Appendix: 2.4G Wi-Fi

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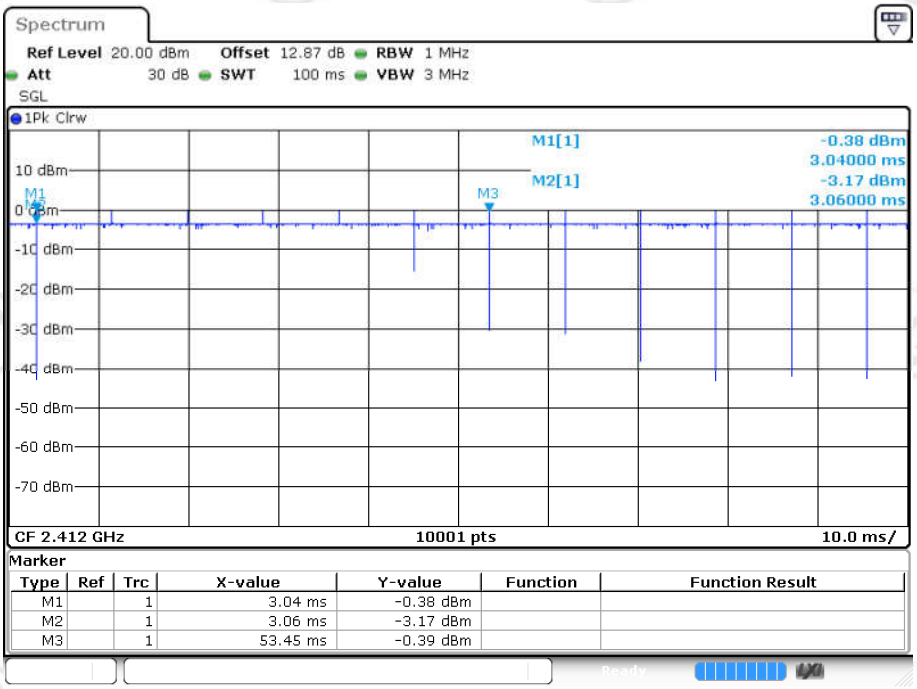
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Duty Cycle Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	99.96	0	0.02
NVNT	b	2437	Ant1	99.76	0	0.12
NVNT	b	2462	Ant1	99.76	0	0.12
NVNT	g	2412	Ant1	98.58	0	0.72
NVNT	g	2437	Ant1	98.58	0	0.72
NVNT	g	2462	Ant1	98.58	0	0.72
NVNT	n20	2412	Ant1	98.86	0	0.77
NVNT	n20	2437	Ant1	98.48	0	0.77
NVNT	n20	2462	Ant1	98.86	0	0.77
NVNT	n40	2422	Ant1	99.51	0	0.31
NVNT	n40	2437	Ant1	96.34	0.16	1.58
NVNT	n40	2452	Ant1	97.53	0.11	1.58

Note:Duty cycle factor = 10*lg (1/Duty cycle);

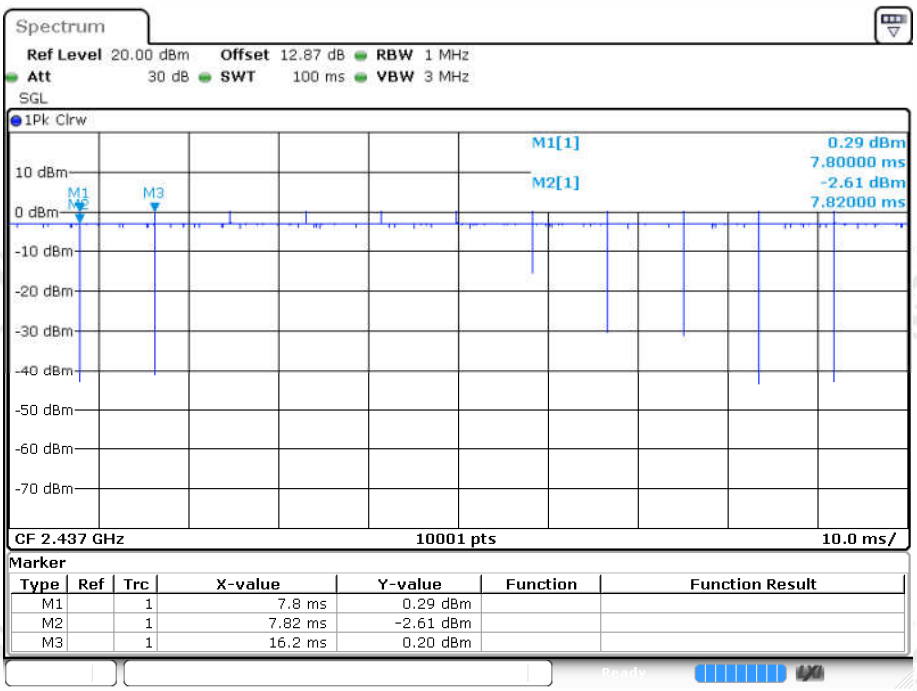
Test Graphs

Duty Cycle NVNT b 2412MHz Ant1



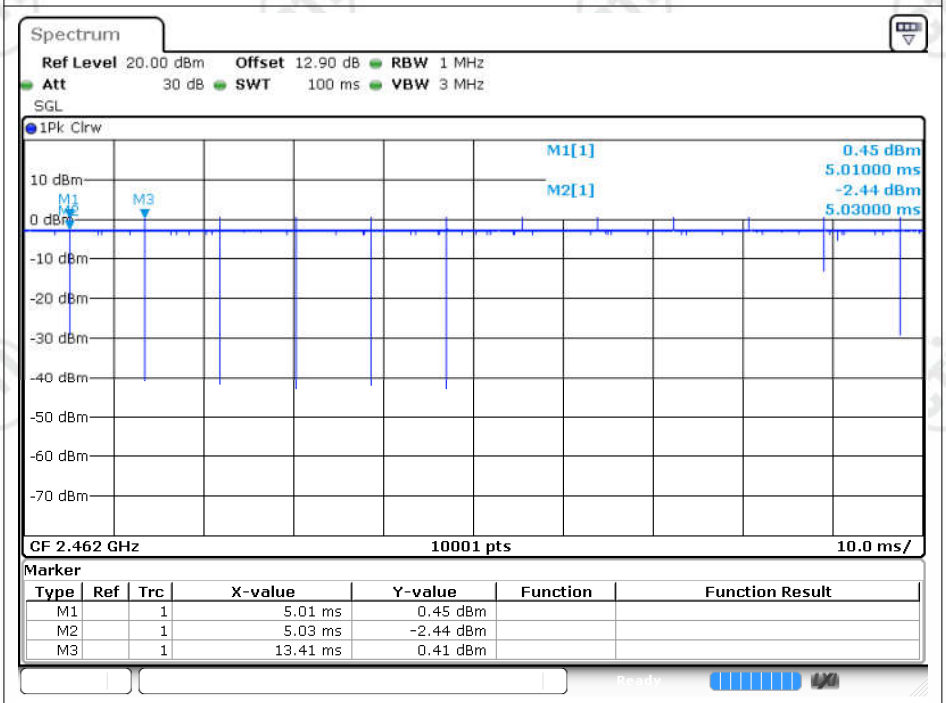
Date: 22.MAR.2024 09:50:08

Duty Cycle NVNT b 2437MHz Ant1



Date: 22.MAR.2024 09:52:12

Duty Cycle NVNT b 2462MHz Ant1

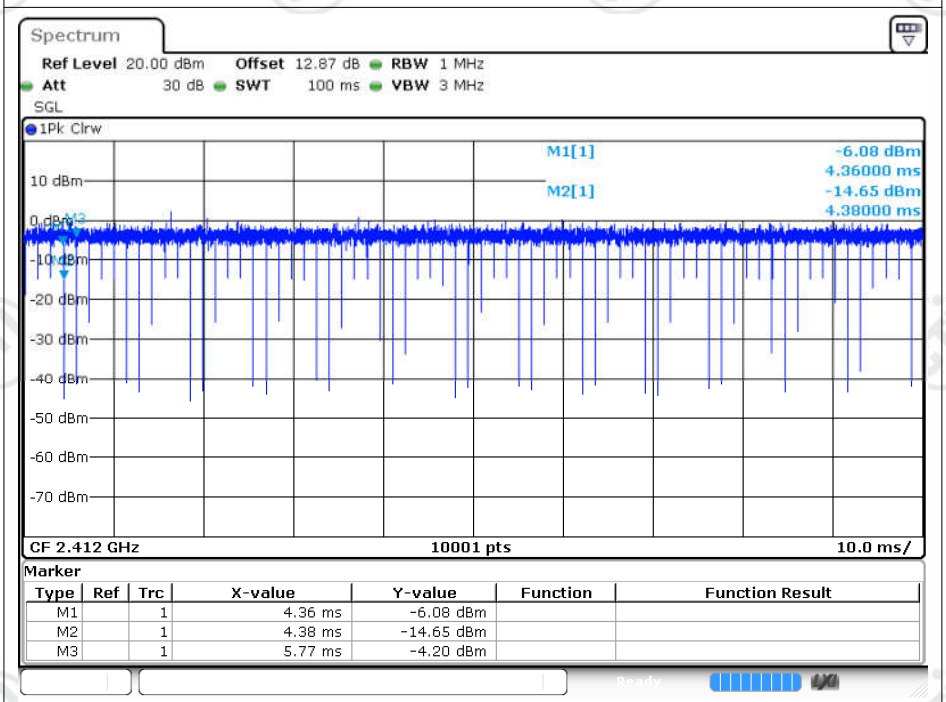


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.01 ms	0.45 dBm		
M2		1	5.03 ms	-2.44 dBm		
M3		1	13.41 ms	0.41 dBm		

Date: 22.MAR.2024 10:22:55

Duty Cycle NVNT g 2412MHz Ant1

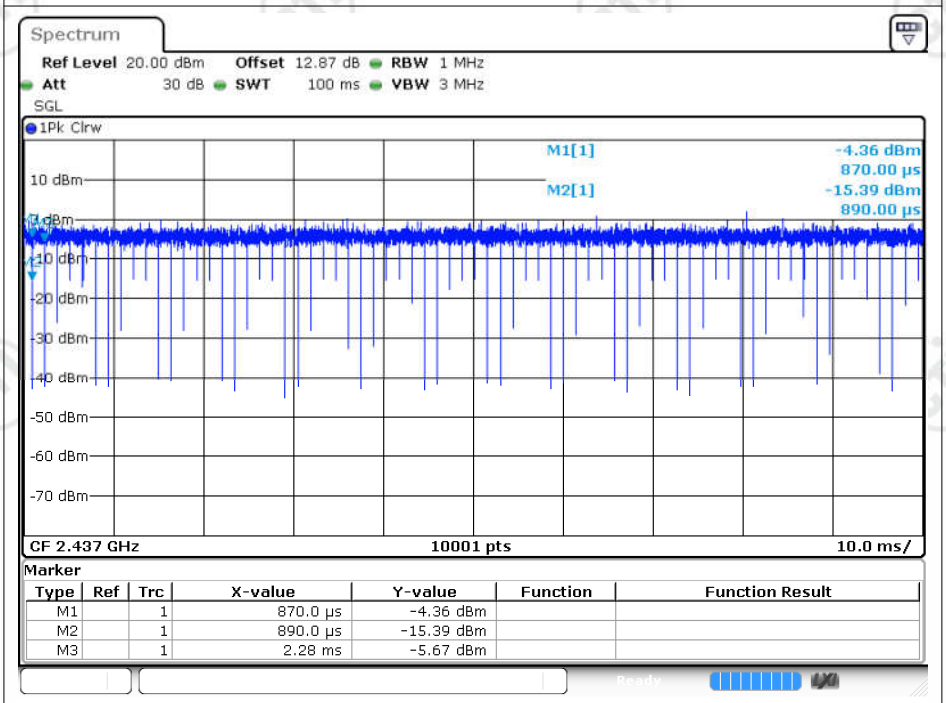


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	4.36 ms	-6.08 dBm		
M2		1	4.38 ms	-14.65 dBm		
M3		1	5.77 ms	-4.20 dBm		

Date: 22.MAR.2024 09:56:42

Duty Cycle NVNT g 2437MHz Ant1

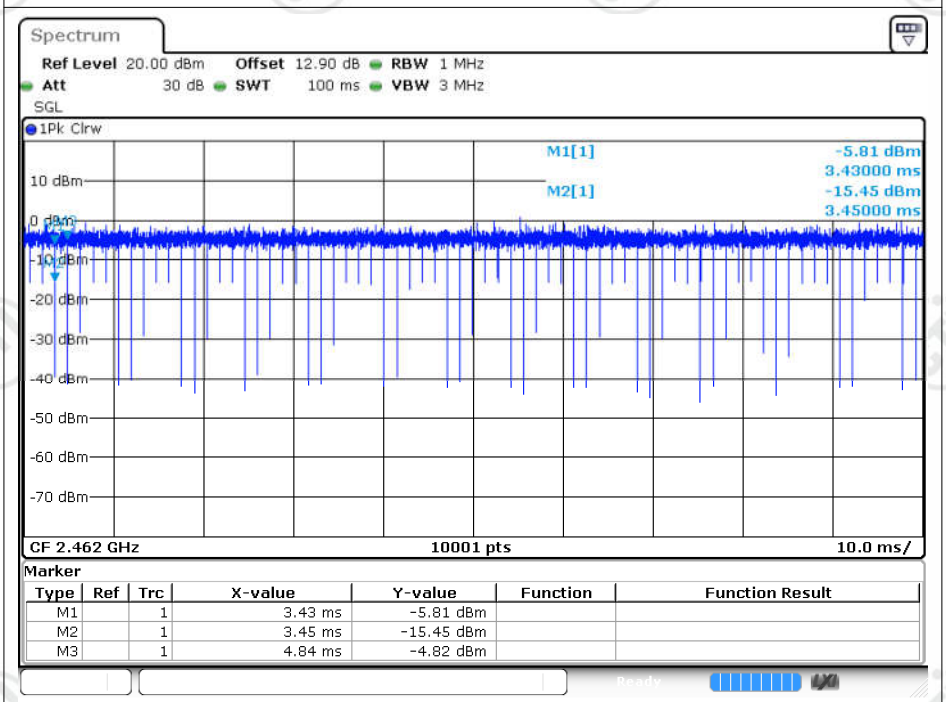


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	870.0 µs	-4.36 dBm		
M2		1	890.0 µs	-15.39 dBm		
M3		1	2.28 ms	-5.67 dBm		

Date: 22.MAR.2024 09:59:48

Duty Cycle NVNT g 2462MHz Ant1

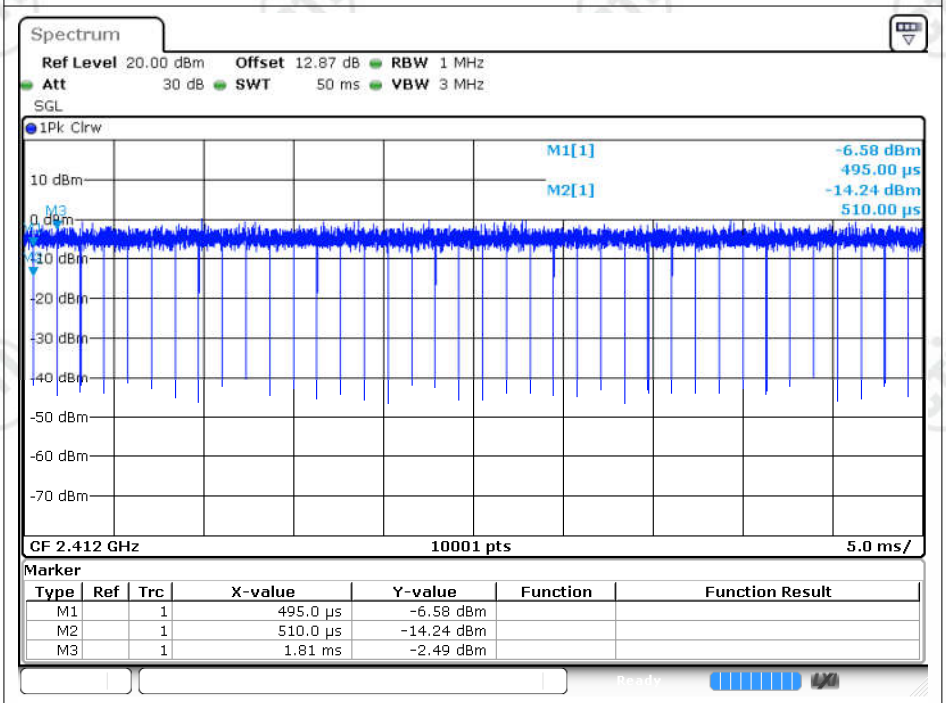


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	3.43 ms	-5.81 dBm		
M2		1	3.45 ms	-15.45 dBm		
M3		1	4.84 ms	-4.82 dBm		

