

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	AP5811SA
Test Model:	AP5811SA
Sample ID:	HC-C-202503-0077-01-01
Environmental Conditions	
Temperature:	25.6℃
Relative Humidity:	52.6%
Test Voltage:	DC 3.3V
Test Engineer:	Gold zhang
Note: For a more detailed features description, please refer to the report TBR-C-202503-0077-10 The report only show the worst case data.	

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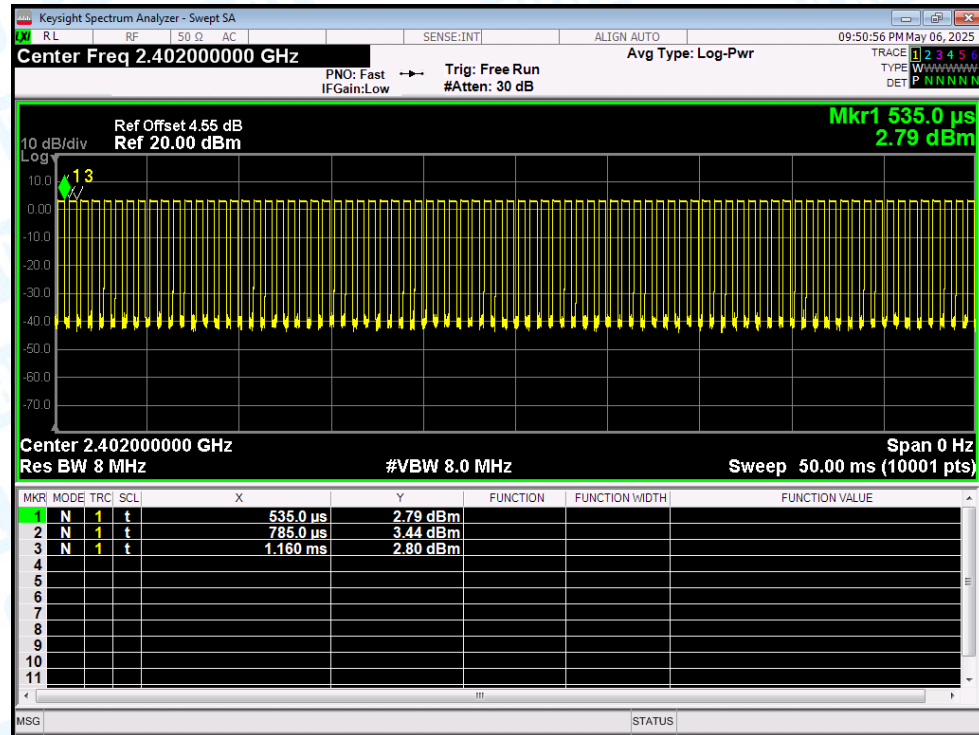
1. Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	60	2.22	2.67
NVNT	BLE 1Mbps	2440	Ant1	60	2.22	2.67
NVNT	BLE 1Mbps	2480	Ant1	60.8	2.16	2.63
NVNT	BLE 2Mbps	2402	Ant1	31.2	5.06	5.13
NVNT	BLE 2Mbps	2440	Ant1	31.2	5.06	5.13
NVNT	BLE 2Mbps	2480	Ant1	31.2	5.06	5.13

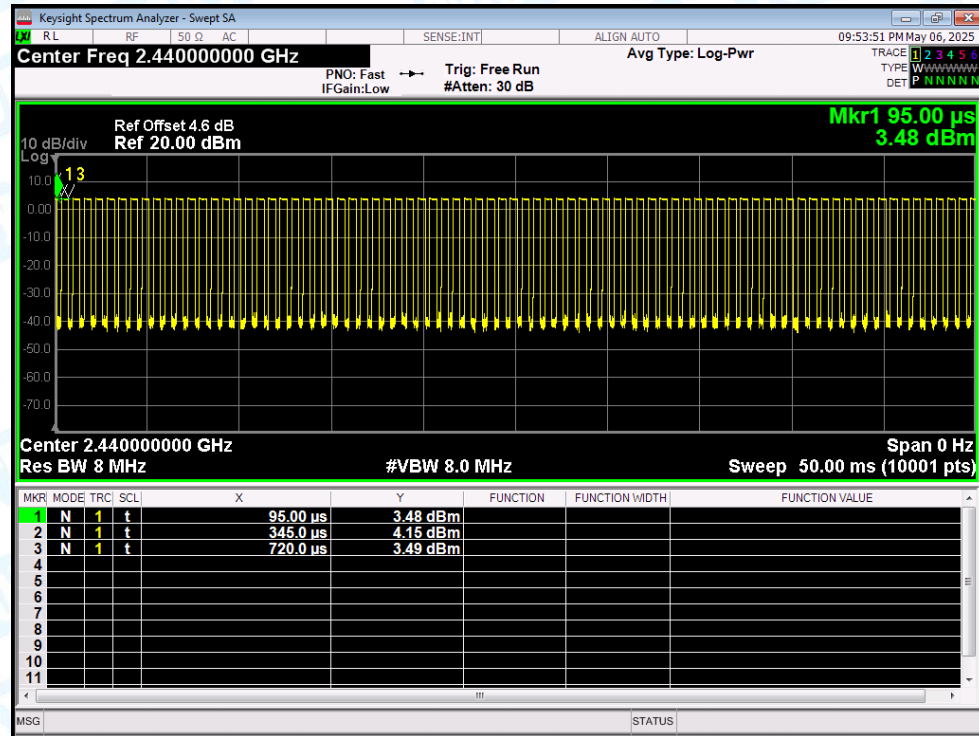
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

