Appendix: Bluetooth LE

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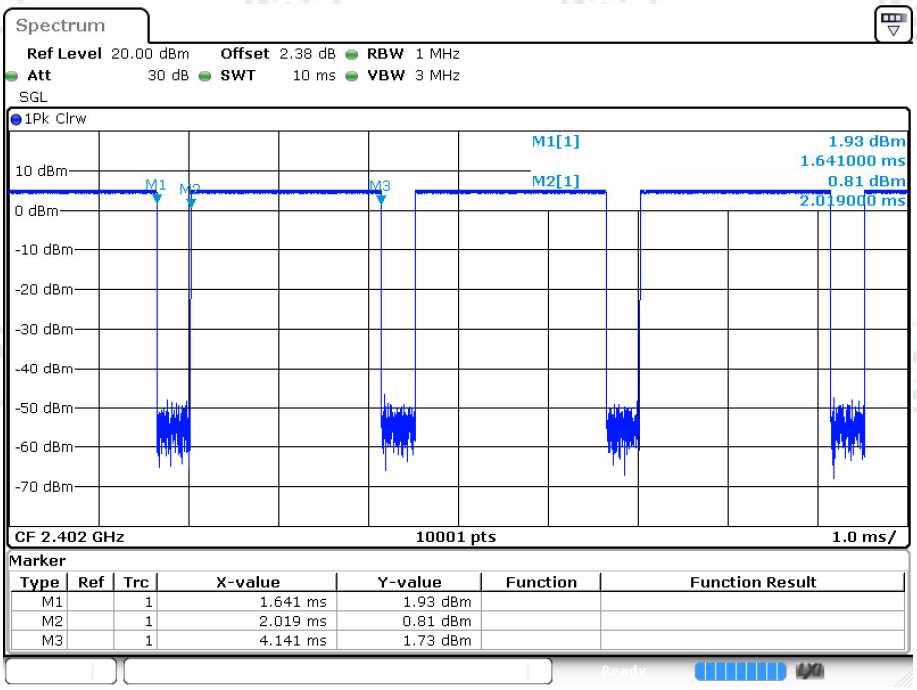
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	84.88	0.71	0.47
NVNT	BLE 1M	2440	Ant1	84.88	0.71	0.47
NVNT	BLE 1M	2480	Ant1	84.88	0.71	0.47
NVNT	BLE 2M	2402	Ant1	56.85	2.45	0.94
NVNT	BLE 2M	2440	Ant1	56.85	2.45	0.94
NVNT	BLE 2M	2480	Ant1	56.85	2.45	0.94

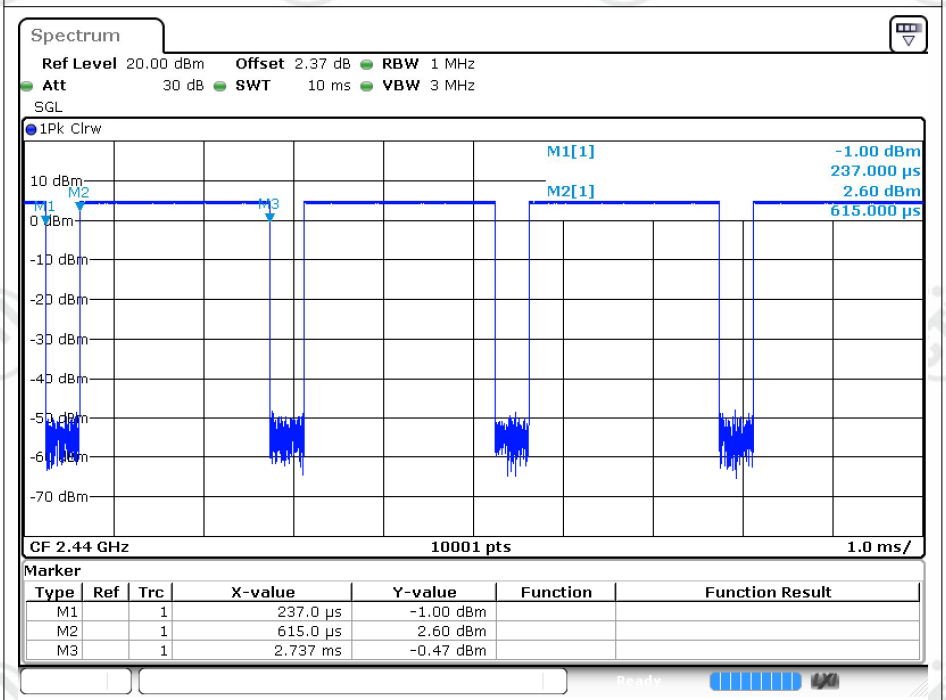
Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



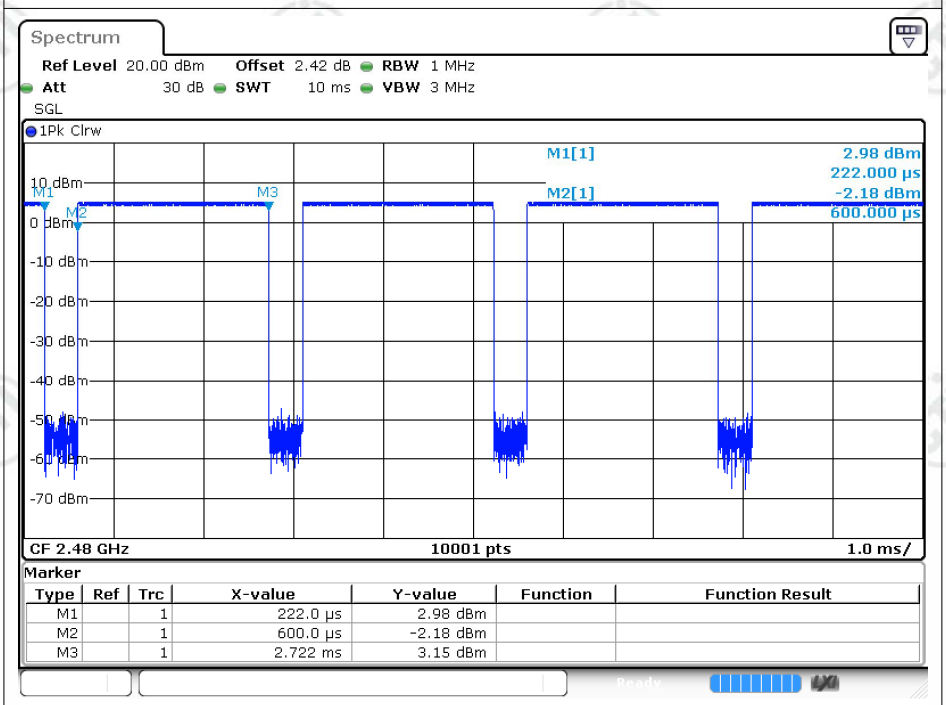
Date: 25.MAR.2025 10:32:36

Duty Cycle NVNT BLE 1M 2440MHz Ant1



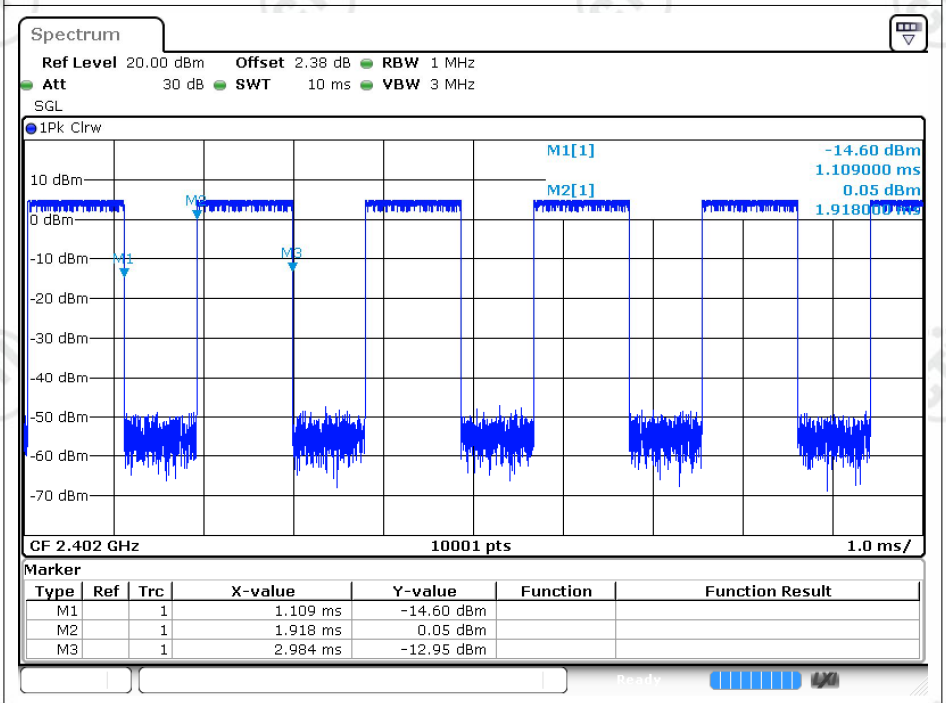
Date: 25.MAR.2025 10:34:55

Duty Cycle NVNT BLE 1M 2480MHz Ant1



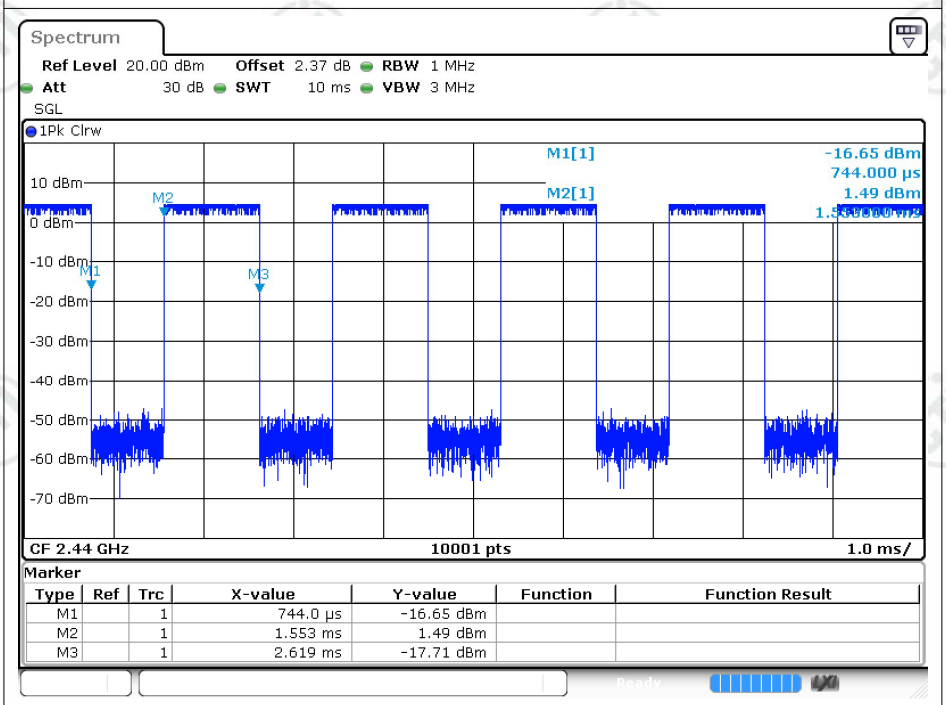
Date: 25.MAR.2025 10:36:48

Duty Cycle NVNT BLE 2M 2402MHz Ant1



Date: 25.MAR.2025 10:39:00

Duty Cycle NVNT BLE 2M 2440MHz Ant1

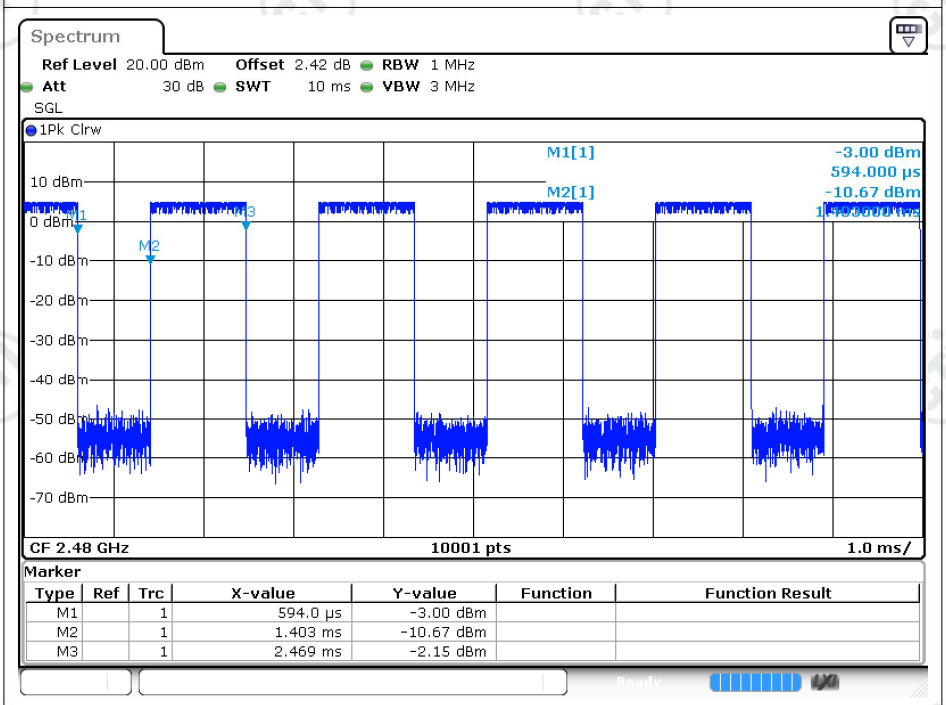


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	744.0 µs	-16.65 dBm		
M2		1	1.553 ms	1.49 dBm		
M3		1	2.619 ms	-17.71 dBm		

Date: 25.MAR.2025 10:41:04

Duty Cycle NVNT BLE 2M 2480MHz Ant1



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	594.0 µs	-3.00 dBm		
M2		1	1.403 ms	-10.67 dBm		
M3		1	2.469 ms	-2.15 dBm		

