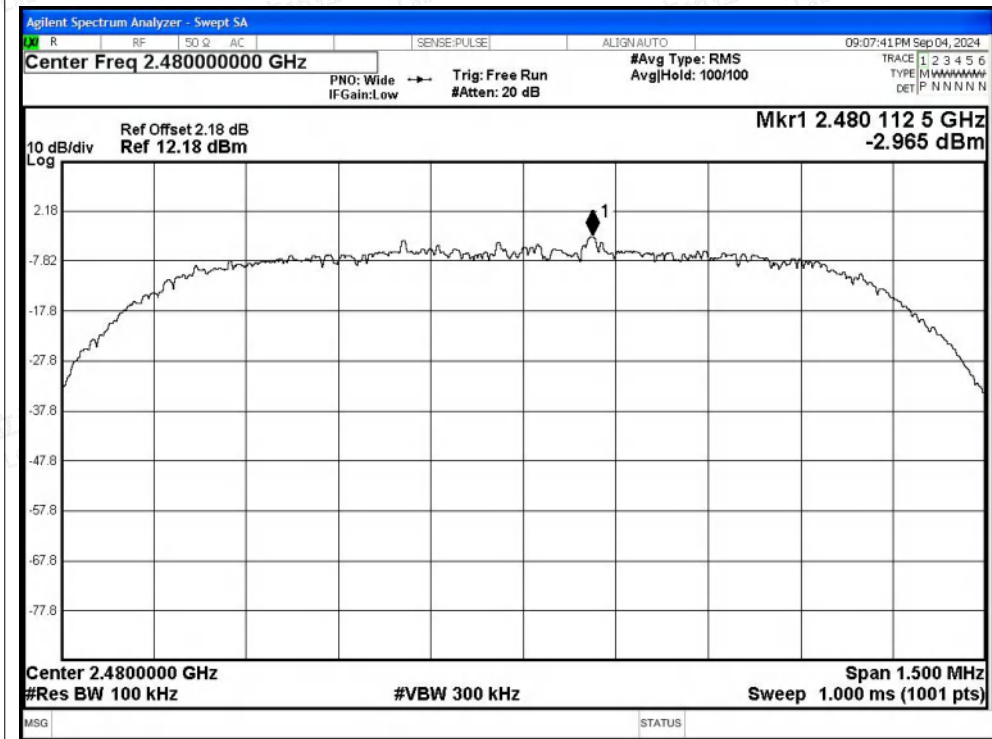


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

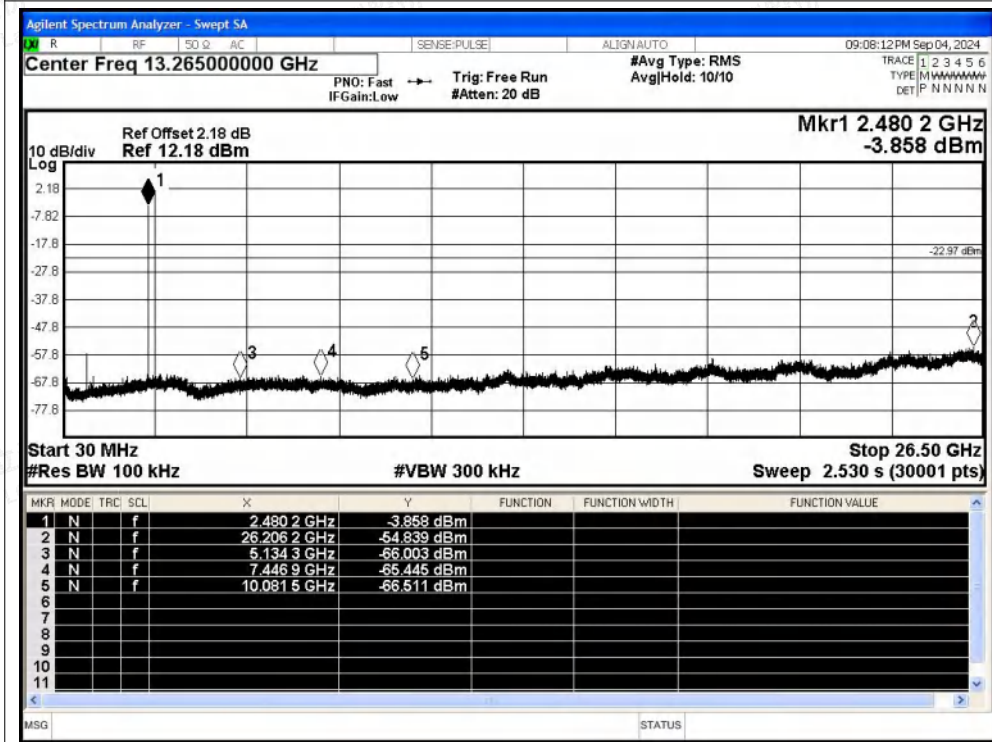




