

# RF Test Data for 2.4G WiFi (Conducted Measurements)

General Description of EUT	
<b>Product Name:</b>	Smart Battery Camera
<b>Test Model:</b>	X84
<b>Sample ID:</b>	202312-0325-3-2#
Environmental Conditions	
<b>Temperature:</b>	24°C
<b>Relative Humidity:</b>	50%
<b>Test Voltage:</b>	DC 3.7V
<b>Test Engineer:</b>	Yanzhenming
Note: For a more detailed features description, please refer to the report TBR-C-202312-0325-31 The report only show the worst case data.	



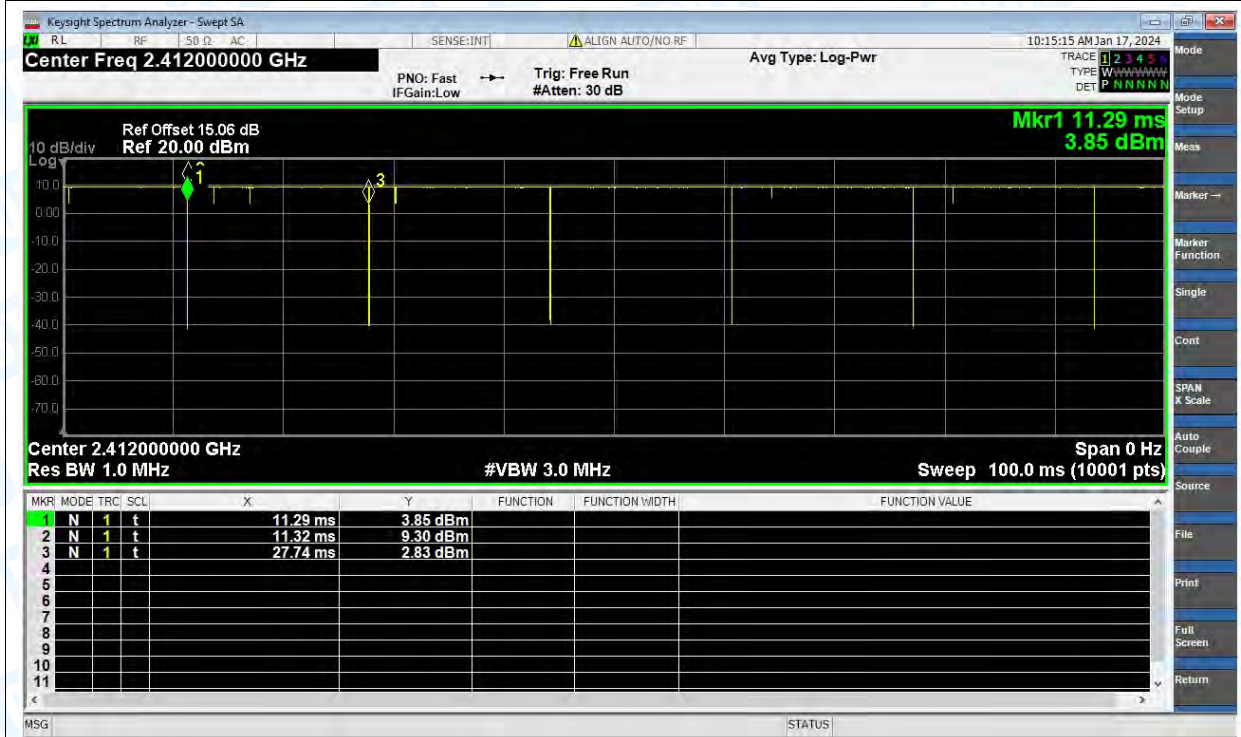
## Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	99.82	0.01	0.06
NVNT	b	2437	Ant1	99.88	0.01	0.06
NVNT	b	2462	Ant1	99.82	0.01	0.06
NVNT	g	2412	Ant1	98.56	0.06	0.37
NVNT	g	2437	Ant1	98.56	0.06	0.37
NVNT	g	2462	Ant1	98.91	0.05	0.37
NVNT	n(HT20)	2412	Ant1	98.84	0.05	0.39
NVNT	n(HT20)	2437	Ant1	98.91	0.05	0.37
NVNT	n(HT20)	2462	Ant1	98.92	0.05	0.36

