

# RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
<b>Product Name:</b>	Smart Lock
<b>Test Model:</b>	FX02
<b>Sample ID:</b>	HC-C-202403-0376-02-02
Environmental Conditions	
<b>Temperature:</b>	22.6°C
<b>Relative Humidity:</b>	48%
<b>Test Voltage:</b>	DC 3.7V
<b>Test Engineer:</b>	Mike YAN
Note: For a more detailed features description, please refer to the report TBR-C-202403-0376-2 The report only show the worst case data.	



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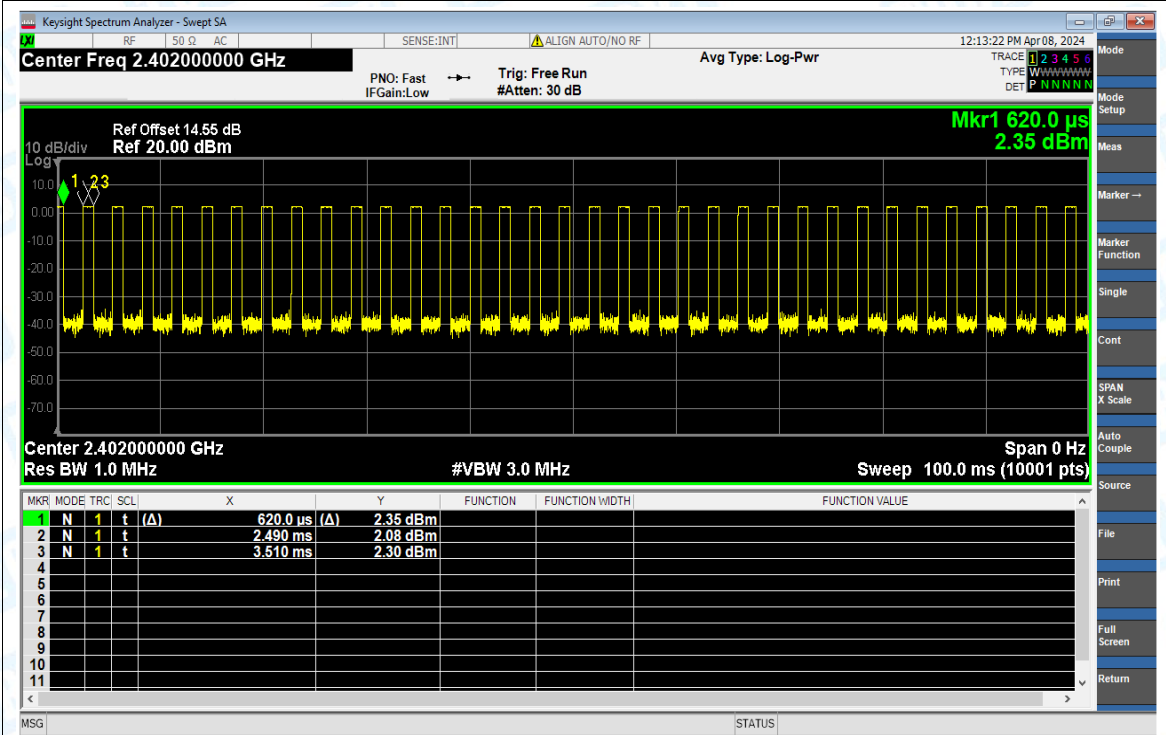


## 1. Duty Cycle

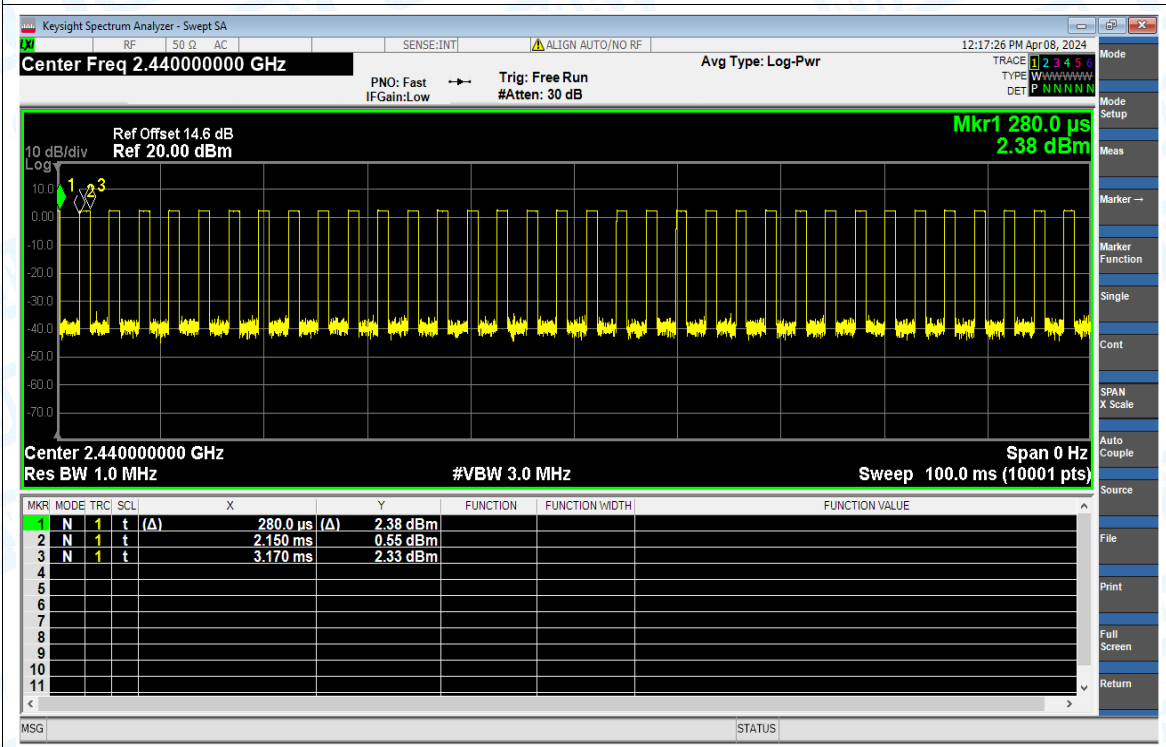
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	35.29	4.52	0.98
NVNT	BLE 1Mbps	2440	Ant1	35.29	4.52	0.98
NVNT	BLE 1Mbps	2480	Ant1	35.42	4.51	0.98

Test Graphs

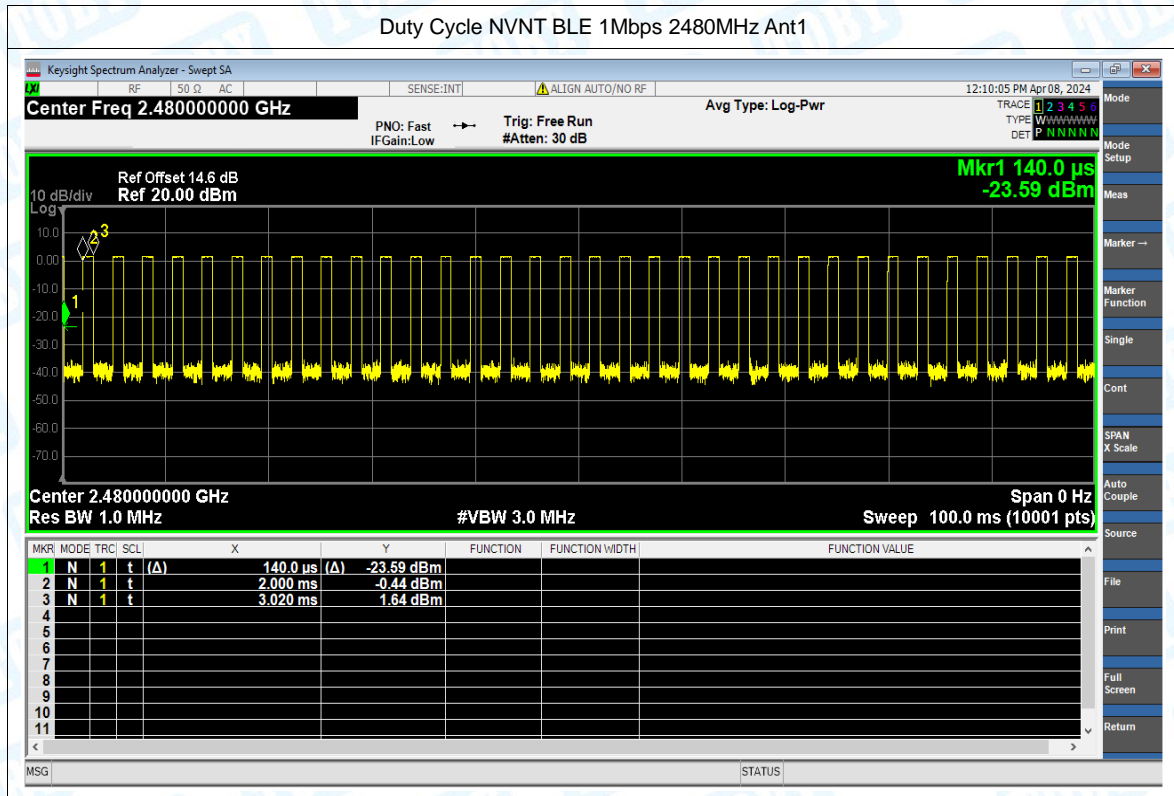
Duty Cycle NVNT BLE 1Mbps 2402MHz Ant1



Duty Cycle NVNT BLE 1Mbps 2440MHz Ant1







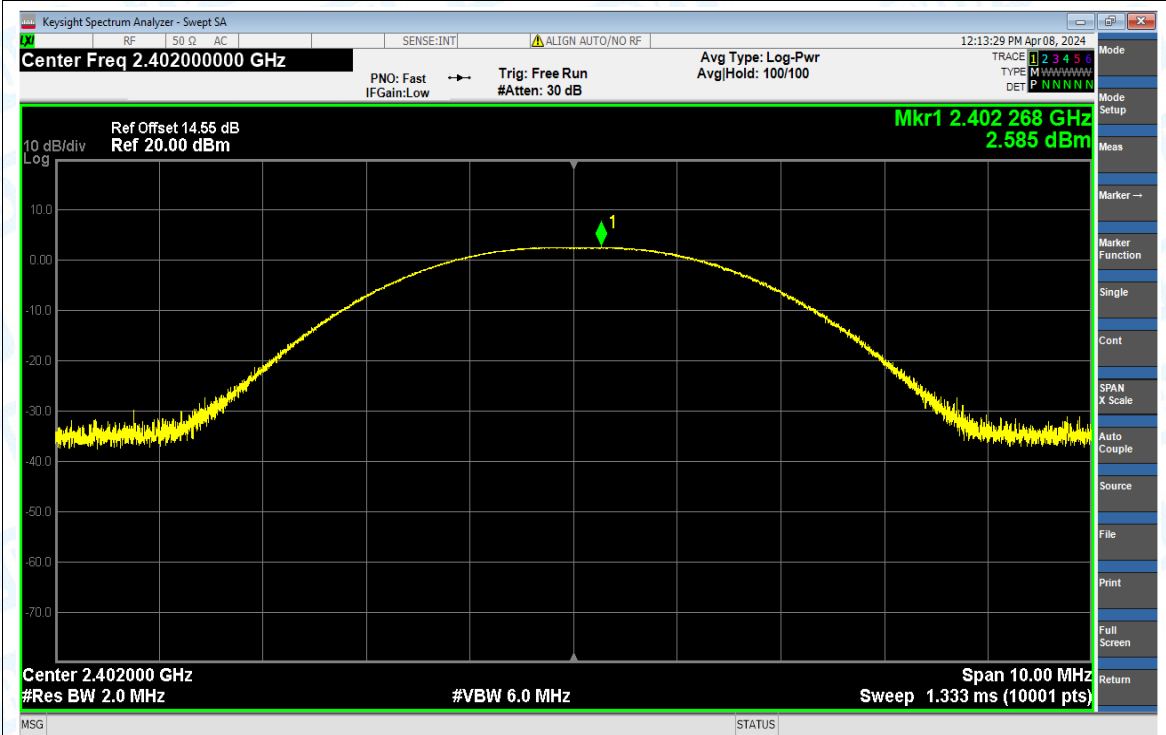
## 2. Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	2.585	30	Pass
NVNT	BLE 1Mbps	2440	Ant1	2.633	30	Pass
NVNT	BLE 1Mbps	2480	Ant1	1.885	30	Pass

