



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Airdual bluetooth adapter

Test Model: Airdual-300A

Environmental Conditions

Temperature:	23.4° C
Relative Humidity:	51.3%
ATM Pressure:	100.0 kPa
Test Engineer:	monkey.Li
Supervised by:	Libin



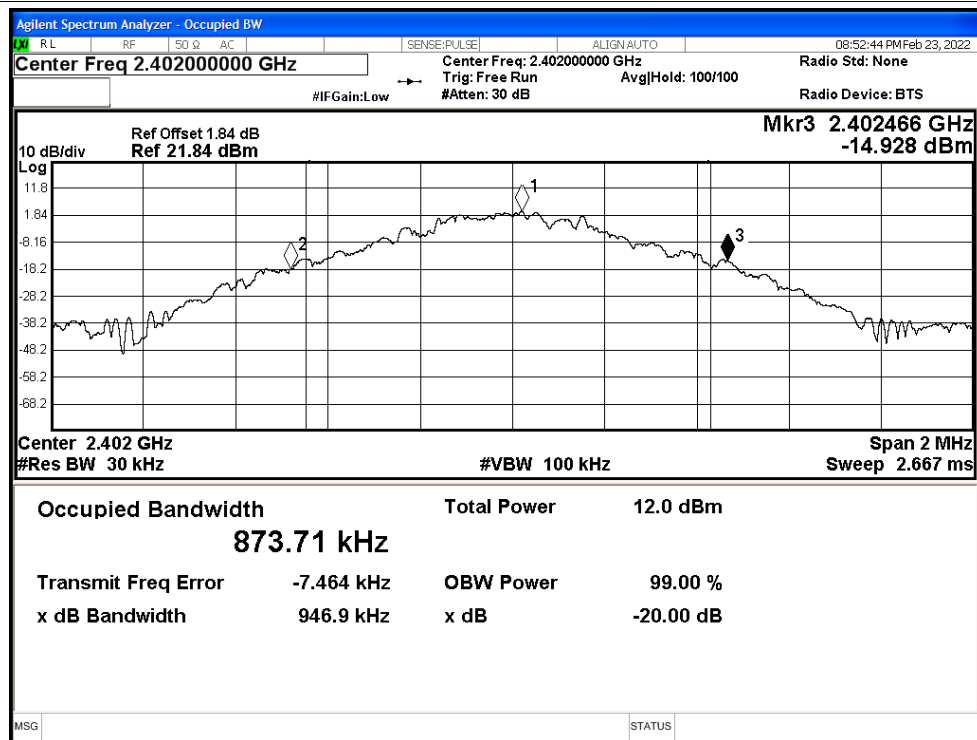
A.1 20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	20 dB Bandwidth (MHz)	Limit 20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.947	0	Pass
NVNT	1-DH5	2441	Ant1	0.939	0	Pass
NVNT	1-DH5	2480	Ant1	0.955	0	Pass
NVNT	2-DH5	2402	Ant1	1.316	0	Pass
NVNT	2-DH5	2441	Ant1	1.281	0	Pass
NVNT	2-DH5	2480	Ant1	1.288	0	Pass
NVNT	3-DH5	2402	Ant1	1.293	0	Pass
NVNT	3-DH5	2441	Ant1	1.292	0	Pass
NVNT	3-DH5	2480	Ant1	1.295	0	Pass



Test Graphs

20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

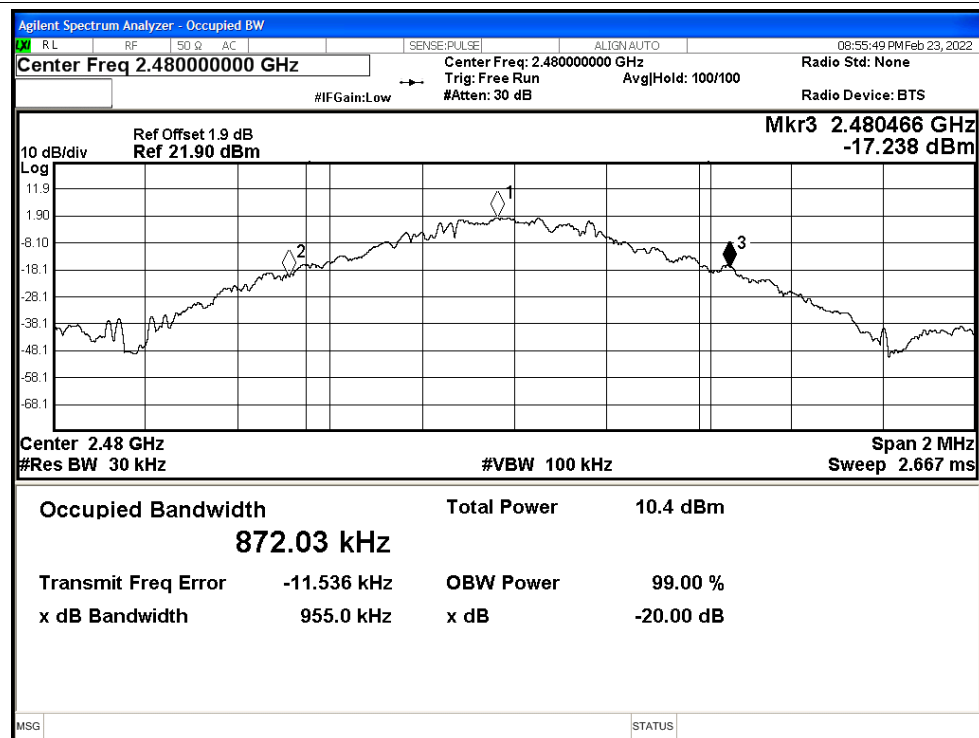


20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

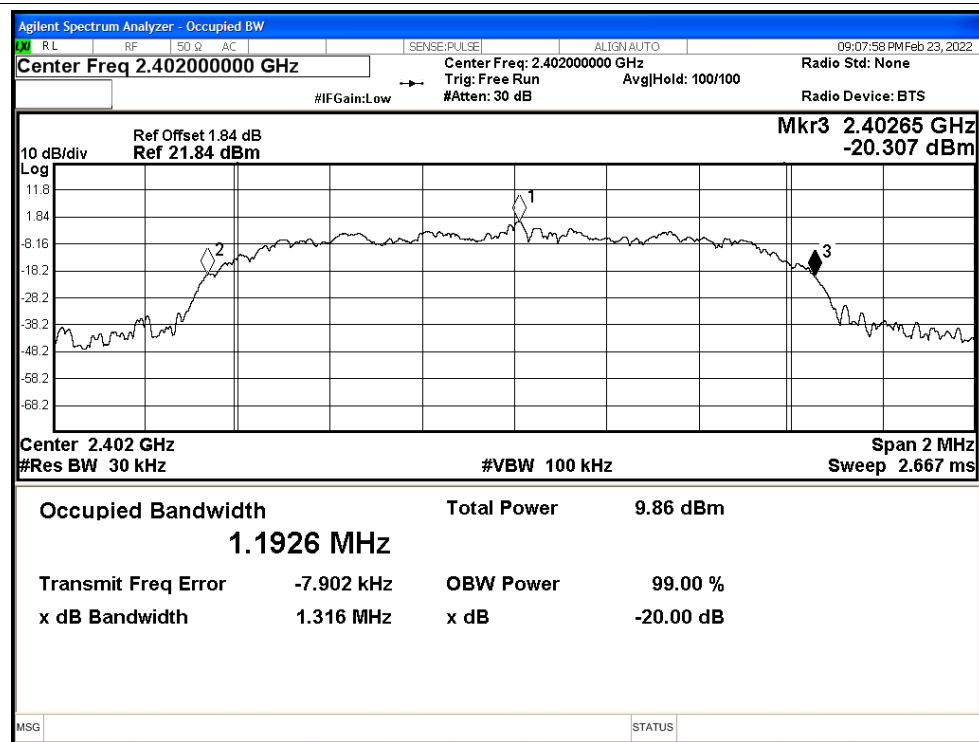




20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

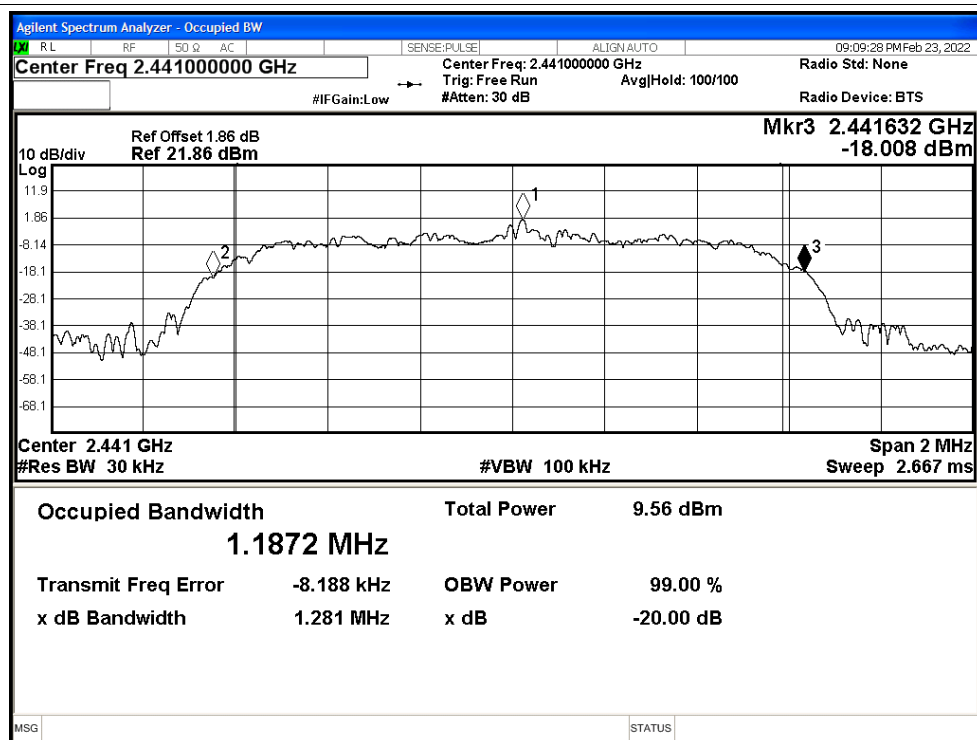


20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

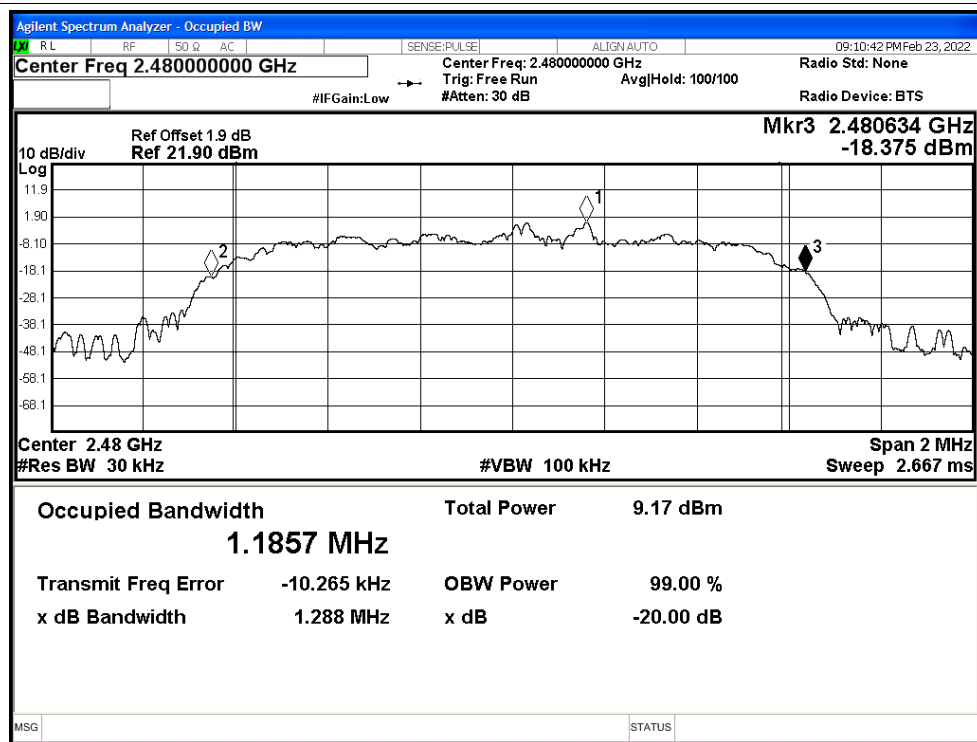




20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

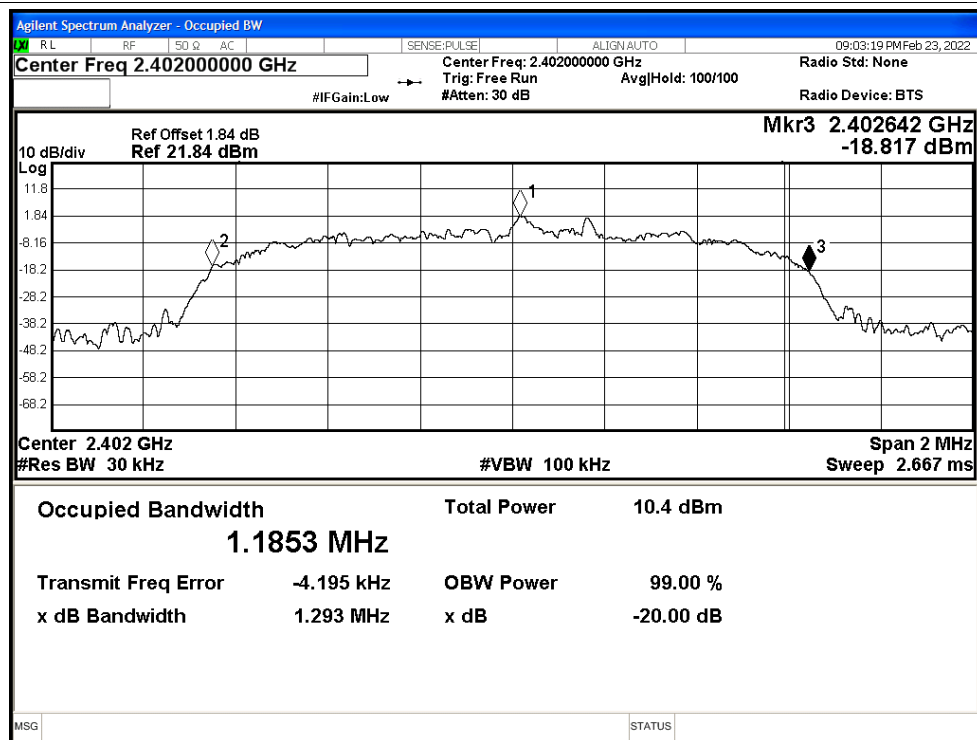


20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

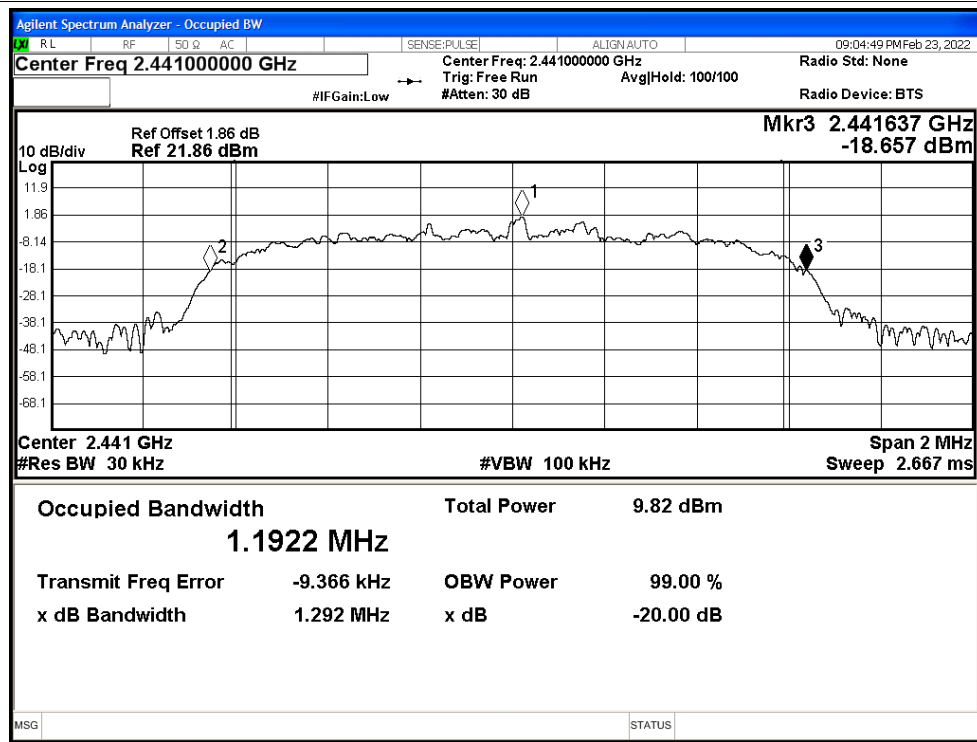


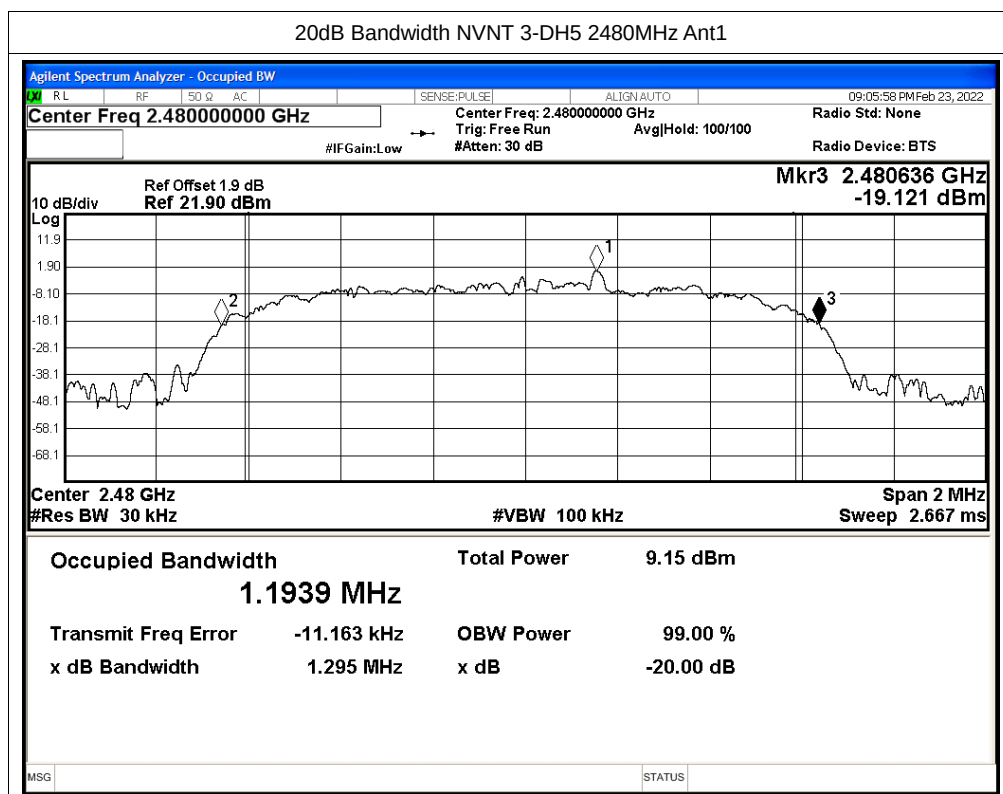


20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



20dB Bandwidth NVNT 3-DH5 2441MHz Ant1







A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	5.71	21	Pass
NVNT	1-DH5	2441	Ant1	4.81	21	Pass
NVNT	1-DH5	2480	Ant1	4.24	21	Pass
NVNT	2-DH5	2402	Ant1	5.82	21	Pass
NVNT	2-DH5	2441	Ant1	5.48	21	Pass
NVNT	2-DH5	2480	Ant1	4.89	21	Pass
NVNT	3-DH5	2402	Ant1	6.06	21	Pass
NVNT	3-DH5	2441	Ant1	5.77	21	Pass
NVNT	3-DH5	2480	Ant1	5	21	Pass

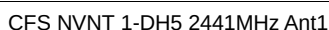


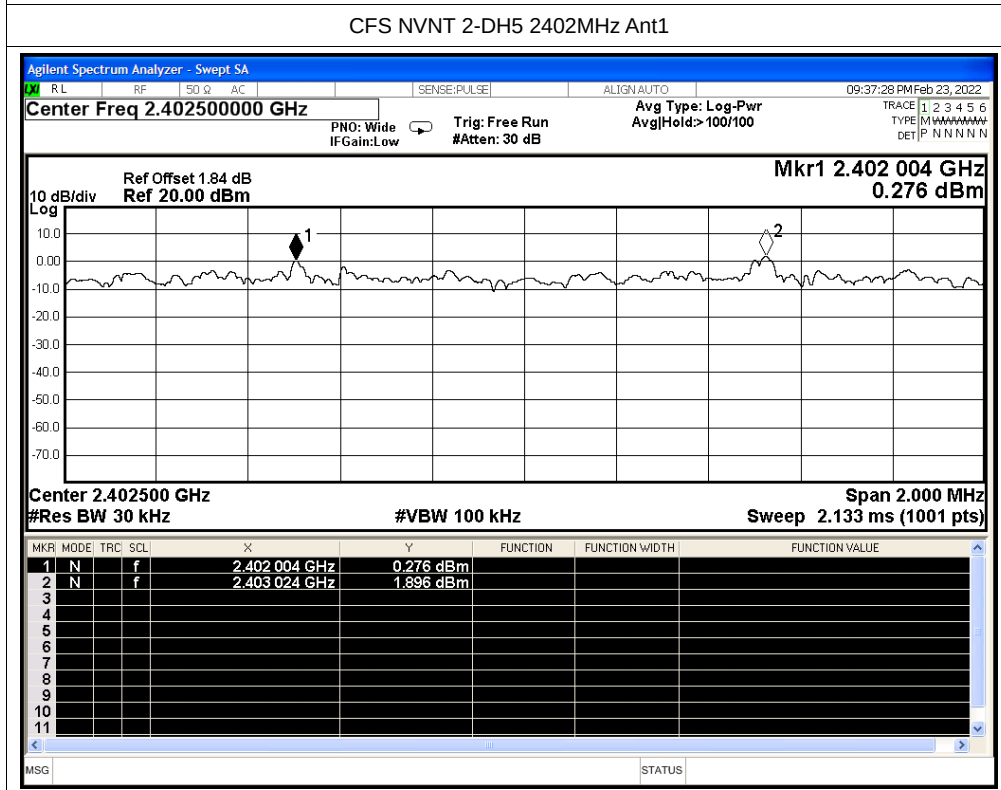
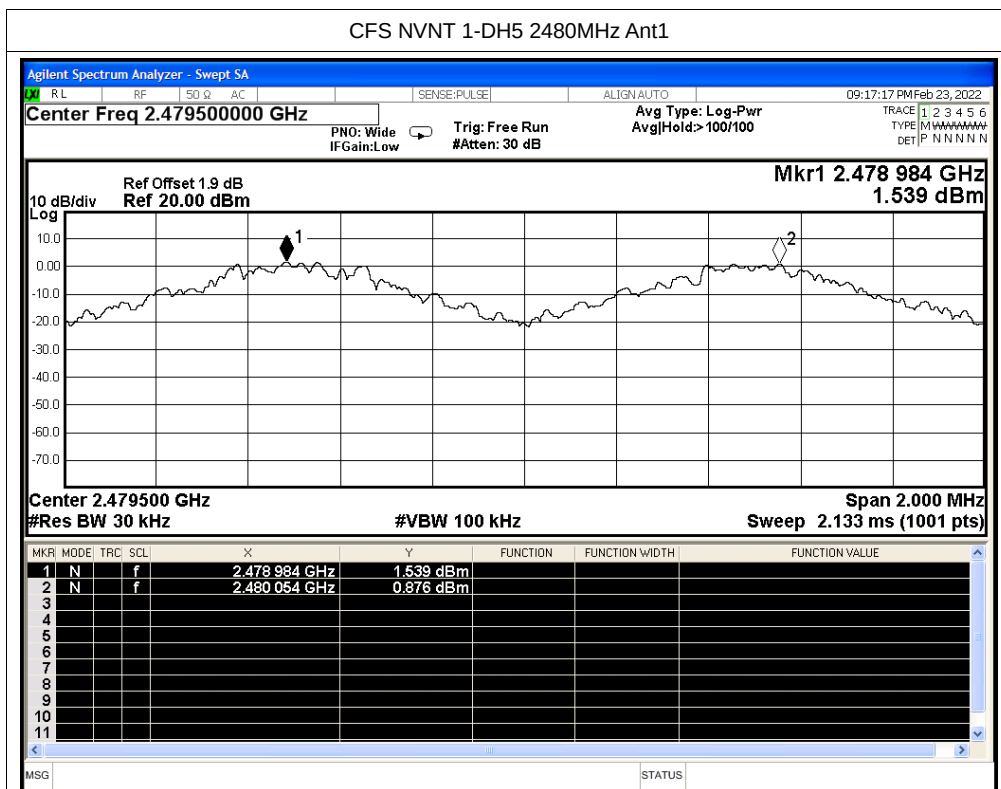
A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.01	2402.818	0.808	0.631	Pass
NVNT	1-DH5	Ant1	2441.014	2442.008	0.994	0.626	Pass
NVNT	1-DH5	Ant1	2478.984	2480.054	1.07	0.637	Pass
NVNT	2-DH5	Ant1	2402.004	2403.024	1.02	0.877	Pass
NVNT	2-DH5	Ant1	2441.01	2442.036	1.026	0.854	Pass
NVNT	2-DH5	Ant1	2479.112	2480.024	0.912	0.859	Pass
NVNT	3-DH5	Ant1	2402.012	2403.156	1.144	0.862	Pass
NVNT	3-DH5	Ant1	2441.022	2442	0.978	0.861	Pass
NVNT	3-DH5	Ant1	2479.17	2480.152	0.982	0.863	Pass