Test Graphs

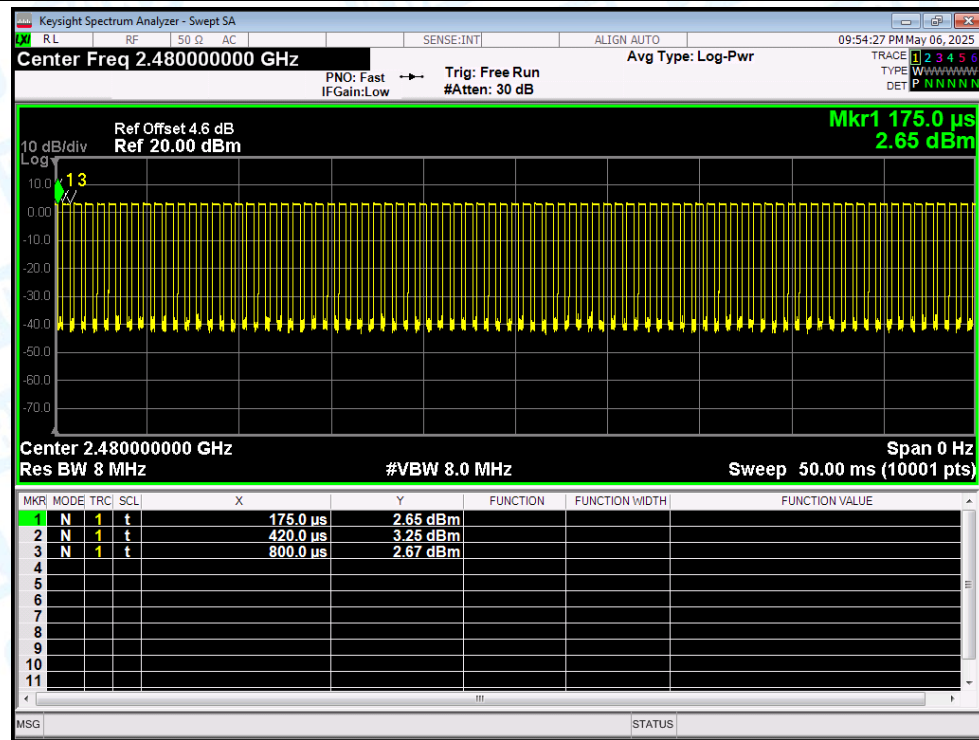
Duty Cycle NVNT BLE 1Mbps 2402MHz Ant1



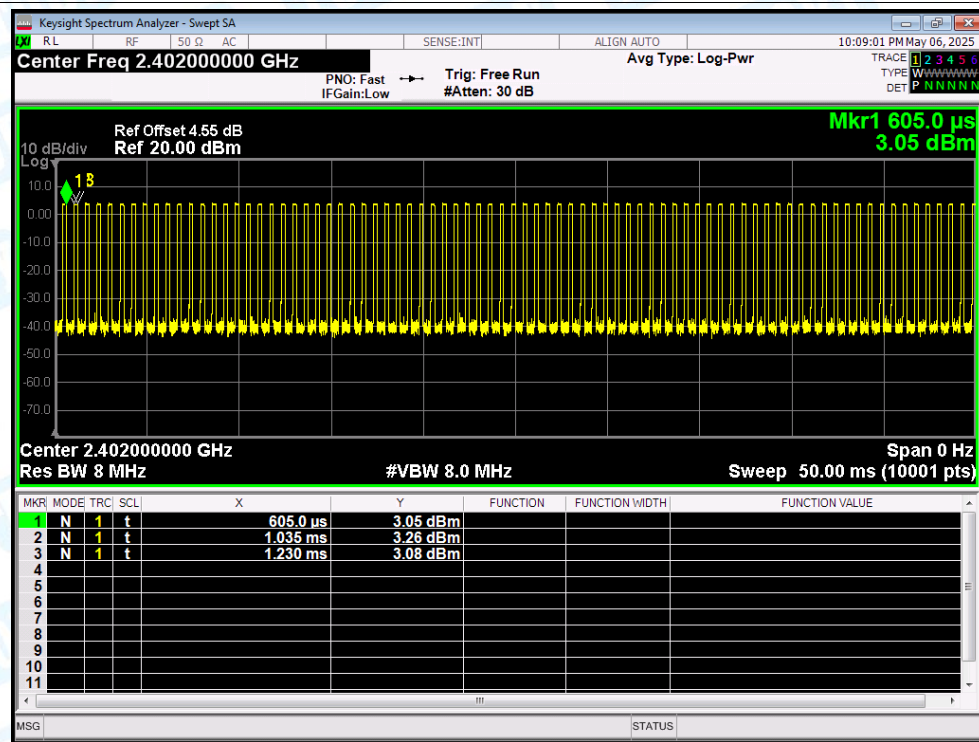
Duty Cycle NVNT BLE 1Mbps 2440MHz Ant1



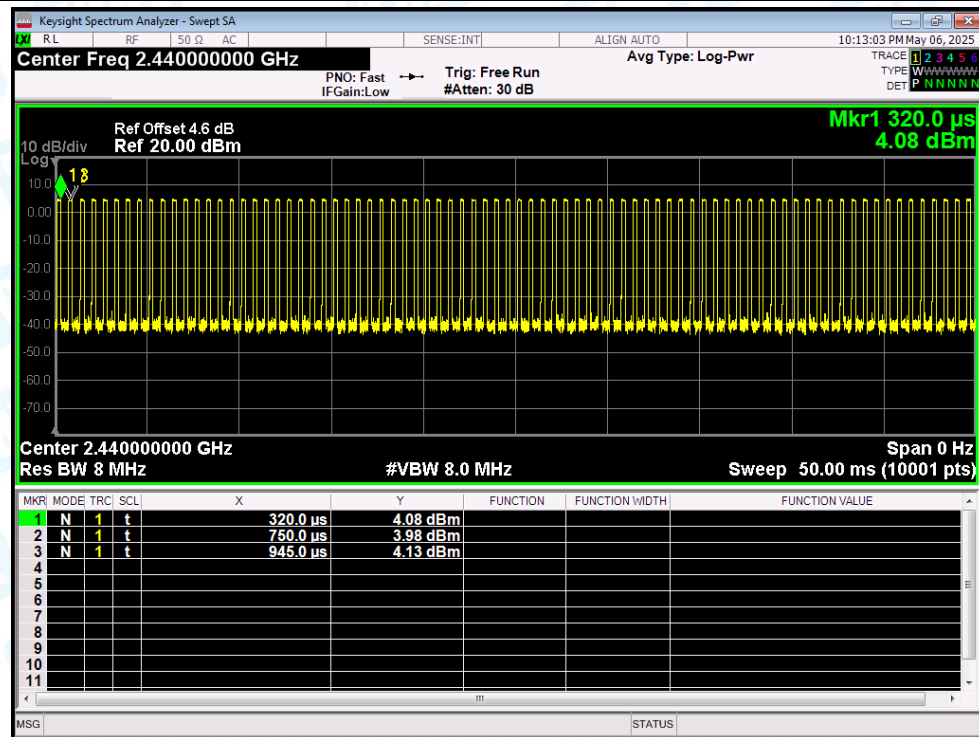
Duty Cycle NVNT BLE 1Mbps 2480MHz Ant1



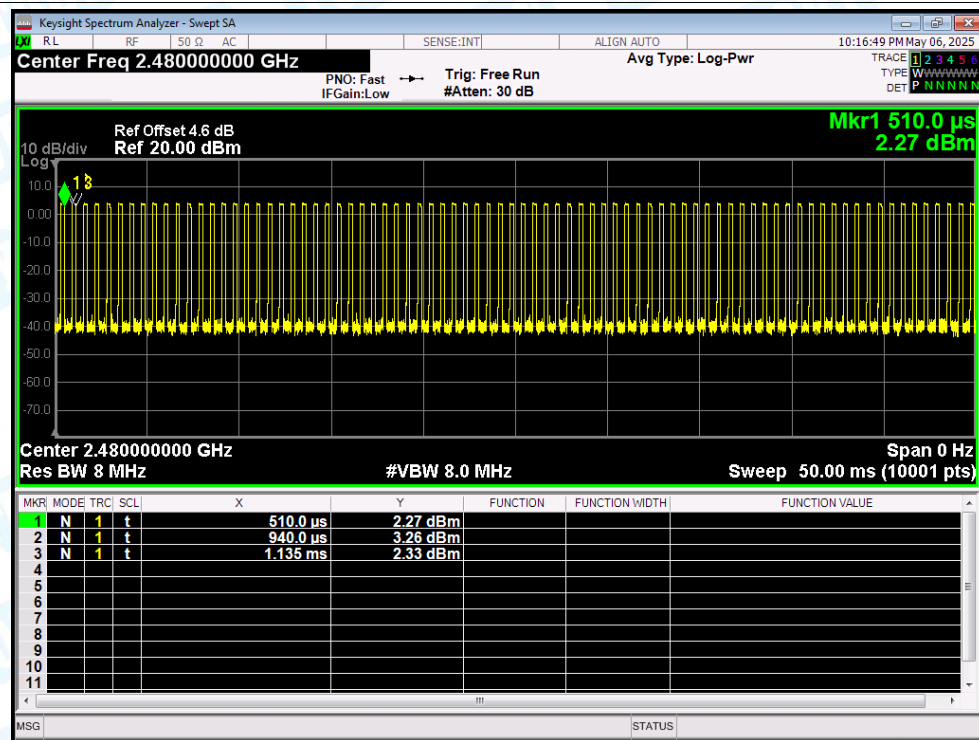
Duty Cycle NVNT BLE 2Mbps 2402MHz Ant1



Duty Cycle NVNT BLE 2Mbps 2440MHz Ant1



Duty Cycle NVNT BLE 2Mbps 2480MHz Ant1



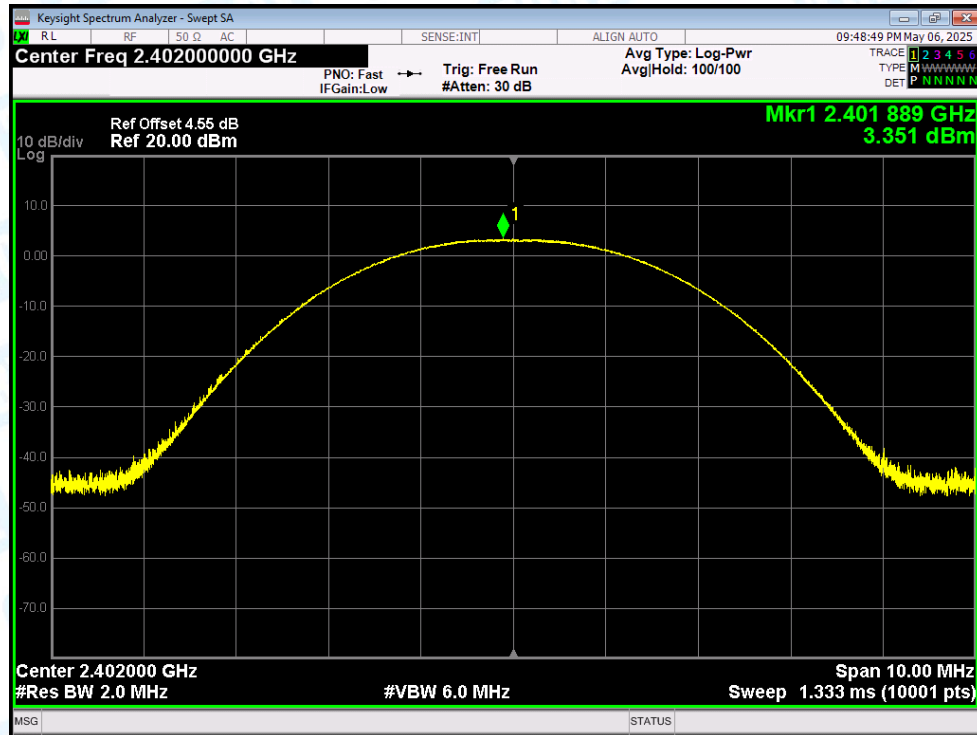
2. Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	3.351	30	Pass
NVNT	BLE 1Mbps	2440	Ant1	4.073	30	Pass
NVNT	BLE 1Mbps	2480	Ant1	3.373	30	Pass
NVNT	BLE 2Mbps	2402	Ant1	3.646	30	Pass
NVNT	BLE 2Mbps	2440	Ant1	4.44	30	Pass
NVNT	BLE 2Mbps	2480	Ant1	3.764	30	Pass

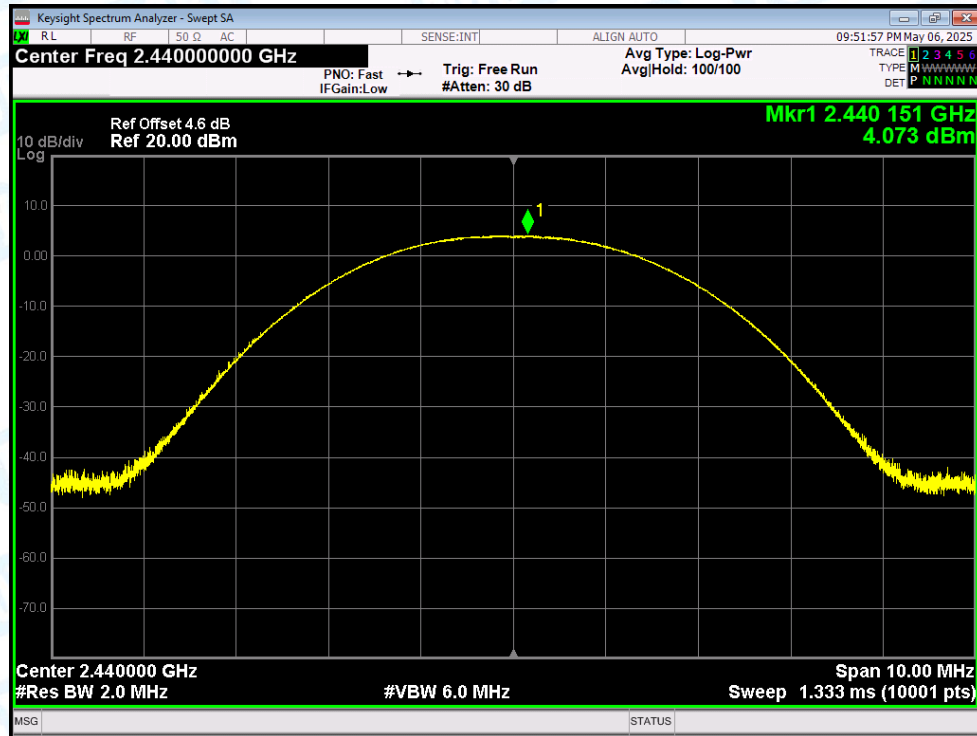
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

Test Graphs

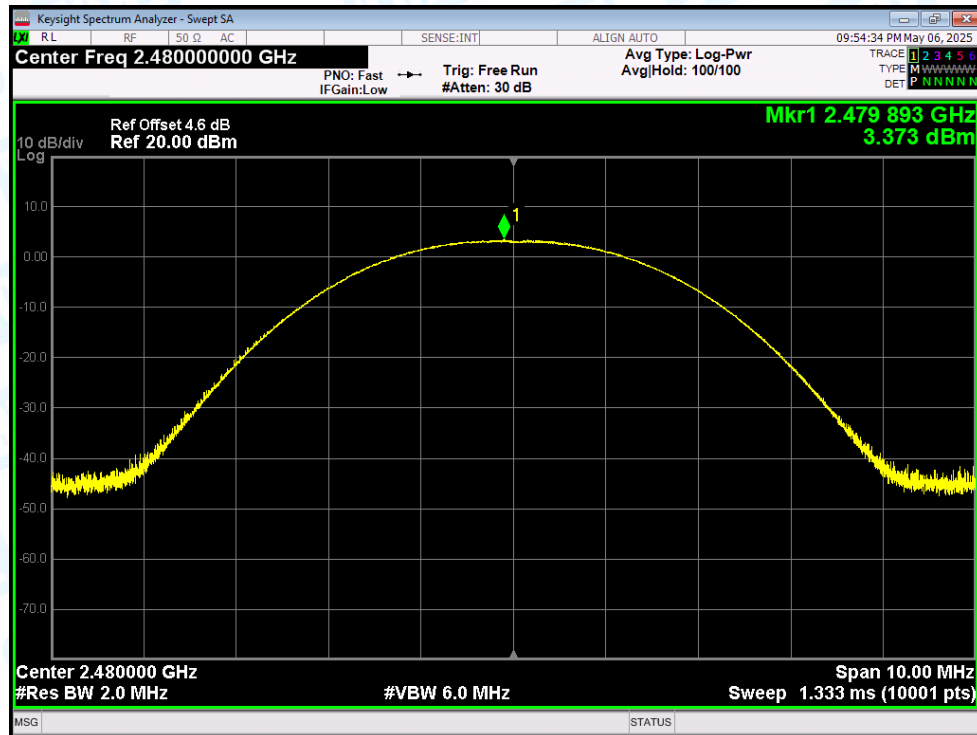
Power NVNT BLE 1Mbps 2402MHz Ant1



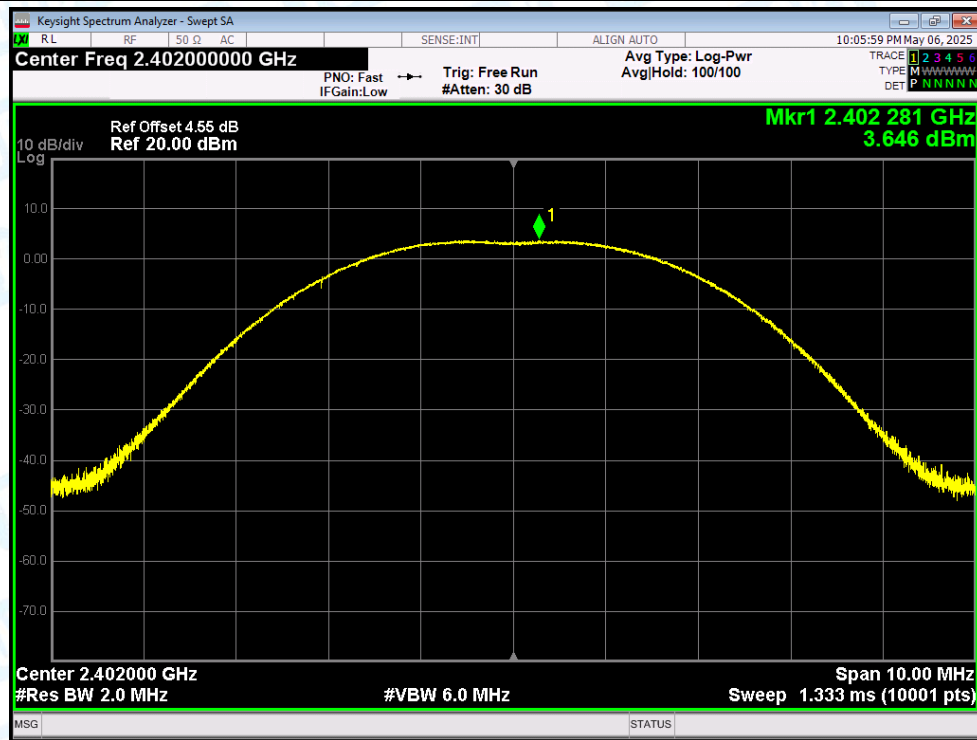
Power NVNT BLE 1Mbps 2440MHz Ant1



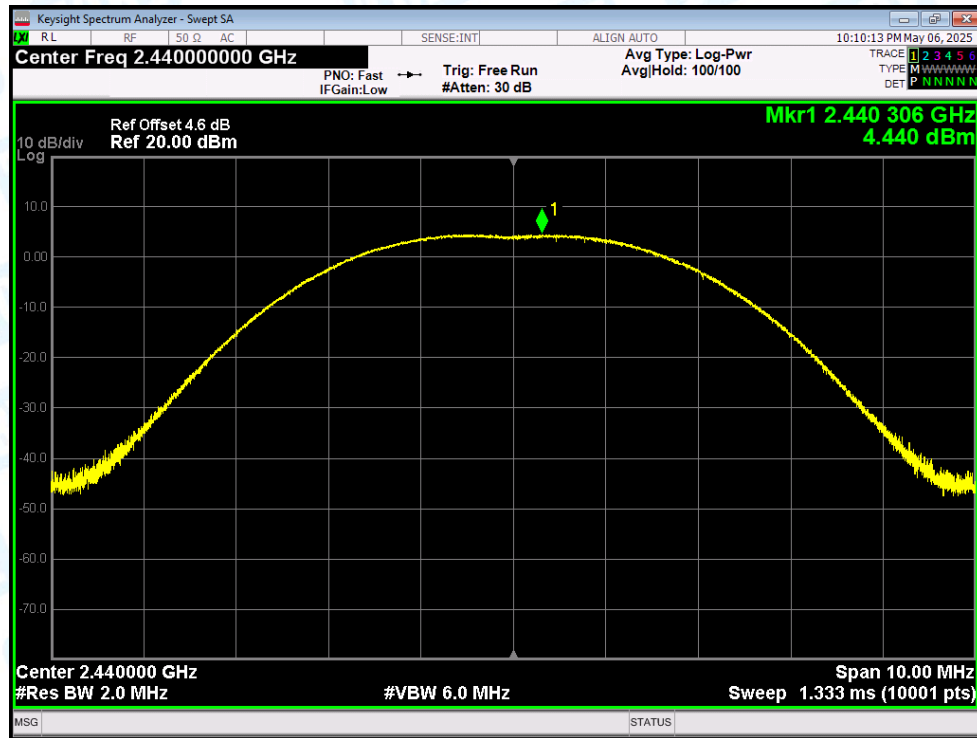
Power NVNT BLE 1Mbps 2480MHz Ant1



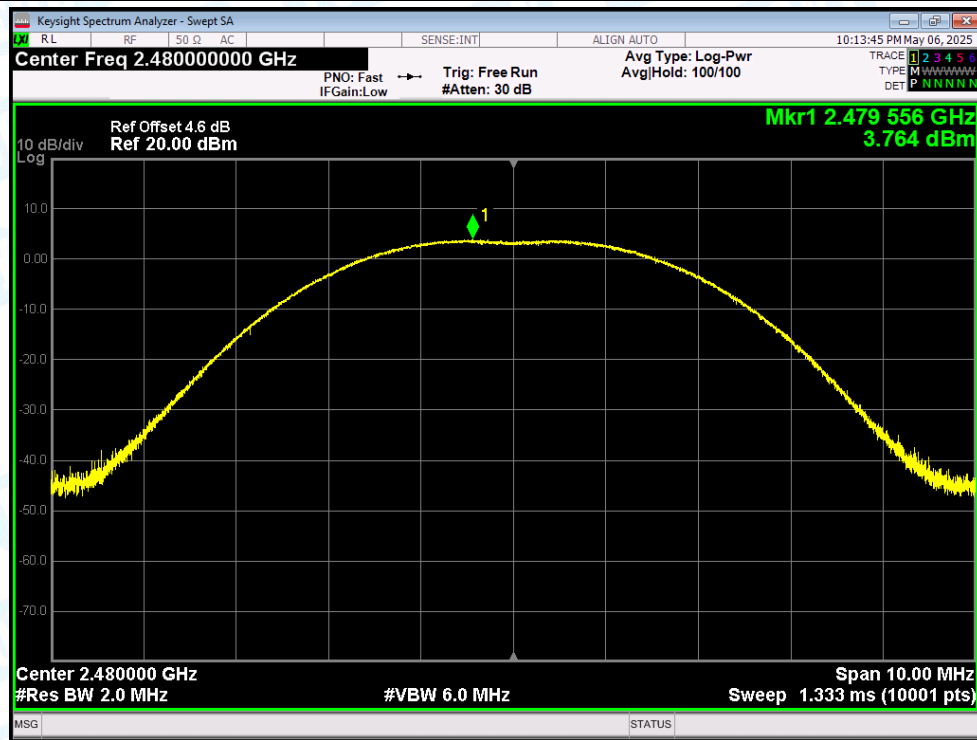
Power NVNT BLE 2Mbps 2402MHz Ant1



Power NVNT BLE 2Mbps 2440MHz Ant1



Power NVNT BLE 2Mbps 2480MHz Ant1



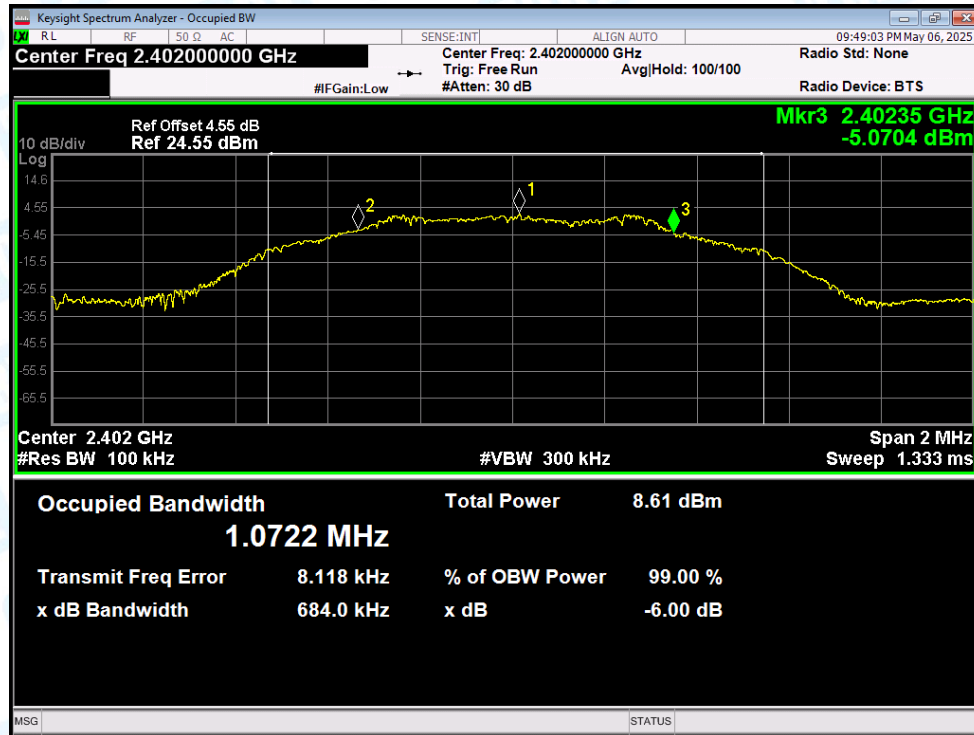
3. -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.68	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.68	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.68	0.5	Pass
NVNT	BLE 2Mbps	2402	Ant1	1.37	0.5	Pass
NVNT	BLE 2Mbps	2440	Ant1	1.36	0.5	Pass
NVNT	BLE 2Mbps	2480	Ant1	1.36	0.5	Pass

