

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	Galaxy projector
Test Model:	GP06
Sample ID:	202307-0028-5-2#
Environmental Conditions	
Temperature:	25°C
Relative Humidity:	55%
Test Voltage:	DC 5V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202307-0028-11 The report only show the worst case data.	

Contents

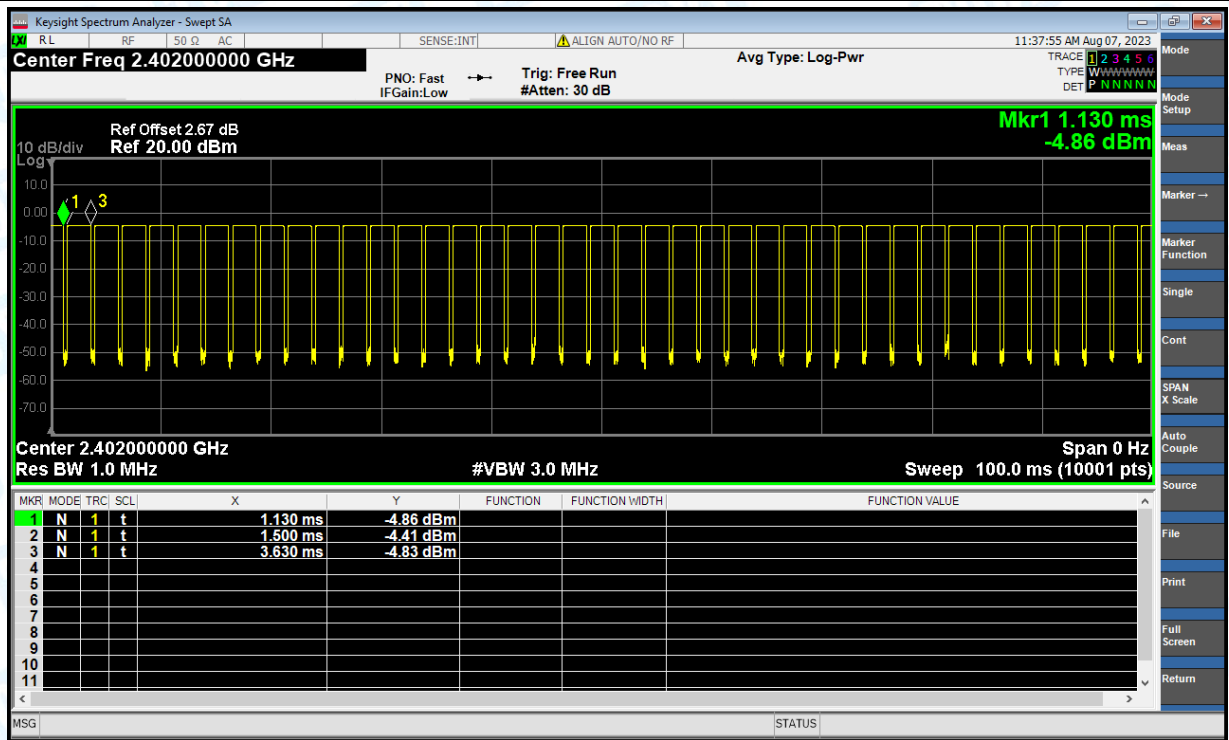
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1. Duty Cycle

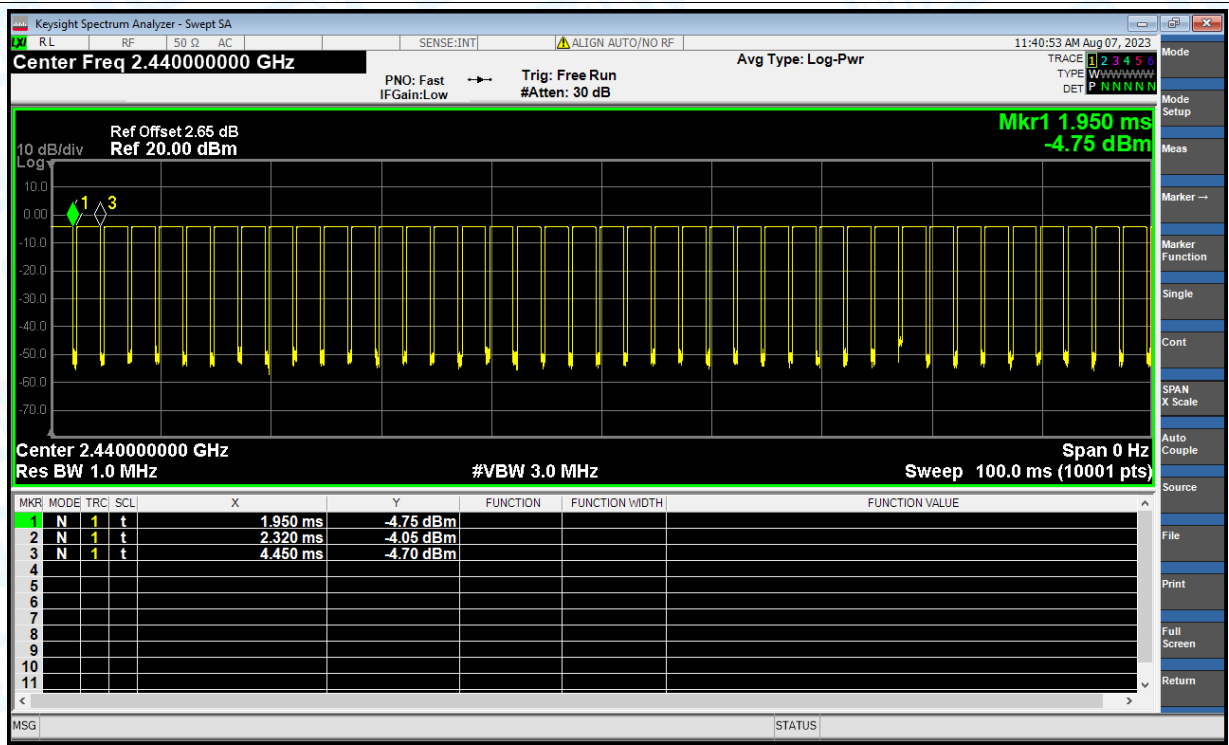
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	85.2	0.7	0.47
NVNT	BLE 1Mbps	2440	Ant1	85.2	0.7	0.47
NVNT	BLE 1Mbps	2480	Ant1	85.2	0.7	0.47
NVNT	BLE 2Mbps	2402	Ant1	43.2	3.65	0.93
NVNT	BLE 2Mbps	2440	Ant1	42.8	3.69	0.93
NVNT	BLE 2Mbps	2480	Ant1	43.2	3.65	0.93

Test Graphs

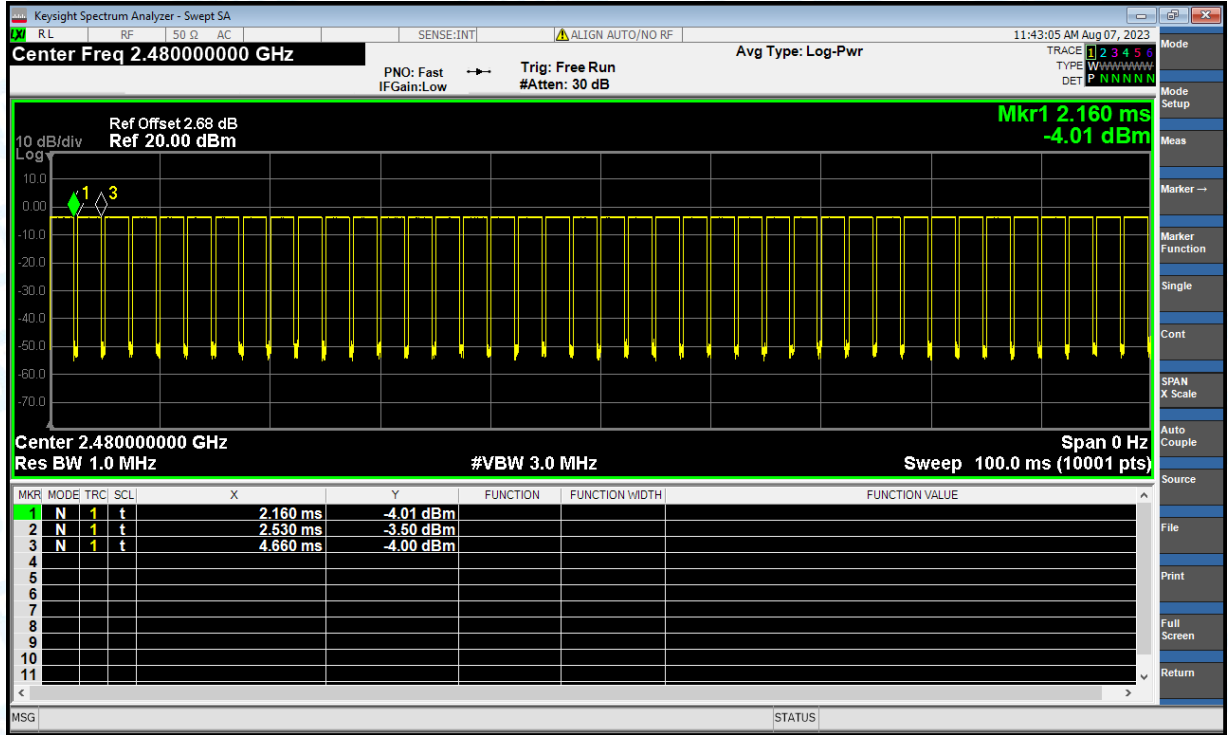
Duty Cycle NVNT BLE 1Mbps 2402MHz Ant1



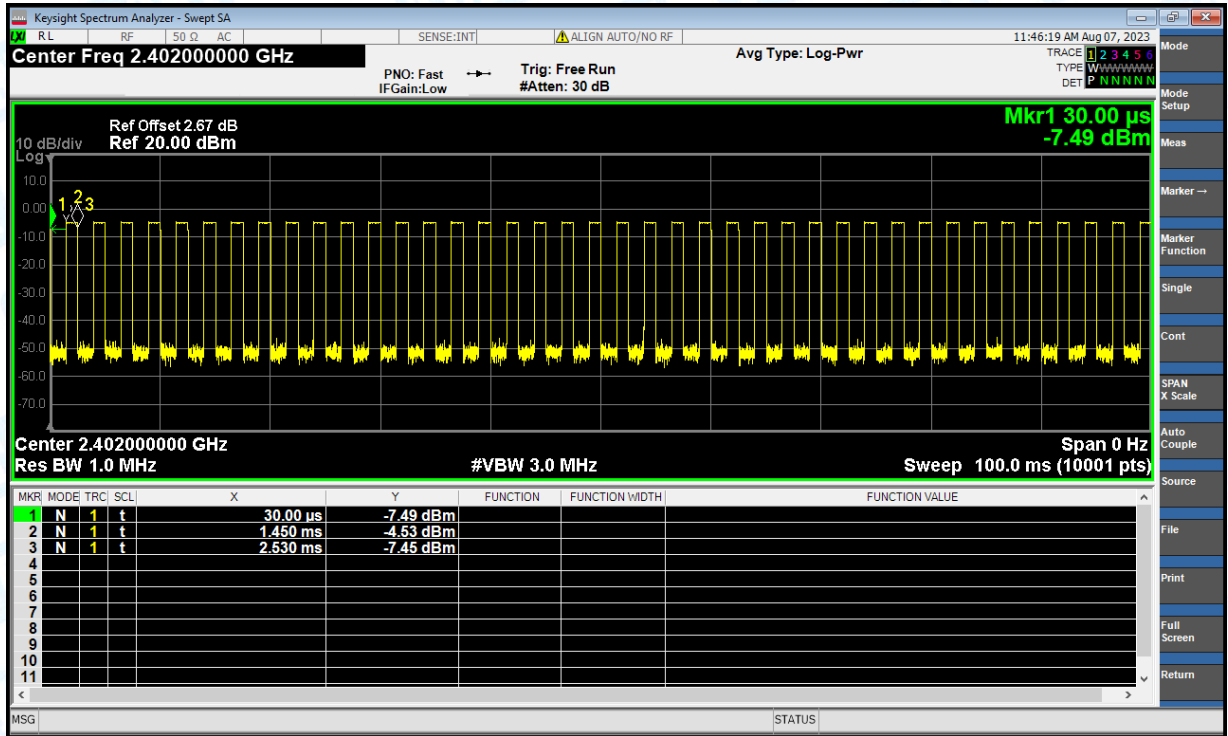
Duty Cycle NVNT BLE 1Mbps 2440MHz Ant1



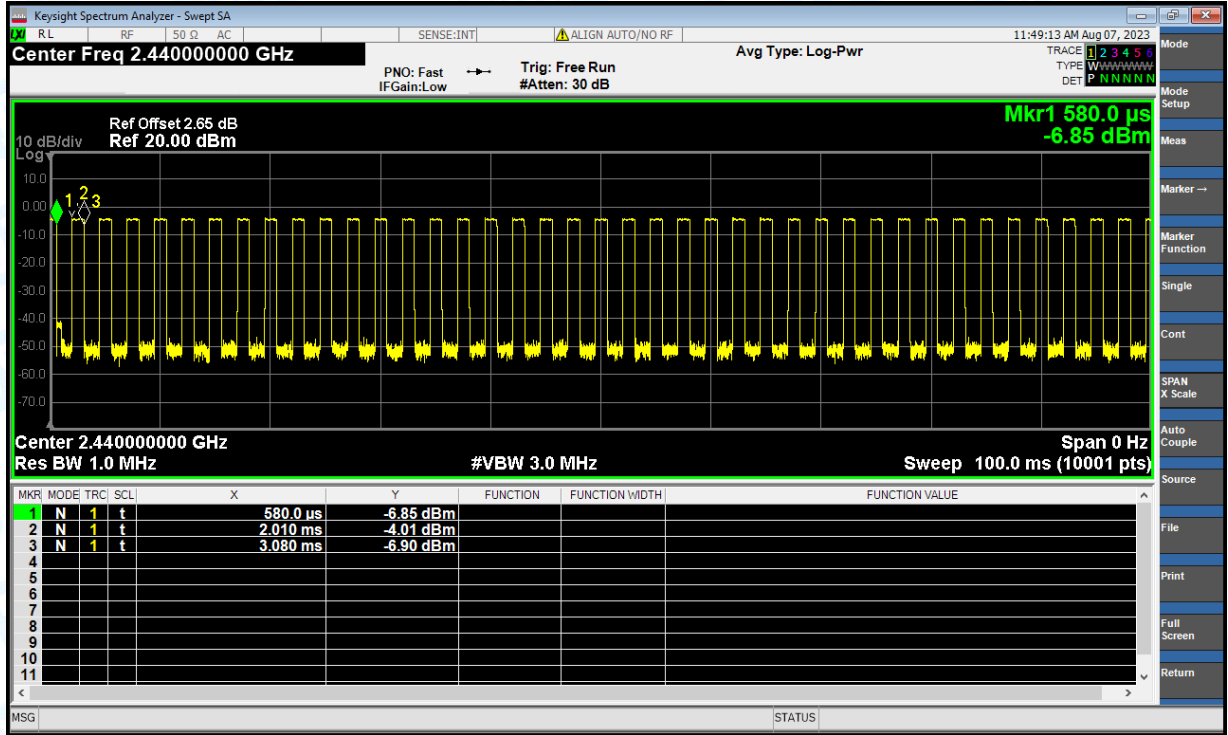
Duty Cycle NVNT BLE 1Mbps 2480MHz Ant1



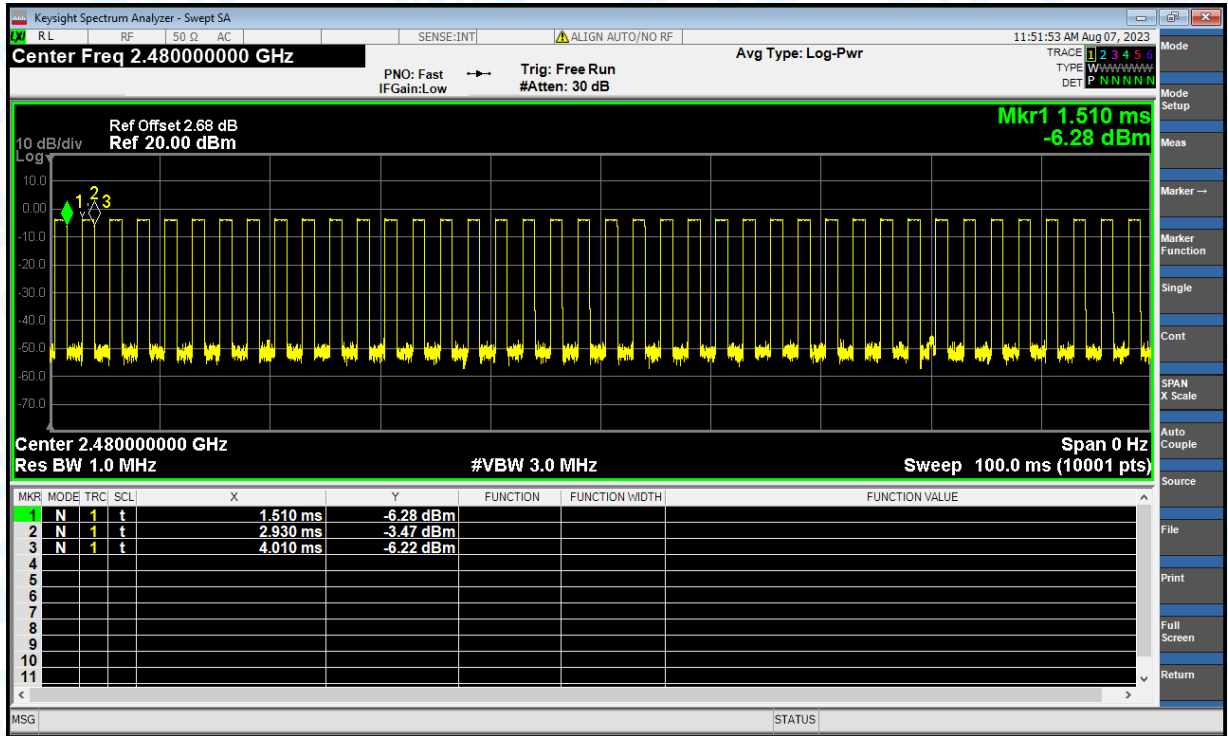
Duty Cycle NVNT BLE 2Mbps 2402MHz Ant1



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	-4.227	30	Pass
NVNT	BLE 1Mbps	2440	Ant1	-3.91	30	Pass
NVNT	BLE 1Mbps	2480	Ant1	-3.375	30	Pass
NVNT	BLE 2Mbps	2402	Ant1	-4.395	30	Pass
NVNT	BLE 2Mbps	2440	Ant1	-3.931	30	Pass
NVNT	BLE 2Mbps	2480	Ant1	-3.484	30	Pass

