RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	**Tablet**
Test Model:	**P13**
Sample ID:	**HC-C-202503-0390-01-02#**
Environmental Conditions	
Temperature:	**25℃**
Relative Humidity:	**55%**
Test Voltage:	**DC 3.8V**
Test Engineer:	**Rick Chen**
Note: For a more detailed features description, please refer to the report TBR-C-202503-0390-3 The report only show the worst case data.	

Contents

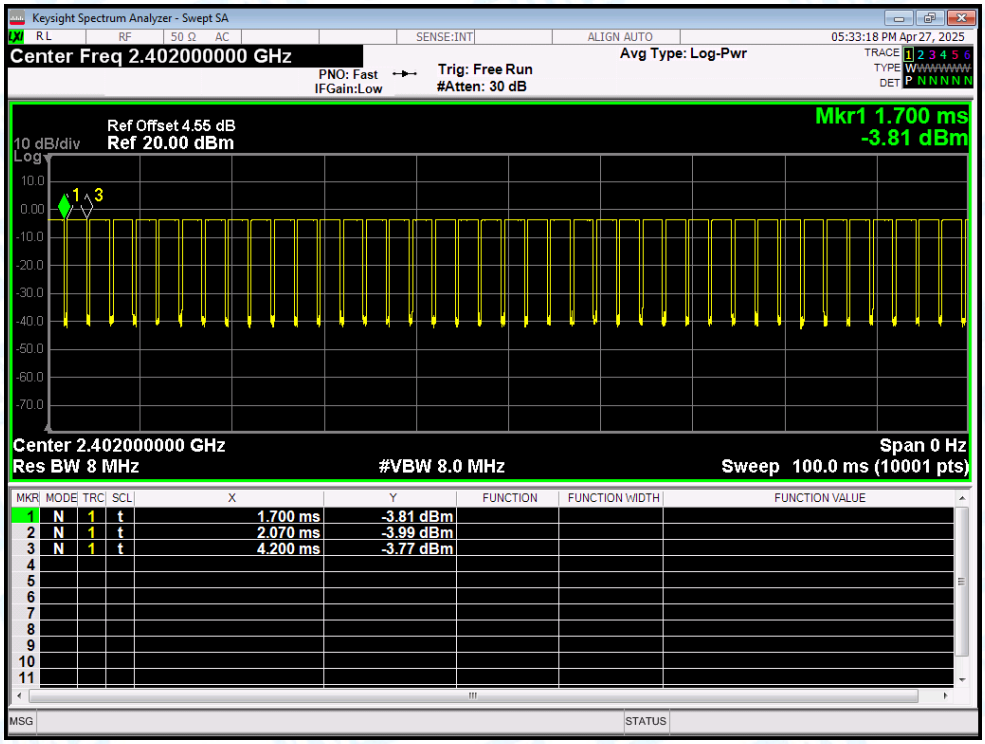
1.Duty Cycle....3
2.Maximum Conducted Output Power....7
3.-6dB Bandwidth....11
4.Occupied Channel Bandwidth....15
5.Maximum Power Spectral Density Level....19
6.Band Edge....23
7.Conducted RF Spurious Emission....28
8.Restrict Band....35

1.Duty Cycle

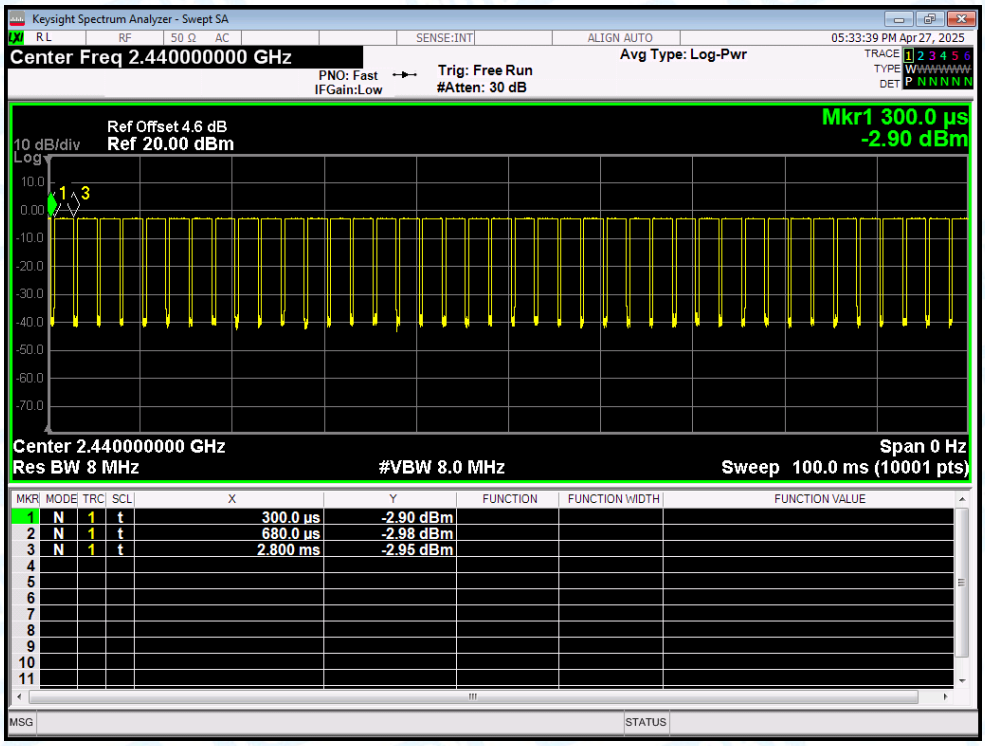
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	85.2	0.7	0.47
NVNT	BLE 1Mbps	2440	Ant1	84.8	0.72	0.47
NVNT	BLE 1Mbps	2480	Ant1	84.8	0.72	0.47
NVNT	BLE 2Mbps	2402	Ant1	57.45	2.41	0.93
NVNT	BLE 2Mbps	2440	Ant1	57.22	2.42	0.93
NVNT	BLE 2Mbps	2480	Ant1	56.91	2.45	0.93