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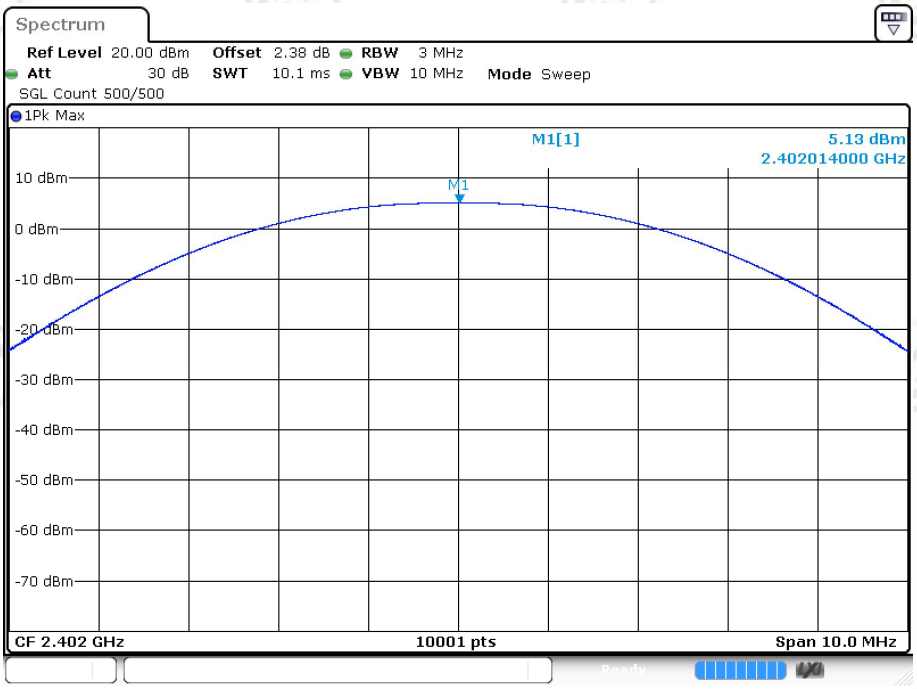
Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	5.13	30	Pass
NVNT	BLE 1M	2440	Ant1	5.02	30	Pass
NVNT	BLE 1M	2480	Ant1	5.12	30	Pass
NVNT	BLE 2M	2402	Ant1	5.06	30	Pass
NVNT	BLE 2M	2440	Ant1	4.93	30	Pass
NVNT	BLE 2M	2480	Ant1	5.04	30	Pass

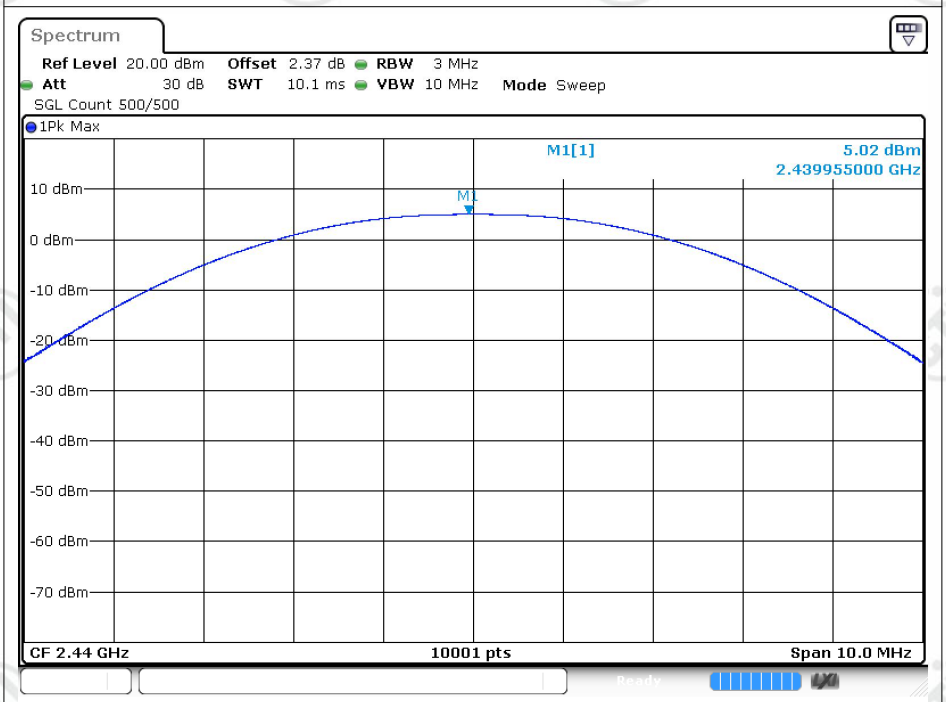
Test Graphs

Peak Power NVNT BLE 1M 2402MHz Ant1



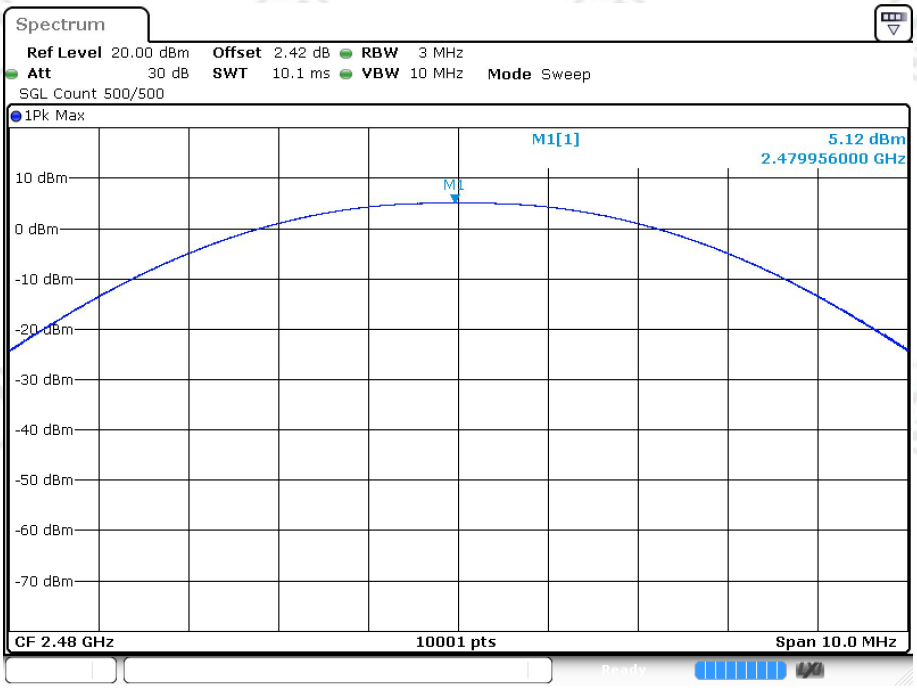
Date: 25.MAR.2025 10:32:50

Peak Power NVNT BLE 1M 2440MHz Ant1



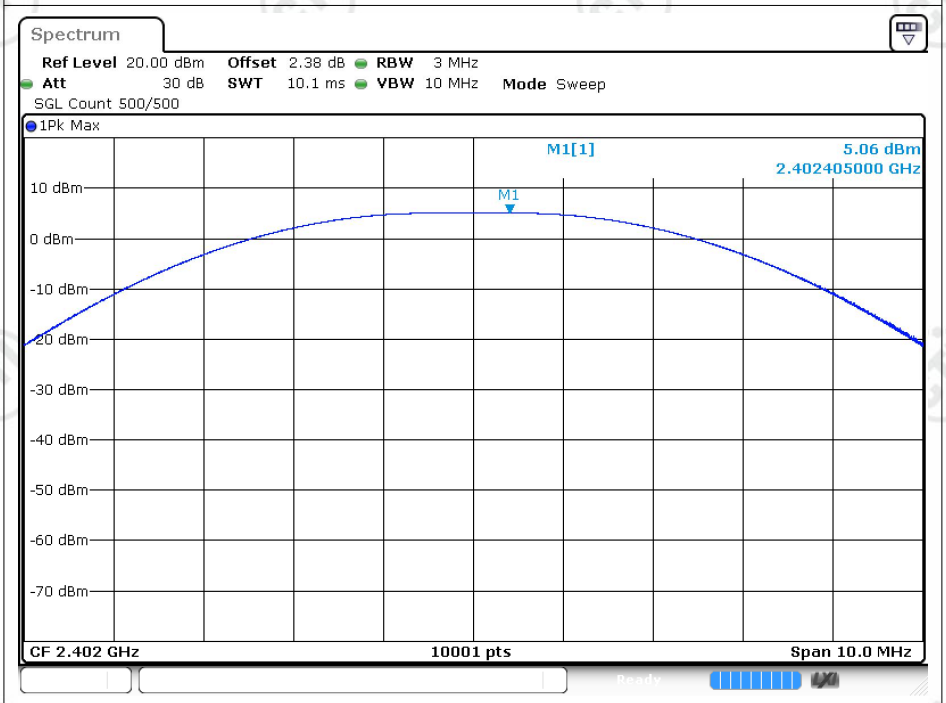
Date: 25.MAR.2025 10:35:10

Peak Power NVNT BLE 1M 2480MHz Ant1



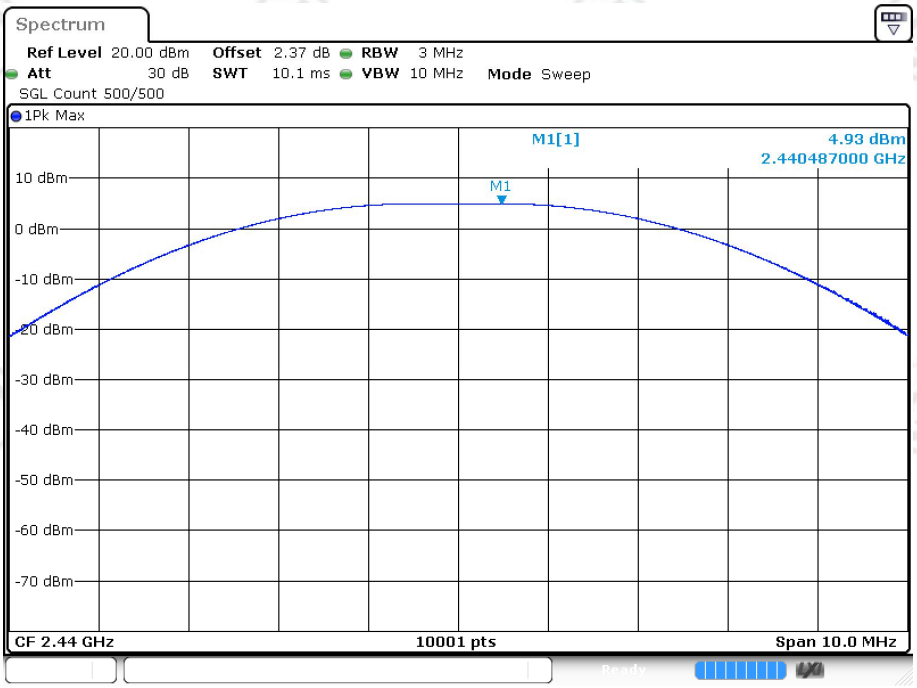
Date: 25.MAR.2025 10:37:02

Peak Power NVNT BLE 2M 2402MHz Ant1



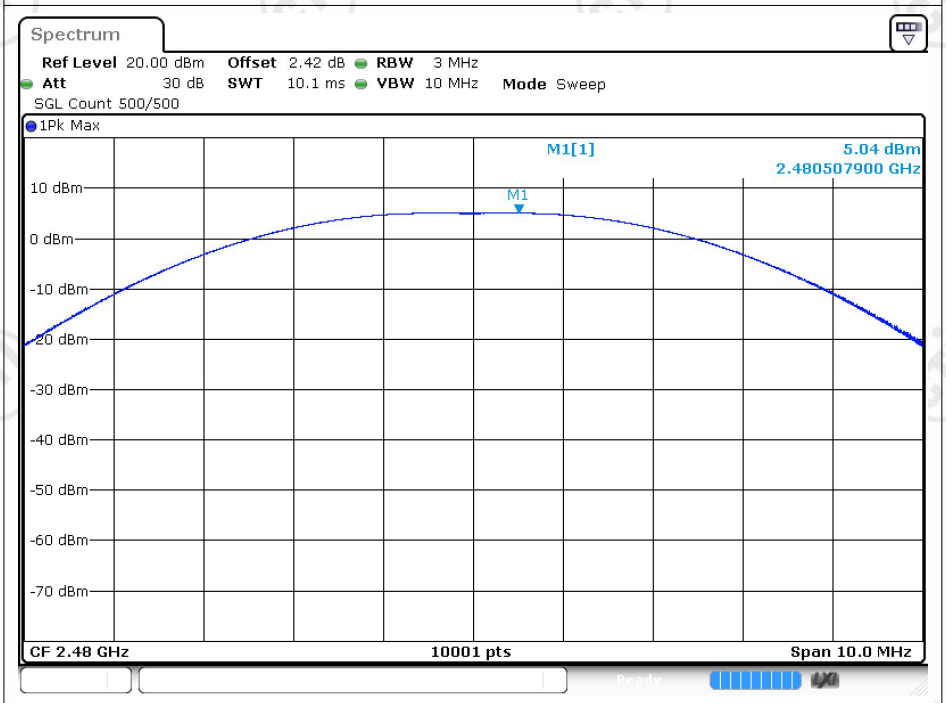
Date: 25.MAR.2025 10:39:16

Peak Power NVNT BLE 2M 2440MHz Ant1



Date: 25.MAR.2025 10:41:32

Peak Power NVNT BLE 2M 2480MHz Ant1



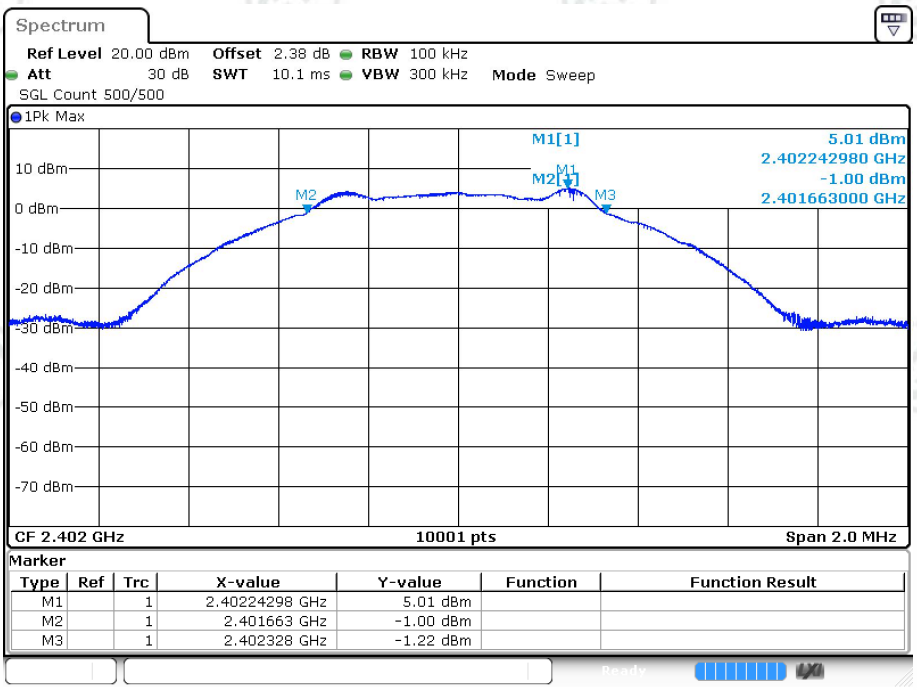
Date: 25.MAR.2025 10:43:41

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.665	0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.665	0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.663	0.5	Pass
NVNT	BLE 2M	2402	Ant1	1.238	0.5	Pass
NVNT	BLE 2M	2440	Ant1	1.234	0.5	Pass
NVNT	BLE 2M	2480	Ant1	1.236	0.5	Pass