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission





A.8 Duty Cycle

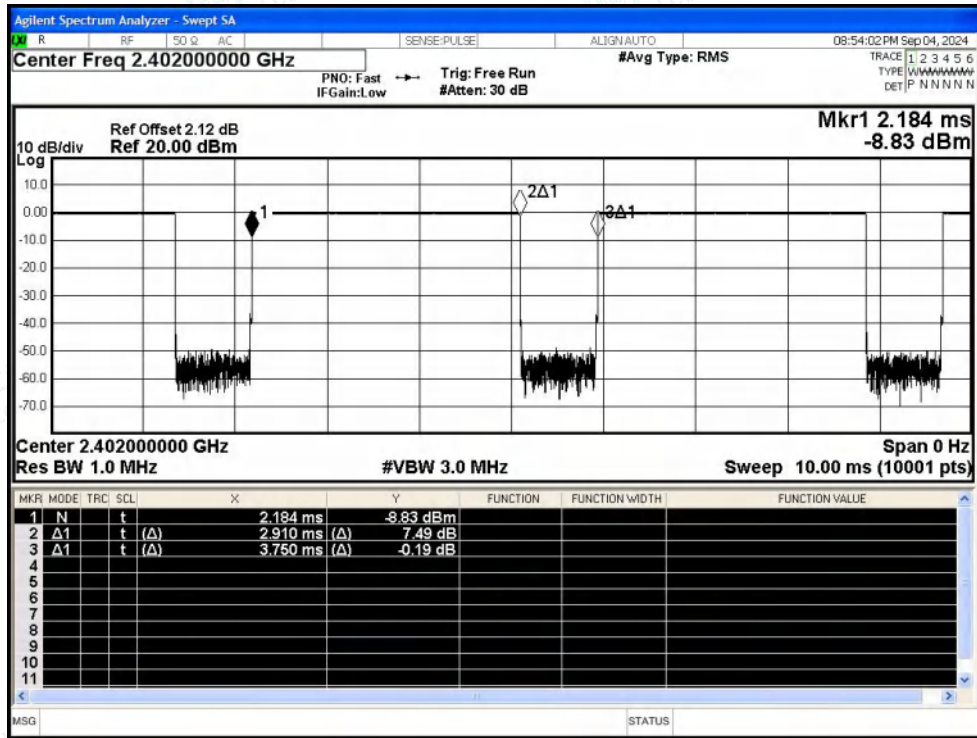
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.33	1.12	0.34