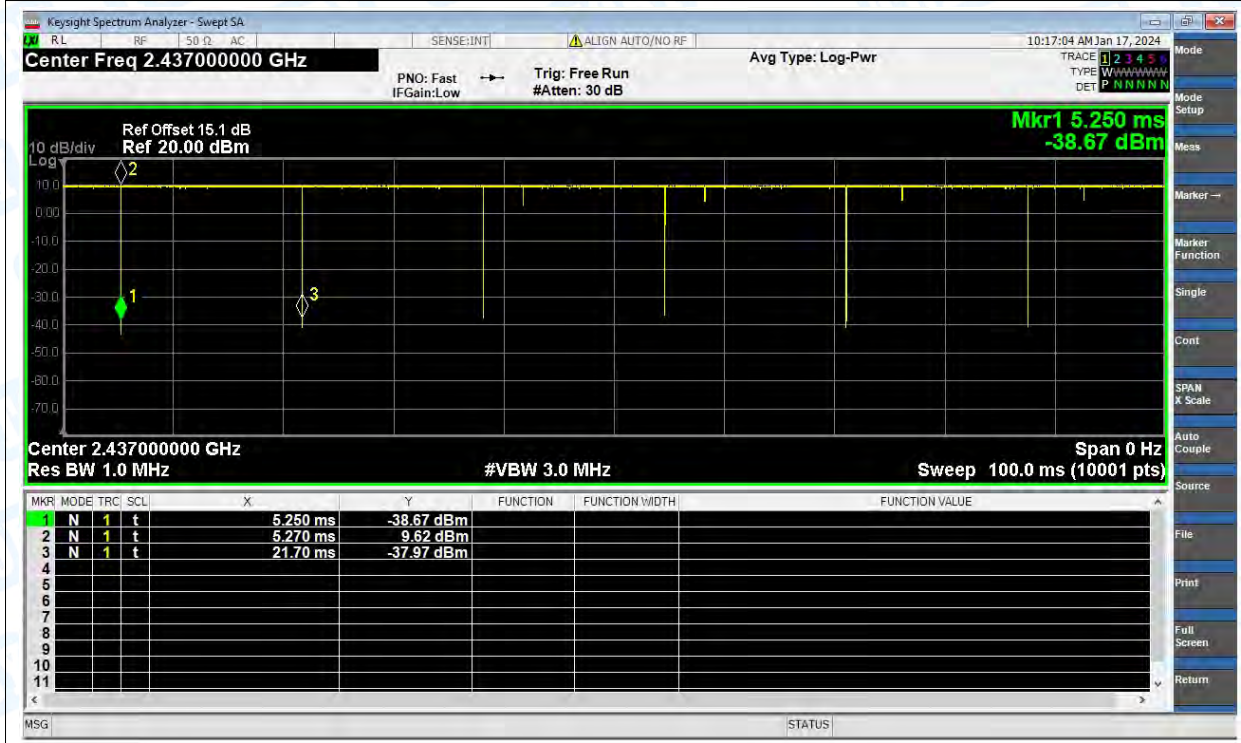


Test Graphs

Duty Cycle NVNT b 2412MHz Ant1

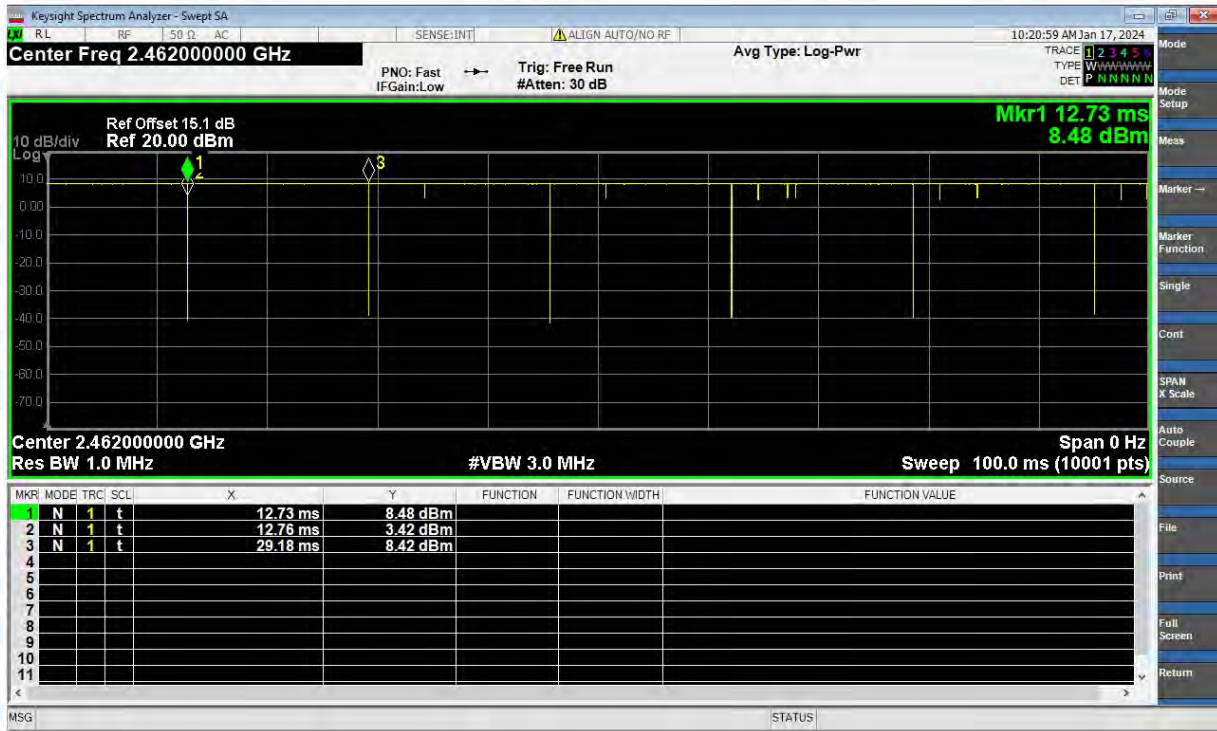


Duty Cycle NVNT b 2437MHz Ant1

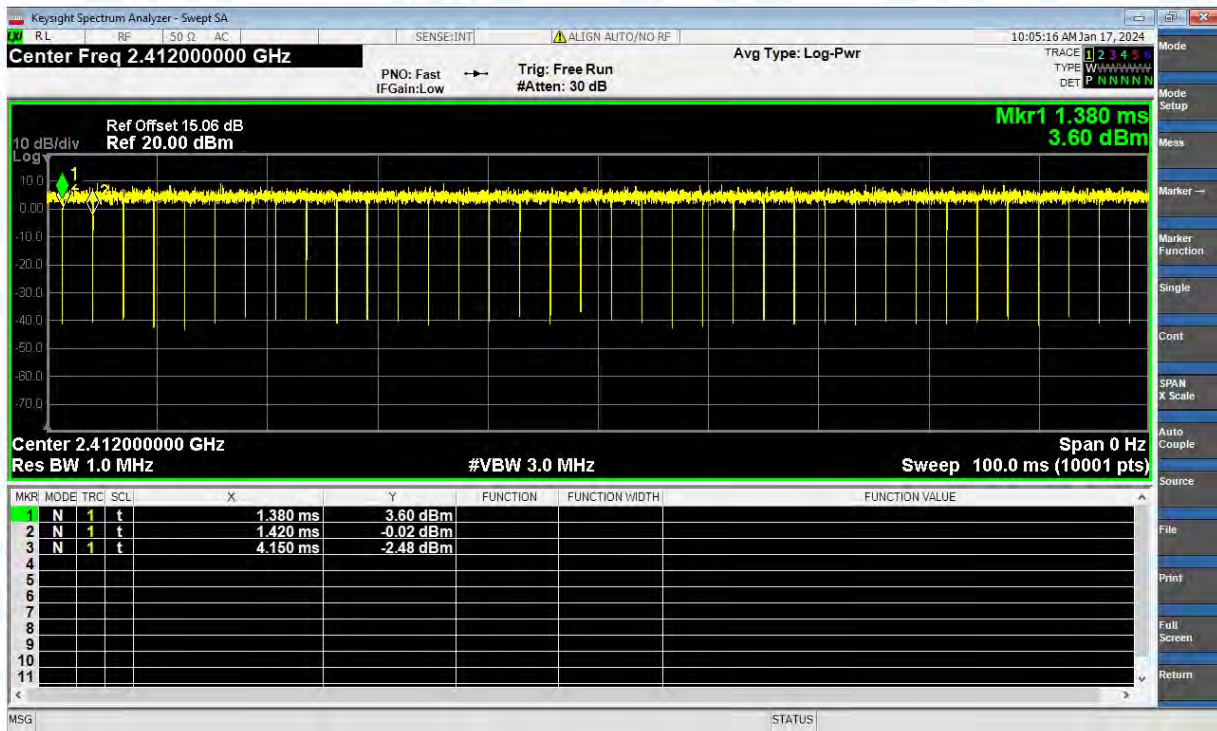




Duty Cycle NVNT b 2462MHz Ant1

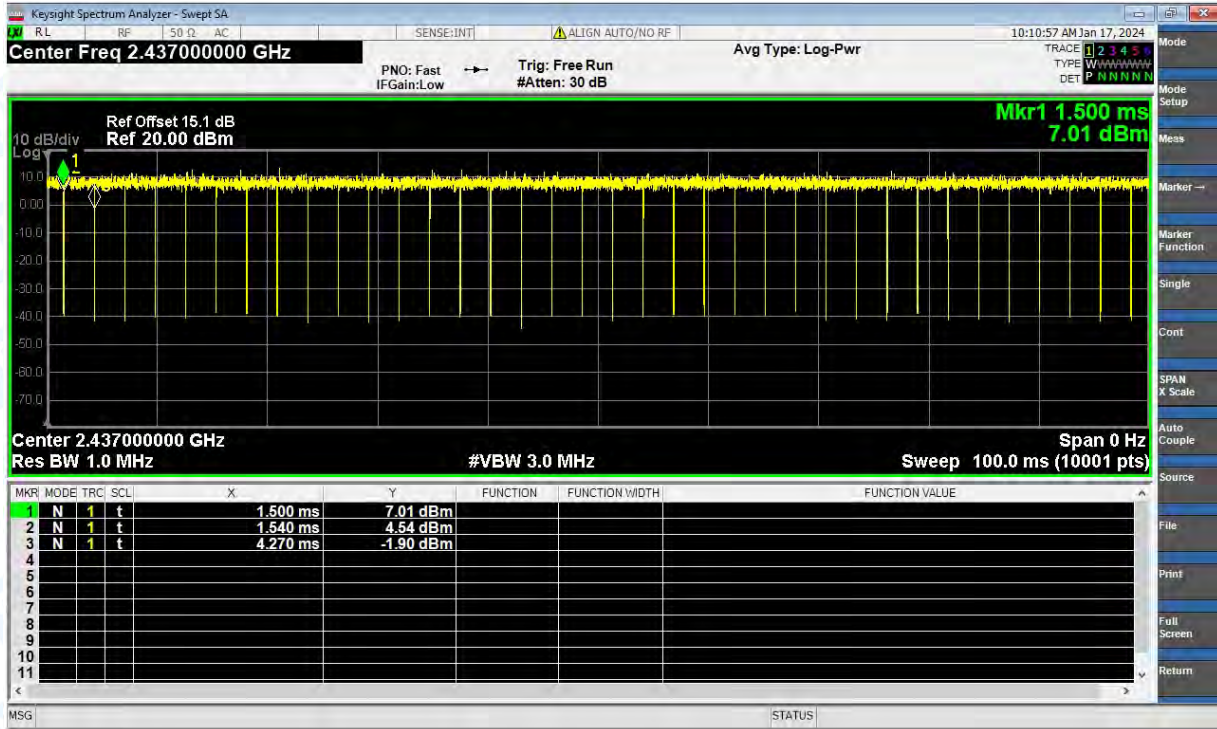


Duty Cycle NVNT g 2412MHz Ant1

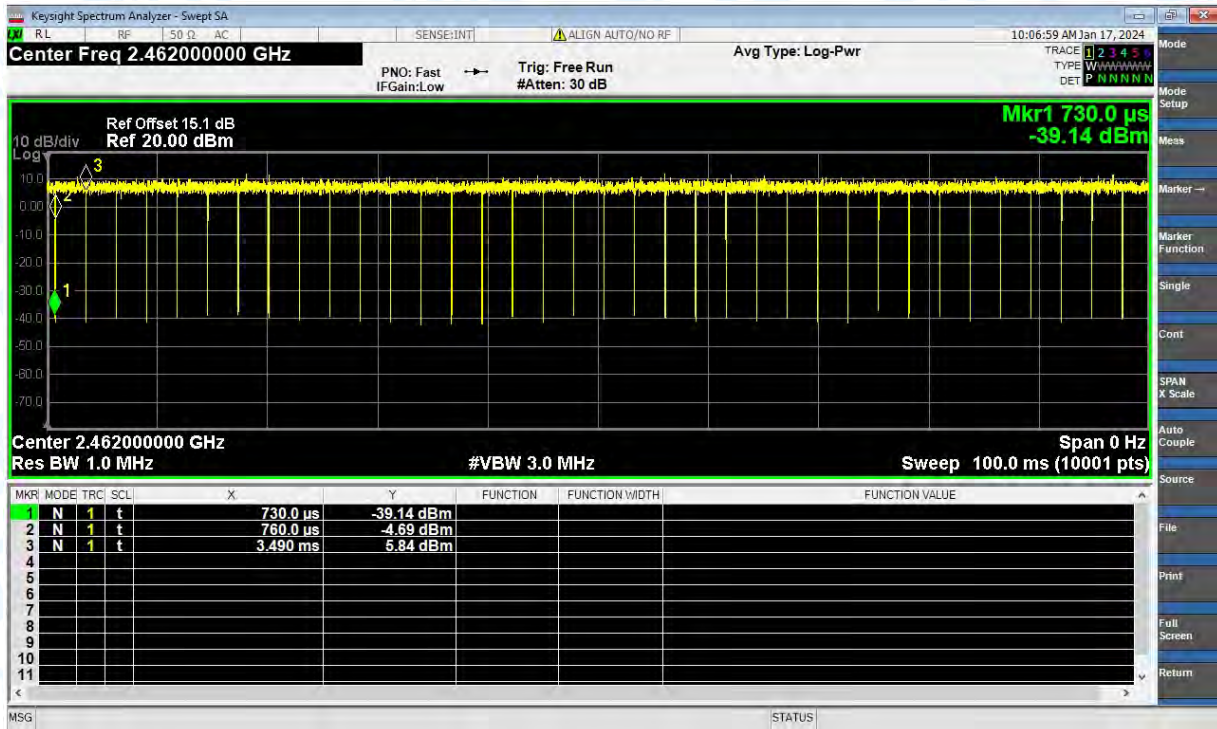




Duty Cycle NVNT g 2437MHz Ant1

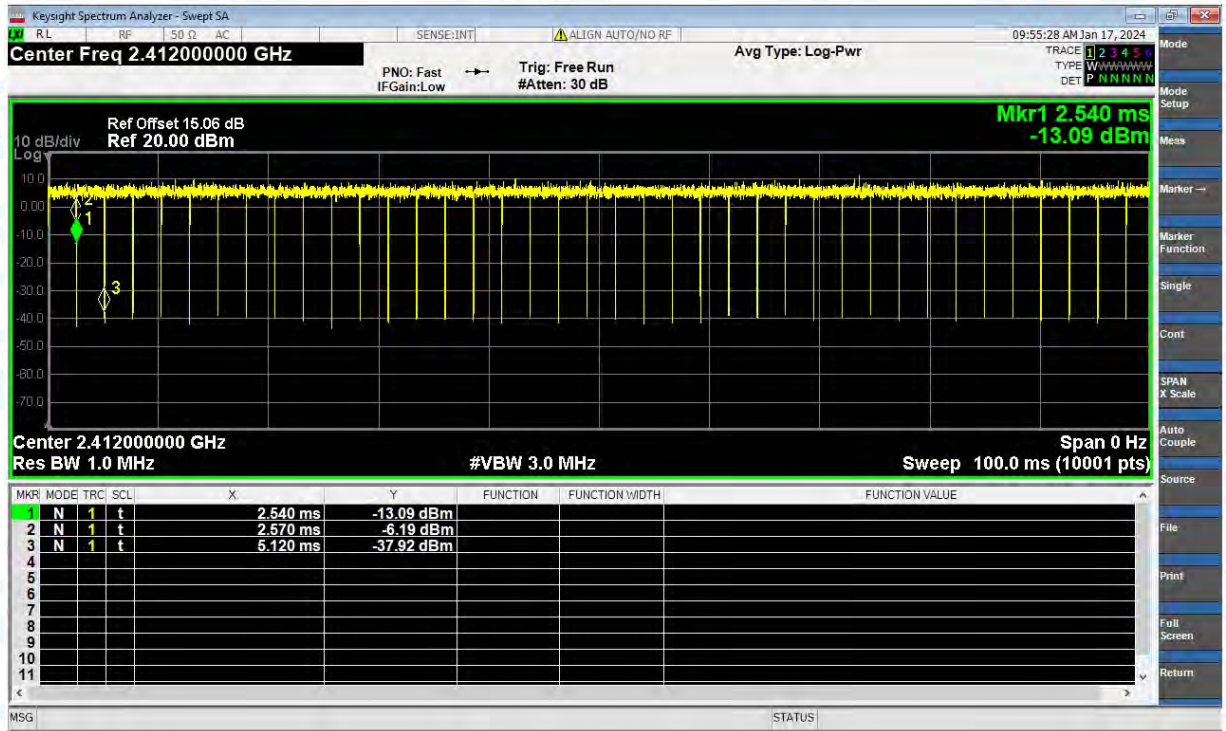


Duty Cycle NVNT g 2462MHz Ant1

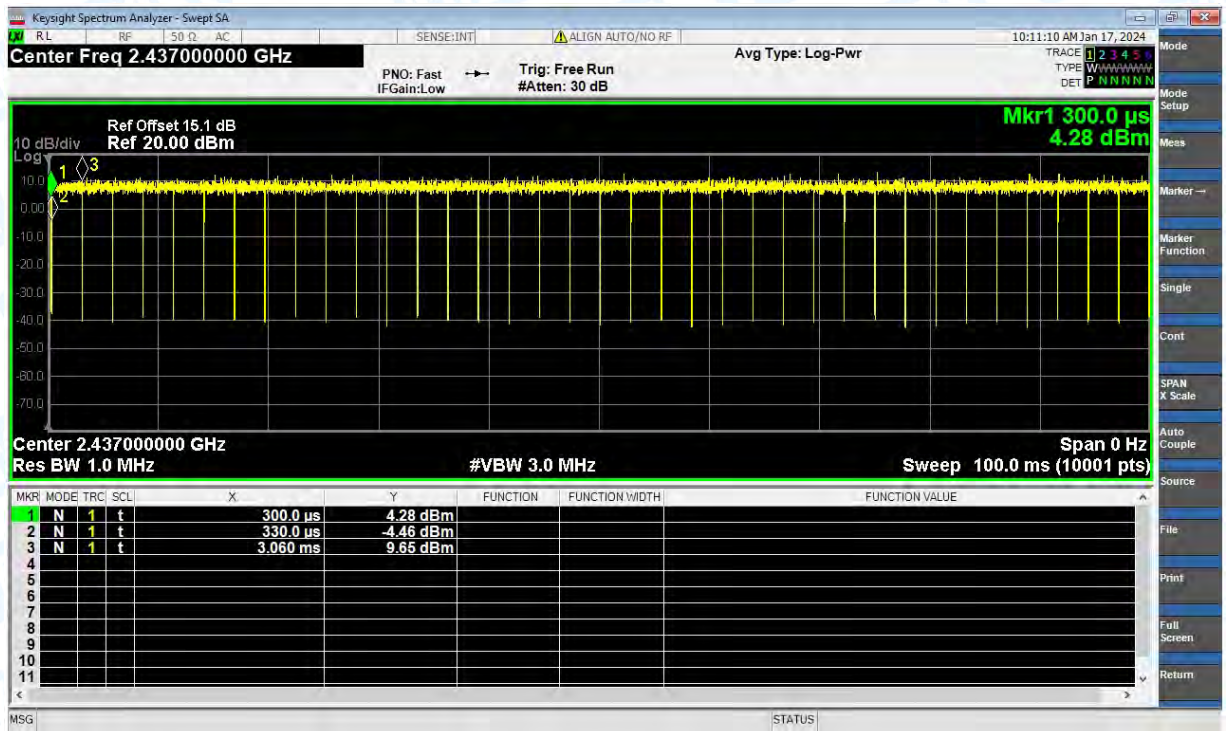




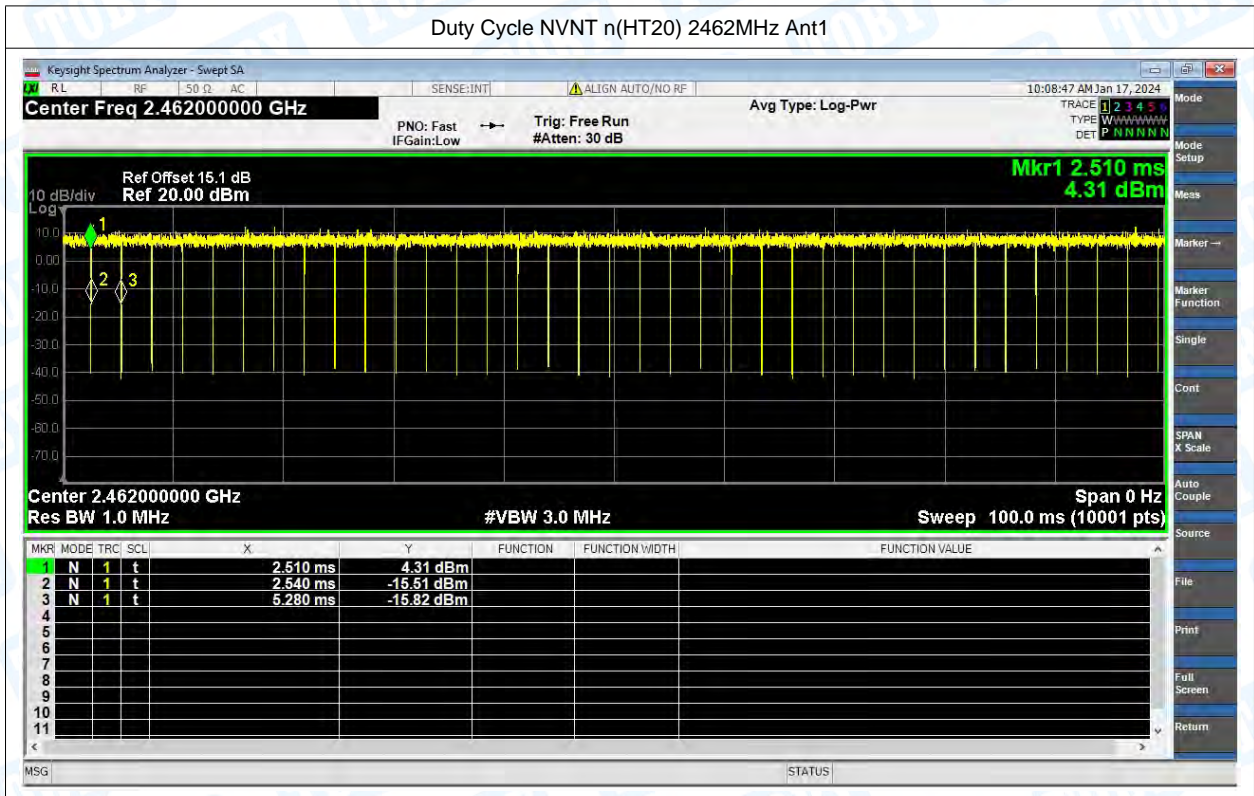
Duty Cycle NVNT n(HT20) 2412MHz Ant1



Duty Cycle NVNT n(HT20) 2437MHz Ant1









## 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	14.95	0.01	14.96	30	Pass
NVNT	b	2437	Ant1	14.99	0.01	15.00	30	Pass
NVNT	b	2462	Ant1	14.84	0.01	14.85	30	Pass
NVNT	g	2412	Ant1	14.97	0.02	14.99	30	Pass
NVNT	g	2437	Ant1	15.06	0.01	15.07	30	Pass
NVNT	g	2462	Ant1	14.67	0.05	14.72	30	Pass
NVNT	n(HT20)	2412	Ant1	13.38	0.05	13.43	30	Pass
NVNT	n(HT20)	2437	Ant1	13.61	0.01	13.62	30	Pass
NVNT	n(HT20)	2462	Ant1	13.44	0.02	13.46	30	Pass



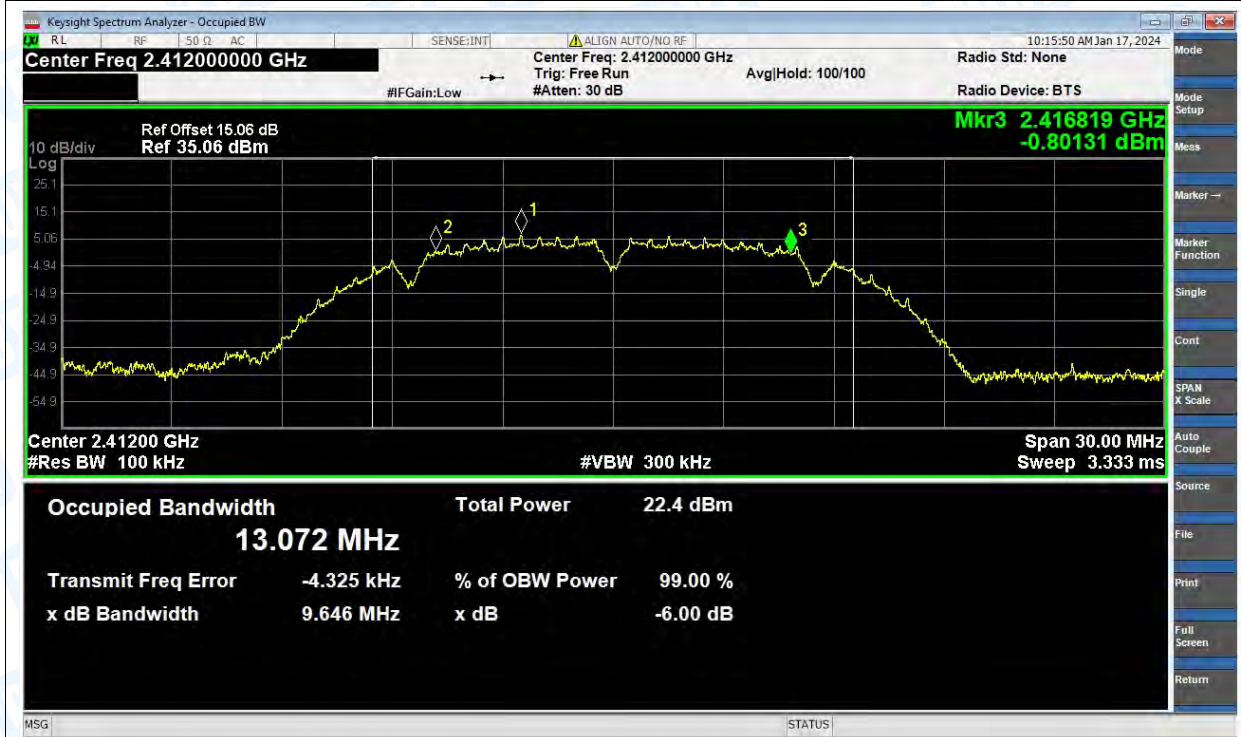
## -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.65	0.5	Pass
NVNT	b	2437	Ant1	10.03	0.5	Pass
NVNT	b	2462	Ant1	10.05	0.5	Pass
NVNT	g	2412	Ant1	16.39	0.5	Pass
NVNT	g	2437	Ant1	16.4	0.5	Pass
NVNT	g	2462	Ant1	16.38	0.5	Pass
NVNT	n(HT20)	2412	Ant1	17.6	0.5	Pass
NVNT	n(HT20)	2437	Ant1	17.61	0.5	Pass
NVNT	n(HT20)	2462	Ant1	17.6	0.5	Pass

