

RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
Product Name:	AIBOT2 AI humanoid robot
Test Model:	R12E
Sample ID:	HC-C-202404-0185-01-01-2#
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 7.2V
Test Engineer:	ZKN ZHOU
Note: For a more detailed features description, please refer to the report TBR-C-202404-0185-32 The report only show the worst case data.	

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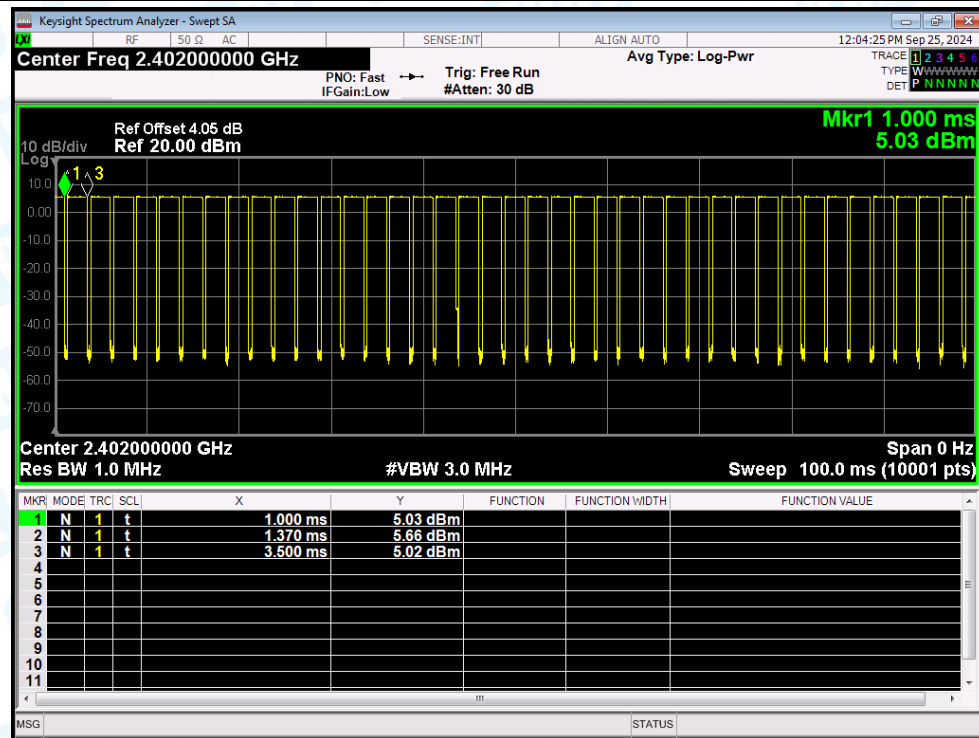
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1. Duty Cycle

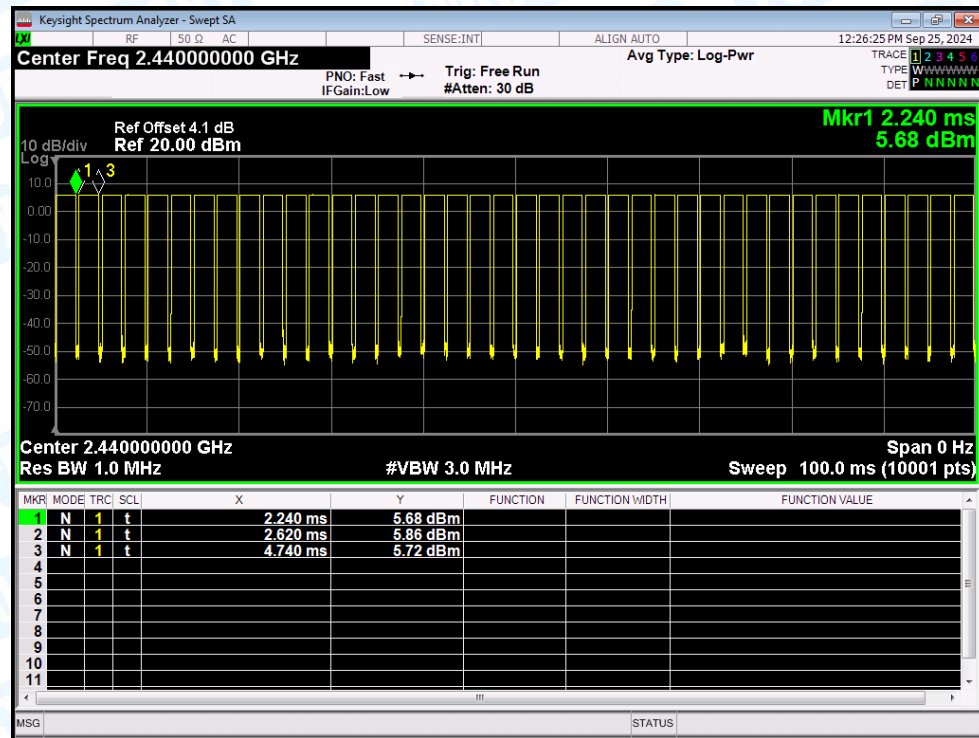
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	85.2	0.7	0.47
NVNT	BLE 1Mbps	2440	Ant1	84.8	0.72	0.47
NVNT	BLE 1Mbps	2480	Ant1	84.8	0.72	0.47
NVNT	BLE 2Mbps	2402	Ant1	43.2	3.65	0.93
NVNT	BLE 2Mbps	2440	Ant1	42.8	3.69	0.93
NVNT	BLE 2Mbps	2480	Ant1	43.2	3.65	0.93