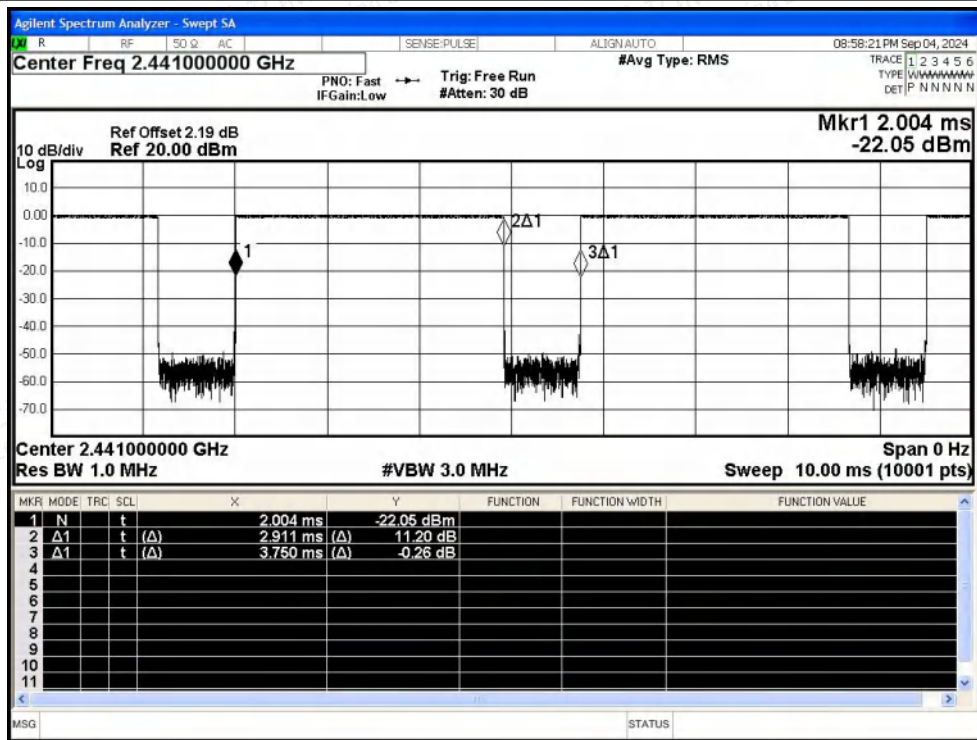


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

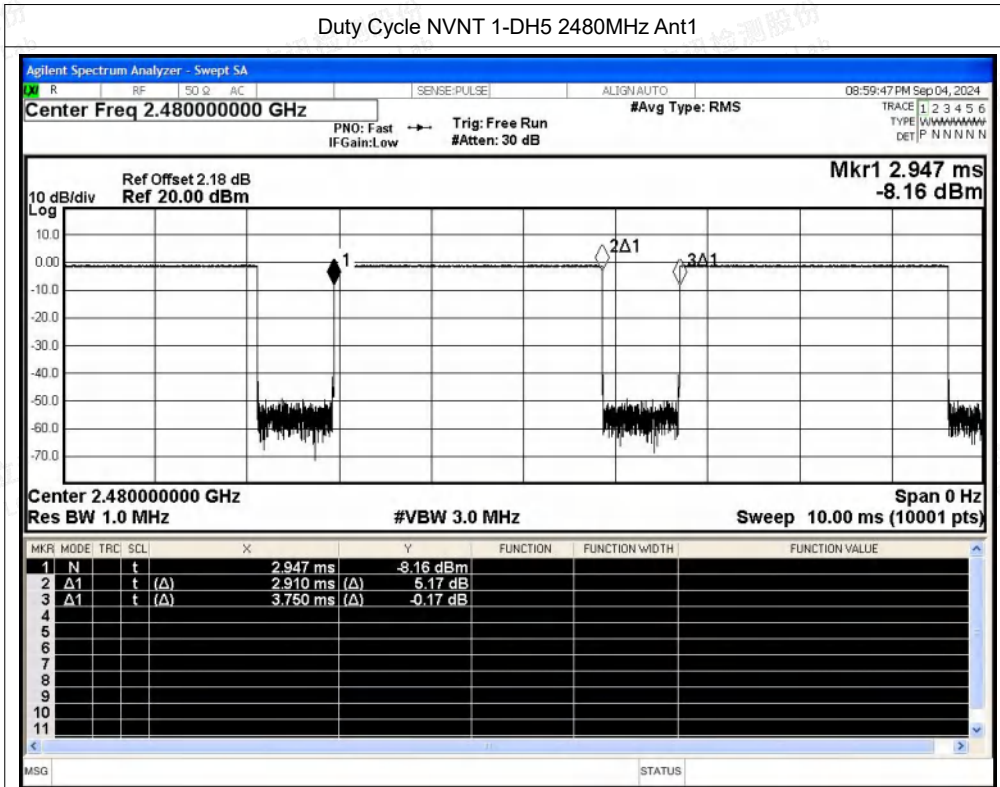


Duty Cycle NVNT 1-DH5 2441MHz Ant1

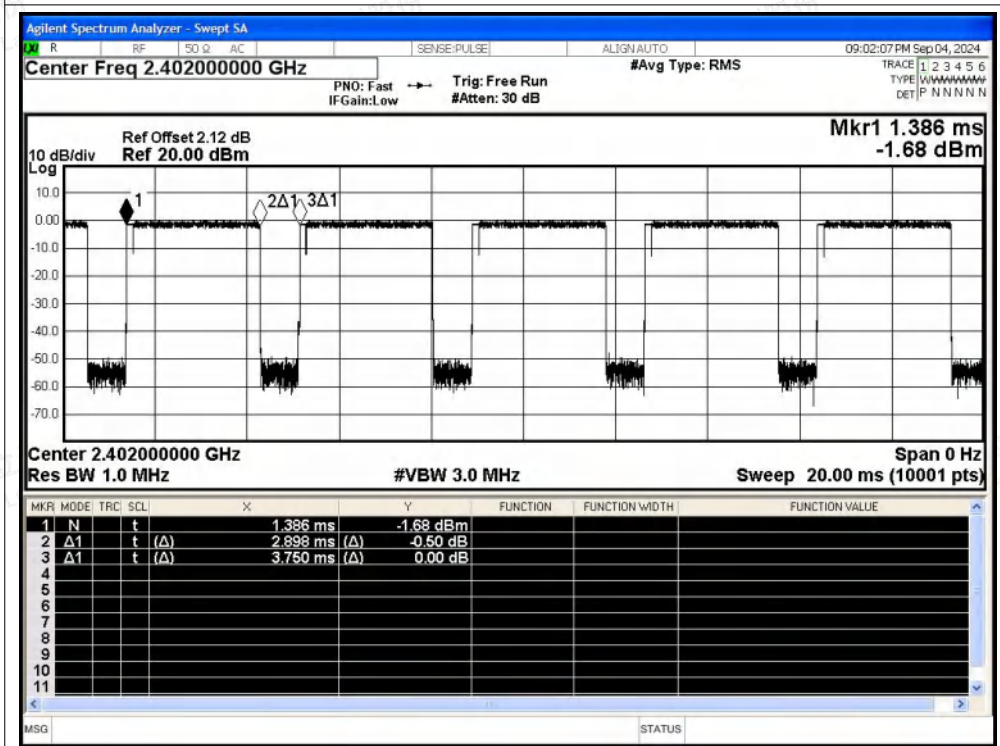




Duty Cycle NVNT 1-DH5 2480MHz Ant1

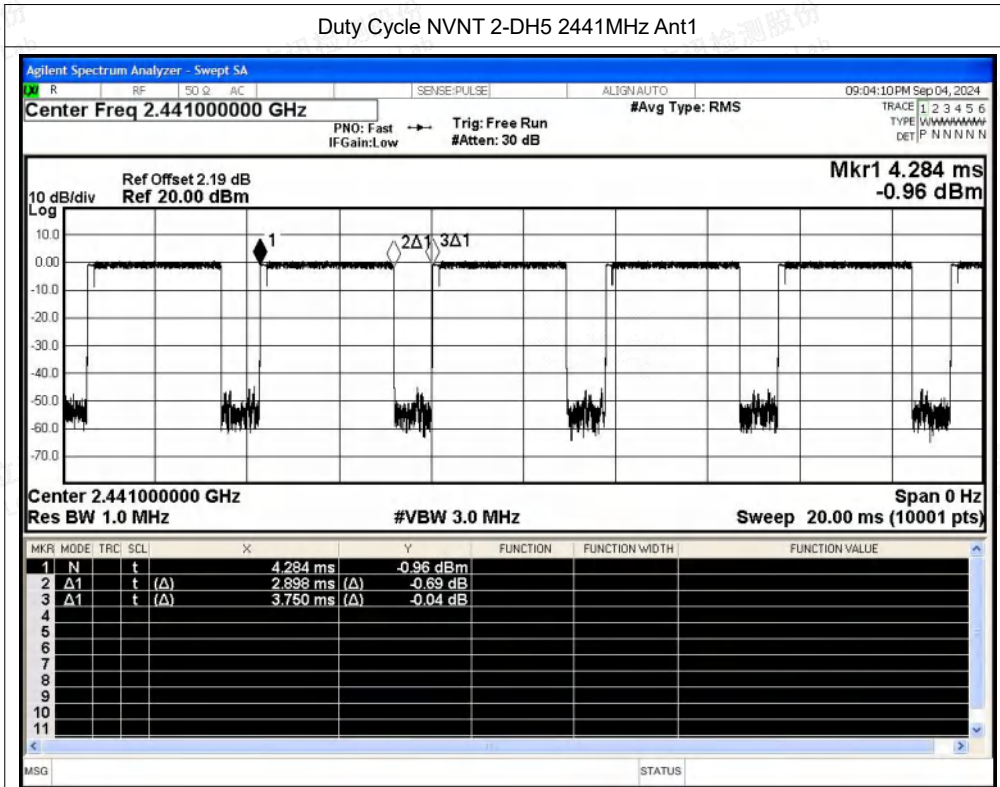


Duty Cycle NVNT 2-DH5 2402MHz Ant1

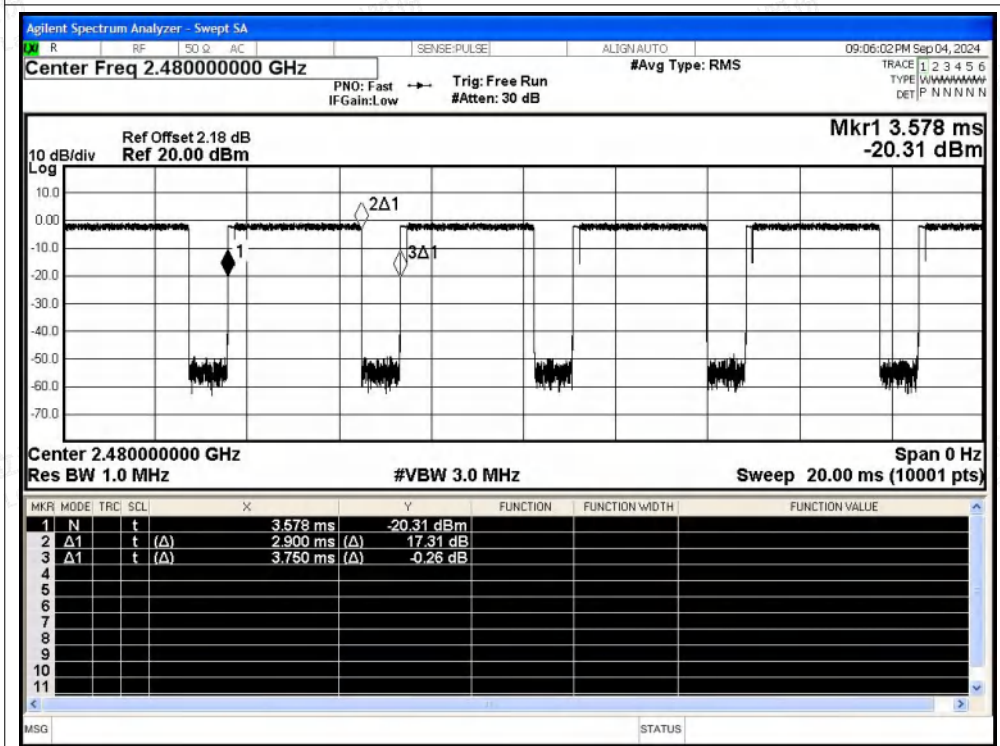




Duty Cycle NVNT 2-DH5 2441MHz Ant1



Duty Cycle NVNT 2-DH5 2480MHz Ant1





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	-50.38	2	-	46.88	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.43	2	1.1	39.93	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2366.064	-47.45	2	-	49.81	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2370.48	-57.6	2	1.1	40.76	