

# RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
<b>Product Name:</b>	COB LED Video Light
<b>Test Model:</b>	RC 220B Pro
<b>Sample ID:</b>	HC-C-202408-0211-02-01
Environmental Conditions	
<b>Temperature:</b>	25.3°C
<b>Relative Humidity:</b>	52.1%
<b>Test Voltage:</b>	DC 5V
<b>Test Engineer:</b>	Mike Yan
Note: For a more detailed features description, please refer to the report TBR-C-202408-0211-2 The report only show the worst case data.	

## Contents

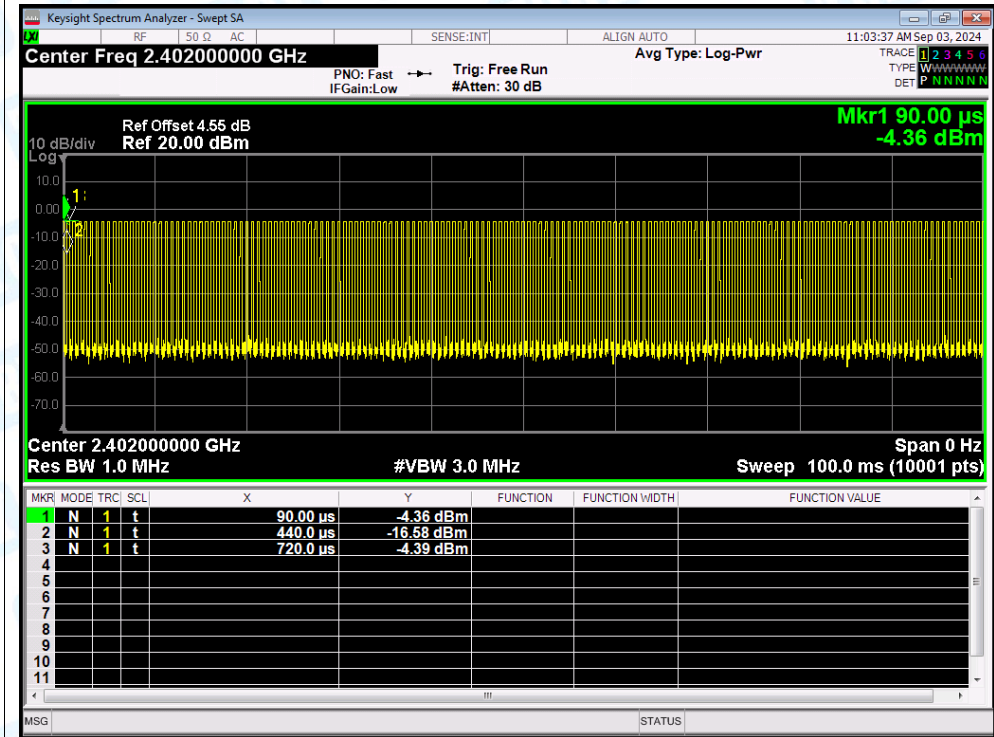
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## 1. Duty Cycle

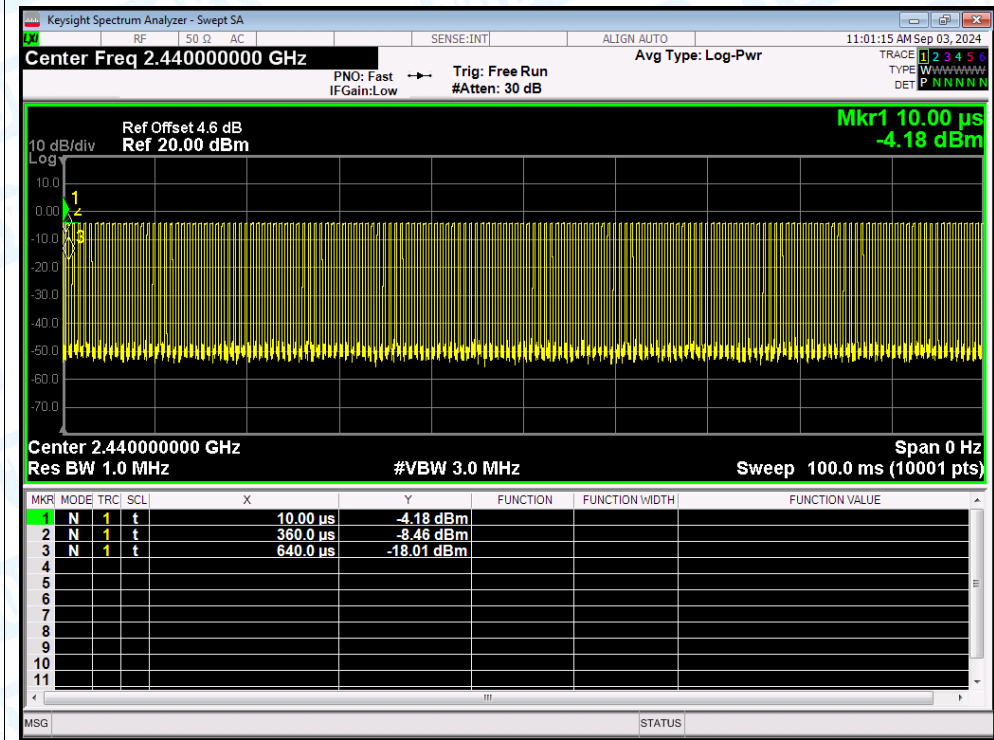
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	44.44	3.52	3.57
NVNT	BLE 1Mbps	2440	Ant1	44.44	3.52	3.57
NVNT	BLE 1Mbps	2480	Ant1	44.44	3.52	3.57
NVNT	BLE 2Mbps	2402	Ant1	25.81	5.88	6.25
NVNT	BLE 2Mbps	2440	Ant1	25.81	5.88	6.25
NVNT	BLE 2Mbps	2480	Ant1	25.81	5.88	6.25

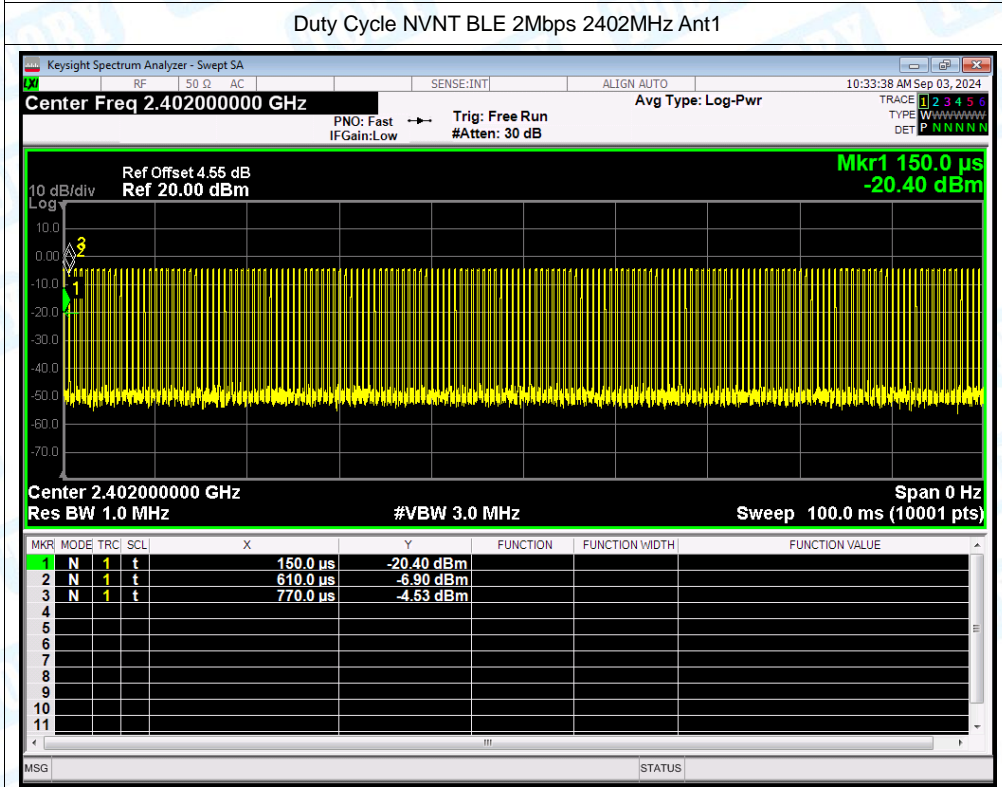
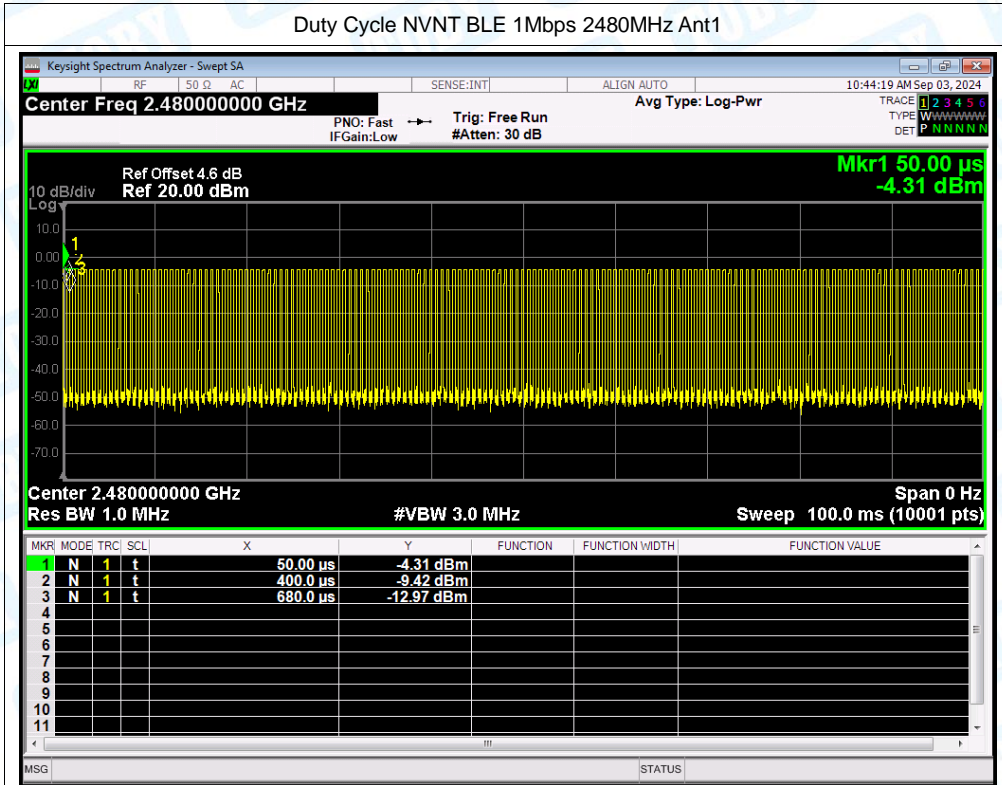
Test Graphs

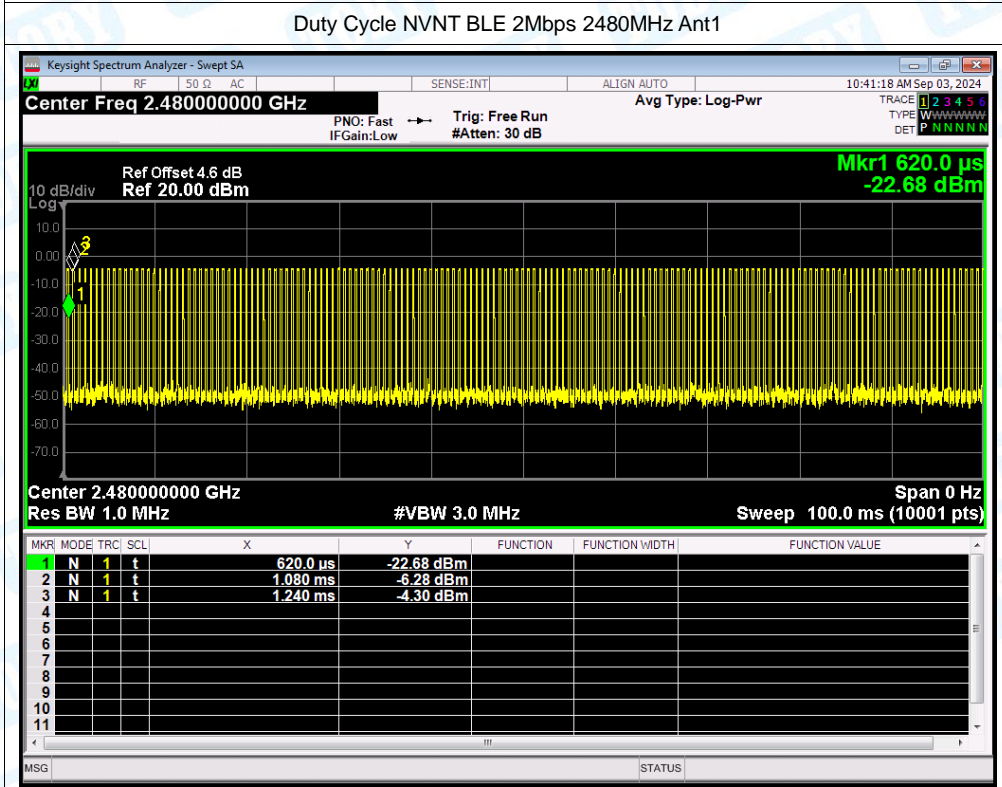
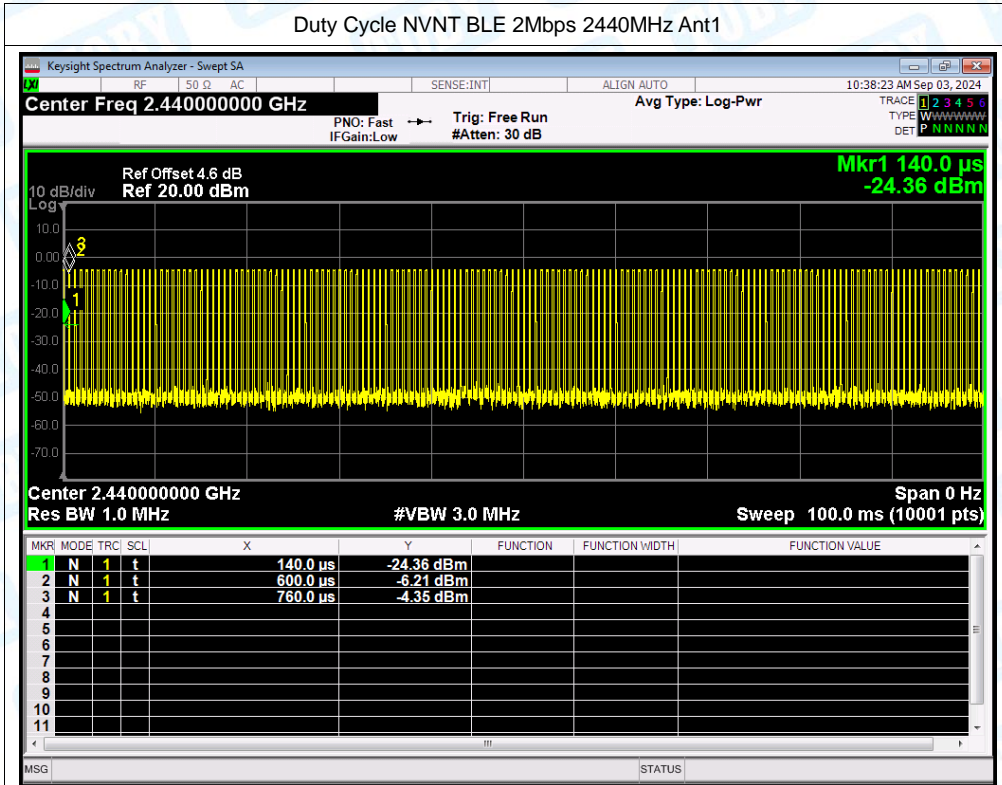
Duty Cycle NVNT BLE 1Mbps 2402MHz Ant1



