

RF Test Data for Bluetooth(BDR+EDR) (Conducted Measurements)

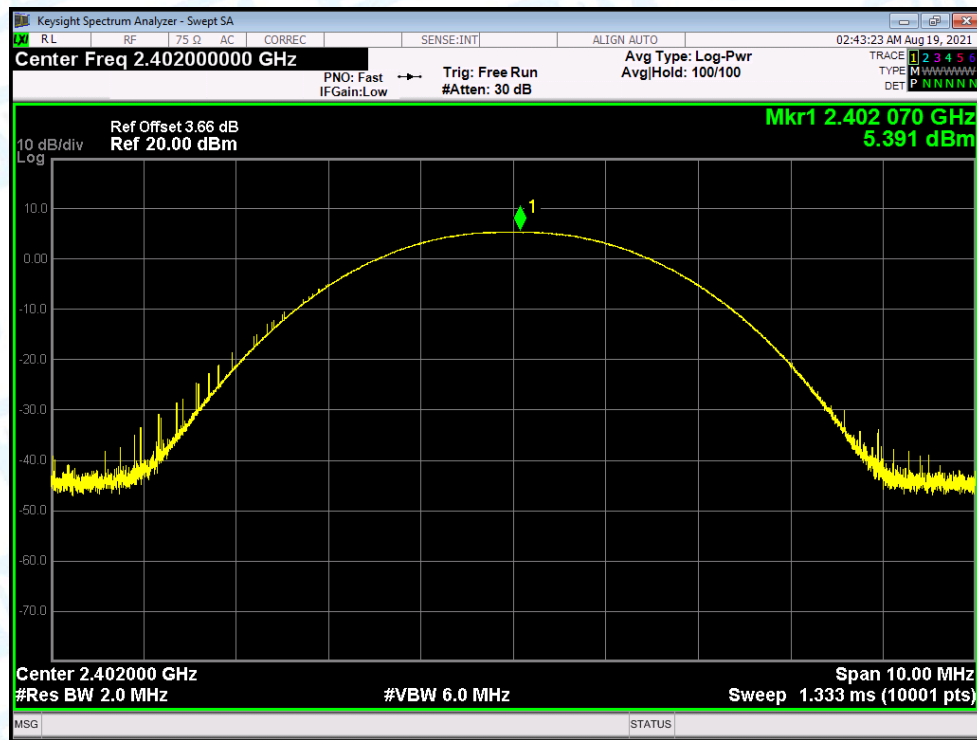
General Description of EUT	
Product Name:	True Wireless Earphone
Test Model:	XT-18
Sample ID:	20210813-06-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 5V
Test Engineer:	HeJingchang
Note: For a more detailed features description, please refer to the report TB-RF183308.	

1.Maximum Conducted Output Power

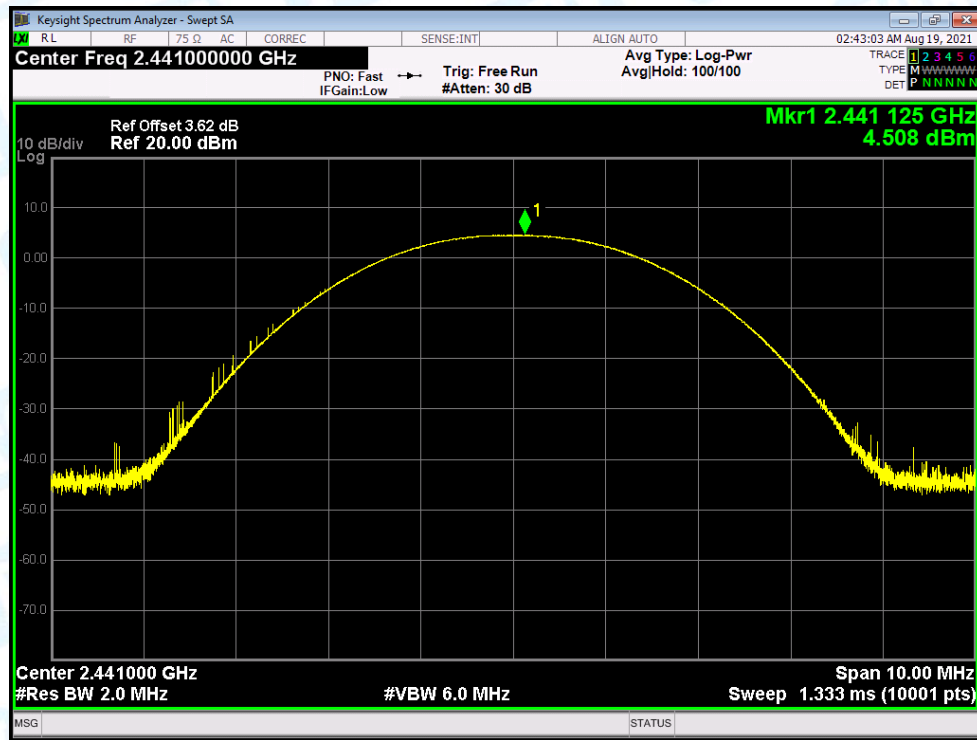
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	5.391	0	5.391	30	Pass
NVNT	1-DH1	2441	4.508	0	4.508	30	Pass
NVNT	1-DH1	2480	5.785	0	5.785	30	Pass
NVNT	2-DH1	2402	5.905	0	5.905	21	Pass
NVNT	2-DH1	2441	5.103	0	5.103	21	Pass
NVNT	2-DH1	2480	6.298	0	6.298	21	Pass
NVNT	3-DH1	2402	6.41	0	6.410	21	Pass
NVNT	3-DH1	2441	5.568	0	5.568	21	Pass
NVNT	3-DH1	2480	4.347	0	4.347	21	Pass

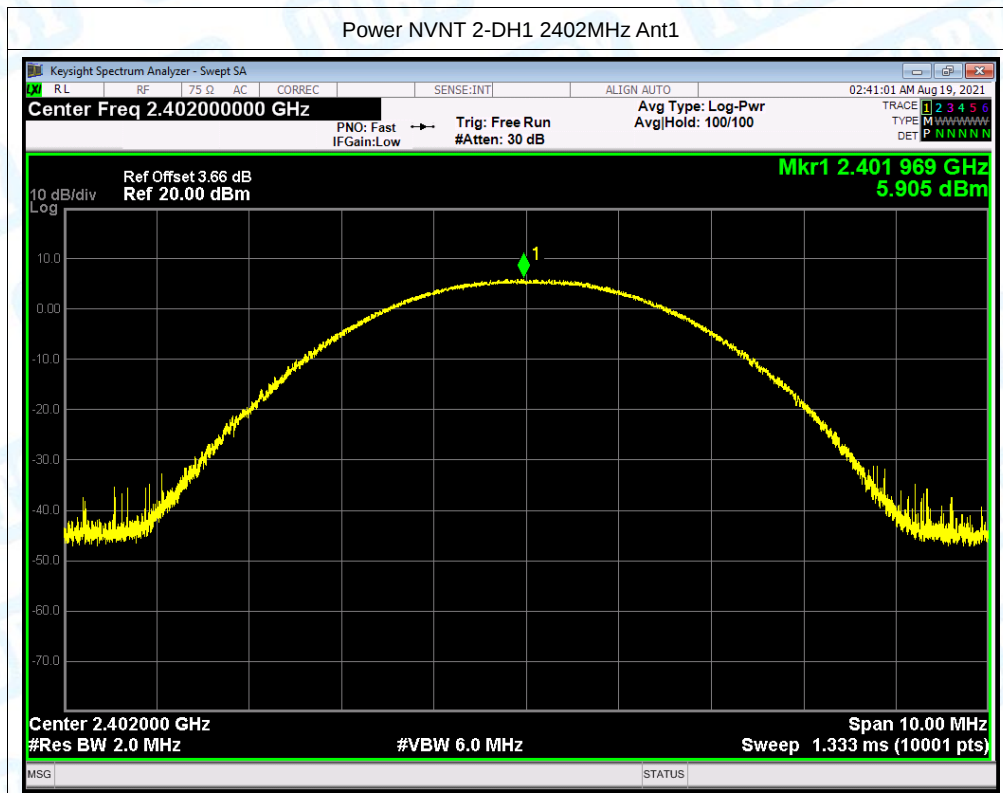
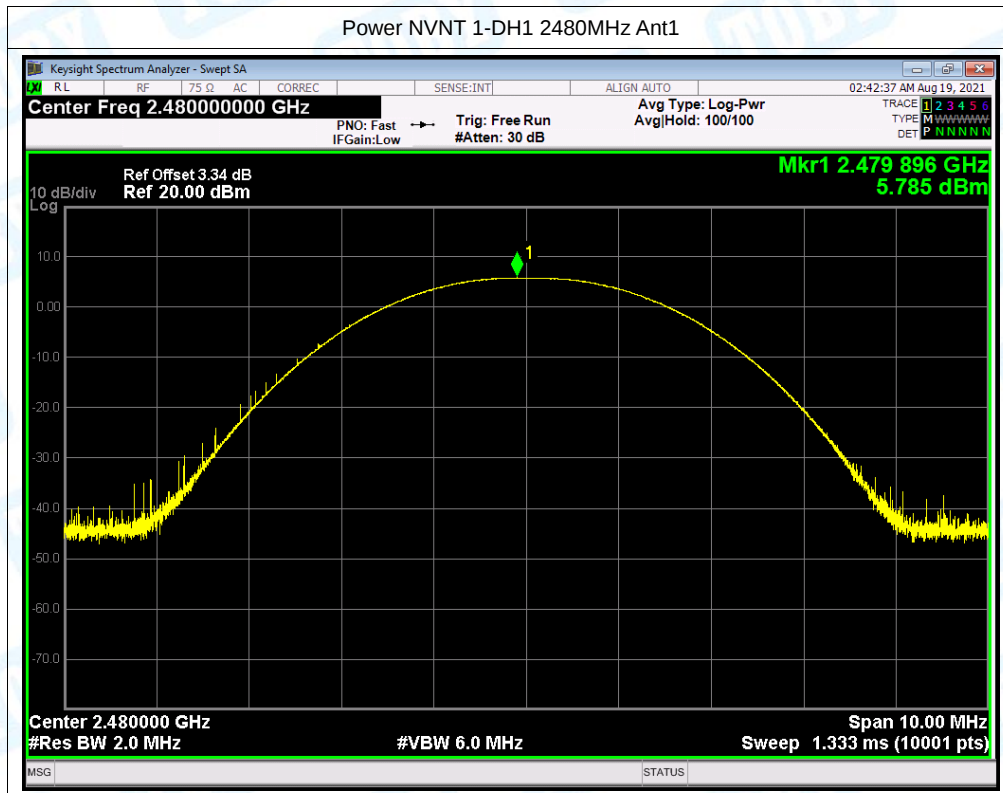
Test Graphs

Power NVNT 1-DH1 2402MHz Ant1

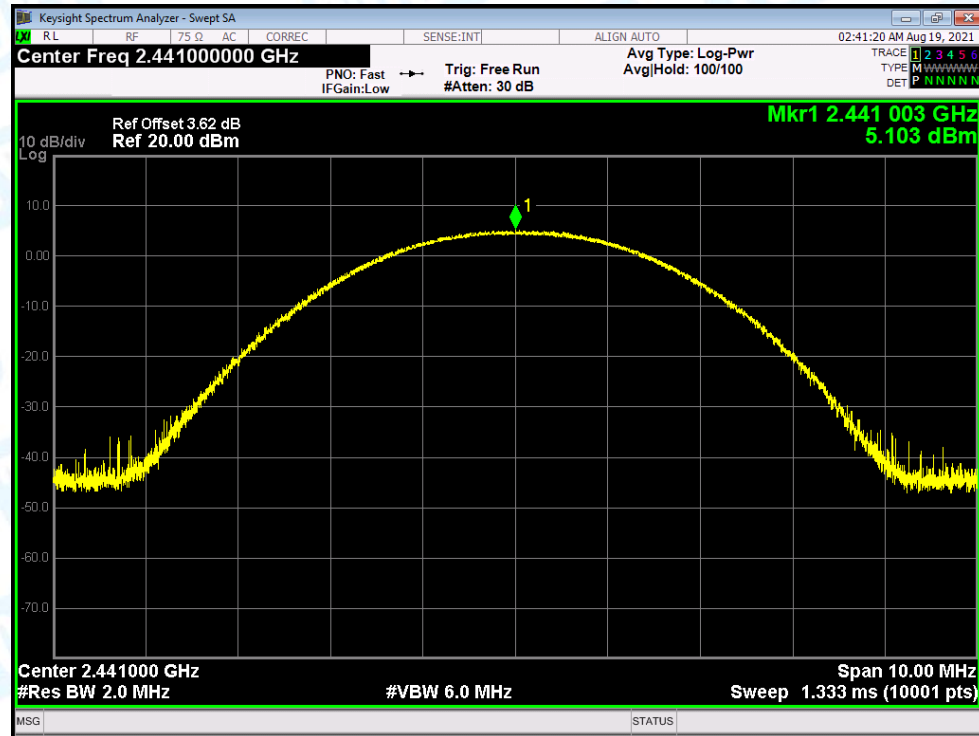


Power NVNT 1-DH1 2441MHz Ant1

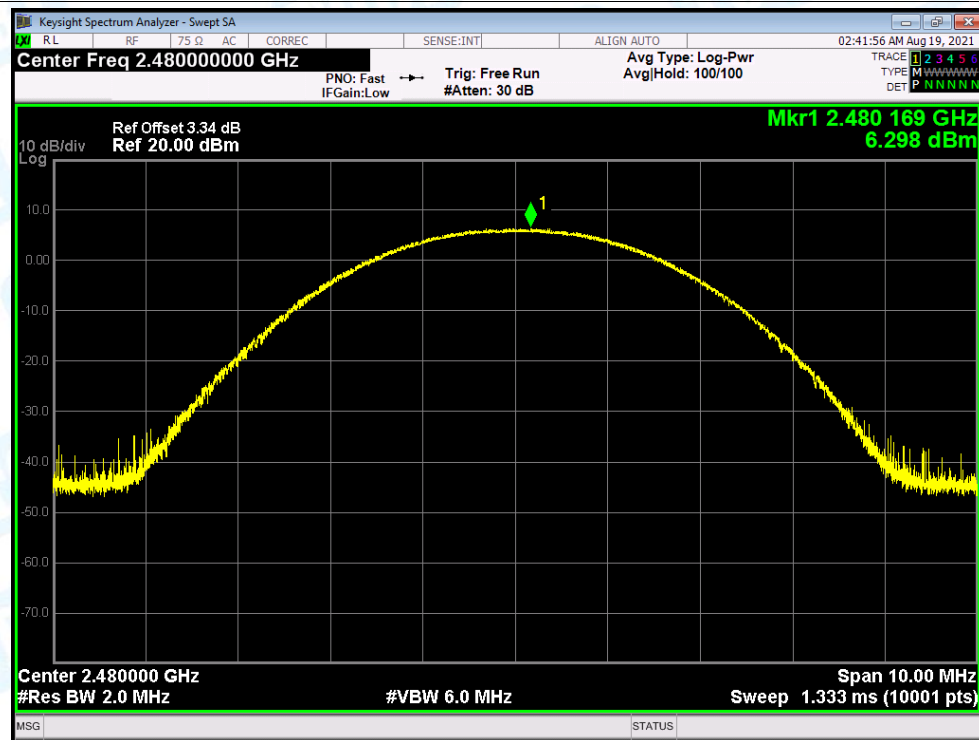




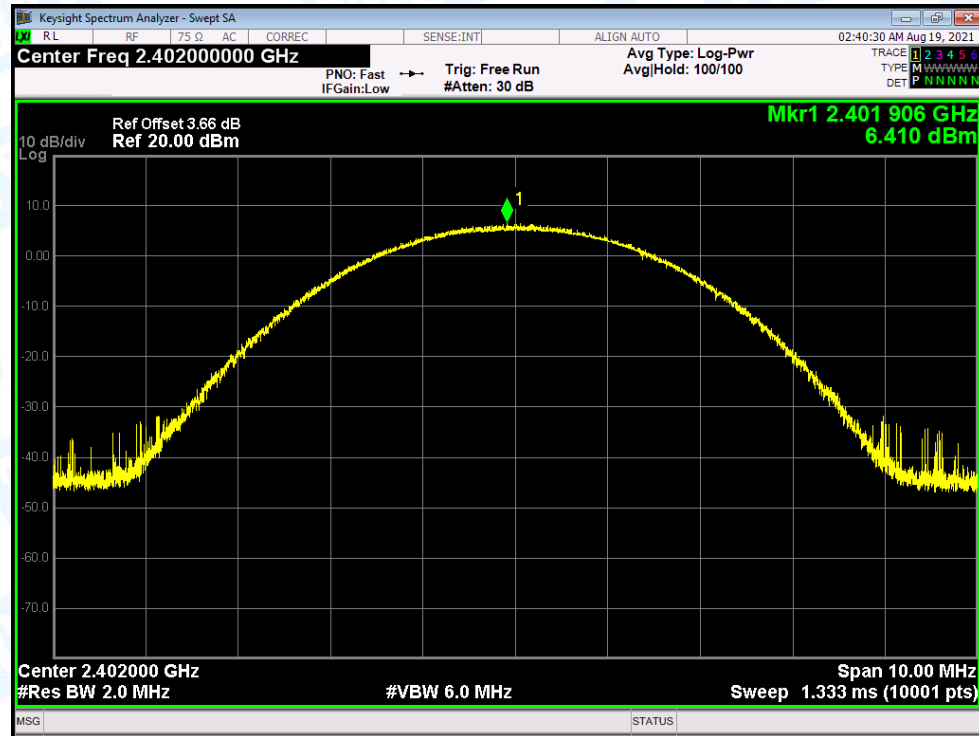
Power NVNT 2-DH1 2441MHz Ant1



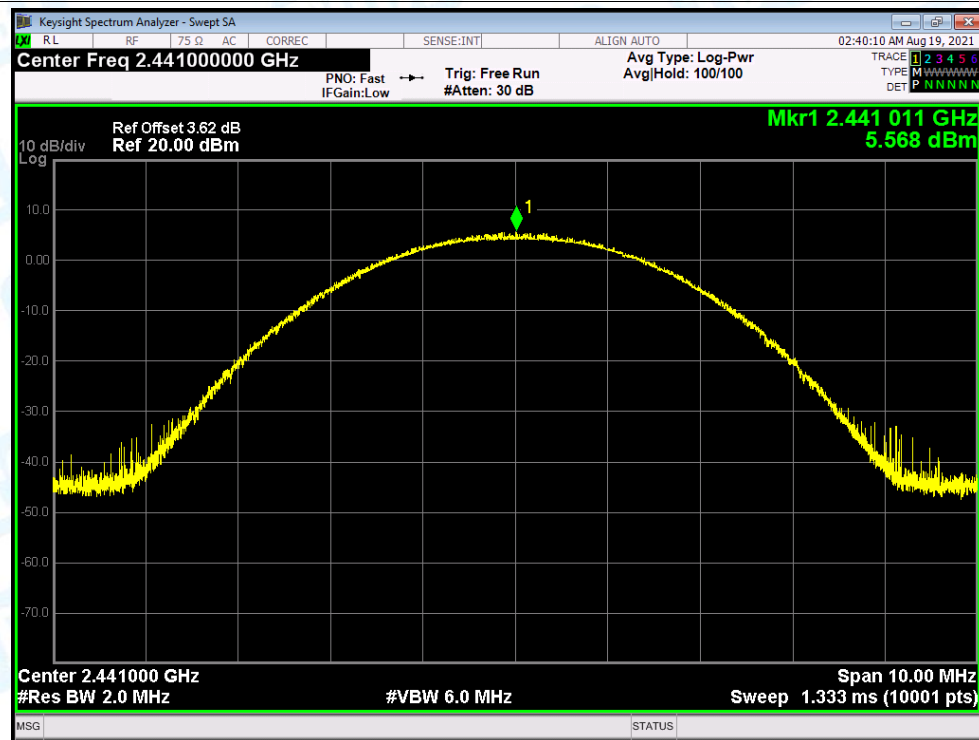
Power NVNT 2-DH1 2480MHz Ant1

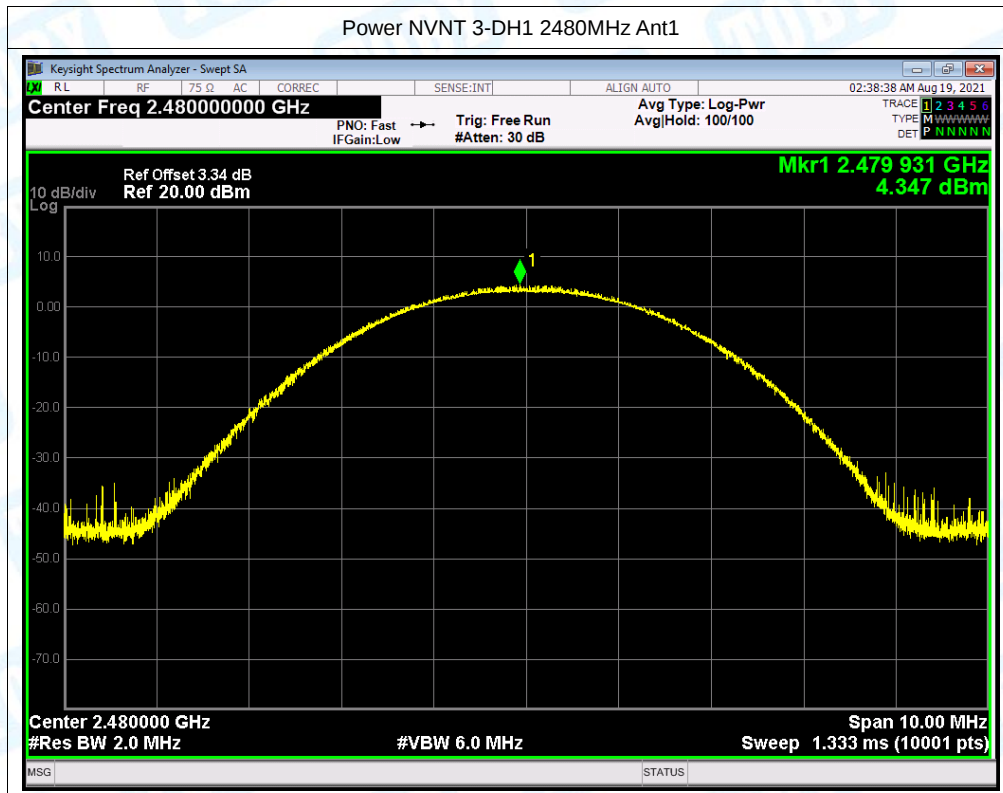


Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



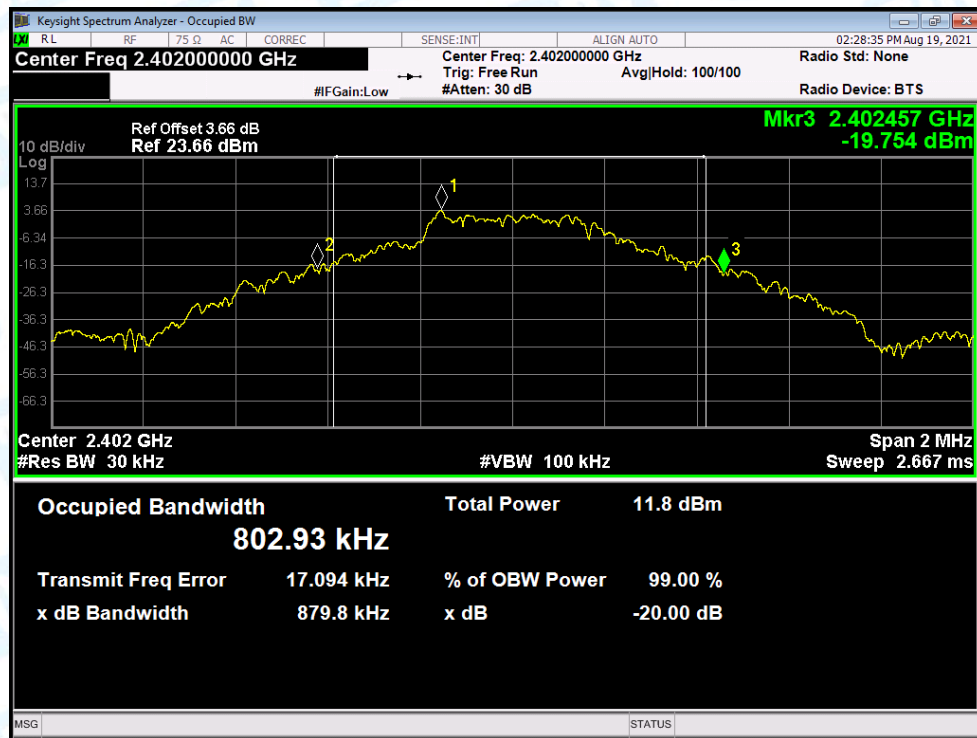


2.-20dB Bandwidth

Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	99% OBW (MHz)	2/3 *20dB BW (MHz)
NVNT	1-DH1	2402	0.88	0.80293	0.587
NVNT	1-DH1	2441	0.865	0.81938	0.577
NVNT	1-DH1	2480	0.881	0.79937	0.587
NVNT	2-DH1	2402	1.193	1.1308	0.795
NVNT	2-DH1	2441	1.233	1.1452	0.822
NVNT	2-DH1	2480	1.21	1.1251	0.807
NVNT	3-DH1	2402	1.21	1.1235	0.807
NVNT	3-DH1	2441	1.211	1.1308	0.807
NVNT	3-DH1	2480	1.2	1.1197	0.800

