RF Test Data for 2.4G WiFi (Conducted Measurements)

General Description of EUT	
Product Name:	**Wire Free Camera with Battery**
Test Model:	**BW-4TA-BS**
Sample ID:	**HC-C-202408-0071-01-02#**
Environmental Conditions	
Temperature:	**25℃**
Relative Humidity:	**55%**
Test Voltage:	**DC 3.6V**
Test Engineer:	**Mike Yan**
Note: For a more detailed features description, please refer to the report TBR-C-202408-0071-7 The report only show the worst case data.	

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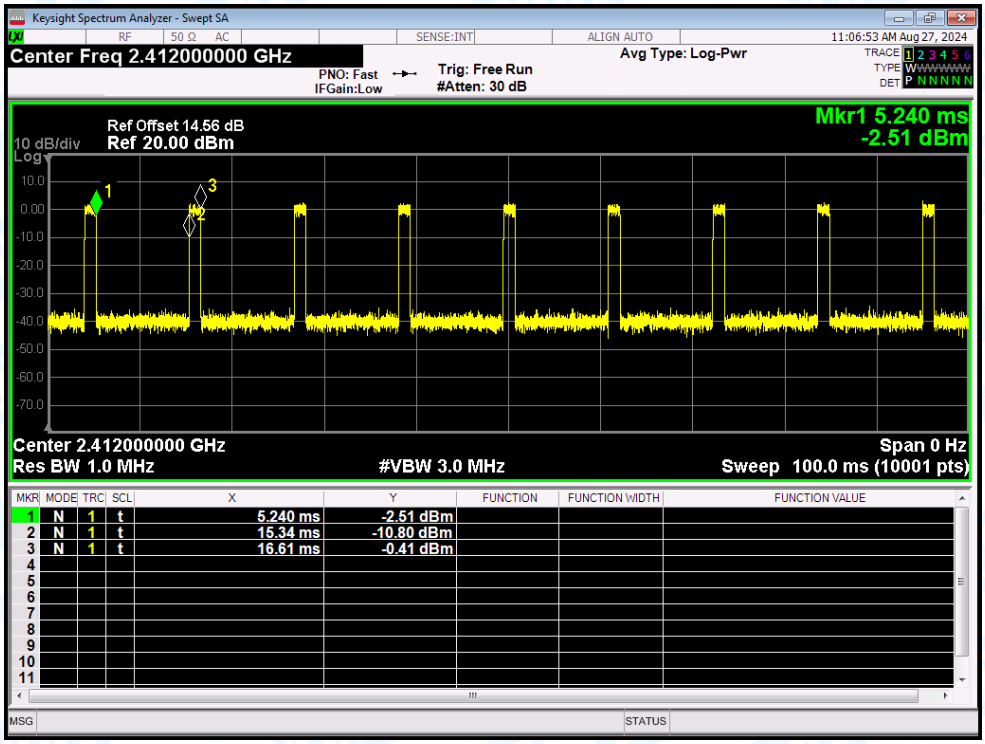
1. Duty Cycle

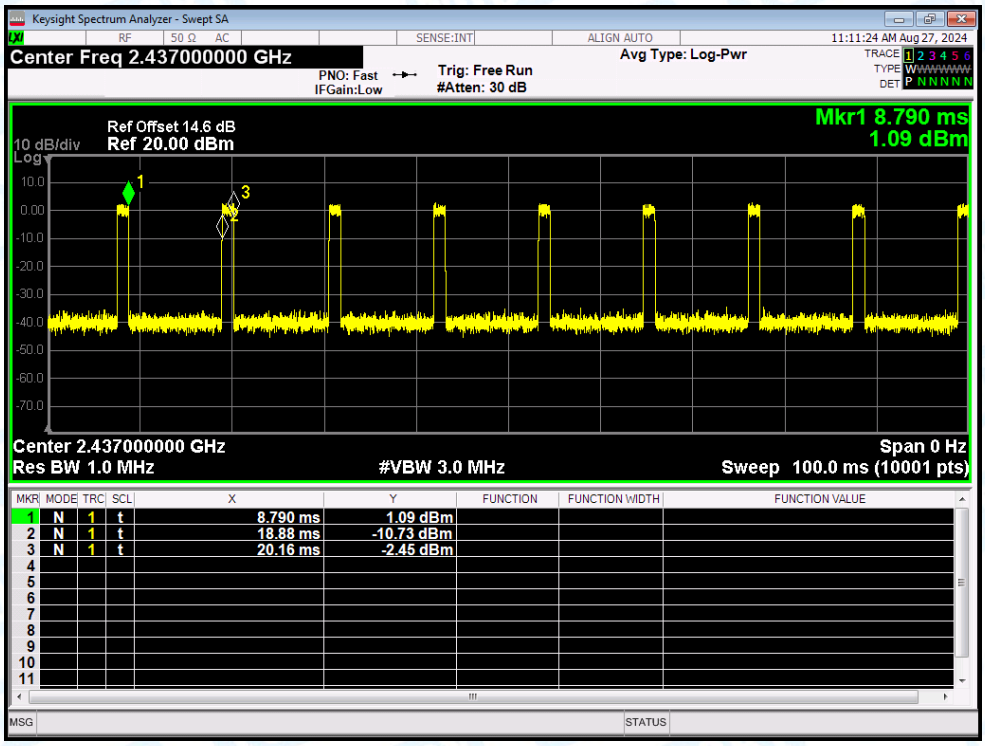
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	ax(HE20)	2412	Ant1	11.17	9.52	0.79
NVNT	ax(HE20)	2437	Ant1	11.26	9.48	0.78
NVNT	ax(HE20)	2462	Ant1	11.18	9.52	0.79
NVNT	ax(HE40)	2422	Ant1	5.87	12.31	1.59
NVNT	ax(HE40)	2437	Ant1	5.87	12.31	1.59
NVNT	ax(HE40)	2452	Ant1	5.87	12.31	1.59
NVNT	b	2412	Ant1	44.95	3.47	0.12
NVNT	b	2437	Ant1	44.92	3.48	0.12
NVNT	b	2462	Ant1	44.89	3.48	0.12
NVNT	g	2412	Ant1	11.95	9.23	0.73
NVNT	g	2437	Ant1	11.95	9.23	0.73
NVNT	g	2462	Ant1	11.87	9.26	0.74
NVNT	n(HT20)	2412	Ant1	11.17	9.52	0.79
NVNT	n(HT20)	2437	Ant1	11.18	9.52	0.78
NVNT	n(HT20)	2462	Ant1	11.26	9.48	0.78
NVNT	n(HT40)	2422	Ant1	5.96	12.25	1.56
NVNT	n(HT40)	2437	Ant1	5.88	12.31	1.59
NVNT	n(HT40)	2452	Ant1	5.87	12.31	1.59

