

## RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
<b>Product Name:</b>	Smart Watch
<b>Test Model:</b>	LC304
<b>Sample ID:</b>	202208-0320-2-2#
Environmental Conditions	
<b>Temperature:</b>	25°C
<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	DC 3.8V
<b>Test Engineer:</b>	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202208-0320-3	

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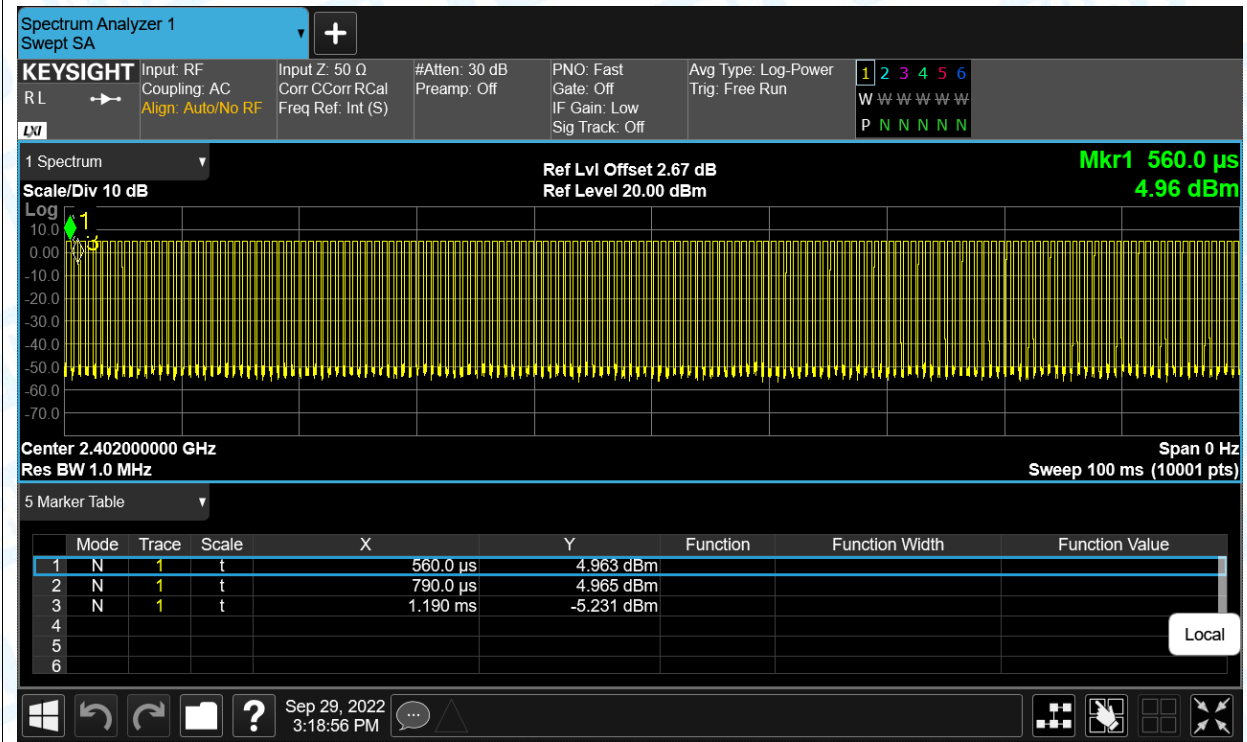


## 1. Duty Cycle

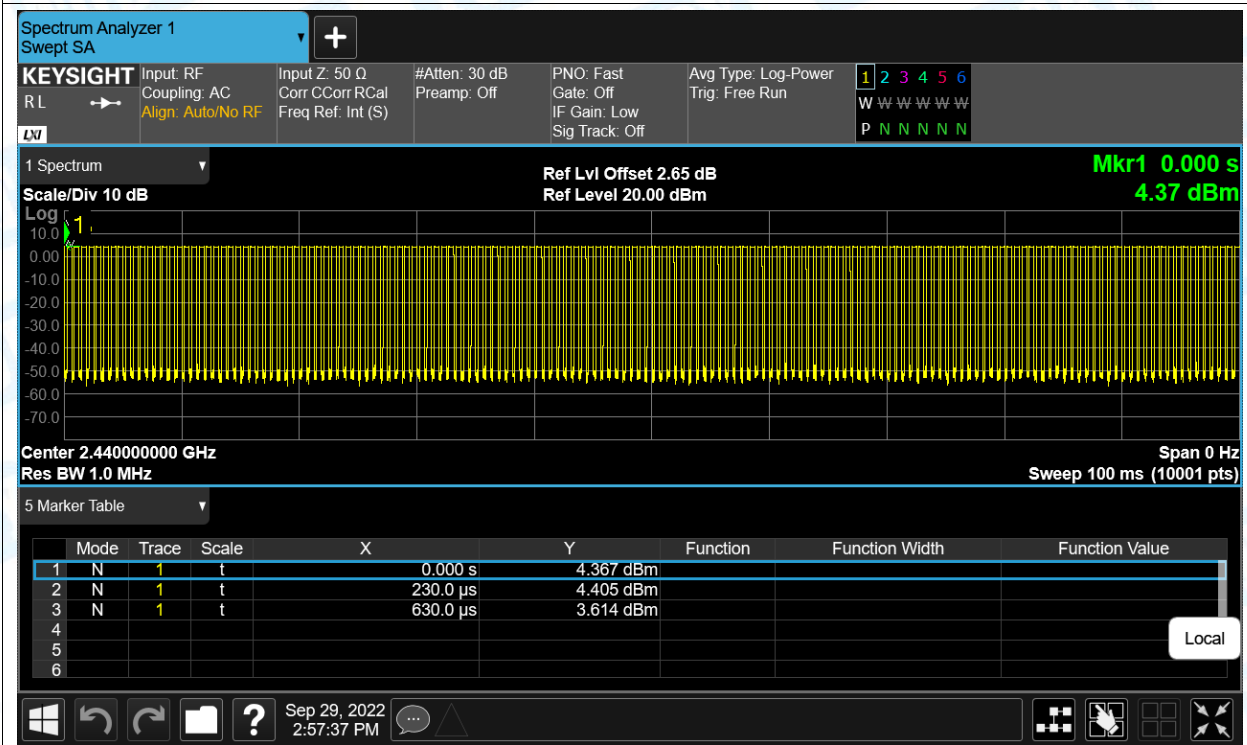
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	63.49	1.97	2.5
NVNT	BLE 1Mbps	2440	Ant1	63.49	1.97	2.5
NVNT	BLE 1Mbps	2480	Ant1	63.49	1.97	2.5
NVNT	BLE 2Mbps	2402	Ant1	33.33	4.77	4.76
NVNT	BLE 2Mbps	2440	Ant1	33.33	4.77	4.76
NVNT	BLE 2Mbps	2480	Ant1	33.33	4.77	4.76

Test Graphs

Duty Cycle NVNT BLE 1Mbps 2402MHz Ant1

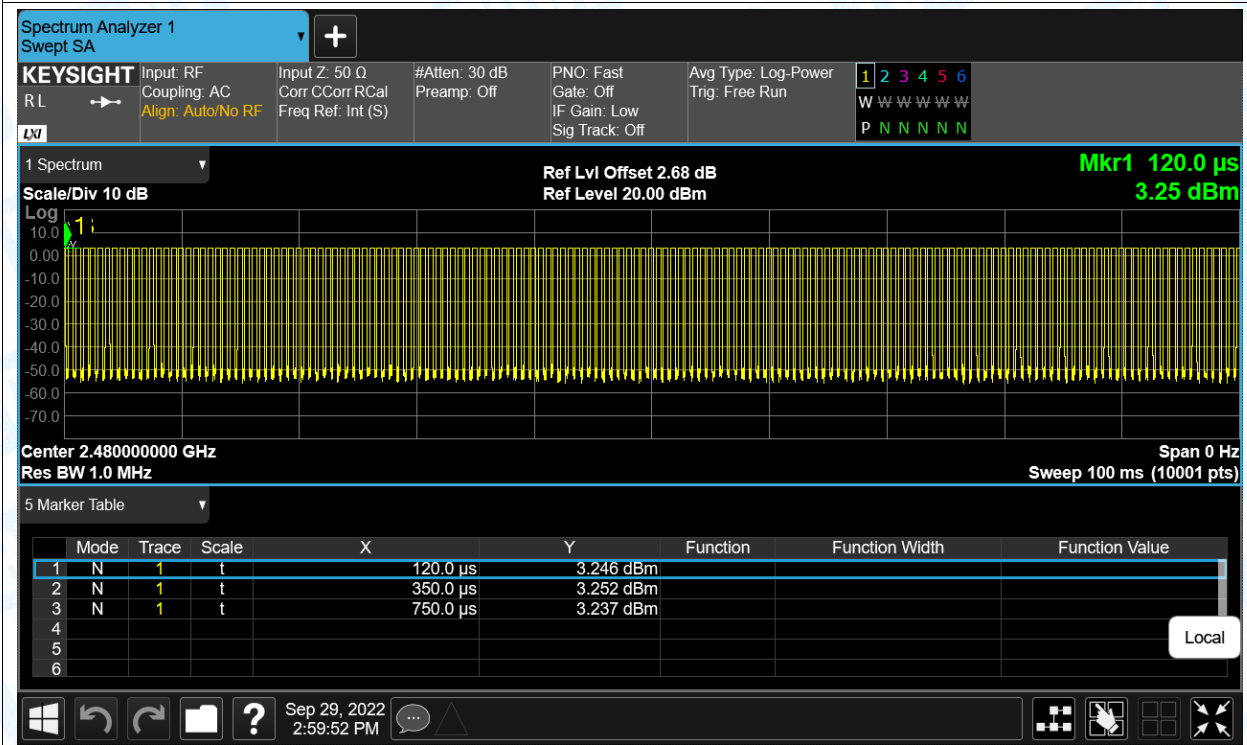


Duty Cycle NVNT BLE 1Mbps 2440MHz Ant1

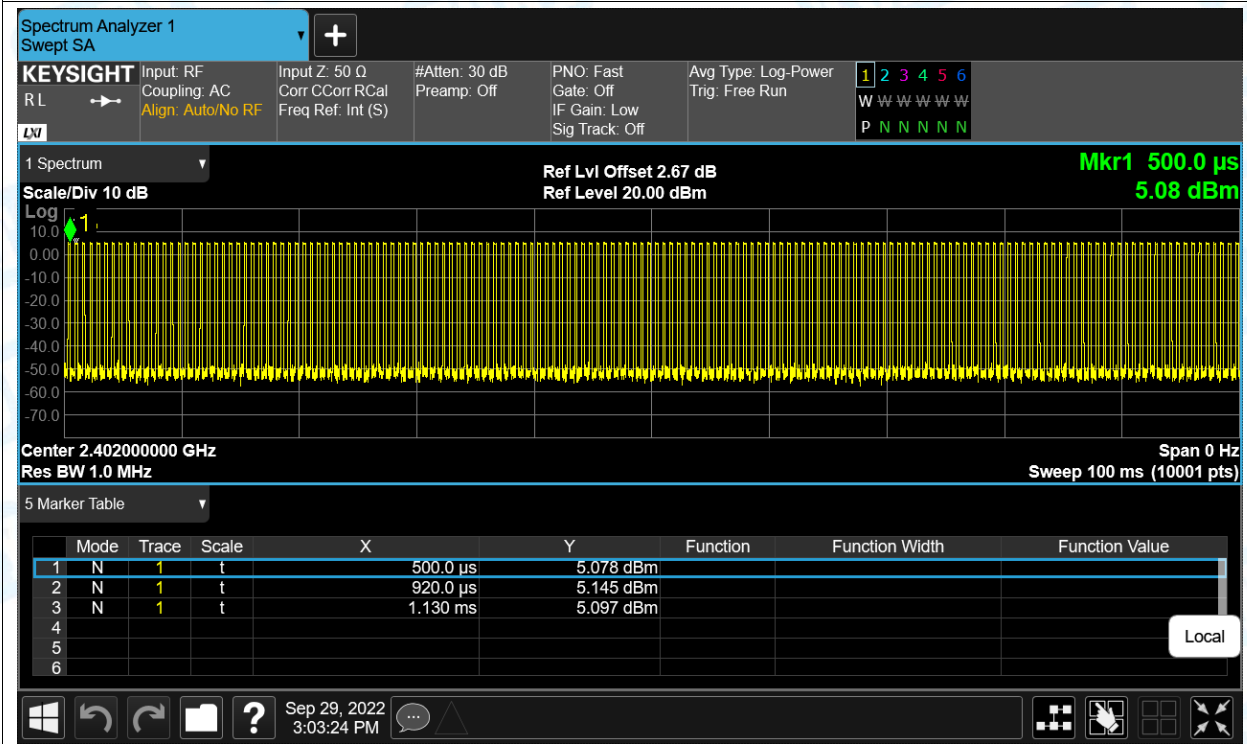




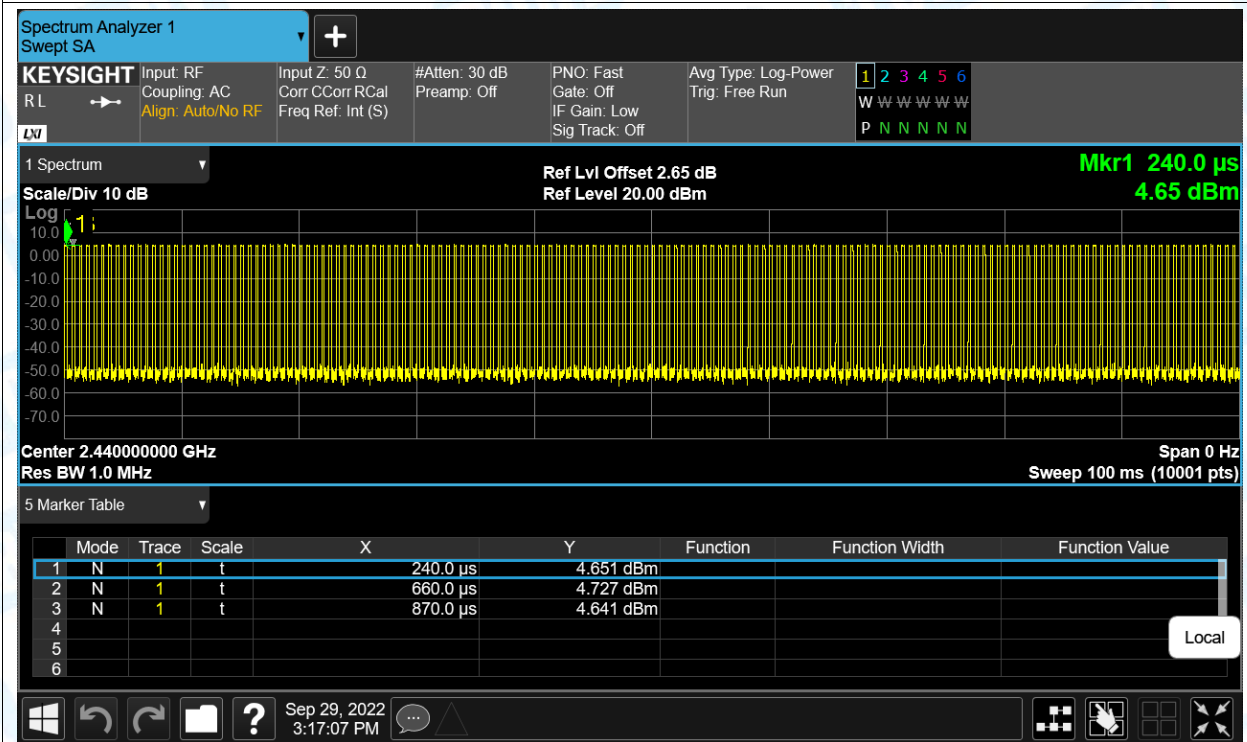
Duty Cycle NVNT BLE 1Mbps 2480MHz Ant1



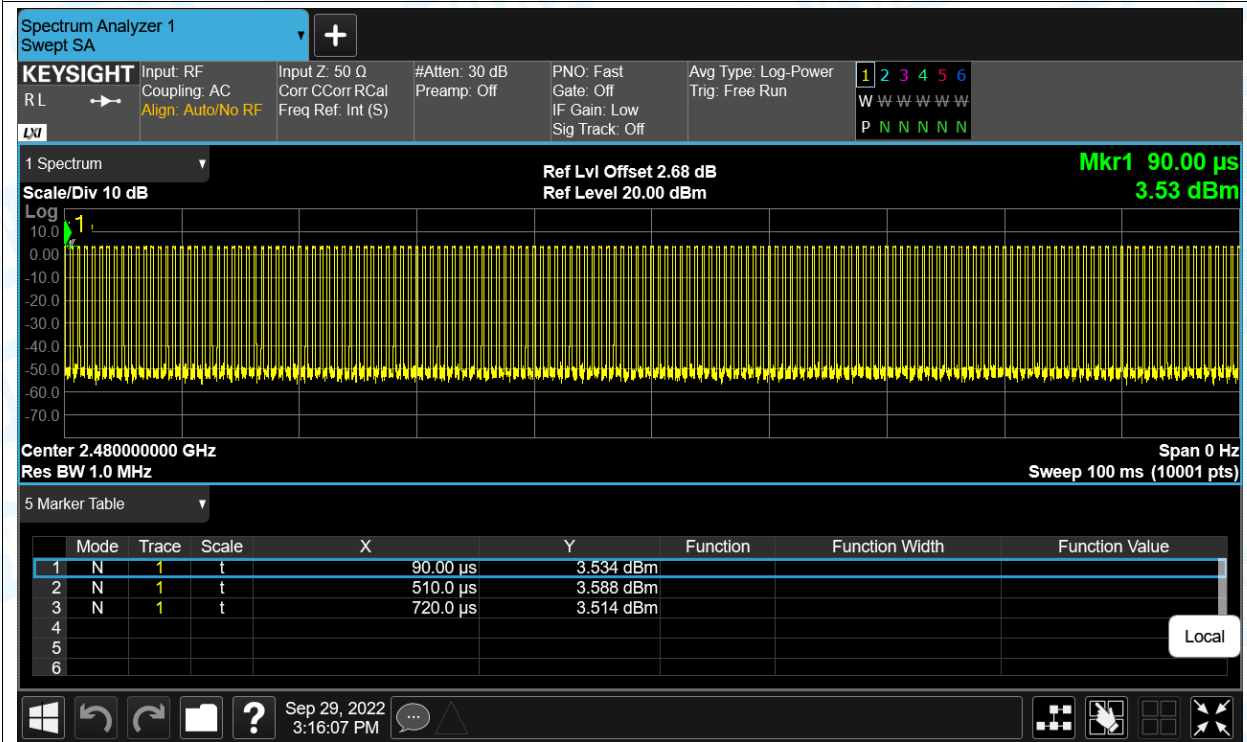
Duty Cycle NVNT BLE 2Mbps 2402MHz Ant1



Duty Cycle NVNT BLE 2Mbps 2440MHz Ant1



Duty Cycle NVNT BLE 2Mbps 2480MHz Ant1



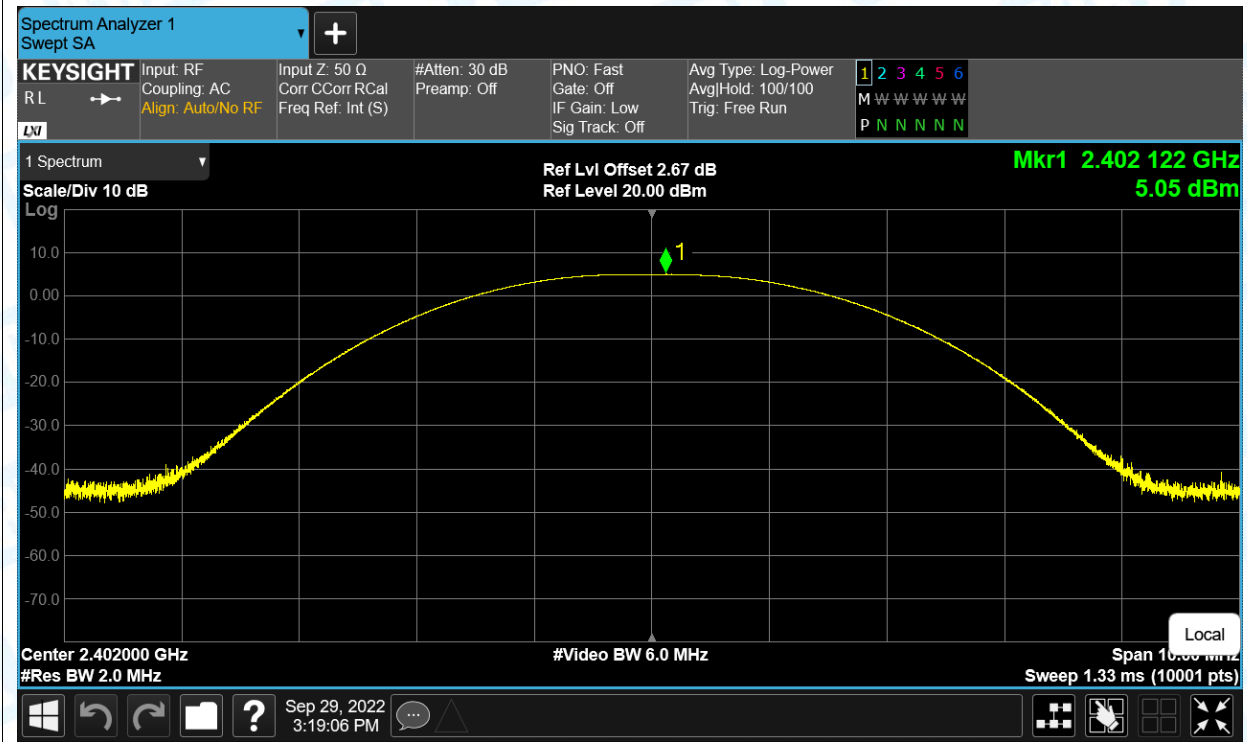


## 2. Maximum Conducted Output Power

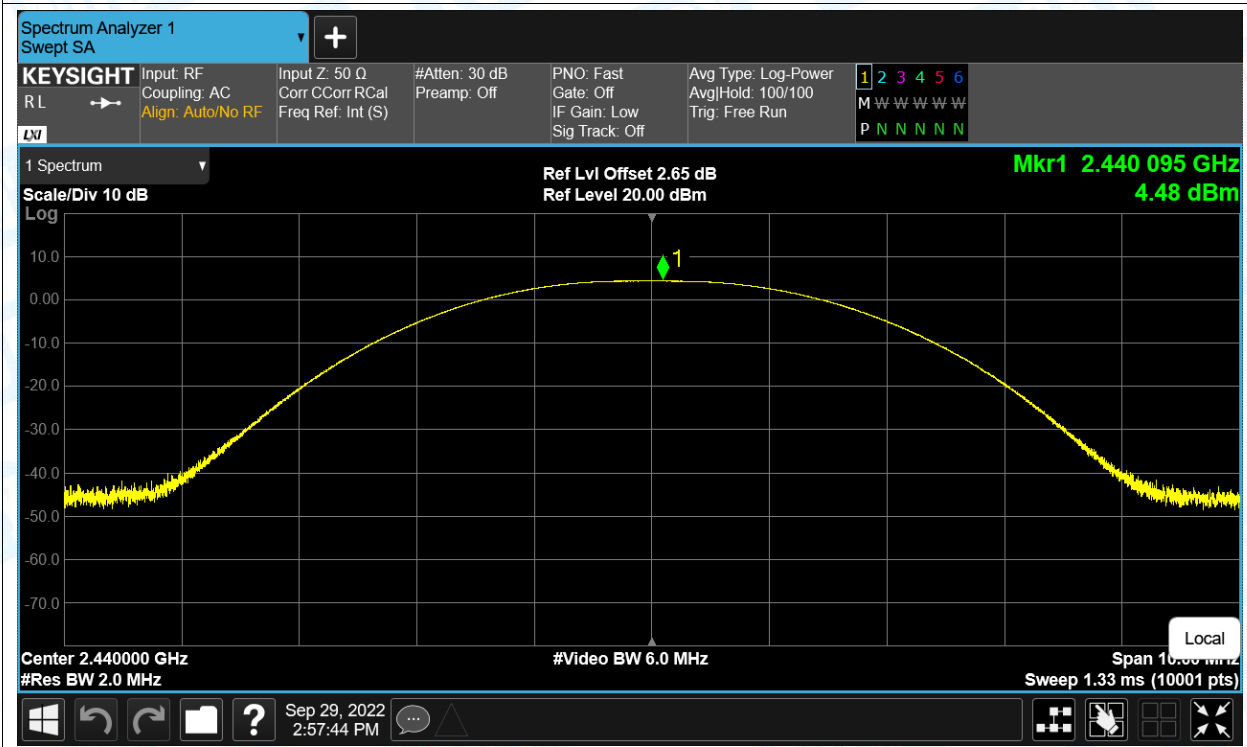
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	5.049	30	Pass
NVNT	BLE 1Mbps	2440	Ant1	4.484	30	Pass
NVNT	BLE 1Mbps	2480	Ant1	3.408	30	Pass
NVNT	BLE 2Mbps	2402	Ant1	5.235	30	Pass
NVNT	BLE 2Mbps	2440	Ant1	4.755	30	Pass
NVNT	BLE 2Mbps	2480	Ant1	3.652	30	Pass