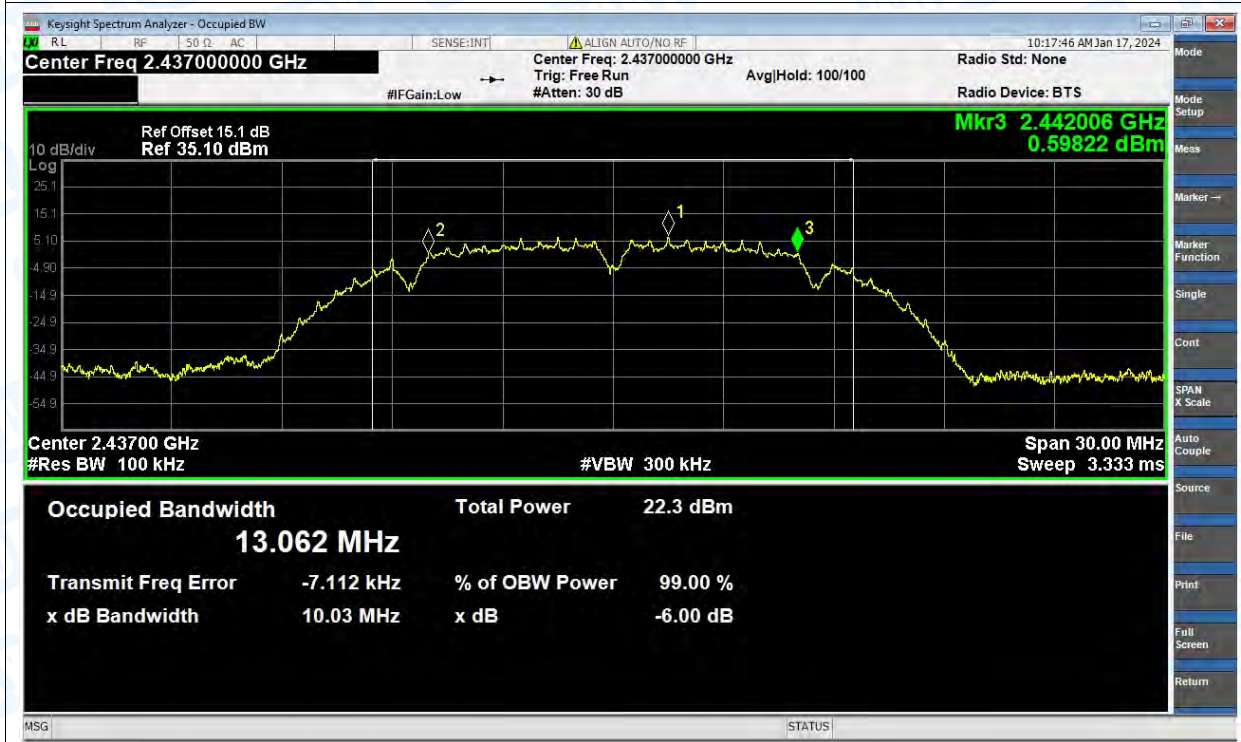


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1

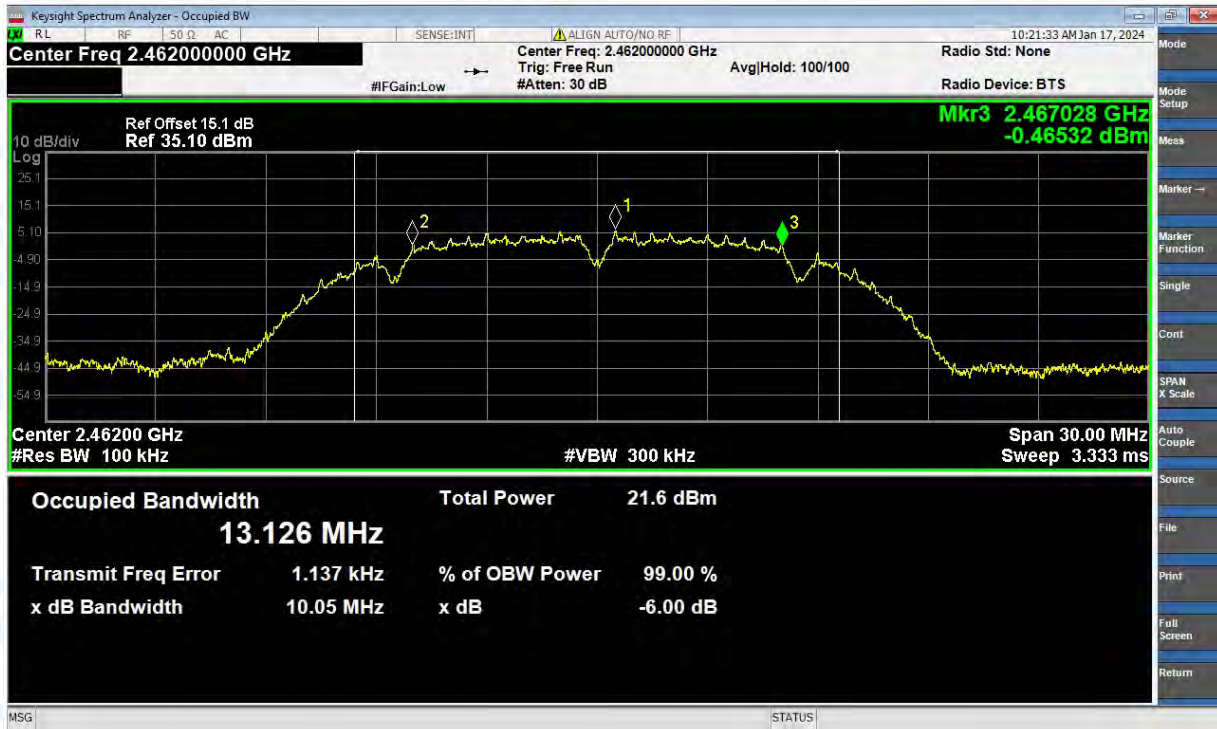


-6dB Bandwidth NVNT b 2437MHz Ant1

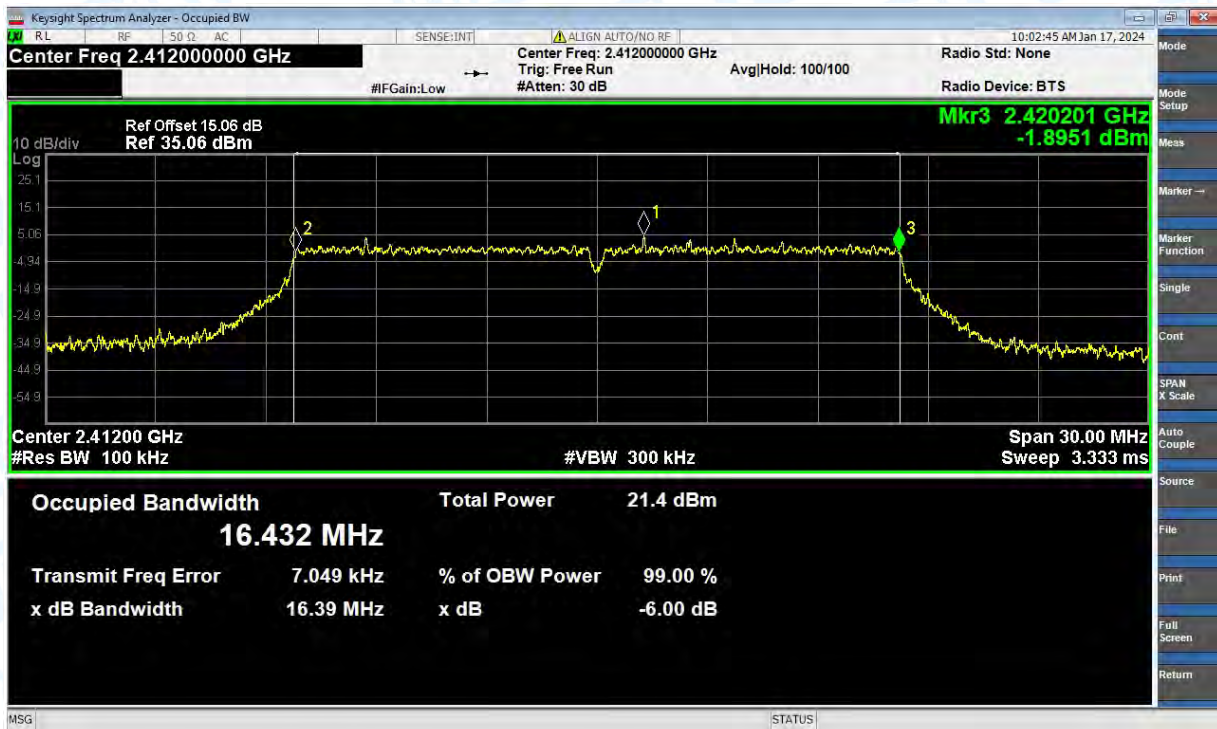




-6dB Bandwidth NVNT b 2462MHz Ant1



-6dB Bandwidth NVNT g 2412MHz Ant1

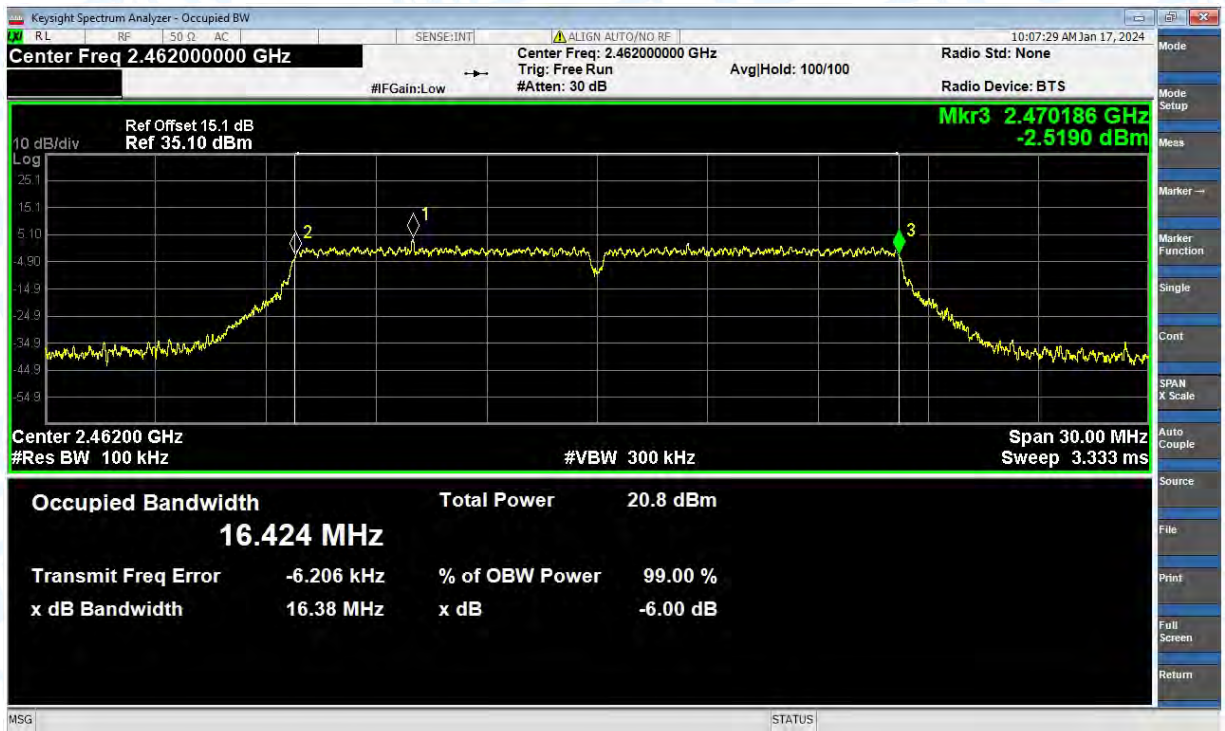




-6dB Bandwidth NVNT g 2437MHz Ant1

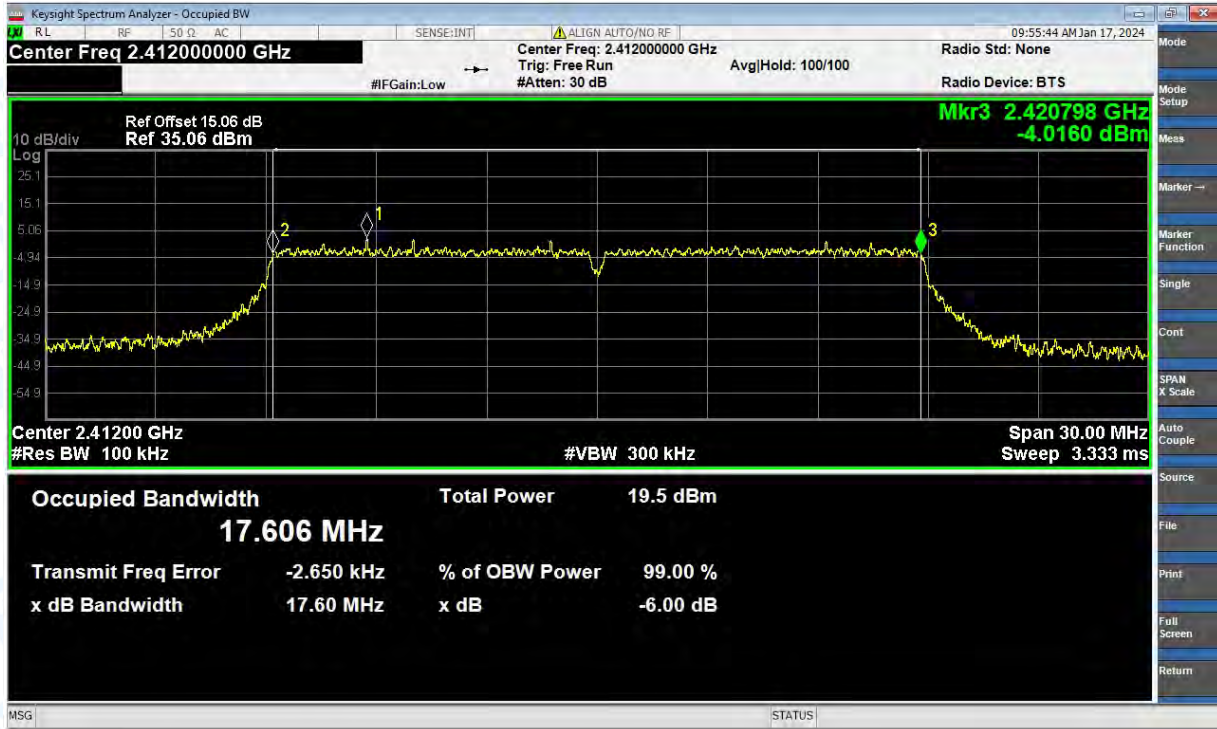


-6dB Bandwidth NVNT g 2462MHz Ant1

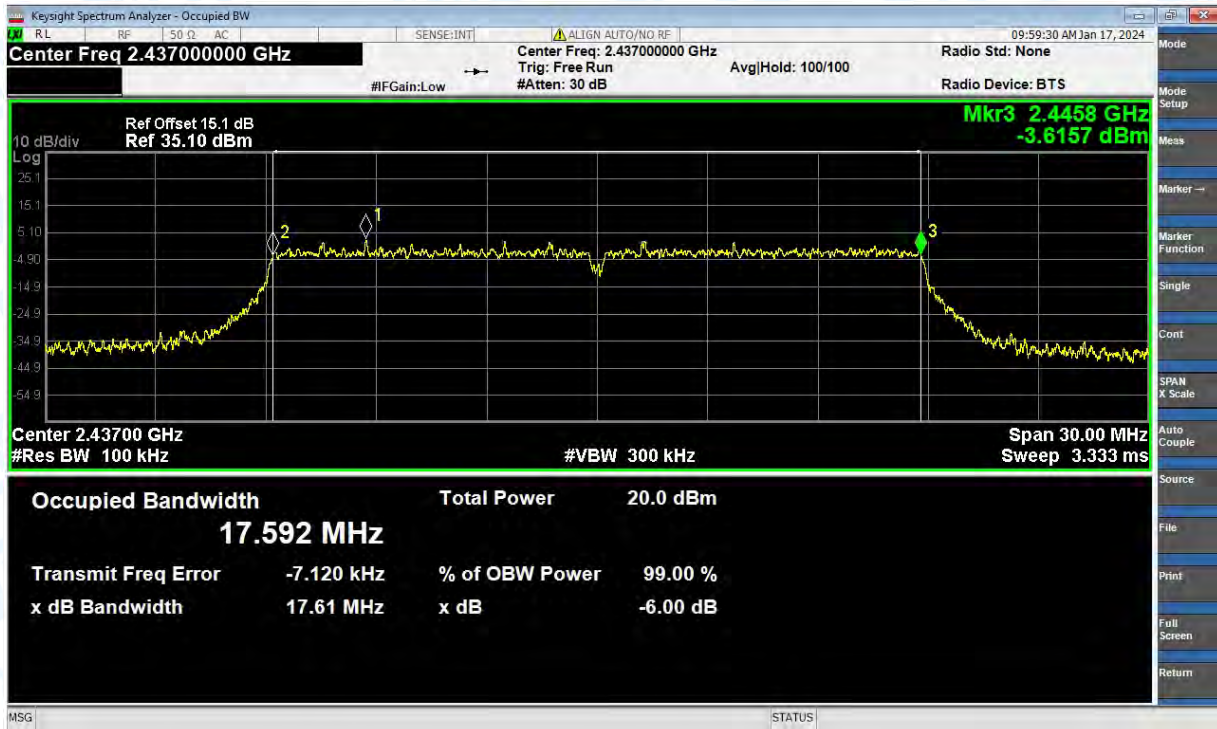




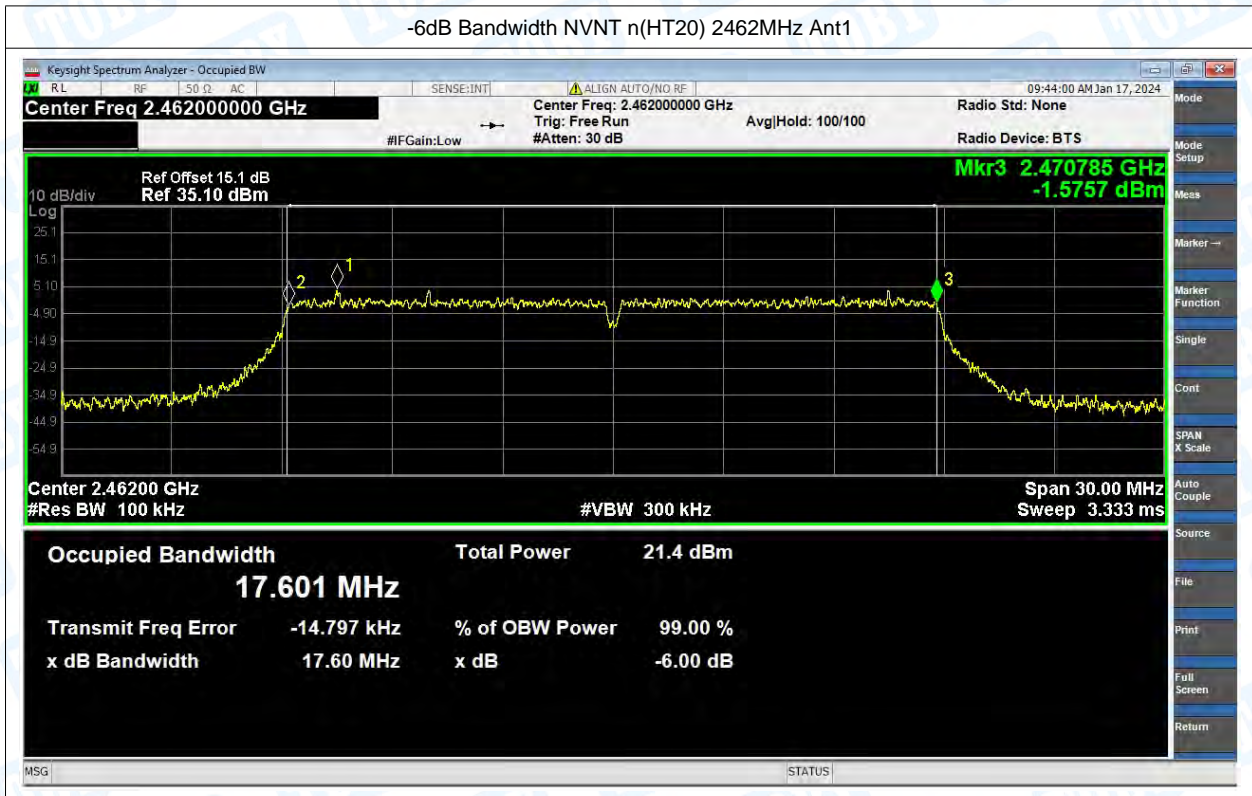
-6dB Bandwidth NVNT n(HT20) 2412MHz Ant1



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









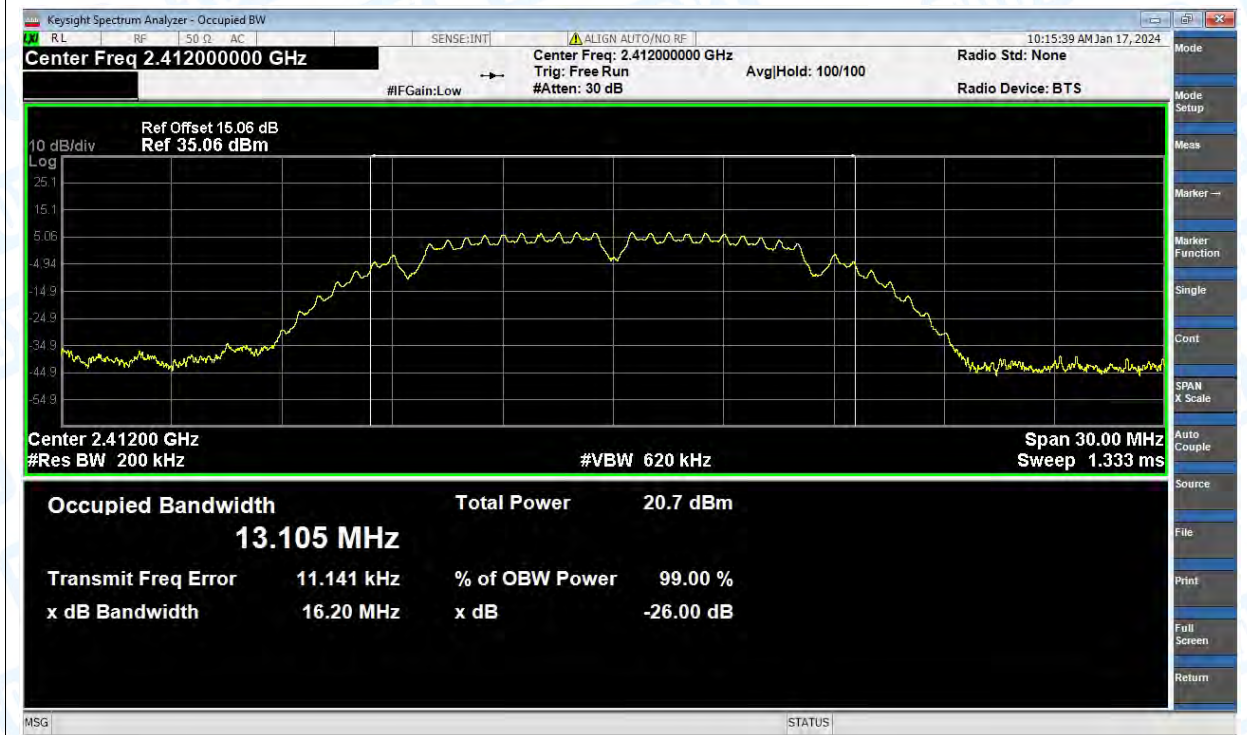
## Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	13.105
NVNT	b	2437	Ant1	13.101
NVNT	b	2462	Ant1	13.105
NVNT	g	2412	Ant1	16.504
NVNT	g	2437	Ant1	16.508
NVNT	g	2462	Ant1	16.5
NVNT	n(HT20)	2412	Ant1	17.622
NVNT	n(HT20)	2437	Ant1	17.62
NVNT	n(HT20)	2462	Ant1	17.636