Test Graphs

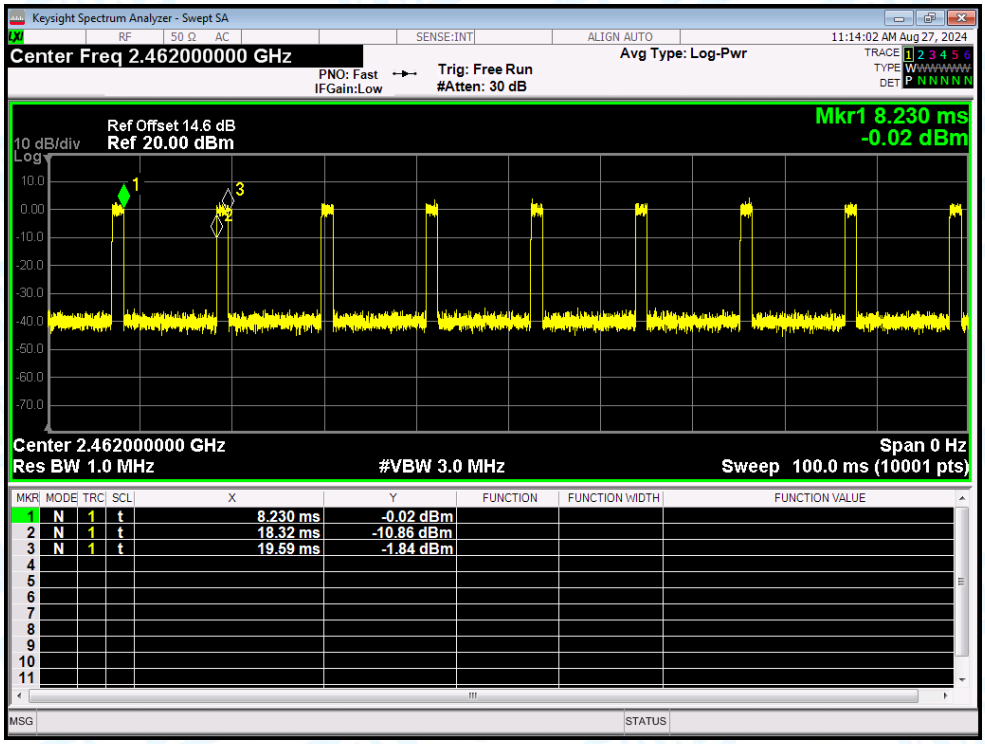
Duty Cycle NVNT ax(HE20) 2412MHz Ant1



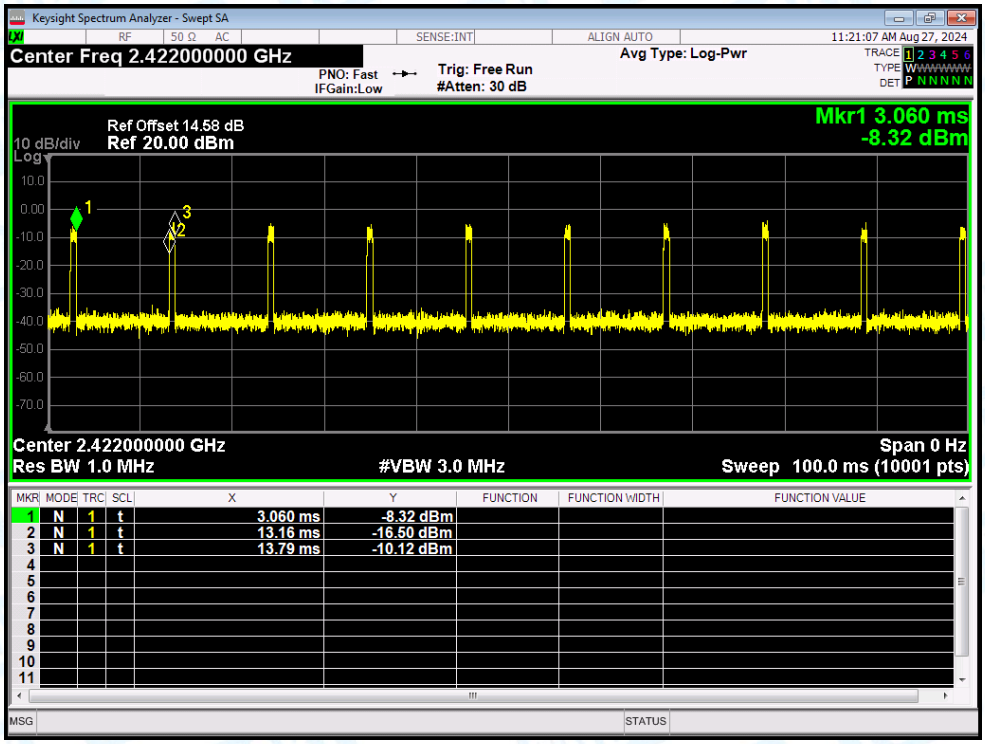
Duty Cycle NVNT ax(HE20) 2437MHz Ant1



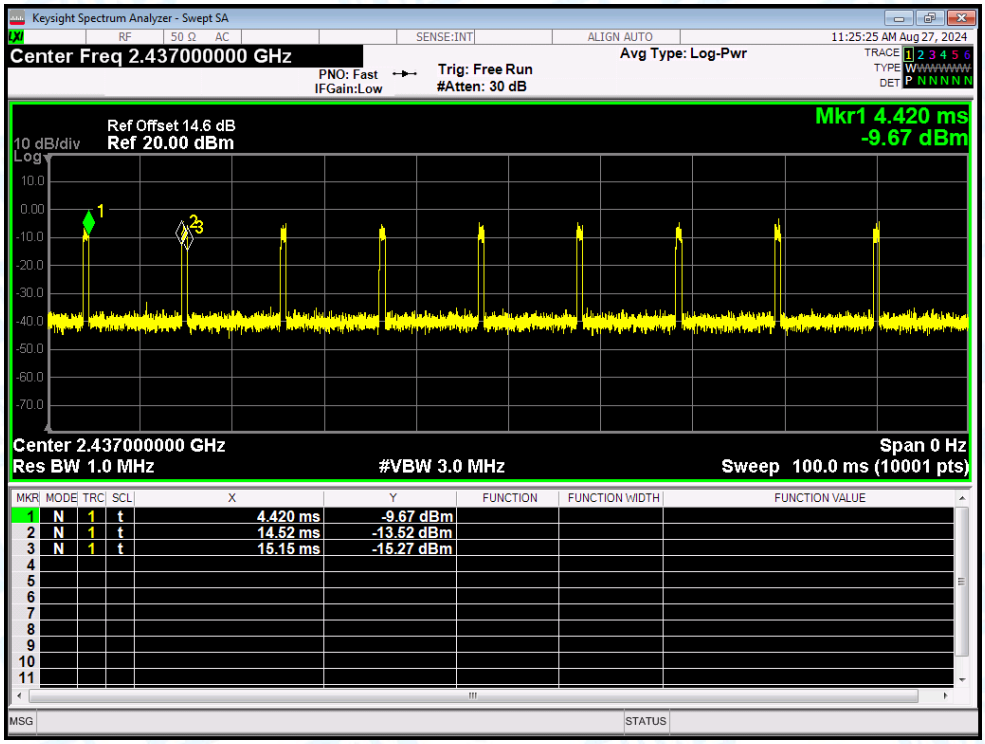
Duty Cycle NVNT ax(HE20) 2462MHz Ant1



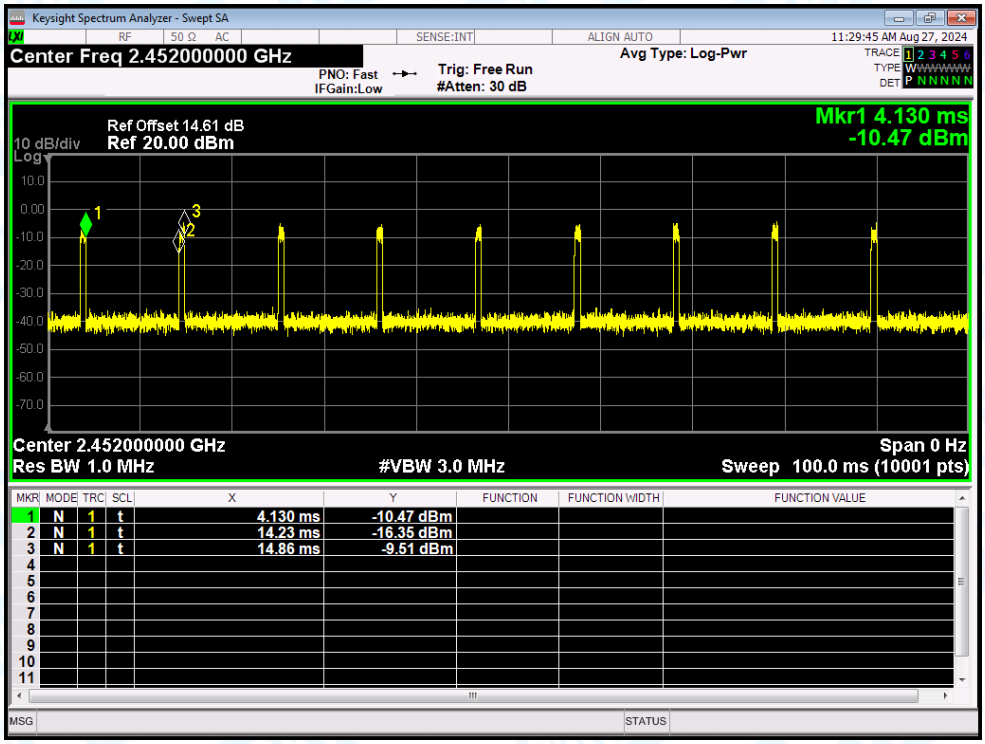
Duty Cycle NVNT ax(HE40) 2422MHz Ant1



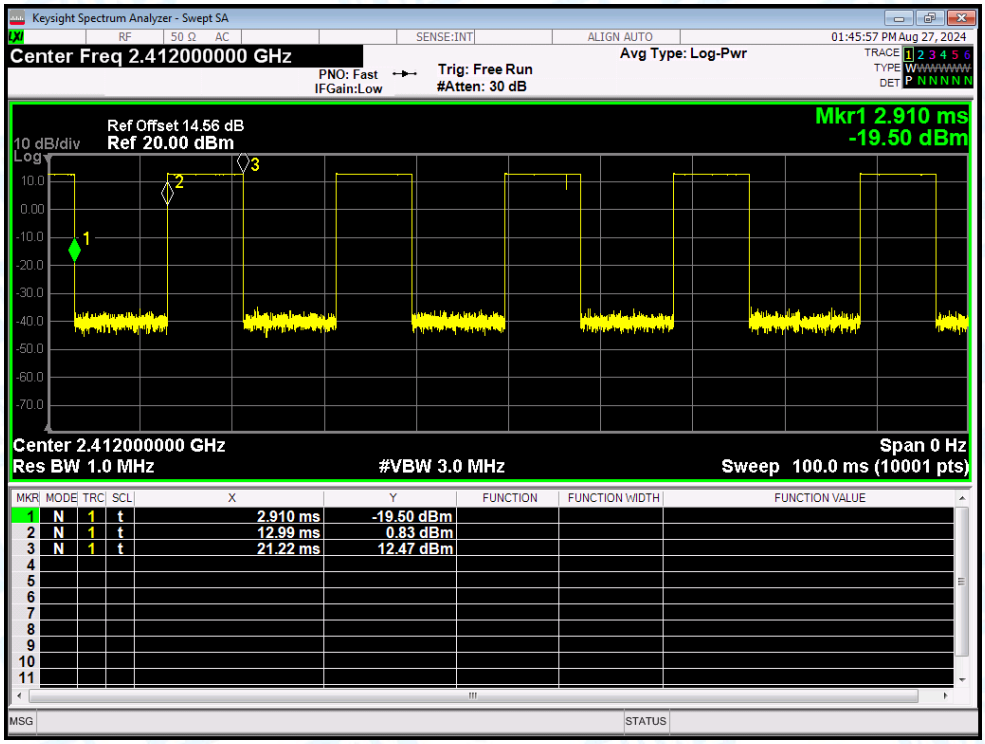
Duty Cycle NVNT ax(HE40) 2437MHz Ant1



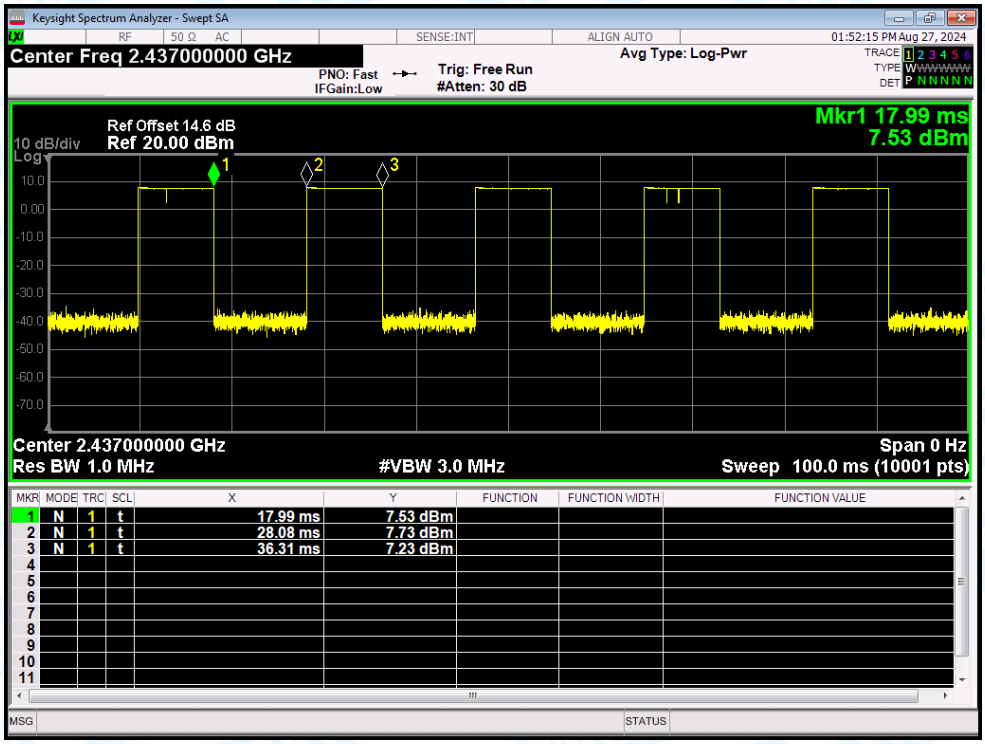
Duty Cycle NVNT ax(HE40) 2452MHz Ant1



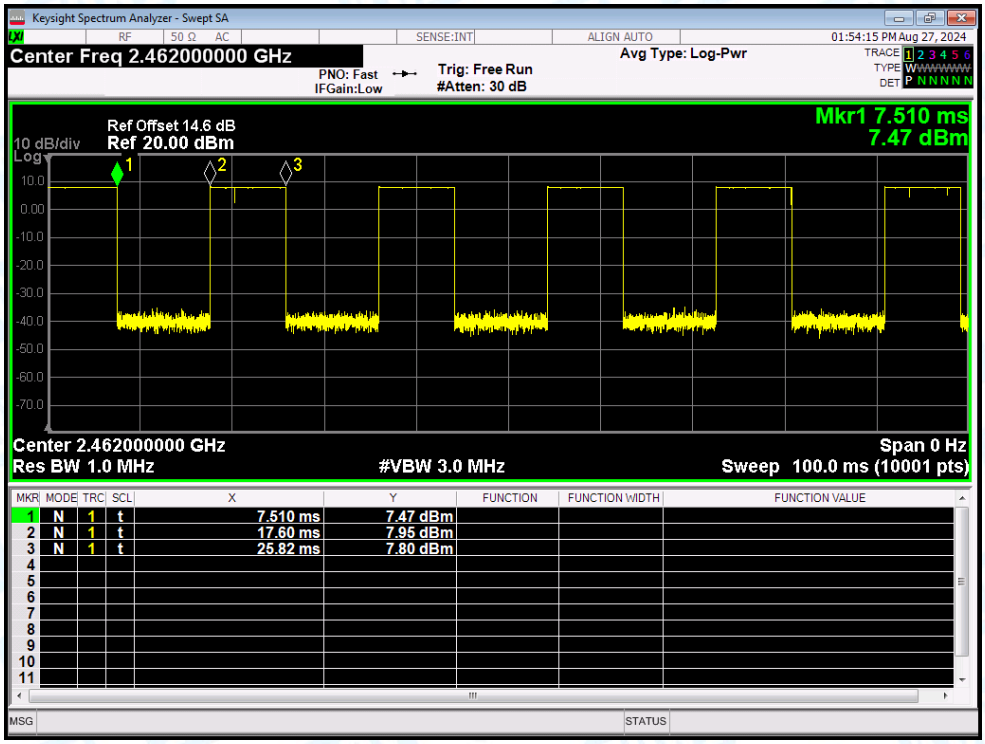
Duty Cycle NVNT b 2412MHz Ant1



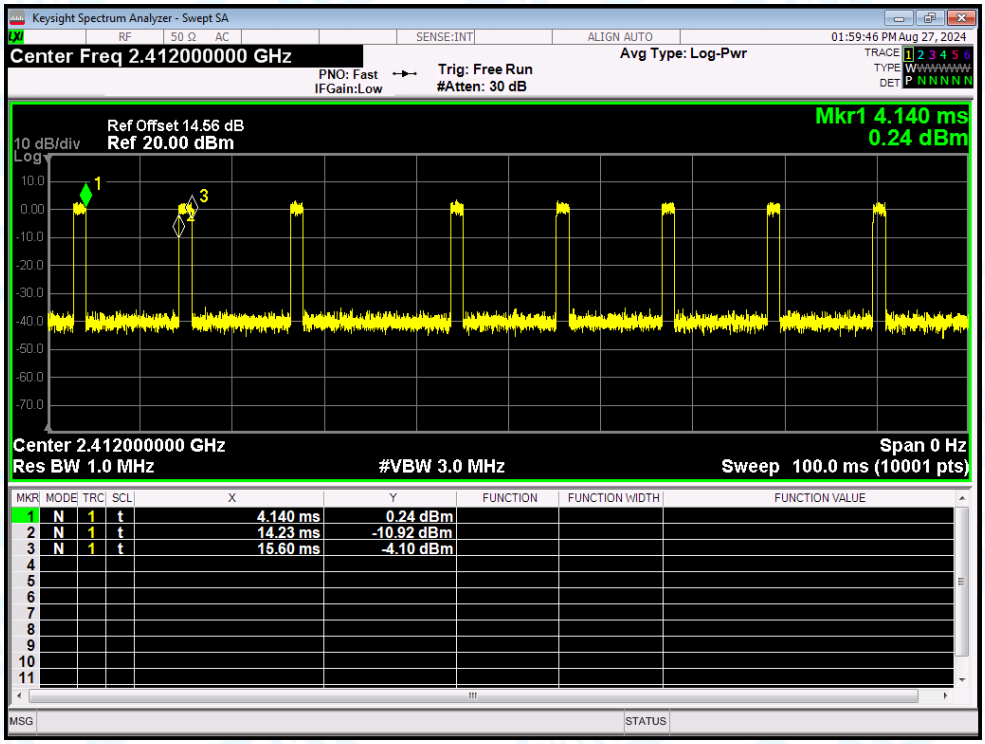
Duty Cycle NVNT b 2437MHz Ant1



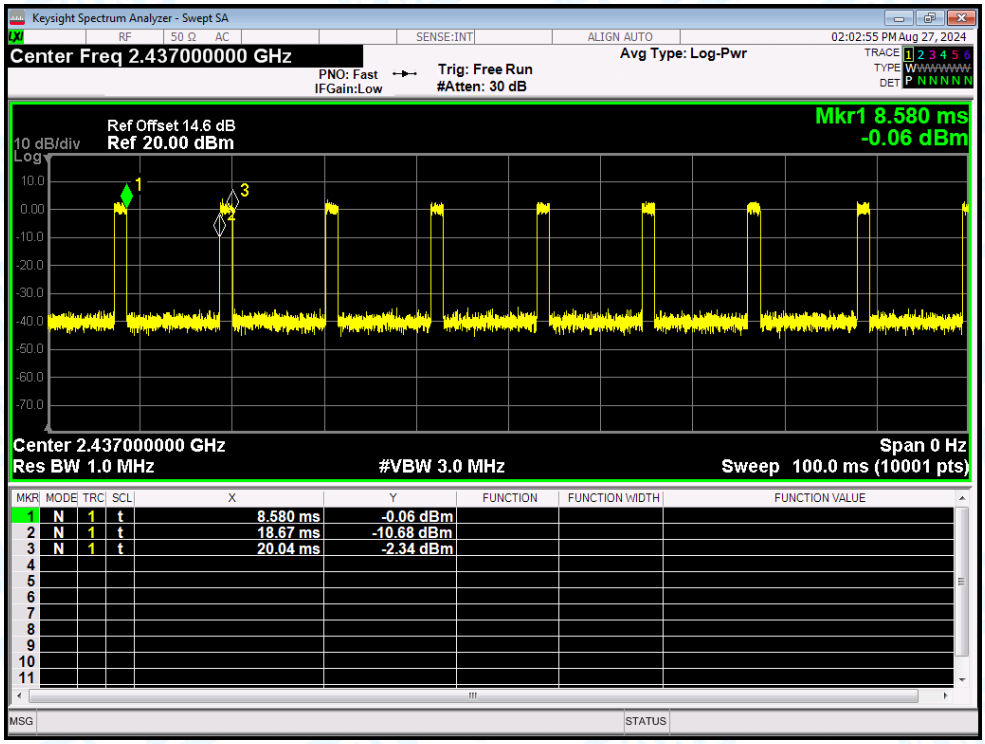
Duty Cycle NVNT b 2462MHz Ant1



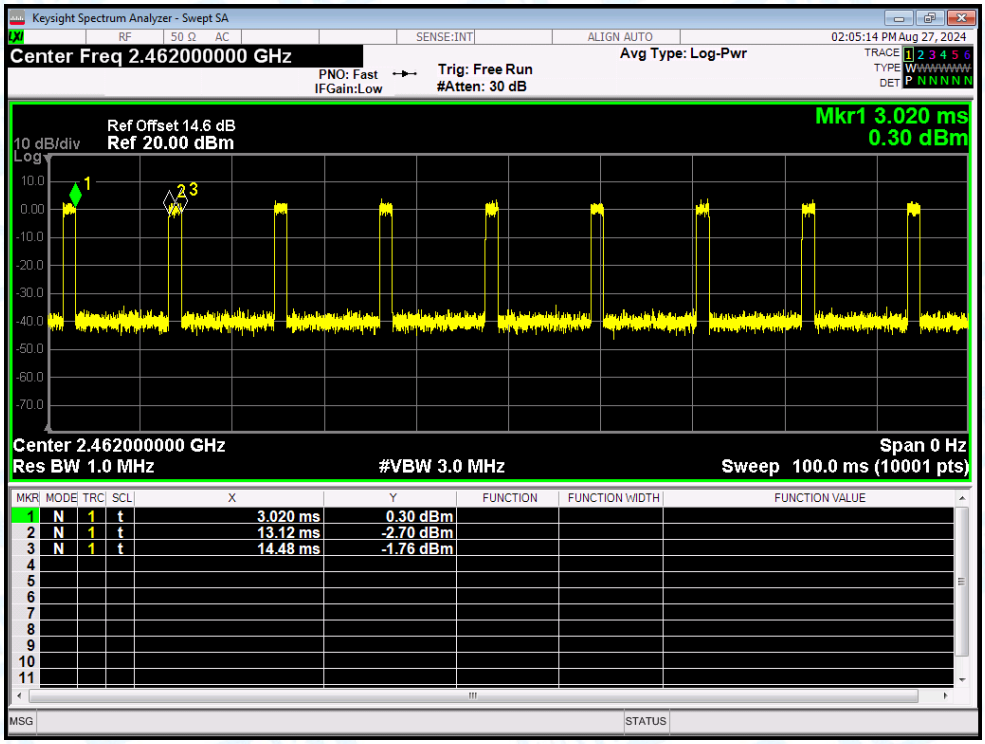
Duty Cycle NVNT g 2412MHz Ant1



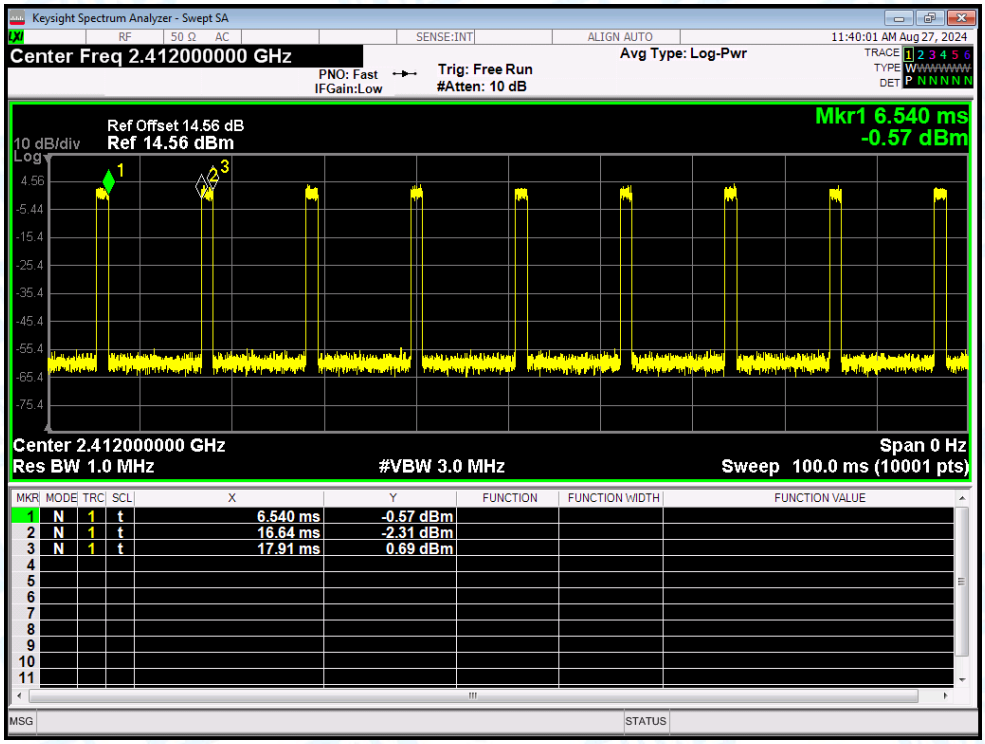
Duty Cycle NVNT g 2437MHz Ant1



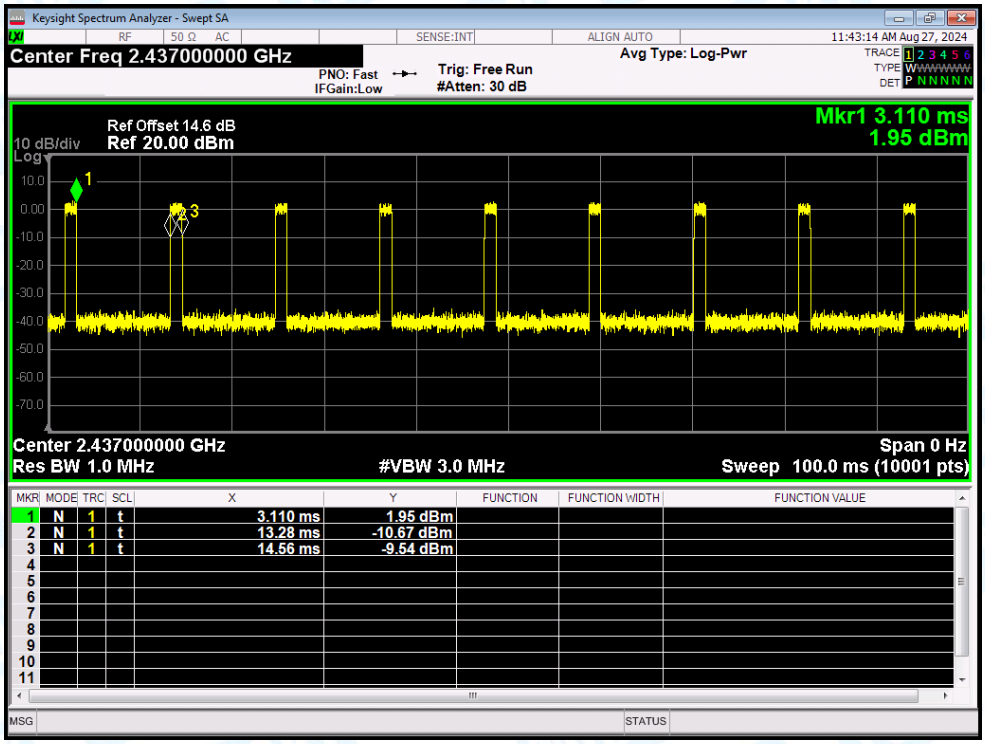
Duty Cycle NVNT g 2462MHz Ant1



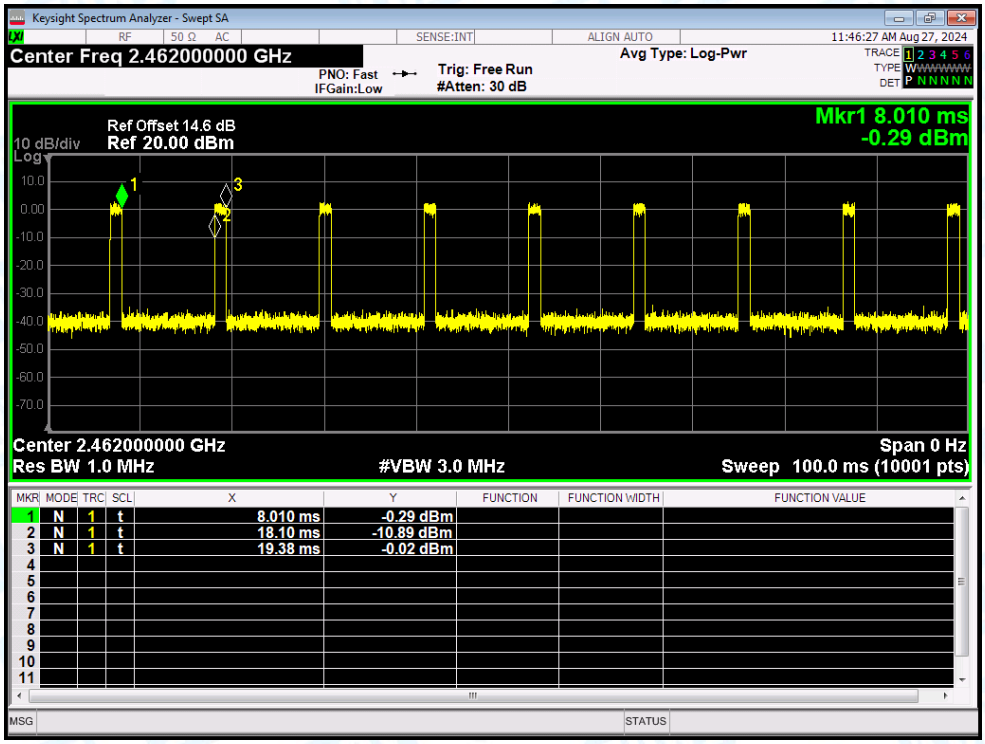
Duty Cycle NVNT n(HT20) 2412MHz Ant1



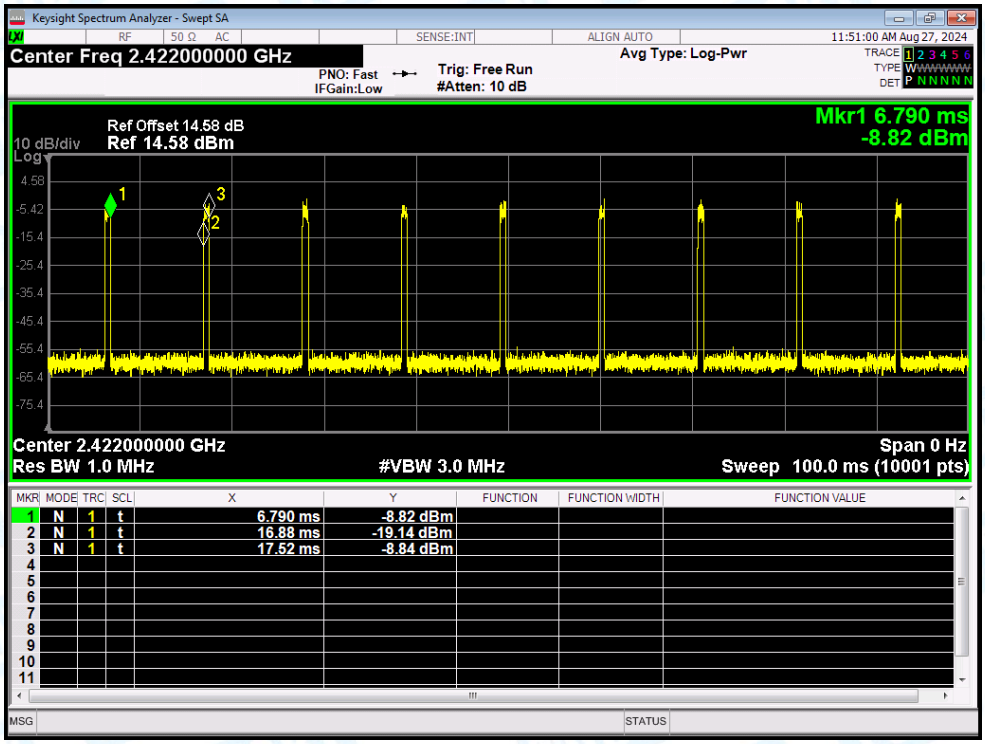
Duty Cycle NVNT n(HT20) 2437MHz Ant1



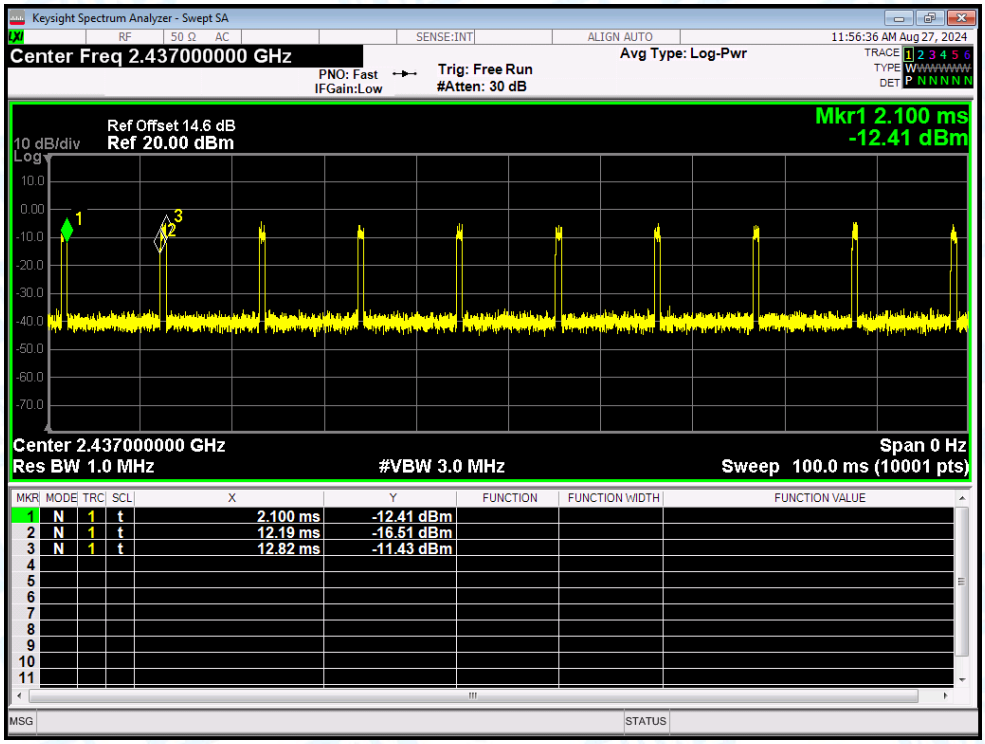
Duty Cycle NVNT n(HT20) 2462MHz Ant1



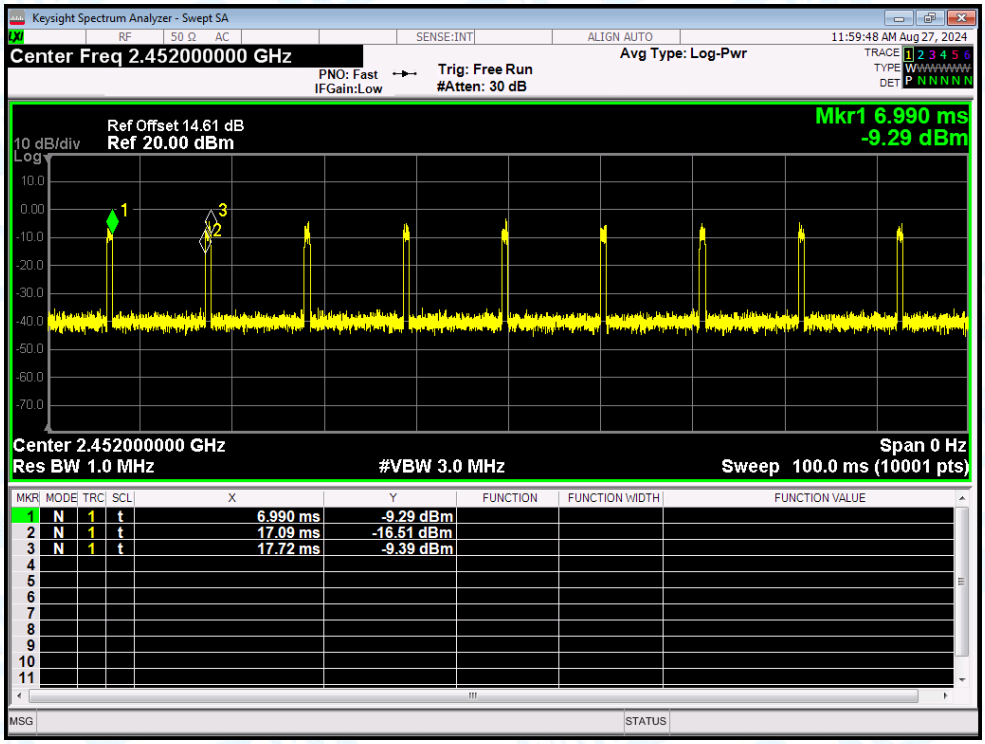
Duty Cycle NVNT n(HT40) 2422MHz Ant1



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	ax(HE20)	2412	Ant1	15.78	30	Pass
NVNT	ax(HE20)	2437	Ant1	15.69	30	Pass
NVNT	ax(HE20)	2462	Ant1	15.49	30	Pass
NVNT	ax(HE40)	2422	Ant1	16.29	30	Pass
NVNT	ax(HE40)	2437	Ant1	16.21	30	Pass
NVNT	ax(HE40)	2452	Ant1	16.11	30	Pass
NVNT	b	2412	Ant1	16	30	Pass
NVNT	b	2437	Ant1	16.6	30	Pass
NVNT	b	2462	Ant1	16.57	30	Pass
NVNT	g	2412	Ant1	15.53	30	Pass