Test Graphs

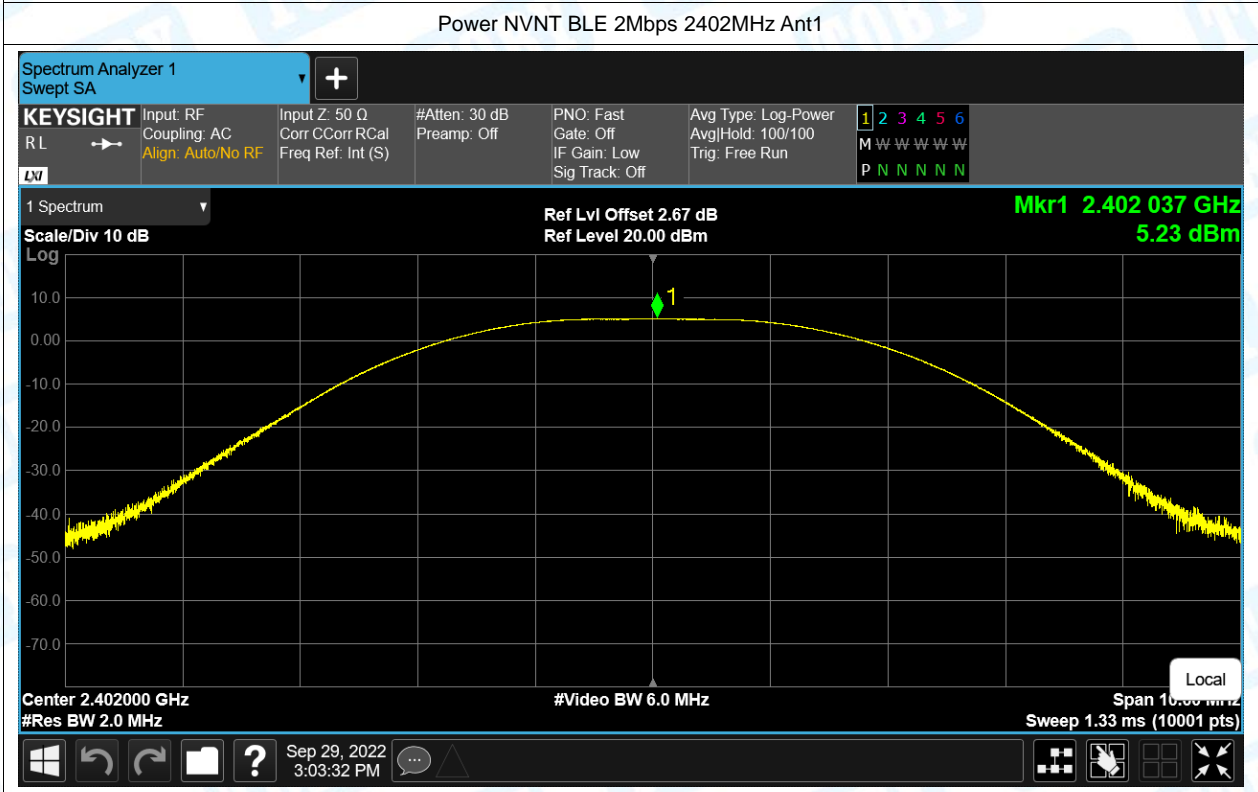
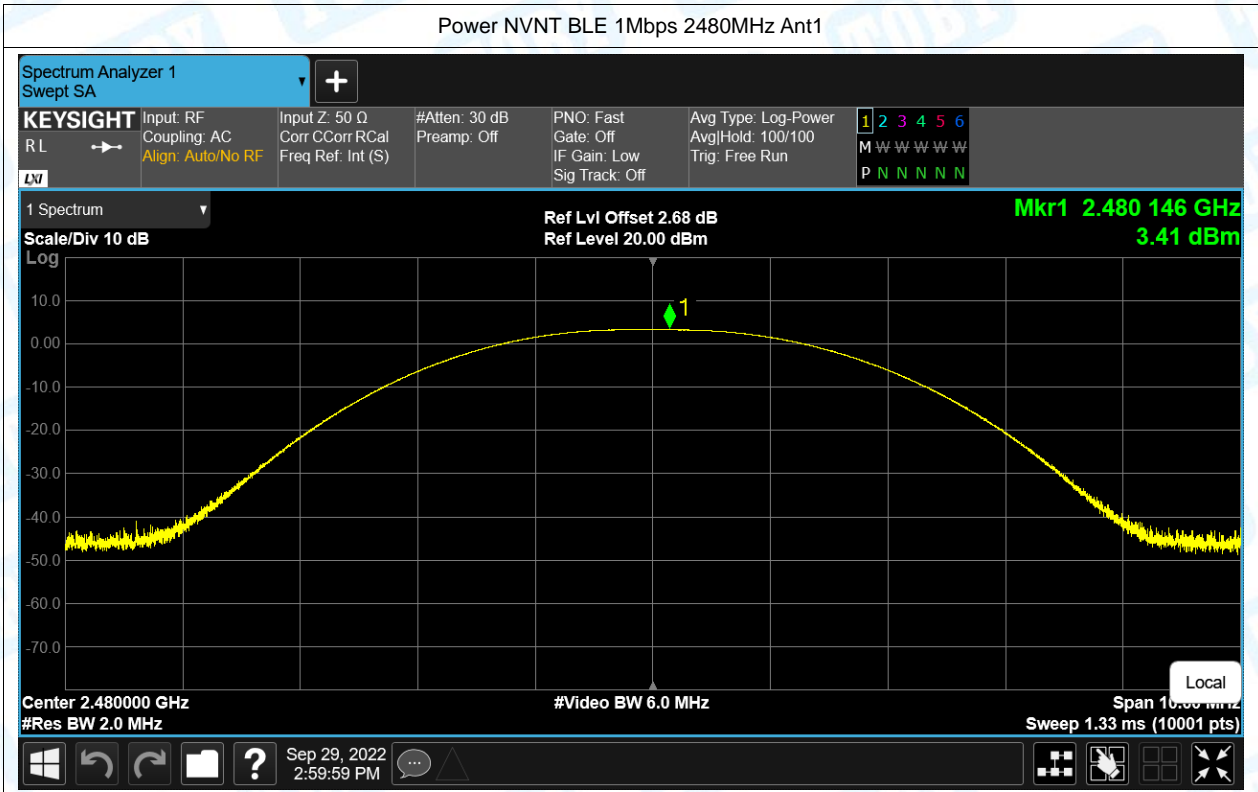
Power NVNT BLE 1Mbps 2402MHz Ant1

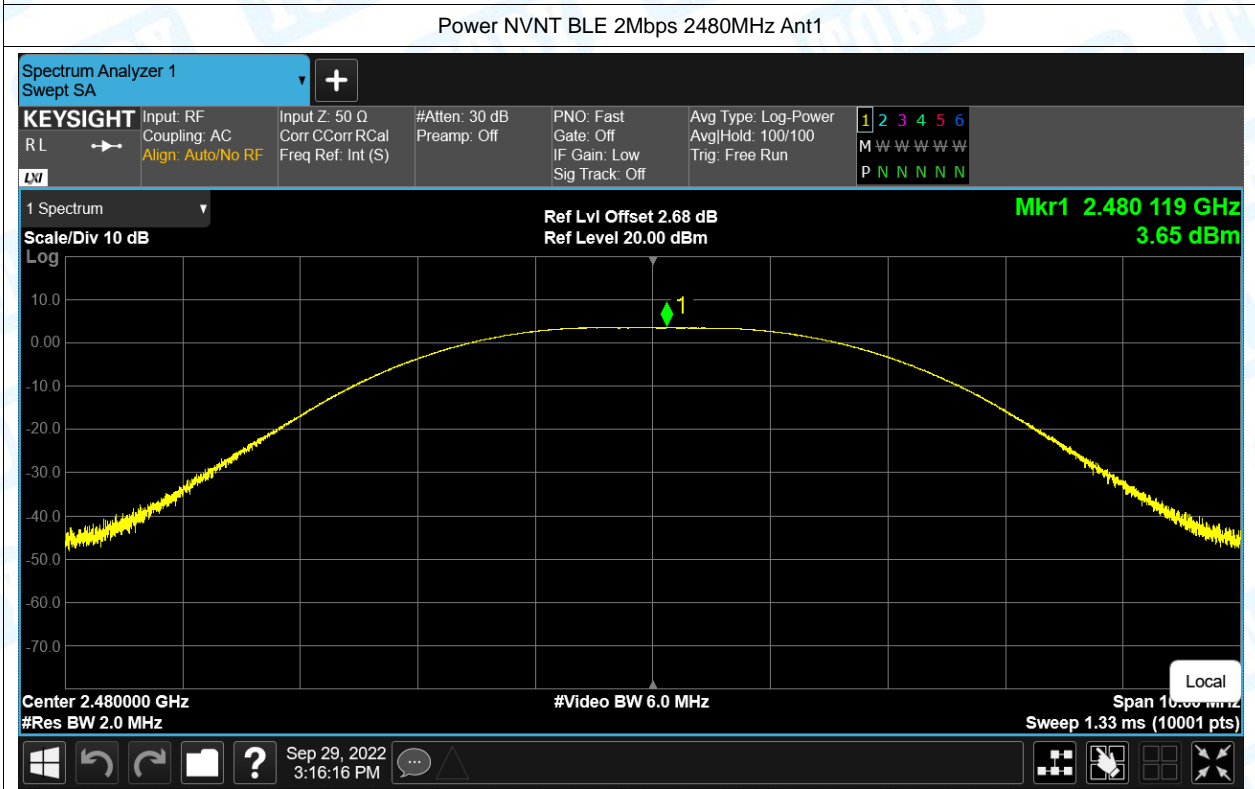
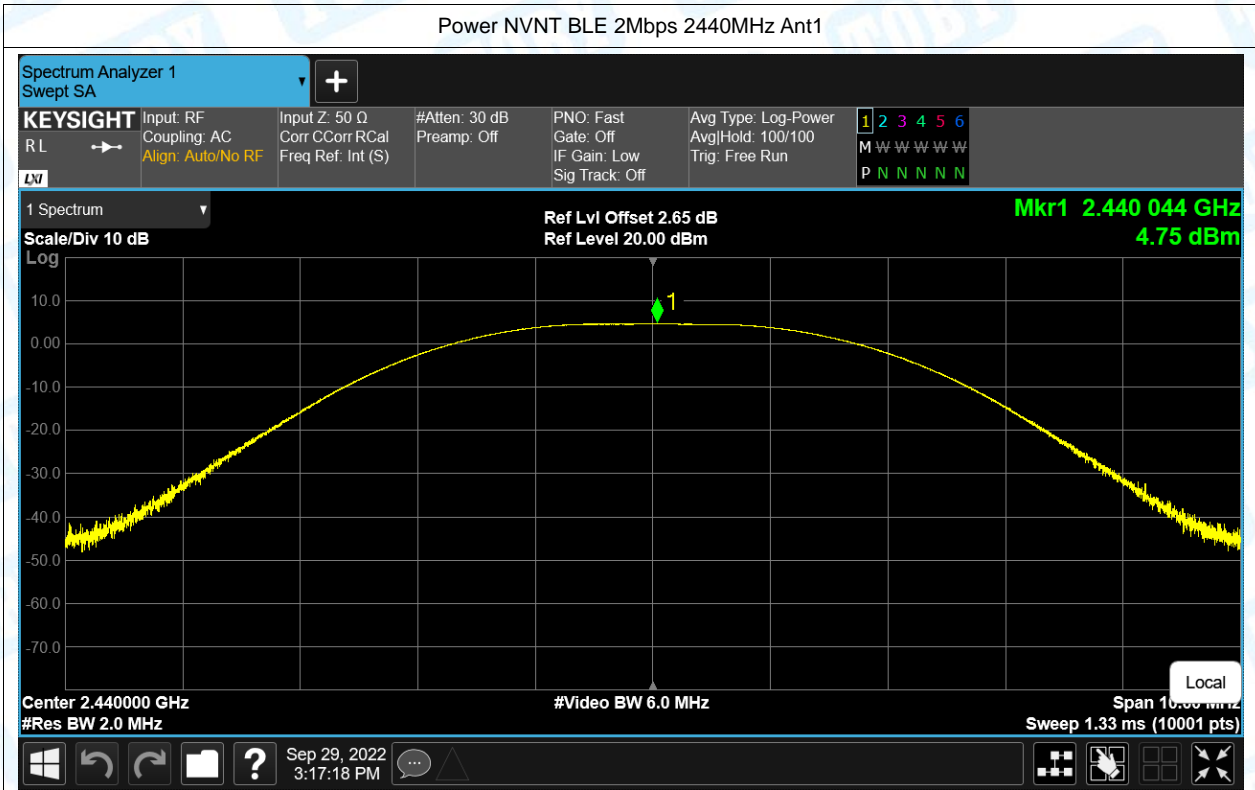


Power NVNT BLE 1Mbps 2440MHz Ant1









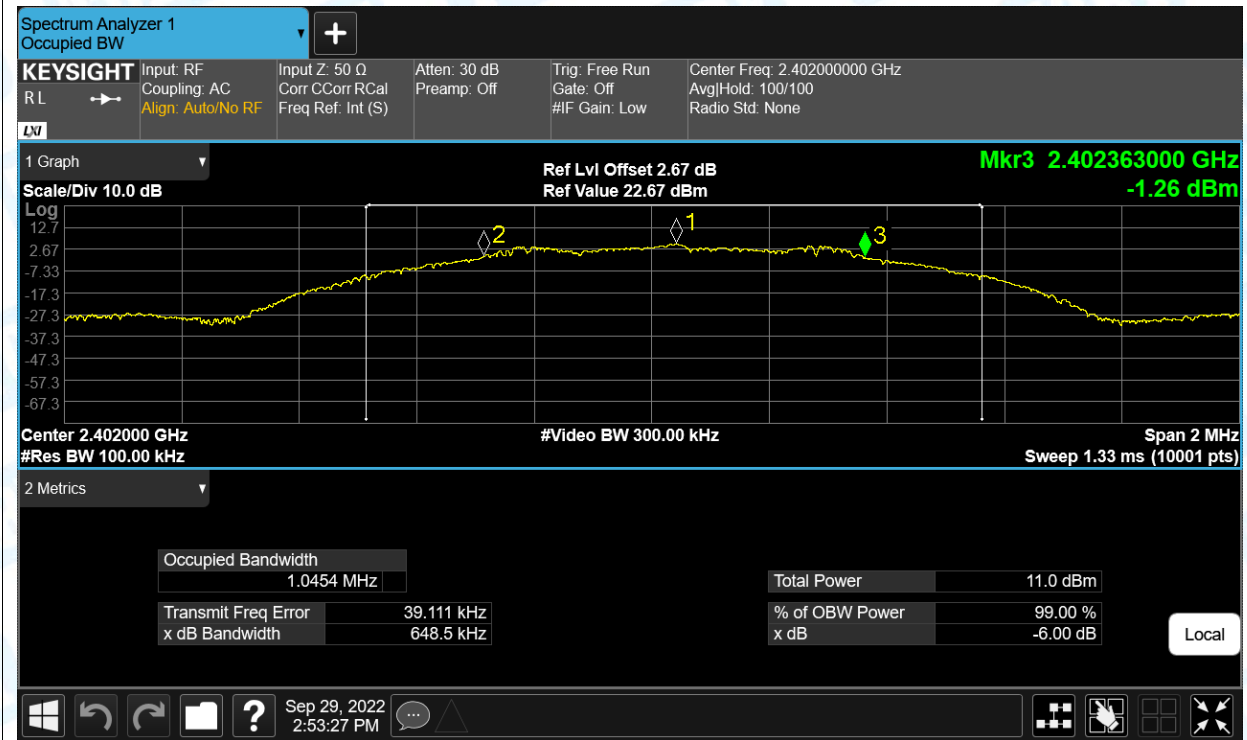


### 3. -6dB Bandwidth

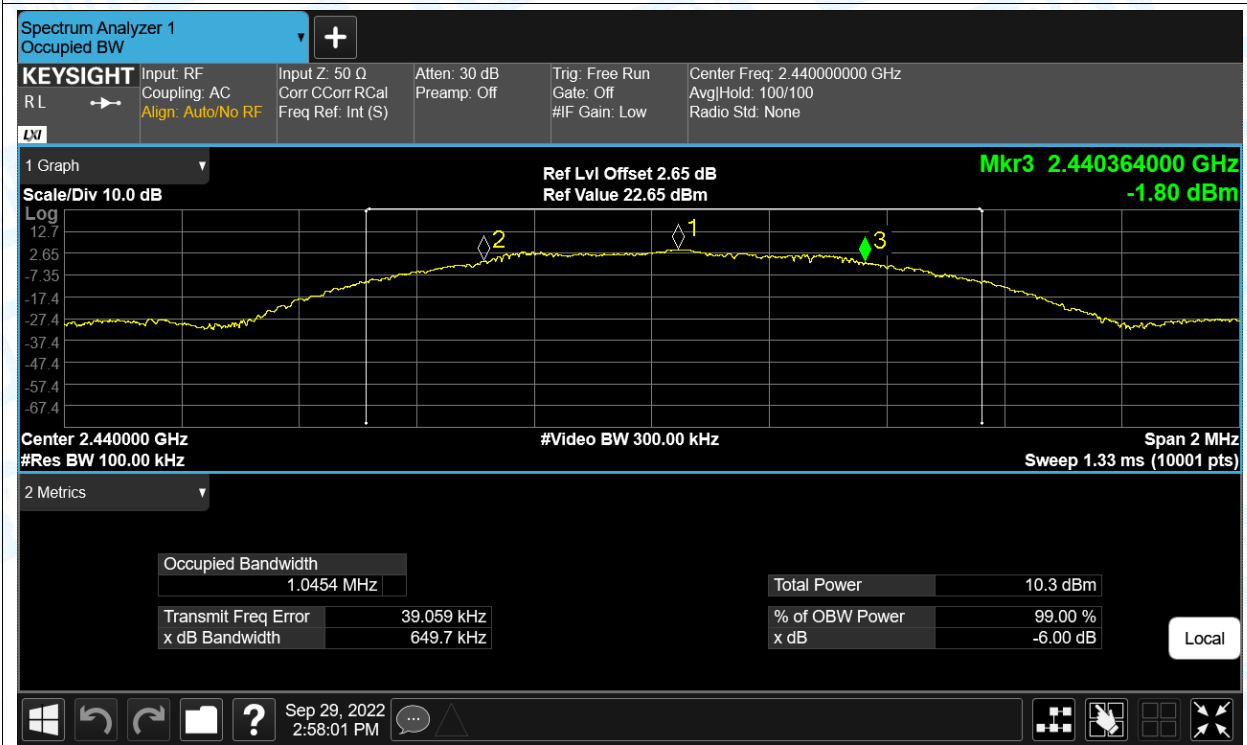
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.65	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.65	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.64	0.5	Pass
NVNT	BLE 2Mbps	2402	Ant1	0.96	0.5	Pass
NVNT	BLE 2Mbps	2440	Ant1	1.19	0.5	Pass
NVNT	BLE 2Mbps	2480	Ant1	1.09	0.5	Pass

