Appendix: Bluetooth LE

Contents

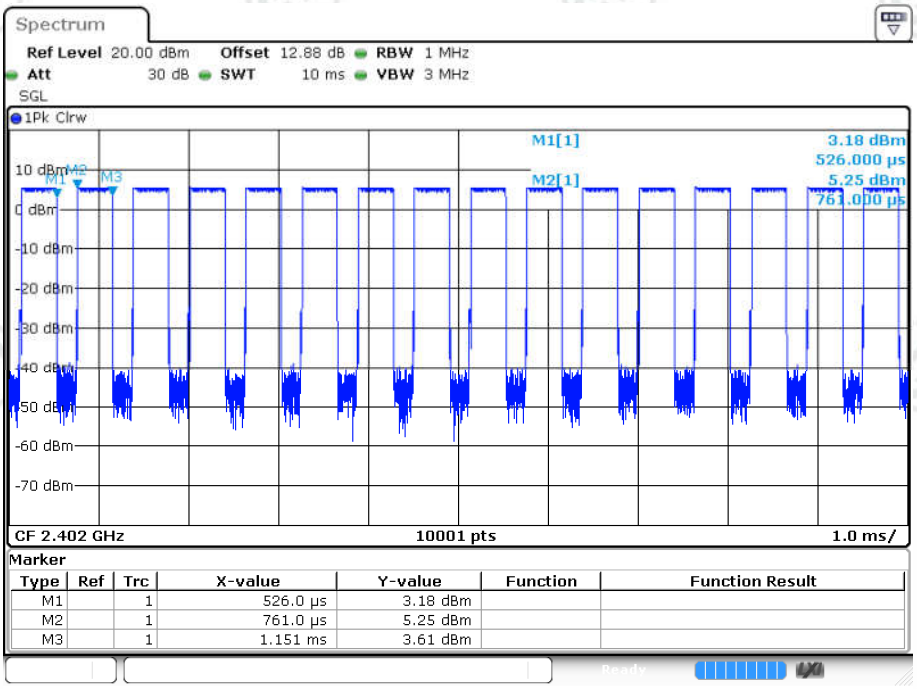
Contents 2
Duty Cycle 3
Maximum Peak Conducted Output Power 6
-6dB Bandwidth 9
Occupied Channel Bandwidth 12
Maximum Power Spectral Density Level 15
Band Edge 18
Conducted RF Spurious Emission 21

Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	62.4	2.05	2.56
NVNT	BLE 1M	2440	Ant1	62.56	2.04	2.56
NVNT	BLE 1M	2480	Ant1	62.4	2.05	2.56

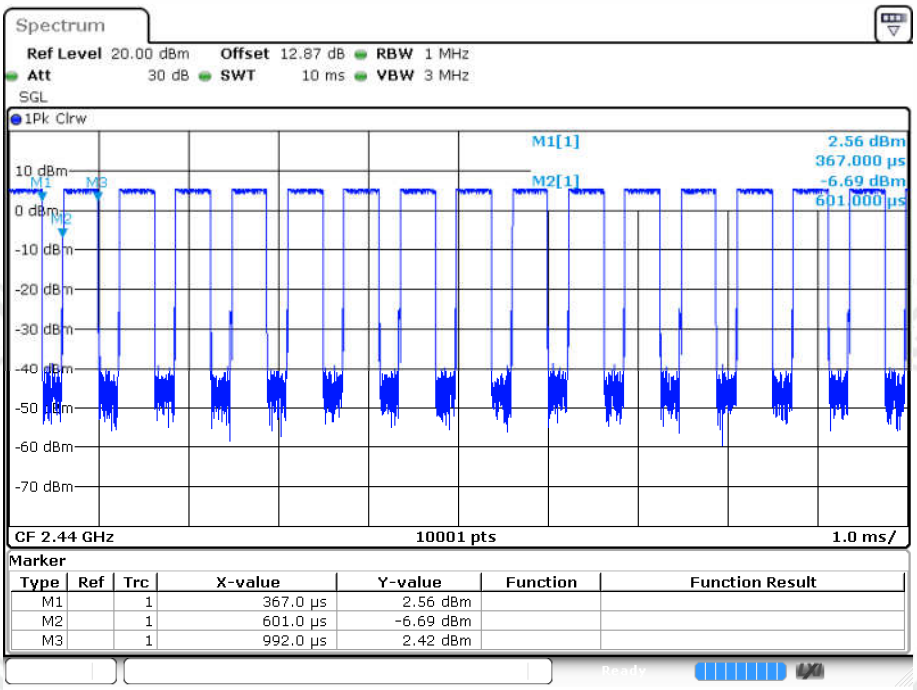
Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