Test Graphs

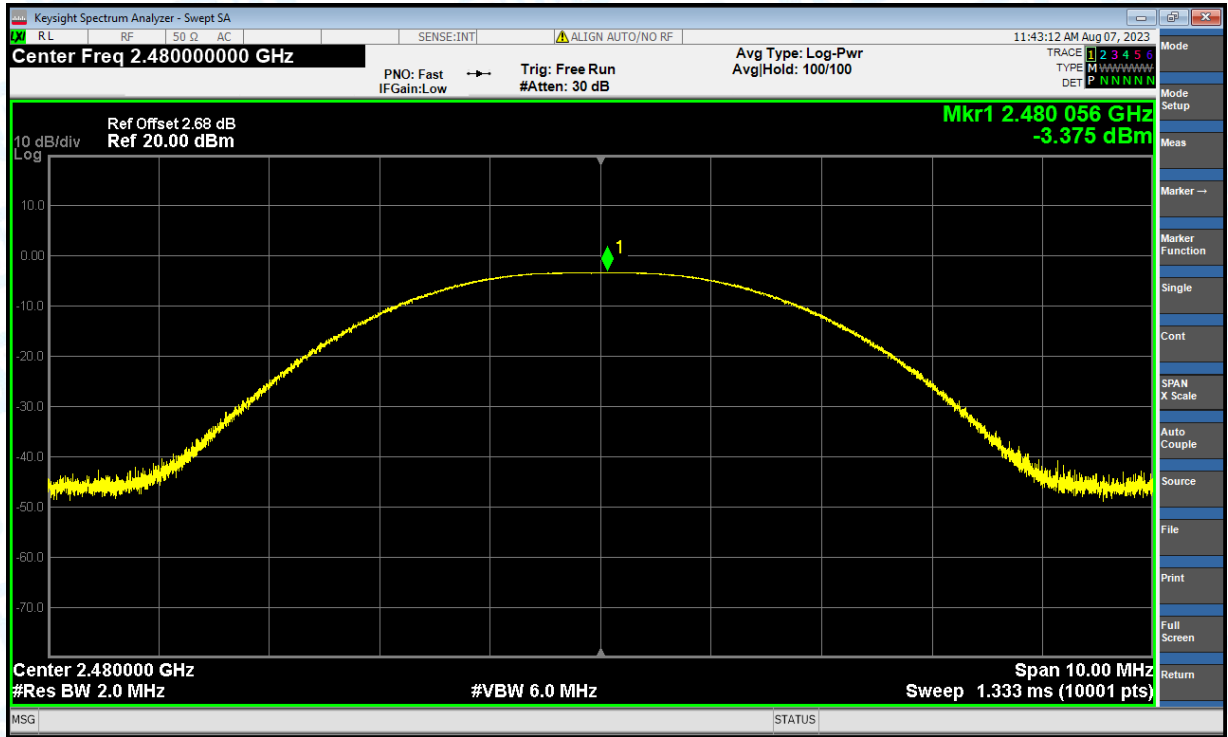
Power NVNT BLE 1Mbps 2402MHz Ant1



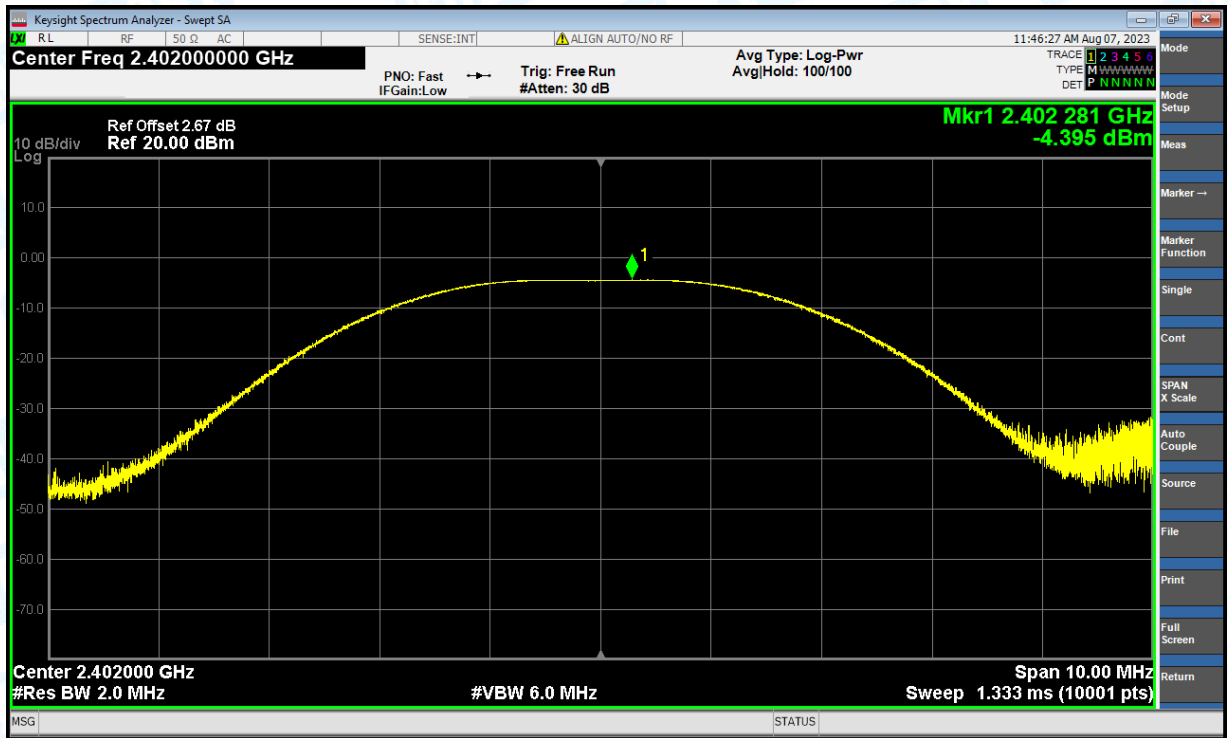
Power NVNT BLE 1Mbps 2440MHz Ant1



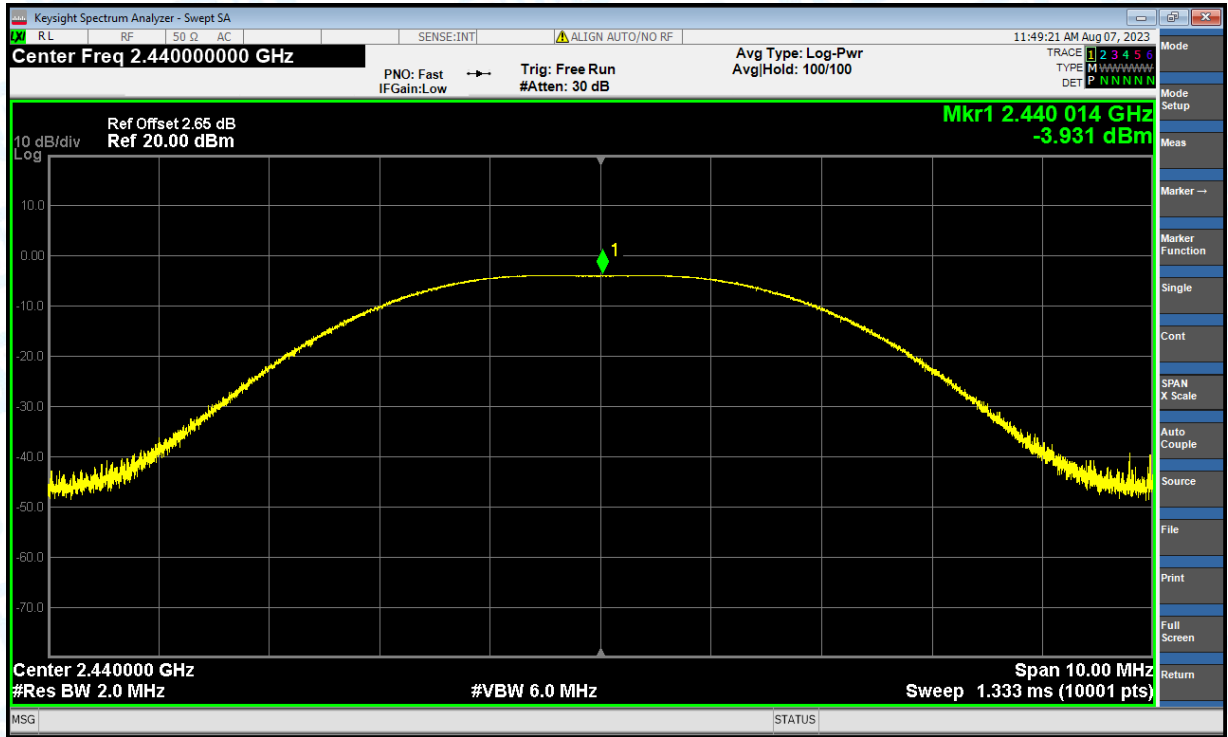
Power NVNT BLE 1Mbps 2480MHz Ant1



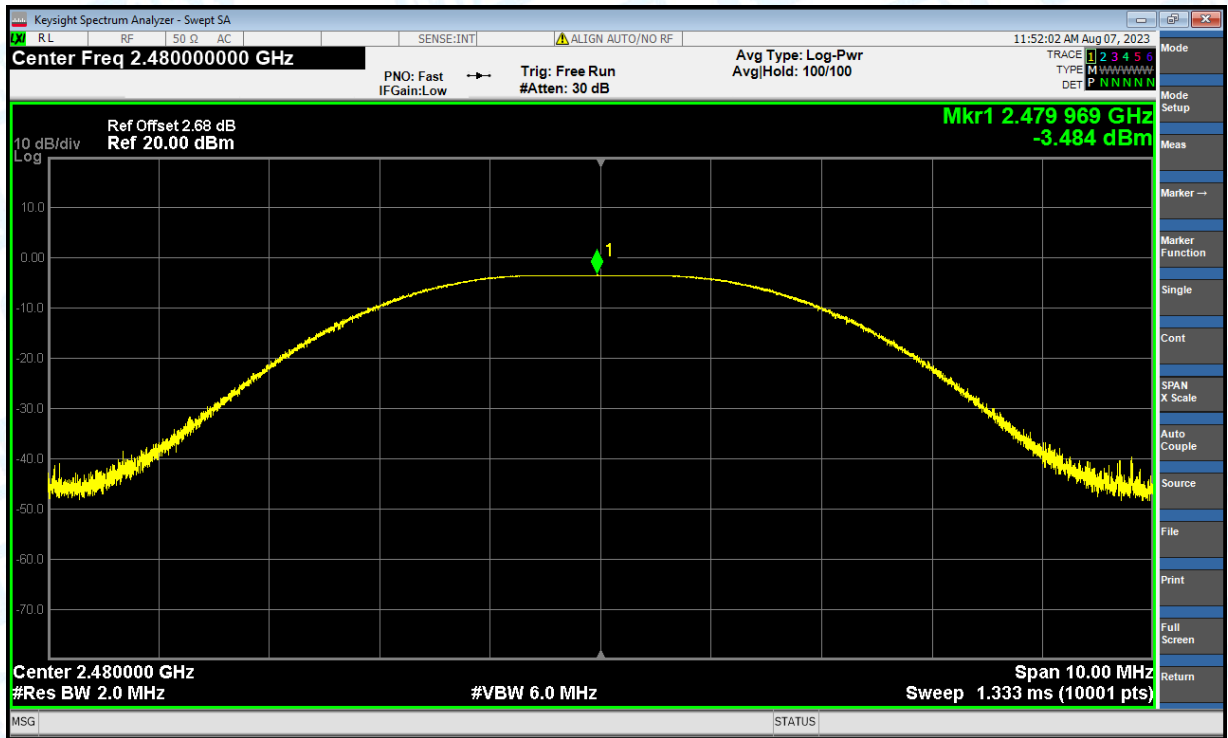
Power NVNT BLE 2Mbps 2402MHz Ant1



Power NVNT BLE 2Mbps 2440MHz Ant1



Power NVNT BLE 2Mbps 2480MHz Ant1

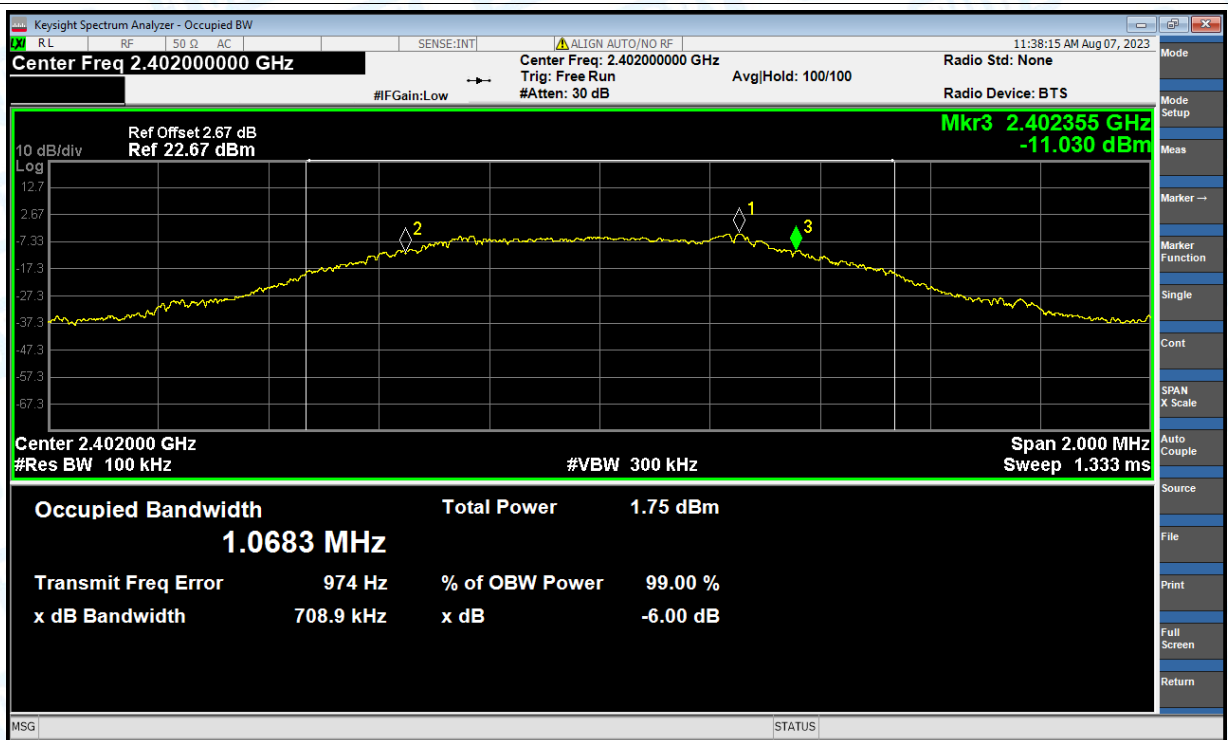


3. -6dB Bandwidth

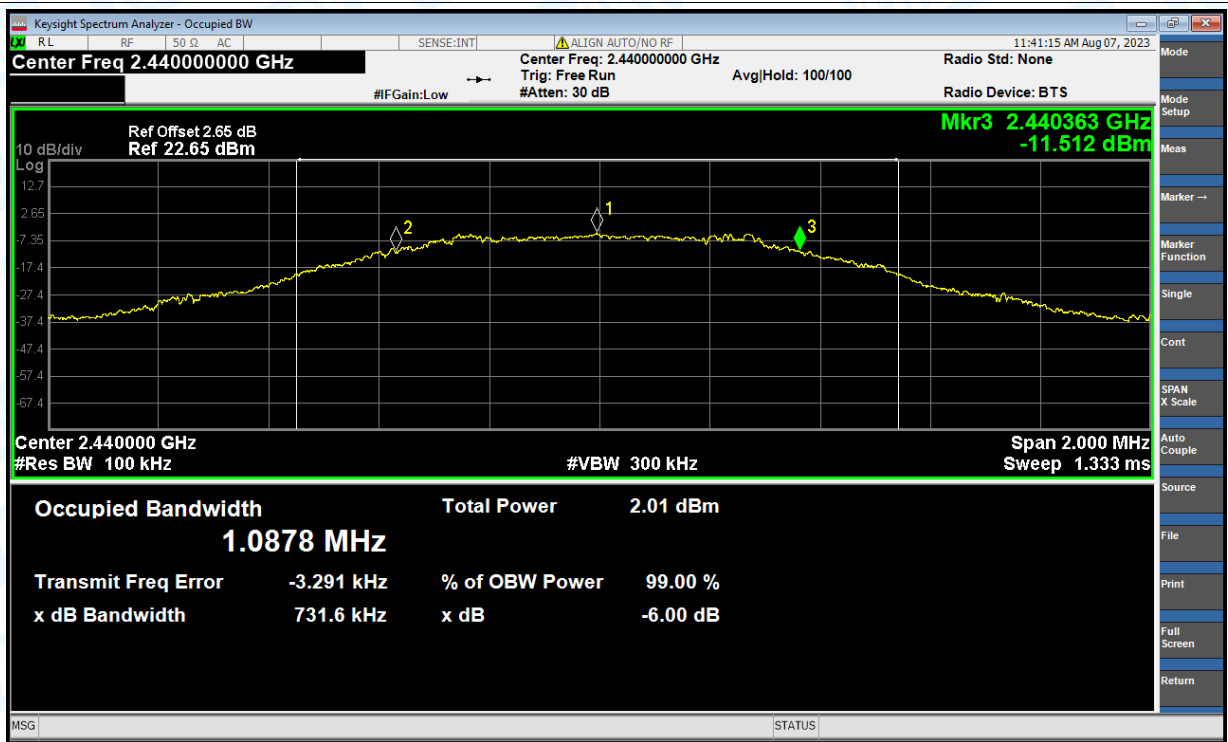
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.71	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.73	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.66	0.5	Pass
NVNT	BLE 2Mbps	2402	Ant1	1.24	0.5	Pass
NVNT	BLE 2Mbps	2440	Ant1	1.12	0.5	Pass
NVNT	BLE 2Mbps	2480	Ant1	1.13	0.5	Pass

Test Graphs

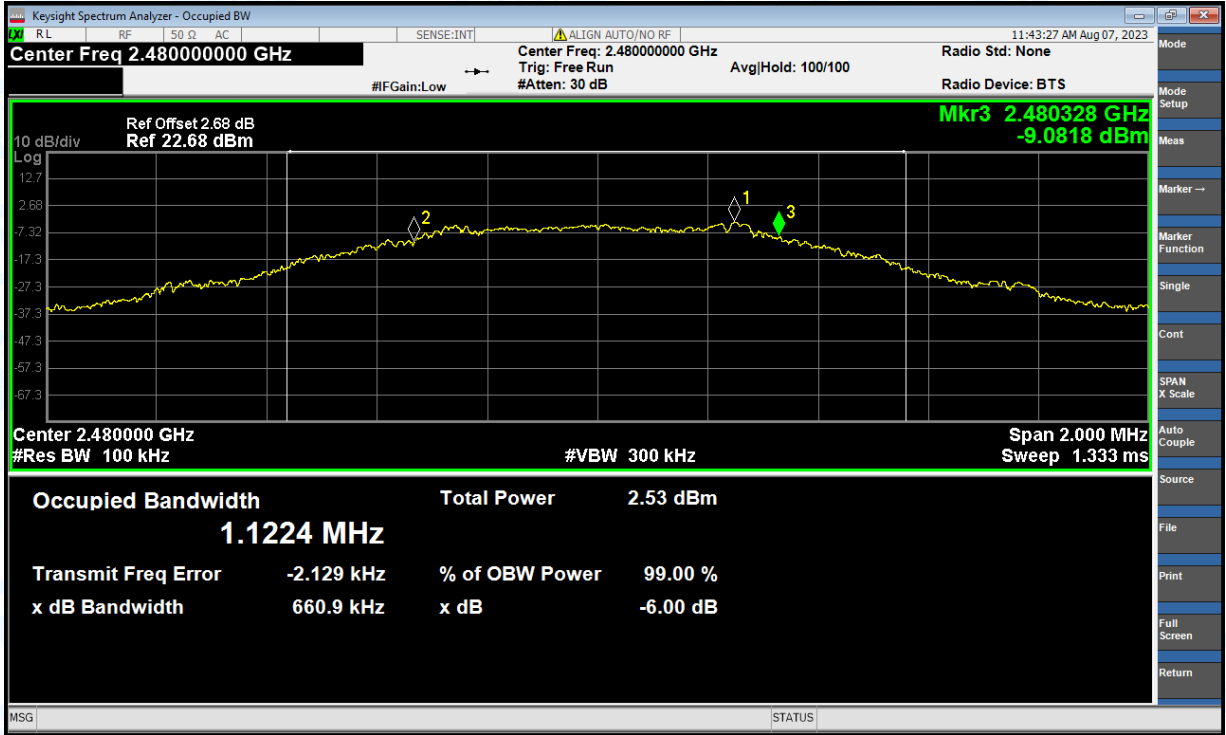
-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1