Test Graphs

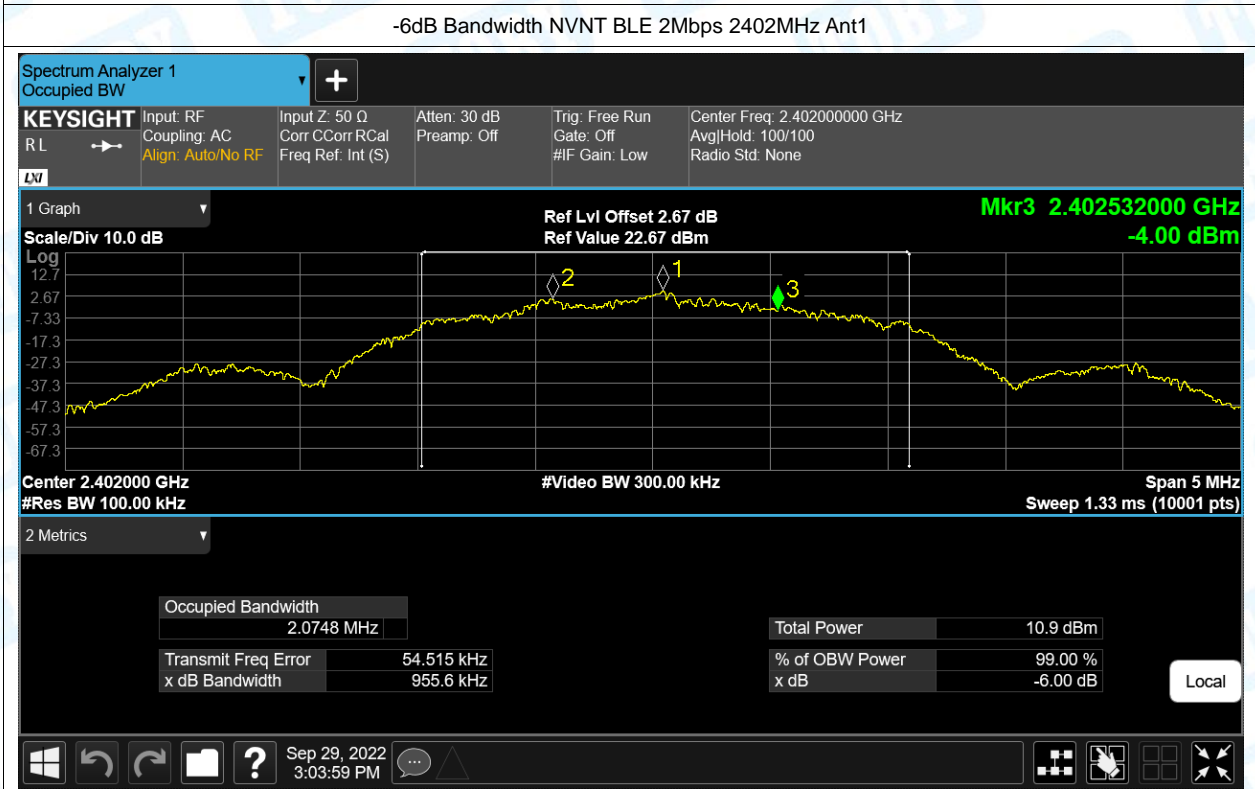
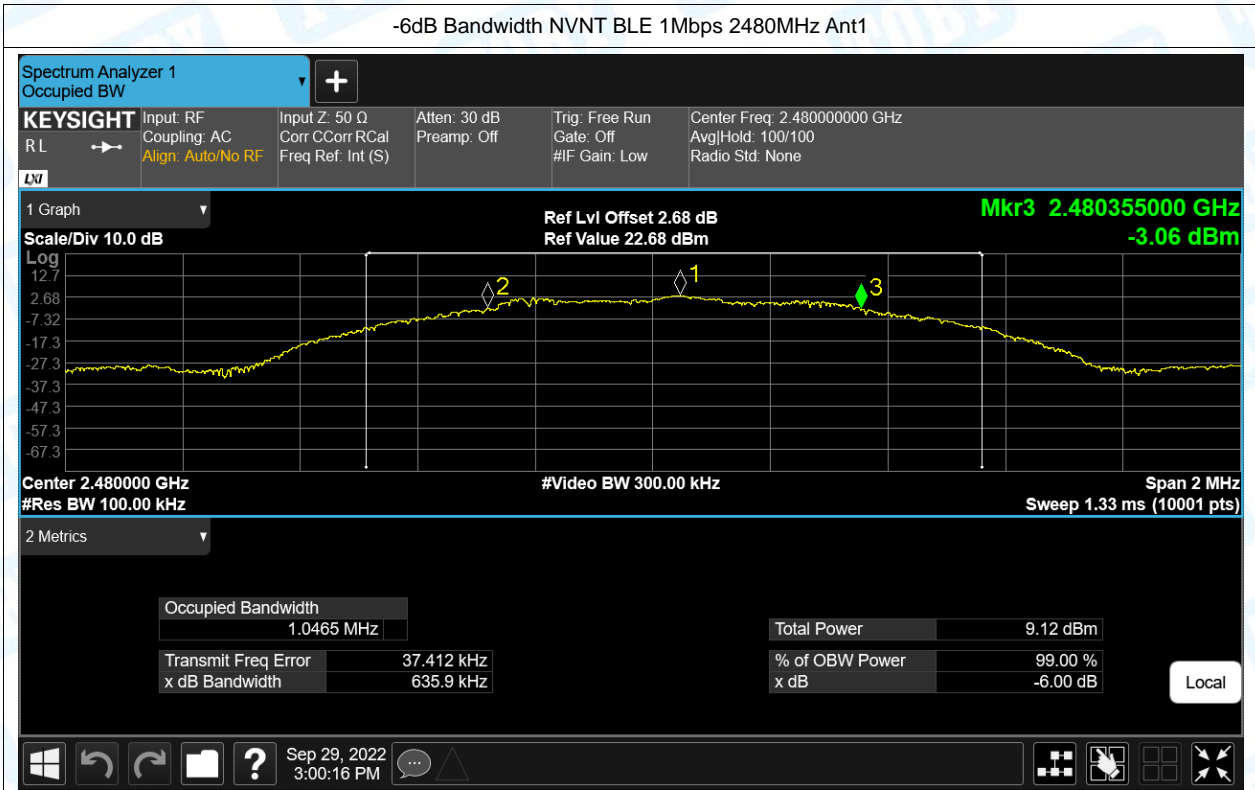
-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1

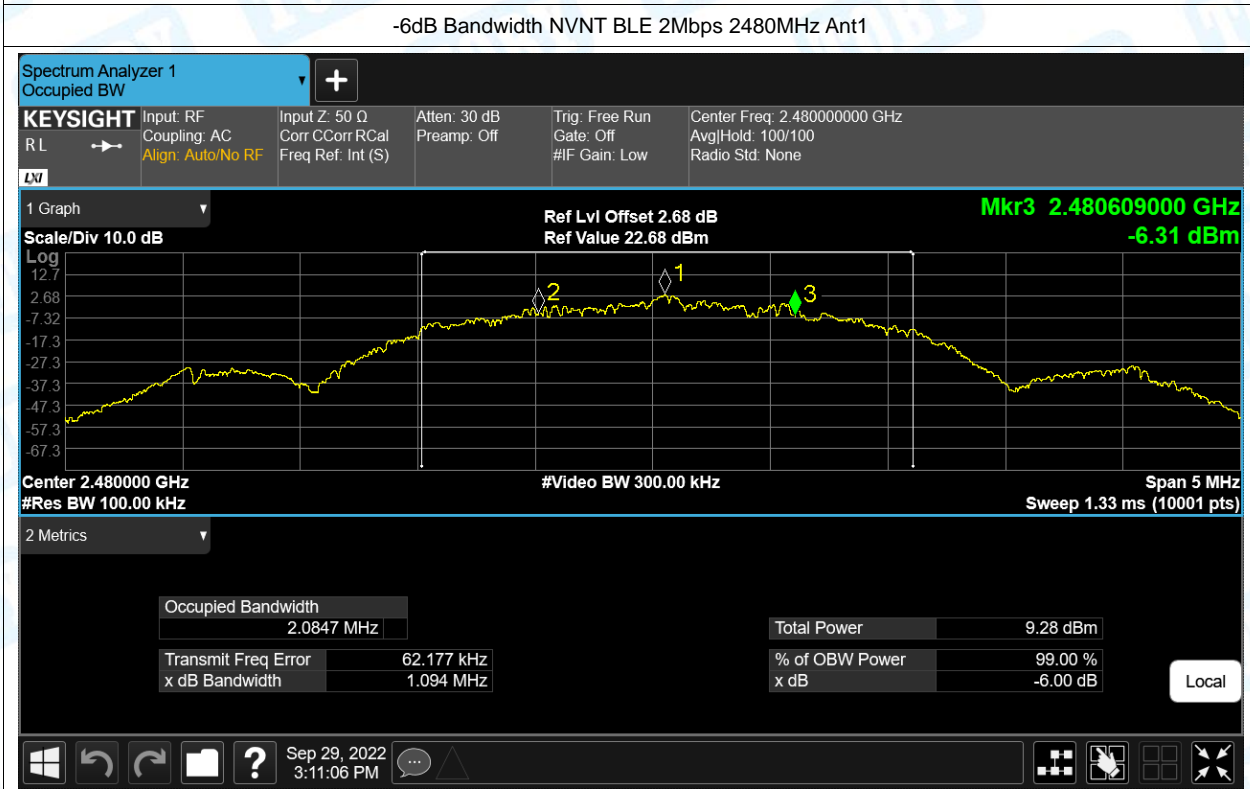
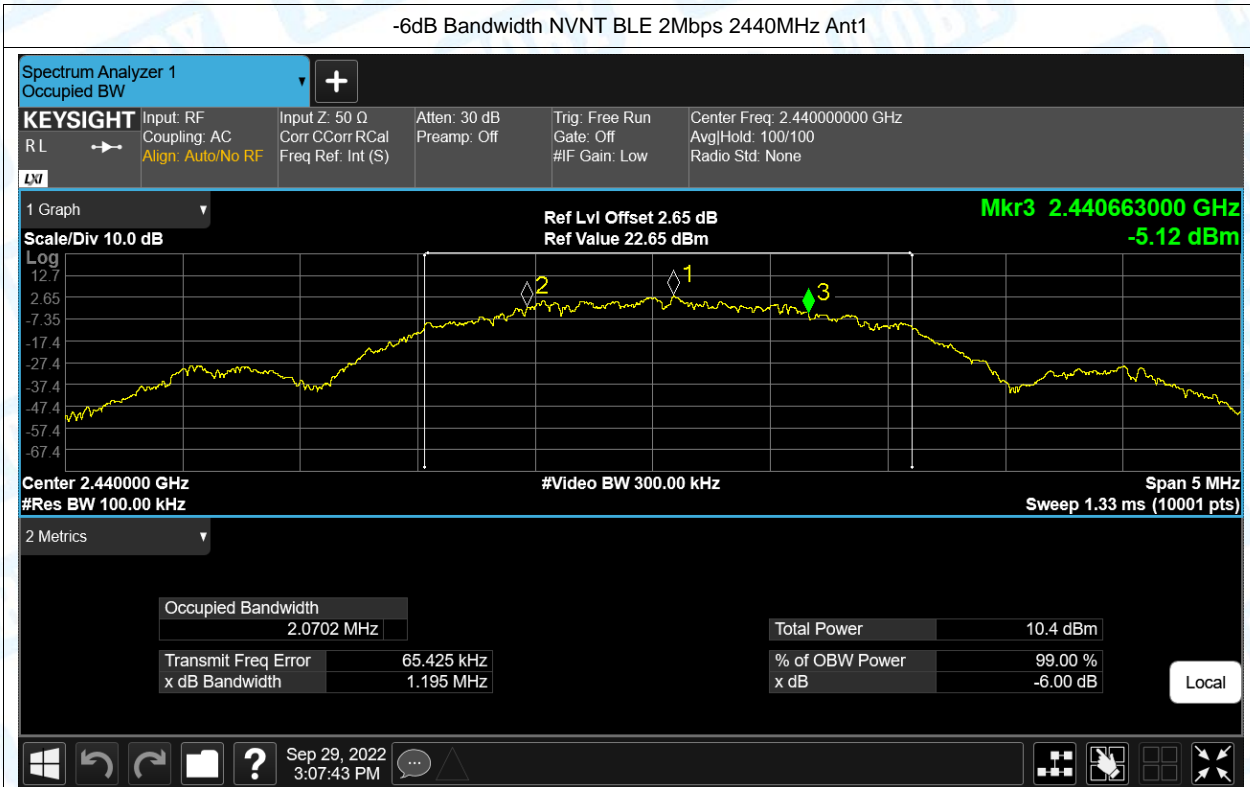


-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1









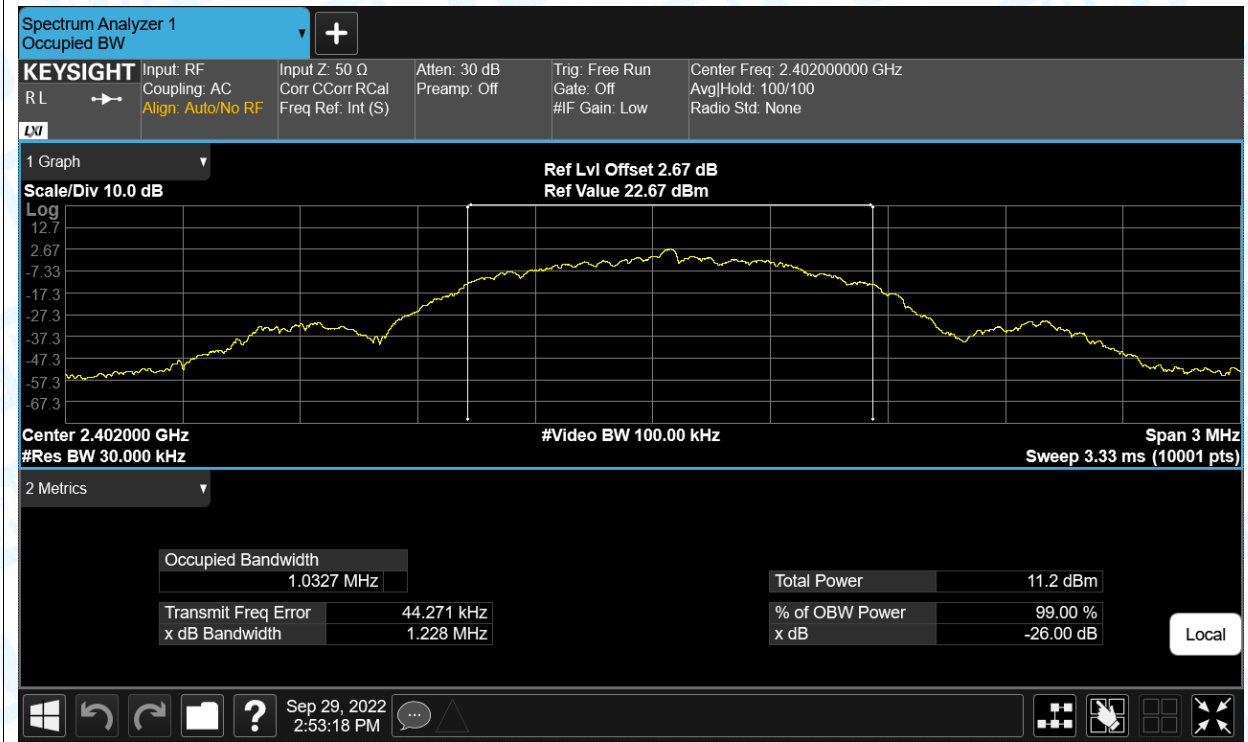


#### 4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1Mbps	2402	Ant1	1.033
NVNT	BLE 1Mbps	2440	Ant1	1.039
NVNT	BLE 1Mbps	2480	Ant1	1.031
NVNT	BLE 2Mbps	2402	Ant1	2.068
NVNT	BLE 2Mbps	2440	Ant1	2.06
NVNT	BLE 2Mbps	2480	Ant1	2.062

Test Graphs

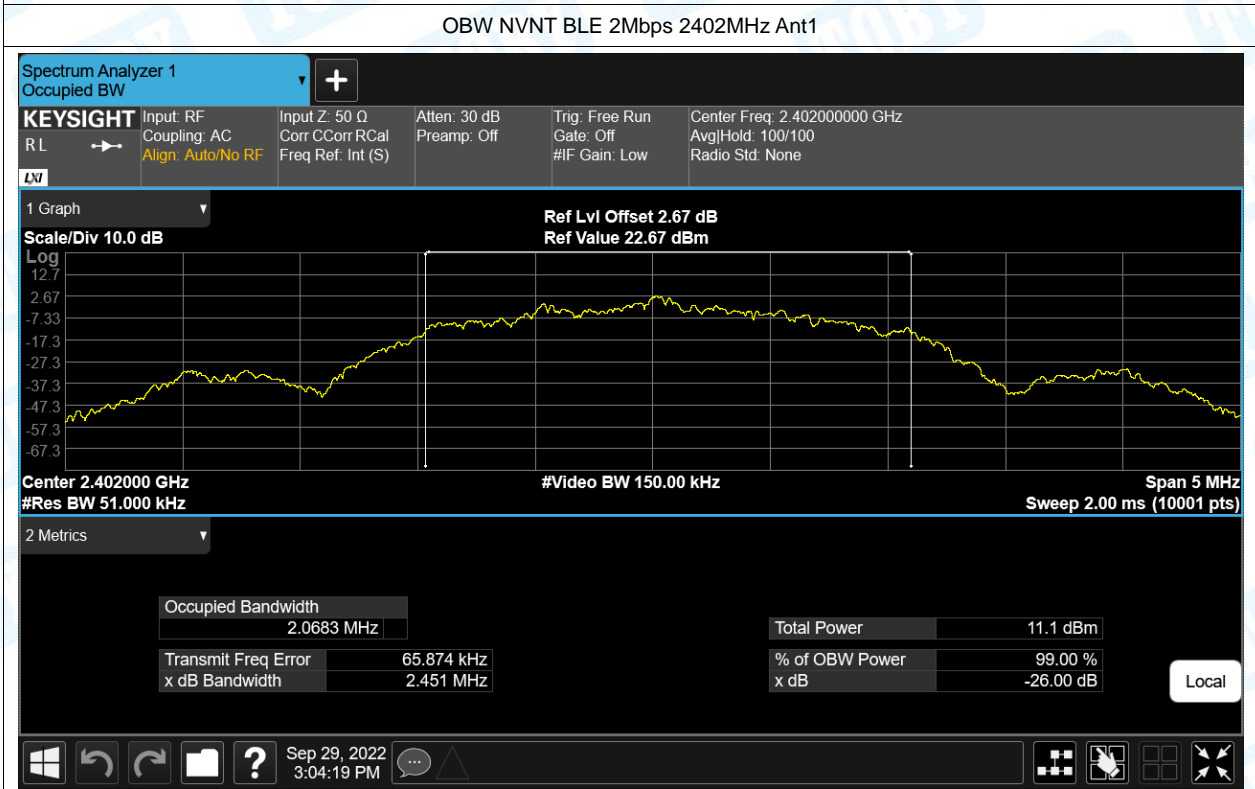
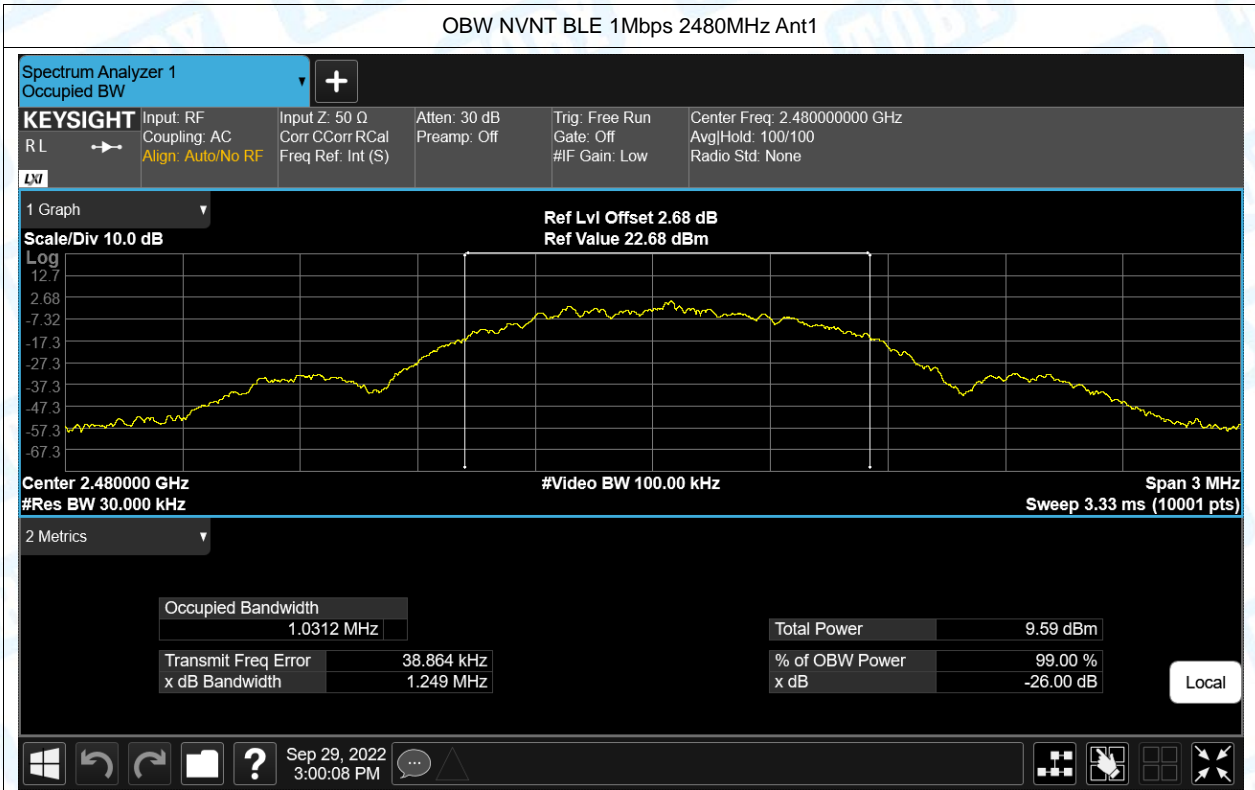
OBW NVNT BLE 1Mbps 2402MHz Ant1