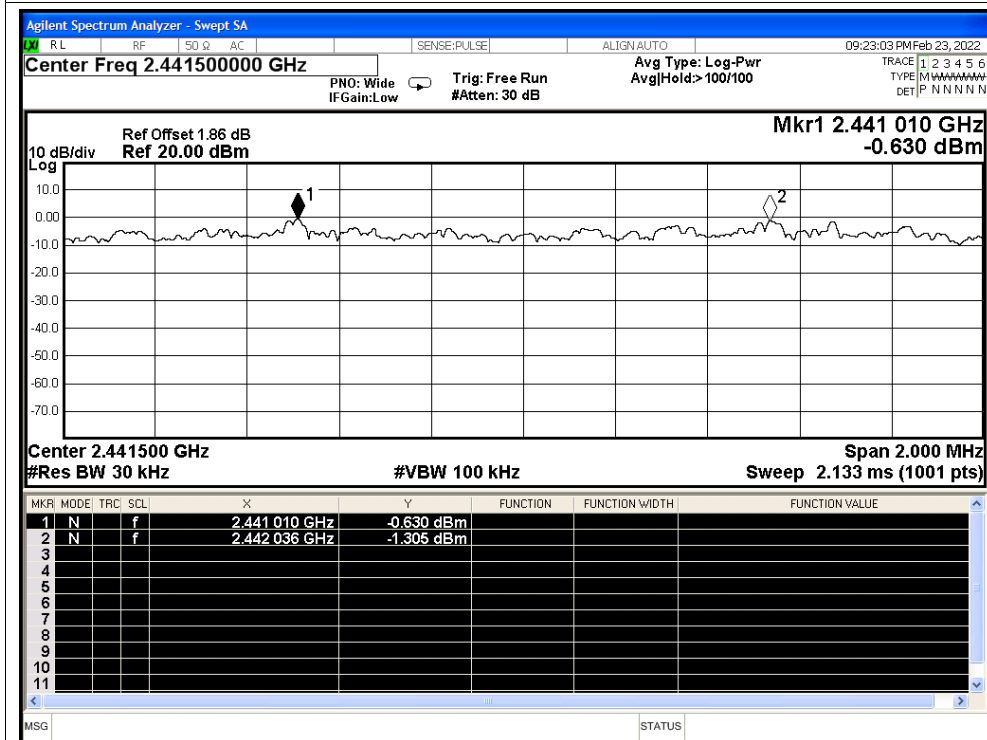
CFS NVNT 1-DH5 2402MHz Ant1



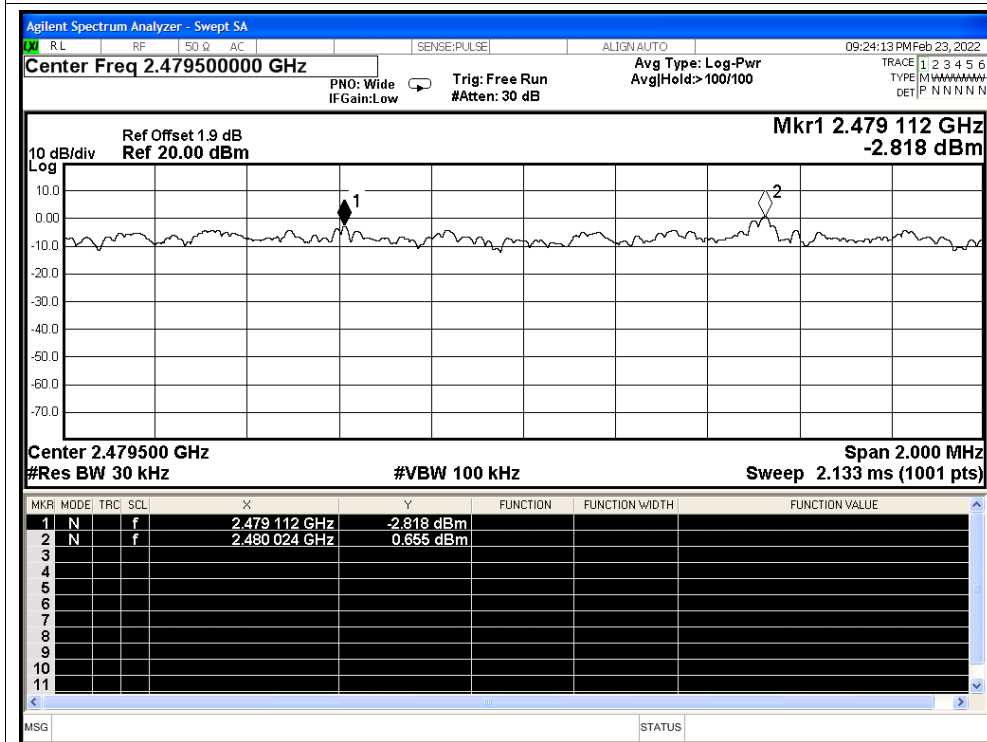


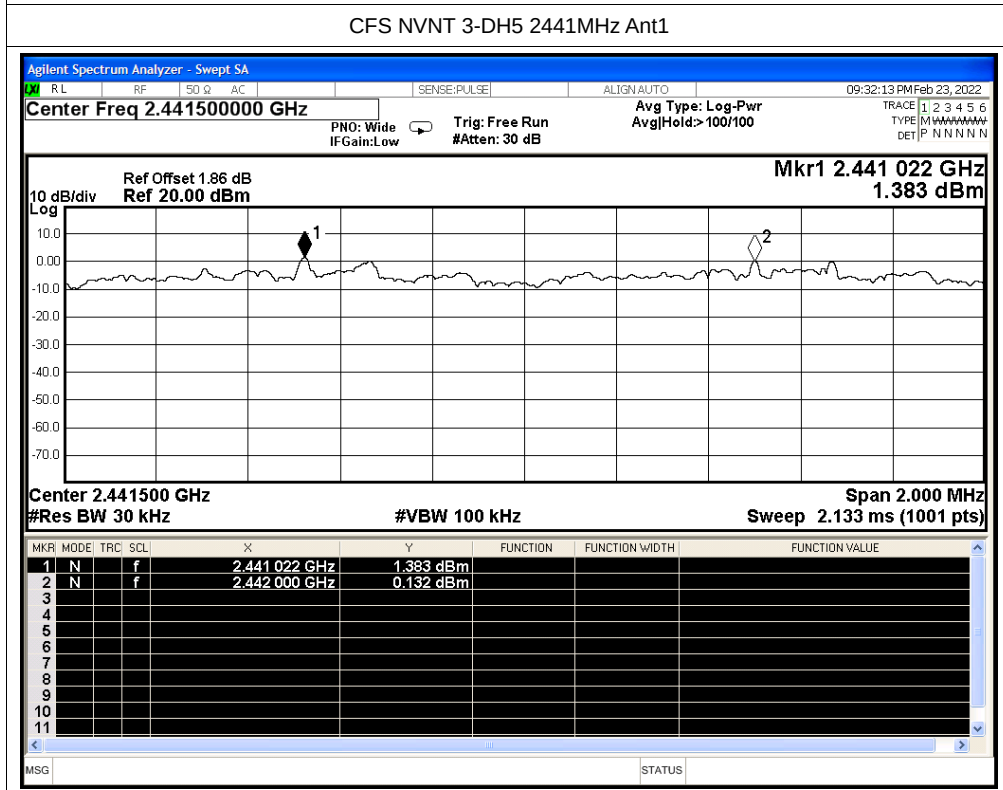
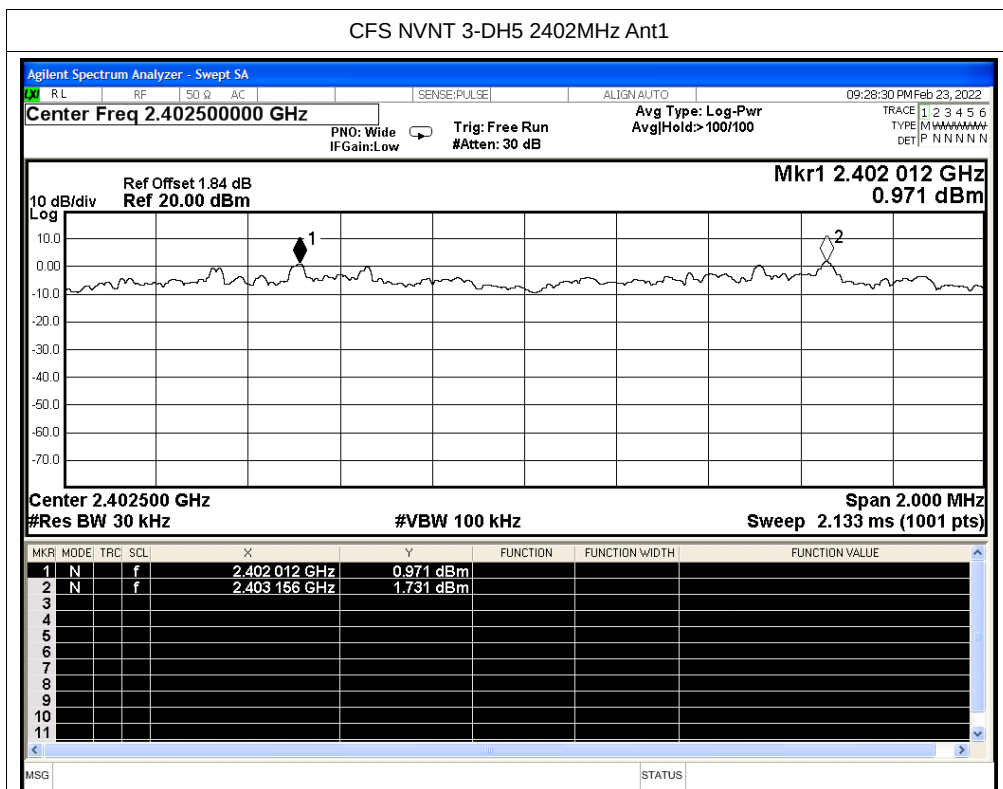


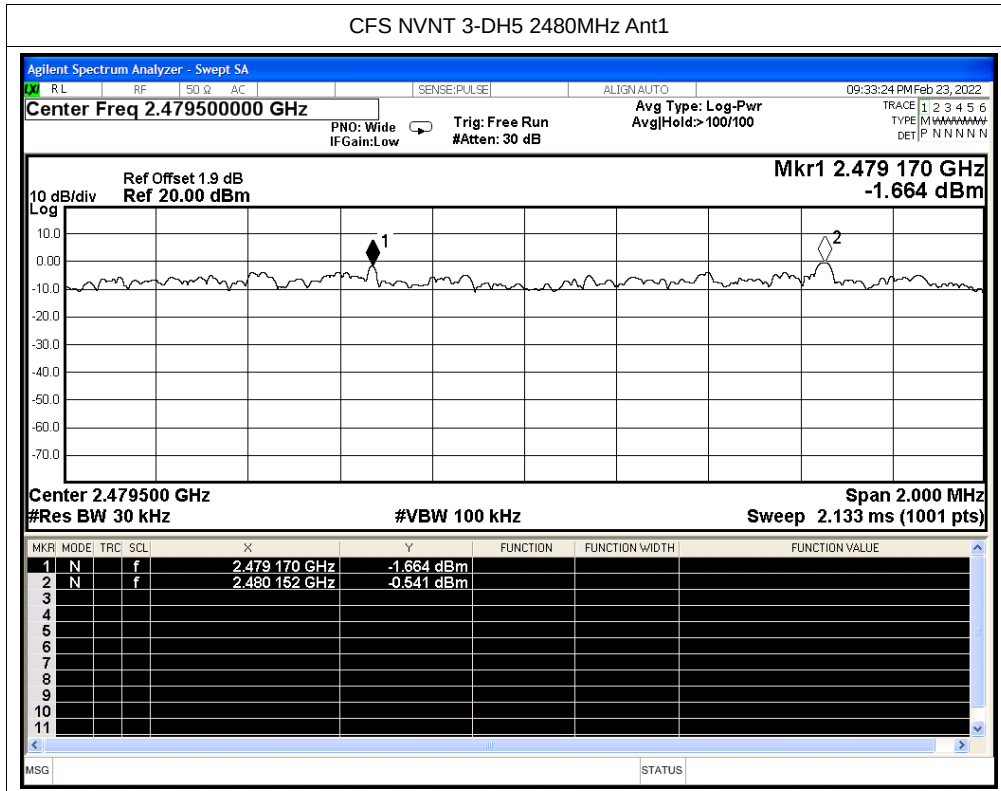
CFS NVNT 2-DH5 2441MHz Ant1



CFS NVNT 2-DH5 2480MHz Ant1



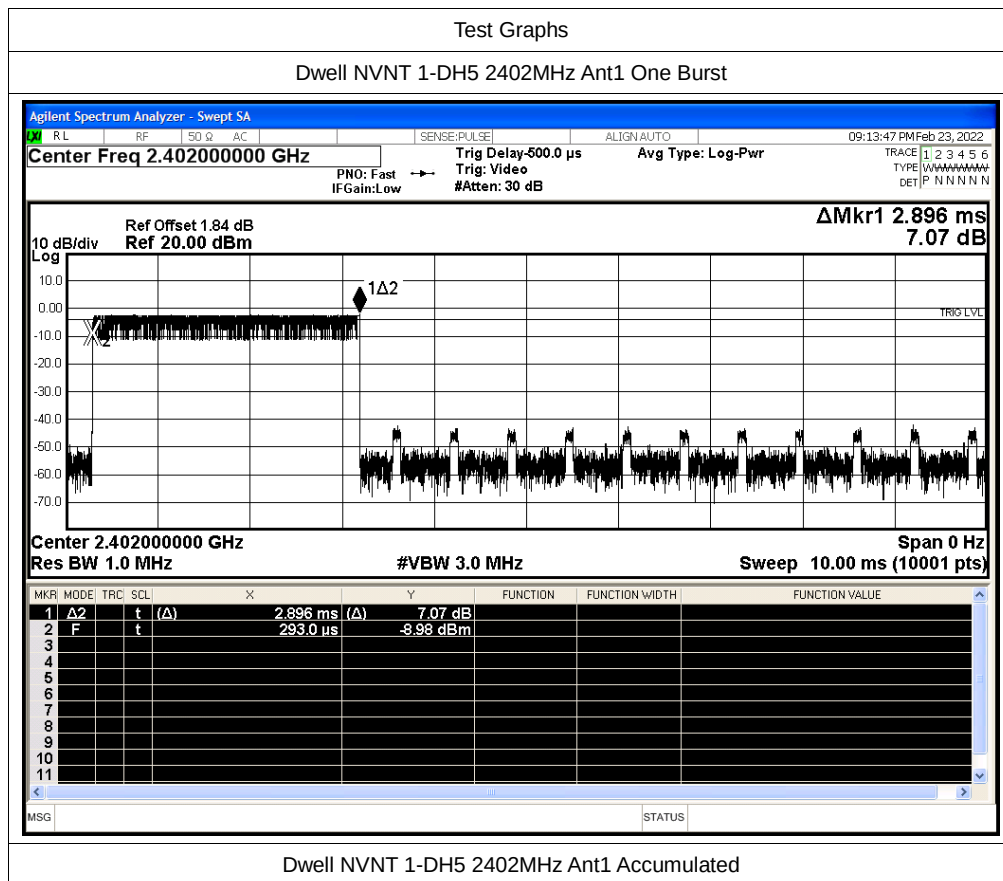


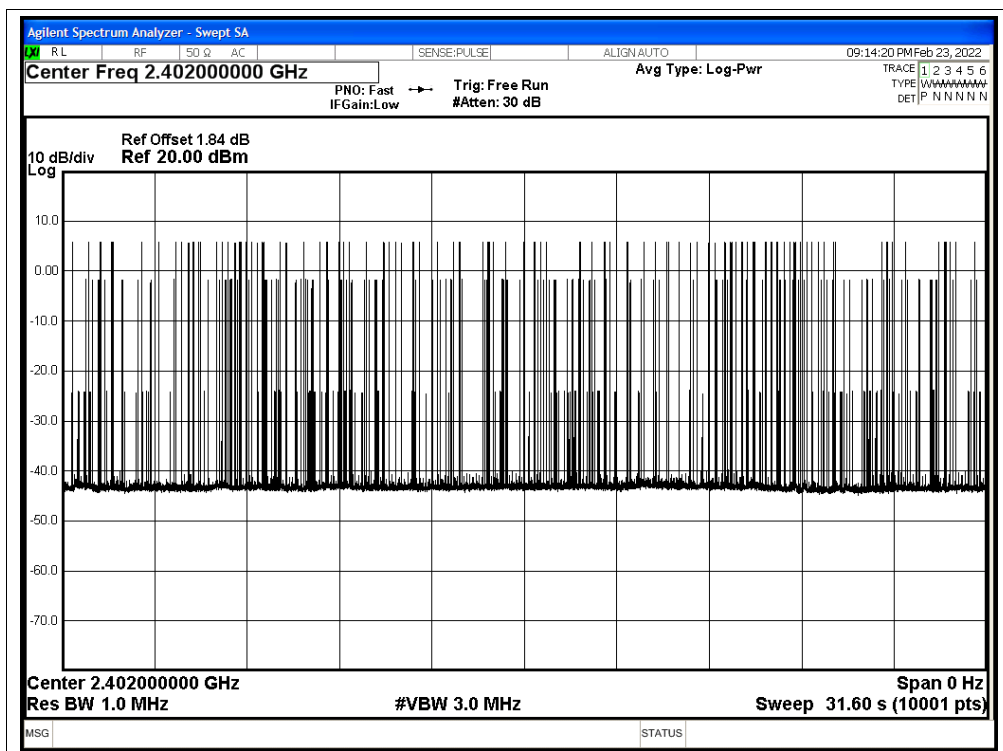




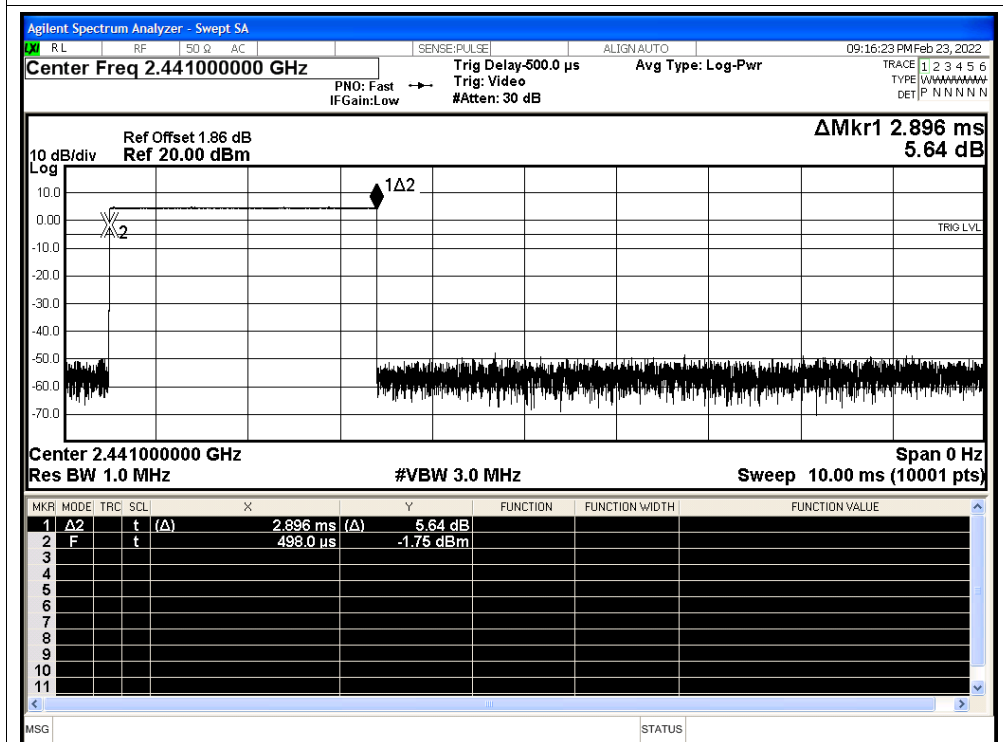
A.4 Time of occupancy

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	2.896	309.872	107	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.896	330.144	114	31600	400	Pass
NVNT	1-DH5	2480	Ant1	2.896	362	125	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.884	294.168	102	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.884	299.936	104	31600	400	Pass
NVNT	2-DH5	2480	Ant1	2.885	305.81	106	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.883	322.896	112	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.883	273.885	95	31600	400	Pass
NVNT	3-DH5	2480	Ant1	2.883	334.428	116	31600	400	Pass

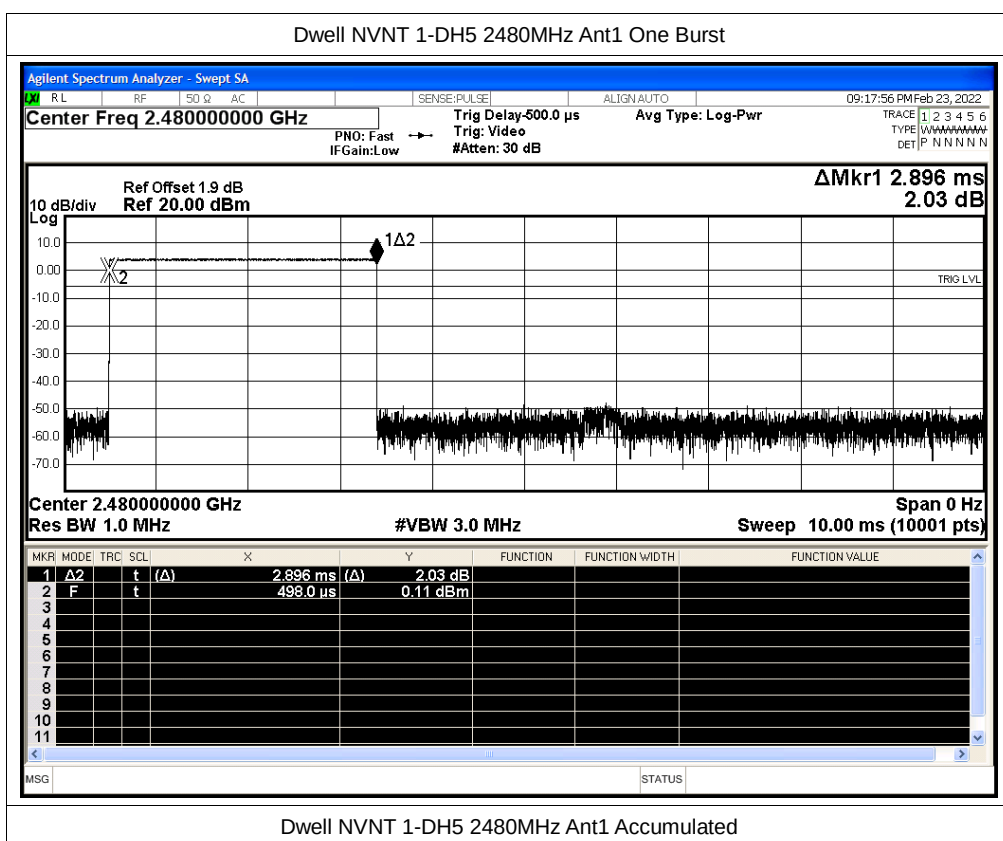
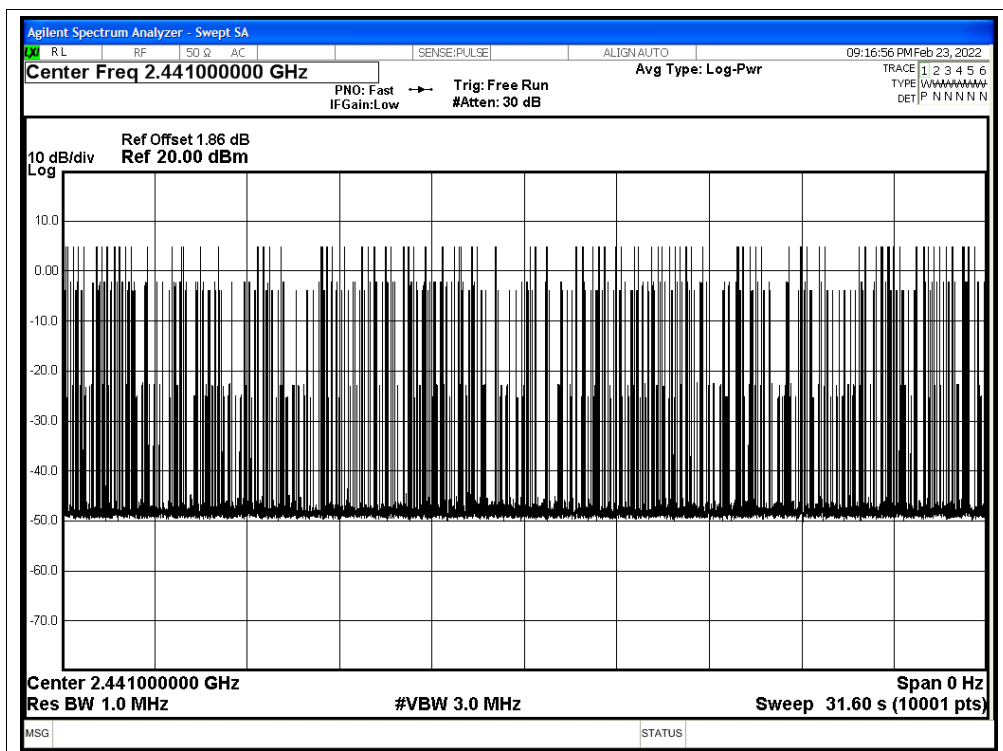


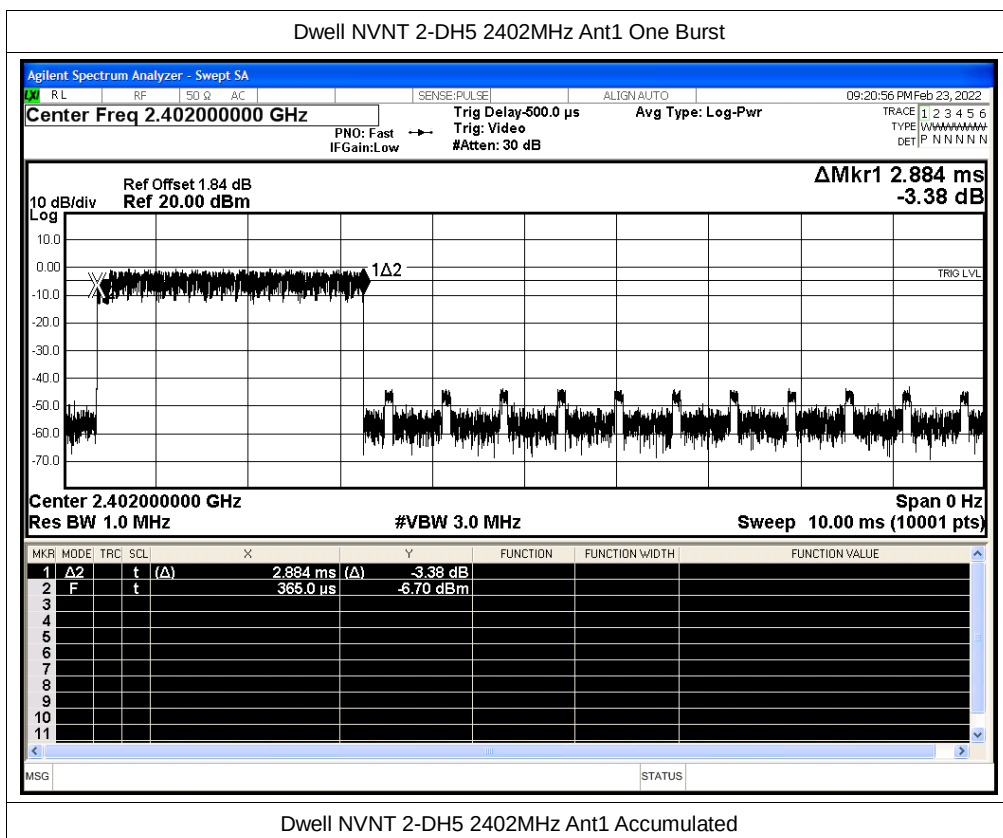
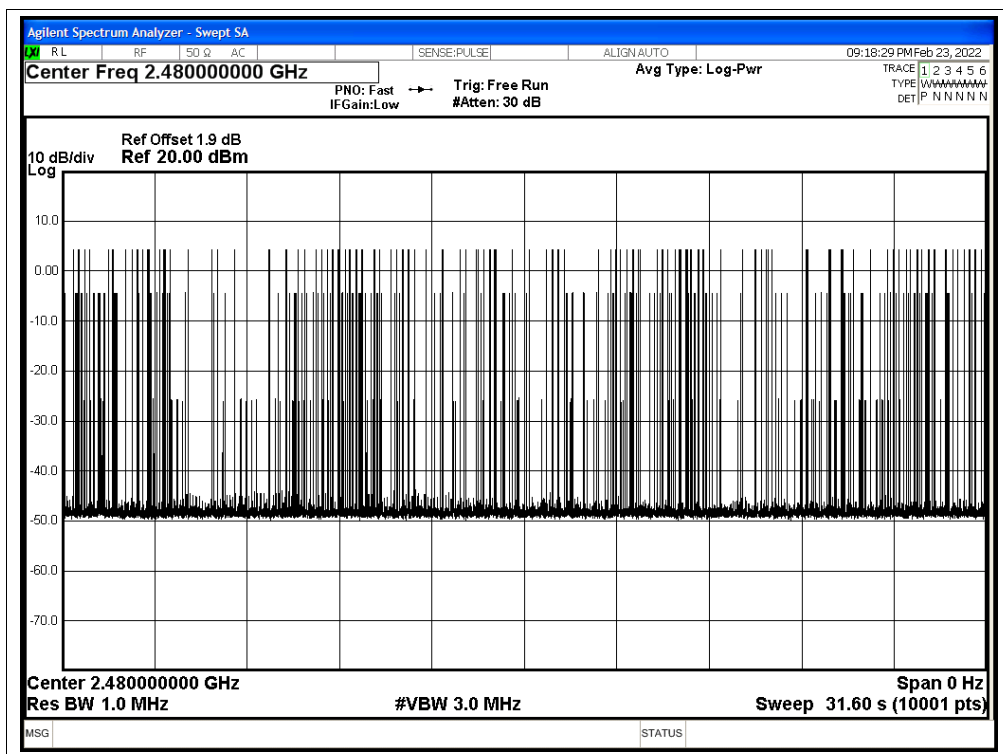