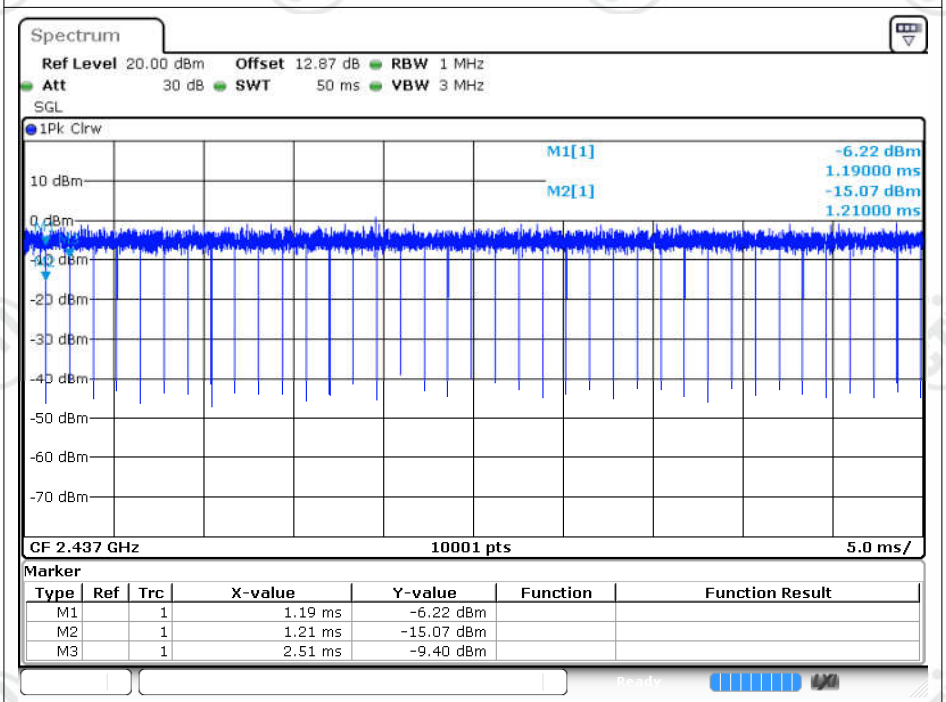
Date: 22.MAR.2024 10:02:38

Duty Cycle NVNT n20 2412MHz Ant1



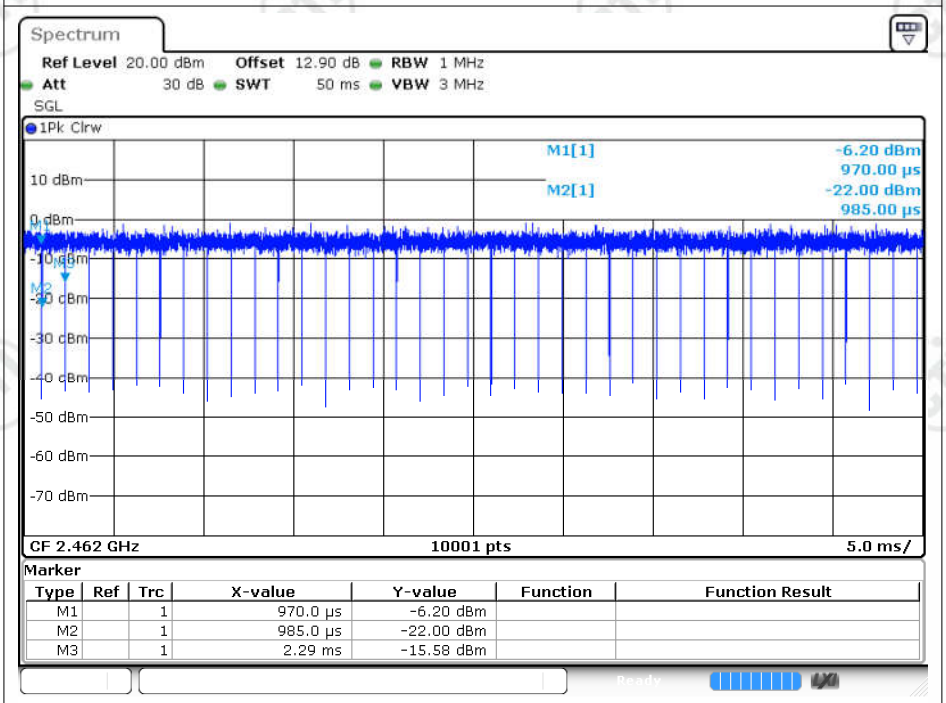
Date: 22.MAR.2024 10:06:03

Duty Cycle NVNT n20 2437MHz Ant1



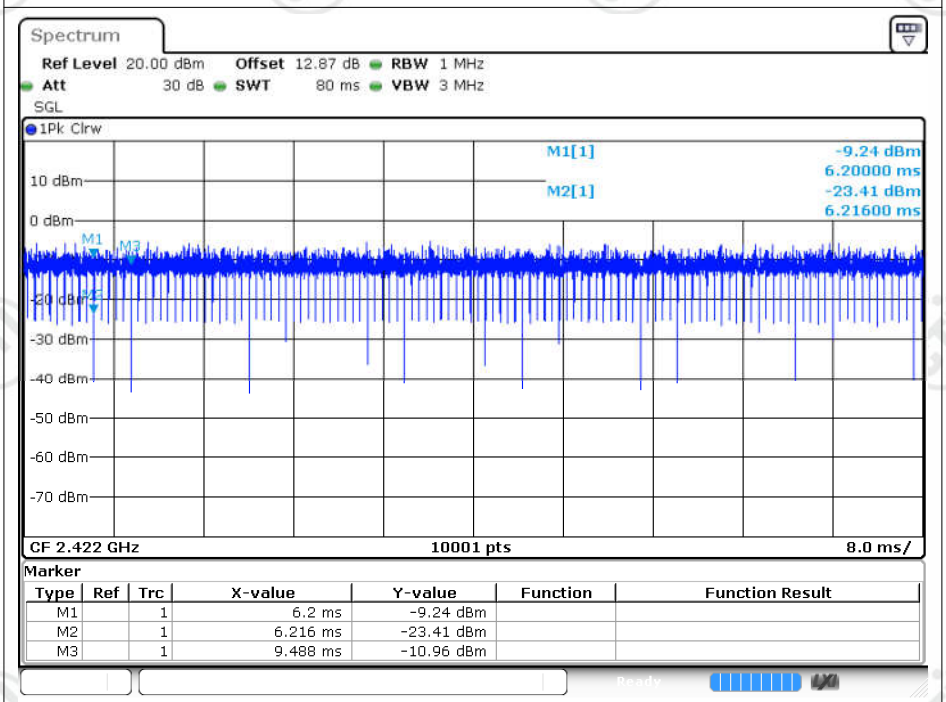
Date: 22.MAR.2024 10:08:06

Duty Cycle NVNT n20 2462MHz Ant1



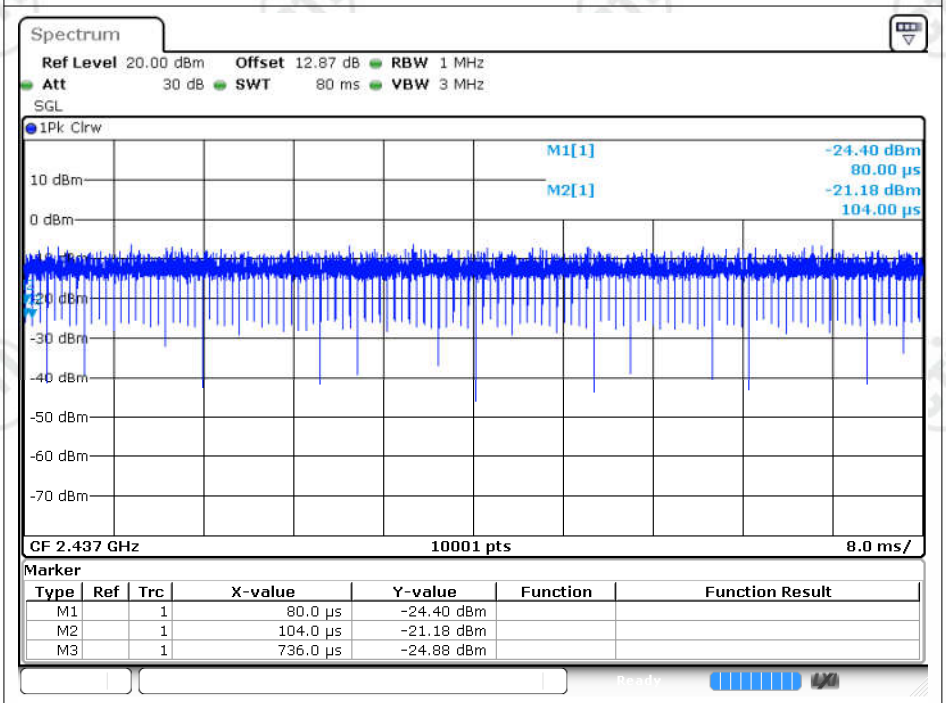
Date: 22.MAR.2024 10:10:02

Duty Cycle NVNT n40 2422MHz Ant1



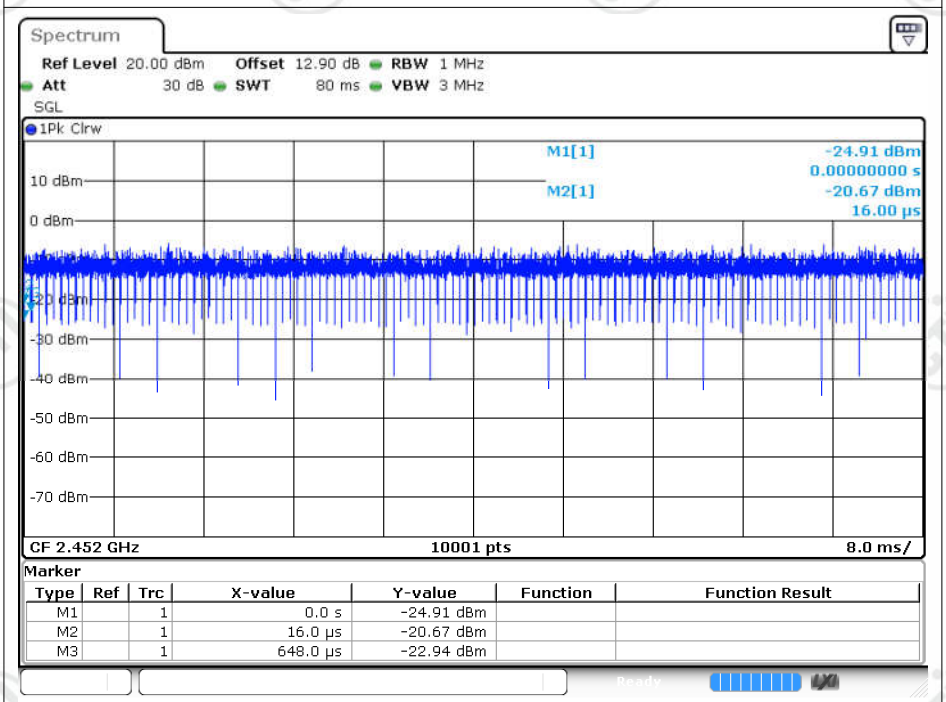
Date: 22.MAR.2024 10:13:01

Duty Cycle NVNT n40 2437MHz Ant1



Date: 22.MAR.2024 10:16:33

Duty Cycle NVNT n40 2452MHz Ant1



Date: 22.MAR.2024 10:18:55

Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	3.22	30	Pass
NVNT	b	2437	Ant1	**3.88**	30	Pass
NVNT	b	2462	Ant1	3.8	30	Pass
NVNT	g	2412	Ant1	3.8	30	Pass
NVNT	g	2437	Ant1	3.52	30	Pass
NVNT	g	2462	Ant1	2.95	30	Pass
NVNT	n20	2412	Ant1	3.73	30	Pass
NVNT	n20	2437	Ant1	3.43	30	Pass
NVNT	n20	2462	Ant1	2.72	30	Pass
NVNT	n40	2422	Ant1	3.36	30	Pass
NVNT	n40	2437	Ant1	2.37	30	Pass
NVNT	n40	2452	Ant1	2.86	30	Pass

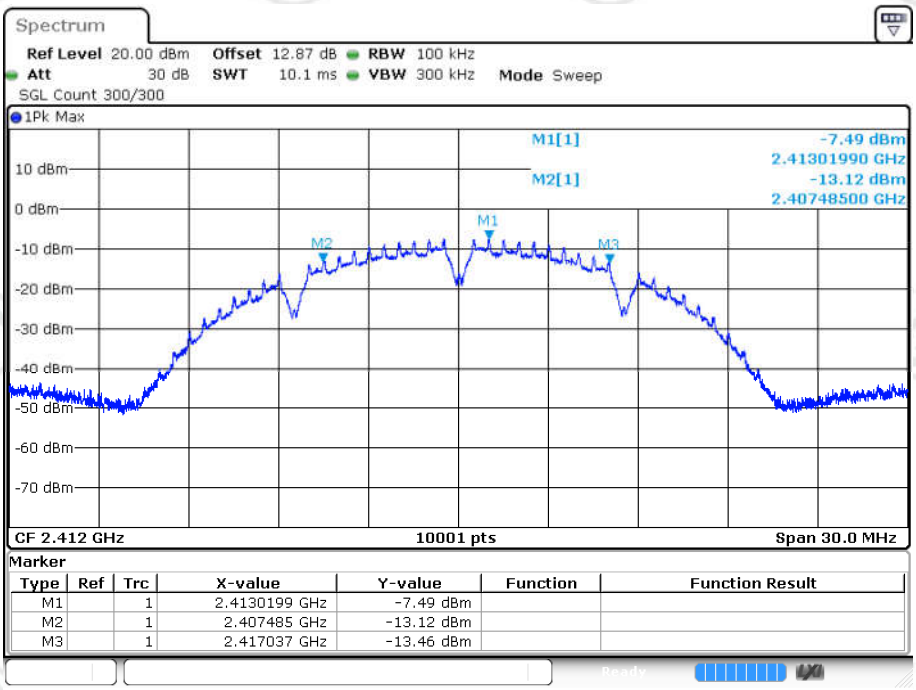
Note:Conducted Power has been added Duty Cycle Factor.