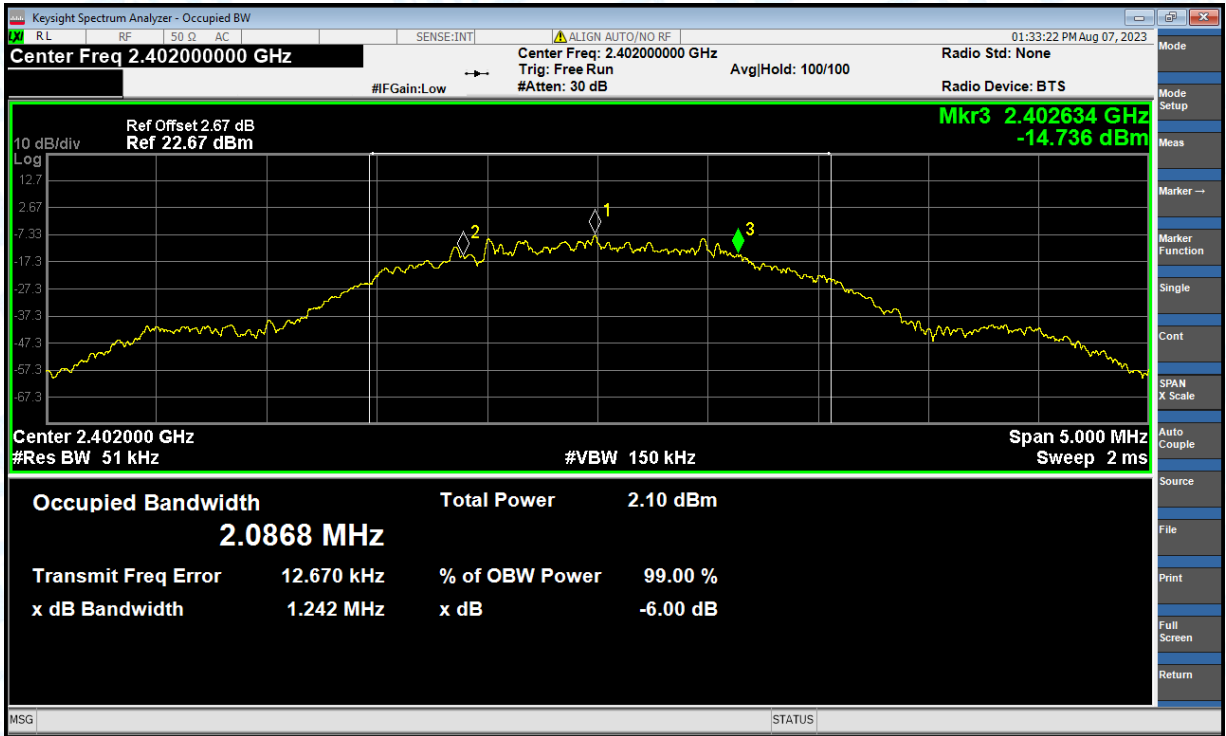
-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1



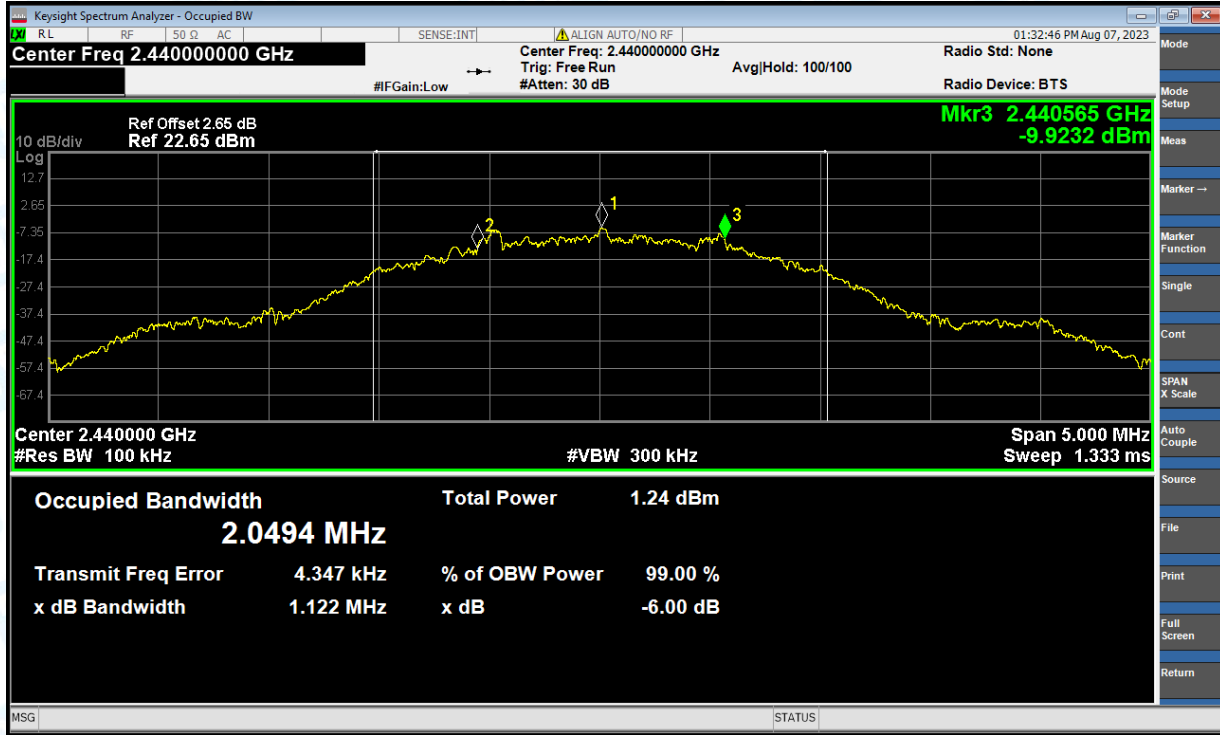
-6dB Bandwidth NVNT BLE 1Mbps 2480MHz Ant1



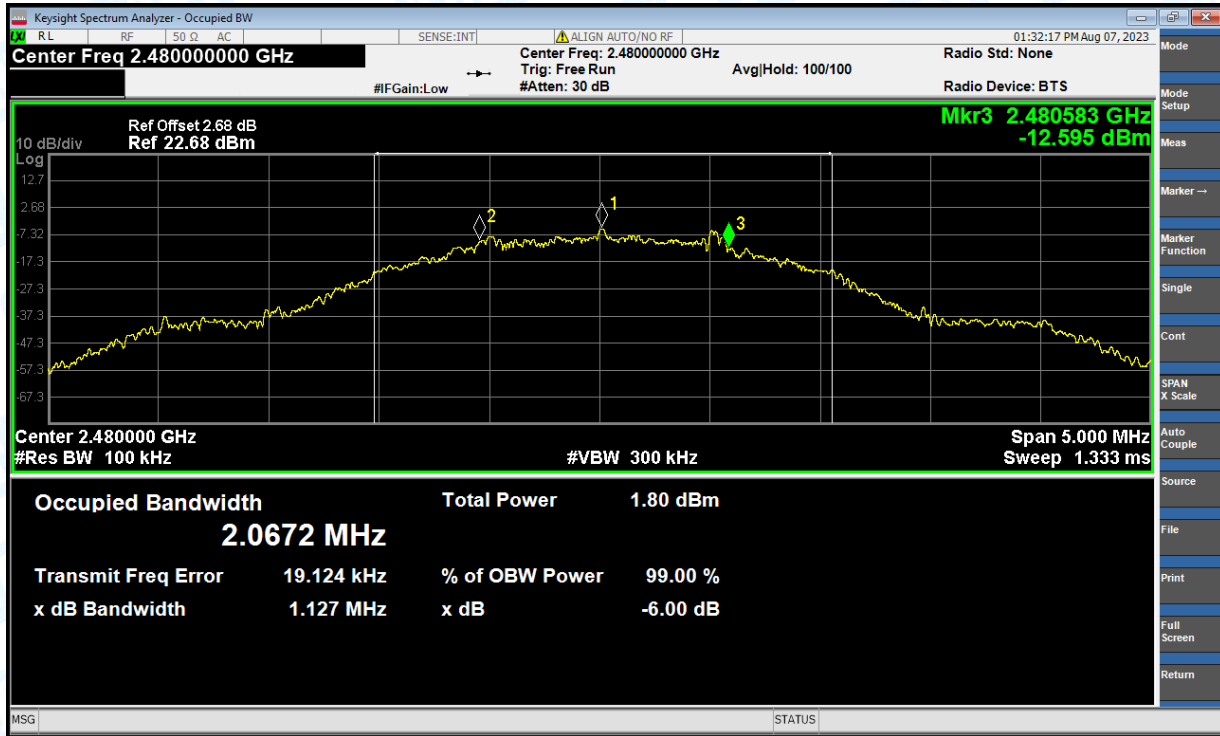
-6dB Bandwidth NVNT BLE 2Mbps 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2480MHz Ant1

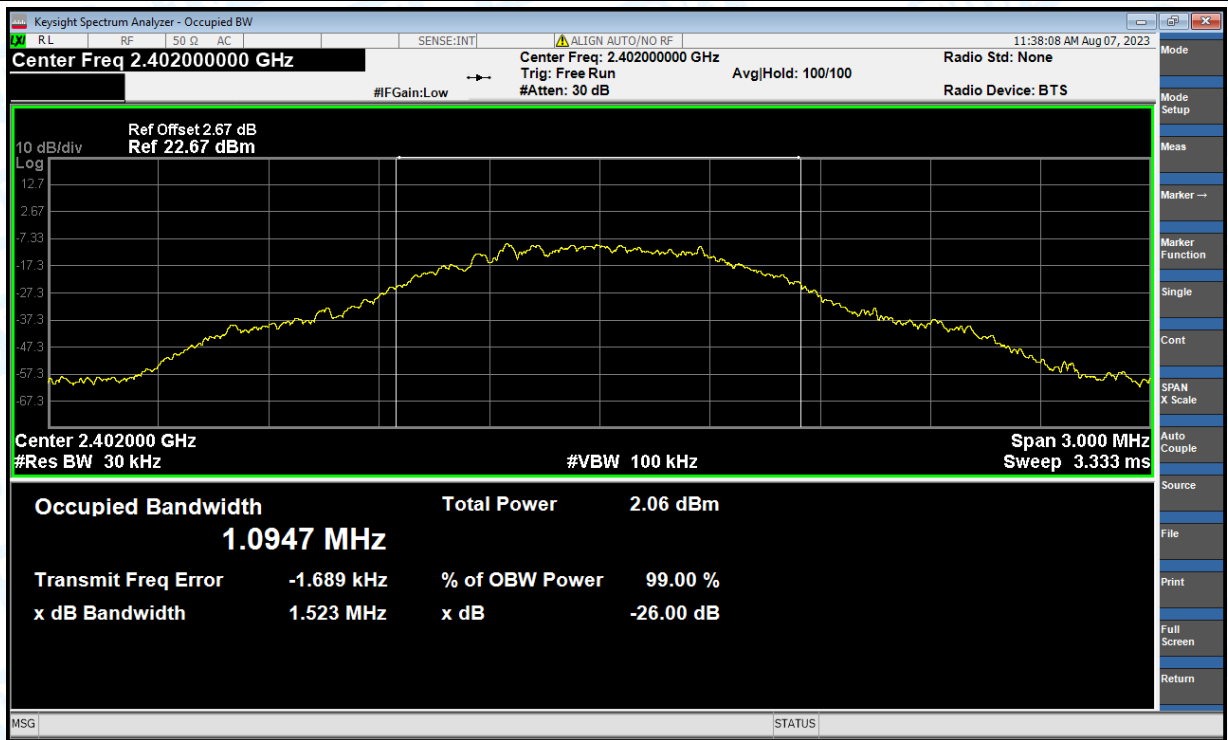


4. Occupied Channel Bandwidth

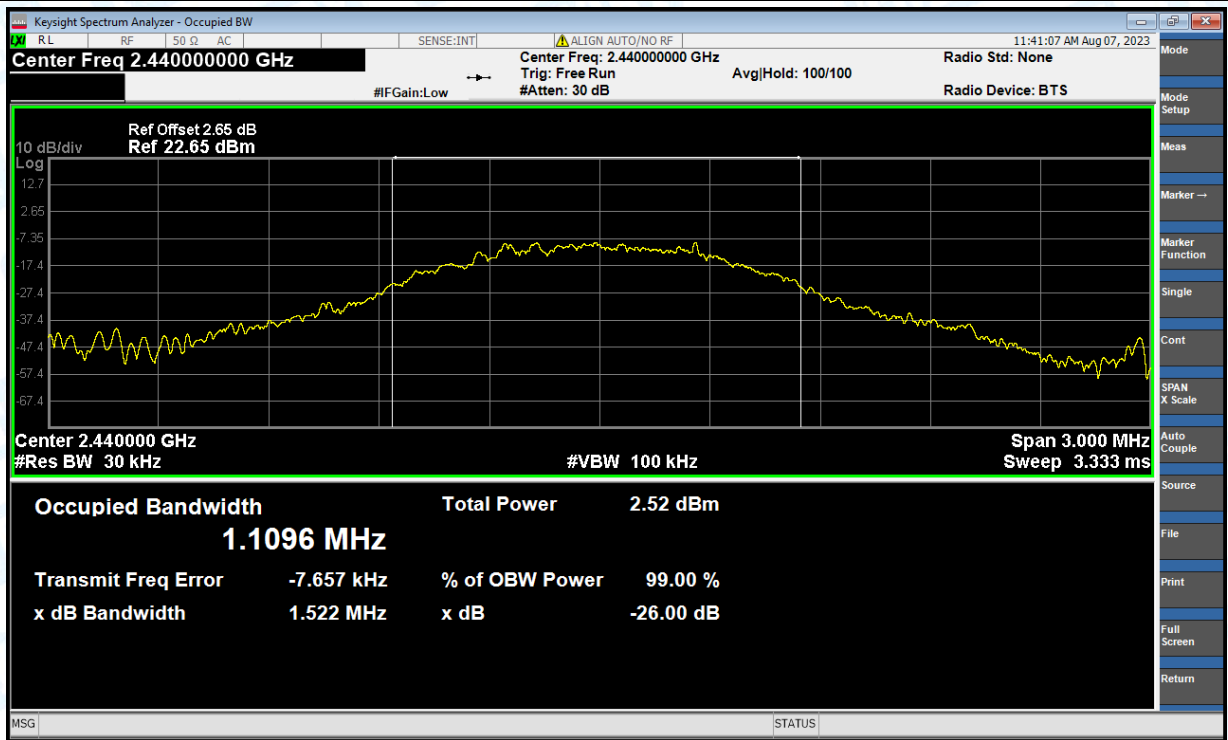
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1Mbps	2402	Ant1	1.095
NVNT	BLE 1Mbps	2440	Ant1	1.11
NVNT	BLE 1Mbps	2480	Ant1	1.131
NVNT	BLE 2Mbps	2402	Ant1	2.067
NVNT	BLE 2Mbps	2440	Ant1	2.09
NVNT	BLE 2Mbps	2480	Ant1	2.089

