

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	Mobile Lidar Scanner
Test Model:	Lixel L2 PRO-16
Sample ID:	HC-C-202402-0069-4-01
Environmental Conditions	
Temperature:	23.8°C
Relative Humidity:	49%
Test Voltage:	DC 14.4V
Test Engineer:	Jolin Lee
<p>Note: For a more detailed features description, please refer to the report TBR-C-202402-0069-6 The report only show the worst case data.</p>	

Contents

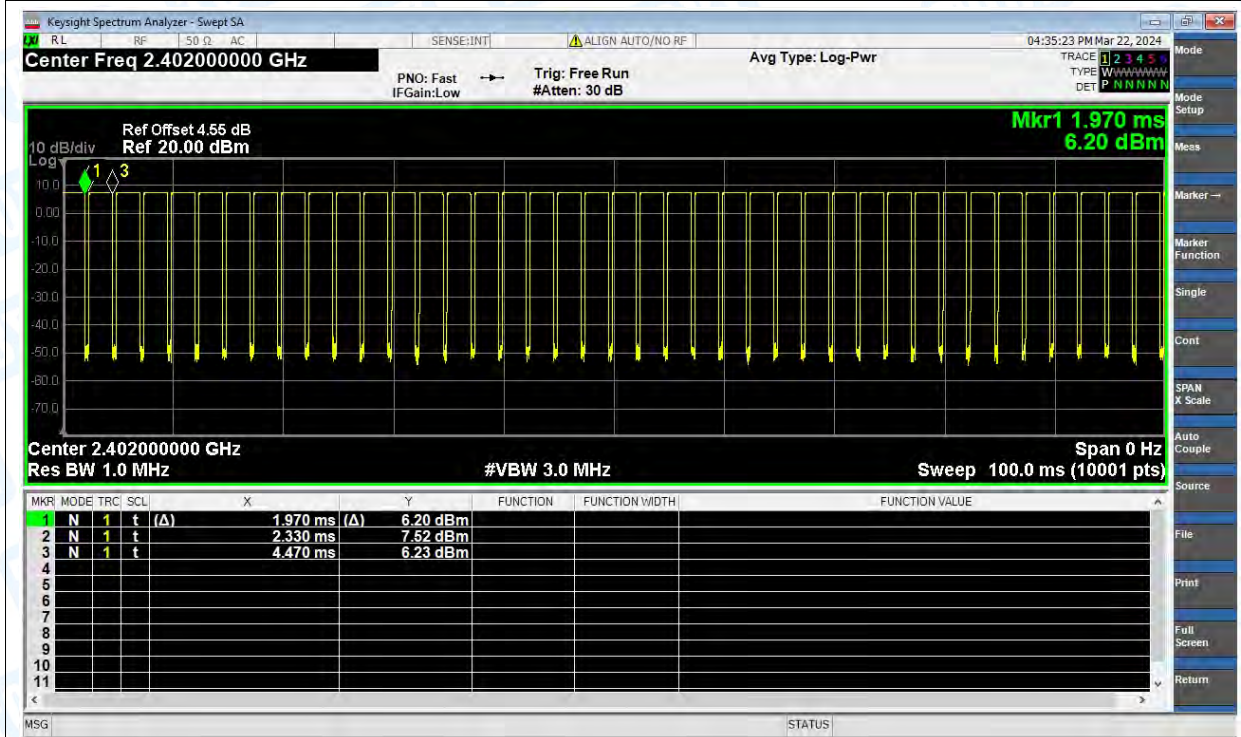
1. Duty Cycle.....	3
2. Maximum Conducted Peak Output Power.....	7
3. -6dB Bandwidth.....	11
4. Occupied Channel Bandwidth.....	15
5. Maximum Power Spectral Density Level.....	19
6. Band Edge.....	23
7. Conducted RF Spurious Emission.....	28
8. Restrict Band.....	35

1. Duty Cycle

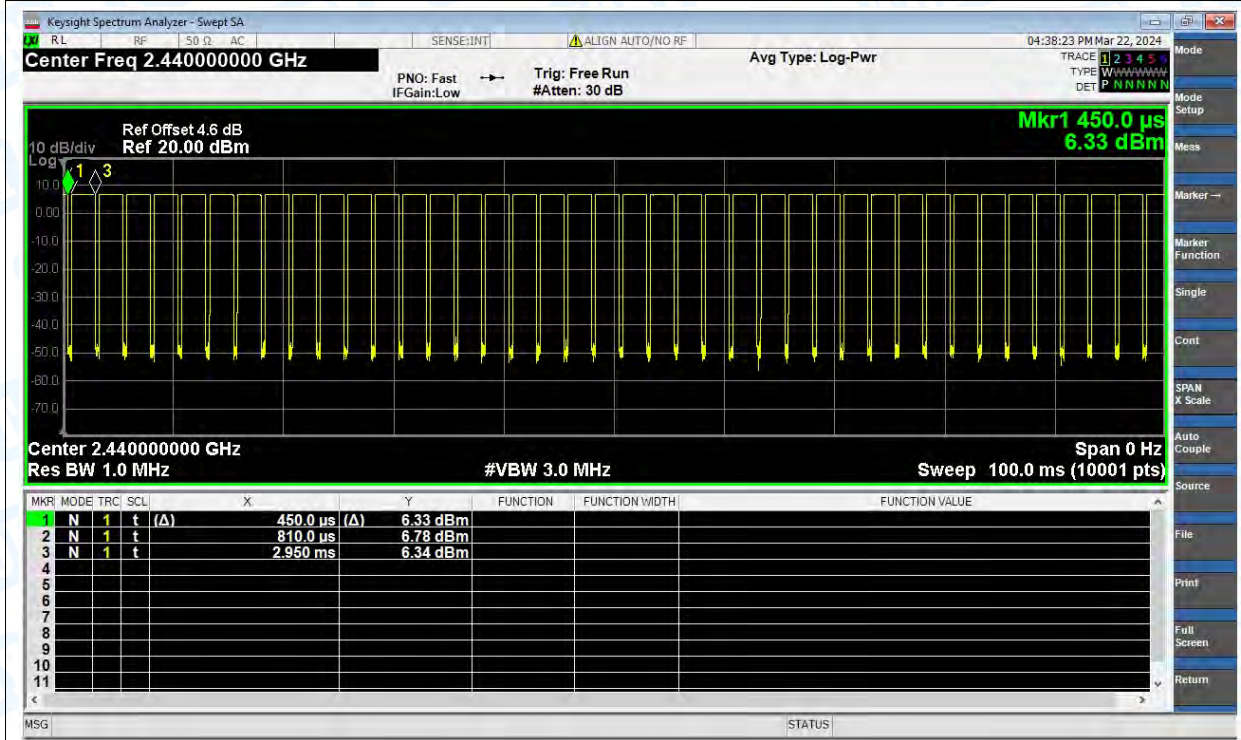
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	85.6	0.68	0.47
NVNT	BLE 1Mbps	2440	Ant1	85.6	0.68	0.47
NVNT	BLE 1Mbps	2480	Ant1	85.6	0.68	0.47
NVNT	BLE 2Mbps	2402	Ant1	57.45	2.41	0.93
NVNT	BLE 2Mbps	2440	Ant1	57.45	2.41	0.93
NVNT	BLE 2Mbps	2480	Ant1	57.45	2.41	0.93

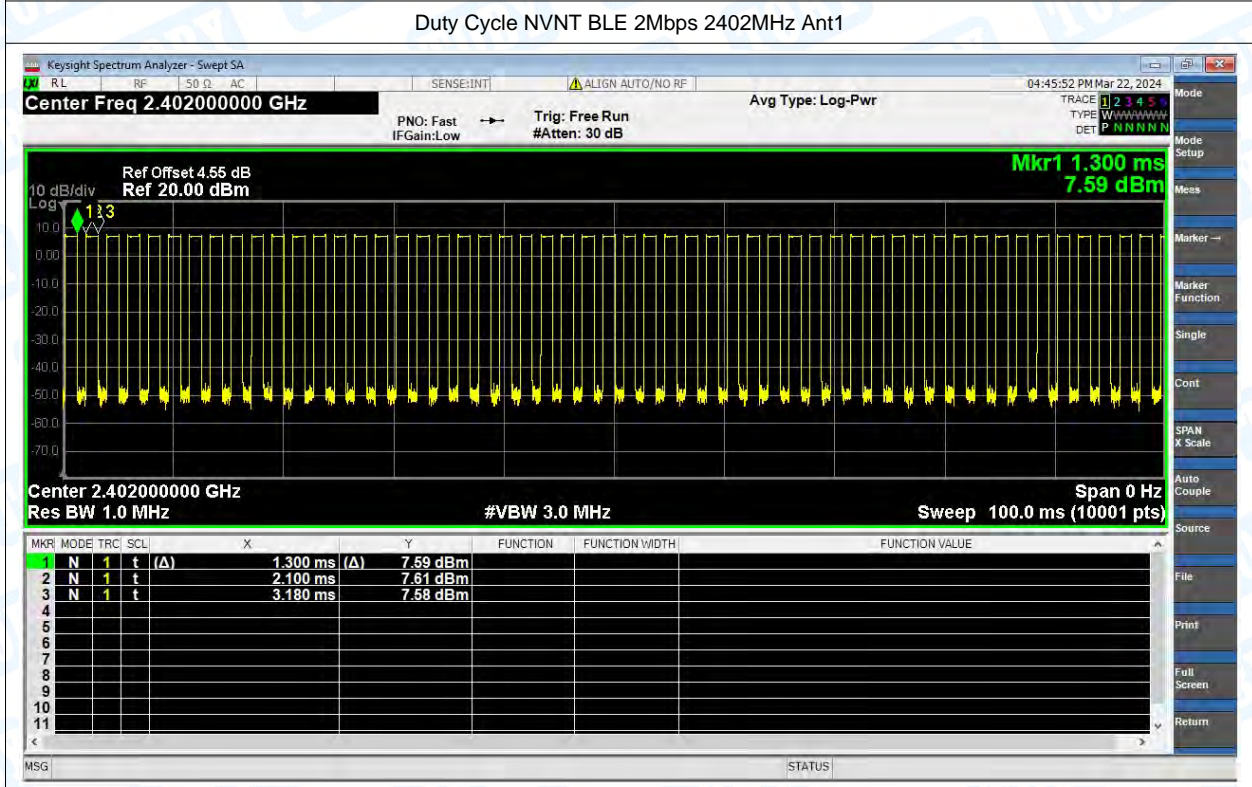
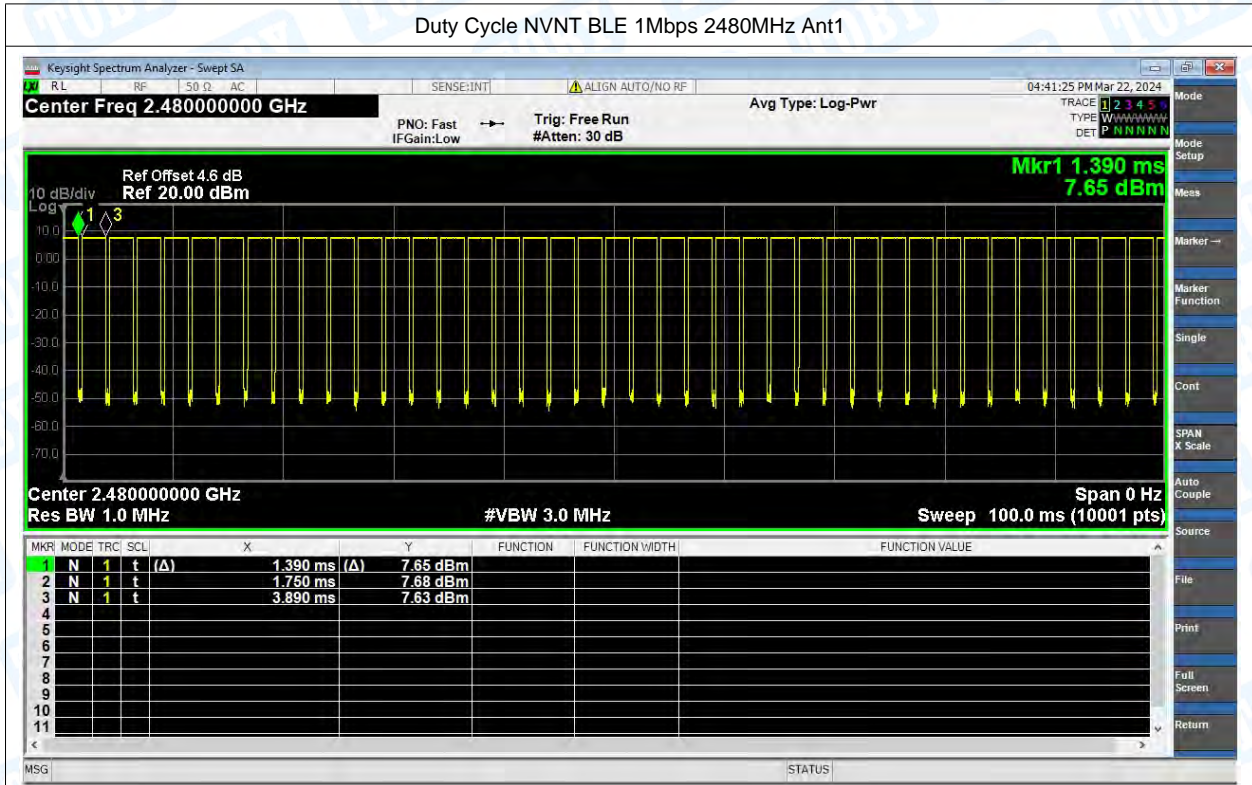
Test Graphs

