

RF Test Data for 2.4G WiFi (Conducted Measurements)

General Description of EUT	
Product Name:	AI Reader
Test Model:	Read
Sample ID:	HC-C-202503-0095-13-01-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 3.7V
Test Engineer:	Lily. zhang
Note: For a more detailed features description, please refer to the report TBR-C-202503-0095-162 The report only show the worst case data.	

Contents

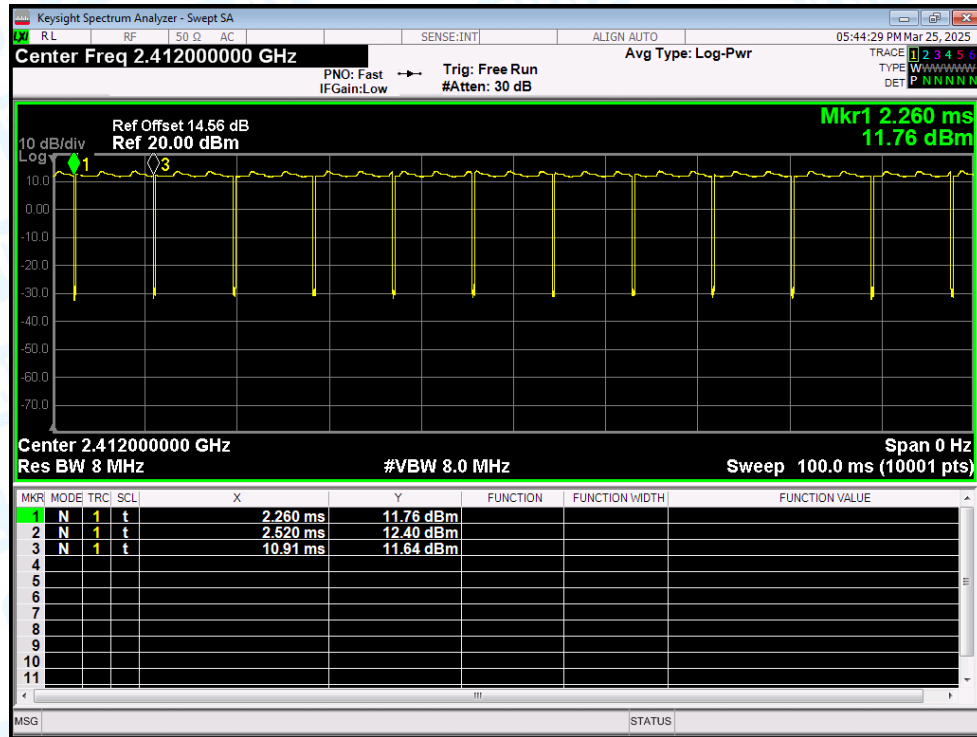
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1. Duty Cycle

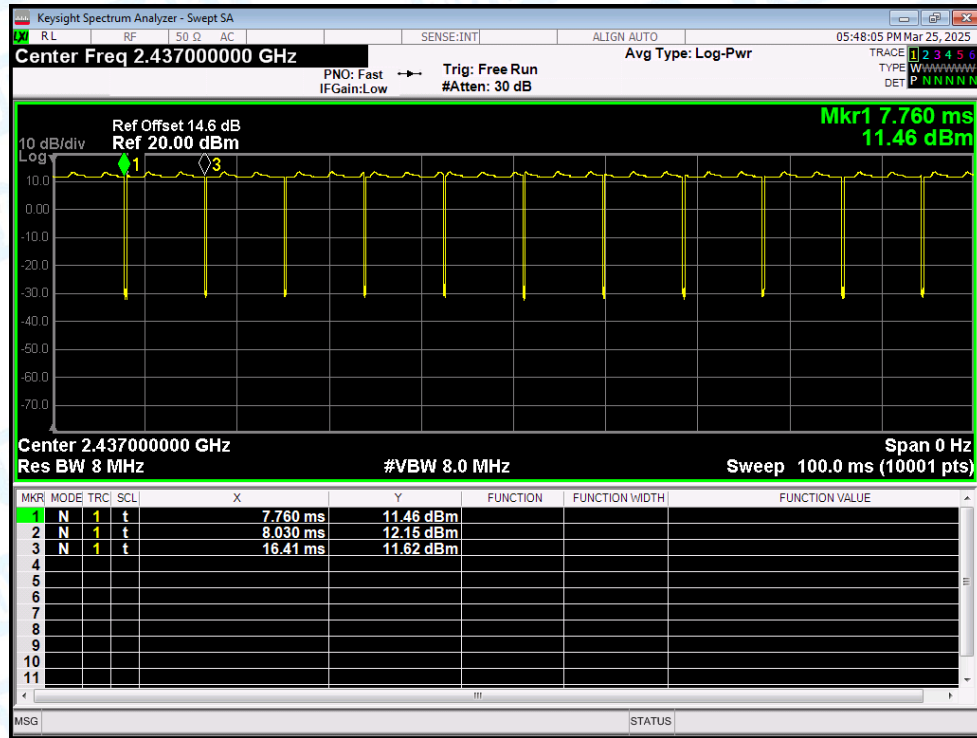
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	96.99	0.13	0.12
NVNT	b	2437	Ant1	96.88	0.14	0.12
NVNT	b	2462	Ant1	96.88	0.14	0.12
NVNT	g	2412	Ant1	83.73	0.77	0.72
NVNT	g	2437	Ant1	83.73	0.77	0.72
NVNT	g	2462	Ant1	83.73	0.77	0.72
NVNT	n(HT20)	2412	Ant1	94.78	0.23	0.2
NVNT	n(HT20)	2437	Ant1	94.78	0.23	0.2
NVNT	n(HT20)	2462	Ant1	94.95	0.23	0.2
NVNT	n(HT40)	2422	Ant1	94.27	0.26	0.4
NVNT	n(HT40)	2437	Ant1	90.15	0.45	0.4
NVNT	n(HT40)	2452	Ant1	90.15	0.45	0.4

Test Graphs

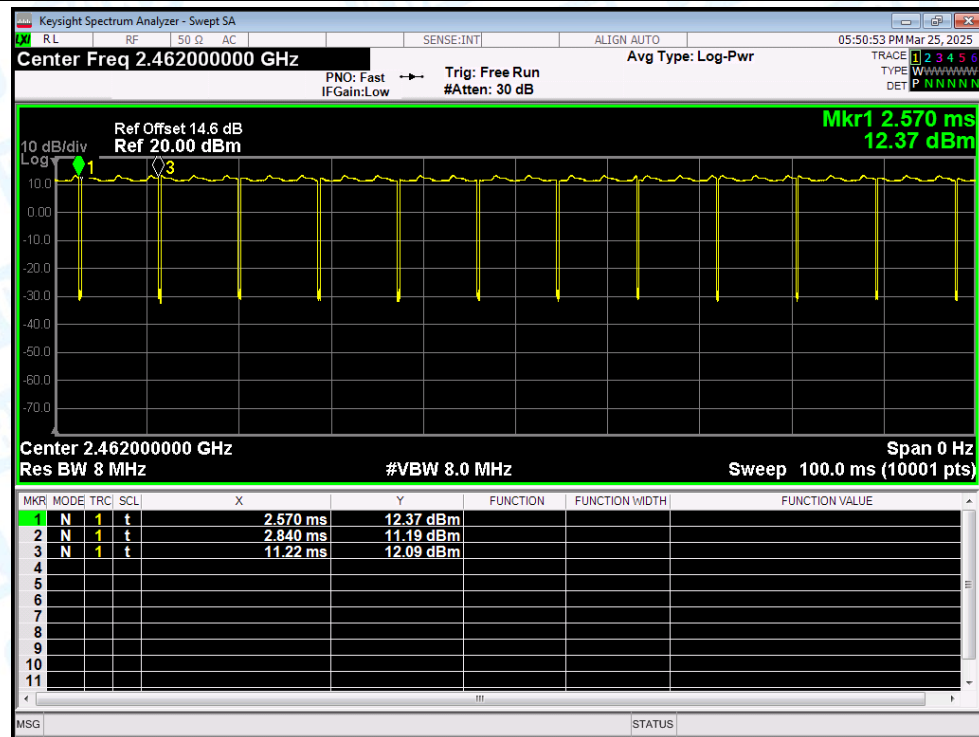
Duty Cycle NVNT b 2412MHz Ant1



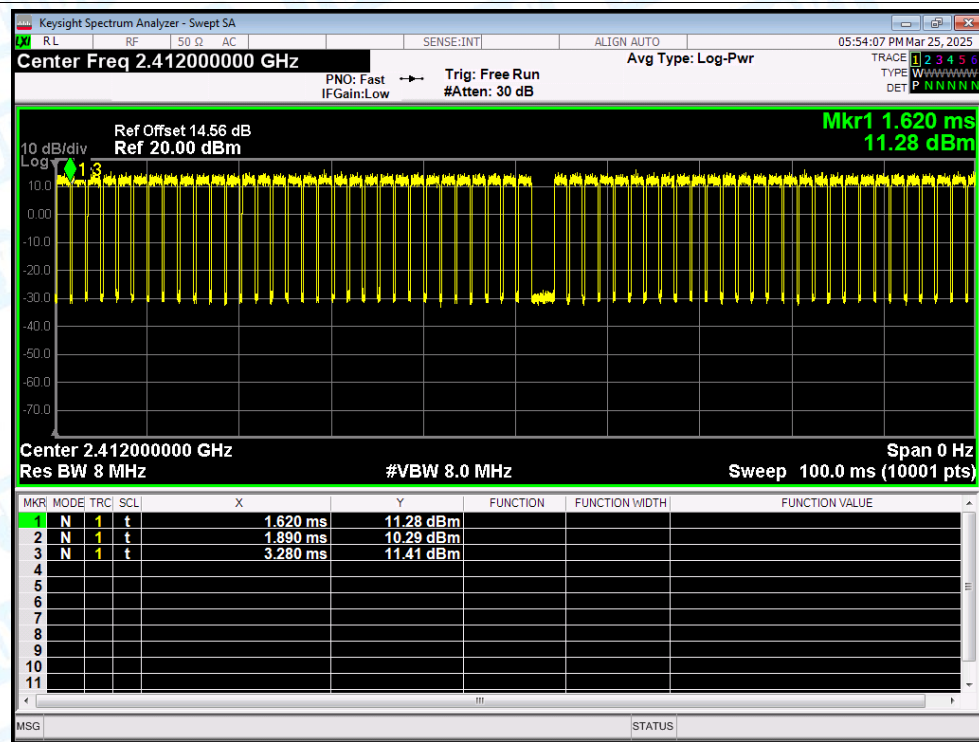
Duty Cycle NVNT b 2437MHz Ant1



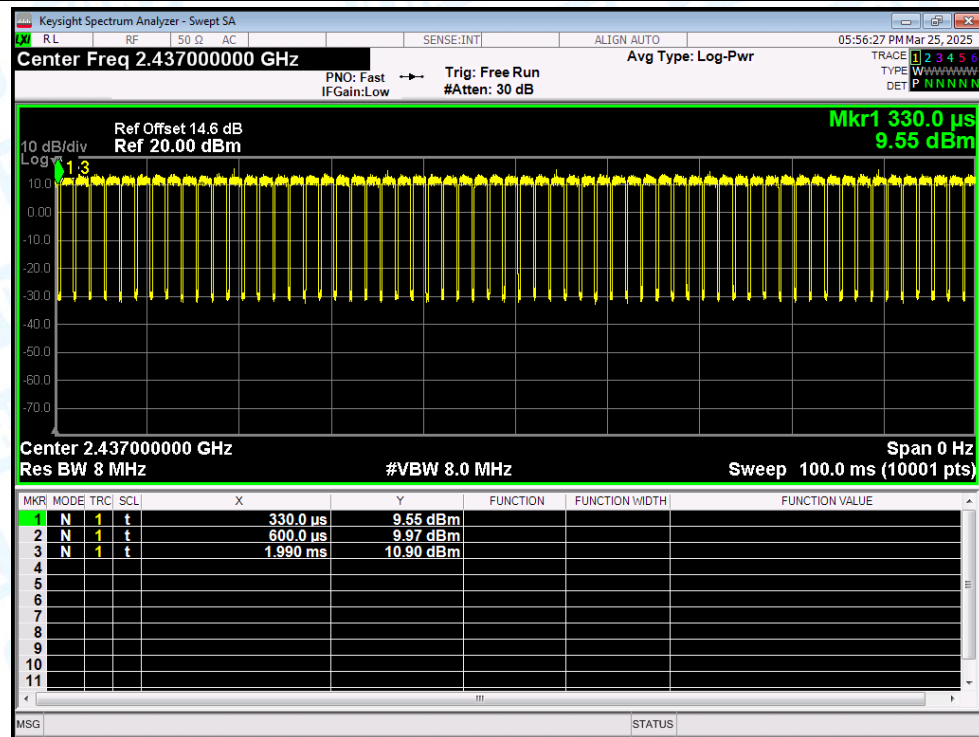
Duty Cycle NVNT b 2462MHz Ant1



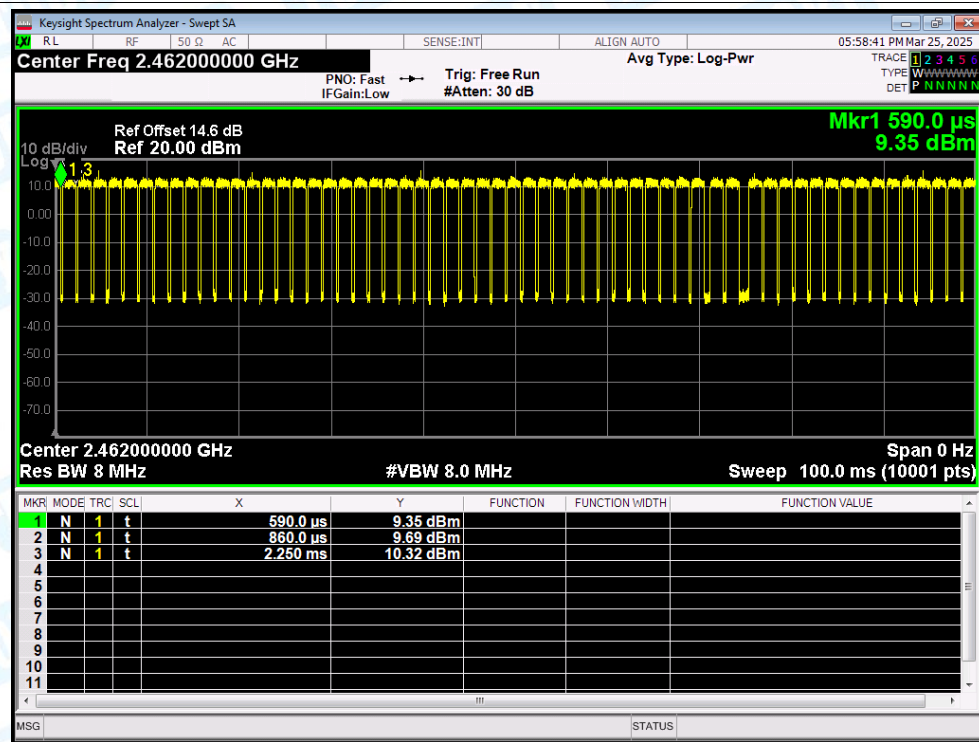
Duty Cycle NVNT g 2412MHz Ant1



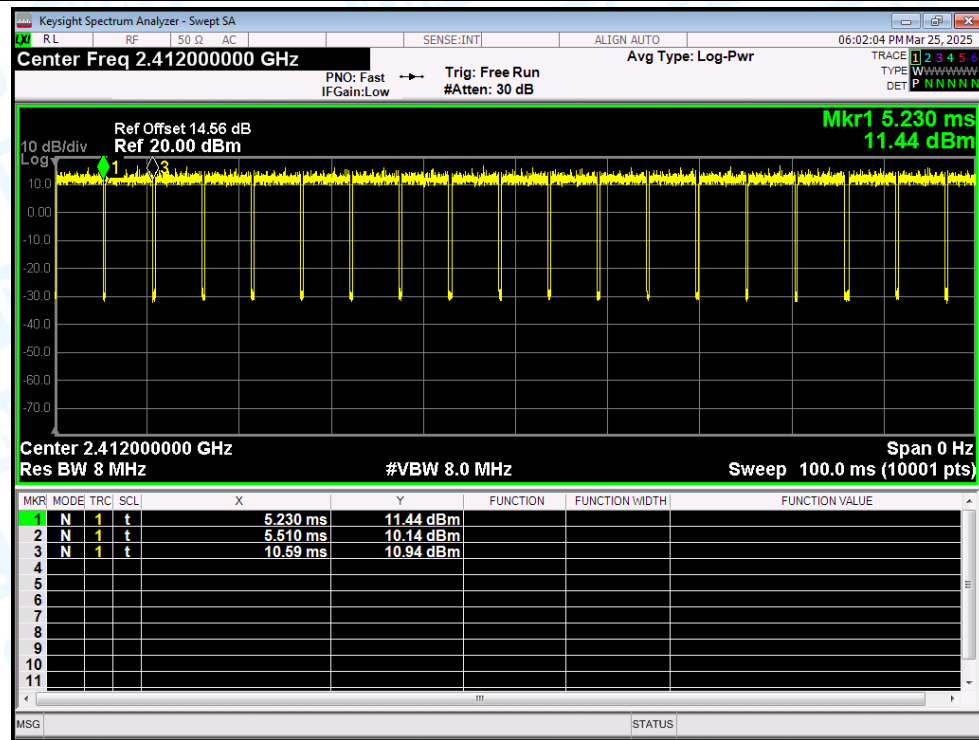
Duty Cycle NVNT g 2437MHz Ant1



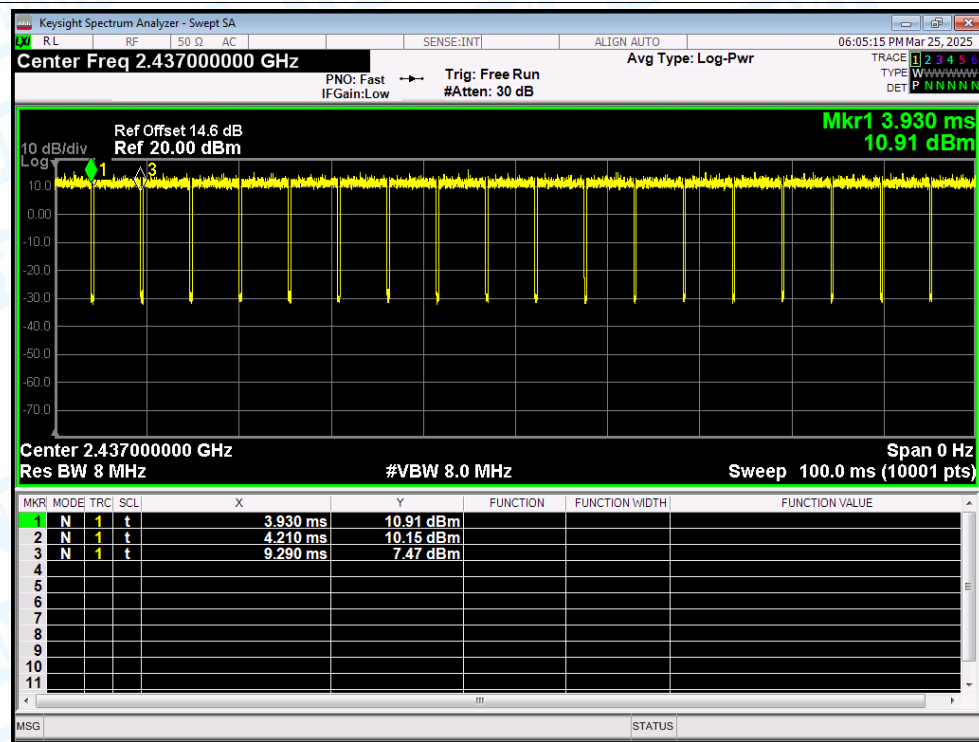
Duty Cycle NVNT g 2462MHz Ant1



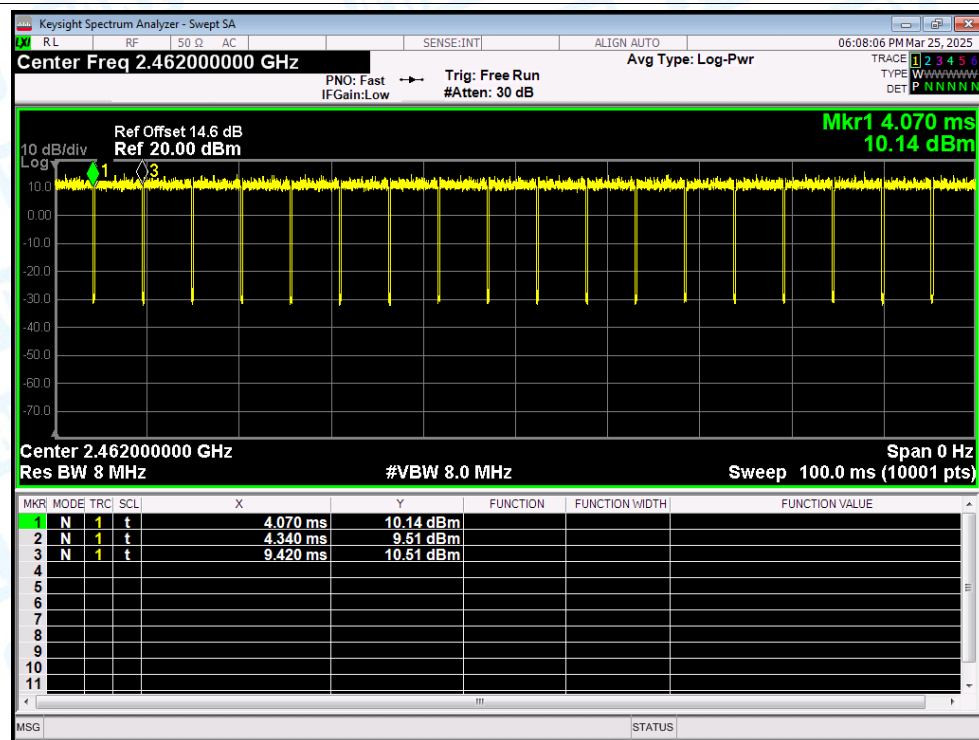
Duty Cycle NVNT n(HT20) 2412MHz Ant1



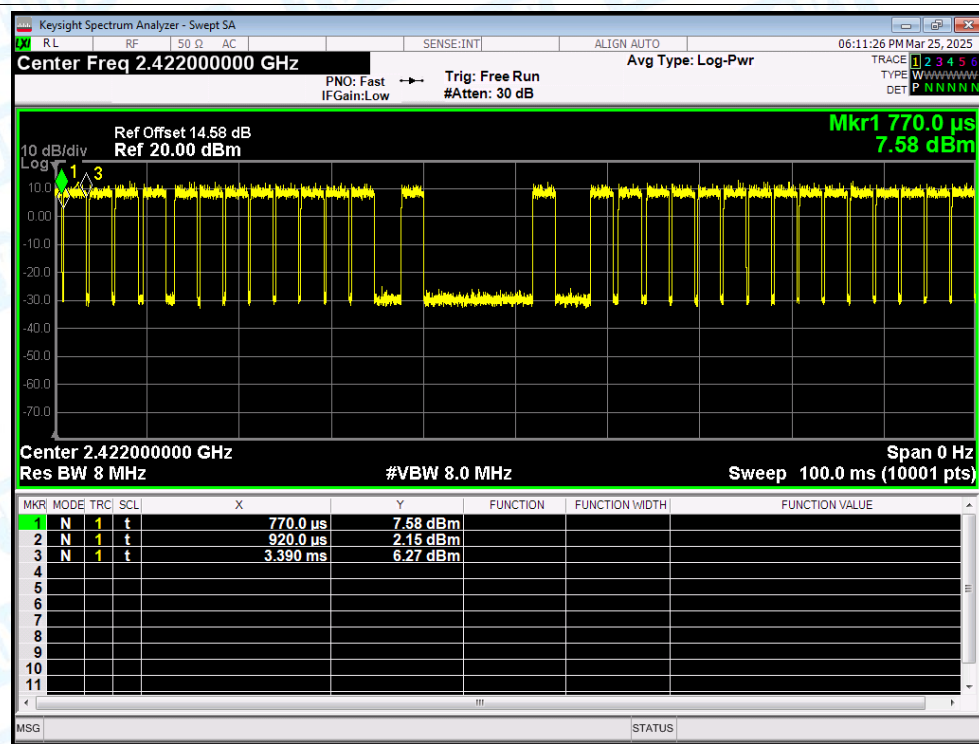
Duty Cycle NVNT n(HT20) 2437MHz Ant1



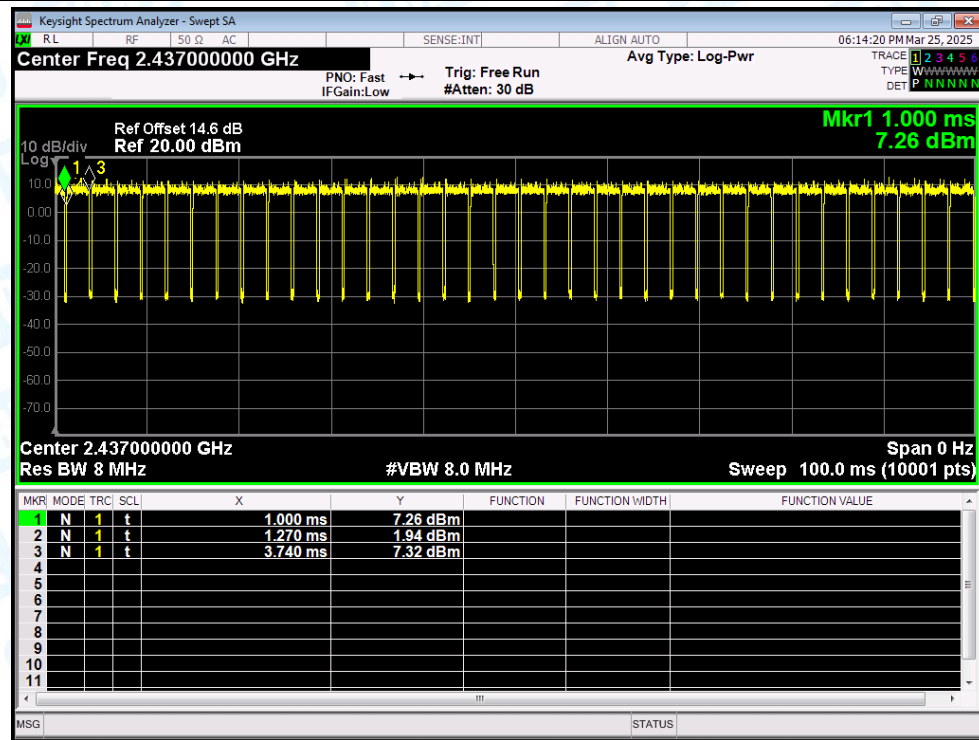
Duty Cycle NVNT n(HT20) 2462MHz Ant1



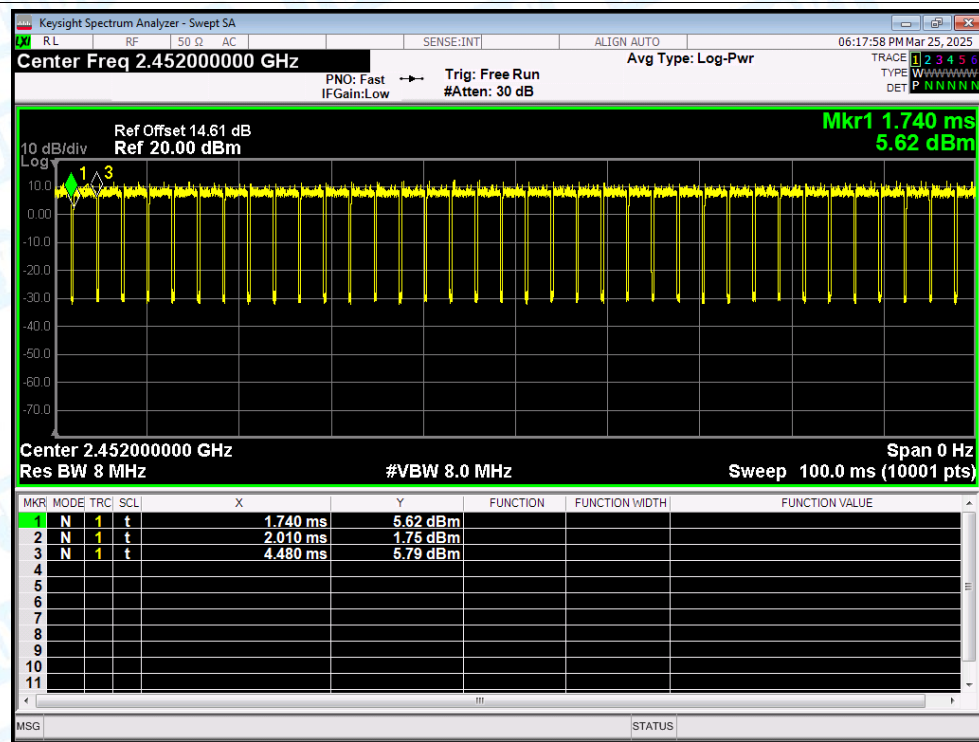
Duty Cycle NVNT n(HT40) 2422MHz Ant1



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	8.28	30	Pass
NVNT	b	2437	Ant1	8.13	30	Pass
NVNT	b	2462	Ant1	7.60	30	Pass
NVNT	g	2412	Ant1	7.98	30	Pass
NVNT	g	2437	Ant1	7.46	30	Pass
NVNT	g	2462	Ant1	7.03	30	Pass
NVNT	n(HT20)	2412	Ant1	7.84	30	Pass
NVNT	n(HT20)	2437	Ant1	7.36	30	Pass
NVNT	n(HT20)	2462	Ant1	6.93	30	Pass
NVNT	n(HT40)	2422	Ant1	7.78	30	Pass
NVNT	n(HT40)	2437	Ant1	7.40	30	Pass
NVNT	n(HT40)	2452	Ant1	7.20	30	Pass

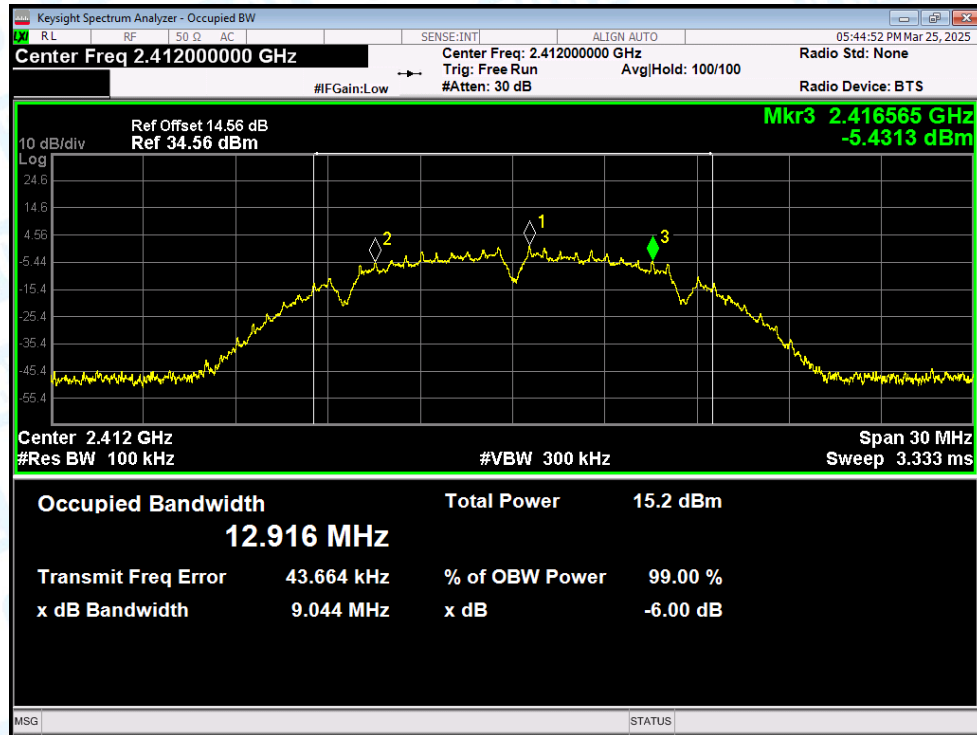
Note: The Duty Cycle Factor is compensated in the graph.