Duty Cycle NVNT BLE 1Mbps 2440MHz Ant1





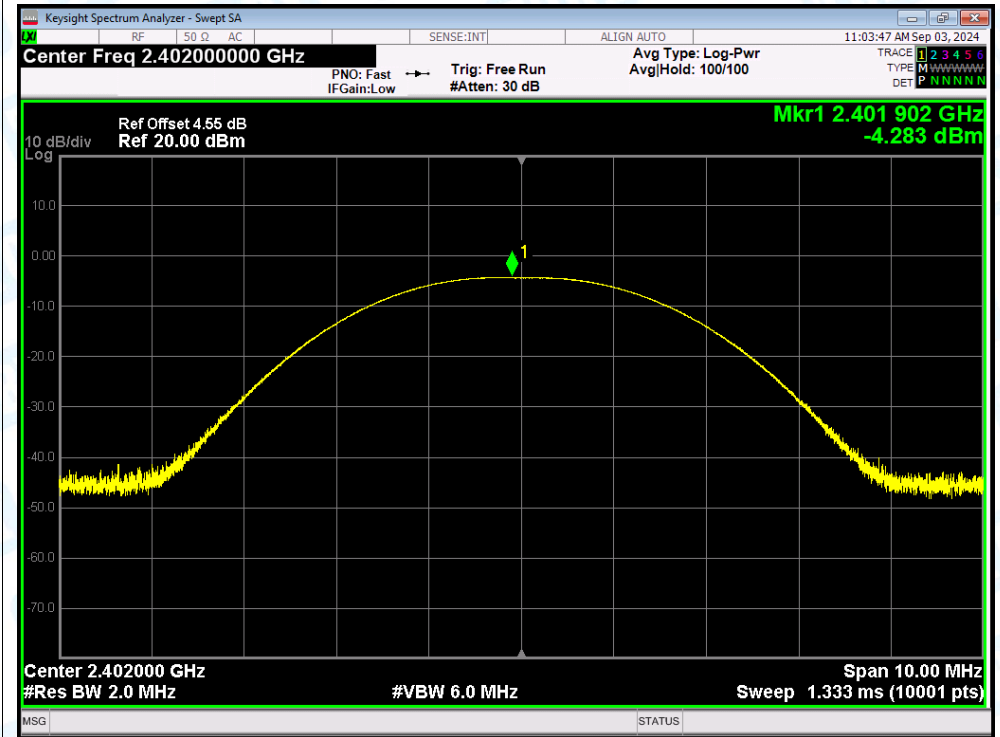


## 2. Maximum Peak Conducted Output Power

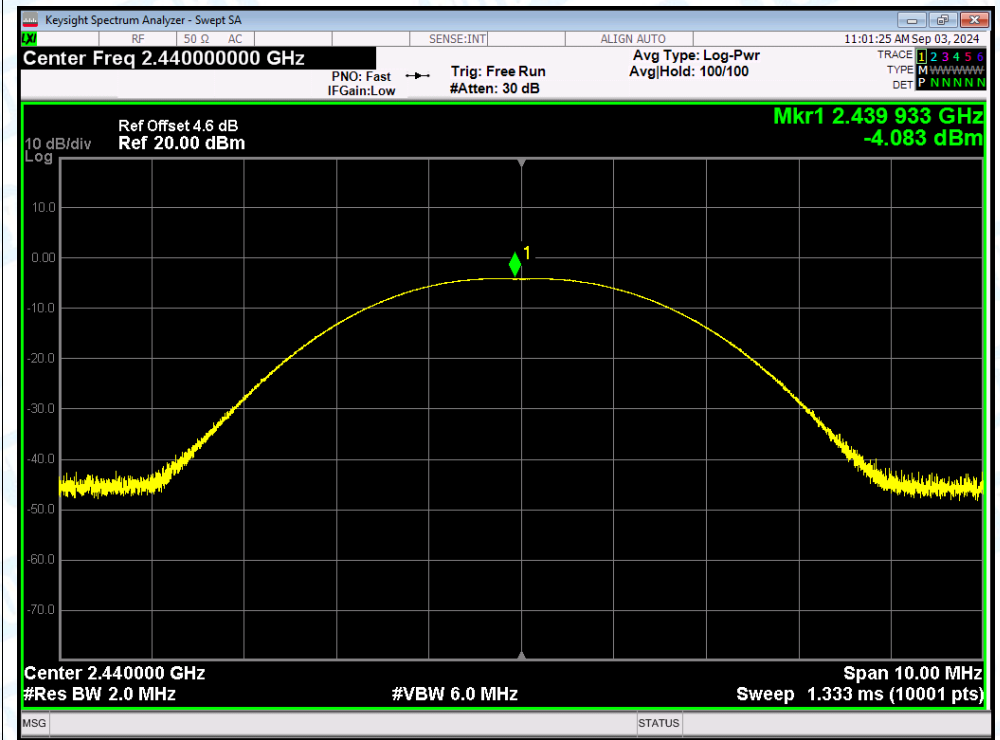
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Gian(dBm)	EIRP Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-4.283	30	-0.4	-4.683	36	Pass
NVNT	BLE 1Mbps	2440	Ant1	-4.083	30	-0.4	-4.483	36	Pass
NVNT	BLE 1Mbps	2480	Ant1	-4.184	30	-0.4	-4.584	36	Pass
NVNT	BLE 2Mbps	2402	Ant1	-4.448	30	-0.4	-4.848	36	Pass
NVNT	BLE 2Mbps	2440	Ant1	-4.231	30	-0.4	-4.631	36	Pass
NVNT	BLE 2Mbps	2480	Ant1	-4.183	30	-0.4	-4.583	36	Pass

Test Graphs

Power NVNT BLE 1Mbps 2402MHz Ant1

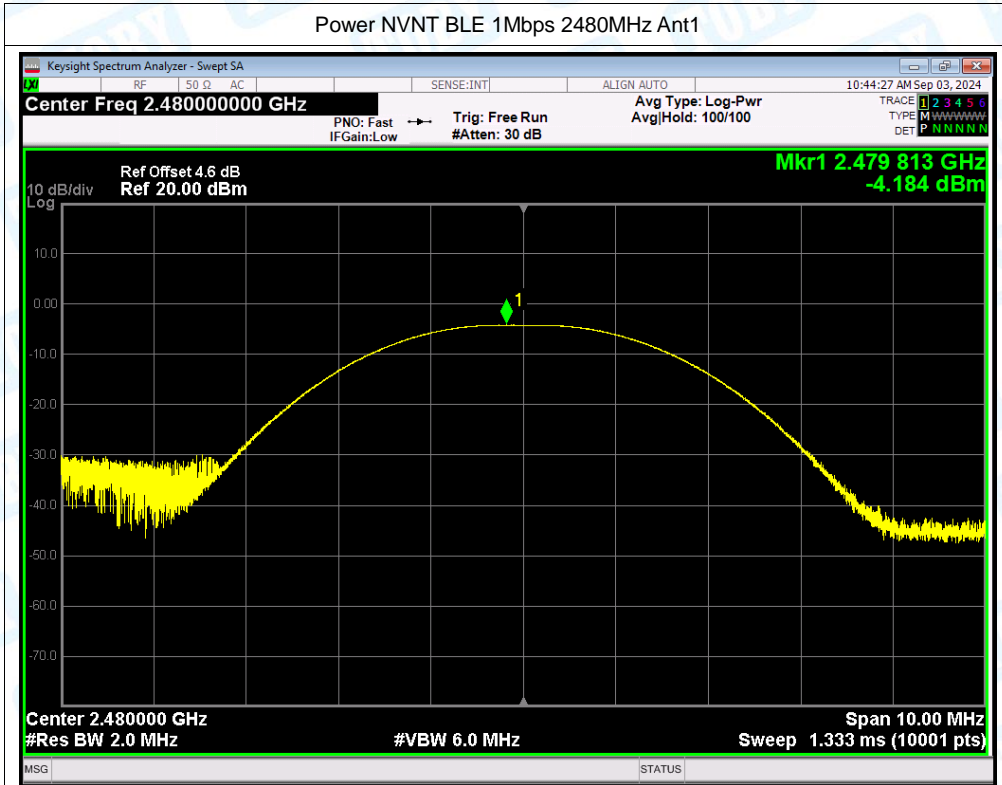


Power NVNT BLE 1Mbps 2440MHz Ant1

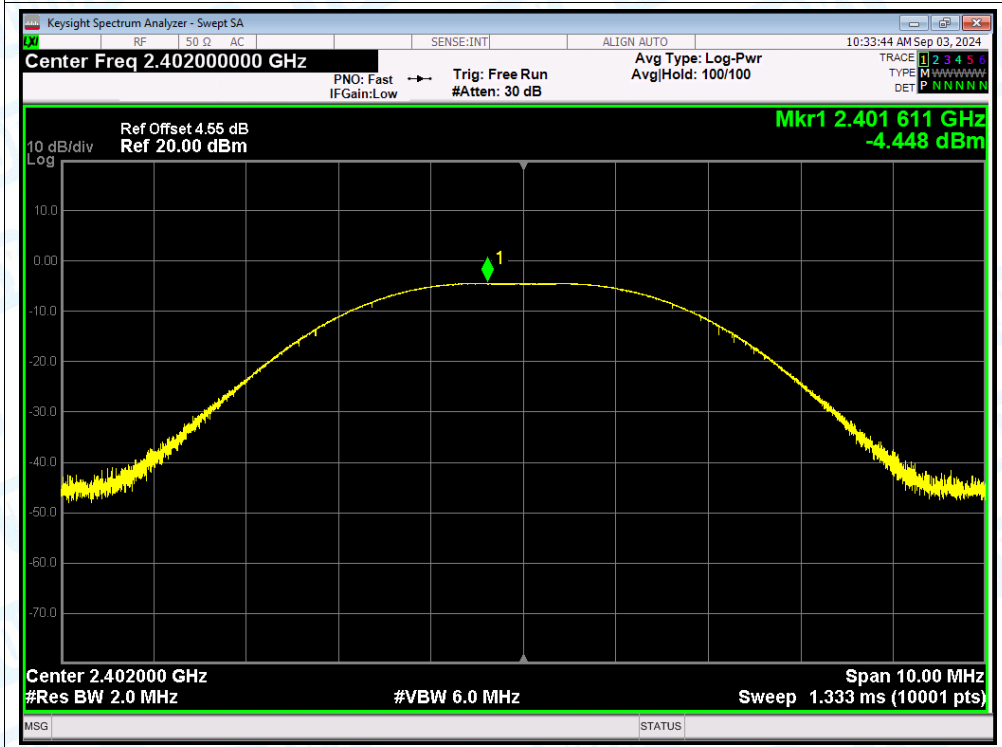




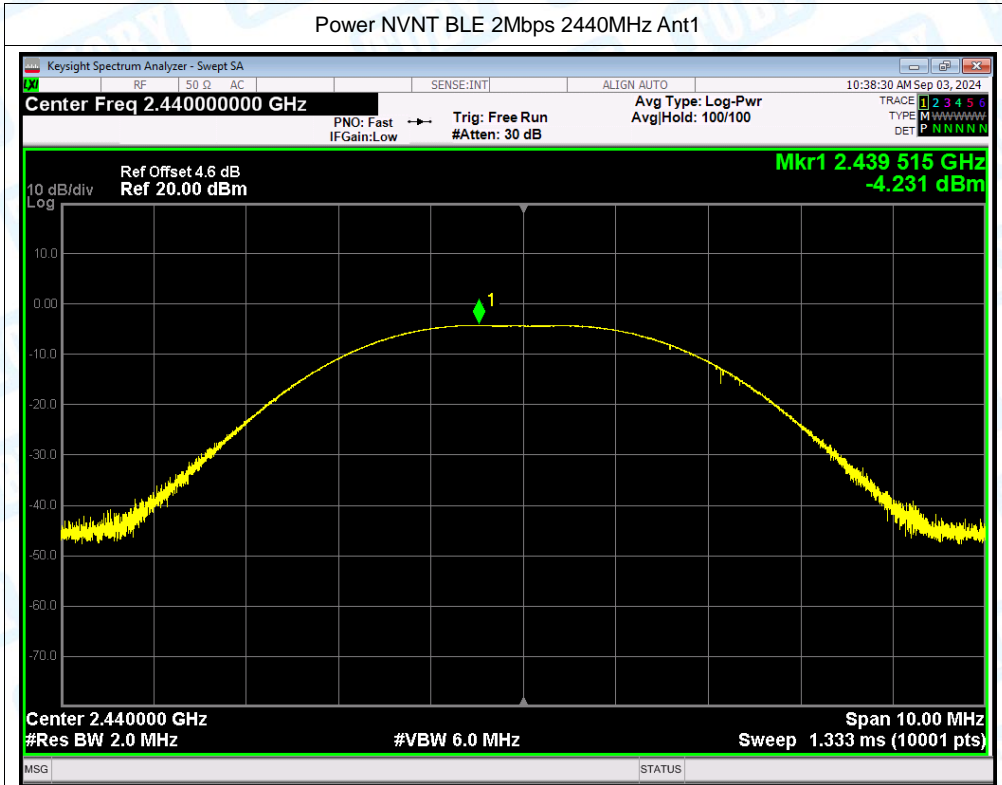
Power NVNT BLE 1Mbps 2480MHz Ant1



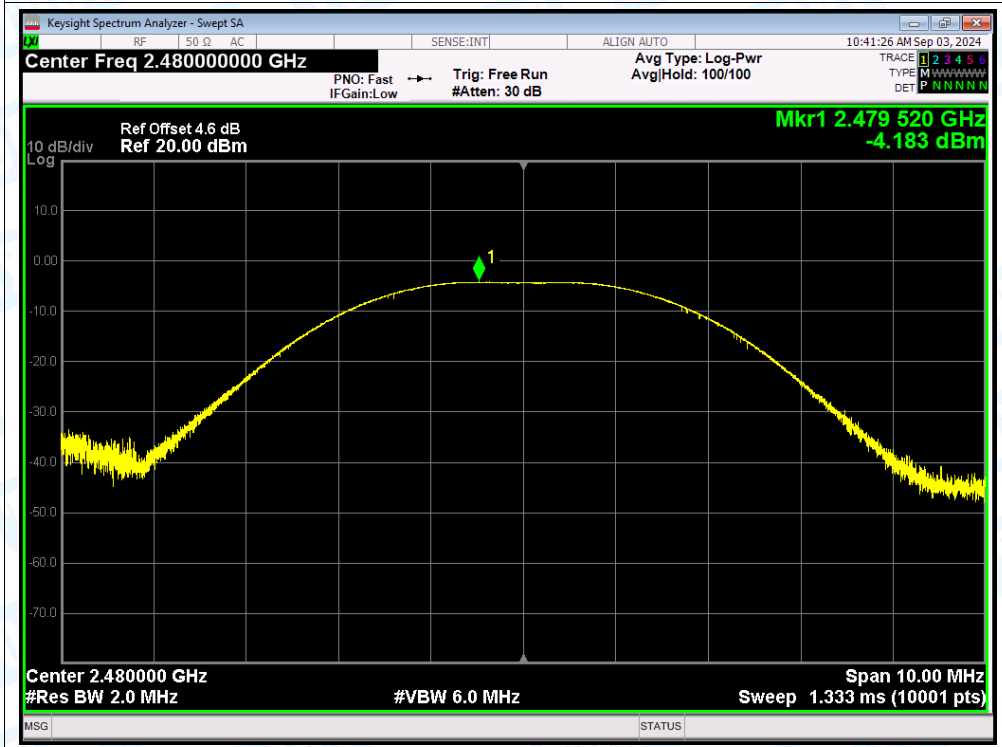
Power NVNT BLE 2Mbps 2402MHz Ant1



Power NVNT BLE 2Mbps 2440MHz Ant1



Power NVNT BLE 2Mbps 2480MHz Ant1

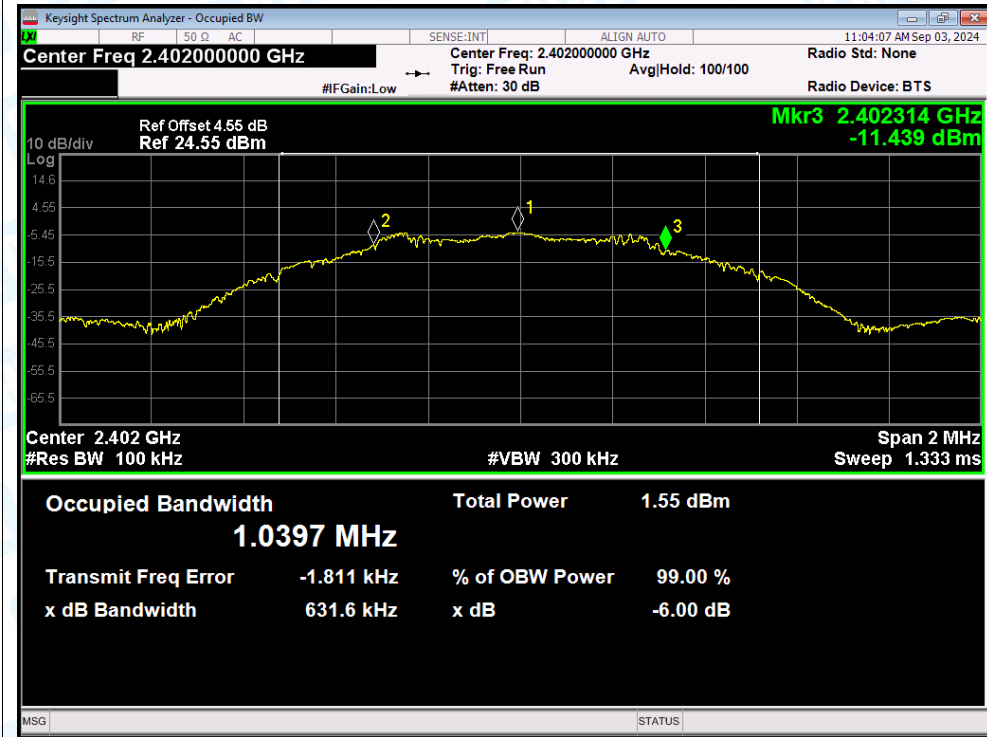


### 3. -6dB Bandwidth

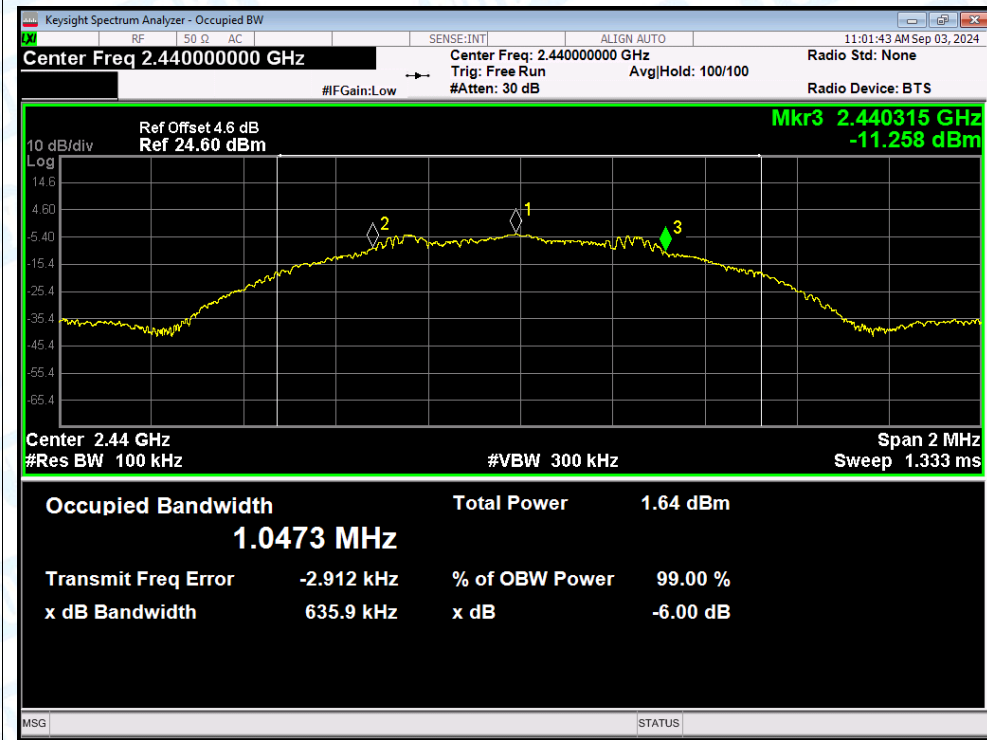
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.63	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.64	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.64	0.5	Pass
NVNT	BLE 2Mbps	2402	Ant1	0.89	0.5	Pass
NVNT	BLE 2Mbps	2440	Ant1	1.01	0.5	Pass
NVNT	BLE 2Mbps	2480	Ant1	1.08	0.5	Pass