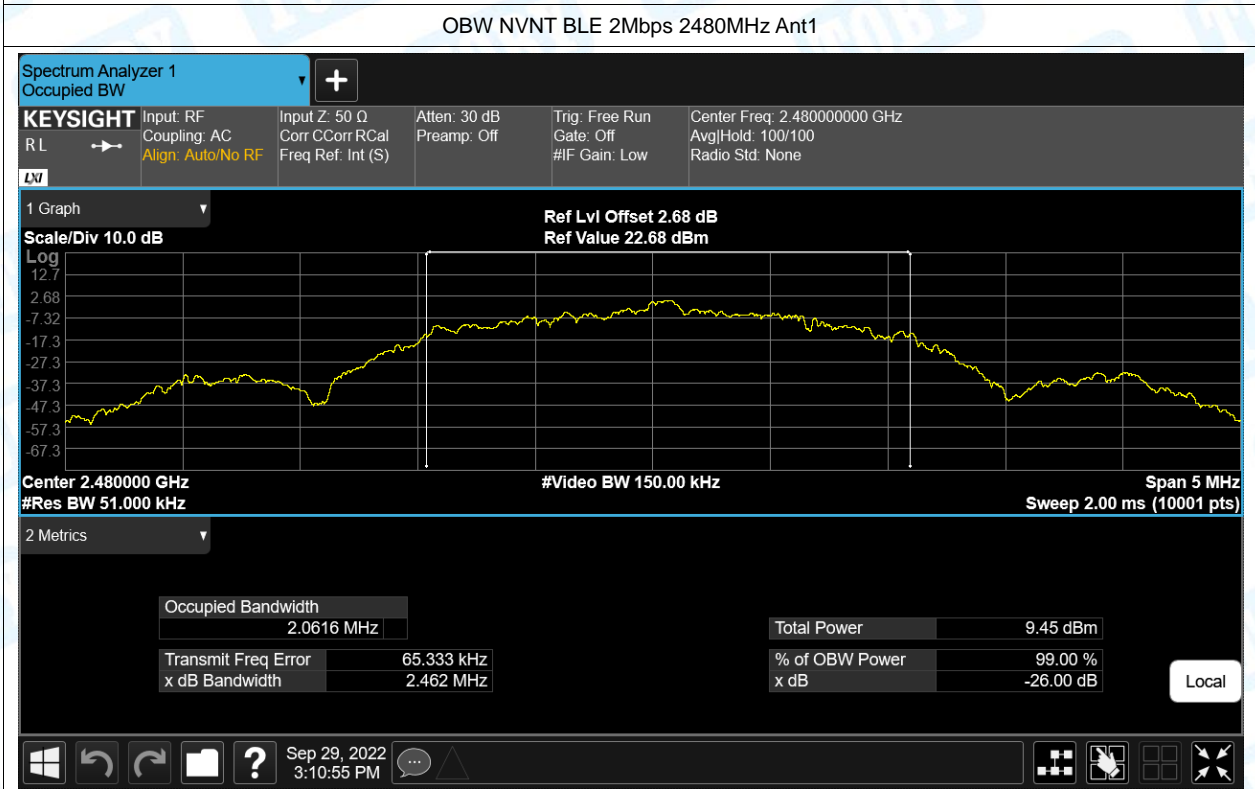
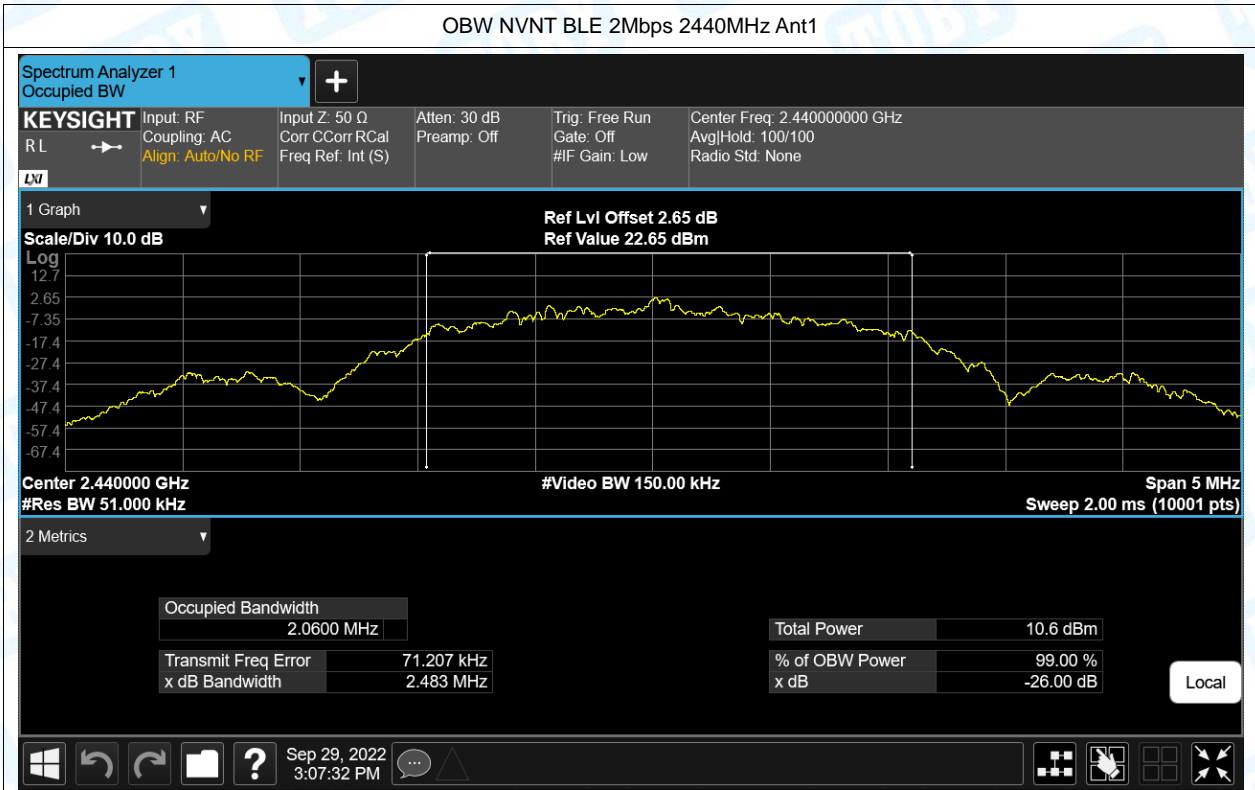


OBW NVNT BLE 1Mbps 2440MHz Ant1









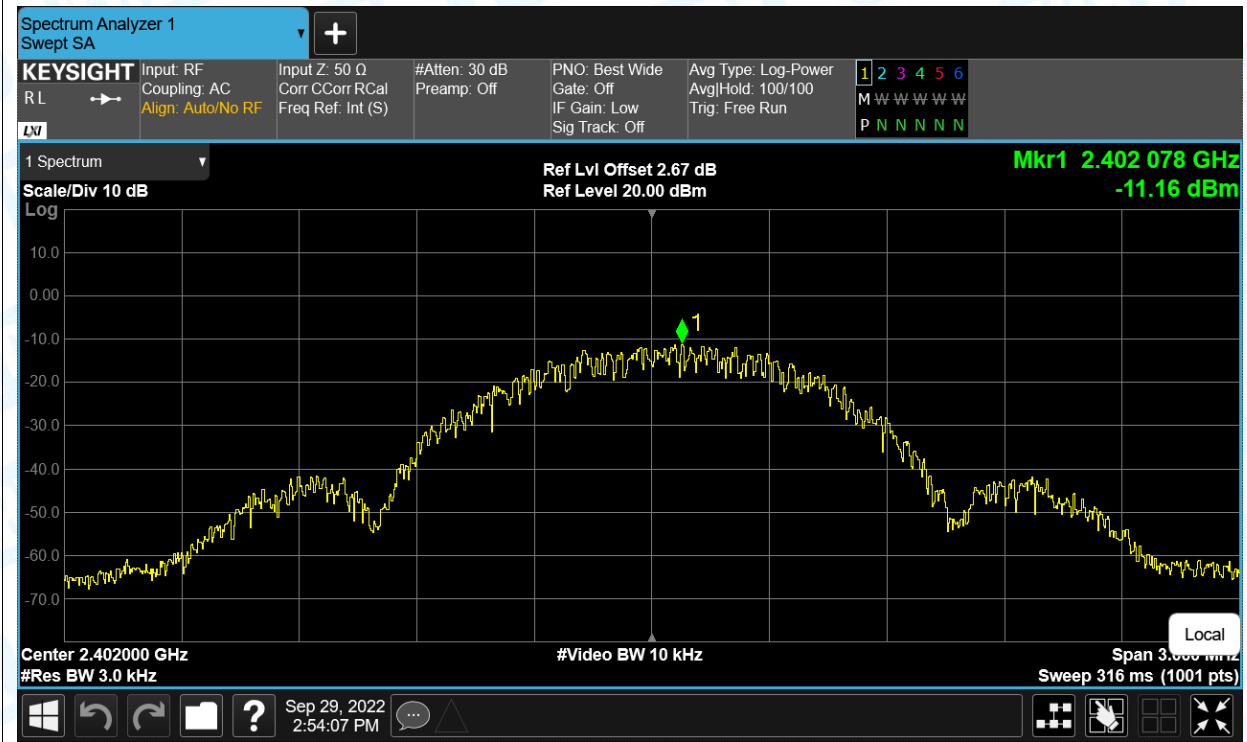


## 5. Maximum Power Spectral Density Level

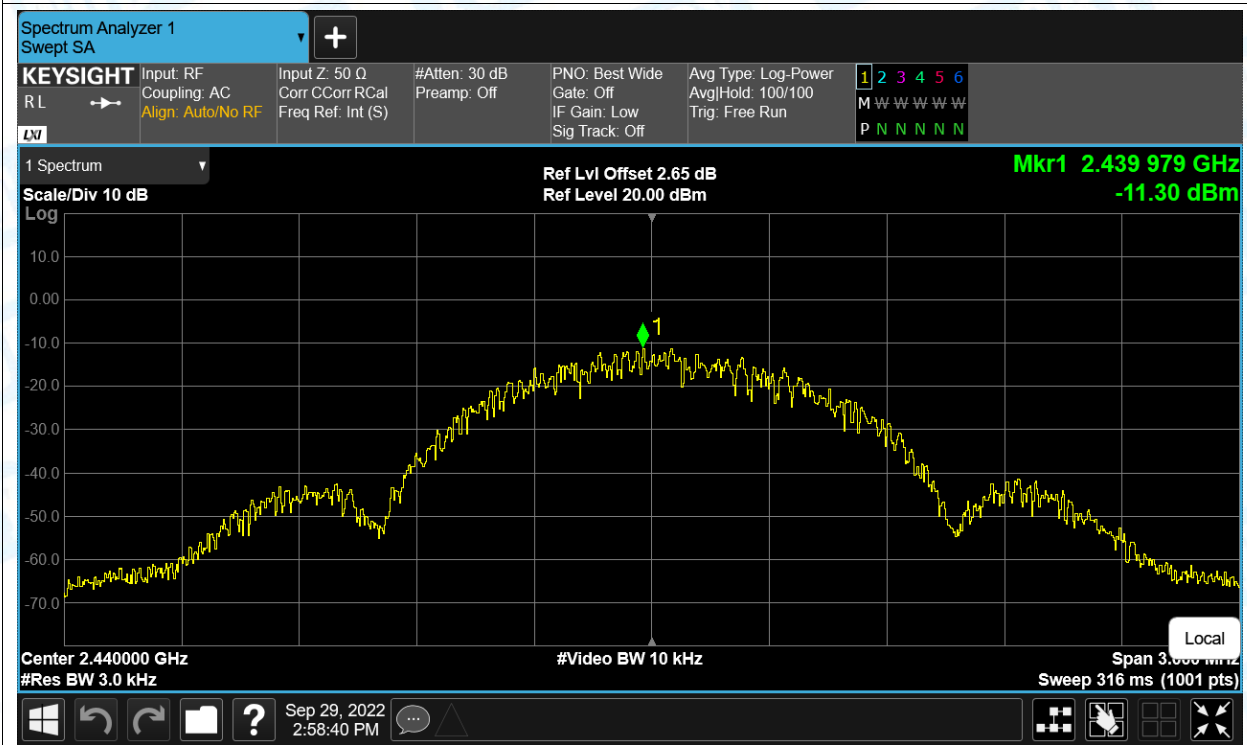
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-11.164	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-11.3	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-11.877	8	Pass
NVNT	BLE 2Mbps	2402	Ant1	-12.188	8	Pass
NVNT	BLE 2Mbps	2440	Ant1	-11.666	8	Pass
NVNT	BLE 2Mbps	2480	Ant1	-14.099	8	Pass

Test Graphs

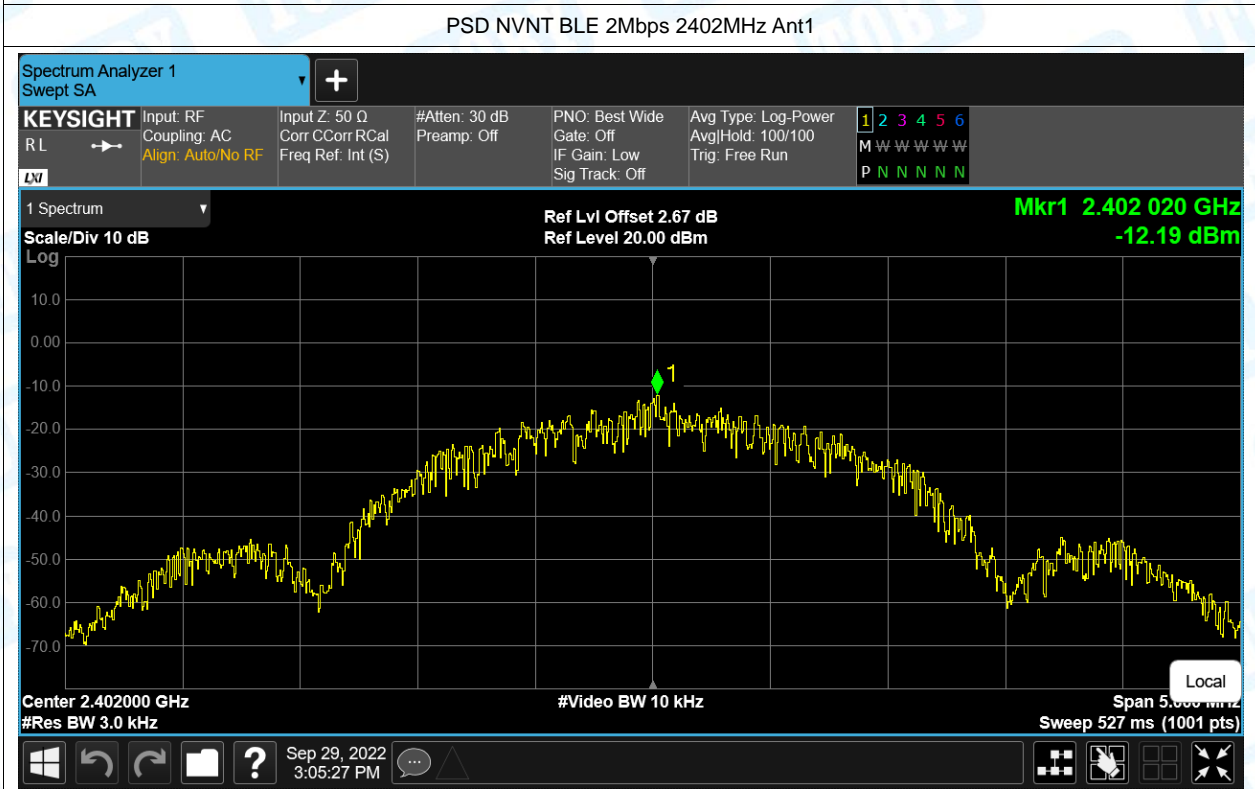
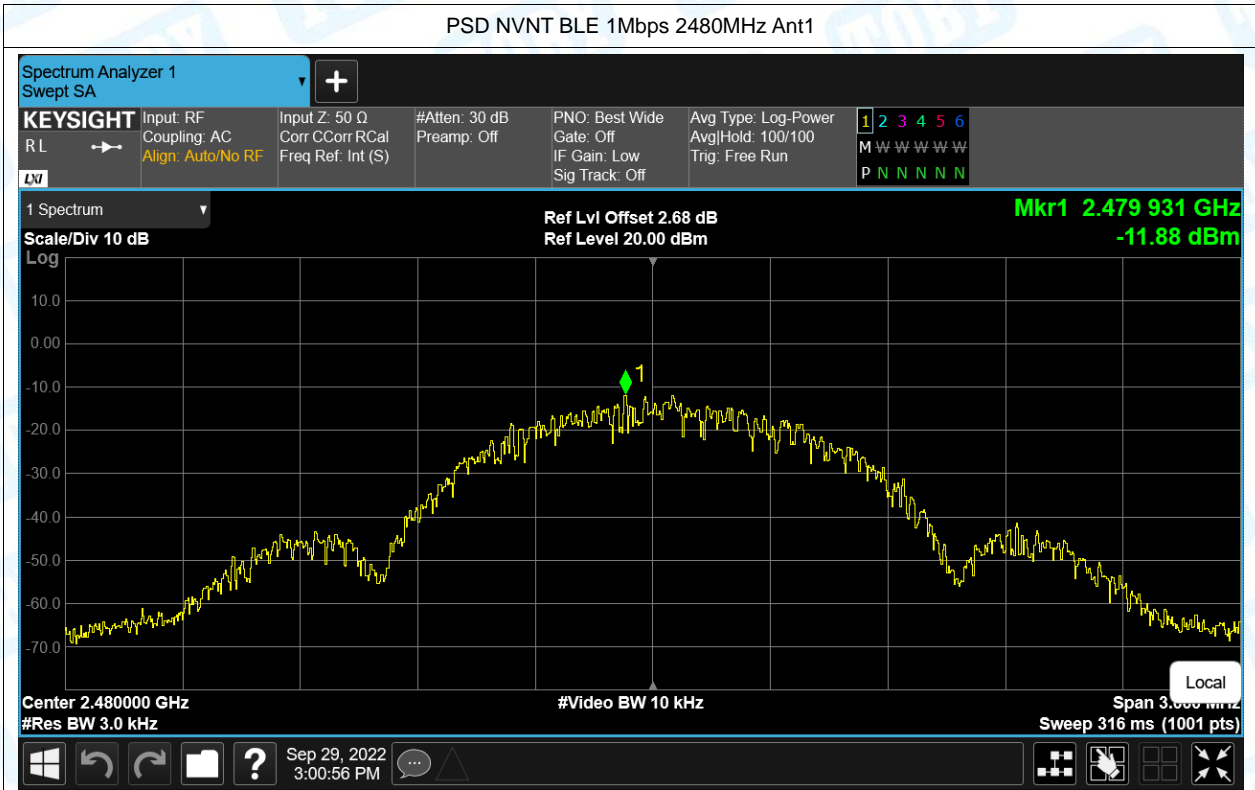
PSD NVNT BLE 1Mbps 2402MHz Ant1

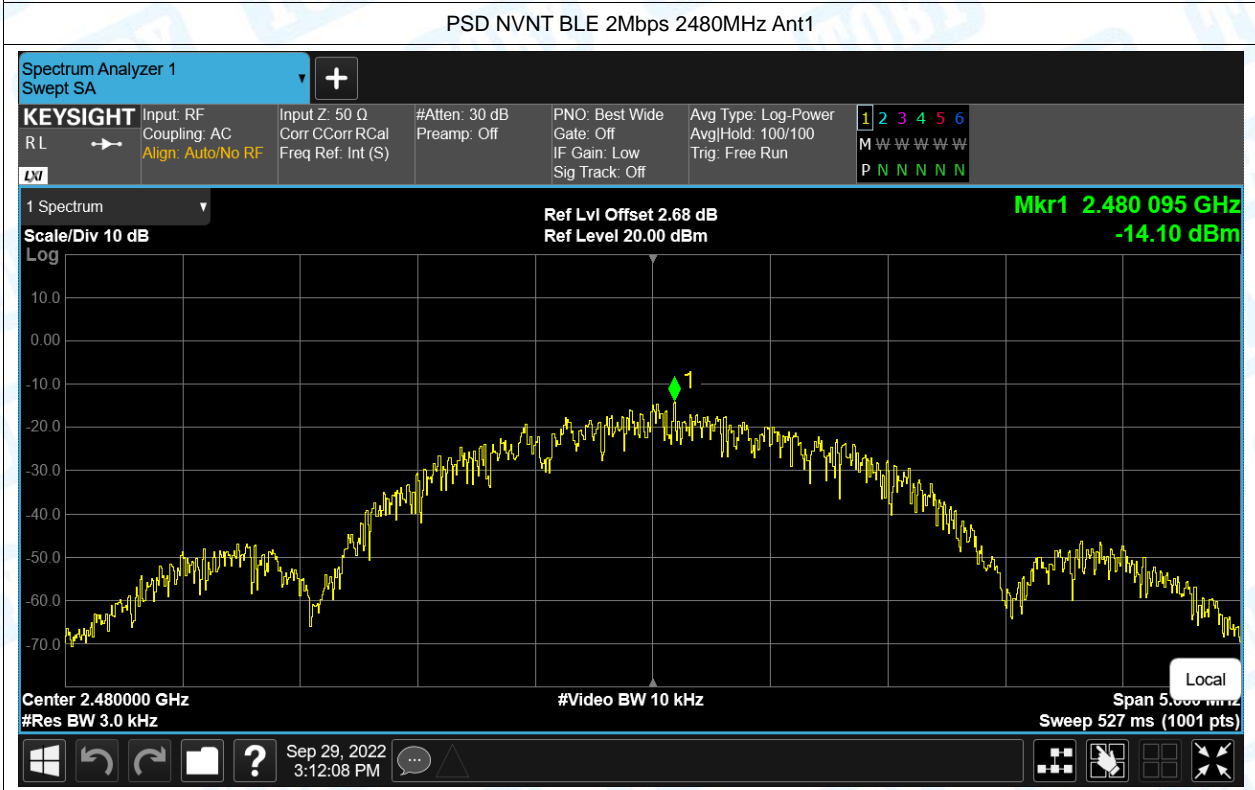
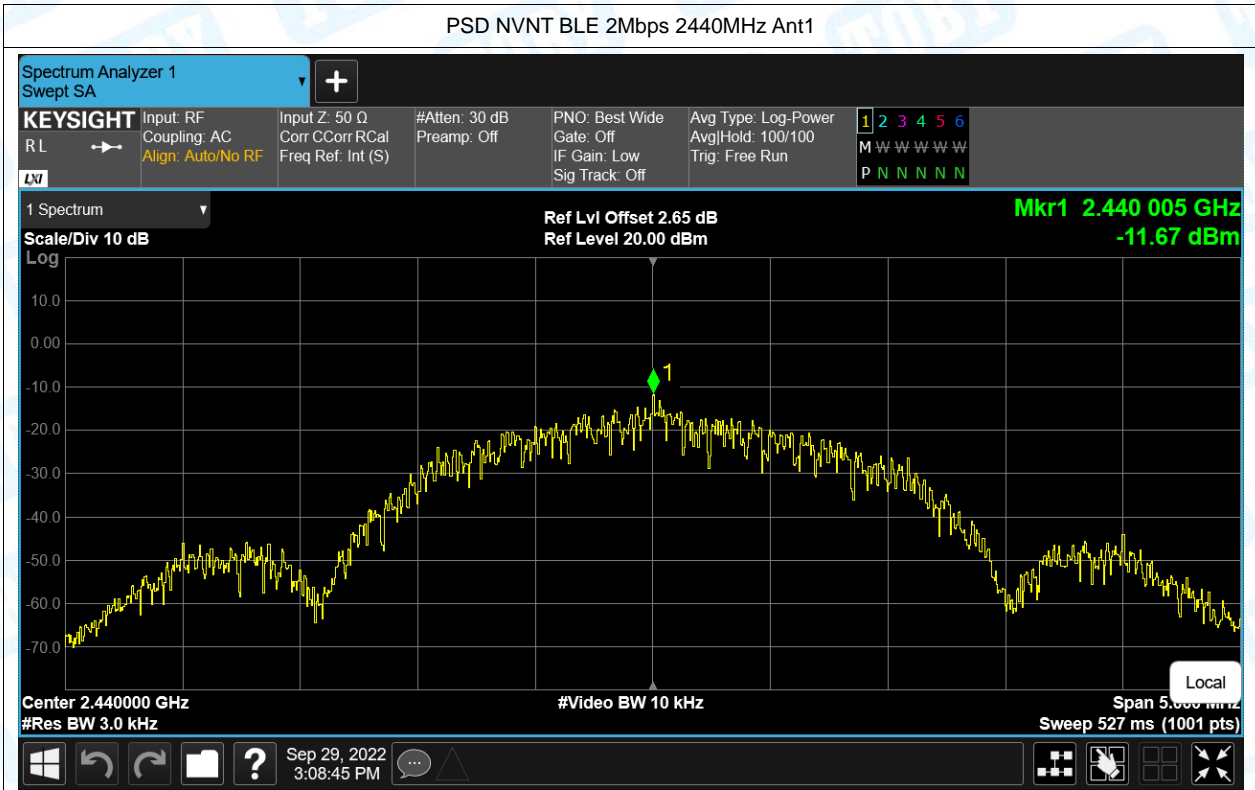


