



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: MP3 Player

Test Model: W1S

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
Supervised by:	Ling Zhu



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A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.961	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.014	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.031	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.287	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.278	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.277	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.279	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.275	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.301	N/A	Pass

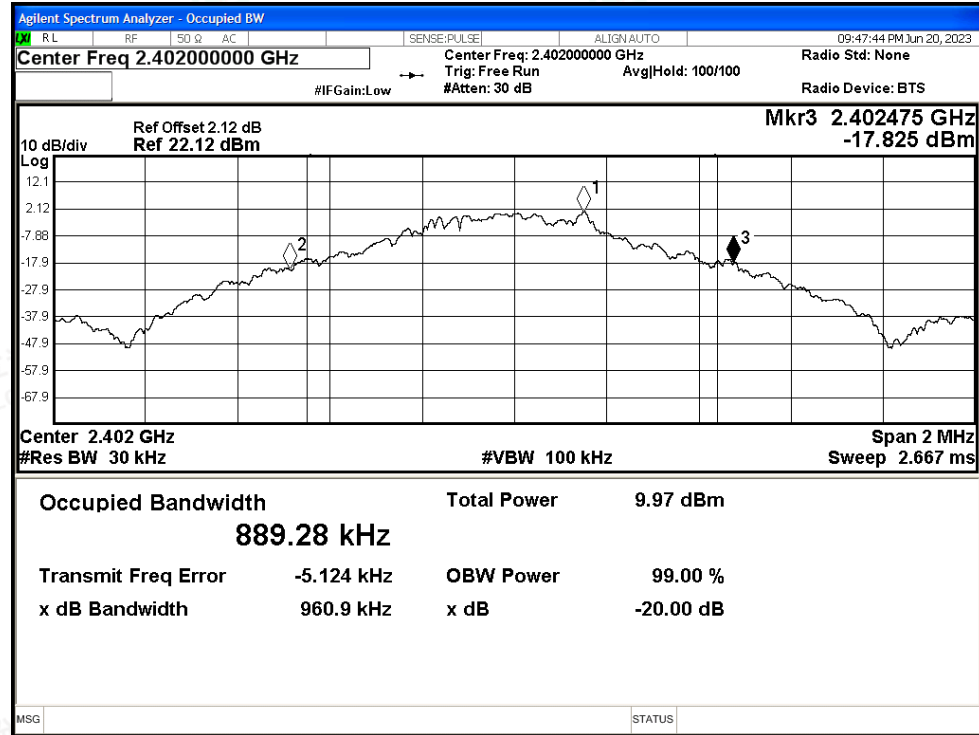


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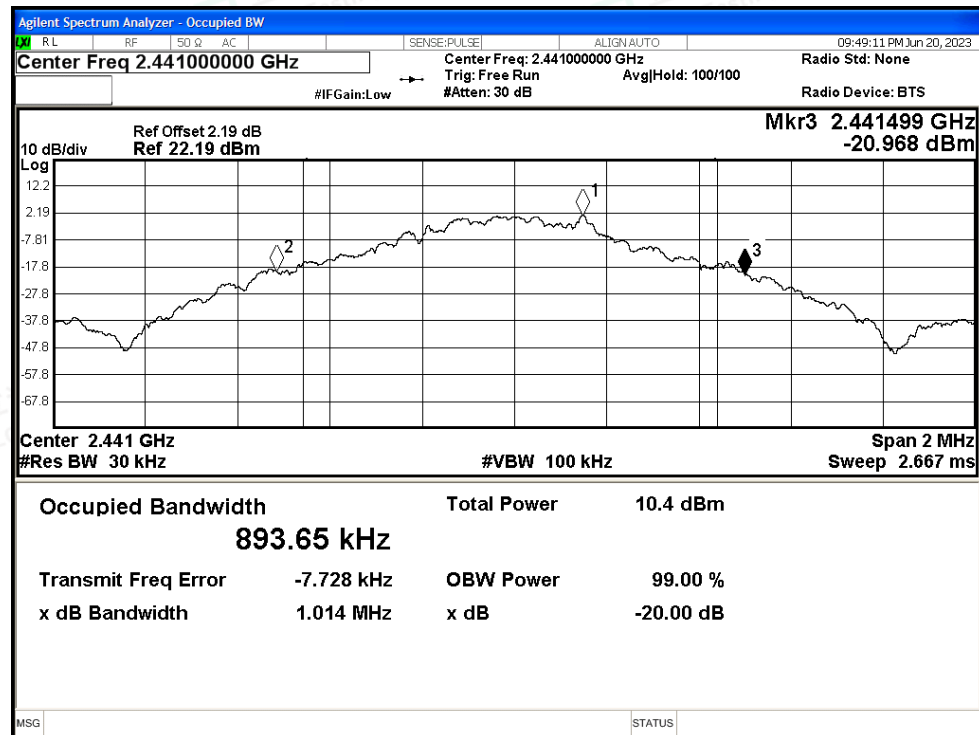


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

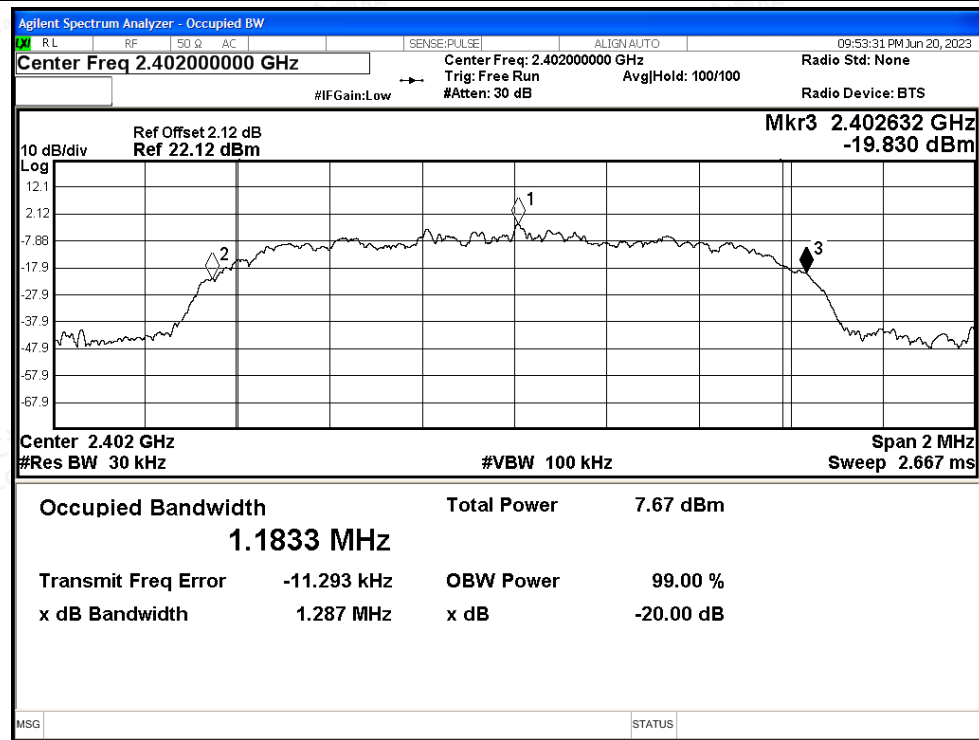




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

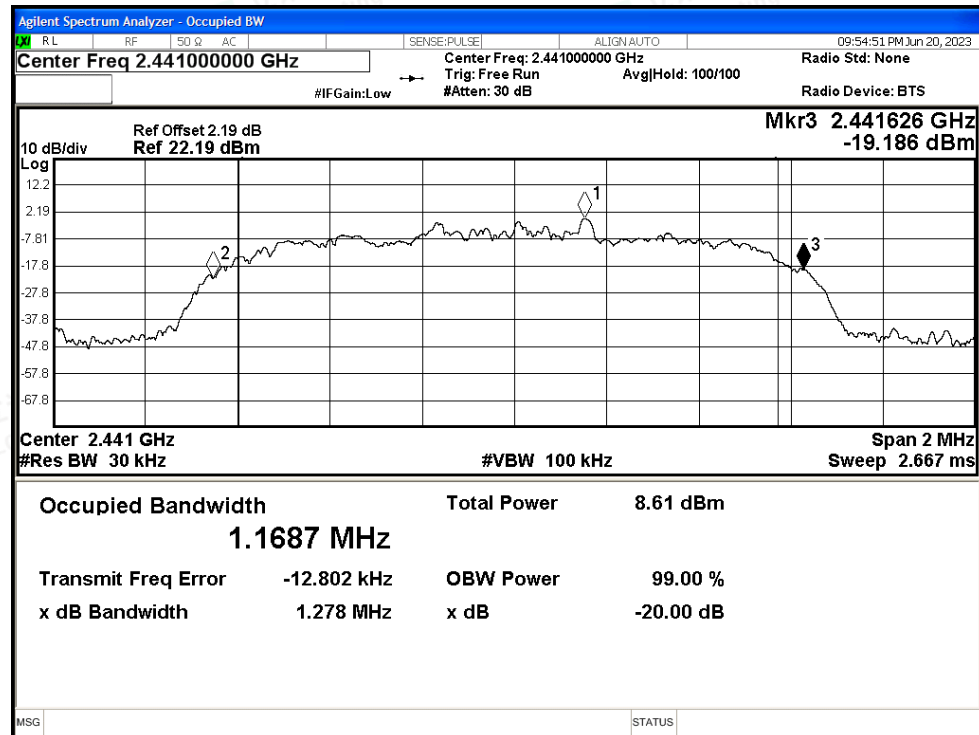


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

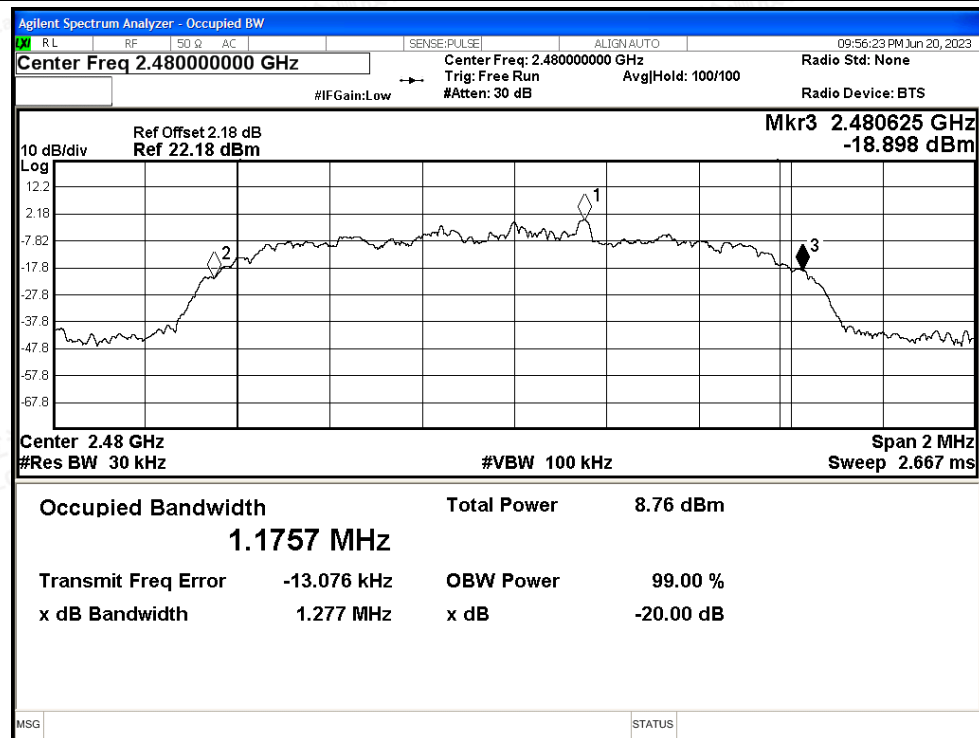




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

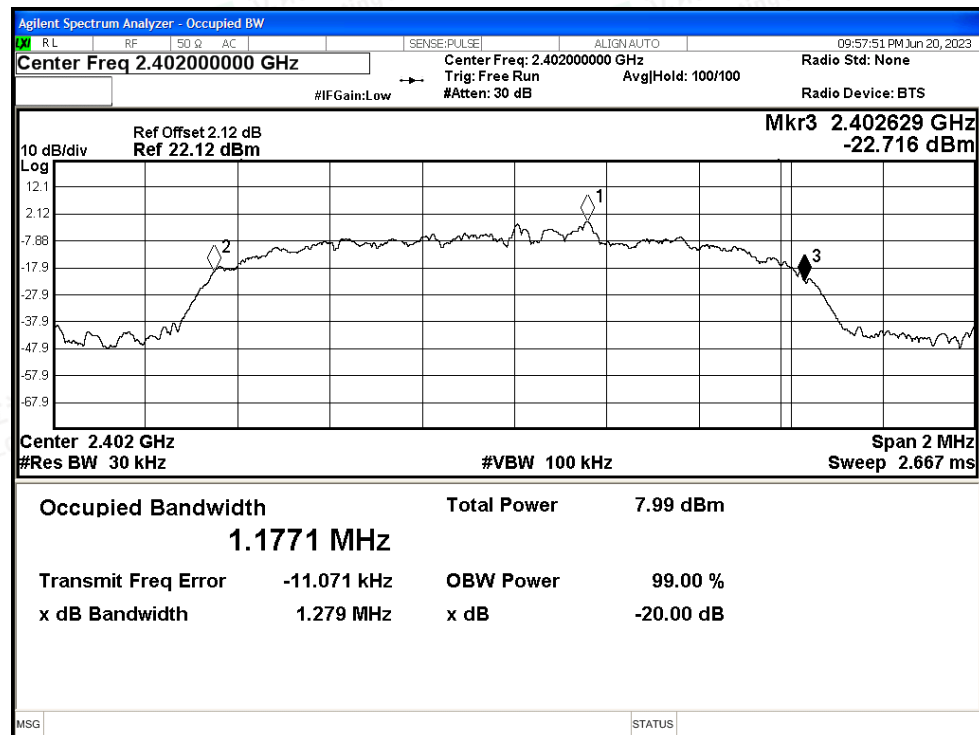


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

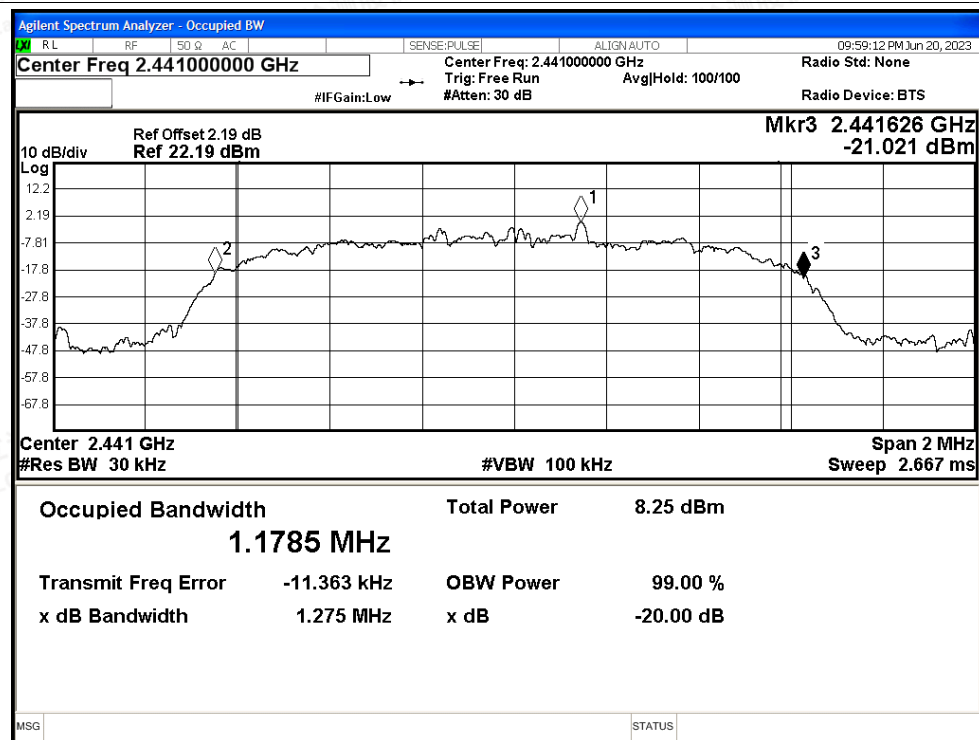


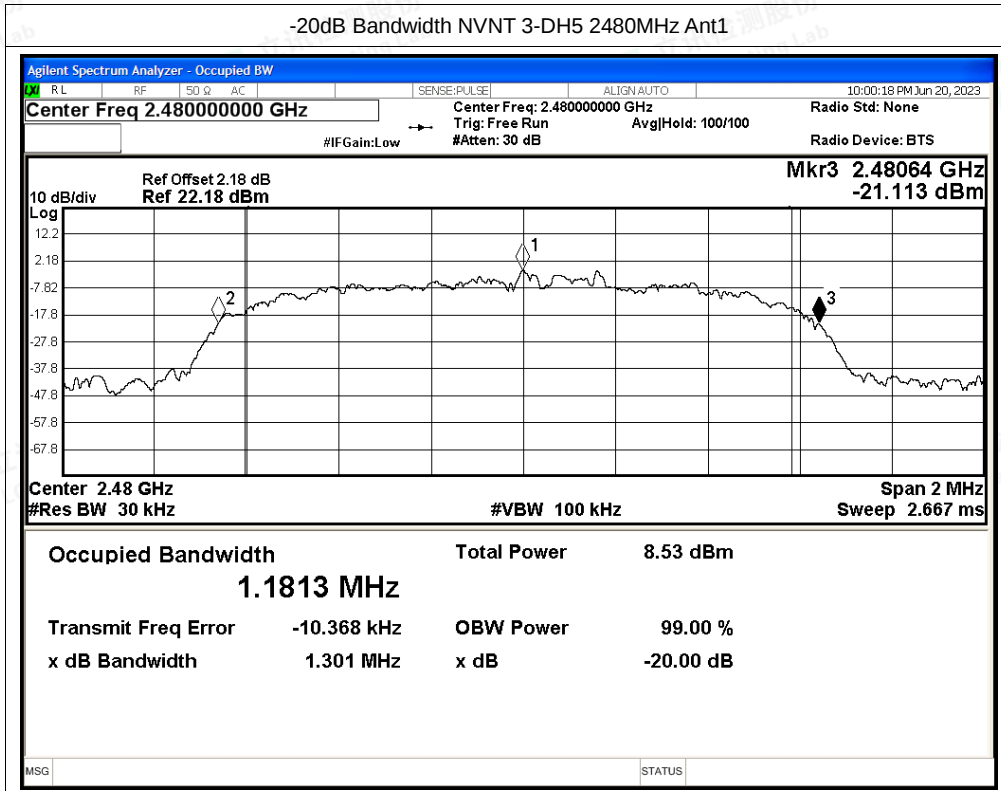


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-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	3.42	21	Pass
NVNT	1-DH5	2441	Ant1	3.85	21	Pass
NVNT	1-DH5	2480	Ant1	4.15	21	Pass
NVNT	2-DH5	2402	Ant1	3.22	21	Pass
NVNT	2-DH5	2441	Ant1	3.56	21	Pass
NVNT	2-DH5	2480	Ant1	3.97	21	Pass
NVNT	3-DH5	2402	Ant1	3.29	21	Pass
NVNT	3-DH5	2441	Ant1	3.74	21	Pass
NVNT	3-DH5	2480	Ant1	4.02	21	Pass

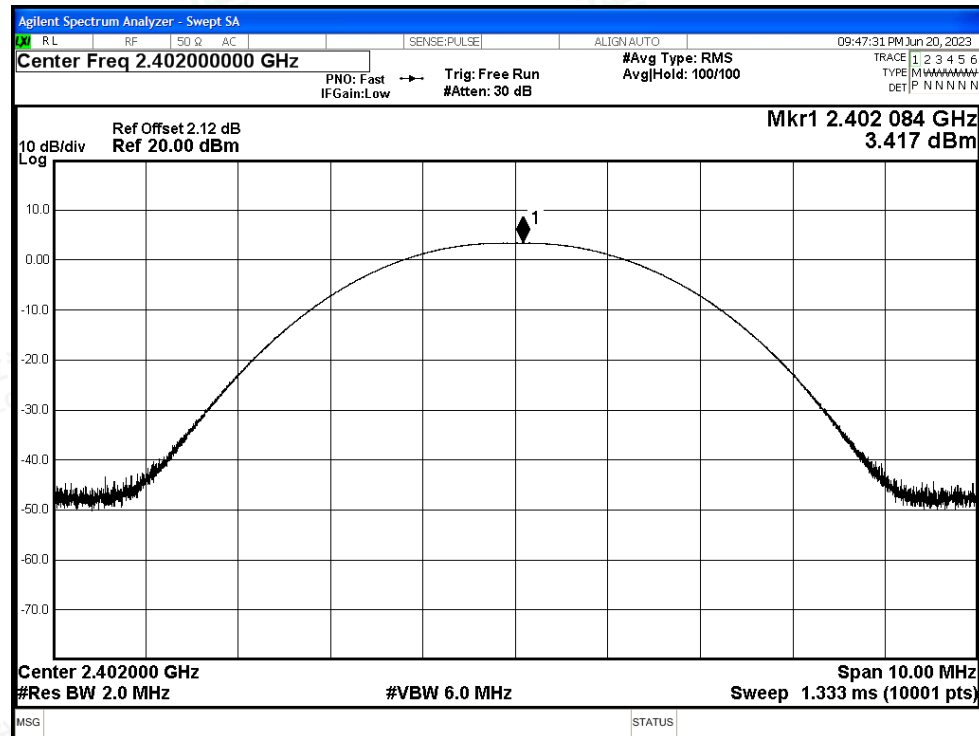


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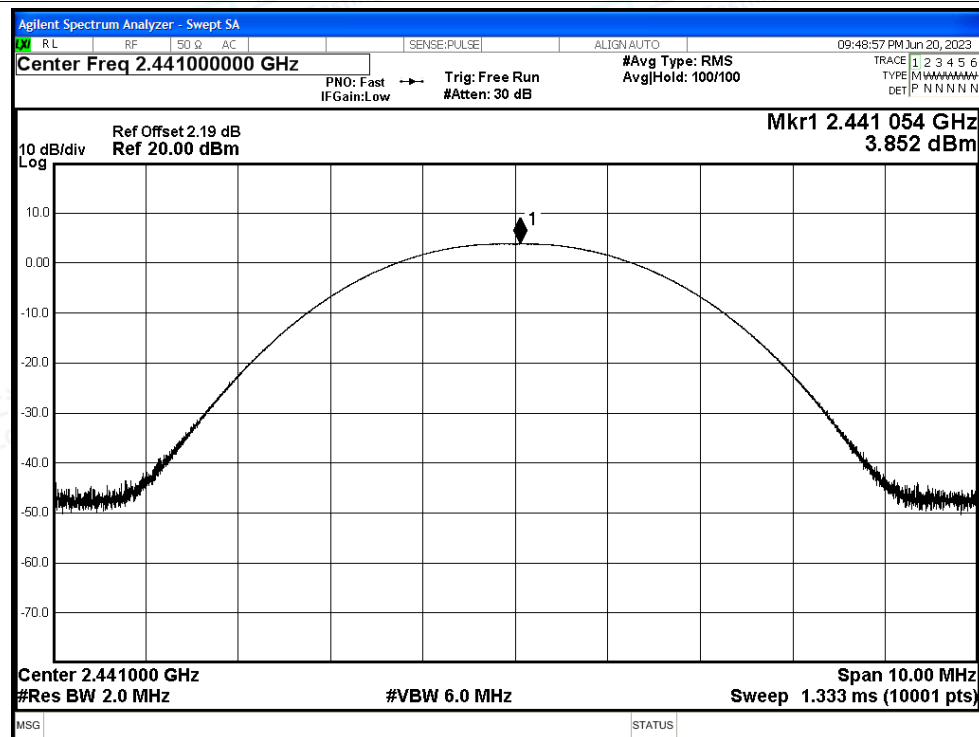


