

RF Test Data for 2.4G WiFi (Conducted Measurements)

General Description of EUT	
Product Name:	Total station
Test Model:	NS30
Sample ID:	202306-0191-1-2#
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 12V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202306-0191-31 The report only show the worst case data.	

Contents

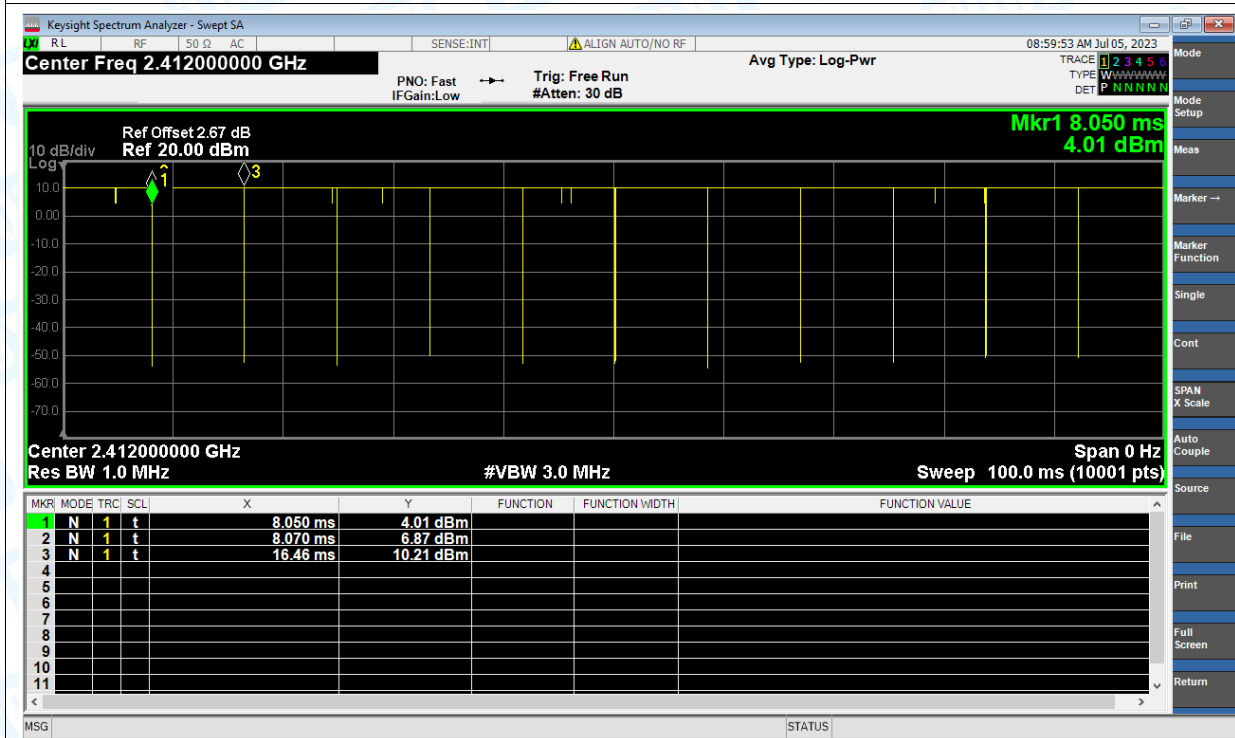
1. Duty Cycle	3
2. Maximum Conducted Output Power	10
3. -6dB Bandwidth	11
4. Occupied Channel Bandwidth	18
5. Maximum Power Spectral Density Level	25
6. Band Edge	32
7. Conducted RF Spurious Emission	41
8. Restrict Band	54

1. Duty Cycle

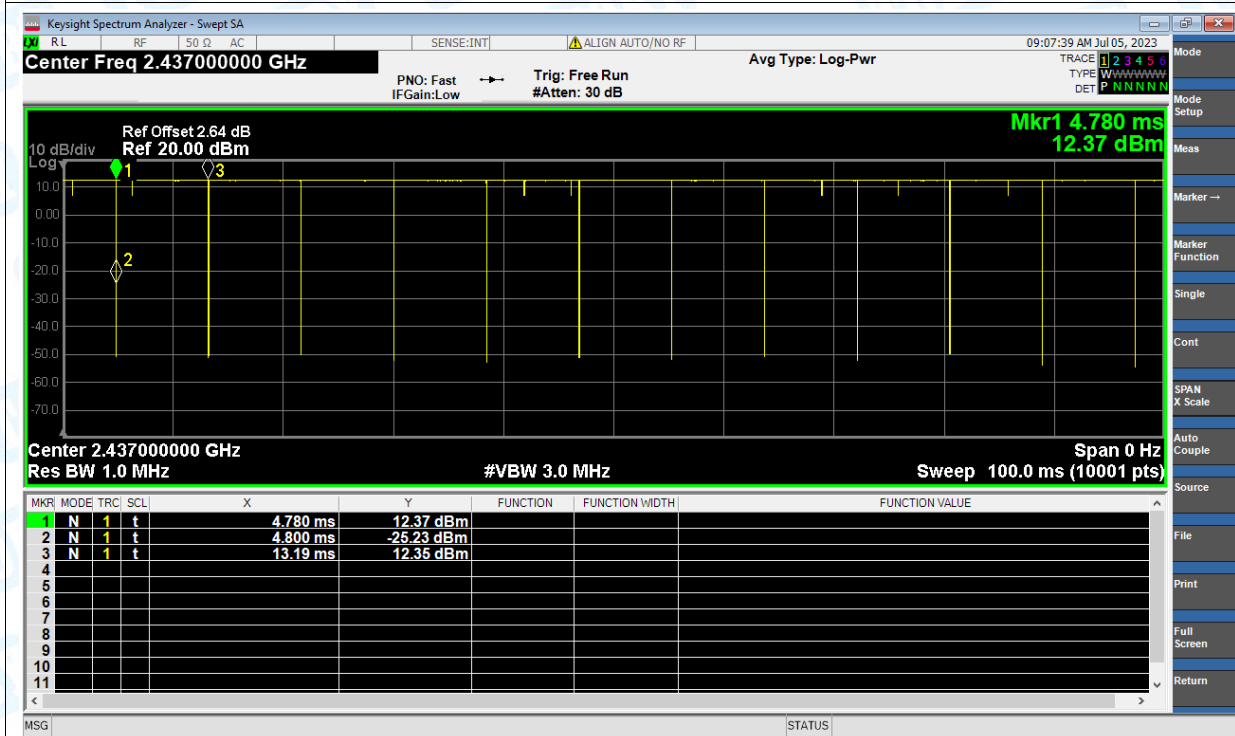
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	99.76	0.01	0.12
NVNT	b	2437	Ant1	99.76	0.01	0.12
NVNT	b	2462	Ant1	99.76	0.01	0.12
NVNT	g	2412	Ant1	97.2	0.12	0.72
NVNT	g	2437	Ant1	97.2	0.12	0.72
NVNT	g	2462	Ant1	97.9	0.09	0.71
NVNT	n(HT20)	2412	Ant1	97.74	0.1	0.77
NVNT	n(HT20)	2437	Ant1	97.74	0.1	0.77
NVNT	n(HT20)	2462	Ant1	97.01	0.13	0.77
NVNT	n(HT40)	2422	Ant1	94.2	0.26	1.54
NVNT	n(HT40)	2437	Ant1	95.59	0.2	1.54
NVNT	n(HT40)	2452	Ant1	95.59	0.2	1.54

Test Graphs

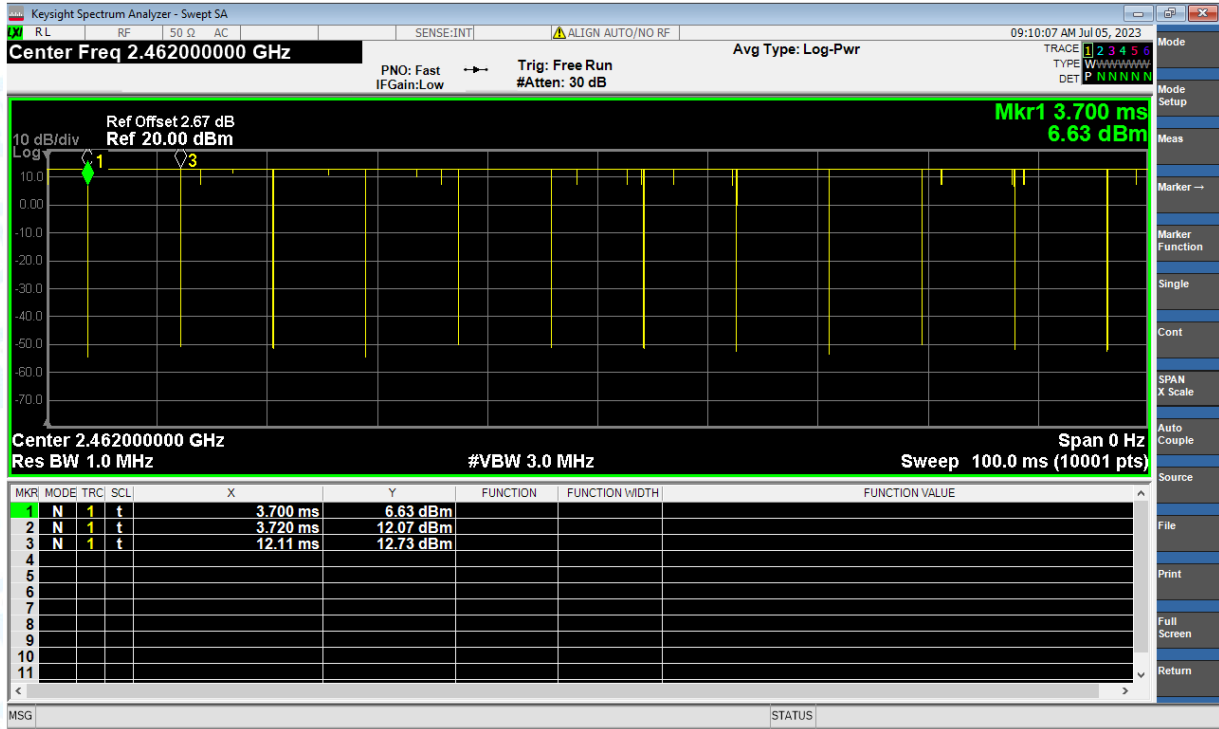
Duty Cycle NVNT b 2412MHz Ant1



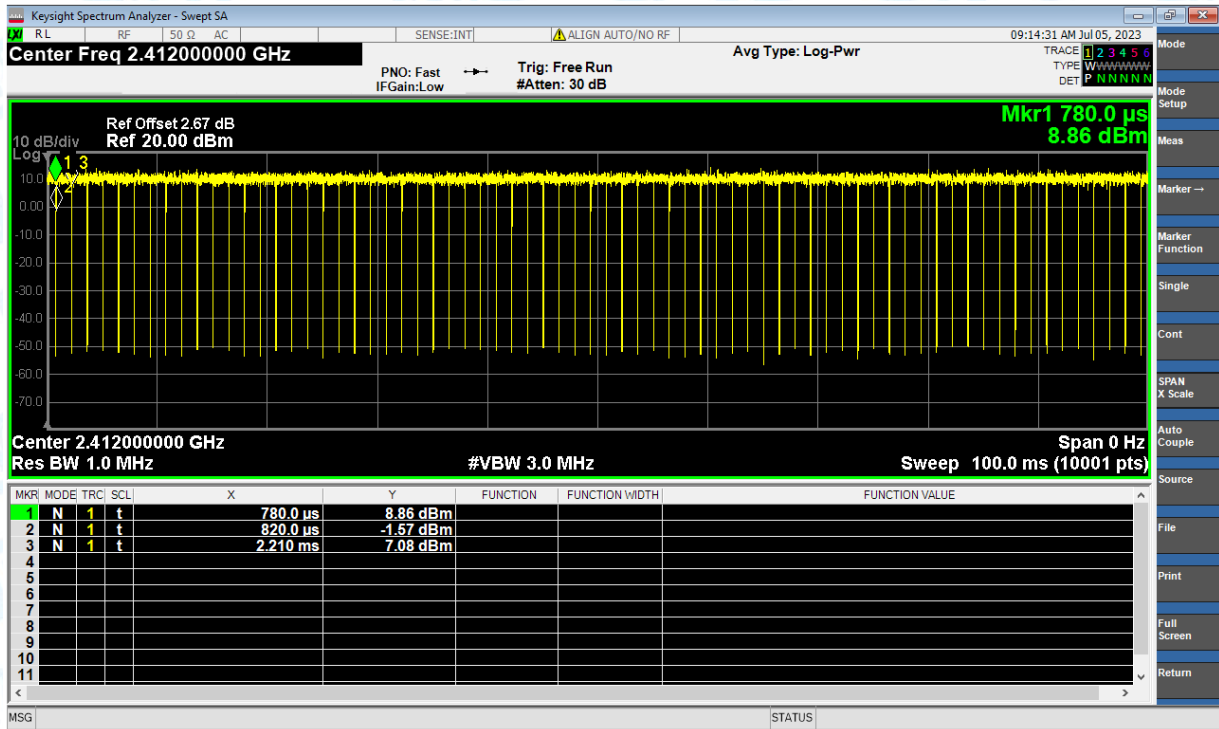
Duty Cycle NVNT b 2437MHz Ant1



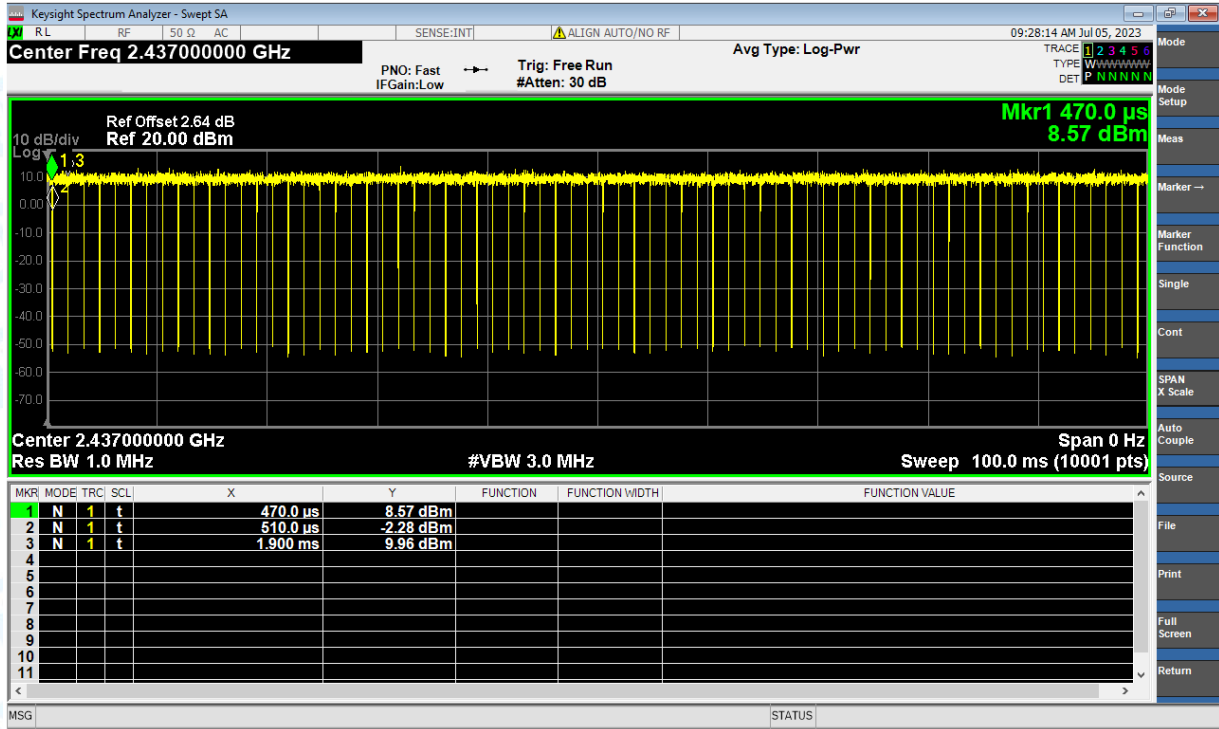
Duty Cycle NVNT b 2462MHz Ant1



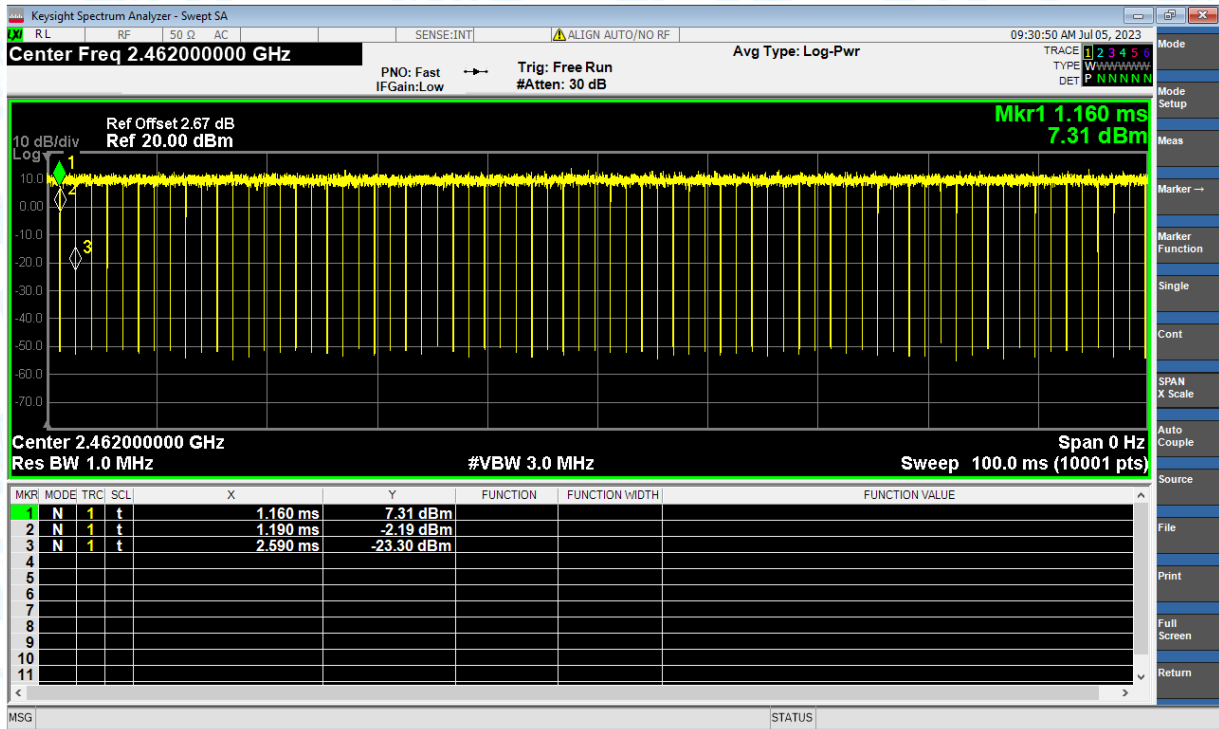
Duty Cycle NVNT g 2412MHz Ant1



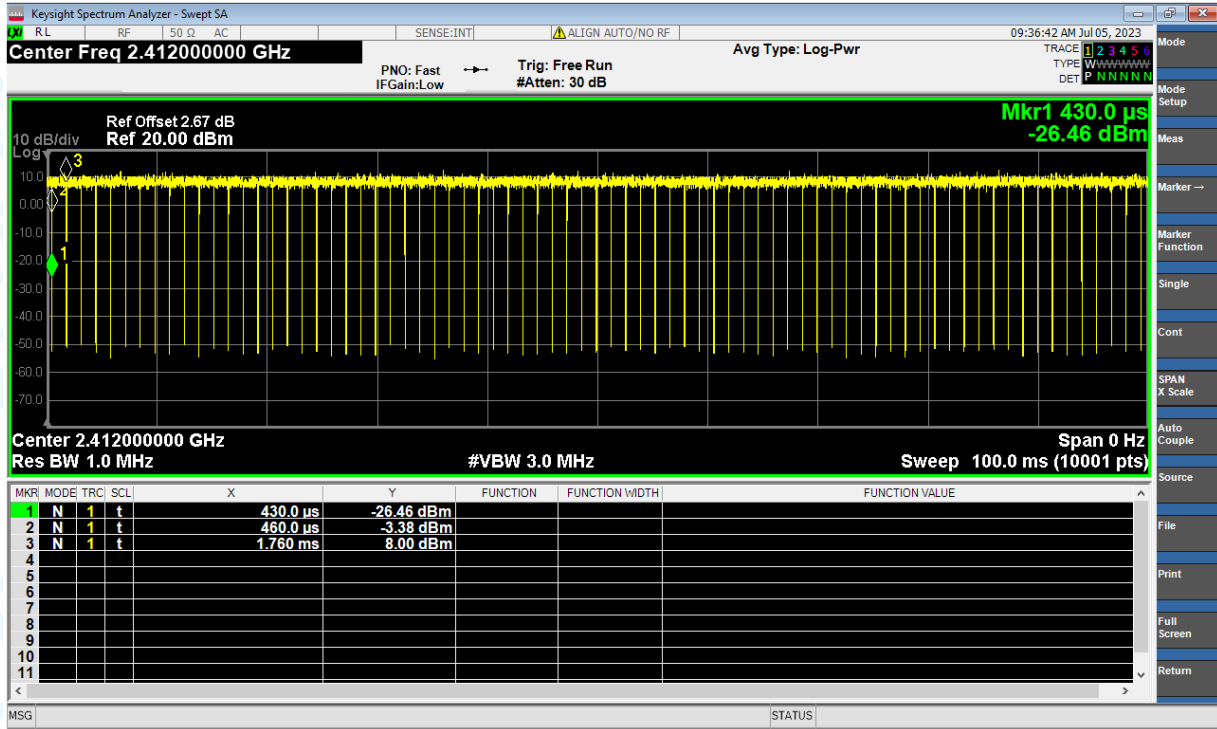
Duty Cycle NVNT g 2437MHz Ant1



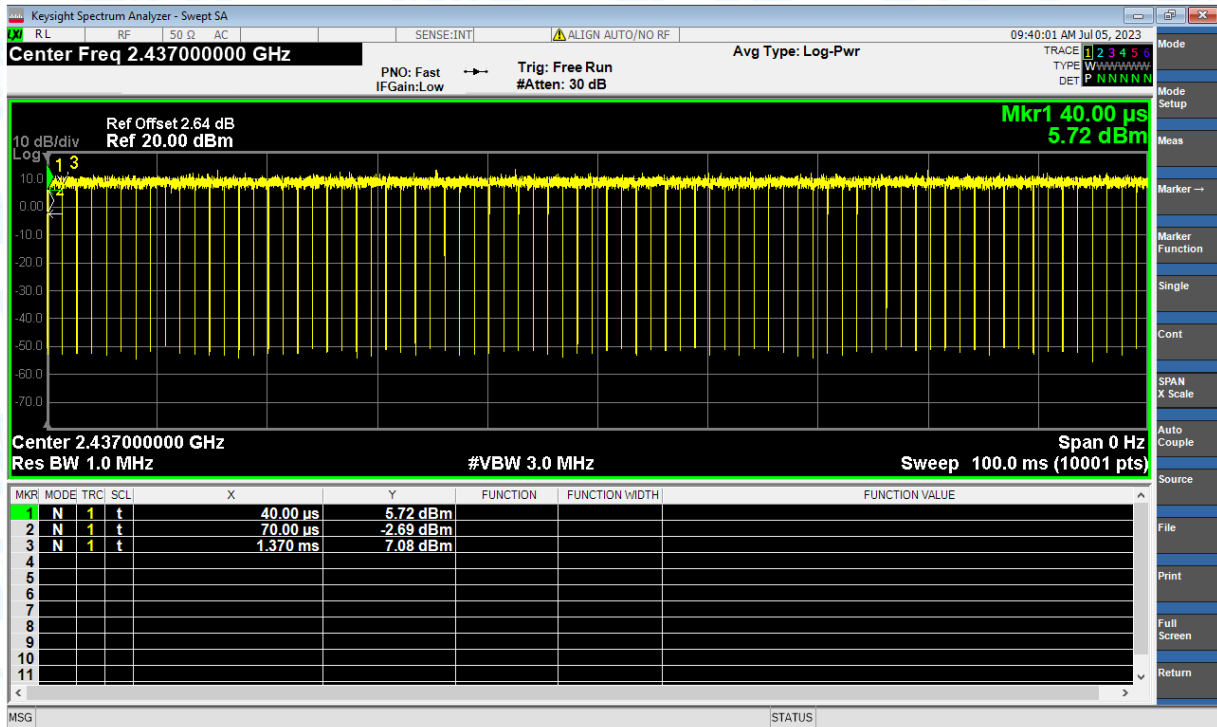
Duty Cycle NVNT g 2462MHz Ant1



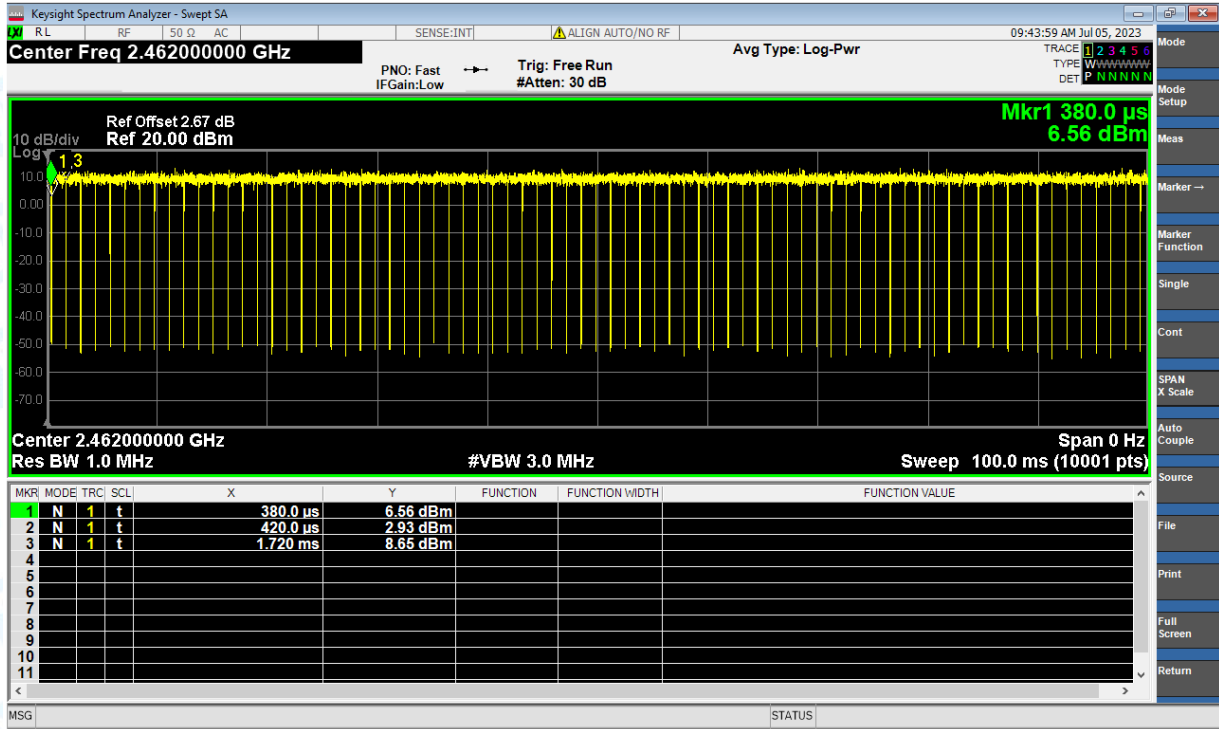
Duty Cycle NVNT n(HT20) 2412MHz Ant1



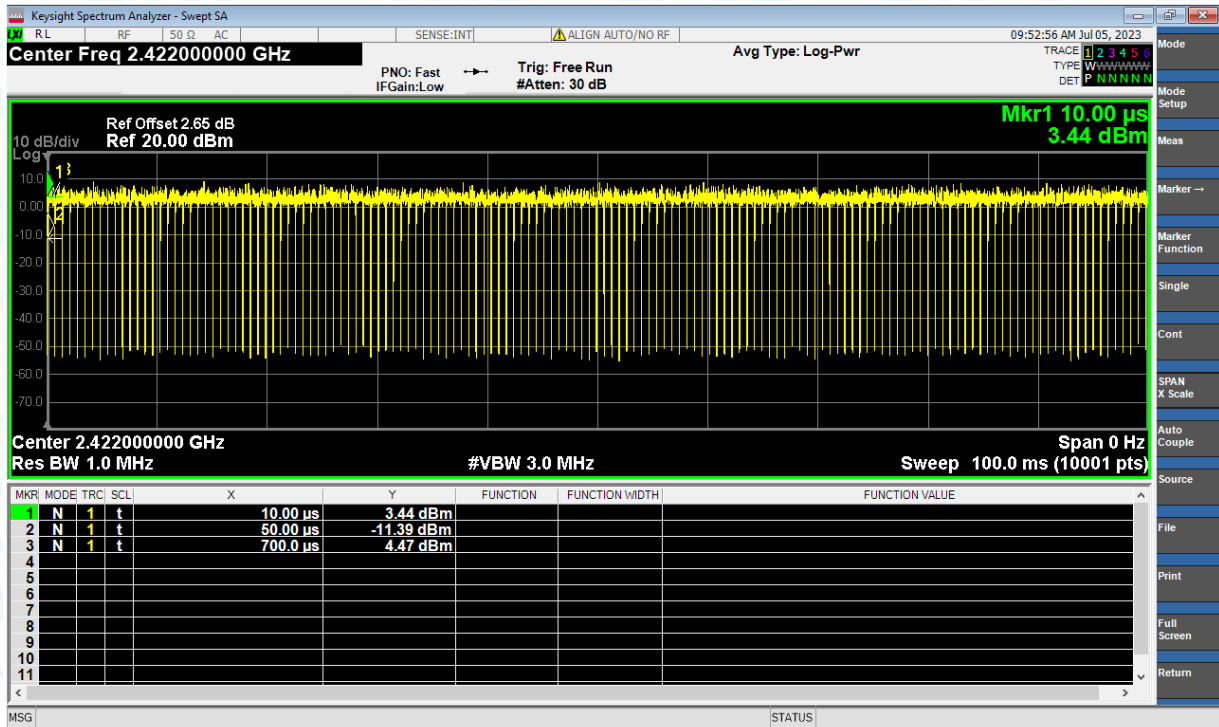
Duty Cycle NVNT n(HT20) 2437MHz Ant1



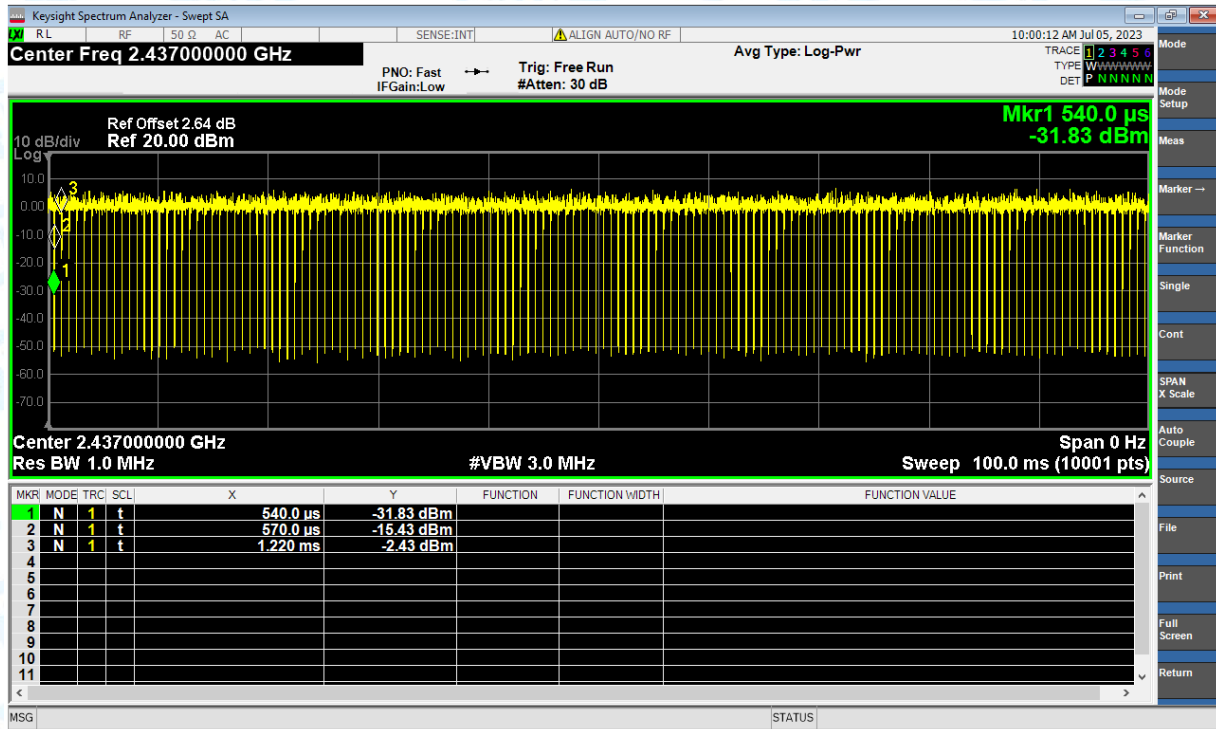
Duty Cycle NVNT n(HT20) 2462MHz Ant1



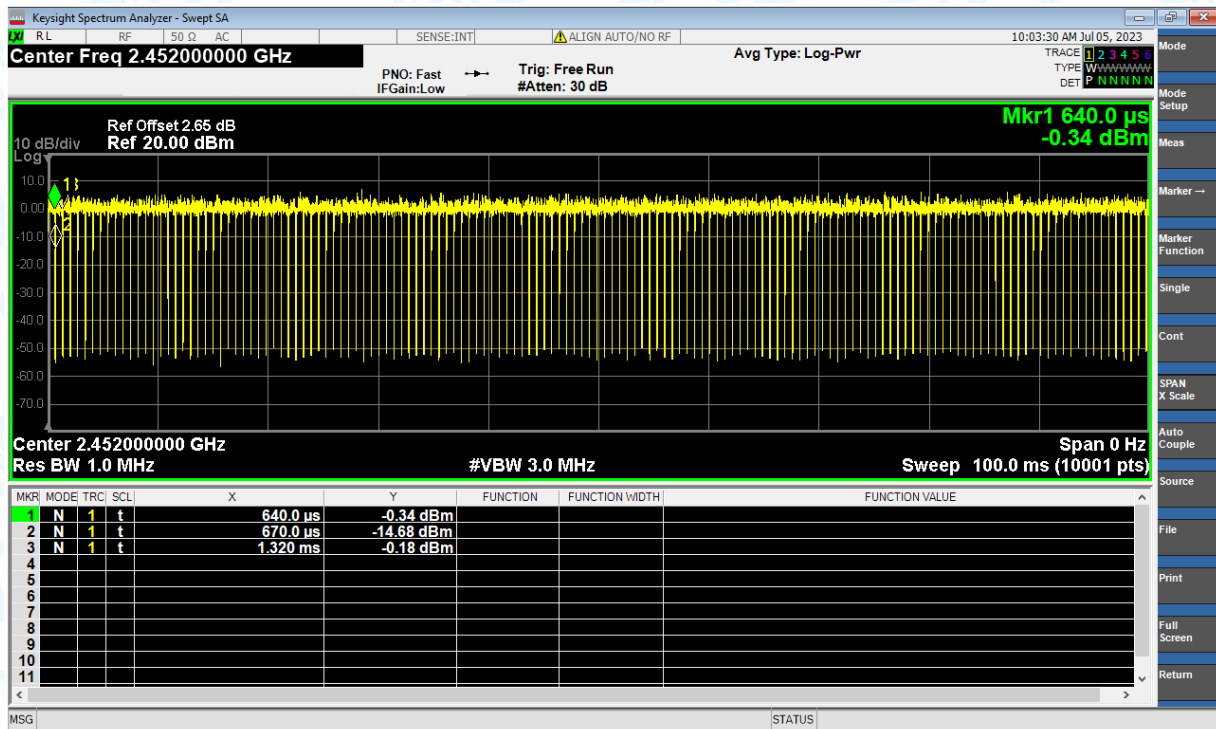
Duty Cycle NVNT n(HT40) 2422MHz Ant1



Duty Cycle NVNT n(HT40) 2437MHz Ant1



Duty Cycle NVNT n(HT40) 2452MHz Ant1



2. Maximum Conducted Output Power

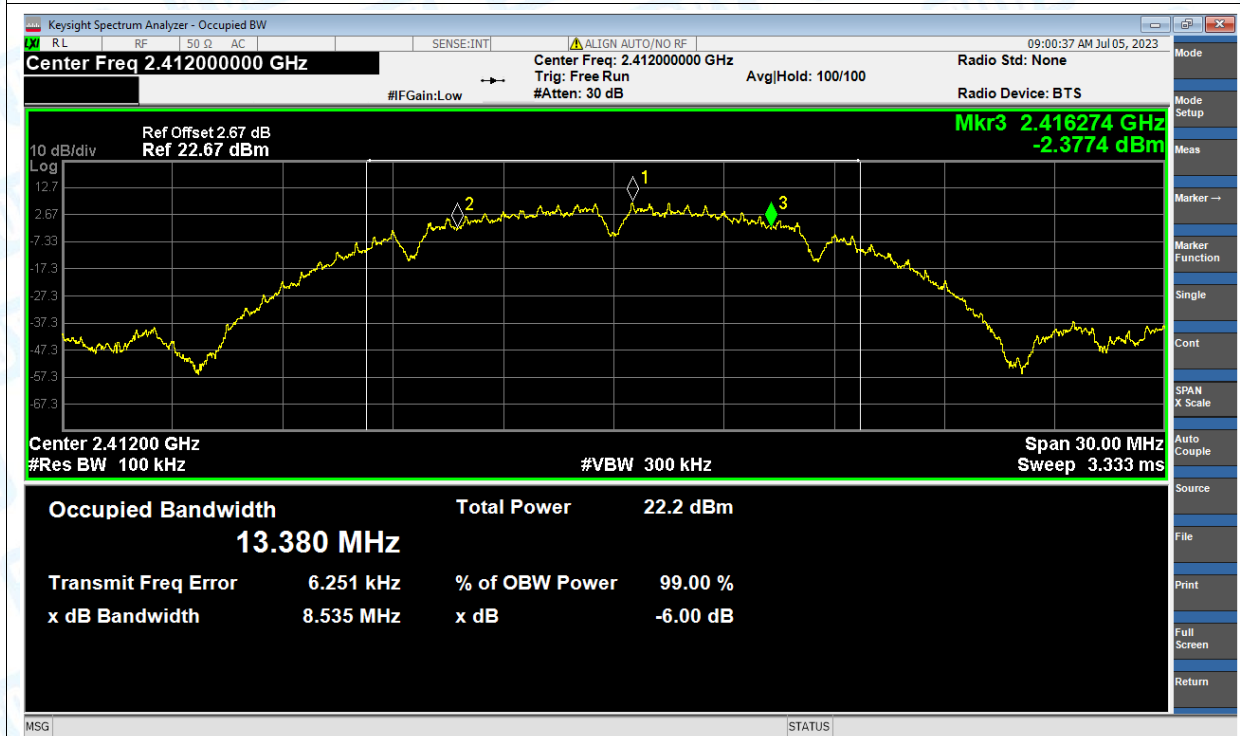
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	17.533	30	Pass
NVNT	b	2437	Ant1	17.848	30	Pass
NVNT	b	2462	Ant1	17.778	30	Pass
NVNT	g	2412	Ant1	15.333	30	Pass
NVNT	g	2437	Ant1	15.946	30	Pass
NVNT	g	2462	Ant1	14.938	30	Pass
NVNT	n(HT20)	2412	Ant1	15.208	30	Pass
NVNT	n(HT20)	2437	Ant1	15.826	30	Pass
NVNT	n(HT20)	2462	Ant1	13.917	30	Pass
NVNT	n(HT40)	2422	Ant1	13.979	30	Pass
NVNT	n(HT40)	2437	Ant1	14.137	30	Pass
NVNT	n(HT40)	2452	Ant1	11.271	30	Pass