Test Graphs

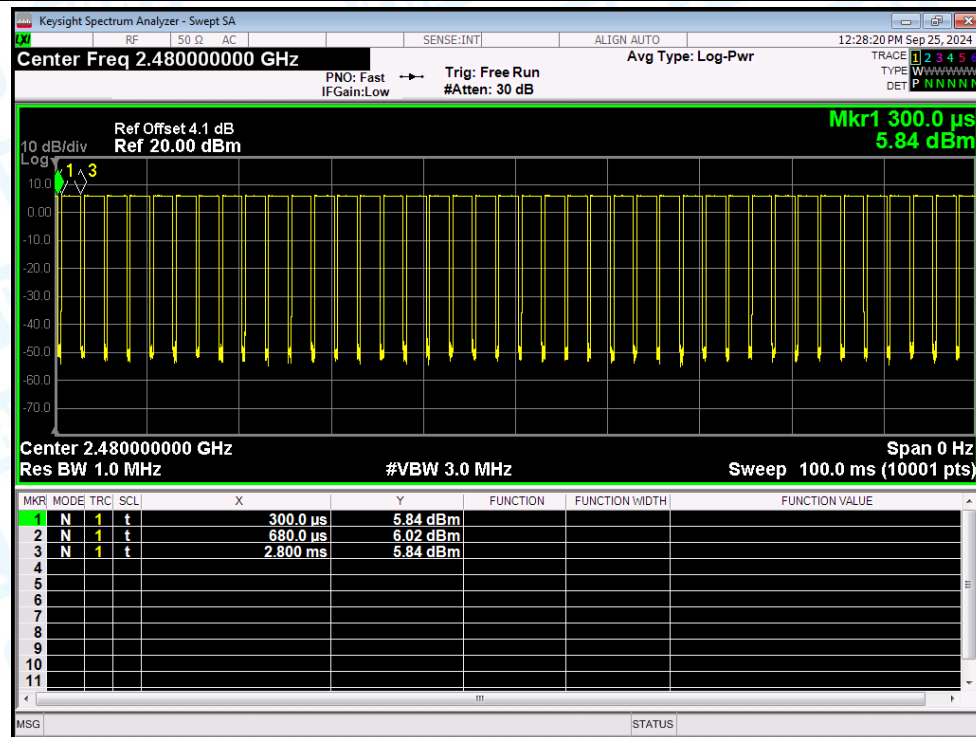
Duty Cycle NVNT BLE 1Mbps 2402MHz Ant1



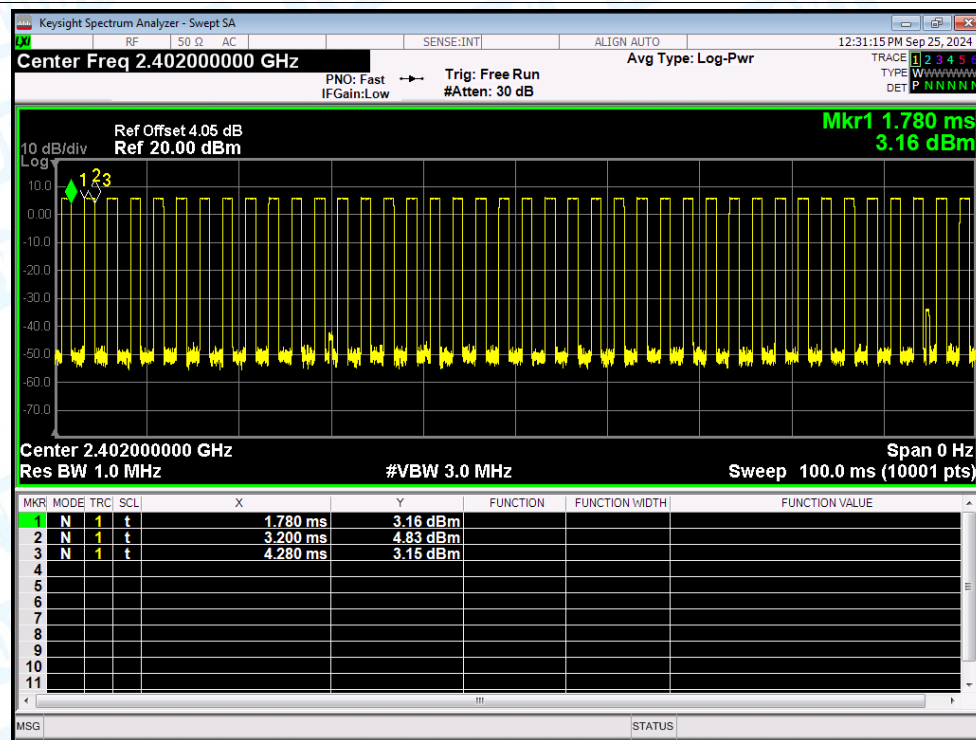
Duty Cycle NVNT BLE 1Mbps 2440MHz Ant1



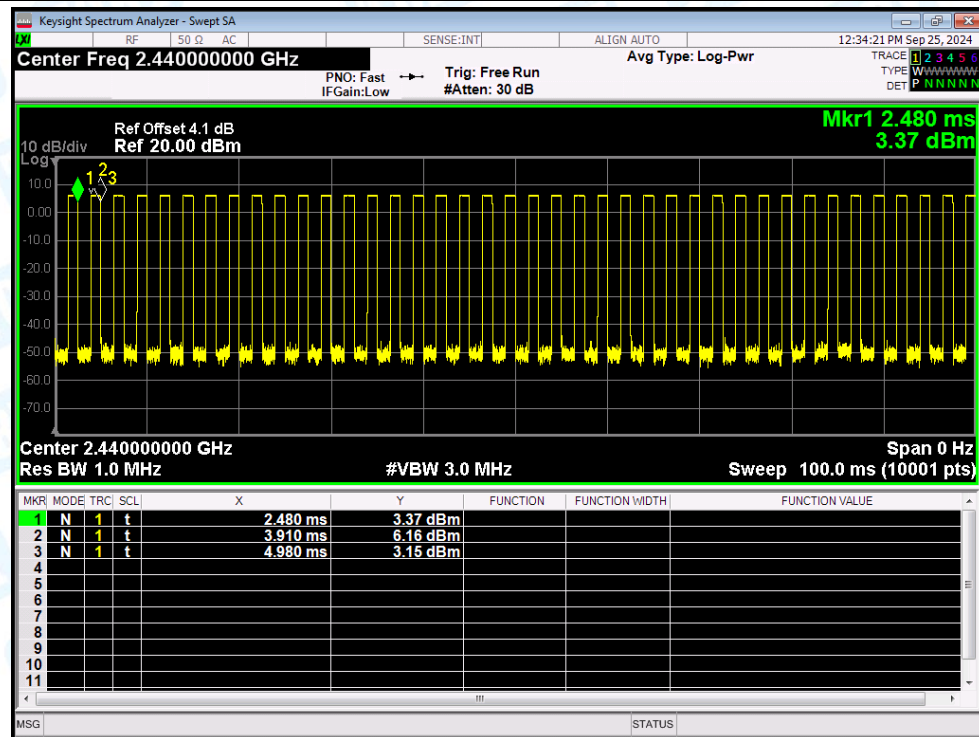
Duty Cycle NVNT BLE 1Mbps 2480MHz Ant1



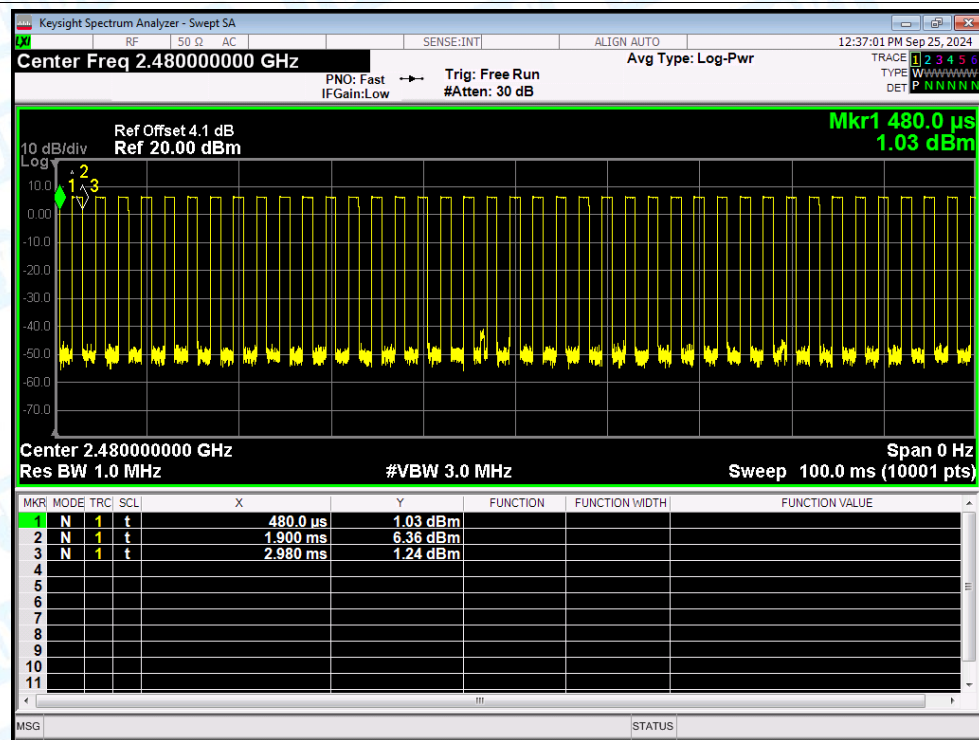
Duty Cycle NVNT BLE 2Mbps 2402MHz Ant1



Duty Cycle NVNT BLE 2Mbps 2440MHz Ant1



Duty Cycle NVNT BLE 2Mbps 2480MHz Ant1

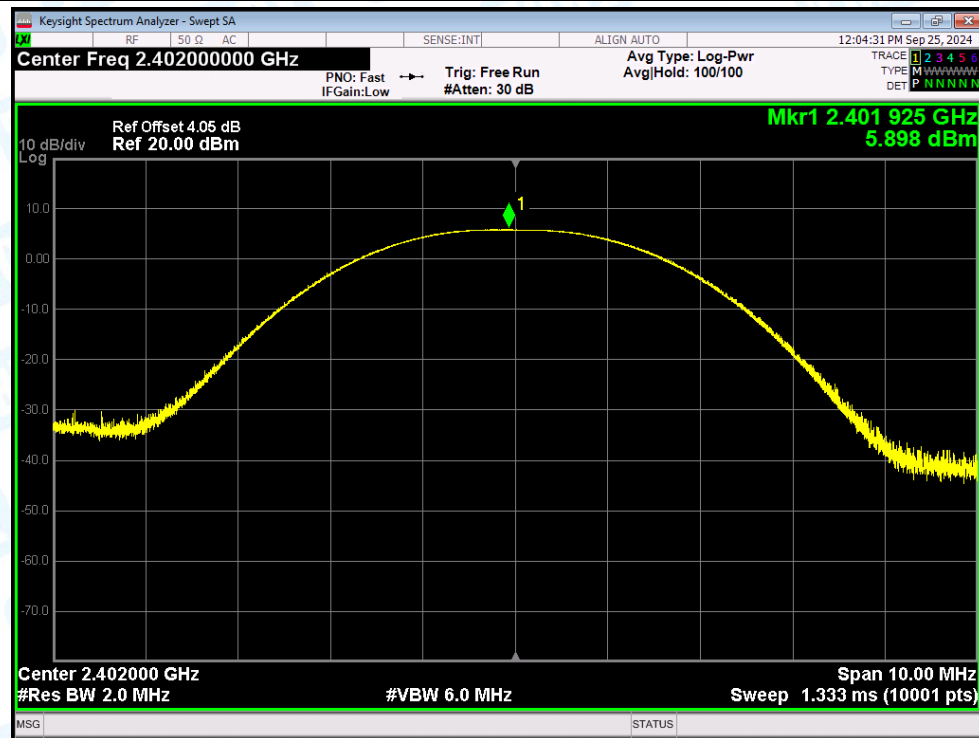


2. Maximum Conducted Peak Output Power

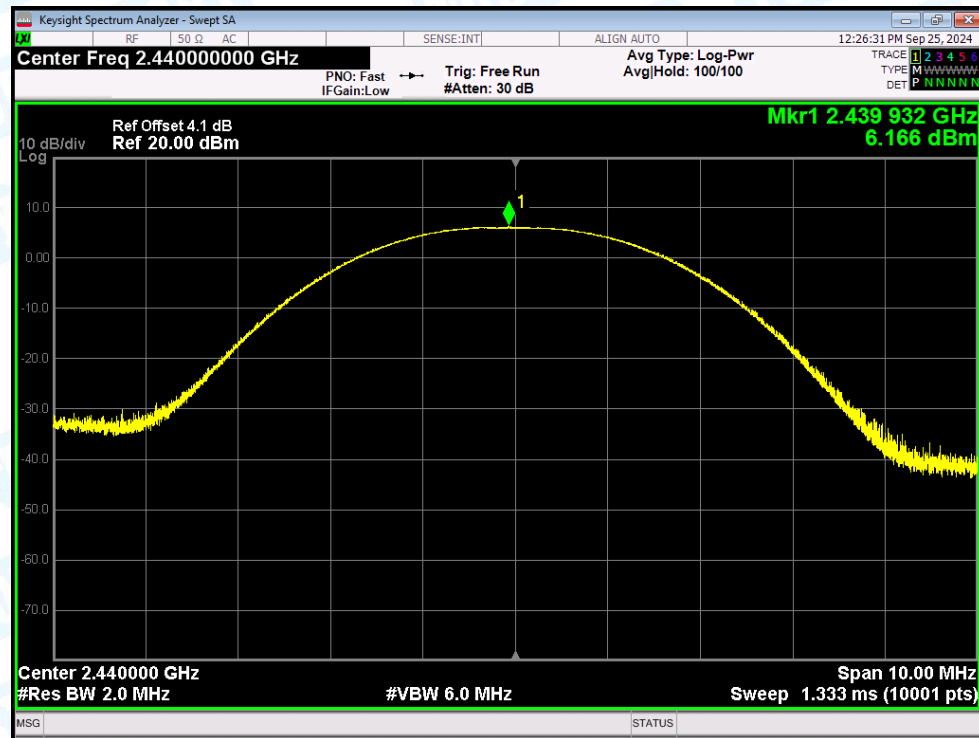
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	5.898	30	Pass
NVNT	BLE 1Mbps	2440	Ant1	6.166	30	Pass
NVNT	BLE 1Mbps	2480	Ant1	6.272	30	Pass
NVNT	BLE 2Mbps	2402	Ant1	6.374	30	Pass
NVNT	BLE 2Mbps	2440	Ant1	6.633	30	Pass
NVNT	BLE 2Mbps	2480	Ant1	6.759	30	Pass

