Appendix: Bluetooth LE

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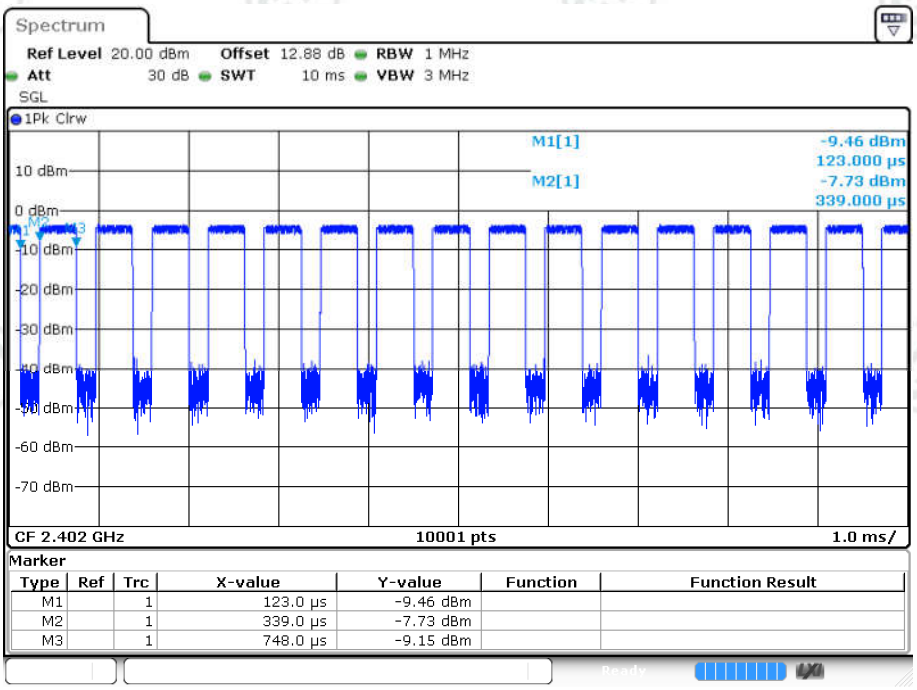
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	65.44	1.84	2.44
NVNT	BLE 1M	2440	Ant1	65.28	1.85	2.45
NVNT	BLE 1M	2480	Ant1	65.28	1.85	2.45

Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	123.0 µs	-9.46 dBm		
M2		1	339.0 µs	-7.73 dBm		
M3		1	748.0 µs	-9.15 dBm		

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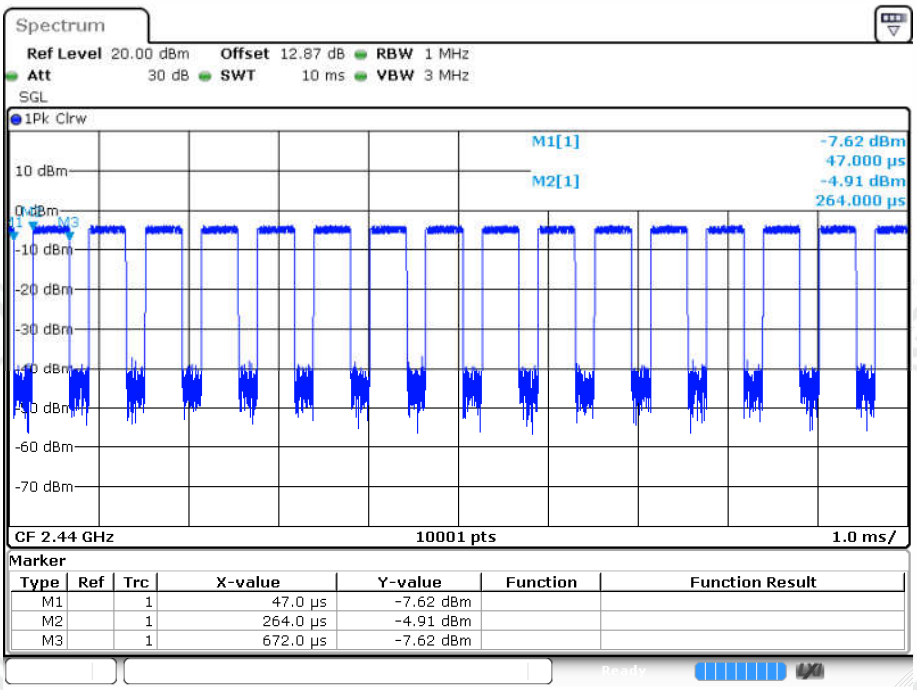
Duty Cycle NVNT BLE 1M 2440MHz Ant1



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	47.0 µs	-7.62 dBm		
M2		1	264.0 µs	-4.91 dBm		
M3		1	672.0 µs	-7.62 dBm		

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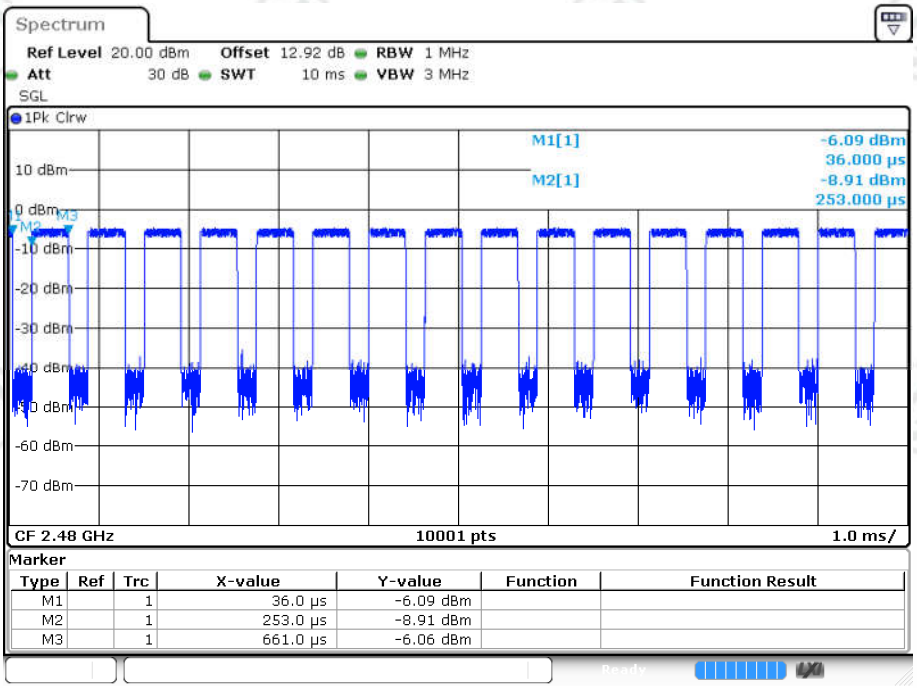
Duty Cycle NVNT BLE 1M 2480MHz Ant1