Test Graphs

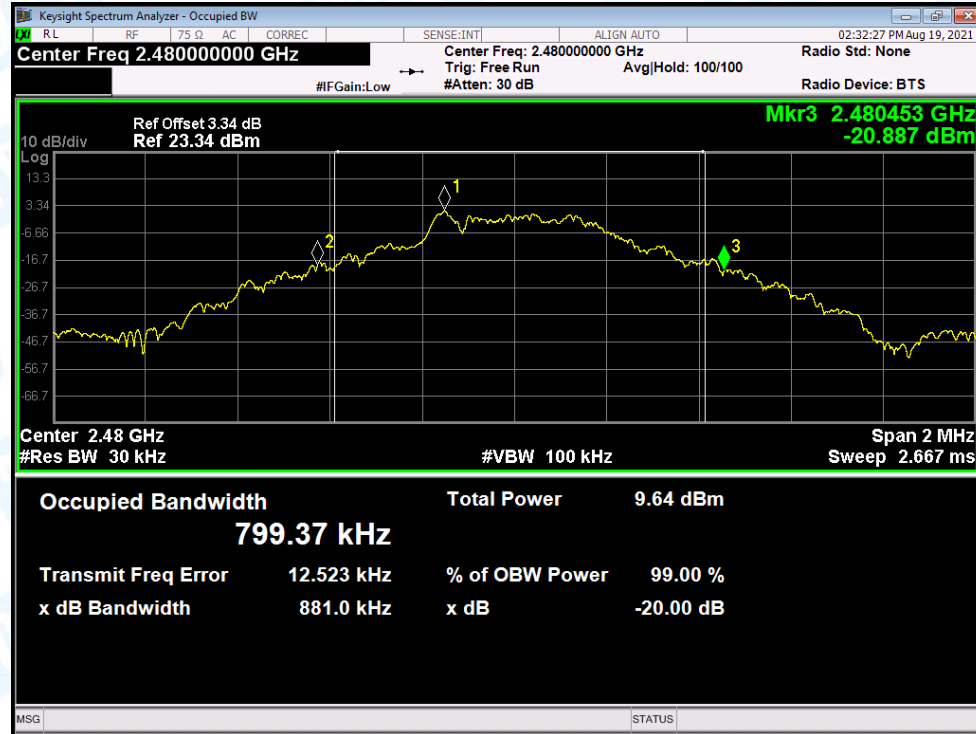
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



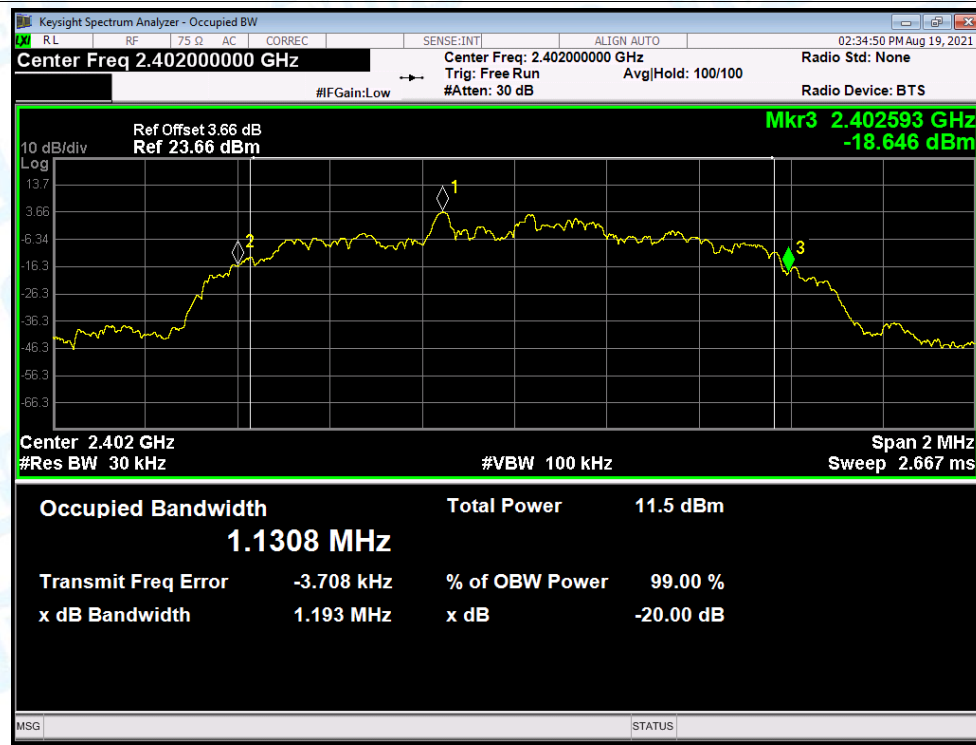
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



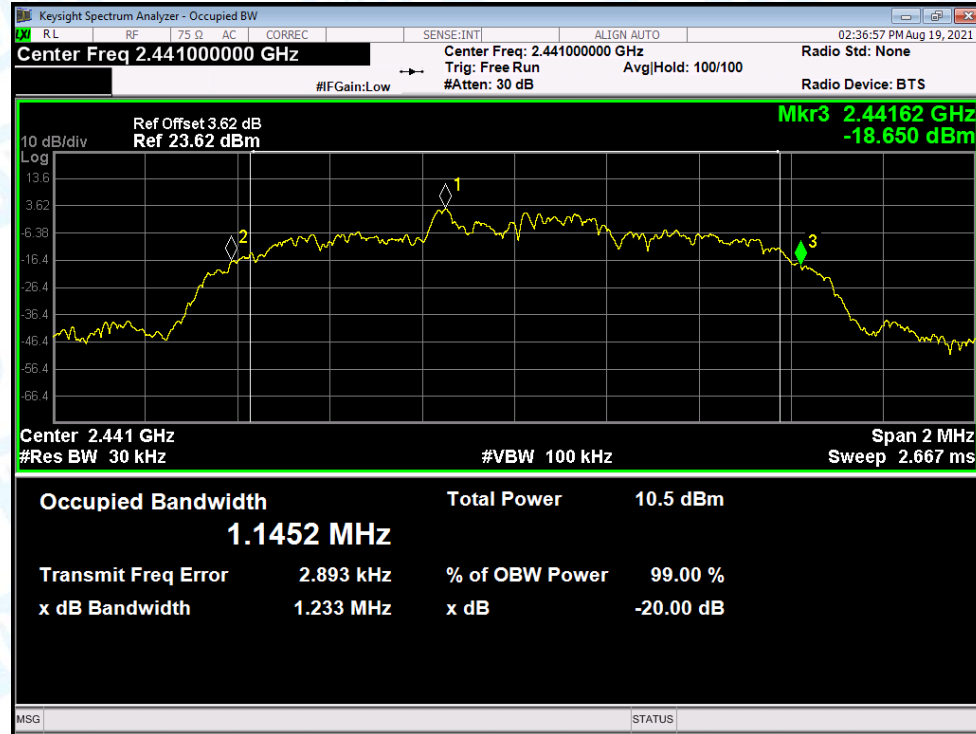
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



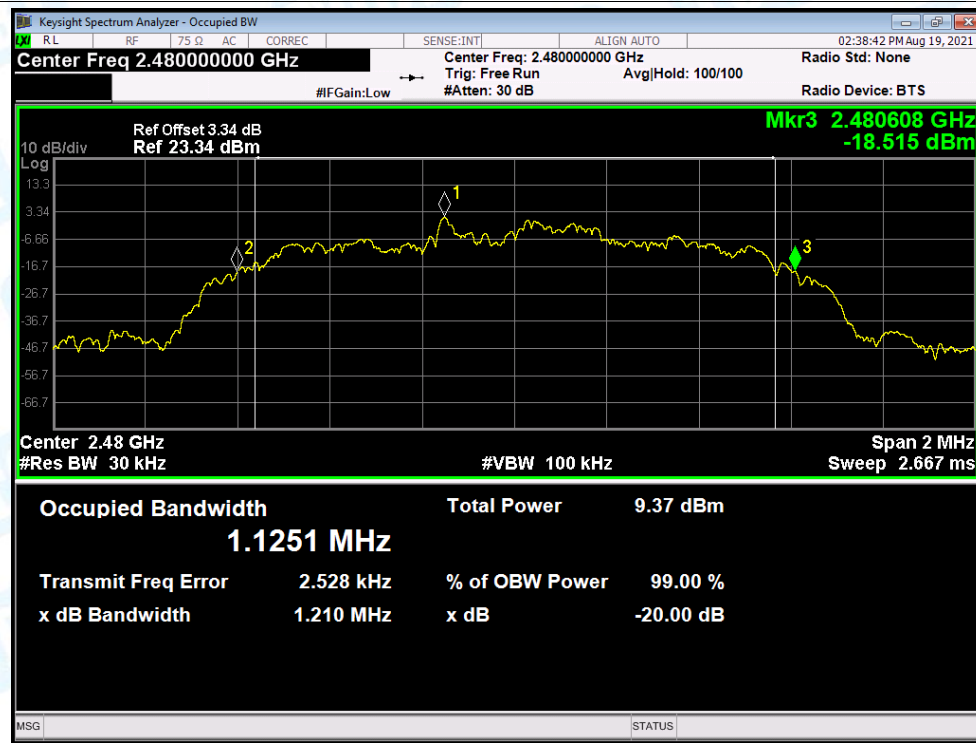
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



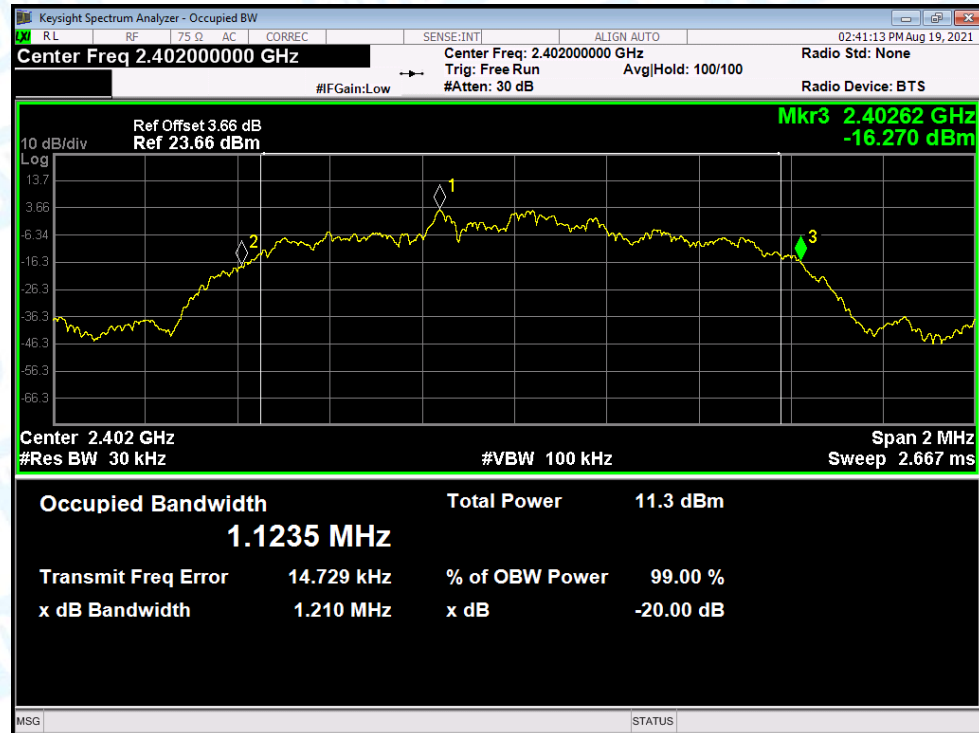
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



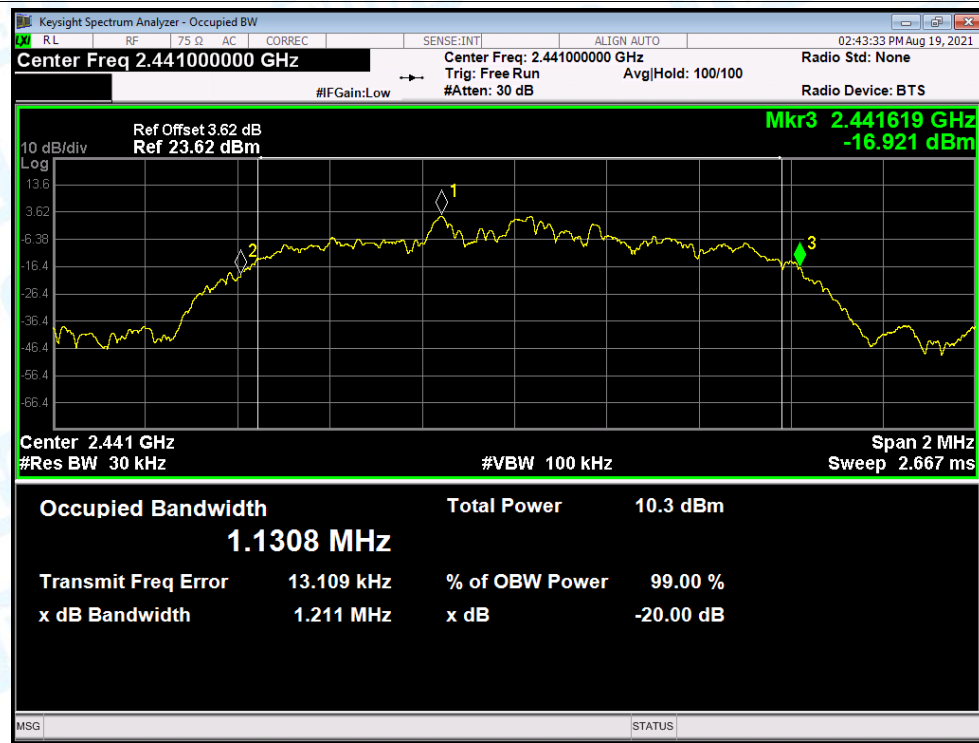
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

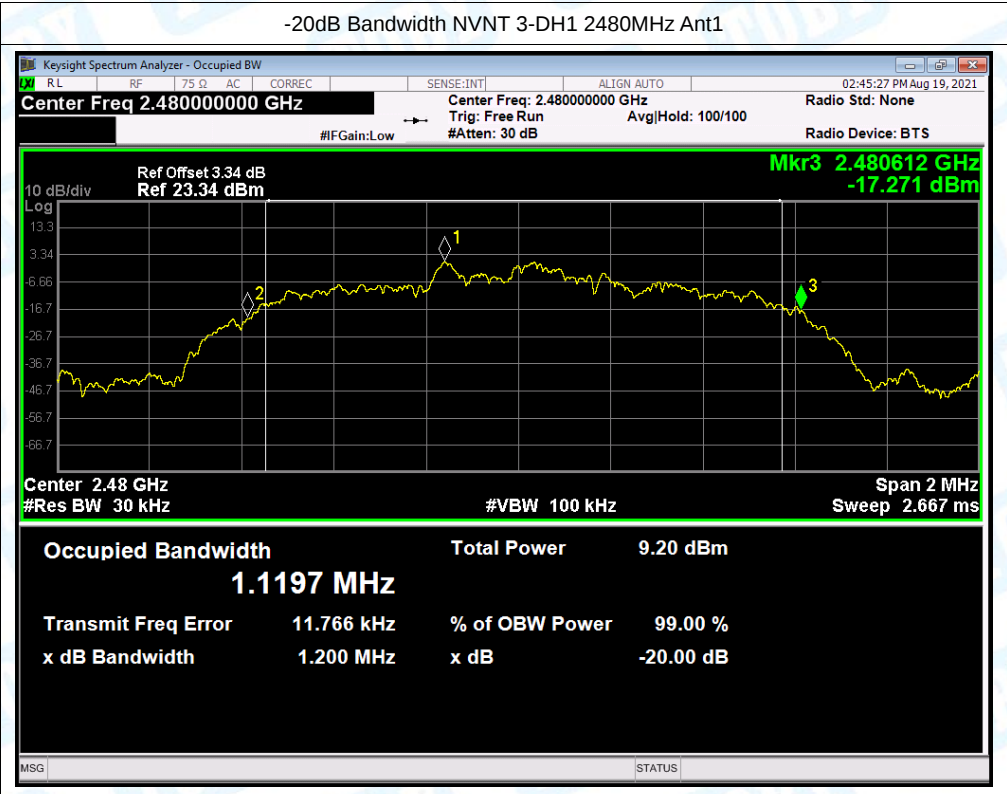


-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



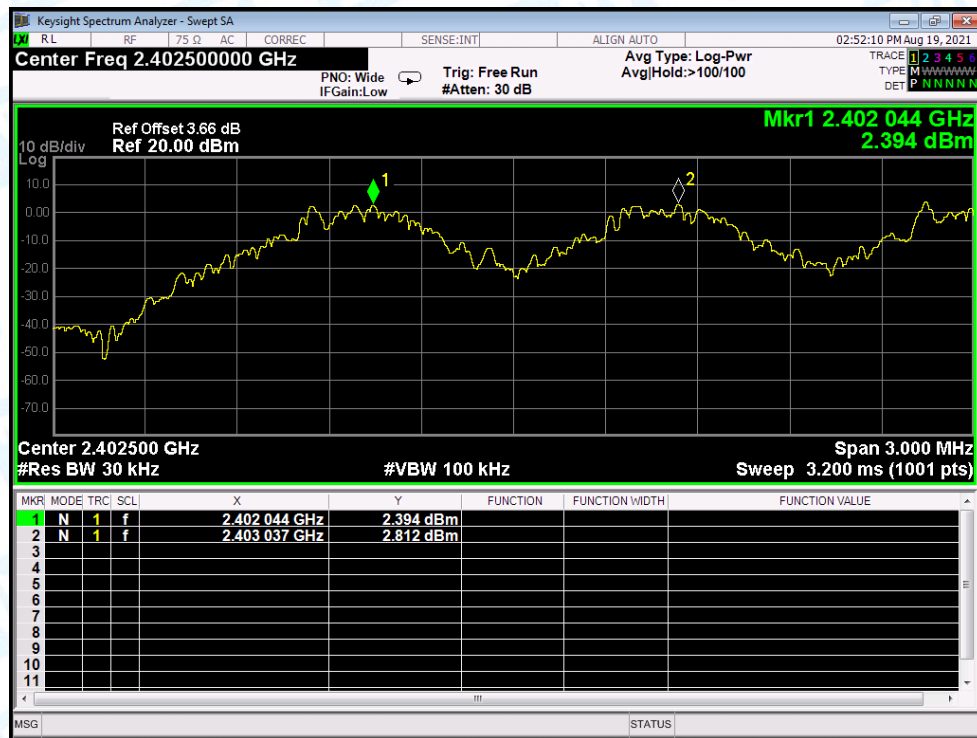


3.Carrier Frequencies Separation

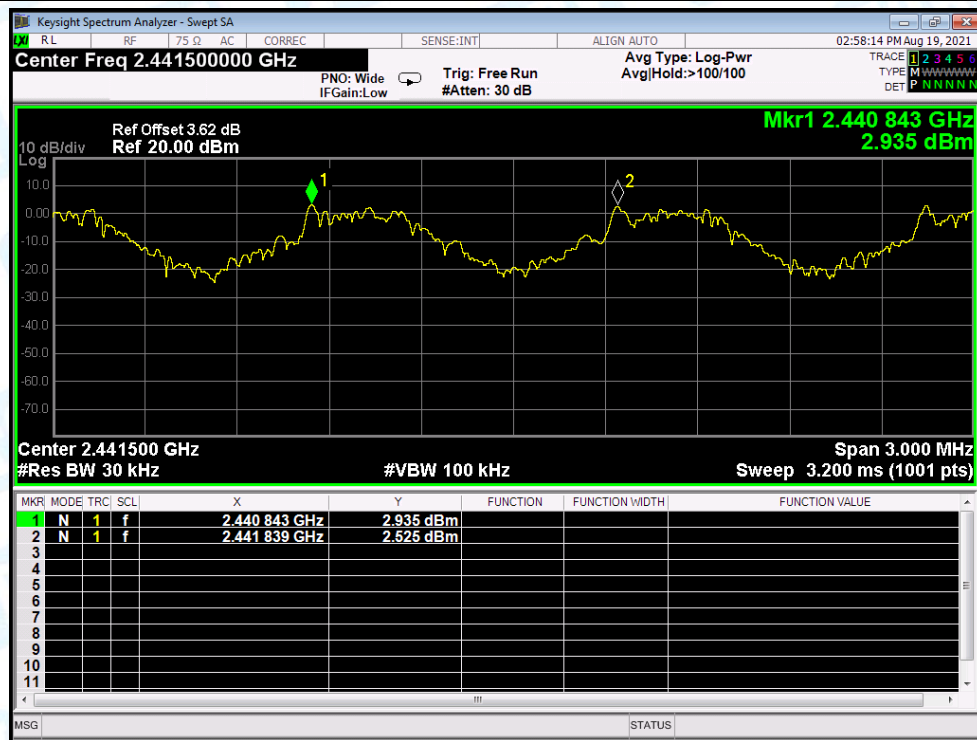
Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	2402.044	2403.037	0.993	0.587	Pass
NVNT	1-DH1	2440.843	2441.839	0.996	0.577	Pass
NVNT	1-DH1	2478.846	2480.037	1.191	0.587	Pass
NVNT	2-DH1	2401.849	2402.845	0.996	0.795	Pass
NVNT	2-DH1	2440.843	2442.034	1.191	0.822	Pass
NVNT	2-DH1	2478.849	2479.839	0.99	0.807	Pass
NVNT	3-DH1	2401.846	2402.836	0.99	0.807	Pass
NVNT	3-DH1	2441.122	2442.121	0.999	0.807	Pass
NVNT	3-DH1	2478.846	2479.845	0.999	0.800	Pass