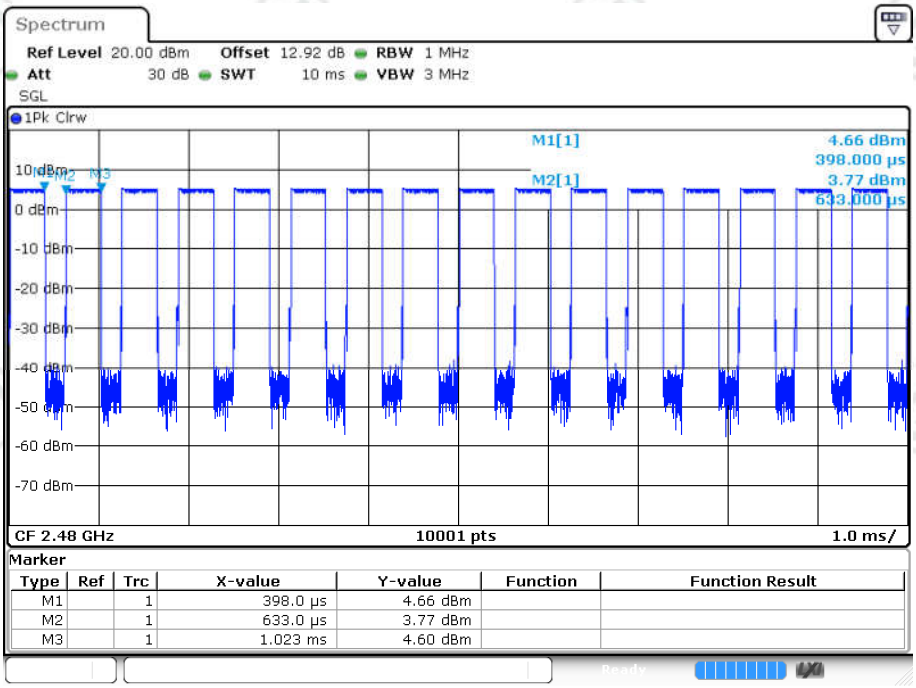
Date: 12.APR.2024 18:42:52

Duty Cycle NVNT BLE 1M 2440MHz Ant1



Date: 12.APR.2024 18:48:44

Duty Cycle NVNT BLE 1M 2480MHz Ant1



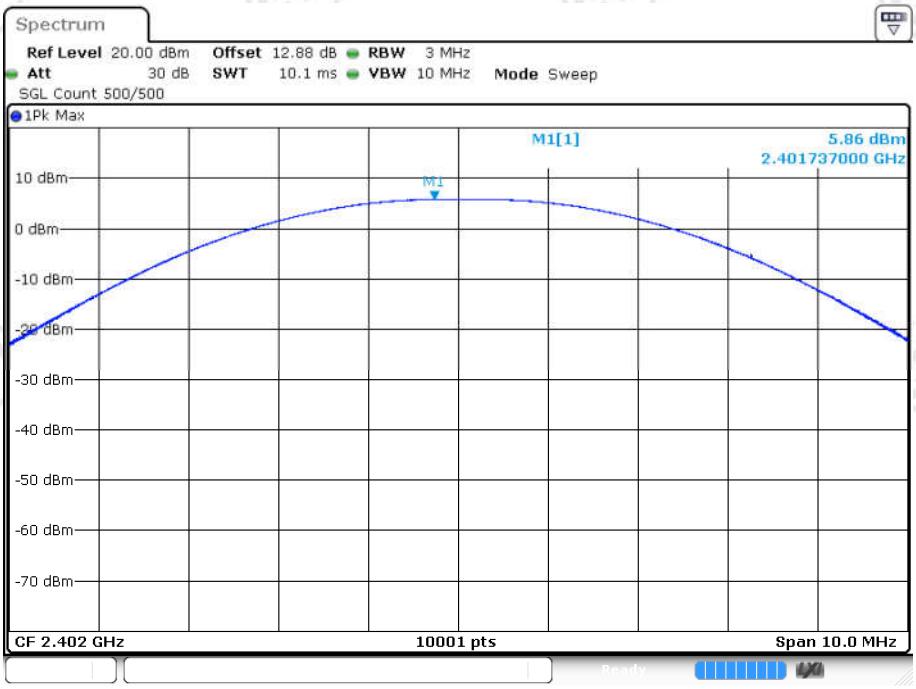
Date: 12.APR.2024 18:50:20

Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	5.86	30	Pass
NVNT	BLE 1M	2440	Ant1	5.75	30	Pass
NVNT	BLE 1M	2480	Ant1	5.69	30	Pass