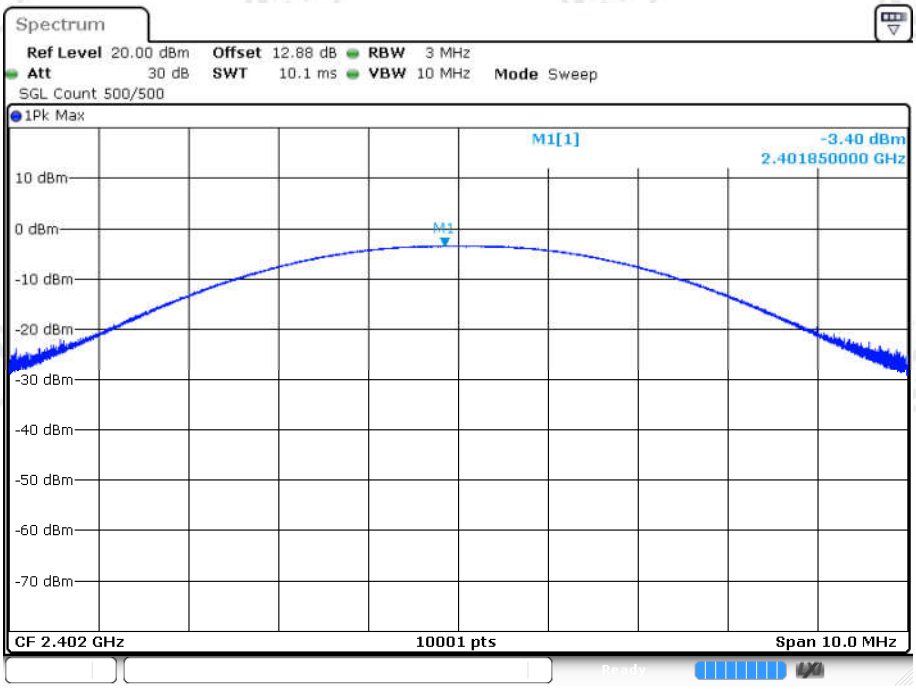


Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-3.4	30	Pass
NVNT	BLE 1M	2440	Ant1	-3.62	30	Pass
NVNT	BLE 1M	2480	Ant1	-4.44	30	Pass

Test Graphs

Peak Power NVNT BLE 1M 2402MHz Ant1



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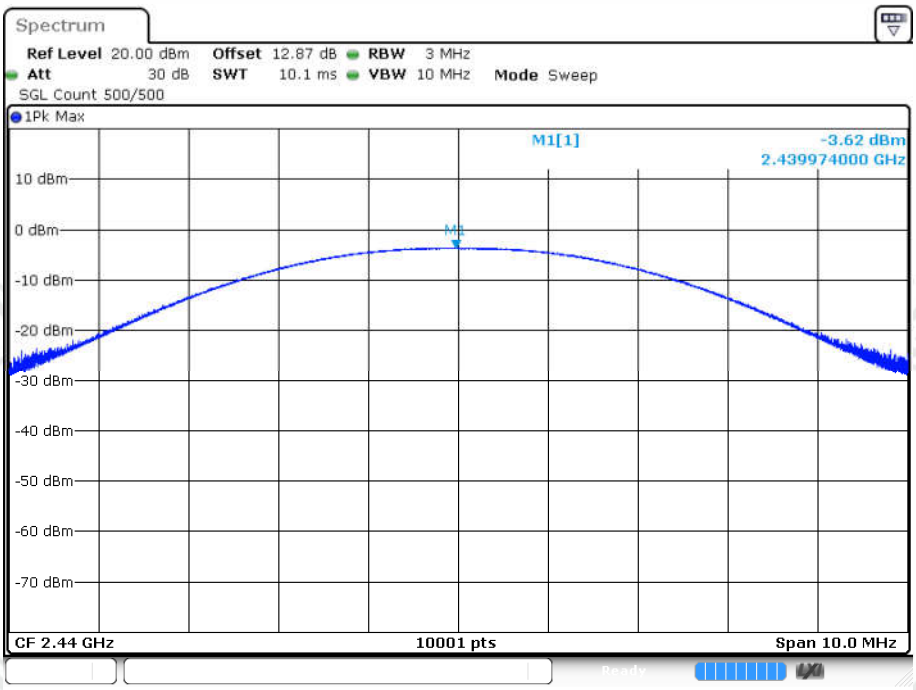
Peak Power NVNT BLE 1M 2440MHz Ant1



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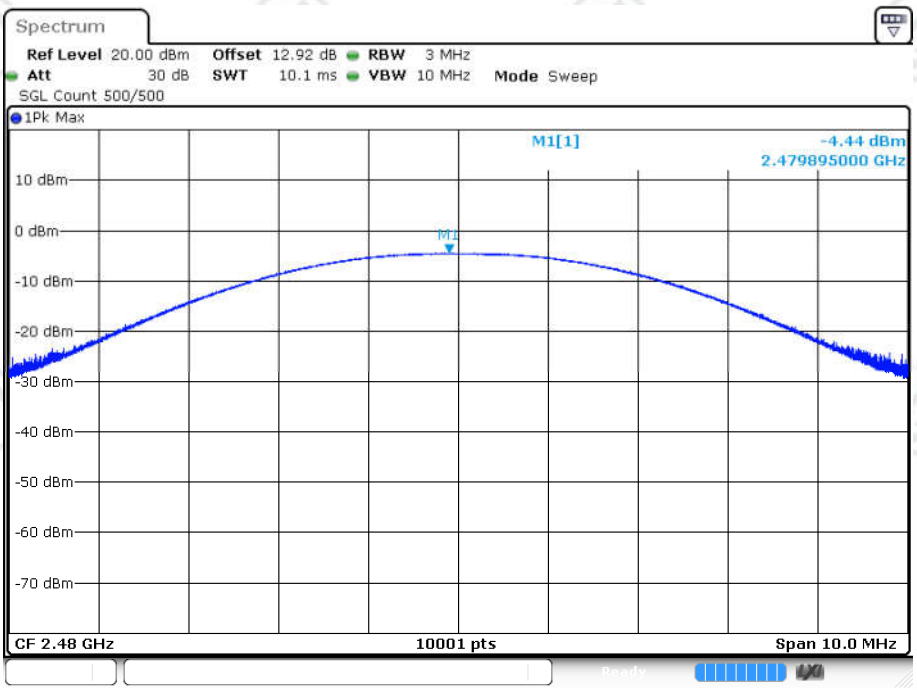
Peak Power NVNT BLE 1M 2480MHz Ant1