NVNT	g	2437	Ant1	15.5	30	Pass
NVNT	g	2462	Ant1	15.27	30	Pass
NVNT	n(HT20)	2412	Ant1	15.75	30	Pass
NVNT	n(HT20)	2437	Ant1	15.73	30	Pass
NVNT	n(HT20)	2462	Ant1	15.44	30	Pass
NVNT	n(HT40)	2422	Ant1	16.22	30	Pass
NVNT	n(HT40)	2437	Ant1	16.21	30	Pass
NVNT	n(HT40)	2452	Ant1	16.1	30	Pass

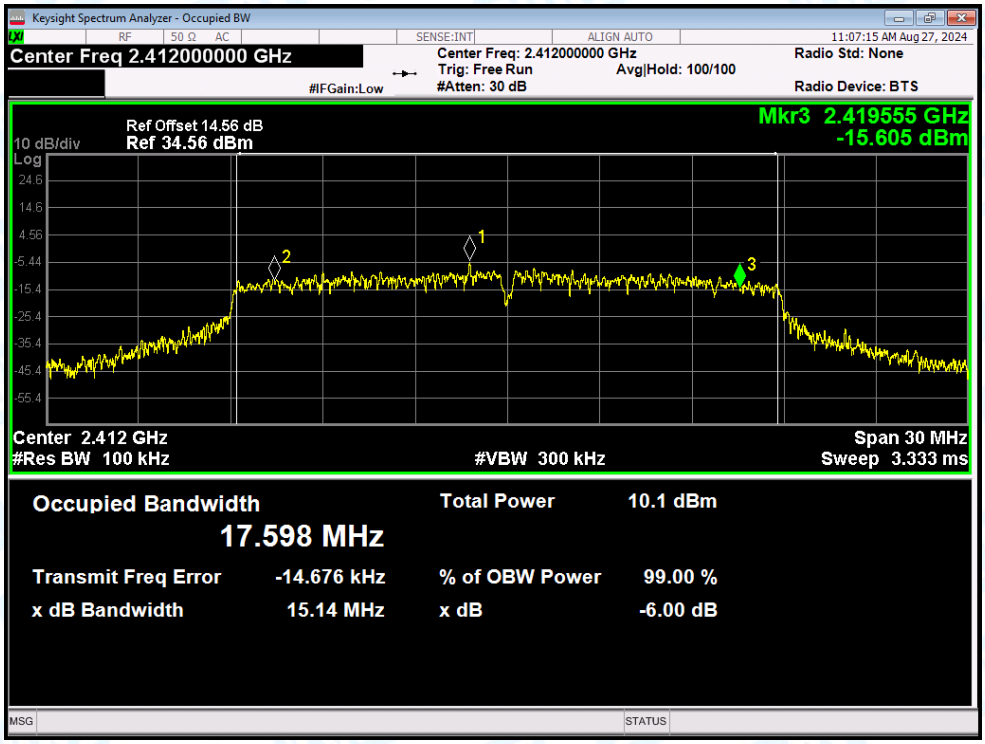
Note: The duty factor has been compensated into the result.

3. -6dB Bandwidth

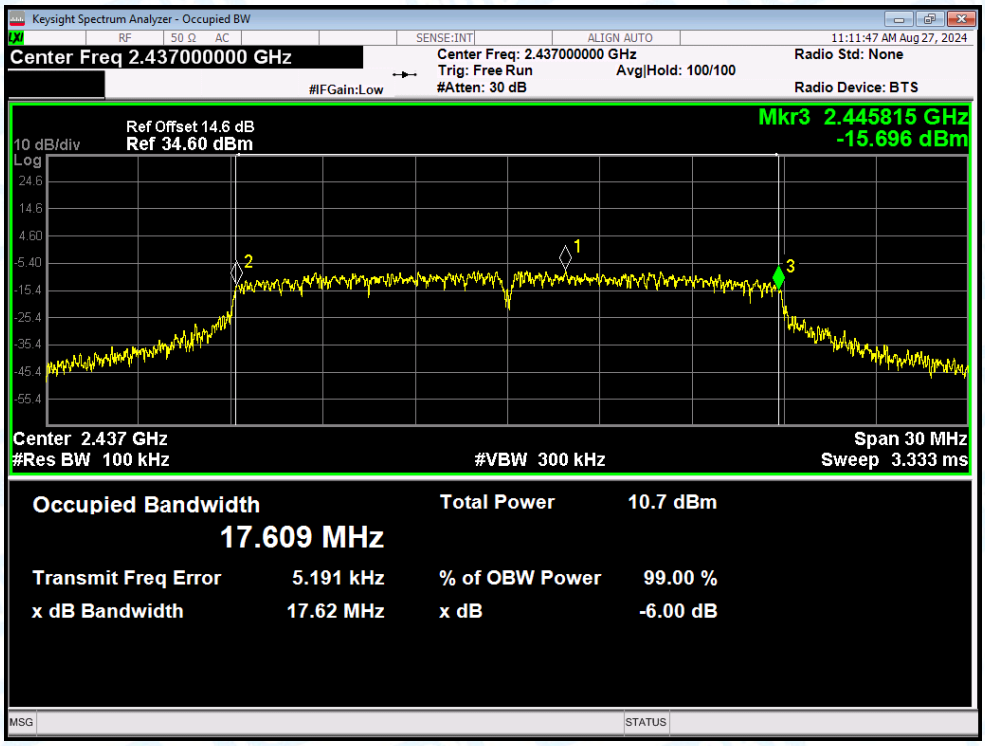
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	ax(HE20)	2412	Ant1	15.14	0.5	Pass
NVNT	ax(HE20)	2437	Ant1	17.62	0.5	Pass
NVNT	ax(HE20)	2462	Ant1	15.08	0.5	Pass
NVNT	ax(HE40)	2422	Ant1	34.81	0.5	Pass
NVNT	ax(HE40)	2437	Ant1	33.5	0.5	Pass
NVNT	ax(HE40)	2452	Ant1	33.54	0.5	Pass
NVNT	b	2412	Ant1	9.98	0.5	Pass
NVNT	b	2437	Ant1	9.55	0.5	Pass
NVNT	b	2462	Ant1	8.6	0.5	Pass
NVNT	g	2412	Ant1	16.06	0.5	Pass
NVNT	g	2437	Ant1	16.3	0.5	Pass
NVNT	g	2462	Ant1	16.29	0.5	Pass
NVNT	n(HT20)	2412	Ant1	17.58	0.5	Pass
NVNT	n(HT20)	2437	Ant1	17.56	0.5	Pass
NVNT	n(HT20)	2462	Ant1	15.42	0.5	Pass
NVNT	n(HT40)	2422	Ant1	33.93	0.5	Pass
NVNT	n(HT40)	2437	Ant1	31.05	0.5	Pass
NVNT	n(HT40)	2452	Ant1	33.54	0.5	Pass

Test Graphs

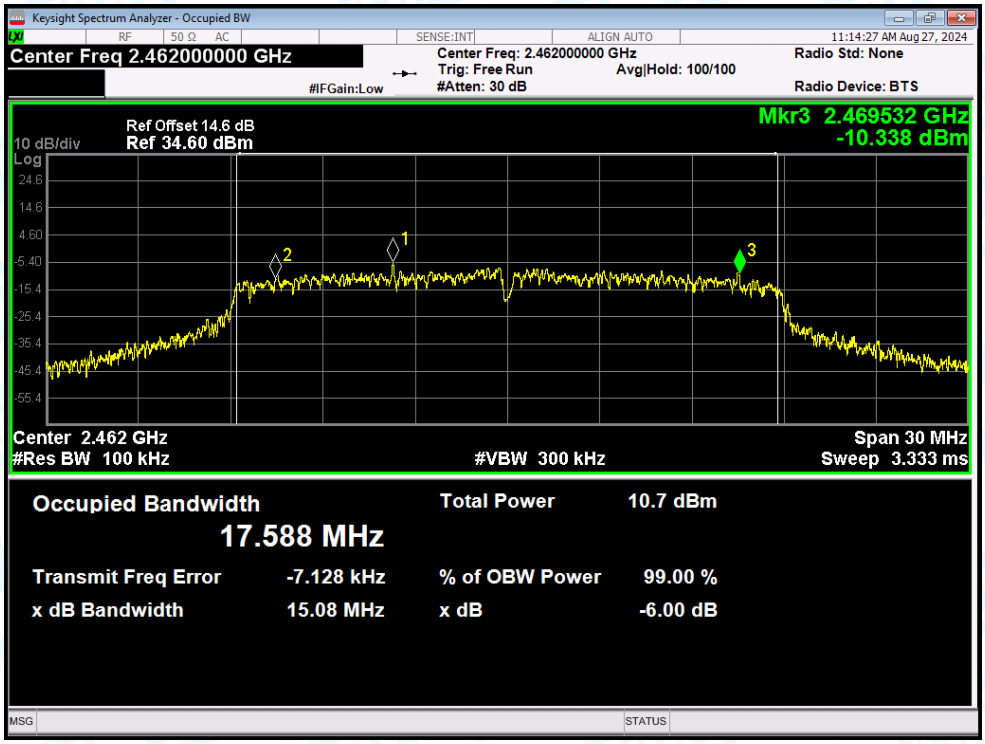
-6dB Bandwidth NVNT ax(HE20) 2412MHz Ant1



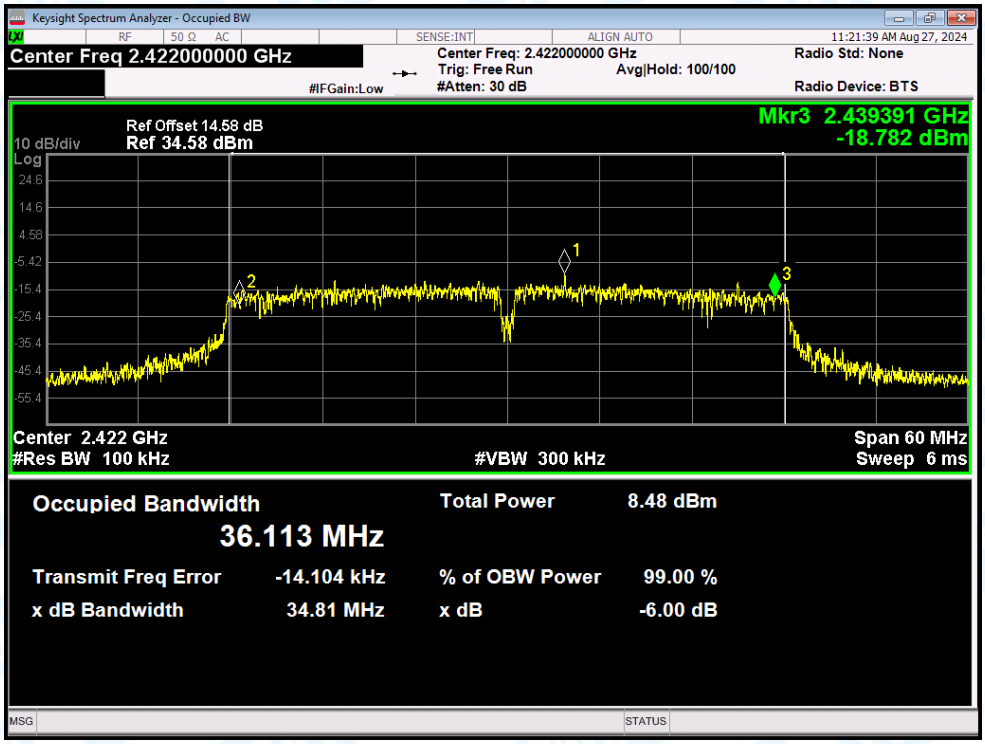
-6dB Bandwidth NVNT ax(HE20) 2437MHz Ant1



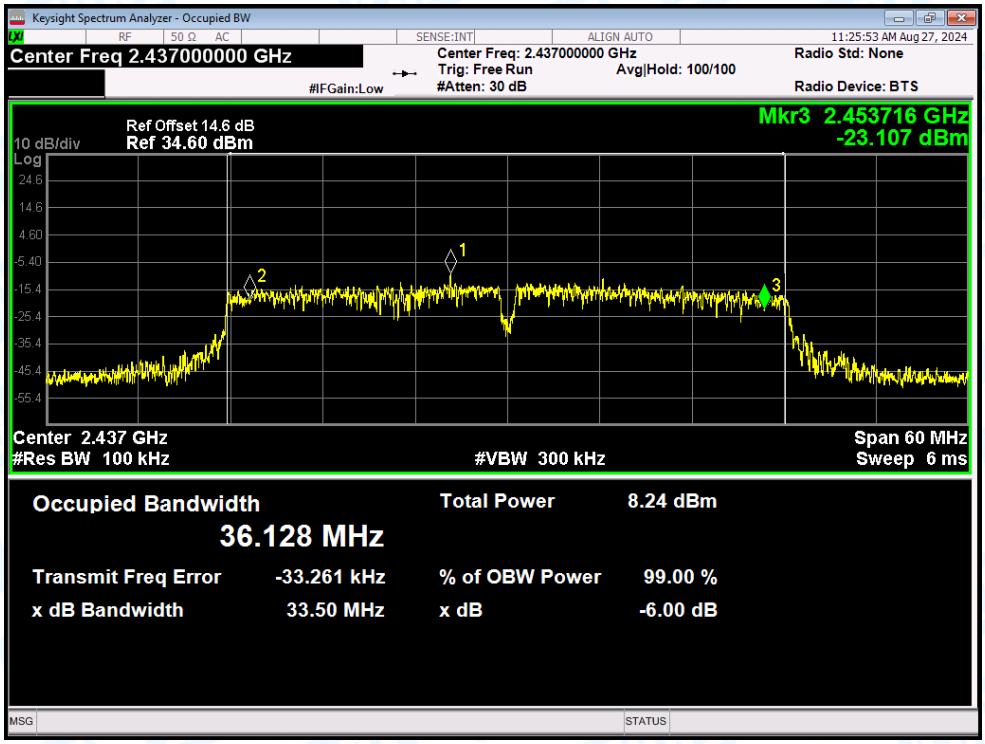
-6dB Bandwidth NVNT ax(HE20) 2462MHz Ant1



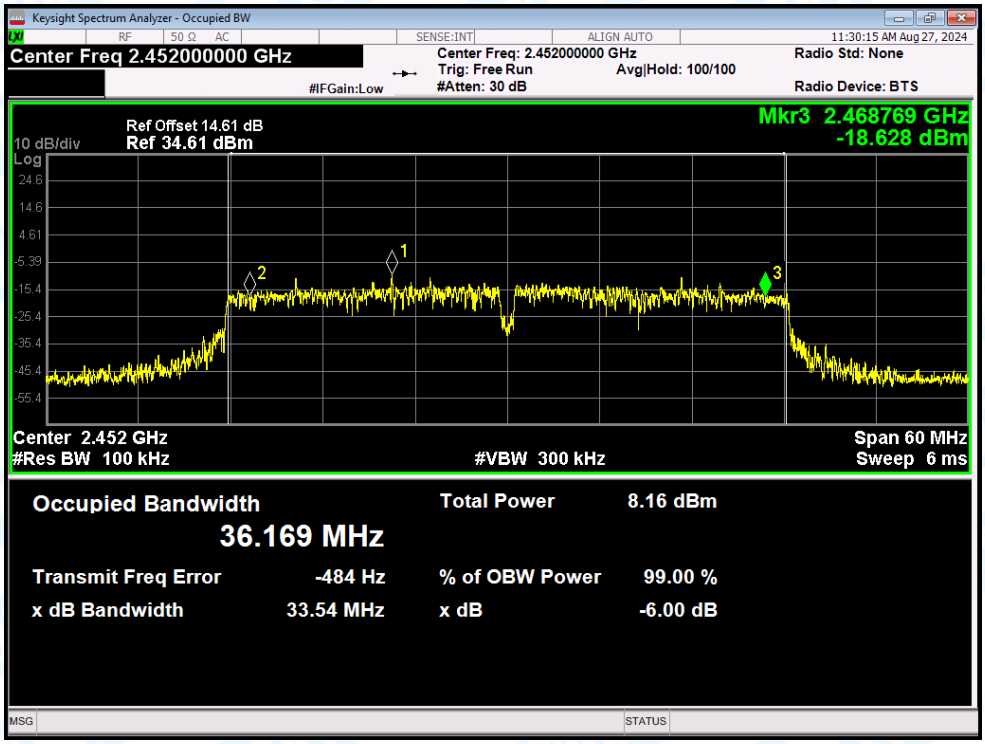
-6dB Bandwidth NVNT ax(HE40) 2422MHz Ant1



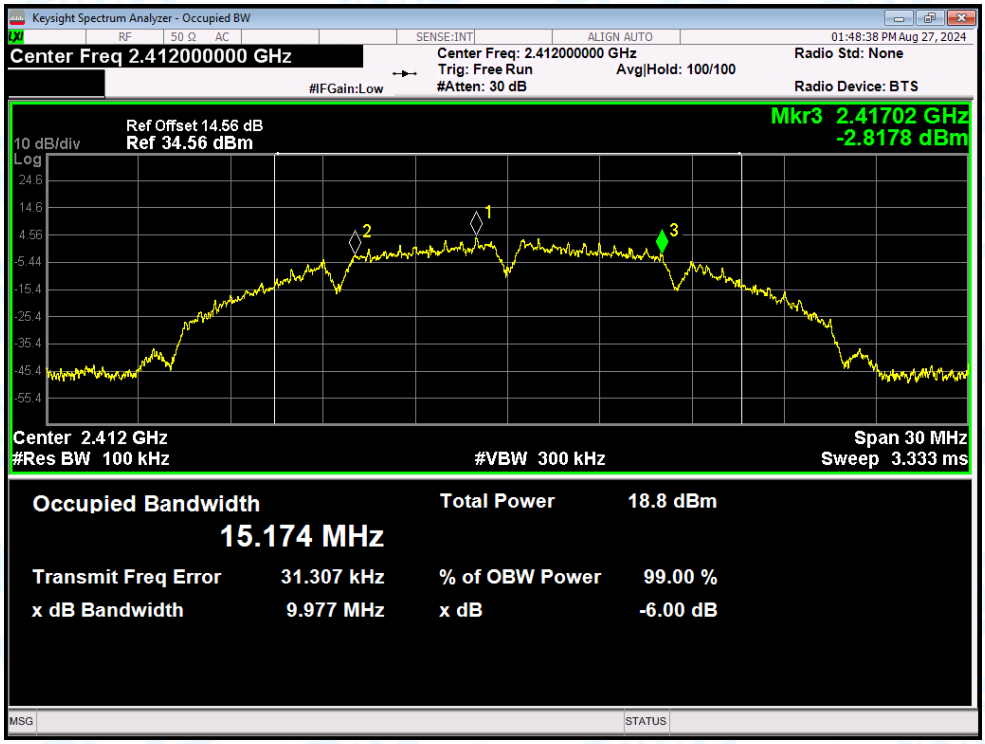
-6dB Bandwidth NVNT ax(HE40) 2437MHz Ant1



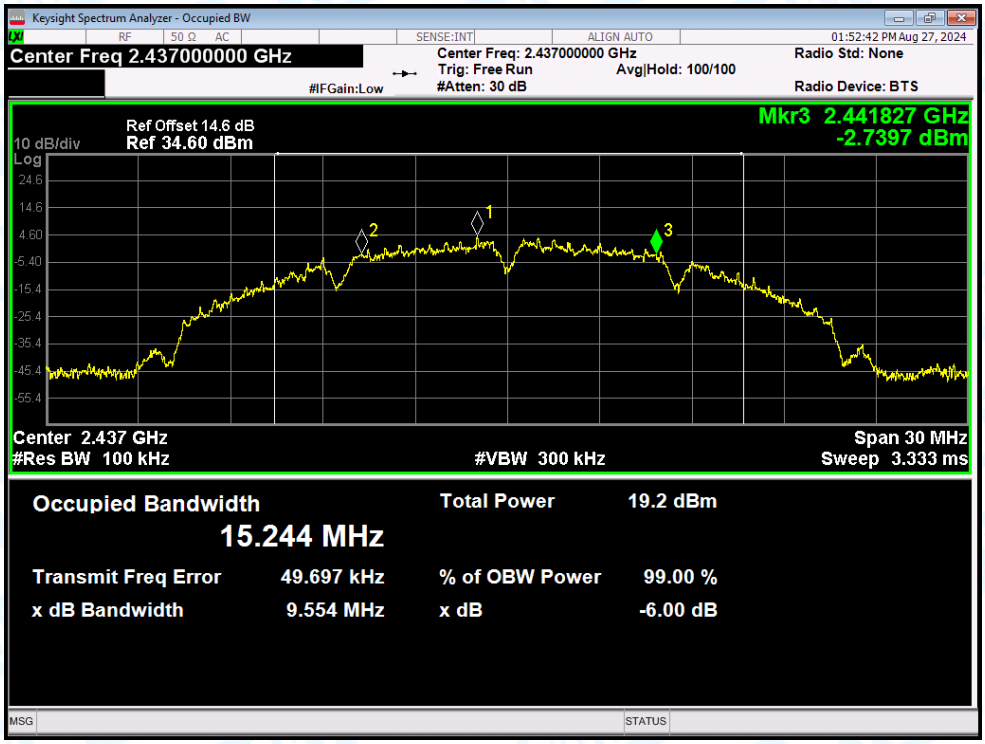
-6dB Bandwidth NVNT ax(HE40) 2452MHz Ant1