3. -6dB Bandwidth

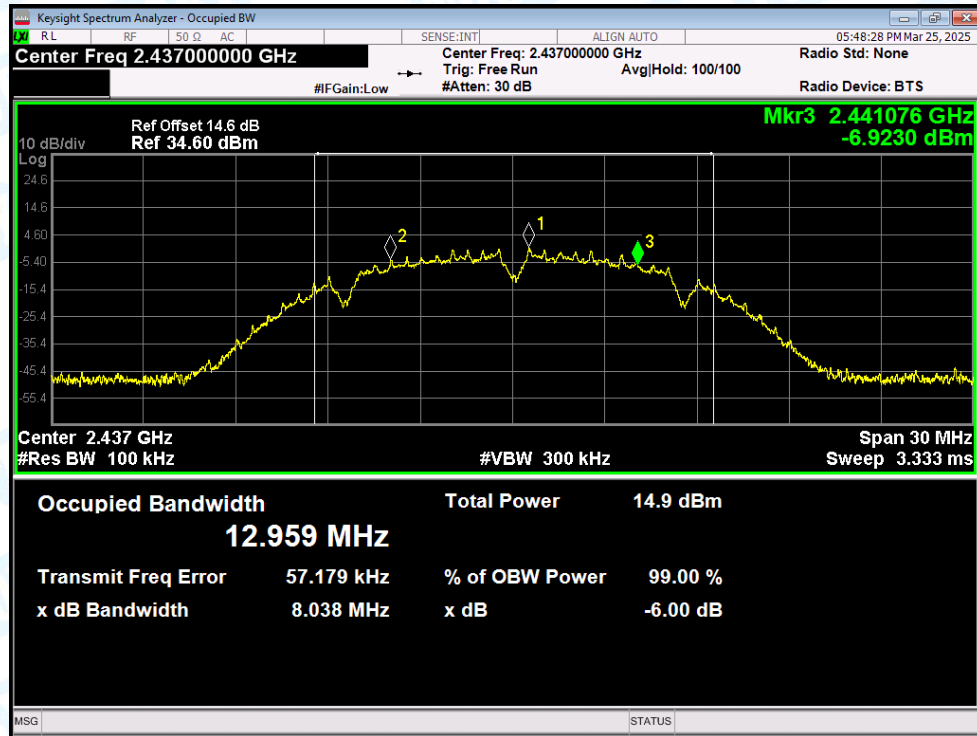
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.04	0.5	Pass
NVNT	b	2437	Ant1	8.04	0.5	Pass
NVNT	b	2462	Ant1	9.55	0.5	Pass
NVNT	g	2412	Ant1	16.38	0.5	Pass
NVNT	g	2437	Ant1	16.35	0.5	Pass
NVNT	g	2462	Ant1	16.35	0.5	Pass
NVNT	n(HT20)	2412	Ant1	17.66	0.5	Pass
NVNT	n(HT20)	2437	Ant1	17.57	0.5	Pass
NVNT	n(HT20)	2462	Ant1	17.58	0.5	Pass
NVNT	n(HT40)	2422	Ant1	36.15	0.5	Pass
NVNT	n(HT40)	2437	Ant1	36.31	0.5	Pass
NVNT	n(HT40)	2452	Ant1	36.36	0.5	Pass

Test Graphs

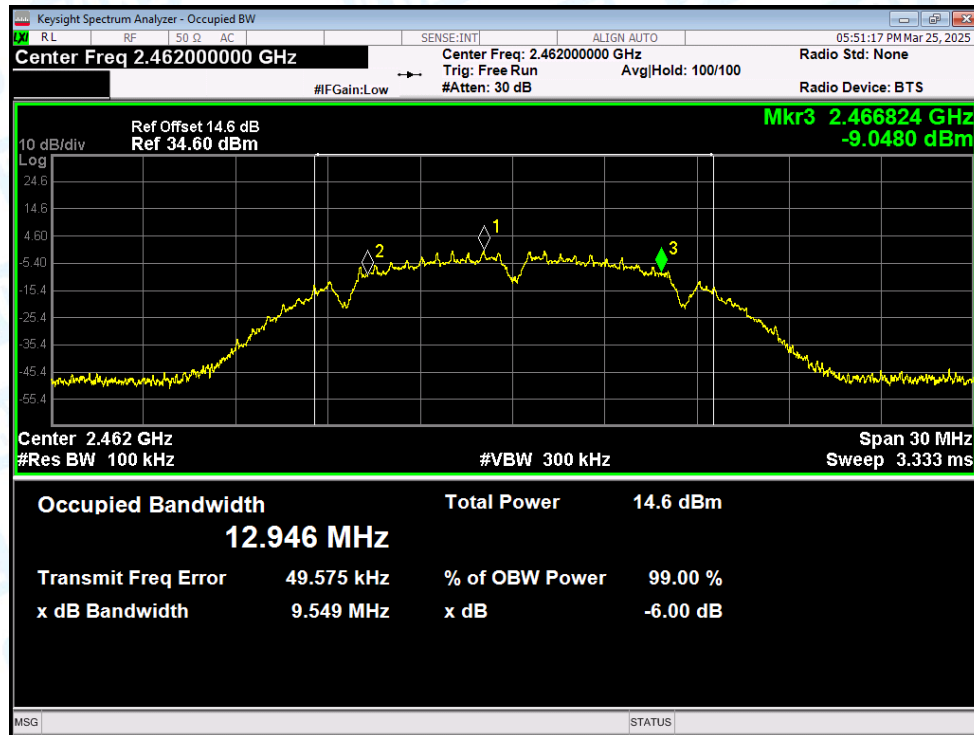
-6dB Bandwidth NVNT b 2412MHz Ant1



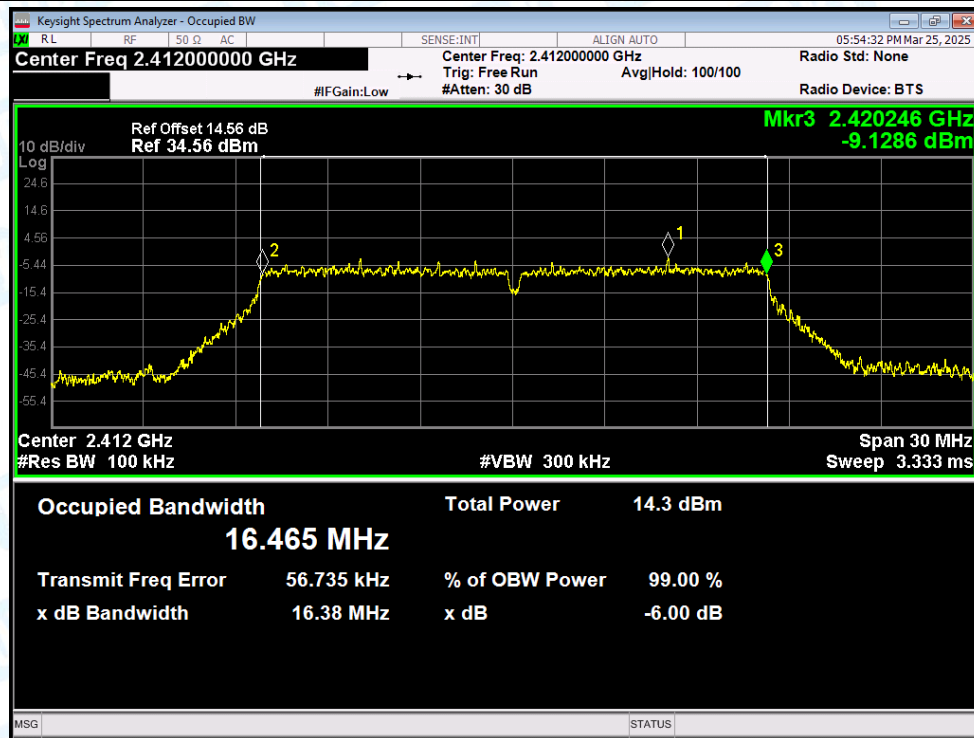
-6dB Bandwidth NVNT b 2437MHz Ant1



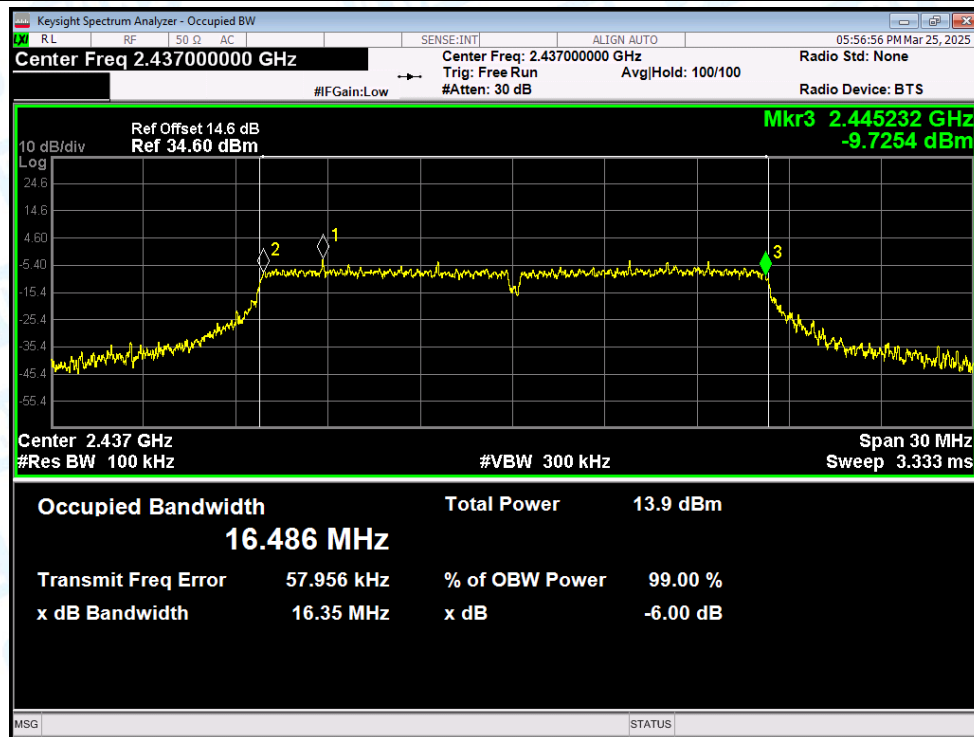
-6dB Bandwidth NVNT b 2462MHz Ant1



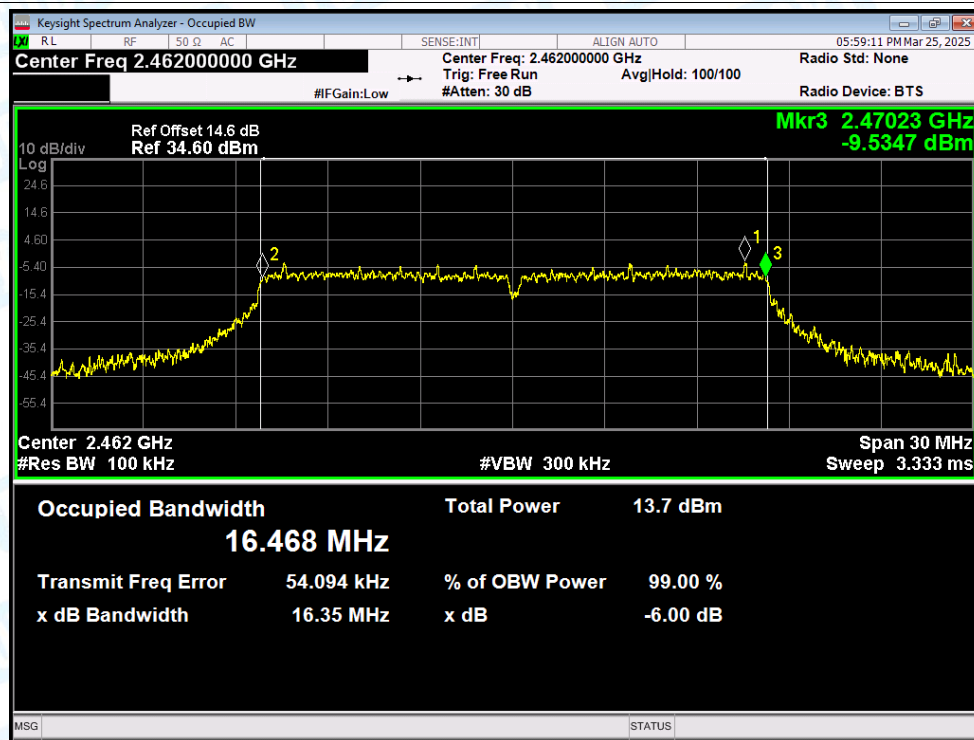
-6dB Bandwidth NVNT g 2412MHz Ant1



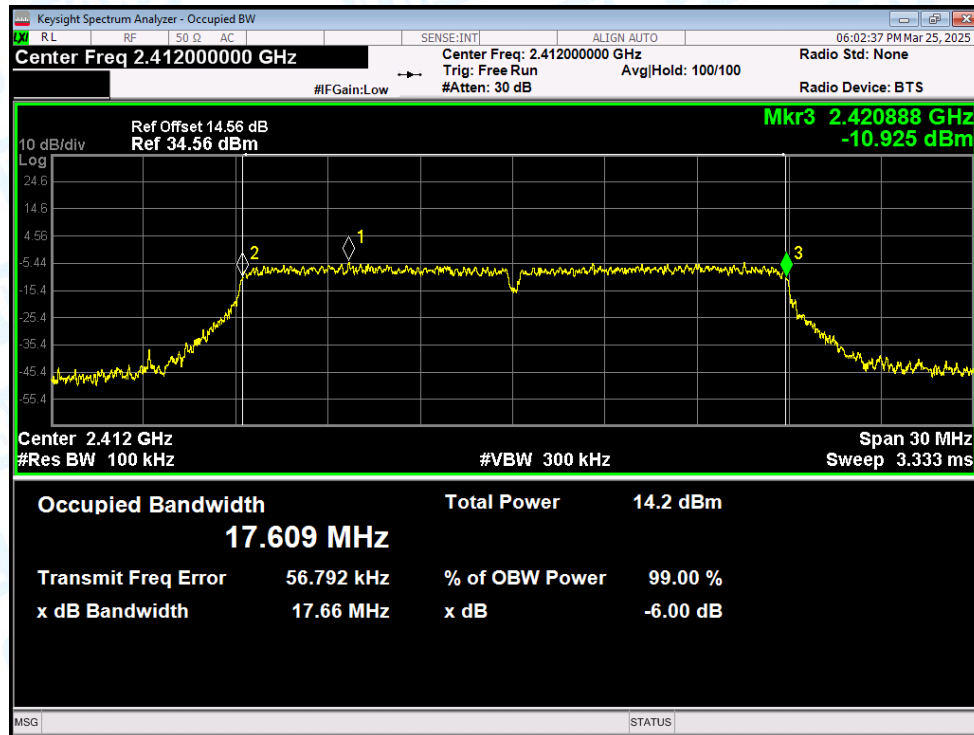
-6dB Bandwidth NVNT g 2437MHz Ant1



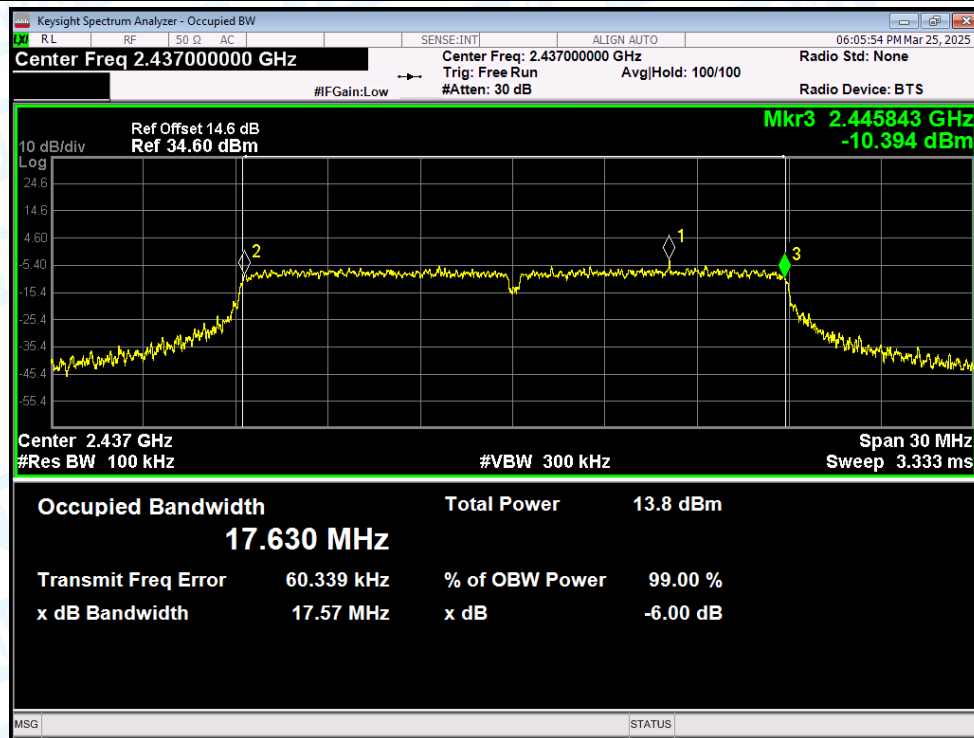
-6dB Bandwidth NVNT g 2462MHz Ant1



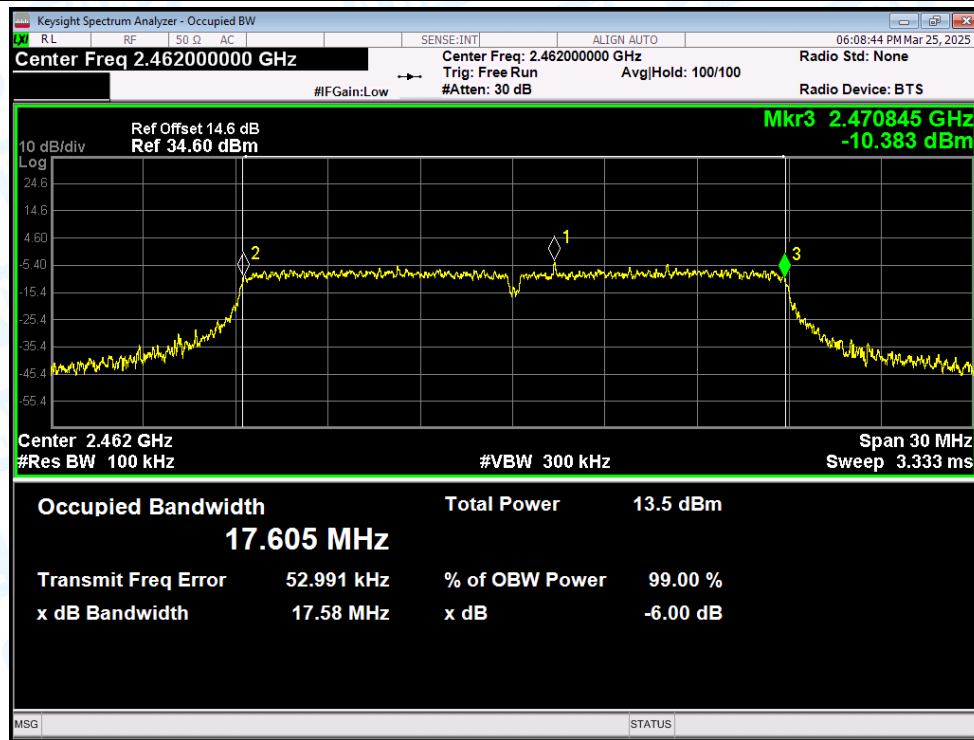
-6dB Bandwidth NVNT n(HT20) 2412MHz Ant1



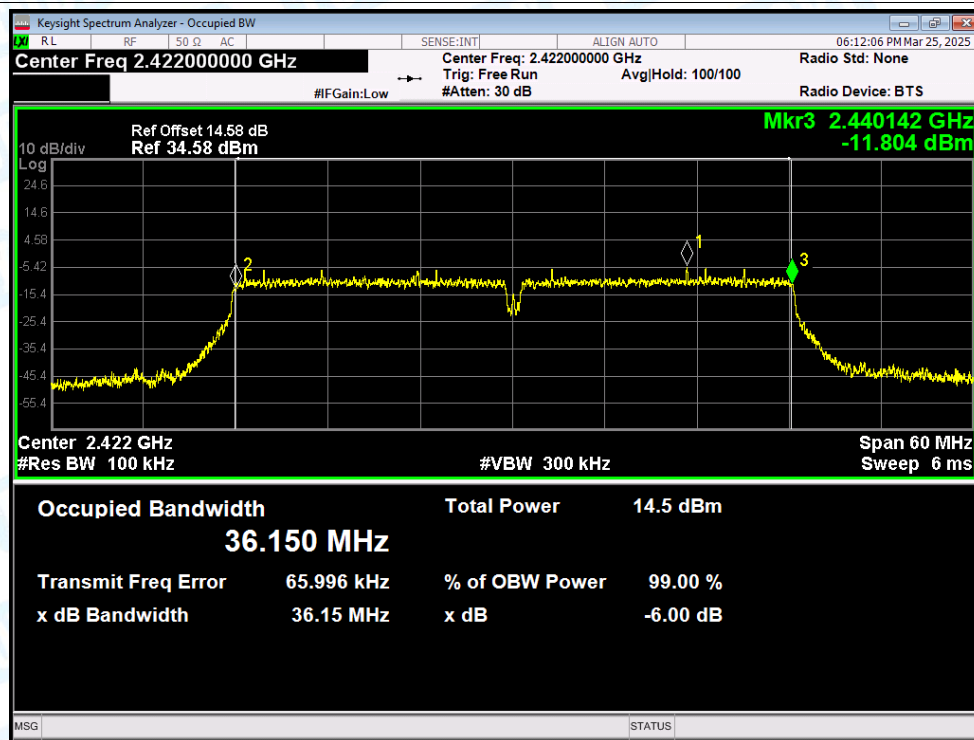
-6dB Bandwidth NVNT n(HT20) 2437MHz Ant1



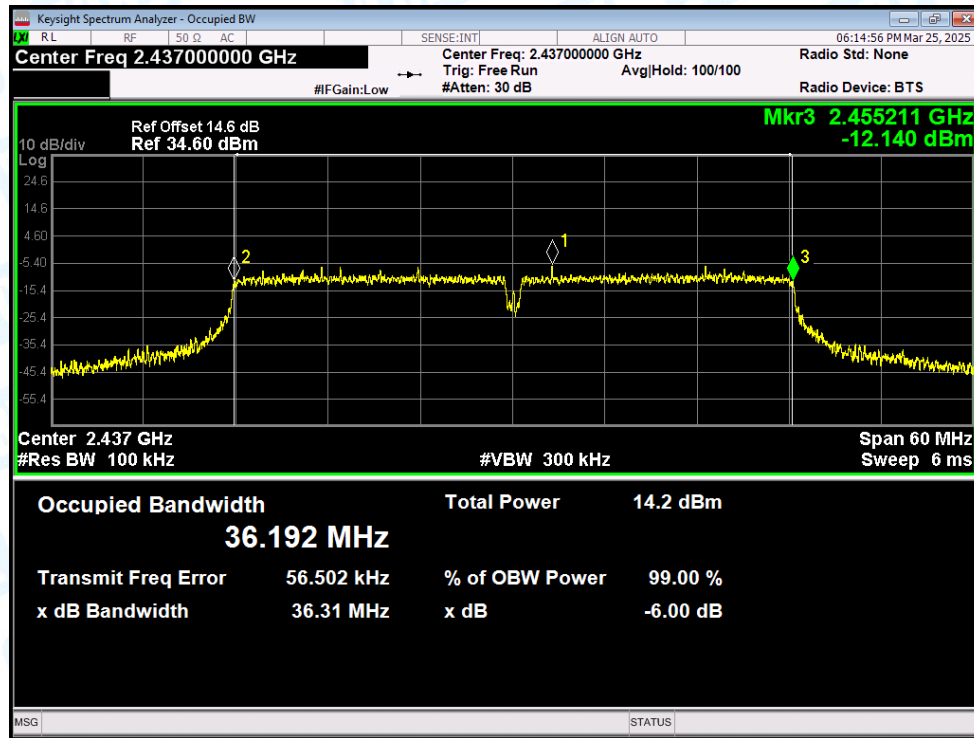
-6dB Bandwidth NVNT n(HT20) 2462MHz Ant1



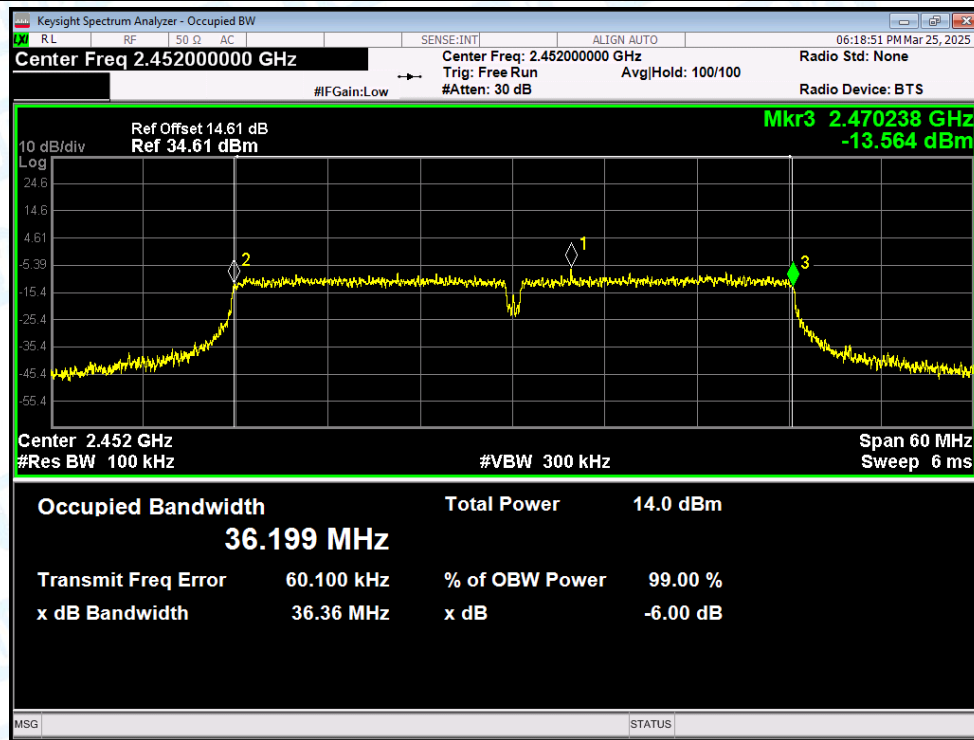
-6dB Bandwidth NVNT n(HT40) 2422MHz Ant1