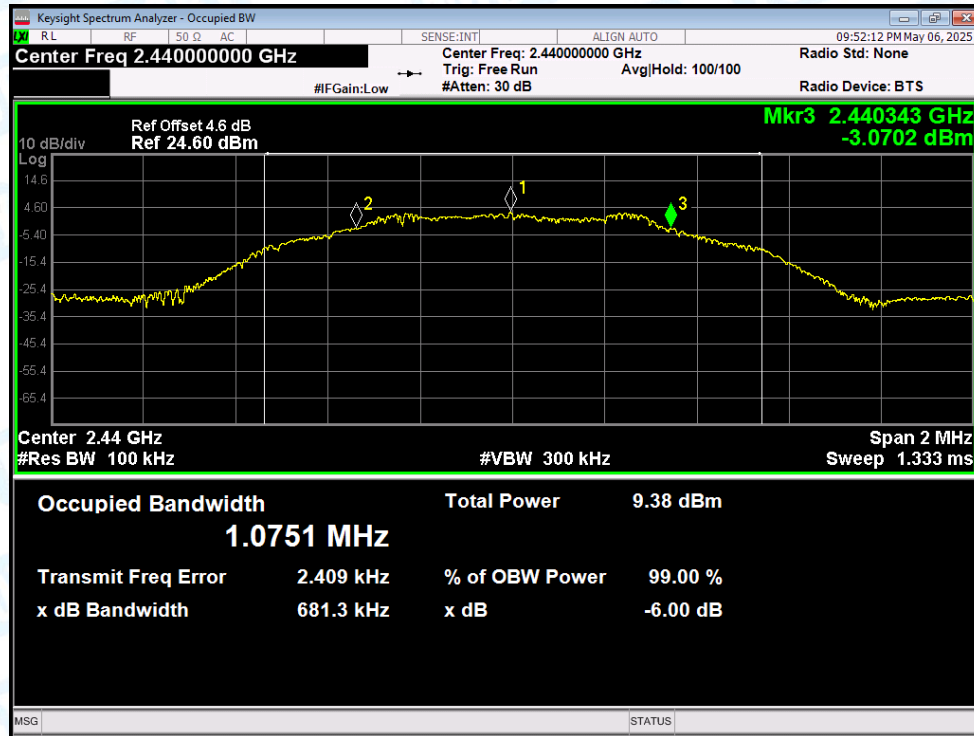
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

Test Graphs

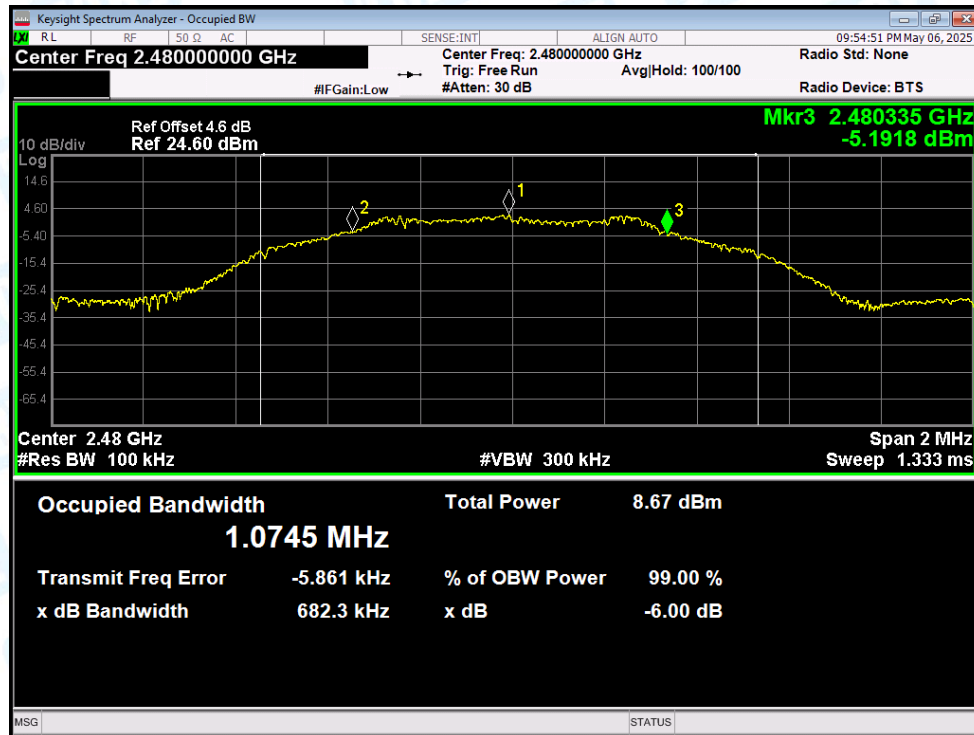
-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1



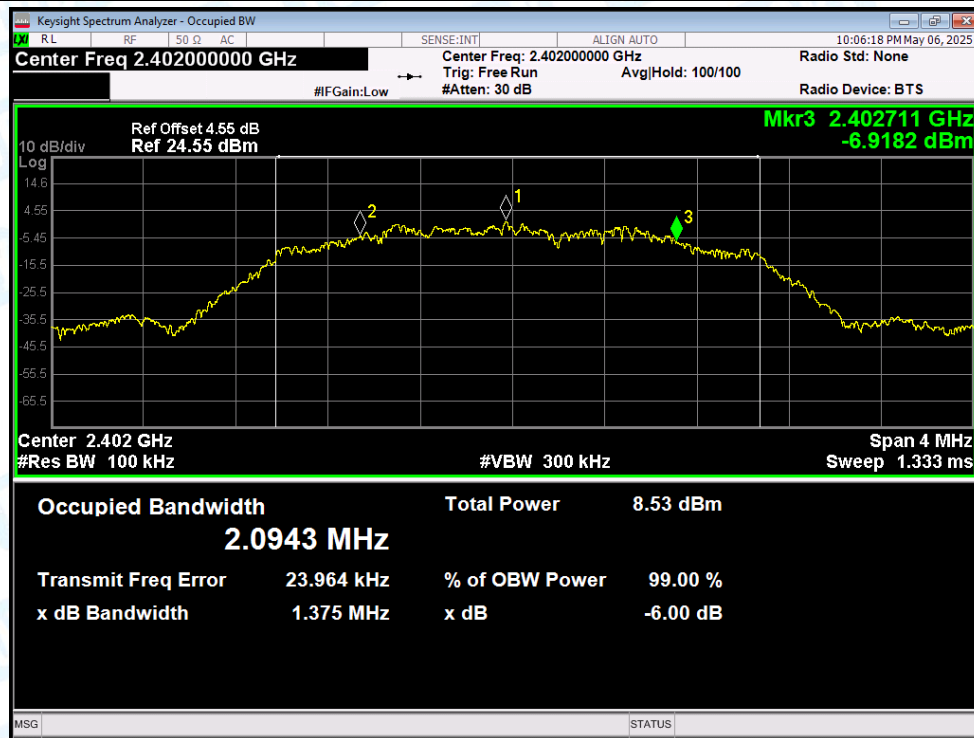
-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1



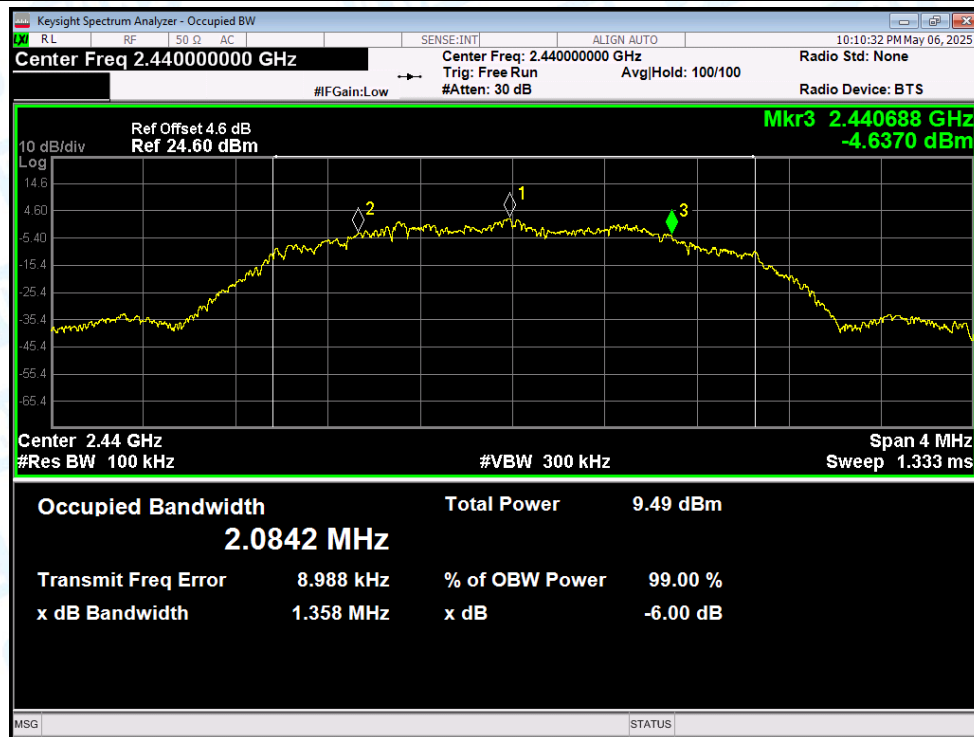
-6dB Bandwidth NVNT BLE 1Mbps 2480MHz Ant1



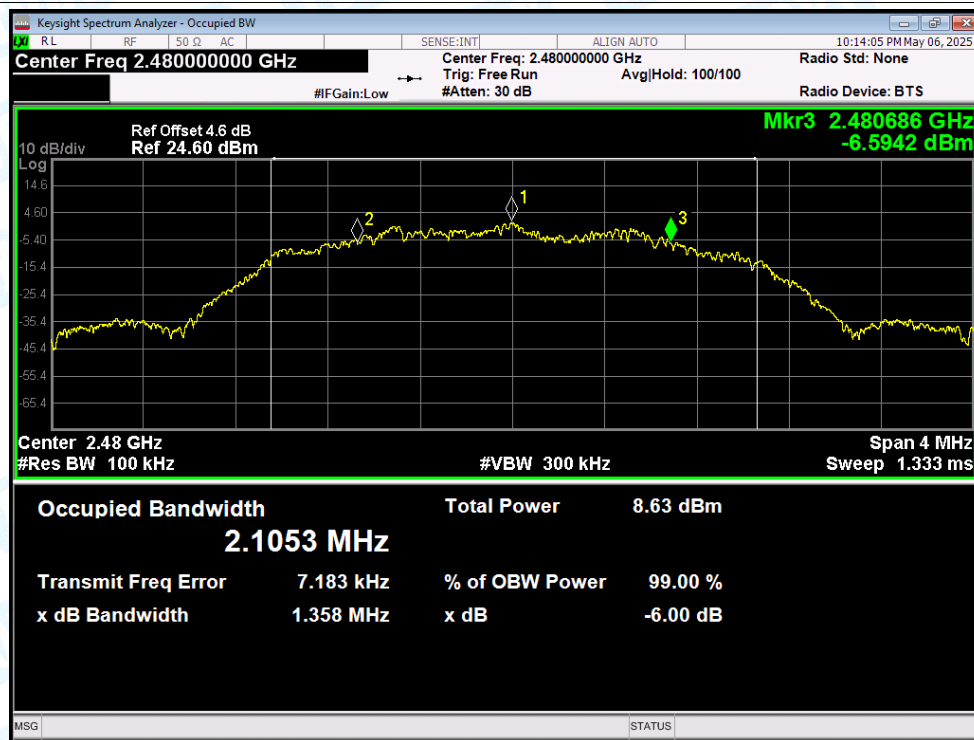
-6dB Bandwidth NVNT BLE 2Mbps 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2480MHz Ant1



