RF Test Data for 2.4G WiFi (Conducted Measurements)

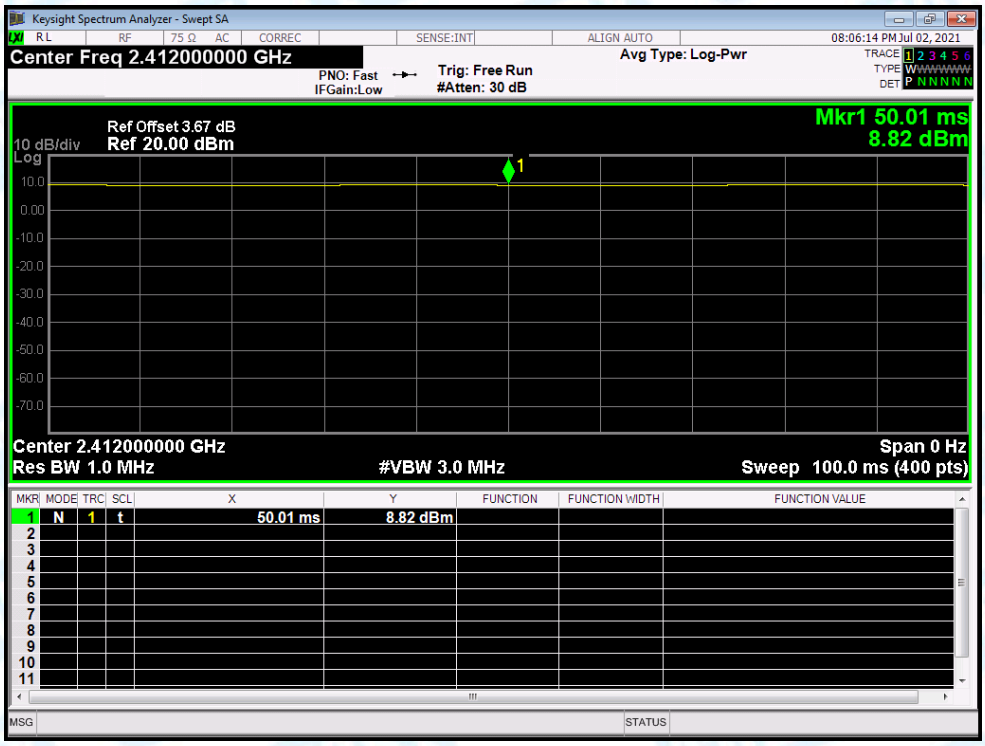
General Description of EUT	
Product Name:	SCV500+
Test Model:	SCV500
Sample ID:	20210622-21-02
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 12V
Test Engineer:	Huang Jian Ping
Note: For a more detailed features description, please refer to the report TB-RF180812.	

1. Duty Cycle

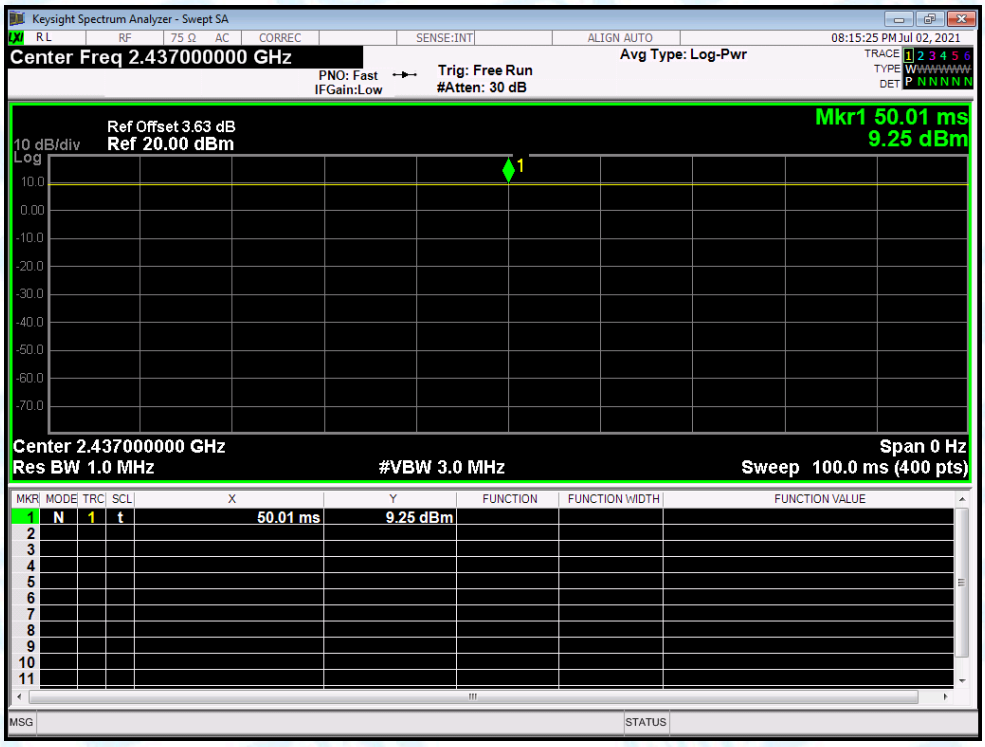
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	100	0	0
NVNT	b	2437	Ant1	100	0	0
NVNT	b	2462	Ant1	100	0	0
NVNT	g	2412	Ant1	100	0	0
NVNT	g	2437	Ant1	100	0	0
NVNT	g	2462	Ant1	100	0	0
NVNT	n(HT20)	2412	Ant1	100	0	0
NVNT	n(HT20)	2437	Ant1	100	0	0
NVNT	n(HT20)	2462	Ant1	100	0	0

Test Graphs

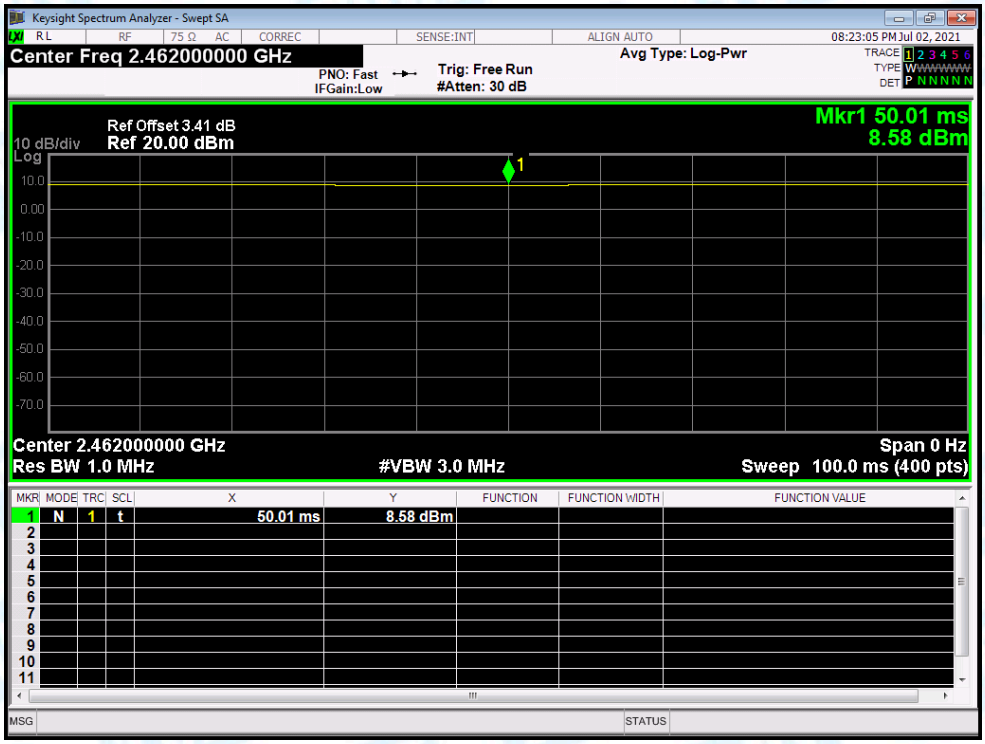
Duty Cycle NVNT b 2412MHz Ant1



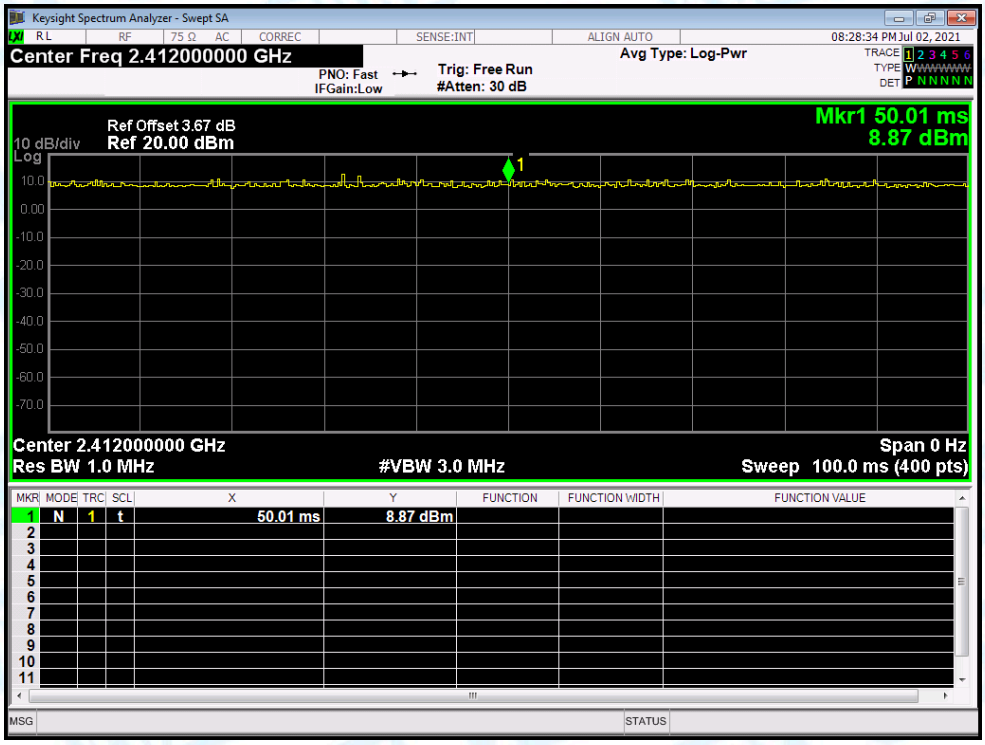
Duty Cycle NVNT b 2437MHz Ant1



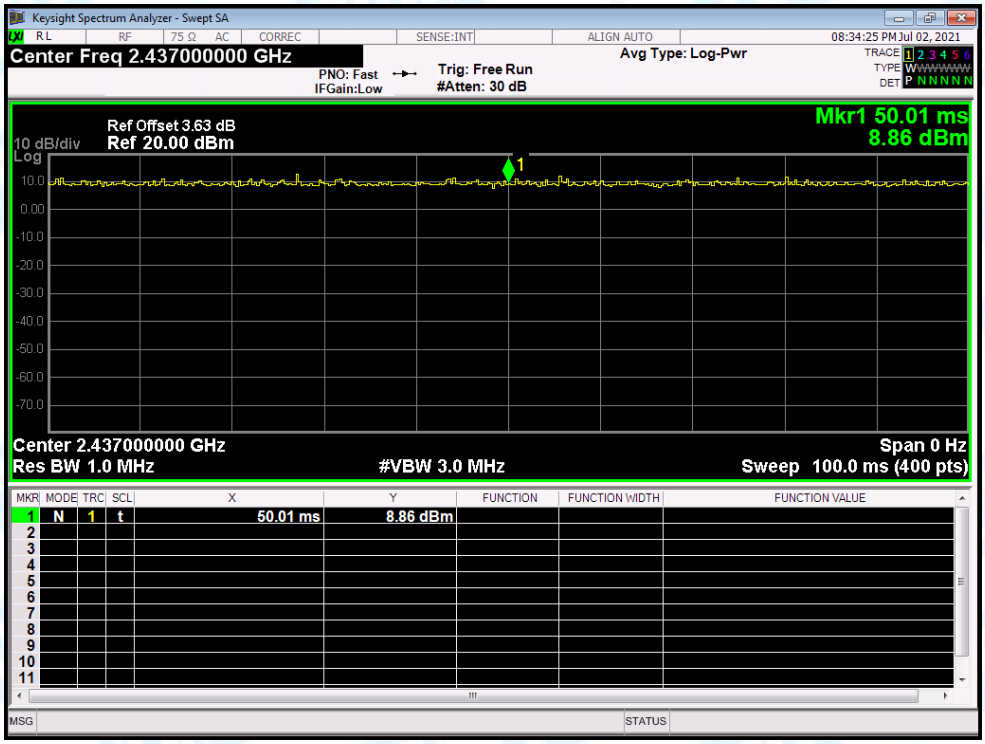
Duty Cycle NVNT b 2462MHz Ant1



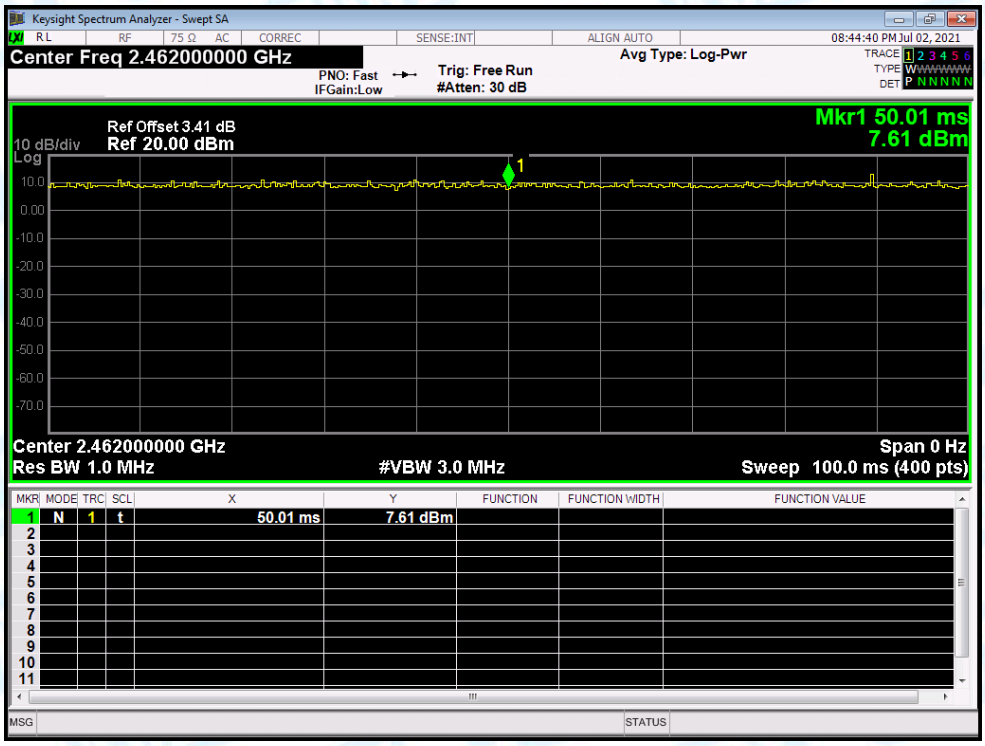
Duty Cycle NVNT g 2412MHz Ant1



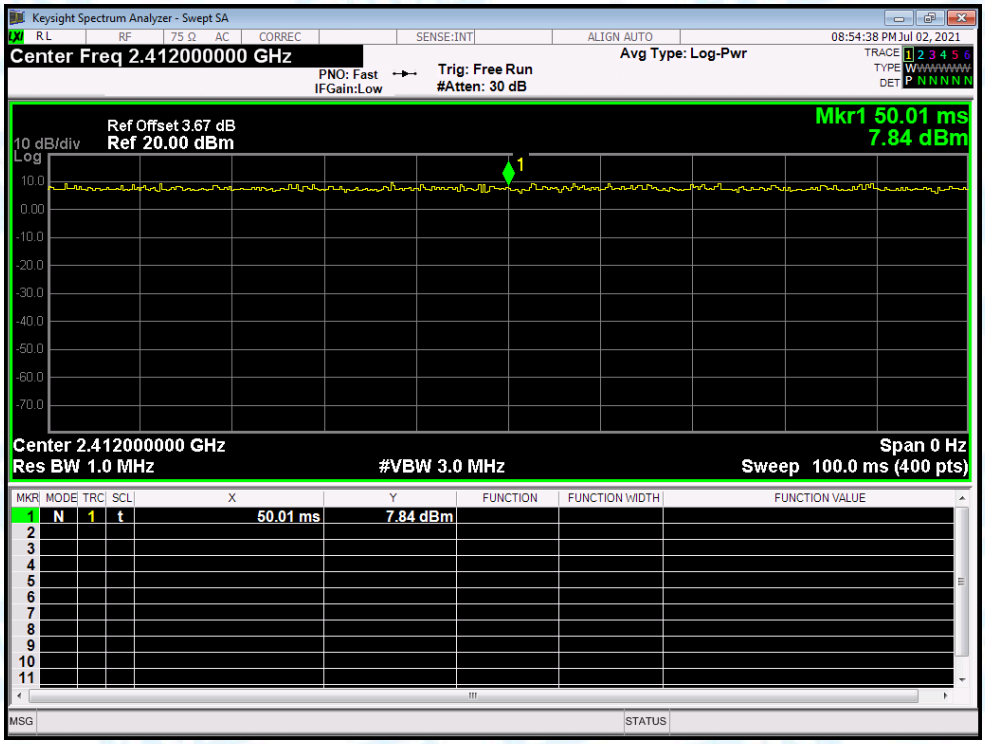
Duty Cycle NVNT g 2437MHz Ant1



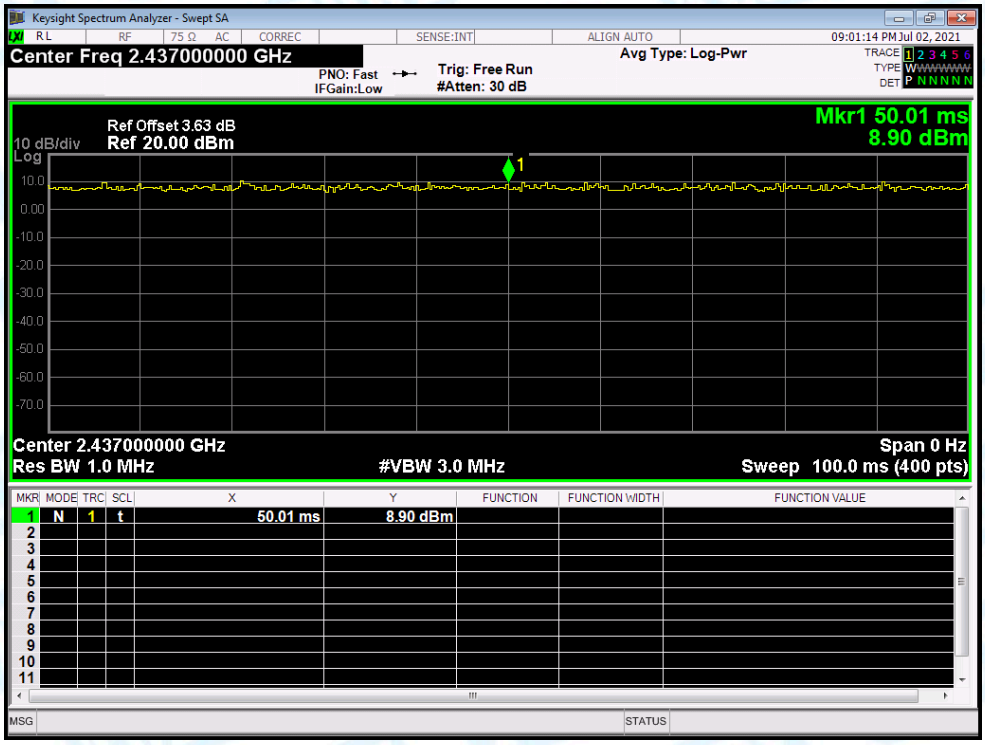
Duty Cycle NVNT g 2462MHz Ant1



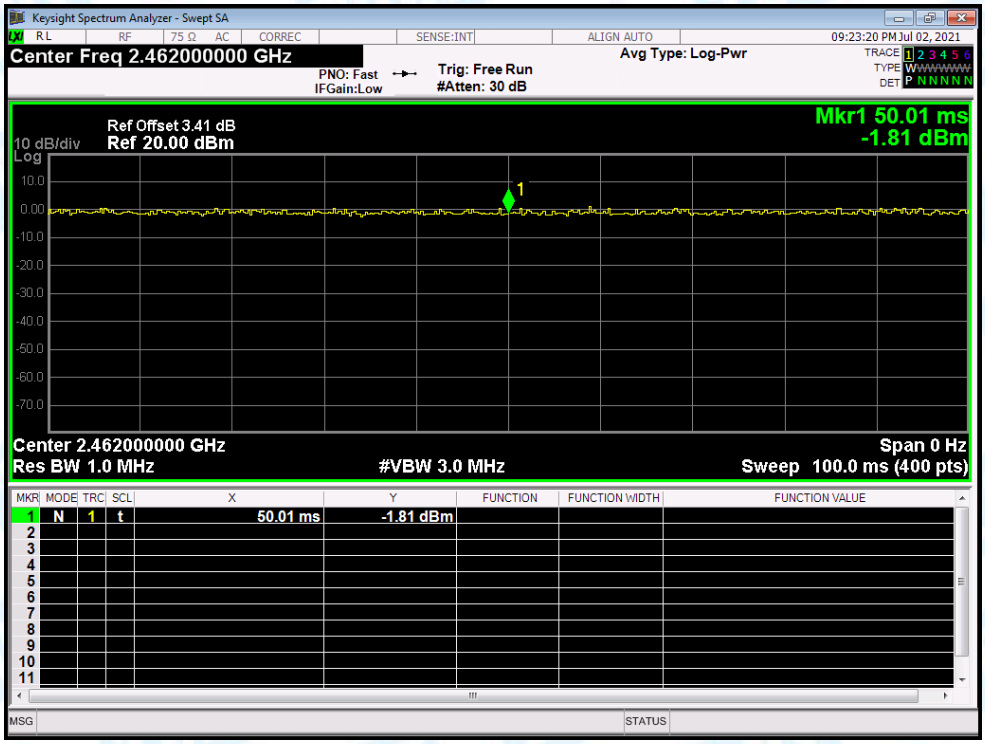
Duty Cycle NVNT n(HT20) 2412MHz Ant1



Duty Cycle NVNT n(HT20) 2437MHz Ant1



Duty Cycle NVNT n(HT20) 2462MHz Ant1



2. Maximum Conducted Output Power

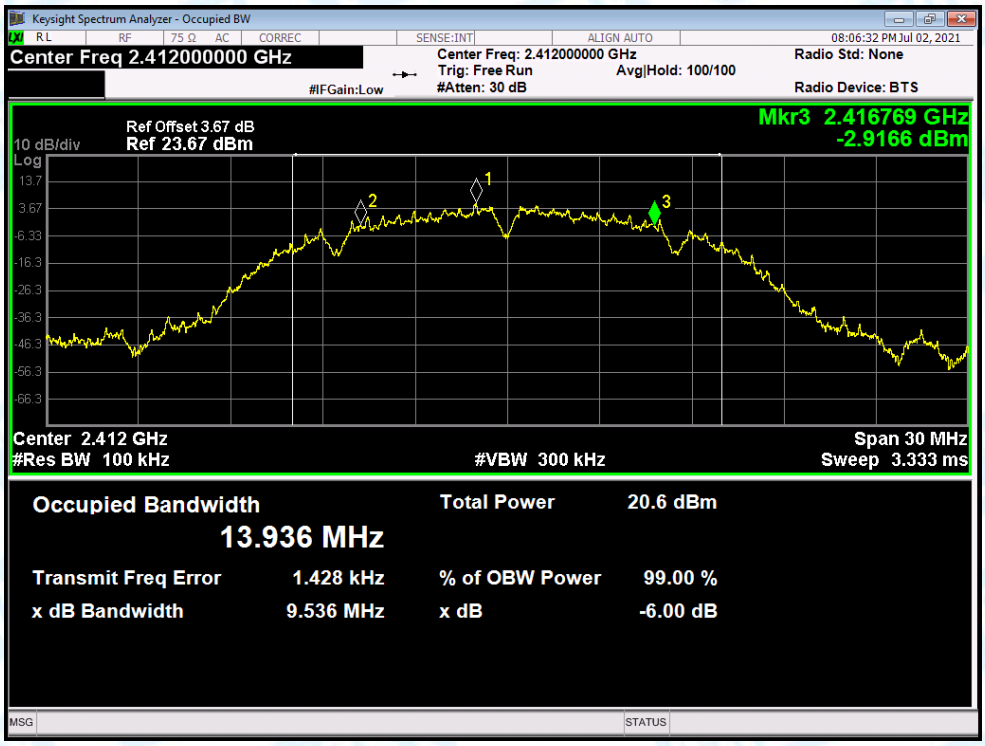
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.569	0	15.569	30	Pass
NVNT	b	2437	Ant1	15.858	0	15.858	30	Pass
NVNT	b	2462	Ant1	15.508	0	15.508	30	Pass
NVNT	g	2412	Ant1	17.888	0	17.888	30	Pass
NVNT	g	2437	Ant1	18.521	0	18.521	30	Pass
NVNT	g	2462	Ant1	18.046	0	18.046	30	Pass
NVNT	n(HT20)	2412	Ant1	16.802	0	16.802	30	Pass
NVNT	n(HT20)	2437	Ant1	17.227	0	17.227	30	Pass
NVNT	n(HT20)	2462	Ant1	16.791	0	16.791	30	Pass