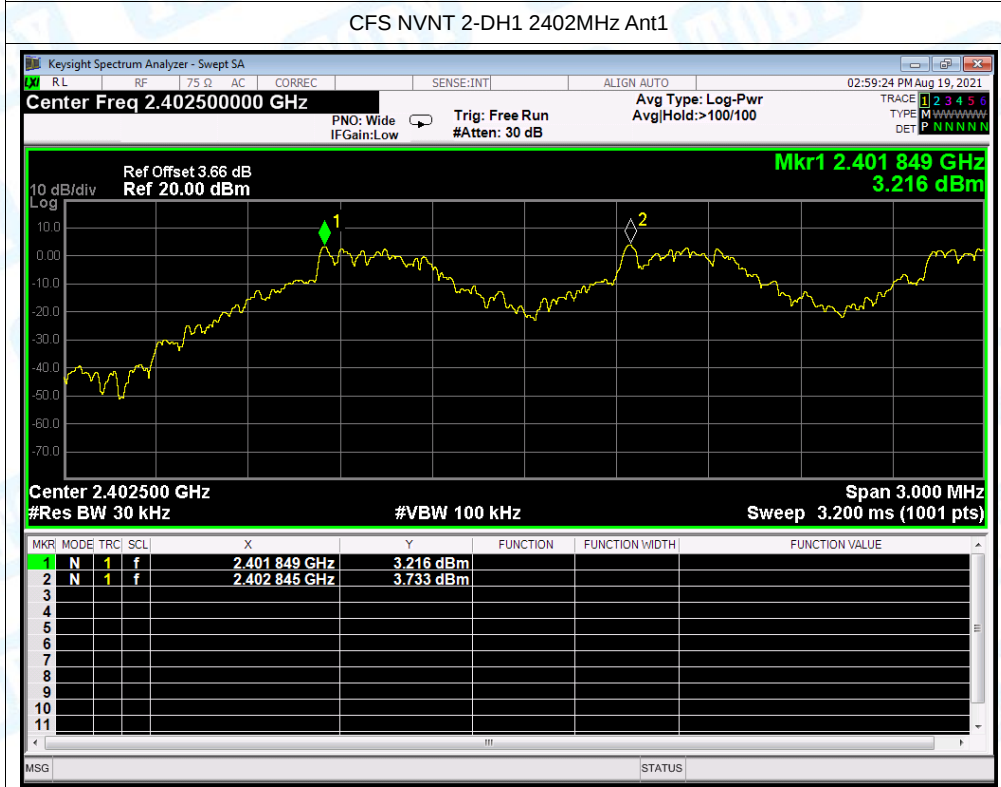
Test Graphs

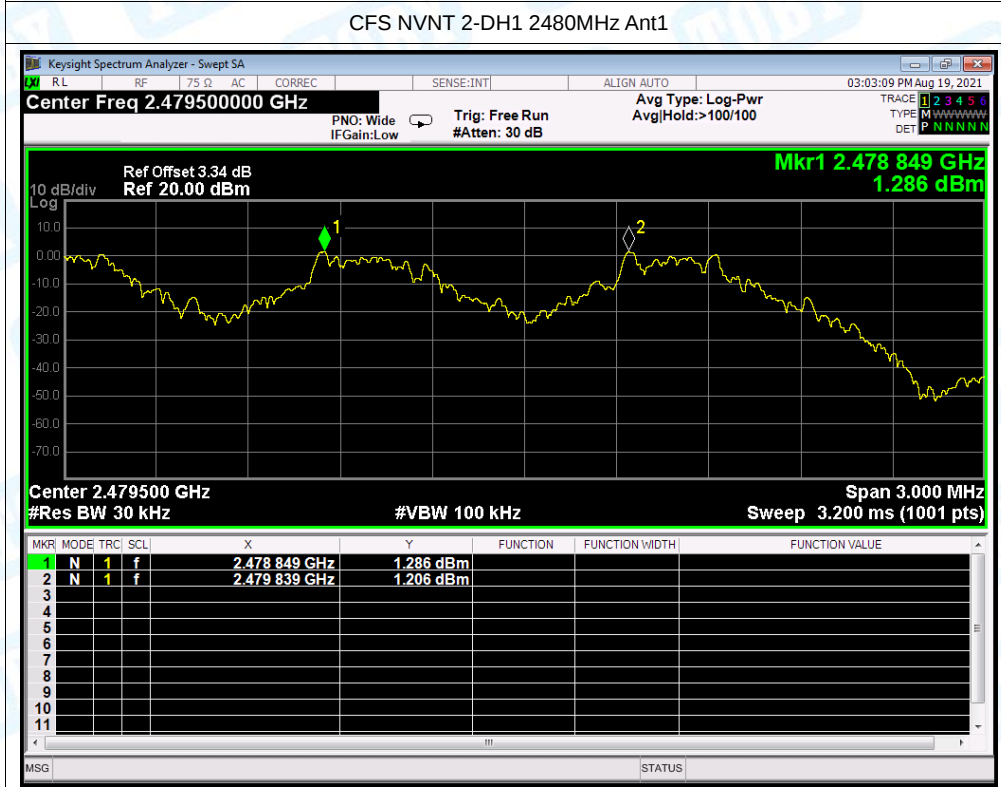
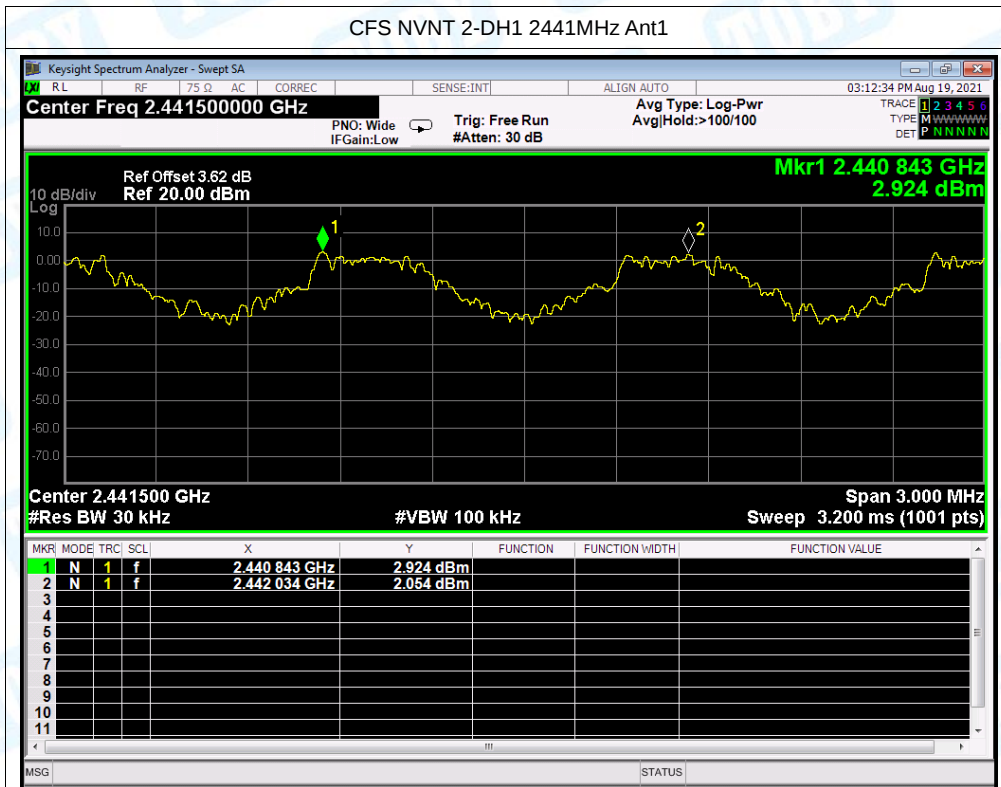
CFS NVNT 1-DH1 2402MHz Ant1

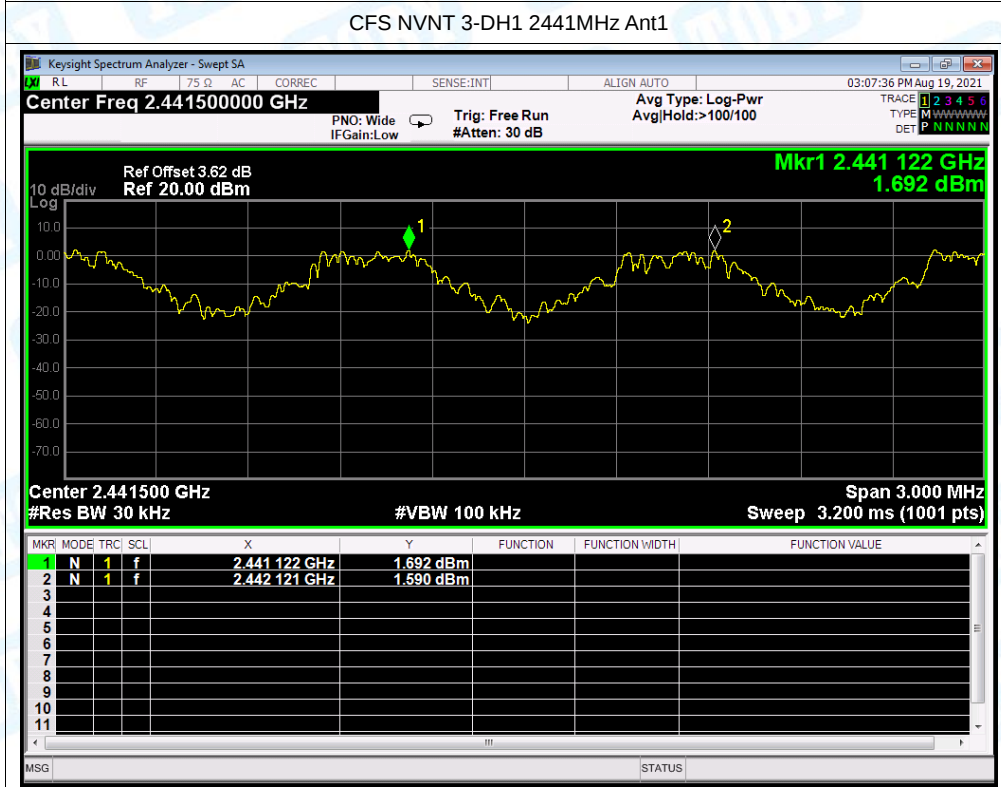
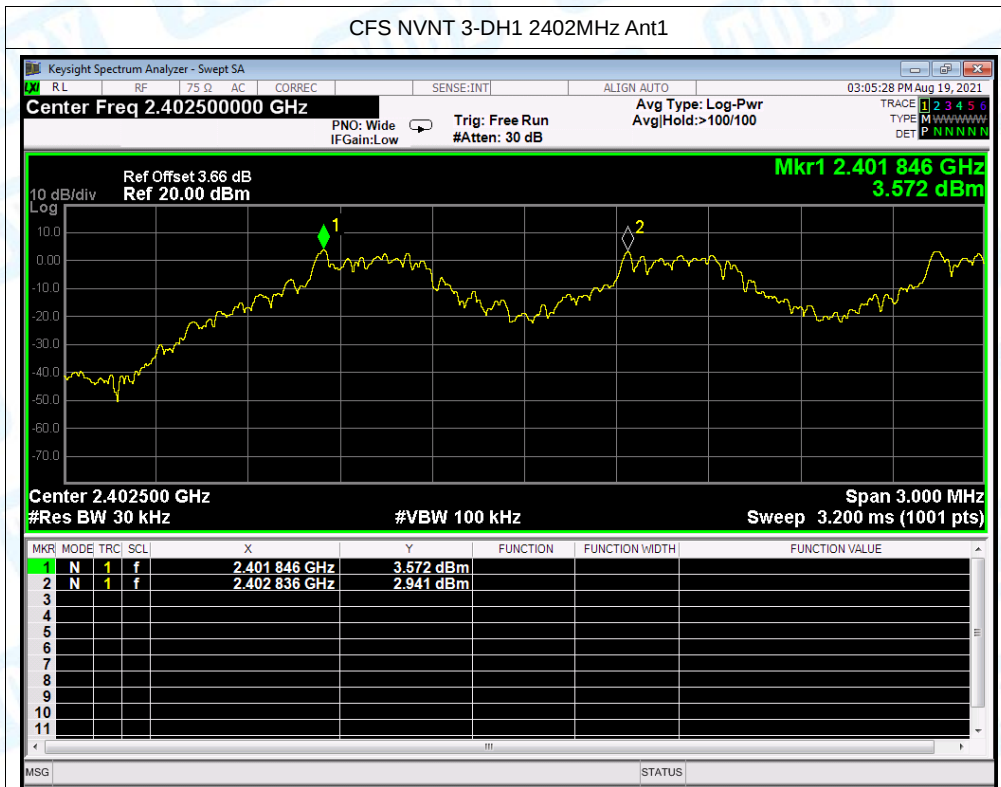


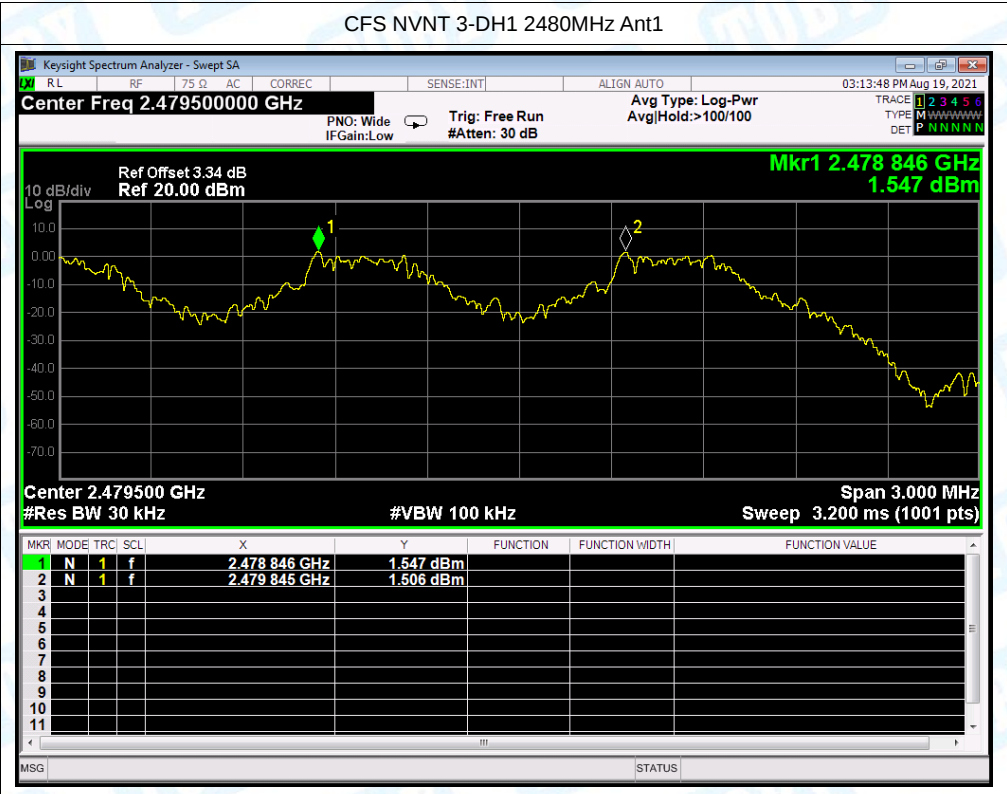
CFS NVNT 1-DH1 2441MHz Ant1





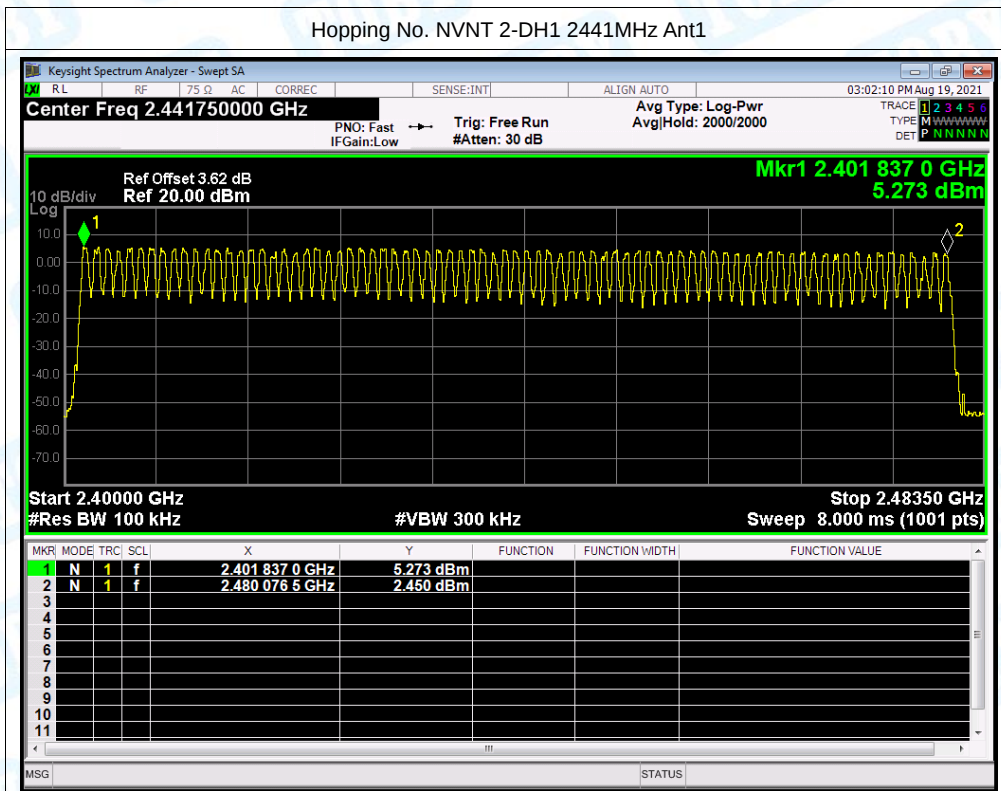
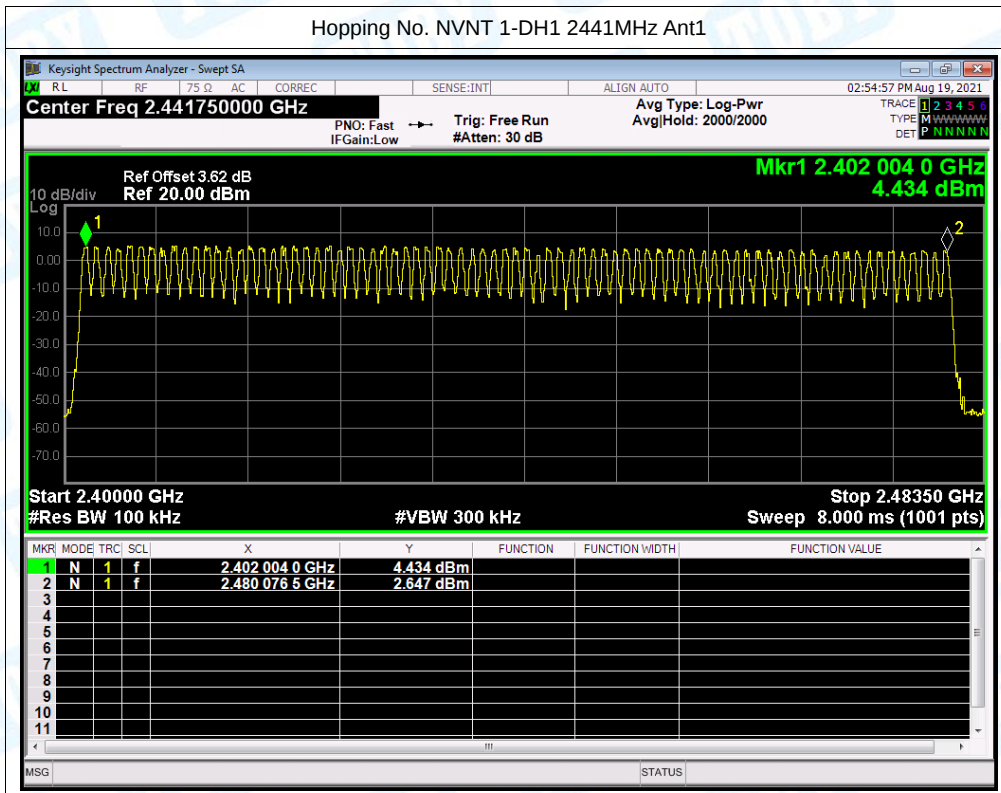


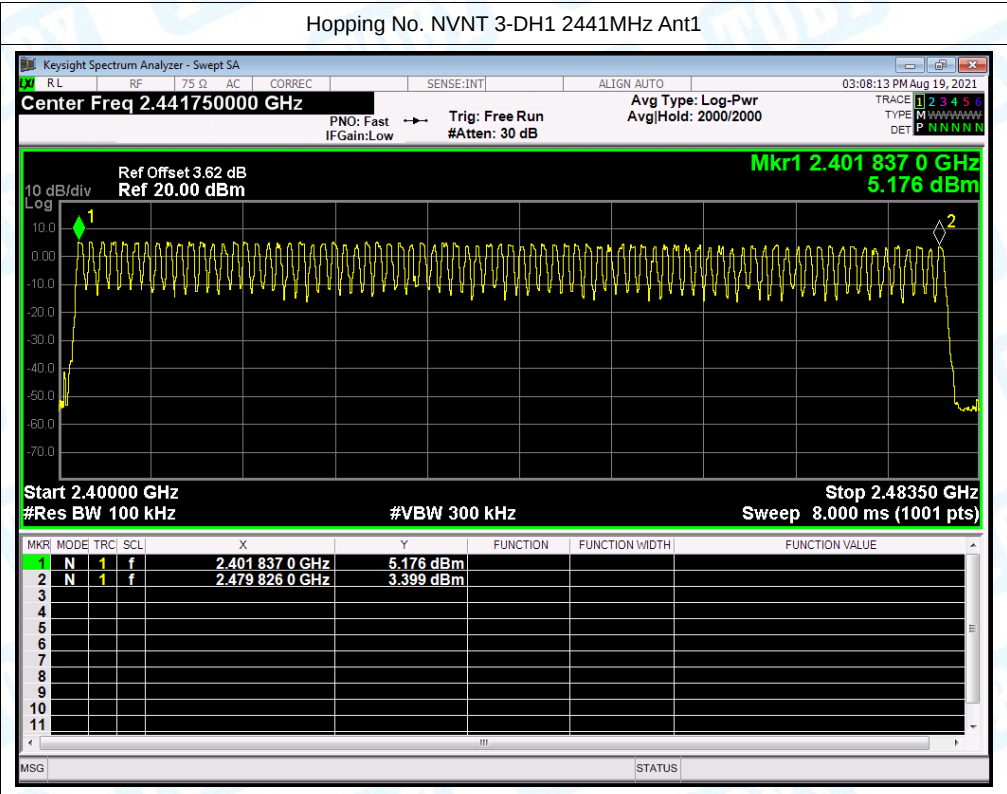




4.Number of Hopping Channel

Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass



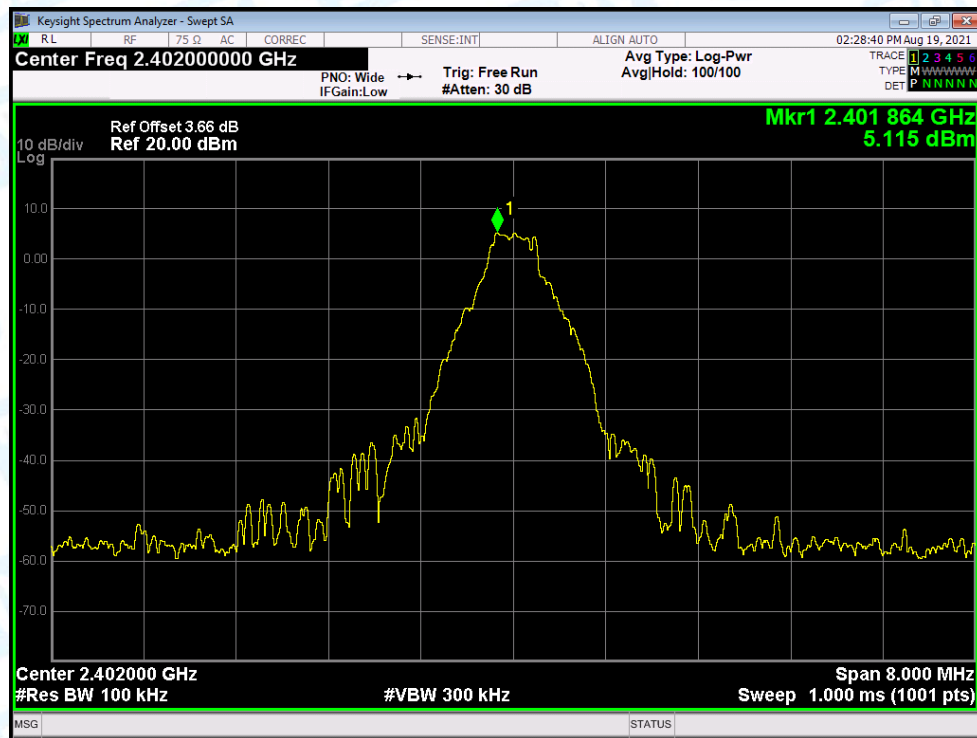


5.Band Edge

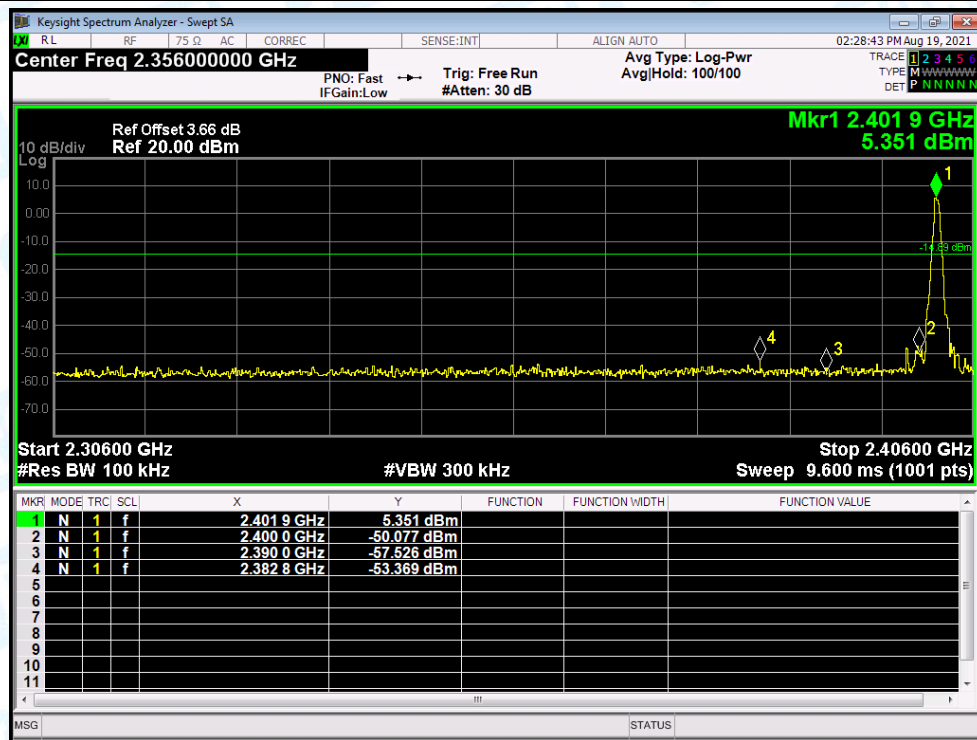
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-58.48	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-57.04	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-58.16	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-56.79	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-58.96	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-56.16	-20	Pass