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



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

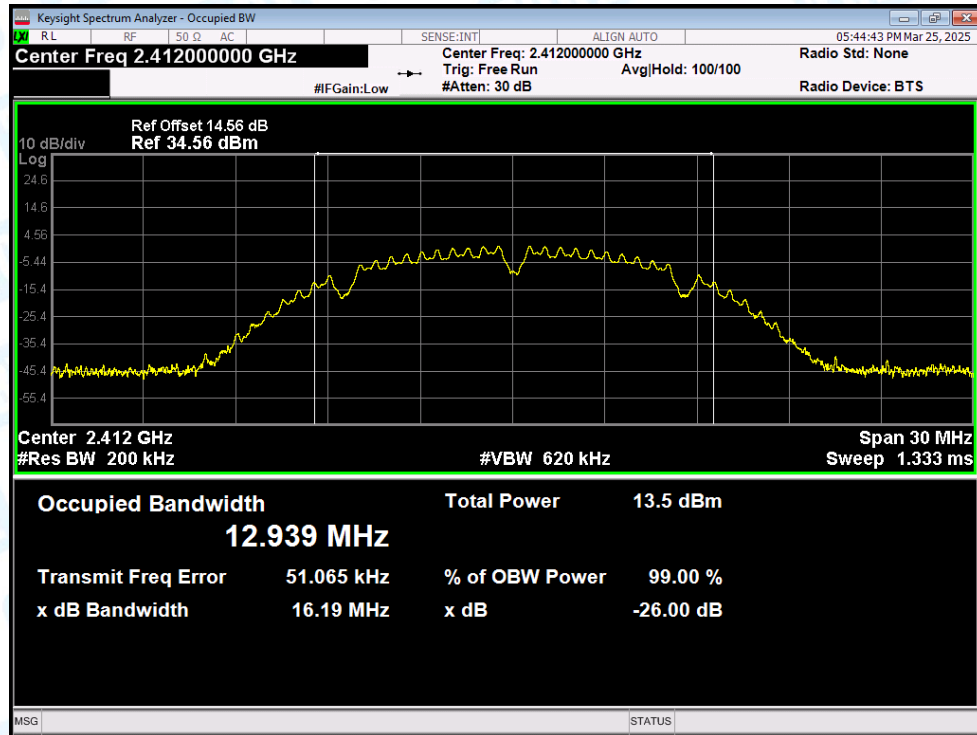


4. Occupied Channel Bandwidth

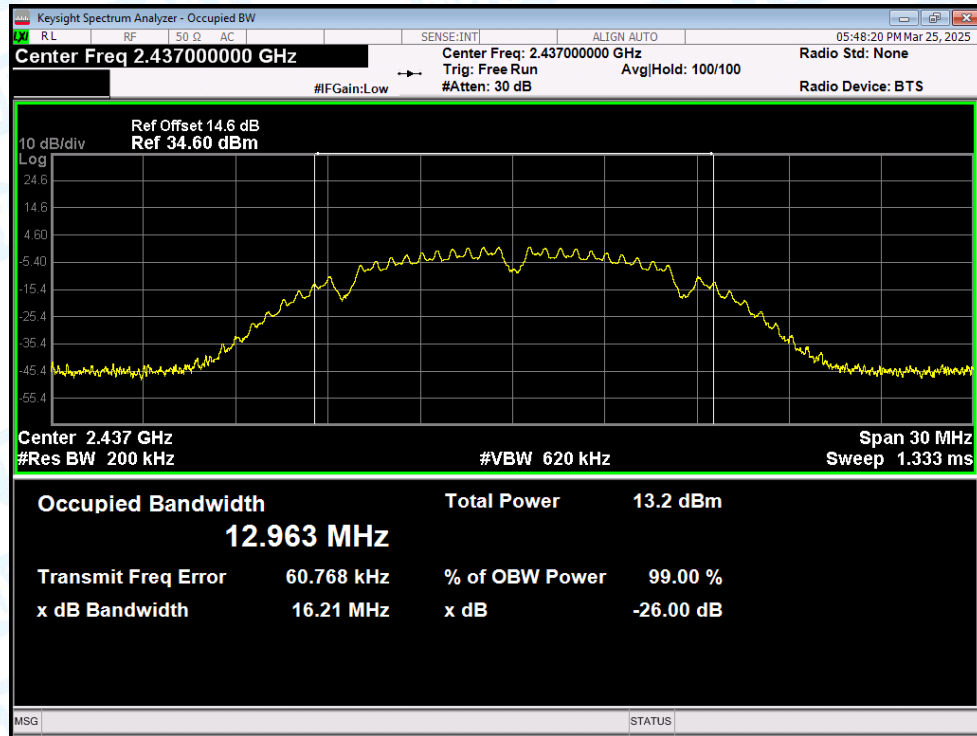
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	12.939
NVNT	b	2437	Ant1	12.963
NVNT	b	2462	Ant1	12.962
NVNT	g	2412	Ant1	16.588
NVNT	g	2437	Ant1	16.623
NVNT	g	2462	Ant1	16.631
NVNT	n(HT20)	2412	Ant1	17.651
NVNT	n(HT20)	2437	Ant1	17.684
NVNT	n(HT20)	2462	Ant1	17.675
NVNT	n(HT40)	2422	Ant1	36.279
NVNT	n(HT40)	2437	Ant1	36.332
NVNT	n(HT40)	2452	Ant1	36.285

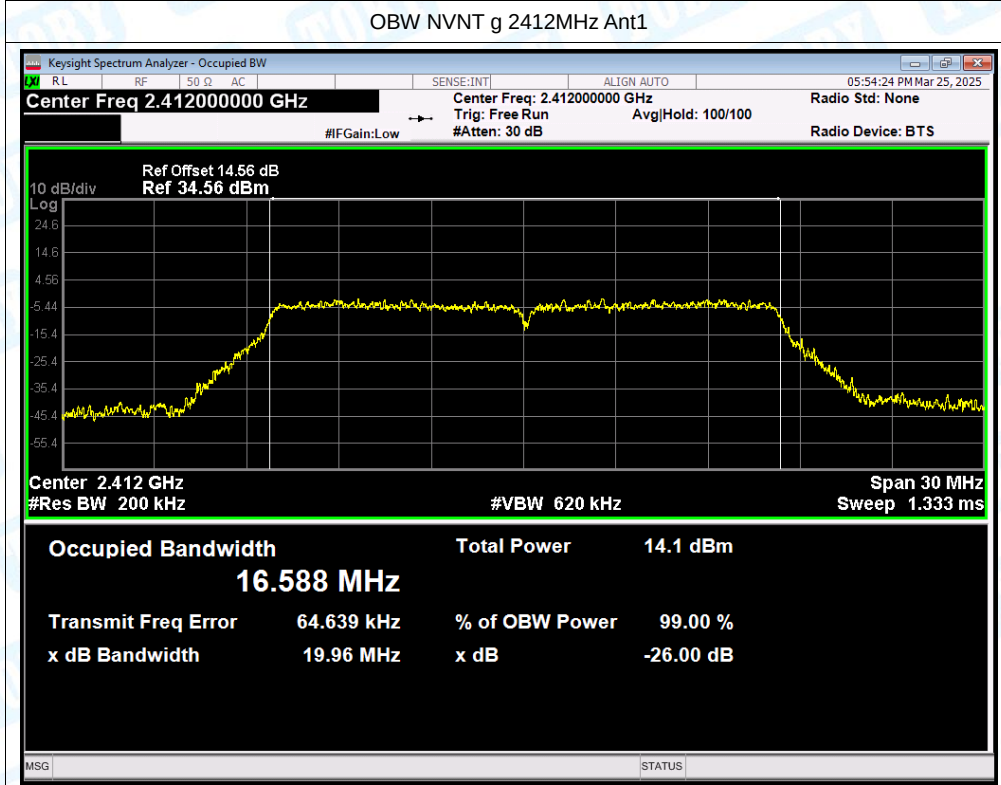
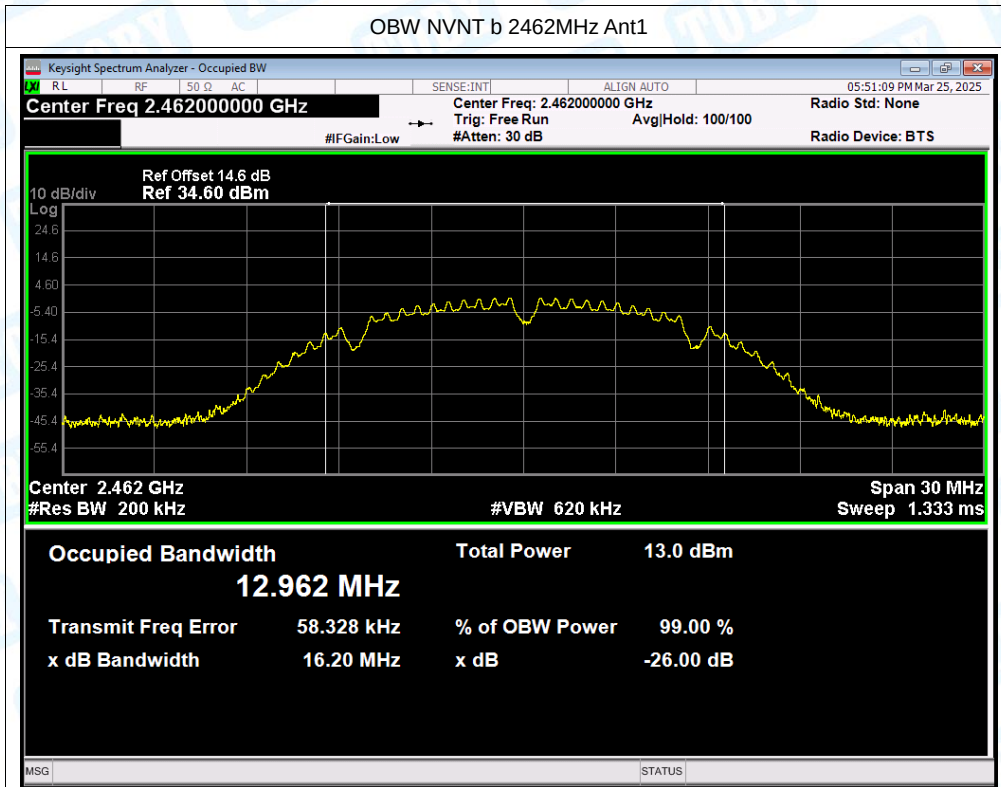
Test Graphs

OBW NVNT b 2412MHz Ant1

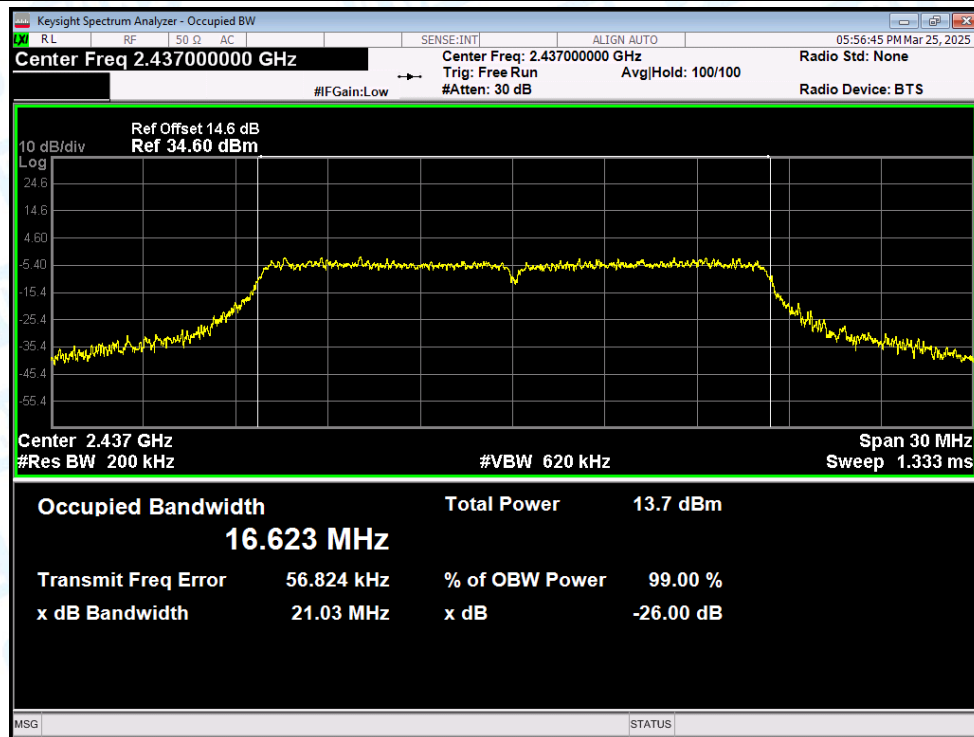


OBW NVNT b 2437MHz Ant1

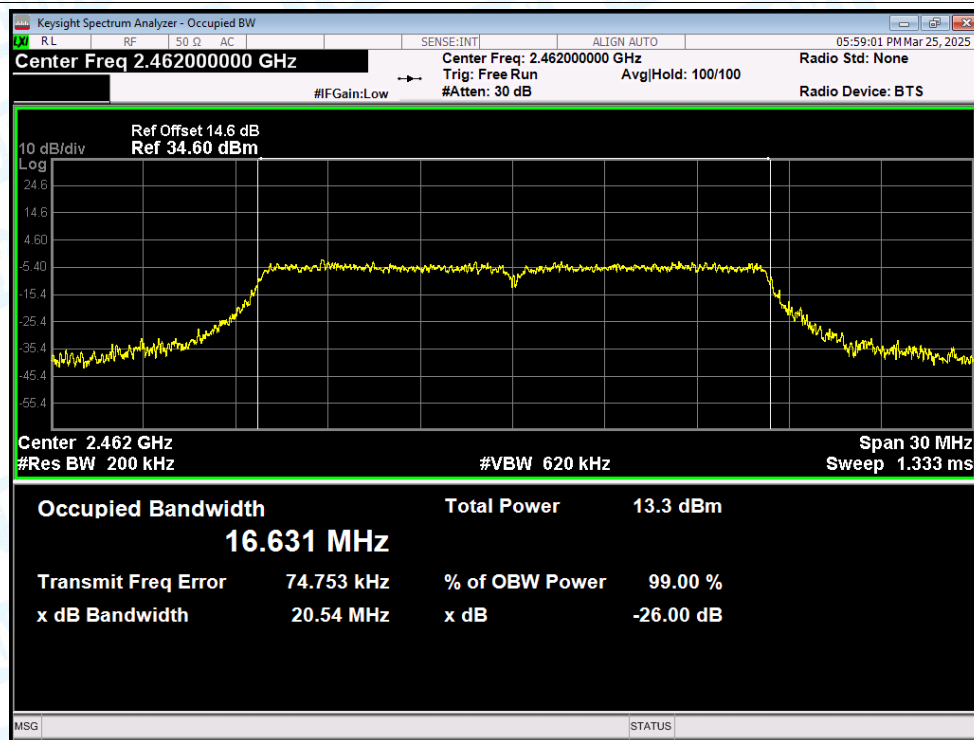




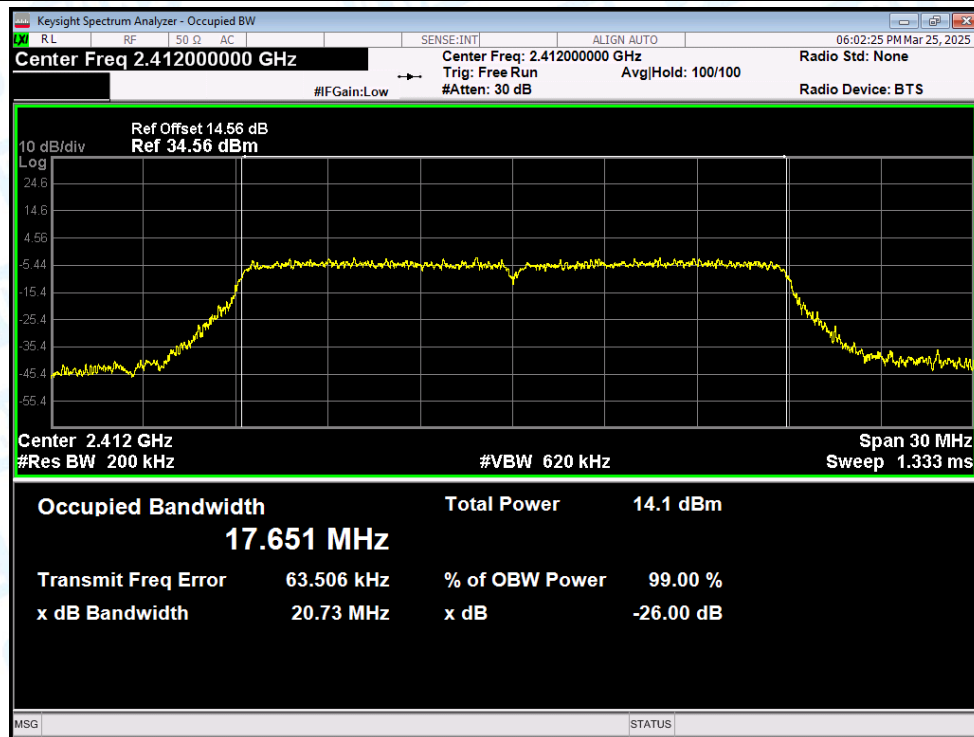
OBW NVNT g 2437MHz Ant1



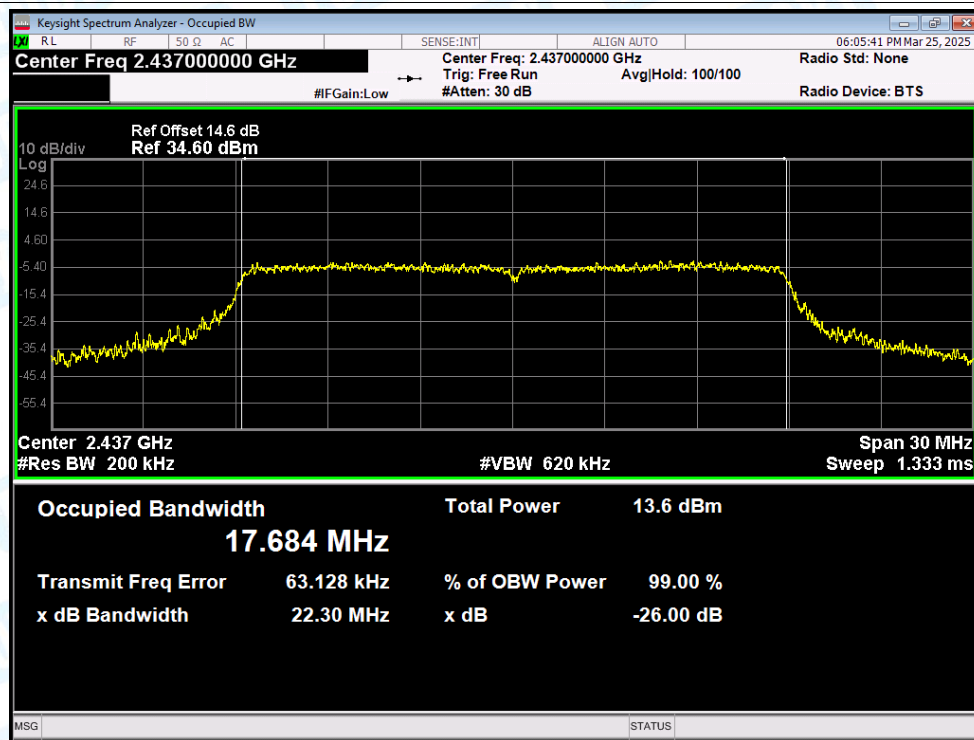
OBW NVNT g 2462MHz Ant1



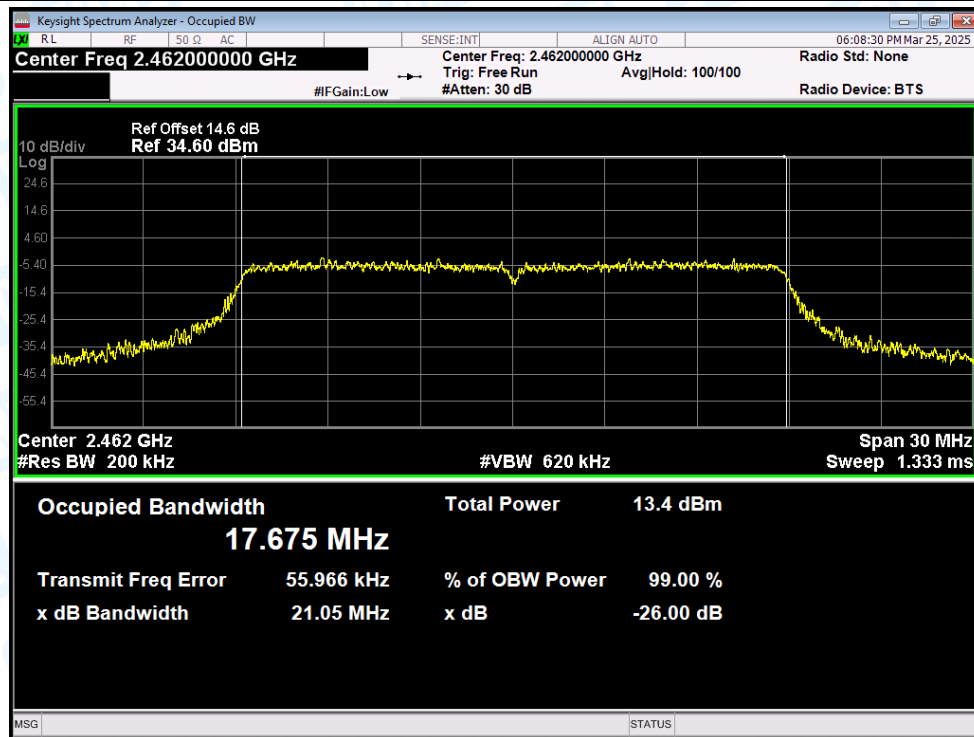
OBW NVNT n(HT20) 2412MHz Ant1



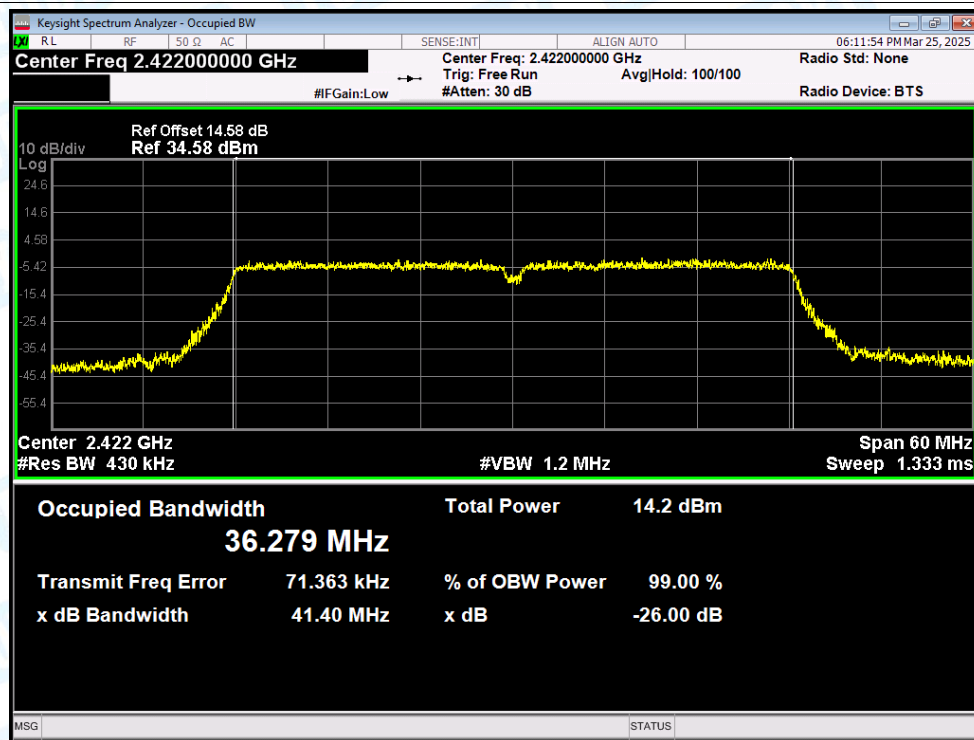
OBW NVNT n(HT20) 2437MHz Ant1



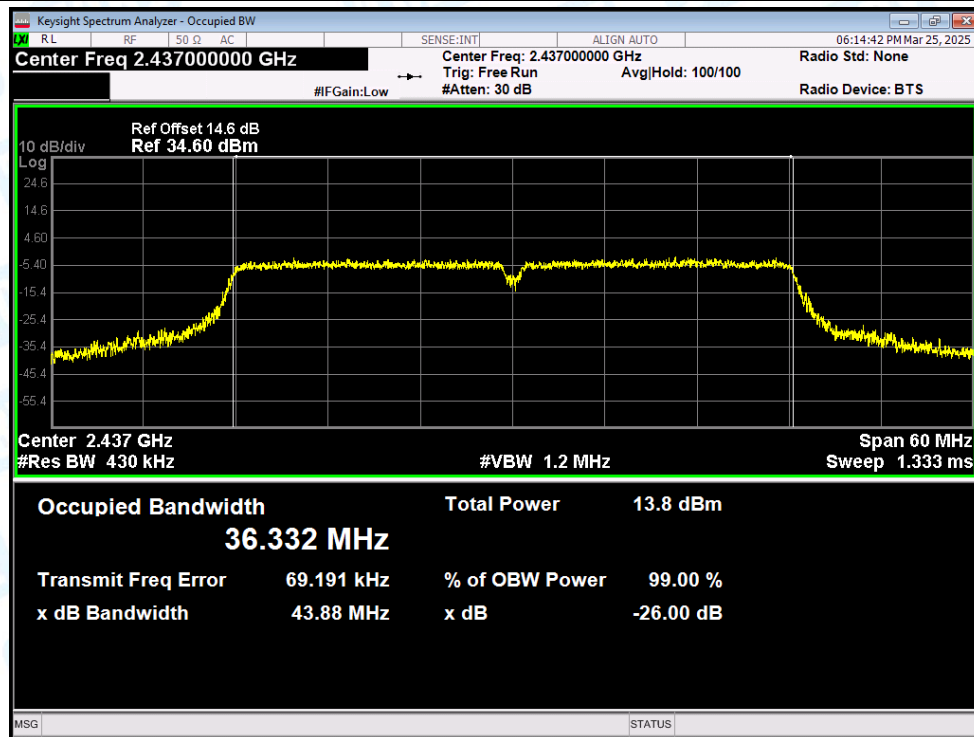
OBW NVNT n(HT20) 2462MHz Ant1



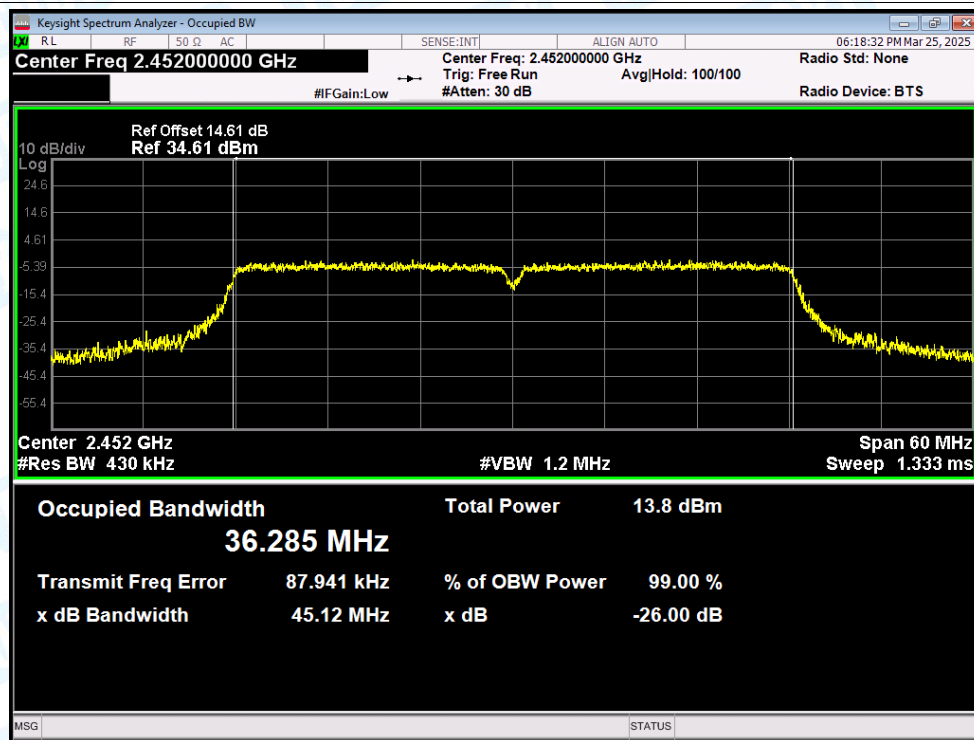
OBW NVNT n(HT40) 2422MHz Ant1



OBW NVNT n(HT40) 2437MHz Ant1



OBW NVNT n(HT40) 2452MHz Ant1



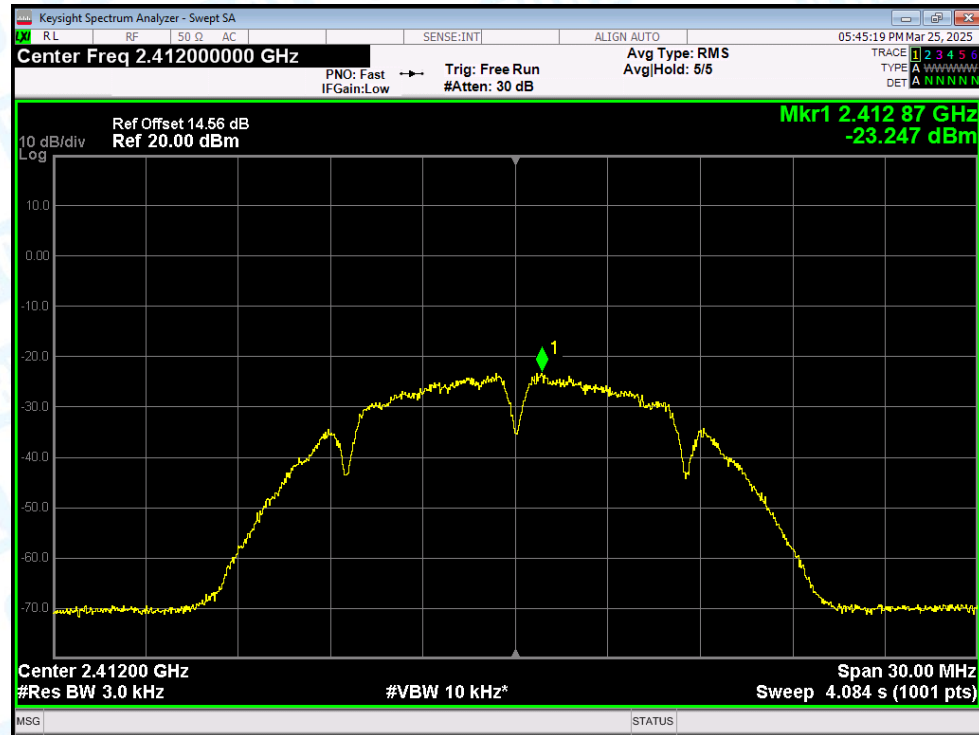
5. Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-23.247	8	Pass
NVNT	b	2437	Ant1	-23.454	8	Pass
NVNT	b	2462	Ant1	-23.6	8	Pass
NVNT	g	2412	Ant1	-25.751	8	Pass
NVNT	g	2437	Ant1	-26.548	8	Pass
NVNT	g	2462	Ant1	-26.619	8	Pass
NVNT	n(HT20)	2412	Ant1	-26.265	8	Pass
NVNT	n(HT20)	2437	Ant1	-26.891	8	Pass
NVNT	n(HT20)	2462	Ant1	-26.711	8	Pass
NVNT	n(HT40)	2422	Ant1	-29.814	8	Pass
NVNT	n(HT40)	2437	Ant1	-30.017	8	Pass
NVNT	n(HT40)	2452	Ant1	-30.179	8	Pass

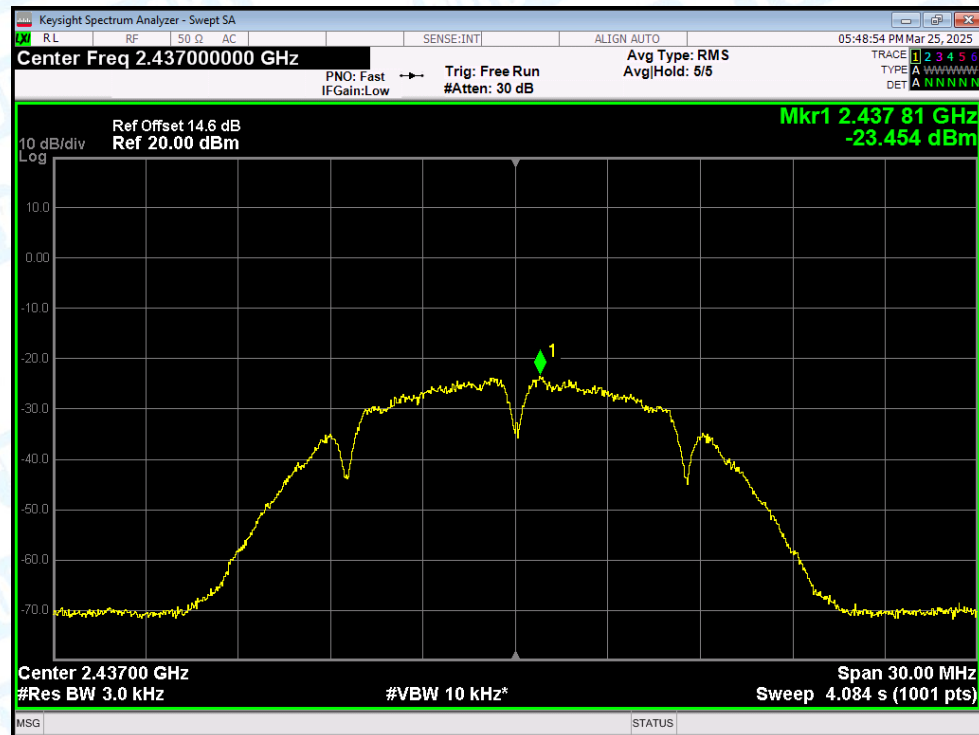
Note: The Duty Cycle Factor is compensated in the graph.