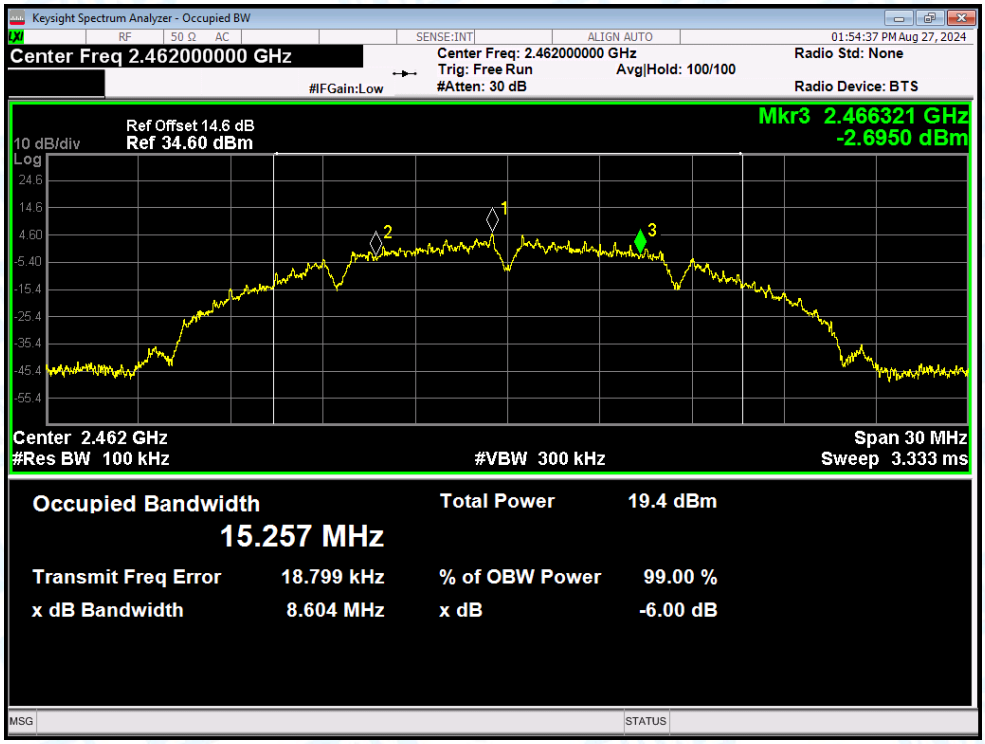
-6dB Bandwidth NVNT b 2412MHz Ant1



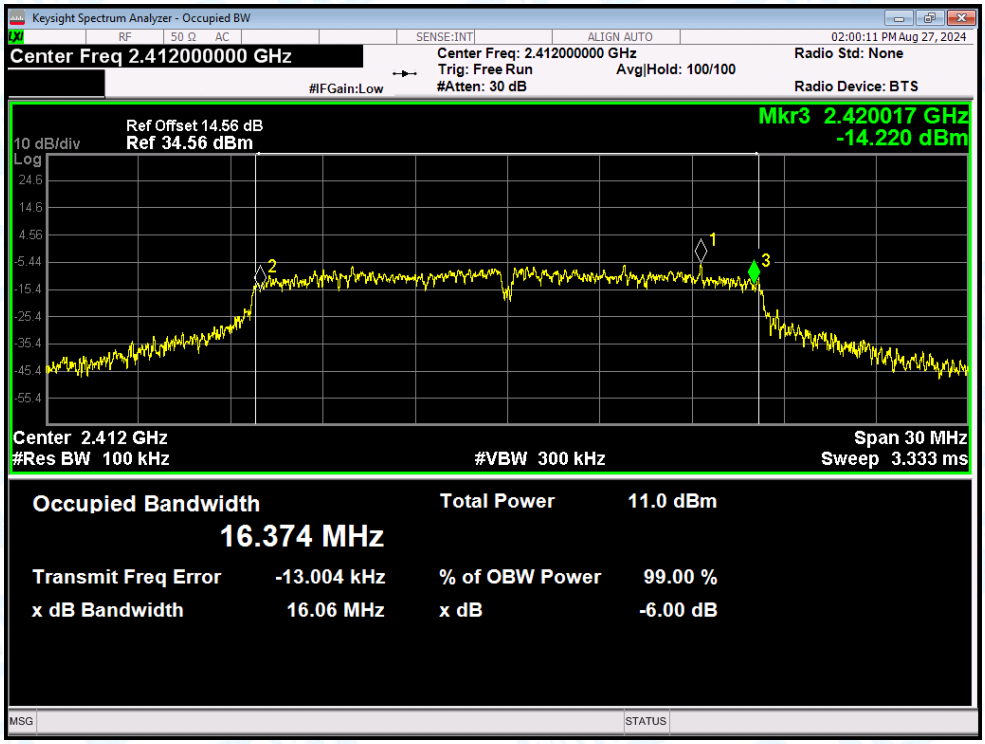
-6dB Bandwidth NVNT b 2437MHz Ant1



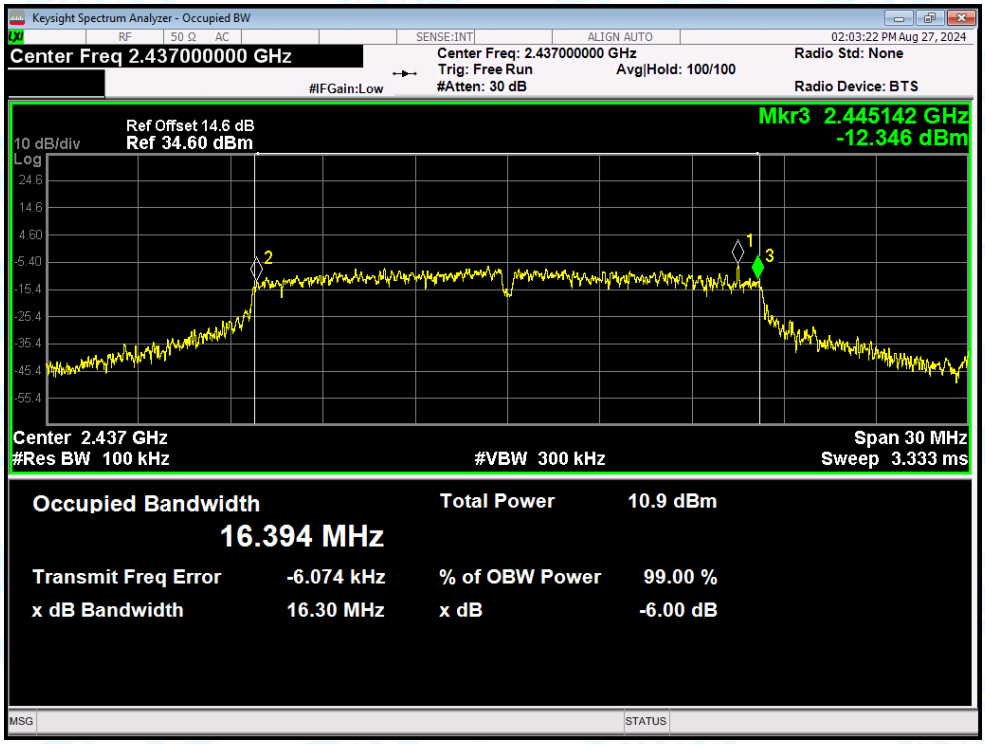
-6dB Bandwidth NVNT b 2462MHz Ant1



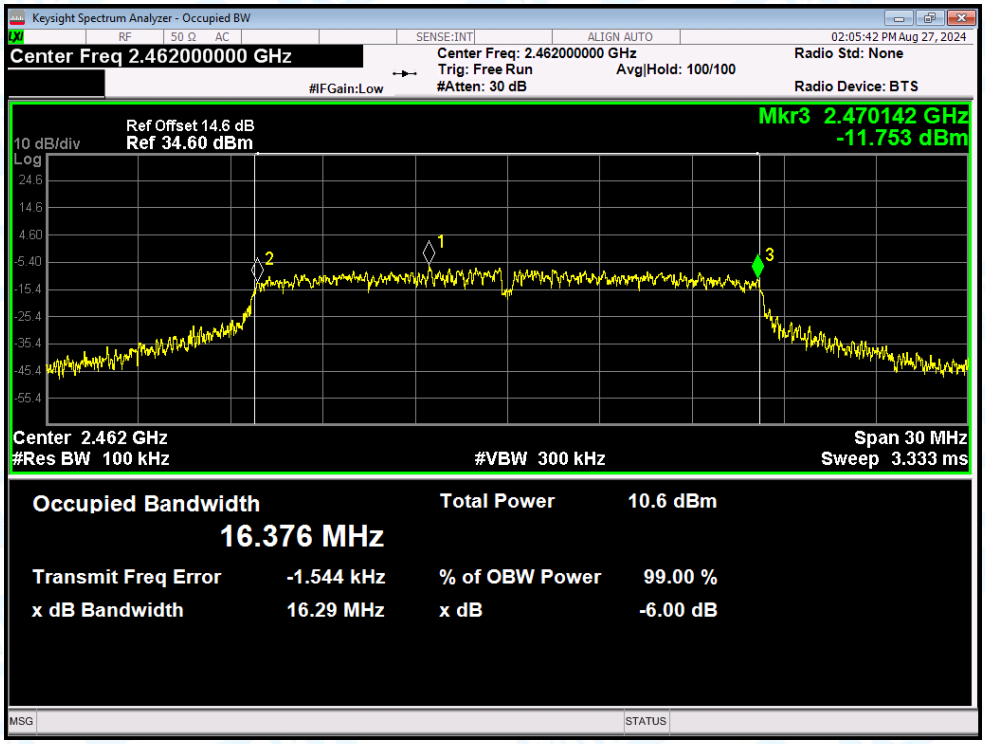
-6dB Bandwidth NVNT g 2412MHz Ant1



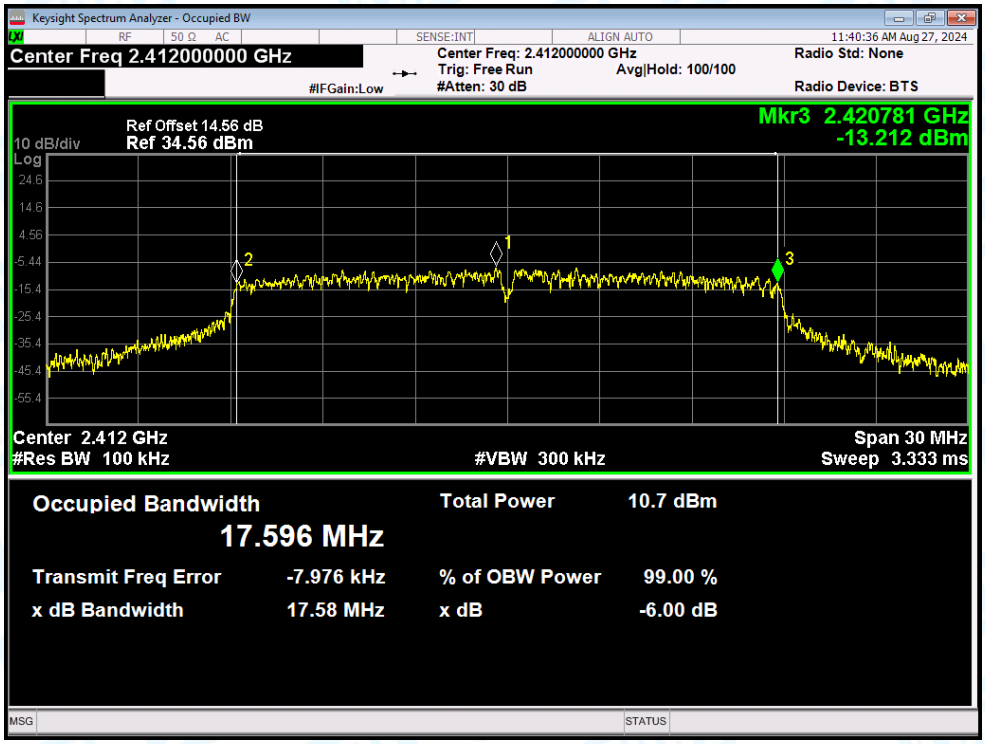
-6dB Bandwidth NVNT g 2437MHz Ant1



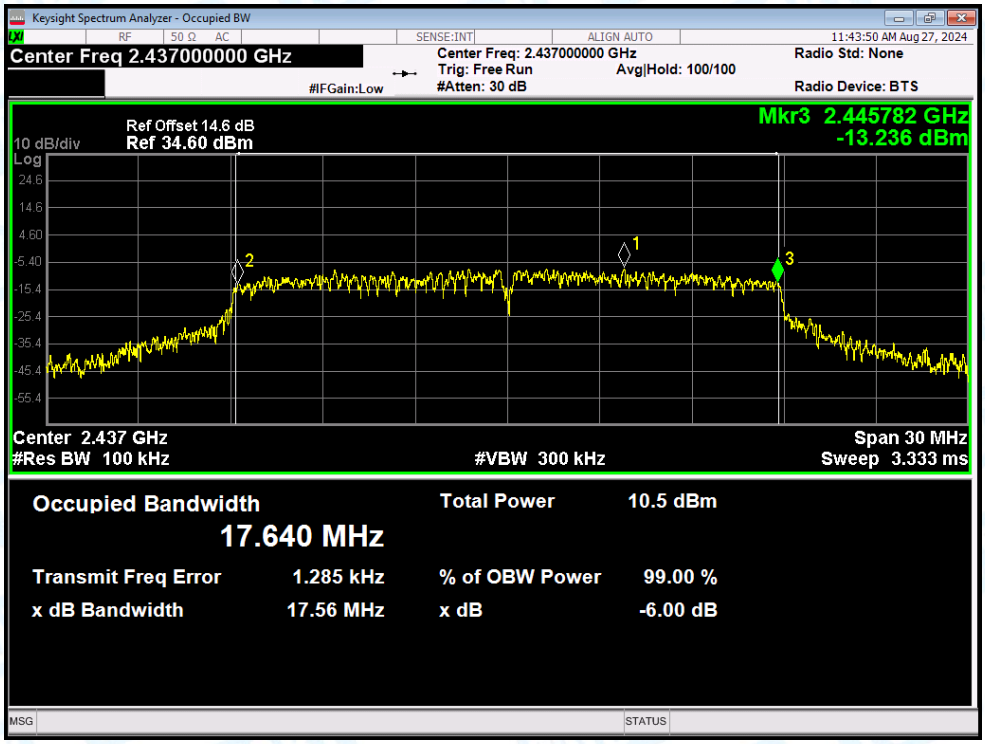
-6dB Bandwidth NVNT g 2462MHz Ant1



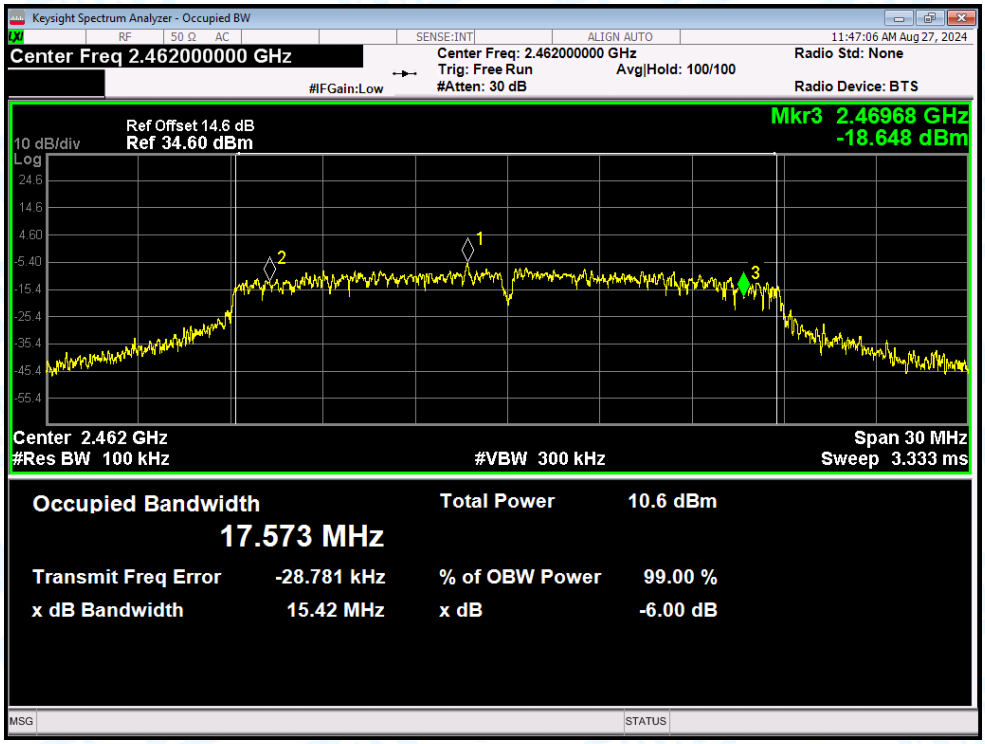
-6dB Bandwidth NVNT n(HT20) 2412MHz Ant1



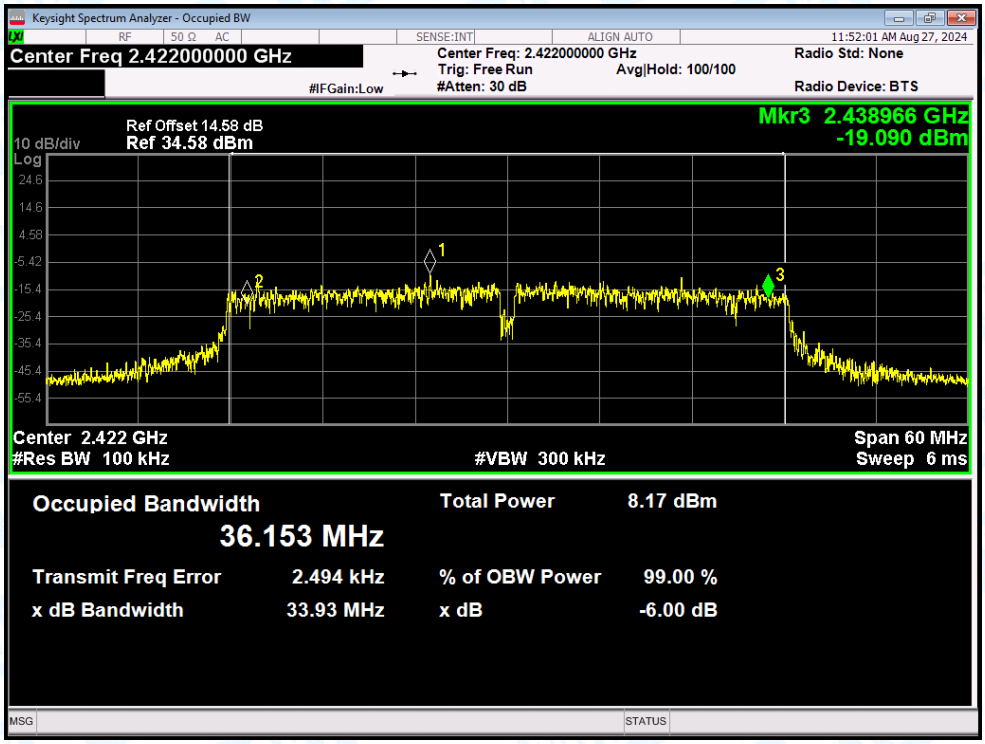
-6dB Bandwidth NVNT n(HT20) 2437MHz Ant1



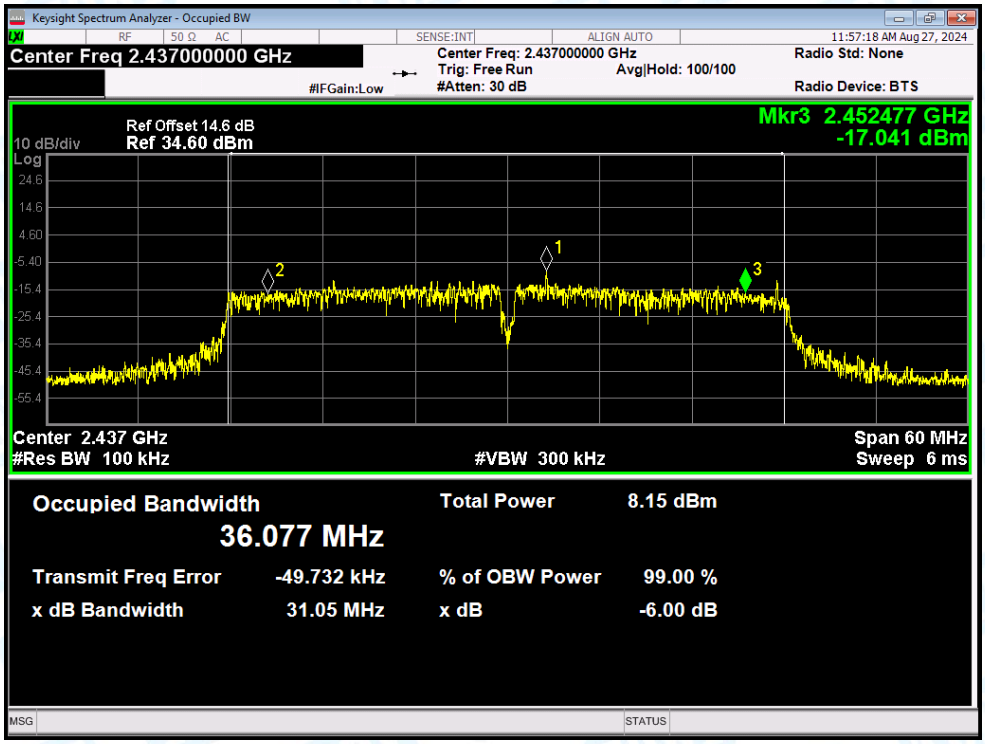
-6dB Bandwidth NVNT n(HT20) 2462MHz Ant1



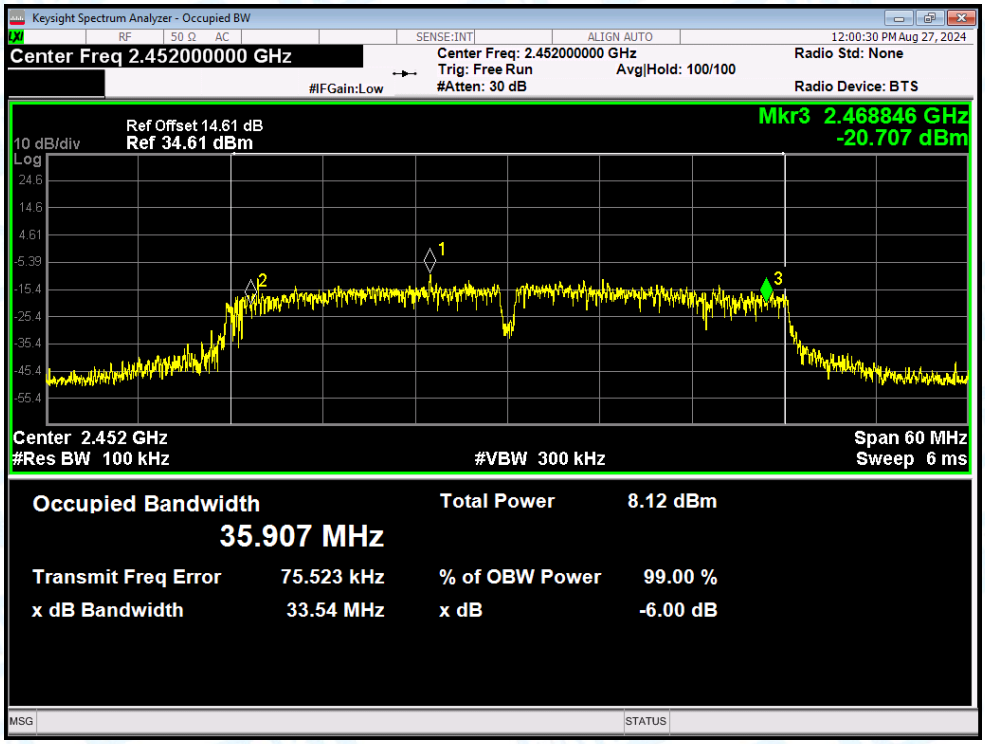
-6dB Bandwidth NVNT n(HT40) 2422MHz Ant1



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



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

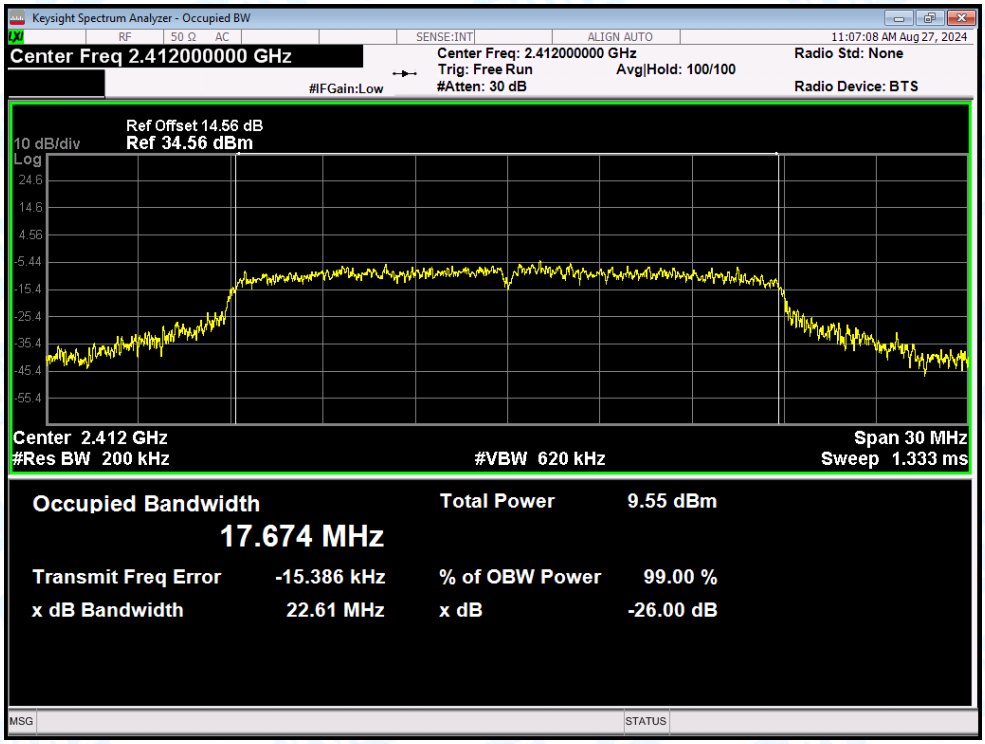


4. Occupied Channel Bandwidth

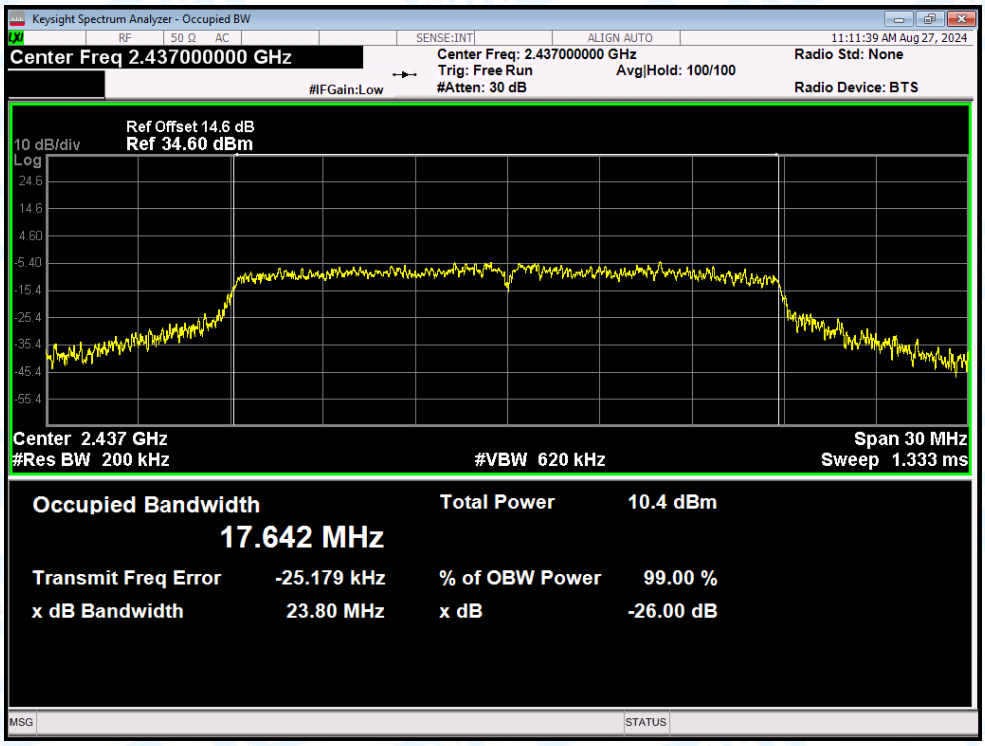
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	ax(HE20)	2412	Ant1	17.674
NVNT	ax(HE20)	2437	Ant1	17.642
NVNT	ax(HE20)	2462	Ant1	17.683
NVNT	ax(HE40)	2422	Ant1	36.138
NVNT	ax(HE40)	2437	Ant1	36.061
NVNT	ax(HE40)	2452	Ant1	36.184
NVNT	b	2412	Ant1	15.226
NVNT	b	2437	Ant1	15.219
NVNT	b	2462	Ant1	15.181
NVNT	g	2412	Ant1	16.442
NVNT	g	2437	Ant1	16.441
NVNT	g	2462	Ant1	16.444
NVNT	n(HT20)	2412	Ant1	17.681
NVNT	n(HT20)	2437	Ant1	17.664
NVNT	n(HT20)	2462	Ant1	17.623
NVNT	n(HT40)	2422	Ant1	36.111
NVNT	n(HT40)	2437	Ant1	35.988
NVNT	n(HT40)	2452	Ant1	36.15

