

RF Test Data for 2.4G WiFi (Conducted Measurements)

General Description of EUT	
Product Name:	Bird Feeder
Test Model:	Q39
Sample ID:	HC-C-202503-0804-01-01
Environmental Conditions	
Temperature:	25.6℃
Relative Humidity:	48.5%
Test Voltage:	DC 3.7
Test Engineer:	Lily zhang
Note: For a more detailed features description, please refer to the report TBR-C-202503-0804-8 The report only show the worst case data.	

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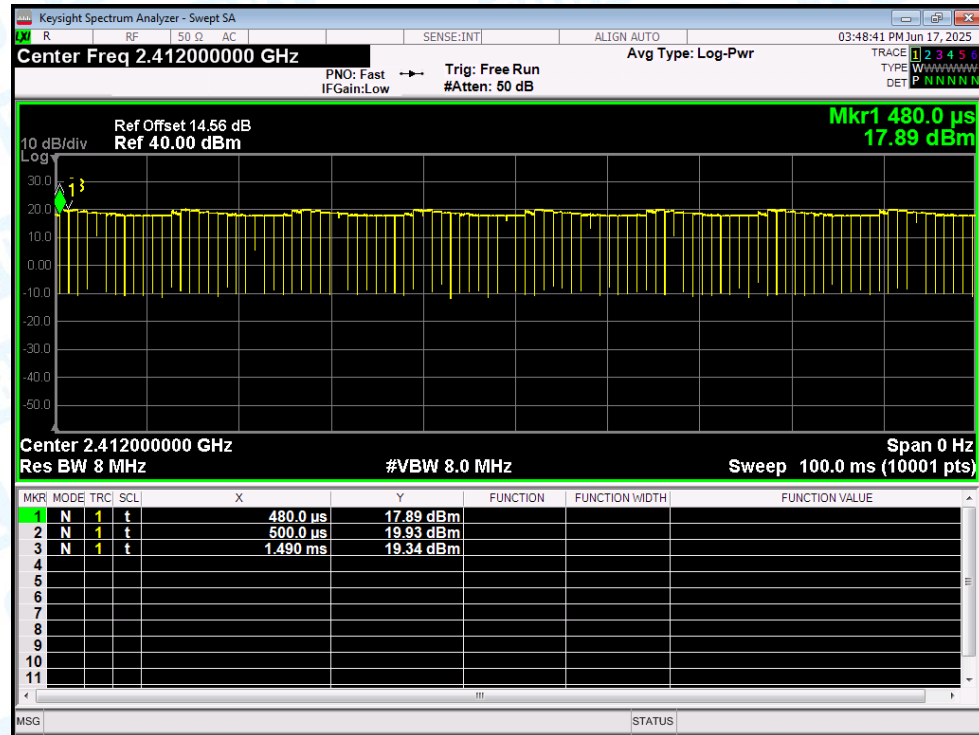
1. Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	98.02	0.09	1.01
NVNT	b	2437	Ant1	99.76	0.01	0.12
NVNT	b	2462	Ant1	99.88	0.01	0.06
NVNT	g	2412	Ant1	98.58	0.06	0.72
NVNT	g	2437	Ant1	98.58	0.06	0.72
NVNT	g	2462	Ant1	98.58	0.06	0.72
NVNT	n(HT20)	2412	Ant1	99.61	0.02	0.2
NVNT	n(HT20)	2437	Ant1	99.61	0.02	0.2
NVNT	n(HT20)	2462	Ant1	99.61	0.02	0.2

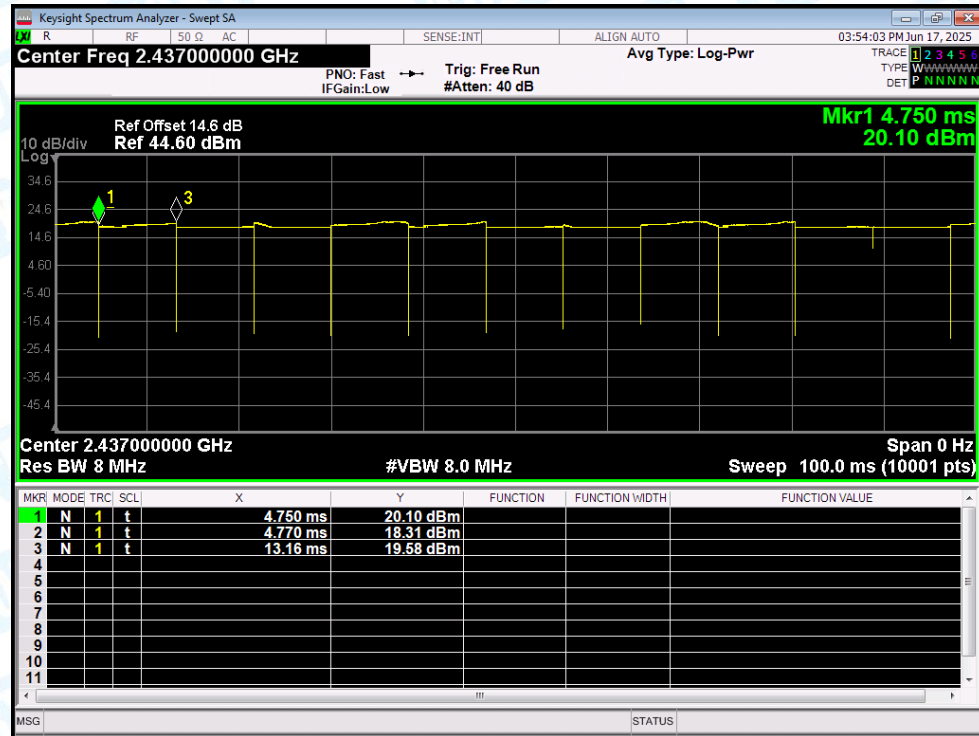
Note: RF Conducted test Offset= cable loss+ Attenuator factor.

Test Graphs

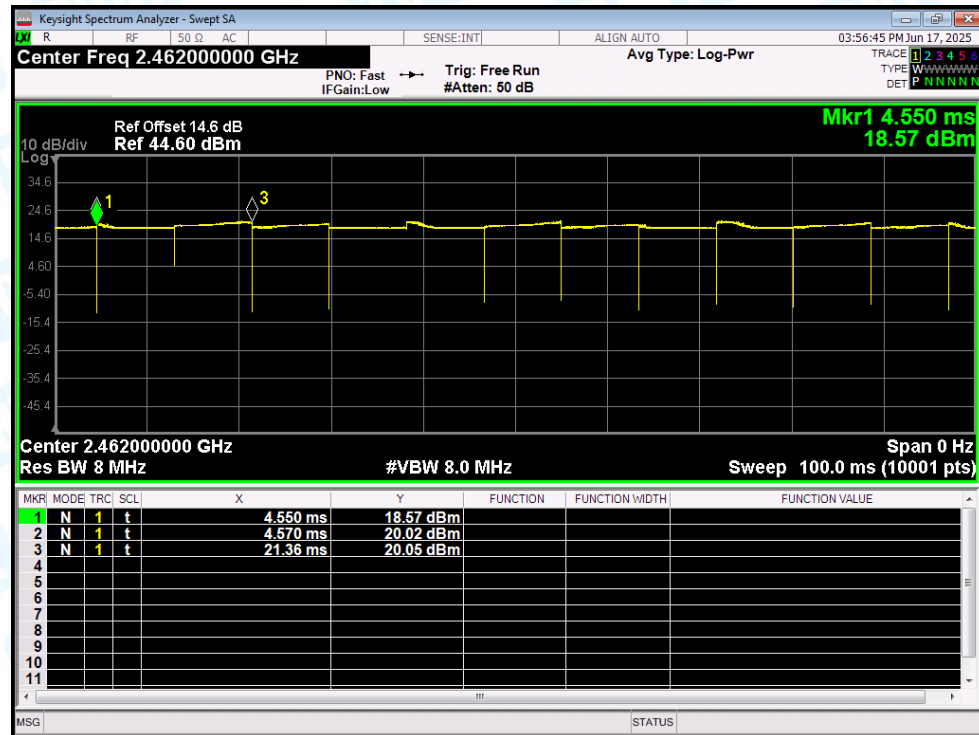
Duty Cycle NVNT b 2412MHz Ant1



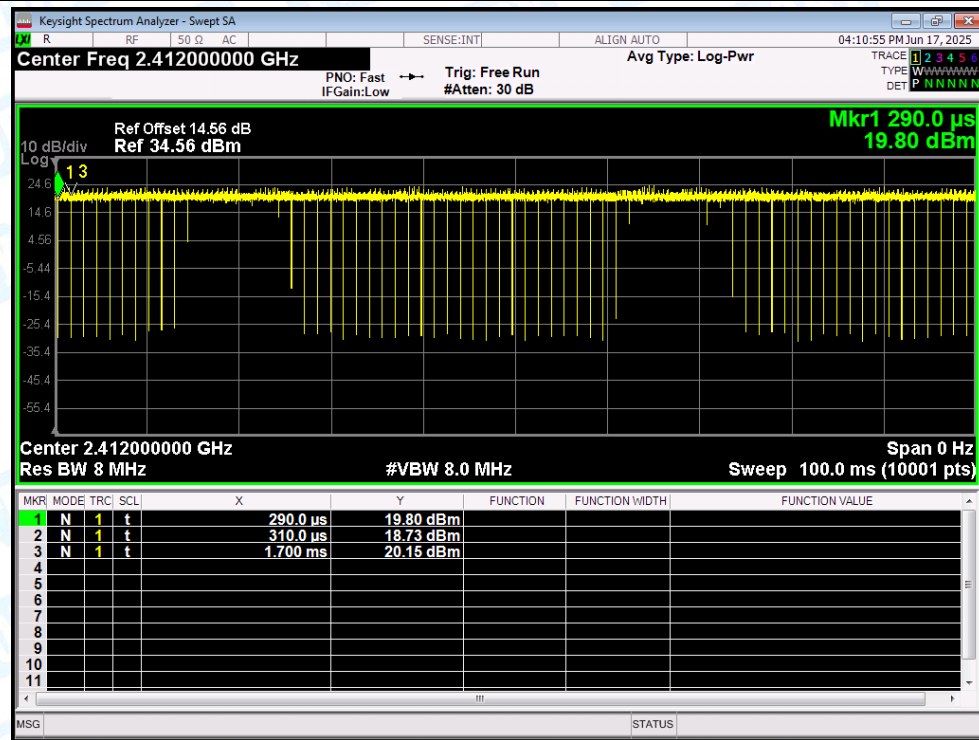
Duty Cycle NVNT b 2437MHz Ant1



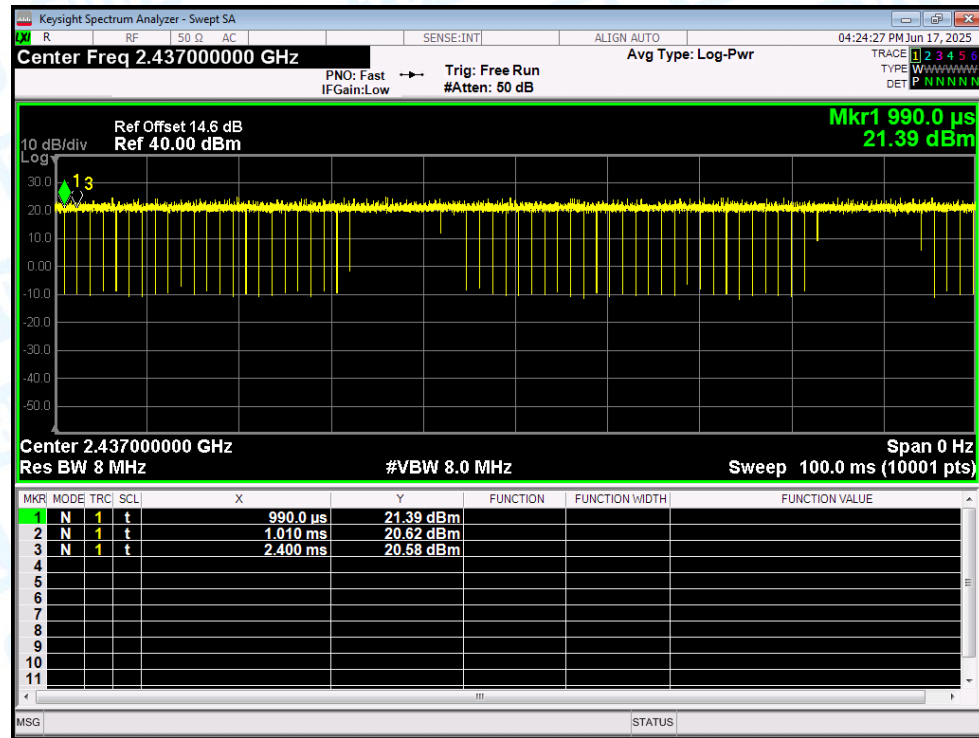
Duty Cycle NVNT b 2462MHz Ant1



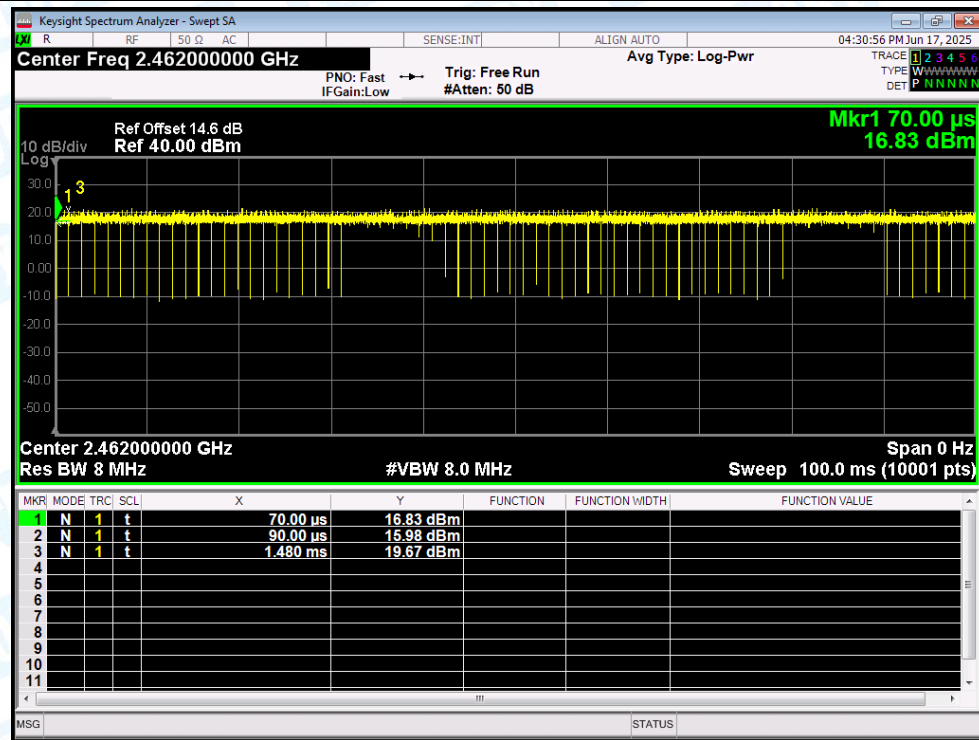
Duty Cycle NVNT g 2412MHz Ant1



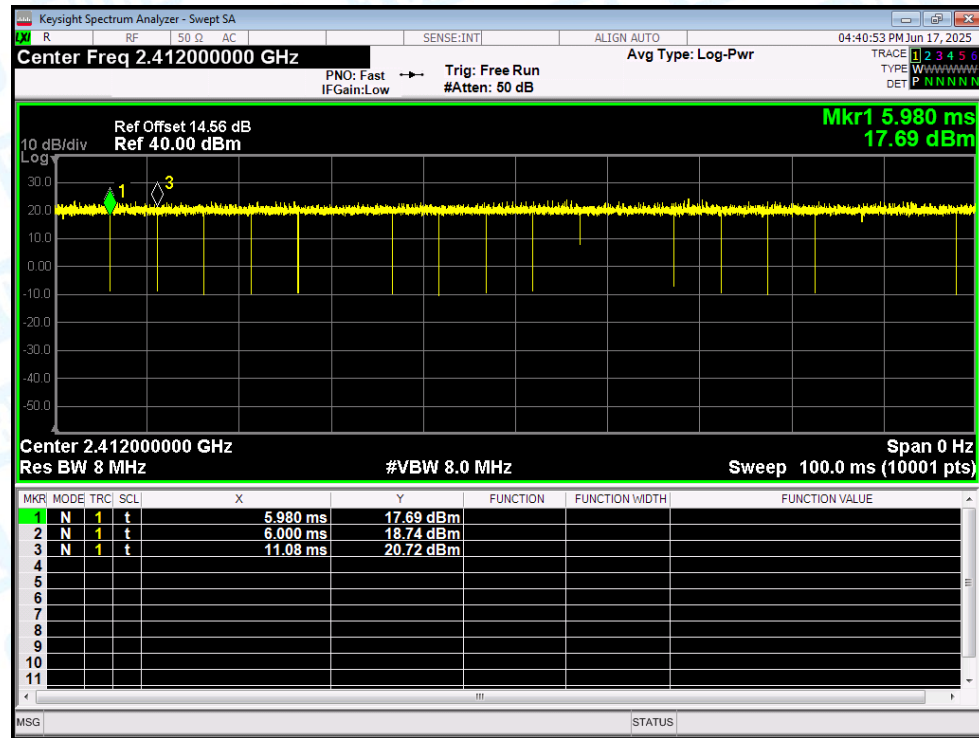
Duty Cycle NVNT g 2437MHz Ant1



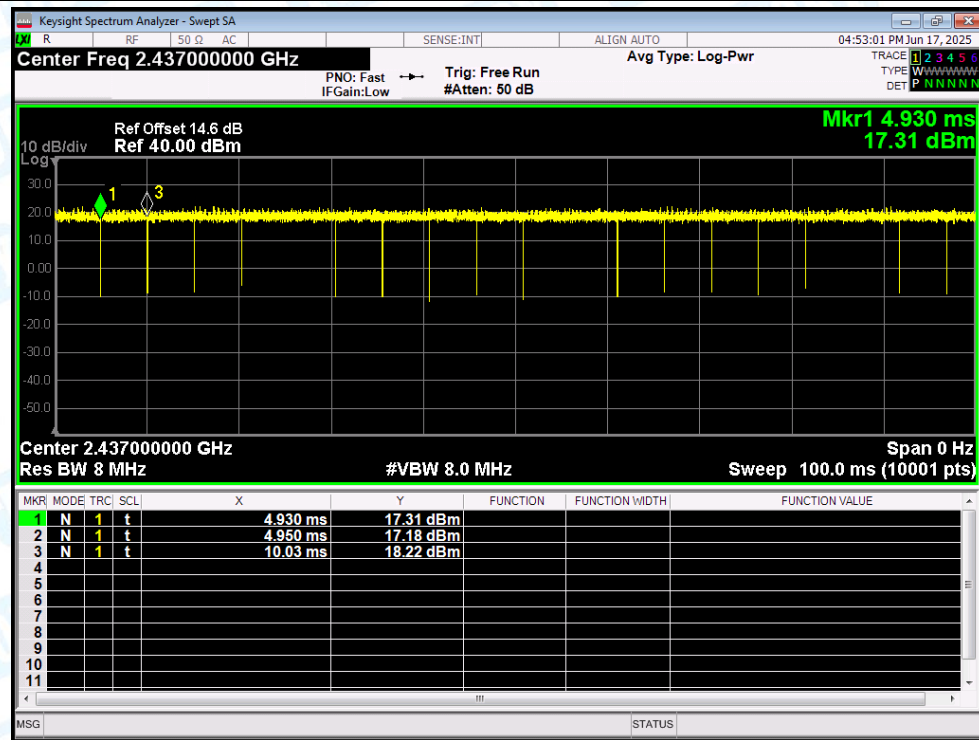
Duty Cycle NVNT g 2462MHz Ant1

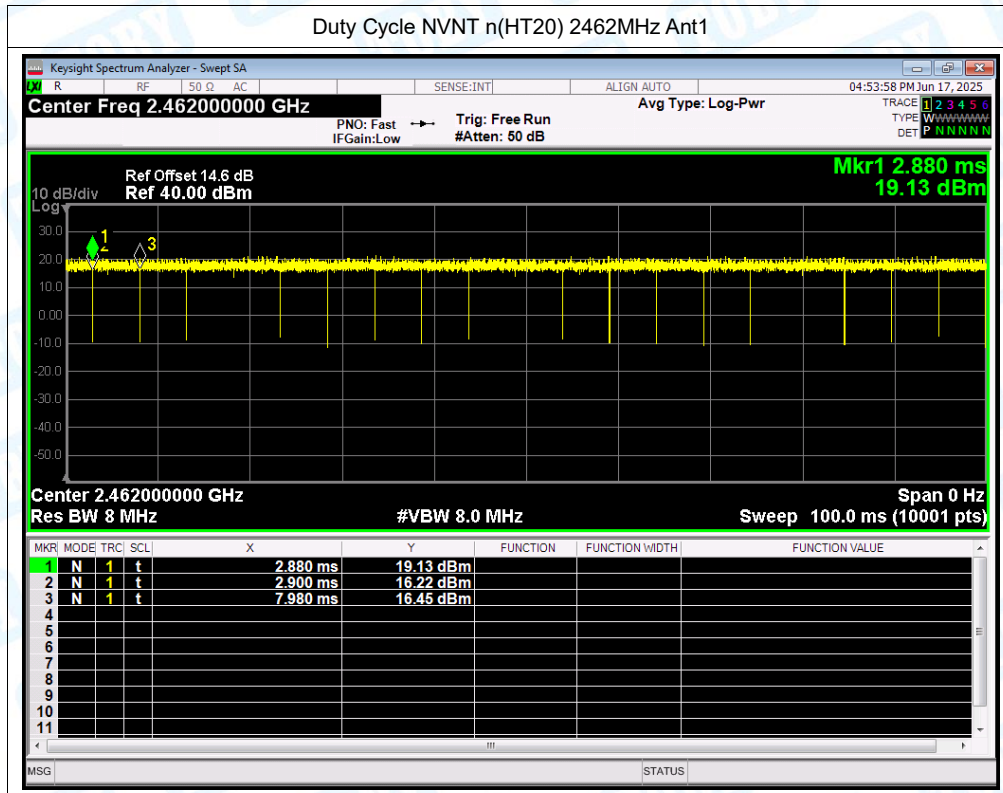


Duty Cycle NVNT n(HT20) 2412MHz Ant1



Duty Cycle NVNT n(HT20) 2437MHz Ant1





2. Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Gain (dBi)	EIRP(dBm)	EIRPLimit (dBm)	Verdict
NVNT	b	2412	Ant1	15.53	30	1.82	17.35	36	Pass
NVNT	b	2437	Ant1	15.61	30	1.82	17.43	36	Pass
NVNT	b	2462	Ant1	15.62	30	1.82	17.44	36	Pass
NVNT	g	2412	Ant1	15.33	30	1.82	17.15	36	Pass
NVNT	g	2437	Ant1	14.98	30	1.82	16.8	36	Pass
NVNT	g	2462	Ant1	14.05	30	1.82	15.87	36	Pass
NVNT	n(HT20)	2412	Ant1	13.97	30	1.82	15.79	36	Pass
NVNT	n(HT20)	2437	Ant1	15.07	30	1.82	16.89	36	Pass
NVNT	n(HT20)	2462	Ant1	13.99	30	1.82	15.81	36	Pass

Note: RF Conducted test Offset= cable loss+ Attenuator factor.