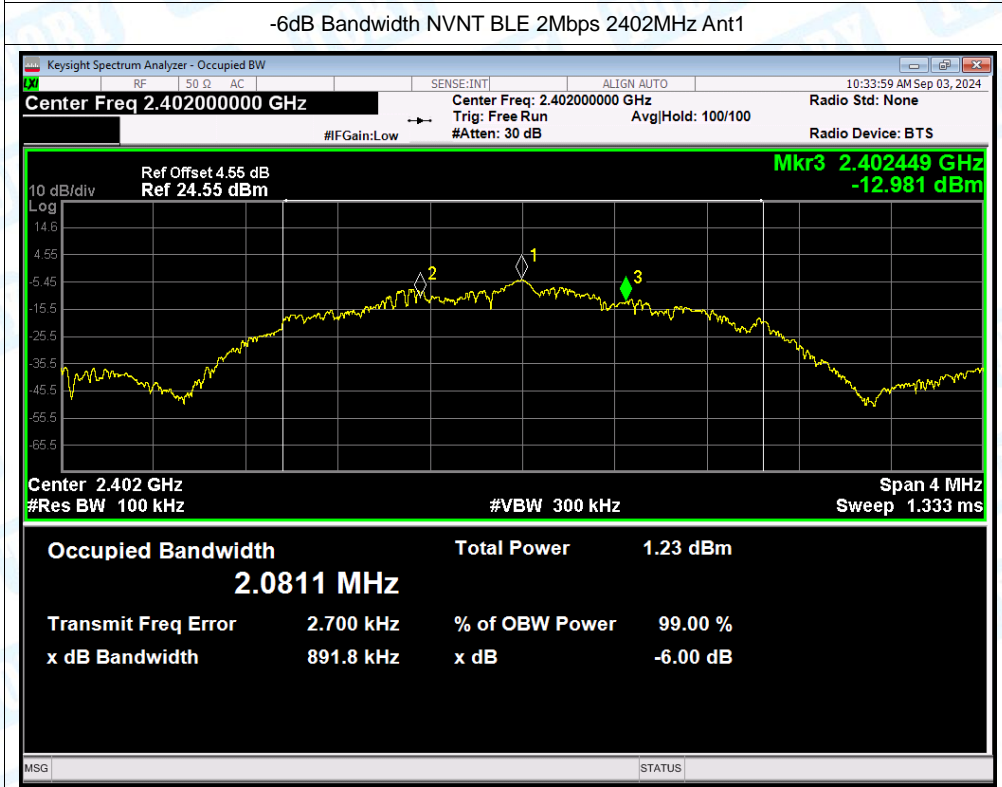
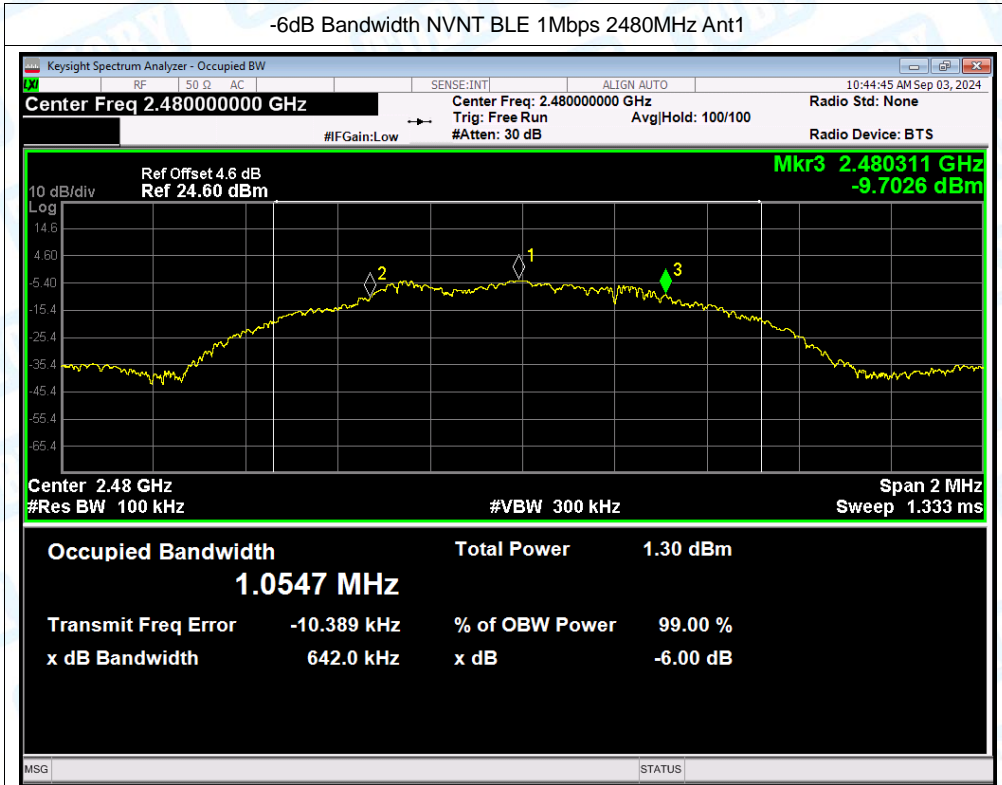
Test Graphs

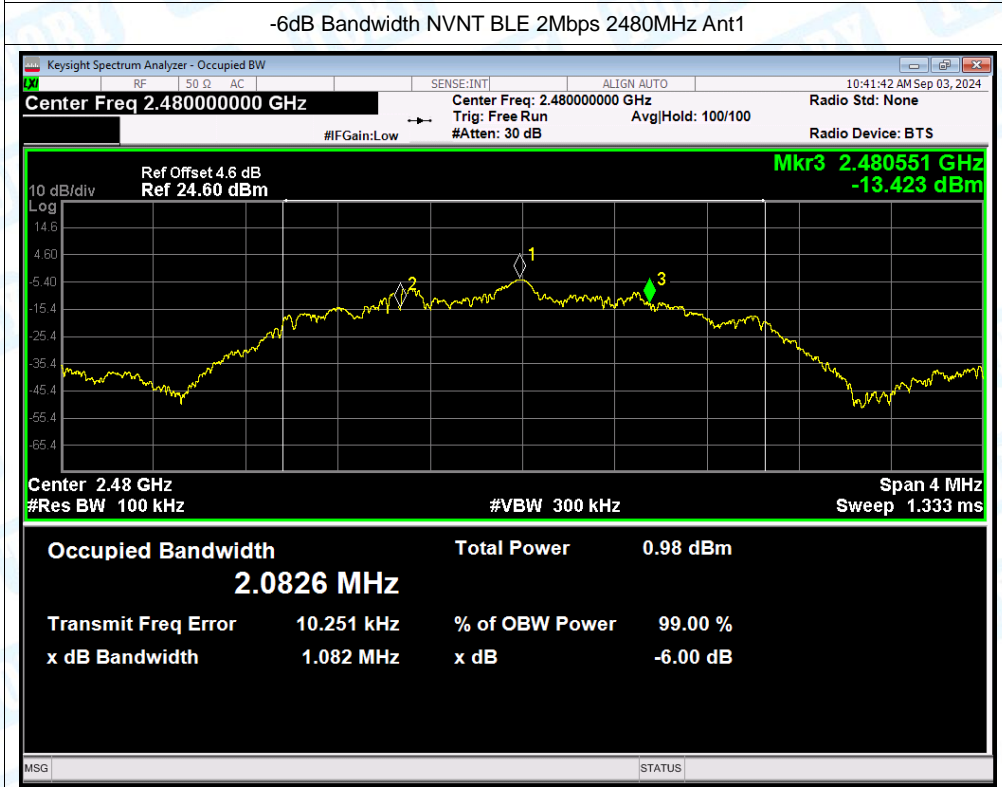
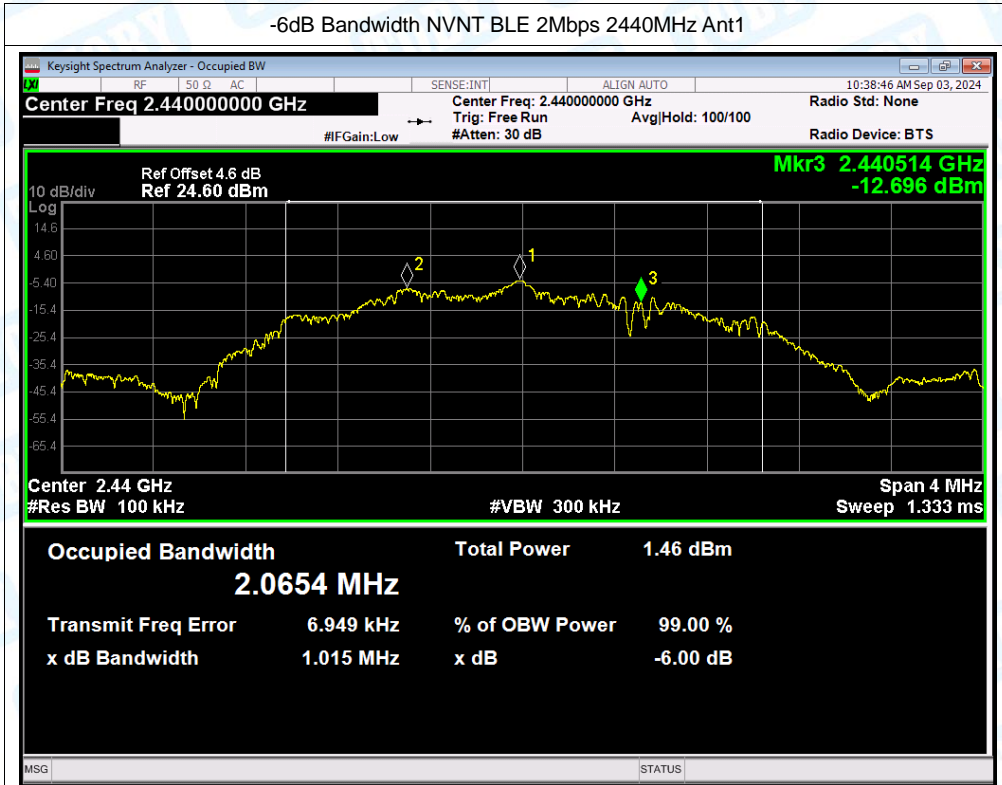
-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1





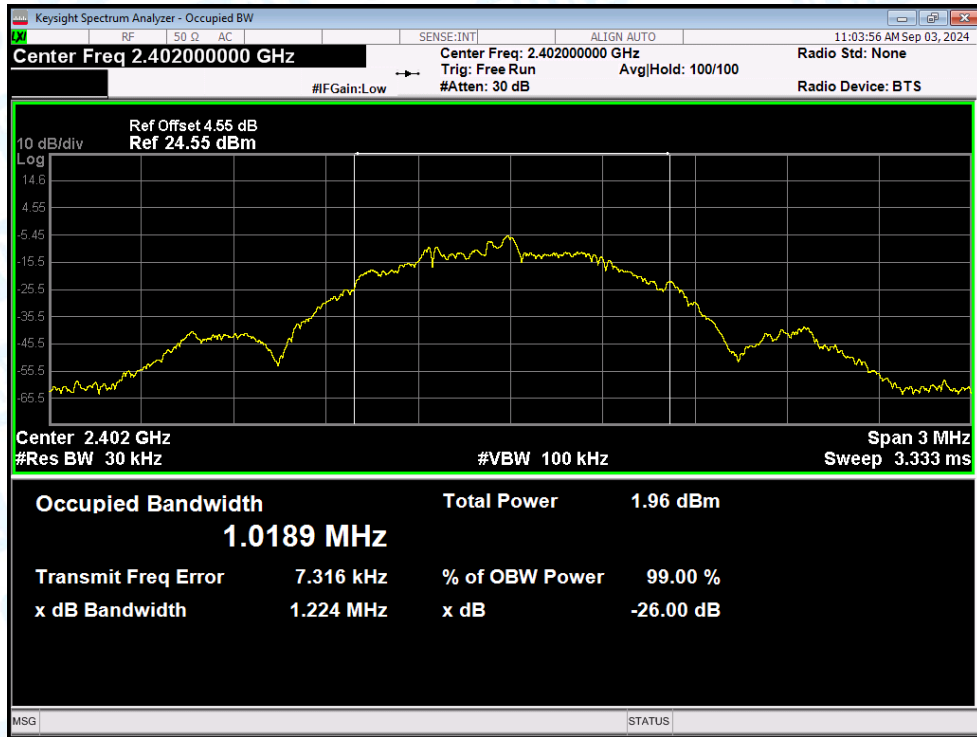


## 4. Occupied Channel Bandwidth

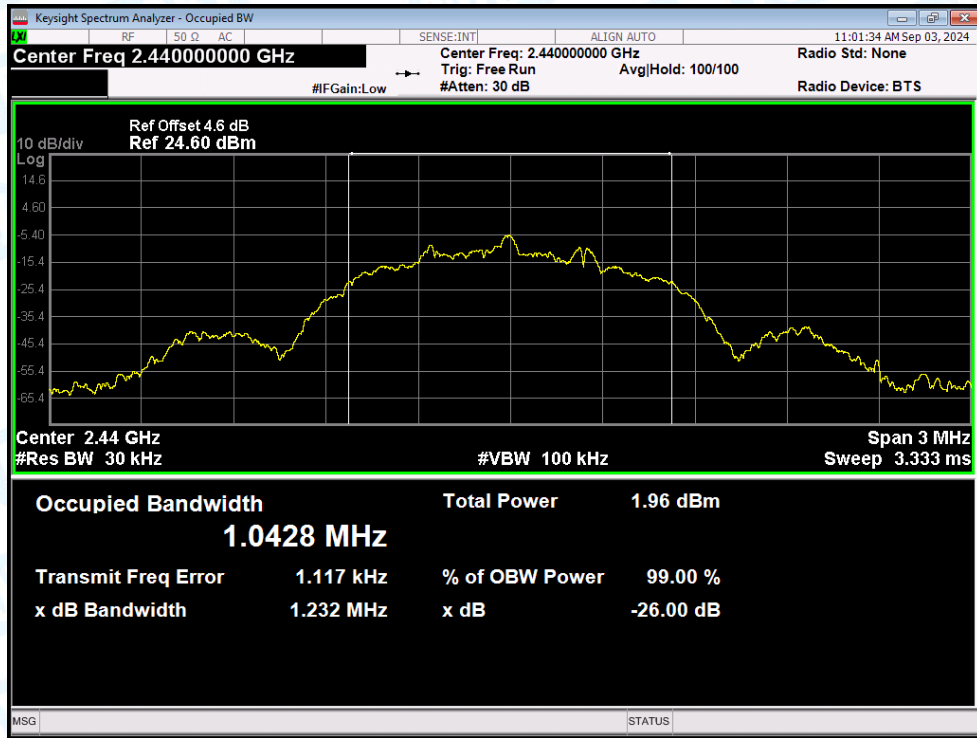
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1Mbps	2402	Ant1	1.019
NVNT	BLE 1Mbps	2440	Ant1	1.043
NVNT	BLE 1Mbps	2480	Ant1	1.038
NVNT	BLE 2Mbps	2402	Ant1	2.049
NVNT	BLE 2Mbps	2440	Ant1	2.012
NVNT	BLE 2Mbps	2480	Ant1	2.044