Duty Cycle NVNT BLE 1Mbps 2402MHz Ant1

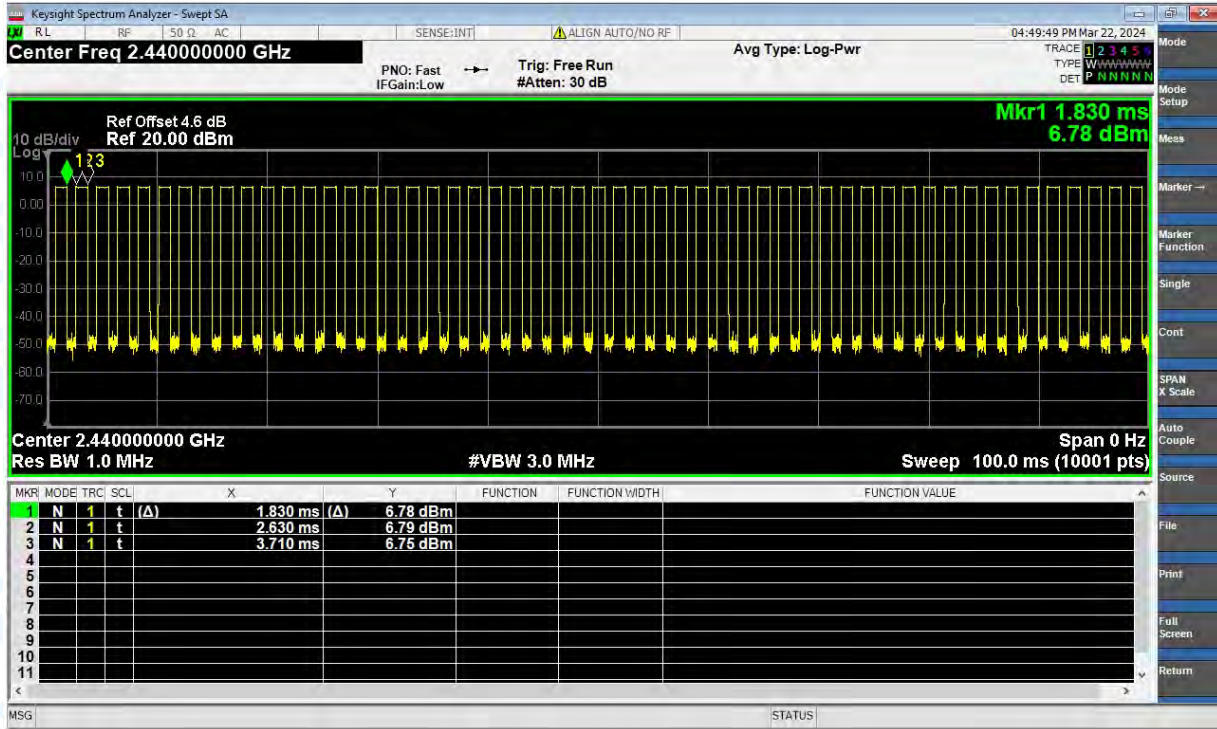


Duty Cycle NVNT BLE 1Mbps 2440MHz Ant1

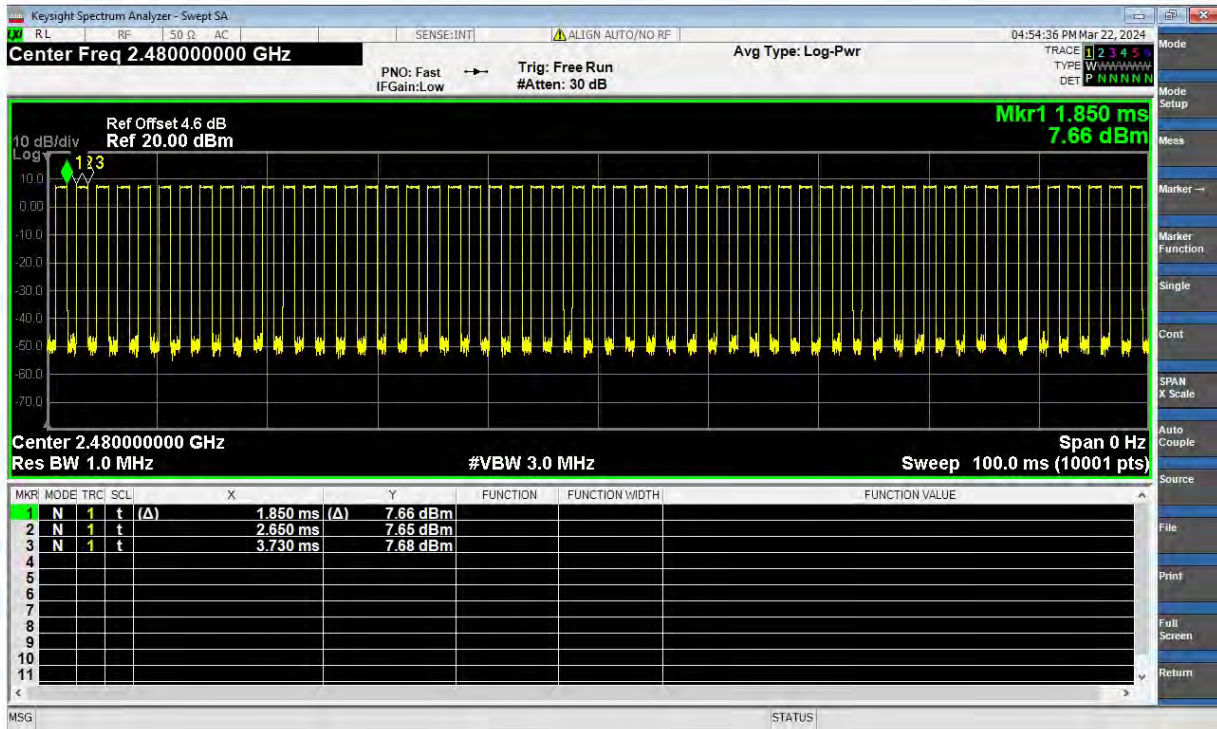




Duty Cycle NVNT BLE 2Mbps 2440MHz Ant1



Duty Cycle NVNT BLE 2Mbps 2480MHz Ant1



2. Maximum Conducted Peak Output Power

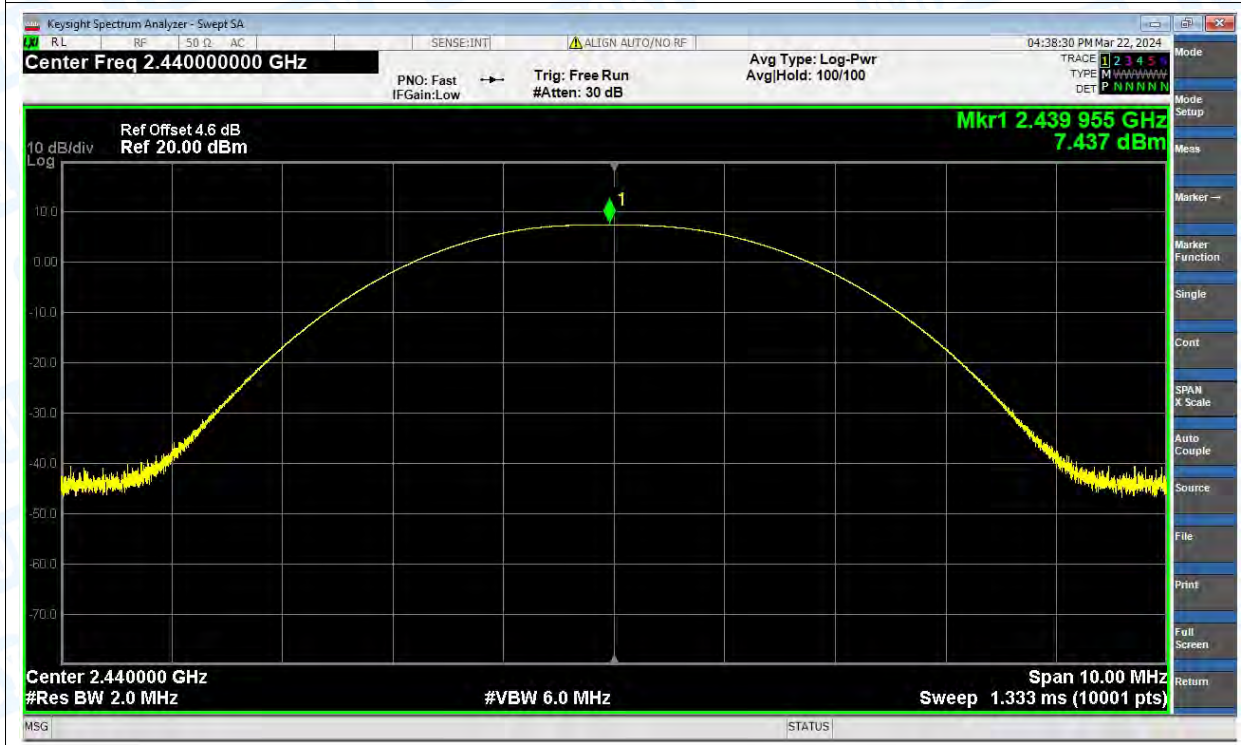
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	7.827	30	Pass
NVNT	BLE 1Mbps	2440	Ant1	7.437	30	Pass
NVNT	BLE 1Mbps	2480	Ant1	7.802	30	Pass
NVNT	BLE 2Mbps	2402	Ant1	7.772	30	Pass
NVNT	BLE 2Mbps	2440	Ant1	6.817	30	Pass
NVNT	BLE 2Mbps	2480	Ant1	7.719	30	Pass

Test Graphs

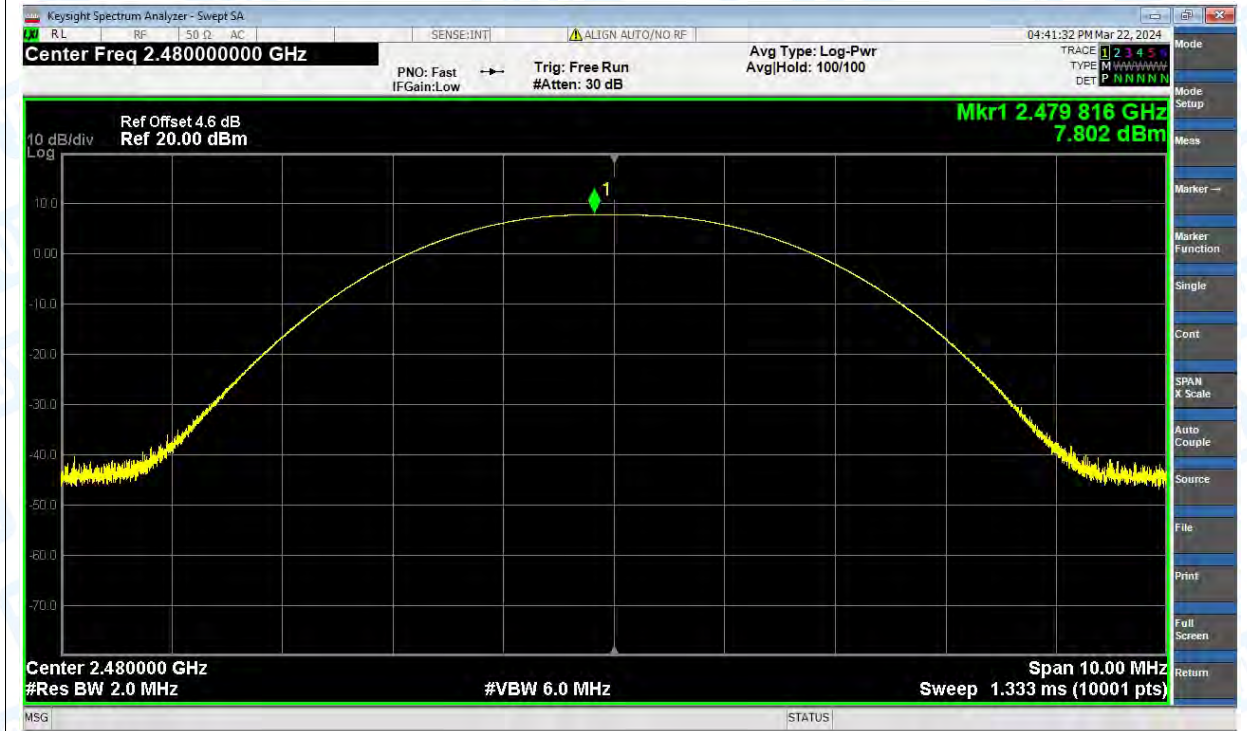
Power NVNT BLE 1Mbps 2402MHz Ant1



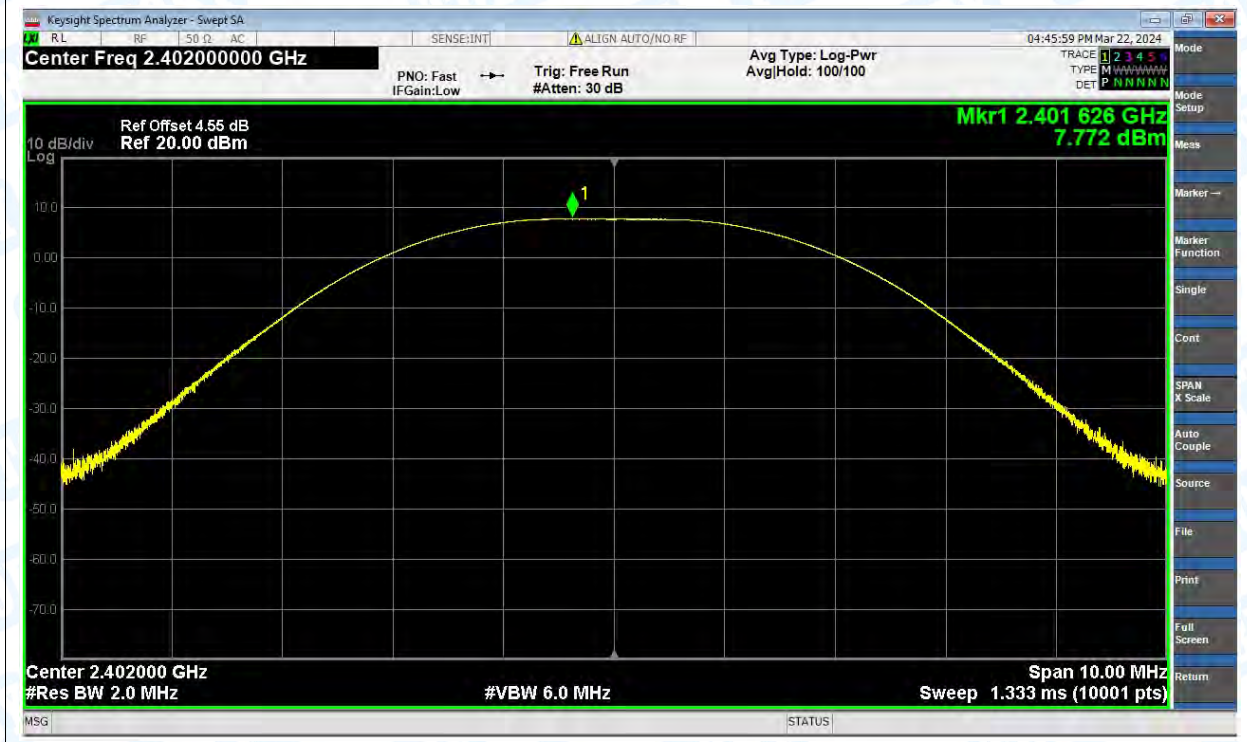
Power NVNT BLE 1Mbps 2440MHz Ant1



Power NVNT BLE 1Mbps 2480MHz Ant1



Power NVNT BLE 2Mbps 2402MHz Ant1



Power NVNT BLE 2Mbps 2440MHz Ant1



Power NVNT BLE 2Mbps 2480MHz Ant1

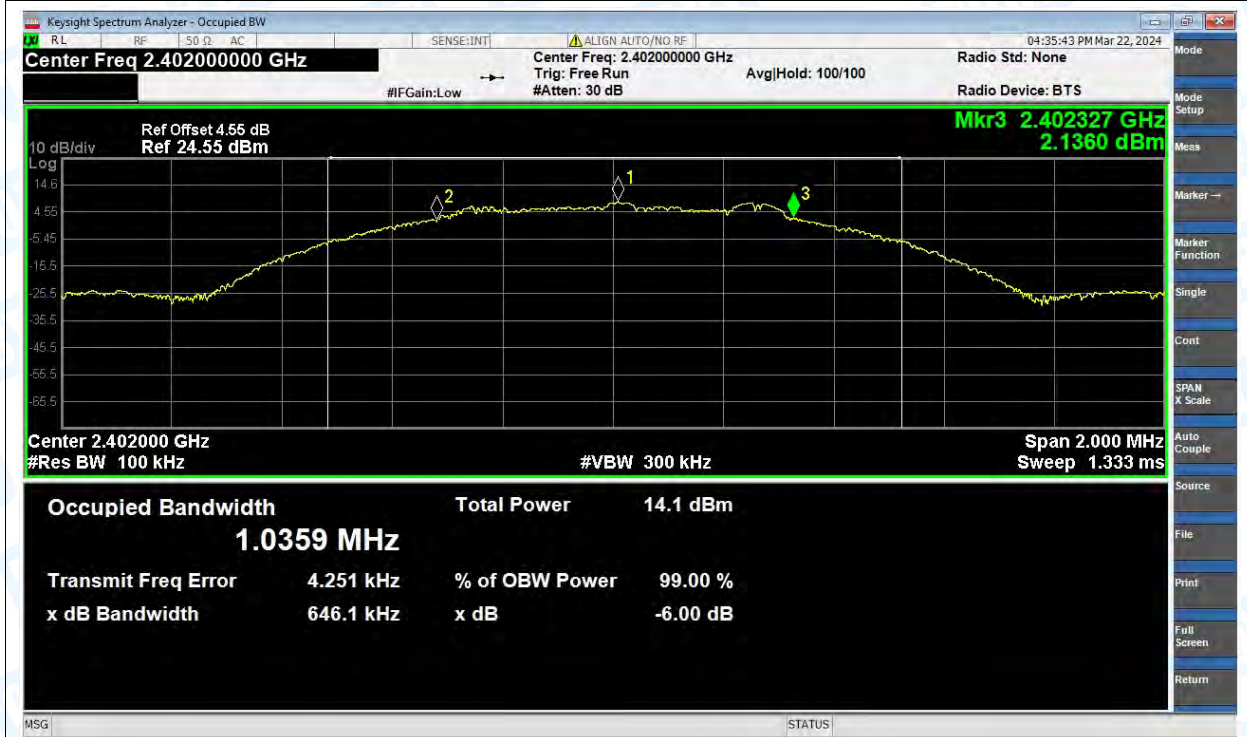


3. -6dB Bandwidth

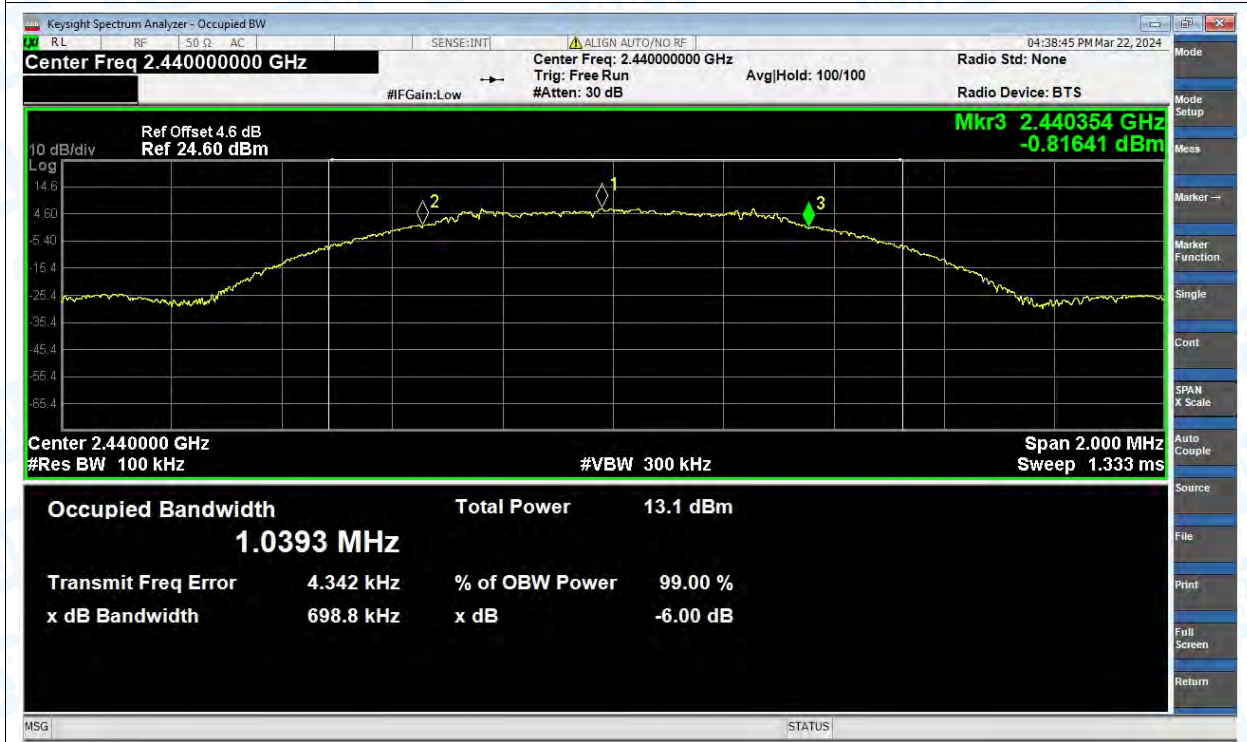
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.65	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.7	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.65	0.5	Pass
NVNT	BLE 2Mbps	2402	Ant1	1.23	0.5	Pass
NVNT	BLE 2Mbps	2440	Ant1	1.26	0.5	Pass
NVNT	BLE 2Mbps	2480	Ant1	1.13	0.5	Pass