Test Graphs

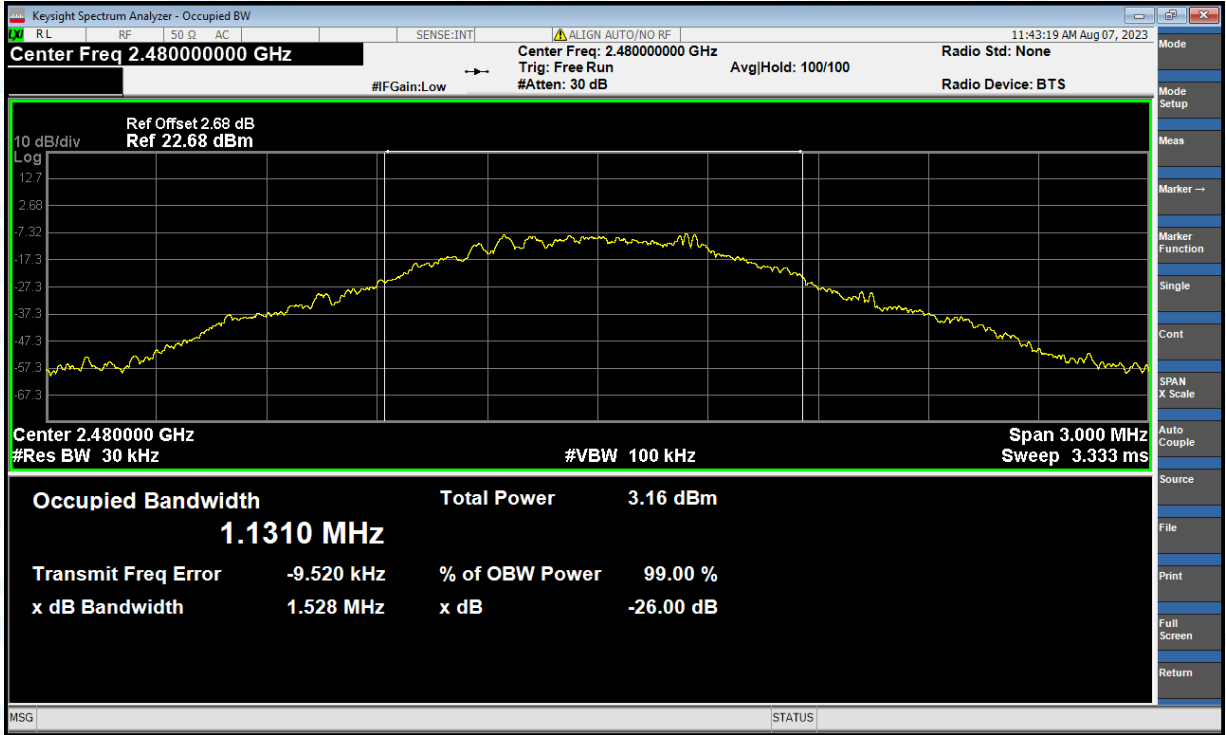
OBW NVNT BLE 1Mbps 2402MHz Ant1



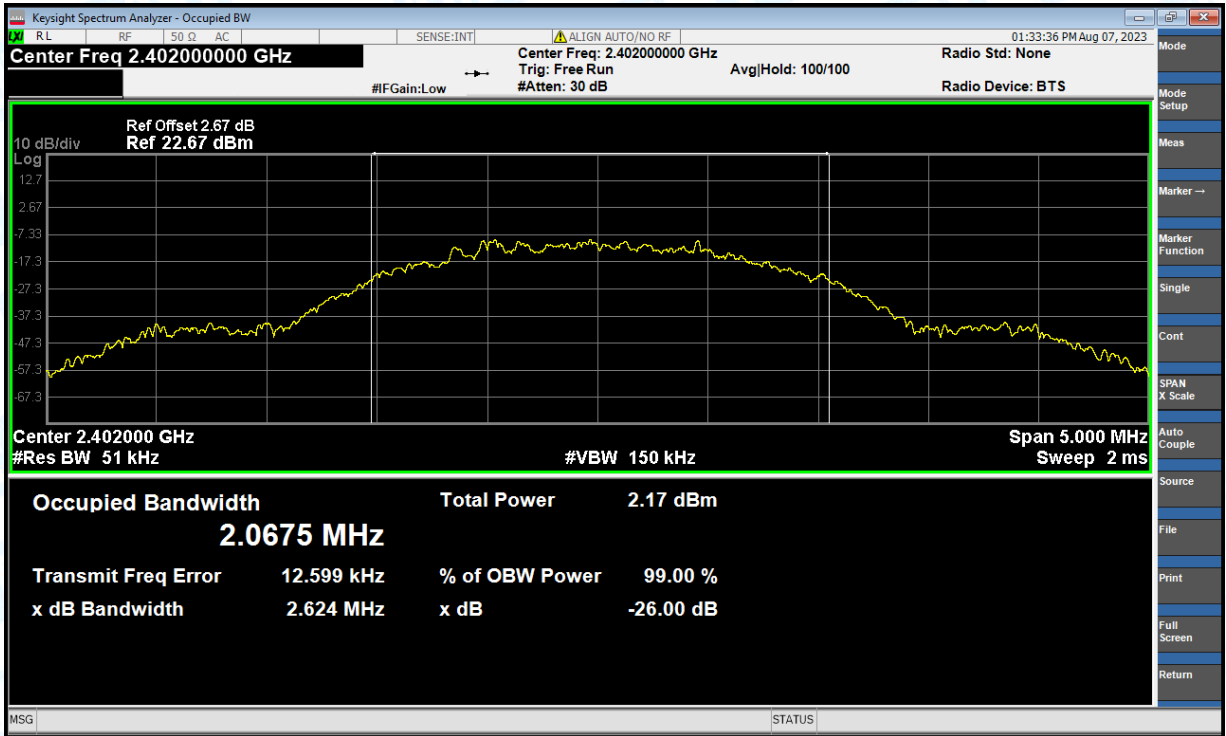
OBW NVNT BLE 1Mbps 2440MHz Ant1



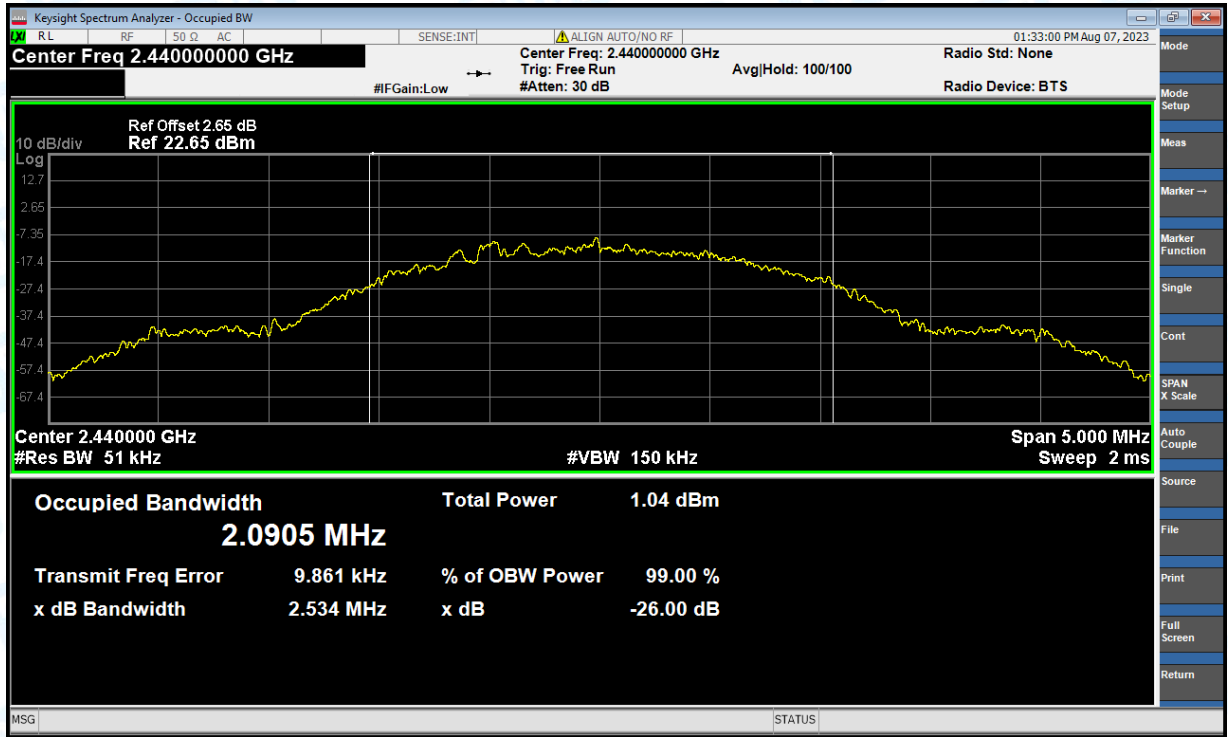
OBW NVNT BLE 1Mbps 2480MHz Ant1



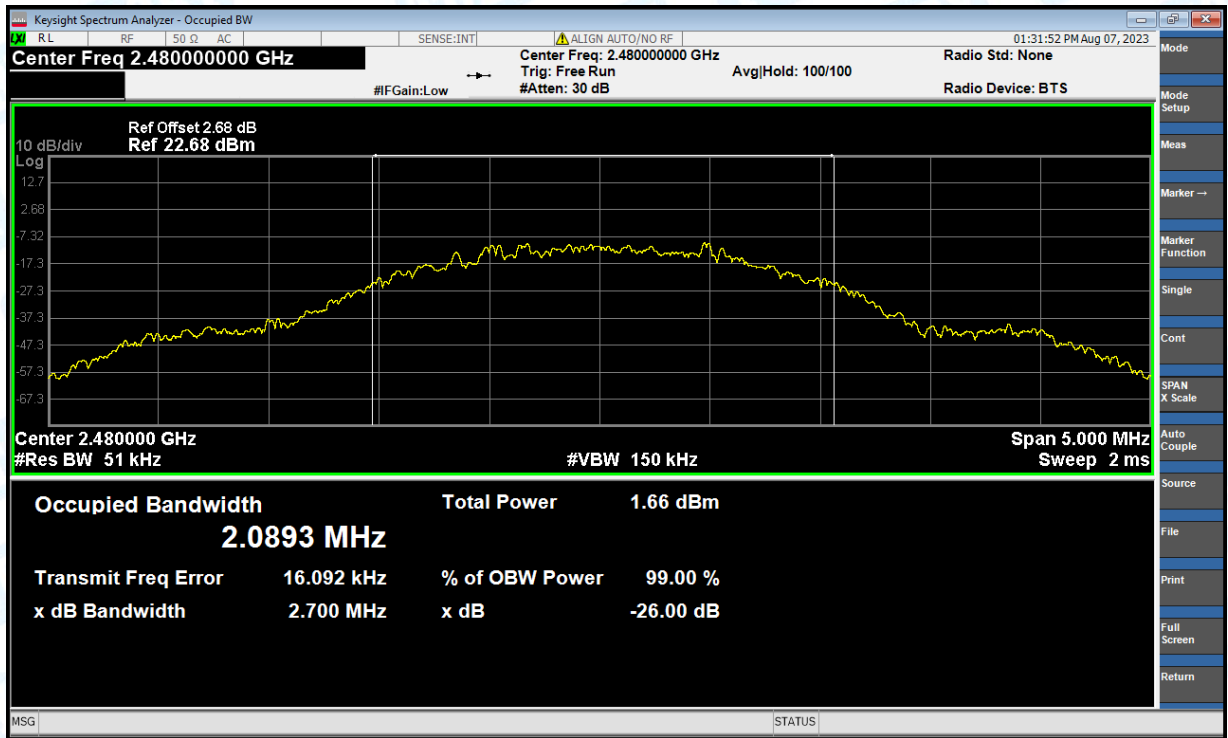
OBW NVNT BLE 2Mbps 2402MHz Ant1



OBW NVNT BLE 2Mbps 2440MHz Ant1



OBW NVNT BLE 2Mbps 2480MHz Ant1

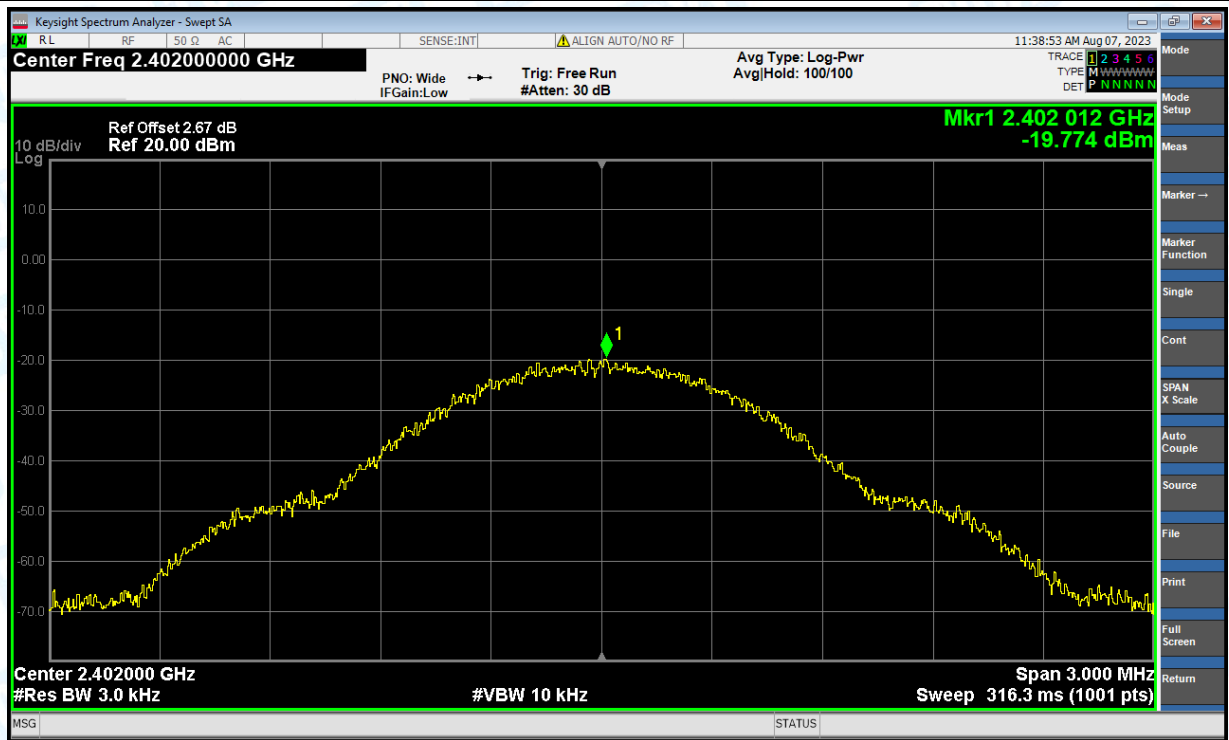


5. Maximum Power Spectral Density Level

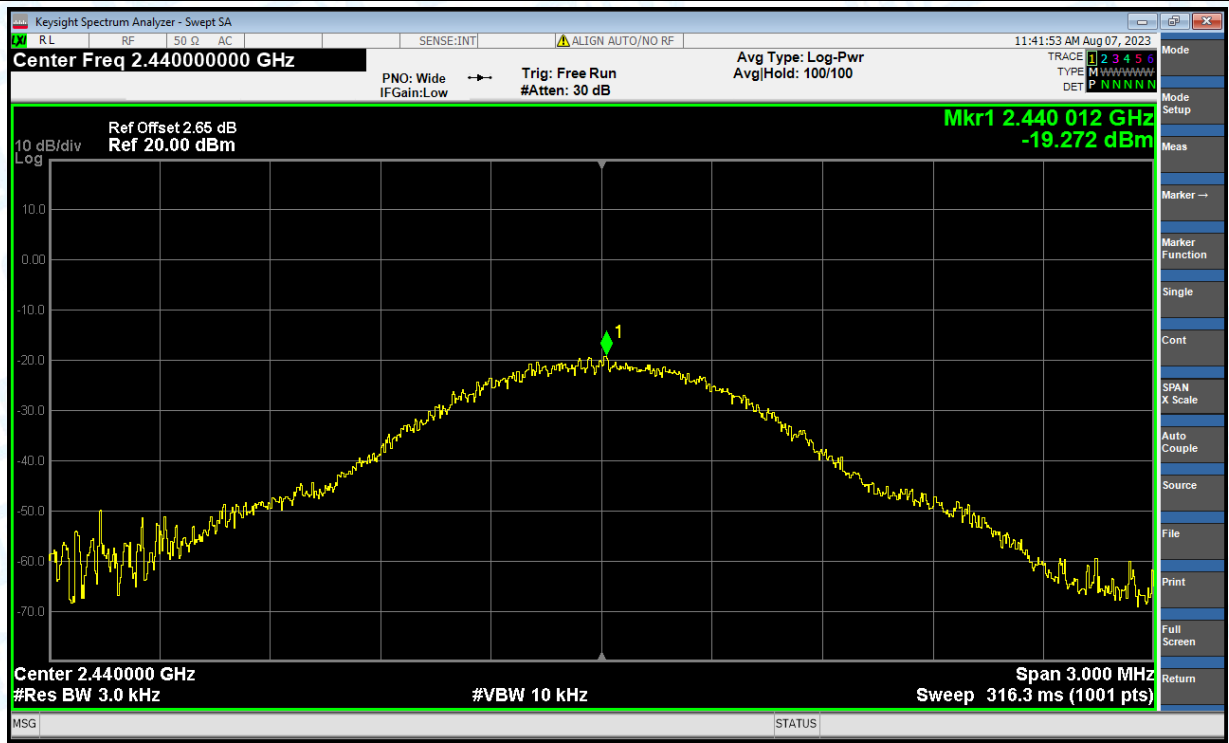
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-19.774	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-19.272	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-18.64	8	Pass
NVNT	BLE 2Mbps	2402	Ant1	-23.515	8	Pass
NVNT	BLE 2Mbps	2440	Ant1	-22.915	8	Pass
NVNT	BLE 2Mbps	2480	Ant1	-22.108	8	Pass