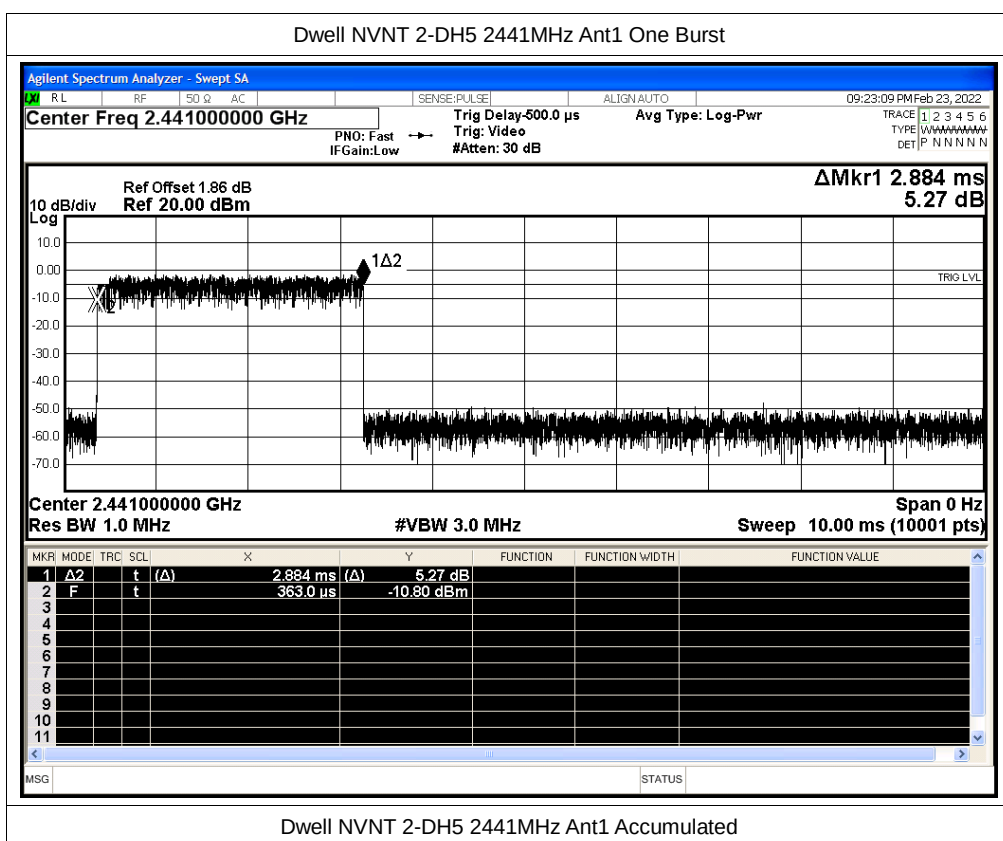
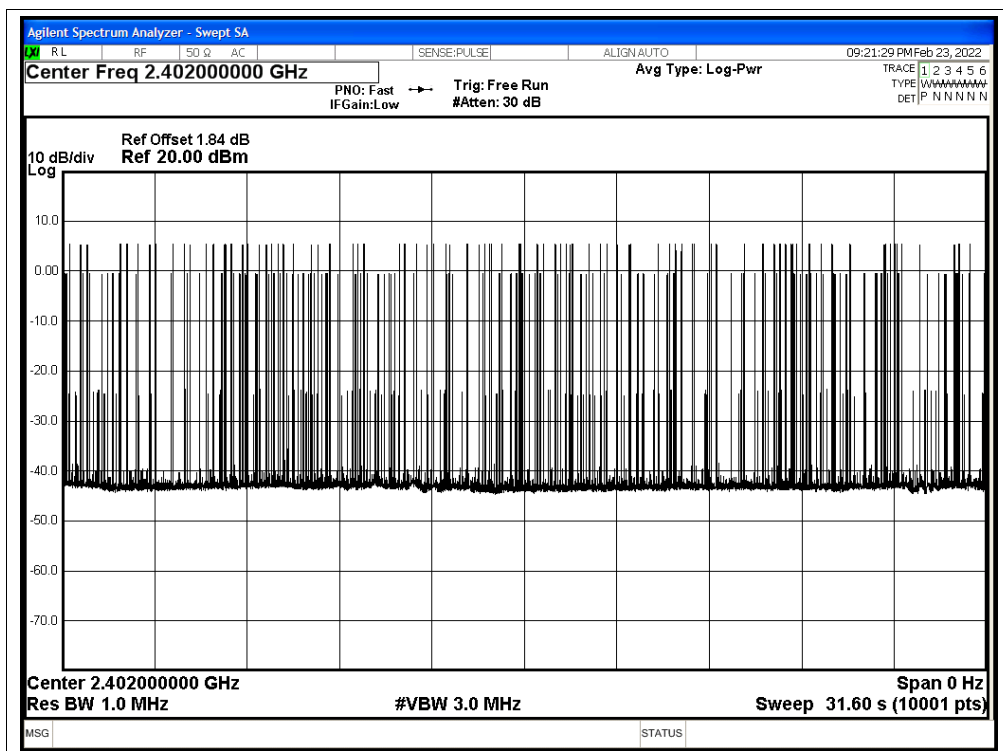
Dwell NVNT 1-DH5 2441MHz Ant1 One Burst

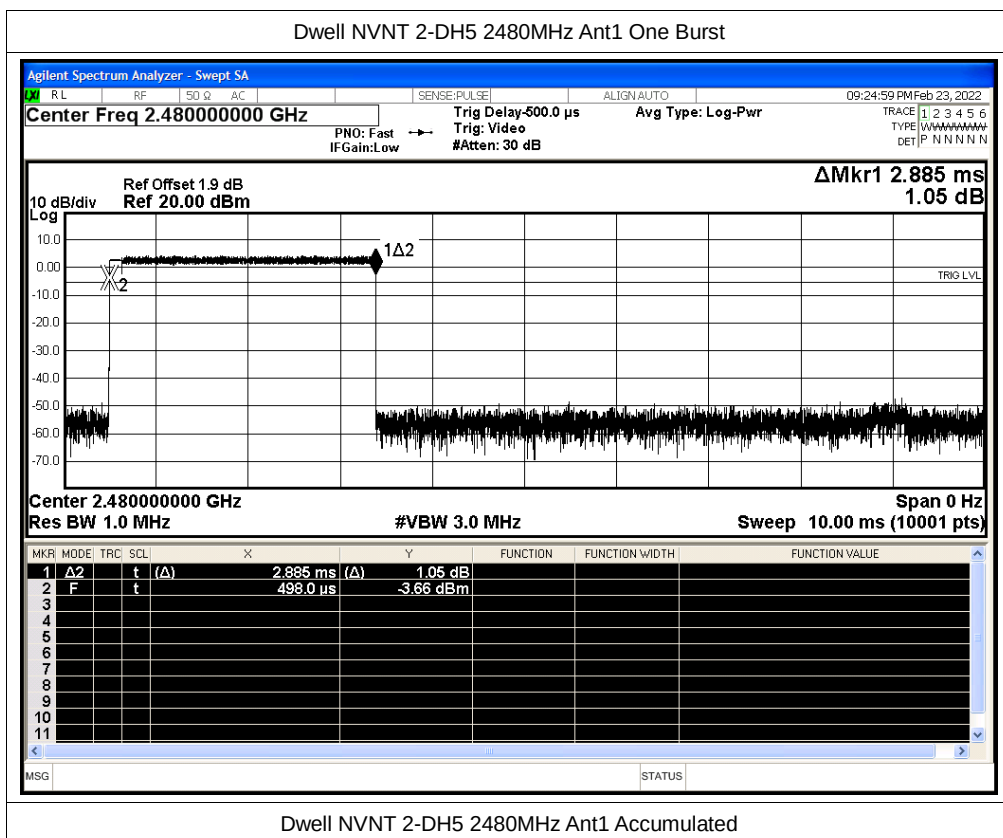
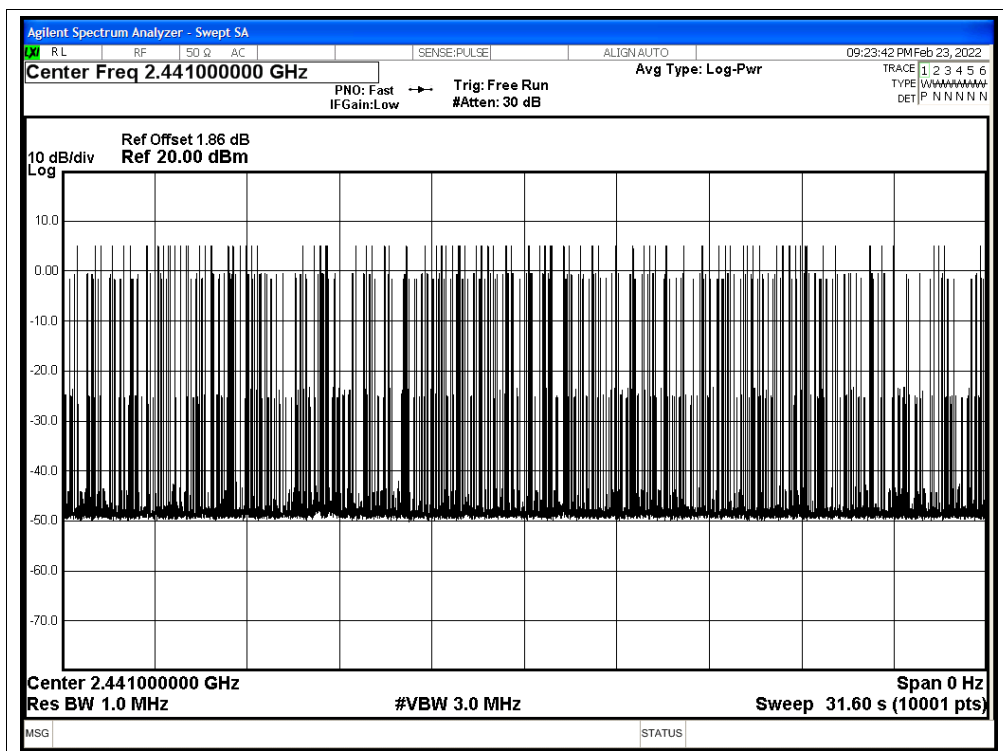


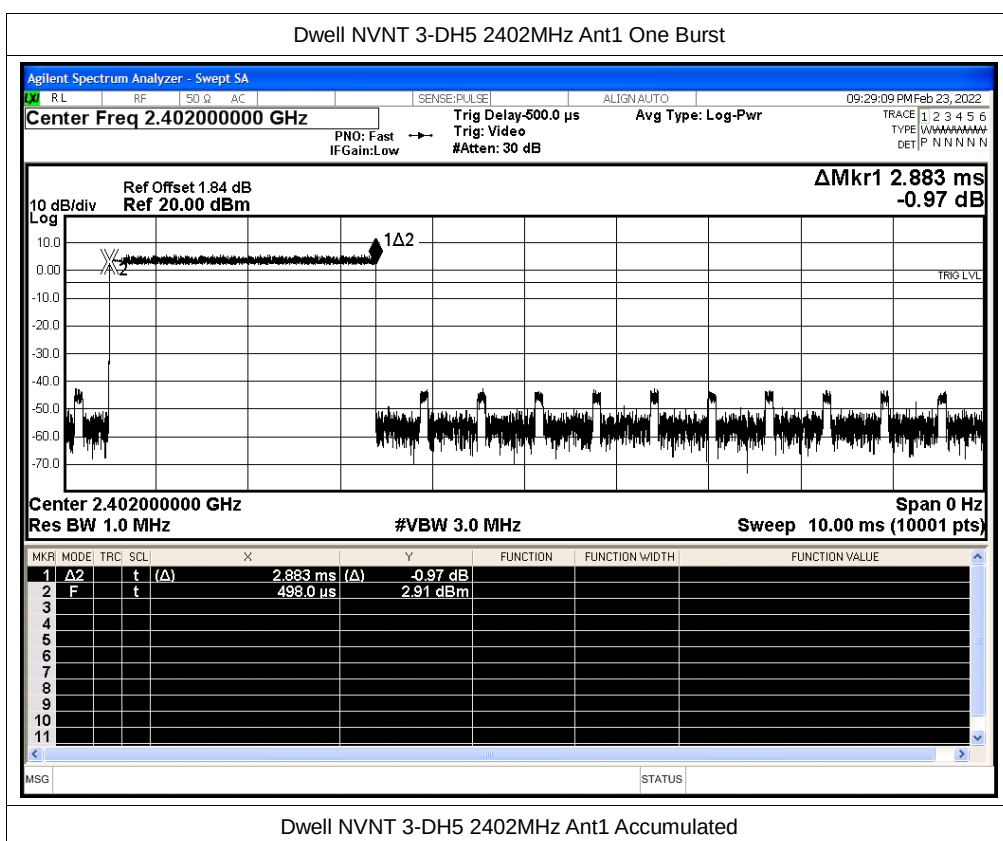
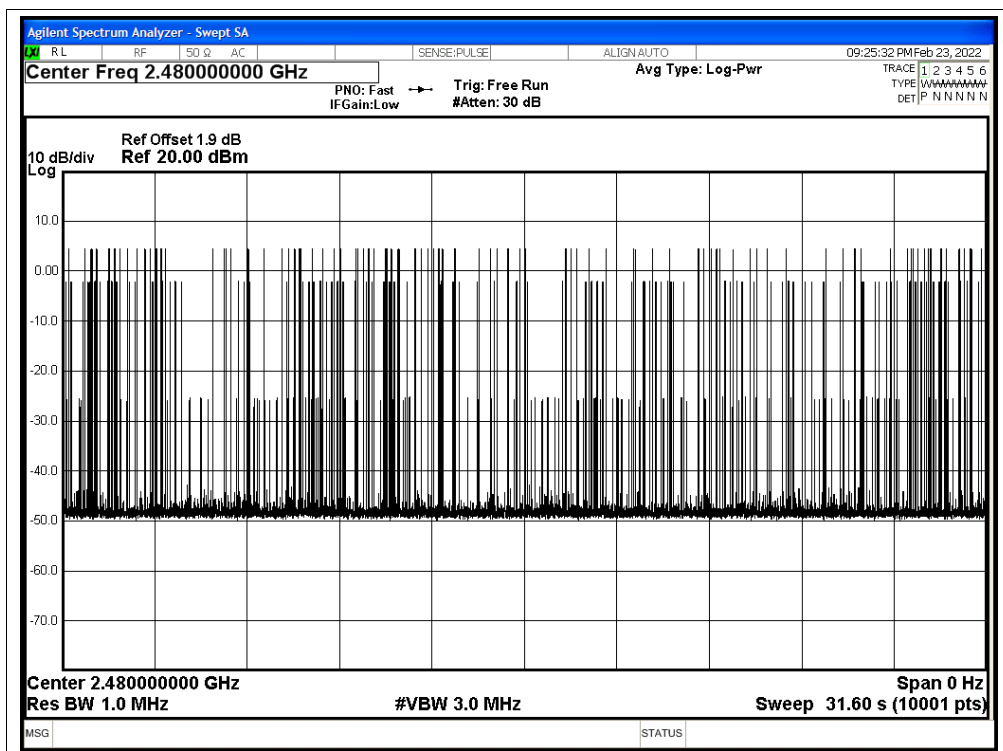
Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated

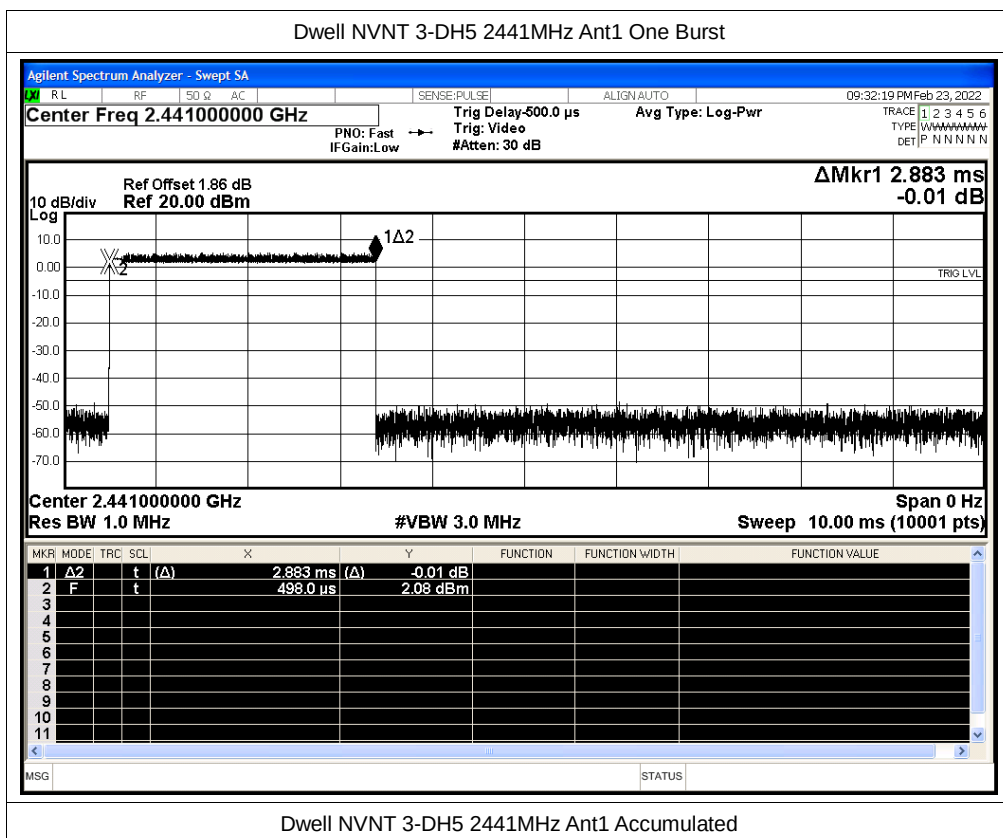
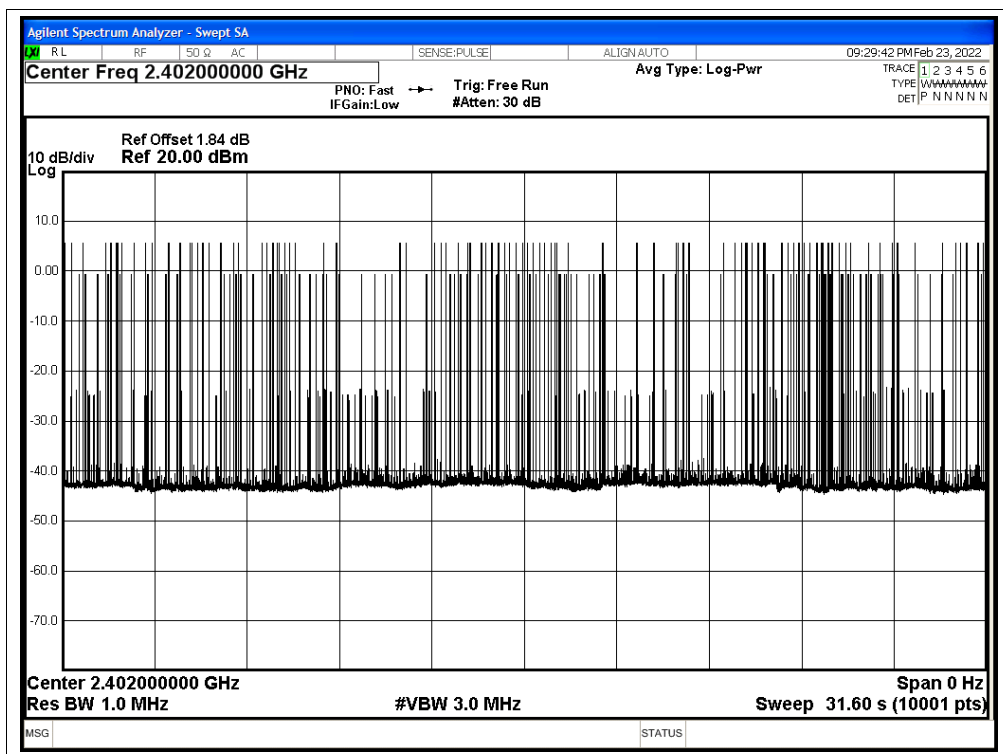




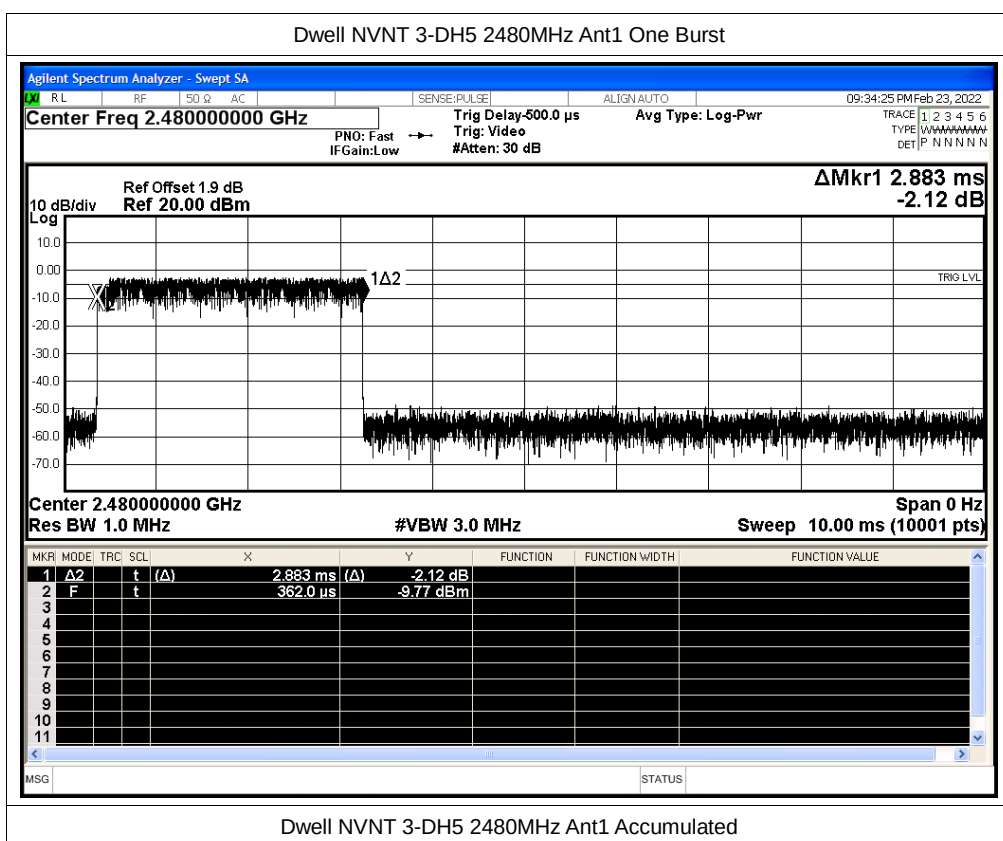
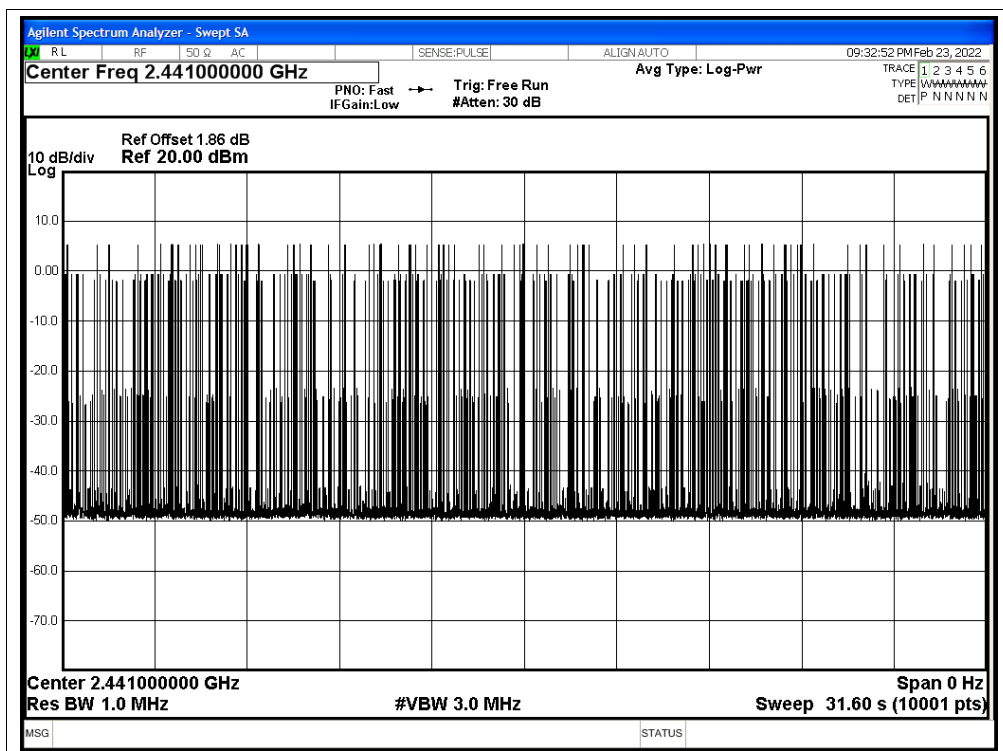