Test Graphs

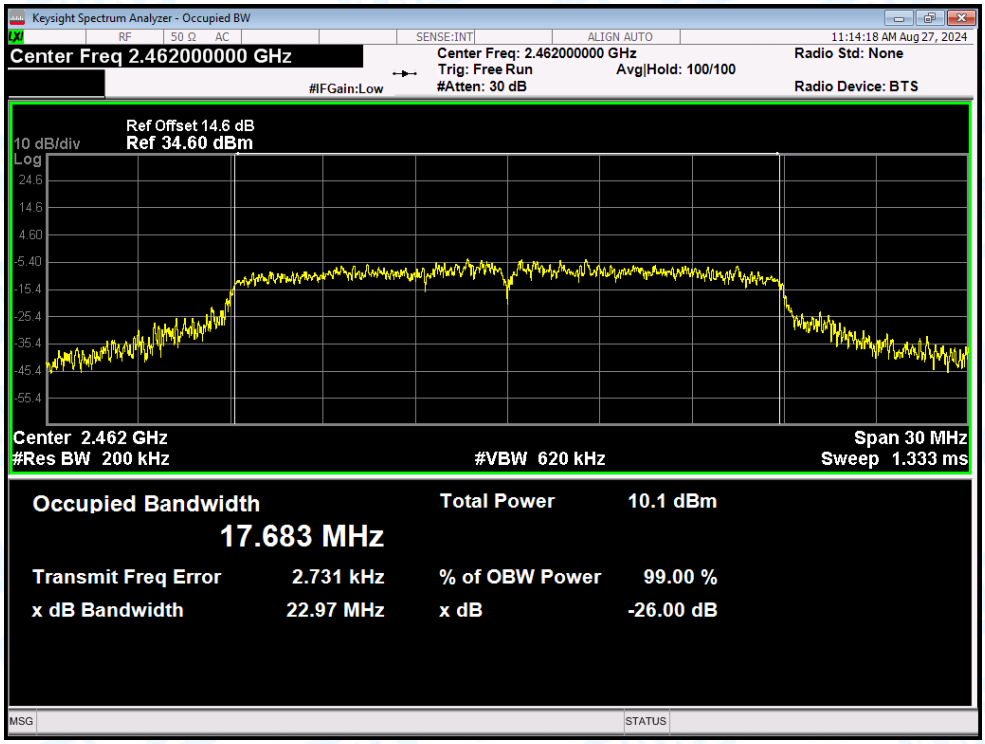
OBW NVNT ax(HE20) 2412MHz Ant1



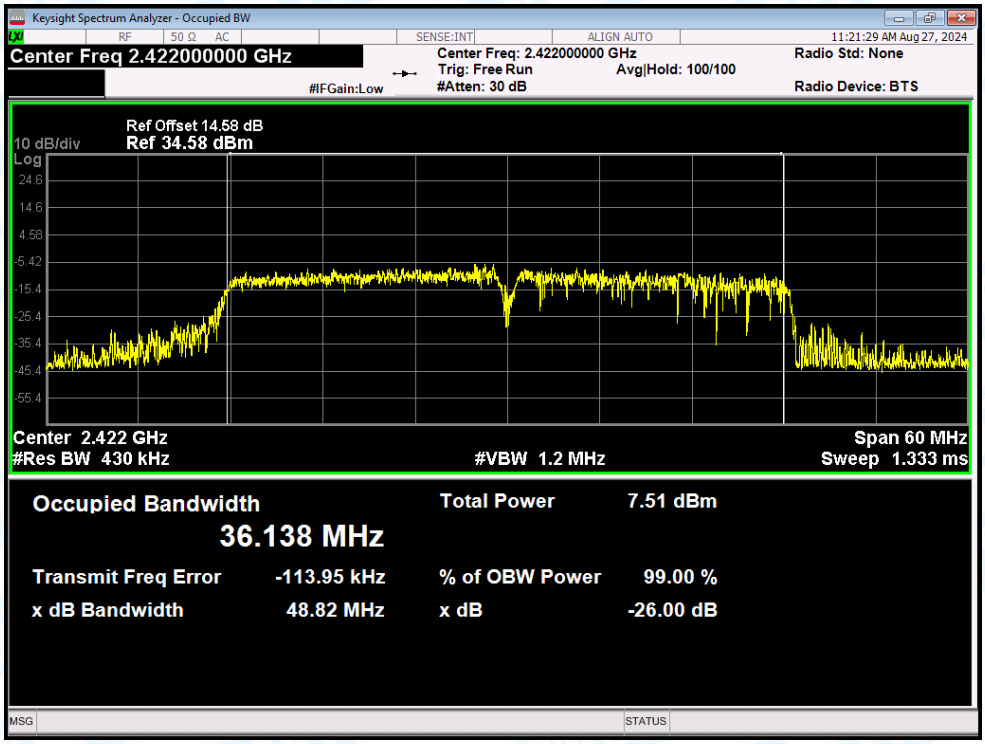
OBW NVNT ax(HE20) 2437MHz Ant1



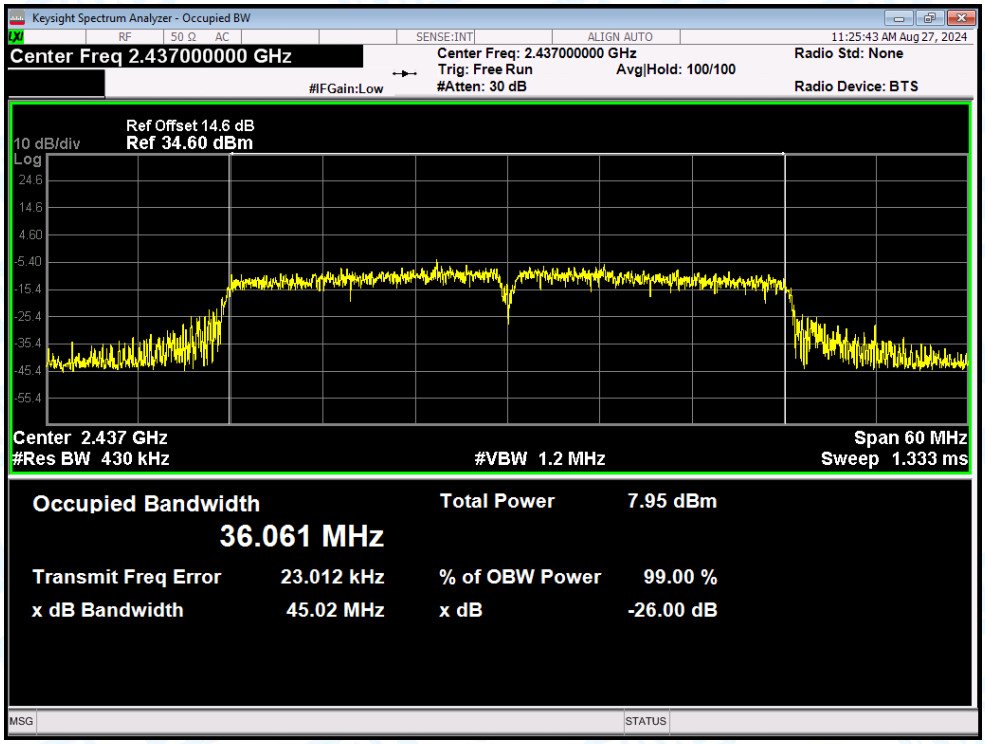
OBW NVNT ax(HE20) 2462MHz Ant1



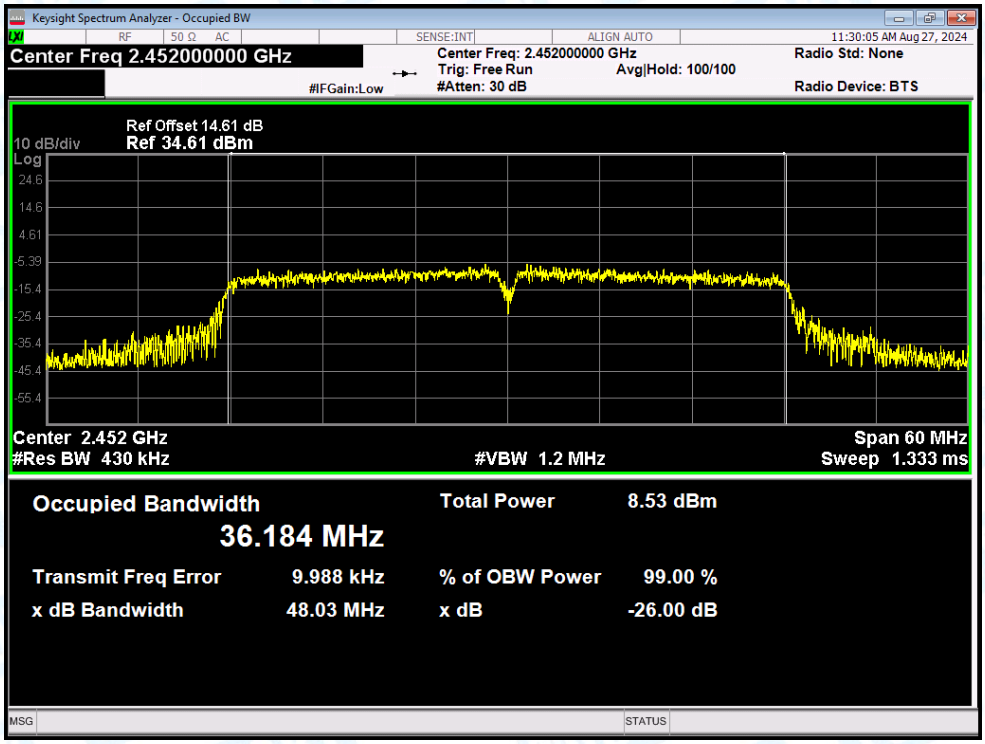
OBW NVNT ax(HE40) 2422MHz Ant1



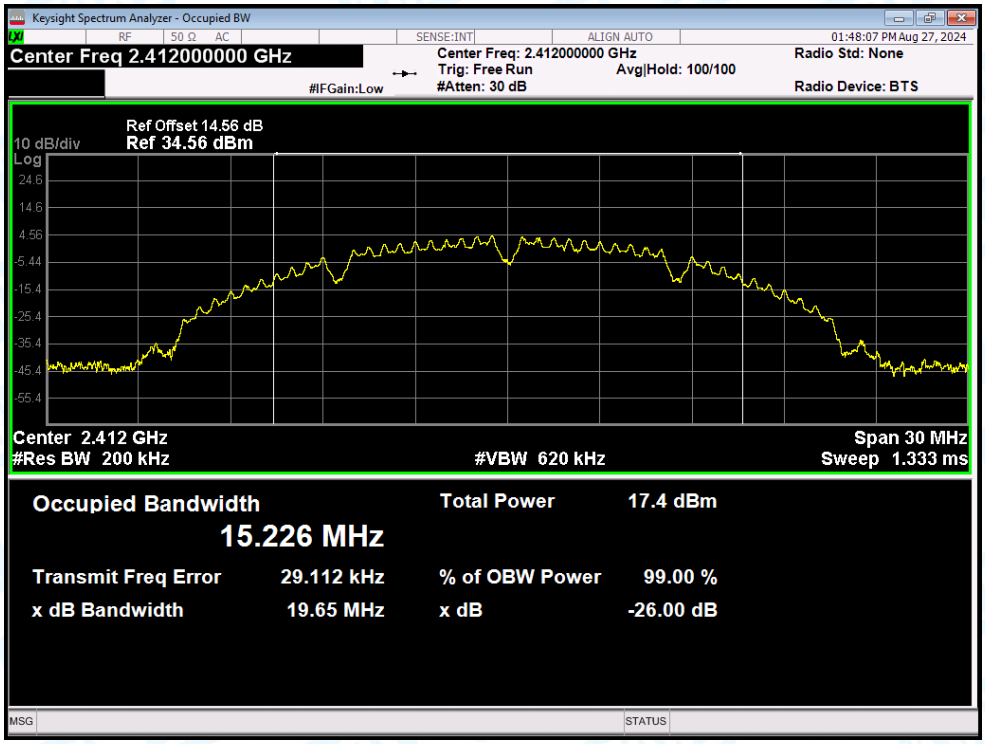
OBW NVNT ax(HE40) 2437MHz Ant1



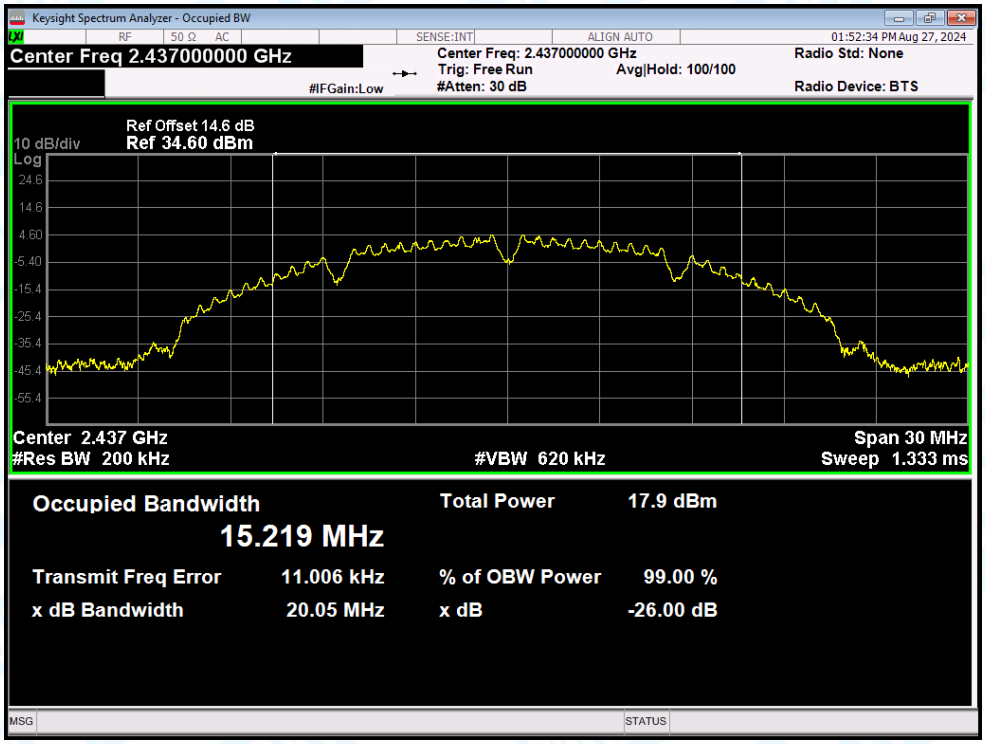
OBW NVNT ax(HE40) 2452MHz Ant1



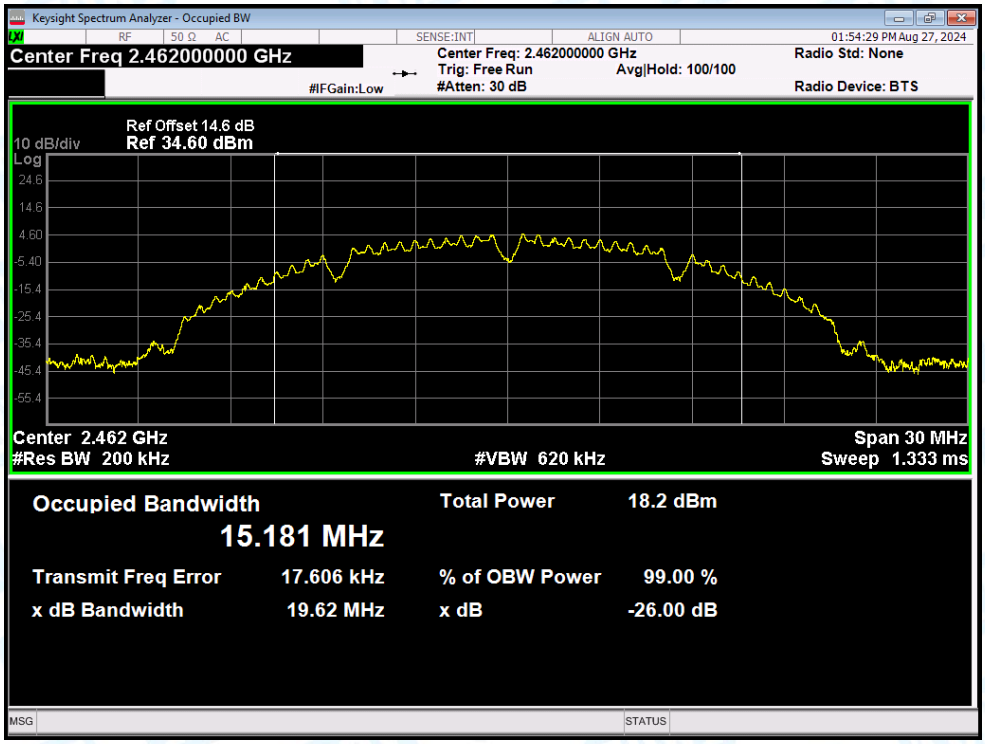
OBW NVNT b 2412MHz Ant1



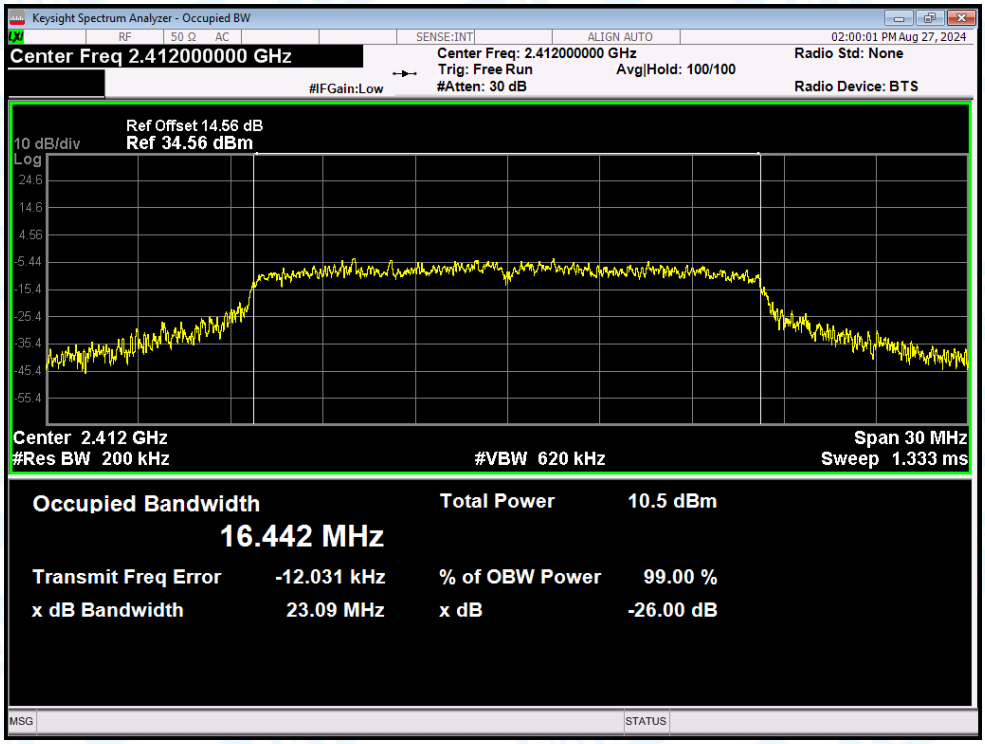
OBW NVNT b 2437MHz Ant1



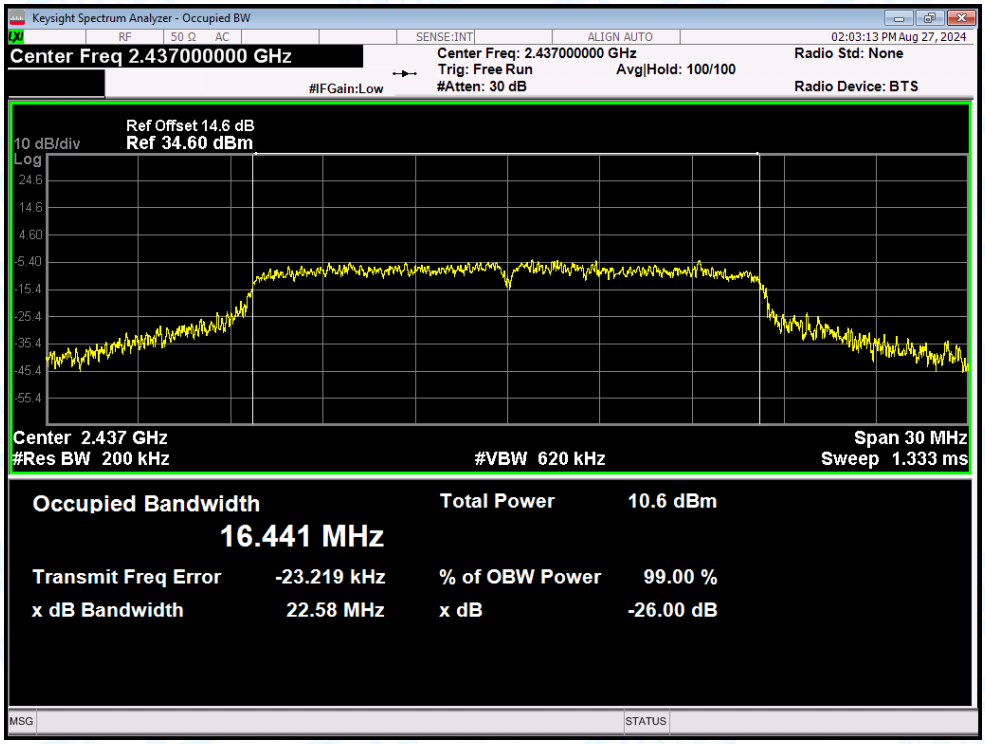
OBW NVNT b 2462MHz Ant1



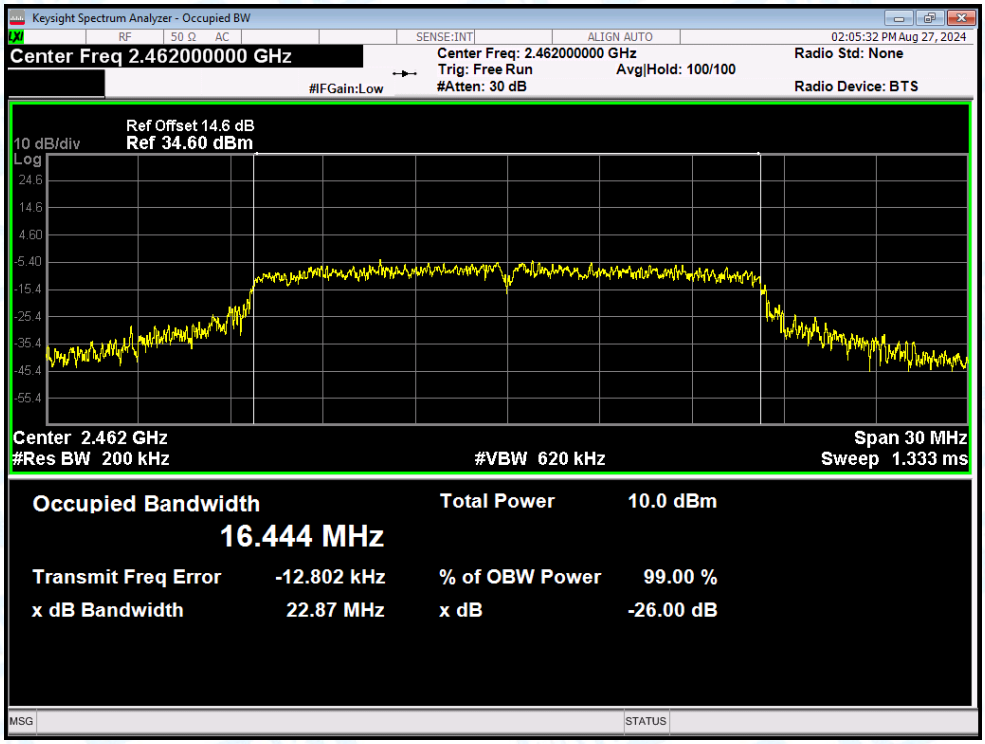
OBW NVNT g 2412MHz Ant1



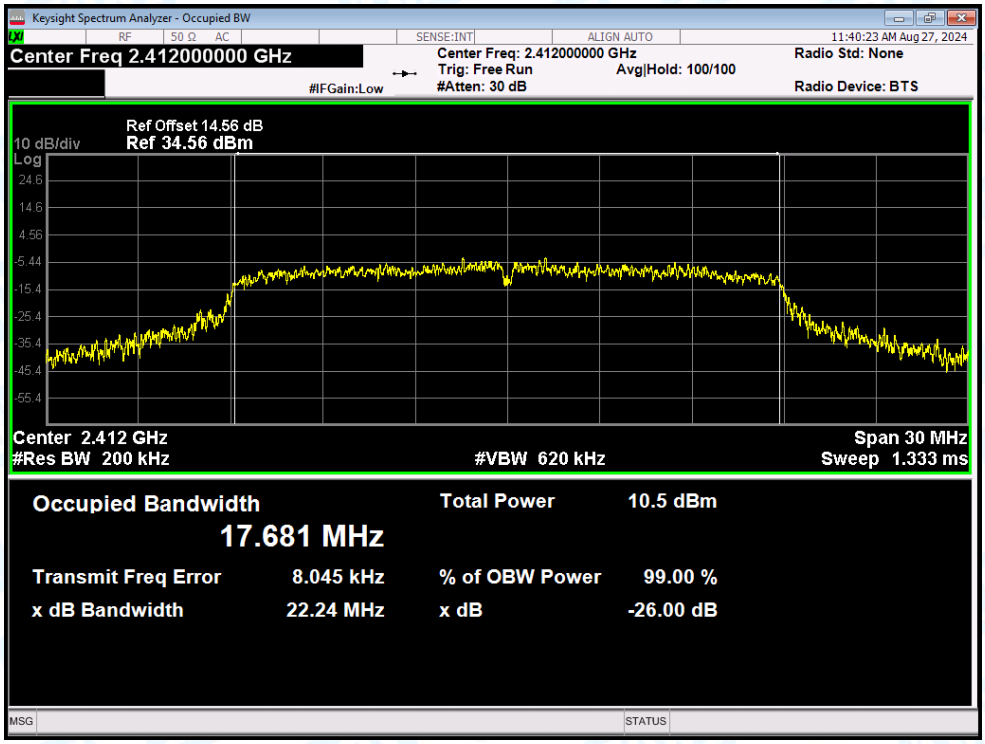
OBW NVNT g 2437MHz Ant1



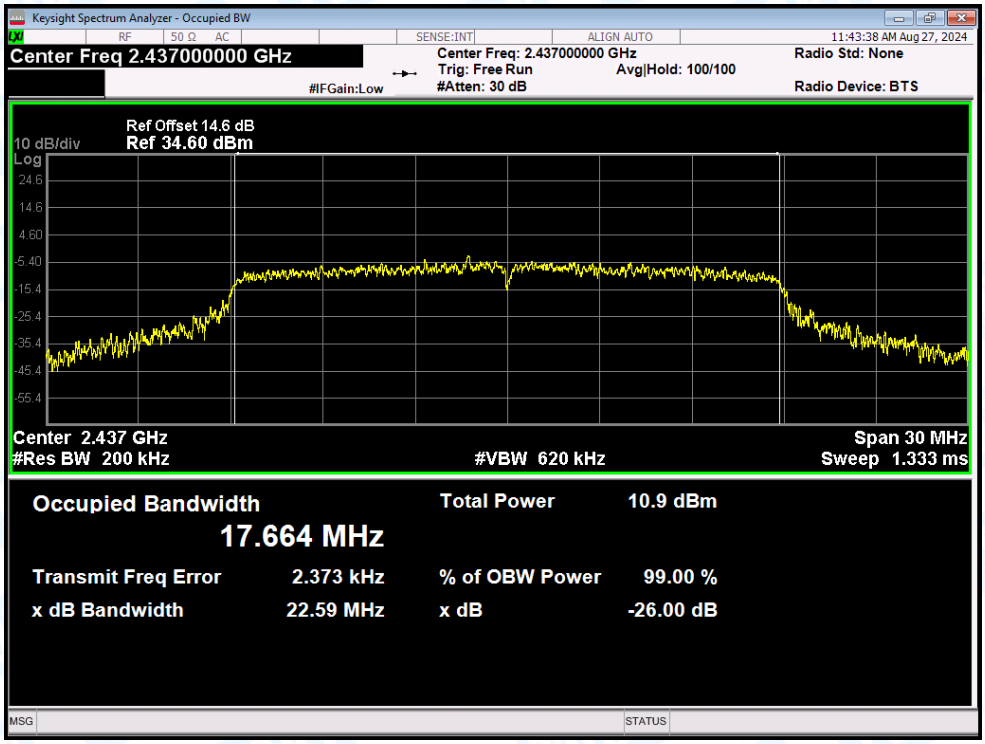
OBW NVNT g 2462MHz Ant1



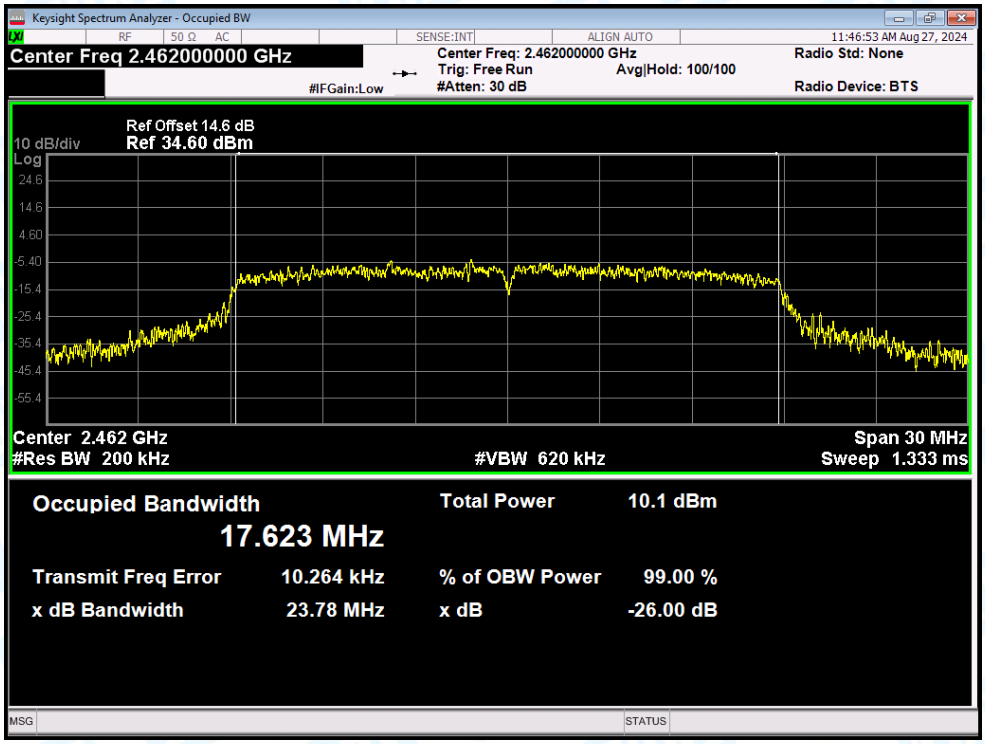
OBW NVNT n(HT20) 2412MHz Ant1



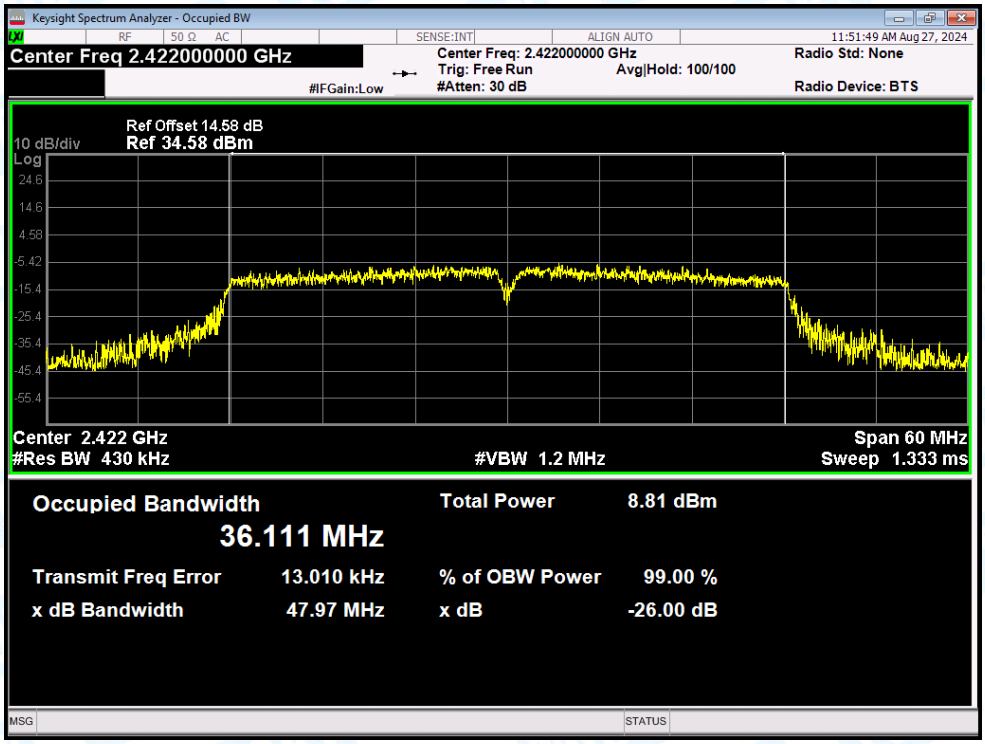
OBW NVNT n(HT20) 2437MHz Ant1



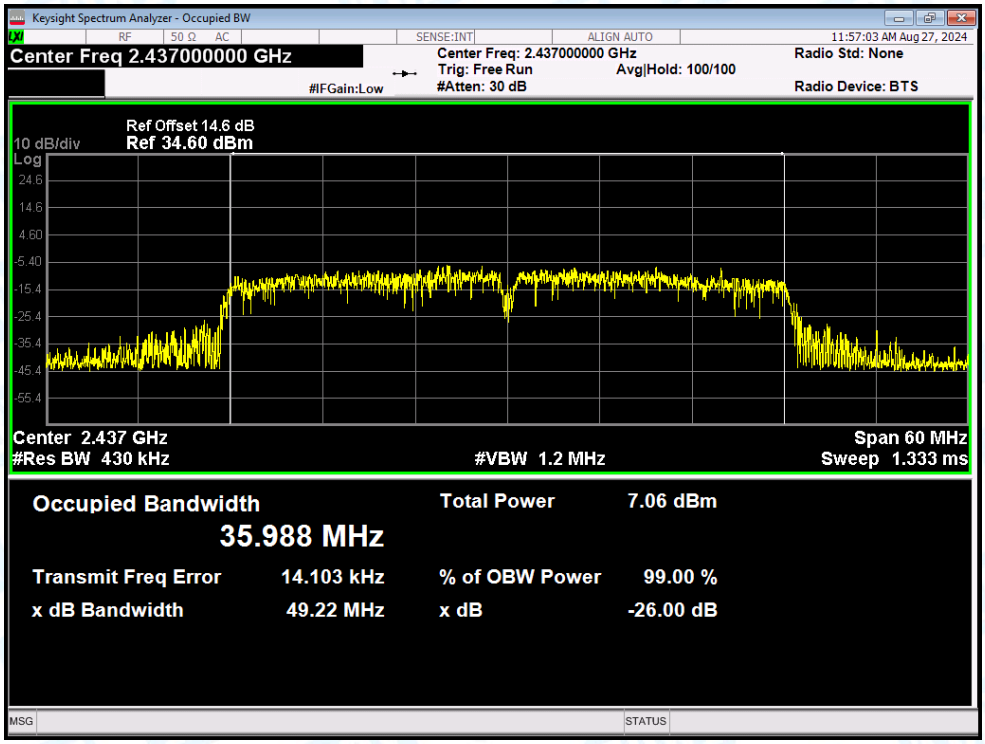
OBW NVNT n(HT20) 2462MHz Ant1



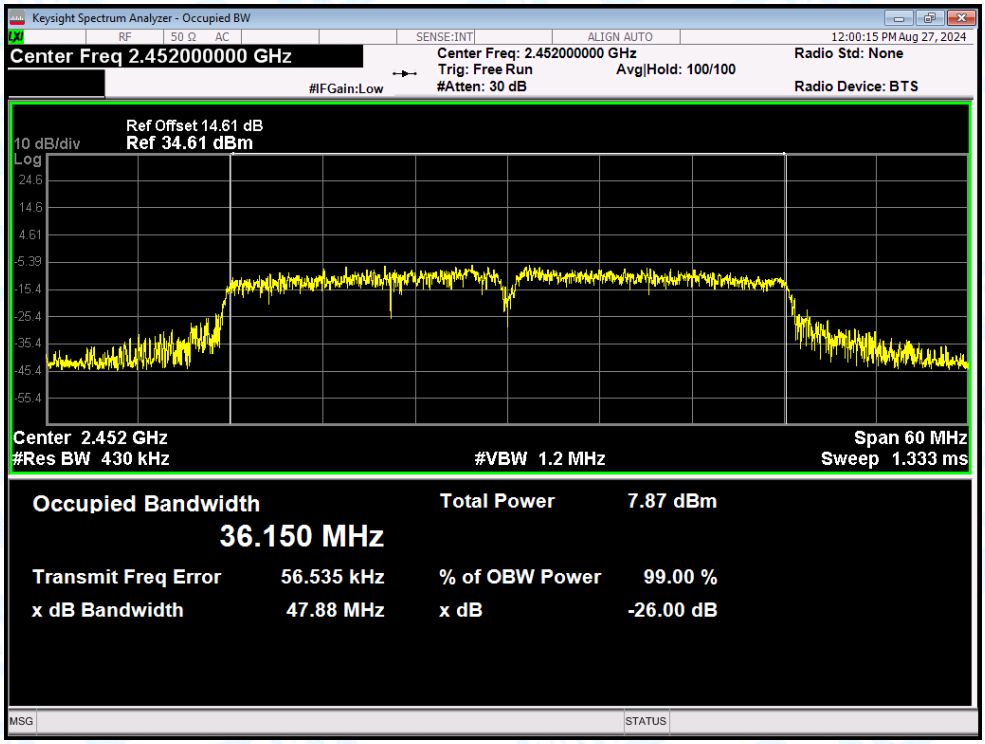
OBW NVNT n(HT40) 2422MHz Ant1



OBW NVNT n(HT40) 2437MHz Ant1



OBW NVNT n(HT40) 2452MHz Ant1



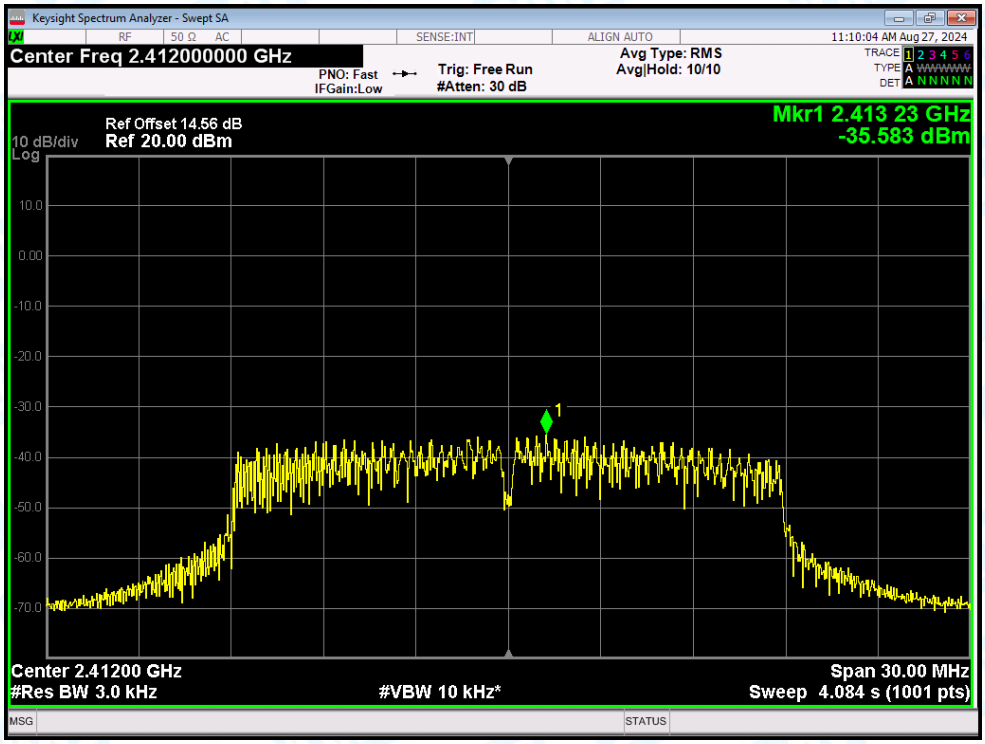
5. Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	ax(HE20)	2412	Ant1	-35.583	8	Pass
NVNT	ax(HE20)	2437	Ant1	-35.052	8	Pass
NVNT	ax(HE20)	2462	Ant1	-35.267	8	Pass
NVNT	ax(HE40)	2422	Ant1	-42.849	8	Pass
NVNT	ax(HE40)	2437	Ant1	-43.454	8	Pass
NVNT	ax(HE40)	2452	Ant1	-43.898	8	Pass
NVNT	b	2412	Ant1	-20.016	8	Pass
NVNT	b	2437	Ant1	-20.13	8	Pass
NVNT	b	2462	Ant1	-20.637	8	Pass
NVNT	g	2412	Ant1	-34.211	8	Pass
NVNT	g	2437	Ant1	-34.903	8	Pass
NVNT	g	2462	Ant1	-33.86	8	Pass
NVNT	n(HT20)	2412	Ant1	-35.622	8	Pass
NVNT	n(HT20)	2437	Ant1	-34.264	8	Pass
NVNT	n(HT20)	2462	Ant1	-35.22	8	Pass
NVNT	n(HT40)	2422	Ant1	-43.884	8	Pass
NVNT	n(HT40)	2437	Ant1	-43.738	8	Pass
NVNT	n(HT40)	2452	Ant1	-42.878	8	Pass

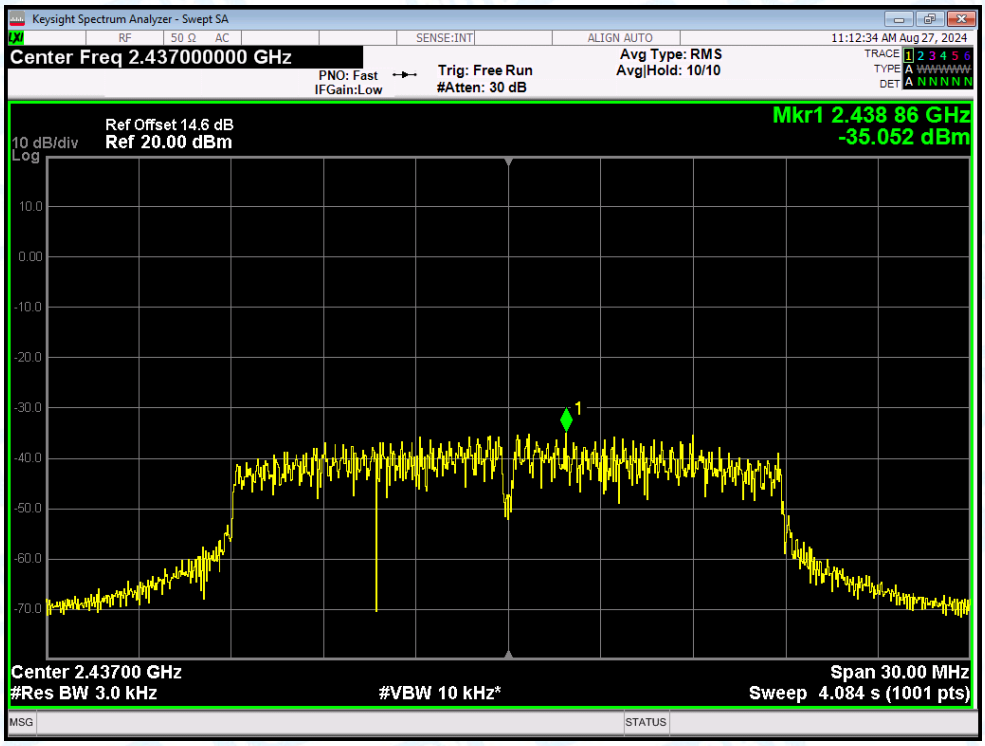
Note: The duty factor has been compensated into the result.