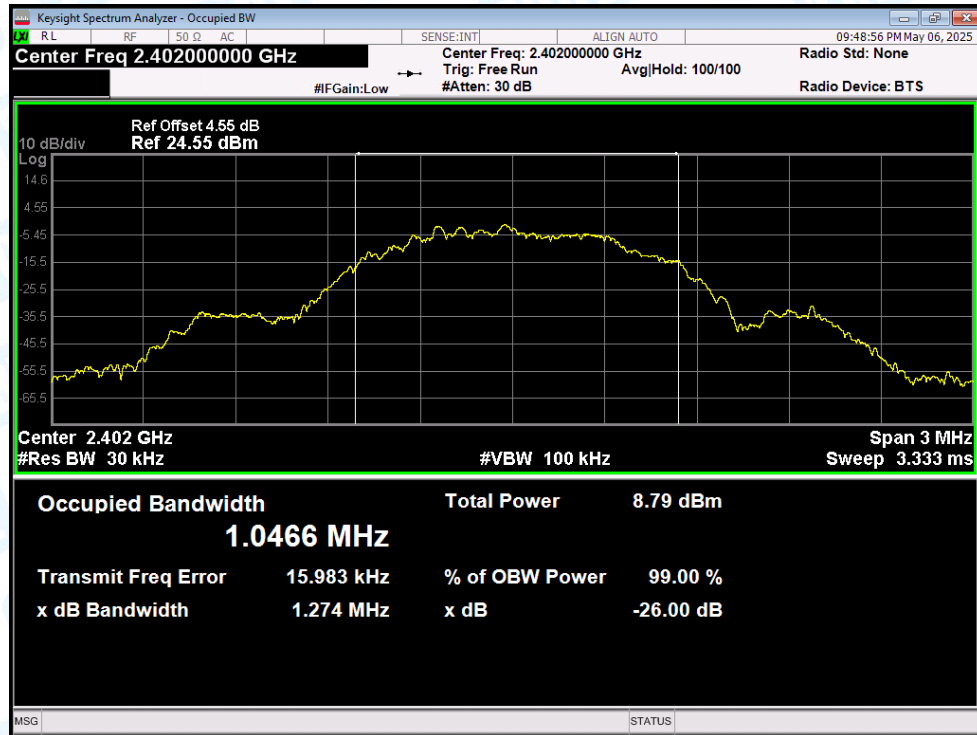
4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1Mbps	2402	Ant1	1.047
NVNT	BLE 1Mbps	2440	Ant1	1.046
NVNT	BLE 1Mbps	2480	Ant1	1.051
NVNT	BLE 2Mbps	2402	Ant1	2.081
NVNT	BLE 2Mbps	2440	Ant1	2.088
NVNT	BLE 2Mbps	2480	Ant1	2.088

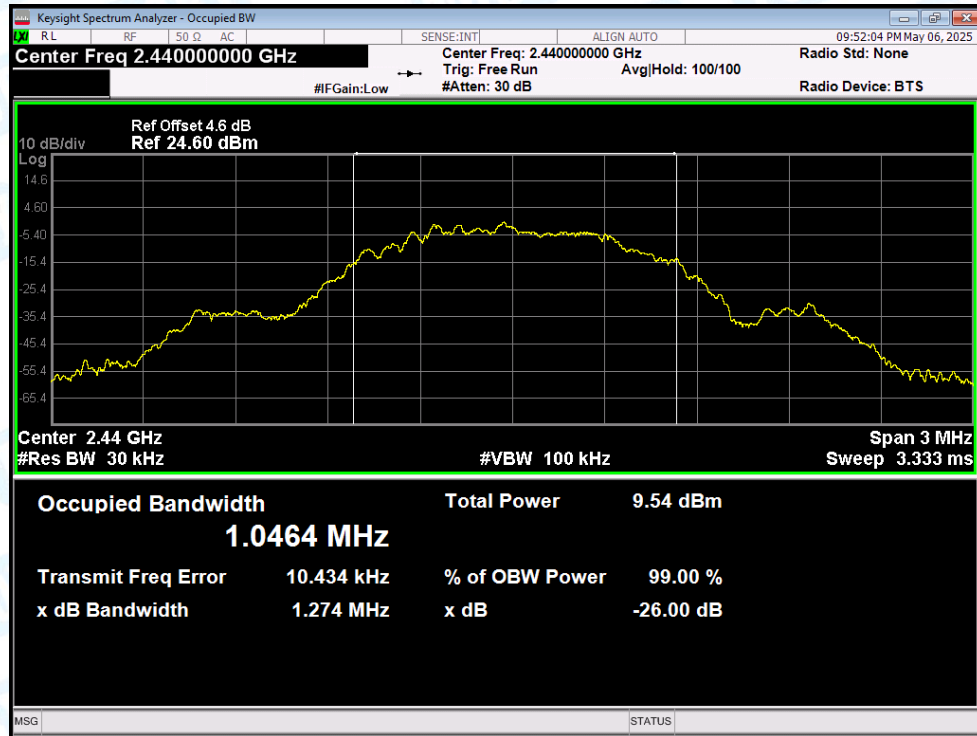
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

Test Graphs

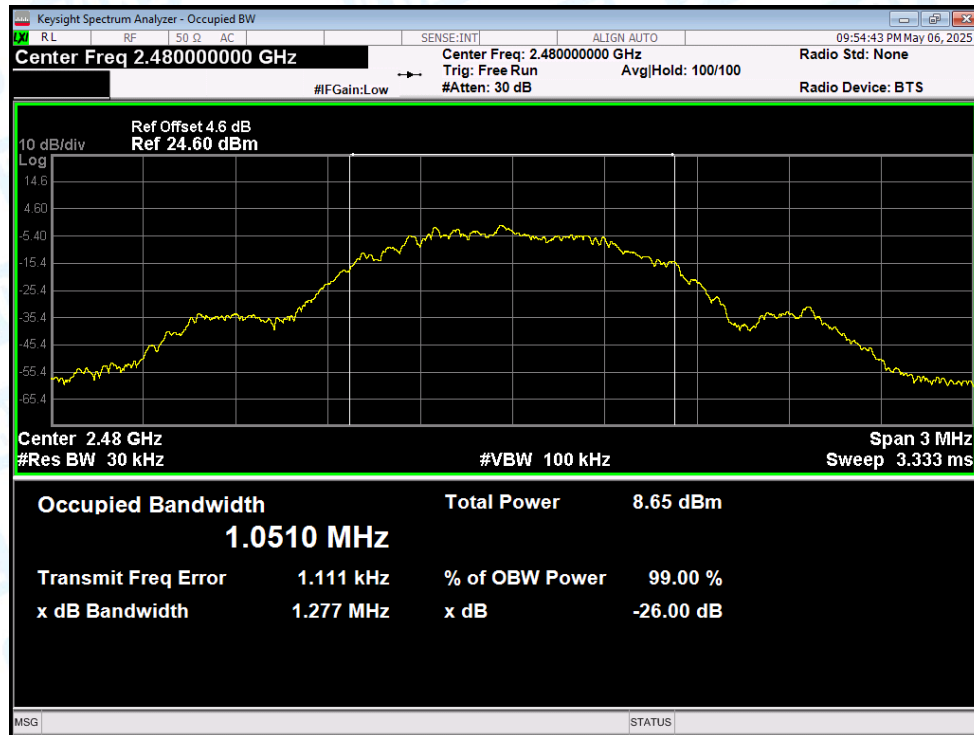
OBW NVNT BLE 1Mbps 2402MHz Ant1



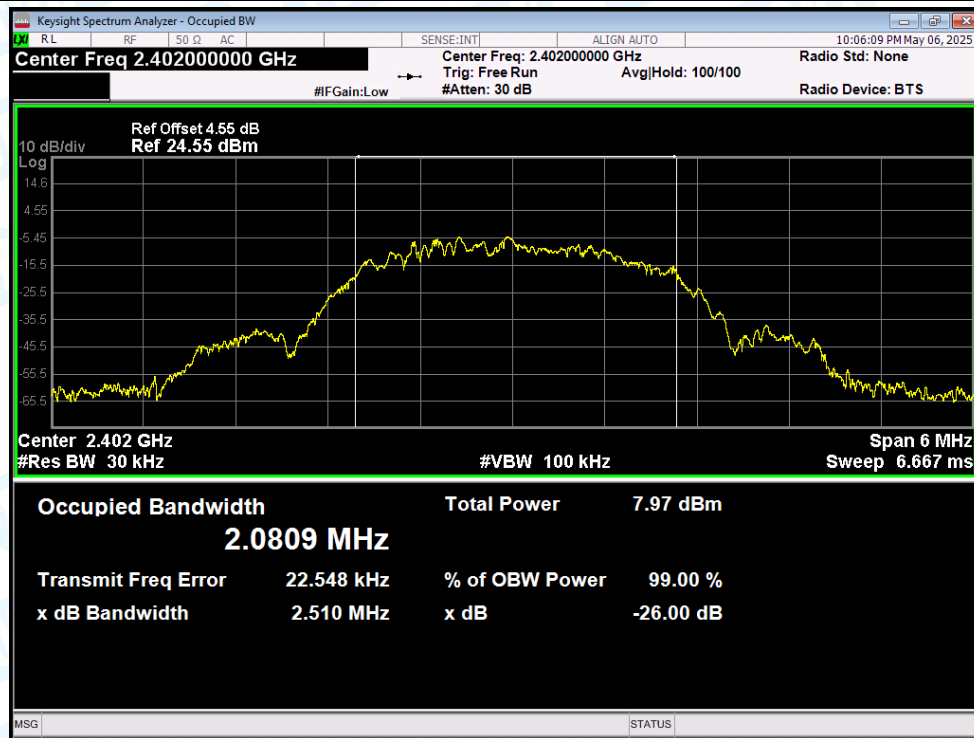
OBW NVNT BLE 1Mbps 2440MHz Ant1



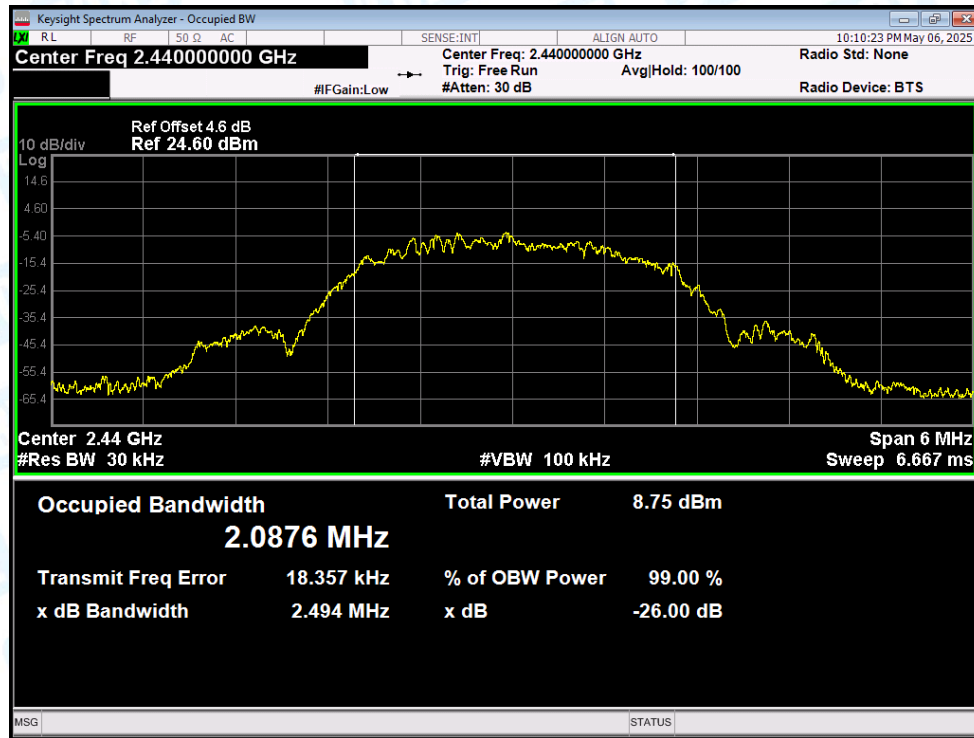
OBW NVNT BLE 1Mbps 2480MHz Ant1



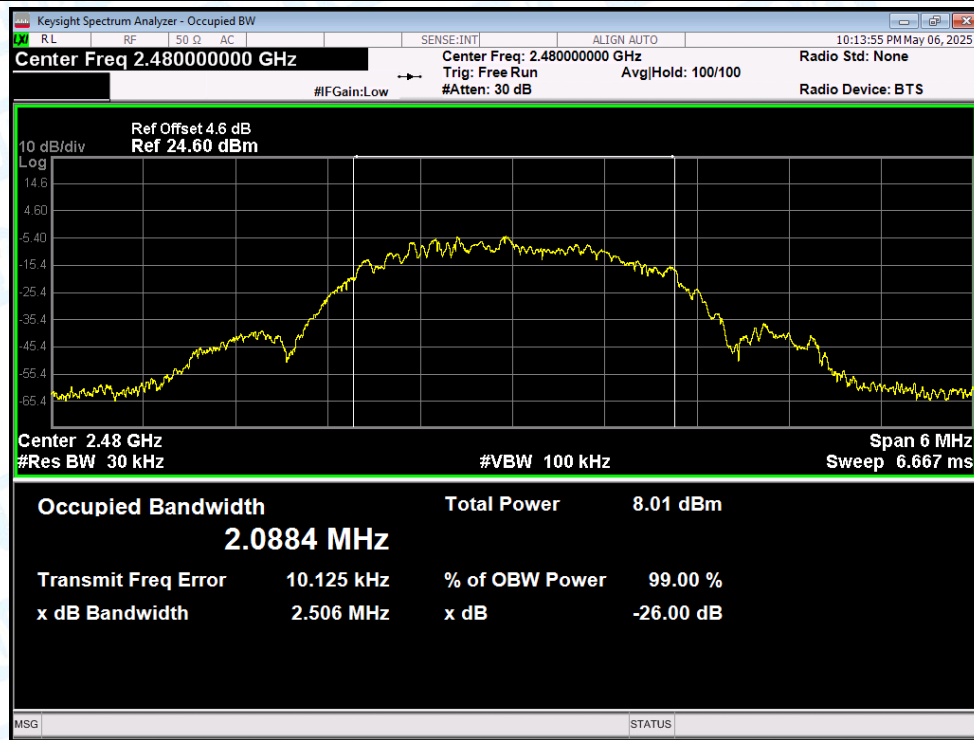
OBW NVNT BLE 2Mbps 2402MHz Ant1



OBW NVNT BLE 2Mbps 2440MHz Ant1



OBW NVNT BLE 2Mbps 2480MHz Ant1



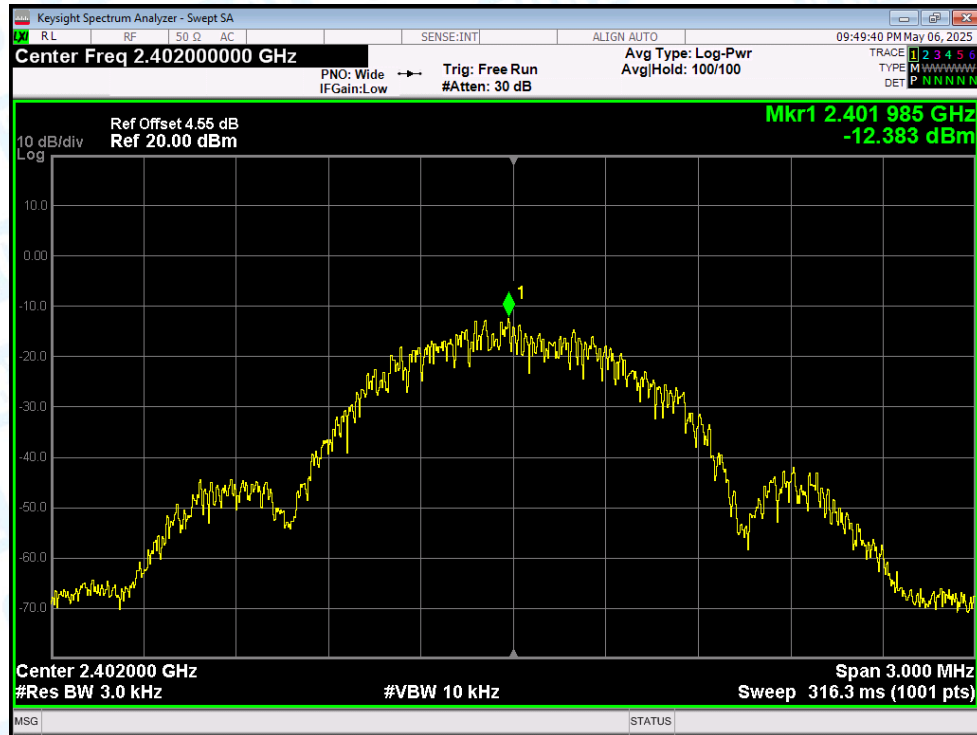
5. Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/3KHz)	Limit (dBm/3KHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-12.383	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-11.61	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-12.377	8	Pass
NVNT	BLE 2Mbps	2402	Ant1	-15.166	8	Pass
NVNT	BLE 2Mbps	2440	Ant1	-14.338	8	Pass
NVNT	BLE 2Mbps	2480	Ant1	-15.197	8	Pass