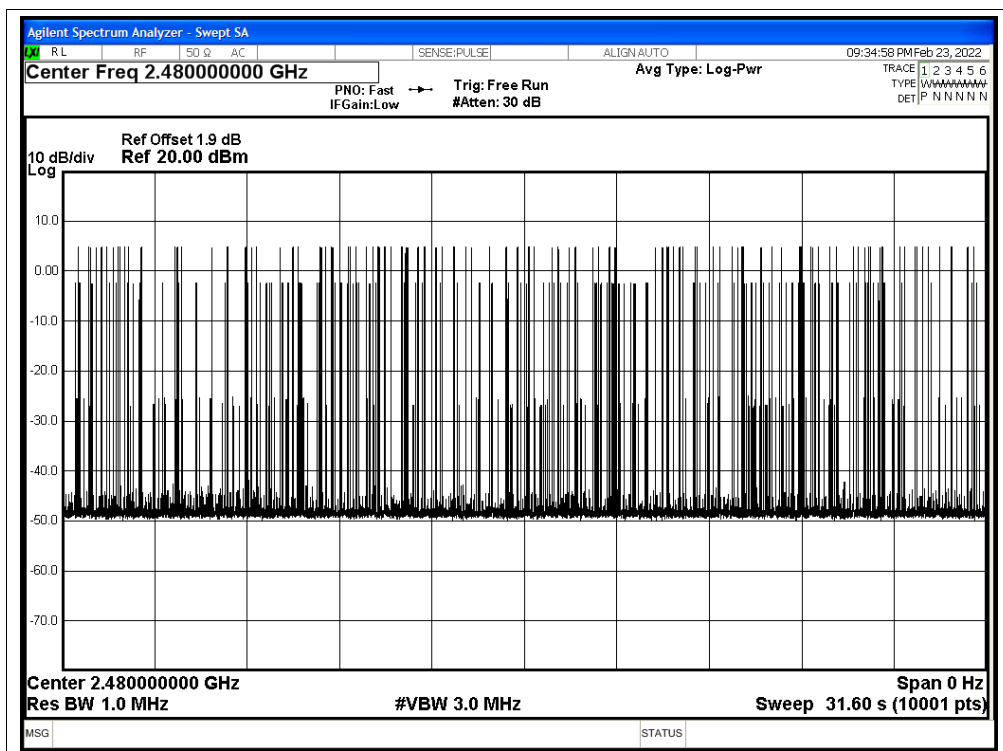






Dwell NVNT 3-DH5 2441MHz Ant1 Accumulated

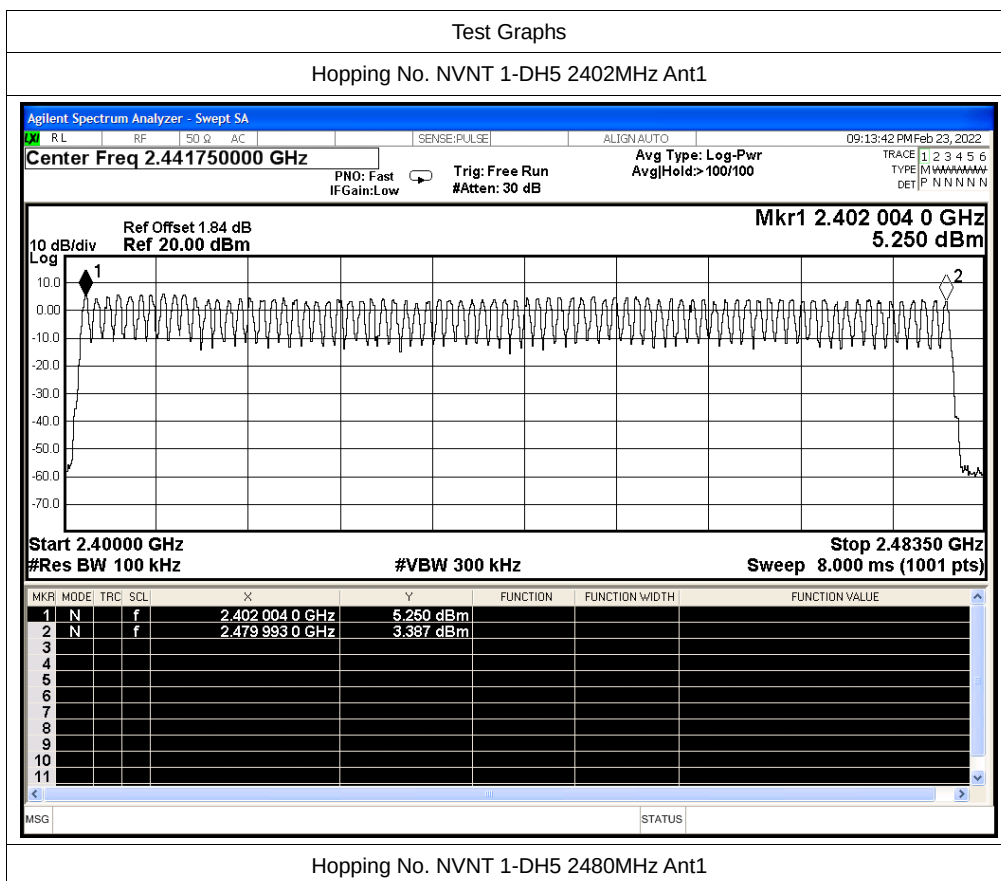


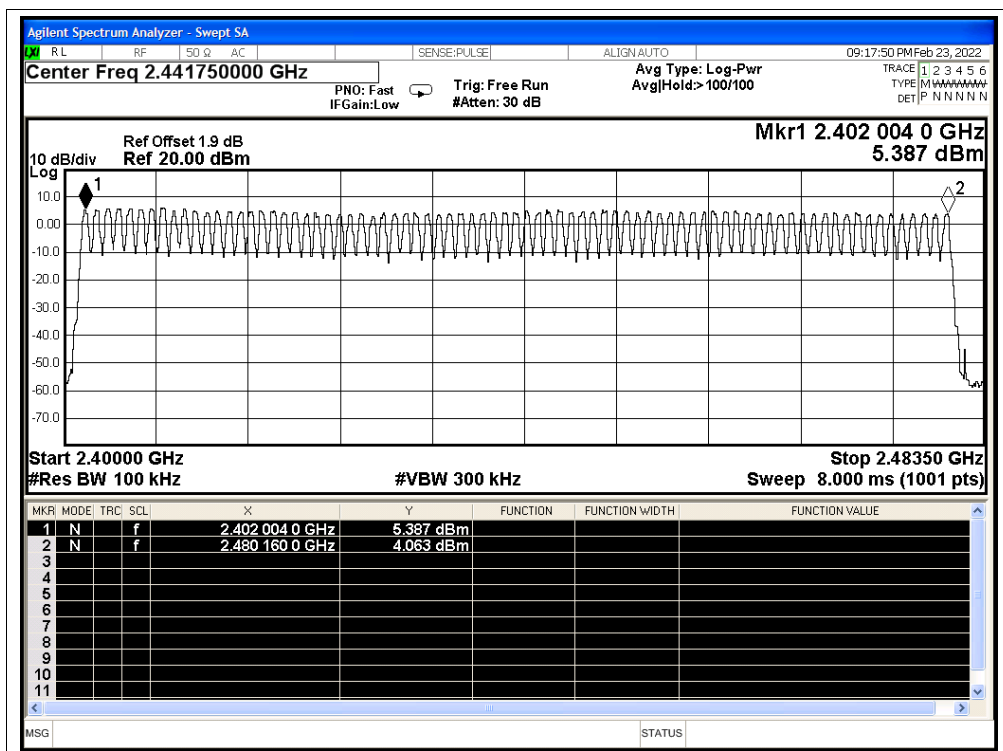




A.5 Number of hopping channels

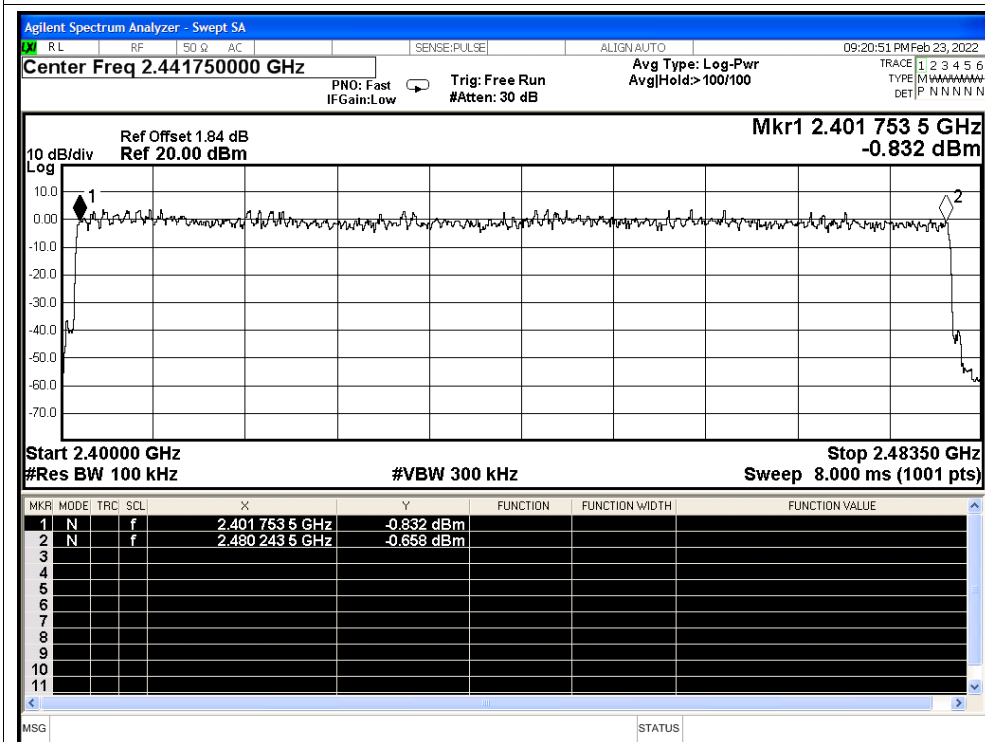
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



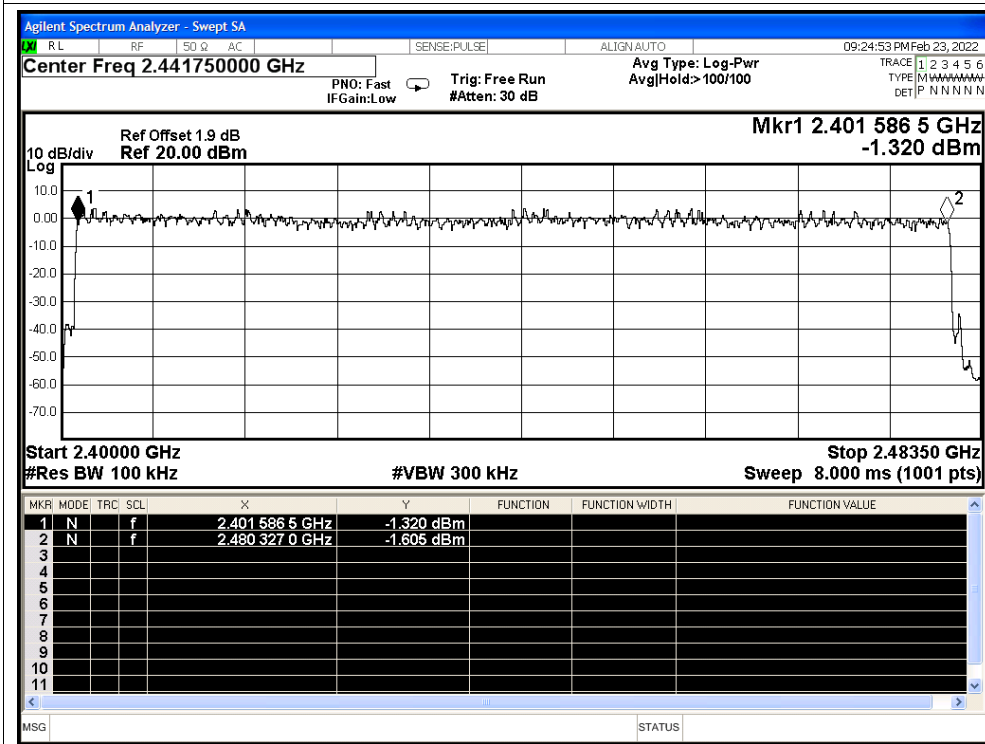




Hopping No. NVNT 2-DH5 2402MHz Ant1

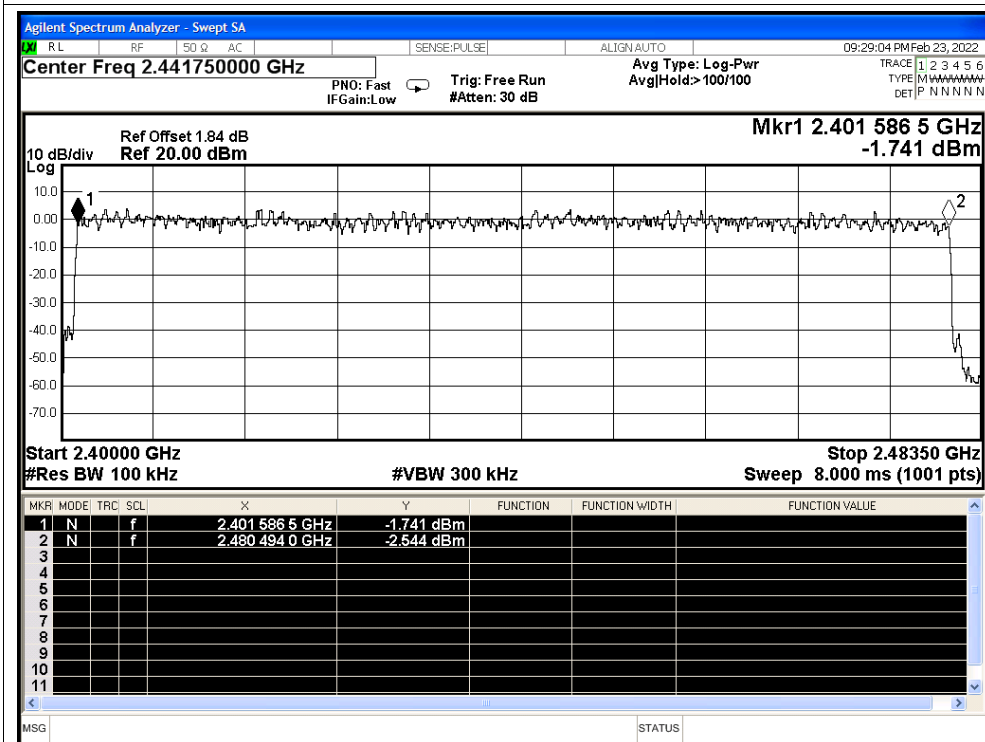


Hopping No. NVNT 2-DH5 2480MHz Ant1

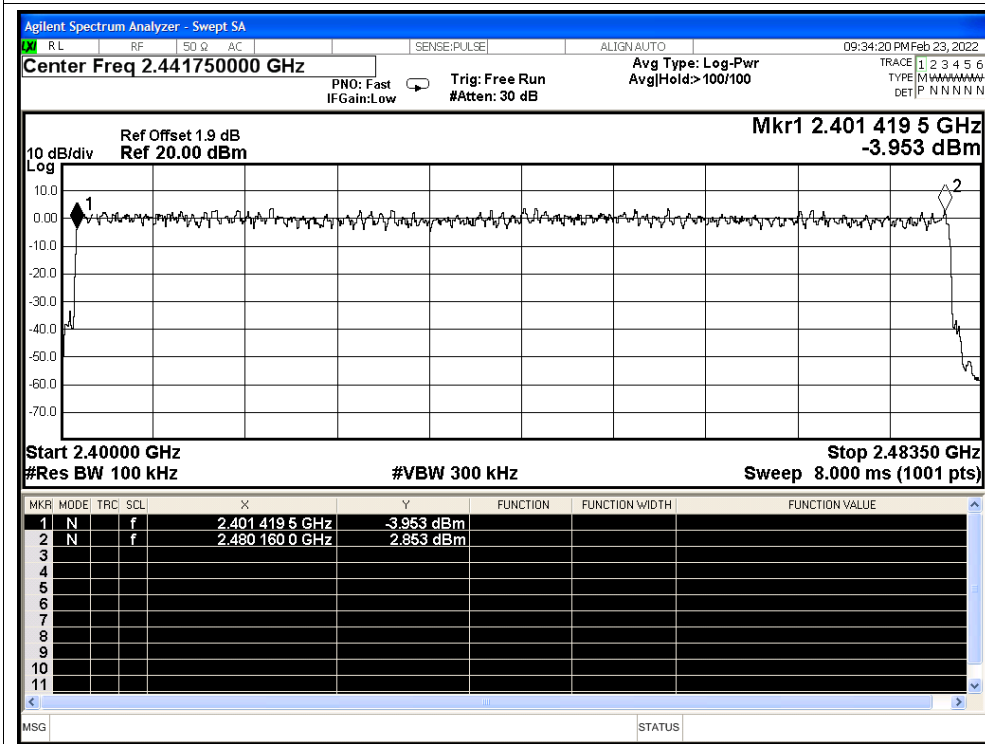




Hopping No. NVNT 3-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2480MHz Ant1





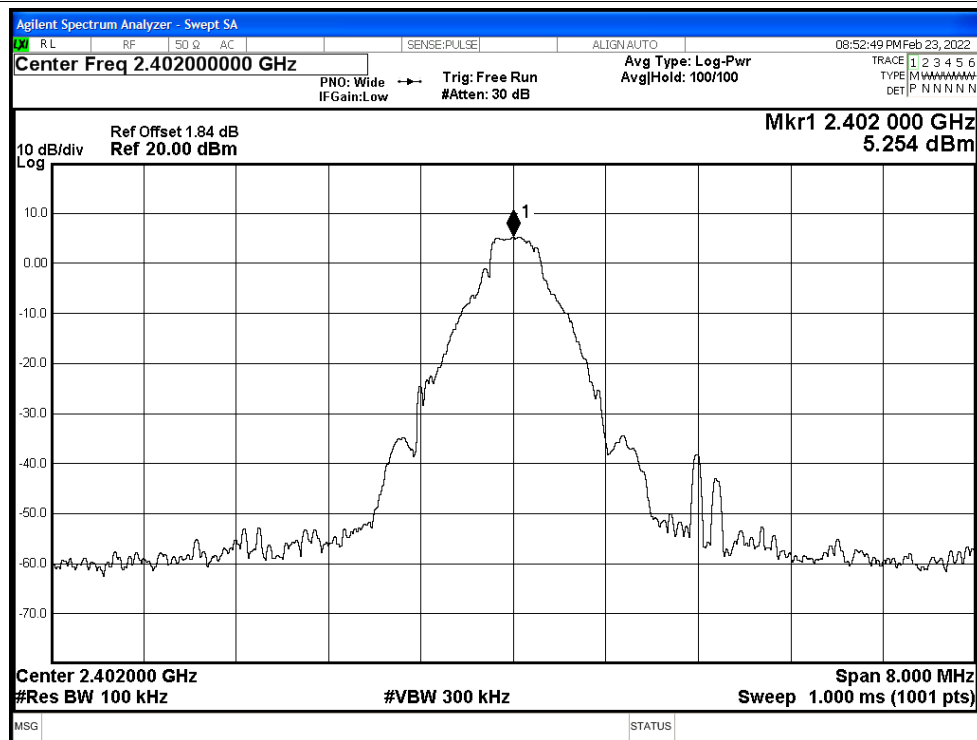
A.6 Band edge measurements

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-60.92	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-59.31	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-53.54	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-59.7	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-54.26	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-58.5	-20	Pass

