



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Creative Zen Hybrid Pro

Test Model: EF1040

Environmental Conditions

Temperature:	23.1° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>Nick Peng</i> Nick Peng
Supervised by:	<i>Li huan</i> Li huan





A.1 -20dB Bandwidth

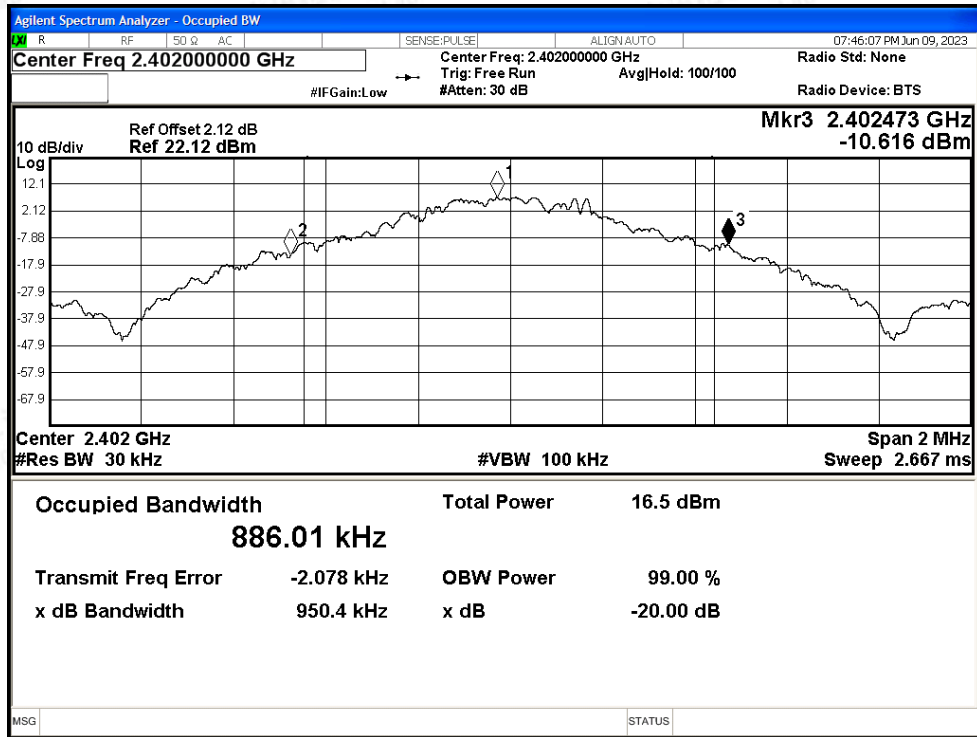
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.95	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.955	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.952	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.247	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.283	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.256	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.272	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.271	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.275	N/A	Pass



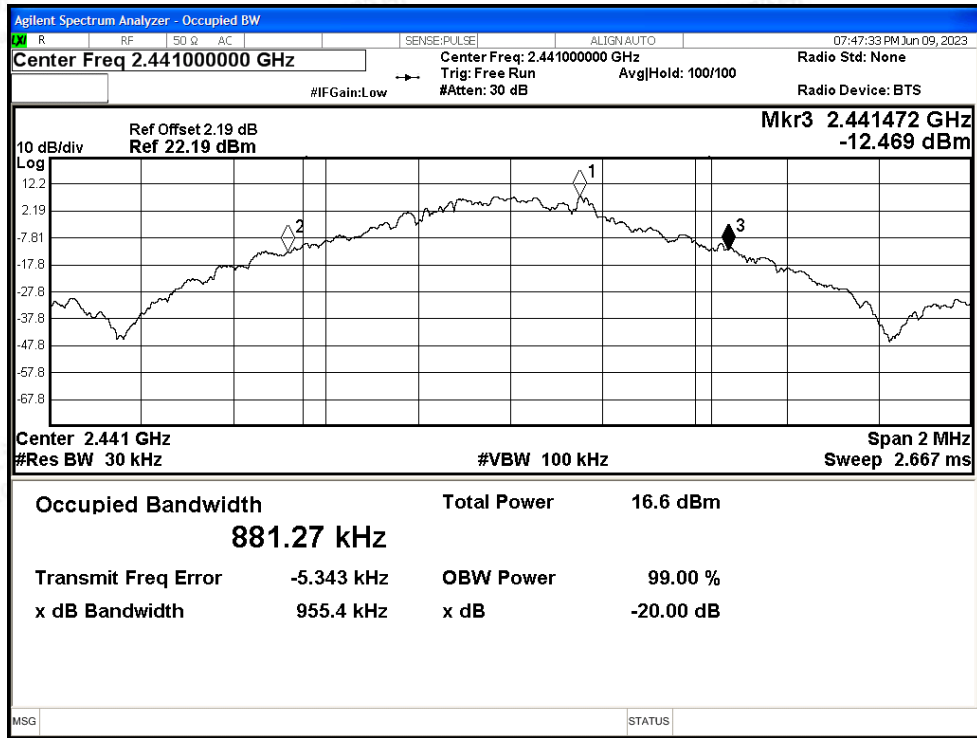


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

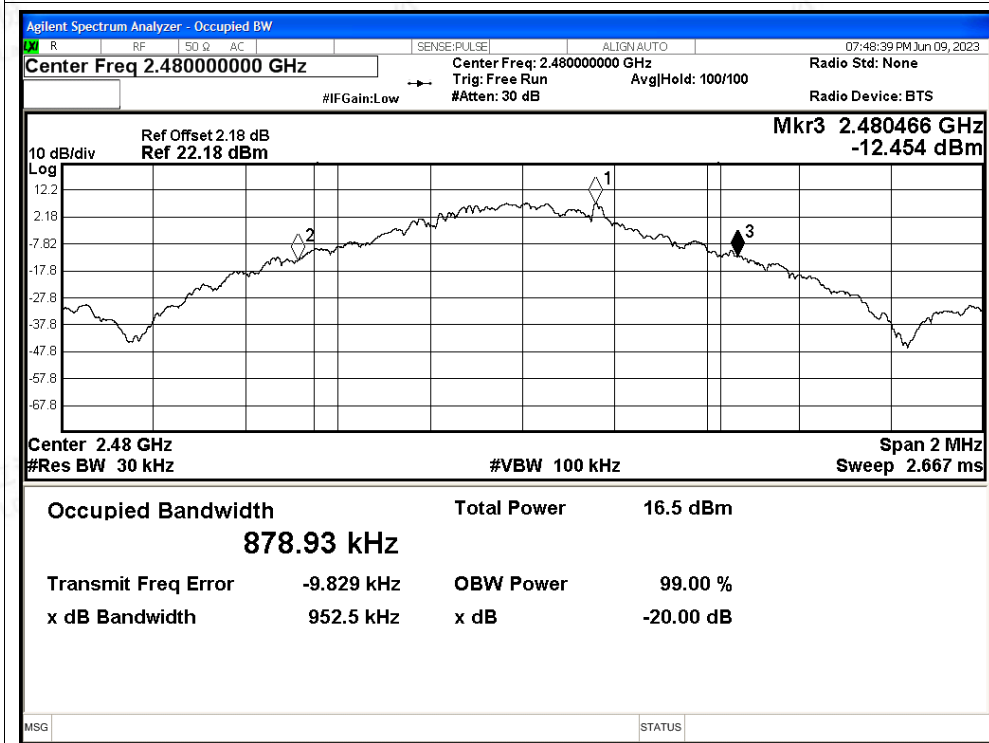


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

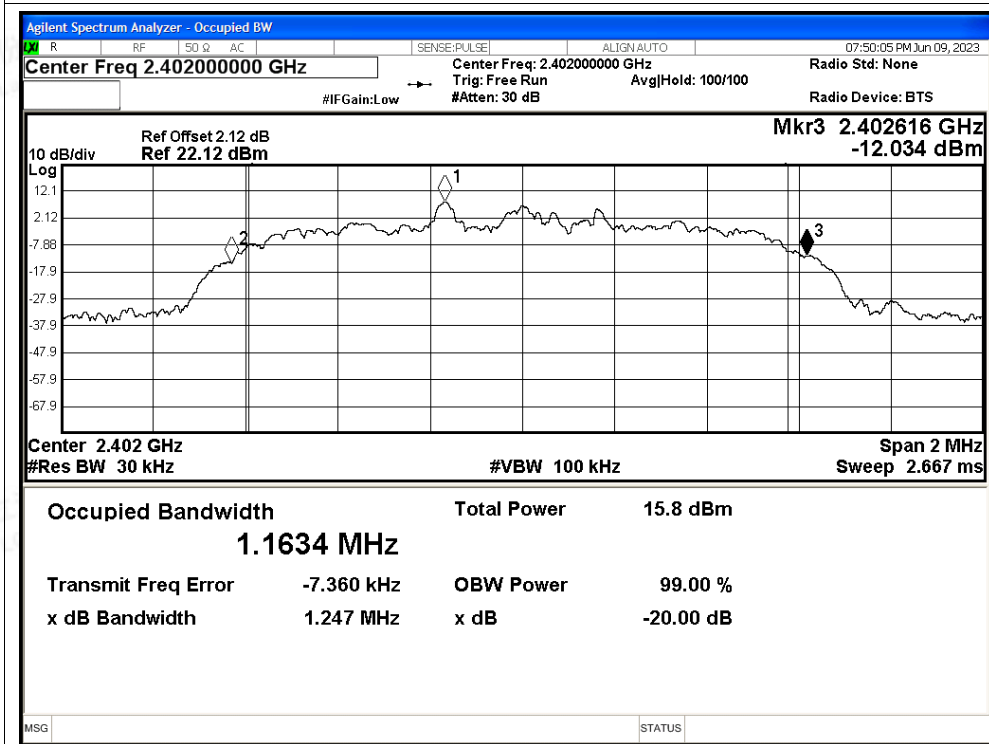




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

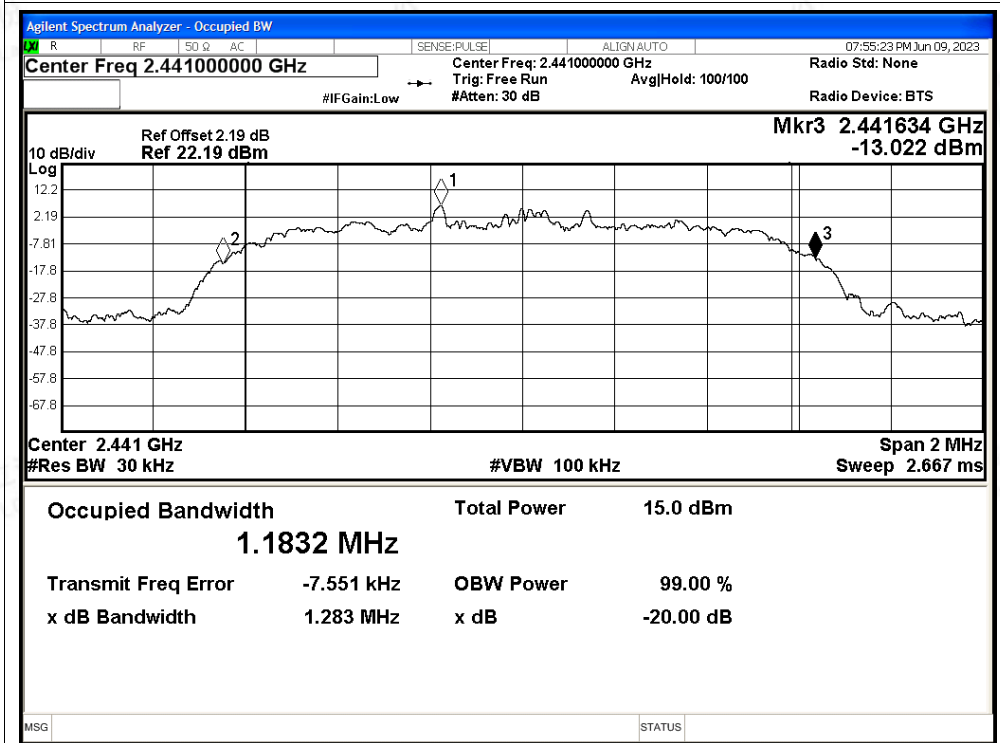


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

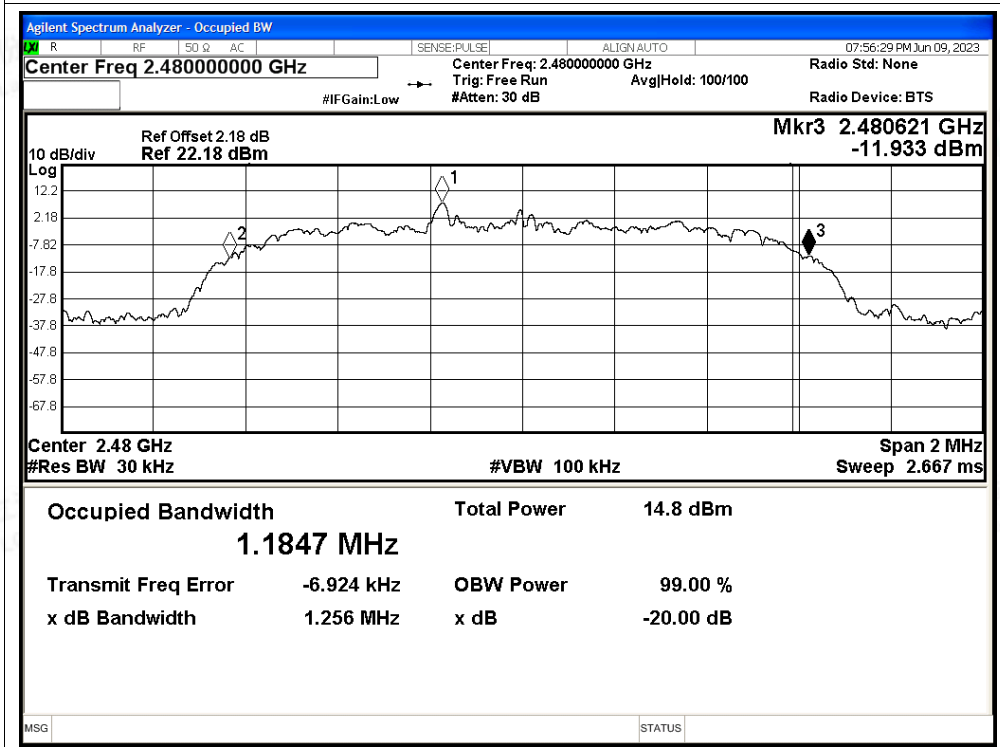




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

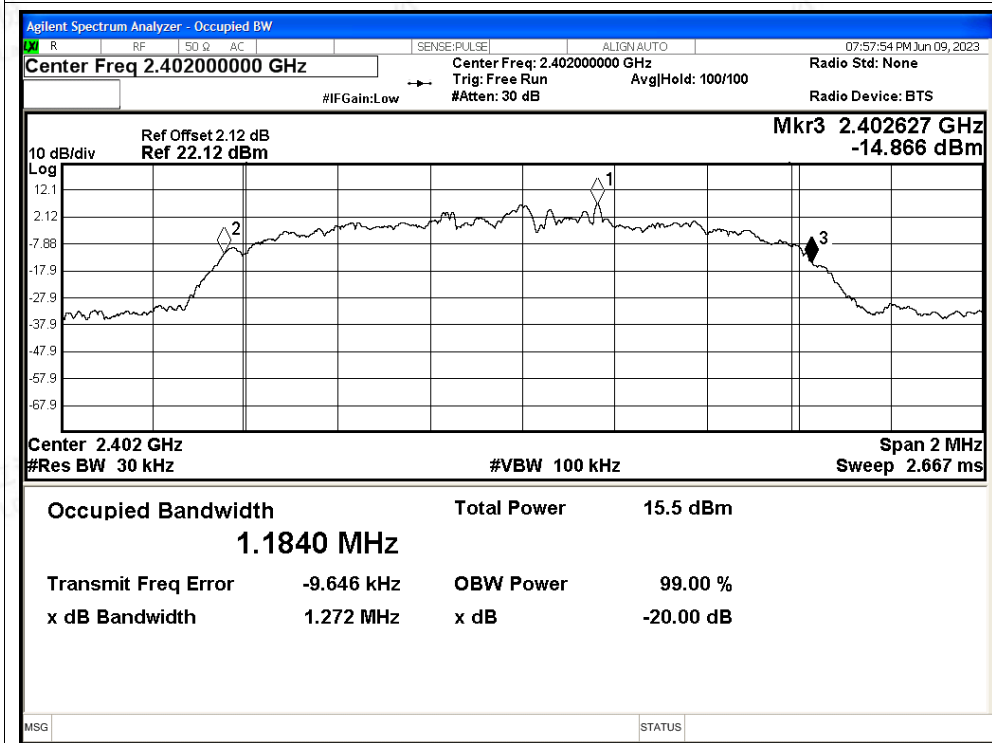


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

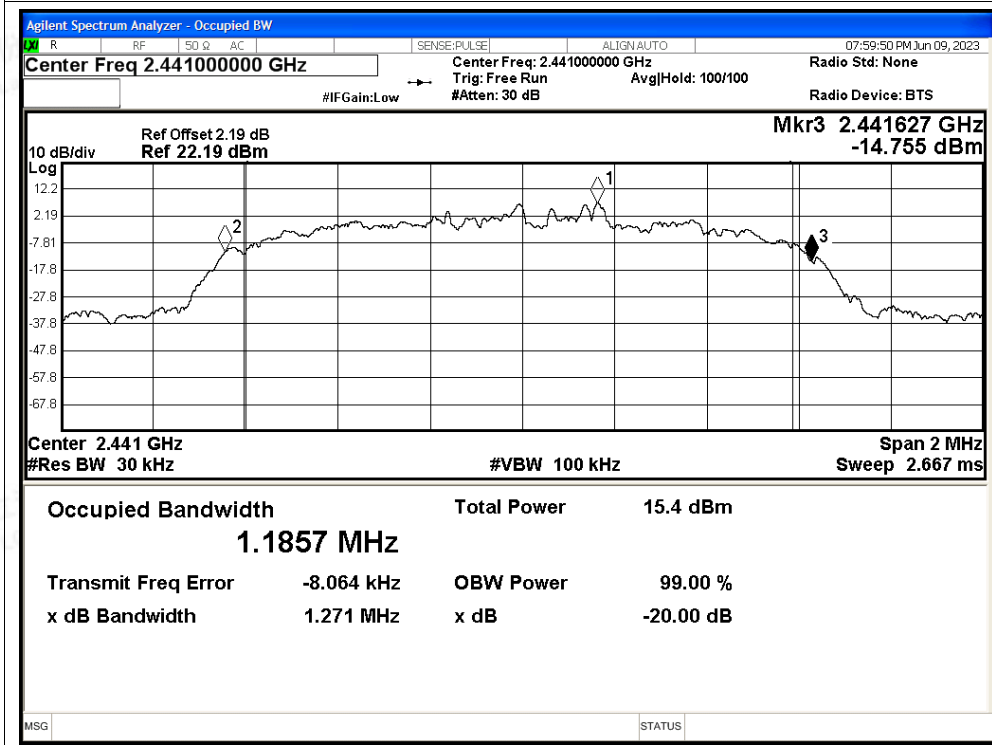


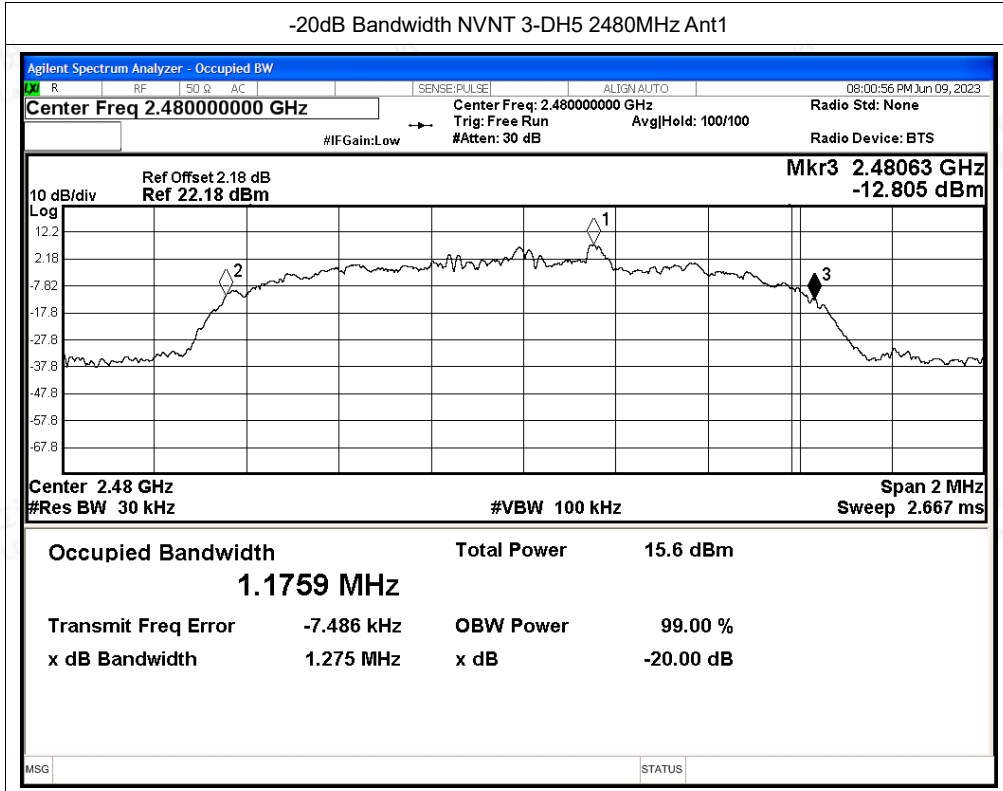


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1







A.2 Occupied Channel Bandwidth

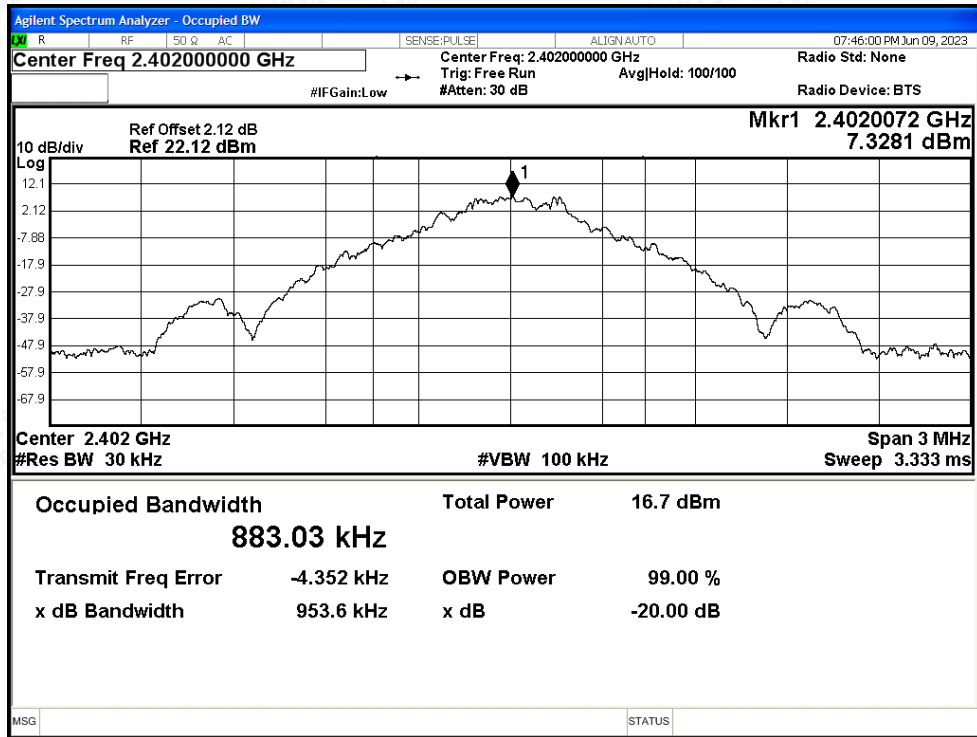
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH5	2402	Ant1	0.883
NVNT	1-DH5	2441	Ant1	0.878
NVNT	1-DH5	2480	Ant1	0.885
NVNT	2-DH5	2402	Ant1	1.188
NVNT	2-DH5	2441	Ant1	1.176
NVNT	2-DH5	2480	Ant1	1.183
NVNT	3-DH5	2402	Ant1	1.192
NVNT	3-DH5	2441	Ant1	1.182
NVNT	3-DH5	2480	Ant1	1.182