Test Graphs

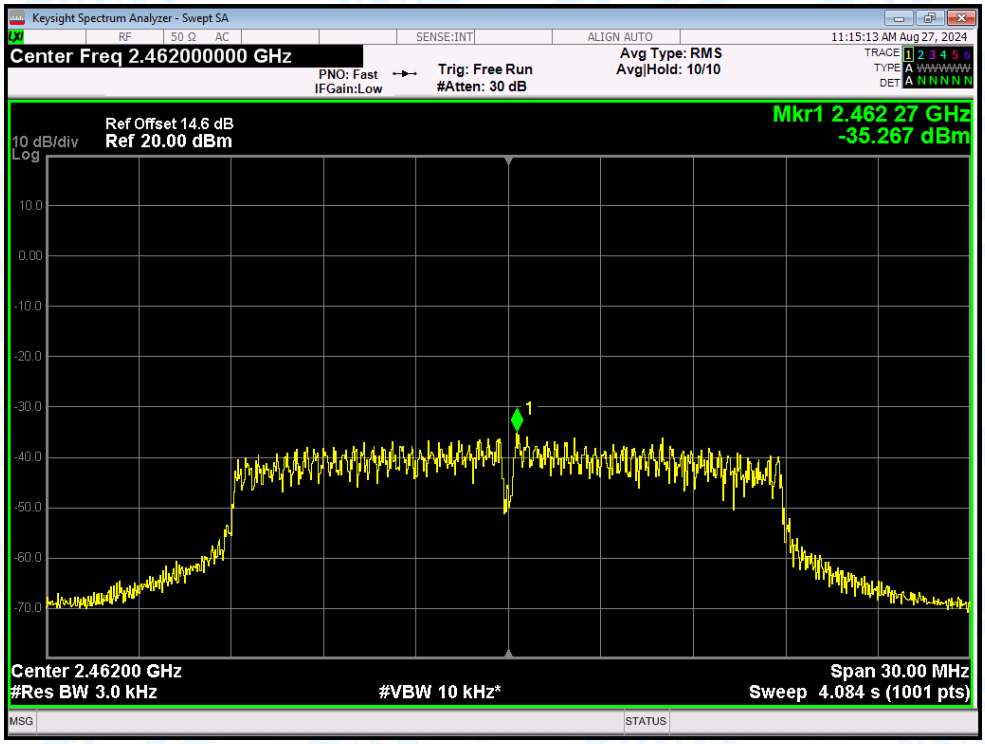
PSD NVNT ax(HE20) 2412MHz Ant1



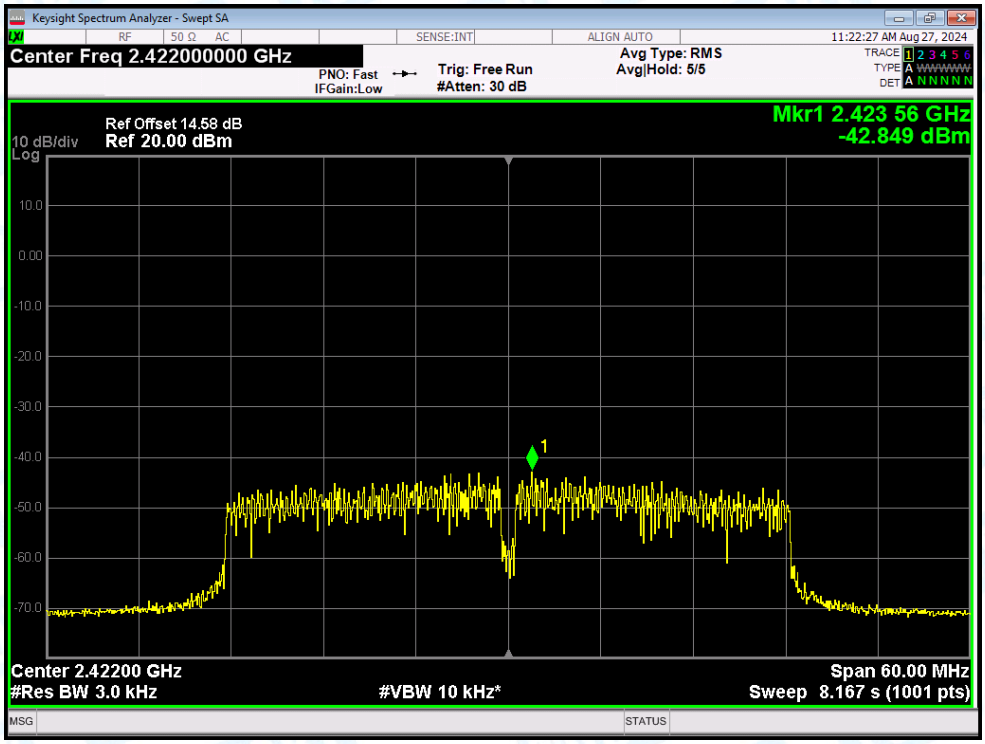
PSD NVNT ax(HE20) 2437MHz Ant1



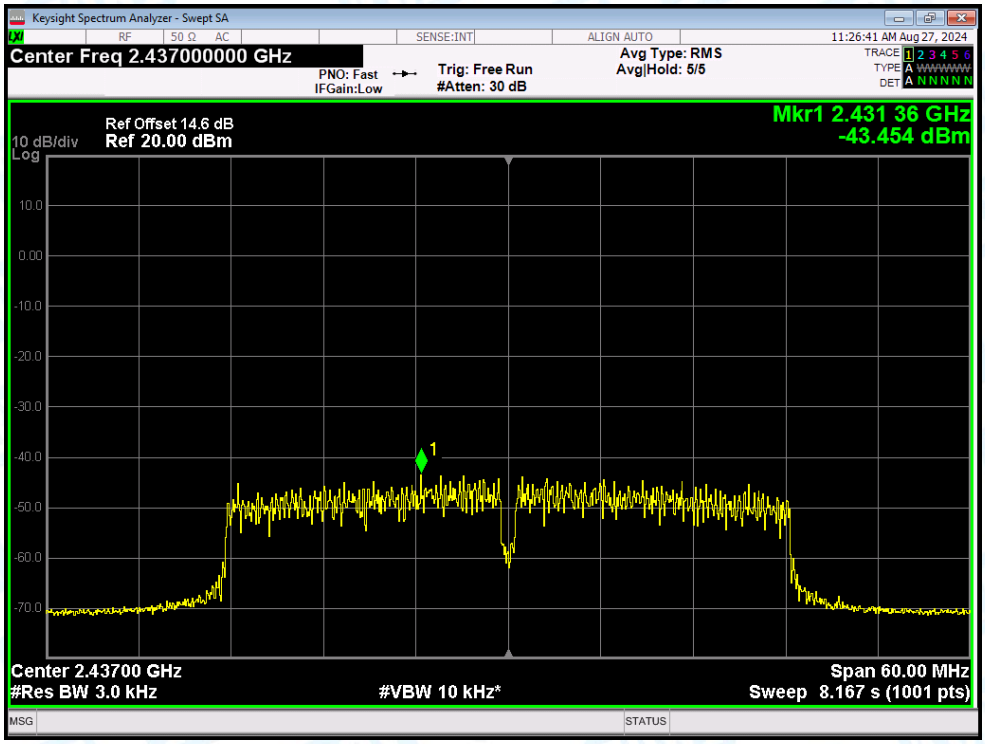
PSD NVNT ax(HE20) 2462MHz Ant1



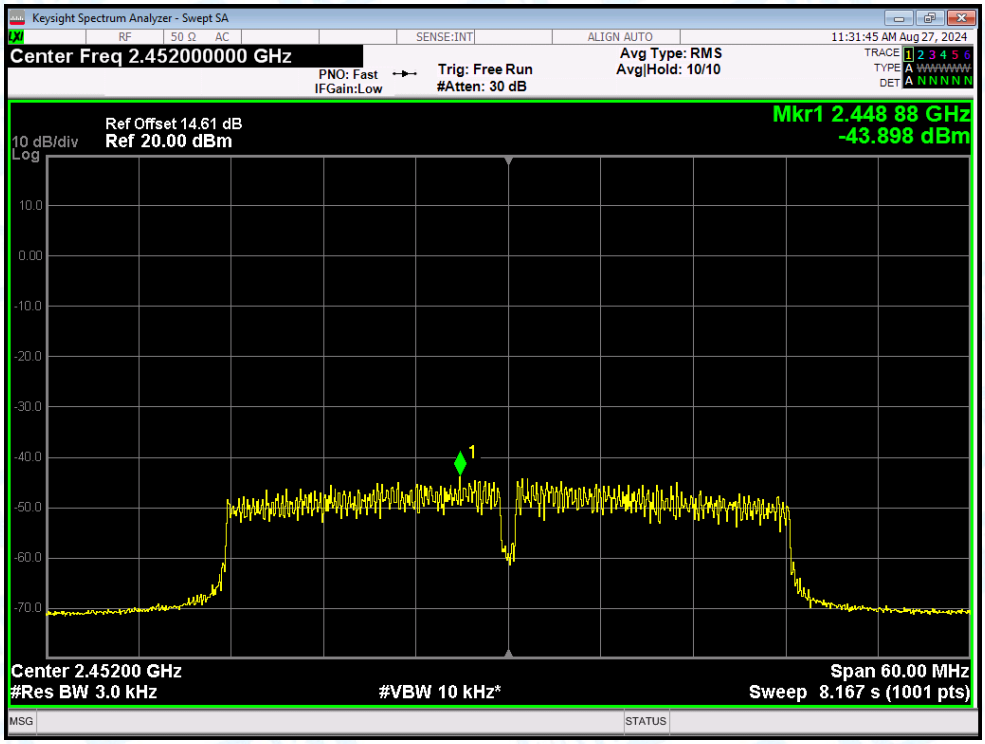
PSD NVNT ax(HE40) 2422MHz Ant1



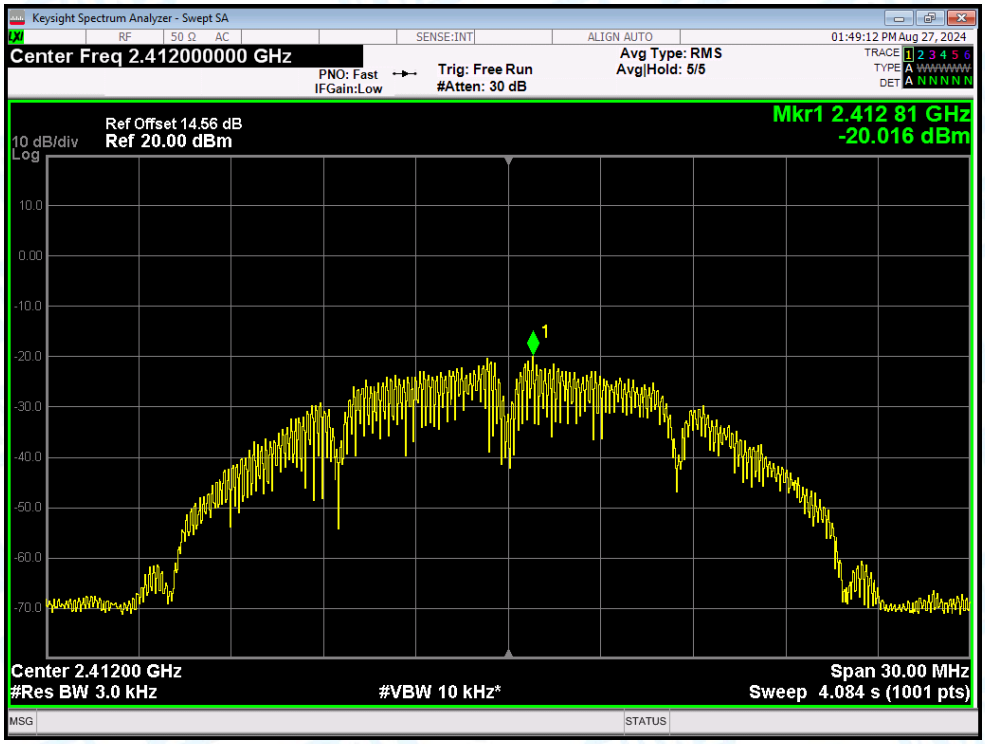
PSD NVNT ax(HE40) 2437MHz Ant1



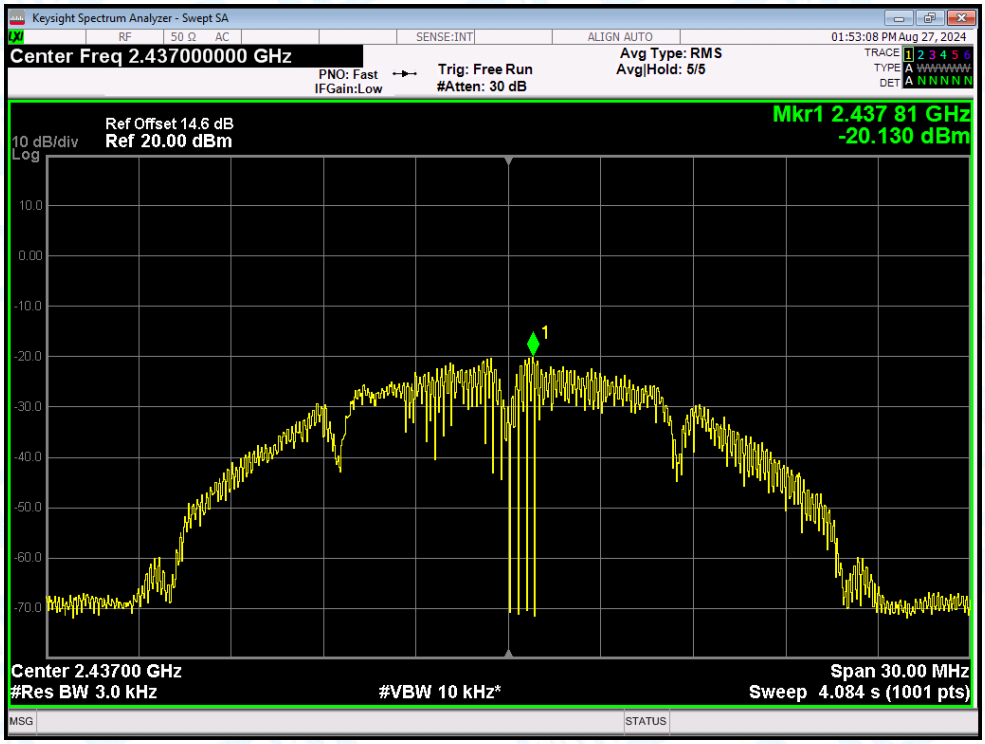
PSD NVNT ax(HE40) 2452MHz Ant1



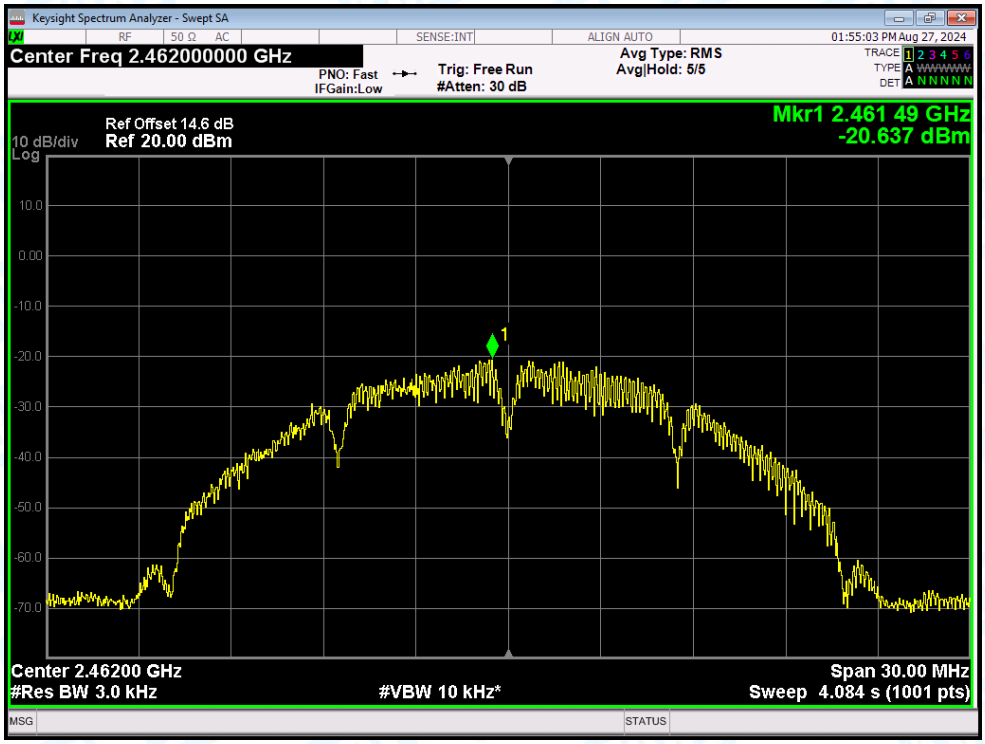
PSD NVNT b 2412MHz Ant1



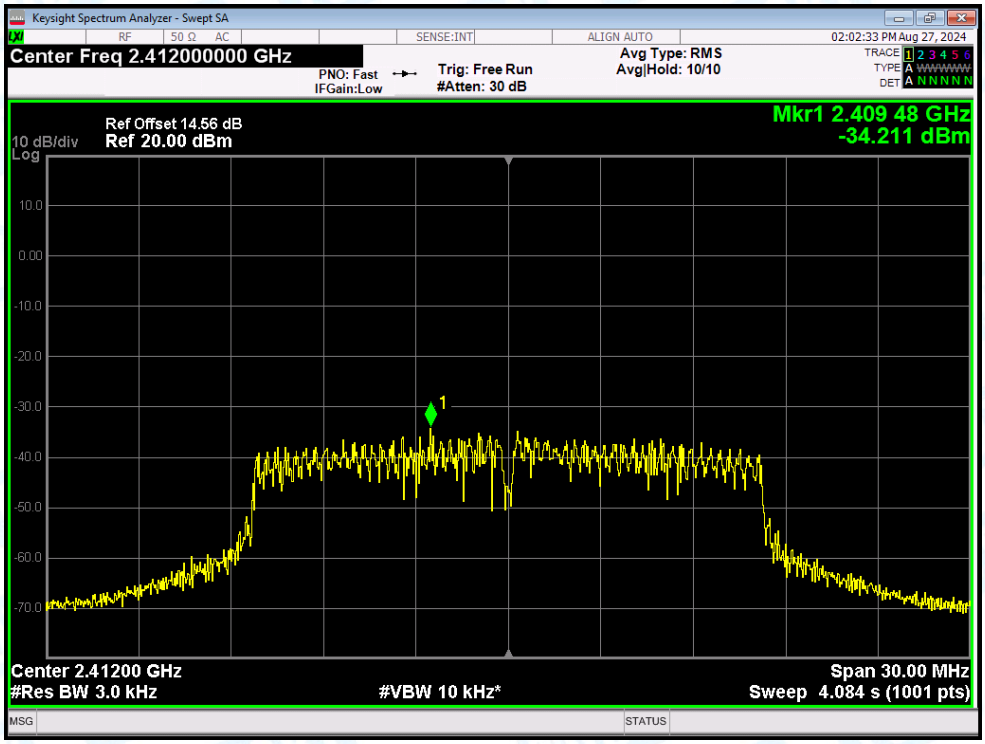
PSD NVNT b 2437MHz Ant1



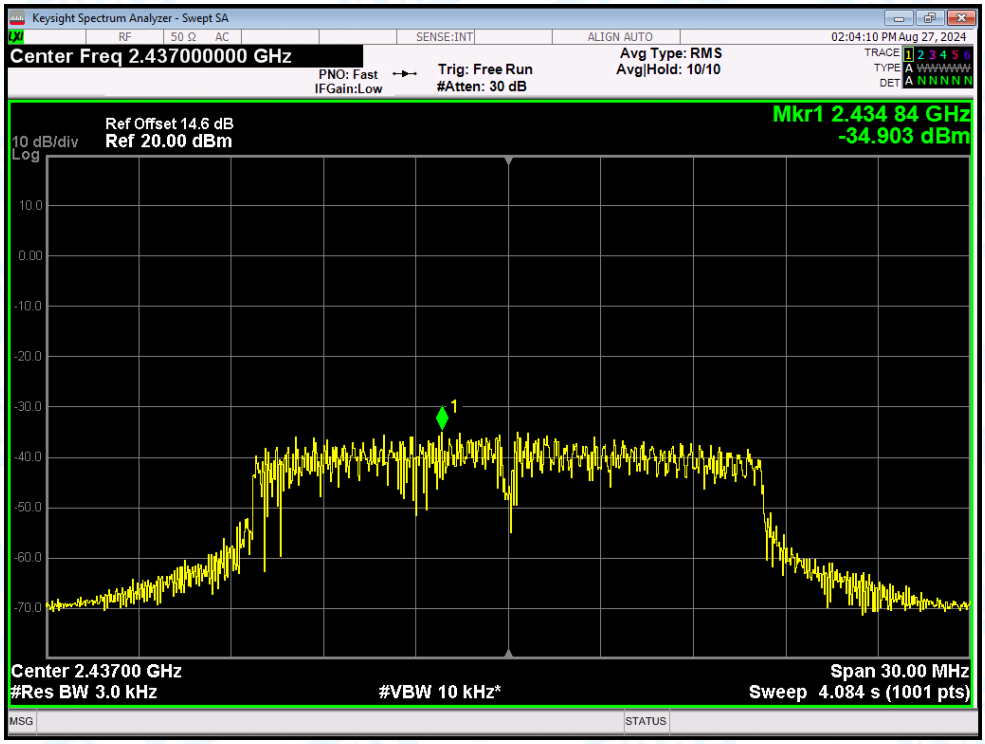
PSD NVNT b 2462MHz Ant1



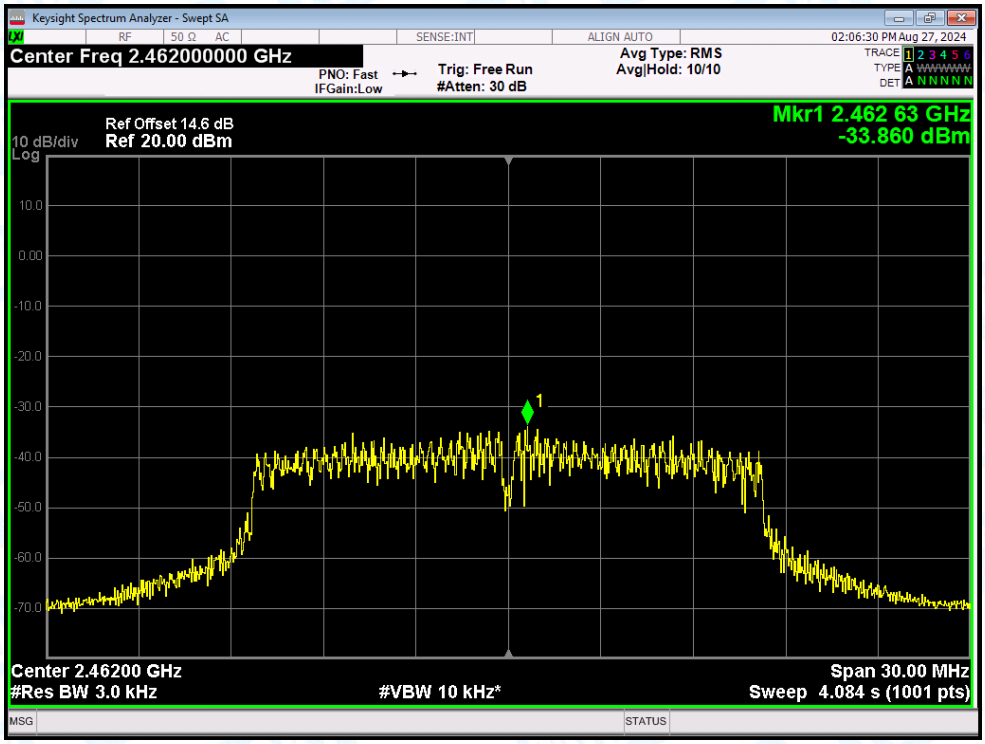
PSD NVNT g 2412MHz Ant1



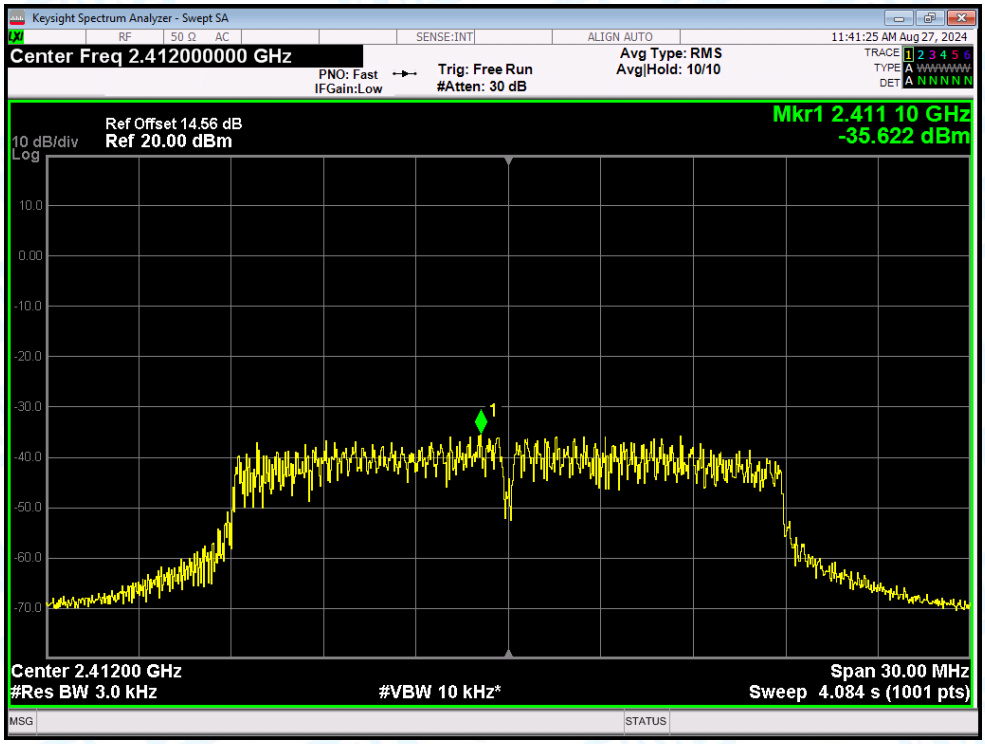
PSD NVNT g 2437MHz Ant1



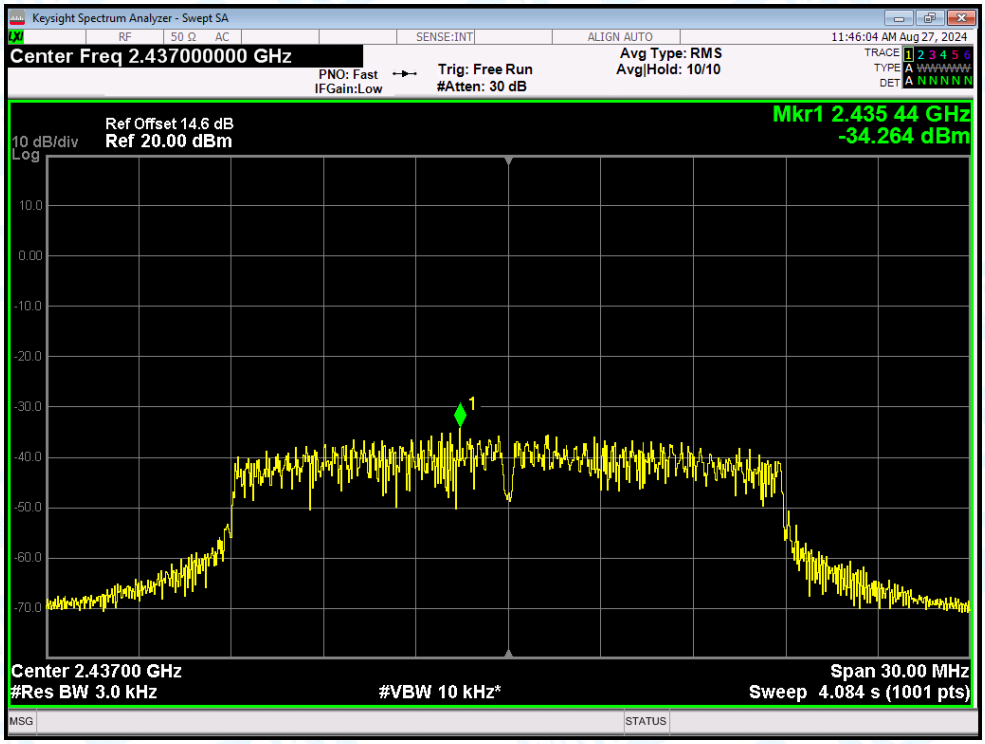
PSD NVNT g 2462MHz Ant1



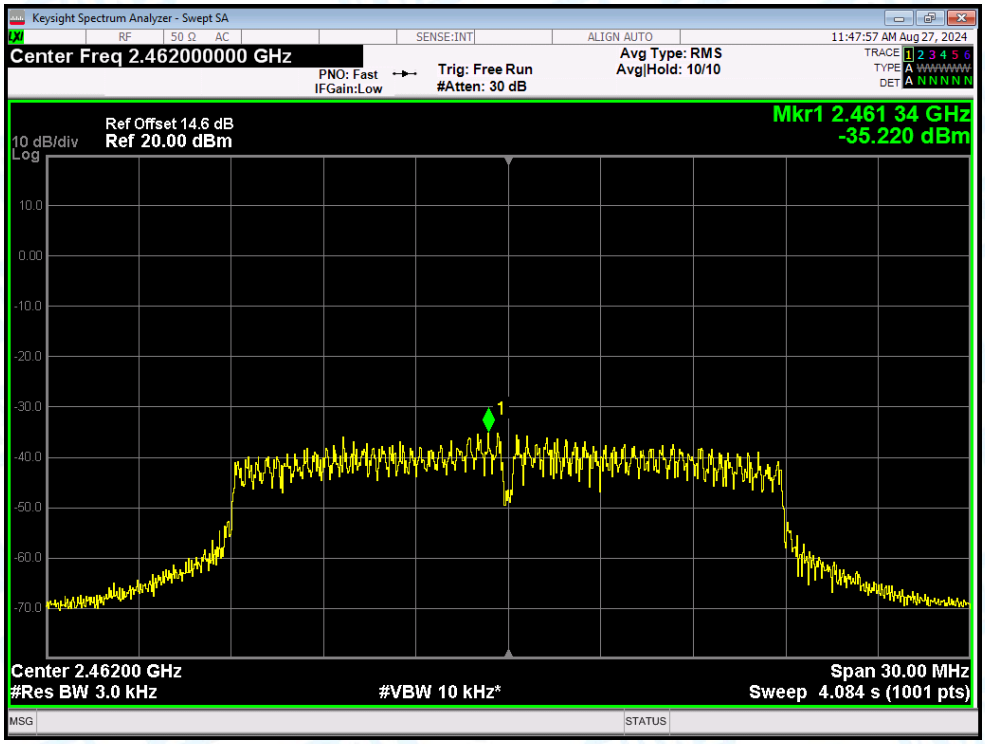
PSD NVNT n(HT20) 2412MHz Ant1



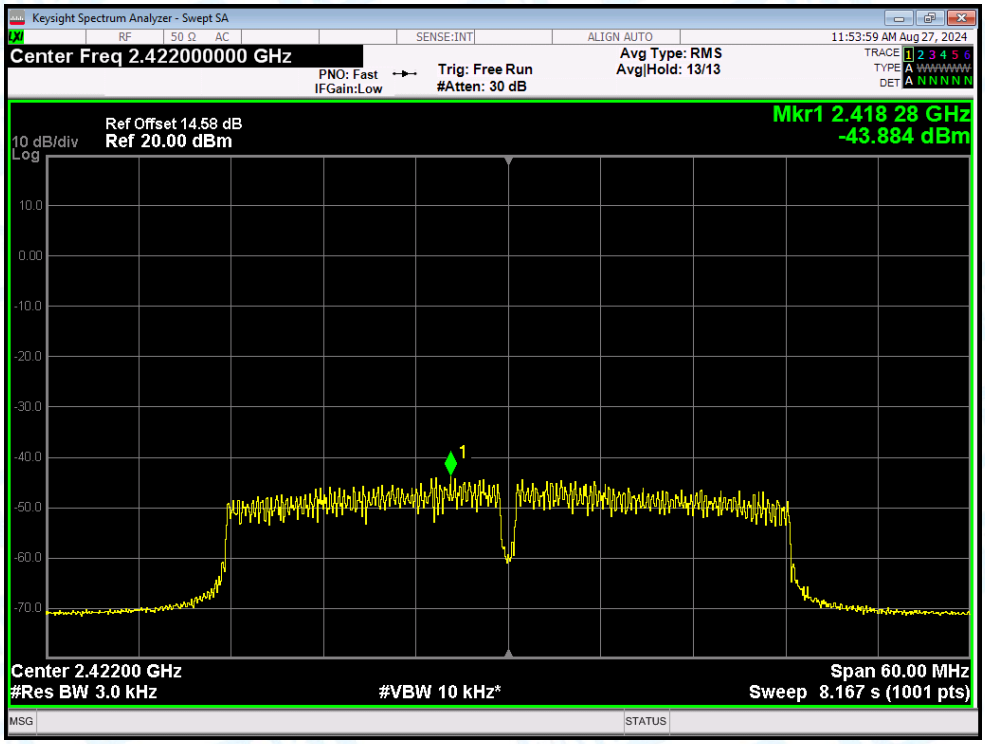
PSD NVNT n(HT20) 2437MHz Ant1



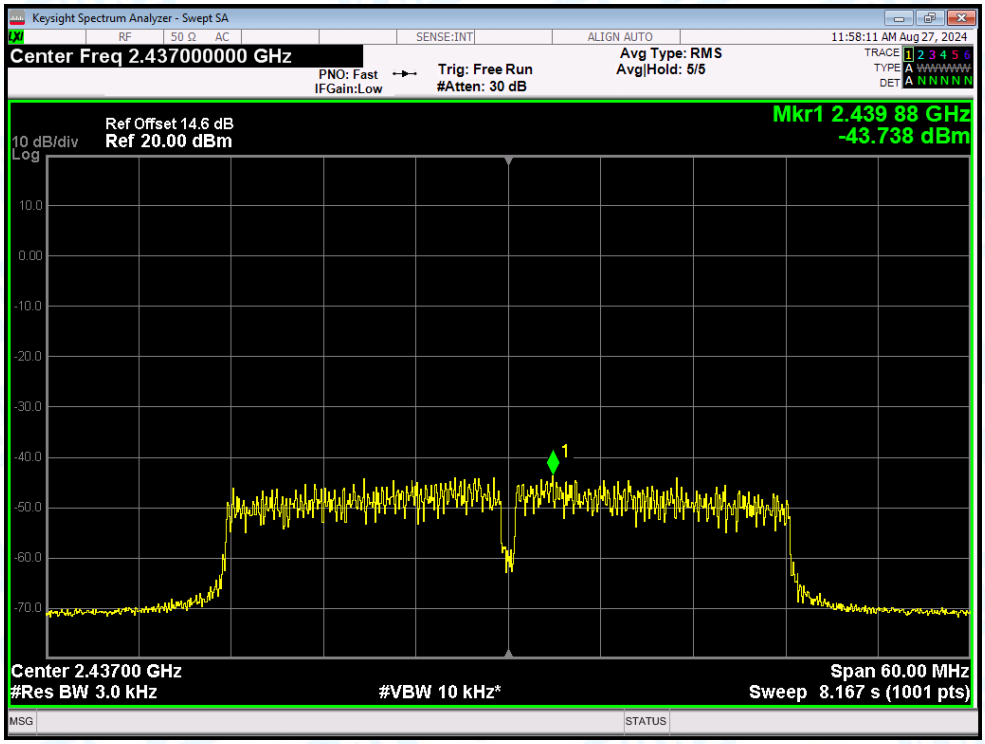
PSD NVNT n(HT20) 2462MHz Ant1



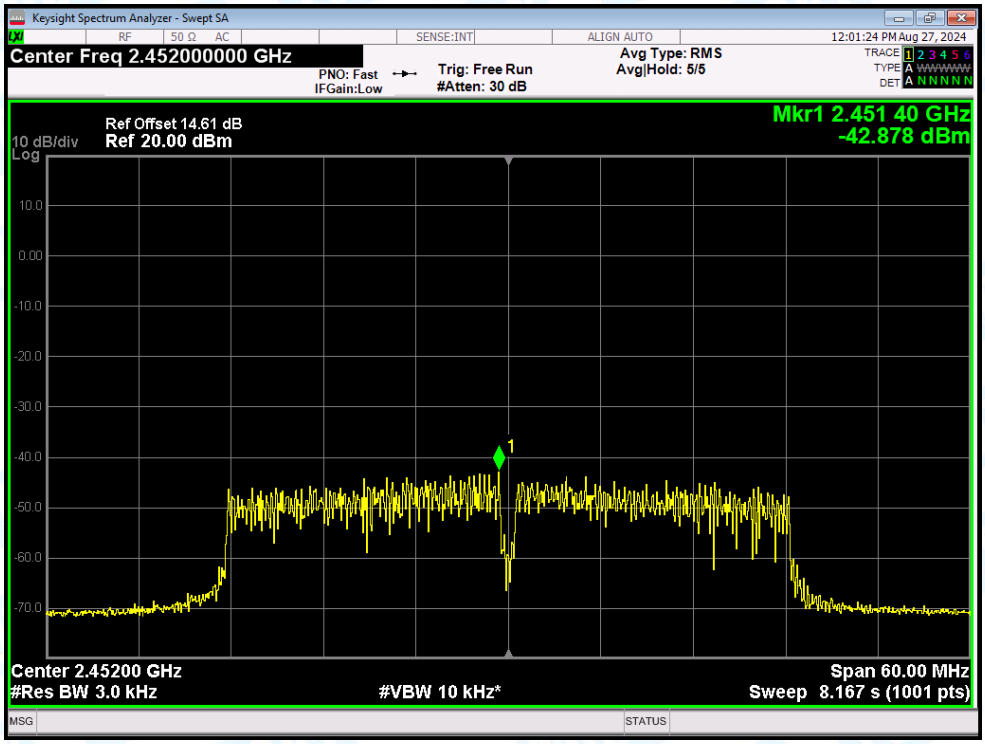
PSD NVNT n(HT40) 2422MHz Ant1



PSD NVNT n(HT40) 2437MHz Ant1



PSD NVNT n(HT40) 2452MHz Ant1

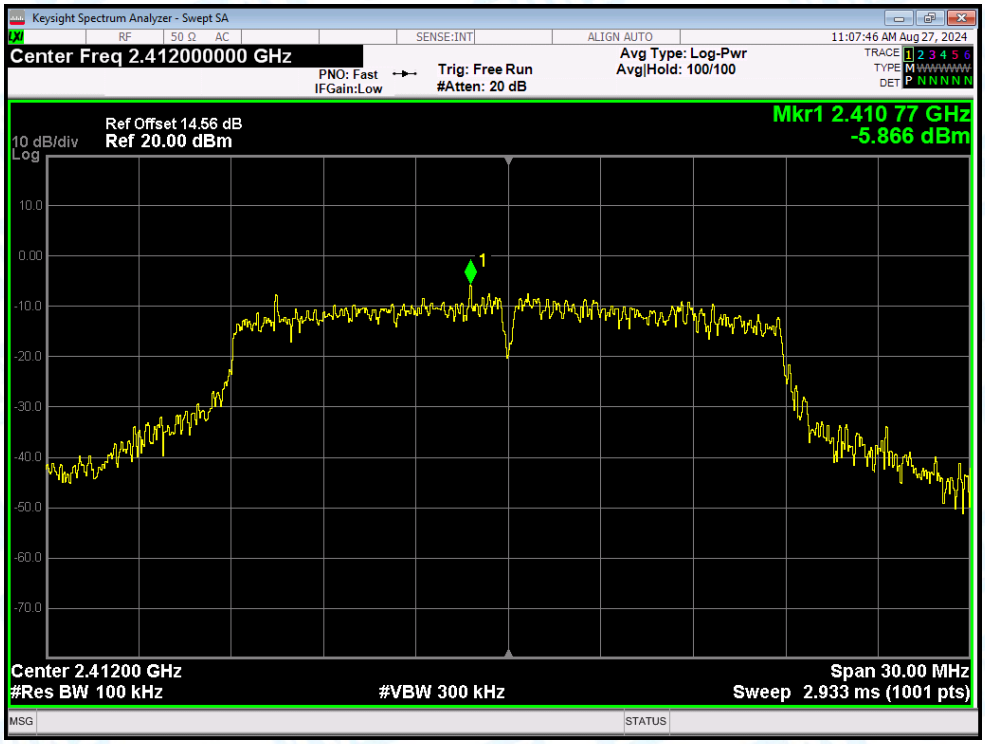


6. Band Edge

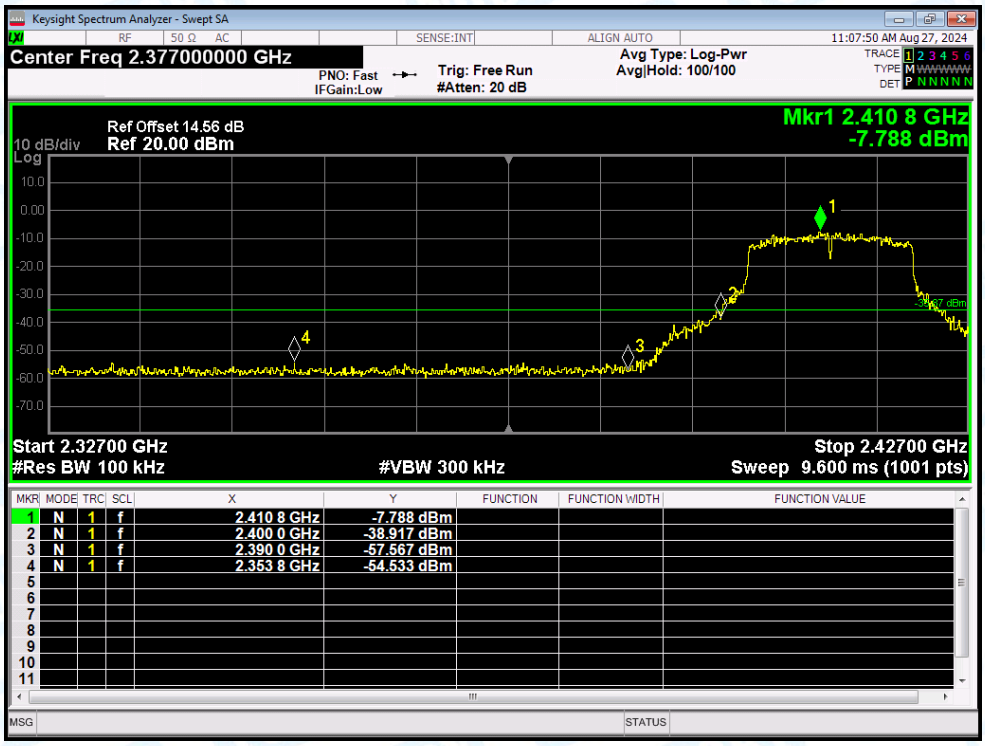
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ax(HE20)	2412	Ant1	-48.66	-30	Pass
NVNT	ax(HE20)	2462	Ant1	-37.01	-30	Pass
NVNT	ax(HE40)	2422	Ant1	-32.84	-30	Pass
NVNT	ax(HE40)	2452	Ant1	-32.24	-30	Pass
NVNT	b	2412	Ant1	-56.43	-30	Pass
NVNT	b	2462	Ant1	-58.49	-30	Pass
NVNT	g	2412	Ant1	-38.88	-30	Pass
NVNT	g	2462	Ant1	-38.43	-30	Pass
NVNT	n(HT20)	2412	Ant1	-39.16	-30	Pass
NVNT	n(HT20)	2462	Ant1	-38.25	-30	Pass
NVNT	n(HT40)	2422	Ant1	-41.09	-30	Pass
NVNT	n(HT40)	2452	Ant1	-35.24	-30	Pass

Test Graphs

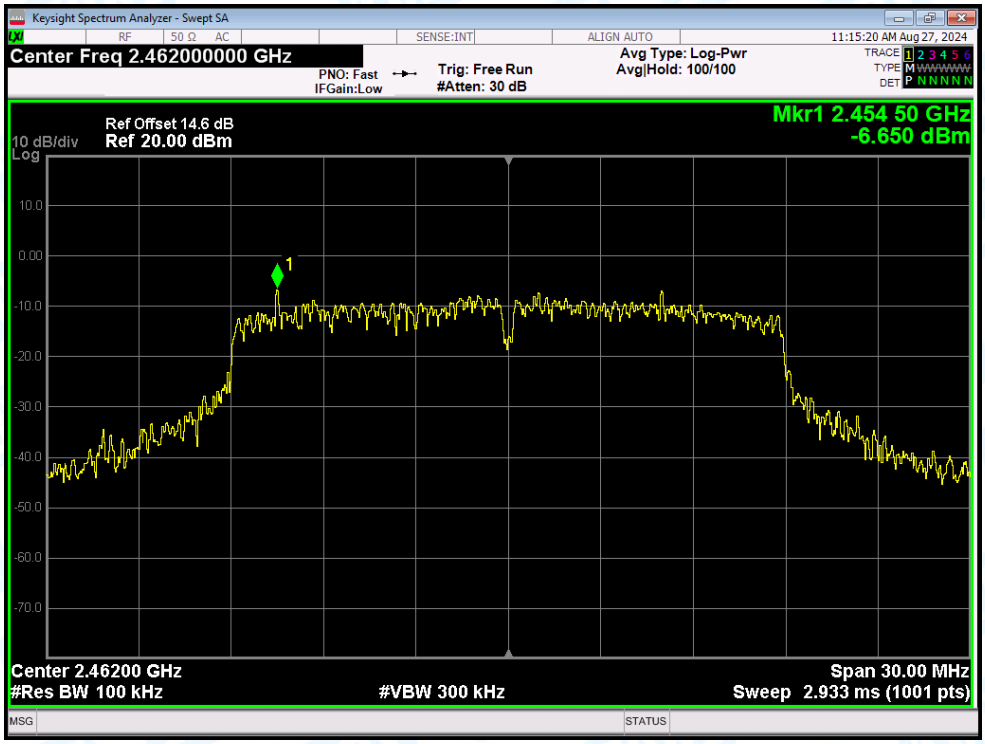
Band Edge NVNT ax(HE20) 2412MHz Ant1 Ref



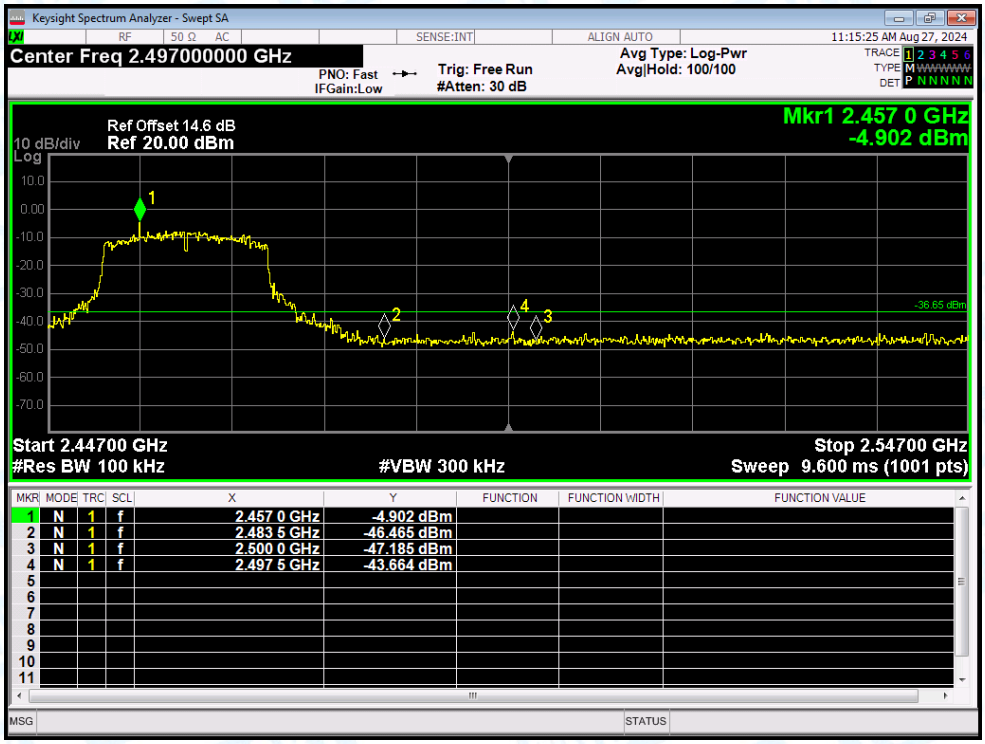
Band Edge NVNT ax(HE20) 2412MHz Ant1 Emission



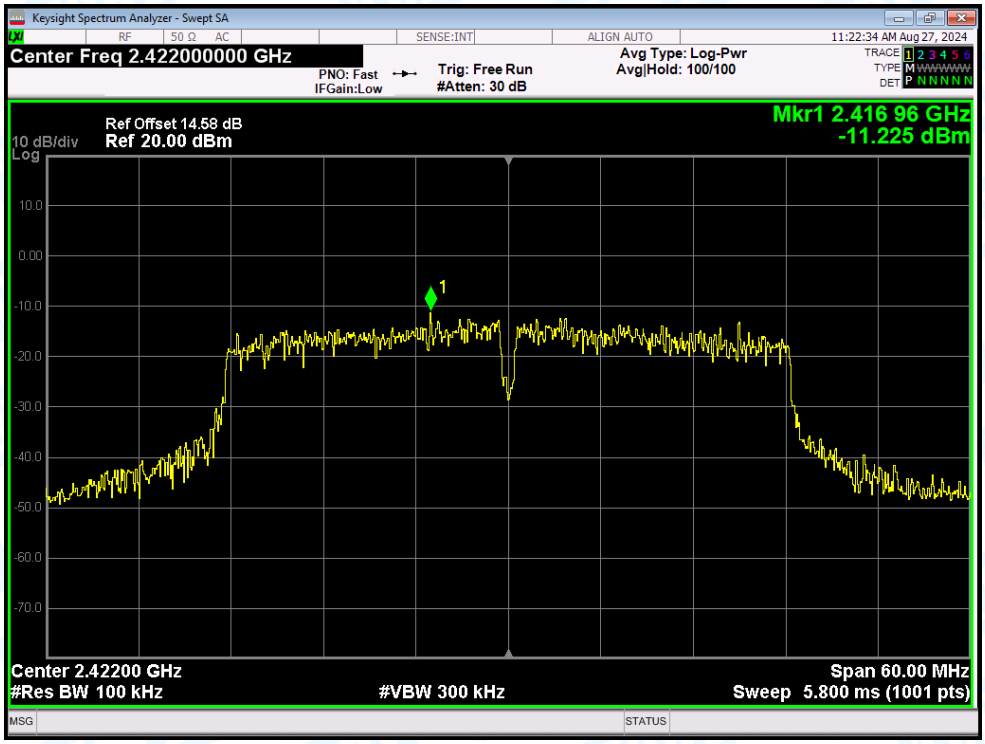
Band Edge NVNT ax(HE20) 2462MHz Ant1 Ref



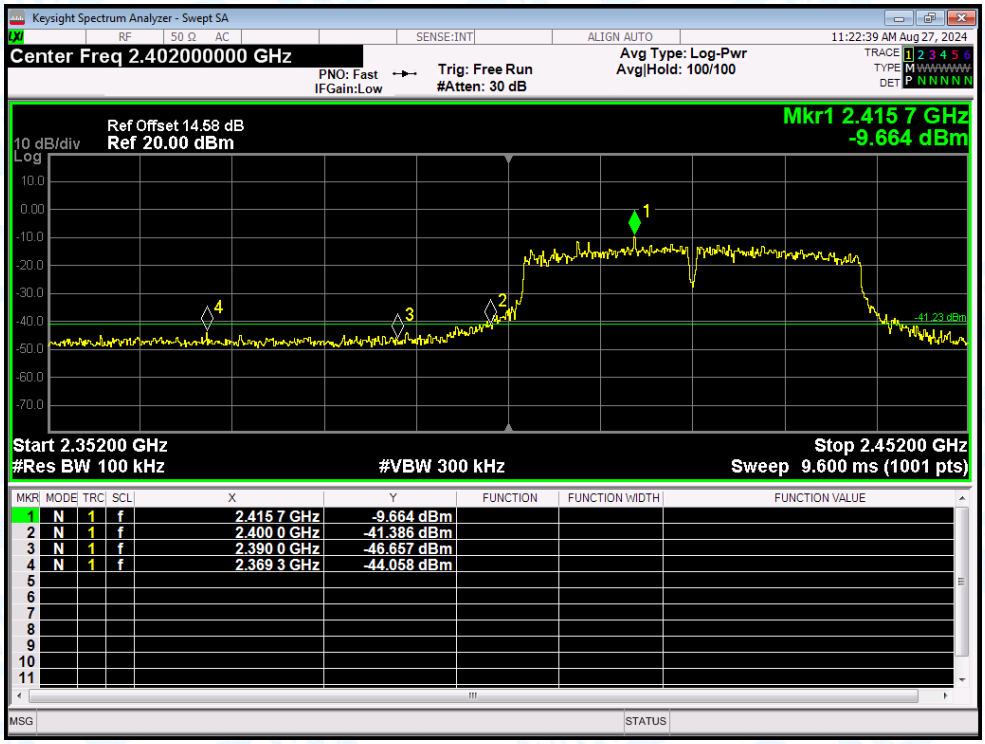
Band Edge NVNT ax(HE20) 2462MHz Ant1 Emission



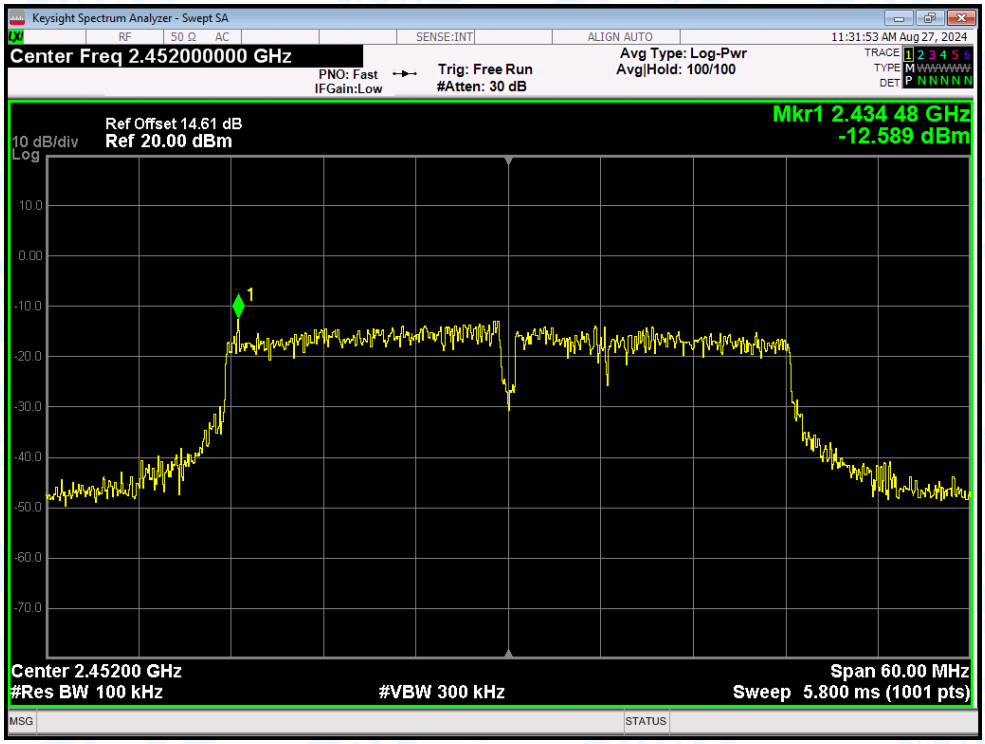
Band Edge NVNT ax(HE40) 2422MHz Ant1 Ref



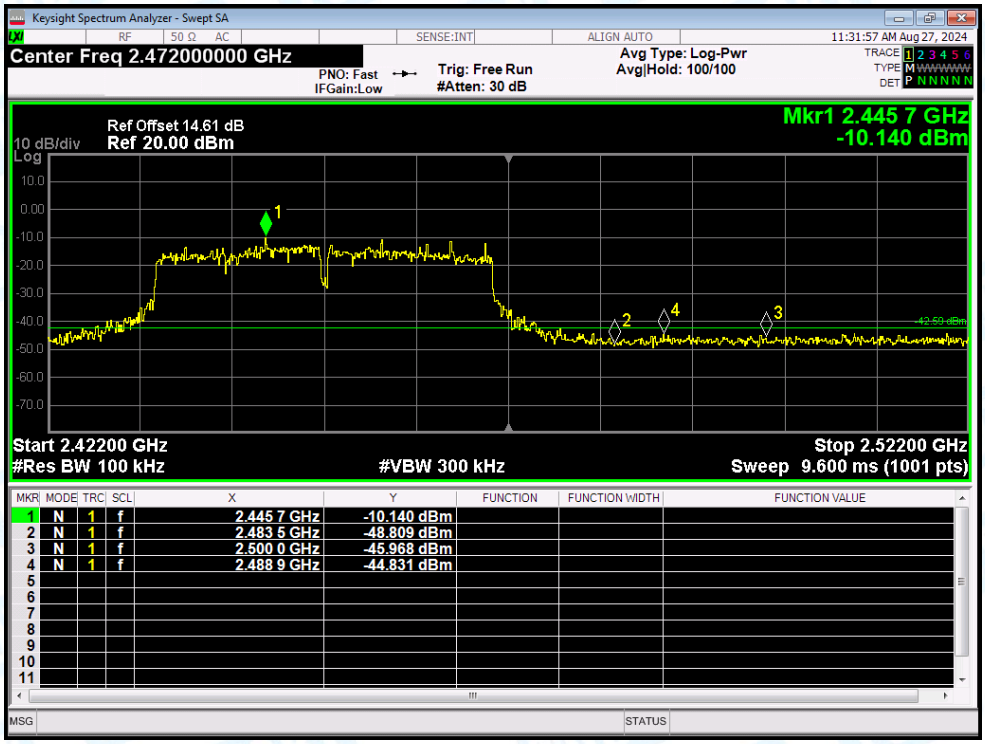
Band Edge NVNT ax(HE40) 2422MHz Ant1 Emission