Test Graphs

OBW NVNT BLE 1Mbps 2402MHz Ant1

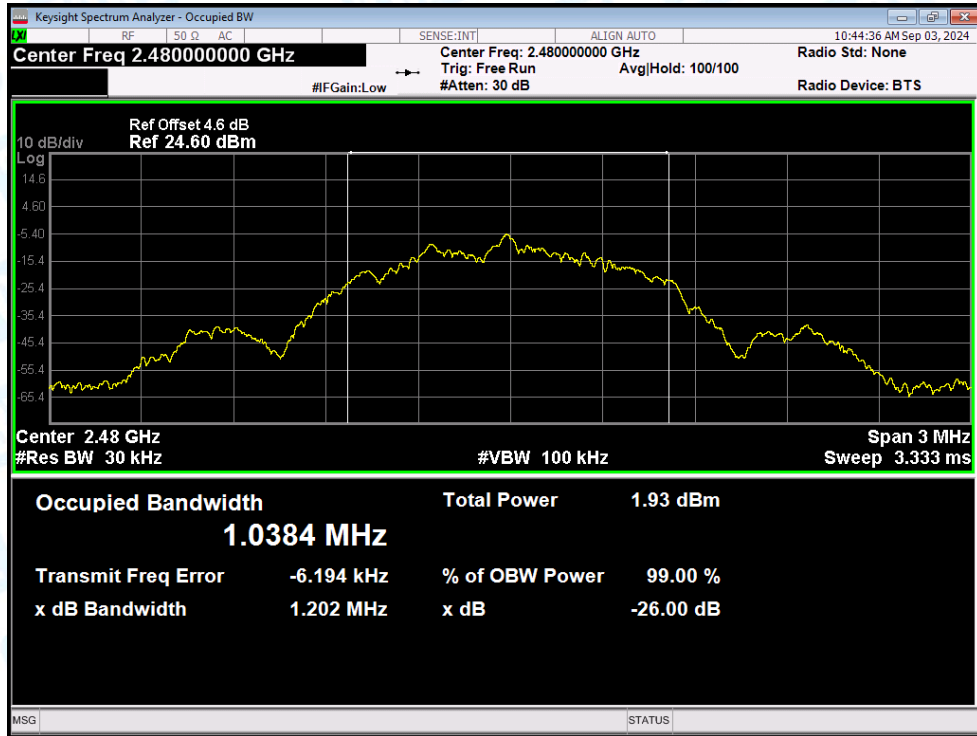


OBW NVNT BLE 1Mbps 2440MHz Ant1

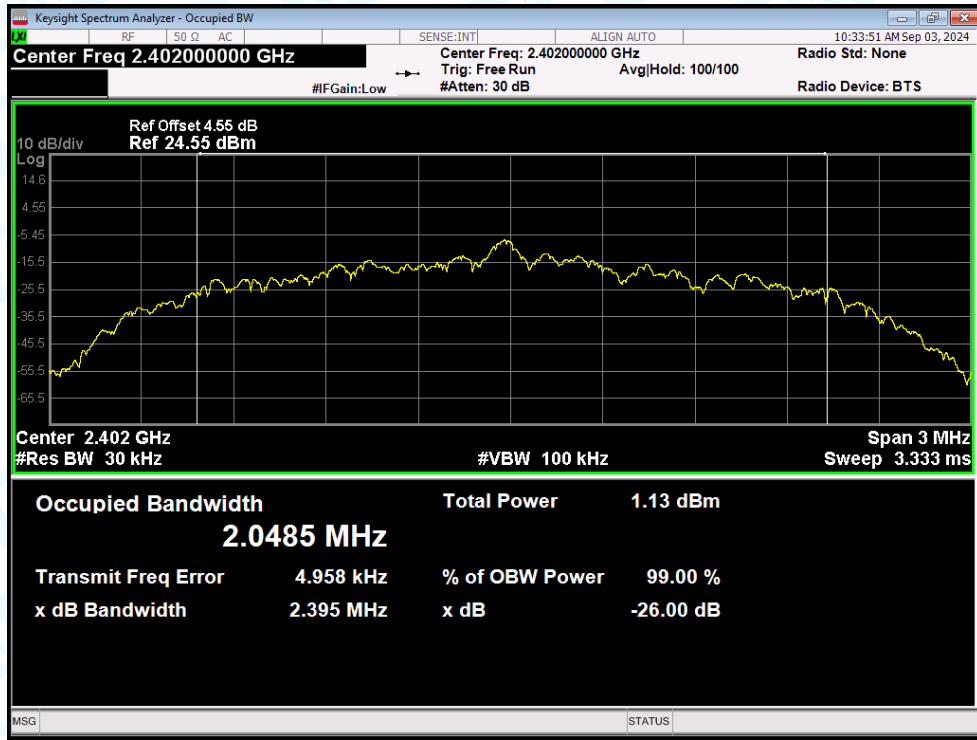




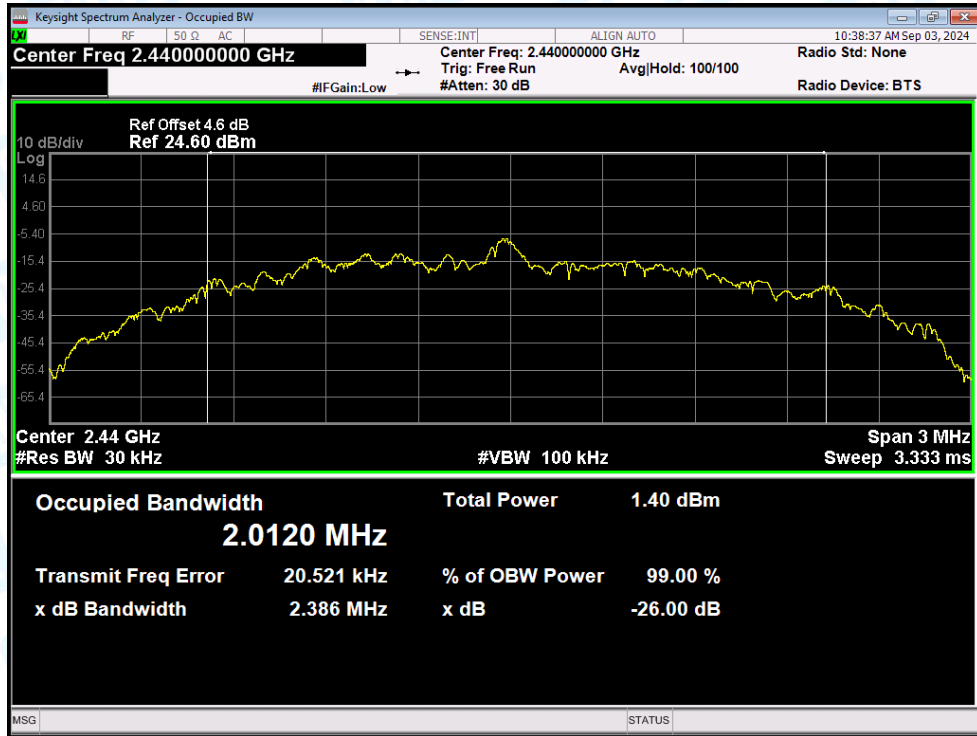
OBW NVNT BLE 1Mbps 2480MHz Ant1



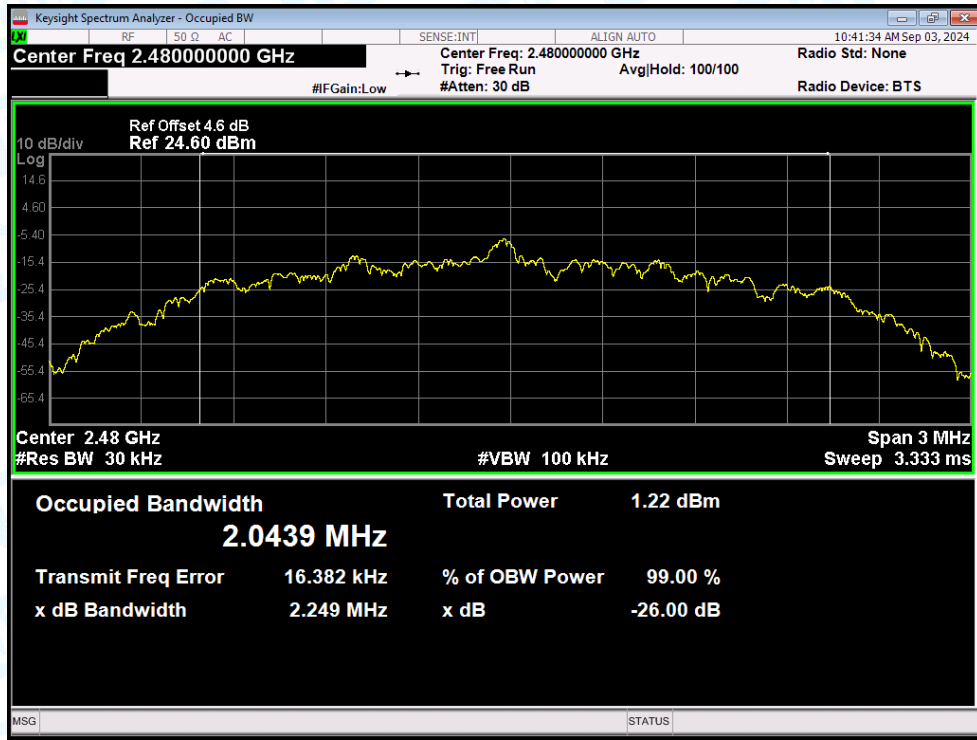
OBW NVNT BLE 2Mbps 2402MHz Ant1



OBW NVNT BLE 2Mbps 2440MHz Ant1



OBW NVNT BLE 2Mbps 2480MHz Ant1

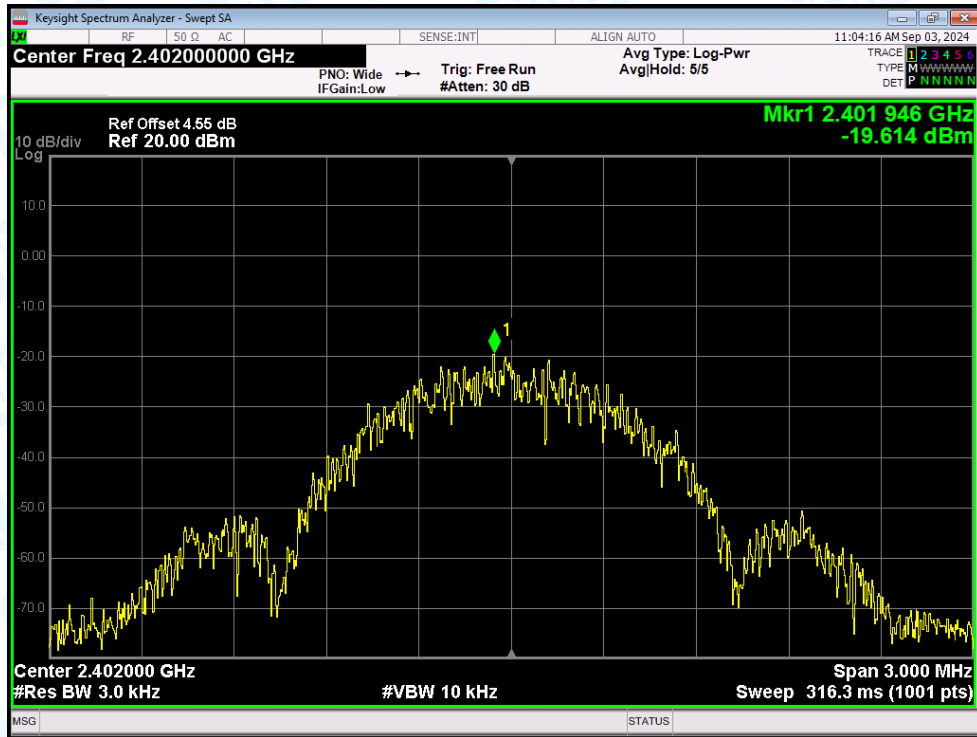


## 5. Maximum Power Spectral Density Level

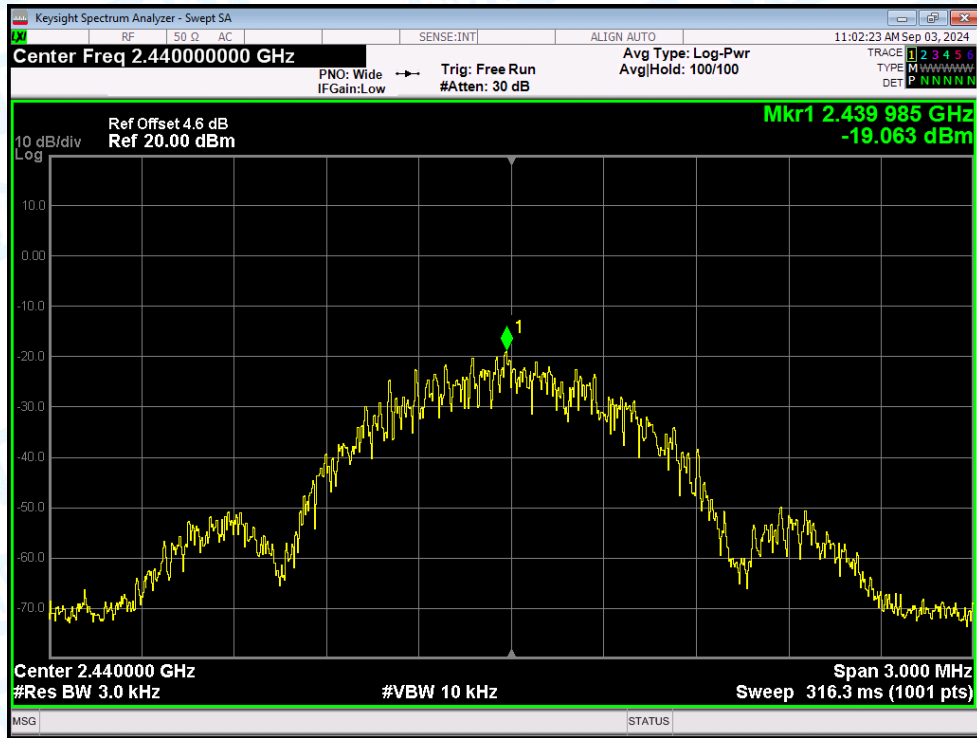
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-19.614	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-19.063	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-18.262	8	Pass
NVNT	BLE 2Mbps	2402	Ant1	-22.075	8	Pass
NVNT	BLE 2Mbps	2440	Ant1	-21.472	8	Pass
NVNT	BLE 2Mbps	2480	Ant1	-20.154	8	Pass

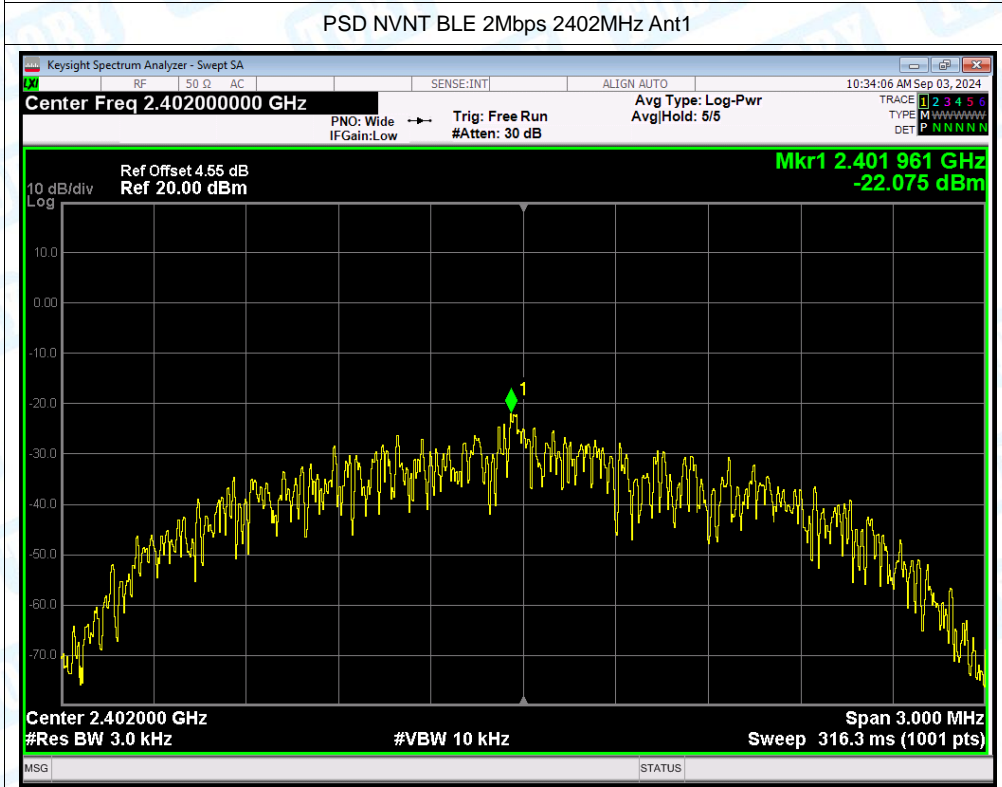
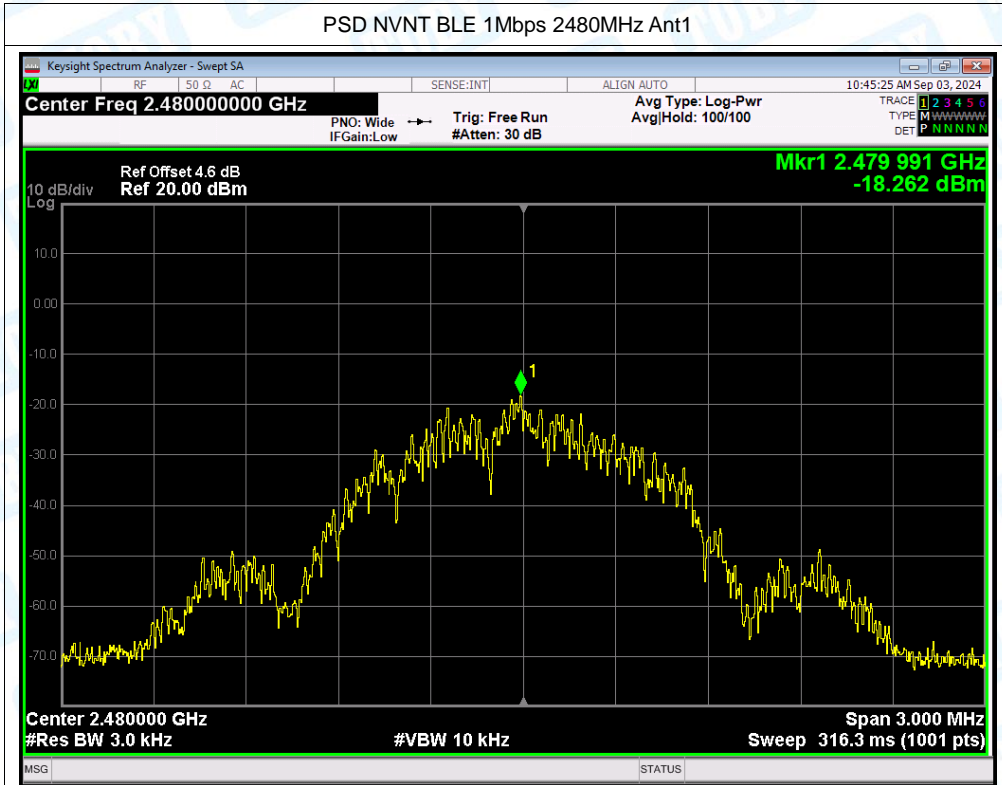
Test Graphs