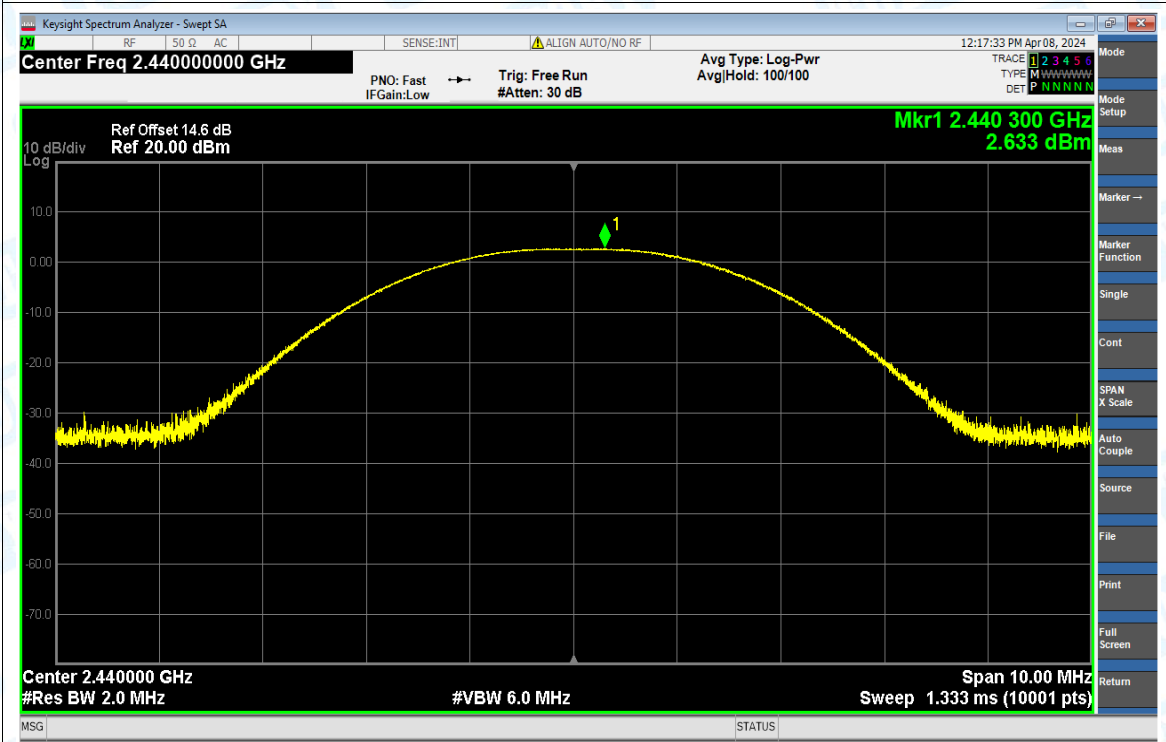


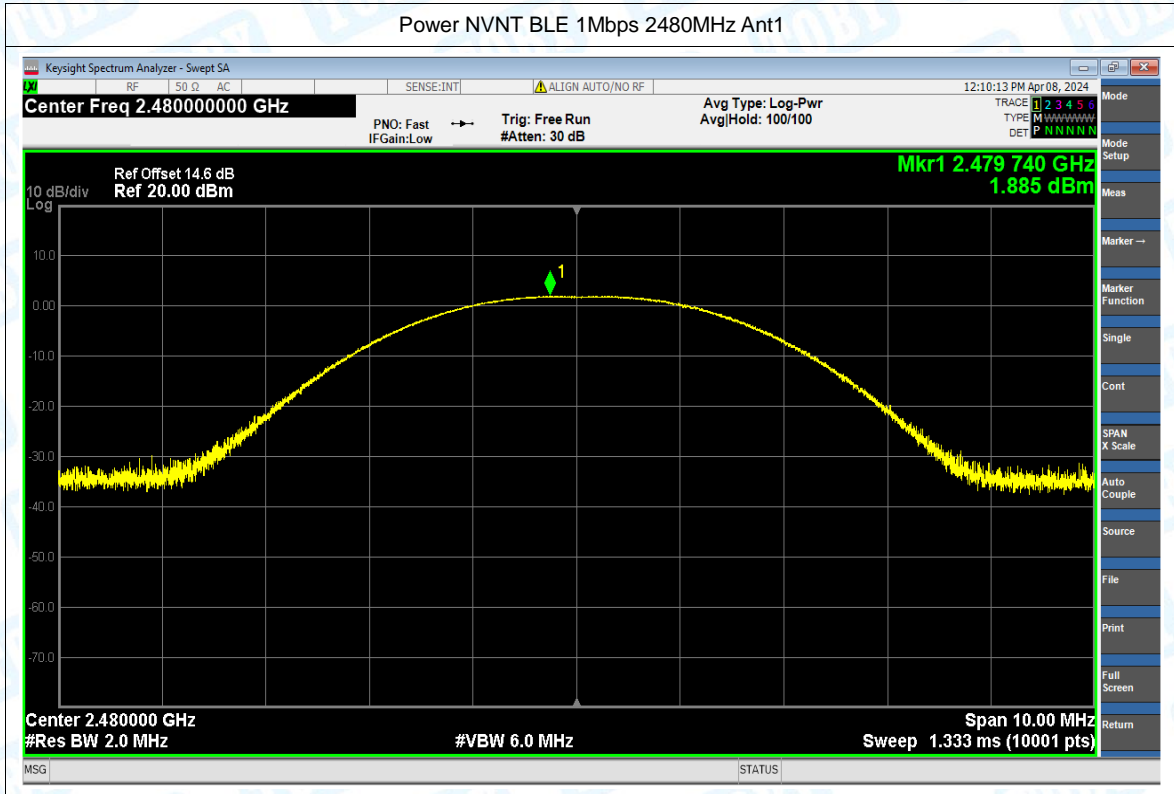
Test Graphs

Power NVNT BLE 1Mbps 2402MHz Ant1



Power NVNT BLE 1Mbps 2440MHz Ant1





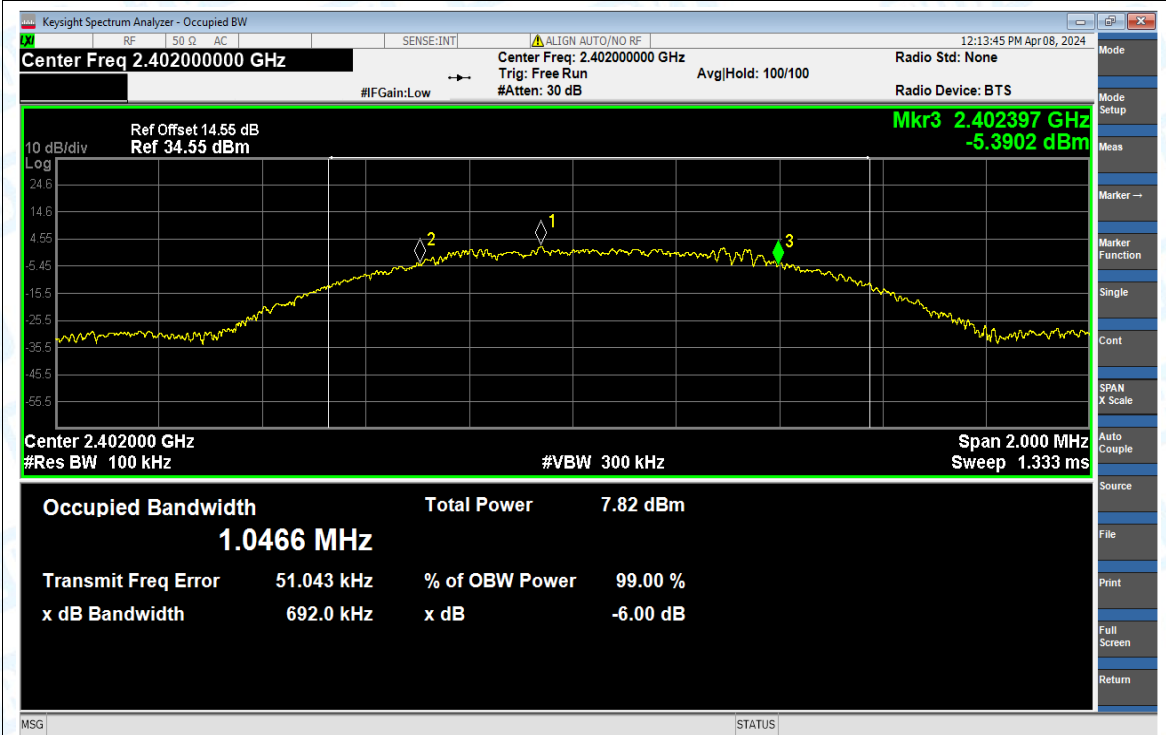


### 3. -6dB Bandwidth

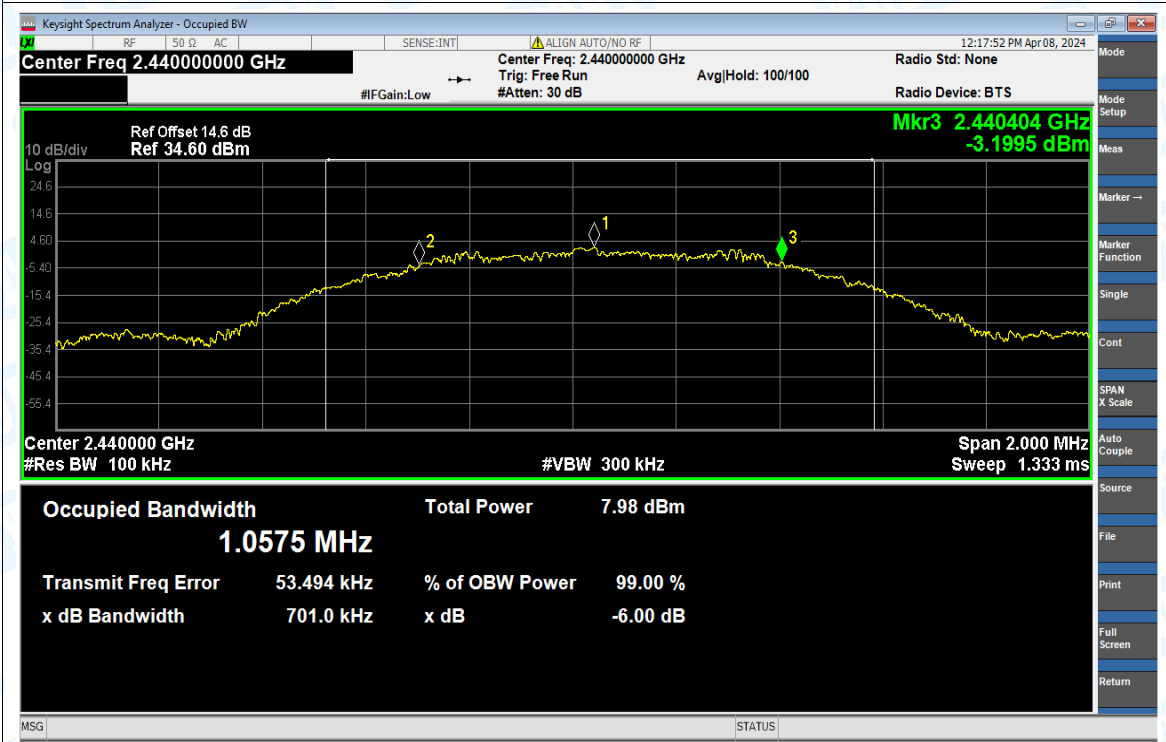
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.69	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.7	