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.32	2	-	45.94	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.47	2	1.1	39.89	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.68	2	-	48.58	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.91	2	1.1	40.45	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2494.648	-46.4	2	-	50.86	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2497.024	-57.14	2	1.1	41.22	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.3	2	-	46.96	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.88	2	1.1	40.48	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.53	2	-	46.73	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.78	2	1.12	39.6	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2384.016	-46.39	2	-	50.87	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2389.488	-57.39	2	1.12	40.99	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.27	2	-	46.99	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.06	2	1.12	40.32	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.12	2	-	48.14	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.81	2	1.12	40.57	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2491.96	-47.07	2	-	50.19	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2494.408	-57.09	2	1.12	41.29	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-48.9	2	-	48.36	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.21	2	1.12	40.17	Average	54	Pass

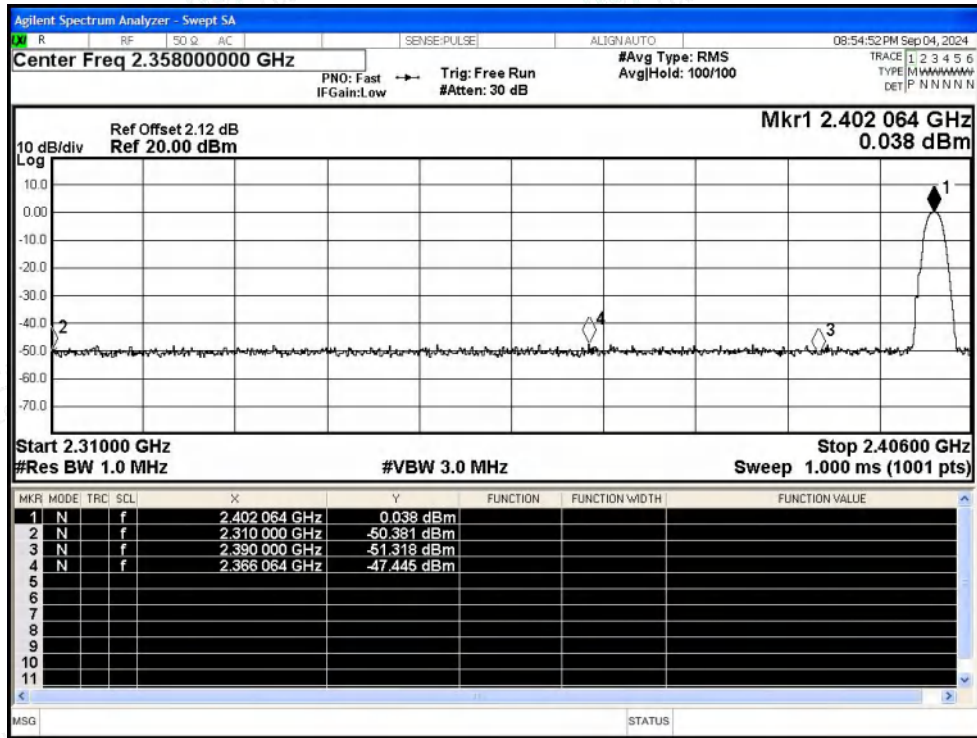


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 Scan code to check authenticity