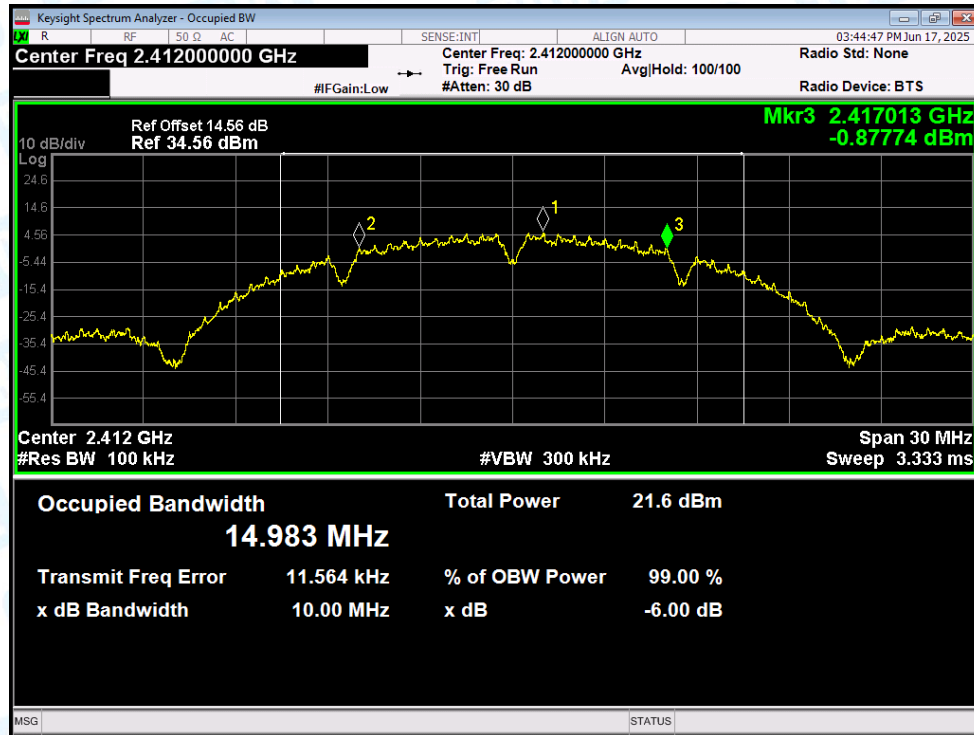
3. -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	10	0.5	Pass
NVNT	b	2437	Ant1	10.01	0.5	Pass
NVNT	b	2462	Ant1	10	0.5	Pass
NVNT	g	2412	Ant1	16.35	0.5	Pass
NVNT	g	2437	Ant1	16.37	0.5	Pass
NVNT	g	2462	Ant1	16.33	0.5	Pass
NVNT	n(HT20)	2412	Ant1	17.61	0.5	Pass
NVNT	n(HT20)	2437	Ant1	17.63	0.5	Pass
NVNT	n(HT20)	2462	Ant1	17.59	0.5	Pass

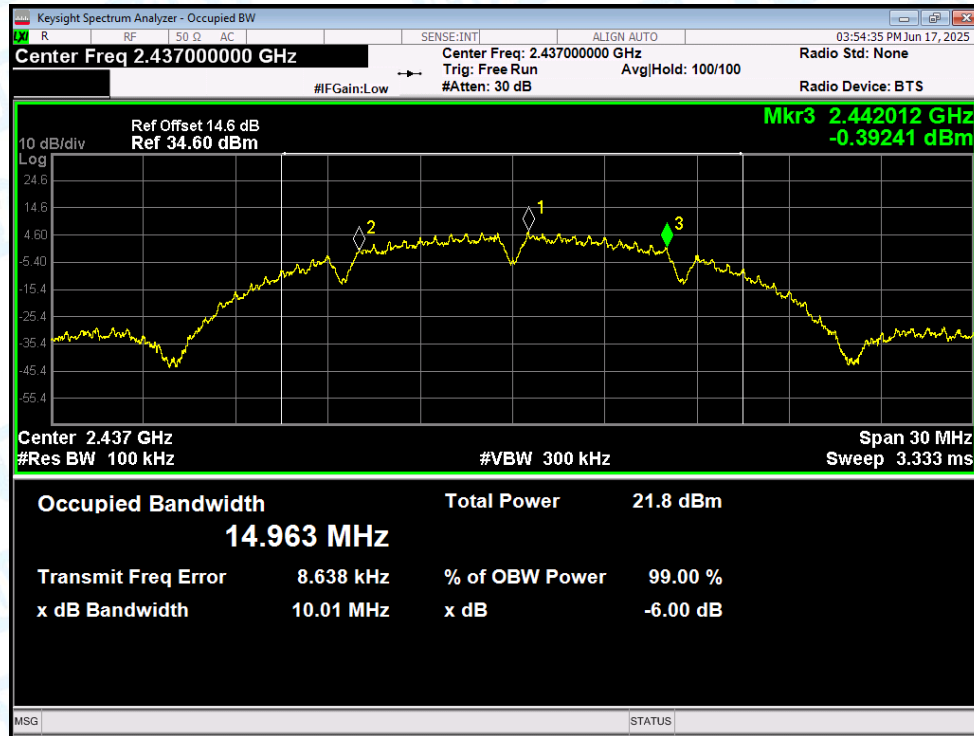
Note: RF Conducted test Offset= cable loss+ Attenuator factor.

Test Graphs

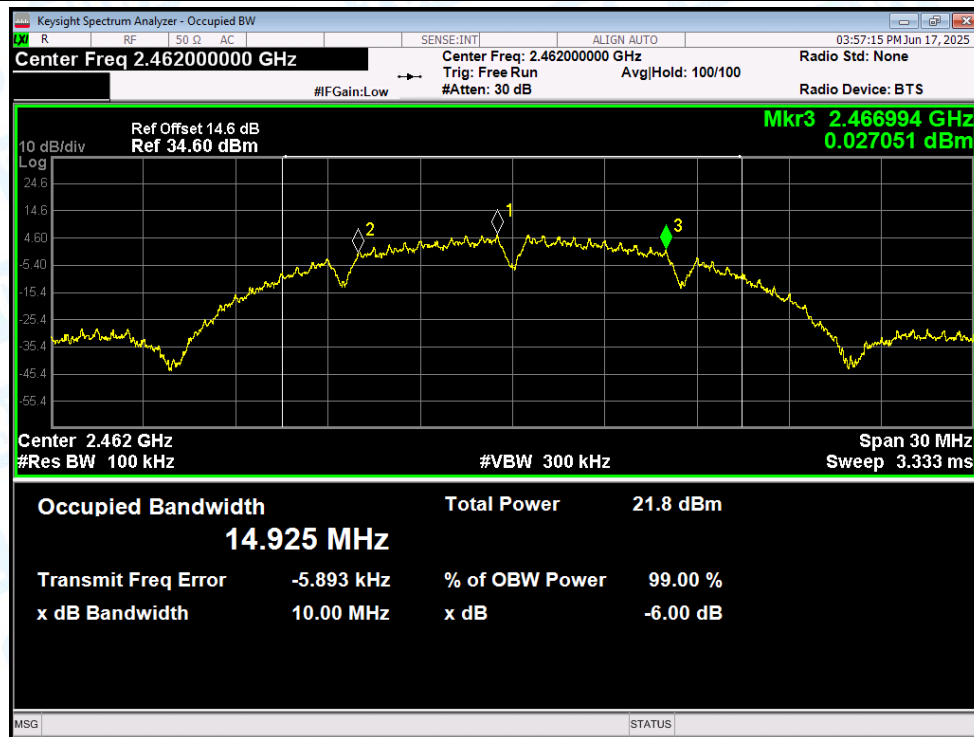
-6dB Bandwidth NVNT b 2412MHz Ant1



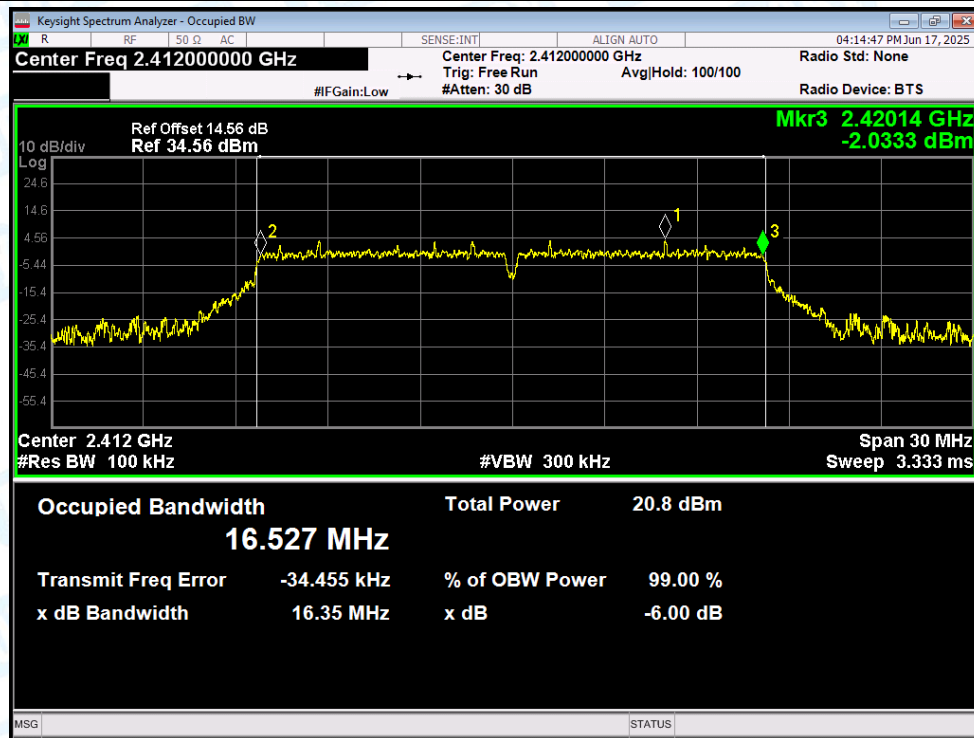
-6dB Bandwidth NVNT b 2437MHz Ant1



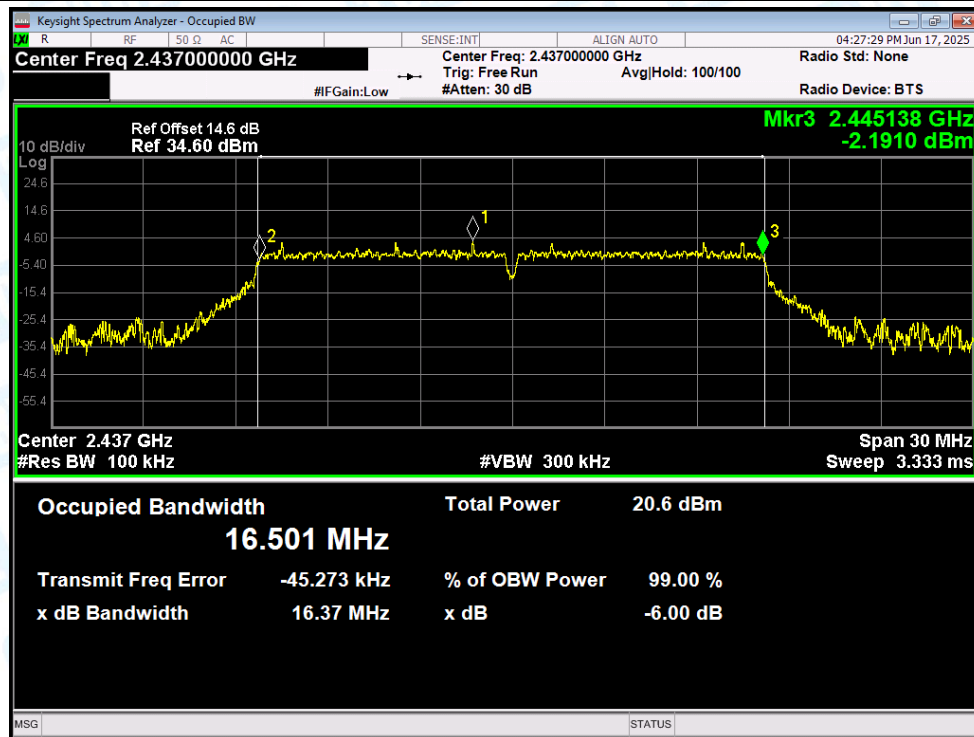
-6dB Bandwidth NVNT b 2462MHz Ant1



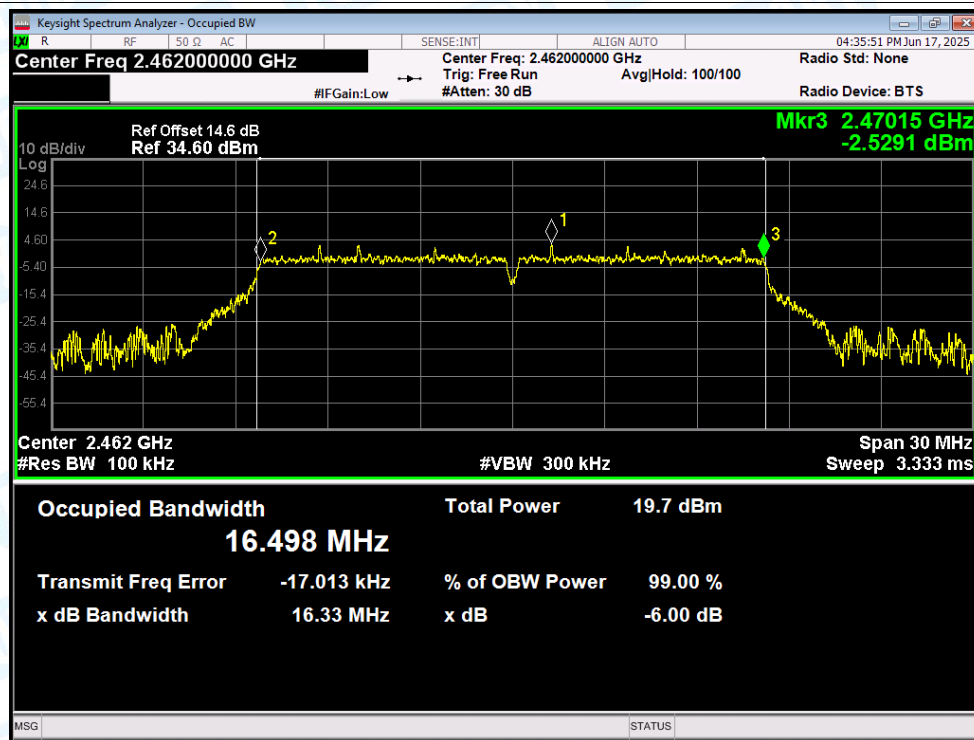
-6dB Bandwidth NVNT g 2412MHz Ant1



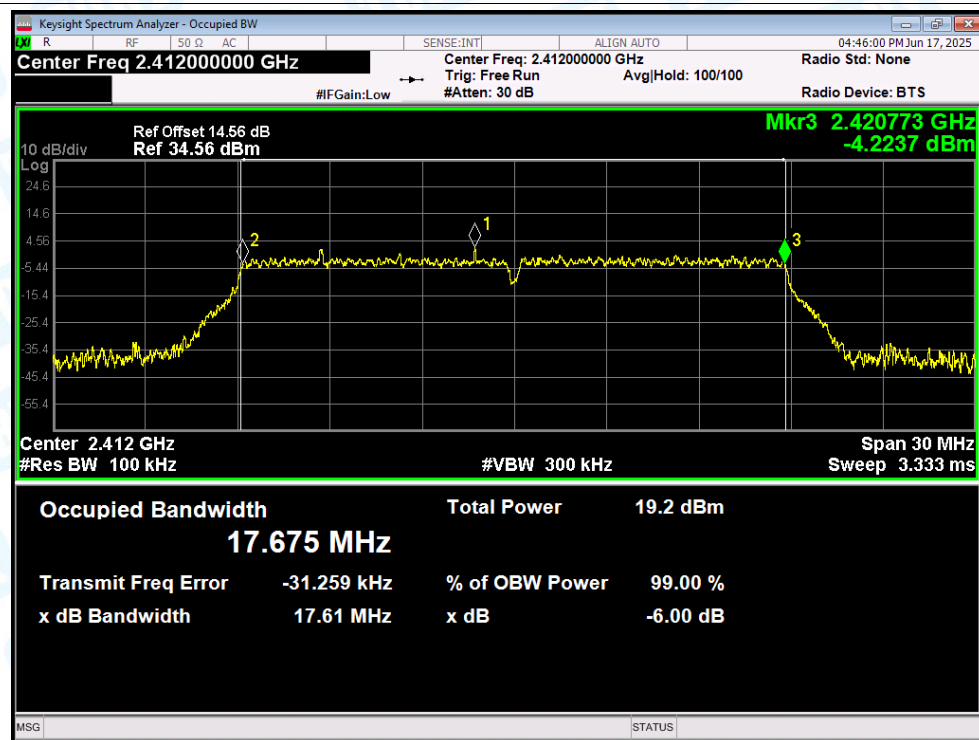
-6dB Bandwidth NVNT g 2437MHz Ant1



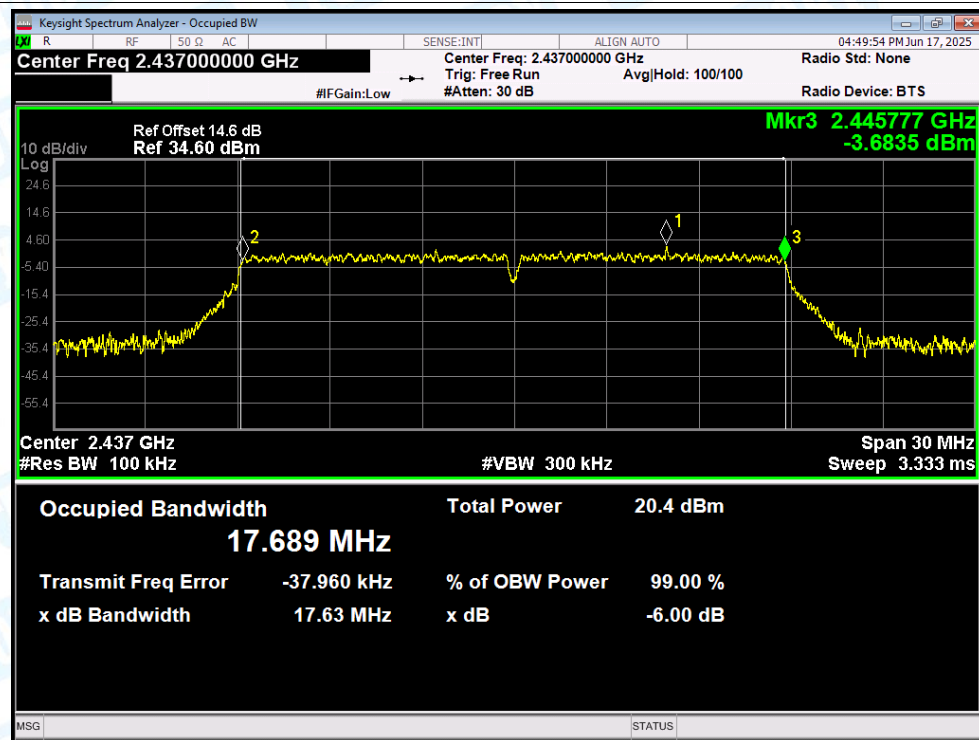
-6dB Bandwidth NVNT g 2462MHz Ant1

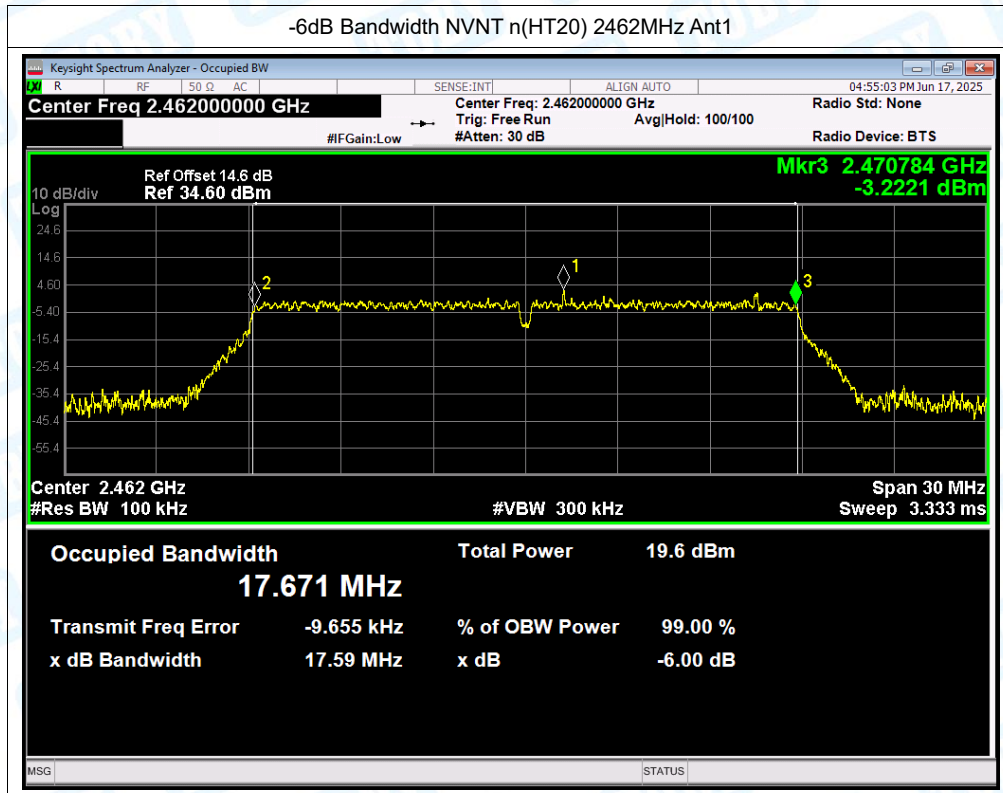


-6dB Bandwidth NVNT n(HT20) 2412MHz Ant1



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





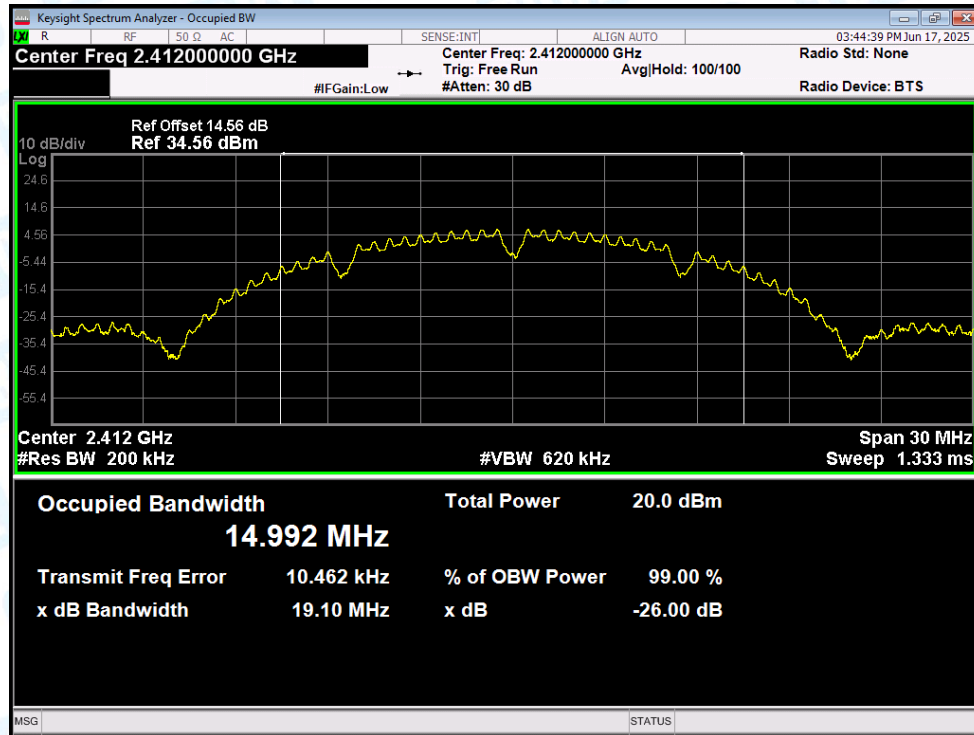
4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	14.992
NVNT	b	2437	Ant1	14.974
NVNT	b	2462	Ant1	14.979
NVNT	g	2412	Ant1	16.763
NVNT	g	2437	Ant1	16.682
NVNT	g	2462	Ant1	16.67
NVNT	n(HT20)	2412	Ant1	17.811
NVNT	n(HT20)	2437	Ant1	17.802
NVNT	n(HT20)	2462	Ant1	17.793