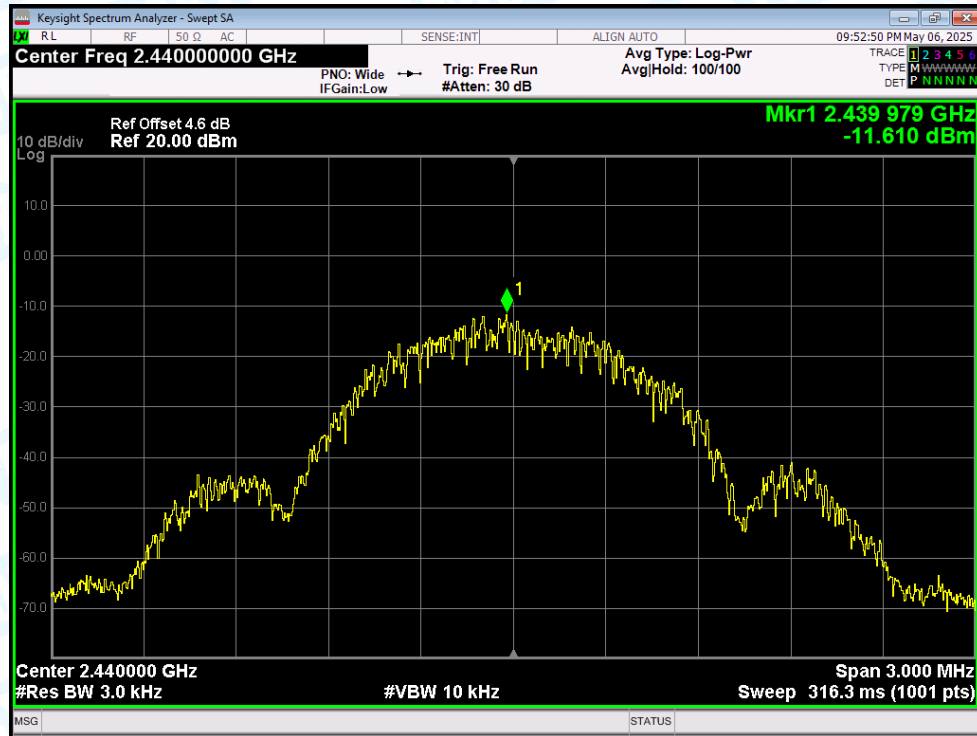
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

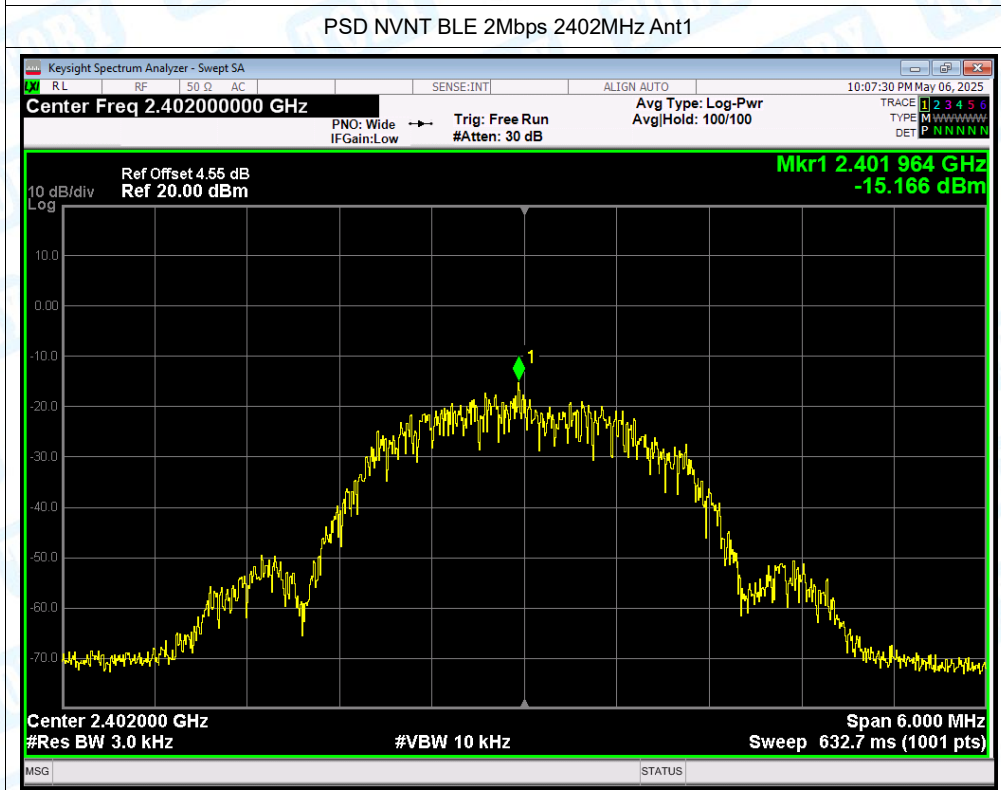
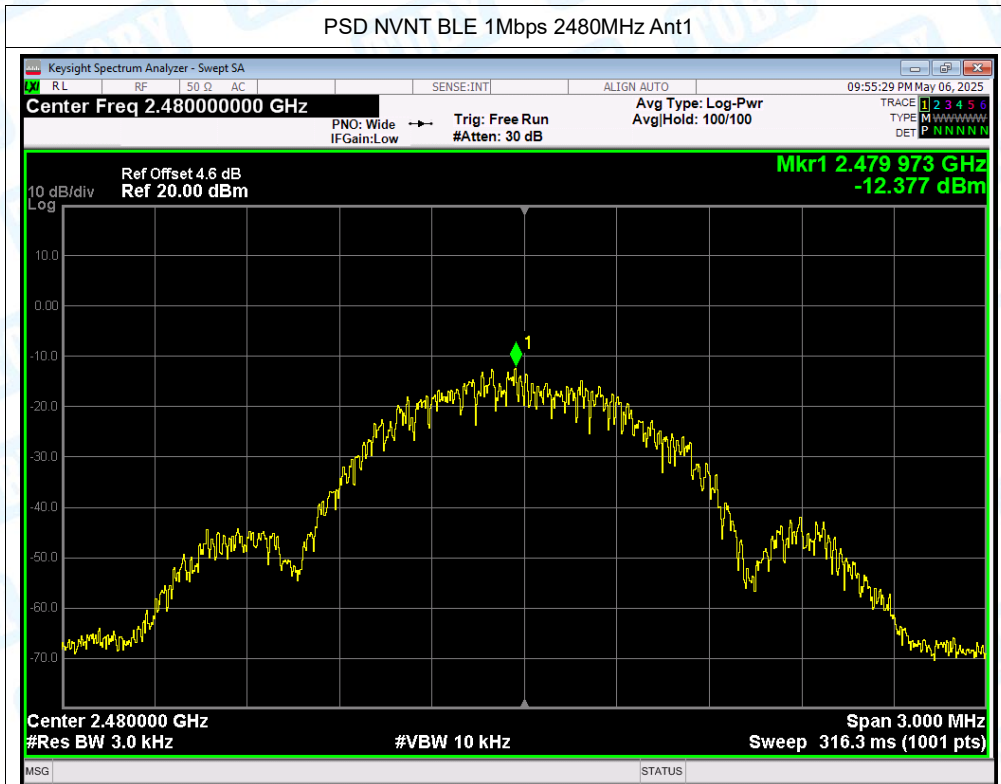
Test Graphs

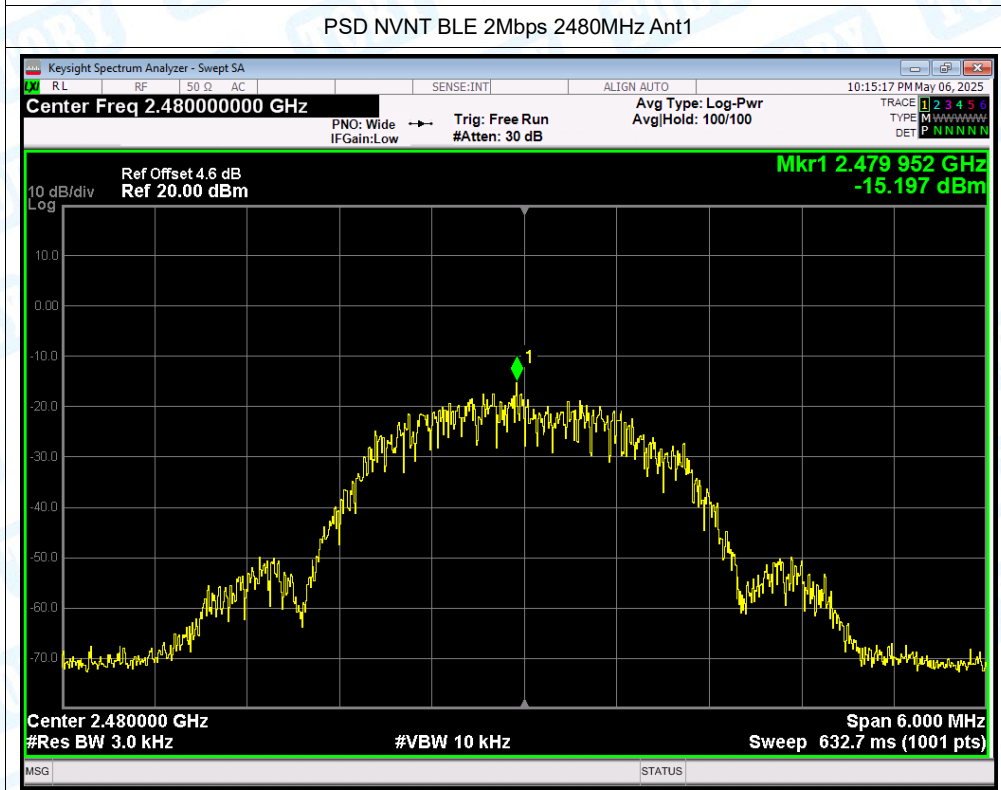
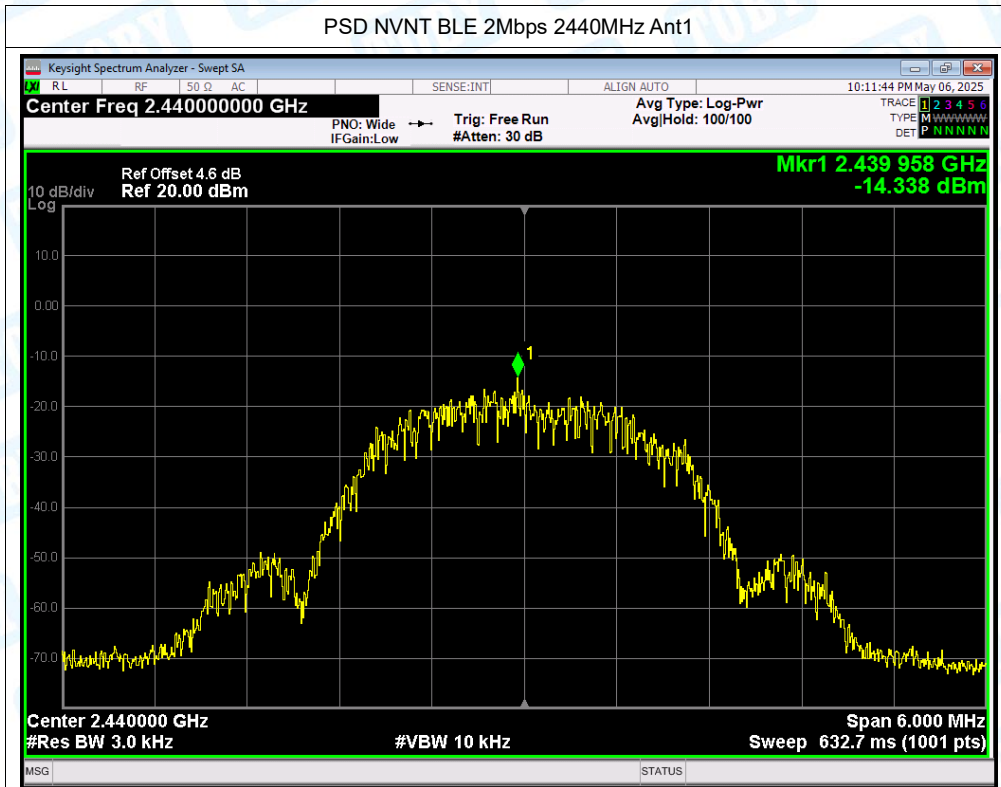
PSD NVNT BLE 1Mbps 2402MHz Ant1



PSD NVNT BLE 1Mbps 2440MHz Ant1







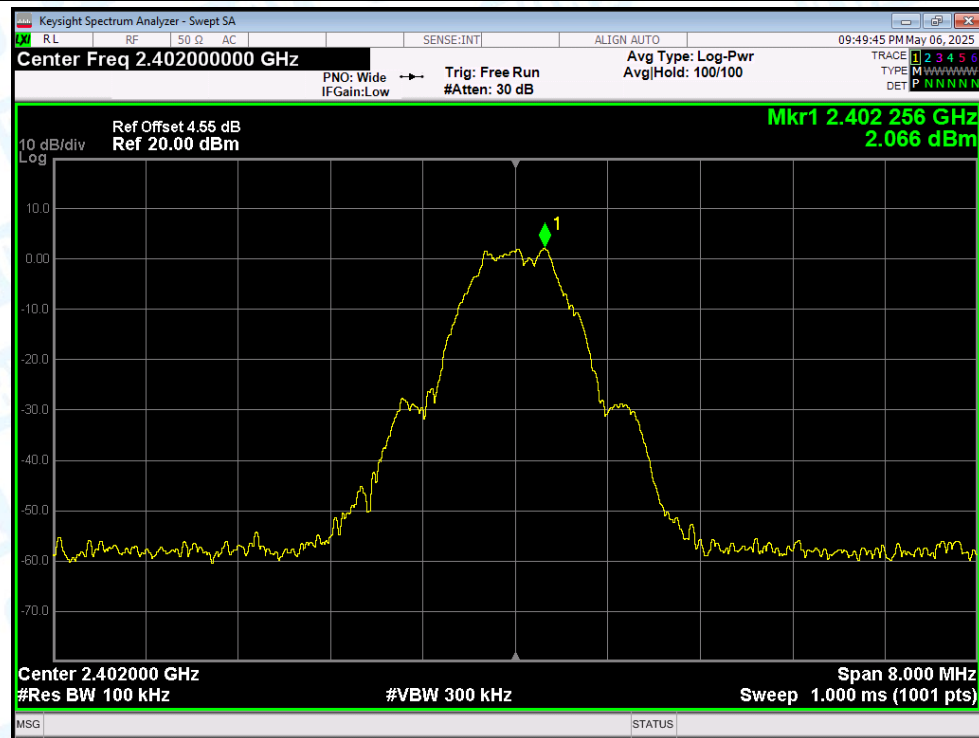
6. Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-57.23	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-56.08	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-54.31	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-55.03	-20	Pass