PSD NVNT BLE 1Mbps 2440MHz Ant1









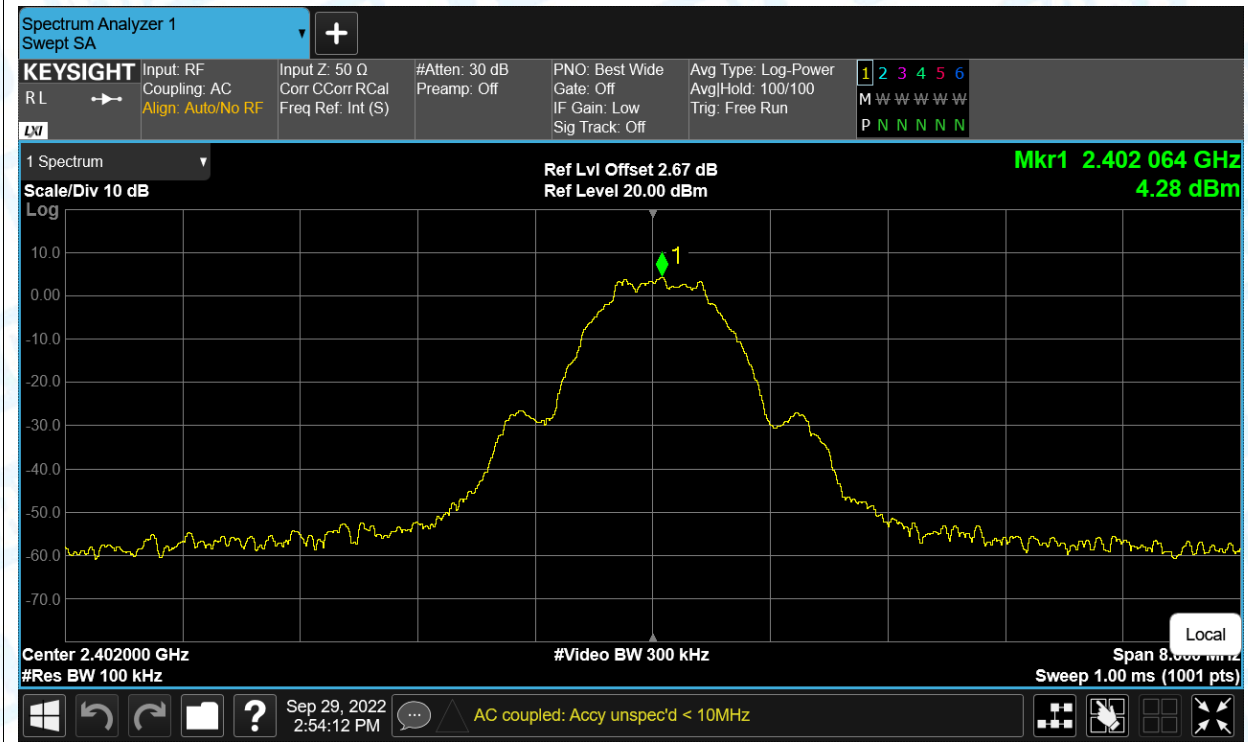


## 6. Band Edge

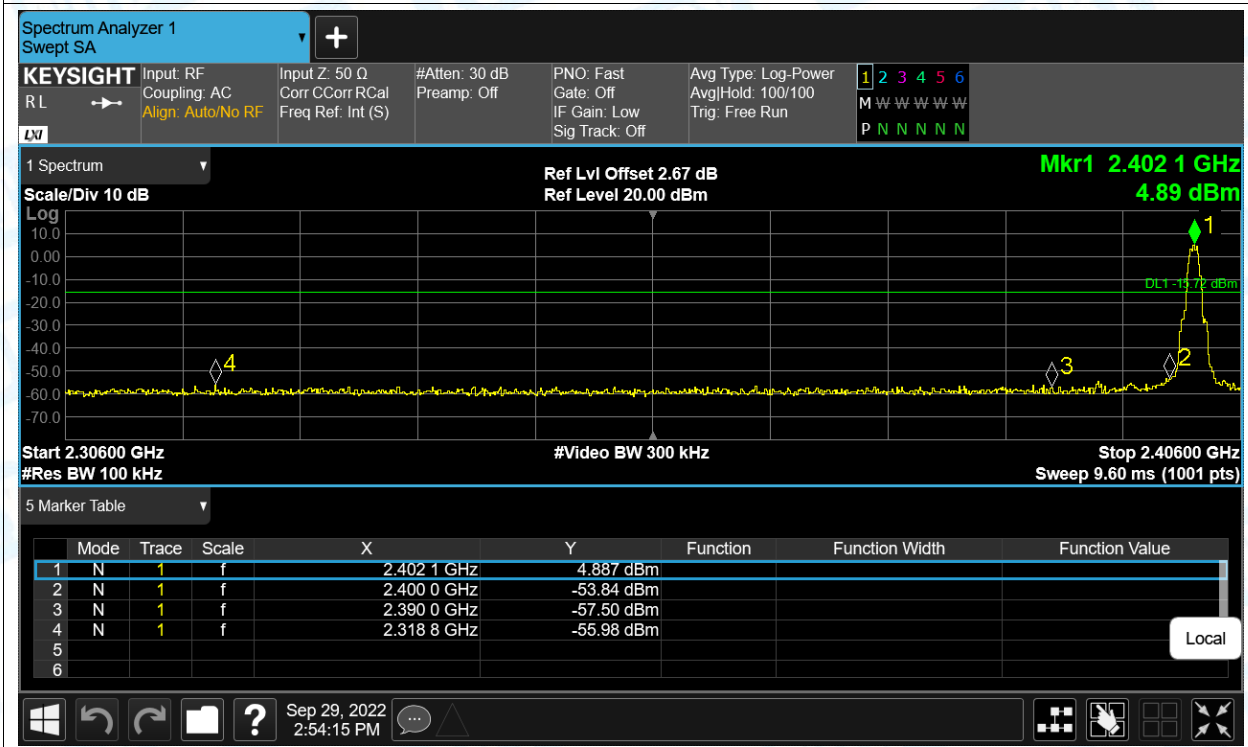
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-60.26	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-59.3	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-59.8	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-57.92	-20	Pass

### Test Graphs

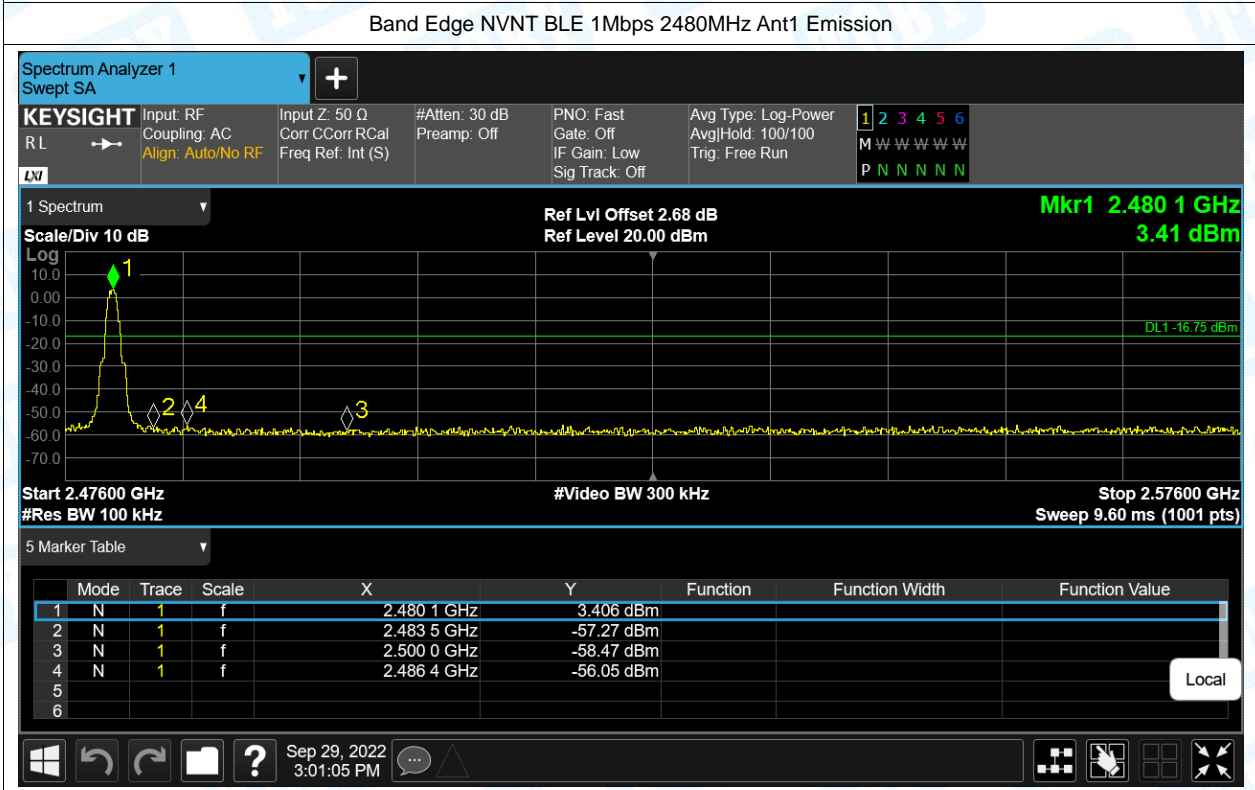
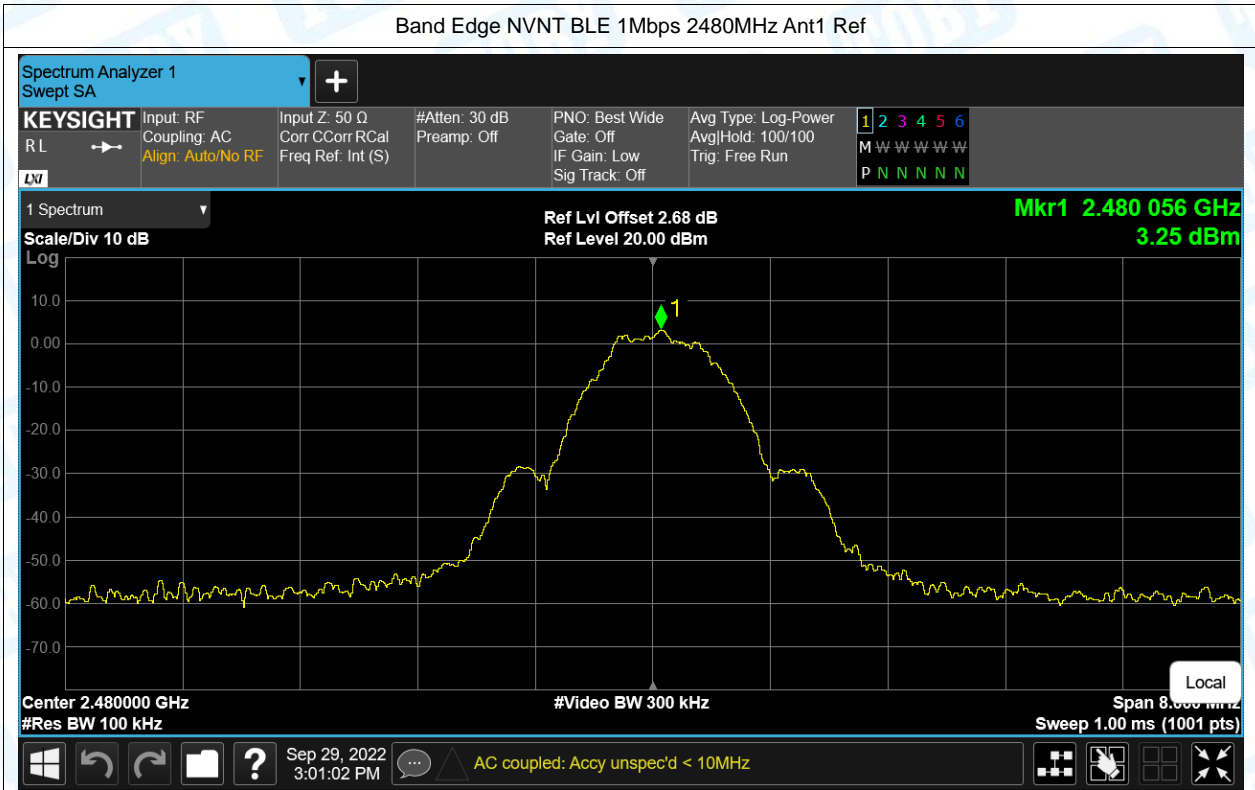
#### Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Ref

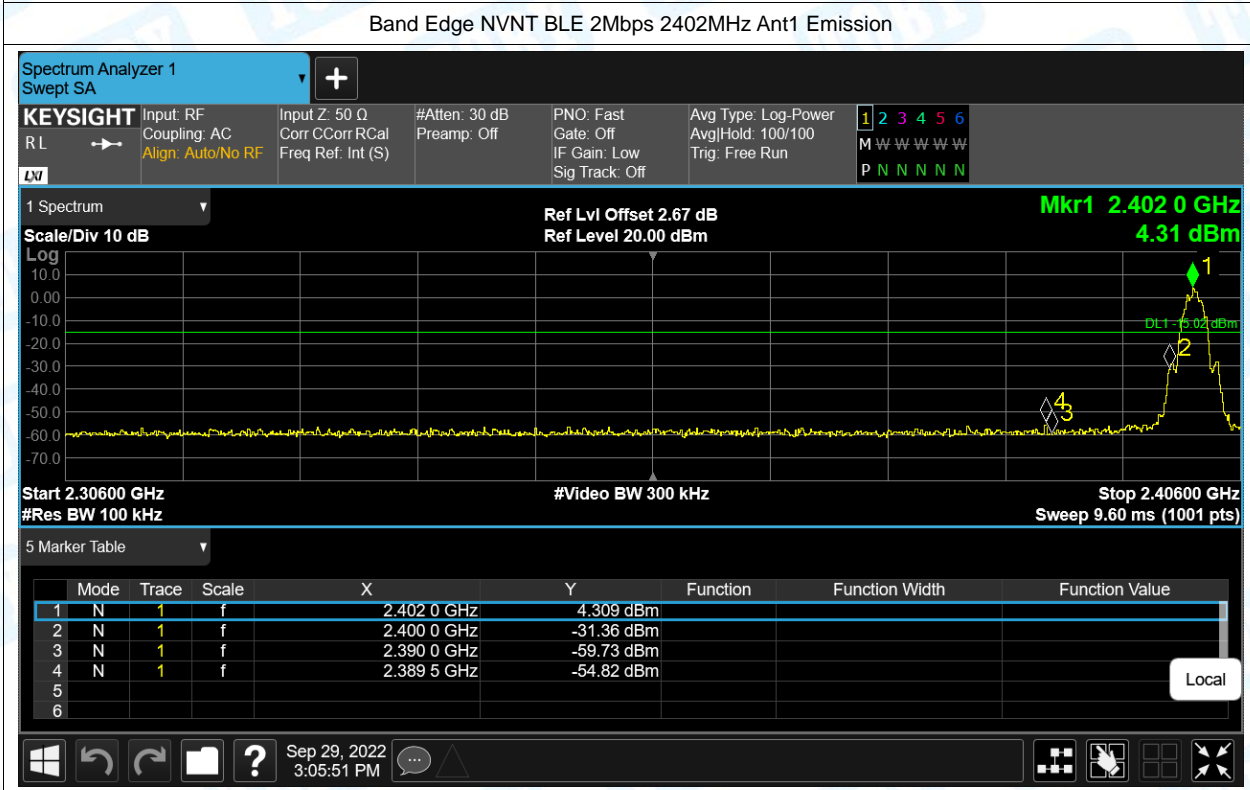
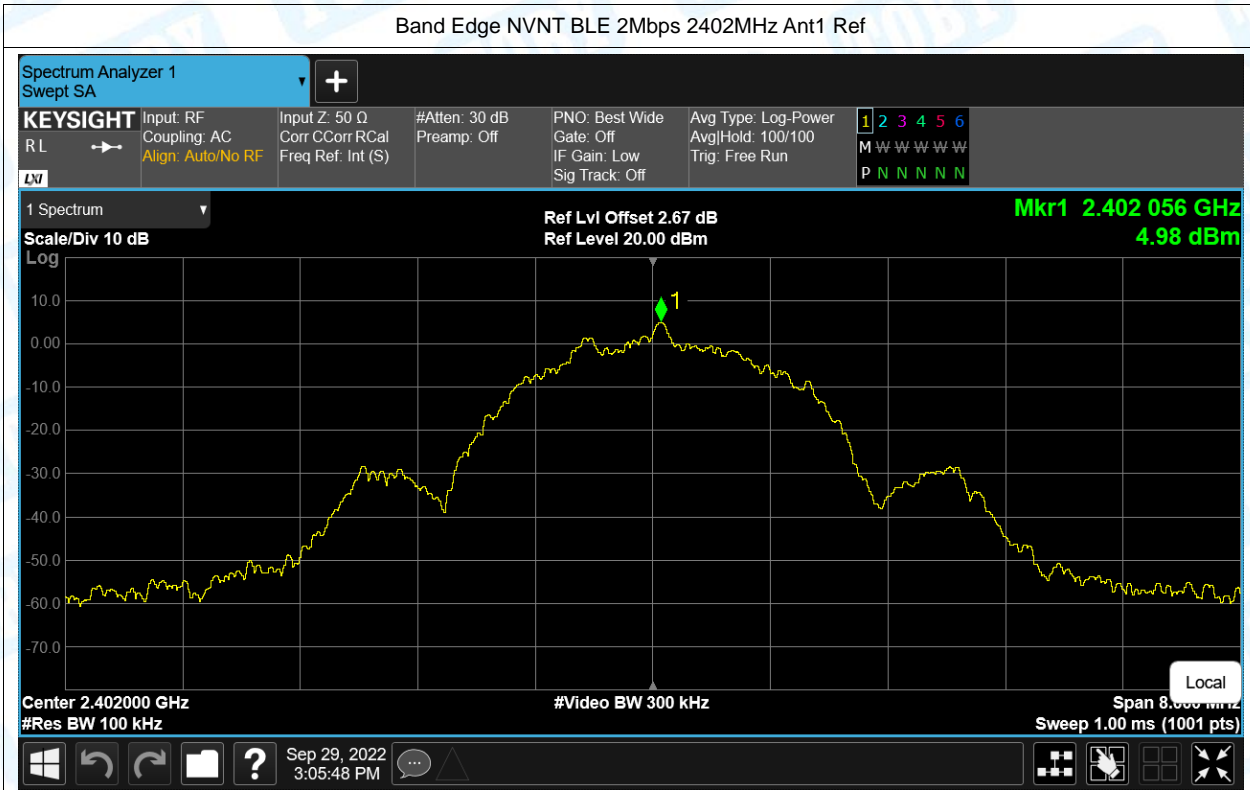


#### Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Emission

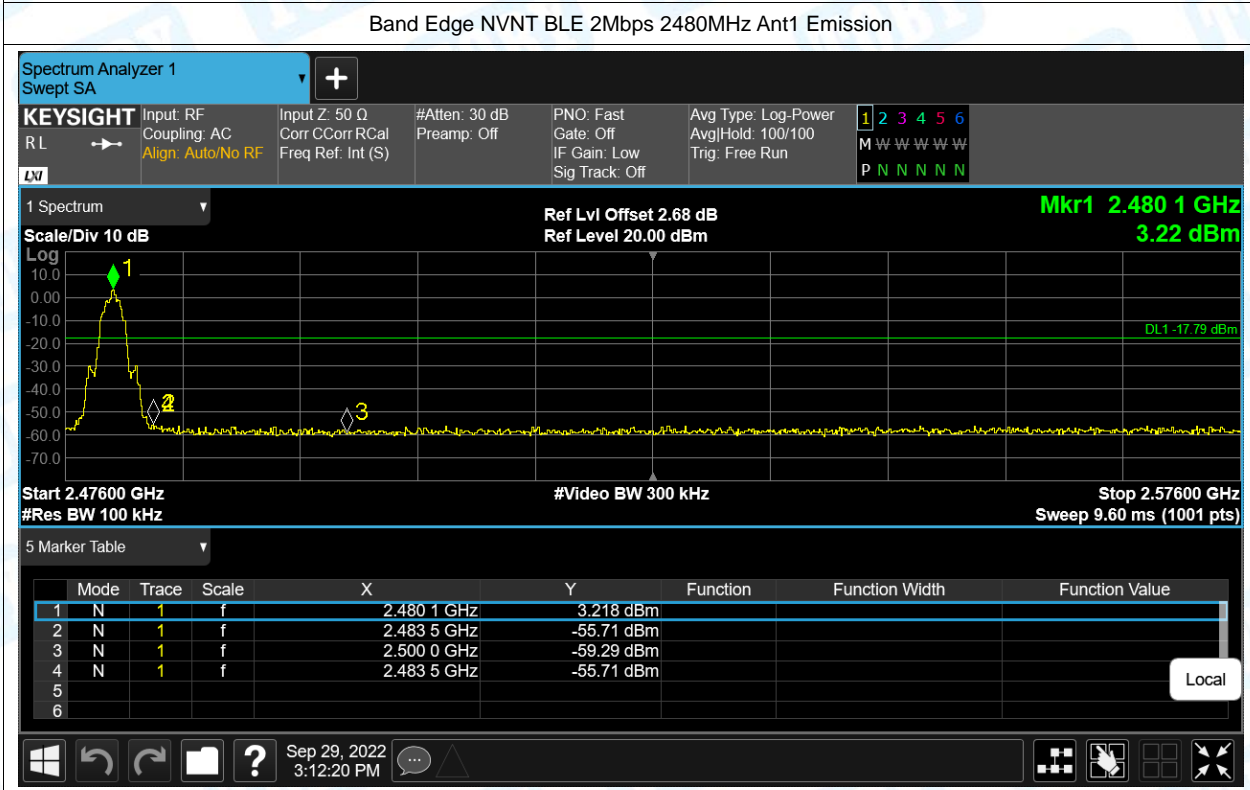
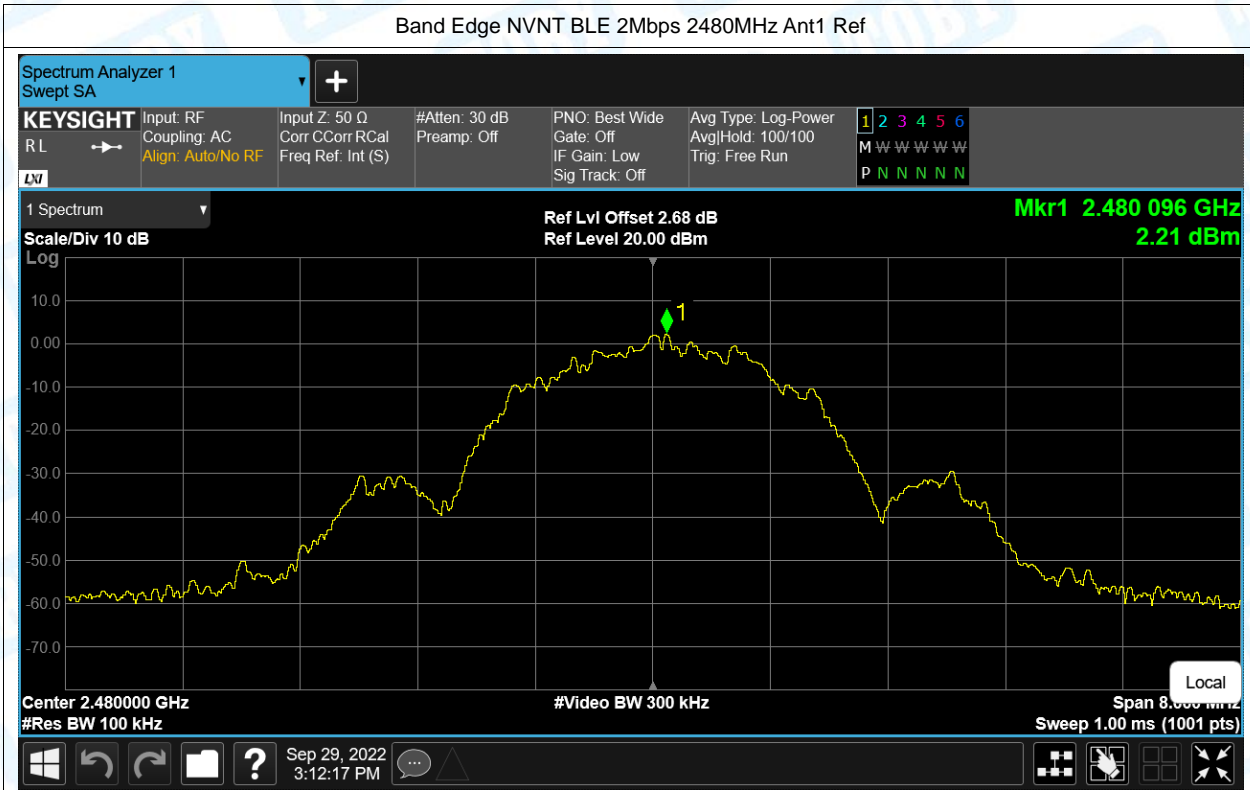












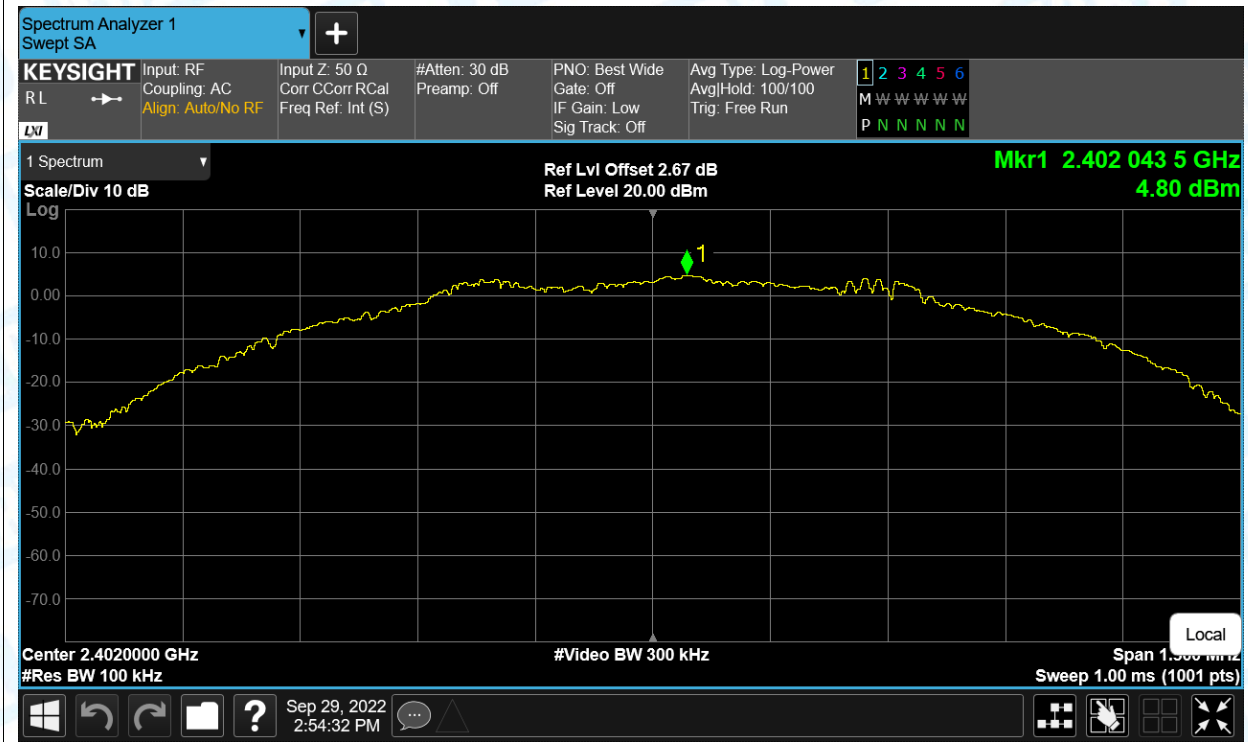
## 7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-41.83	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-41.75	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-41.64	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-41.04	-20	Pass
NVNT	BLE 2Mbps	2440	Ant1	-38.34	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-44.29	-20	Pass

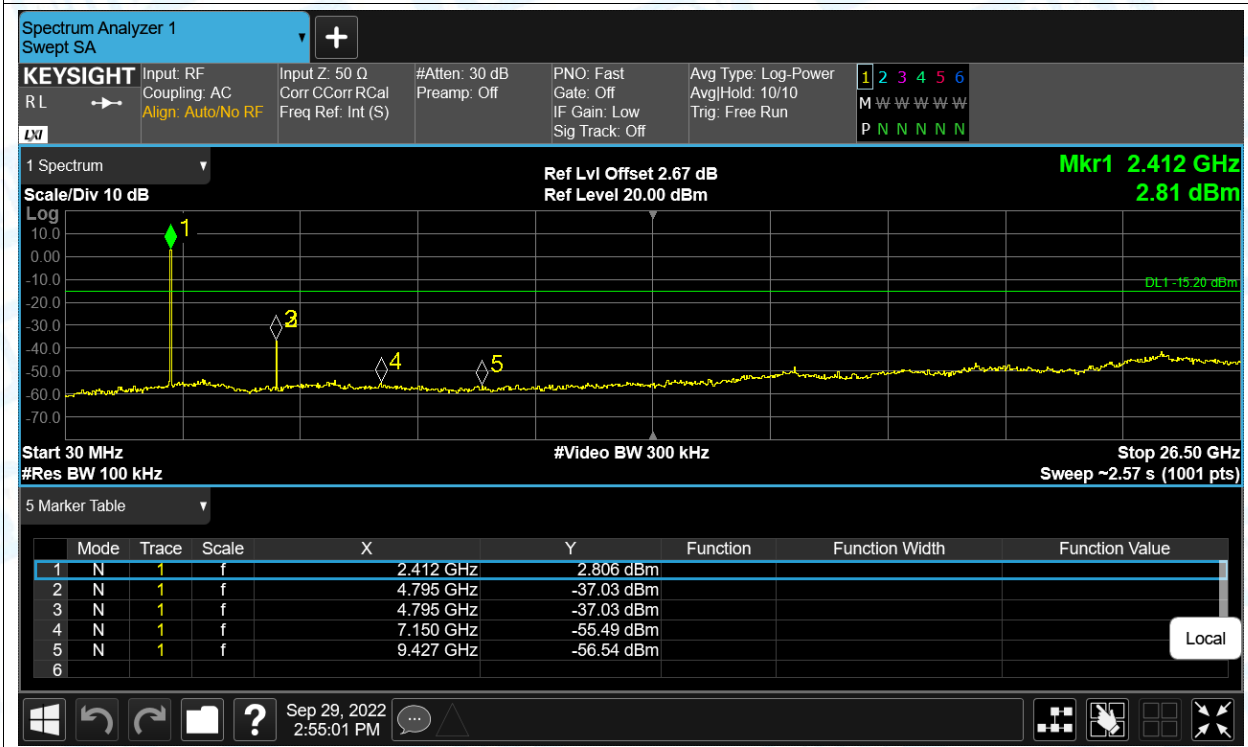


Test Graphs

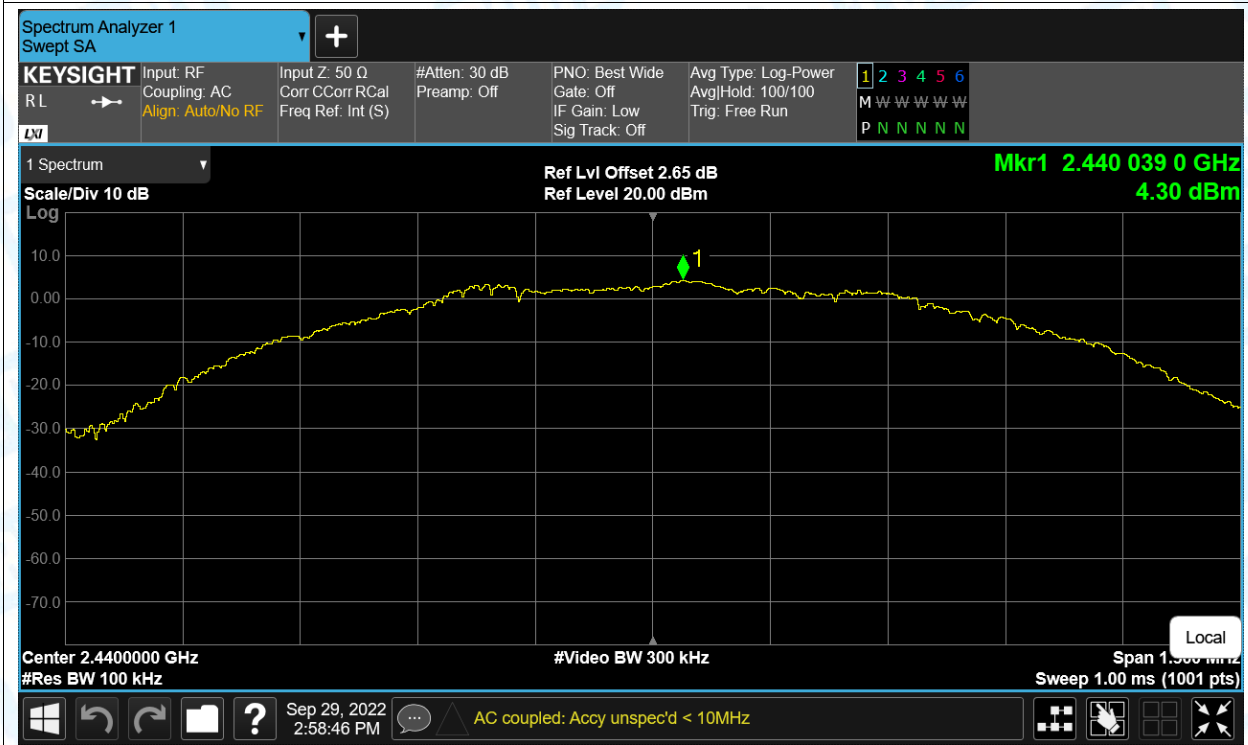
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Ref



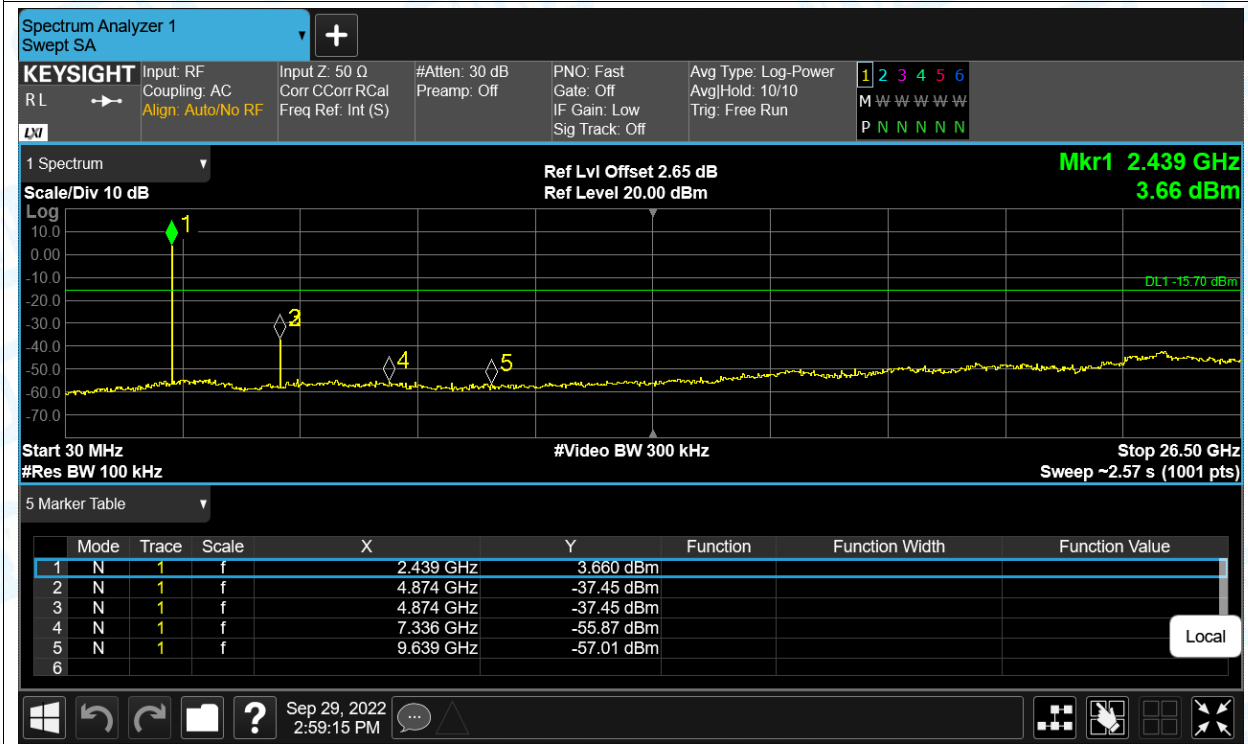
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Emission



### Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Ref

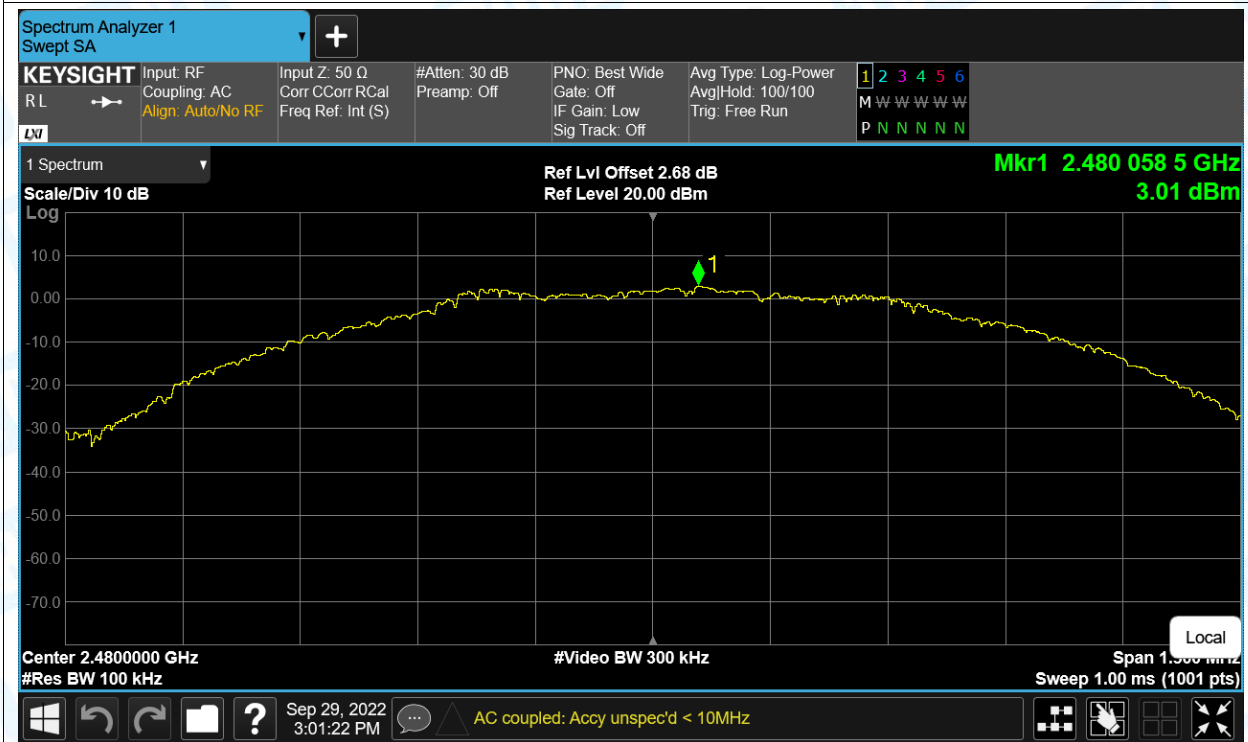


### Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Emission

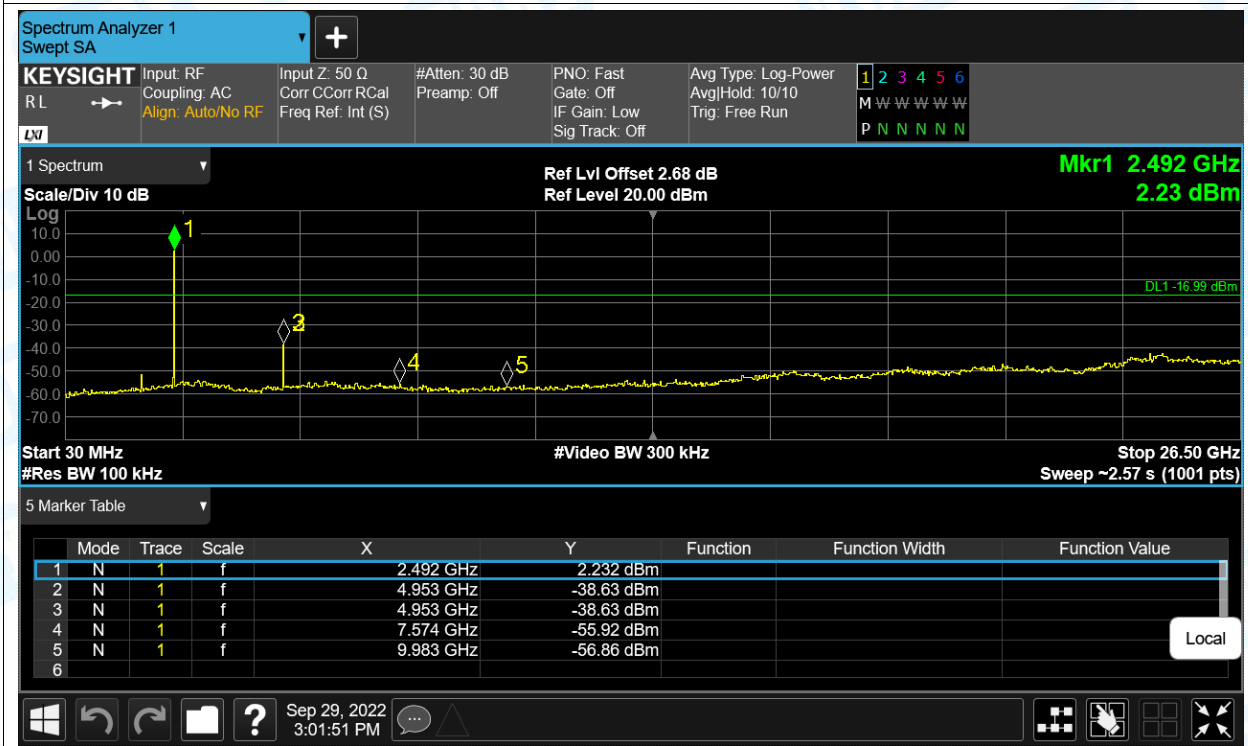




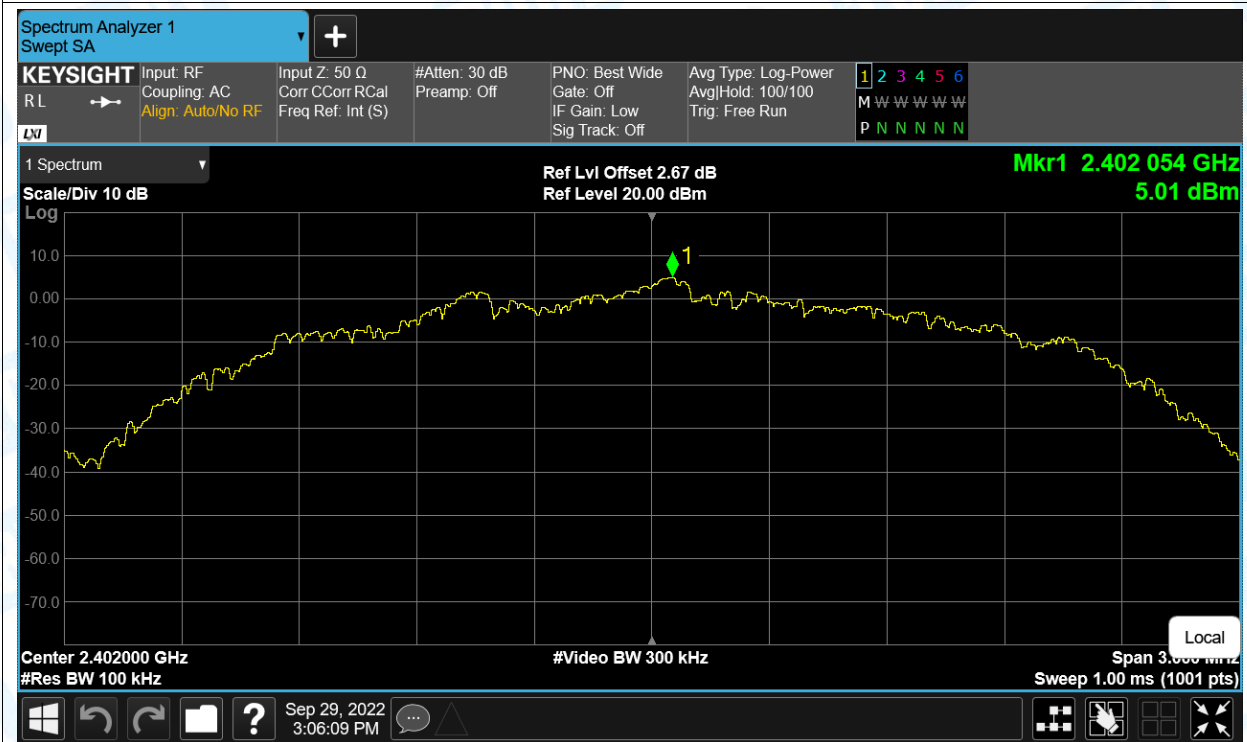
### Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Ref



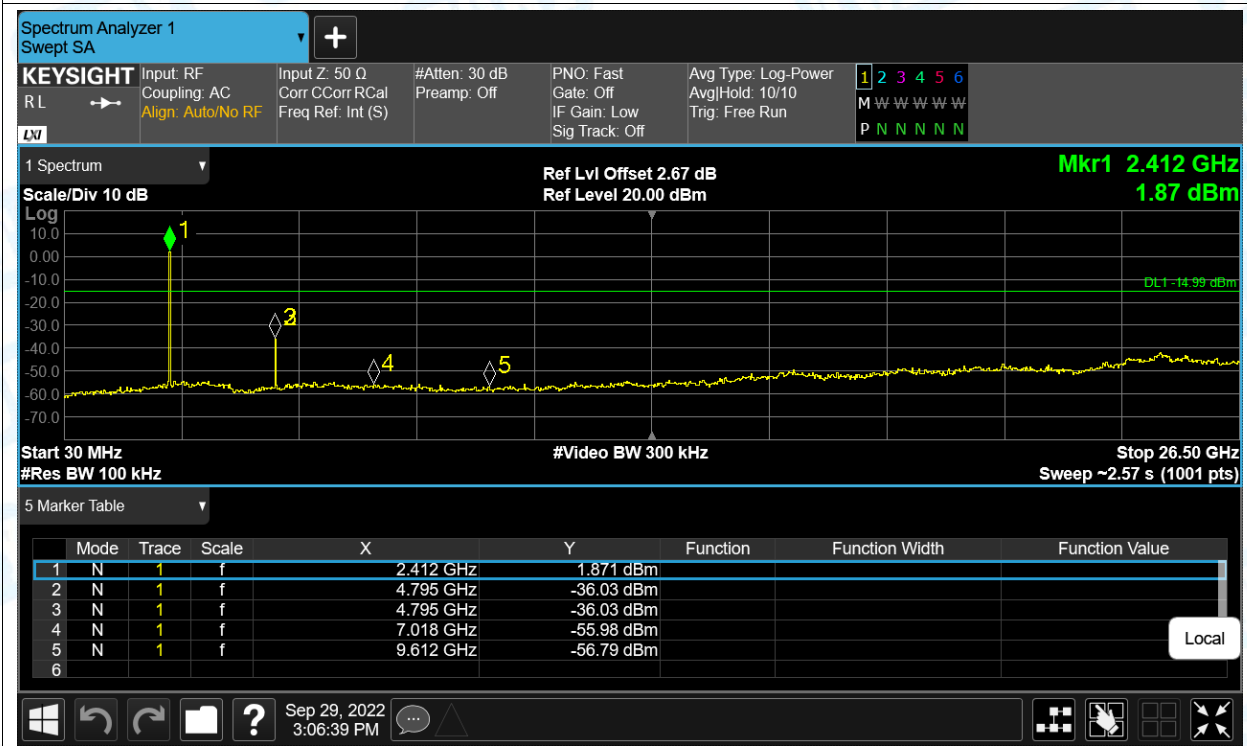
### Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Ref

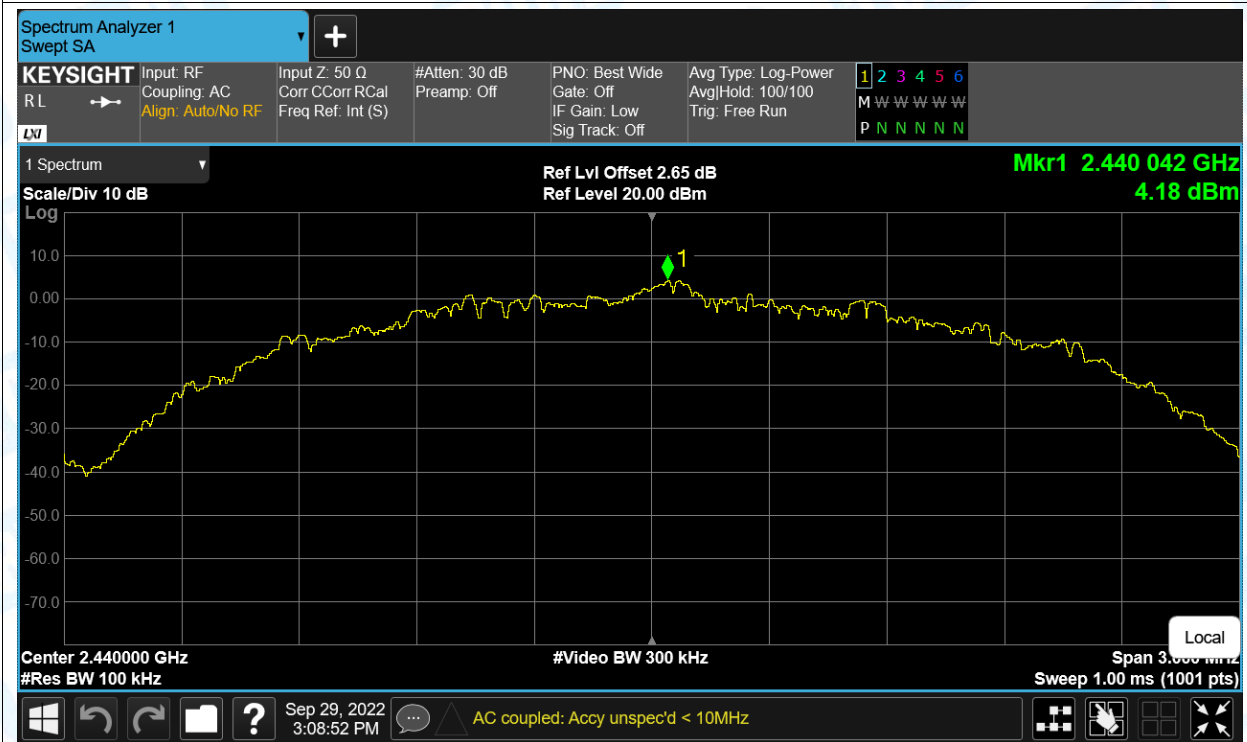


Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Emission

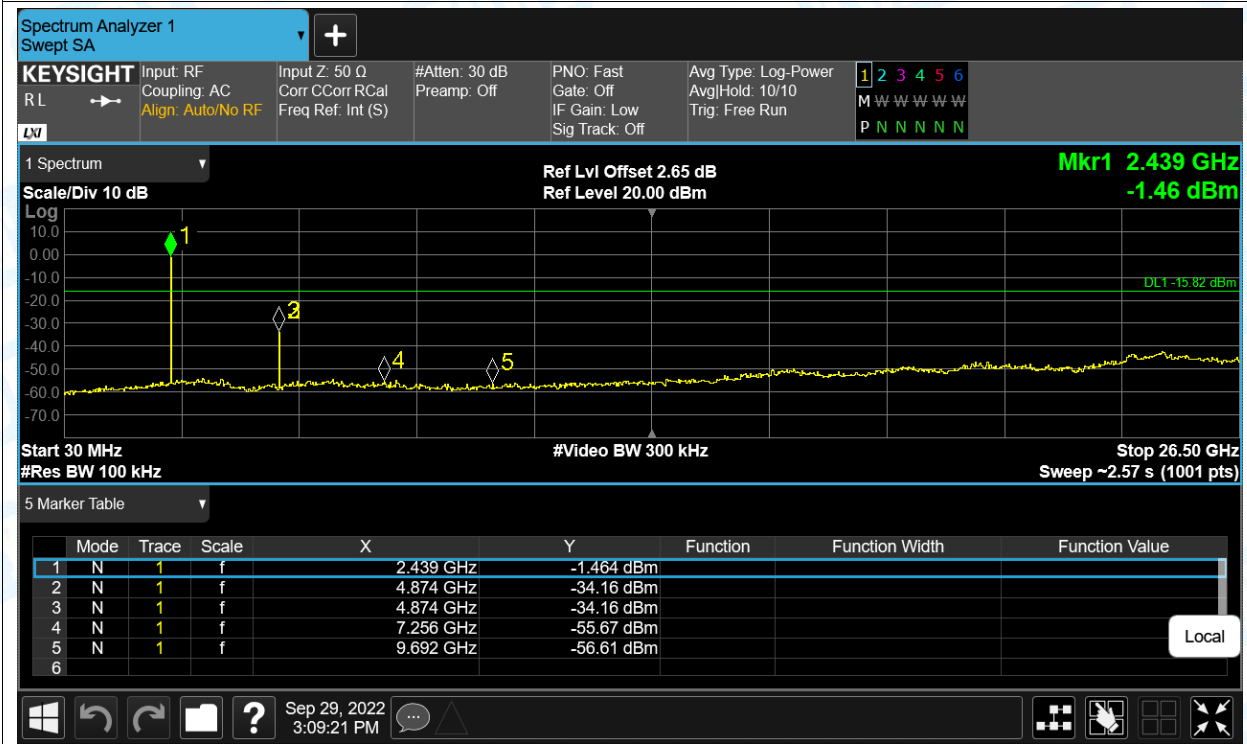




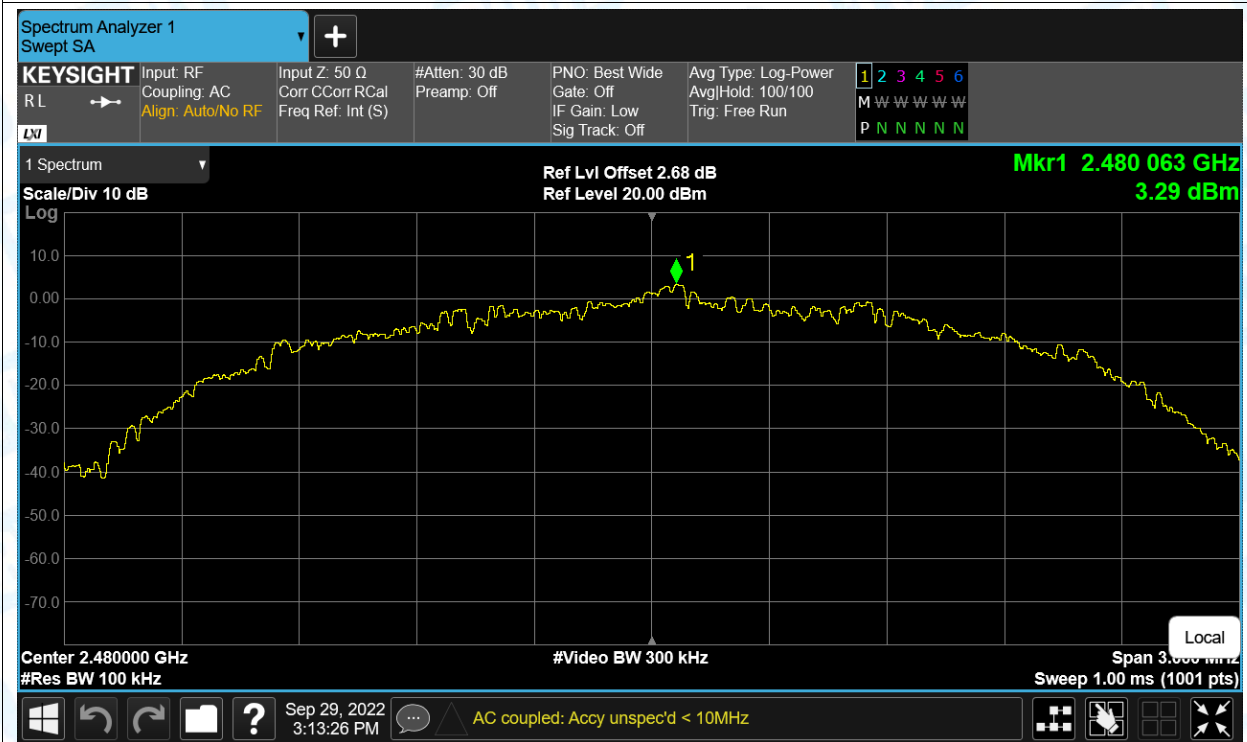
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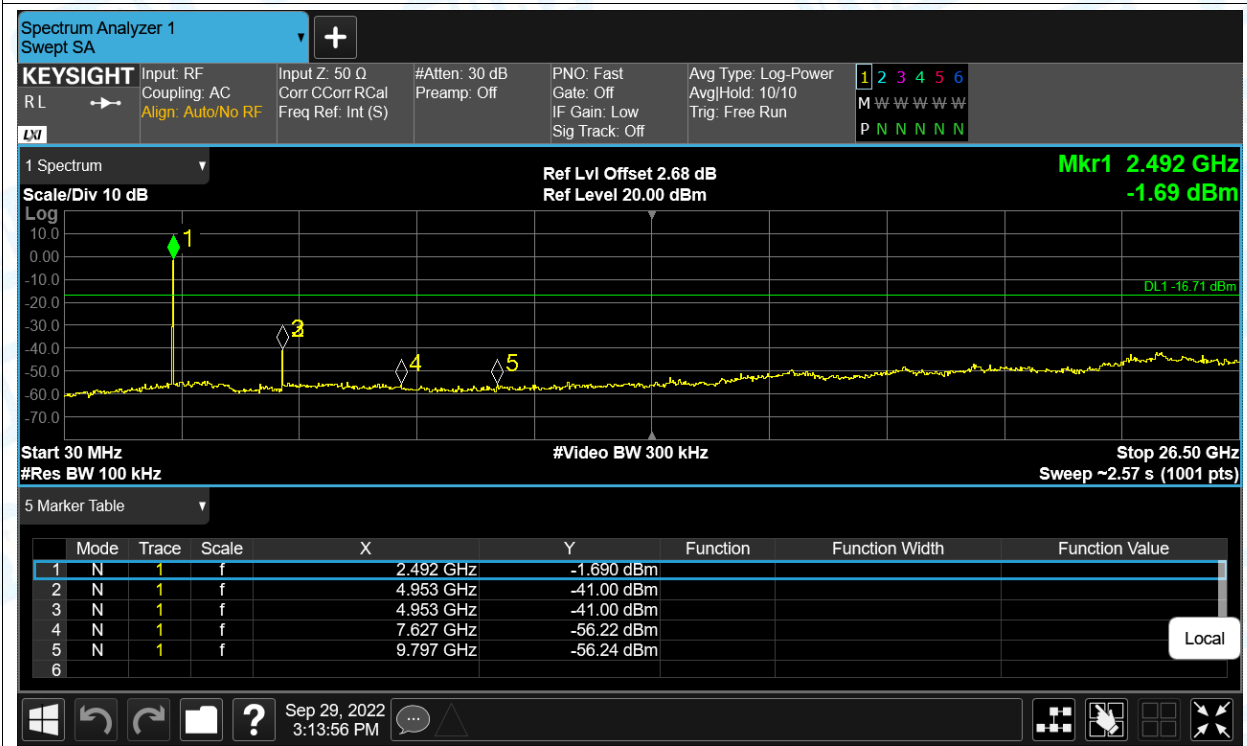
### Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Emission