Test Graphs

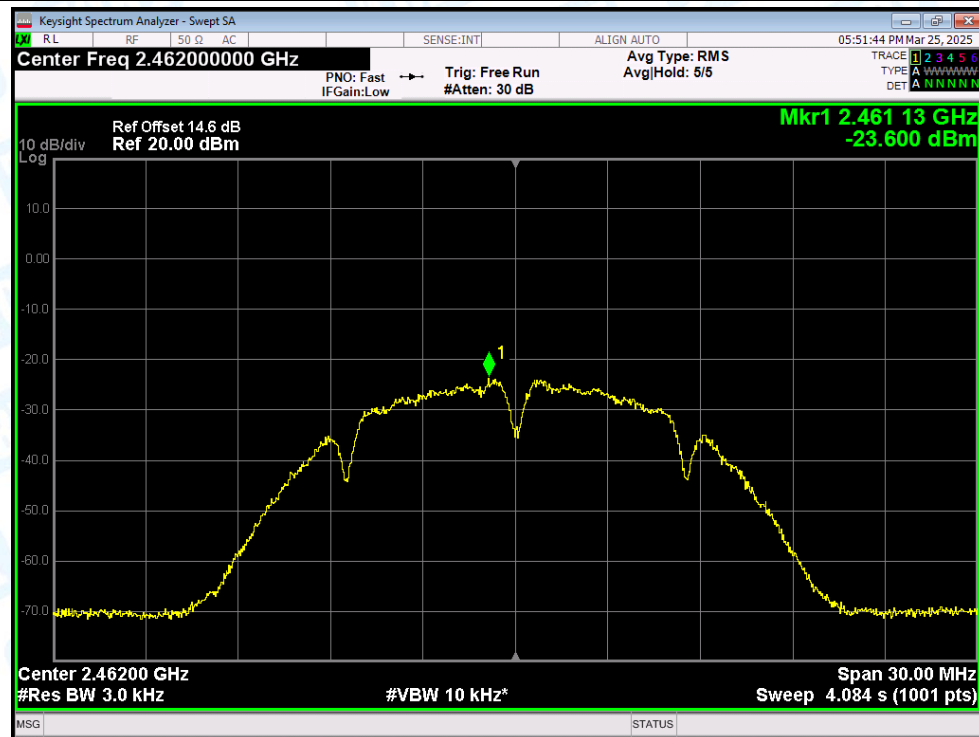
PSD NVNT b 2412MHz Ant1



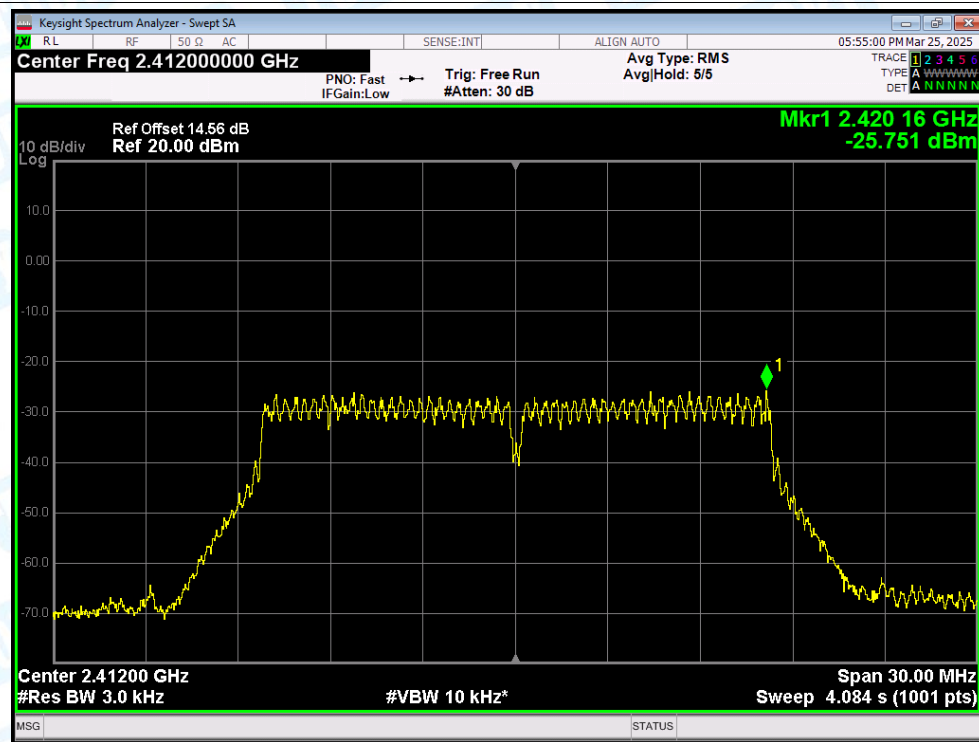
PSD NVNT b 2437MHz Ant1



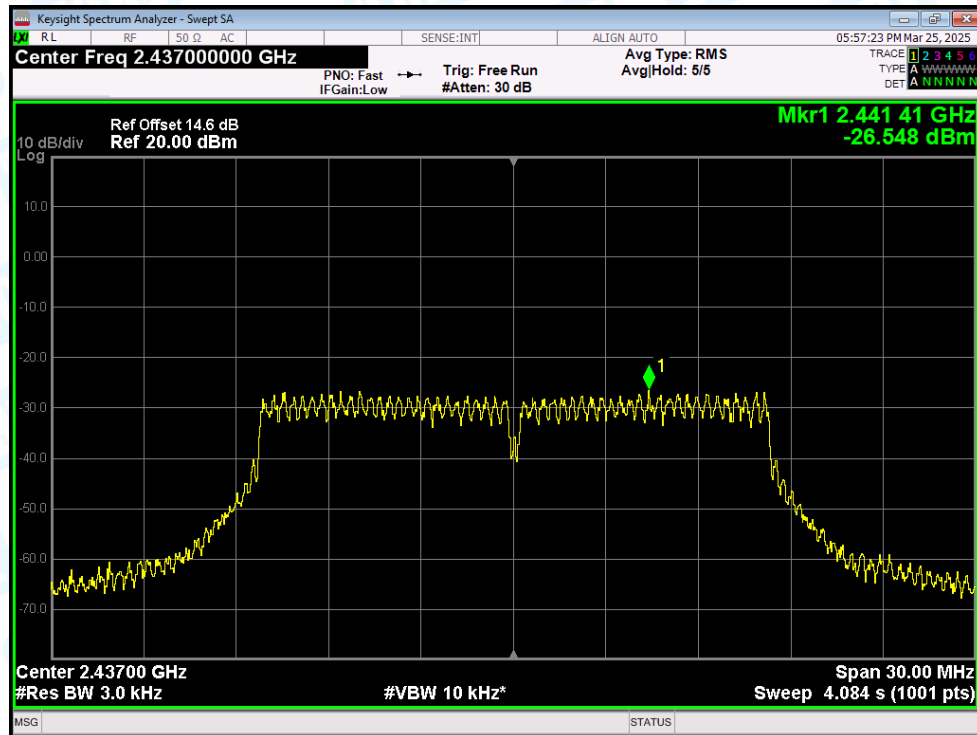
PSD NVNT b 2462MHz Ant1



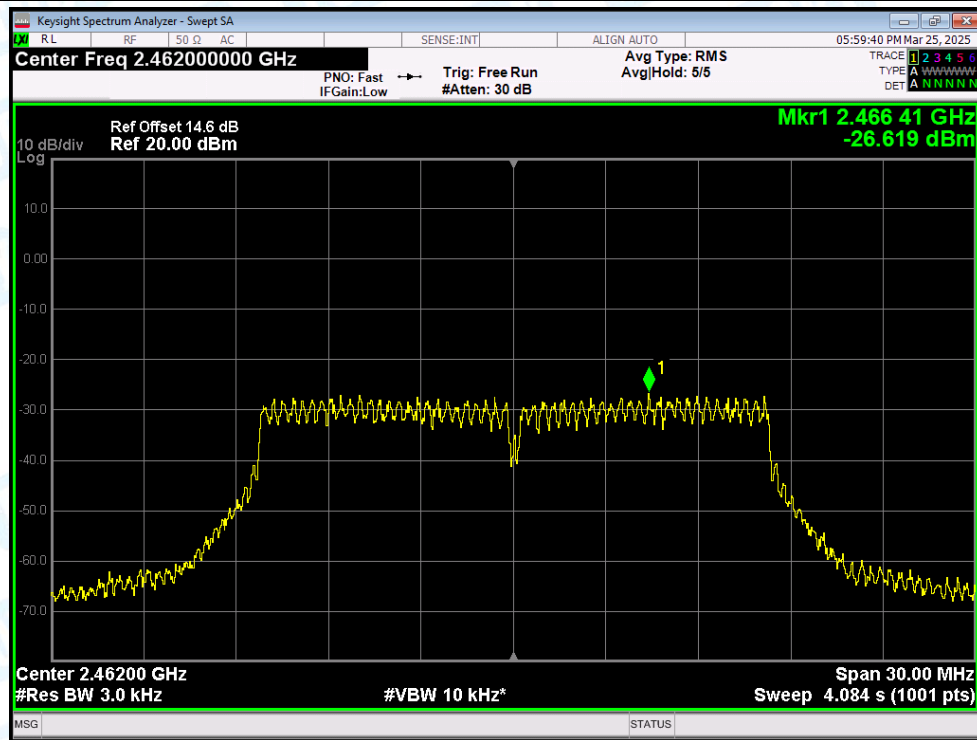
PSD NVNT g 2412MHz Ant1



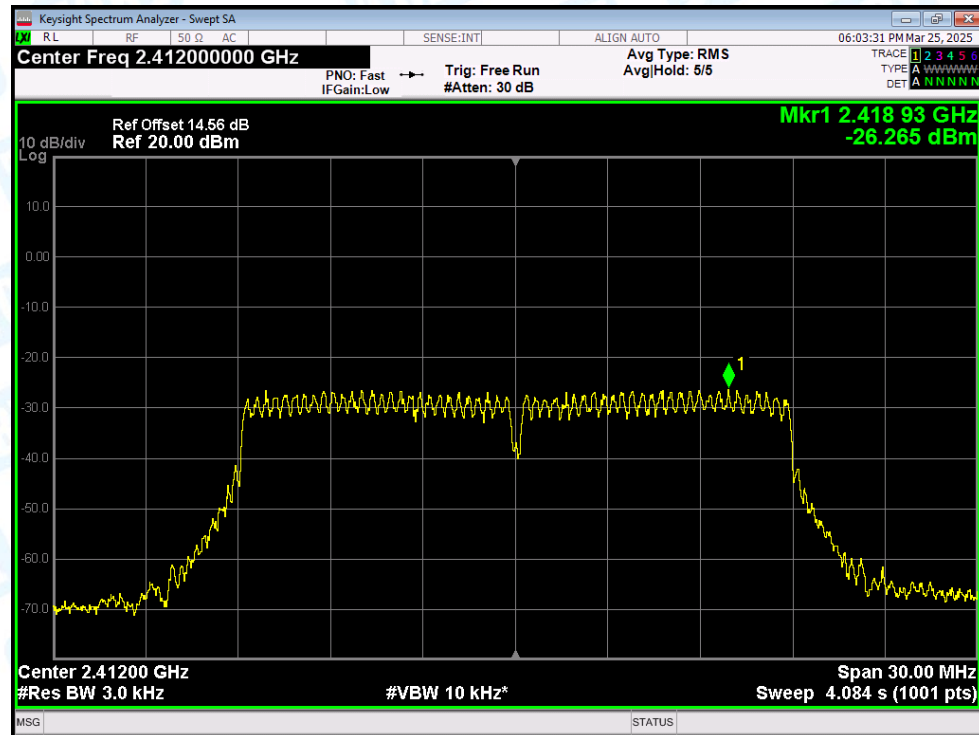
PSD NVNT g 2437MHz Ant1



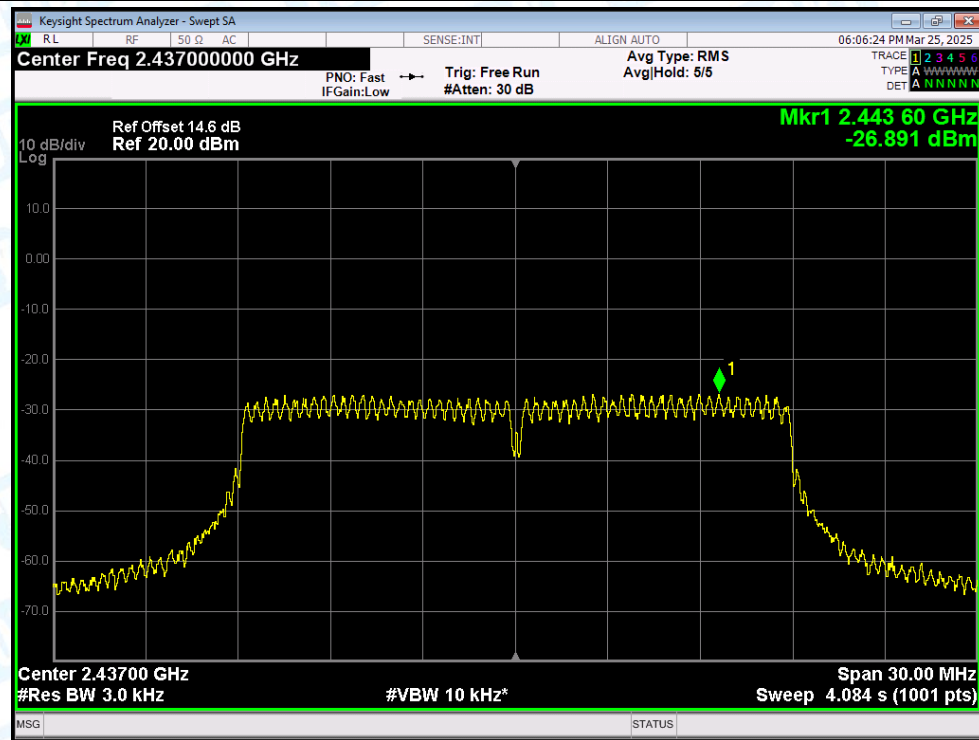
PSD NVNT g 2462MHz Ant1



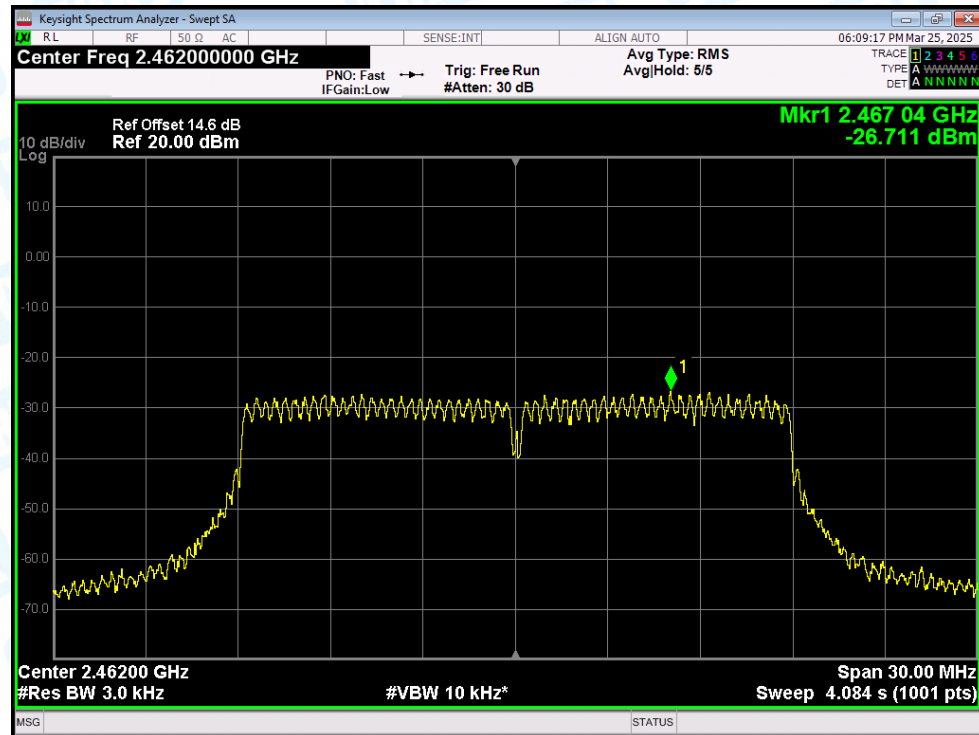
PSD NVNT n(HT20) 2412MHz Ant1



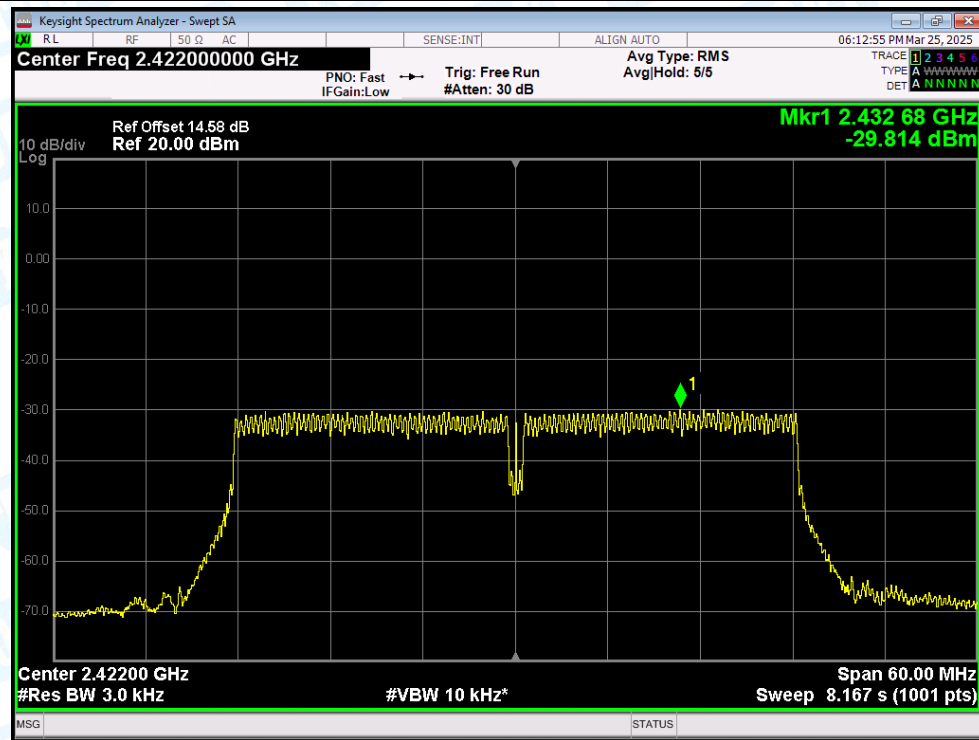
PSD NVNT n(HT20) 2437MHz Ant1



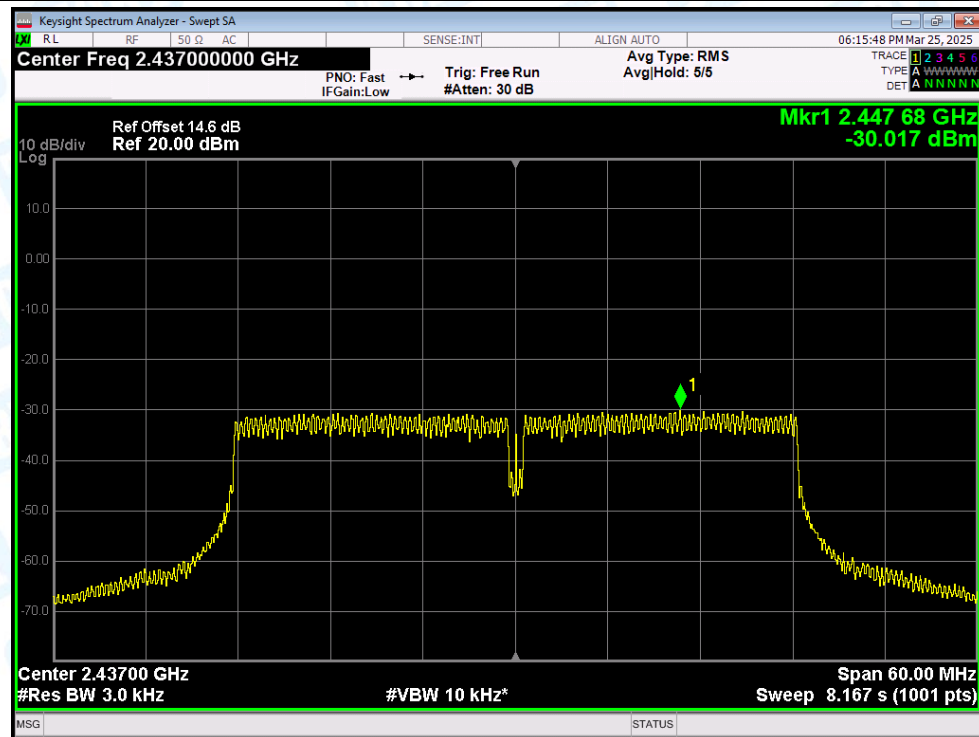
PSD NVNT n(HT20) 2462MHz Ant1



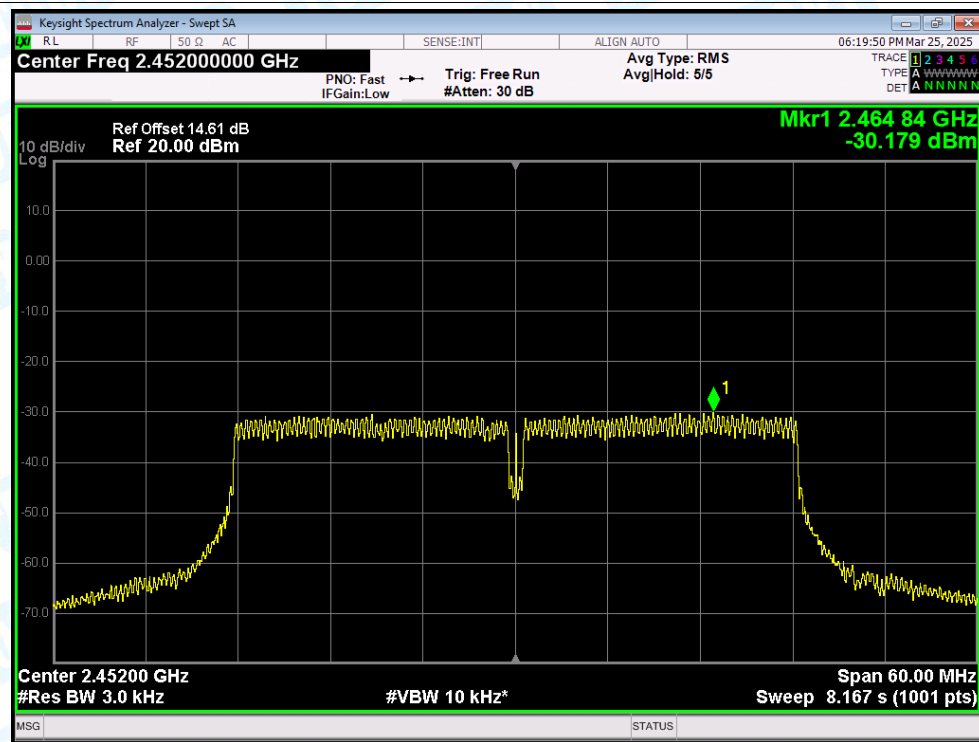
PSD NVNT n(HT40) 2422MHz Ant1



PSD NVNT n(HT40) 2437MHz Ant1



PSD NVNT n(HT40) 2452MHz Ant1

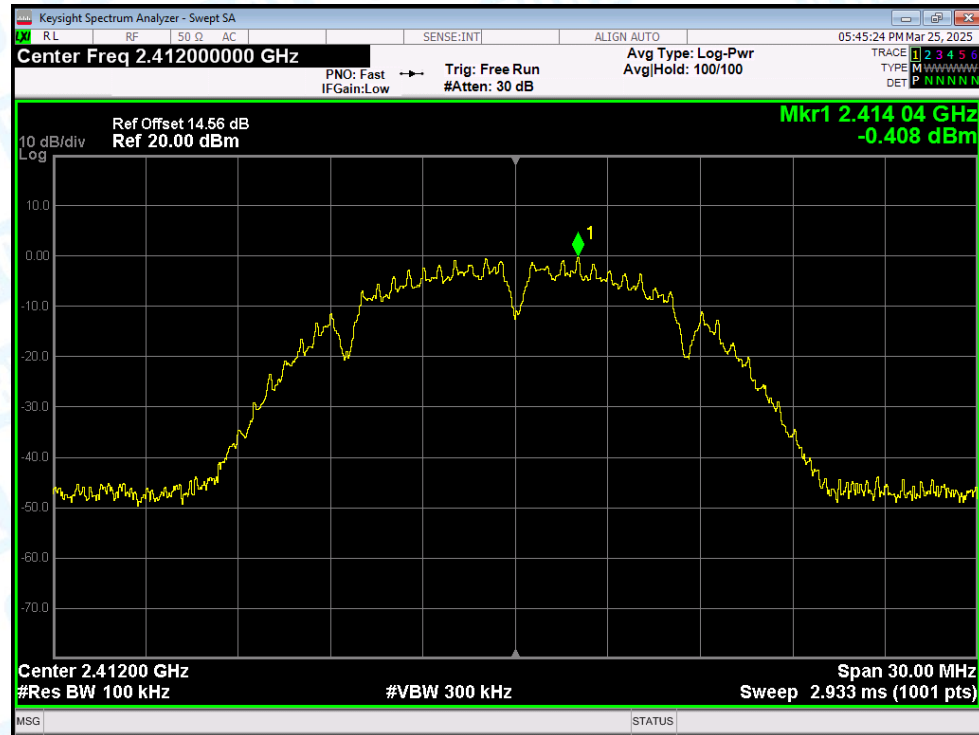


6. Band Edge

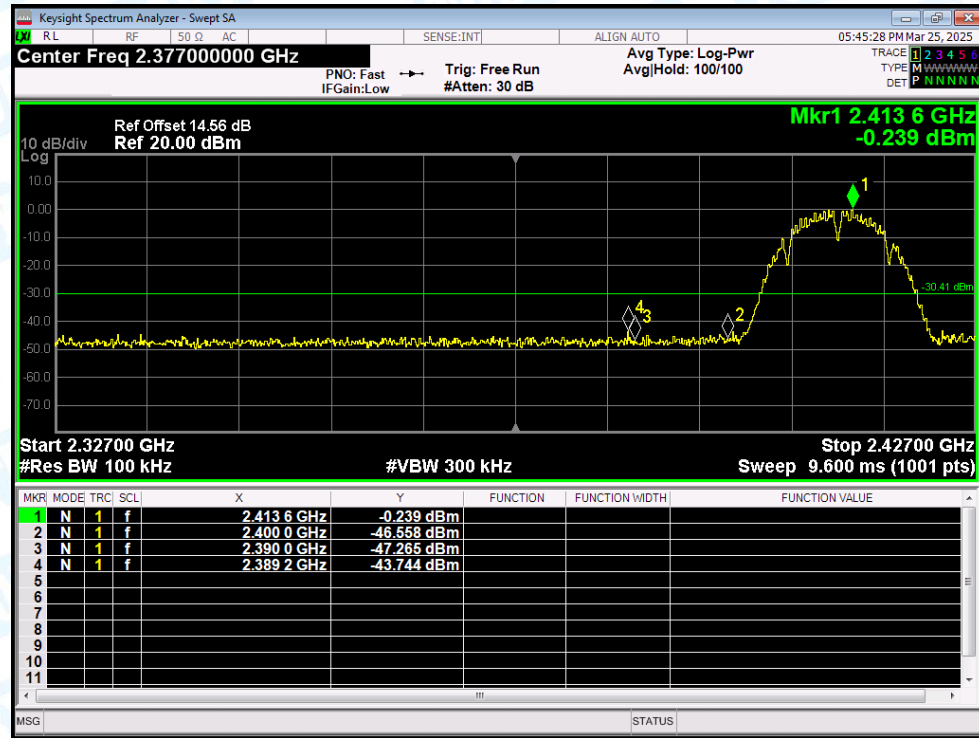
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-43.33	-30	Pass
NVNT	b	2462	Ant1	-43.77	-30	Pass
NVNT	g	2412	Ant1	-41.96	-30	Pass
NVNT	g	2462	Ant1	-40.85	-30	Pass
NVNT	n(HT20)	2412	Ant1	-41.73	-30	Pass
NVNT	n(HT20)	2462	Ant1	-38.83	-30	Pass
NVNT	n(HT40)	2422	Ant1	-39.01	-30	Pass
NVNT	n(HT40)	2452	Ant1	-34.87	-30	Pass

Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



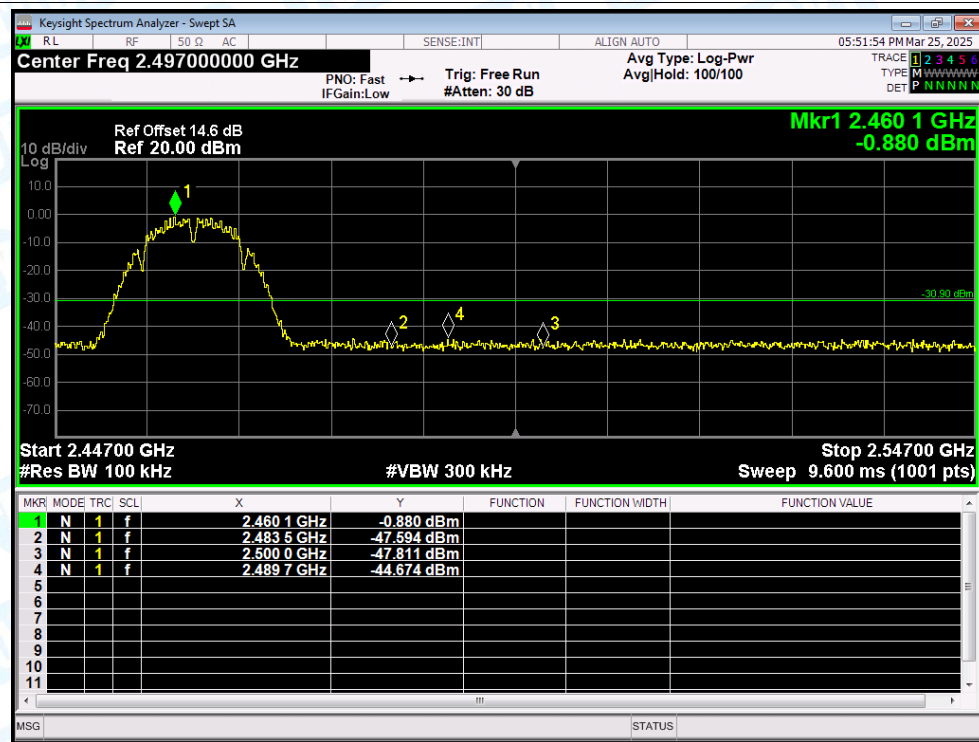
Band Edge NVNT b 2412MHz Ant1 Emission



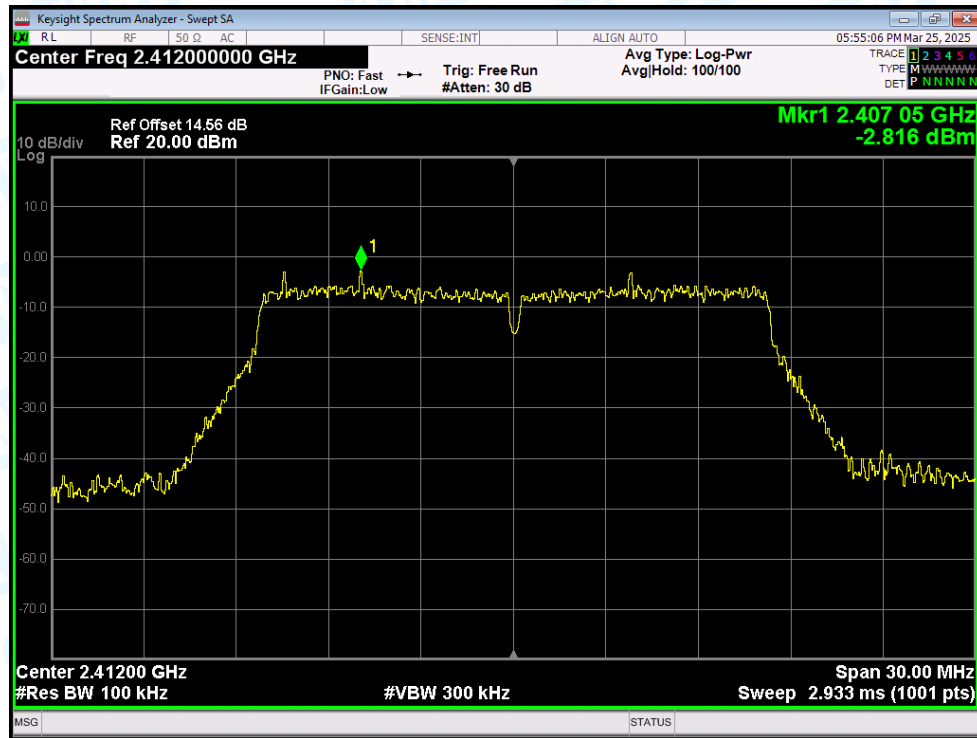
Band Edge NVNT b 2462MHz Ant1 Ref



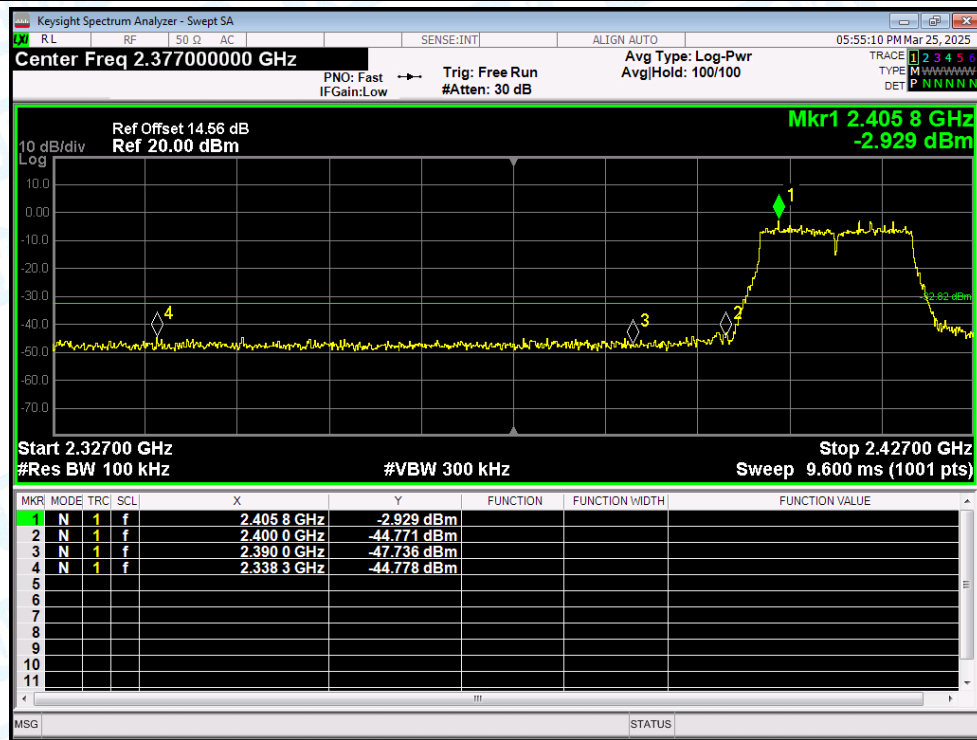
Band Edge NVNT b 2462MHz Ant1 Emission



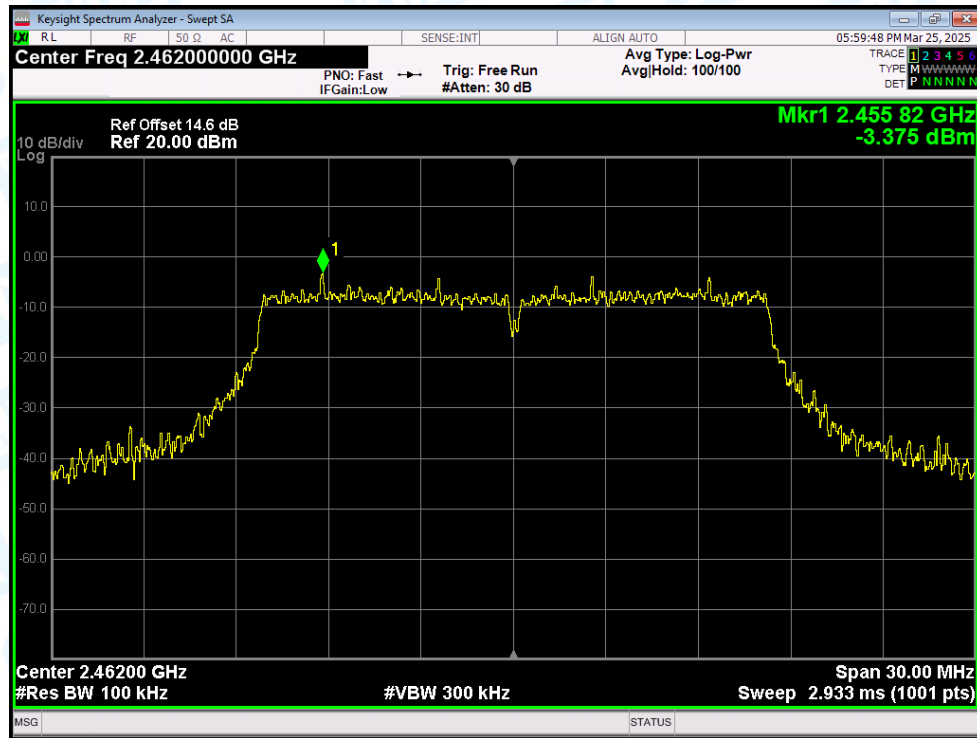
Band Edge NVNT g 2412MHz Ant1 Ref



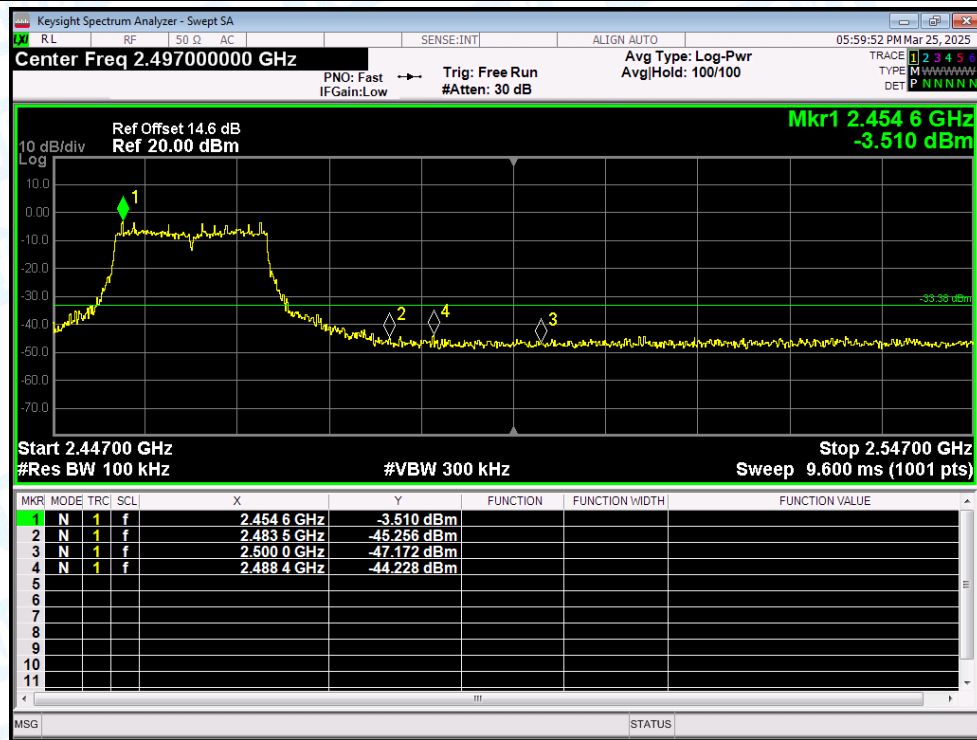
Band Edge NVNT g 2412MHz Ant1 Emission



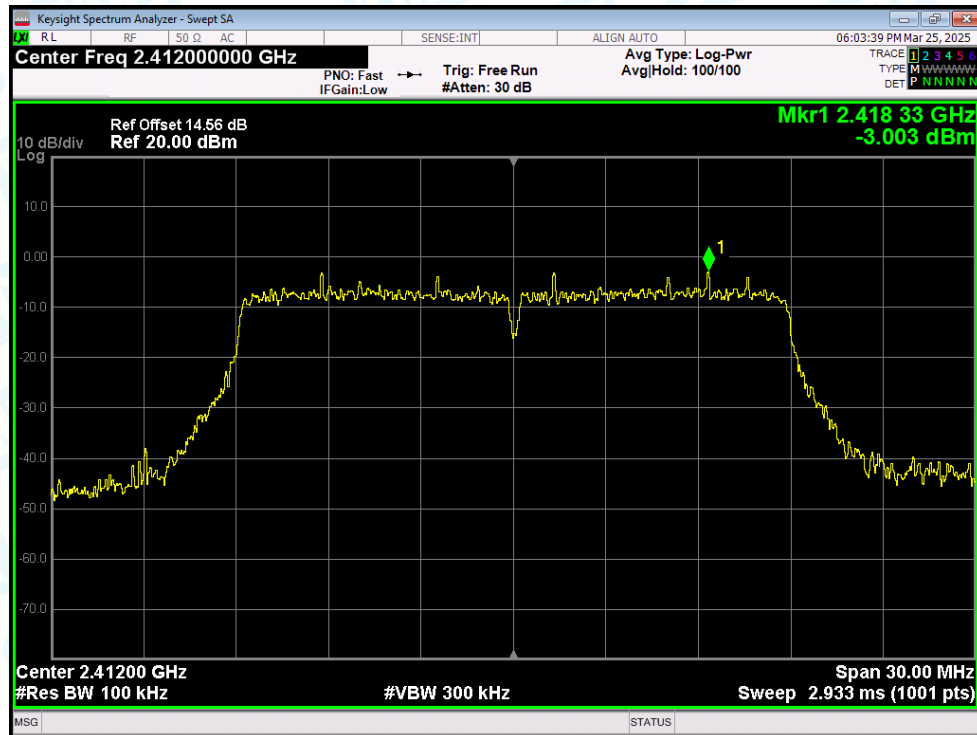
Band Edge NVNT g 2462MHz Ant1 Ref



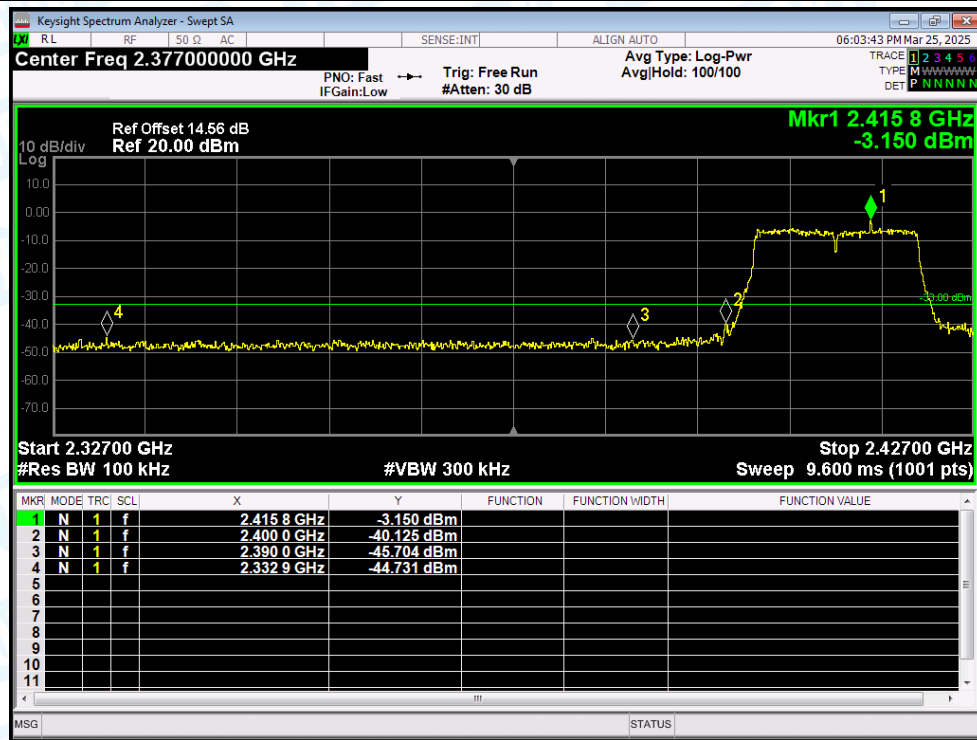
Band Edge NVNT g 2462MHz Ant1 Emission



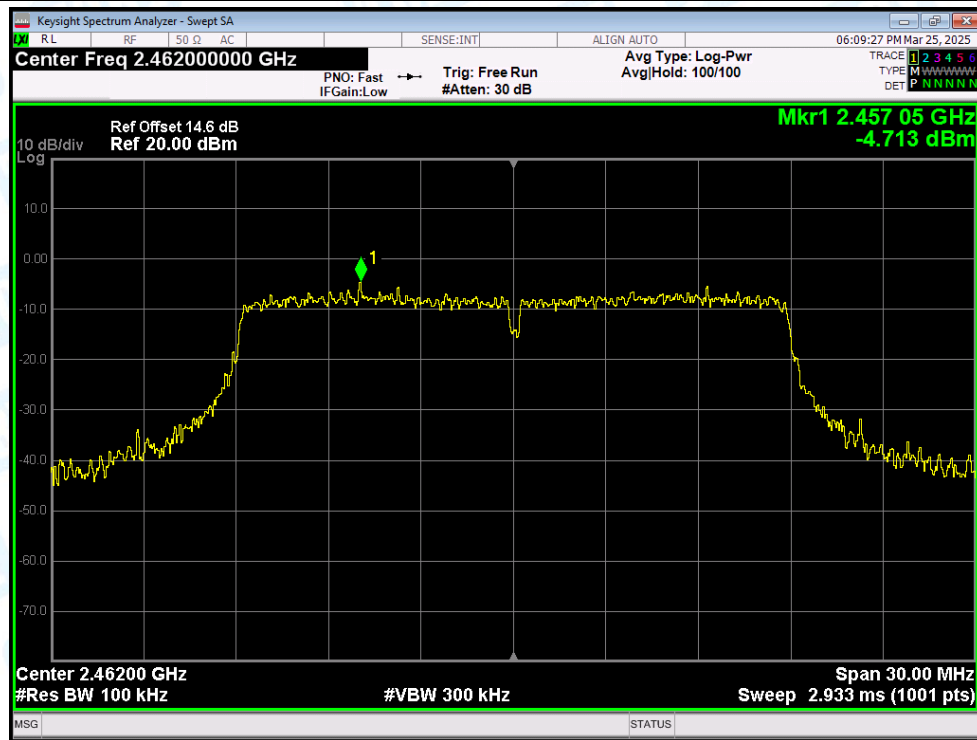
Band Edge NVNT n(HT20) 2412MHz Ant1 Ref



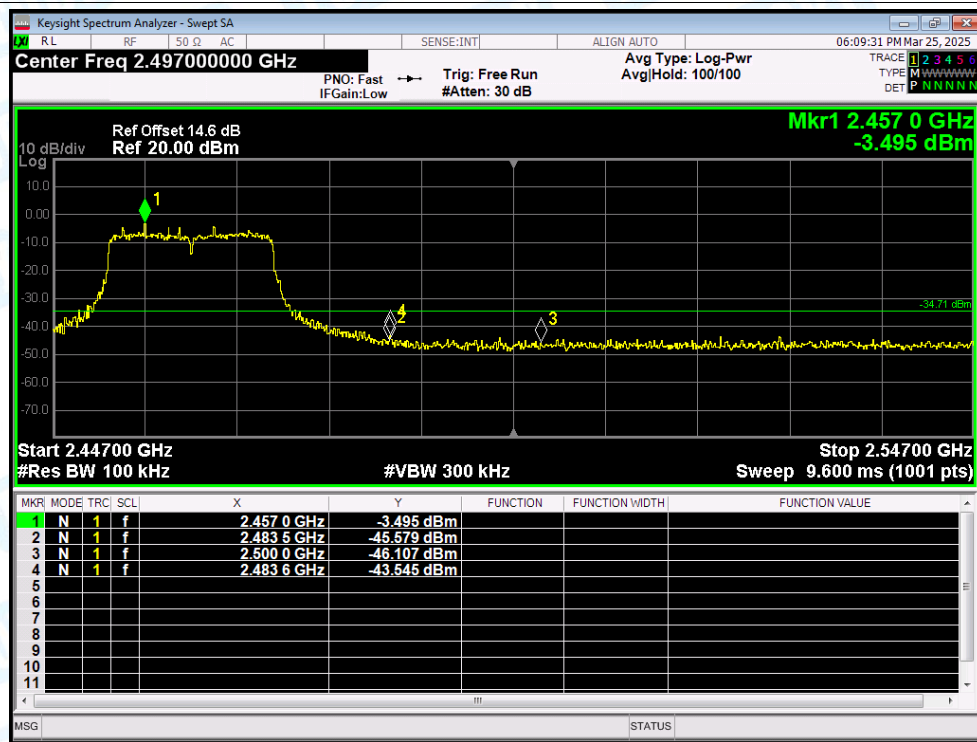
Band Edge NVNT n(HT20) 2412MHz Ant1 Emission



Band Edge NVNT n(HT20) 2462MHz Ant1 Ref



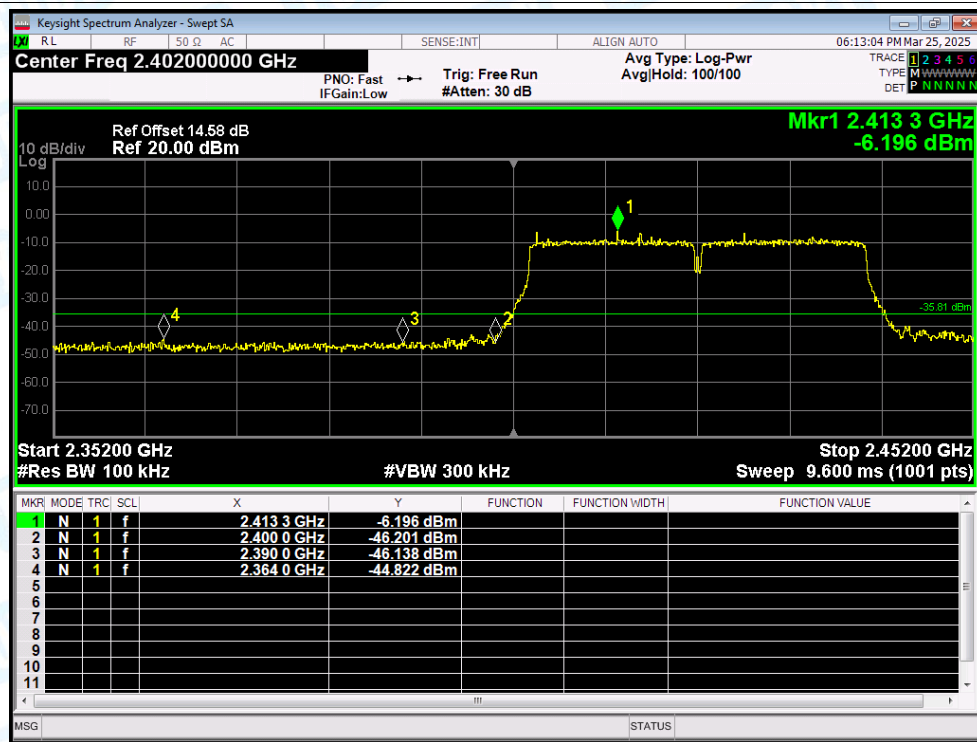
Band Edge NVNT n(HT20) 2462MHz Ant1 Emission



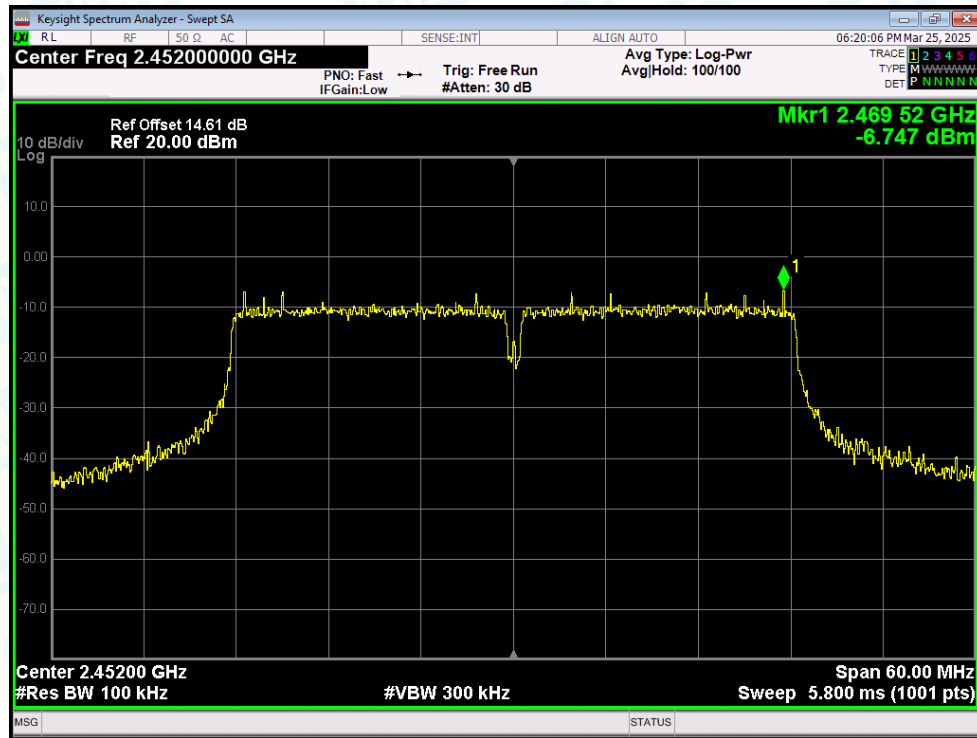
Band Edge NVNT n(HT40) 2422MHz Ant1 Ref



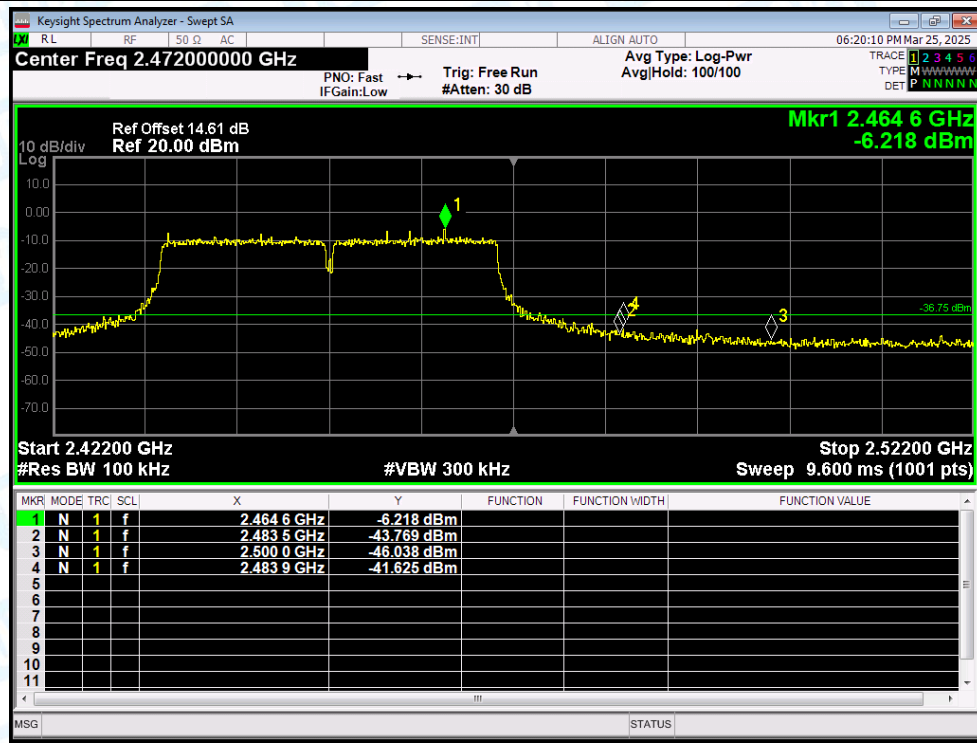
Band Edge NVNT n(HT40) 2422MHz Ant1 Emission