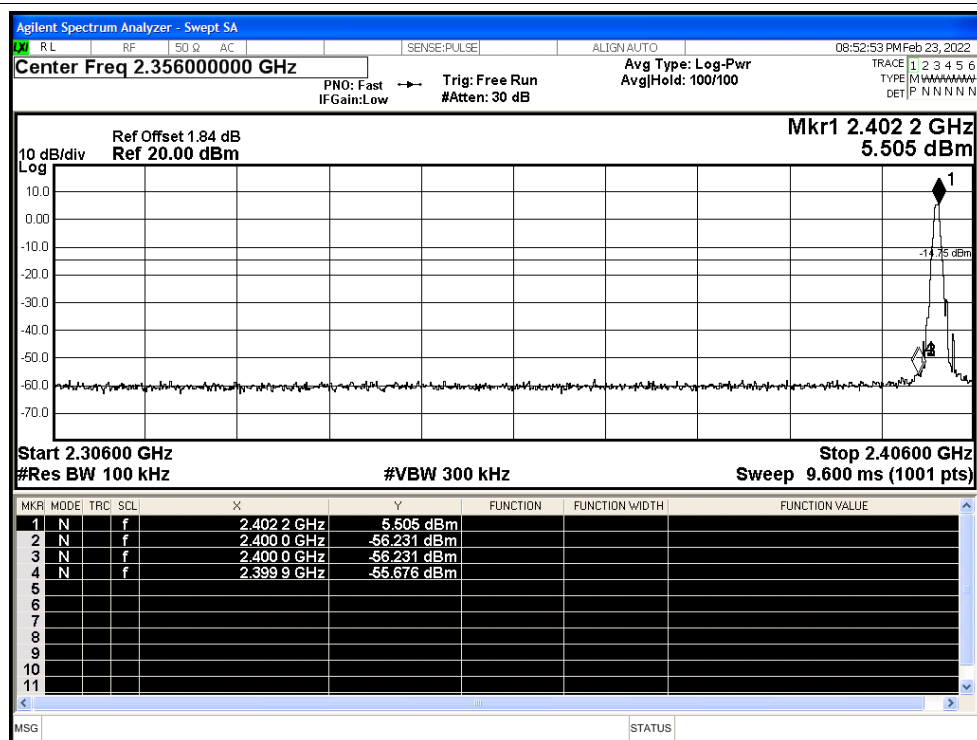


Test Graphs

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

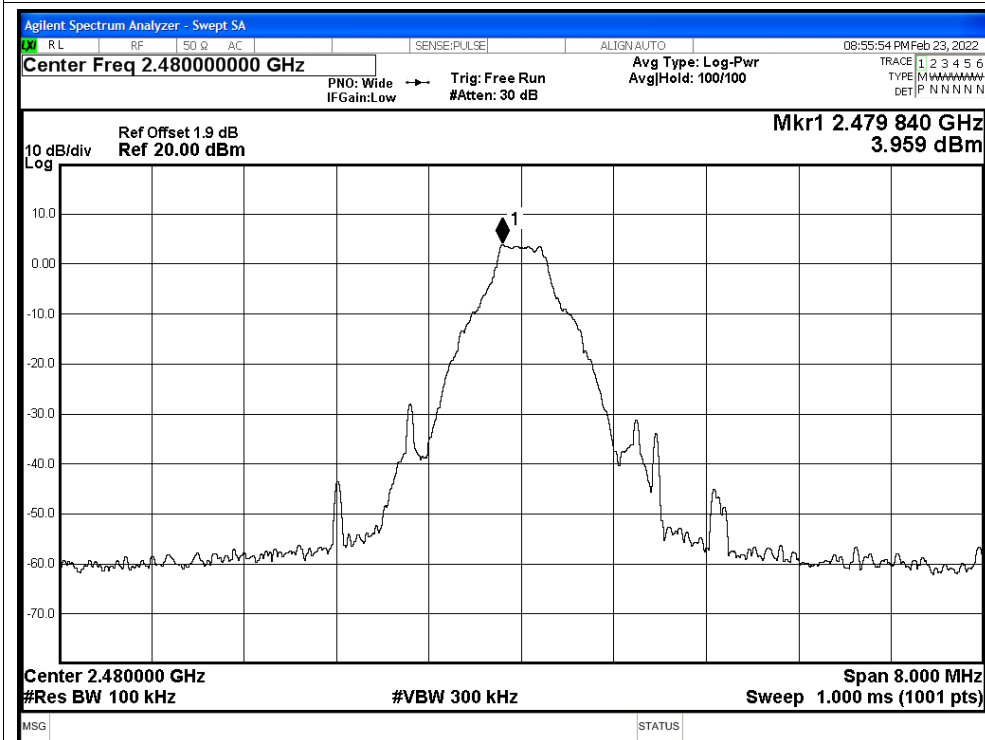


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

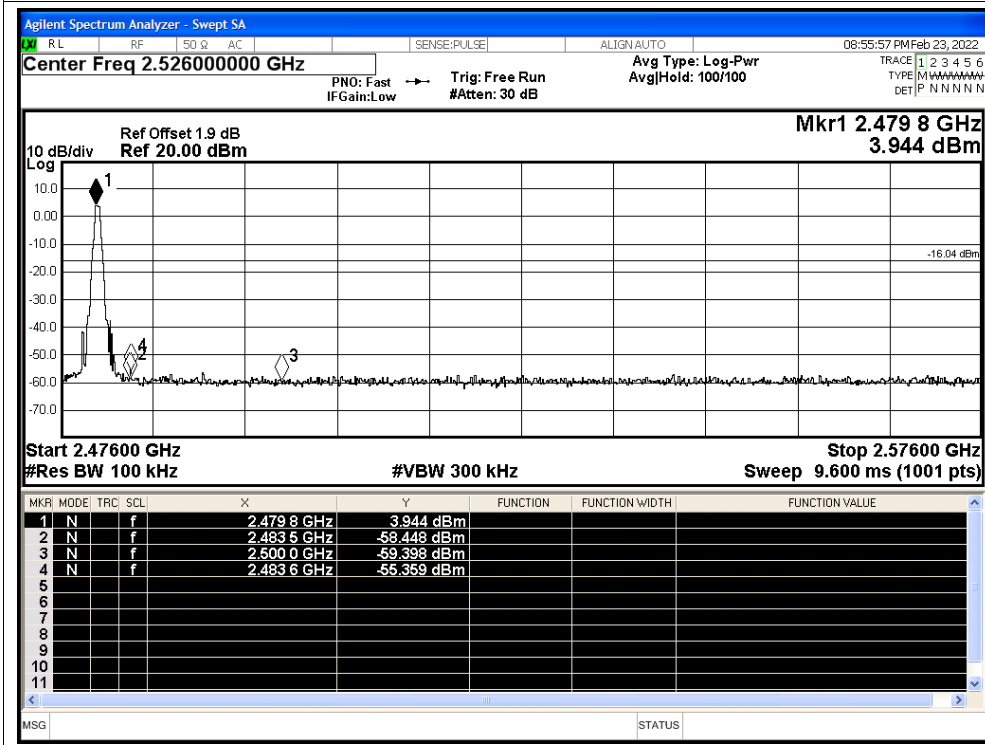




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

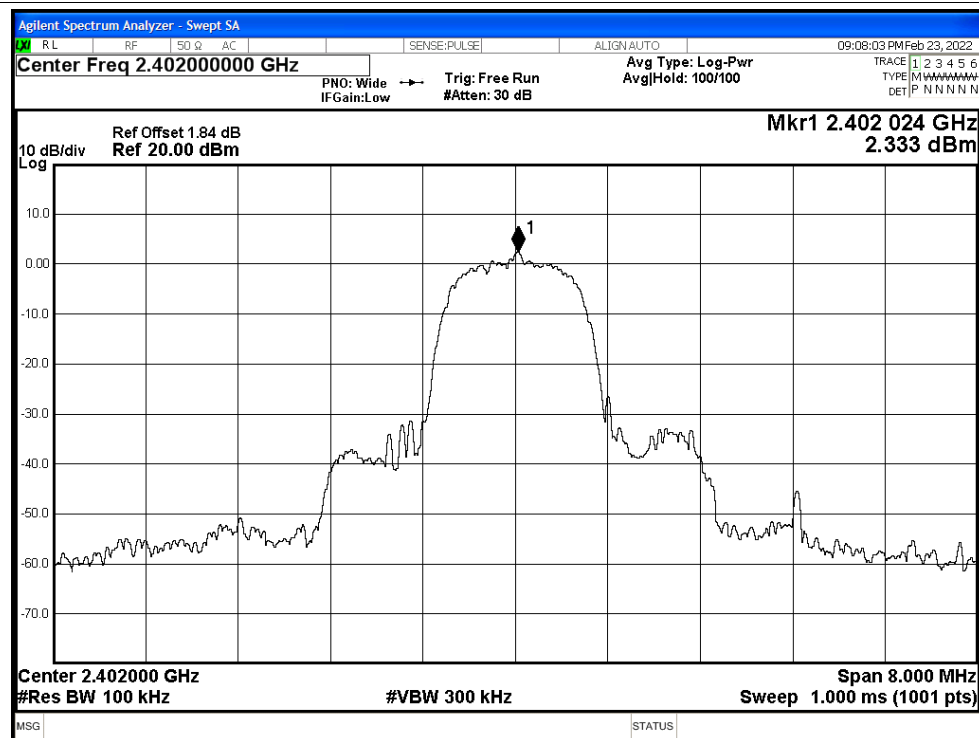


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

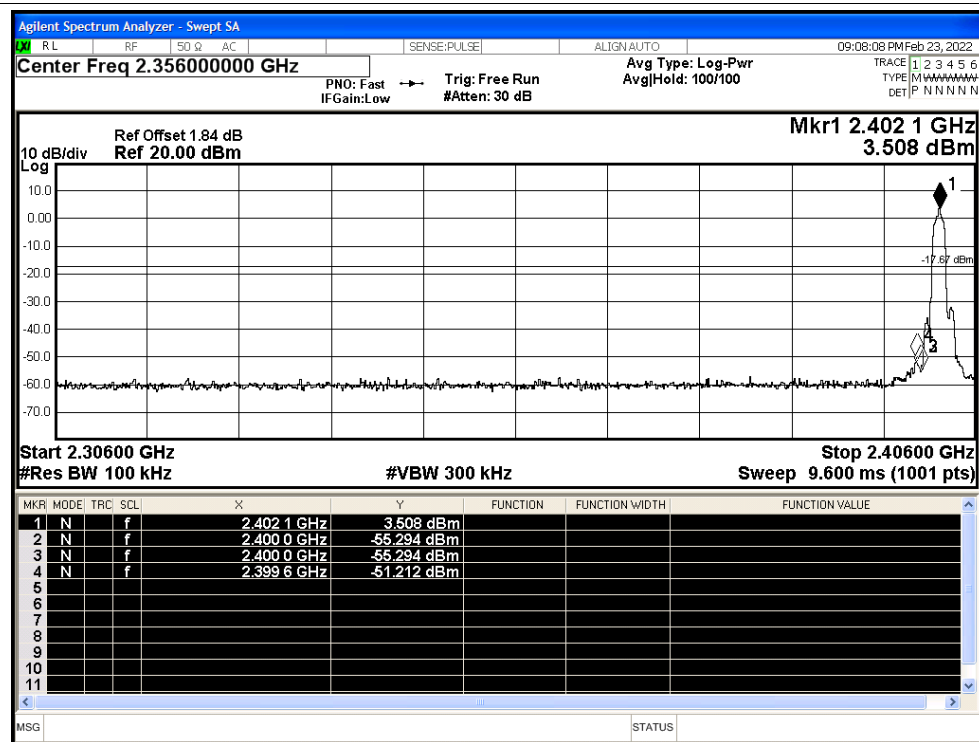




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

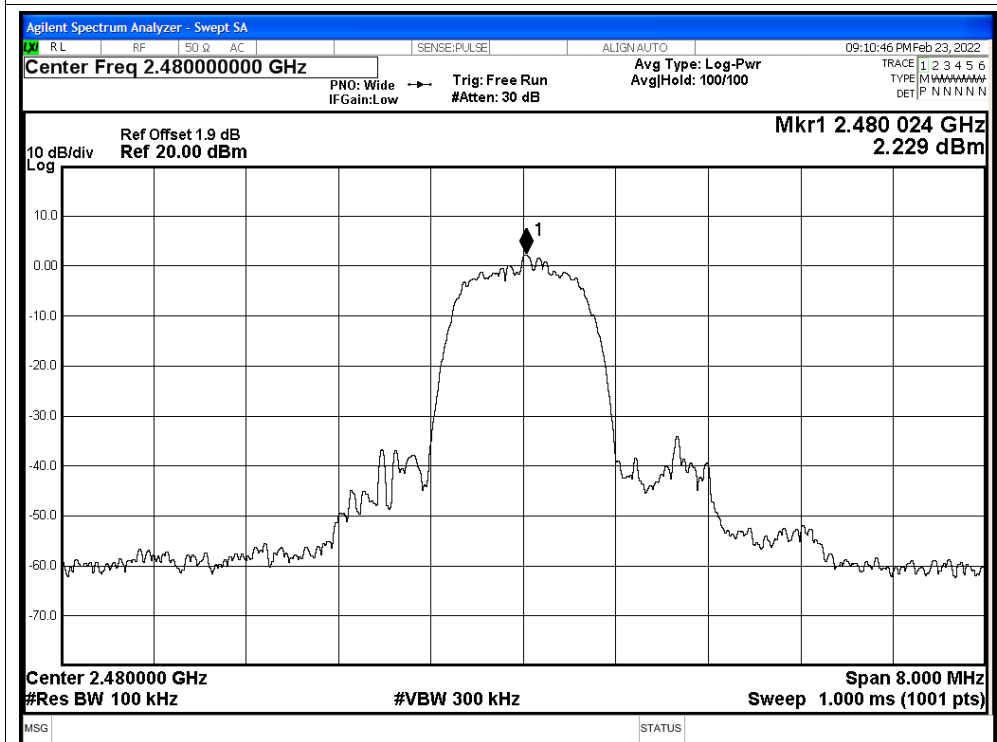


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

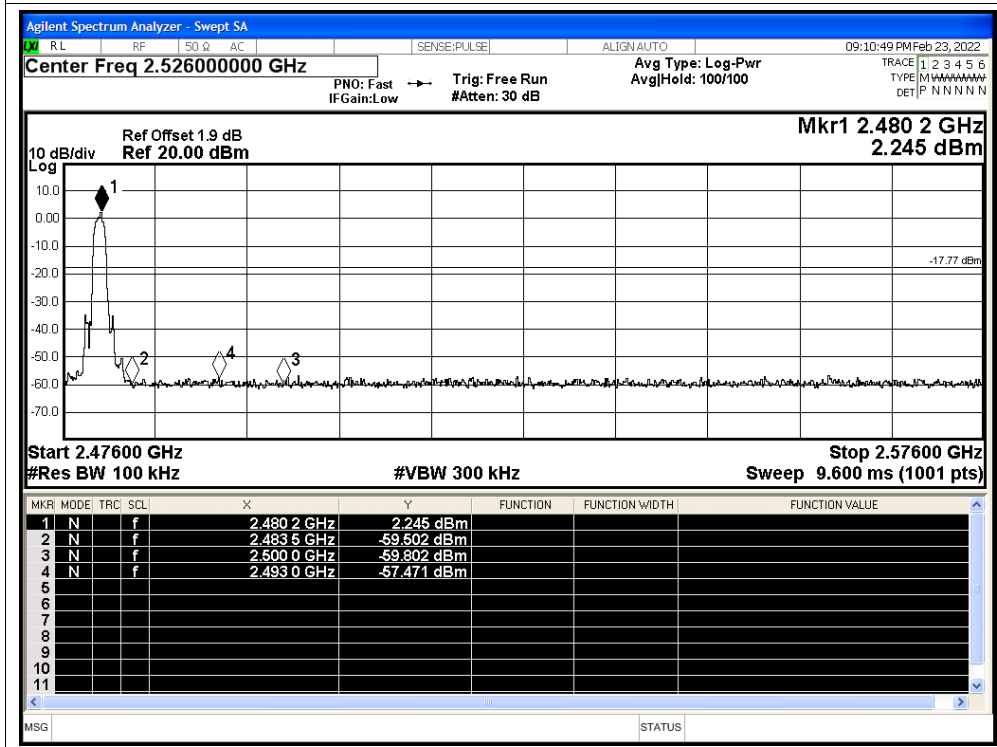




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

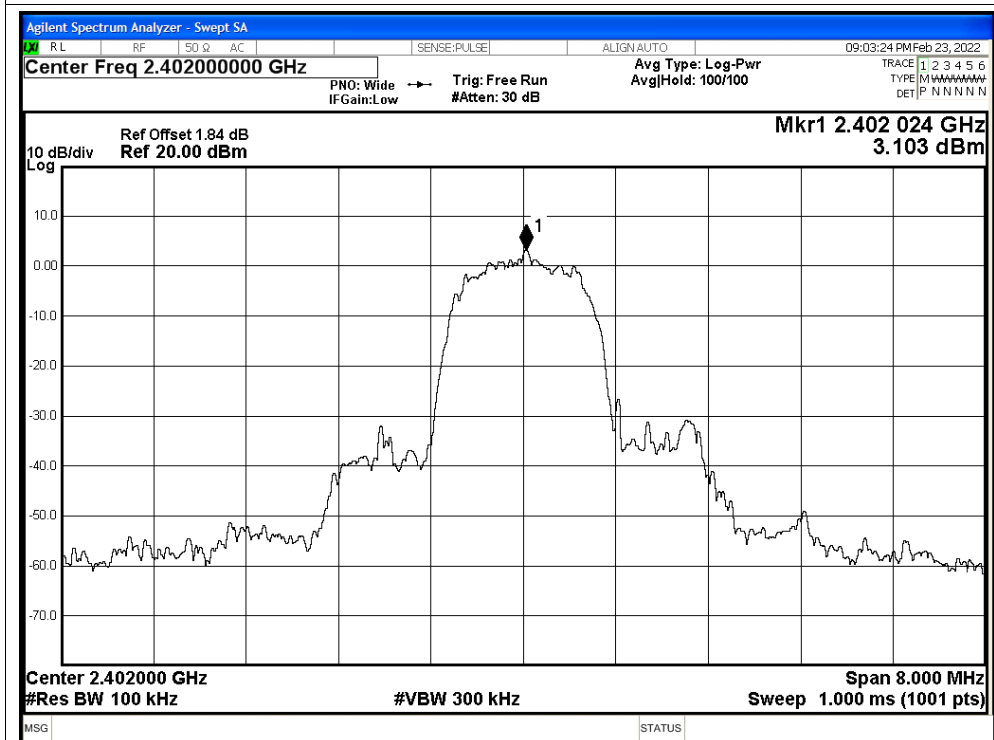


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

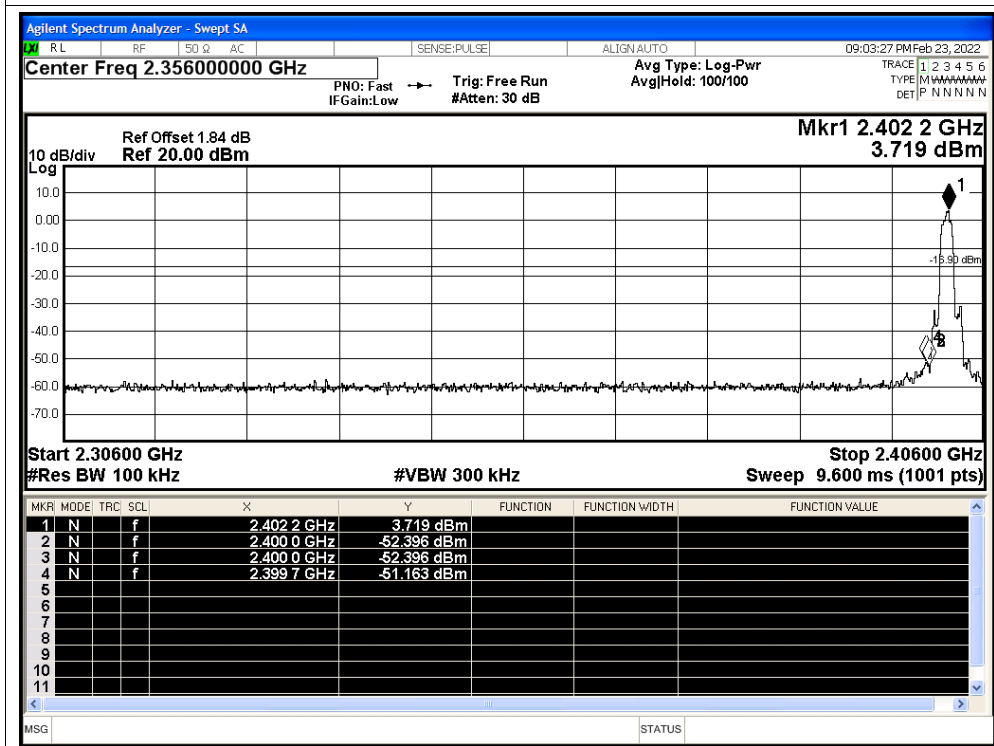




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

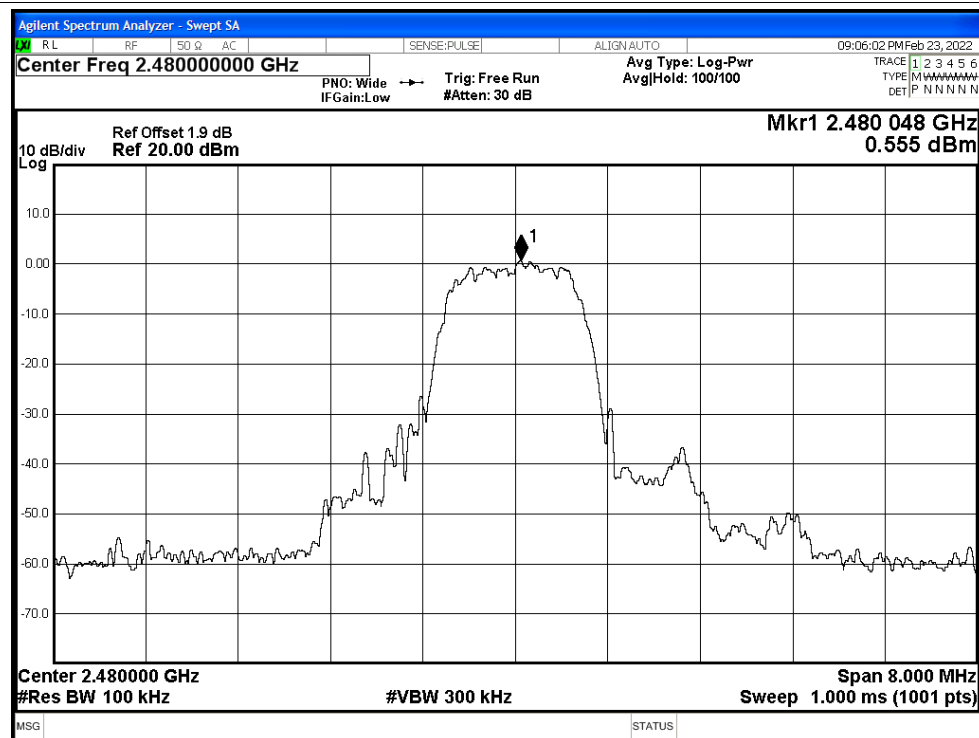


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

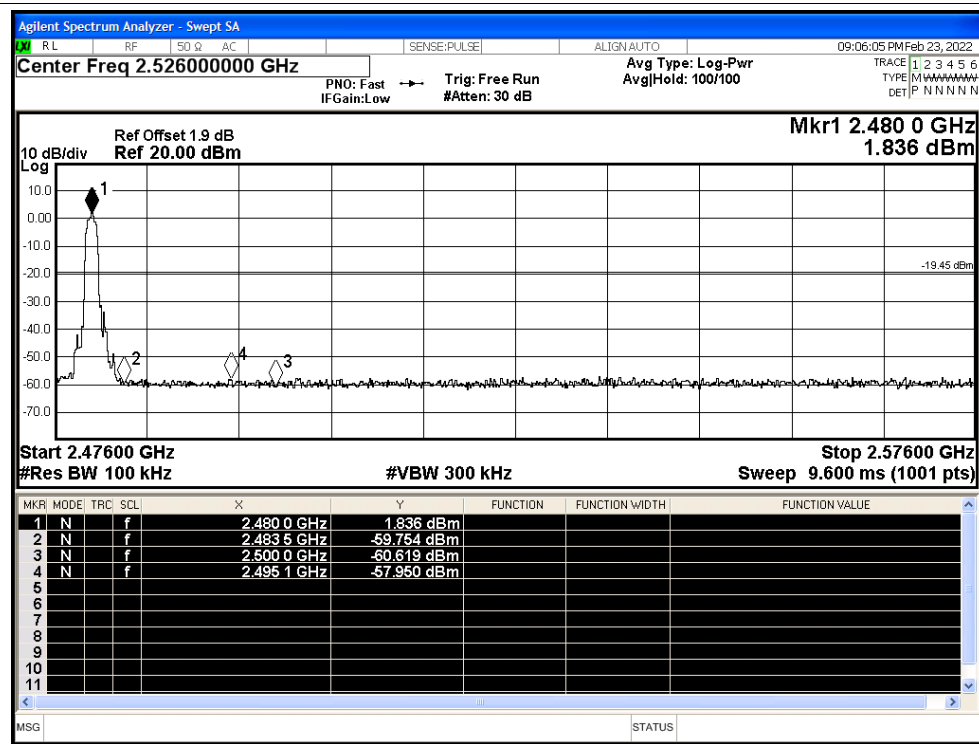




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



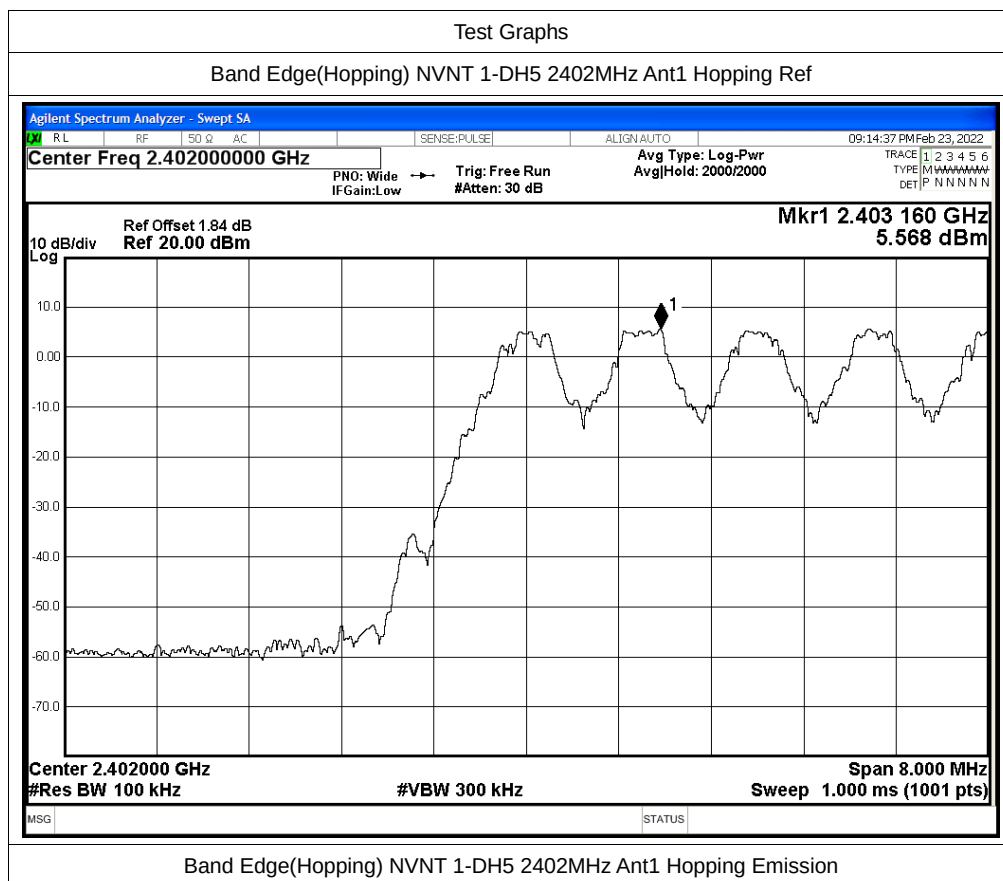
Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission

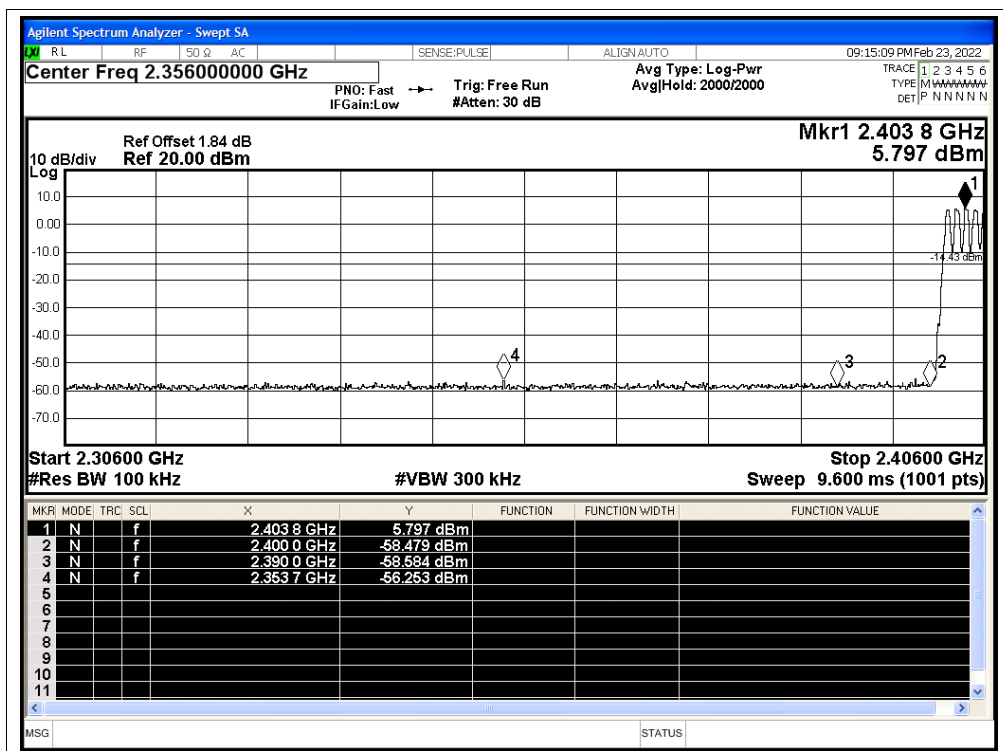




(Hopping)

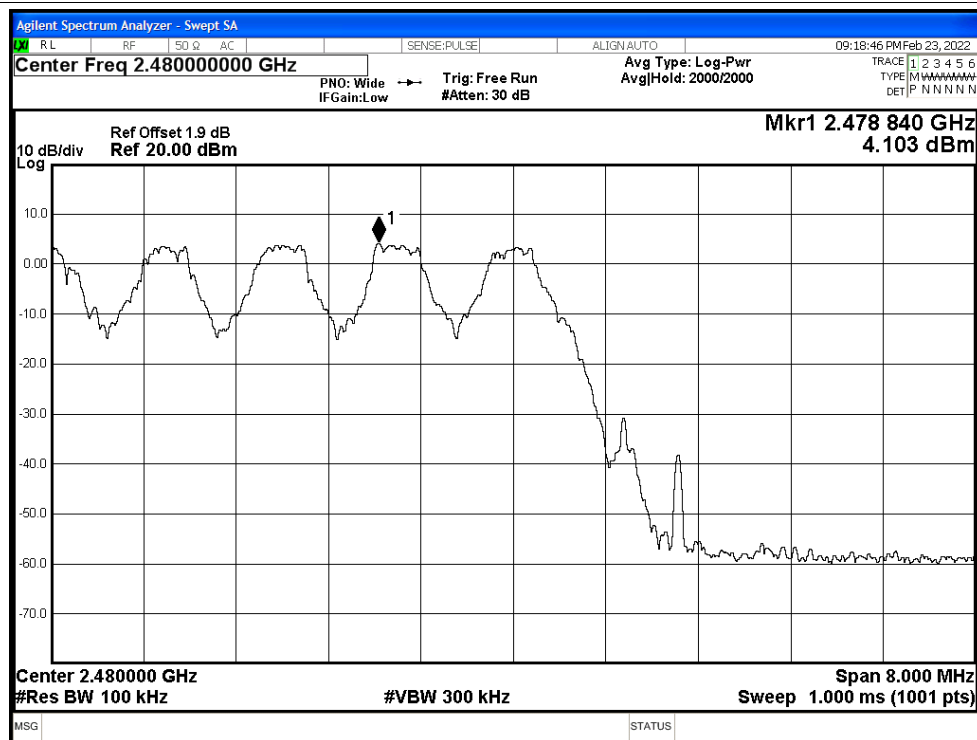
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-61.82	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-60.29	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-59.77	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-58.54	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-59.54	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-58.44	-20	Pass