3. -6dB Bandwidth

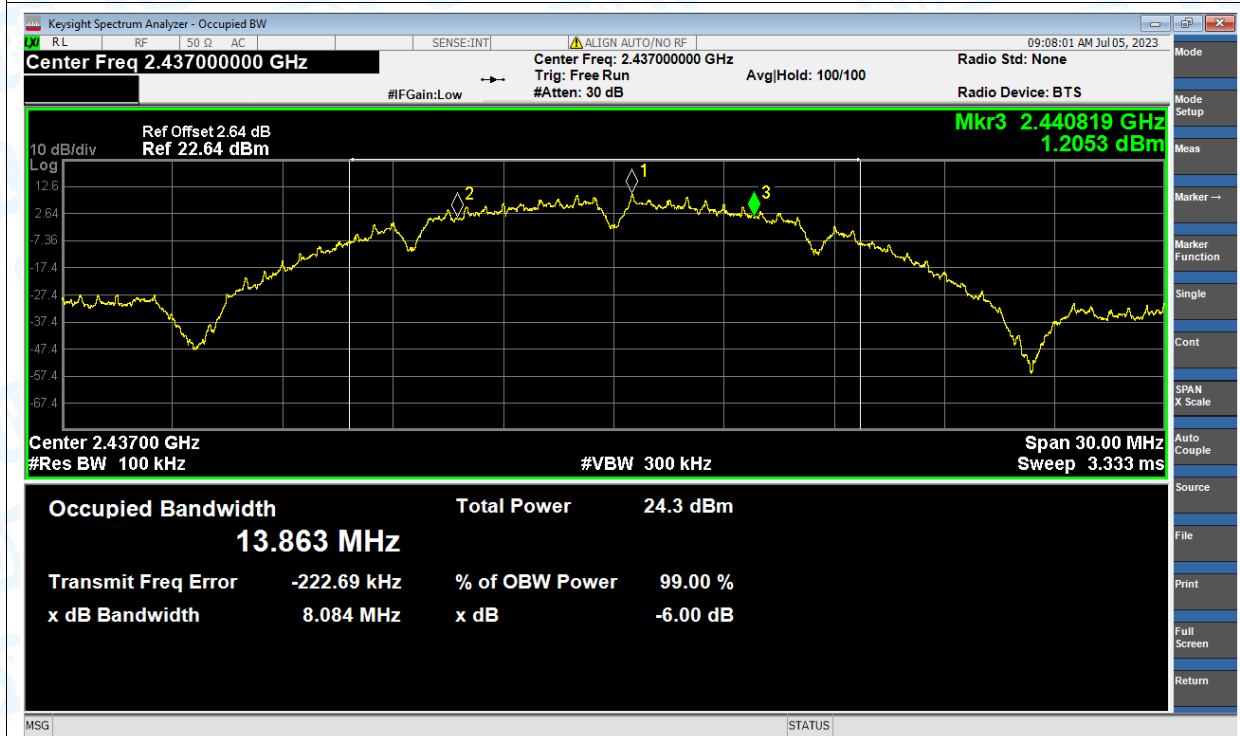
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	8.54	0.5	Pass
NVNT	b	2437	Ant1	8.08	0.5	Pass
NVNT	b	2462	Ant1	7.55	0.5	Pass
NVNT	g	2412	Ant1	15.92	0.5	Pass
NVNT	g	2437	Ant1	15.68	0.5	Pass
NVNT	g	2462	Ant1	15.08	0.5	Pass
NVNT	n(HT20)	2412	Ant1	16.27	0.5	Pass
NVNT	n(HT20)	2437	Ant1	16.98	0.5	Pass
NVNT	n(HT20)	2462	Ant1	12.53	0.5	Pass
NVNT	n(HT40)	2422	Ant1	32.58	0.5	Pass
NVNT	n(HT40)	2437	Ant1	33.84	0.5	Pass
NVNT	n(HT40)	2452	Ant1	33.81	0.5	Pass

Test Graphs

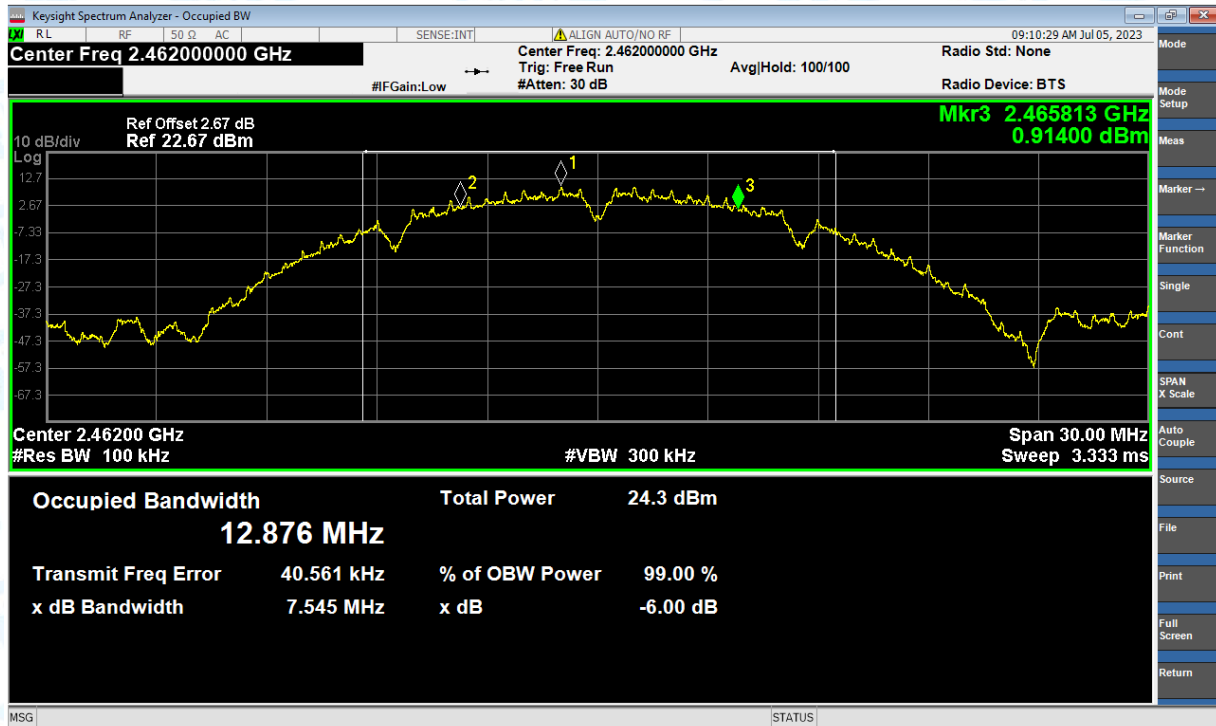
-6dB Bandwidth NVNT b 2412MHz Ant1



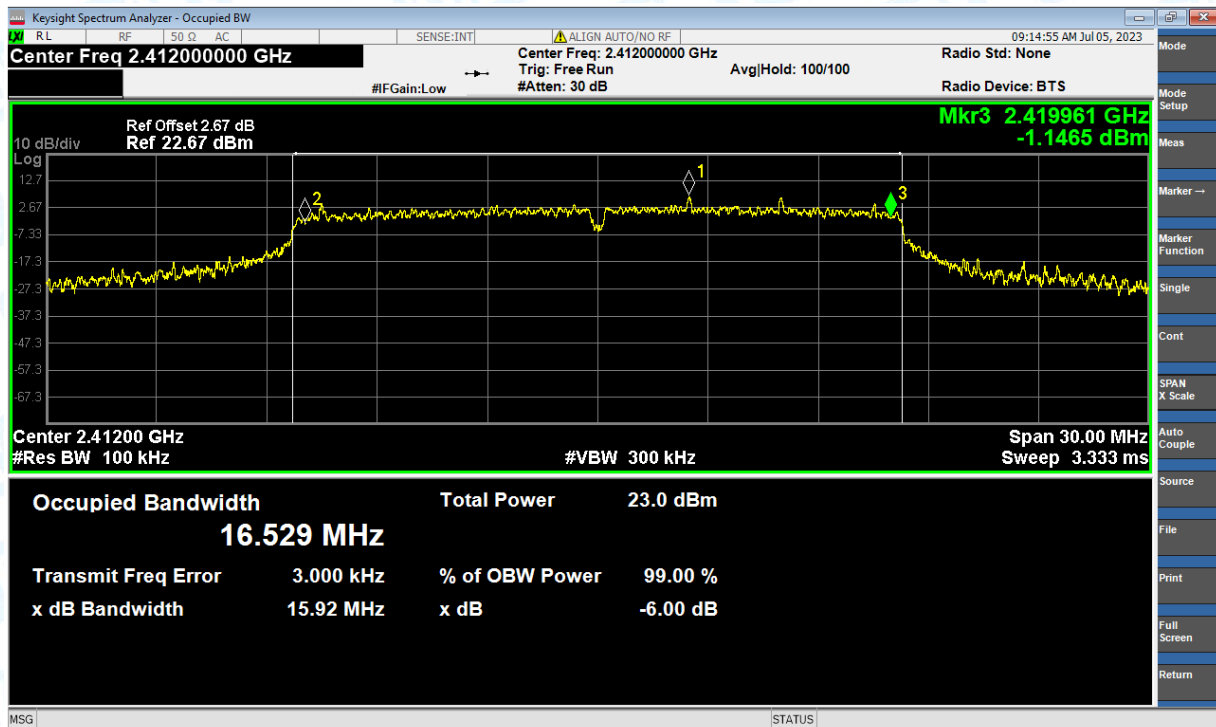
-6dB Bandwidth NVNT b 2437MHz Ant1



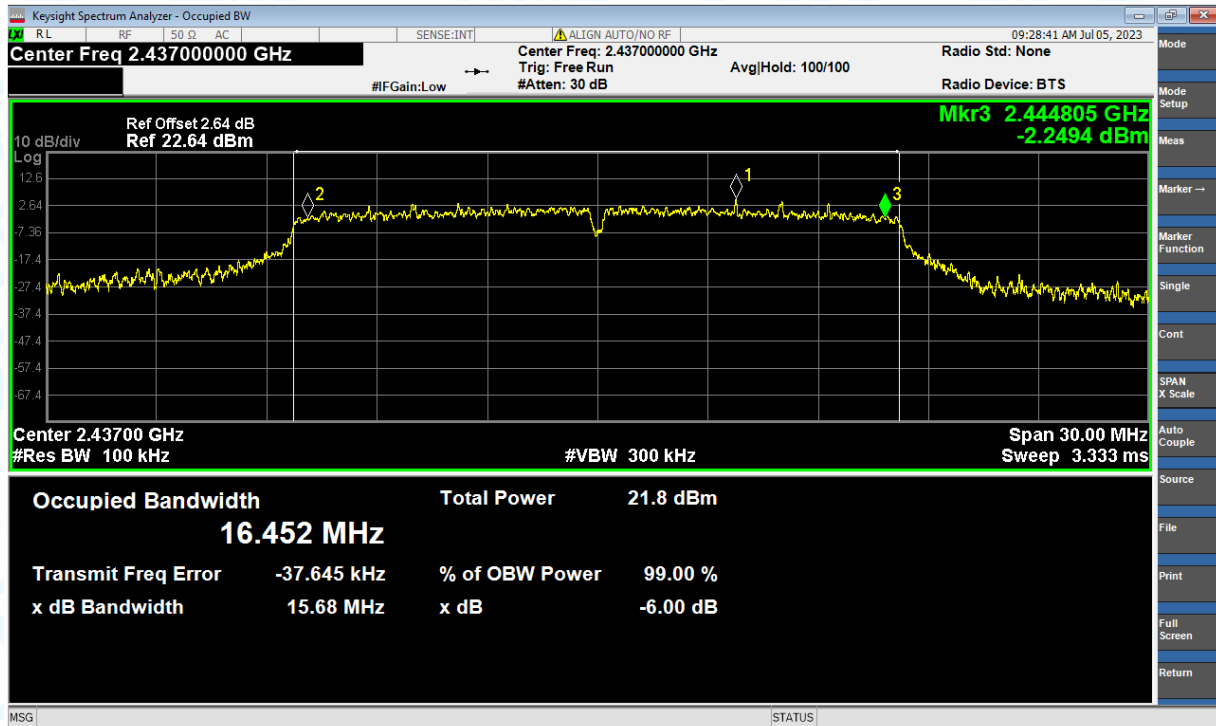
-6dB Bandwidth NVNT b 2462MHz Ant1



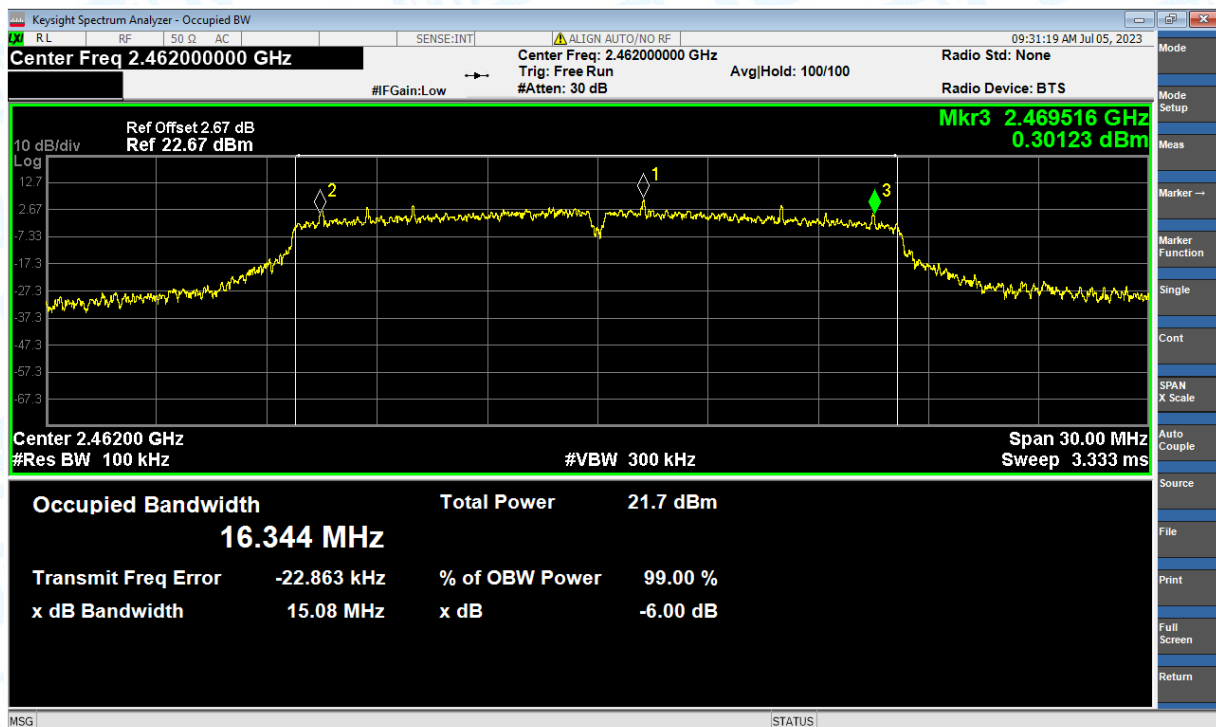
-6dB Bandwidth NVNT g 2412MHz Ant1



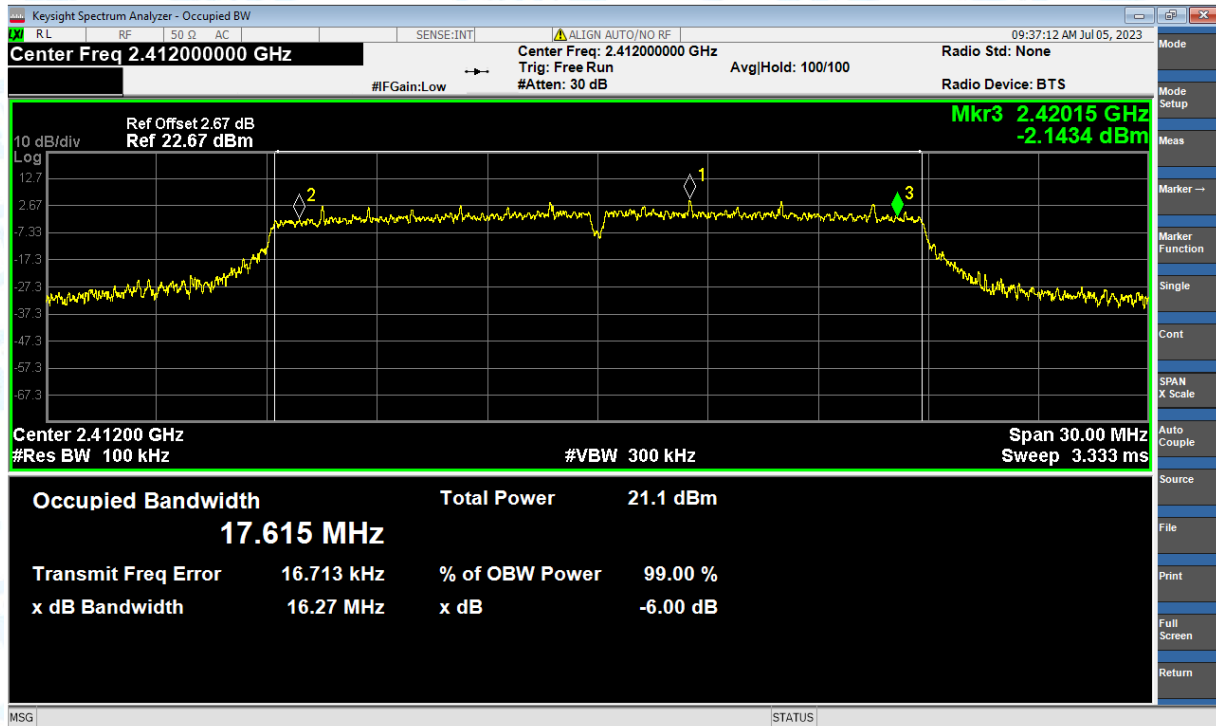
-6dB Bandwidth NVNT g 2437MHz Ant1



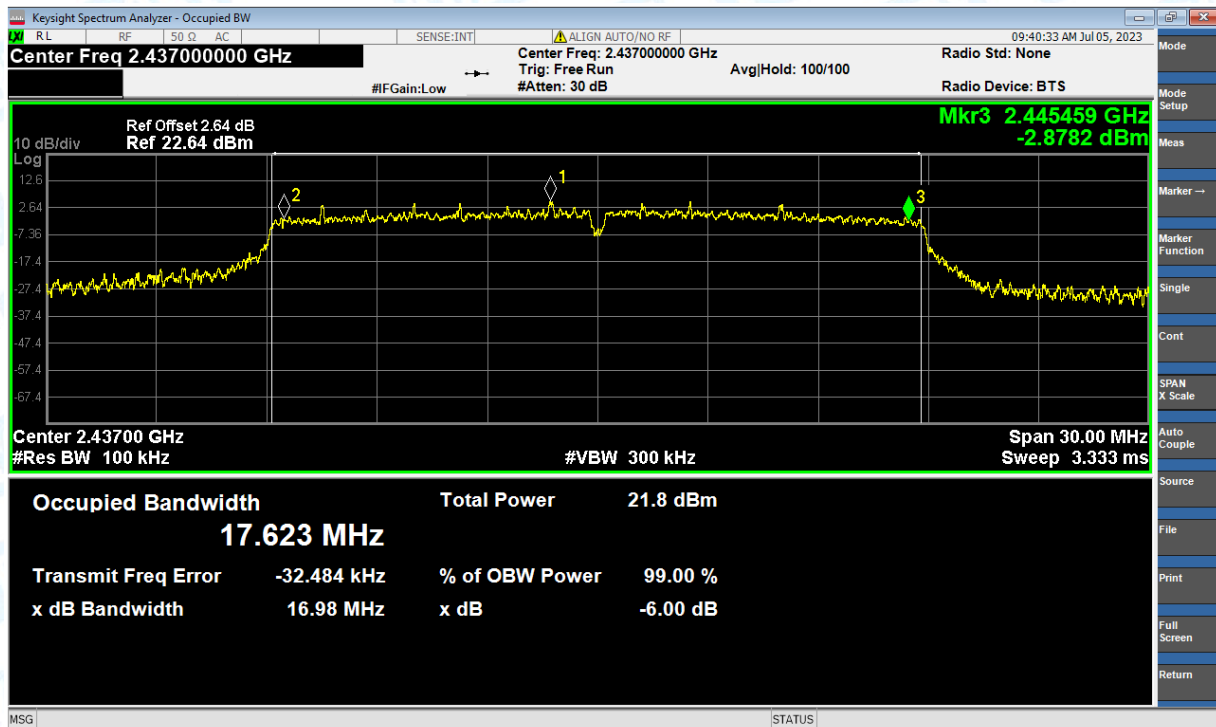
-6dB Bandwidth NVNT g 2462MHz Ant1



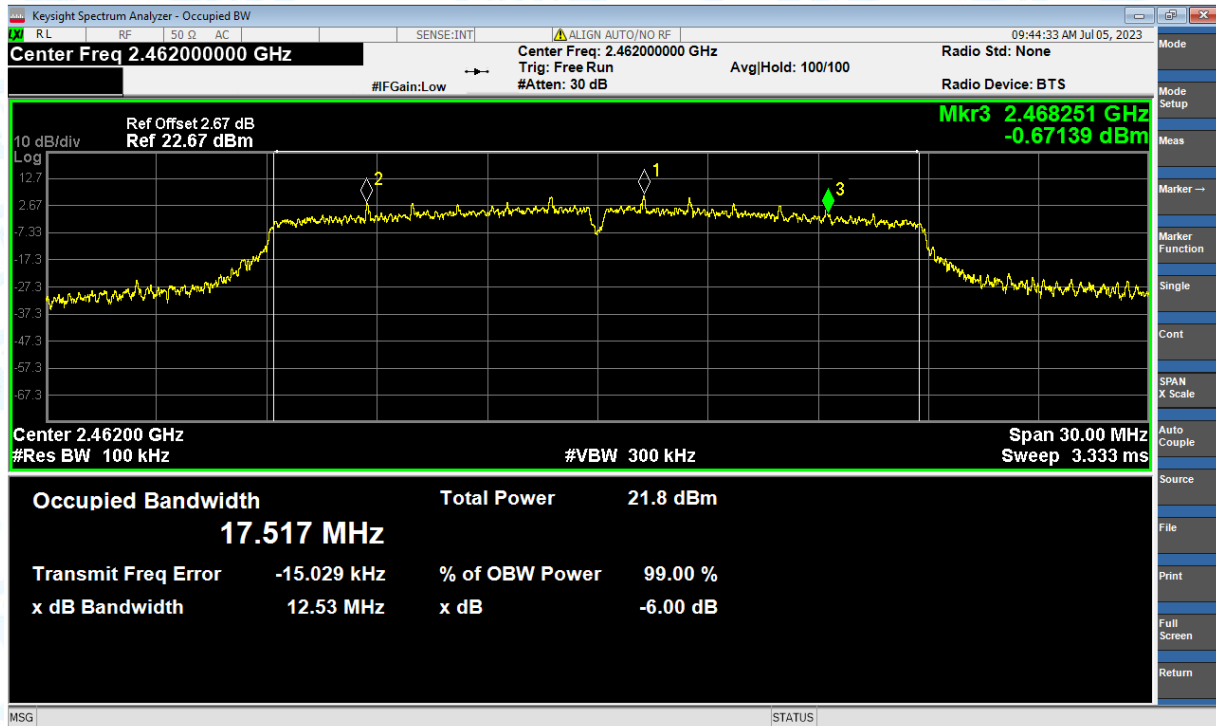
-6dB Bandwidth NVNT n(HT20) 2412MHz Ant1



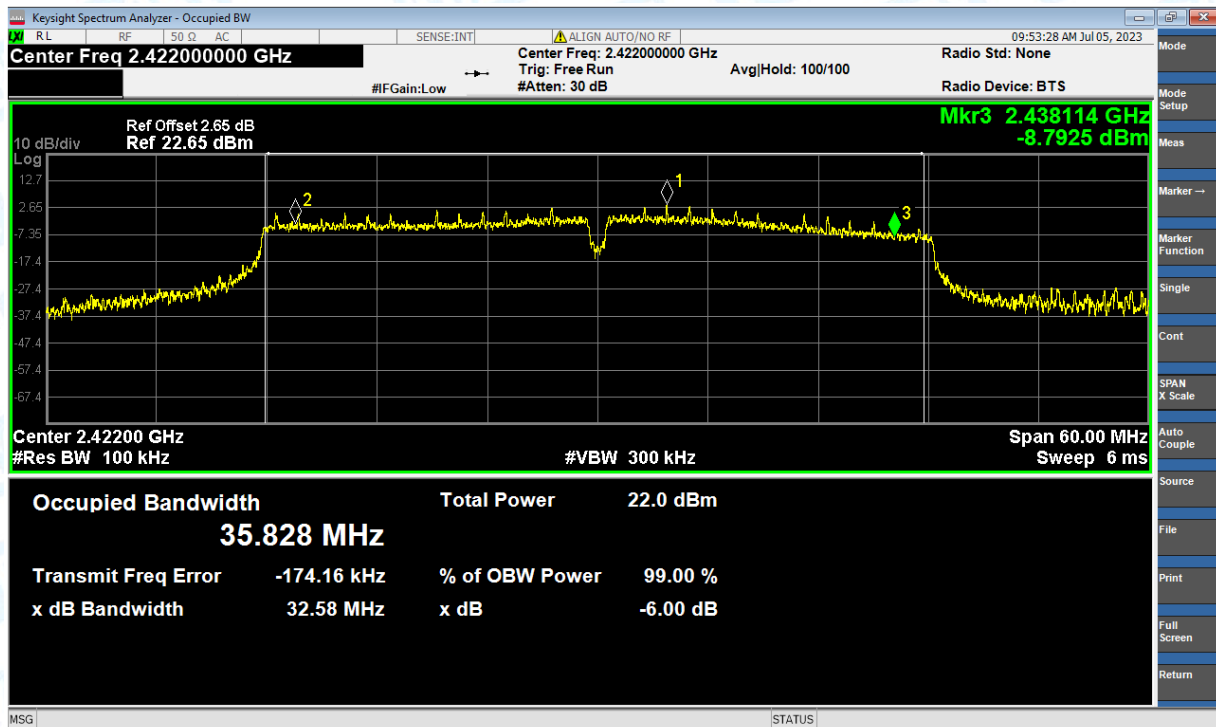
-6dB Bandwidth NVNT n(HT20) 2437MHz Ant1



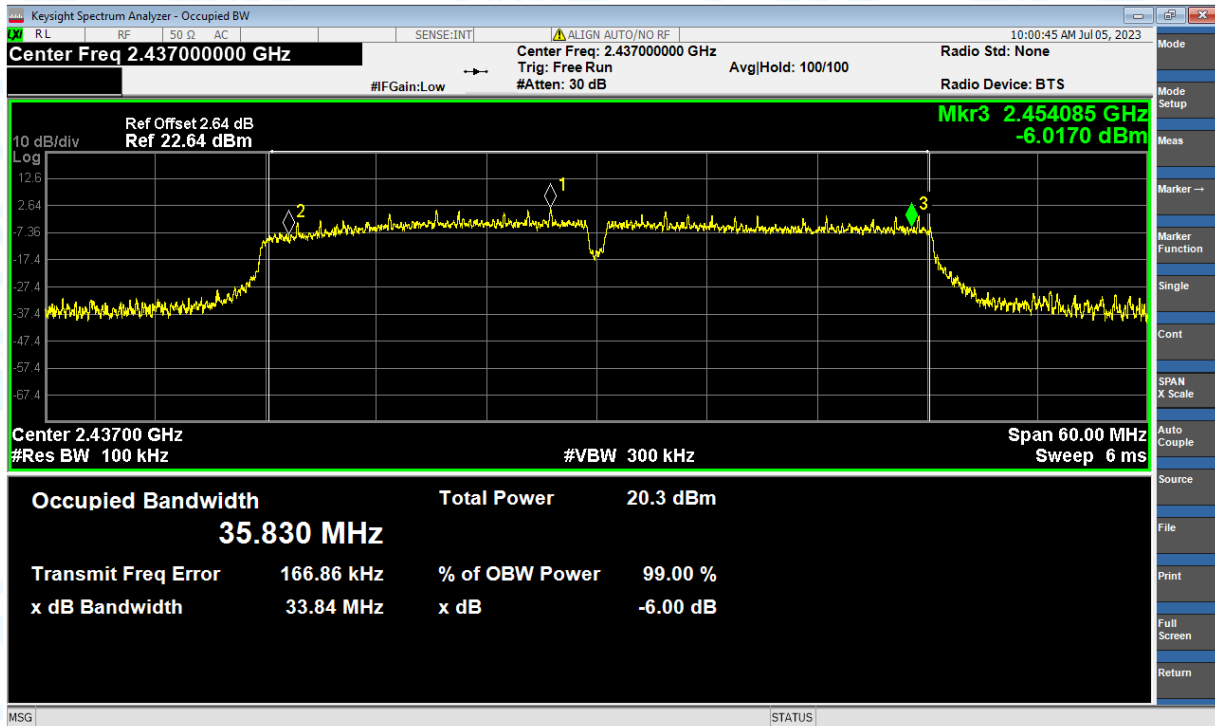
-6dB Bandwidth NVNT n(HT20) 2462MHz Ant1



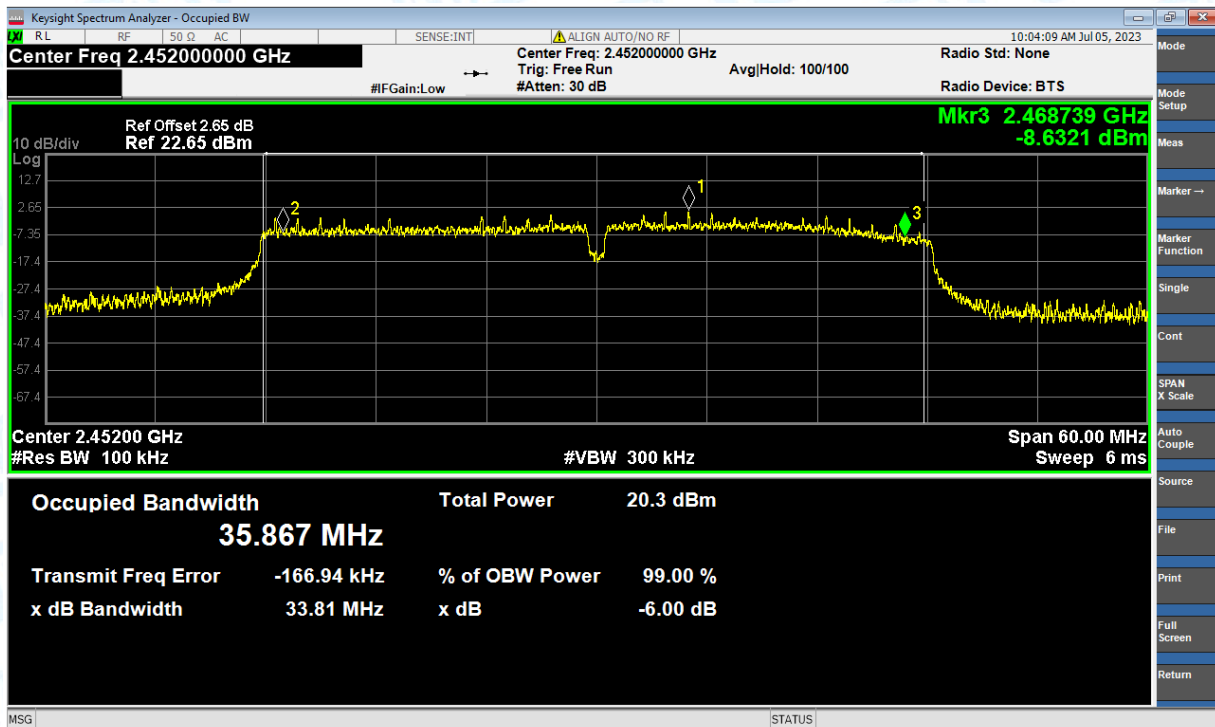
-6dB Bandwidth NVNT n(HT40) 2422MHz Ant1