Test Graphs

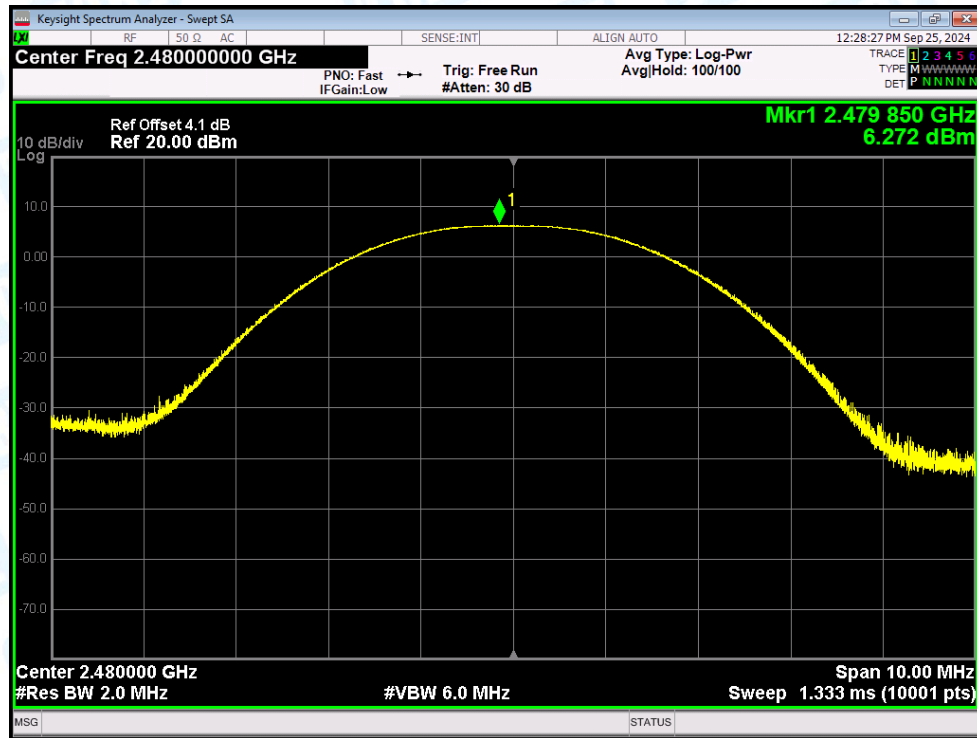
Power NVNT BLE 1Mbps 2402MHz Ant1



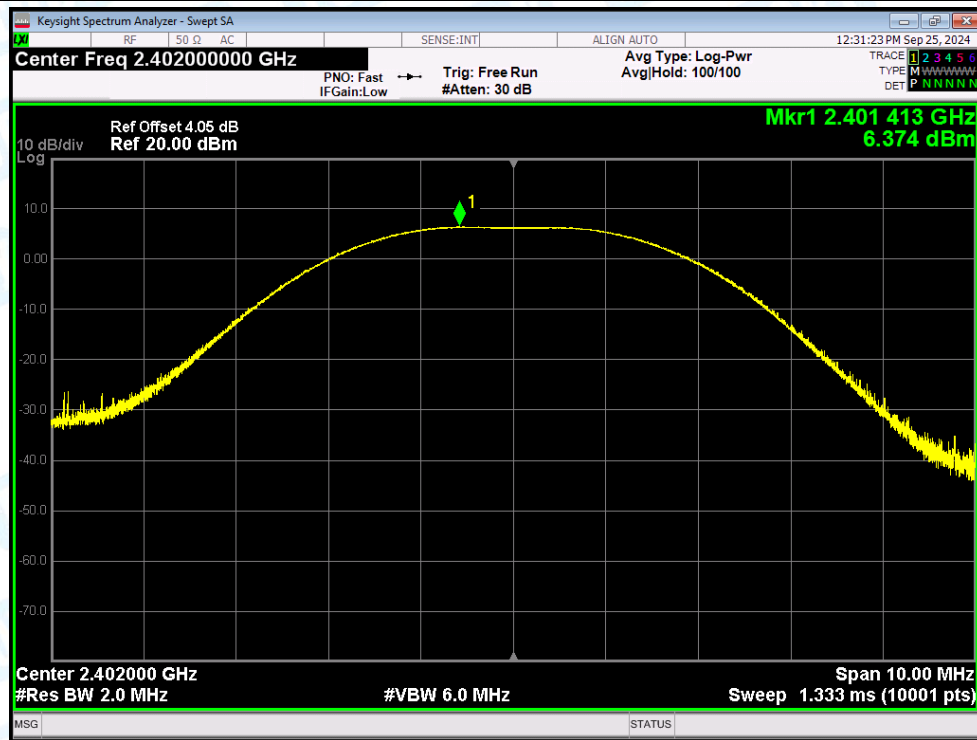
Power NVNT BLE 1Mbps 2440MHz Ant1



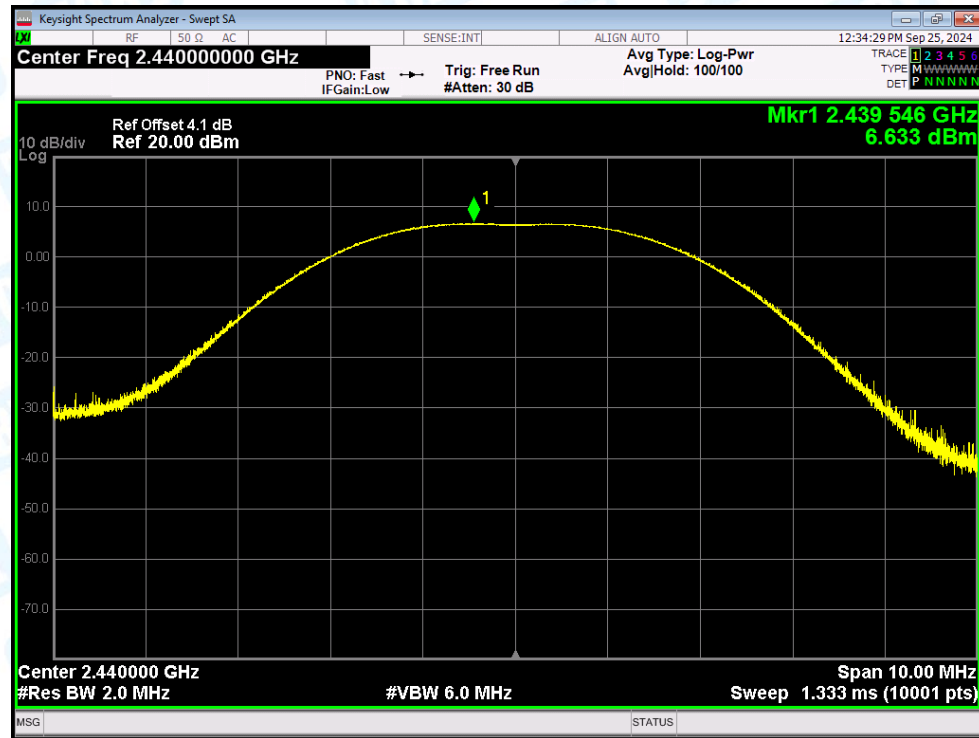
Power NVNT BLE 1Mbps 2480MHz Ant1



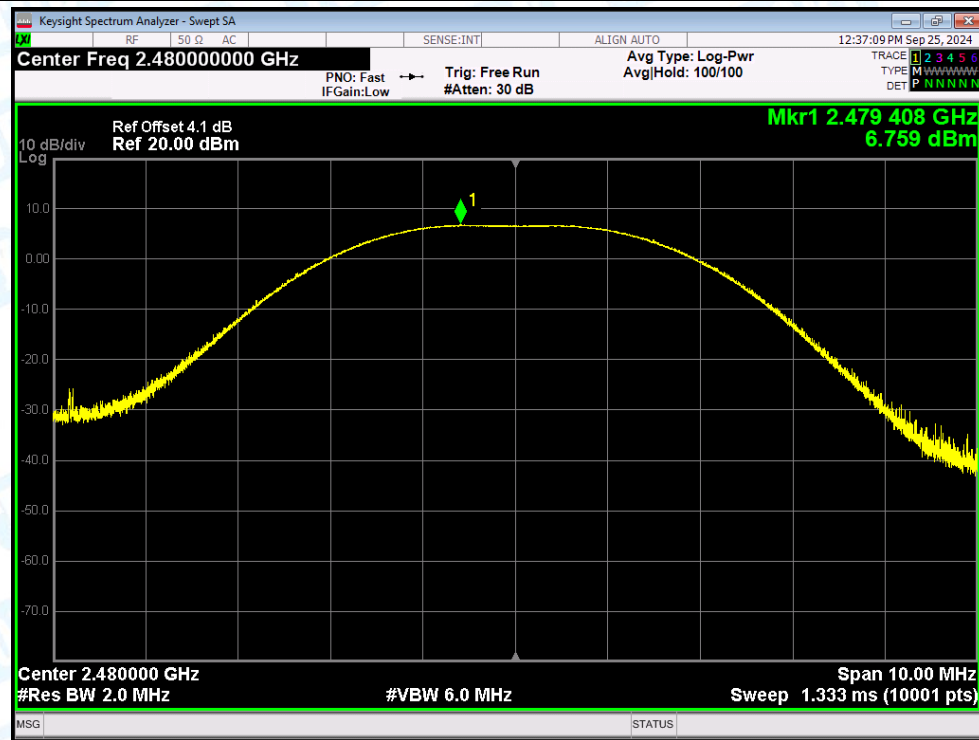
Power NVNT BLE 2Mbps 2402MHz Ant1



Power NVNT BLE 2Mbps 2440MHz Ant1



Power NVNT BLE 2Mbps 2480MHz Ant1

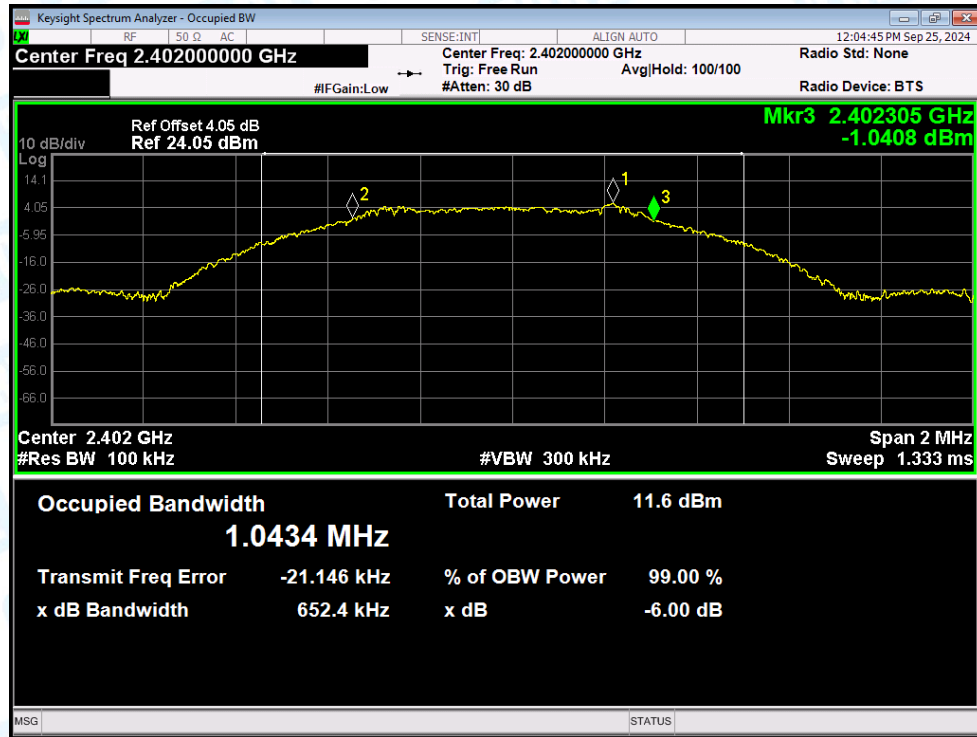


3. -6dB Bandwidth

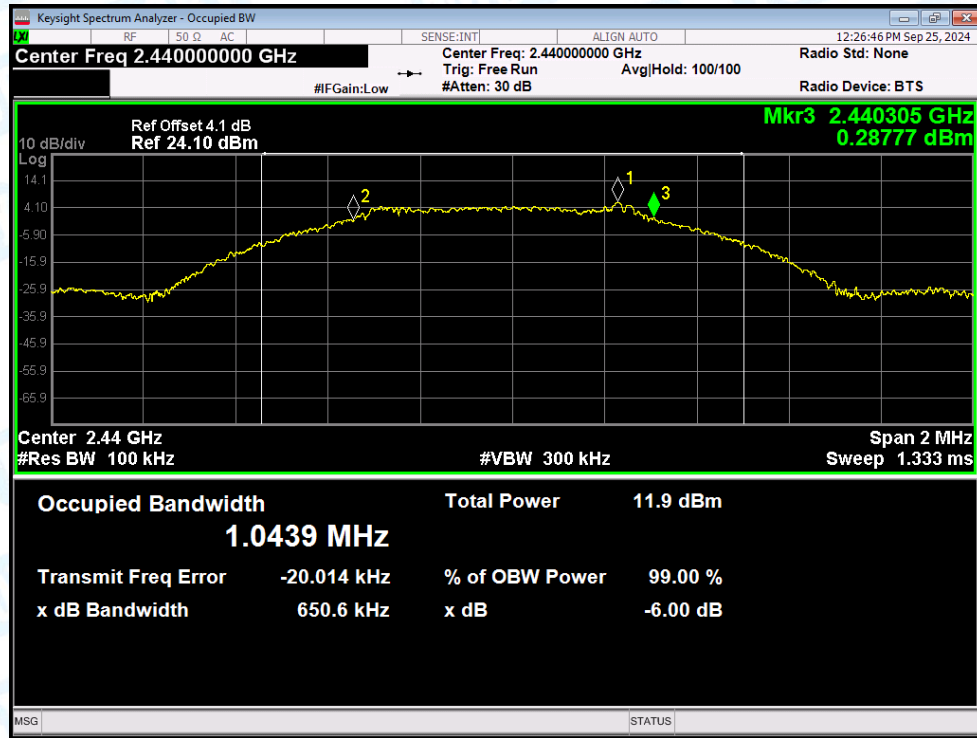
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.65	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.65	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.68	0.5	Pass
NVNT	BLE 2Mbps	2402	Ant1	1.12	0.5	Pass
NVNT	BLE 2Mbps	2440	Ant1	1.18	0.5	Pass
NVNT	BLE 2Mbps	2480	Ant1	1.14	0.5	Pass

Test Graphs

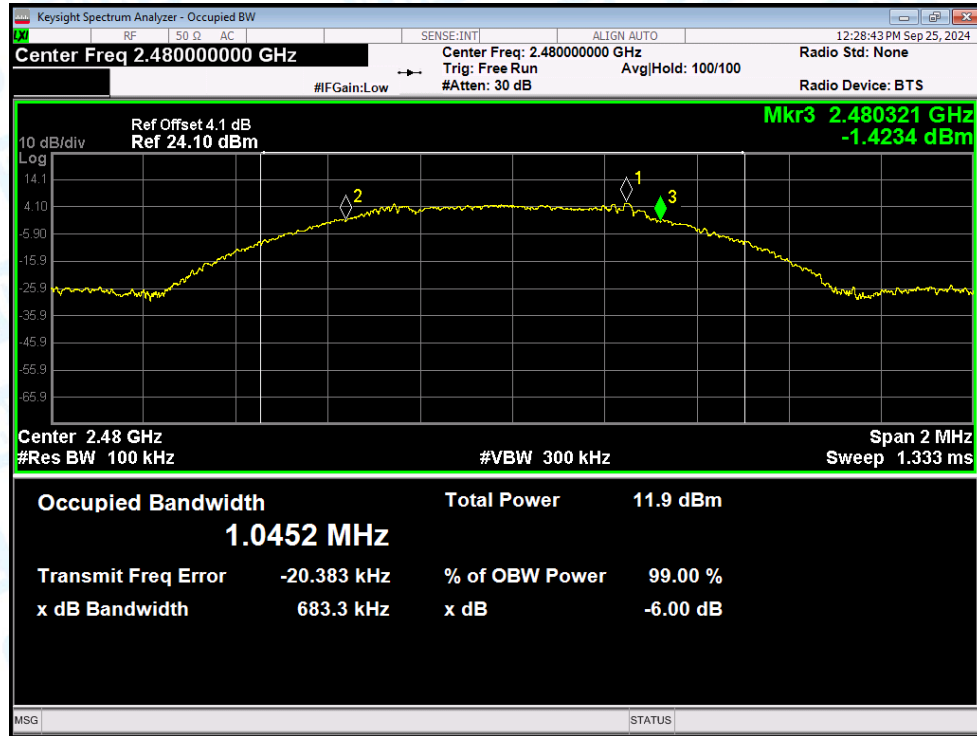
-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1



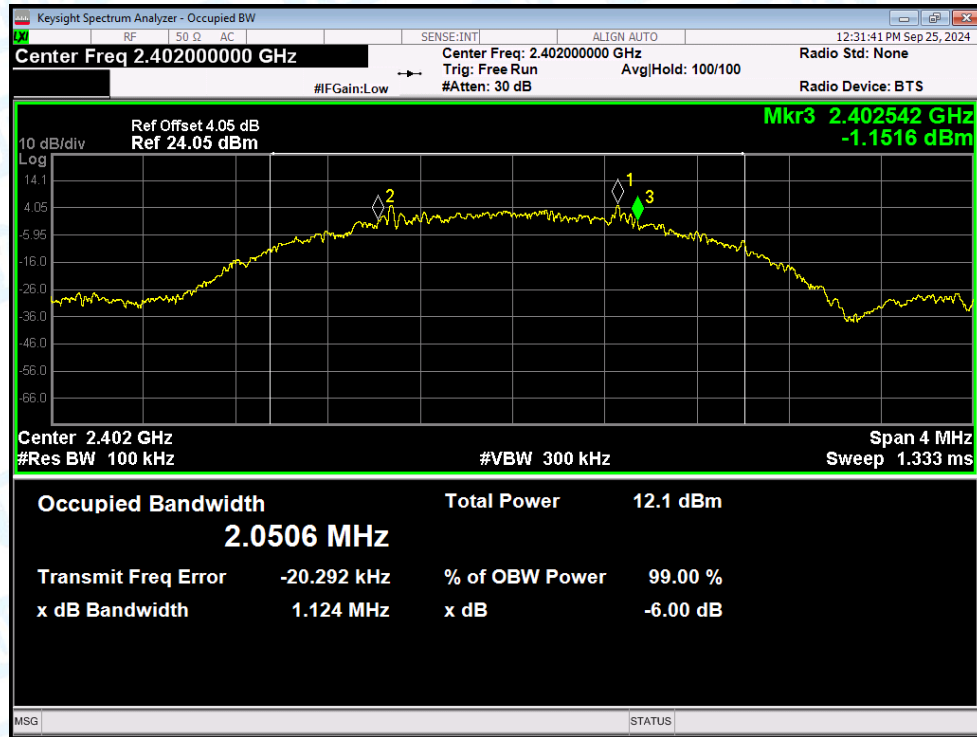
-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1



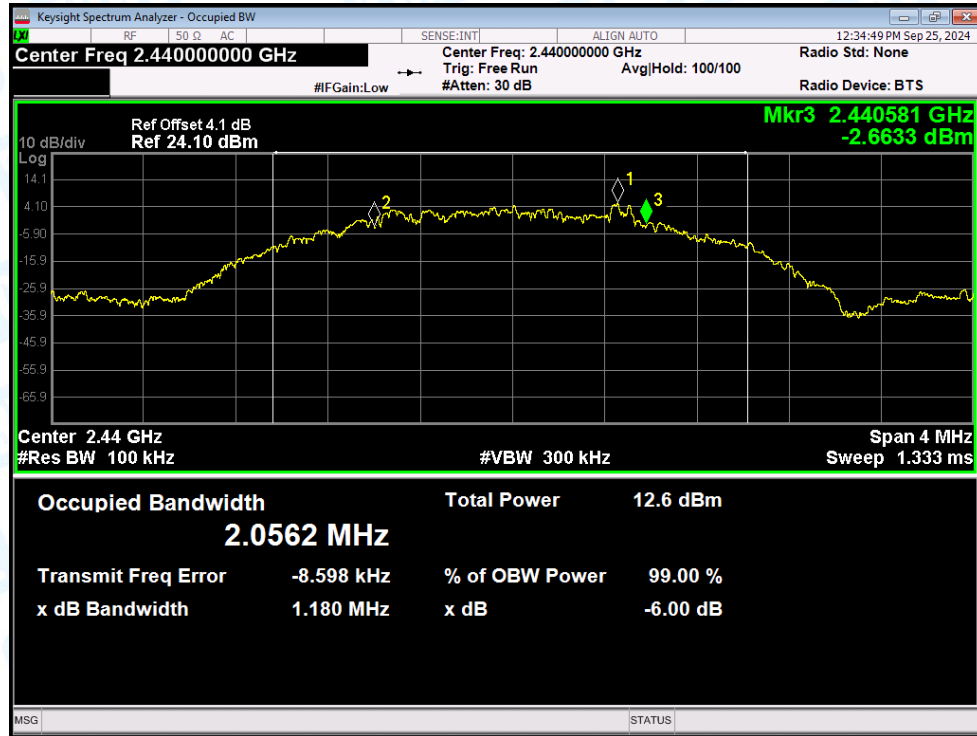
-6dB Bandwidth NVNT BLE 1Mbps 2480MHz Ant1