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

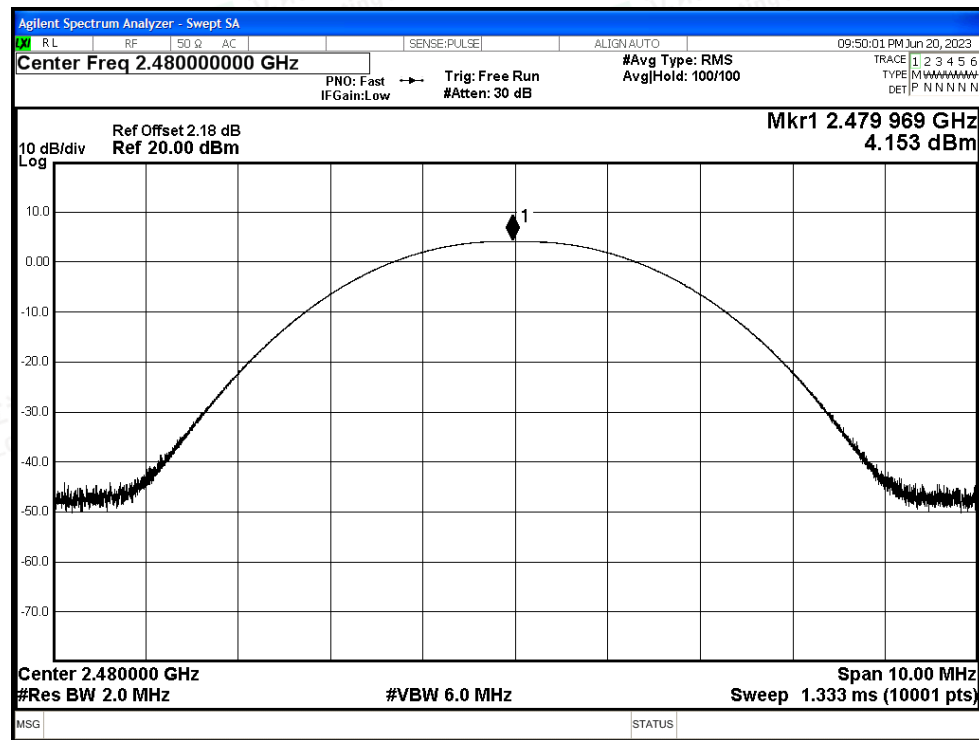


Power NVNT 1-DH5 2441MHz Ant1

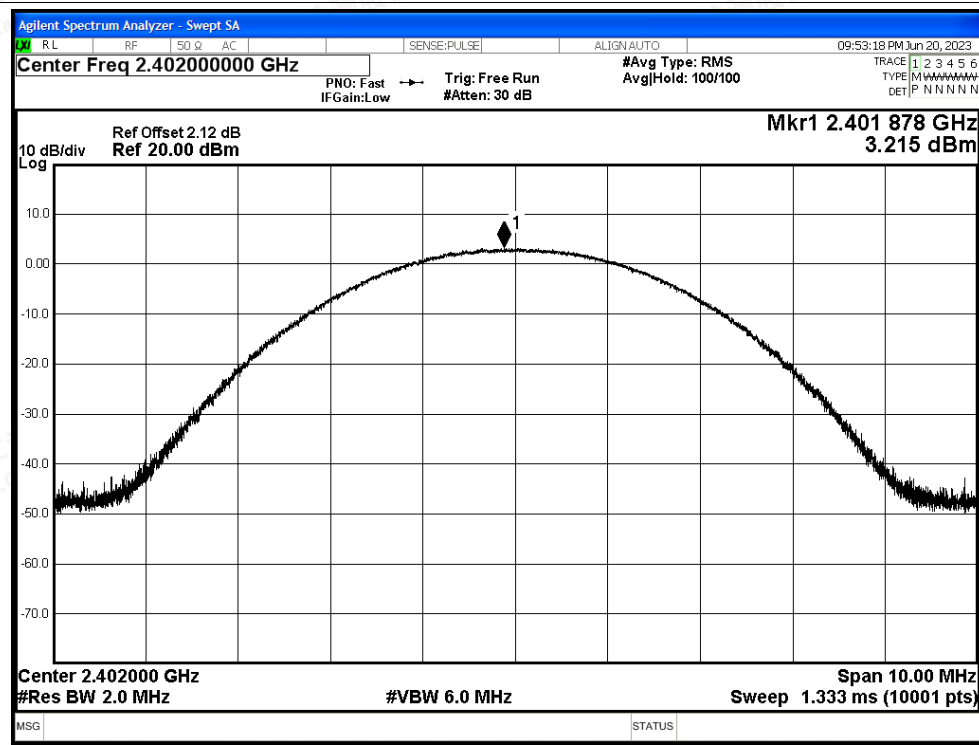




Power NVNT 1-DH5 2480MHz Ant1

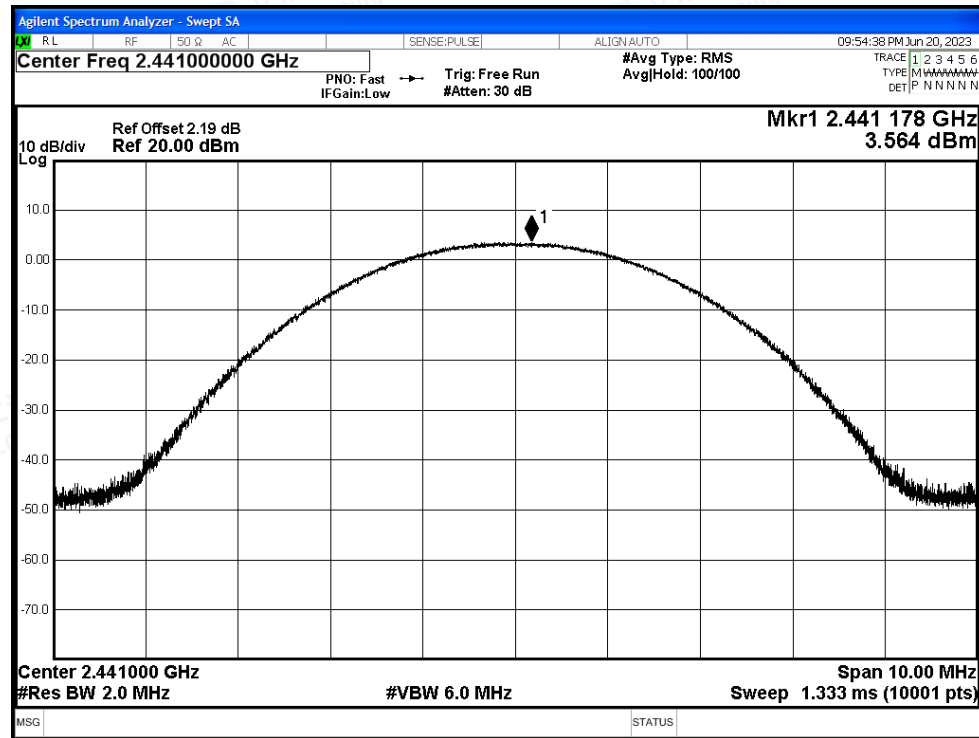


Power NVNT 2-DH5 2402MHz Ant1

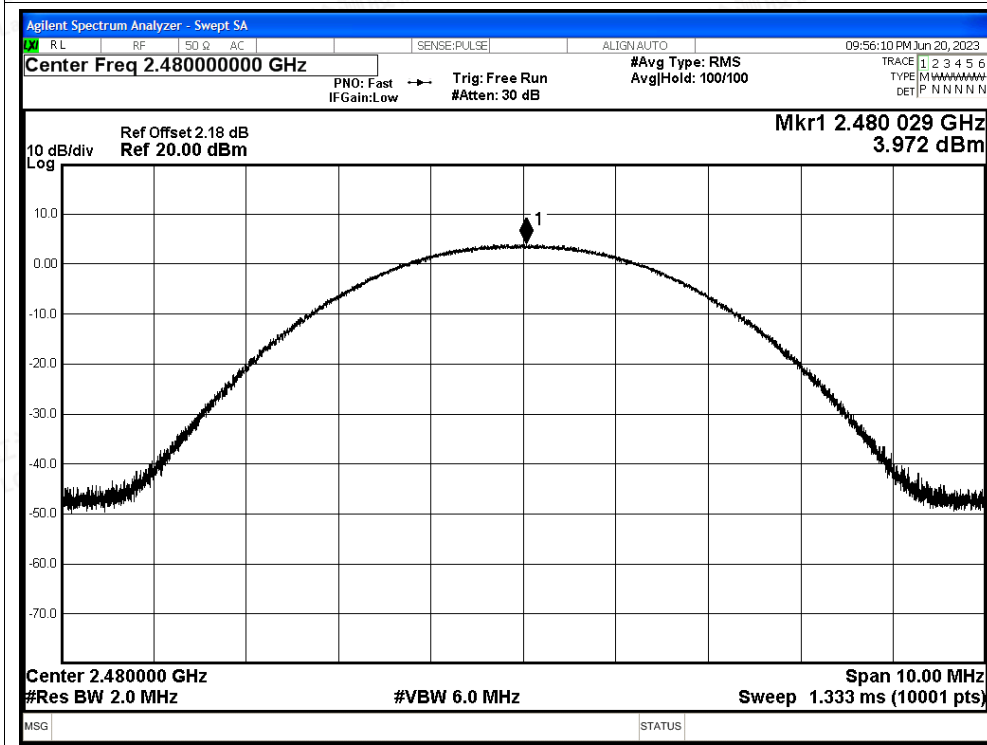




Power NVNT 2-DH5 2441MHz Ant1

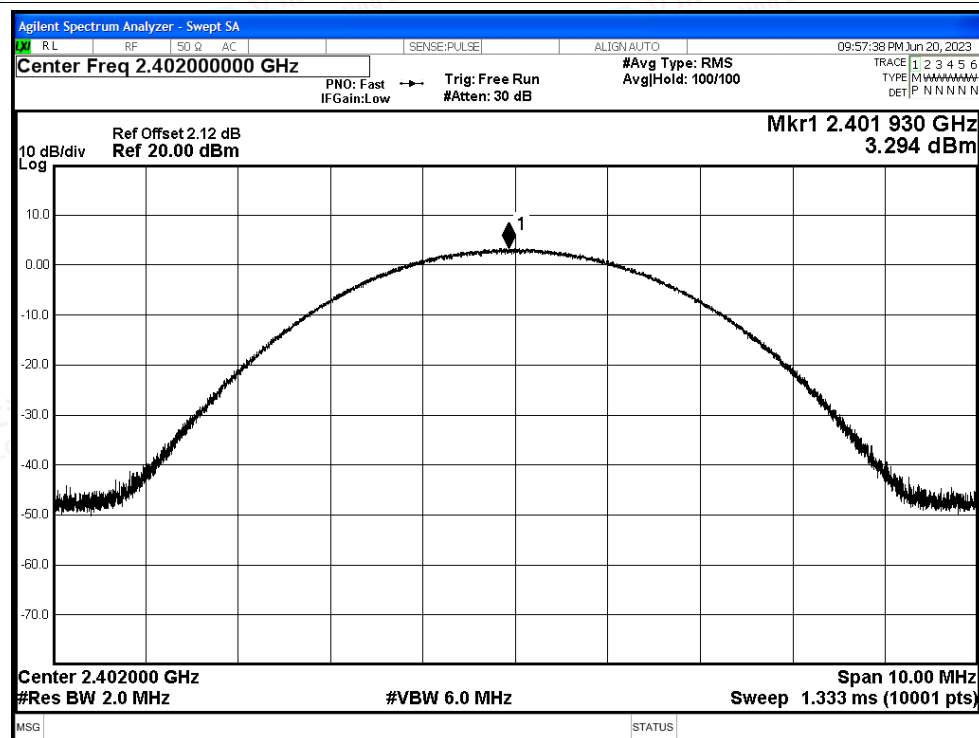


Power NVNT 2-DH5 2480MHz Ant1

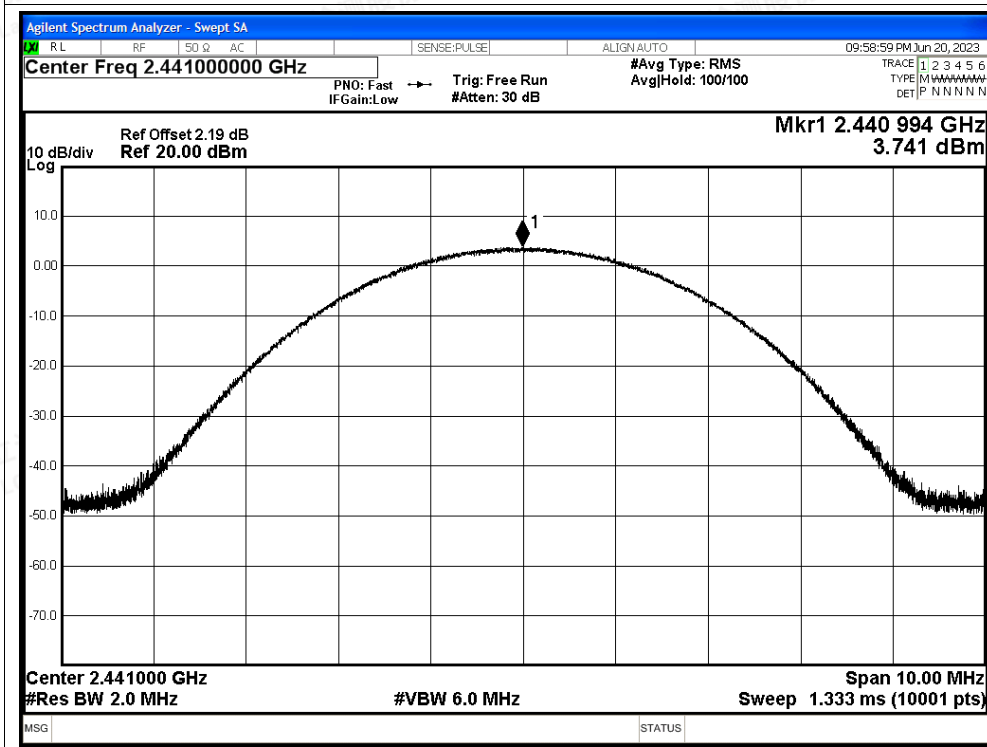


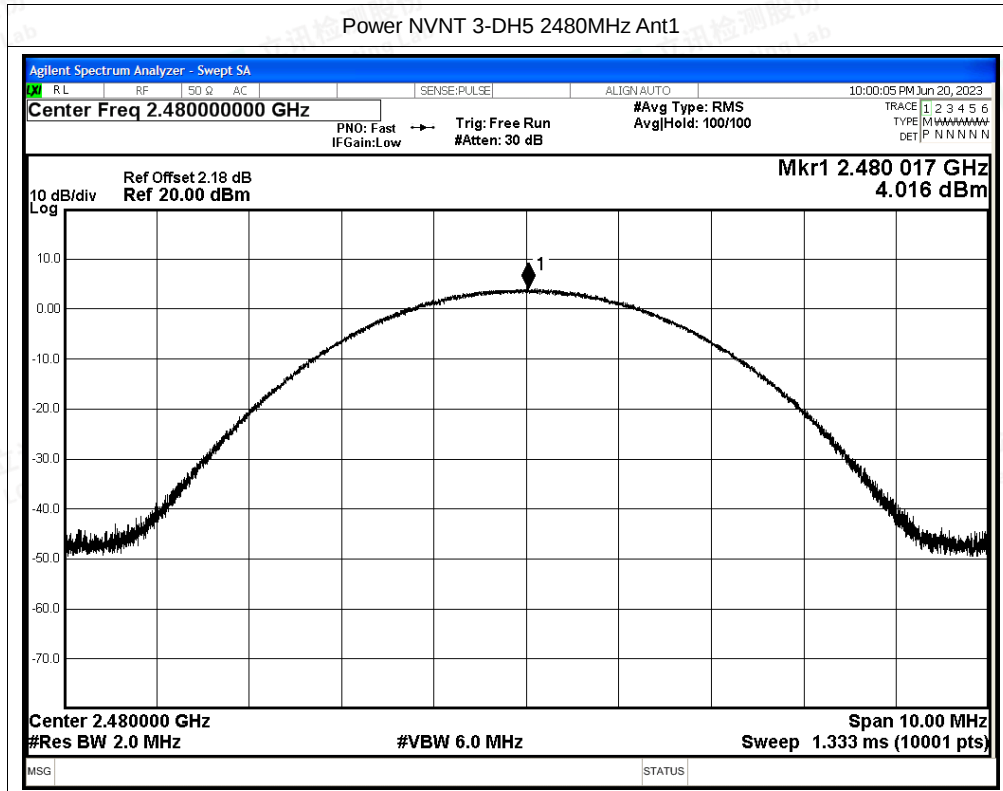


Power NVNT 3-DH5 2402MHz Ant1



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	2402.006	2403.002	0.996	0.687	Pass
NVNT	2-DH5	Ant1	2402.006	2403.006	1	0.858	Pass
NVNT	3-DH5	Ant1	2402.16	2403.146	0.986	0.867	Pass

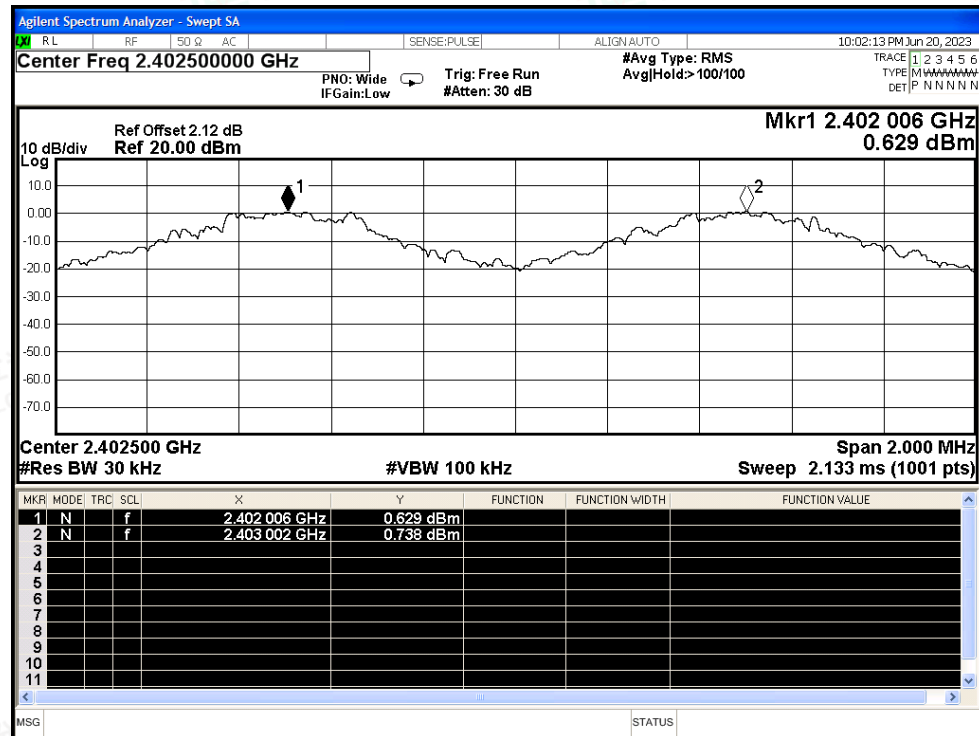


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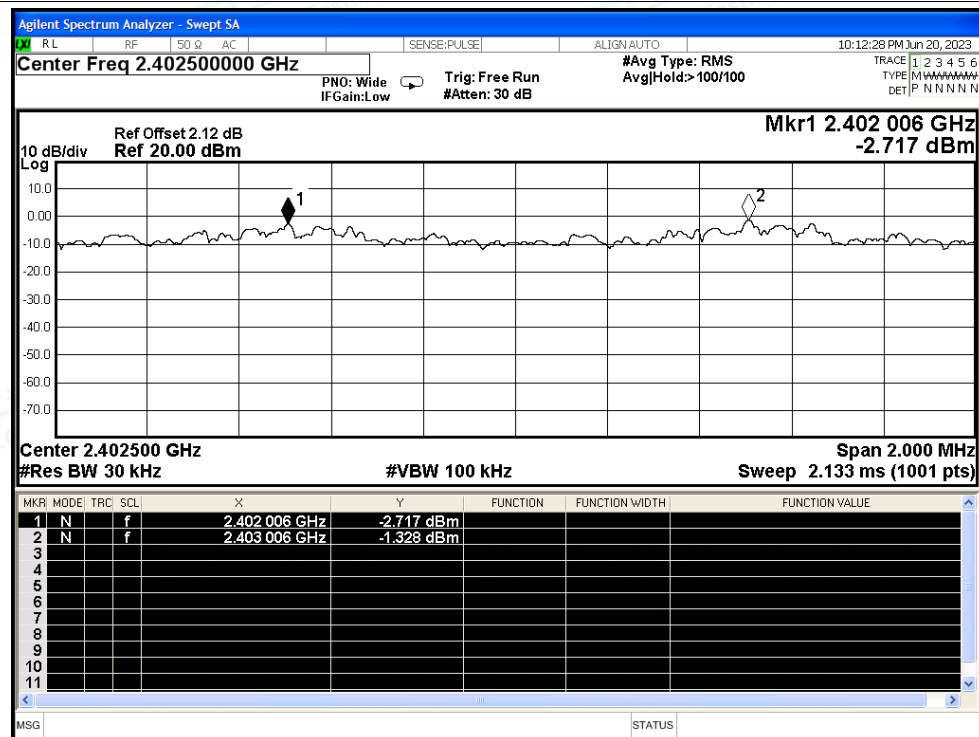


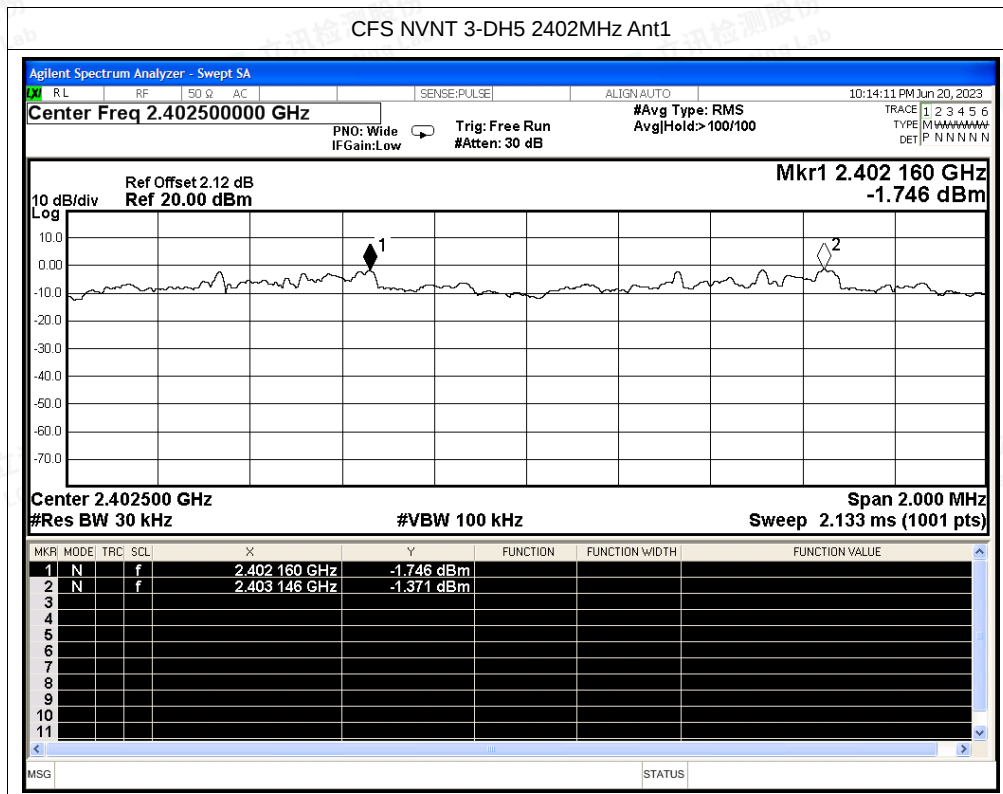
Test Graphs

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	2.882	296.846	103	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.88	288	100	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.886	308.802	107	31600	400	Pass