-6dB Bandwidth NVNT n(HT40) 2437MHz Ant1



-6dB Bandwidth NVNT n(HT40) 2452MHz Ant1

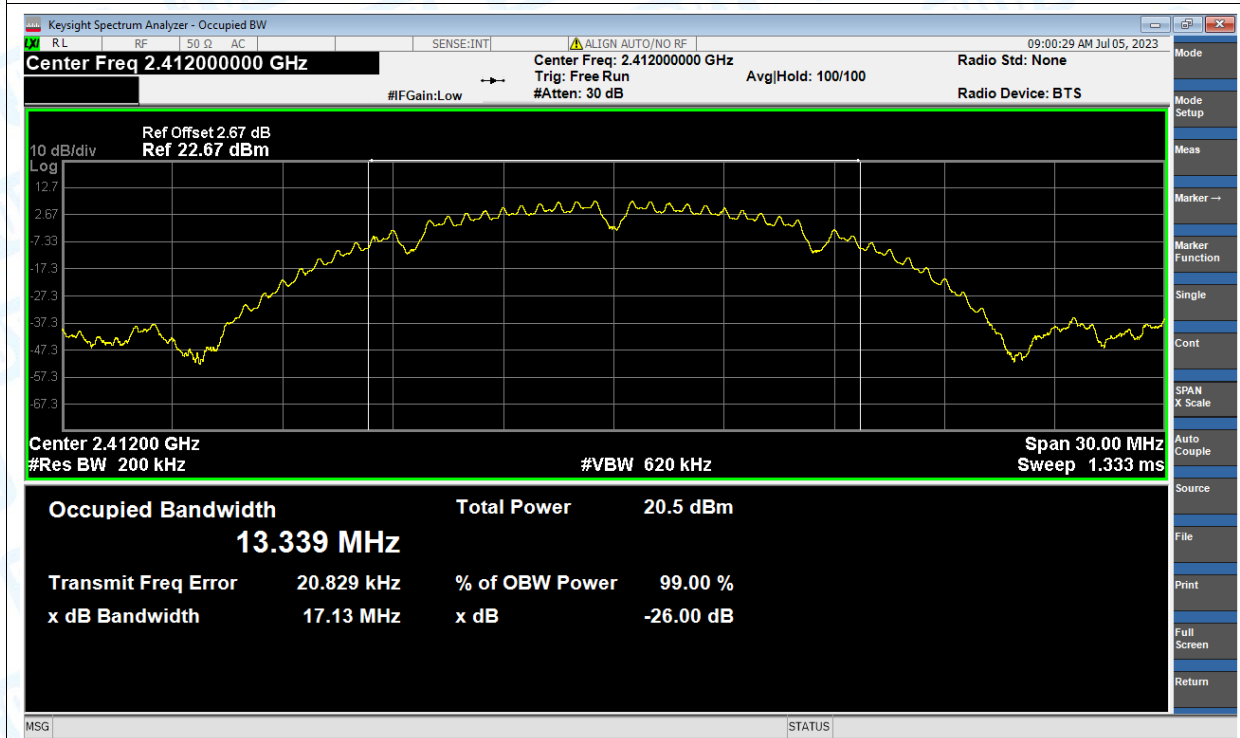


4. Occupied Channel Bandwidth

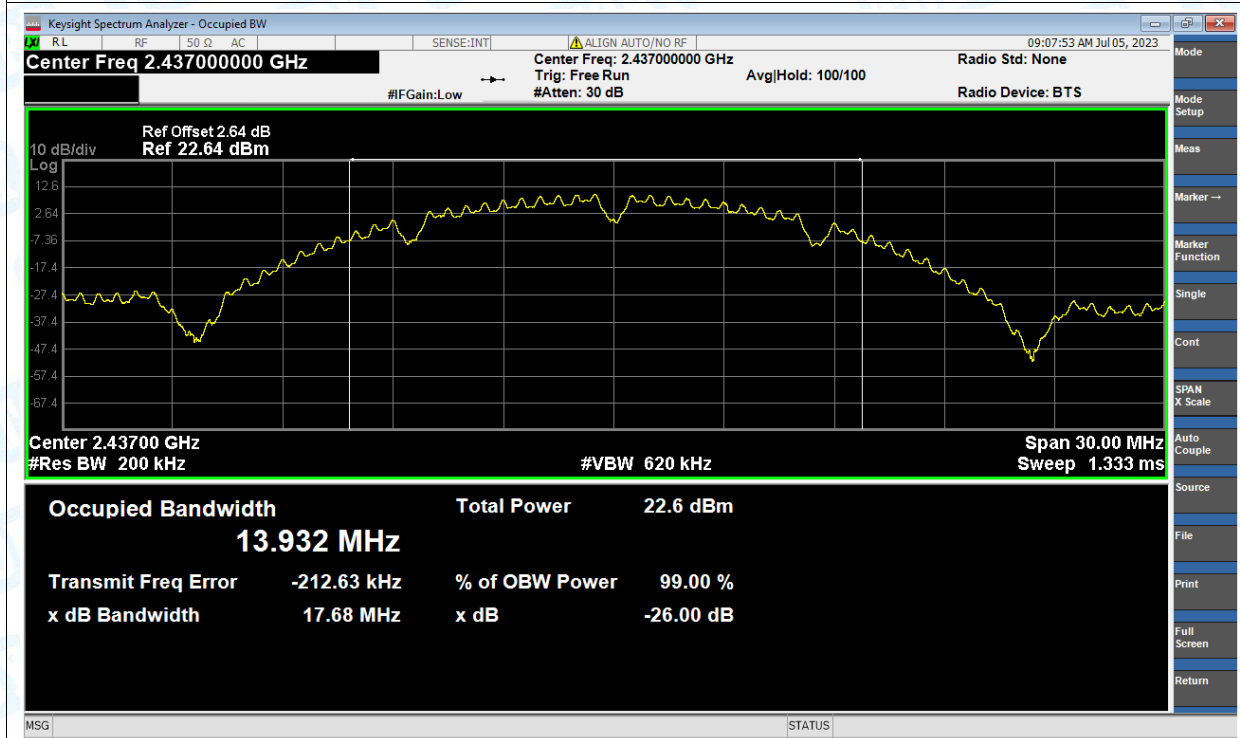
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	13.339
NVNT	b	2437	Ant1	13.932
NVNT	b	2462	Ant1	12.934
NVNT	g	2412	Ant1	16.728
NVNT	g	2437	Ant1	16.598
NVNT	g	2462	Ant1	16.396
NVNT	n(HT20)	2412	Ant1	17.668
NVNT	n(HT20)	2437	Ant1	17.695
NVNT	n(HT20)	2462	Ant1	17.532
NVNT	n(HT40)	2422	Ant1	35.942
NVNT	n(HT40)	2437	Ant1	35.977
NVNT	n(HT40)	2452	Ant1	35.988

Test Graphs

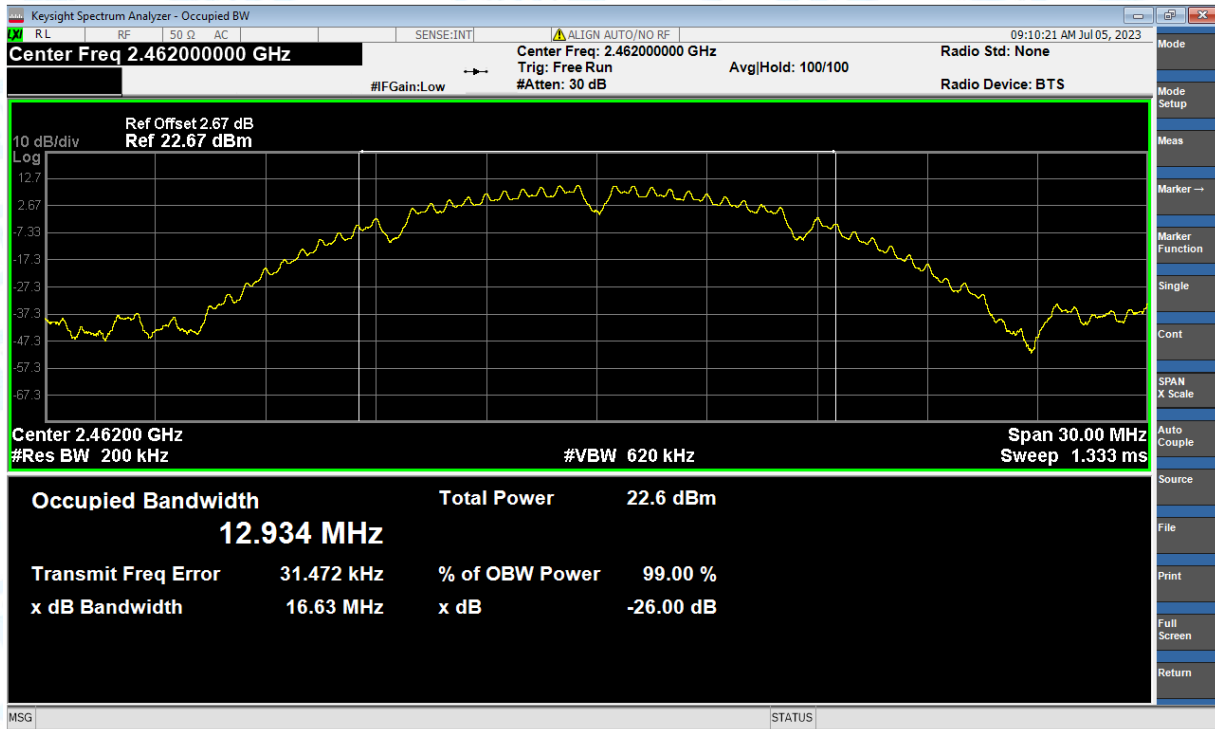
OBW NVNT b 2412MHz Ant1



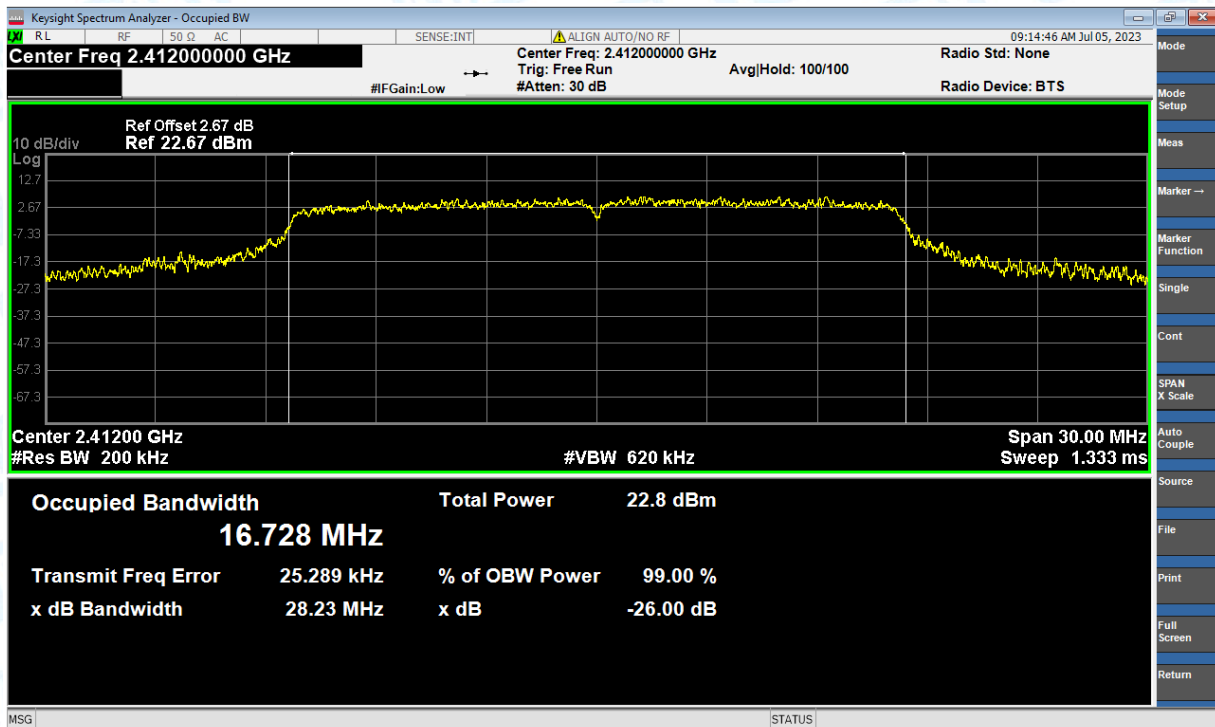
OBW NVNT b 2437MHz Ant1



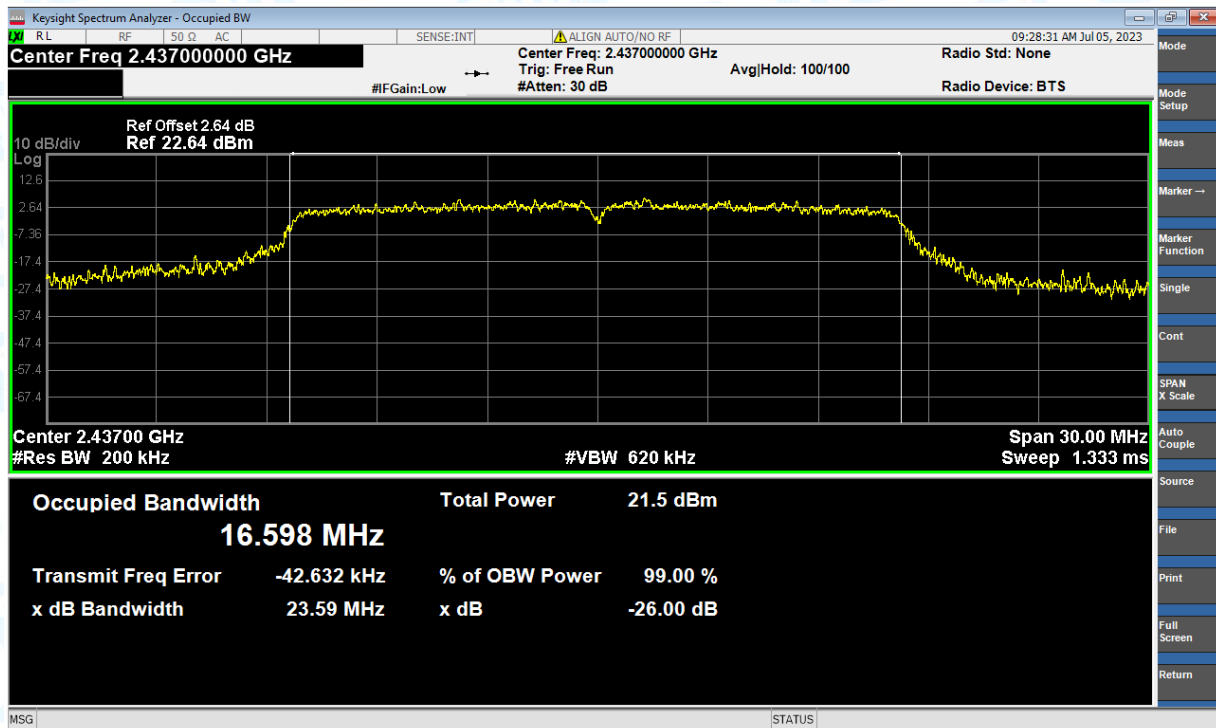
OBW NVNT b 2462MHz Ant1



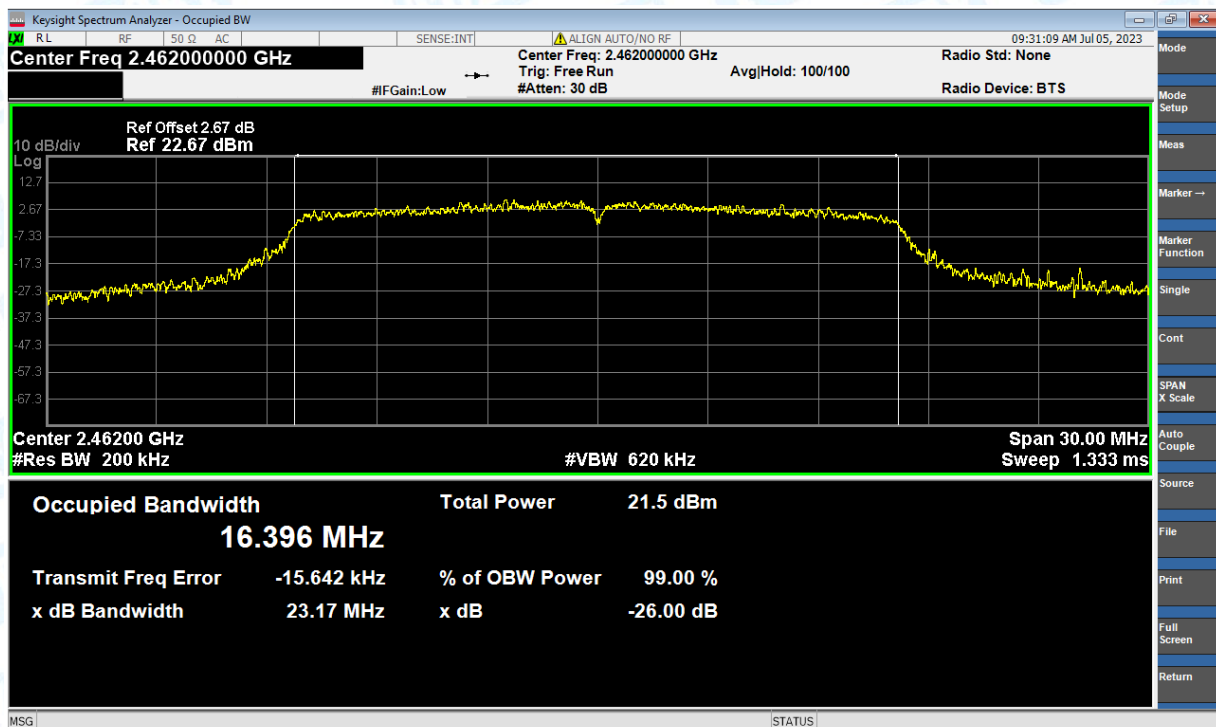
OBW NVNT g 2412MHz Ant1



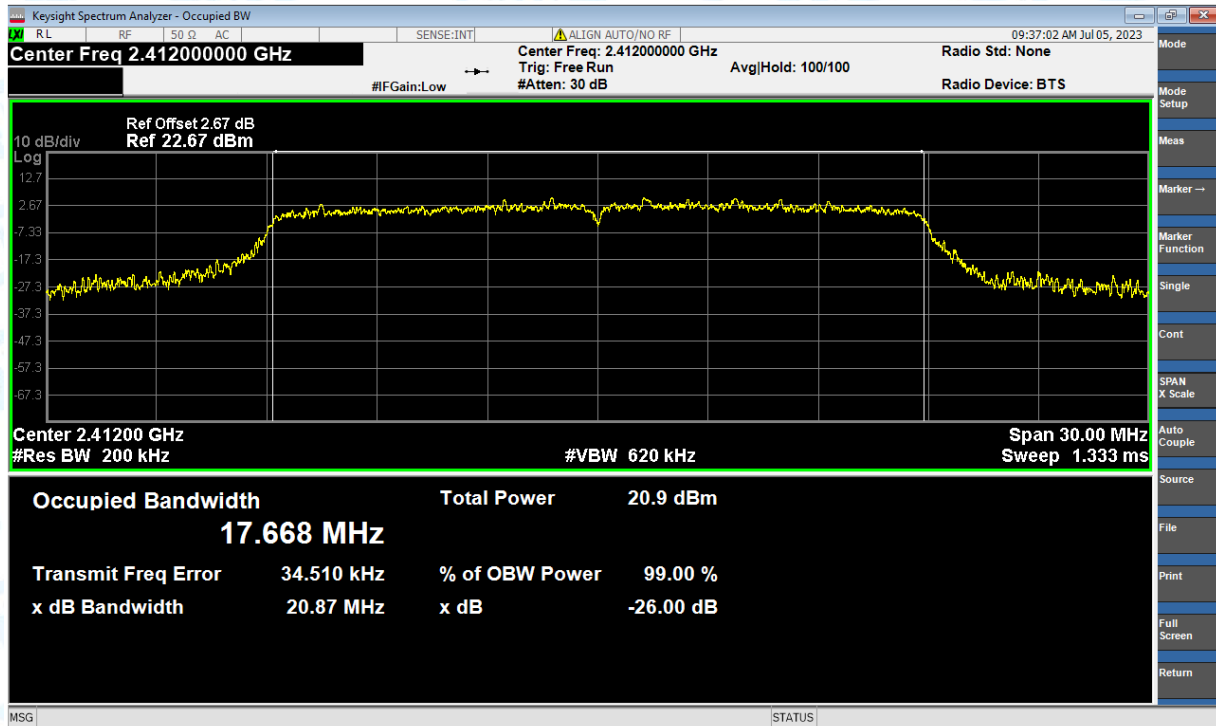
OBW NVNT g 2437MHz Ant1



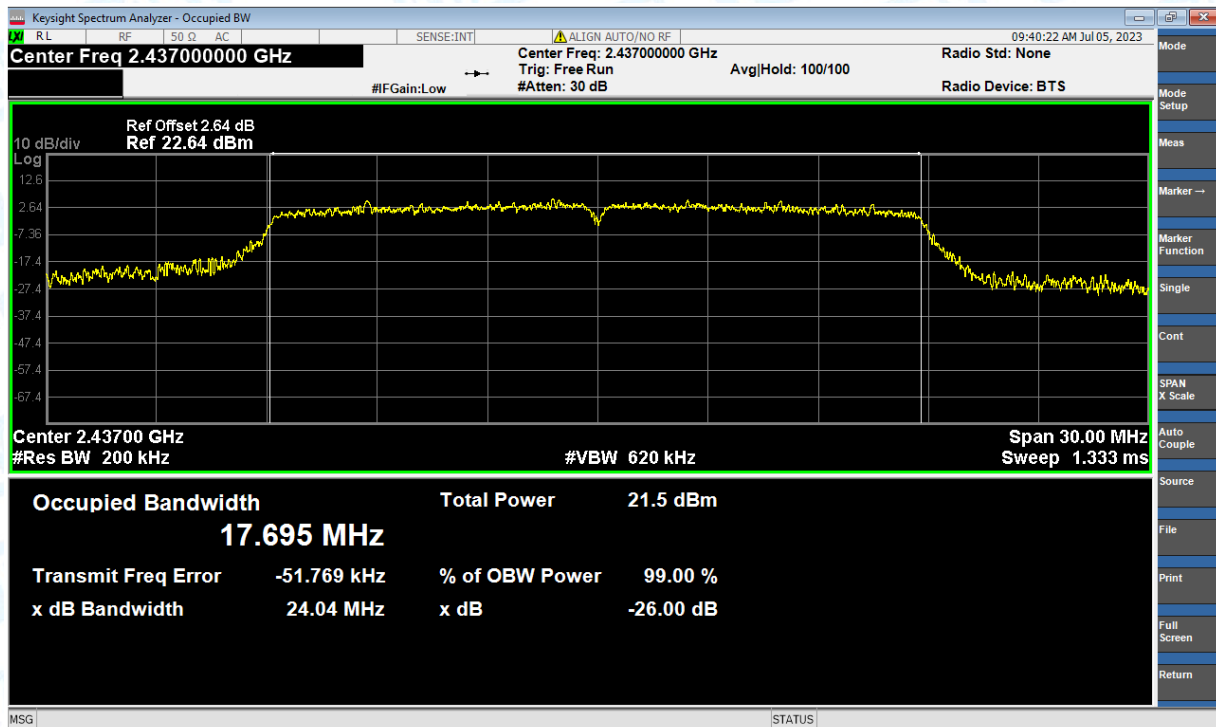
OBW NVNT g 2462MHz Ant1



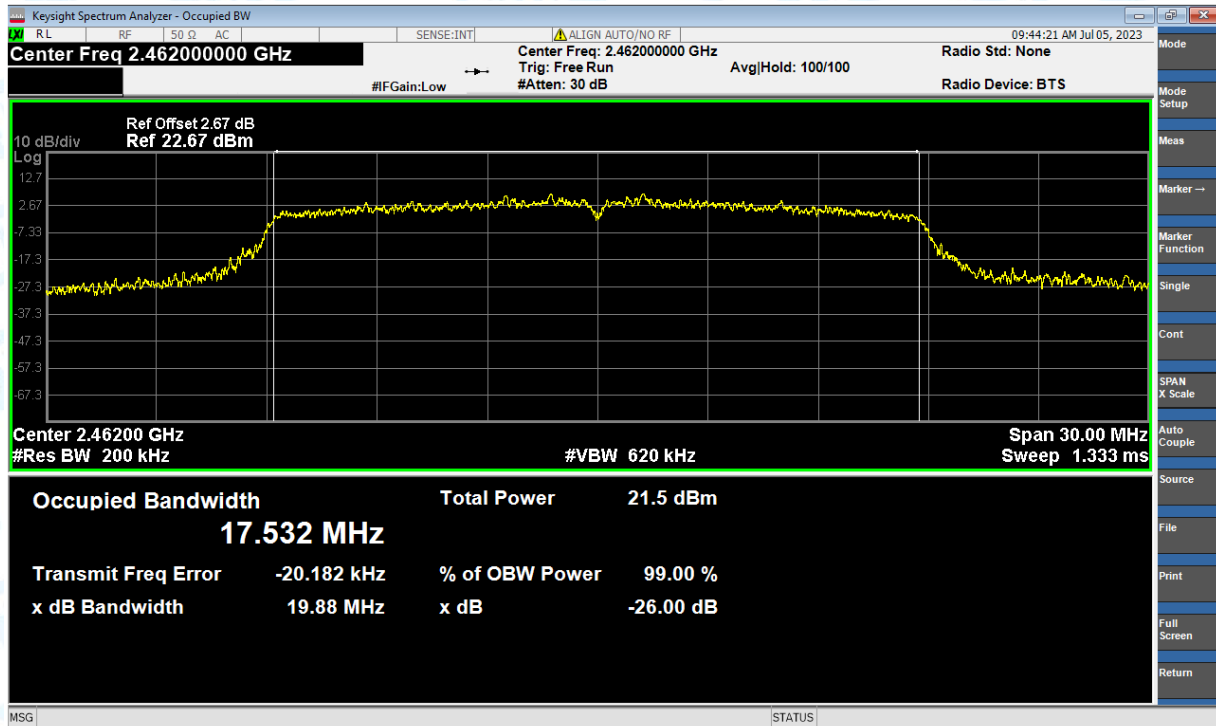
OBW NVNT n(HT20) 2412MHz Ant1



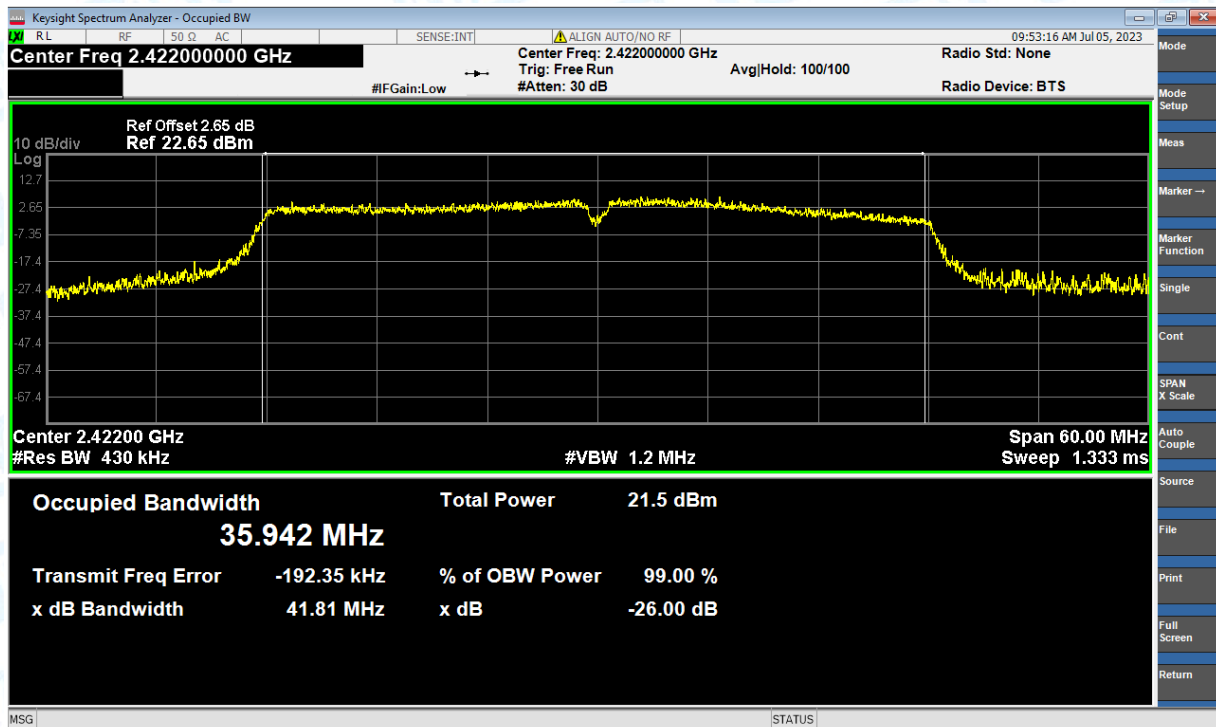
OBW NVNT n(HT20) 2437MHz Ant1



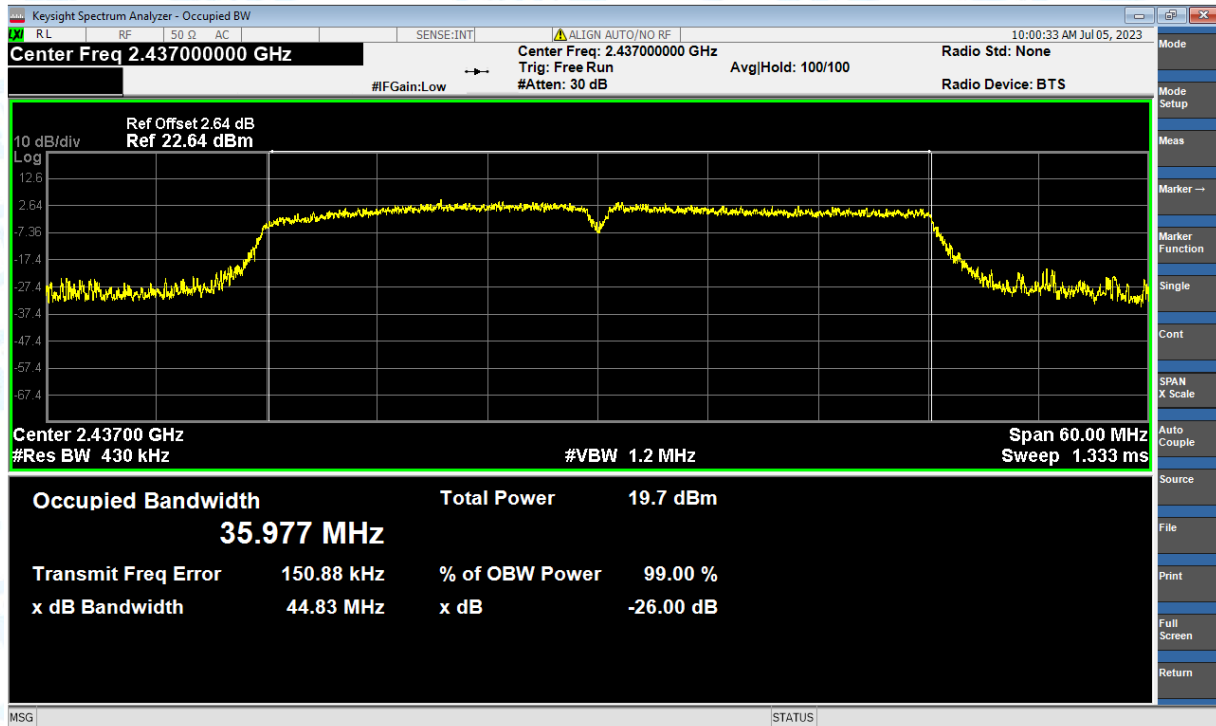
OBW NVNT n(HT20) 2462MHz Ant1



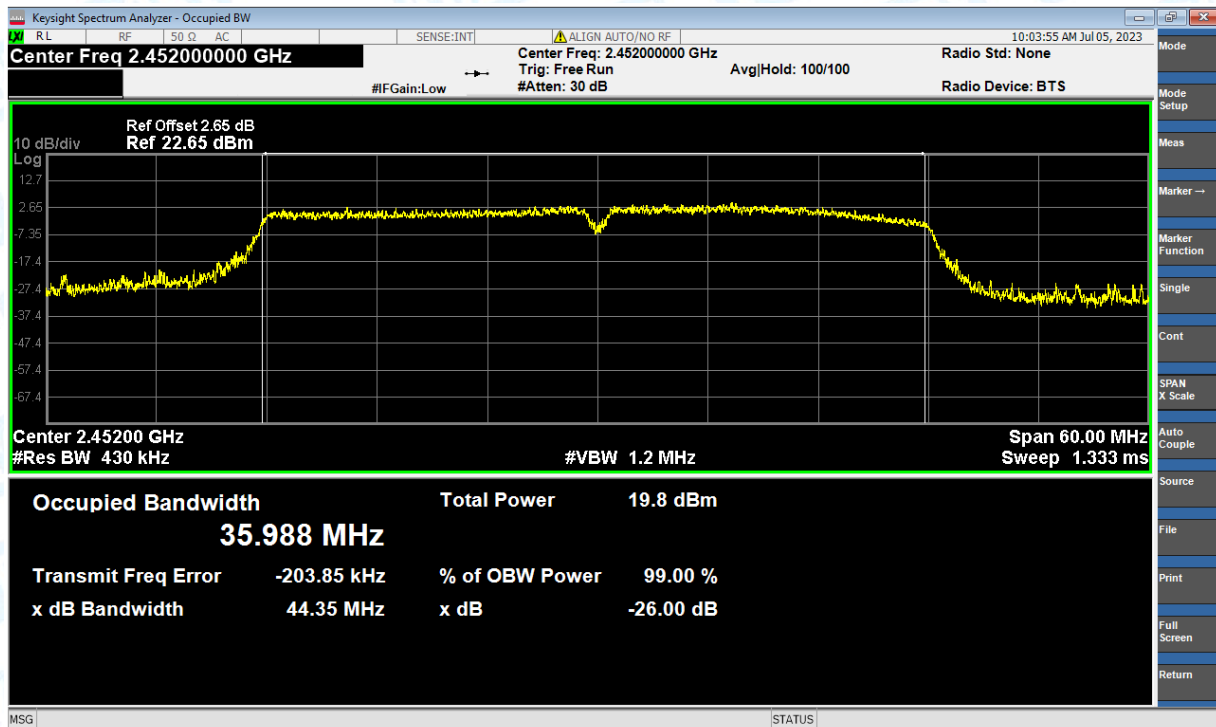
OBW NVNT n(HT40) 2422MHz Ant1



OBW NVNT n(HT40) 2437MHz Ant1



OBW NVNT n(HT40) 2452MHz Ant1

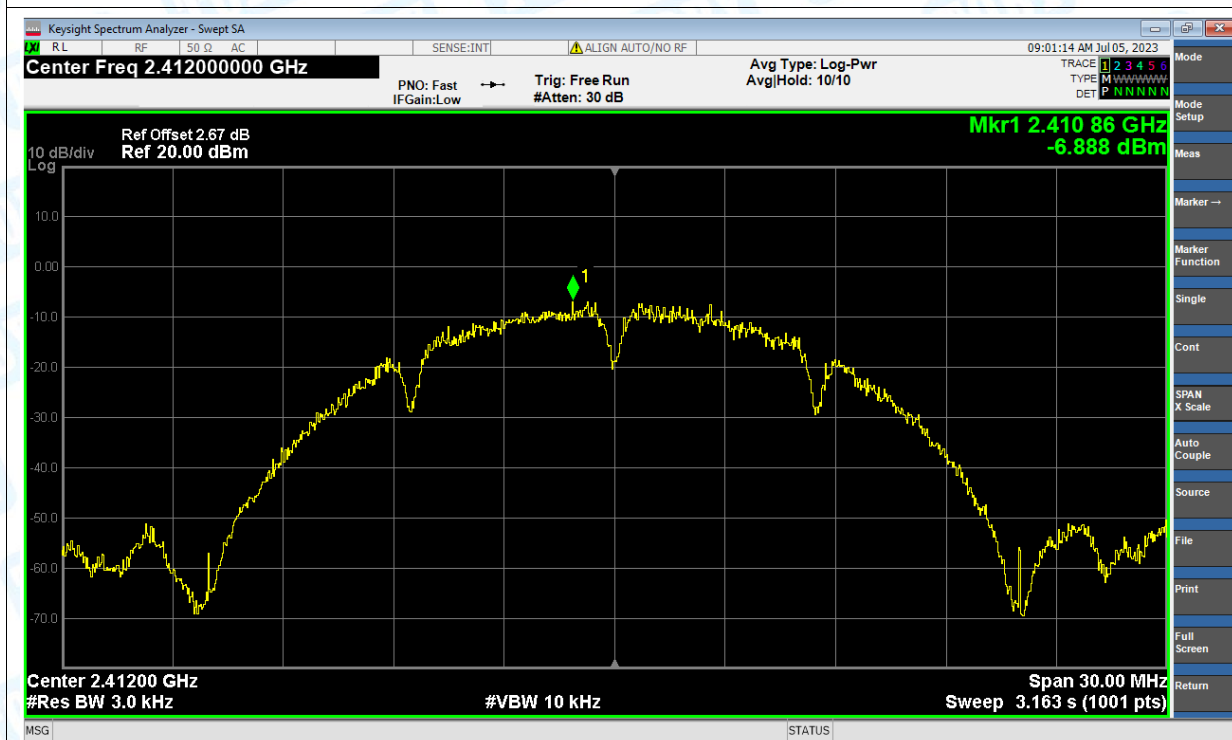


5. Maximum Power Spectral Density Level

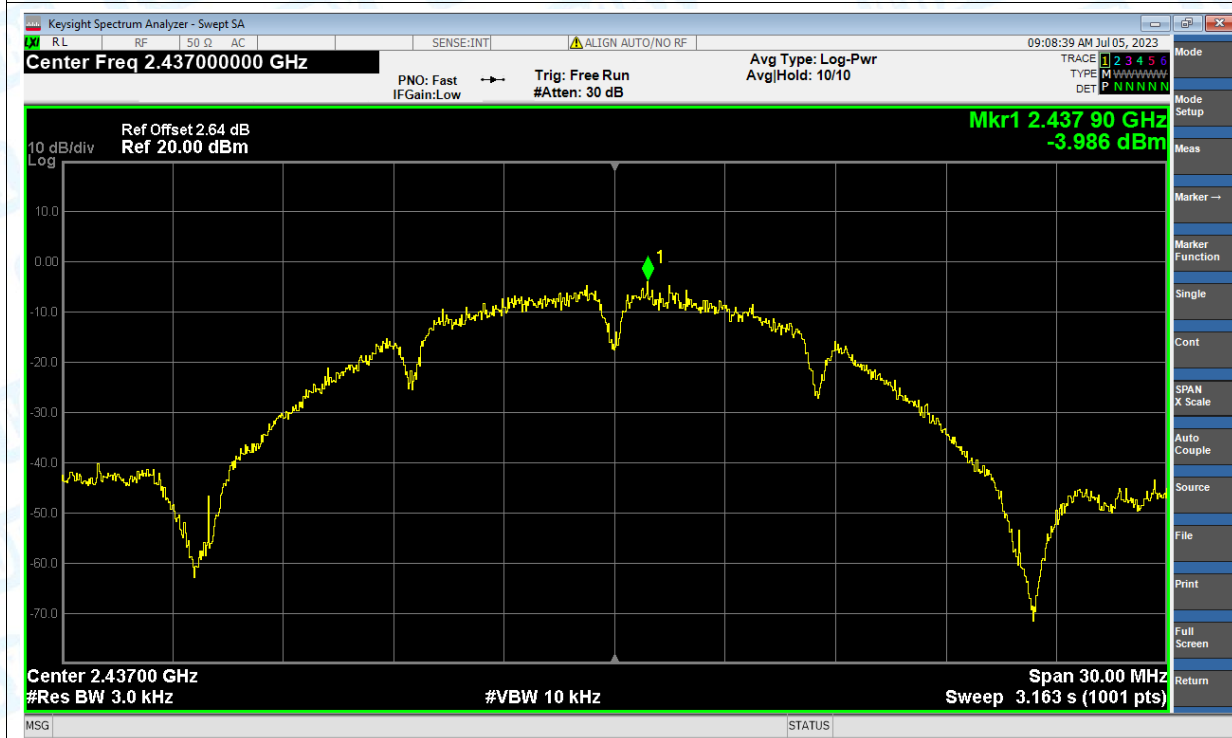
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	-6.888	8	Pass
NVNT	b	2437	Ant1	-3.986	8	Pass
NVNT	b	2462	Ant1	-4.575	8	Pass
NVNT	g	2412	Ant1	-9.038	8	Pass
NVNT	g	2437	Ant1	-8.736	8	Pass
NVNT	g	2462	Ant1	-9.683	8	Pass
NVNT	n(HT20)	2412	Ant1	-8.37	8	Pass
NVNT	n(HT20)	2437	Ant1	-9.089	8	Pass
NVNT	n(HT20)	2462	Ant1	-9.883	8	Pass
NVNT	n(HT40)	2422	Ant1	-12.387	8	Pass
NVNT	n(HT40)	2437	Ant1	-12.757	8	Pass
NVNT	n(HT40)	2452	Ant1	-14.225	8	Pass