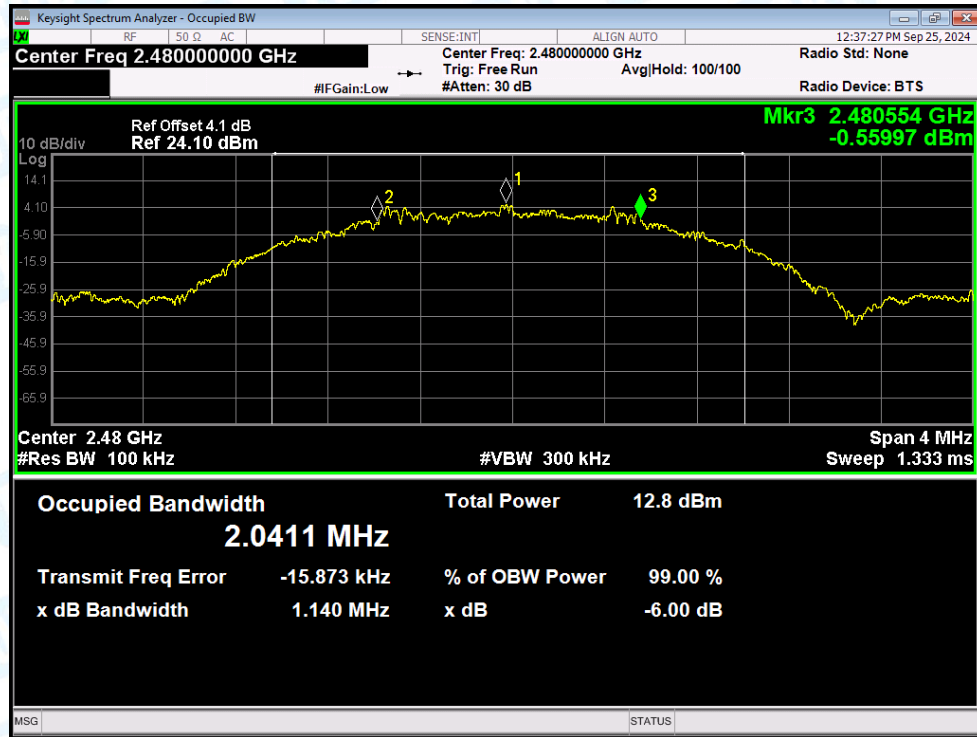
-6dB Bandwidth NVNT BLE 2Mbps 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2480MHz Ant1

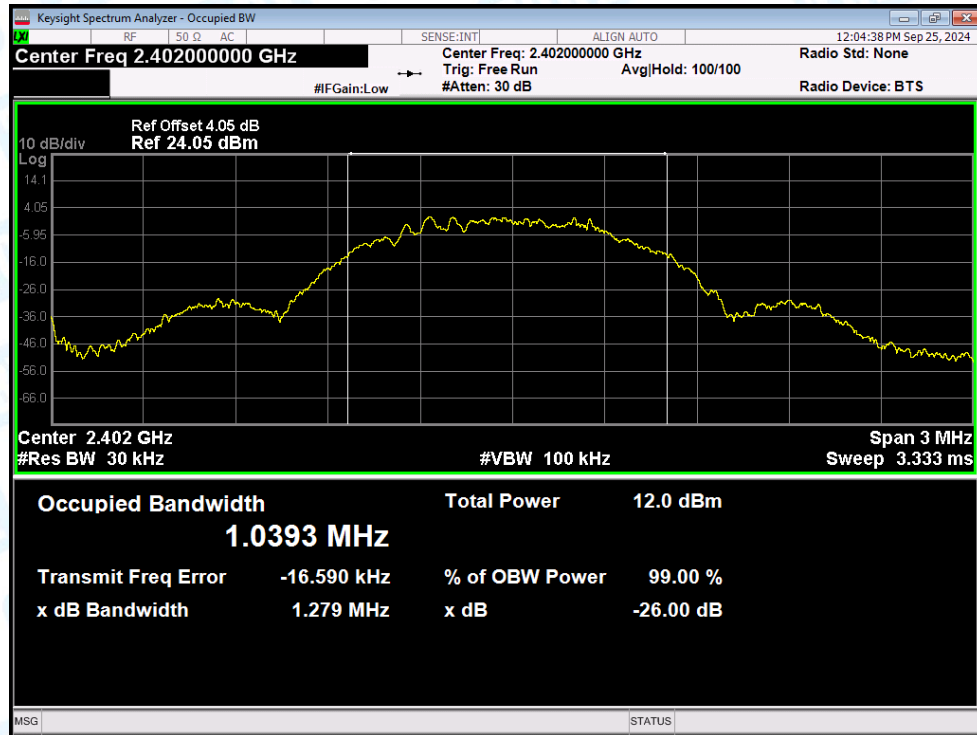


4. Occupied Channel Bandwidth

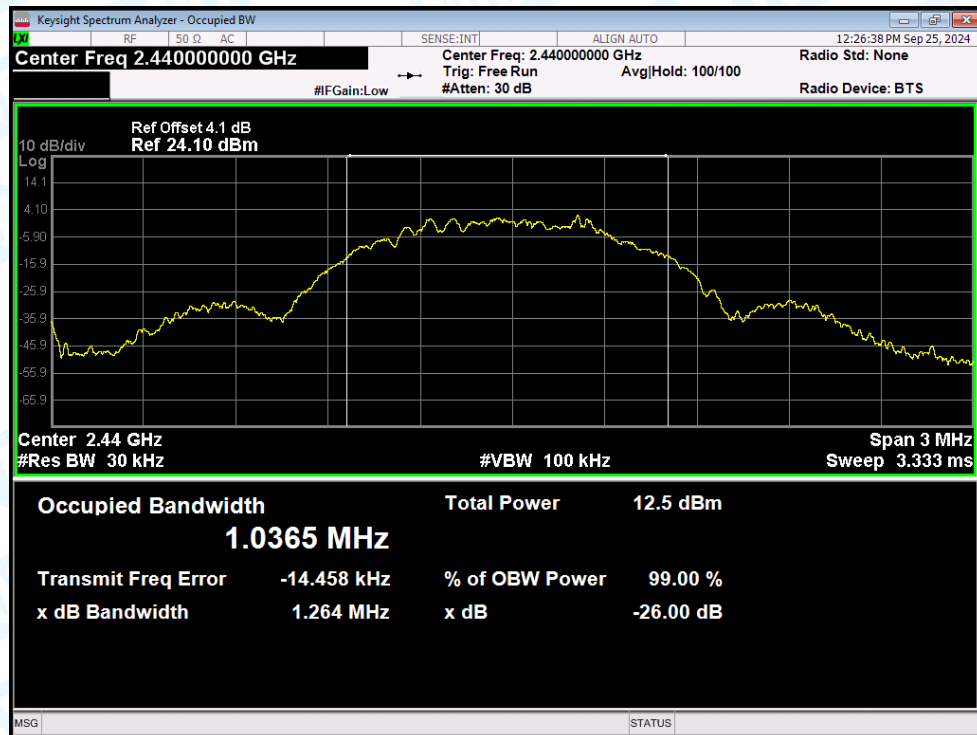
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1Mbps	2402	Ant1	1.039
NVNT	BLE 1Mbps	2440	Ant1	1.036
NVNT	BLE 1Mbps	2480	Ant1	1.034
NVNT	BLE 2Mbps	2402	Ant1	2.084
NVNT	BLE 2Mbps	2440	Ant1	2.067
NVNT	BLE 2Mbps	2480	Ant1	2.057