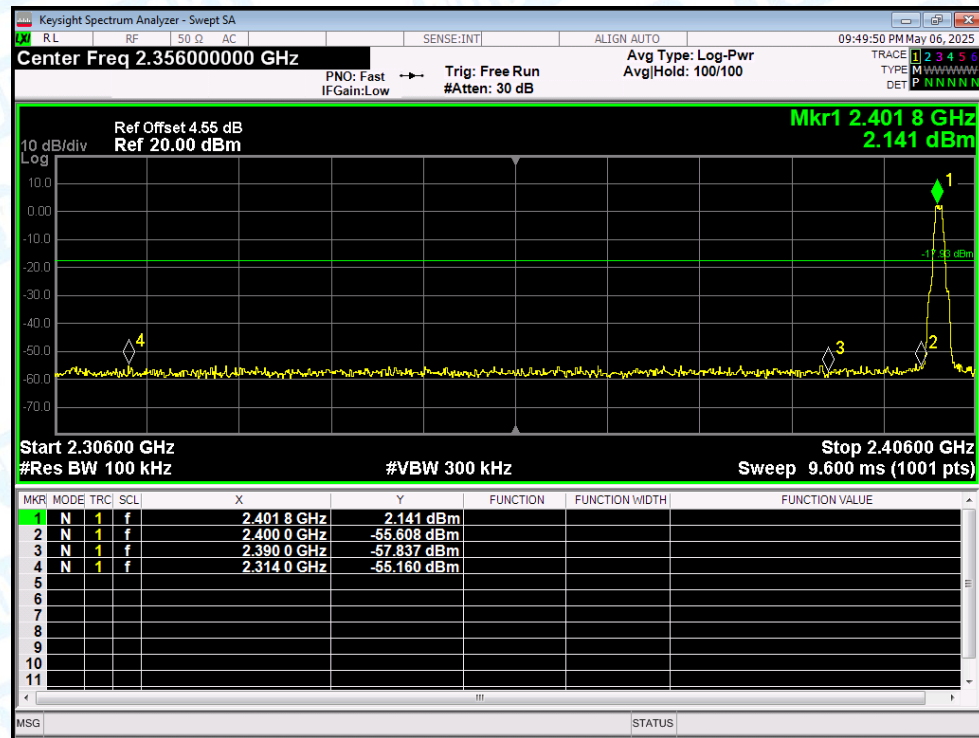
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

Test Graphs

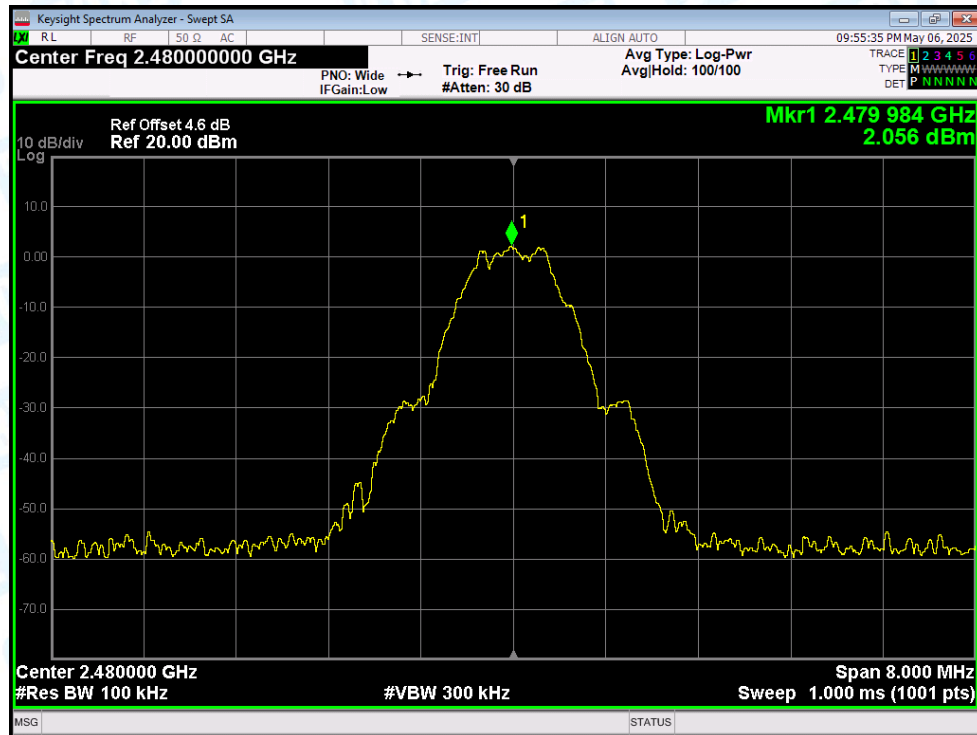
Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Ref



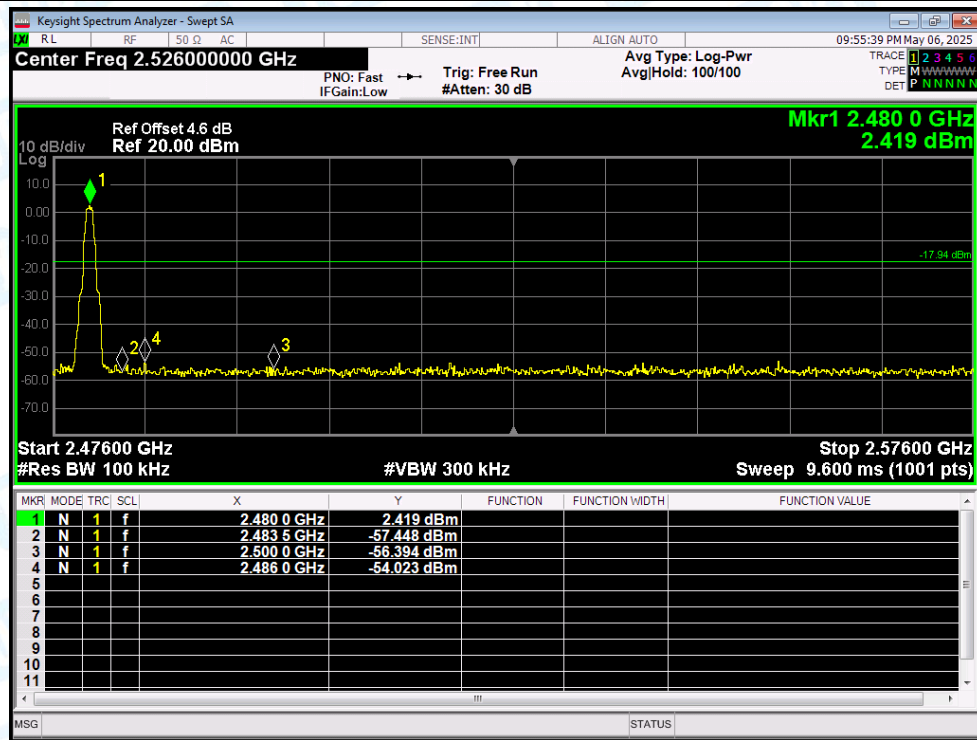
Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Emission



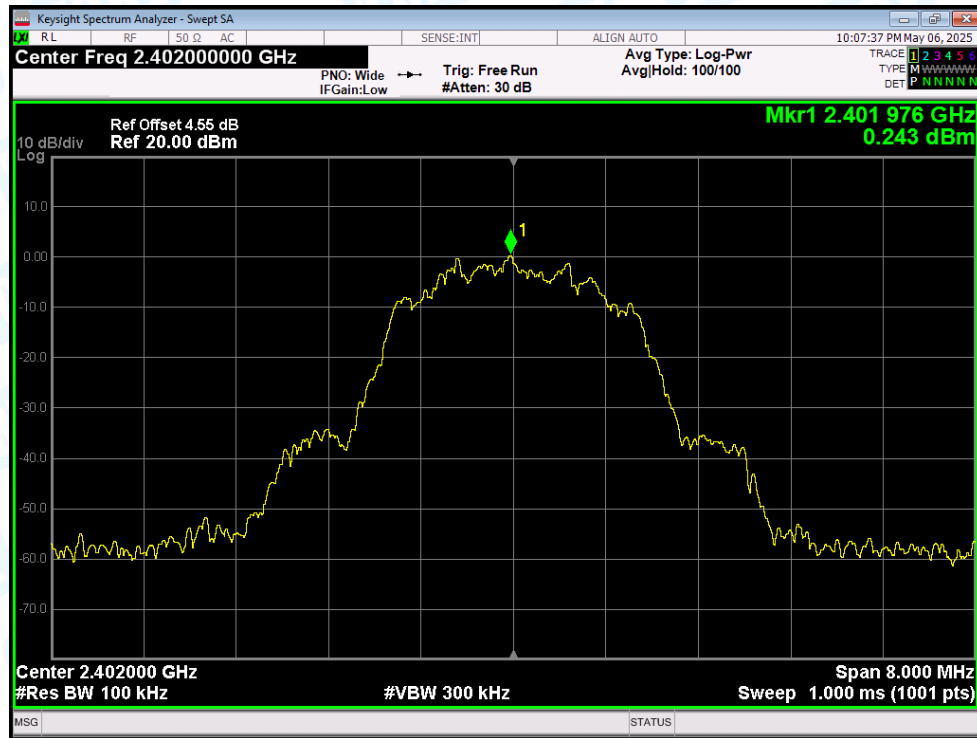
Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Ref



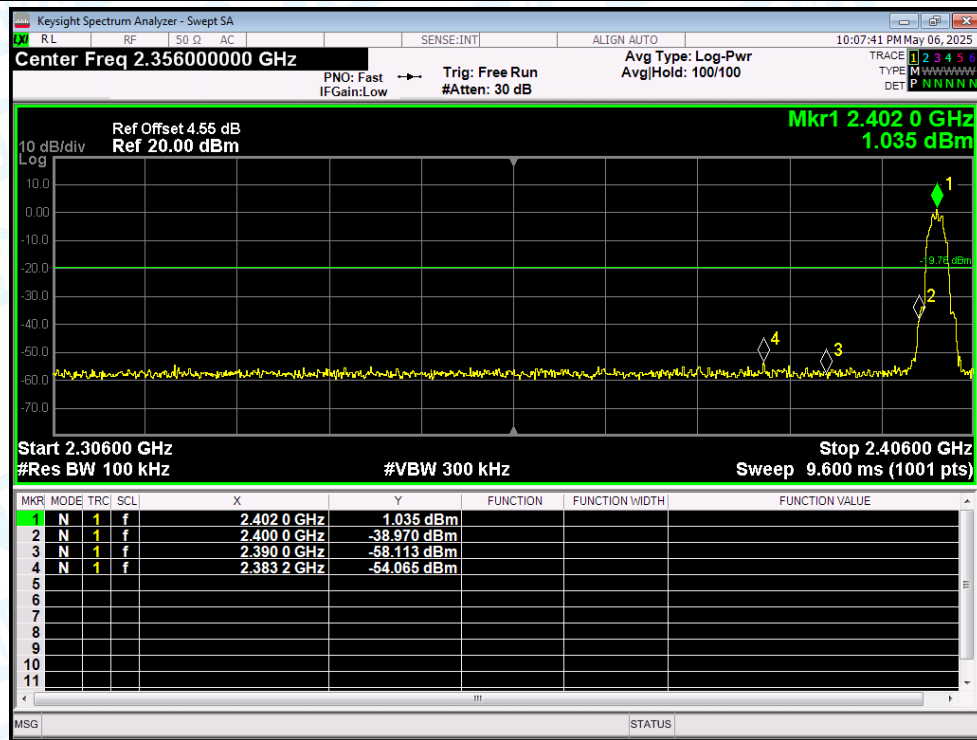
Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Emission



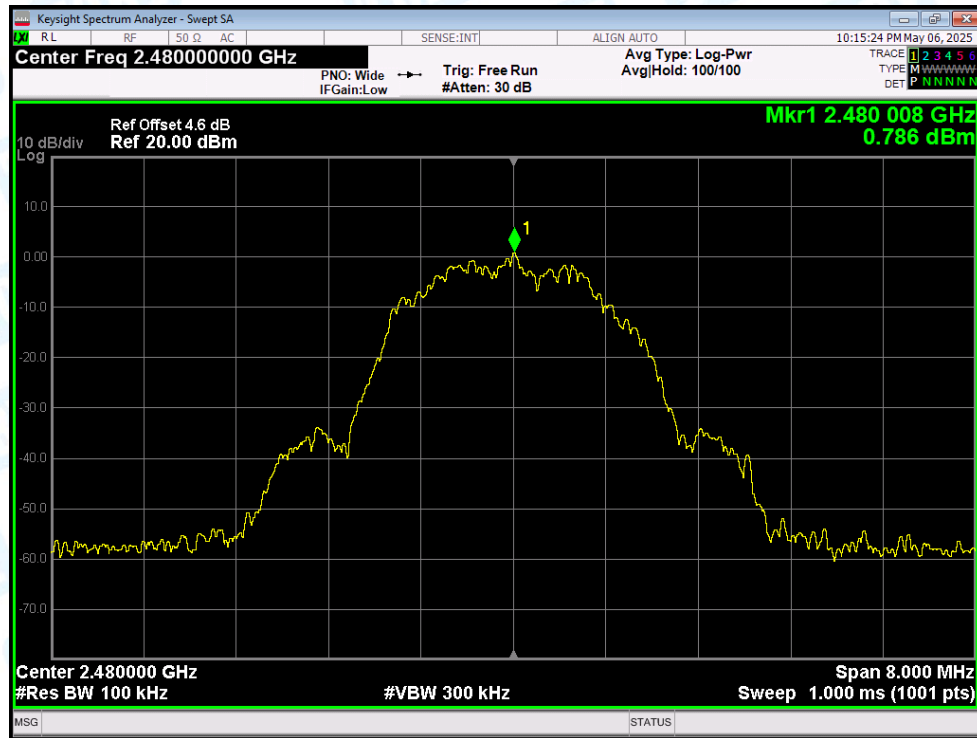
Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Ref