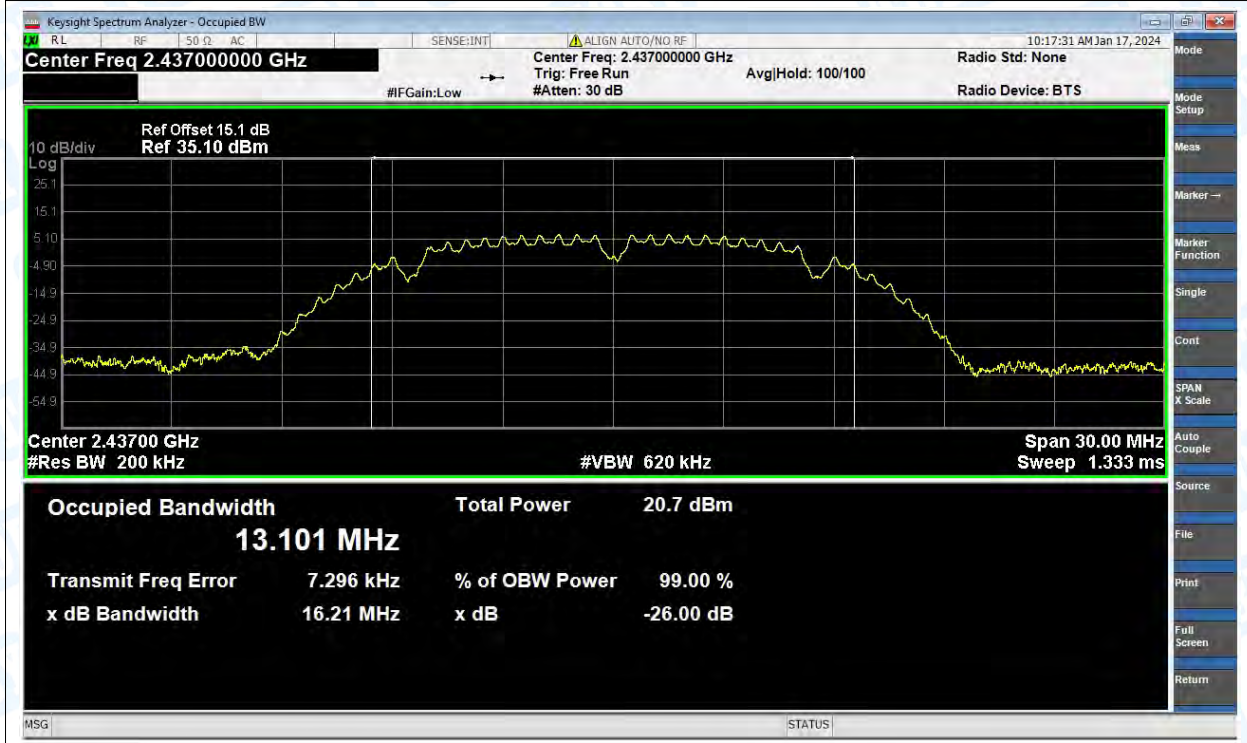


Test Graphs

OBW NVNT b 2412MHz Ant1

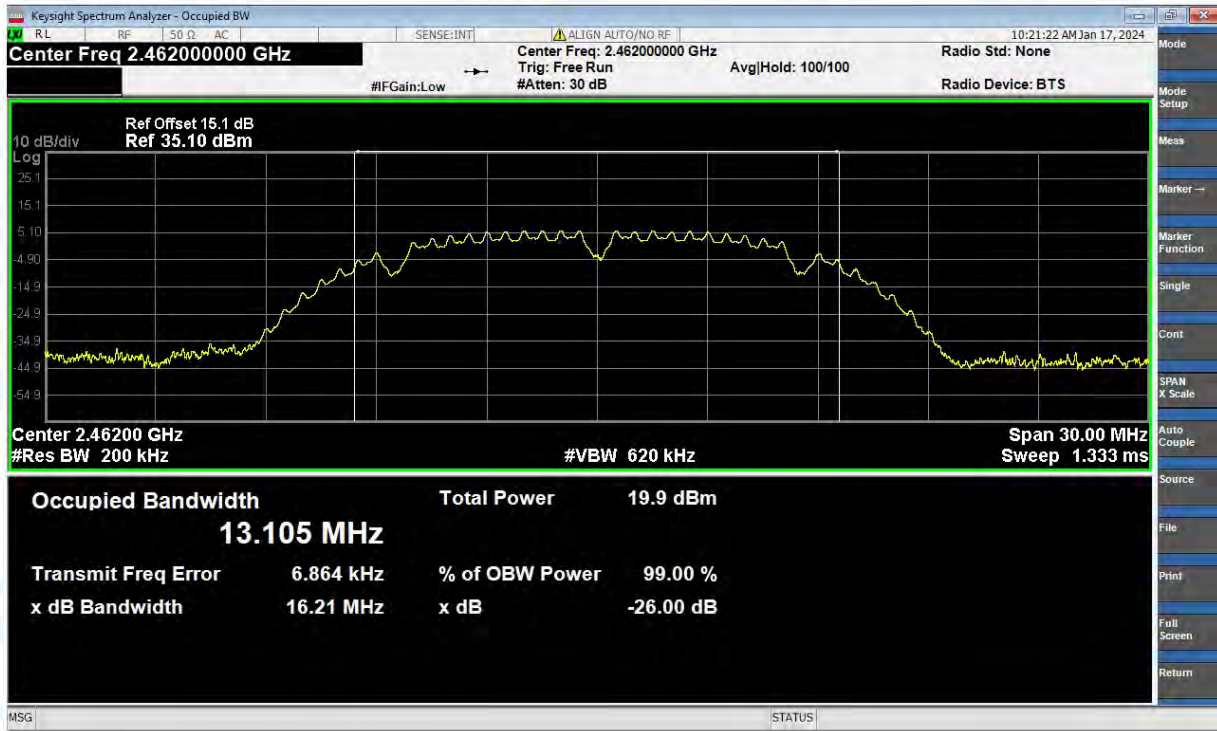


OBW NVNT b 2437MHz Ant1

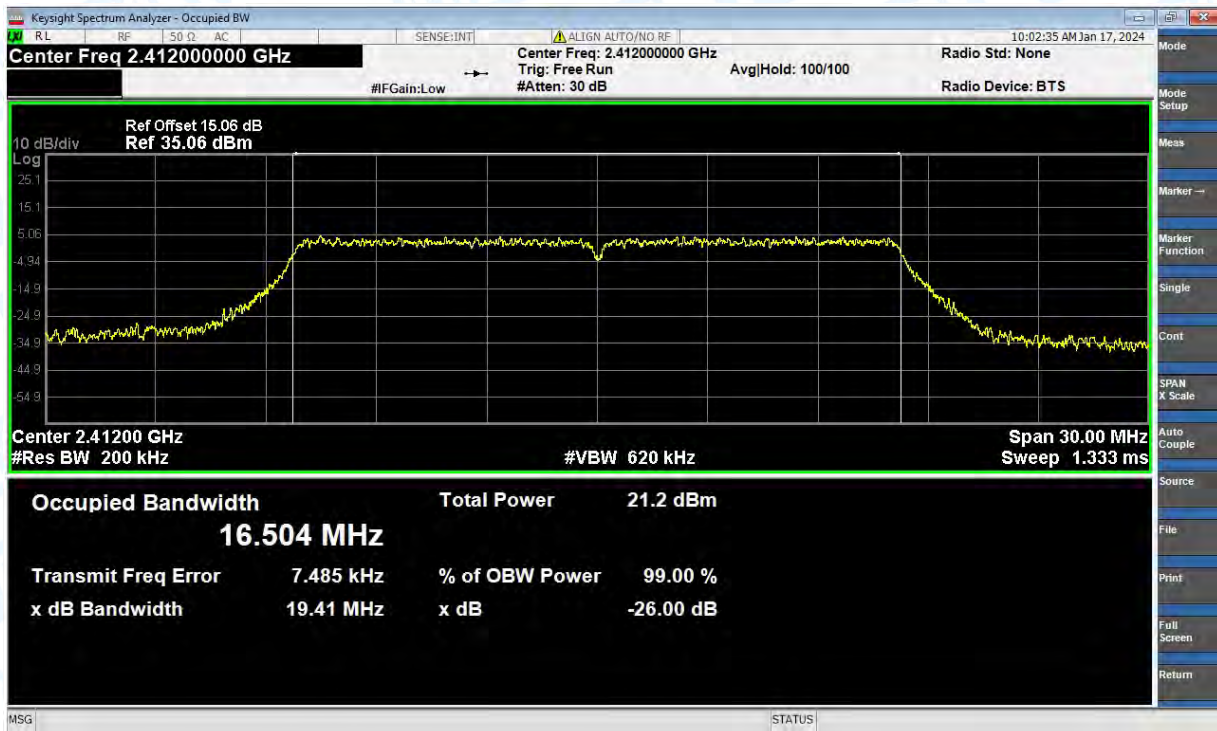




OBW NVNT b 2462MHz Ant1

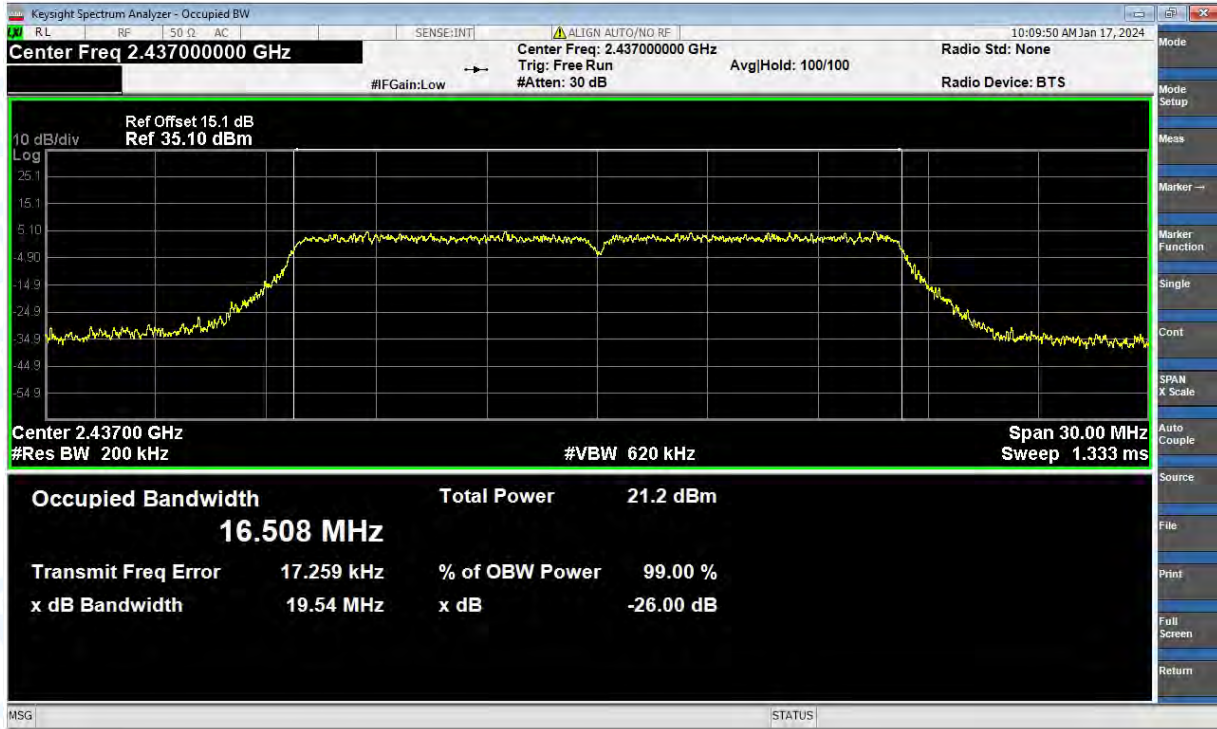


OBW NVNT g 2412MHz Ant1

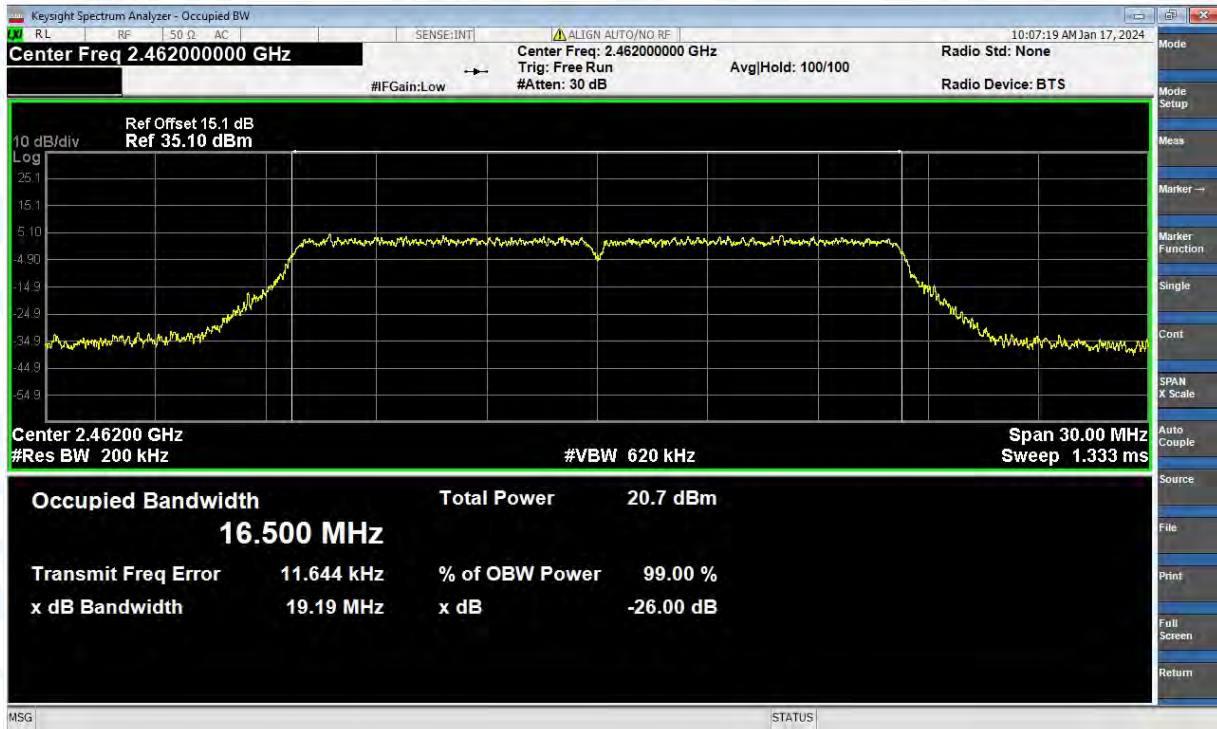




OBW NVNT g 2437MHz Ant1

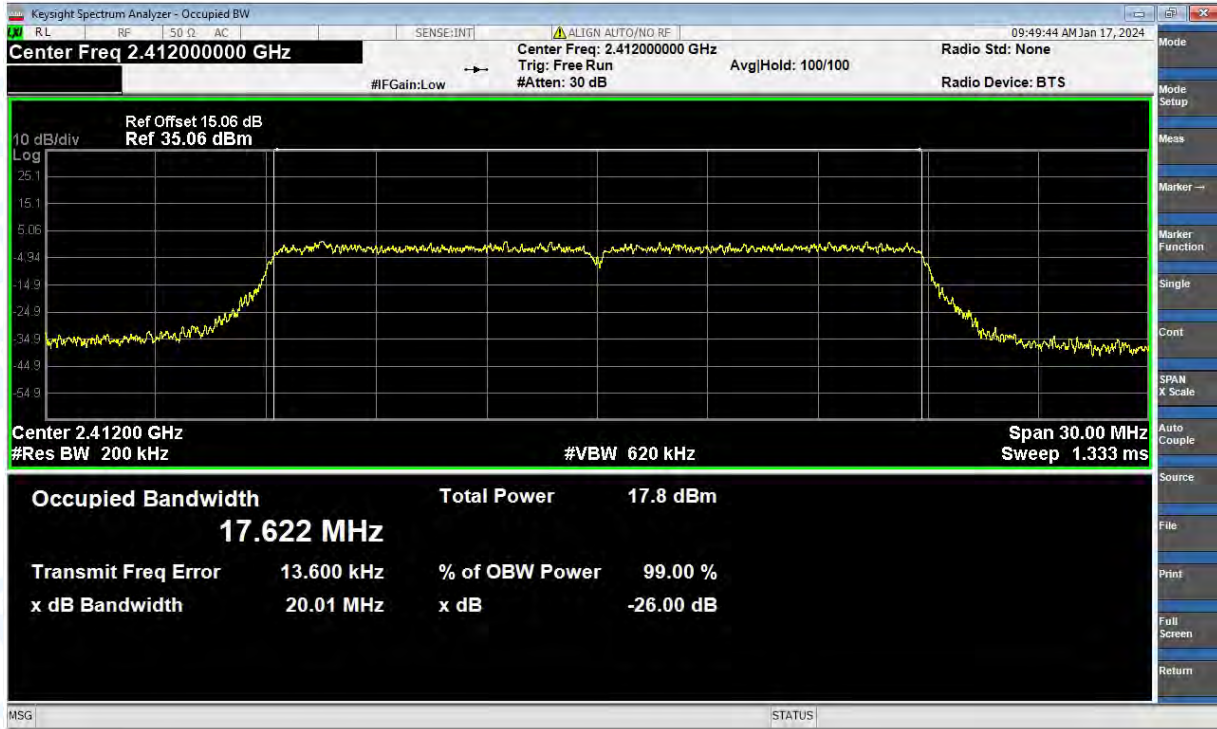


OBW NVNT g 2462MHz Ant1

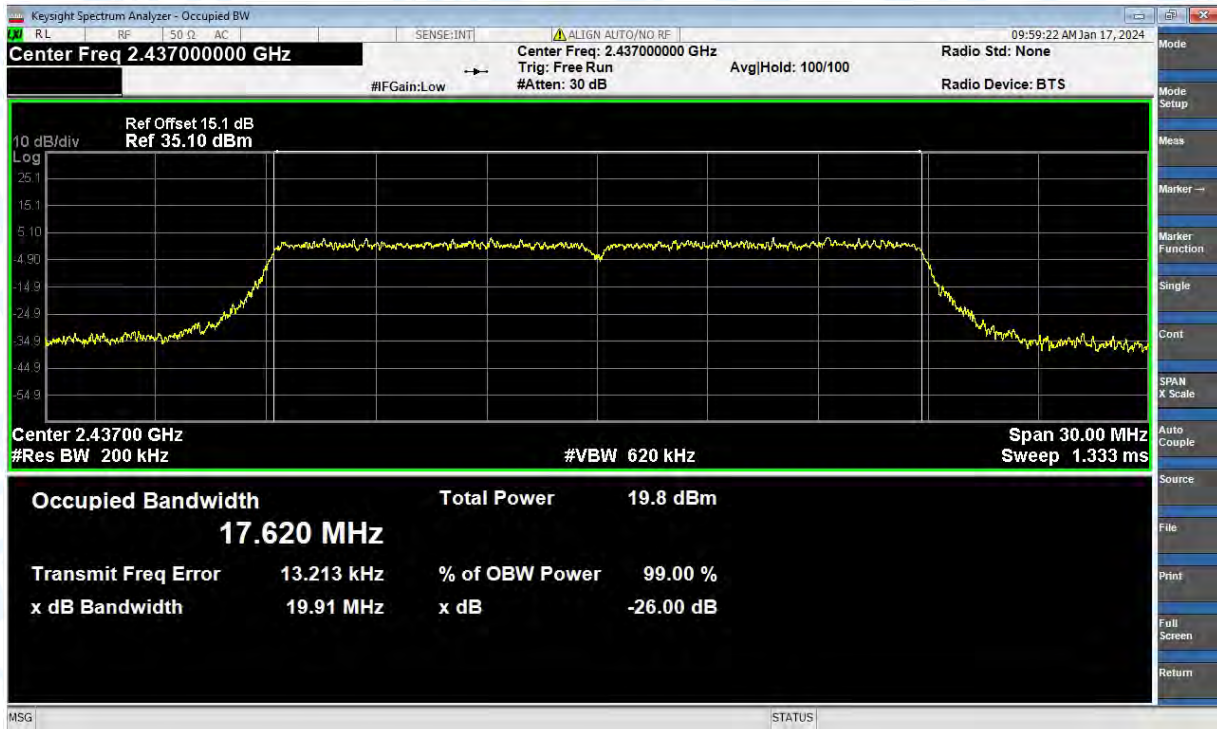




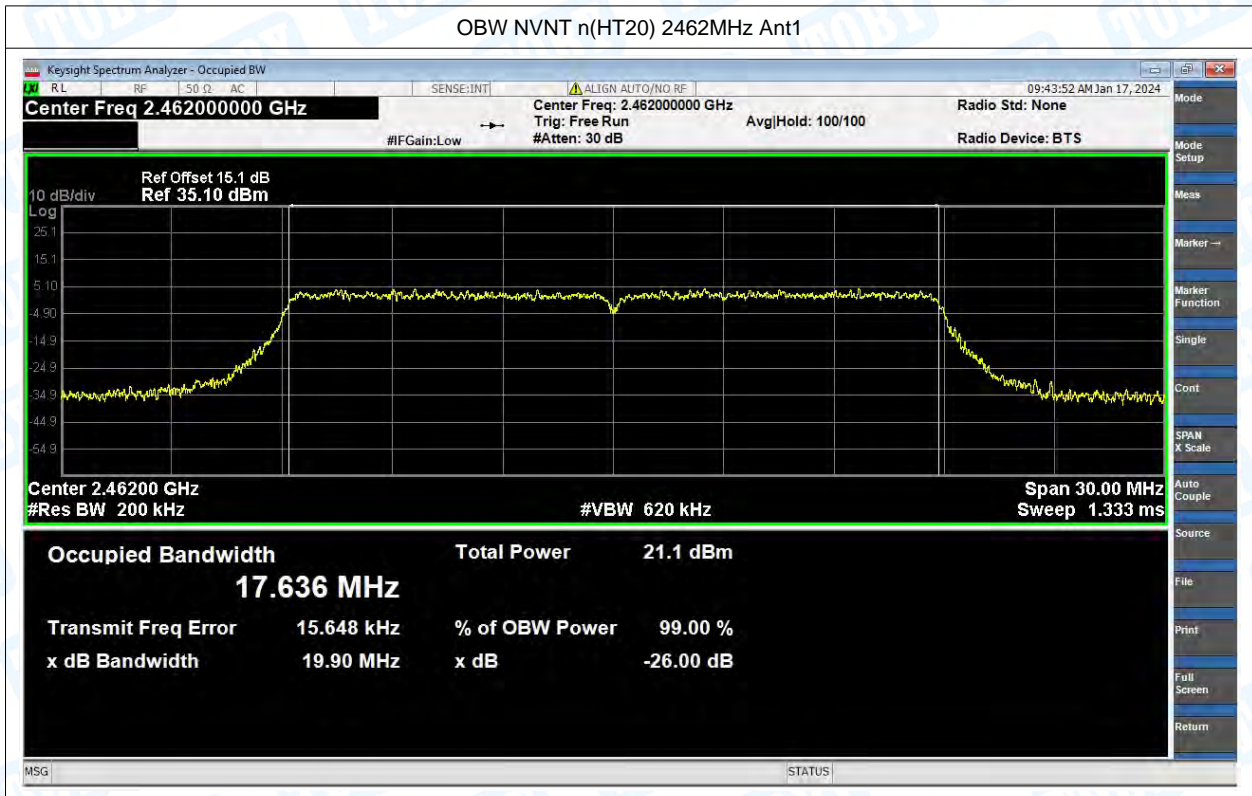
OBW NVNT n(HT20) 2412MHz Ant1



OBW NVNT n(HT20) 2437MHz Ant1









## Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
NVNT	b	2412	Ant1	-16.674	8	Pass
NVNT	b	2437	Ant1	-16.153	8	Pass
NVNT	b	2462	Ant1	-16.815	8	Pass
NVNT	g	2412	Ant1	-18.383	8	Pass
NVNT	g	2437	Ant1	-18.289	8	Pass
NVNT	g	2462	Ant1	-18.806	8	Pass
NVNT	n(HT20)	2412	Ant1	-20.085	8	Pass
NVNT	n(HT20)	2437	Ant1	-20.044	8	Pass
NVNT	n(HT20)	2462	Ant1	-18.345	8	Pass