3. -6dB Bandwidth

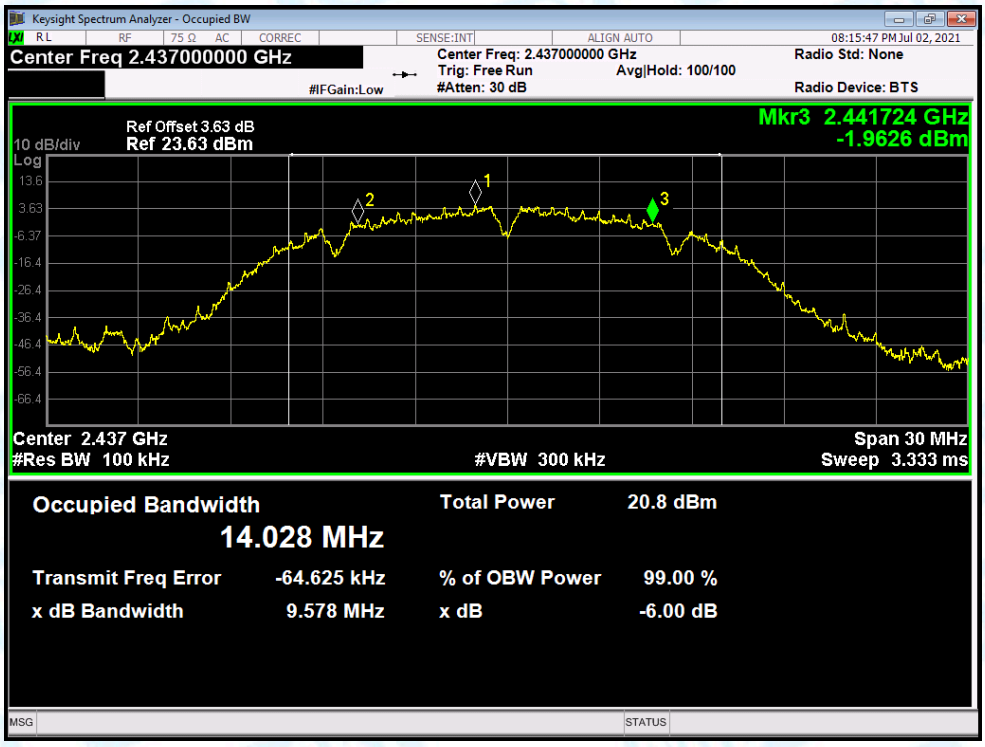
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.536	0.5	Pass
NVNT	b	2437	Ant1	9.578	0.5	Pass
NVNT	b	2462	Ant1	8.512	0.5	Pass
NVNT	g	2412	Ant1	15.679	0.5	Pass
NVNT	g	2437	Ant1	15.696	0.5	Pass
NVNT	g	2462	Ant1	16.344	0.5	Pass
NVNT	n(HT20)	2412	Ant1	16.632	0.5	Pass
NVNT	n(HT20)	2437	Ant1	17.573	0.5	Pass
NVNT	n(HT20)	2462	Ant1	16.667	0.5	Pass

Test Graphs

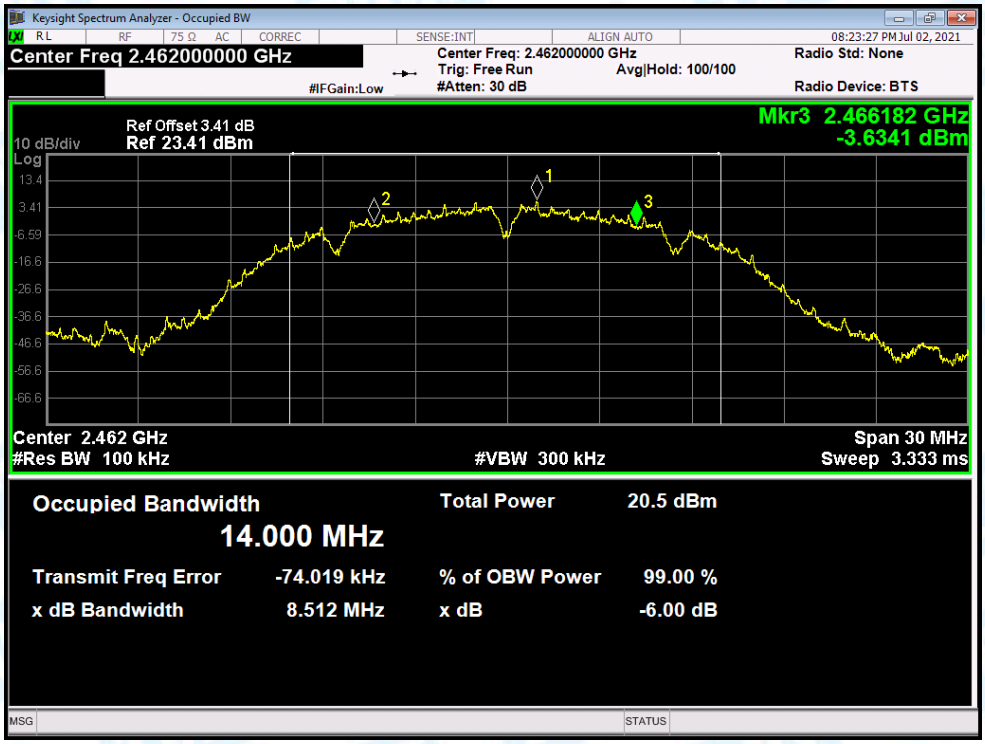
-6dB Bandwidth NVNT b 2412MHz Ant1



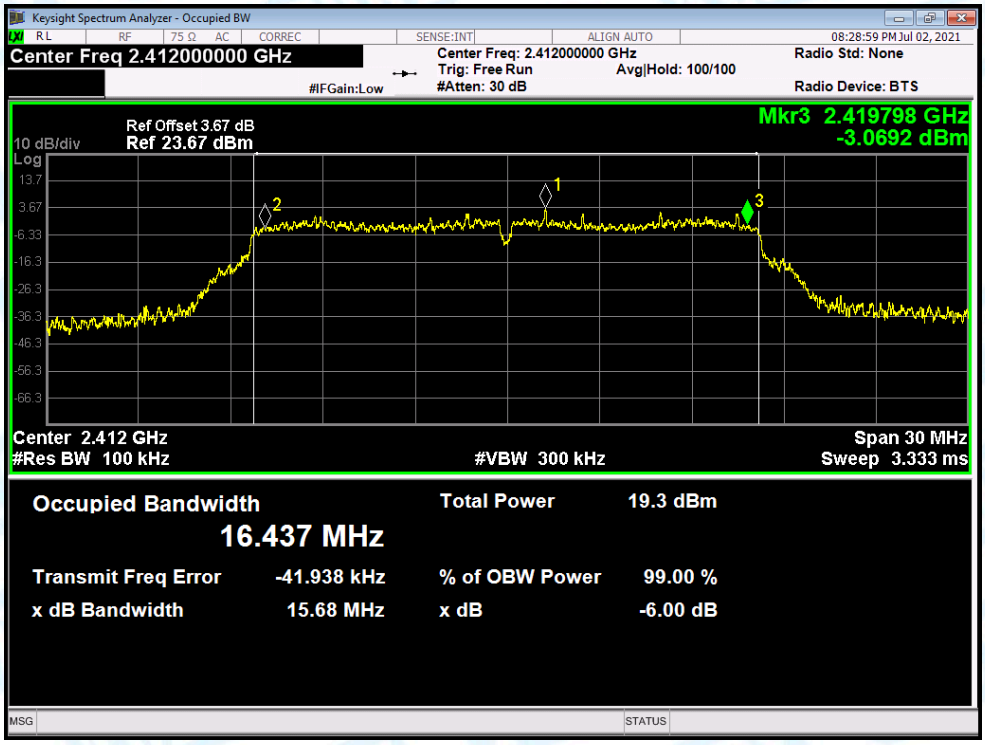
-6dB Bandwidth NVNT b 2437MHz Ant1



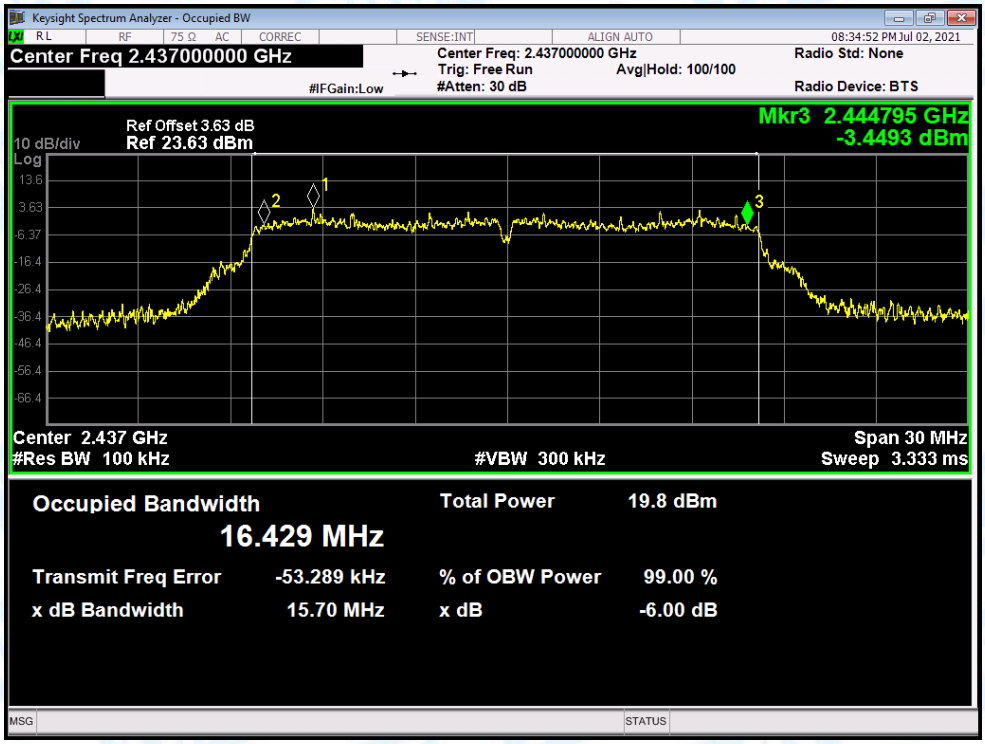
-6dB Bandwidth NVNT b 2462MHz Ant1



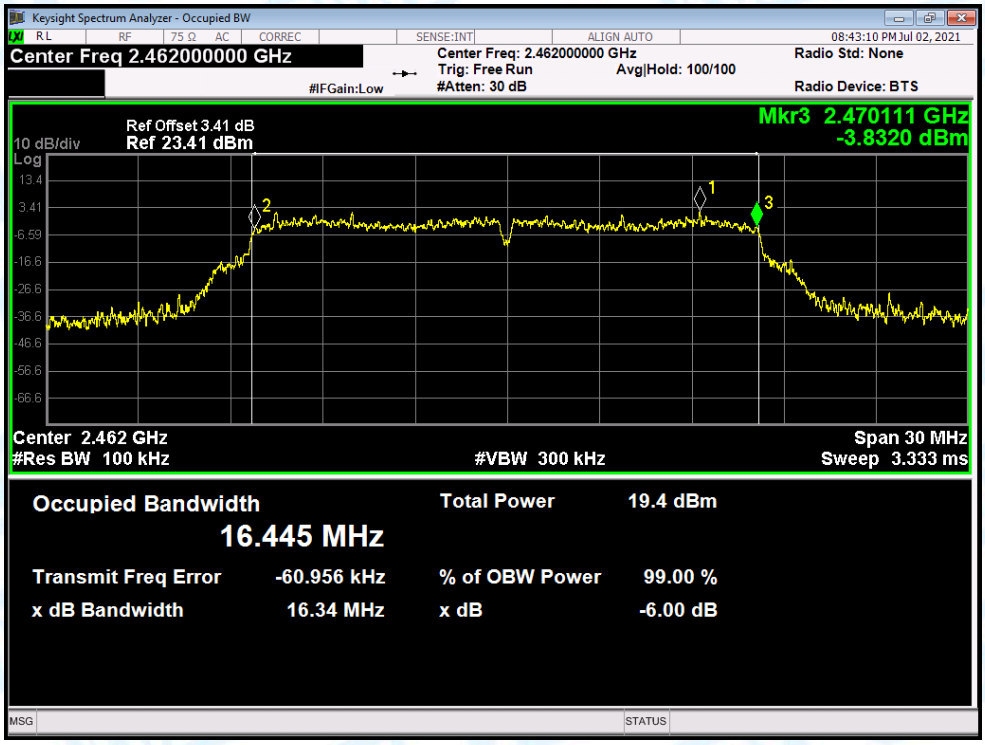
-6dB Bandwidth NVNT g 2412MHz Ant1



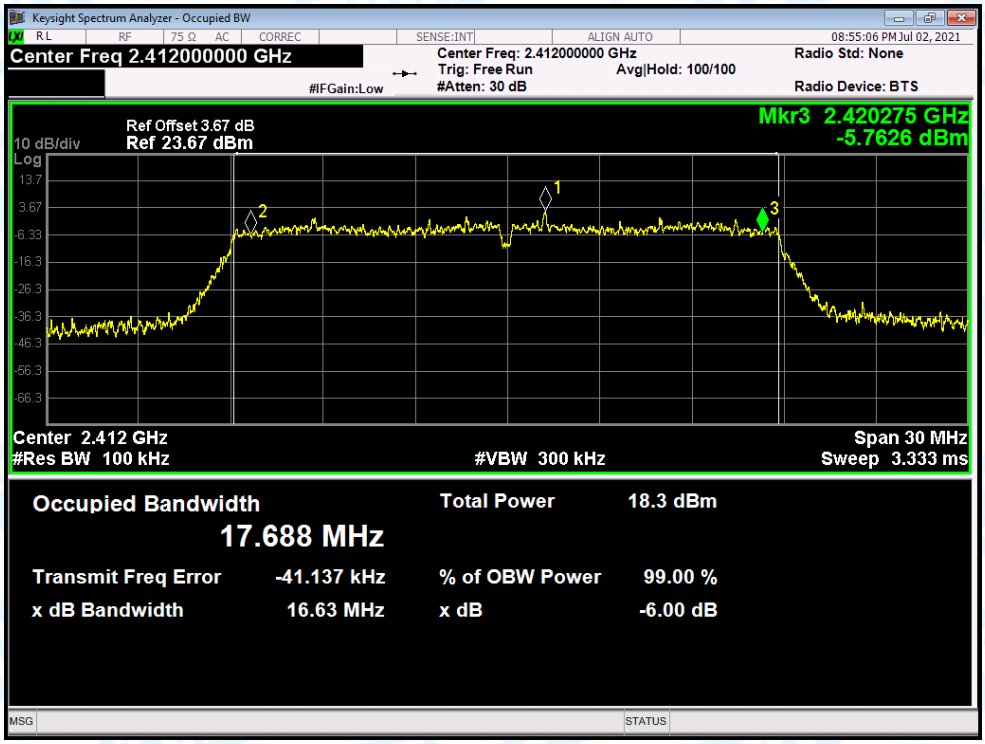
-6dB Bandwidth NVNT g 2437MHz Ant1



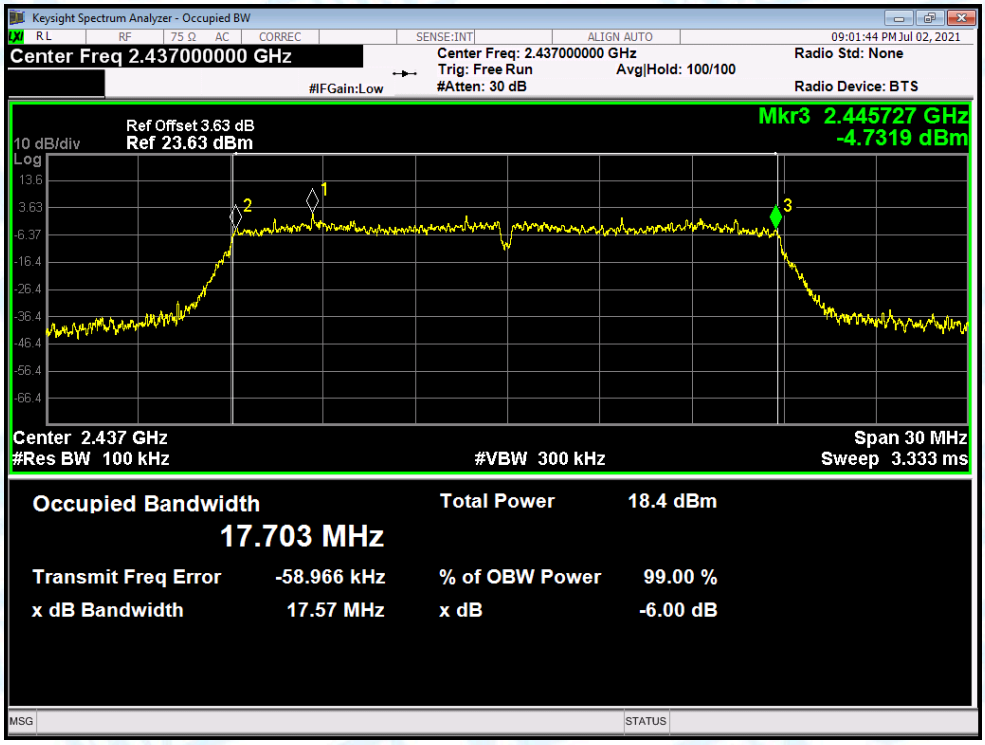
-6dB Bandwidth NVNT g 2462MHz Ant1



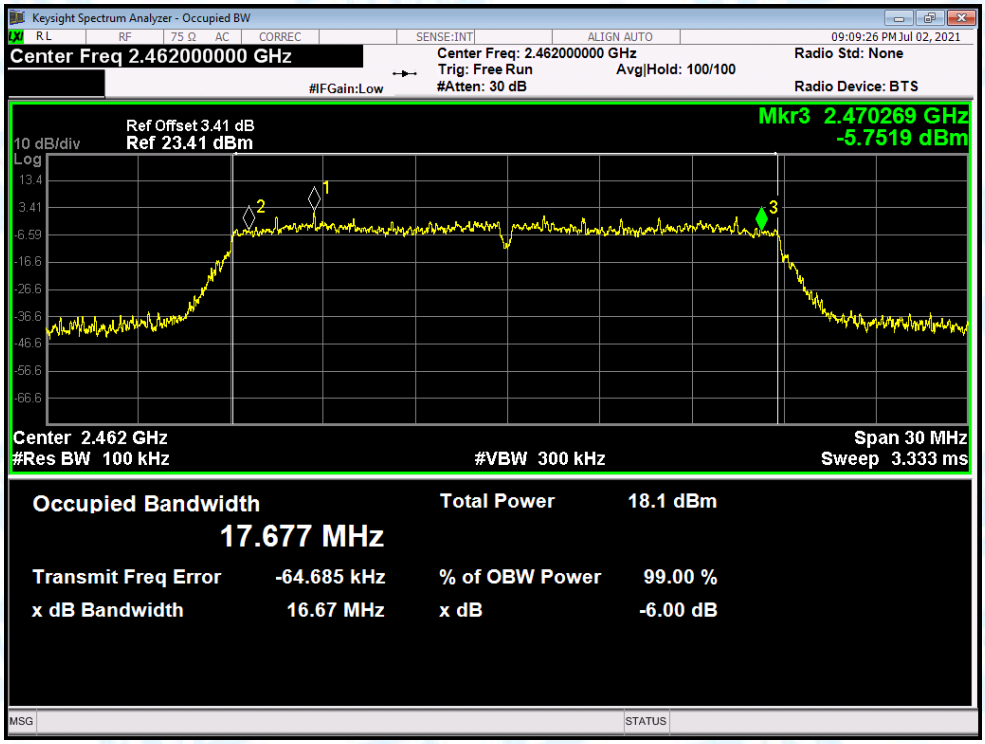
-6dB Bandwidth NVNT n(HT20) 2412MHz Ant1



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



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

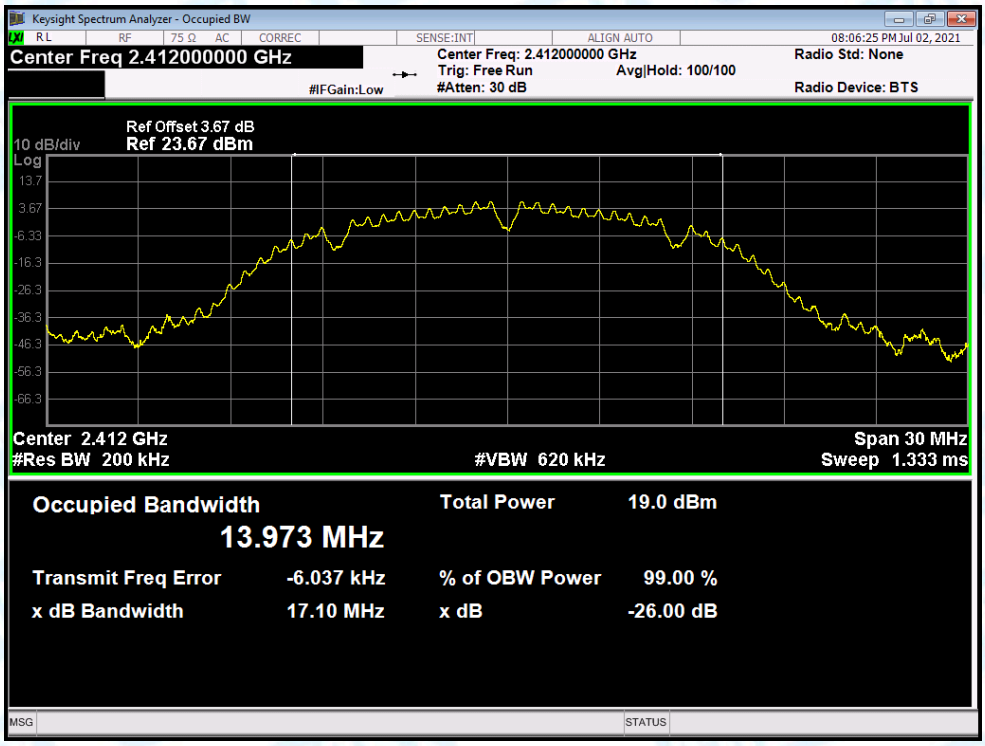


4. Occupied Channel Bandwidth

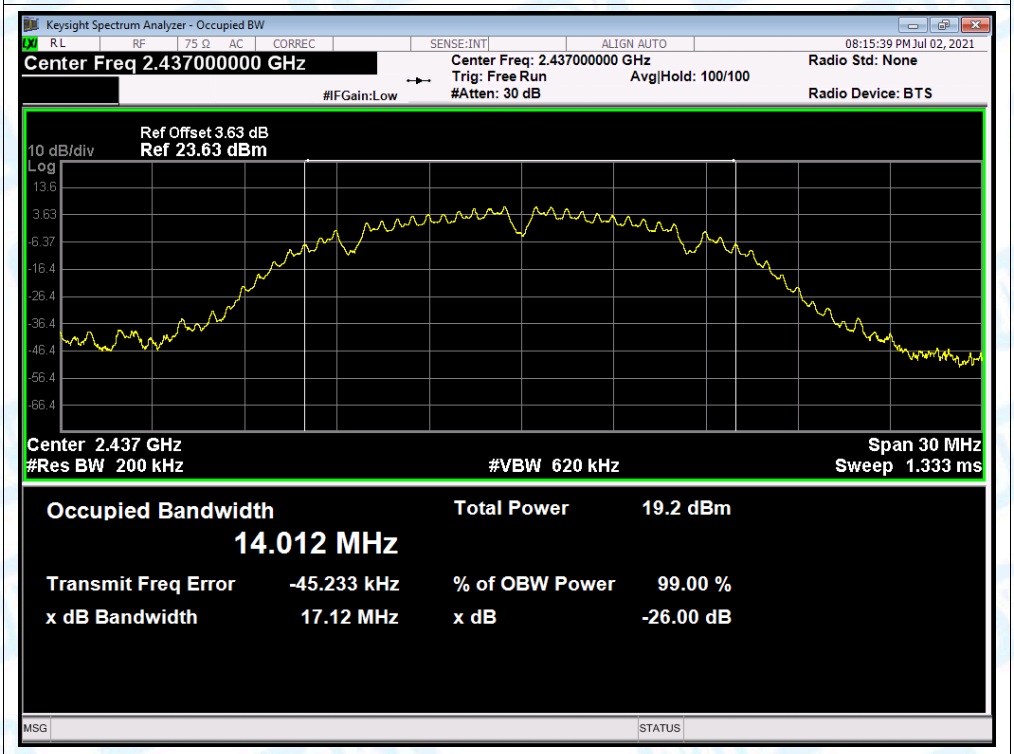
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	13.97257836
NVNT	b	2437	Ant1	14.01212374
NVNT	b	2462	Ant1	13.99975403
NVNT	g	2412	Ant1	16.57511991
NVNT	g	2437	Ant1	16.57122808
NVNT	g	2462	Ant1	16.58536146
NVNT	n(HT20)	2412	Ant1	17.79890561
NVNT	n(HT20)	2437	Ant1	17.78984244
NVNT	n(HT20)	2462	Ant1	17.79115139