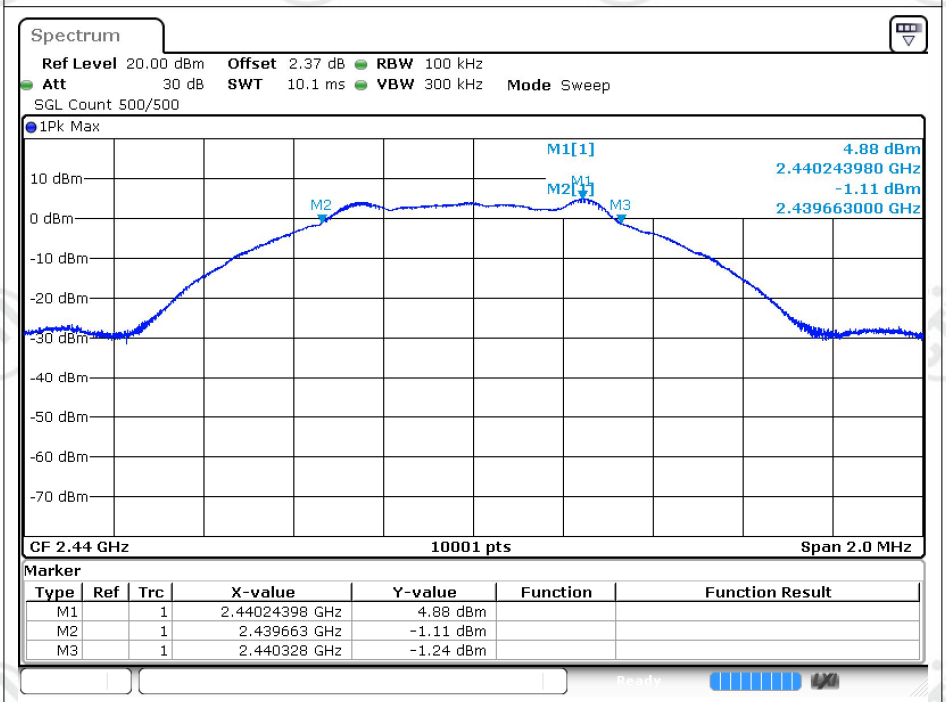
Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



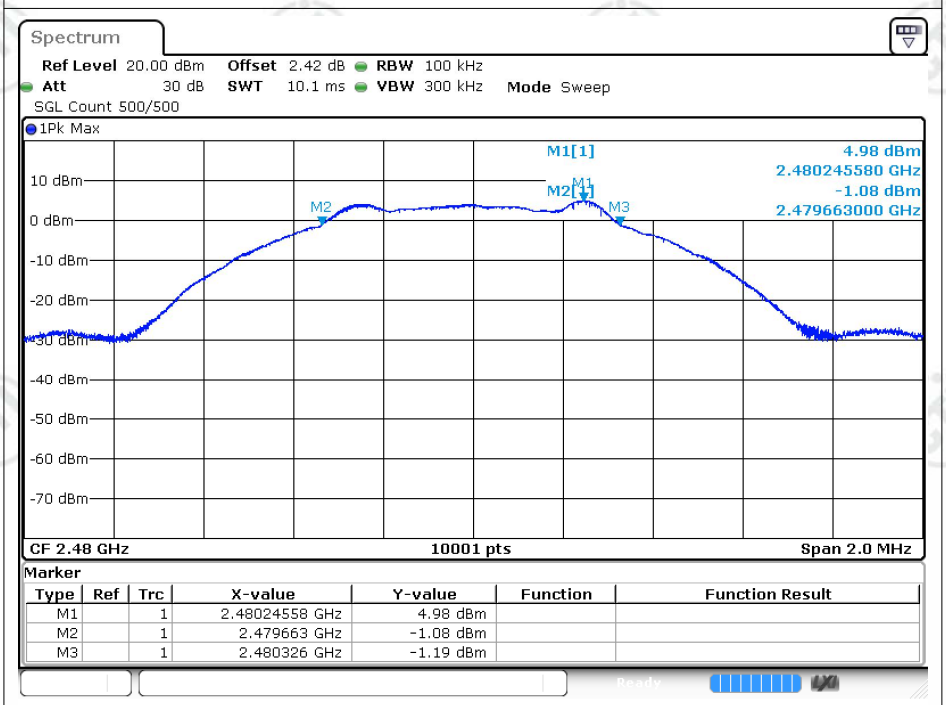
Date: 25.MAR.2025 10:33:18

-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1



Date: 25.MAR.2025 10:35:35

-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1

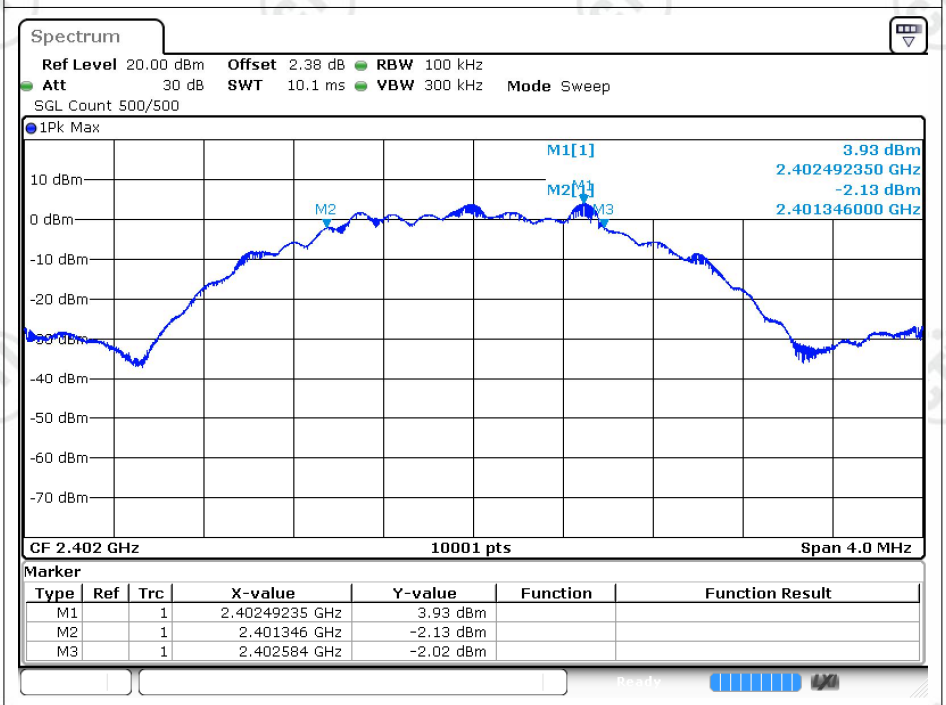


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48024558 GHz	4.98 dBm		
M2		1	2.479663 GHz	-1.08 dBm		
M3		1	2.480326 GHz	-1.19 dBm		

Date: 25.MAR.2025 10:37:29

-6dB Bandwidth NVNT BLE 2M 2402MHz Ant1

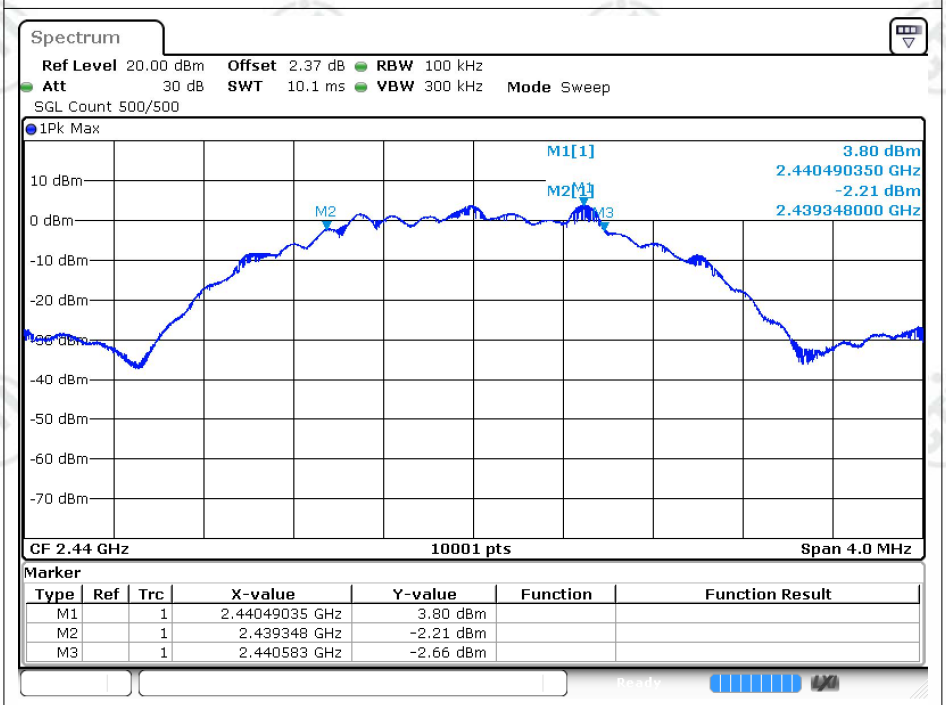


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40249235 GHz	3.93 dBm		
M2		1	2.401346 GHz	-2.13 dBm		
M3		1	2.402584 GHz	-2.02 dBm		

Date: 25.MAR.2025 10:39:43

-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.44049035 GHz	3.80 dBm		
M2		1	2.439348 GHz	-2.21 dBm		
M3		1	2.440583 GHz	-2.66 dBm		

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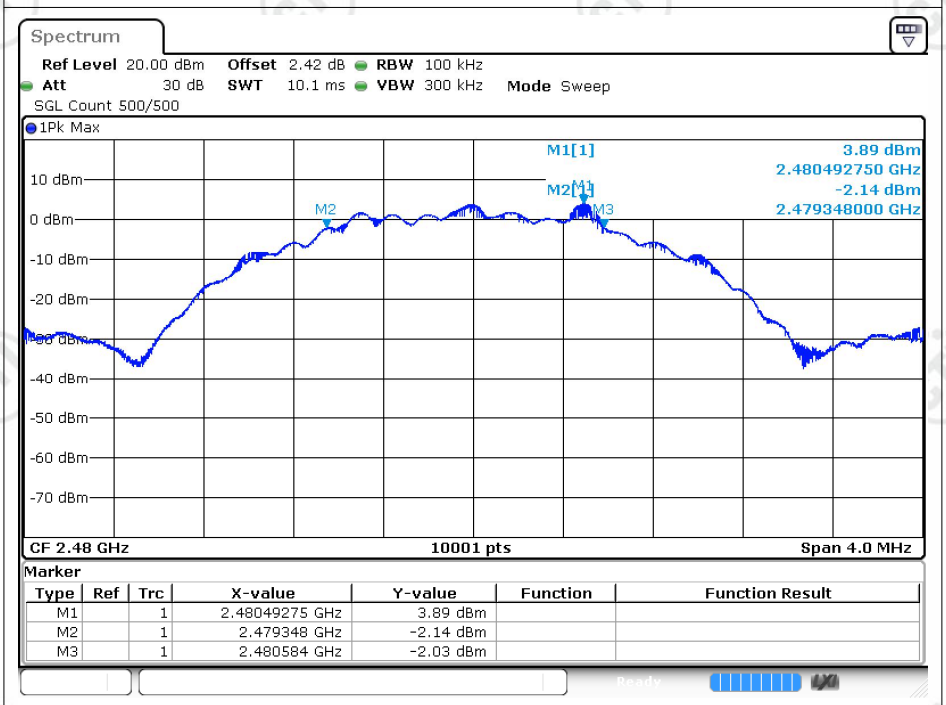
-6dB Bandwidth NVNT BLE 2M 2480MHz Ant1



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48049275 GHz	3.89 dBm		
M2		1	2.479348 GHz	-2.14 dBm		
M3		1	2.480584 GHz	-2.03 dBm		

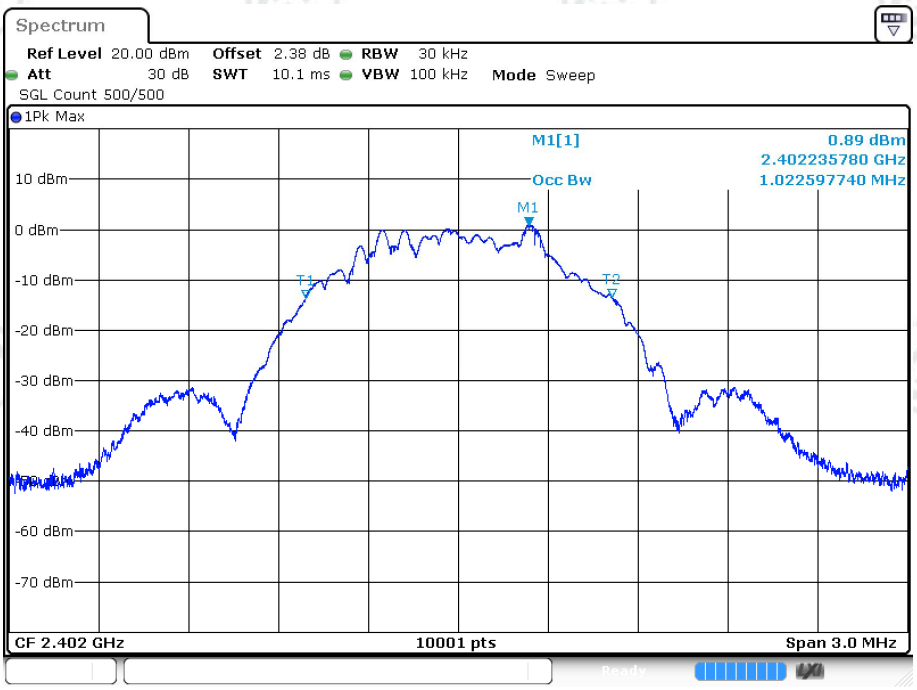
Date: 25.MAR.2025 10:44:07

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1M	2402	Ant1	1.023
NVNT	BLE 1M	2440	Ant1	1.025
NVNT	BLE 1M	2480	Ant1	1.021
NVNT	BLE 2M	2402	Ant1	2.059
NVNT	BLE 2M	2440	Ant1	2.058
NVNT	BLE 2M	2480	Ant1	2.055