Test Graphs

PSD NVNT b 2412MHz Ant1



PSD NVNT b 2437MHz Ant1

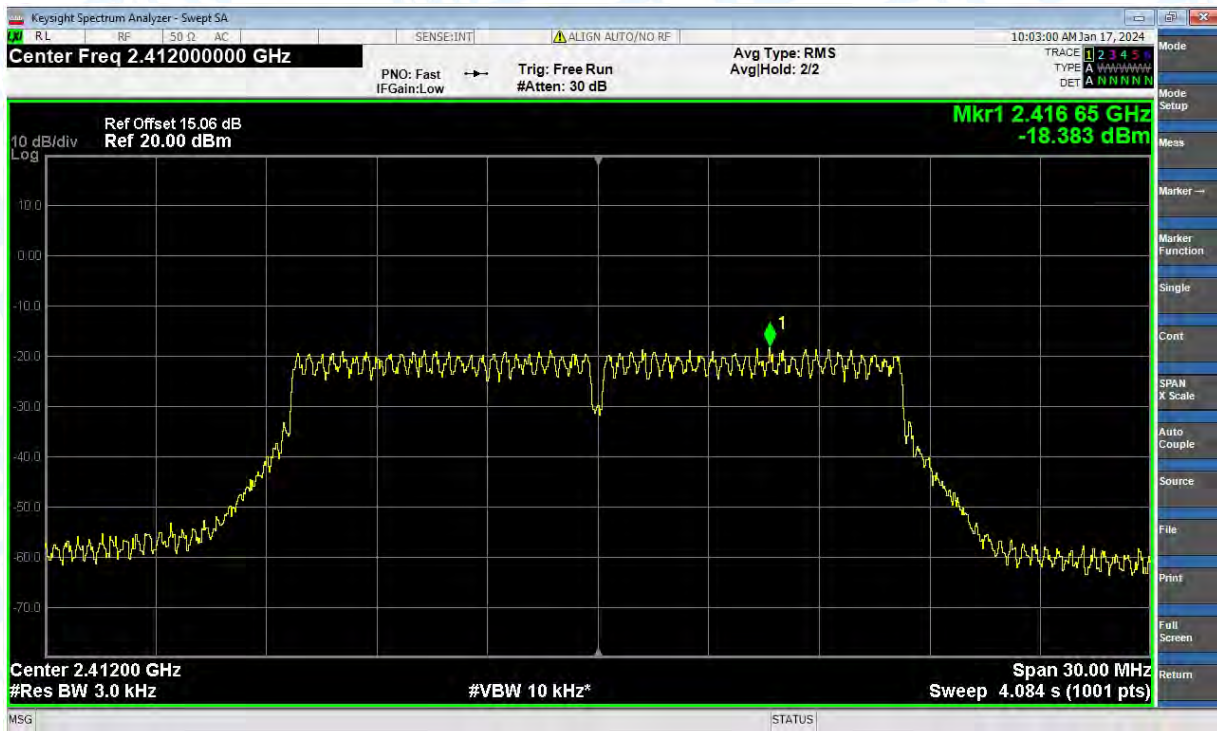




PSD NVNT b 2462MHz Ant1

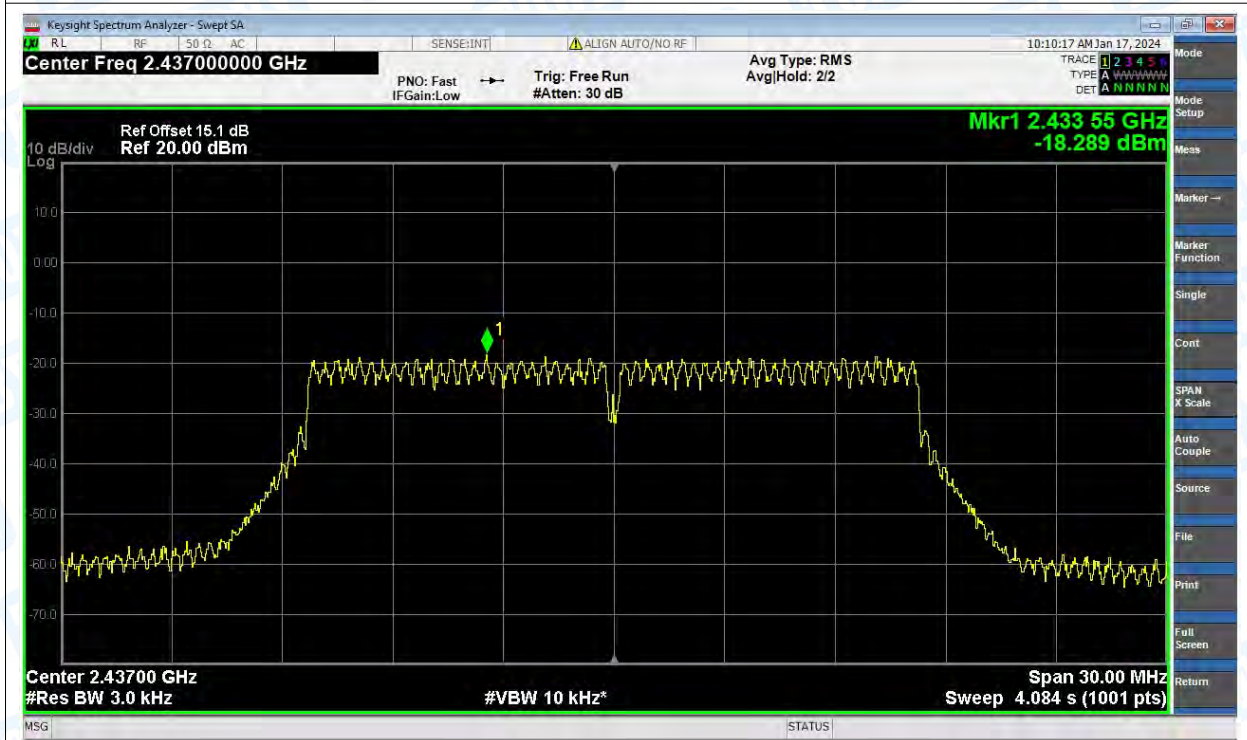


PSD NVNT g 2412MHz Ant1

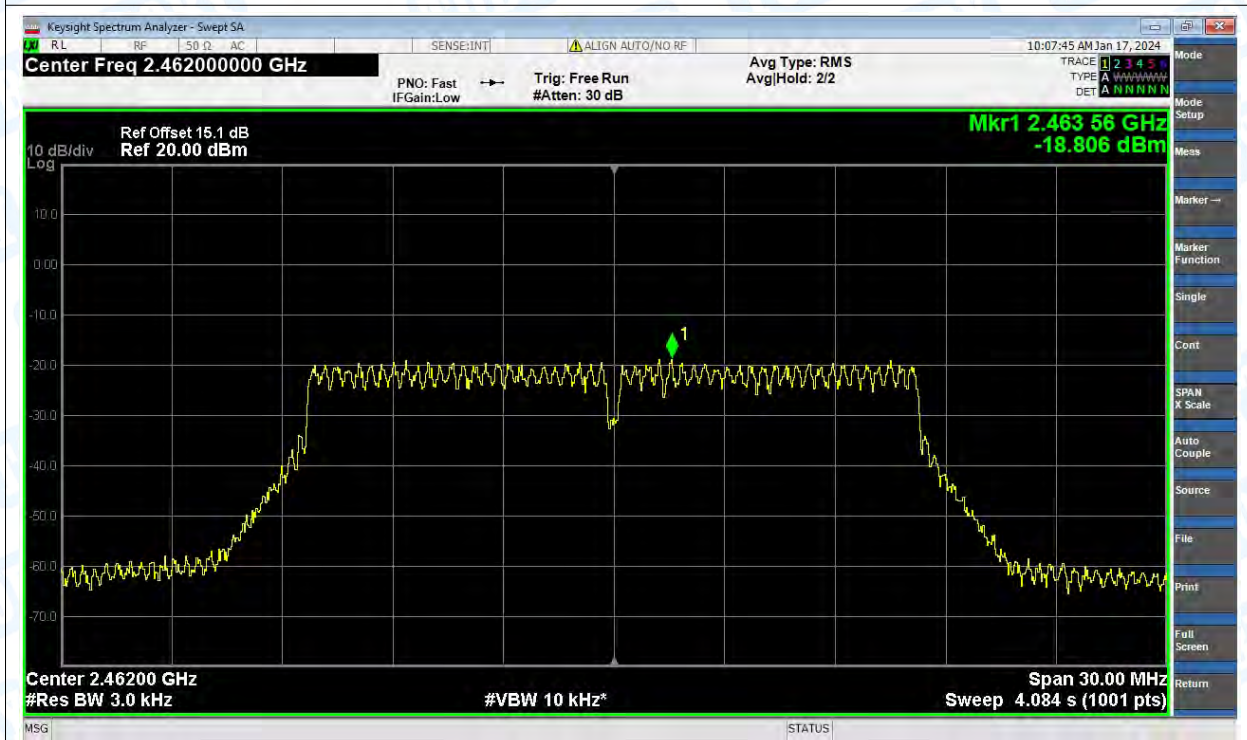




PSD NVNT g 2437MHz Ant1

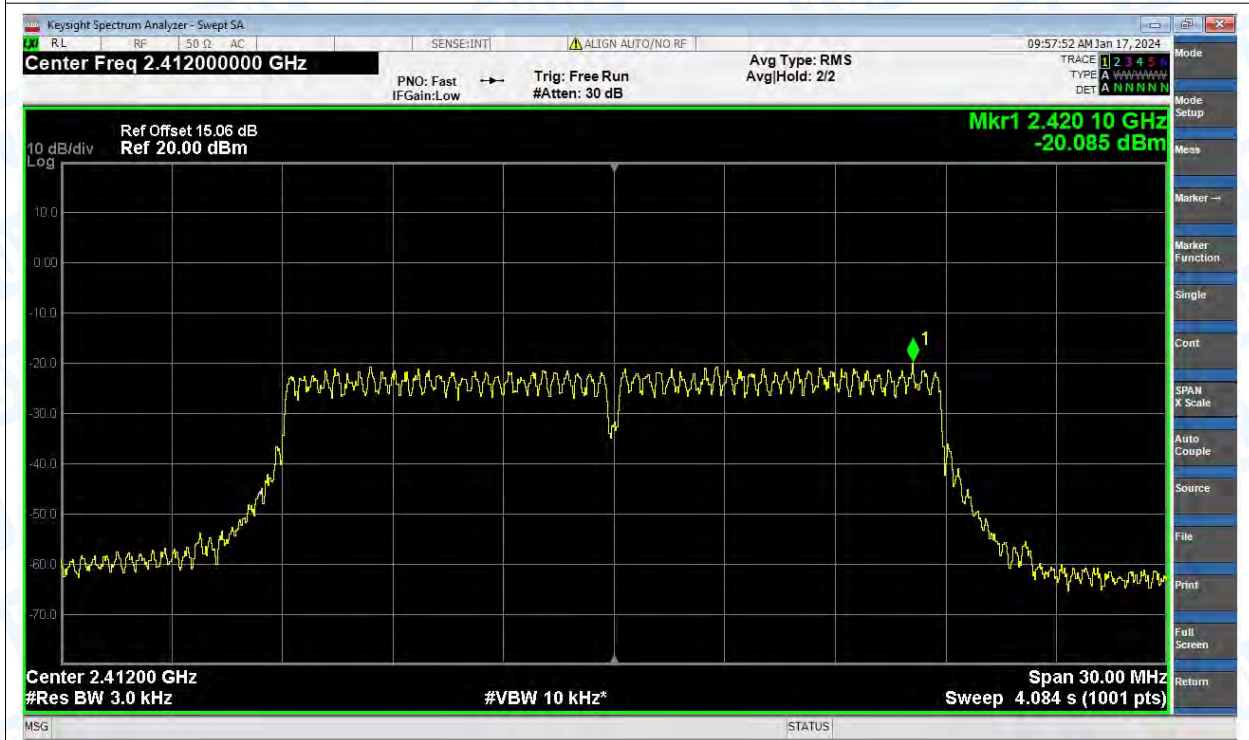


PSD NVNT g 2462MHz Ant1

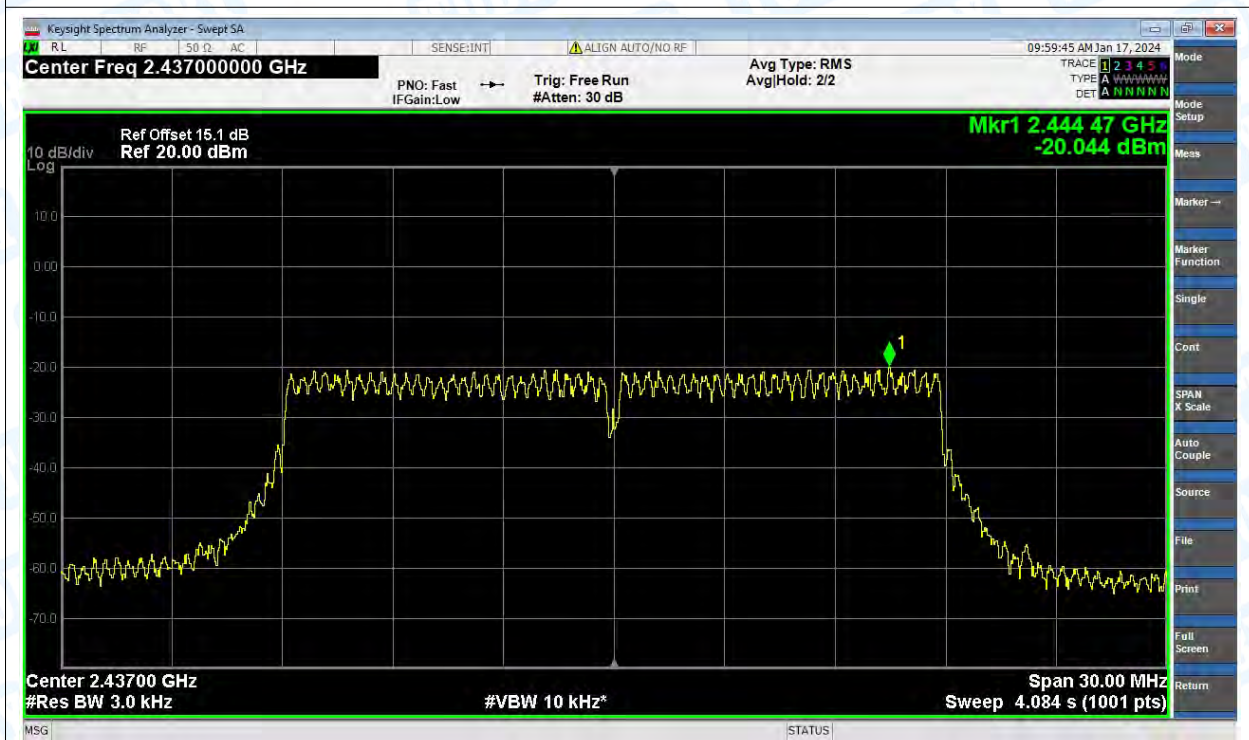




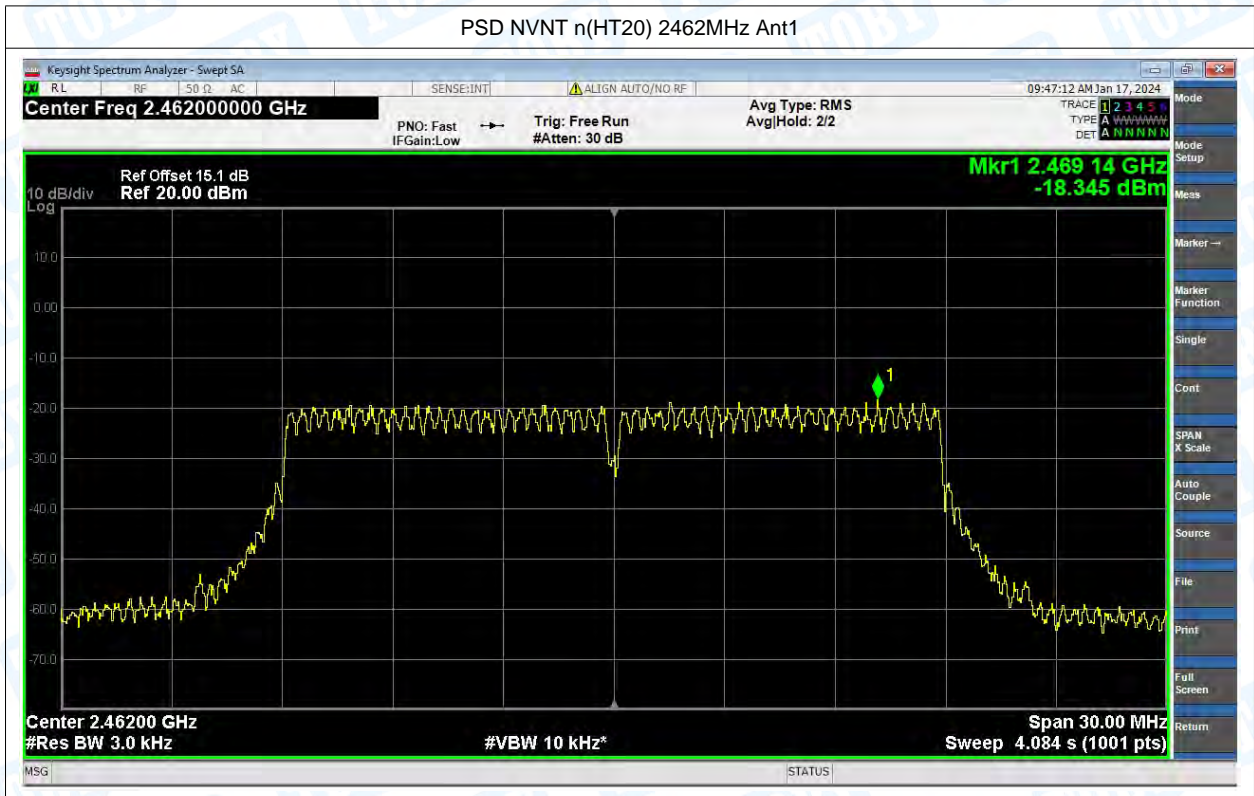
PSD NVNT n(HT20) 2412MHz Ant1



PSD NVNT n(HT20) 2437MHz Ant1









## Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-54.82	-30	Pass
NVNT	b	2462	Ant1	-53.26	-30	Pass
NVNT	g	2412	Ant1	-44.81	-30	Pass
NVNT	g	2462	Ant1	-43.94	-30	Pass
NVNT	n(HT20)	2412	Ant1	-43.49	-30	Pass
NVNT	n(HT20)	2462	Ant1	-43.95	-30	Pass