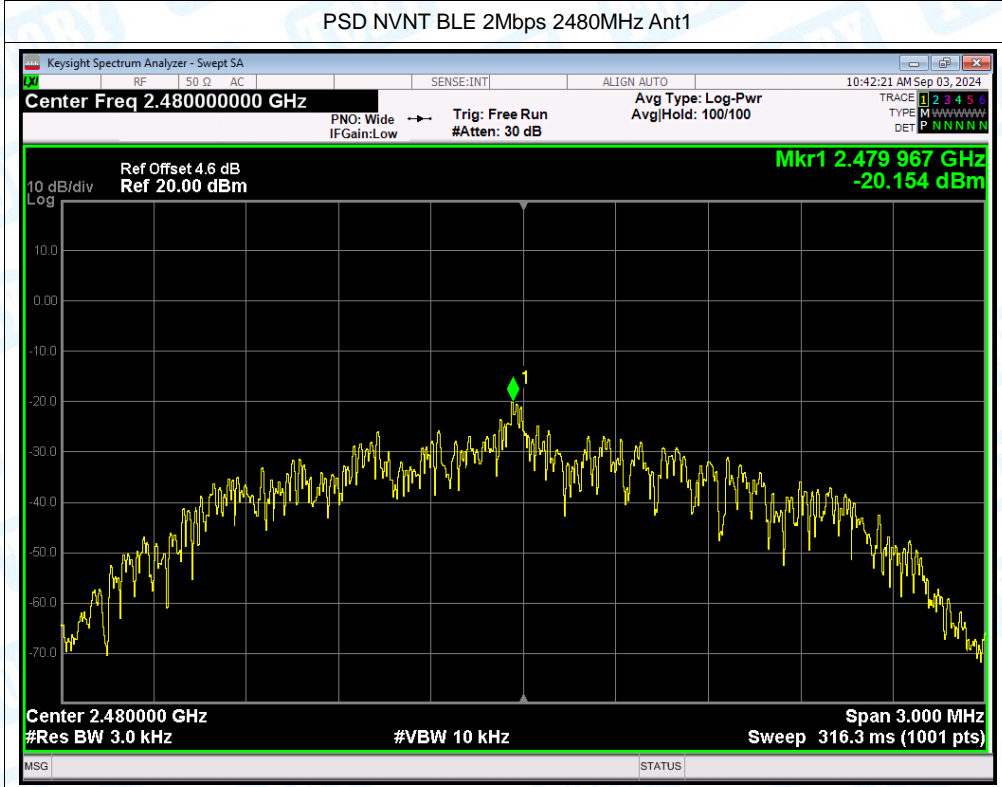
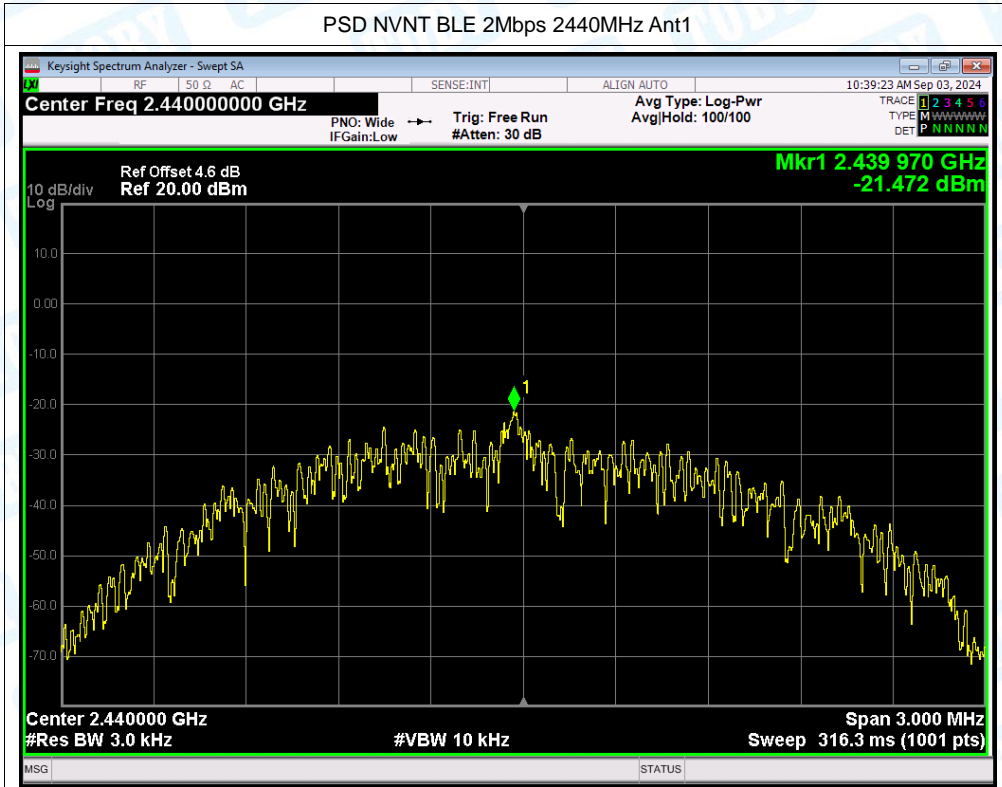
PSD NVNT BLE 1Mbps 2402MHz Ant1



PSD NVNT BLE 1Mbps 2440MHz Ant1





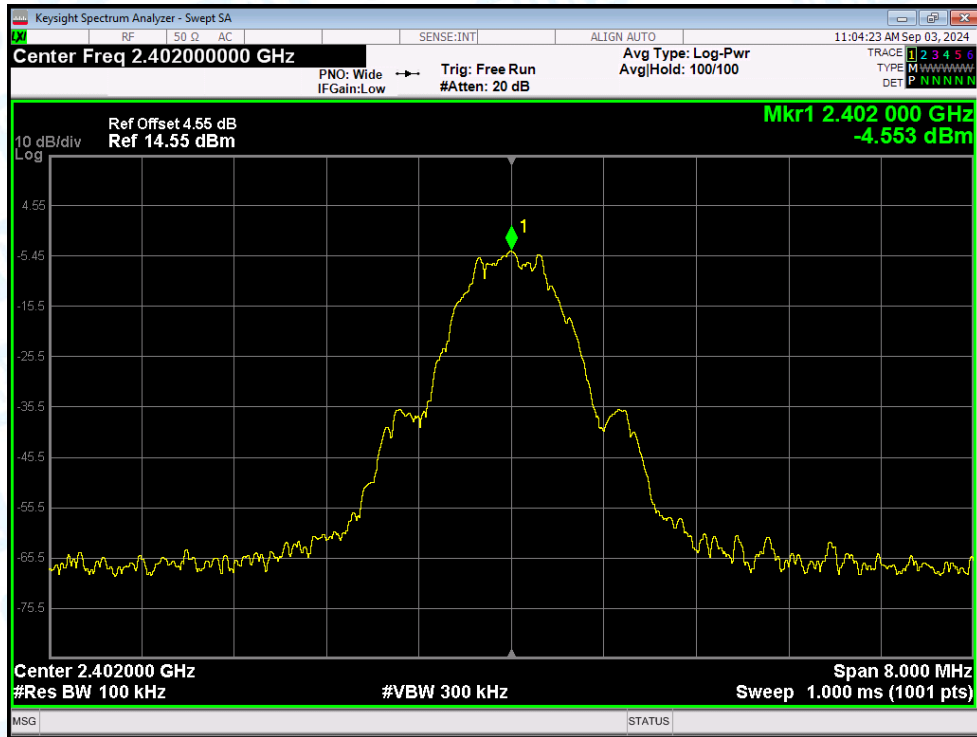


## 6. Band Edge

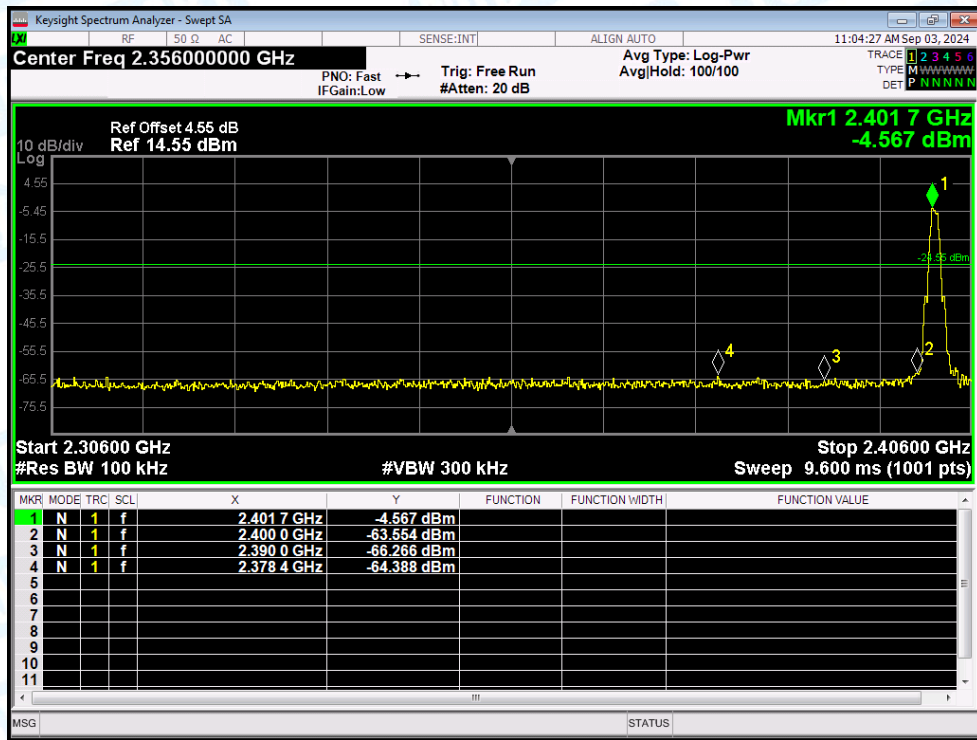
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-59.84	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-60.11	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-59.44	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-59.63	-20	Pass

Test Graphs

Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Ref

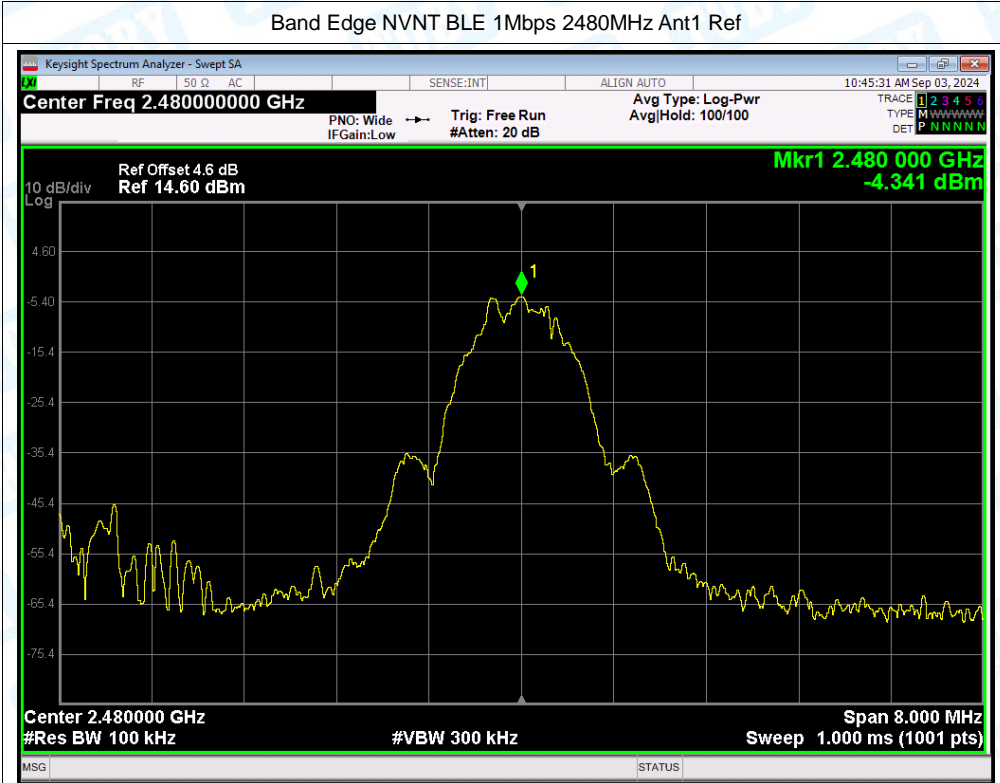


Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Emission

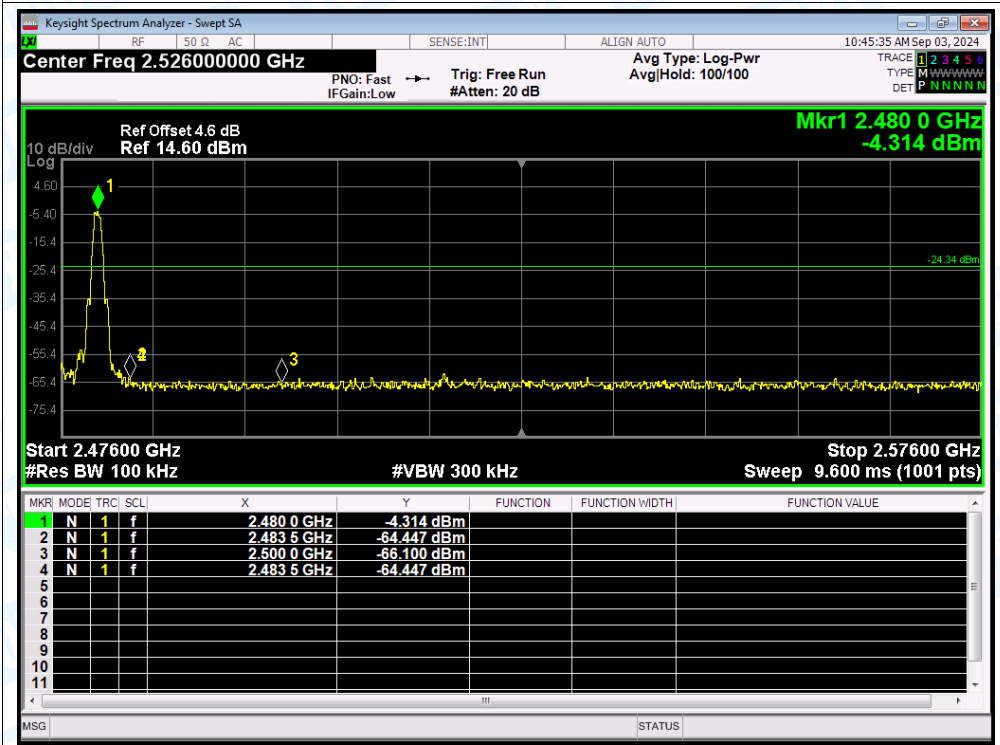




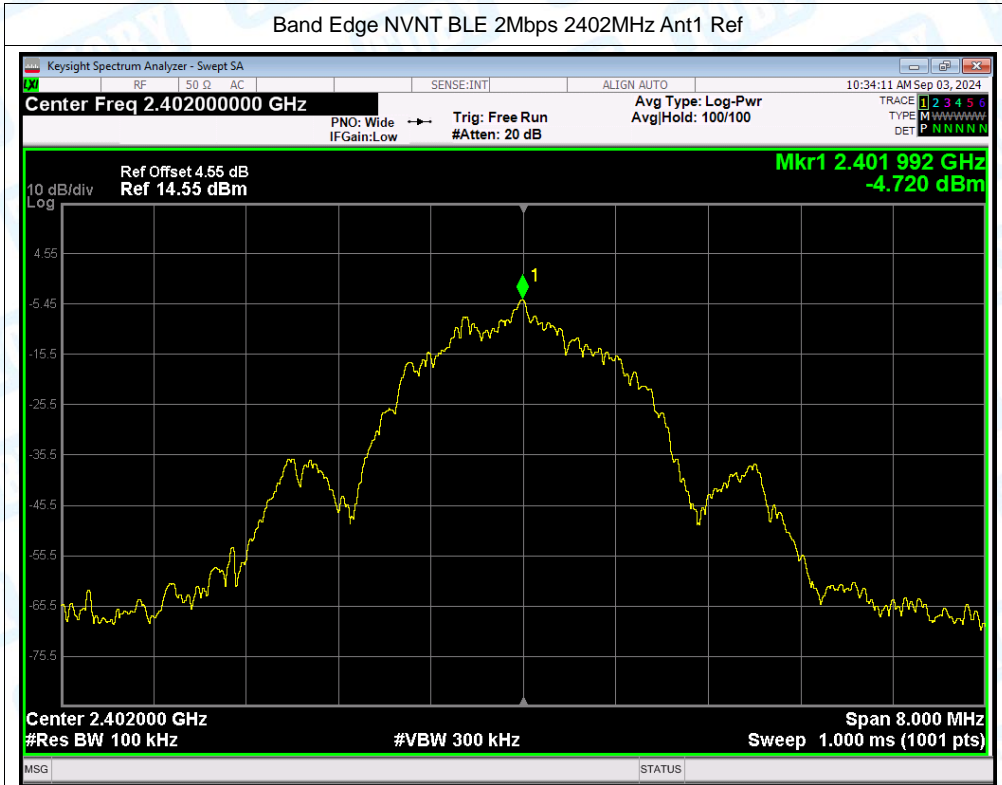
Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Ref



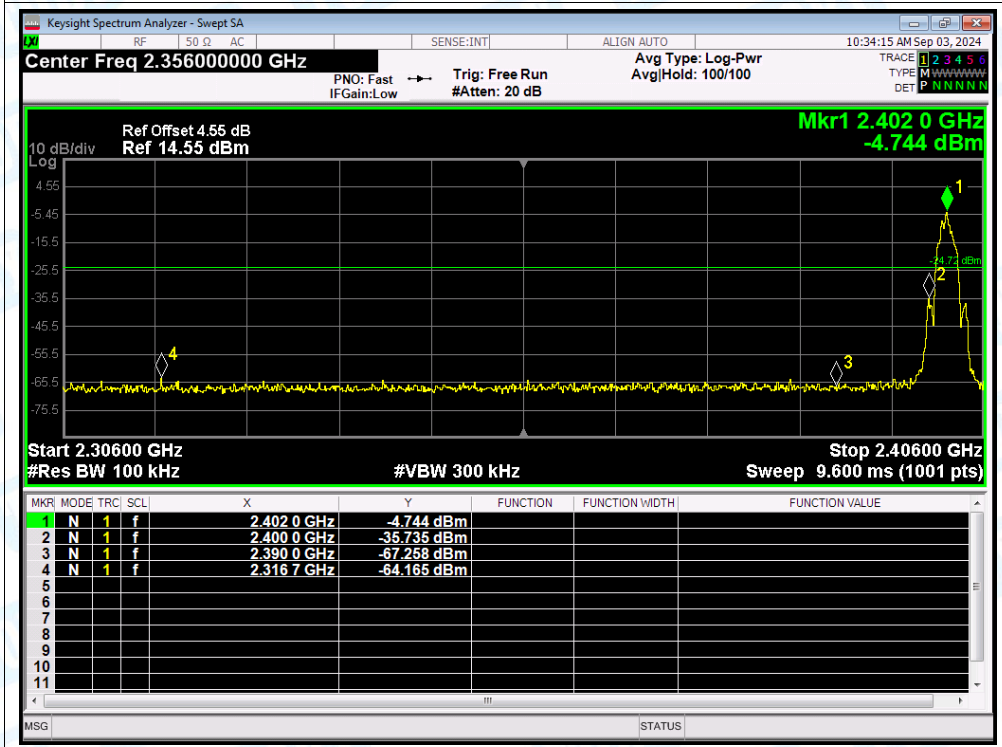
Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Emission