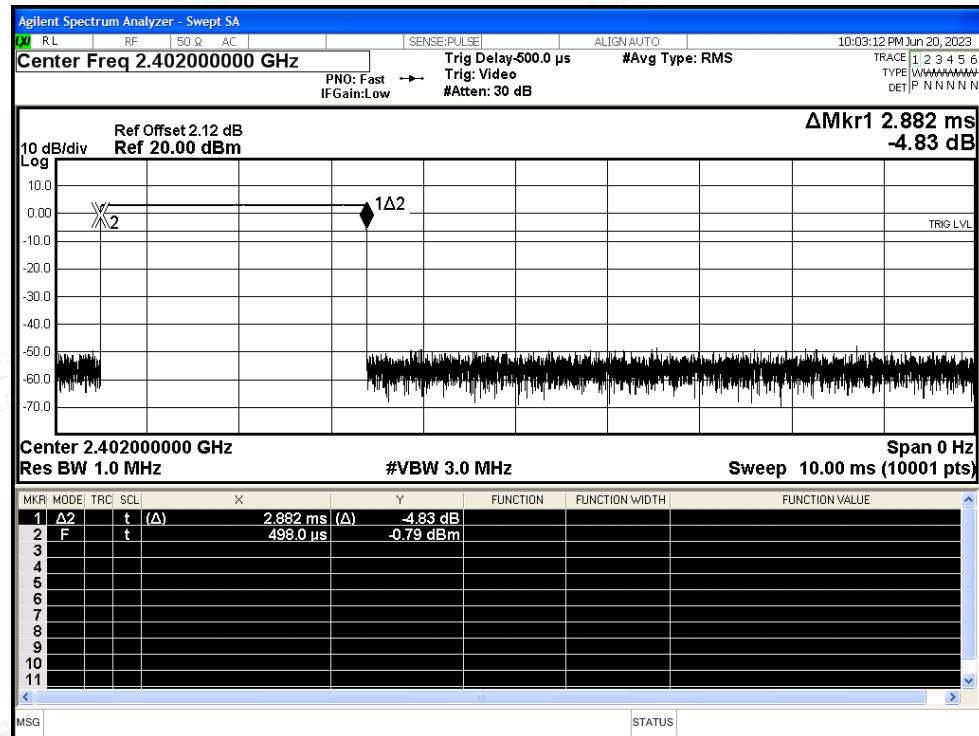


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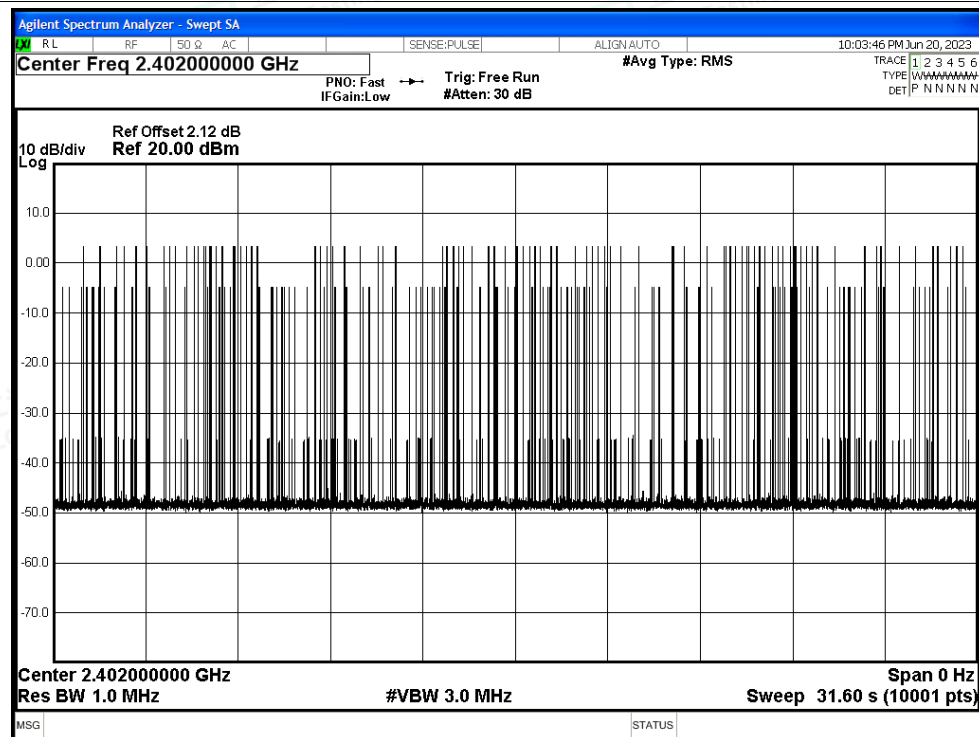


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

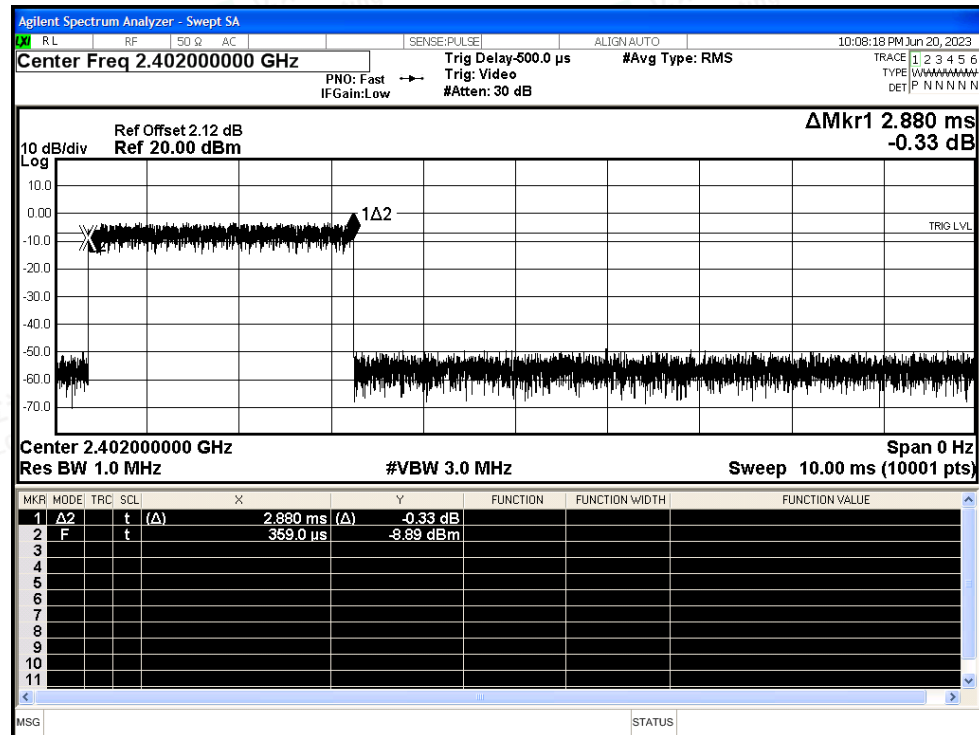


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

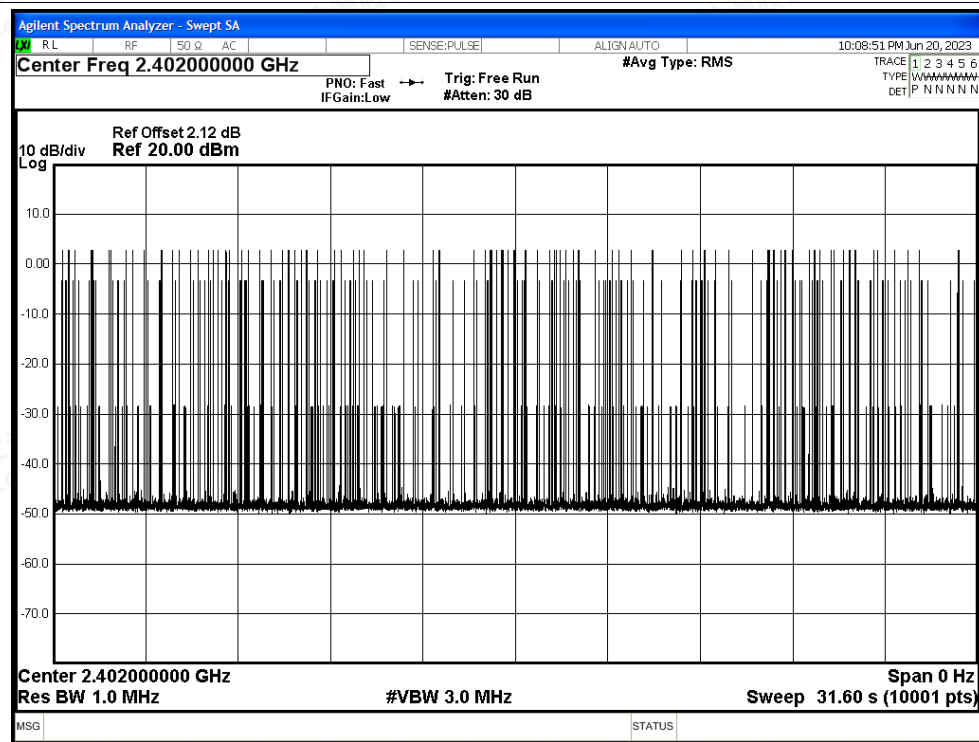




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

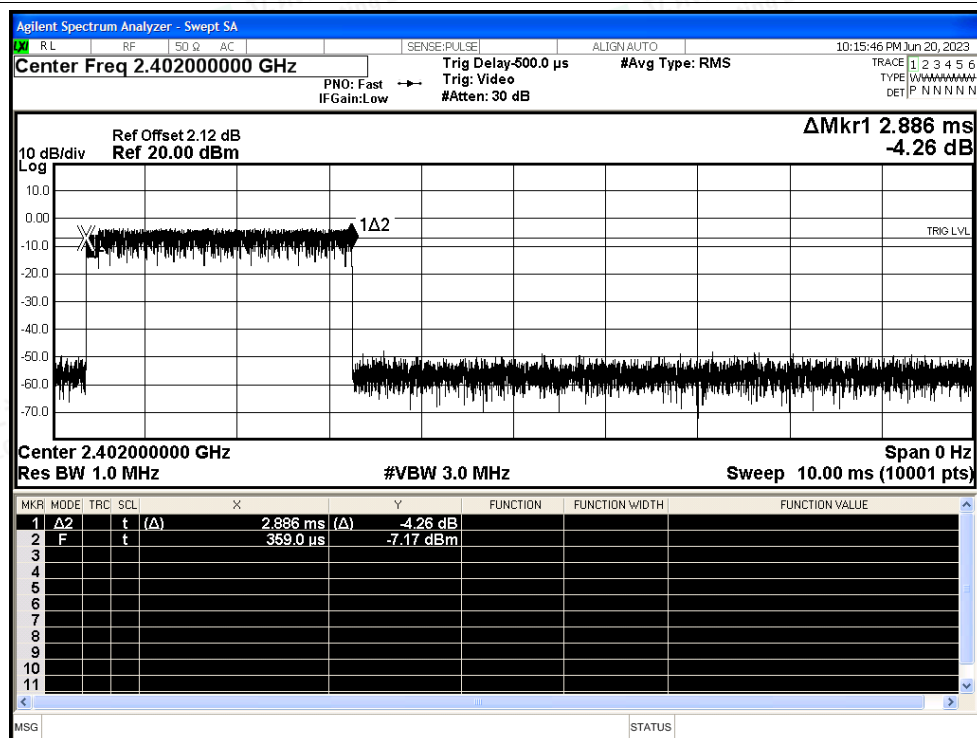


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

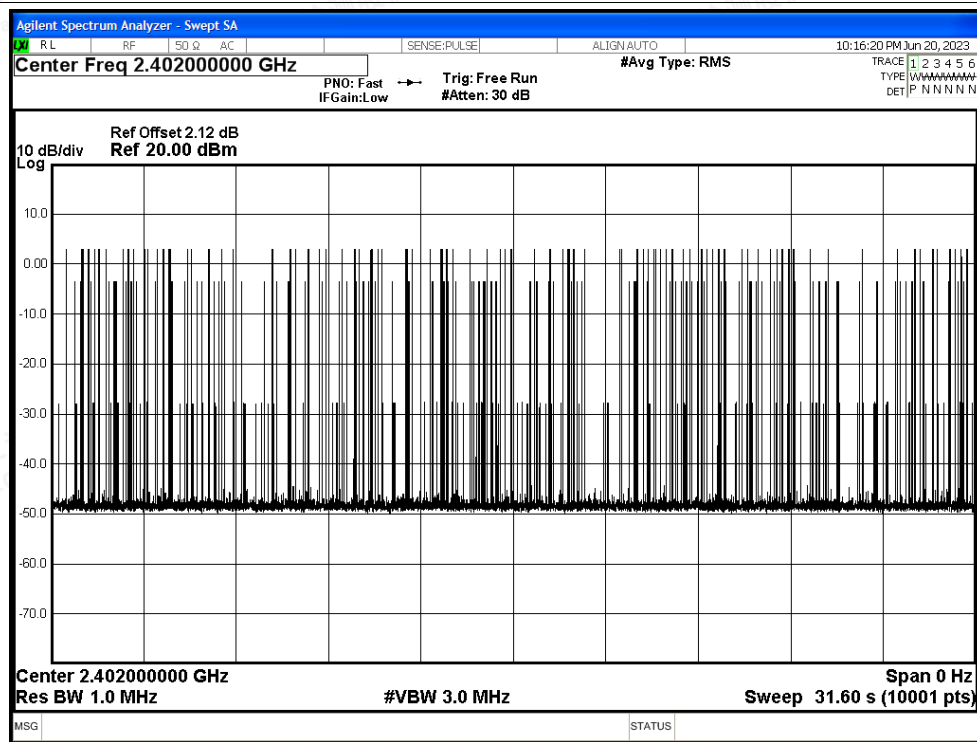




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



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

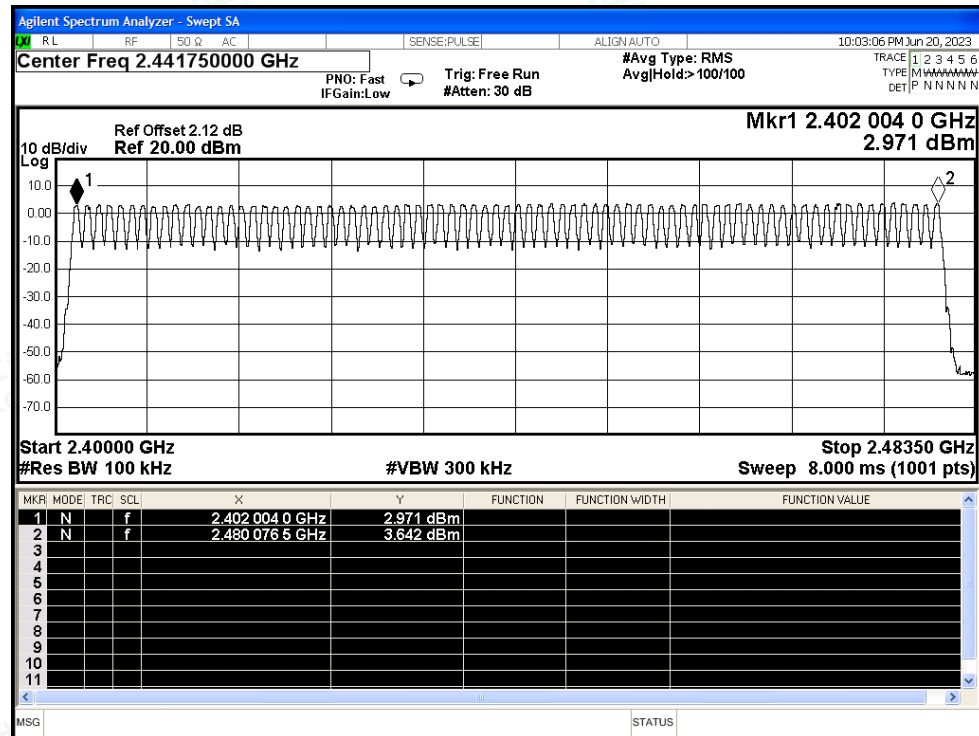


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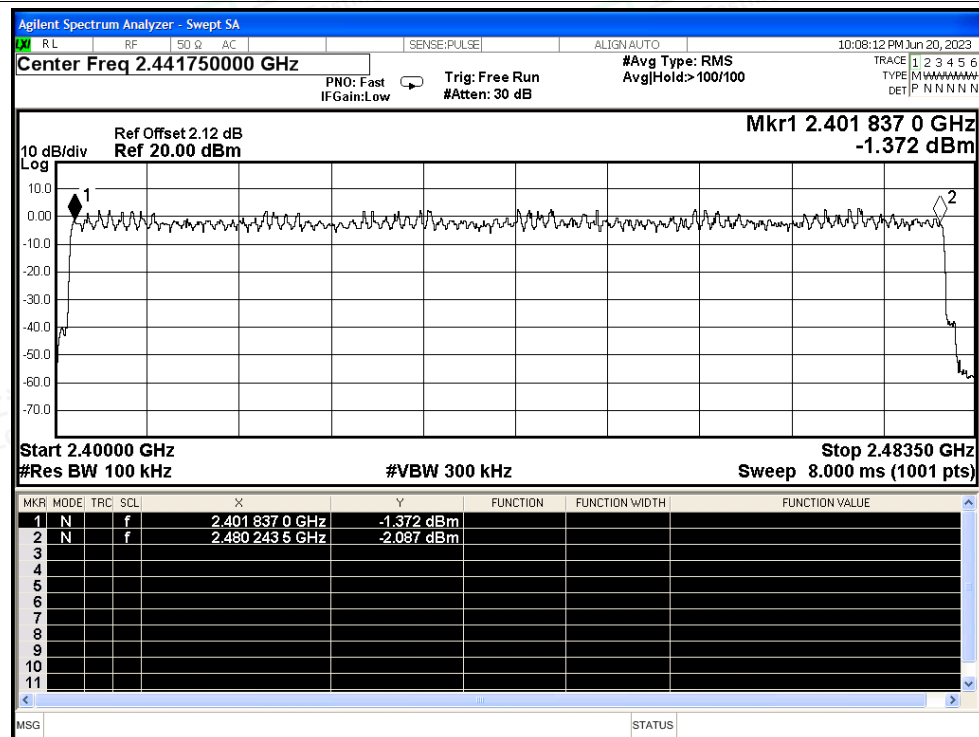


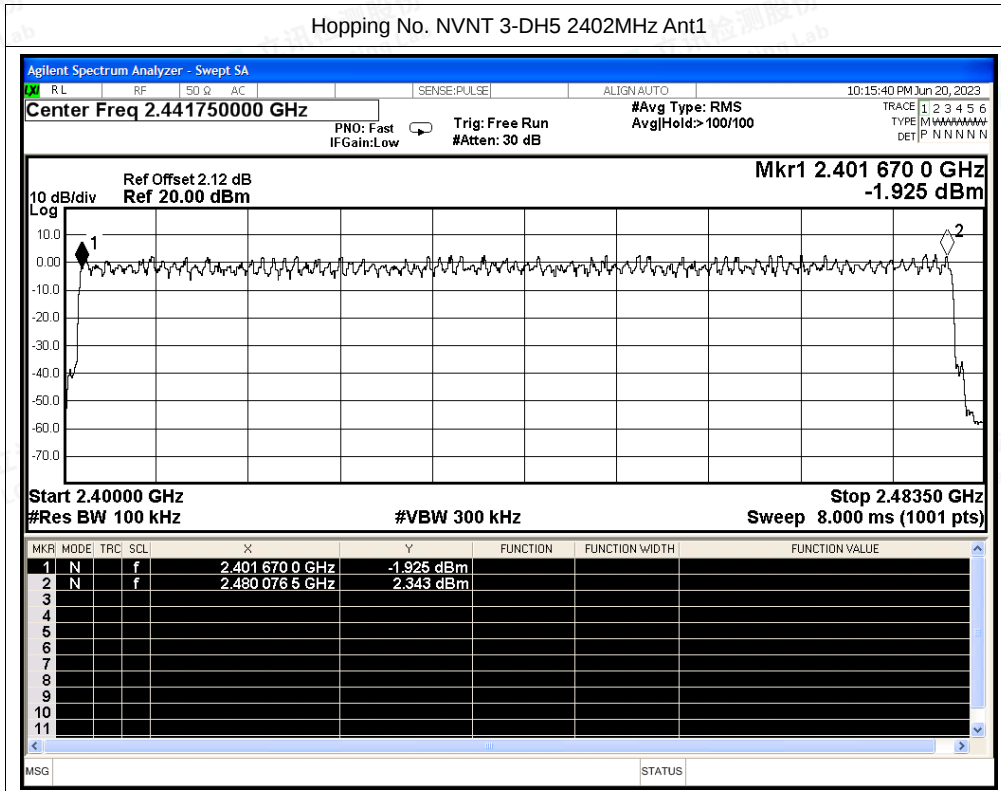
Test Graphs

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	-58.59	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-60.85	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.69	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-58.88	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-54.33	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-56.36	-20	Pass

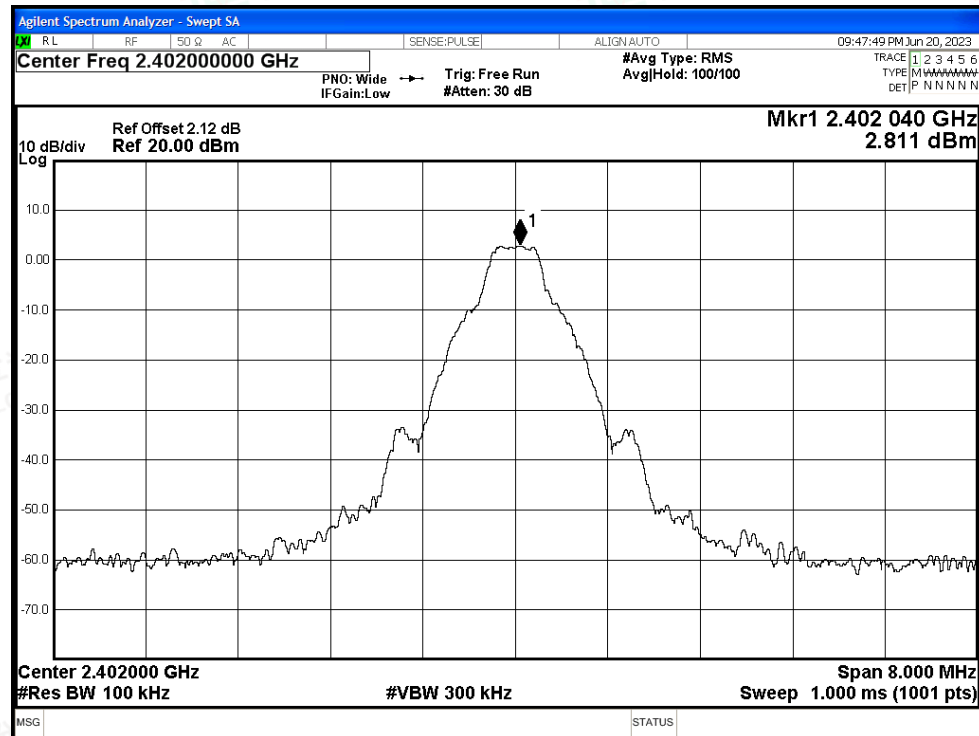


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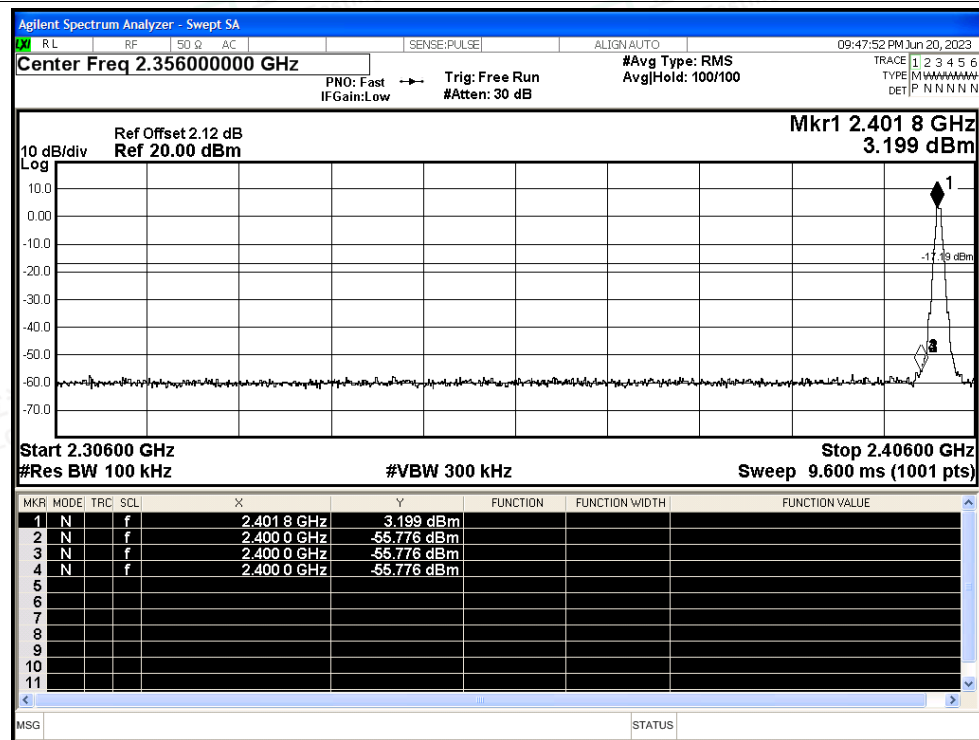