Test Graphs

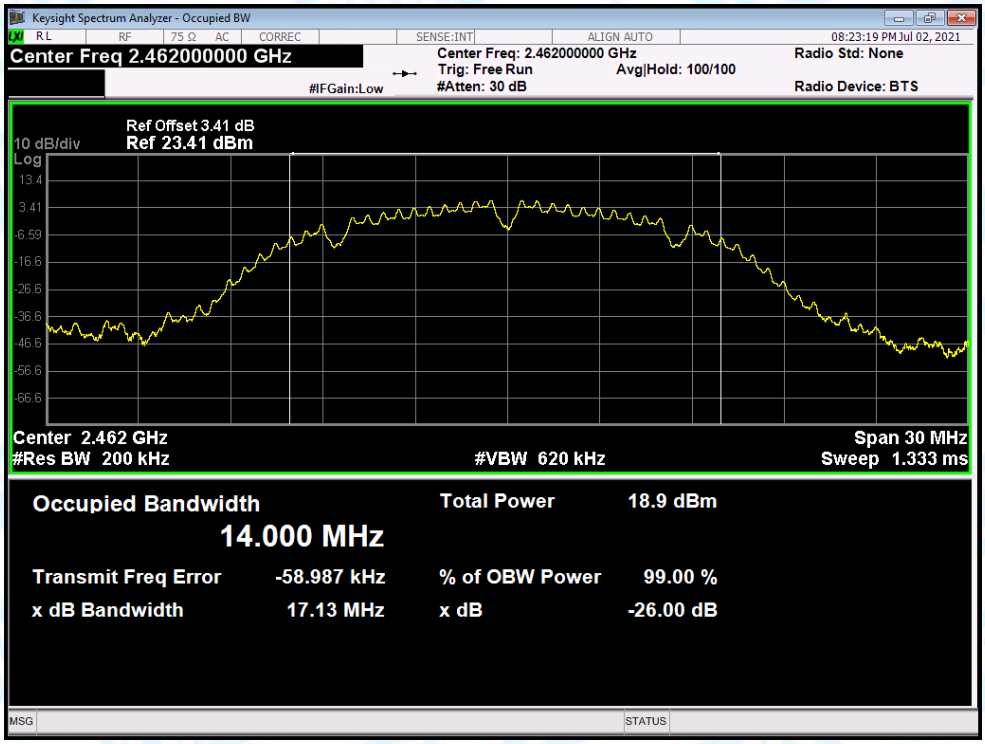
OBW NVNT b 2412MHz Ant1



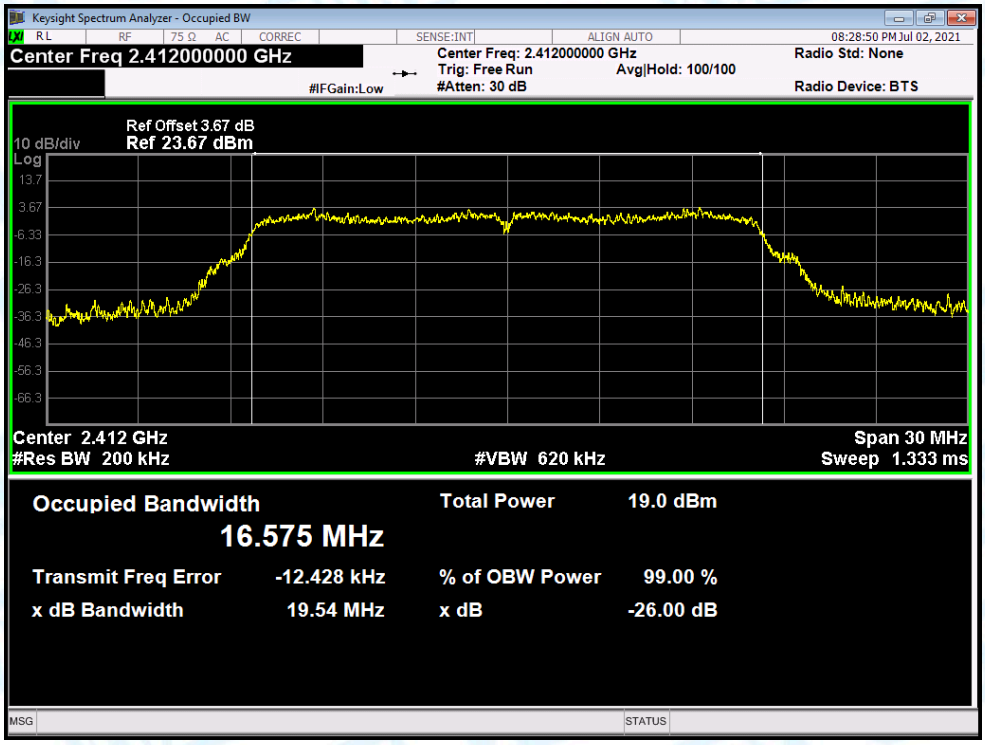
OBW NVNT b 2437MHz Ant1



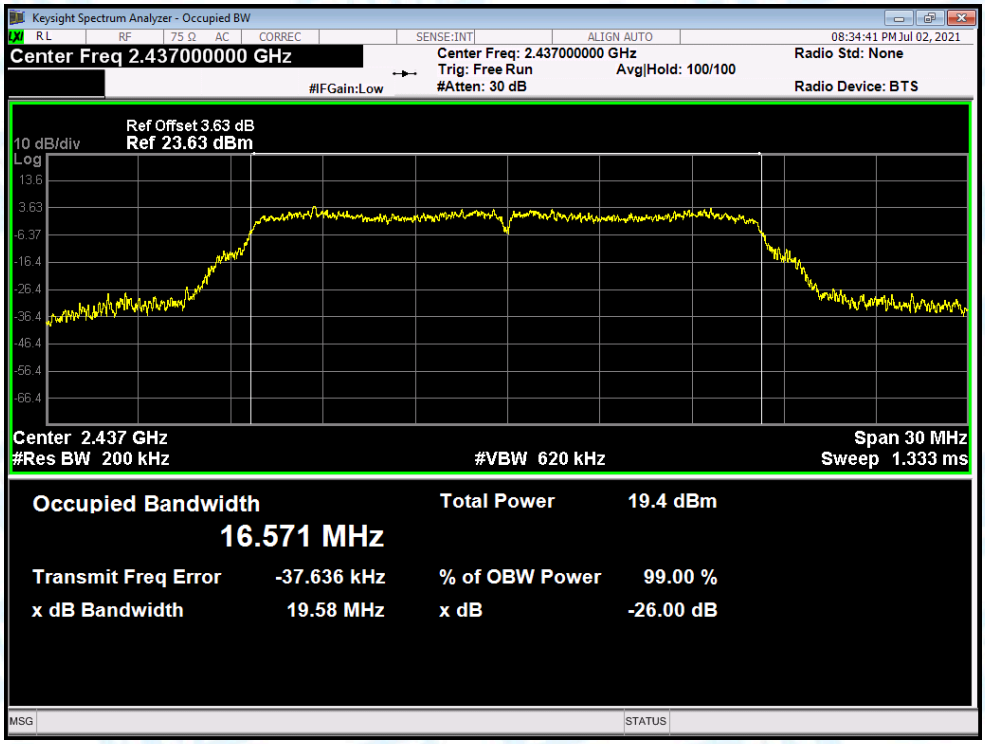
OBW NVNT b 2462MHz Ant1



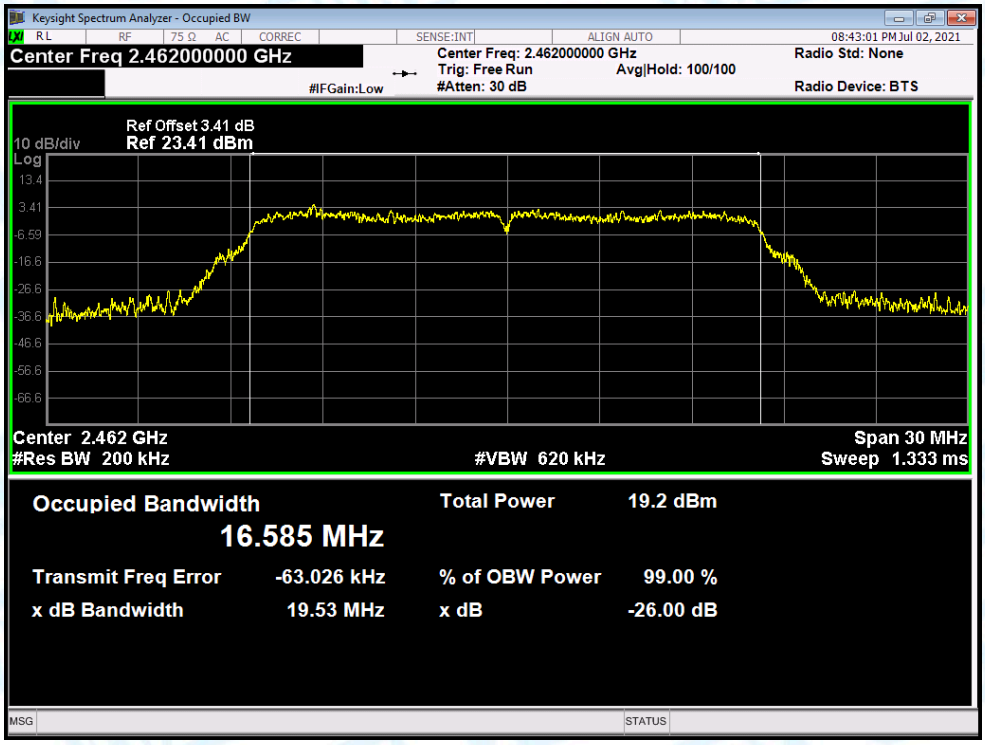
OBW NVNT g 2412MHz Ant1



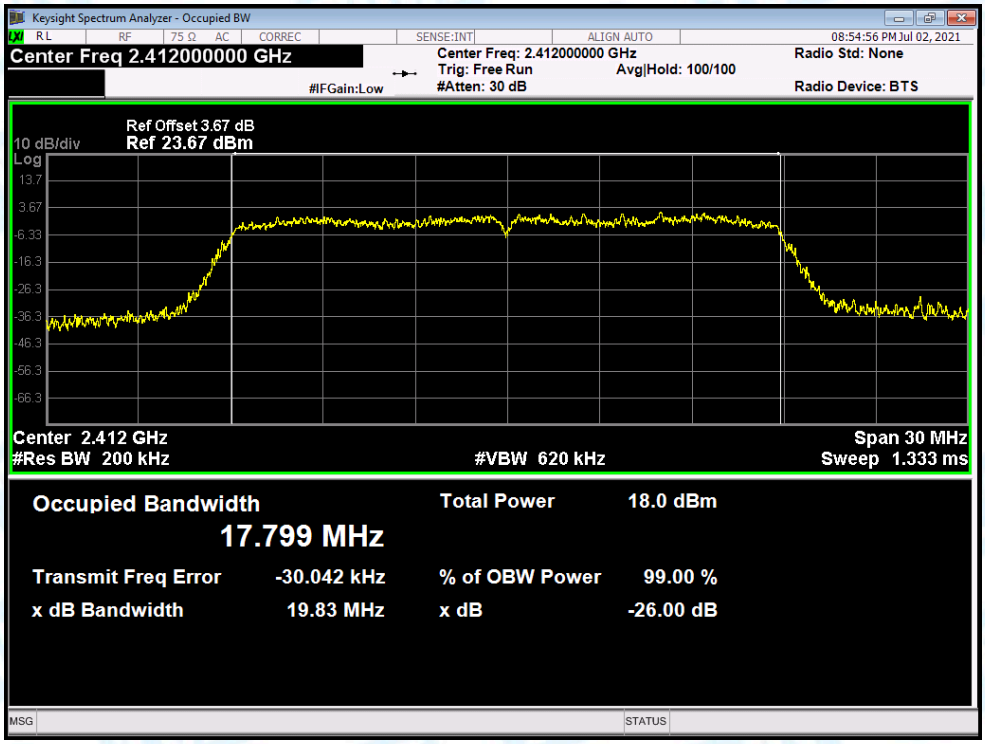
OBW NVNT g 2437MHz Ant1



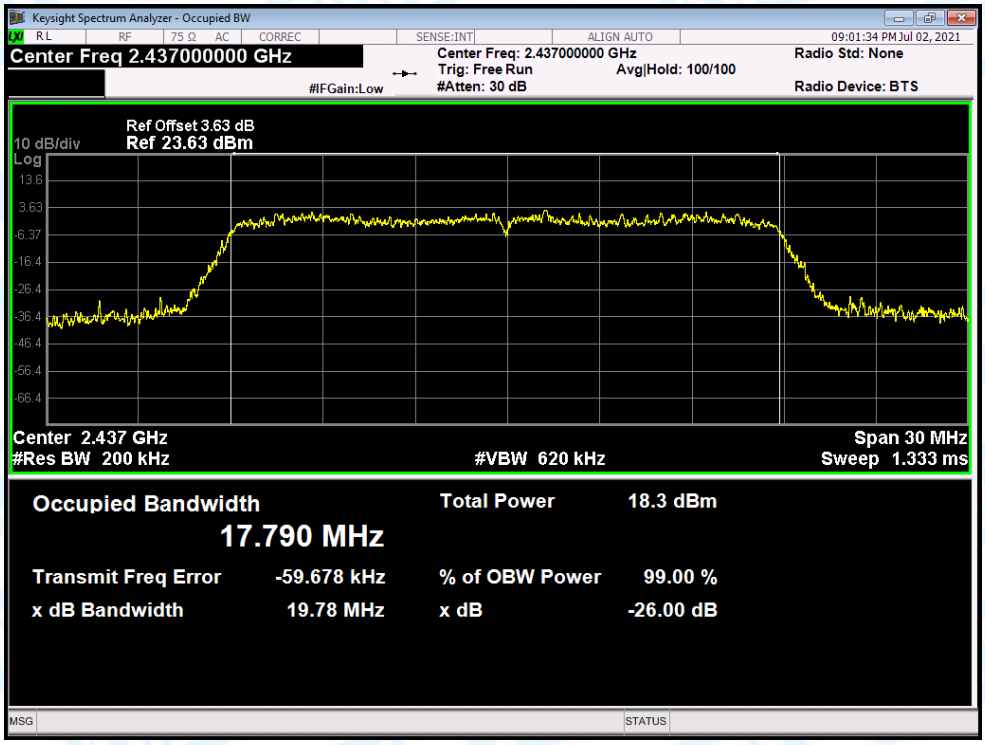
OBW NVNT g 2462MHz Ant1



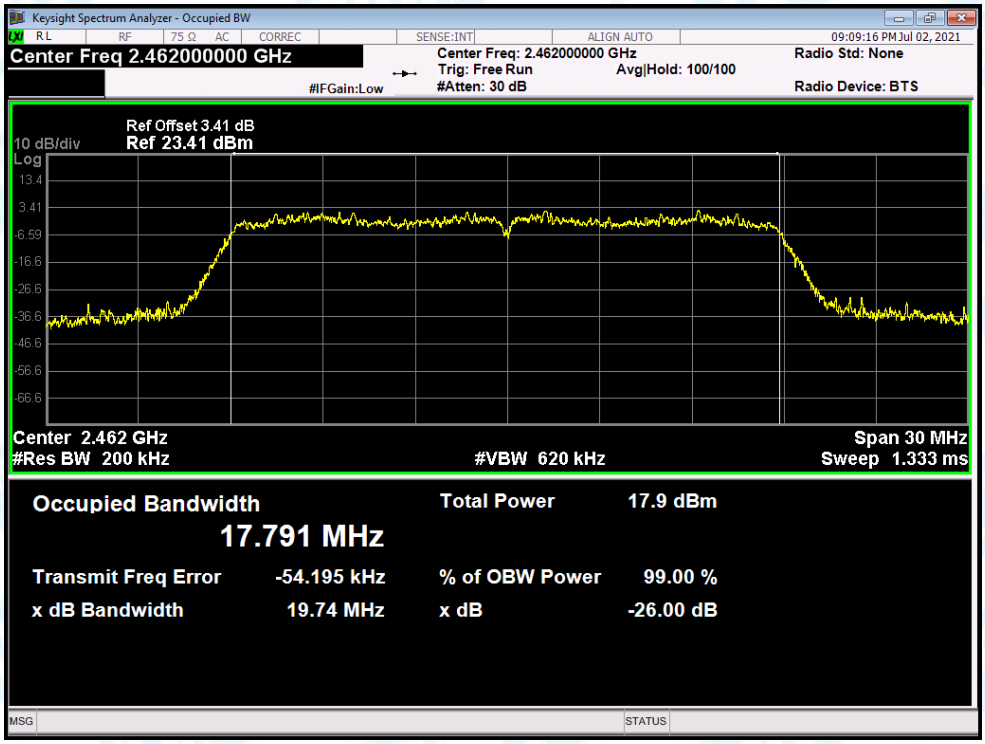
OBW NVNT n(HT20) 2412MHz Ant1



OBW NVNT n(HT20) 2437MHz Ant1



OBW NVNT n(HT20) 2462MHz Ant1

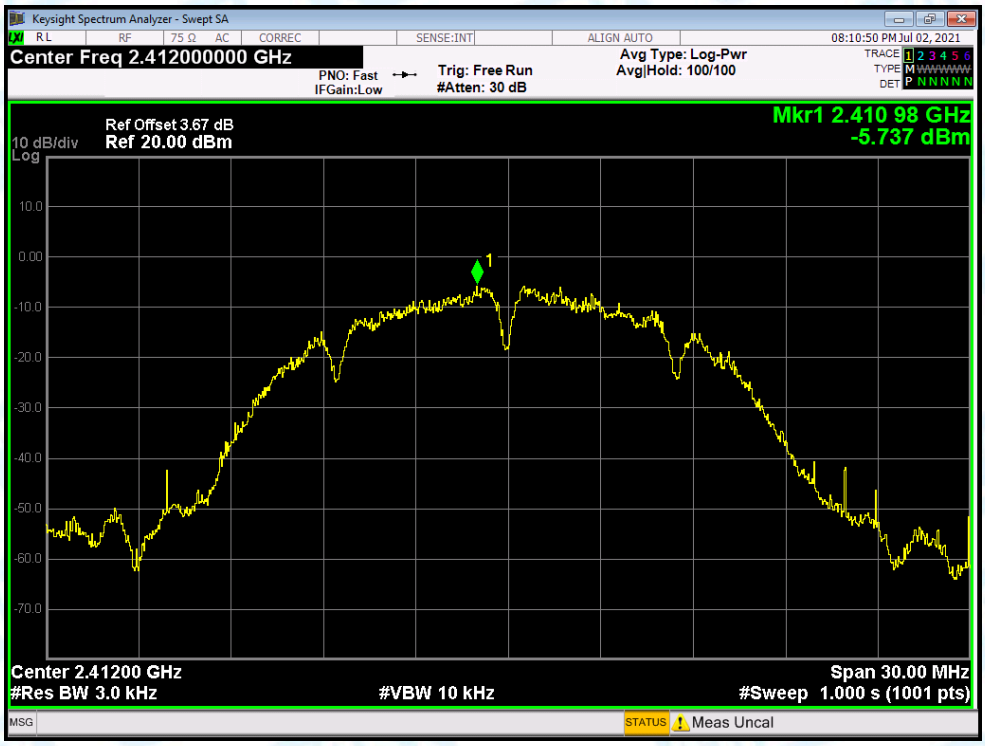


5. Maximum Power Spectral Density Level

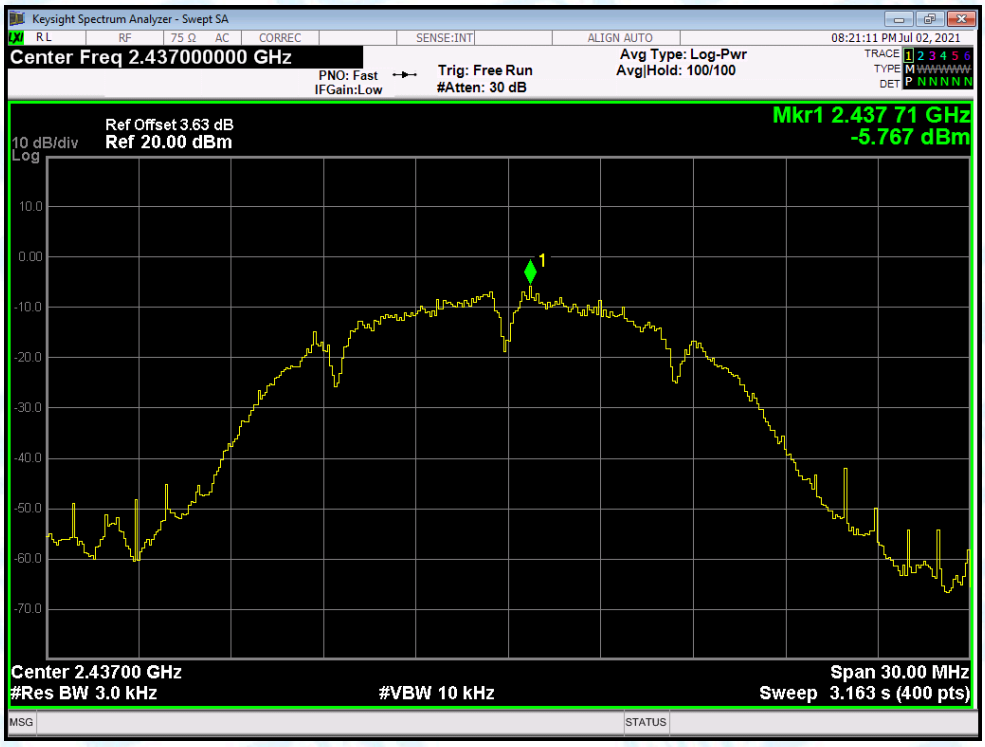
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	-5.737	8	Pass
NVNT	b	2437	Ant1	-5.767	8	Pass
NVNT	b	2462	Ant1	-5.905	8	Pass
NVNT	g	2412	Ant1	-9.149	8	Pass
NVNT	g	2437	Ant1	-8.371	8	Pass
NVNT	g	2462	Ant1	-10.325	8	Pass
NVNT	n(HT20)	2412	Ant1	-7.865	8	Pass
NVNT	n(HT20)	2437	Ant1	-10.153	8	Pass
NVNT	n(HT20)	2462	Ant1	-10.423	8	Pass