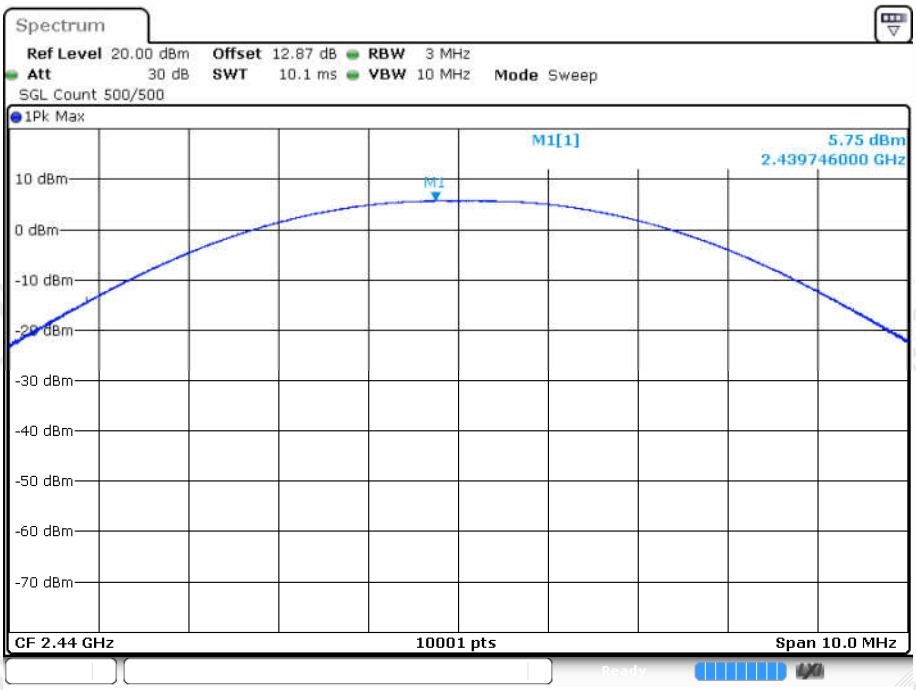
Test Graphs

Peak Power NVNT BLE 1M 2402MHz Ant1



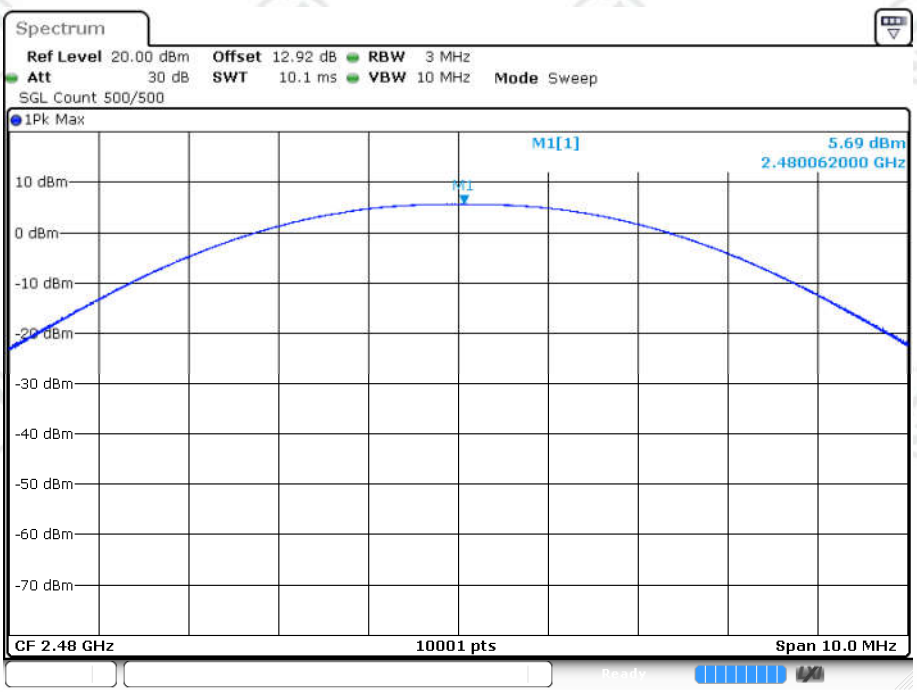
Date: 12.APR.2024 18:43:05

Peak Power NVNT BLE 1M 2440MHz Ant1



Date: 12.APR.2024 18:48:56

Peak Power NVNT BLE 1M 2480MHz Ant1



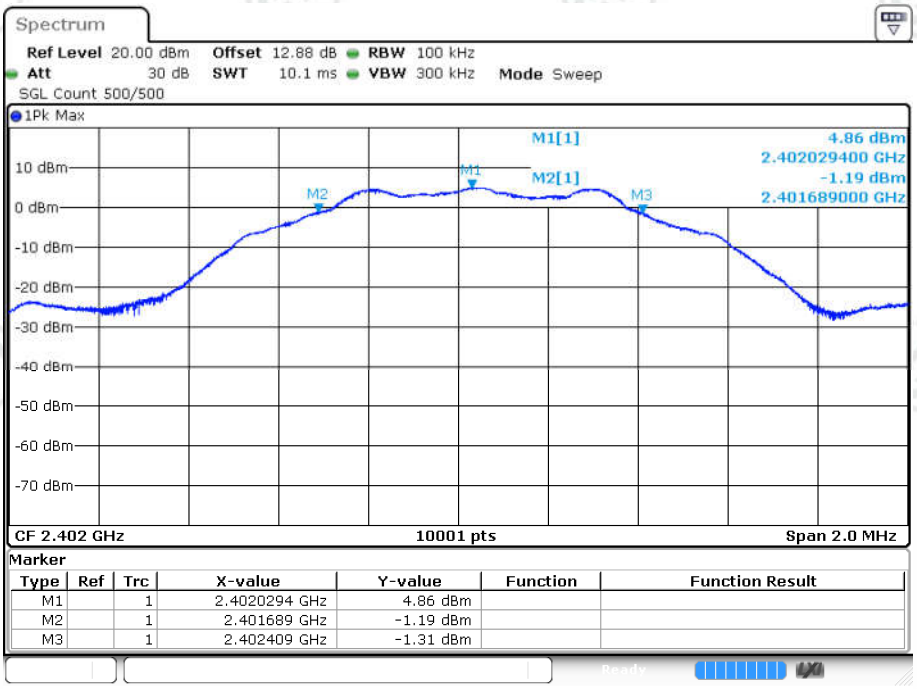
Date: 12.APR.2024 18:50:32

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.72	0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.712	0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.717	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1

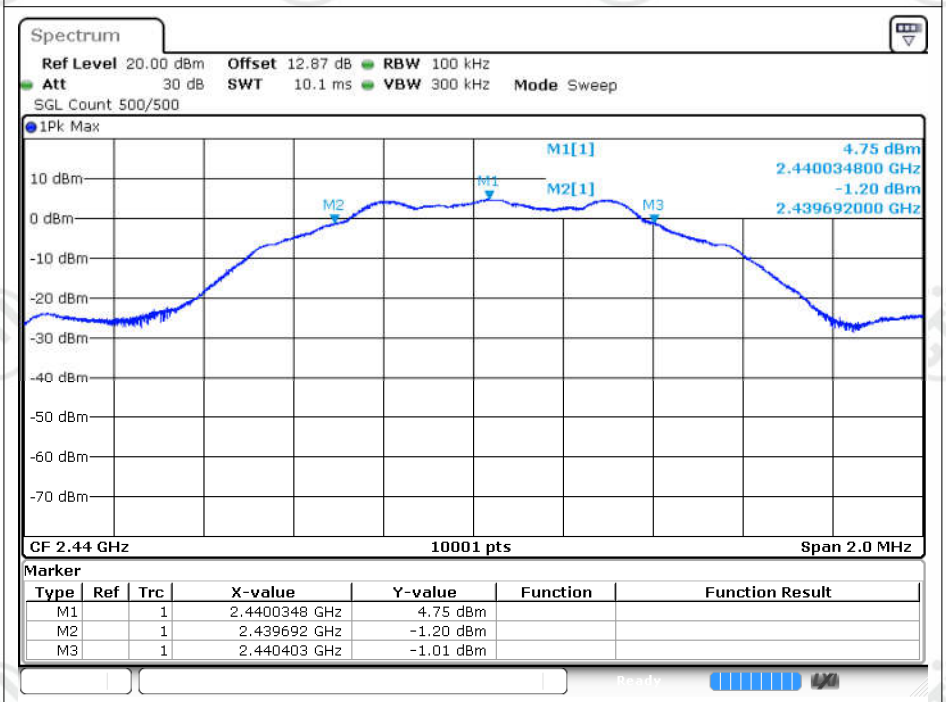


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4020294 GHz	4.86 dBm		
M2		1	2.401689 GHz	-1.19 dBm		
M3		1	2.402409 GHz	-1.31 dBm		

Date: 12.APR.2024 18:43:32

-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

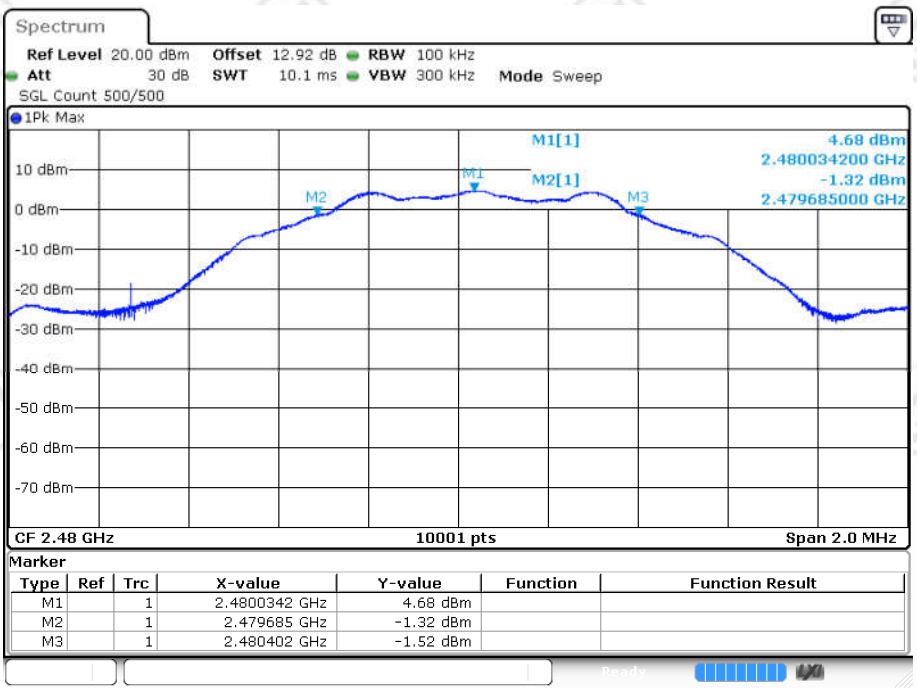


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4400348 GHz	4.75 dBm		
M2		1	2.439692 GHz	-1.20 dBm		
M3		1	2.440403 GHz	-1.01 dBm		

Date: 12.APR.2024 18:49:11

-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4800342 GHz	4.68 dBm		
M2		1	2.479685 GHz	-1.32 dBm		
M3		1	2.480402 GHz	-1.52 dBm		