Test Graphs

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

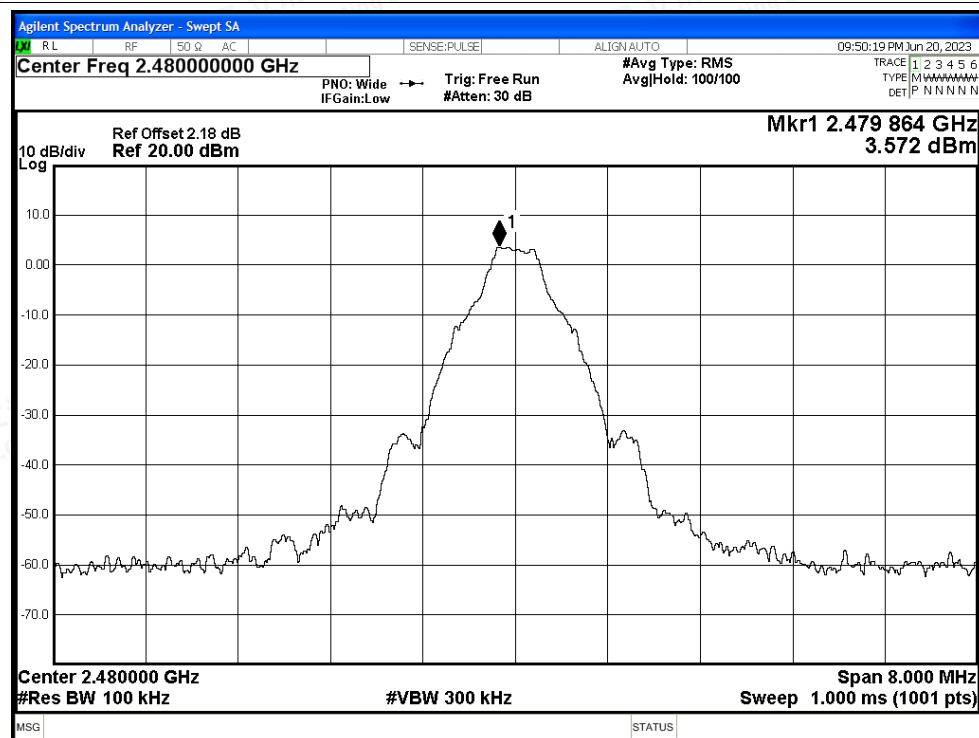


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

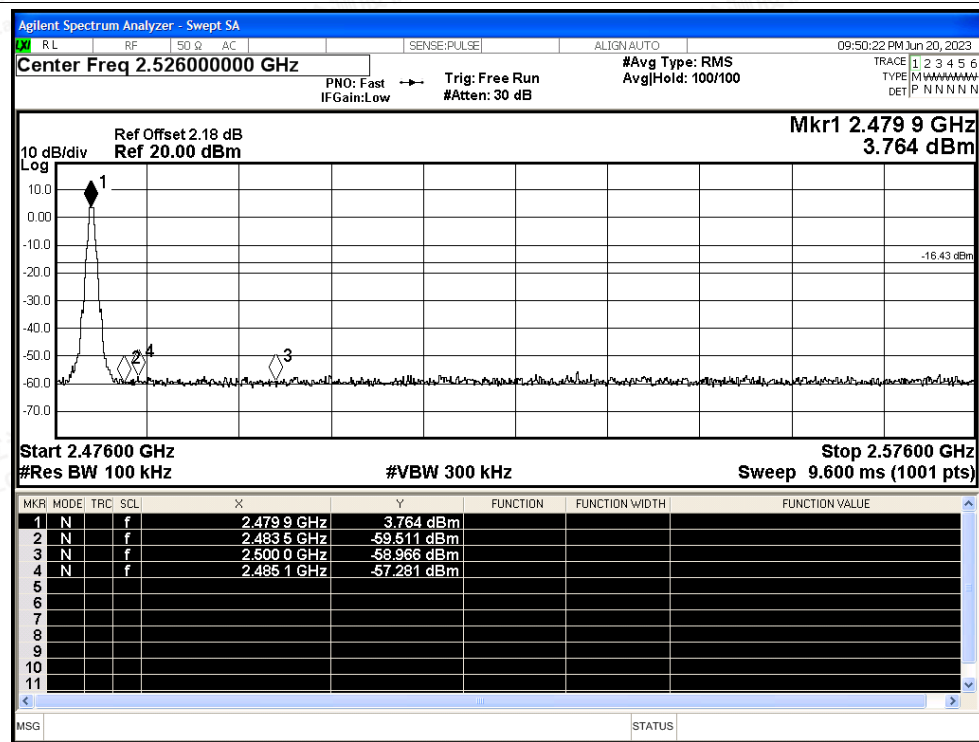




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

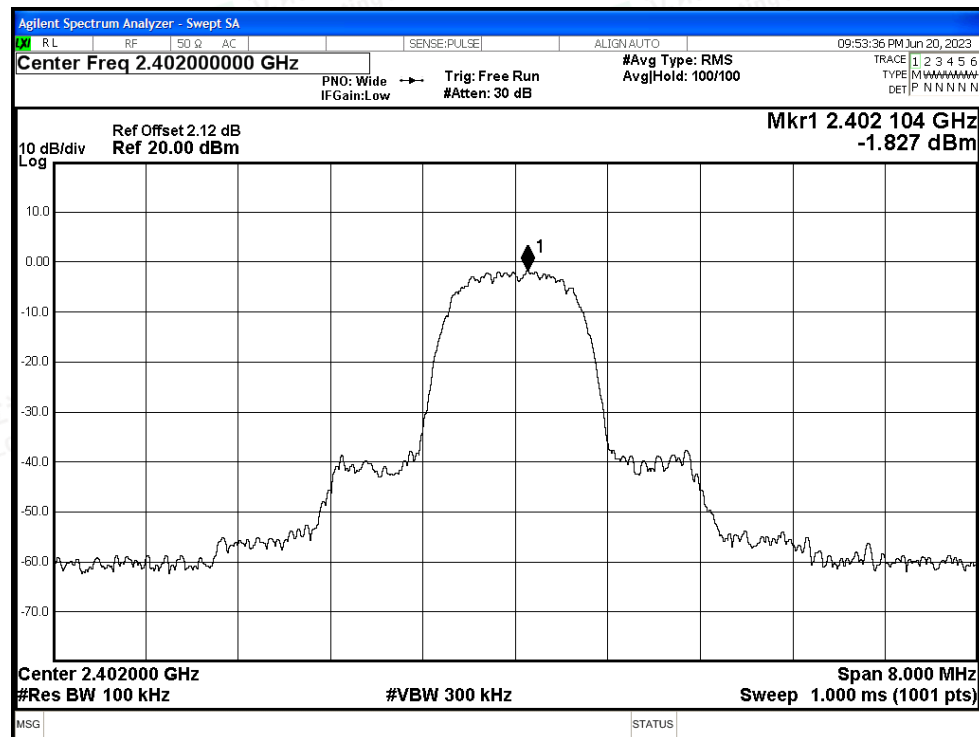


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

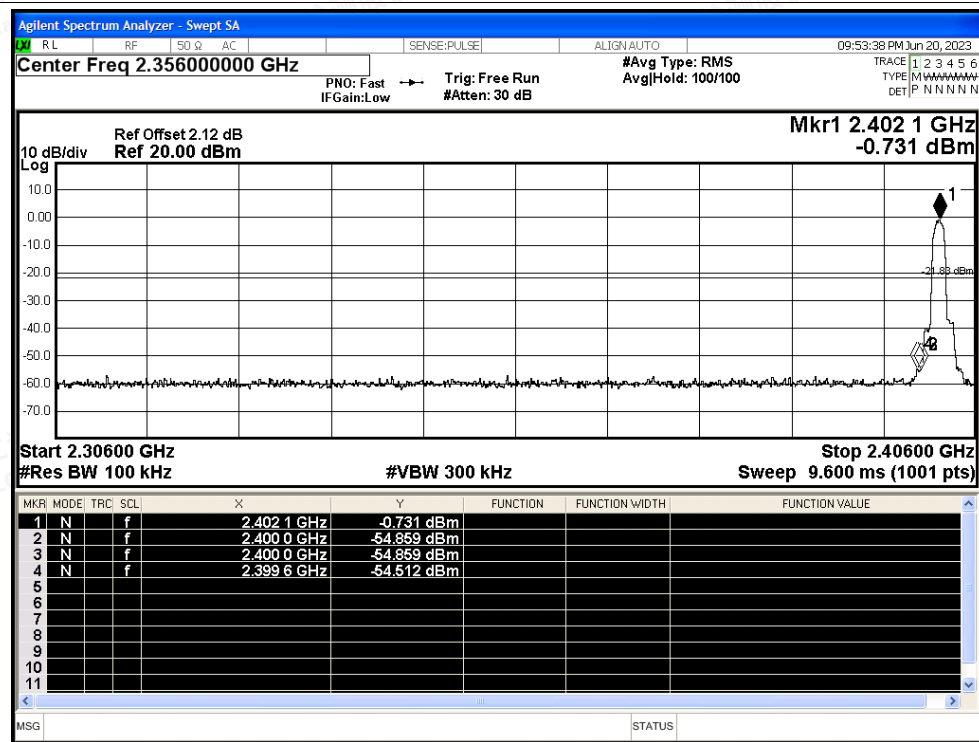




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

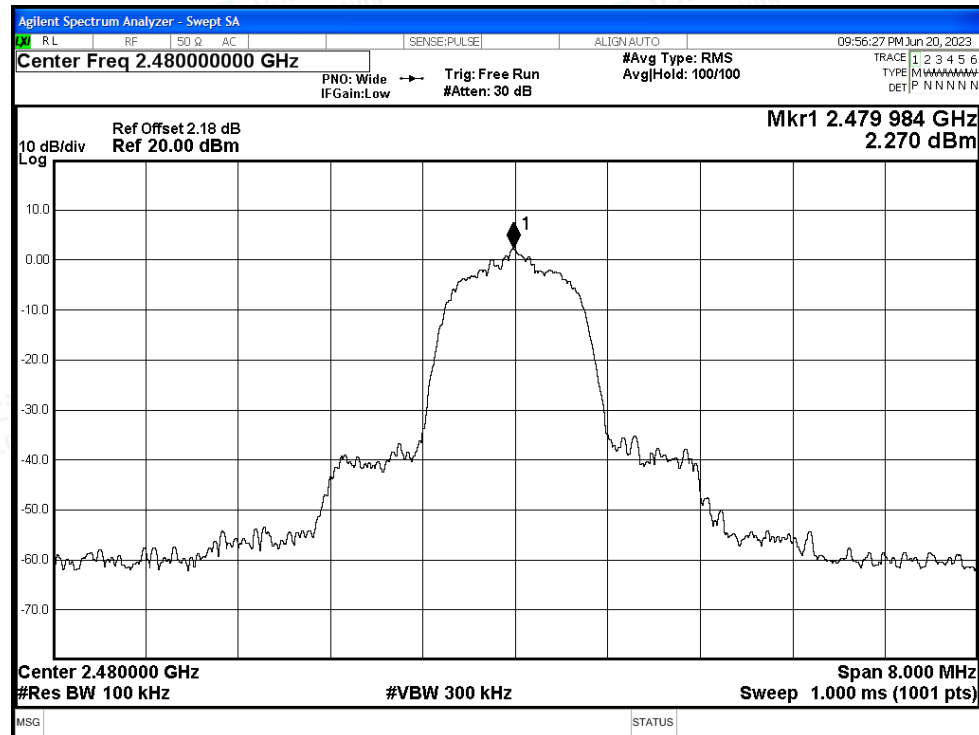


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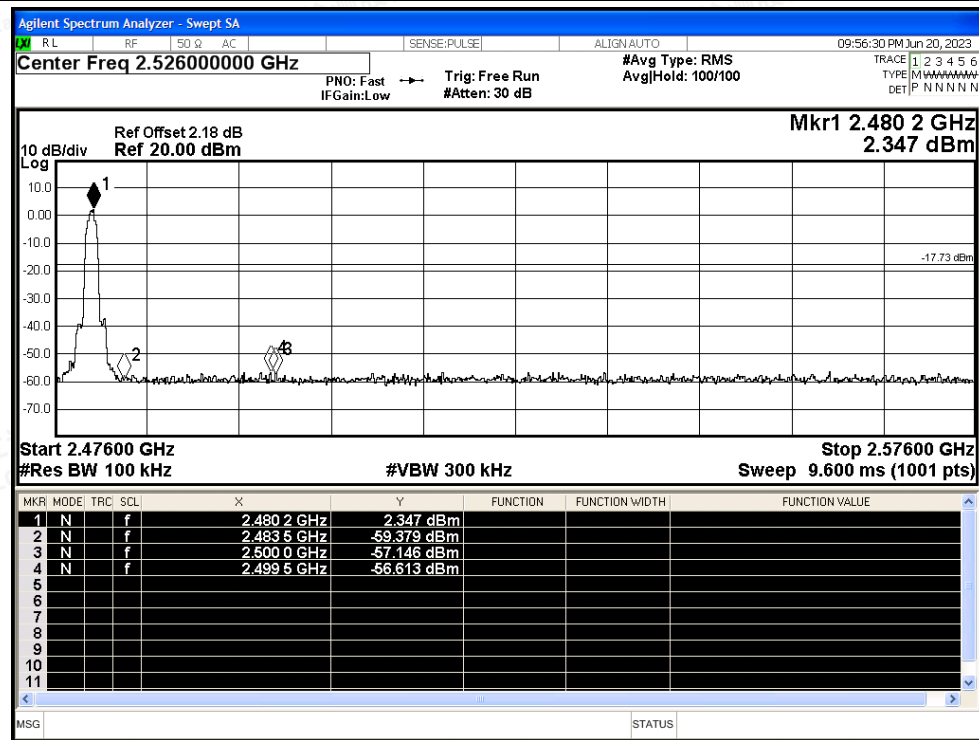




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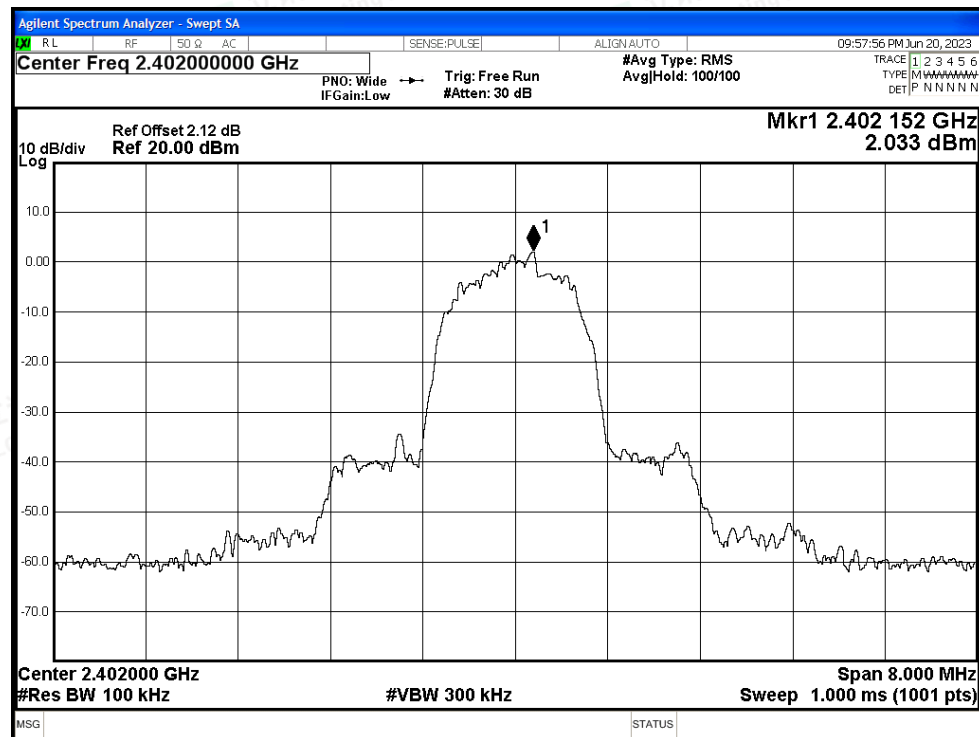


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

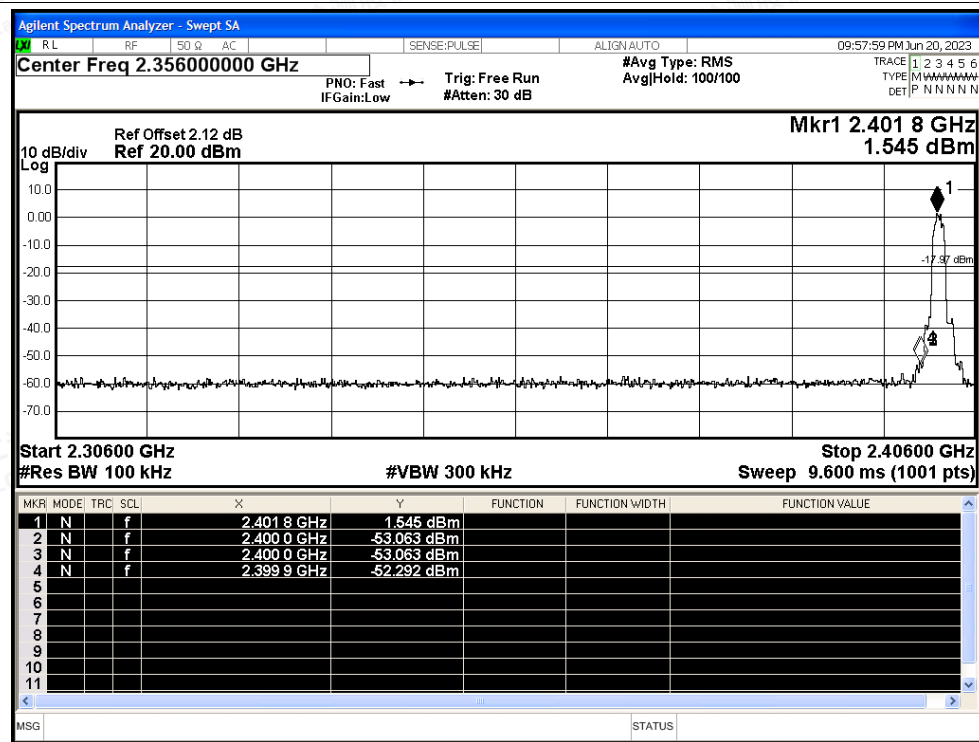




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

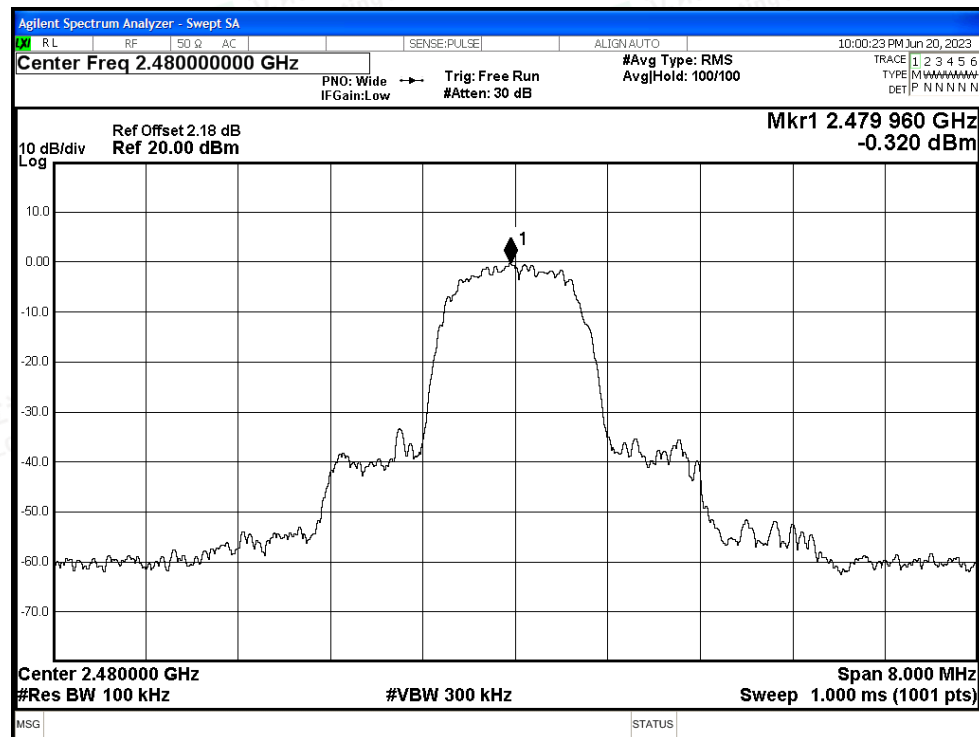


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

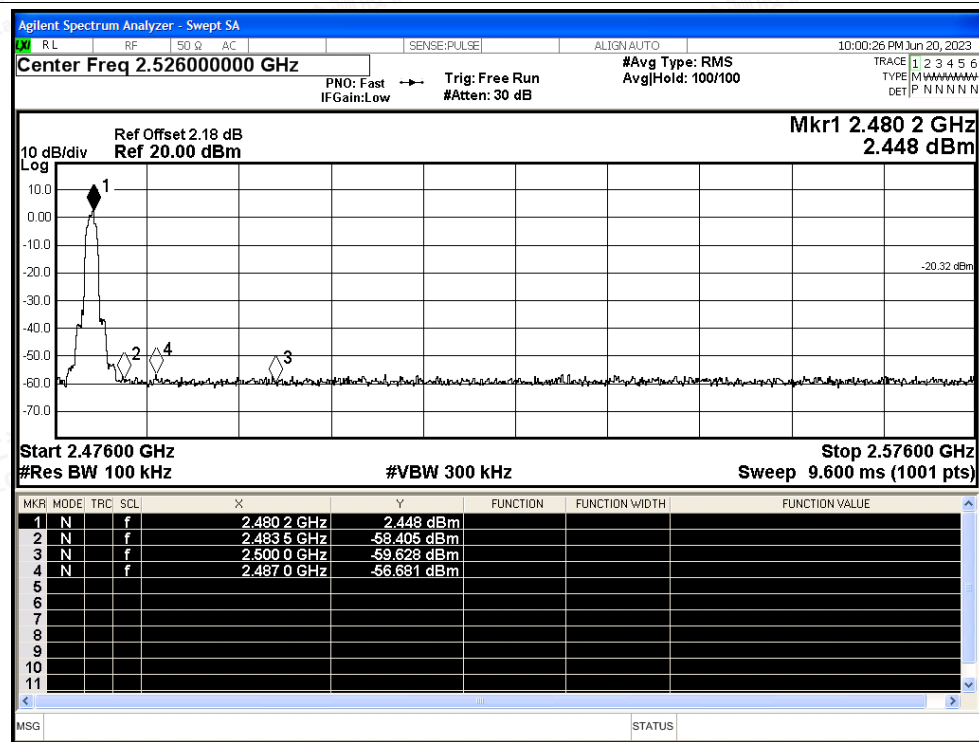




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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	-59.02	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-59.65	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-58.31	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-58.46	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-58.22	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-58.32	-20	Pass