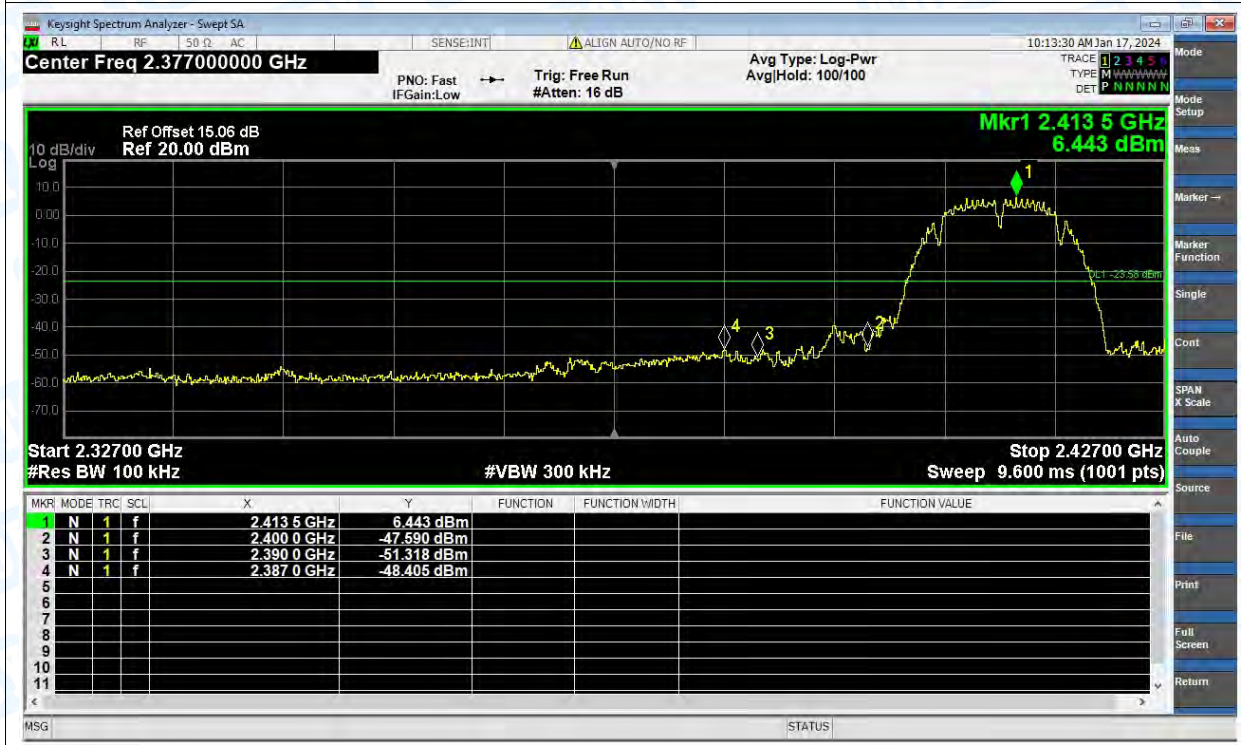


Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



Band Edge NVNT b 2412MHz Ant1 Emission

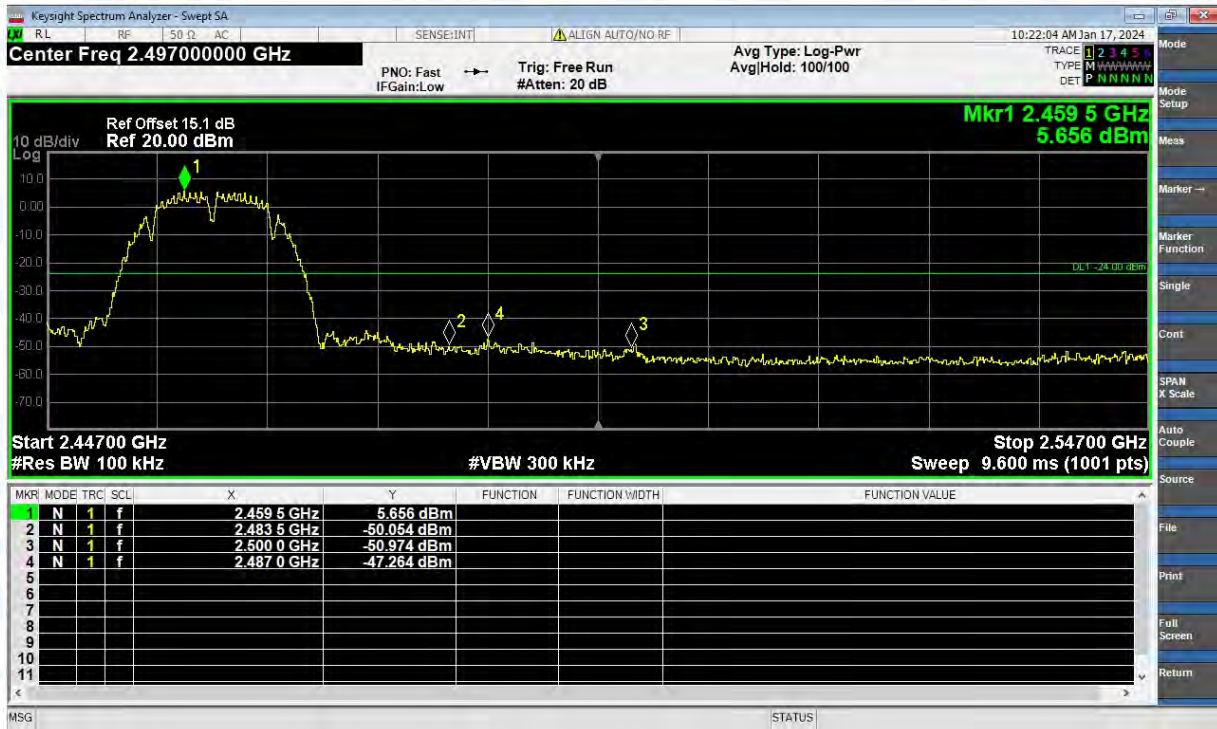




Band Edge NVNT b 2462MHz Ant1 Ref



Band Edge NVNT b 2462MHz Ant1 Emission

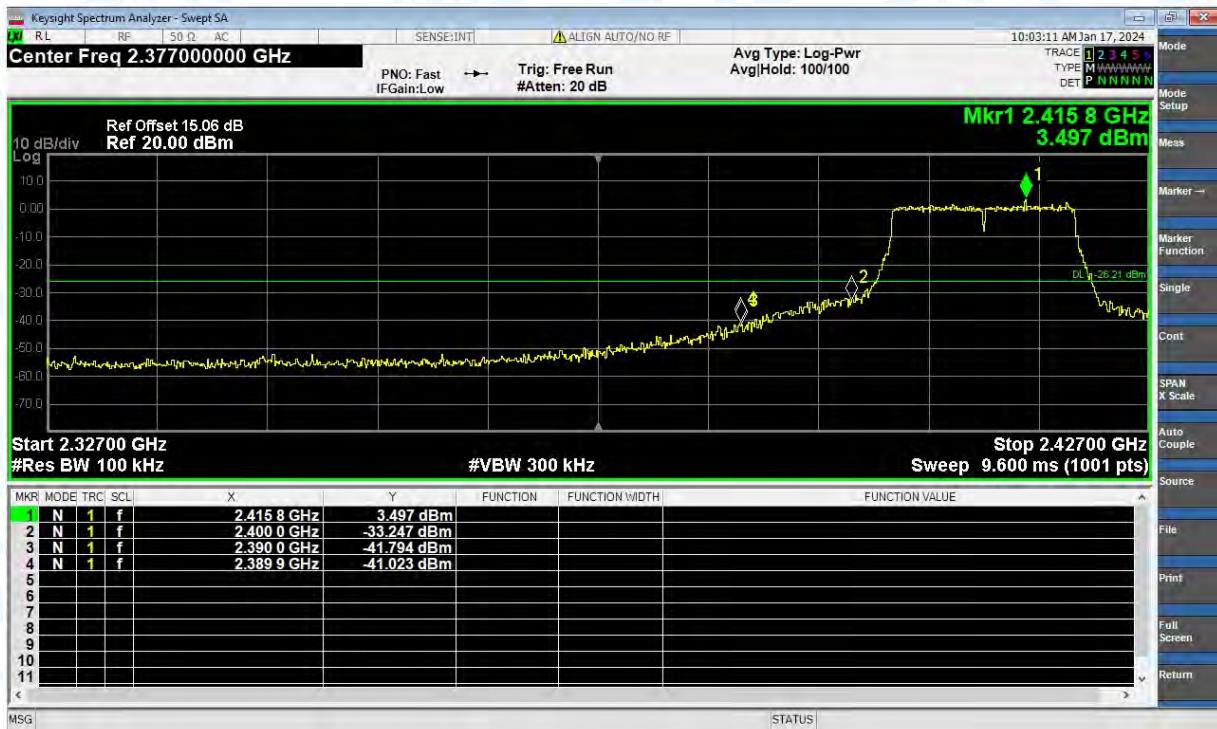




Band Edge NVNT g 2412MHz Ant1 Ref



Band Edge NVNT g 2412MHz Ant1 Emission

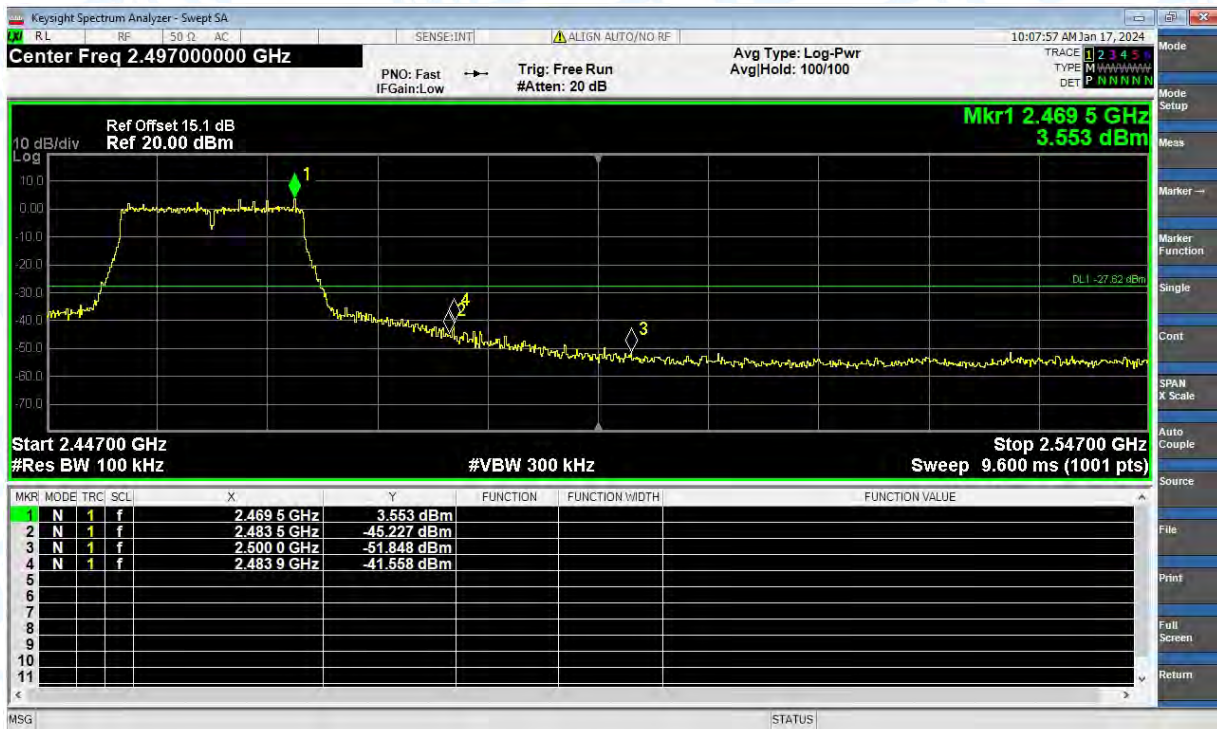




Band Edge NVNT g 2462MHz Ant1 Ref

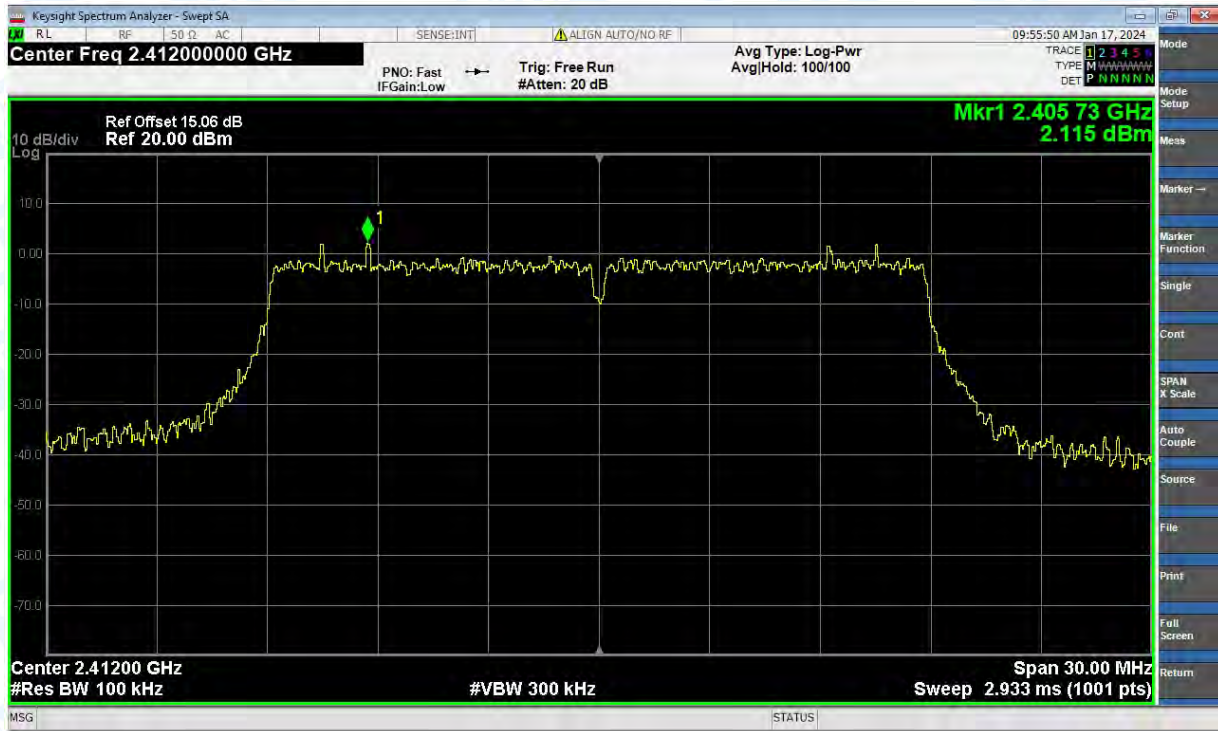


Band Edge NVNT g 2462MHz Ant1 Emission

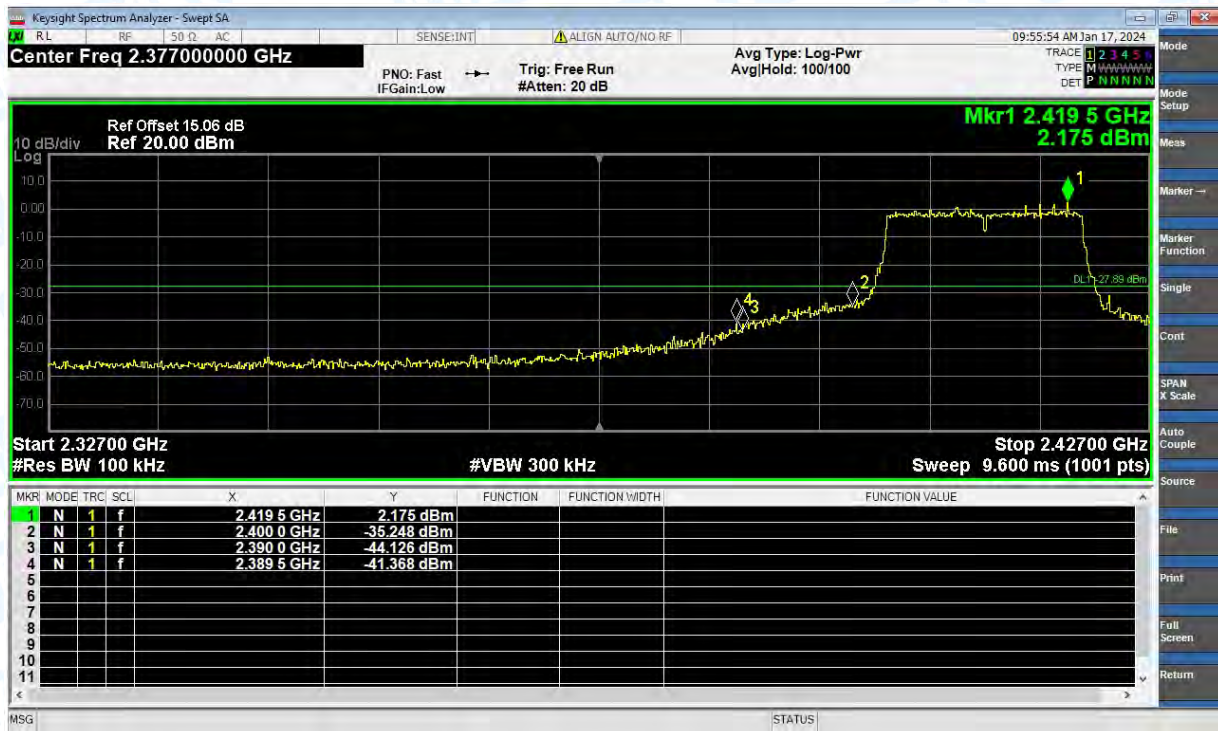




Band Edge NVNT n(HT20) 2412MHz Ant1 Ref



Band Edge NVNT n(HT20) 2412MHz Ant1 Emission

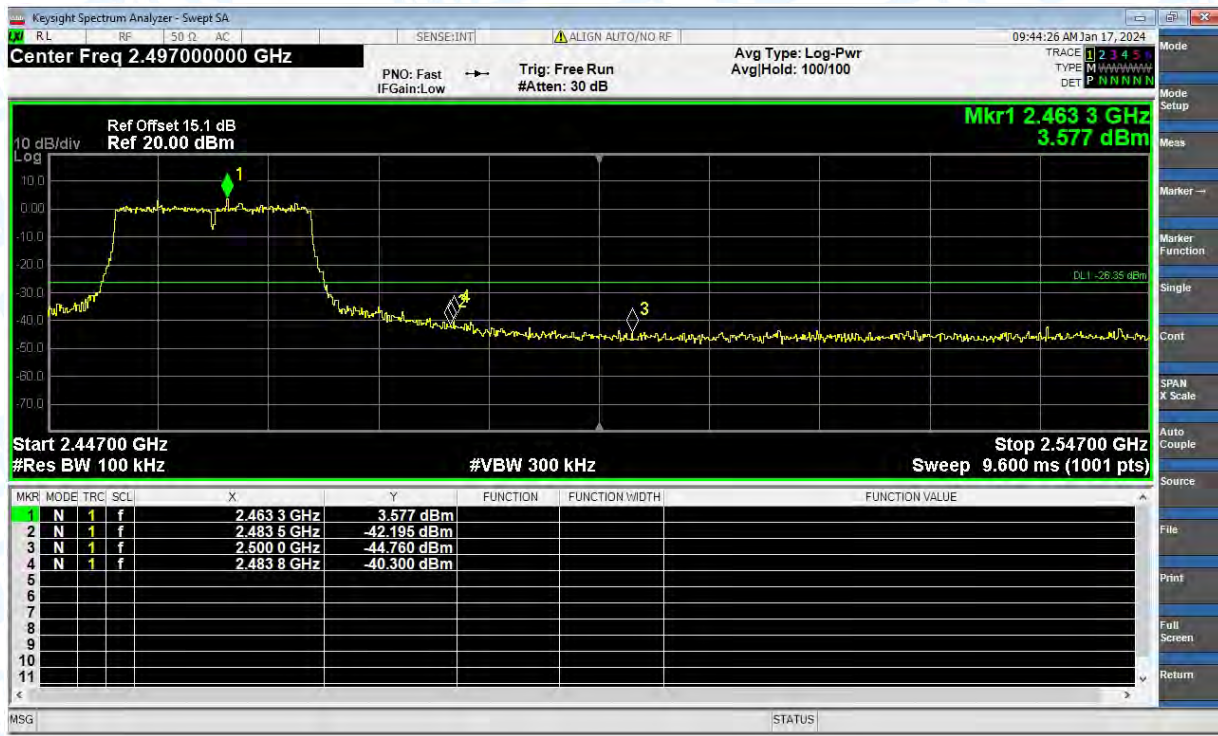




Band Edge NVNT n(HT20) 2462MHz Ant1 Ref



Band Edge NVNT n(HT20) 2462MHz Ant1 Emission





## Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-46.67	-30	Pass
NVNT	b	2437	Ant1	-46.67	-30	Pass
NVNT	b	2462	Ant1	-46.15	-30	Pass
NVNT	g	2412	Ant1	-44.65	-30	Pass
NVNT	g	2437	Ant1	-44.25	-30	Pass
NVNT	g	2462	Ant1	-42.3	-30	Pass
NVNT	n(HT20)	2412	Ant1	-42.78	-30	Pass
NVNT	n(HT20)	2437	Ant1	-43.08	-30	Pass
NVNT	n(HT20)	2462	Ant1	-47.65	-30	Pass