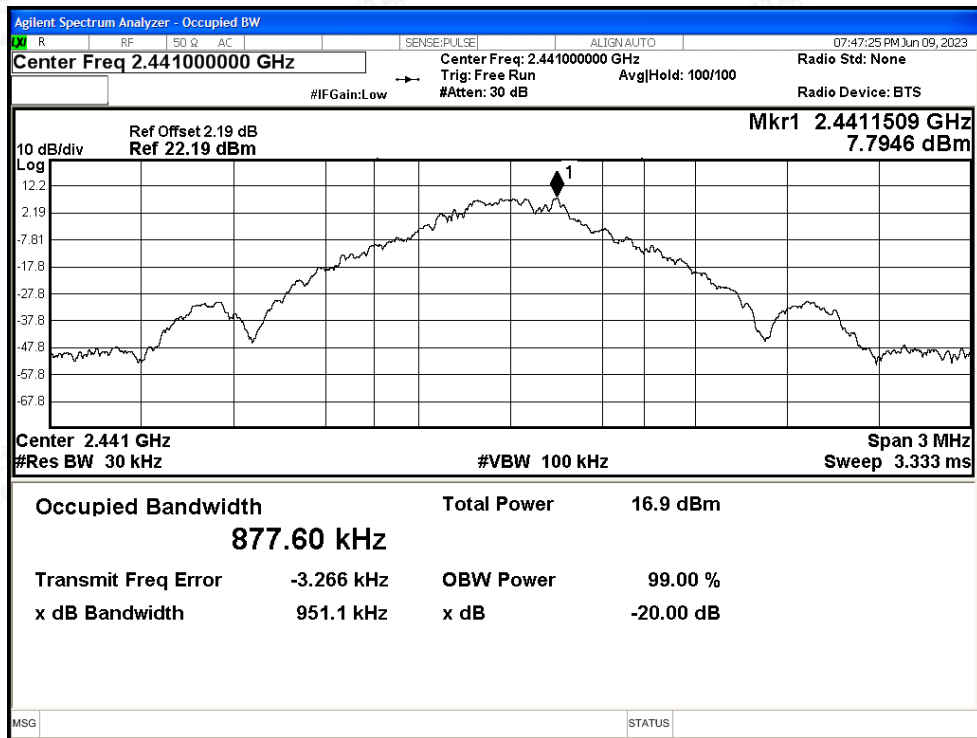


Test Graphs

OBW NVNT 1-DH5 2402MHz Ant1

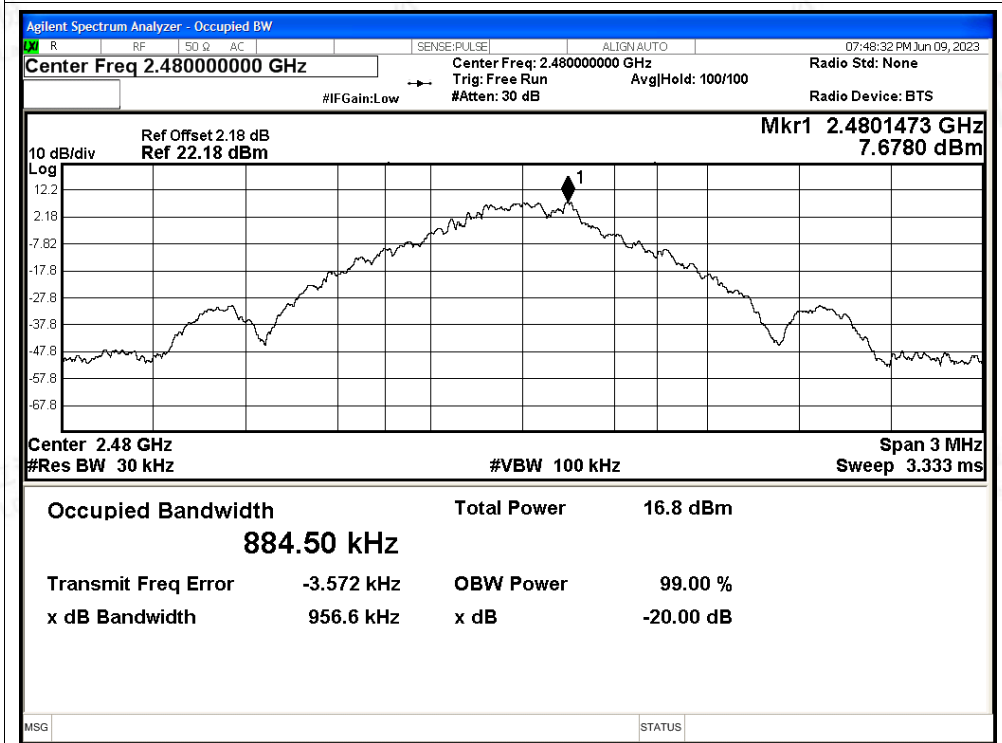


OBW NVNT 1-DH5 2441MHz Ant1

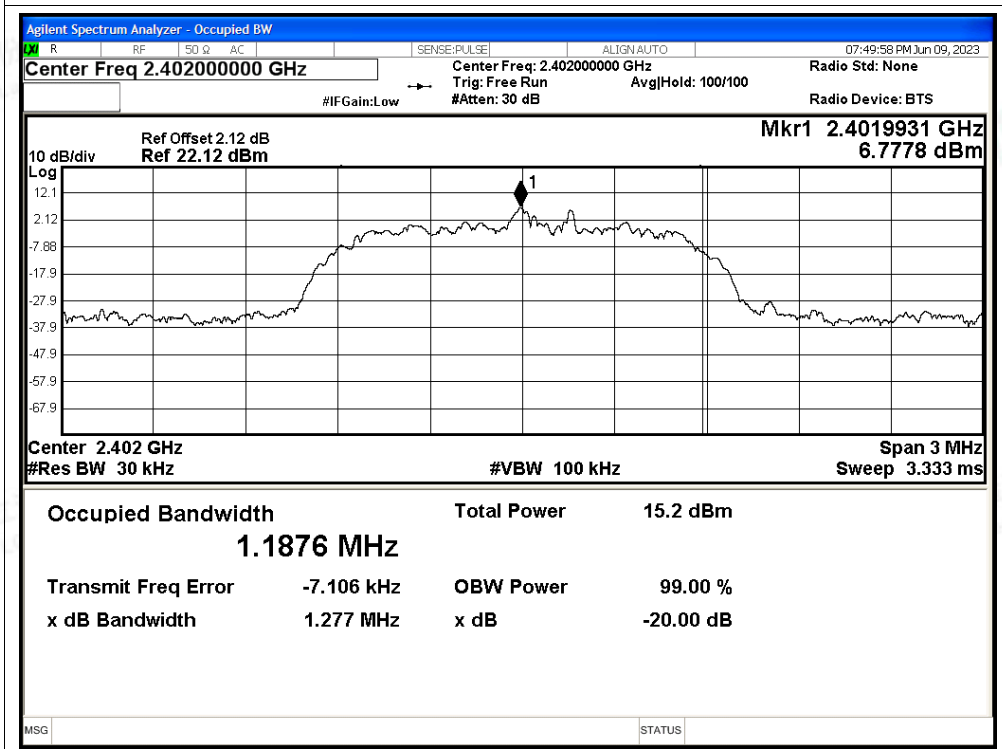




OBW NVNT 1-DH5 2480MHz Ant1

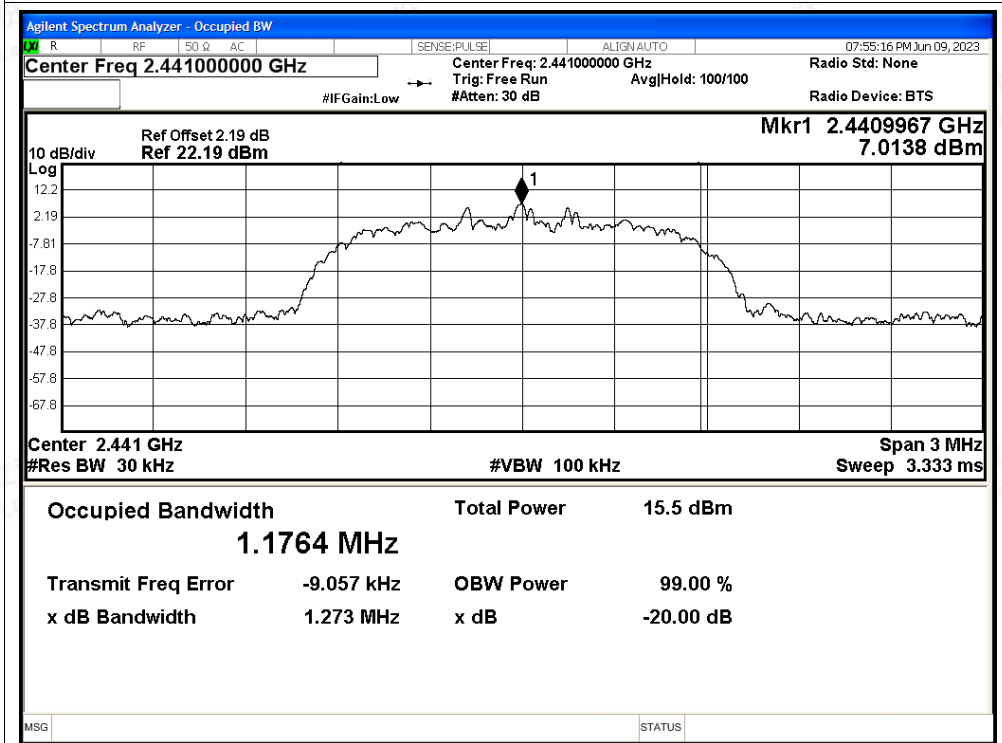


OBW NVNT 2-DH5 2402MHz Ant1

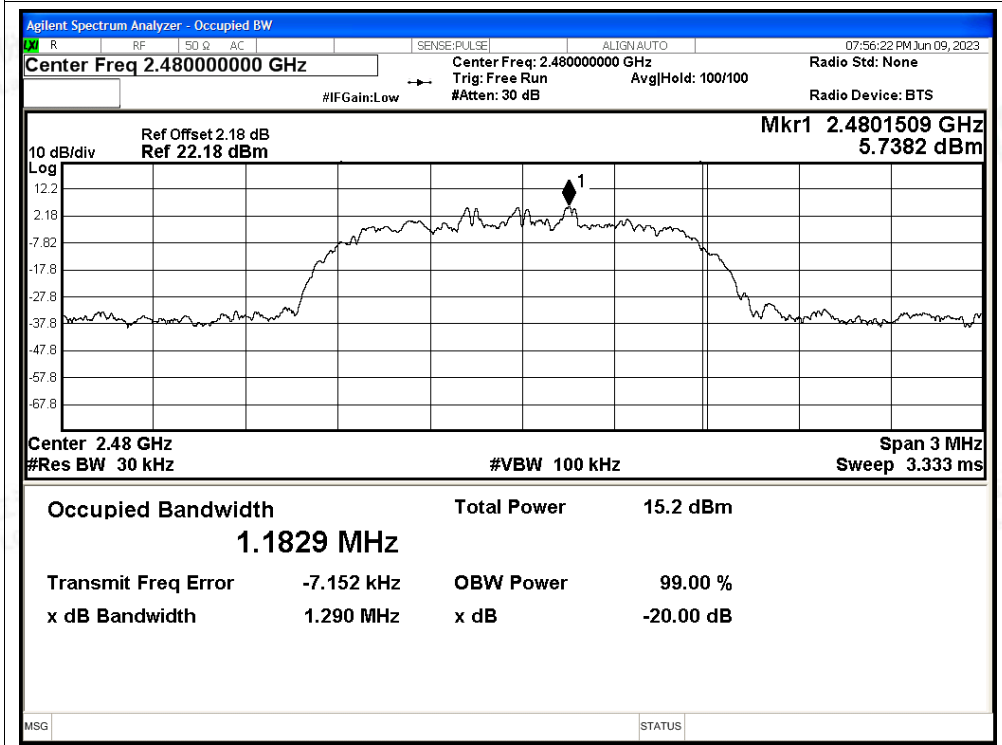




OBW NVNT 2-DH5 2441MHz Ant1

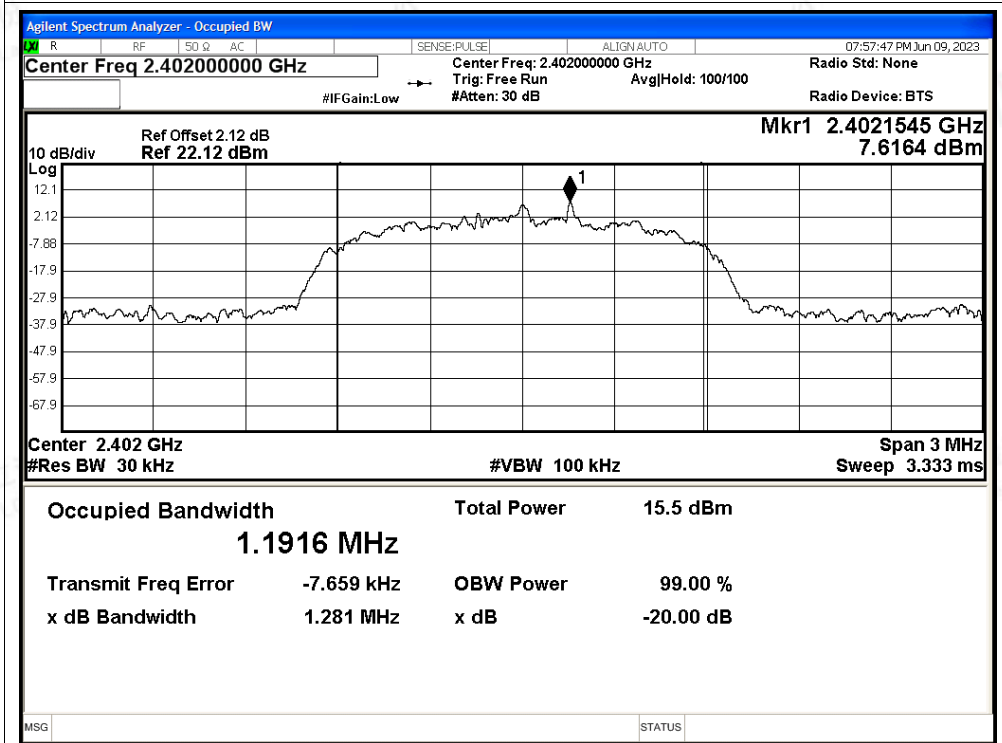


OBW NVNT 2-DH5 2480MHz Ant1

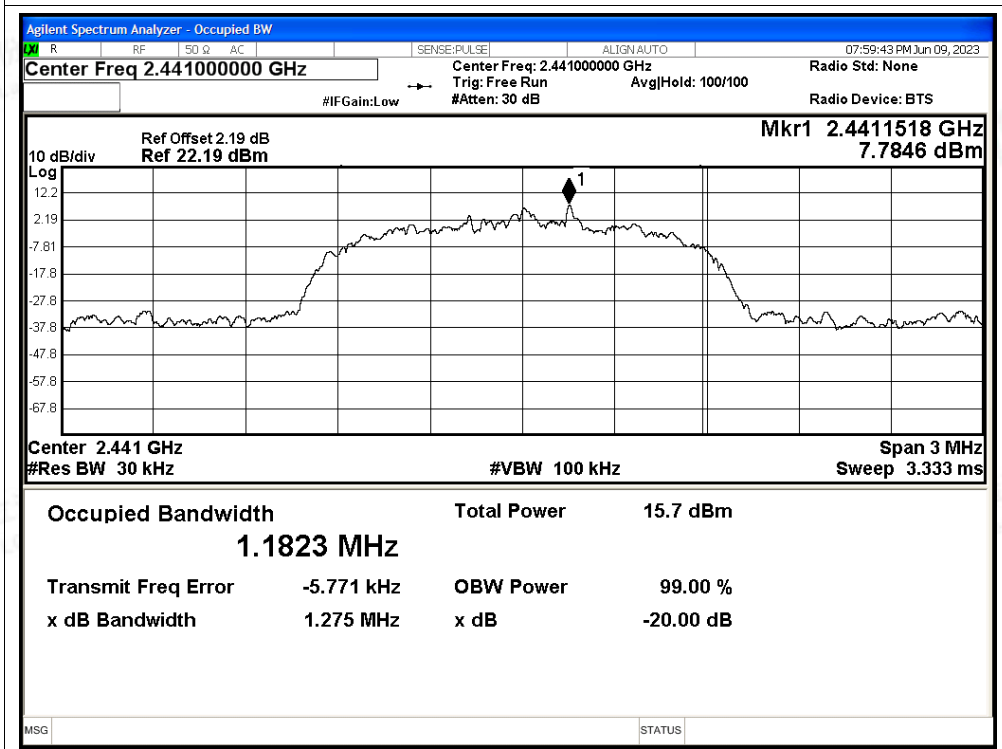


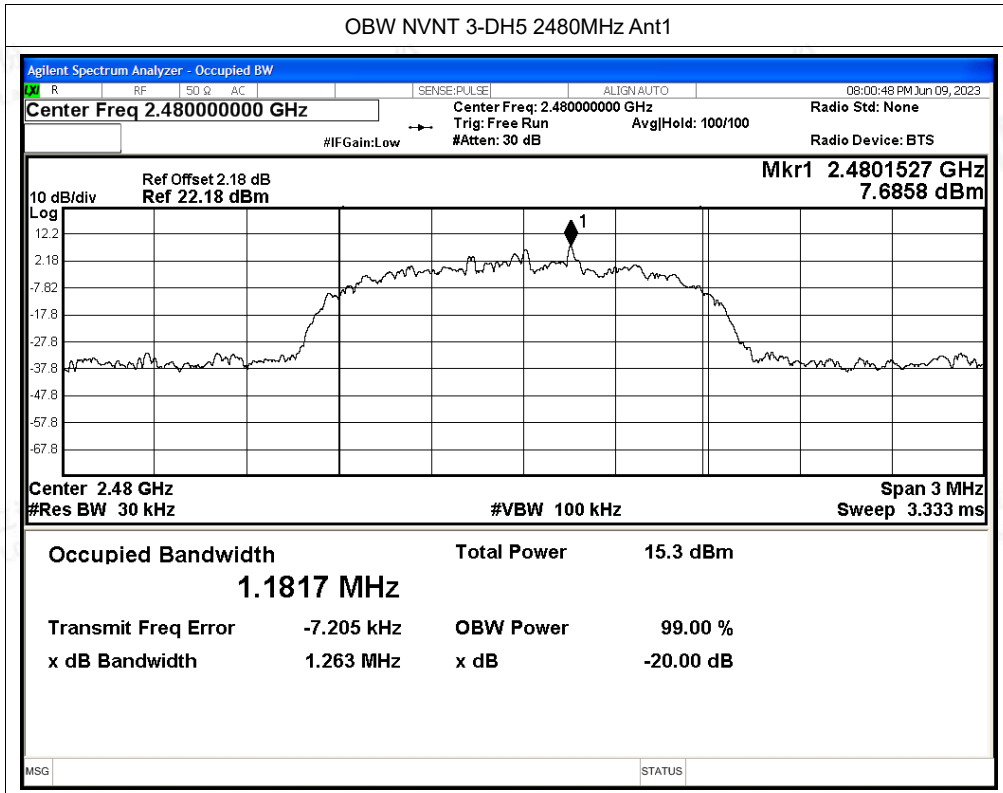


OBW NVNT 3-DH5 2402MHz Ant1



OBW NVNT 3-DH5 2441MHz Ant1







A.3 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	9.96	21	Pass
NVNT	1-DH5	2441	Ant1	10.06	21	Pass
NVNT	1-DH5	2480	Ant1	10.02	21	Pass
NVNT	2-DH5	2402	Ant1	9.93	21	Pass
NVNT	2-DH5	2441	Ant1	10.05	21	Pass
NVNT	2-DH5	2480	Ant1	9.99	21	Pass
NVNT	3-DH5	2402	Ant1	9.99	21	Pass
NVNT	3-DH5	2441	Ant1	10.11	21	Pass
NVNT	3-DH5	2480	Ant1	10.07	21	Pass

EIRP

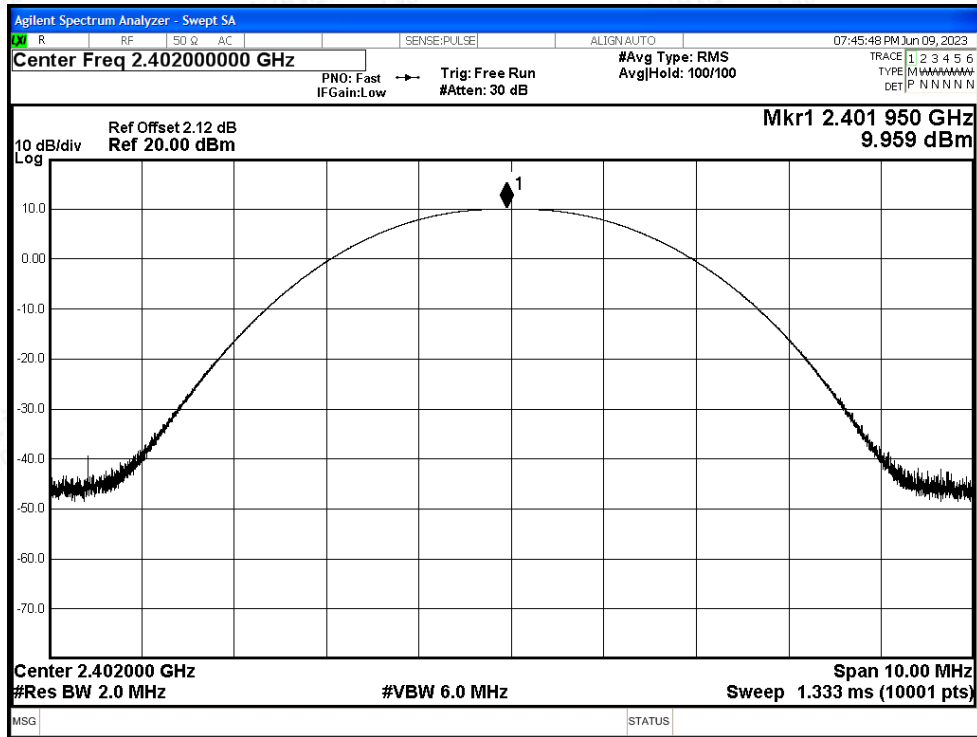
Condition	Mode	Frequency (MHz)	Total Power (dBm)	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	9.96	0.95	10.91	36	Pass
NVNT	1-DH5	2441	10.06	0.95	11.01	36	Pass
NVNT	1-DH5	2480	10.02	0.95	10.97	36	Pass
NVNT	2-DH5	2402	9.93	0.95	10.88	36	Pass
NVNT	2-DH5	2441	10.05	0.95	11	36	Pass
NVNT	2-DH5	2480	9.99	0.95	10.94	36	Pass
NVNT	3-DH5	2402	9.99	0.95	10.94	36	Pass
NVNT	3-DH5	2441	10.11	0.95	11.06	36	Pass
NVNT	3-DH5	2480	10.07	0.95	11.02	36	Pass