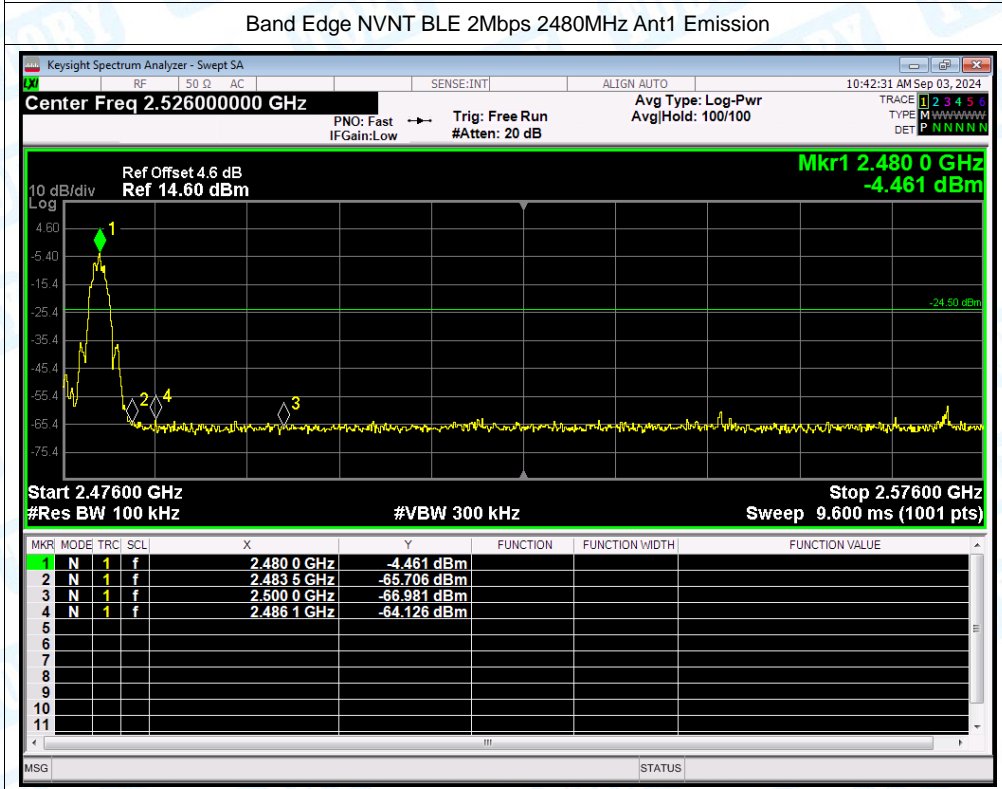
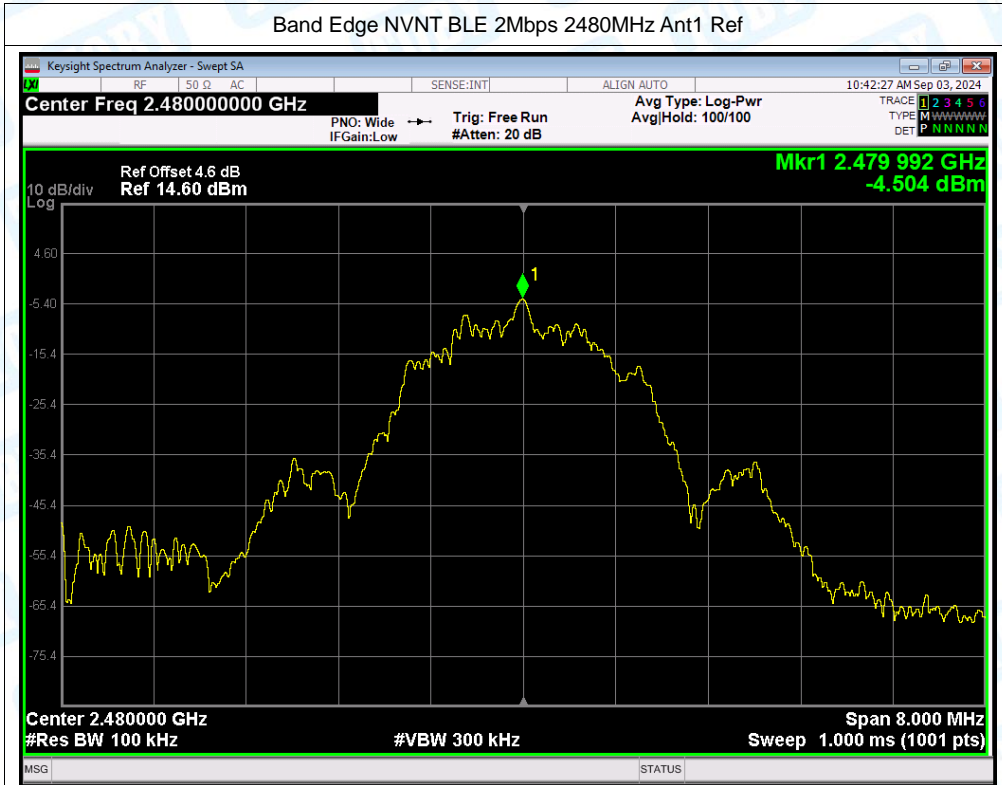


Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Ref



Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Emission



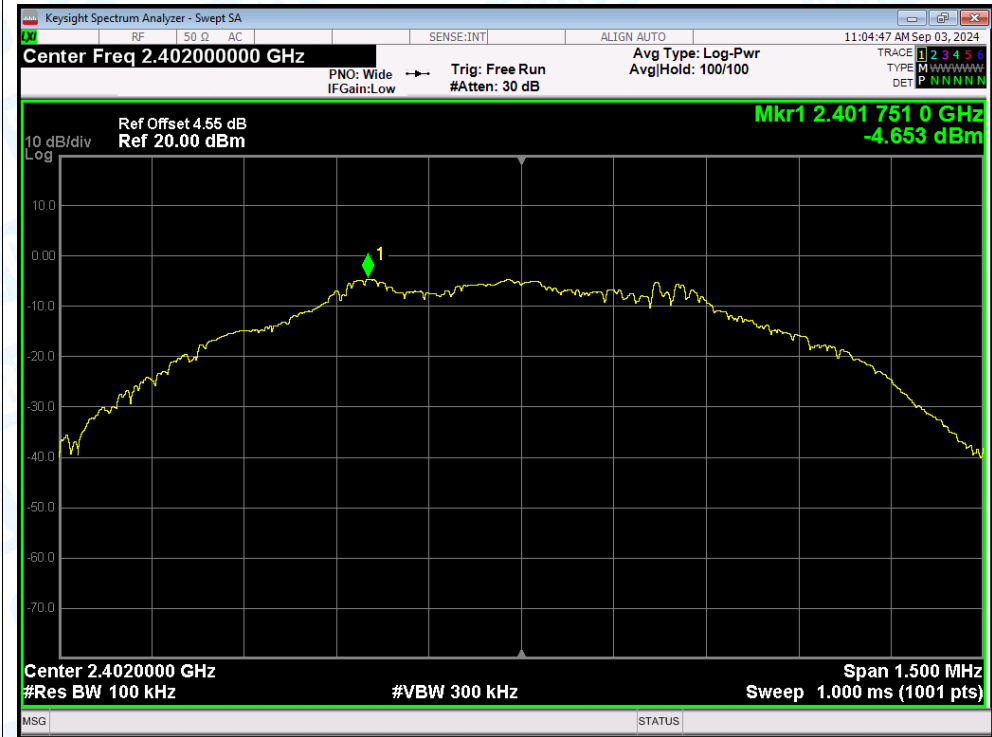


## 7. Conducted RF Spurious Emission

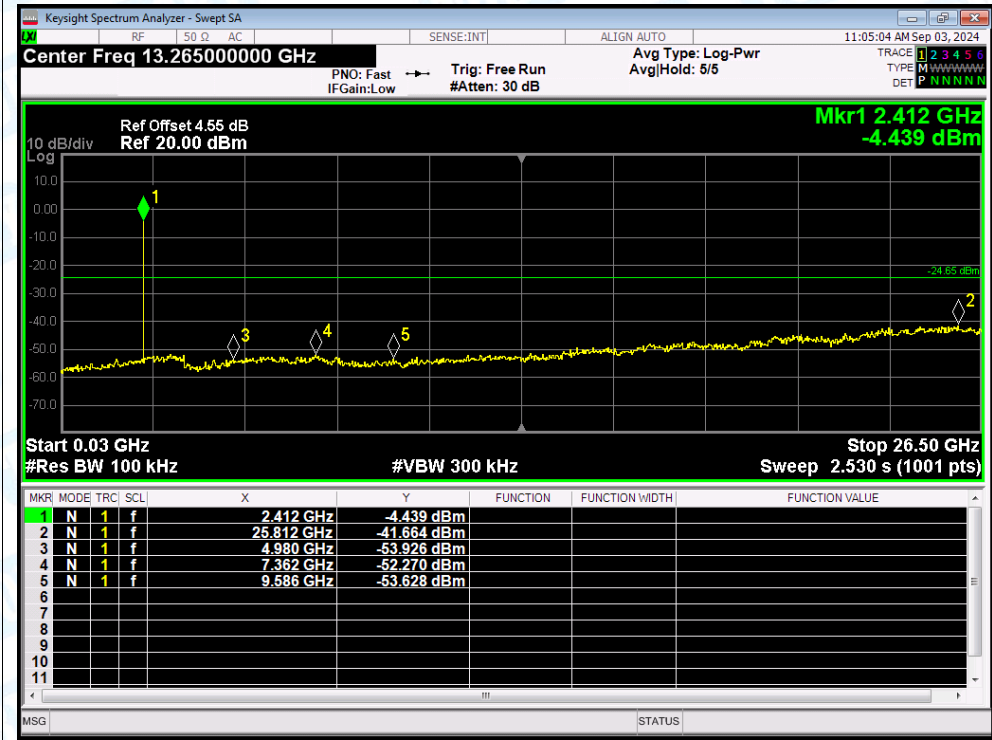
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-37.01	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-37.2	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-37.12	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-36.37	-20	Pass
NVNT	BLE 2Mbps	2440	Ant1	-36.71	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-36.7	-20	Pass

Test Graphs

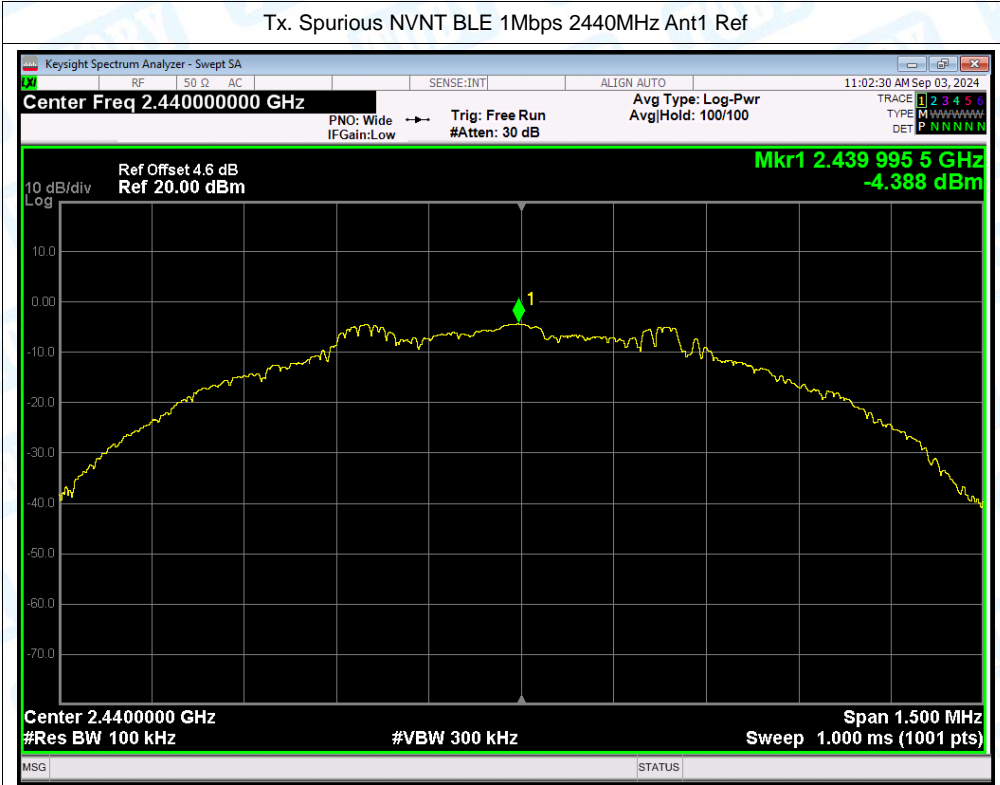
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Ref



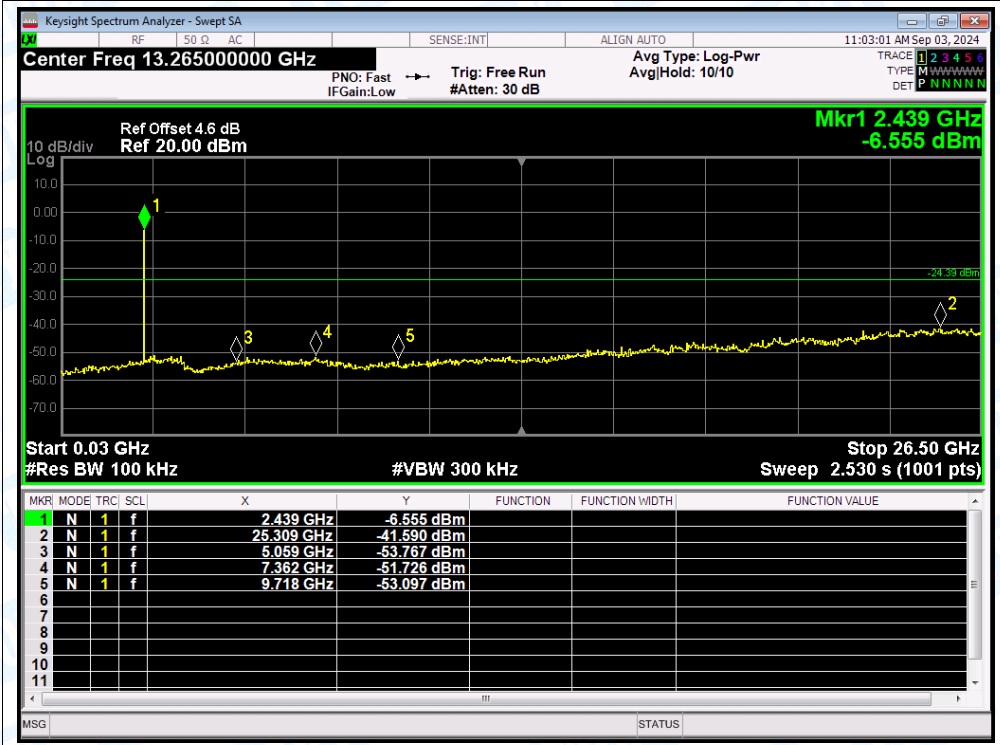
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Emission



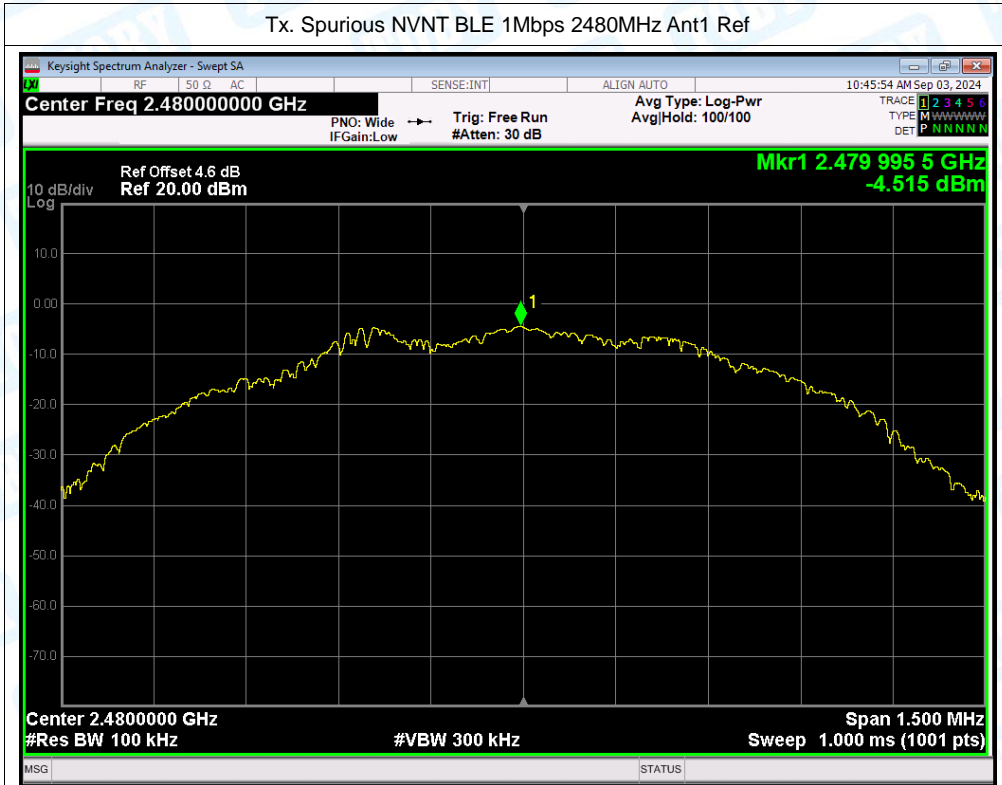
Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Ref