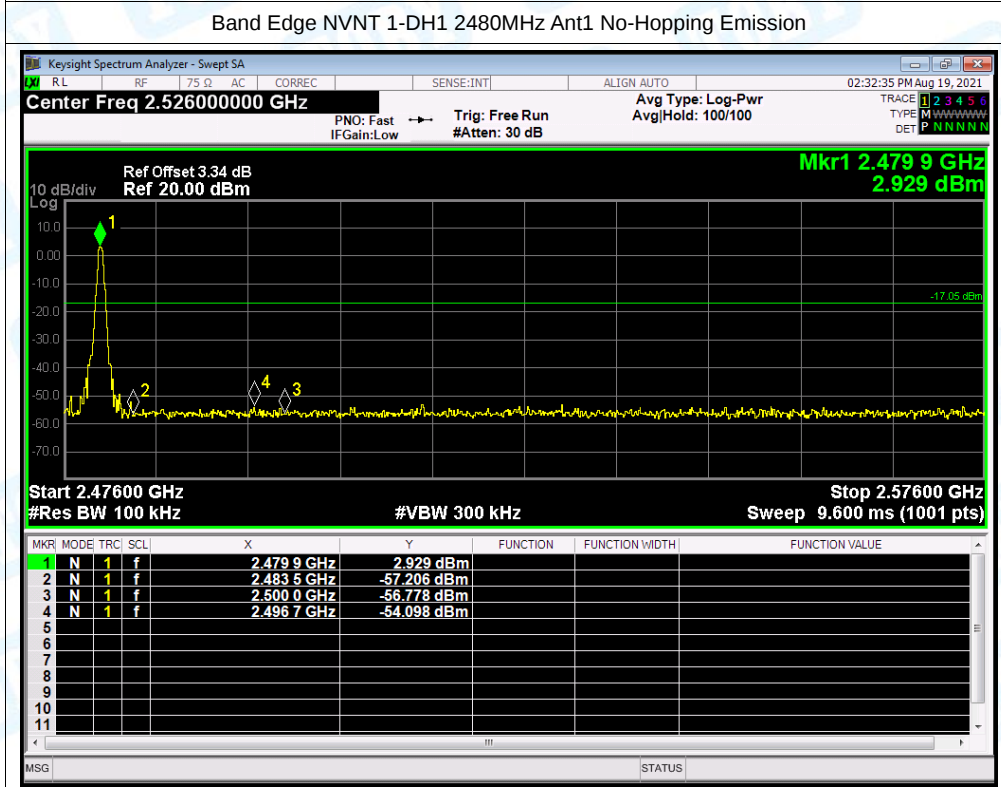
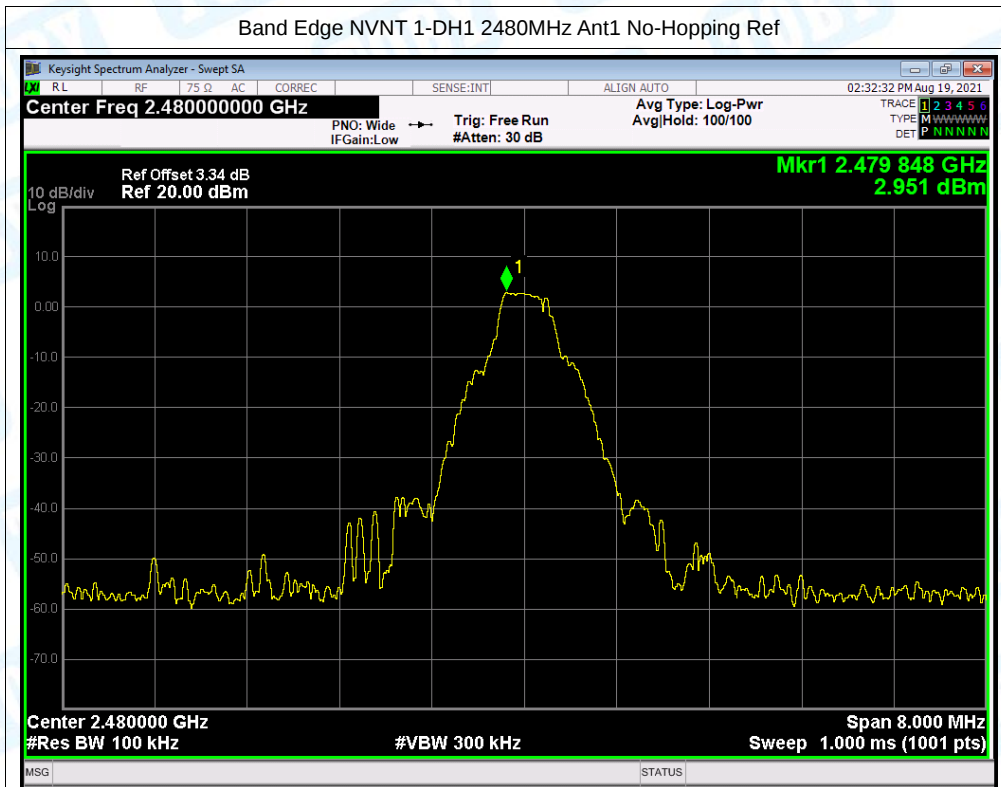
Test Graphs

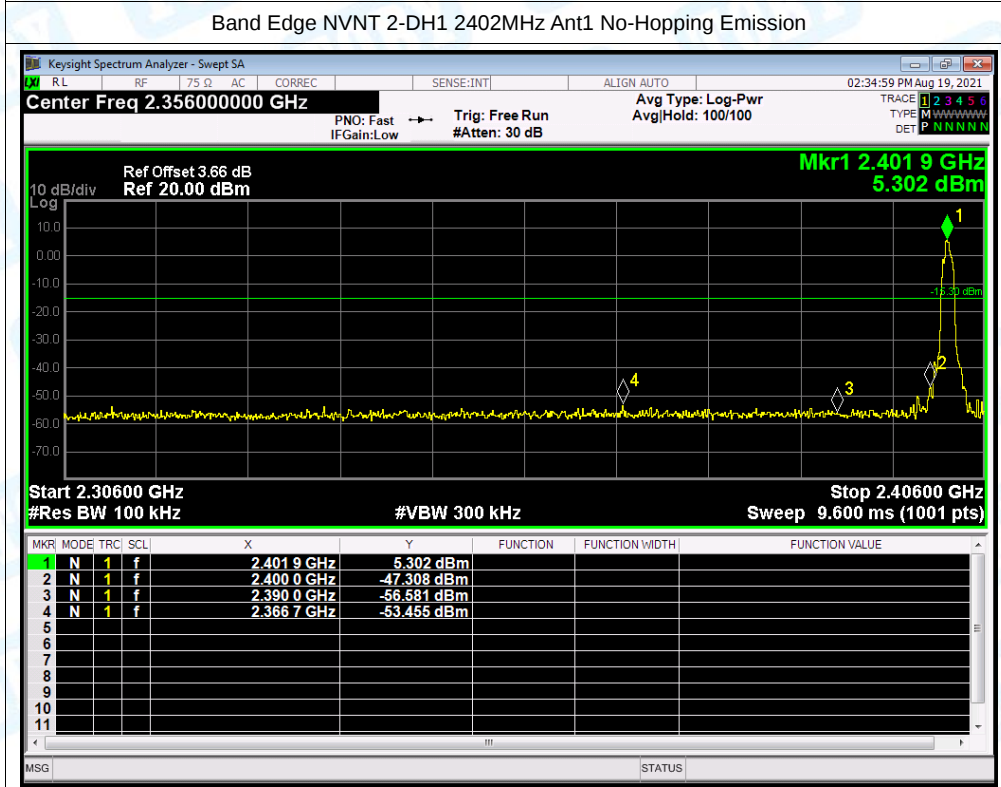
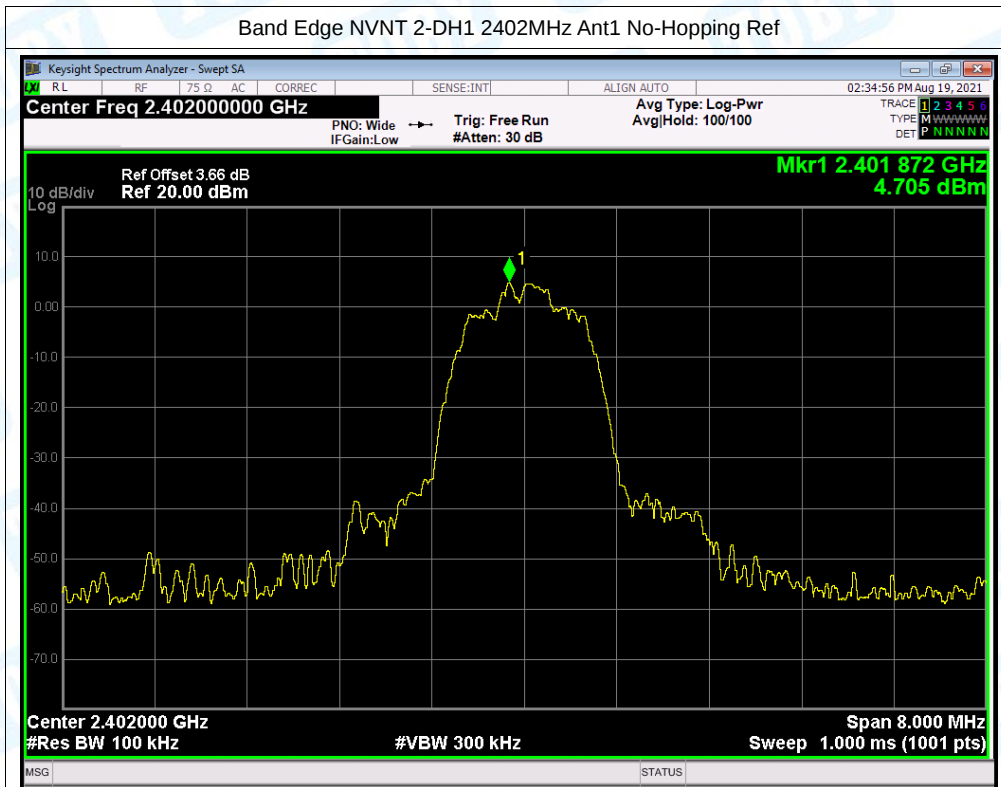
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

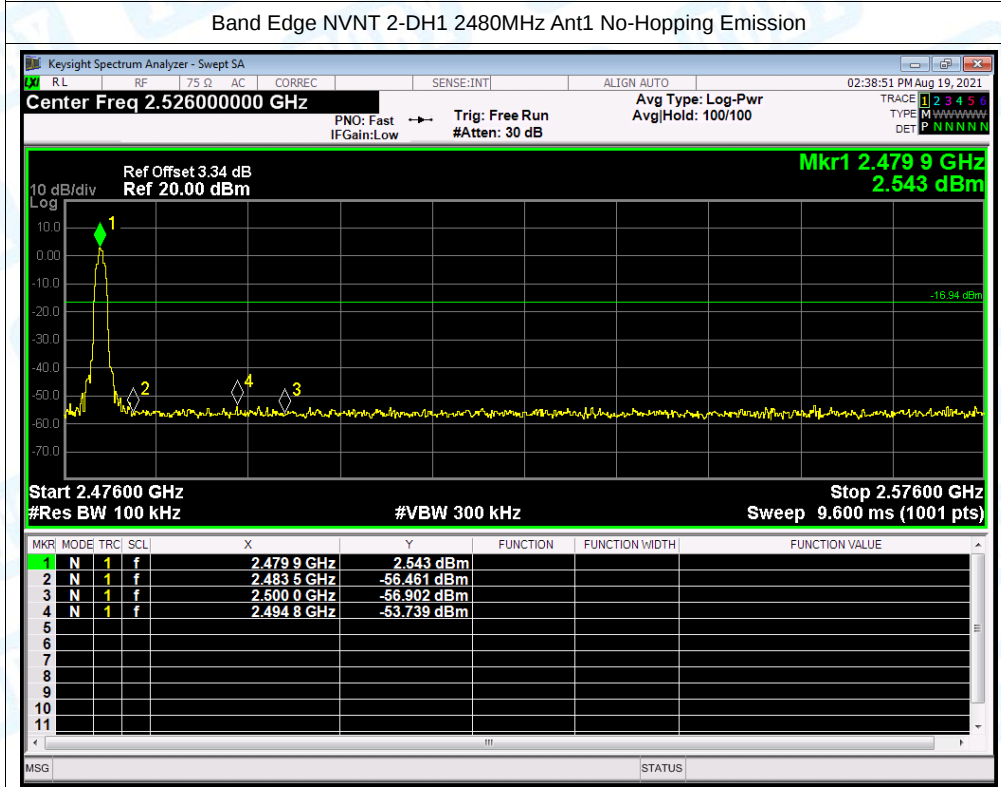
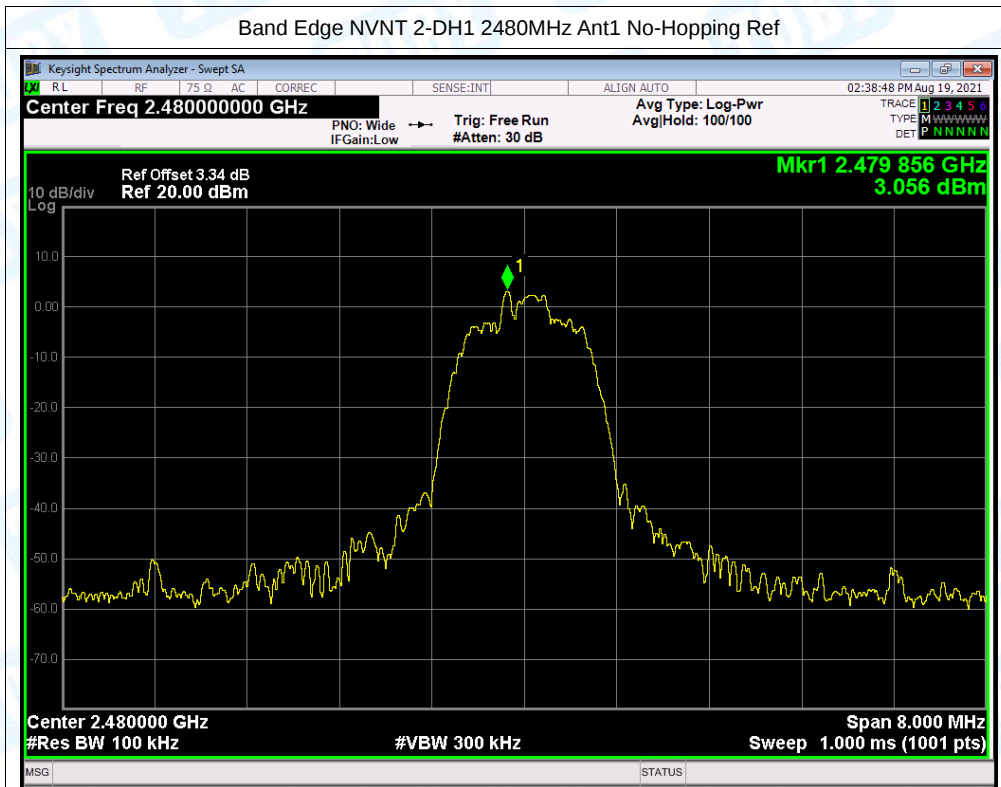


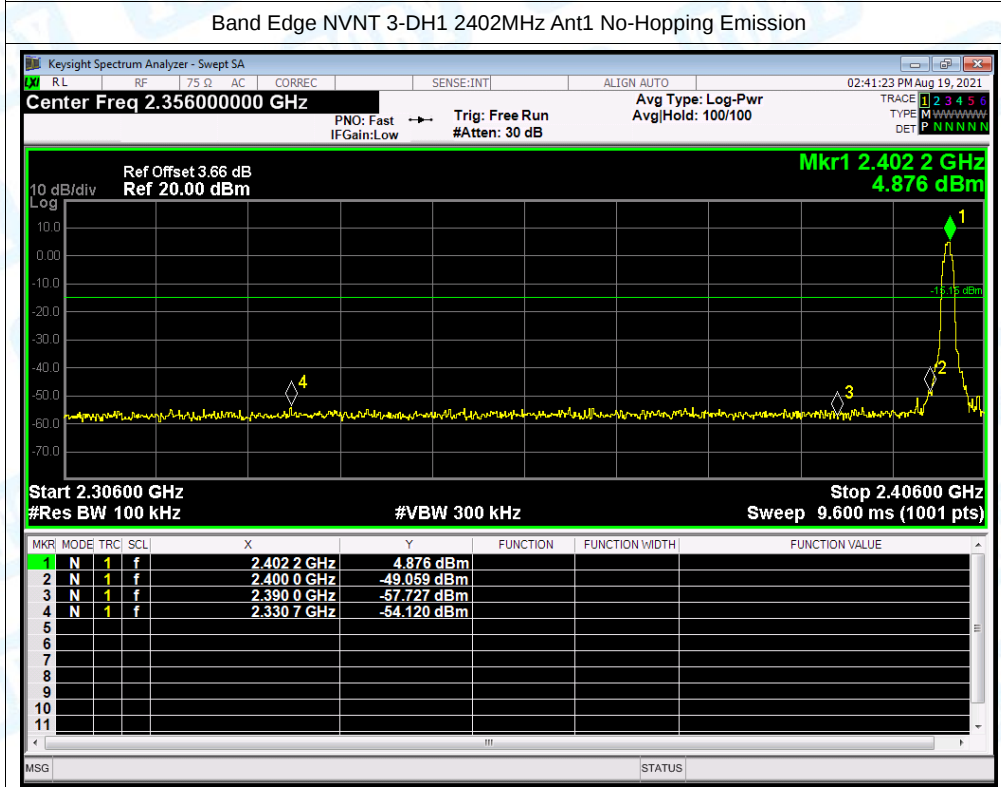
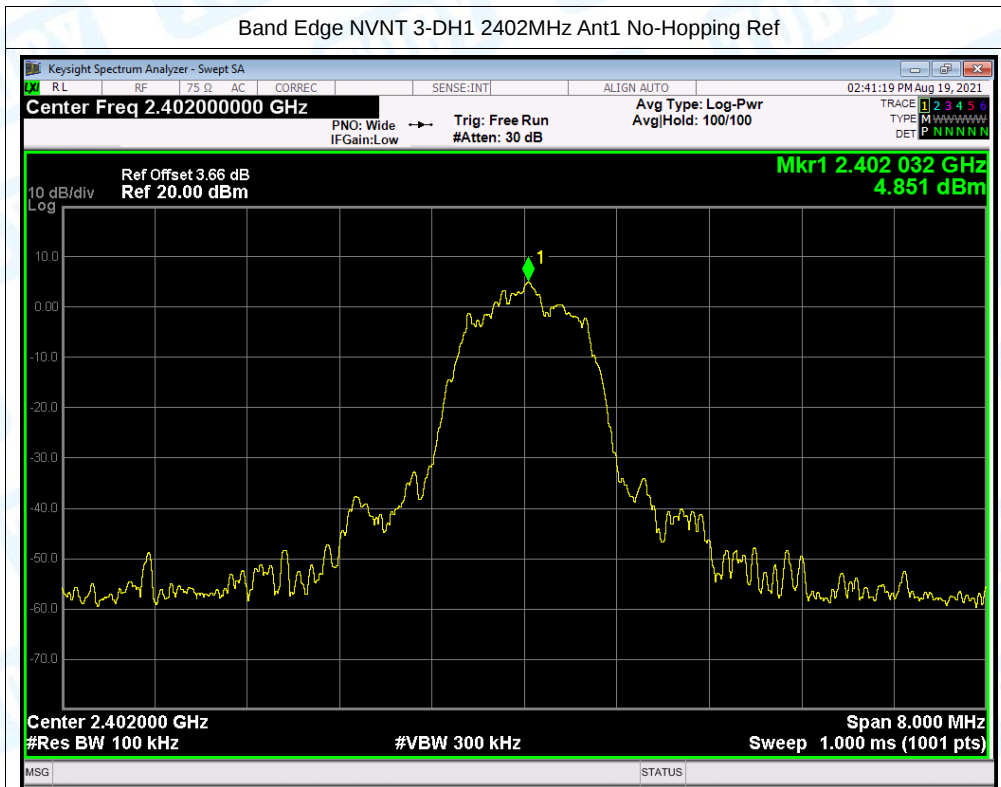
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