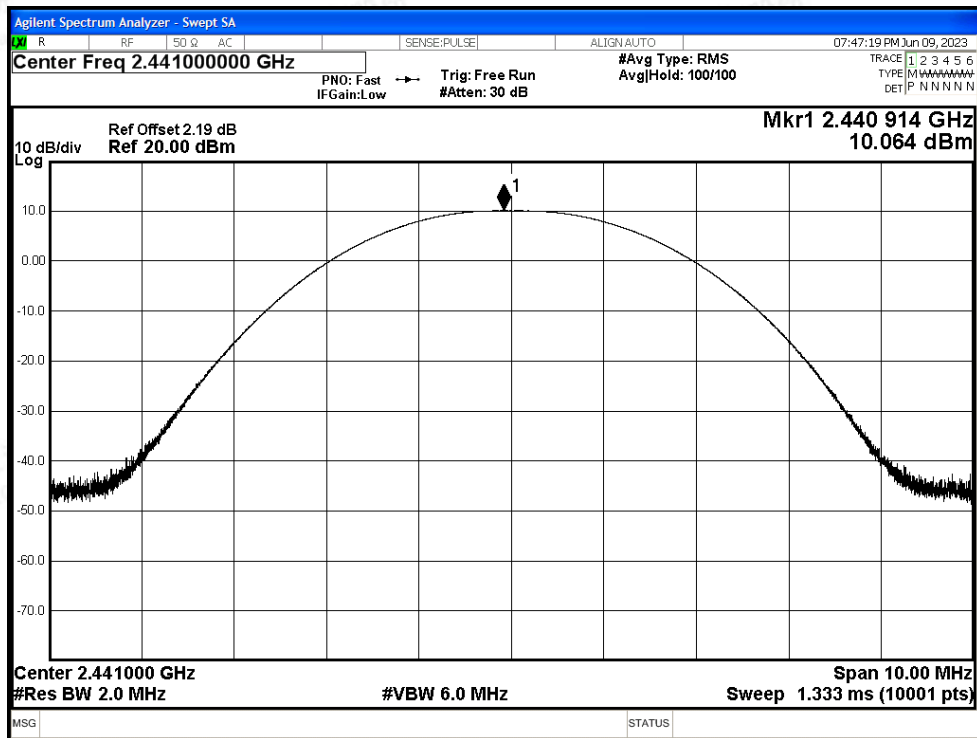


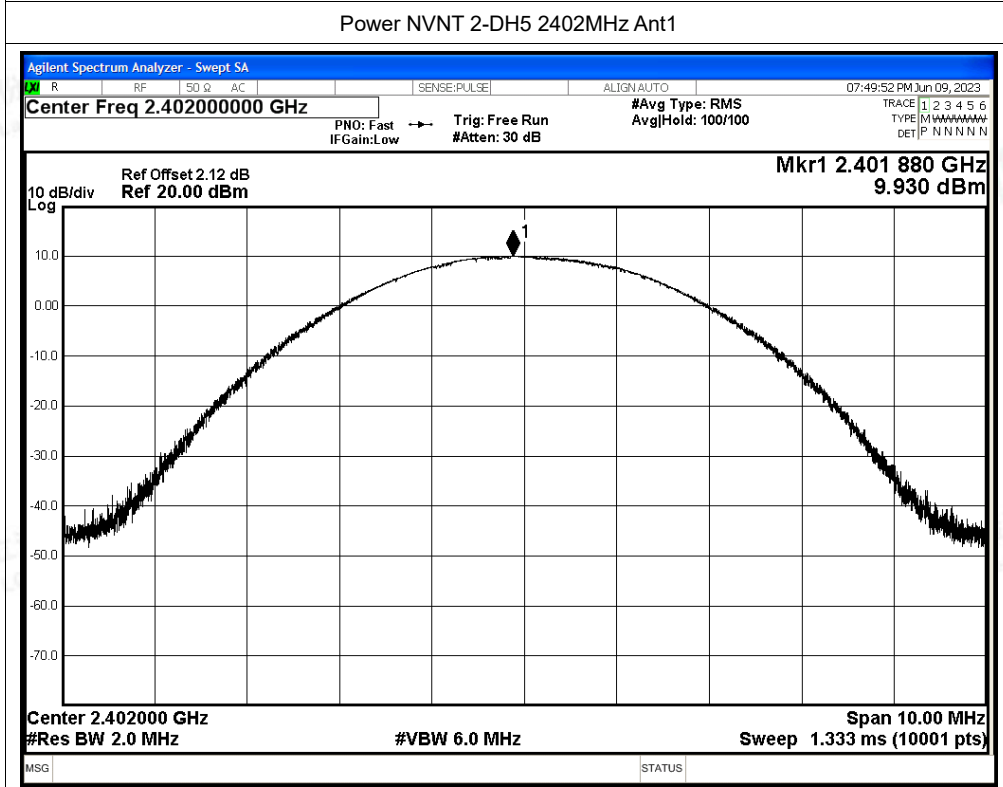
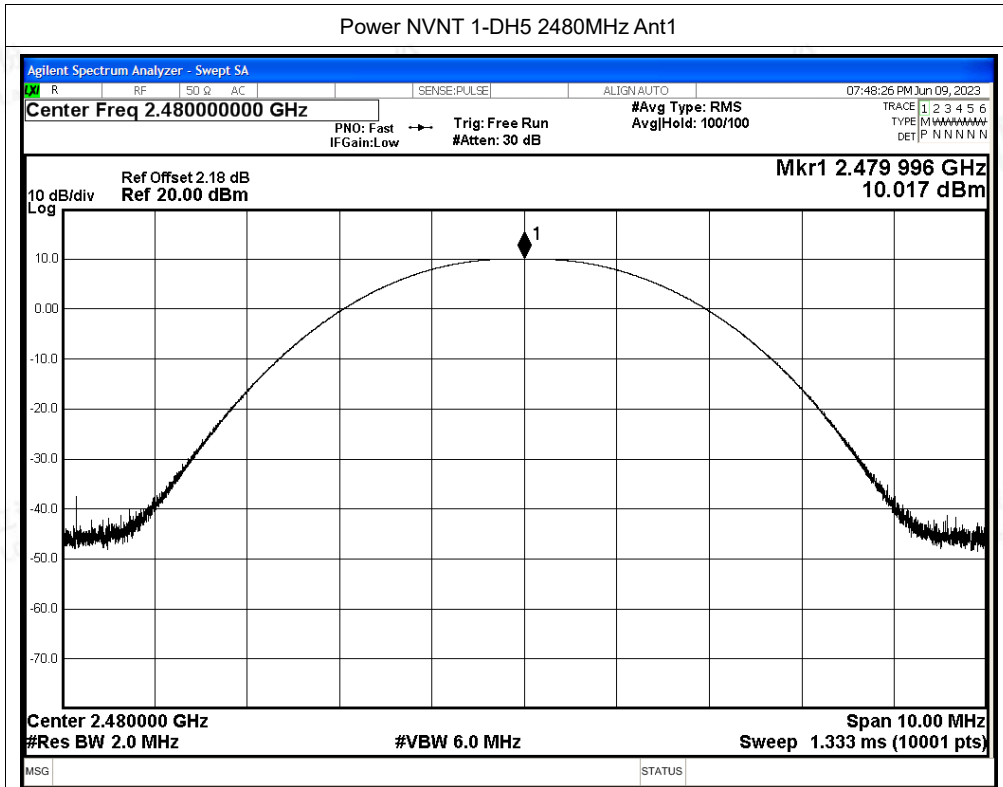
Test Graphs

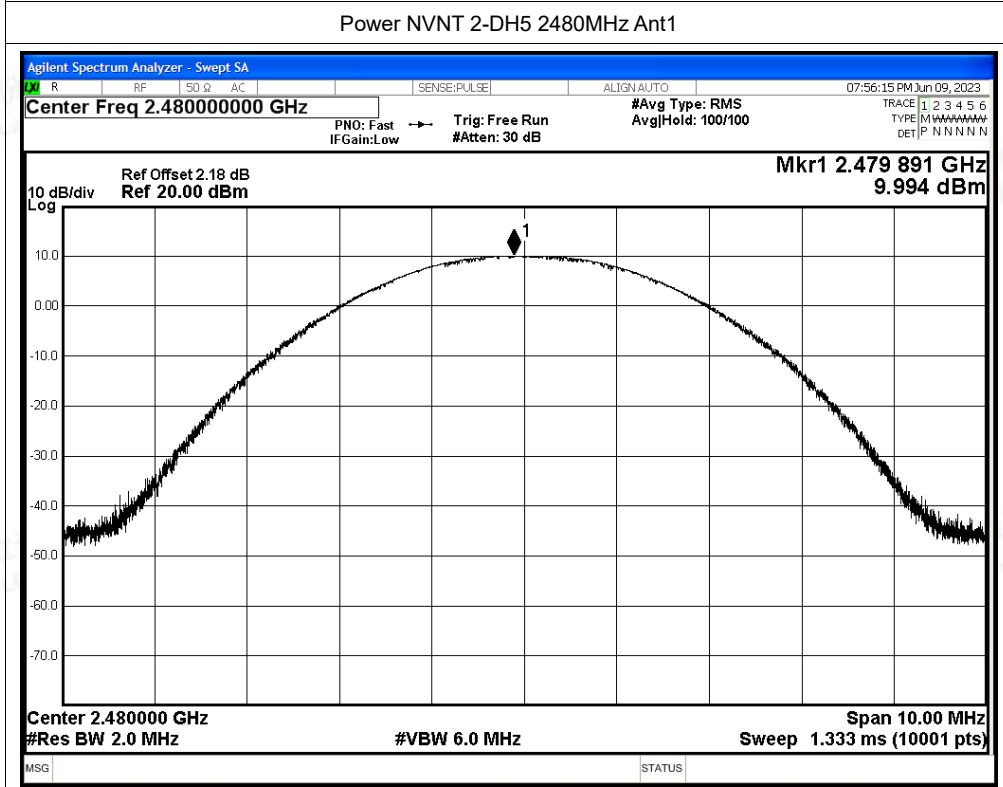
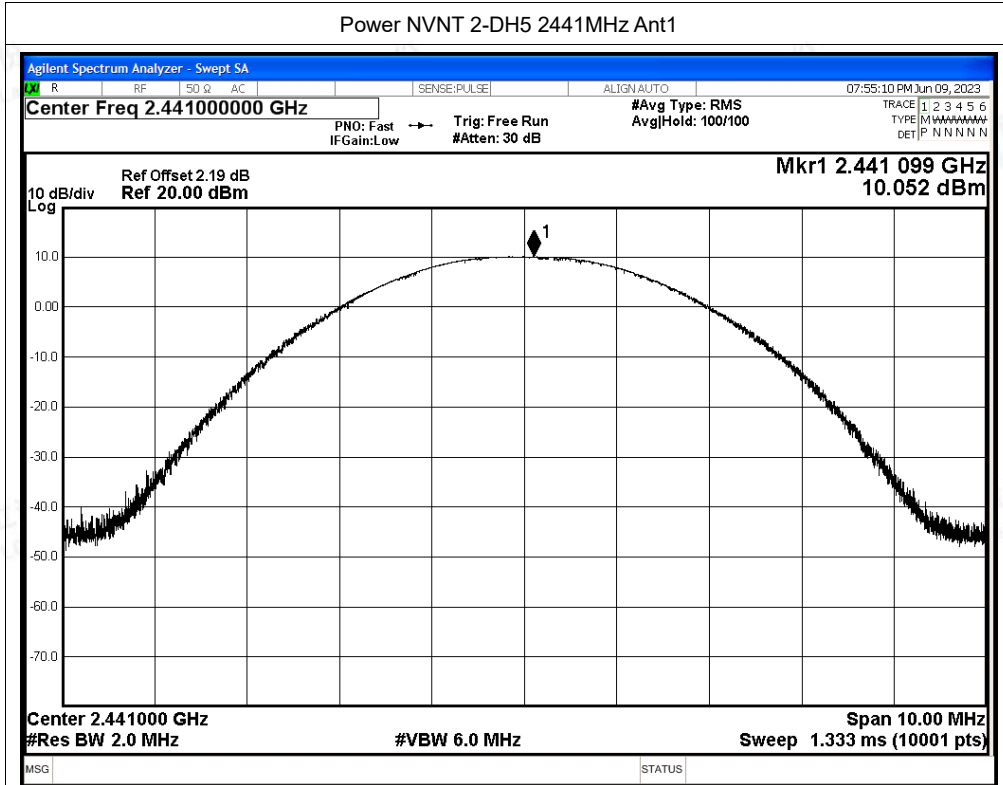
Power NVNT 1-DH5 2402MHz Ant1

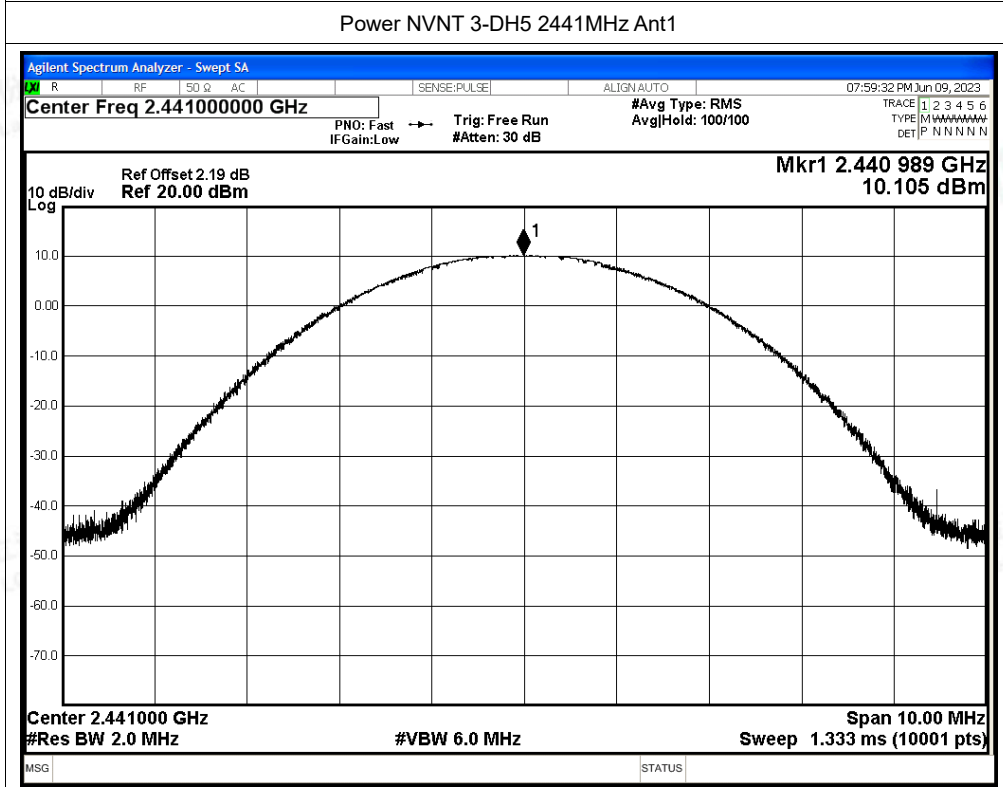
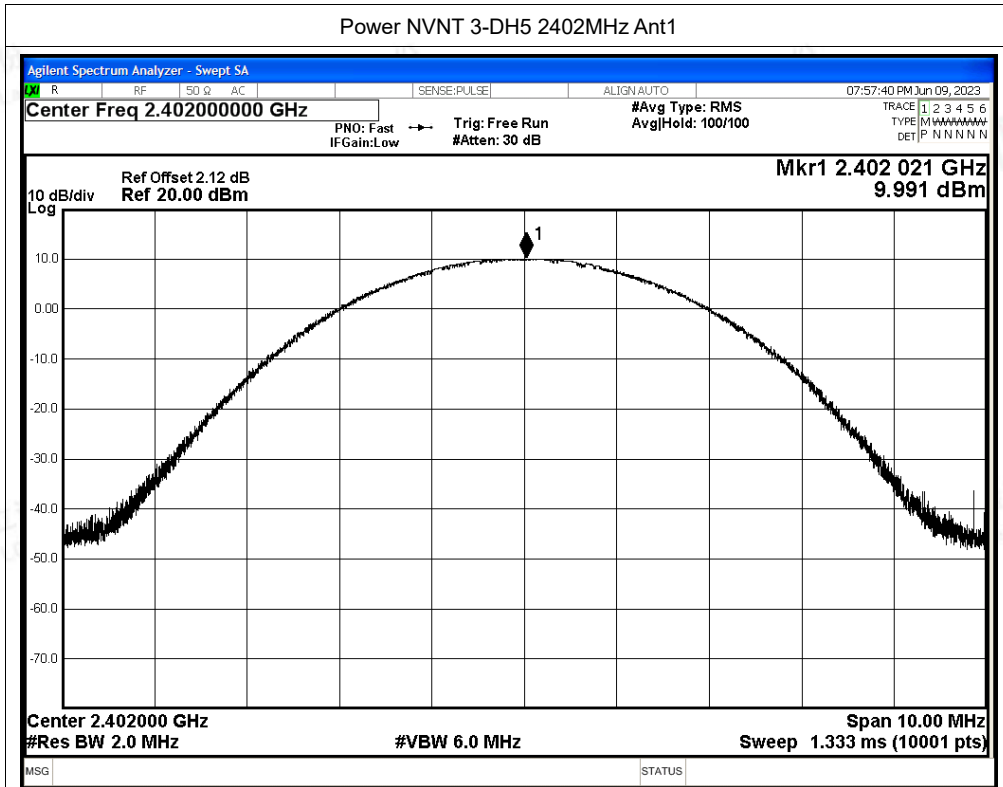


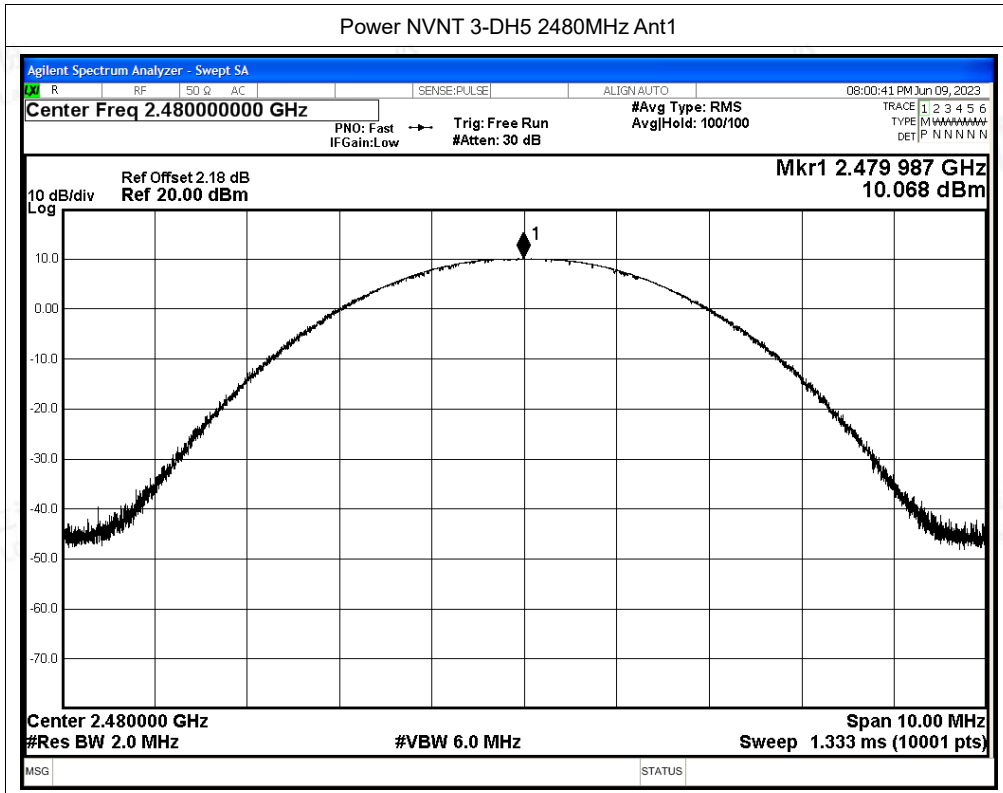
Power NVNT 1-DH5 2441MHz Ant1













A.4 Carrier Frequencies Separation

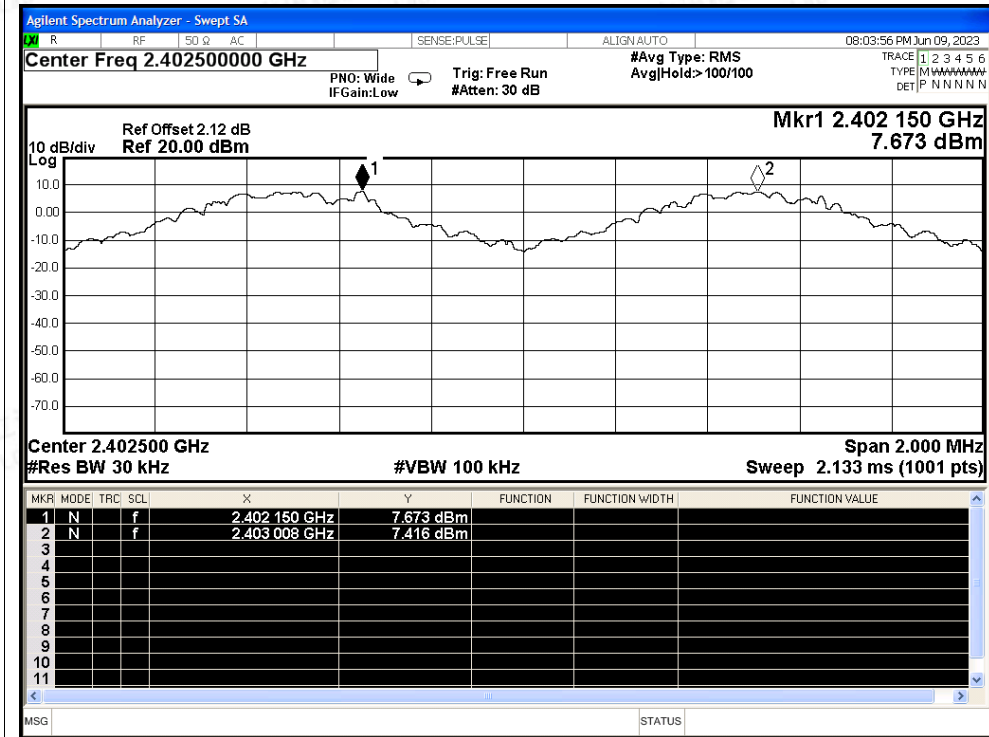
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.15	2403.008	0.858	0.637	Pass
NVNT	2-DH5	Ant1	2402.038	2402.998	0.96	0.855	Pass
NVNT	3-DH5	Ant1	2402.176	2403.12	0.944	0.850	Pass



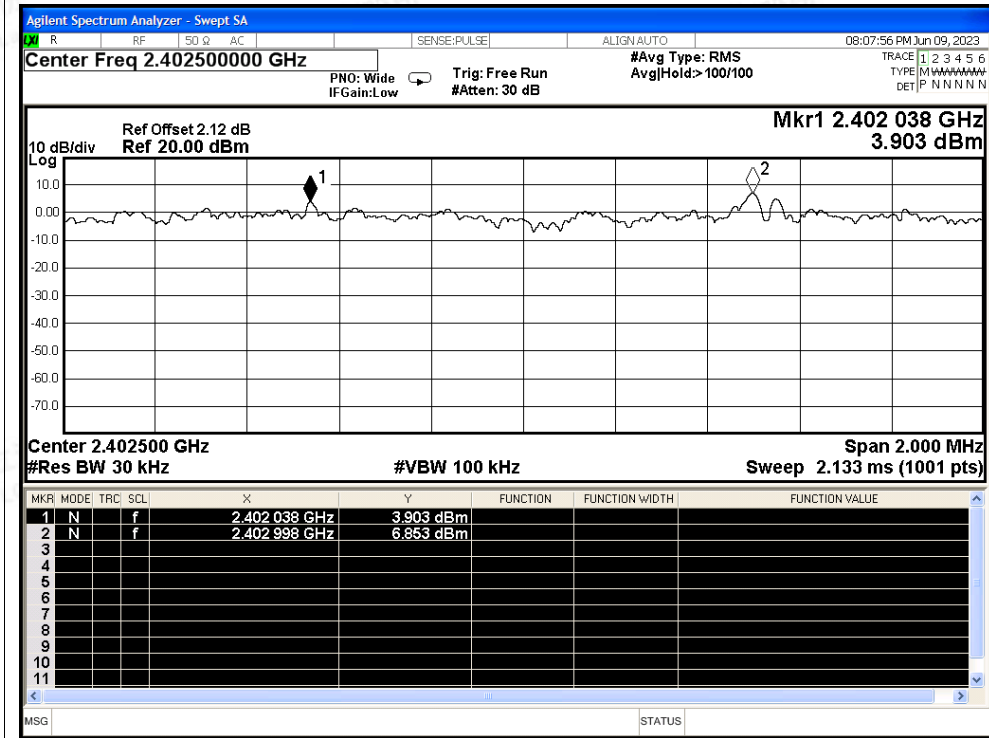


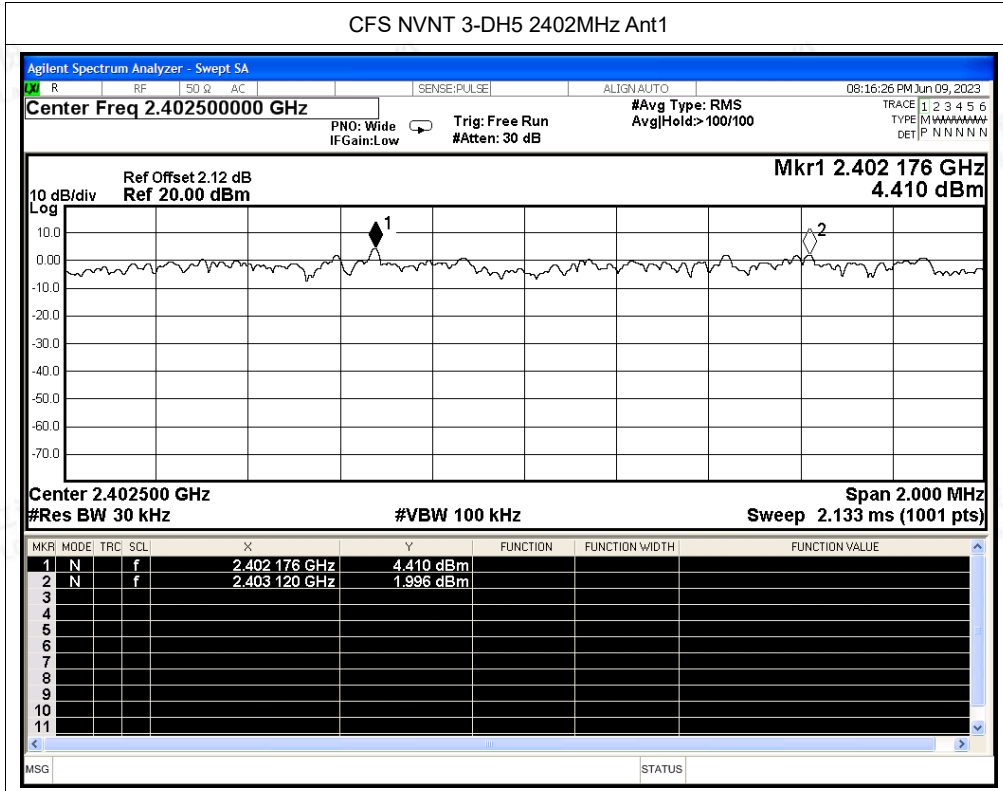
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1