Band Edge NVNT n(HT40) 2452MHz Ant1 Ref



Band Edge NVNT n(HT40) 2452MHz Ant1 Emission



7. Conducted RF Spurious Emission

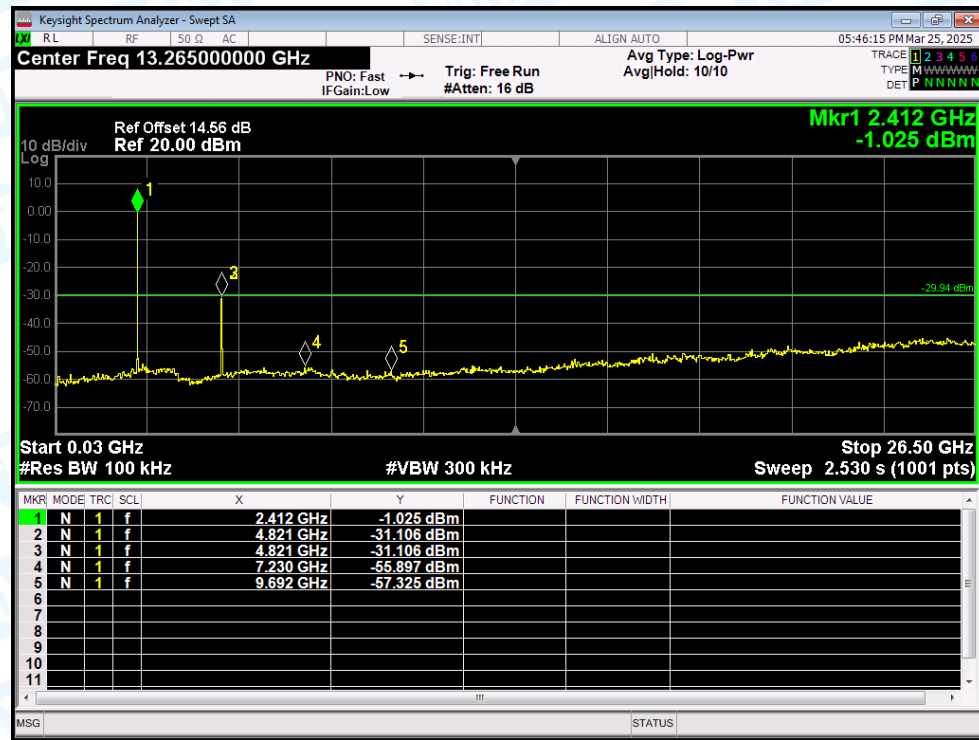
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-31.17	-30	Pass
NVNT	b	2437	Ant1	-31.86	-30	Pass
NVNT	b	2462	Ant1	-32.49	-30	Pass
NVNT	g	2412	Ant1	-36.9	-30	Pass
NVNT	g	2437	Ant1	-39.2	-30	Pass
NVNT	g	2462	Ant1	-40.78	-30	Pass
NVNT	n(HT20)	2412	Ant1	-33.31	-30	Pass
NVNT	n(HT20)	2437	Ant1	-36.79	-30	Pass
NVNT	n(HT20)	2462	Ant1	-40.89	-30	Pass
NVNT	n(HT40)	2422	Ant1	-38.04	-30	Pass
NVNT	n(HT40)	2437	Ant1	-38.18	-30	Pass
NVNT	n(HT40)	2452	Ant1	-38.52	-30	Pass

Test Graphs

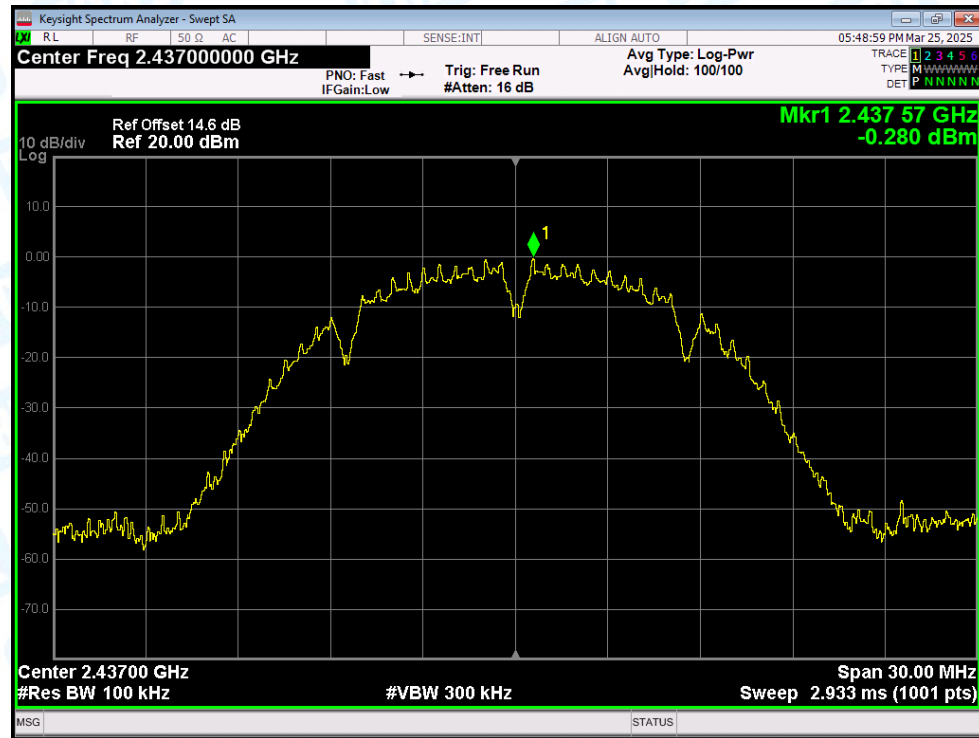
Tx. Spurious NVNT b 2412MHz Ant1 Ref



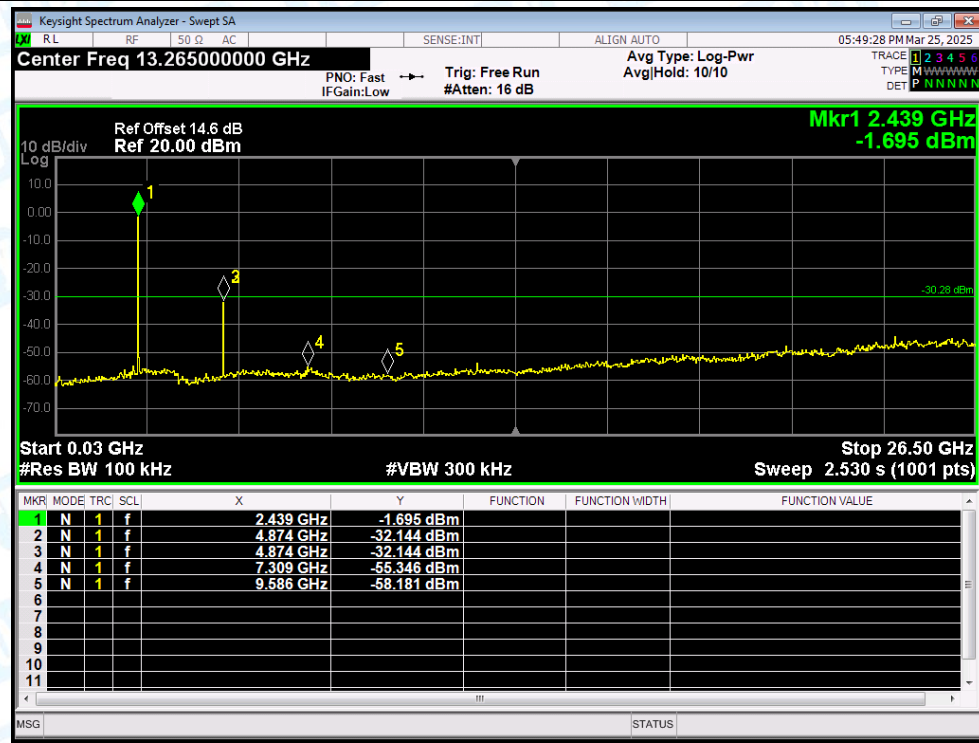
Tx. Spurious NVNT b 2412MHz Ant1 Emission



Tx. Spurious NVNT b 2437MHz Ant1 Ref



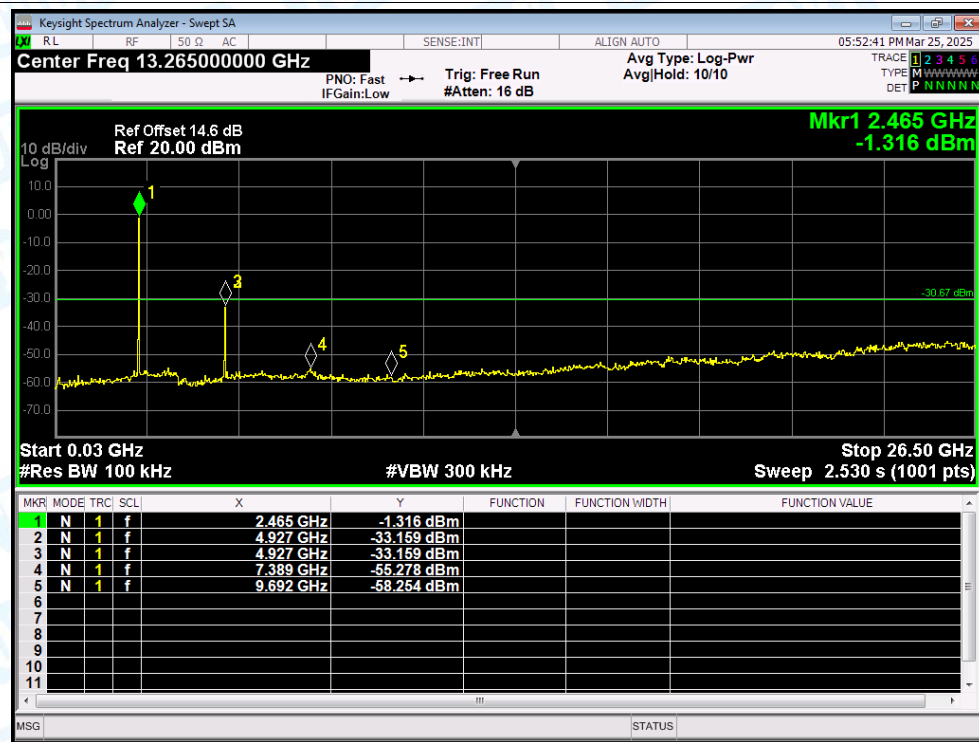
Tx. Spurious NVNT b 2437MHz Ant1 Emission



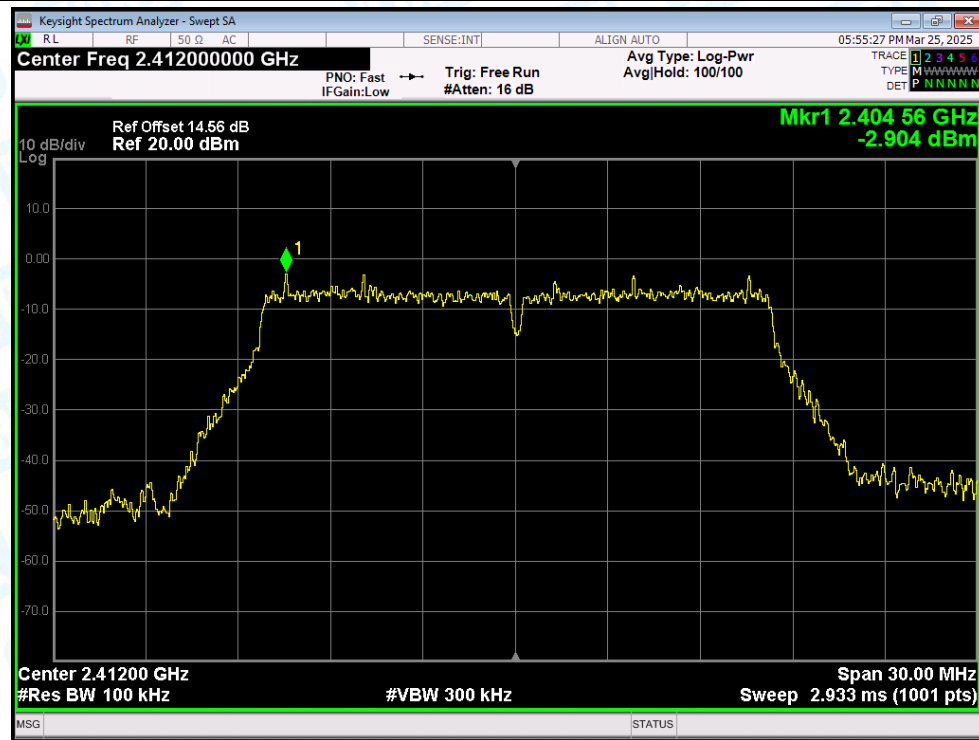
Tx. Spurious NVNT b 2462MHz Ant1 Ref



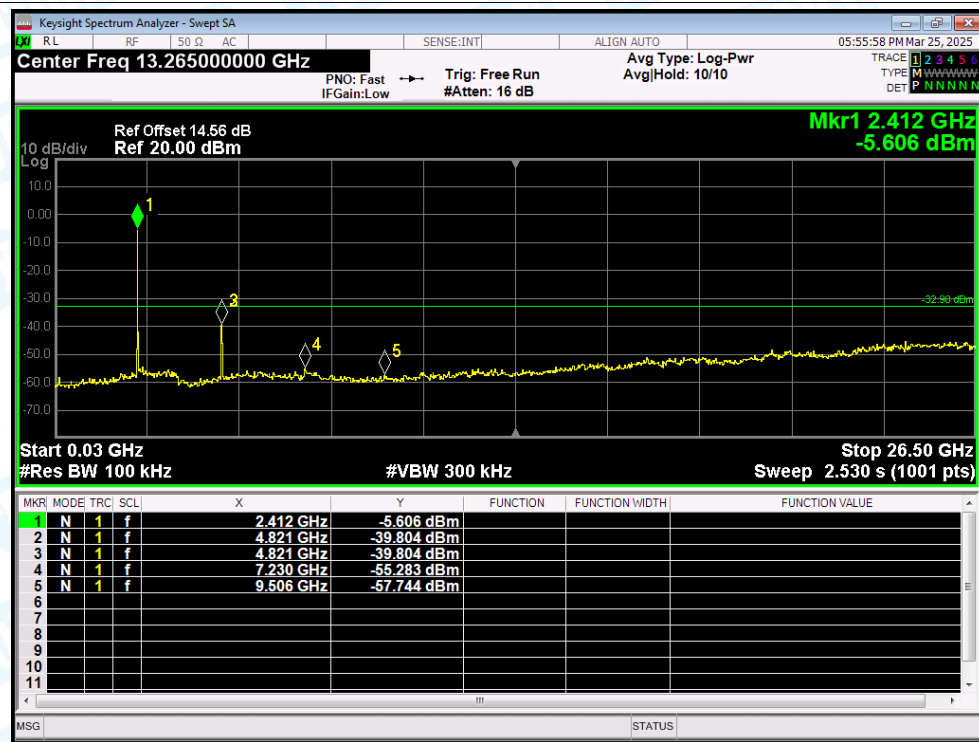
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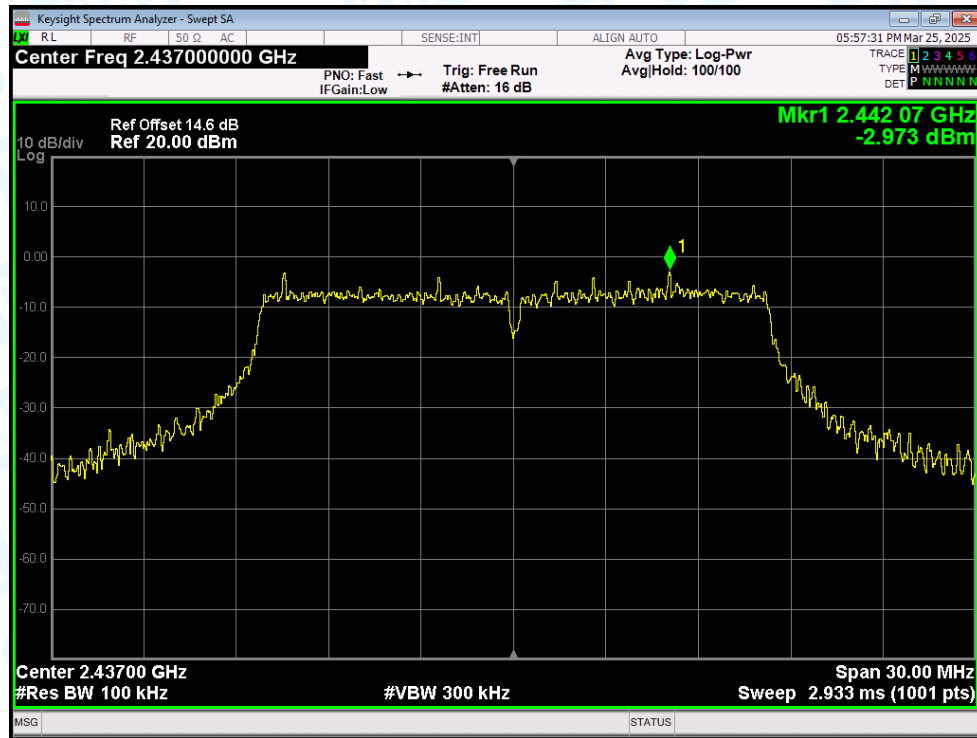
Tx. Spurious NVNT g 2412MHz Ant1 Ref



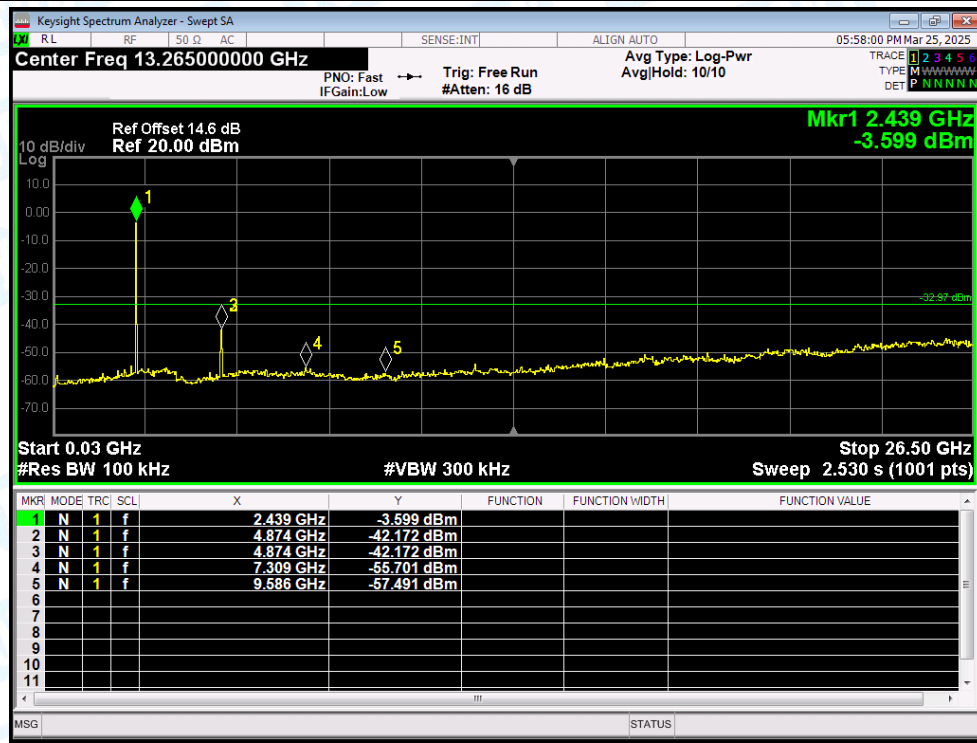
Tx. Spurious NVNT g 2412MHz Ant1 Emission



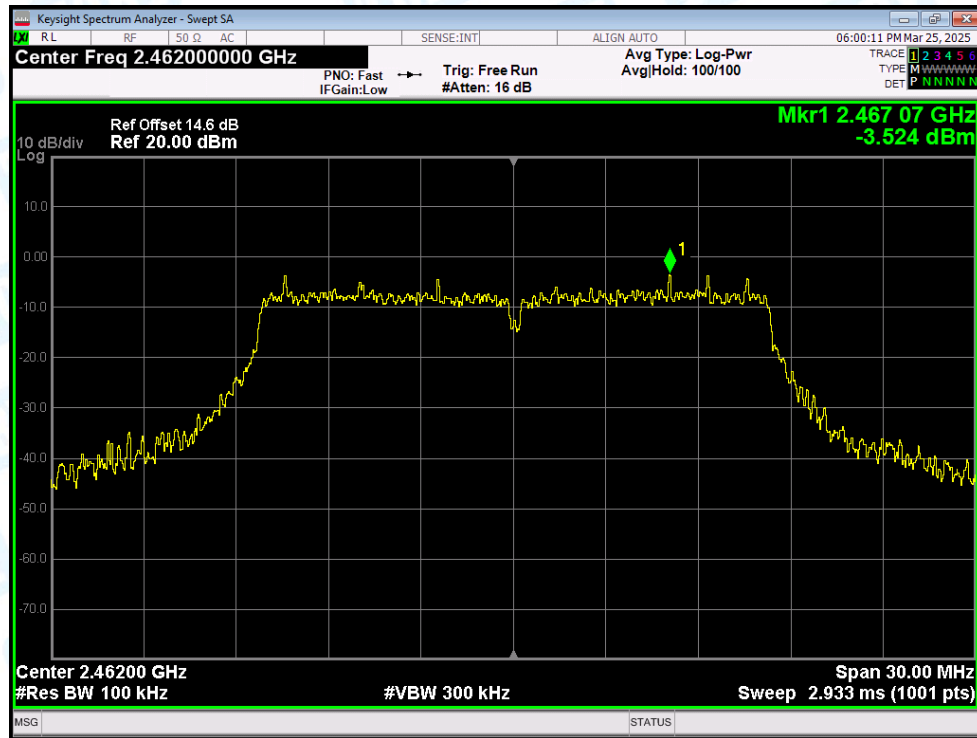
Tx. Spurious NVNT g 2437MHz Ant1 Ref



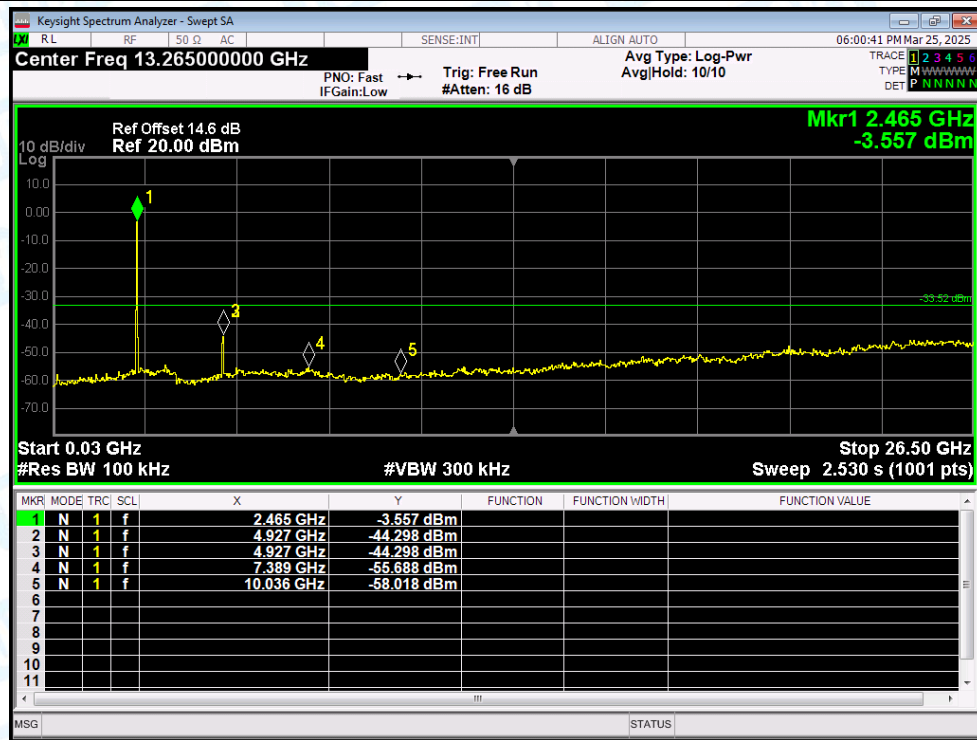
Tx. Spurious NVNT g 2437MHz Ant1 Emission



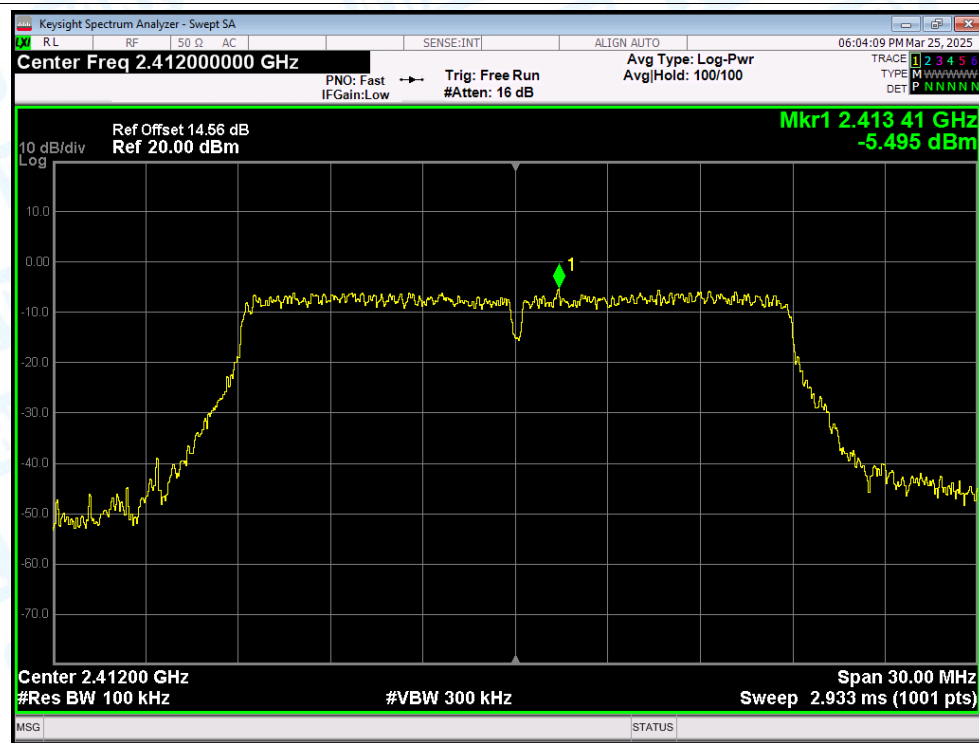
Tx. Spurious NVNT g 2462MHz Ant1 Ref



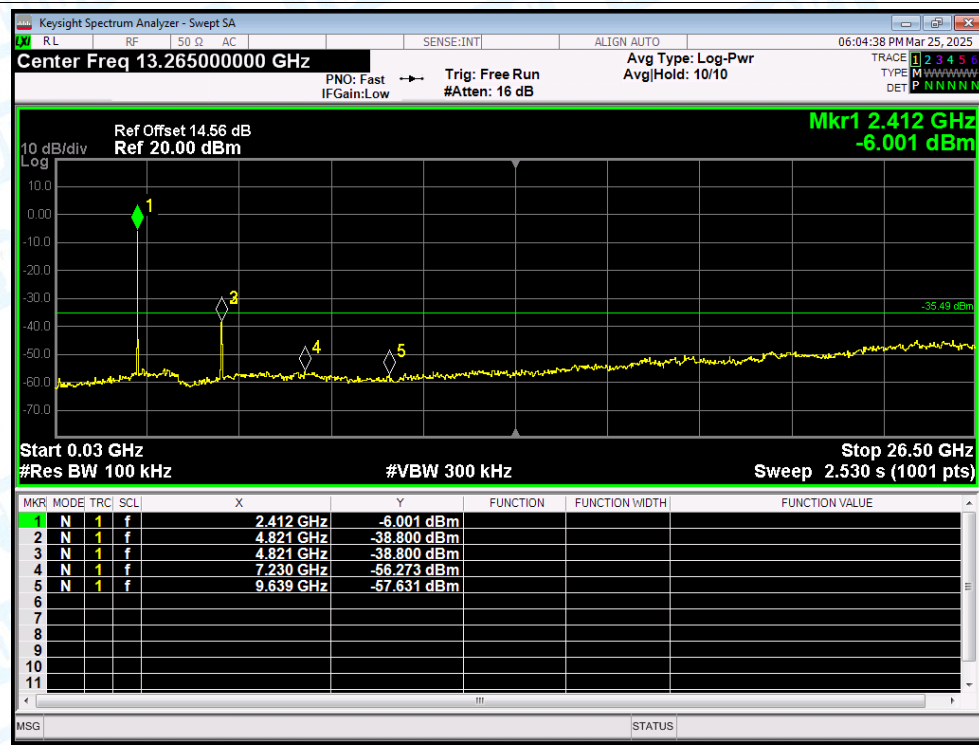
Tx. Spurious NVNT g 2462MHz Ant1 Emission