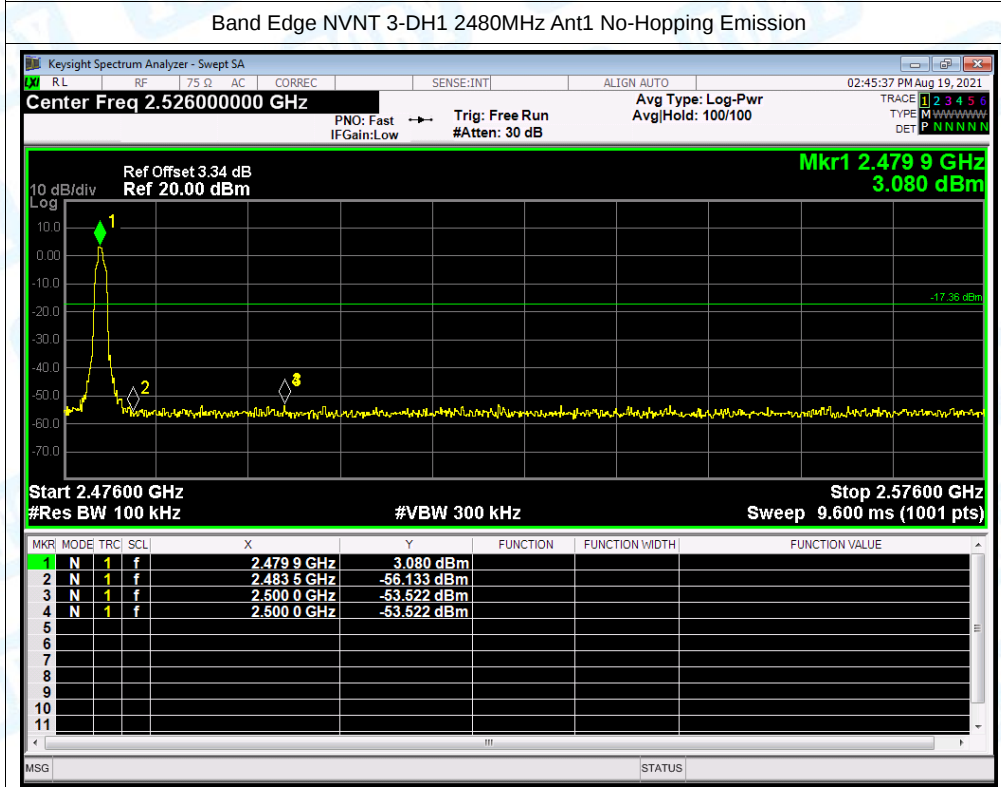
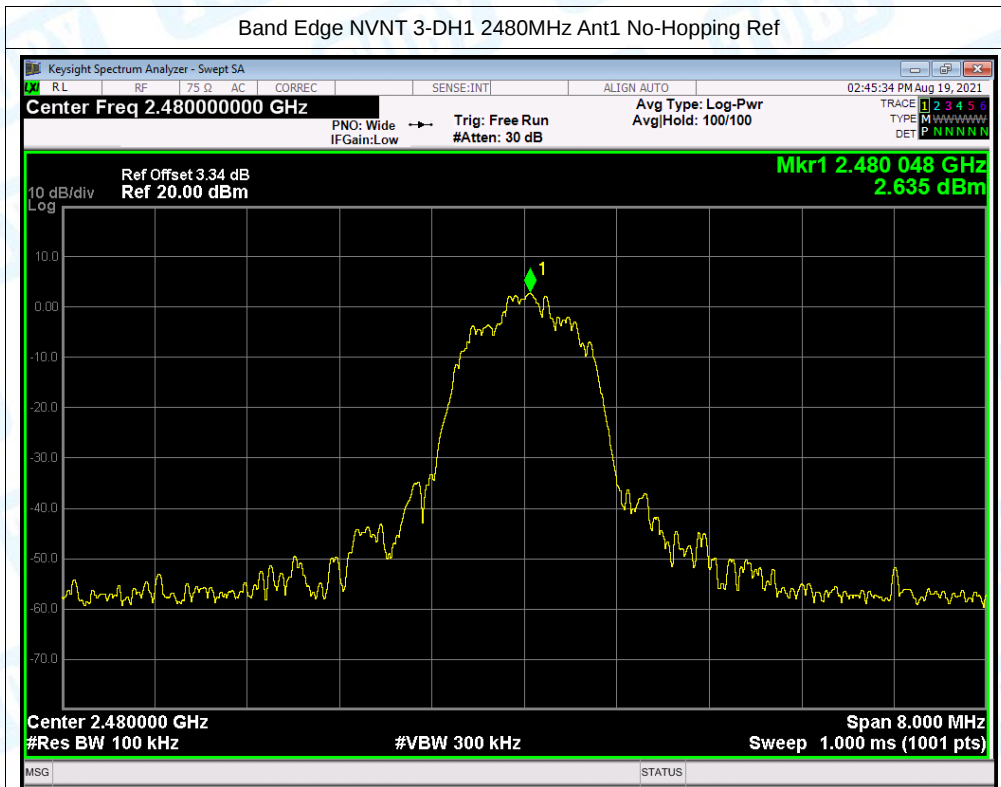










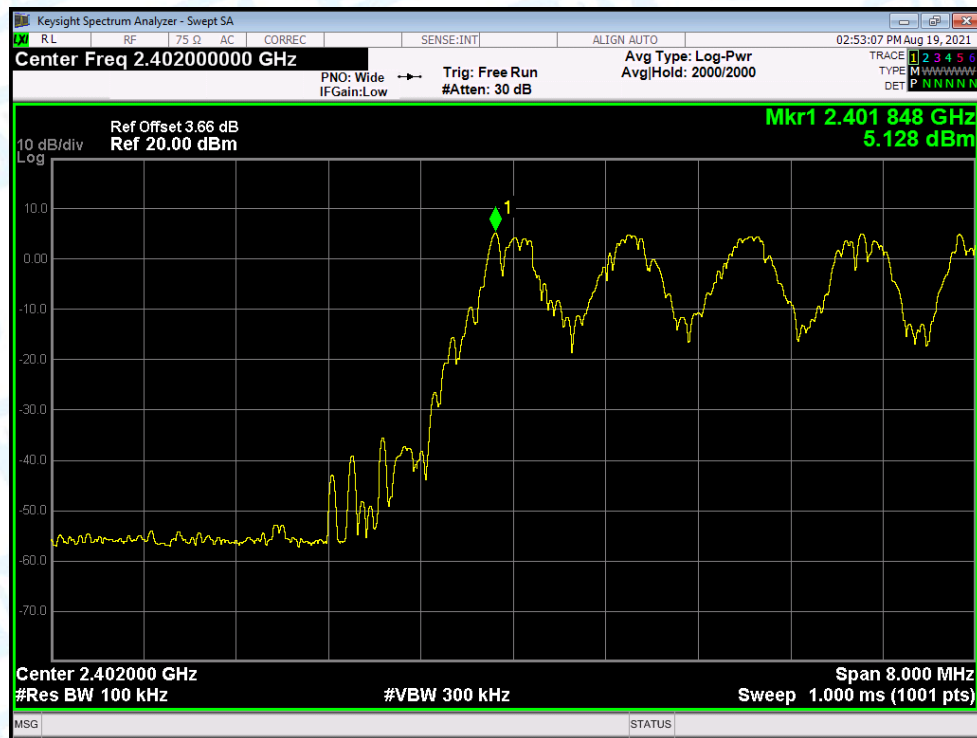


6.Band Edge(Hopping)

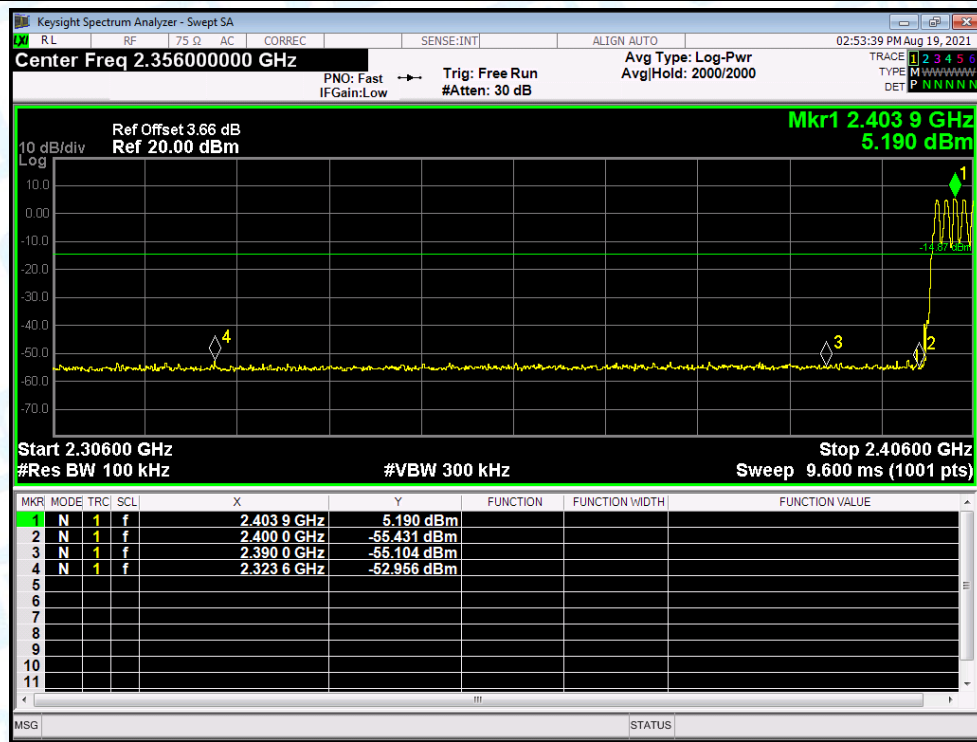
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-58.08	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-55.82	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-58.37	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-56.16	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-57.98	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-56.39	-20	Pass

Test Graphs

Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



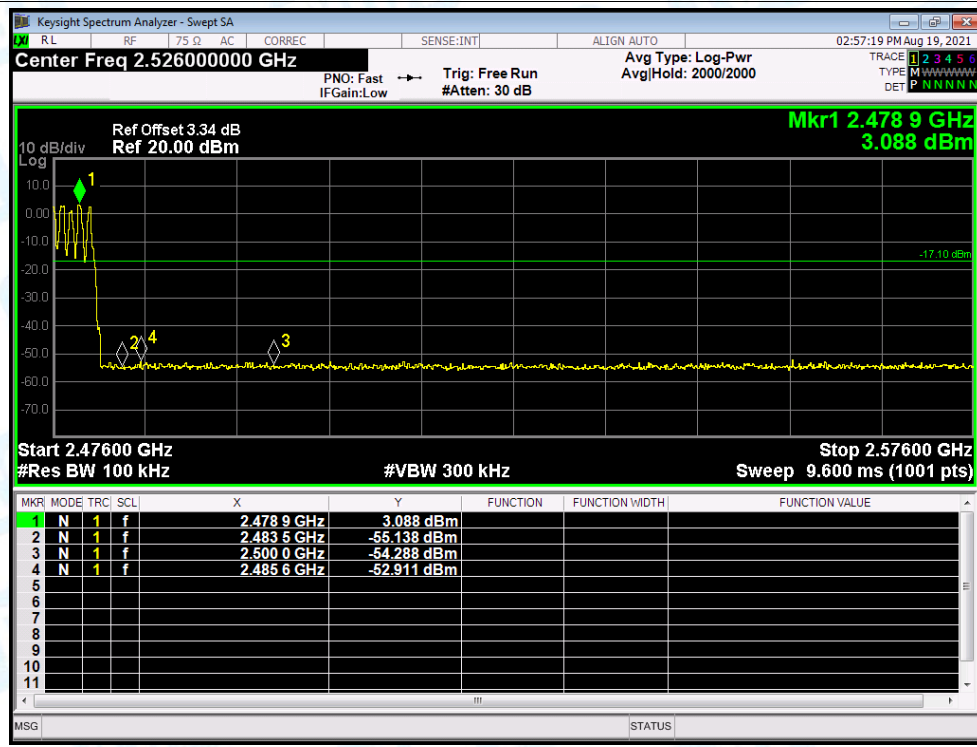
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



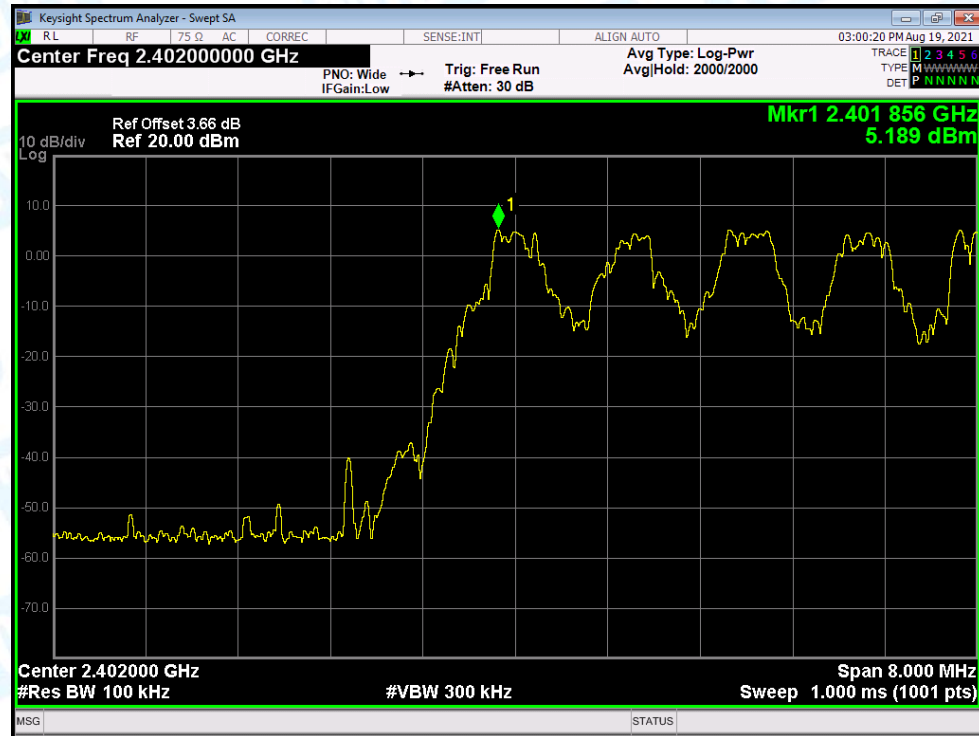
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



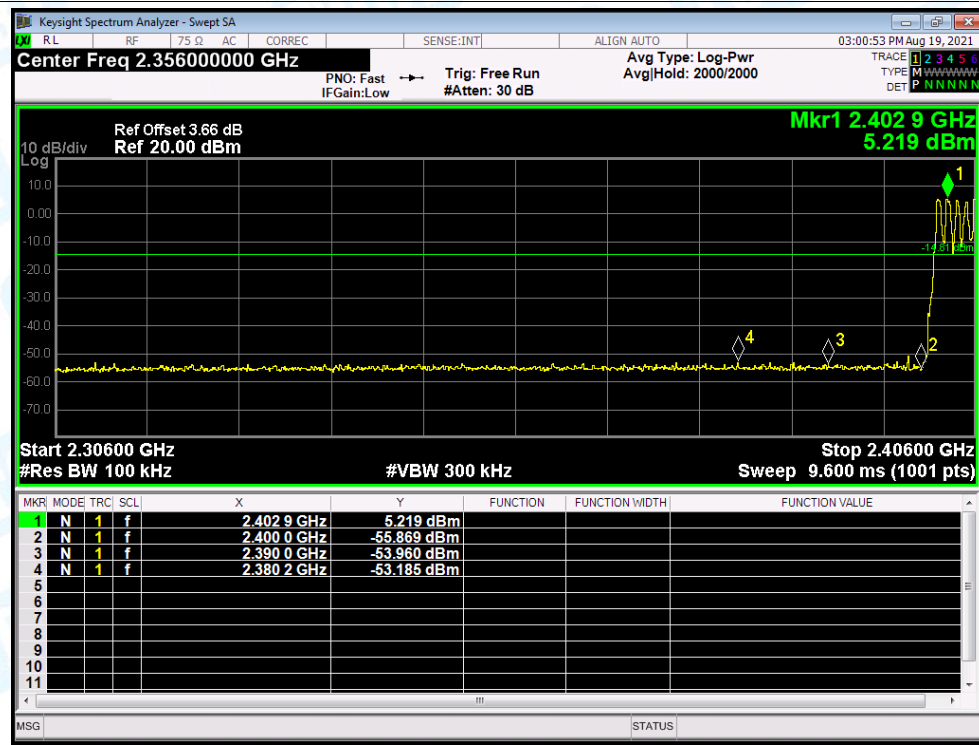
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission

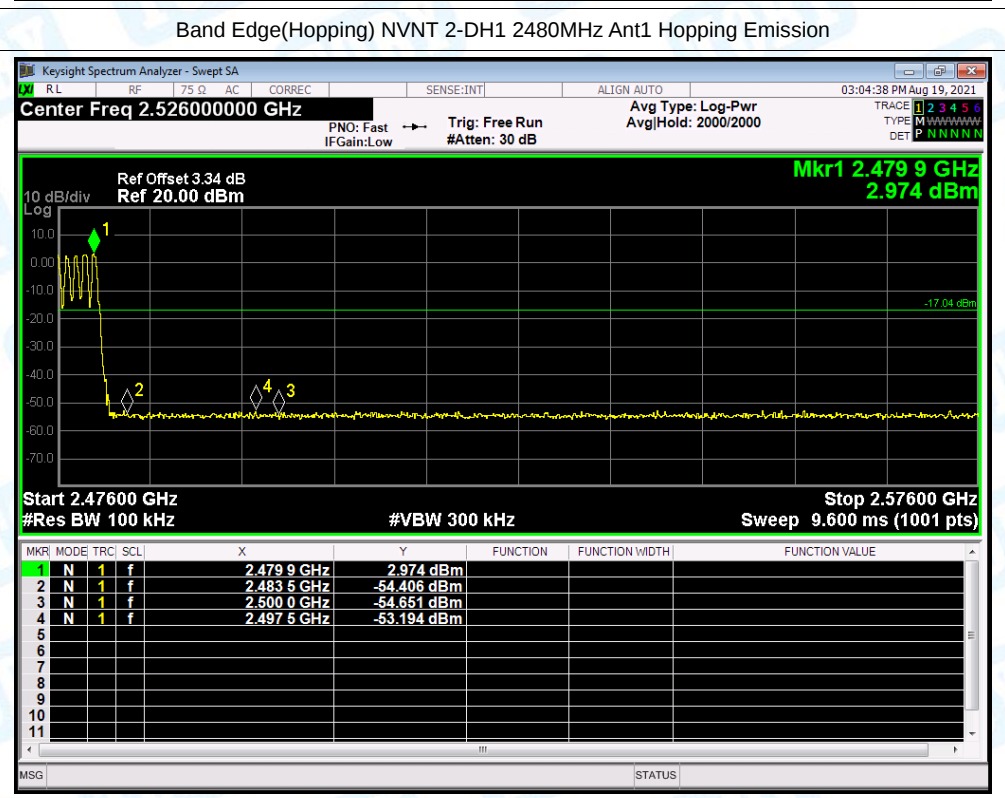


Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission

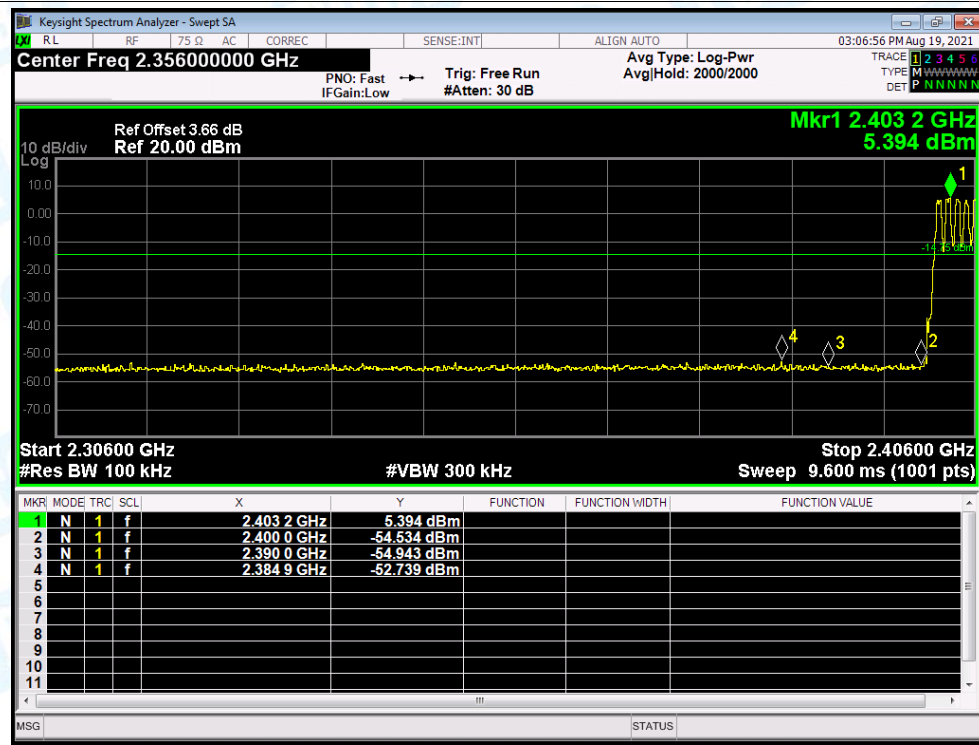


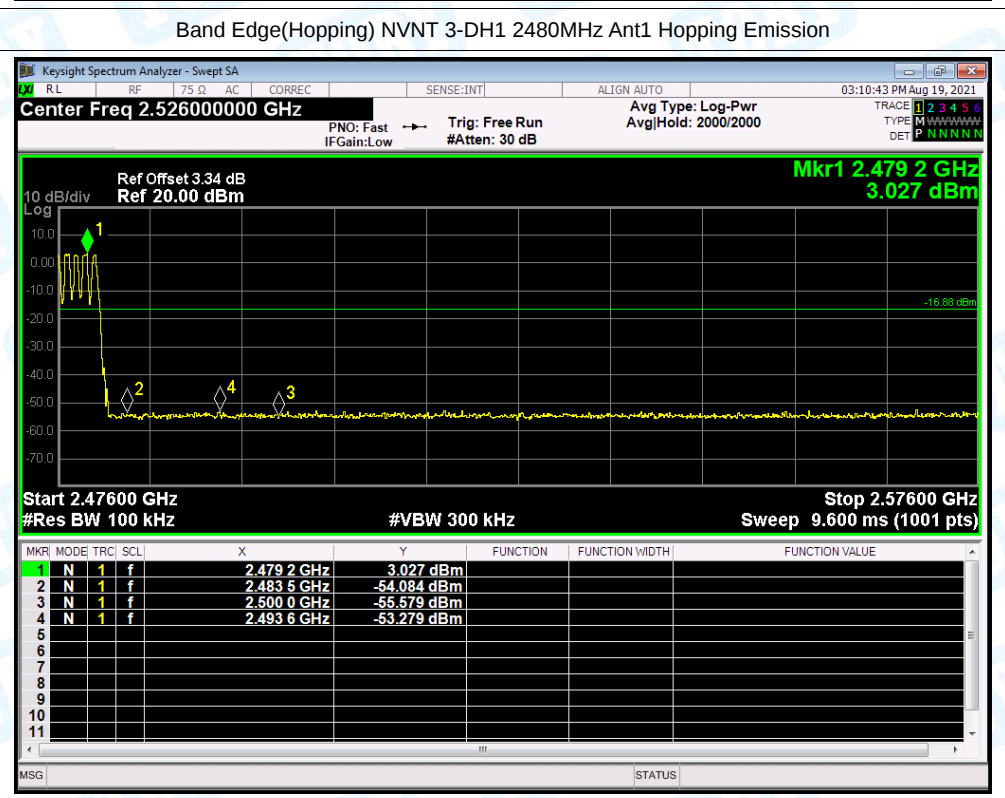


Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



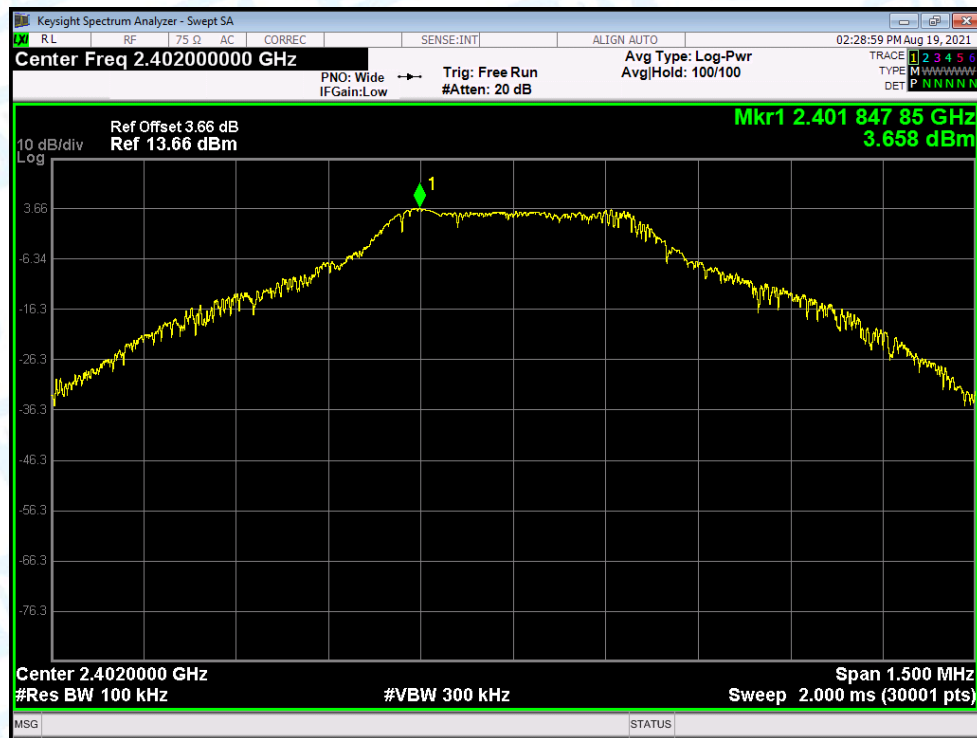


7. Conducted RF Spurious Emission

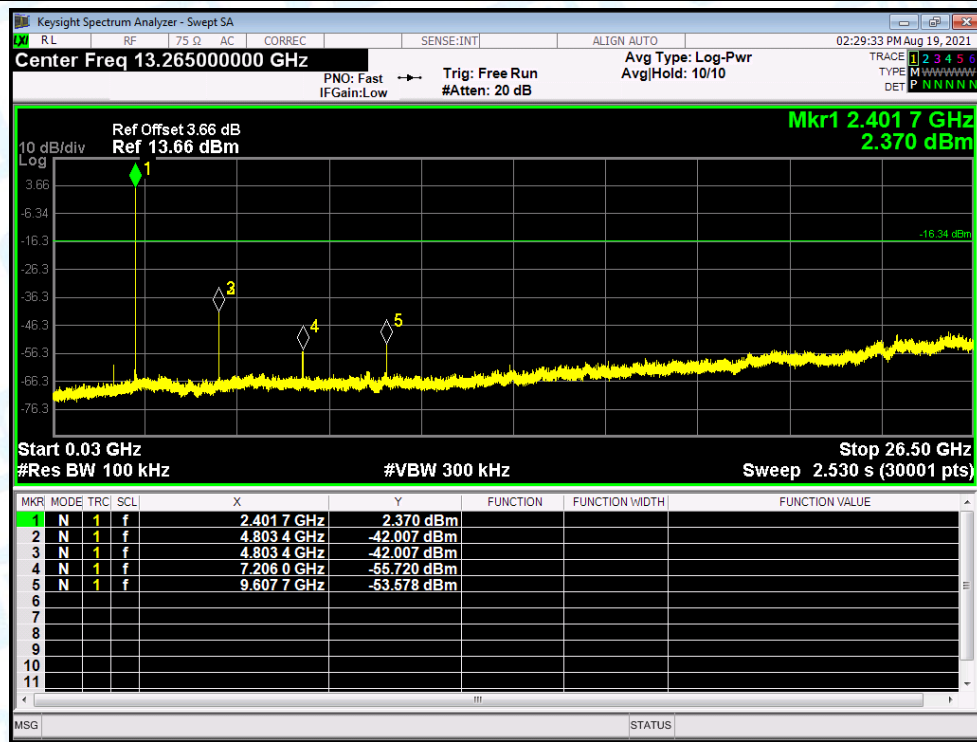
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-45.66	-20	Pass
NVNT	1-DH1	2441	Ant1	-46.27	-20	Pass
NVNT	1-DH1	2480	Ant1	-49.35	-20	Pass
NVNT	2-DH1	2402	Ant1	-53.06	-20	Pass
NVNT	2-DH1	2441	Ant1	-48.82	-20	Pass
NVNT	2-DH1	2480	Ant1	-51.03	-20	Pass
NVNT	3-DH1	2402	Ant1	-44.98	-20	Pass
NVNT	3-DH1	2441	Ant1	-49.63	-20	Pass
NVNT	3-DH1	2480	Ant1	-49.79	-20	Pass