A.5 Dwell Time

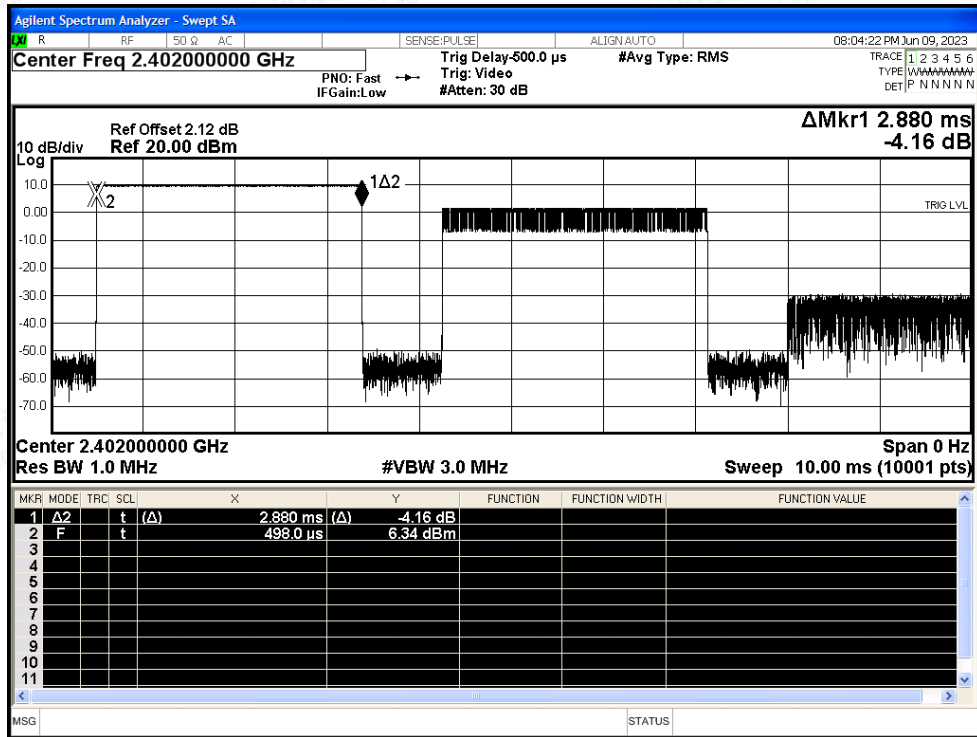
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.88	308.16	107	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.882	308.374	107	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.883	308.481	107	31600	400	Pass



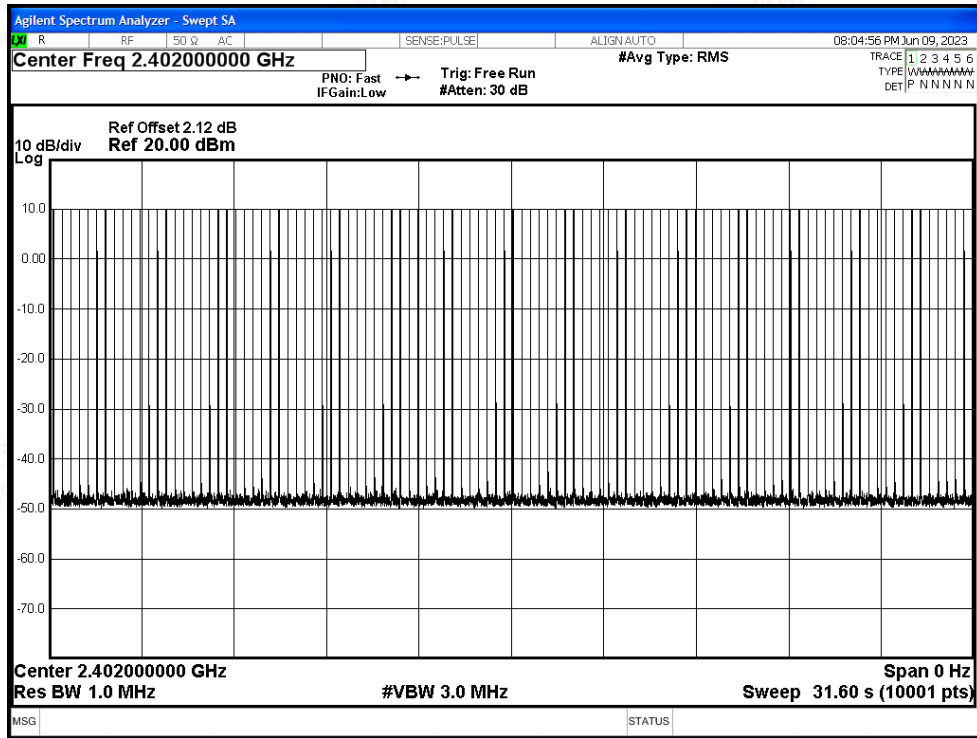


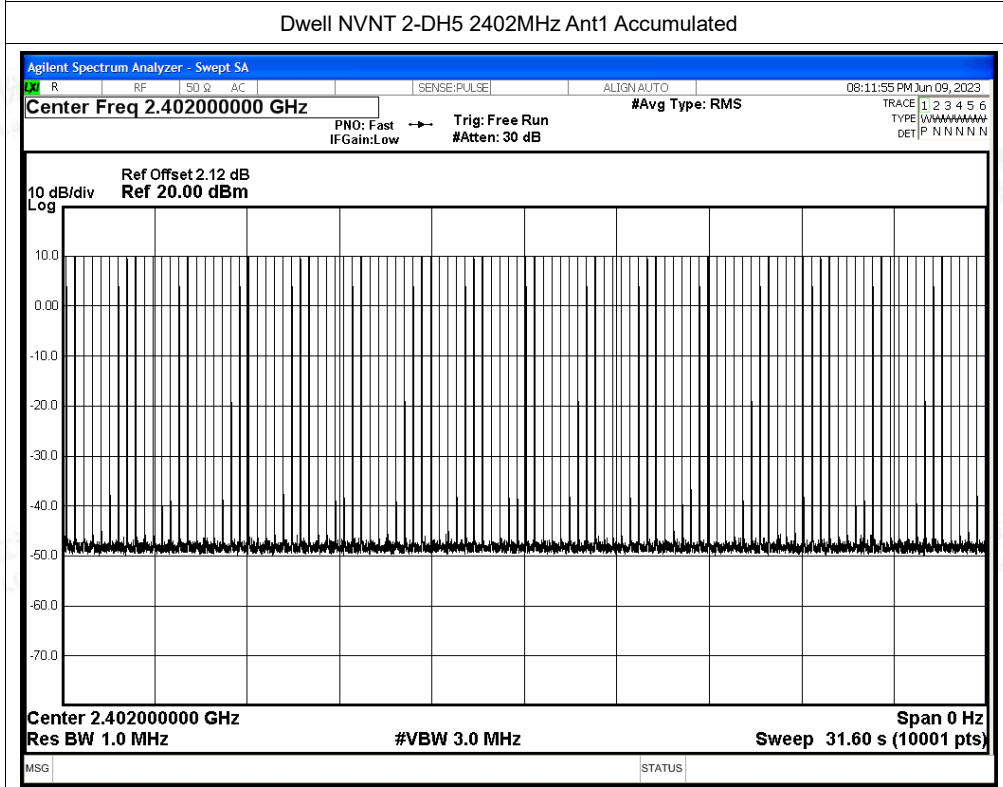
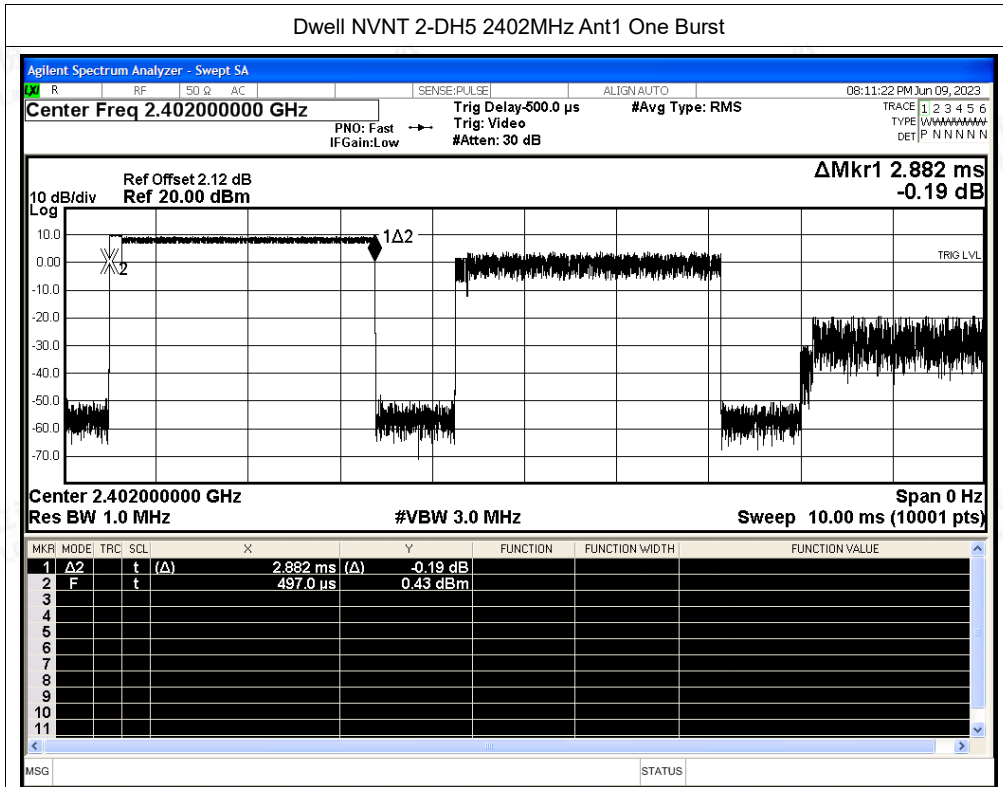
Test Graphs

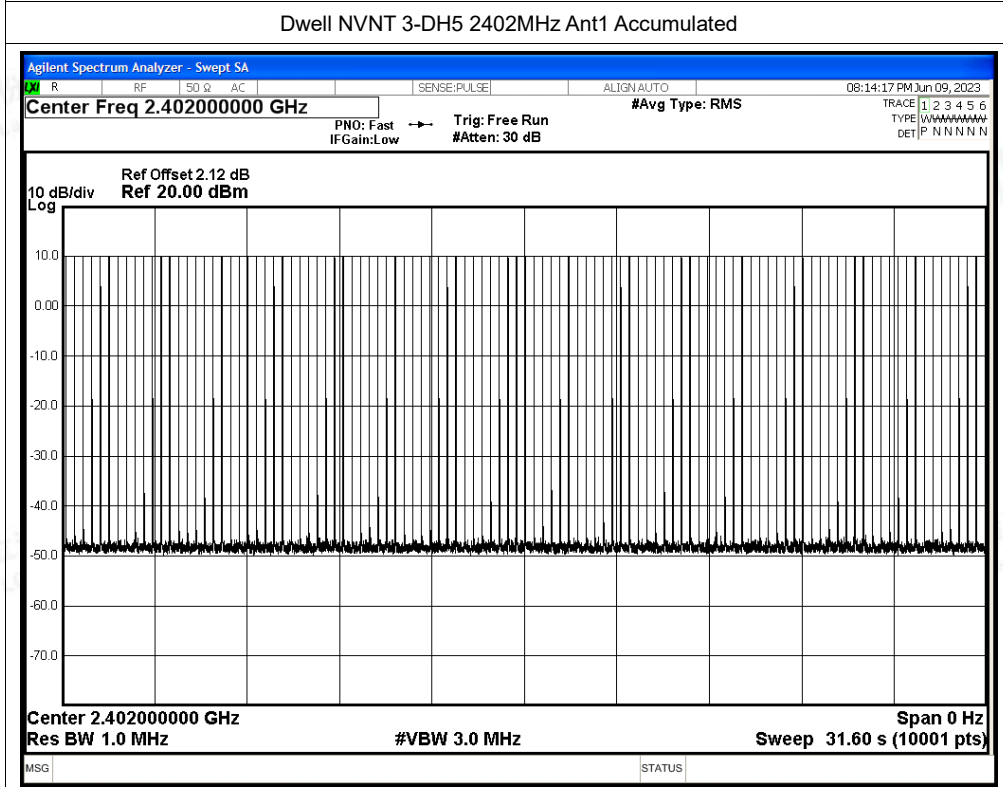
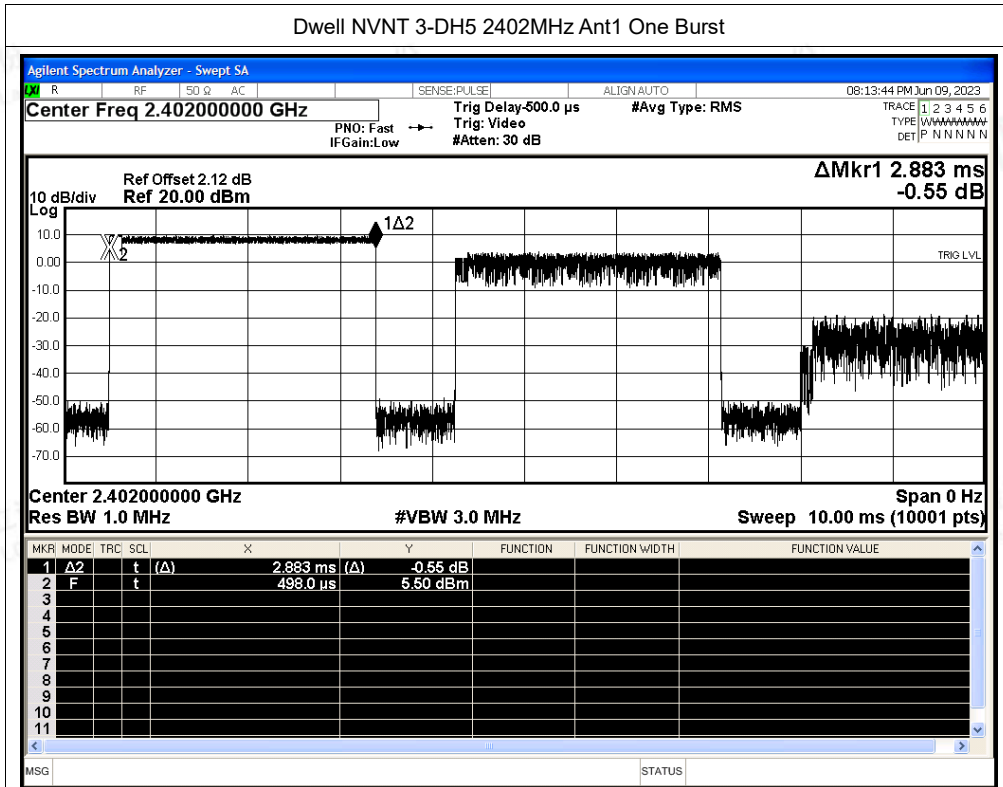
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated









A.6 Number of Hopping Channel

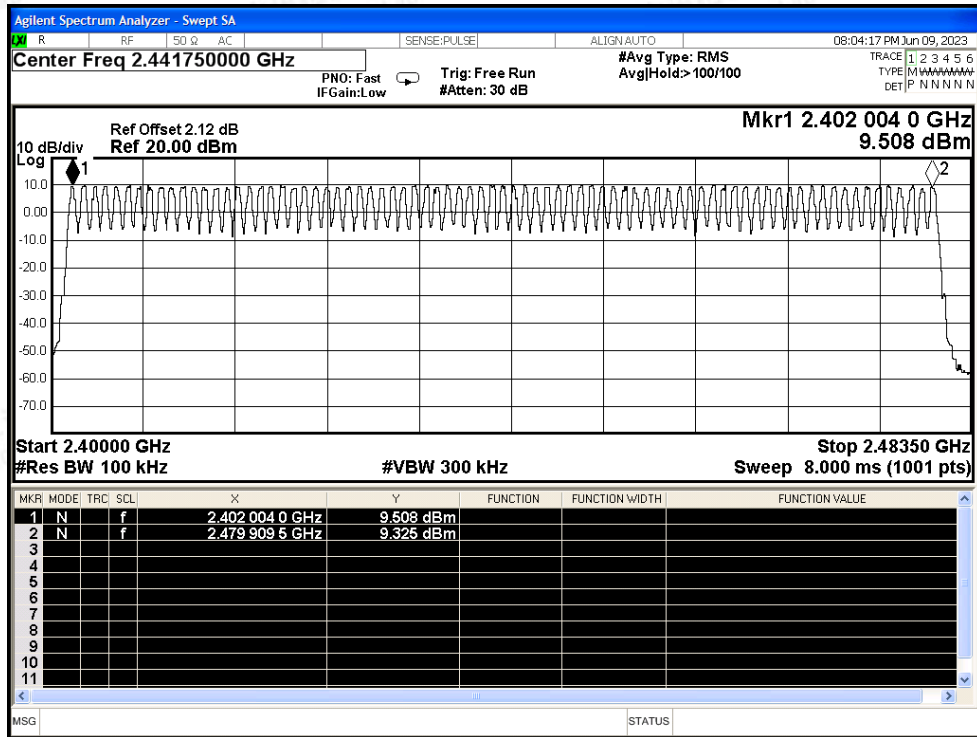
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



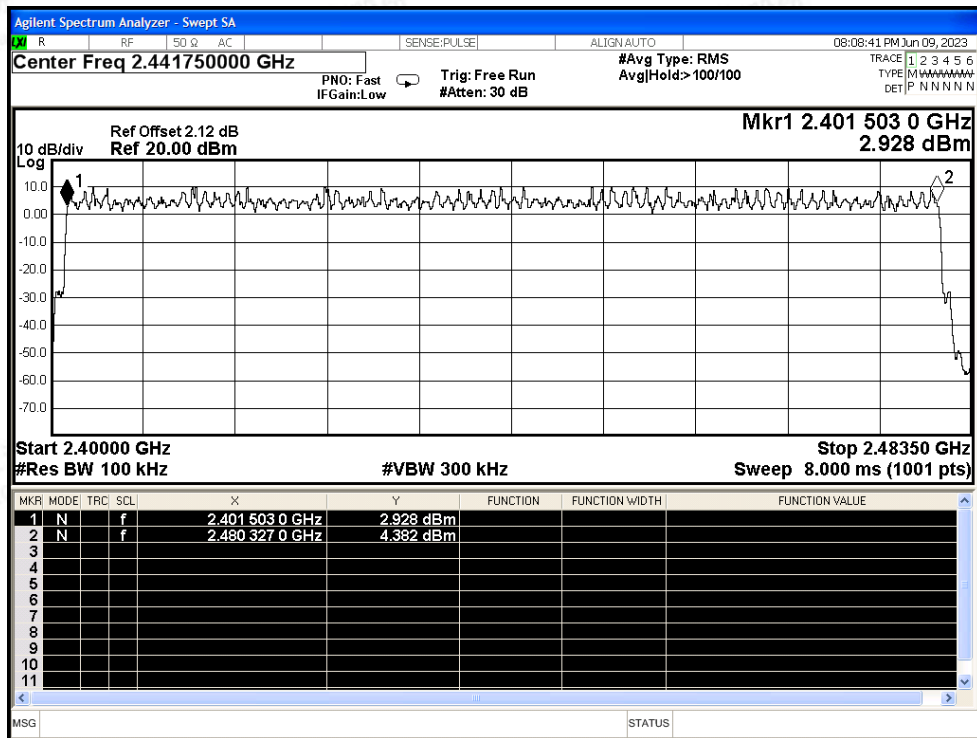


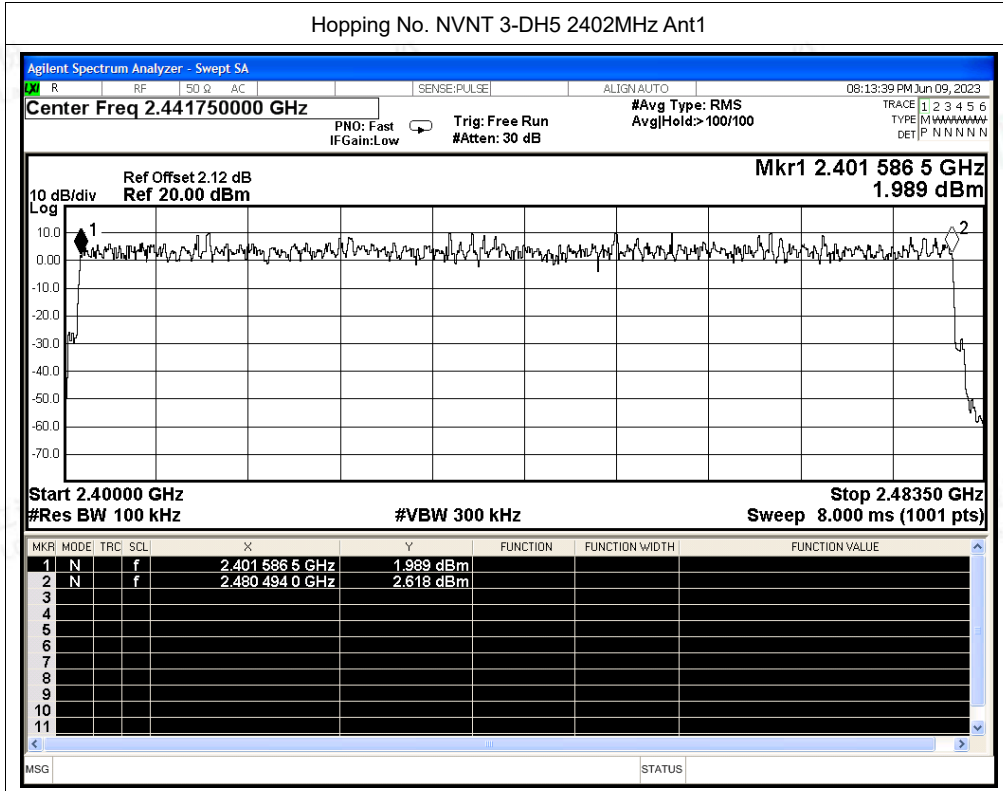
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1







A.7 Band Edge

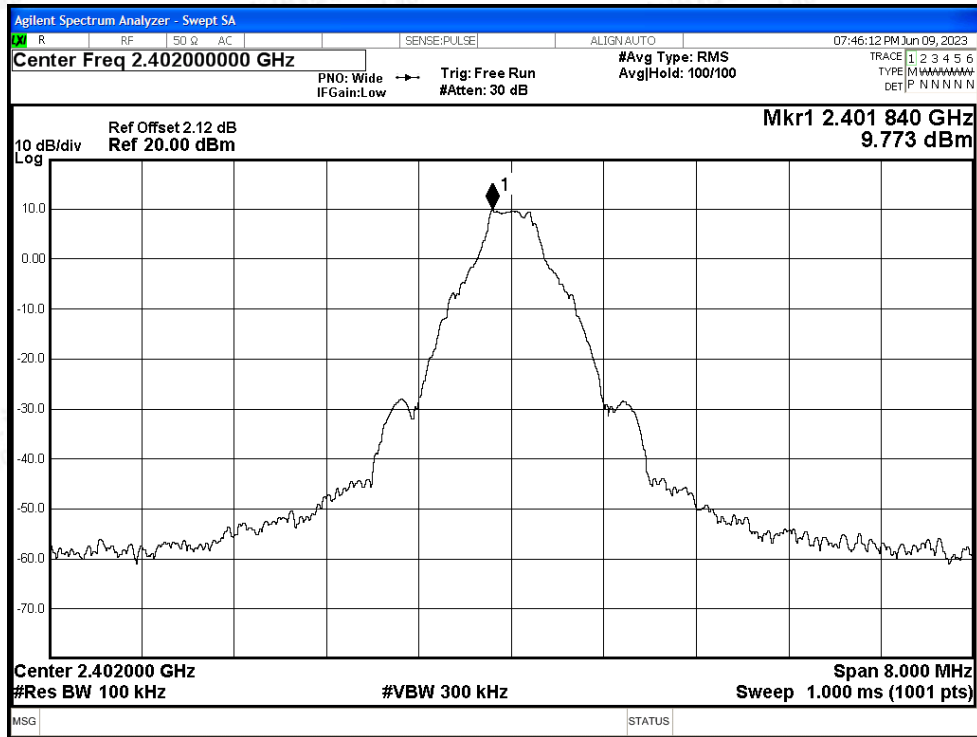
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-60.78	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-65.6	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-56.69	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-65.7	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-52.42	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-61.83	-20	Pass