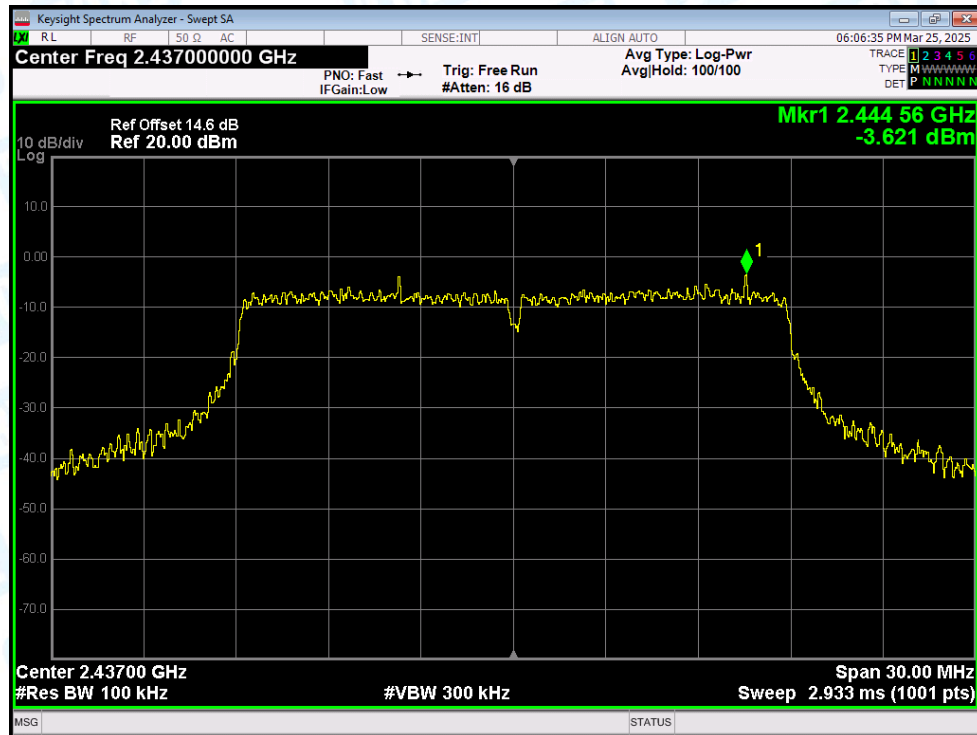
Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Ref



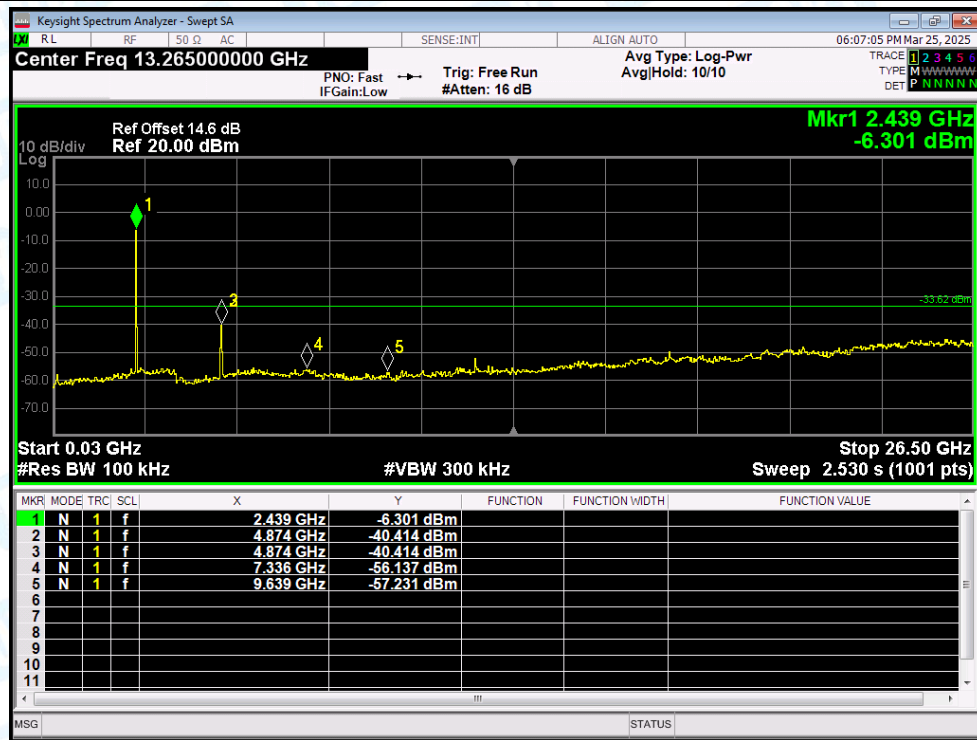
Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Emission



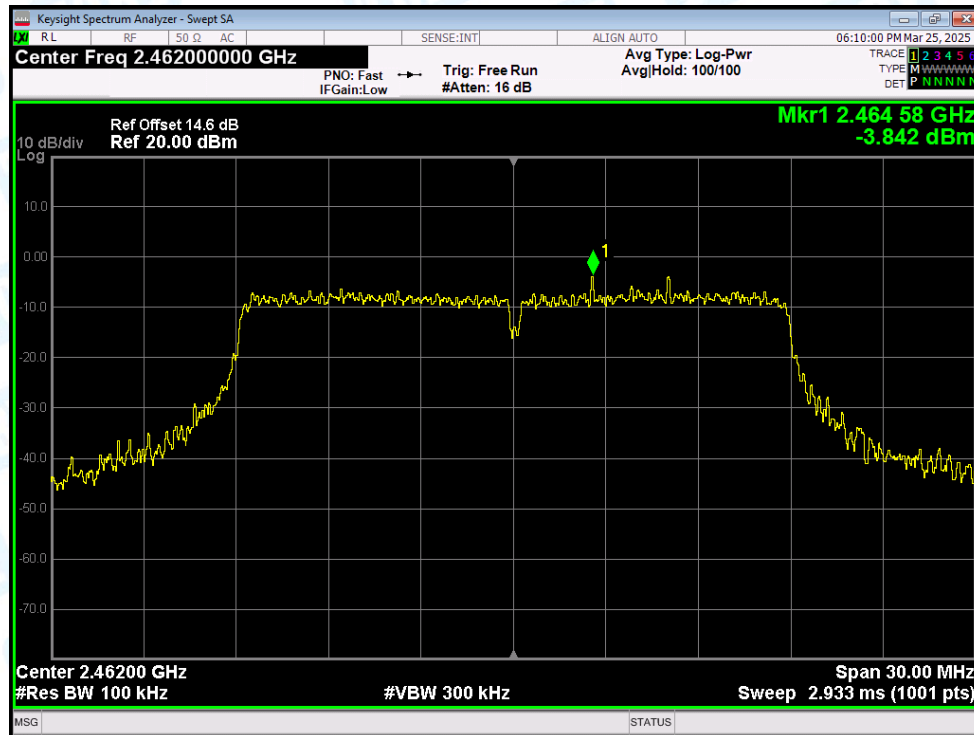
Tx. Spurious NVNT n(HT20) 2437MHz Ant1 Ref



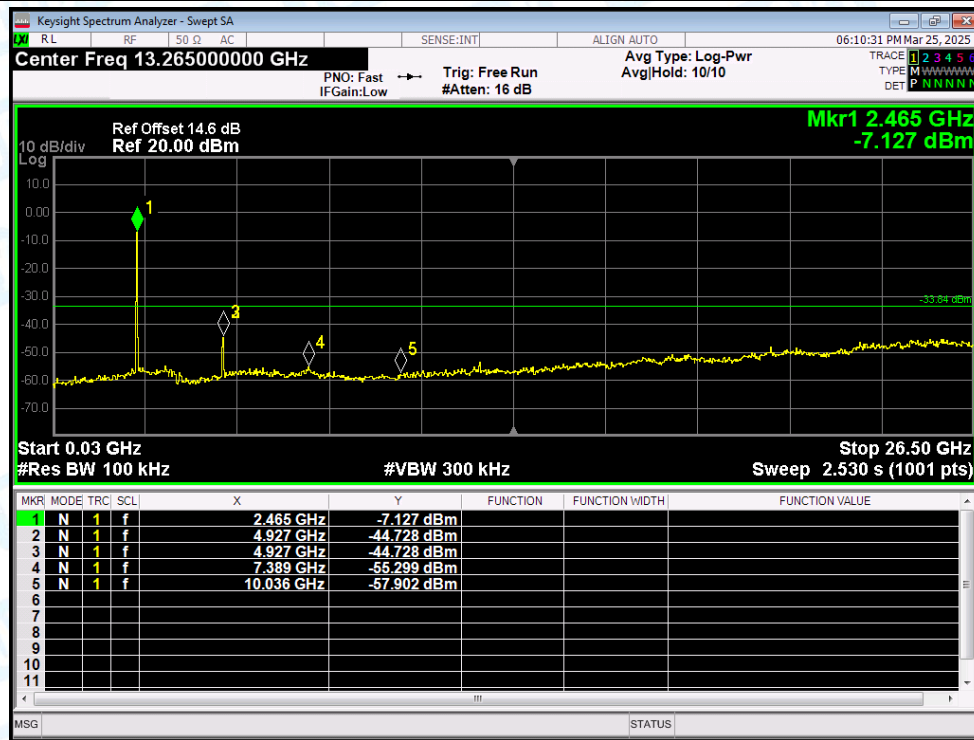
Tx. Spurious NVNT n(HT20) 2437MHz Ant1 Emission



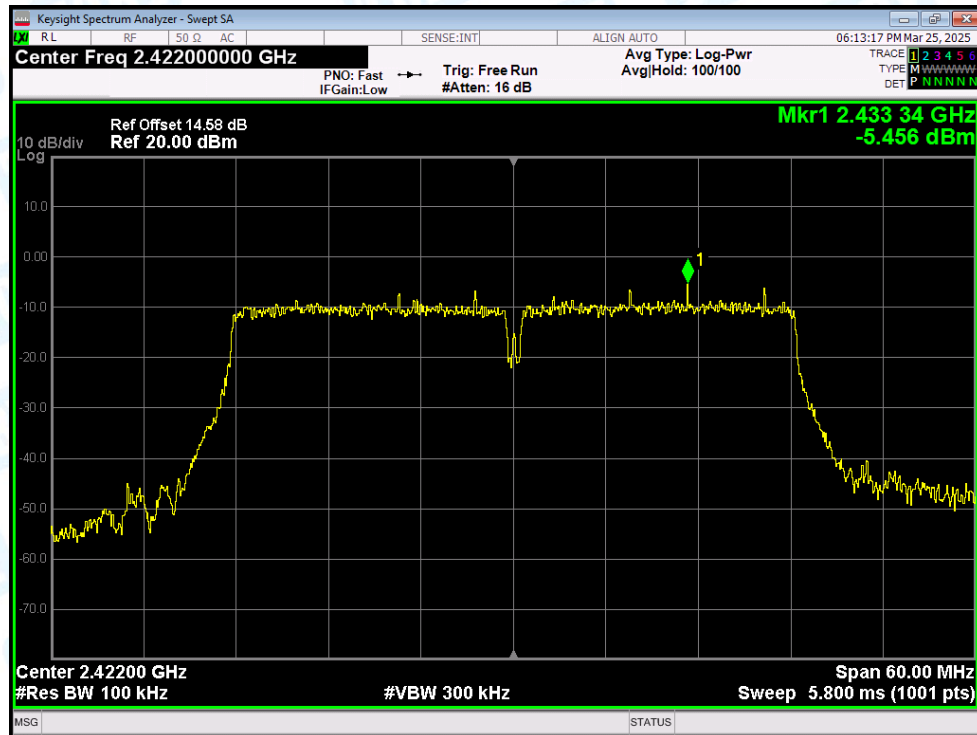
Tx. Spurious NVNT n(HT20) 2462MHz Ant1 Ref



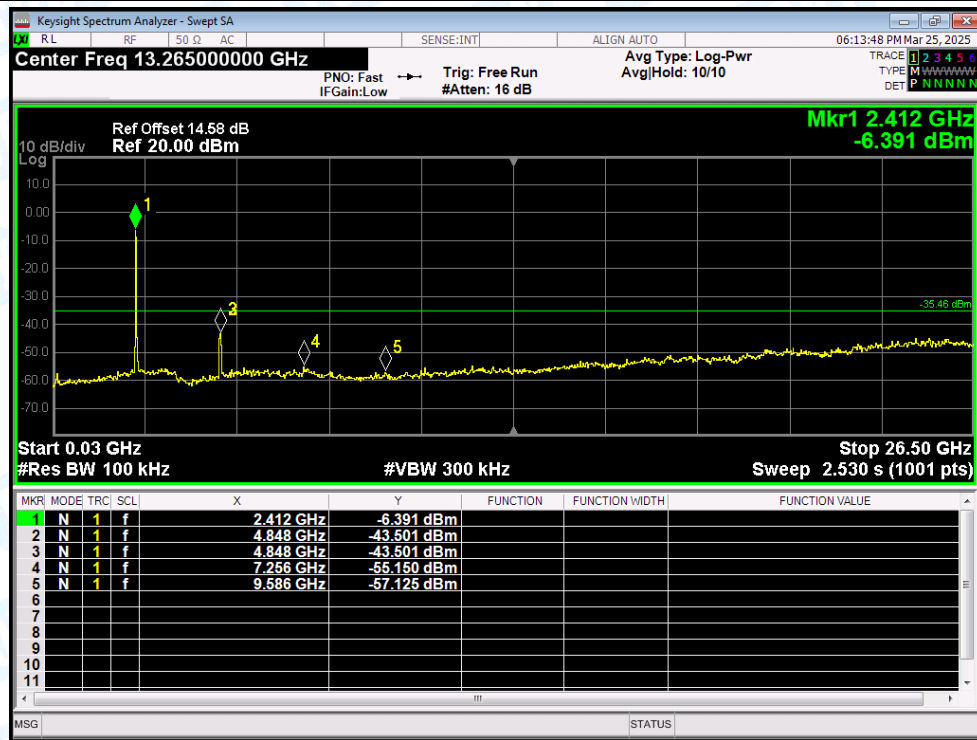
Tx. Spurious NVNT n(HT20) 2462MHz Ant1 Emission



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



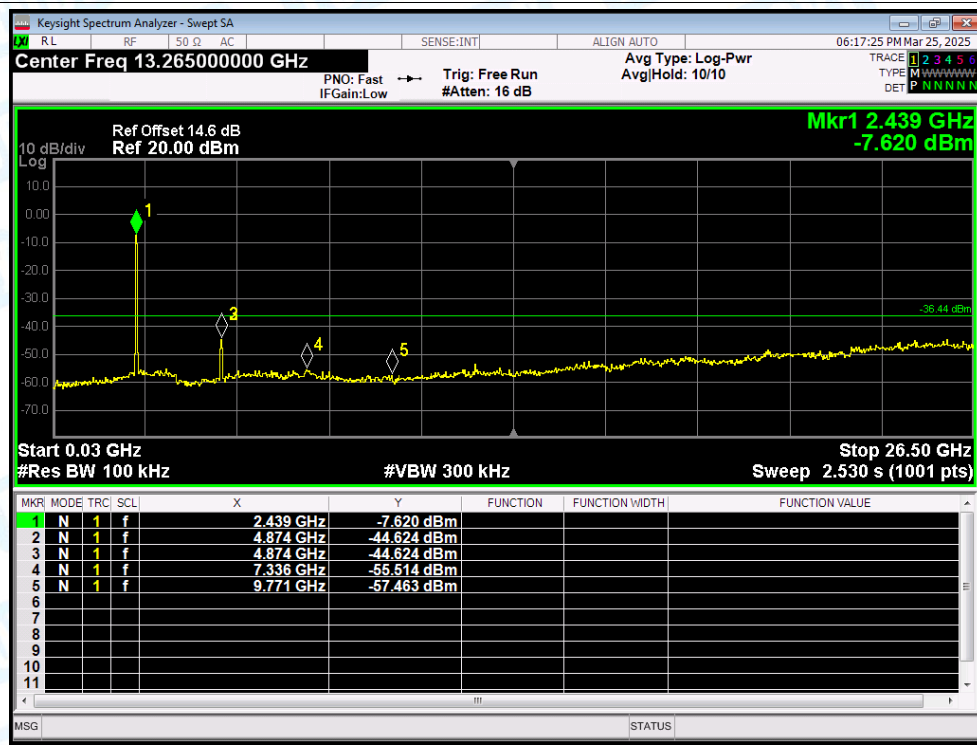
Tx. Spurious NVNT n(HT40) 2422MHz Ant1 Emission



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



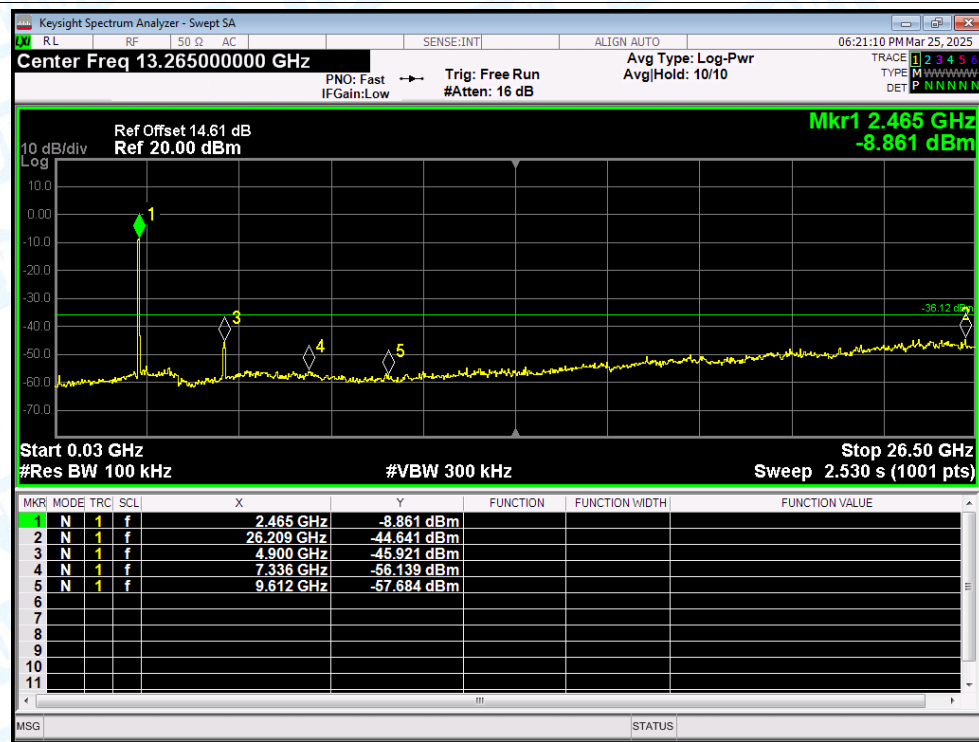
Tx. Spurious NVNT n(HT40) 2437MHz Ant1 Emission



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



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



8. Restrict Band

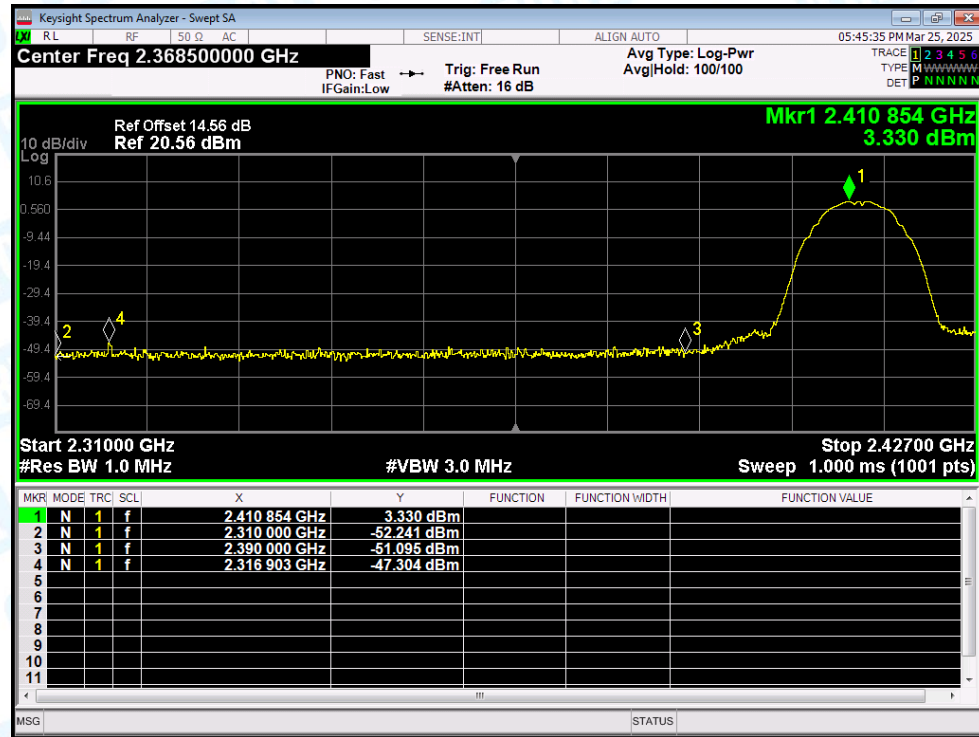
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-52.24	2.91	-	45.93	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-59.65	2.91	0.13	38.65	Average	54	Pass
NVNT	b	2412	Ant1	2316.903	-47.3	2.91	-	50.87	Peak	74	Pass
NVNT	b	2412	Ant1	2387.571	-58.08	2.91	0.13	40.22	Average	54	Pass
NVNT	b	2412	Ant1	2390	-51.1	2.91	-	47.07	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-59.24	2.91	0.13	39.06	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-51.62	2.91	-	46.55	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-58.92	2.91	0.14	39.39	Average	54	Pass
NVNT	b	2462	Ant1	2483.941	-47.41	2.91	-	50.76	Peak	74	Pass
NVNT	b	2462	Ant1	2490.937	-58.28	2.91	0.14	40.03	Average	54	Pass
NVNT	b	2462	Ant1	2500	-50.62	2.91	-	47.55	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-59	2.91	0.14	39.31	Average	54	Pass
NVNT	g	2412	Ant1	2310	-52.67	2.91	-	45.5	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-59.01	2.91	0.77	39.93	Average	54	Pass
NVNT	g	2412	Ant1	2388.273	-47.14	2.91	-	51.03	Peak	74	Pass
NVNT	g	2412	Ant1	2389.677	-57.25	2.91	0.77	41.69	Average	54	Pass
NVNT	g	2412	Ant1	2390	-49.11	2.91	-	49.06	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-57.69	2.91	0.77	41.25	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-42.57	2.91	-	55.6	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-53.01	2.91	0.77	45.93	Average	54	Pass
NVNT	g	2462	Ant1	2483.623	-35.14	2.91	-	63.03	Peak	74	Pass
NVNT	g	2462	Ant1	2483.729	-52.78	2.91	0.77	46.16	Average	54	Pass
NVNT	g	2462	Ant1	2500	-50.04	2.91	-	48.13	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-58.88	2.91	0.77	40.06	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2310	-51.47	2.91	-	46.7	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2310	-60.11	2.91	0.23	38.29	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2389.443	-47.22	2.91	-	50.95	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2389.56	-56.44	2.91	0.23	41.96	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2390	-48.62	2.91	-	49.55	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2390	-56.69	2.91	0.23	41.71	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-39.94	2.91	-	58.23	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-50.47	2.91	0.23	47.93	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2483.782	-37.66	2.91	-	60.51	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.729	-49.62	2.91	0.23	48.78	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2500	-50.1	2.91	-	48.07	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2500	-59.23	2.91	0.23	39.17	Average	54	Pass
NVNT	n(HT40)	2422	Ant1	2310	-51.58	2.91	-	46.59	Peak	74	Pass
NVNT	n(HT40)	2422	Ant1	2310	-59.09	2.91	0.26	39.34	Average	54	Pass
NVNT	n(HT40)	2422	Ant1	2389.52	-44.48	2.91	-	53.69	Peak	74	Pass
NVNT	n(HT40)	2422	Ant1	2387.248	-54.6	2.91	0.26	43.83	Average	54	Pass
NVNT	n(HT40)	2422	Ant1	2390	-45.84	2.91	-	52.33	Peak	74	Pass

NVNT	n(HT40)	2422	Ant1	2390	-54.73	2.91	0.26	43.7	Average	54	Pass
NVNT	n(HT40)	2452	Ant1	2483.5	-33.8	2.91	-	64.37	Peak	74	Pass
NVNT	n(HT40)	2452	Ant1	2483.5	-44.97	2.91	0.45	53.65	Average	54	Pass
NVNT	n(HT40)	2452	Ant1	2486.116	-34.06	2.91	-	64.11	Peak	74	Pass
NVNT	n(HT40)	2452	Ant1	2484.478	-44.9	2.91	0.45	53.72	Average	54	Pass
NVNT	n(HT40)	2452	Ant1	2500	-44.65	2.91	-	53.52	Peak	74	Pass
NVNT	n(HT40)	2452	Ant1	2500	-54.24	2.91	0.45	44.38	Average	54	Pass

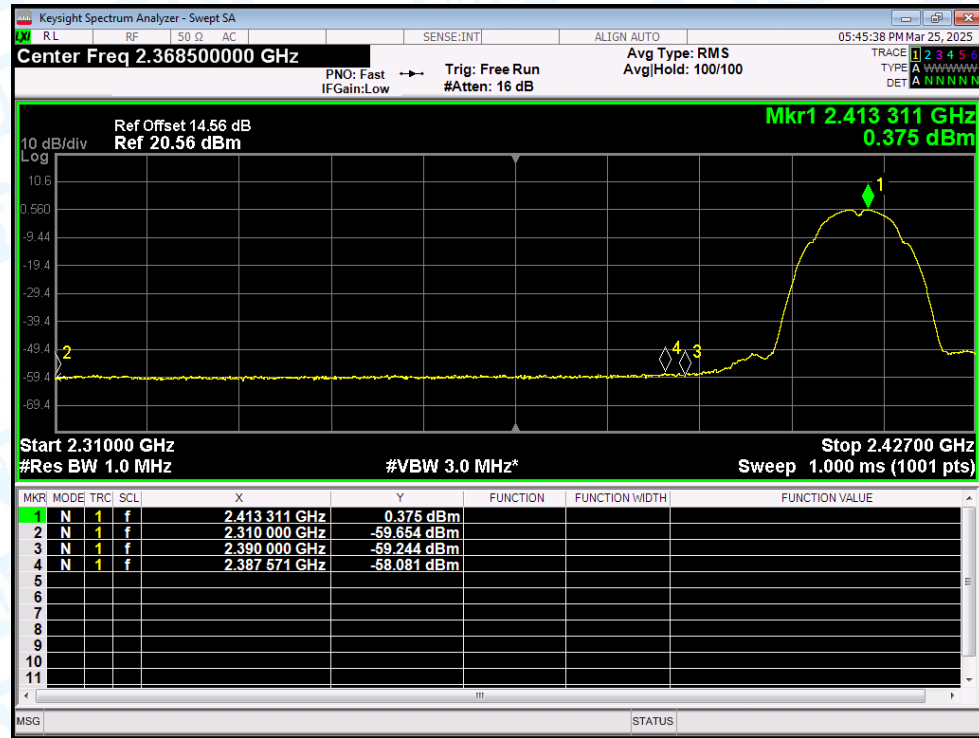
Note: The Duty Cycle Factor is compensated in the graph.