Test Graphs

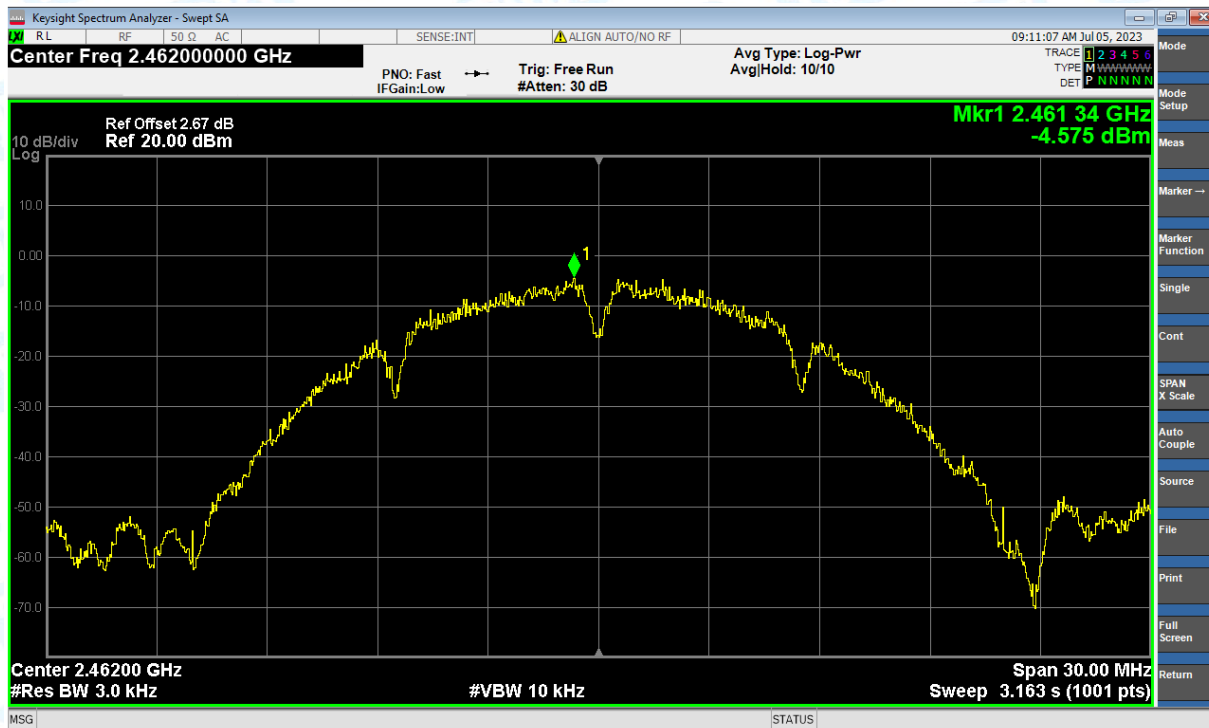
PSD NVNT b 2412MHz Ant1



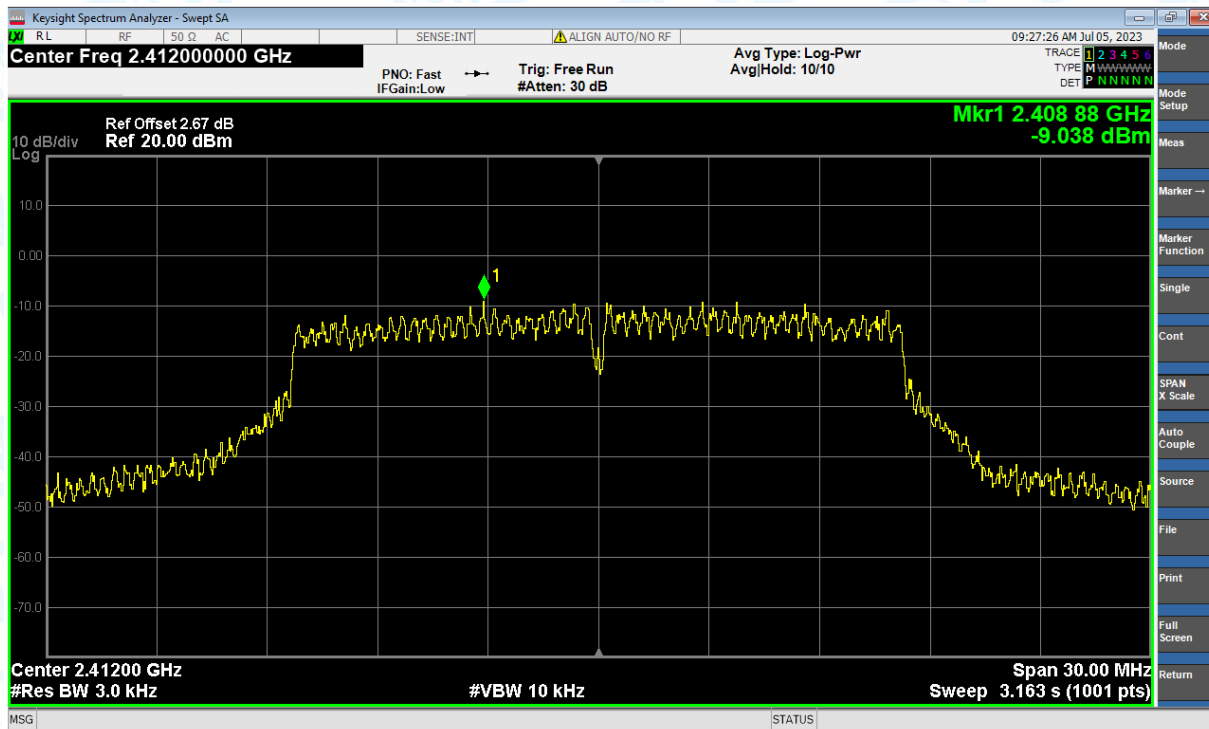
PSD NVNT b 2437MHz Ant1



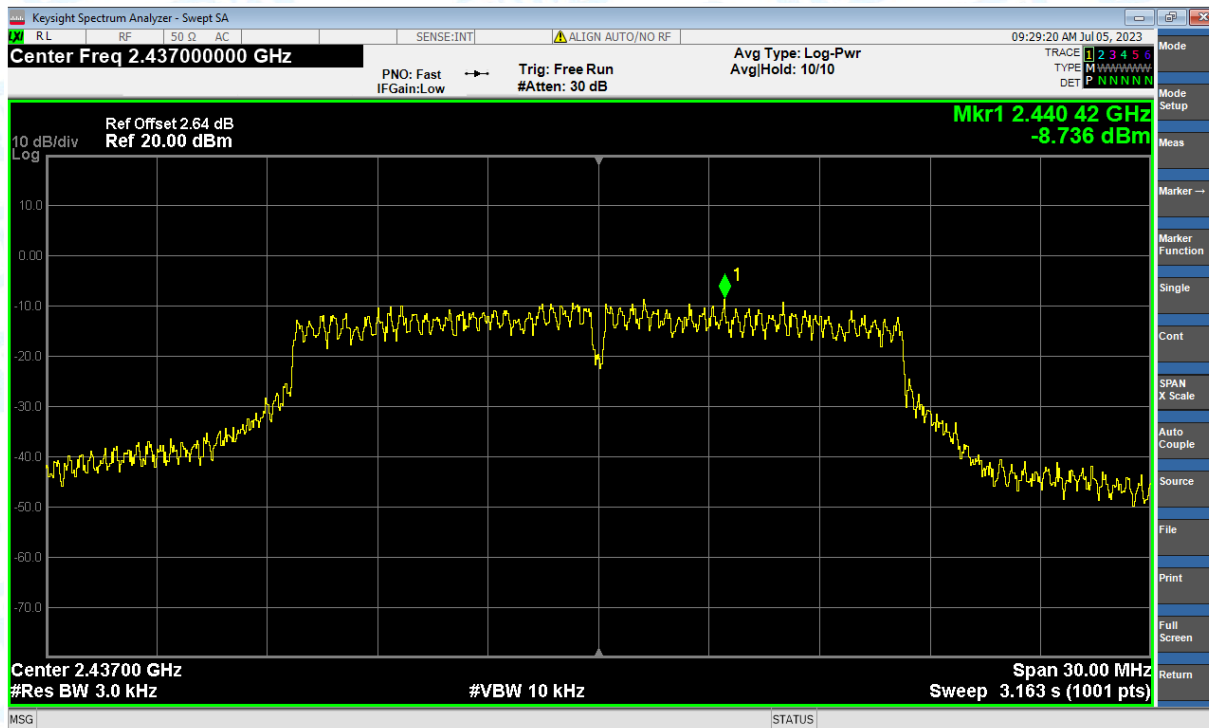
PSD NVNT b 2462MHz Ant1



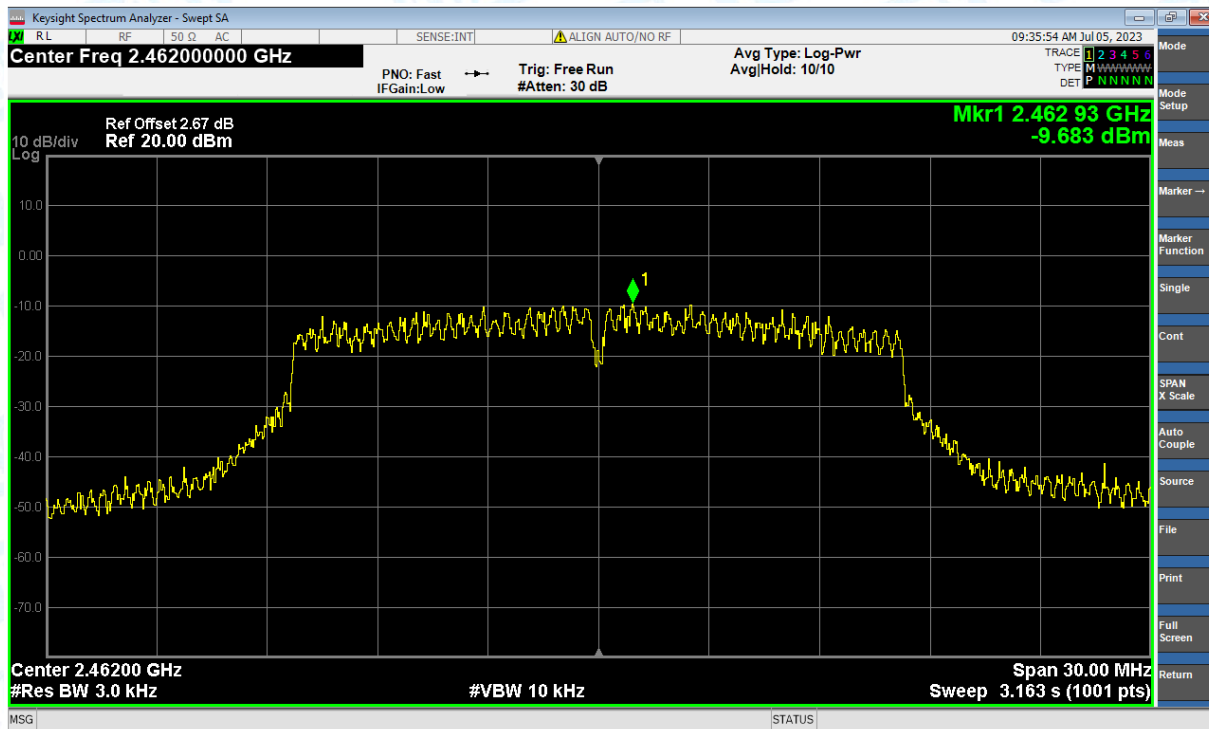
PSD NVNT g 2412MHz Ant1



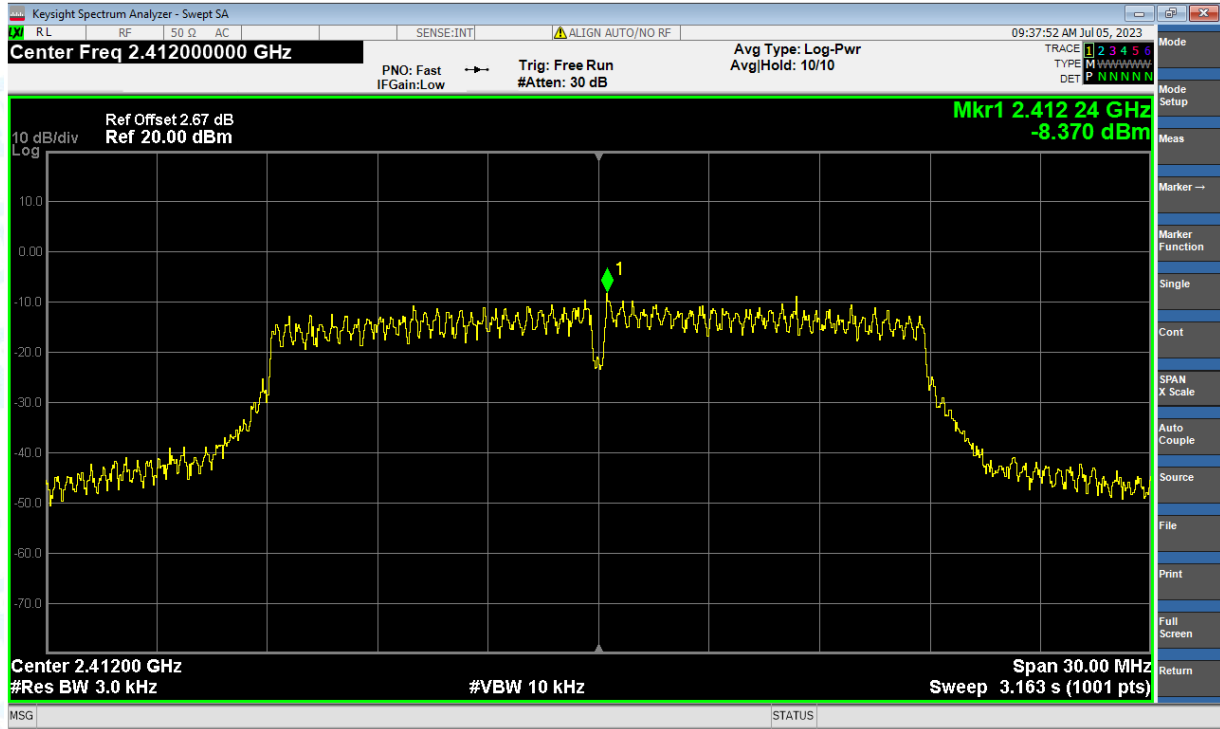
PSD NVNT g 2437MHz Ant1



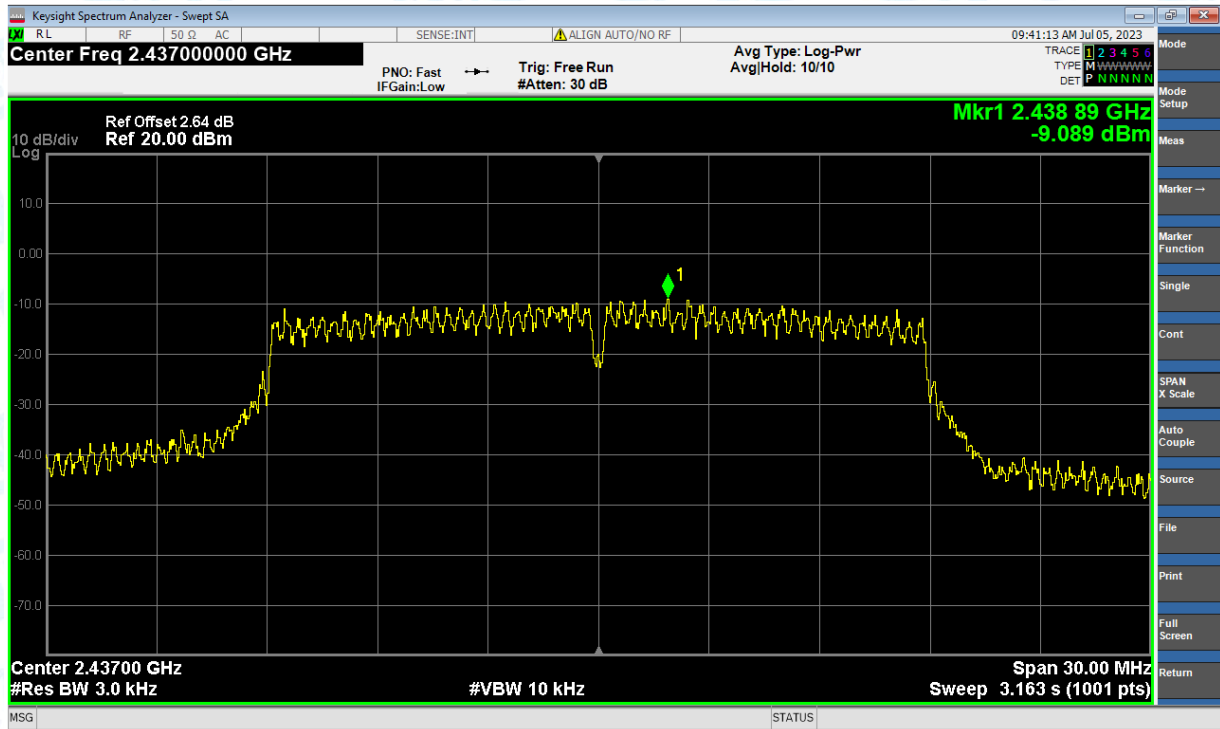
PSD NVNT g 2462MHz Ant1



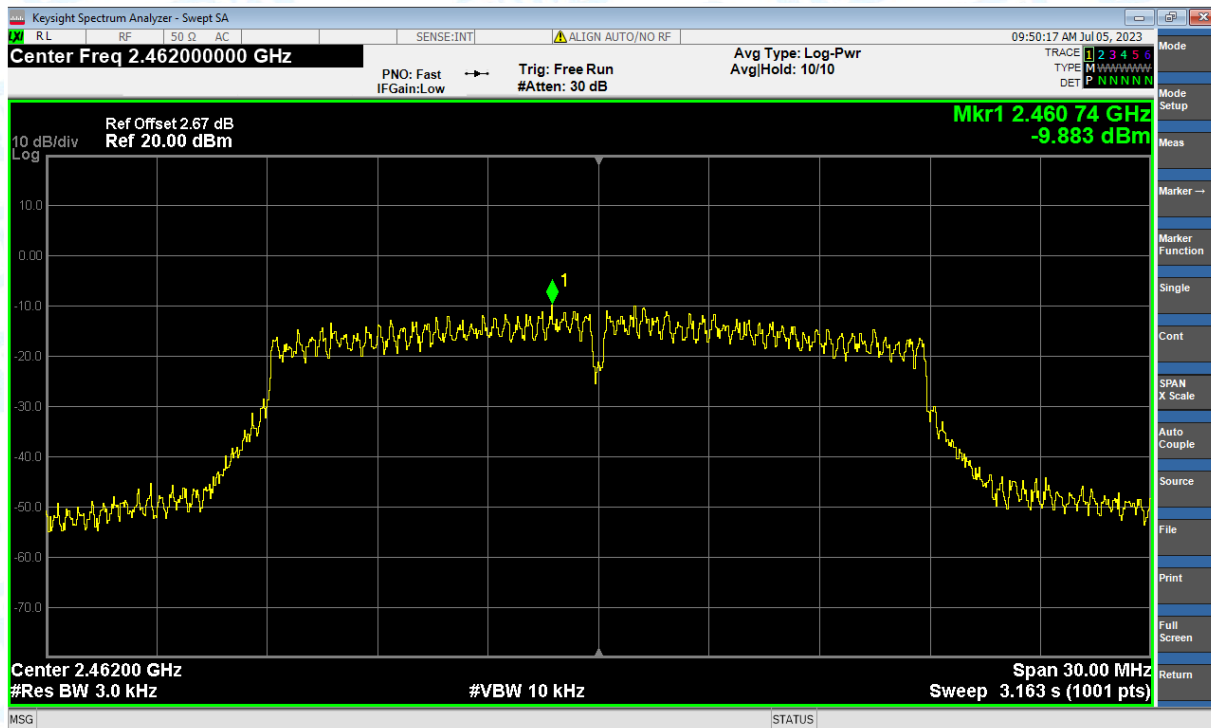
PSD NVNT n(HT20) 2412MHz Ant1



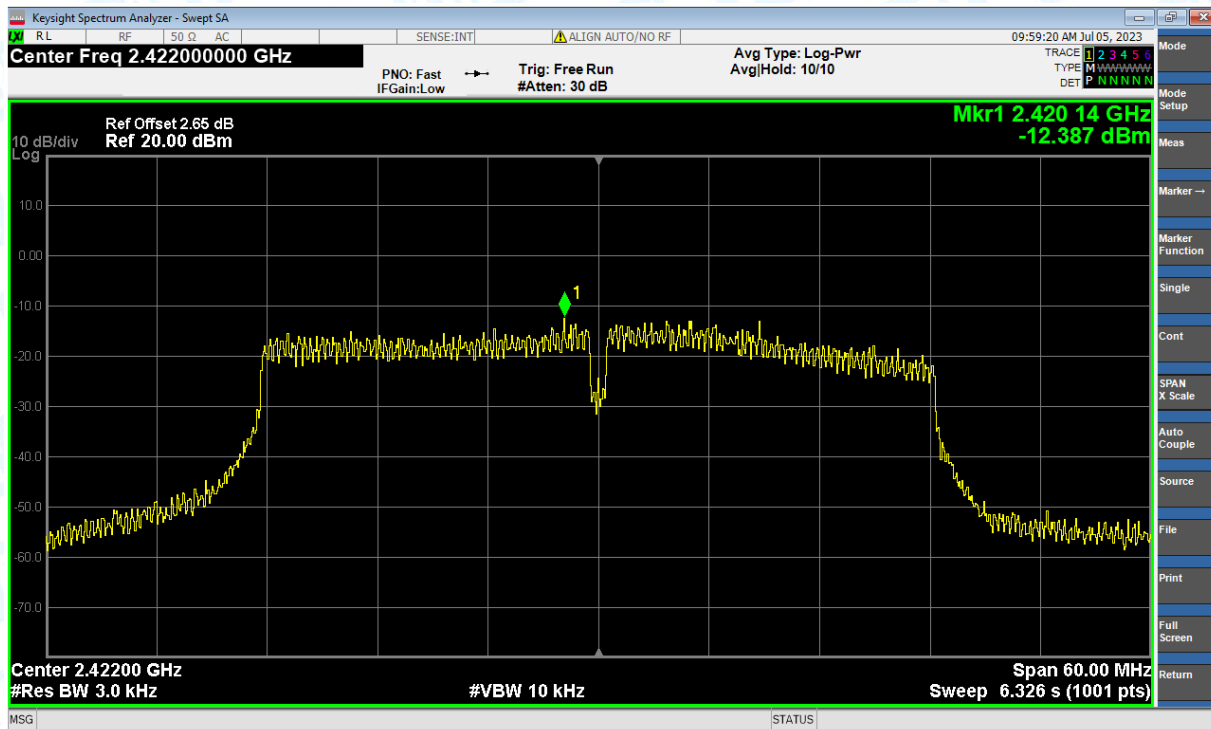
PSD NVNT n(HT20) 2437MHz Ant1



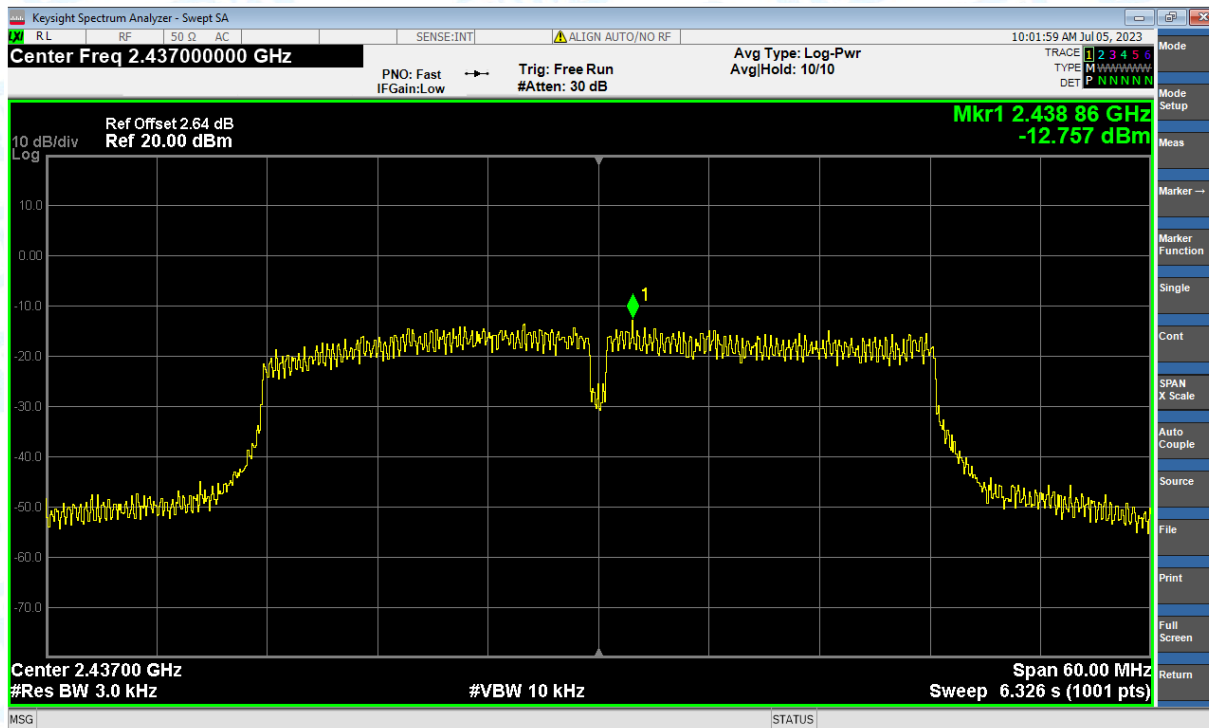
PSD NVNT n(HT20) 2462MHz Ant1



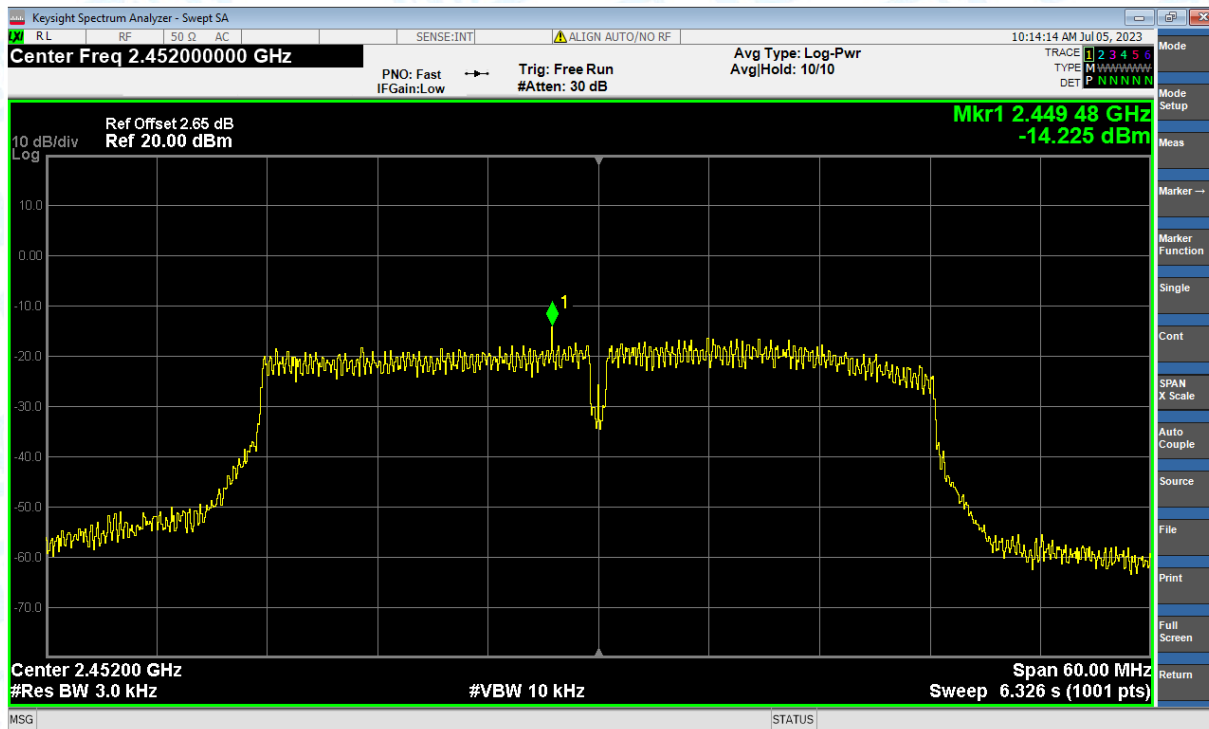
PSD NVNT n(HT40) 2422MHz Ant1



PSD NVNT n(HT40) 2437MHz Ant1



PSD NVNT n(HT40) 2452MHz Ant1

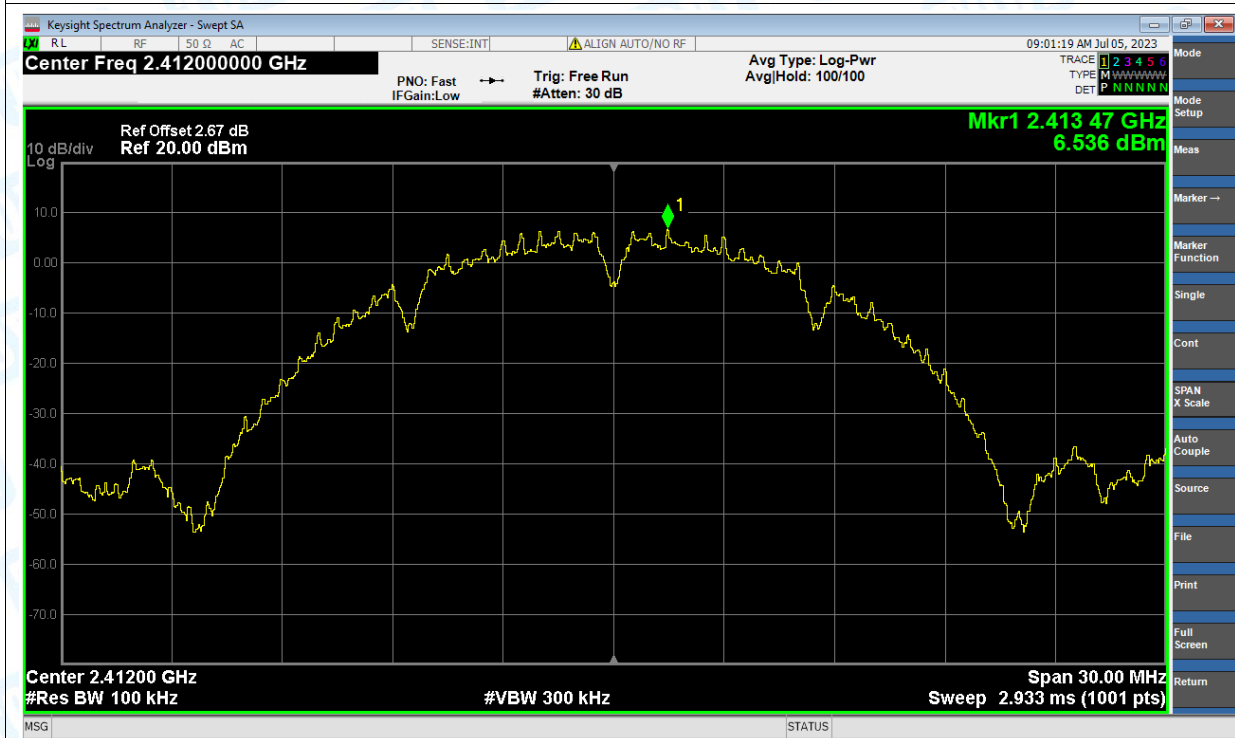


6. Band Edge

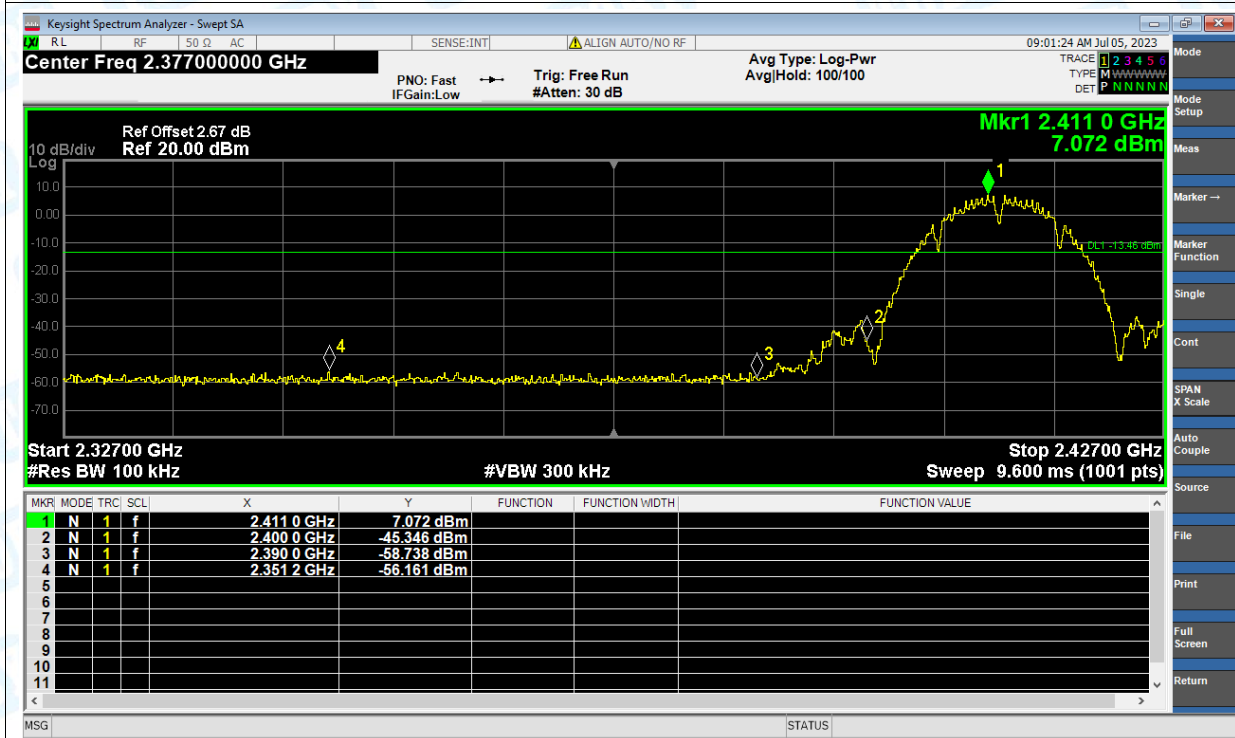
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-62.7	-20	Pass
NVNT	b	2462	Ant1	-58.8	-20	Pass
NVNT	g	2412	Ant1	-47.73	-20	Pass
NVNT	g	2462	Ant1	-45.15	-20	Pass
NVNT	n(HT20)	2412	Ant1	-49.1	-20	Pass
NVNT	n(HT20)	2462	Ant1	-42	-20	Pass
NVNT	n(HT40)	2422	Ant1	-39.66	-20	Pass
NVNT	n(HT40)	2452	Ant1	-34.64	-20	Pass