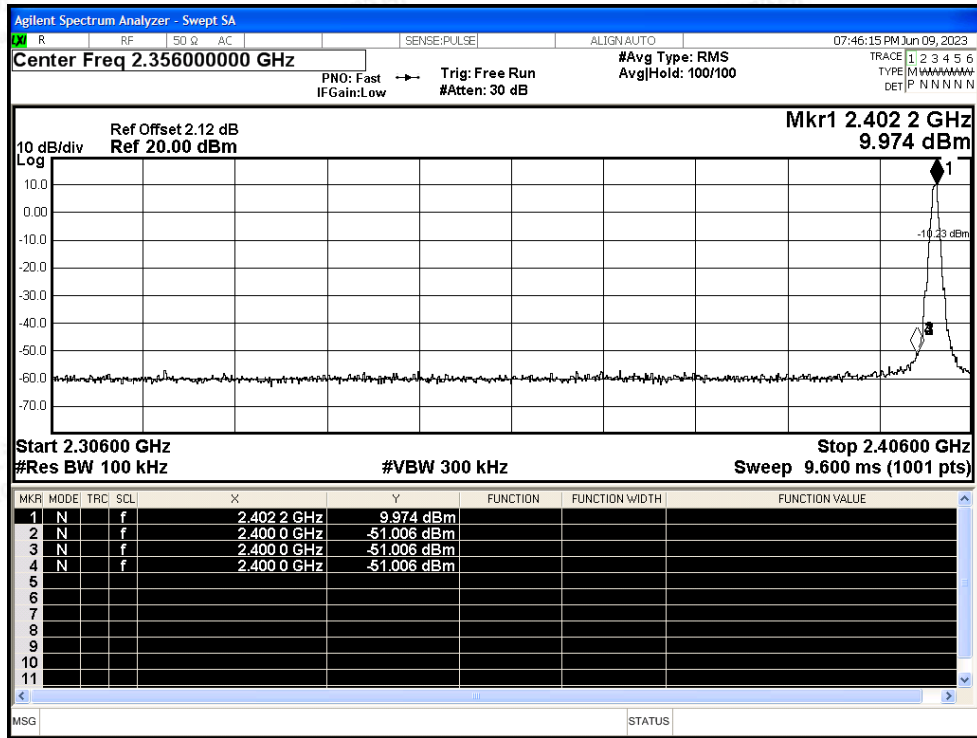


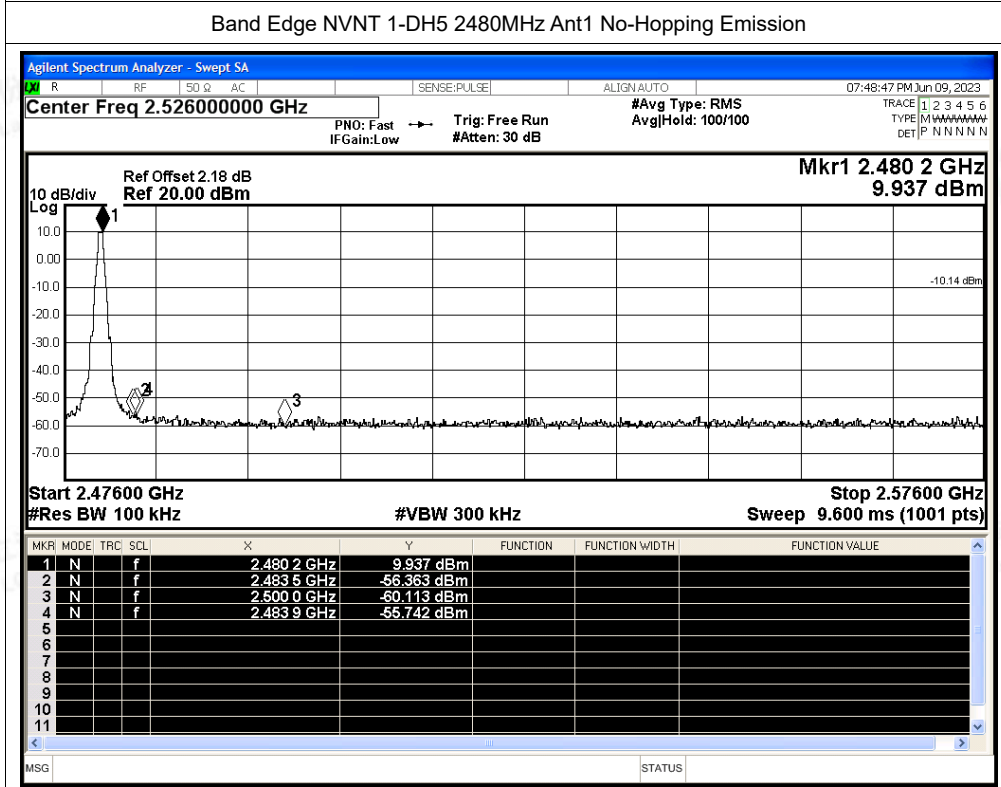
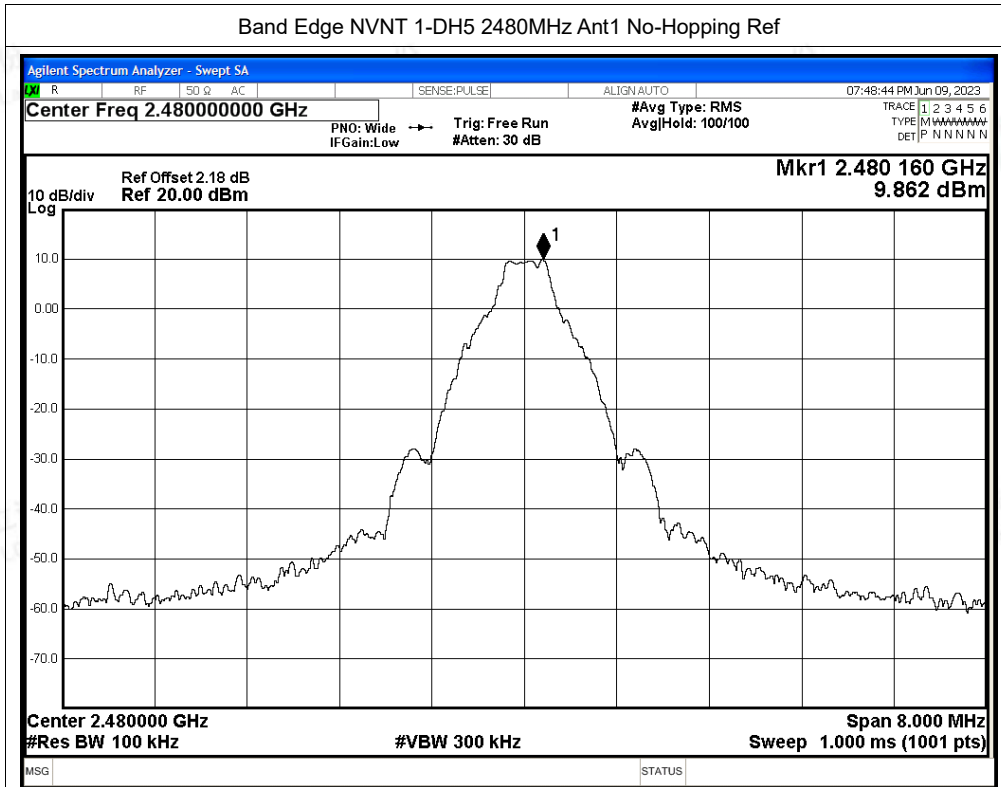
Test Graphs

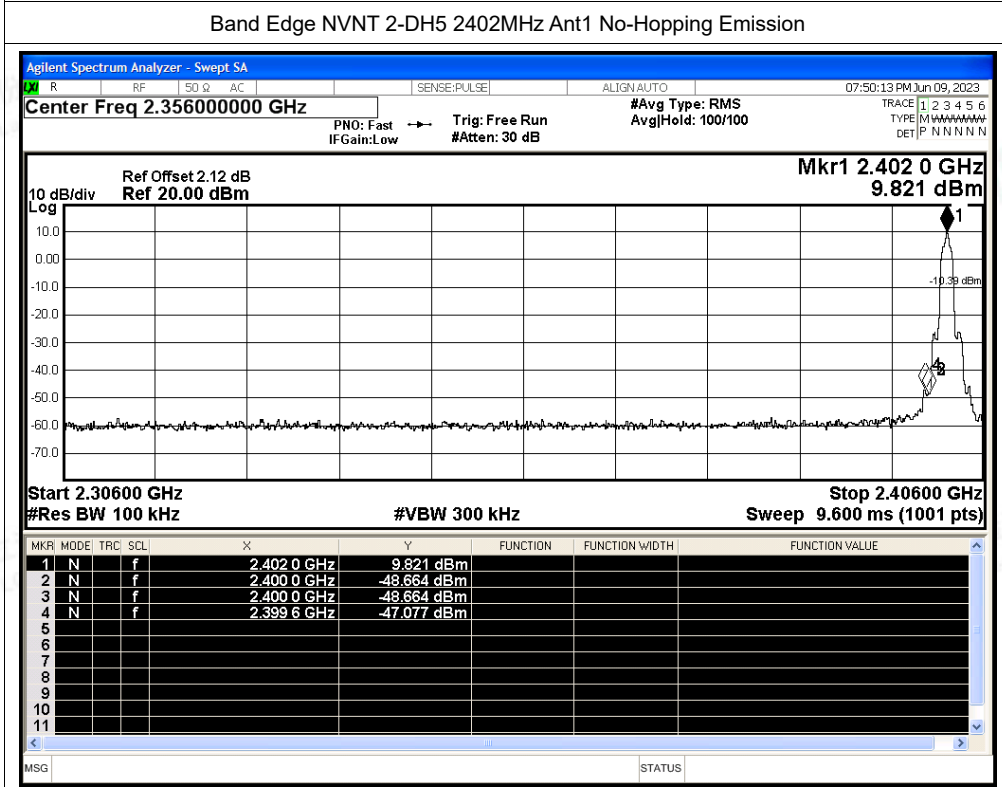
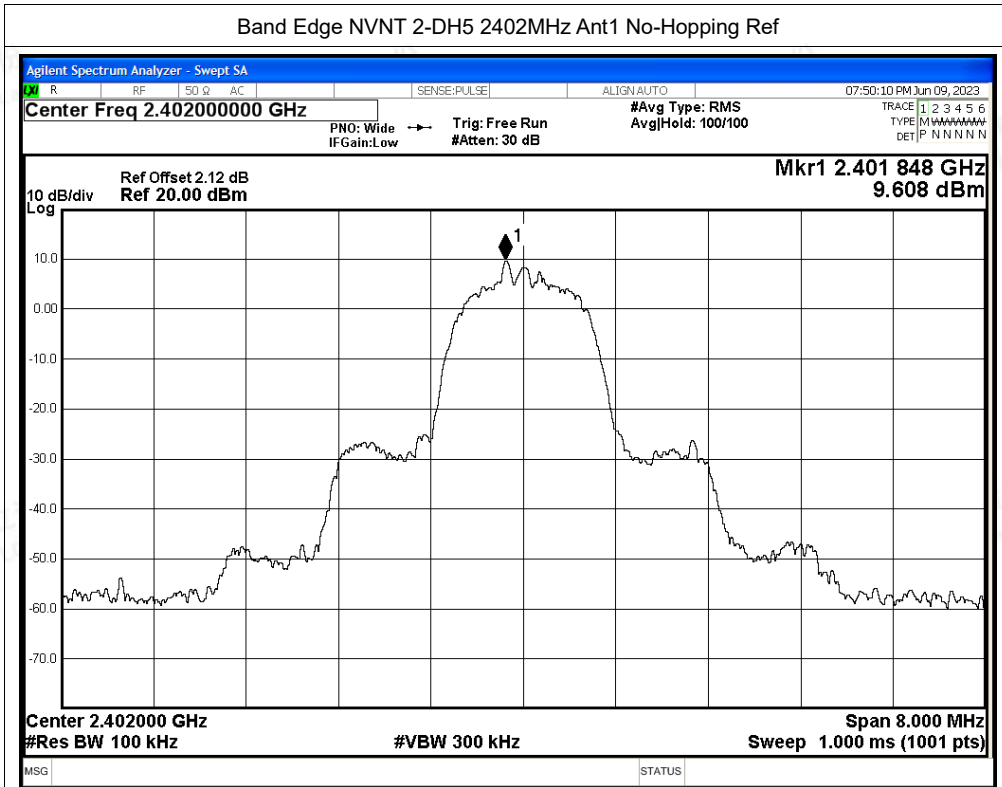
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref

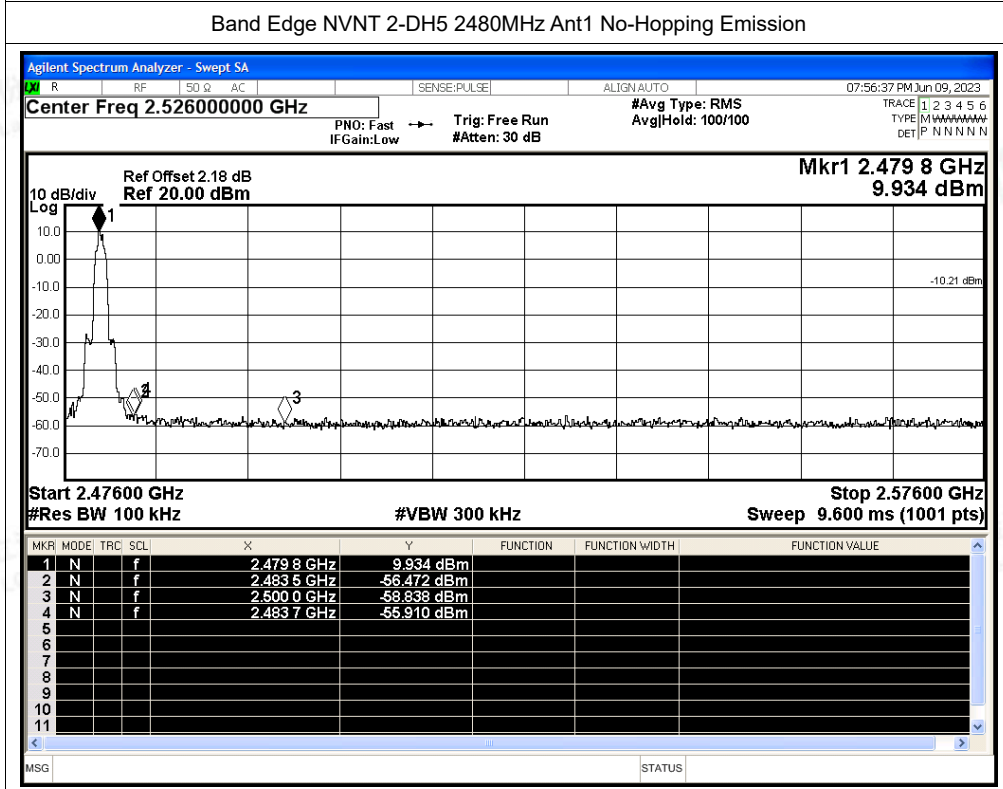
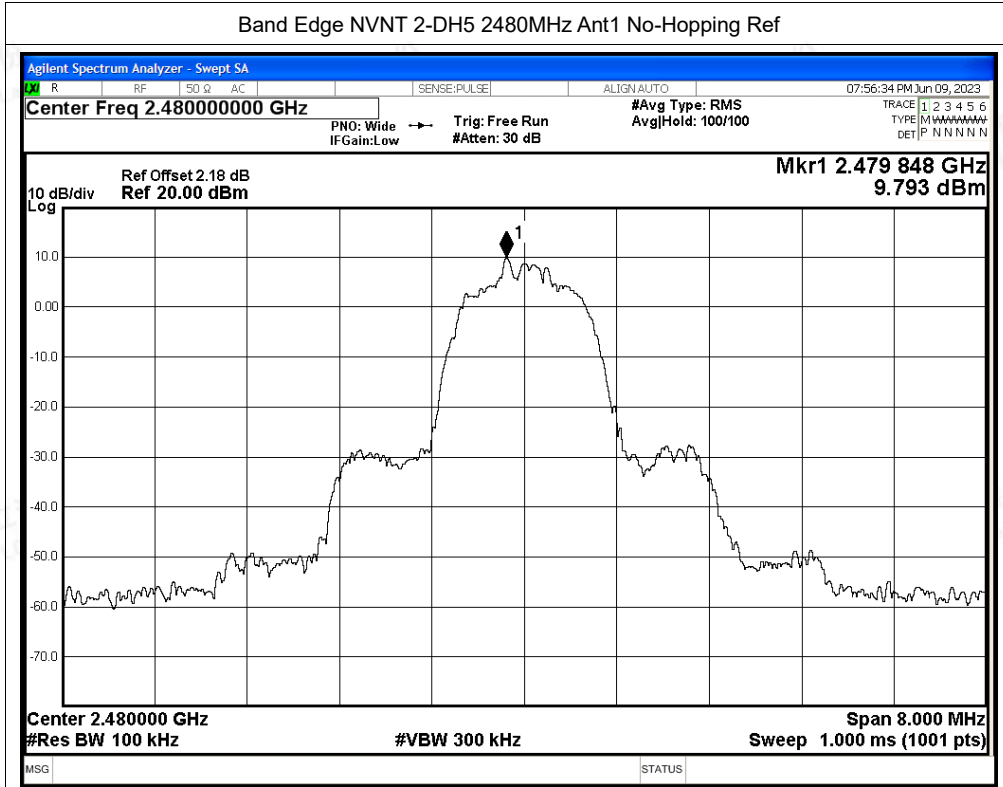


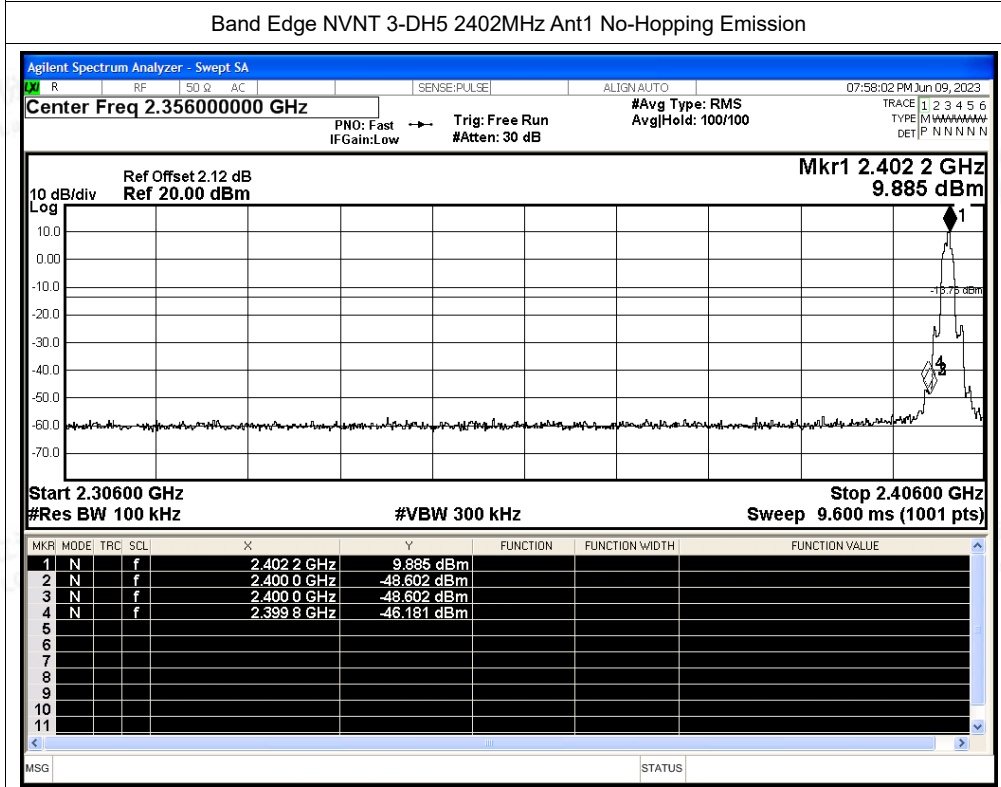
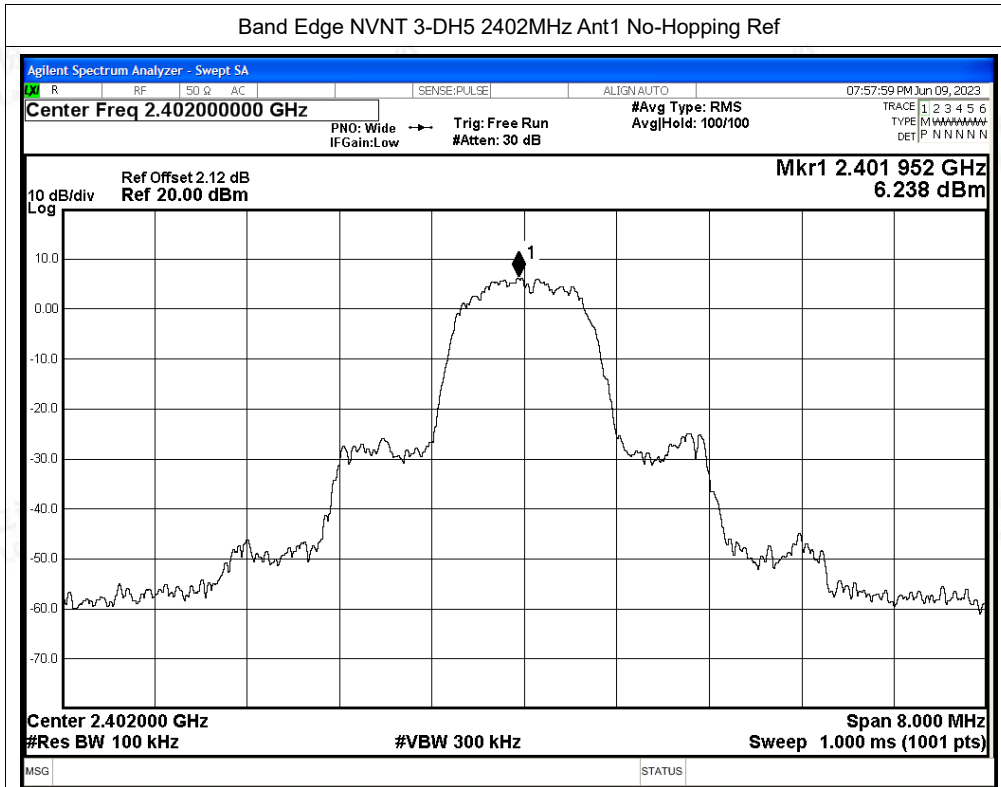
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

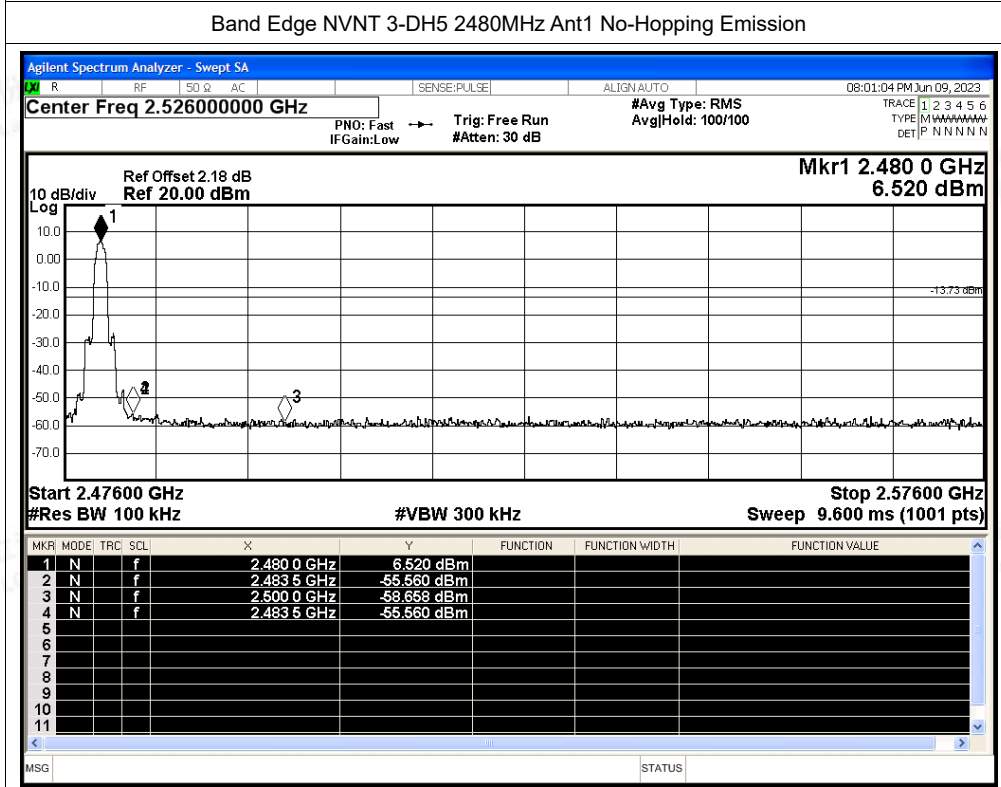
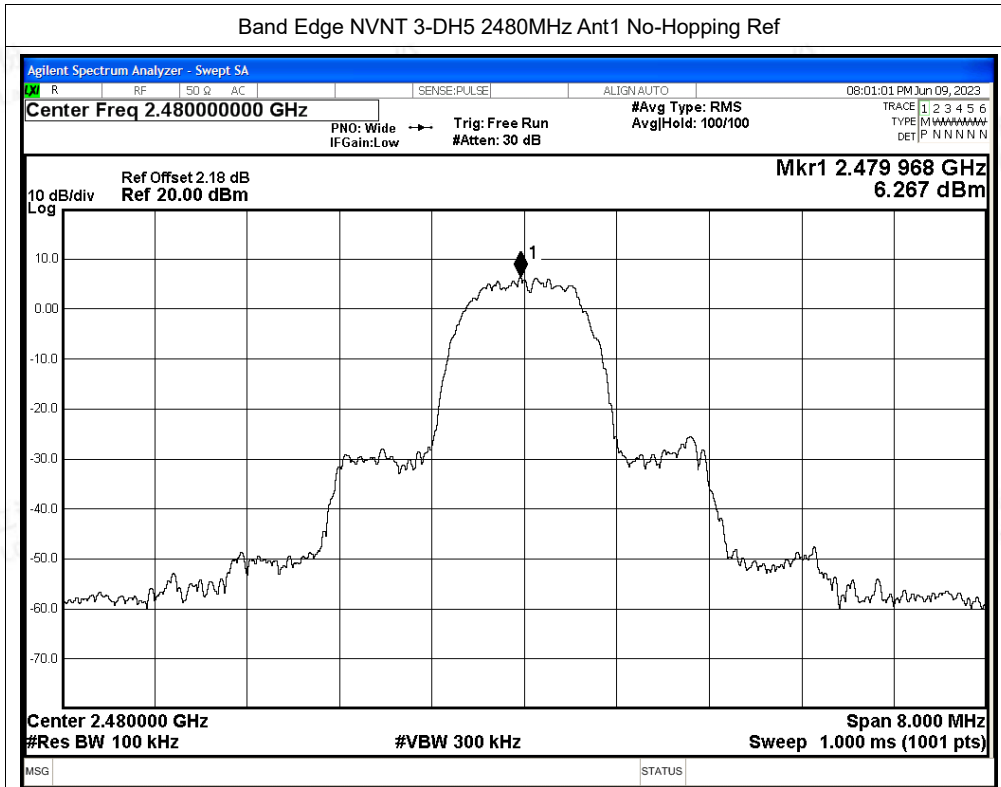