Test Graphs

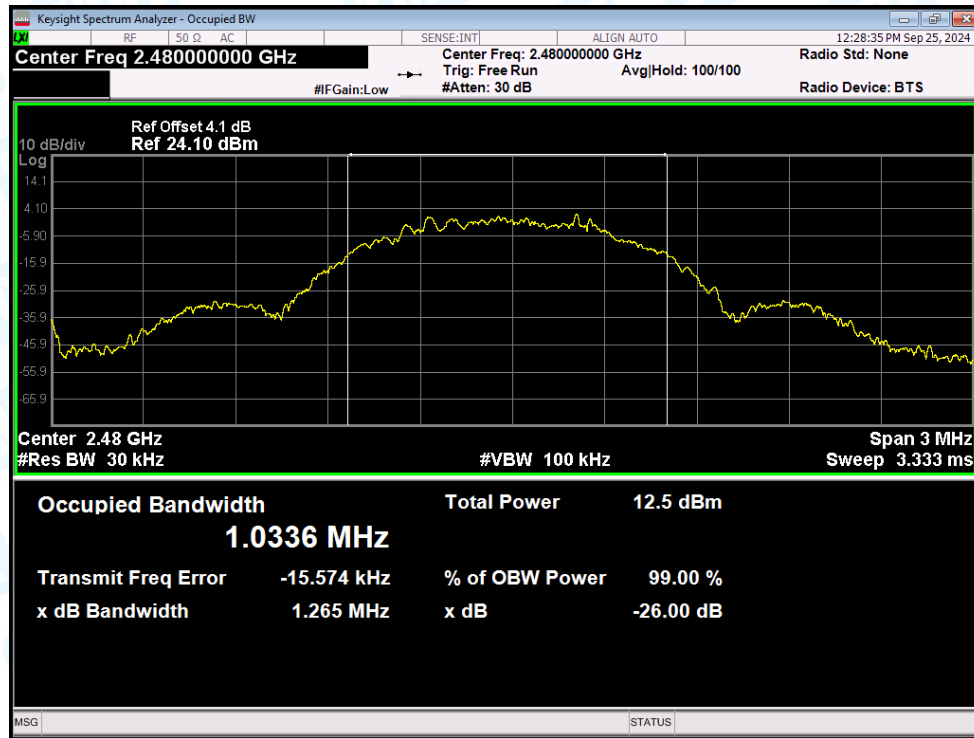
OBW NVNT BLE 1Mbps 2402MHz Ant1



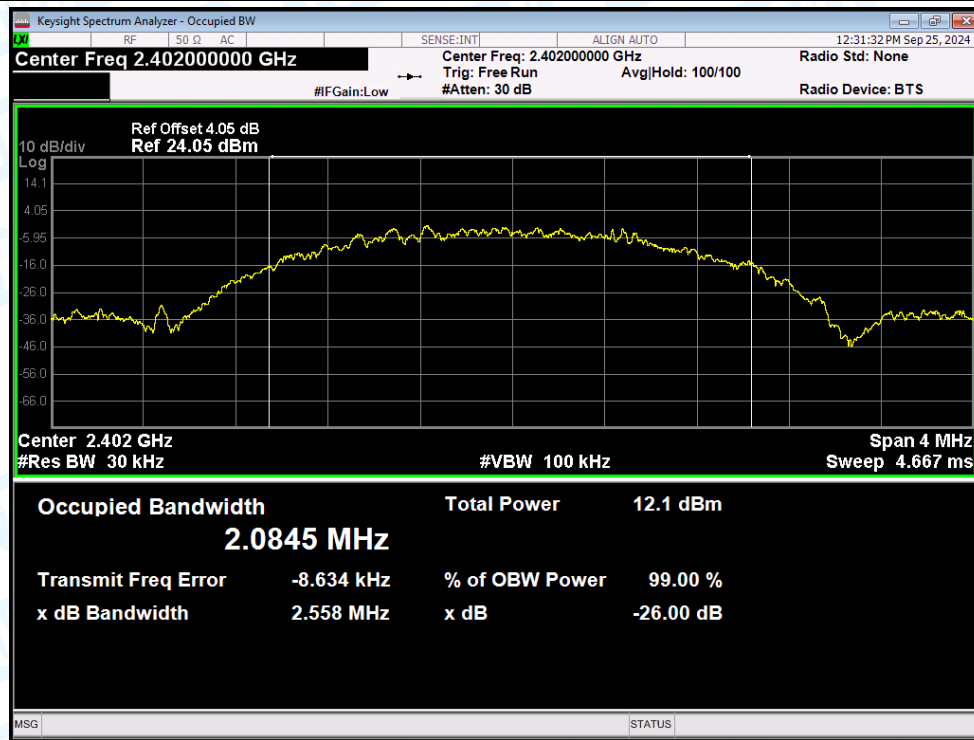
OBW NVNT BLE 1Mbps 2440MHz Ant1



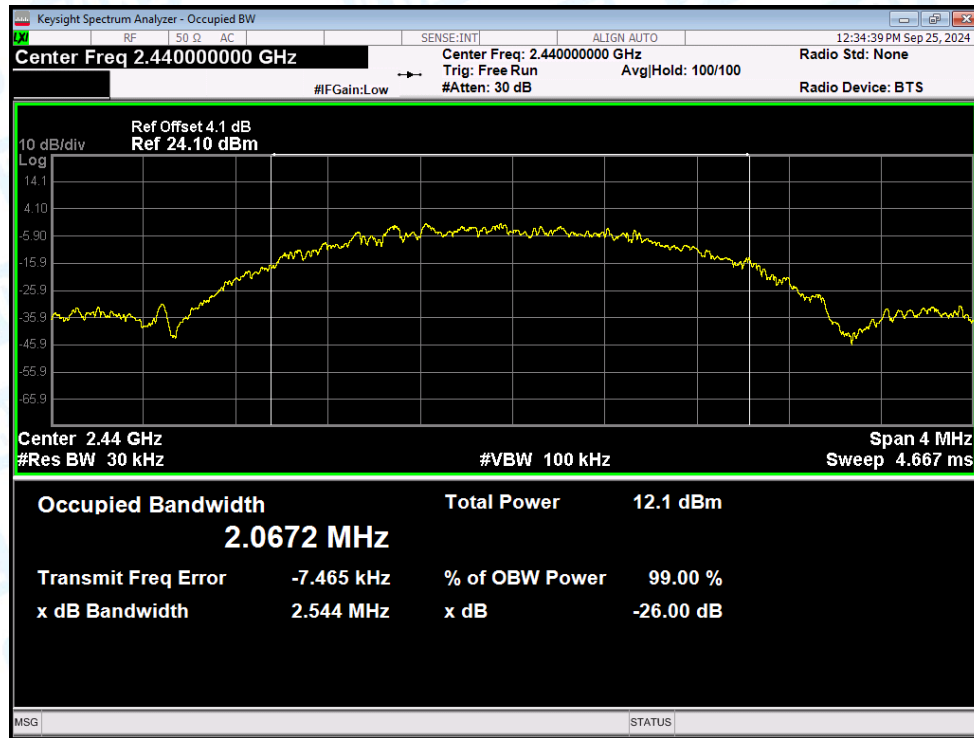
OBW NVNT BLE 1Mbps 2480MHz Ant1



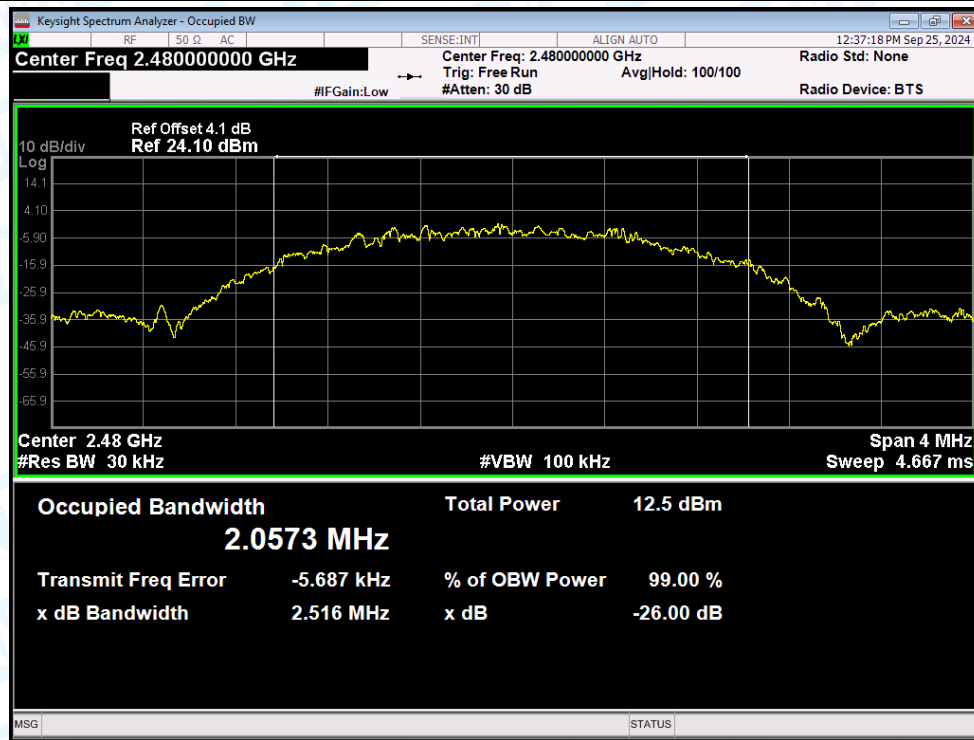
OBW NVNT BLE 2Mbps 2402MHz Ant1



OBW NVNT BLE 2Mbps 2440MHz Ant1



OBW NVNT BLE 2Mbps 2480MHz Ant1

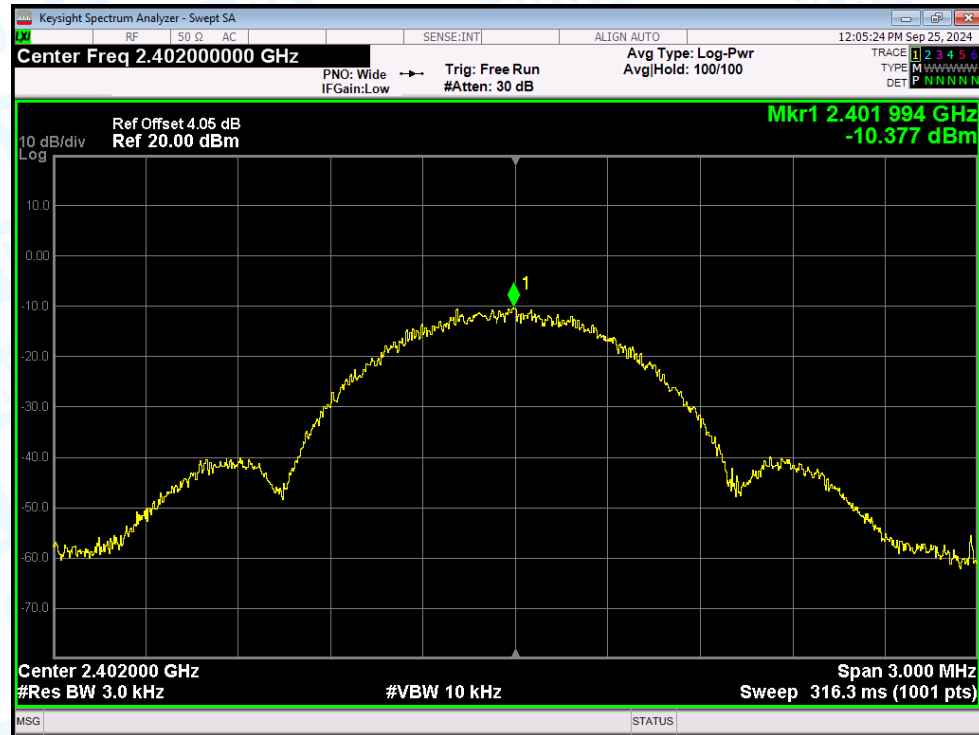


5. Maximum Power Spectral Density Level

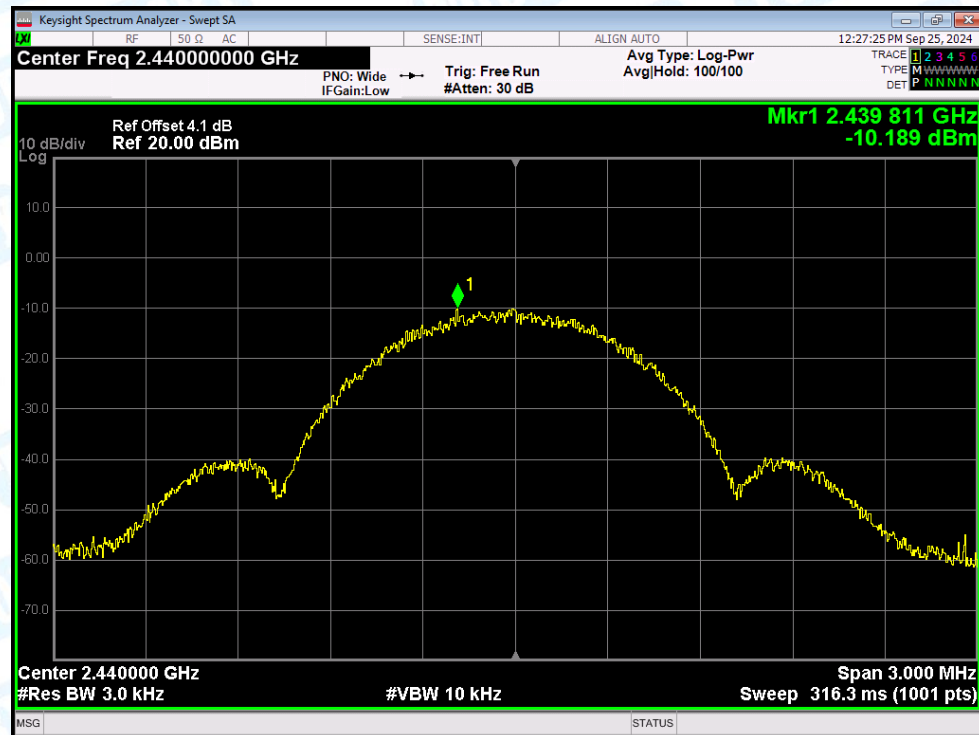
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-10.377	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-10.189	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-9.996	8	Pass
NVNT	BLE 2Mbps	2402	Ant1	-12.957	8	Pass
NVNT	BLE 2Mbps	2440	Ant1	-12.751	8	Pass
NVNT	BLE 2Mbps	2480	Ant1	-12.663	8	Pass