Test Graphs

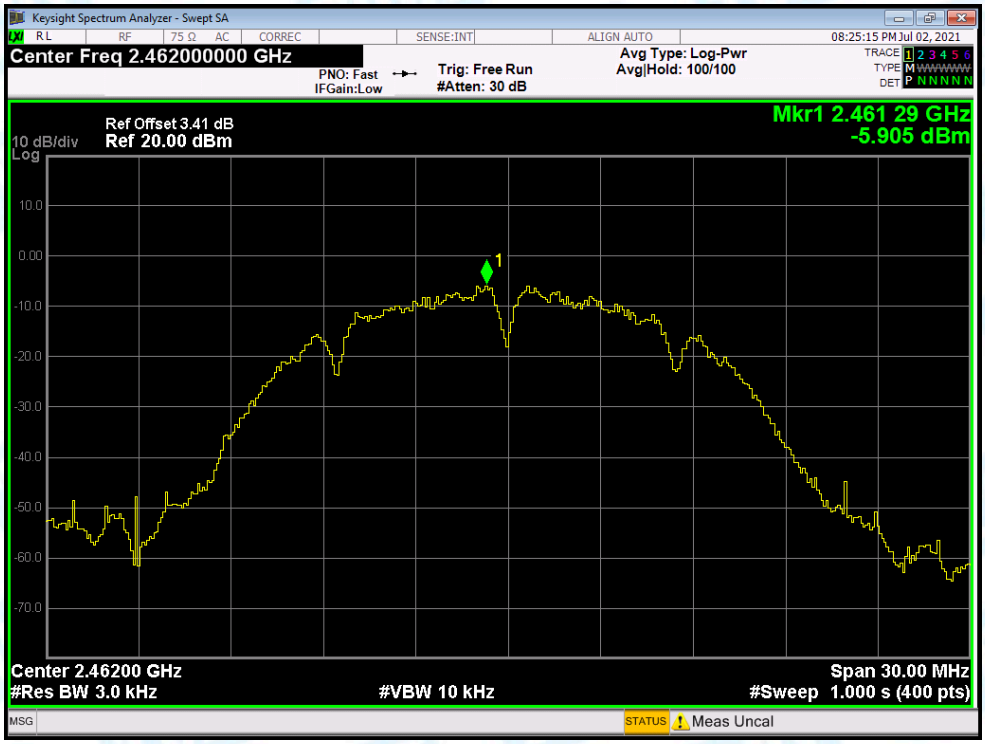
PSD NVNT b 2412MHz Ant1



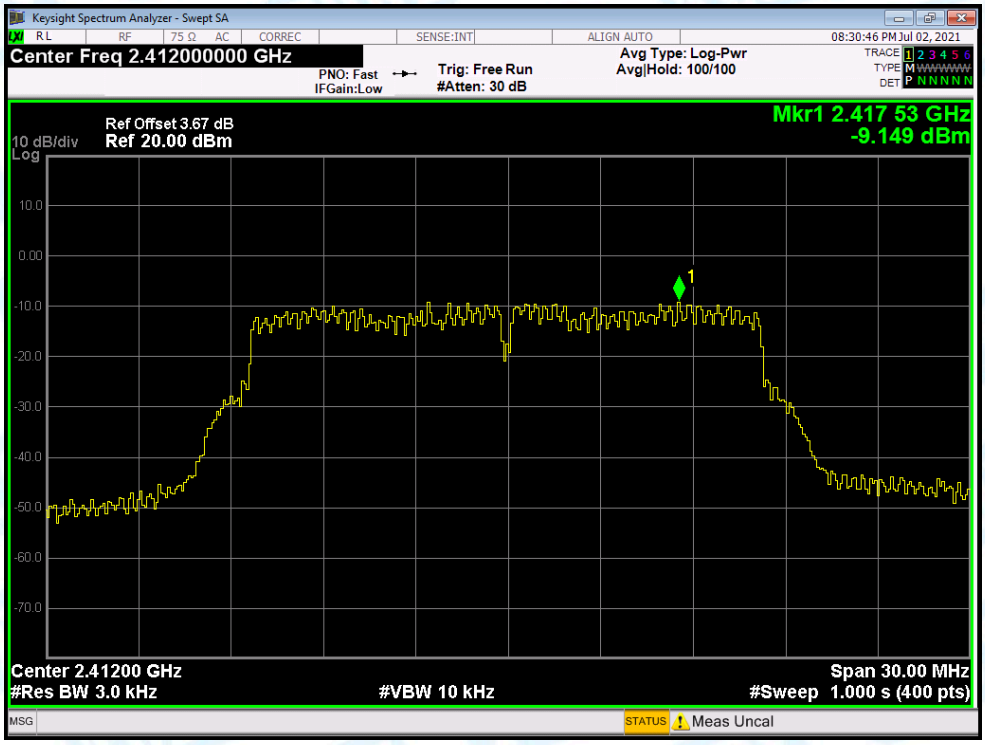
PSD NVNT b 2437MHz Ant1



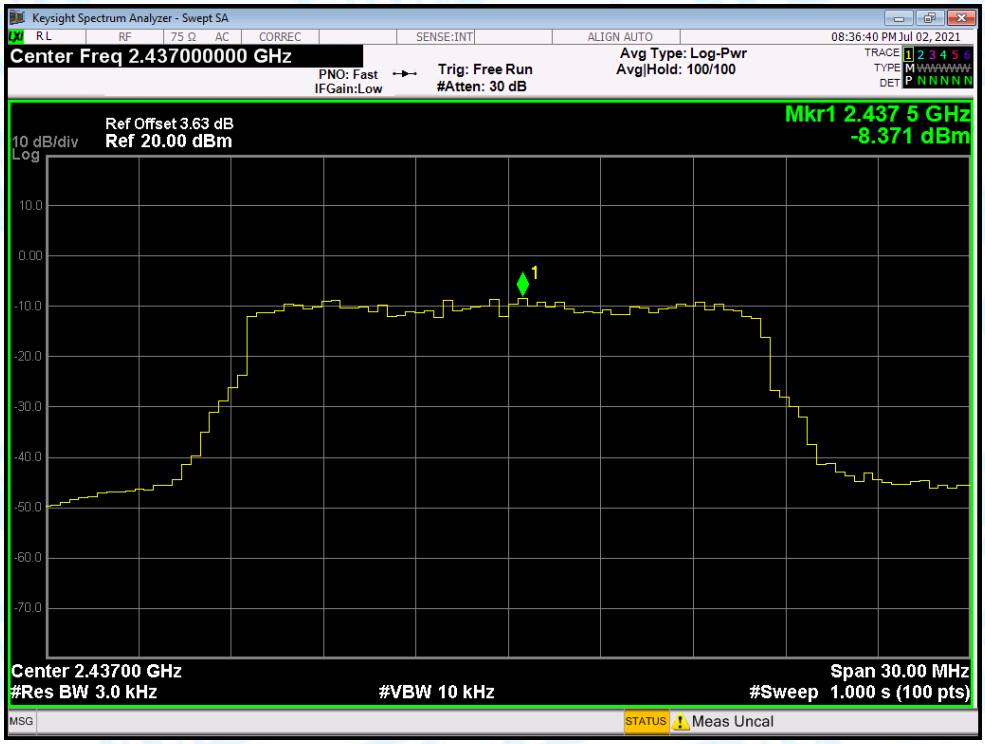
PSD NVNT b 2462MHz Ant1



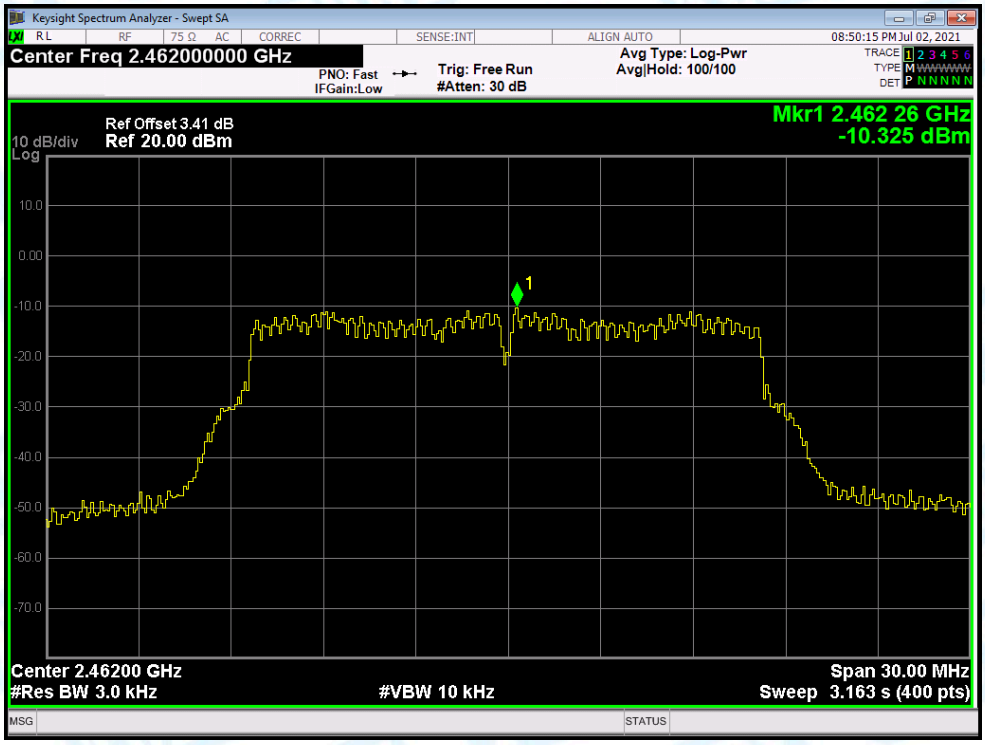
PSD NVNT g 2412MHz Ant1



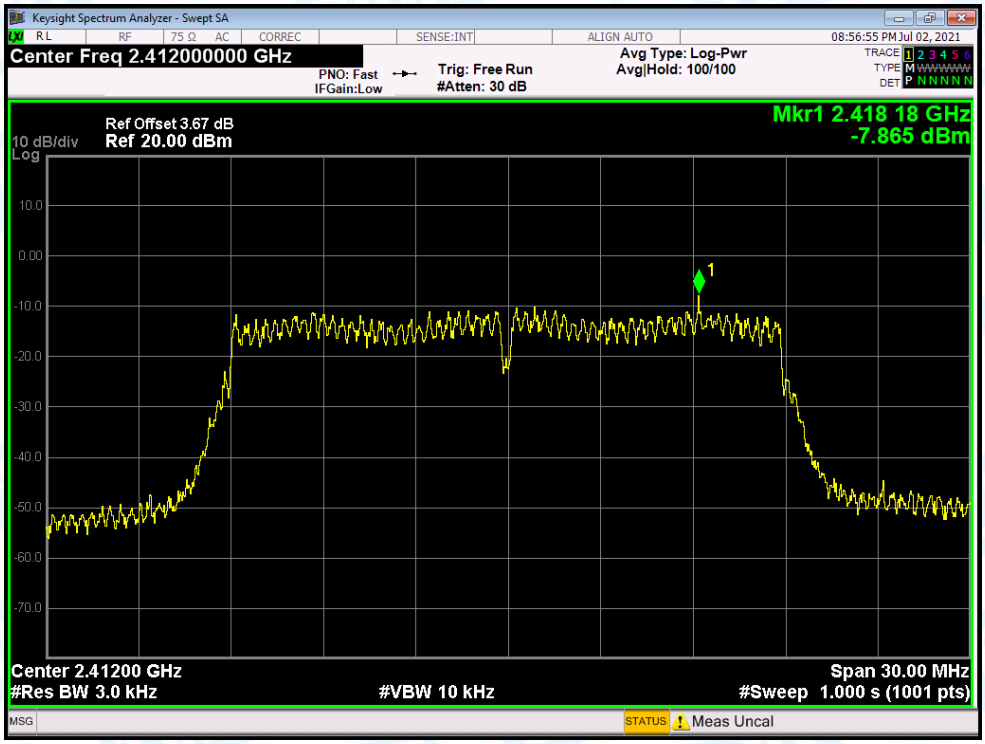
PSD NVNT g 2437MHz Ant1



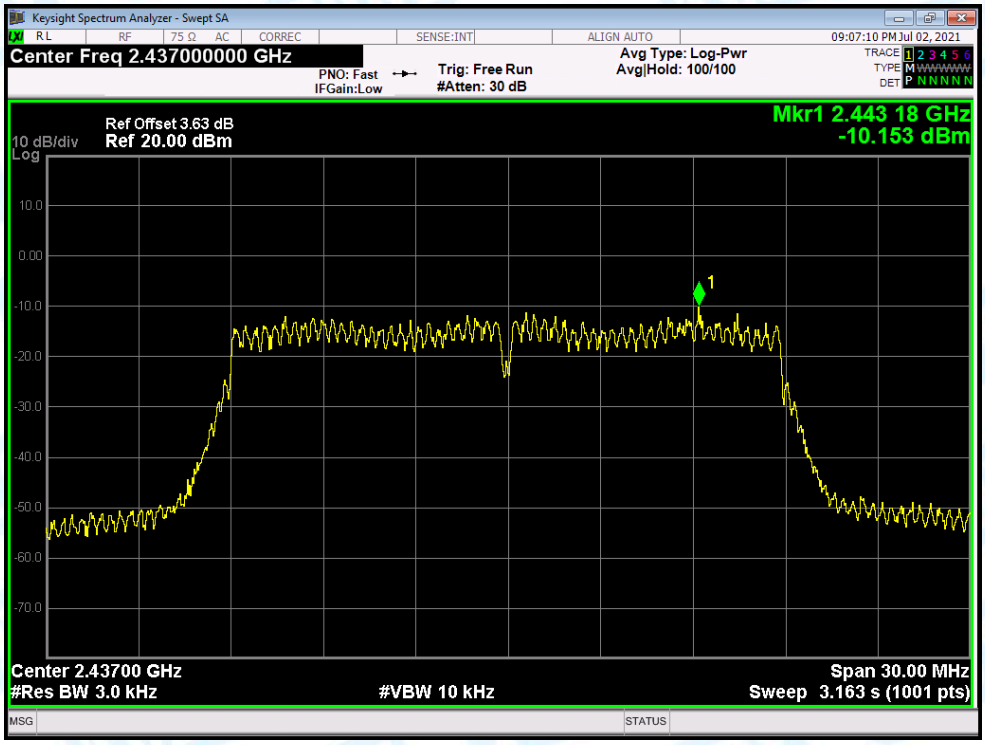
PSD NVNT g 2462MHz Ant1



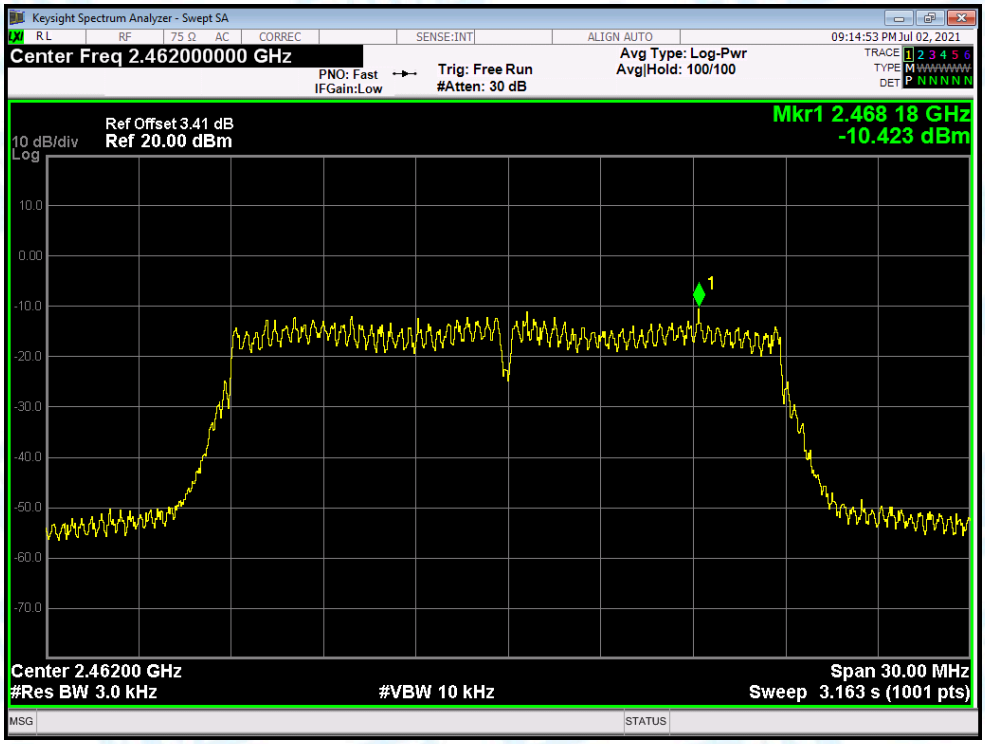
PSD NVNT n(HT20) 2412MHz Ant1



PSD NVNT n(HT20) 2437MHz Ant1



PSD NVNT n(HT20) 2462MHz Ant1

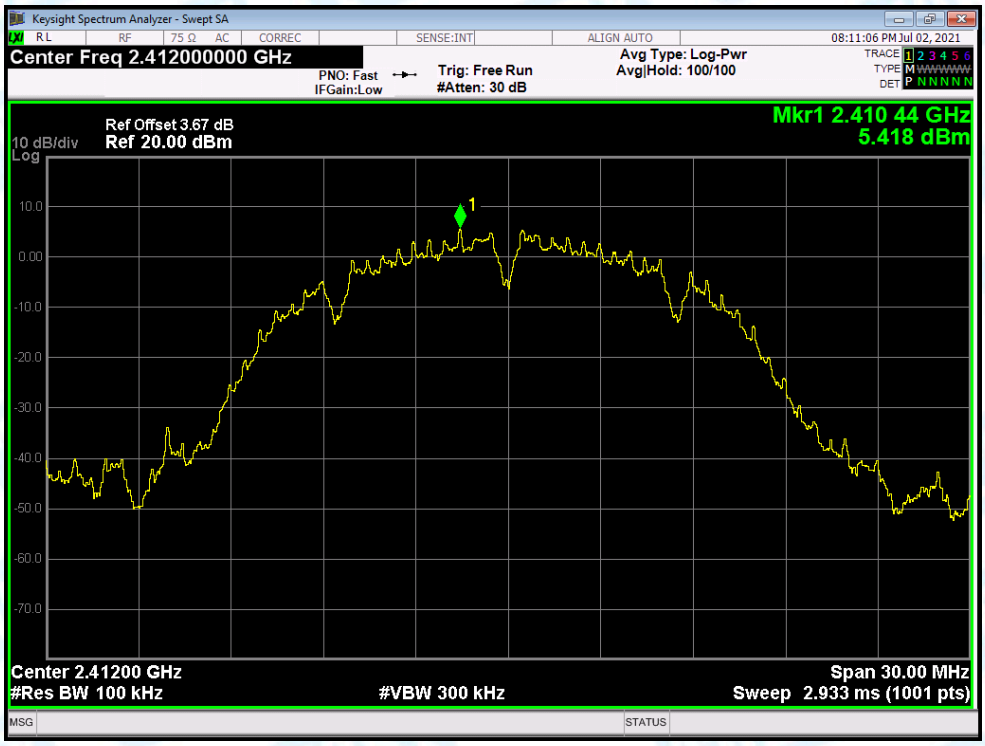


6. Band Edge

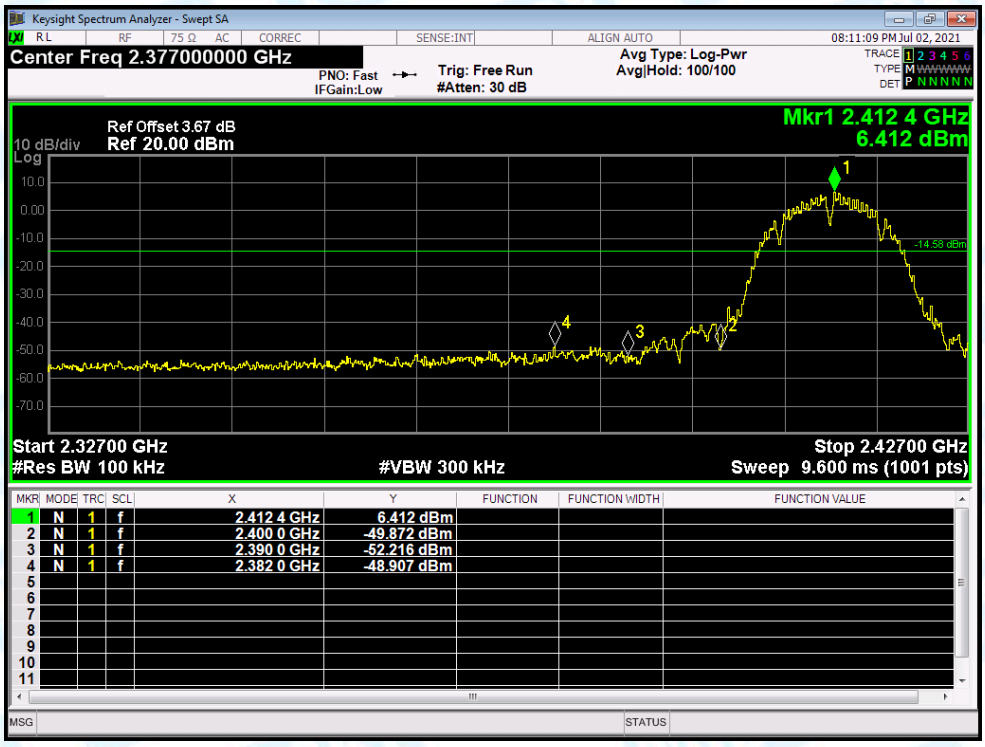
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-54.32	-20	Pass
NVNT	b	2462	Ant1	-51.55	-20	Pass
NVNT	g	2412	Ant1	-46.06	-20	Pass
NVNT	g	2462	Ant1	-43.57	-20	Pass
NVNT	n(HT20)	2412	Ant1	-46.88	-20	Pass
NVNT	n(HT20)	2462	Ant1	-42.57	-20	Pass