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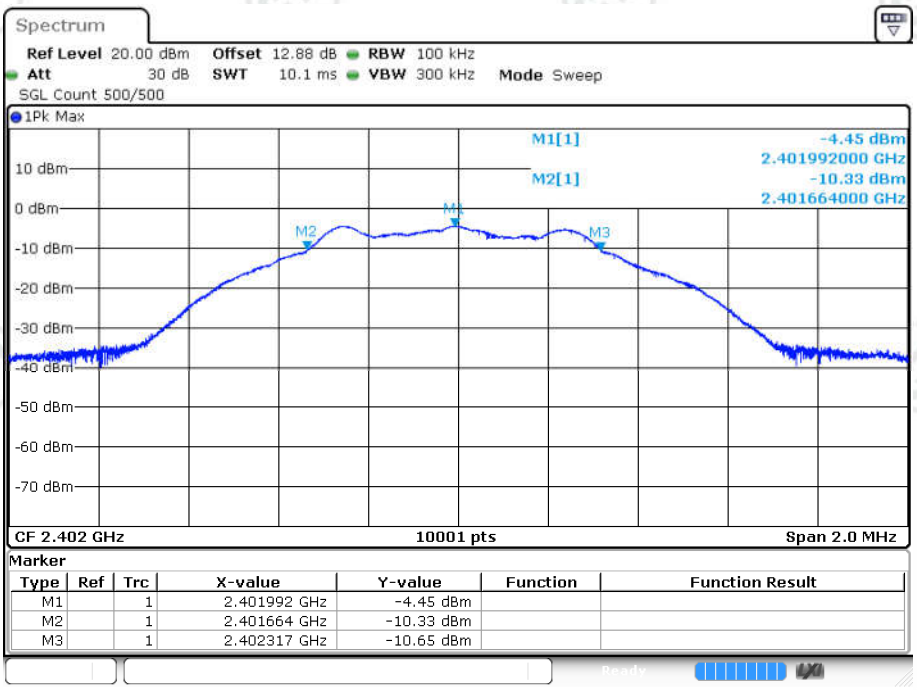
-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.653	0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.654	0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.653	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



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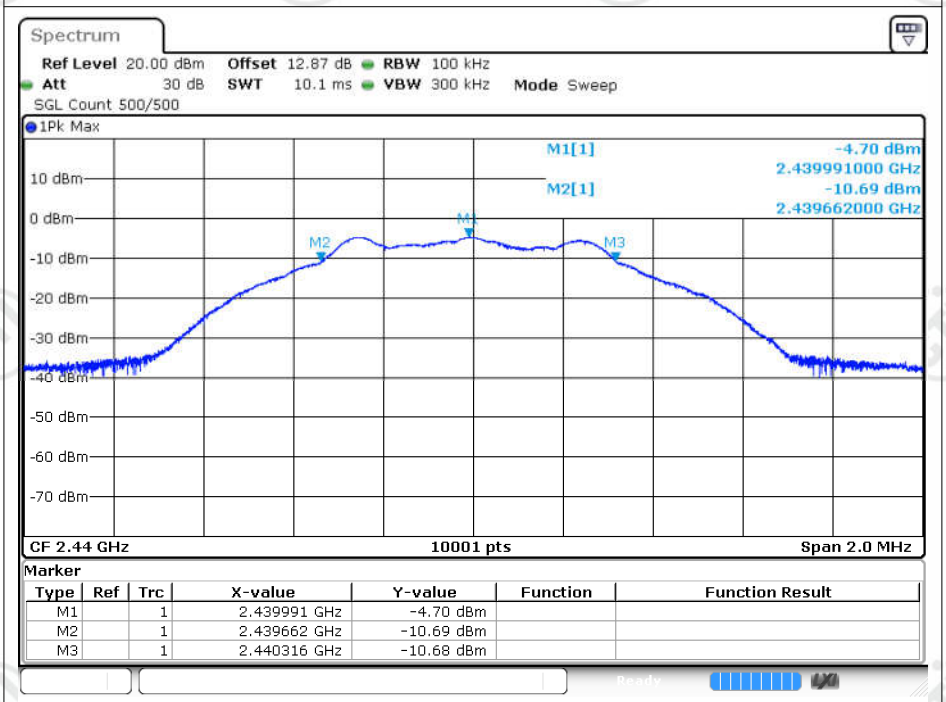
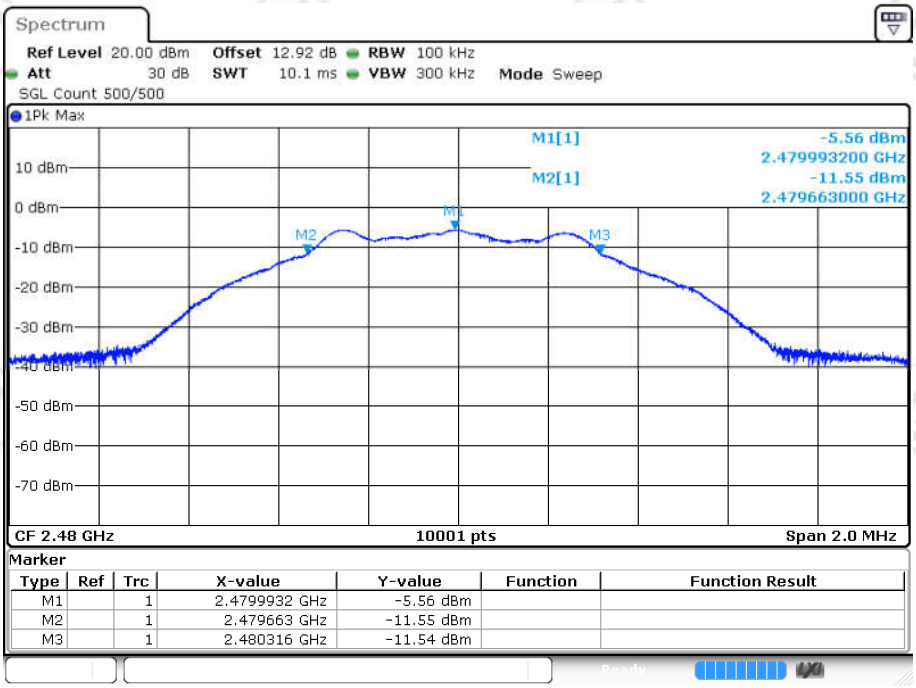
-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1



Date: 8.SEP.2023 17:33:06

-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1

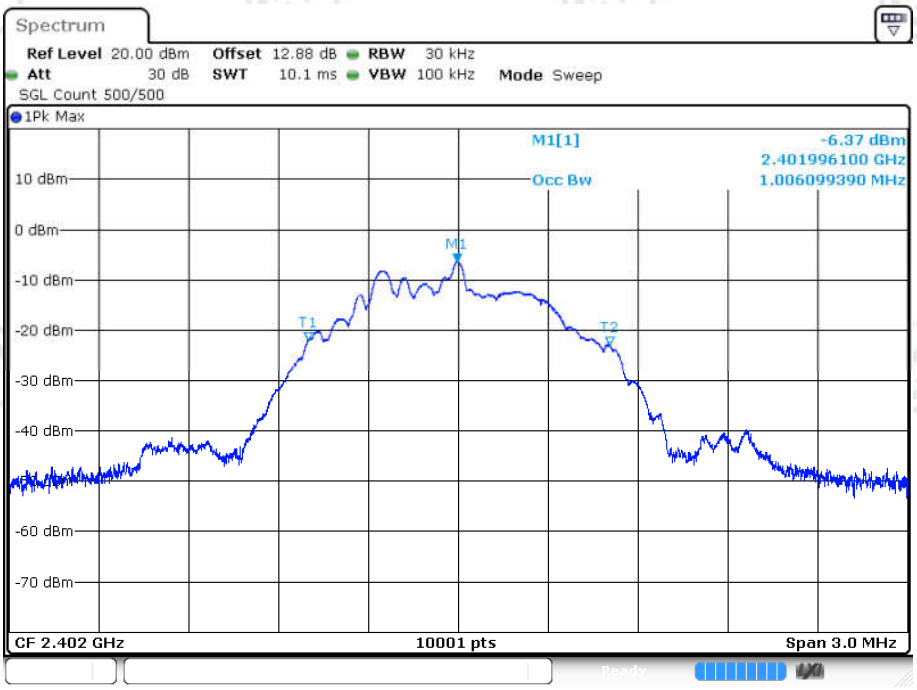


Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1M	2402	Ant1	1.006
NVNT	BLE 1M	2440	Ant1	1.006
NVNT	BLE 1M	2480	Ant1	1.007