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.68	0.5	Pass

Test Graphs

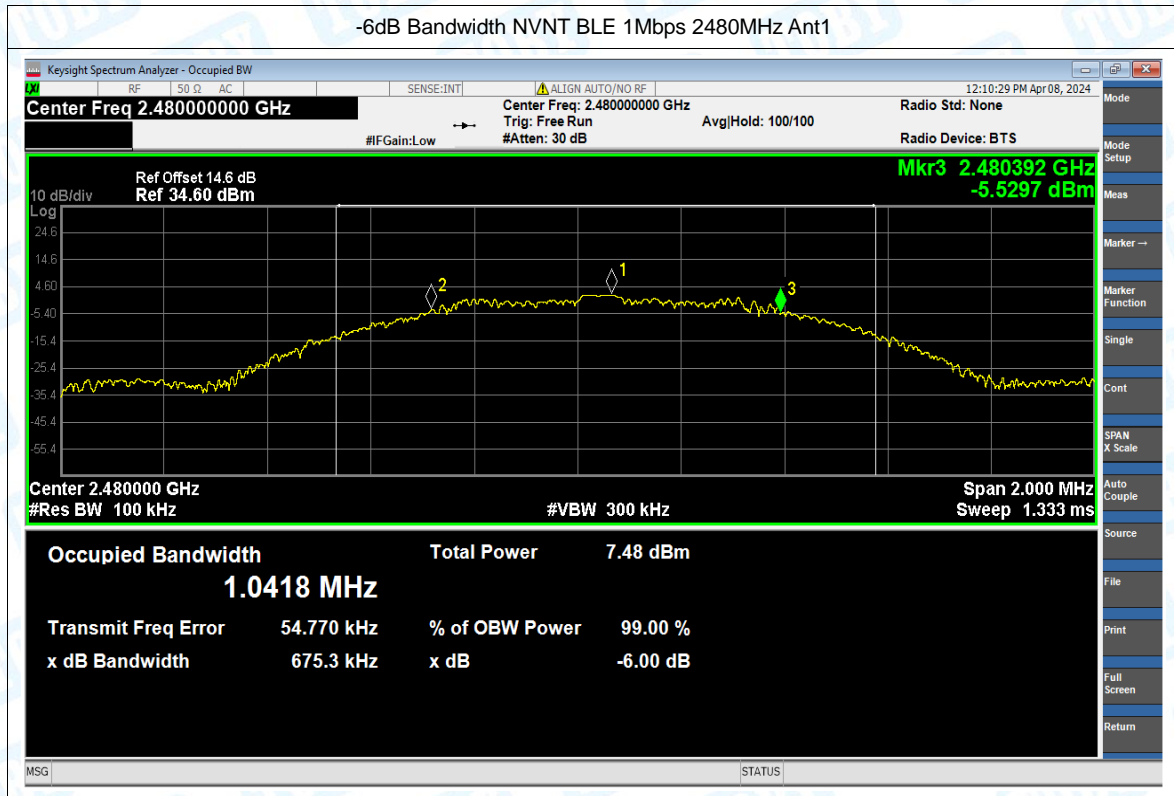
-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1







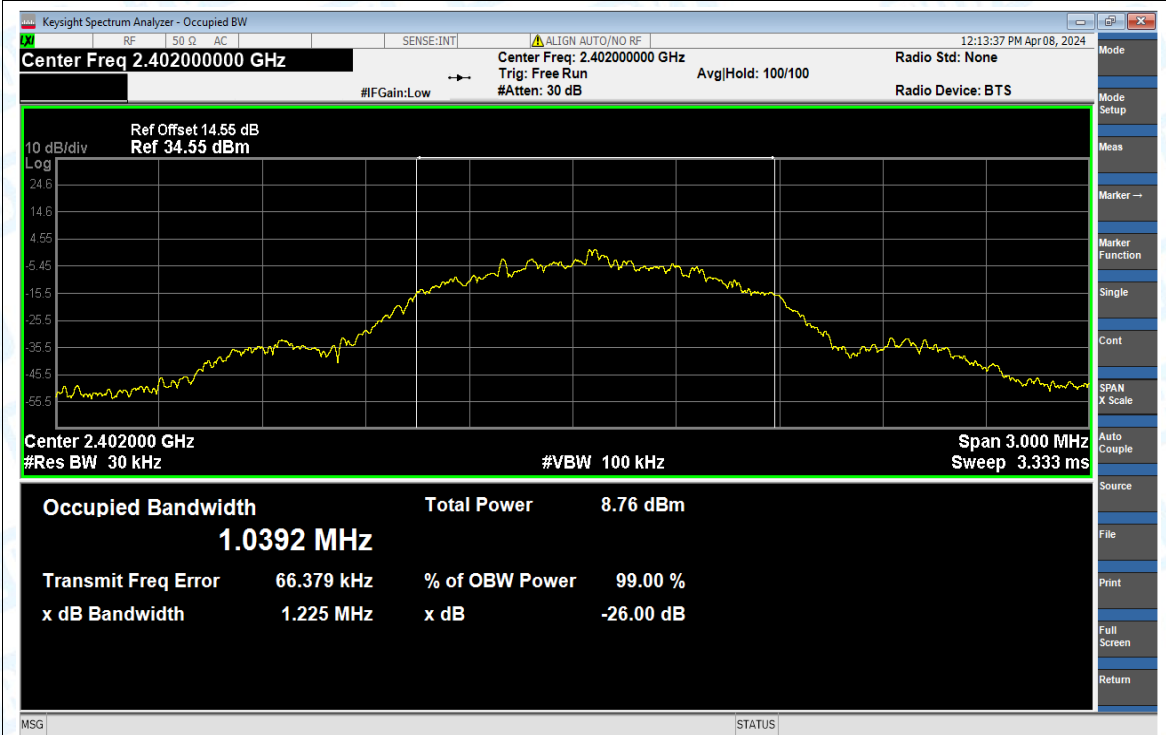
## 4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1Mbps	2402	Ant1	1.039
NVNT	BLE 1Mbps	2440	Ant1	1.039
NVNT	BLE 1Mbps	2480	Ant1	1.038