Test Graphs

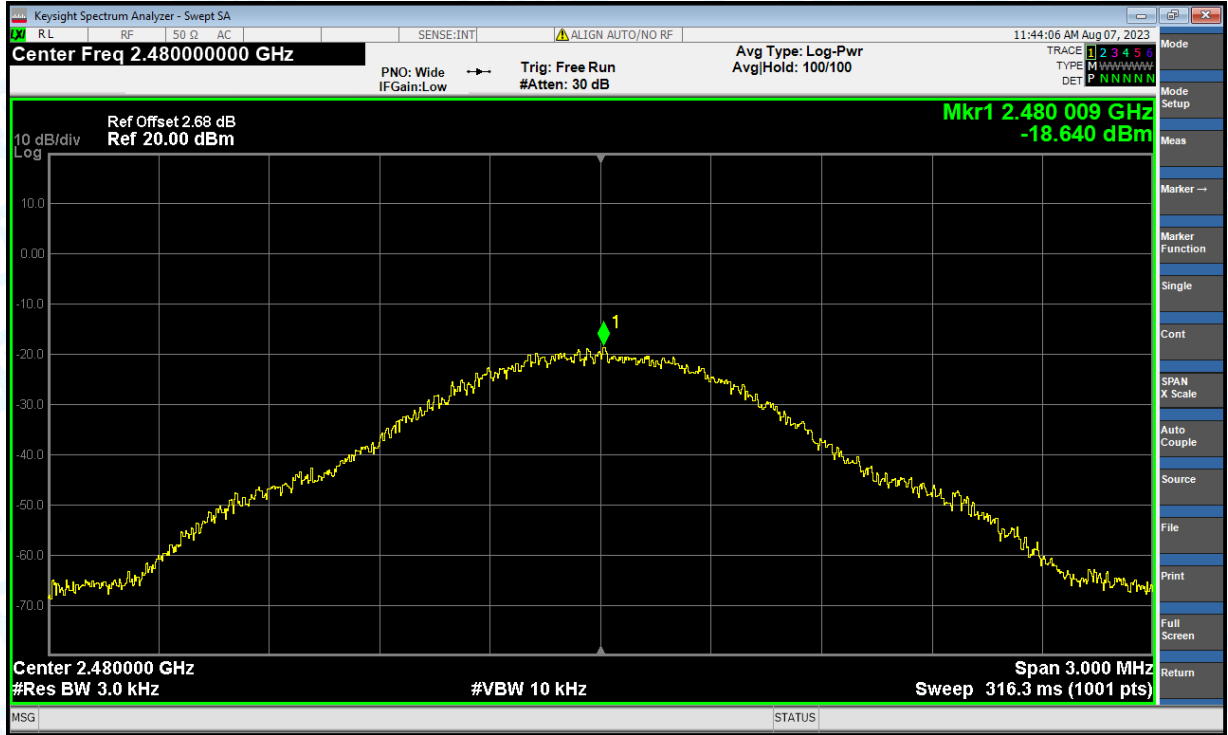
PSD NVNT BLE 1Mbps 2402MHz Ant1



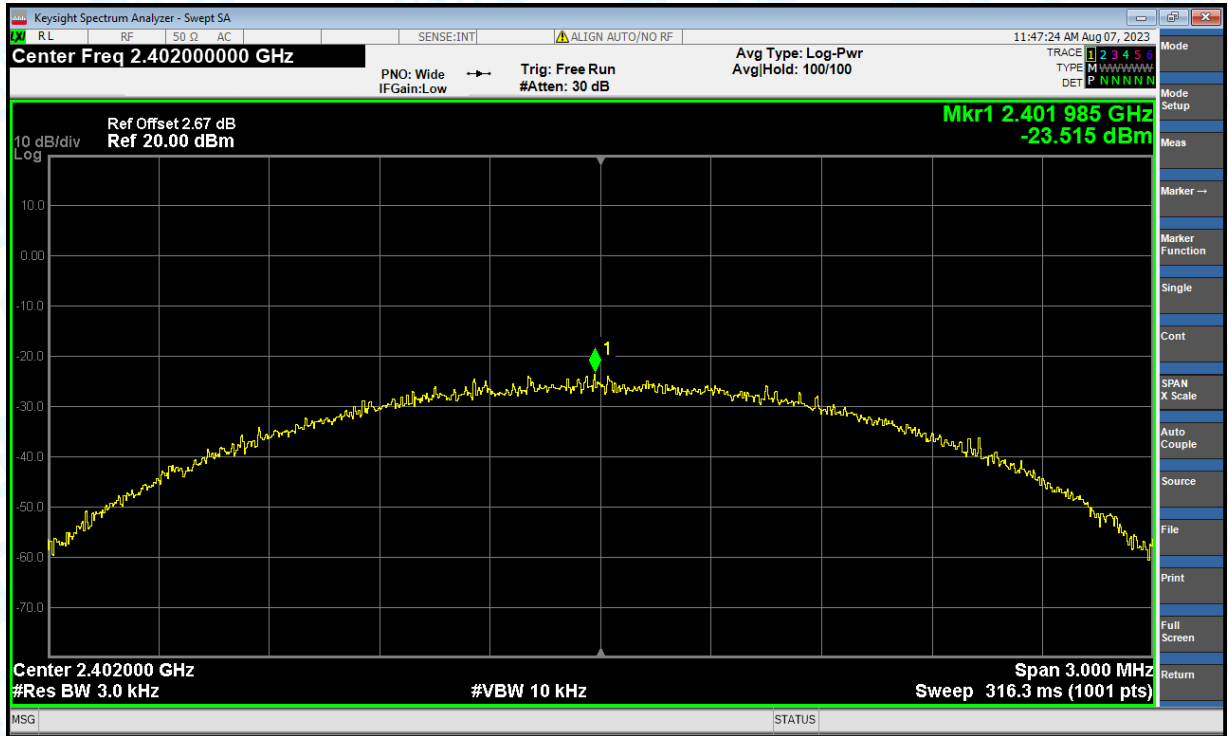
PSD NVNT BLE 1Mbps 2440MHz Ant1



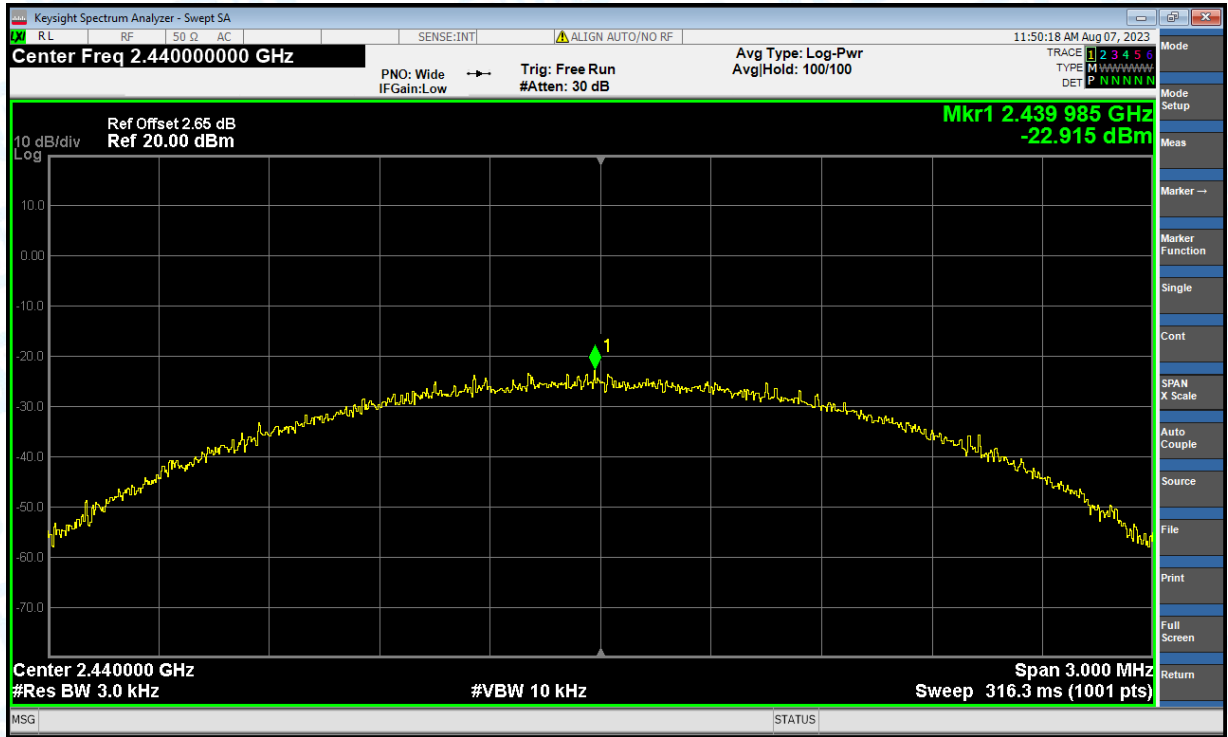
PSD NVNT BLE 1Mbps 2480MHz Ant1



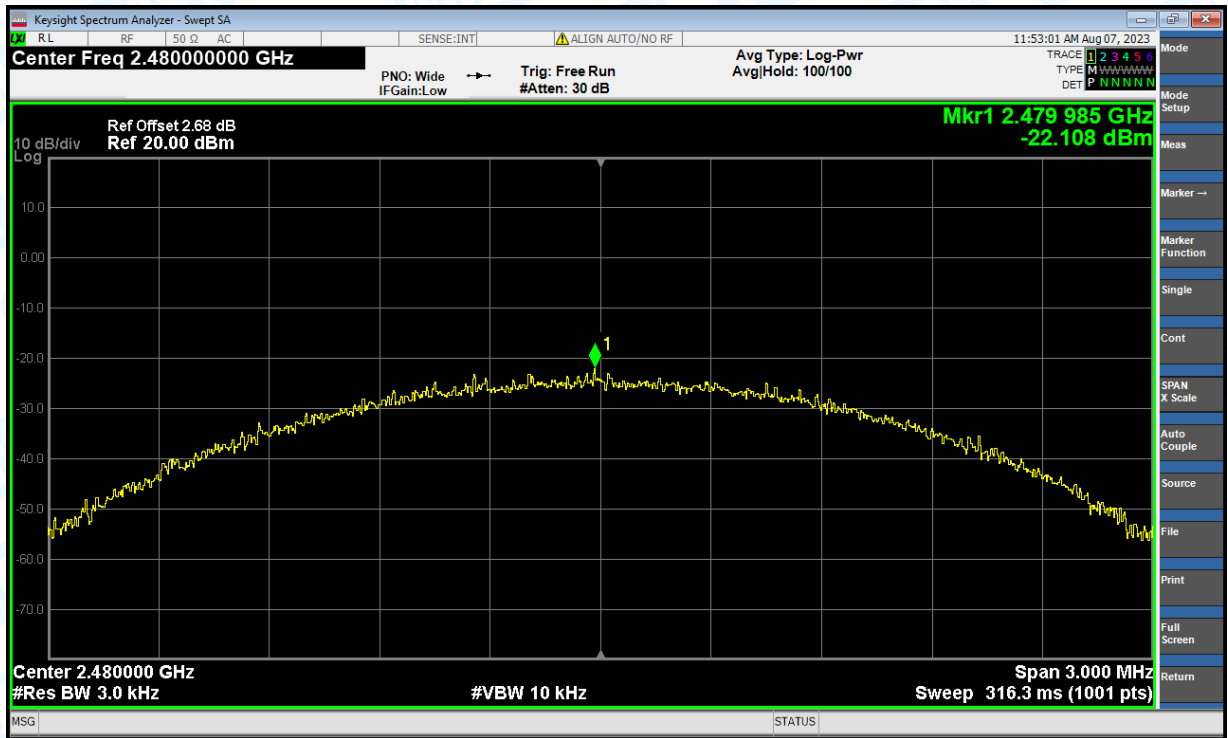
PSD NVNT BLE 2Mbps 2402MHz Ant1



PSD NVNT BLE 2Mbps 2440MHz Ant1



PSD NVNT BLE 2Mbps 2480MHz Ant1

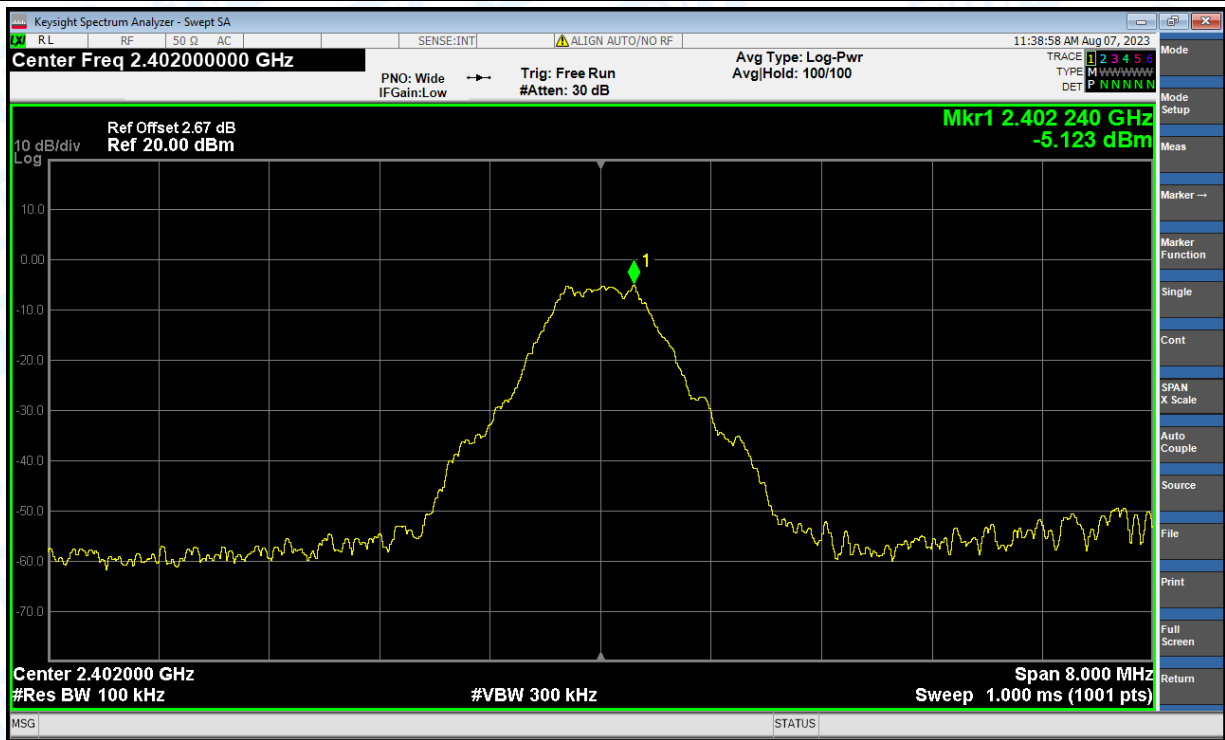


6. Band Edge

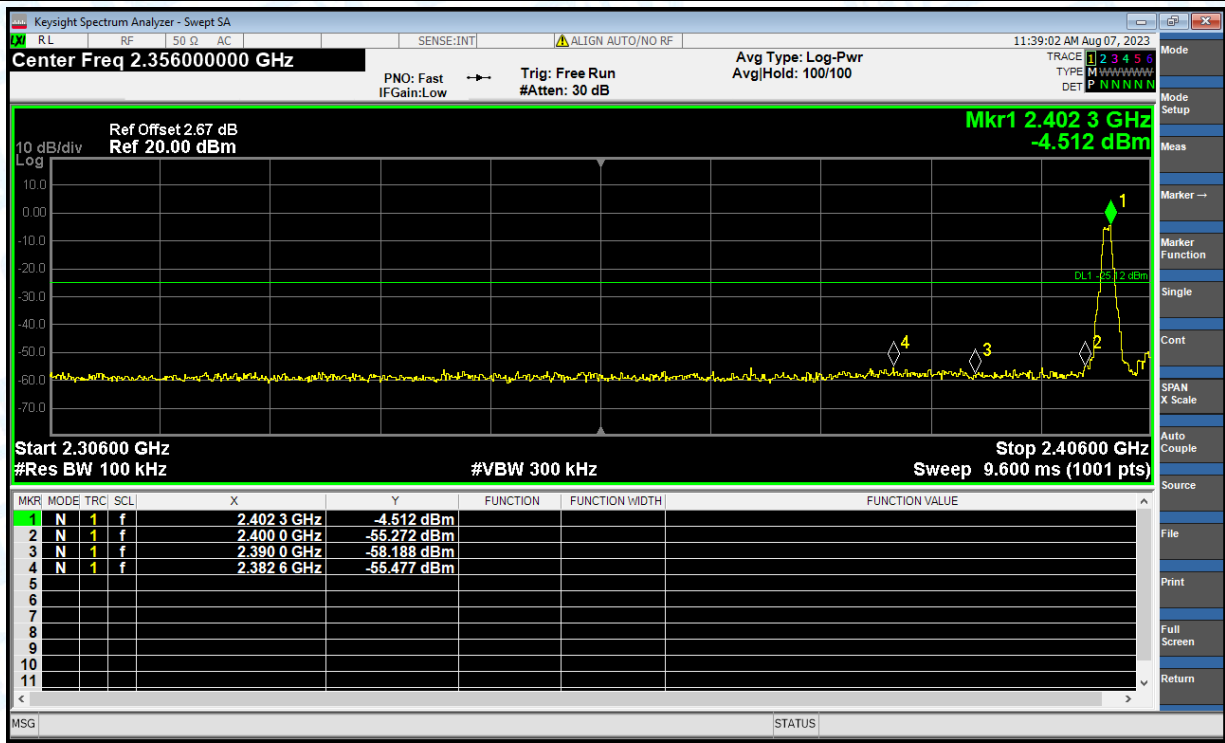
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-50.36	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-48.9	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-49.66	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-47.05	-20	Pass

Test Graphs

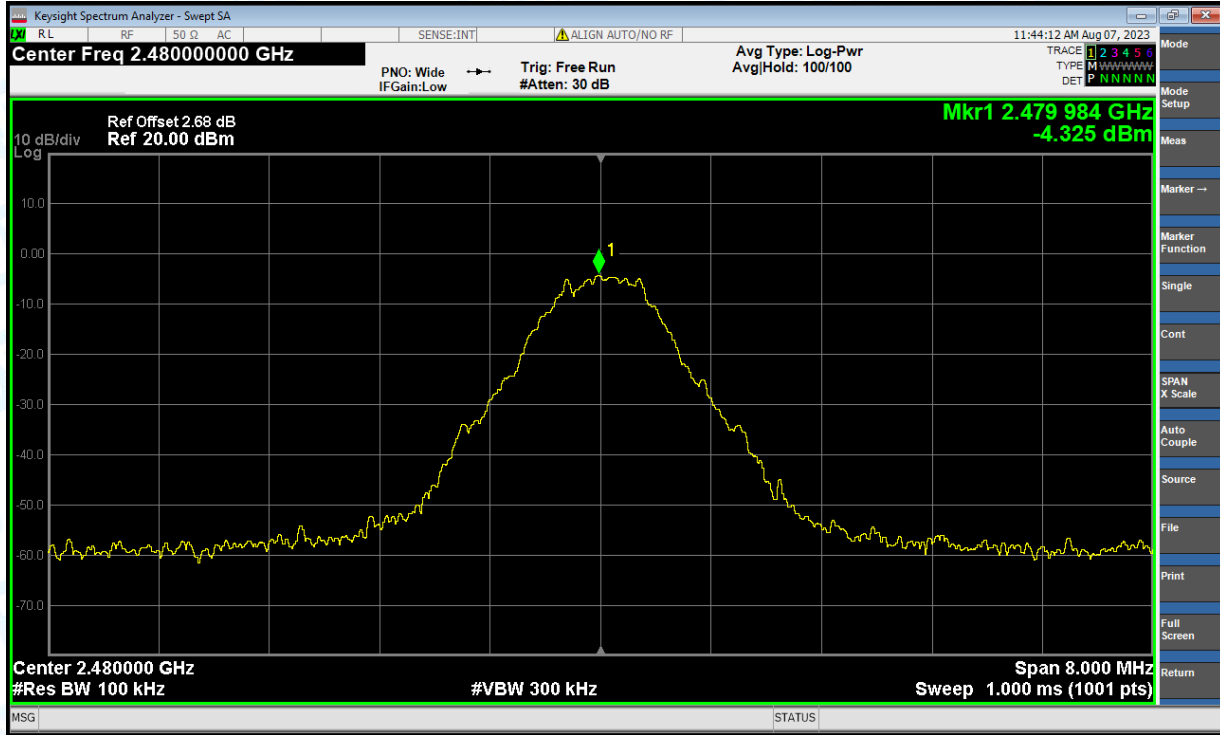
Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Ref



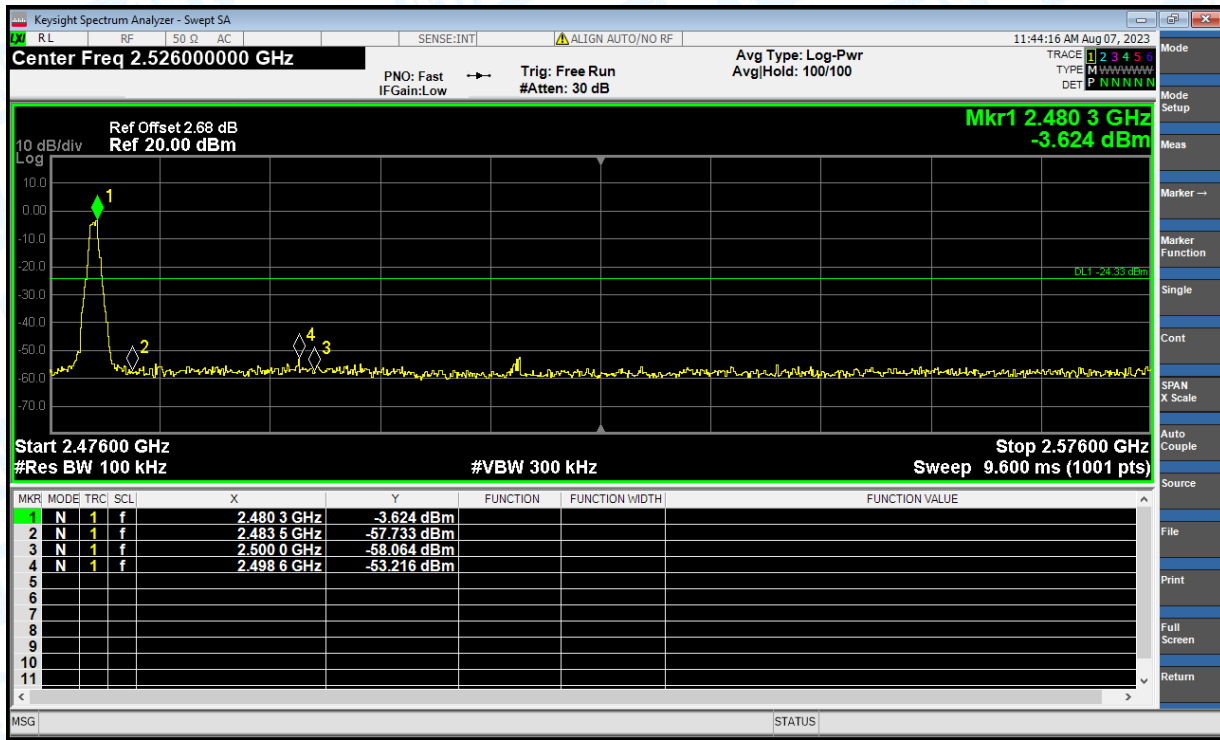
Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Emission



Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Ref



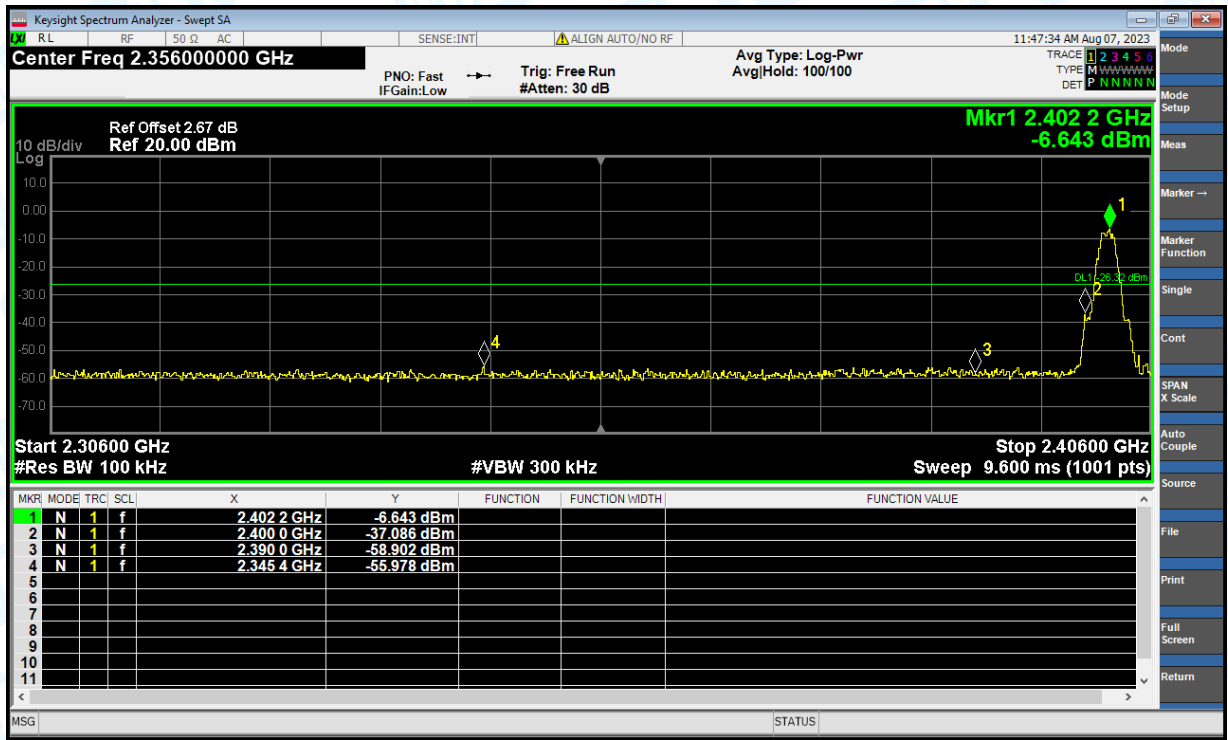
Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Emission



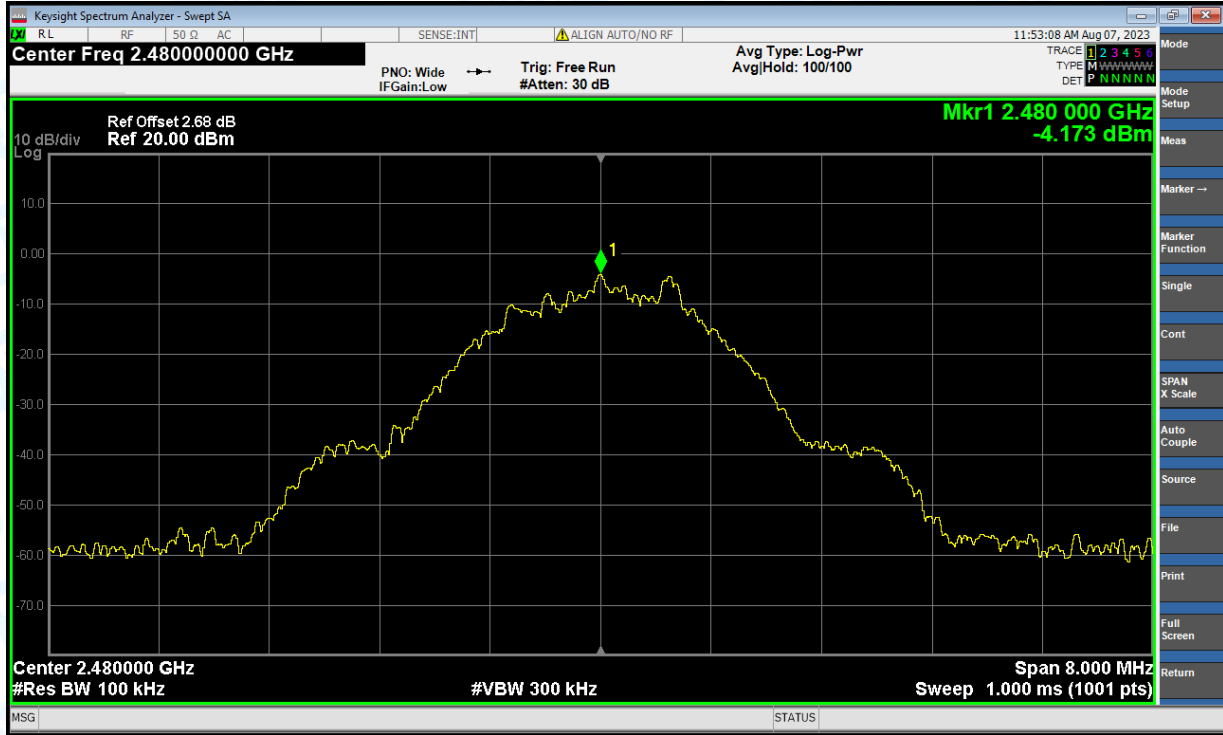
Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Ref