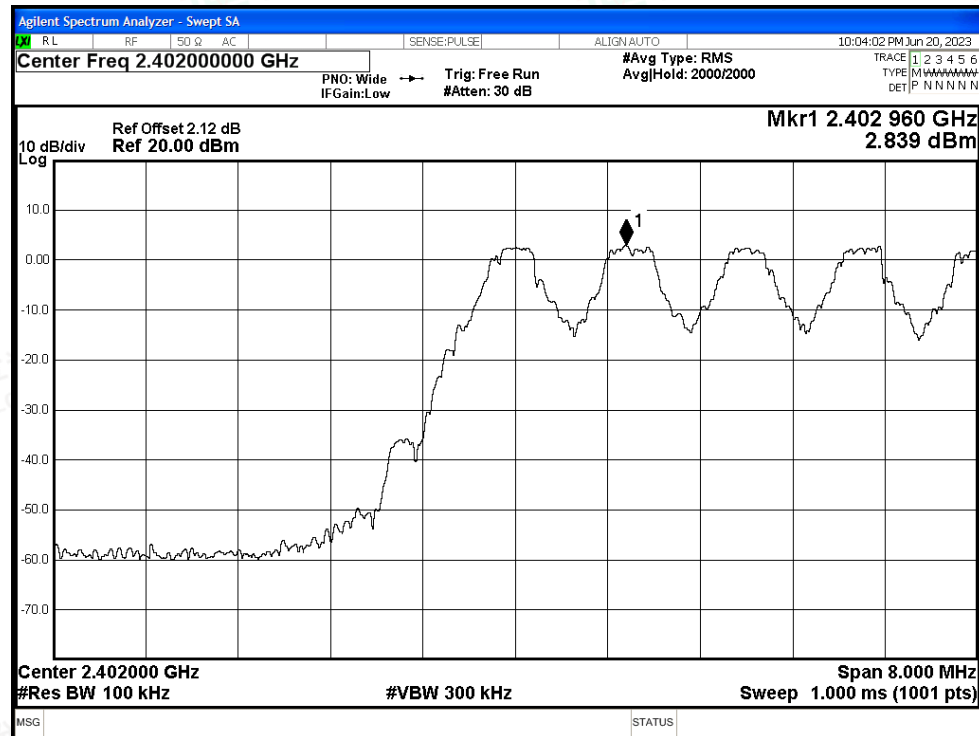


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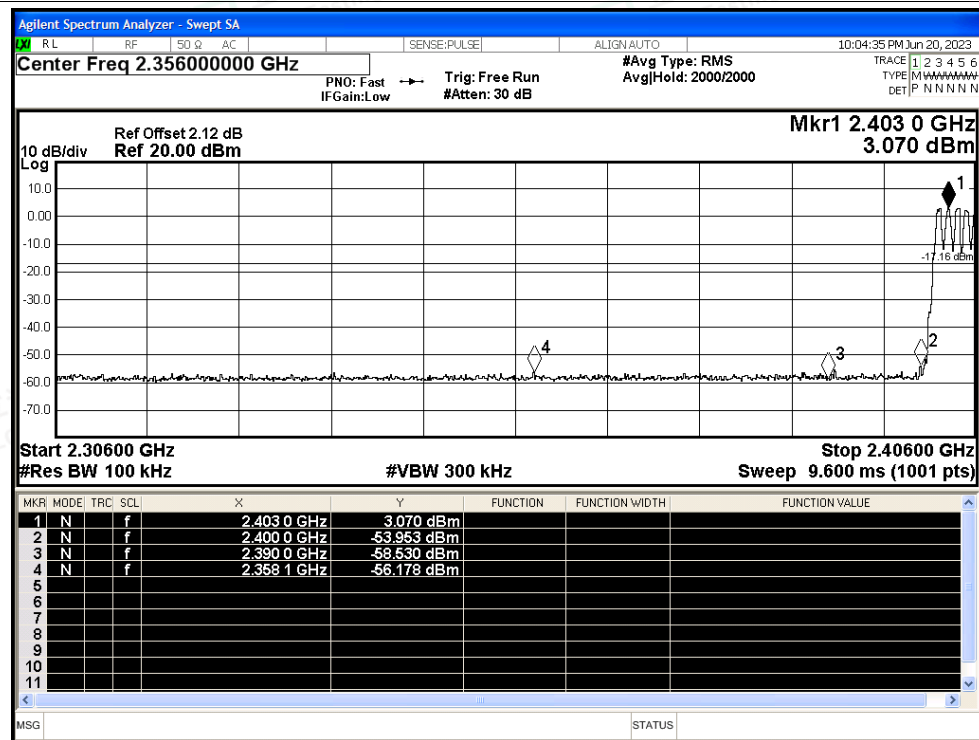