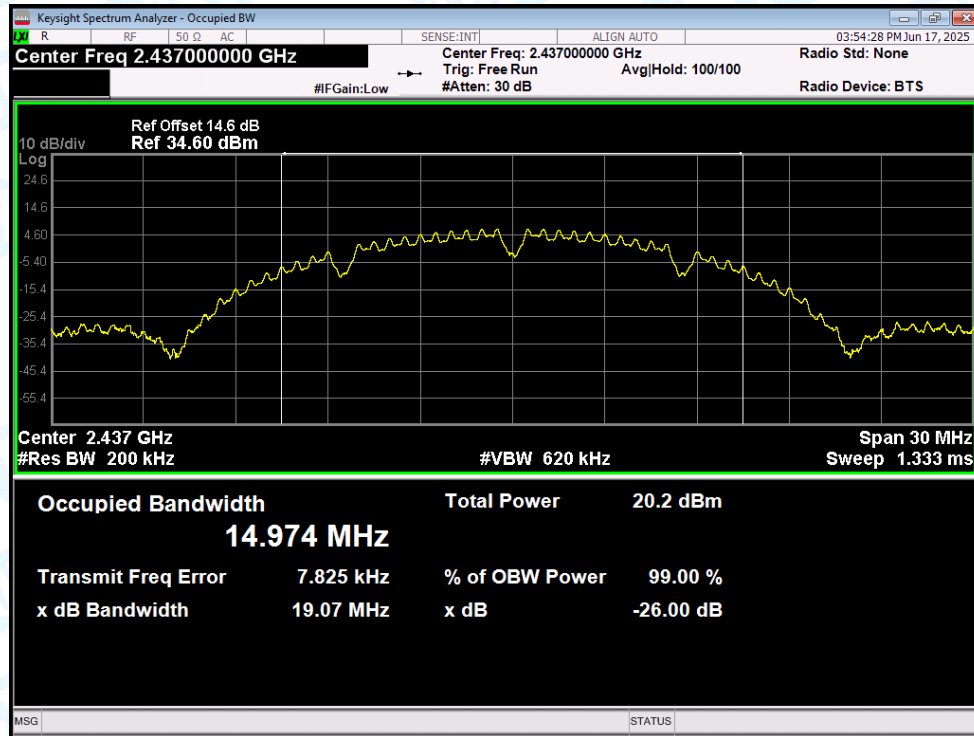
Note: RF Conducted test Offset= cable loss+ Attenuator factor.

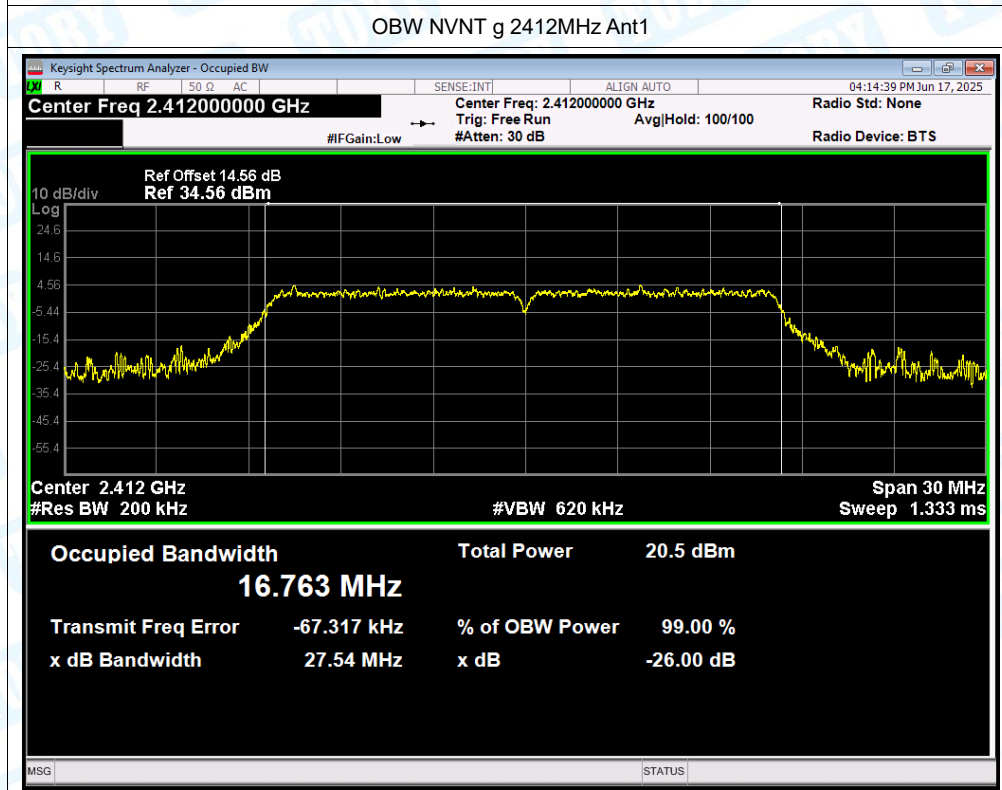
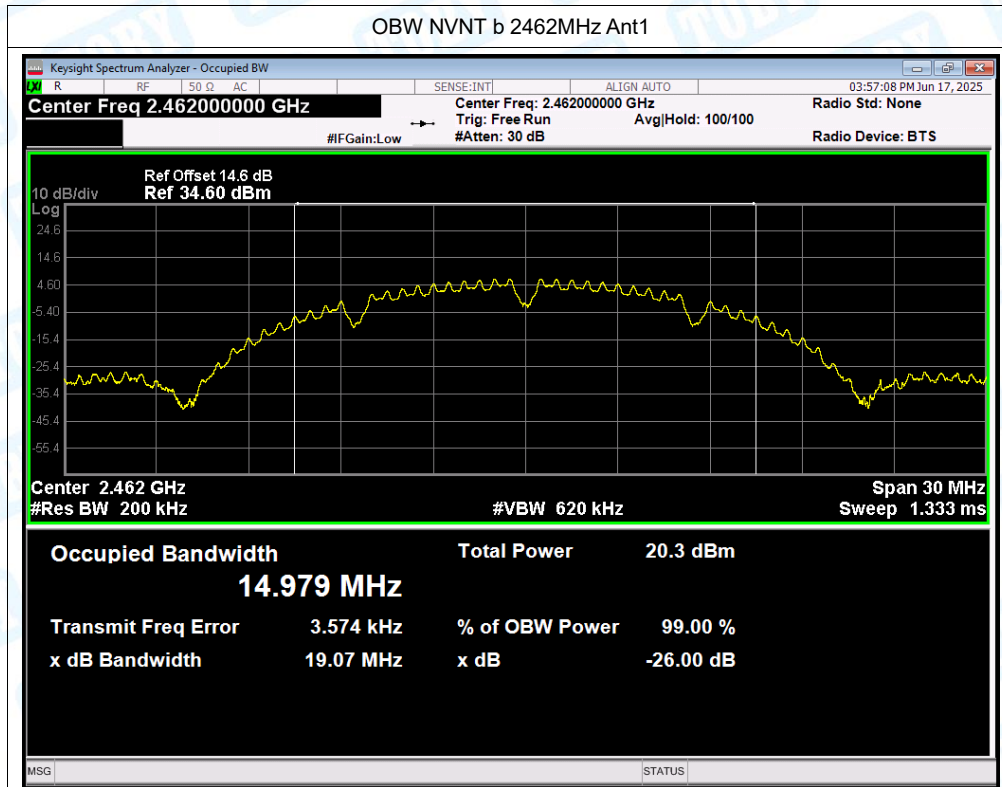
Test Graphs

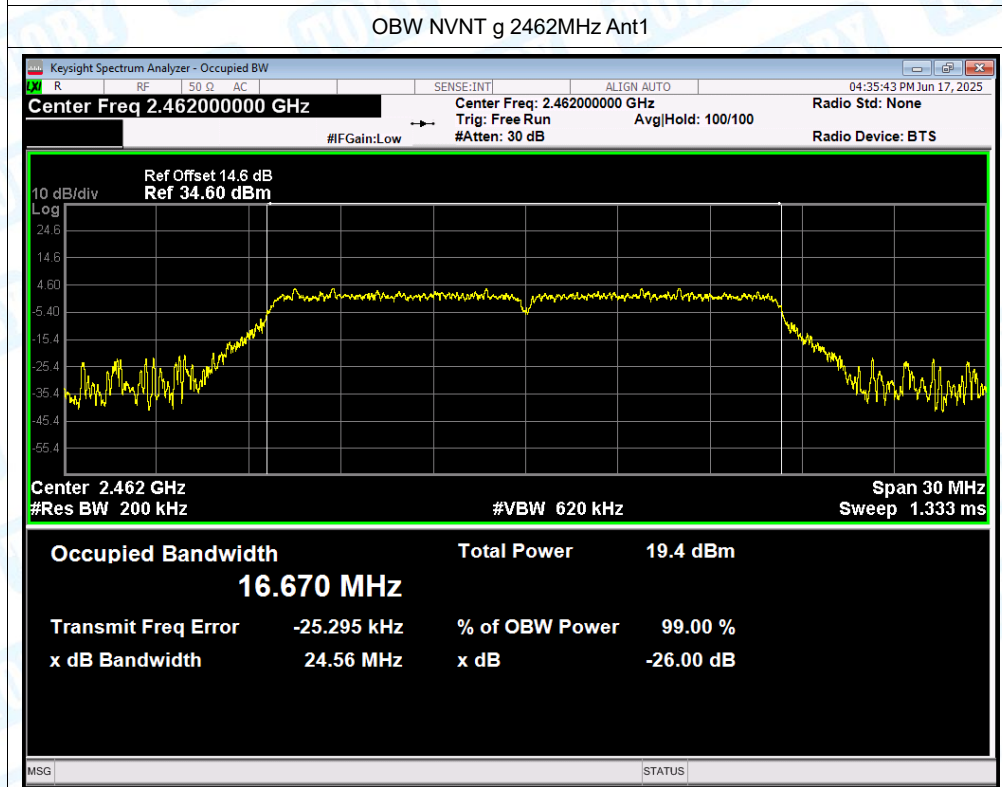
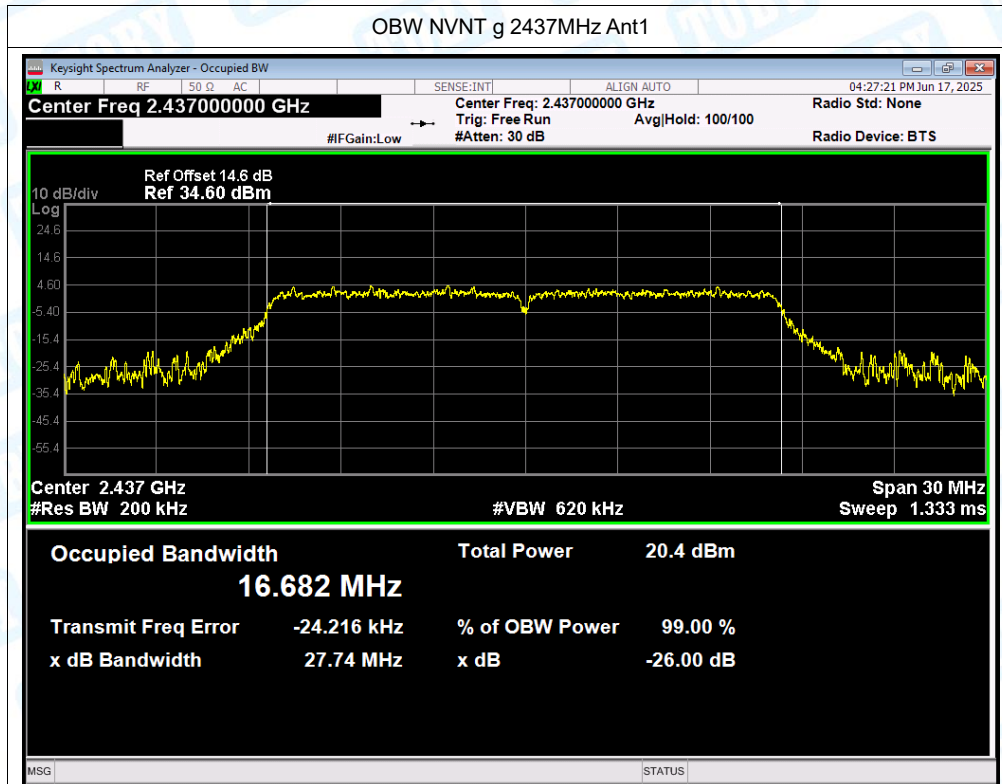
OBW NVNT b 2412MHz Ant1



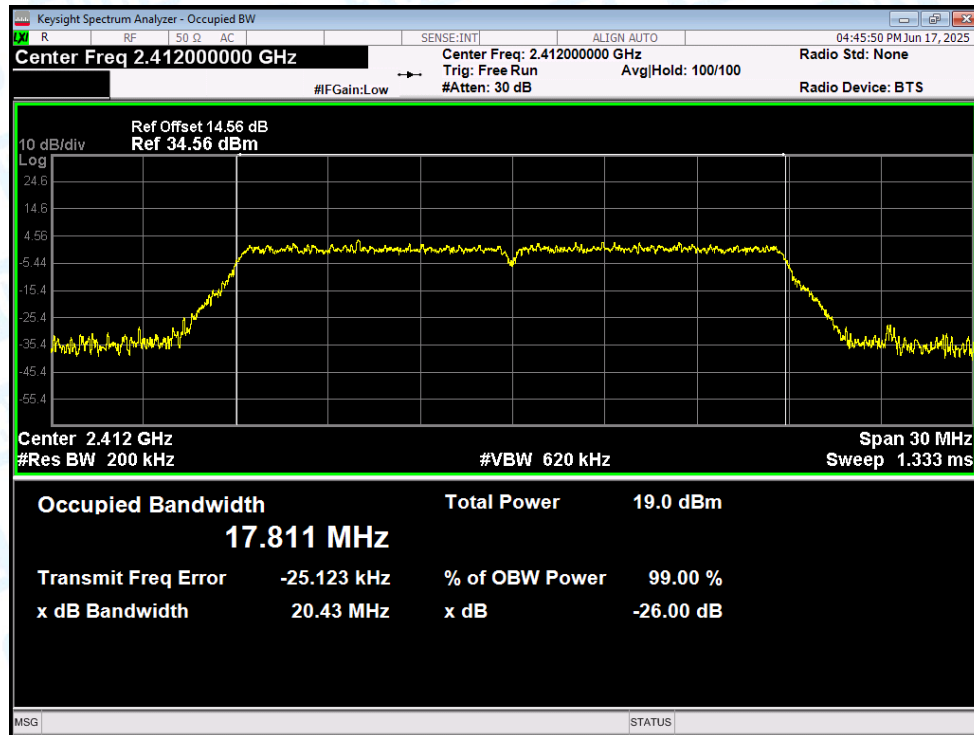
OBW NVNT b 2437MHz Ant1



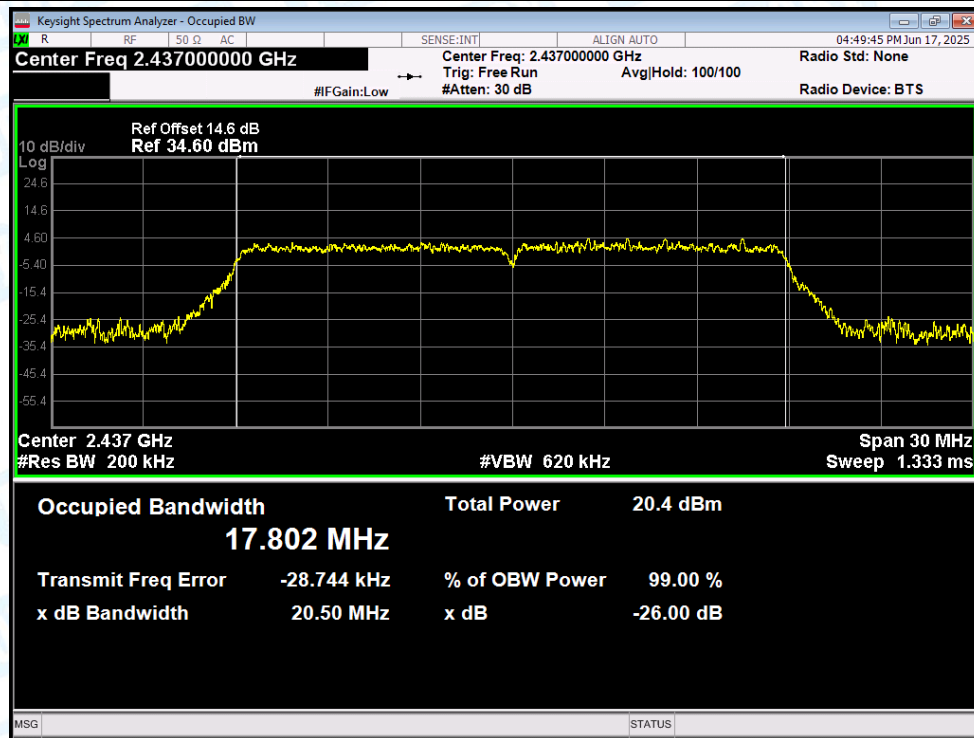


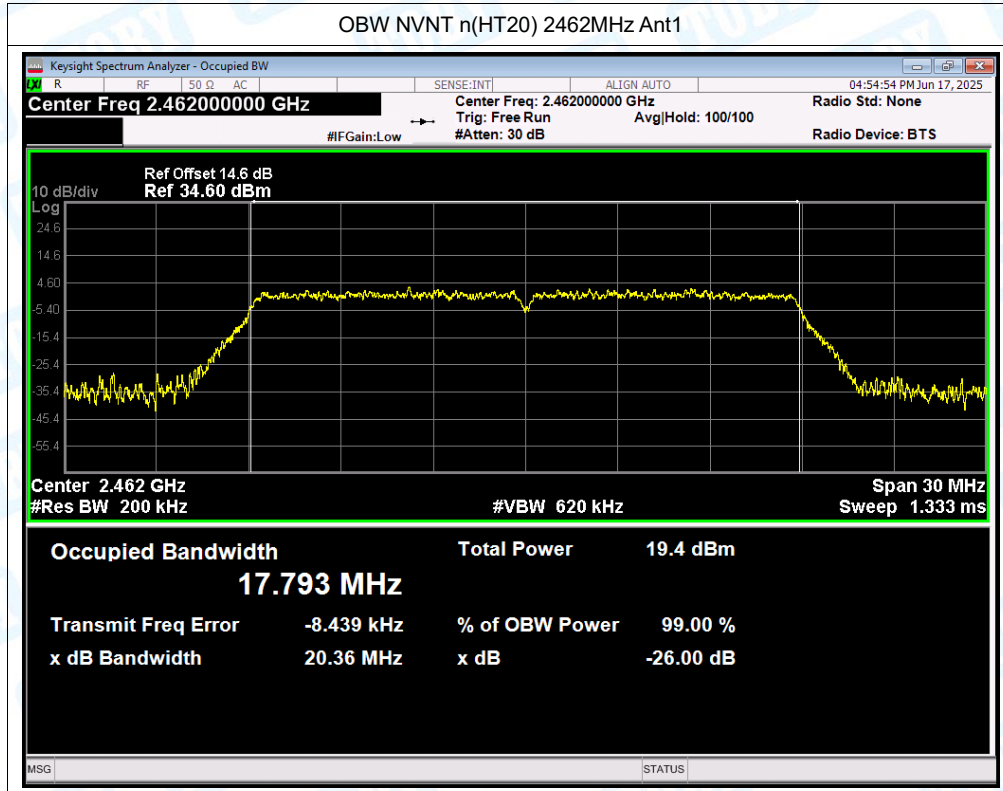


OBW NVNT n(HT20) 2412MHz Ant1



OBW NVNT n(HT20) 2437MHz Ant1





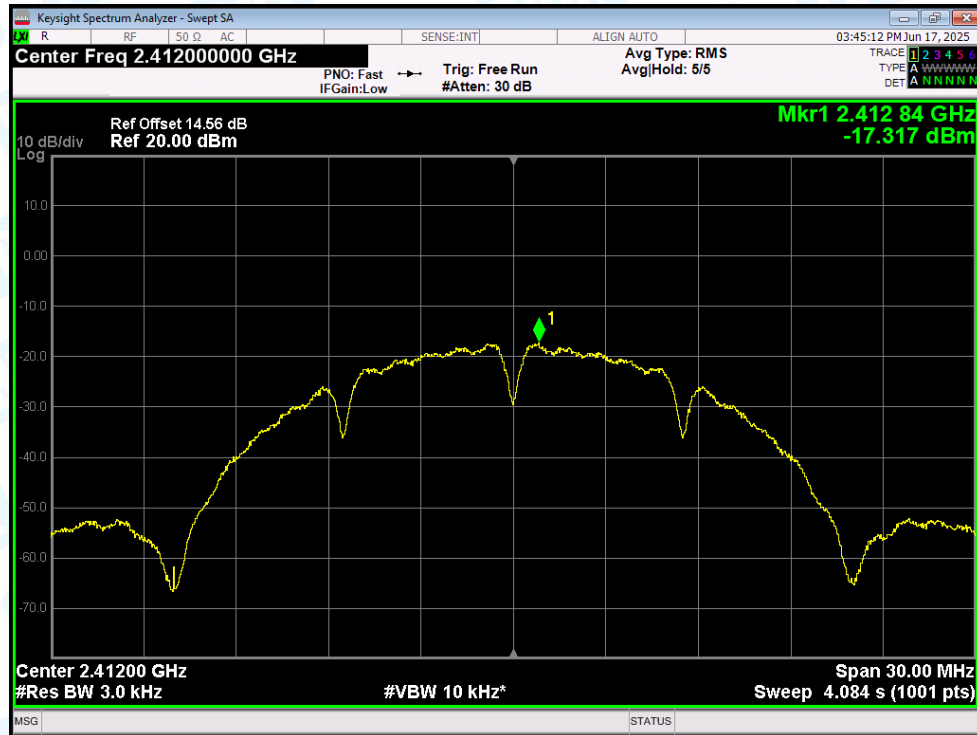
5. Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	-17.317	8	Pass
NVNT	b	2437	Ant1	-17.15	8	Pass
NVNT	b	2462	Ant1	-17.157	8	Pass
NVNT	g	2412	Ant1	-19.868	8	Pass
NVNT	g	2437	Ant1	-20.184	8	Pass
NVNT	g	2462	Ant1	-20.98	8	Pass
NVNT	n(HT20)	2412	Ant1	-21.605	8	Pass
NVNT	n(HT20)	2437	Ant1	-20.41	8	Pass
NVNT	n(HT20)	2462	Ant1	-21.234	8	Pass