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.552	0.5	Pass
NVNT	b	2437	Ant1	9.537	0.5	Pass
NVNT	b	2462	Ant1	9.54	0.5	Pass
NVNT	g	2412	Ant1	15.66	0.5	Pass
NVNT	g	2437	Ant1	15.429	0.5	Pass
NVNT	g	2462	Ant1	15.108	0.5	Pass
NVNT	n20	2412	Ant1	15.933	0.5	Pass
NVNT	n20	2437	Ant1	15.312	0.5	Pass
NVNT	n20	2462	Ant1	15.429	0.5	Pass
NVNT	n40	2422	Ant1	35.28	0.5	Pass
NVNT	n40	2437	Ant1	35.304	0.5	Pass
NVNT	n40	2452	Ant1	35.118	0.5	Pass

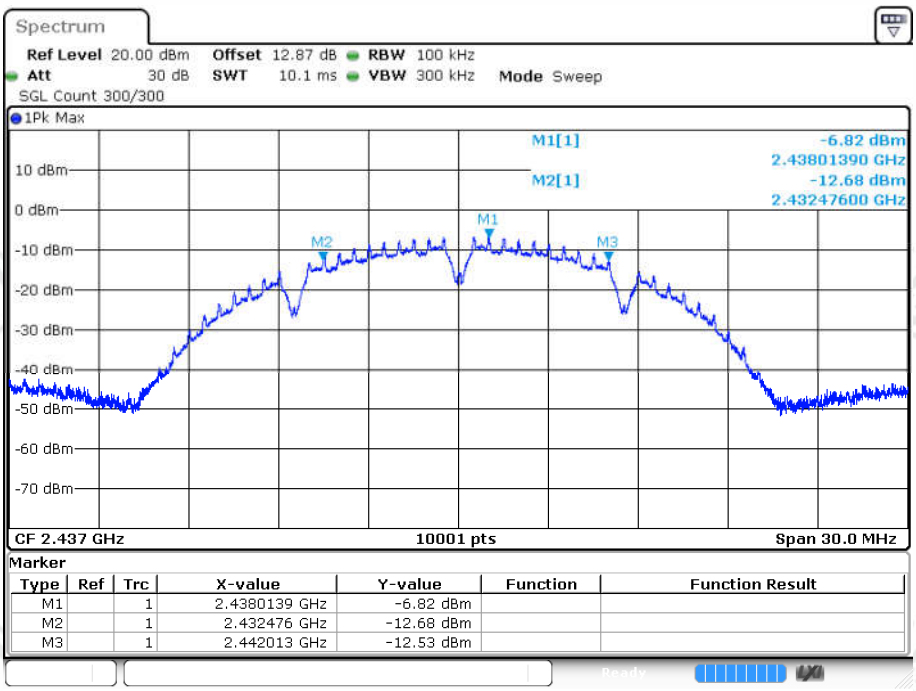
Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