Test Graphs

OBW NVNT BLE 1M 2402MHz Ant1



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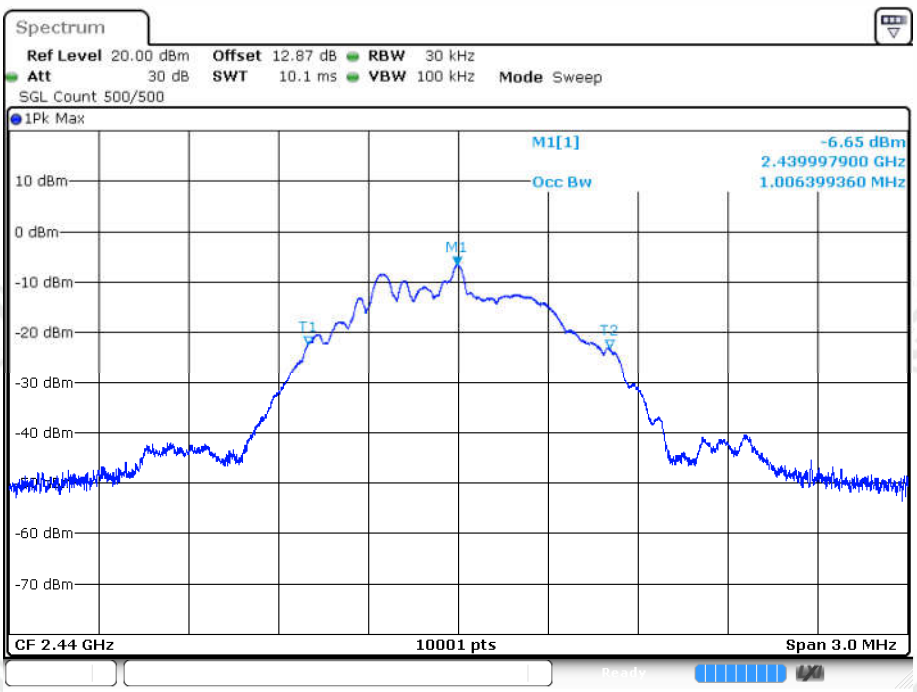
OBW NVNT BLE 1M 2440MHz Ant1



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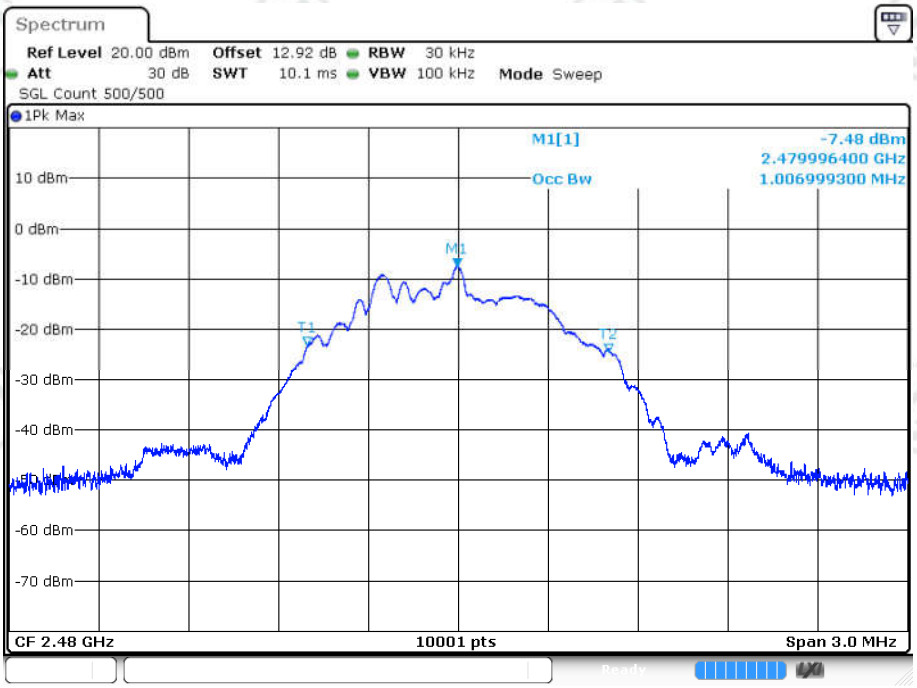
OBW NVNT BLE 1M 2480MHz Ant1



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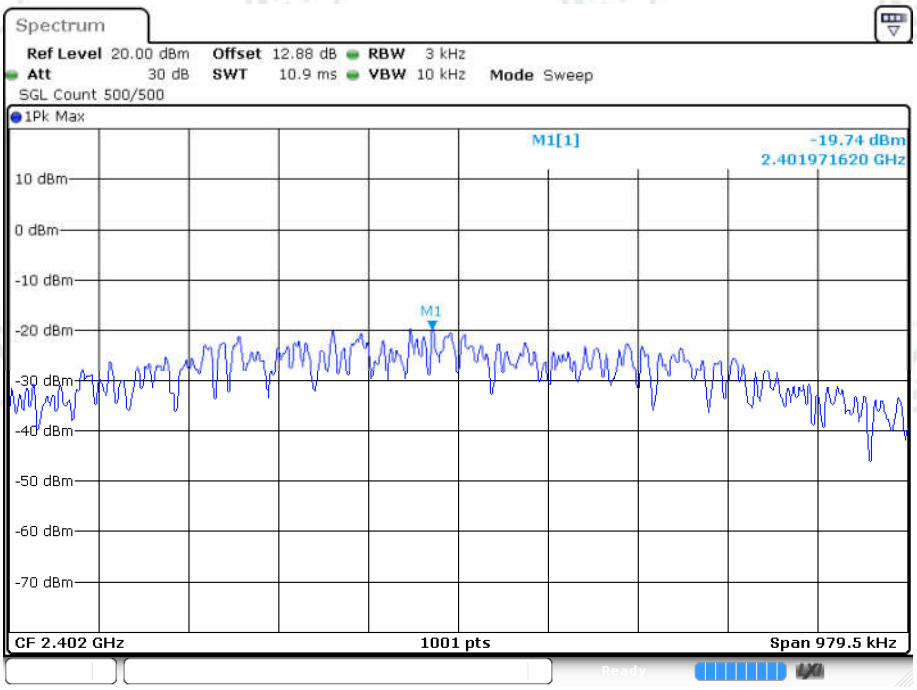
Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-19.74	8	Pass
NVNT	BLE 1M	2440	Ant1	-19.95	8	Pass
NVNT	BLE 1M	2480	Ant1	-20.89	8	Pass

Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



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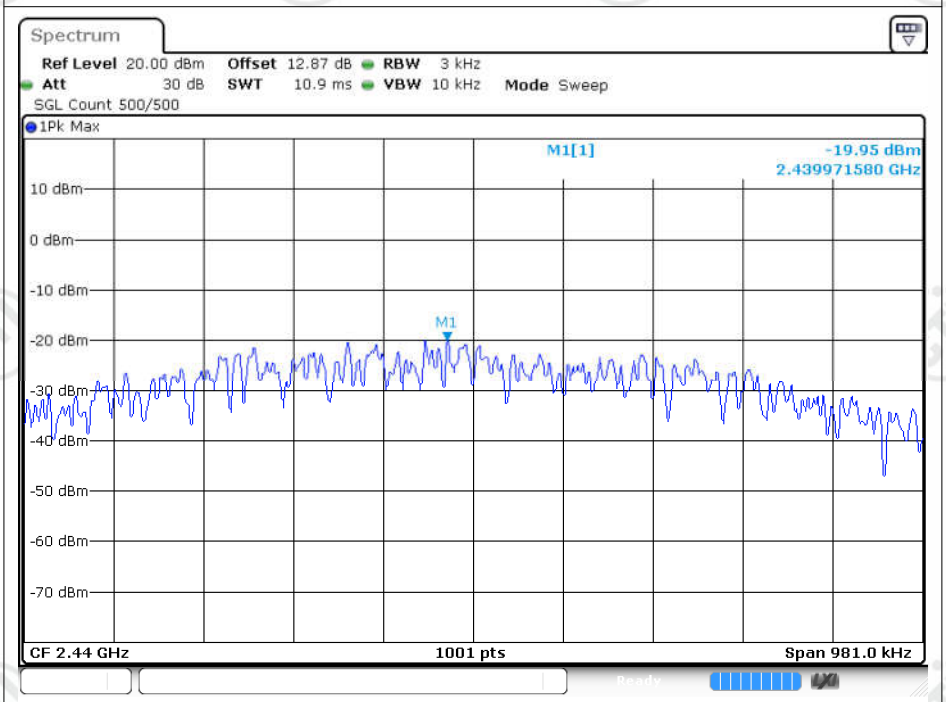
PSD NVNT BLE 1M 2440MHz Ant1



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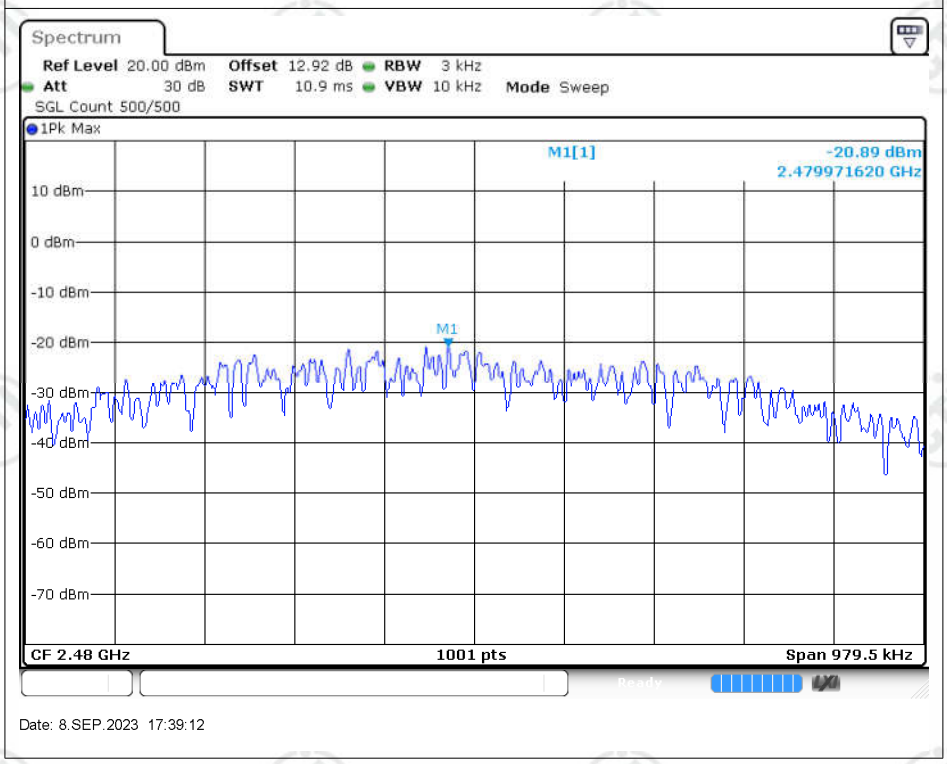
PSD NVNT BLE 1M 2480MHz Ant1

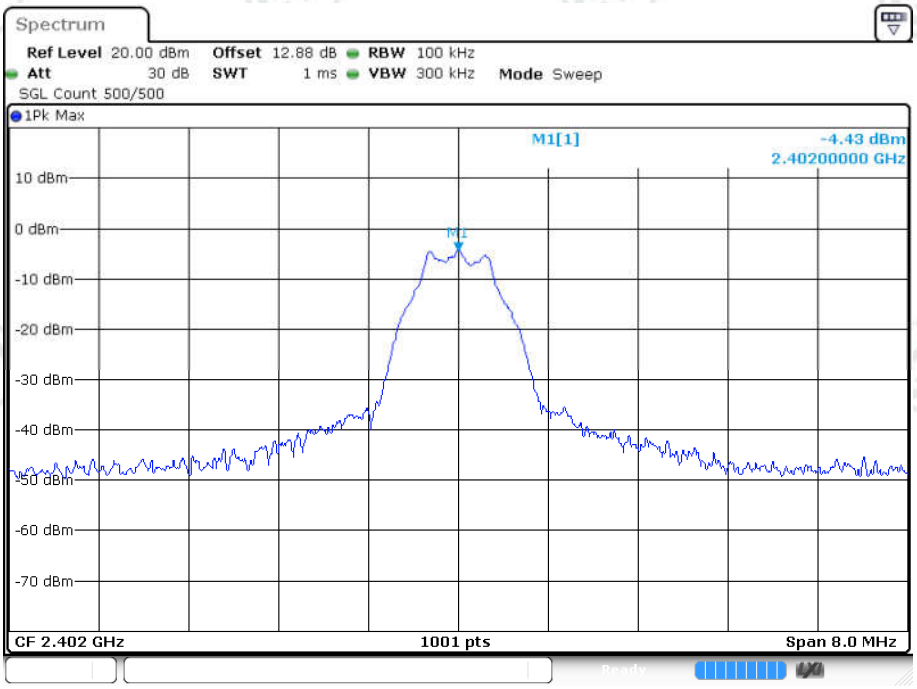


Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-39.12	-20	Pass
NVNT	BLE 1M	2480	Ant1	-39.78	-20	Pass