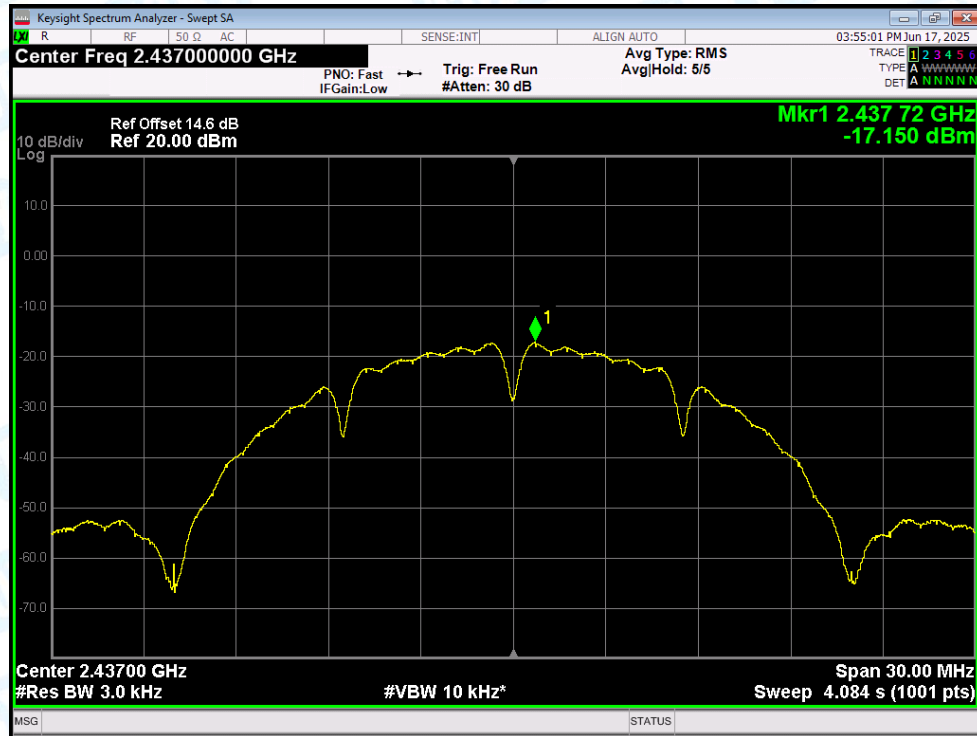
Note: RF Conducted test Offset= cable loss+ Attenuator factor.

Test Graphs

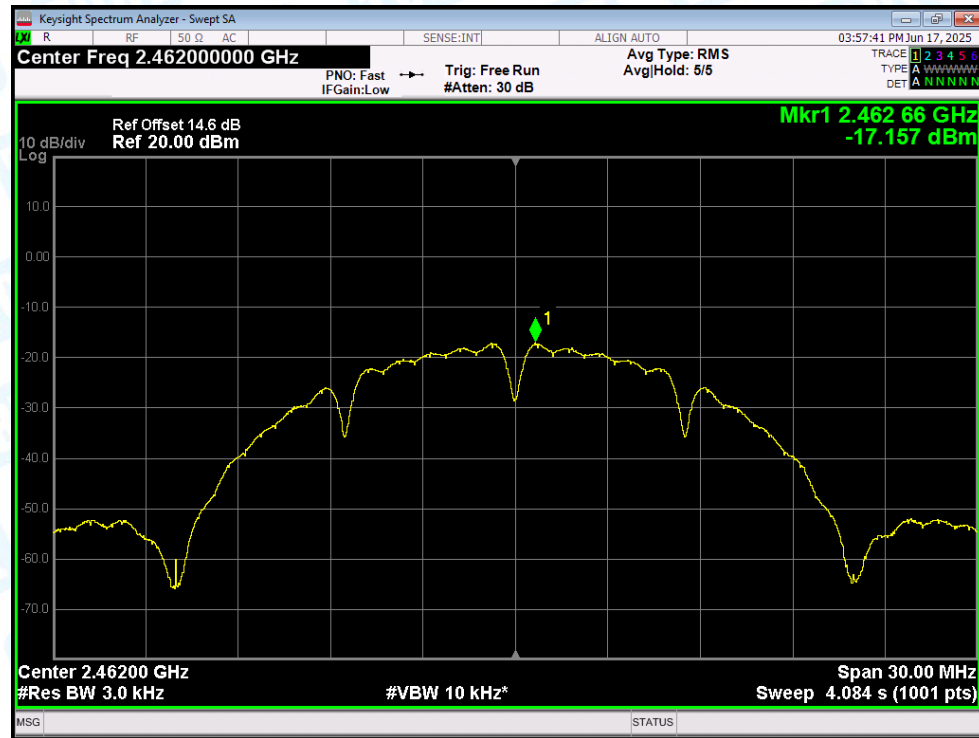
PSD NVNT b 2412MHz Ant1



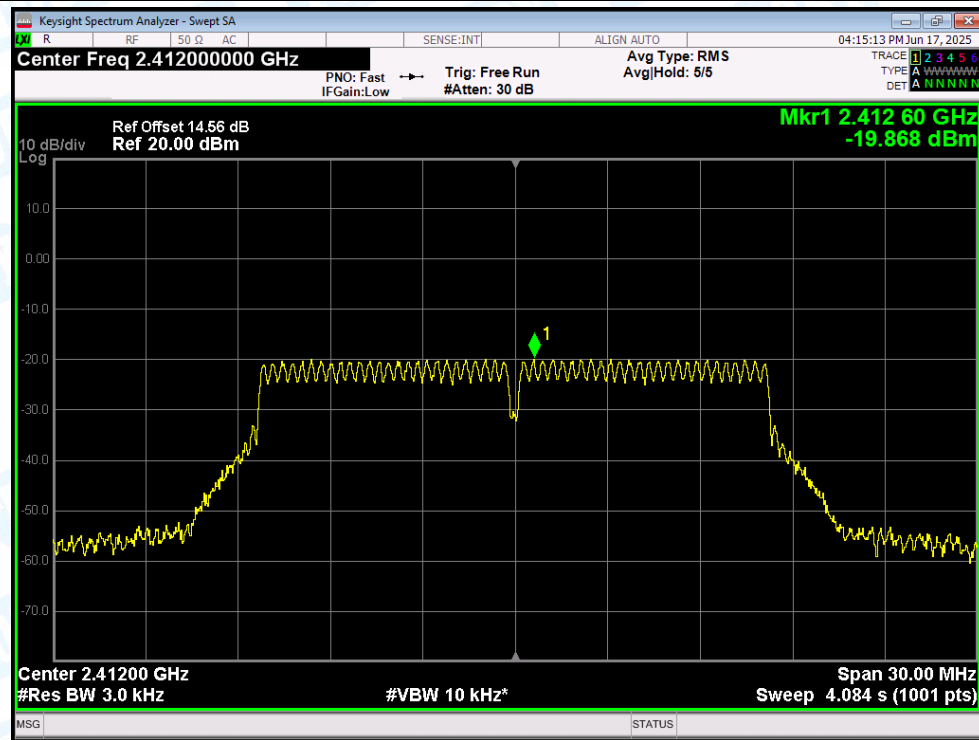
PSD NVNT b 2437MHz Ant1

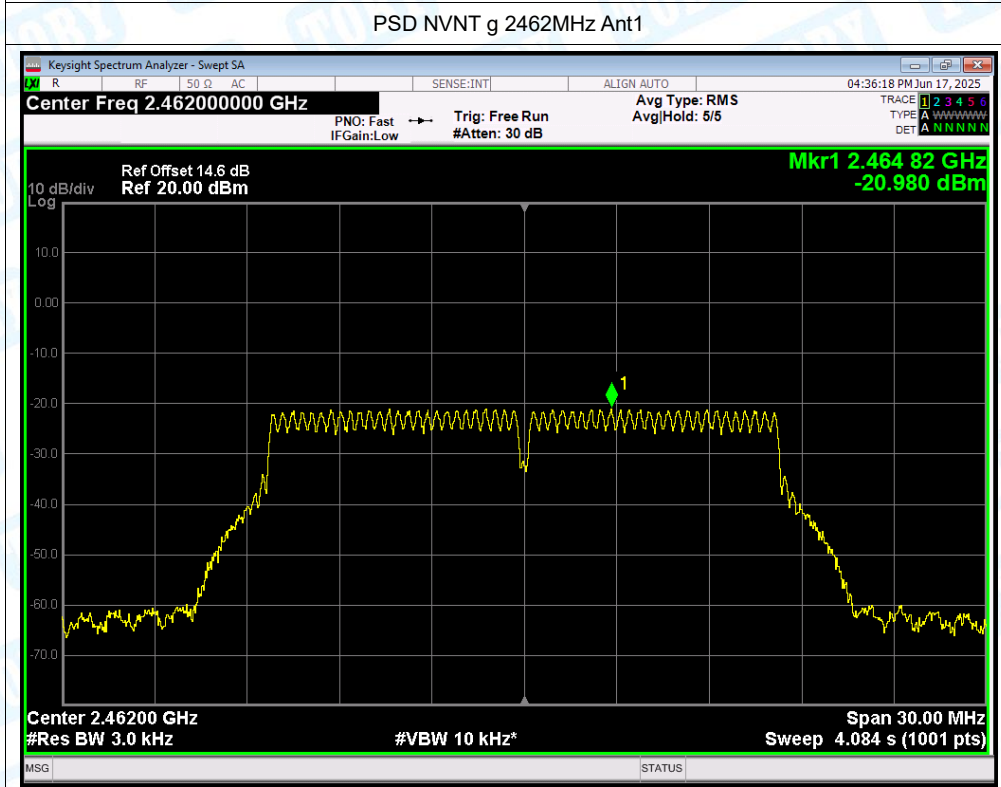
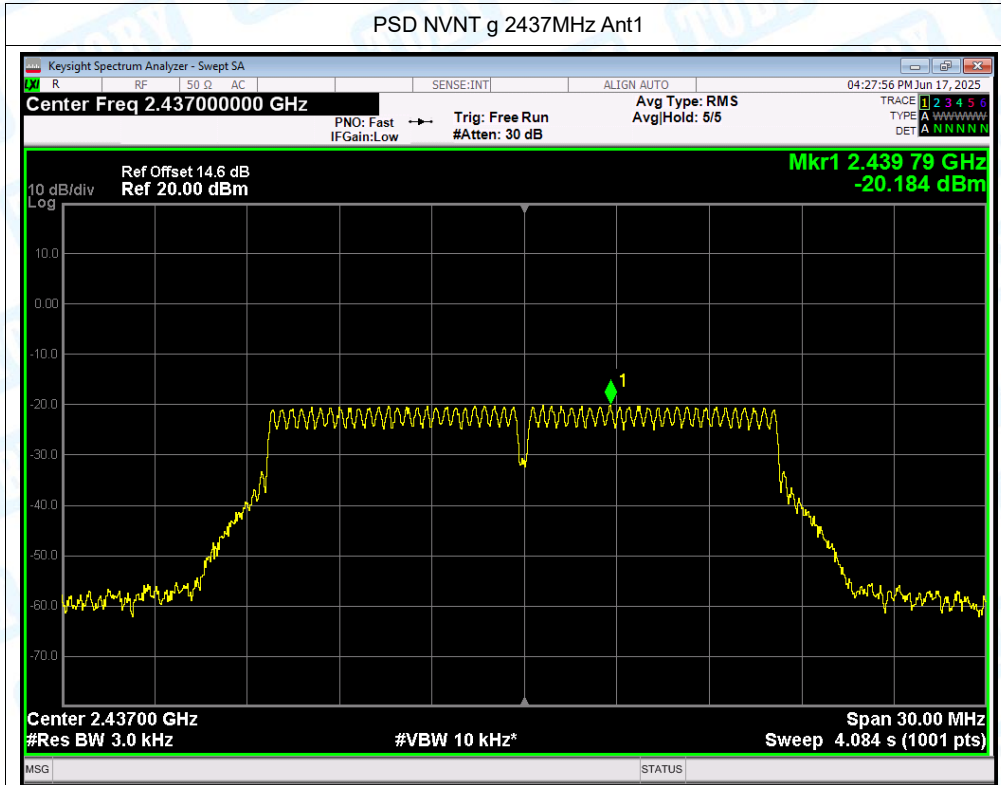


PSD NVNT b 2462MHz Ant1

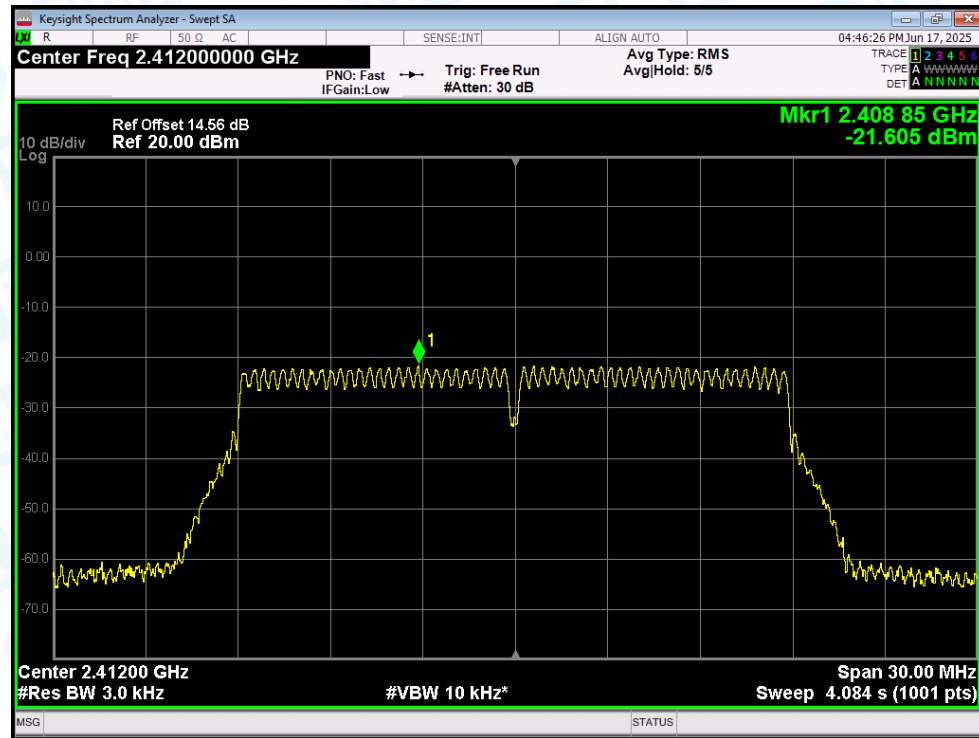


PSD NVNT g 2412MHz Ant1

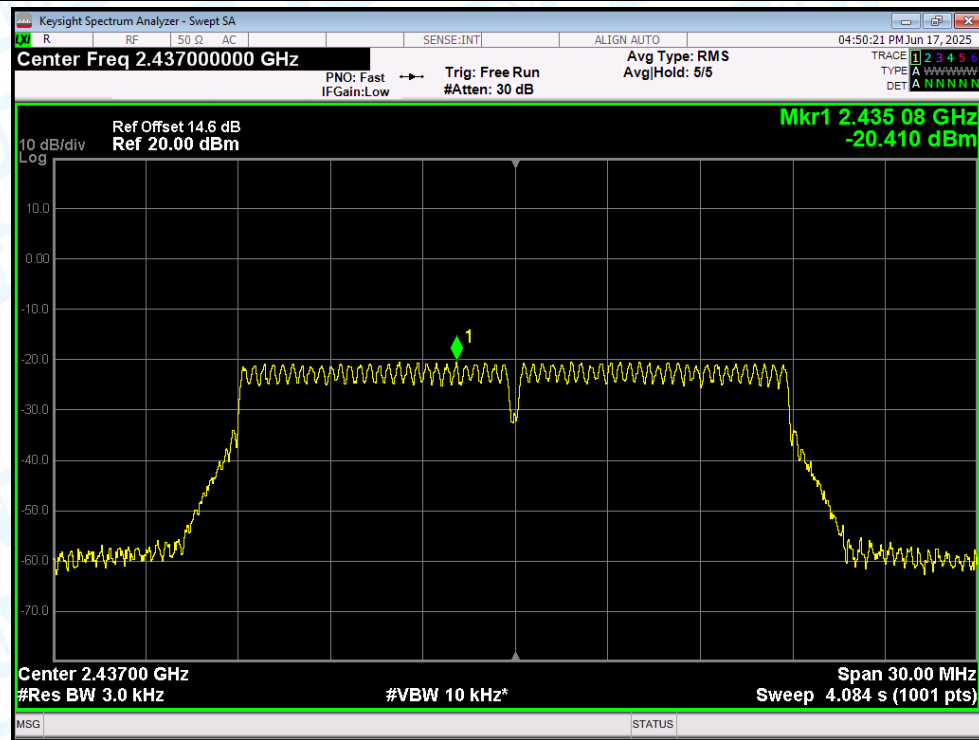


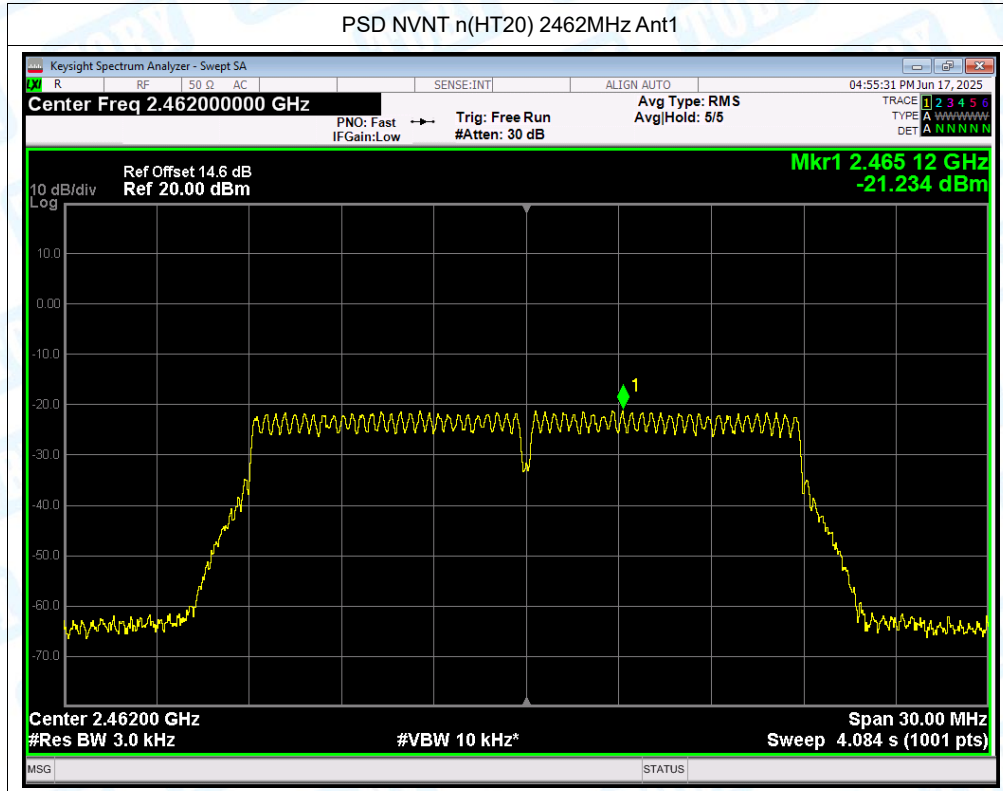


PSD NVNT n(HT20) 2412MHz Ant1



PSD NVNT n(HT20) 2437MHz Ant1





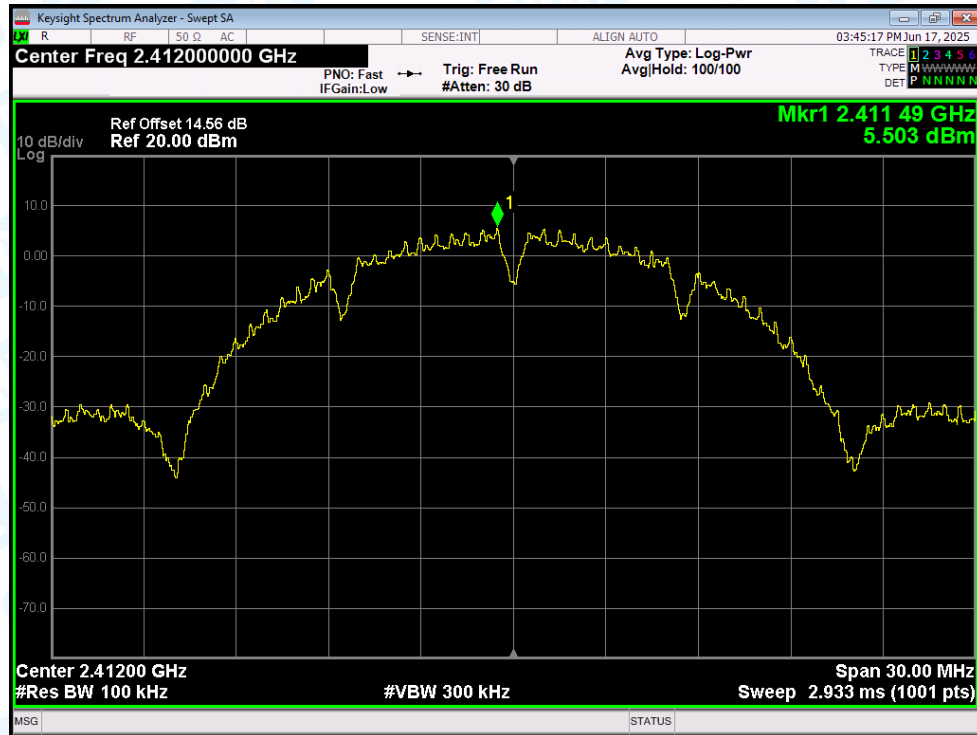
6. Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-49.4	-30	Pass
NVNT	b	2462	Ant1	-48.22	-30	Pass
NVNT	g	2412	Ant1	-40.6	-30	Pass
NVNT	g	2462	Ant1	-42.48	-30	Pass
NVNT	n(HT20)	2412	Ant1	-40.15	-30	Pass
NVNT	n(HT20)	2462	Ant1	-42.19	-30	Pass

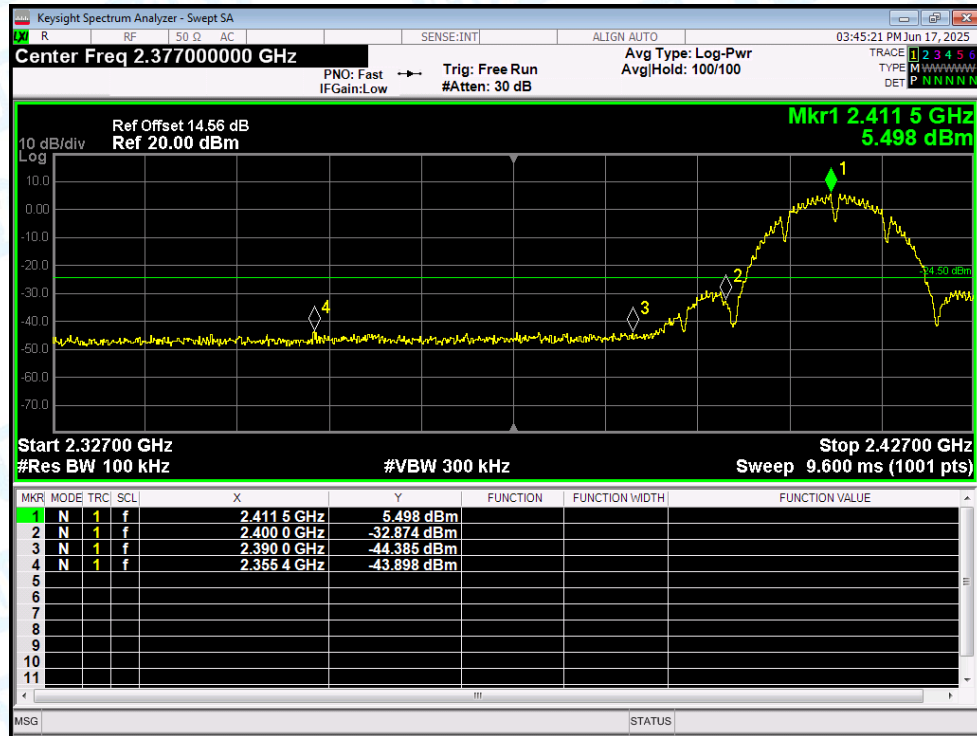
Note: RF Conducted test Offset= cable loss+ Attenuator factor.