Test Graphs

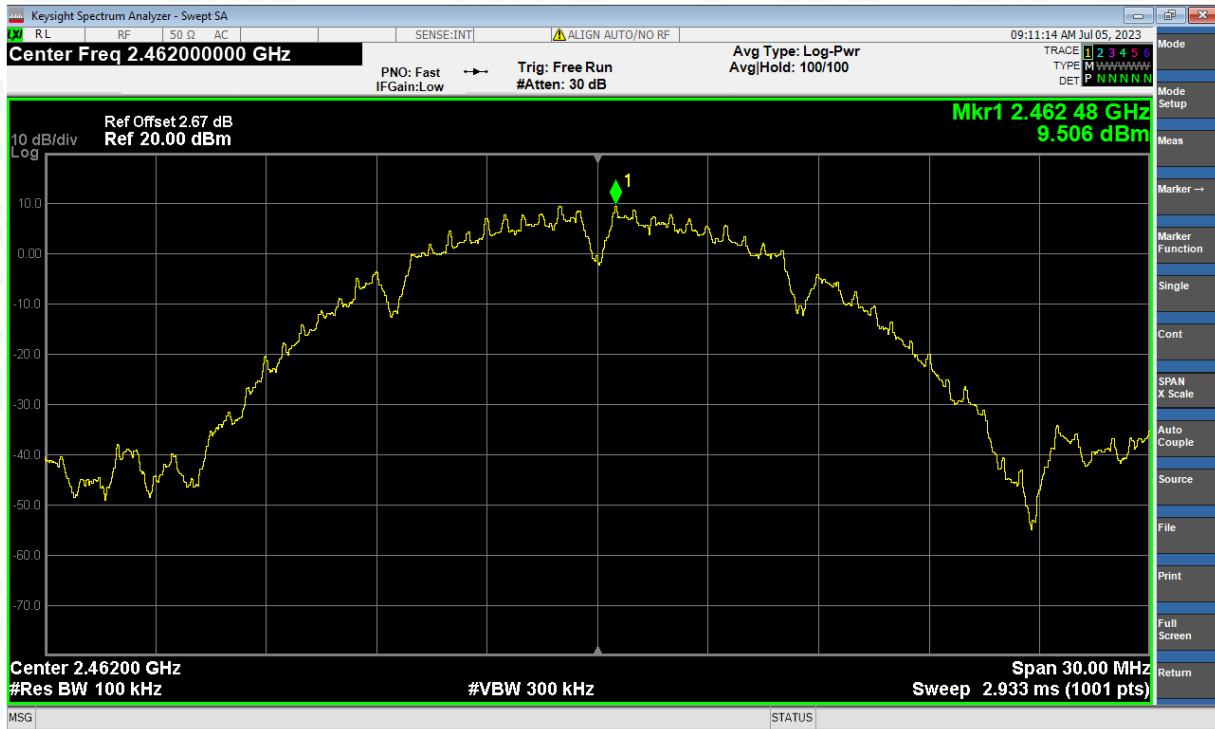
Band Edge NVNT b 2412MHz Ant1 Ref



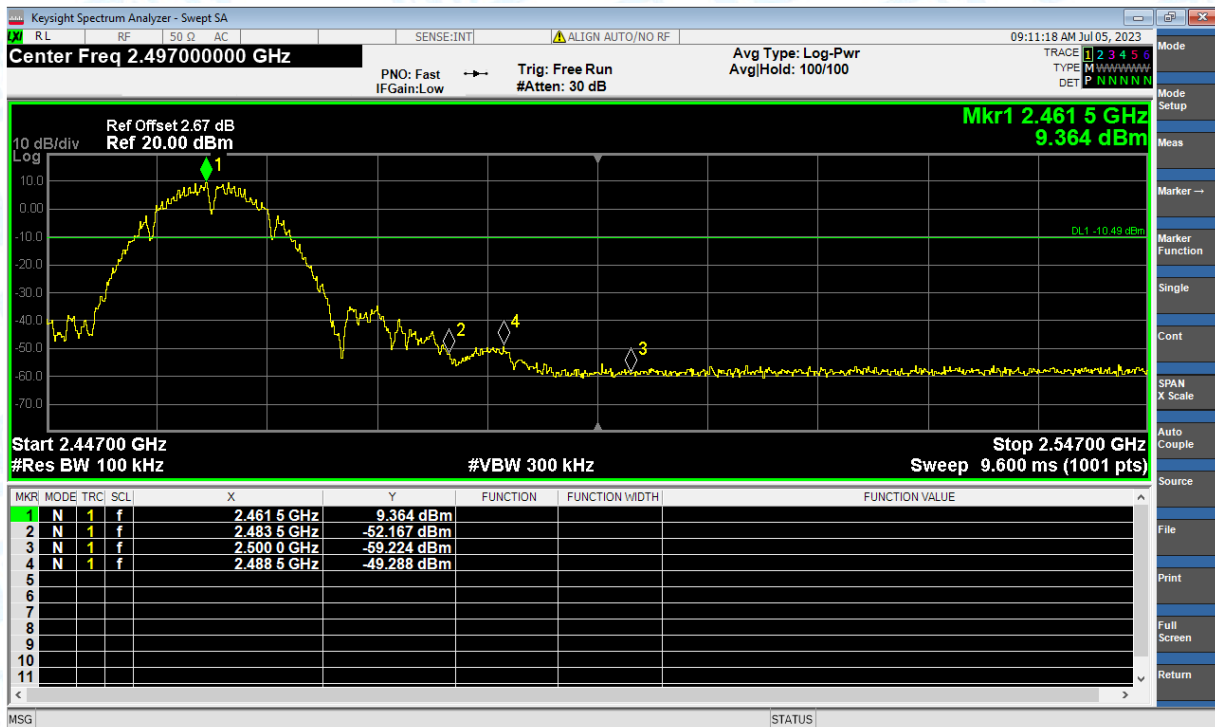
Band Edge NVNT b 2412MHz Ant1 Emission



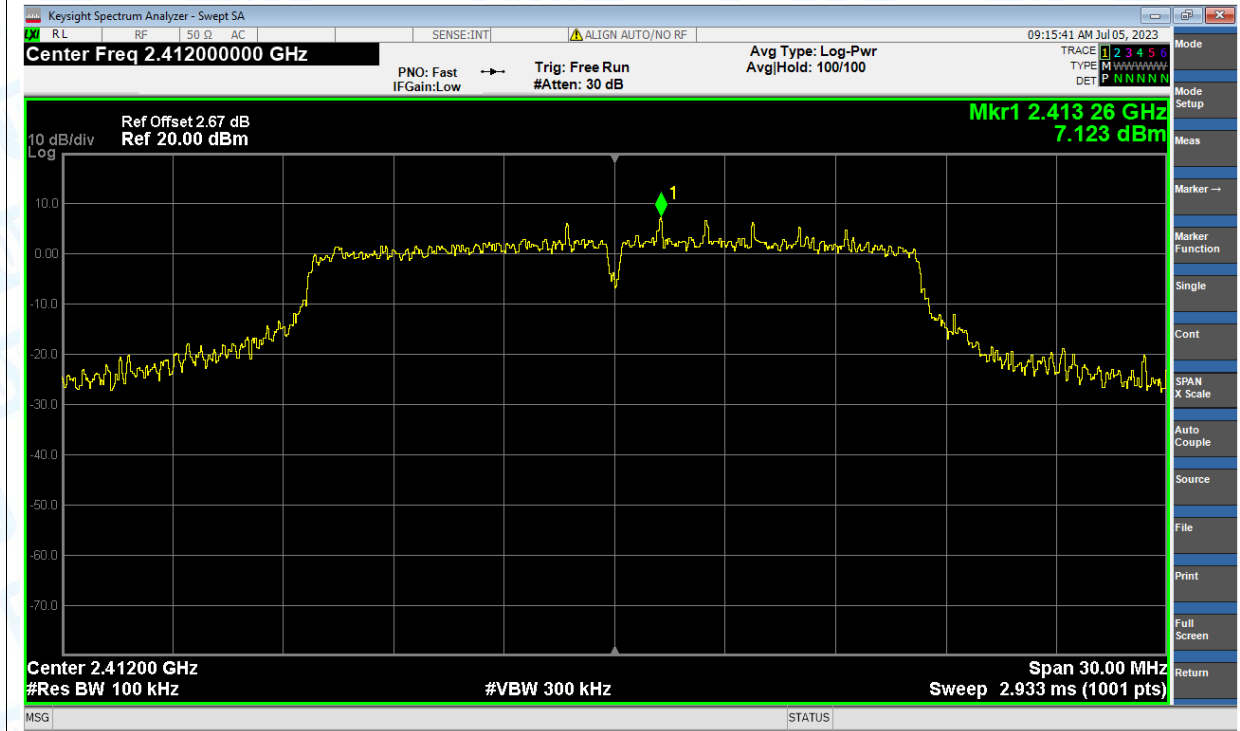
Band Edge NVNT b 2462MHz Ant1 Ref



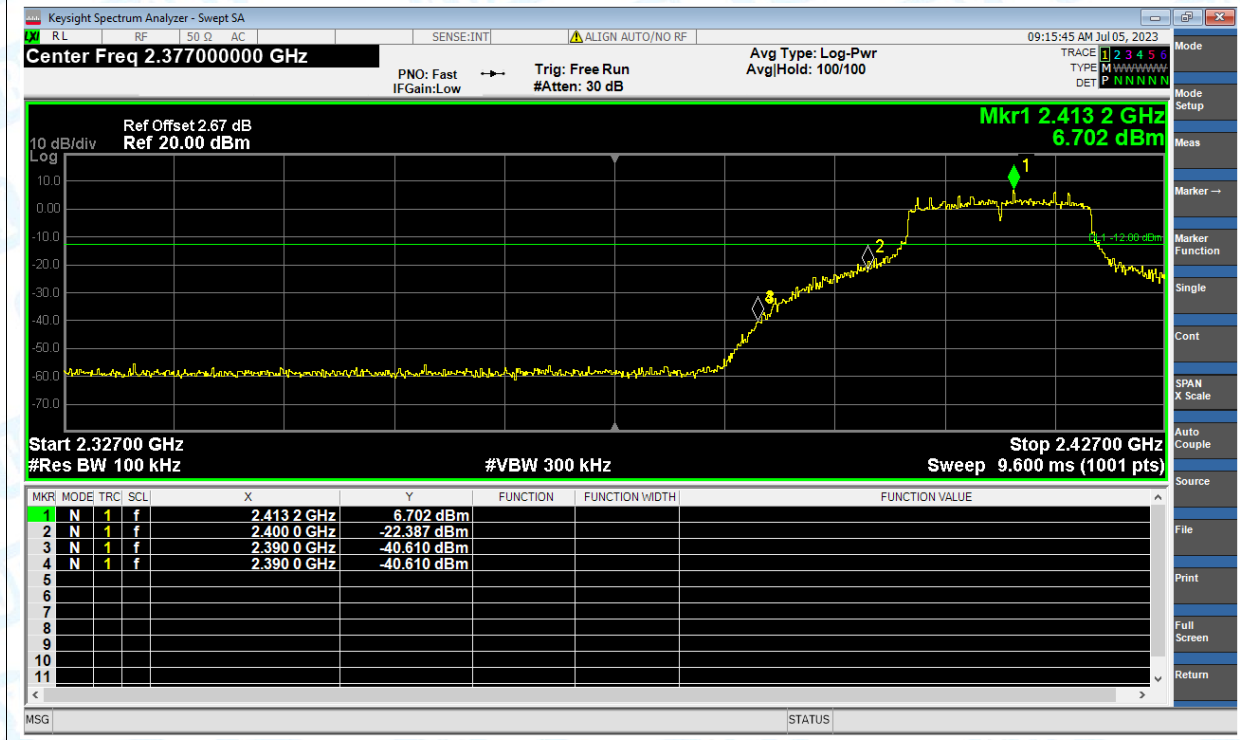
Band Edge NVNT b 2462MHz Ant1 Emission



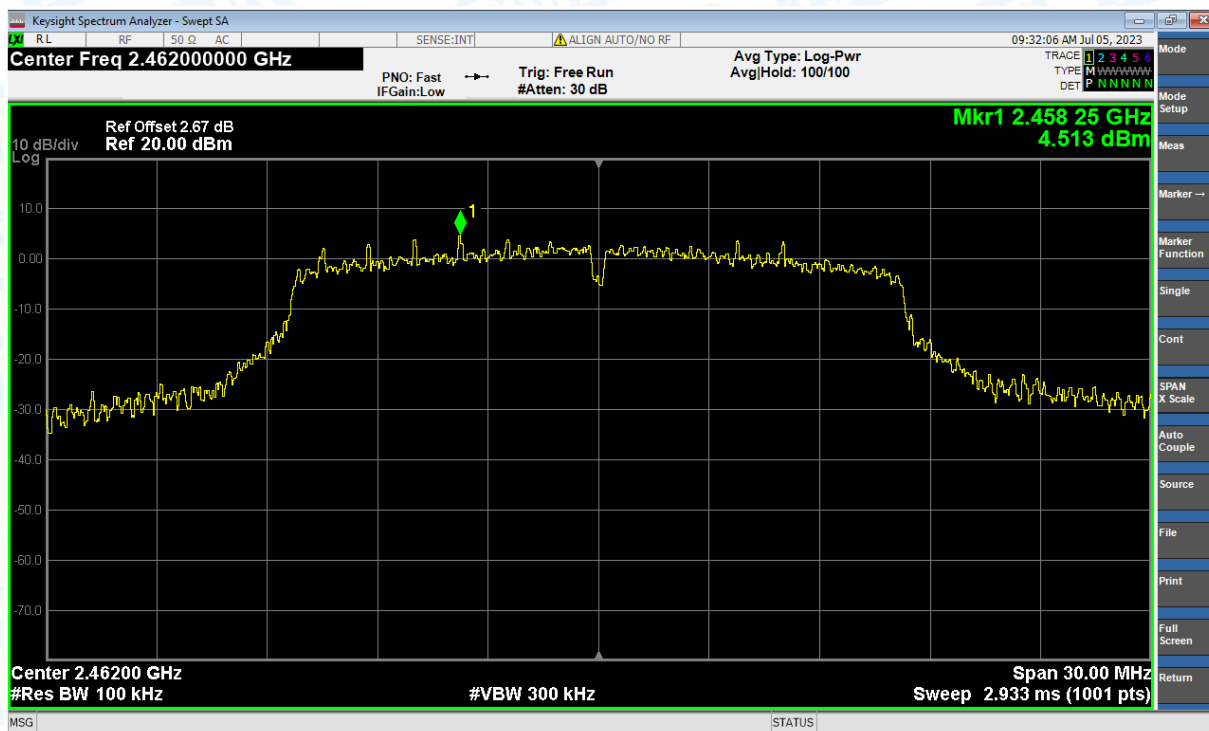
Band Edge NVNT g 2412MHz Ant1 Ref



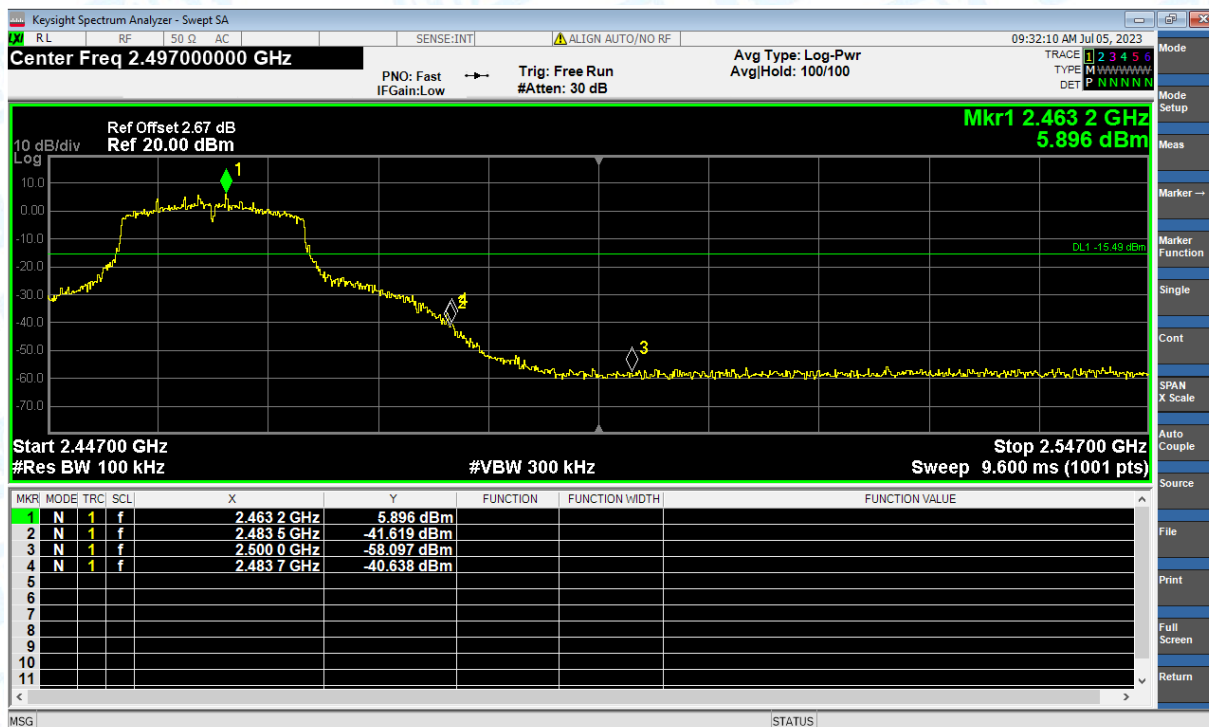
Band Edge NVNT g 2412MHz Ant1 Emission



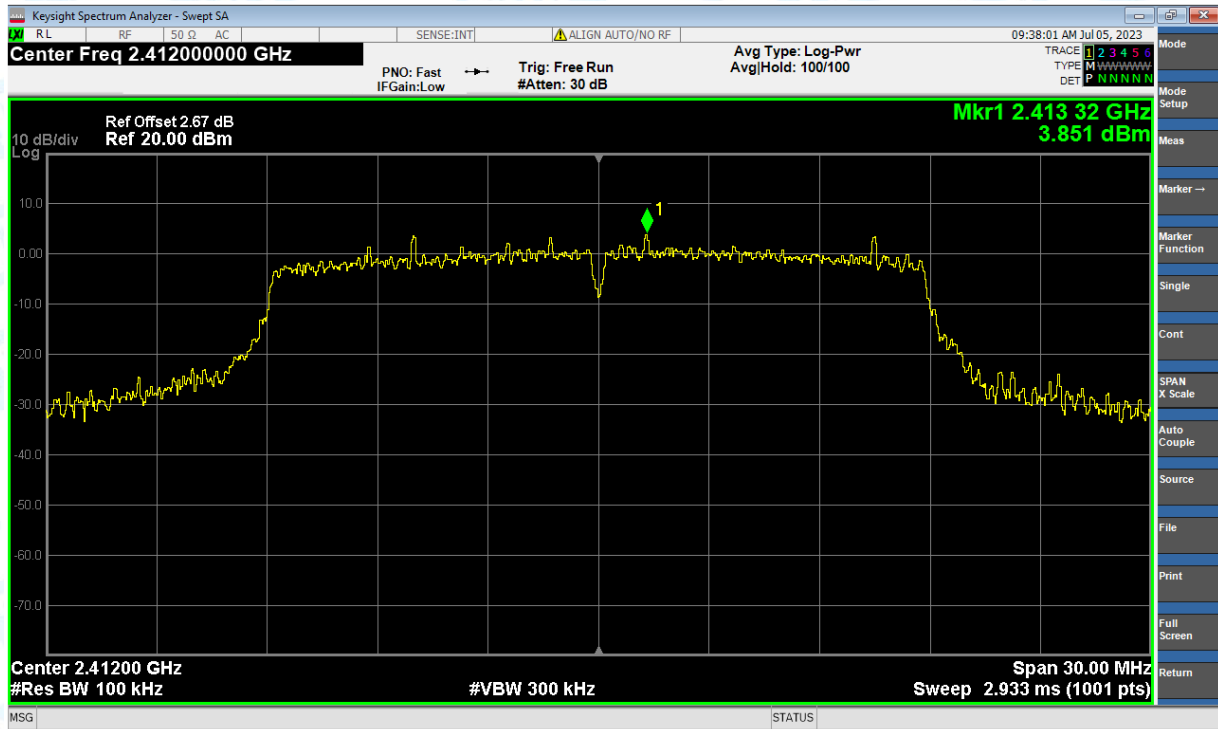
Band Edge NVNT g 2462MHz Ant1 Ref



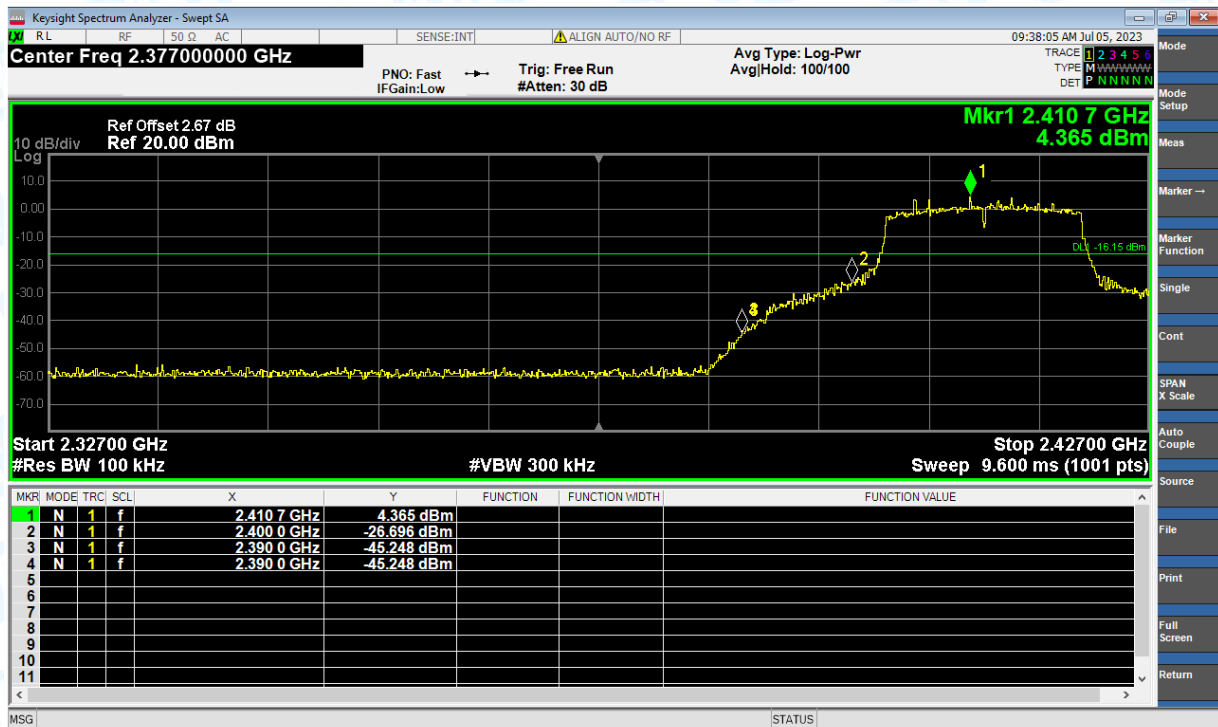
Band Edge NVNT g 2462MHz Ant1 Emission



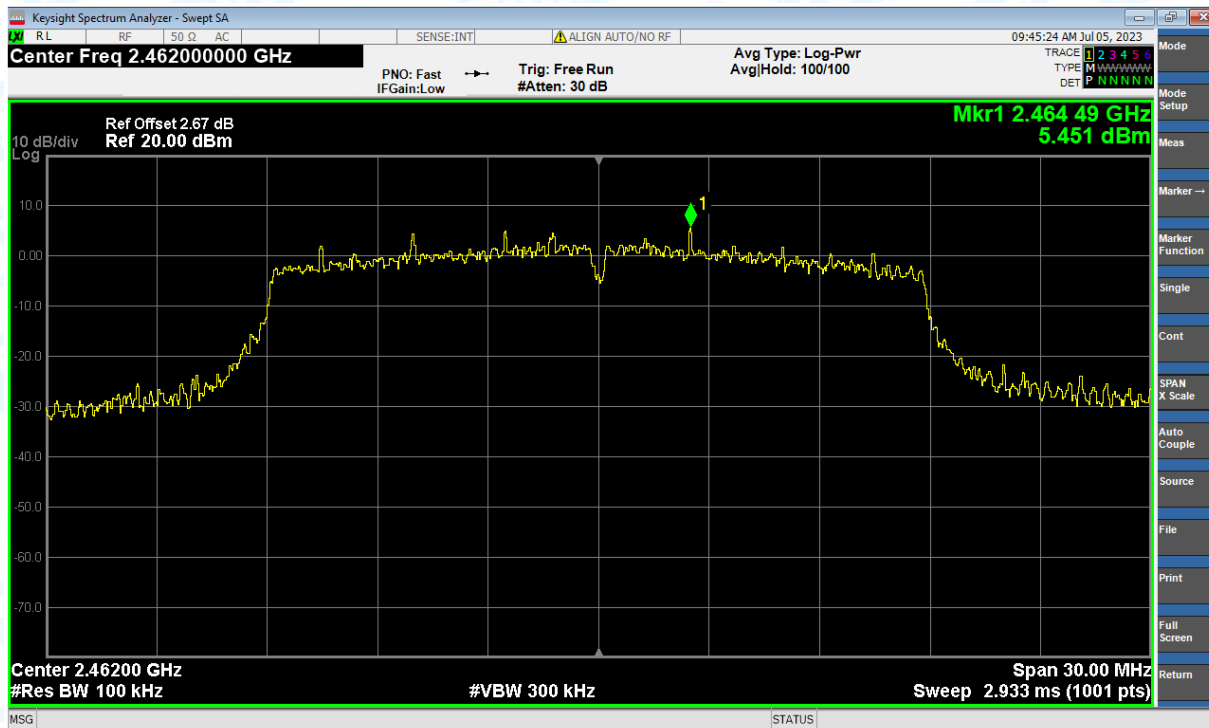
Band Edge NVNT n(HT20) 2412MHz Ant1 Ref



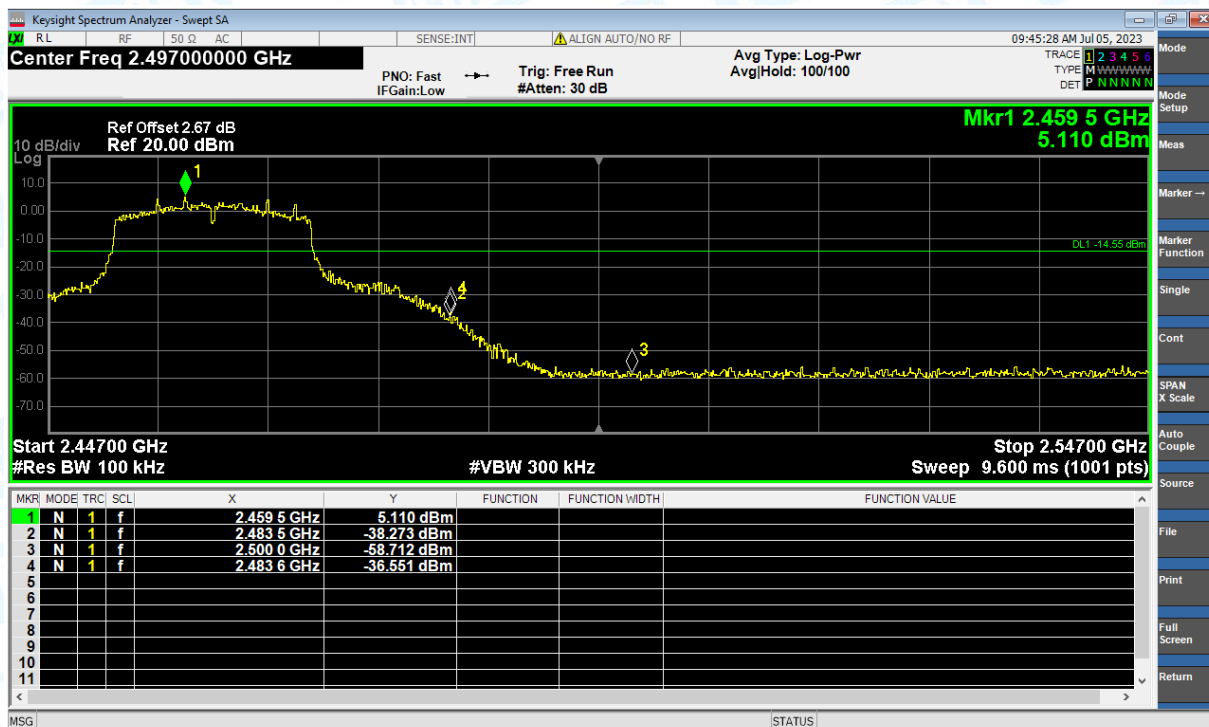
Band Edge NVNT n(HT20) 2412MHz Ant1 Emission



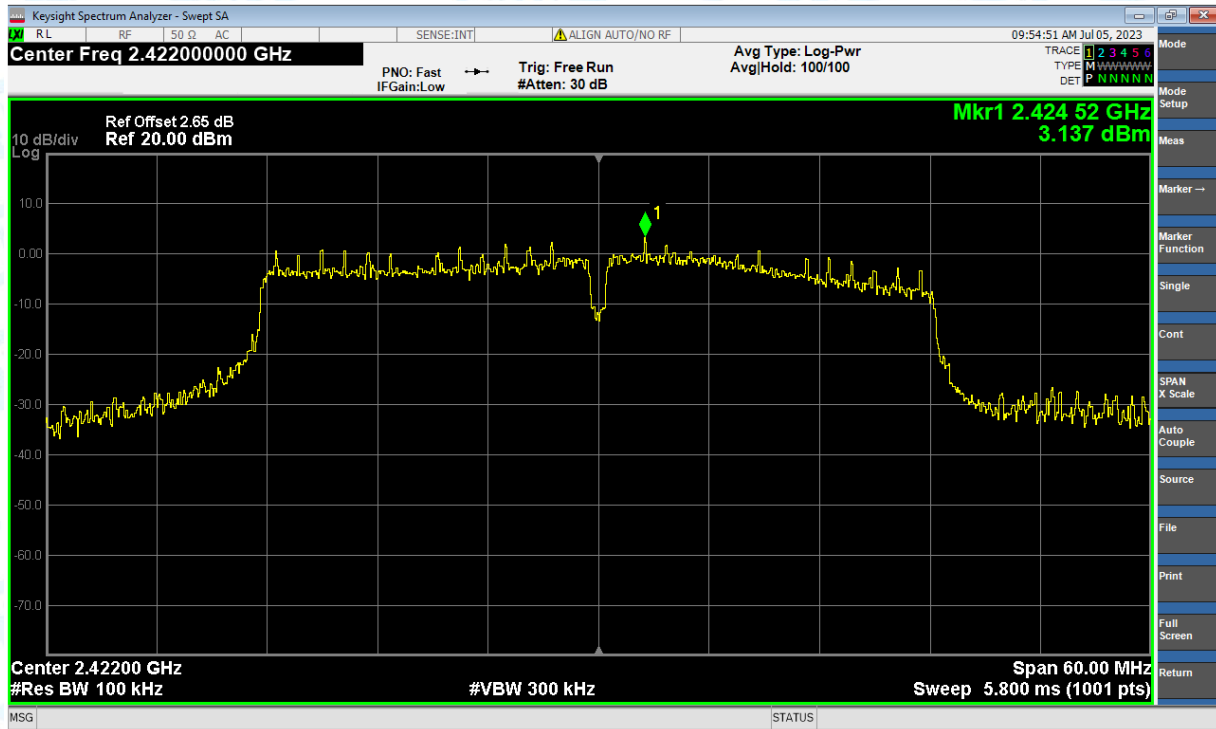
Band Edge NVNT n(HT20) 2462MHz Ant1 Ref



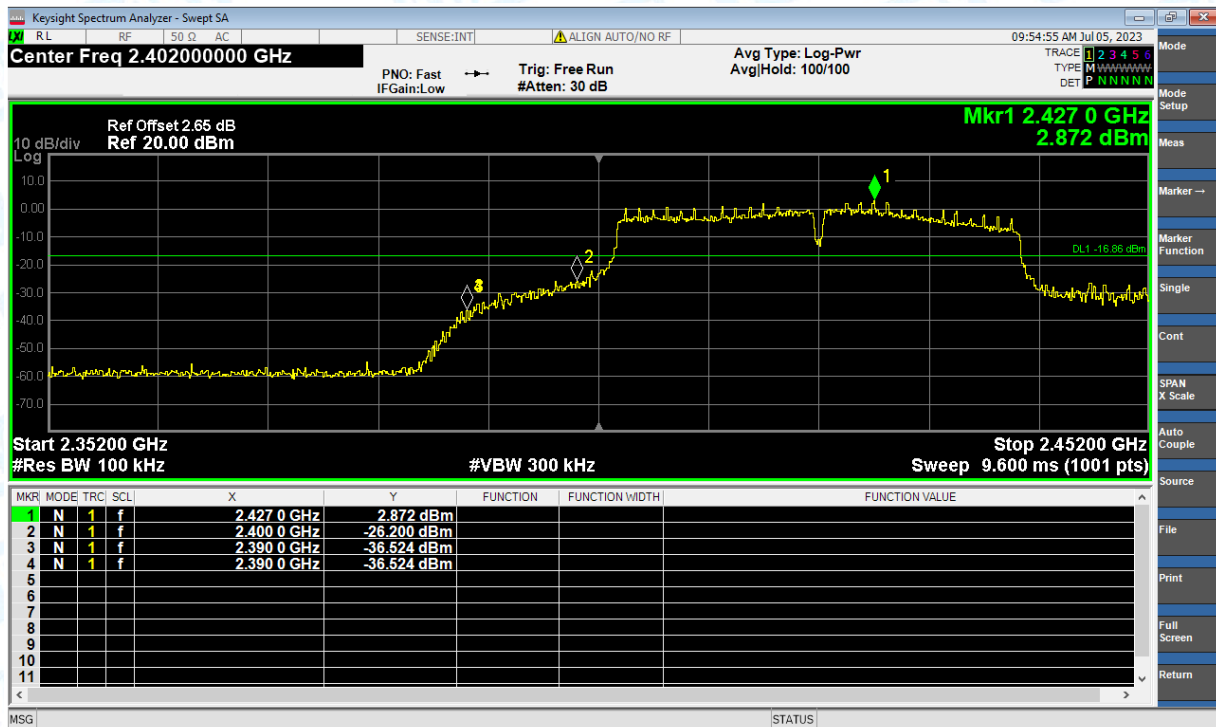
Band Edge NVNT n(HT20) 2462MHz Ant1 Emission