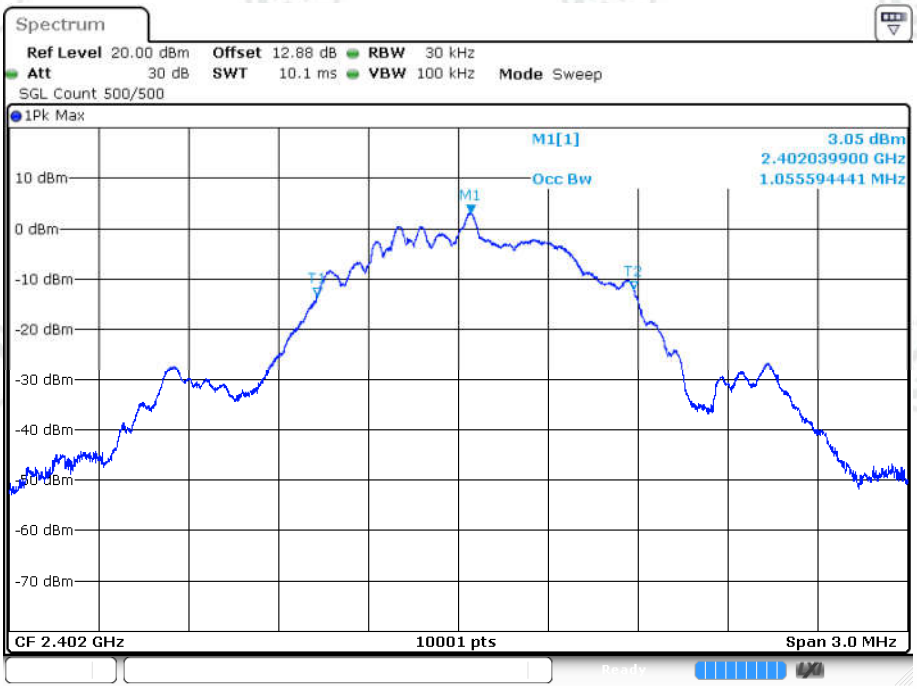
Date: 12.APR.2024 18:51:38

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1M	2402	Ant1	1.056
NVNT	BLE 1M	2440	Ant1	1.056
NVNT	BLE 1M	2480	Ant1	1.057

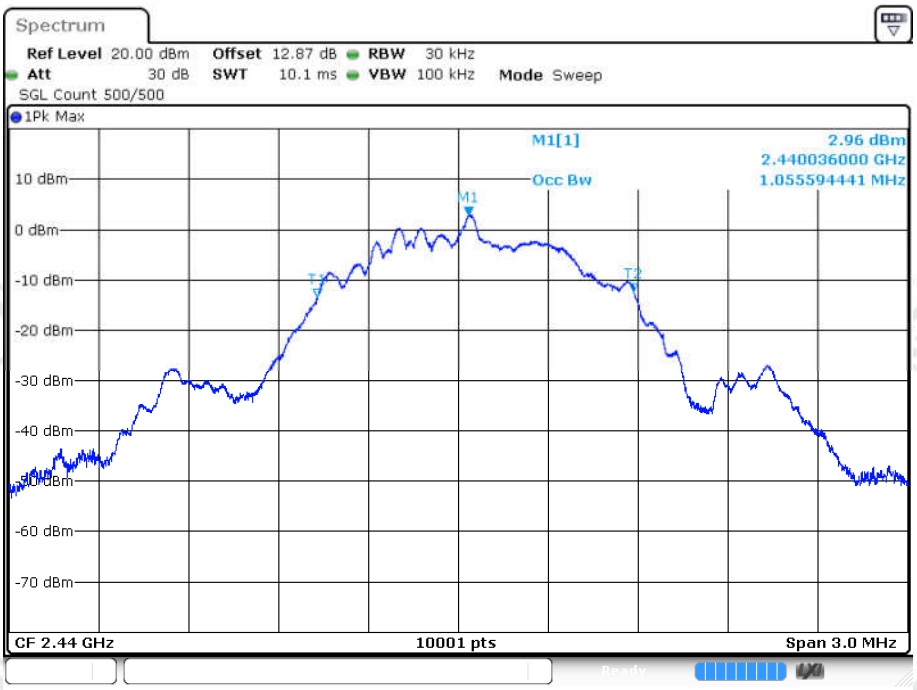
Test Graphs

OBW NVNT BLE 1M 2402MHz Ant1



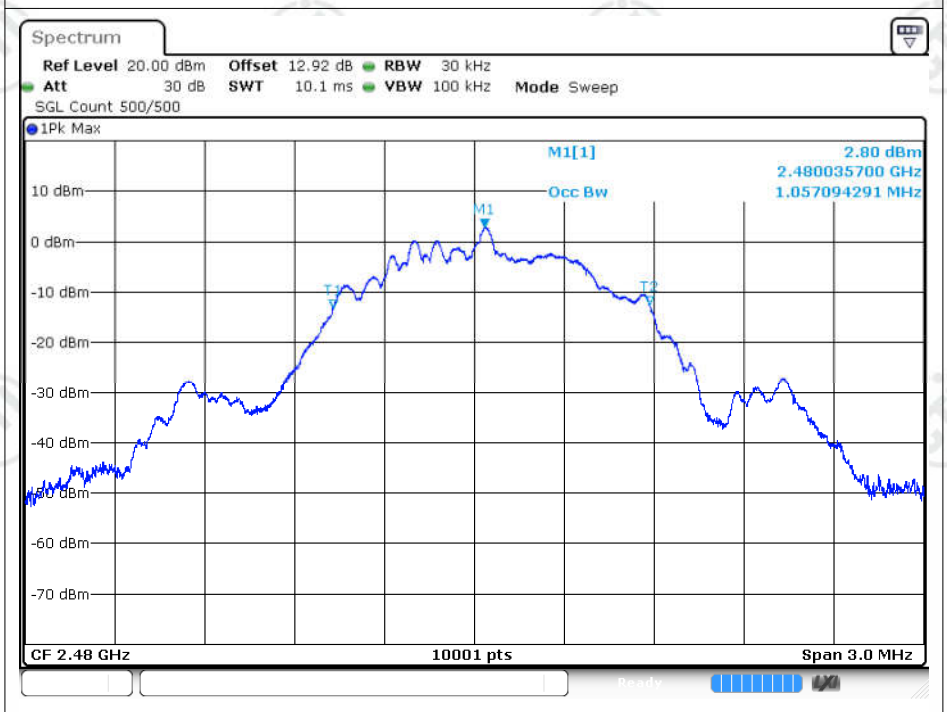
Date: 12.APR.2024 18:43:19

OBW NVNT BLE 1M 2440MHz Ant1



Date: 12.APR.2024 18:48:11

OBW NVNT BLE 1M 2480MHz Ant1



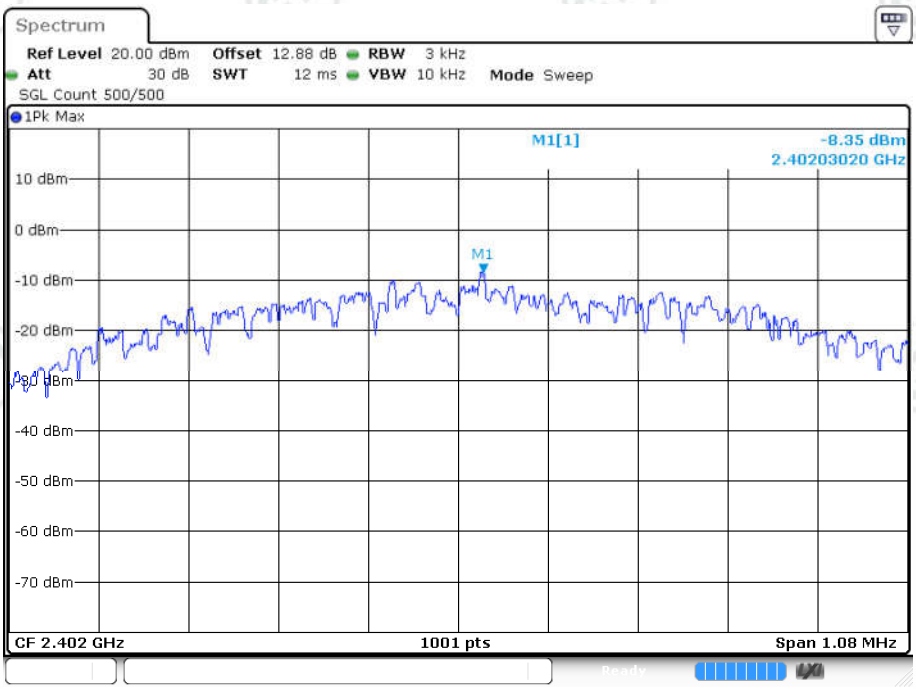
Date: 12.APR.2024 18:50:45

Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-8.35	8	Pass
NVNT	BLE 1M	2440	Ant1	-8.57	8	Pass
NVNT	BLE 1M	2480	Ant1	-8.62	8	Pass