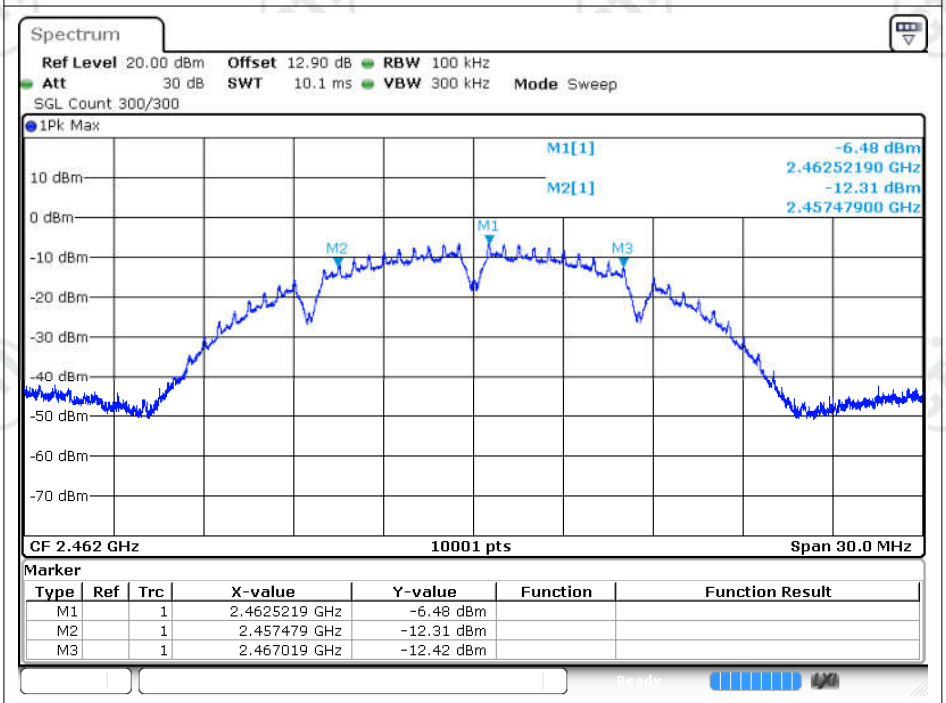
Date: 22.MAR.2024 09:50:32

-6dB Bandwidth NVNT b 2437MHz Ant1



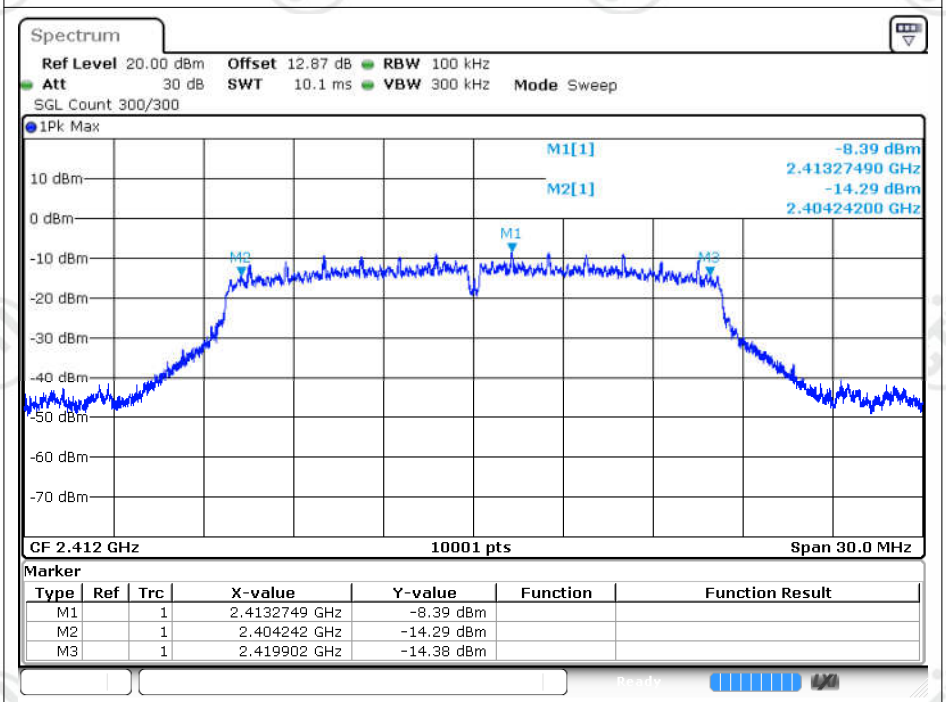
Date: 22.MAR.2024 09:52:37

-6dB Bandwidth NVNT b 2462MHz Ant1



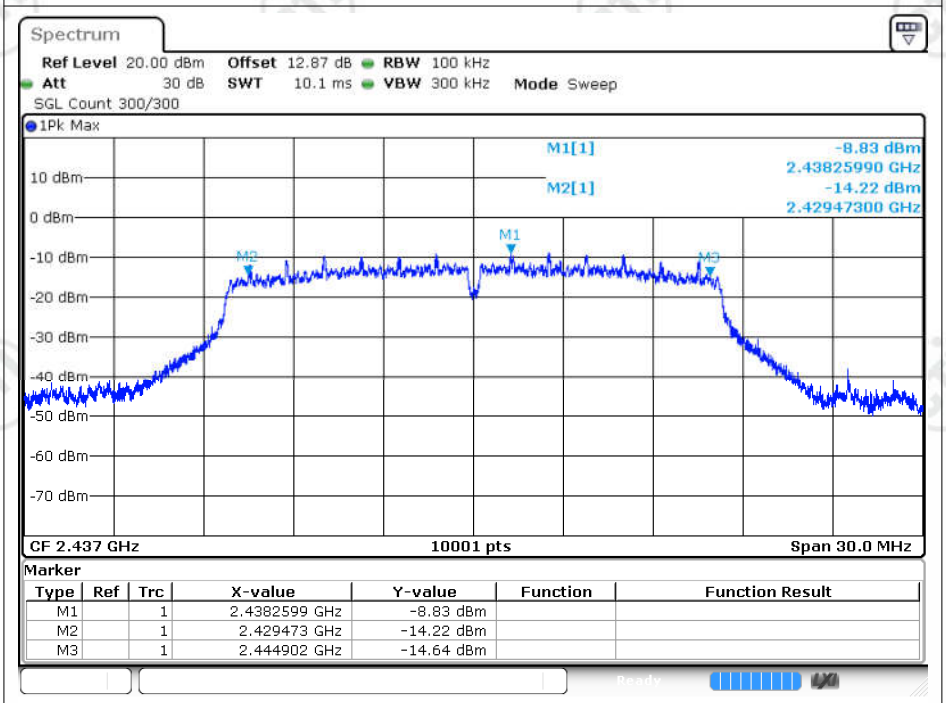
Date: 22.MAR.2024 10:23:22

-6dB Bandwidth NVNT g 2412MHz Ant1



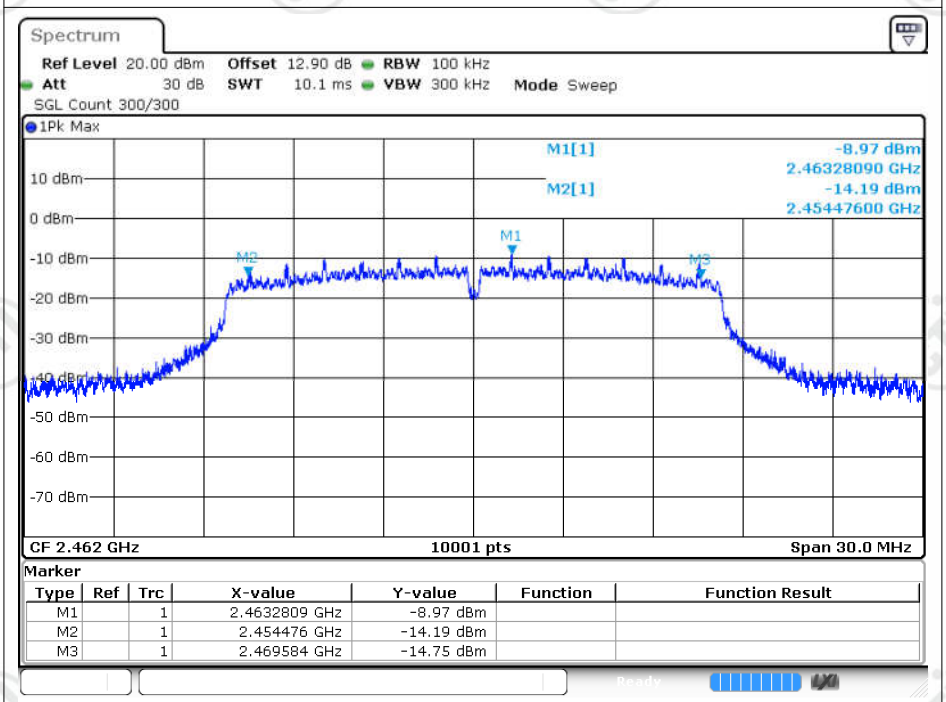
Date: 22.MAR.2024 09:57:06

-6dB Bandwidth NVNT g 2437MHz Ant1



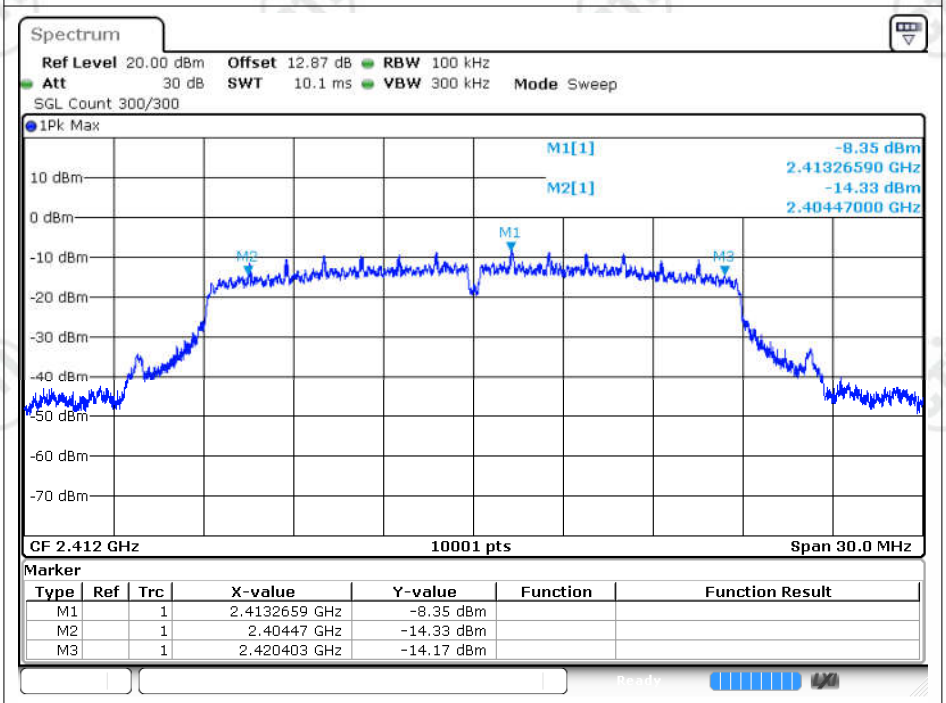
Date: 22.MAR.2024 10:00:14

-6dB Bandwidth NVNT g 2462MHz Ant1



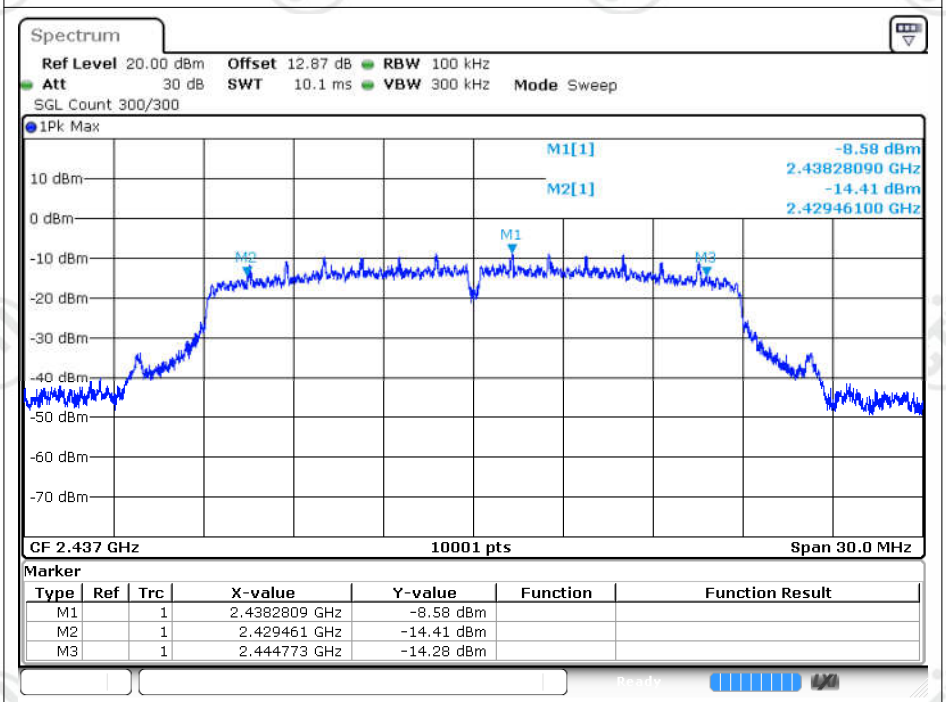
Date: 22.MAR.2024 10:03:05

-6dB Bandwidth NVNT n20 2412MHz Ant1



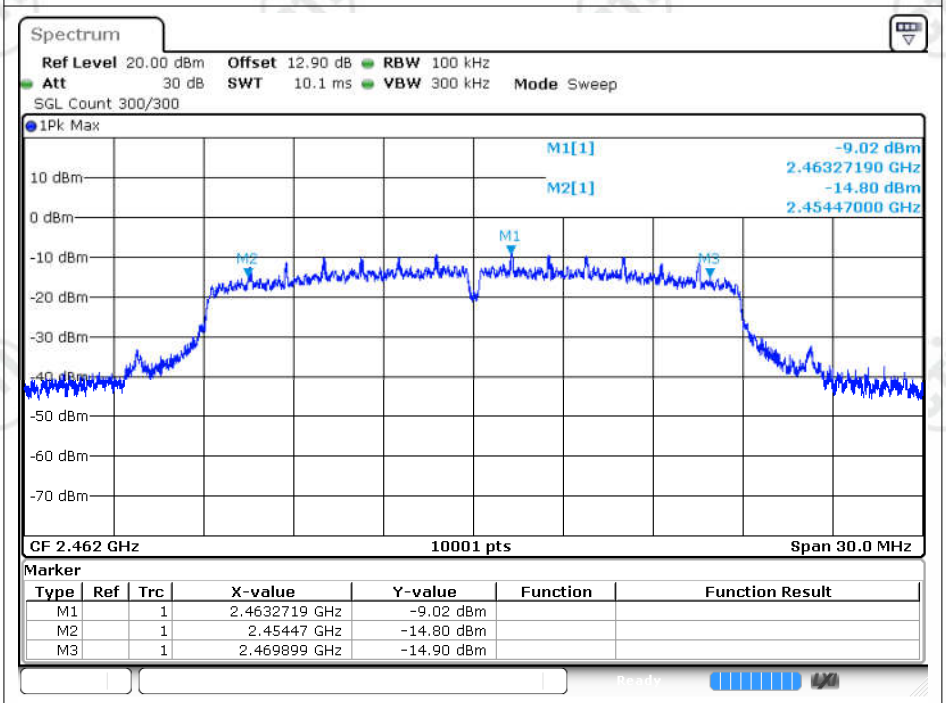
Date: 22.MAR.2024 10:06:27

-6dB Bandwidth NVNT n20 2437MHz Ant1



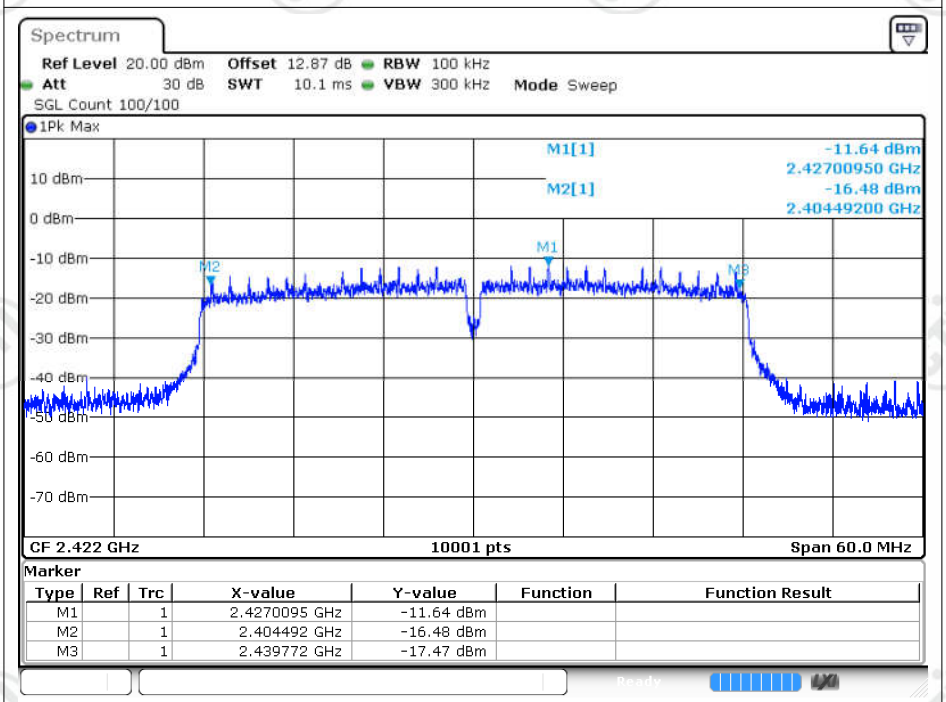
Date: 22.MAR.2024 10:08:31

-6dB Bandwidth NVNT n20 2462MHz Ant1



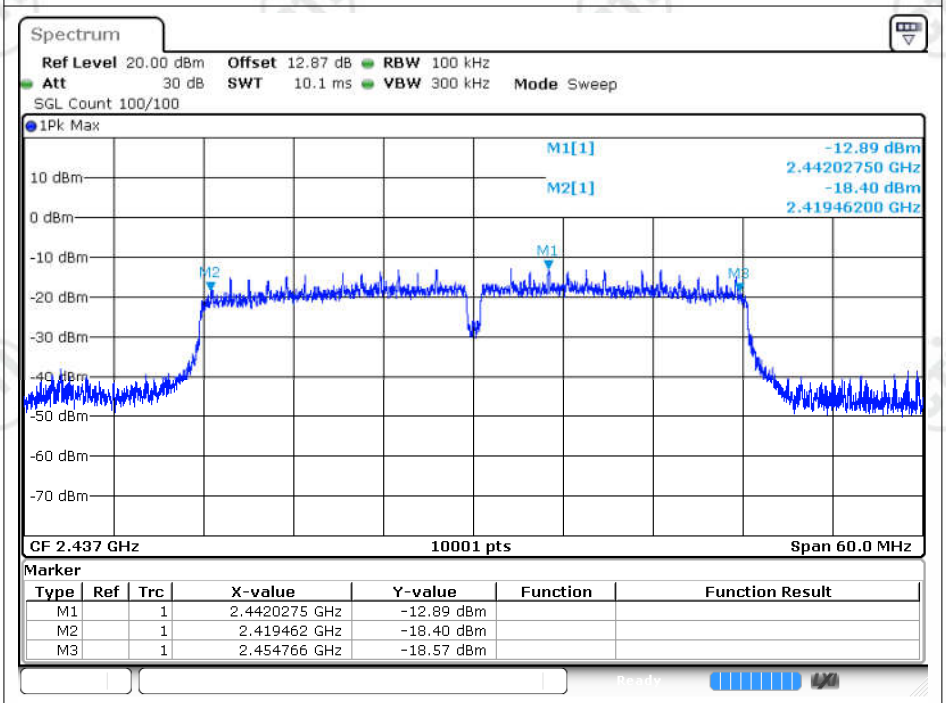
Date: 22.MAR.2024 10:10:29

-6dB Bandwidth NVNT n40 2422MHz Ant1



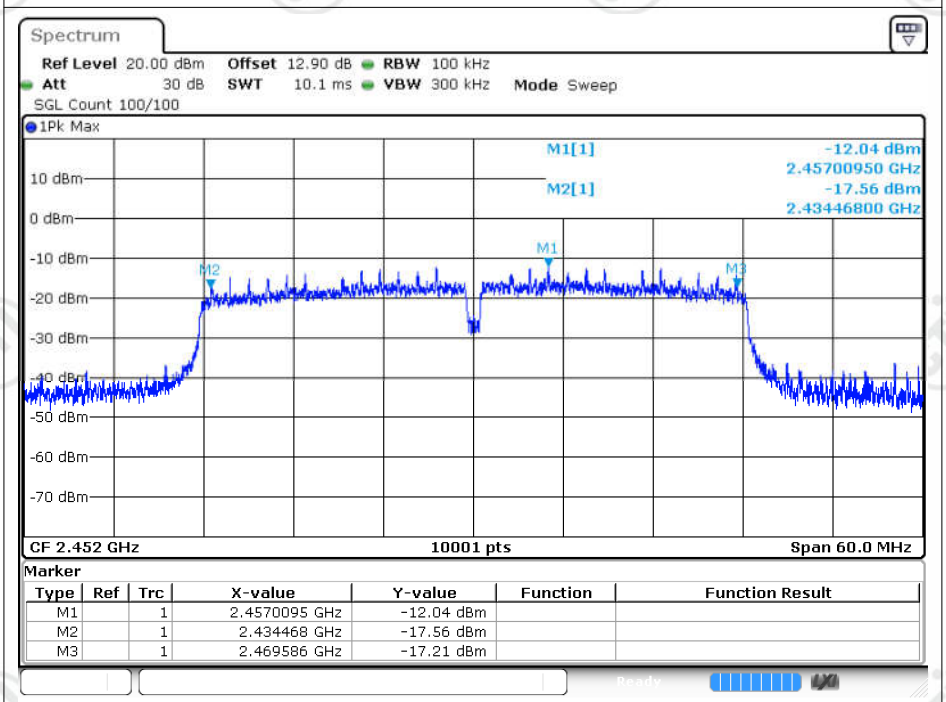
Date: 22.MAR.2024 10:13:15

-6dB Bandwidth NVNT n40 2437MHz Ant1



Date: 22.MAR.2024 10:16:47

-6dB Bandwidth NVNT n40 2452MHz Ant1



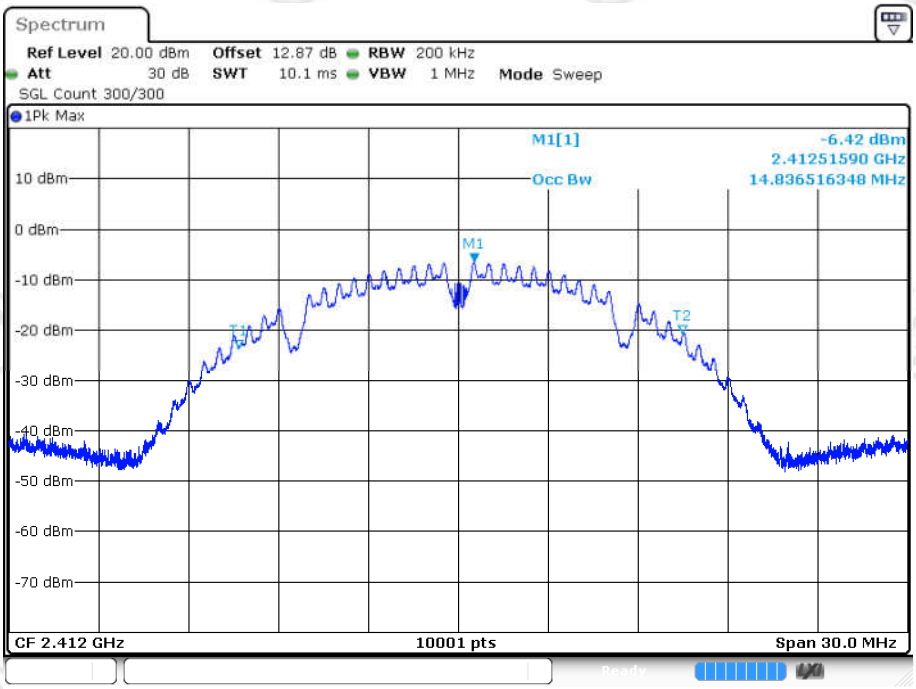
Date: 22.MAR.2024 10:19:09

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	14.837
NVNT	b	2437	Ant1	14.864
NVNT	b	2462	Ant1	14.828
NVNT	g	2412	Ant1	16.447
NVNT	g	2437	Ant1	16.471
NVNT	g	2462	Ant1	16.501
NVNT	n20	2412	Ant1	17.569
NVNT	n20	2437	Ant1	17.566
NVNT	n20	2462	Ant1	17.599
NVNT	n40	2422	Ant1	36.188
NVNT	n40	2437	Ant1	36.284
NVNT	n40	2452	Ant1	36.32