Test Graphs

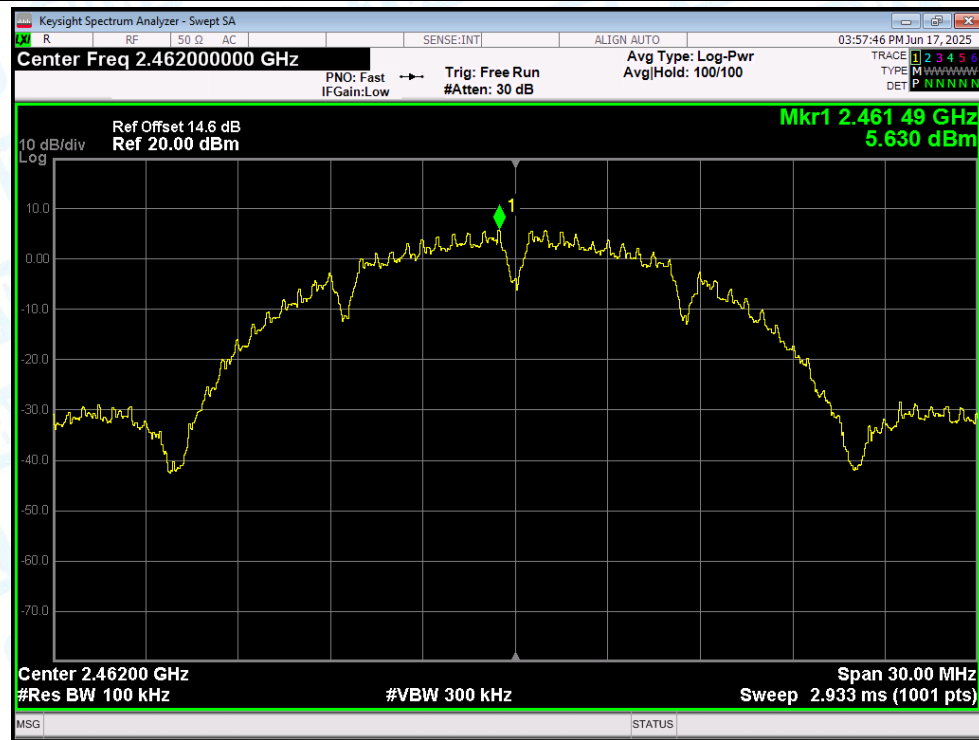
Band Edge NVNT b 2412MHz Ant1 Ref



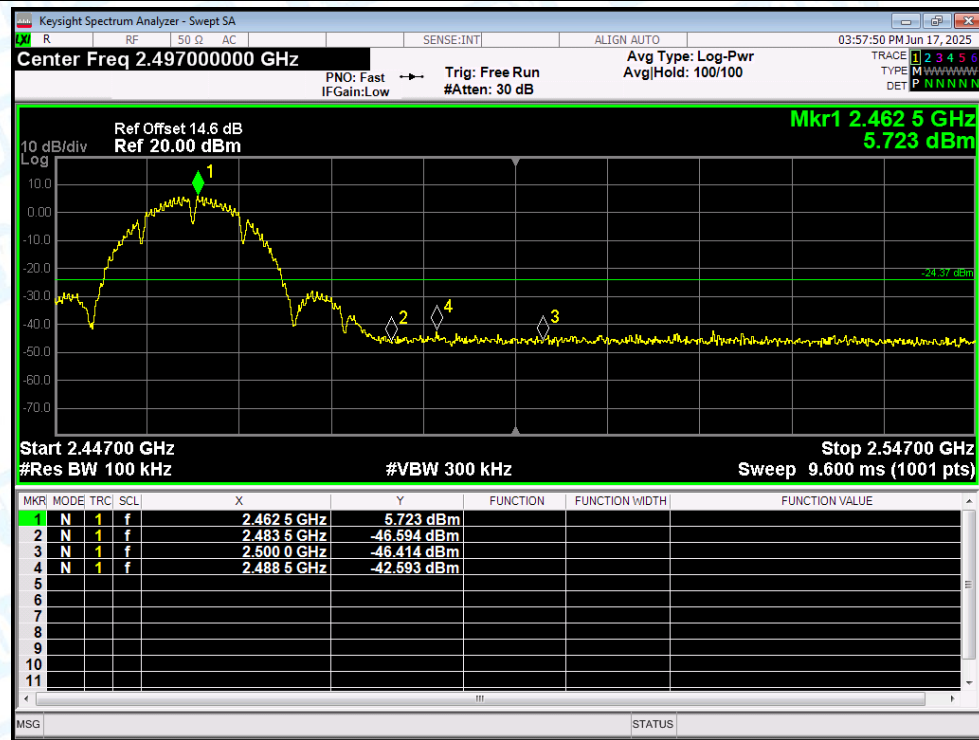
Band Edge NVNT b 2412MHz Ant1 Emission



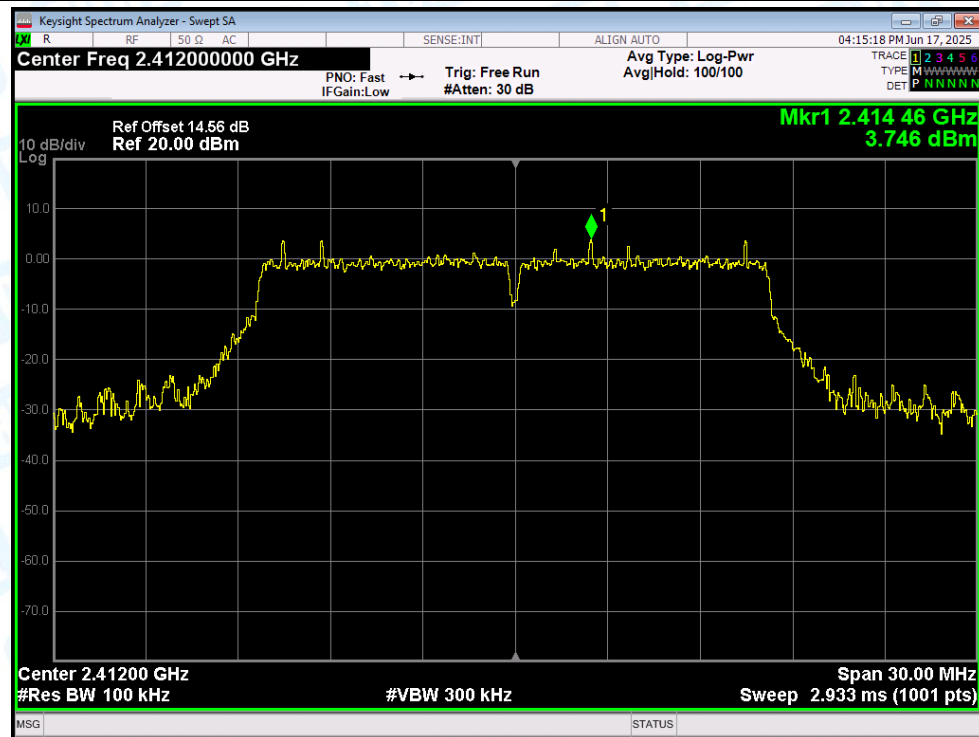
Band Edge NVNT b 2462MHz Ant1 Ref



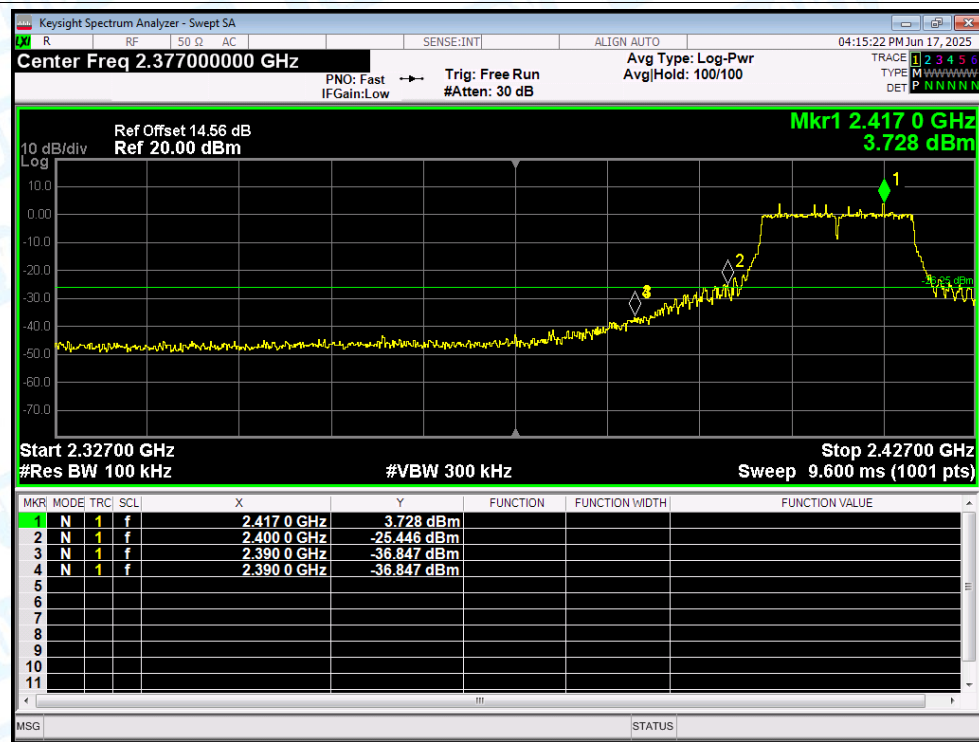
Band Edge NVNT b 2462MHz Ant1 Emission



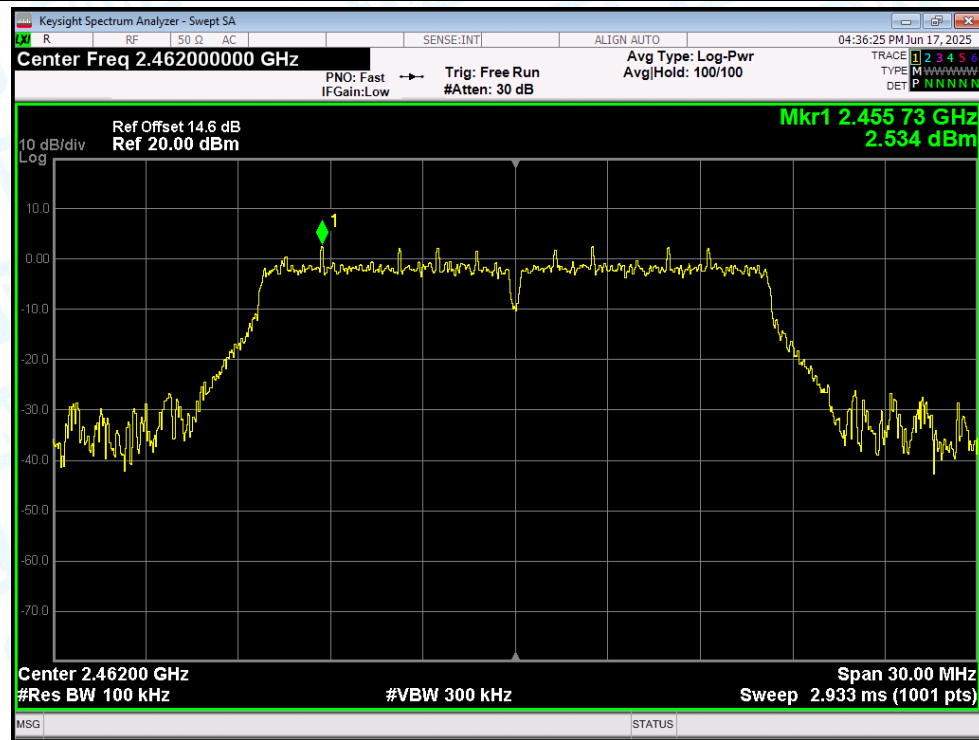
Band Edge NVNT g 2412MHz Ant1 Ref



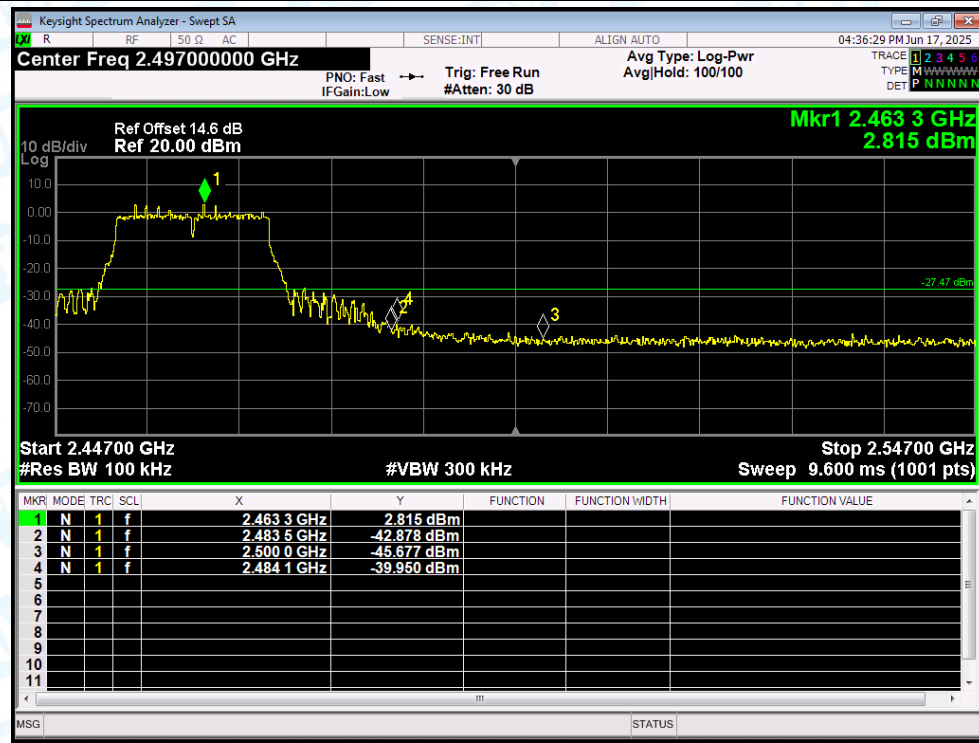
Band Edge NVNT g 2412MHz Ant1 Emission



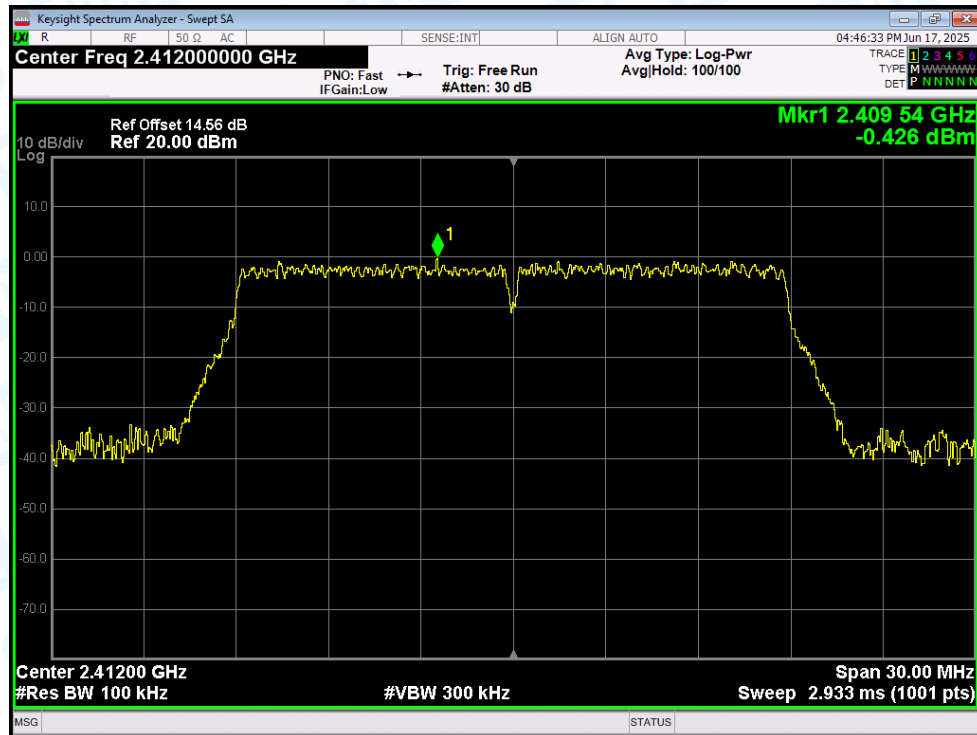
Band Edge NVNT g 2462MHz Ant1 Ref



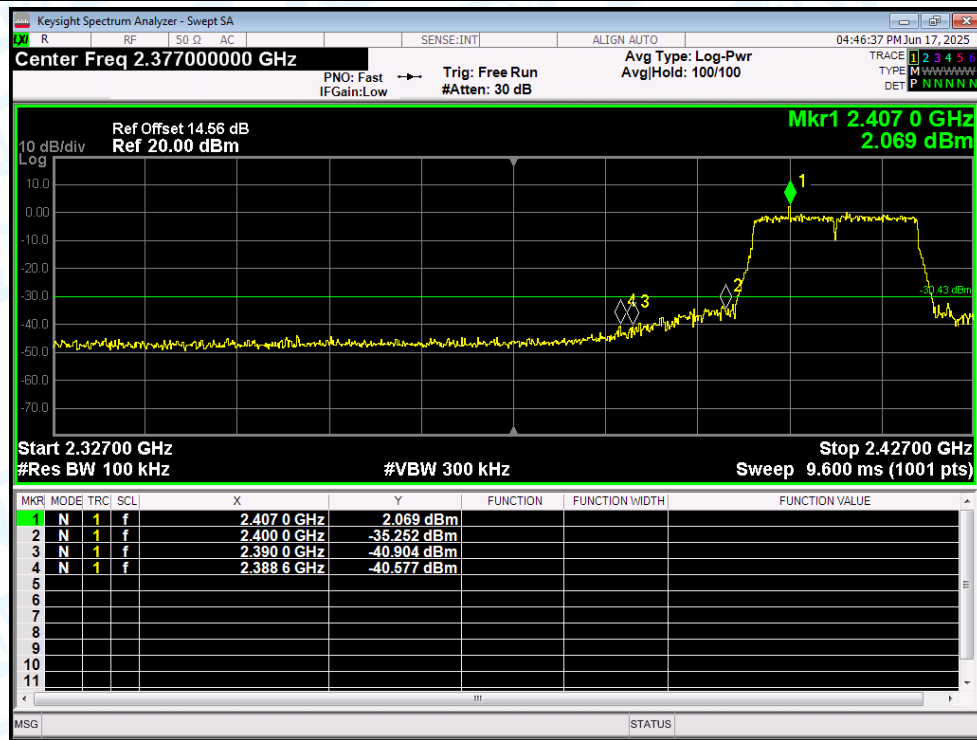
Band Edge NVNT g 2462MHz Ant1 Emission



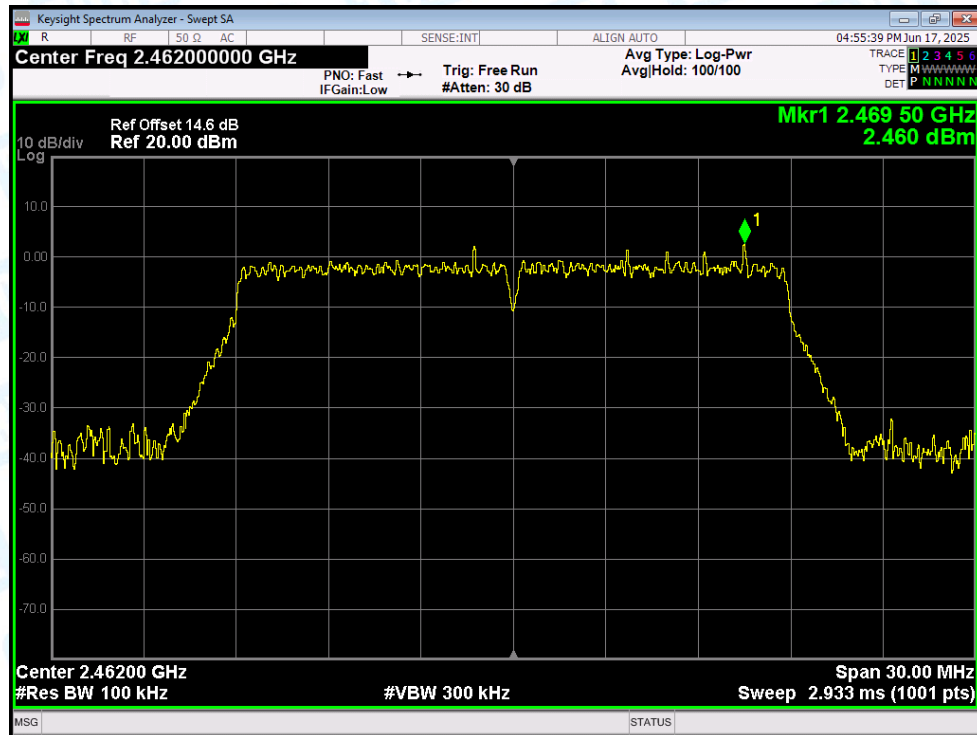
Band Edge NVNT n(HT20) 2412MHz Ant1 Ref



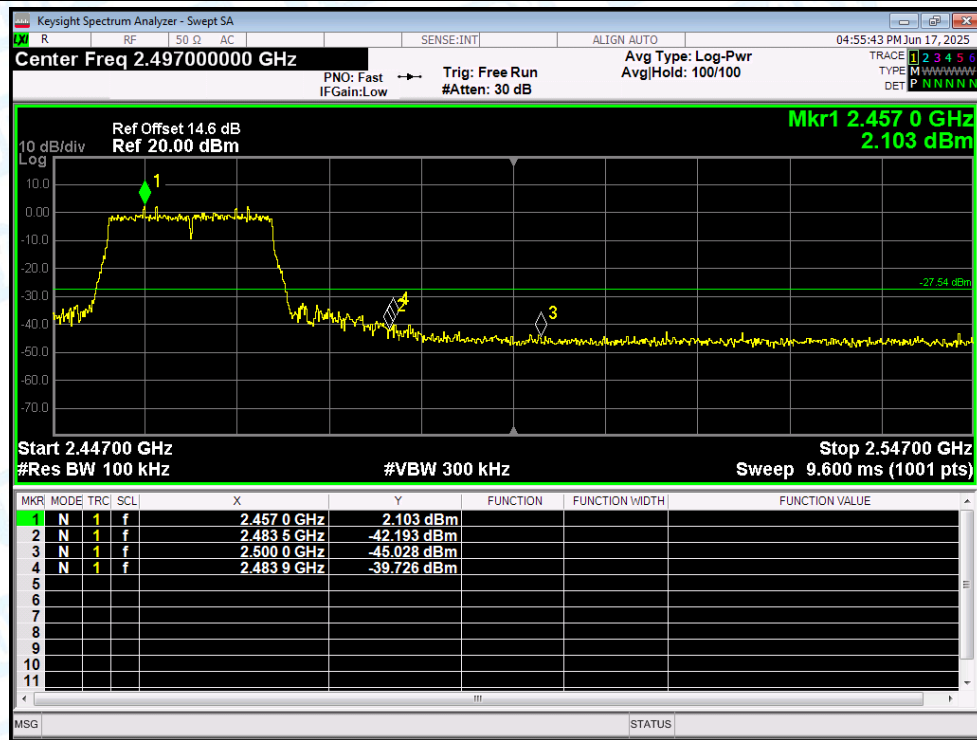
Band Edge NVNT n(HT20) 2412MHz Ant1 Emission