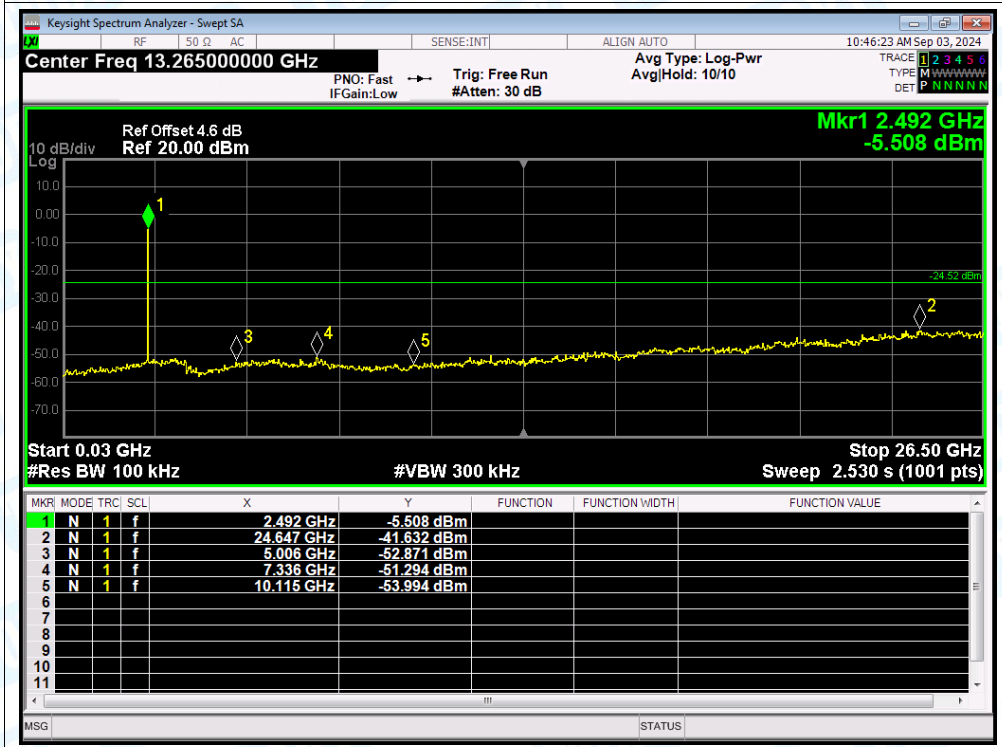
Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Emission



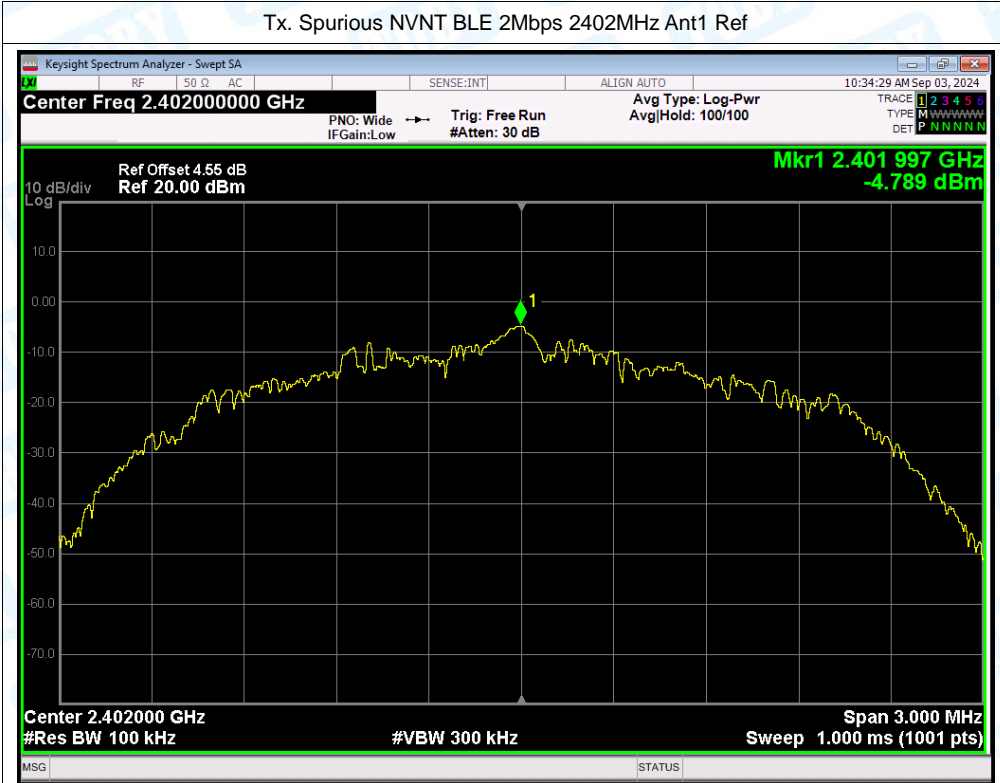
Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Ref



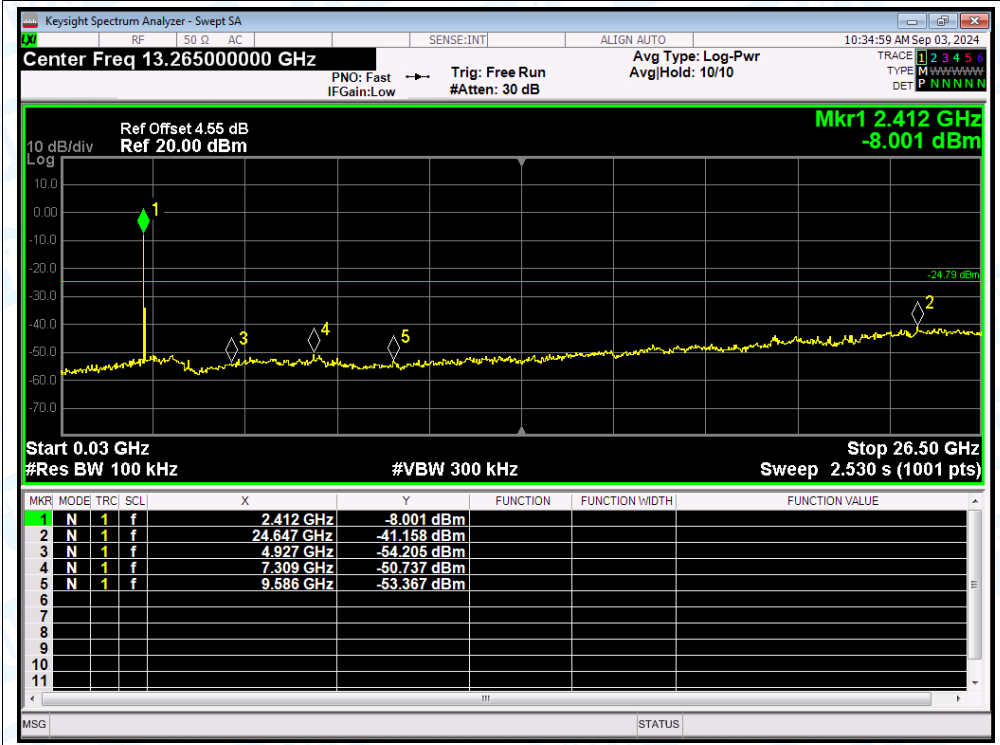
Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Ref

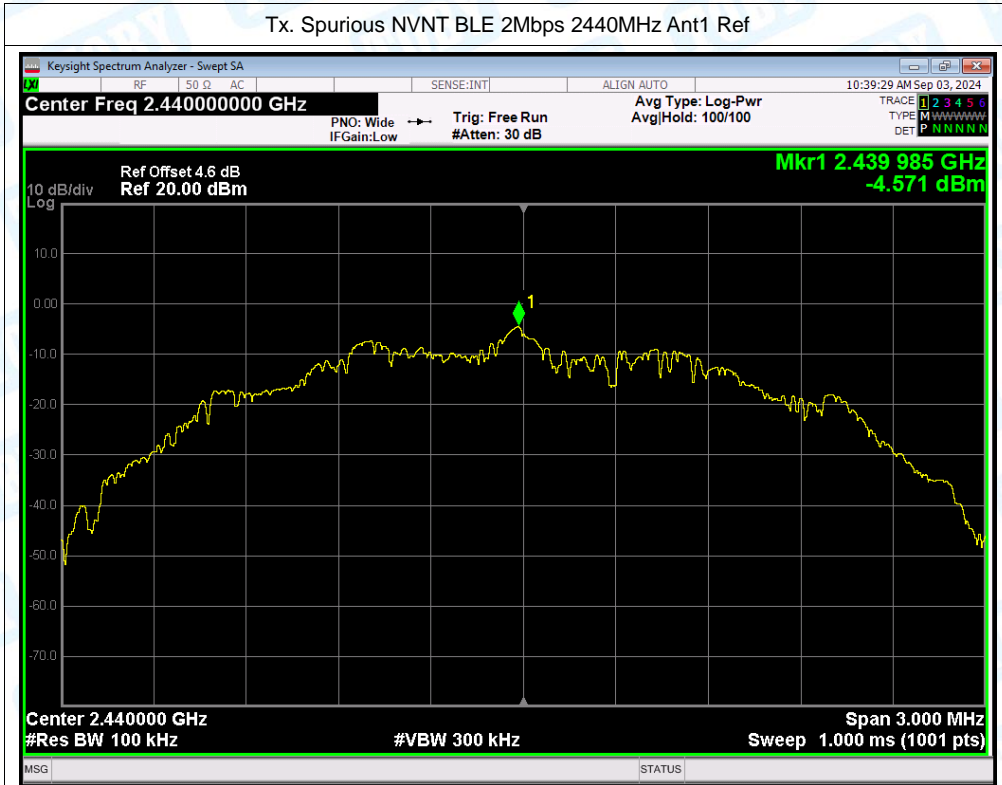


Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Emission

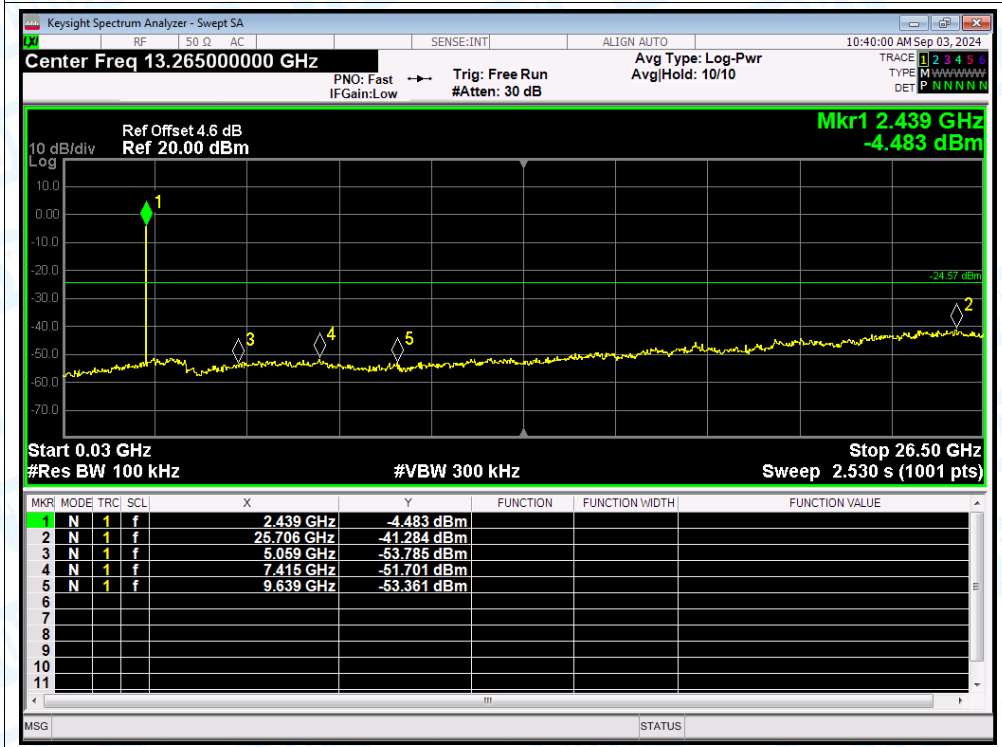




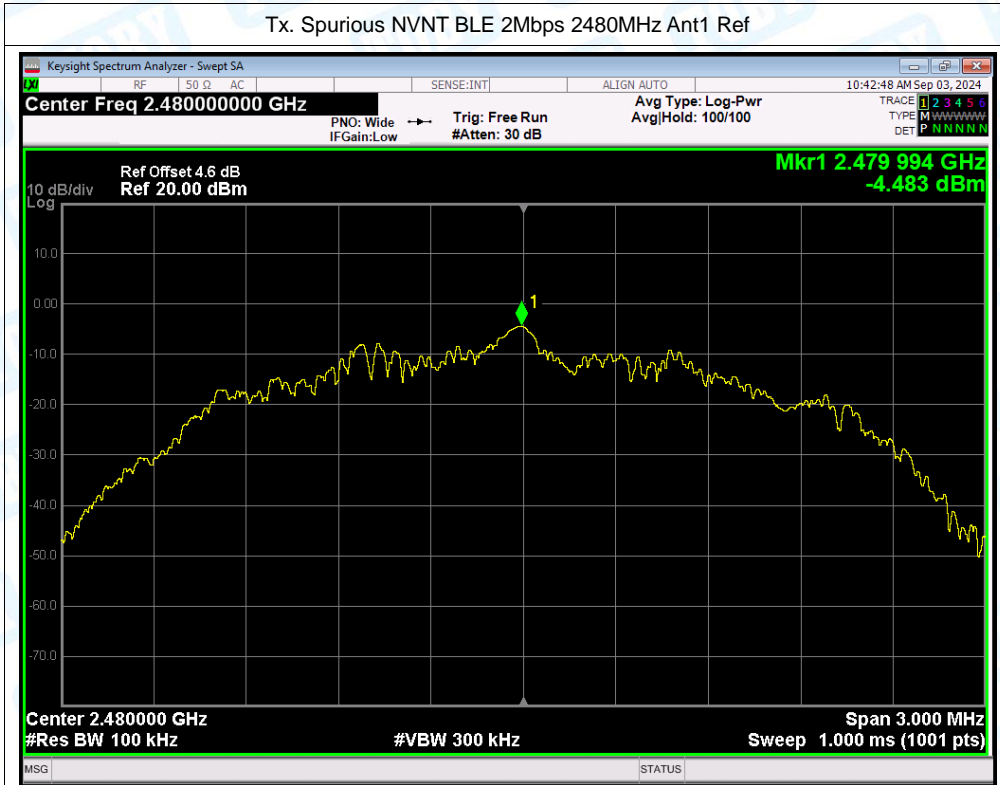
Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Ref



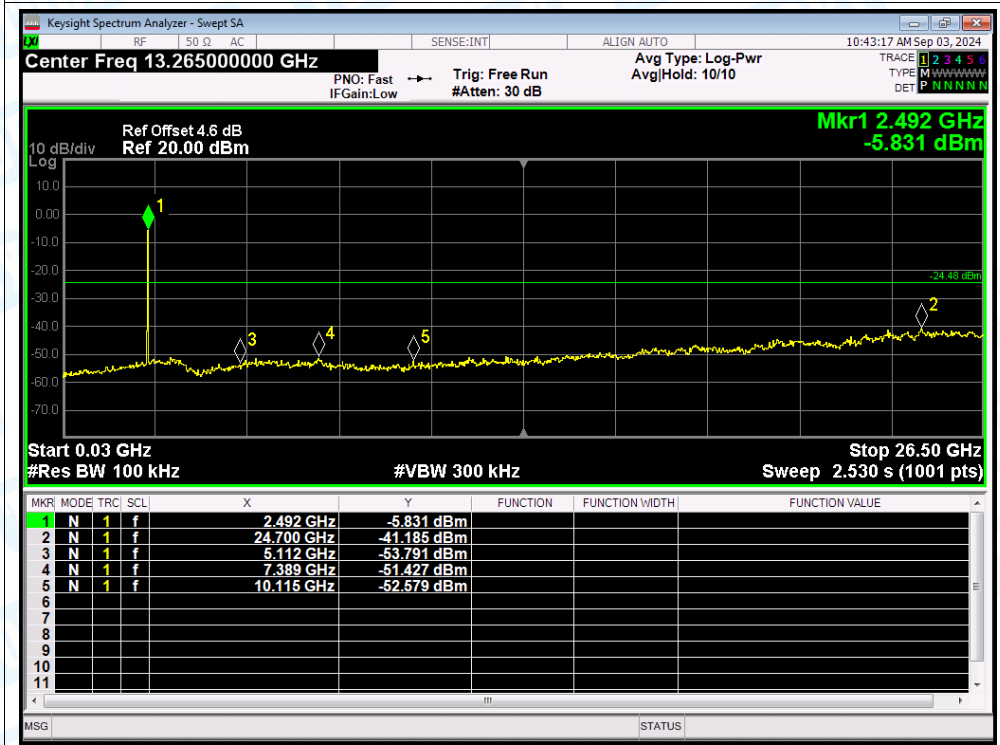
Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Emission