Test Graphs

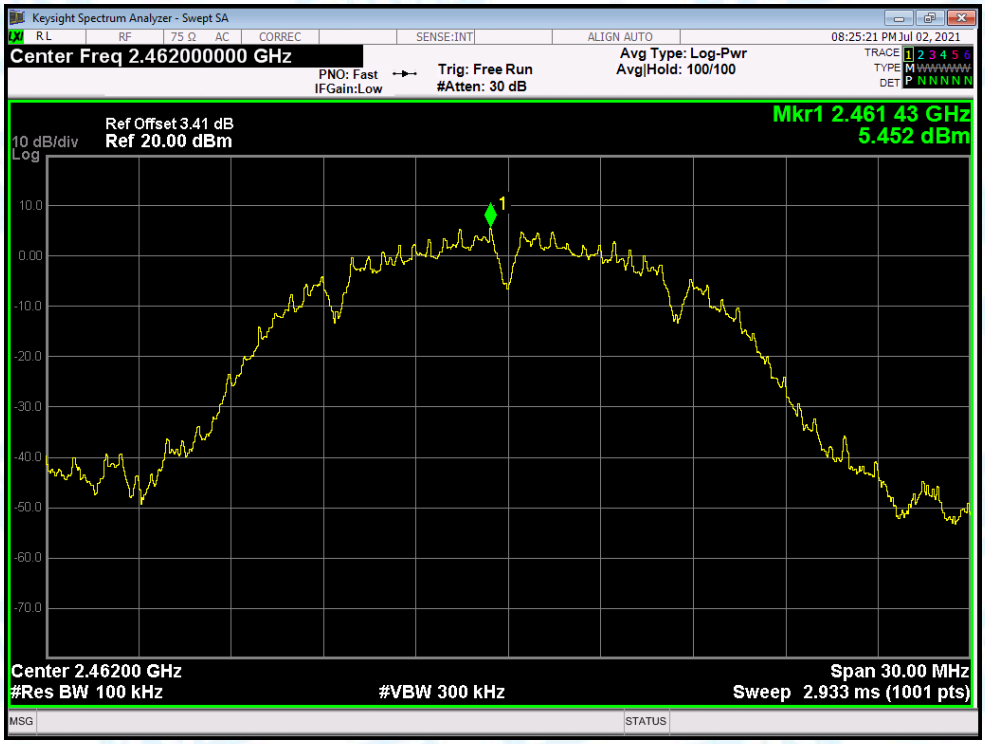
Band Edge NVNT b 2412MHz Ant1 Ref



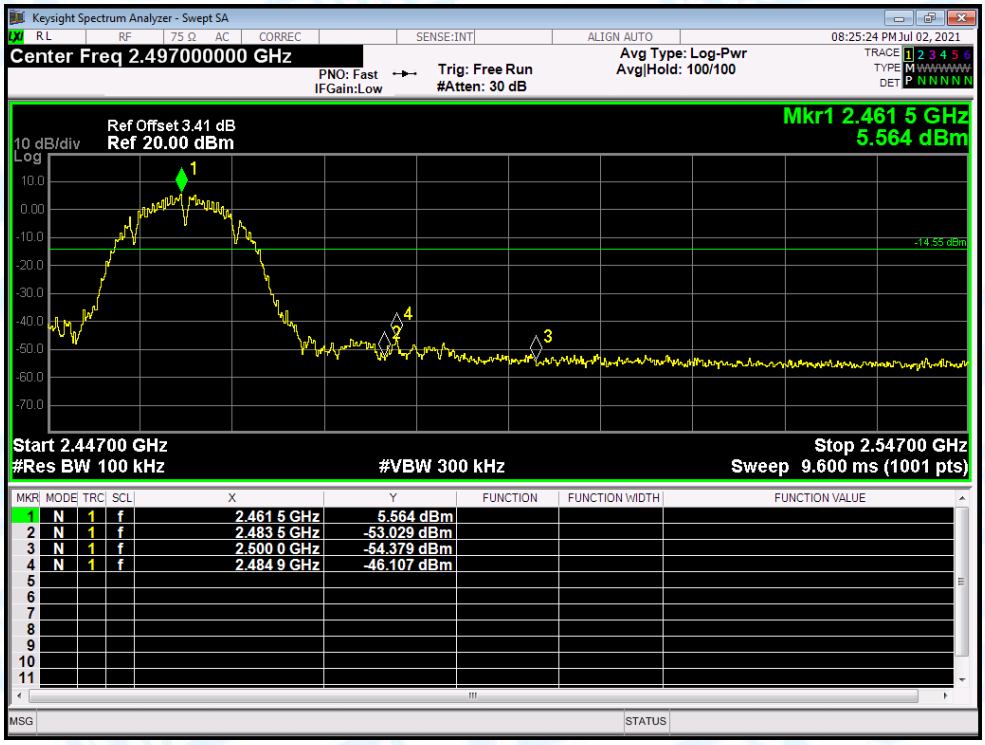
Band Edge NVNT b 2412MHz Ant1 Emission



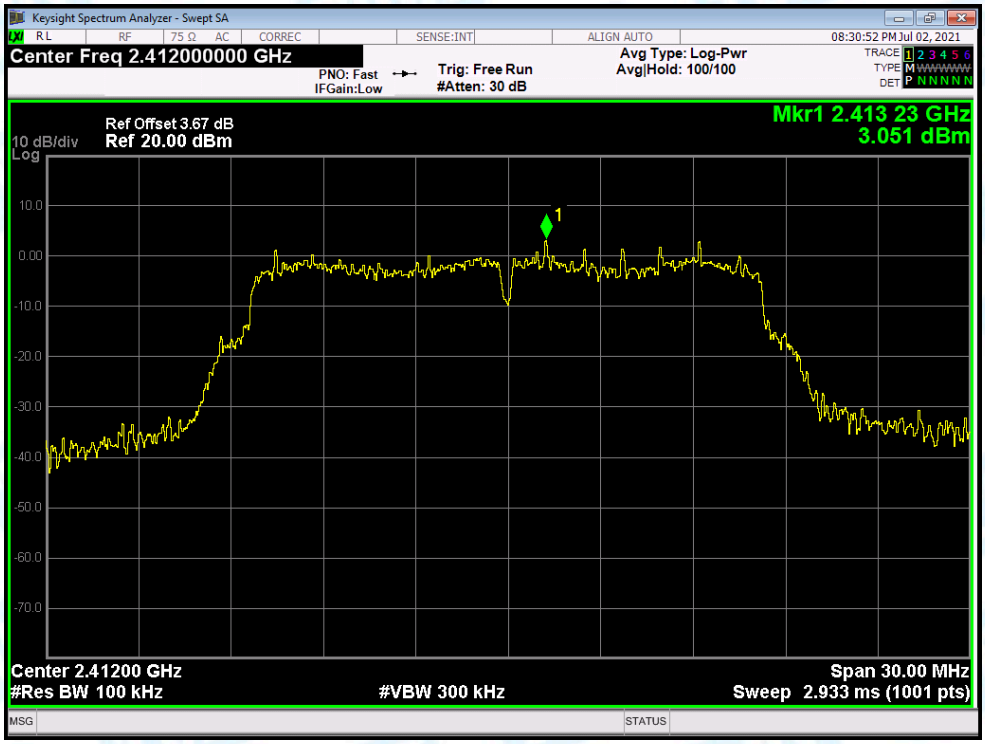
Band Edge NVNT b 2462MHz Ant1 Ref



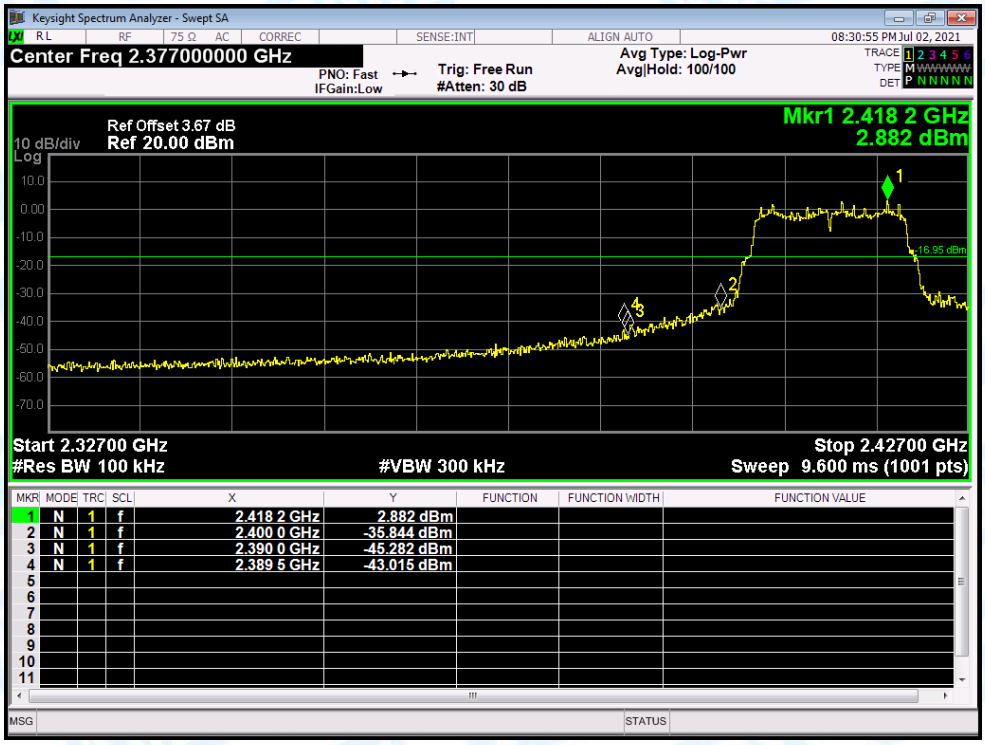
Band Edge NVNT b 2462MHz Ant1 Emission



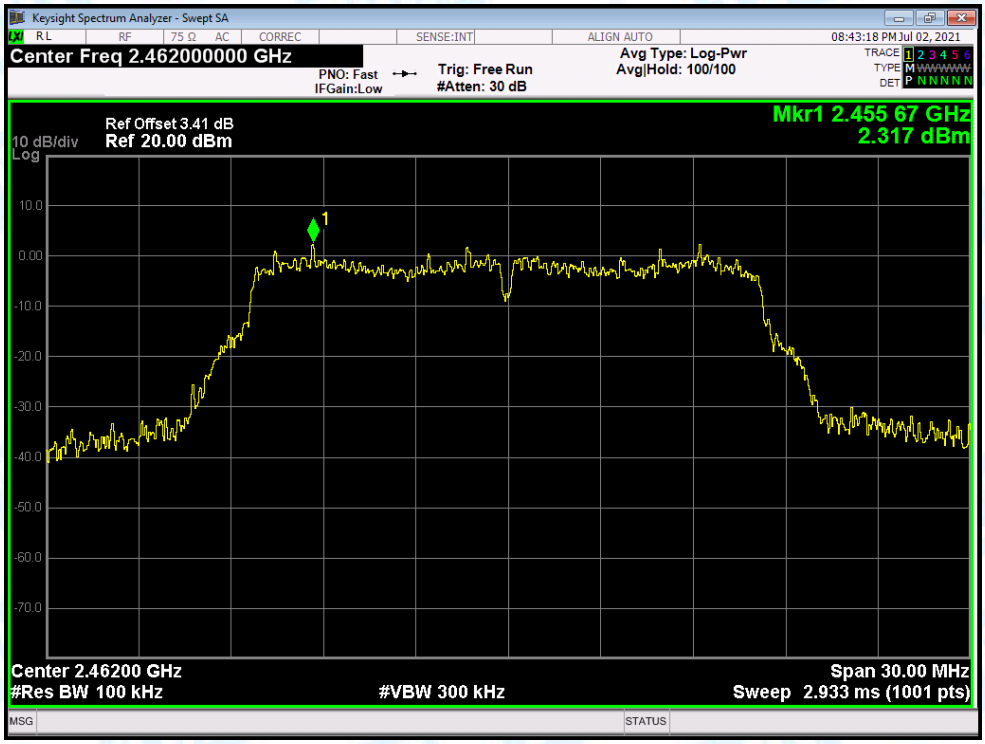
Band Edge NVNT g 2412MHz Ant1 Ref



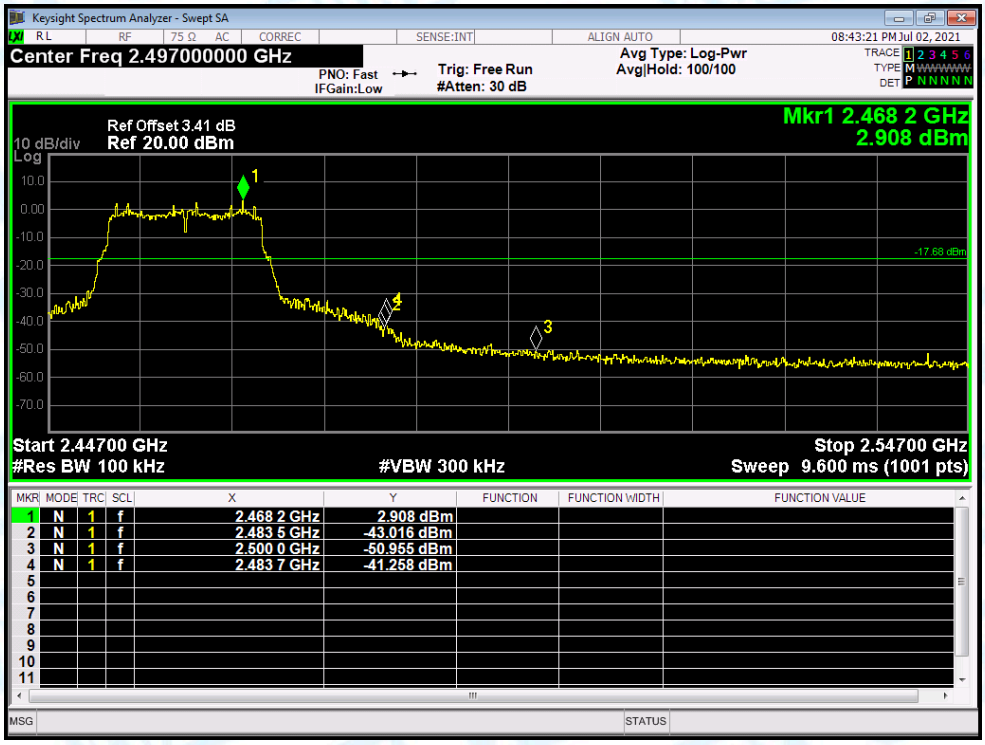
Band Edge NVNT g 2412MHz Ant1 Emission



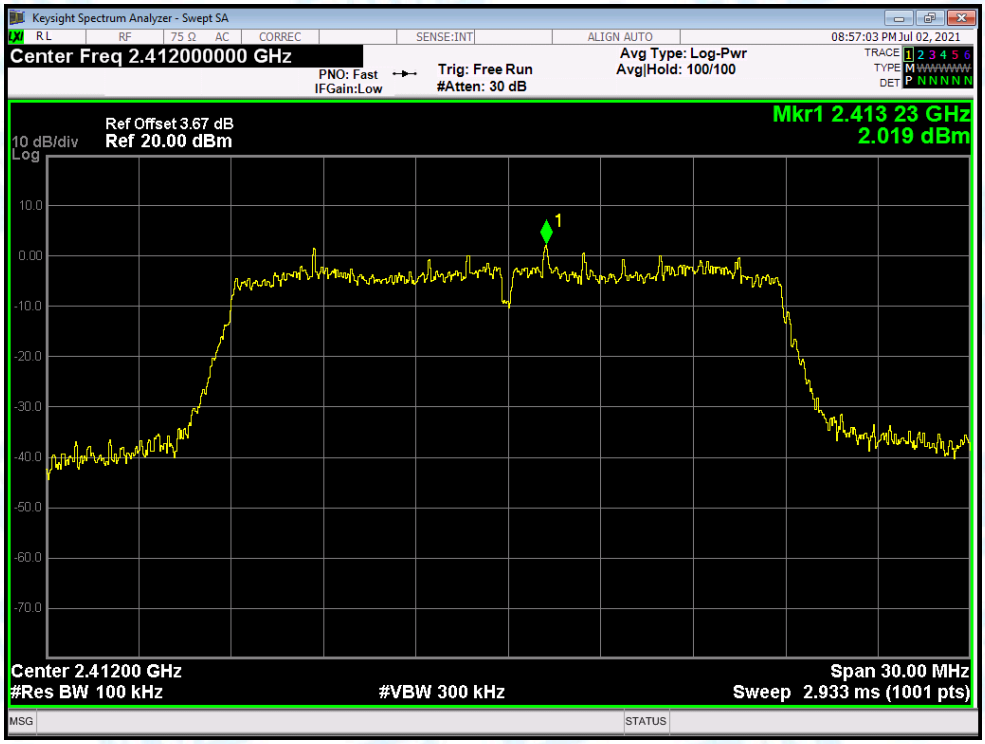
Band Edge NVNT g 2462MHz Ant1 Ref



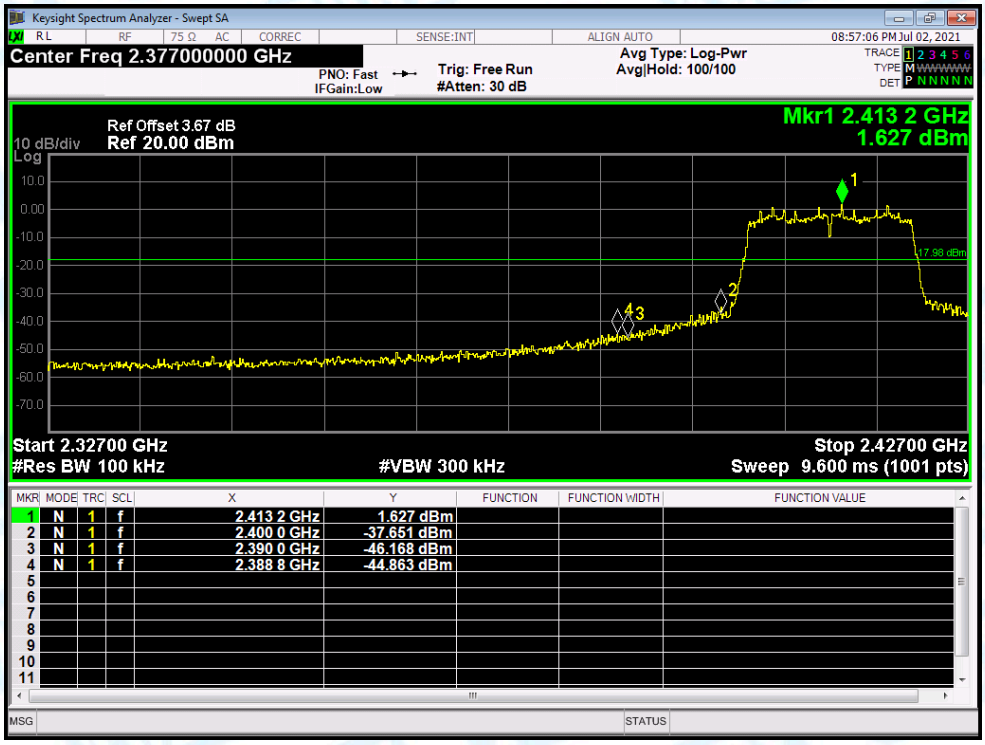
Band Edge NVNT g 2462MHz Ant1 Emission



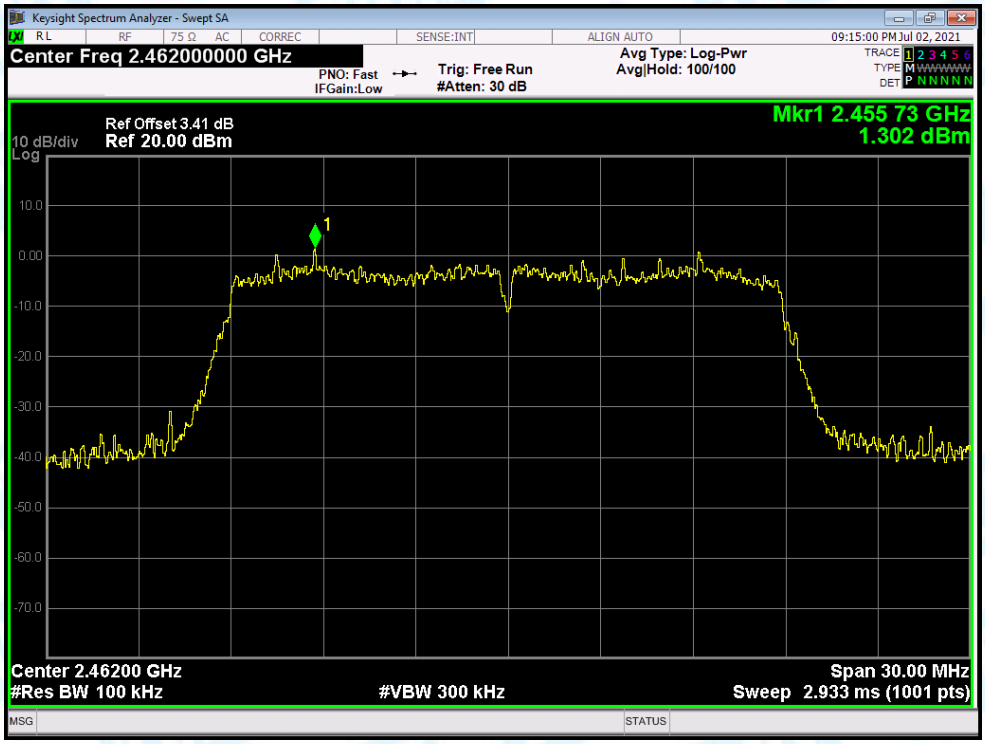
Band Edge NVNT n(HT20) 2412MHz Ant1 Ref



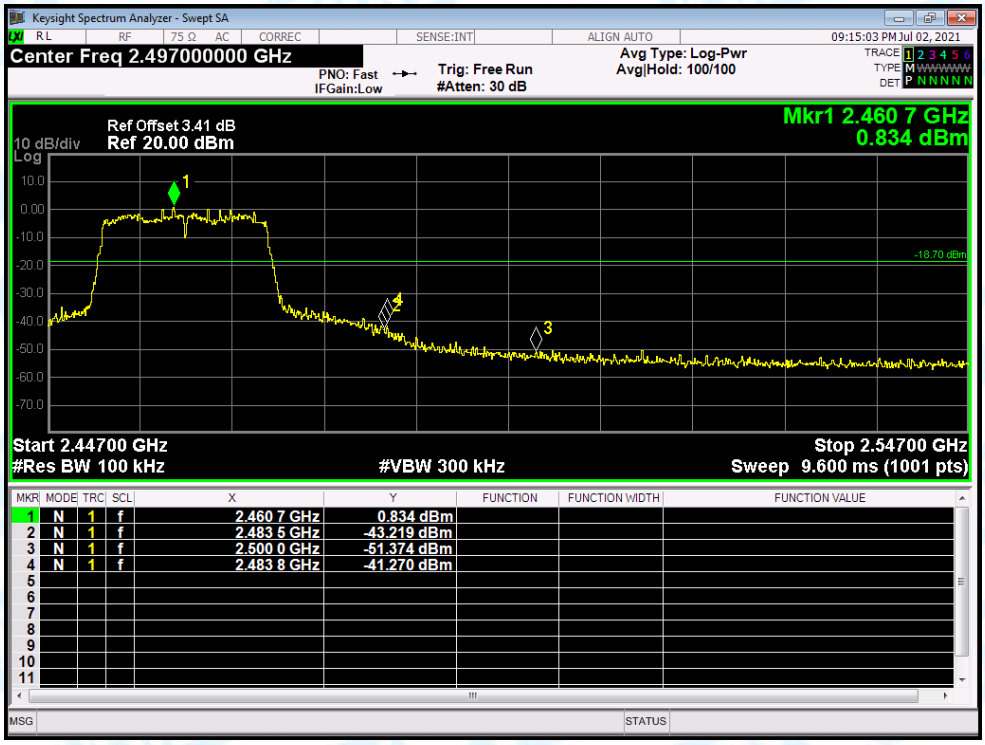
Band Edge NVNT n(HT20) 2412MHz Ant1 Emission



Band Edge NVNT n(HT20) 2462MHz Ant1 Ref



Band Edge NVNT n(HT20) 2462MHz Ant1 Emission

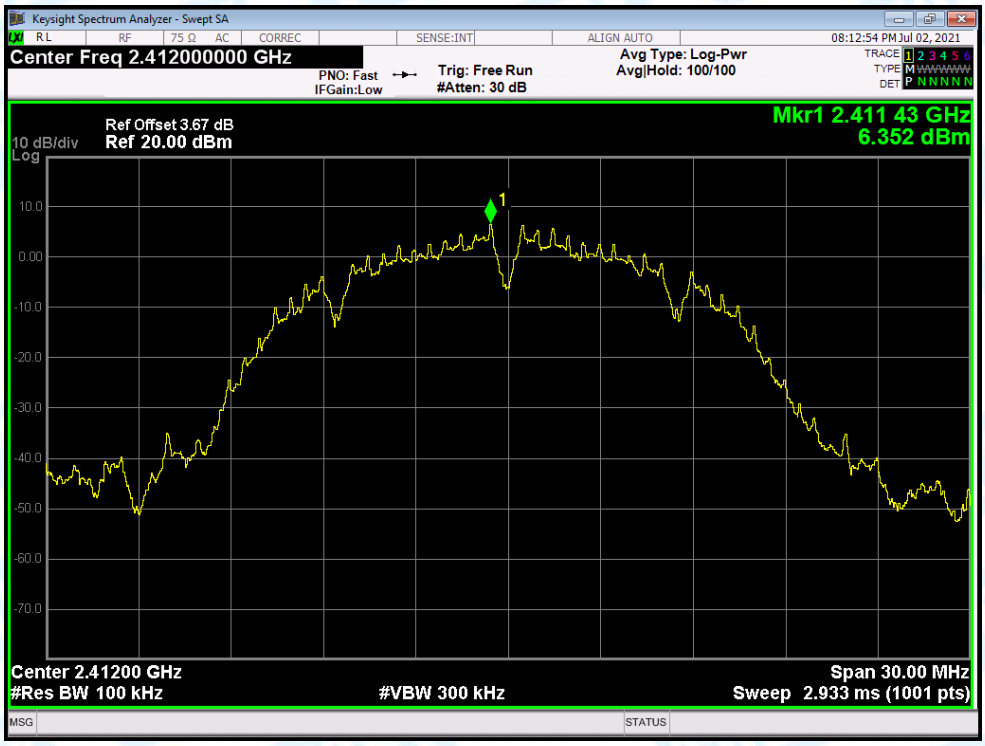


7. Conducted RF Spurious Emission

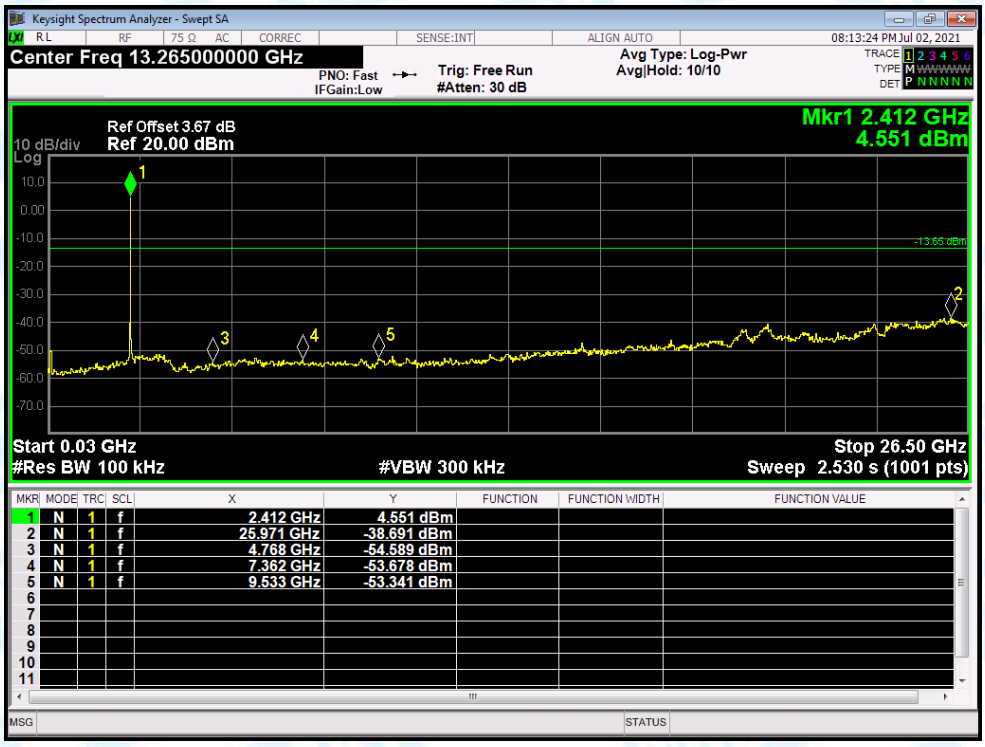
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-45.04	-20	Pass
NVNT	b	2437	Ant1	-44.71	-20	Pass
NVNT	b	2462	Ant1	-45.42	-20	Pass
NVNT	g	2412	Ant1	-41.07	-20	Pass
NVNT	g	2437	Ant1	-41.89	-20	Pass
NVNT	g	2462	Ant1	-41.28	-20	Pass
NVNT	n(HT20)	2412	Ant1	-39.55	-20	Pass
NVNT	n(HT20)	2437	Ant1	-40.34	-20	Pass
NVNT	n(HT20)	2462	Ant1	-39.53	-20	Pass

Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref

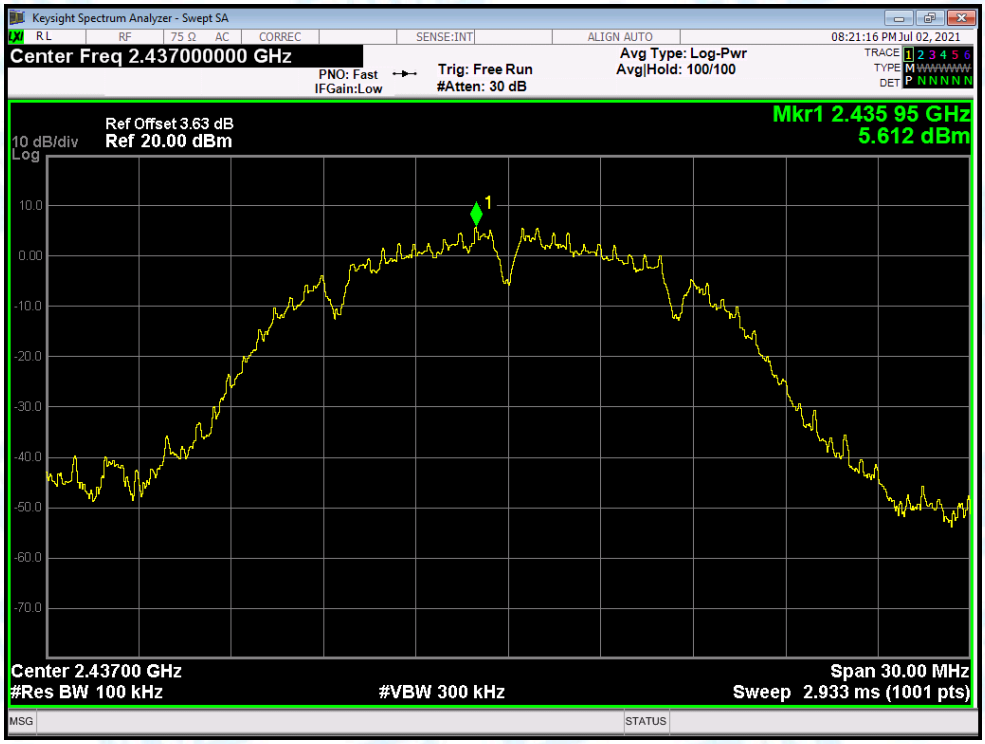


Tx. Spurious NVNT b 2412MHz Ant1 Emission

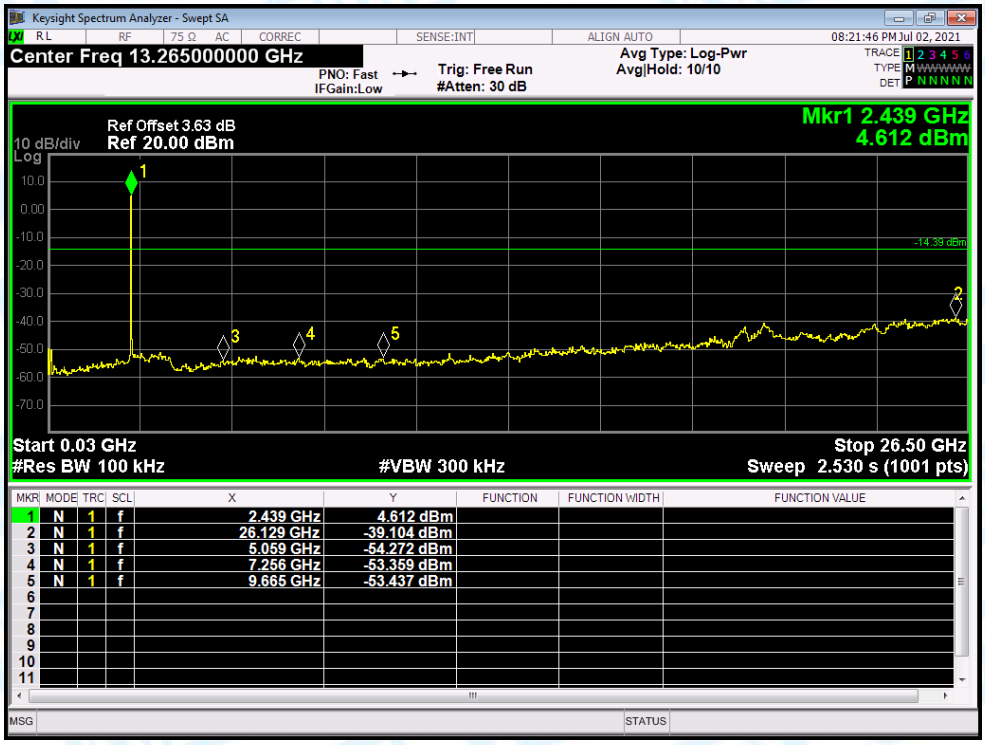


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.412 GHz	4.551 dBm			
2	N	1	f	25.971 GHz	-38.691 dBm			
3	N	1	f	4.768 GHz	-54.589 dBm			
4	N	1	f	7.362 GHz	-53.678 dBm			
5	N	1	f	9.533 GHz	-53.341 dBm			
6								
7								
8								
9								
10								
11								

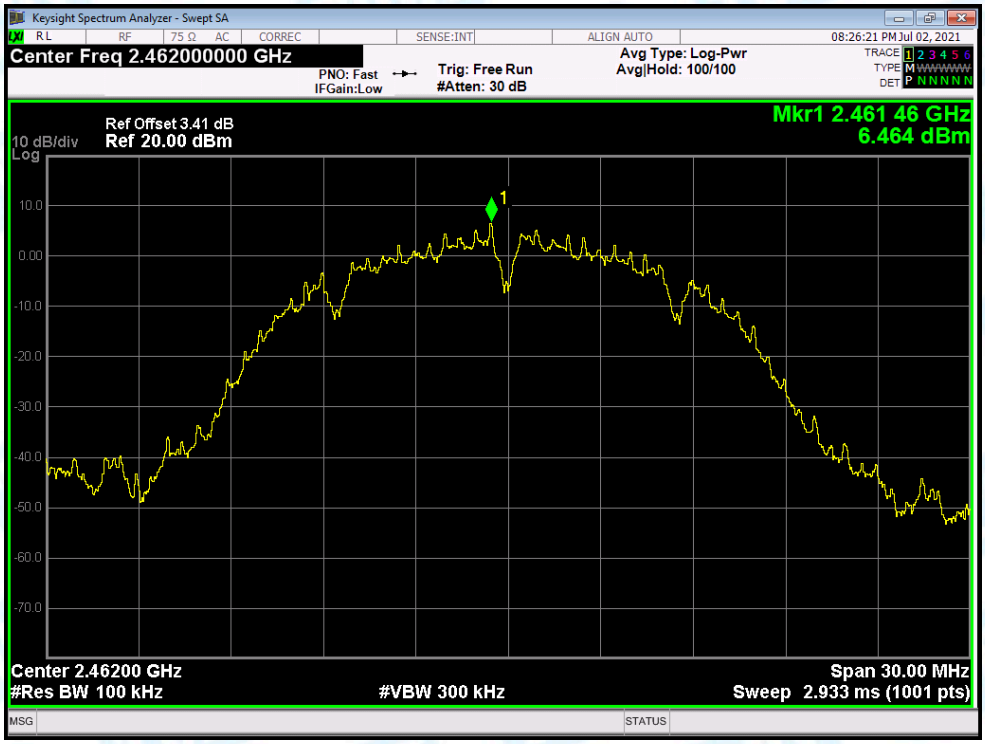
Tx. Spurious NVNT b 2437MHz Ant1 Ref



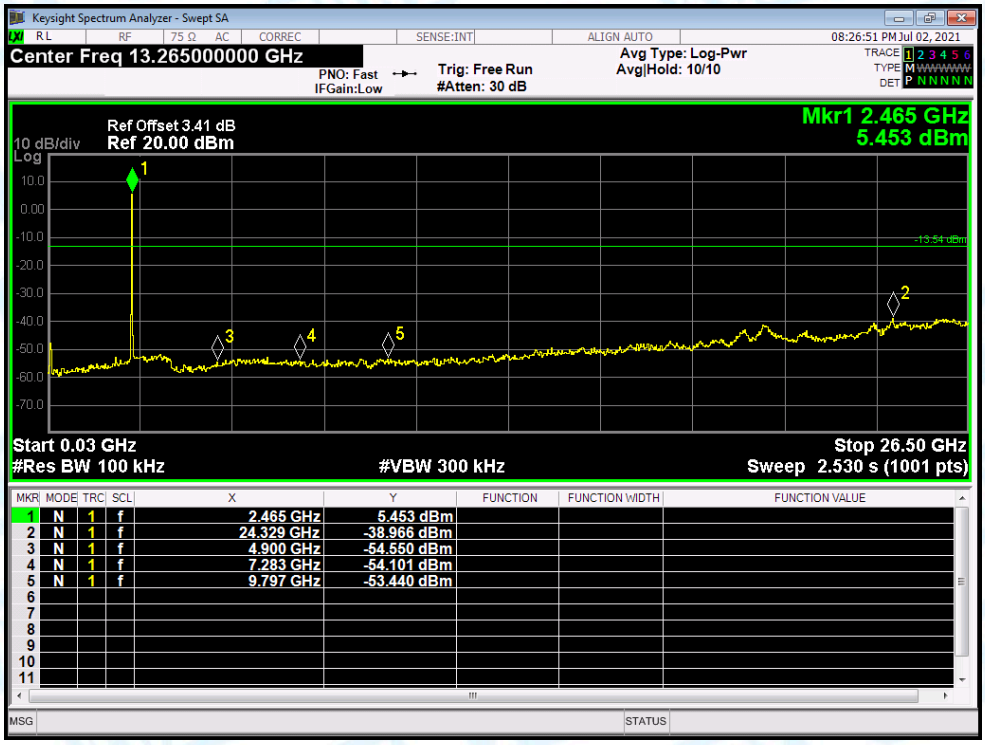
Tx. Spurious NVNT b 2437MHz Ant1 Emission



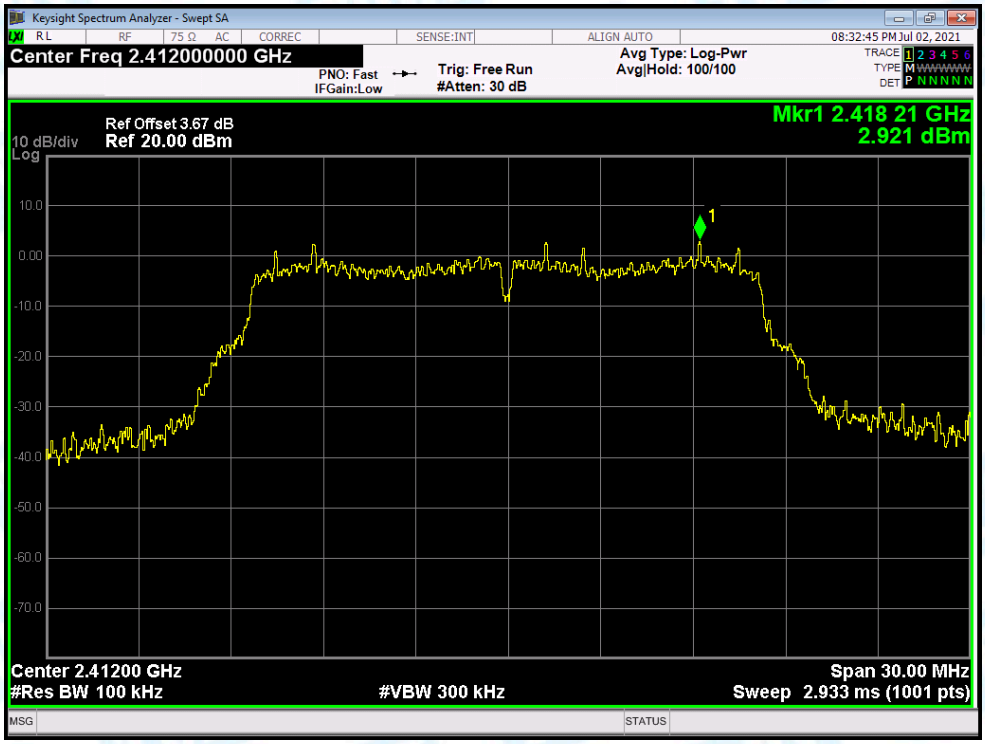
Tx. Spurious NVNT b 2462MHz Ant1 Ref



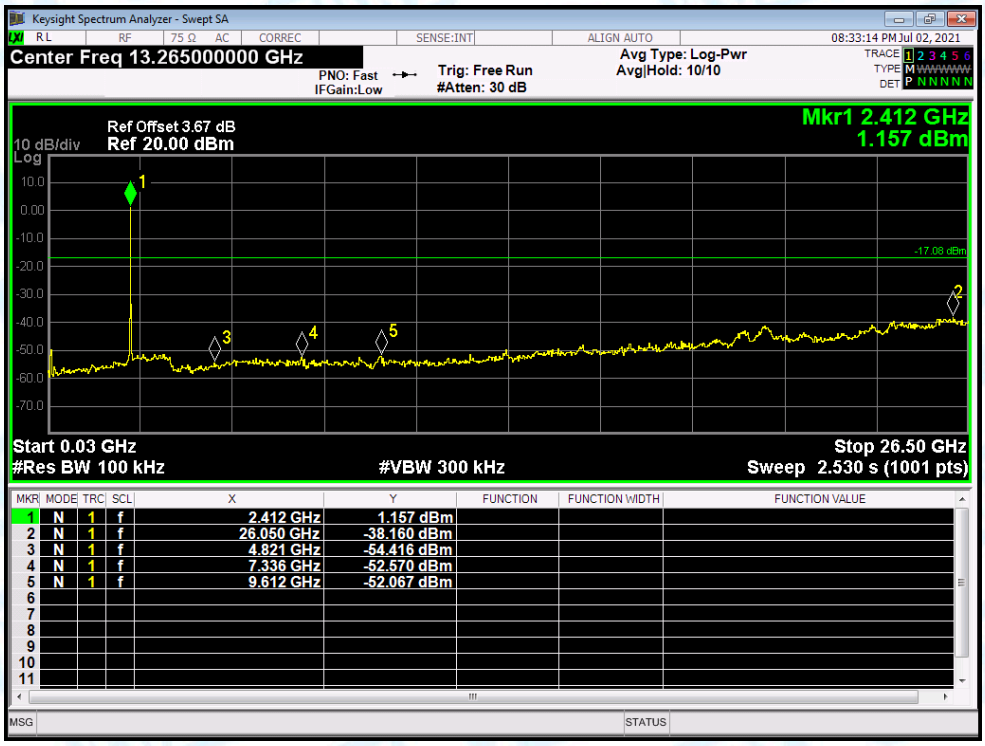
Tx. Spurious NVNT b 2462MHz Ant1 Emission



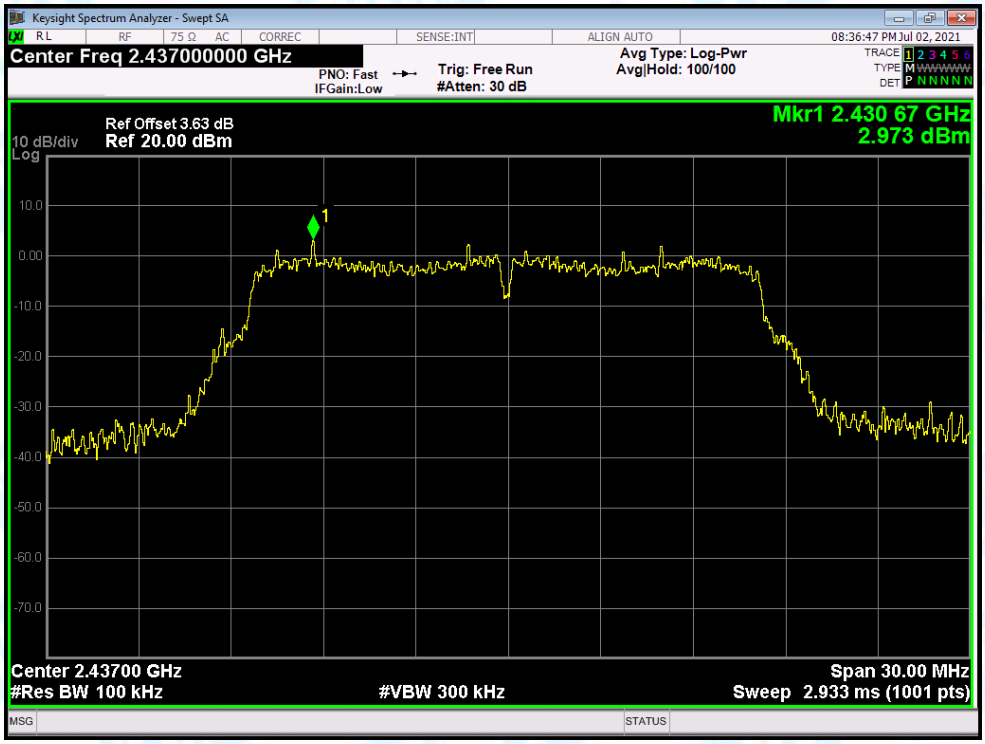
Tx. Spurious NVNT g 2412MHz Ant1 Ref



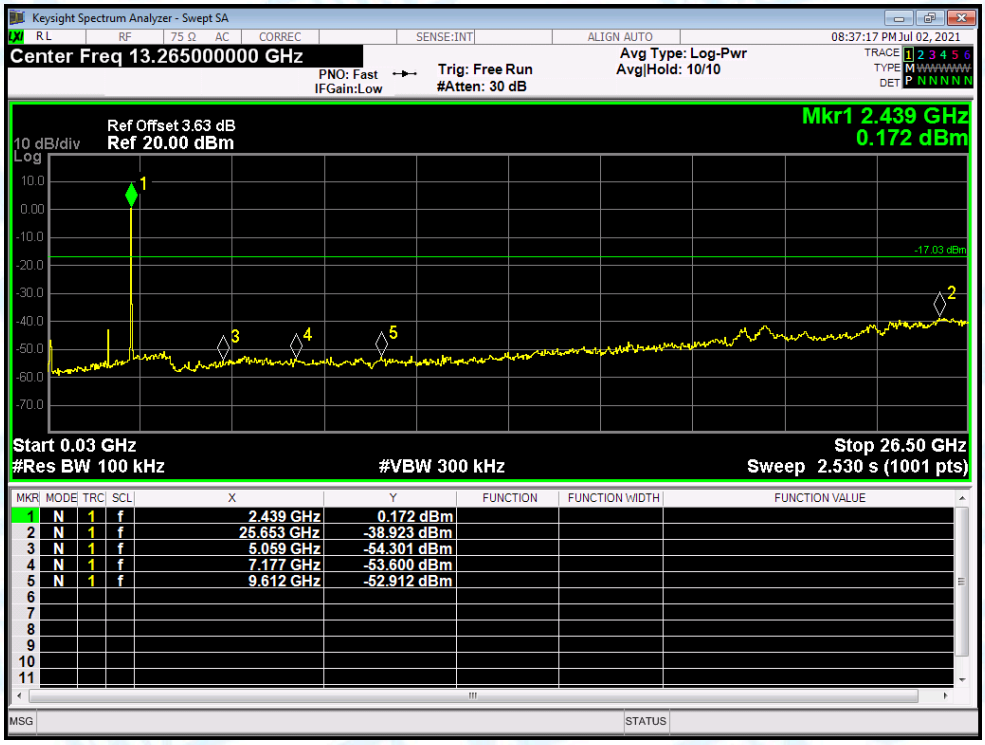
Tx. Spurious NVNT g 2412MHz Ant1 Emission



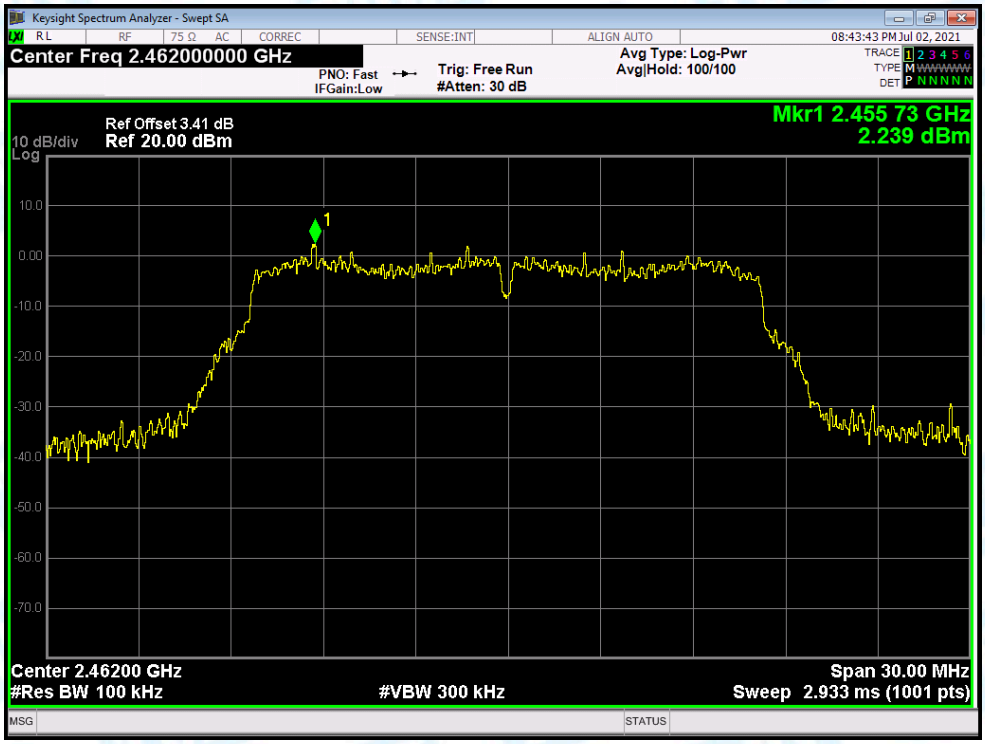
Tx. Spurious NVNT g 2437MHz Ant1 Ref



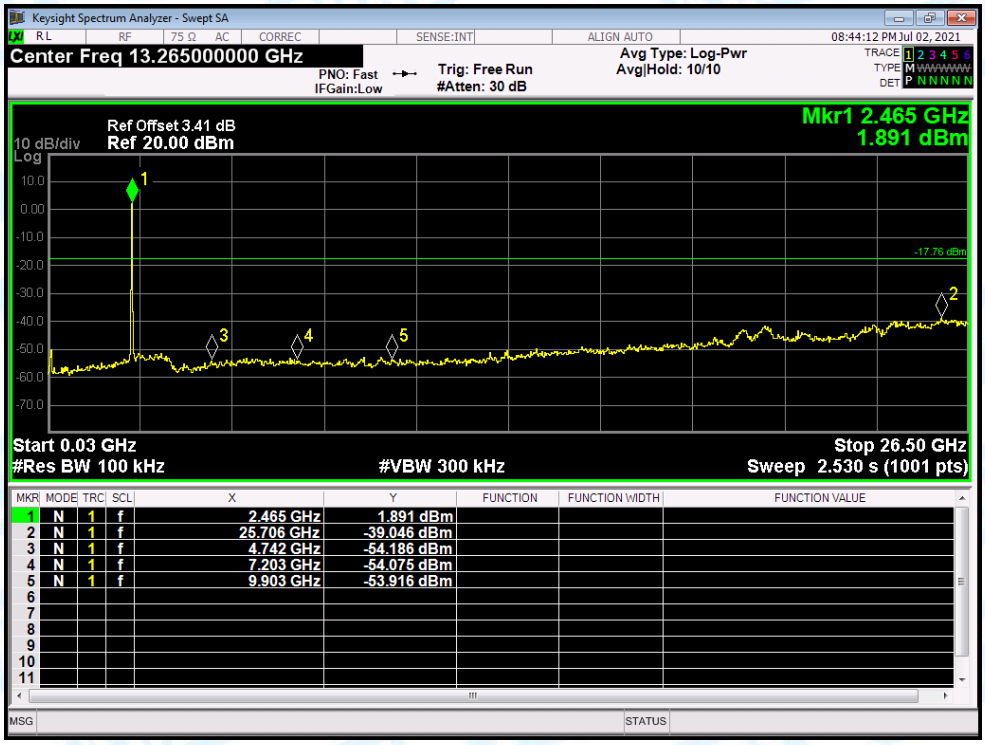
Tx. Spurious NVNT g 2437MHz Ant1 Emission