Band Edge NVNT n(HT20) 2462MHz Ant1 Ref



Band Edge NVNT n(HT20) 2462MHz Ant1 Emission



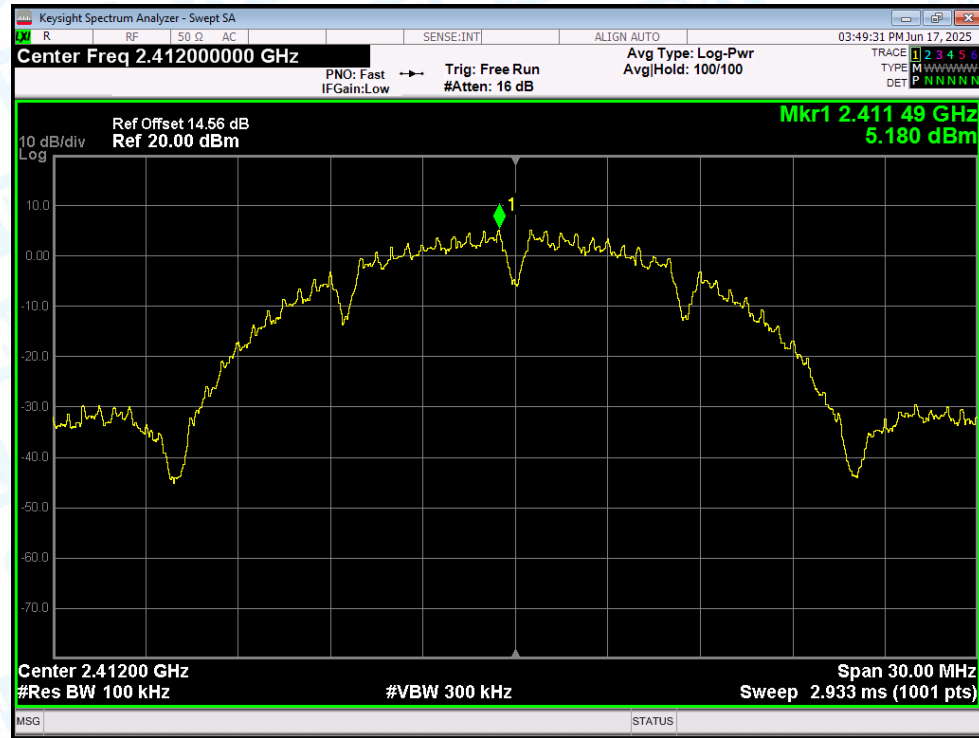
7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-48.13	-30	Pass
NVNT	b	2437	Ant1	-48.77	-30	Pass
NVNT	b	2462	Ant1	-48.11	-30	Pass
NVNT	g	2412	Ant1	-46.86	-30	Pass
NVNT	g	2437	Ant1	-46.43	-30	Pass
NVNT	g	2462	Ant1	-45.07	-30	Pass
NVNT	n(HT20)	2412	Ant1	-44.94	-30	Pass
NVNT	n(HT20)	2437	Ant1	-46.68	-30	Pass
NVNT	n(HT20)	2462	Ant1	-44.67	-30	Pass

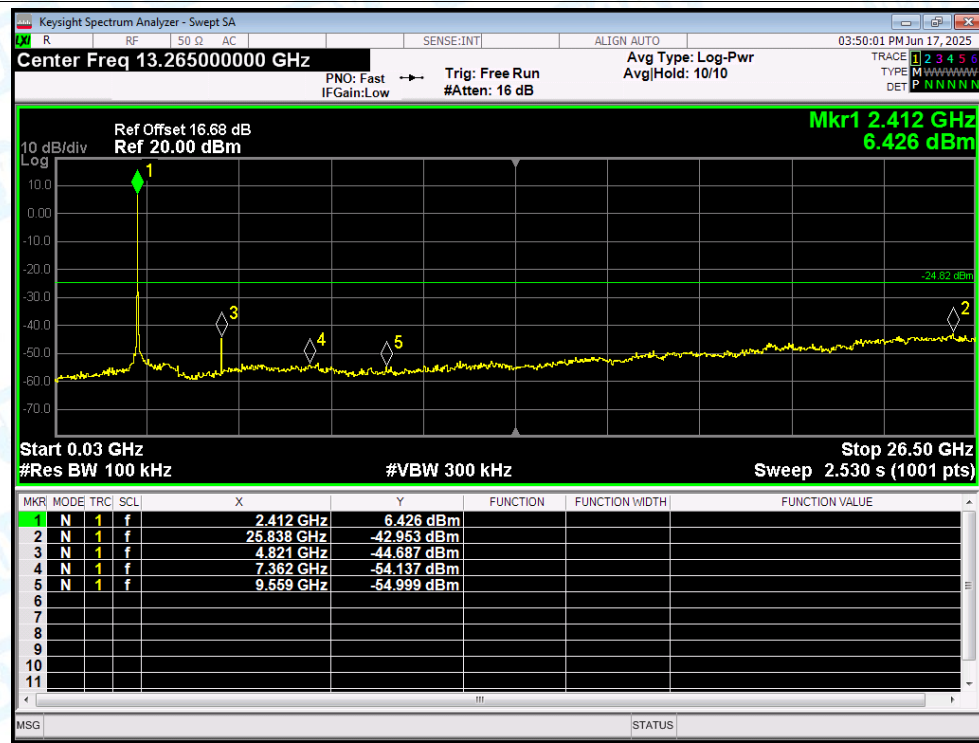
Note: RF Conducted test Offset= cable loss+ Attenuator factor.

Test Graphs

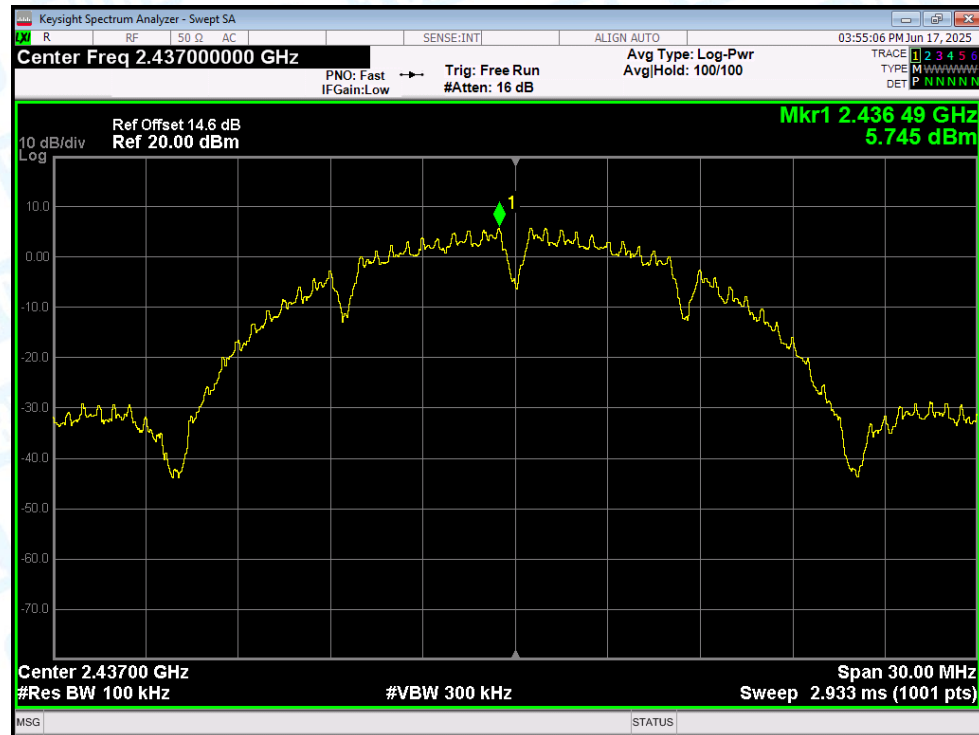
Tx. Spurious NVNT b 2412MHz Ant1 Ref



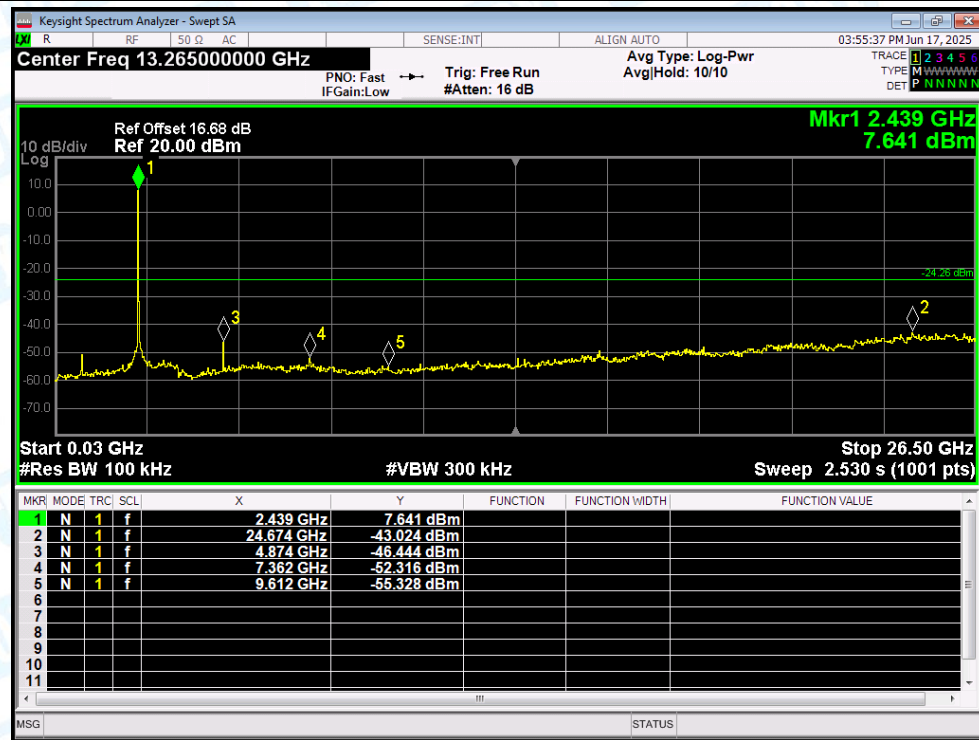
Tx. Spurious NVNT b 2412MHz Ant1 Emission



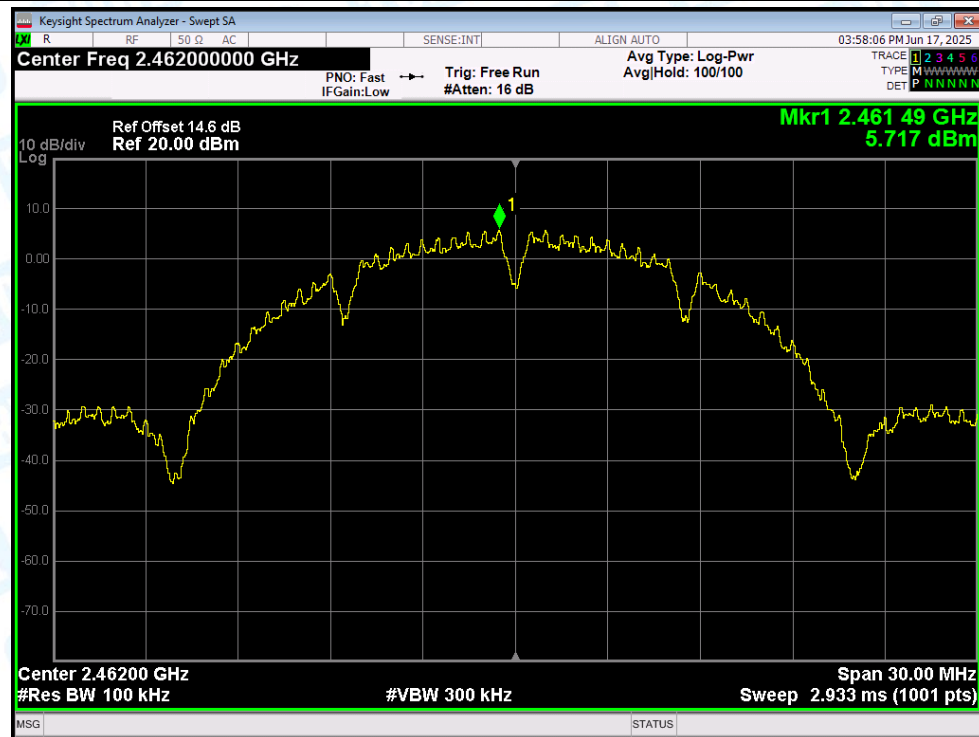
Tx. Spurious NVNT b 2437MHz Ant1 Ref



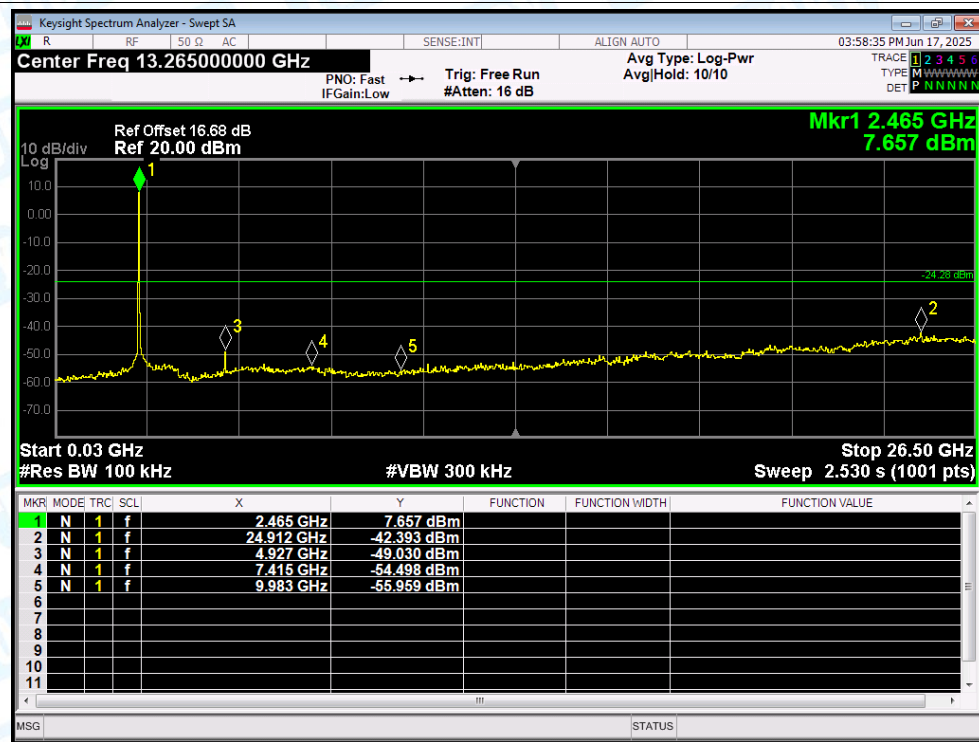
Tx. Spurious NVNT b 2437MHz Ant1 Emission



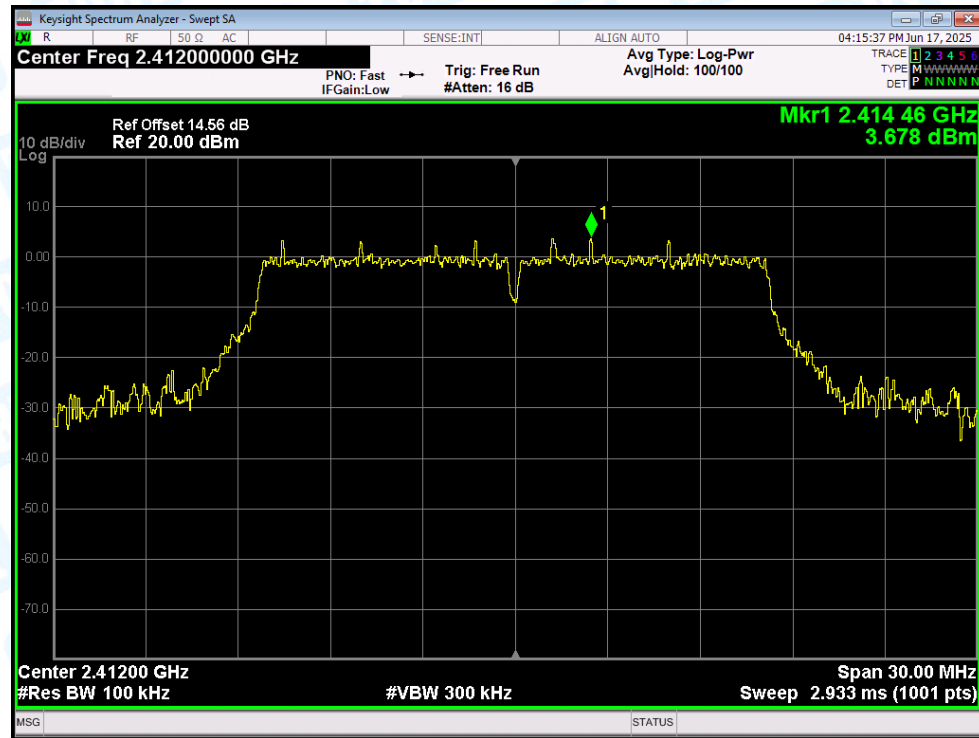
Tx. Spurious NVNT b 2462MHz Ant1 Ref



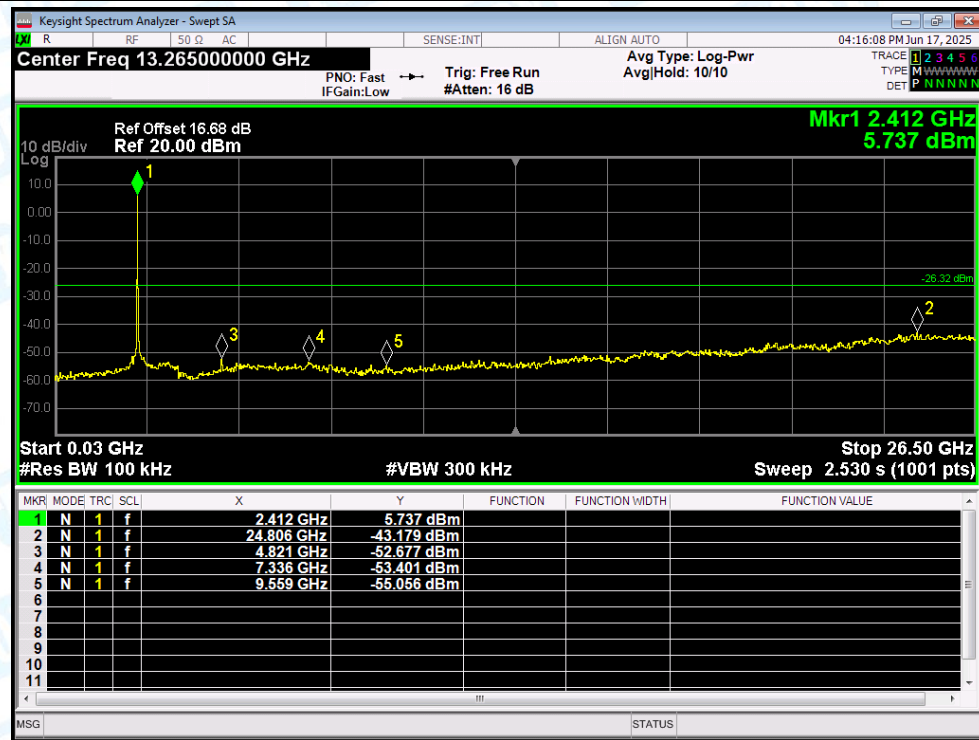
Tx. Spurious NVNT b 2462MHz Ant1 Emission