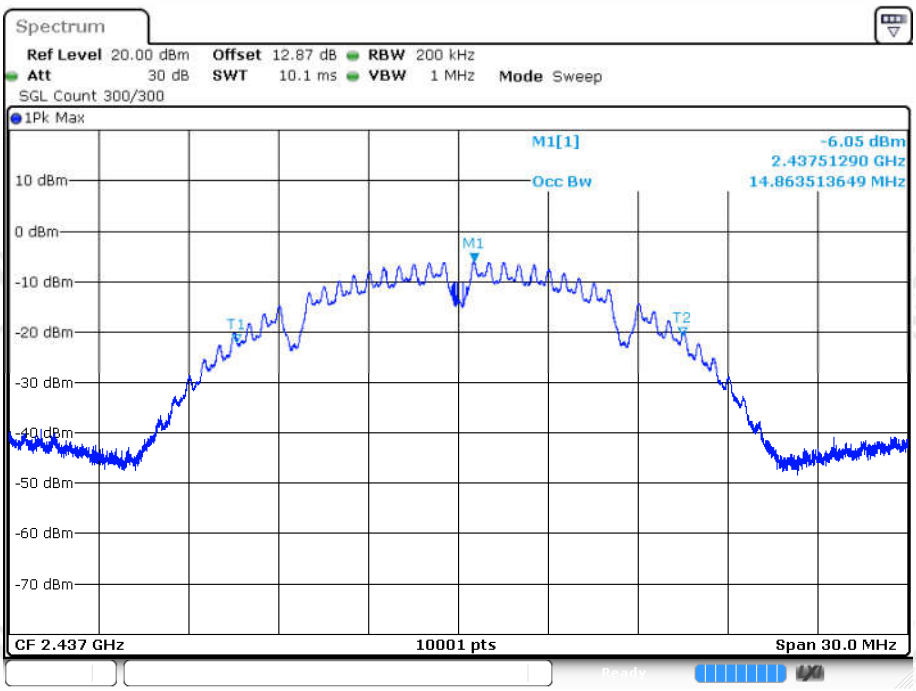
Test Graphs

OBW NVNT b 2412MHz Ant1



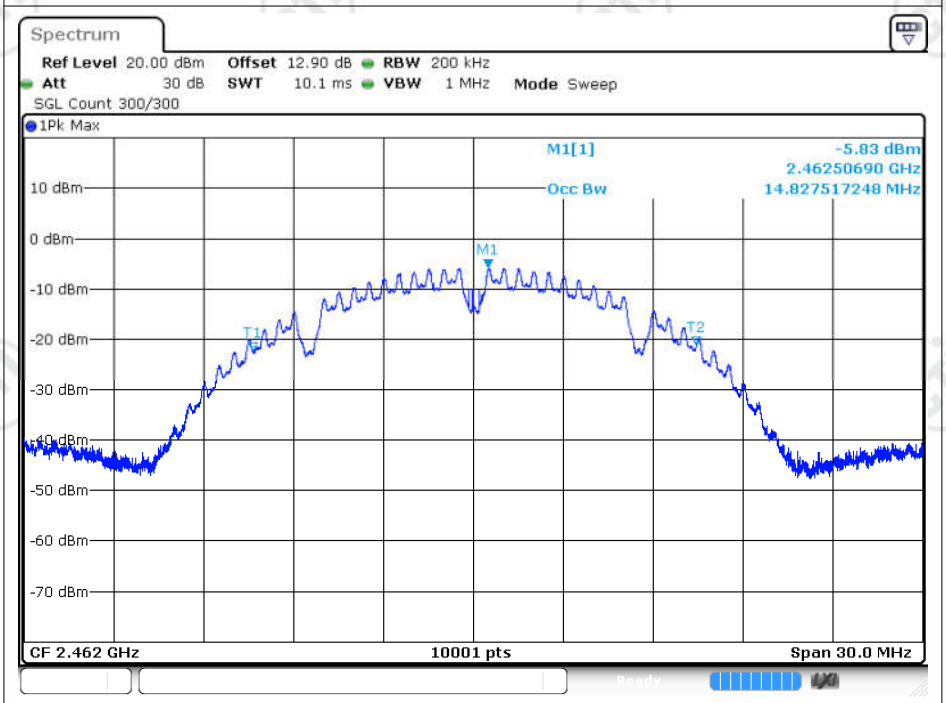
Date: 22.MAR.2024 09:50:21

OBW NVNT b 2437MHz Ant1



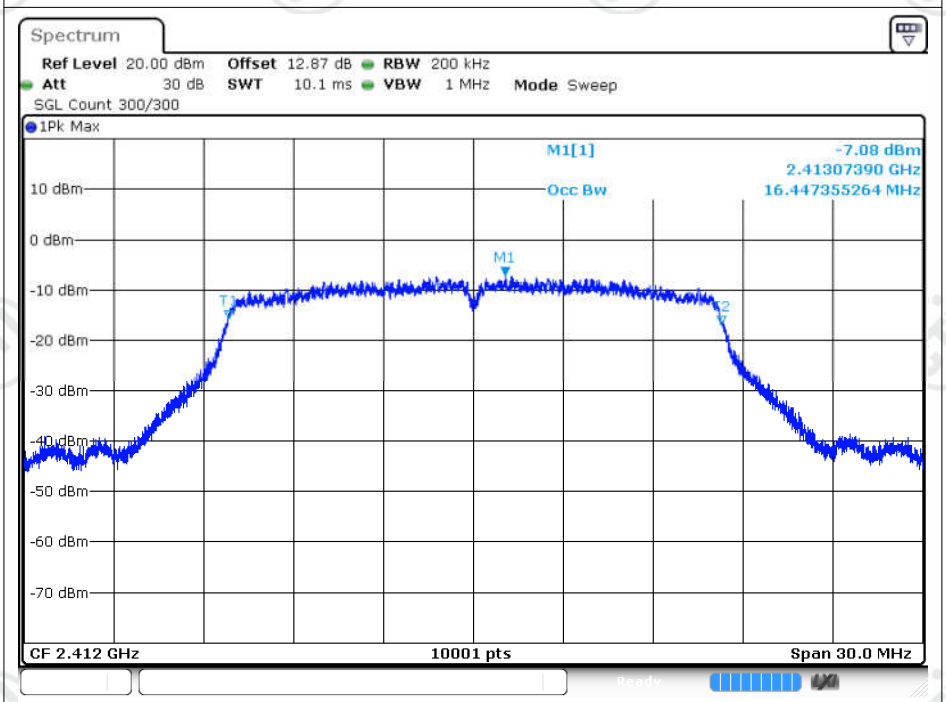
Date: 22.MAR.2024 09:52:26

OBW NVNT b 2462MHz Ant1



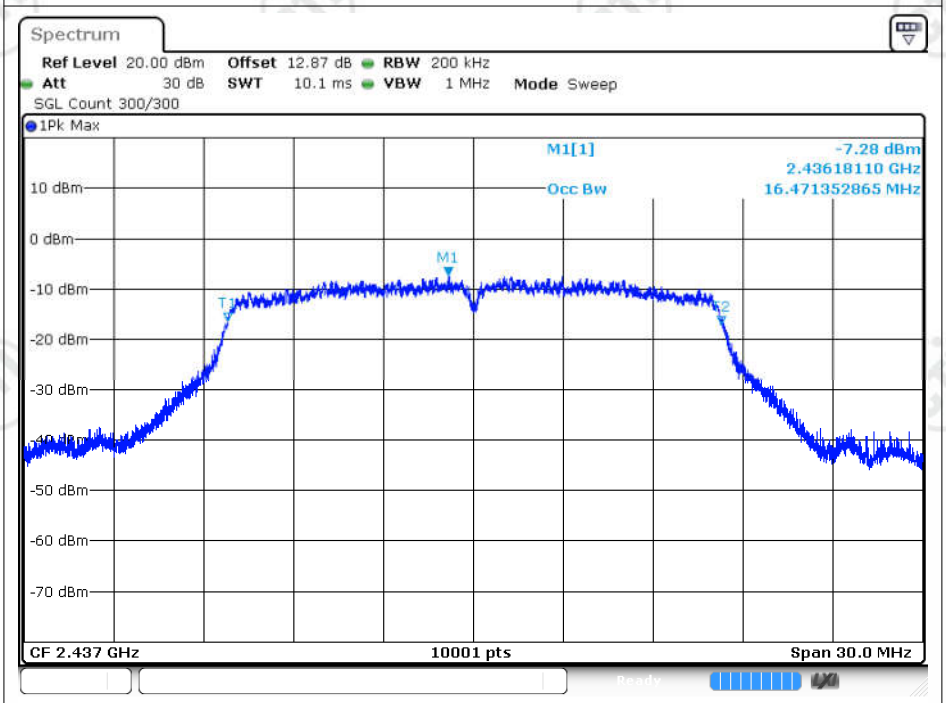
Date: 22.MAR.2024 10:23:09

OBW NVNT g 2412MHz Ant1



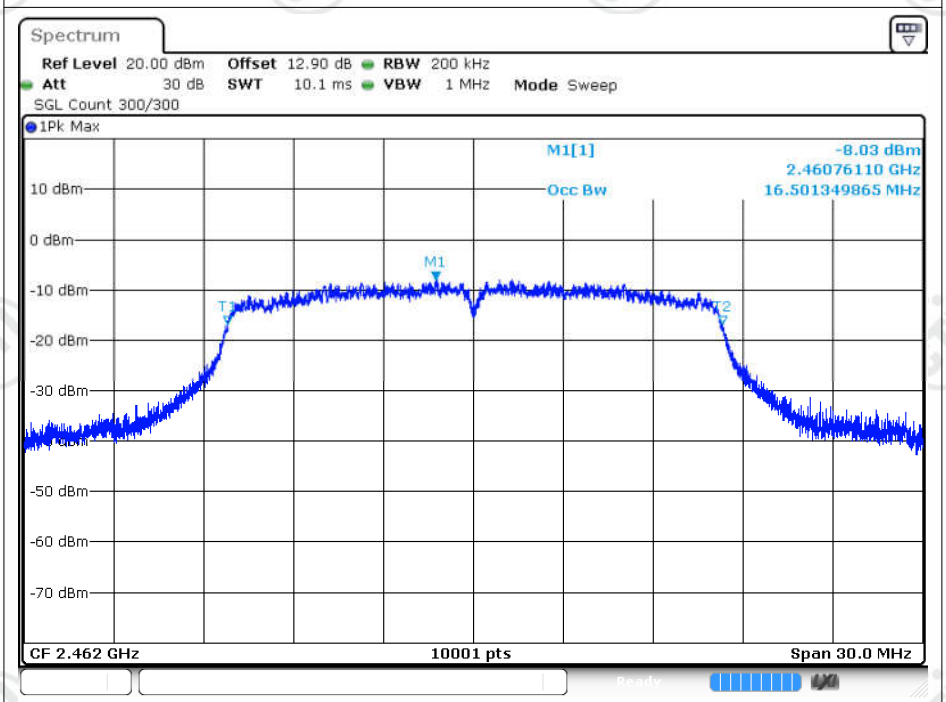
Date: 22.MAR.2024 09:56:55

OBW NVNT g 2437MHz Ant1



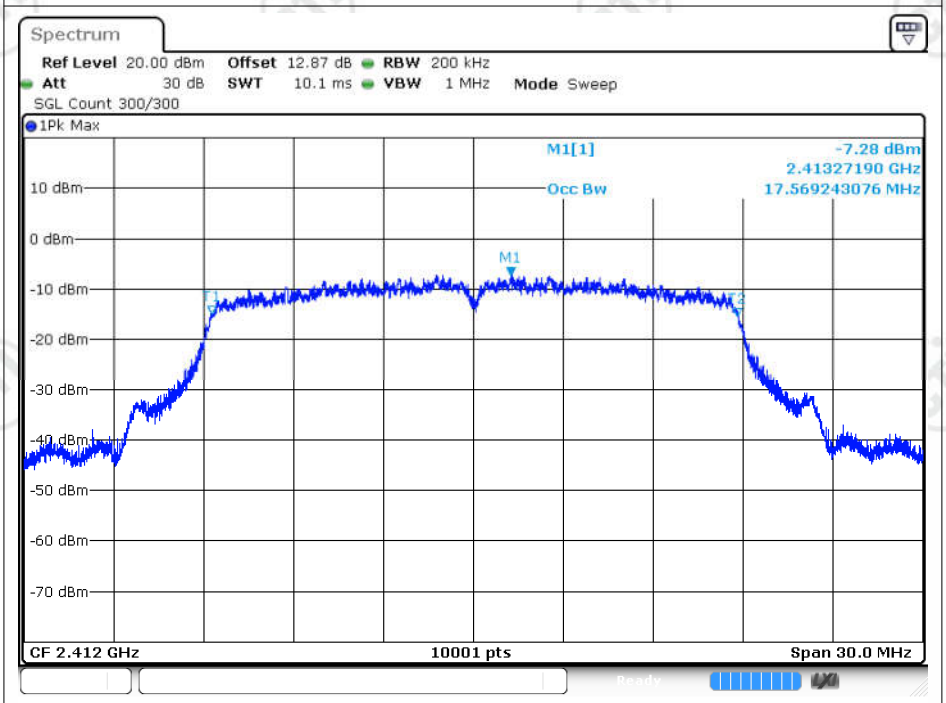
Date: 22.MAR.2024 10:00:02

OBW NVNT g 2462MHz Ant1



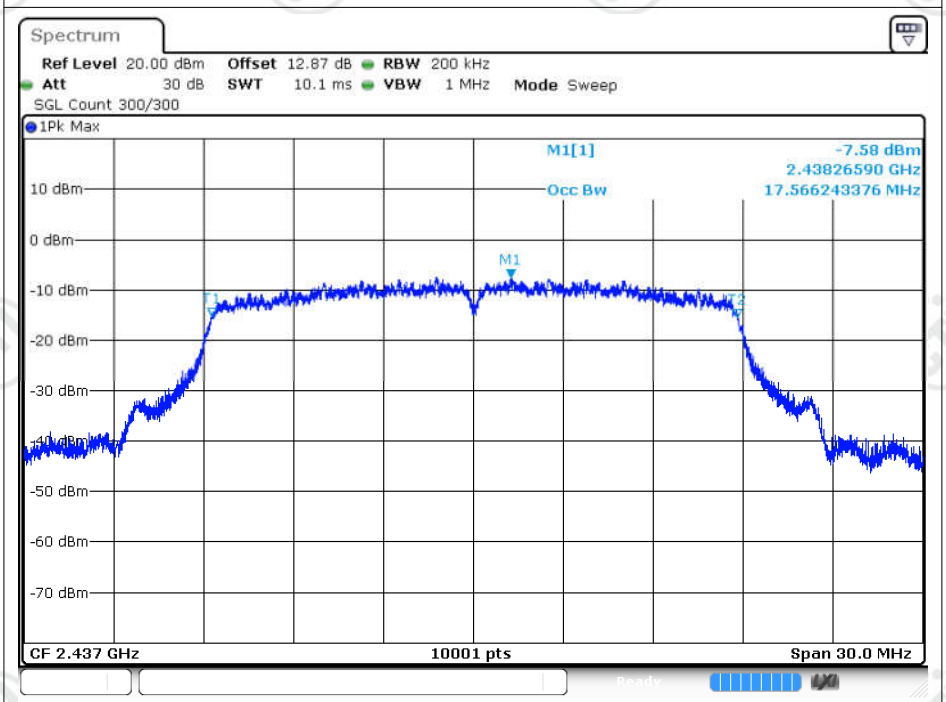
Date: 22.MAR.2024 10:02:52

OBW NVNT n20 2412MHz Ant1



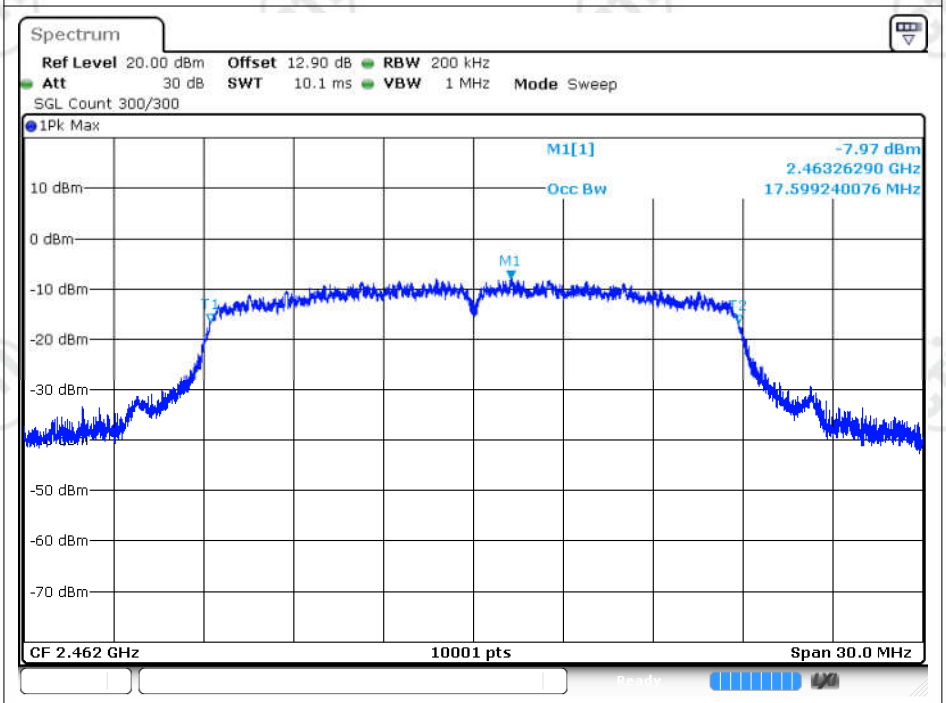
Date: 22.MAR.2024 10:06:16

OBW NVNT n20 2437MHz Ant1



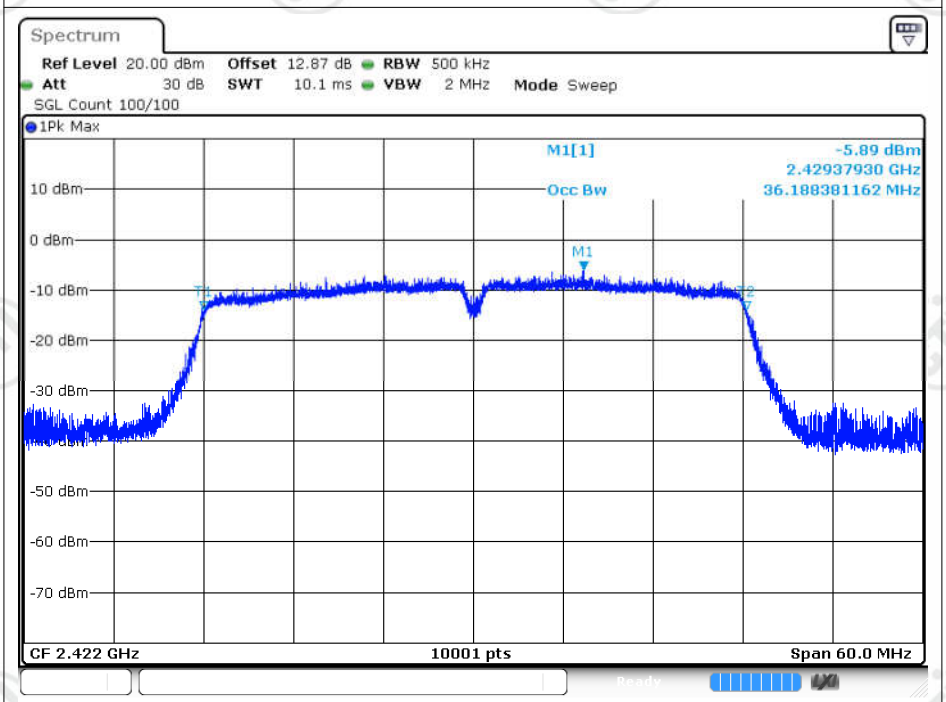
Date: 22.MAR.2024 10:08:20

OBW NVNT n20 2462MHz Ant1



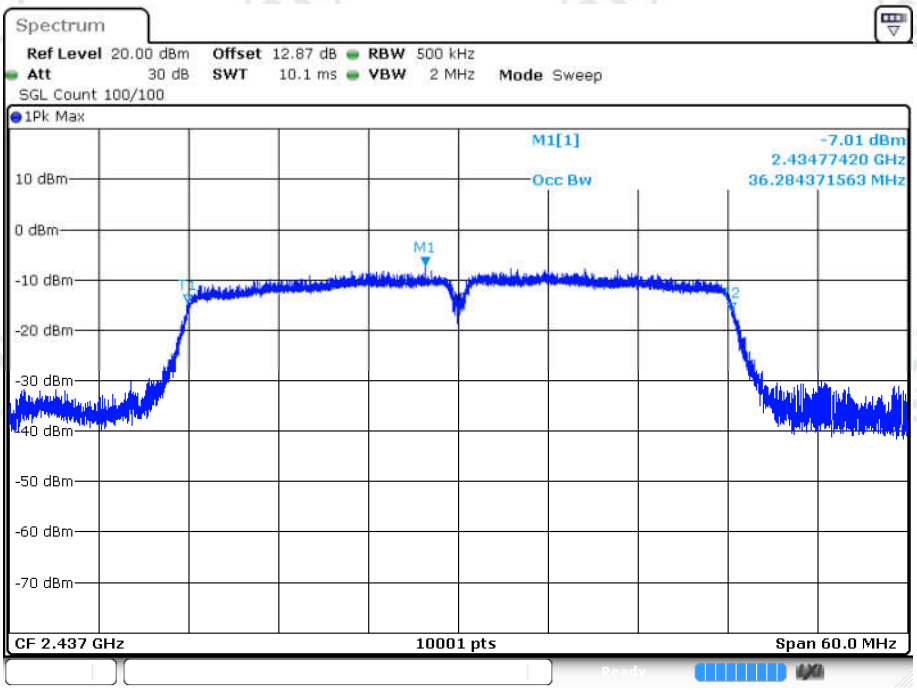
Date: 22.MAR.2024 10:10:16

OBW NVNT n40 2422MHz Ant1



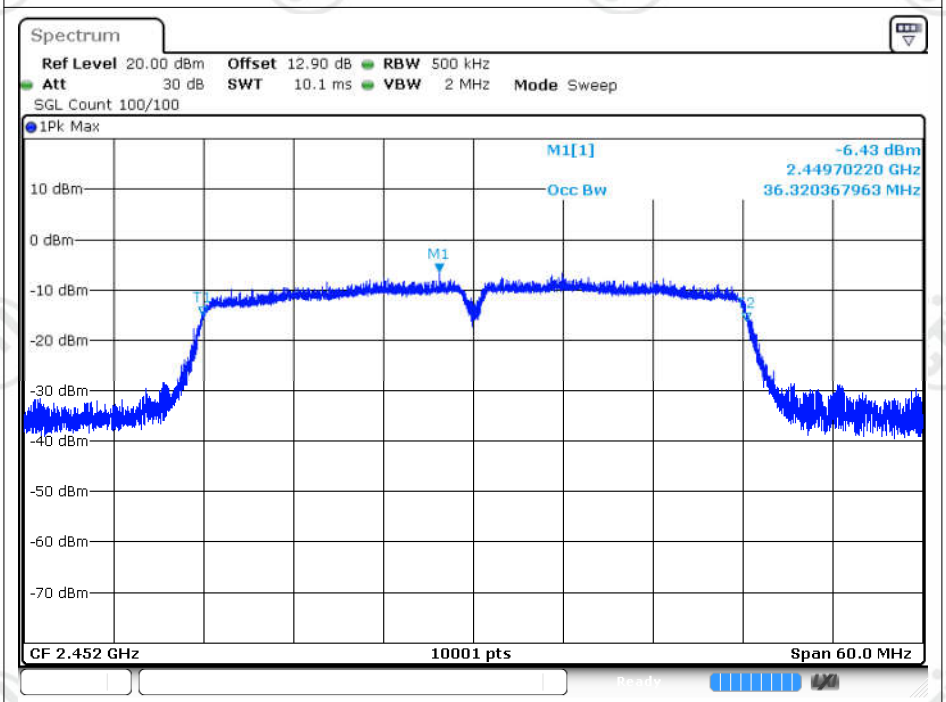
Date: 22.MAR.2024 10:13:09

OBW NVNT n40 2437MHz Ant1



Date: 22.MAR.2024 10:16:41

OBW NVNT n40 2452MHz Ant1



Date: 22.MAR.2024 10:19:03

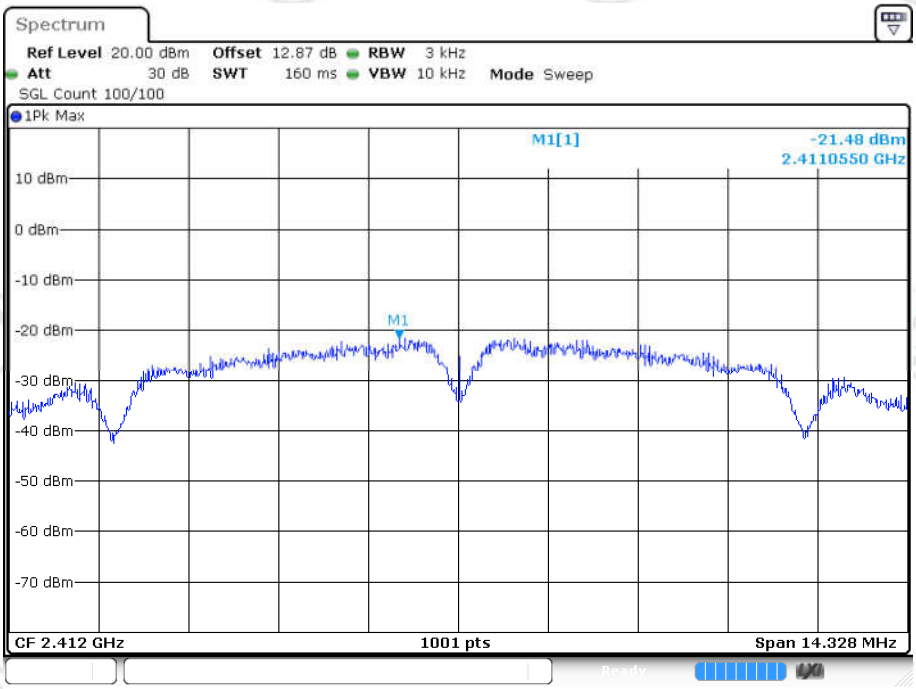
Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-21.48	8	Pass
NVNT	b	2437	Ant1	-20.73	8	Pass
NVNT	b	2462	Ant1	-20.61	8	Pass
NVNT	g	2412	Ant1	-21.6	8	Pass
NVNT	g	2437	Ant1	-21.96	8	Pass
NVNT	g	2462	Ant1	-22.84	8	Pass
NVNT	n20	2412	Ant1	-22.42	8	Pass
NVNT	n20	2437	Ant1	-20.49	8	Pass
NVNT	n20	2462	Ant1	-22.69	8	Pass
NVNT	n40	2422	Ant1	-25.28	8	Pass
NVNT	n40	2437	Ant1	-24.14	8	Pass
NVNT	n40	2452	Ant1	-25.47	8	Pass

Note:Conducted PSD has been added Duty Cycle Factor.