Test Graphs

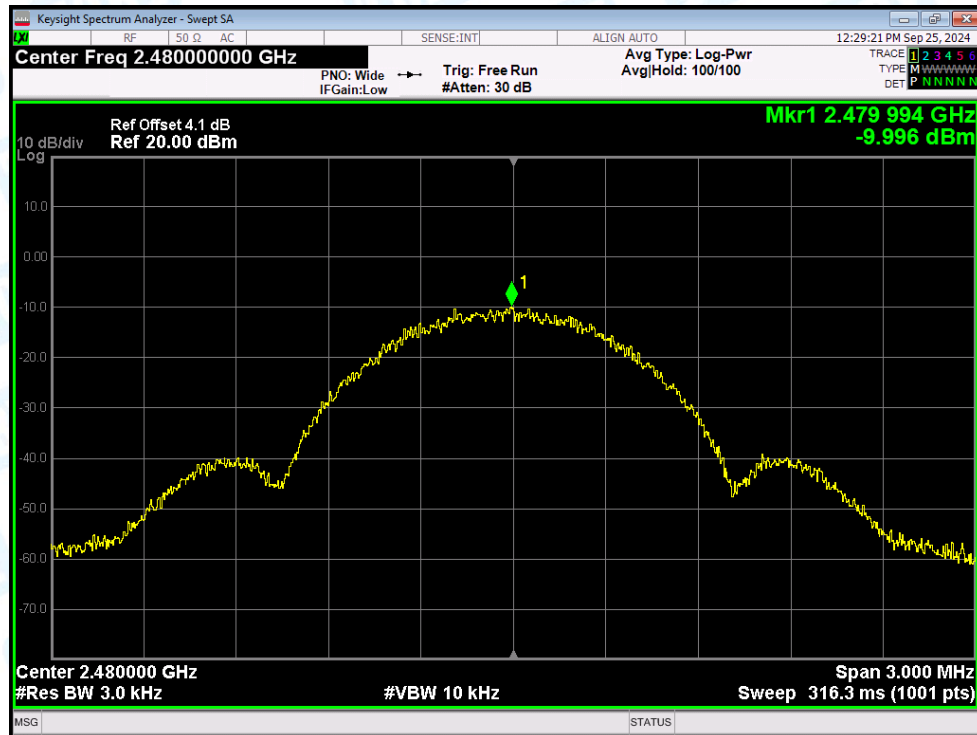
PSD NVNT BLE 1Mbps 2402MHz Ant1



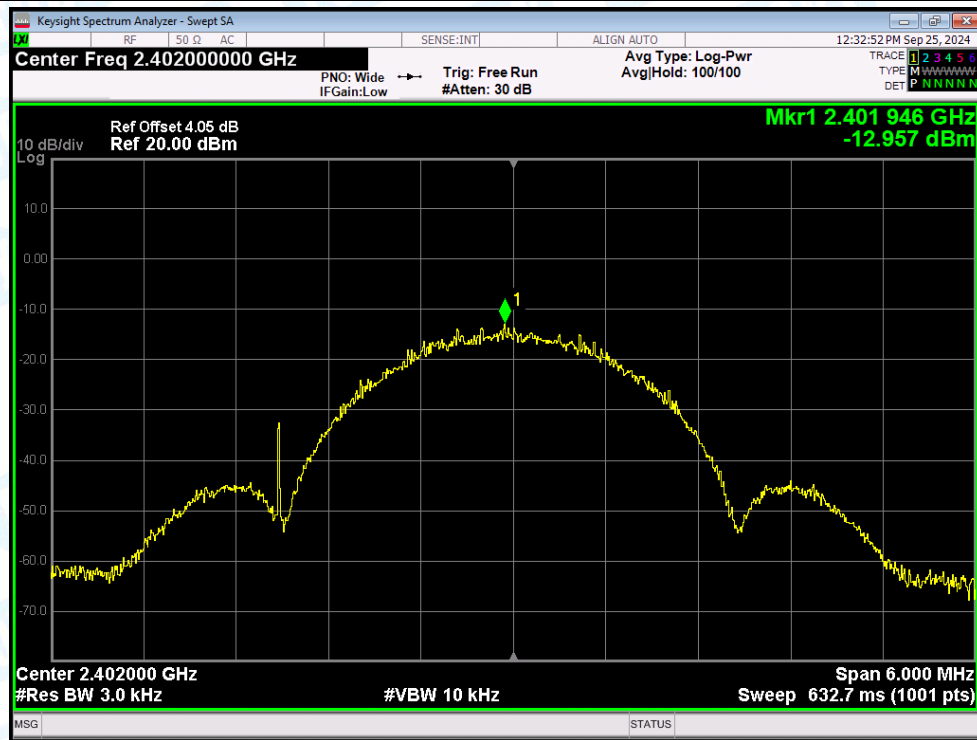
PSD NVNT BLE 1Mbps 2440MHz Ant1



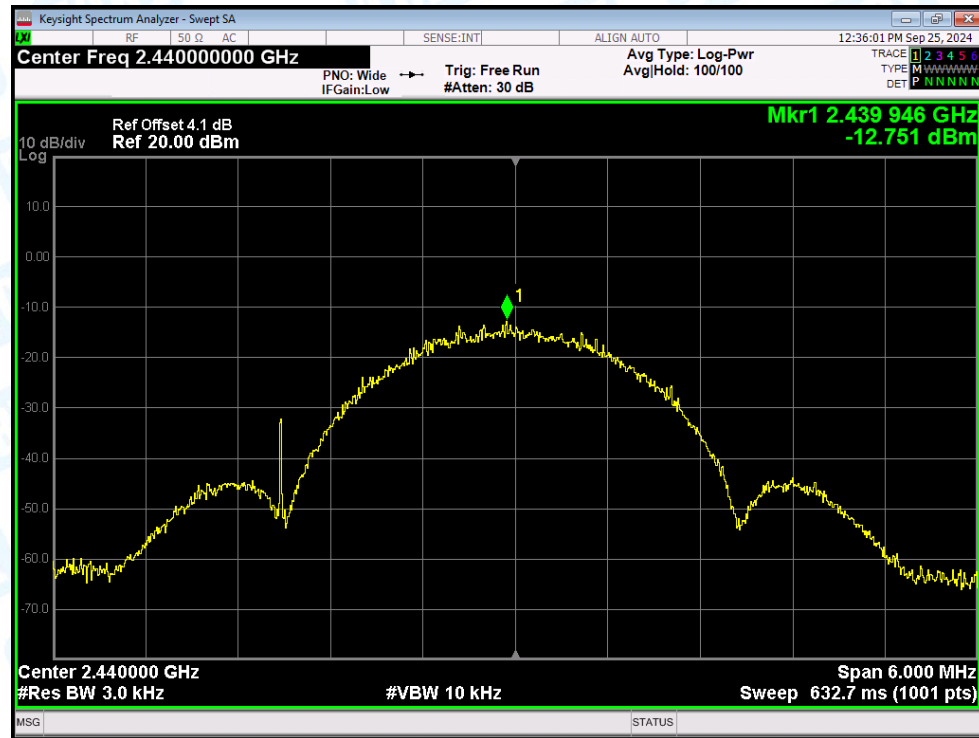
PSD NVNT BLE 1Mbps 2480MHz Ant1



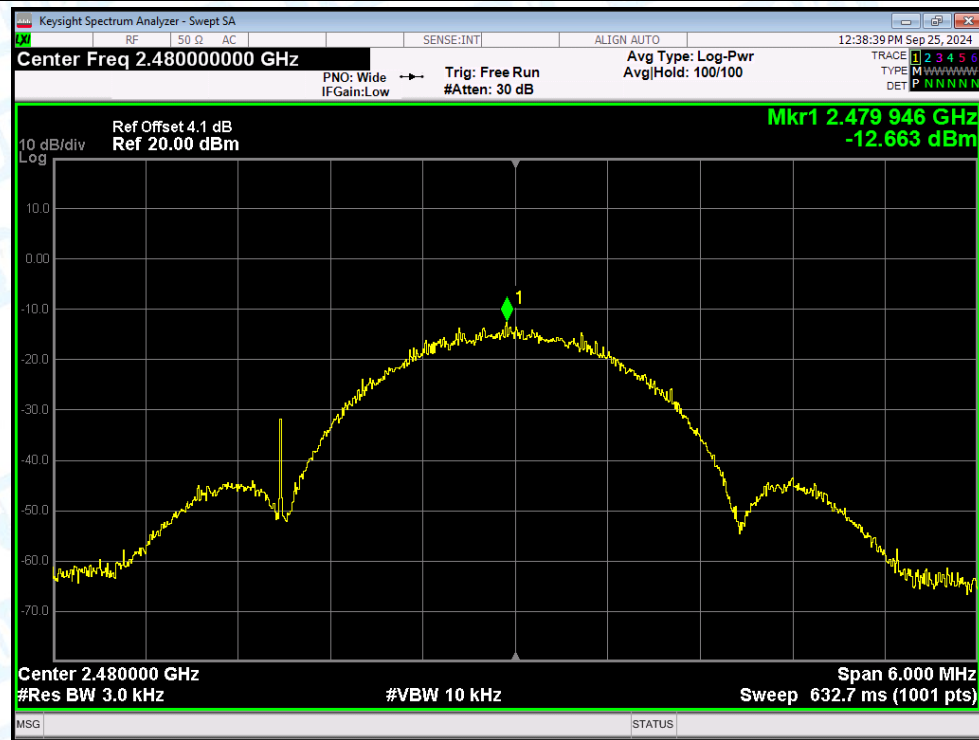
PSD NVNT BLE 2Mbps 2402MHz Ant1



PSD NVNT BLE 2Mbps 2440MHz Ant1



PSD NVNT BLE 2Mbps 2480MHz Ant1

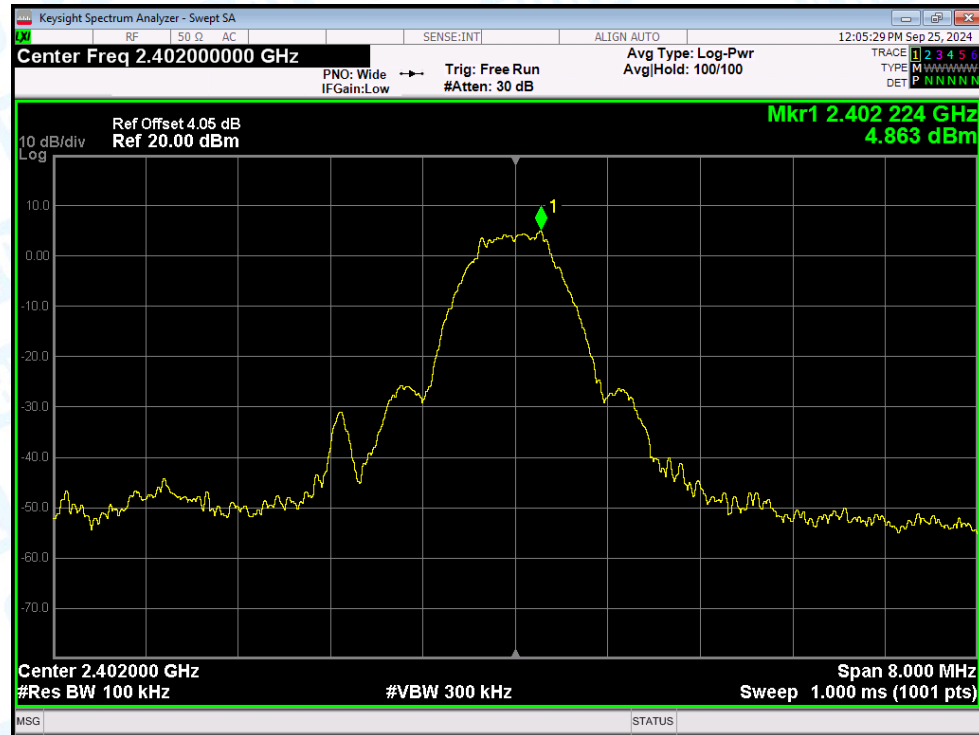


6. Band Edge

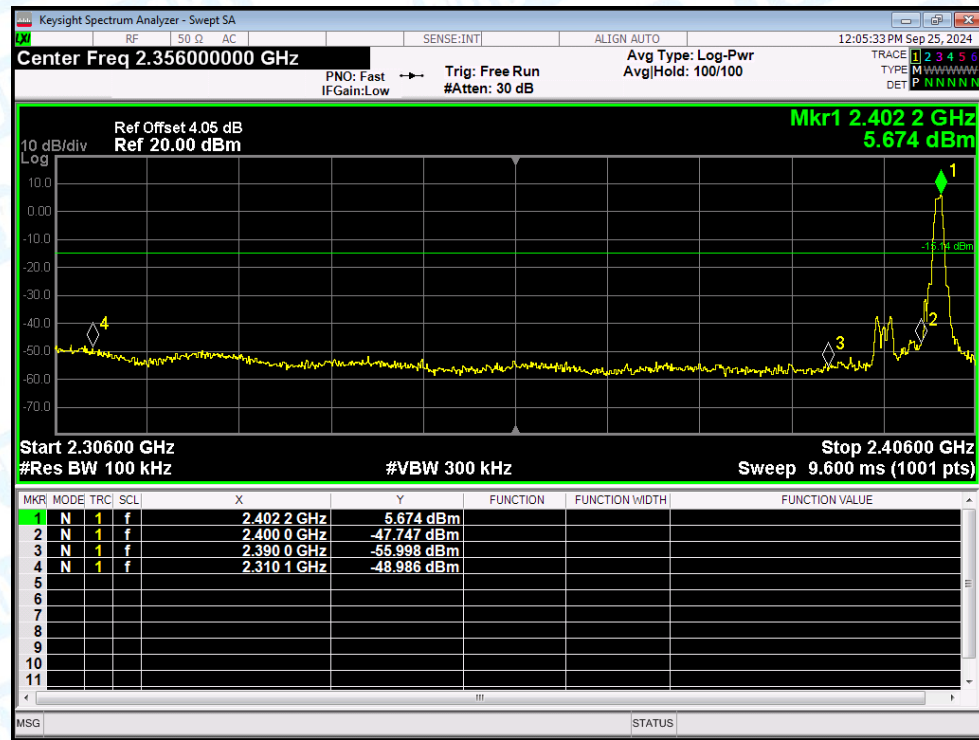
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-53.85	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-55.81	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-53.95	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-53.99	-20	Pass

Test Graphs

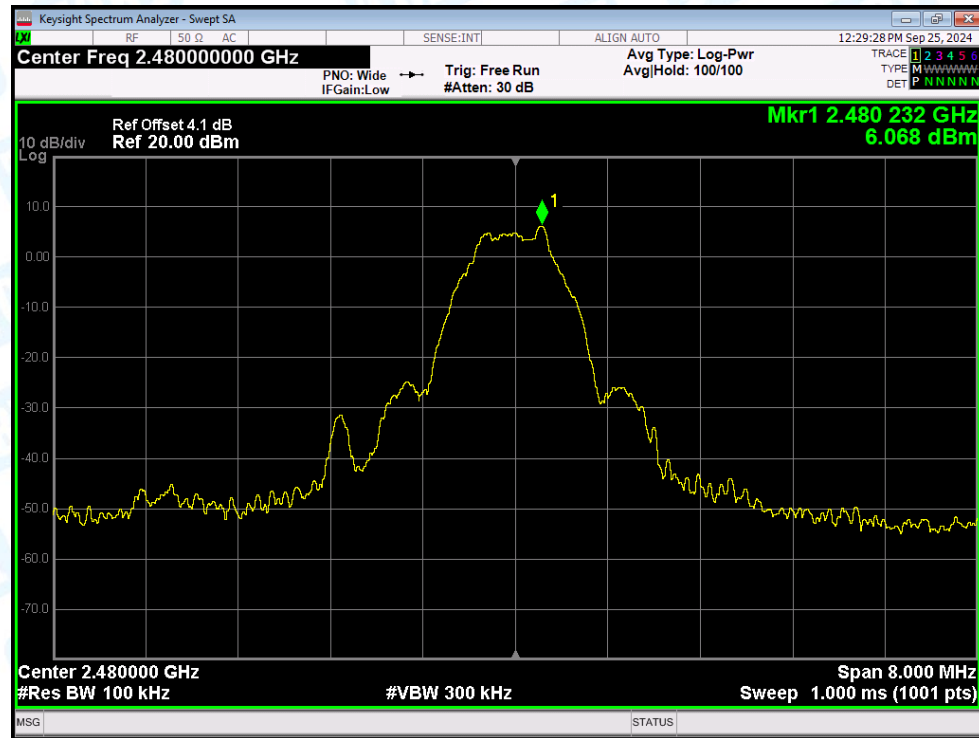
Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Ref



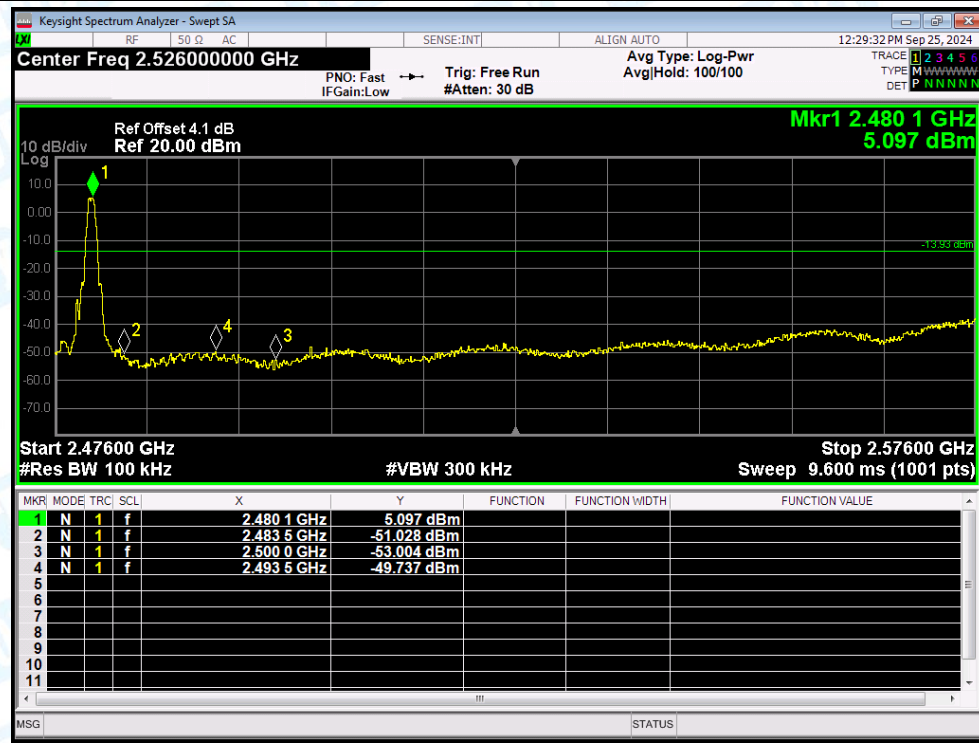
Band Edge NVNT BLE 1Mbps 2402MHz Ant1 Emission



Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Ref



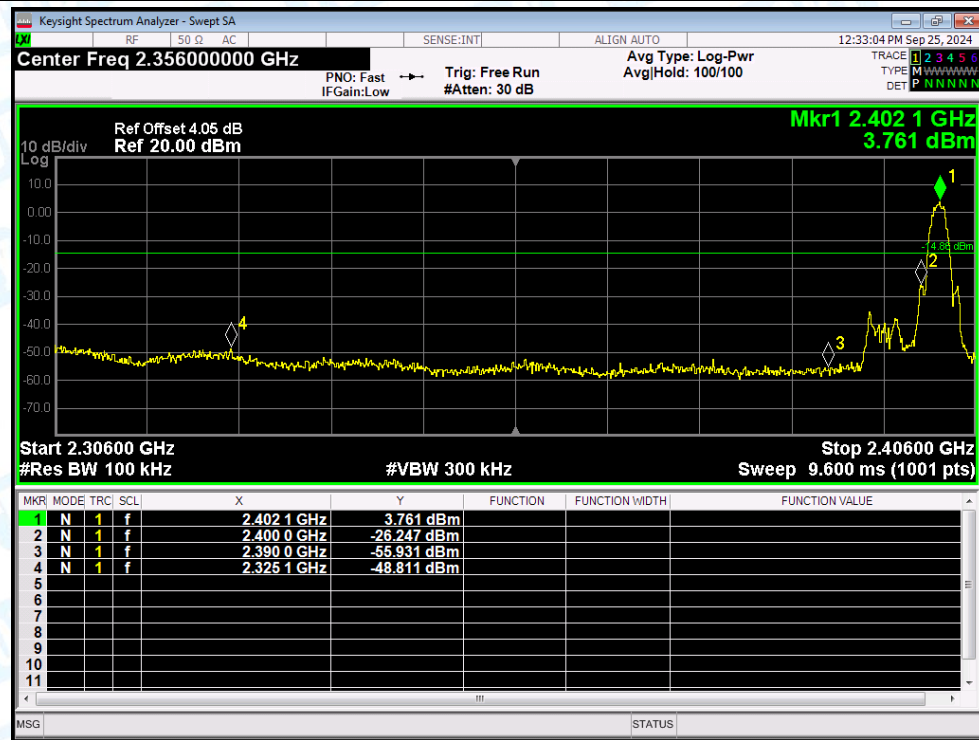
Band Edge NVNT BLE 1Mbps 2480MHz Ant1 Emission



Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Ref



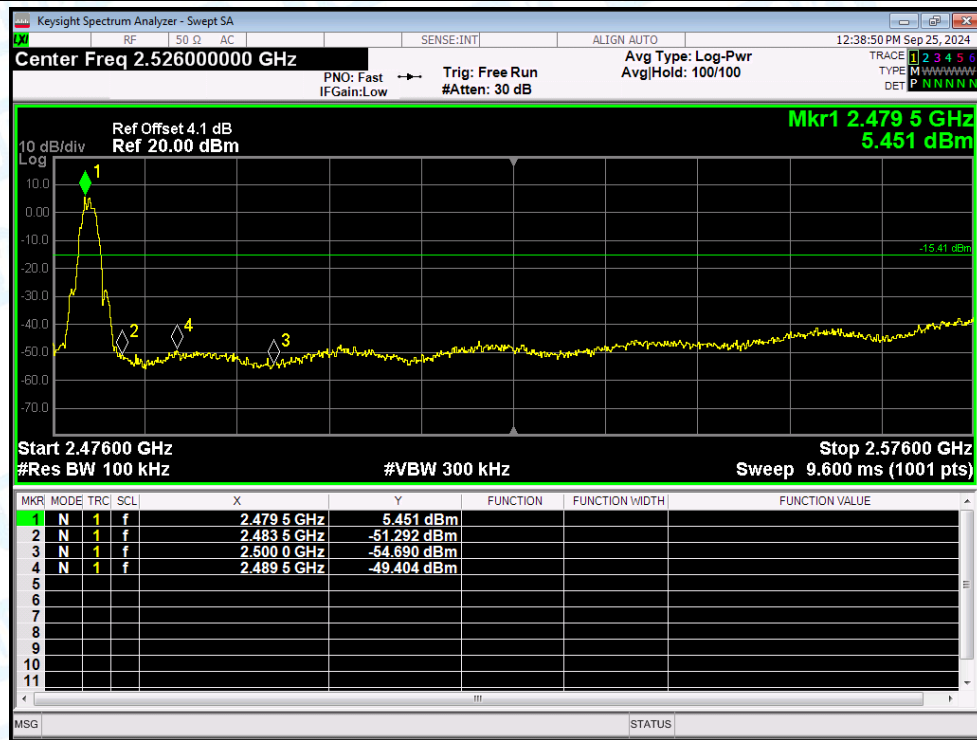
Band Edge NVNT BLE 2Mbps 2402MHz Ant1 Emission



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Ref



Band Edge NVNT BLE 2Mbps 2480MHz Ant1 Emission

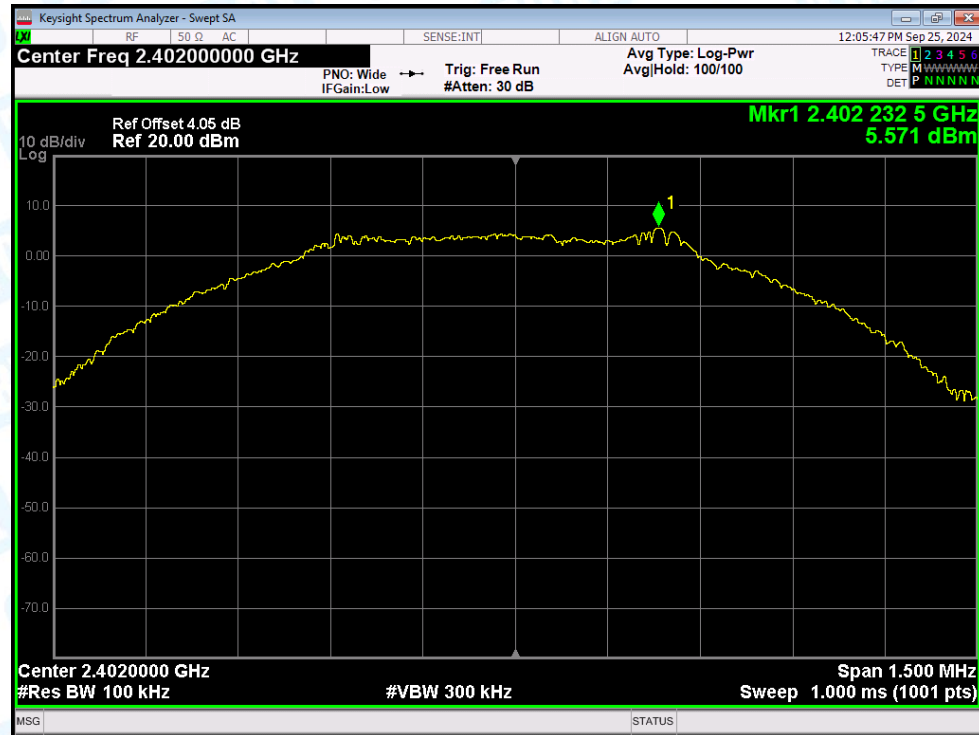


7. Conducted RF Spurious Emission

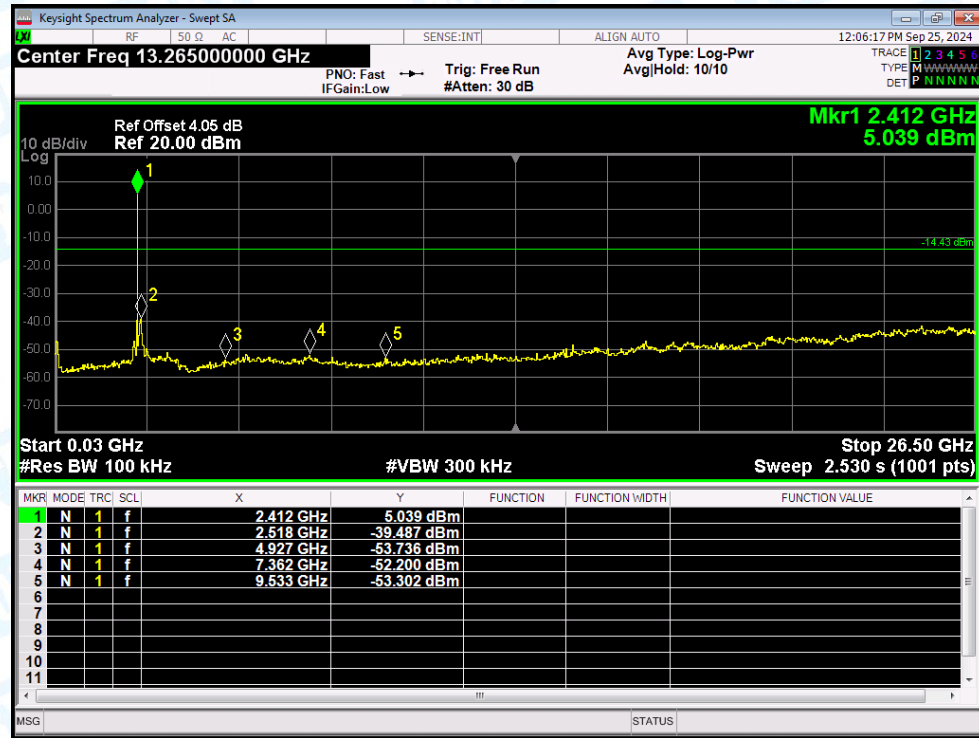
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-45.06	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-44.6	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-44.48	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-43.33	-20	Pass
NVNT	BLE 2Mbps	2440	Ant1	-43.5	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-43.2	-20	Pass

Test Graphs

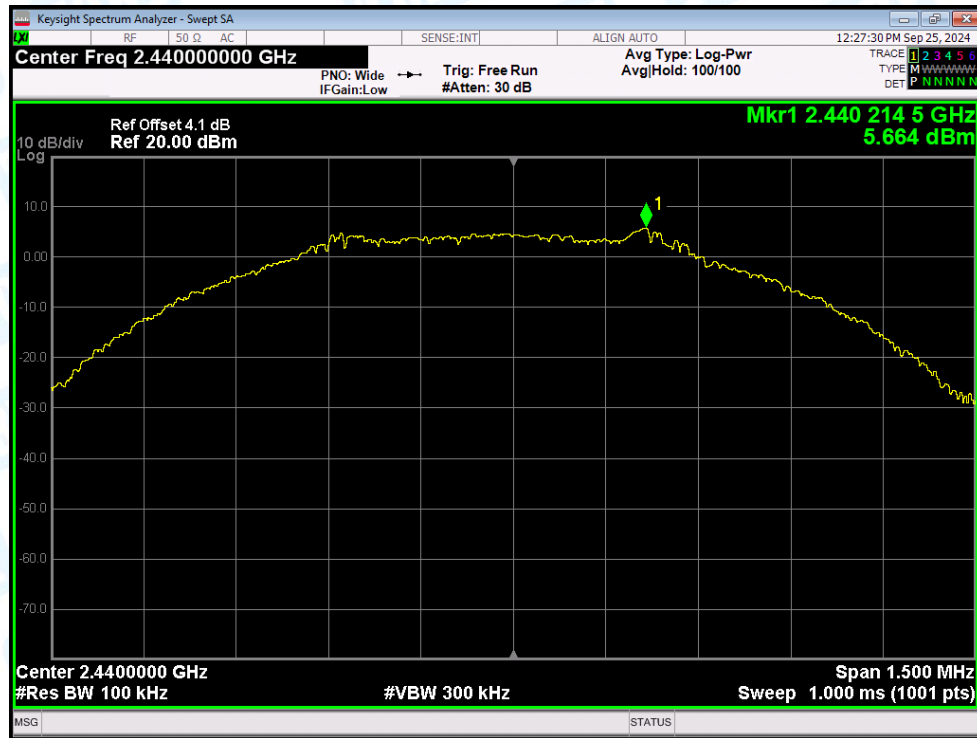
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Ref