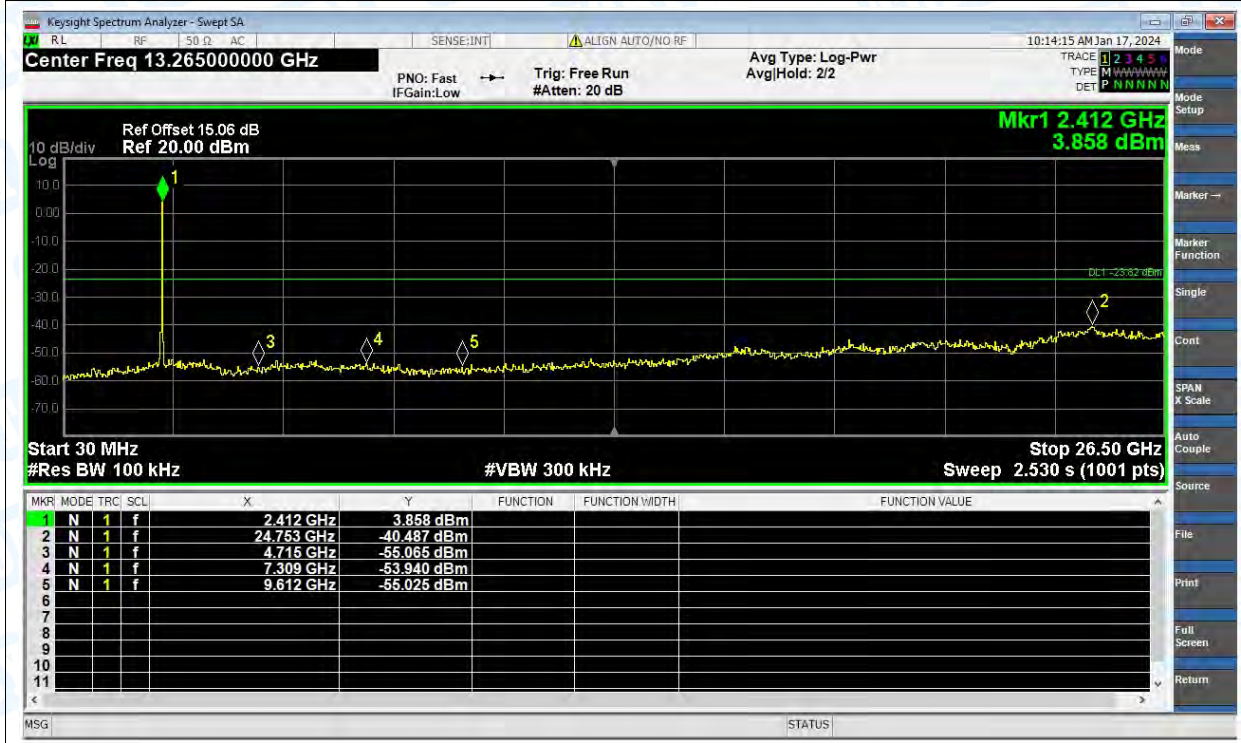


Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref



Tx. Spurious NVNT b 2412MHz Ant1 Emission

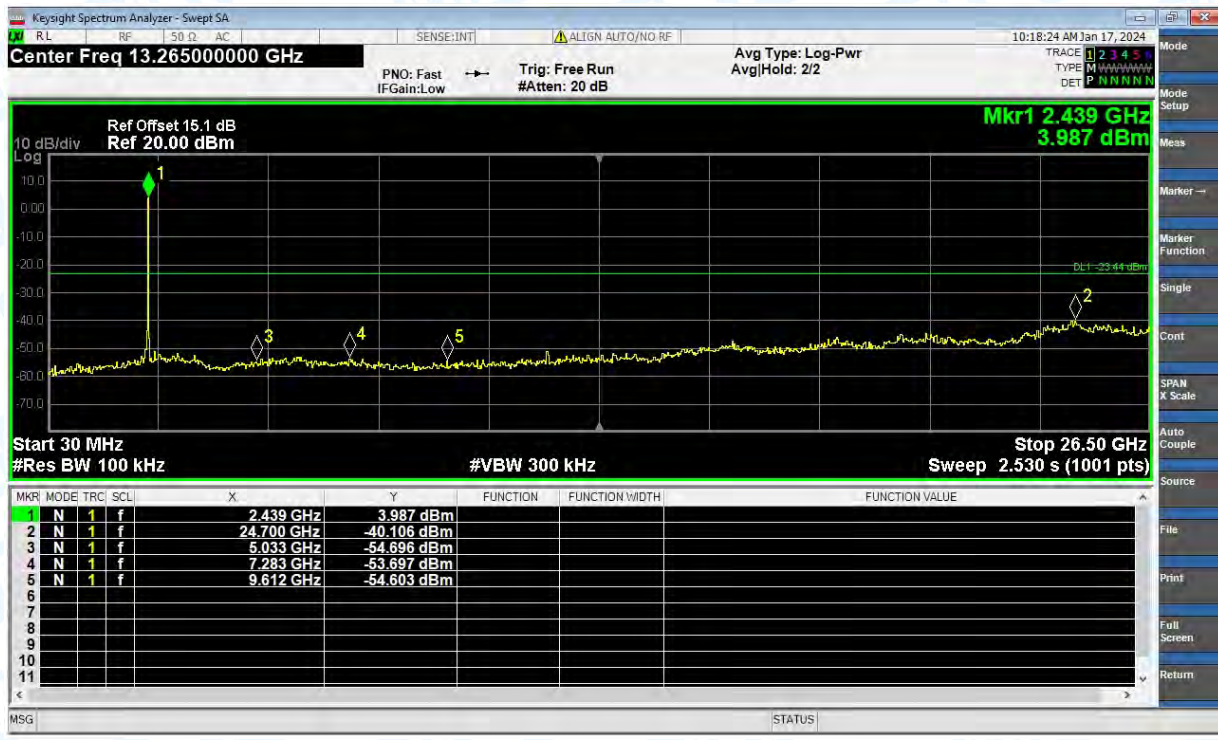




Tx. Spurious NVNT b 2437MHz Ant1 Ref



Tx. Spurious NVNT b 2437MHz Ant1 Emission

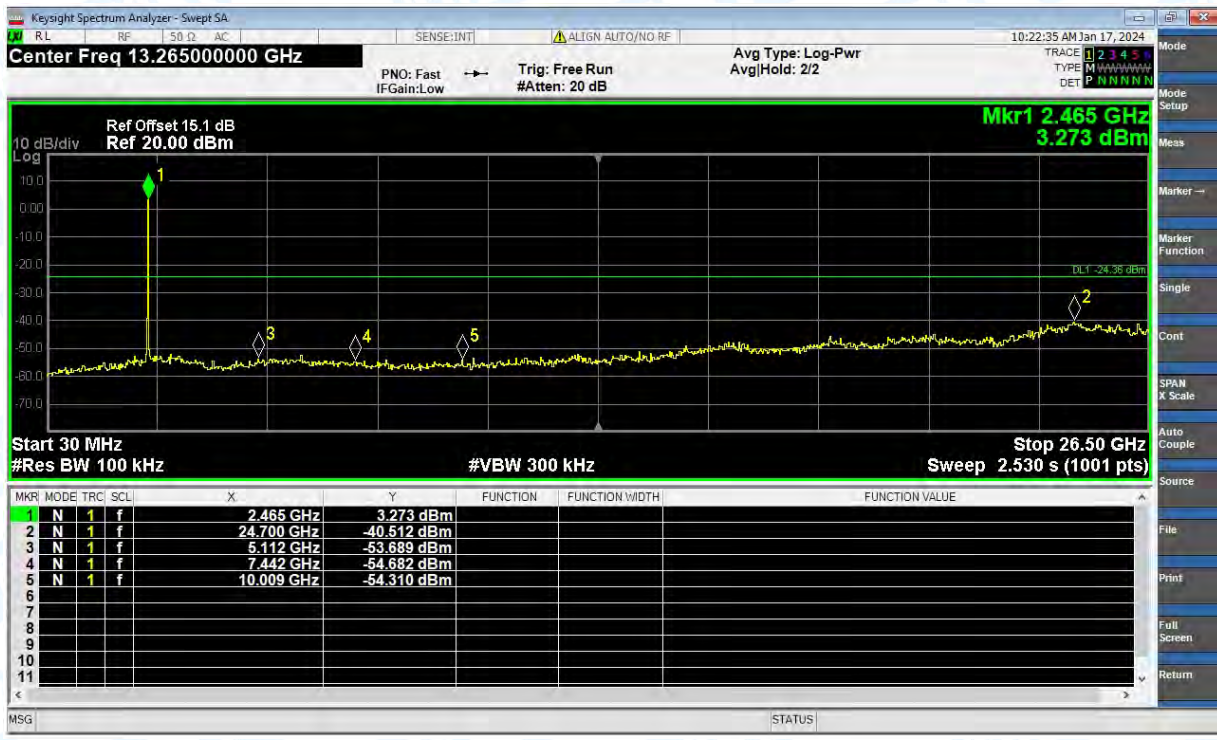




Tx. Spurious NVNT b 2462MHz Ant1 Ref



Tx. Spurious NVNT b 2462MHz Ant1 Emission

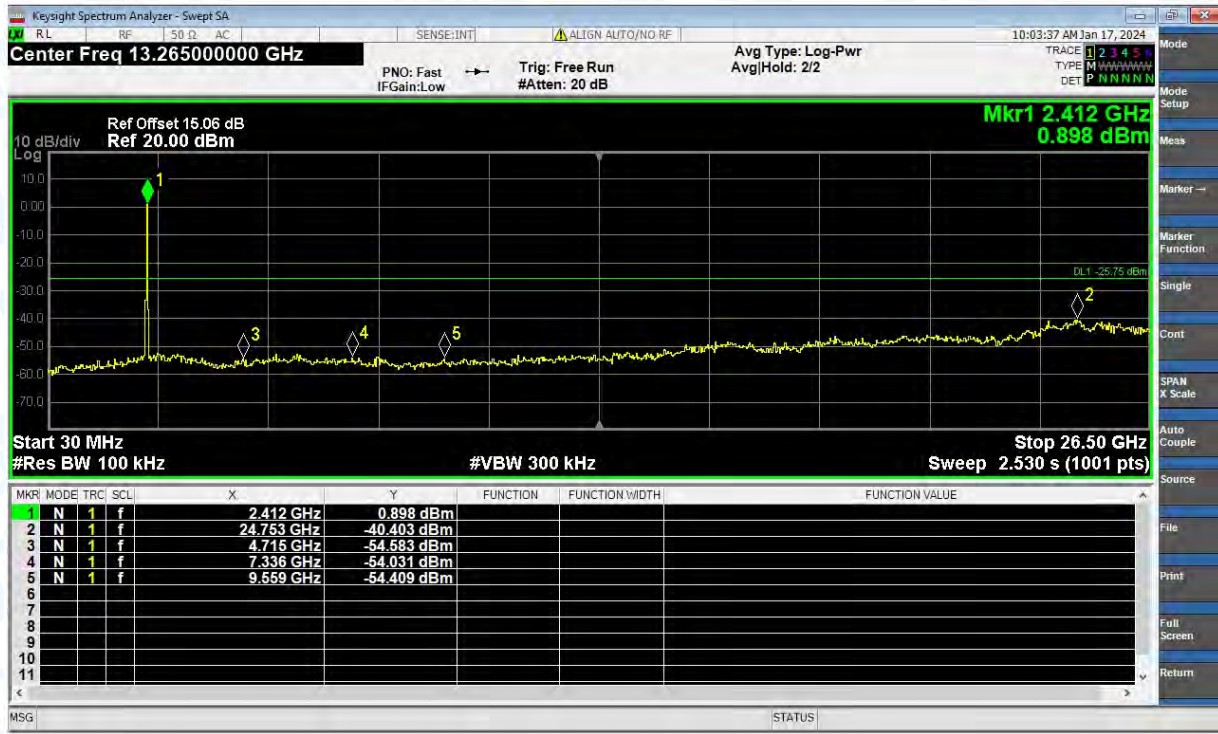




Tx. Spurious NVNT g 2412MHz Ant1 Ref



Tx. Spurious NVNT g 2412MHz Ant1 Emission

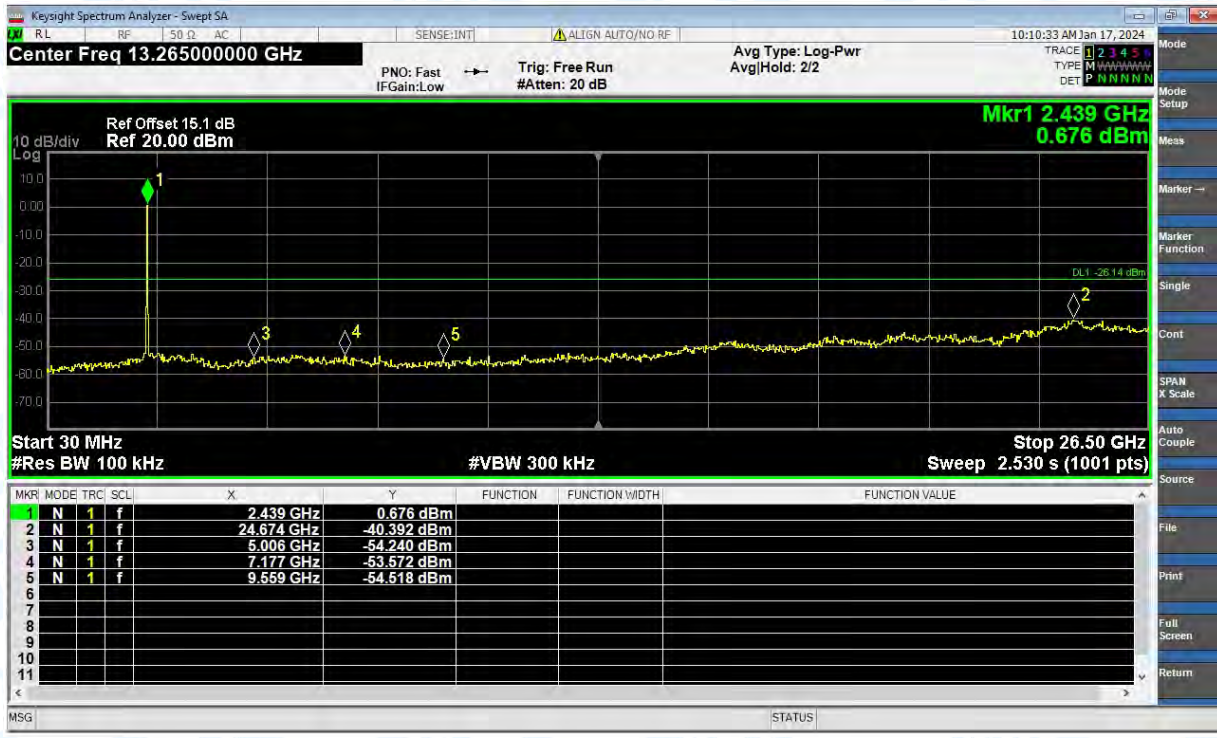




Tx. Spurious NVNT g 2437MHz Ant1 Ref

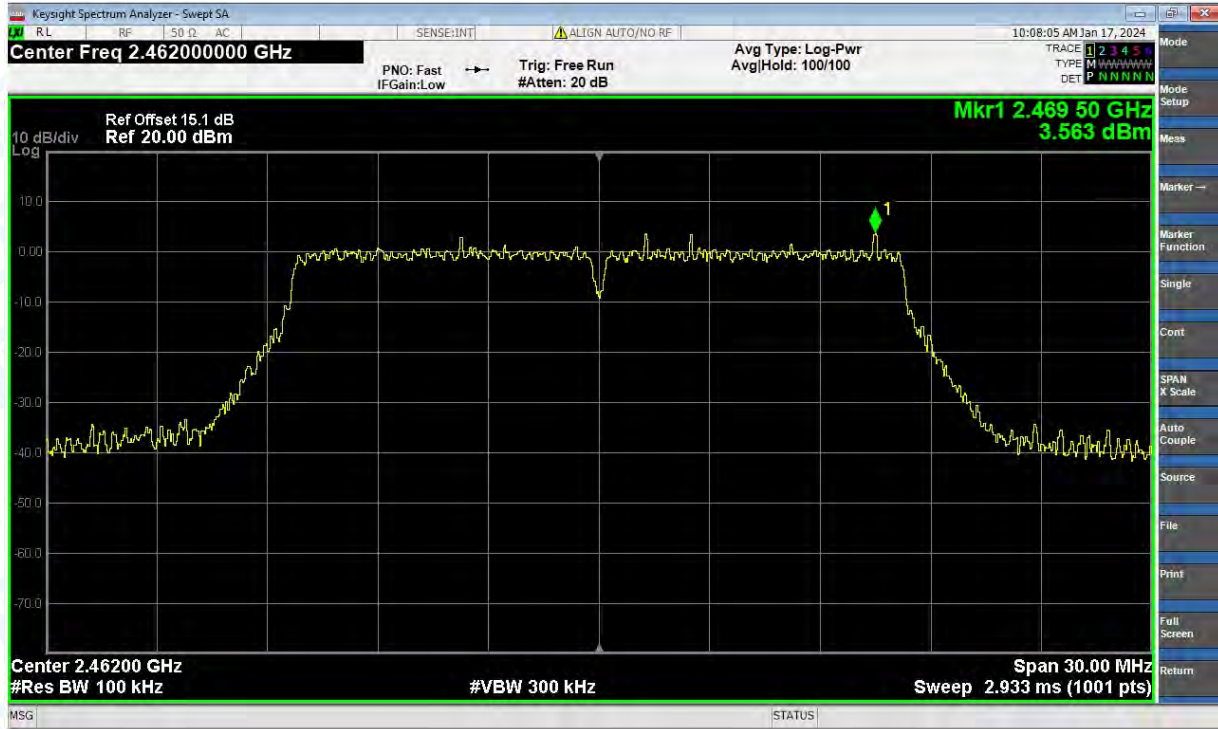


Tx. Spurious NVNT g 2437MHz Ant1 Emission

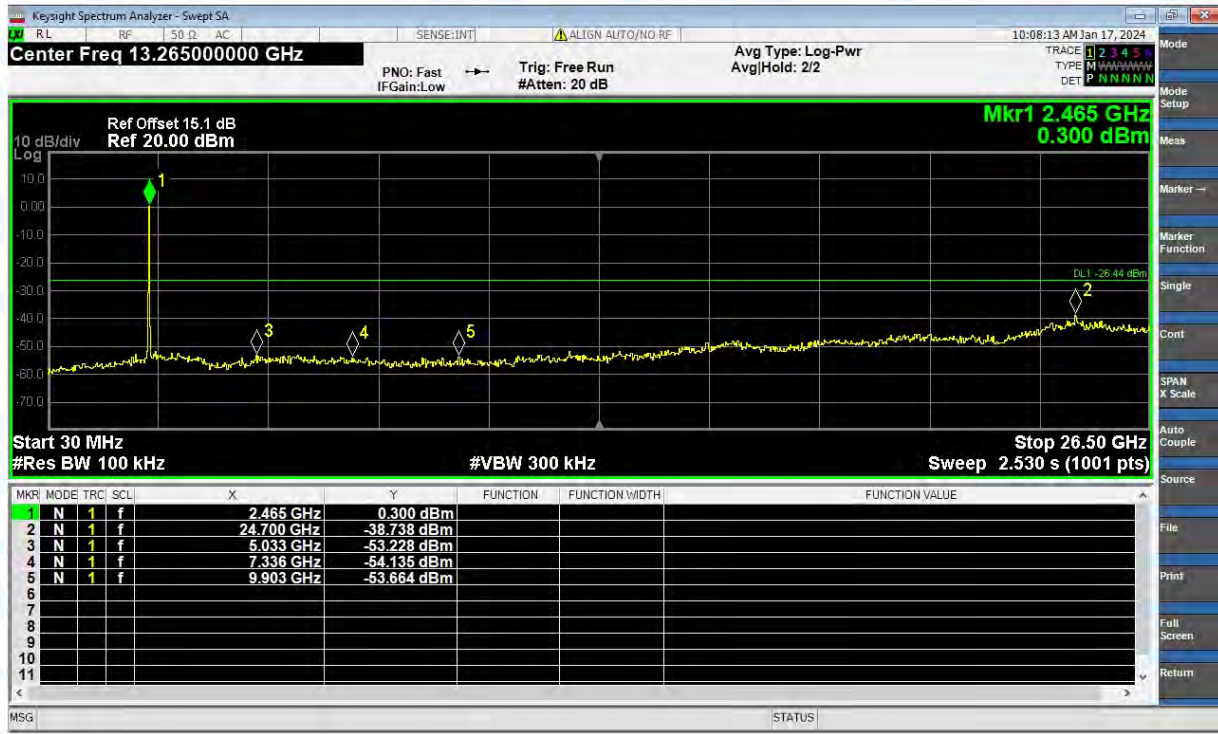




Tx. Spurious NVNT g 2462MHz Ant1 Ref

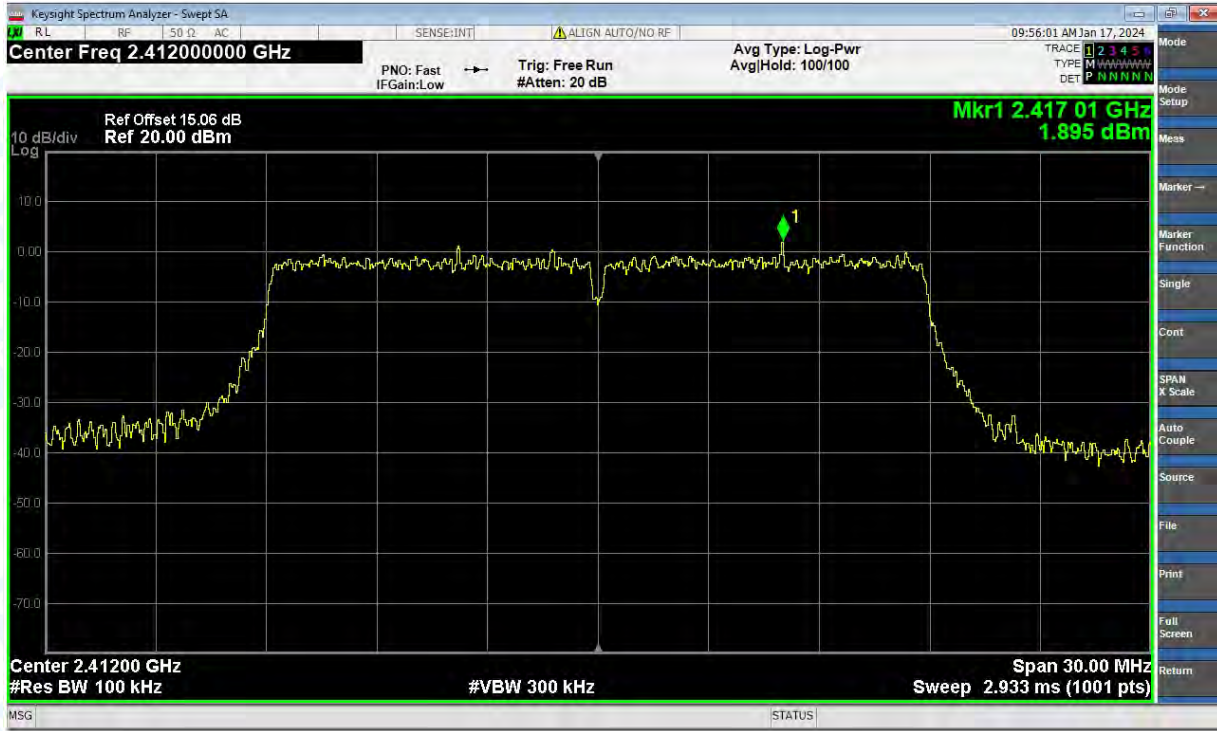


Tx. Spurious NVNT g 2462MHz Ant1 Emission

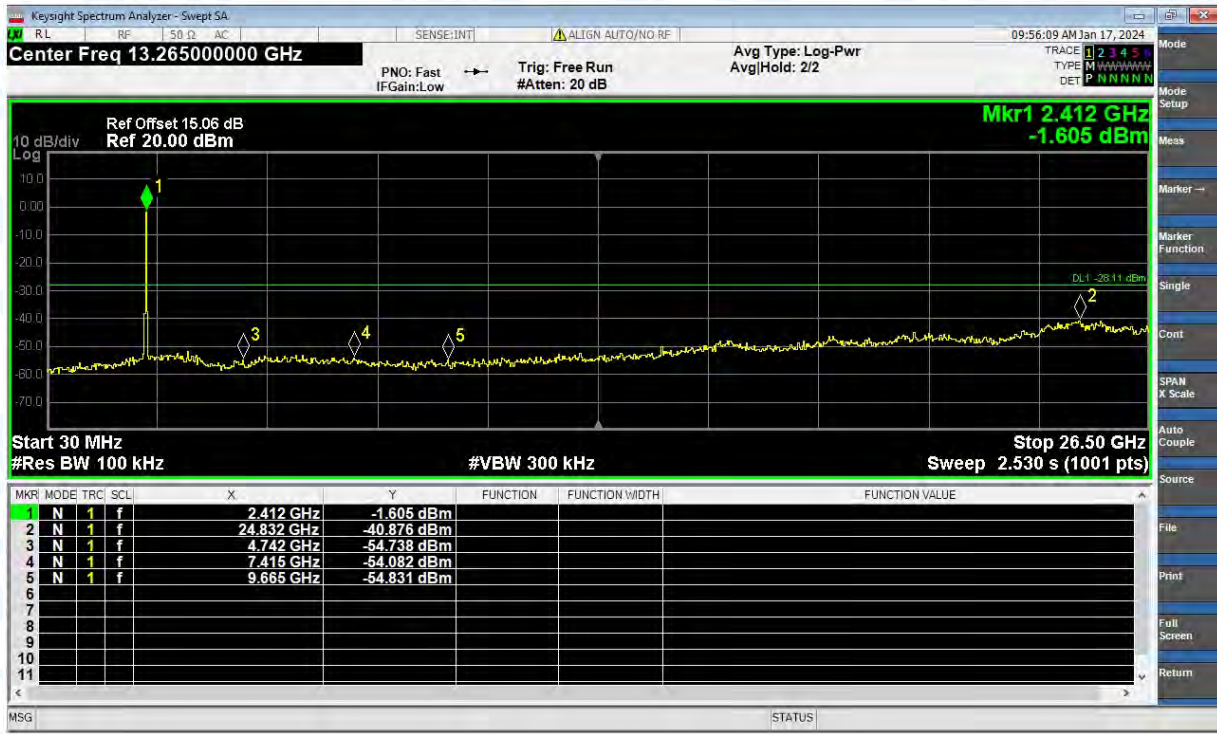




Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Ref



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

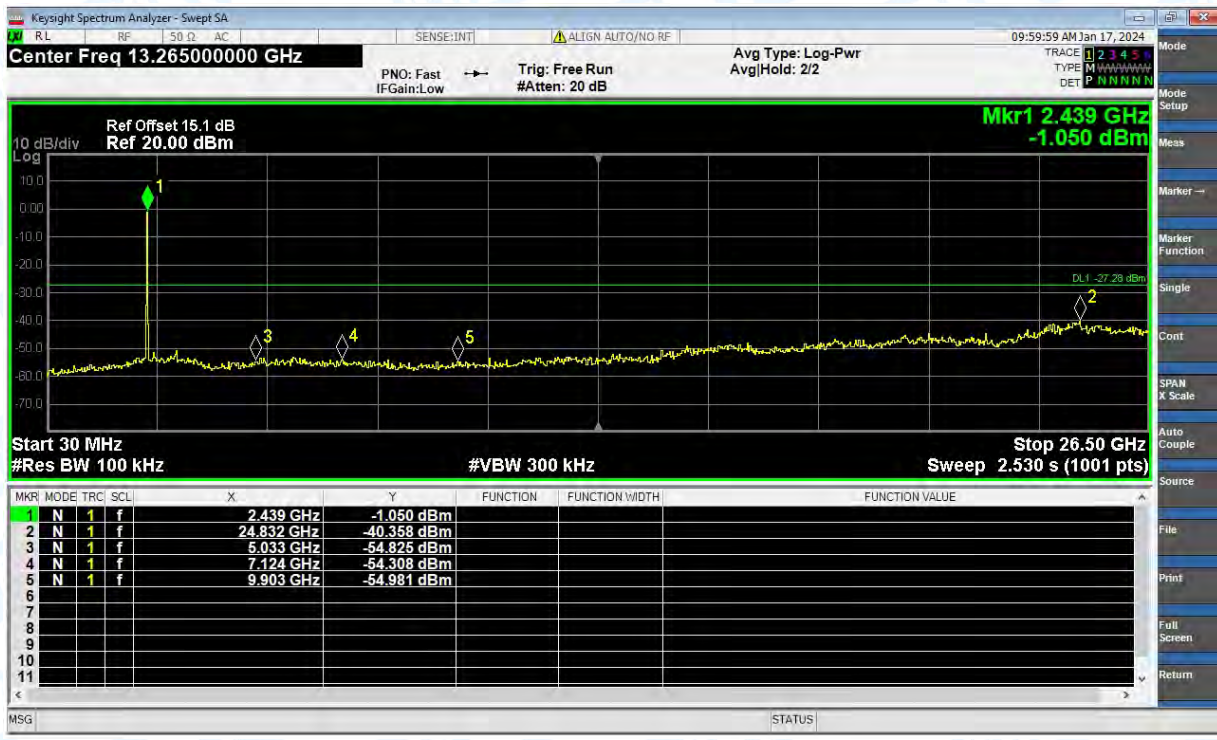




Tx. Spurious NVNT n(HT20) 2437MHz Ant1 Ref



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

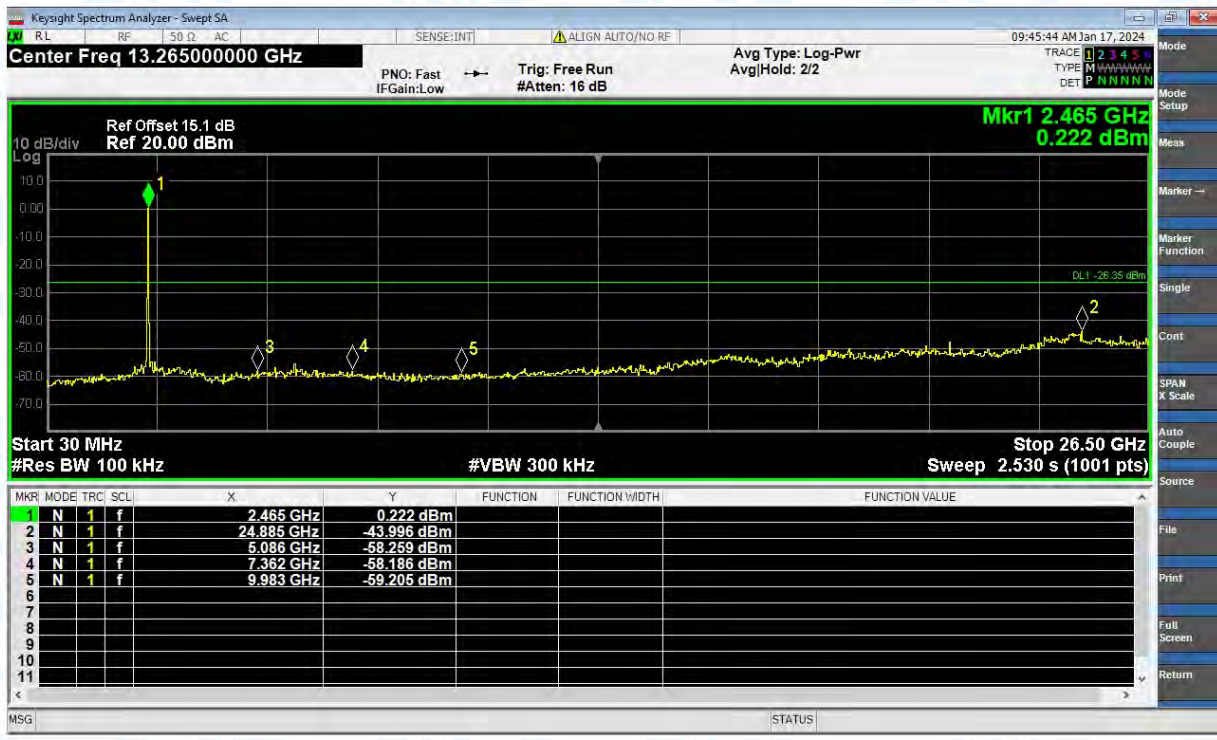




Tx. Spurious NVNT n(HT20) 2462MHz Ant1 Ref



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





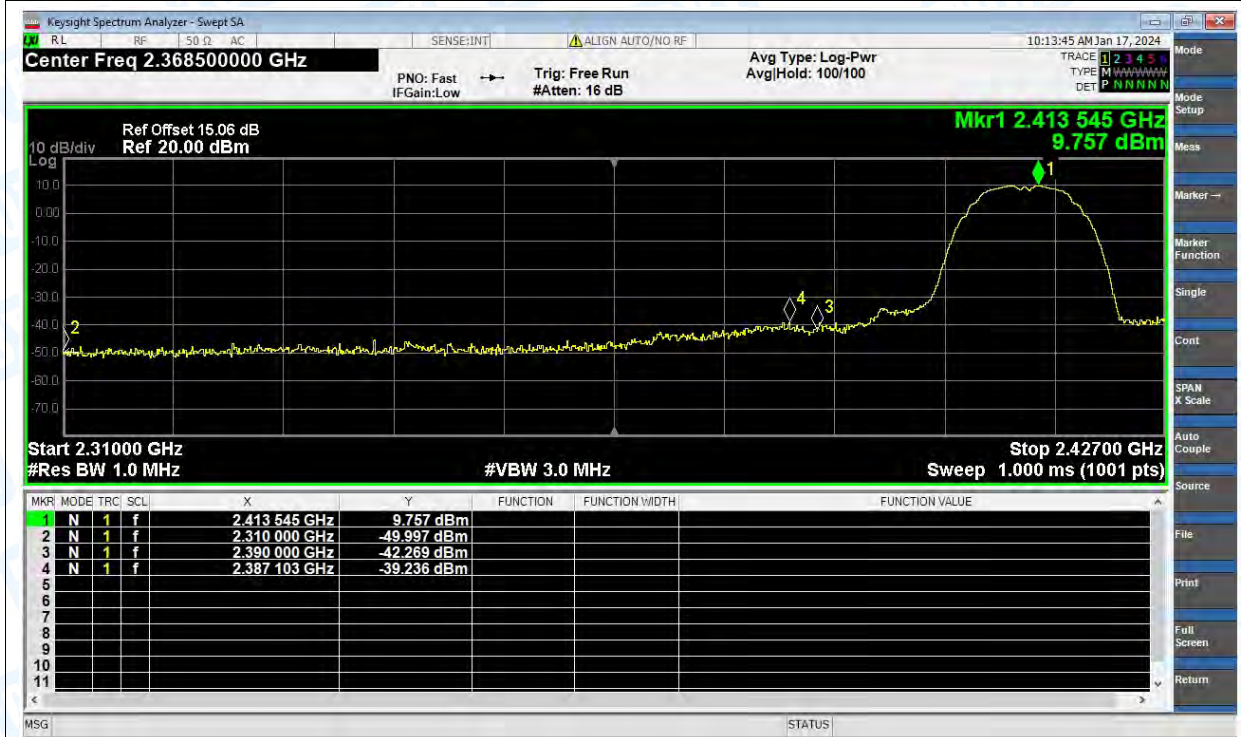
## Restrict Band

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	-50	2	-	47.26	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-59.22	2	0	38.04	Average	54	Pass
NVNT	b	2412	Ant1	2387.103	-39.24	2	-	58.02	Peak	74	Pass
NVNT	b	2412	Ant1	2387.103	-47.02	2	0	50.24	Average	54	Pass
NVNT	b	2412	Ant1	2390	-42.27	2	-	54.99	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-49.91	2	0	47.35	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-42.79	2	-	54.47	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-49.56	2	0.01	47.71	Average	54	Pass
NVNT	b	2462	Ant1	2486.962	-39.75	2	-	57.51	Peak	74	Pass
NVNT	b	2462	Ant1	2487.28	-47.2	2	0.01	50.07	Average	54	Pass
NVNT	b	2462	Ant1	2500	-44.12	2	-	53.14	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-52.68	2	0.01	44.59	Average	54	Pass