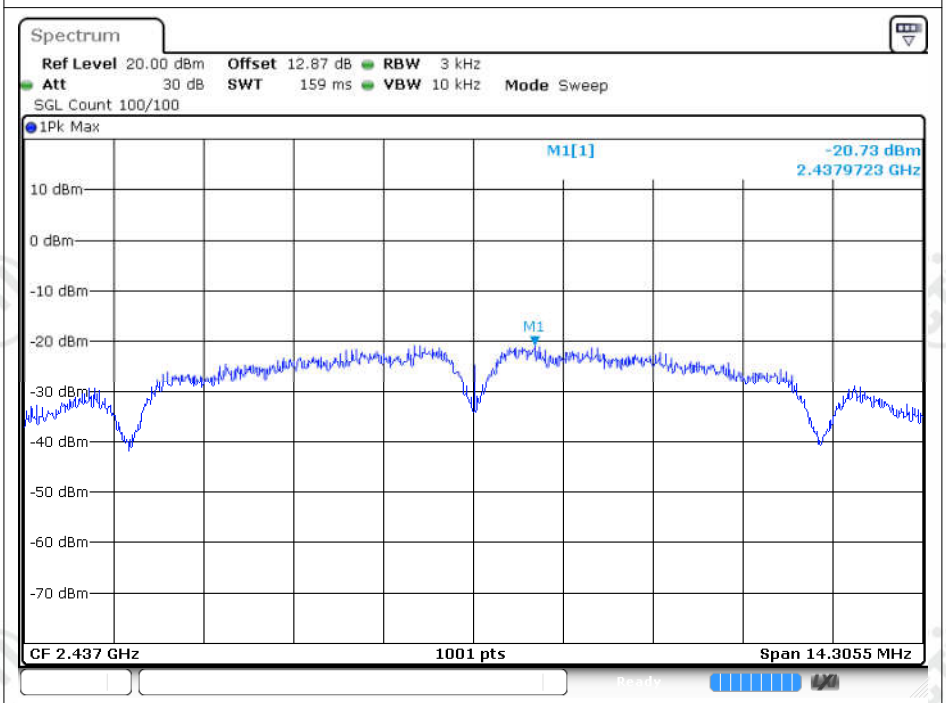
Test Graphs

PSD NVNT b 2412MHz Ant1



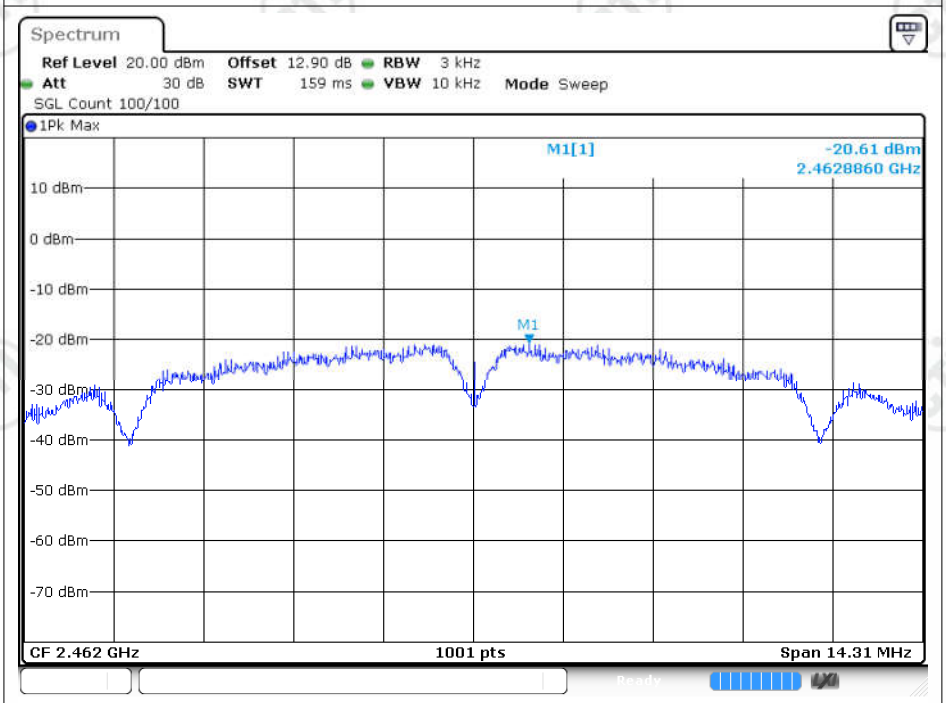
Date: 22.MAR.2024 09:50:55

PSD NVNT b 2437MHz Ant1



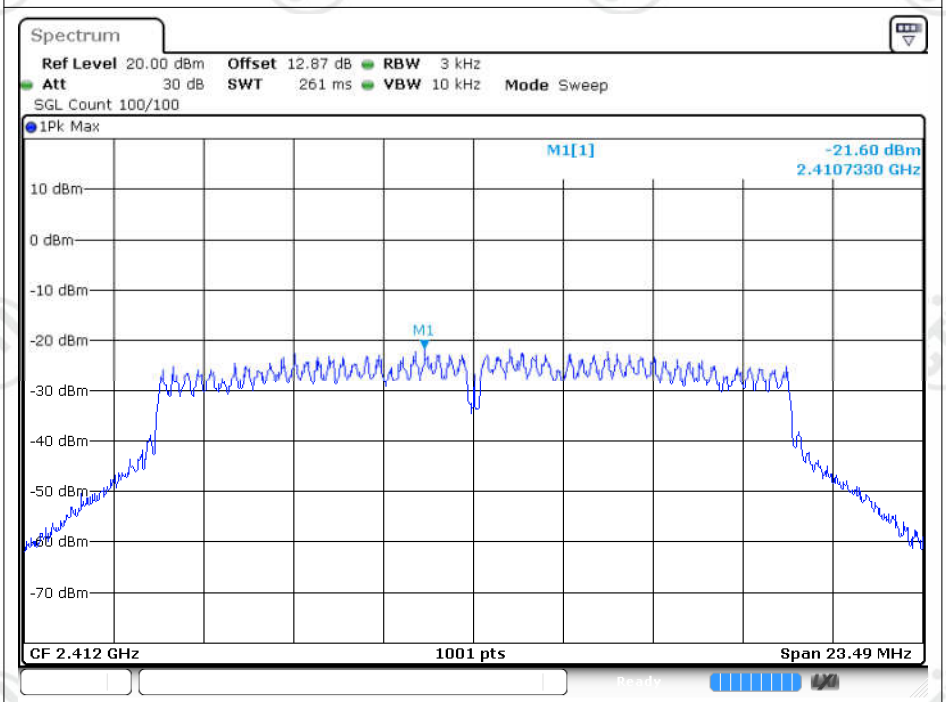
Date: 22.MAR.2024 09:53:20

PSD NVNT b 2462MHz Ant1



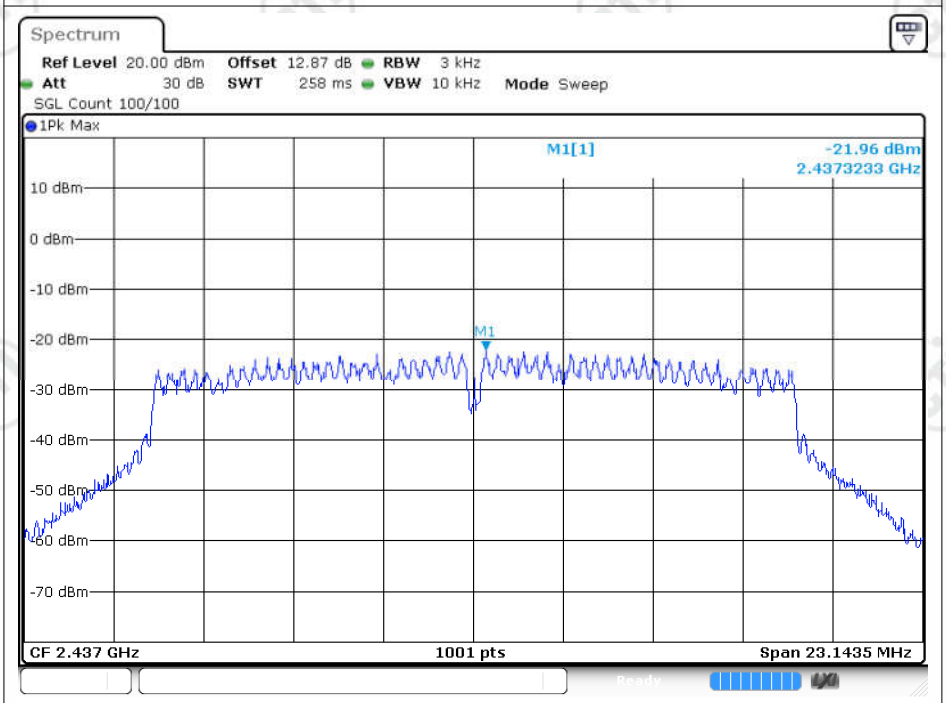
Date: 22.MAR.2024 10:23:44

PSD NVNT g 2412MHz Ant1



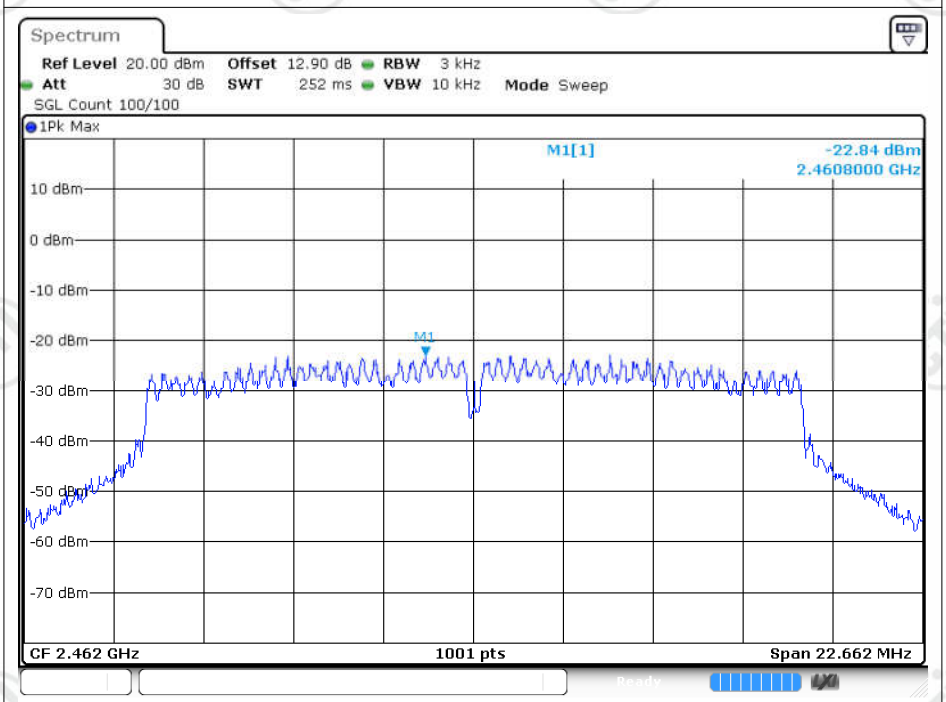
Date: 22.MAR.2024 09:57:41

PSD NVNT g 2437MHz Ant1



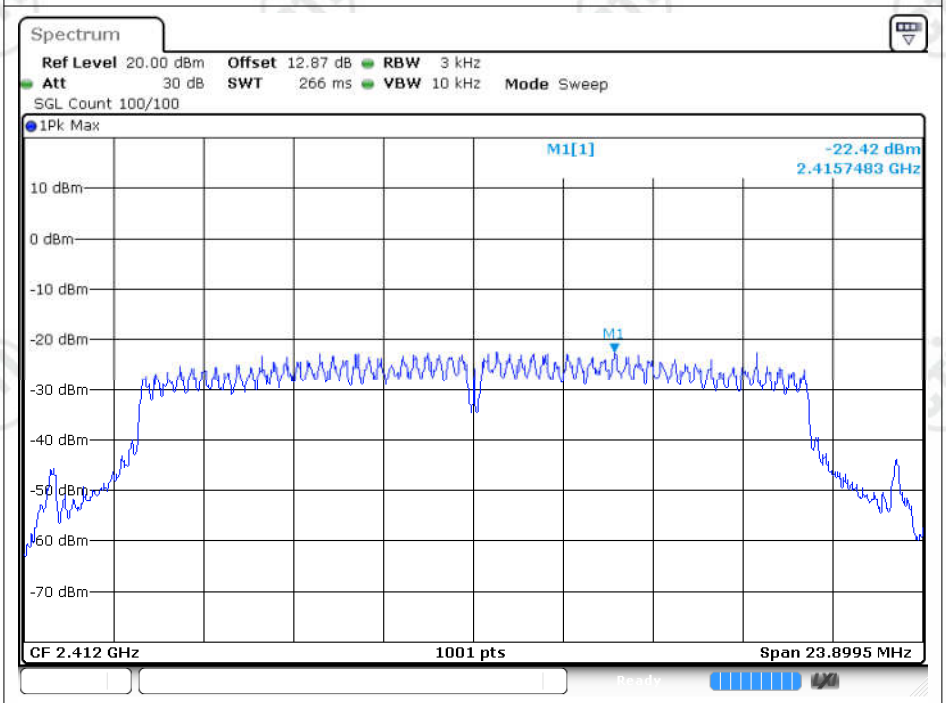
Date: 22.MAR.2024 10:01:09

PSD NVNT g 2462MHz Ant1



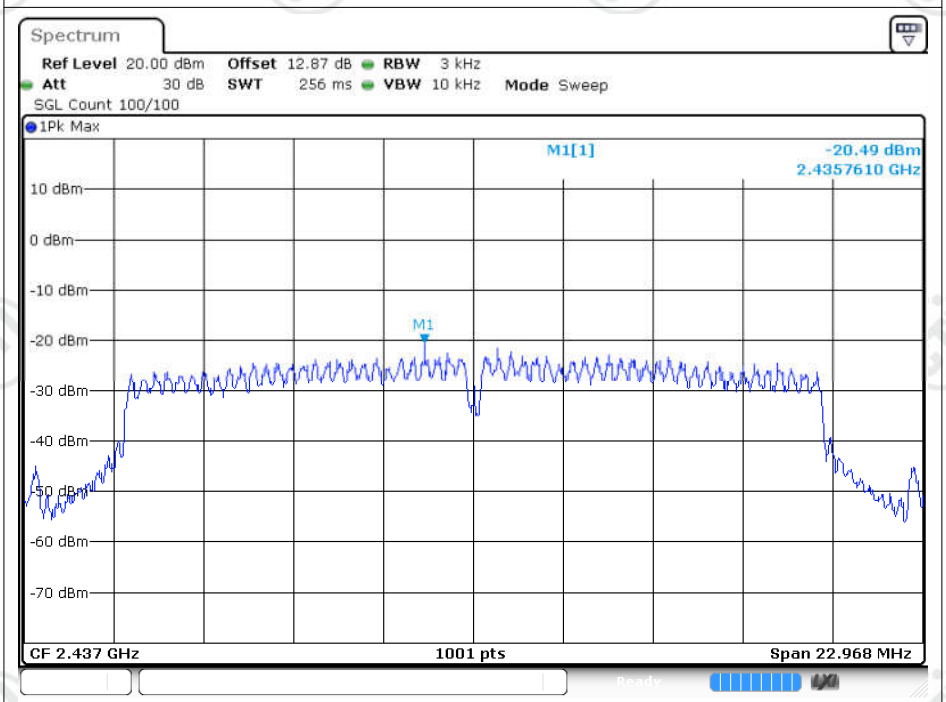
Date: 22.MAR.2024 10:03:38

PSD NVNT n20 2412MHz Ant1



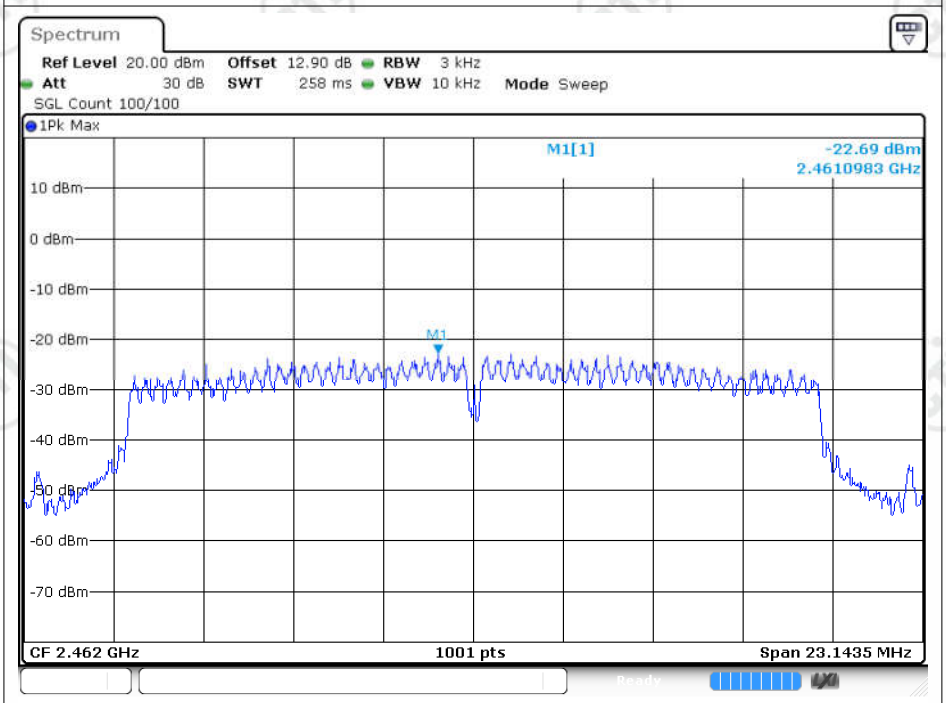
Date: 22.MAR.2024 10:07:02

PSD NVNT n20 2437MHz Ant1



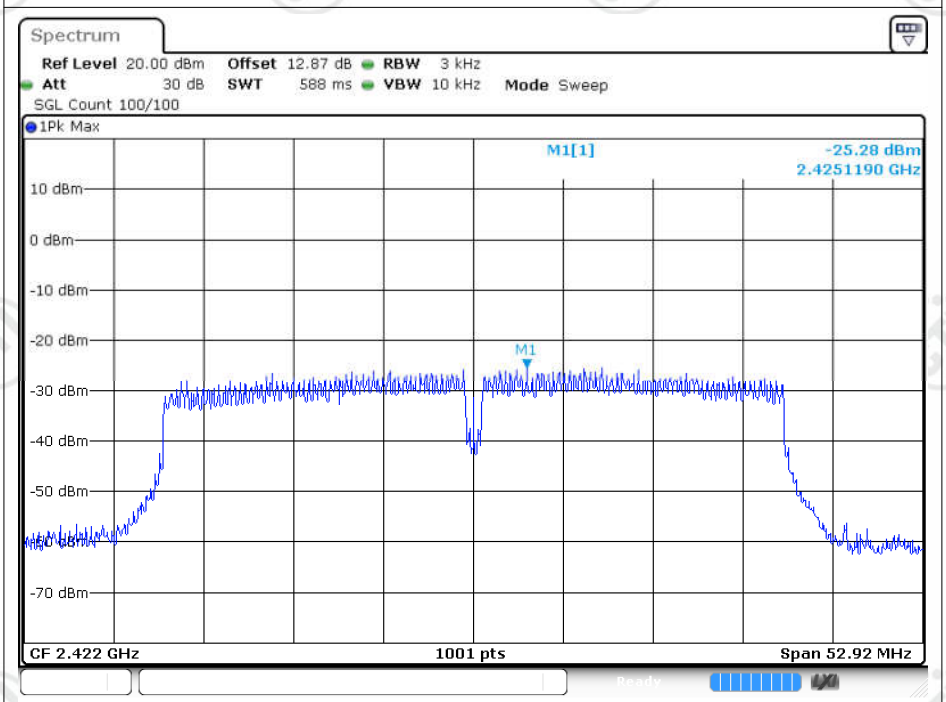