Test Graphs

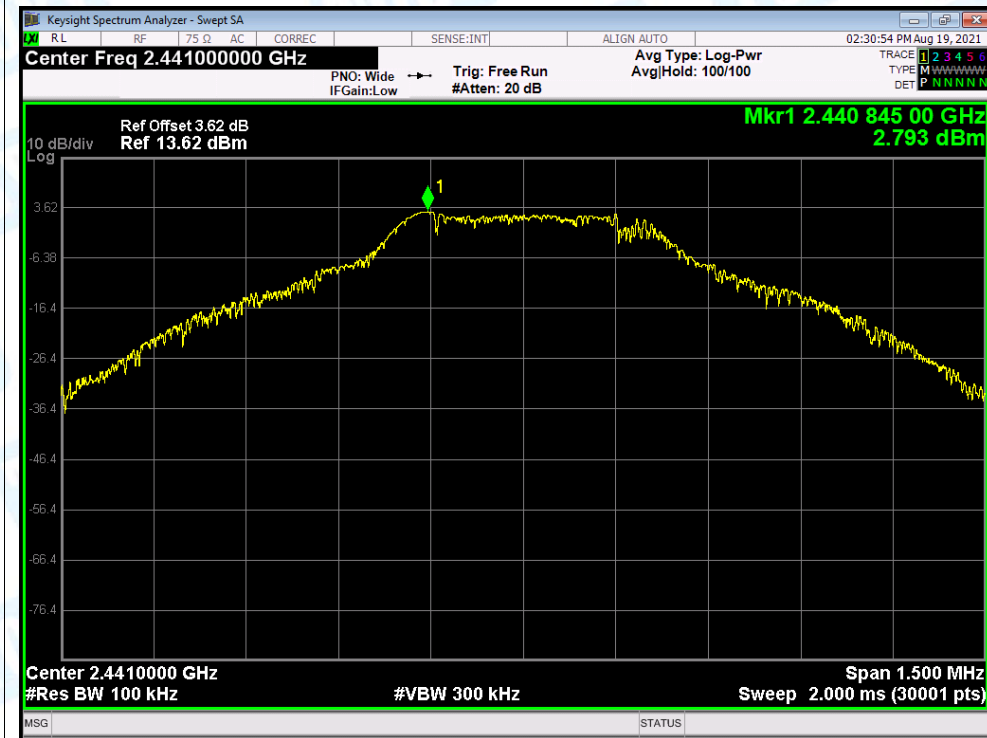
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



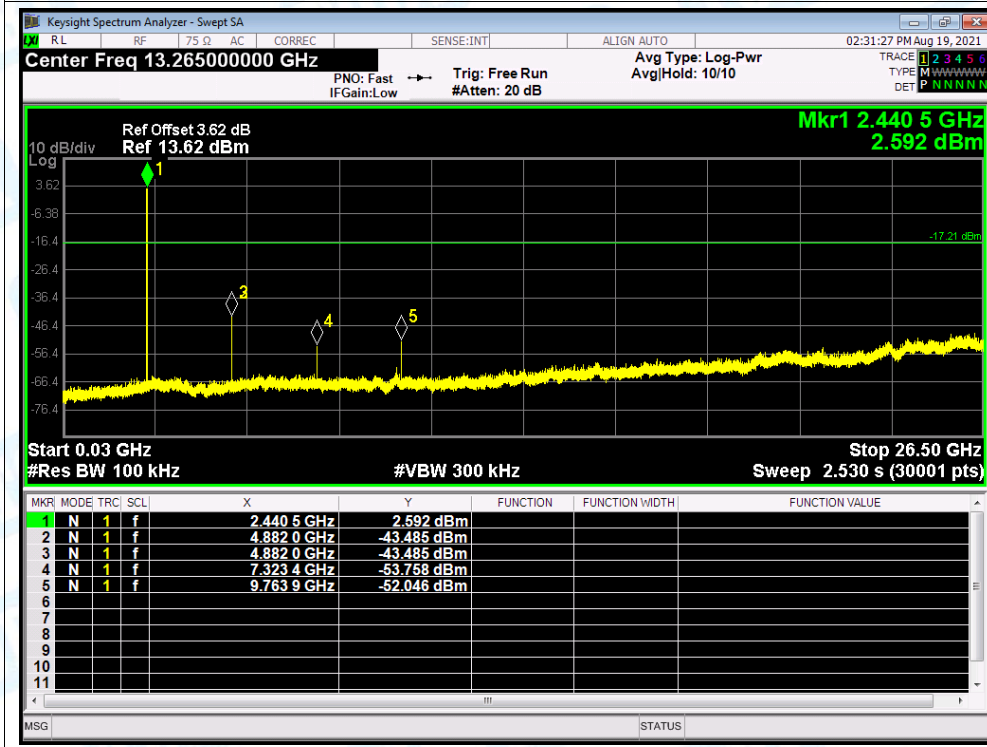
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



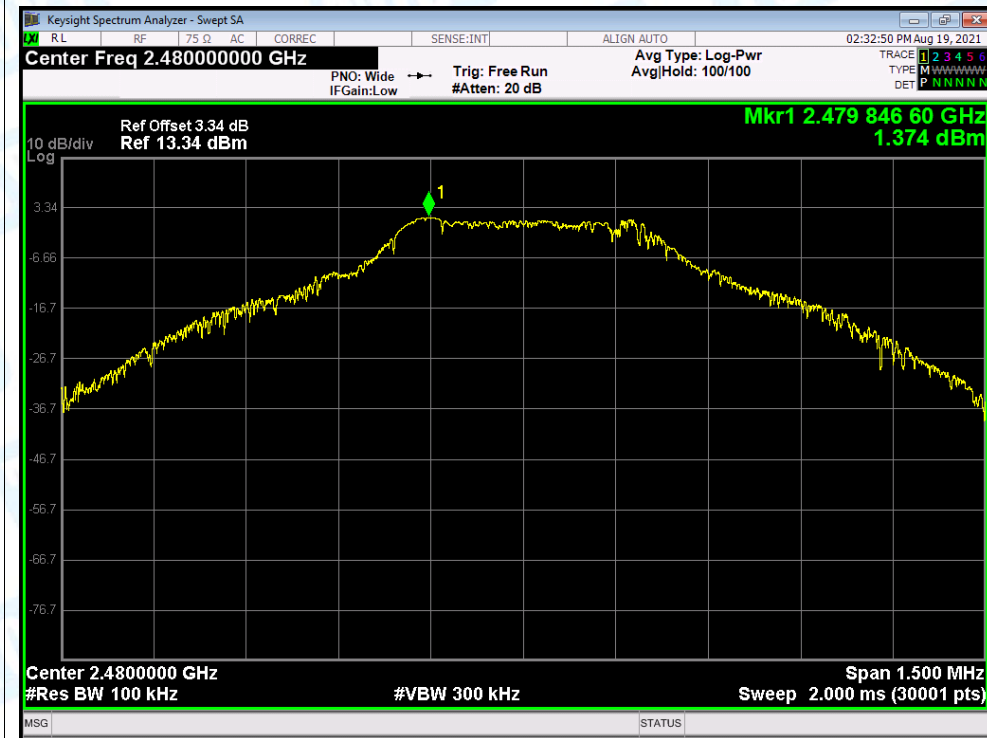
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



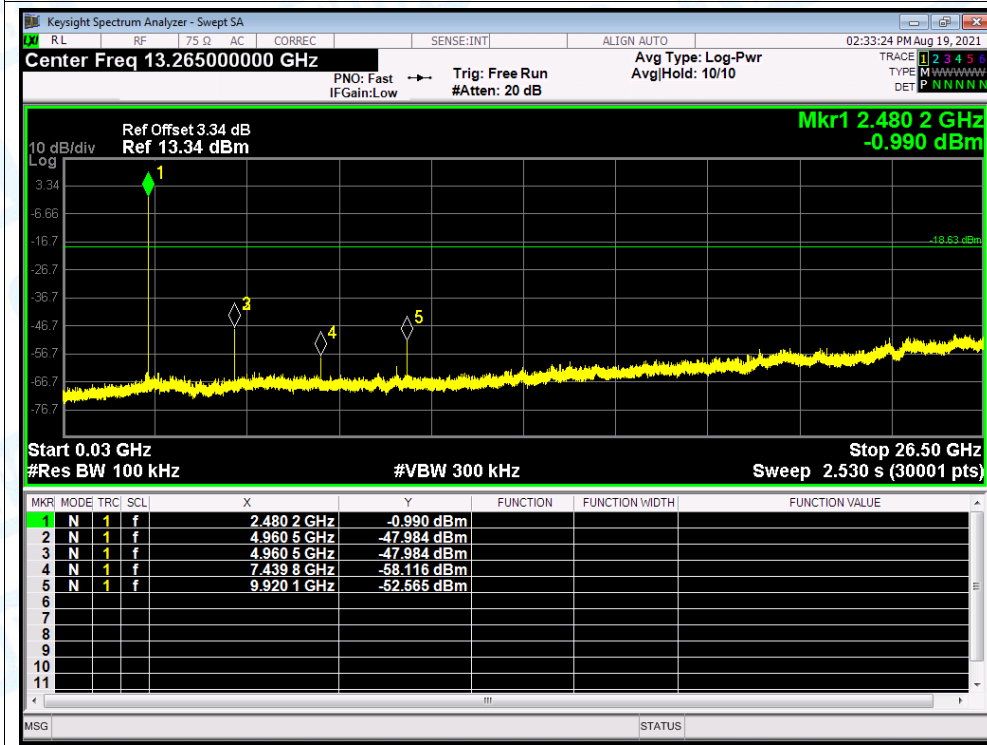
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



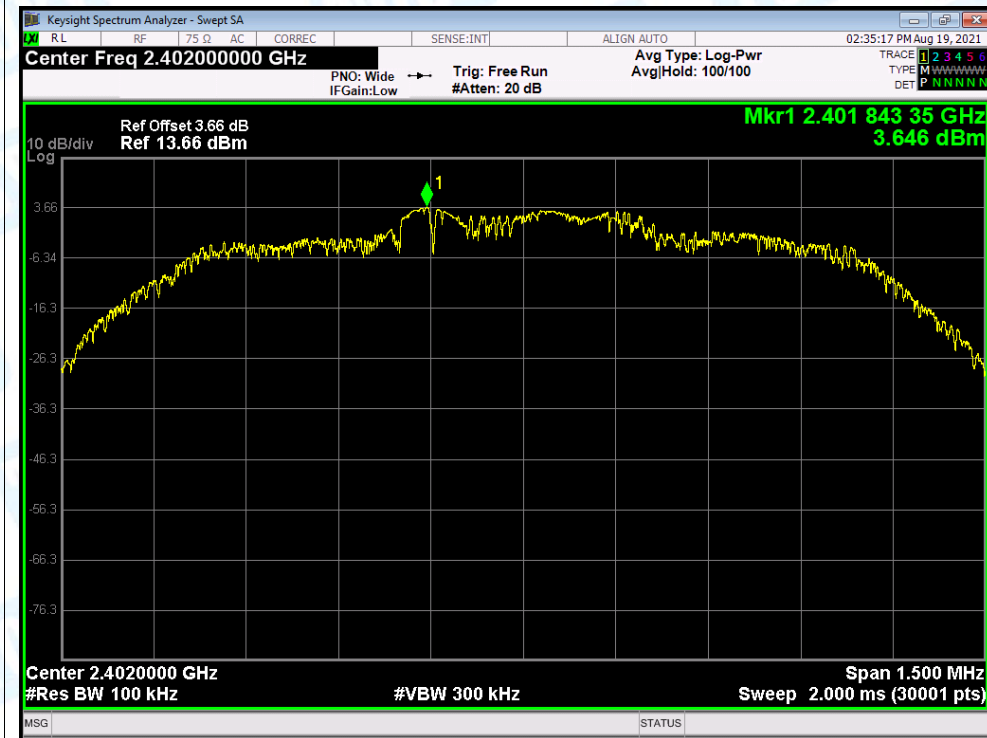
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



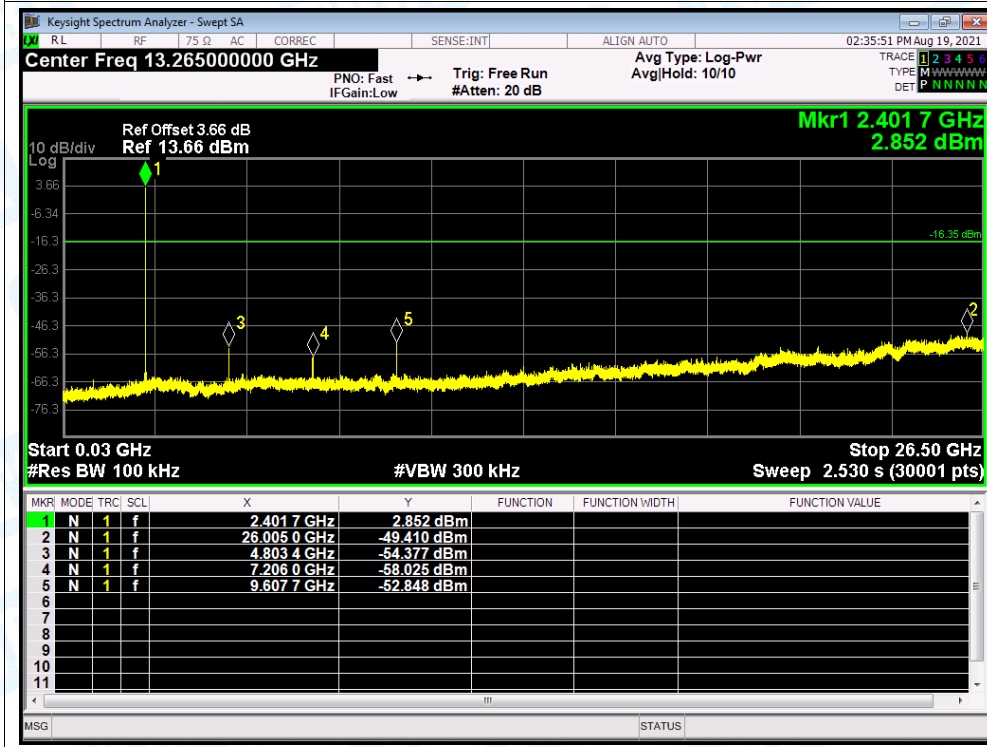
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



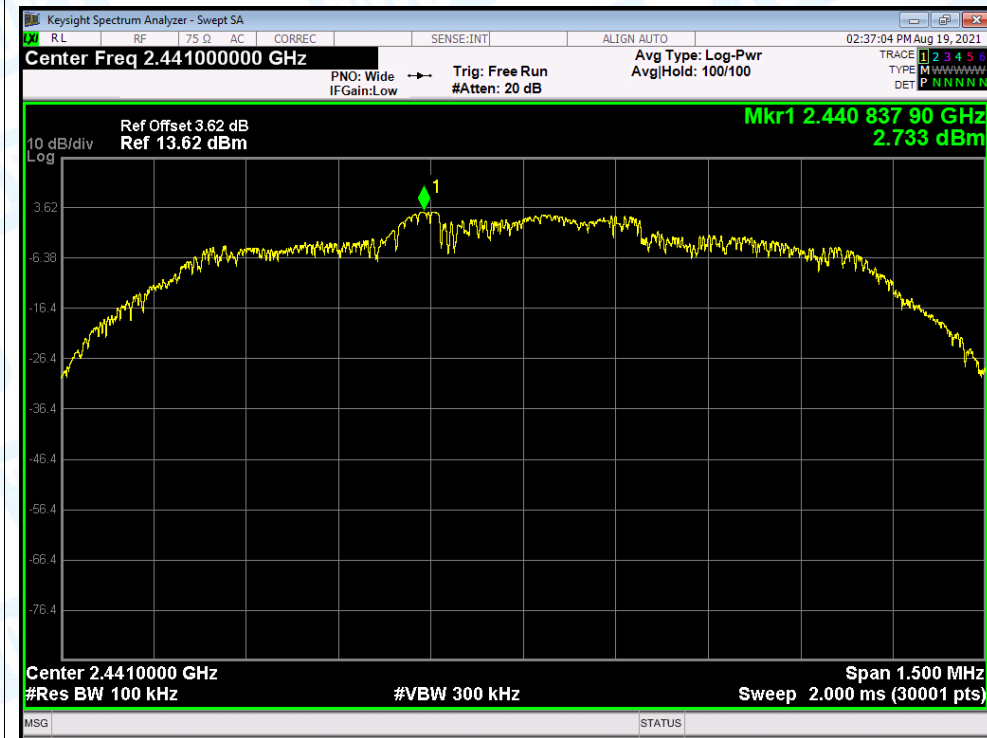
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



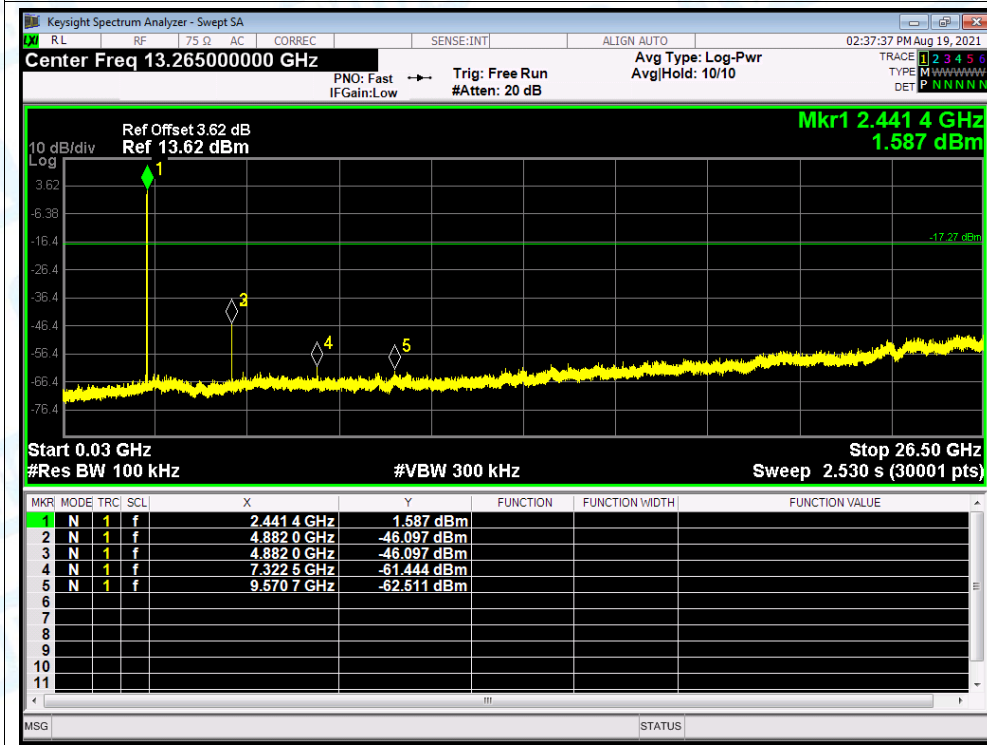
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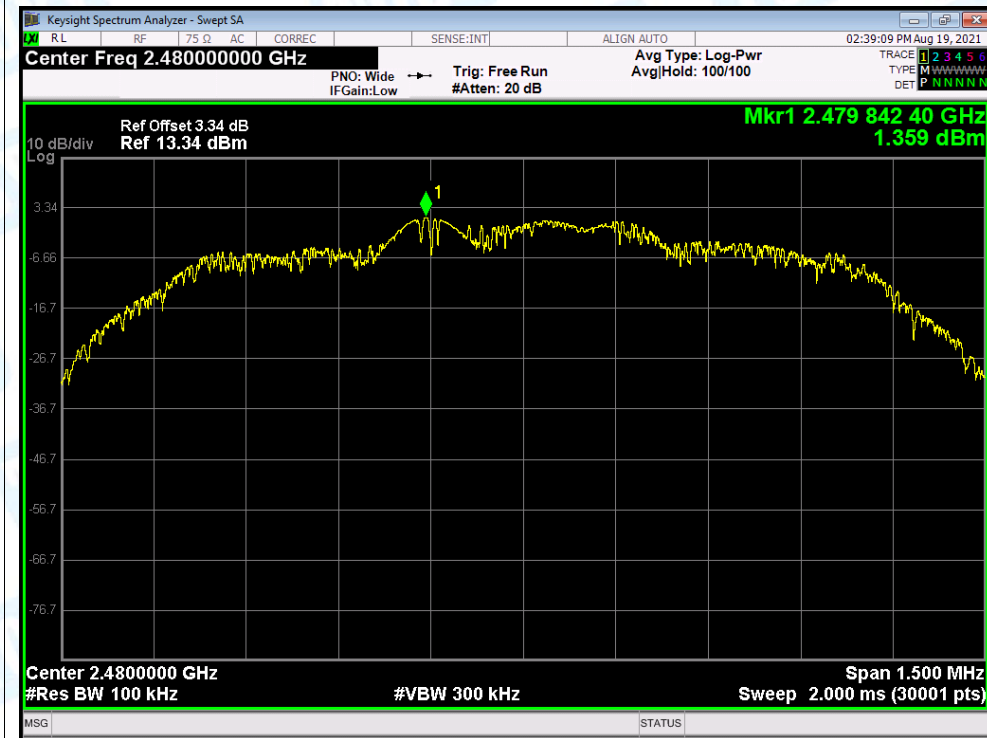
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