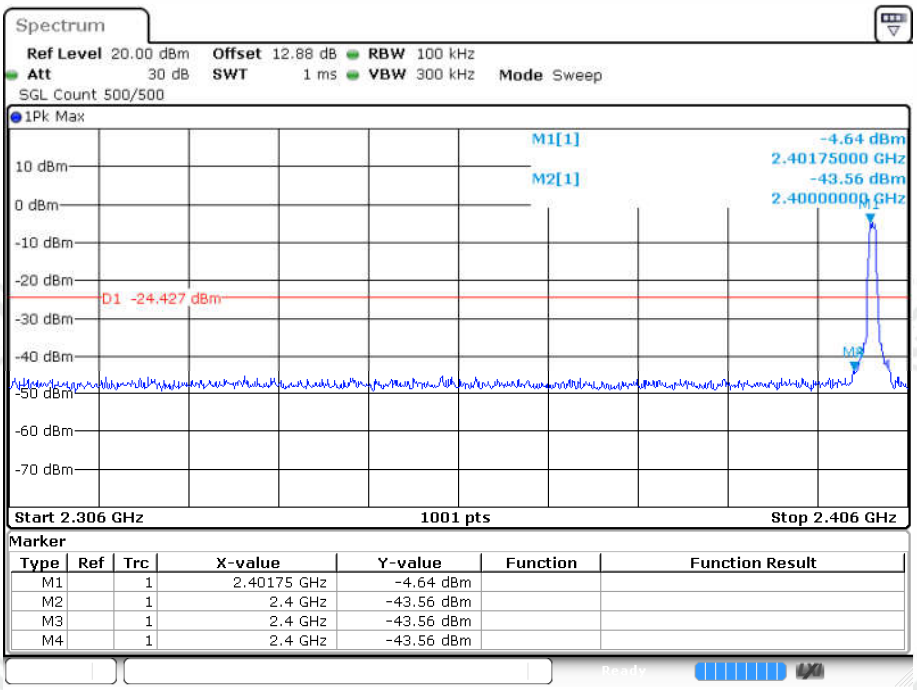
Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Date: 8.SEP.2023 17:31:36

Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40175 GHz	-4.64 dBm		
M2		1	2.4 GHz	-43.56 dBm		
M3		1	2.4 GHz	-43.56 dBm		
M4		1	2.4 GHz	-43.56 dBm		

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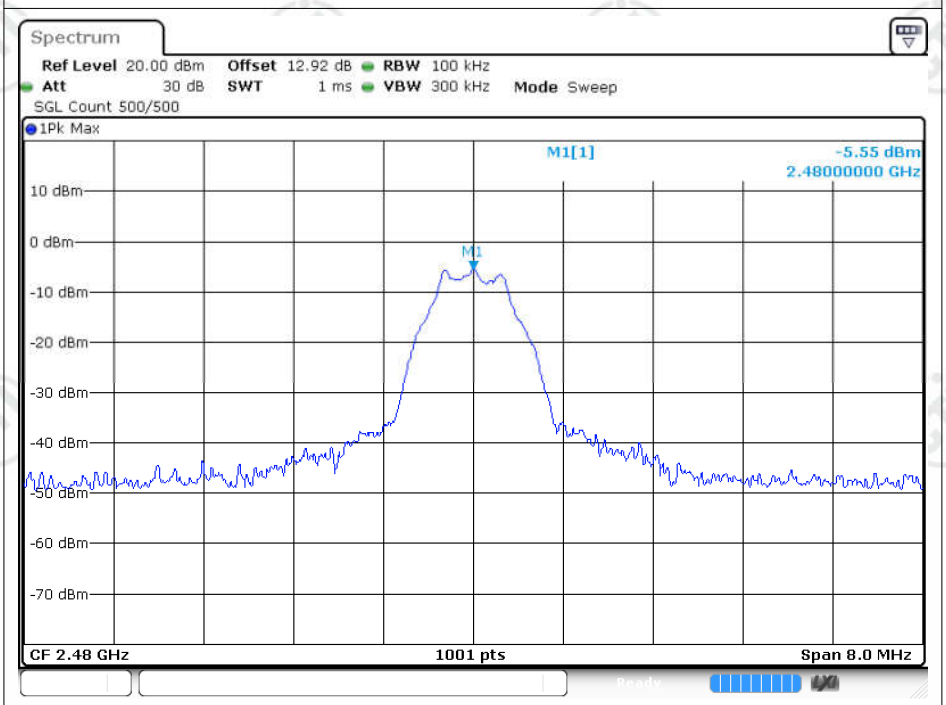
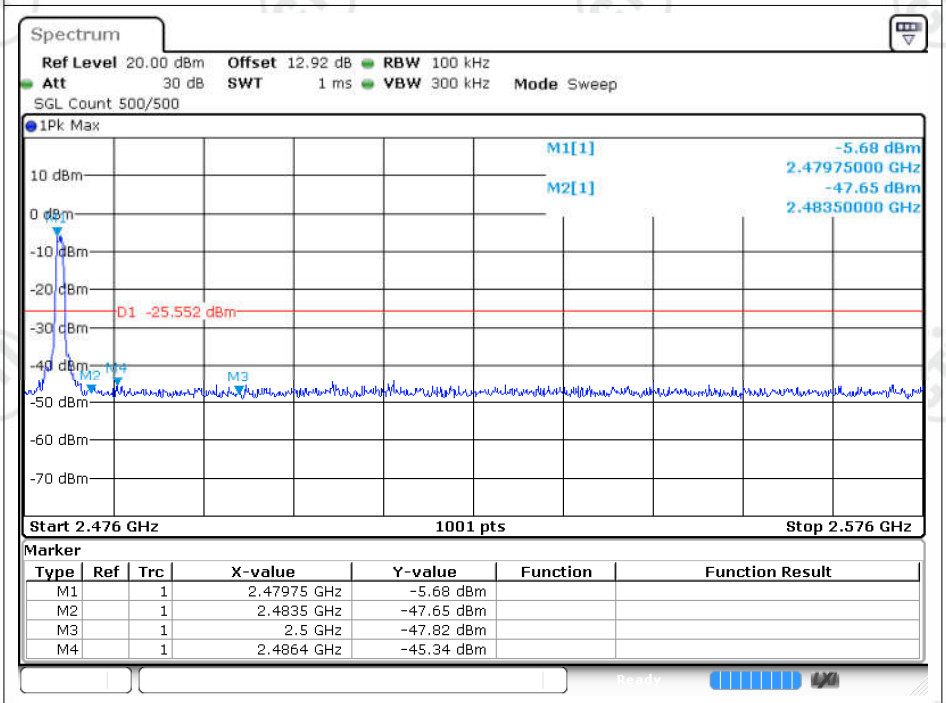
Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Date: 8.SEP.2023 17:39:16

Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47975 GHz	-5.68 dBm		
M2		1	2.4835 GHz	-47.65 dBm		
M3		1	2.5 GHz	-47.82 dBm		
M4		1	2.4864 GHz	-45.34 dBm		