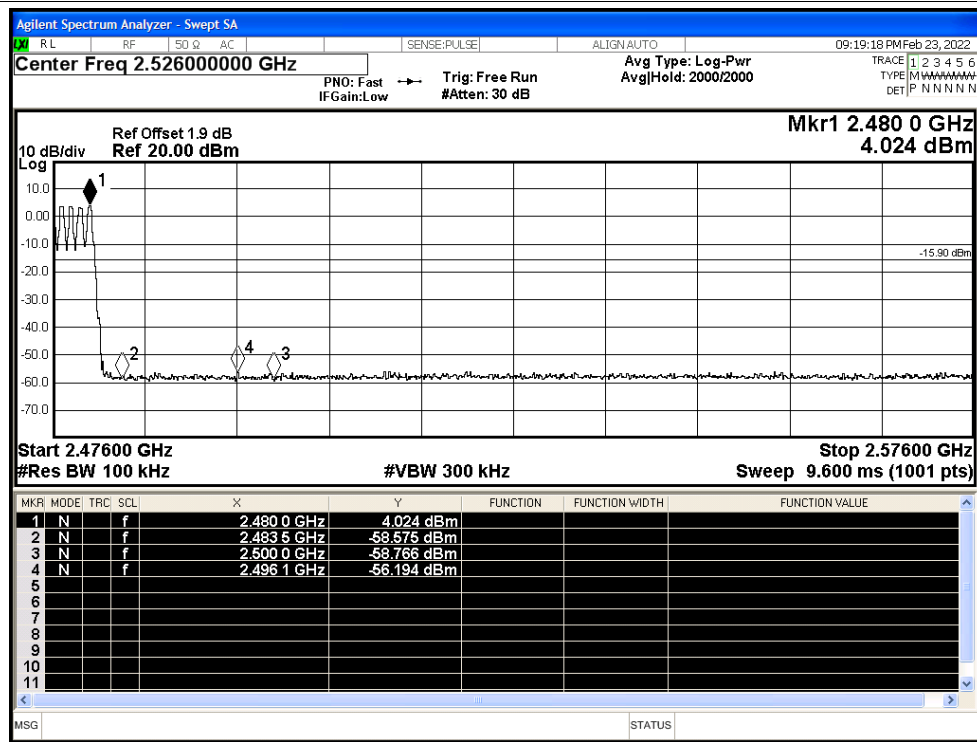




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

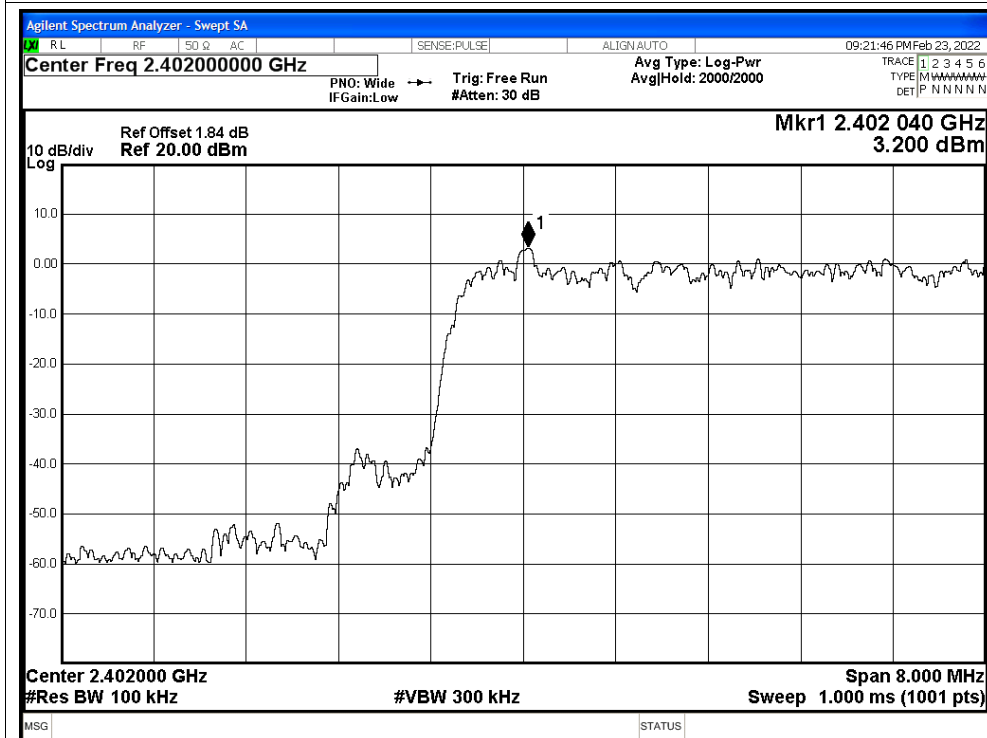


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

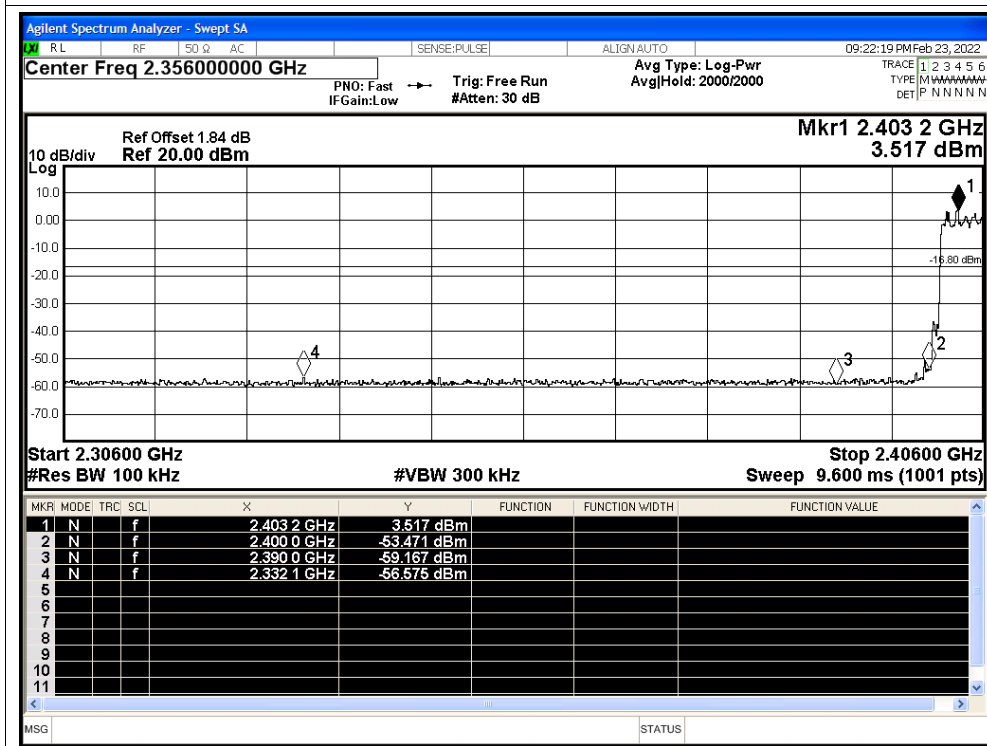


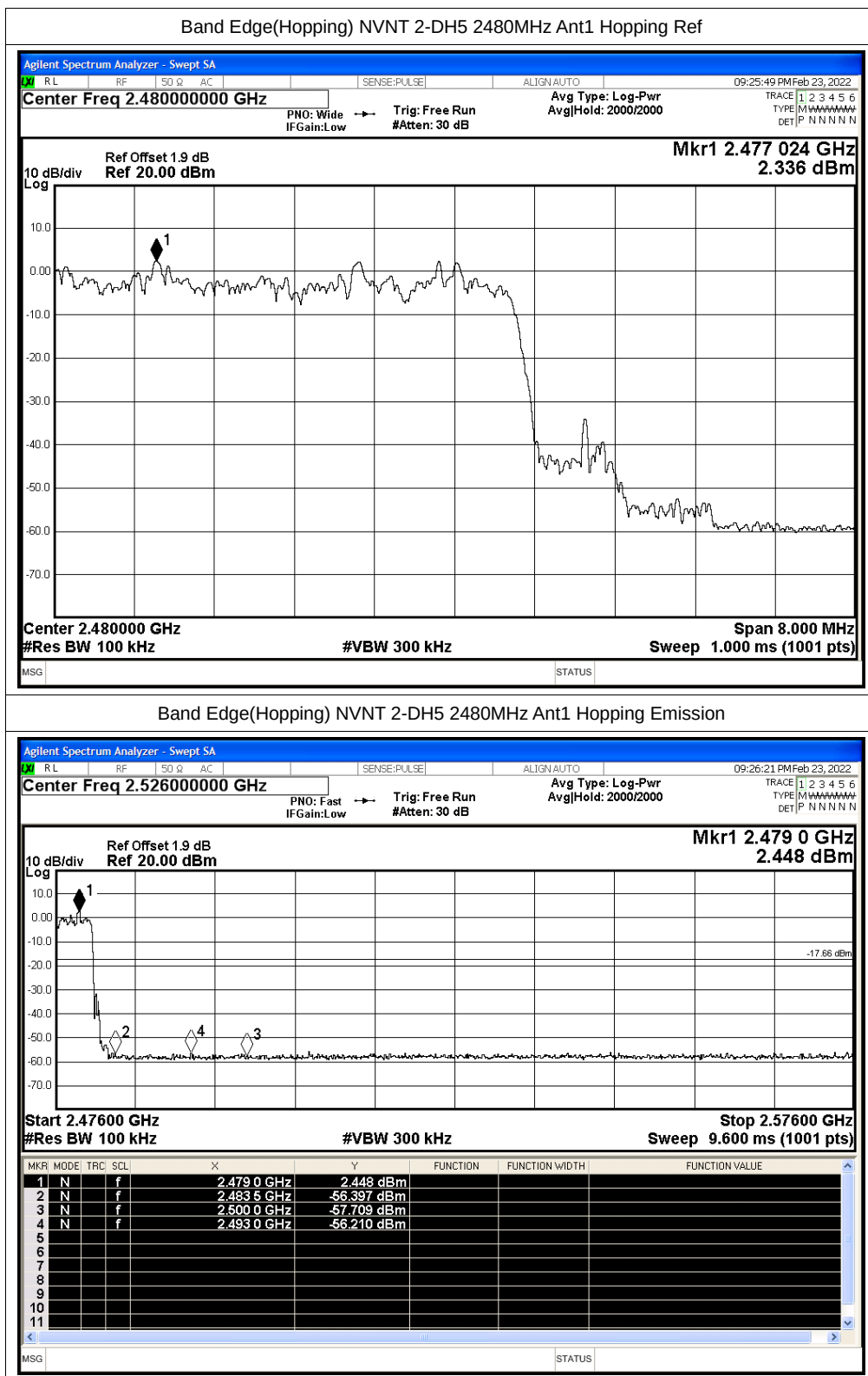


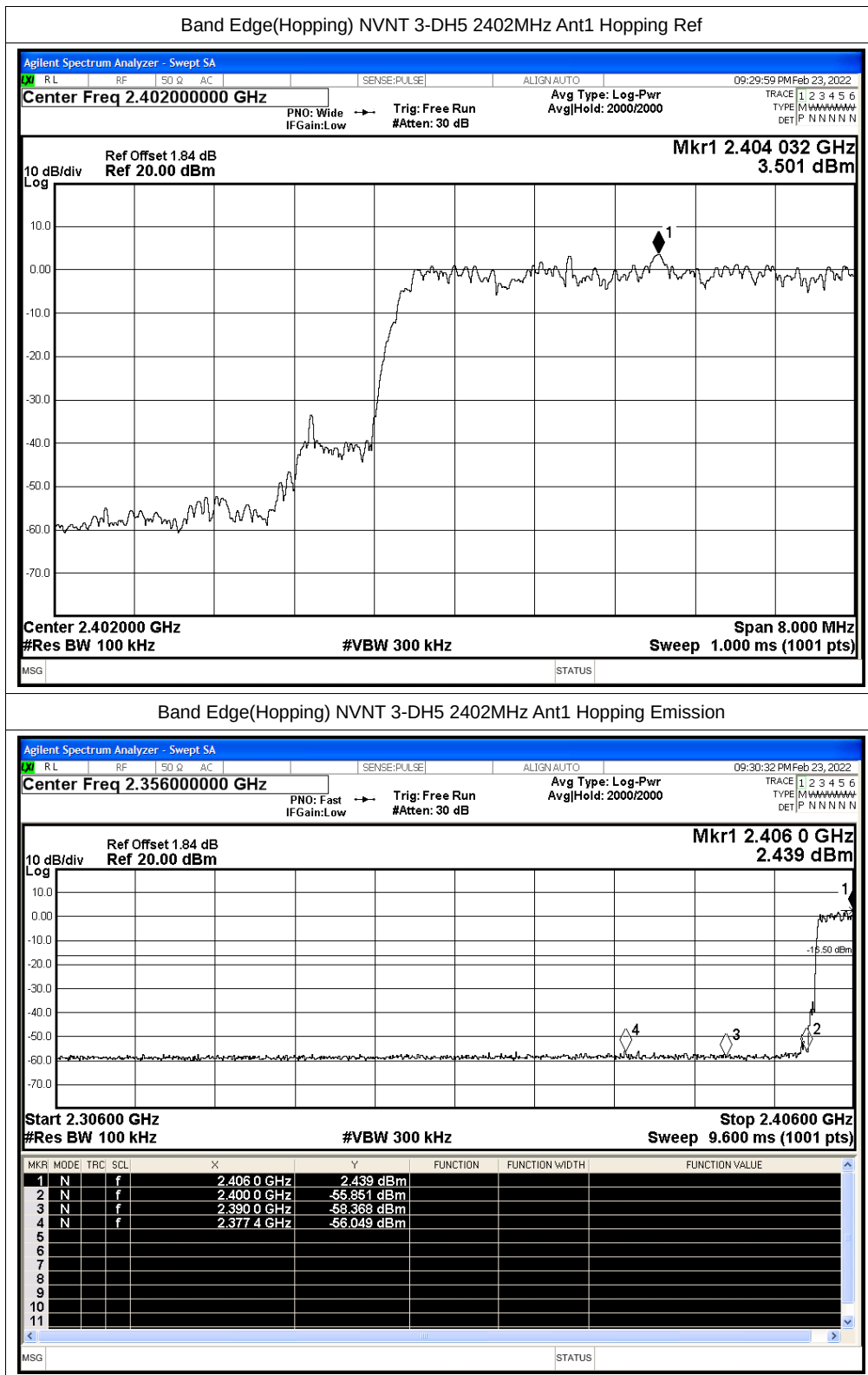
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

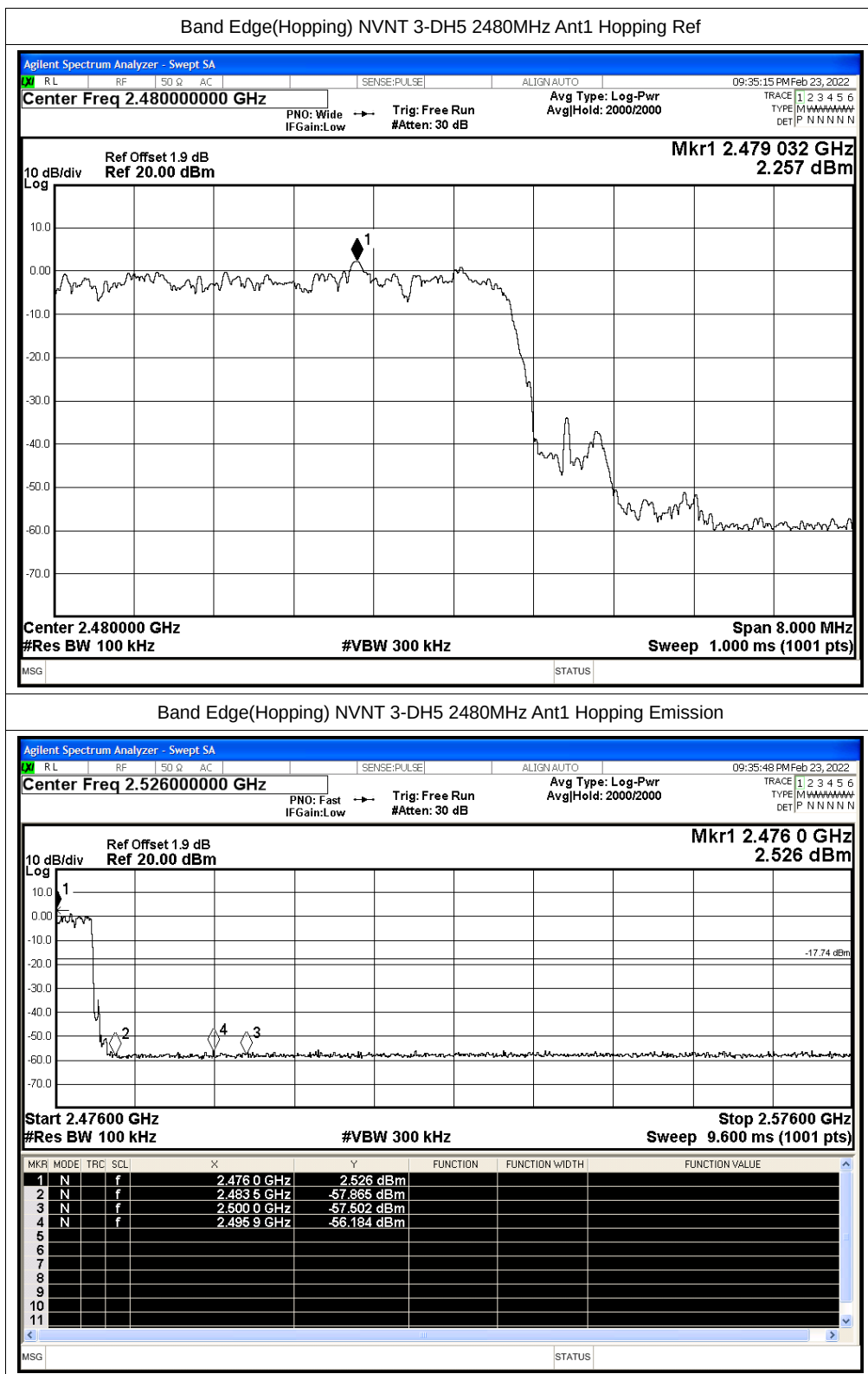


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission





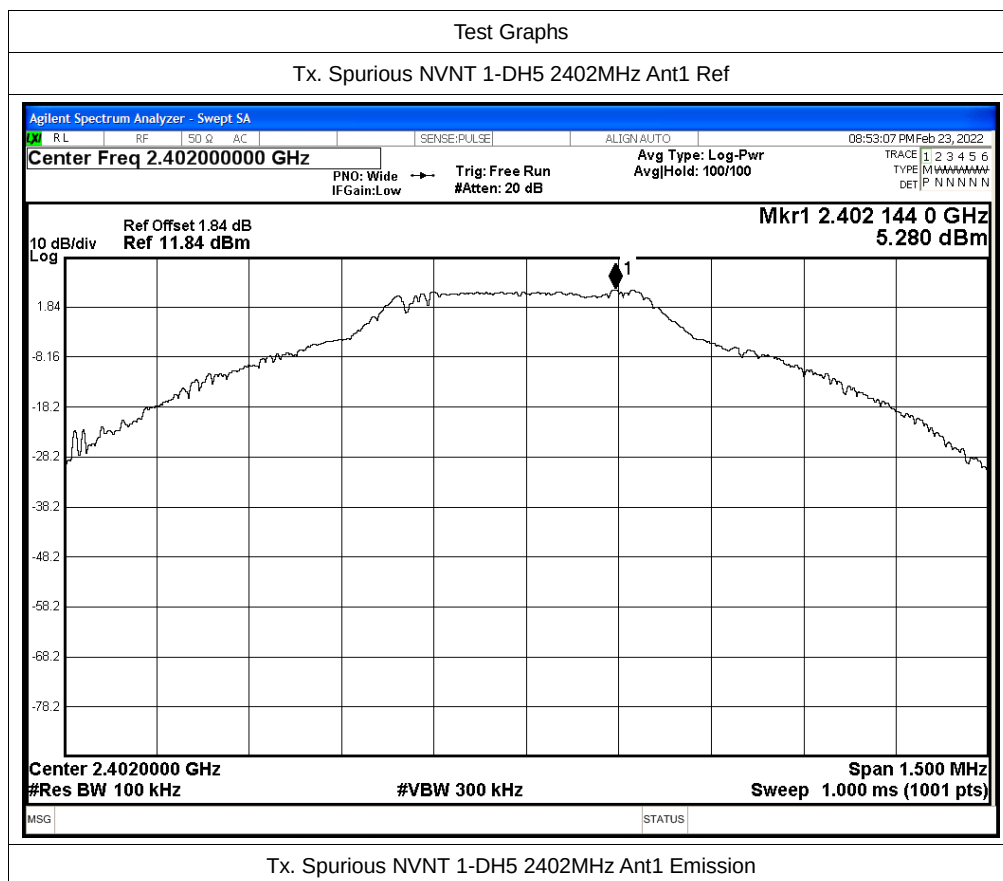


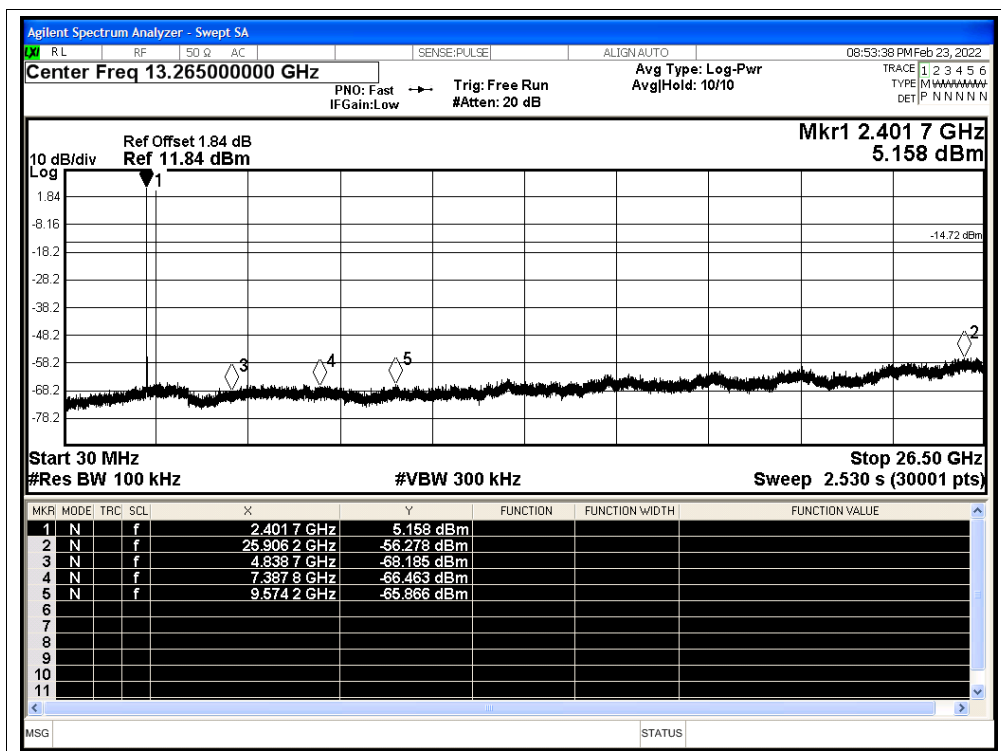




A.7 Conducted Spurious Emission

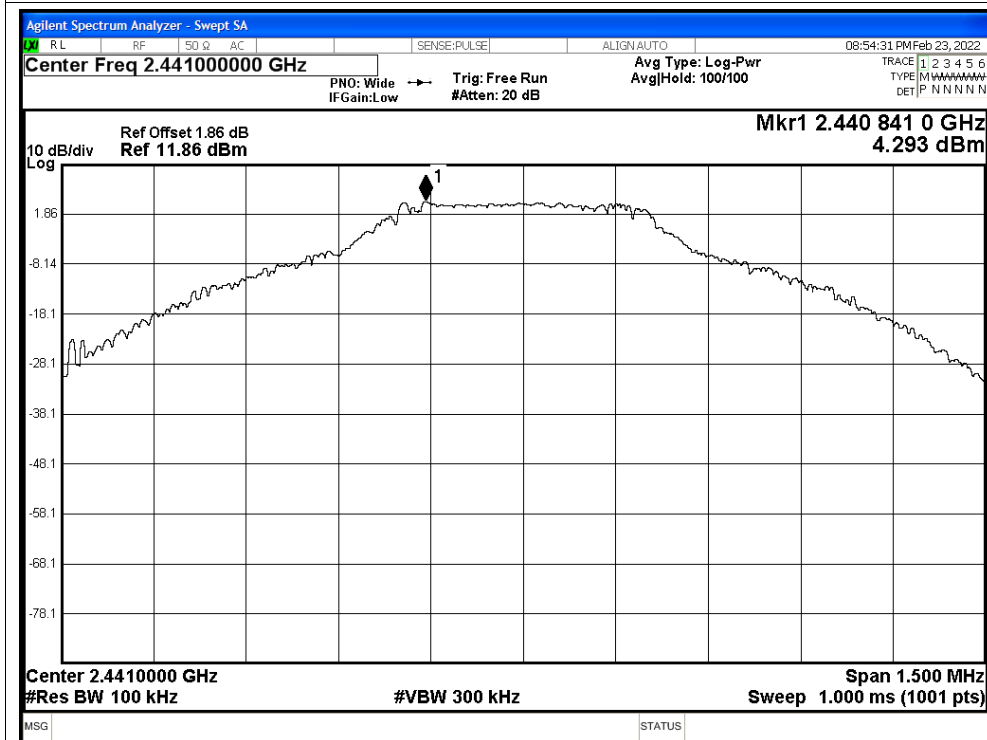
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-61.55	-20	Pass
NVNT	1-DH5	2441	Ant1	-60.53	-20	Pass
NVNT	1-DH5	2480	Ant1	-59.3	-20	Pass
NVNT	2-DH5	2402	Ant1	-58.8	-20	Pass
NVNT	2-DH5	2441	Ant1	-59.05	-20	Pass
NVNT	2-DH5	2480	Ant1	-58.41	-20	Pass
NVNT	3-DH5	2402	Ant1	-58.03	-20	Pass
NVNT	3-DH5	2441	Ant1	-58.81	-20	Pass
NVNT	3-DH5	2480	Ant1	-58.02	-20	Pass



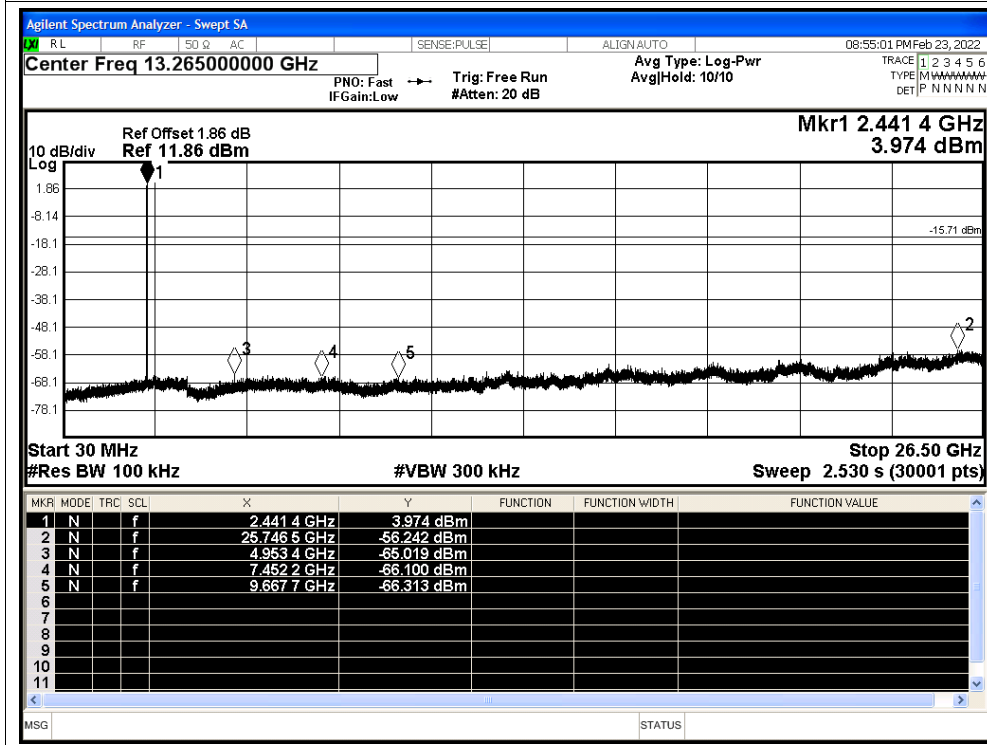




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

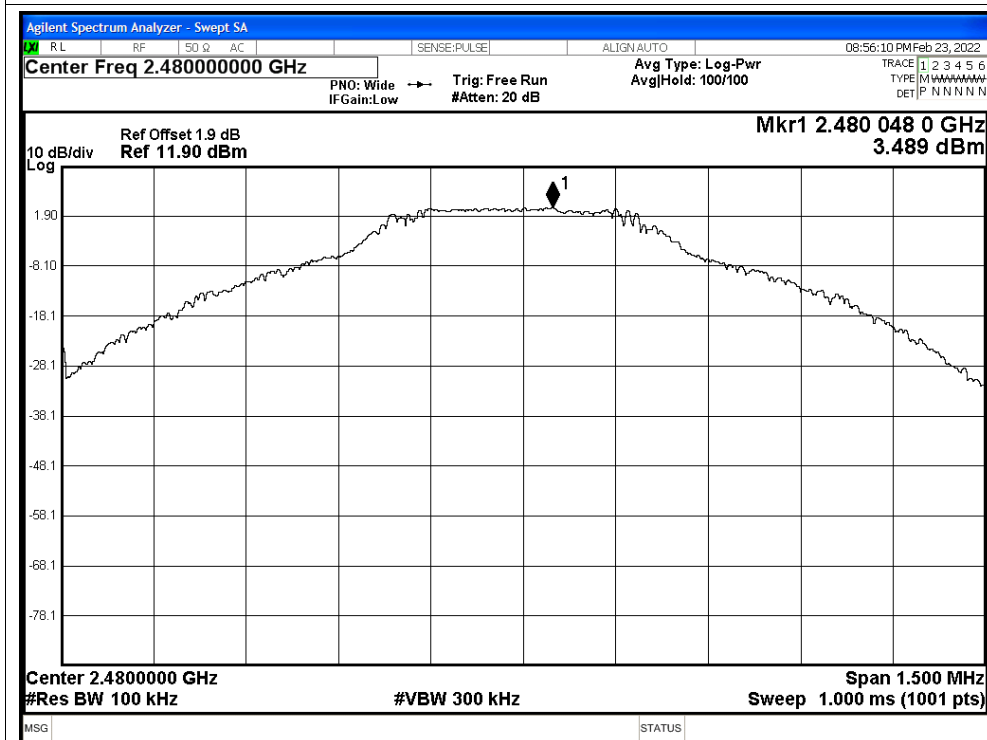


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

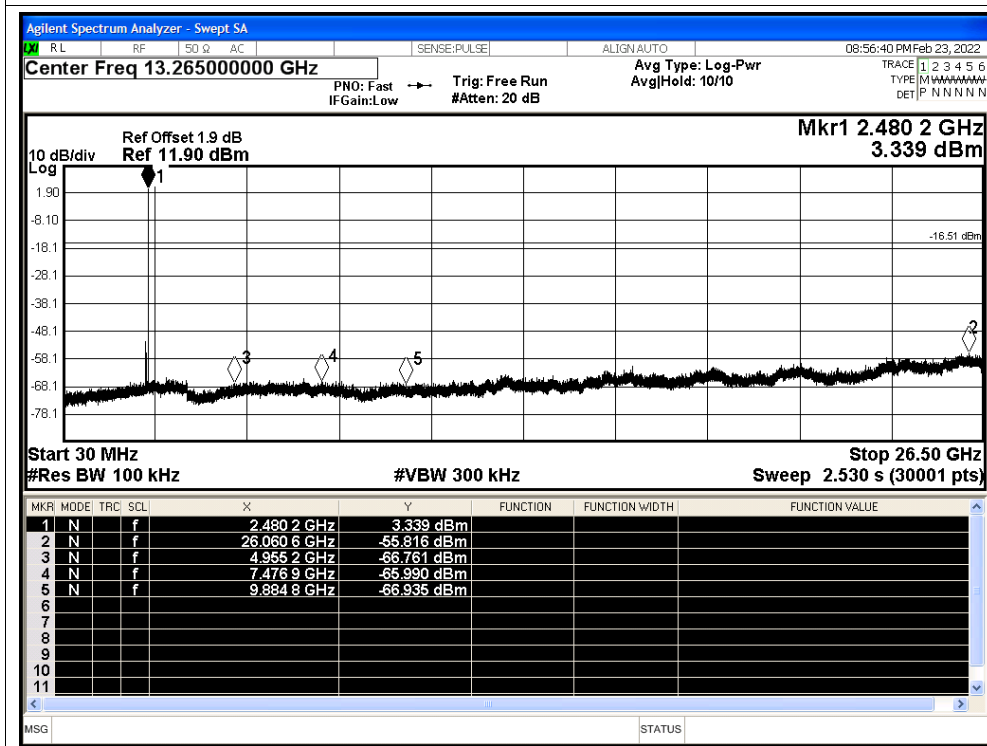




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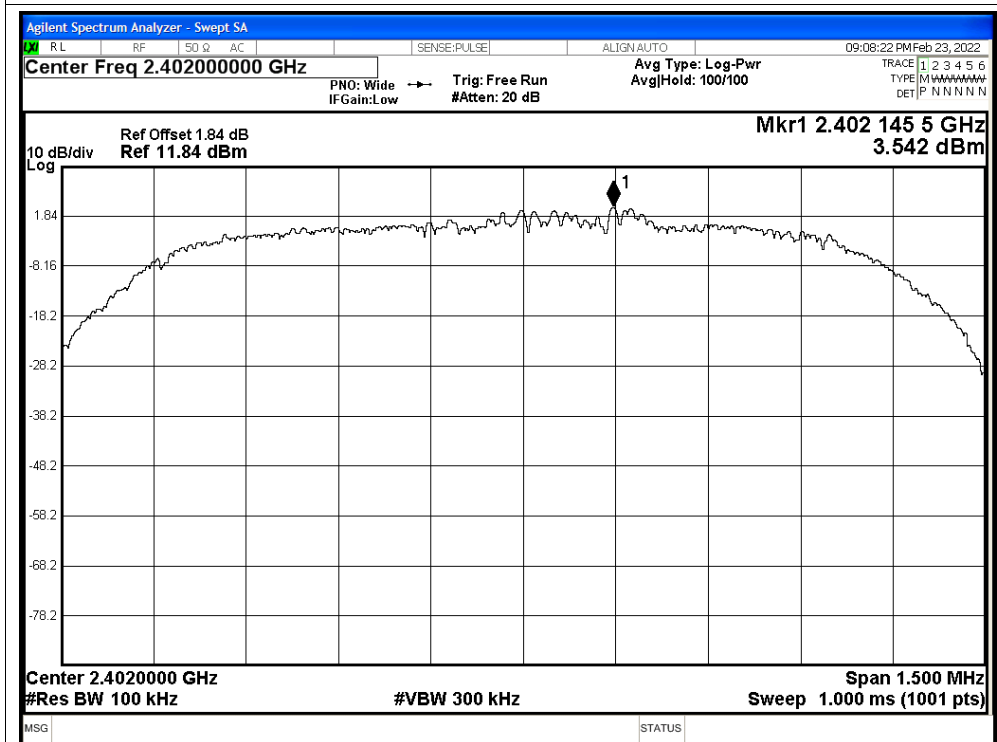