Tx. Spurious NVNT g 2462MHz Ant1 Ref

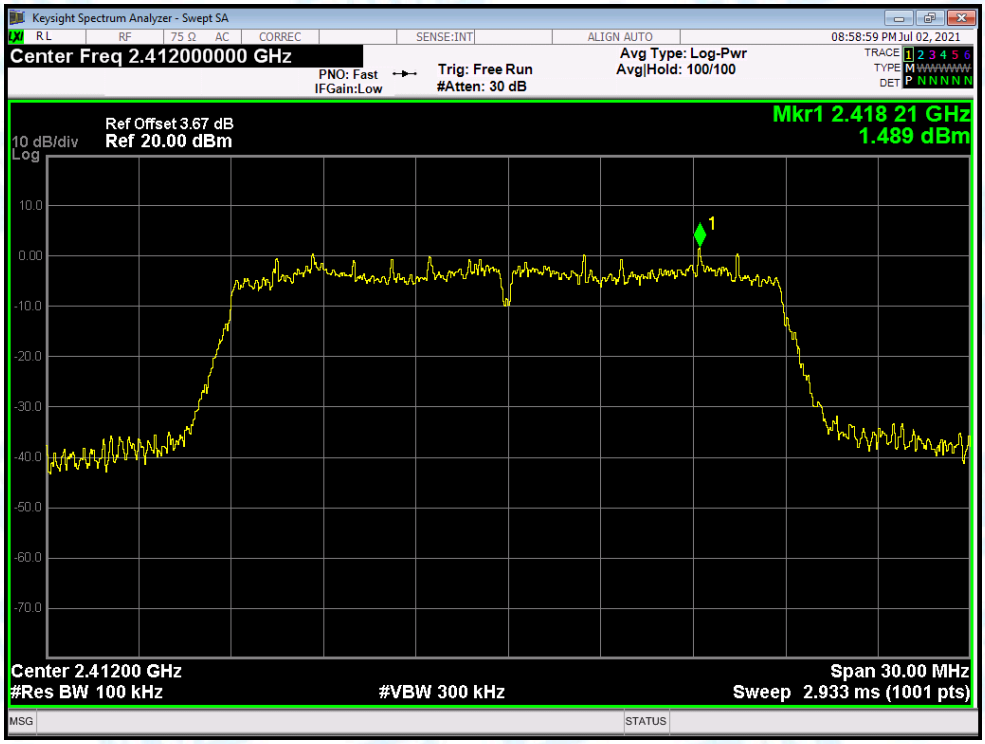


Tx. Spurious NVNT g 2462MHz Ant1 Emission

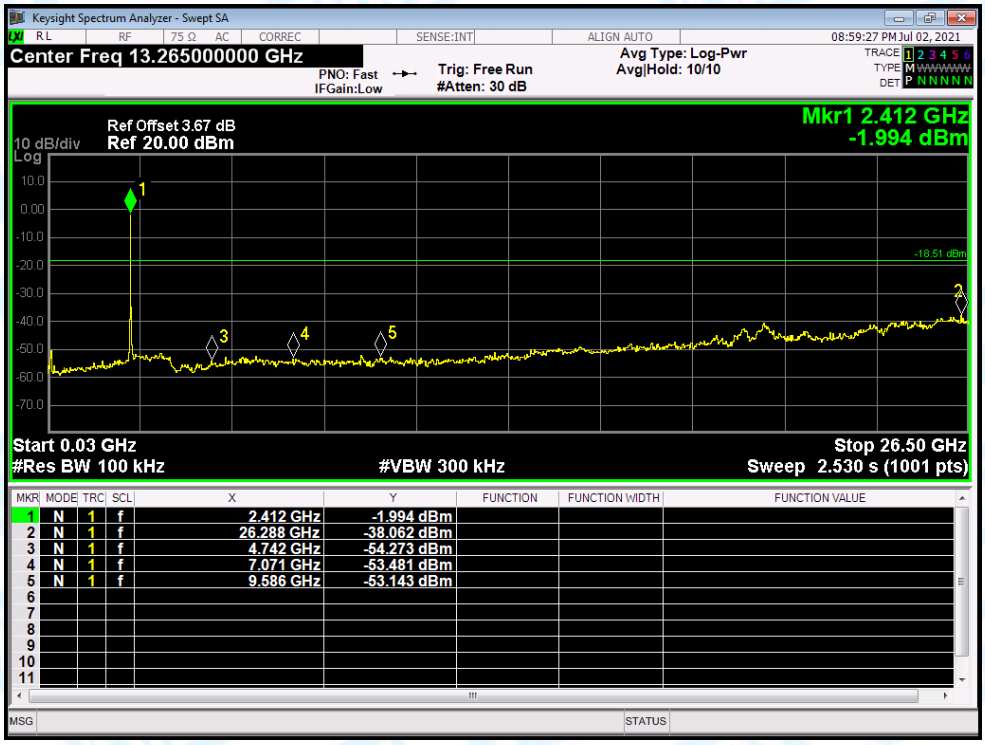


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.465 GHz	1.891 dBm			
2	N	1	f	25.706 GHz	-39.046 dBm			
3	N	1	f	4.742 GHz	-54.186 dBm			
4	N	1	f	7.203 GHz	-54.075 dBm			
5	N	1	f	9.903 GHz	-53.916 dBm			
6								
7								
8								
9								
10								
11								

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

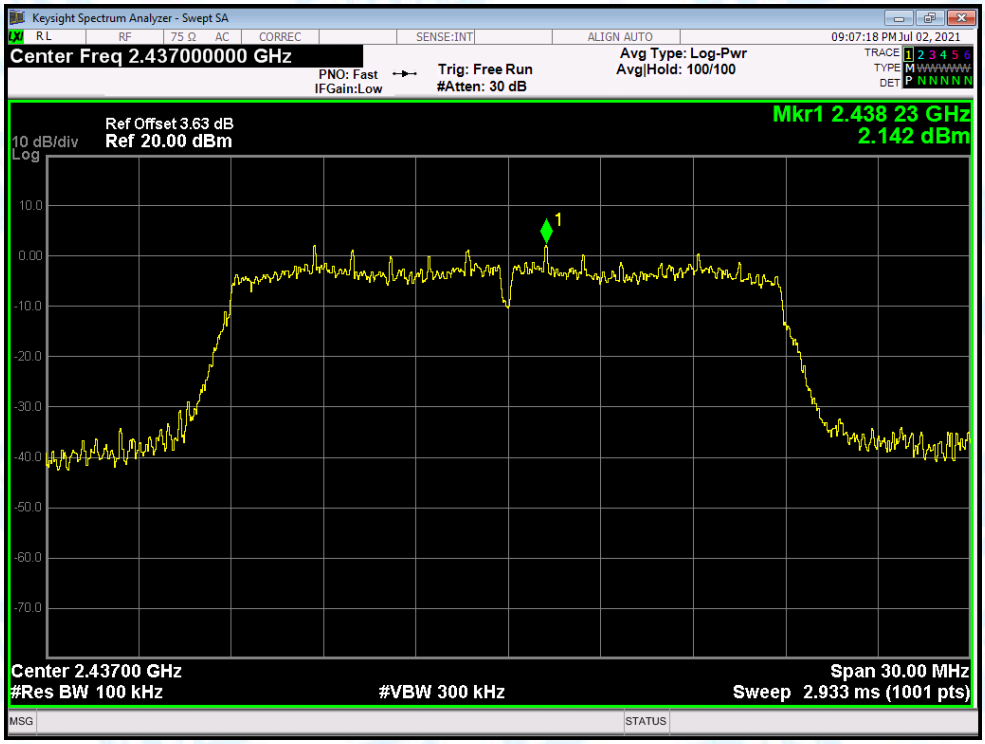


Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Emission

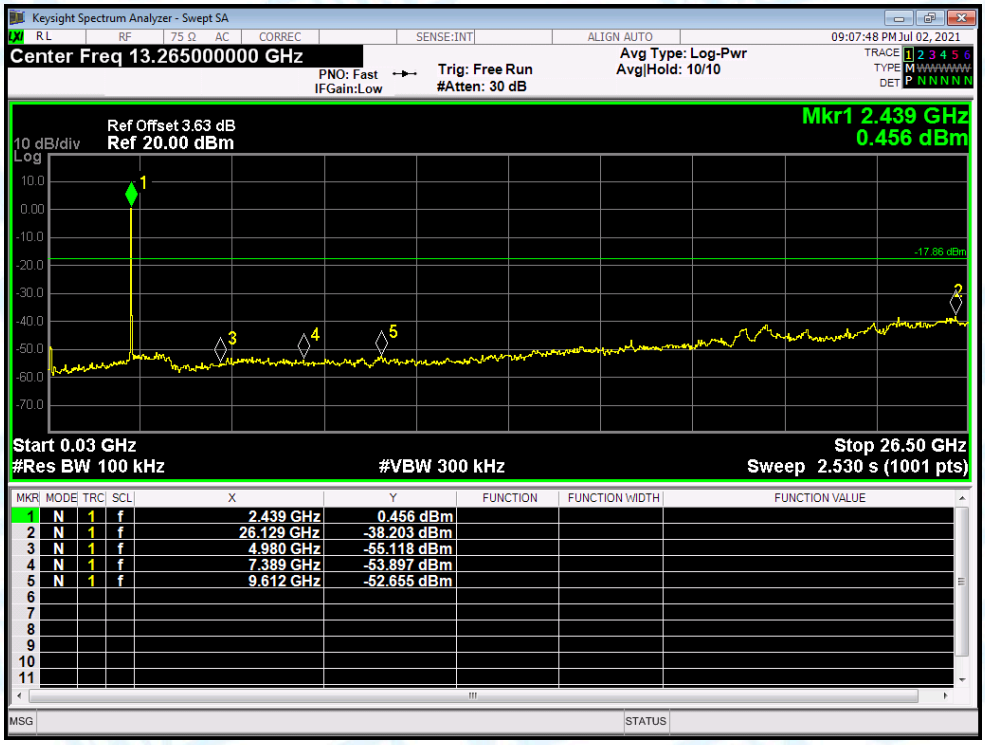


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.412 GHz	-1.994 dBm			
2	N	1	f	26.288 GHz	-38.062 dBm			
3	N	1	f	4.742 GHz	-54.273 dBm			
4	N	1	f	7.071 GHz	-53.481 dBm			
5	N	1	f	9.586 GHz	-53.143 dBm			
6								
7								
8								
9								
10								
11								

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

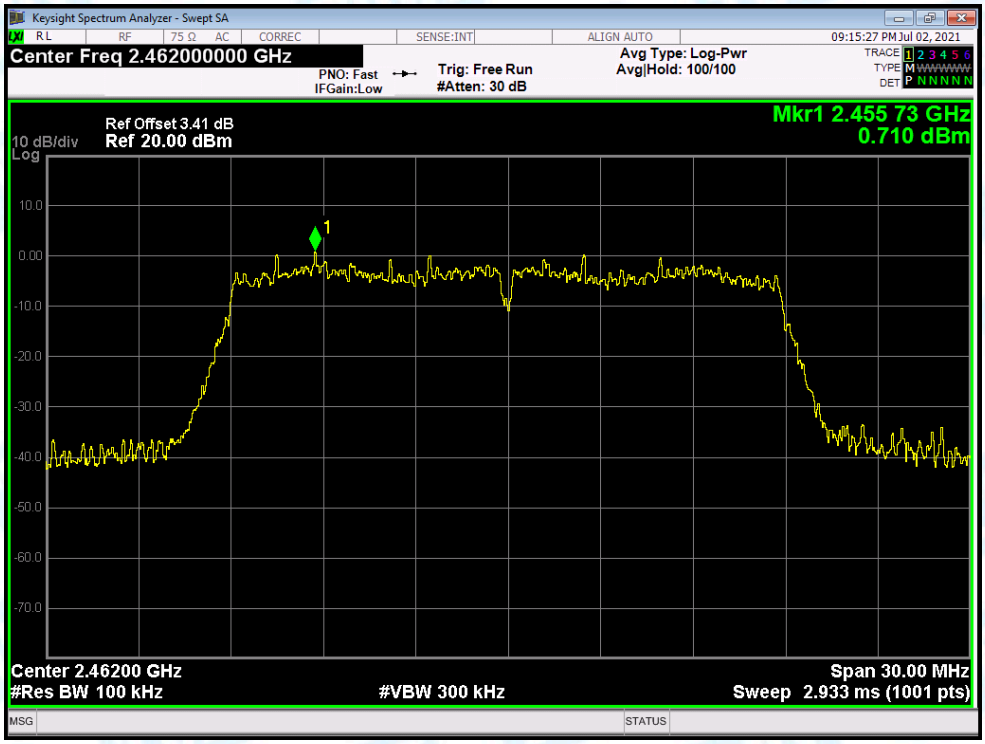


Tx. Spurious NVNT n(HT20) 2437MHz Ant1 Emission

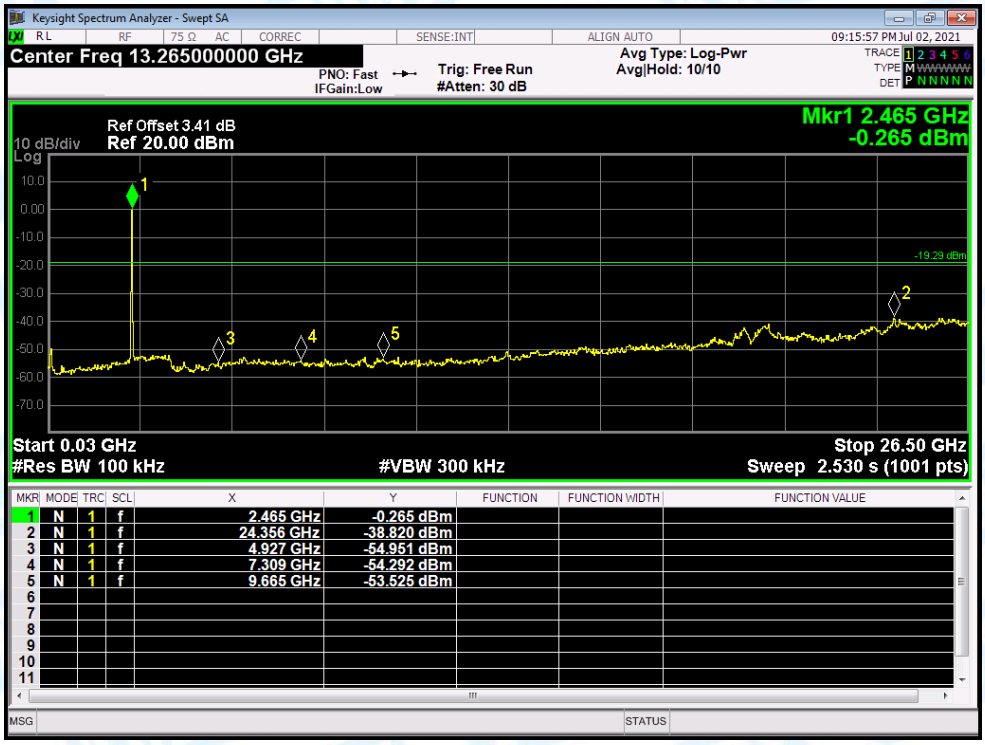


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.439 GHz	0.456 dBm			
2	N	1	f	26.129 GHz	-38.203 dBm			
3	N	1	f	4.980 GHz	-55.118 dBm			
4	N	1	f	7.389 GHz	-53.897 dBm			
5	N	1	f	9.612 GHz	-52.655 dBm			
6								
7								
8								
9								
10								
11								

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



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



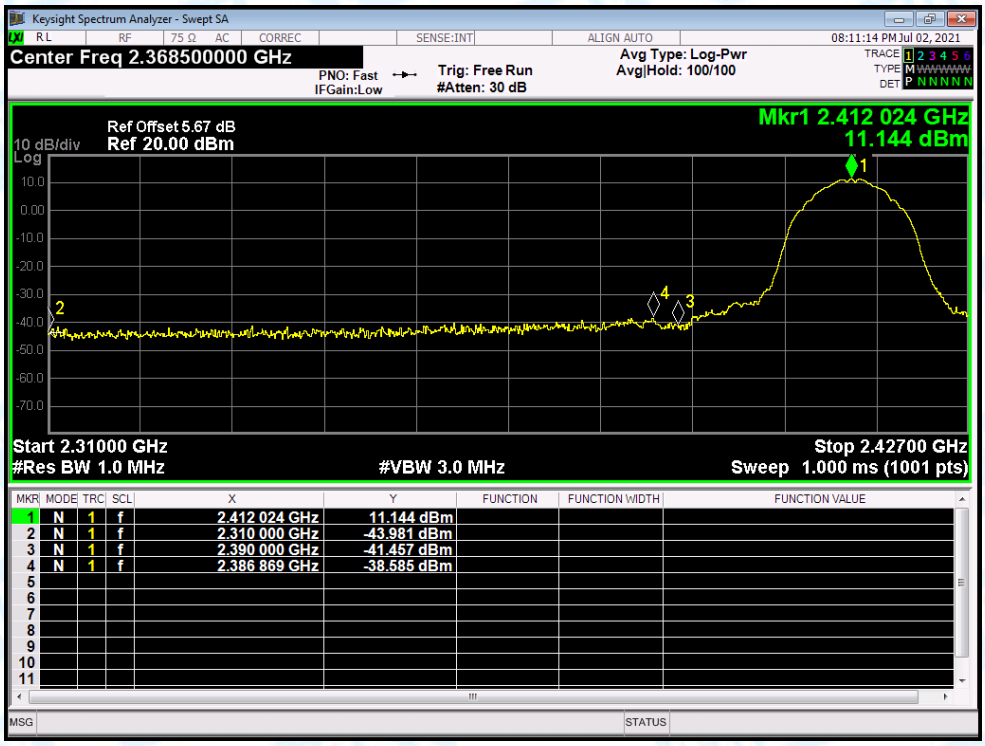
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.465 GHz	-0.265 dBm			
2	N	1	f	24.356 GHz	-38.820 dBm			
3	N	1	f	4.927 GHz	-54.951 dBm			
4	N	1	f	7.309 GHz	-54.292 dBm			
5	N	1	f	9.665 GHz	-53.525 dBm			
6								
7								
8								
9								
10								
11								

8. Restrict Band

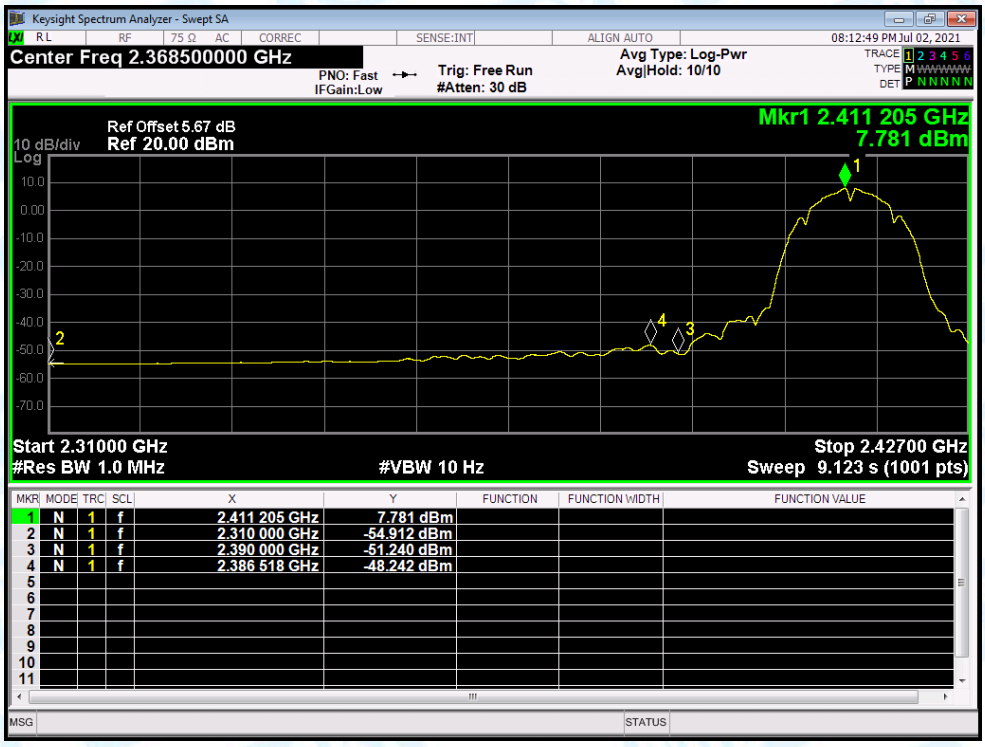
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-44.42	2	52.84	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-54.9	2	42.36	Average	54	Pass
NVNT	b	2412	Ant1	2386.869	-38.58	2	58.68	Peak	74	Pass
NVNT	b	2412	Ant1	2386.518	-48.24	2	49.02	Average	54	Pass
NVNT	b	2412	Ant1	2390	-41.45	2	55.81	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-51.23	2	46.03	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-40.21	2	57.05	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-50.22	2	47.04	Average	54	Pass
NVNT	b	2462	Ant1	2489.453	-36.79	2	60.47	Peak	74	Pass
NVNT	b	2462	Ant1	2484.842	-45.99	2	51.27	Average	54	Pass
NVNT	b	2462	Ant1	2500	-42.77	2	54.49	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-52.58	2	44.68	Average	54	Pass
NVNT	g	2412	Ant1	2310	-43.83	2	53.43	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-54.92	2	42.34	Average	54	Pass
NVNT	g	2412	Ant1	2389.443	-31.99	2	65.27	Peak	74	Pass
NVNT	g	2412	Ant1	2389.911	-44.41	2	52.85	Average	54	Pass
NVNT	g	2412	Ant1	2390	-32.71	2	64.55	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-44.32	2	52.94	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-39.12	2	58.14	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-50.45	2	46.81	Average	54	Pass
NVNT	g	2462	Ant1	2486.856	-29.83	2	67.43	Peak	74	Pass
NVNT	g	2462	Ant1	2483.517	-50.45	2	46.81	Average	54	Pass
NVNT	g	2462	Ant1	2500	-43.53	2	53.73	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-53.17	2	44.09	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2310	-43.81	2	53.45	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2310	-54.94	2	42.32	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2389.443	-30.44	2	66.82	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2389.911	-44.64	2	52.62	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2390	-28.95	2	68.31	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2390	-44.56	2	52.7	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-39.58	2	57.68	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-51.66	2	45.6	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2484.153	-31.57	2	65.69	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.517	-51.66	2	45.6	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2500	-42.85	2	54.41	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2500	-53.05	2	44.21	Average	54	Pass