Test Graphs

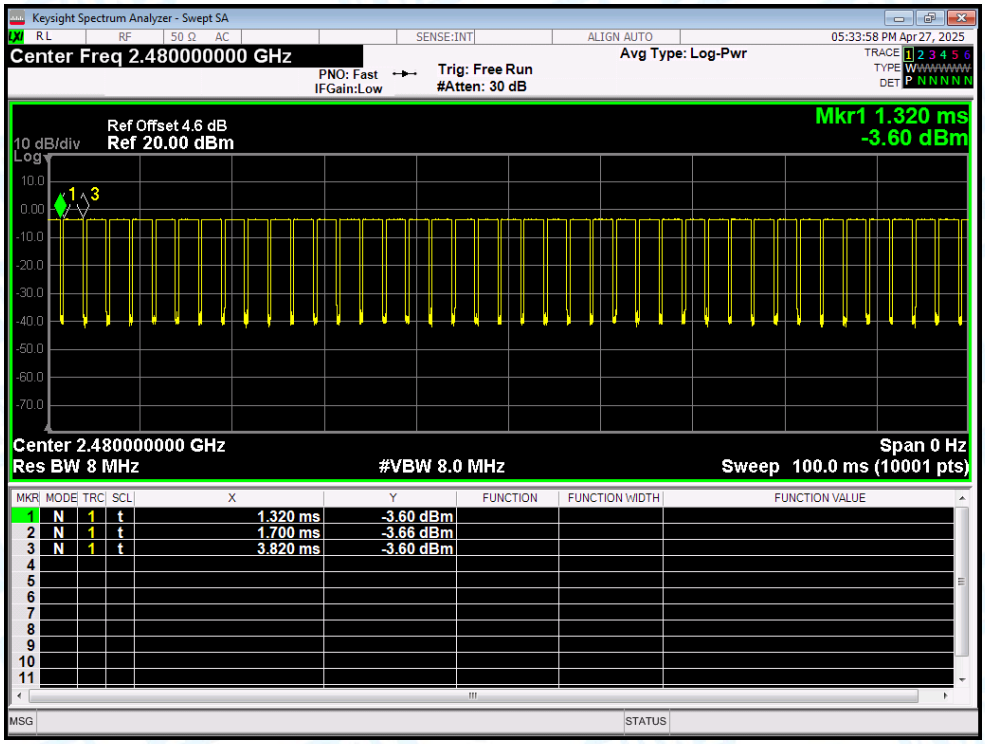
Duty Cycle NVNT BLE 1Mbps 2402MHz Ant1



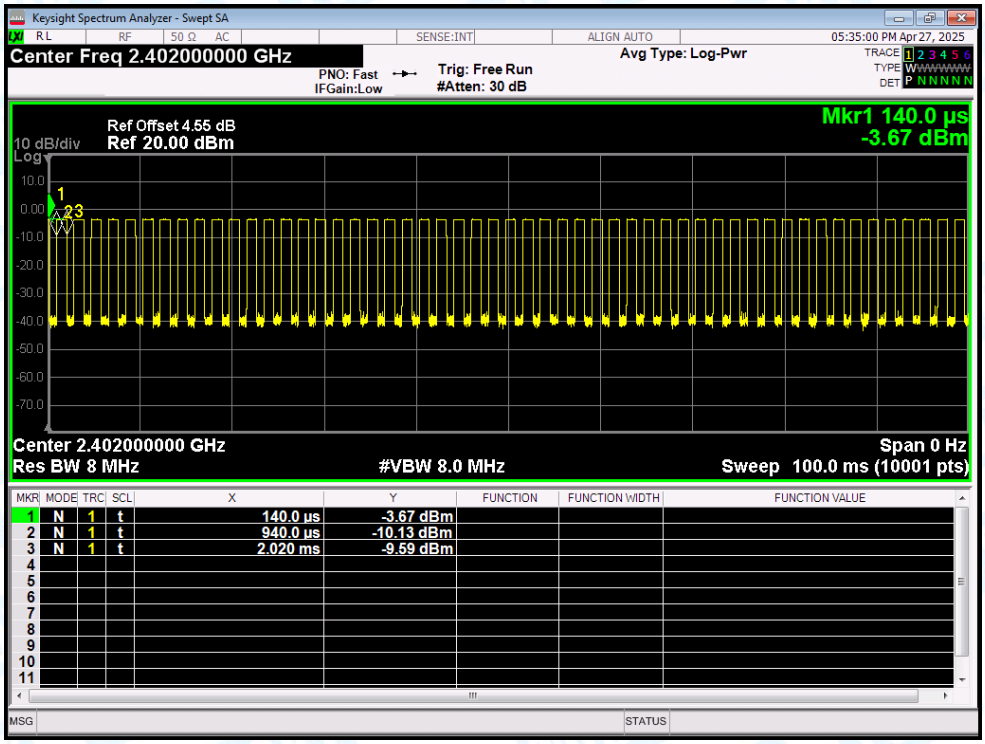
Duty Cycle NVNT BLE 1Mbps 2440MHz Ant1



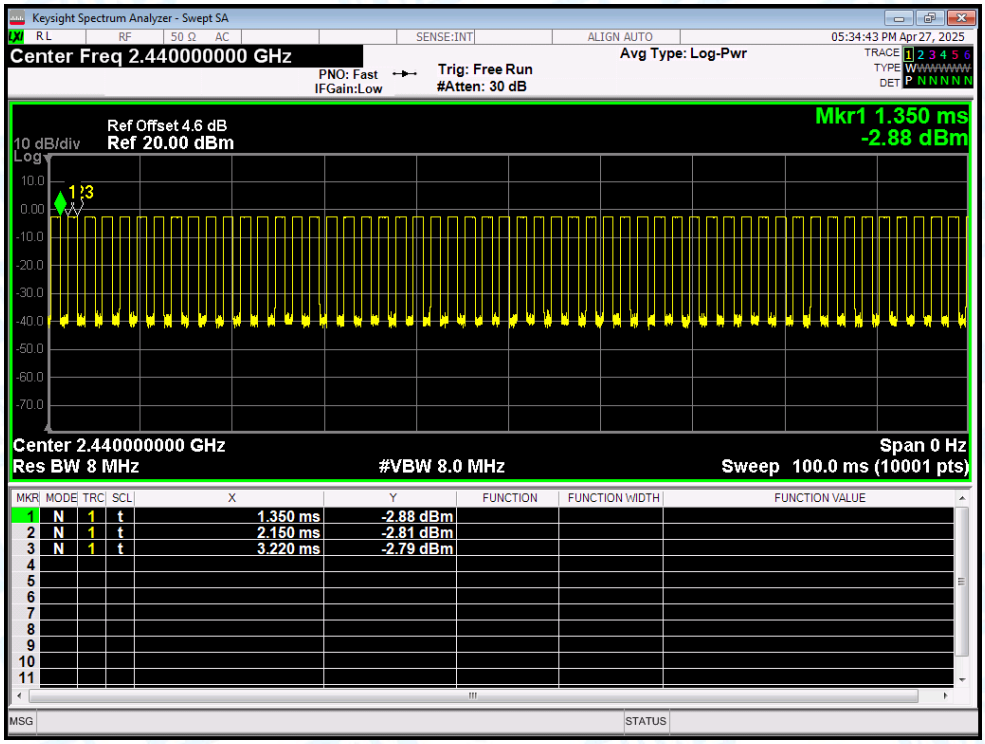
Duty Cycle NVNT BLE 1Mbps 2480MHz Ant1



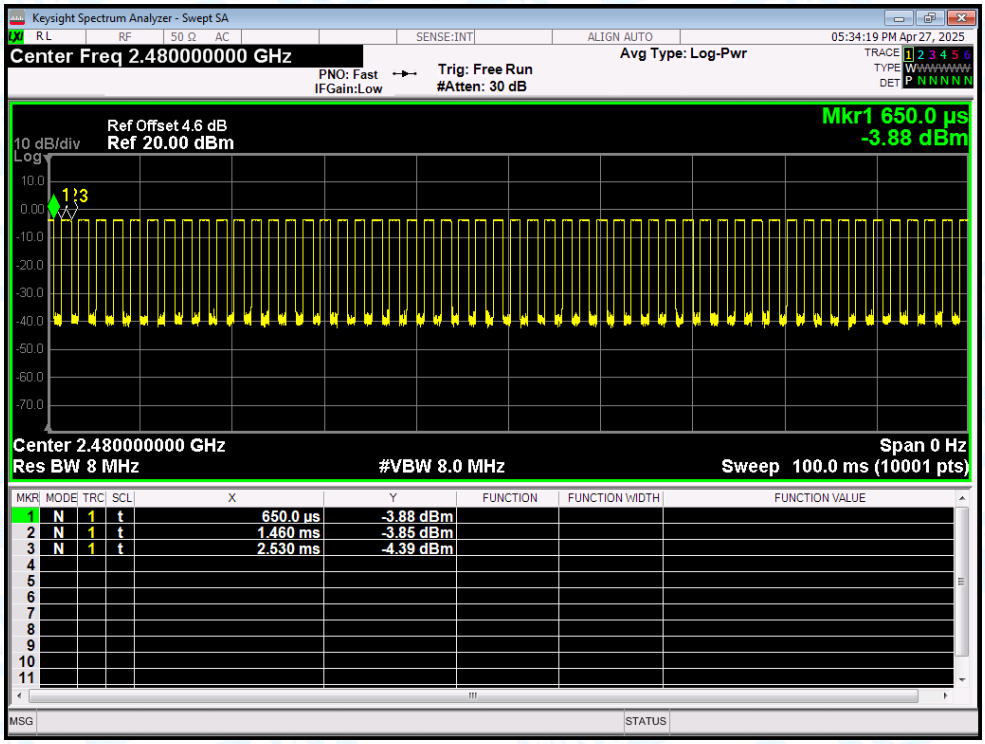
Duty Cycle NVNT BLE 2Mbps 2402MHz Ant1



Duty Cycle NVNT BLE 2Mbps 2440MHz Ant1



Duty Cycle NVNT BLE 2Mbps 2480MHz Ant1

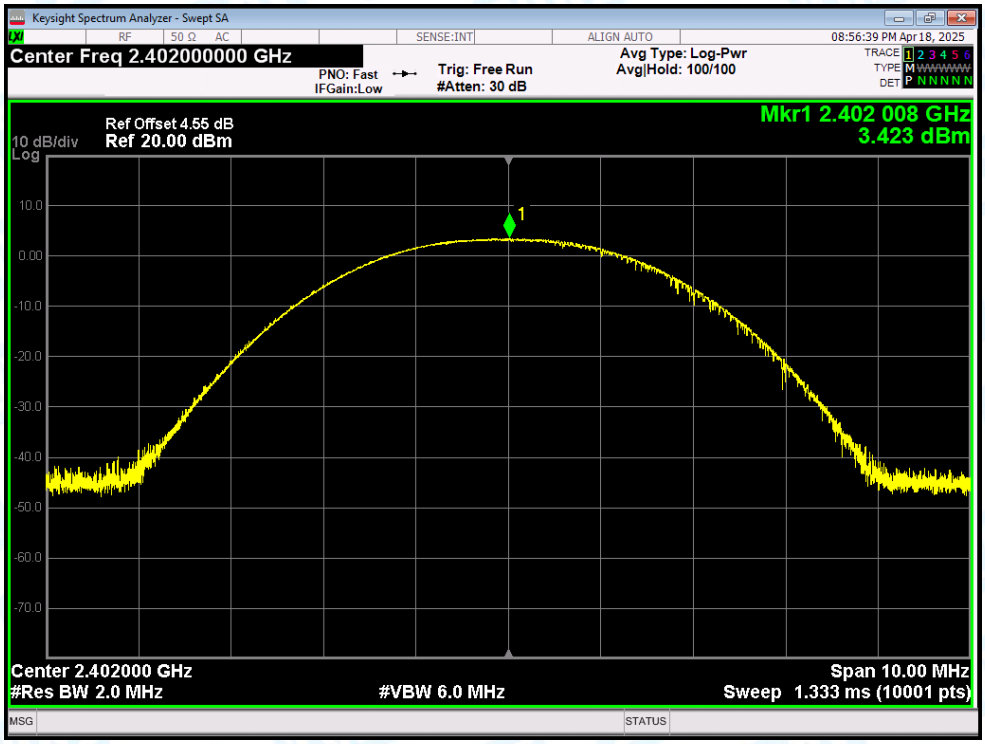


2.Maximum Conducted Output Power

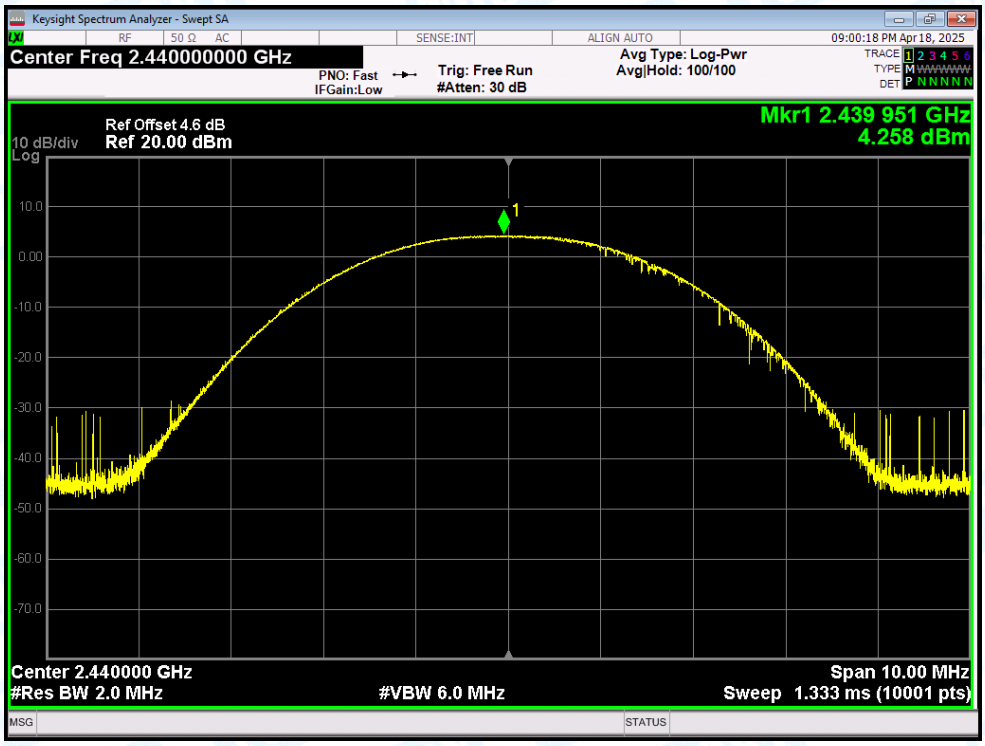
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	3.423	30	Pass
NVNT	BLE 1Mbps	2440	Ant1	4.258	30	Pass
NVNT	BLE 1Mbps	2480	Ant1	3.861	30	Pass
NVNT	BLE 2Mbps	2402	Ant1	3.259	30	Pass
NVNT	BLE 2Mbps	2440	Ant1	4.095	30	Pass
NVNT	BLE 2Mbps	2480	Ant1	3.681	30	Pass