Test Graphs

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

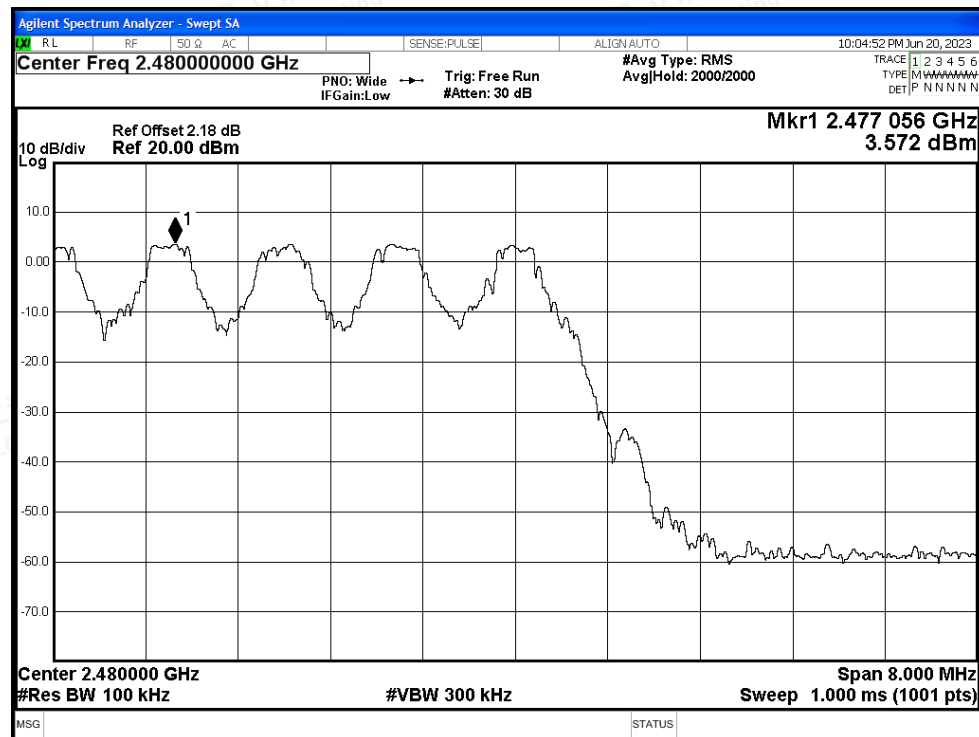


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

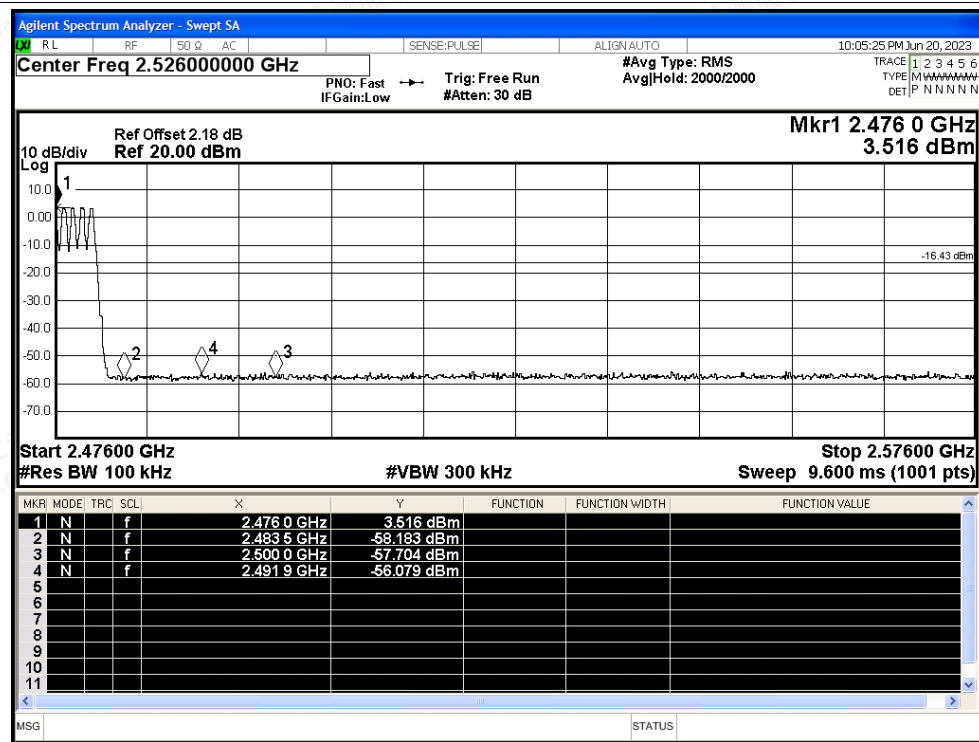




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

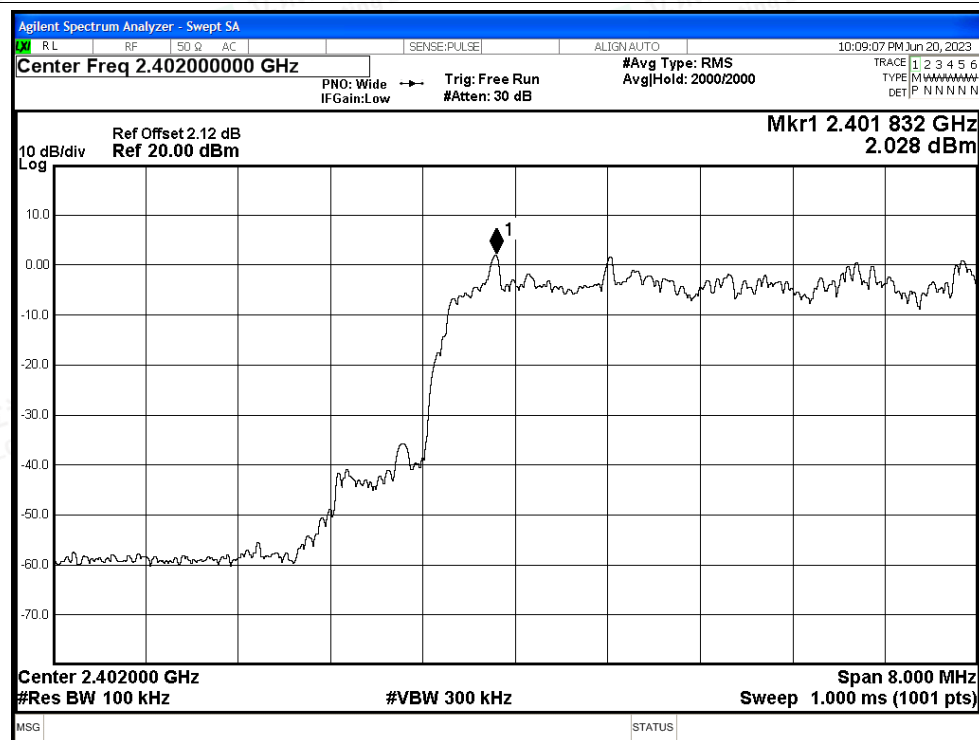


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

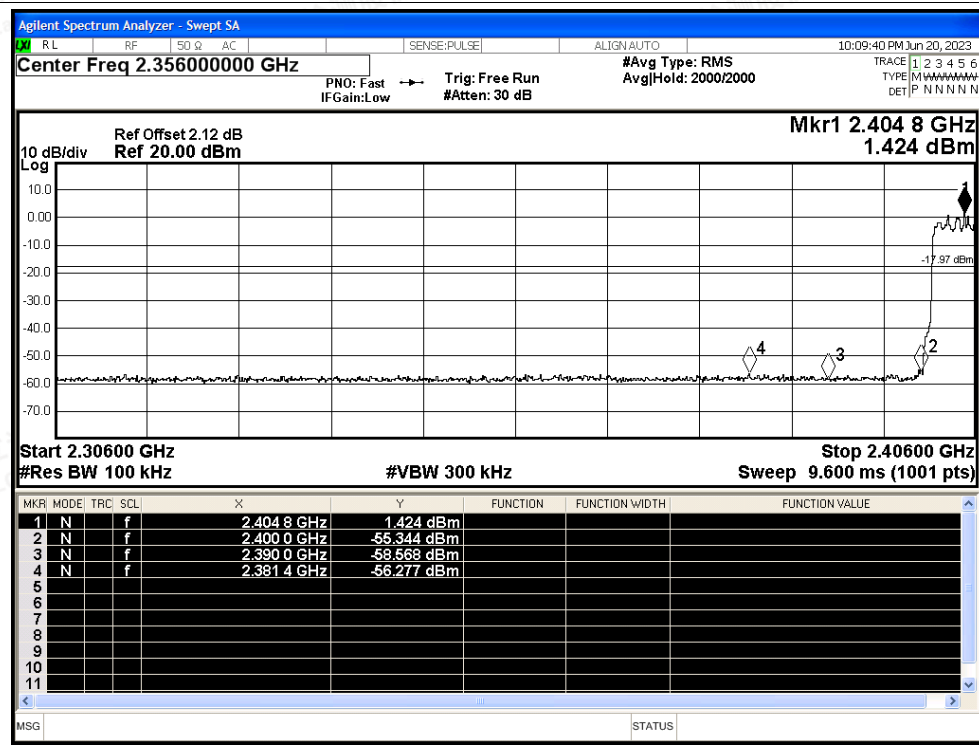




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

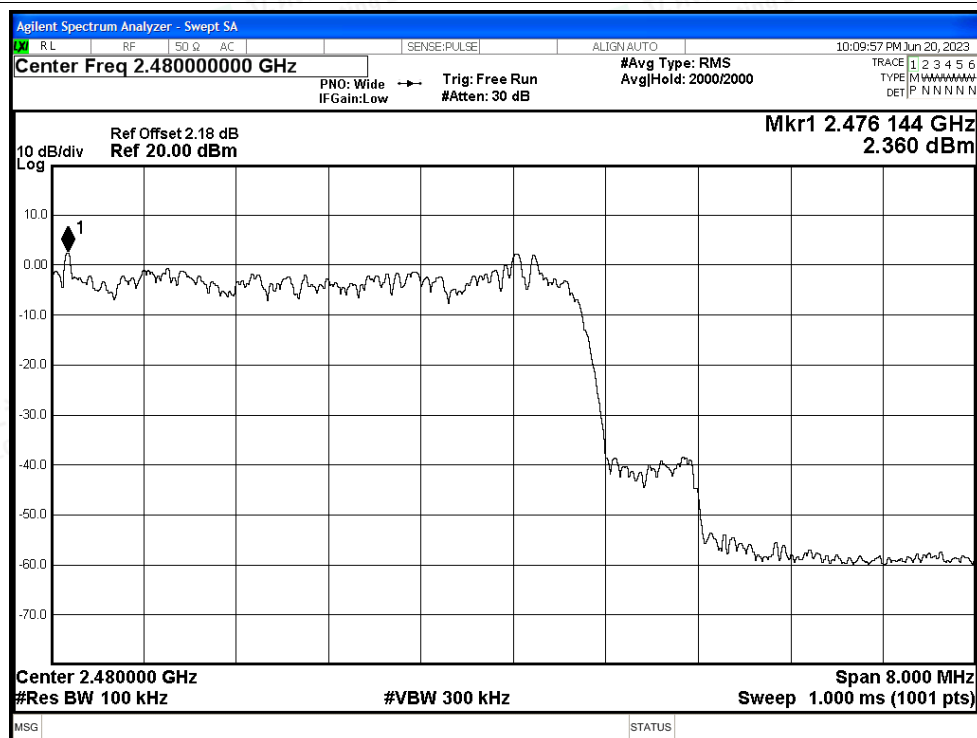


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

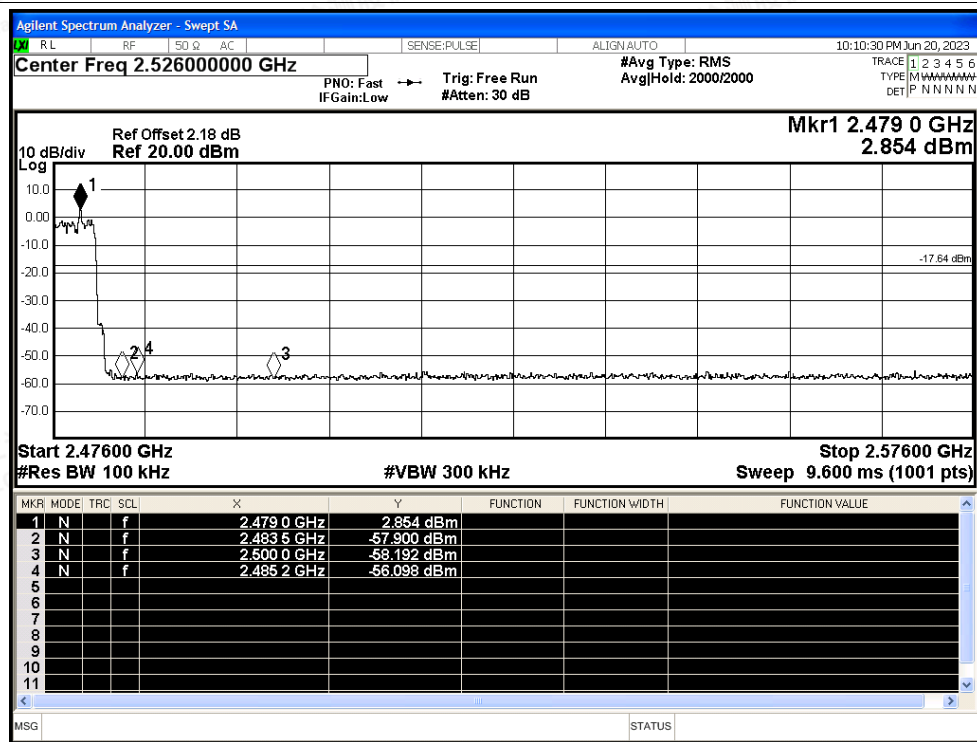




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

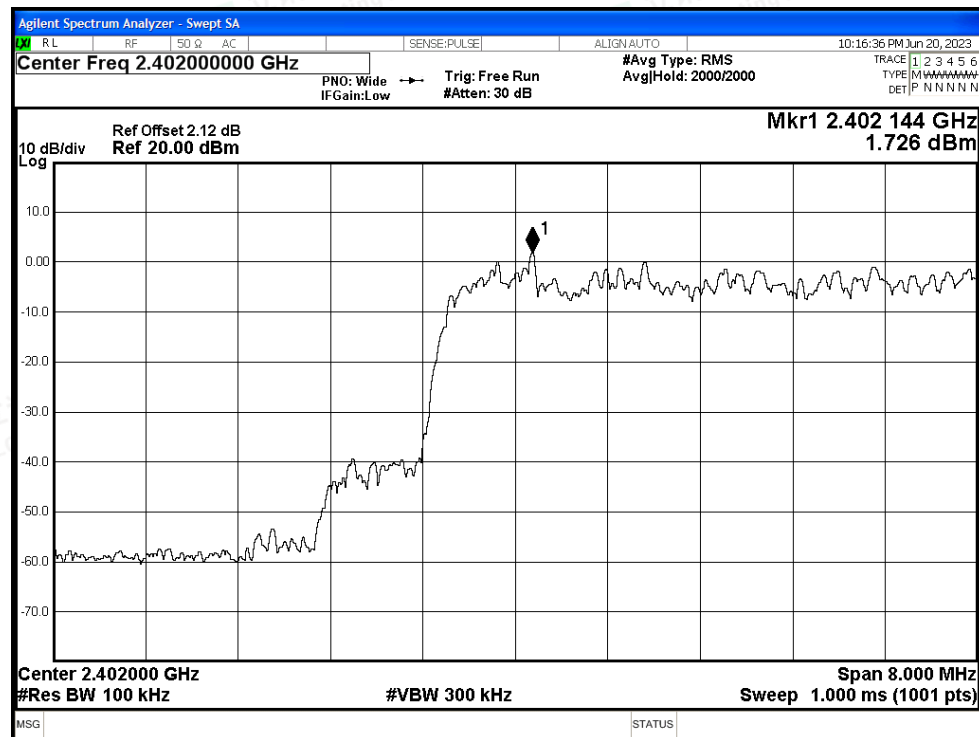


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

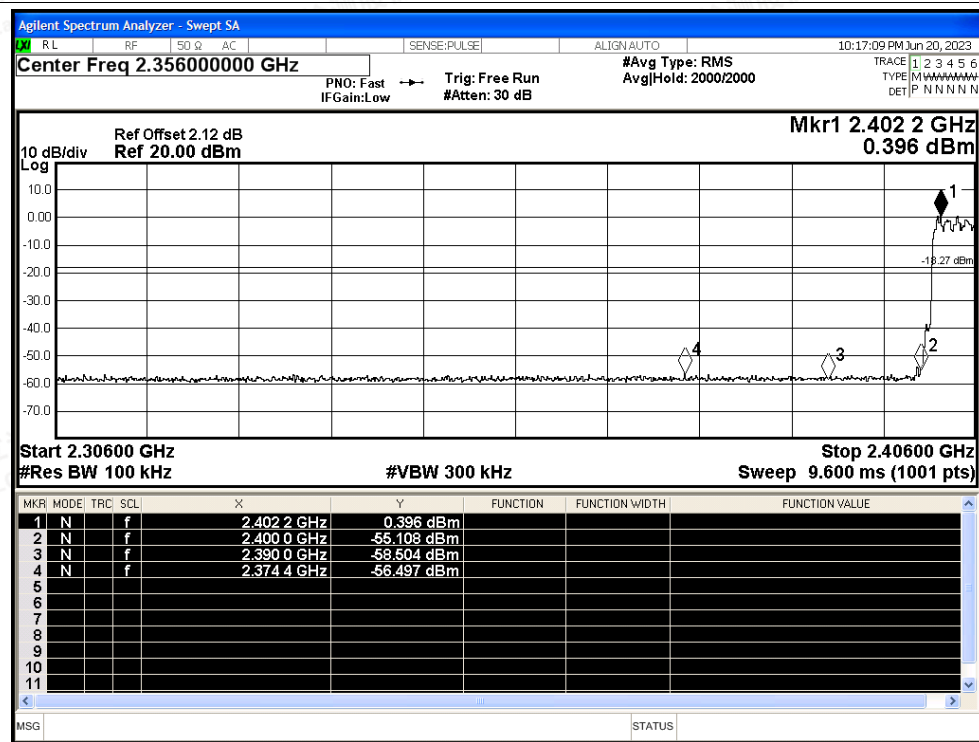




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

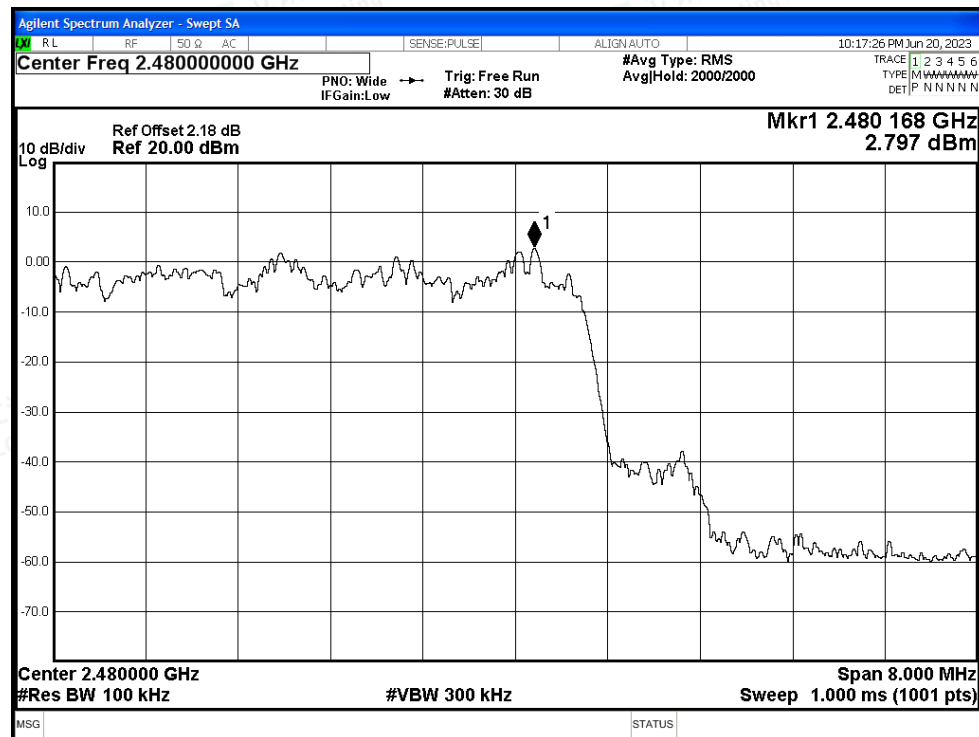


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission

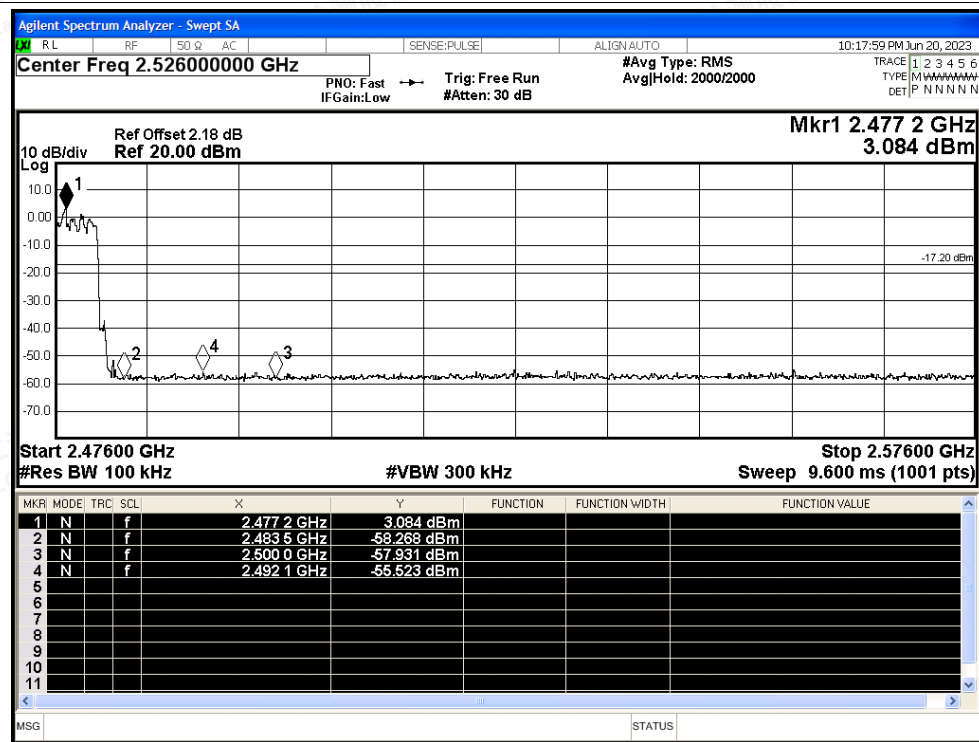




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



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	-58.13	-20	Pass
NVNT	1-DH5	2441	Ant1	-59.44	-20	Pass
NVNT	1-DH5	2480	Ant1	-58.16	-20	Pass
NVNT	2-DH5	2402	Ant1	-57.26	-20	Pass
NVNT	2-DH5	2441	Ant1	-57.65	-20	Pass
NVNT	2-DH5	2480	Ant1	-57.82	-20	Pass
NVNT	3-DH5	2402	Ant1	-56.28	-20	Pass
NVNT	3-DH5	2441	Ant1	-57.38	-20	Pass
NVNT	3-DH5	2480	Ant1	-55.81	-20	Pass

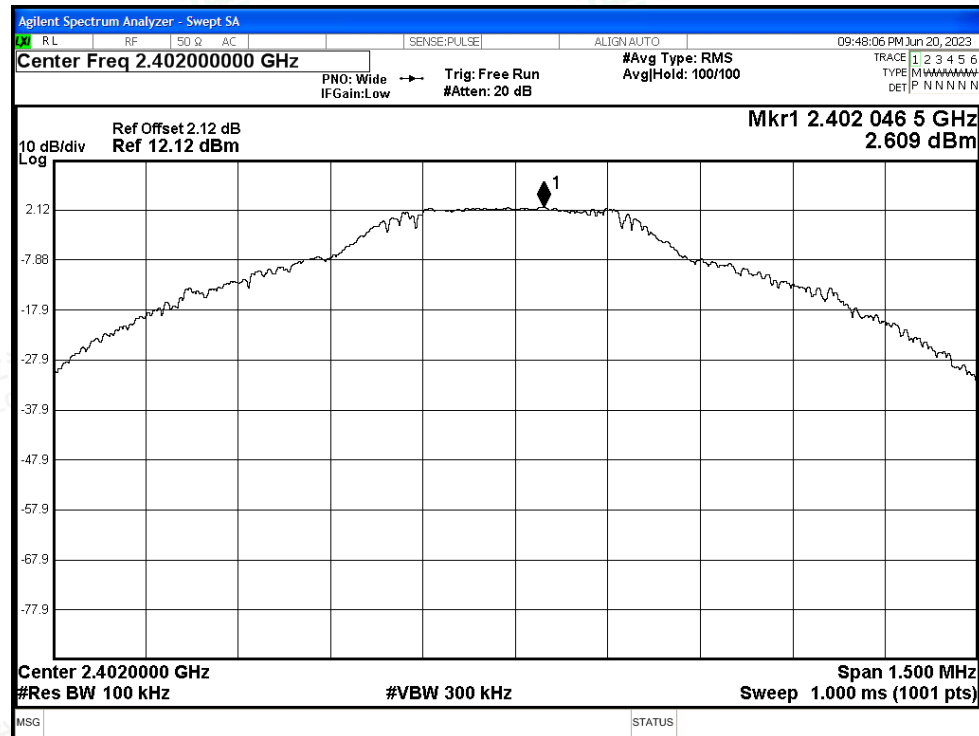


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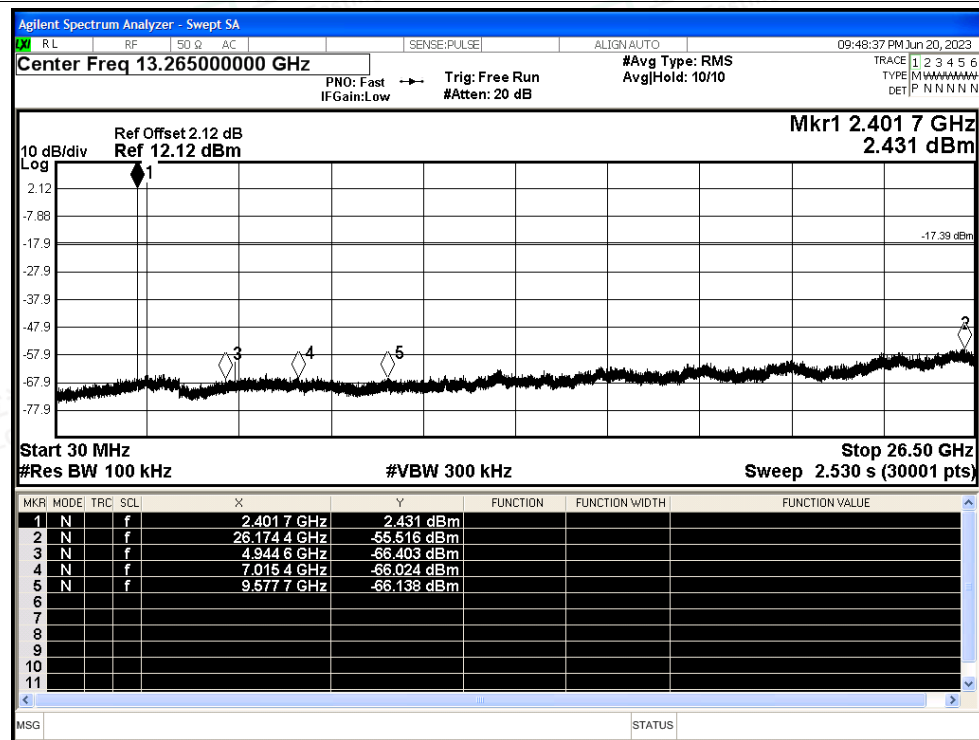


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

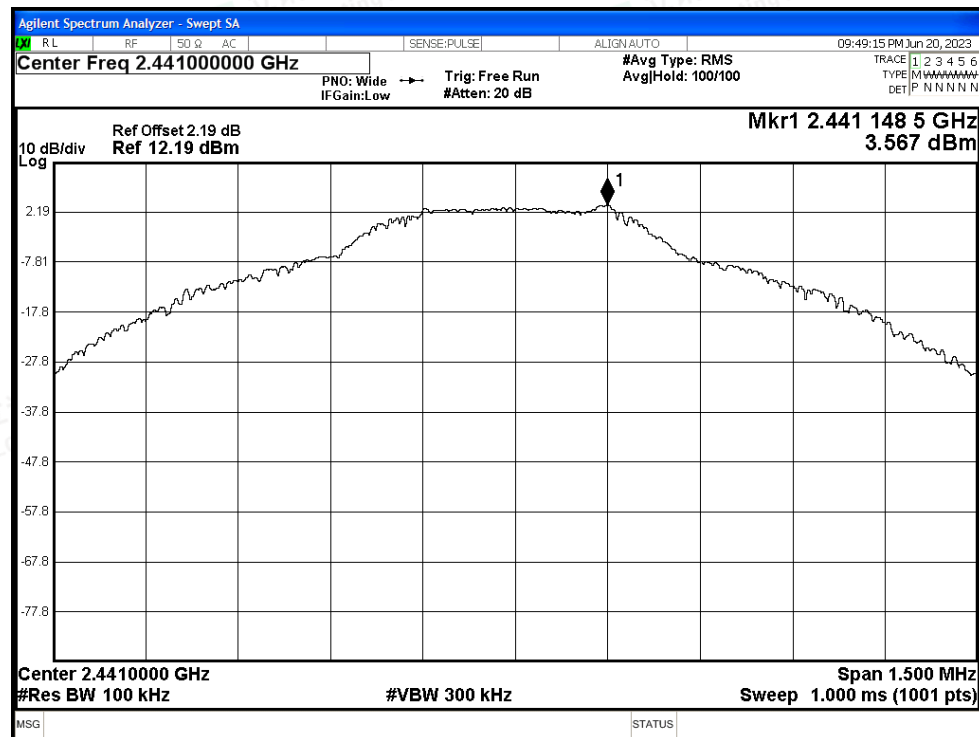


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

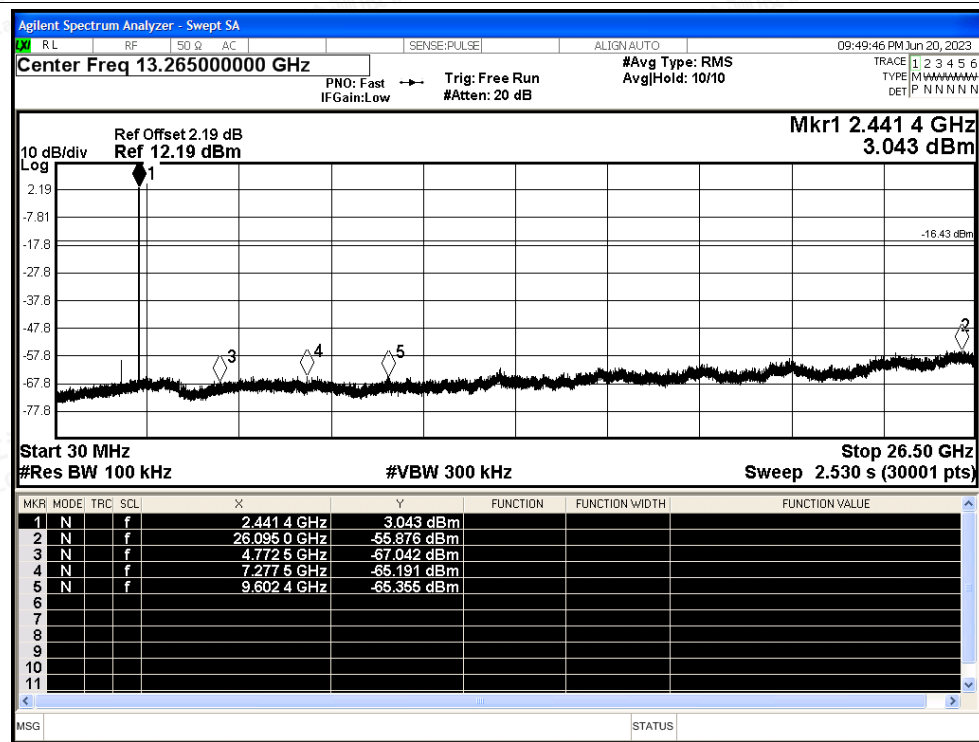




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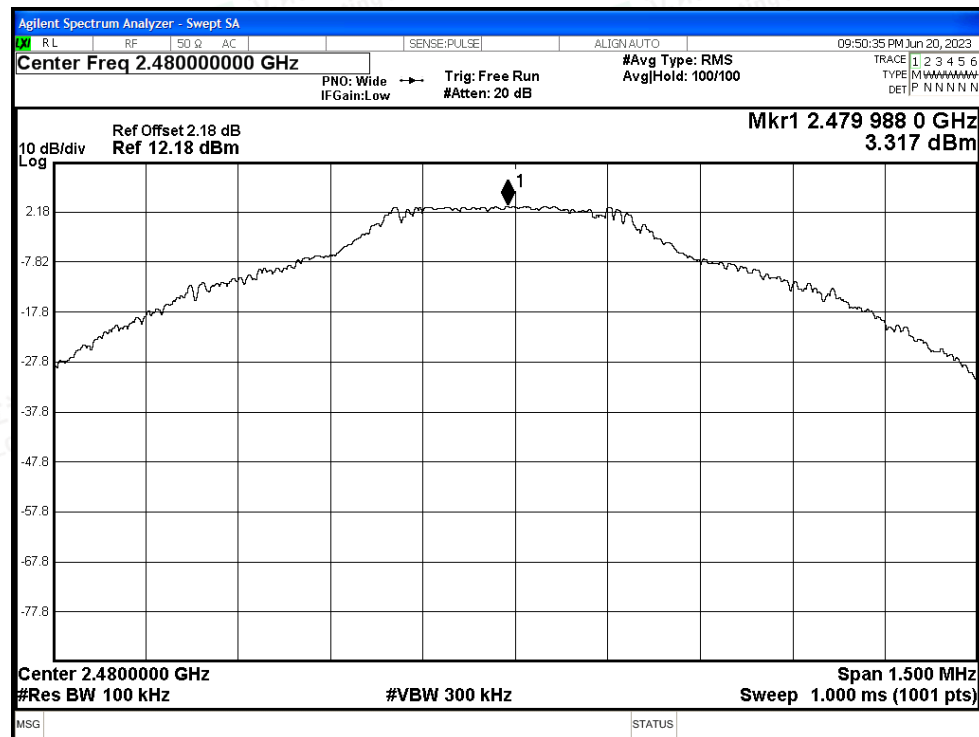


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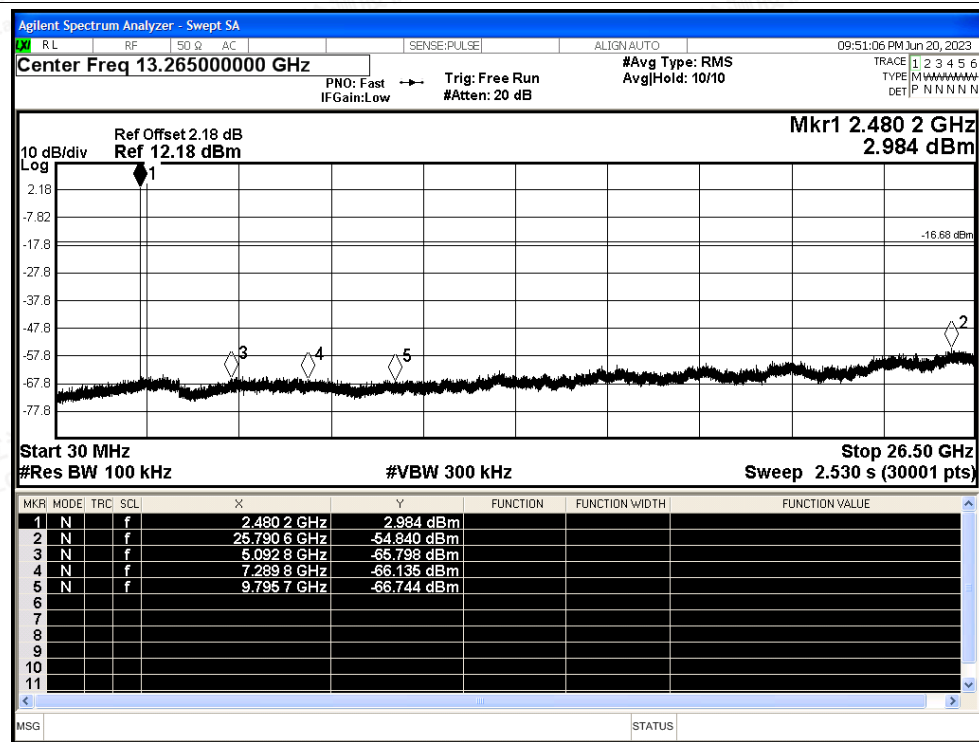




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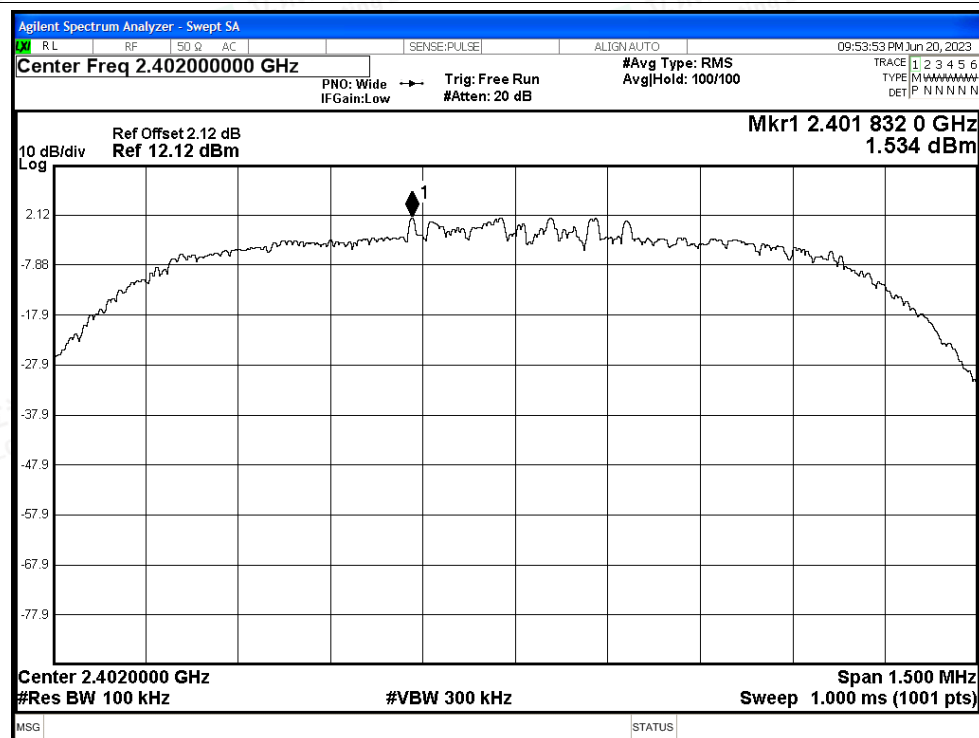


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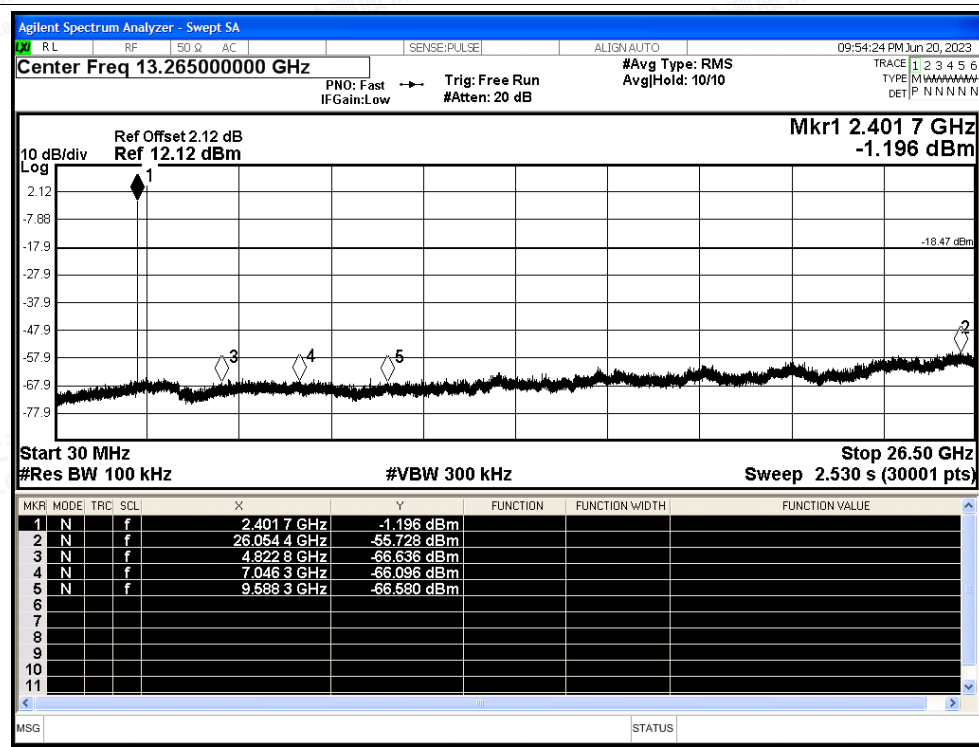




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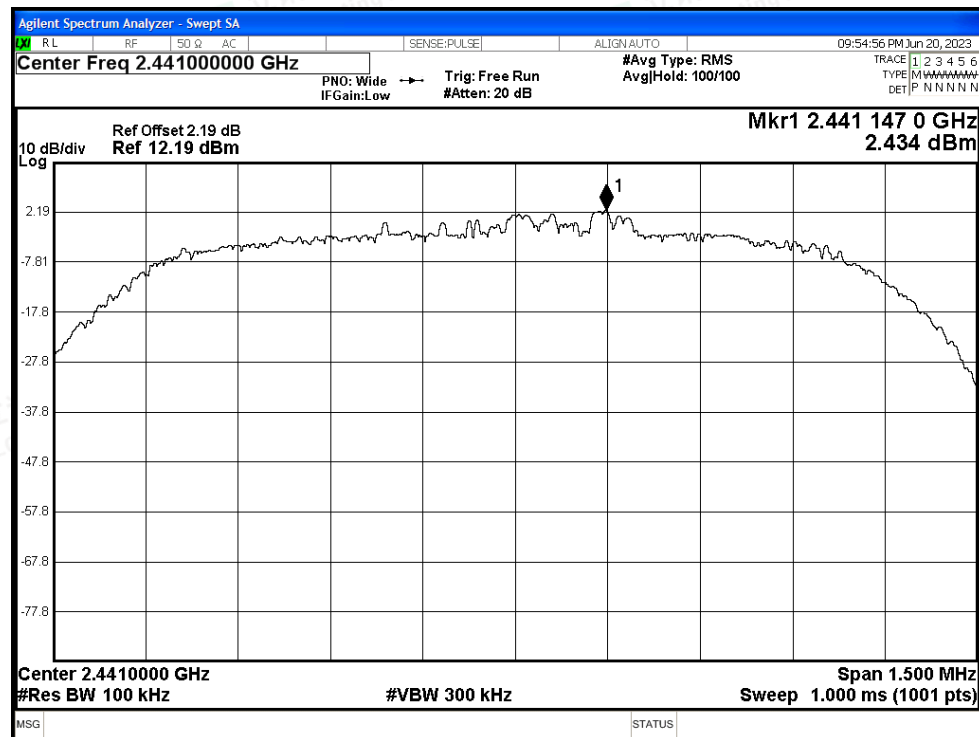