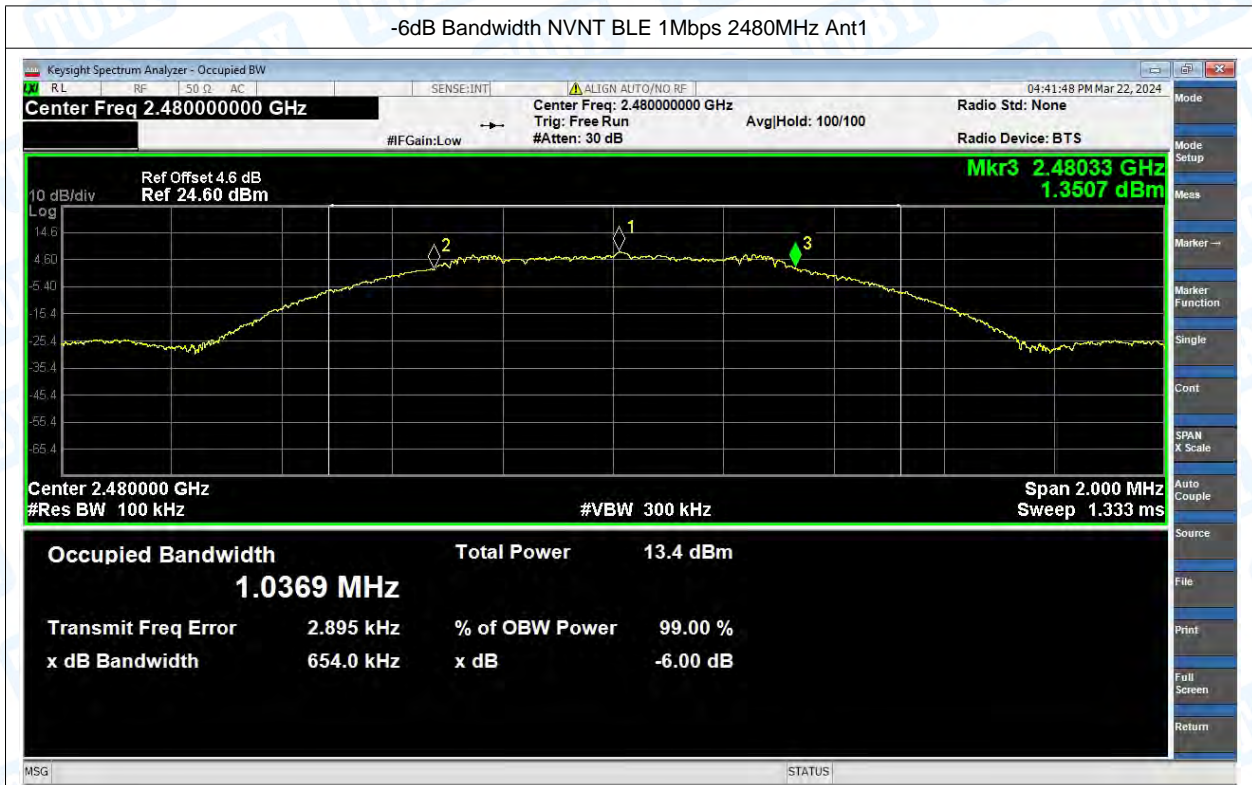
Test Graphs

-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1

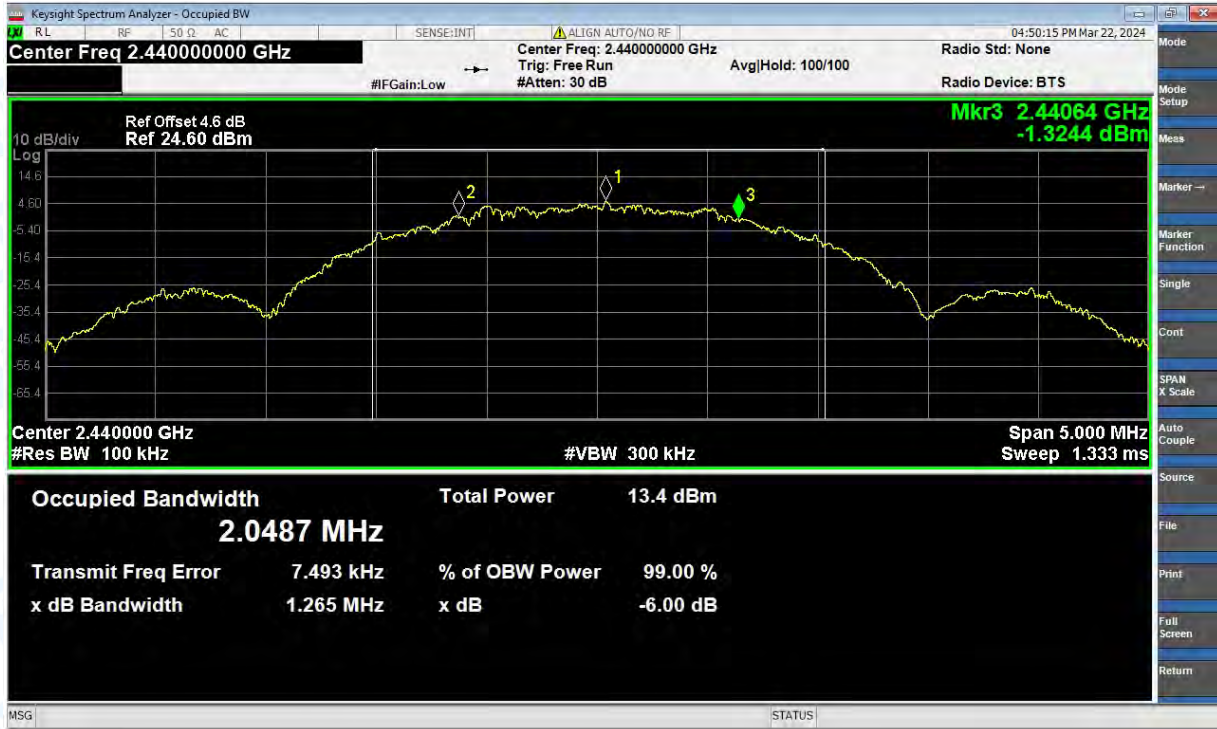


-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1

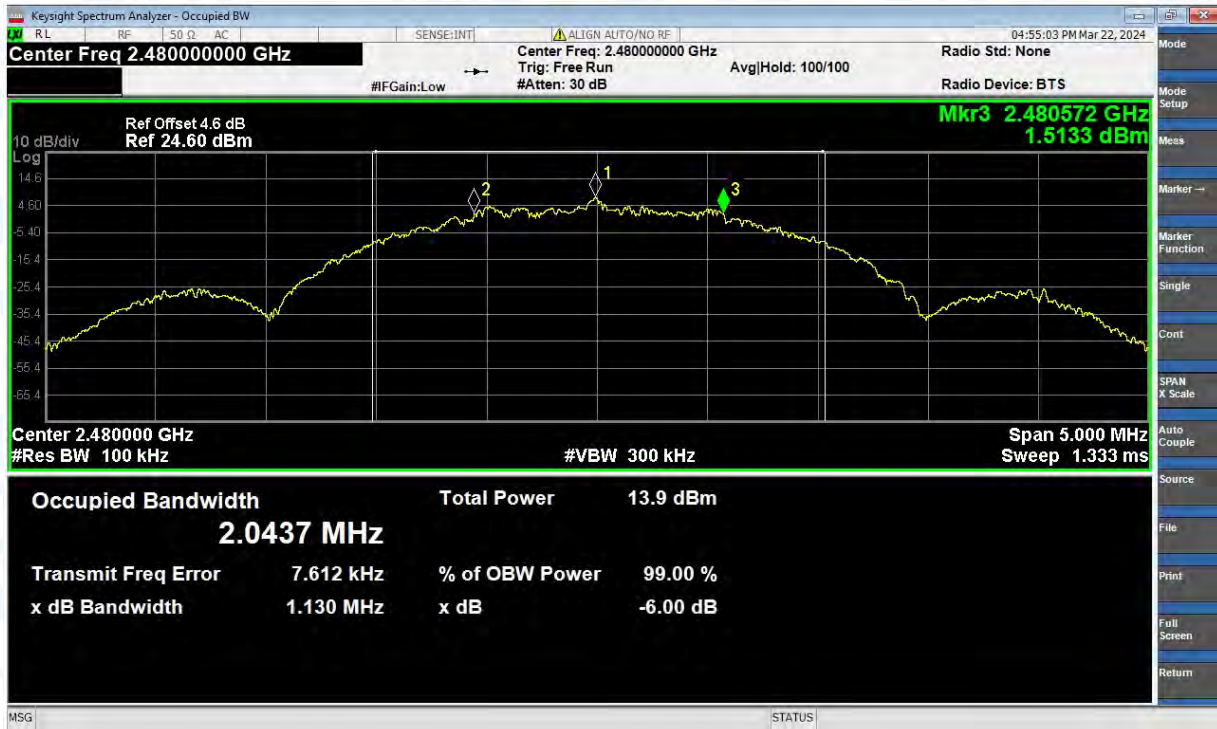




-6dB Bandwidth NVNT BLE 2Mbps 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2480MHz Ant1

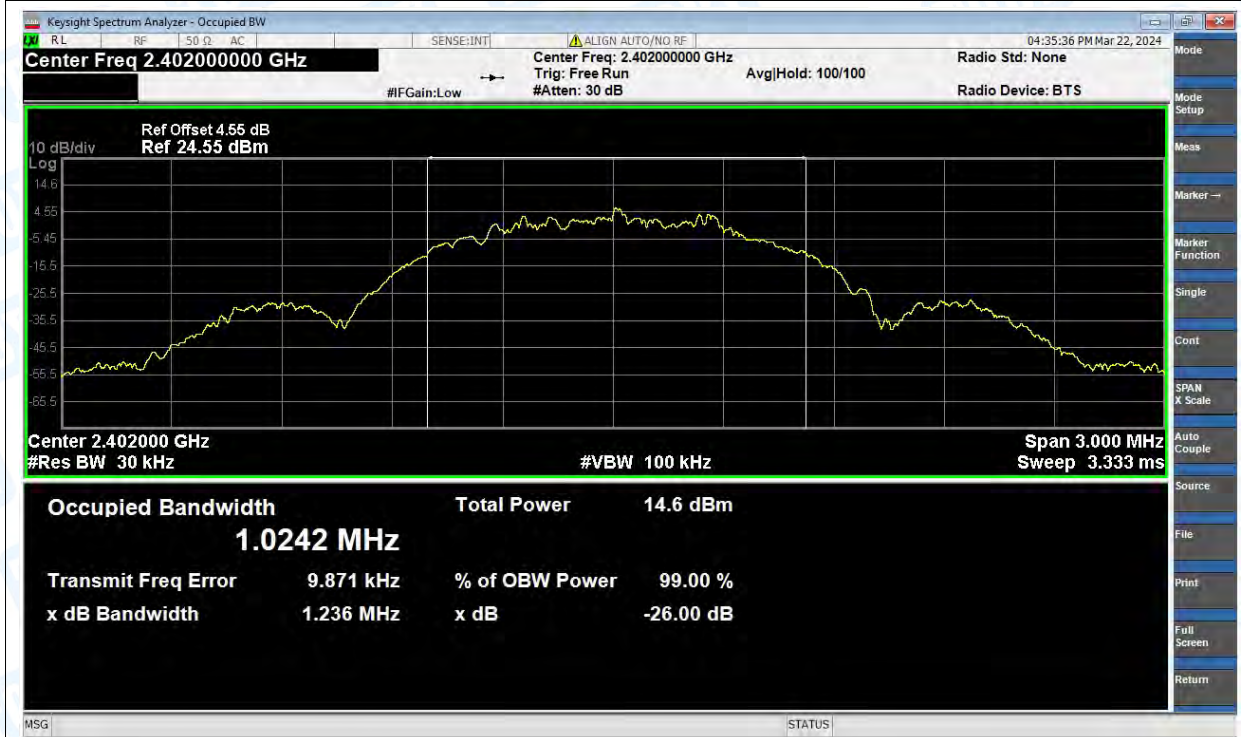


4. Occupied Channel Bandwidth

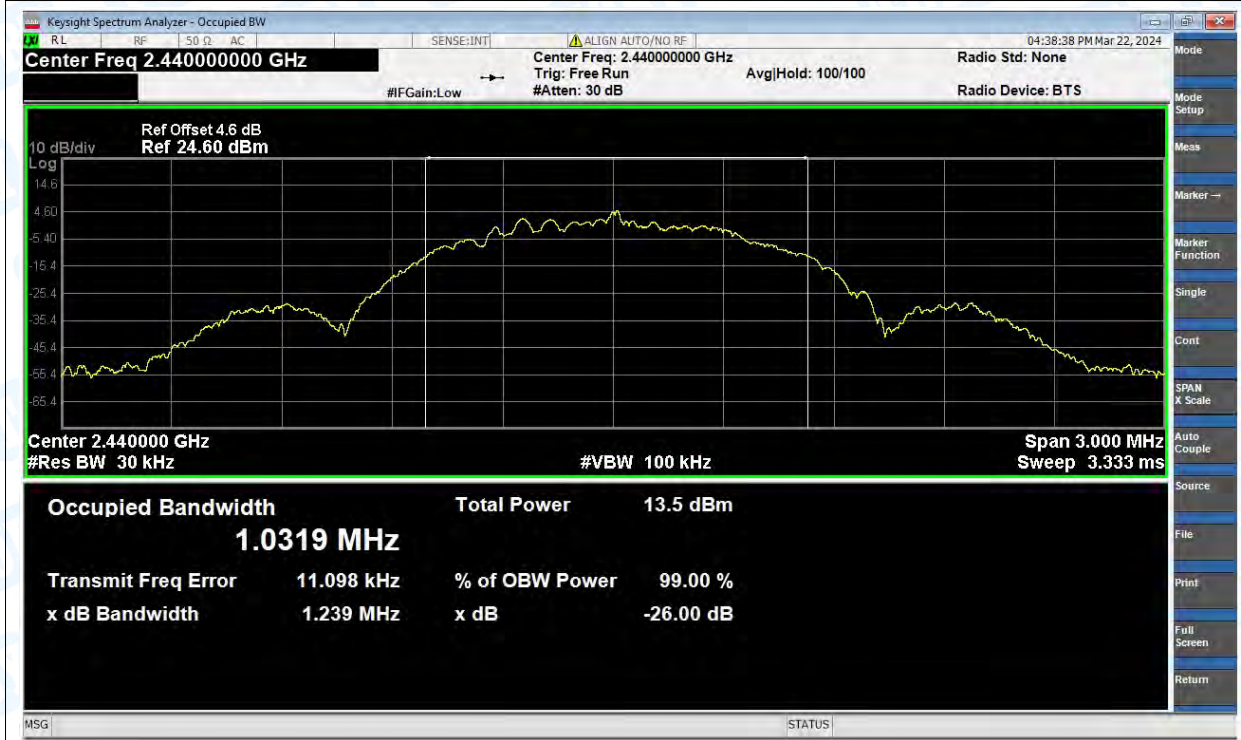
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1Mbps	2402	Ant1	1.024
NVNT	BLE 1Mbps	2440	Ant1	1.032
NVNT	BLE 1Mbps	2480	Ant1	1.035
NVNT	BLE 2Mbps	2402	Ant1	2.075
NVNT	BLE 2Mbps	2440	Ant1	2.072
NVNT	BLE 2Mbps	2480	Ant1	2.072