Date: 22.MAR.2024 10:09:26

PSD NVNT n20 2462MHz Ant1



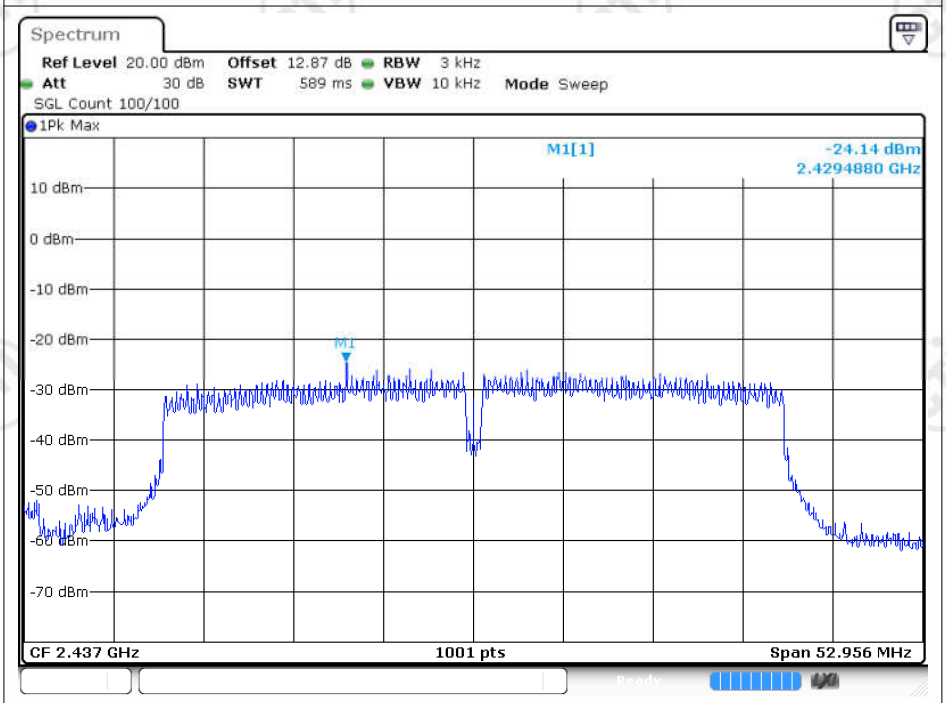
Date: 22.MAR.2024 10:11:04

PSD NVNT n40 2422MHz Ant1



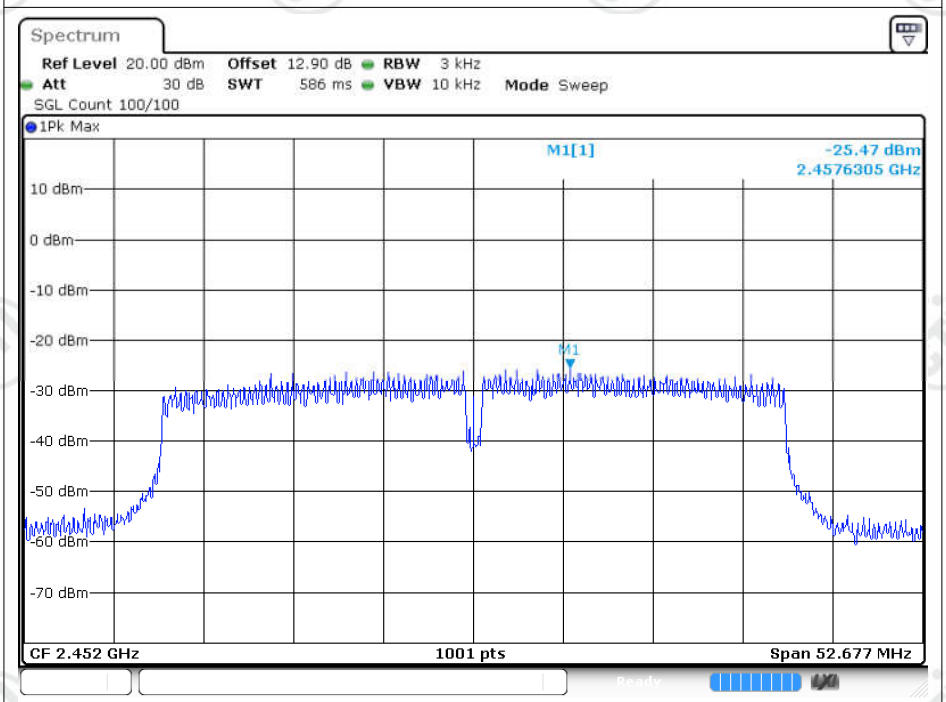
Date: 22.MAR.2024 10:14:30

PSD NVNT n40 2437MHz Ant1



Date: 22.MAR.2024 10:18:02

PSD NVNT n40 2452MHz Ant1



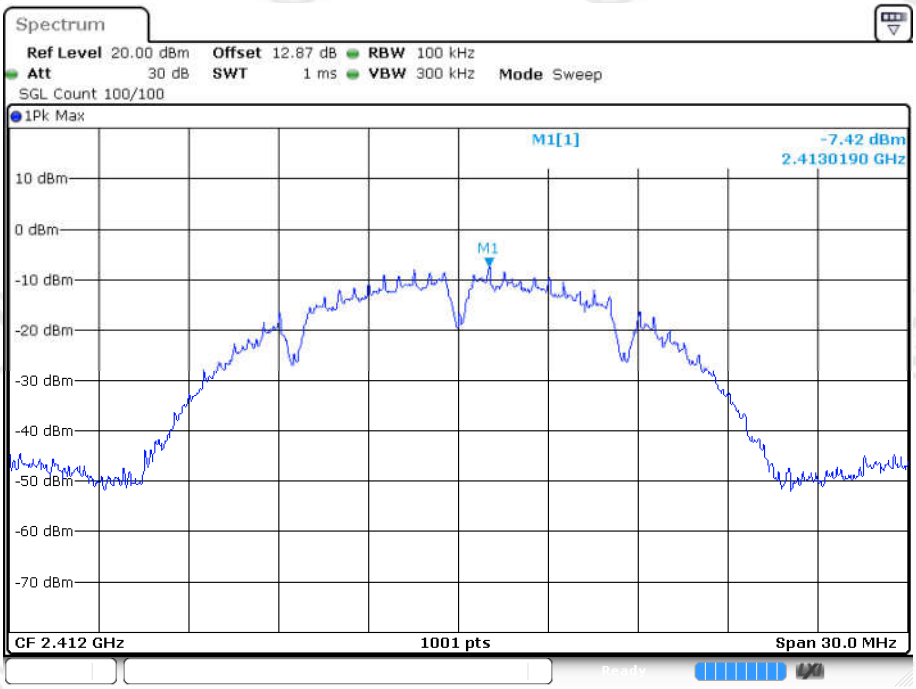
Date: 22.MAR.2024 10:20:23

Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-37.09	-20	Pass
NVNT	b	2462	Ant1	-40.4	-20	Pass
NVNT	g	2412	Ant1	-33.71	-20	Pass
NVNT	g	2462	Ant1	-37.03	-20	Pass
NVNT	n20	2412	Ant1	-33.94	-20	Pass
NVNT	n20	2462	Ant1	-36.26	-20	Pass
NVNT	n40	2422	Ant1	-29.67	-20	Pass
NVNT	n40	2452	Ant1	-29.02	-20	Pass

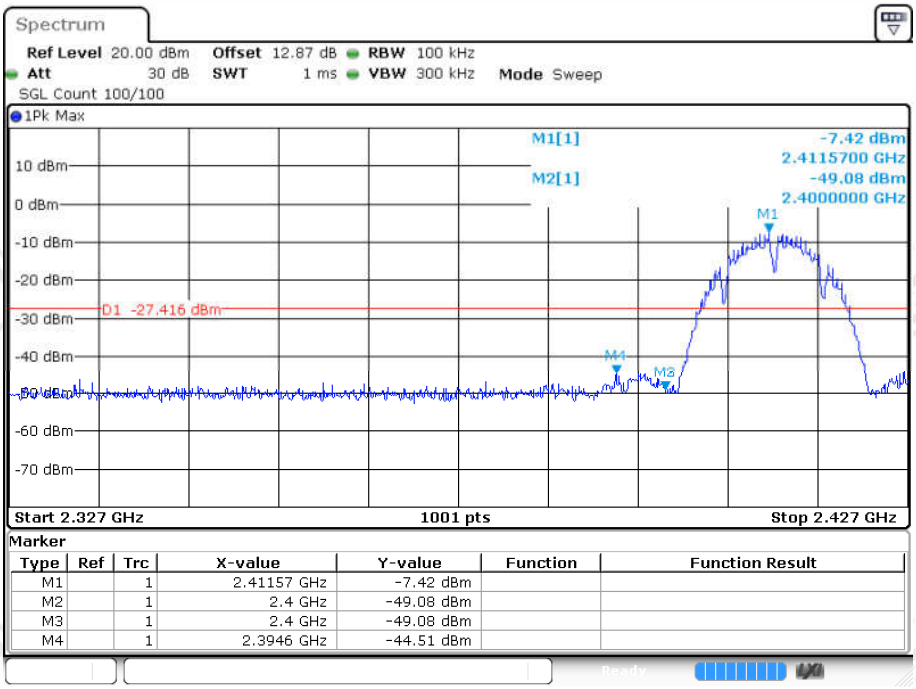
Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