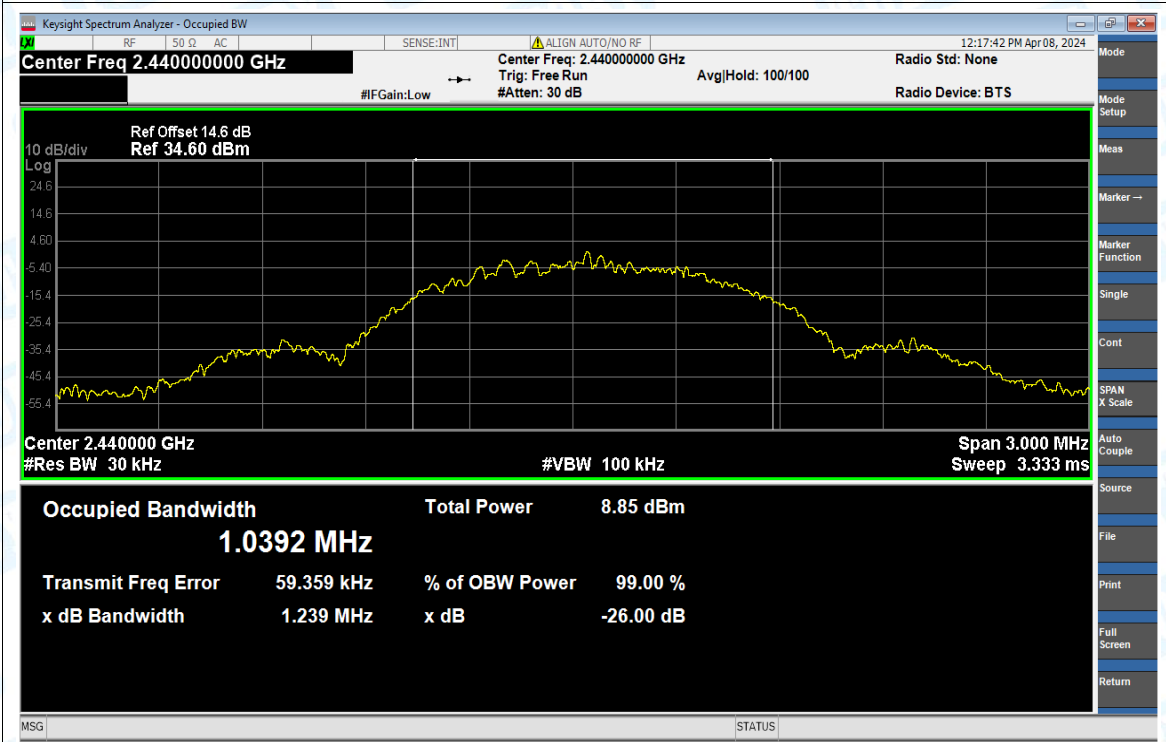


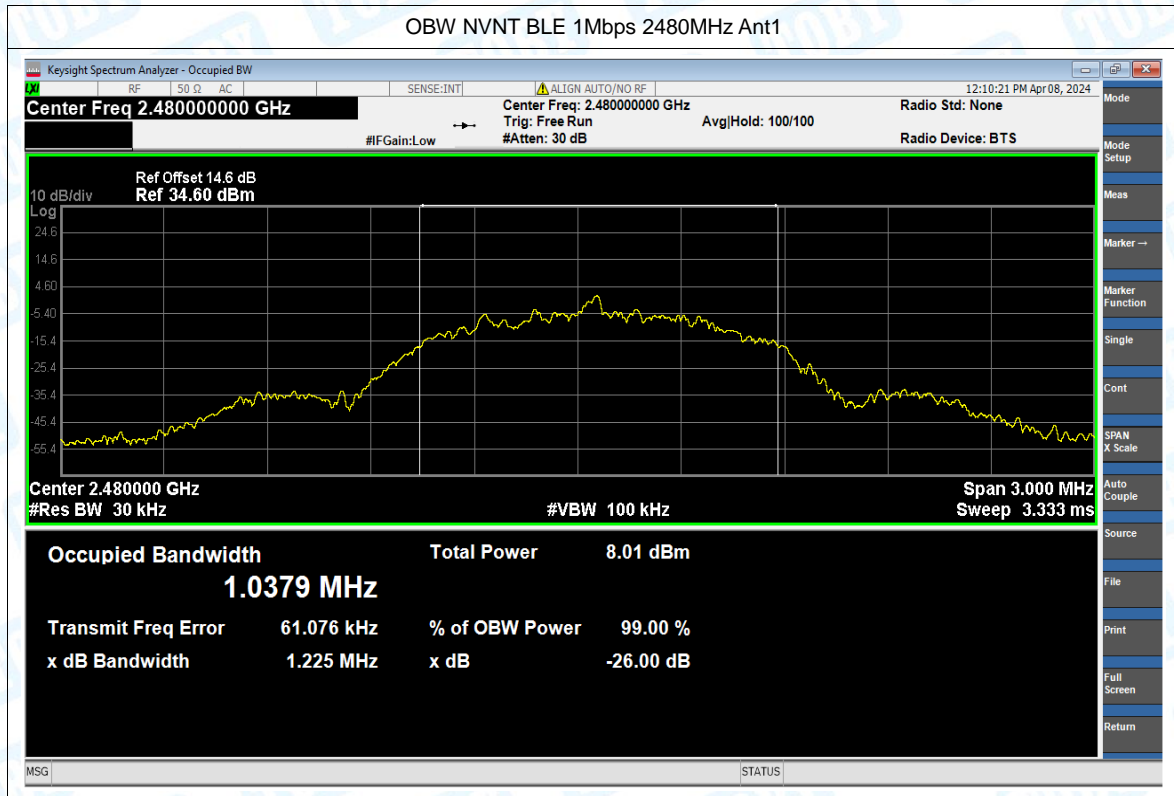
Test Graphs

OBW NVNT BLE 1Mbps 2402MHz Ant1



OBW NVNT BLE 1Mbps 2440MHz Ant1





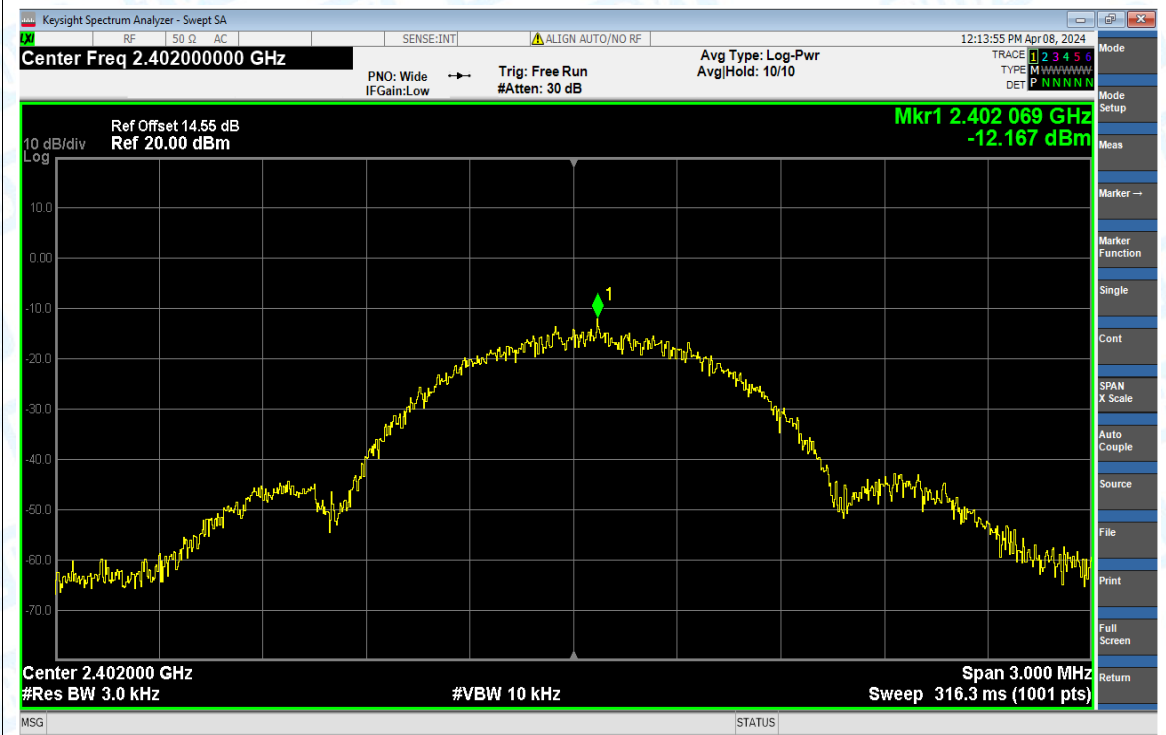


## 5. Maximum Power Spectral Density Level

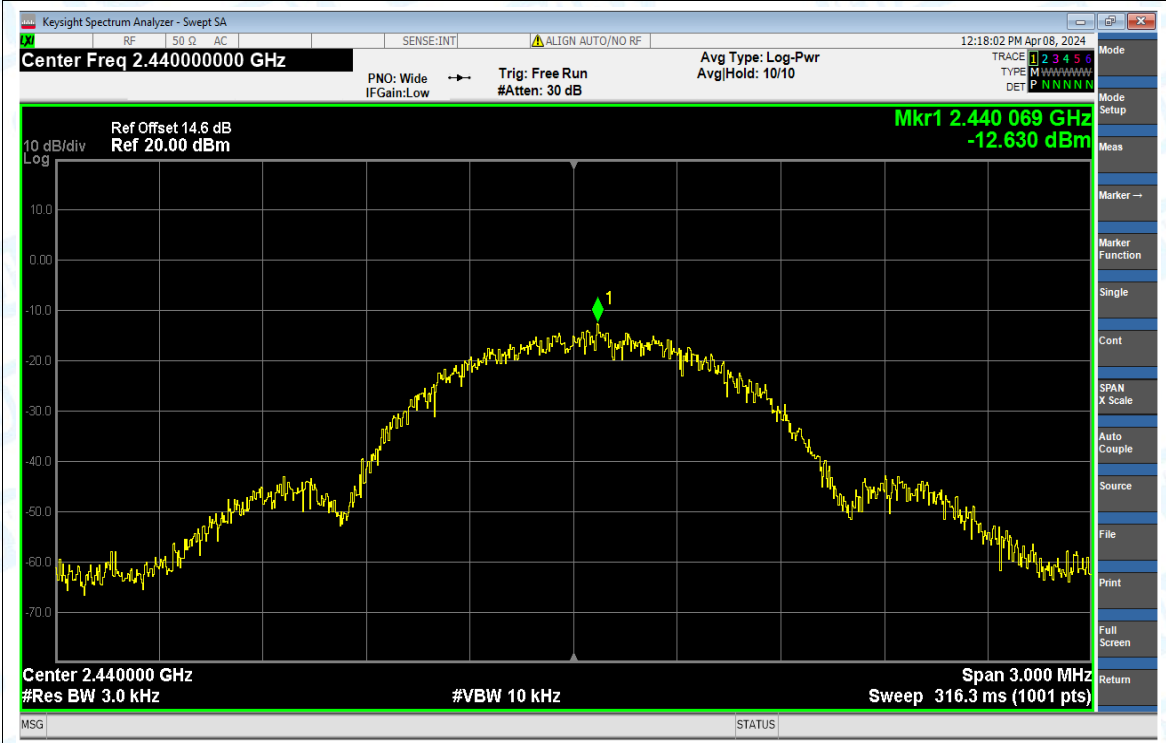
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/3Khz)	Limit (dBm/3Khz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-12.167	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-12.63	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-13.084	8	Pass