Test Graphs

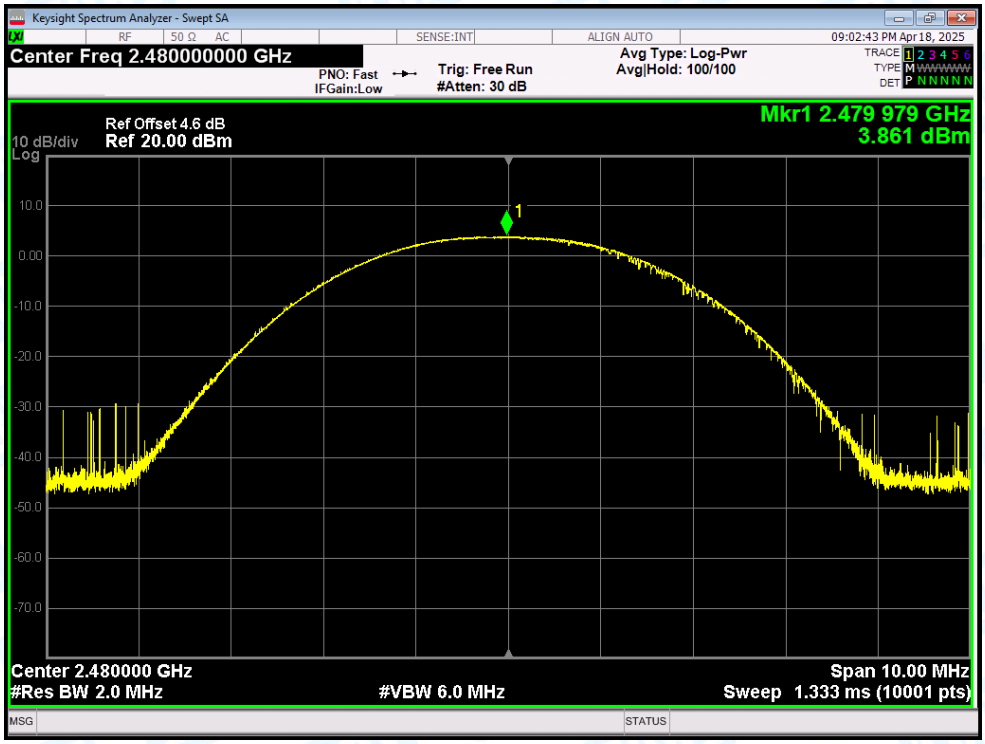
Power NVNT BLE 1Mbps 2402MHz Ant1



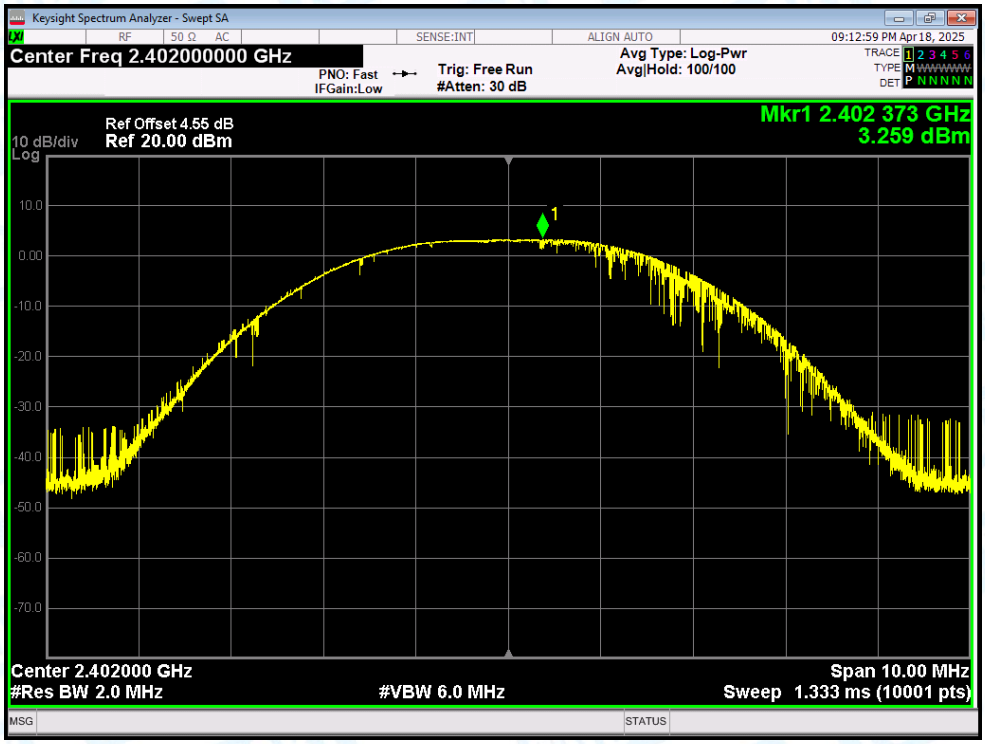
Power NVNT BLE 1Mbps 2440MHz Ant1



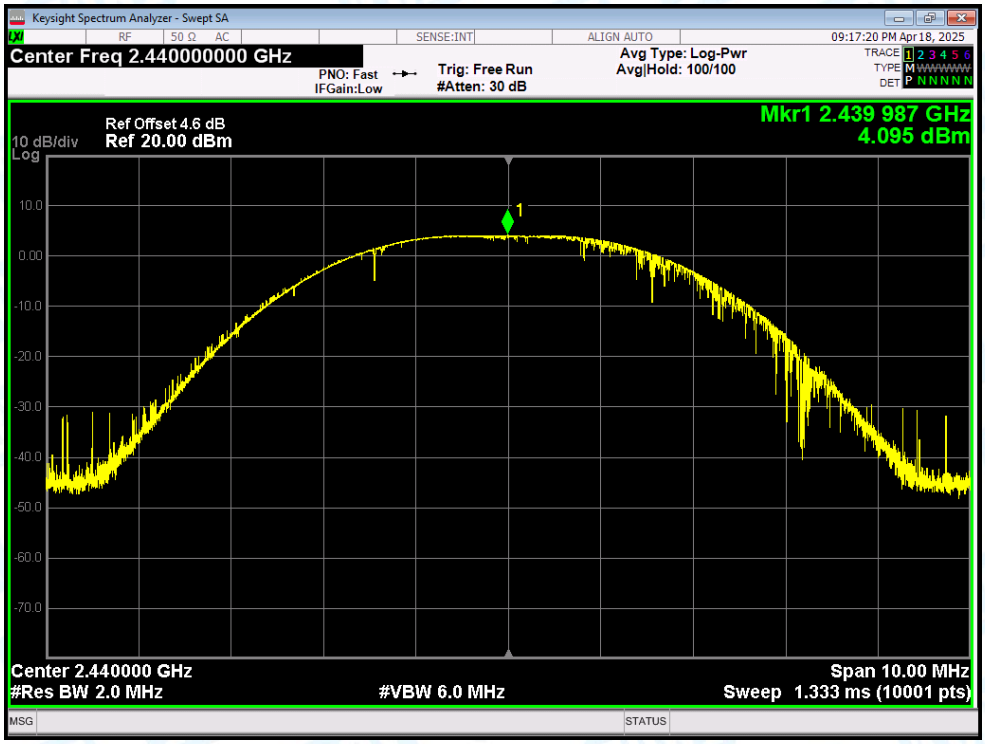
Power NVNT BLE 1Mbps 2480MHz Ant1



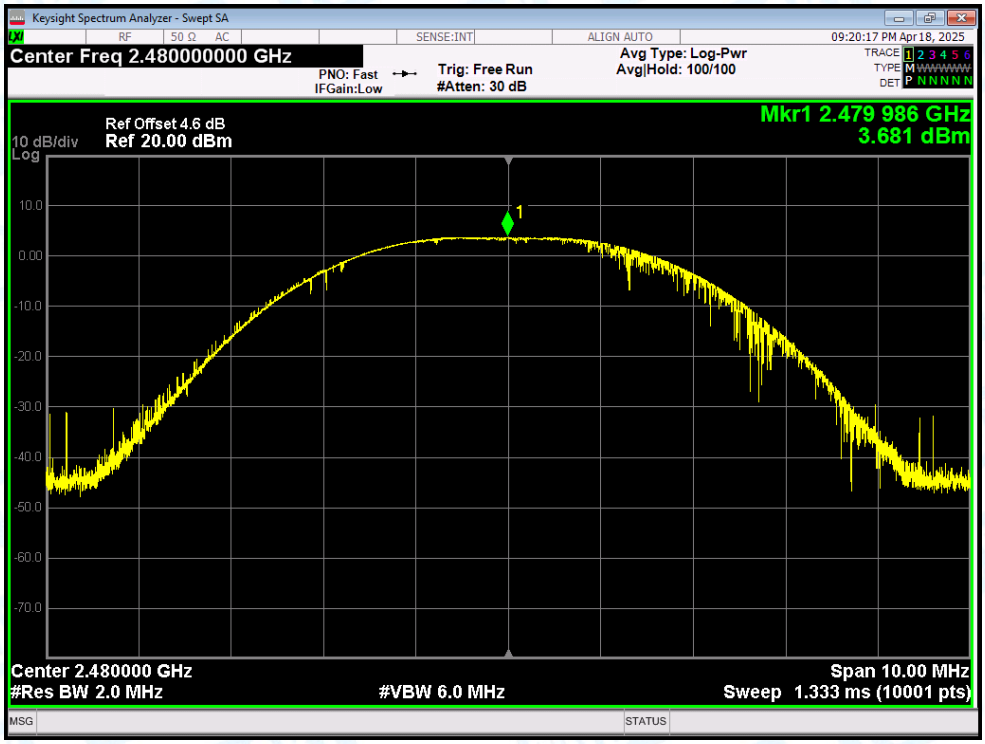
Power NVNT BLE 2Mbps 2402MHz Ant1



Power NVNT BLE 2Mbps 2440MHz Ant1



Power NVNT BLE 2Mbps 2480MHz Ant1

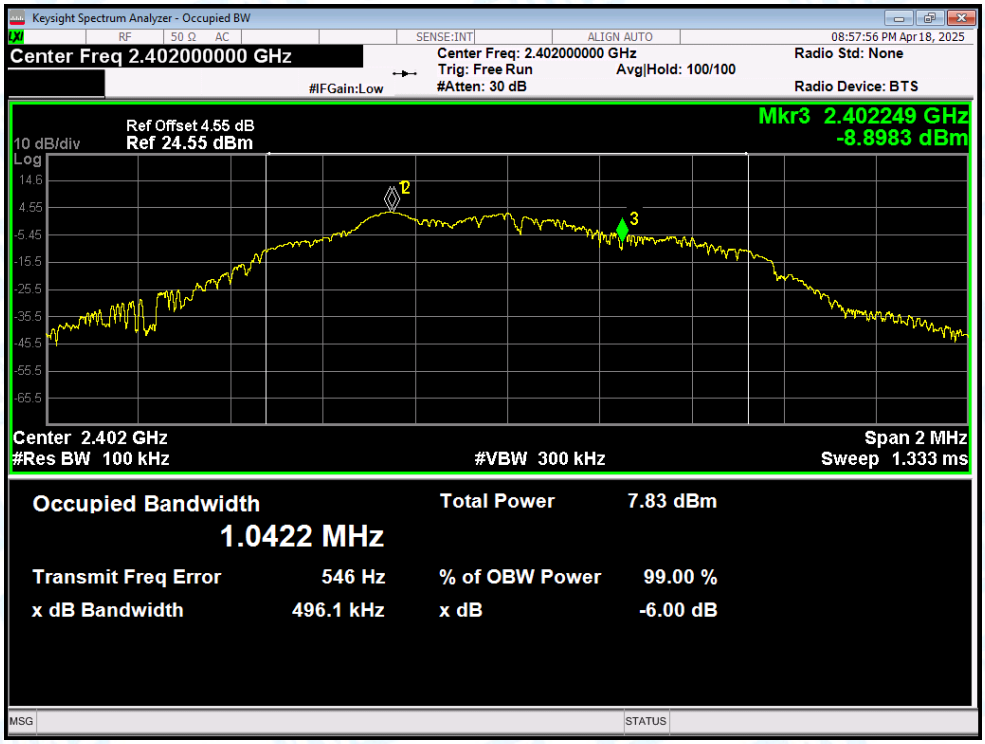


3.-6dB Bandwidth

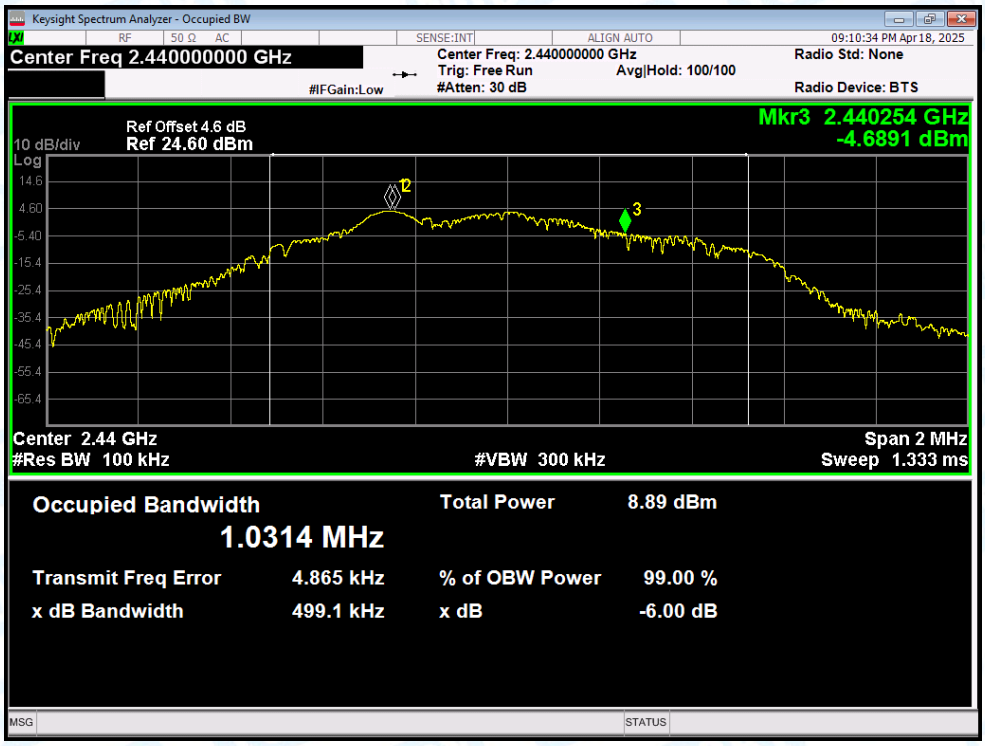
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.5	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.5	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.5	0.5	Pass
NVNT	BLE 2Mbps	2402	Ant1	0.8	0.5	Pass
NVNT	BLE 2Mbps	2440	Ant1	0.84	0.5	Pass
NVNT	BLE 2Mbps	2480	Ant1	0.83	0.5	Pass

Test Graphs

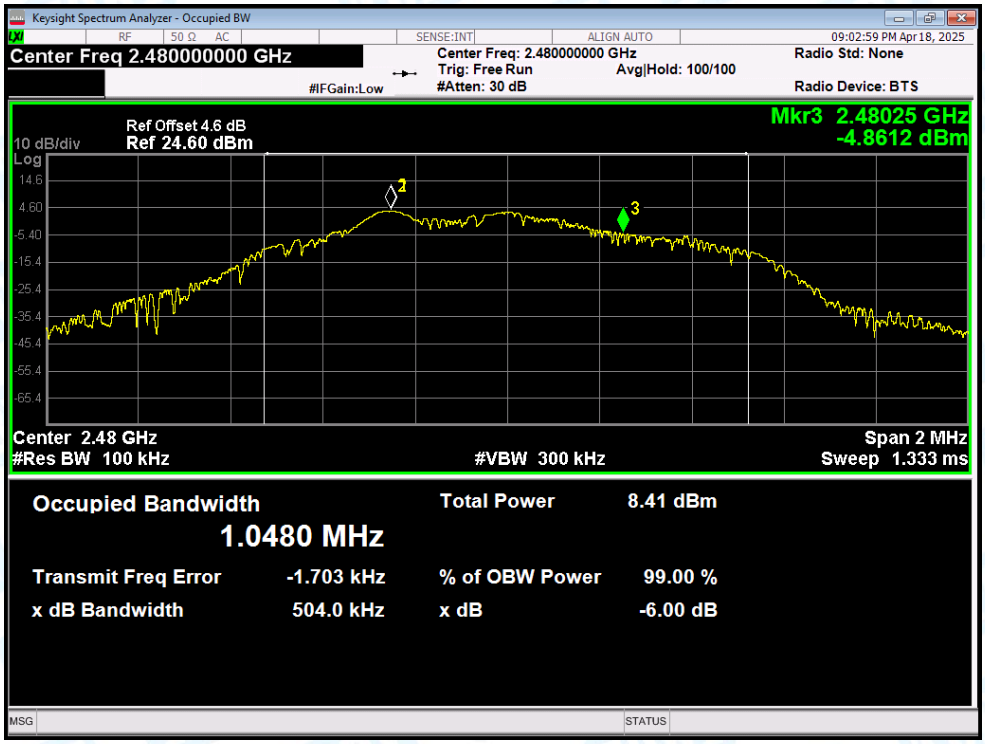
-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1



-6dB Bandwidth NVNT BLE 1Mbps 2480MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2402MHz Ant1

-6dB Bandwidth NVNT BLE 2Mbps 2440MHz Ant1

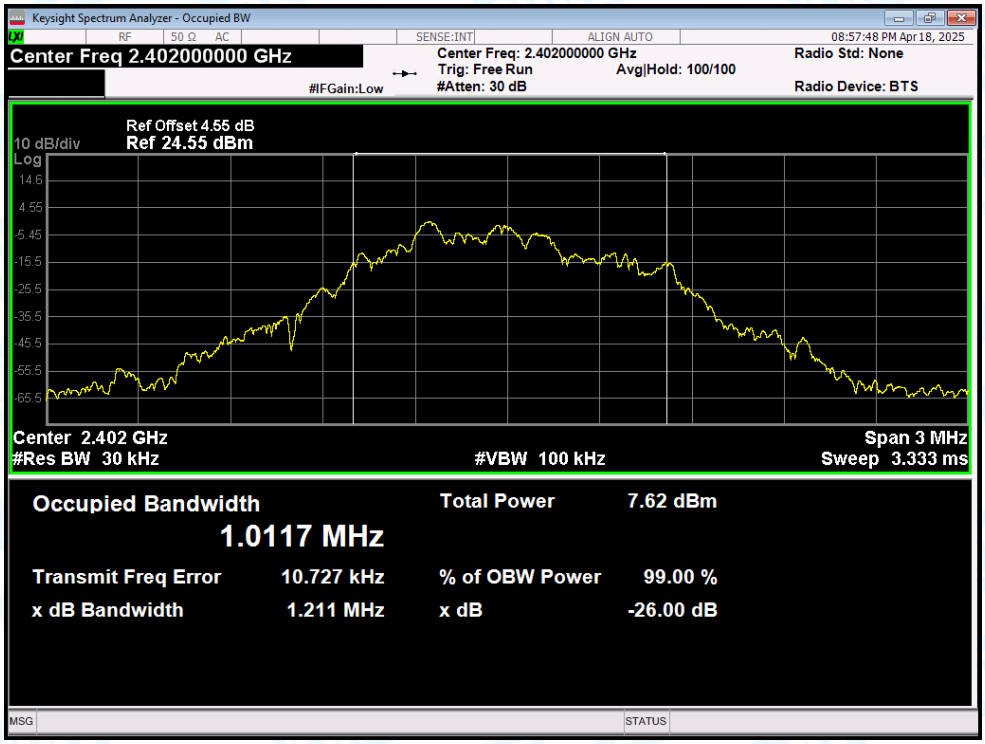
-6dB Bandwidth NVNT BLE 2Mbps 2480MHz Ant1

4.Occupied Channel Bandwidth

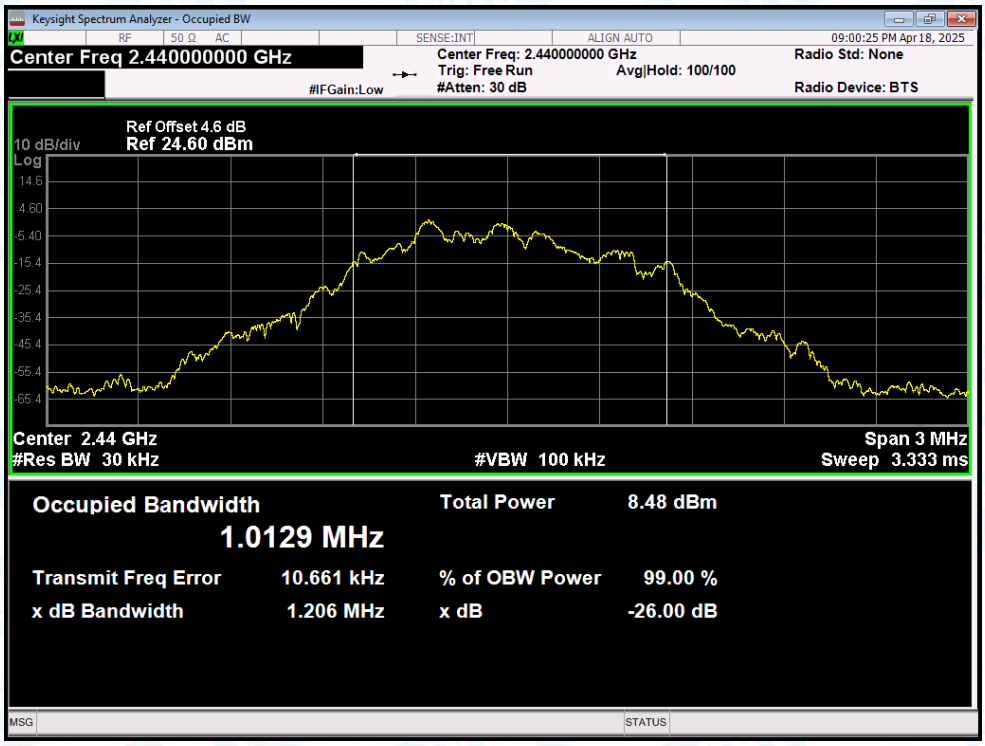
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1Mbps	2402	Ant1	1.012
NVNT	BLE 1Mbps	2440	Ant1	1.013
NVNT	BLE 1Mbps	2480	Ant1	1.015
NVNT	BLE 2Mbps	2402	Ant1	2.038
NVNT	BLE 2Mbps	2440	Ant1	2.037
NVNT	BLE 2Mbps	2480	Ant1	2.017