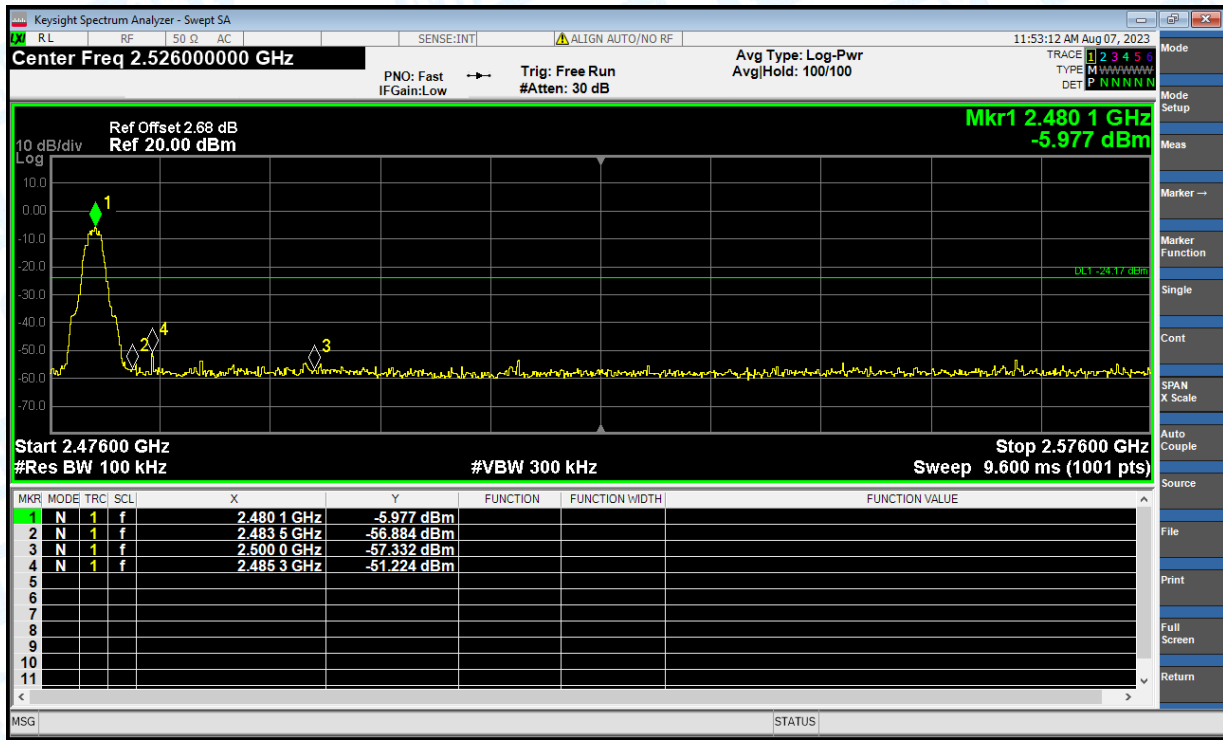
Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Emission



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Ref



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Emission



7. Conducted RF Spurious Emission

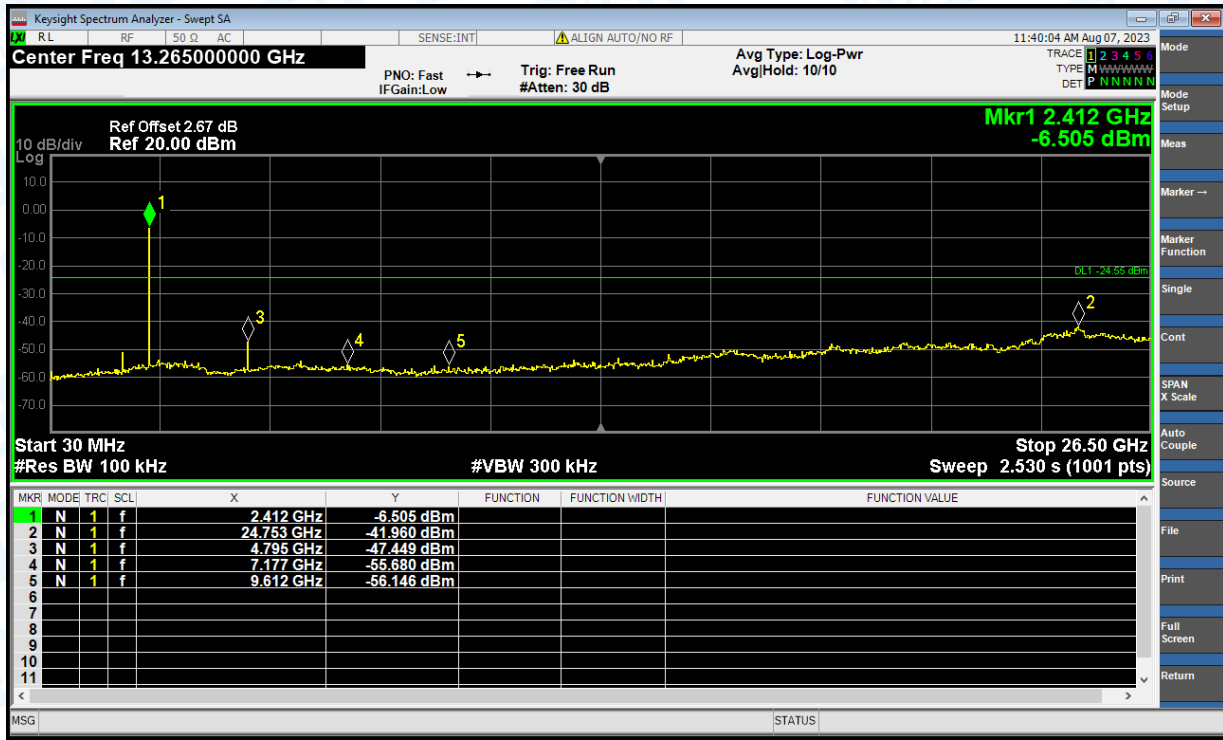
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-37.41	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-37.15	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-38.65	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-36.6	-20	Pass
NVNT	BLE 2Mbps	2440	Ant1	-35.44	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-37.46	-20	Pass

Test Graphs

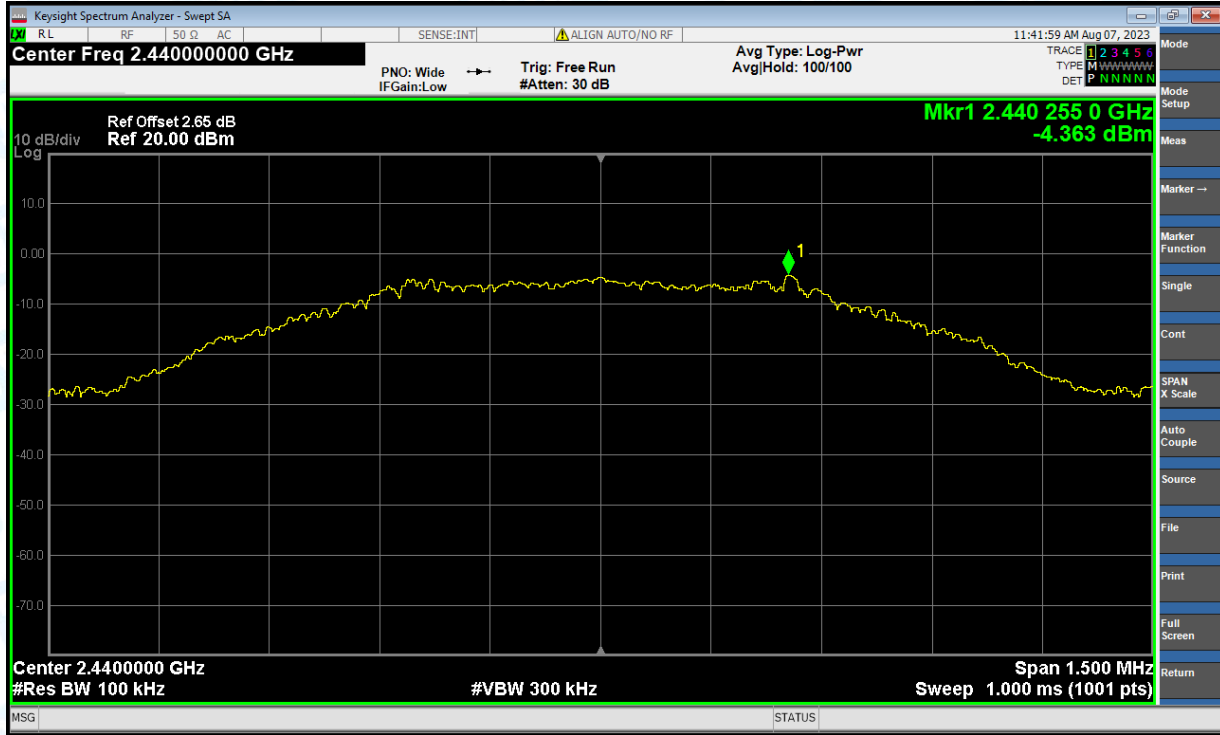
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Ref



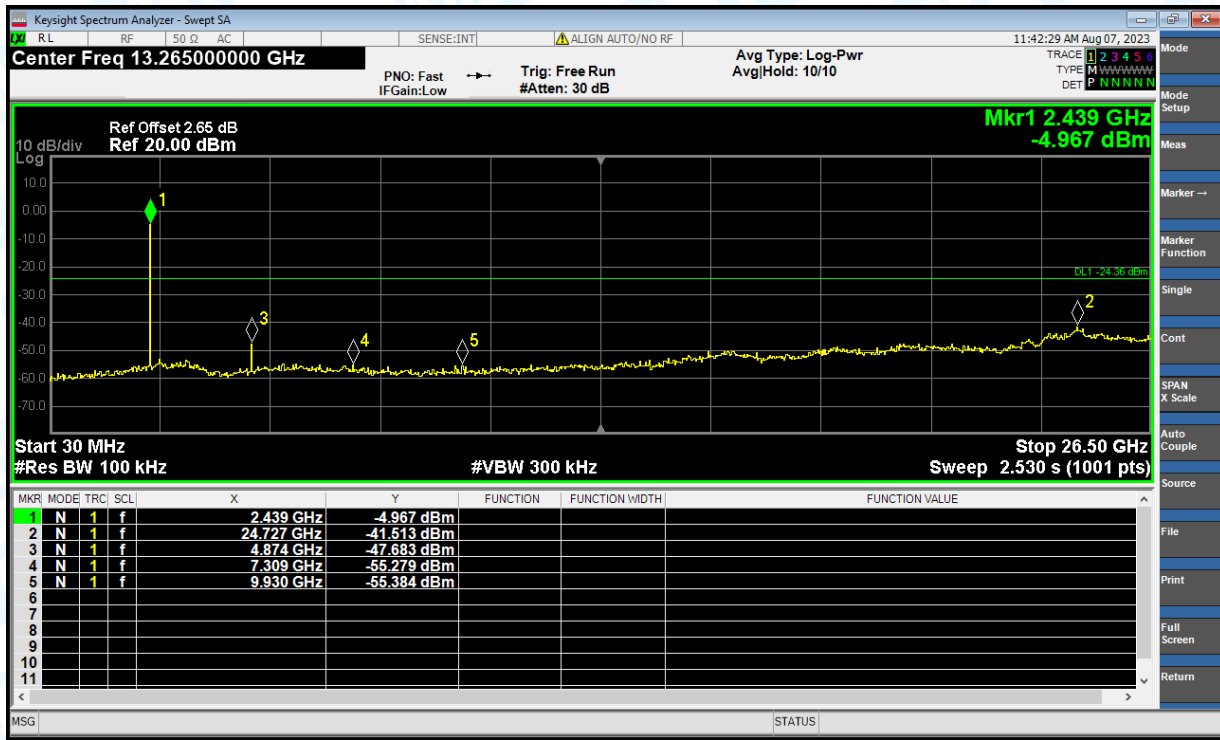
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Emission



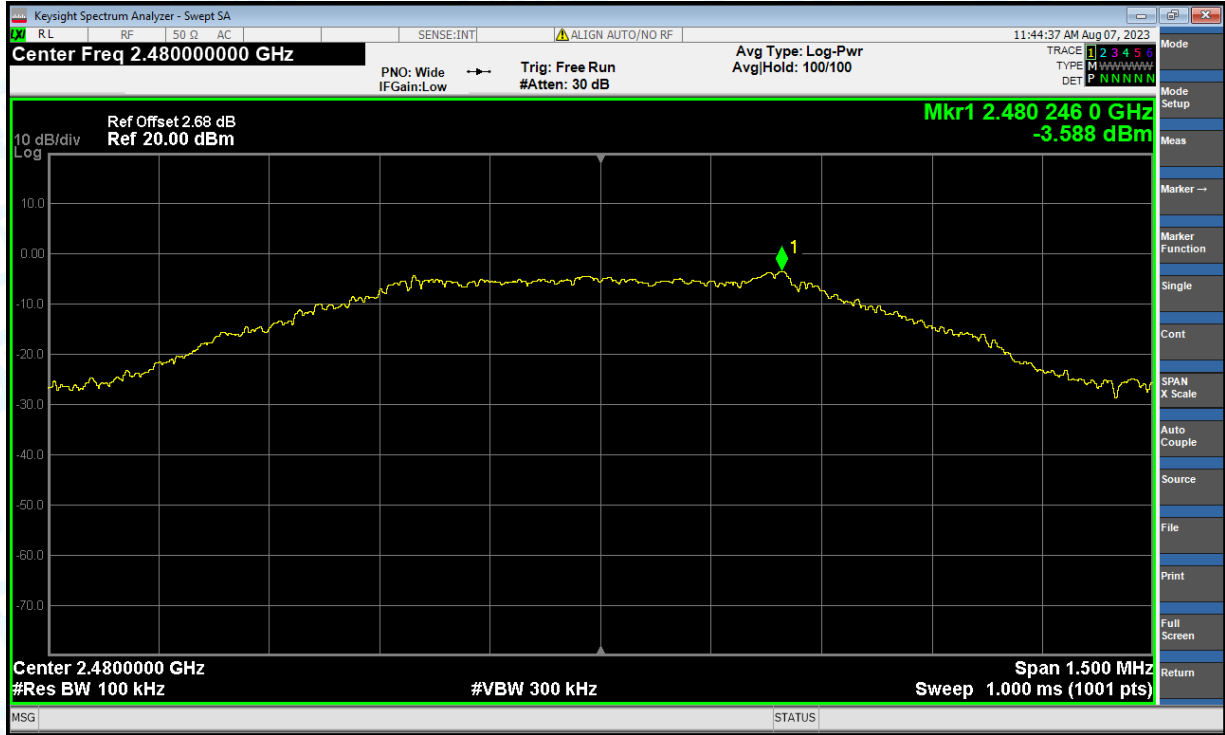
Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Ref



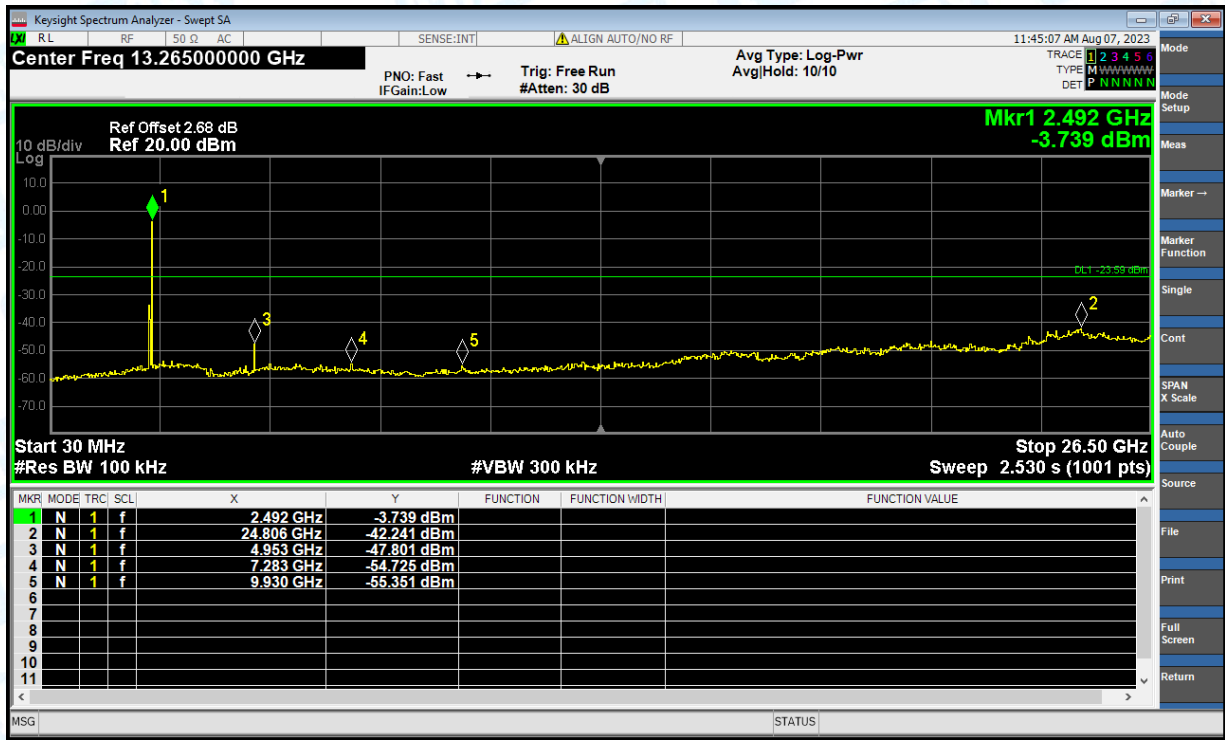
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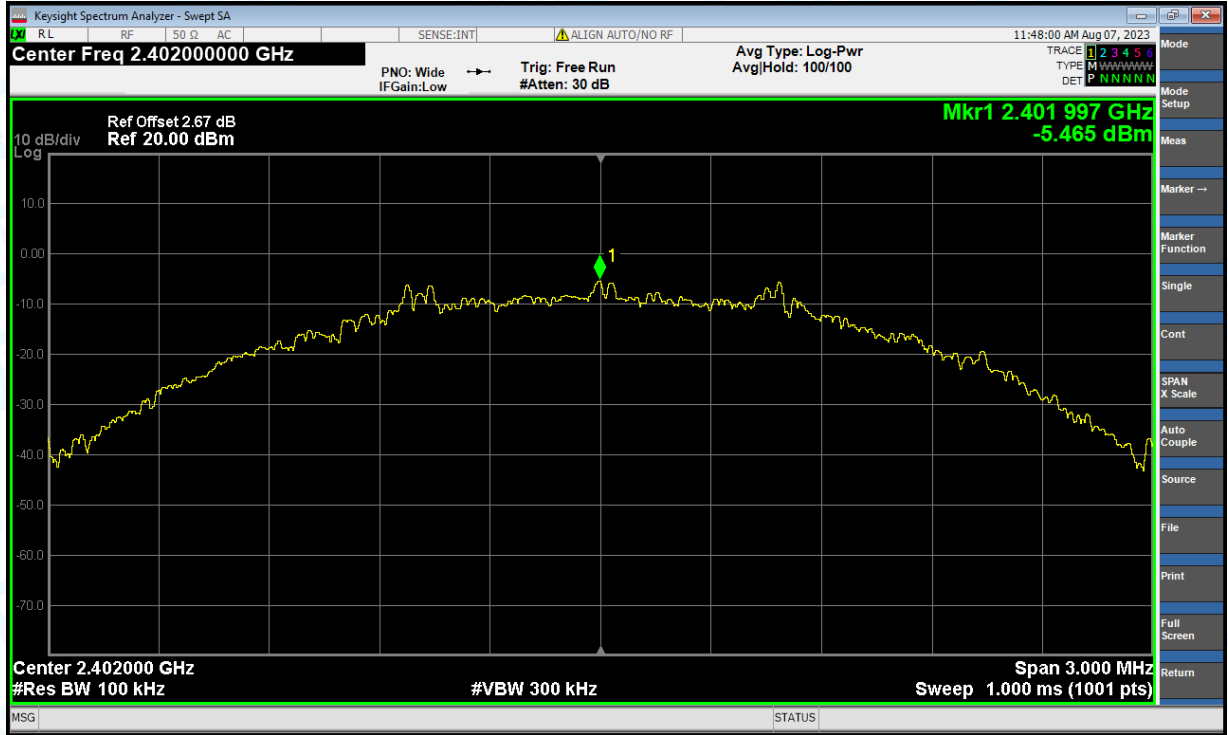
Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Ref