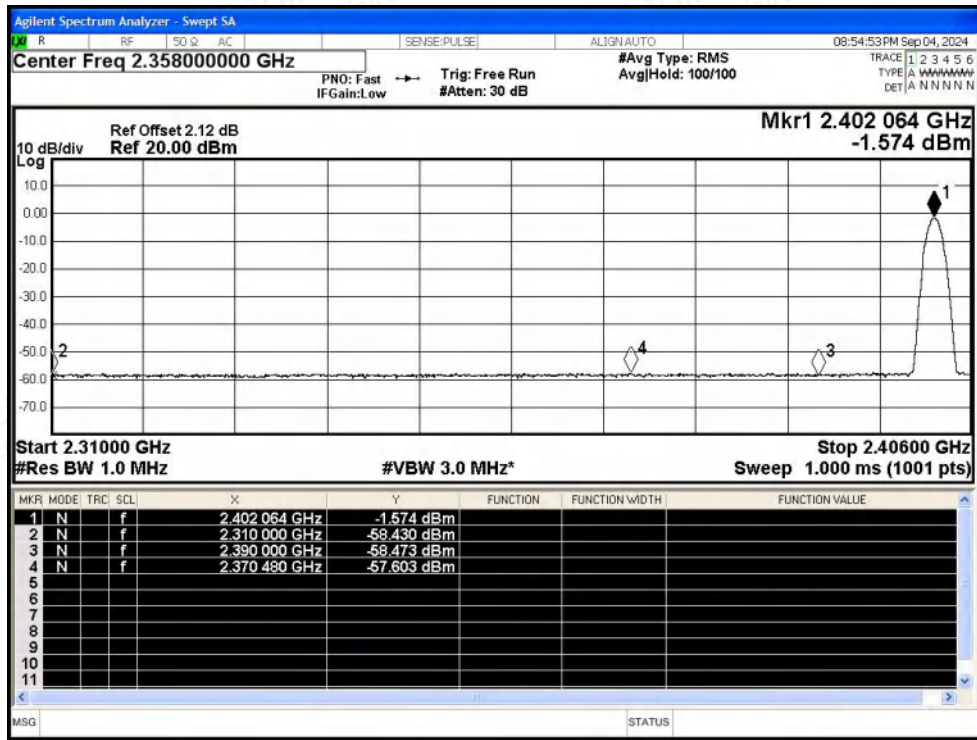


Test Graphs

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

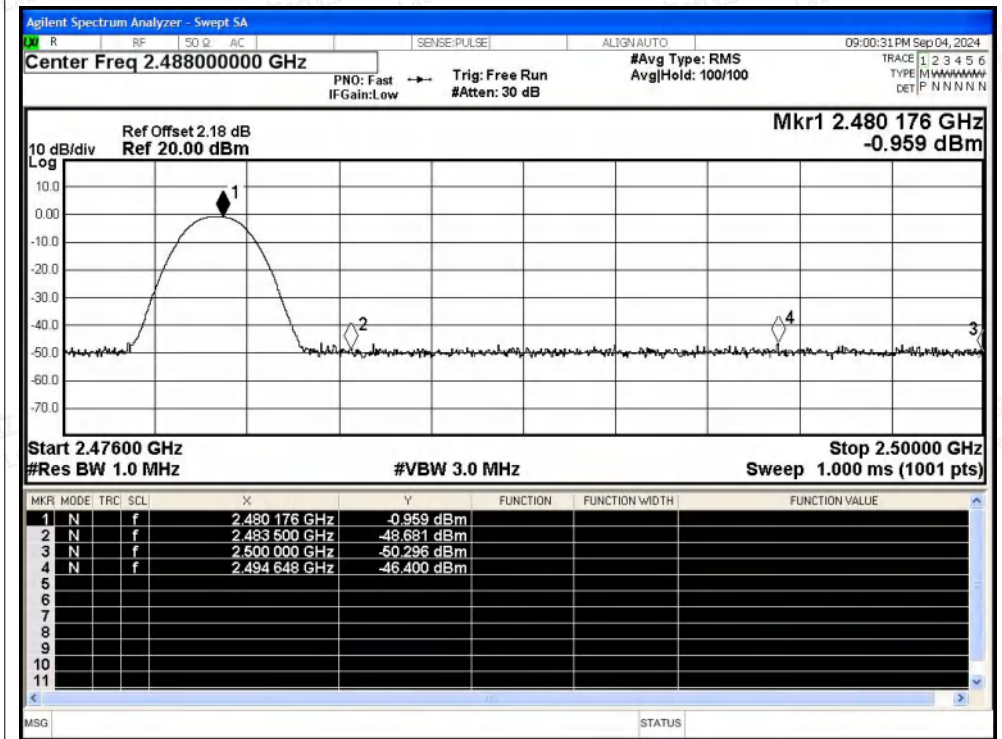


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

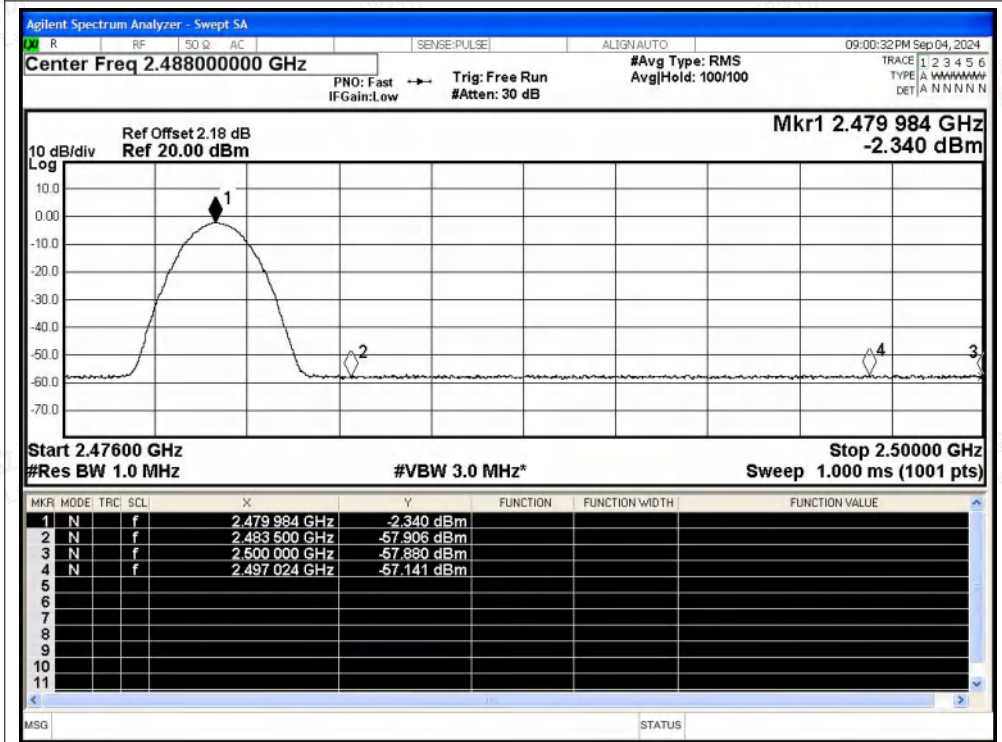