(Hopping)

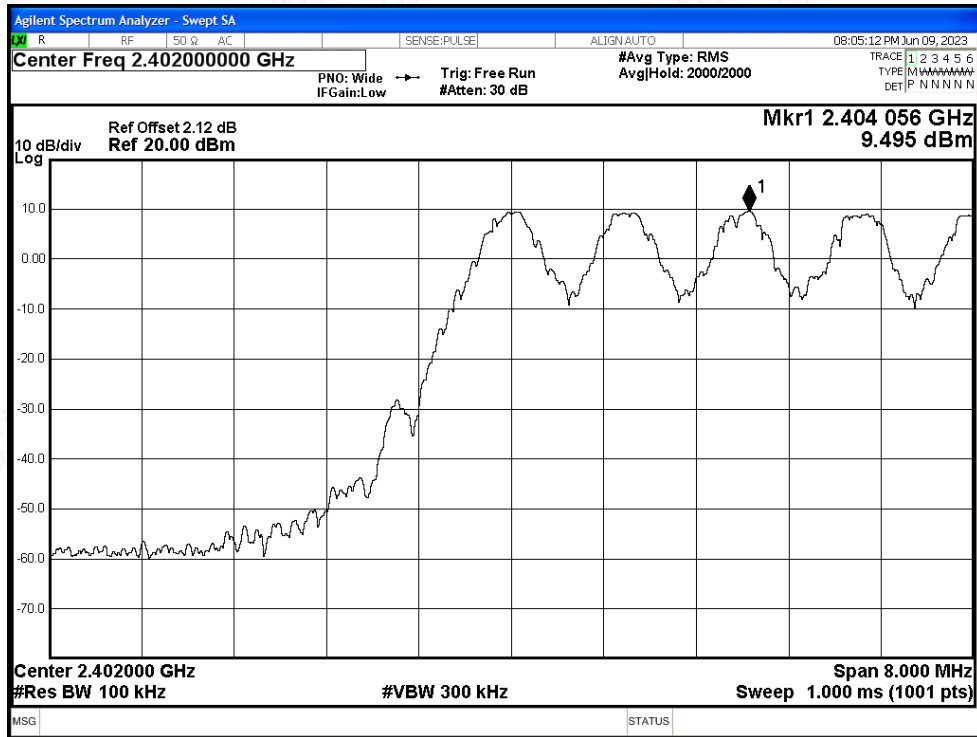
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-64.44	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-65.73	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-65.29	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-65.21	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-64.94	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-65.82	-20	Pass



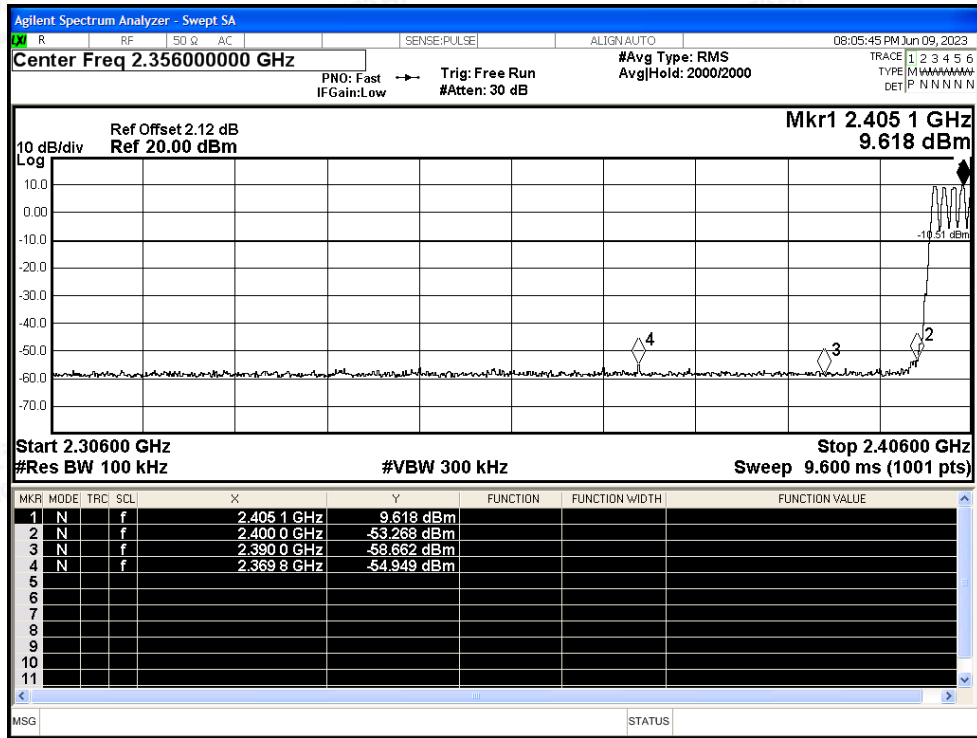


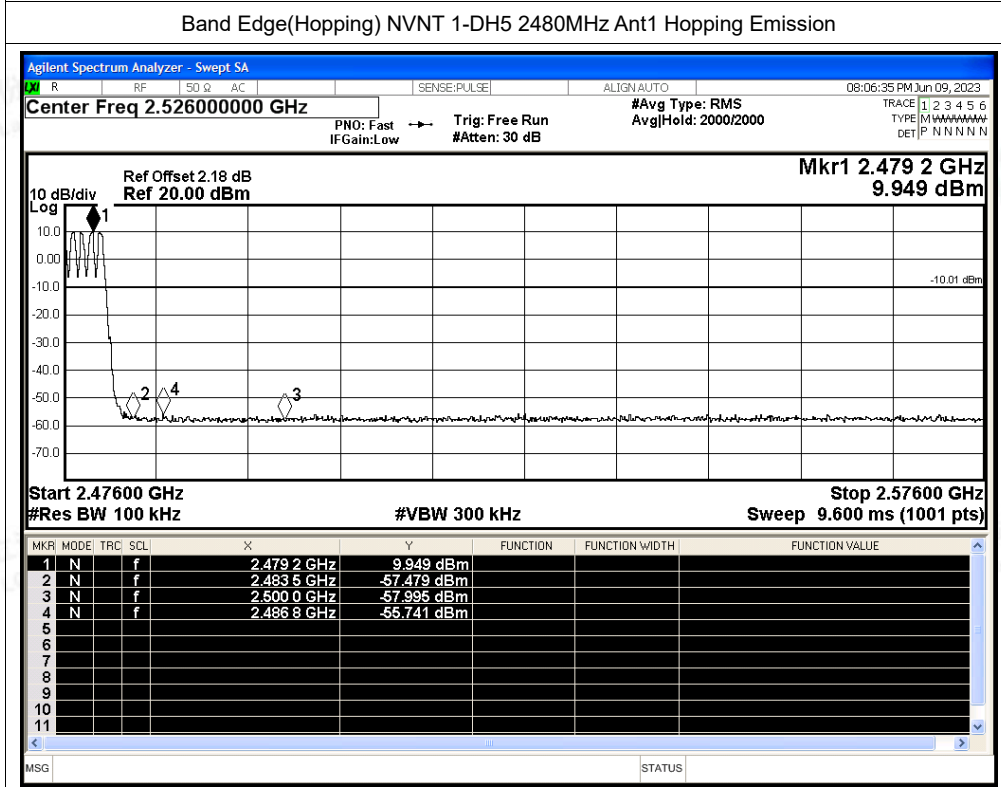
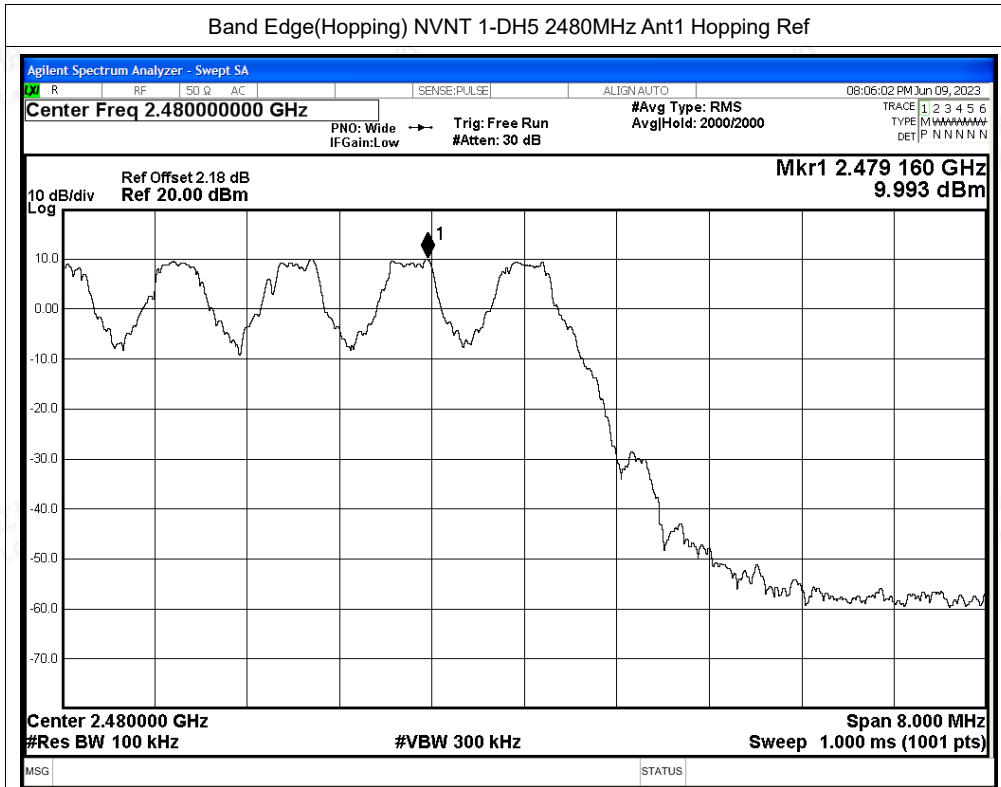
Test Graphs

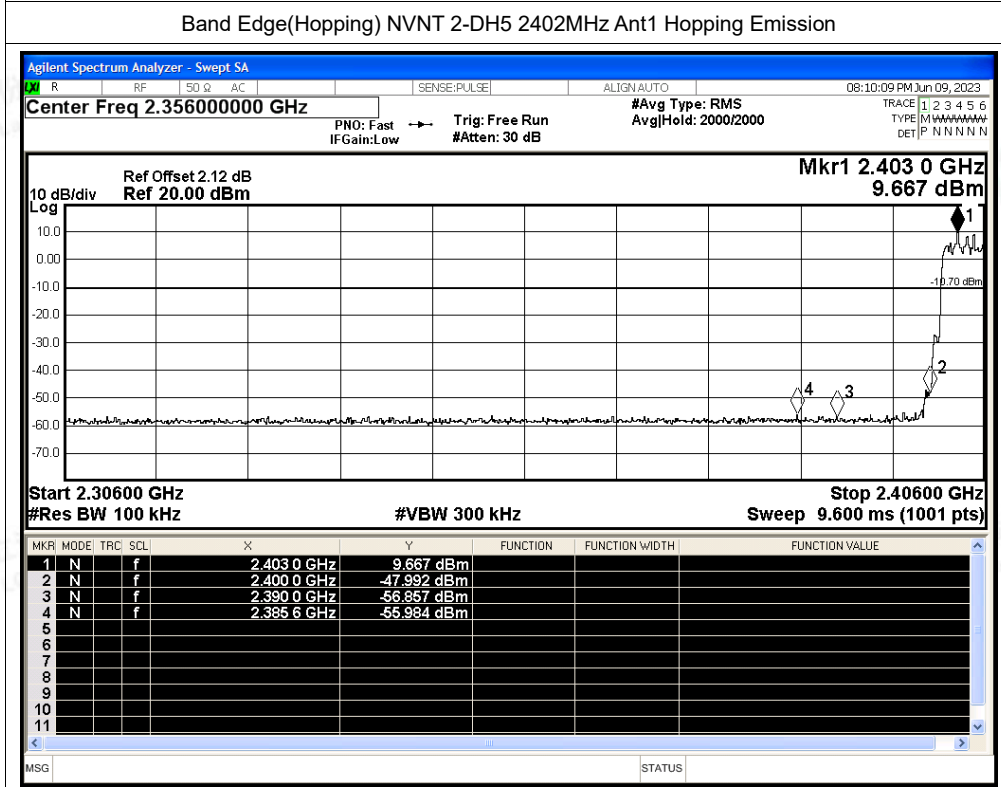
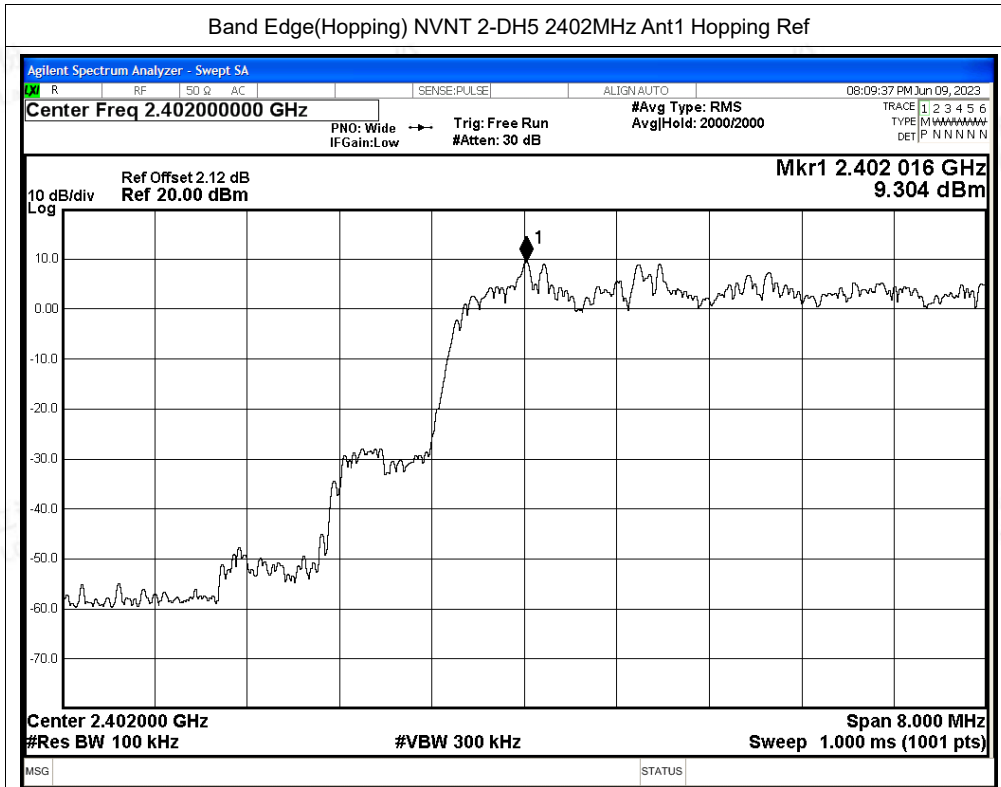
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

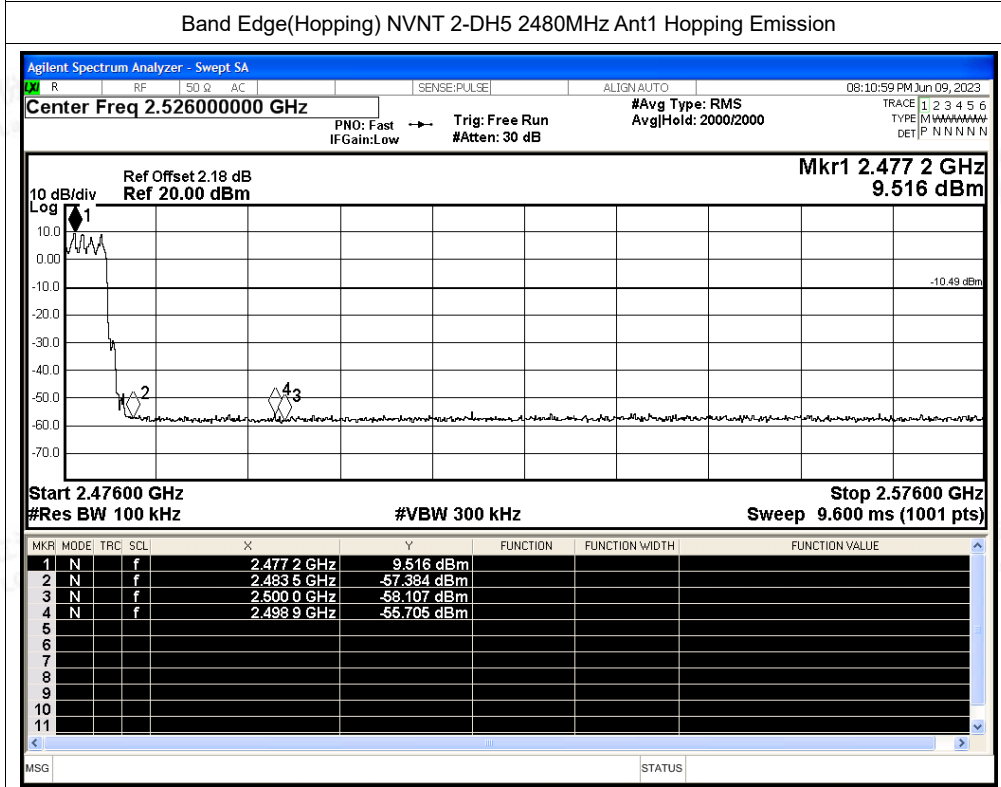
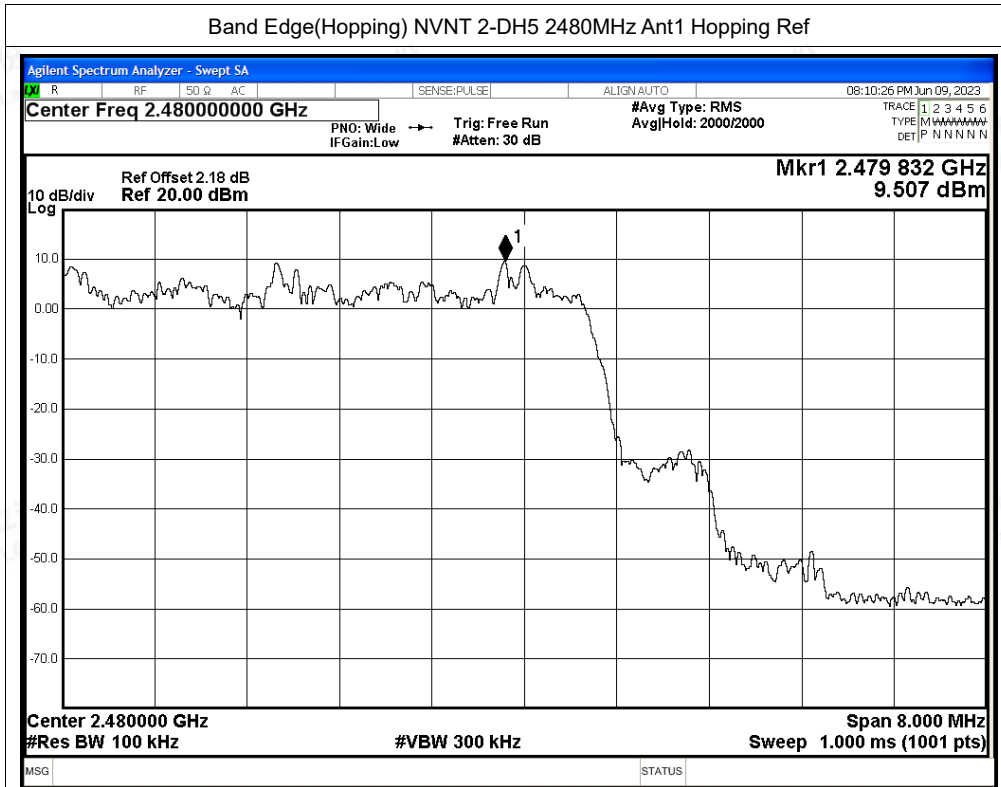


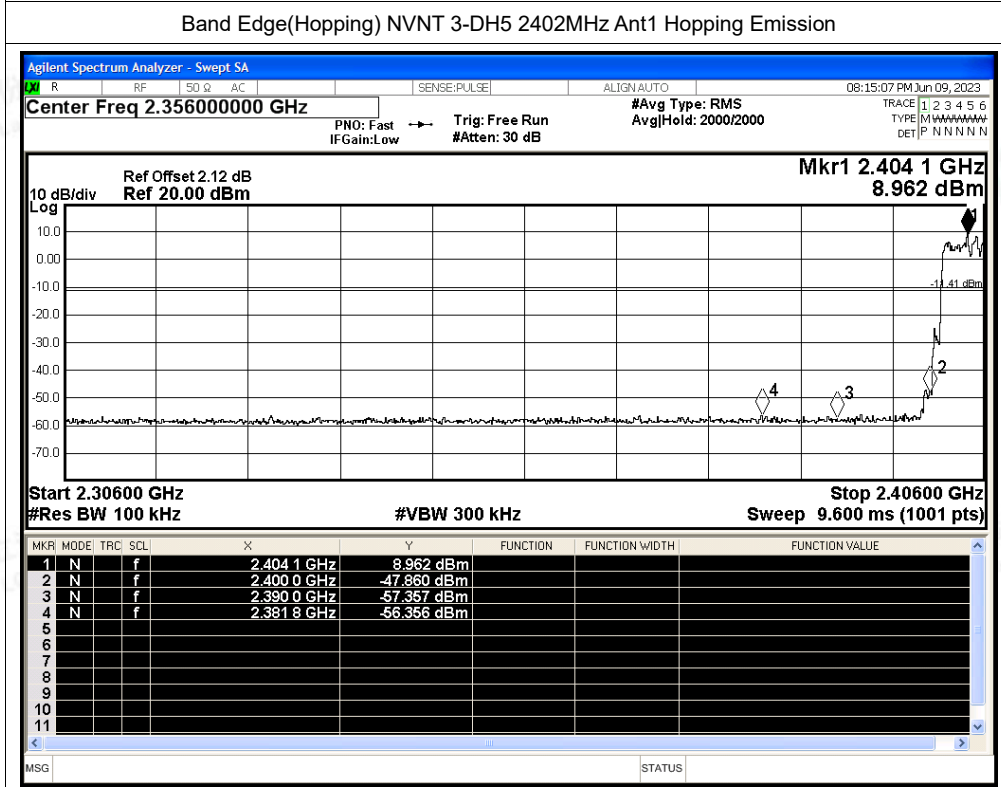
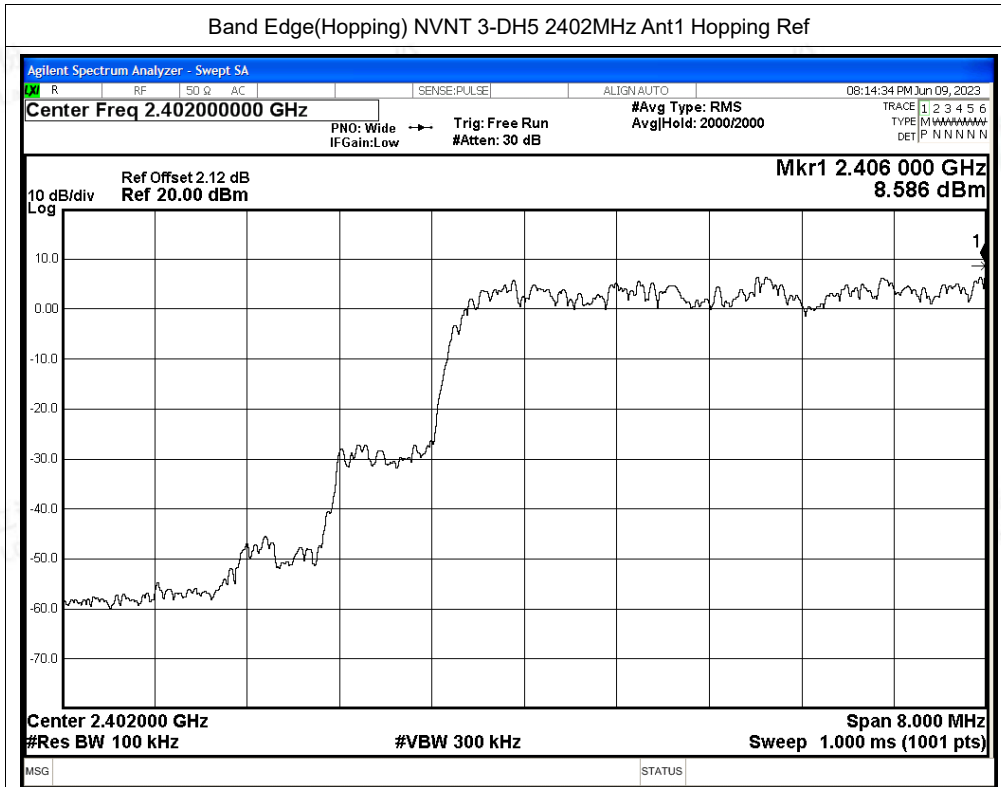
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