Test Graphs

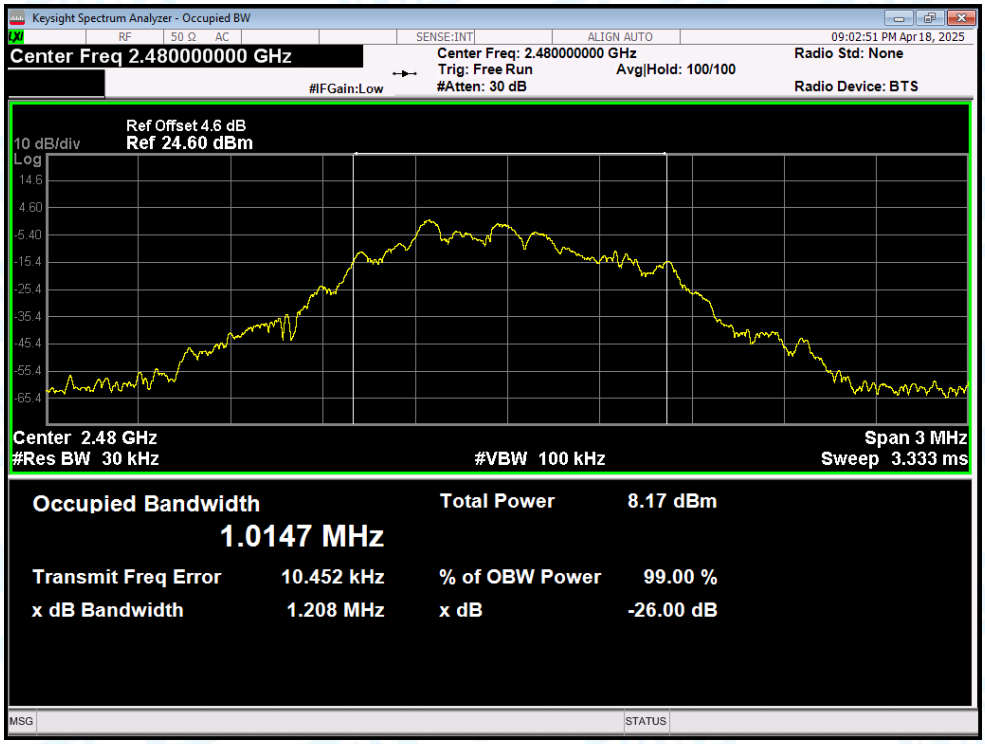
OBW NVNT BLE 1Mbps 2402MHz Ant1



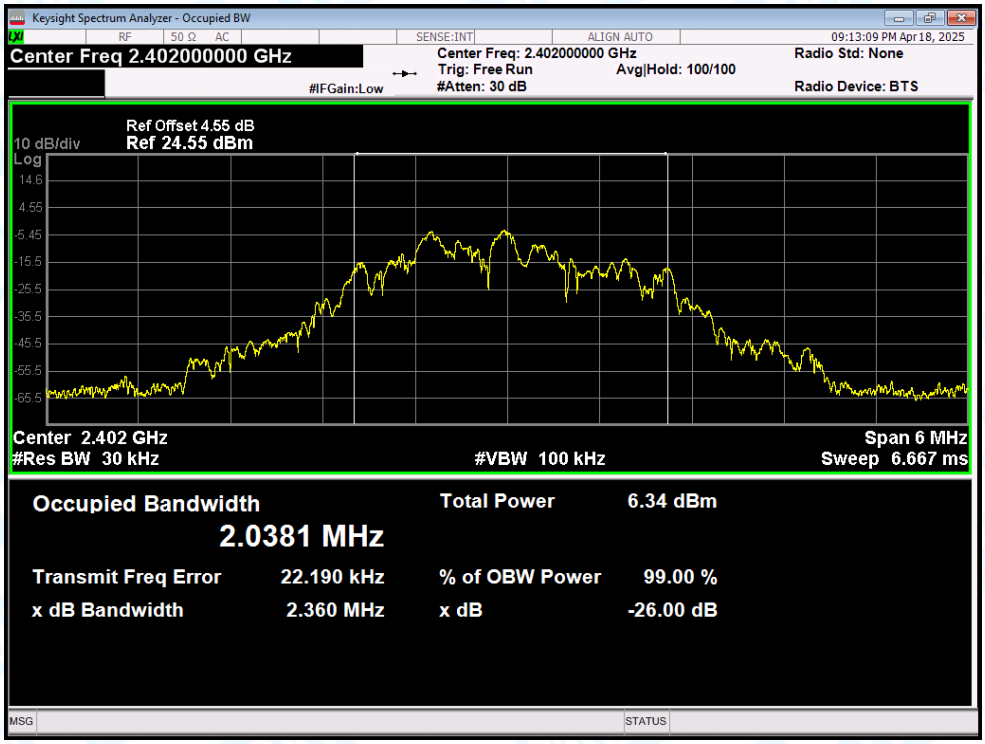
OBW NVNT BLE 1Mbps 2440MHz Ant1



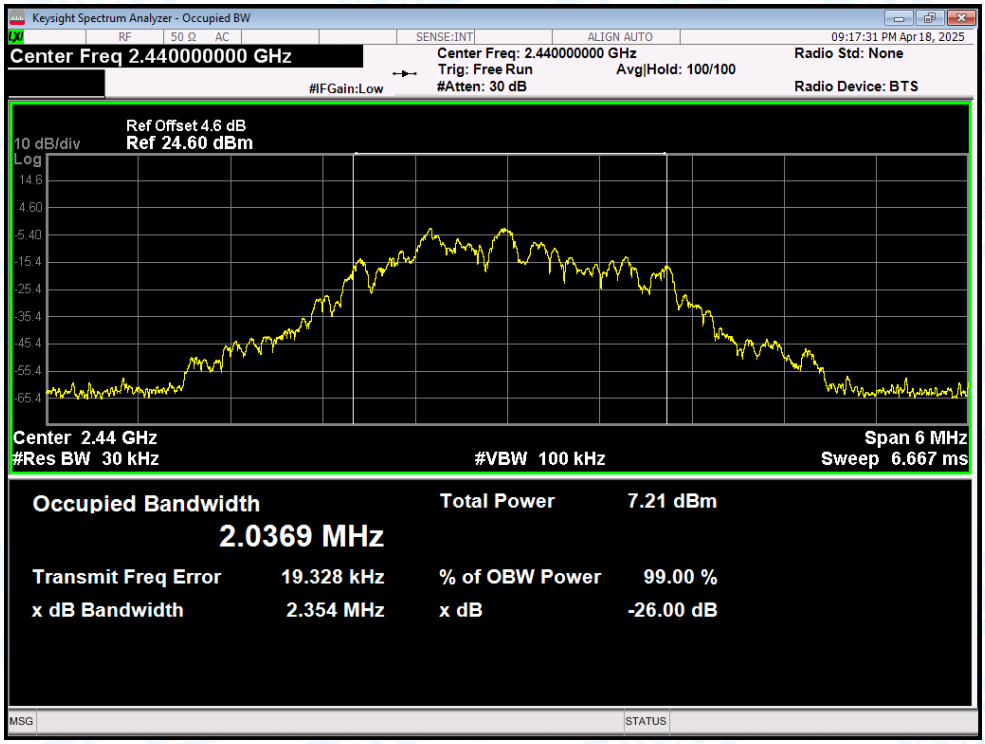
OBW NVNT BLE 1Mbps 2480MHz Ant1



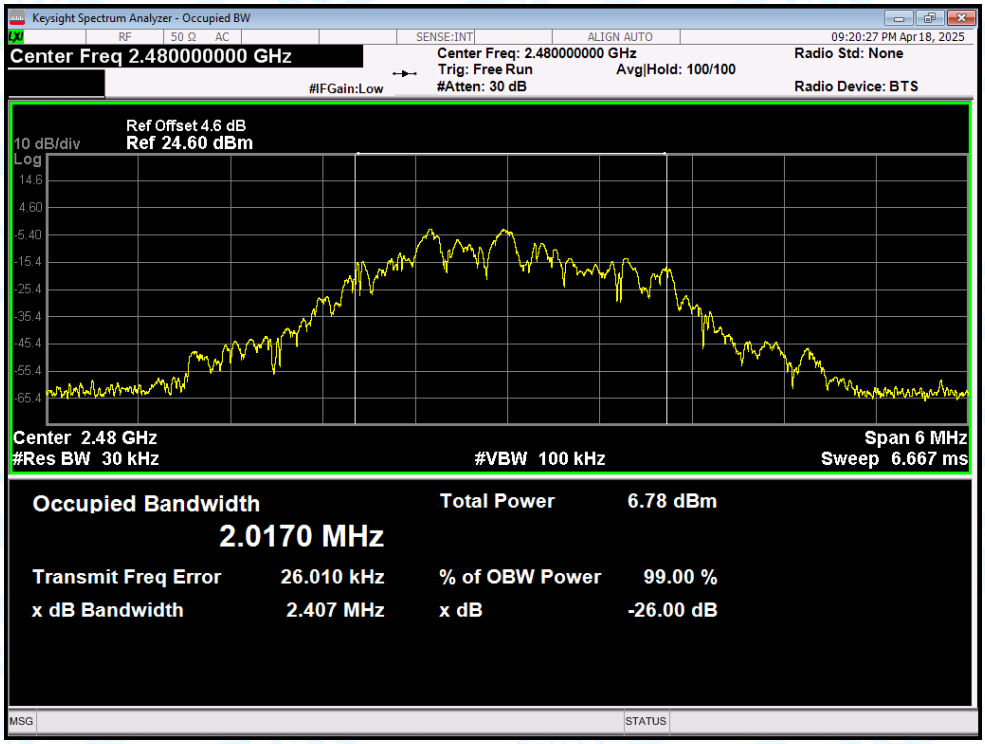
OBW NVNT BLE 2Mbps 2402MHz Ant1



OBW NVNT BLE 2Mbps 2440MHz Ant1



OBW NVNT BLE 2Mbps 2480MHz Ant1

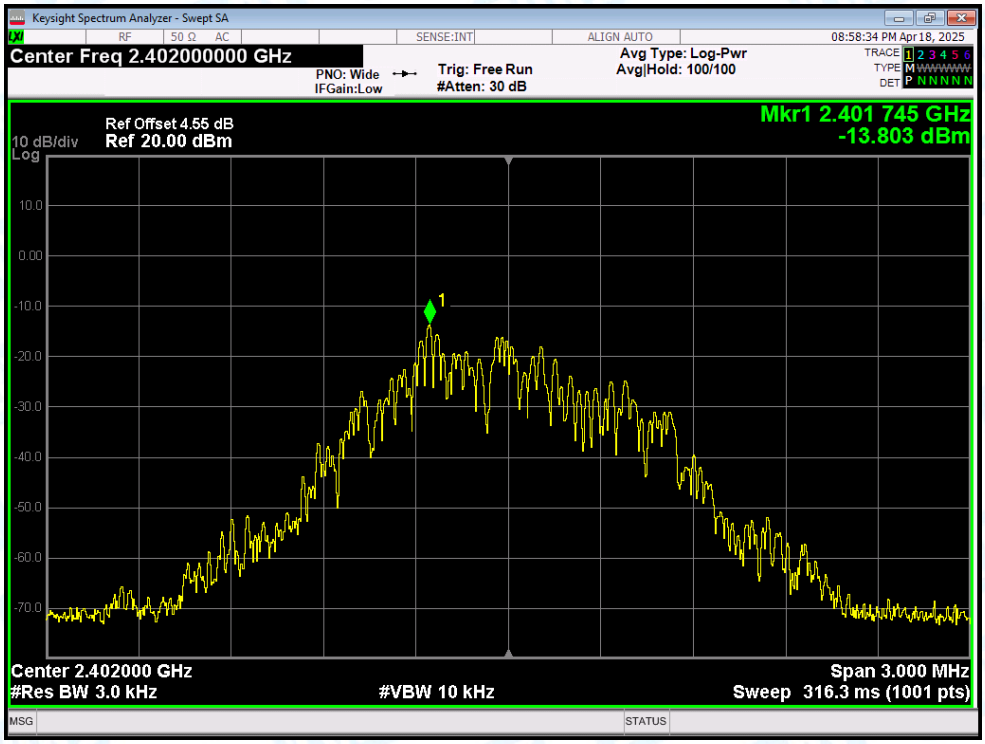


5.Maximum Power Spectral Density Level

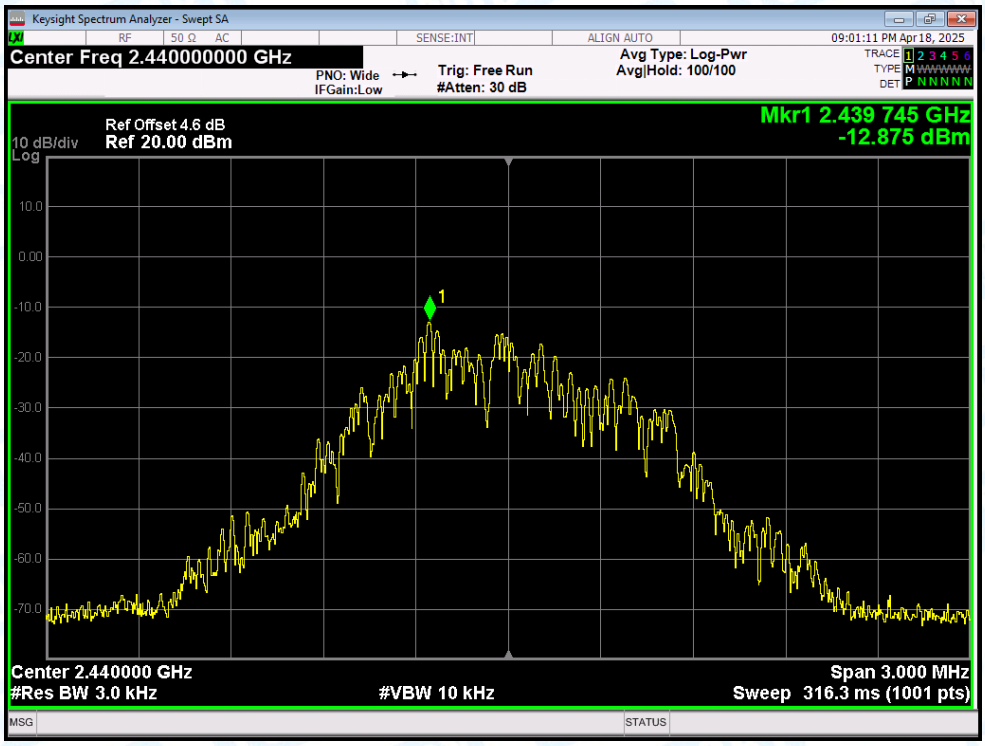
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-13.803	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-12.875	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-13.243	8	Pass
NVNT	BLE 2Mbps	2402	Ant1	-19.257	8	Pass
NVNT	BLE 2Mbps	2440	Ant1	-18.258	8	Pass
NVNT	BLE 2Mbps	2480	Ant1	-18.588	8	Pass