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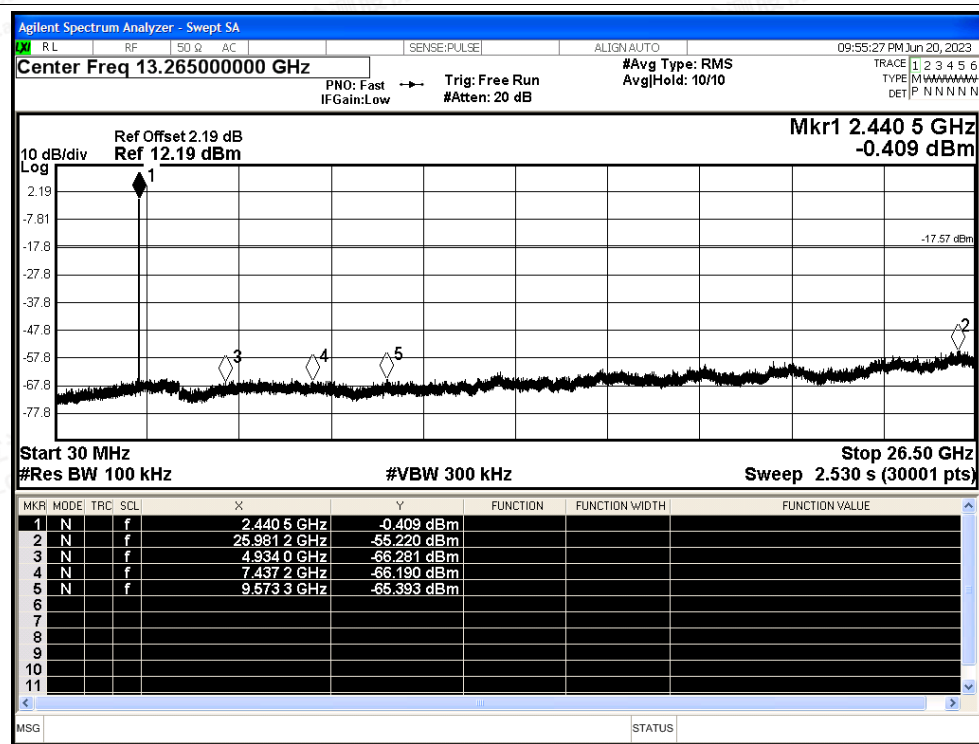




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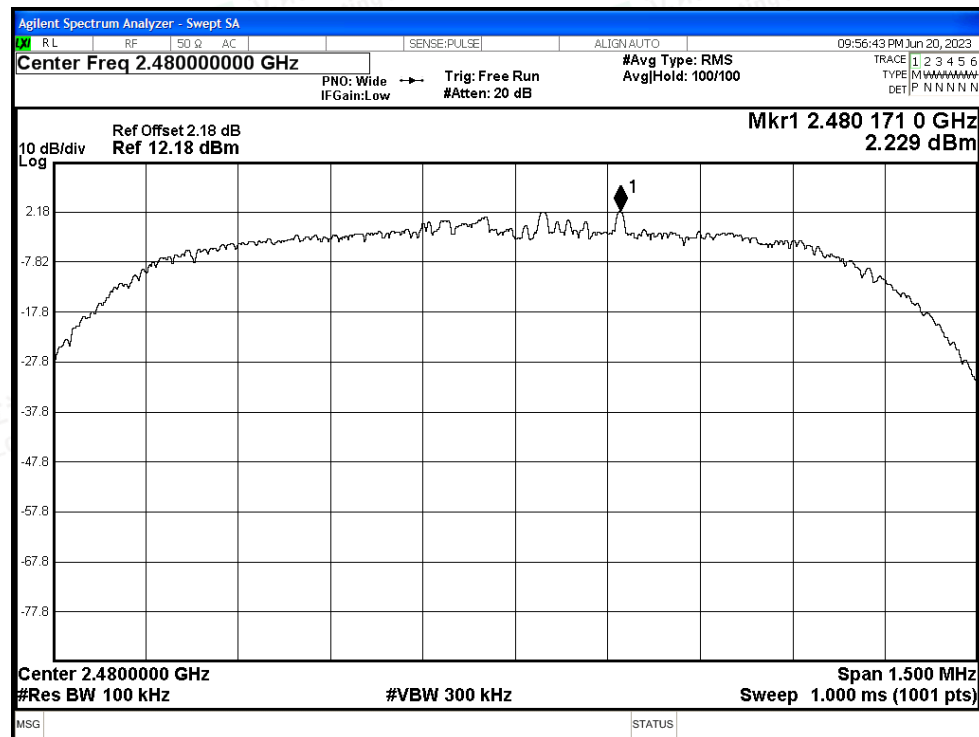


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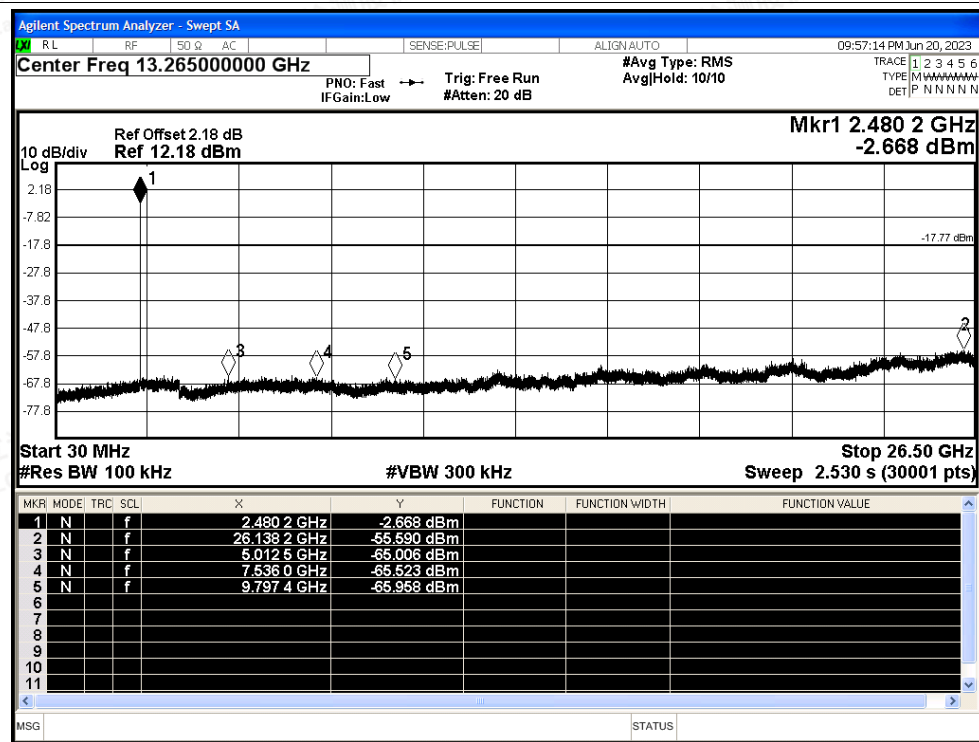




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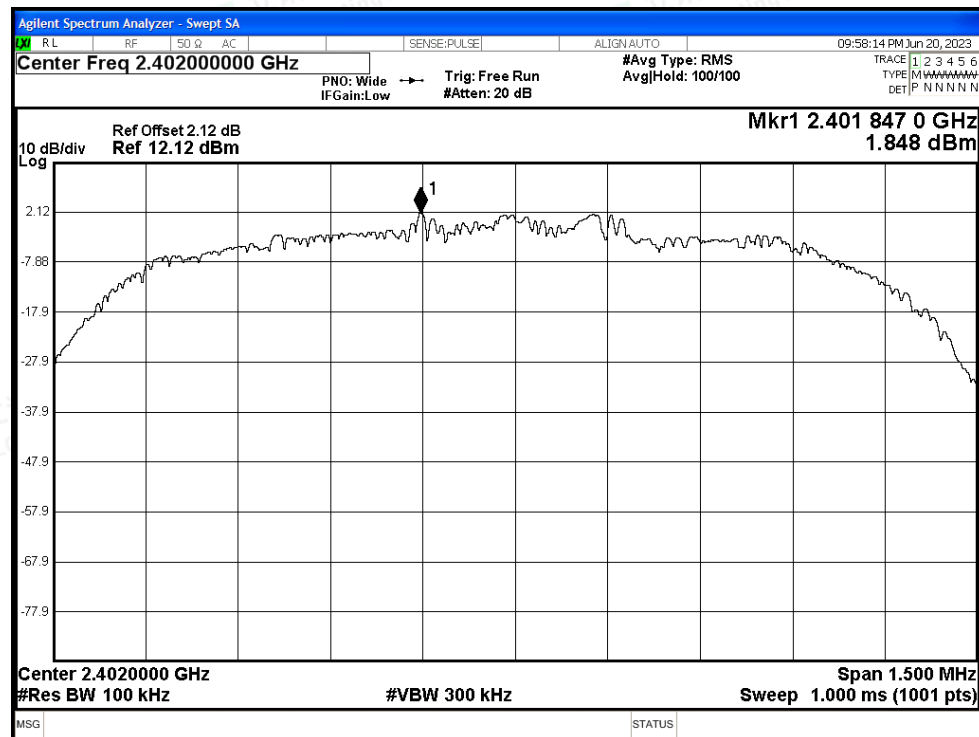


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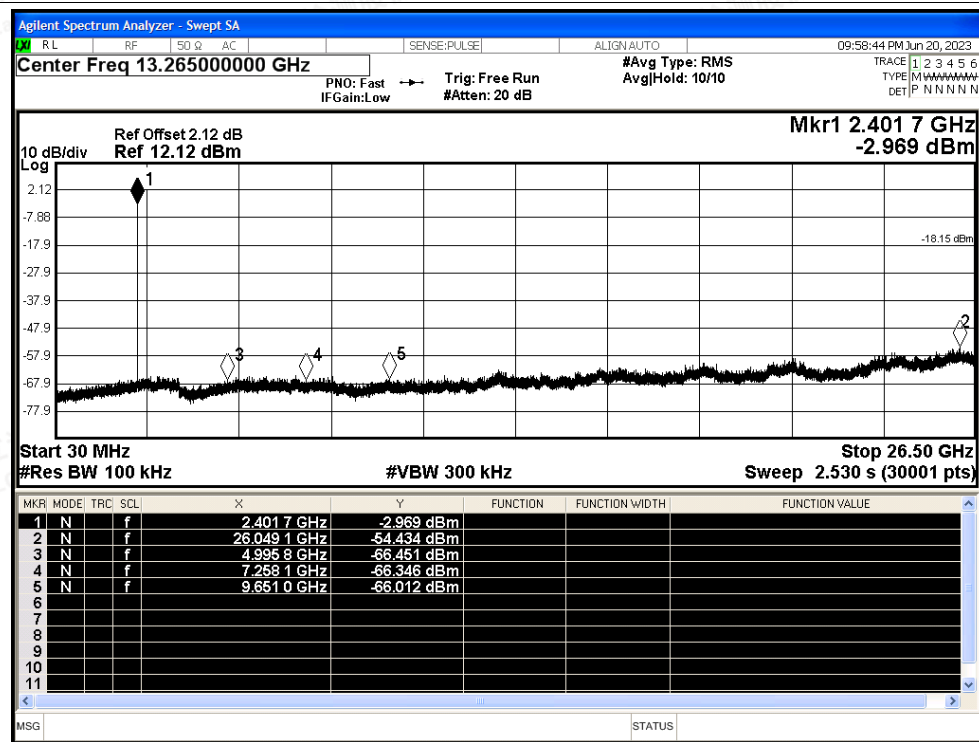




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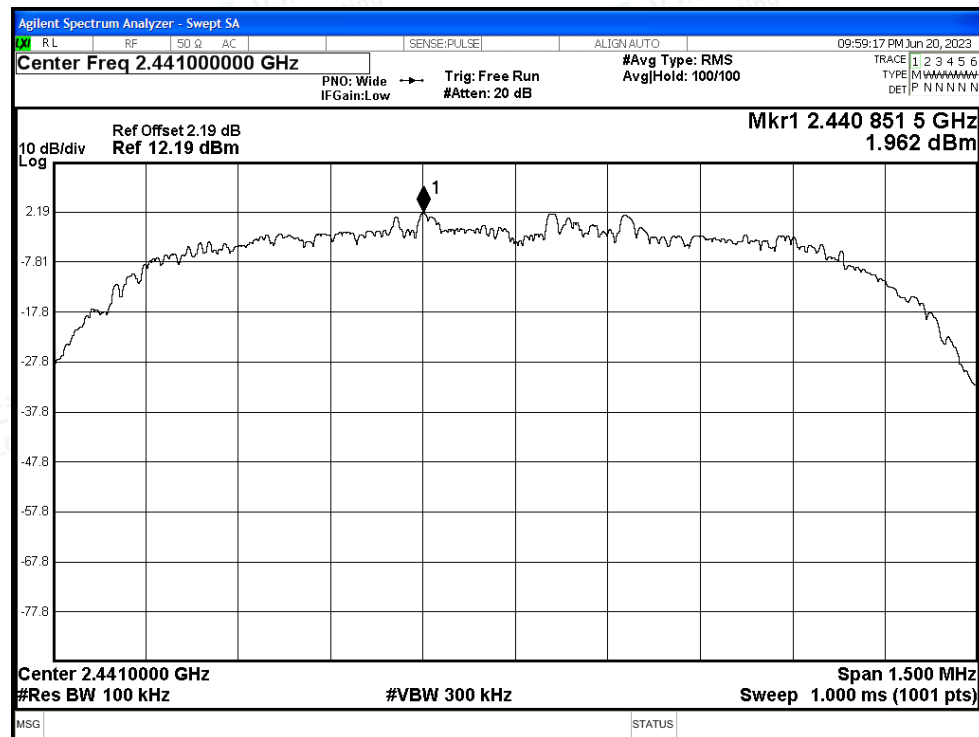


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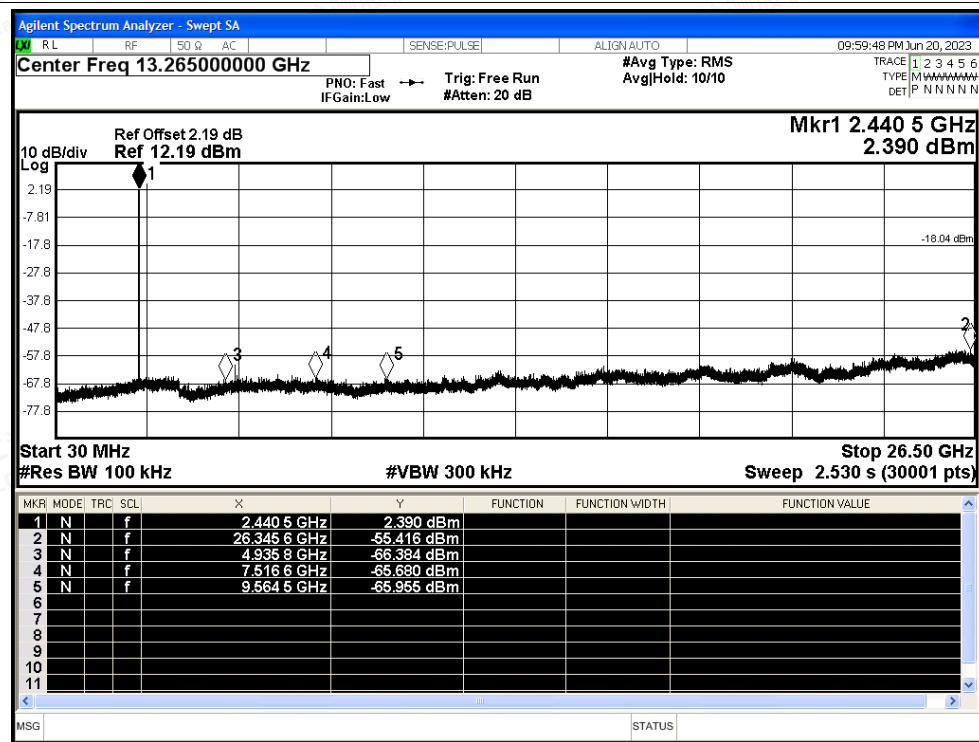




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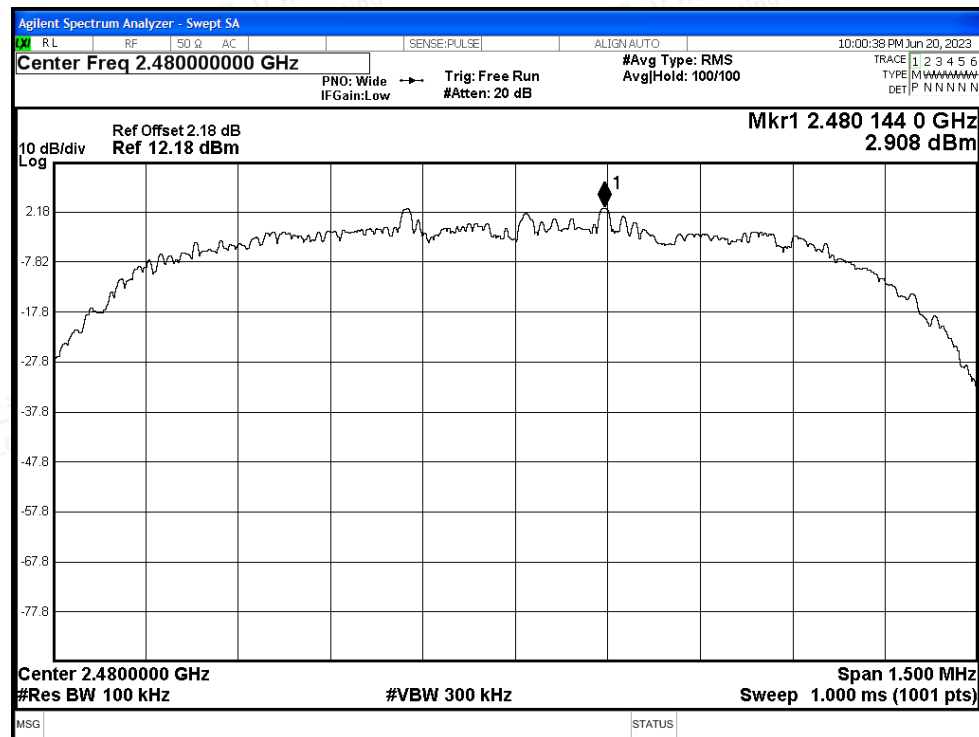


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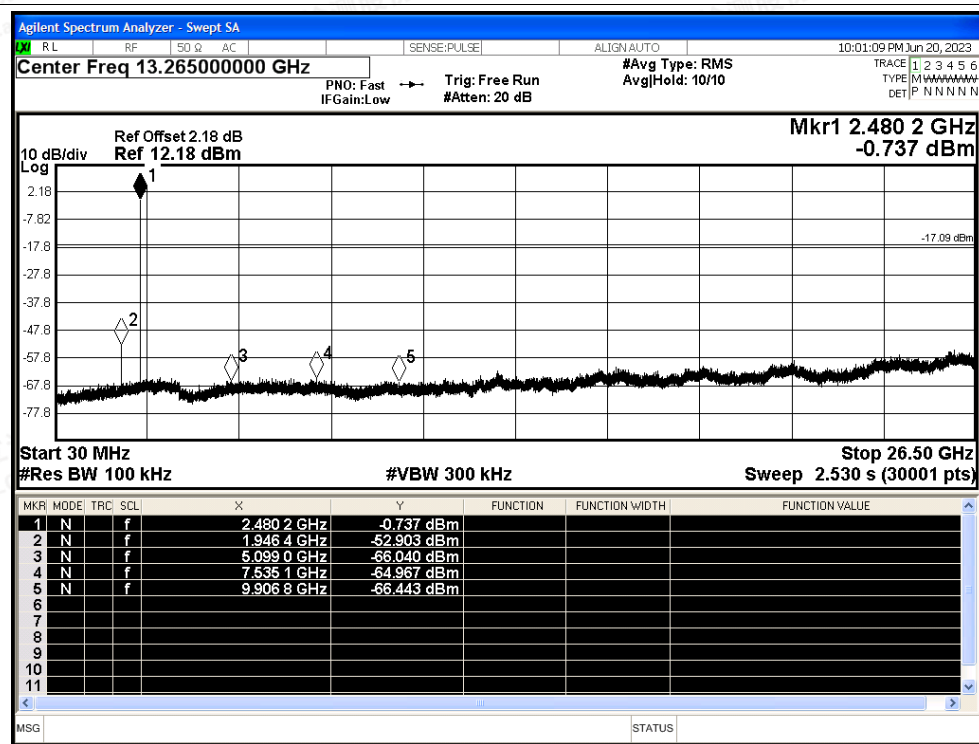




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Restrict Band

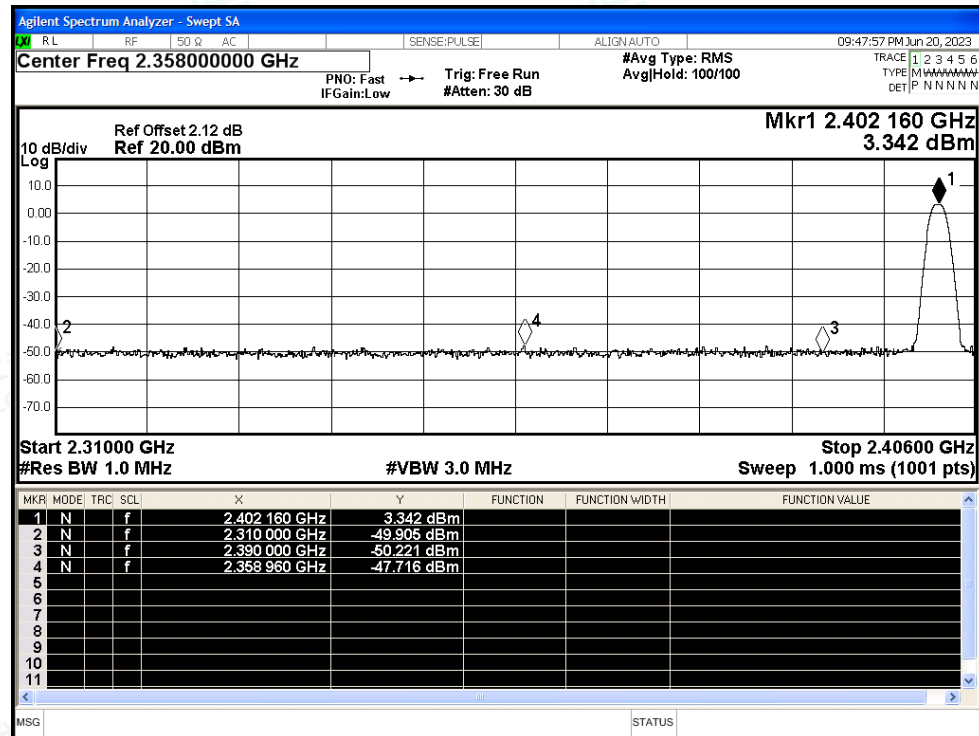
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-49.91	2	47.35	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.13	2	39.13	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2358.96	-47.72	2	49.54	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2389.968	-57.44	2	39.82	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.22	2	47.04	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.44	2	39.82	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.7	2	47.56	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-54.4	2	42.86	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2498.704	-47.28	2	49.98	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-54.4	2	42.86	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-48	2	49.26	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.35	2	39.91	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.47	2	45.79	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-57.89	2	39.37	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2361.072	-47.34	2	49.92	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2386.896	-57.37	2	39.89	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.93	2	46.33	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.51	2	39.75	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.43	2	47.83	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-53.84	2	43.42	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2492.656	-46.87	2	50.39	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-53.84	2	43.42	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.93	2	47.33	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.19	2	40.07	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-51.61	2	45.65	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-57.86	2	39.4	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2388.048	-47.25	2	50.01	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2389.872	-57.45	2	39.81	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-51.06	2	46.2	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-57.47	2	39.79	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-50.68	2	46.58	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-54.21	2	43.05	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2484.16	-47.27	2	49.99	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-54.21	2	43.05	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-51.85	2	45.41	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.28	2	39.98	Average	54	Pass