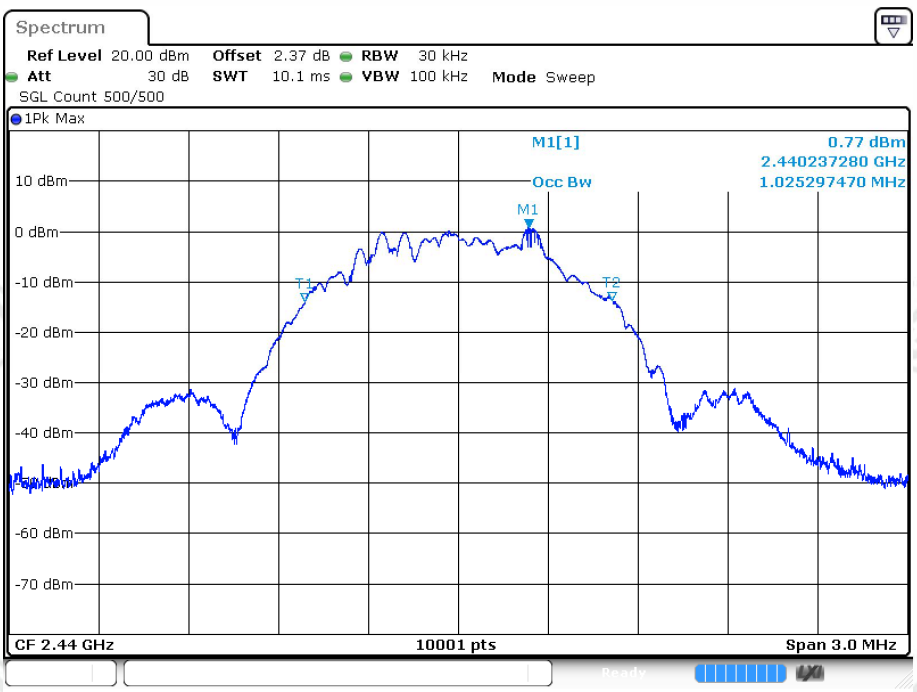
Test Graphs

OBW NVNT BLE 1M 2402MHz Ant1



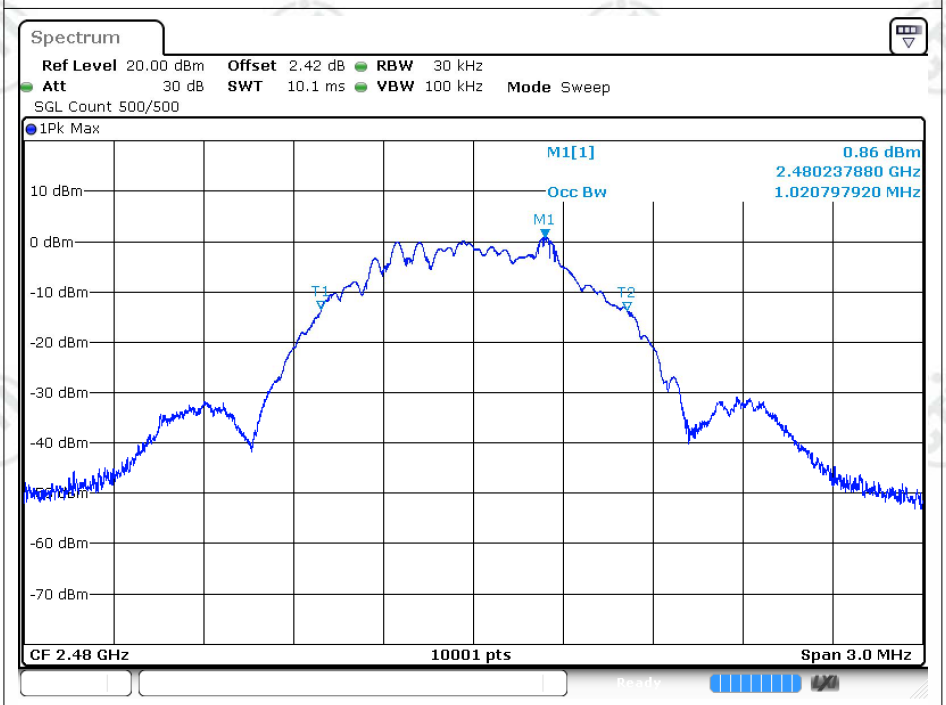
Date: 25.MAR.2025 10:33:06

OBW NVNT BLE 1M 2440MHz Ant1



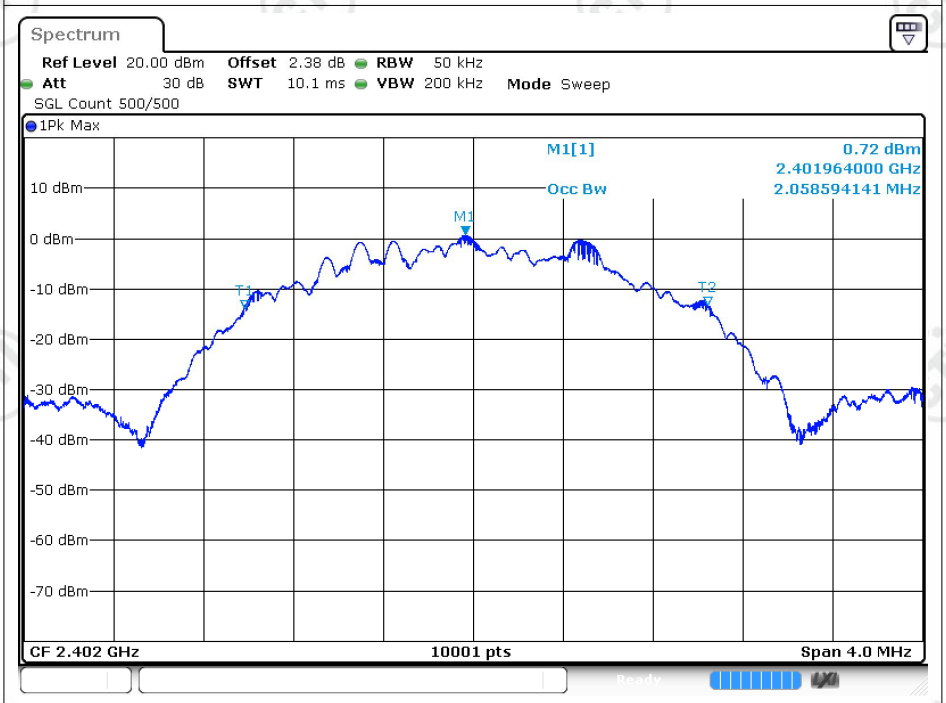
Date: 25.MAR.2025 10:35:23

OBW NVNT BLE 1M 2480MHz Ant1



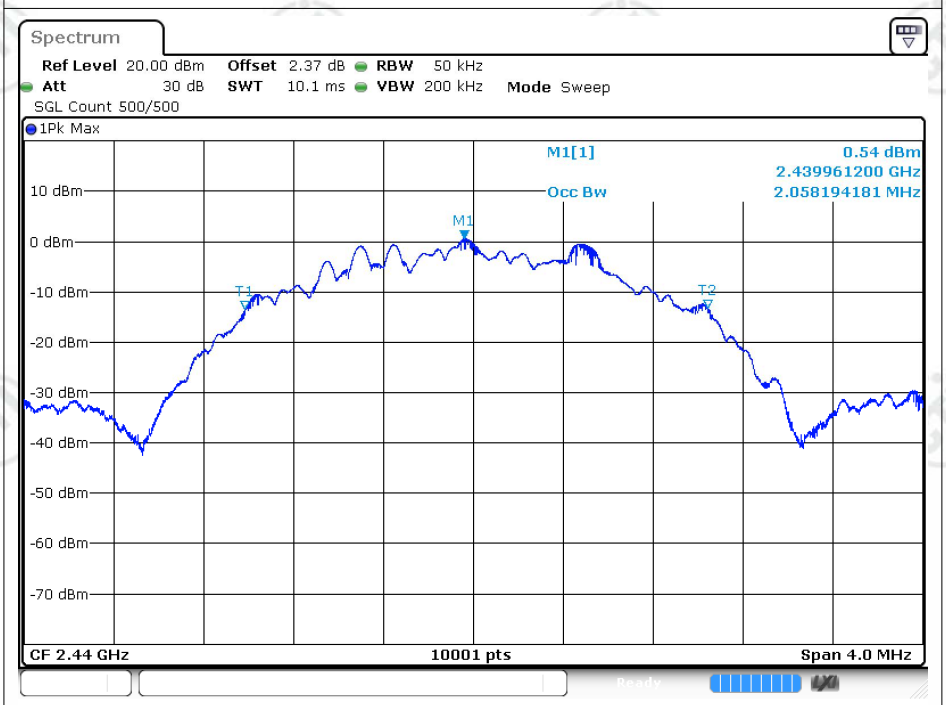
Date: 25.MAR.2025 10:37:16

OBW NVNT BLE 2M 2402MHz Ant1



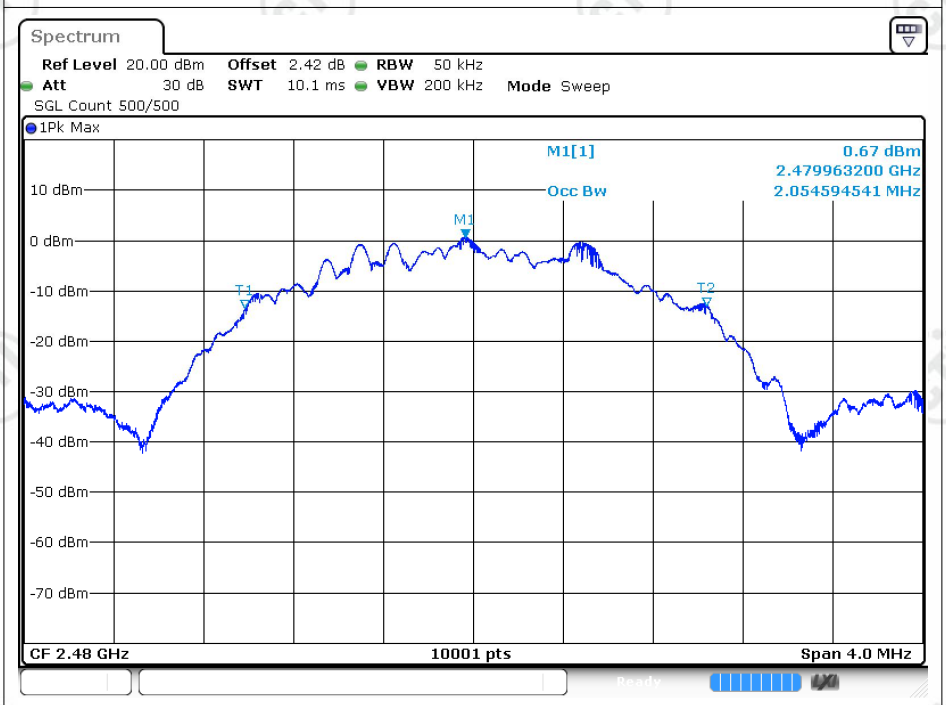
Date: 25.MAR.2025 10:39:30

OBW NVNT BLE 2M 2440MHz Ant1



Date: 25.MAR.2025 10:41:49

OBW NVNT BLE 2M 2480MHz Ant1



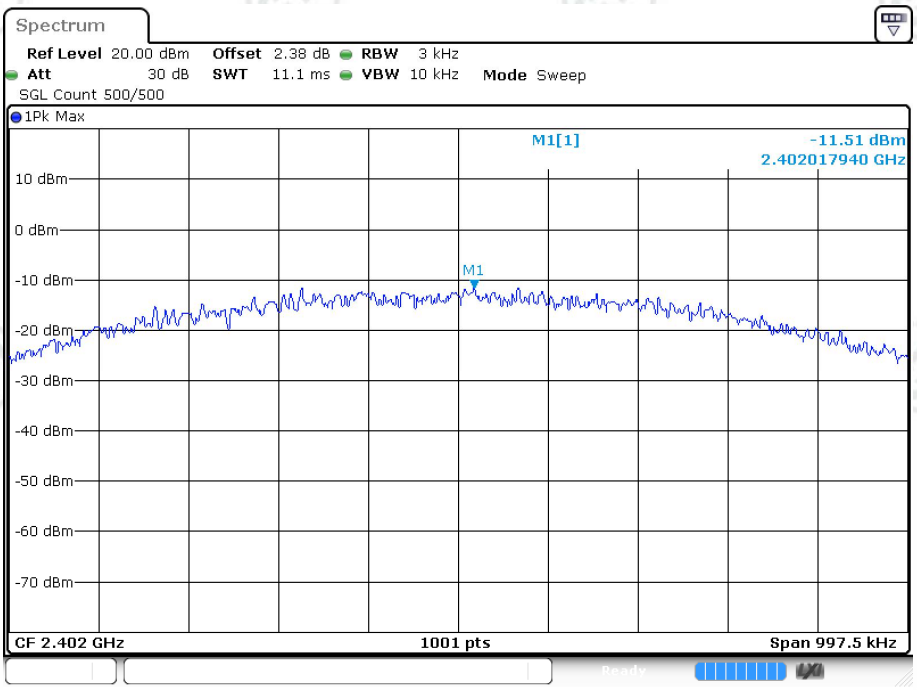
Date: 25.MAR.2025 10:43:54

Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-11.51	8	Pass
NVNT	BLE 1M	2440	Ant1	-11.65	8	Pass
NVNT	BLE 1M	2480	Ant1	-11.55	8	Pass
NVNT	BLE 2M	2402	Ant1	-14.31	8	Pass
NVNT	BLE 2M	2440	Ant1	-14.47	8	Pass
NVNT	BLE 2M	2480	Ant1	-14.35	8	Pass