Test Graphs

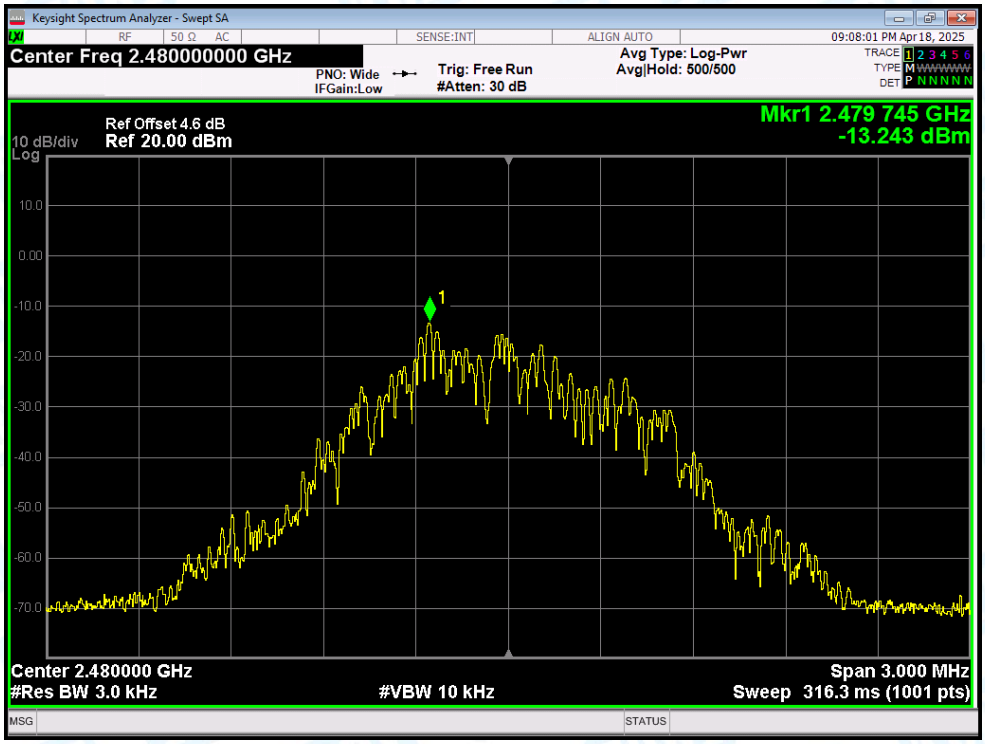
PSD NVNT BLE 1Mbps 2402MHz Ant1



PSD NVNT BLE 1Mbps 2440MHz Ant1



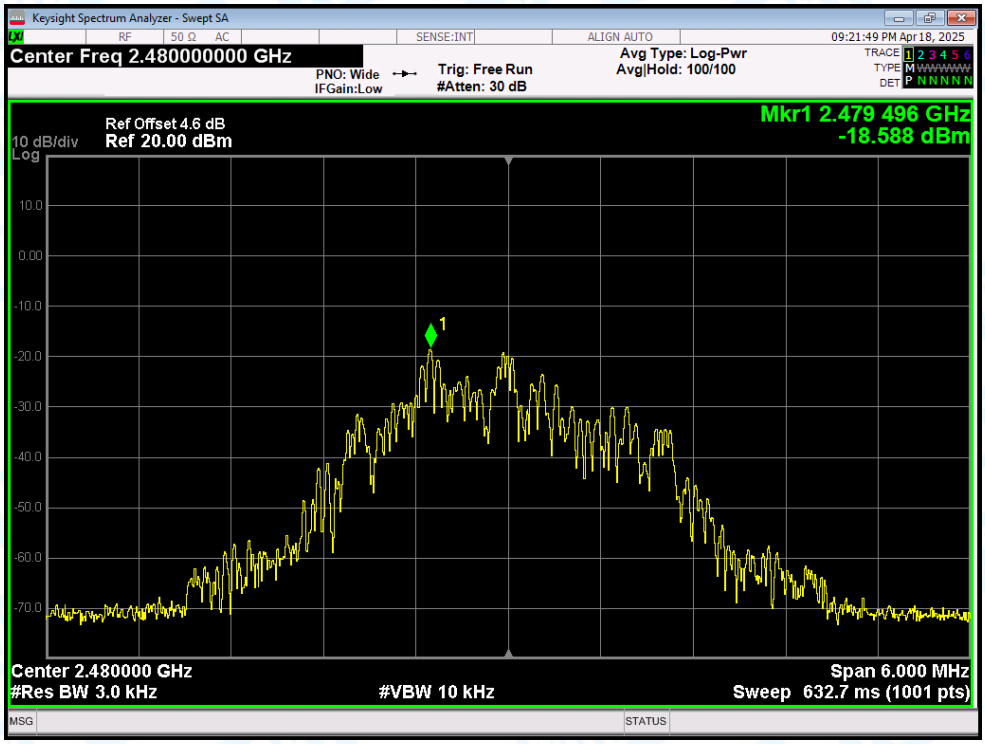
PSD NVNT BLE 1Mbps 2480MHz Ant1



PSD NVNT BLE 2Mbps 2402MHz Ant1

PSD NVNT BLE 2Mbps 2440MHz Ant1

PSD NVNT BLE 2Mbps 2480MHz Ant1

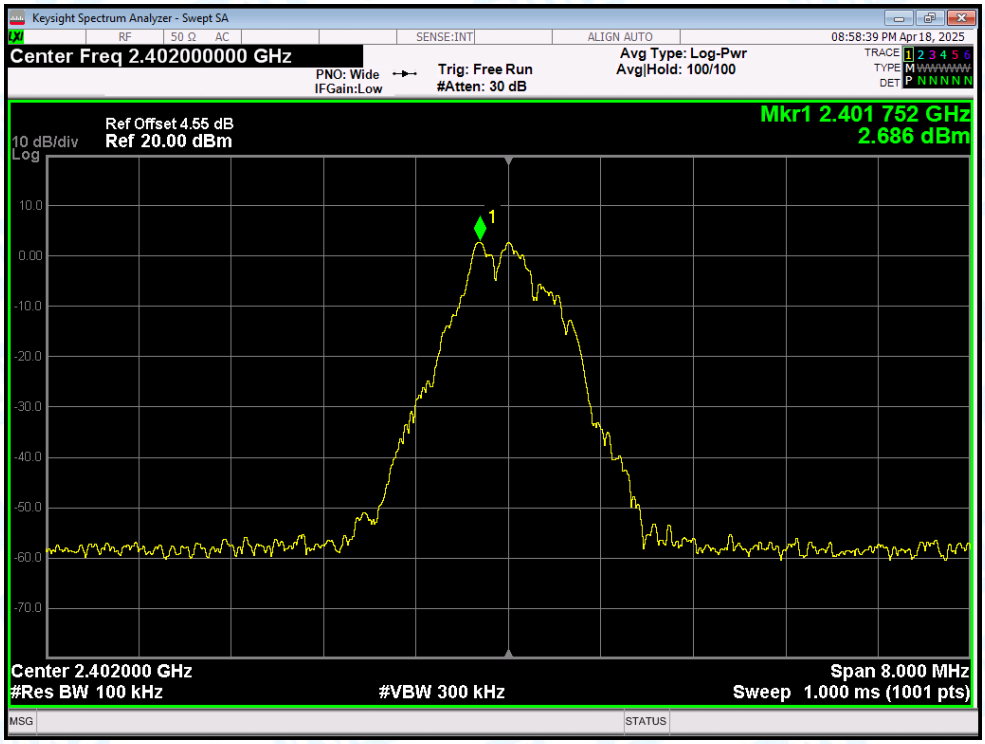


6.Band Edge

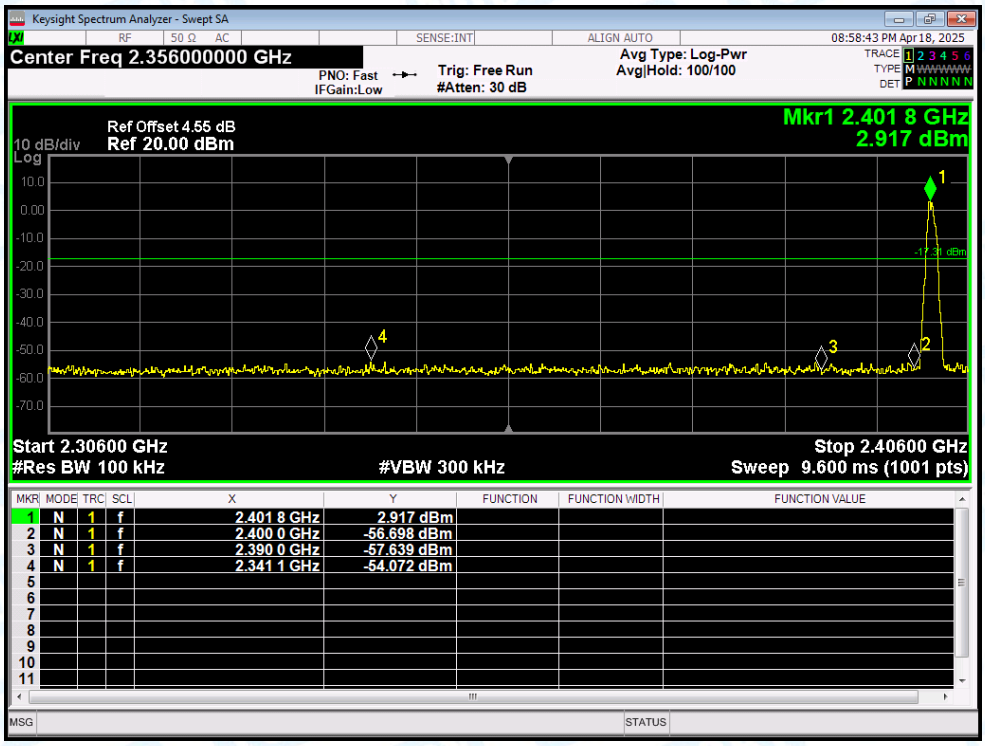
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-56.76	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-56.63	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-55.79	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-55.92	-20	Pass

Test Graphs

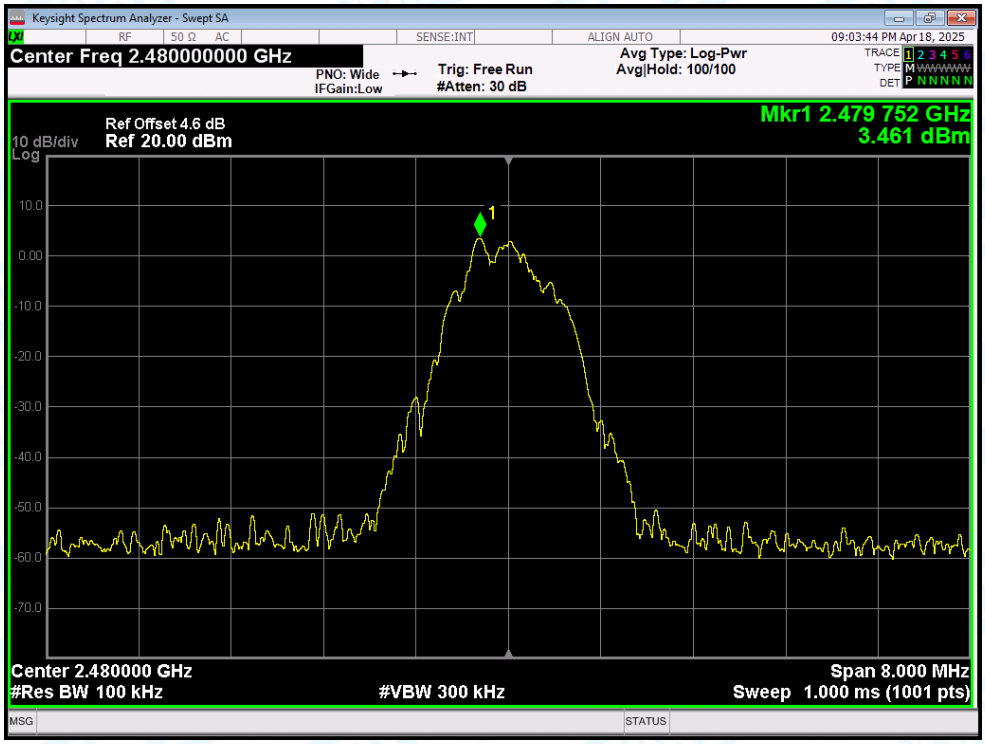
Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Ref



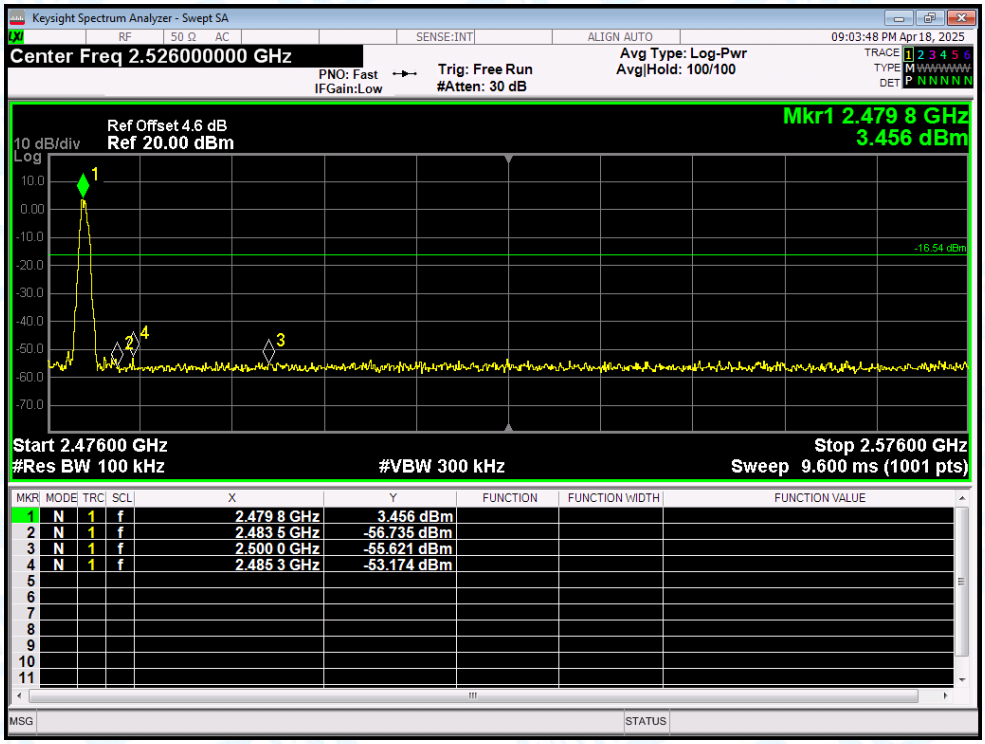
Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Emission



Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Ref

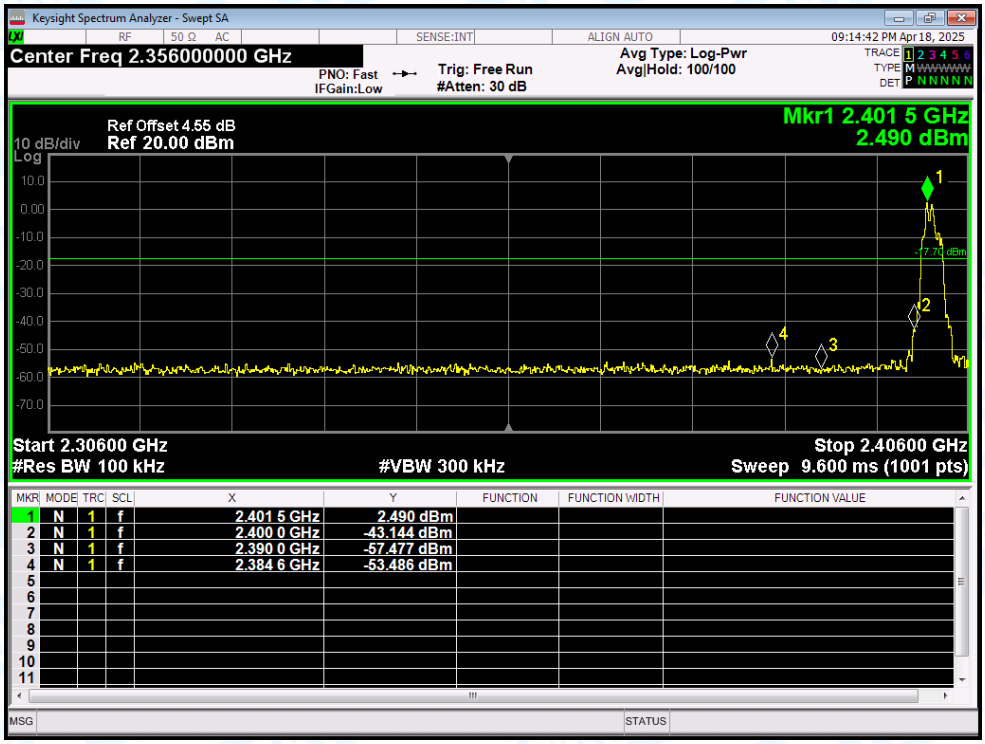


Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Emission

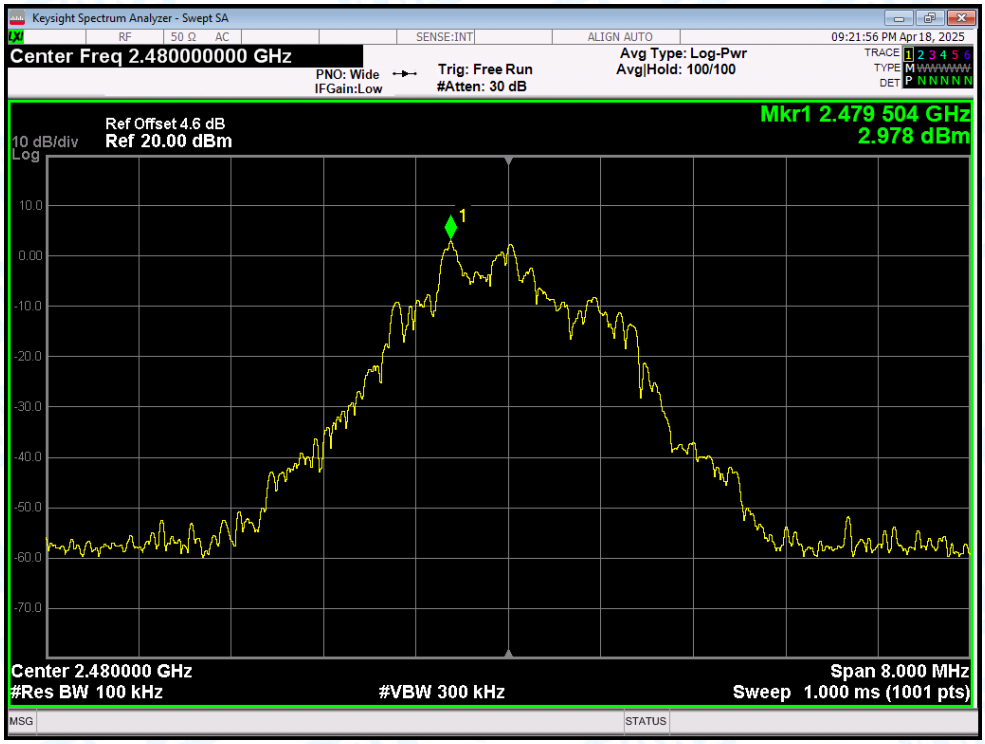


Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Ref

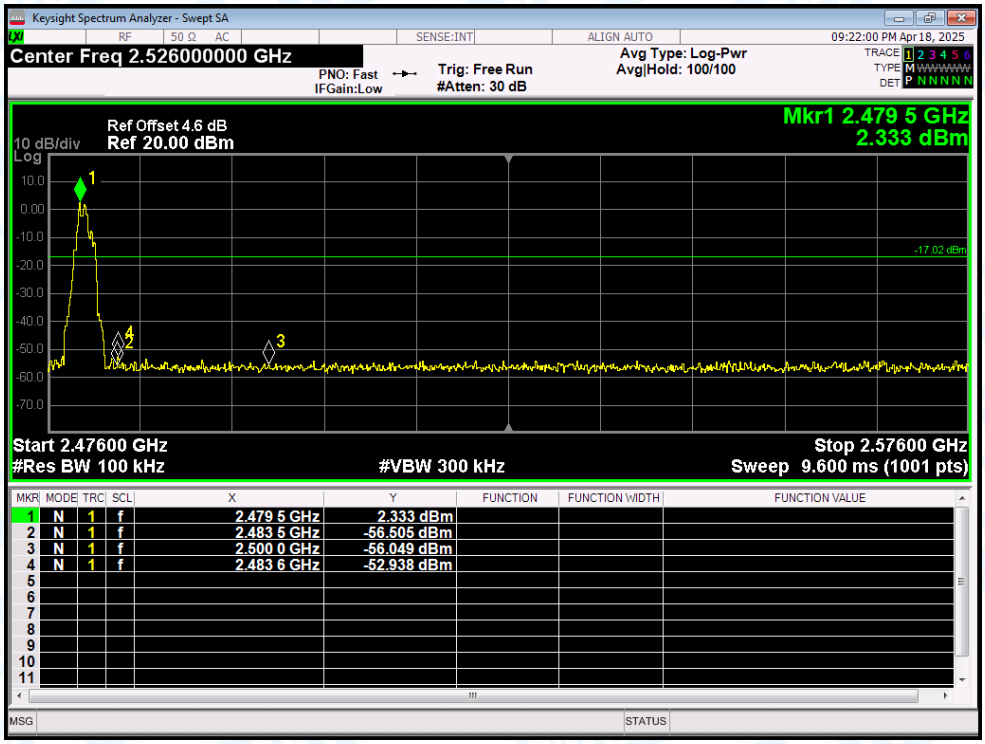
Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Emission



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Ref



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Emission

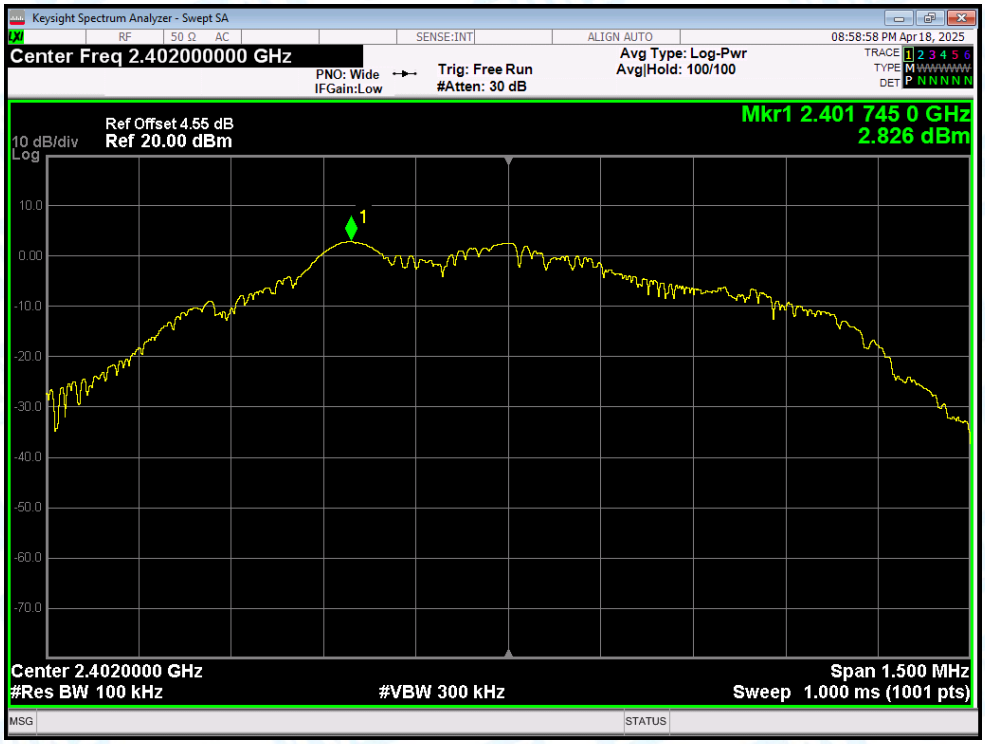


7.Conducted RF Spurious Emission

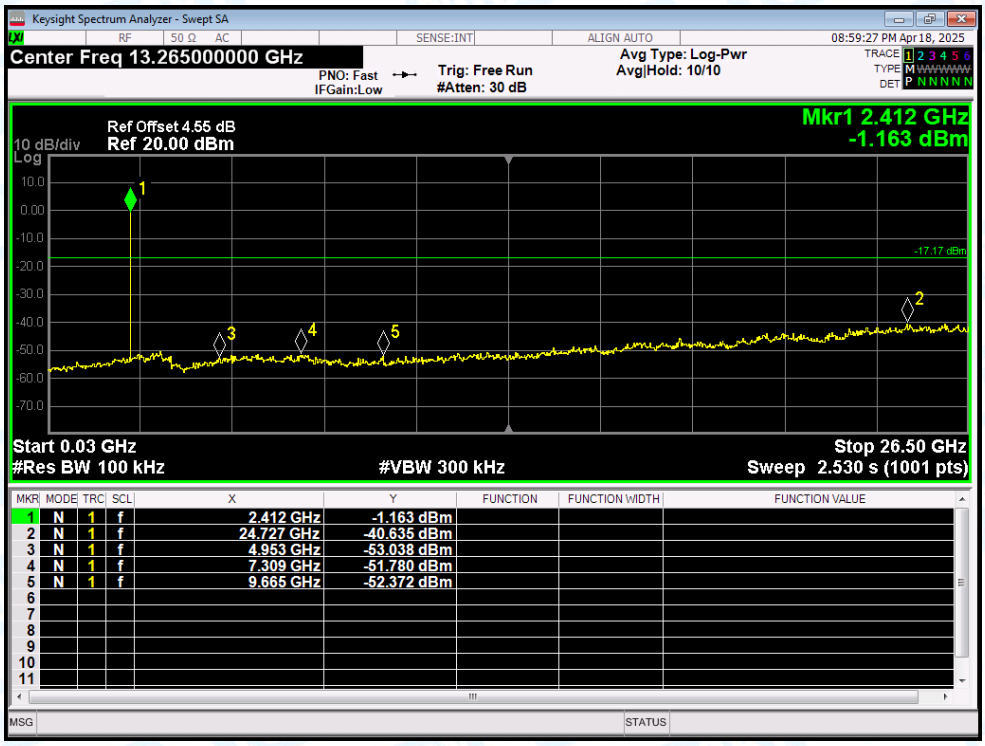
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-43.46	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-44.34	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-44.63	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-43.68	-20	Pass
NVNT	BLE 2Mbps	2440	Ant1	-44.4	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-43.86	-20	Pass

Test Graphs

Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Ref

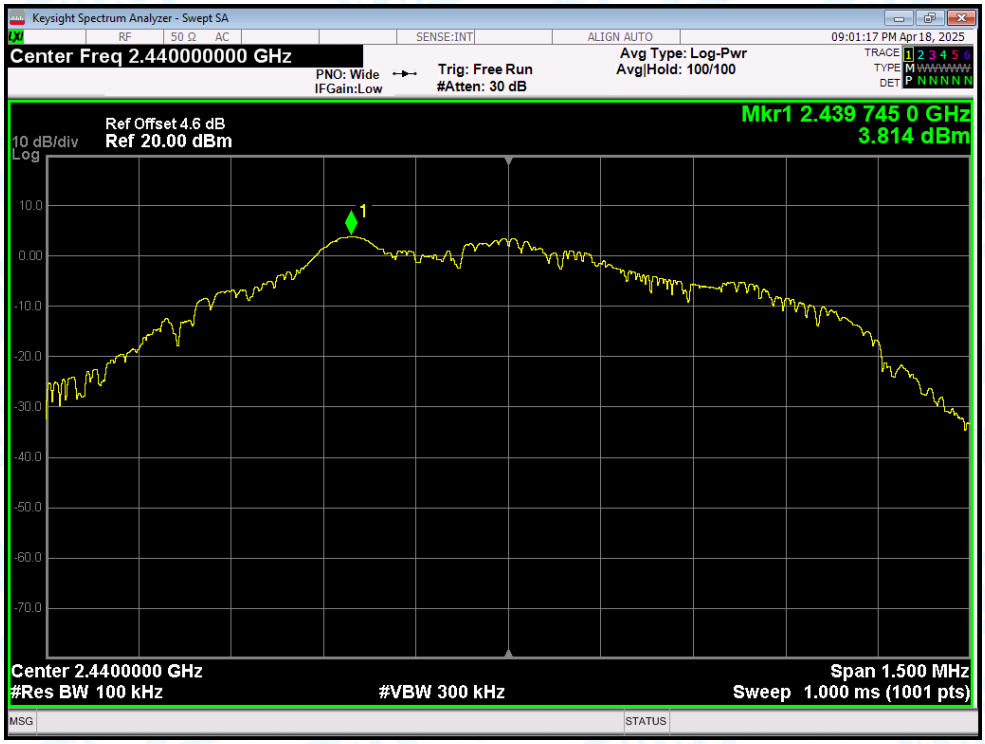


Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Emission

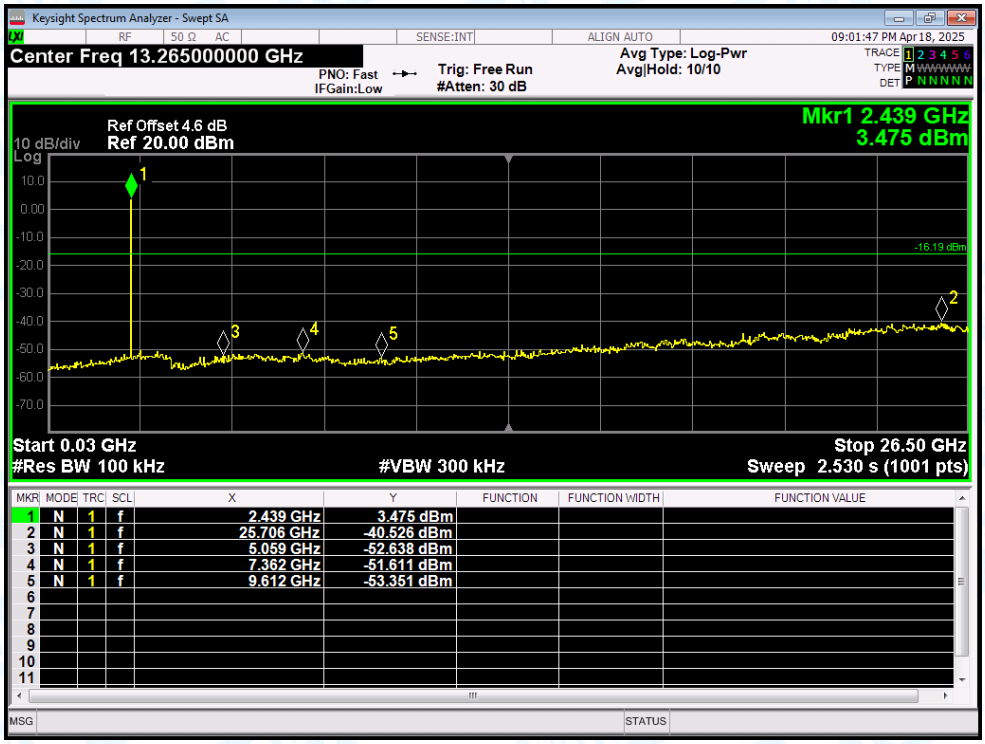


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.412 GHz	-1.163 dBm			
2	N	1	f	24.727 GHz	-40.635 dBm			
3	N	1	f	4.953 GHz	-53.038 dBm			
4	N	1	f	7.309 GHz	-51.780 dBm			
5	N	1	f	9.665 GHz	-52.372 dBm			
6								
7								
8								
9								
10								
11								

Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Ref

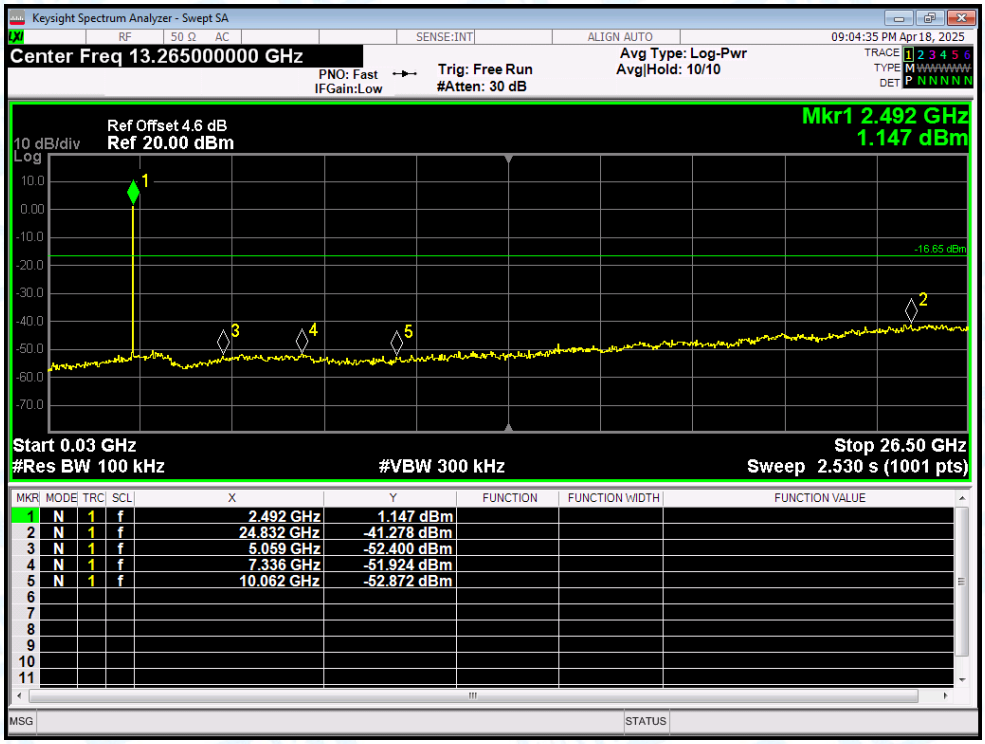


Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Emission



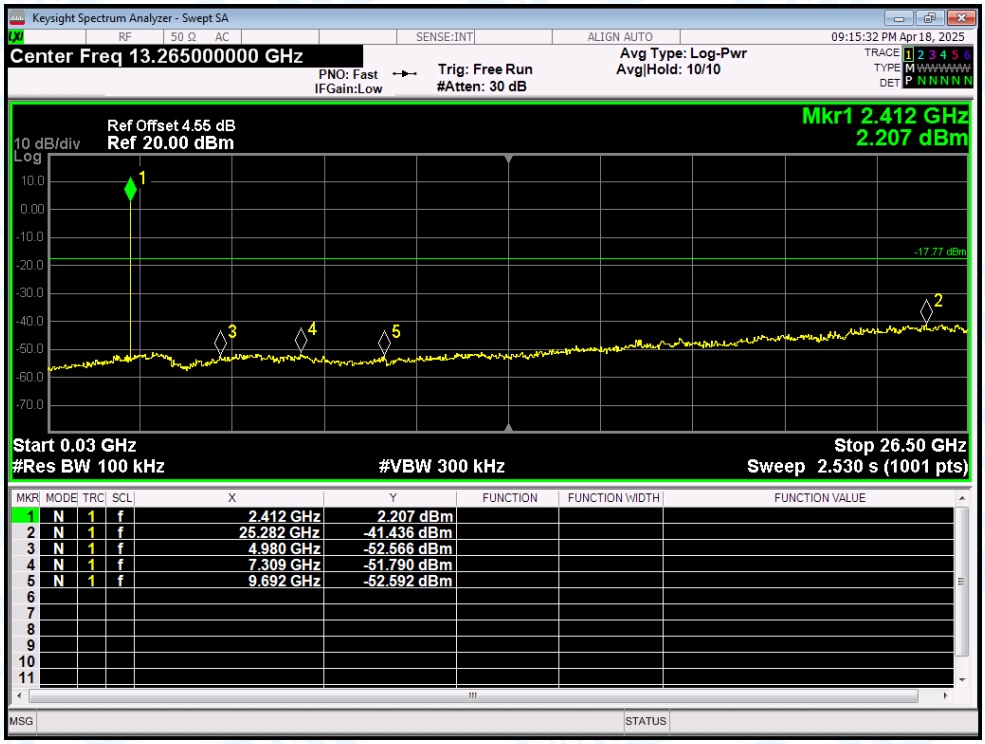
Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Ref

Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Emission



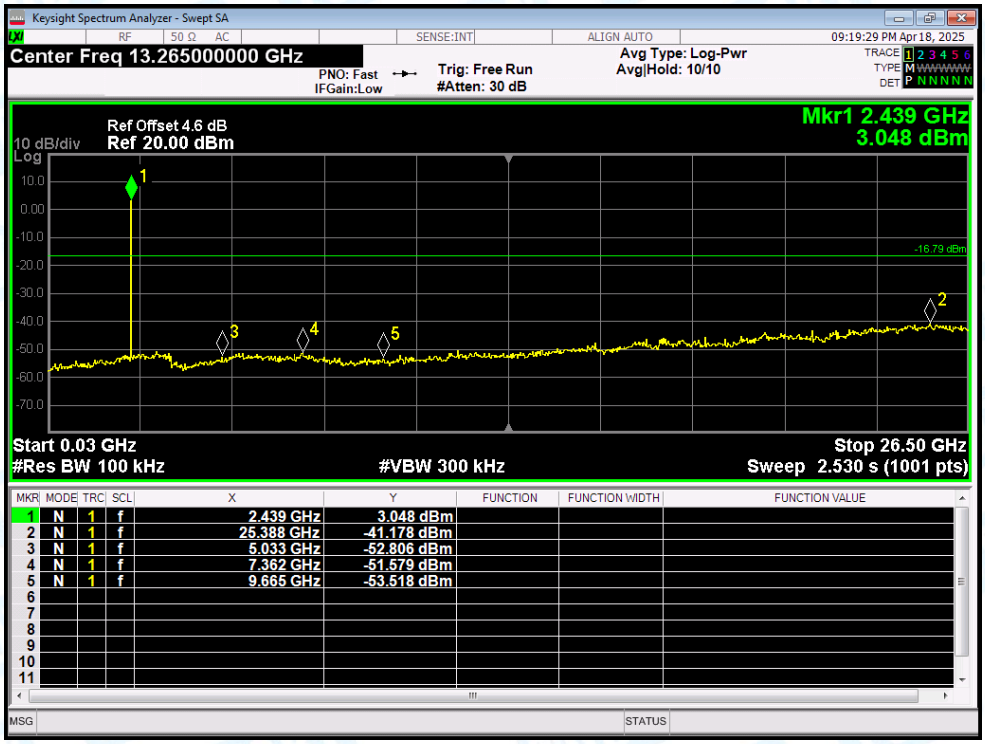
Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Ref

Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Emission



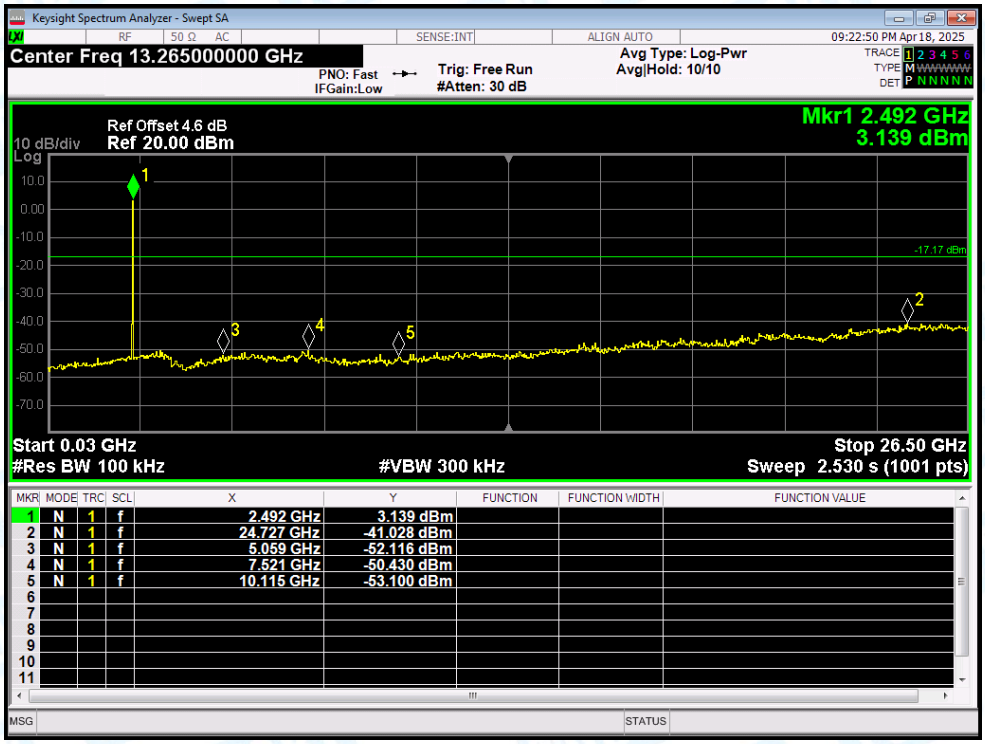
Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Ref

Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Ref

Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Emission

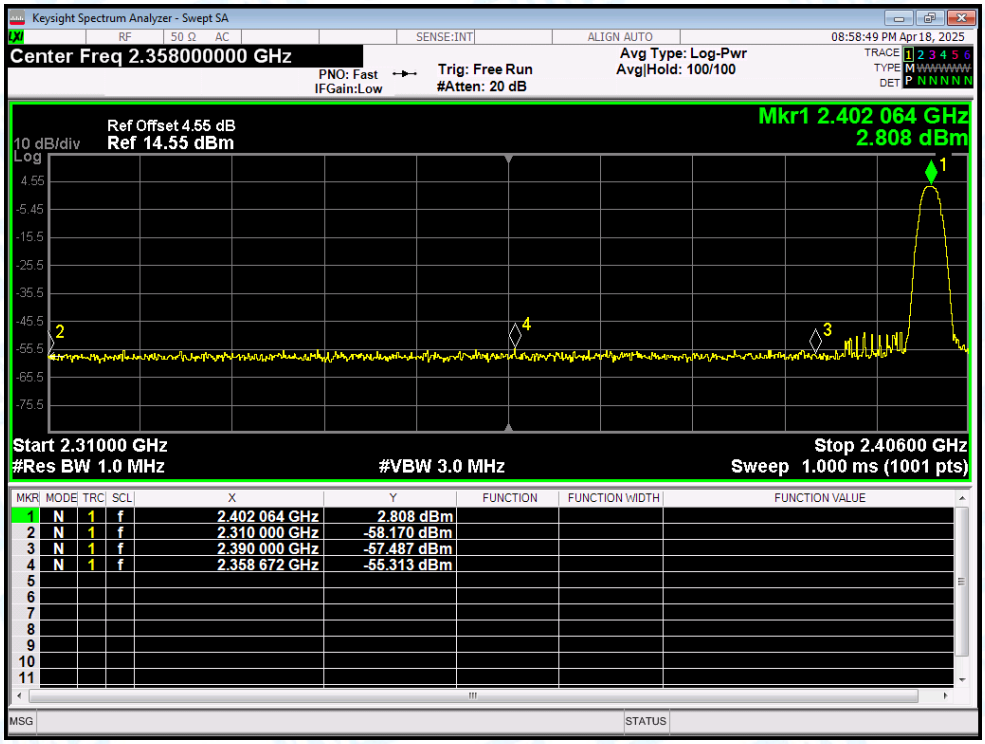


8.Restrict Band

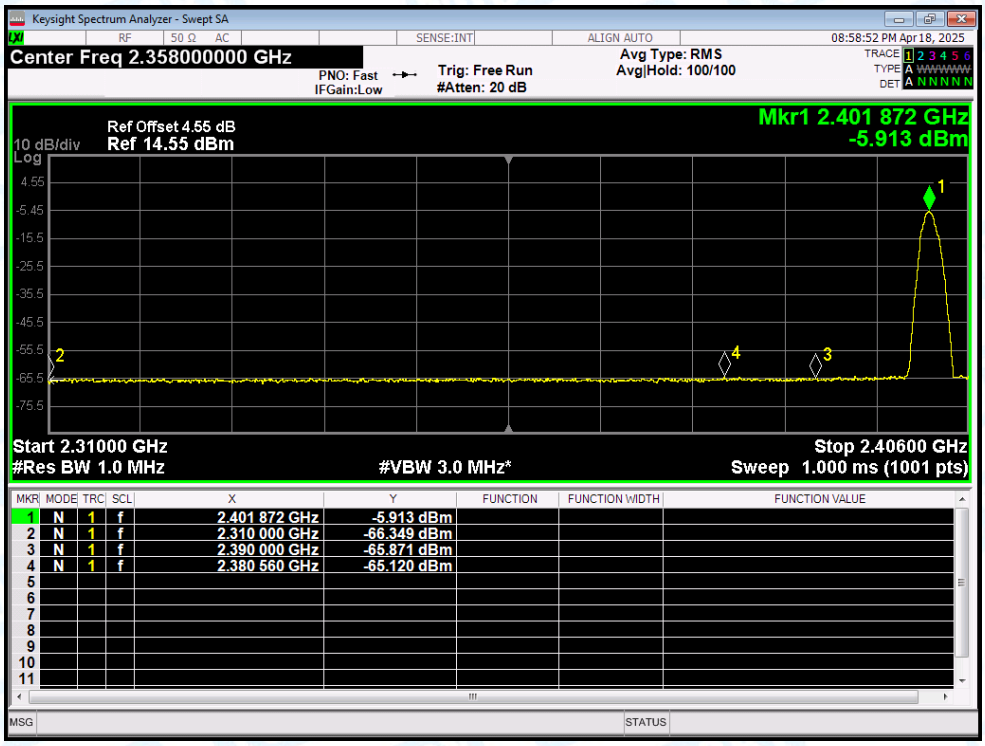
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	2310	-58.17	2	-	39.09	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2310	-66.35	2	0.7	31.61	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2358.672	-55.31	2	-	41.95	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2380.56	-65.12	2	0.7	32.84	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-57.49	2	-	39.77	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-65.87	2	0.7	32.09	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-56.33	2	-	40.93	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-65.06	2	0.72	32.92	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2485.24	-39.63	2	-	57.63	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2484.592	-59.69	2	0.72	38.29	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-57.85	2	-	39.41	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-65.59	2	0.72	32.39	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-57.75	2	-	39.51	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-66.4	2	2.41	33.27	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2389.488	-54.83	2	-	42.43	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2382.096	-65.19	2	2.41	34.48	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-57.19	2	-	40.07	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-66.2	2	2.41	33.47	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-56.28	2	-	40.98	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-64.55	2	2.45	35.16	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.872	-37.08	2	-	60.18	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.968	-57.36	2	2.45	42.35	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-57.37	2	-	39.89	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-65.19	2	2.45	34.52	Average	54	Pass