Test Graphs

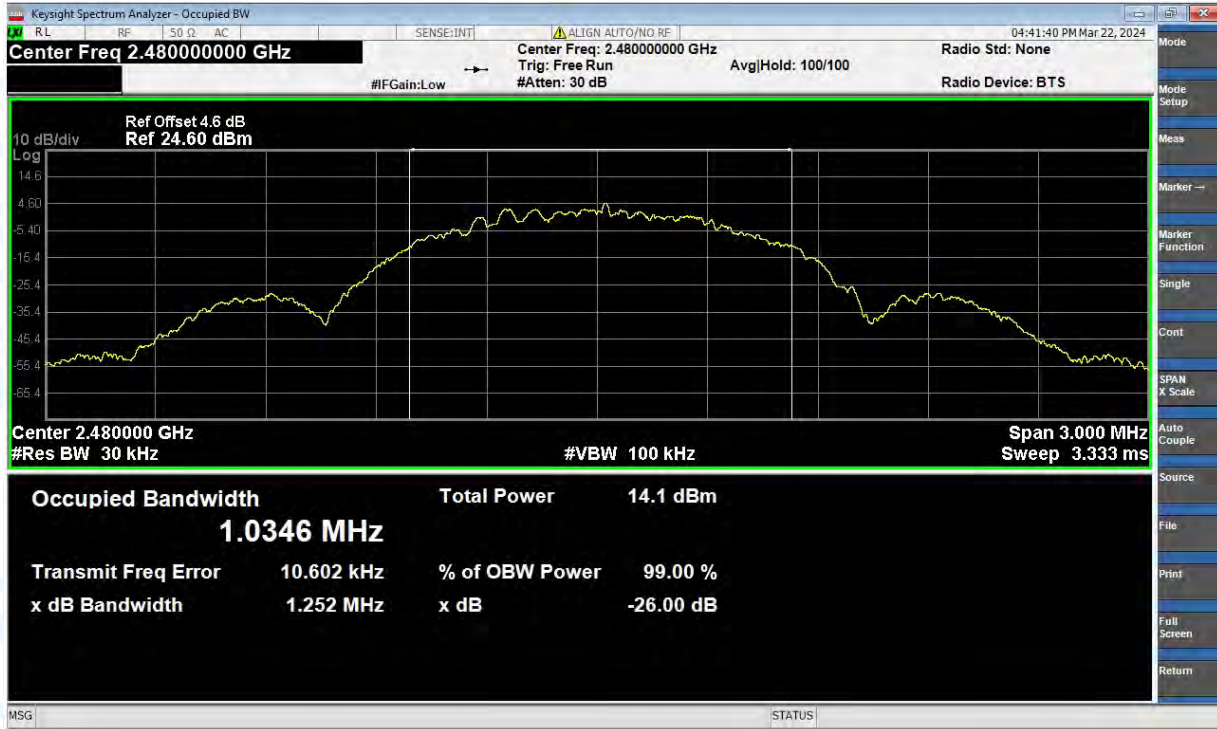
OBW NVNT BLE 1Mbps 2402MHz Ant1



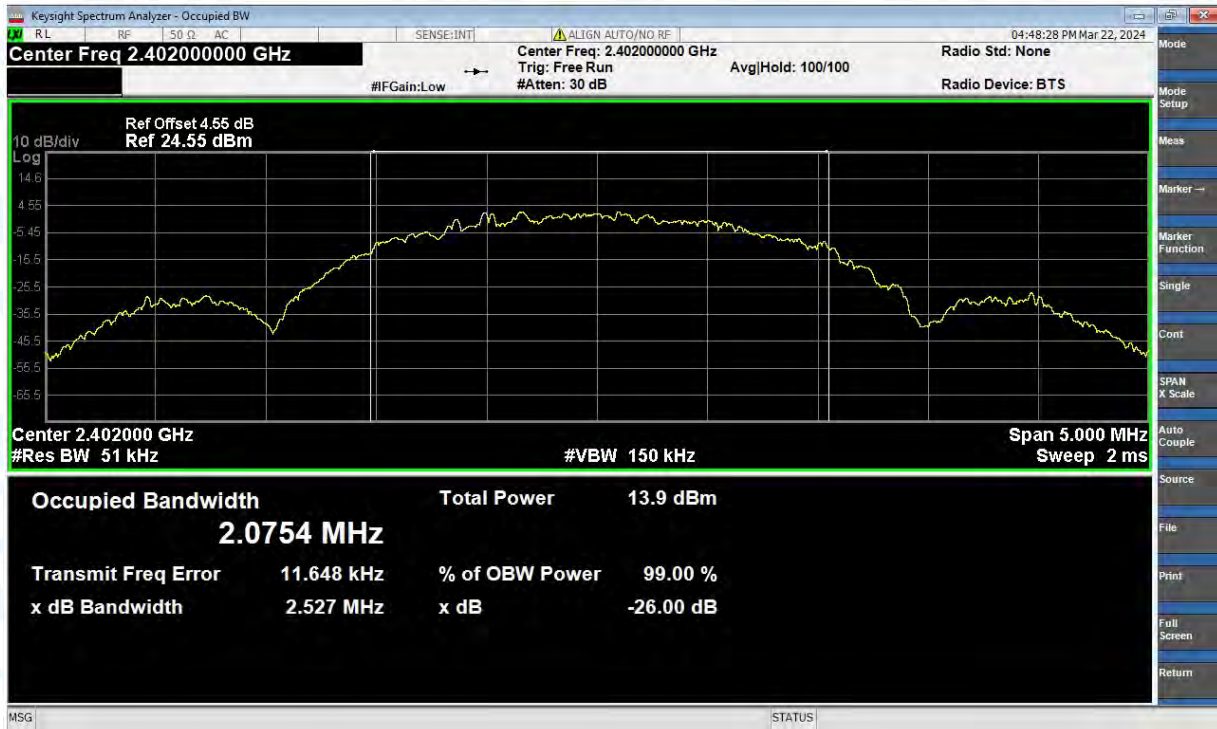
OBW NVNT BLE 1Mbps 2440MHz Ant1



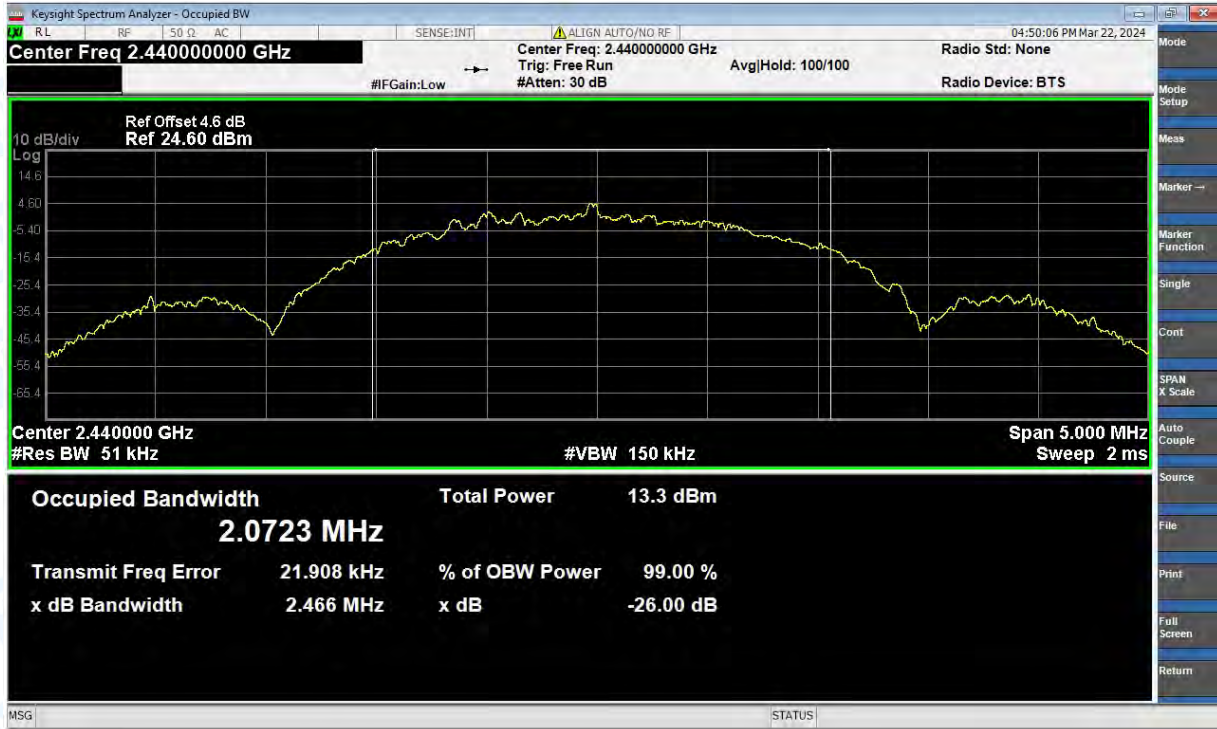
OBW NVNT BLE 1Mbps 2480MHz Ant1



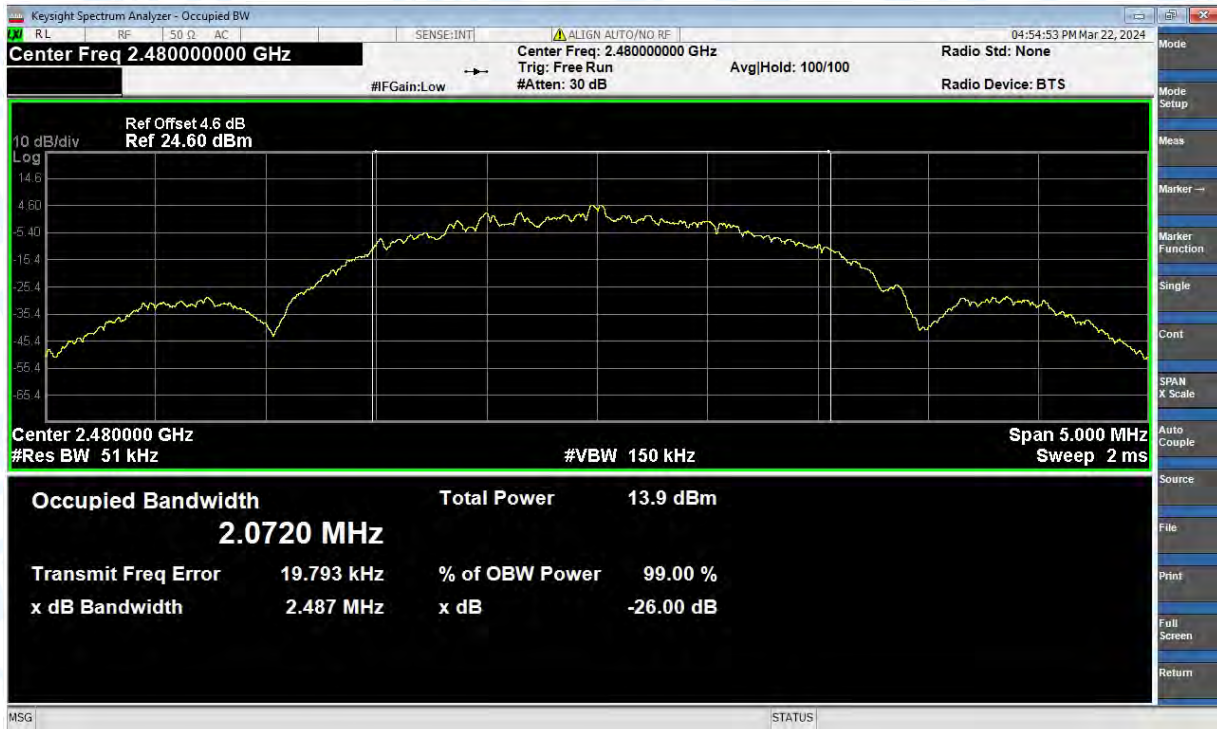
OBW NVNT BLE 2Mbps 2402MHz Ant1



OBW NVNT BLE 2Mbps 2440MHz Ant1



OBW NVNT BLE 2Mbps 2480MHz Ant1



5. Maximum Power Spectral Density Level

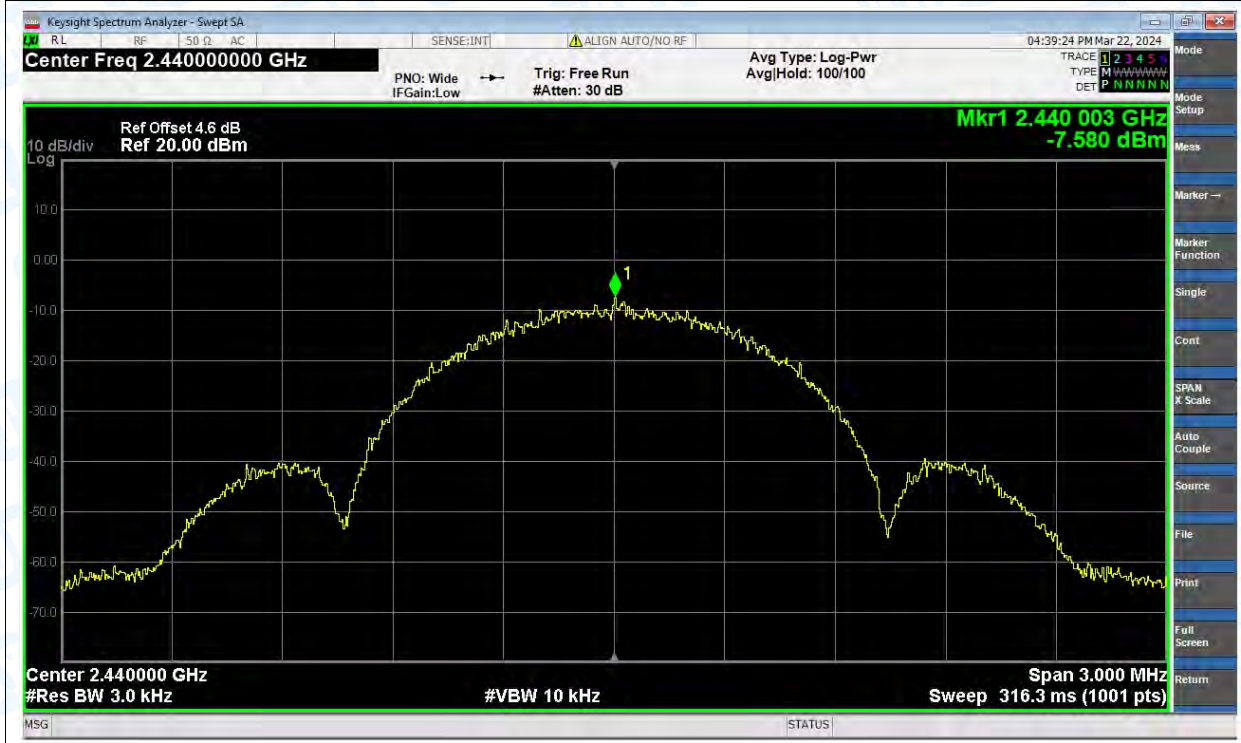
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-8.197	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-7.58	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-8.657	8	Pass
NVNT	BLE 2Mbps	2402	Ant1	-9.249	8	Pass
NVNT	BLE 2Mbps	2440	Ant1	-10.887	8	Pass
NVNT	BLE 2Mbps	2480	Ant1	-10.579	8	Pass