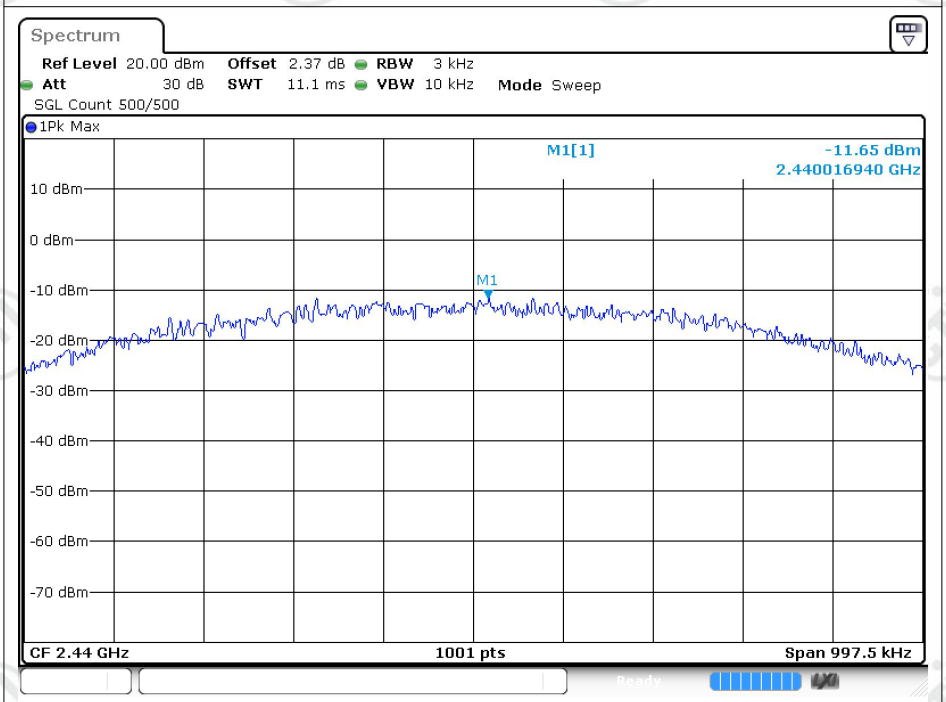
Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



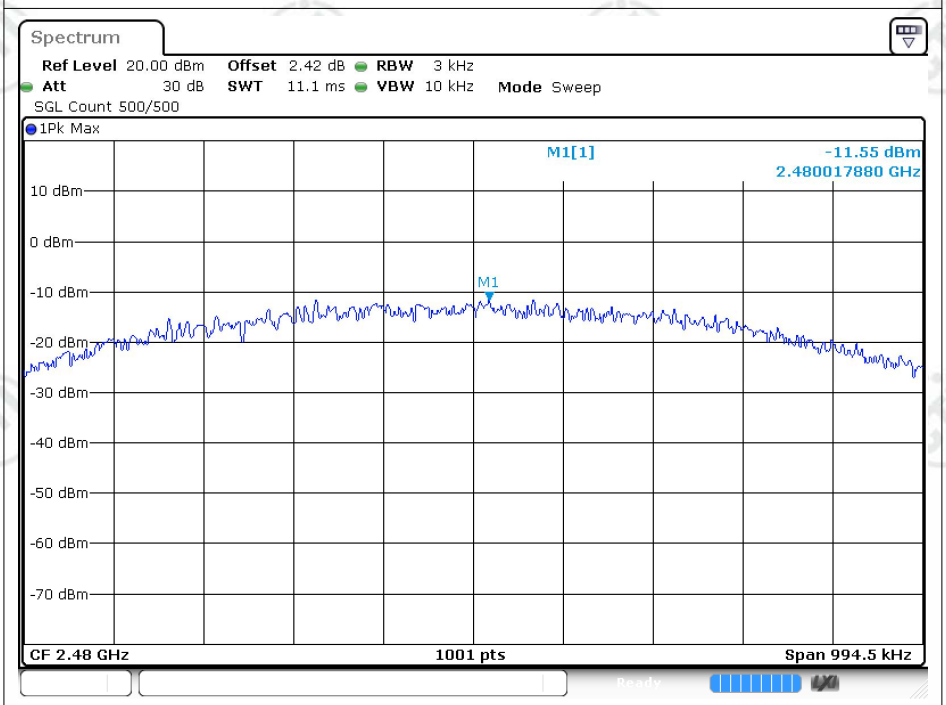
Date: 25.MAR.2025 10:33:38

PSD NVNT BLE 1M 2440MHz Ant1



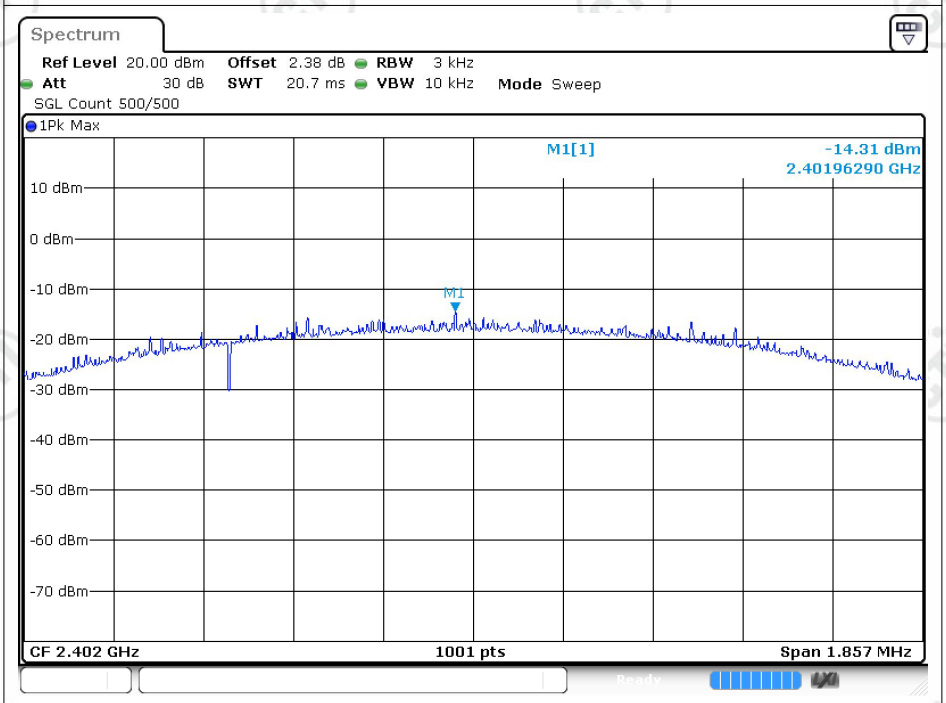
Date: 25.MAR.2025 10:35:50

PSD NVNT BLE 1M 2480MHz Ant1



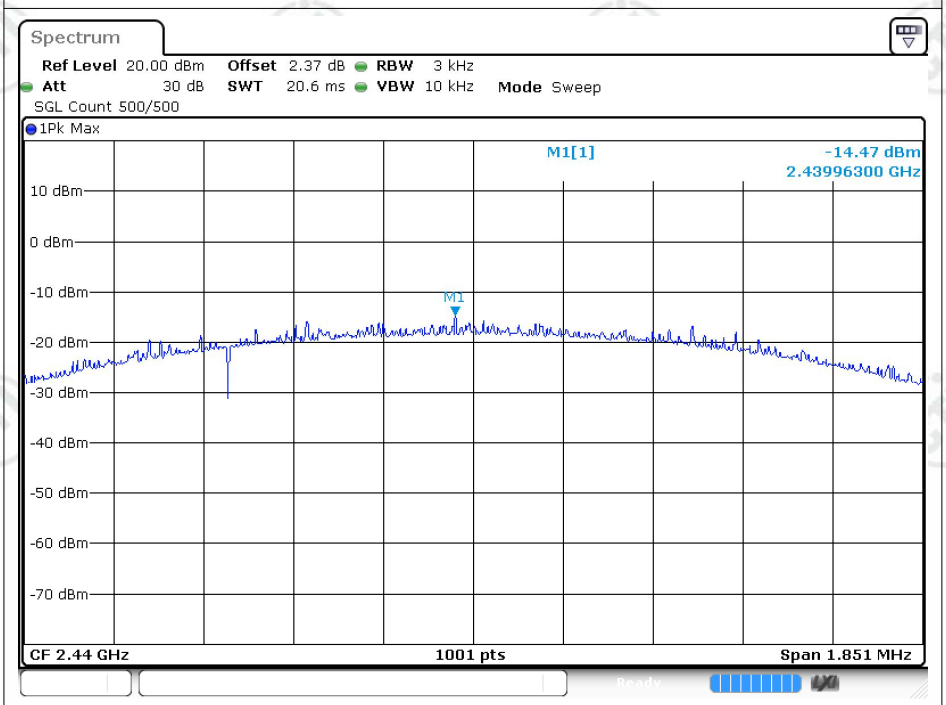
Date: 25.MAR.2025 10:37:54

PSD NVNT BLE 2M 2402MHz Ant1



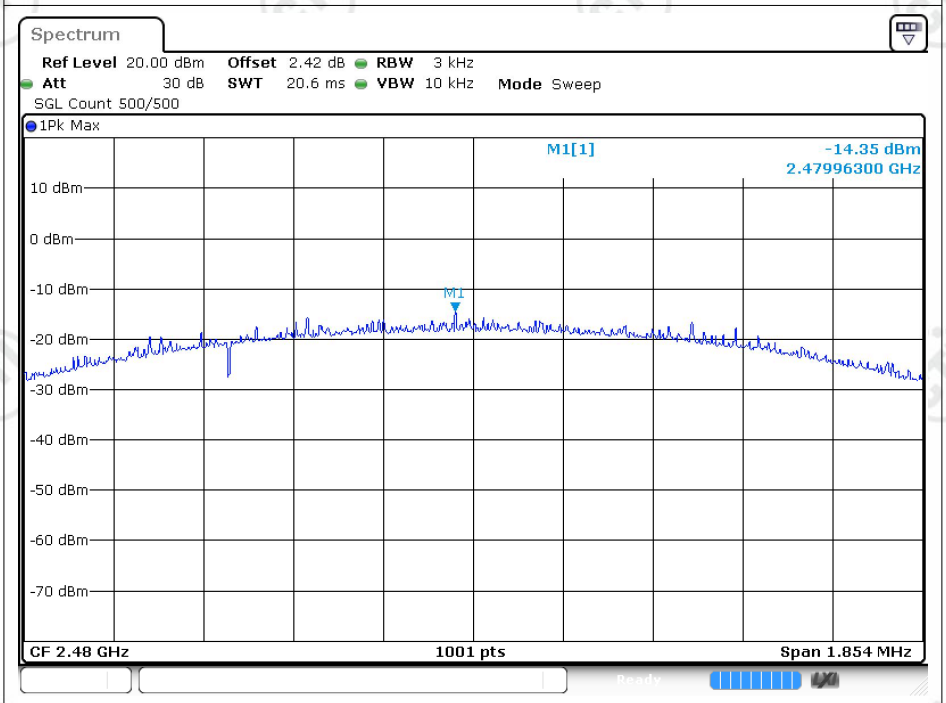
Date: 25.MAR.2025 10:40:07

PSD NVNT BLE 2M 2440MHz Ant1



Date: 25.MAR.2025 10:42:28

PSD NVNT BLE 2M 2480MHz Ant1



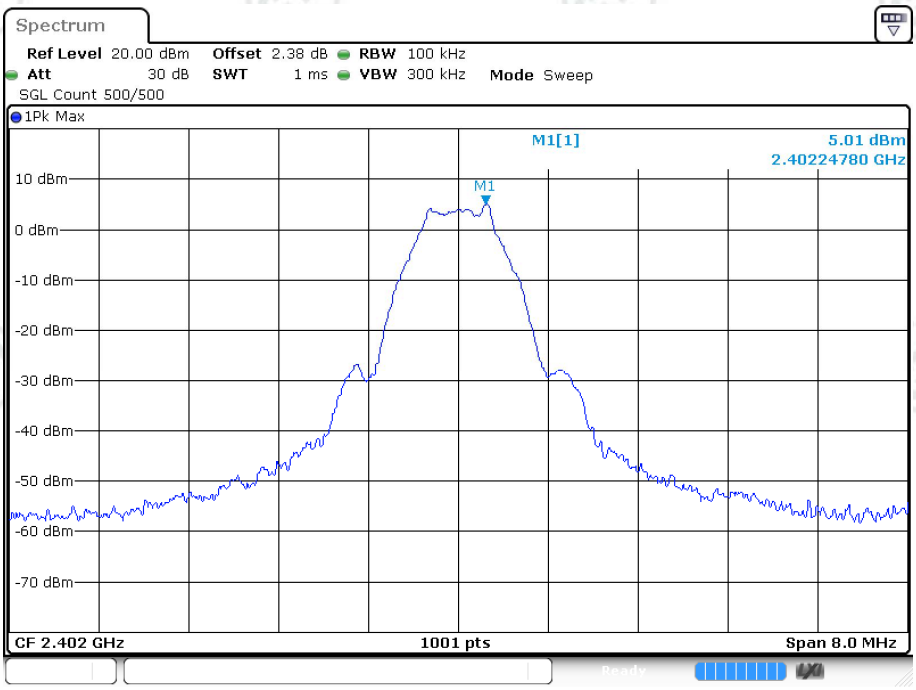
Date: 25.MAR.2025 10:44:30

Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-55.11	-20	Pass
NVNT	BLE 1M	2480	Ant1	-59.56	-20	Pass
NVNT	BLE 2M	2402	Ant1	-34.78	-20	Pass
NVNT	BLE 2M	2480	Ant1	-58.09	-20	Pass

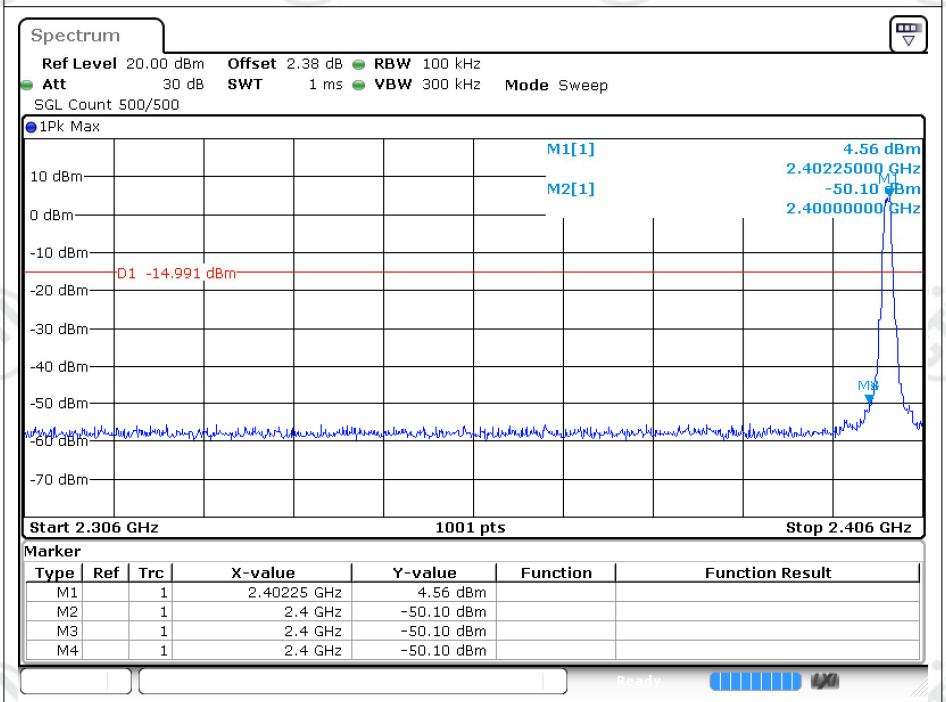
Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Date: 25.MAR.2025 10:33:44