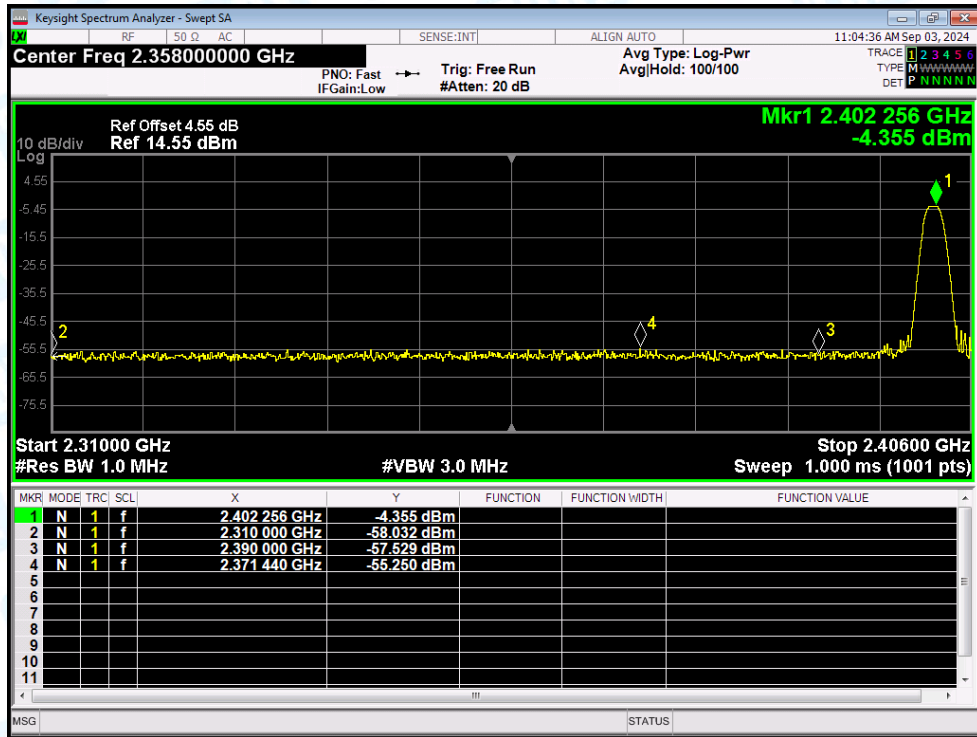


## 8. Restrict Band

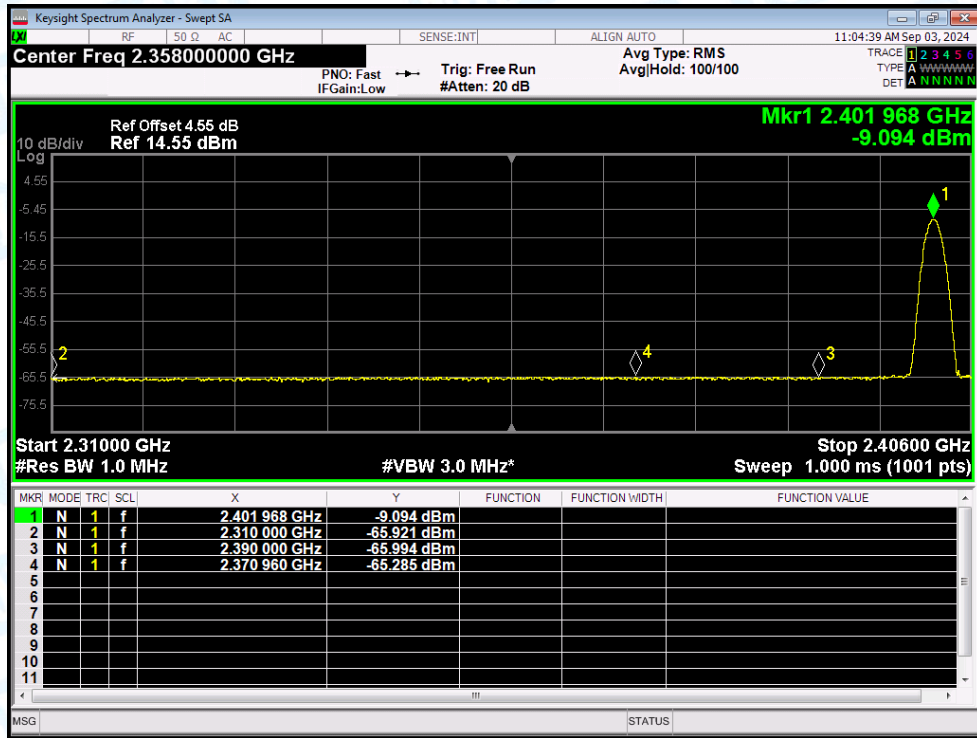
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	2310	-58.03	2.0	-	39.23	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2310	-65.92	2.0	3.52	34.86	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2371.44	-55.25	2.0	-	42.01	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2370.96	-65.29	2.0	3.52	35.49	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-57.53	2.0	-	39.73	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-65.99	2.0	3.52	34.79	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-57.4	2.0	-	39.86	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-64.1	2.0	3.52	36.68	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.584	-49.84	2.0	-	47.42	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.512	-64.1	2.0	3.52	36.68	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-55.74	2.0	-	41.52	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-65.64	2.0	3.52	35.14	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-58.91	2.0	-	38.35	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-66.22	2.0	5.88	36.92	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2361.936	-55.07	2.0	-	42.19	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2354.16	-65.24	2.0	5.88	37.9	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-59.07	2.0	-	38.19	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-66	2.0	5.88	37.14	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-56.23	2.0	-	41.03	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-64.52	2.0	5.88	38.62	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.872	-49.42	2.0	-	47.84	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.56	-63.57	2.0	5.88	39.57	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-57.91	2.0	-	39.35	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-65.09	2.0	5.88	38.05	Average	54	Pass

Test Graphs

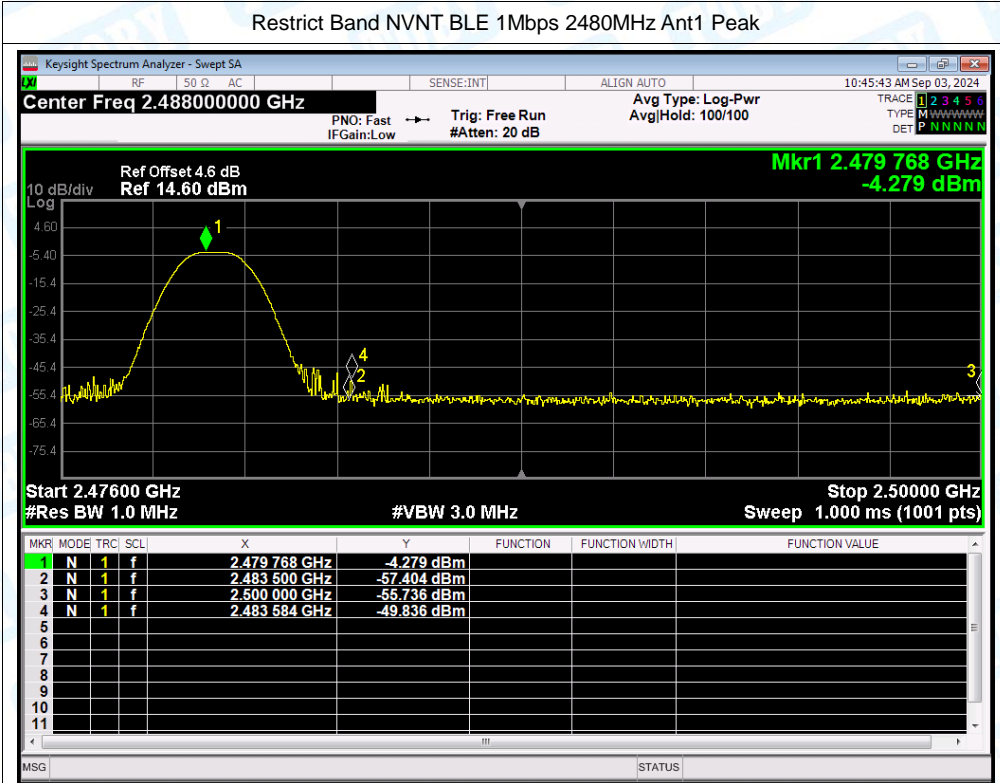
Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Peak



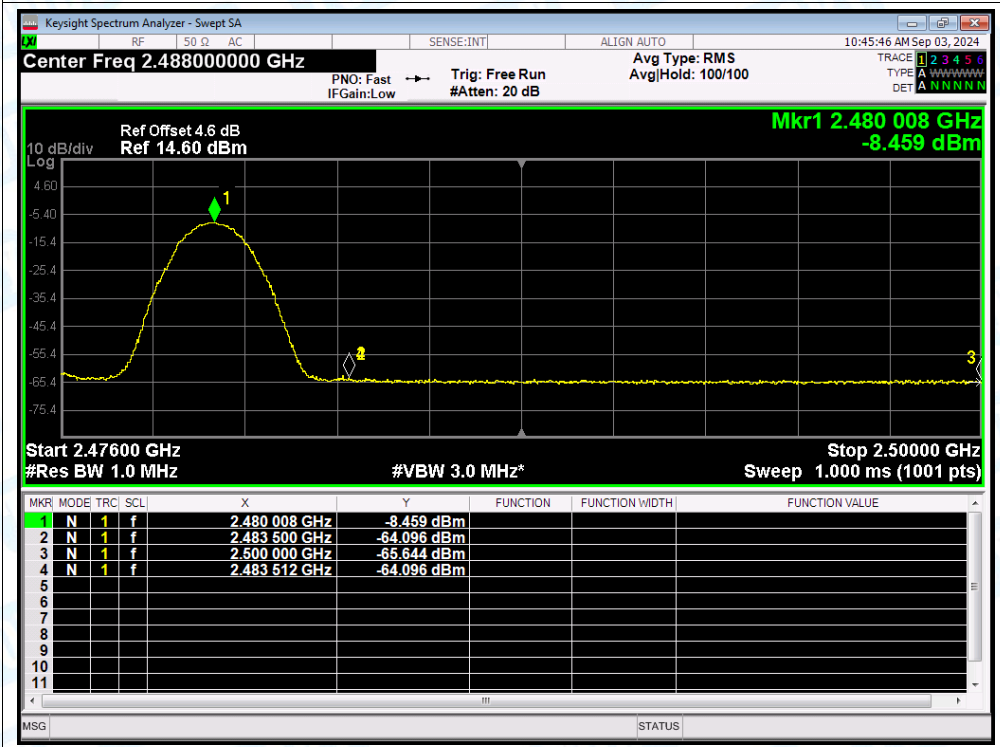
Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Average



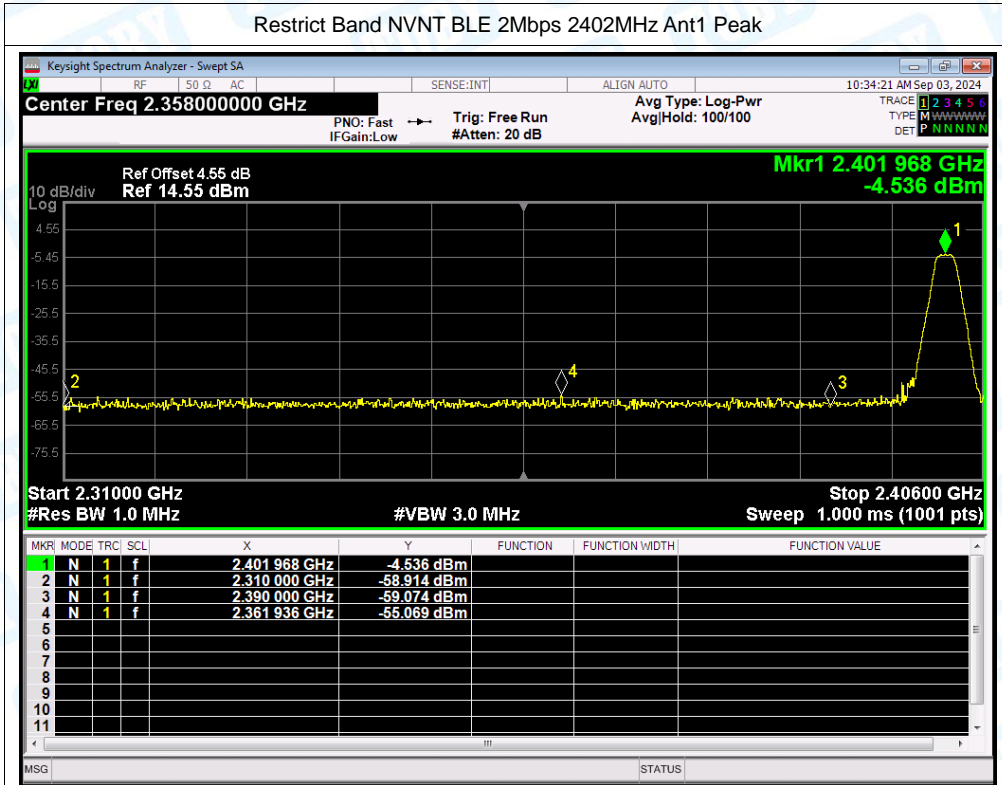
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Peak



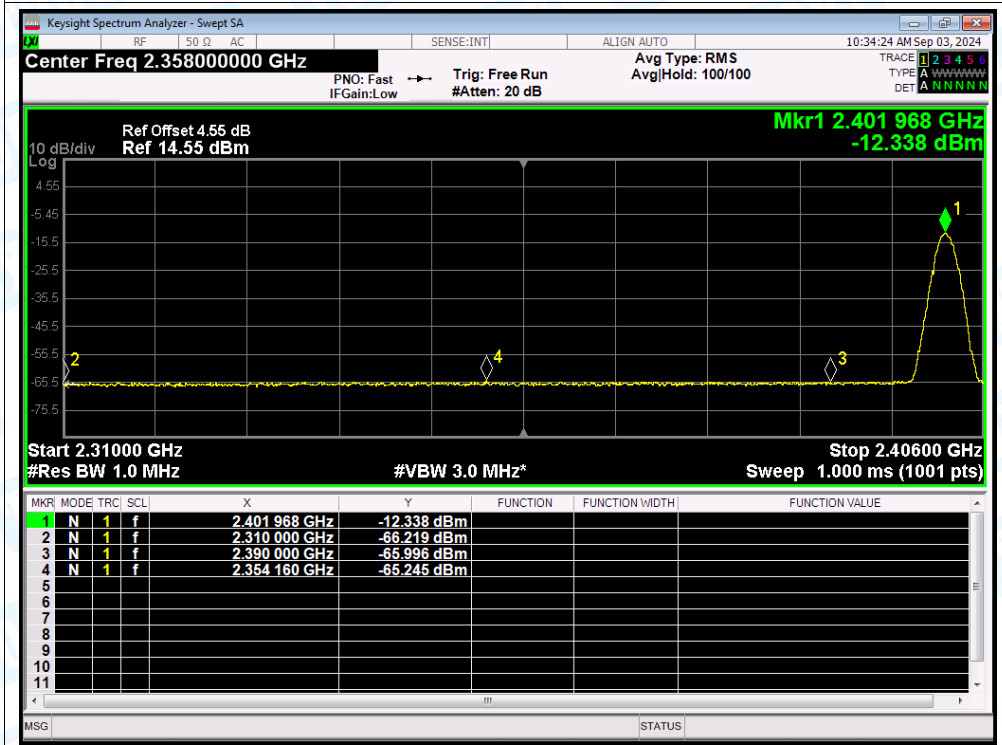
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Average

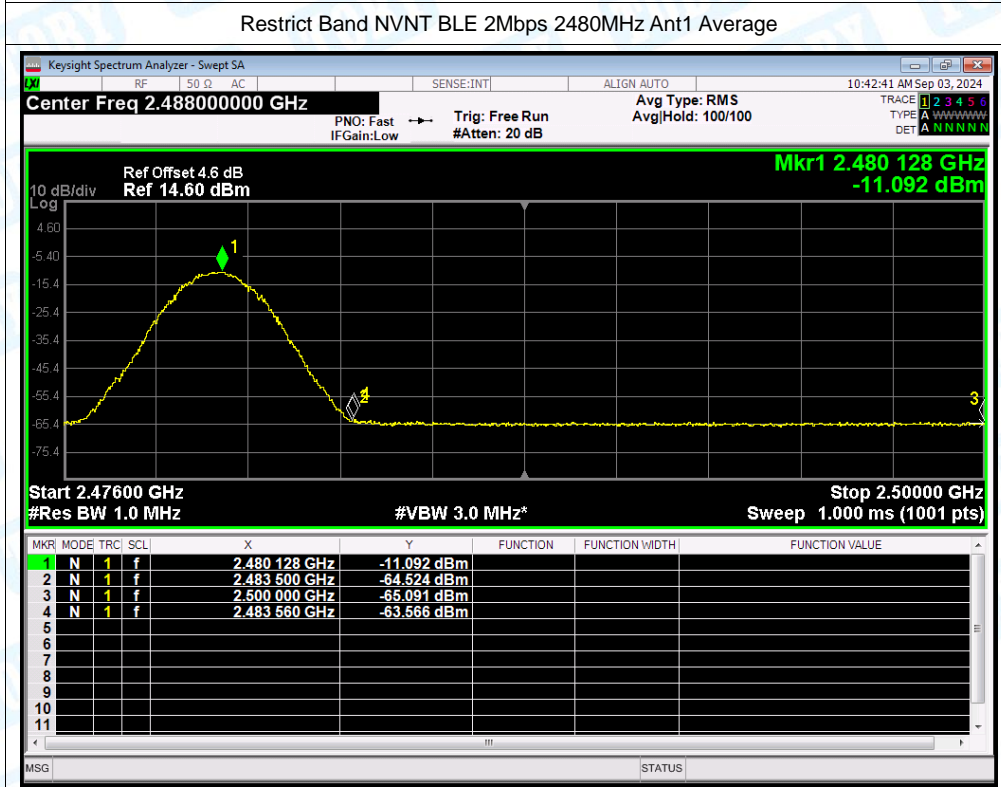
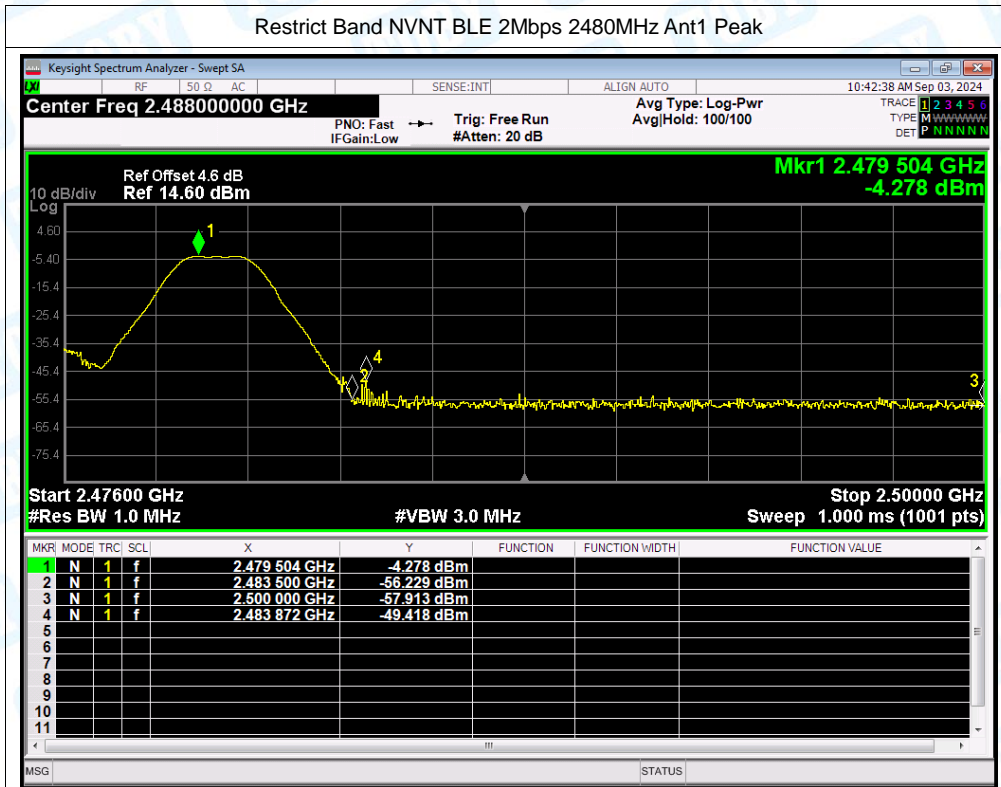


Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Peak



Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Average





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