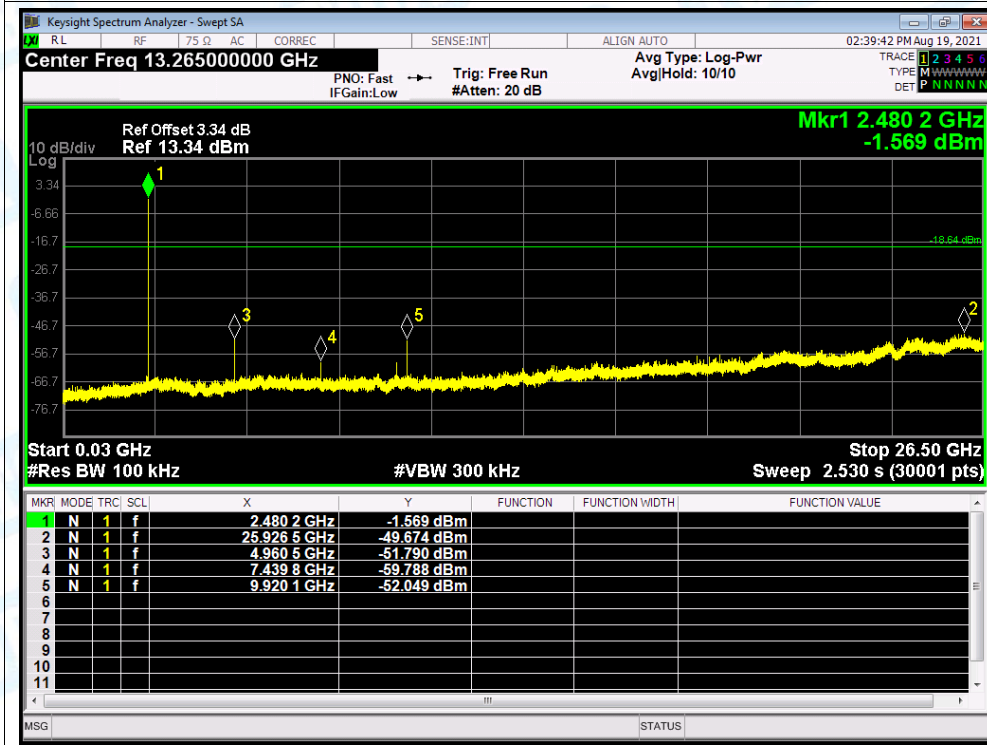
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



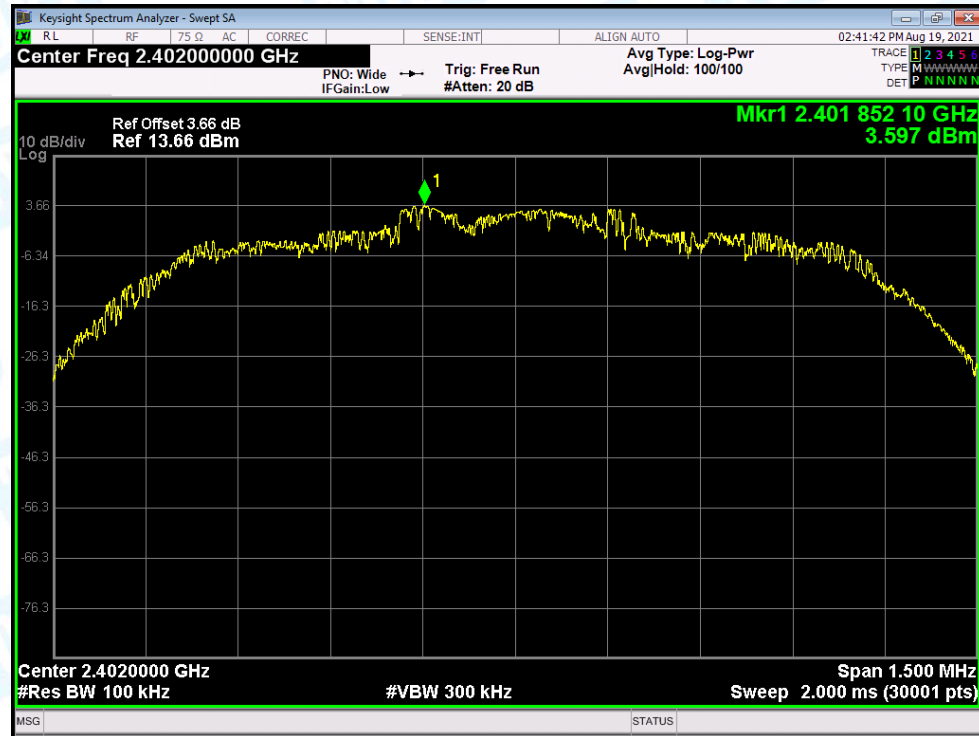
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



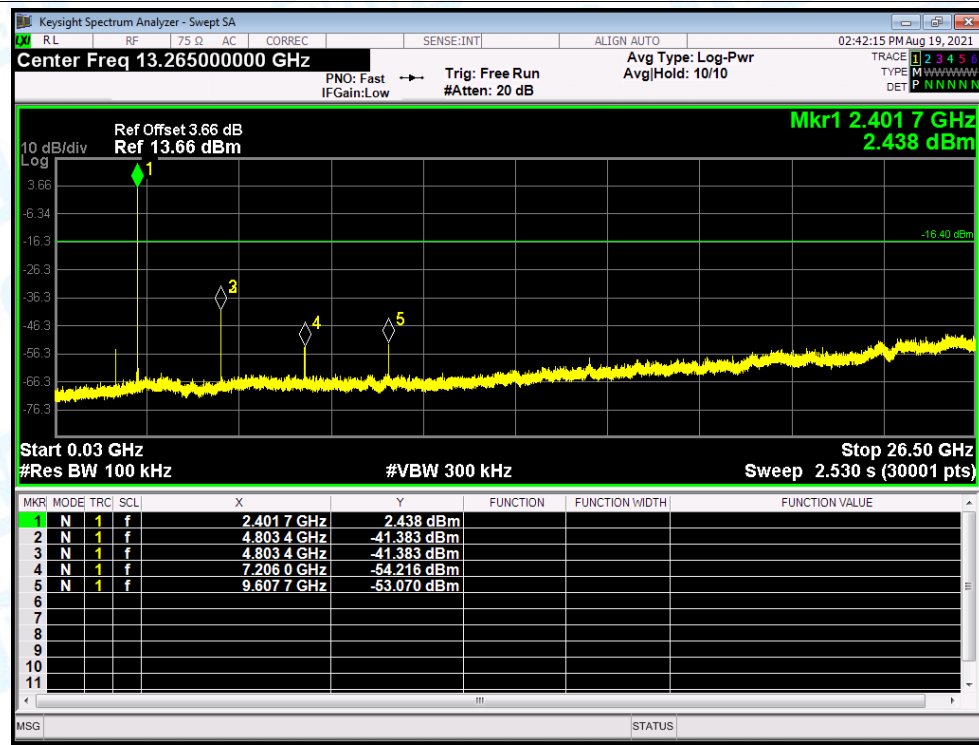
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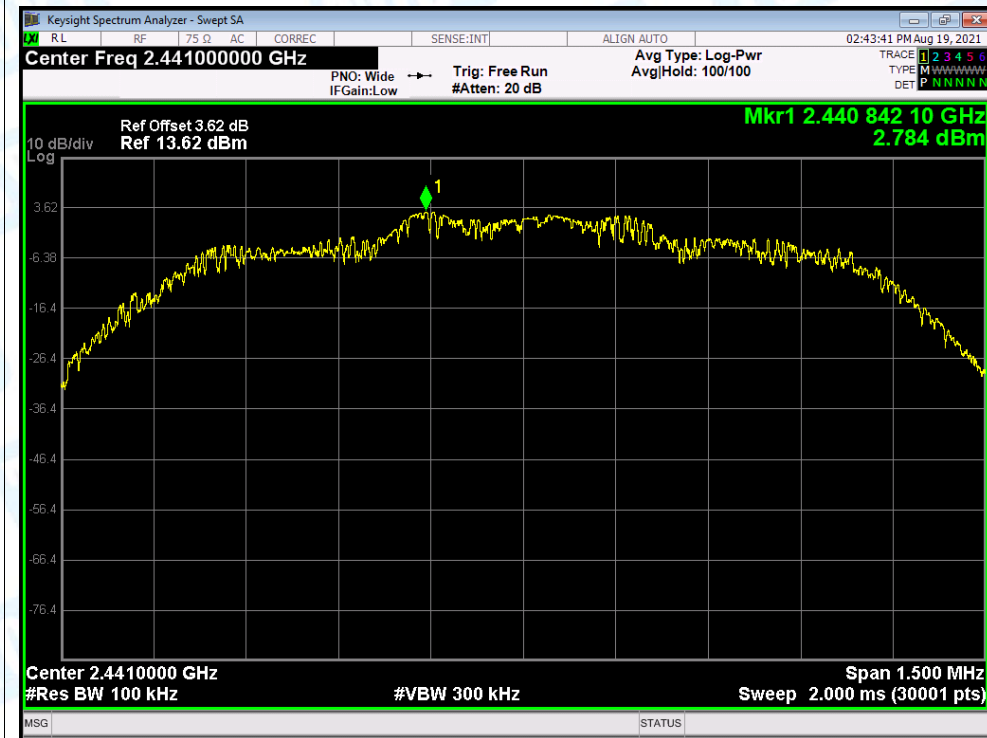
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



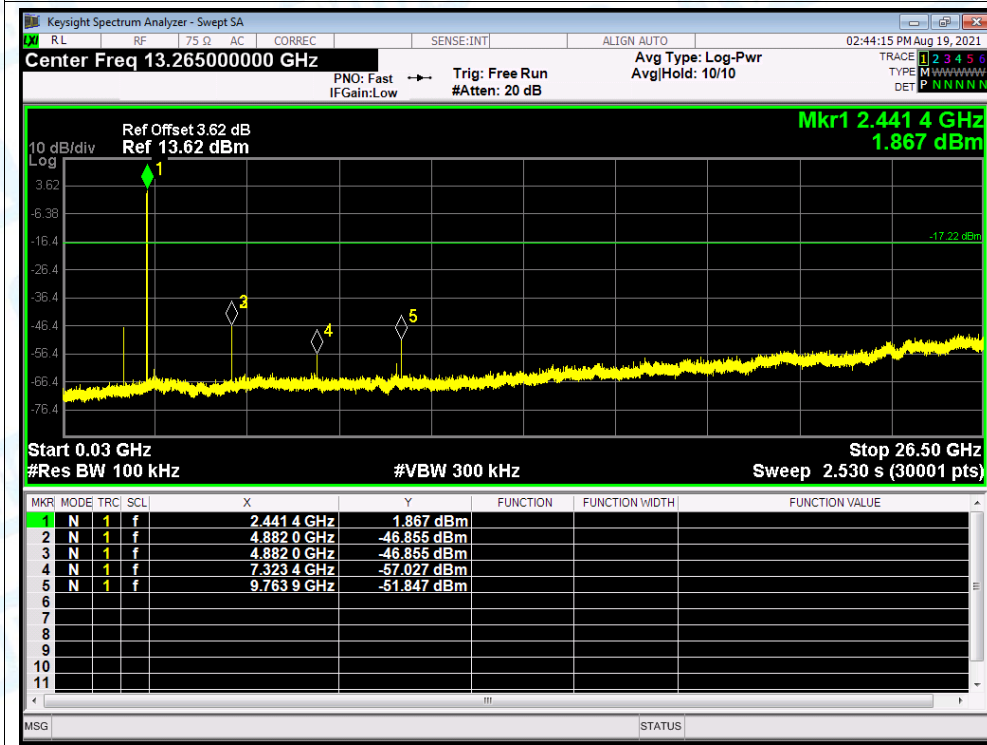
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



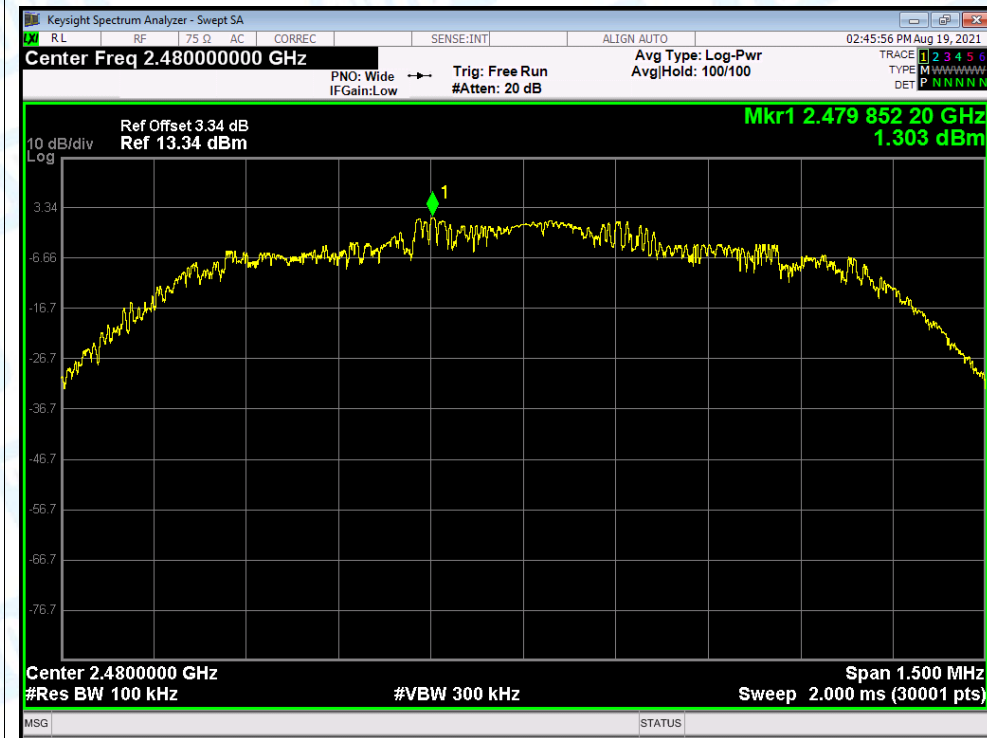
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



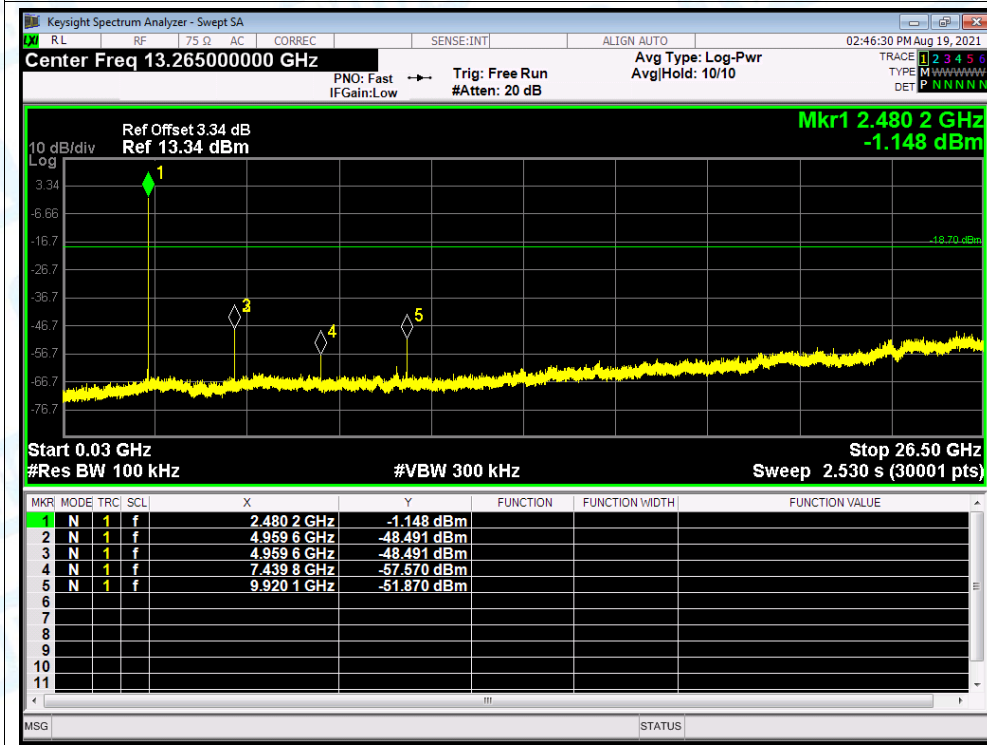
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

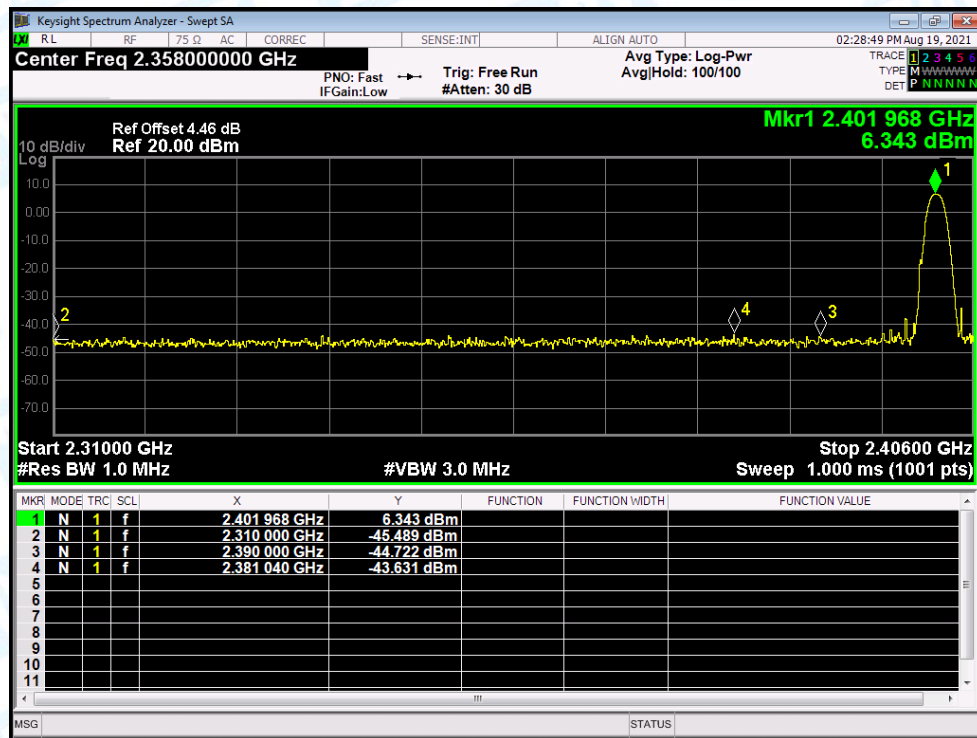


8.Restrict Band

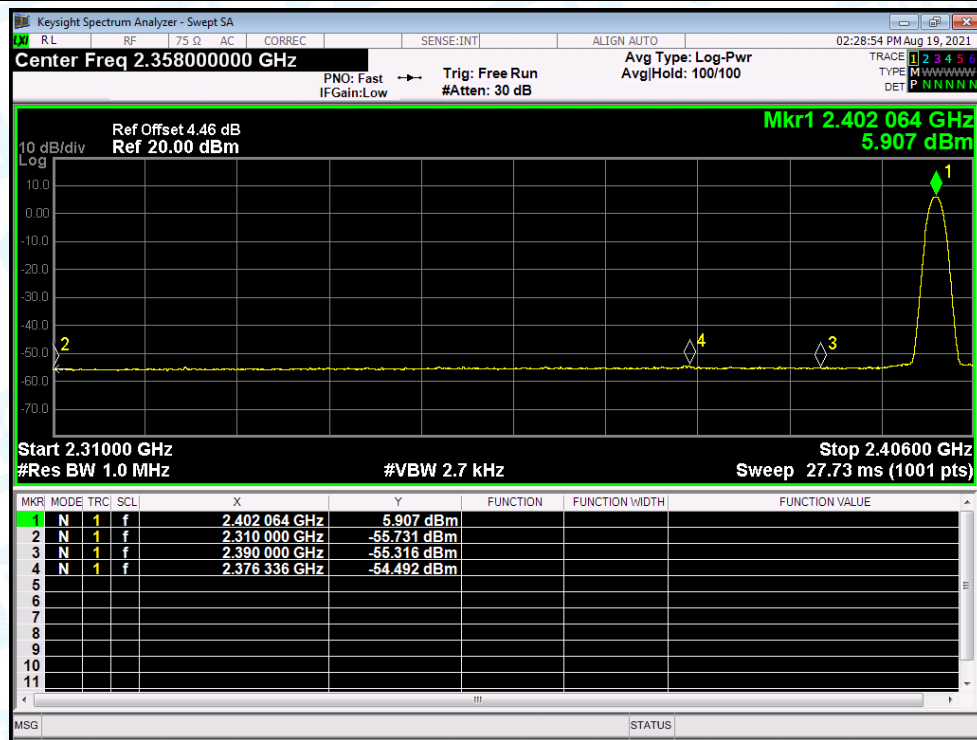
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-46.1	2	51.16	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2310	-55.95	2	41.31	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2381.04	-43.63	2	53.63	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2376.336	-54.49	2	42.77	Average	54	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-44.92	2	52.34	Peak	74	Pass
NVNT	1-DH1	2402	Ant1	No-Hopping	2390	-55.3	2	41.96	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-44.38	2	52.88	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.5	-55.3	2	41.96	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.536	-42.12	2	55.14	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2483.56	-55.29	2	41.97	Average	54	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-46.6	2	50.66	Peak	74	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	2500	-55.88	2	41.38	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-45.38	2	51.88	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2310	-56.7	2	40.56	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2363.568	-43.57	2	53.69	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2375.568	-55.71	2	41.55	Average	54	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-47.7	2	49.56	Peak	74	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	2390	-56.12	2	41.14	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-46.29	2	50.97	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.5	-55.67	2	41.59	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.848	-41.07	2	56.19	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2483.992	-55.52	2	41.74	Average	54	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-45.52	2	51.74	Peak	74	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	2500	-55.77	2	41.49	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-46.14	2	51.12	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2310	-56.68	2	40.58	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2379.12	-43.4	2	53.86	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2375.952	-55.77	2	41.49	Average	54	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-46.8	2	50.46	Peak	74	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	2390	-56.09	2	41.17	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-45.23	2	52.03	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.5	-55.49	2	41.77	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.68	-40.8	2	56.46	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2483.536	-55.43	2	41.83	Average	54	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-46.98	2	50.28	Peak	74	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	2500	-55.82	2	41.44	Average	54	Pass

Test Graphs

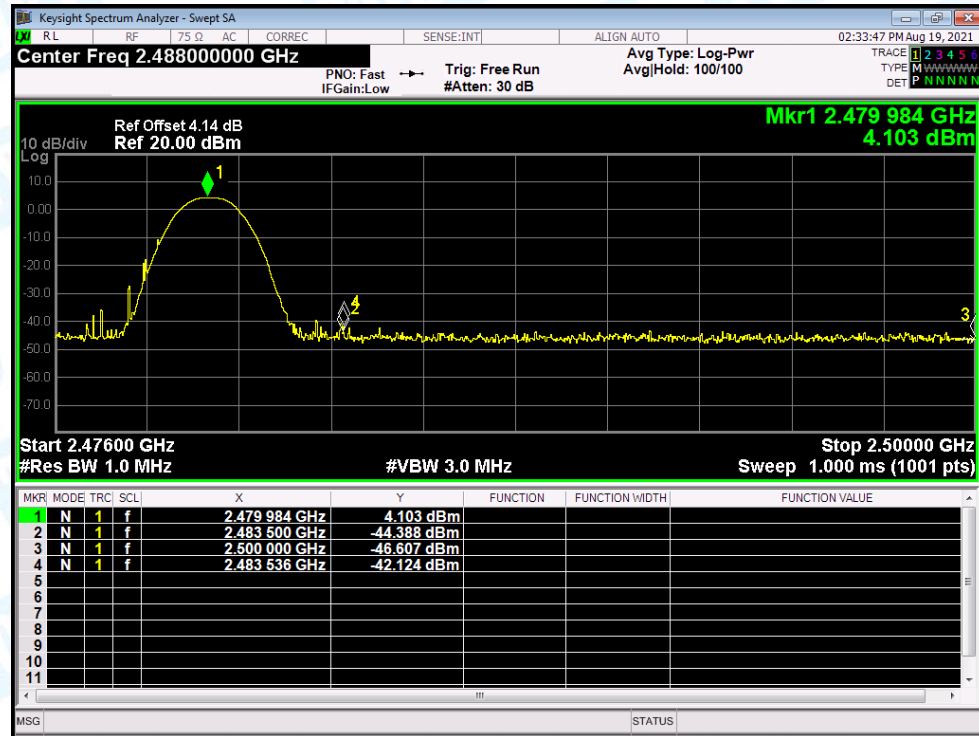
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