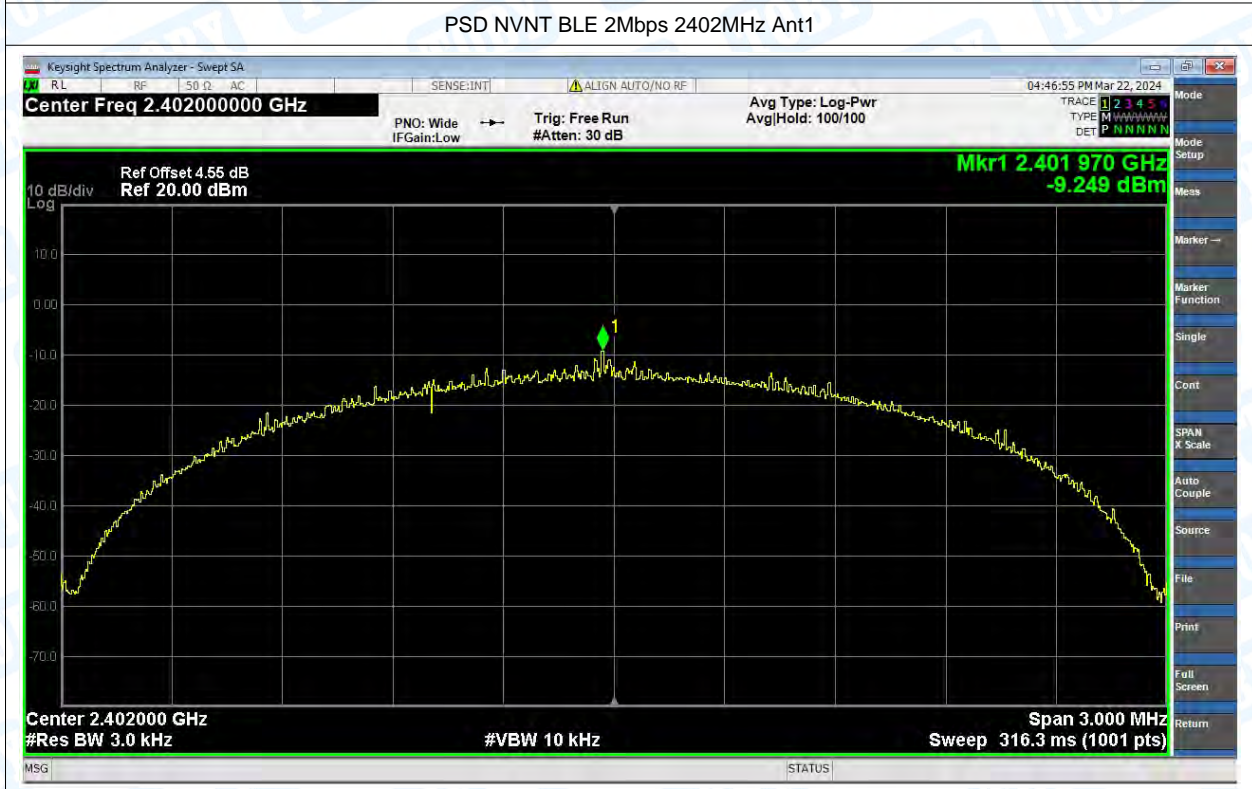
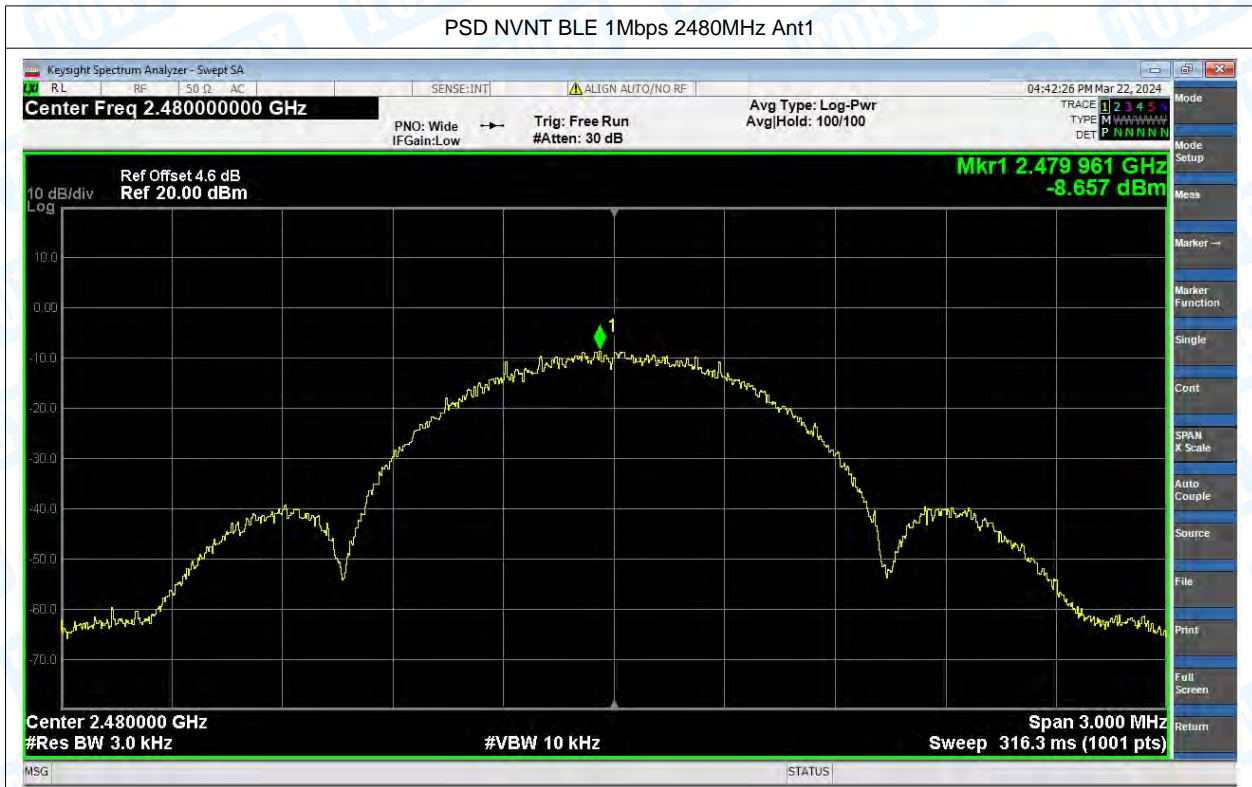
Test Graphs

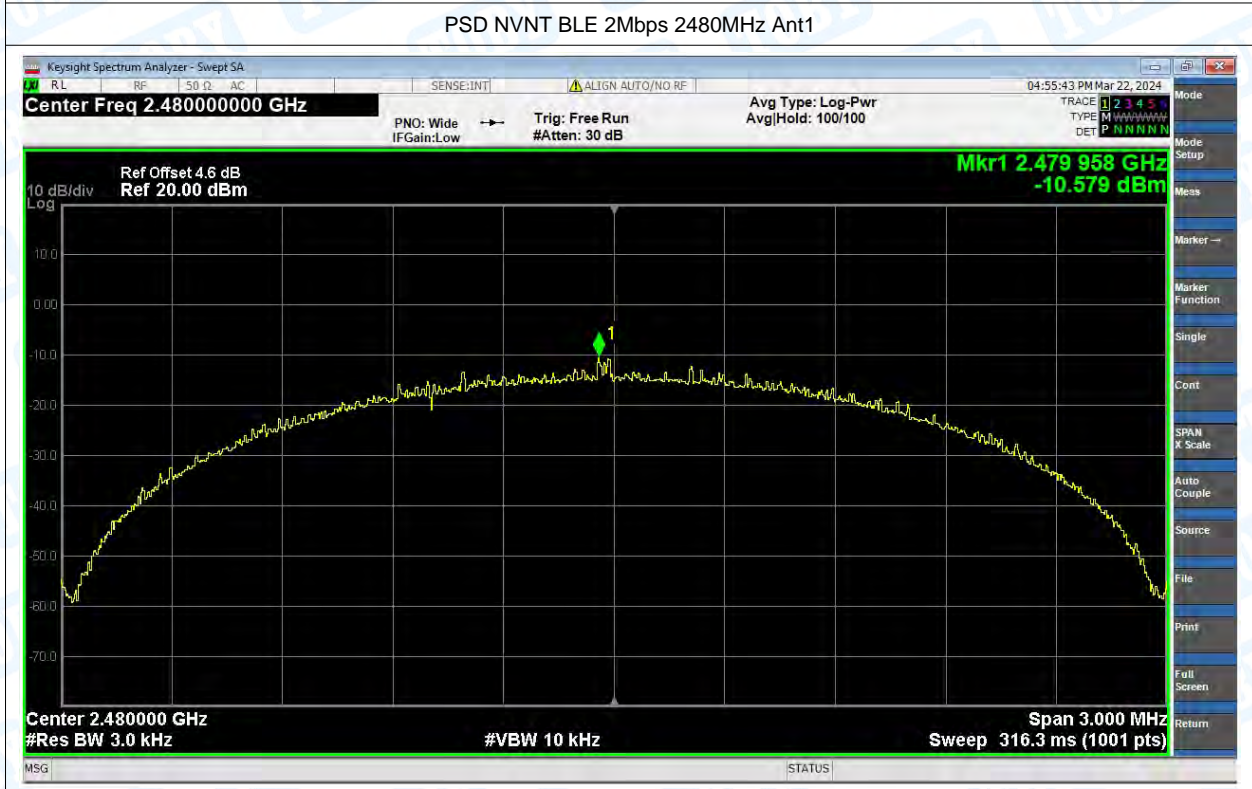
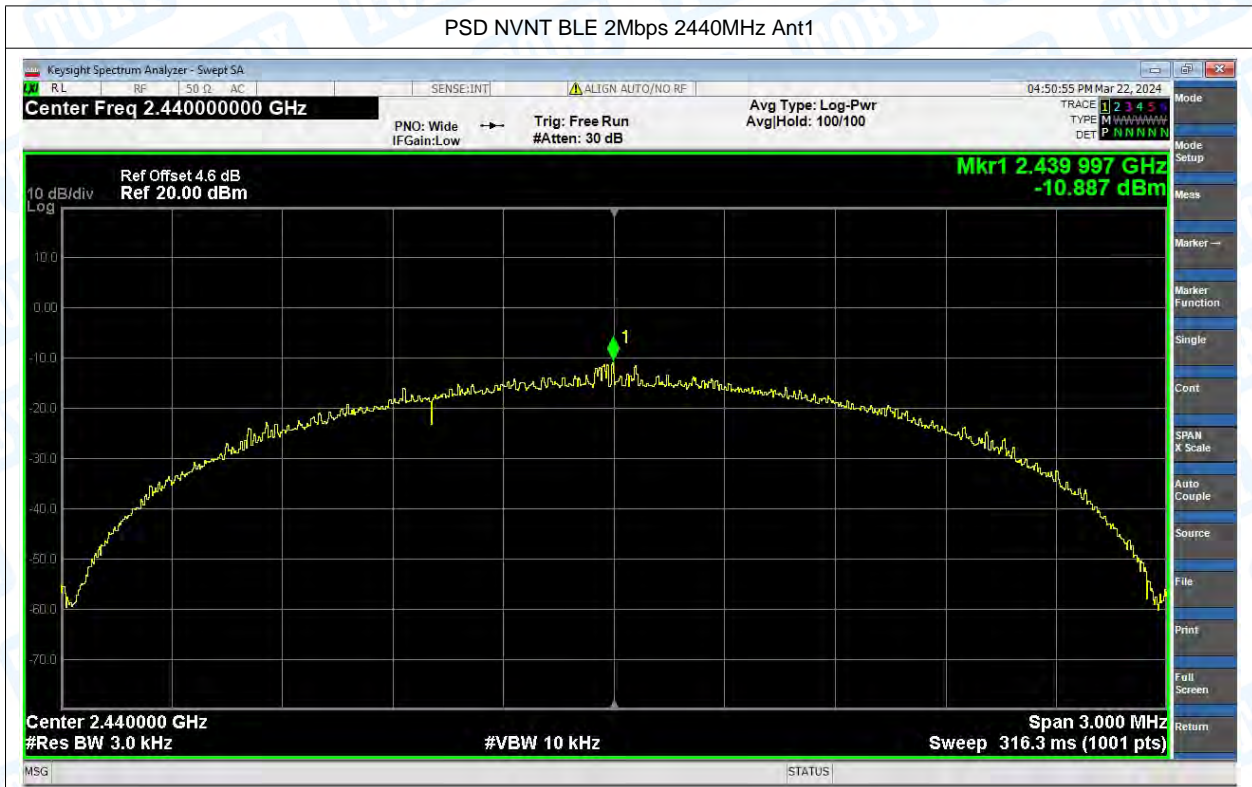
PSD NVNT BLE 1Mbps 2402MHz Ant1



PSD NVNT BLE 1Mbps 2440MHz Ant1





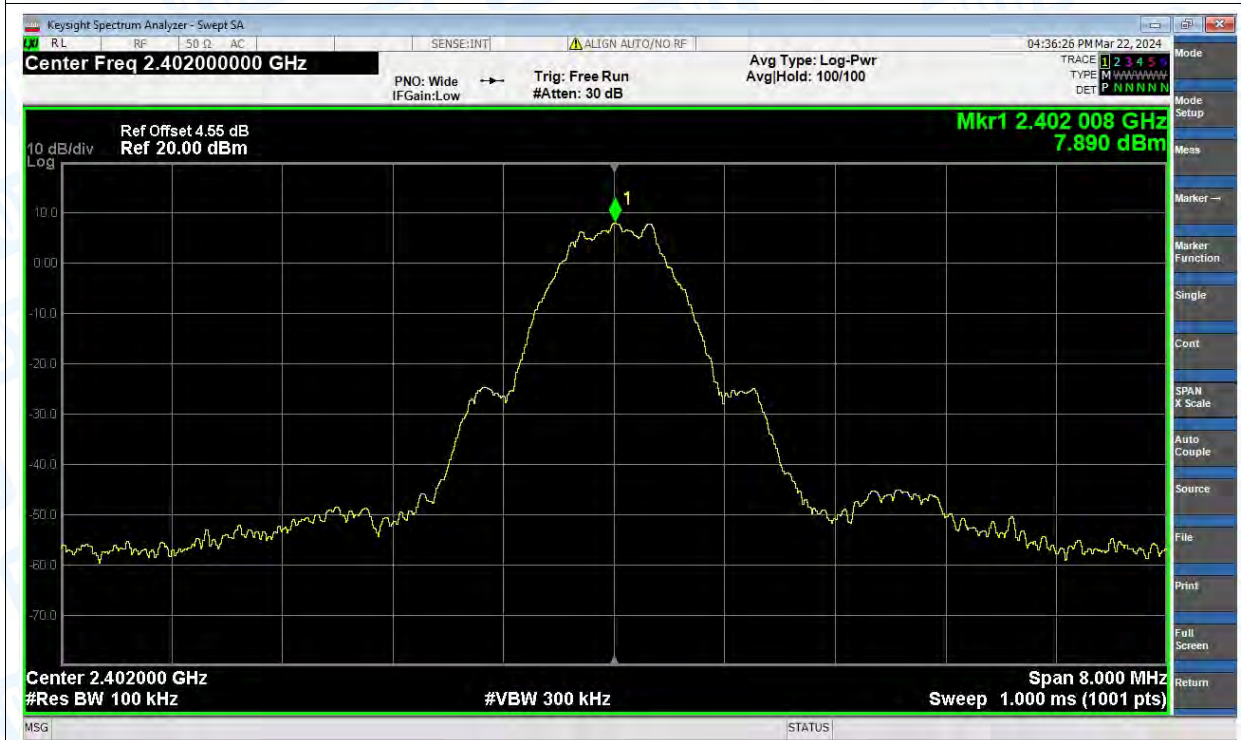


6. Band Edge

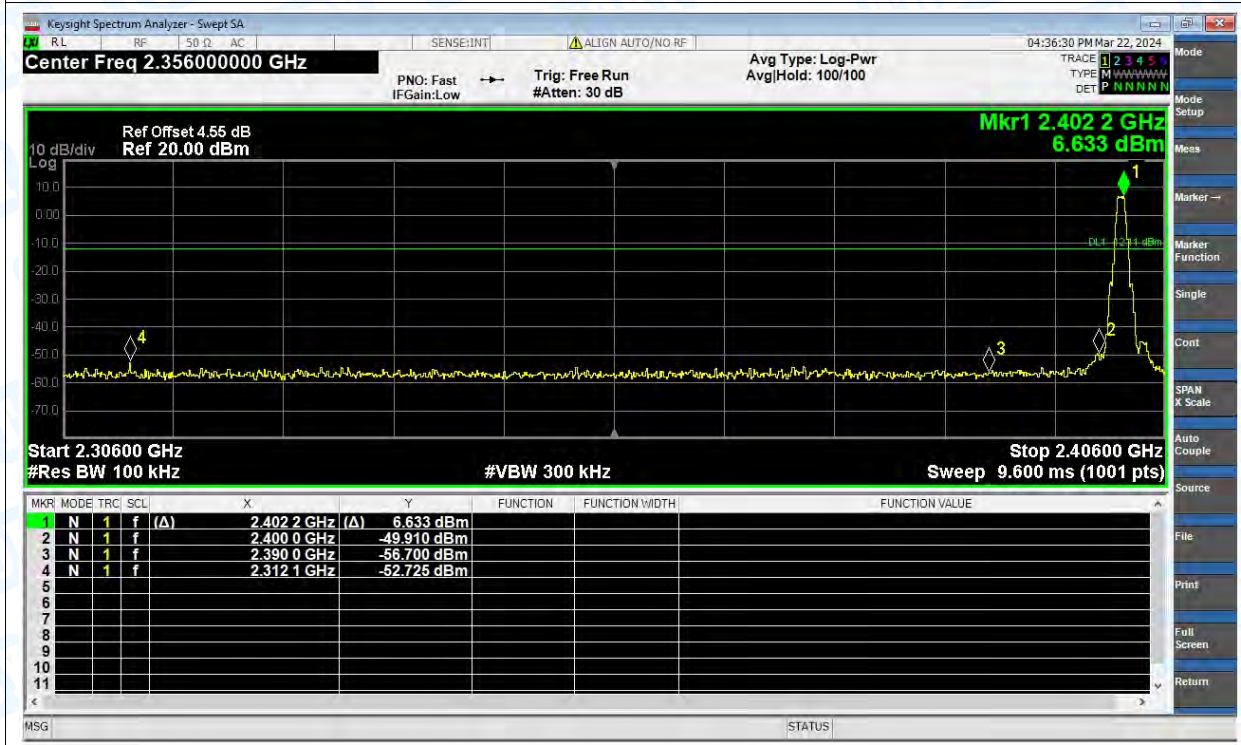
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-60.62	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-60.58	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-59.44	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-60.62	-20	Pass