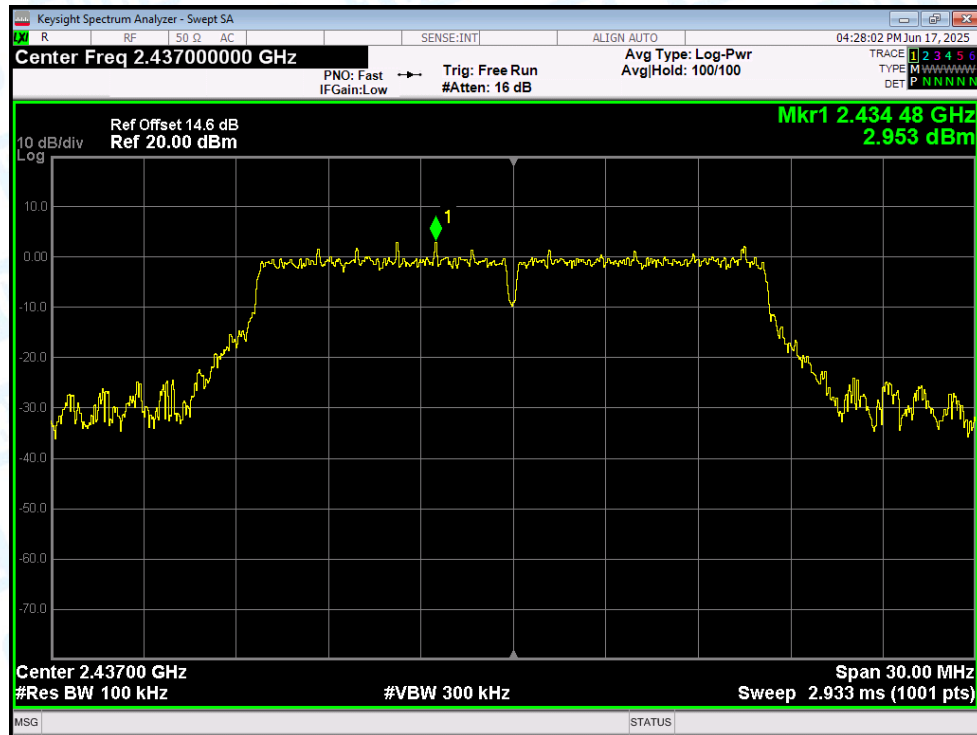
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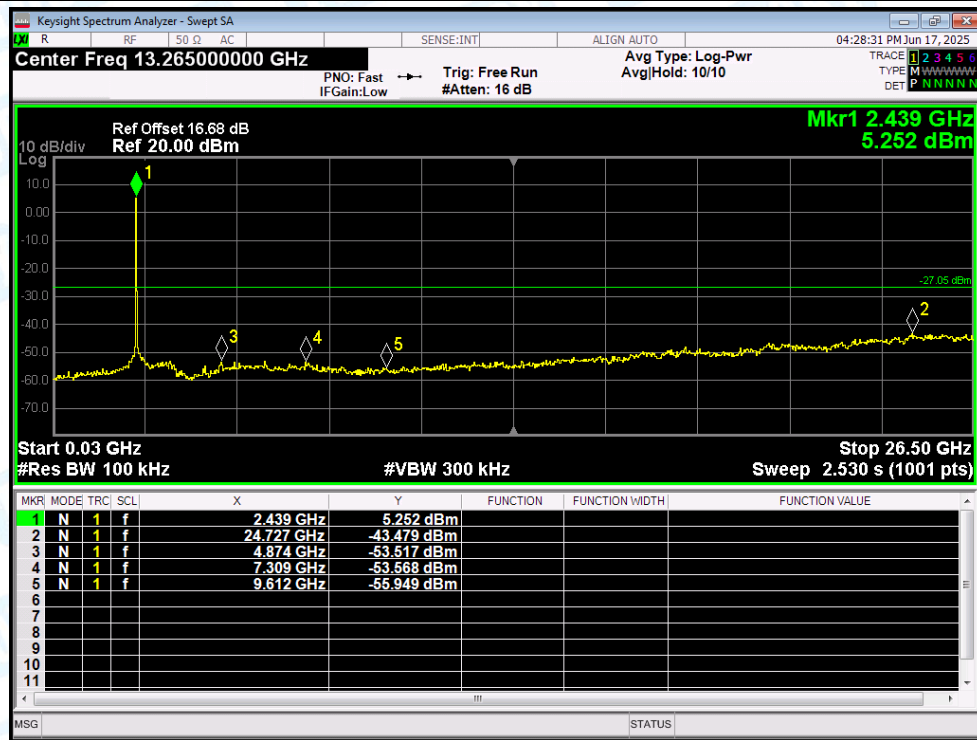
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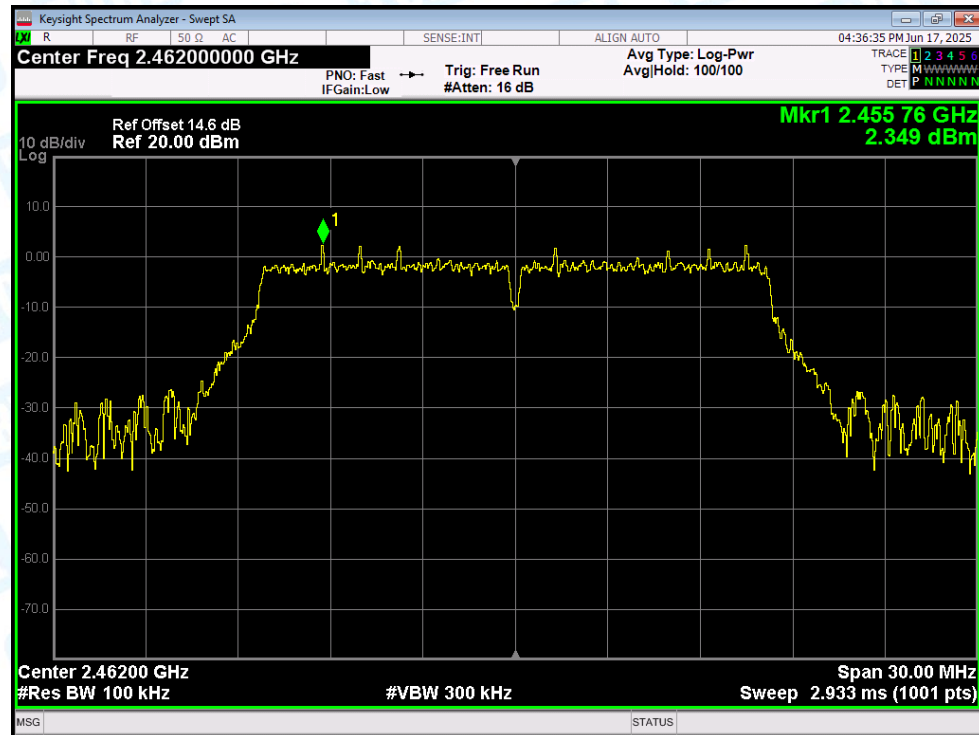
Tx. Spurious NVNT g 2437MHz Ant1 Ref



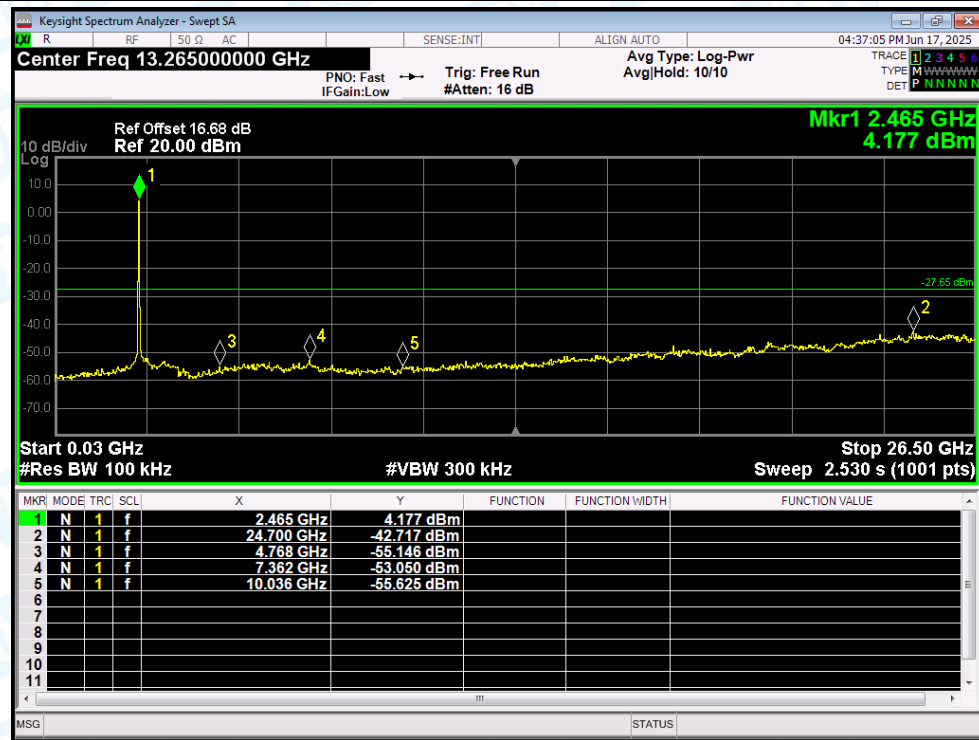
Tx. Spurious NVNT g 2437MHz Ant1 Emission



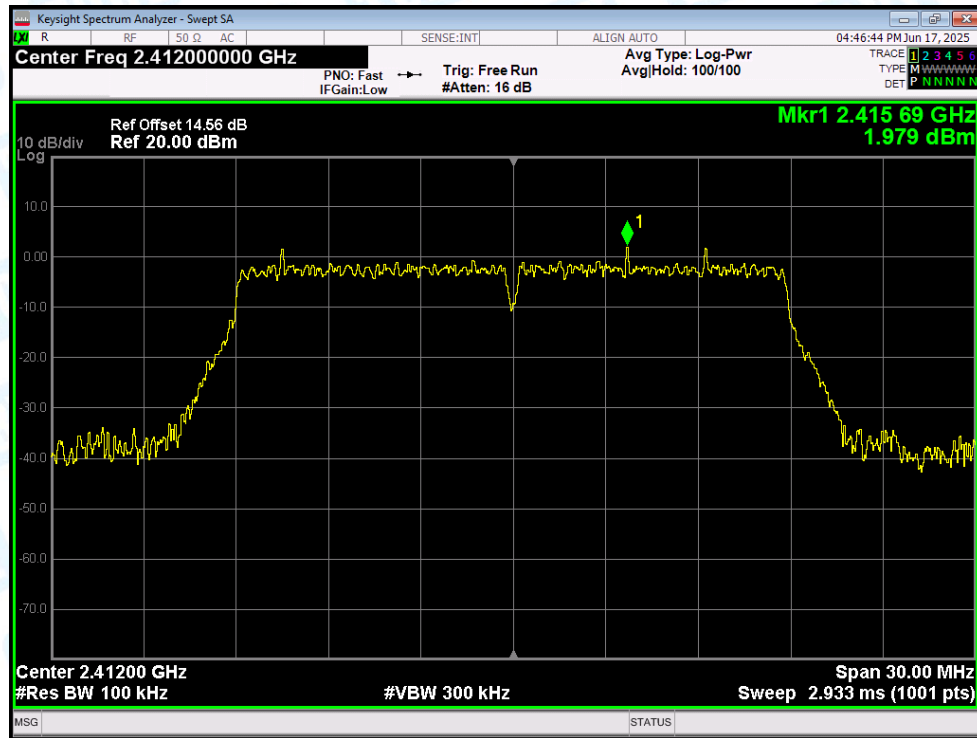
Tx. Spurious NVNT g 2462MHz Ant1 Ref



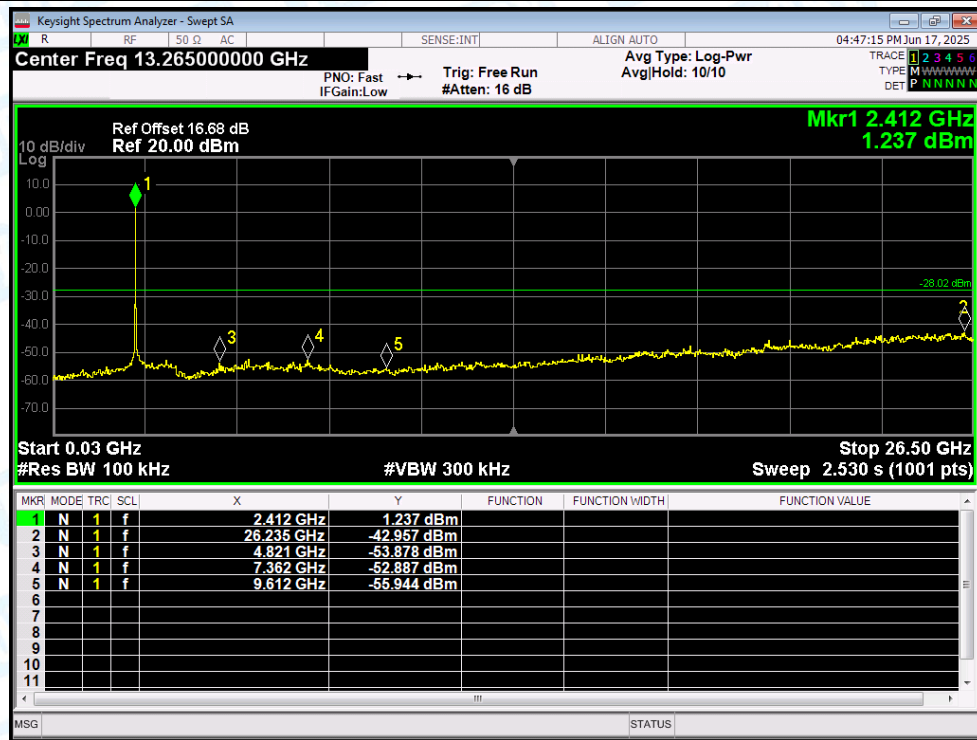
Tx. Spurious NVNT g 2462MHz Ant1 Emission



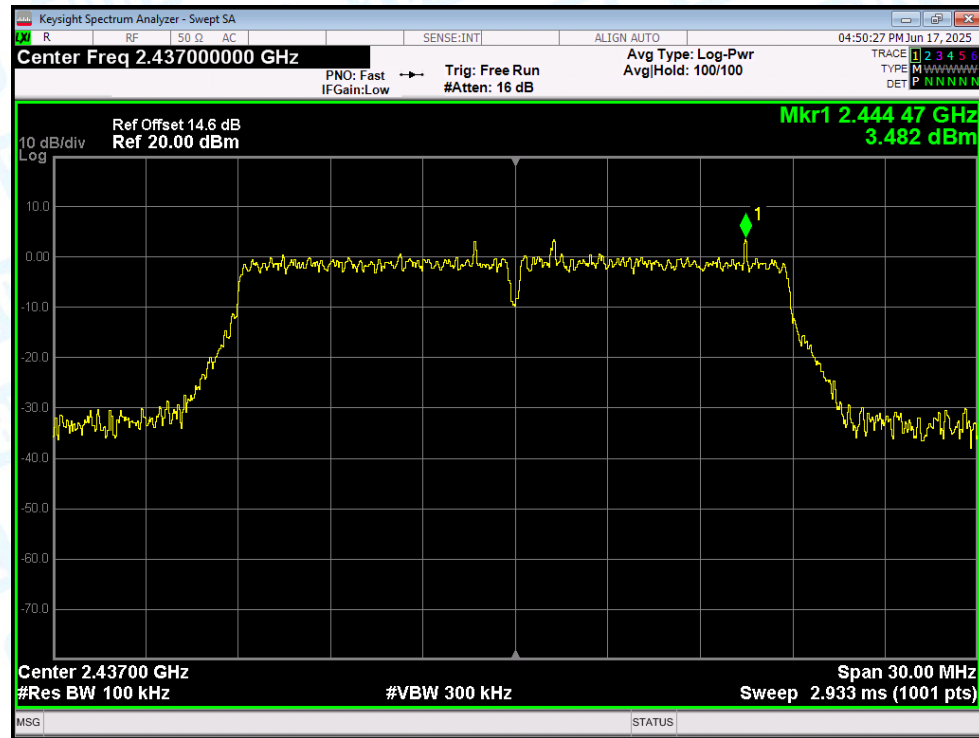
Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Ref



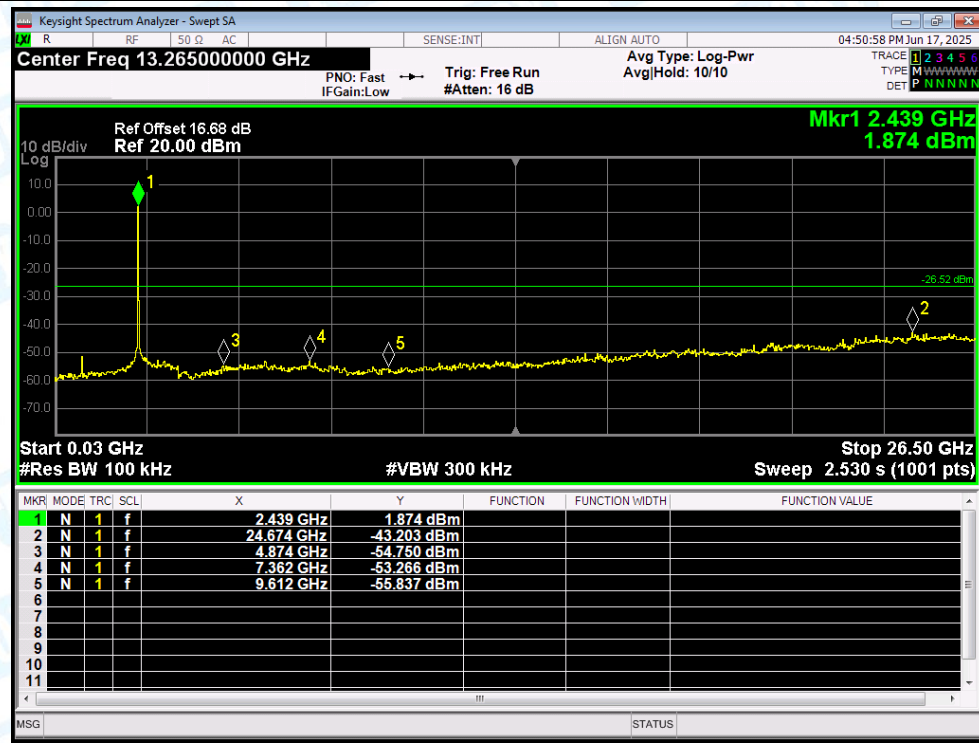
Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Emission



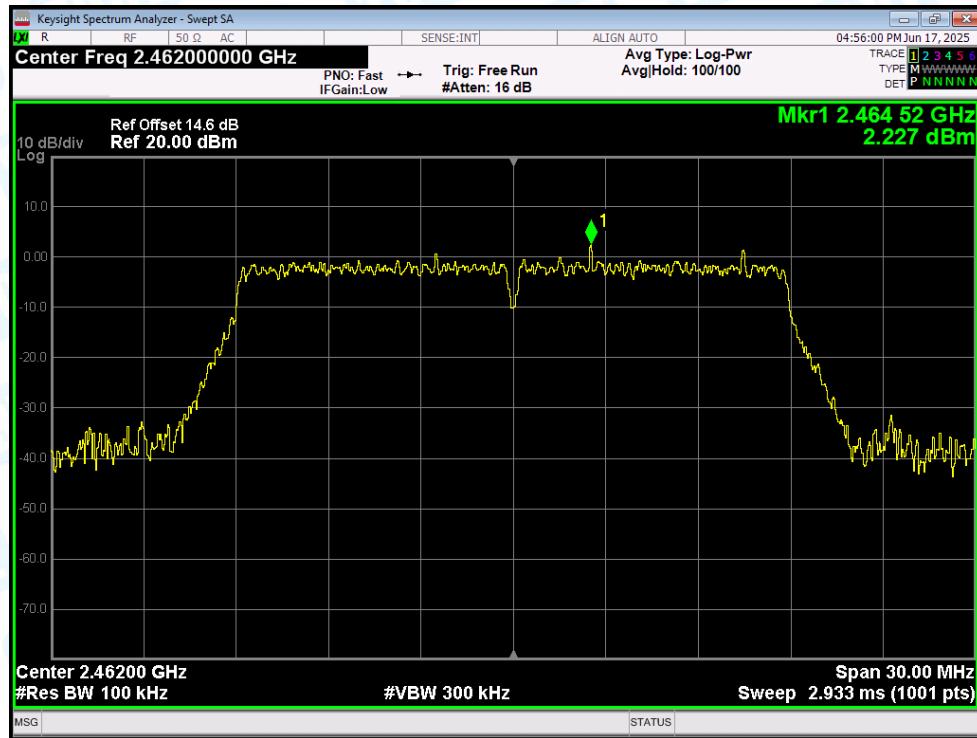
Tx. Spurious NVNT n(HT20) 2437MHz Ant1 Ref



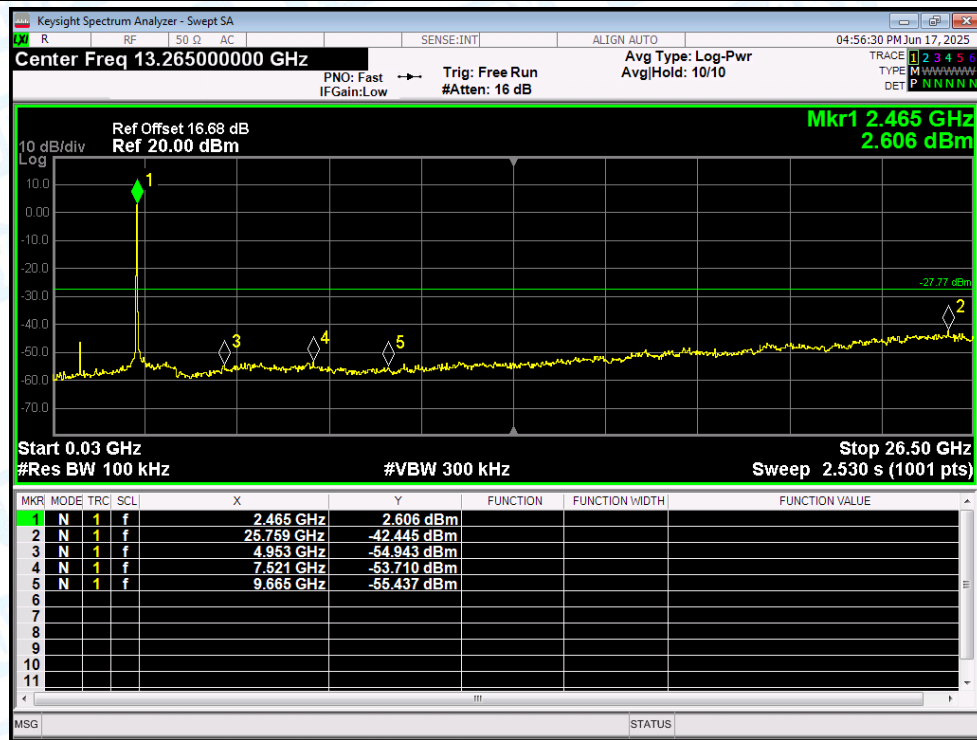
Tx. Spurious NVNT n(HT20) 2437MHz Ant1 Emission