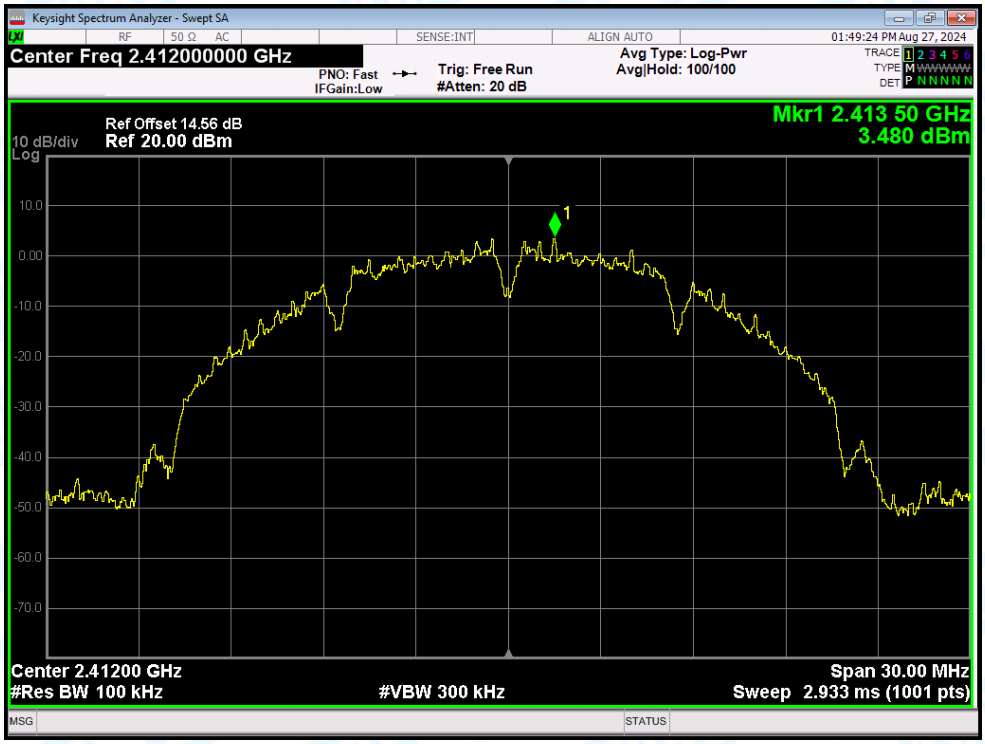
Band Edge NVNT ax(HE40) 2452MHz Ant1 Ref



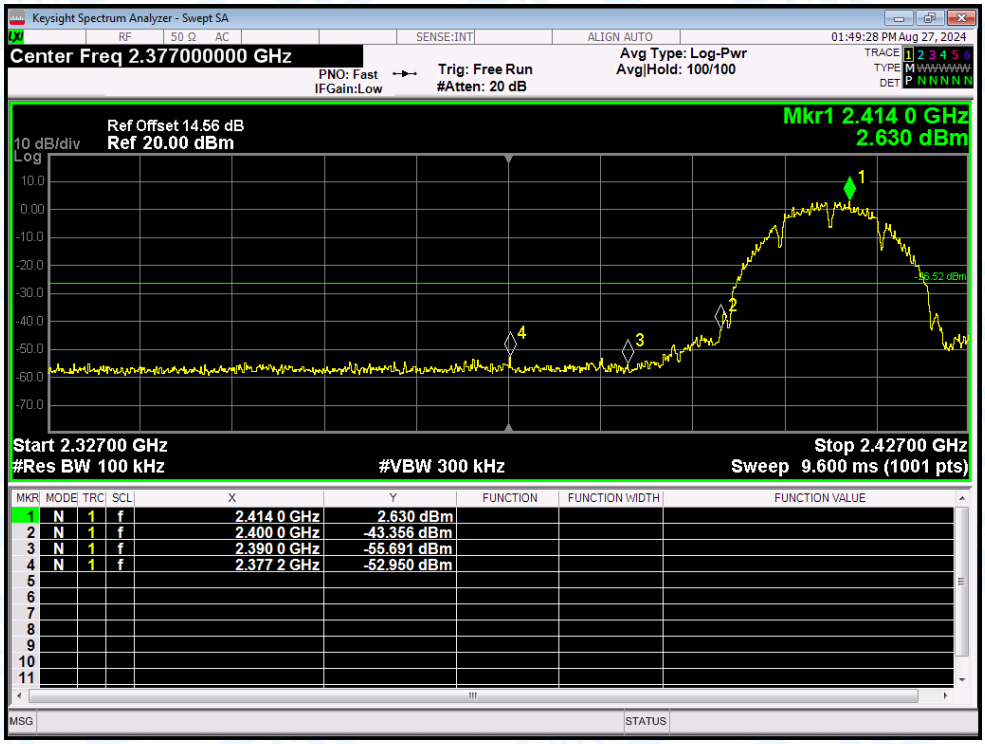
Band Edge NVNT ax(HE40) 2452MHz Ant1 Emission



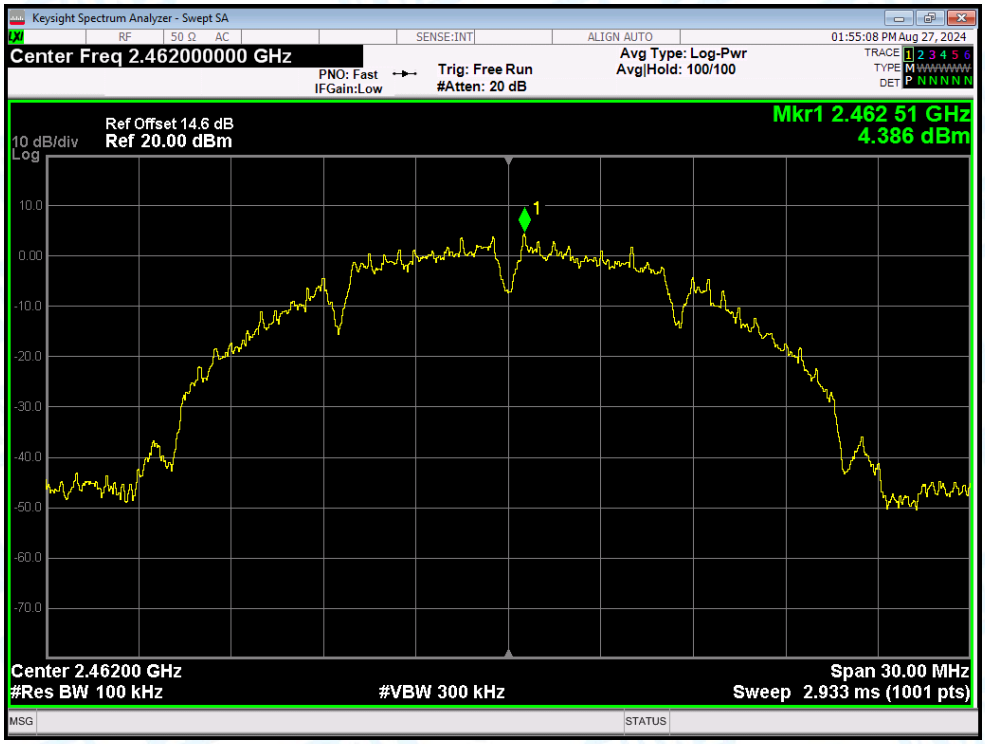
Band Edge NVNT b 2412MHz Ant1 Ref



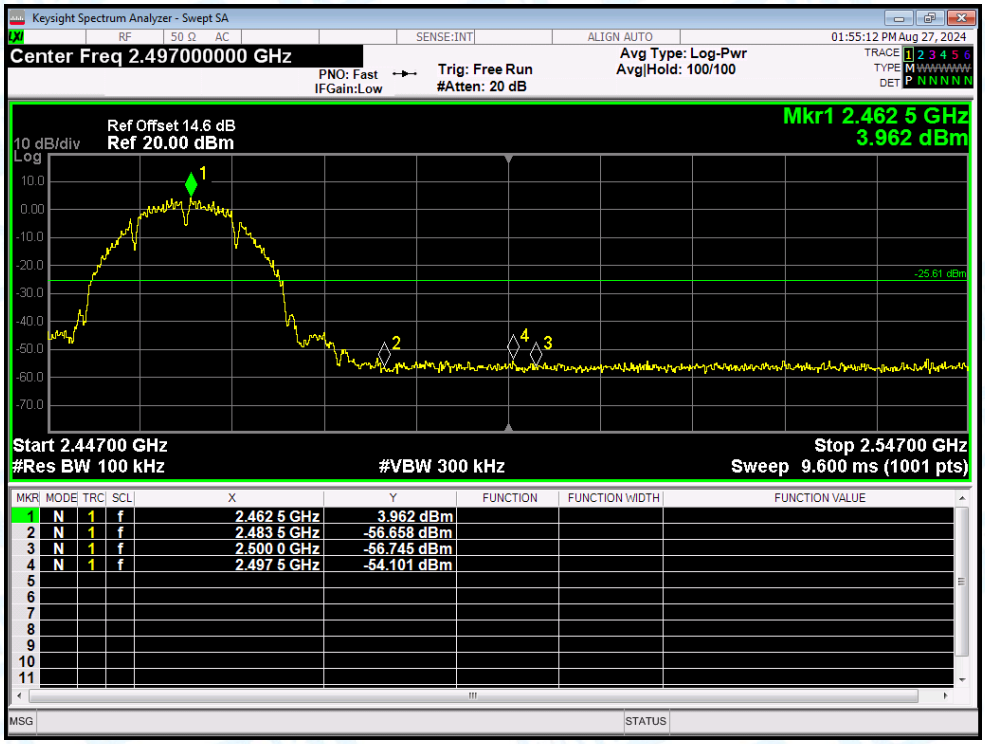
Band Edge NVNT b 2412MHz Ant1 Emission



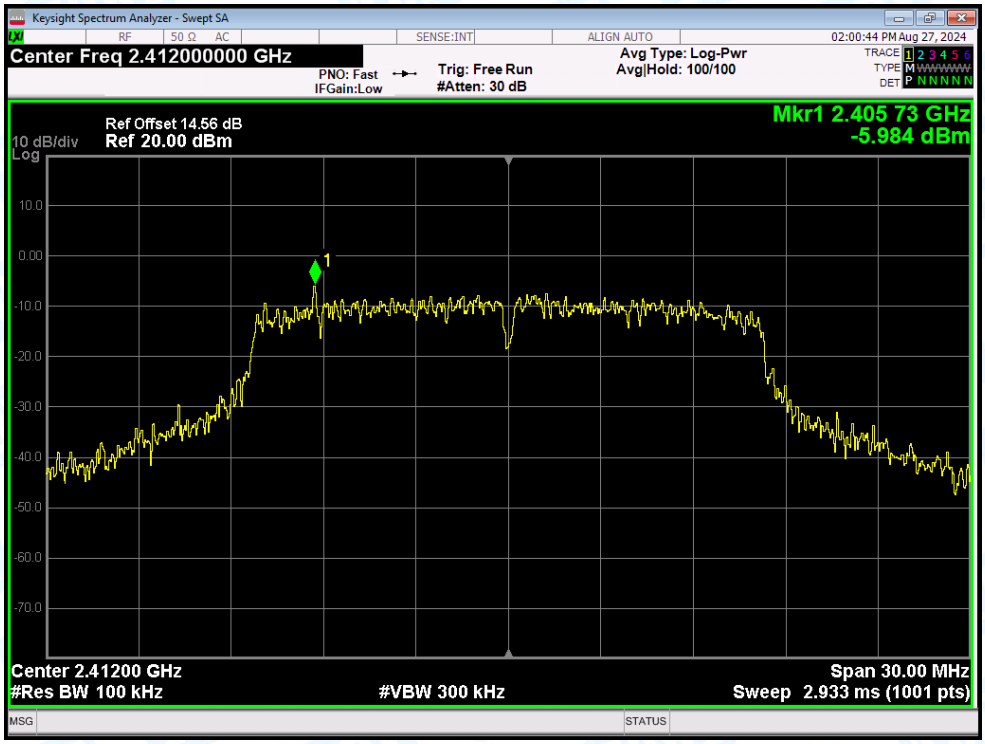
Band Edge NVNT b 2462MHz Ant1 Ref



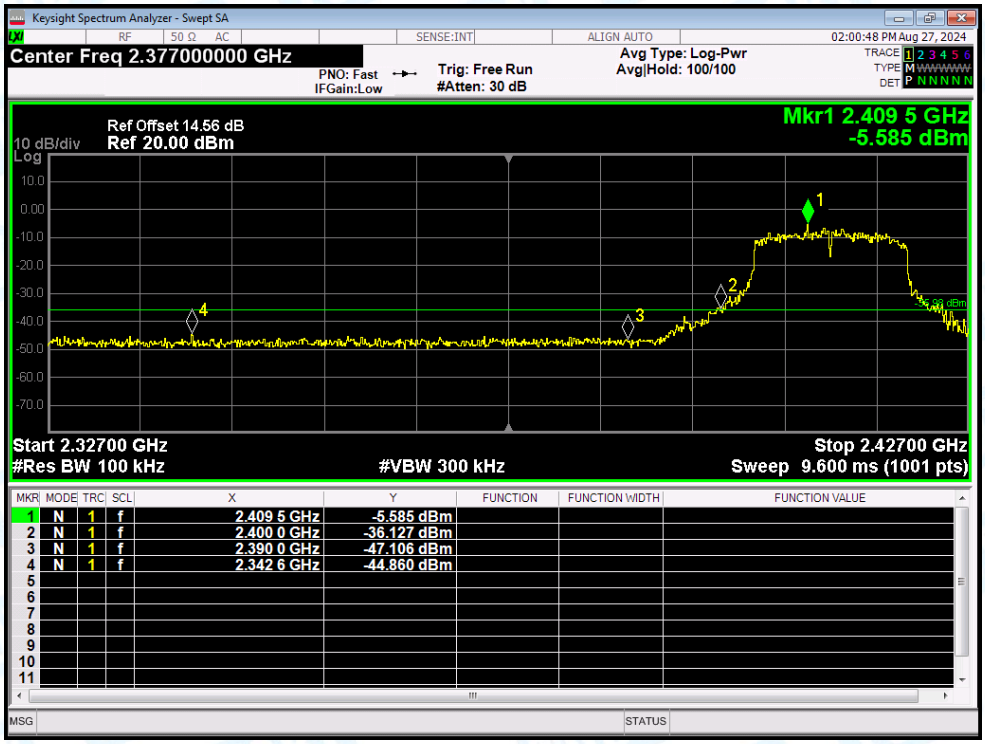
Band Edge NVNT b 2462MHz Ant1 Emission



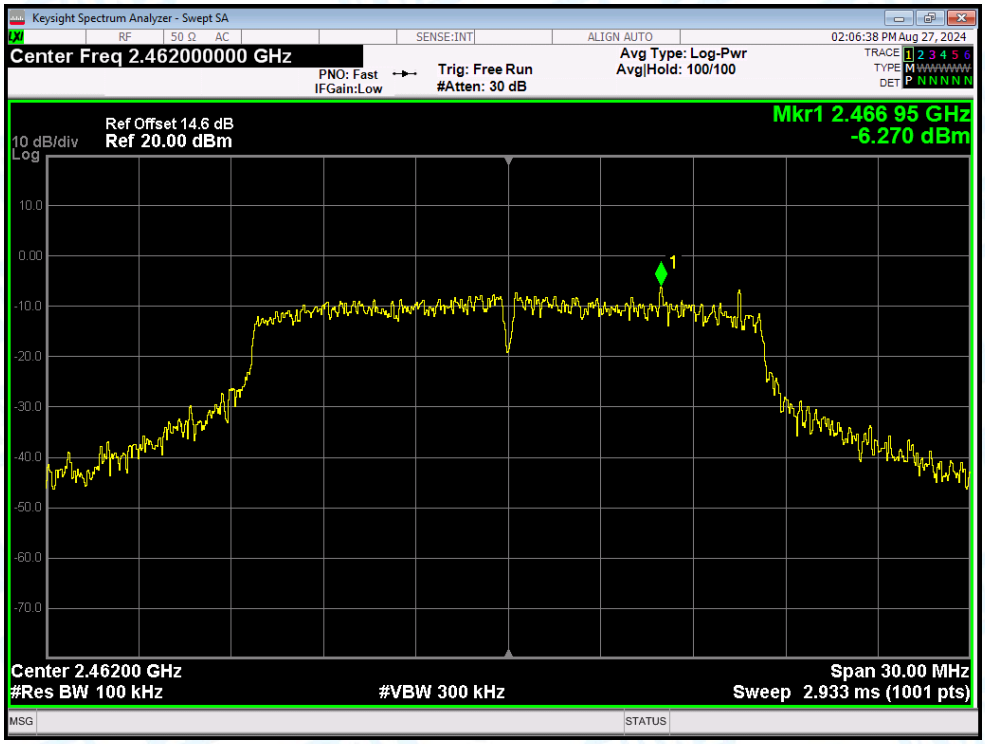
Band Edge NVNT g 2412MHz Ant1 Ref



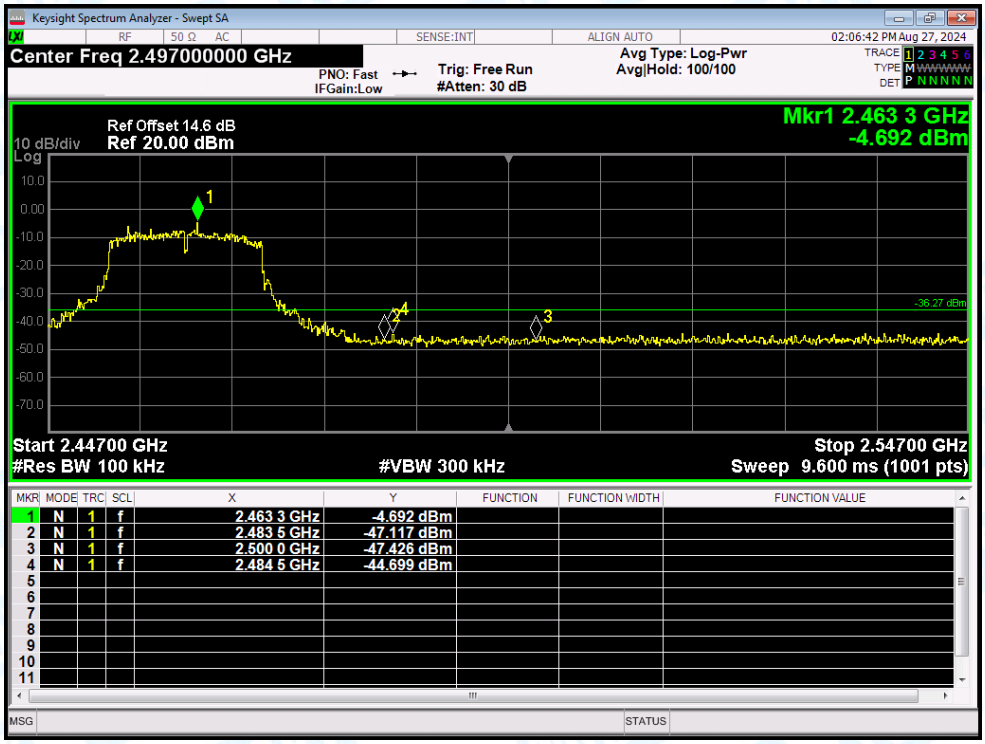
Band Edge NVNT g 2412MHz Ant1 Emission



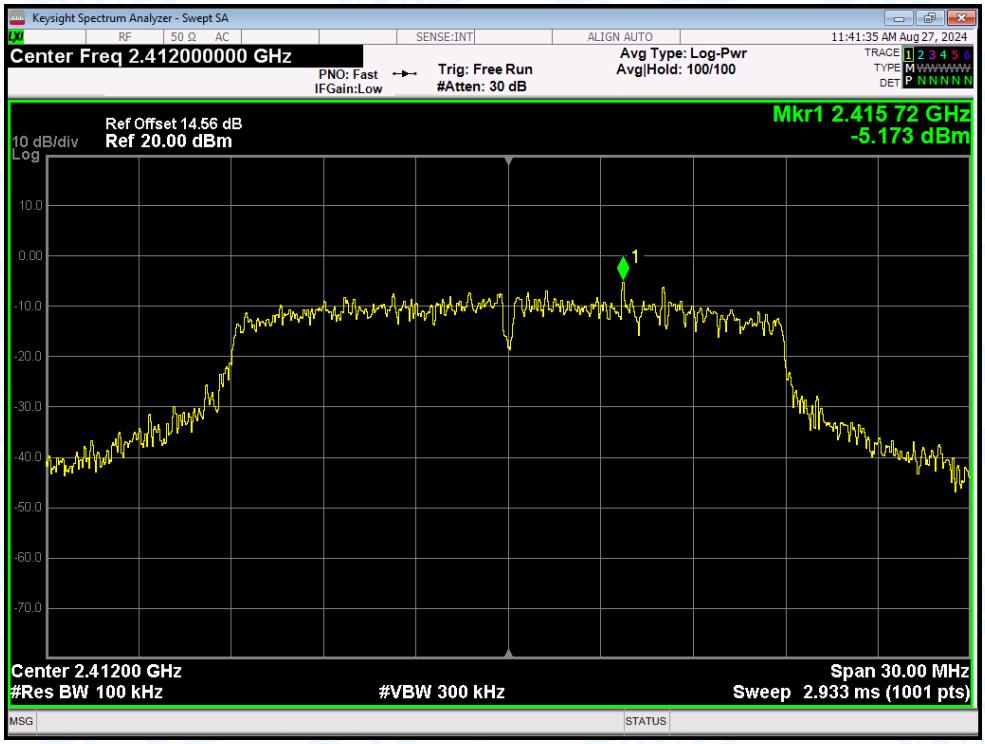
Band Edge NVNT g 2462MHz Ant1 Ref



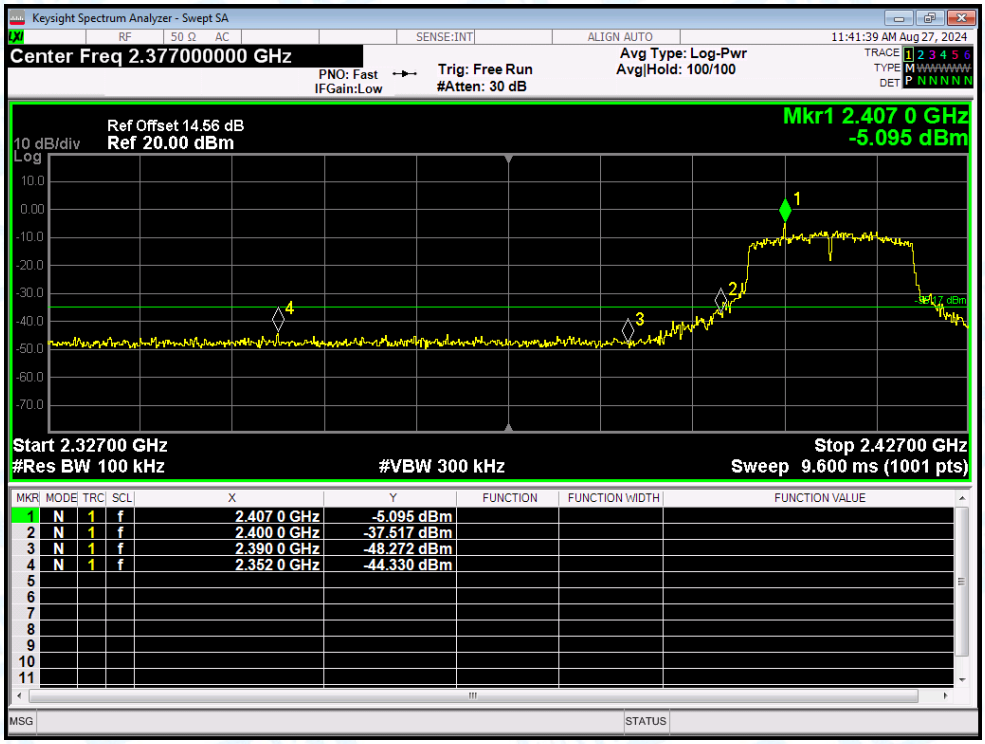
Band Edge NVNT g 2462MHz Ant1 Emission



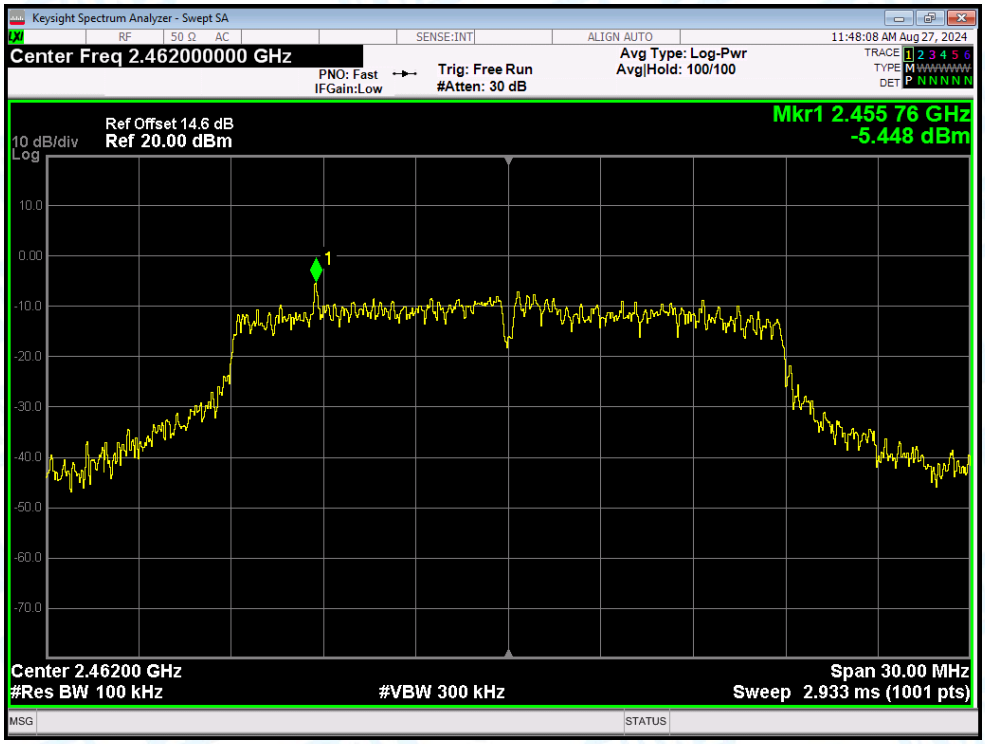
Band Edge NVNT n(HT20) 2412MHz Ant1 Ref



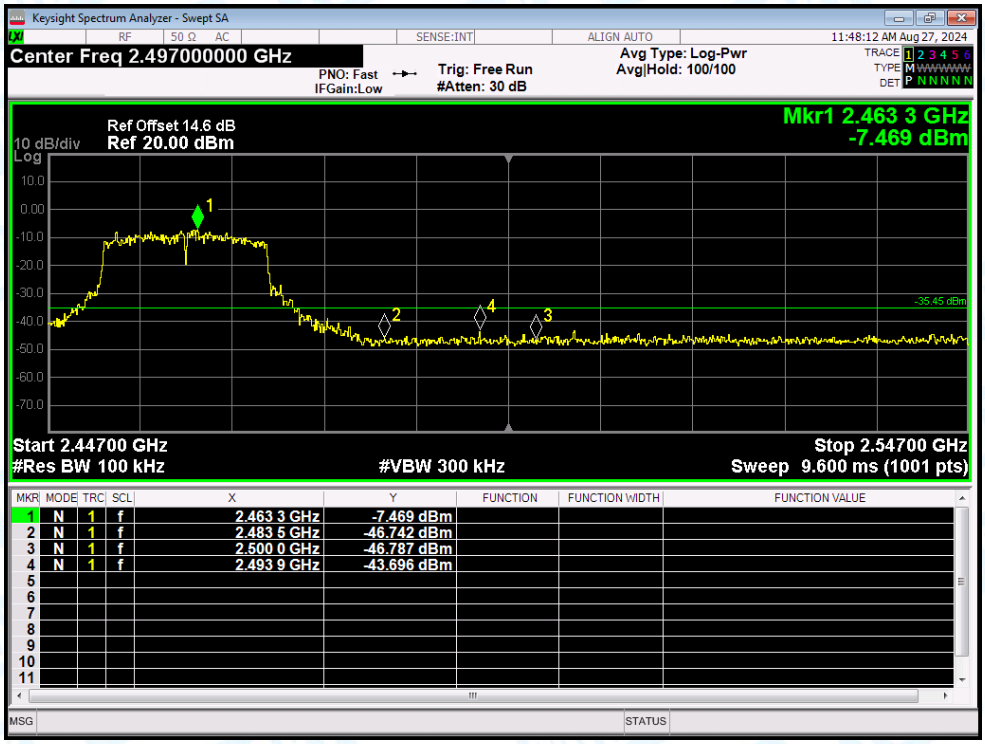
Band Edge NVNT n(HT20) 2412MHz Ant1 Emission



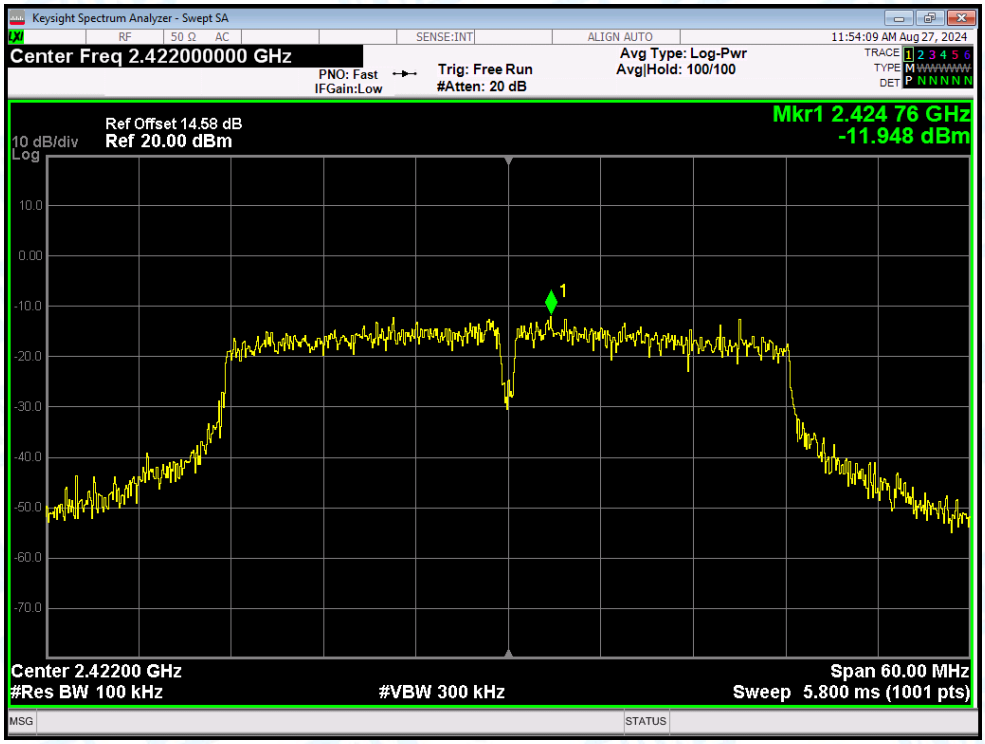
Band Edge NVNT n(HT20) 2462MHz Ant1 Ref



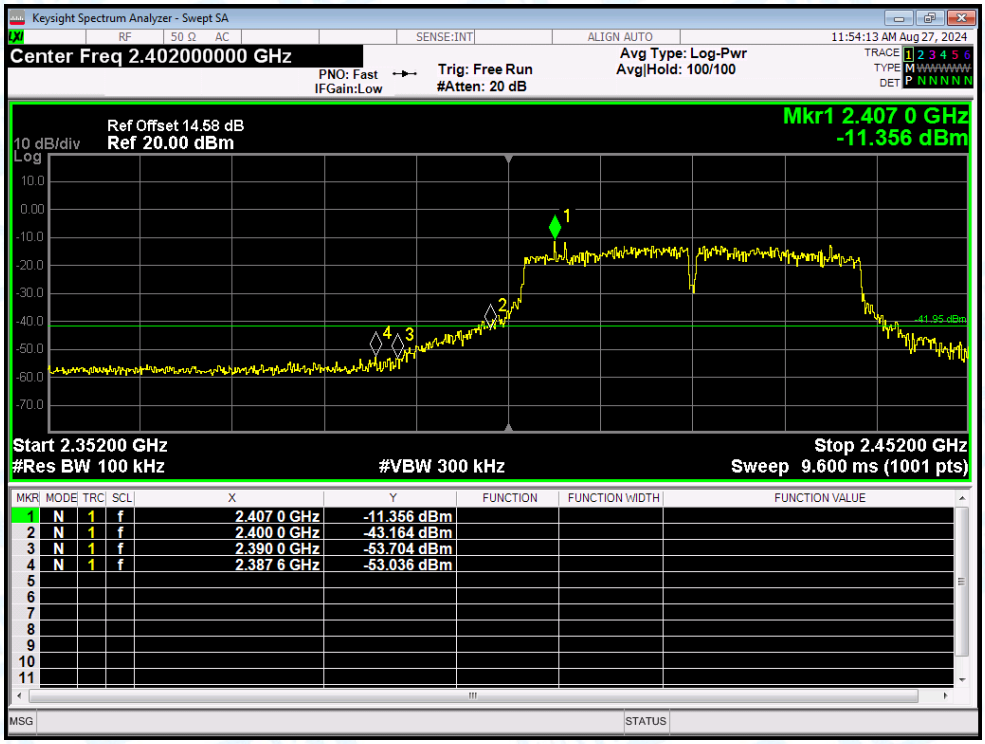
Band Edge NVNT n(HT20) 2462MHz Ant1 Emission