NVNT	g	2412	Ant1	2310	-51.53	2	-	45.73	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-59.39	2	0.02	37.89	Average	54	Pass
NVNT	g	2412	Ant1	2389.794	-32.86	2	-	64.4	Peak	74	Pass
NVNT	g	2412	Ant1	2389.911	-45.31	2	0.02	51.97	Average	54	Pass
NVNT	g	2412	Ant1	2390	-35.27	2	-	61.99	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-47.17	2	0.02	50.11	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-38.58	2	-	58.68	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-48.55	2	0	48.71	Average	54	Pass
NVNT	g	2462	Ant1	2491.573	-32.91	2	-	64.35	Peak	74	Pass
NVNT	g	2462	Ant1	2483.941	-45.84	2	0	51.42	Average	54	Pass
NVNT	g	2462	Ant1	2500	-46.9	2	-	50.36	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-56.19	2	0	41.07	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2310	-51.24	2	-	46.02	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2310	-57.68	2	0	39.58	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2389.56	-31.13	2	-	66.13	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2389.443	-44.21	2	0	53.05	Average	54	Pass
NVNT	n(HT20)	2412	Ant1	2390	-36.39	2	-	60.87	Peak	74	Pass
NVNT	n(HT20)	2412	Ant1	2390	-45.85	2	0	51.41	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-36.28	2	-	60.98	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2483.5	-45.95	2	0	51.31	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2483.782	-27.93	2	-	69.33	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2485.319	-45.25	2	0	52.01	Average	54	Pass
NVNT	n(HT20)	2462	Ant1	2500	-47.46	2	-	49.8	Peak	74	Pass
NVNT	n(HT20)	2462	Ant1	2500	-56.08	2	0	41.18	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

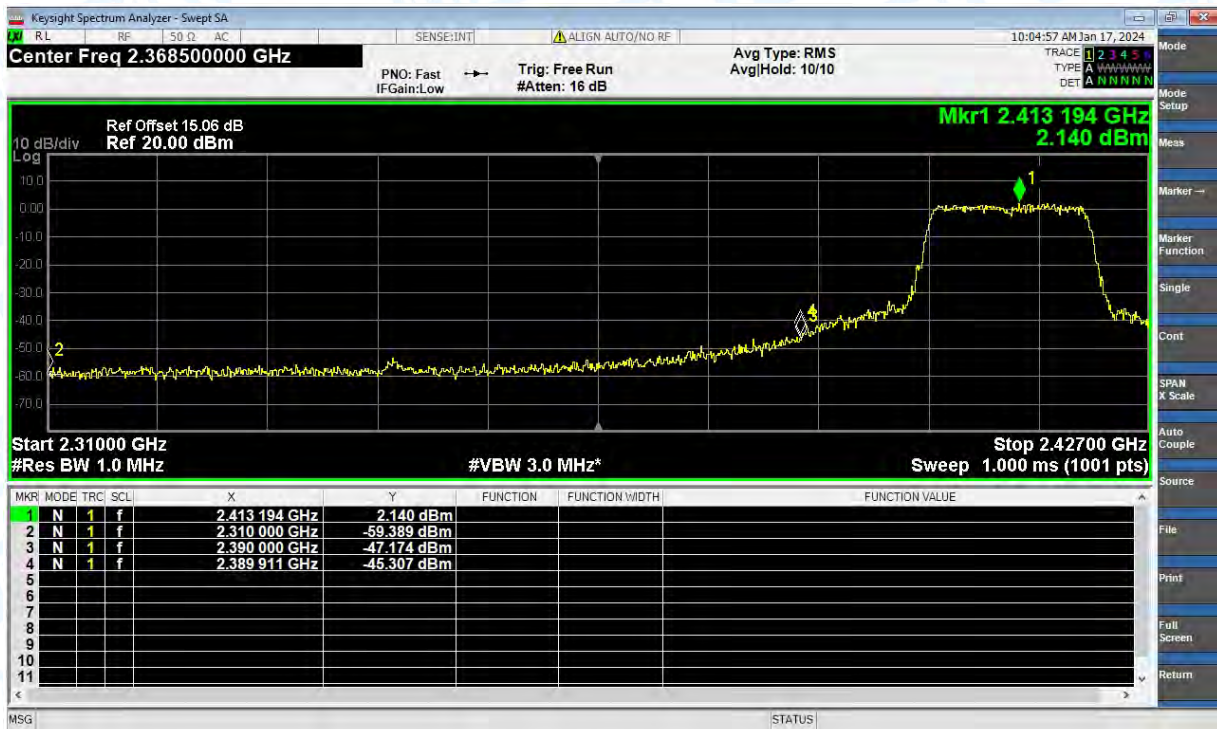




Restrict Band NVNT g 2412MHz Ant1 Peak



Restrict Band NVNT g 2412MHz Ant1 Average





Restrict Band NVNT g 2462MHz Ant1 Peak



Restrict Band NVNT g 2462MHz Ant1 Average

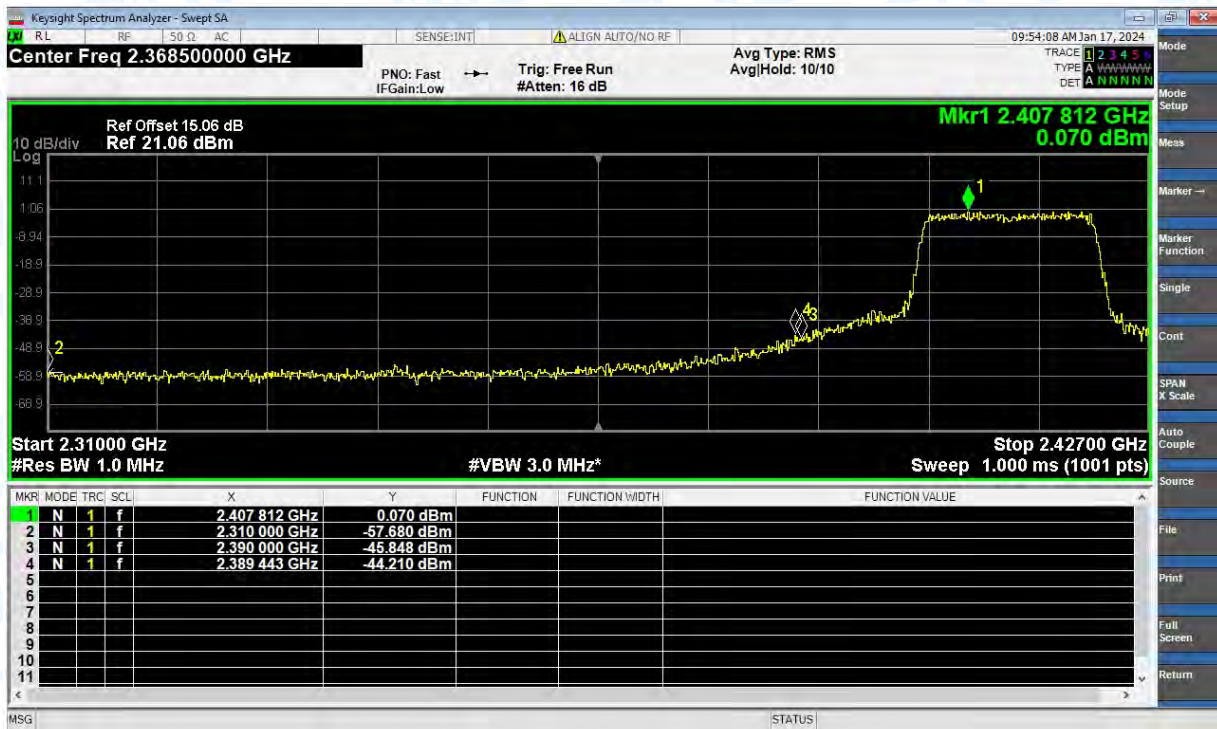




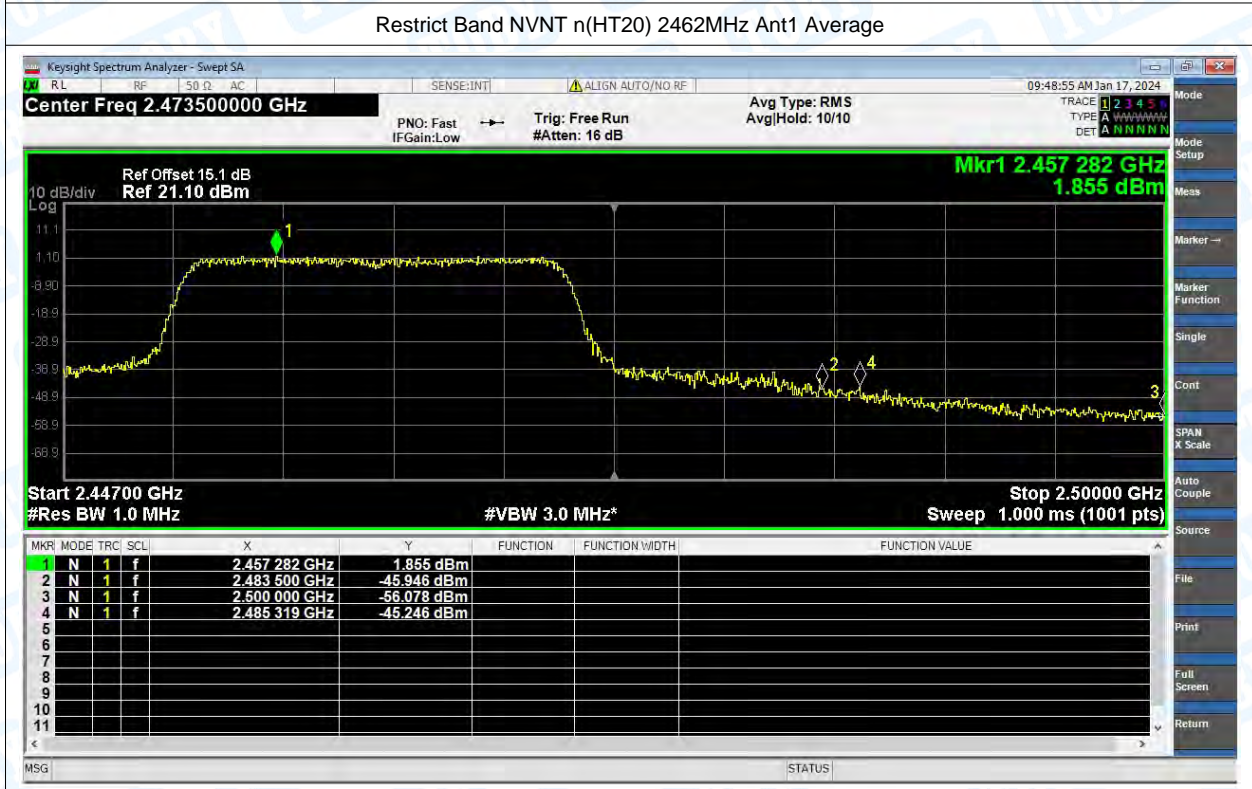
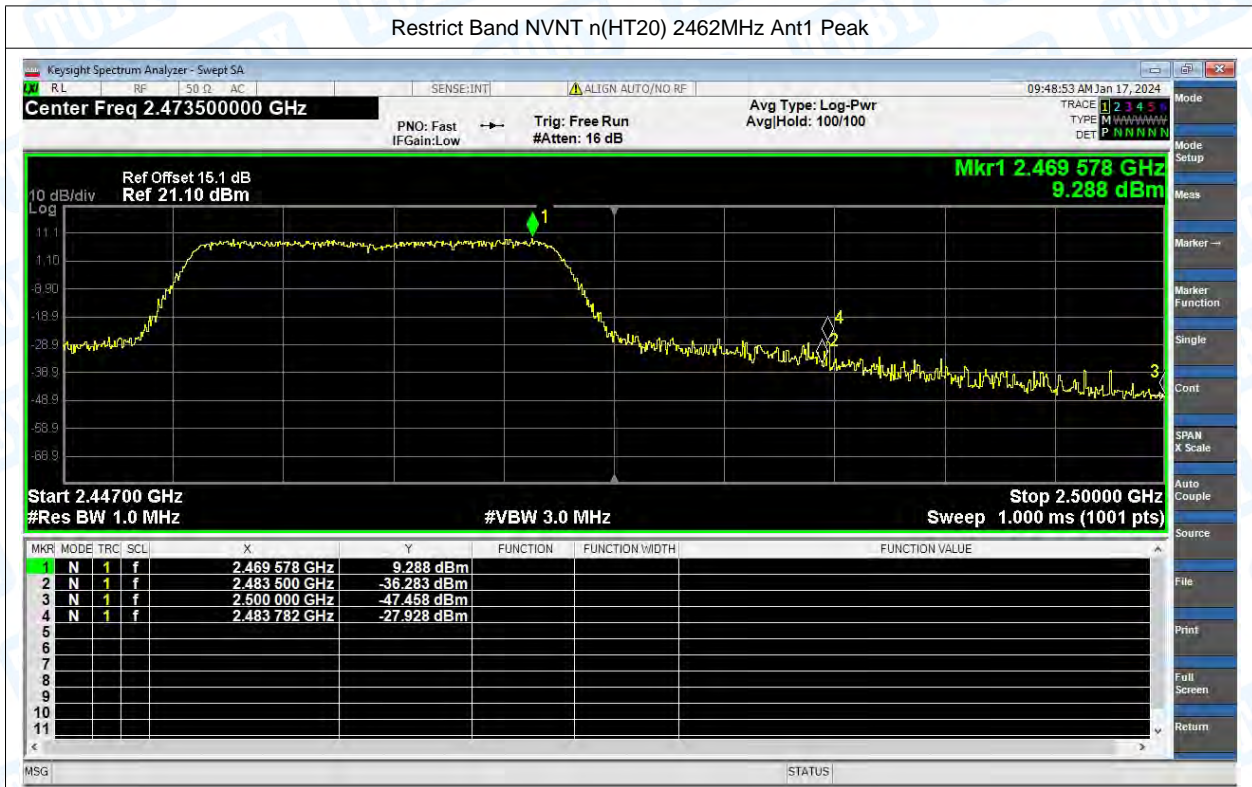
Restrict Band NVNT n(HT20) 2412MHz Ant1 Peak



Restrict Band NVNT n(HT20) 2412MHz Ant1 Average







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