Test Graphs

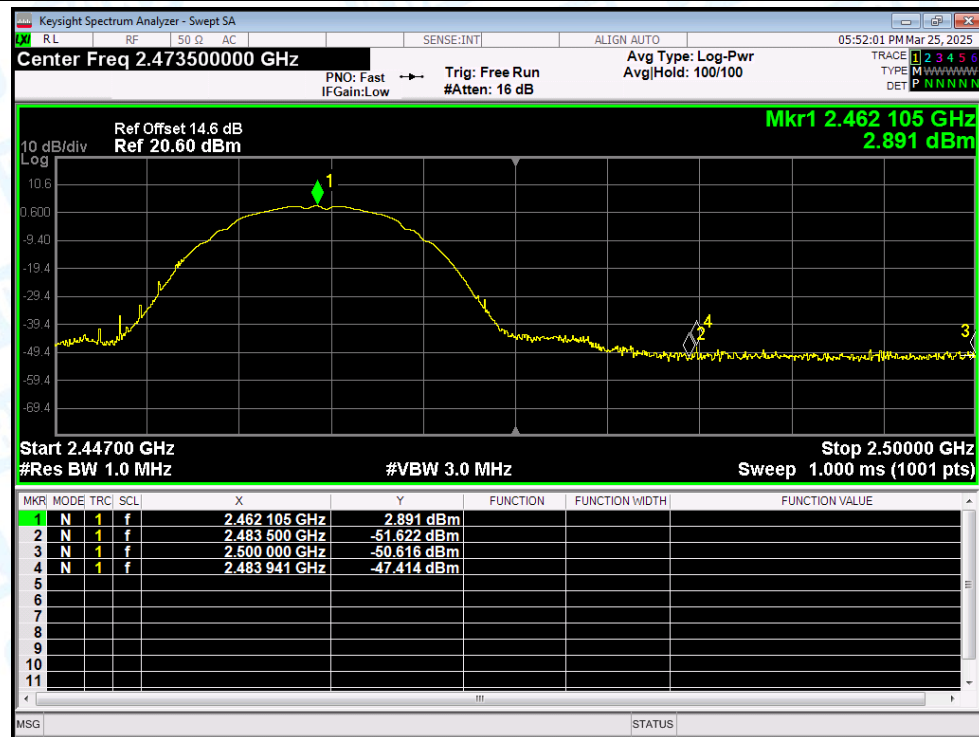
Restrict Band NVNT b 2412MHz Ant1 Peak



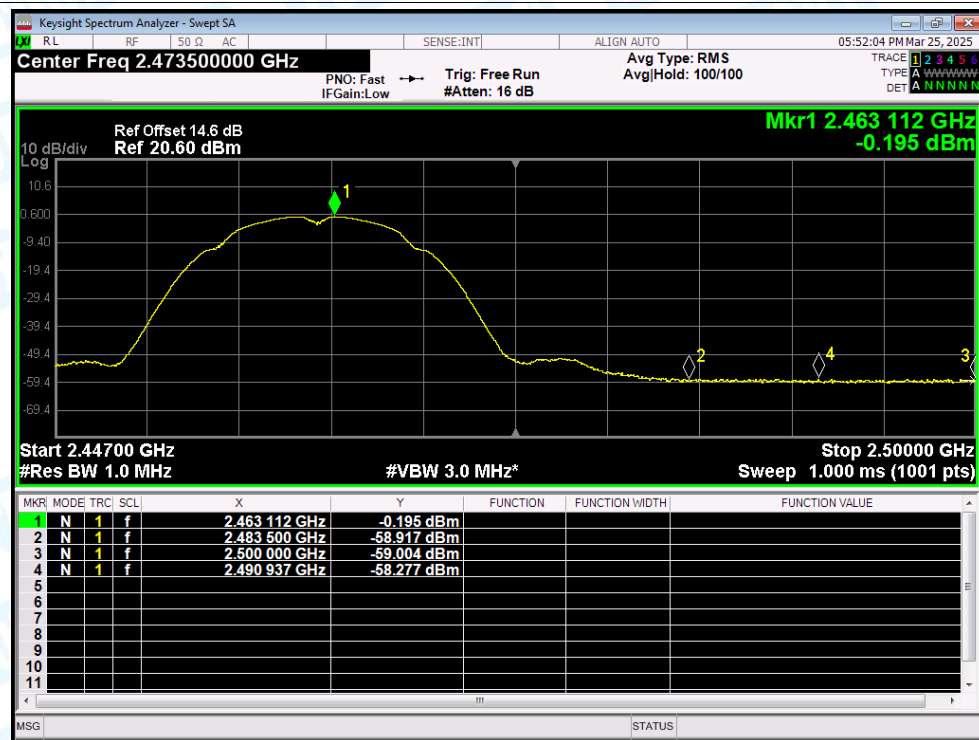
Restrict Band NVNT b 2412MHz Ant1 Average



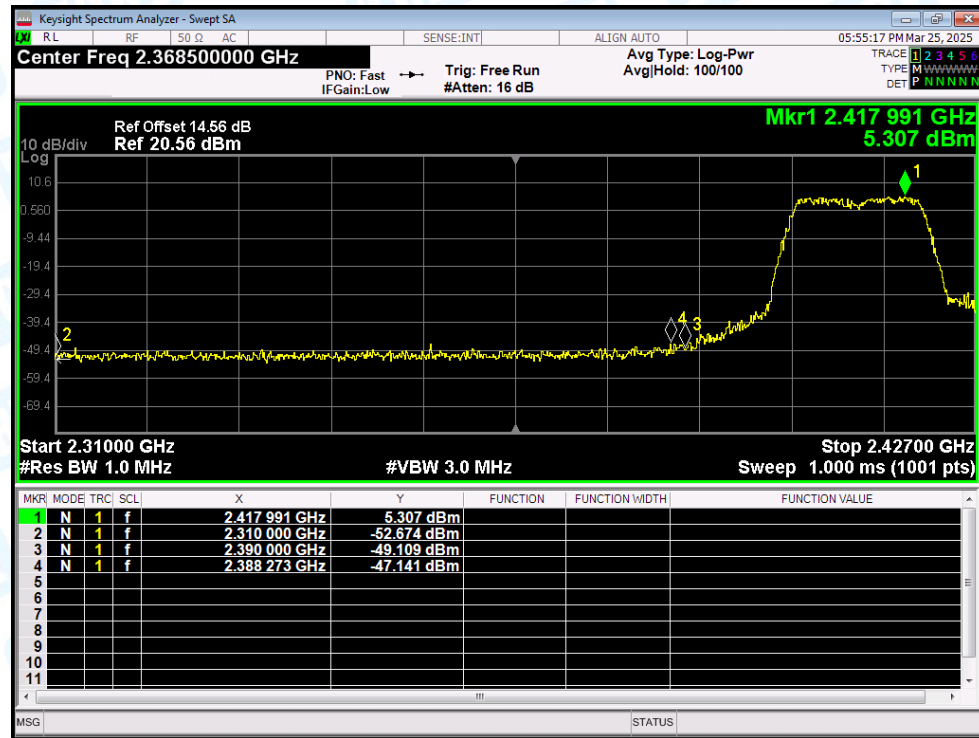
Restrict Band NVNT b 2462MHz Ant1 Peak



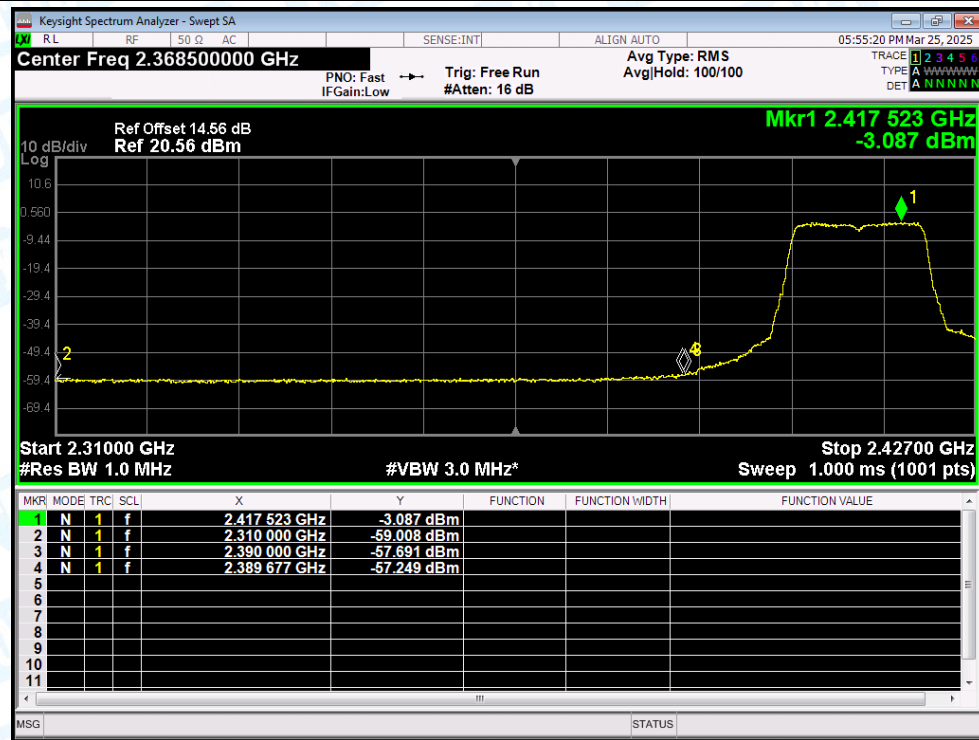
Restrict Band NVNT b 2462MHz Ant1 Average



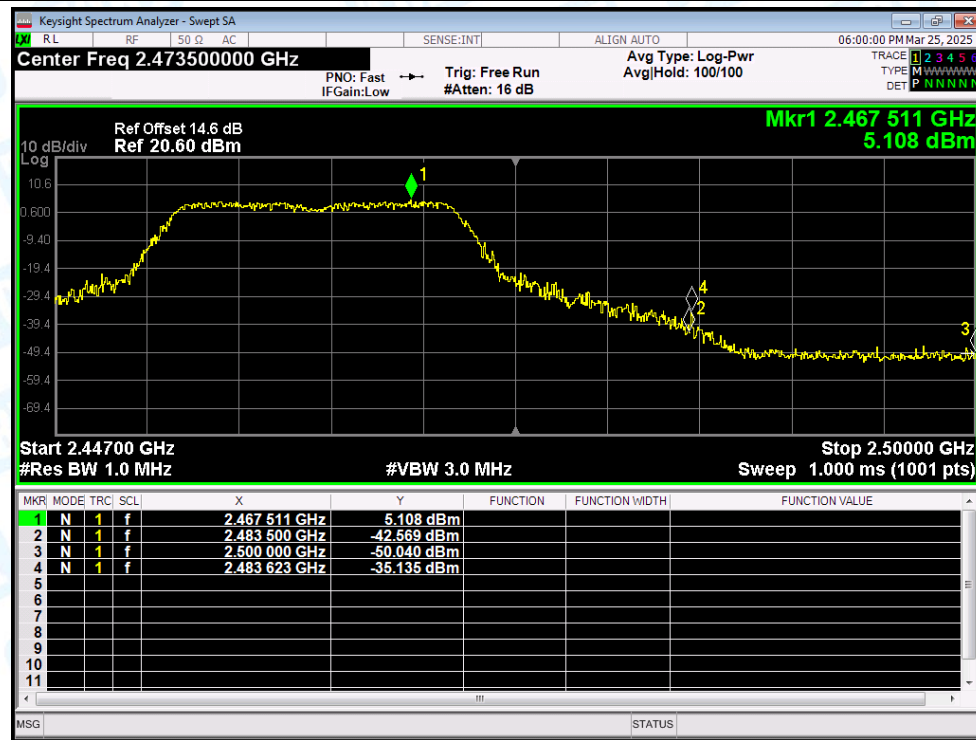
Restrict Band NVNT g 2412MHz Ant1 Peak



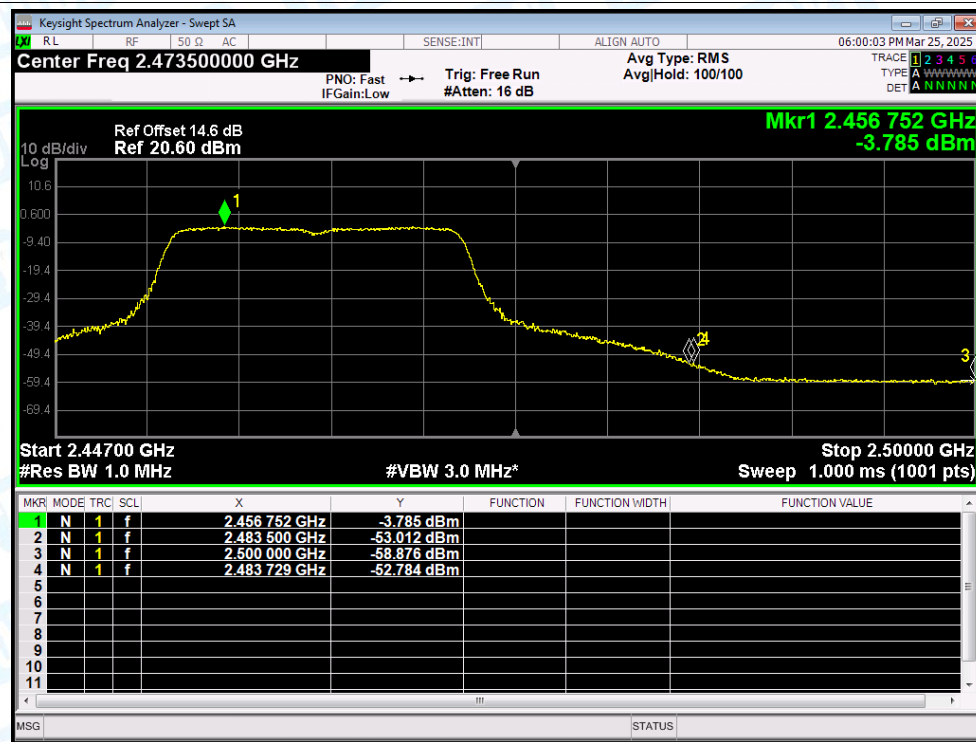
Restrict Band NVNT g 2412MHz Ant1 Average



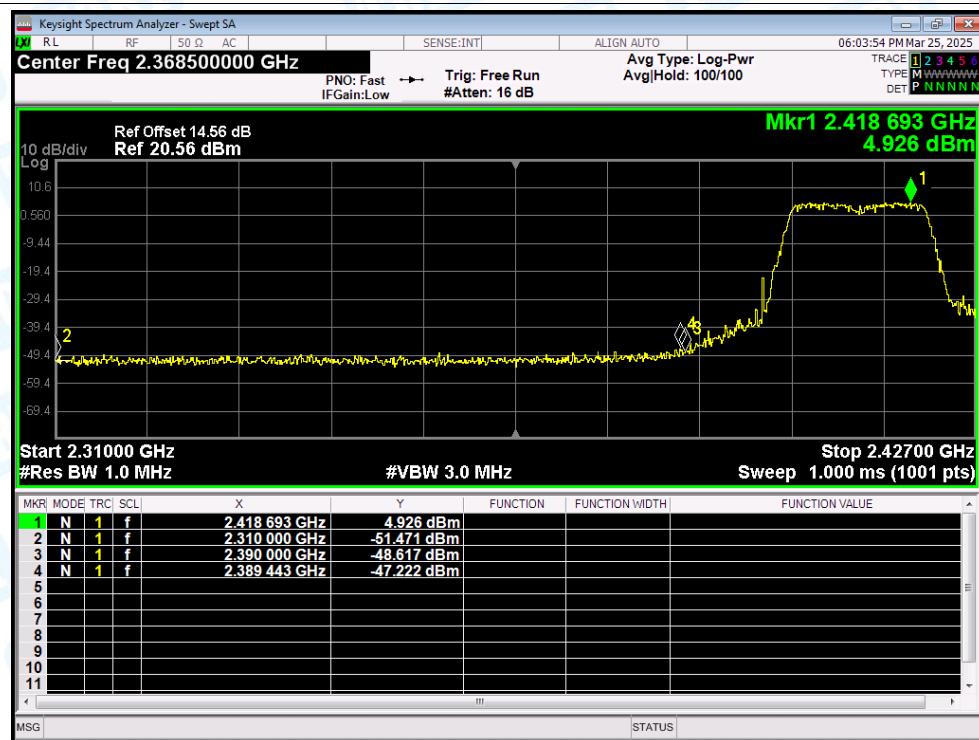
Restrict Band NVNT g 2462MHz Ant1 Peak



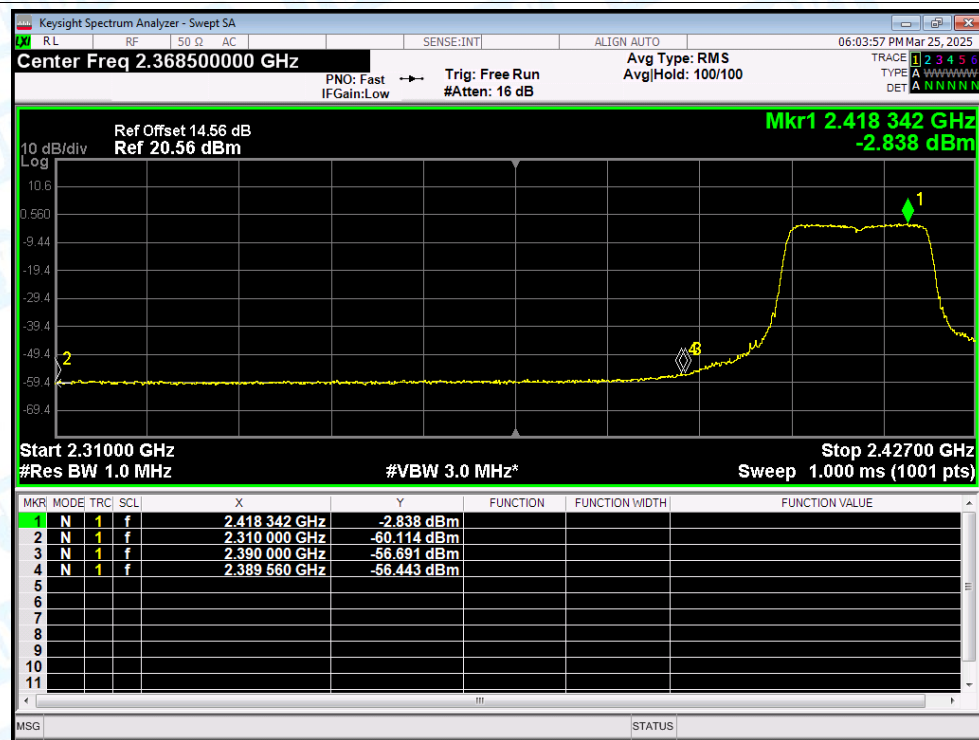
Restrict Band NVNT g 2462MHz Ant1 Average



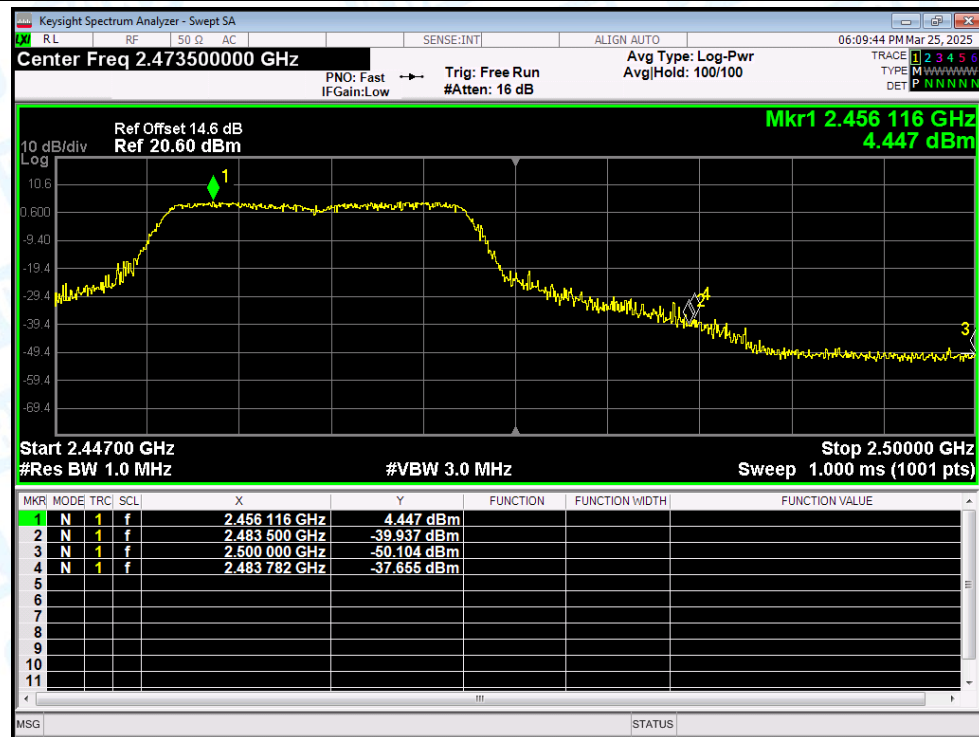
Restrict Band NVNT n(HT20) 2412MHz Ant1 Peak



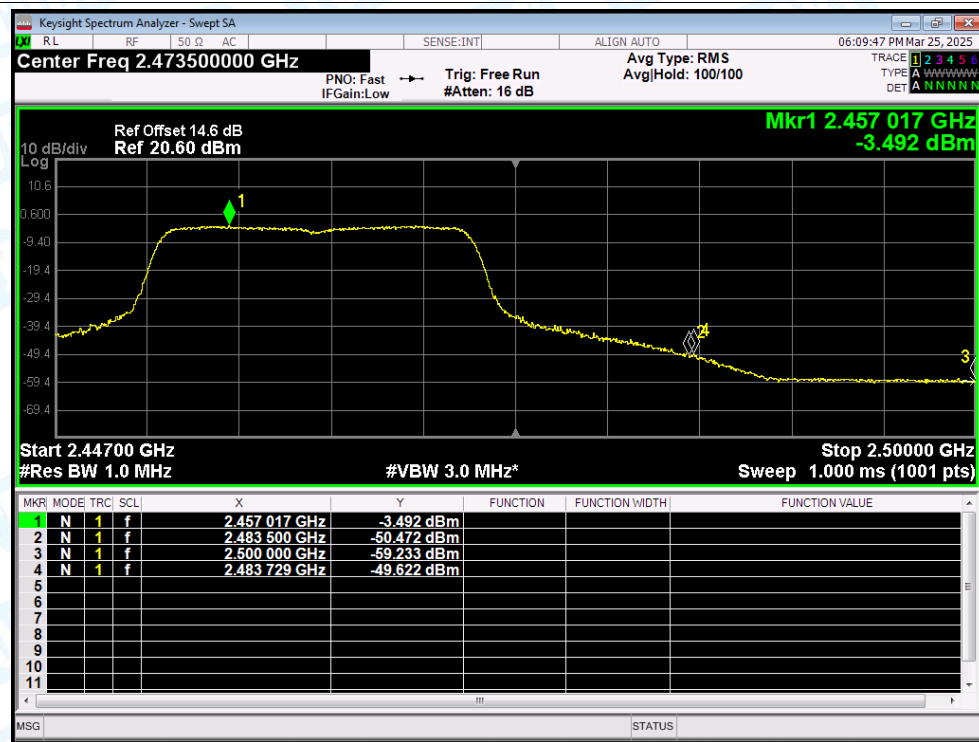
Restrict Band NVNT n(HT20) 2412MHz Ant1 Average



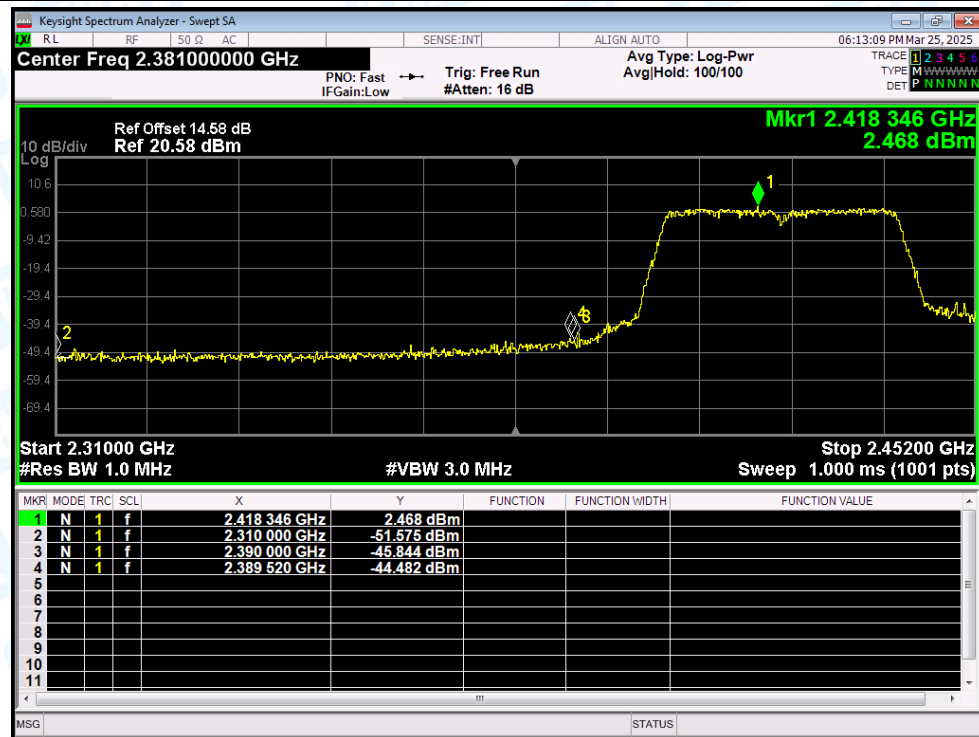
Restrict Band NVNT n(HT20) 2462MHz Ant1 Peak



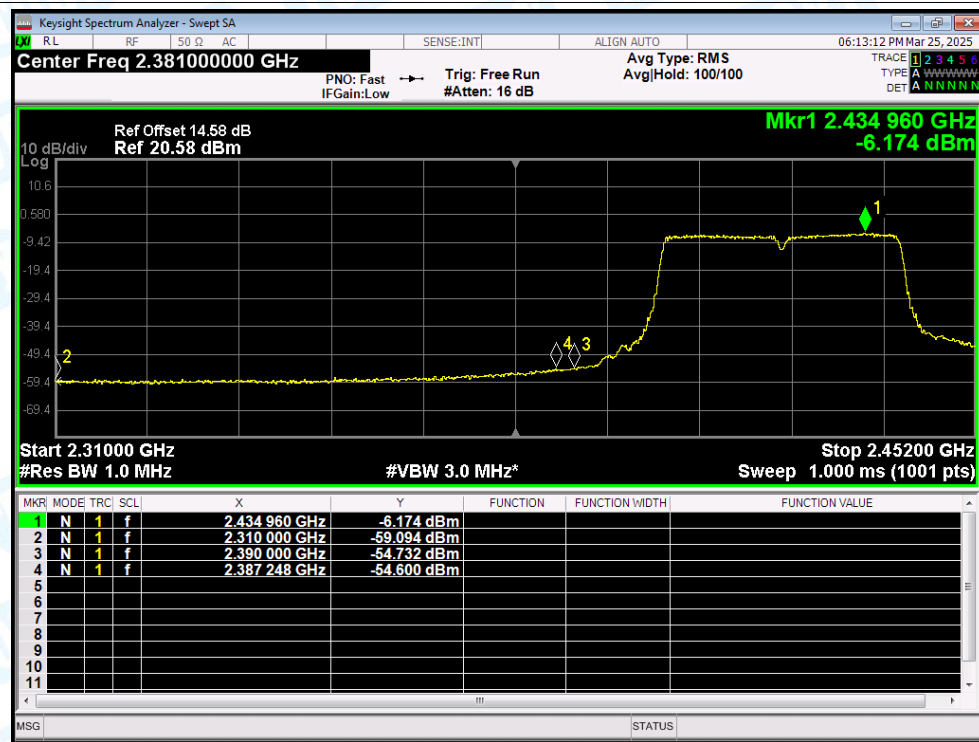
Restrict Band NVNT n(HT20) 2462MHz Ant1 Average



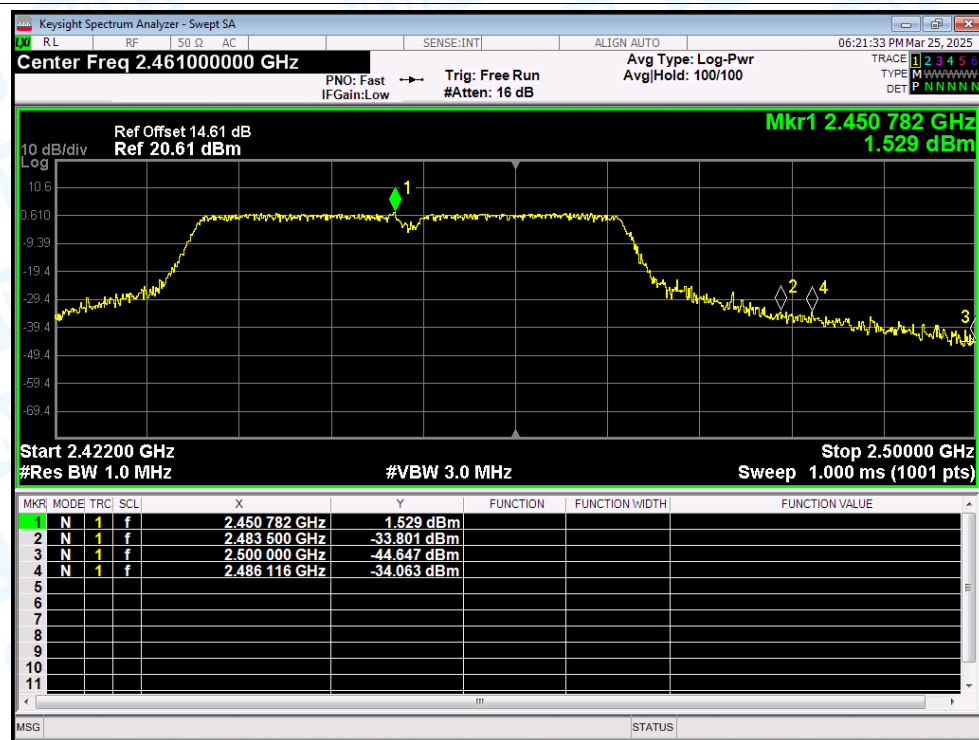
Restrict Band NVNT n(HT40) 2422MHz Ant1 Peak



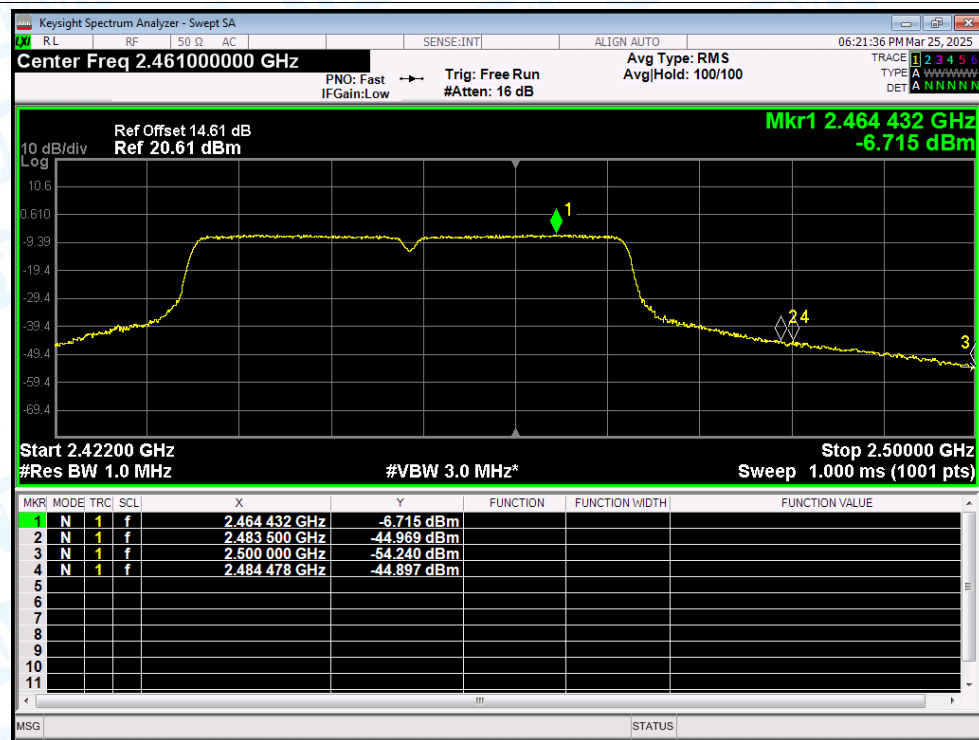
Restrict Band NVNT n(HT40) 2422MHz Ant1 Average



Restrict Band NVNT n(HT40) 2452MHz Ant1 Peak



Restrict Band NVNT n(HT40) 2452MHz Ant1 Average



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