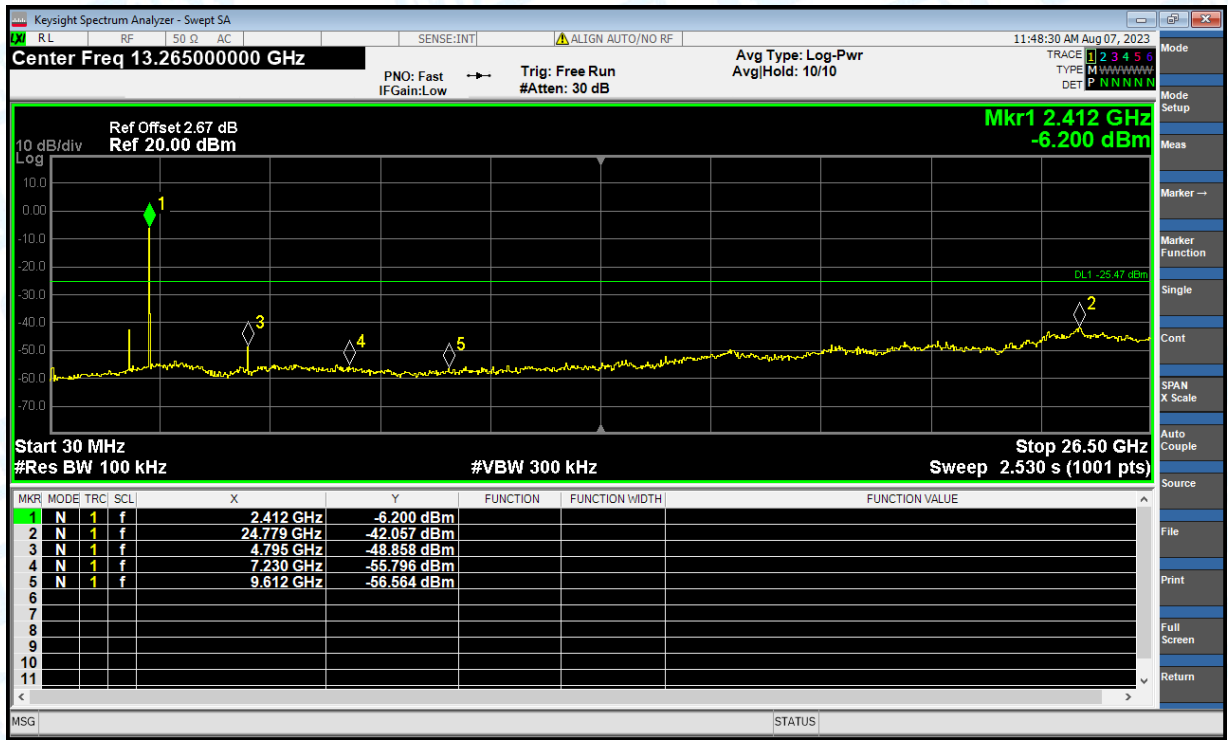
Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Emission



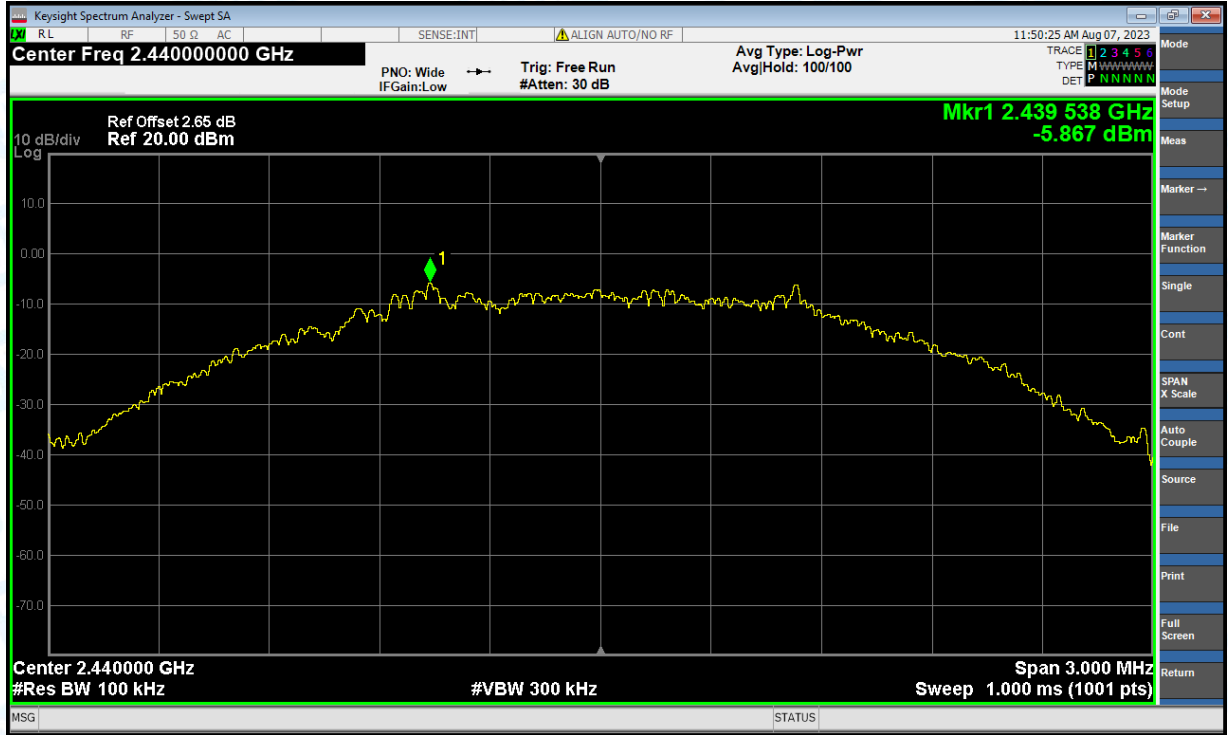
Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Ref



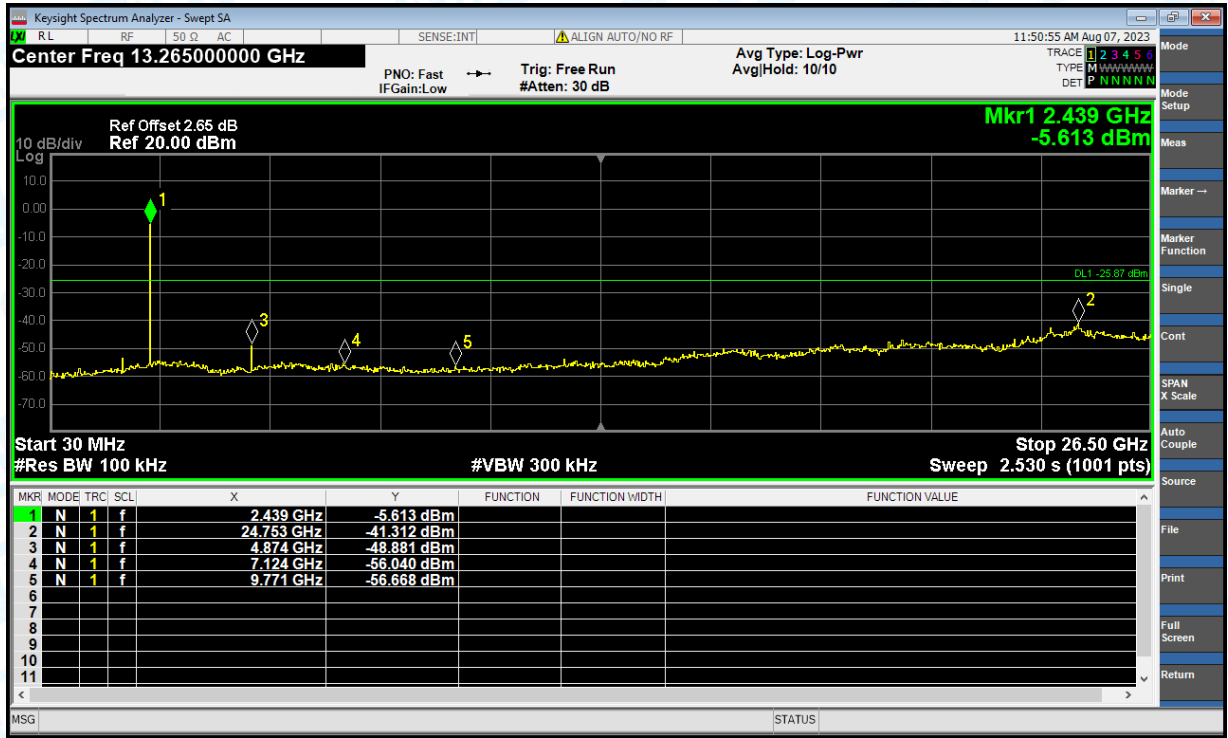
Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Emission



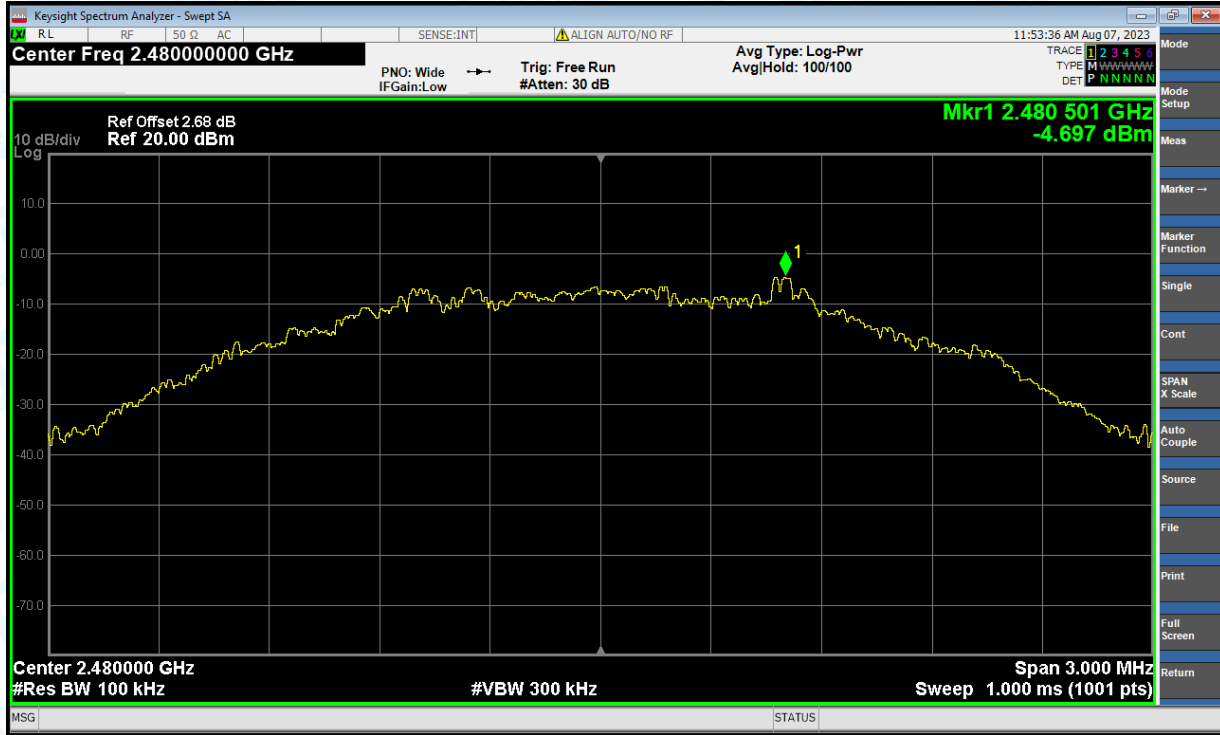
Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Ref



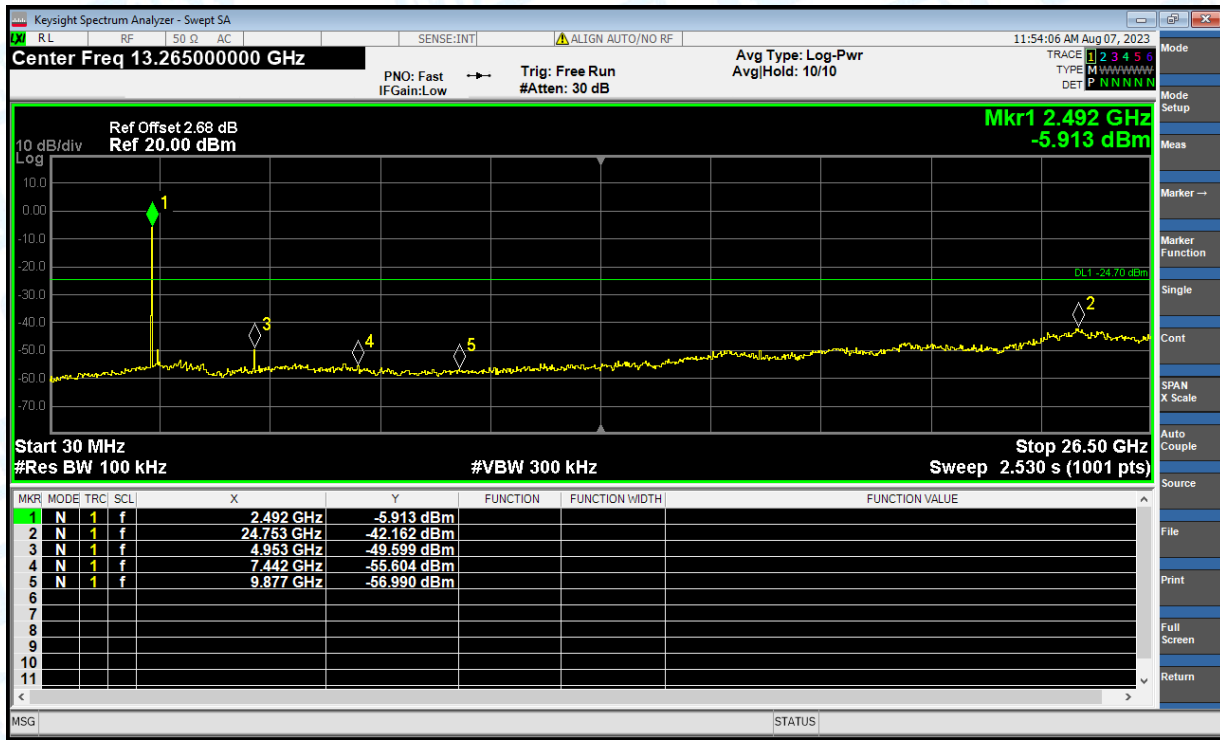
Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Emission

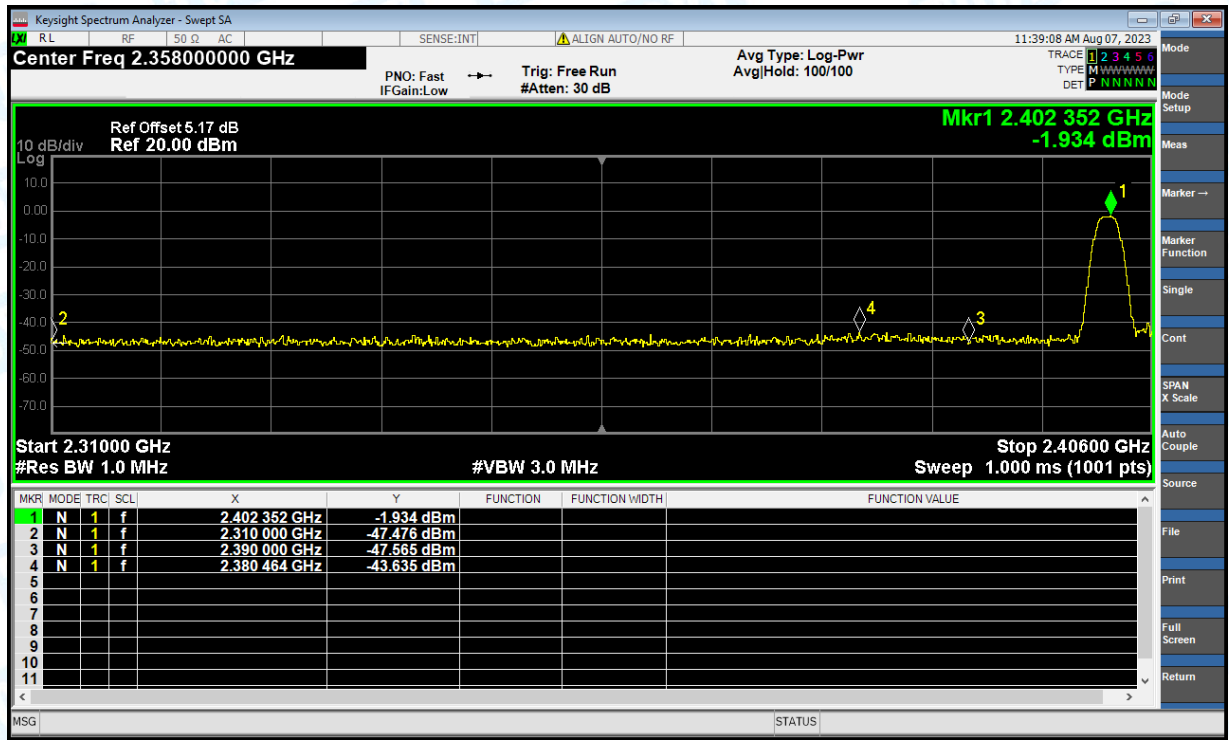


8. Restrict Band

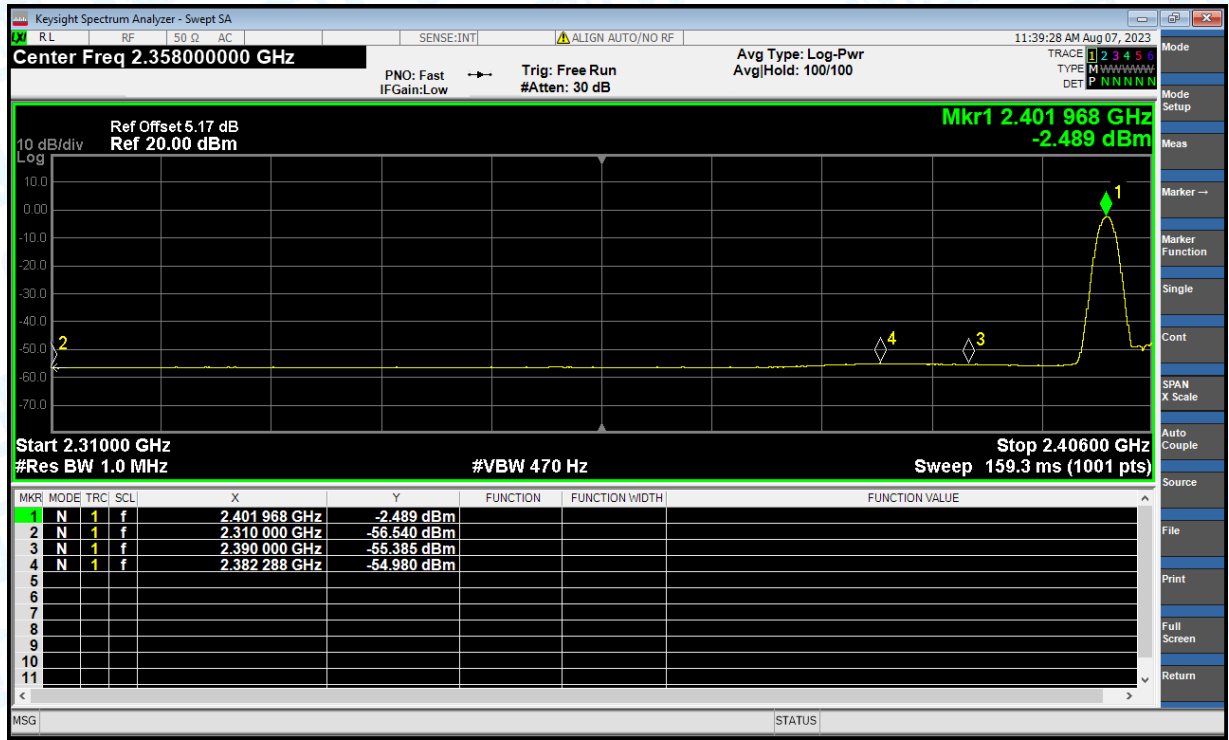
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	2310	-47.48	2.499	50.279	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2310	-56.54	2.499	41.219	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2380.464	-43.63	2.499	54.129	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2382.288	-54.98	2.499	42.779	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-46.41	2.499	51.349	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-55.43	2.499	42.329	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-45.46	2.499	52.299	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-55.05	2.499	42.709	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2494.216	-42.38	2.499	55.379	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2499.328	-54.22	2.499	43.539	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-45.32	2.499	52.439	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-54.36	2.499	43.399	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-47.1	2.499	50.659	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-56.27	2.499	41.489	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2371.824	-43.81	2.499	53.949	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2382.672	-54.63	2.499	43.129	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-47.69	2.499	50.069	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-55.08	2.499	42.679	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-44.78	2.499	52.979	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-53.75	2.499	44.009	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2485.456	-38.36	2.499	59.399	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.512	-53.75	2.499	44.009	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-45.15	2.499	52.609	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-54.29	2.499	43.469	Average	54	Pass