Test Graphs

PSD NVNT BLE 1Mbps 2402MHz Ant1

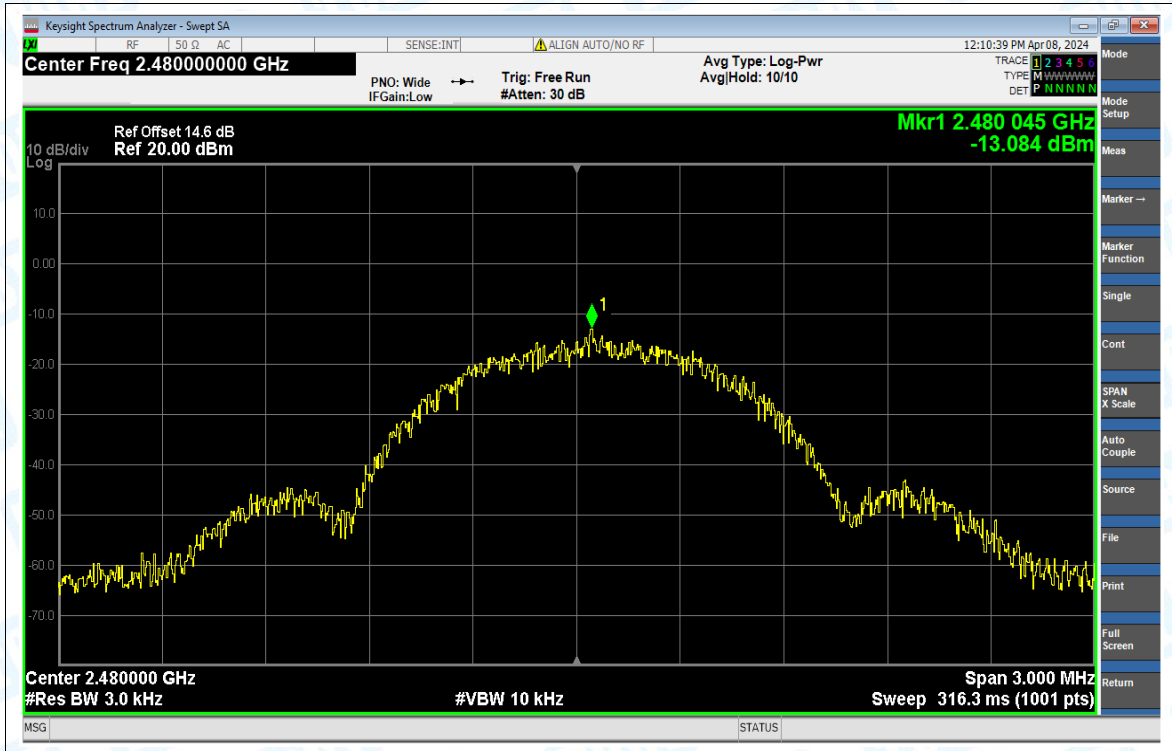


PSD NVNT BLE 1Mbps 2440MHz Ant1



PSD NVNT BLE 1Mbps 2480MHz Ant1





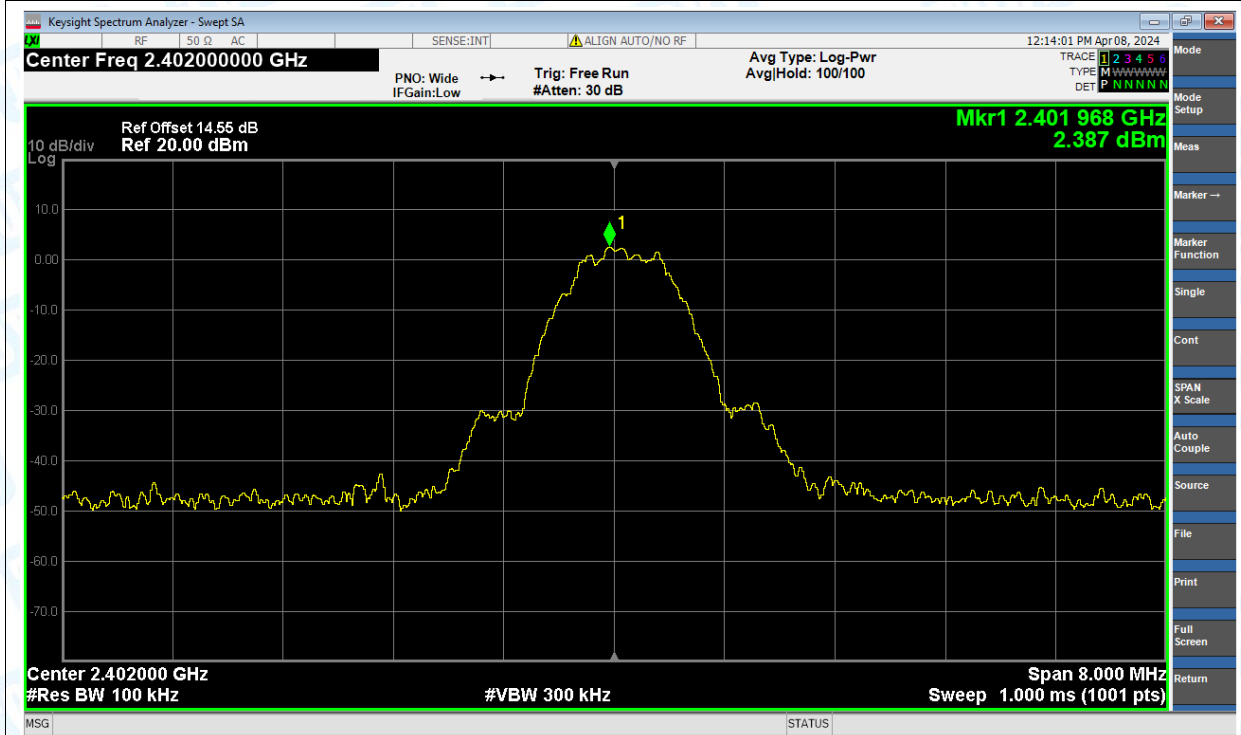
## 6. Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-46.52	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-46.75	-20	Pass

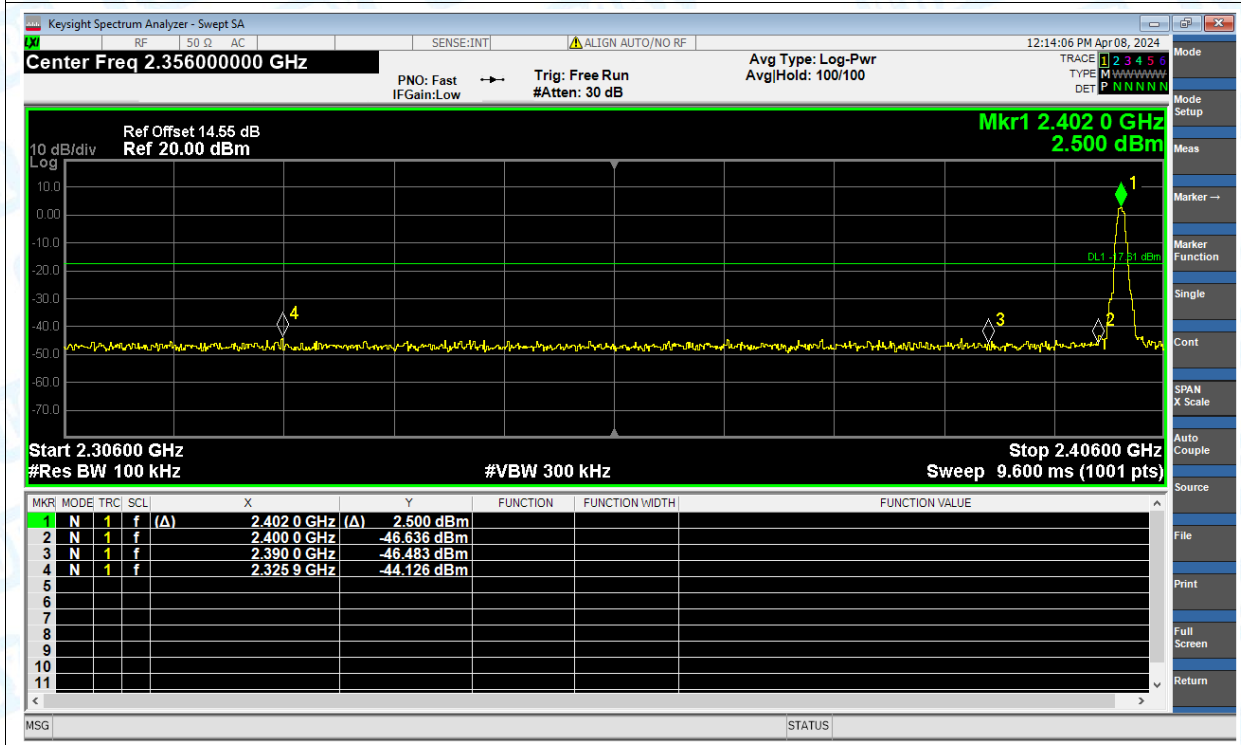


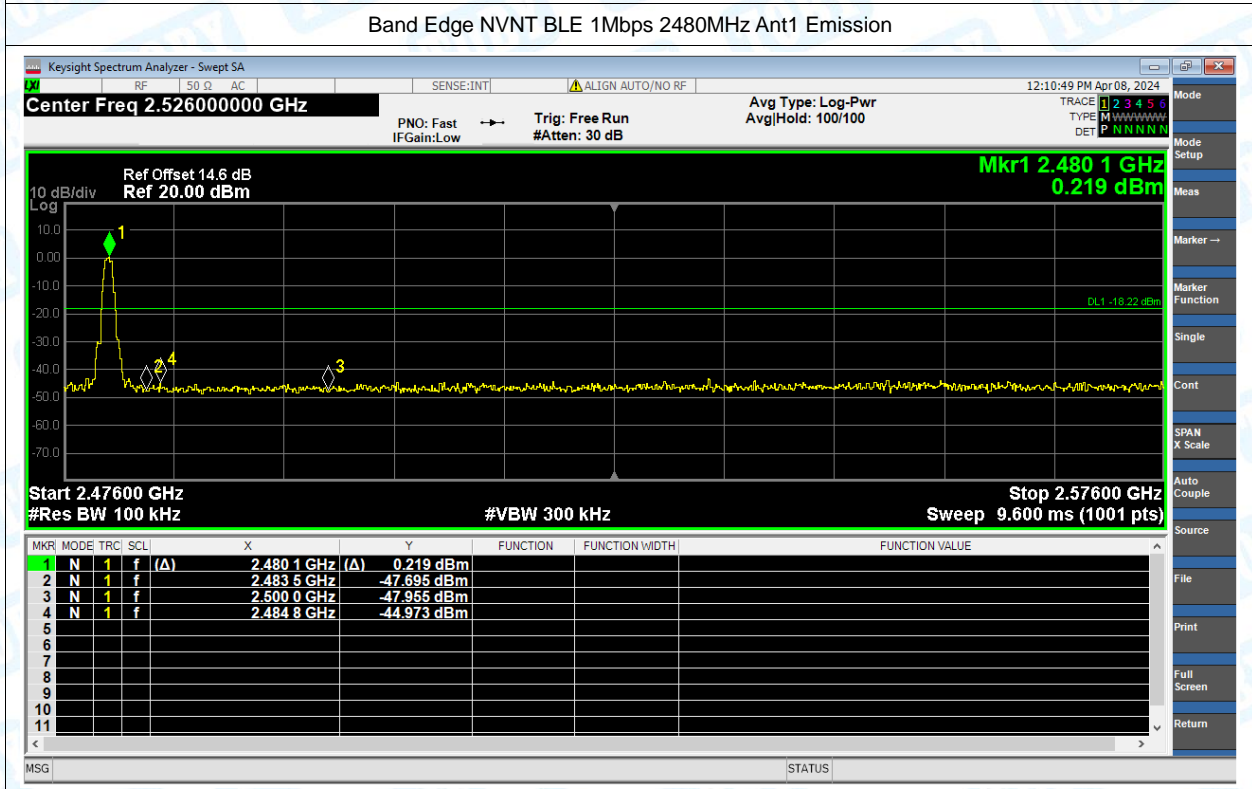
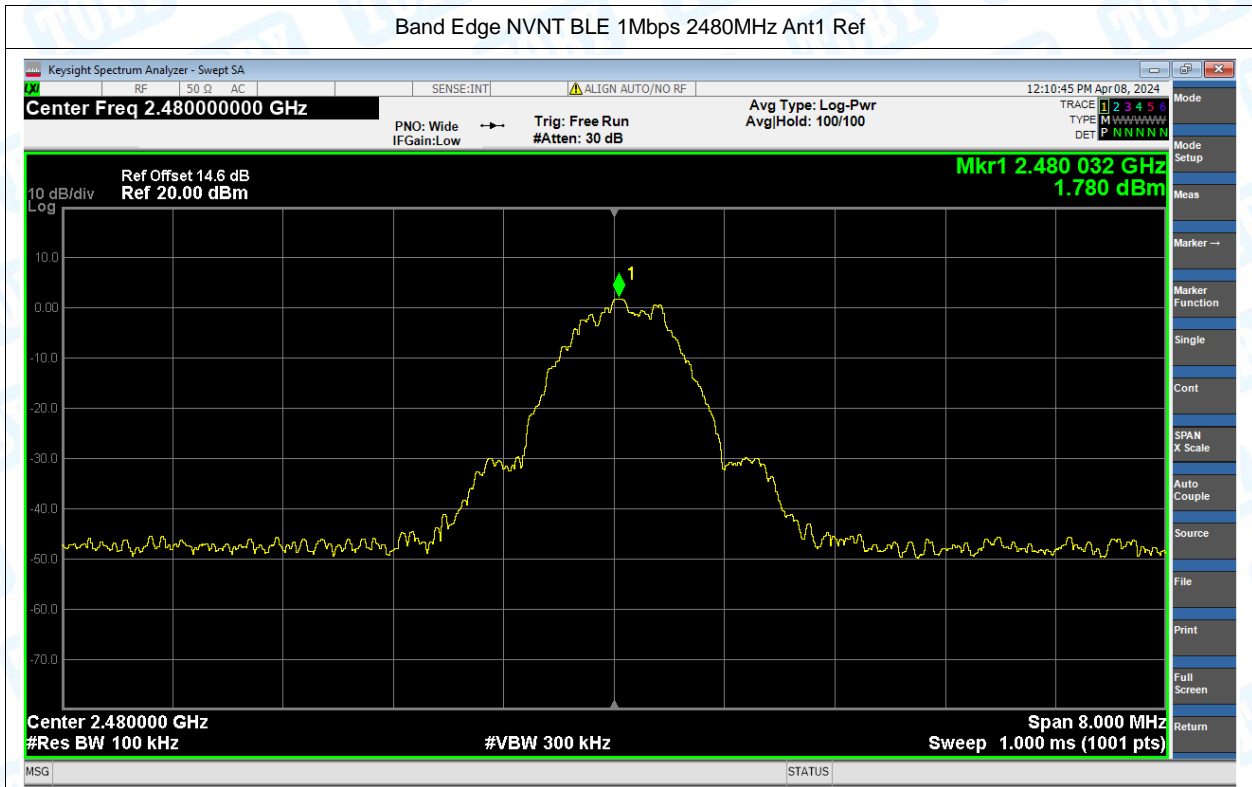
Test Graphs

Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Ref



Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Emission





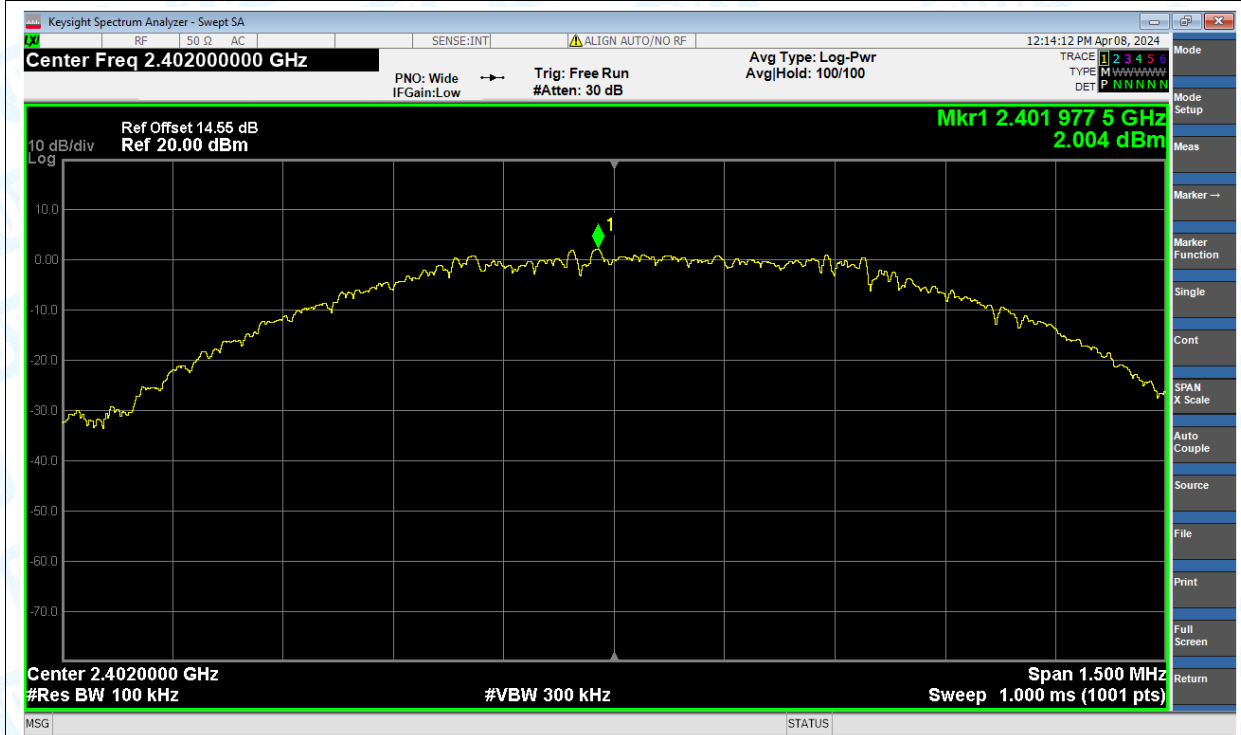


## 7. Conducted RF Spurious Emission

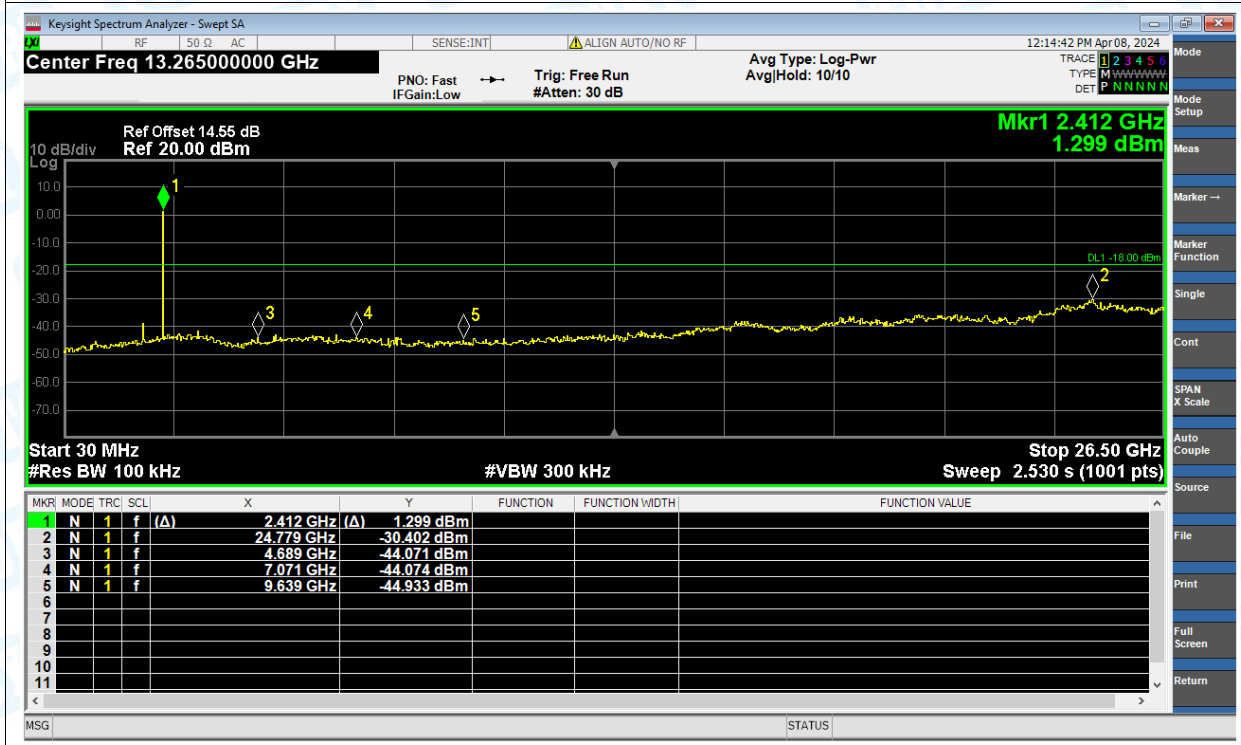
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-32.4	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-32.27	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-31.71	-20	Pass

Test Graphs

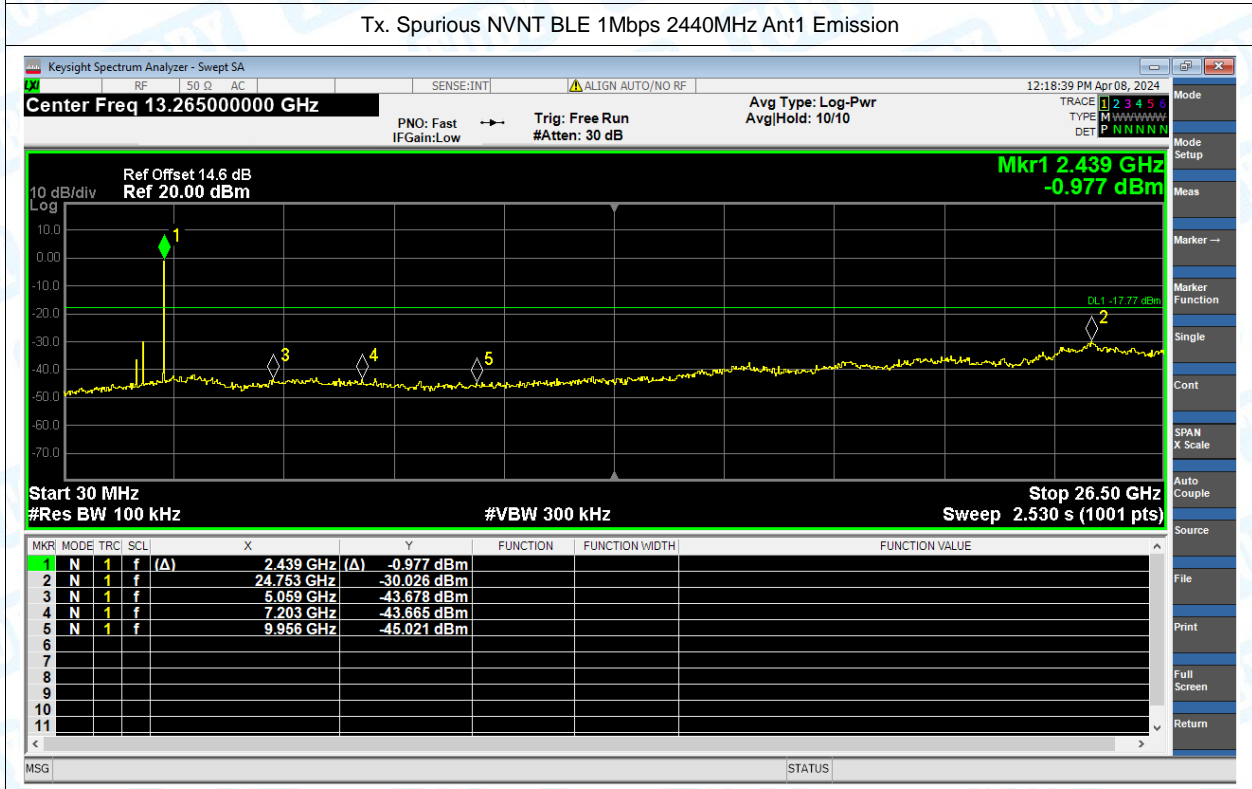
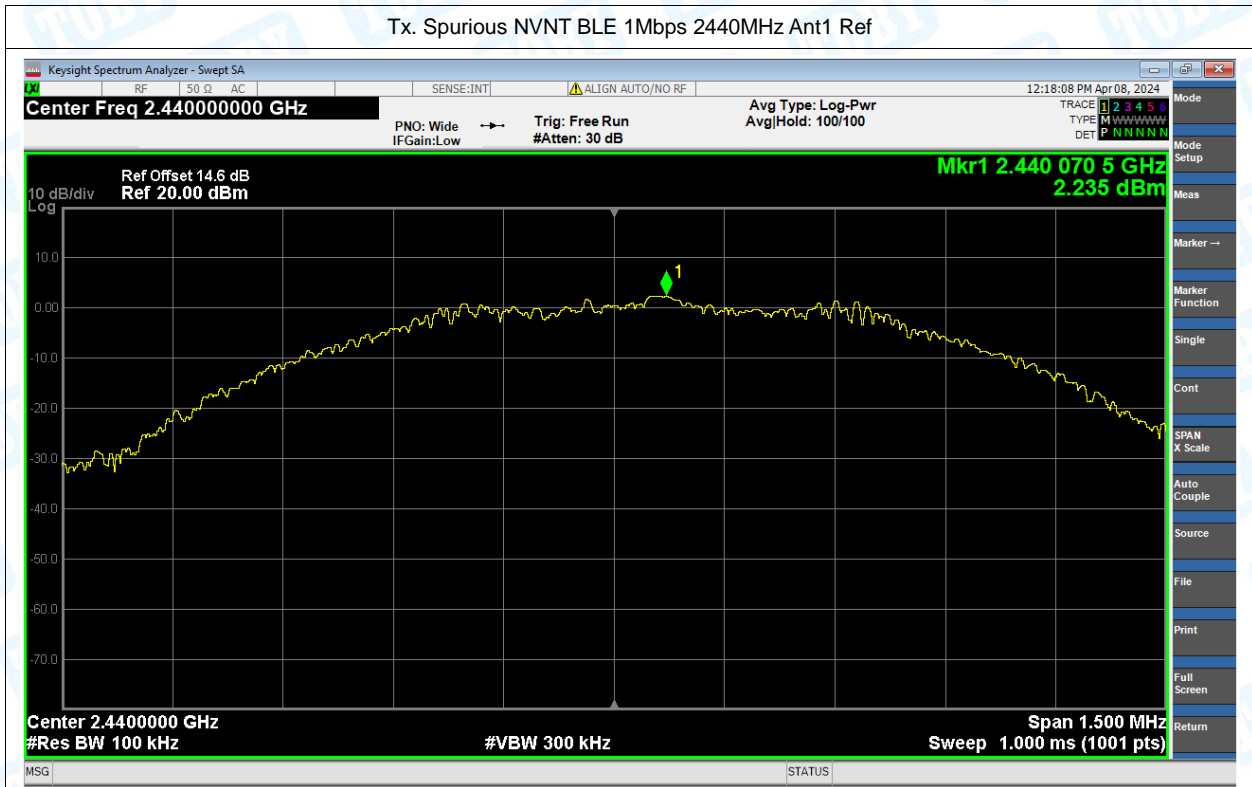
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Ref