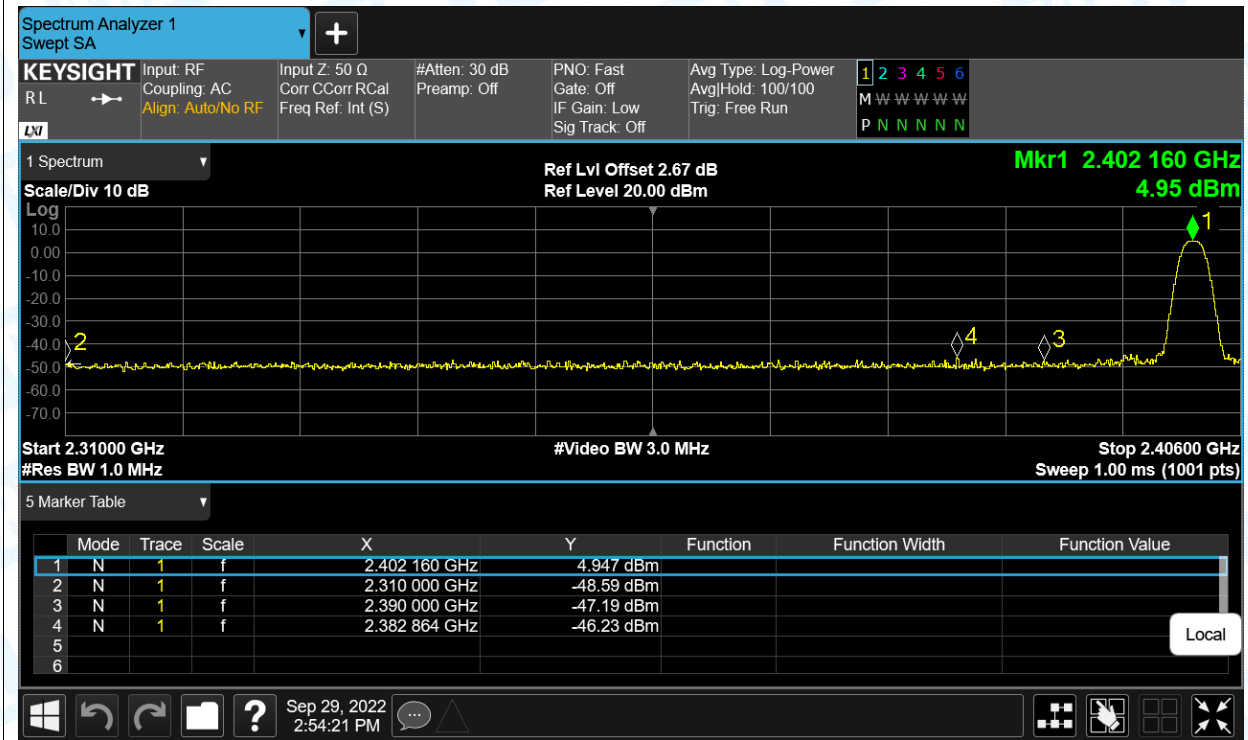


## 8. Restrict Band

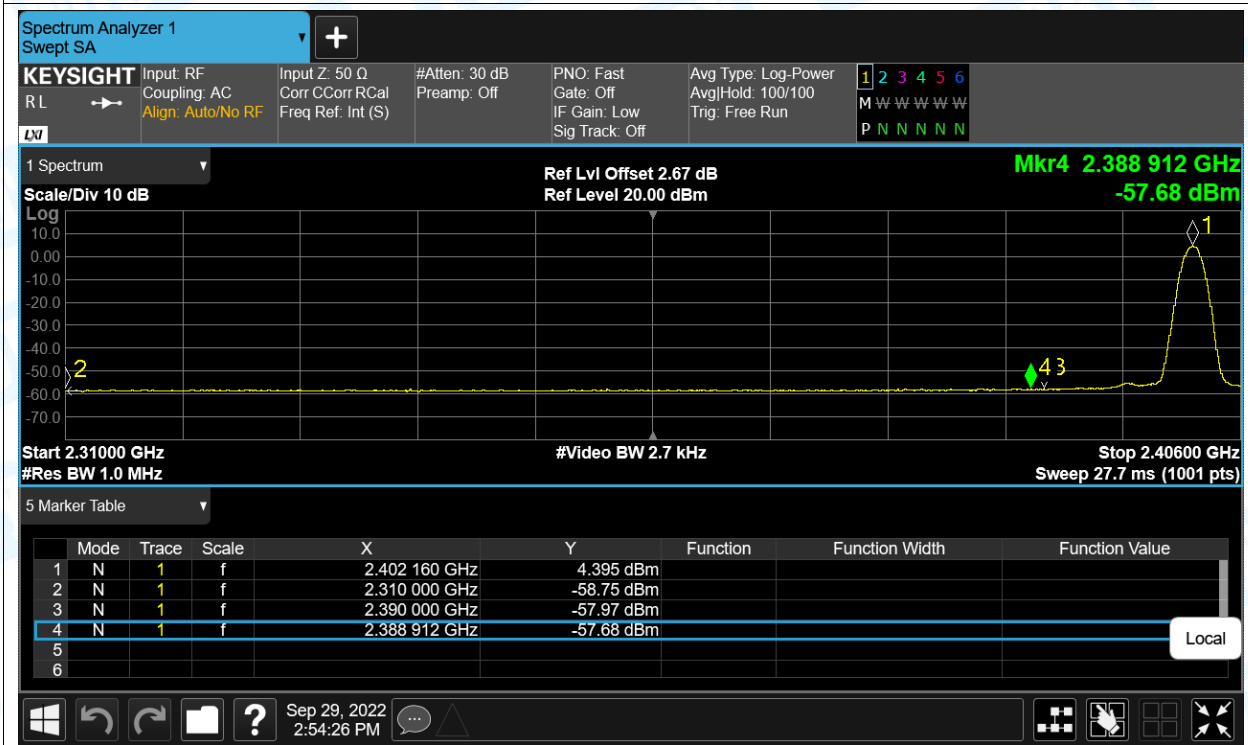
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	2310	-48.59	2	48.67	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2310	-58.75	2	38.51	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2382.864	-46.23	2	51.03	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2388.912	-57.68	2	39.58	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-49.2	2	48.06	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-58.2	2	39.06	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-47.36	2	49.9	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-56.65	2	40.61	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2484.28	-45.87	2	51.39	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.728	-56.6	2	40.66	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-48.68	2	48.58	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-58.16	2	39.1	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-49.3	2	47.96	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-58.1	2	39.16	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2352.336	-46.85	2	50.41	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2389.488	-56.95	2	40.31	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-50.22	2	47.04	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-57.68	2	39.58	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-45.43	2	51.83	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-53.24	2	44.02	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.728	-44.36	2	52.9	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.512	-53.24	2	44.02	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-49.29	2	47.97	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-57.47	2	39.79	Average	54	Pass

### Test Graphs

#### Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Peak

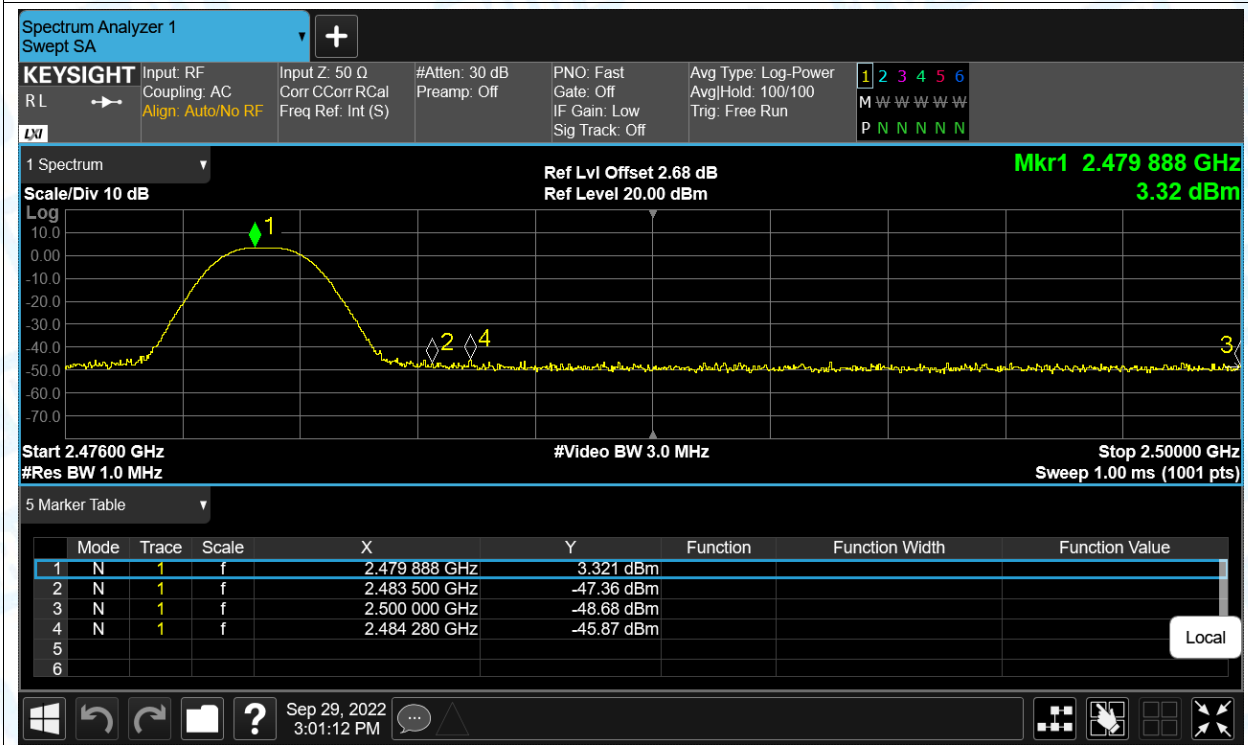


#### Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Average

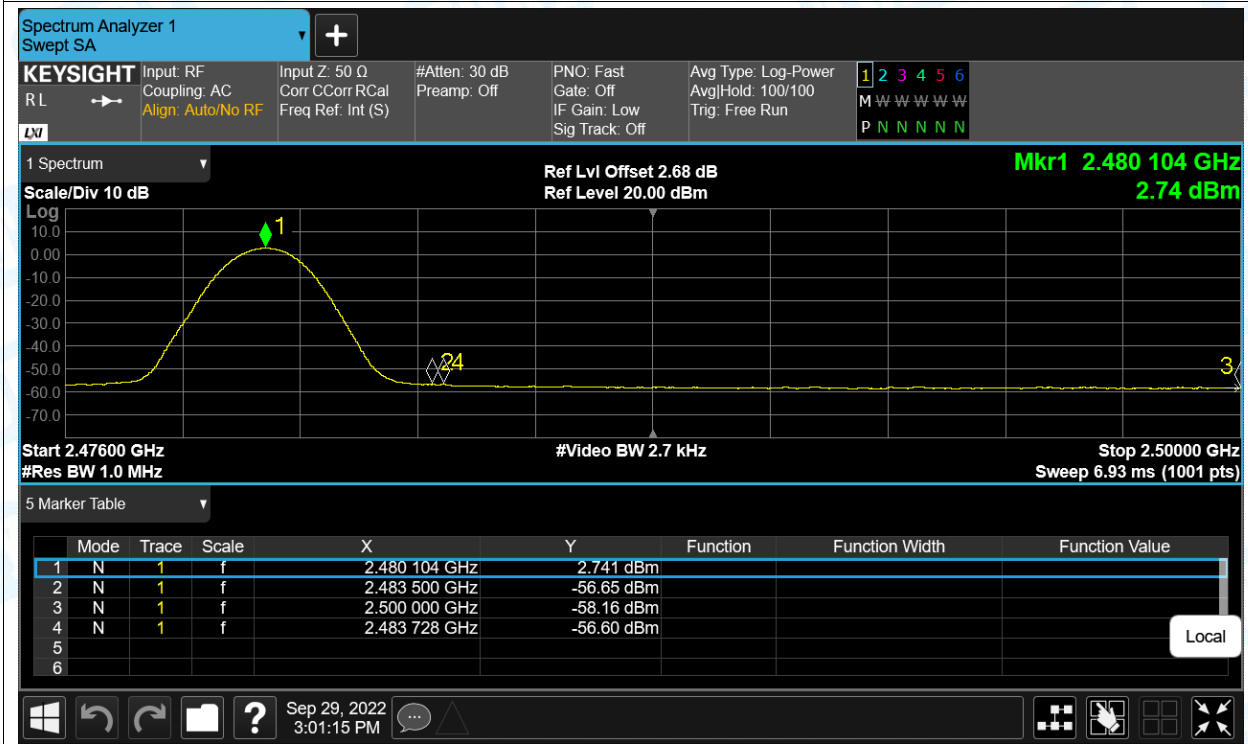


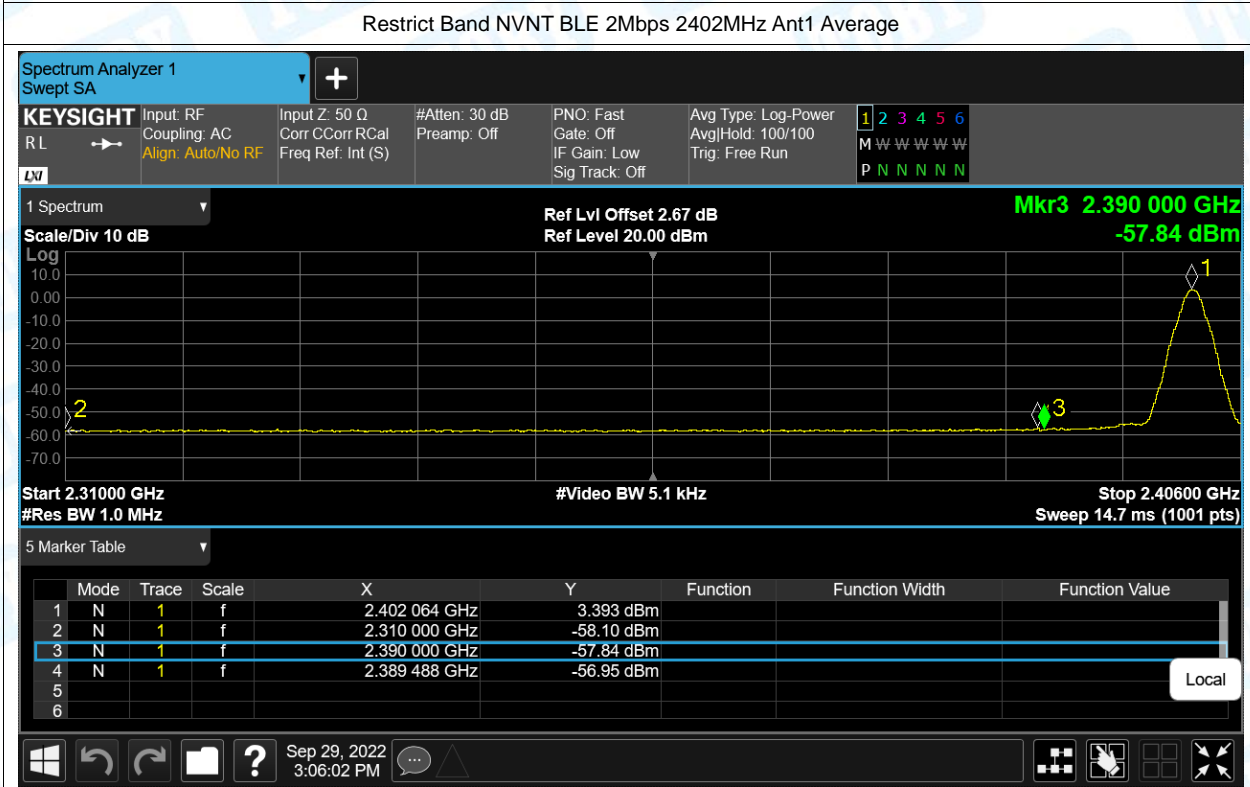
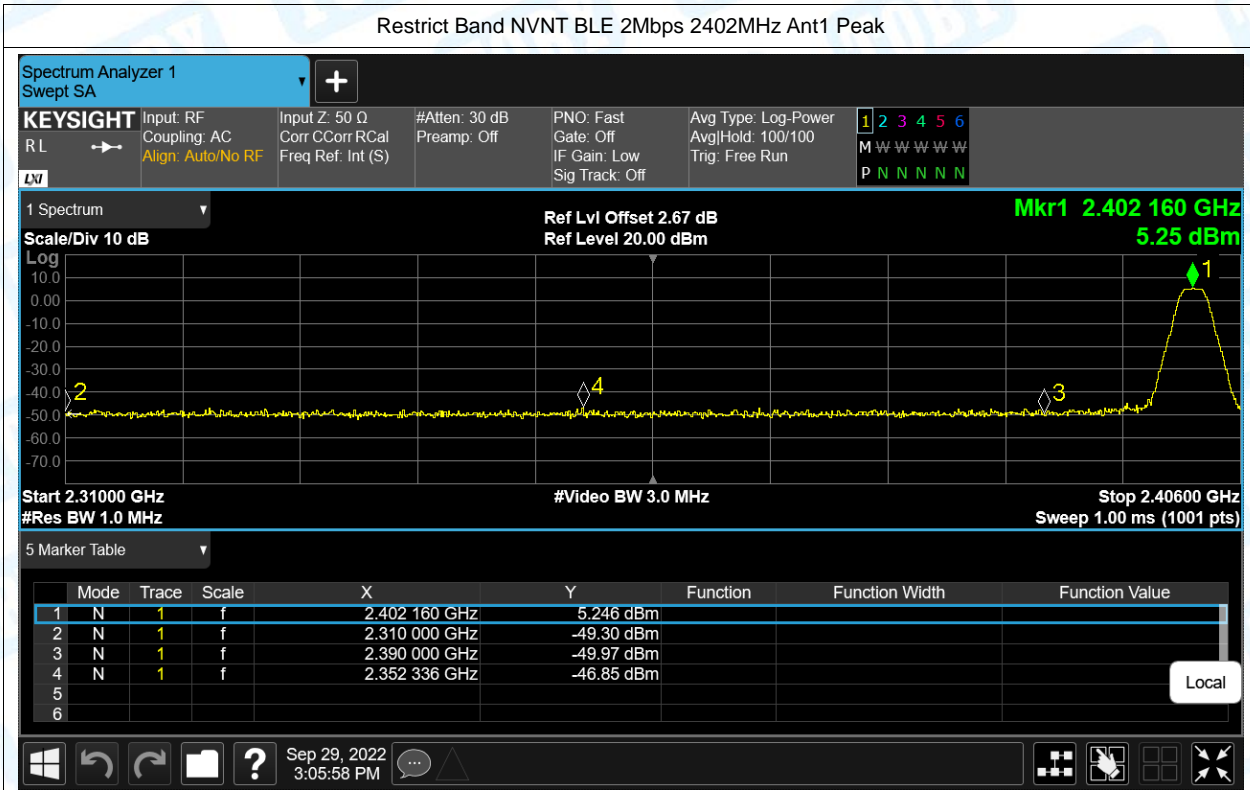


### Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Peak

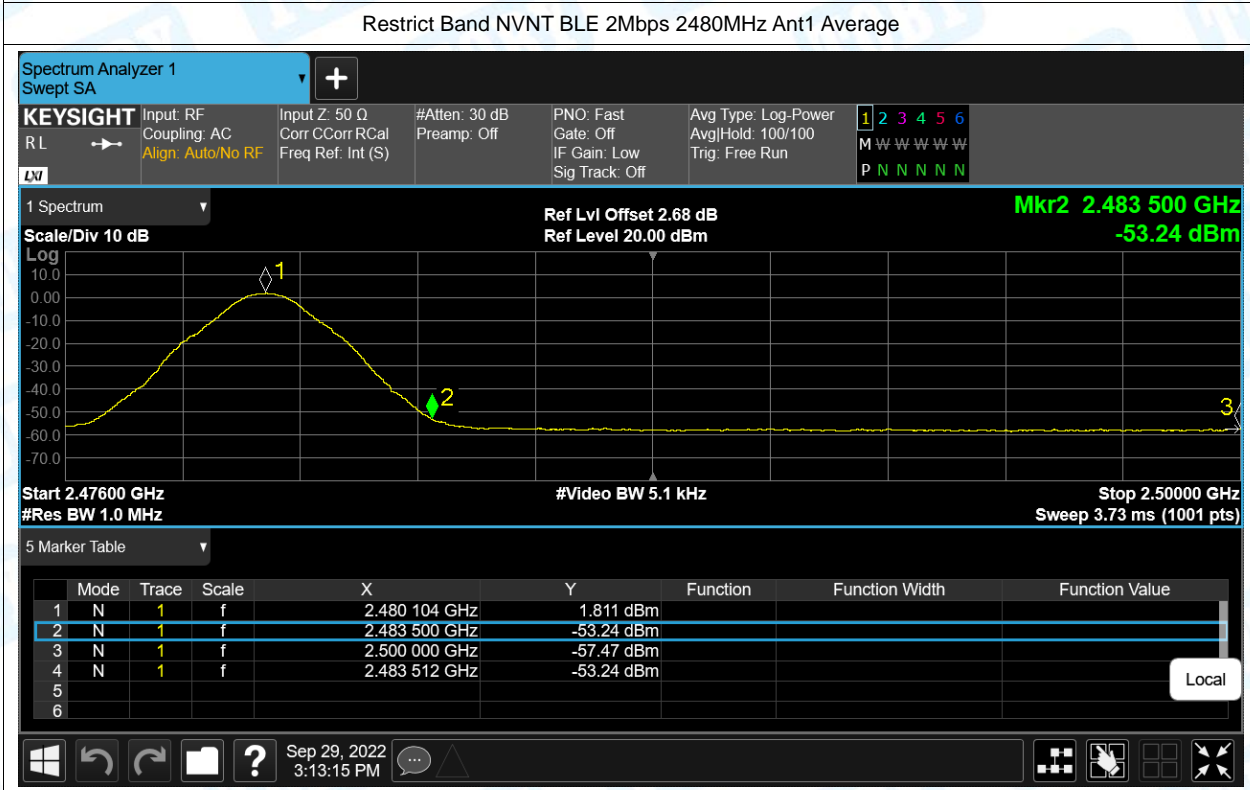
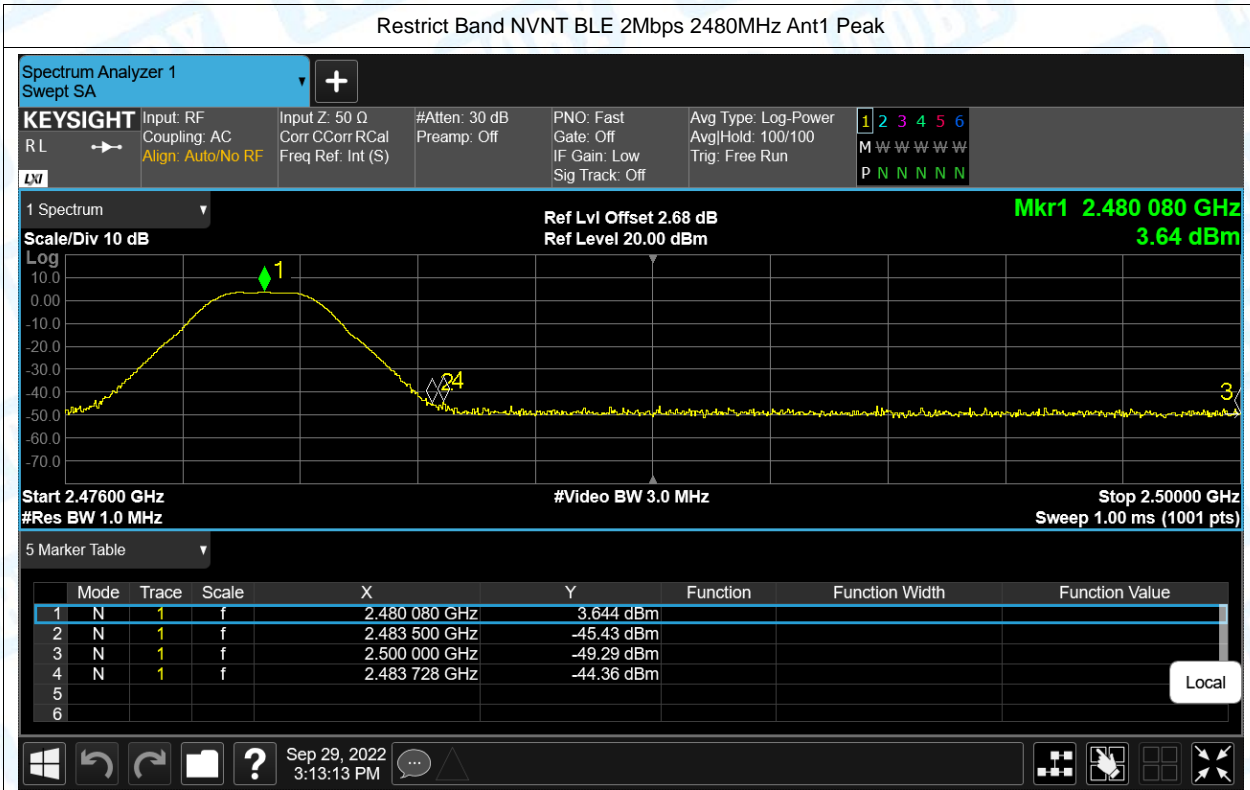


### Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Average









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