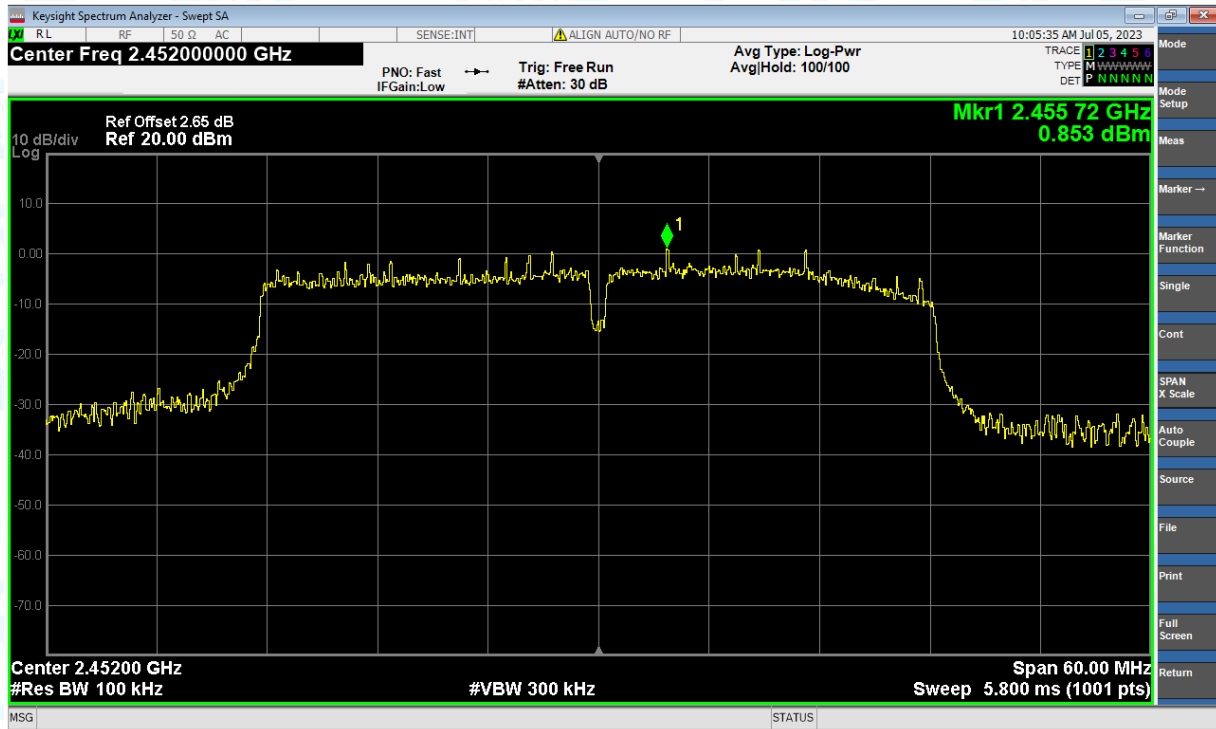
Band Edge NVNT n(HT40) 2422MHz Ant1 Ref



Band Edge NVNT n(HT40) 2422MHz Ant1 Emission



Band Edge NVNT n(HT40) 2452MHz Ant1 Ref



Band Edge NVNT n(HT40) 2452MHz Ant1 Emission

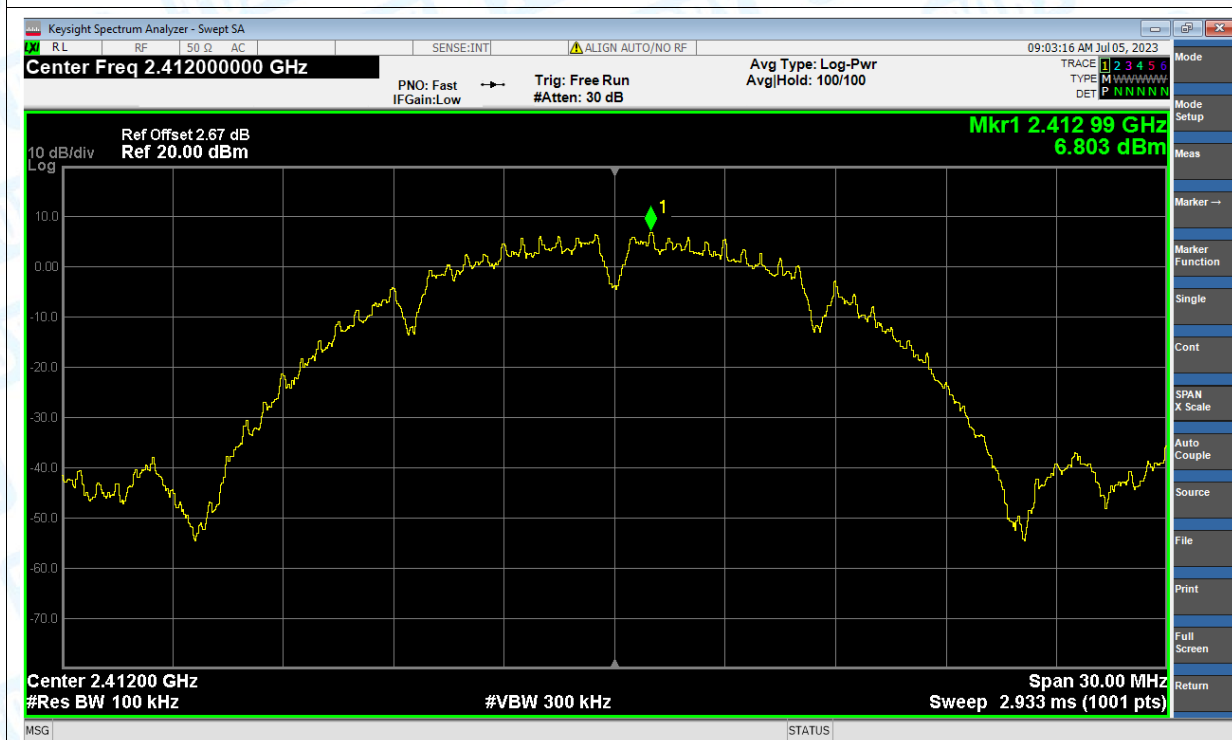


7. Conducted RF Spurious Emission

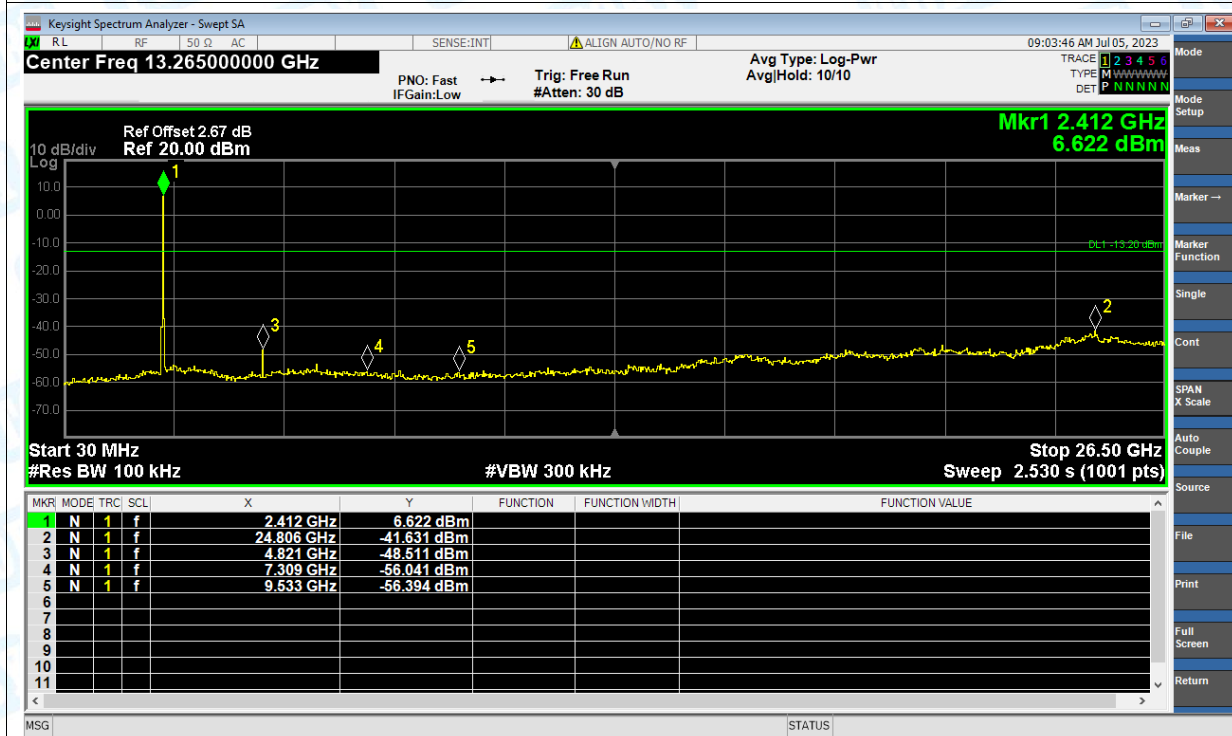
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-48.43	-20	Pass
NVNT	b	2437	Ant1	-50.33	-20	Pass
NVNT	b	2462	Ant1	-50.61	-20	Pass
NVNT	g	2412	Ant1	-49.52	-20	Pass
NVNT	g	2437	Ant1	-48.15	-20	Pass
NVNT	g	2462	Ant1	-46.58	-20	Pass
NVNT	n(HT20)	2412	Ant1	-47.48	-20	Pass
NVNT	n(HT20)	2437	Ant1	-47.85	-20	Pass
NVNT	n(HT20)	2462	Ant1	-47.7	-20	Pass
NVNT	n(HT40)	2422	Ant1	-45.82	-20	Pass
NVNT	n(HT40)	2437	Ant1	-42.85	-20	Pass
NVNT	n(HT40)	2452	Ant1	-42.59	-20	Pass

Test Graphs

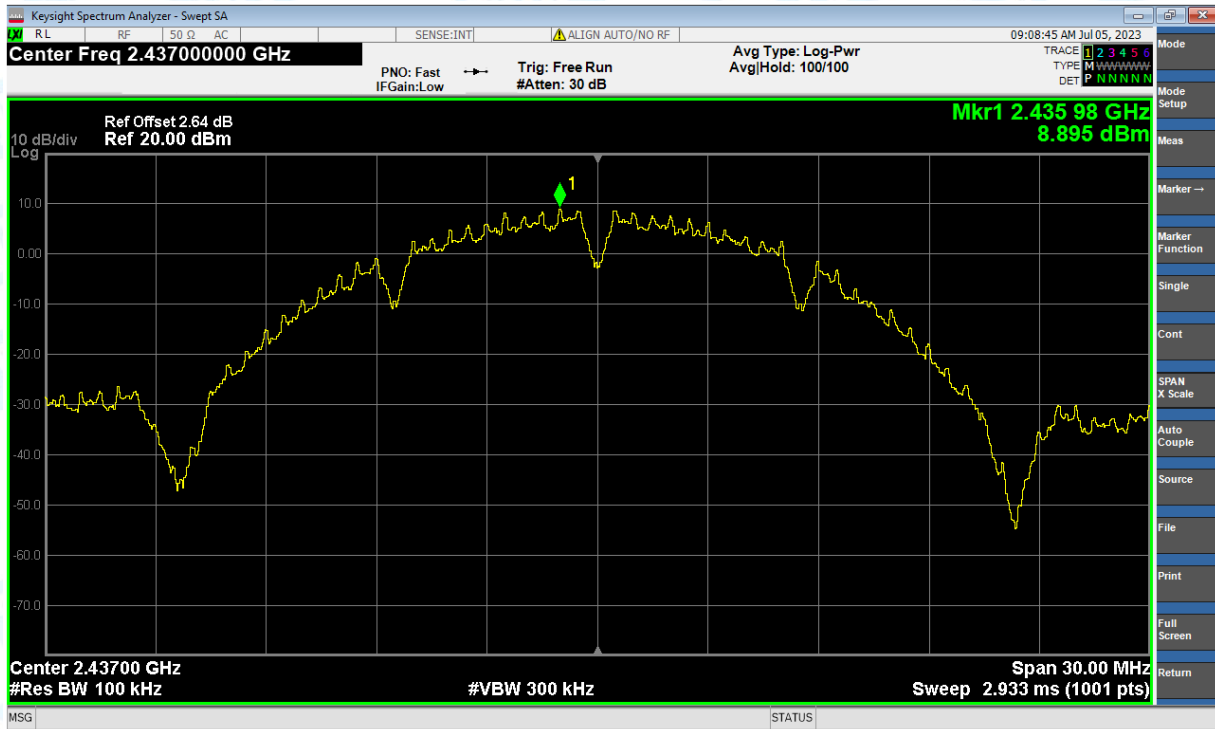
Tx. Spurious NVNT b 2412MHz Ant1 Ref



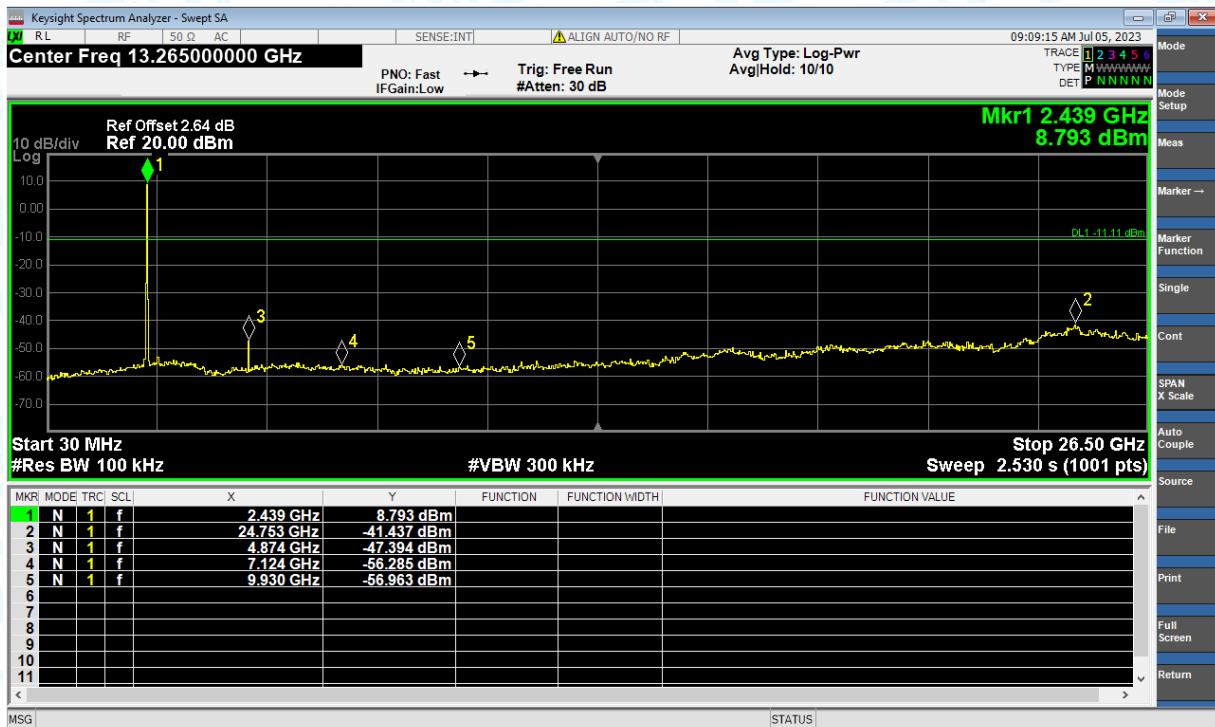
Tx. Spurious NVNT b 2412MHz Ant1 Emission



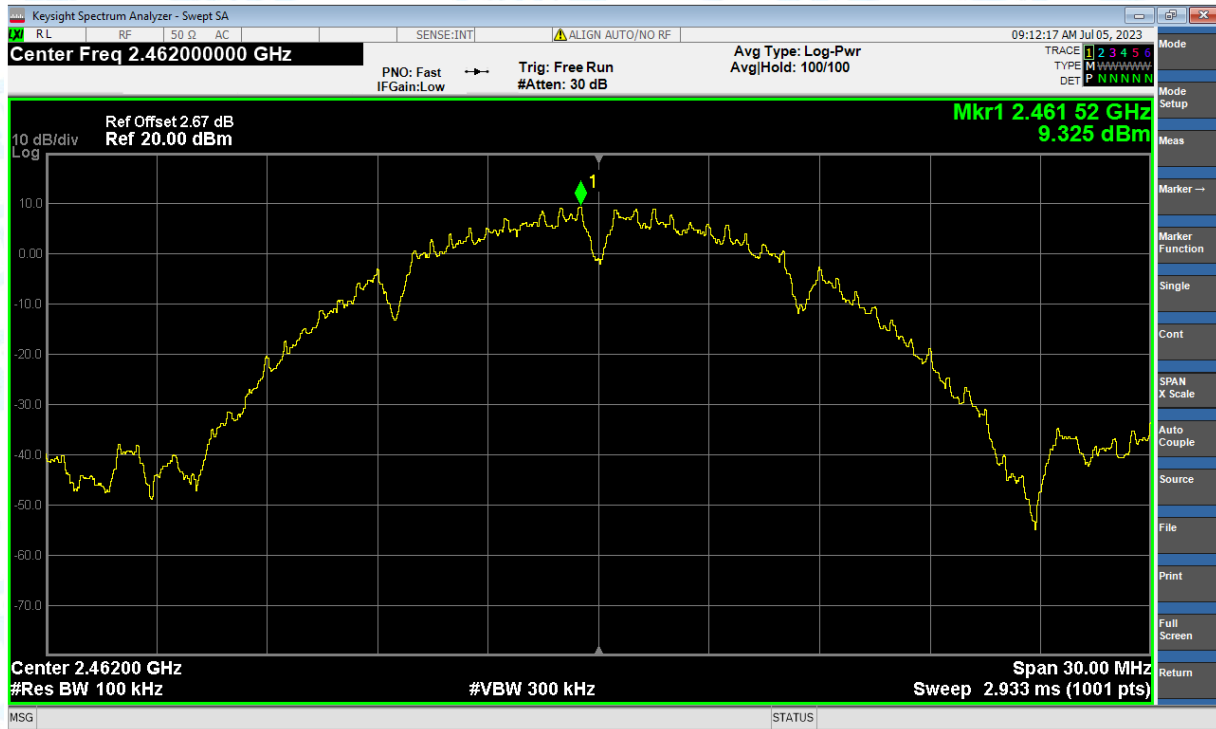
Tx. Spurious NVNT b 2437MHz Ant1 Ref



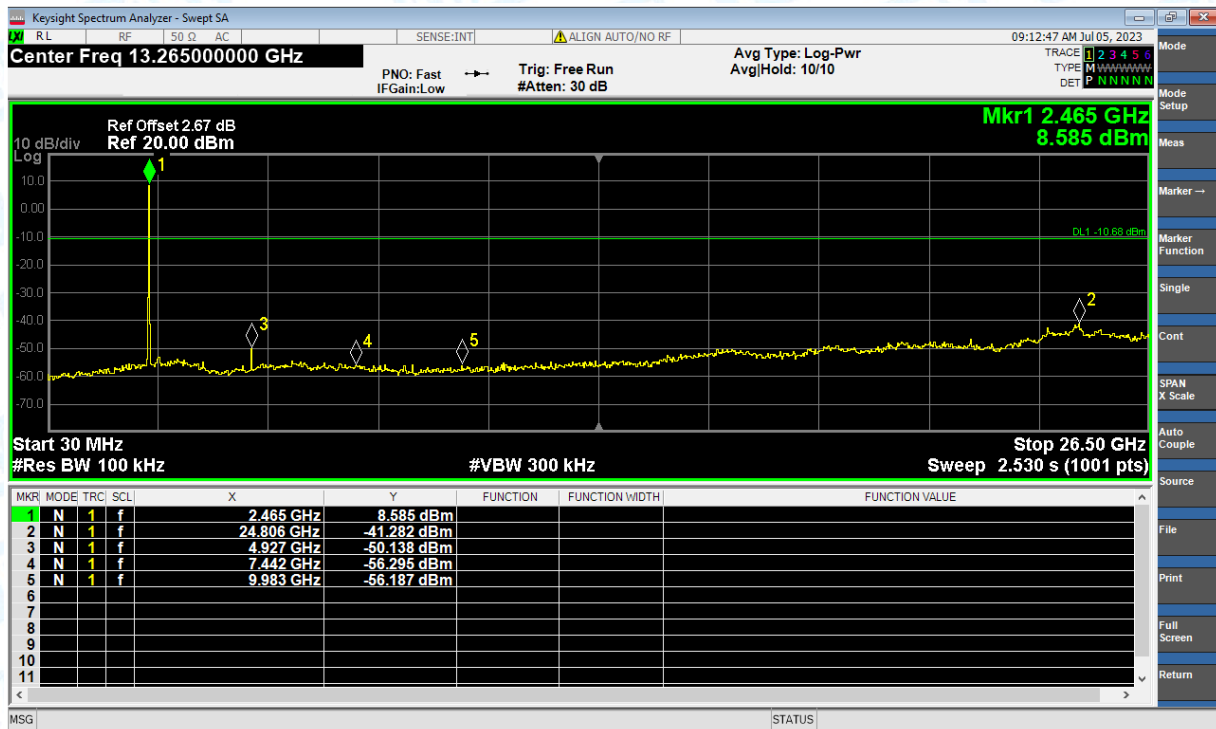
Tx. Spurious NVNT b 2437MHz Ant1 Emission



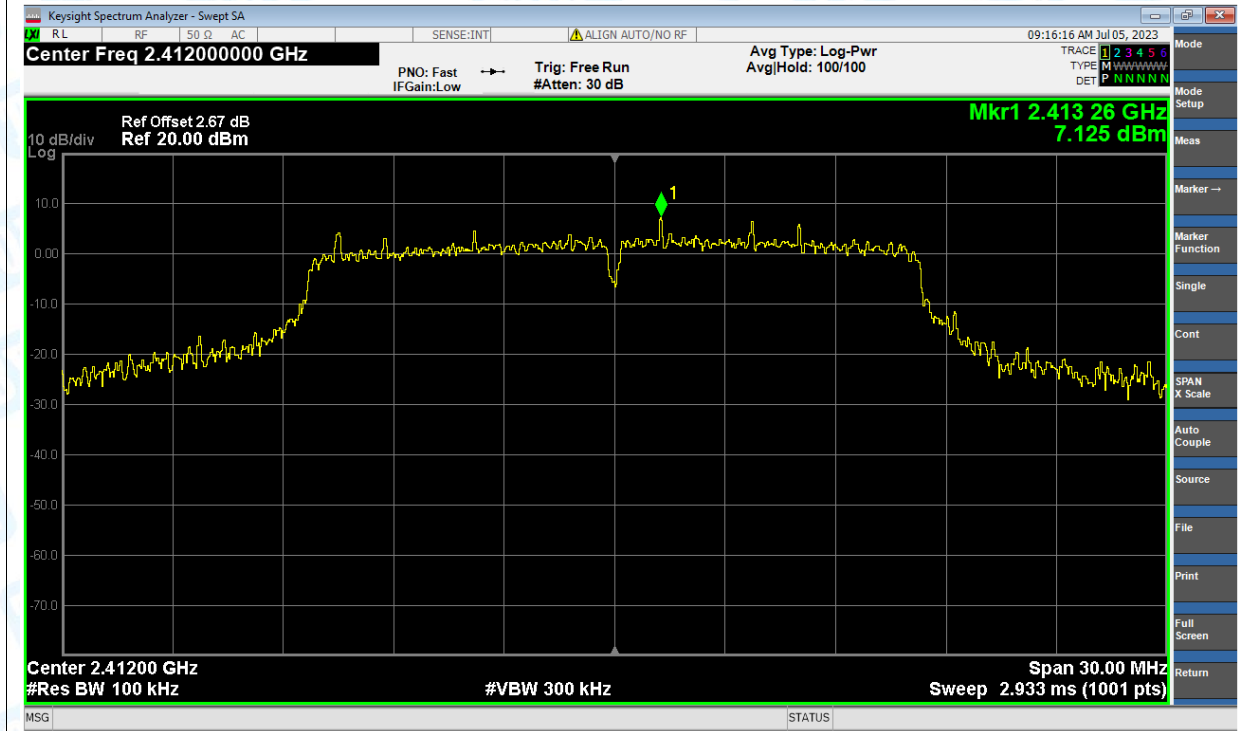
Tx. Spurious NVNT b 2462MHz Ant1 Ref



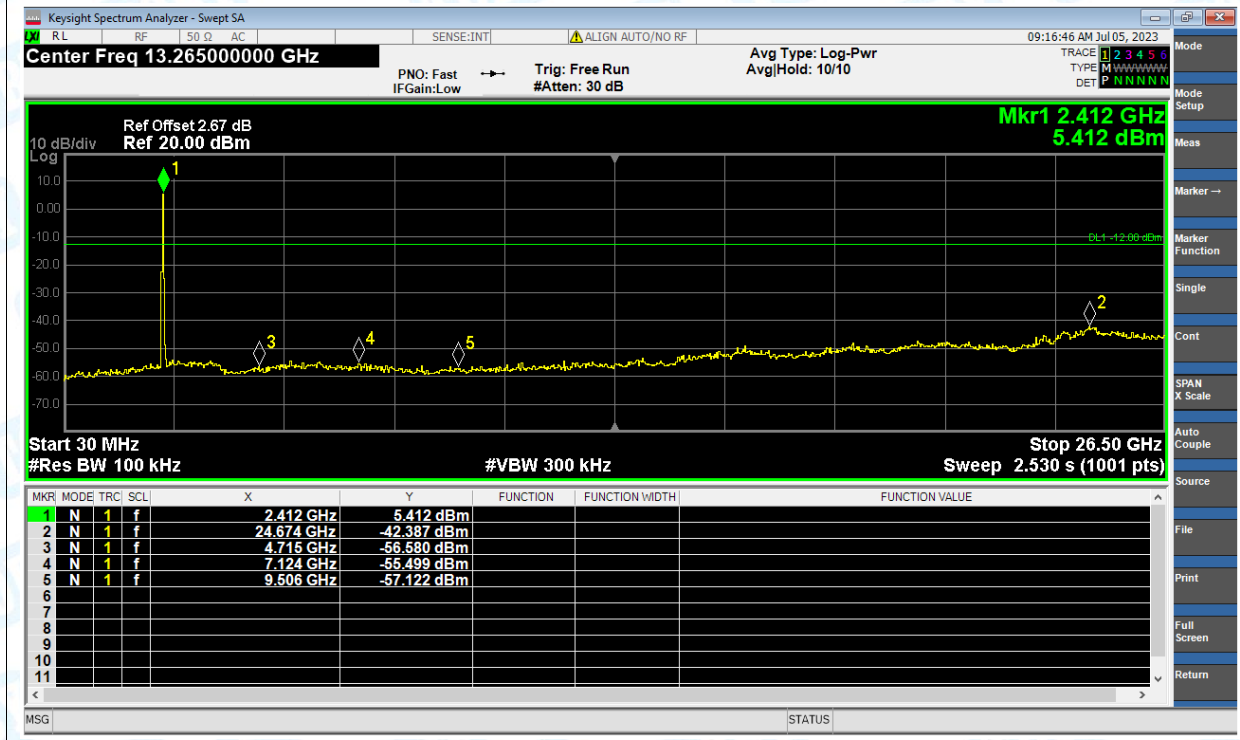
Tx. Spurious NVNT b 2462MHz Ant1 Emission



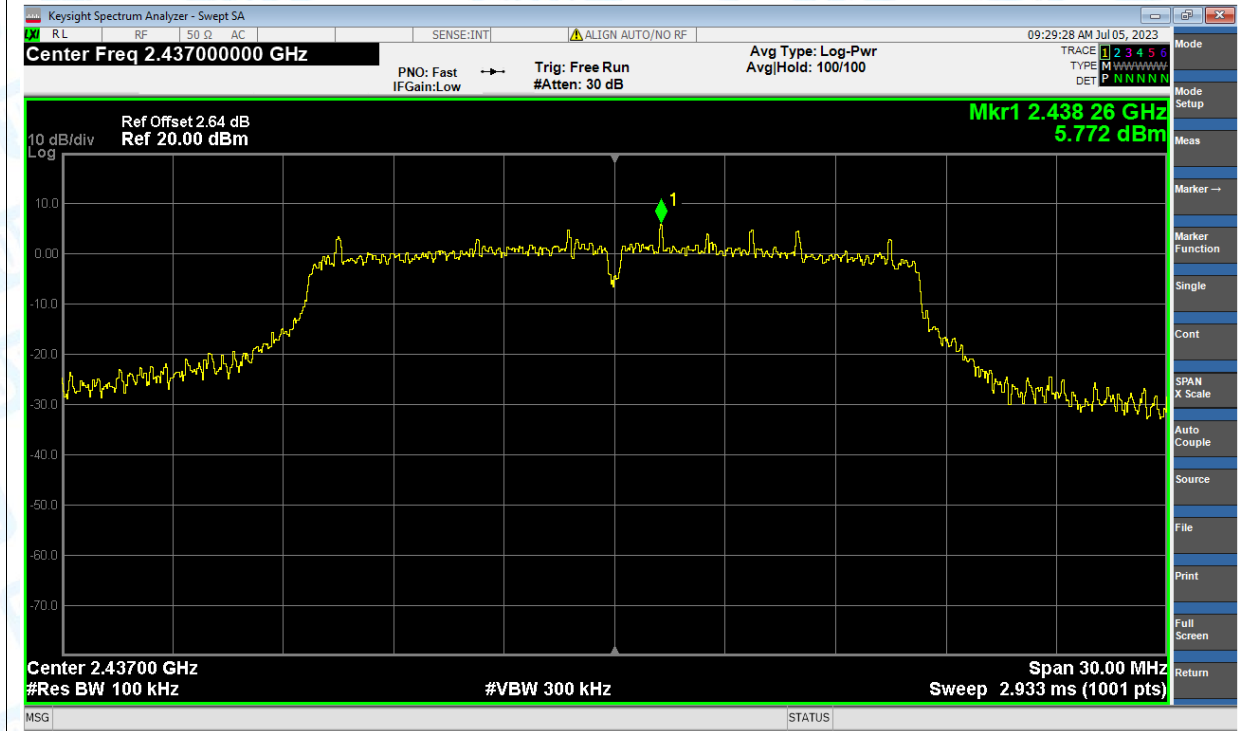
Tx. Spurious NVNT g 2412MHz Ant1 Ref



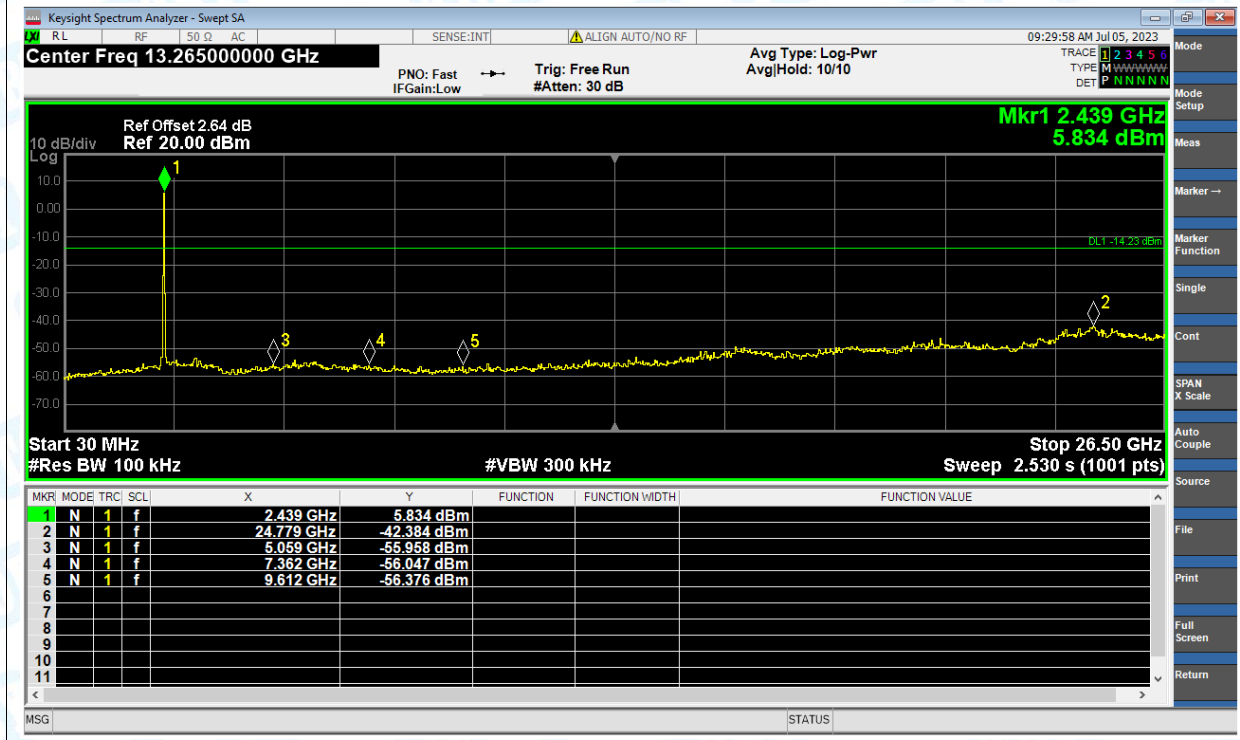
Tx. Spurious NVNT g 2412MHz Ant1 Emission