Test Graphs

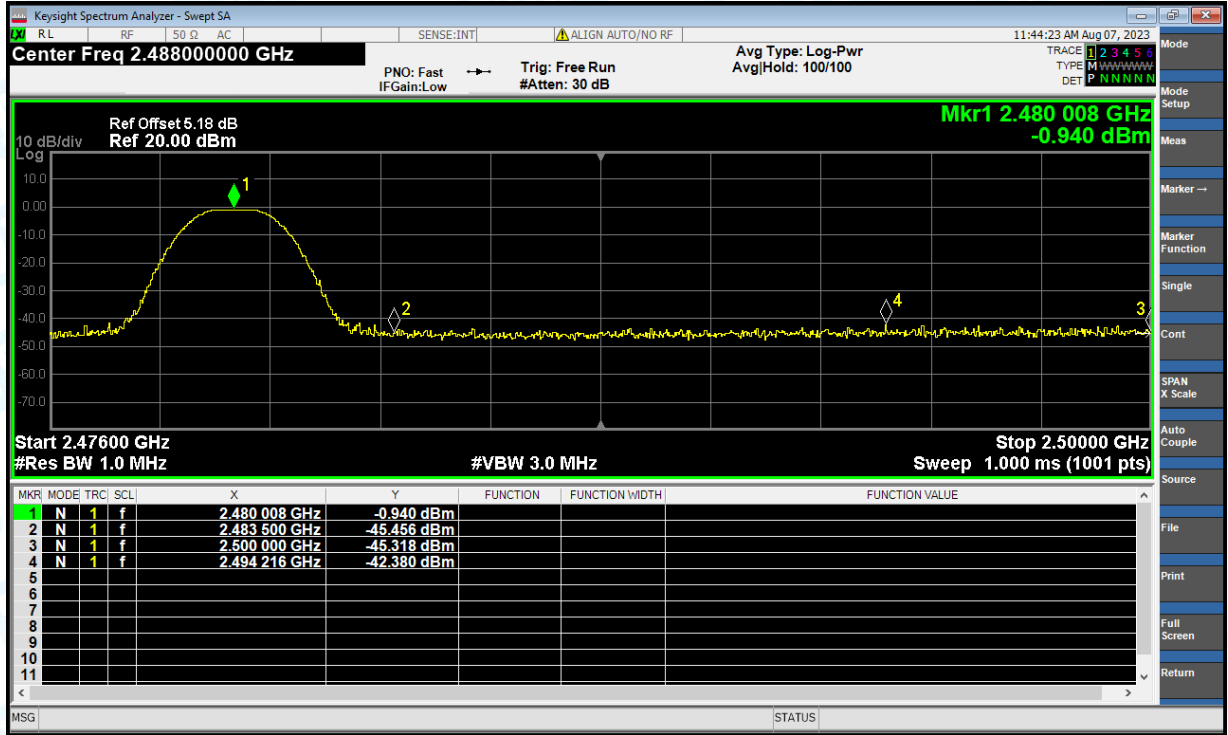
Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Peak



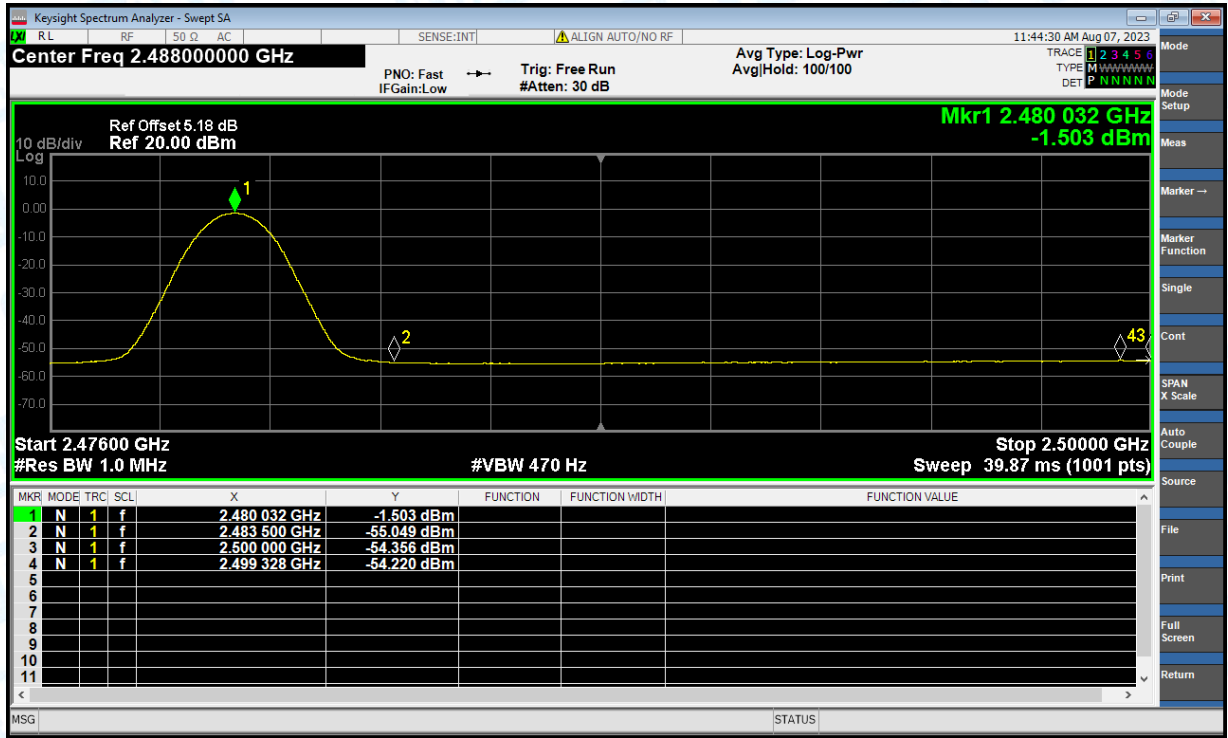
Restrict Band NVNT BLE 1Mbps 2402MHz Ant1 Average



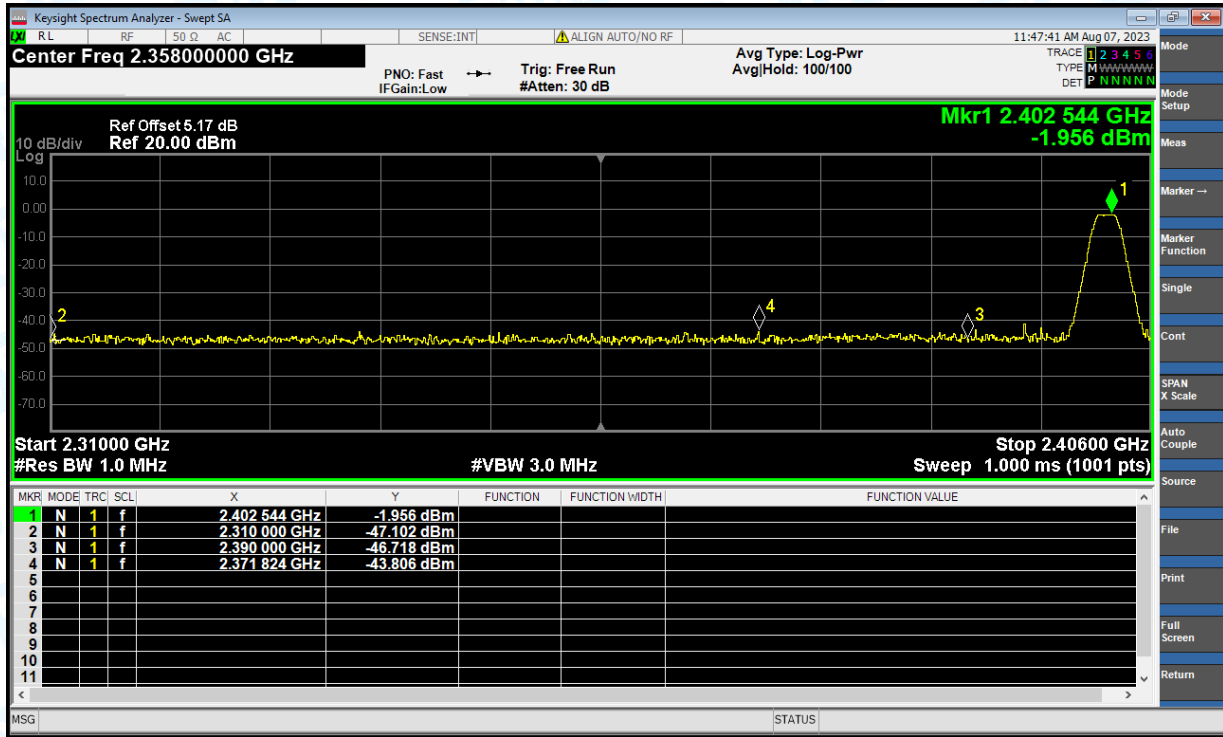
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Peak



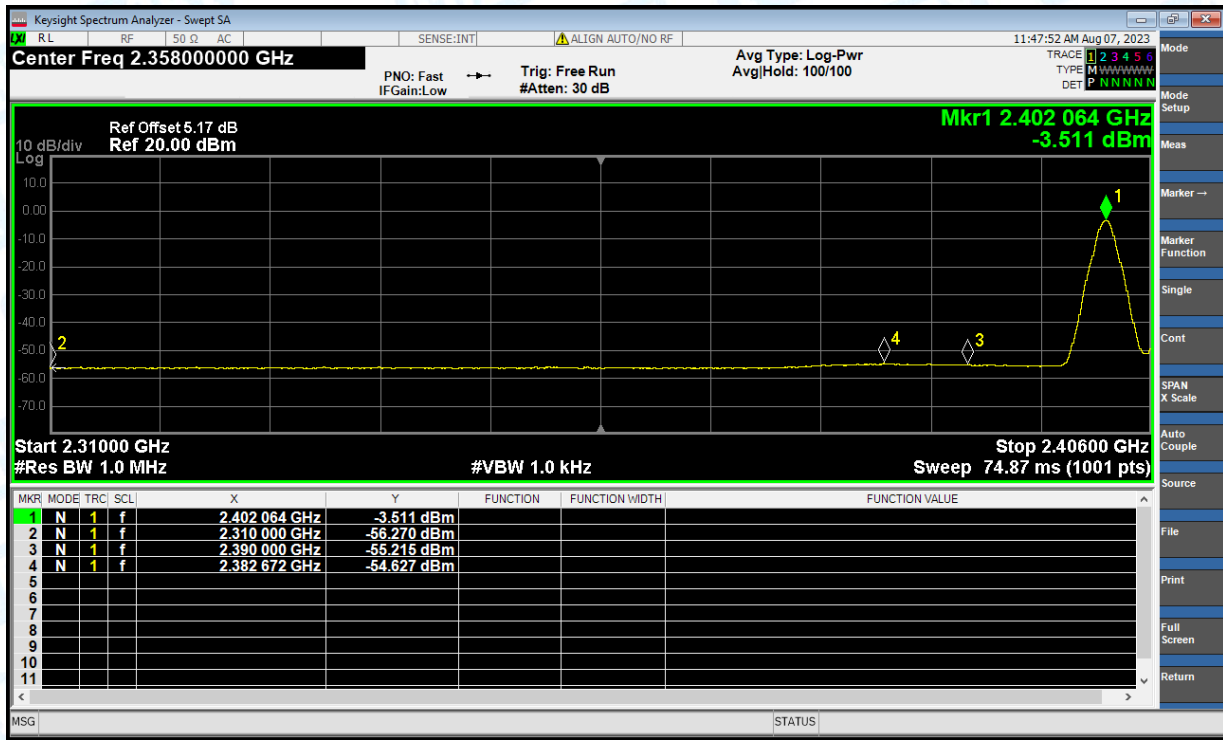
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Average



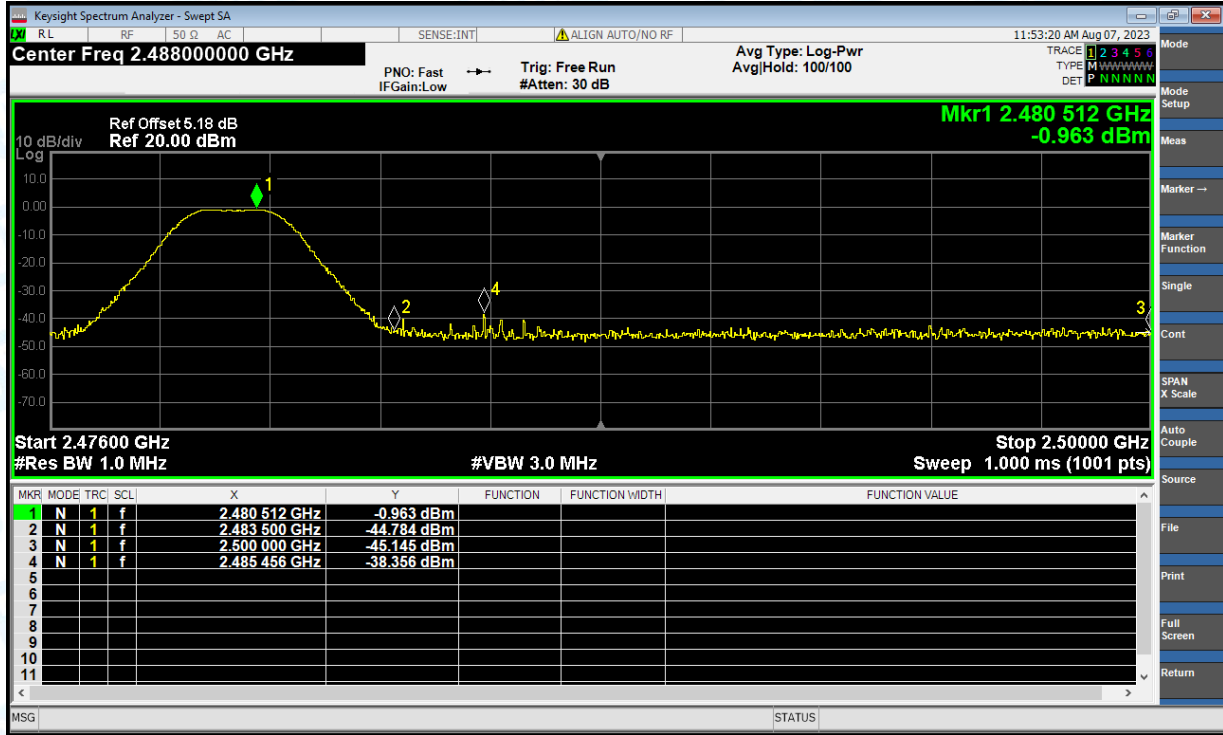
Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Peak



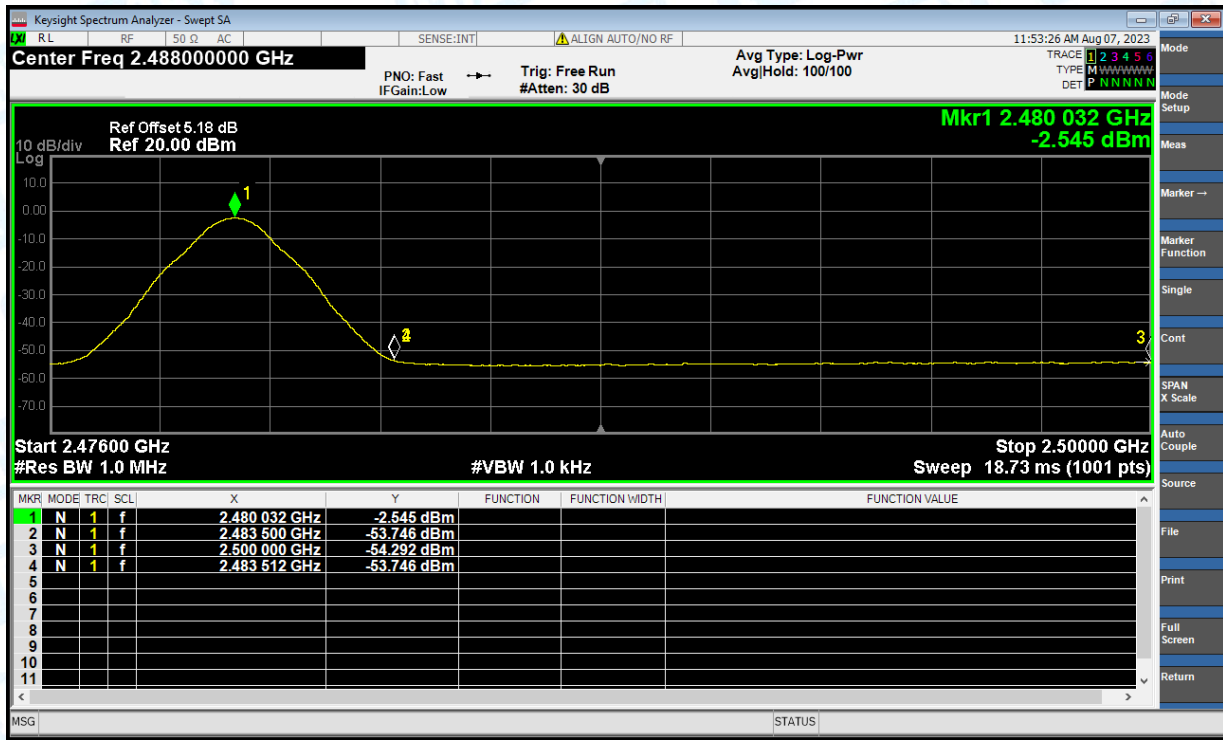
Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Average



Restrict Band NVNT BLE 2Mbps 2480MHz Ant1 Peak



Restrict Band NVNT BLE 2Mbps 2480MHz Ant1 Average



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