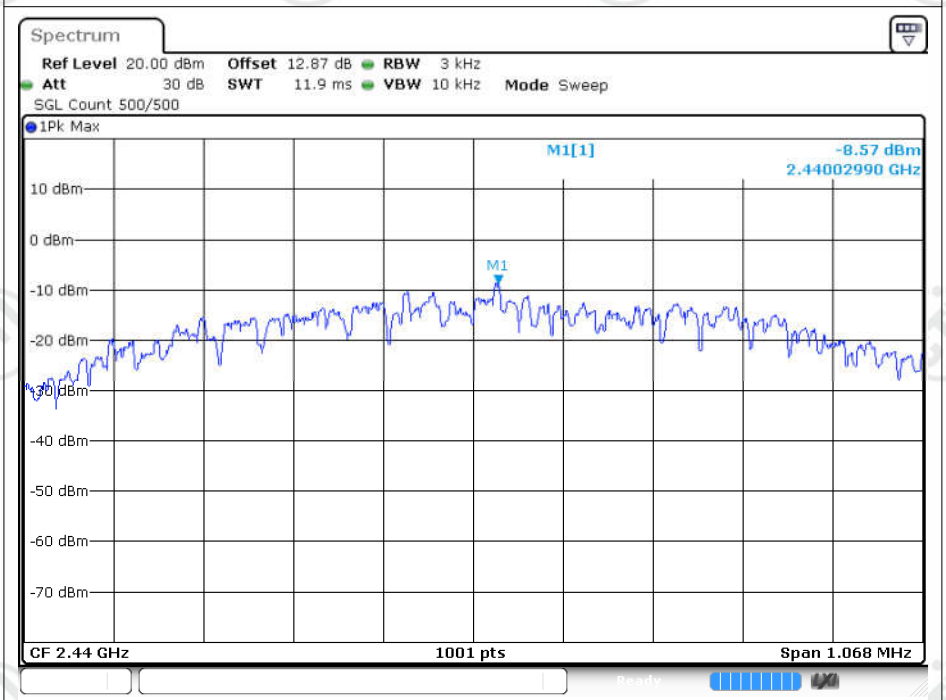
Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



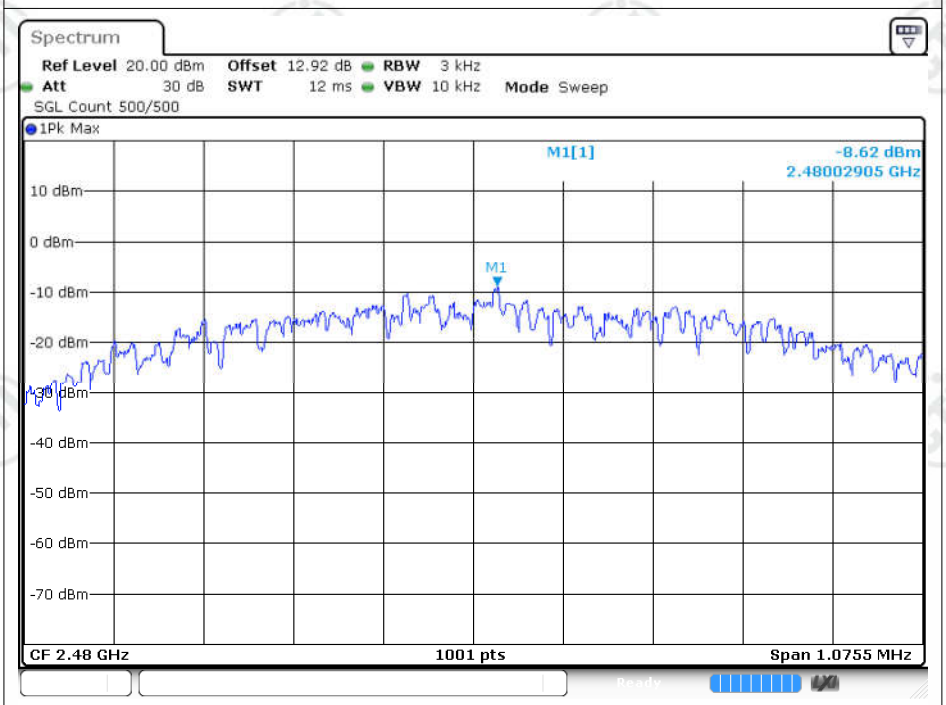
Date: 12.APR.2024 18:43:57

PSD NVNT BLE 1M 2440MHz Ant1



Date: 12.APR.2024 18:49:30

PSD NVNT BLE 1M 2480MHz Ant1



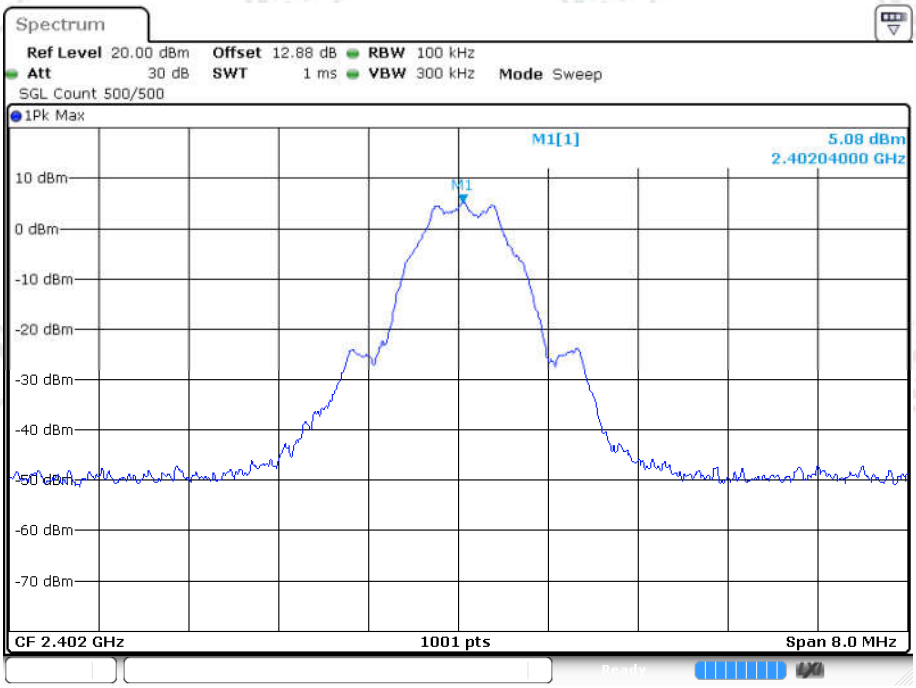
Date: 12.APR.2024 18:52:40

Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-51.56	-20	Pass
NVNT	BLE 1M	2480	Ant1	-51.76	-20	Pass