Test Graphs

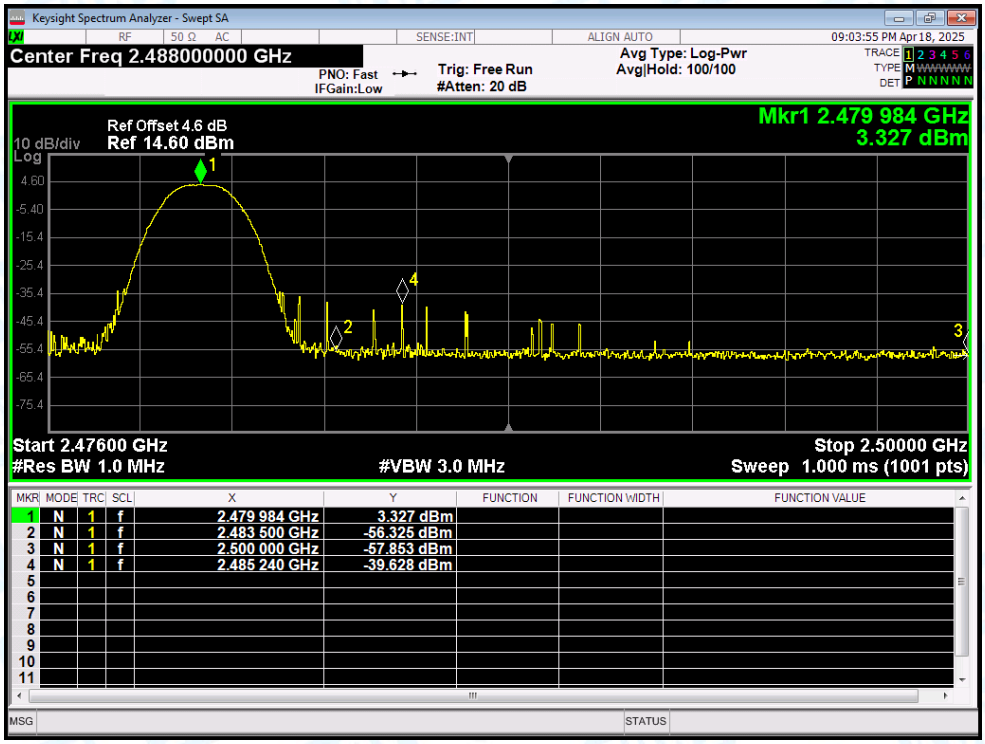
Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Peak



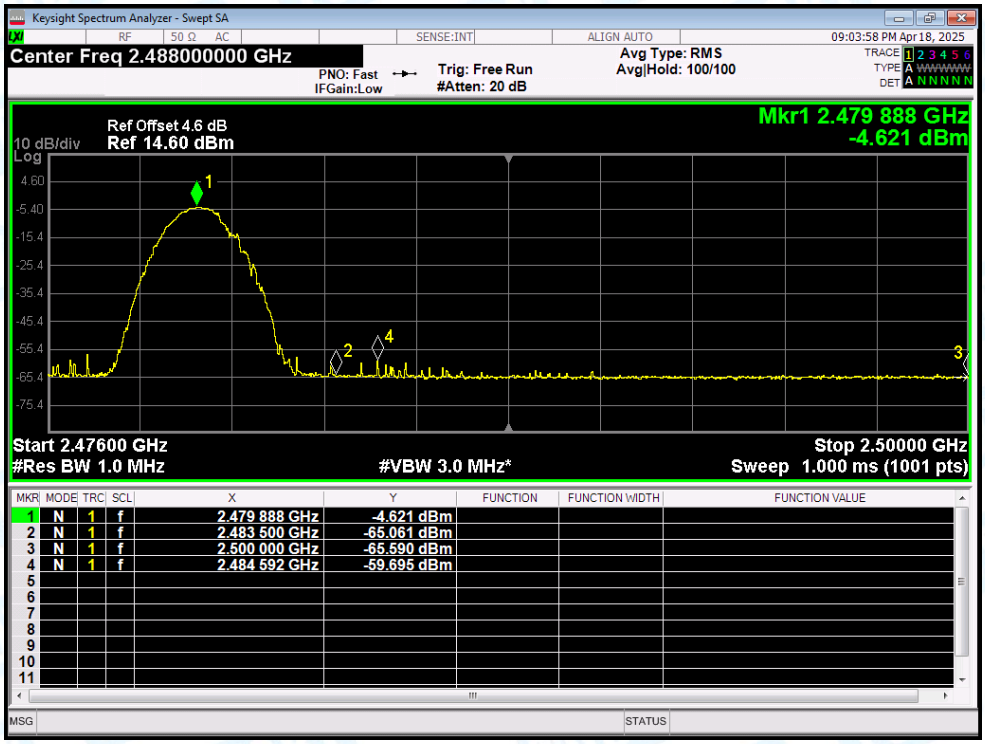
Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Average



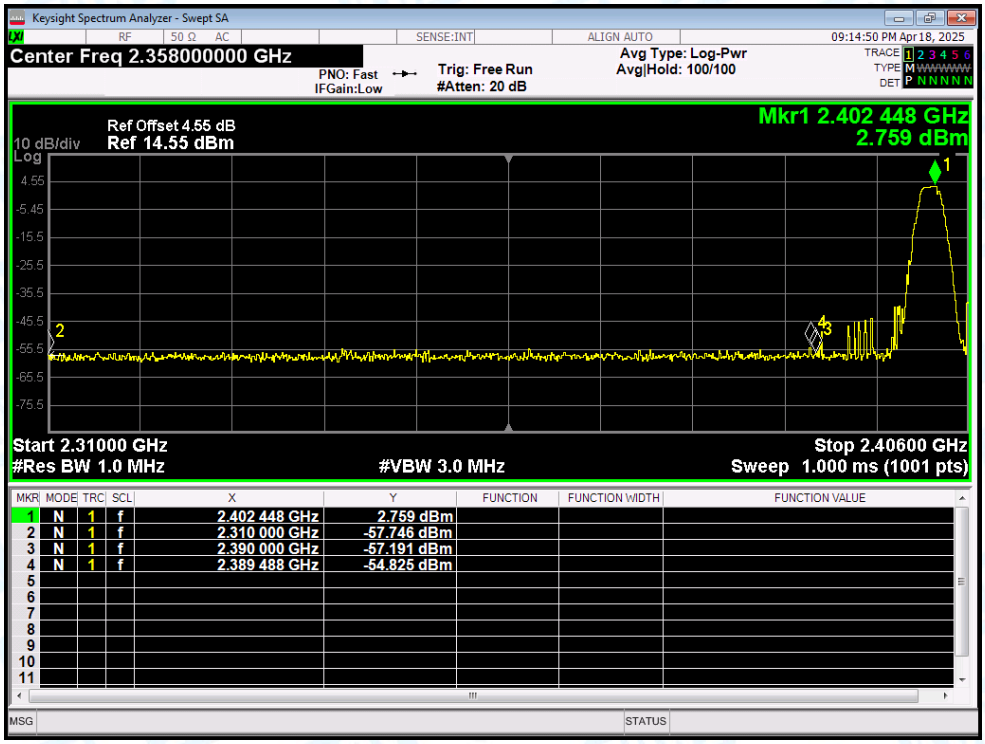
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Peak



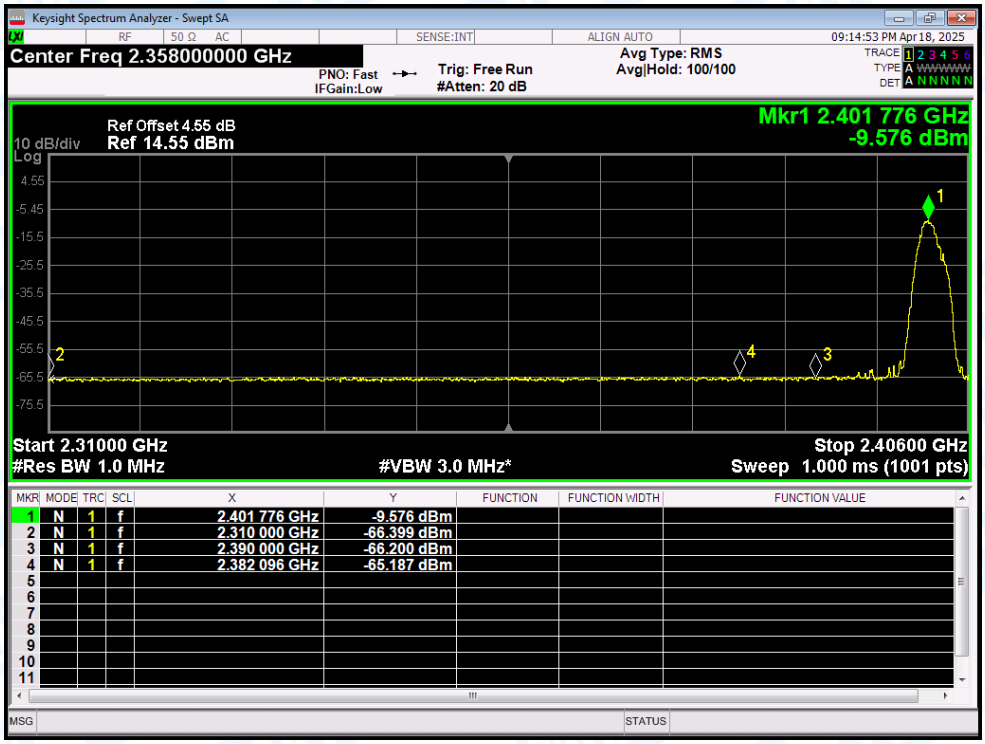
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Average



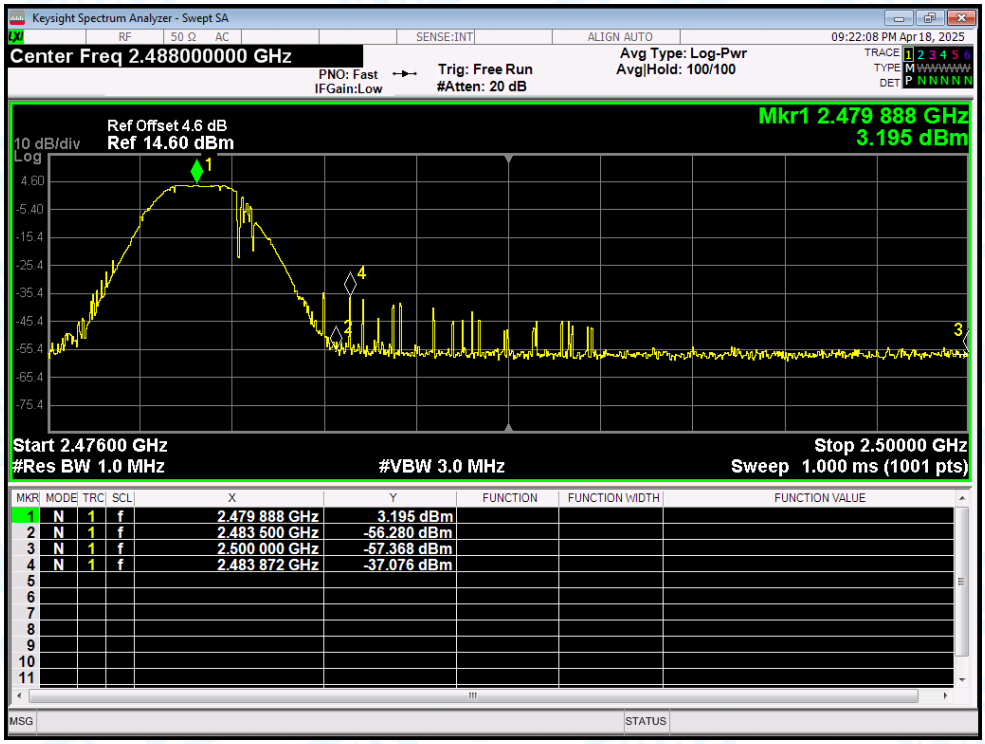
Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Peak



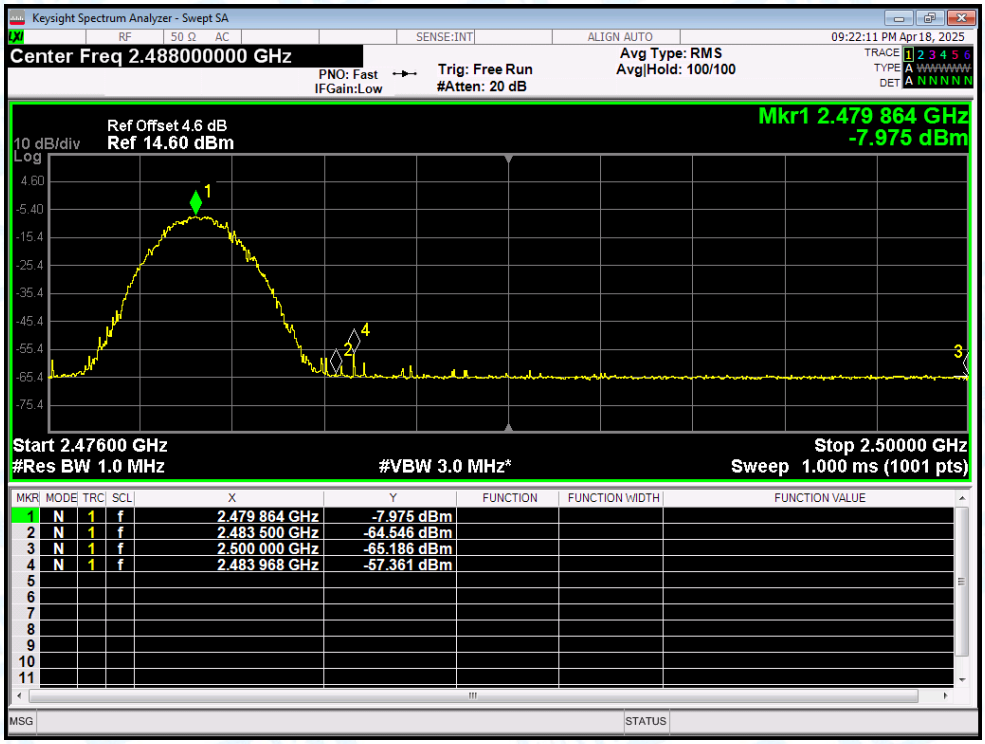
Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Average



Restrict Band NVNT BLE 2Mbps 2480MHz Ant1 Peak



Restrict Band NVNT BLE 2Mbps 2480MHz Ant1 Average



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