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

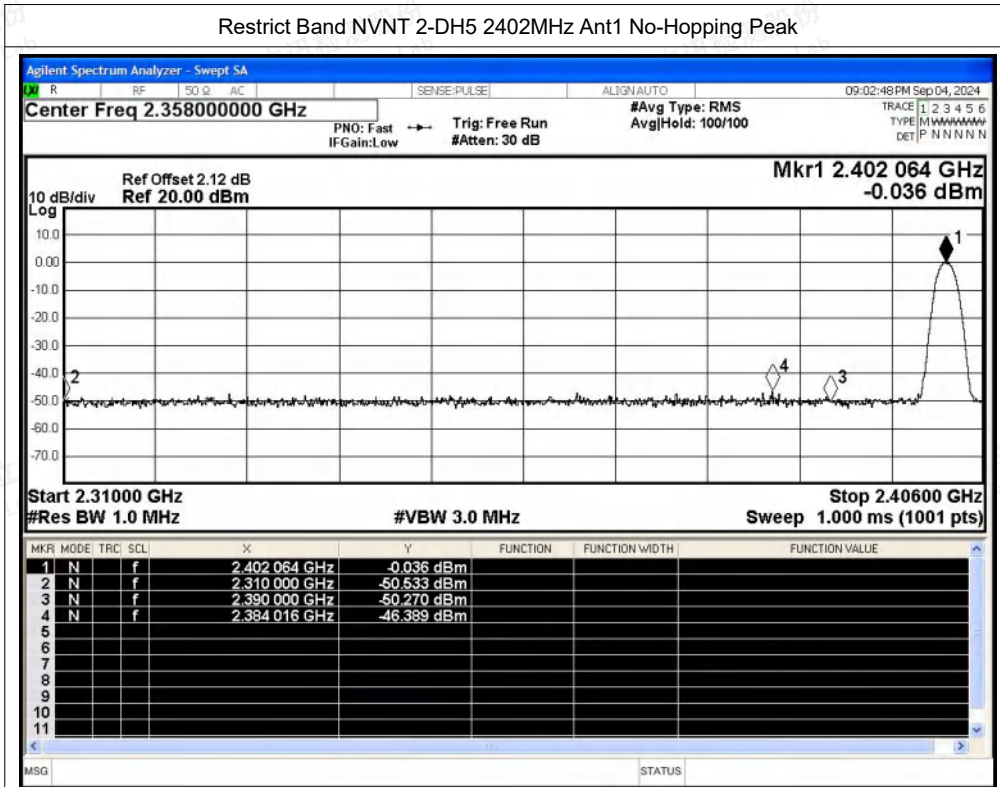


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

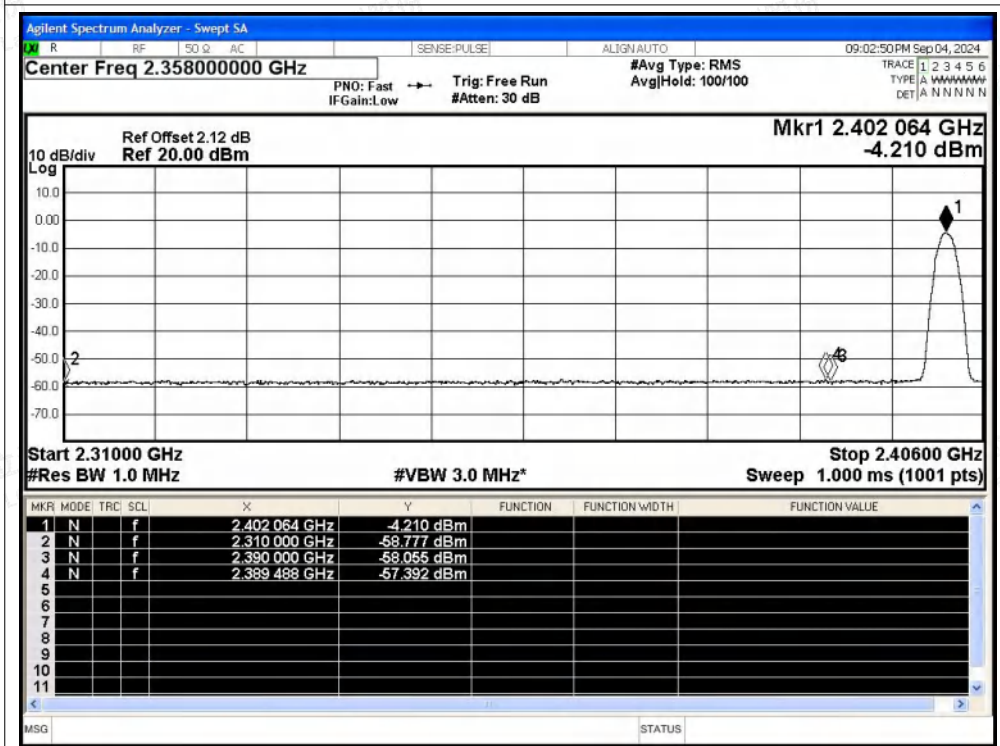




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