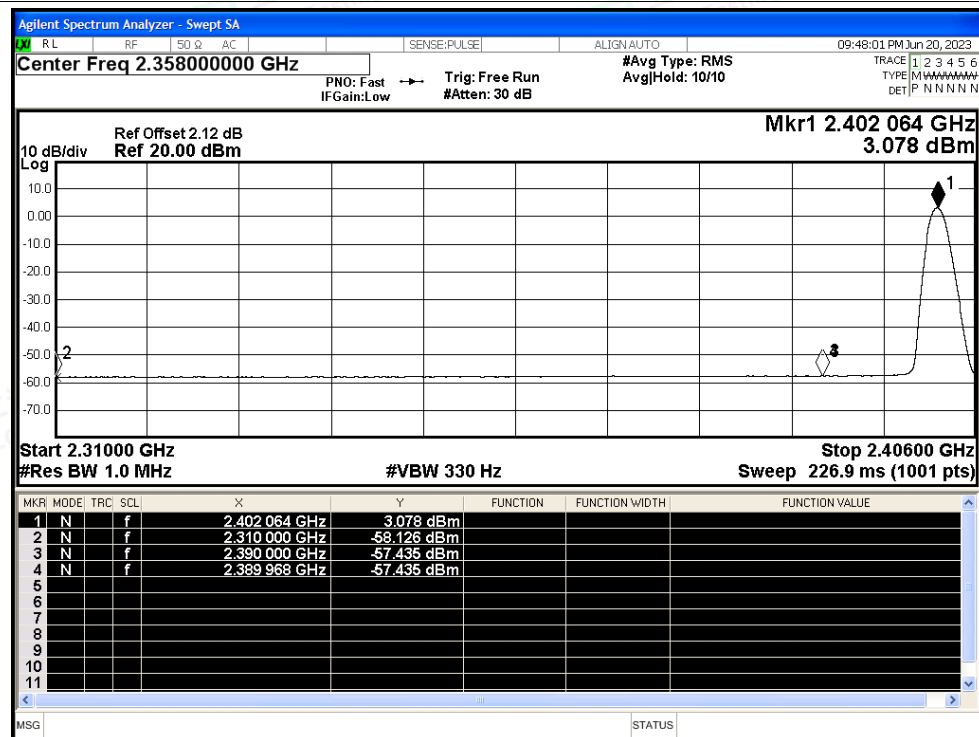


Test Graphs

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

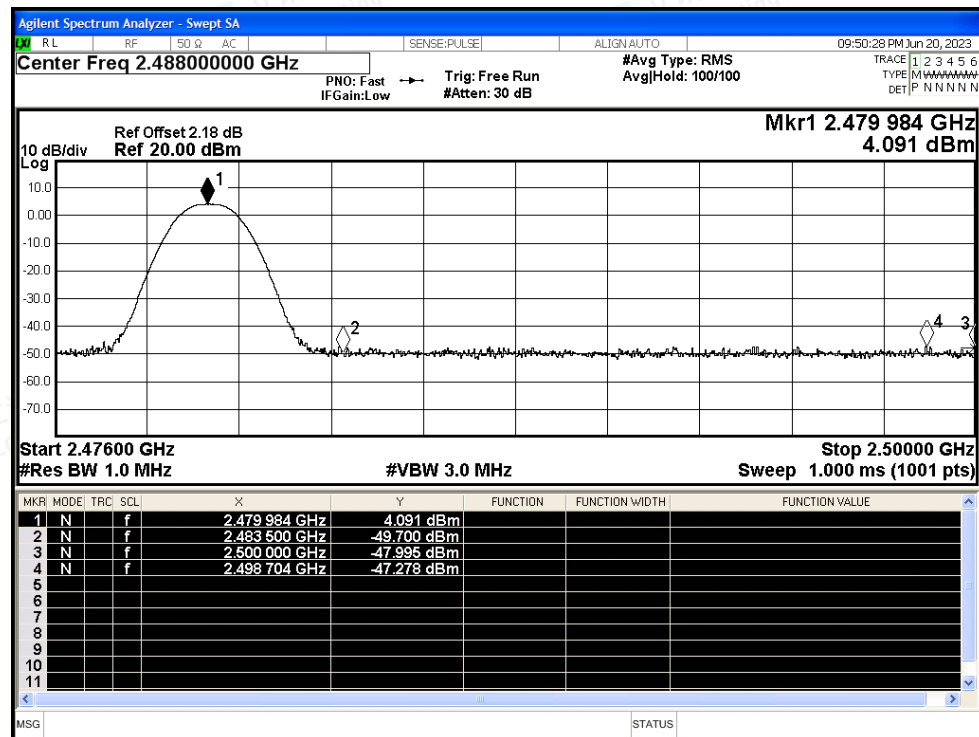


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

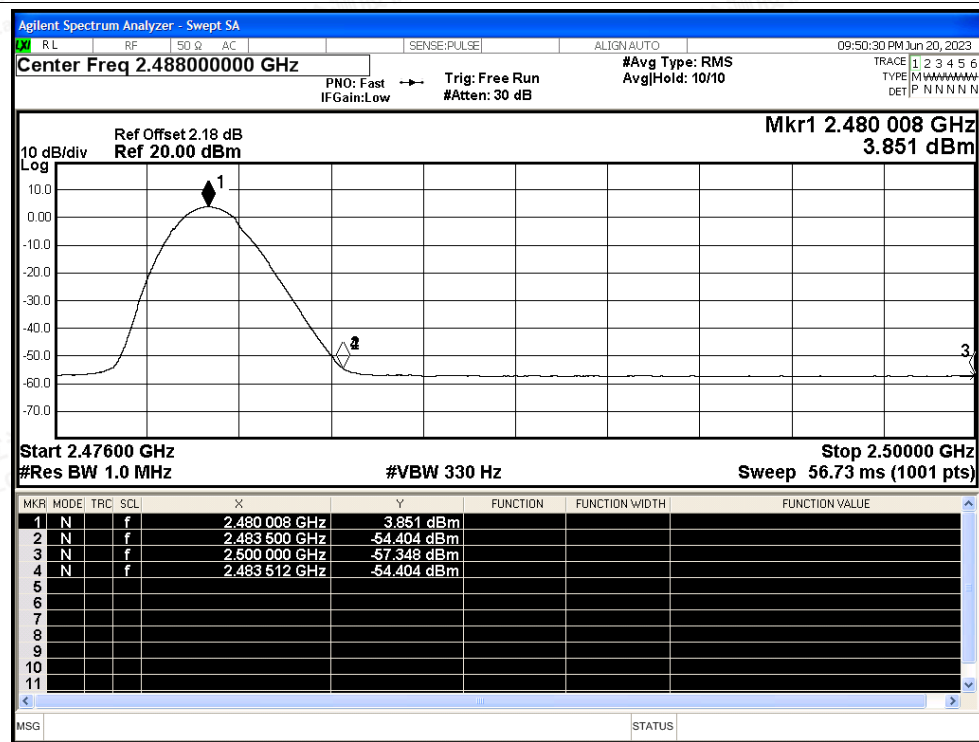


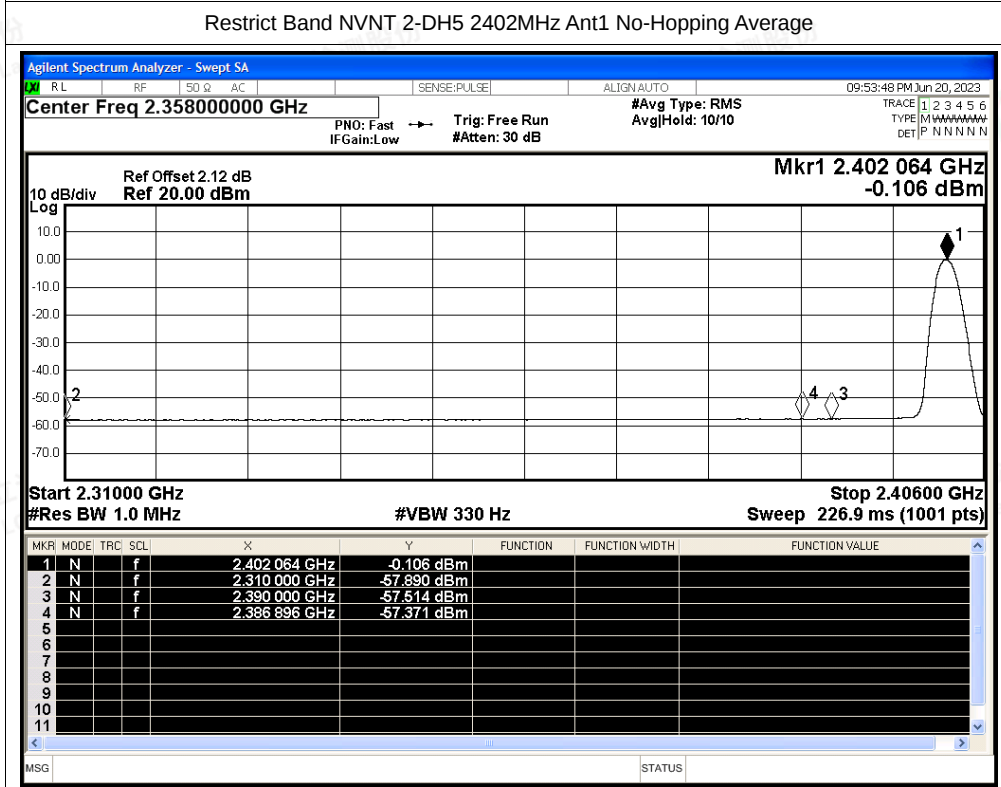
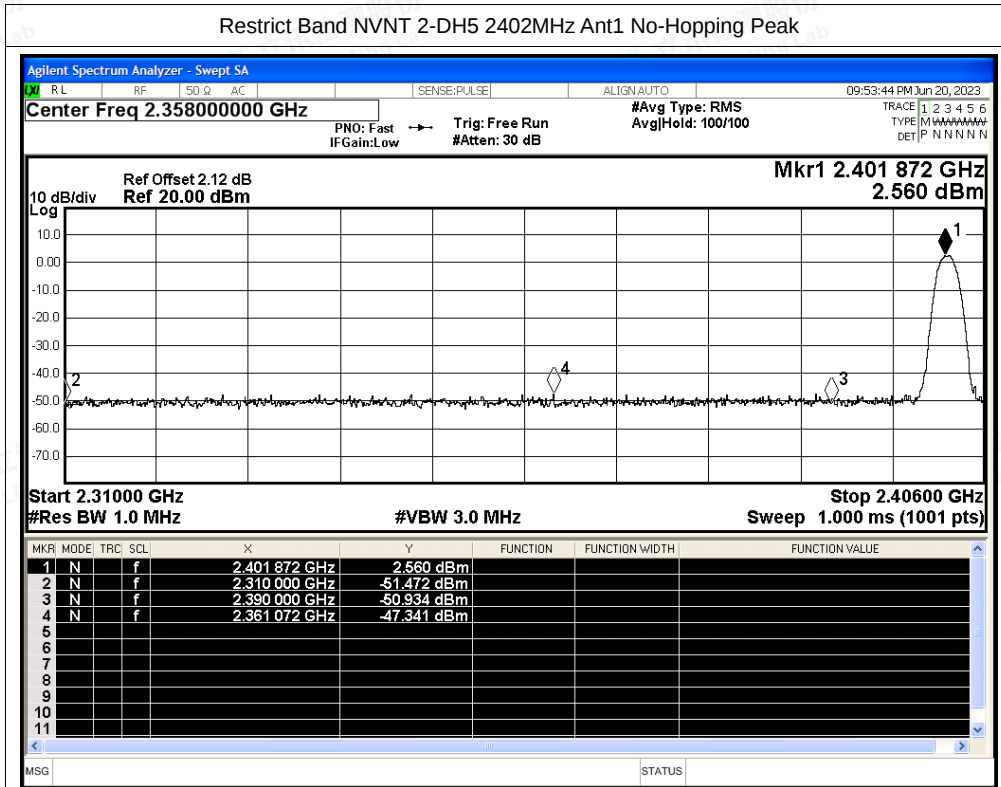


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



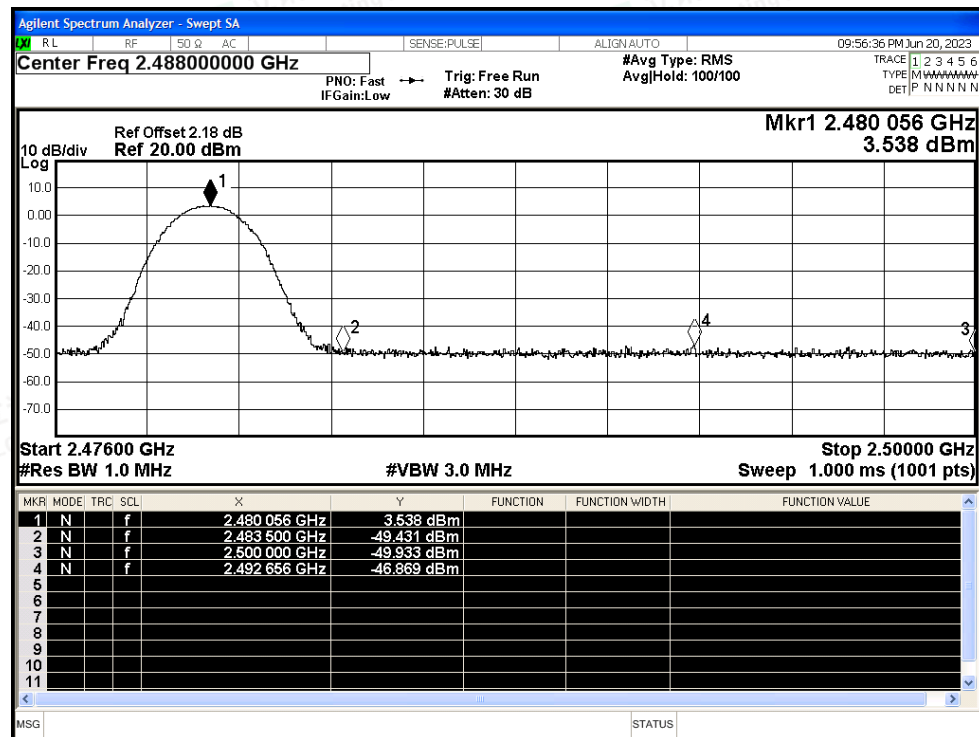
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



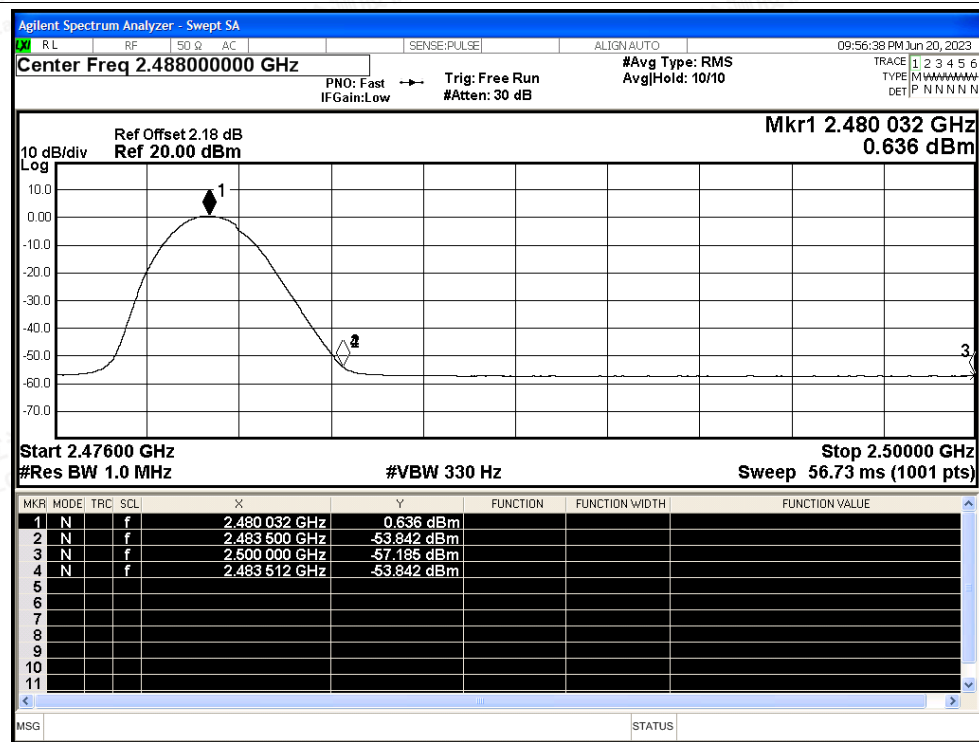




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

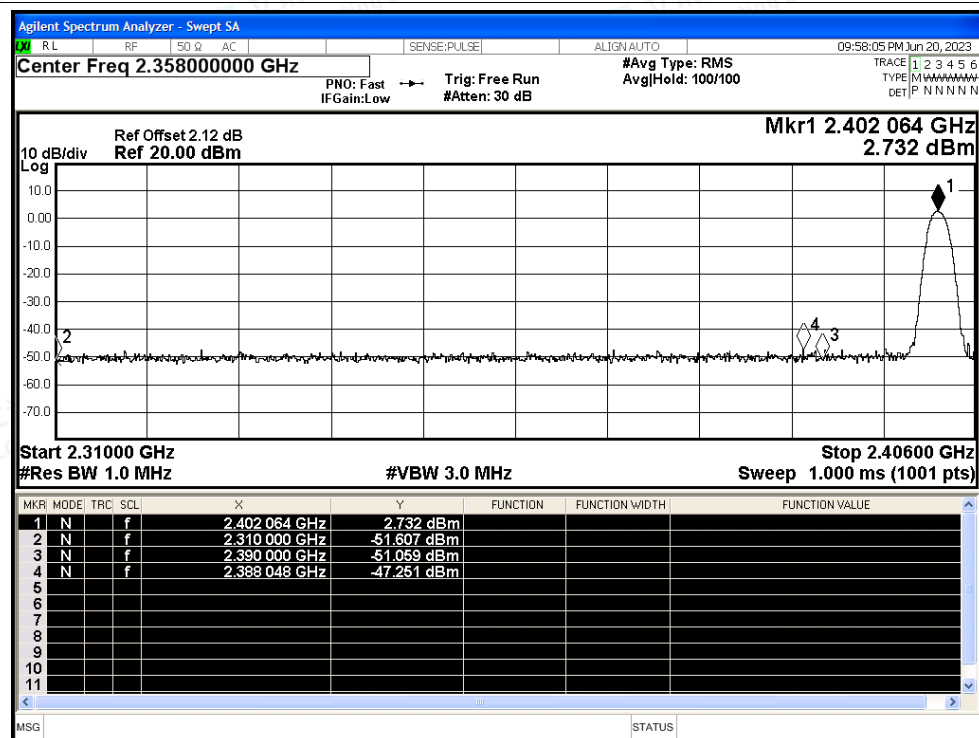


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

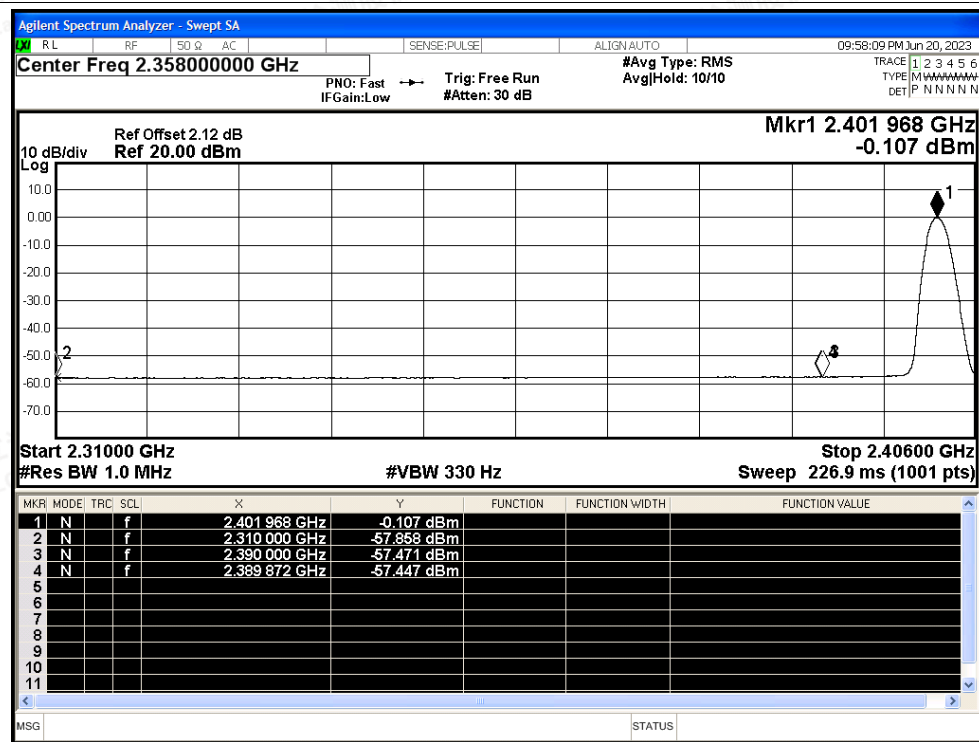




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

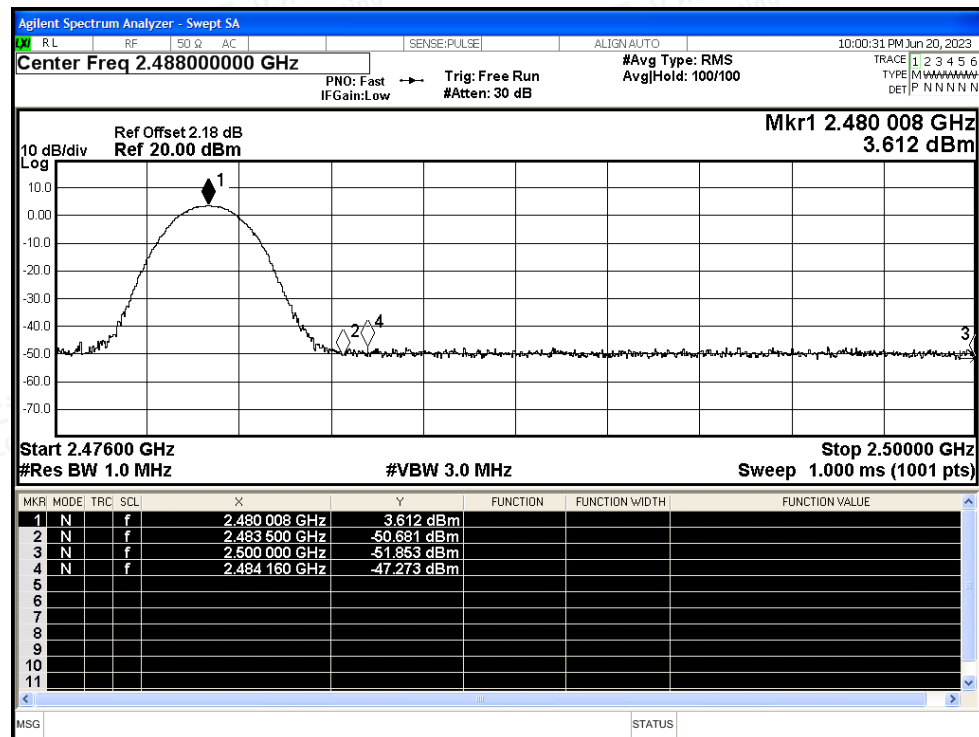


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