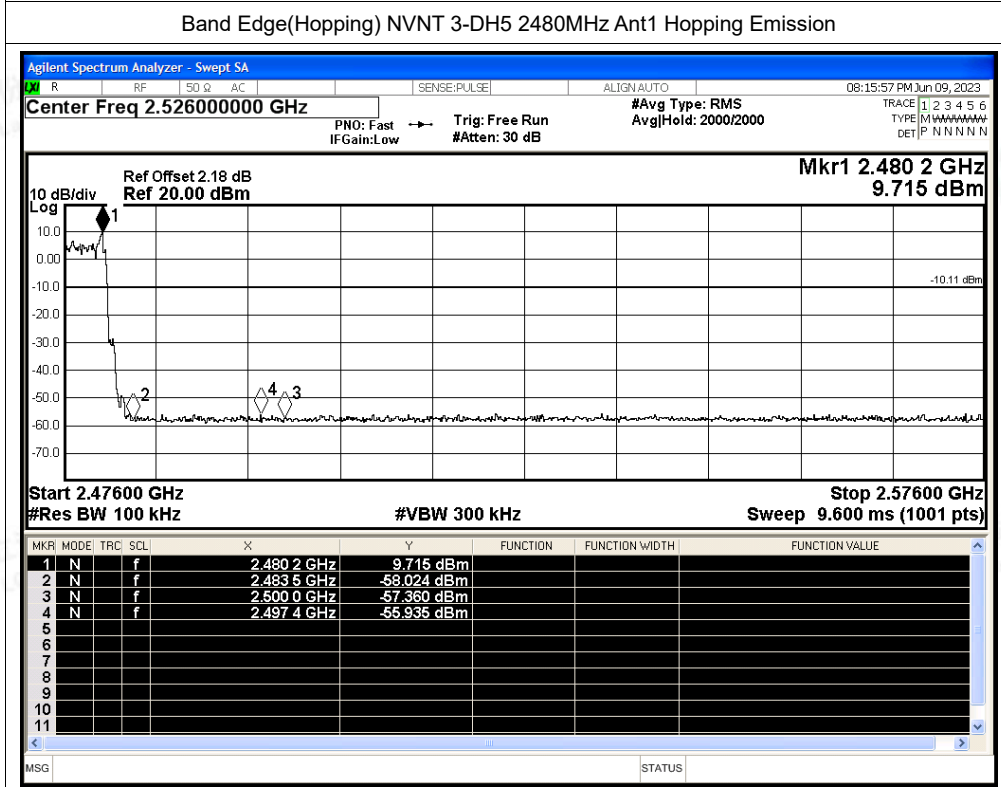
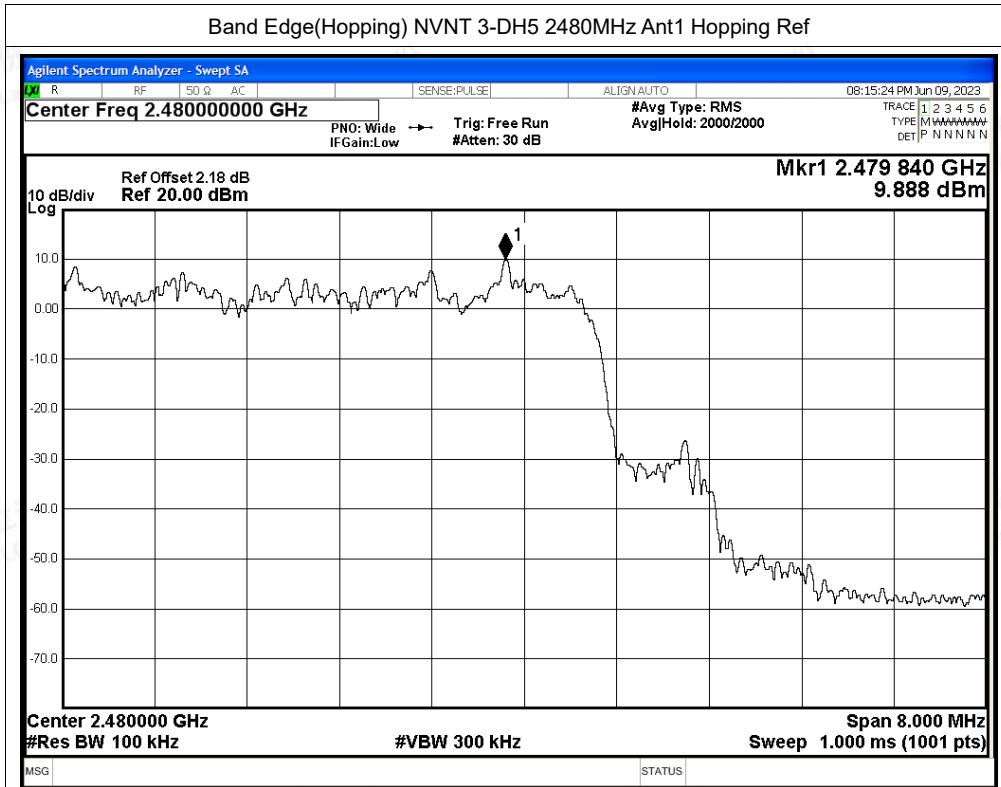














A.8 Conducted RF Spurious Emission

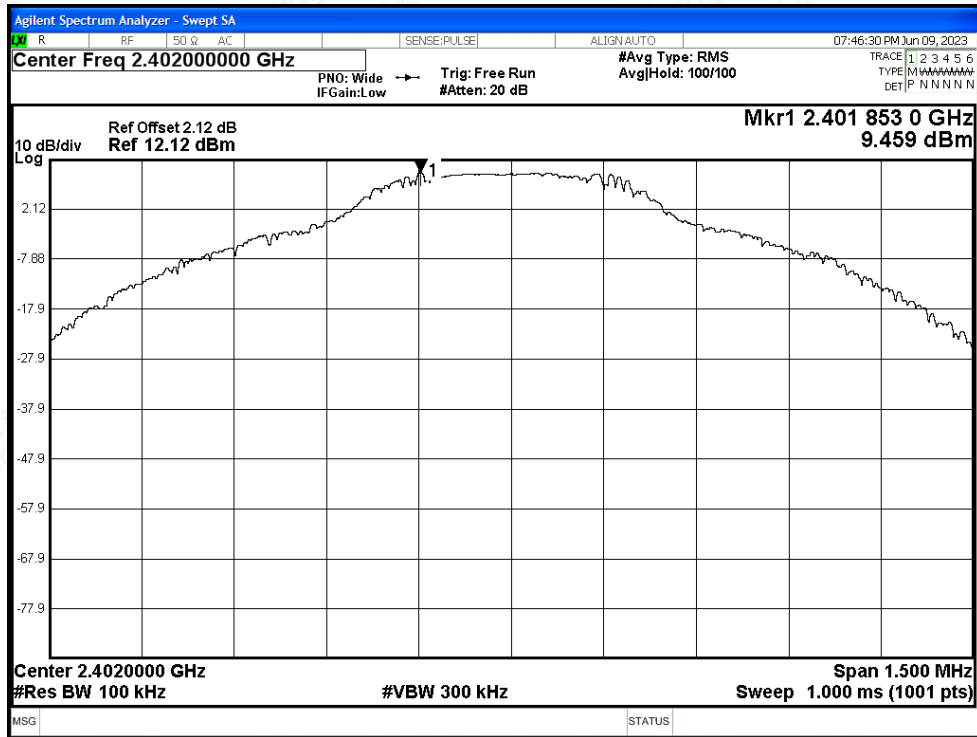
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-60.72	-20	Pass
NVNT	1-DH5	2441	Ant1	-61.32	-20	Pass
NVNT	1-DH5	2480	Ant1	-59.22	-20	Pass
NVNT	2-DH5	2402	Ant1	-65.18	-20	Pass
NVNT	2-DH5	2441	Ant1	-65.03	-20	Pass
NVNT	2-DH5	2480	Ant1	-63.32	-20	Pass
NVNT	3-DH5	2402	Ant1	-64.86	-20	Pass
NVNT	3-DH5	2441	Ant1	-64.28	-20	Pass
NVNT	3-DH5	2480	Ant1	-62.79	-20	Pass



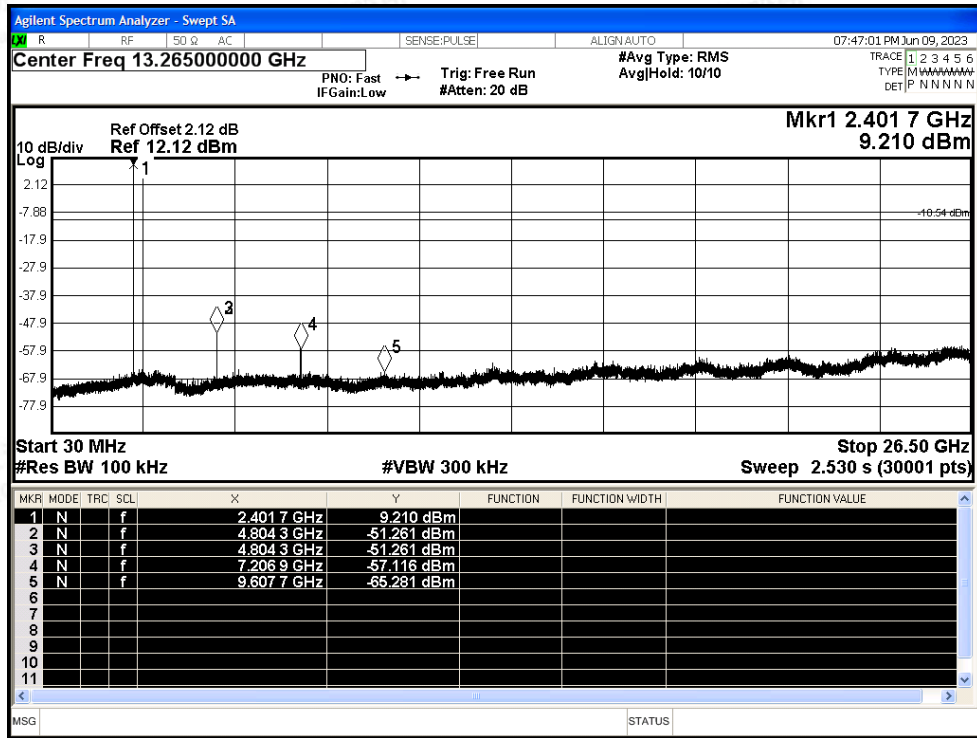


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

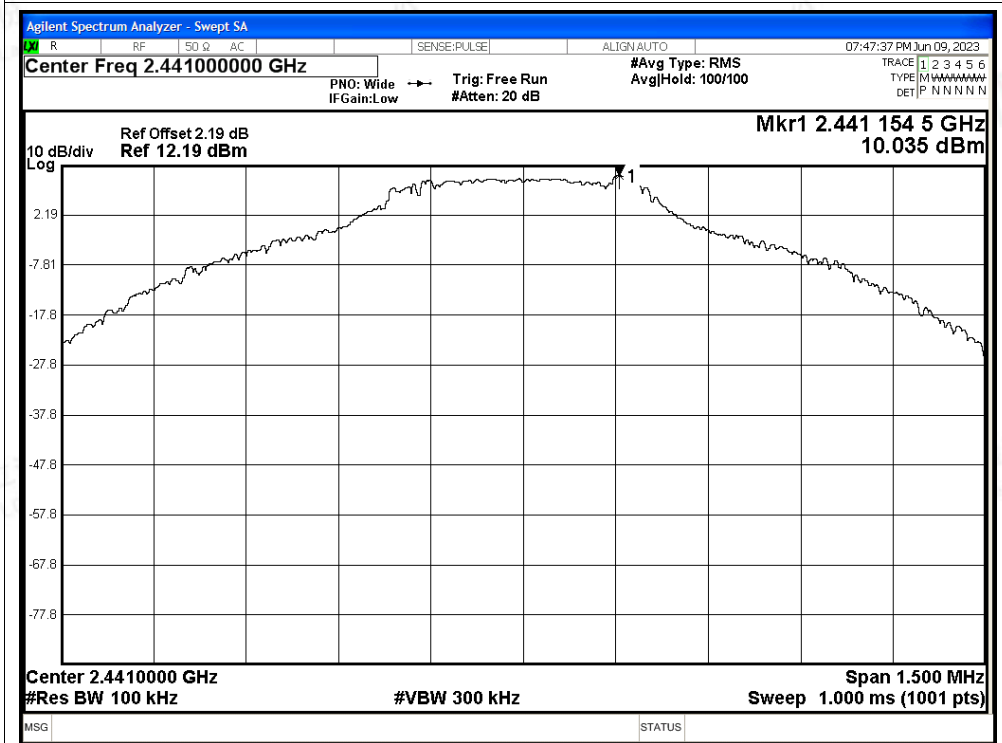


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

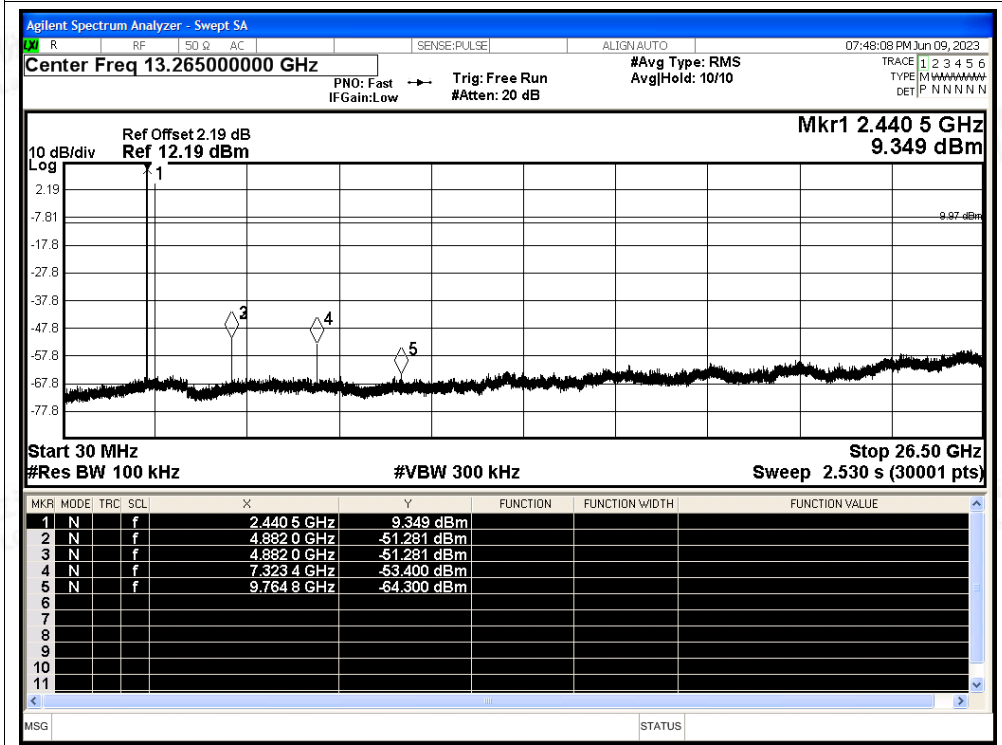




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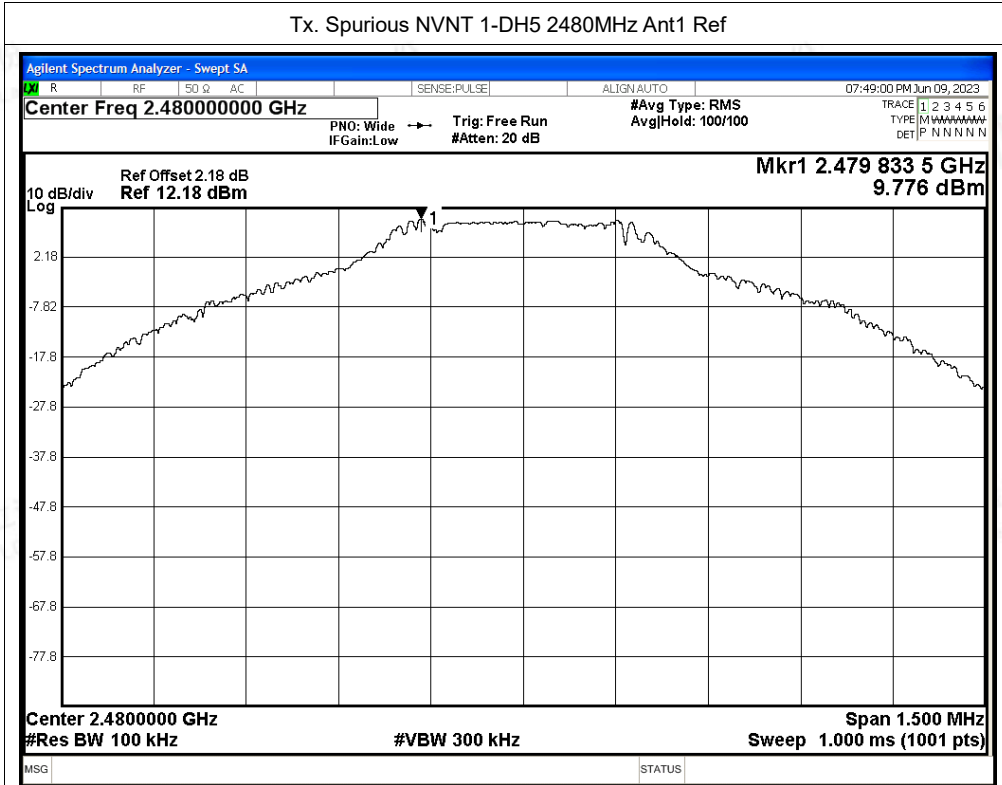


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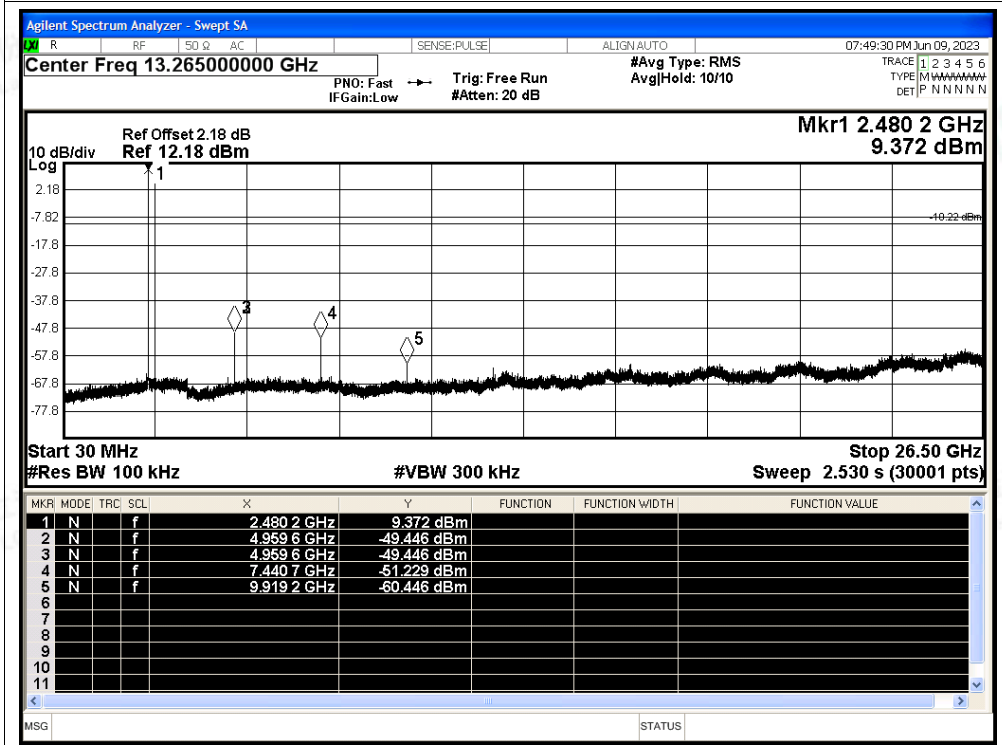




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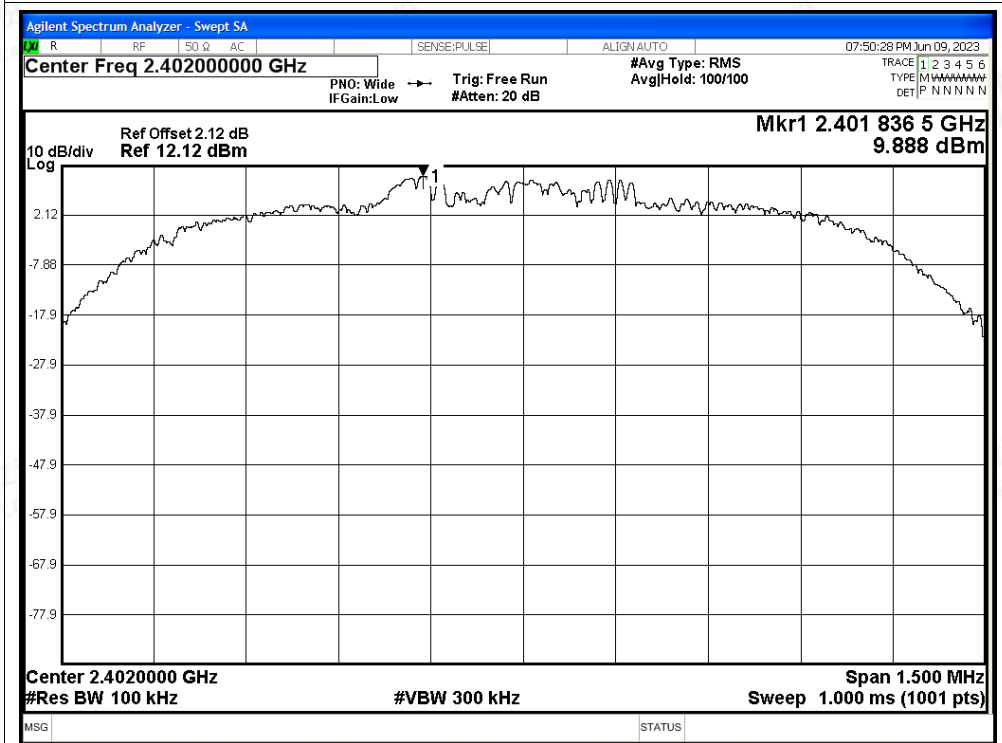


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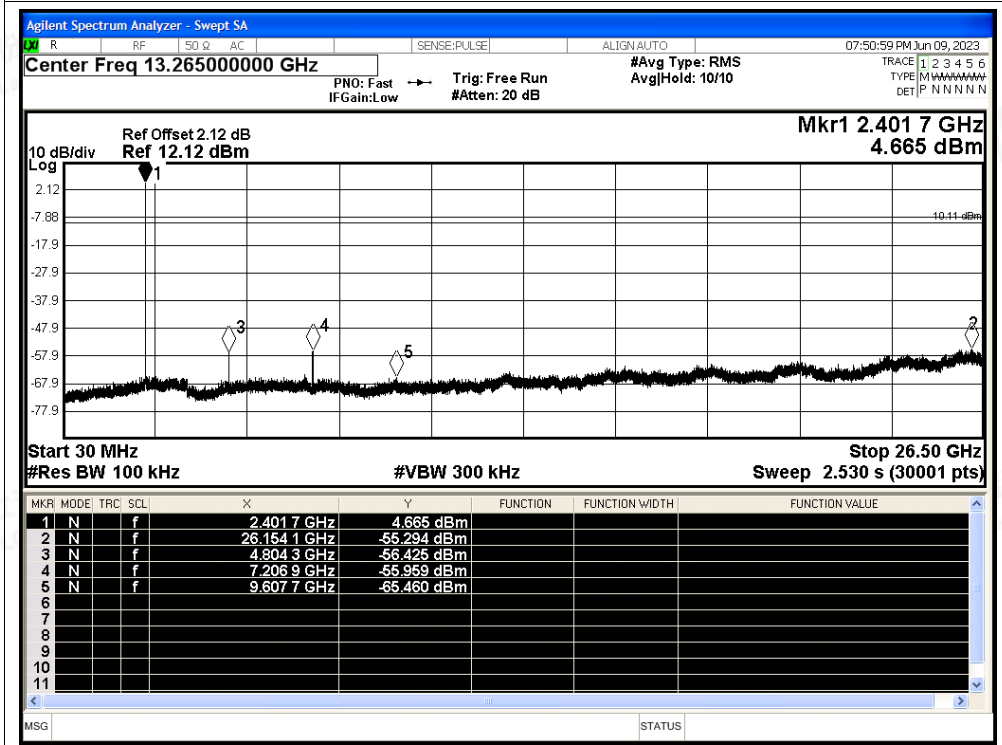