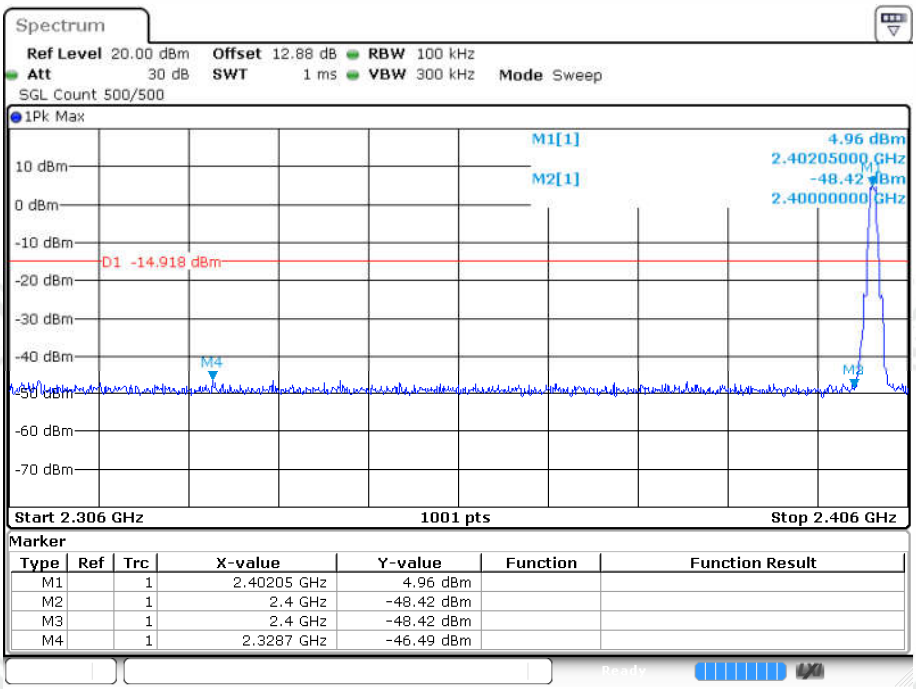
Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Date: 12.APR.2024 18:44:18

Band Edge NVNT BLE 1M 2402MHz Ant1 Emission

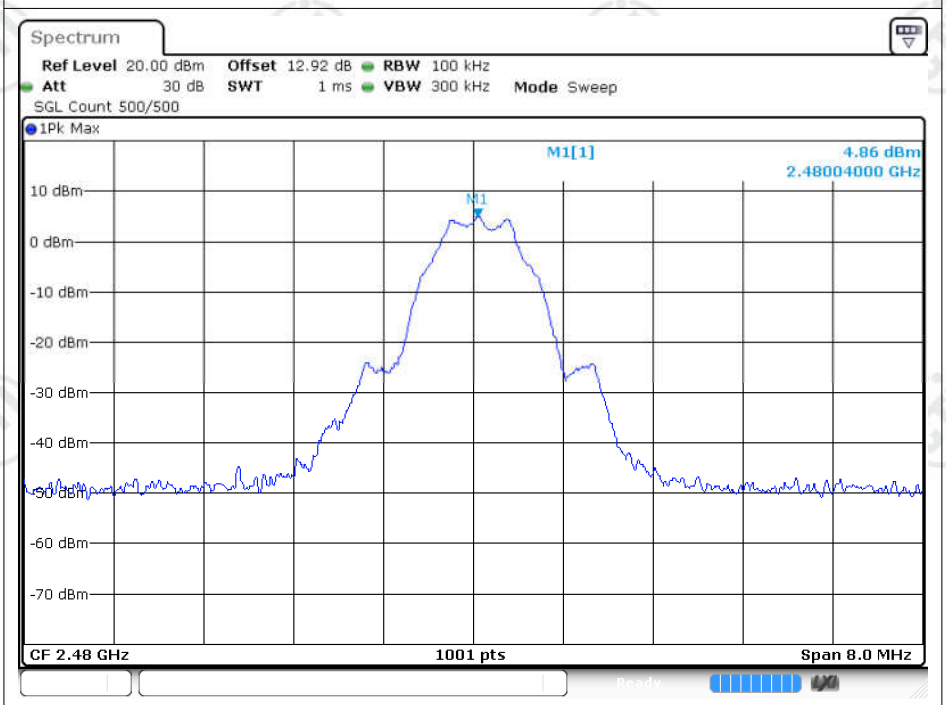


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40205 GHz	4.96 dBm		
M2		1	2.4 GHz	-48.42 dBm		
M3		1	2.4 GHz	-48.42 dBm		
M4		1	2.3287 GHz	-46.49 dBm		

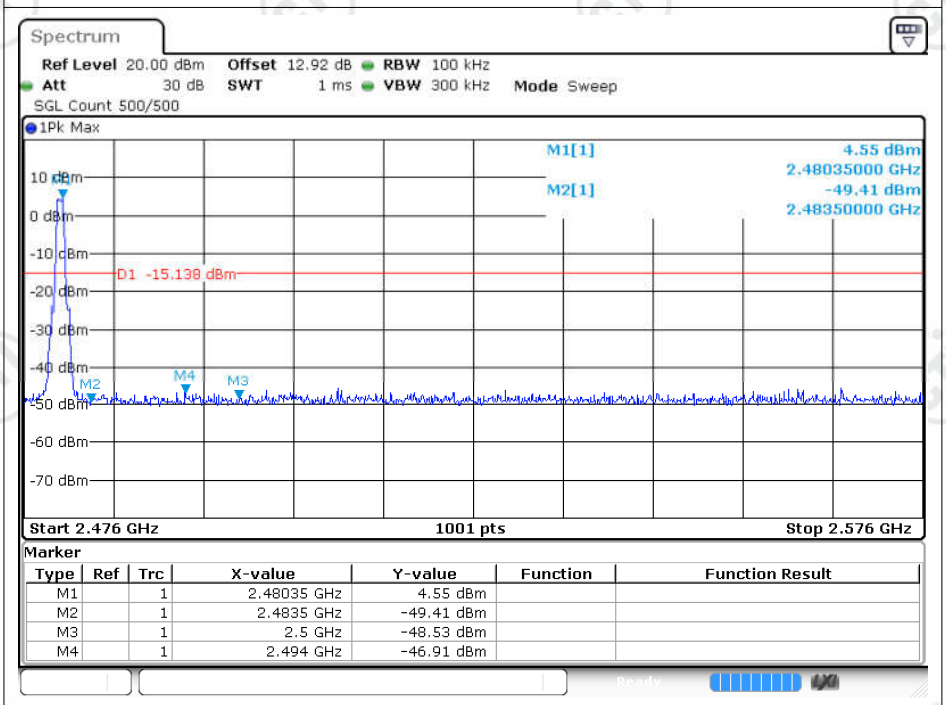
Date: 12.APR.2024 18:44:21

Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Date: 12.APR.2024 18:54:12

Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48035 GHz	4.55 dBm		
M2		1	2.4835 GHz	-49.41 dBm		
M3		1	2.5 GHz	-48.53 dBm		
M4		1	2.494 GHz	-46.91 dBm		