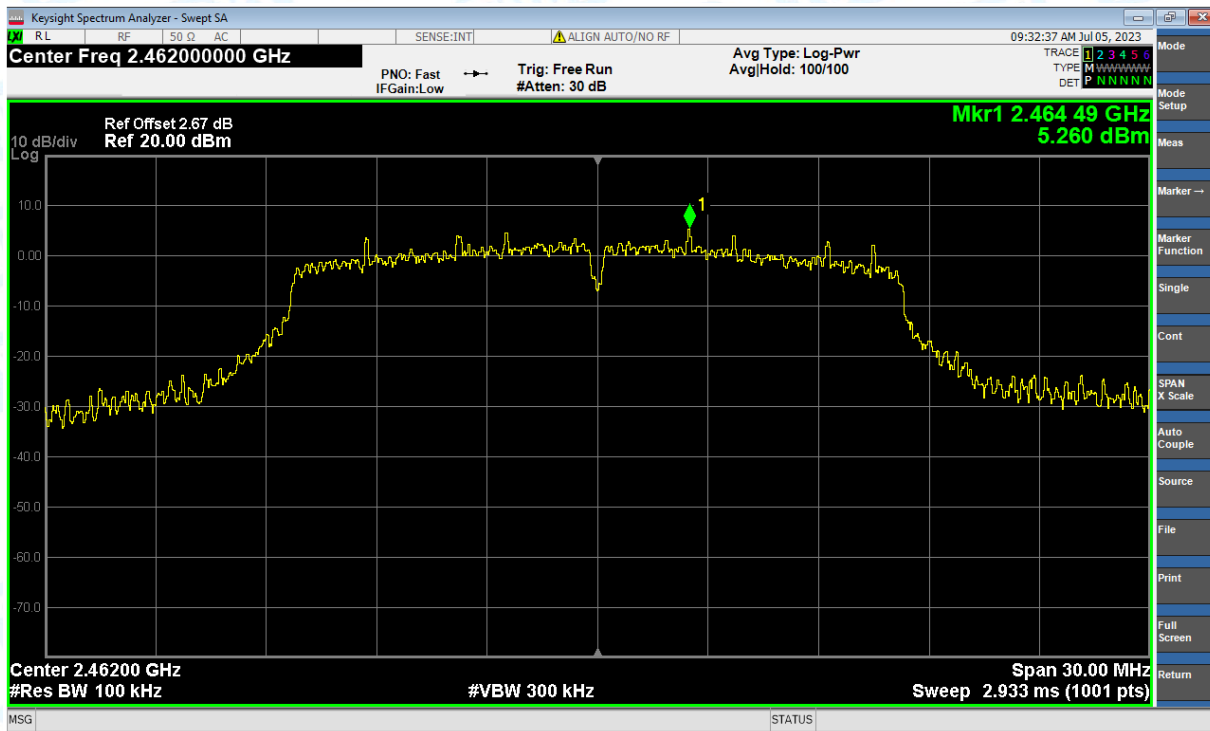
Tx. Spurious NVNT g 2437MHz Ant1 Ref



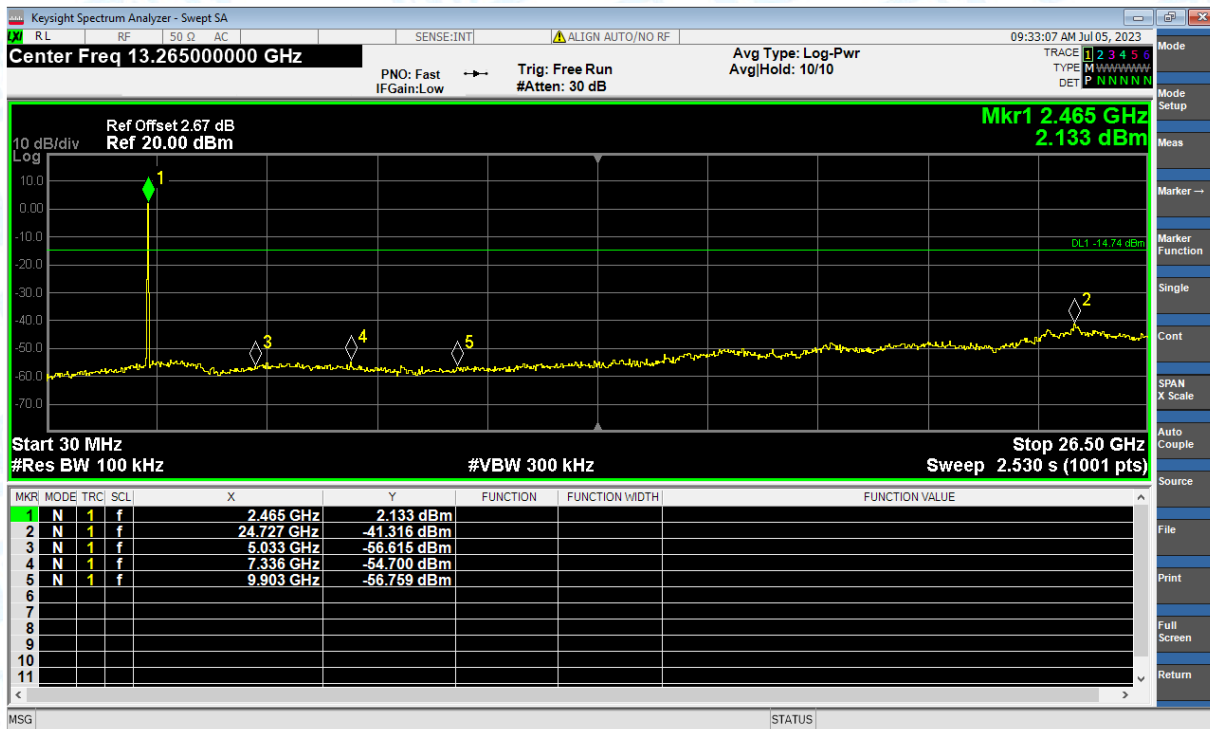
Tx. Spurious NVNT g 2437MHz Ant1 Emission



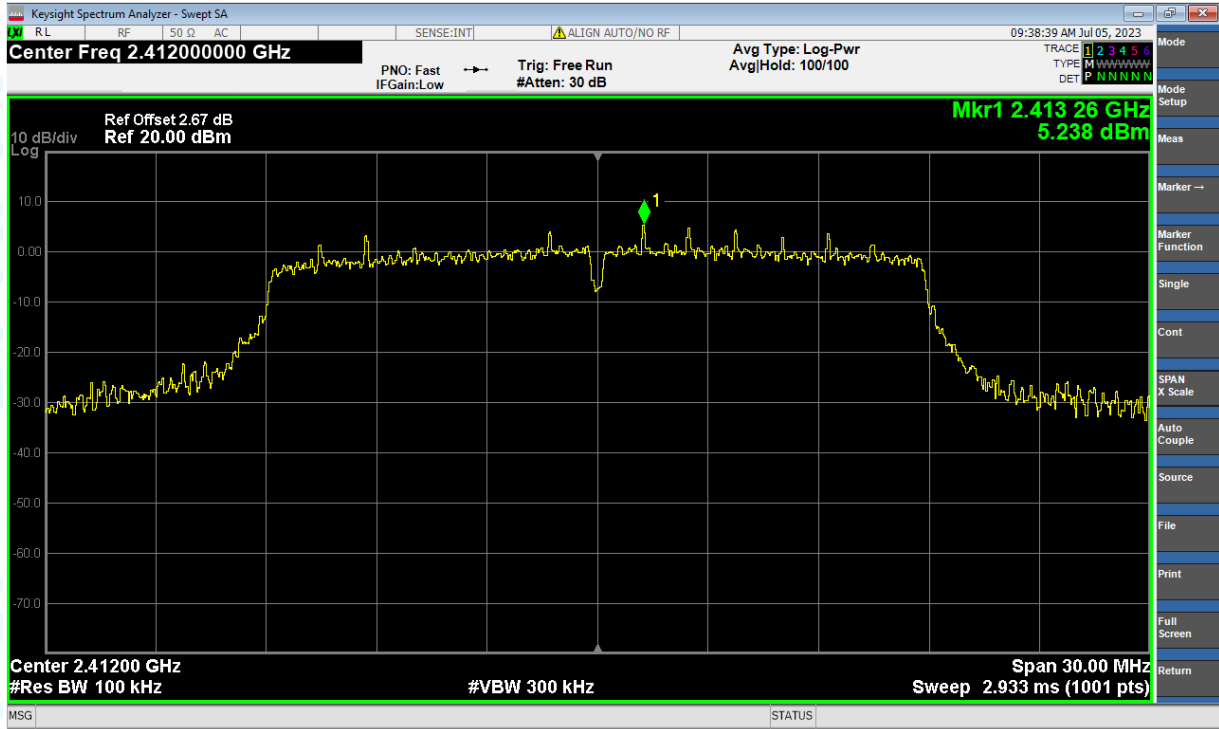
Tx. Spurious NVNT g 2462MHz Ant1 Ref



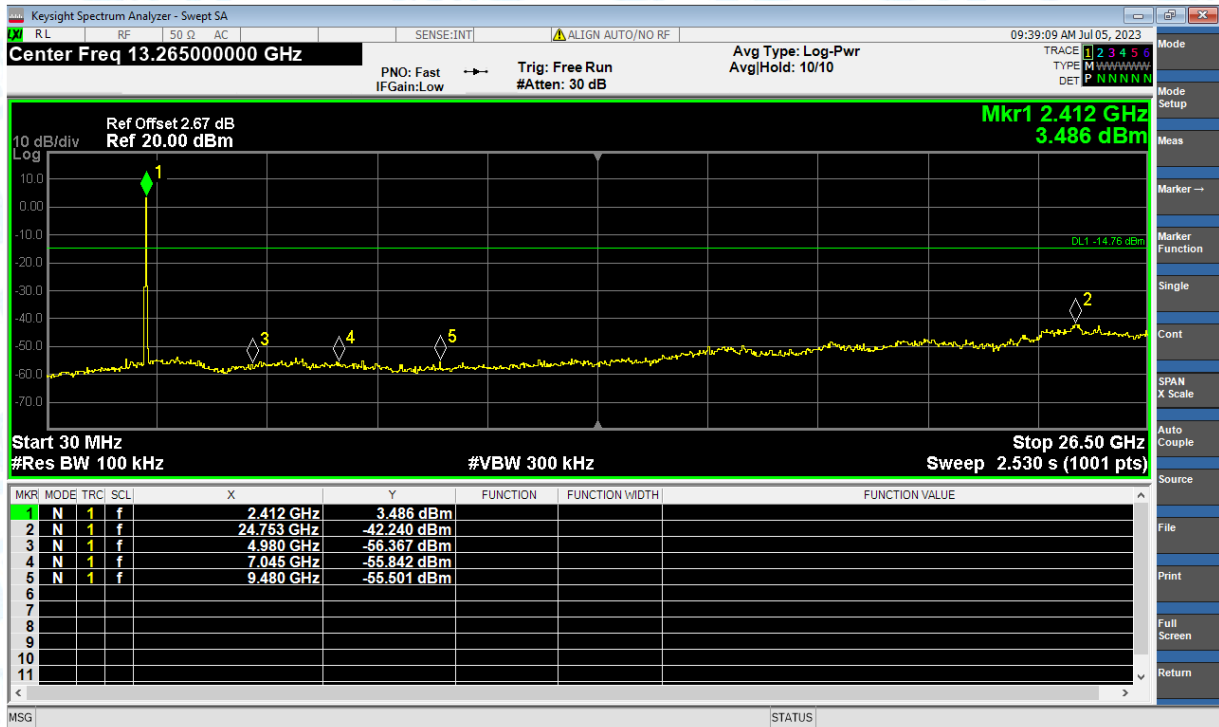
Tx. Spurious NVNT g 2462MHz Ant1 Emission



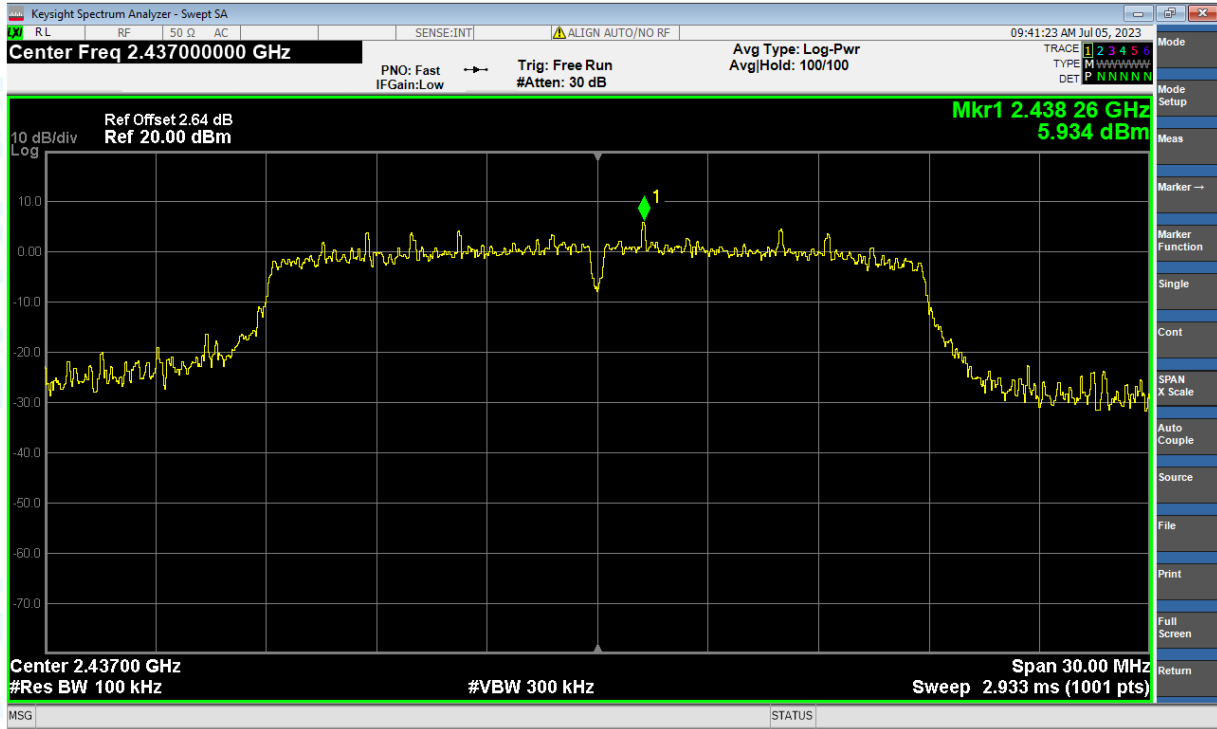
Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Ref



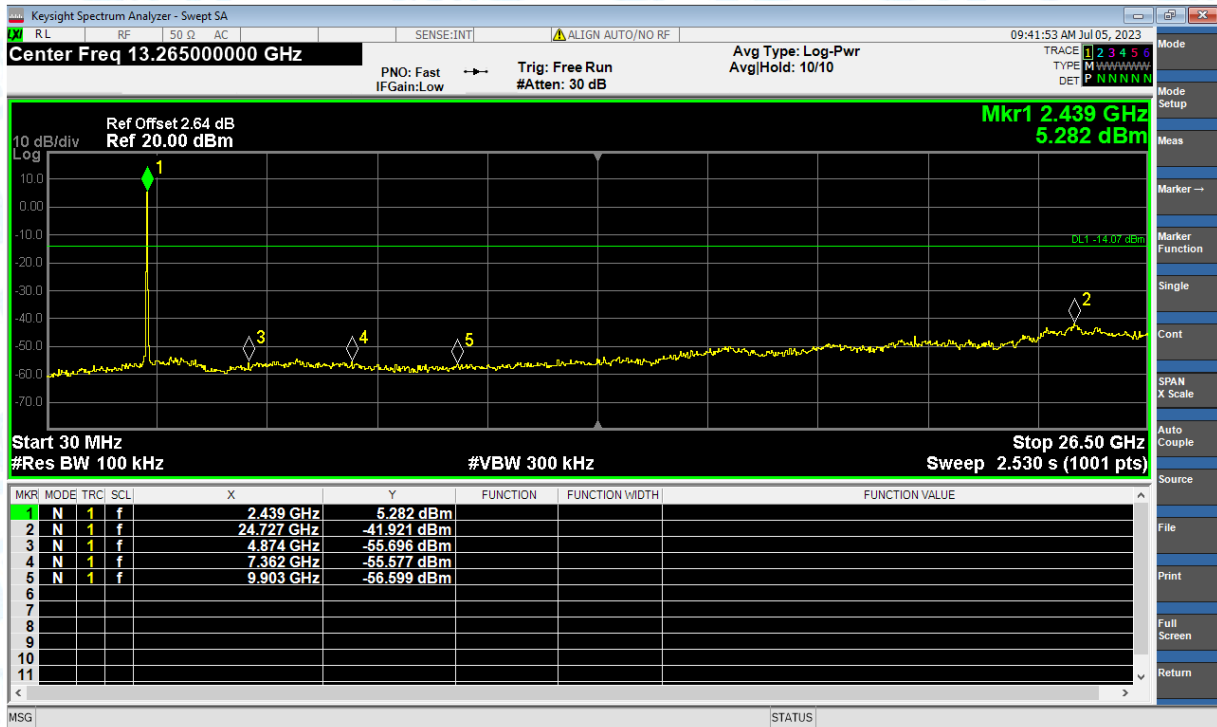
Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Emission



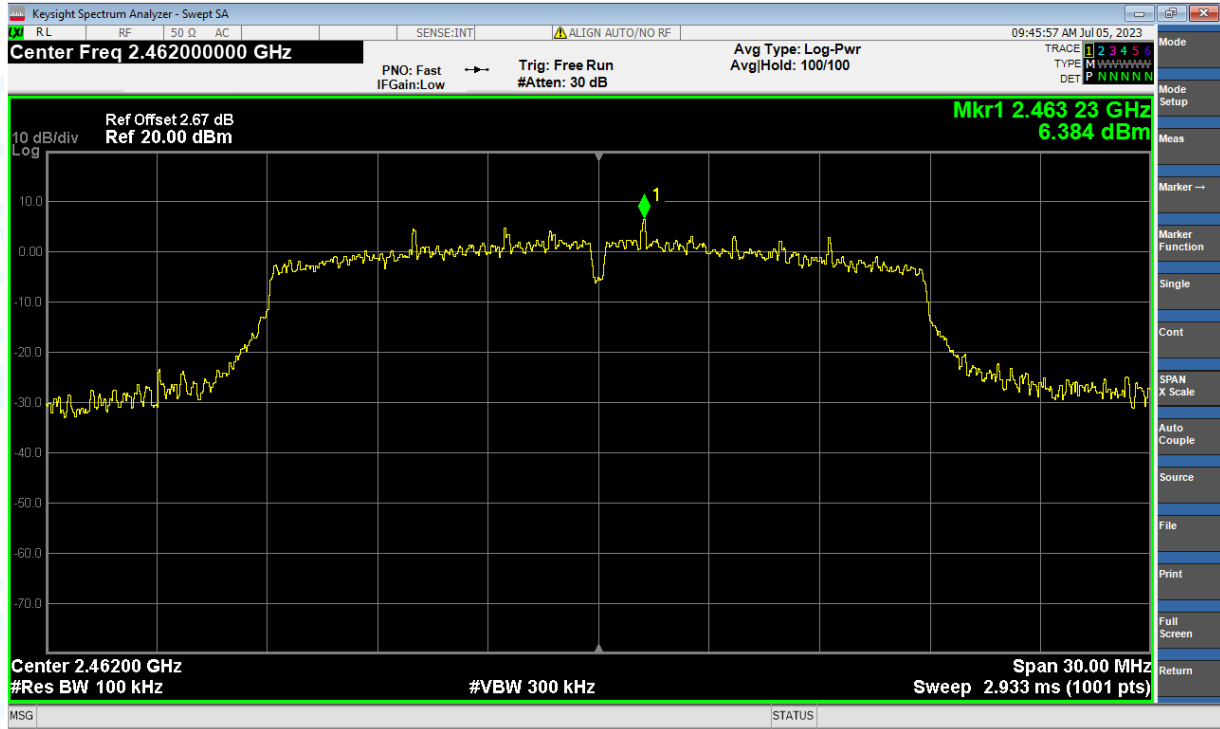
Tx. Spurious NVNT n(HT20) 2437MHz Ant1 Ref



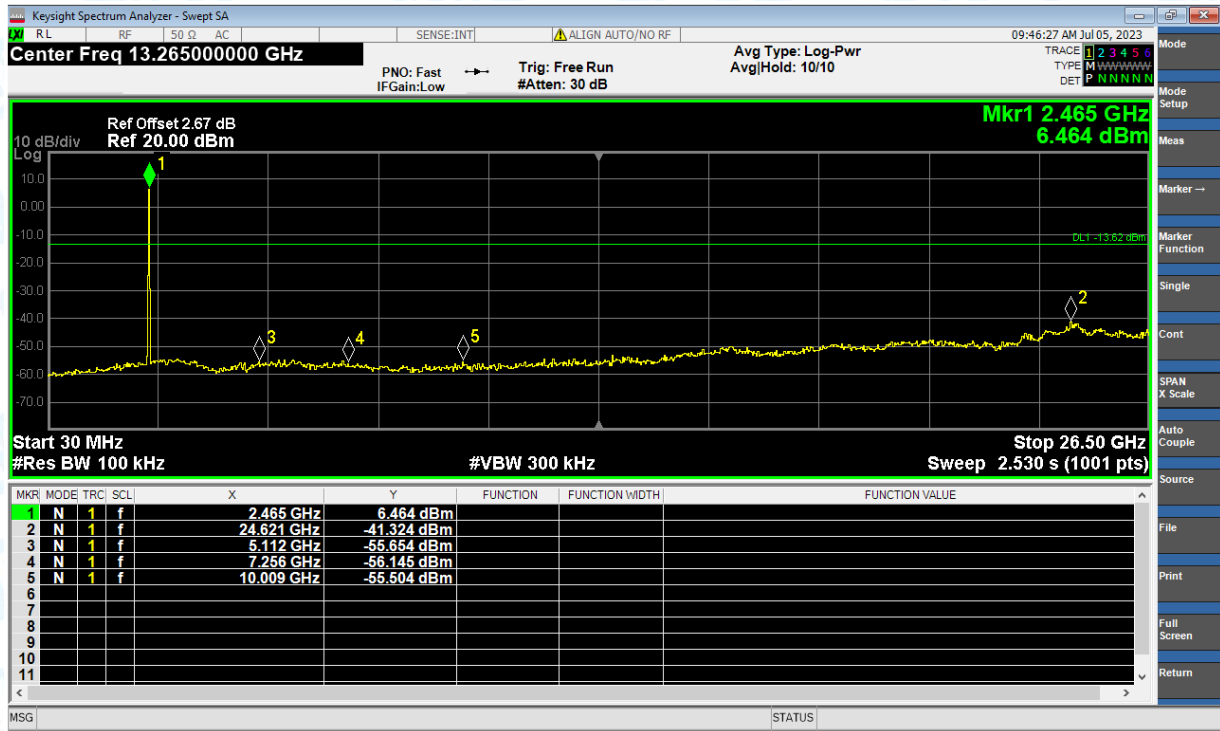
Tx. Spurious NVNT n(HT20) 2437MHz Ant1 Emission



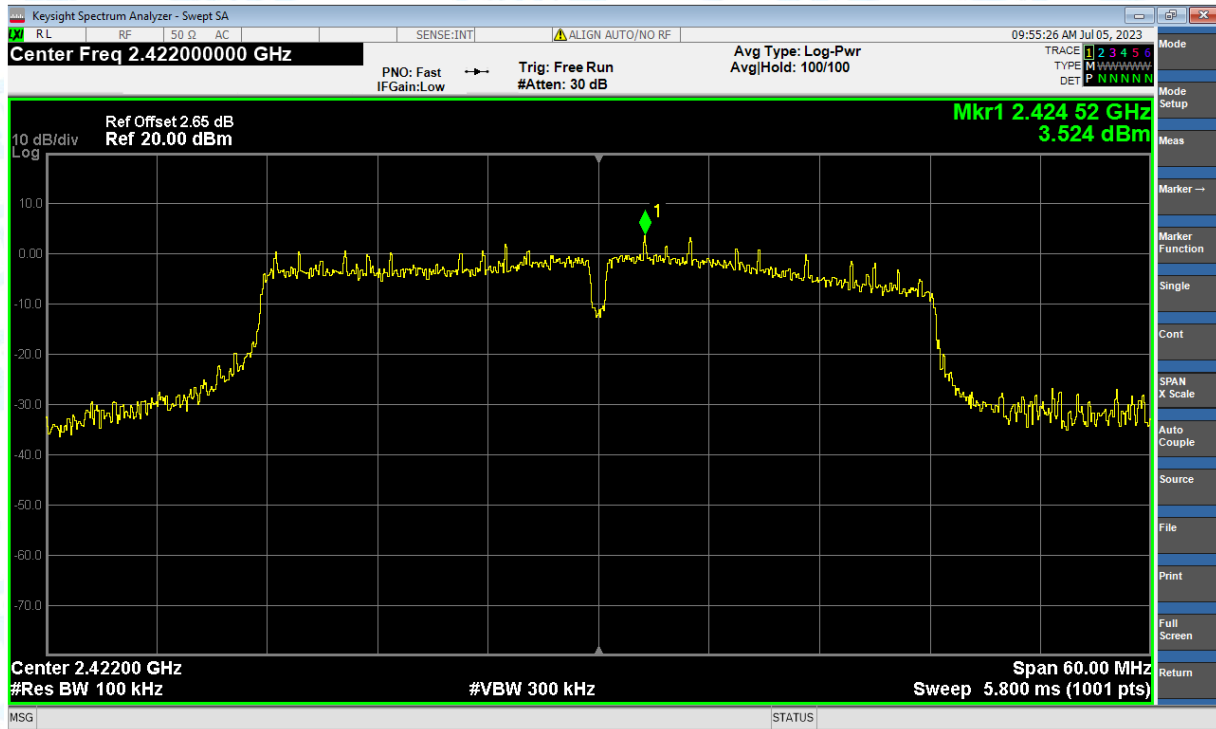
Tx. Spurious NVNT n(HT20) 2462MHz Ant1 Ref



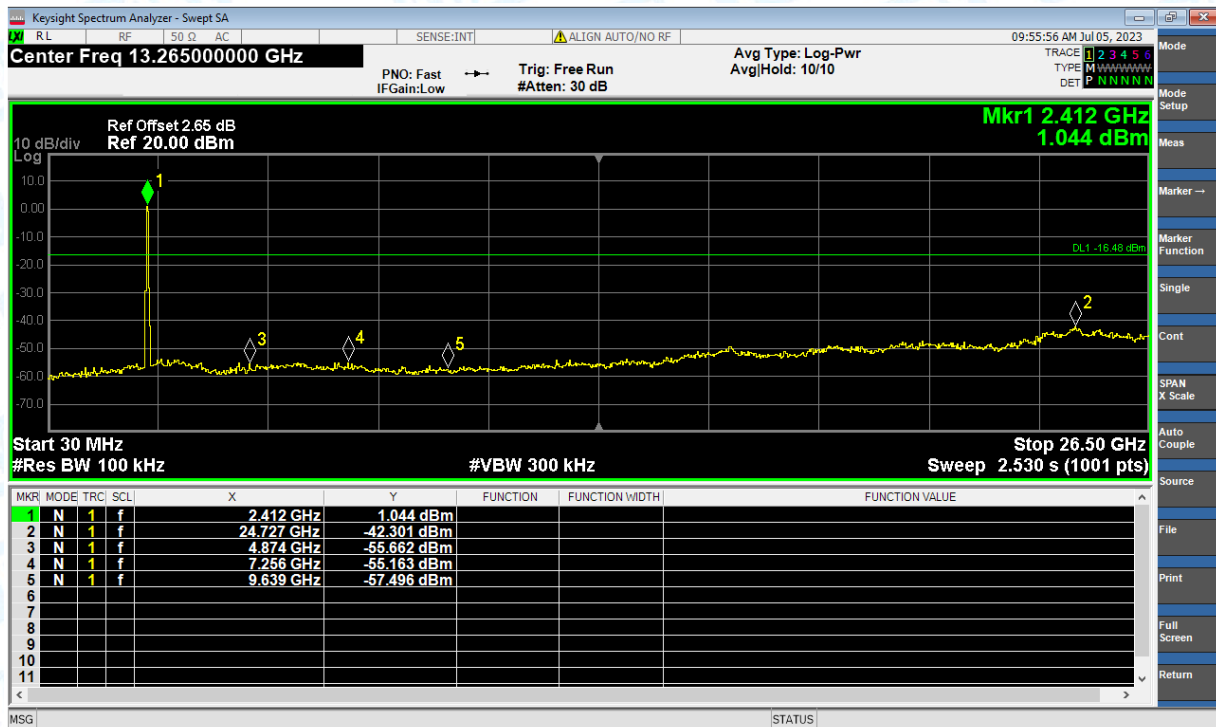
Tx. Spurious NVNT n(HT20) 2462MHz Ant1 Emission



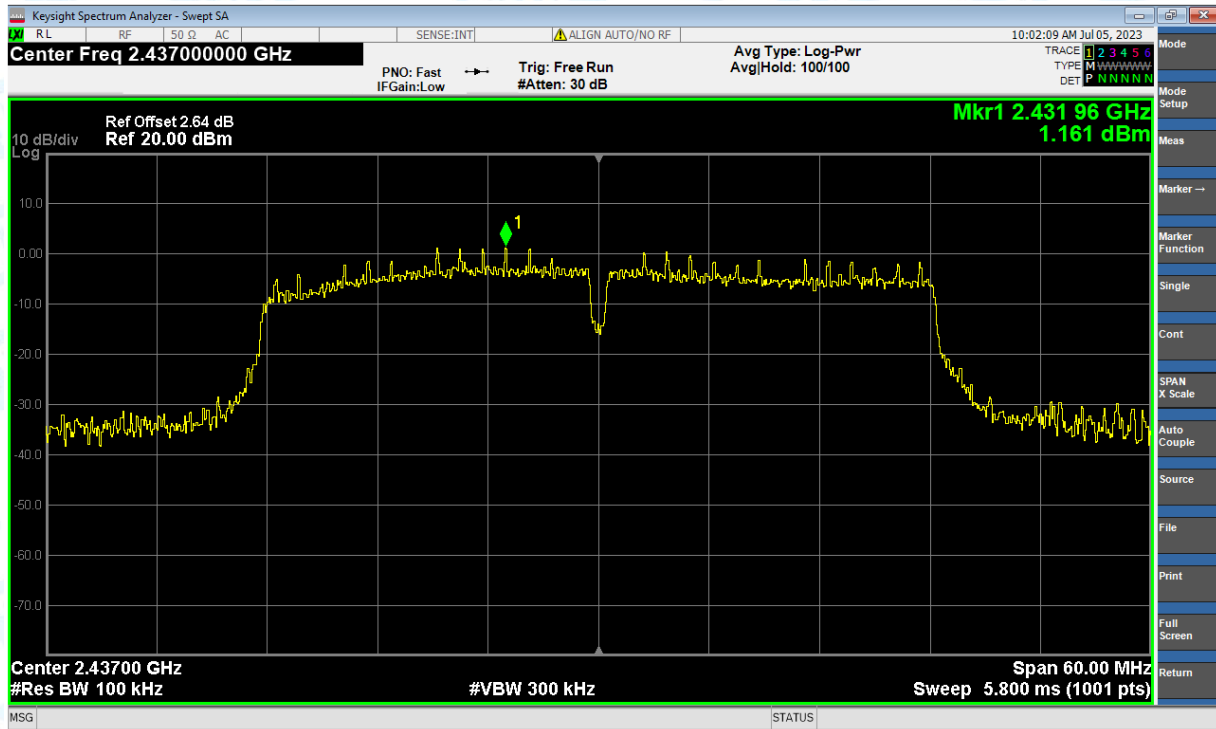
Tx. Spurious NVNT n(HT40) 2422MHz Ant1 Ref



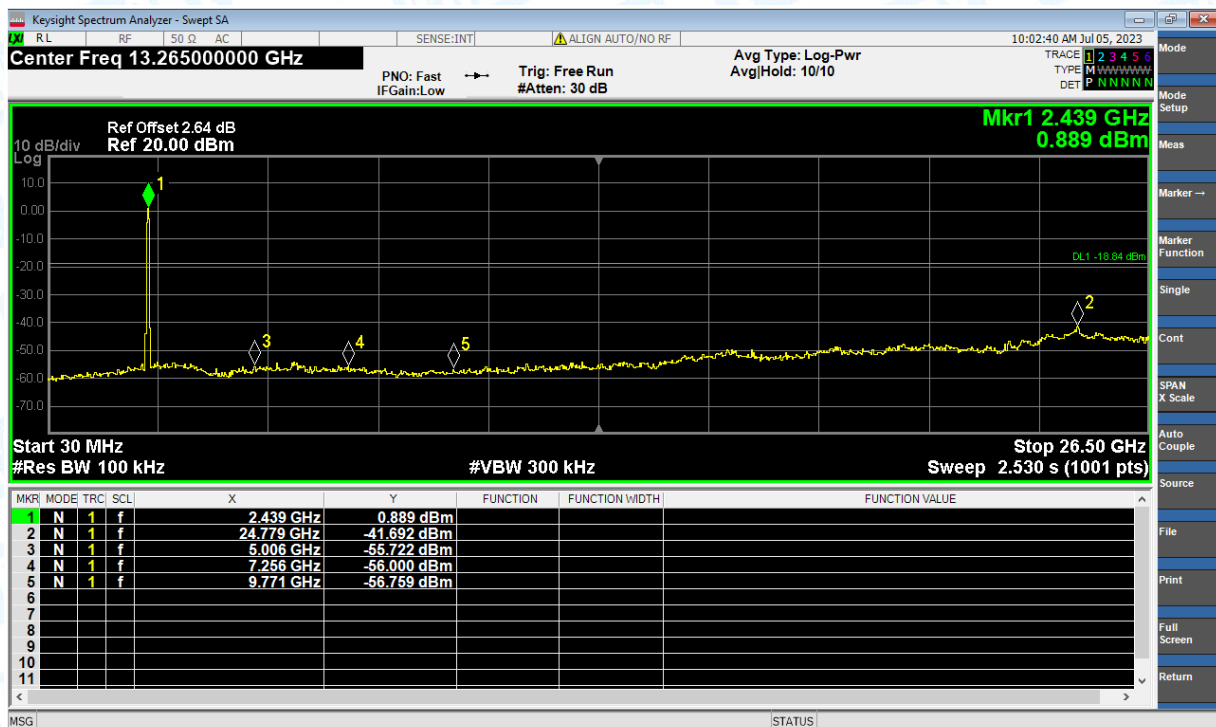
Tx. Spurious NVNT n(HT40) 2422MHz Ant1 Emission



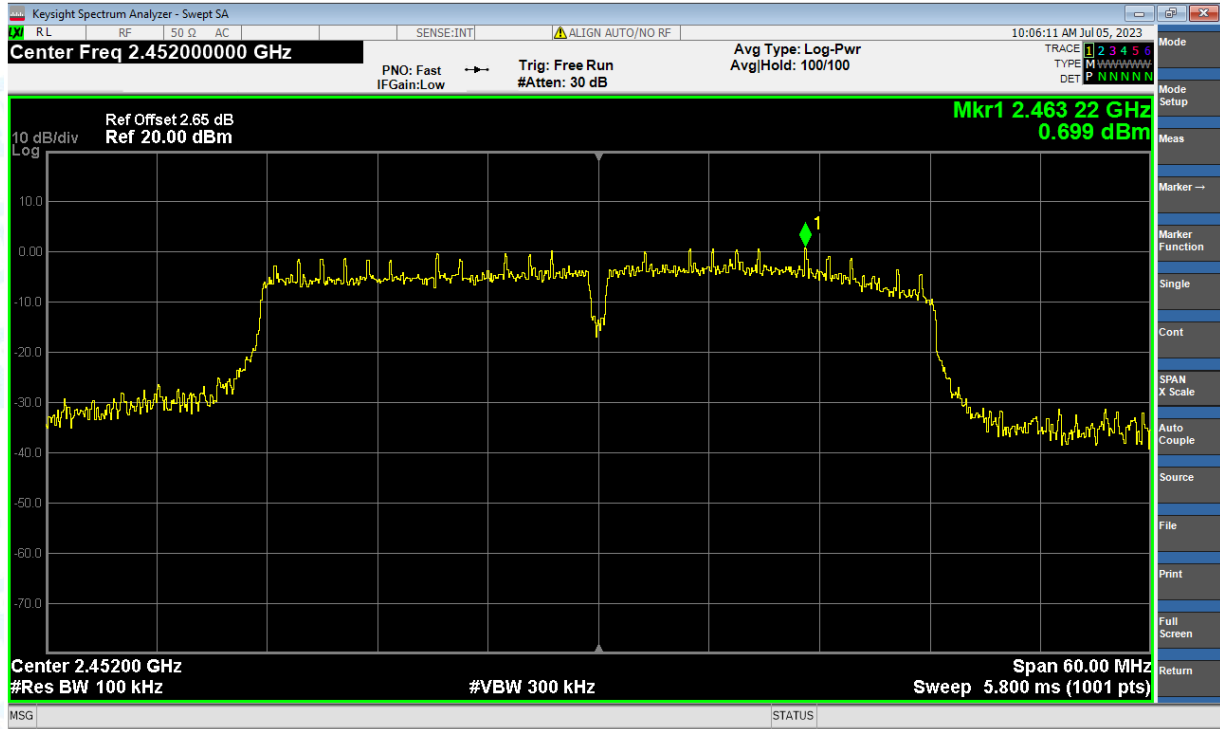
Tx. Spurious NVNT n(HT40) 2437MHz Ant1 Ref



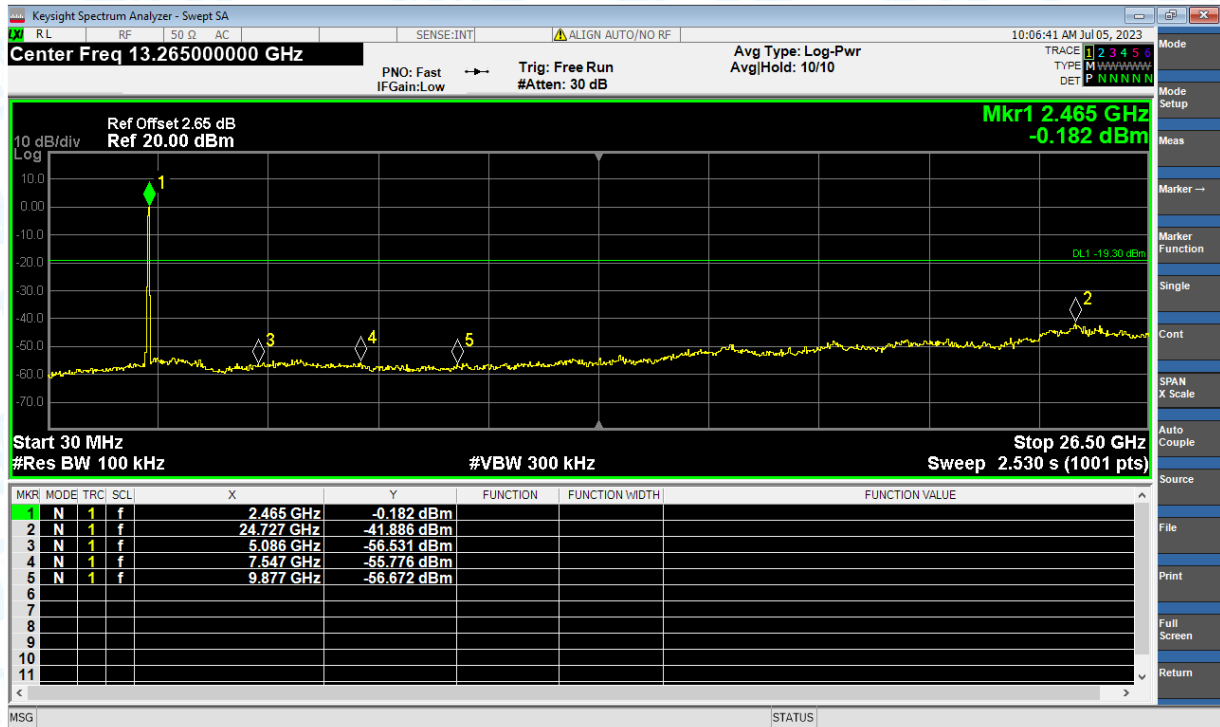
Tx. Spurious NVNT n(HT40) 2437MHz Ant1 Emission