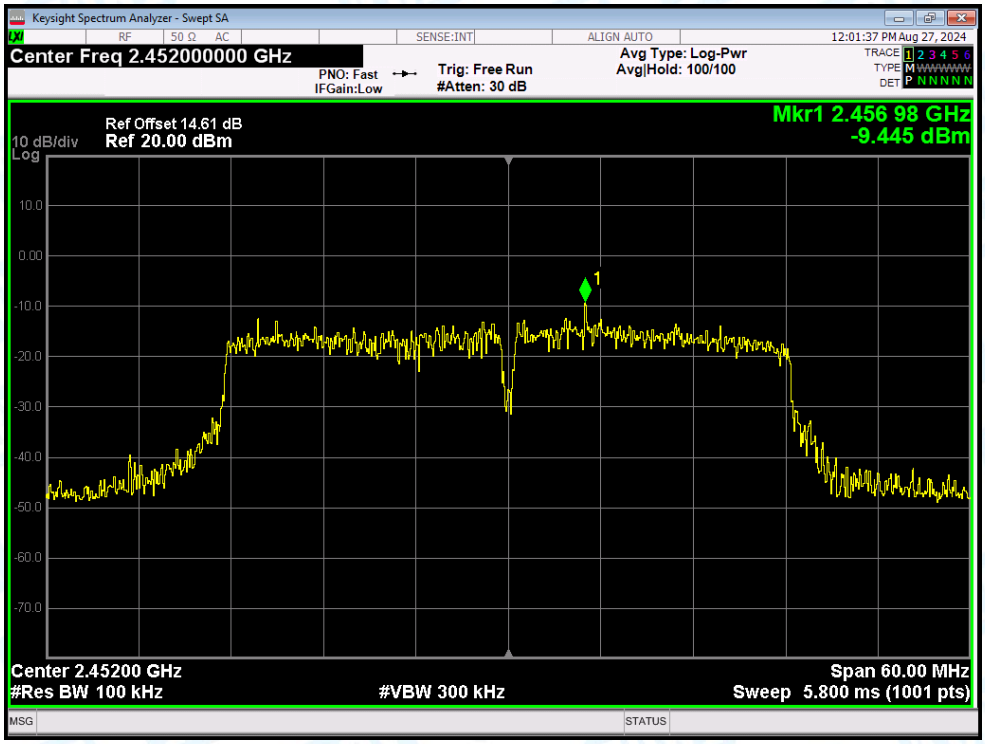
Band Edge NVNT n(HT40) 2422MHz Ant1 Ref



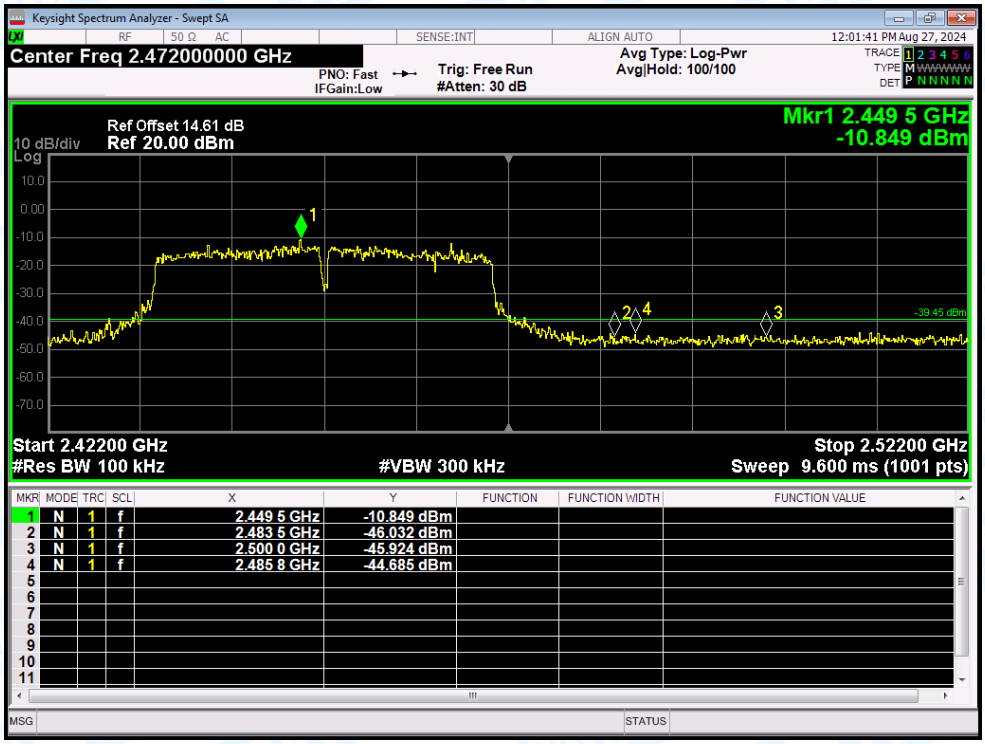
Band Edge NVNT n(HT40) 2422MHz Ant1 Emission



Band Edge NVNT n(HT40) 2452MHz Ant1 Ref



Band Edge NVNT n(HT40) 2452MHz Ant1 Emission

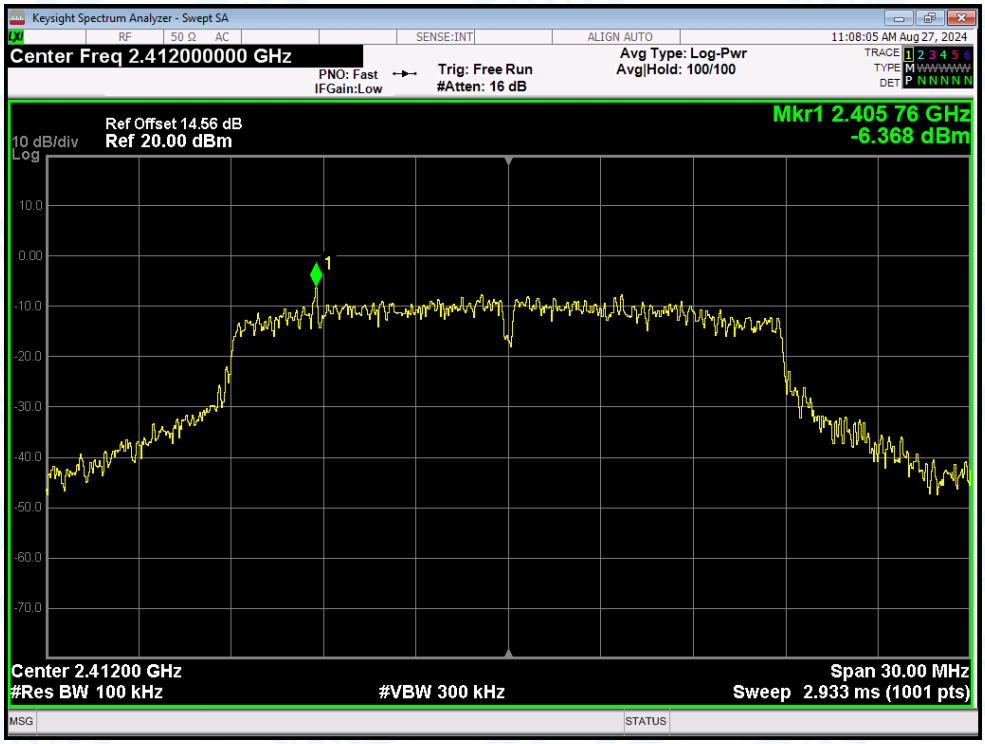


7. Conducted RF Spurious Emission

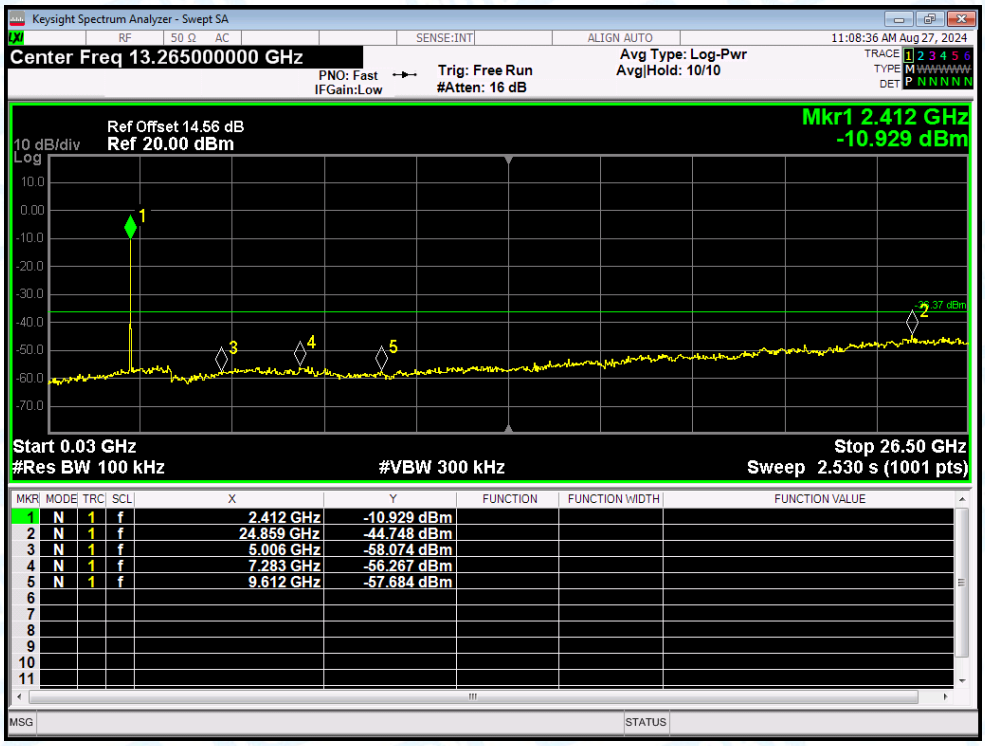
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	ax(HE20)	2412	Ant1	-38.38	-30	Pass
NVNT	ax(HE20)	2437	Ant1	-38.93	-30	Pass
NVNT	ax(HE20)	2462	Ant1	-40.35	-30	Pass
NVNT	ax(HE40)	2422	Ant1	-32.87	-30	Pass
NVNT	ax(HE40)	2437	Ant1	-36.33	-30	Pass
NVNT	ax(HE40)	2452	Ant1	-33.73	-30	Pass
NVNT	b	2412	Ant1	-48.66	-30	Pass
NVNT	b	2437	Ant1	-48.07	-30	Pass
NVNT	b	2462	Ant1	-49.25	-30	Pass
NVNT	g	2412	Ant1	-39.05	-30	Pass
NVNT	g	2437	Ant1	-38.55	-30	Pass
NVNT	g	2462	Ant1	-38.13	-30	Pass
NVNT	n(HT20)	2412	Ant1	-37.92	-30	Pass
NVNT	n(HT20)	2437	Ant1	-41.33	-30	Pass
NVNT	n(HT20)	2462	Ant1	-37.42	-30	Pass
NVNT	n(HT40)	2422	Ant1	-36.1	-30	Pass
NVNT	n(HT40)	2437	Ant1	-34.6	-30	Pass
NVNT	n(HT40)	2452	Ant1	-36.05	-30	Pass

Test Graphs

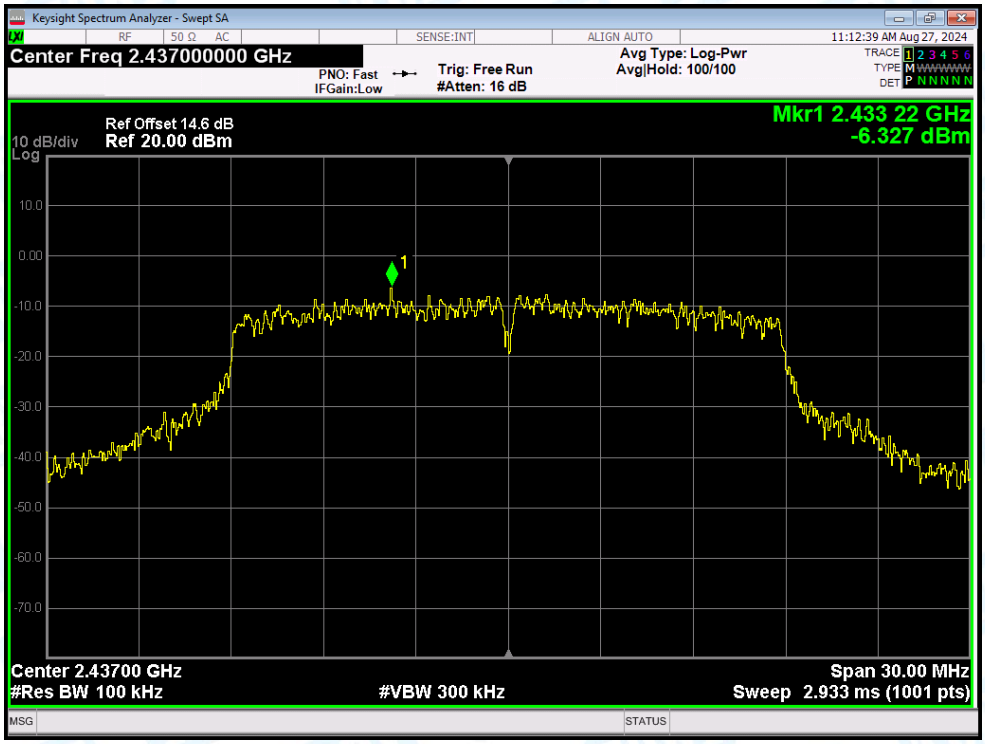
Tx. Spurious NVNT ax(HE20) 2412MHz Ant1 Ref



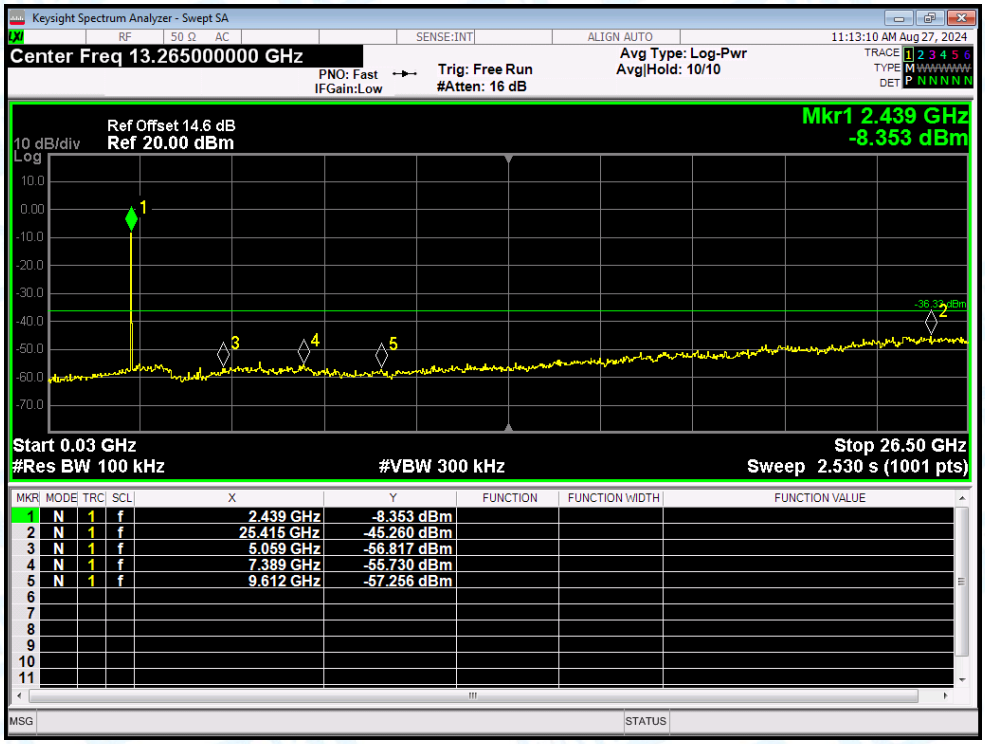
Tx. Spurious NVNT ax(HE20) 2412MHz Ant1 Emission



Tx. Spurious NVNT ax(HE20) 2437MHz Ant1 Ref

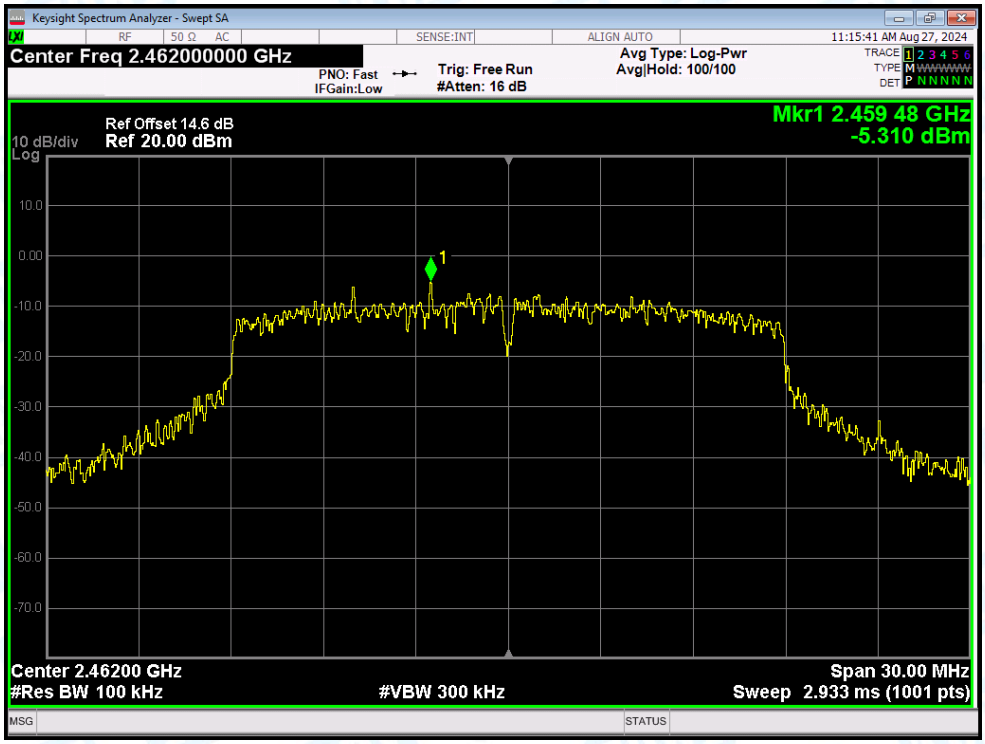


Tx. Spurious NVNT ax(HE20) 2437MHz Ant1 Emission

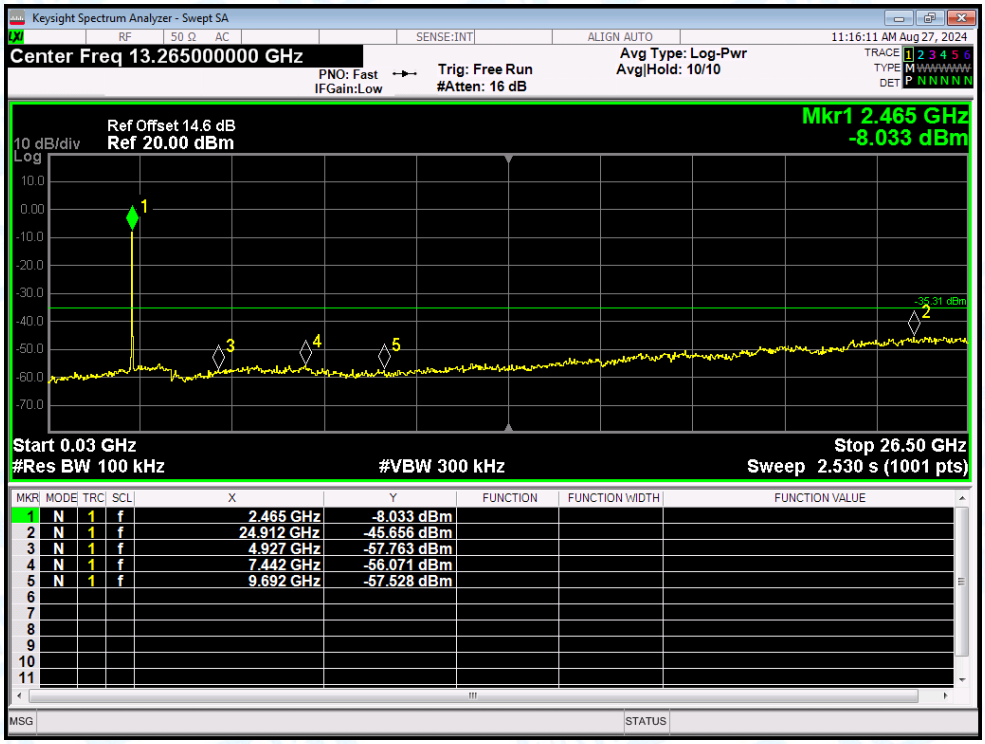


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 GHz	-8.353 dBm			
2	N	1	f	25.415 GHz	-45.260 dBm			
3	N	1	f	5.059 GHz	-56.817 dBm			
4	N	1	f	7.389 GHz	-55.730 dBm			
5	N	1	f	9.612 GHz	-57.256 dBm			
6								
7								
8								
9								
10								
11								

Tx. Spurious NVNT ax(HE20) 2462MHz Ant1 Ref

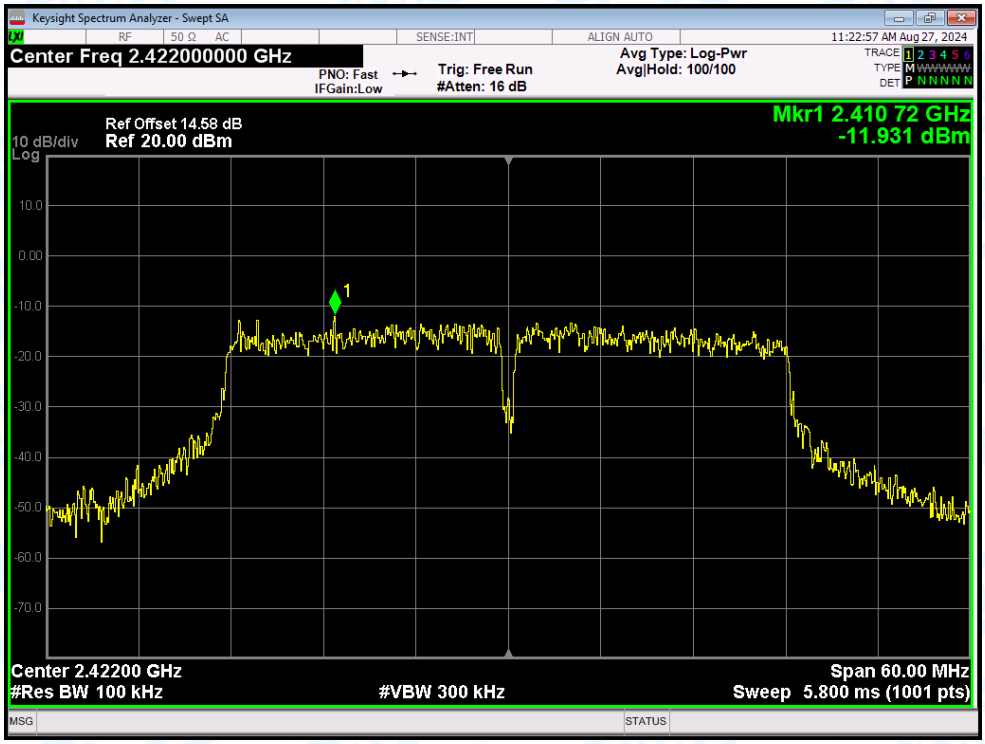


Tx. Spurious NVNT ax(HE20) 2462MHz Ant1 Emission

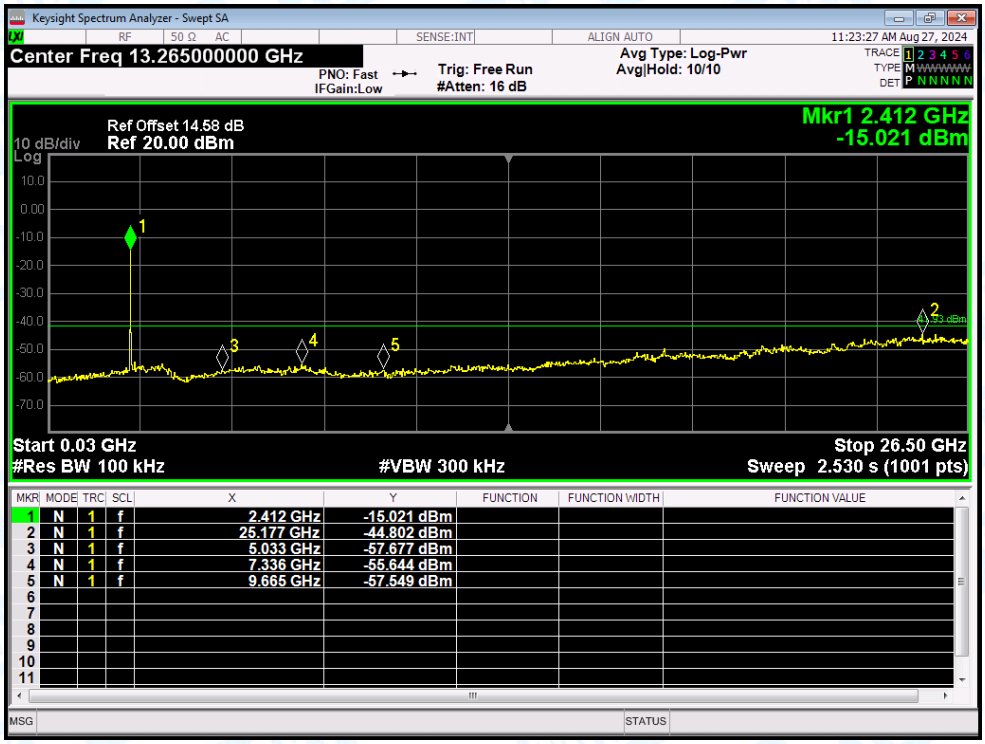


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.465 GHz	-8.033 dBm			
2	N	1	f	24.912 GHz	-45.656 dBm			
3	N	1	f	4.927 GHz	-57.763 dBm			
4	N	1	f	7.442 GHz	-56.071 dBm			
5	N	1	f	9.692 GHz	-57.528 dBm			
6								
7								
8								
9								
10								
11								

Tx. Spurious NVNT ax(HE40) 2422MHz Ant1 Ref

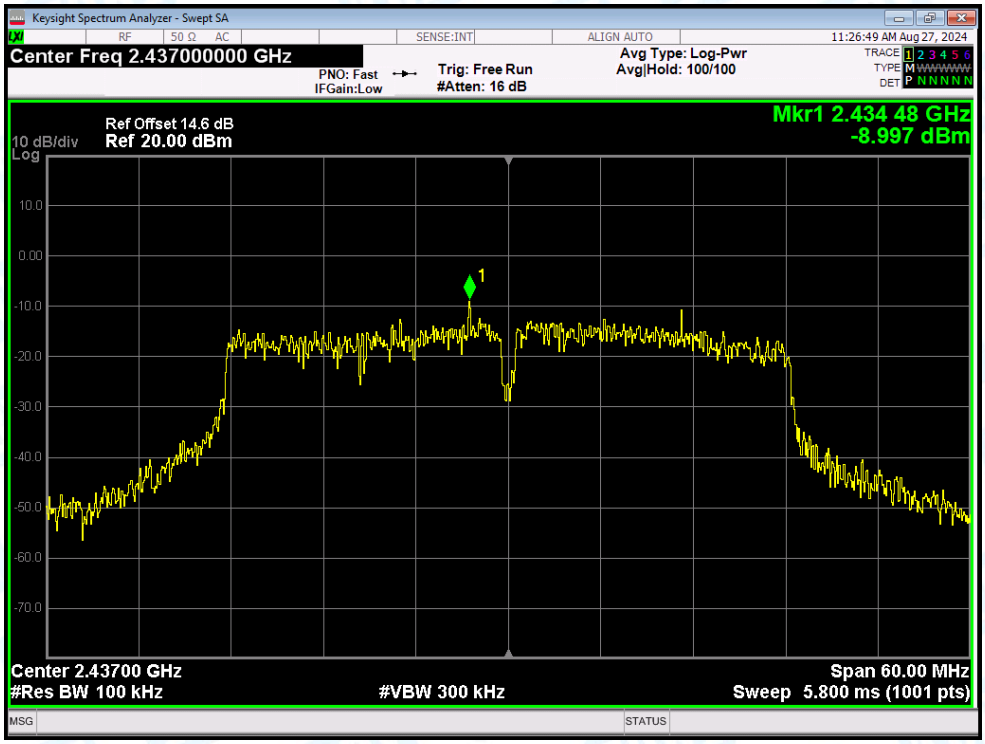
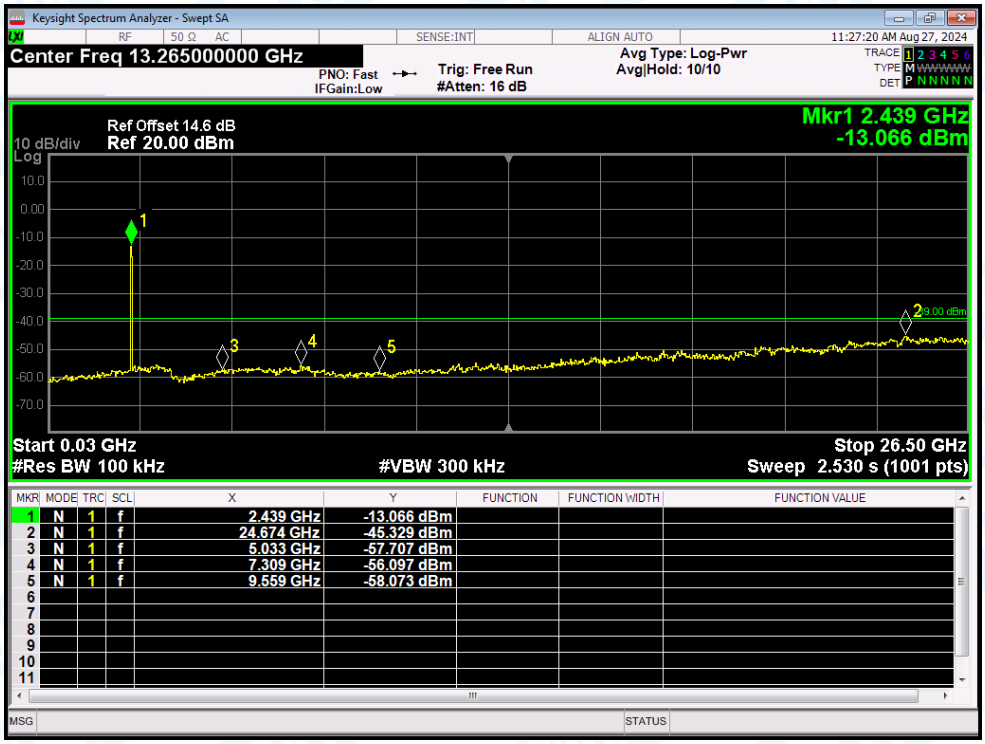


Tx. Spurious NVNT ax(HE40) 2422MHz Ant1 Emission



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.412 GHz	-15.021 dBm			
2	N	1	f	25.177 GHz	-44.802 dBm			
3	N	1	f	5.033 GHz	-57.677 dBm			
4	N	1	f	7.336 GHz	-55.644 dBm			
5	N	1	f	9.665 GHz	-57.549 dBm			
6								
7								
8								
9								
10								
11								

Tx. Spurious NVNT ax(HE40) 2437MHz Ant1 Ref



Tx. Spurious NVNT ax(HE40) 2437MHz Ant1 Emission