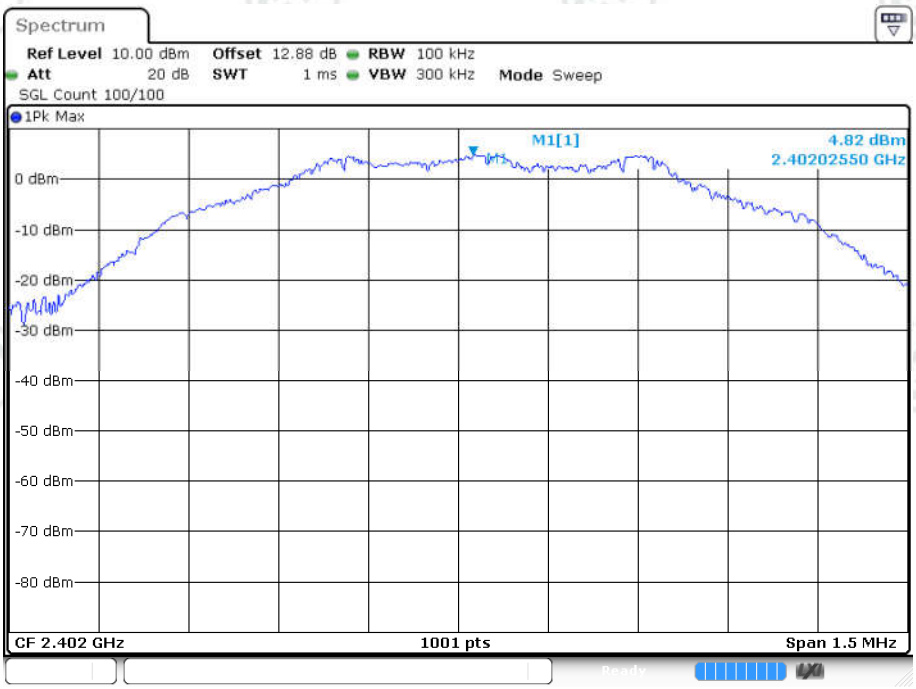
Date: 12.APR.2024 18:54:14

Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-54.55	-20	Pass
NVNT	BLE 1M	2440	Ant1	-54.67	-20	Pass
NVNT	BLE 1M	2480	Ant1	-54.14	-20	Pass

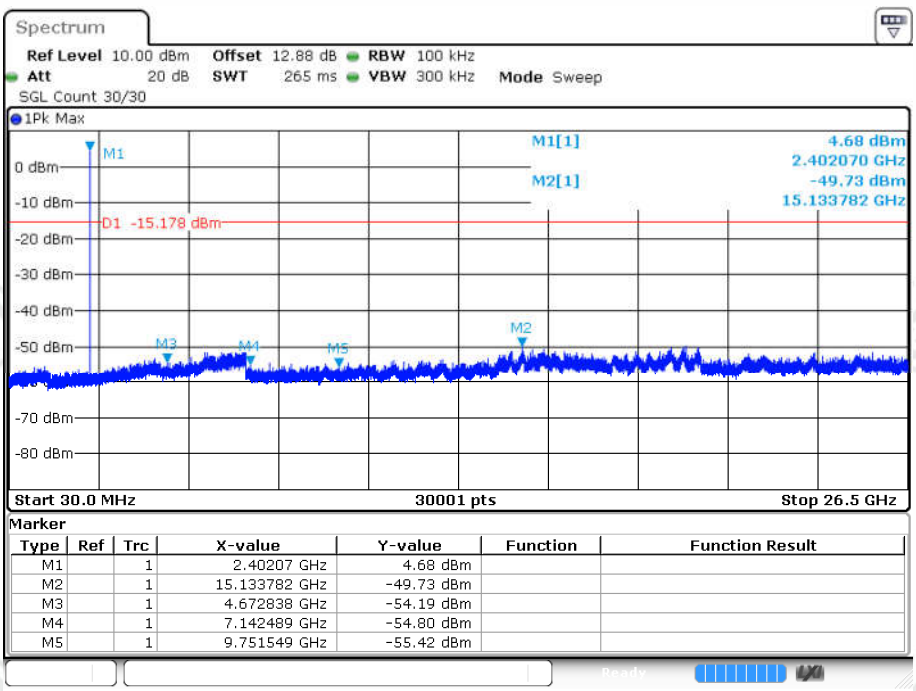
Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Date: 12.APR.2024 18:44:28

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission

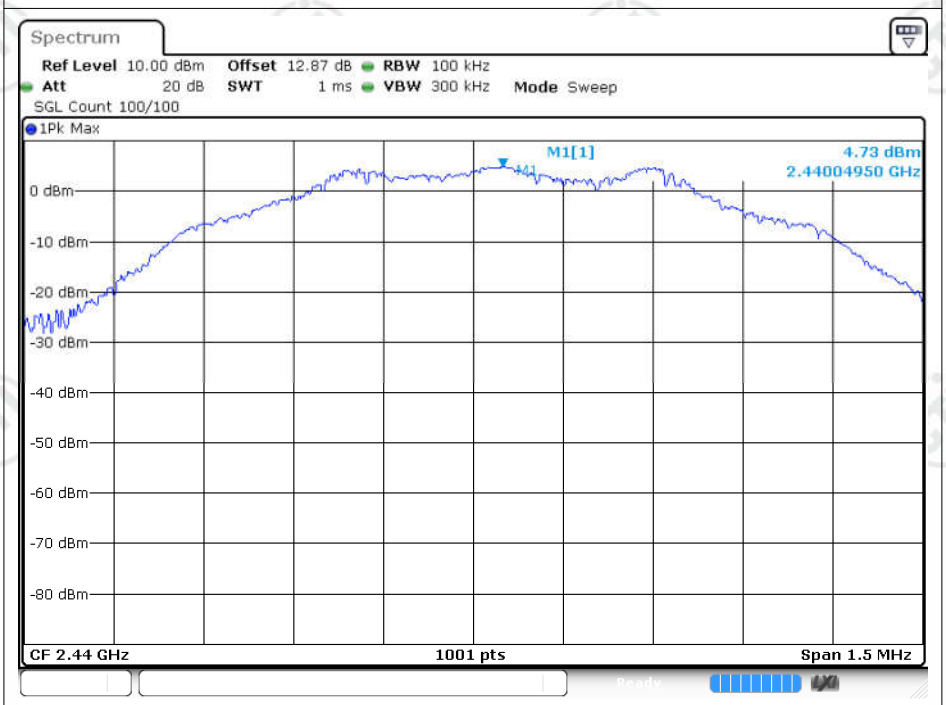


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40207 GHz	4.68 dBm		
M2		1	15.133782 GHz	-49.73 dBm		
M3		1	4.672838 GHz	-54.19 dBm		
M4		1	7.142489 GHz	-54.80 dBm		
M5		1	9.751549 GHz	-55.42 dBm		