Band Edge NVNT BLE 1M 2402MHz Ant1 Emission

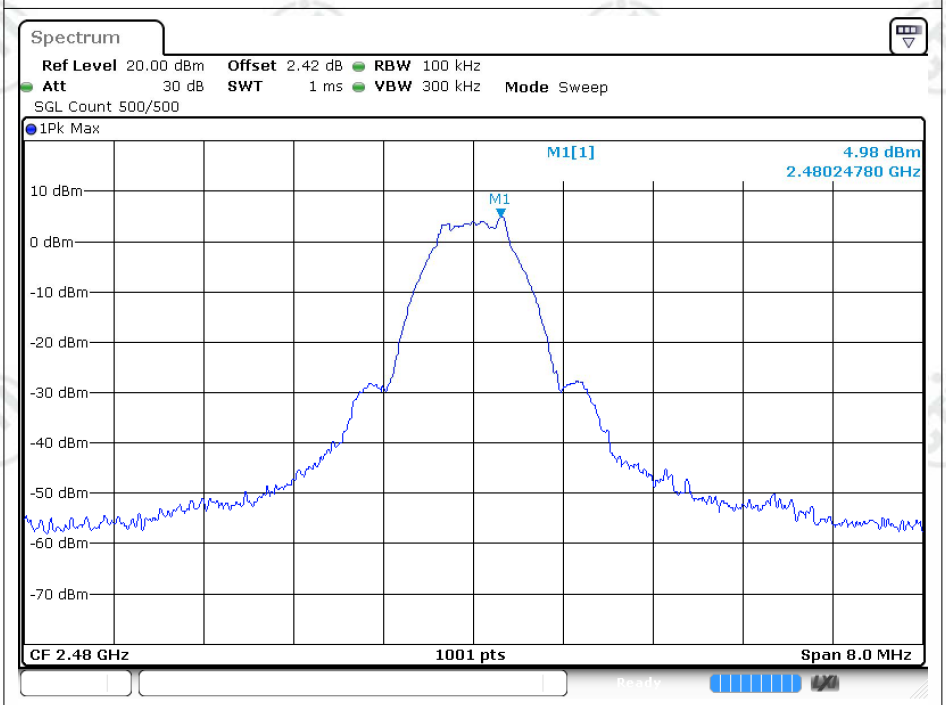


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40225 GHz	4.56 dBm		
M2		1	2.4 GHz	-50.10 dBm		
M3		1	2.4 GHz	-50.10 dBm		
M4		1	2.4 GHz	-50.10 dBm		

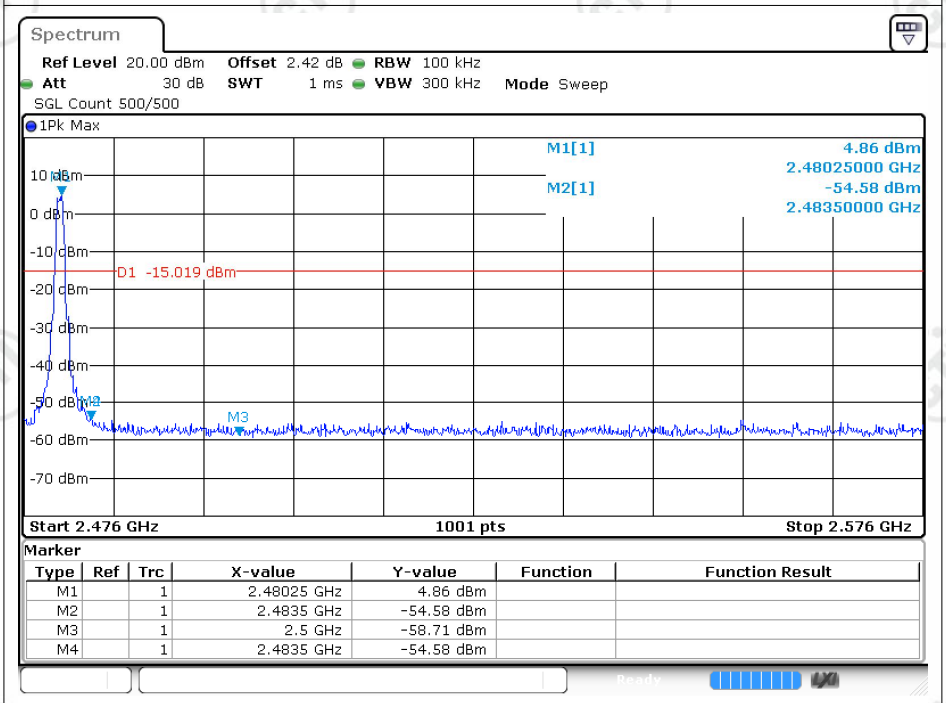
Date: 25.MAR.2025 10:33:48

Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Date: 25.MAR.2025 10:38:00

Band Edge NVNT BLE 1M 2480MHz Ant1 Emission

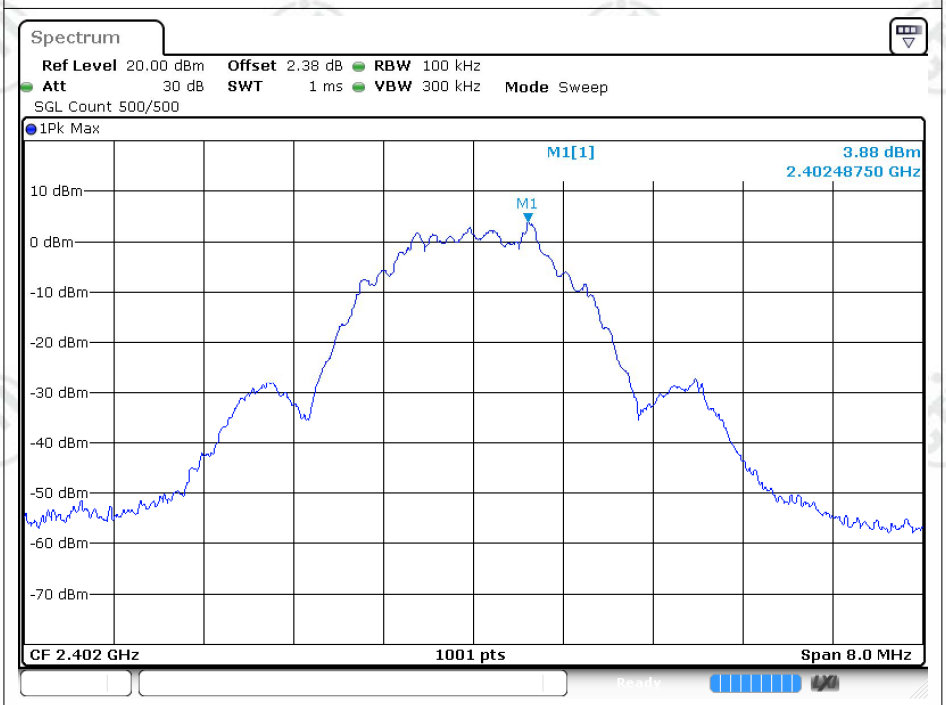


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48025 GHz	4.86 dBm		
M2		1	2.4835 GHz	-54.58 dBm		
M3		1	2.5 GHz	-58.71 dBm		
M4		1	2.4835 GHz	-54.58 dBm		

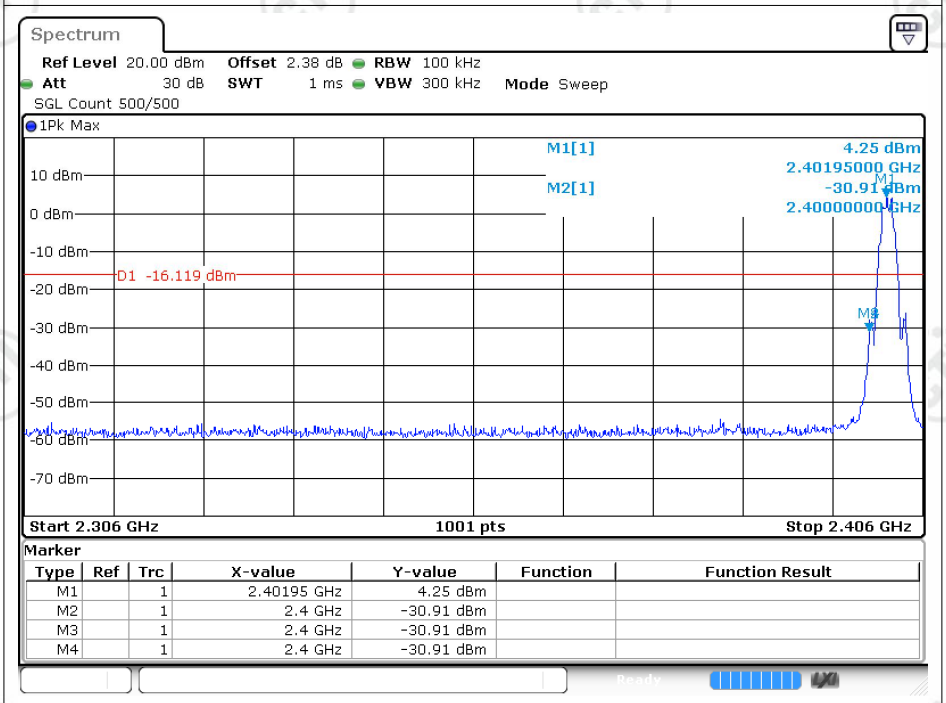
Date: 25.MAR.2025 10:38:03

Band Edge NVNT BLE 2M 2402MHz Ant1 Ref



Date: 25.MAR.2025 10:40:11

Band Edge NVNT BLE 2M 2402MHz Ant1 Emission

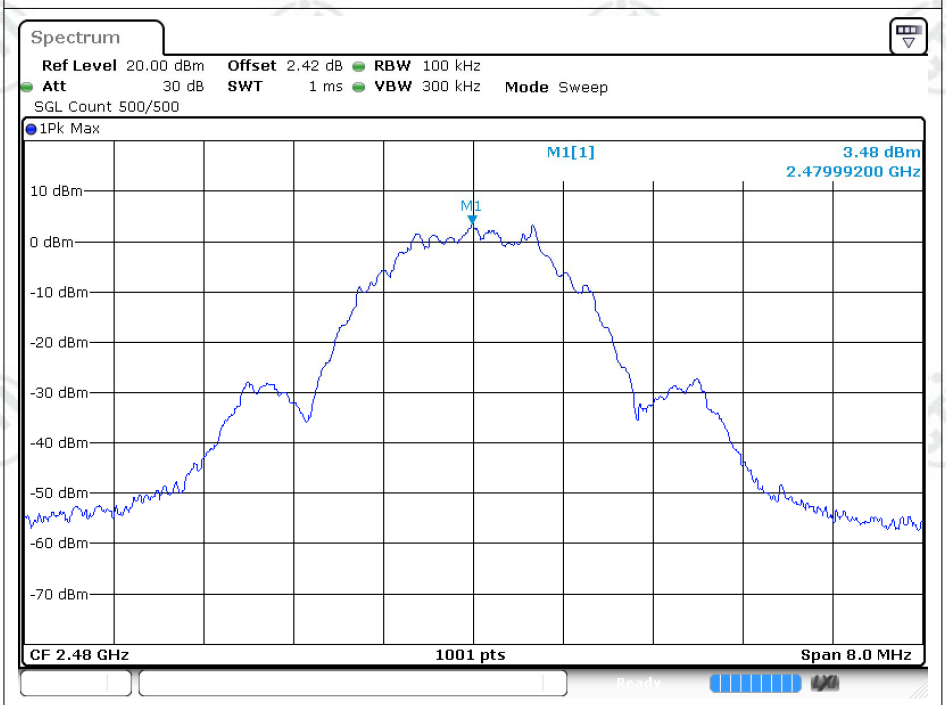


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40195 GHz	4.25 dBm		
M2		1	2.4 GHz	-30.91 dBm		
M3		1	2.4 GHz	-30.91 dBm		
M4		1	2.4 GHz	-30.91 dBm		

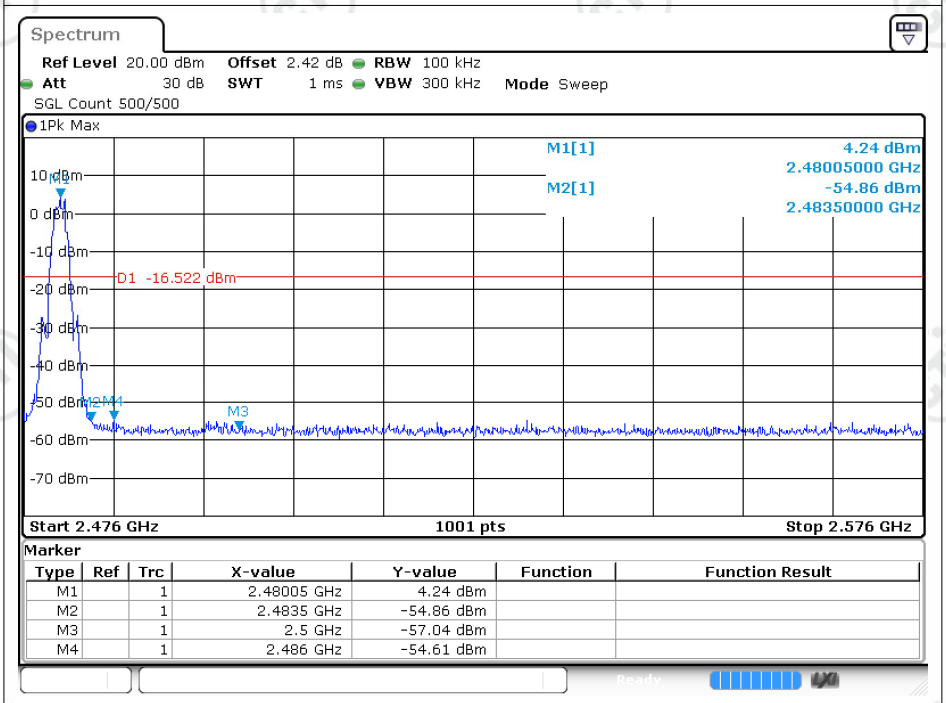
Date: 25.MAR.2025 10:40:15

Band Edge NVNT BLE 2M 2480MHz Ant1 Ref



Date: 25.MAR.2025 10:44:34

Band Edge NVNT BLE 2M 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48005 GHz	4.24 dBm		
M2		1	2.4835 GHz	-54.86 dBm		
M3		1	2.5 GHz	-57.04 dBm		
M4		1	2.486 GHz	-54.61 dBm		