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



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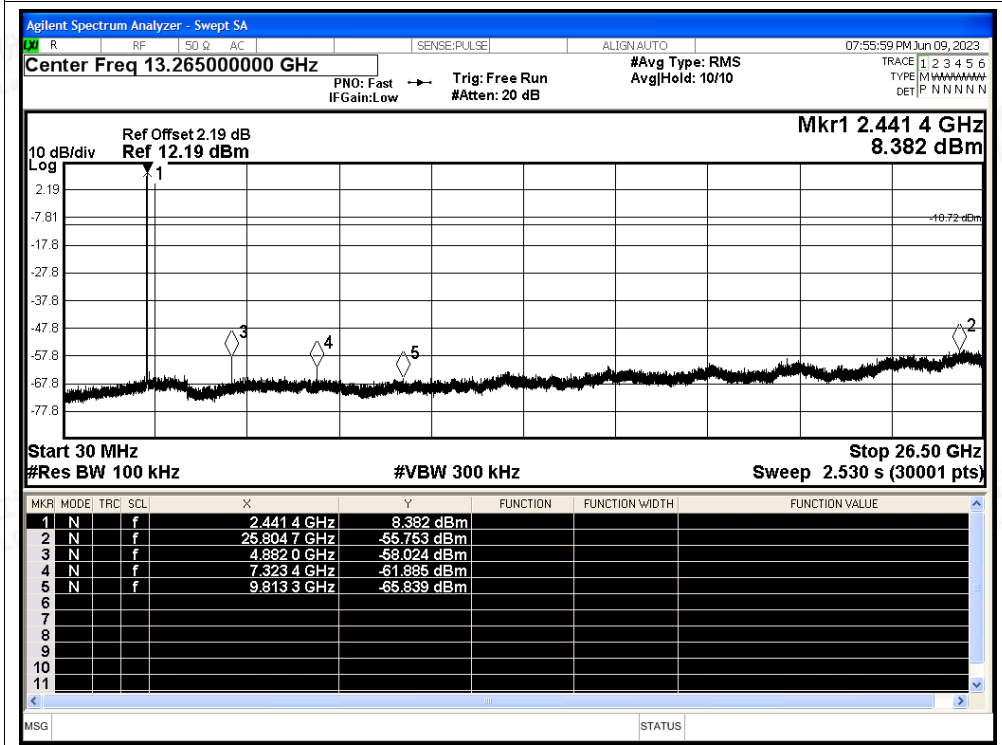




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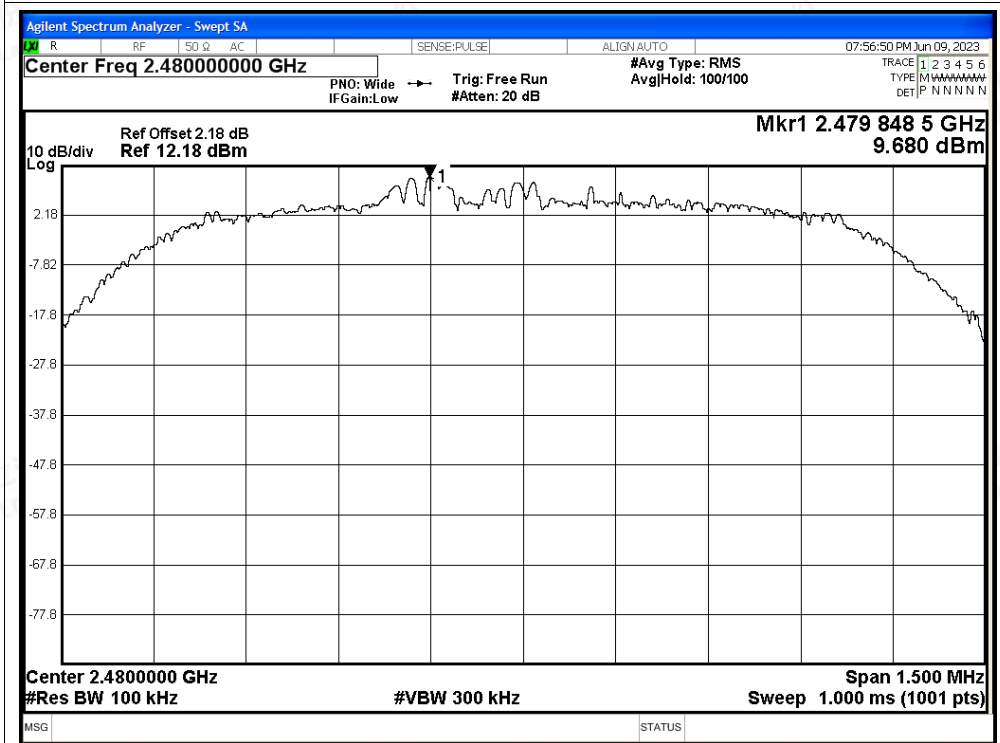


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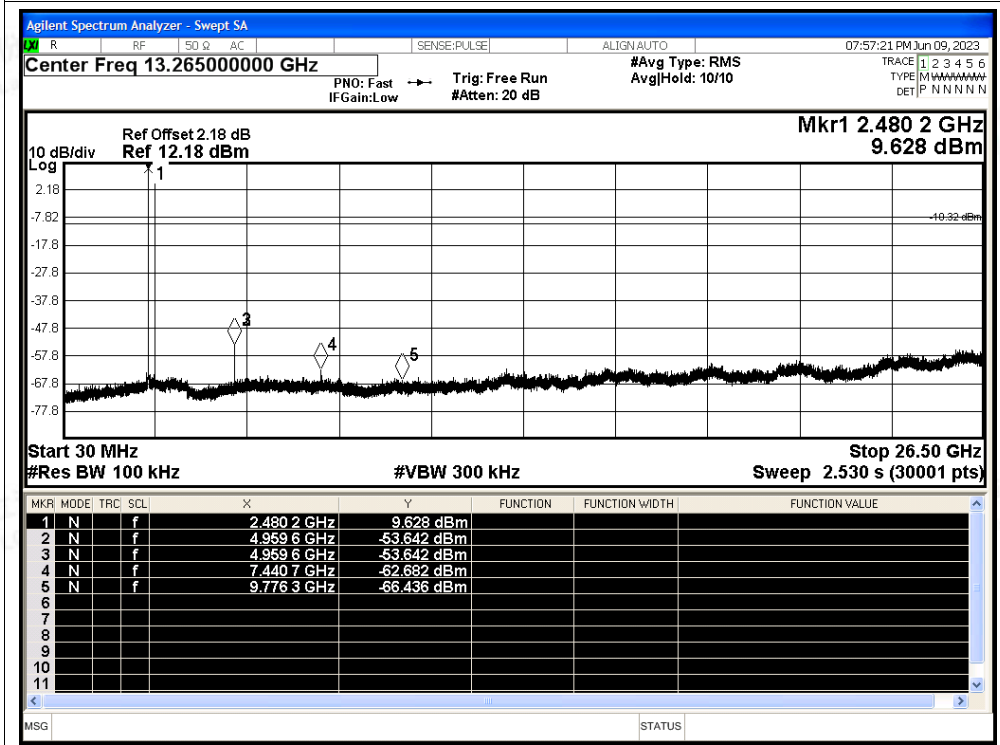




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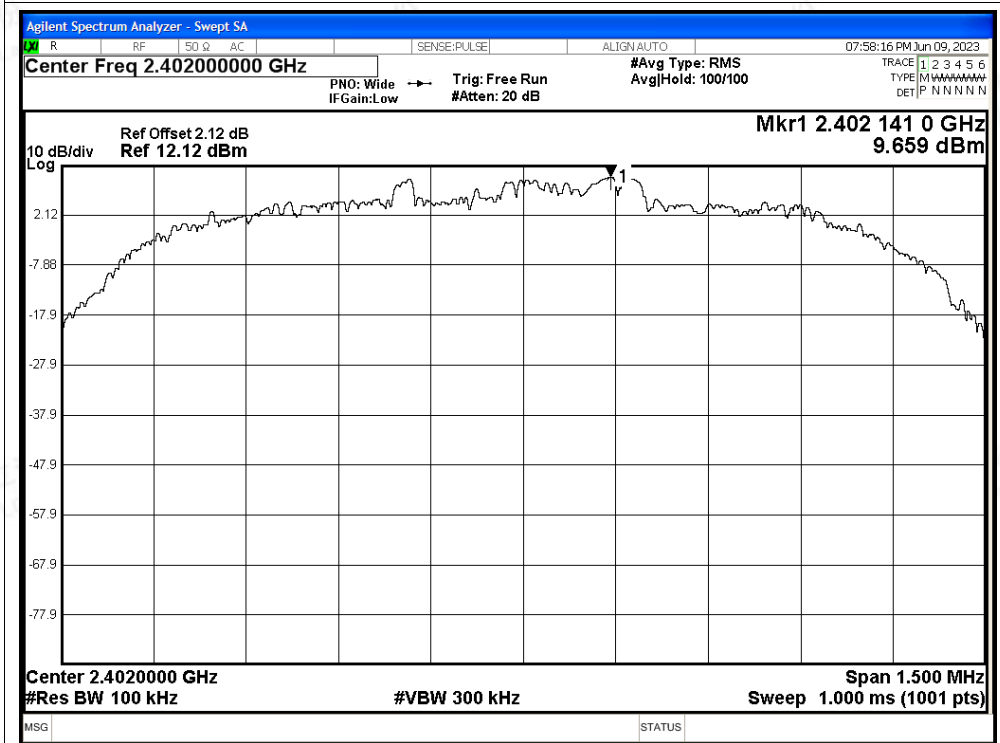


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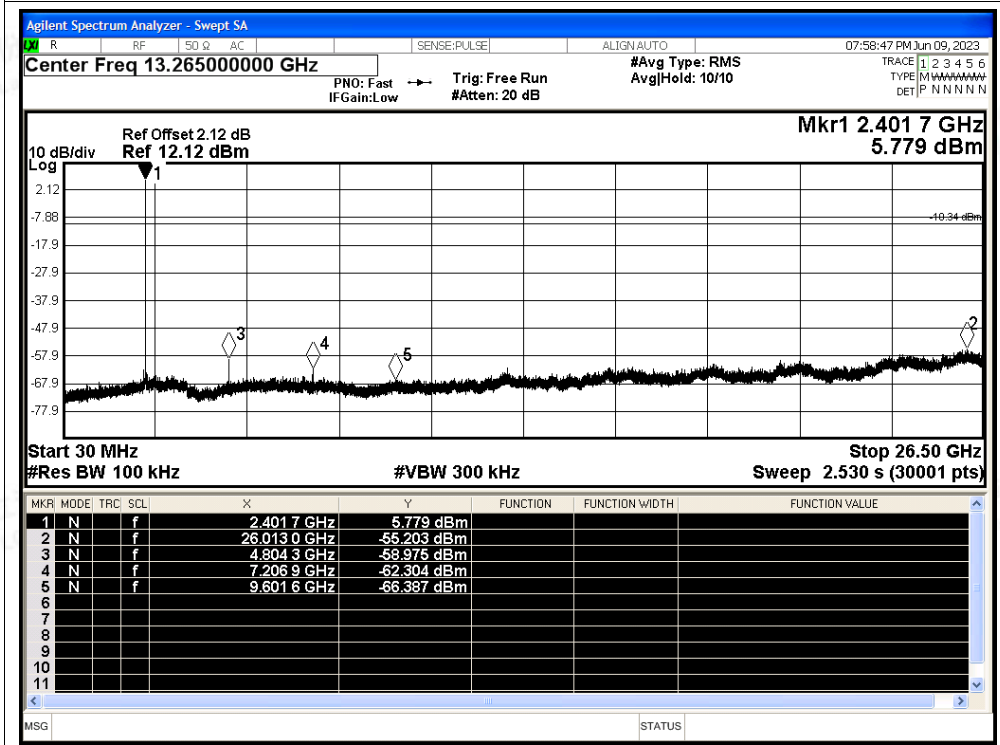




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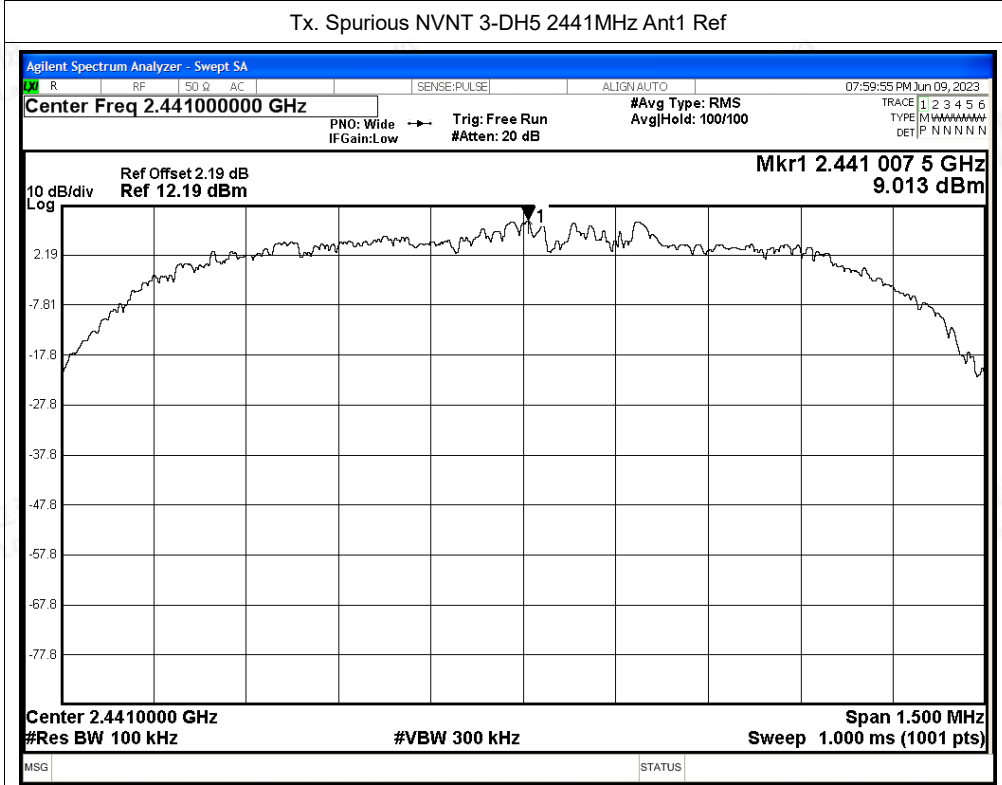


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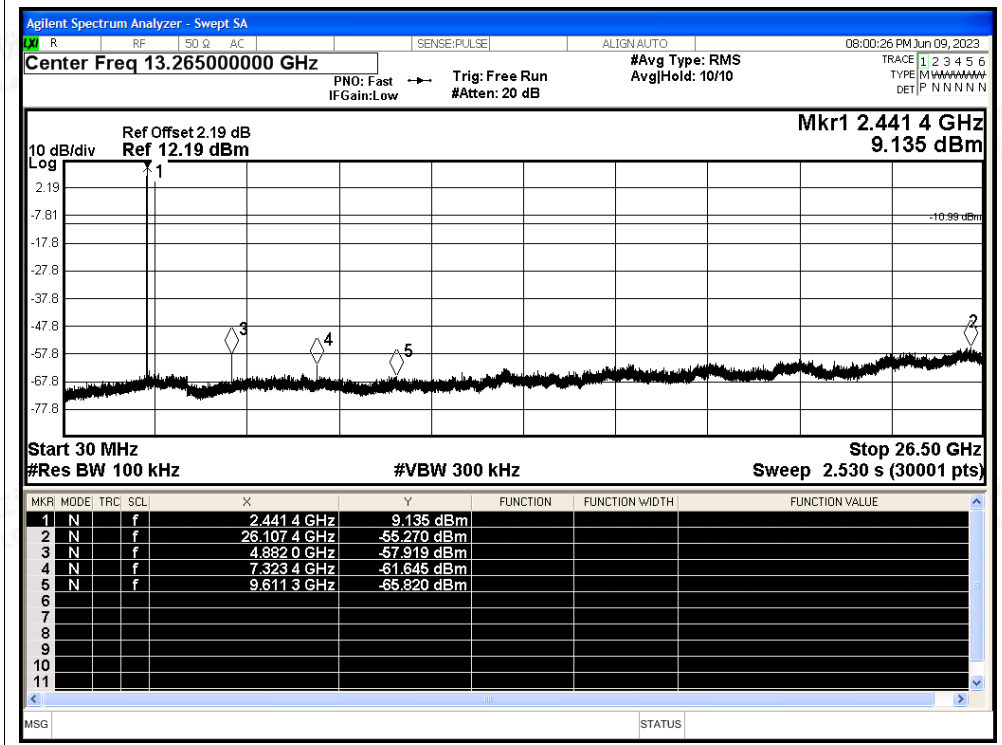




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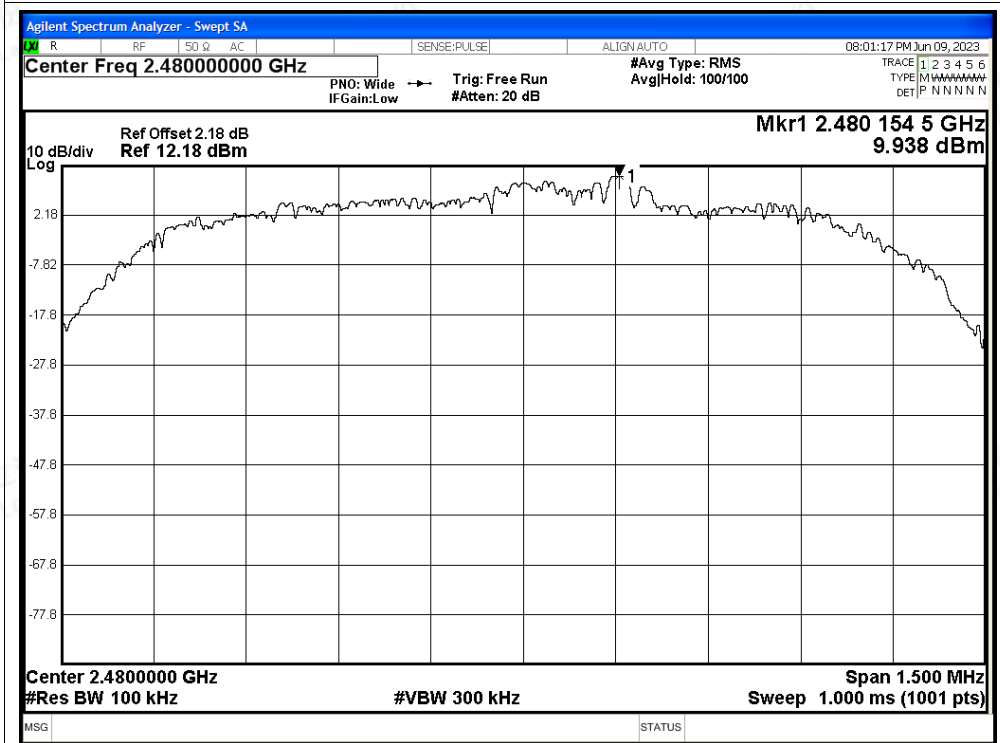


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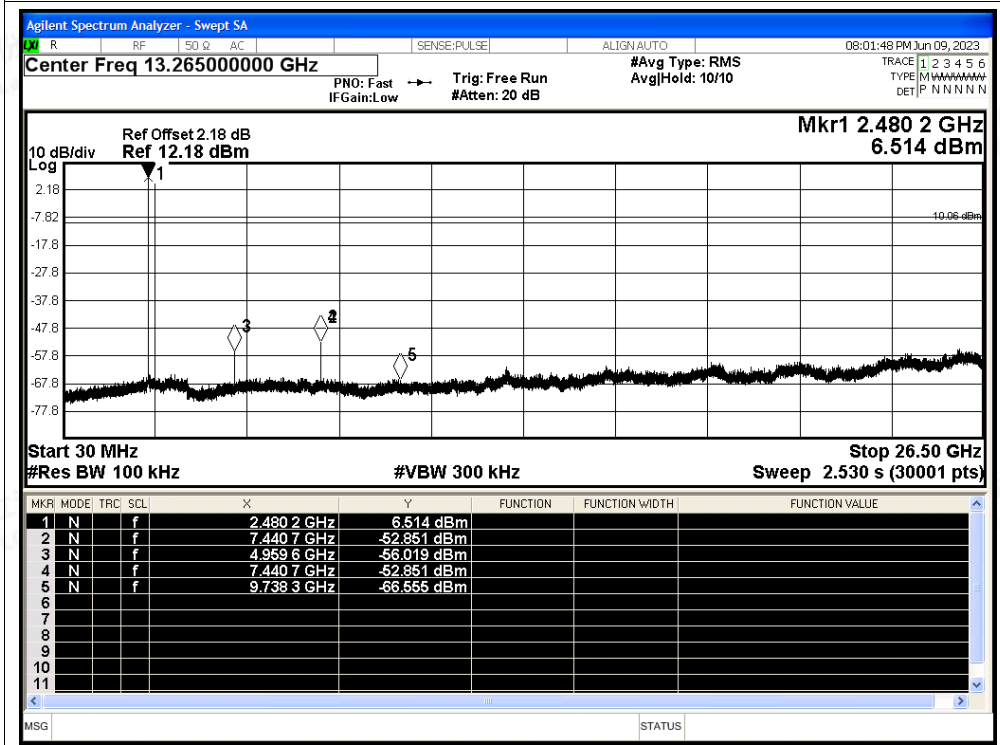




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.9 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	-50.53	2	46.73	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.01	2	39.25	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2353.392	-47.62	2	49.64	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2388.144	-57.22	2	40.04	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.01	2	47.25	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.31	2	39.95	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-46.14	2	51.12	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.57	2	47.69	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.68	-45.61	2	51.65	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-49.57	2	47.69	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.27	2	46.99	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.22	2	40.04	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.9	2	47.36	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58	2	39.26	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2347.632	-47.09	2	50.17	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2389.68	-57.06	2	40.2	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.99	2	47.27	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.07	2	40.19	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-46.53	2	50.73	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.05	2	48.21	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.16	-41.2	2	56.06	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-49.05	2	48.21	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.31	2	47.95	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	-51.36	2	45.9	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.15	2	39.11	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2353.488	-47.34	2	49.92	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2389.392	-57.07	2	40.19	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.3	2	47.96	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-57.12	2	40.14	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-45.8	2	51.46	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.88	2	48.38	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.024	-45.67	2	51.59	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-48.88	2	48.38	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.19	2	47.07	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.2	2	40.06	Average	54	Pass



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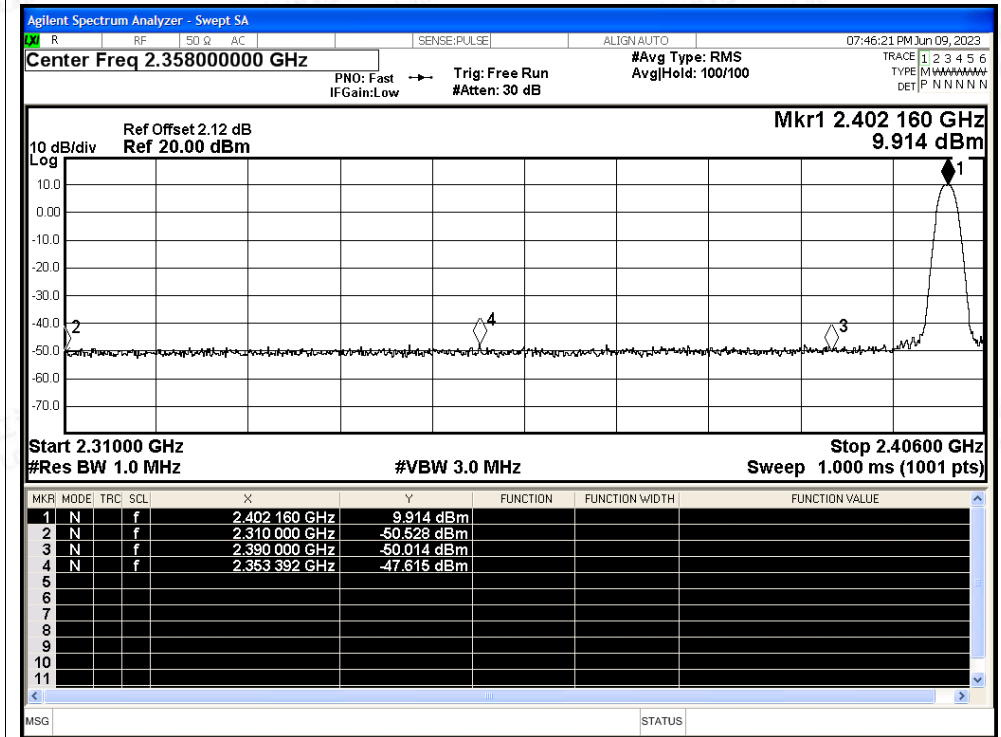
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

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