Test Graphs

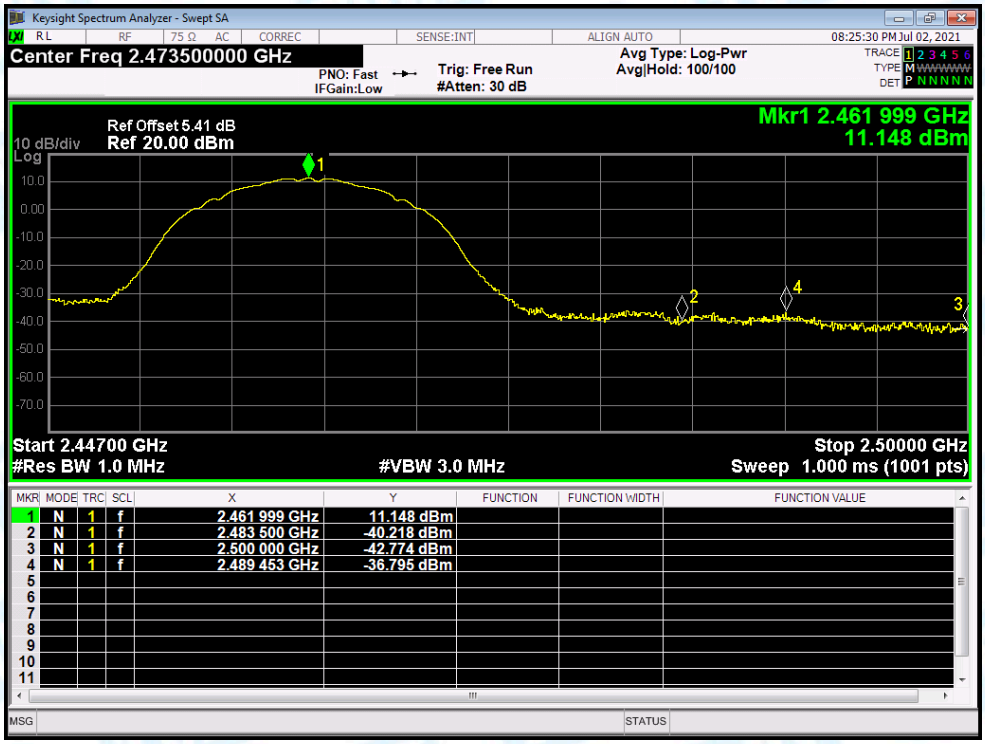
Restrict Band NVNT b 2412MHz Ant1 Peak



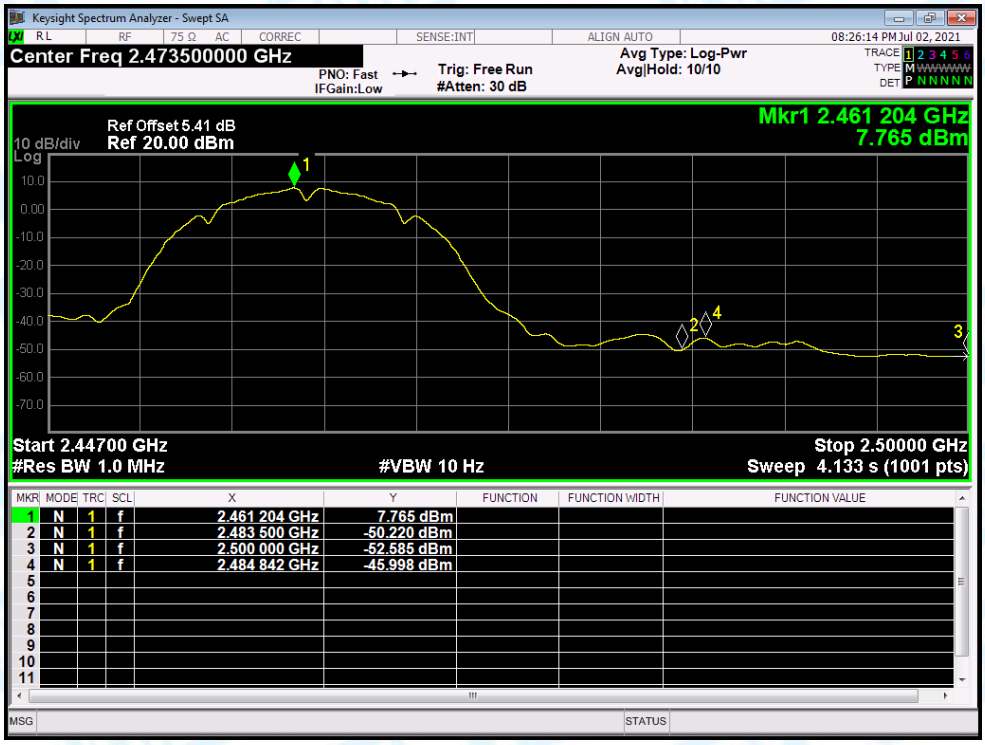
Restrict Band NVNT b 2412MHz Ant1 Average



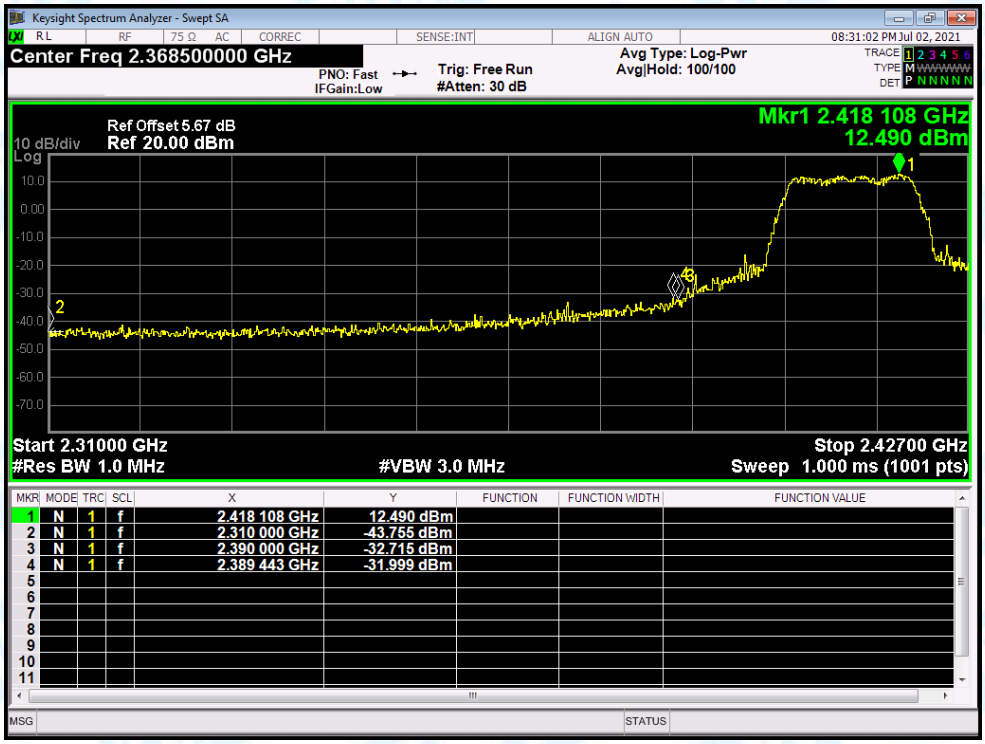
Restrict Band NVNT b 2462MHz Ant1 Peak



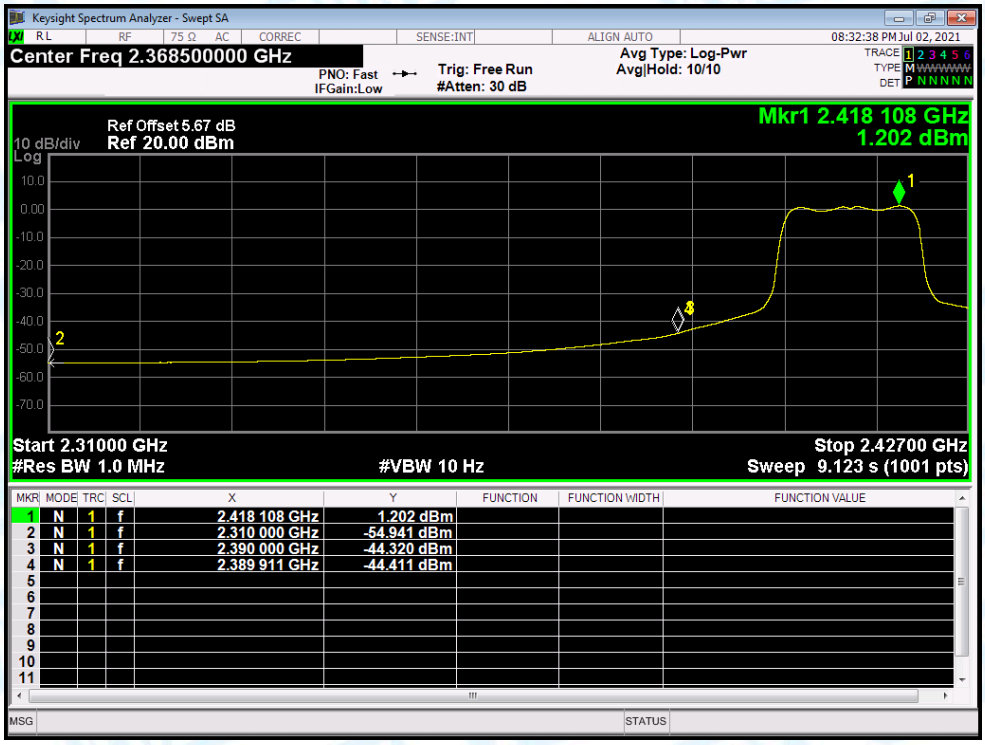
Restrict Band NVNT b 2462MHz Ant1 Average



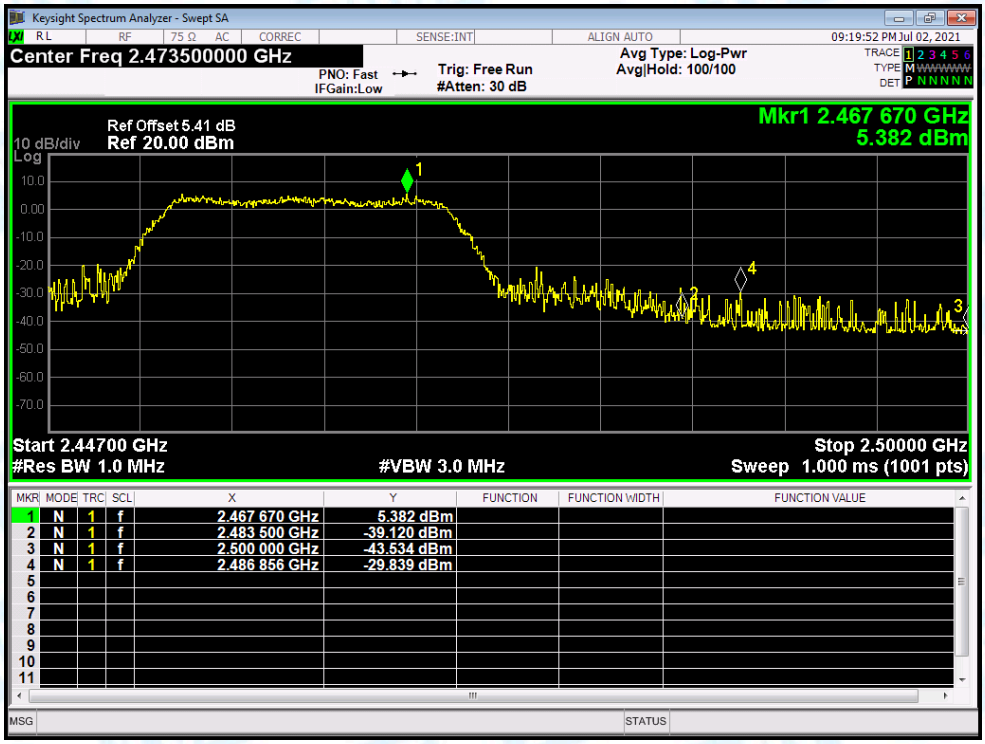
Restrict Band NVNT g 2412MHz Ant1 Peak



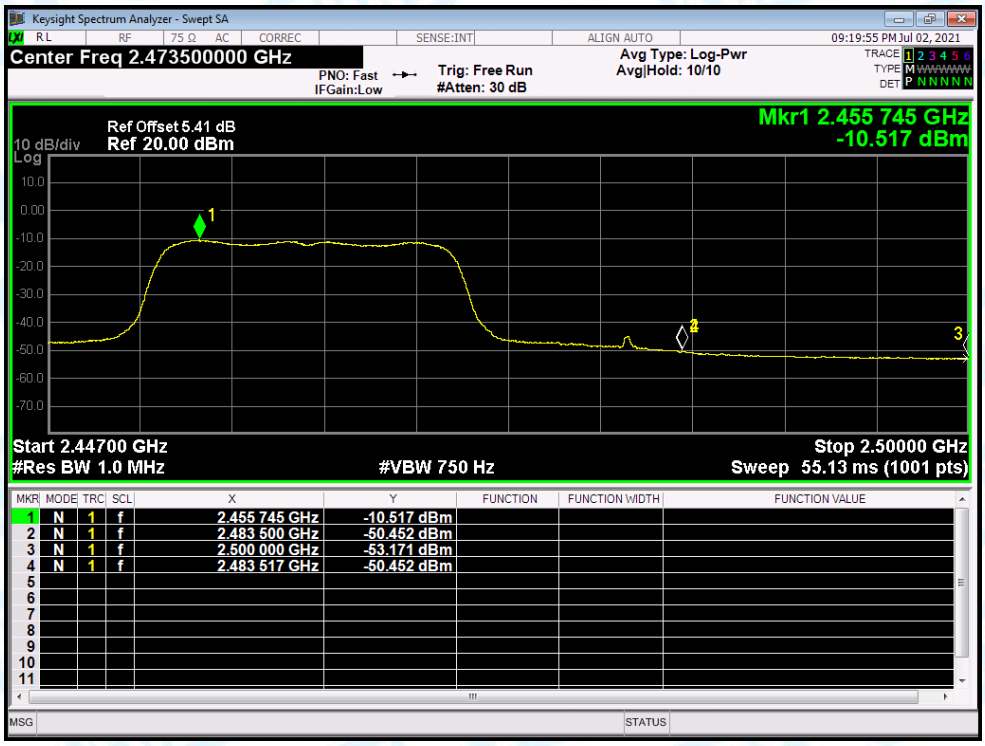
Restrict Band NVNT g 2412MHz Ant1 Average



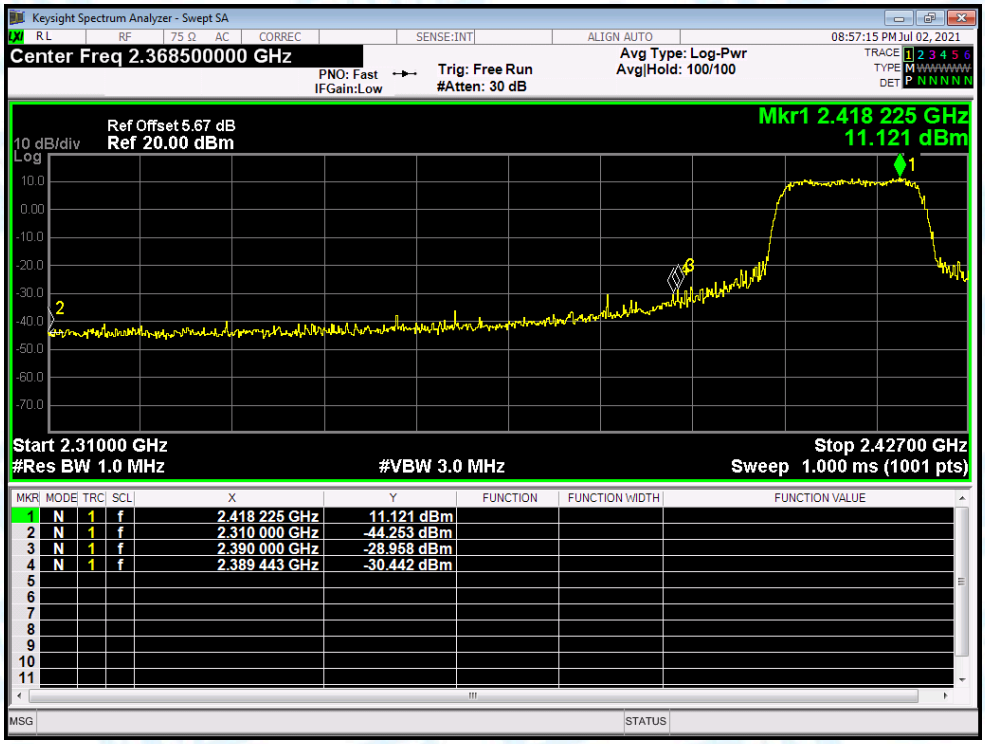
Restrict Band NVNT g 2462MHz Ant1 Peak



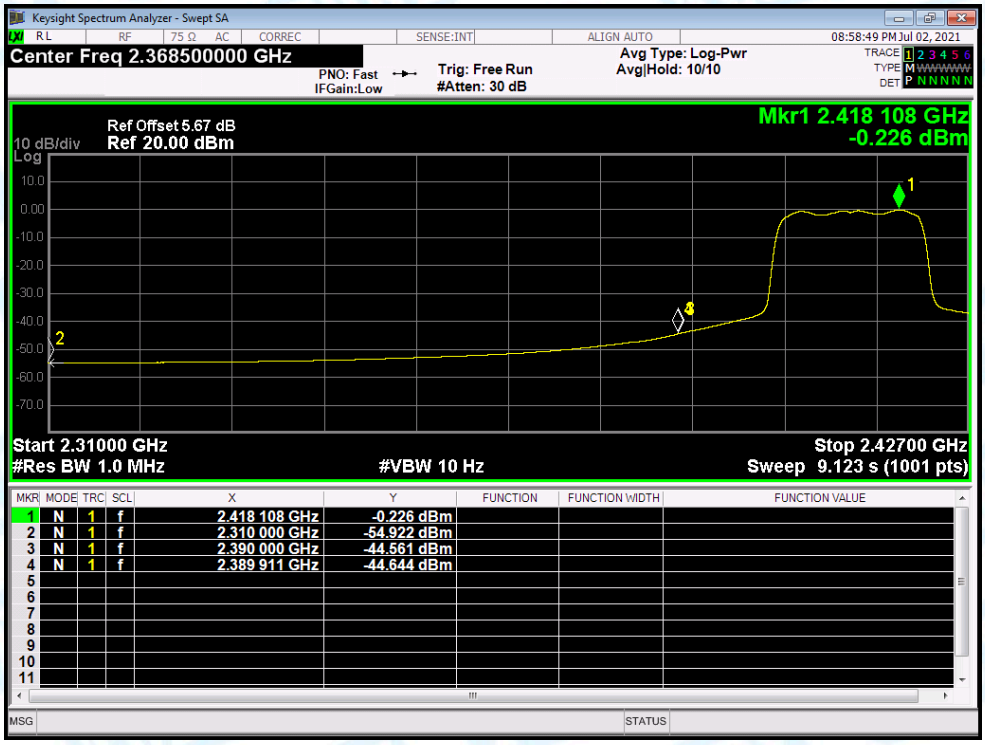
Restrict Band NVNT g 2462MHz Ant1 Average



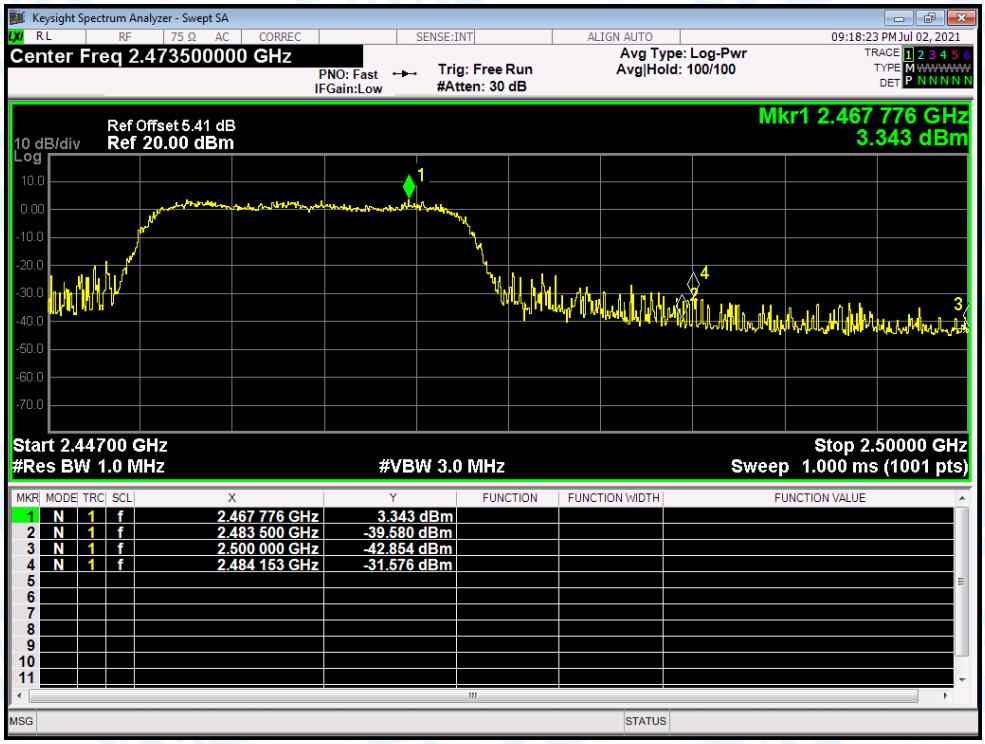
Restrict Band NVNT n(HT20) 2412MHz Ant1 Peak



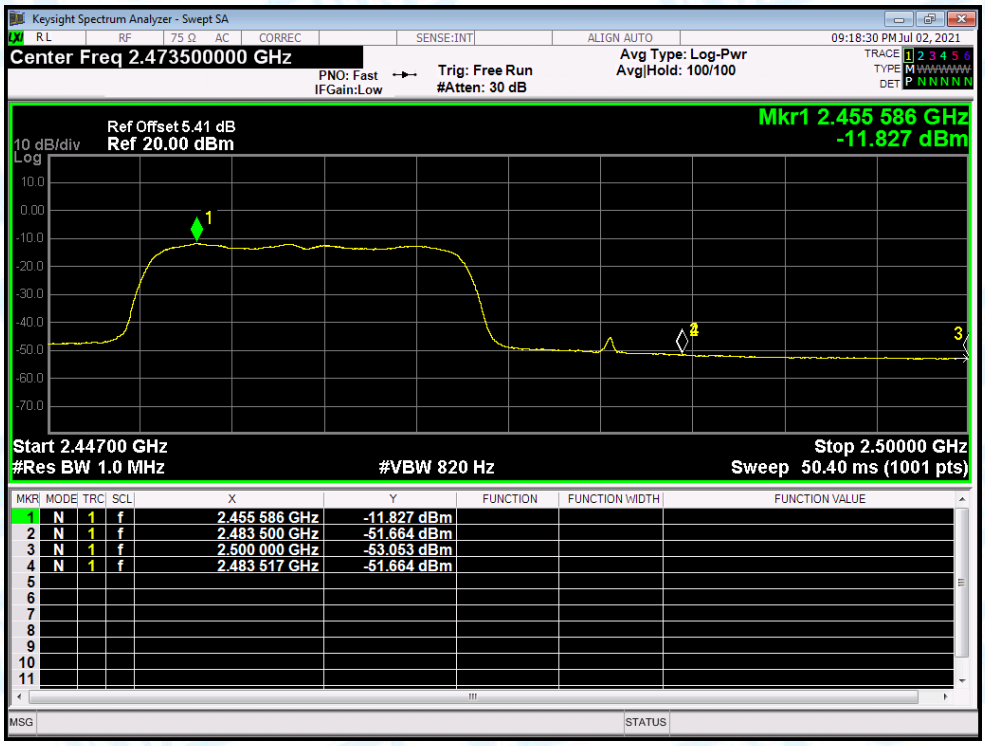
Restrict Band NVNT n(HT20) 2412MHz Ant1 Average



Restrict Band NVNT n(HT20) 2462MHz Ant1 Peak



Restrict Band NVNT n(HT20) 2462MHz Ant1 Average



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