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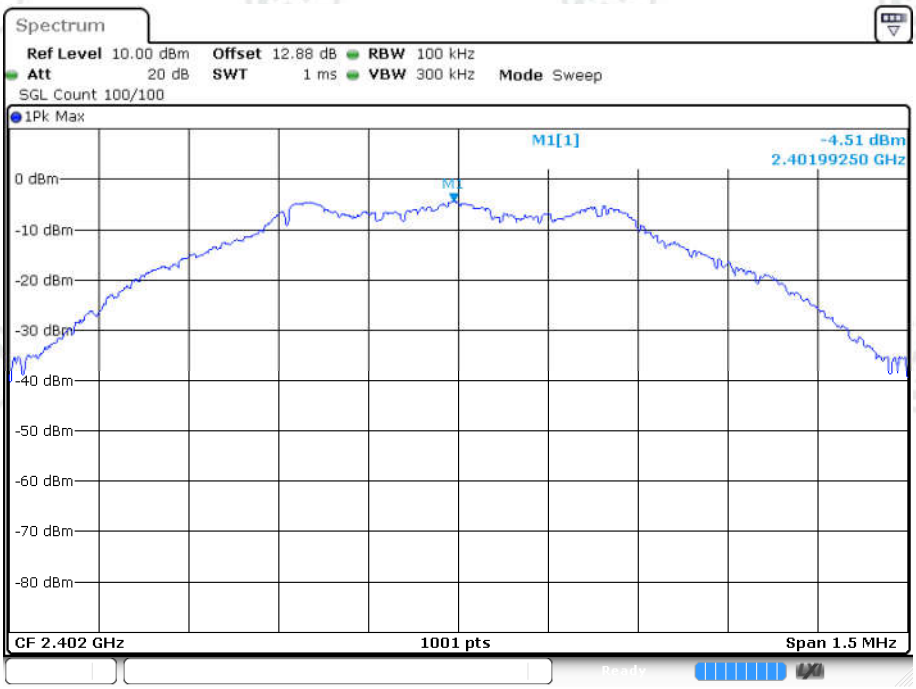
Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-38.55	-20	Pass
NVNT	BLE 1M	2440	Ant1	-40.05	-20	Pass
NVNT	BLE 1M	2480	Ant1	-41.86	-20	Pass

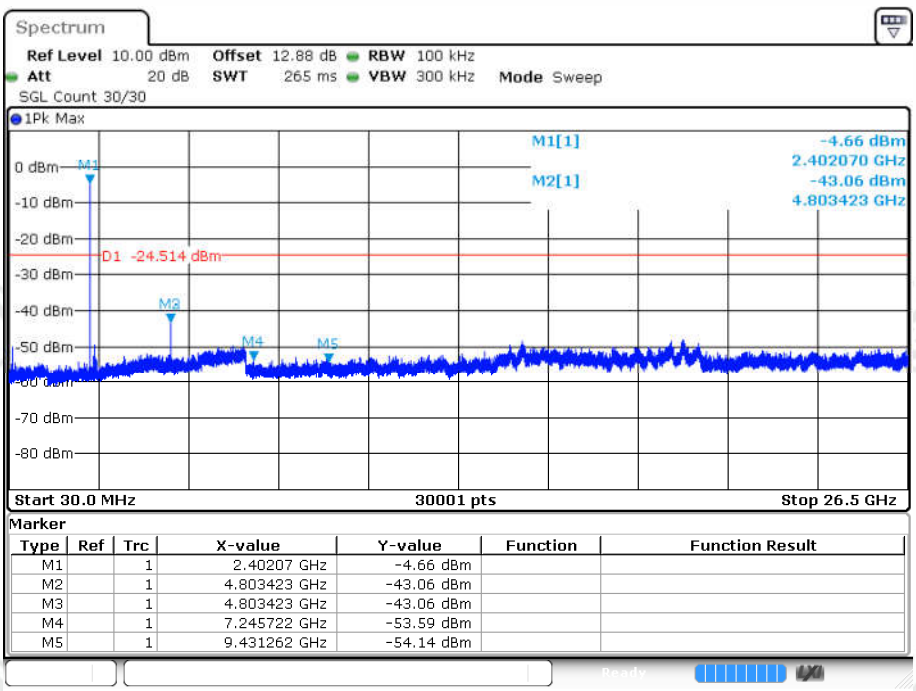
Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Date: 8.SEP.2023 17:31:42

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission

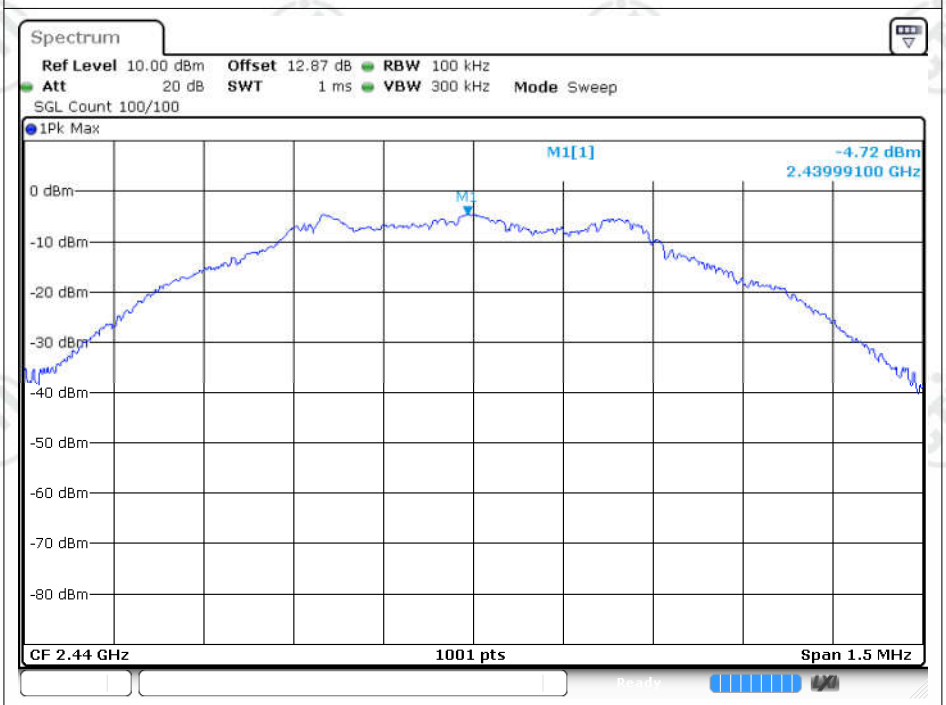


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40207 GHz	-4.66 dBm		
M2		1	4.803423 GHz	-43.06 dBm		
M3		1	4.803423 GHz	-43.06 dBm		
M4		1	7.245722 GHz	-53.59 dBm		
M5		1	9.431262 GHz	-54.14 dBm		