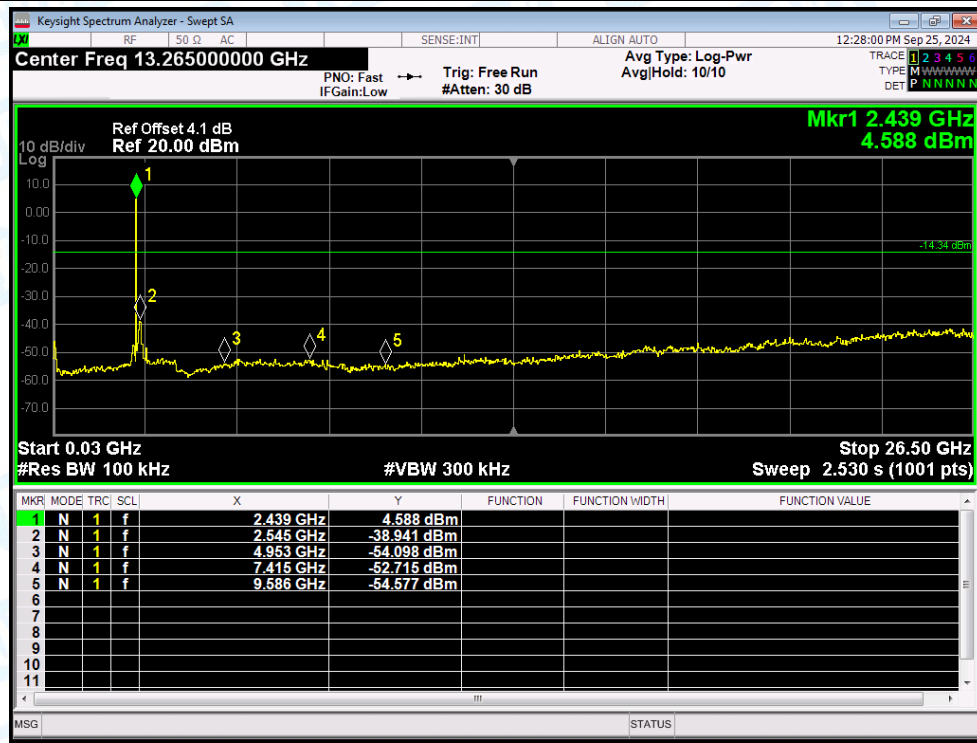
Tx. Spurious NVNT BLE 1Mbps 2402MHz Ant1 Emission



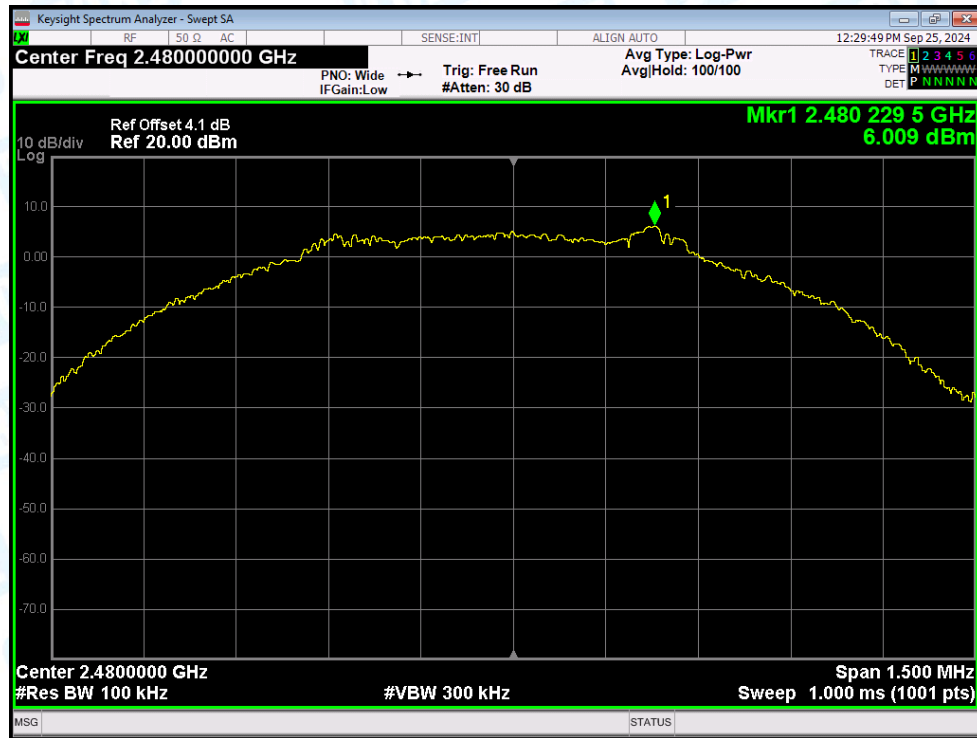
Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Ref



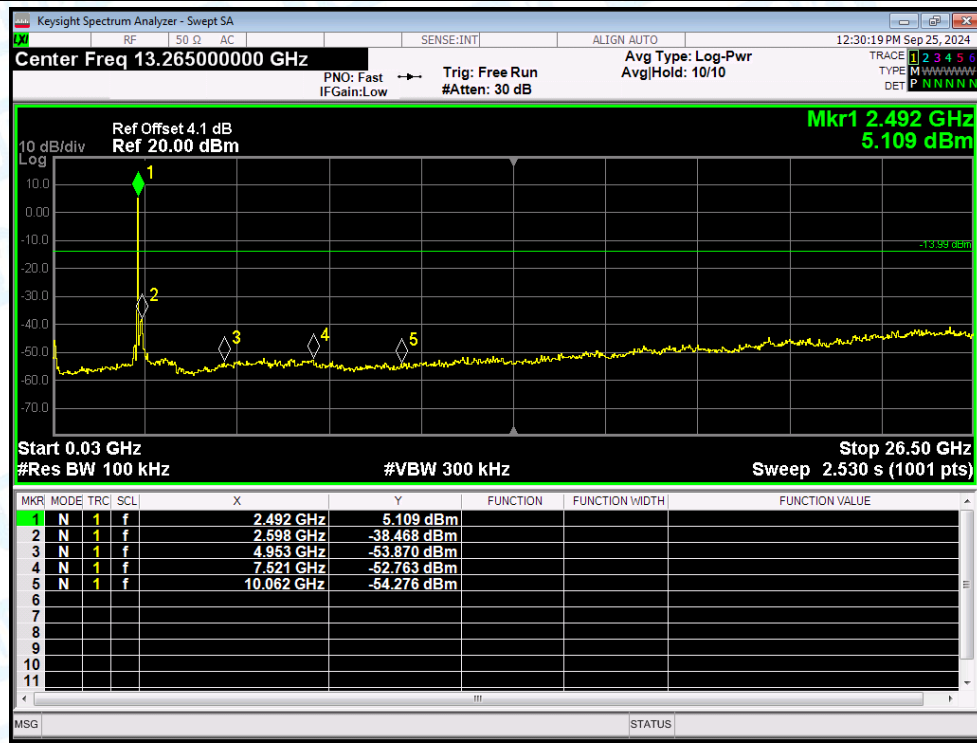
Tx. Spurious NVNT BLE 1Mbps 2440MHz Ant1 Emission



Tx. Spurious NVNT BLE 1Mbps 2480MHz Ant1 Ref



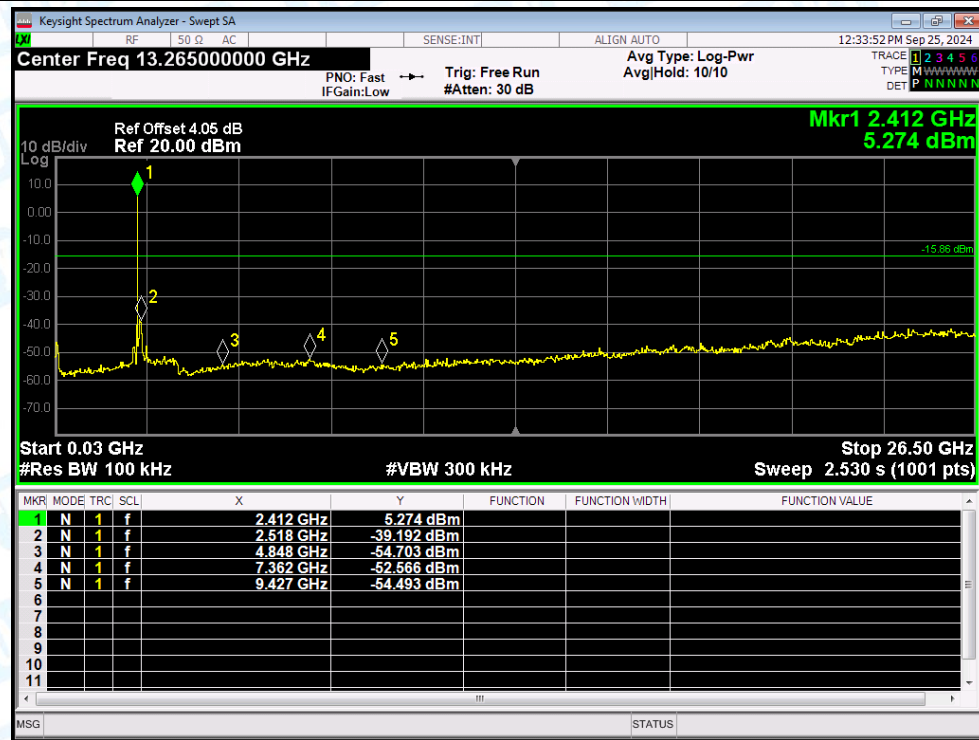
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Tx. Spurious NVNT BLE 2Mbps 2402MHz Ant1 Ref



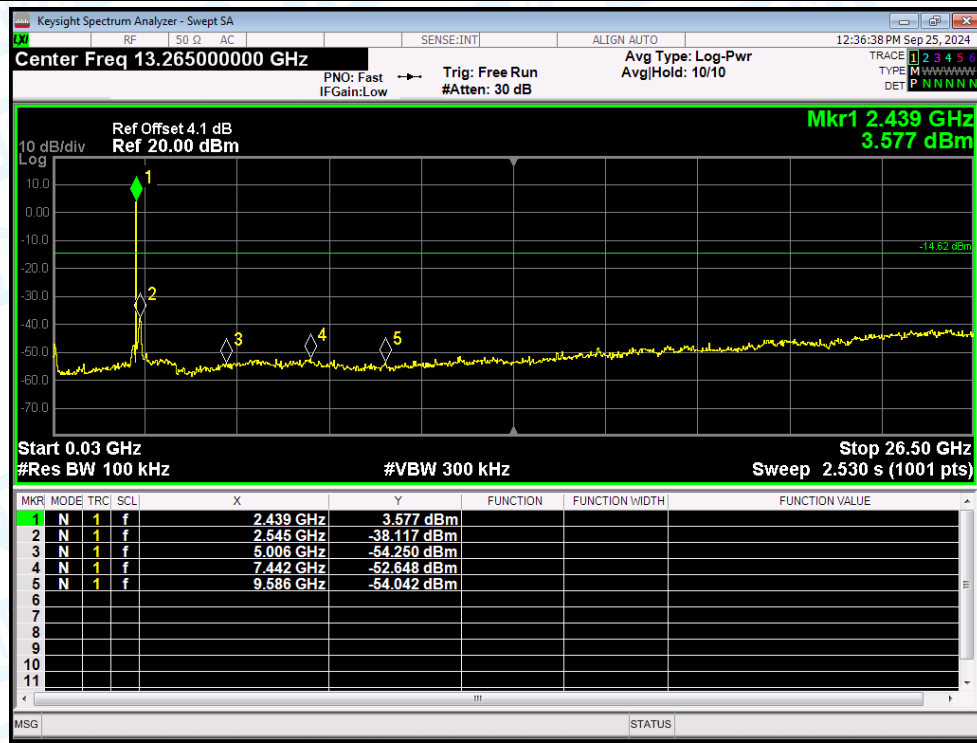
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Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Ref



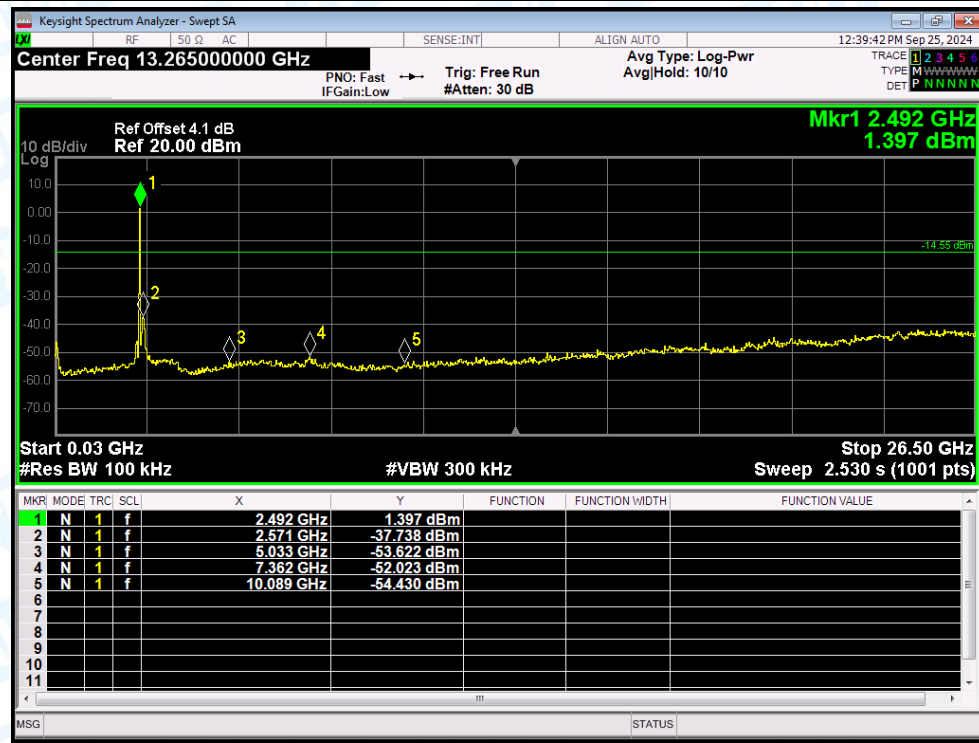
Tx. Spurious NVNT BLE 2Mbps 2440MHz Ant1 Emission



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2Mbps 2480MHz Ant1 Emission



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