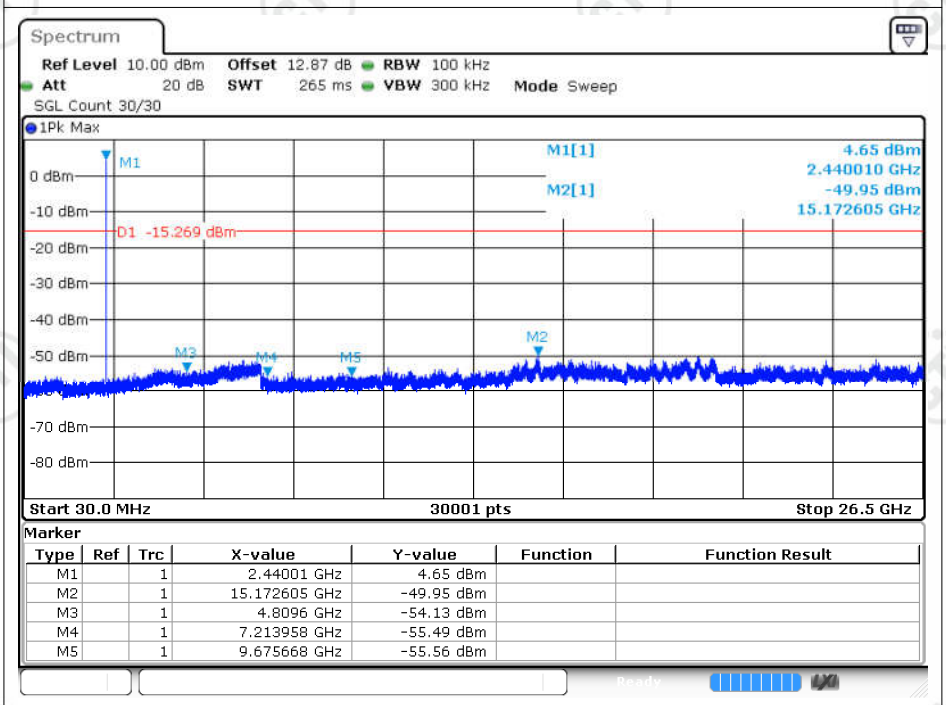
Date: 12.APR.2024 18:44:58

Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Date: 12.APR.2024 18:49:35

Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission

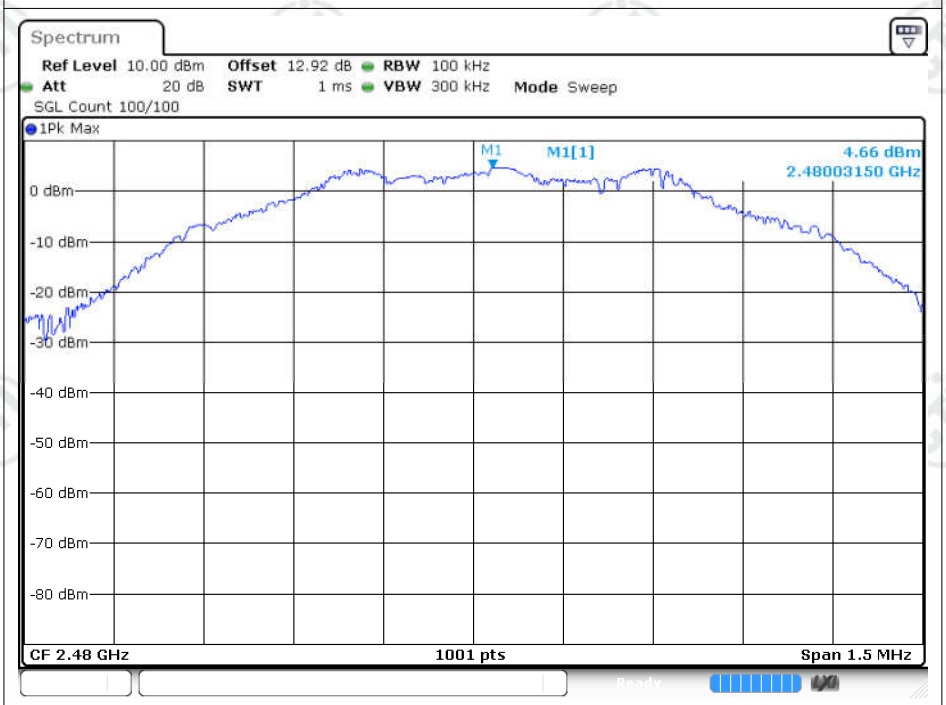


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.44001 GHz	4.65 dBm		
M2		1	15.172605 GHz	-49.95 dBm		
M3		1	4.8096 GHz	-54.13 dBm		
M4		1	7.213958 GHz	-55.49 dBm		
M5		1	9.675668 GHz	-55.56 dBm		

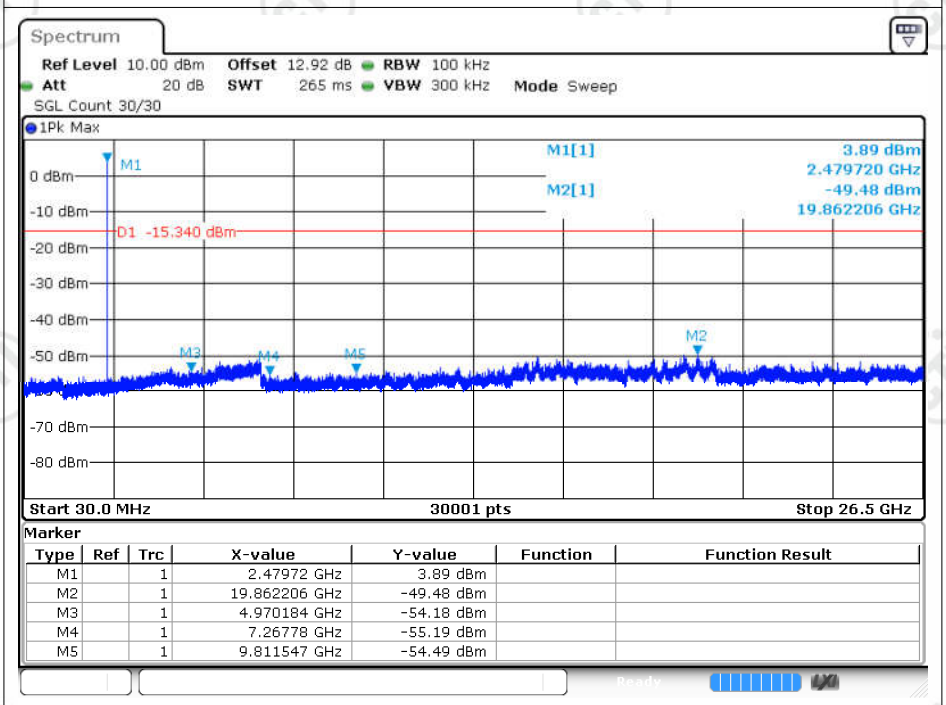
Date: 12.APR.2024 18:50:04

Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Date: 12.APR.2024 18:54:29

Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47972 GHz	3.89 dBm		
M2		1	19.862206 GHz	-49.48 dBm		
M3		1	4.970184 GHz	-54.18 dBm		
M4		1	7.26778 GHz	-55.19 dBm		
M5		1	9.811547 GHz	-54.49 dBm		

Date: 12.APR.2024 18:54:58

*** End of Report ***