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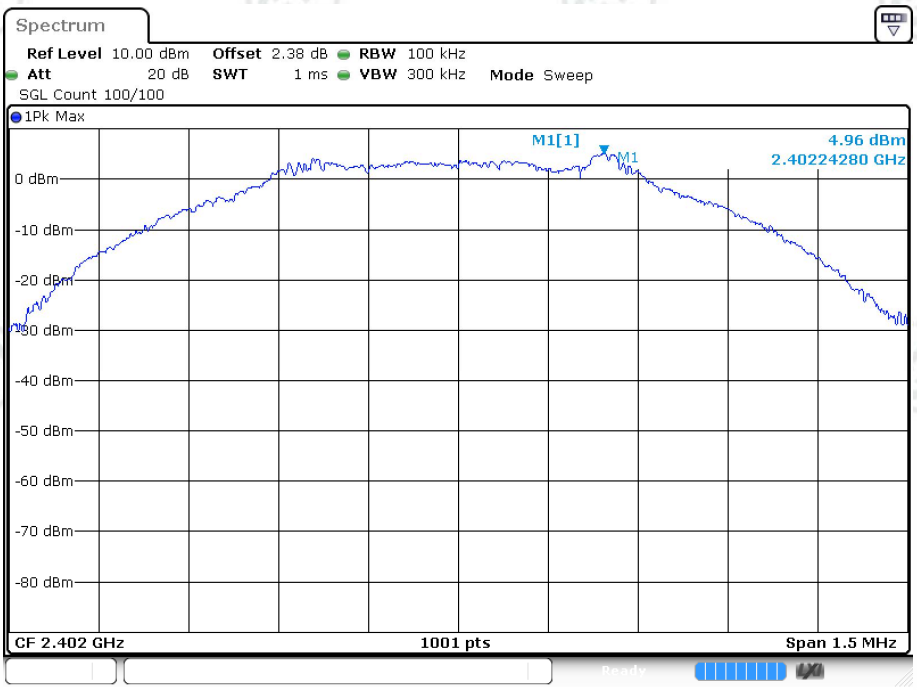
Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-47.69	-20	Pass
NVNT	BLE 1M	2440	Ant1	-44.9	-20	Pass
NVNT	BLE 1M	2480	Ant1	-47.53	-20	Pass
NVNT	BLE 2M	2402	Ant1	-46.61	-20	Pass
NVNT	BLE 2M	2440	Ant1	-43.66	-20	Pass
NVNT	BLE 2M	2480	Ant1	-50.05	-20	Pass

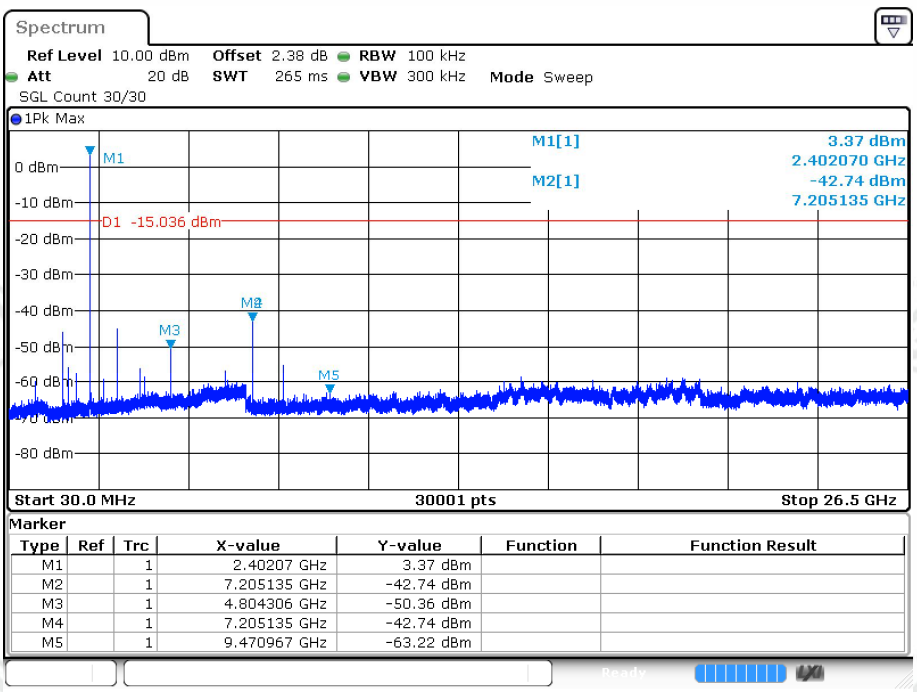
Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Date: 25.MAR.2025 10:33:53

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40207 GHz	3.37 dBm		
M2		1	7.205135 GHz	-42.74 dBm		
M3		1	4.804306 GHz	-50.36 dBm		
M4		1	7.205135 GHz	-42.74 dBm		
M5		1	9.470967 GHz	-63.22 dBm		

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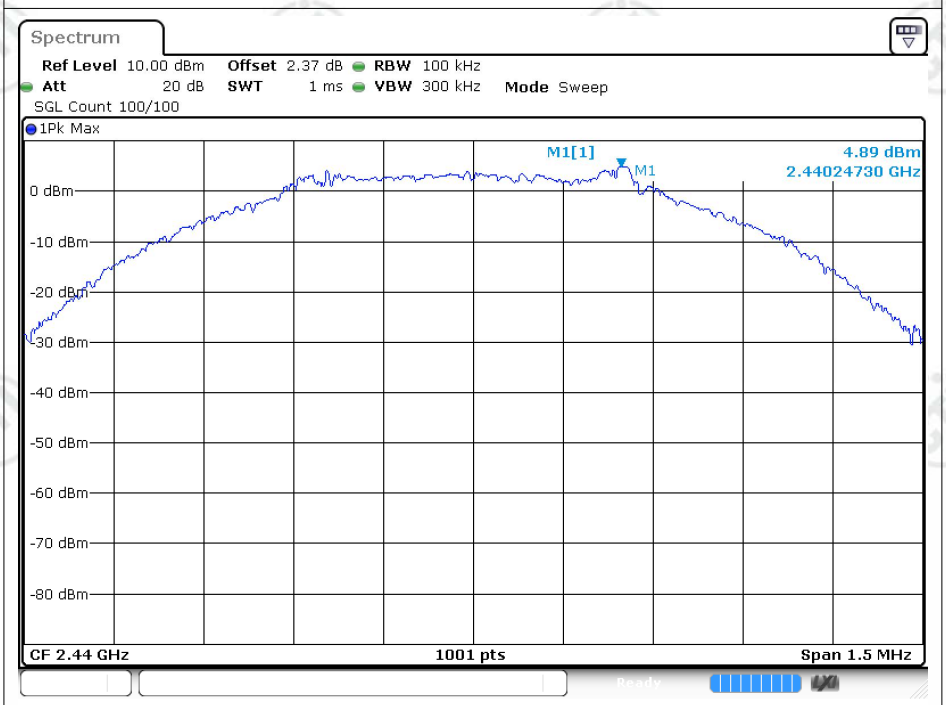
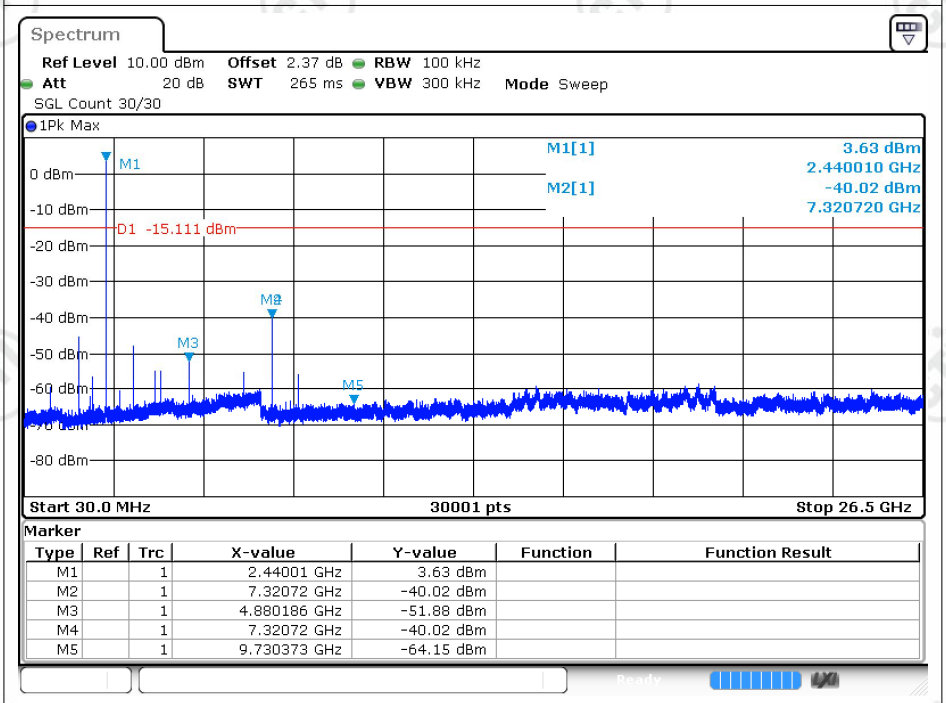
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Date: 25.MAR.2025 10:35:54

Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.44001 GHz	3.63 dBm		
M2		1	7.32072 GHz	-40.02 dBm		
M3		1	4.880186 GHz	-51.88 dBm		
M4		1	7.32072 GHz	-40.02 dBm		
M5		1	9.730373 GHz	-64.15 dBm		

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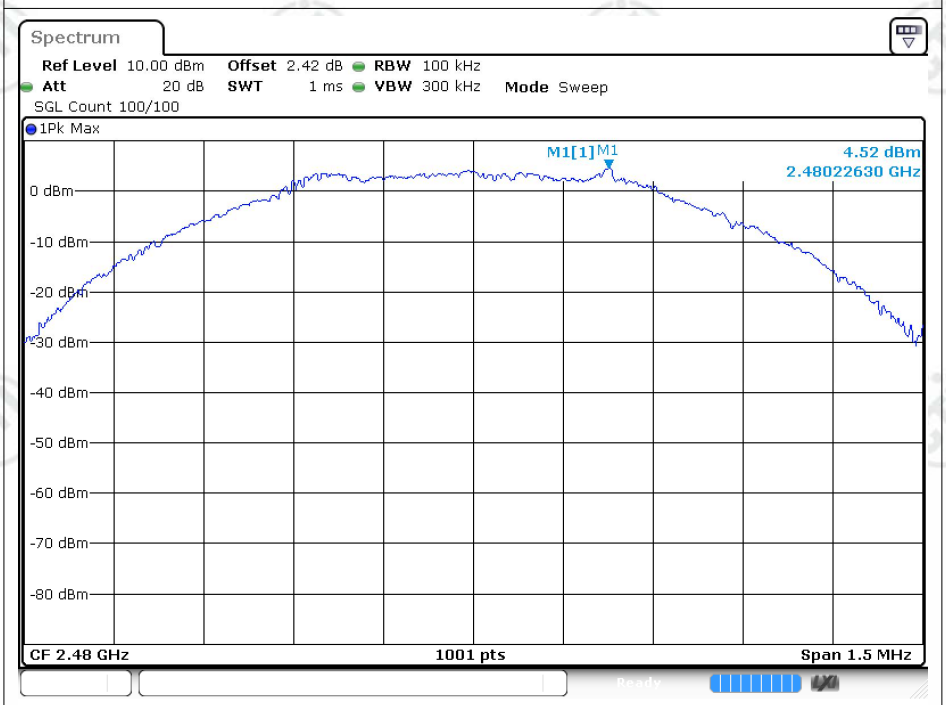
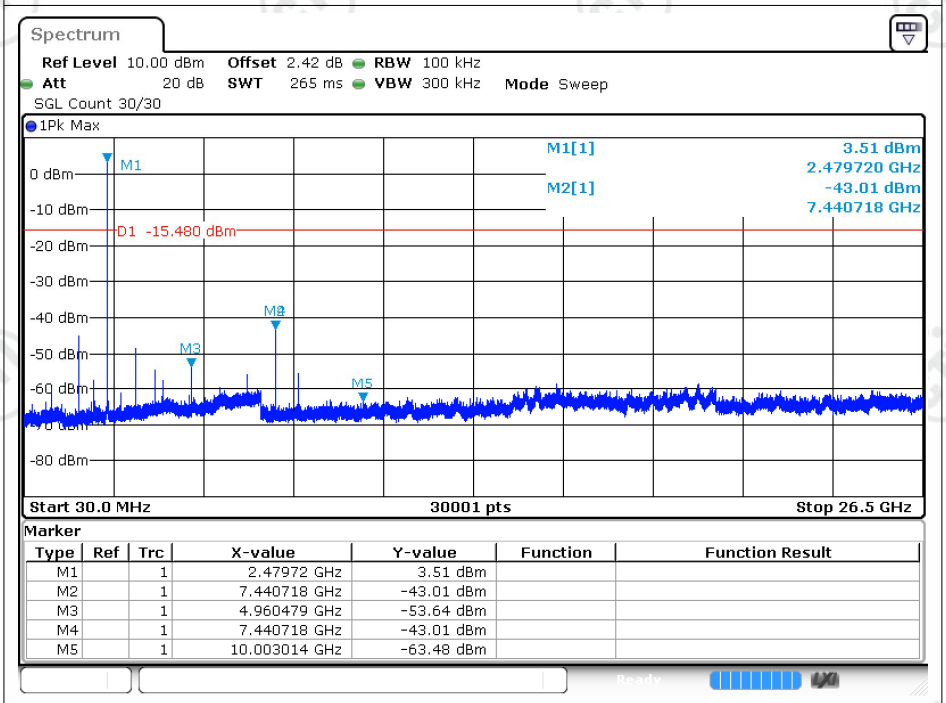
Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Date: 25.MAR.2025 10:38:07

Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47972 GHz	3.51 dBm		
M2		1	7.440718 GHz	-43.01 dBm		
M3		1	4.960479 GHz	-53.64 dBm		
M4		1	7.440718 GHz	-43.01 dBm		
M5		1	10.003014 GHz	-63.48 dBm		

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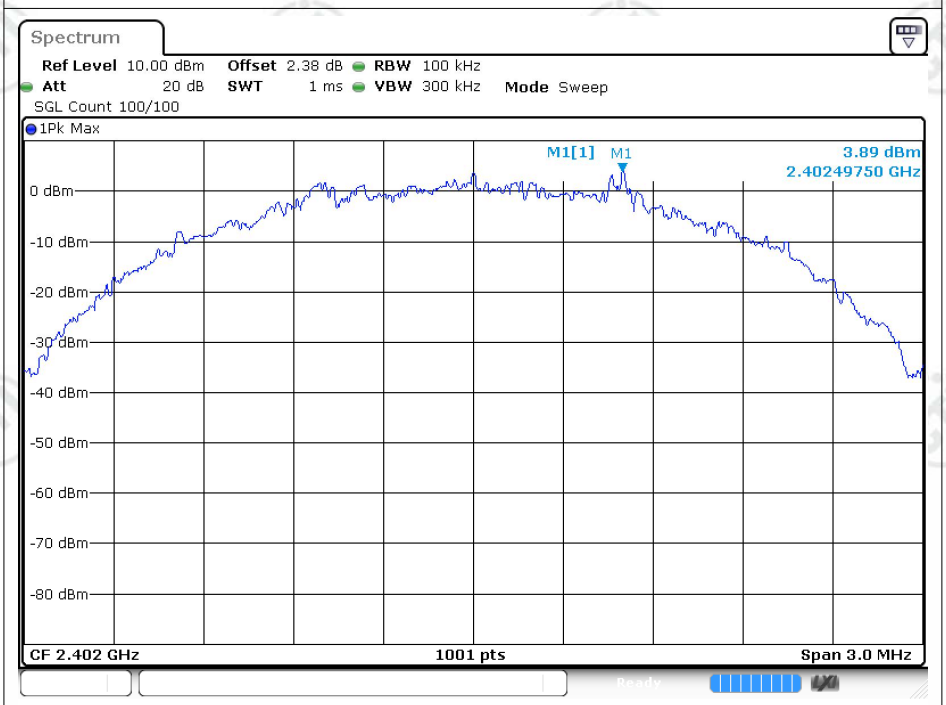
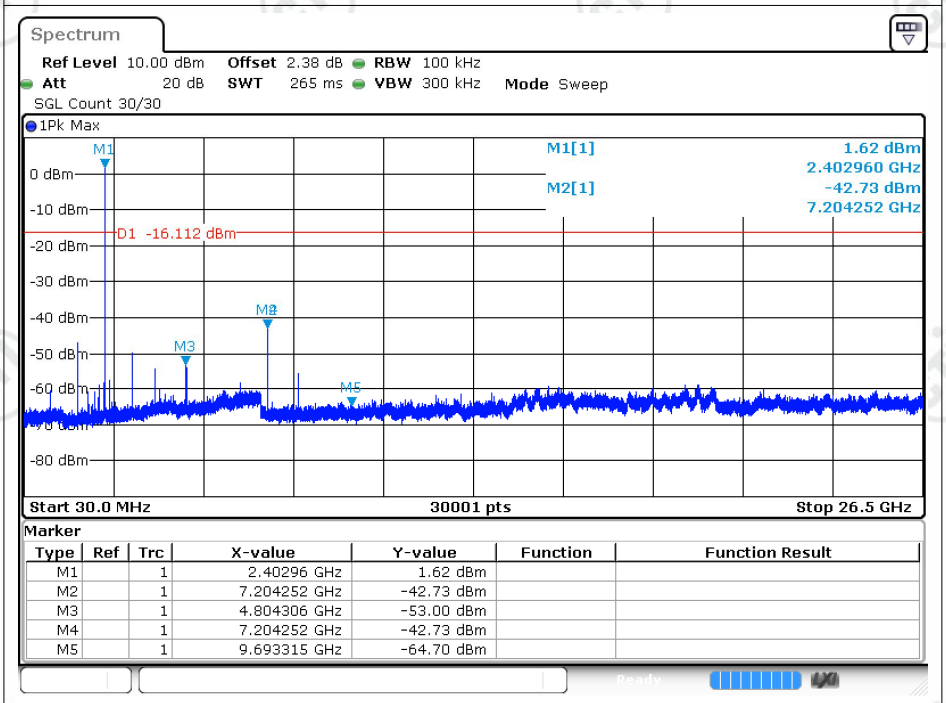
Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref



Date: 25.MAR.2025 10:40:19

Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40296 GHz	1.62 dBm		
M2		1	7.204252 GHz	-42.73 dBm		
M3		1	4.804306 GHz	-53.00 dBm		
M4		1	7.204252 GHz	-42.73 dBm		
M5		1	9.693315 GHz	-64.70 dBm		

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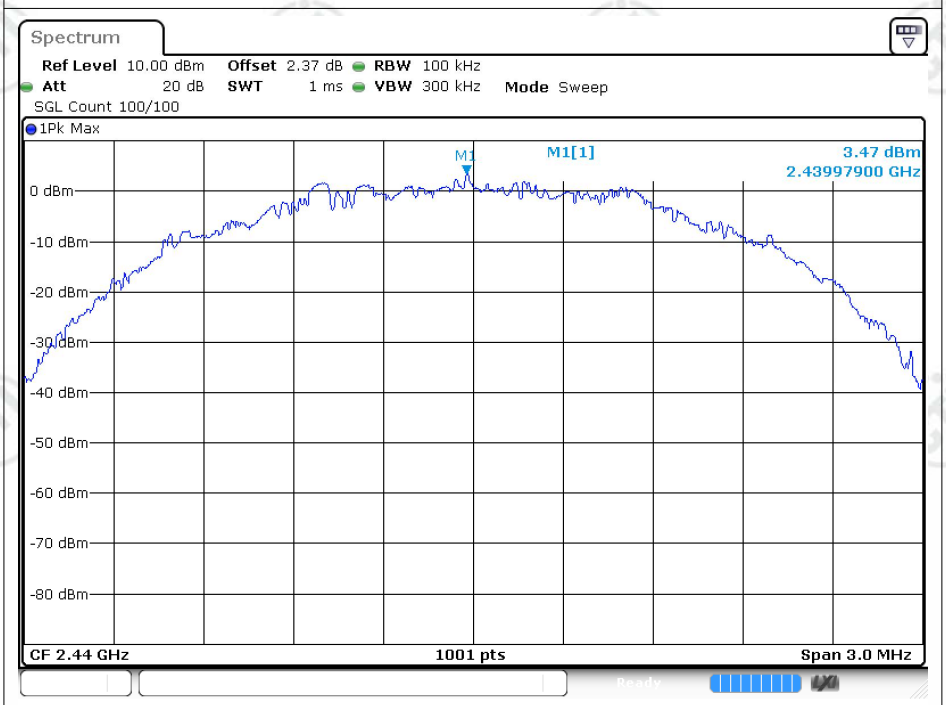
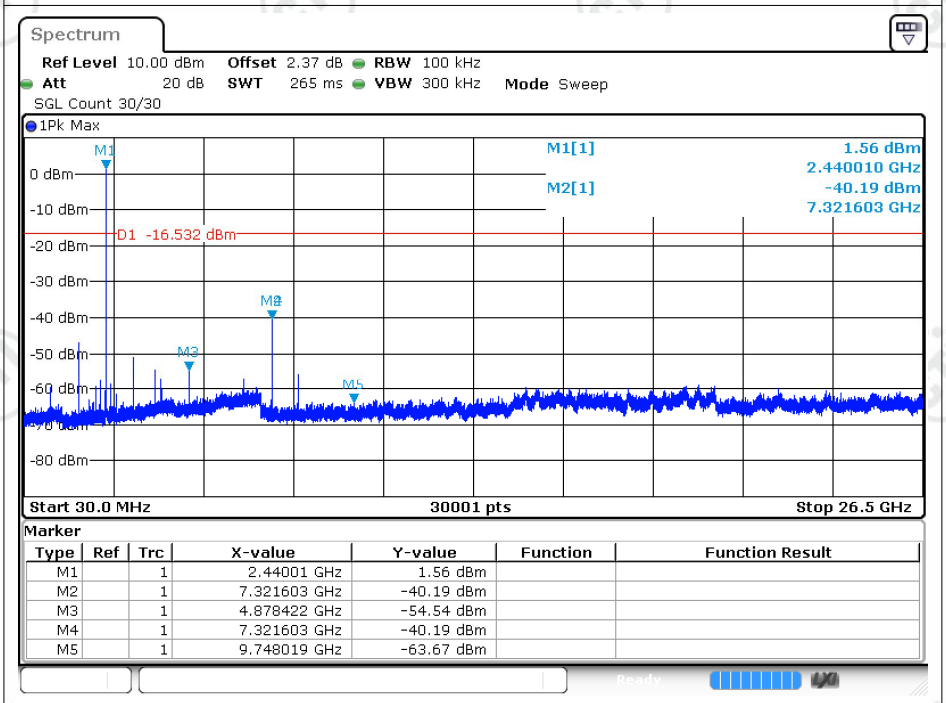
Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Ref



Date: 25.MAR.2025 10:42:32

Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.44001 GHz	1.56 dBm		
M2		1	7.321603 GHz	-40.19 dBm		
M3		1	4.878422 GHz	-54.54 dBm		
M4		1	7.321603 GHz	-40.19 dBm		
M5		1	9.748019 GHz	-63.67 dBm		

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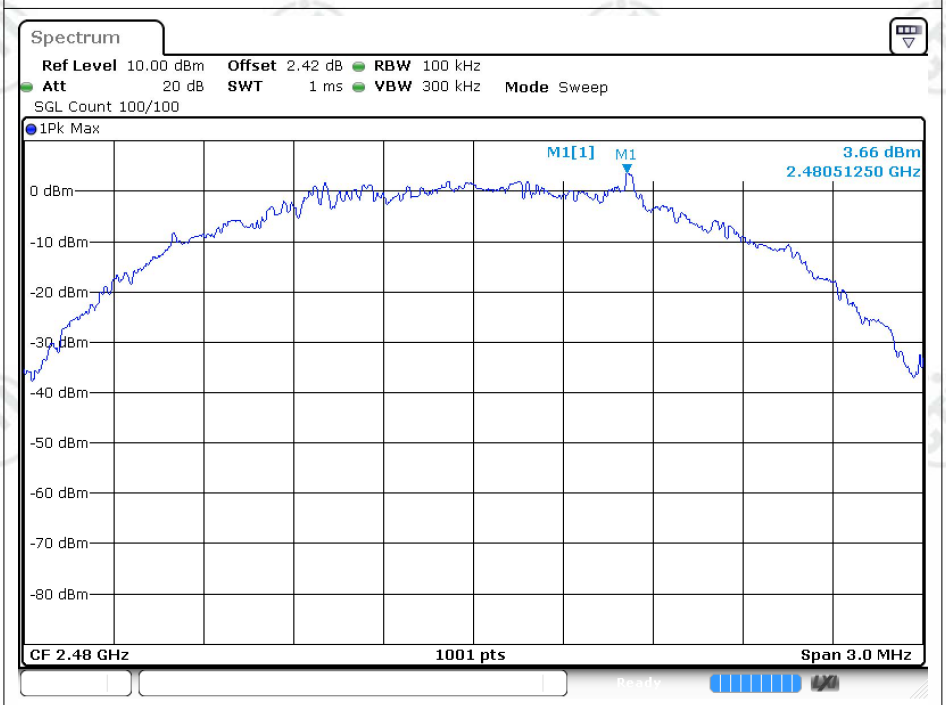
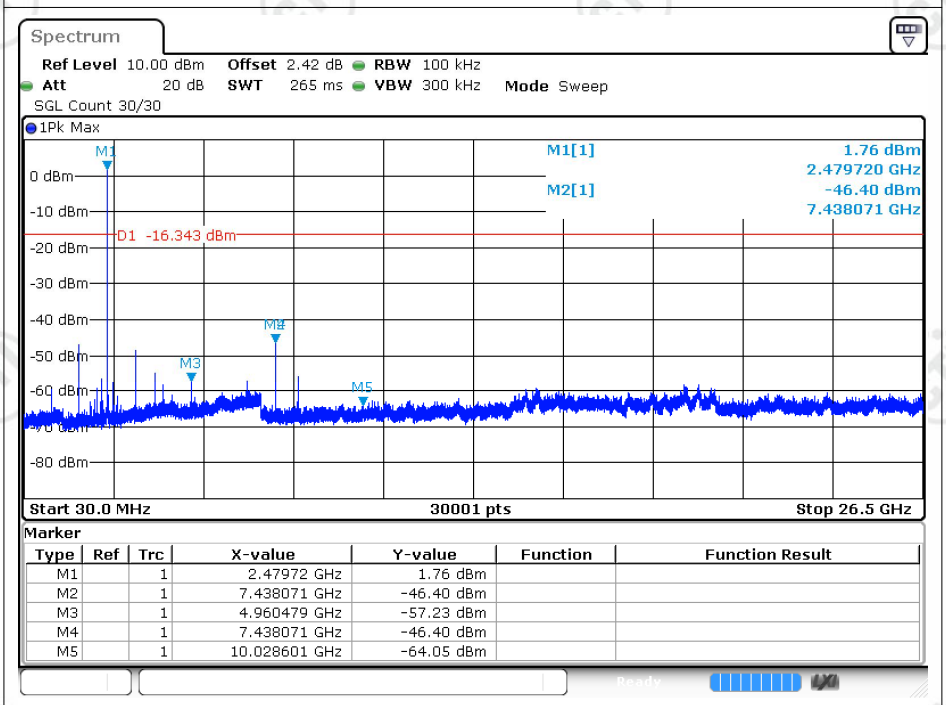
Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Ref



Date: 25.MAR.2025 10:44:41

Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47972 GHz	1.76 dBm		
M2		1	7.438071 GHz	-46.40 dBm		
M3		1	4.960479 GHz	-57.23 dBm		
M4		1	7.438071 GHz	-46.40 dBm		
M5		1	10.028601 GHz	-64.05 dBm		

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*** End of Report ***