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



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



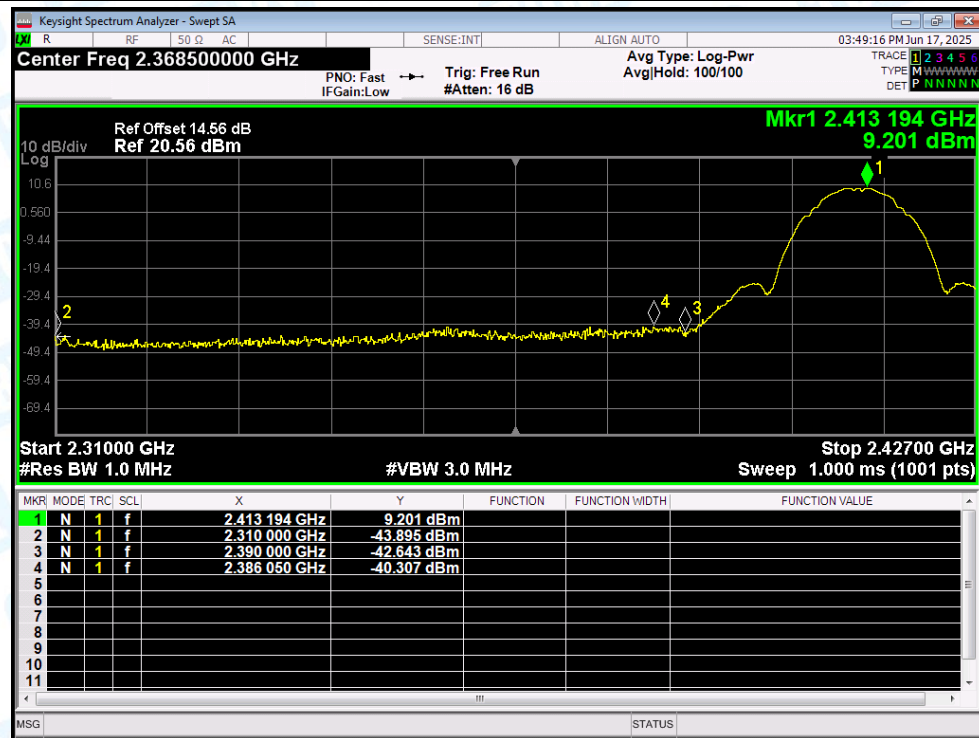
8. Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-43.9	2	-	53.36	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-54.2	2	0.09	43.15	Average	54	Pass
NVNT	b	2412	Ant1	2386.05	-40.31	2	-	56.95	Peak	74	Pass
NVNT	b	2412	Ant1	2387.337	-48.71	2	0.09	48.64	Average	54	Pass
NVNT	b	2412	Ant1	2390	-42.64	2	-	54.62	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-49.7	2	0.09	47.65	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-40.12	2	-	57.14	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-48.54	2	0.01	48.73	Average	54	Pass
NVNT	b	2462	Ant1	2485.902	-37.96	2	-	59.3	Peak	74	Pass
NVNT	b	2462	Ant1	2486.75	-47.42	2	0.01	49.85	Average	54	Pass
NVNT	b	2462	Ant1	2500	-42.6	2	-	54.66	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-50.49	2	0.01	46.78	Average	54	Pass
NVNT	g	2412	Ant1	2310	-47.25	2	-	50.01	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-55.33	2	0.06	41.99	Average	54	Pass
NVNT	g	2412	Ant1	2389.911	-29.17	2	-	68.09	Peak	74	Pass
NVNT	g	2412	Ant1	2389.092	-45.38	2	0.06	51.94	Average	54	Pass
NVNT	g	2412	Ant1	2390	-30.56	2	-	66.7	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-44.4	2	0.06	52.92	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-27.51	2	-	69.75	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-43.91	2	0.06	53.41	Average	54	Pass
NVNT	g	2462	Ant1	2483.517	-27.51	2	-	69.75	Peak	74	Pass
NVNT	g	2462	Ant1	2484.471	-43.45	2	0.06	53.87	Average	54	Pass
NVNT	g	2462	Ant1	2500	-40.42	2	-	56.84	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-51.58	2	0.06	45.74	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2310	-47.39	2	-	49.87	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2310	-55.62	2	0.02	41.66	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2389.677	-27.45	2	-	69.81	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2388.741	-45.09	2	0.02	52.19	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2390	-29.36	2	-	67.9	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2390	-45.68	2	0.02	51.6	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-31.49	2	-	65.77	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-45.08	2	0.02	52.2	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2484.259	-27.35	2	-	69.91	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.941	-43.29	2	0.02	53.99	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2500	-44.02	2	-	53.24	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2500	-51.52	2	0.02	45.76	Average	54	Pass

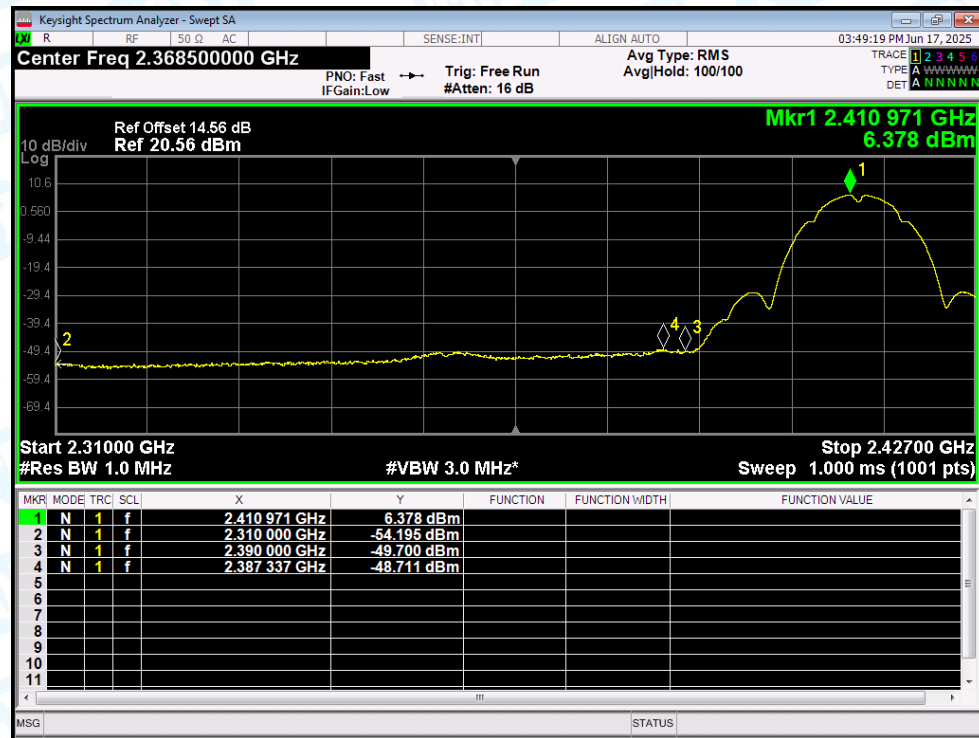
Note: RF Conducted test Offset= cable loss+ Attenuator factor.

Test Graphs

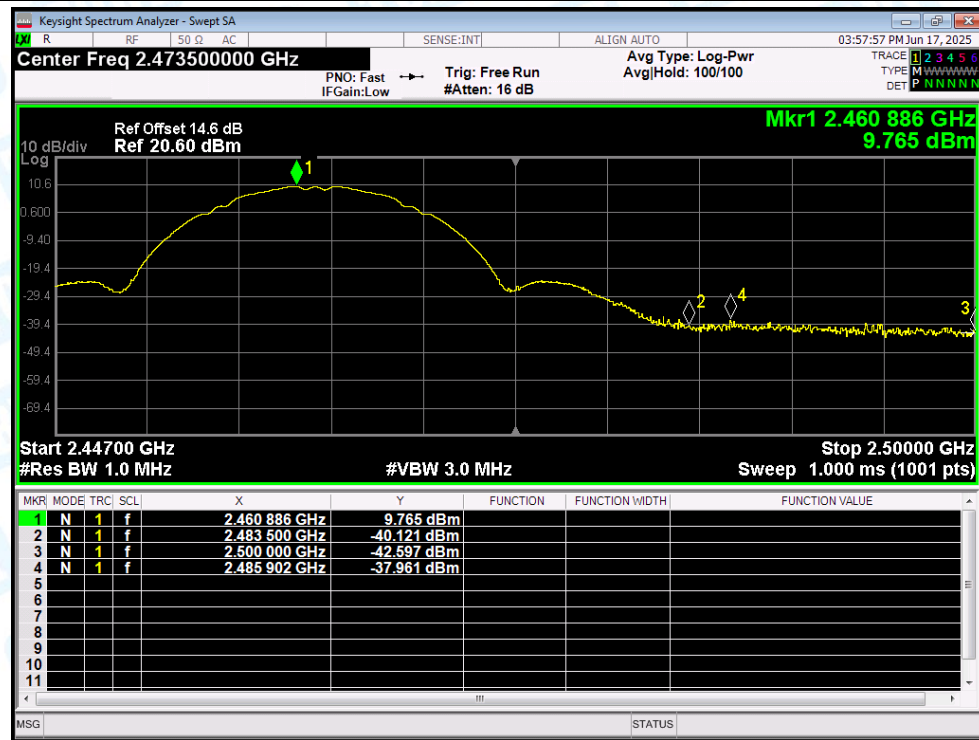
Restrict Band NVNT b 2412MHz Ant1 Peak



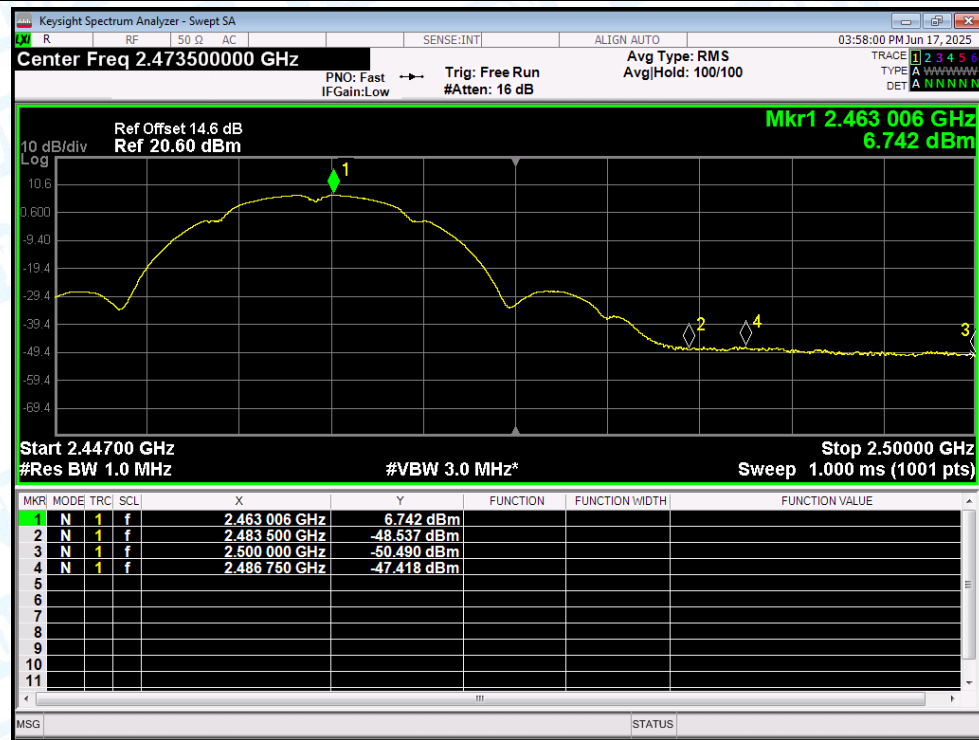
Restrict Band NVNT b 2412MHz Ant1 Average



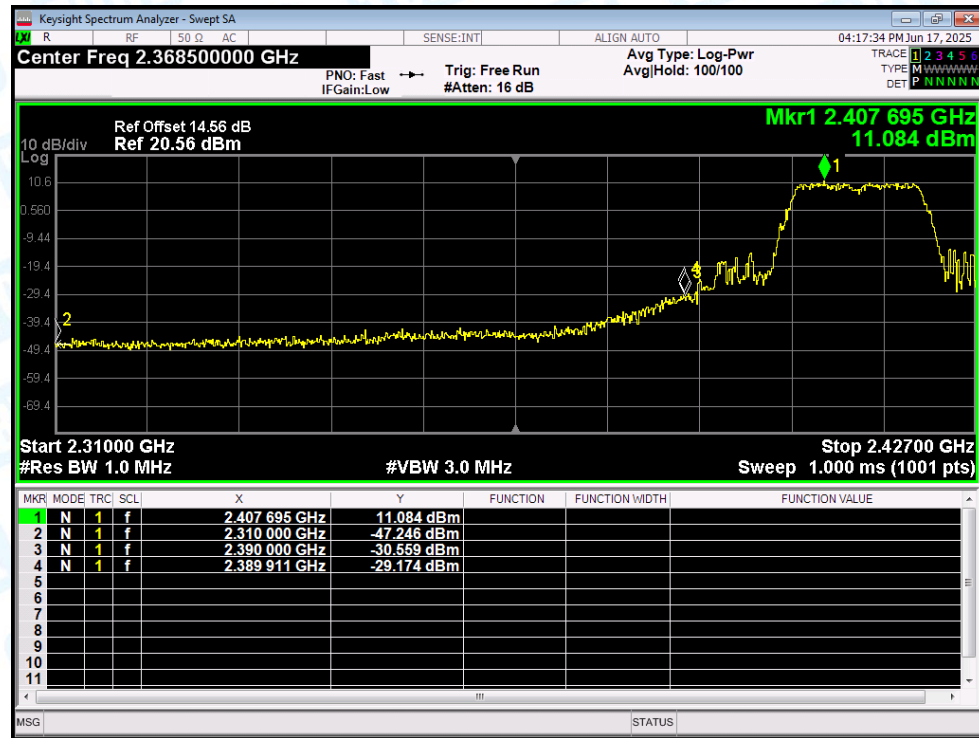
Restrict Band NVNT b 2462MHz Ant1 Peak



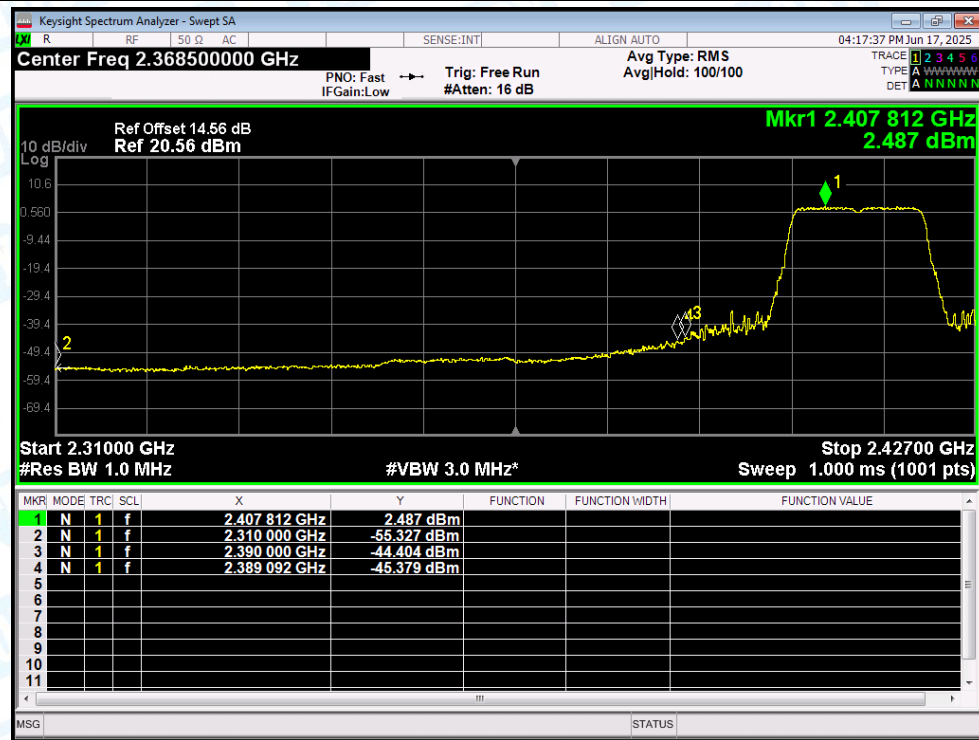
Restrict Band NVNT b 2462MHz Ant1 Average



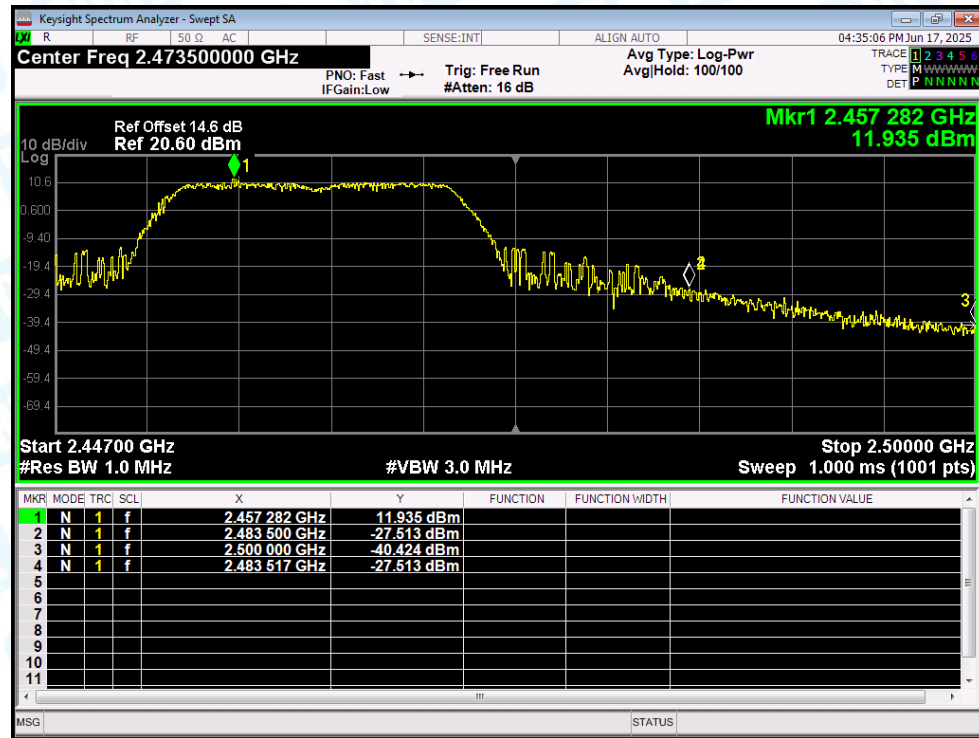
Restrict Band NVNT g 2412MHz Ant1 Peak



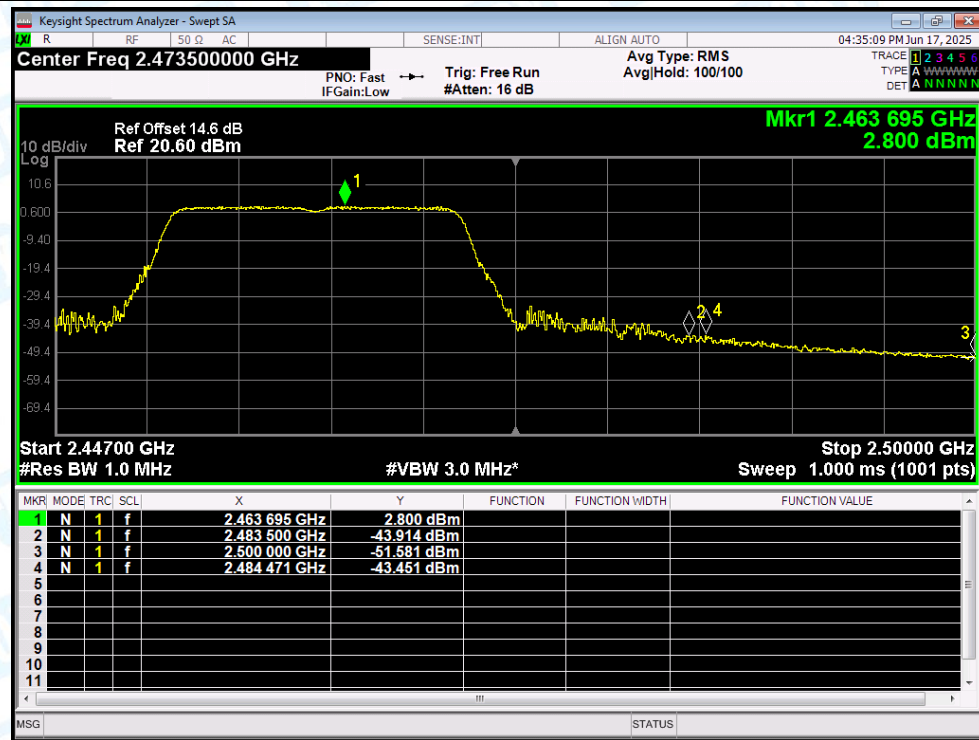
Restrict Band NVNT g 2412MHz Ant1 Average



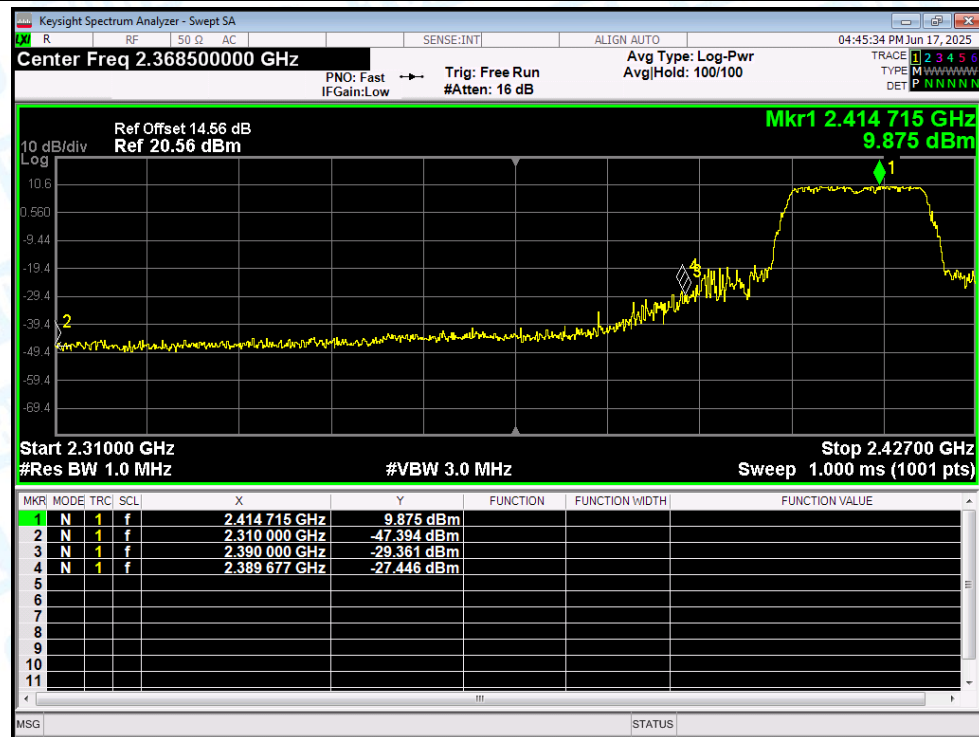
Restrict Band NVNT g 2462MHz Ant1 Peak



Restrict Band NVNT g 2462MHz Ant1 Average



Restrict Band NVNT n(HT20) 2412MHz Ant1 Peak



Restrict Band NVNT n(HT20) 2412MHz Ant1 Average