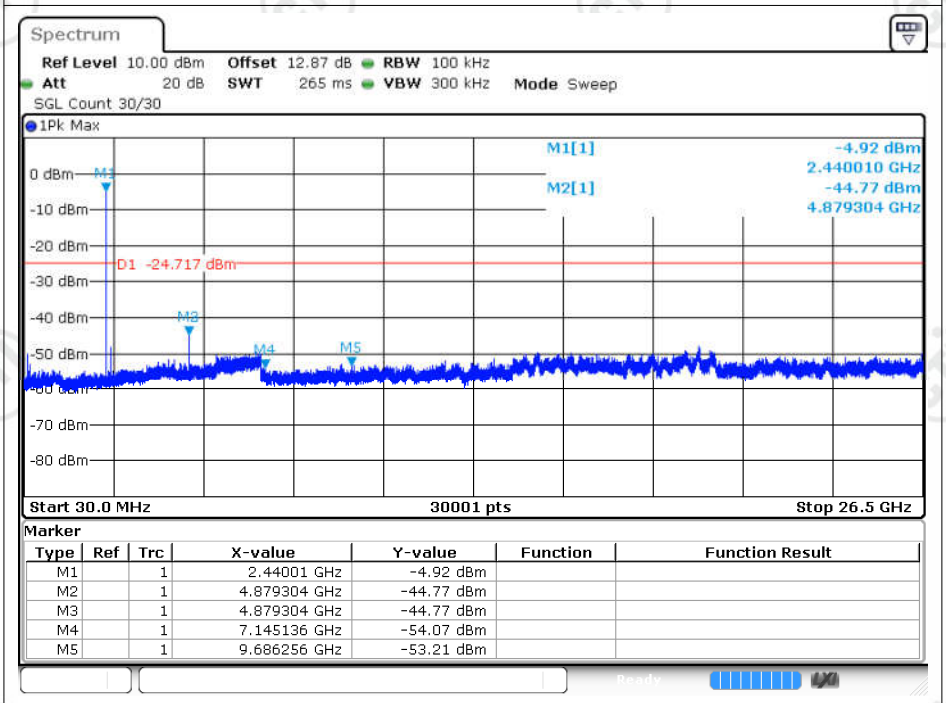
Date: 8.SEP.2023 17:32:12

Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Date: 8.SEP.2023 17:33:22

Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.44001 GHz	-4.92 dBm		
M2		1	4.879304 GHz	-44.77 dBm		
M3		1	4.879304 GHz	-44.77 dBm		
M4		1	7.145136 GHz	-54.07 dBm		
M5		1	9.686256 GHz	-53.21 dBm		

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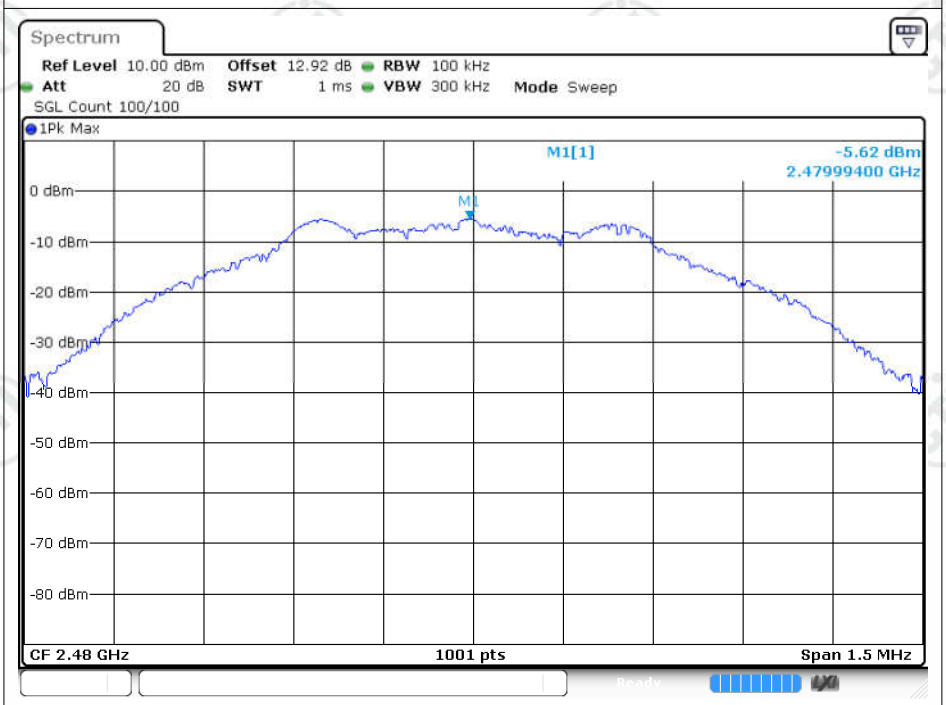
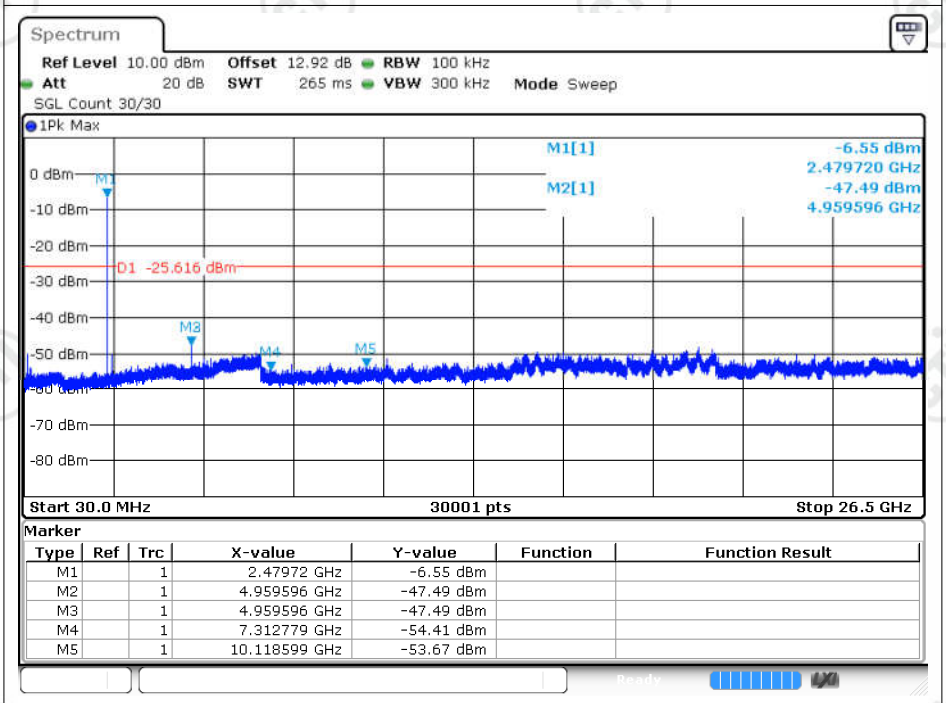
Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Date: 8.SEP.2023 17:39:21

Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47972 GHz	-6.55 dBm		
M2		1	4.959596 GHz	-47.49 dBm		
M3		1	4.959596 GHz	-47.49 dBm		
M4		1	7.312779 GHz	-54.41 dBm		
M5		1	10.118599 GHz	-53.67 dBm		

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*** End of Report ***