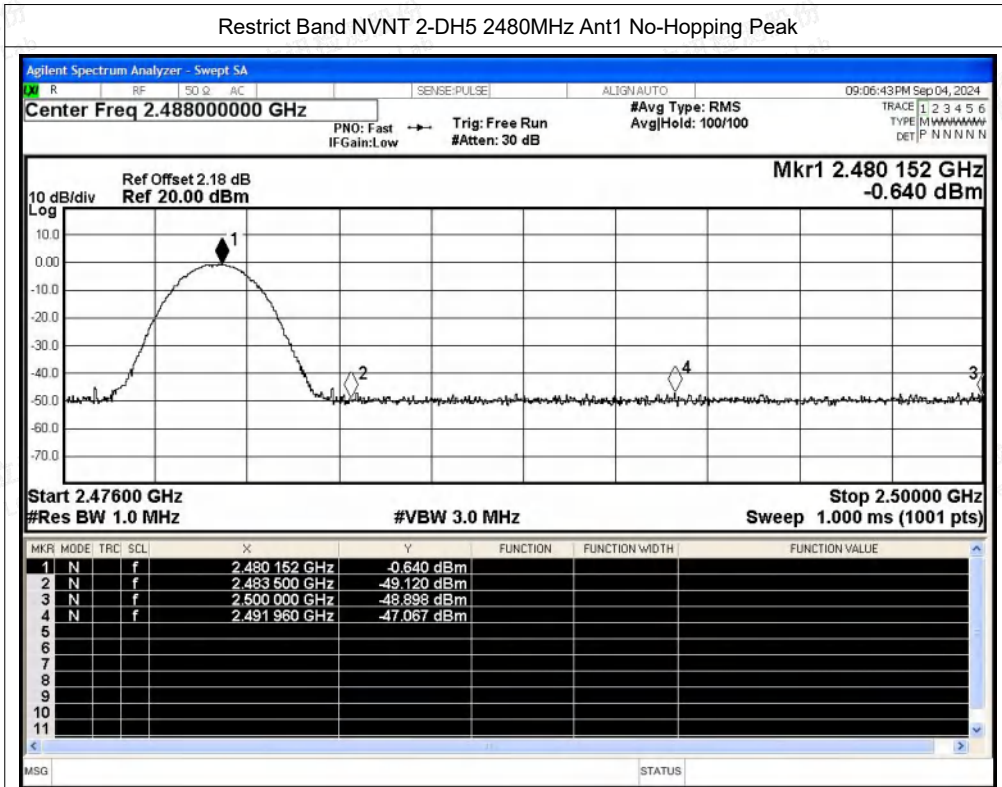


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average





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



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