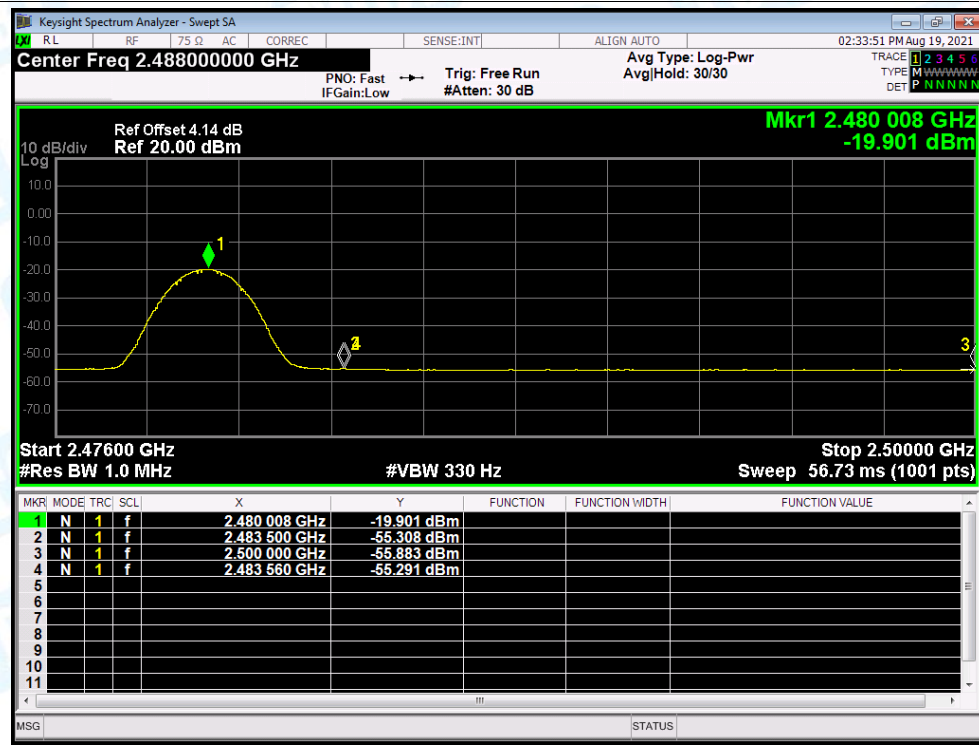
Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



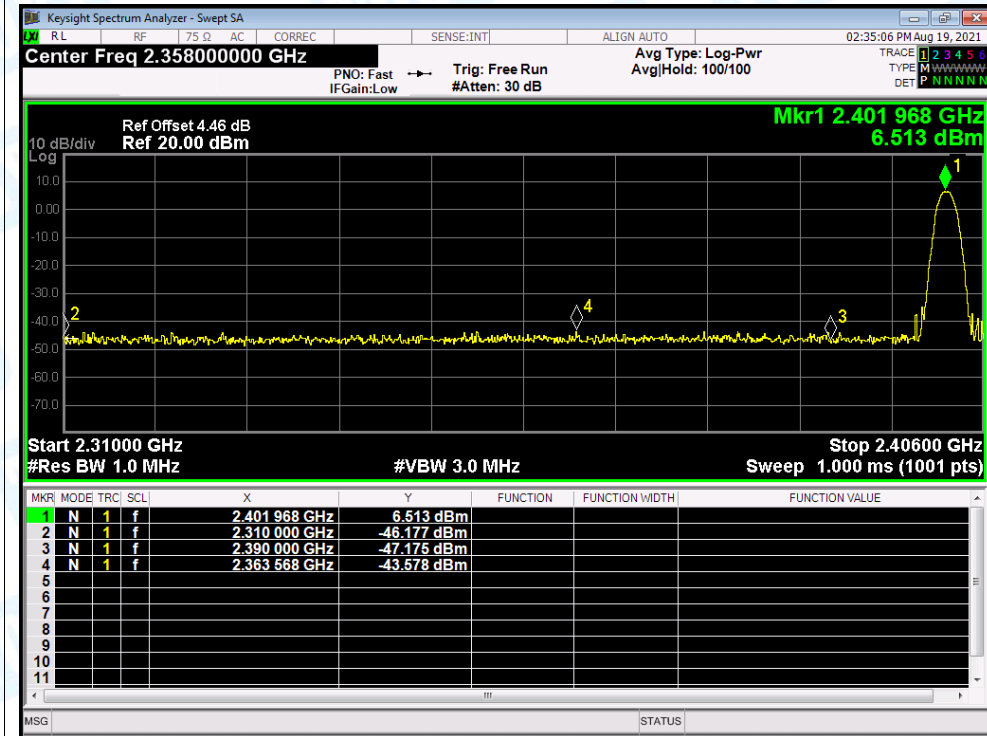
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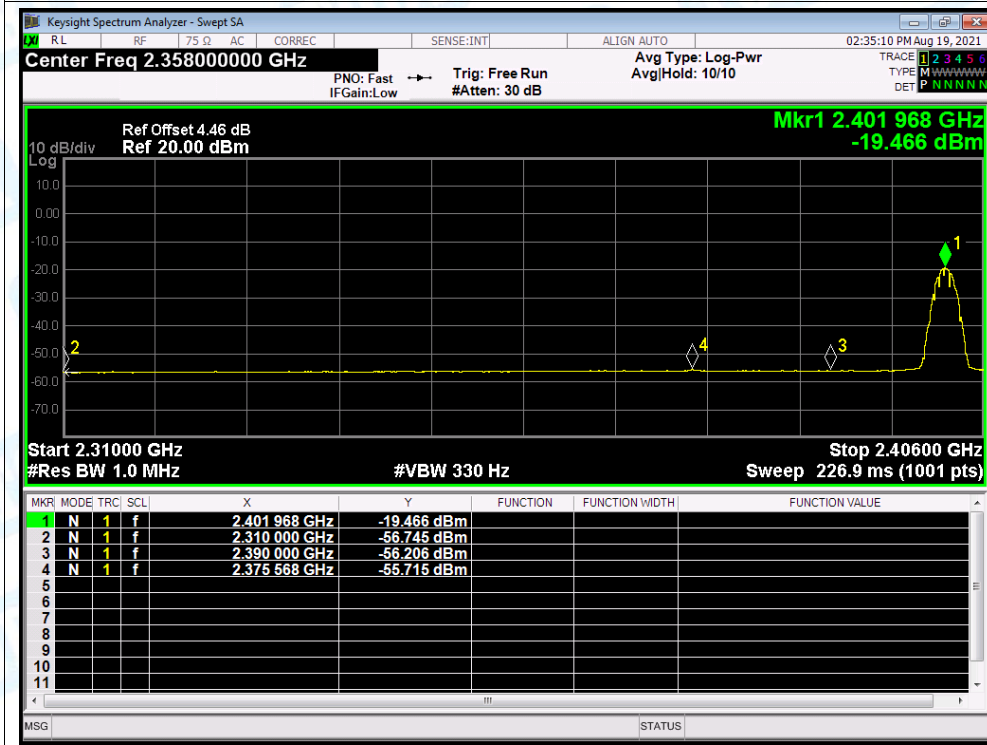
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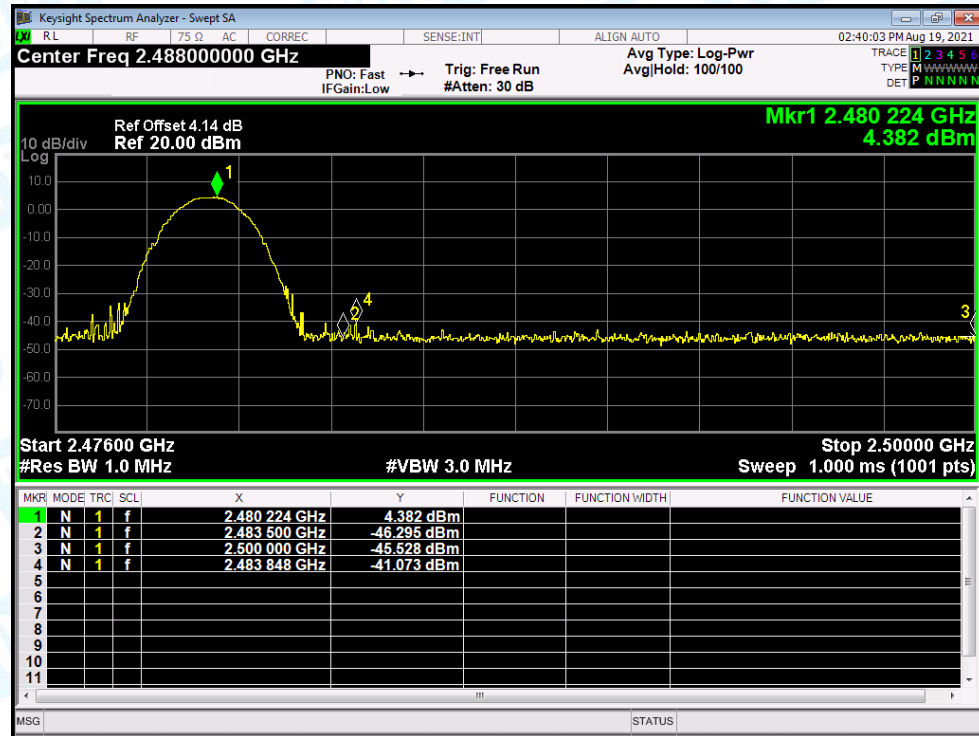
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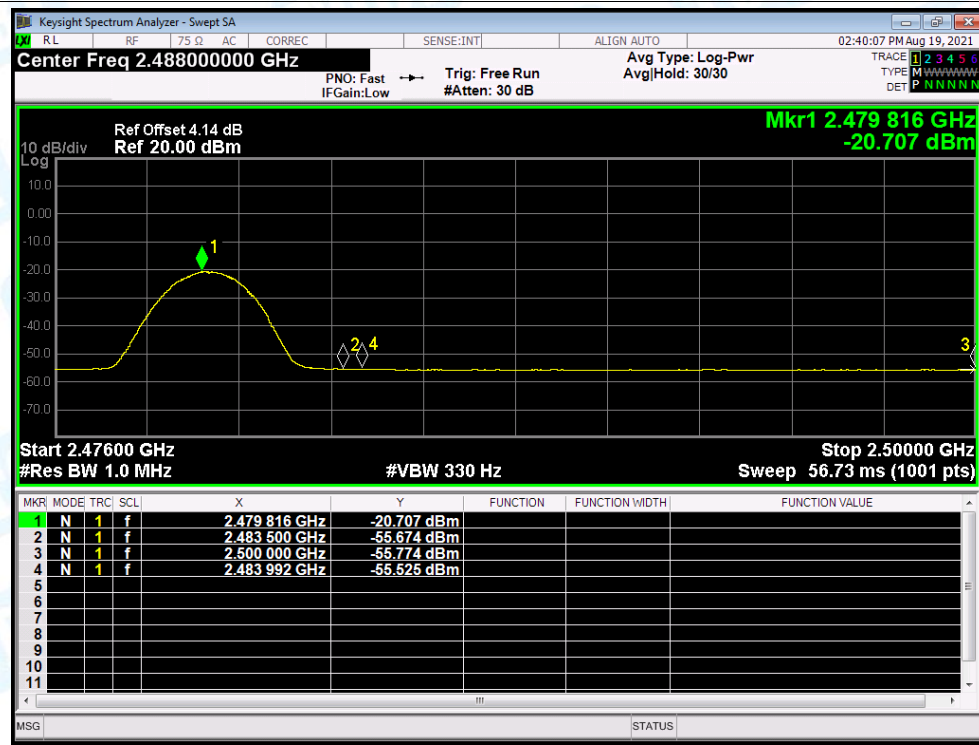
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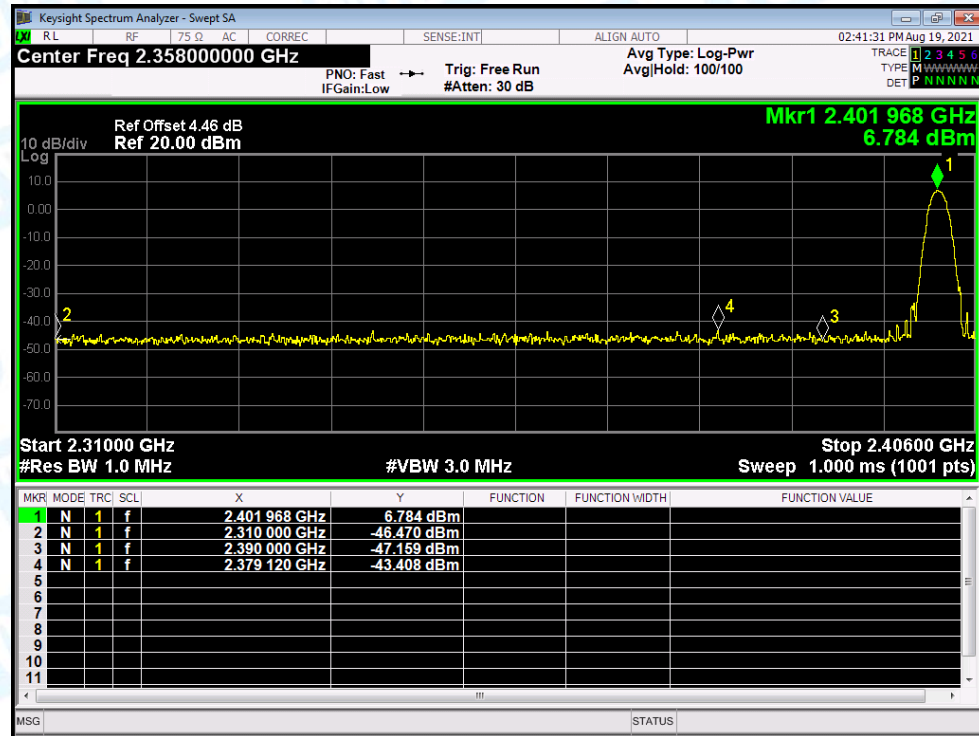
Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak



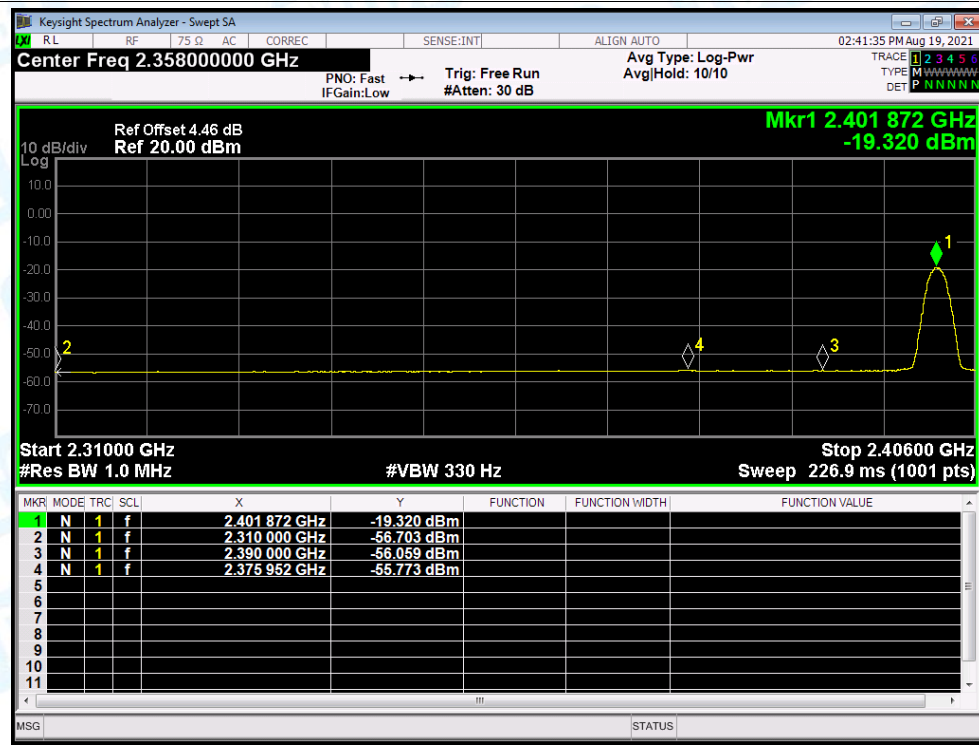
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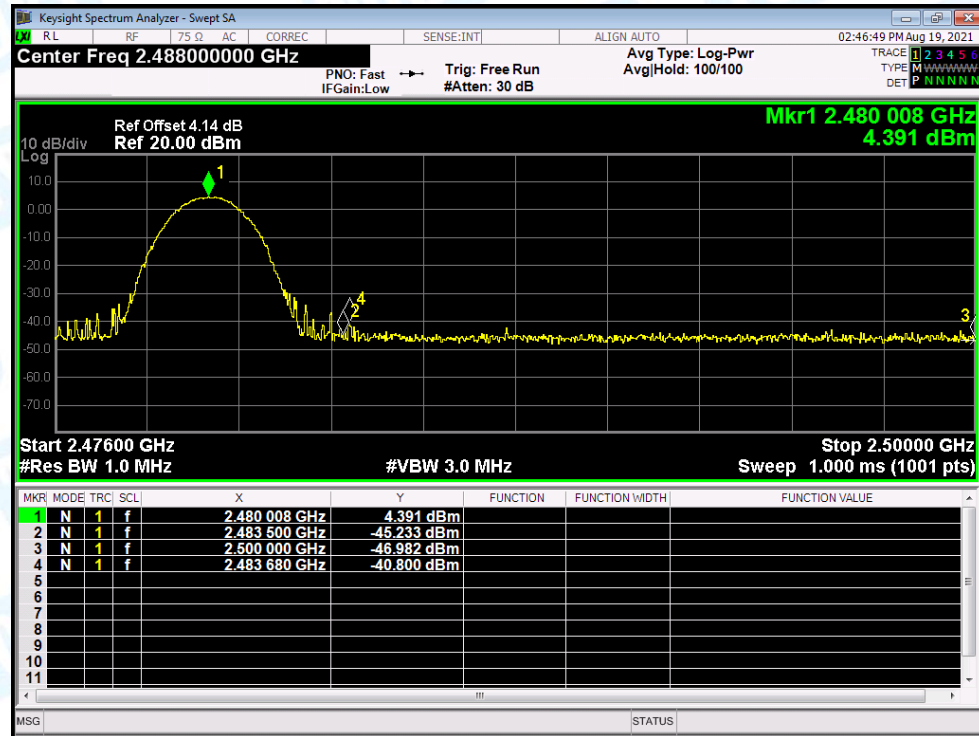
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak



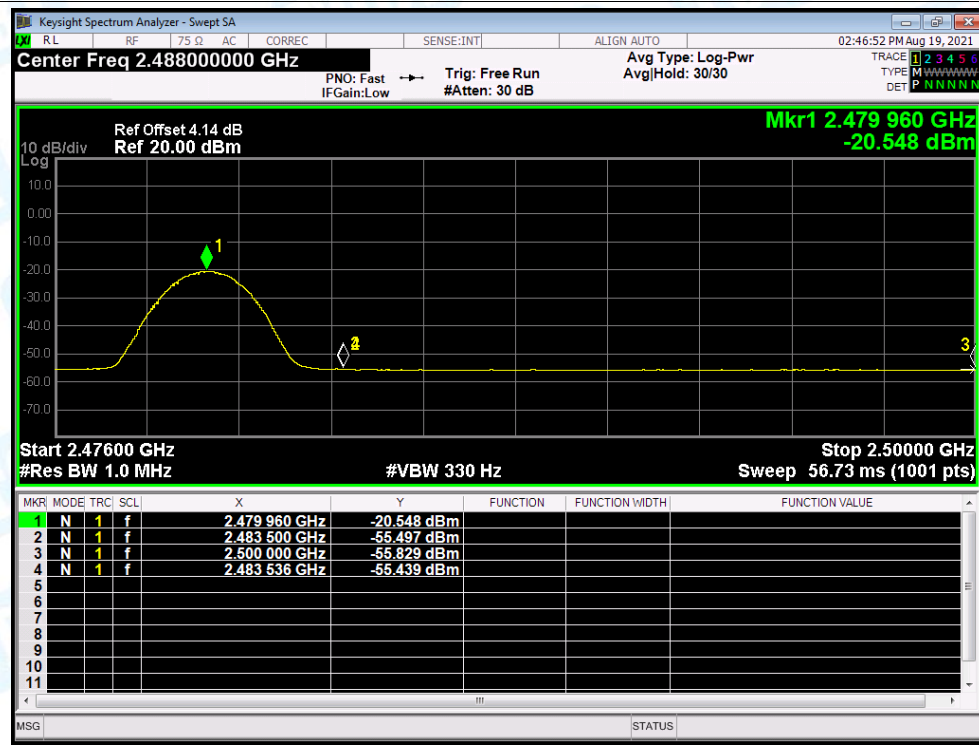
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Average

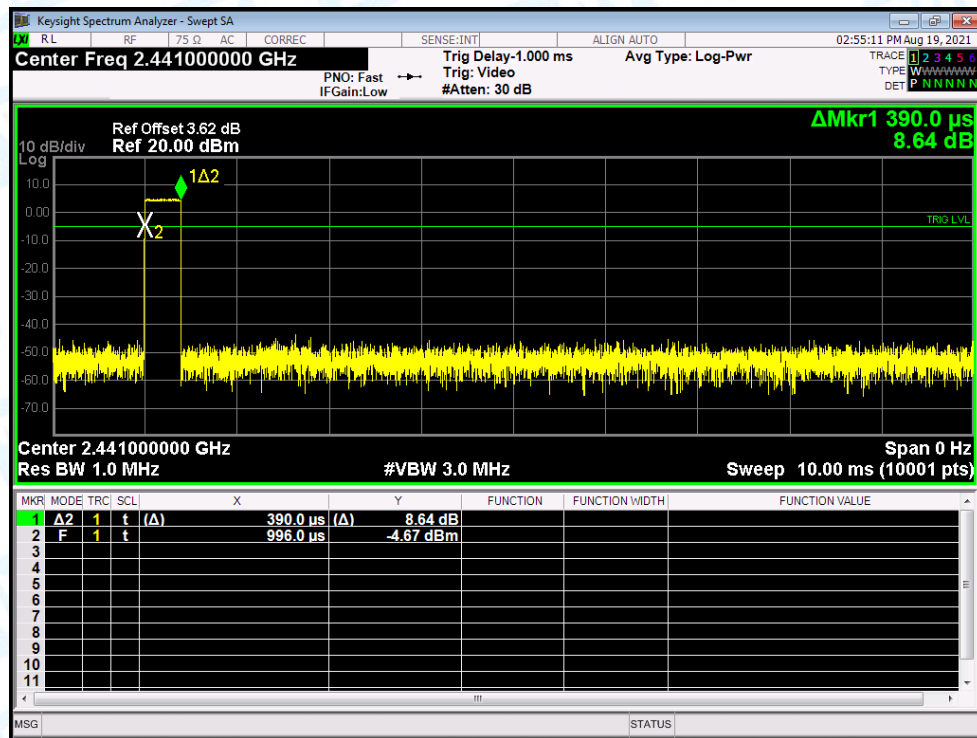


9.Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.39	124.8	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.646	263.36	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.895	308.8	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	125.12	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.652	264.32	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.9	309.333	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.39	124.8	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.652	264.32	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.902	309.547	31600	400	Pass

Test Graphs

Dwell NVNT 1-DH1 2441MHz Ant1



Dwell NVNT 1-DH3 2441MHz Ant1