Test Graphs

Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Ref



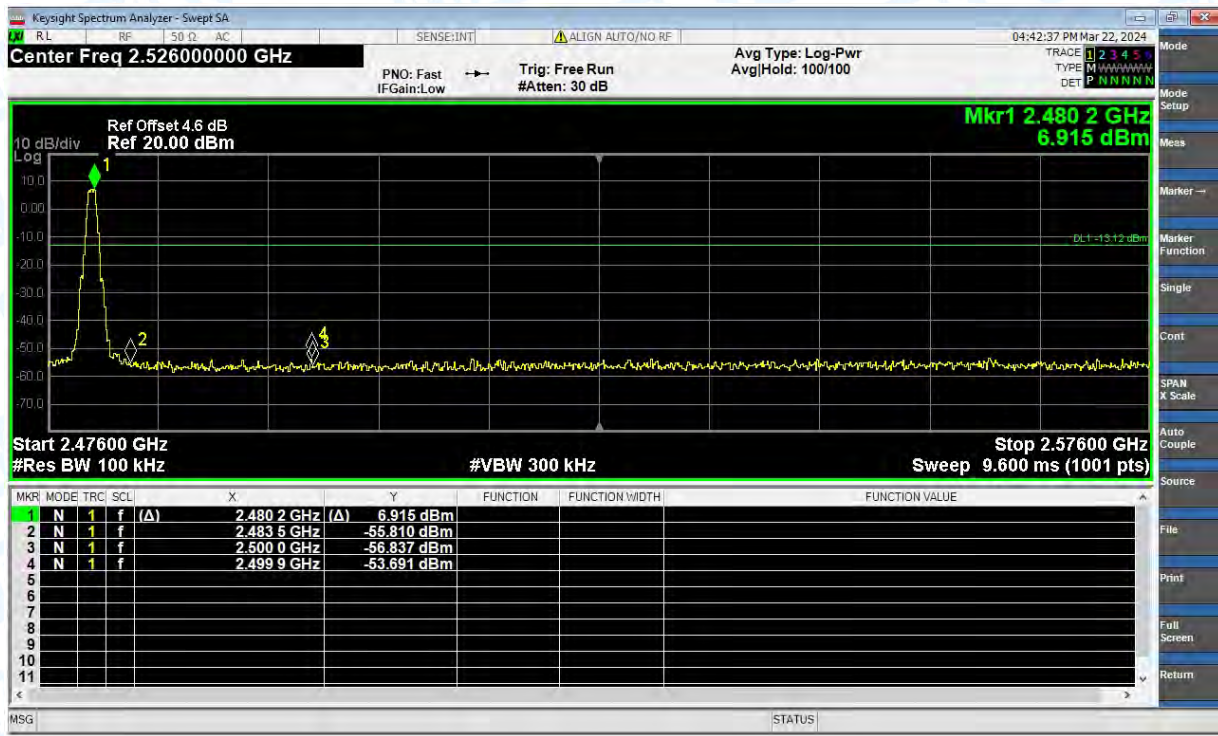
Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Emission



Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Ref



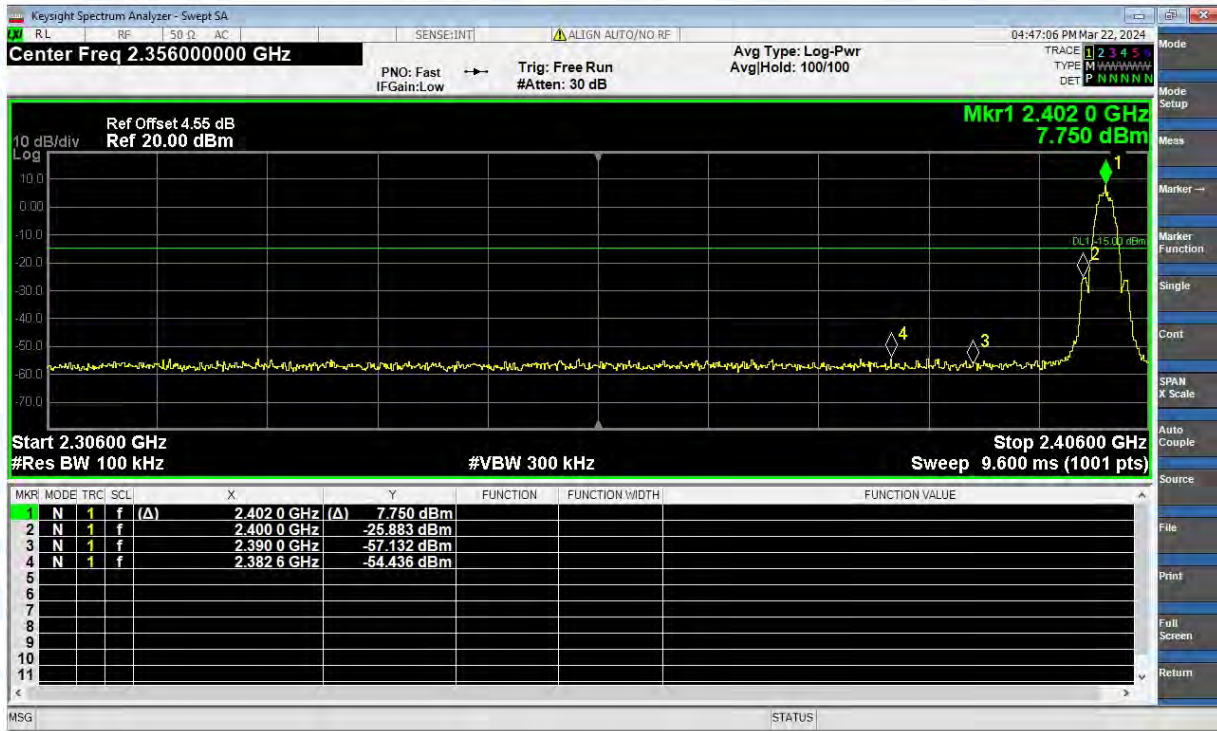
Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Emission



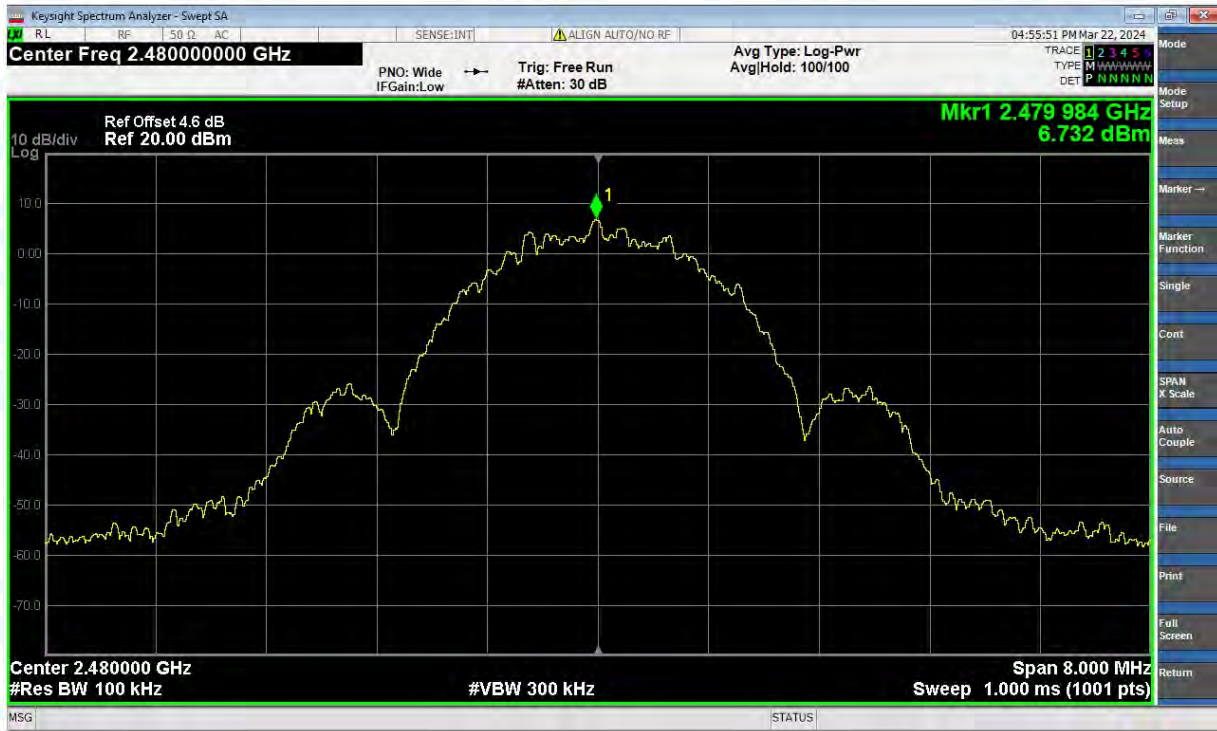
Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Ref



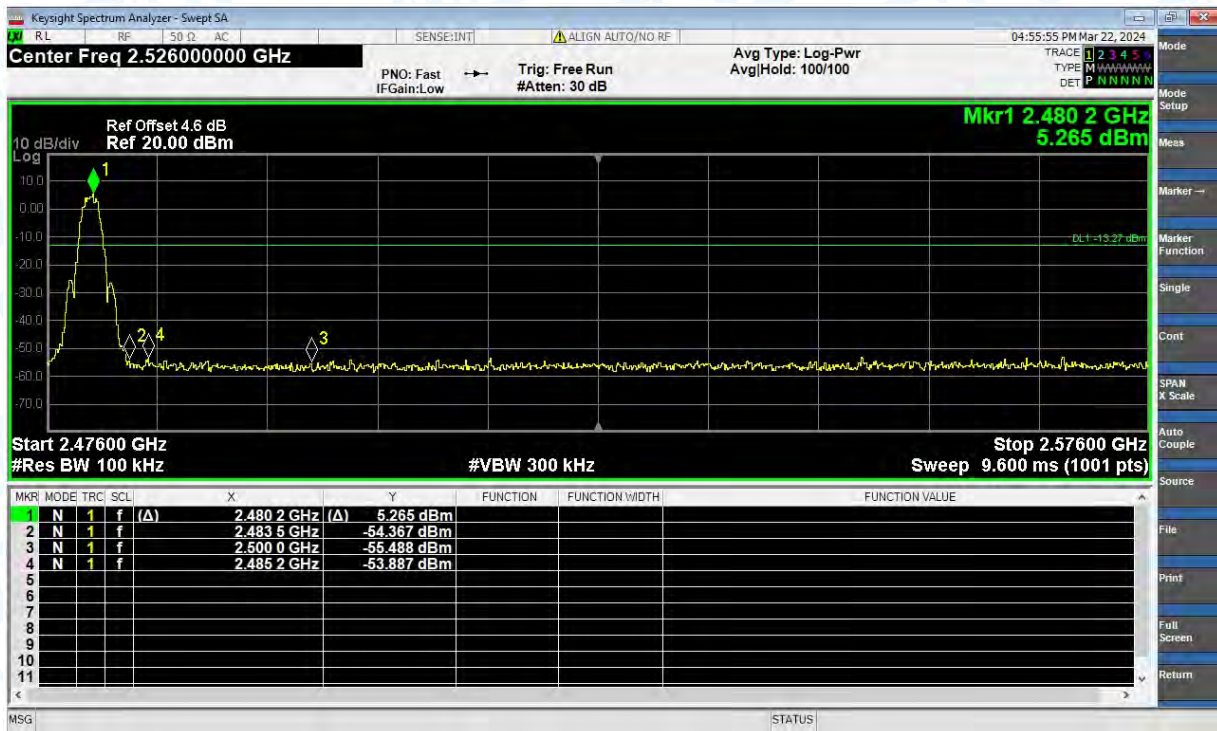
Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Emission



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Ref



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Emission



7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-47.8	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-47.68	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-46.32	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-47.9	-20	Pass
NVNT	BLE 2Mbps	2440	Ant1	-45.85	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-46.22	-20	Pass