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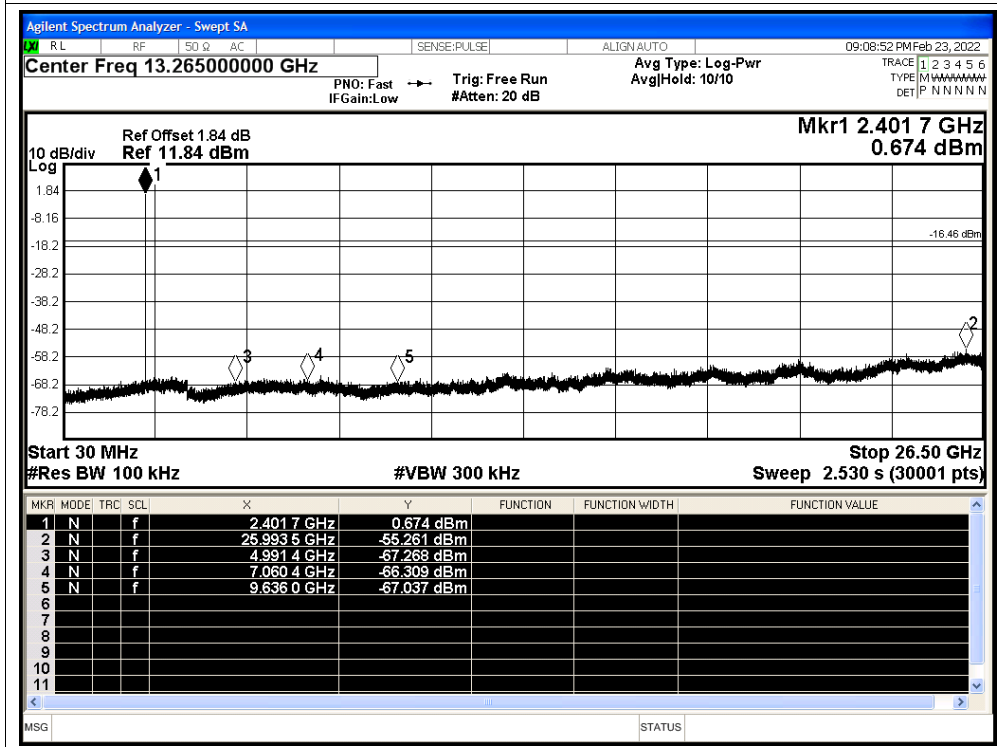




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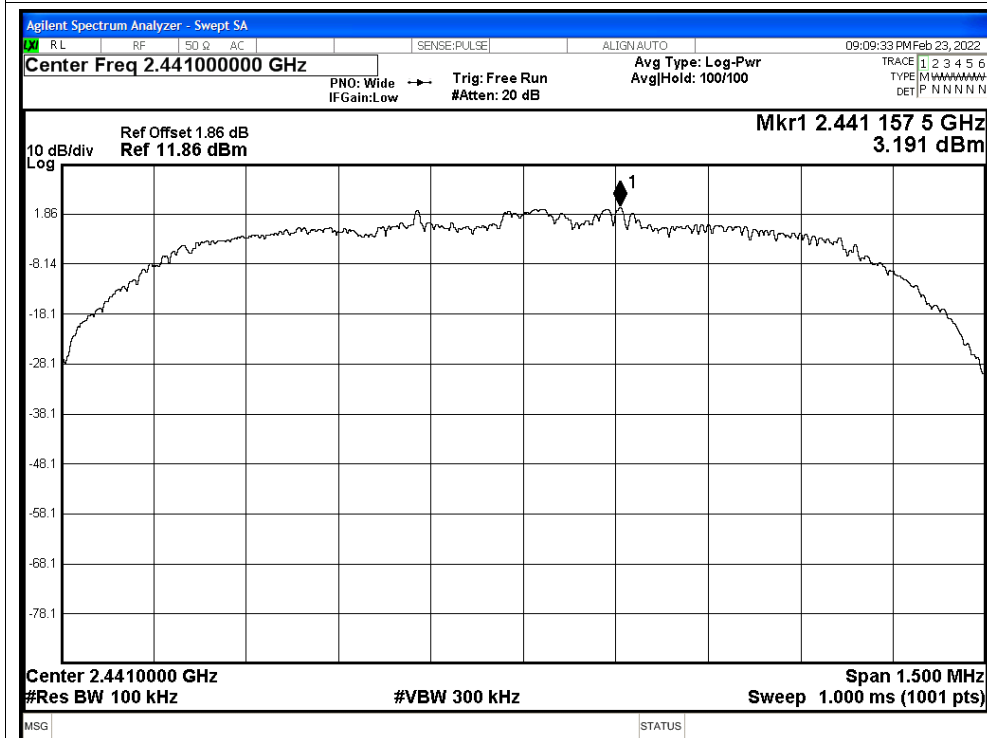


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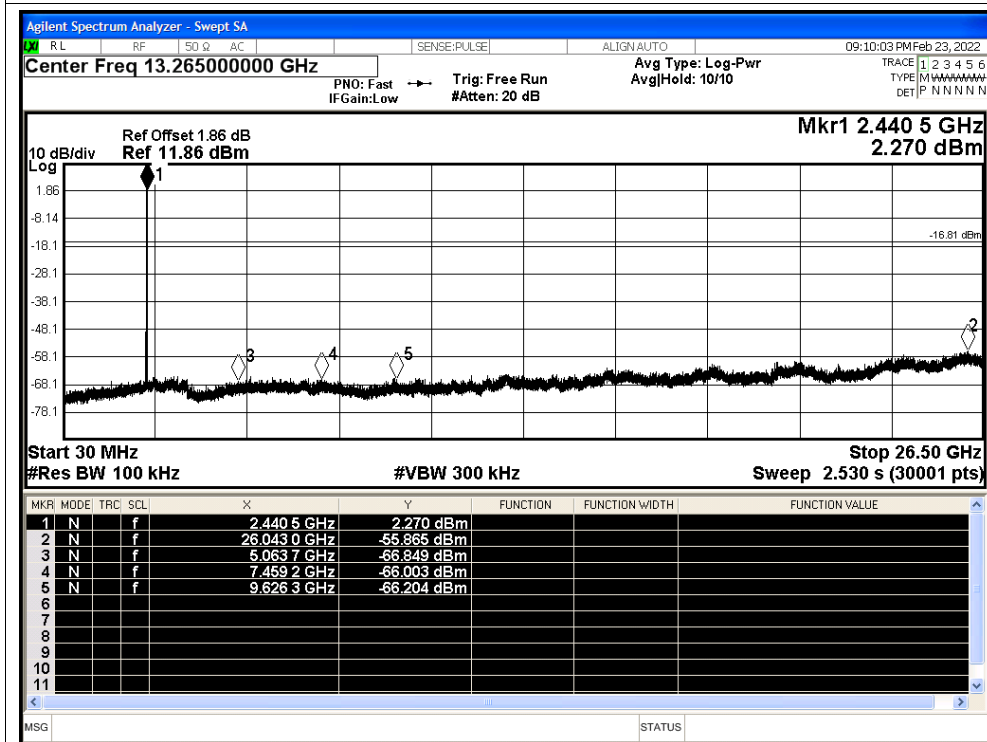




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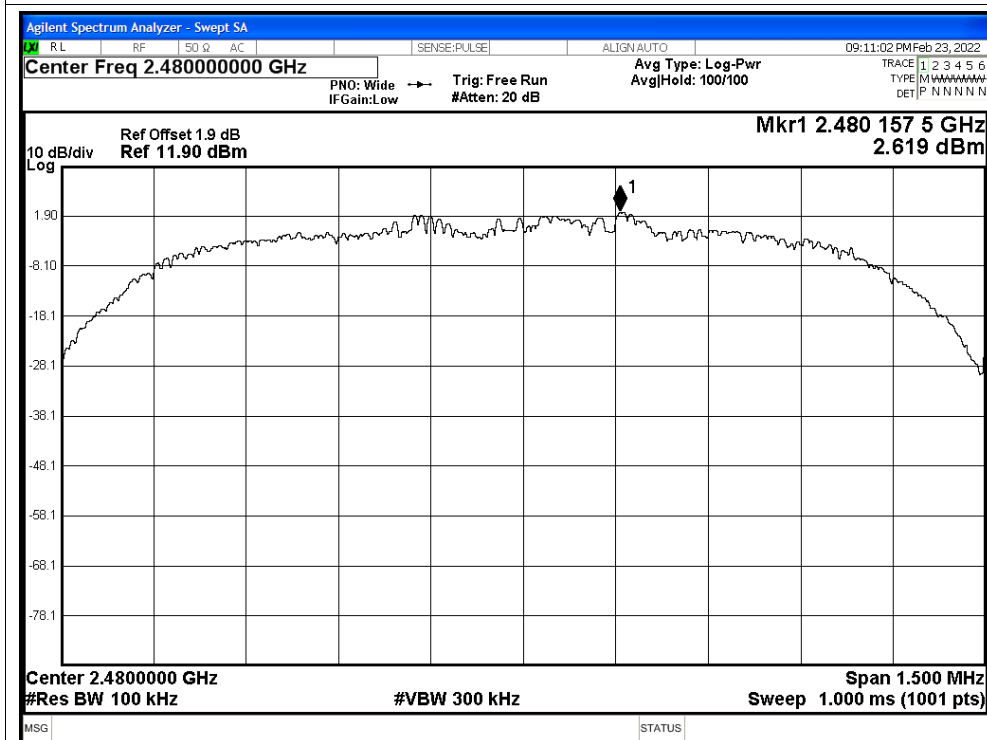


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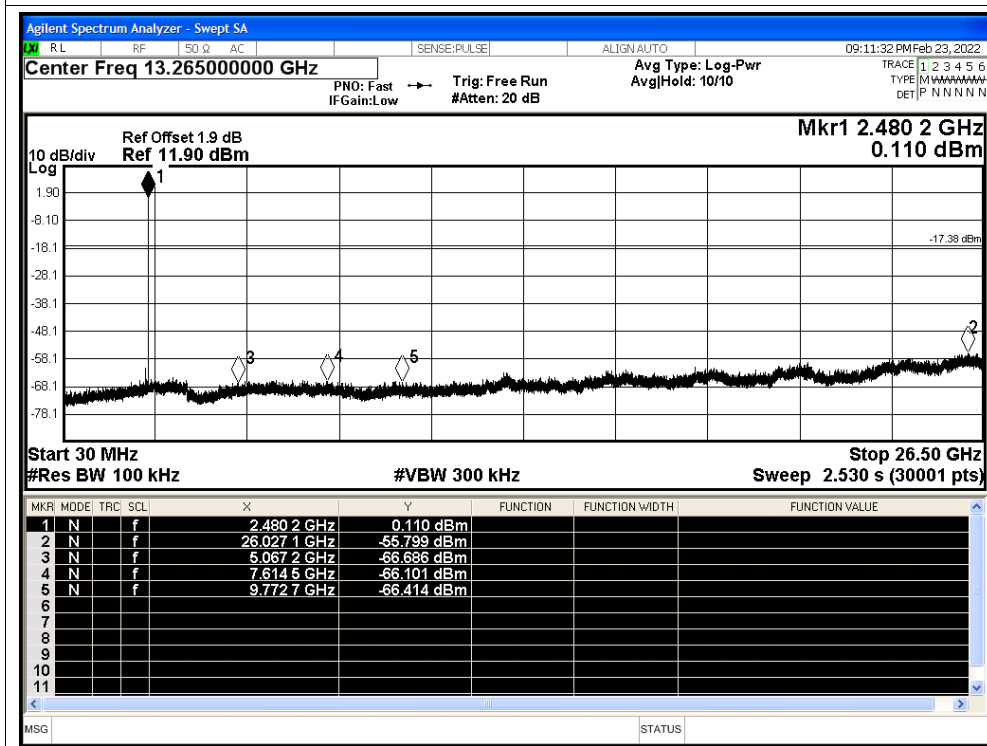




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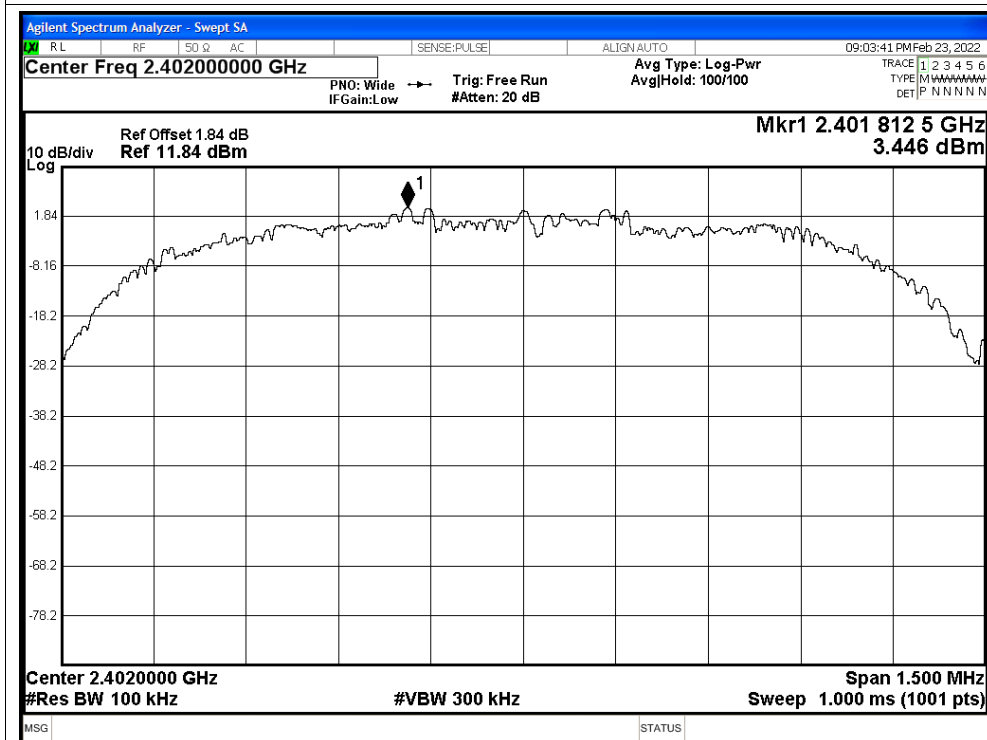


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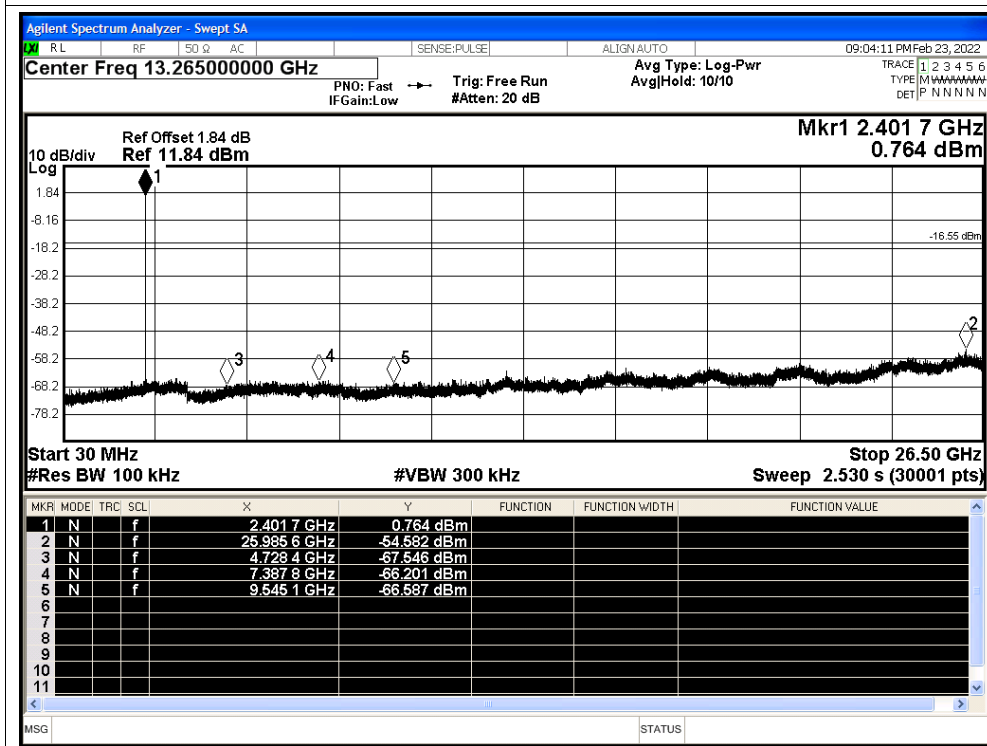




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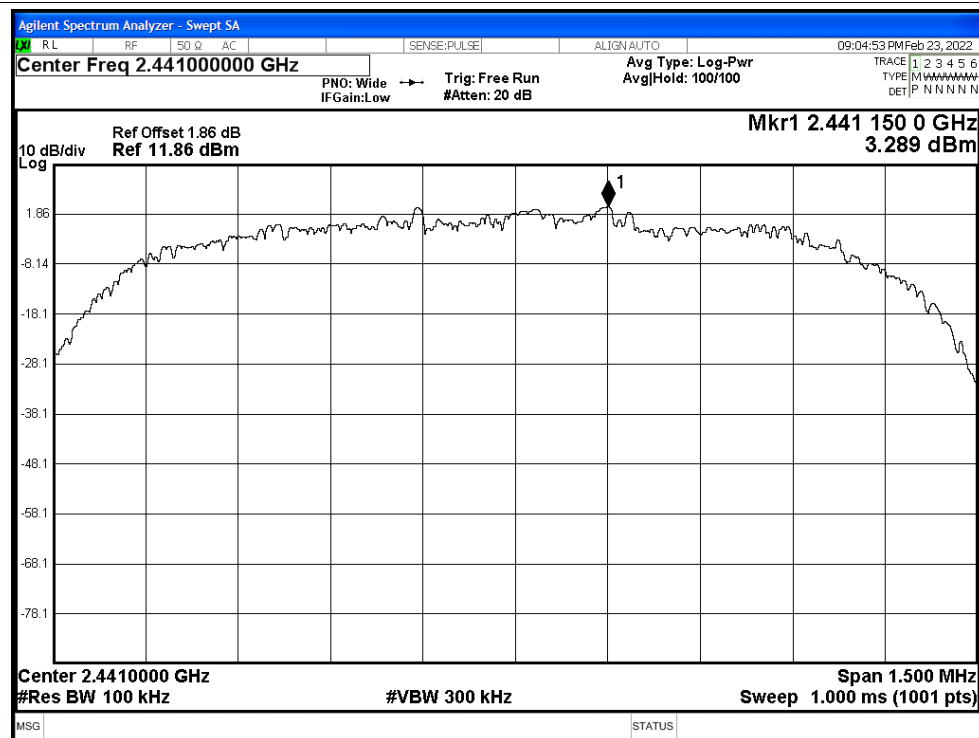


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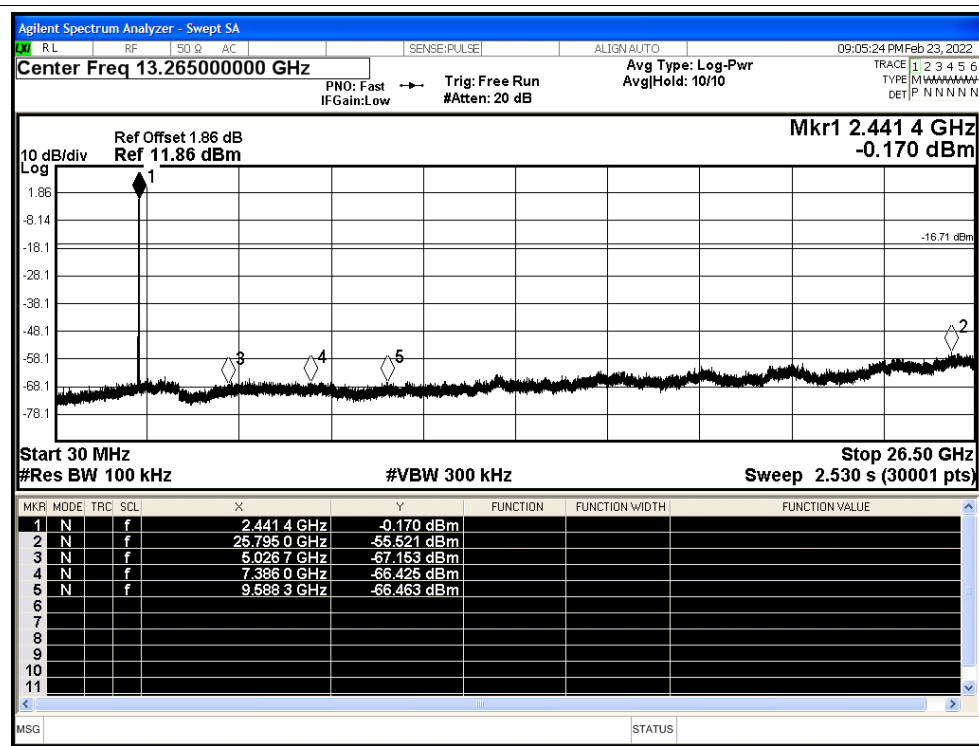




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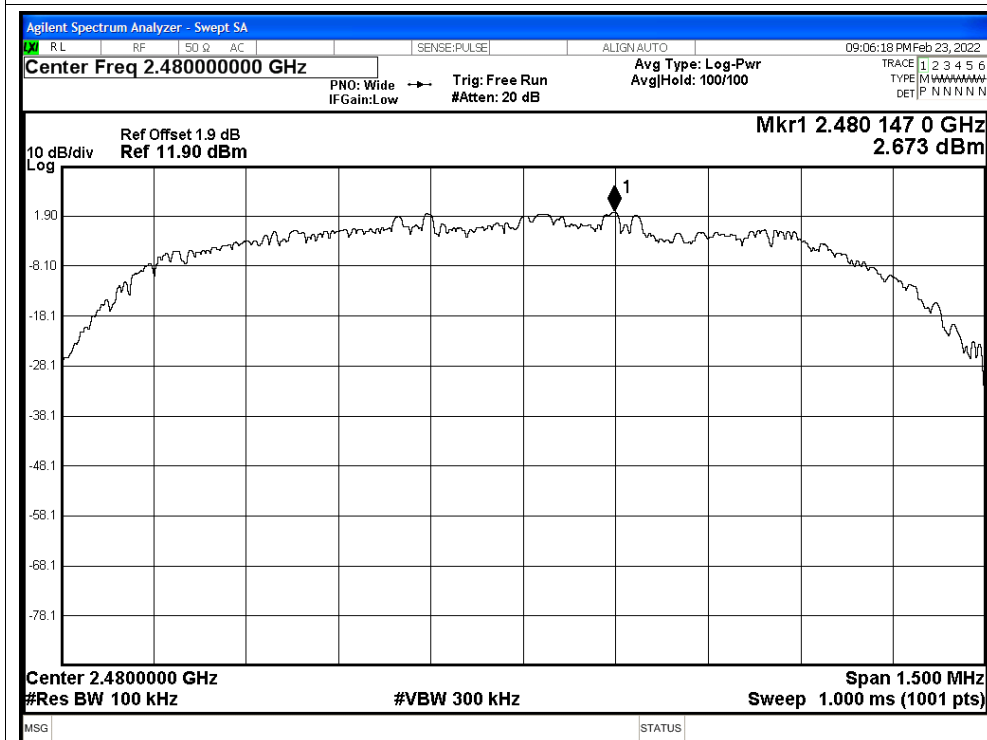


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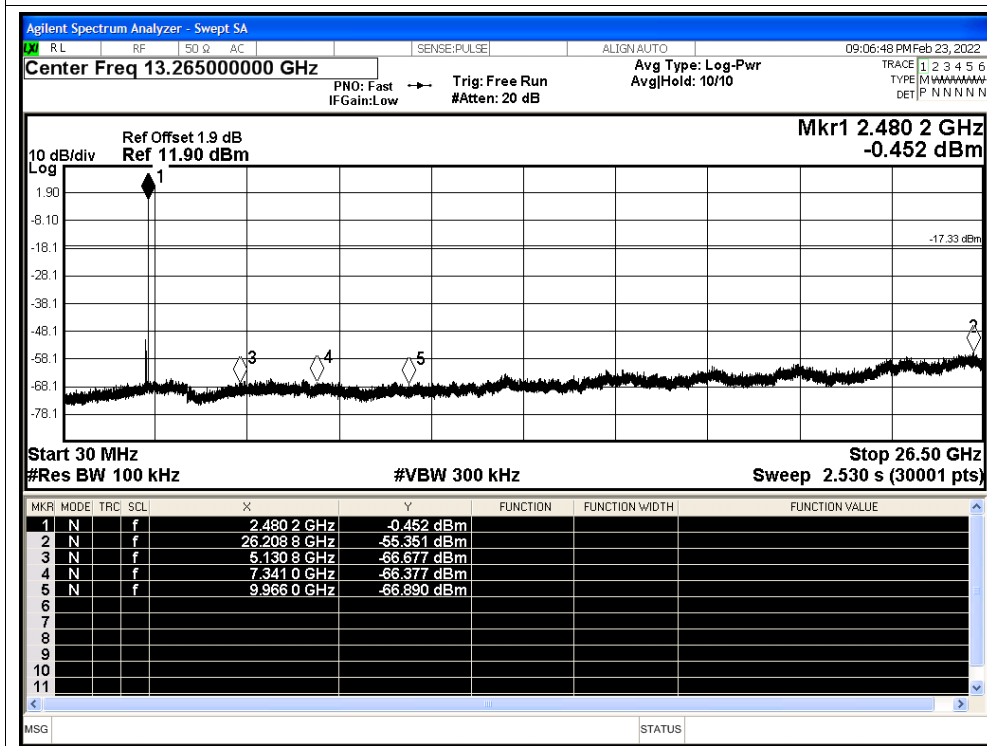