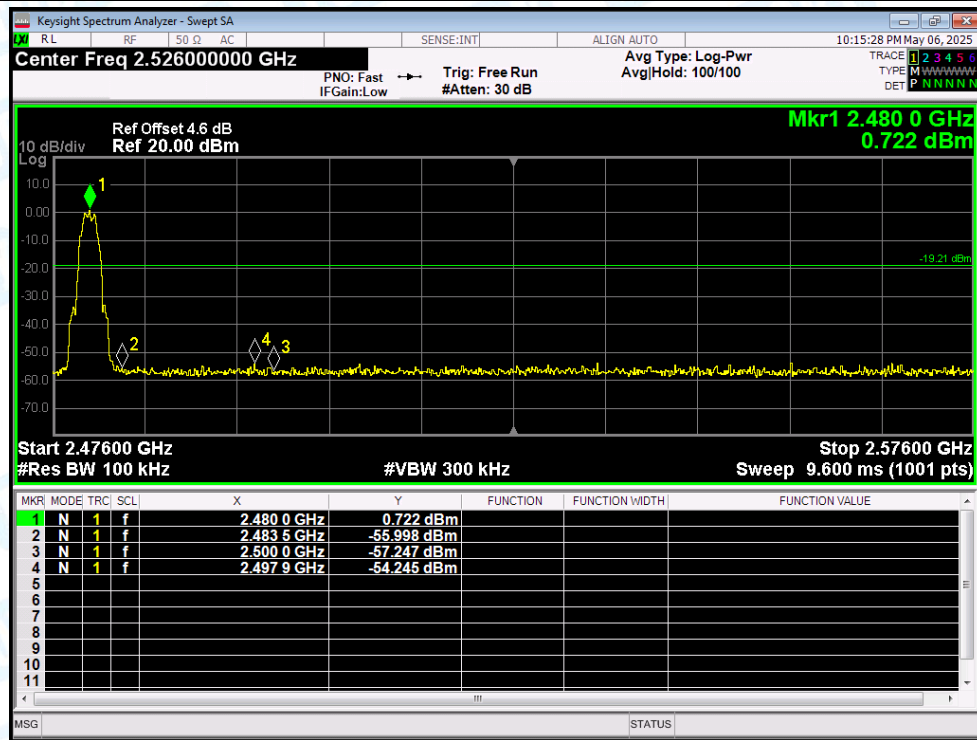
Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Emission



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Ref



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Emission



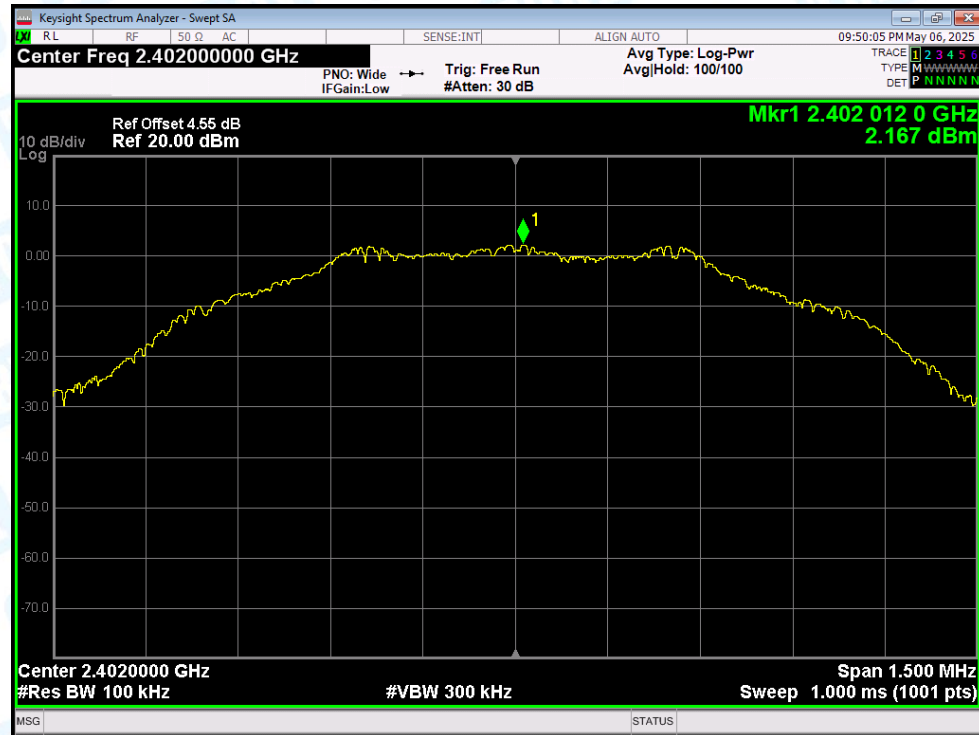
7. Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-42.72	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-44.29	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-42.2	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-42.36	-20	Pass
NVNT	BLE 2Mbps	2440	Ant1	-43.17	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-41.72	-20	Pass

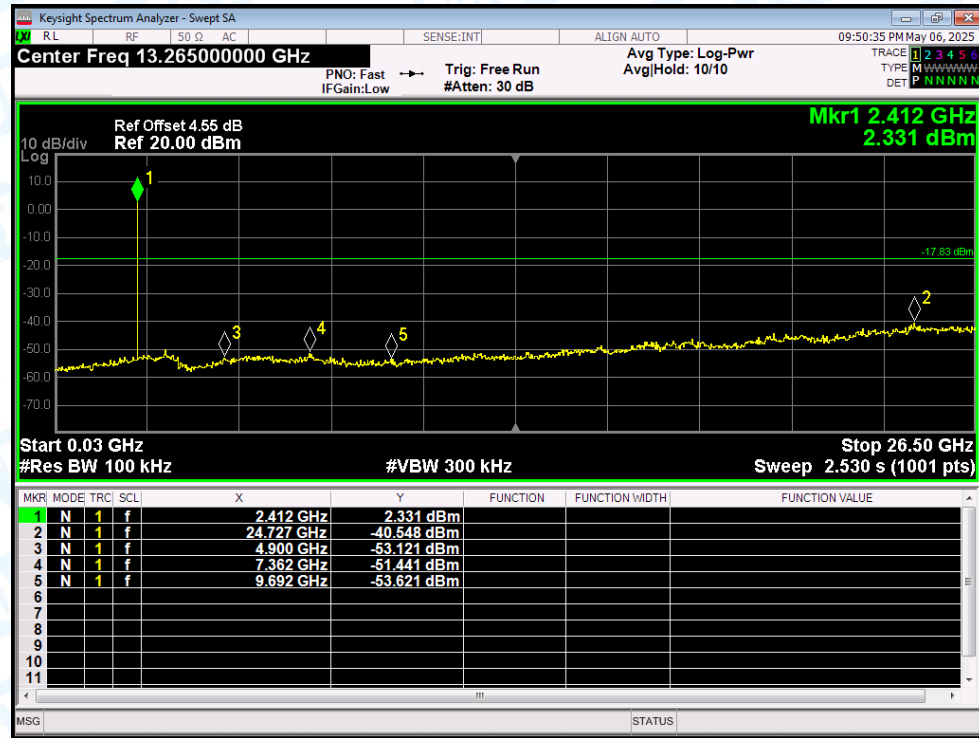
Note: RF Conducted test Offset= cable loss+ Attenuator(10dB).

Test Graphs

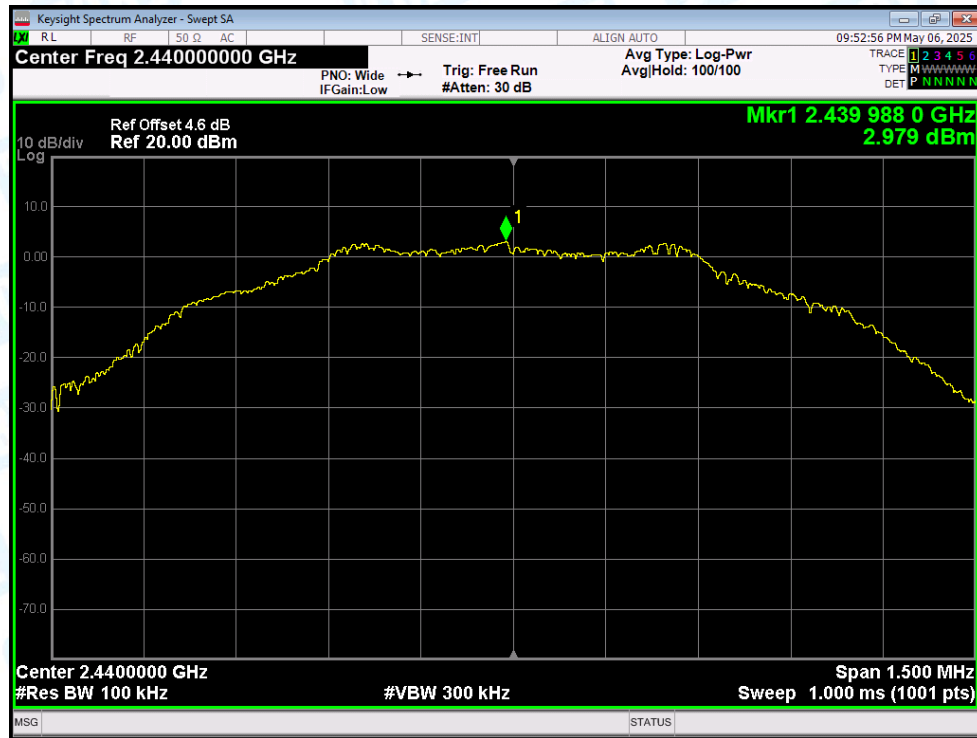
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Ref



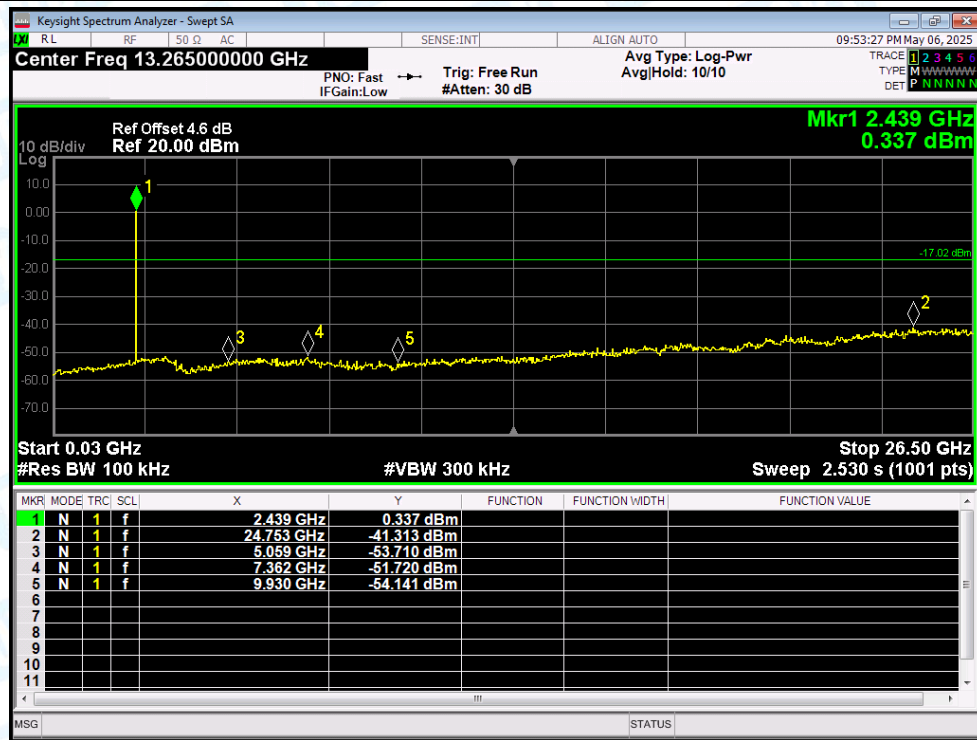
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Emission



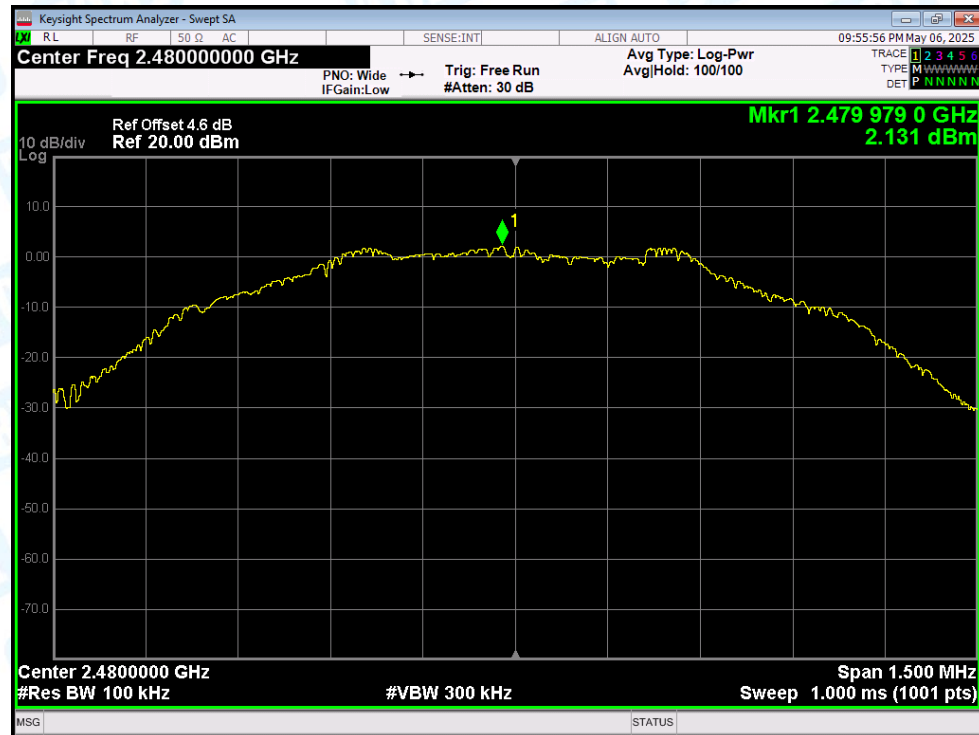
Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Ref