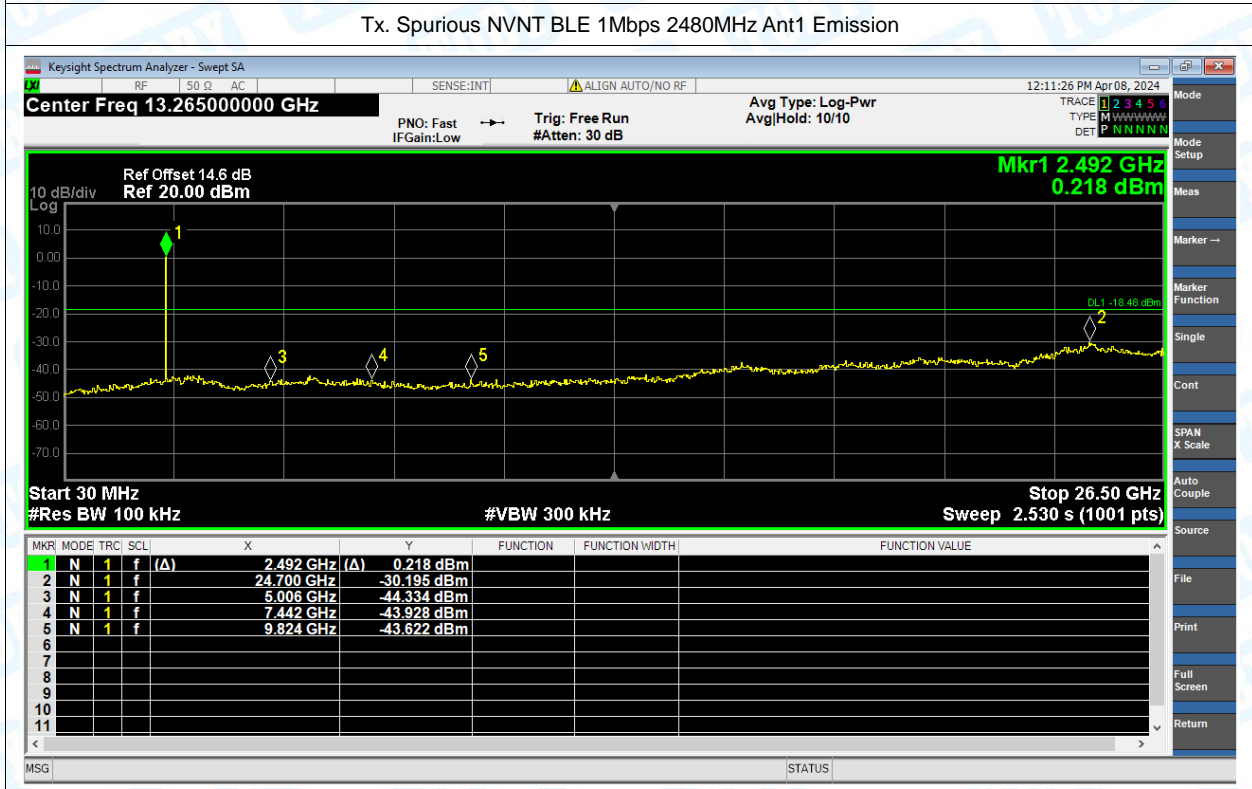
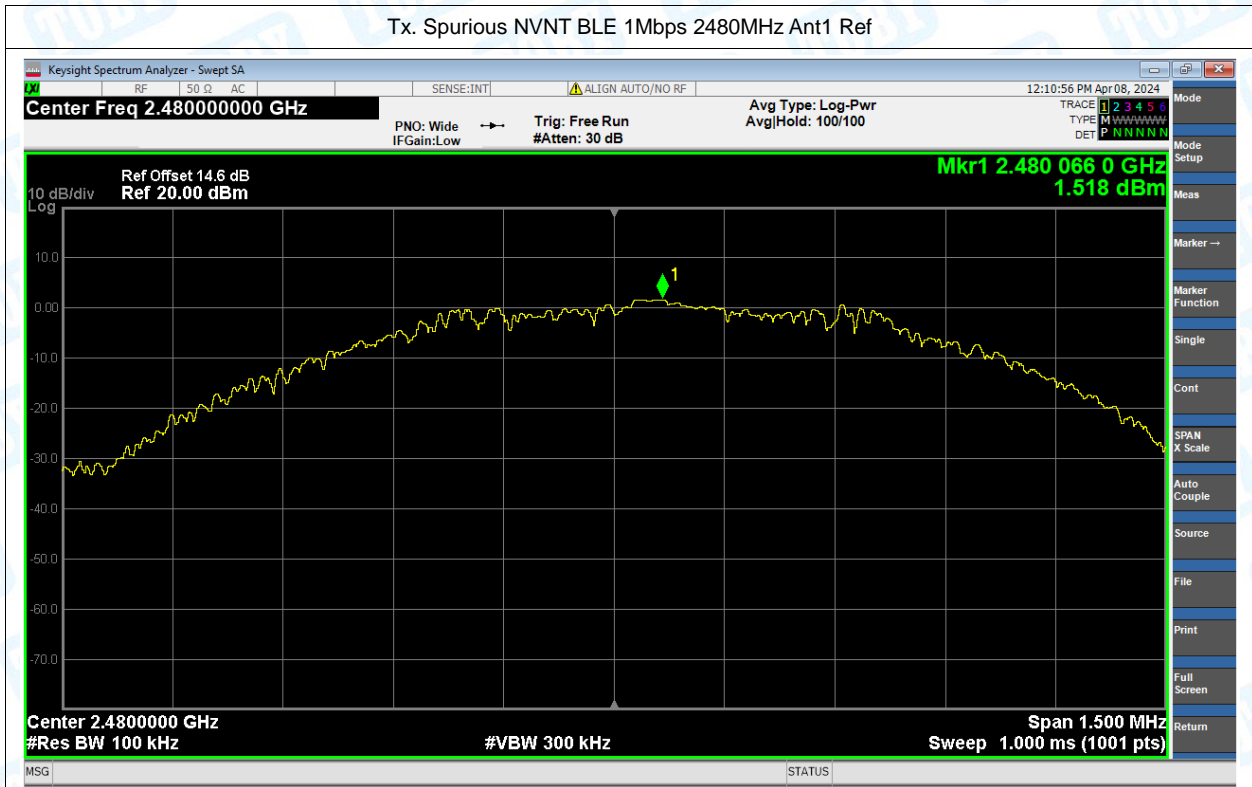


Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Emission









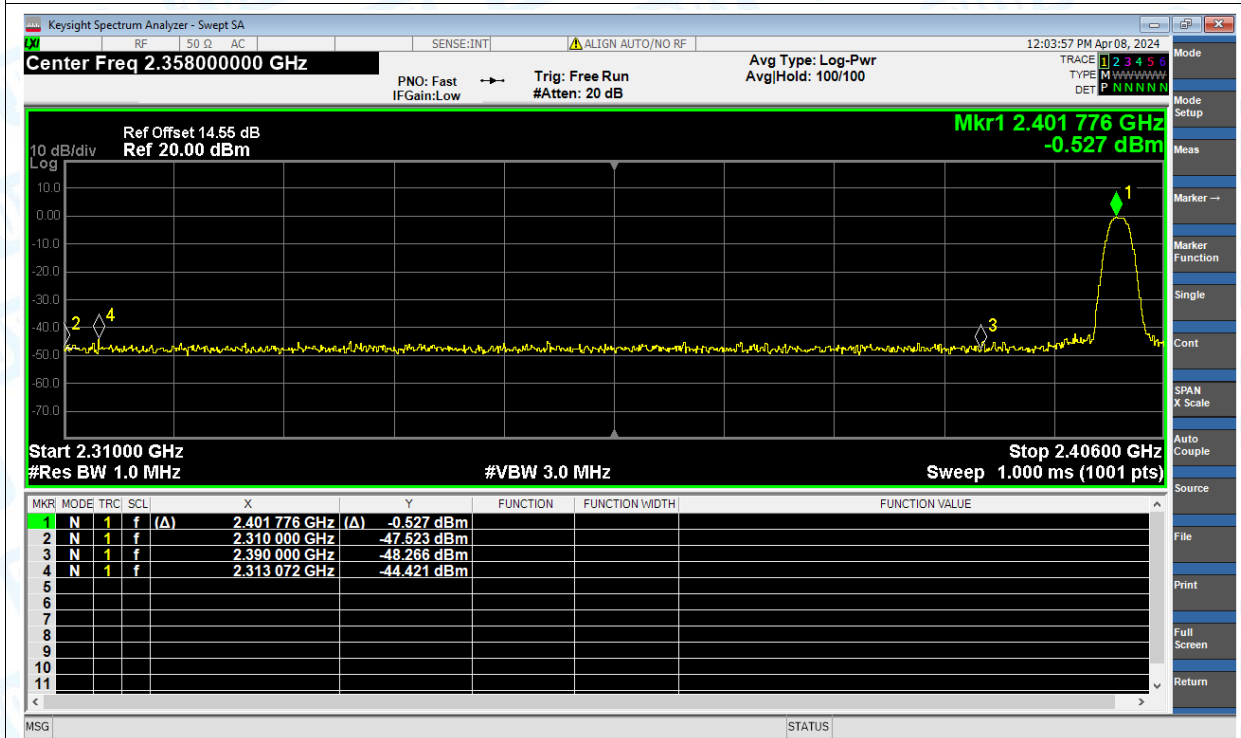


## 8. Restrict Band

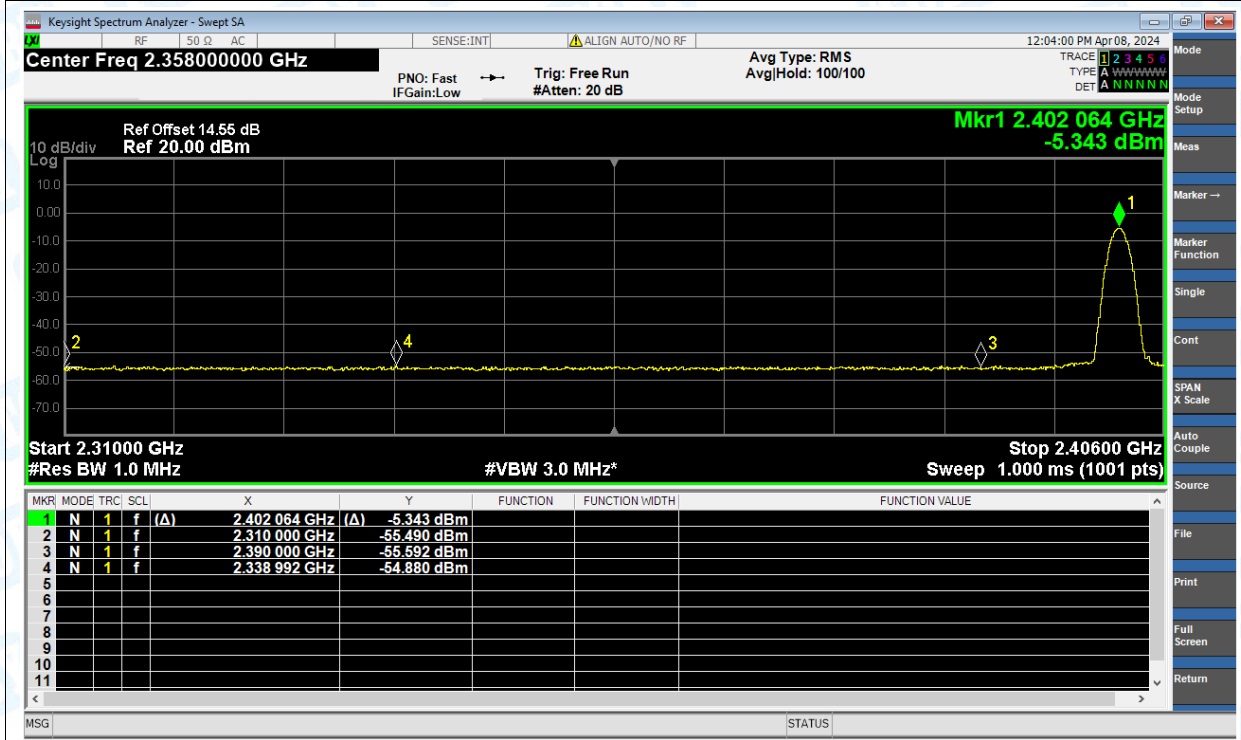
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	2310	-47.52	2	-	49.74	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2310	-55.49	2	4.51	46.28	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2313.072	-44.42	2	-	52.84	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2338.992	-54.88	2	4.51	46.89	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-48.27	2	-	48.99	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-55.59	2	4.51	46.18	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-43.7	2	-	53.56	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-54.58	2	4.51	47.19	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.68	-40.67	2	-	56.59	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.656	-53.33	2	4.51	48.44	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-46.47	2	-	50.79	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-55.37	2	4.51	46.4	Average	54	Pass

Test Graphs

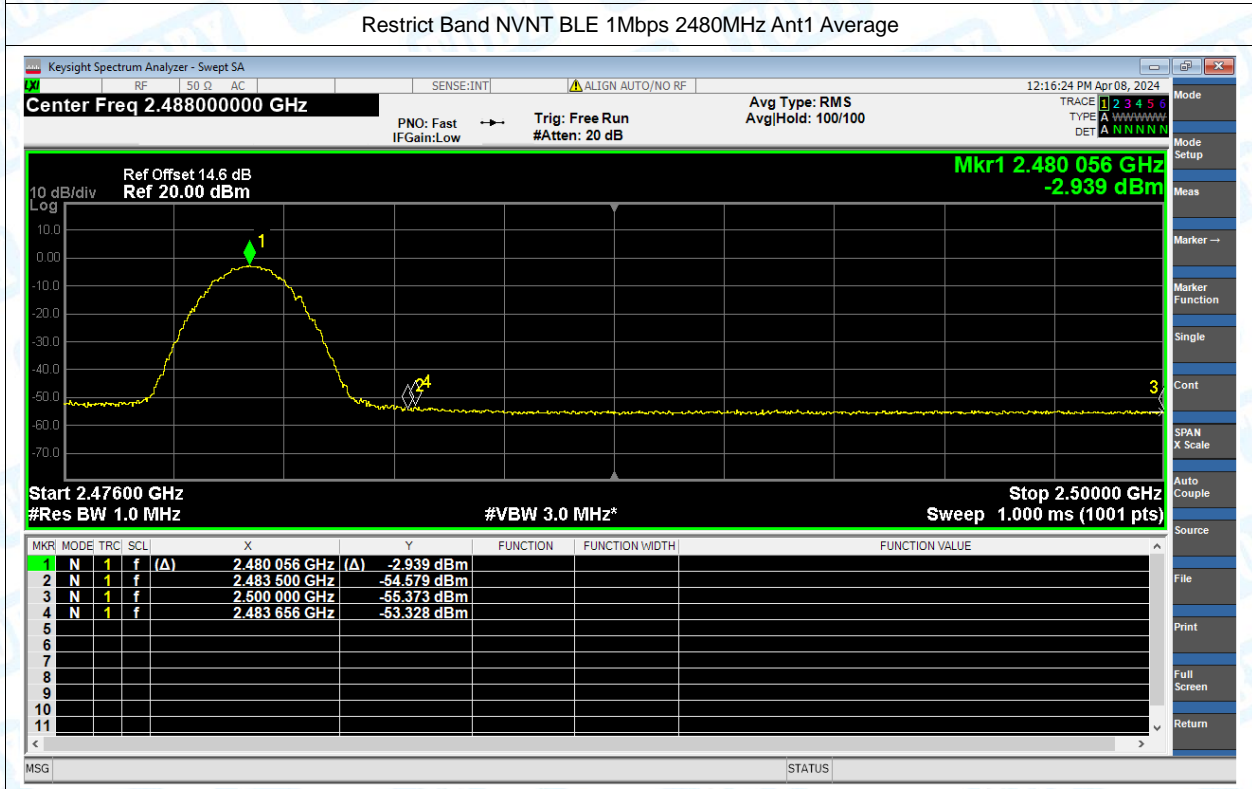
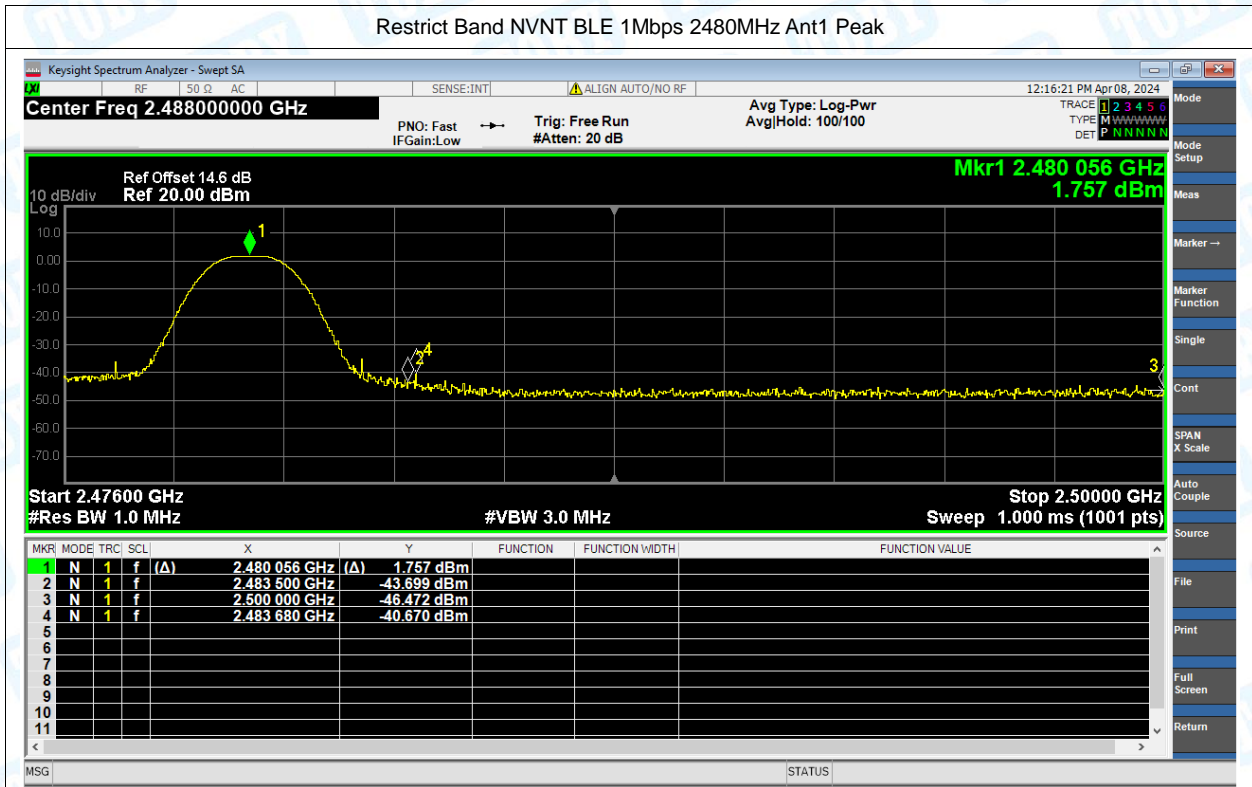
Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Average







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