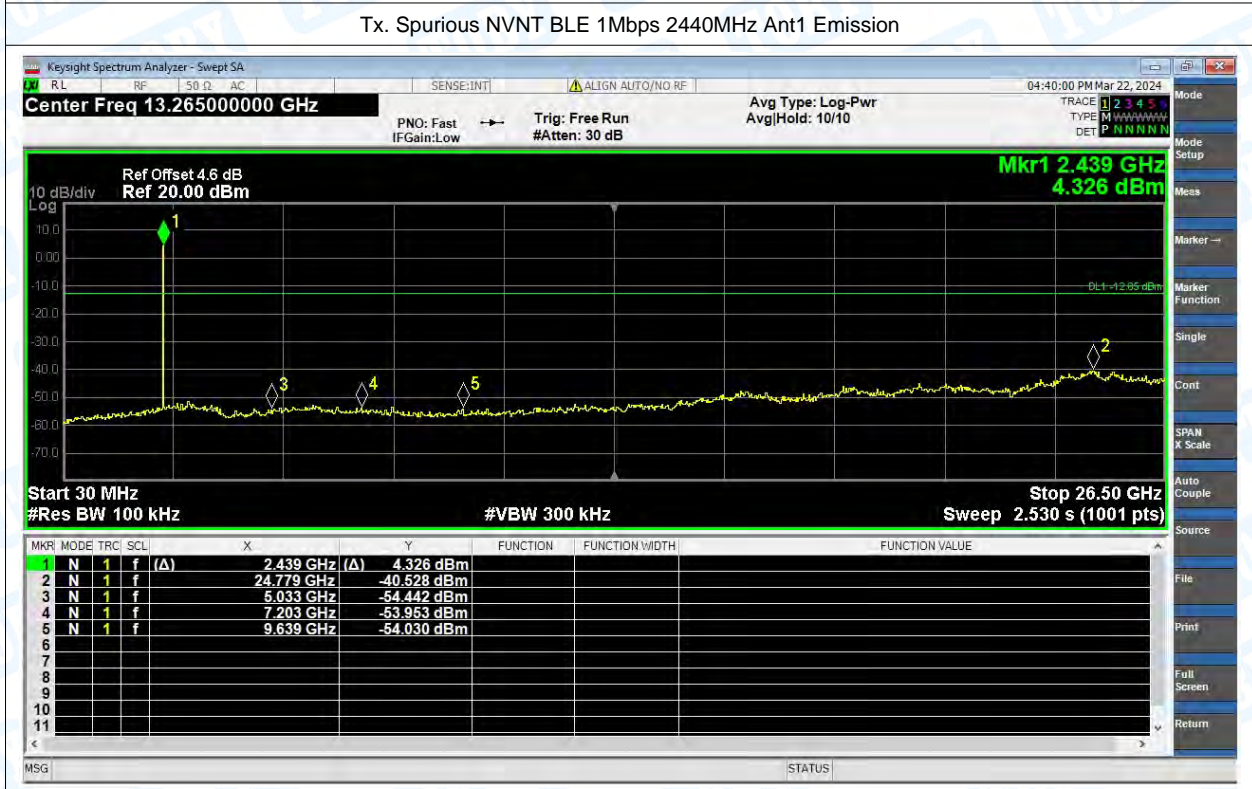
Test Graphs

Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Emission

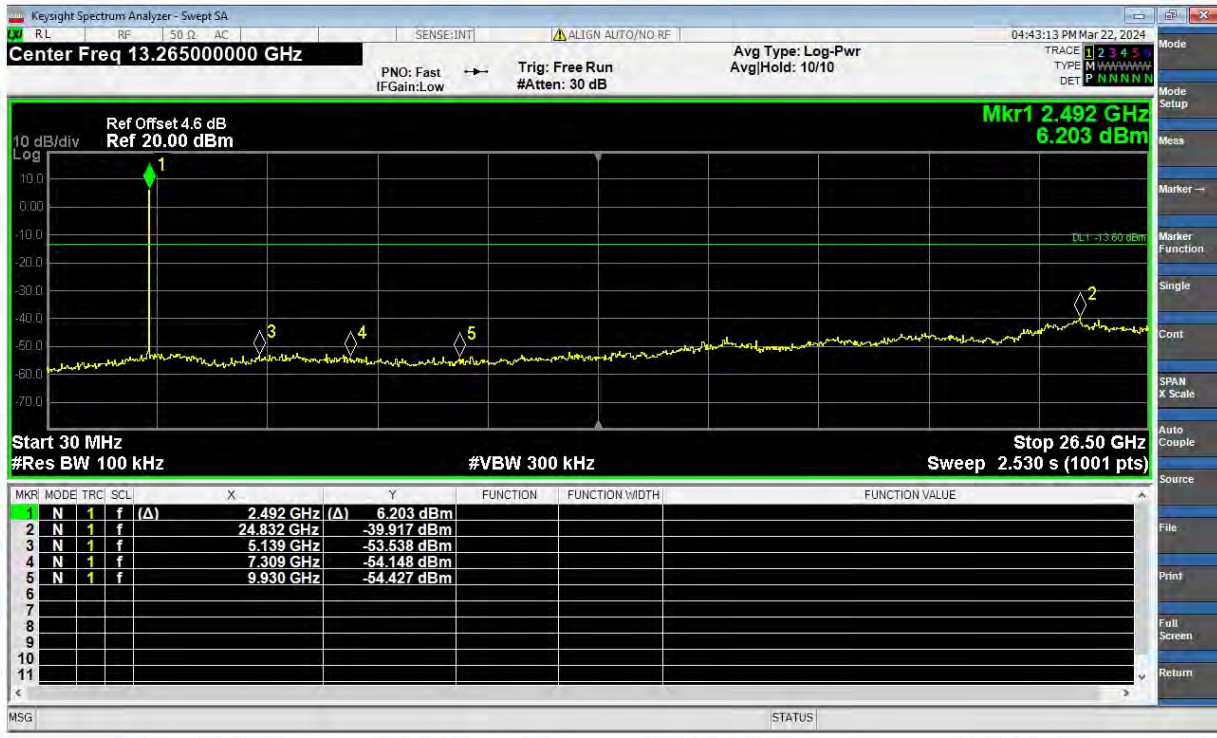




Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Ref



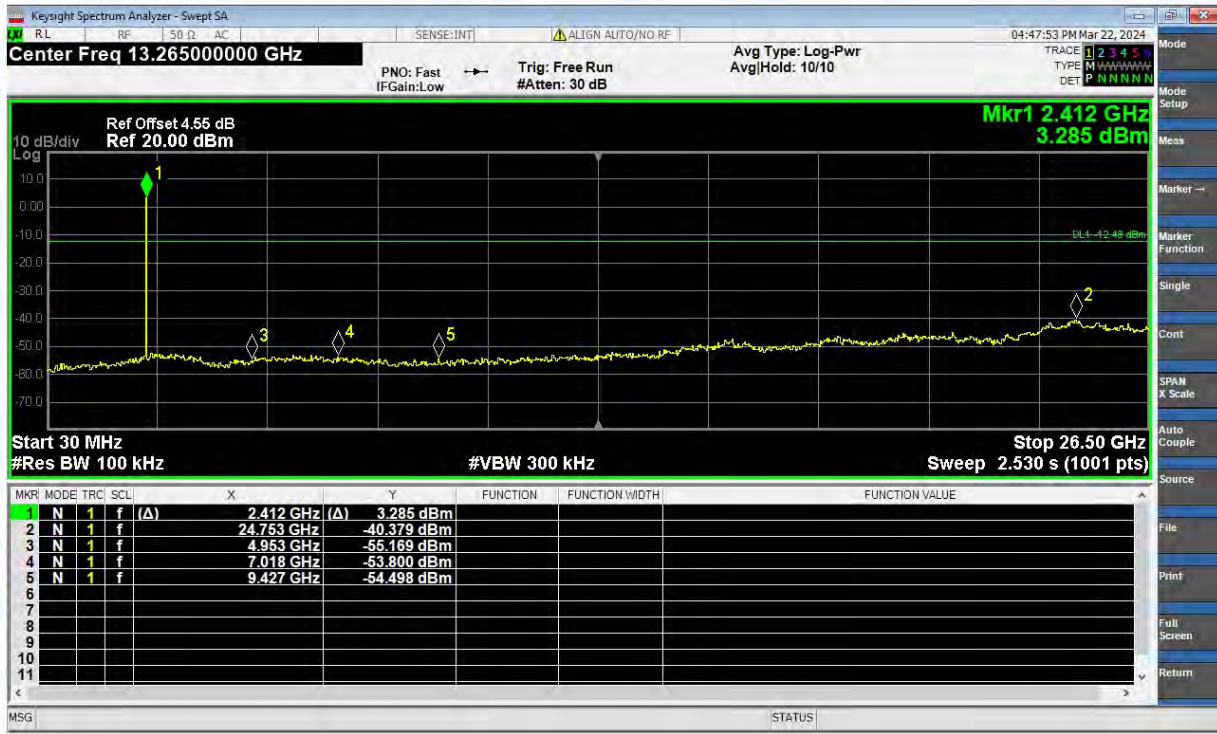
Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Ref



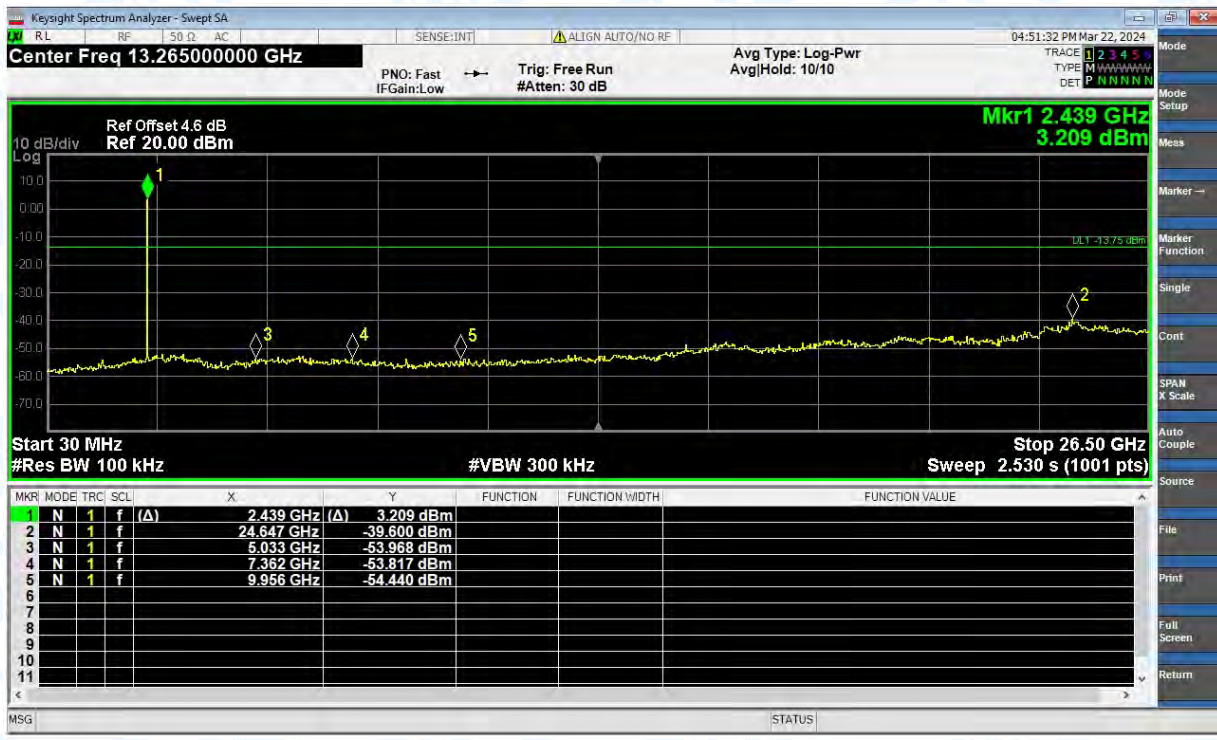
Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Ref



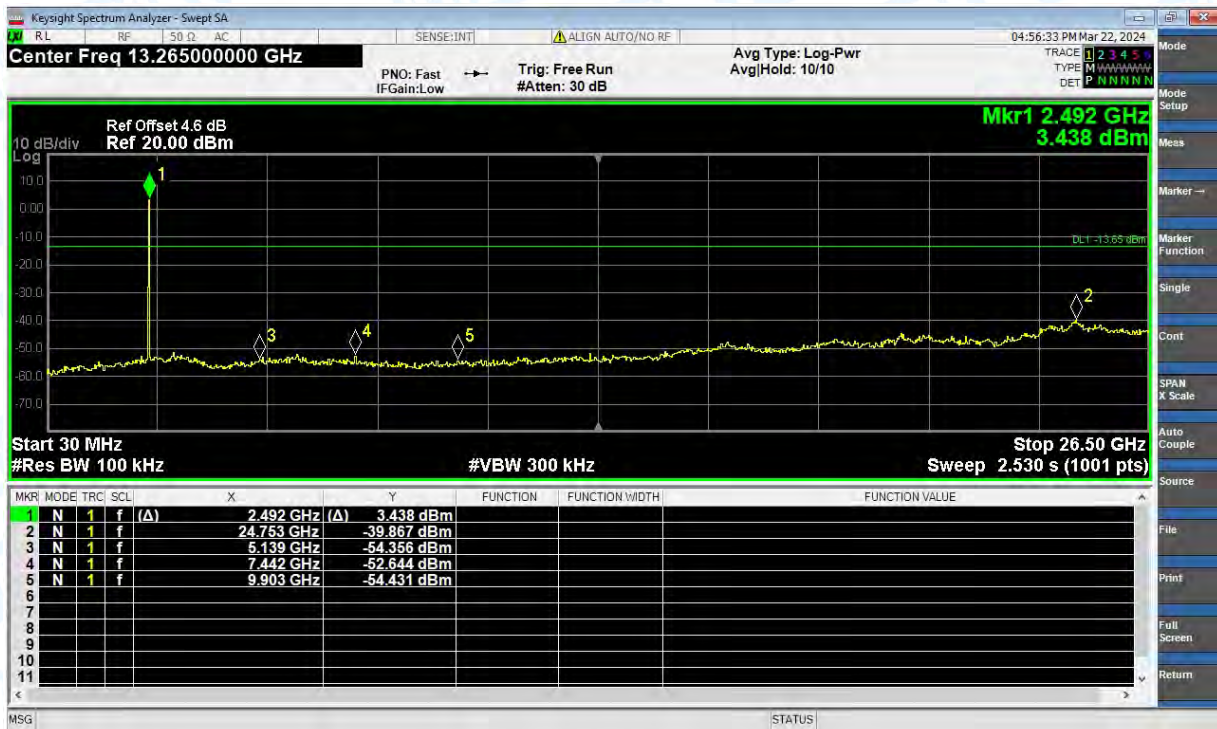
Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Emission

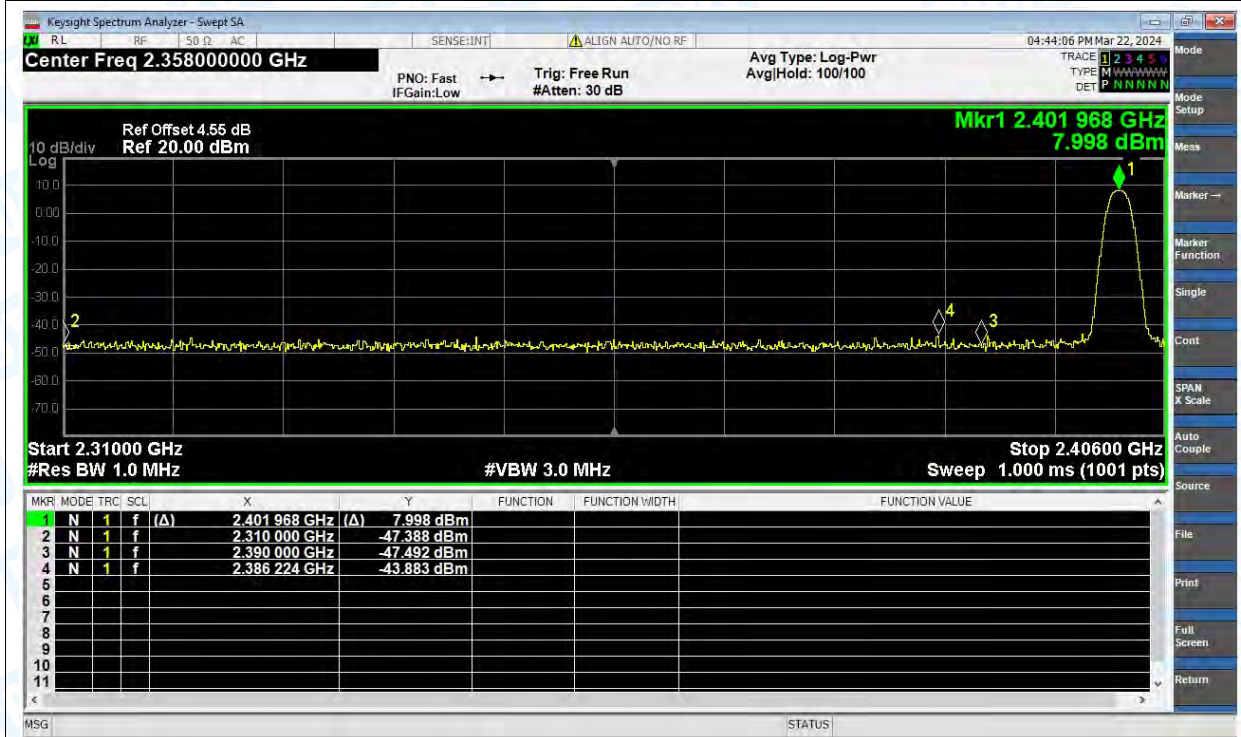


8. Restrict Band

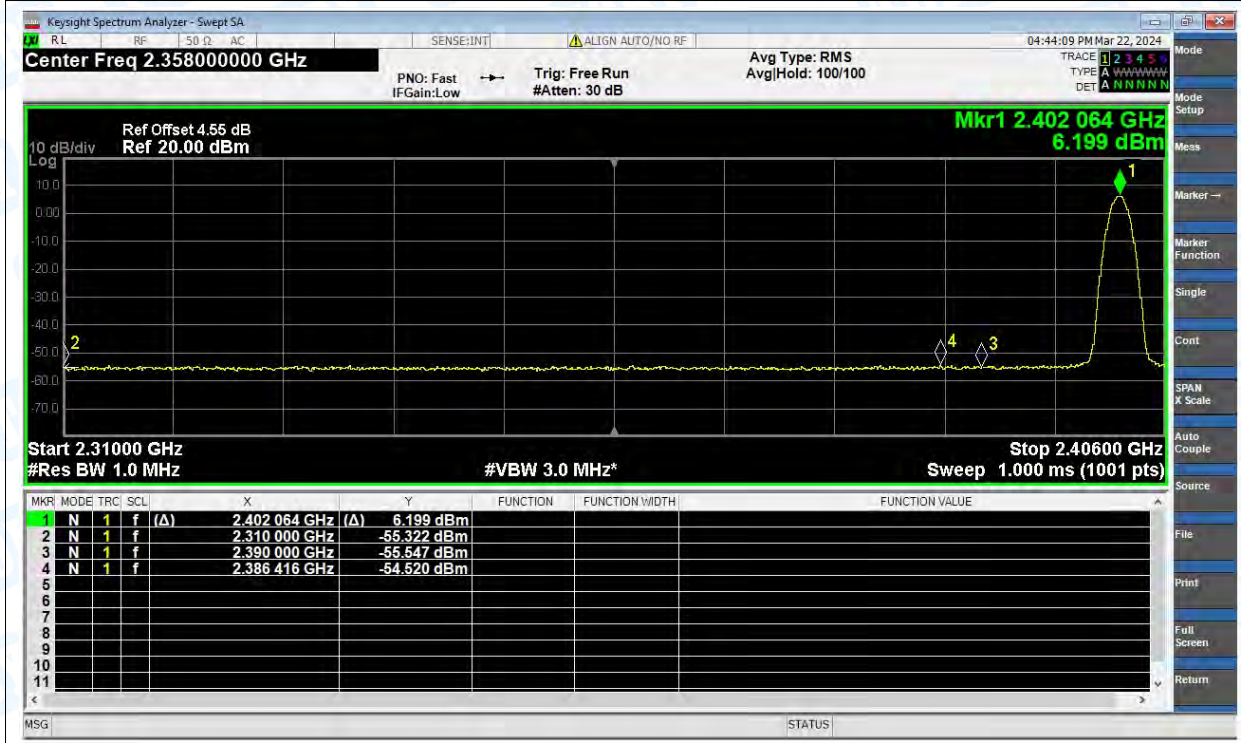
Condition	Mode	Frequency (MHz)	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1Mbps	2402	2310	-47.39	2	-	49.87	Peak	74	Pass
NVNT	BLE 1Mbps	2402	2310	-55.32	2	0.68	42.62	Average	54	Pass
NVNT	BLE 1Mbps	2402	2386.224	-43.88	2	-	53.38	Peak	74	Pass
NVNT	BLE 1Mbps	2402	2386.416	-54.52	2	0.68	43.42	Average	54	Pass
NVNT	BLE 1Mbps	2402	2390	-47.49	2	-	49.77	Peak	74	Pass
NVNT	BLE 1Mbps	2402	2390	-55.55	2	0.68	42.39	Average	54	Pass
NVNT	BLE 1Mbps	2480	2483.5	-46.87	2	-	50.39	Peak	74	Pass
NVNT	BLE 1Mbps	2480	2483.5	-54.28	2	0.68	43.66	Average	54	Pass
NVNT	BLE 1Mbps	2480	2495.992	-43.94	2	-	53.32	Peak	74	Pass
NVNT	BLE 1Mbps	2480	2485.216	-53.94	2	0.68	44	Average	54	Pass
NVNT	BLE 1Mbps	2480	2500	-47.83	2	-	49.43	Peak	74	Pass
NVNT	BLE 1Mbps	2480	2500	-55.6	2	0.68	42.34	Average	54	Pass
NVNT	BLE 2Mbps	2402	2310	-48.0	2	-	49.26	Peak	74	Pass
NVNT	BLE 2Mbps	2402	2310	-55.67	2	2.41	44	Average	54	Pass
NVNT	BLE 2Mbps	2402	2365.584	-44.56	2	-	52.7	Peak	74	Pass
NVNT	BLE 2Mbps	2402	2359.92	-54.66	2	2.41	45.01	Average	54	Pass
NVNT	BLE 2Mbps	2402	2390	-46.49	2	-	50.77	Peak	74	Pass
NVNT	BLE 2Mbps	2402	2390	-55.23	2	2.41	44.44	Average	54	Pass
NVNT	BLE 2Mbps	2480	2483.5	-42.77	2	-	54.49	Peak	74	Pass
NVNT	BLE 2Mbps	2480	2483.5	-52.38	2	2.41	47.29	Average	54	Pass
NVNT	BLE 2Mbps	2480	2483.632	-41.53	2	-	55.73	Peak	74	Pass
NVNT	BLE 2Mbps	2480	2483.584	-52.2	2	2.41	47.47	Average	54	Pass
NVNT	BLE 2Mbps	2480	2500	-47.17	2	-	50.09	Peak	74	Pass
NVNT	BLE 2Mbps	2480	2500	-55.16	2	2.41	44.51	Average	54	Pass