Tx. Spurious NVNT n(HT40) 2452MHz Ant1 Ref



Tx. Spurious NVNT n(HT40) 2452MHz Ant1 Emission



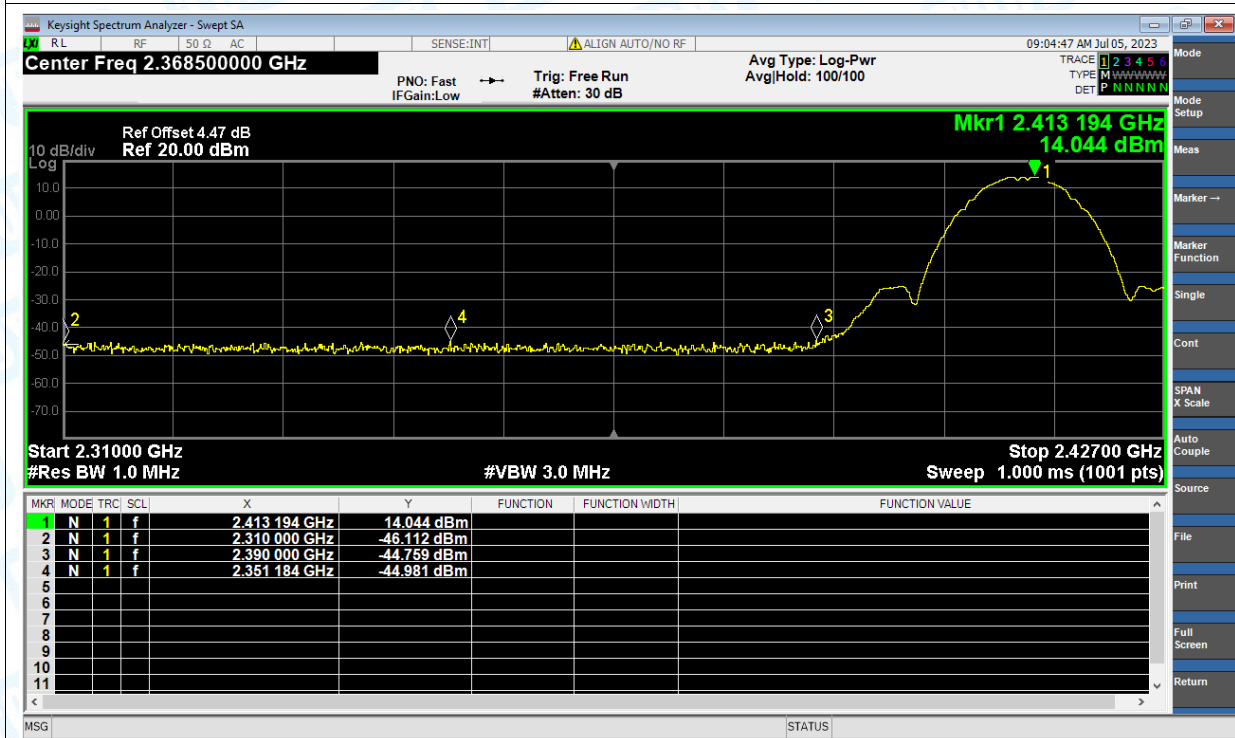
8. Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-46.11	2	51.15	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-57.61	2	39.65	Average	54	Pass
NVNT	b	2412	Ant1	2351.184	-44.98	2	52.28	Peak	74	Pass
NVNT	b	2412	Ant1	2389.911	-56.47	2	40.79	Average	54	Pass
NVNT	b	2412	Ant1	2390	-44.76	2	52.5	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-56.22	2	41.04	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-42.46	2	54.8	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-48.78	2	48.48	Average	54	Pass
NVNT	b	2462	Ant1	2485.849	-40.02	2	57.24	Peak	74	Pass
NVNT	b	2462	Ant1	2487.068	-48.37	2	48.89	Average	54	Pass
NVNT	b	2462	Ant1	2500	-47.55	2	49.71	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-57.27	2	39.99	Average	54	Pass
NVNT	g	2412	Ant1	2310	-48.08	2	49.18	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-57.06	2	40.2	Average	54	Pass
NVNT	g	2412	Ant1	2389.911	-30.91	2	66.35	Peak	74	Pass
NVNT	g	2412	Ant1	2389.911	-46.96	2	50.3	Average	54	Pass
NVNT	g	2412	Ant1	2390	-34.19	2	63.07	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-46.56	2	50.7	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-27.96	2	69.3	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-43.98	2	53.28	Average	54	Pass
NVNT	g	2462	Ant1	2483.517	-27.96	2	69.3	Peak	74	Pass
NVNT	g	2462	Ant1	2483.517	-43.98	2	53.28	Average	54	Pass
NVNT	g	2462	Ant1	2500	-47.69	2	49.57	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-56.85	2	40.41	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2310	-47.36	2	49.9	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2310	-57.14	2	40.12	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2389.326	-30.02	2	67.24	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2389.911	-45	2	52.26	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2390	-32.24	2	65.02	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2390	-44.86	2	52.4	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-28.67	2	68.59	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-44.35	2	52.91	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2483.57	-28.36	2	68.9	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.57	-44.19	2	53.07	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2500	-46.84	2	50.42	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2500	-56.61	2	40.65	Average	54	Pass
NVNT	n(HT40)	2422	Ant1	2310	-48.03	2	49.23	Peak	74	Pass
NVNT	n(HT40)	2422	Ant1	2310	-56.74	2	40.52	Average	54	Pass
NVNT	n(HT40)	2422	Ant1	2389.52	-25.16	2	72.1	Peak	74	Pass
NVNT	n(HT40)	2422	Ant1	2389.946	-45.28	2	51.98	Average	54	Pass
NVNT	n(HT40)	2422	Ant1	2390	-34.07	2	63.19	Peak	74	Pass
NVNT	n(HT40)	2422	Ant1	2390	-44.86	2	52.4	Average	54	Pass

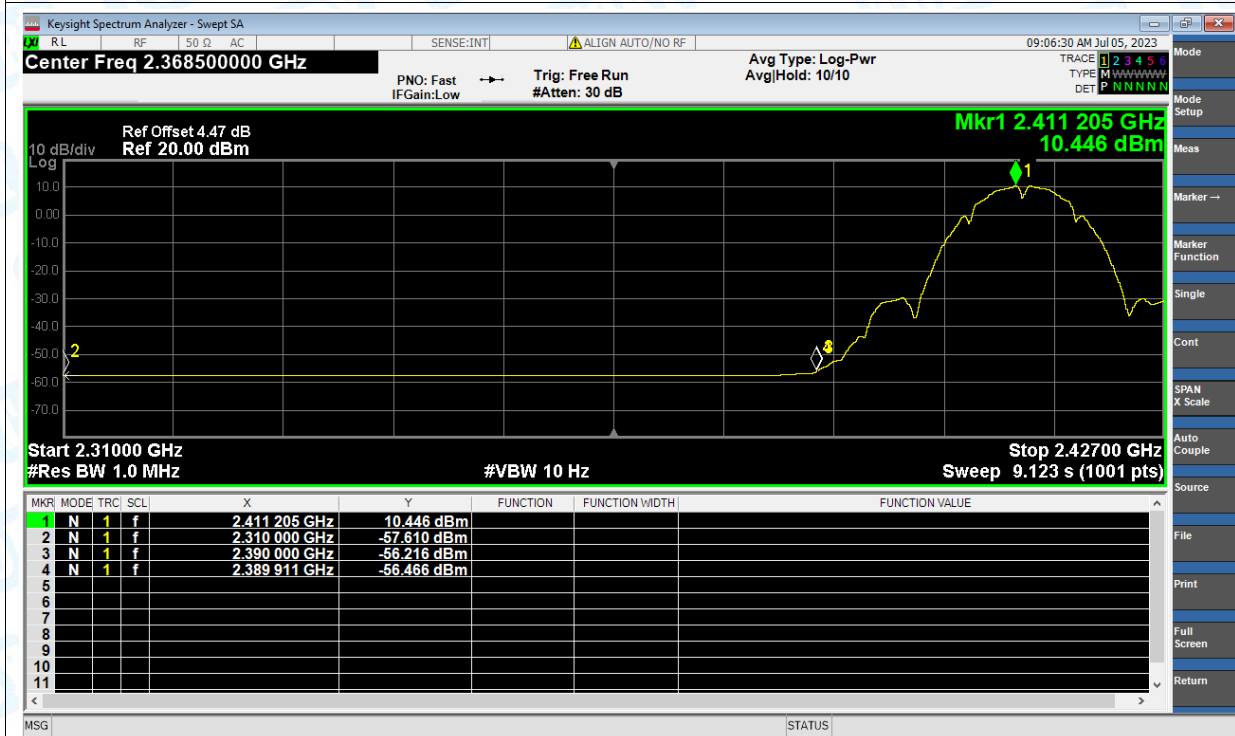
NVNT	n(HT40)	2452	Ant1	2483.5	-26.47	2	70.79	Peak	74	Pass
NVNT	n(HT40)	2452	Ant1	2483.5	-45.34	2	51.92	Average	54	Pass
NVNT	n(HT40)	2452	Ant1	2483.854	-26.06	2	71.2	Peak	74	Pass
NVNT	n(HT40)	2452	Ant1	2483.62	-45.22	2	52.04	Average	54	Pass
NVNT	n(HT40)	2452	Ant1	2500	-47.89	2	49.37	Peak	74	Pass
NVNT	n(HT40)	2452	Ant1	2500	-56.66	2	40.6	Average	54	Pass

Test Graphs

Restrict Band NVNT b 2412MHz Ant1 Peak



Restrict Band NVNT b 2412MHz Ant1 Average



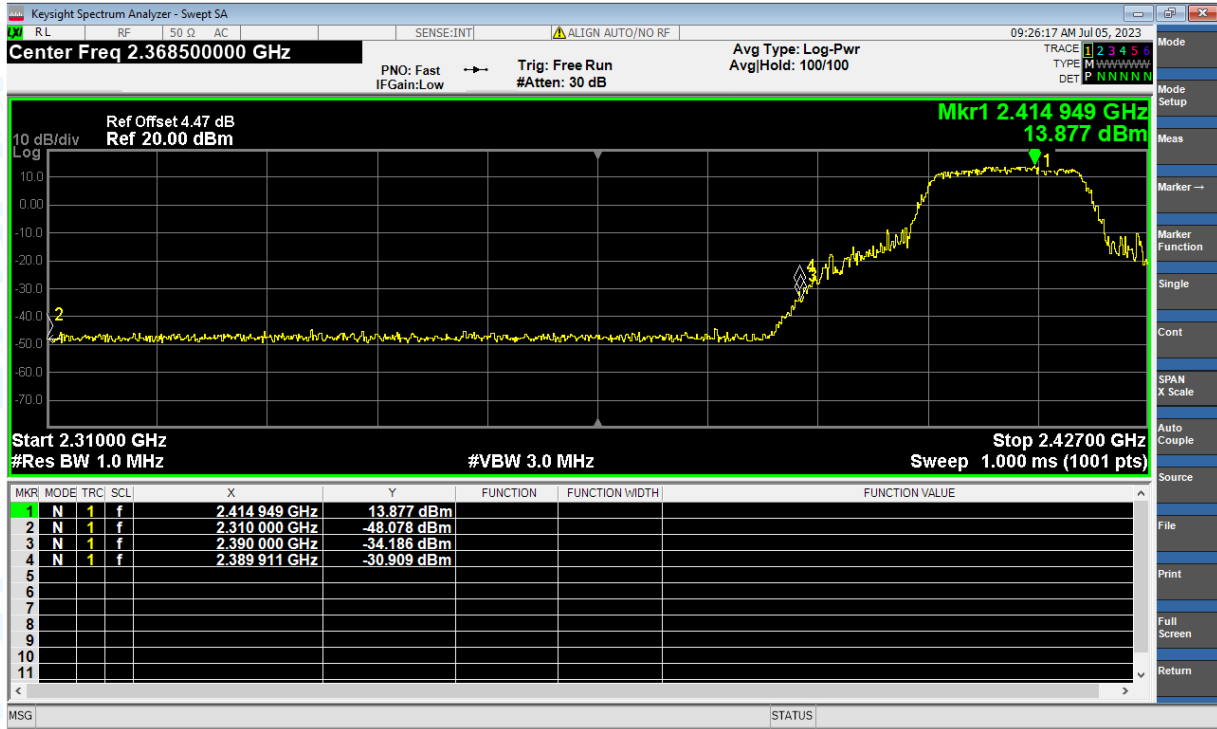
Restrict Band NVNT b 2462MHz Ant1 Peak



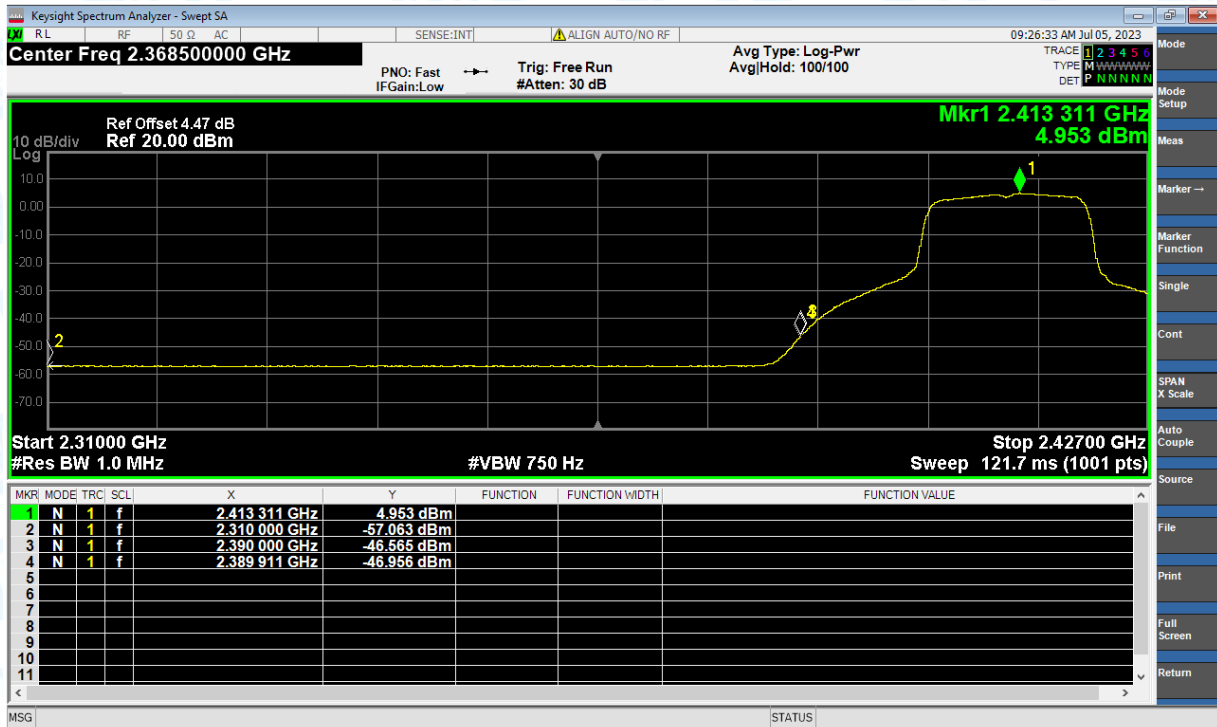
Restrict Band NVNT b 2462MHz Ant1 Average



Restrict Band NVNT g 2412MHz Ant1 Peak



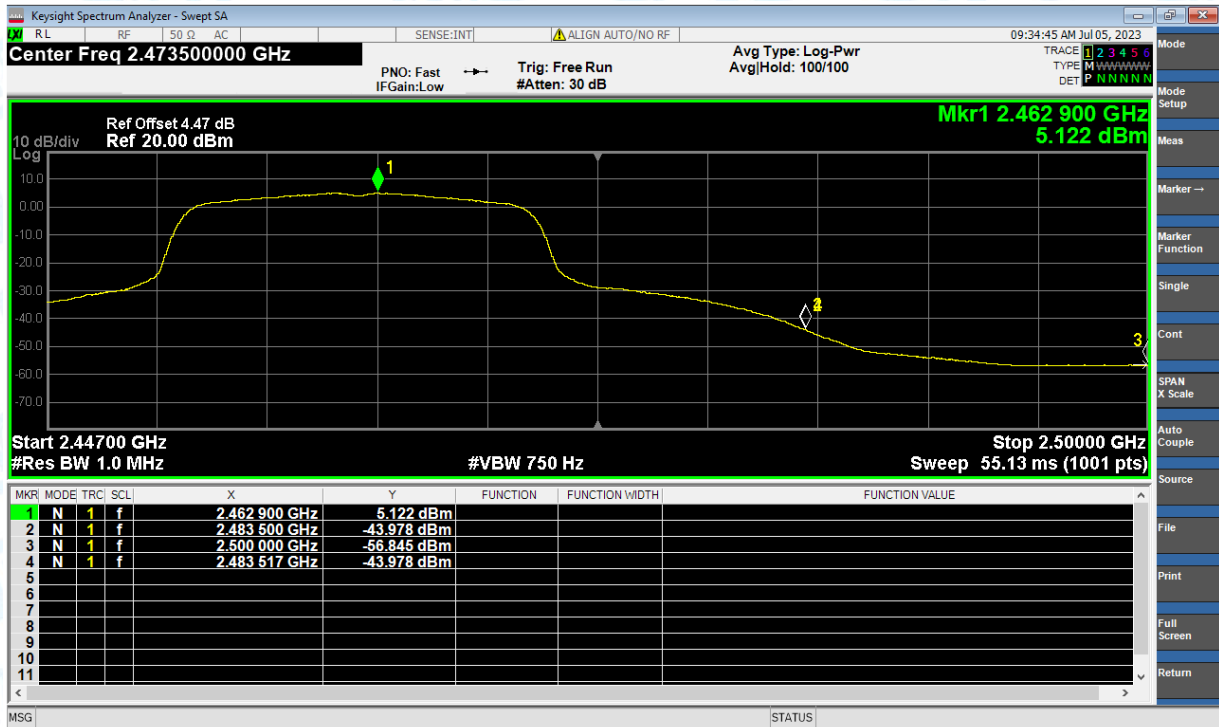
Restrict Band NVNT g 2412MHz Ant1 Average



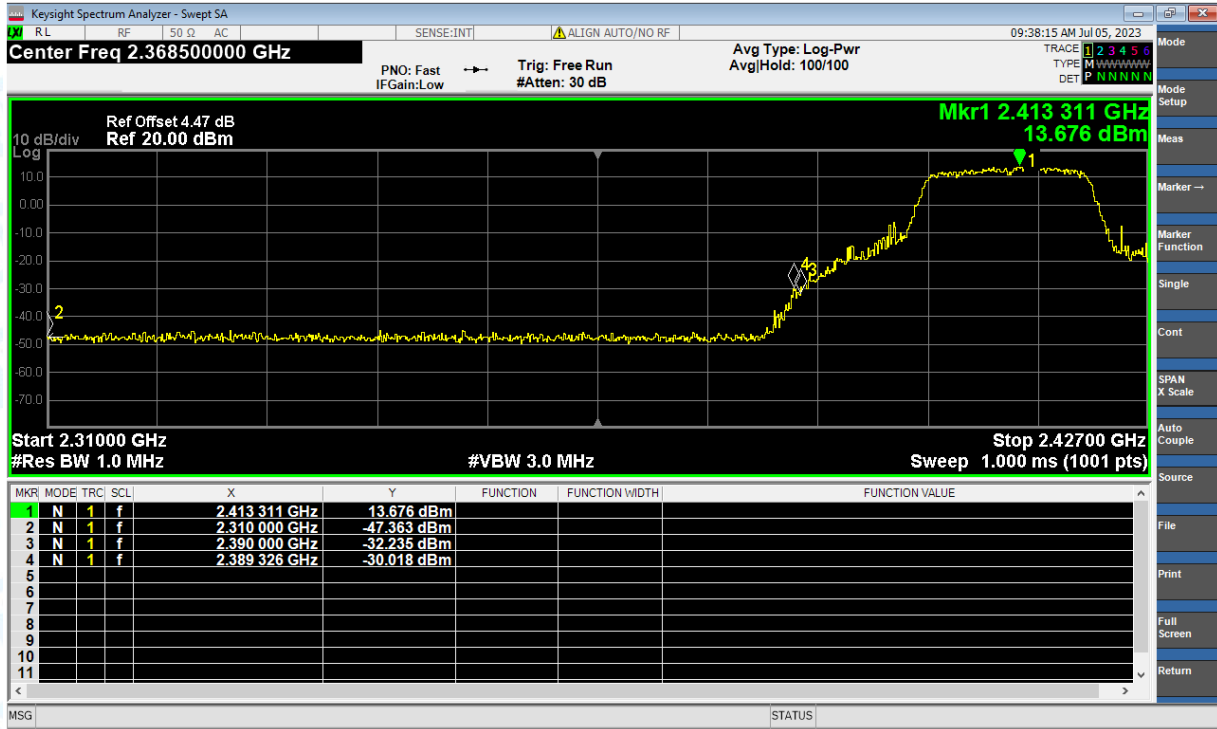
Restrict Band NVNT g 2462MHz Ant1 Peak



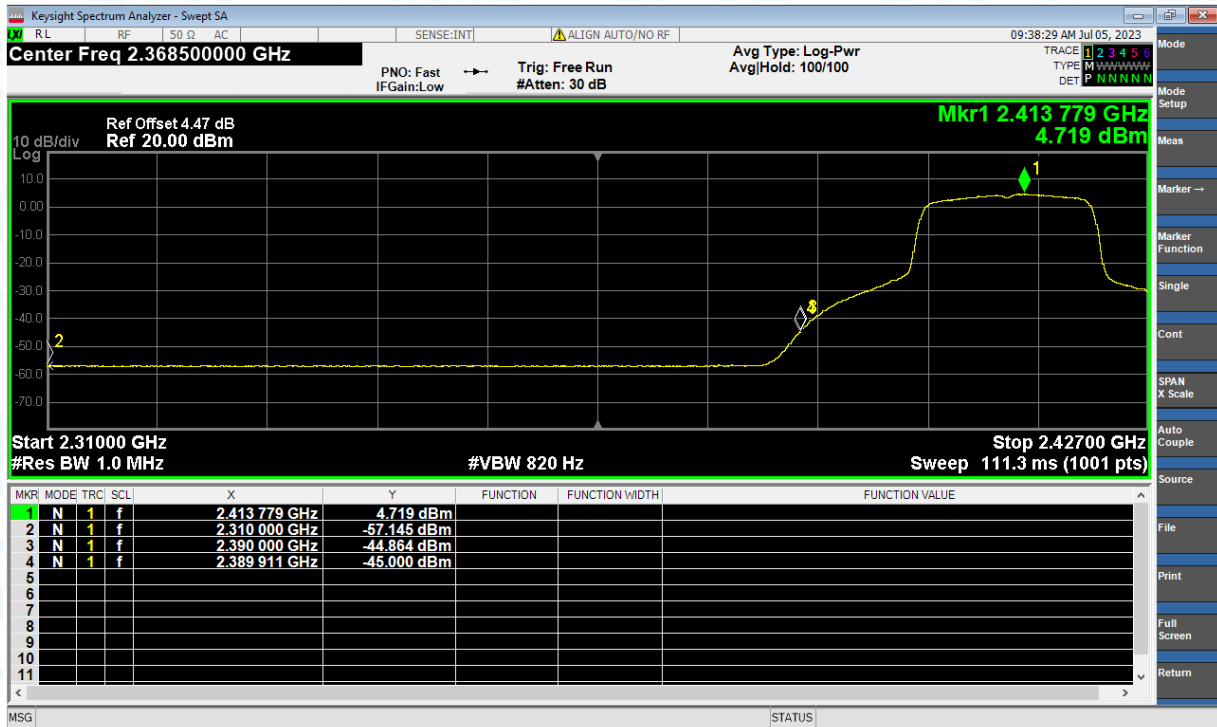
Restrict Band NVNT g 2462MHz Ant1 Average



Restrict Band NVNT n(HT20) 2412MHz Ant1 Peak



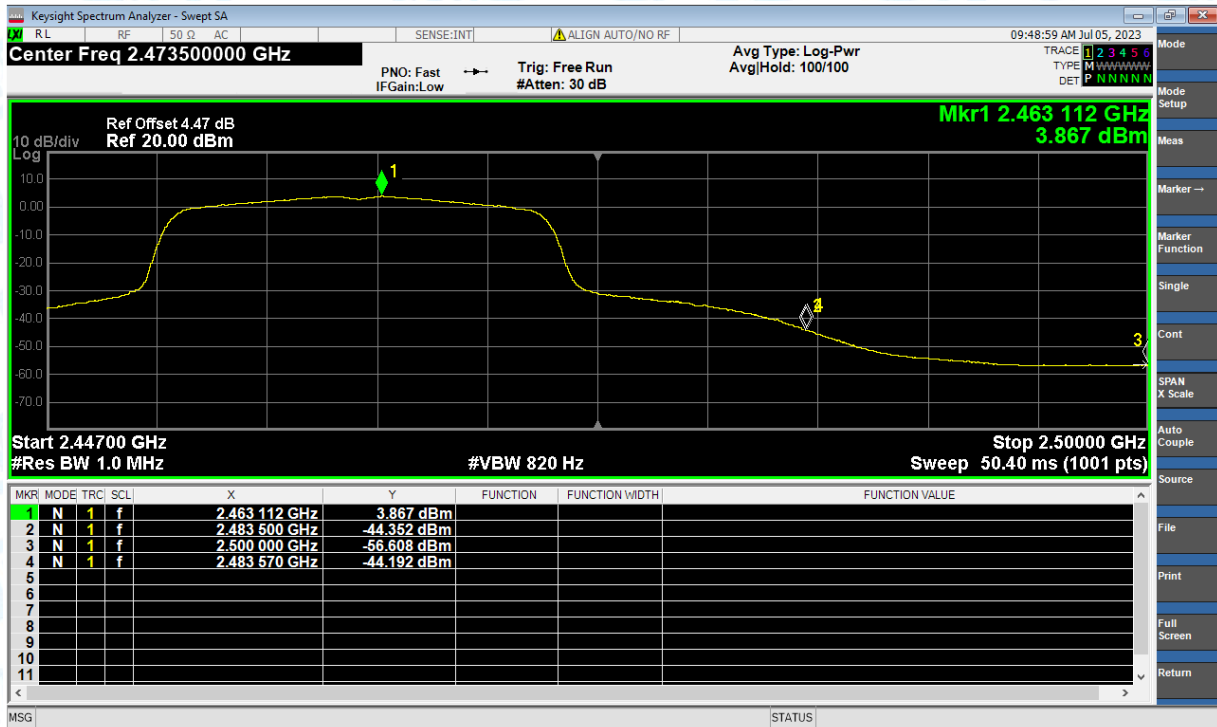
Restrict Band NVNT n(HT20) 2412MHz Ant1 Average



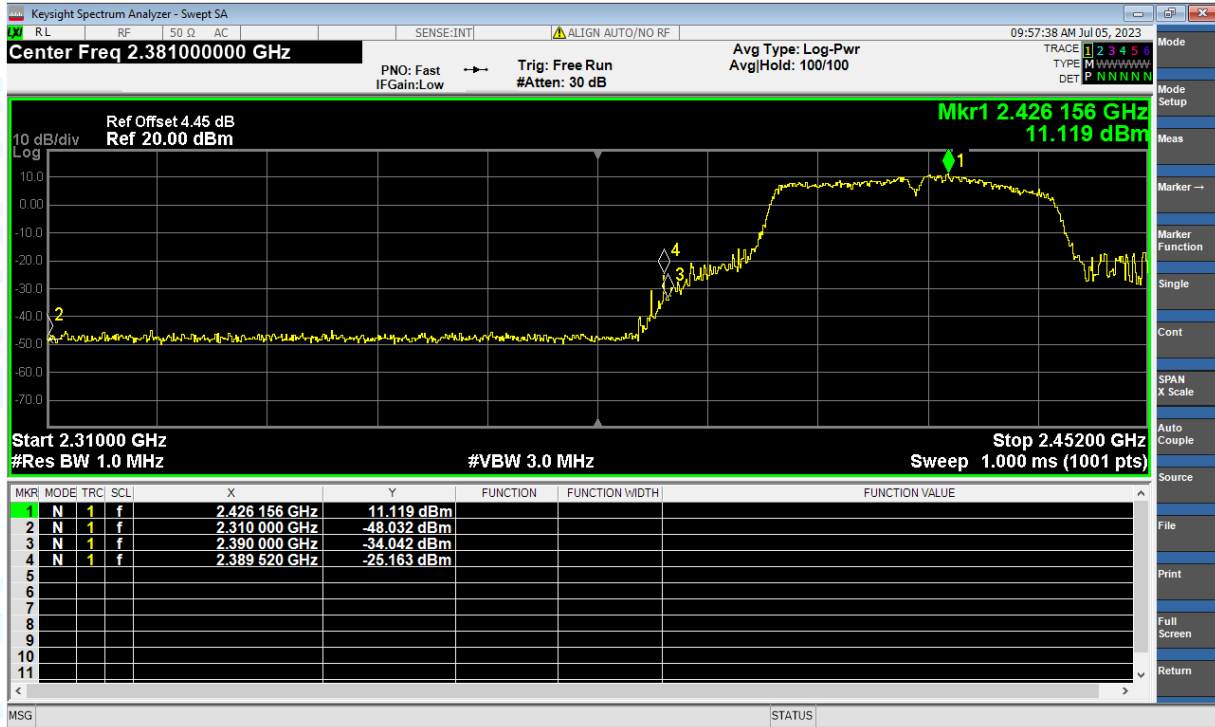
Restrict Band NVNT n(HT20) 2462MHz Ant1 Peak



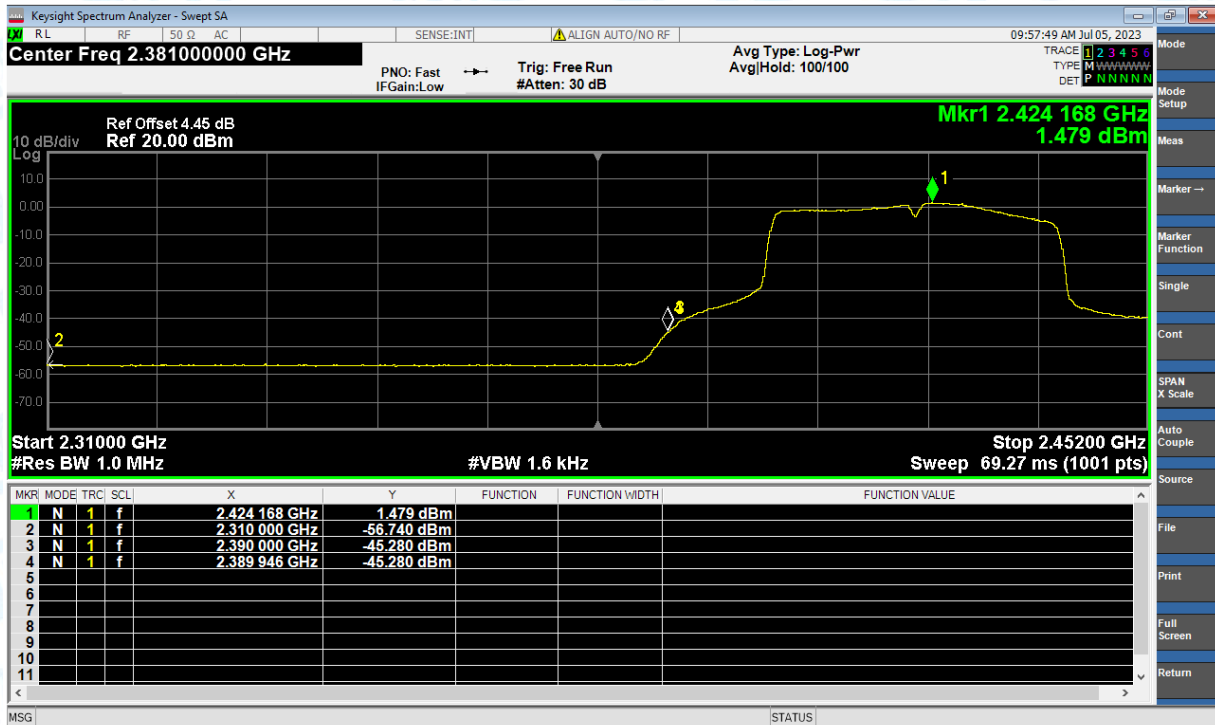
Restrict Band NVNT n(HT20) 2462MHz Ant1 Average



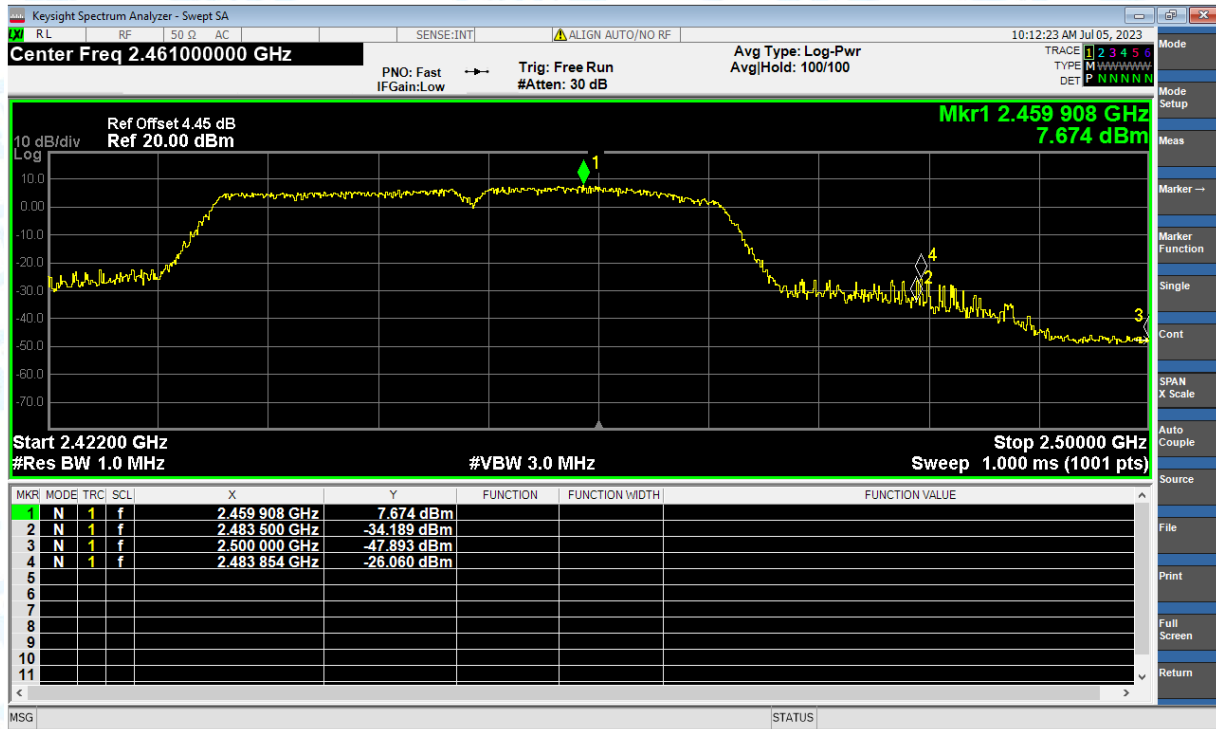
Restrict Band NVNT n(HT40) 2422MHz Ant1 Peak



Restrict Band NVNT n(HT40) 2422MHz Ant1 Average



Restrict Band NVNT n(HT40) 2452MHz Ant1 Peak



Restrict Band NVNT n(HT40) 2452MHz Ant1 Average



-----END OF THE REPORT-----