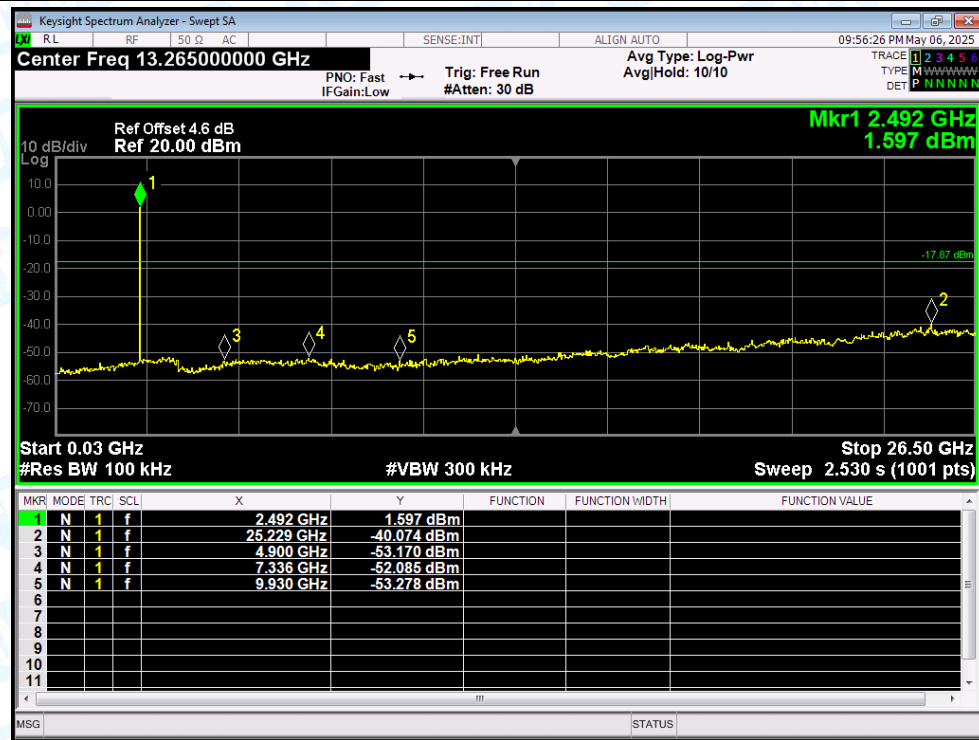
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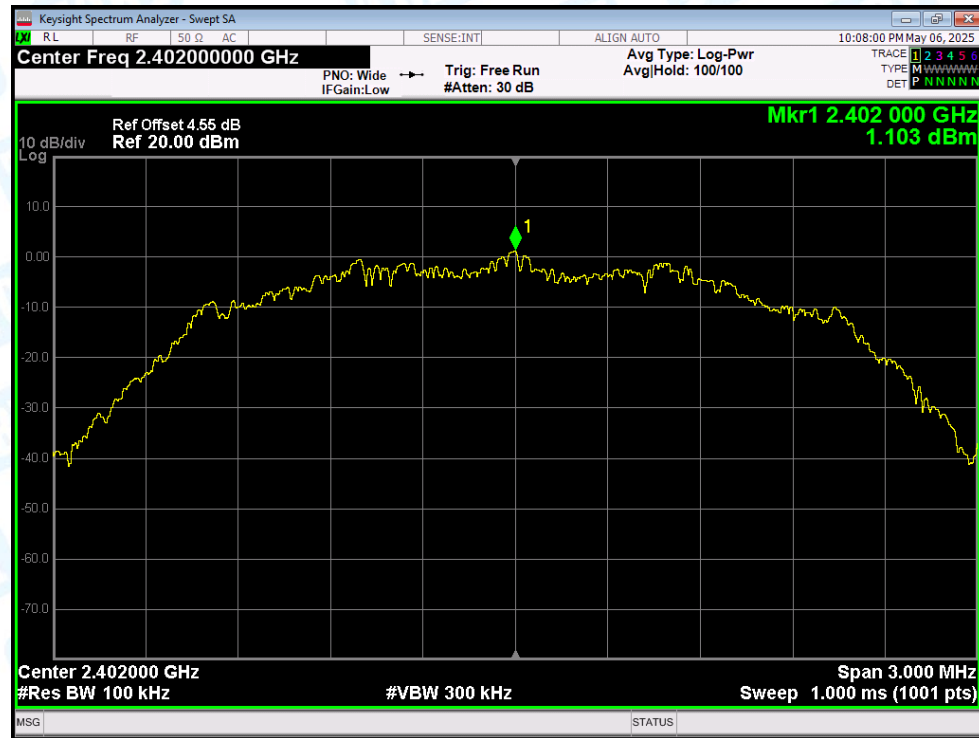
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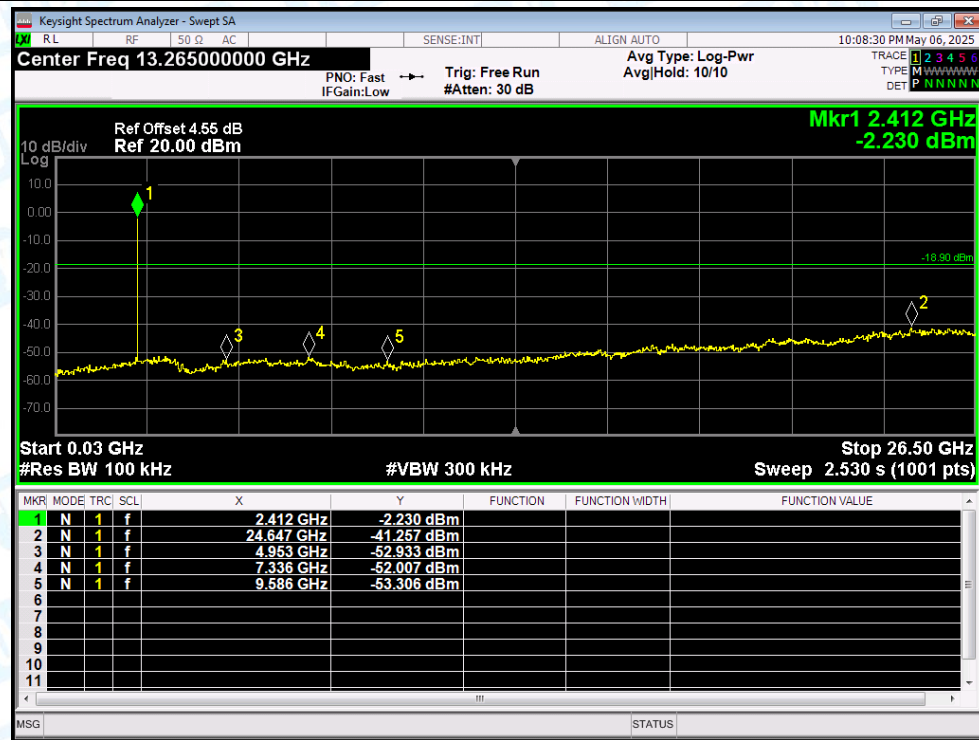
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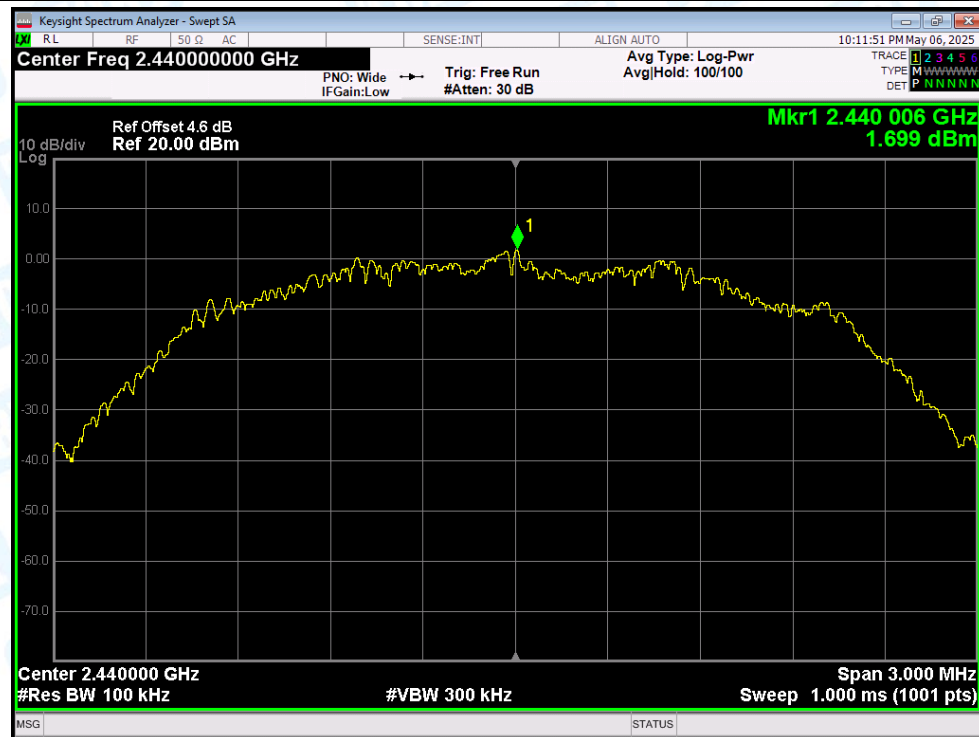
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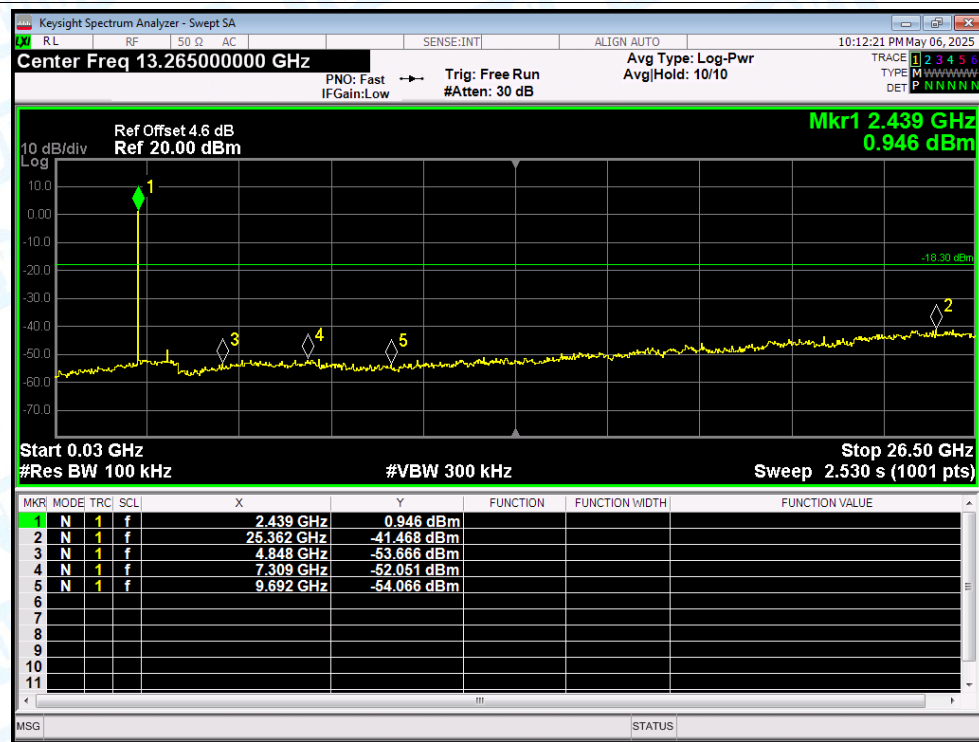
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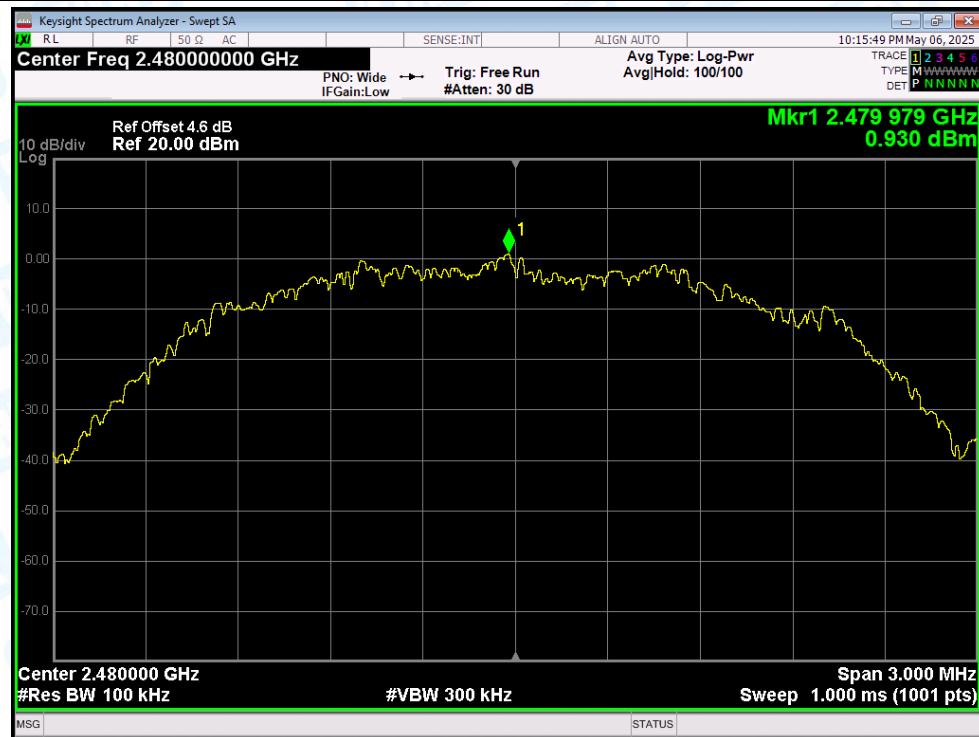
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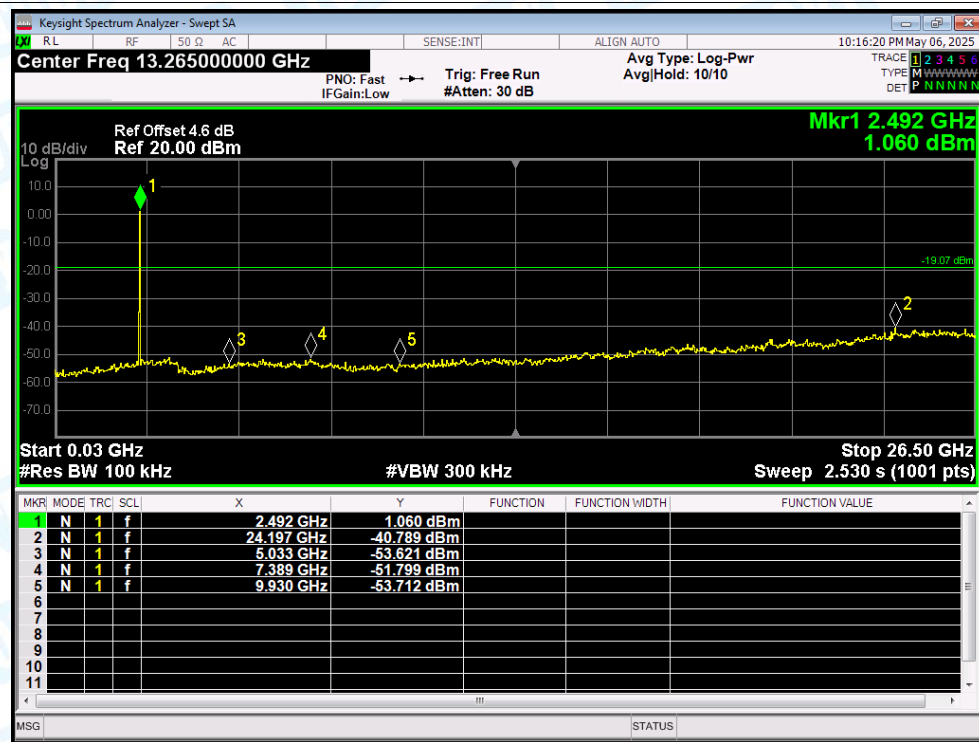
Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Emission



--- END OF REPORT ---