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Emissions in Restricted Bands

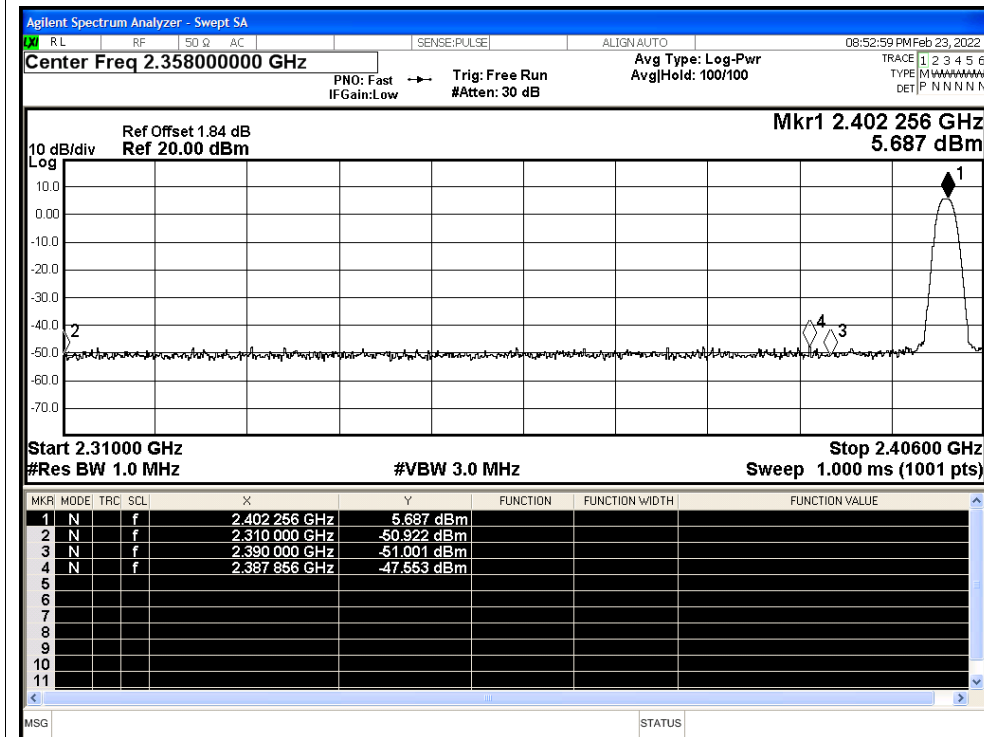
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.92	2	46.34	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-60.76	2	36.5	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2387.856	-47.55	2	49.71	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2389.872	-60.17	2	37.09	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.13	2	47.13	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-60.28	2	36.98	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.98	2	47.28	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.91	2	38.35	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2487.376	-47.07	2	50.19	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-58.91	2	38.35	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-48.78	2	48.48	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-60.11	2	37.15	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.4	2	46.86	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-60.87	2	36.39	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2387.184	-47.76	2	49.5	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2388.048	-60.16	2	37.1	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.62	2	47.64	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-60.27	2	36.99	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.25	2	48.01	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-58.93	2	38.33	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.896	-46.12	2	51.14	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-58.93	2	38.33	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.81	2	47.45	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-60.1	2	37.16	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.72	2	46.54	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-60.75	2	36.51	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2342.832	-47.35	2	49.91	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2388.336	-60.23	2	37.03	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.41	2	46.85	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-60.35	2	36.91	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.78	2	48.48	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-58.65	2	38.61	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2488.696	-47	2	50.26	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-58.65	2	38.61	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.25	2	47.01	Peak	74	Pass



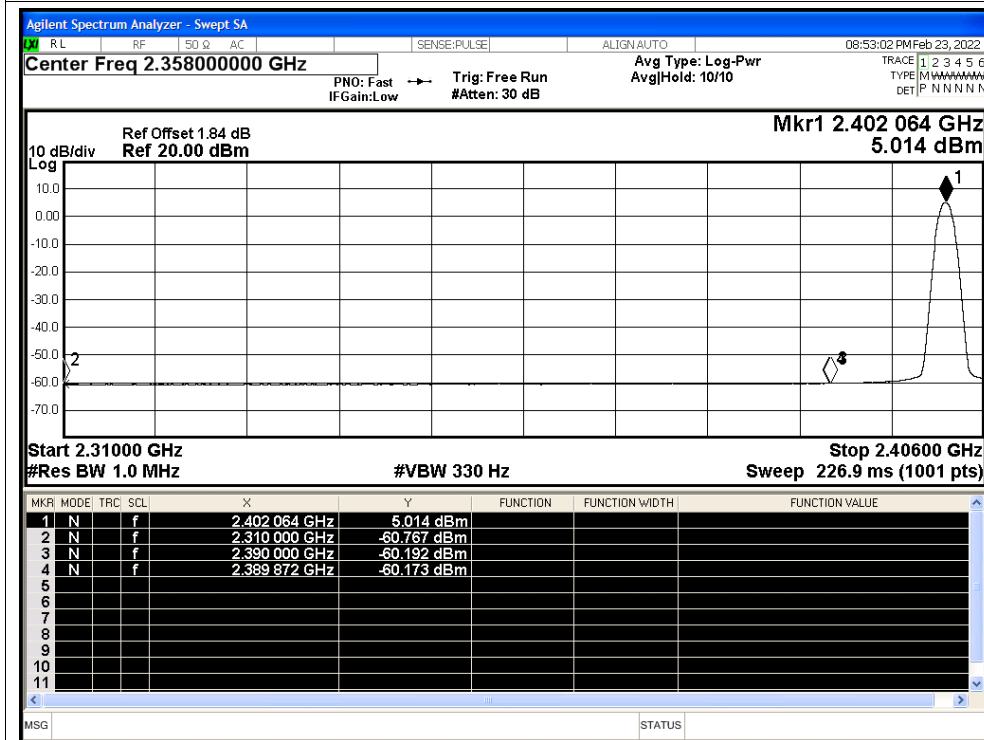
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-60.04	2	37.22	Average	54	Pass
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Test Graphs

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

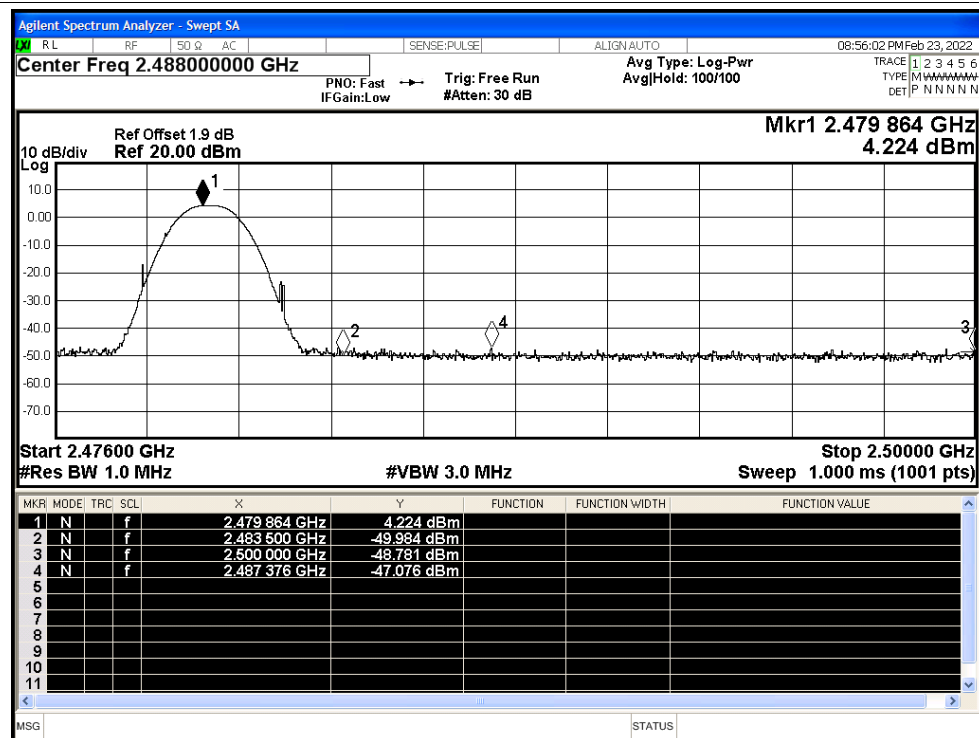


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

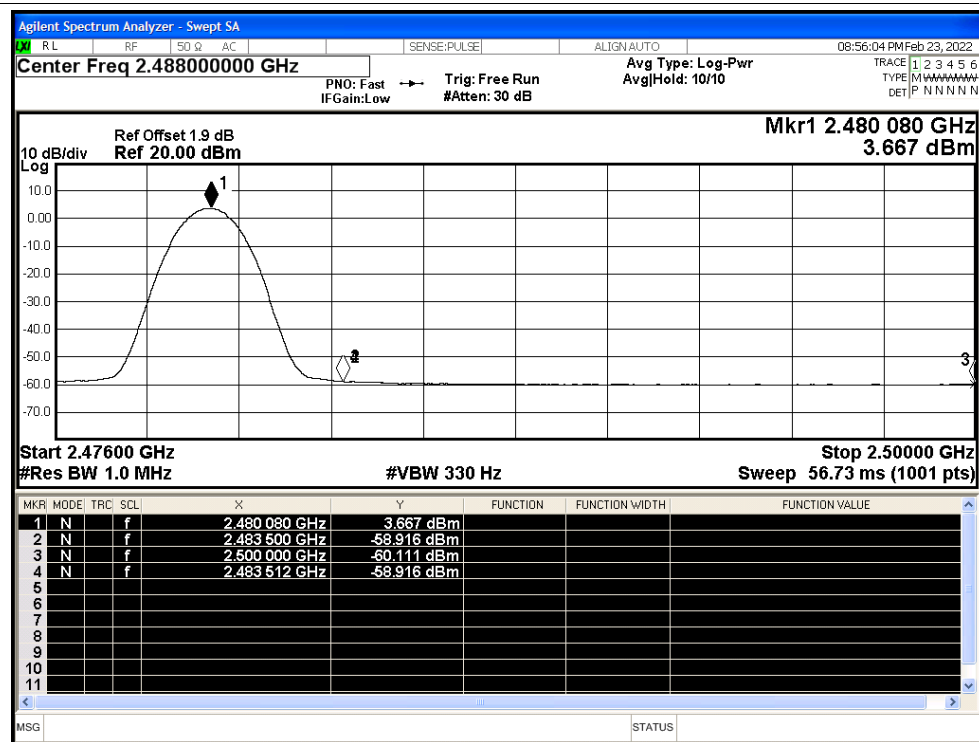


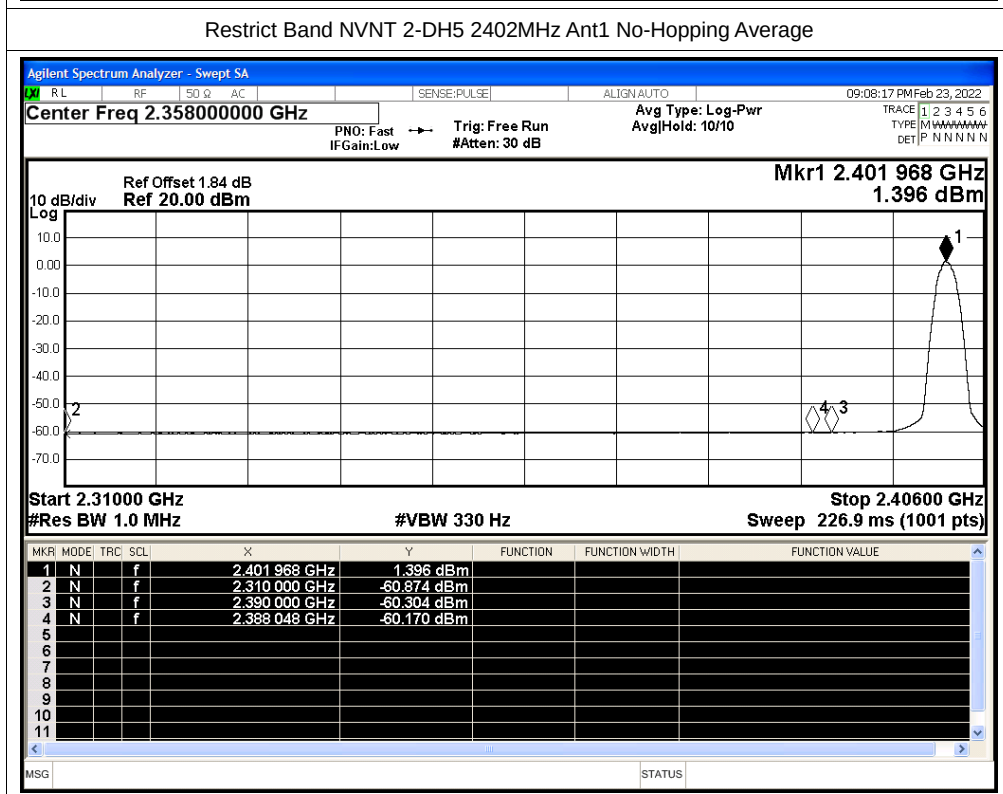
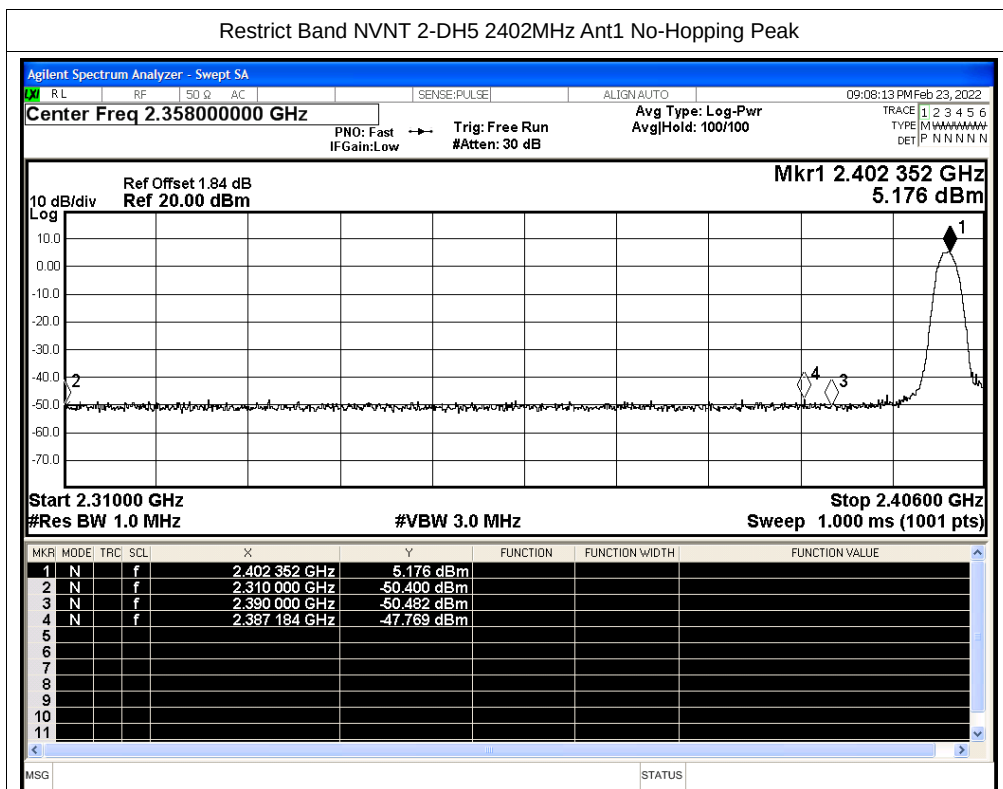


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



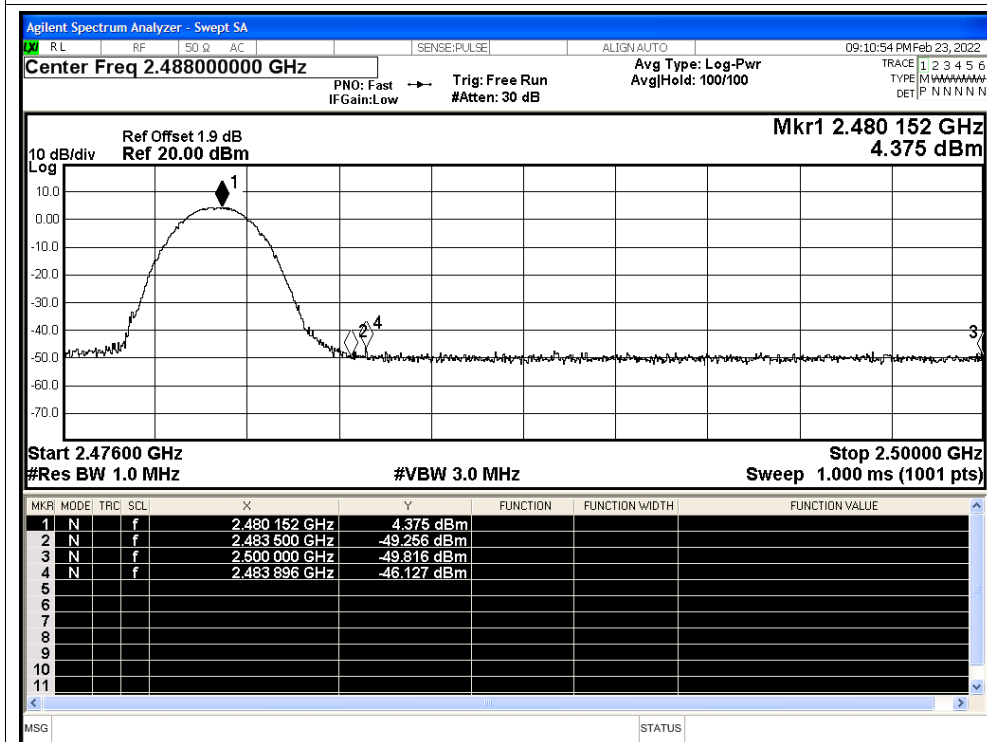
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



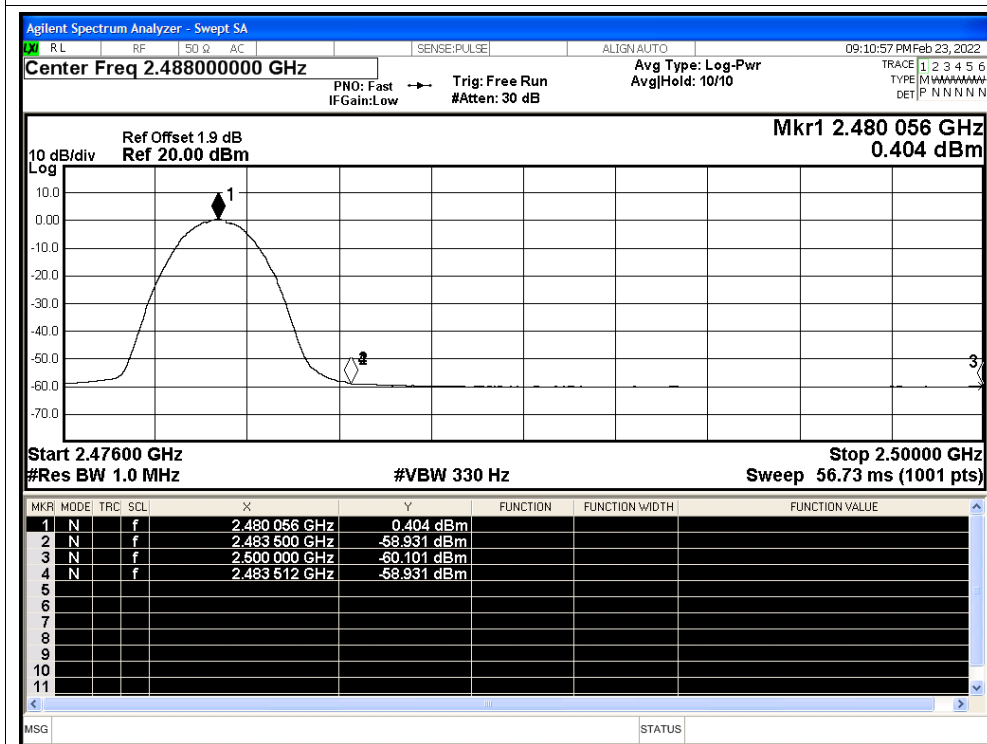




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

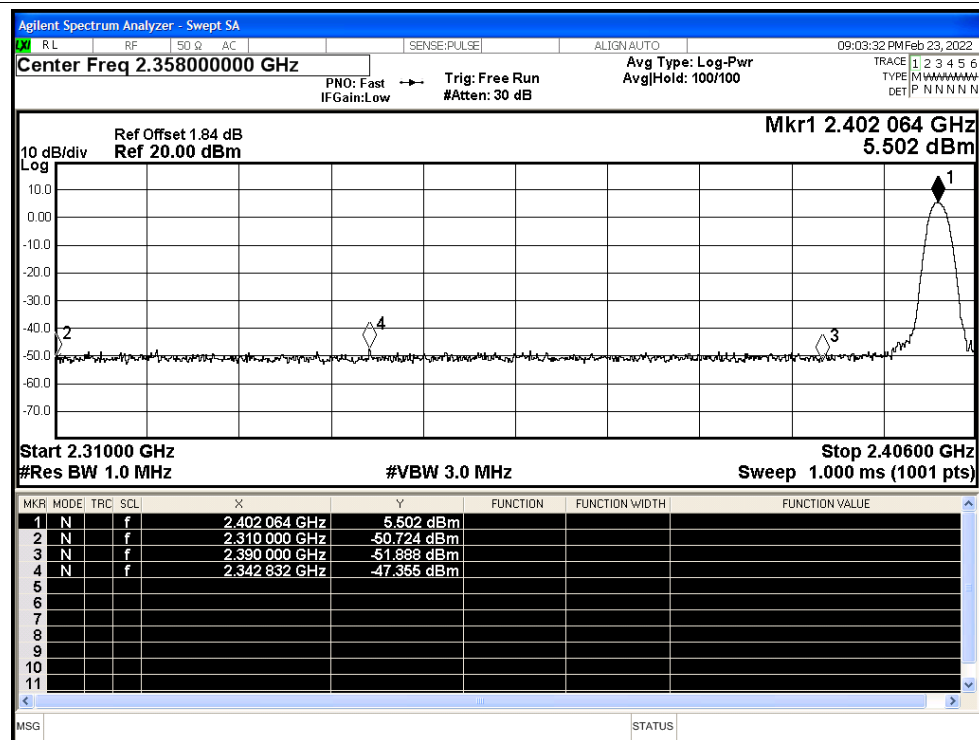


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

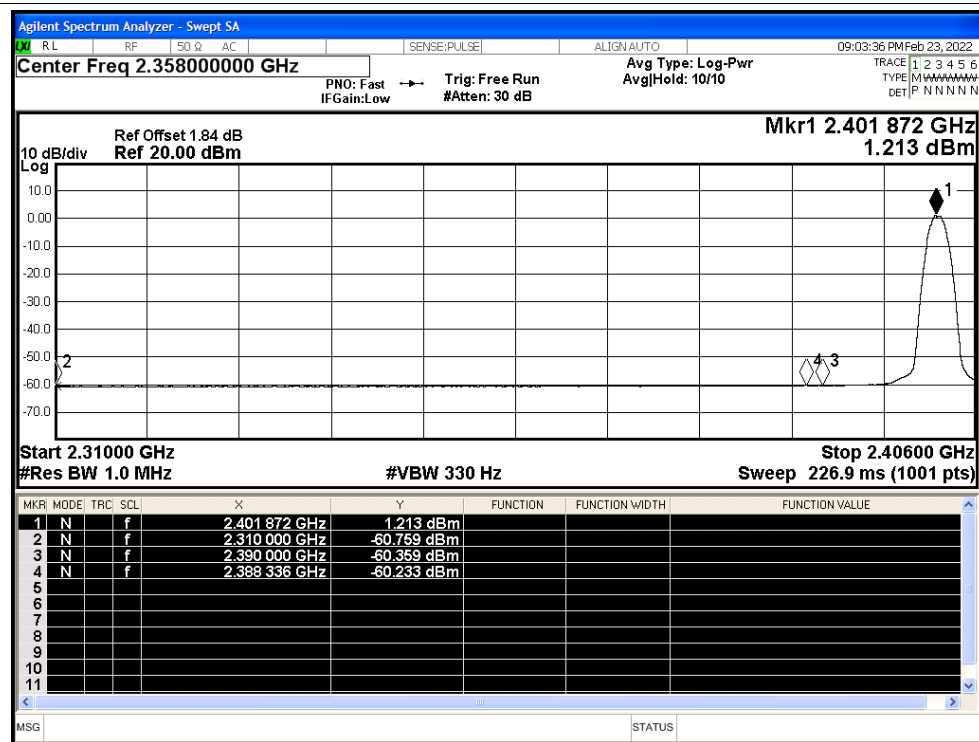




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

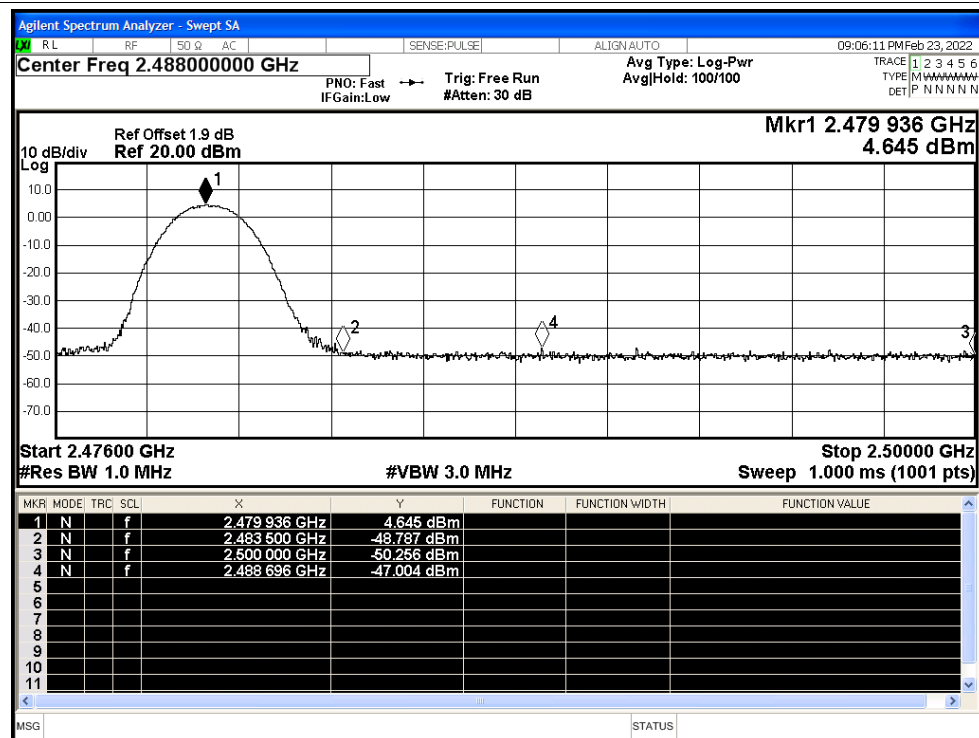


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