Test Graphs

Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Peak



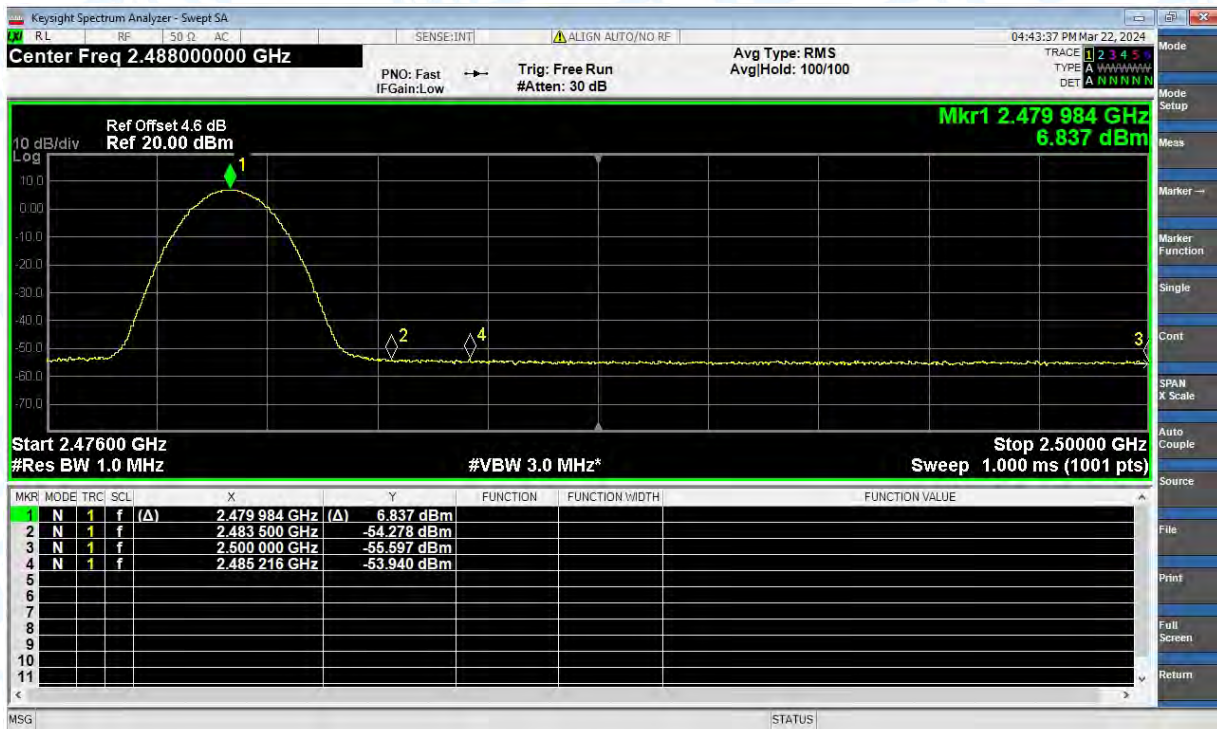
Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Average



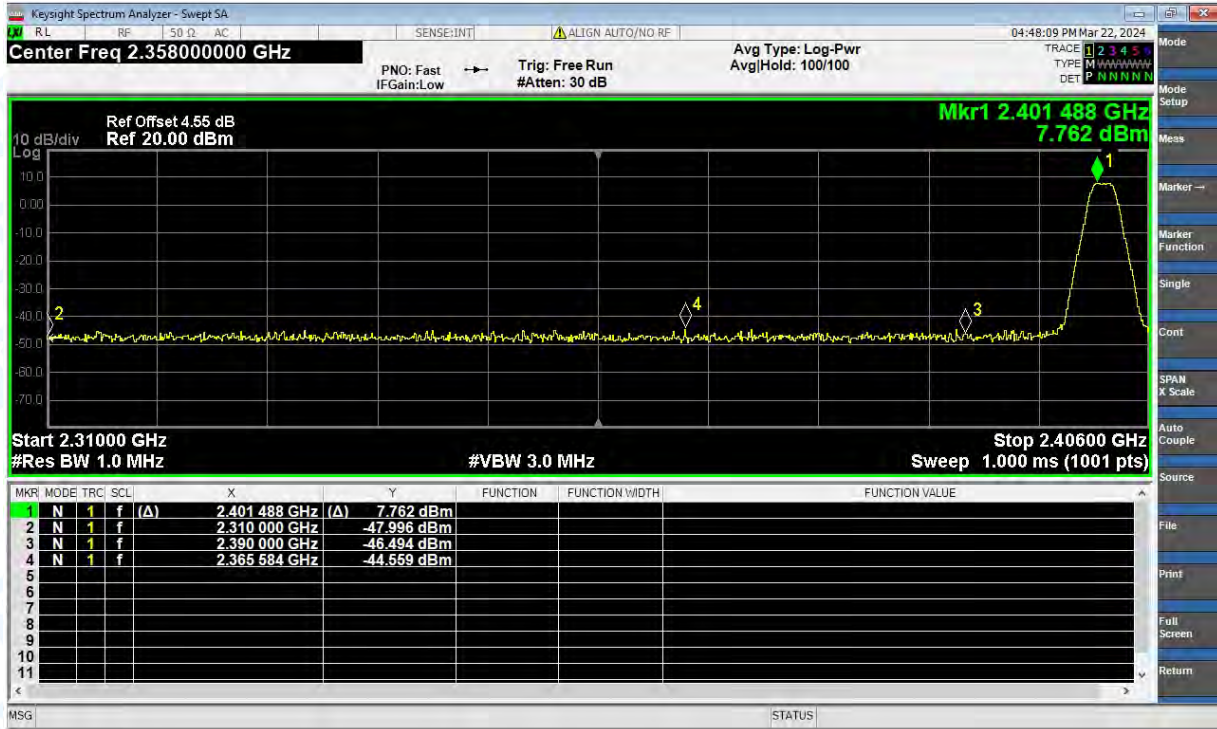
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Peak



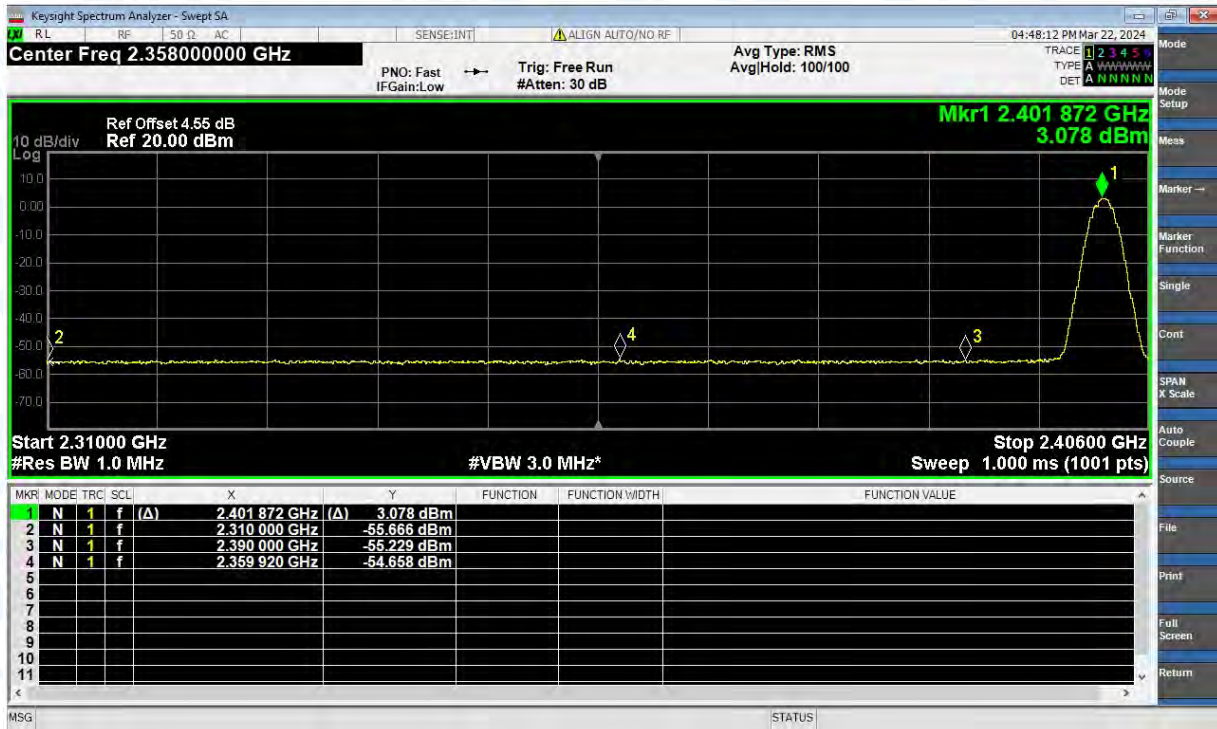
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Average

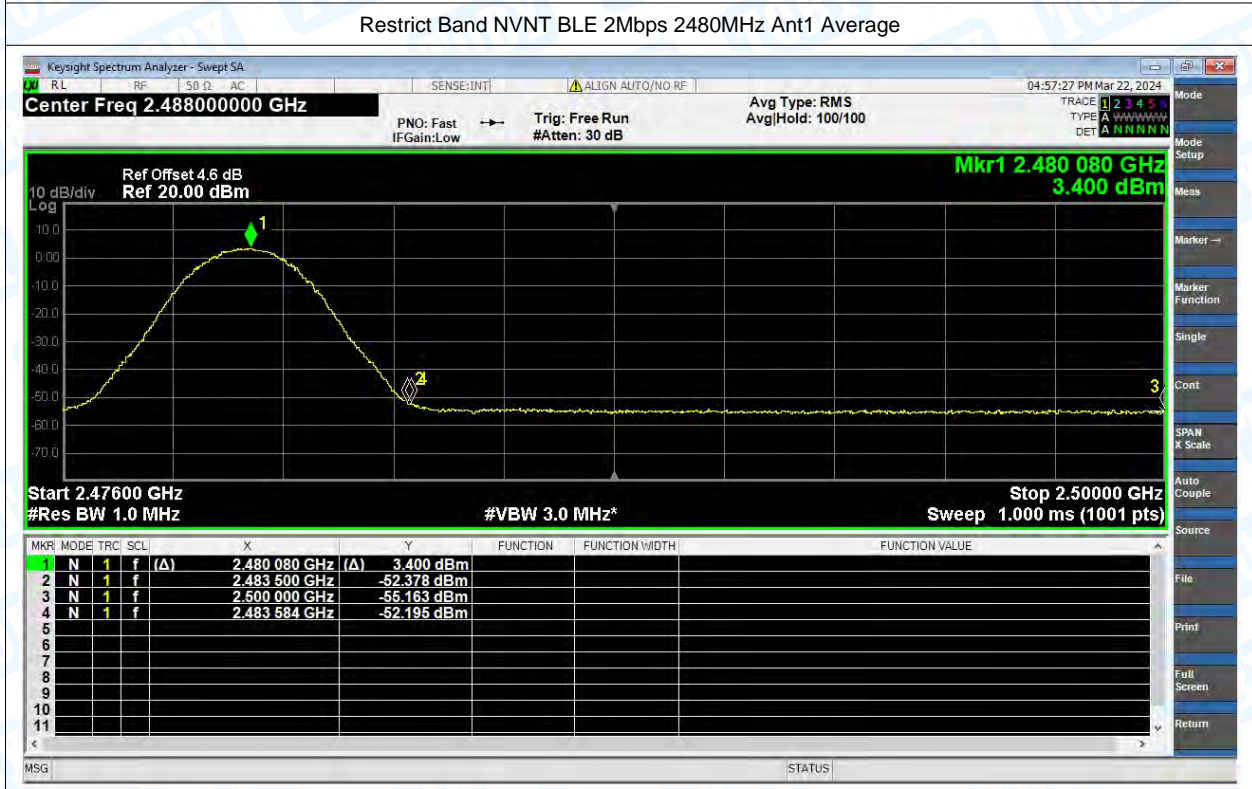
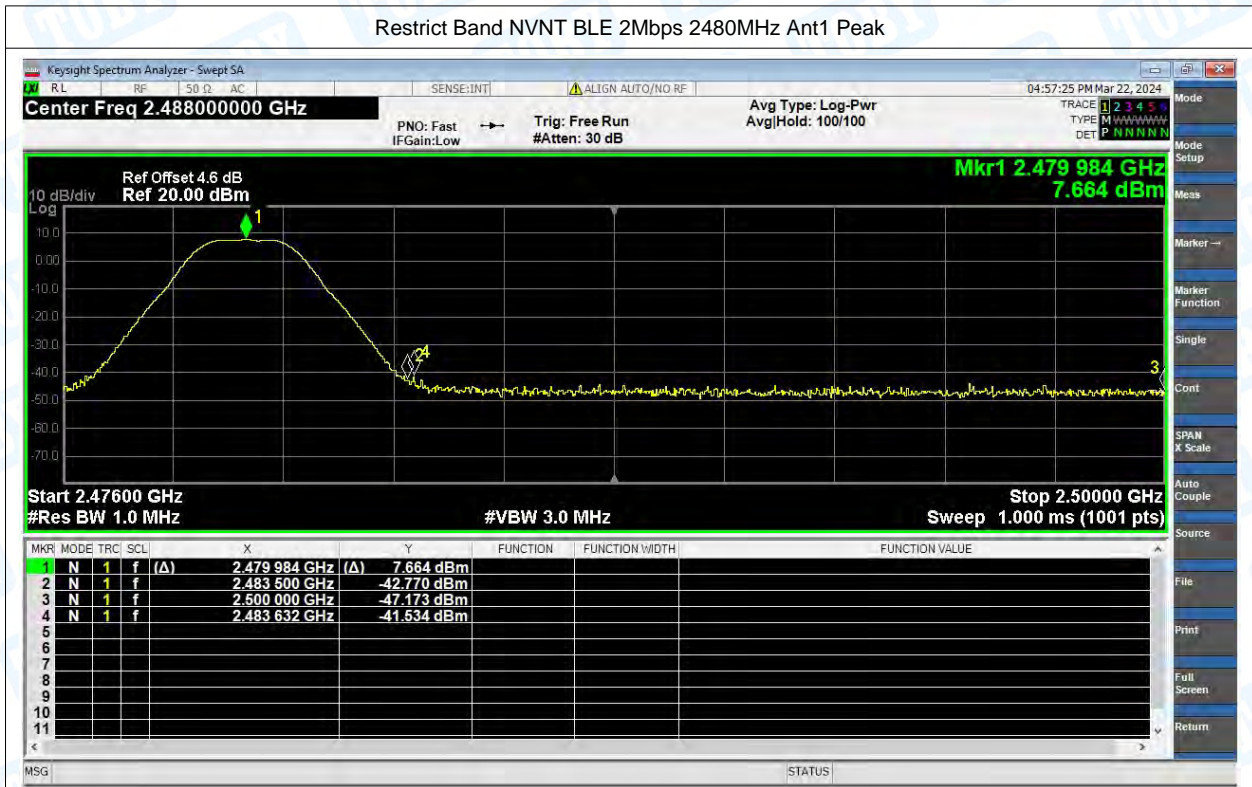


Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Peak



Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Average





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