Date: 22.MAR.2024 09:50:59

Band Edge NVNT b 2412MHz Ant1 Emission

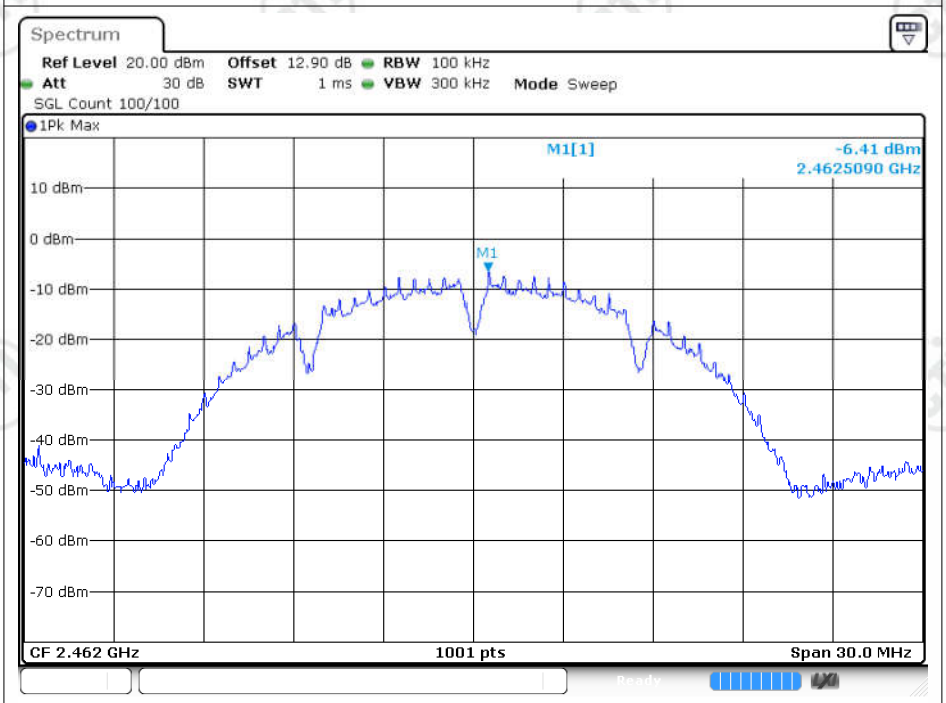


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41157 GHz	-7.42 dBm		
M2		1	2.4 GHz	-49.08 dBm		
M3		1	2.4 GHz	-49.08 dBm		
M4		1	2.3946 GHz	-44.51 dBm		

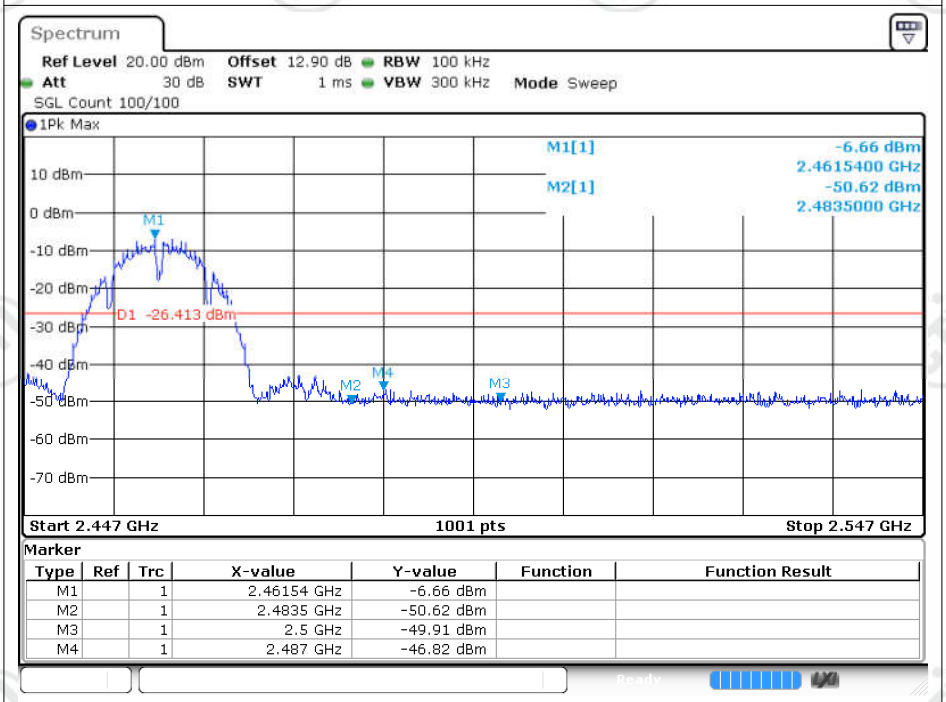
Date: 22.MAR.2024 09:51:01

Band Edge NVNT b 2462MHz Ant1 Ref



Date: 22.MAR.2024 10:23:48

Band Edge NVNT b 2462MHz Ant1 Emission

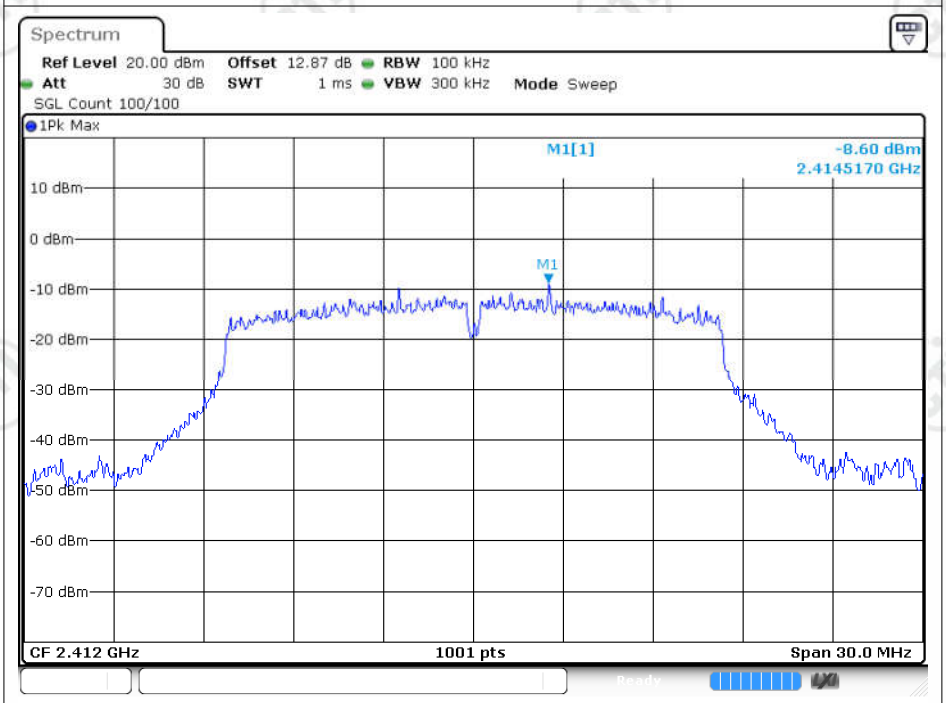


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46154 GHz	-6.66 dBm		
M2		1	2.4835 GHz	-50.62 dBm		
M3		1	2.5 GHz	-49.91 dBm		
M4		1	2.487 GHz	-46.82 dBm		

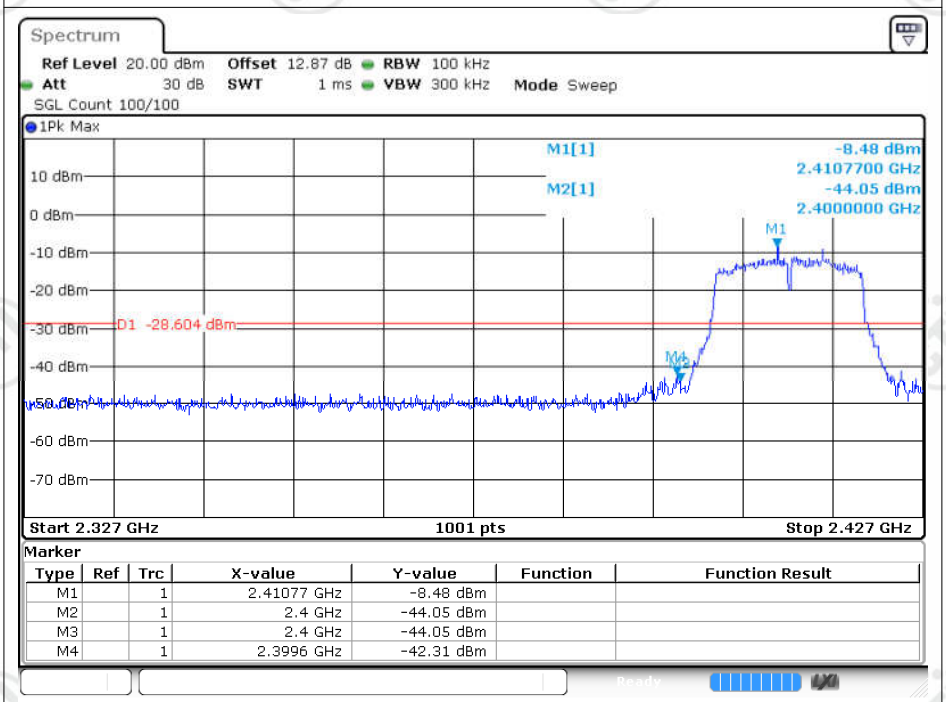
Date: 22.MAR.2024 10:23:50

Band Edge NVNT g 2412MHz Ant1 Ref



Date: 22.MAR.2024 09:57:44

Band Edge NVNT g 2412MHz Ant1 Emission

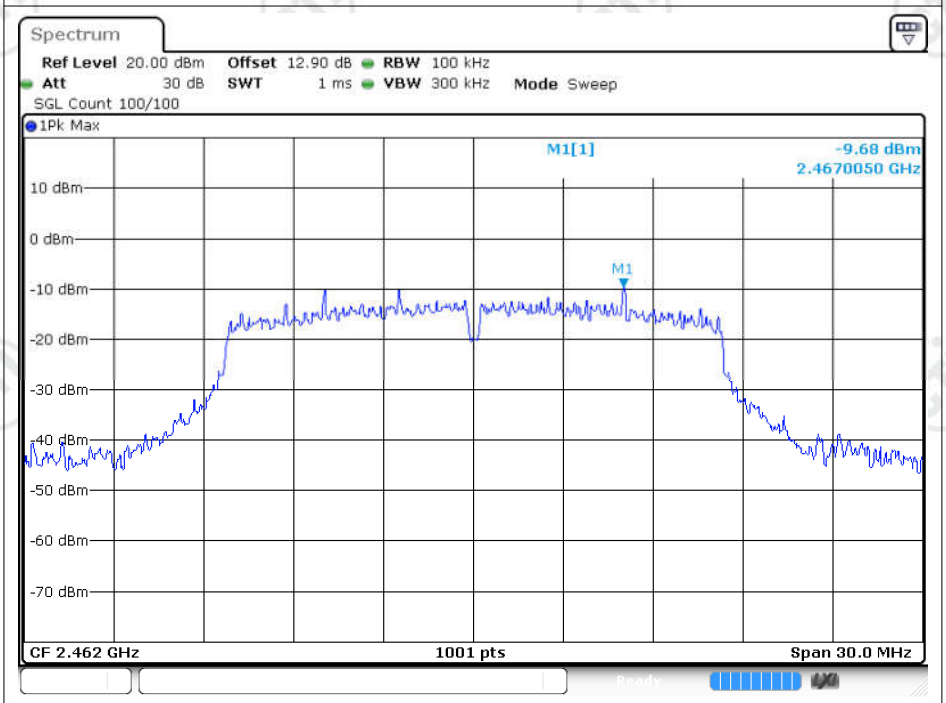


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41077 GHz	-8.48 dBm		
M2		1	2.4 GHz	-44.05 dBm		
M3		1	2.4 GHz	-44.05 dBm		
M4		1	2.3996 GHz	-42.31 dBm		

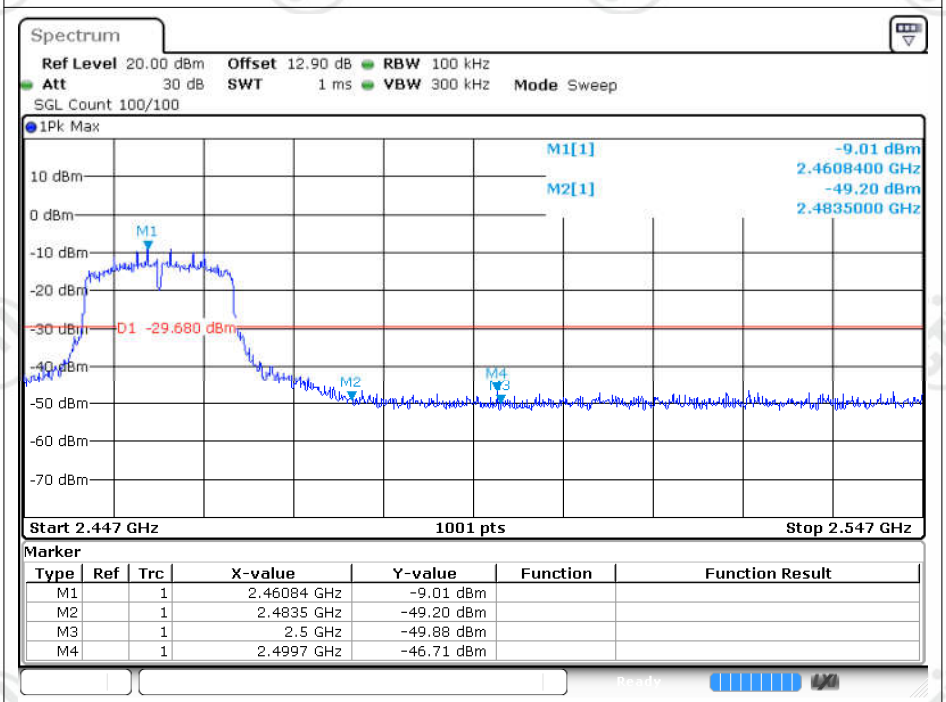
Date: 22.MAR.2024 09:57:46

Band Edge NVNT g 2462MHz Ant1 Ref



Date: 22.MAR.2024 10:03:43

Band Edge NVNT g 2462MHz Ant1 Emission

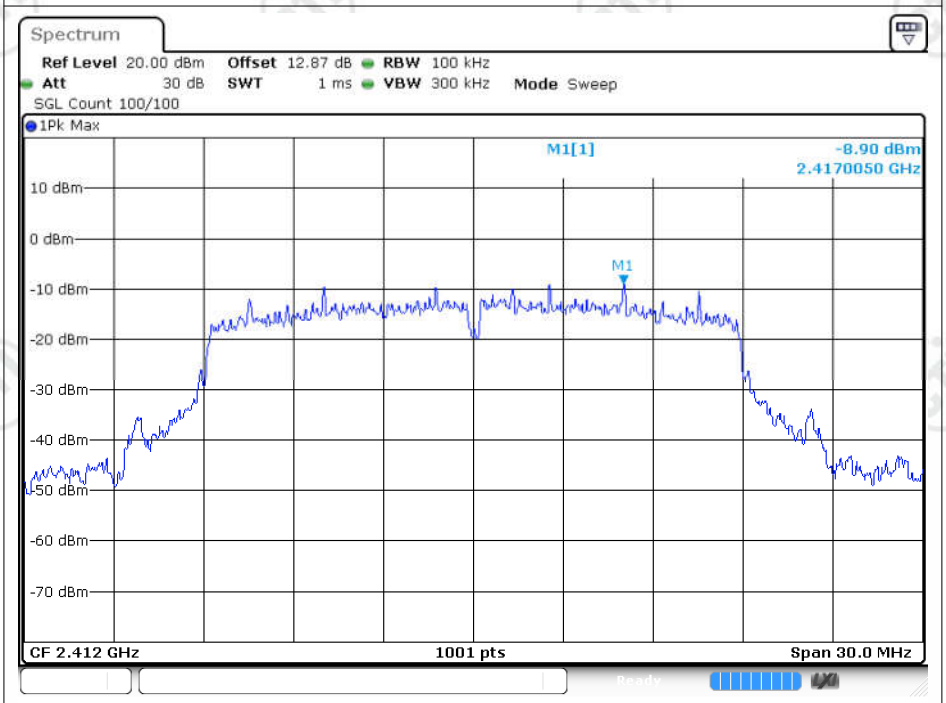


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46084 GHz	-9.01 dBm		
M2		1	2.4835 GHz	-49.20 dBm		
M3		1	2.5 GHz	-49.88 dBm		
M4		1	2.4997 GHz	-46.71 dBm		

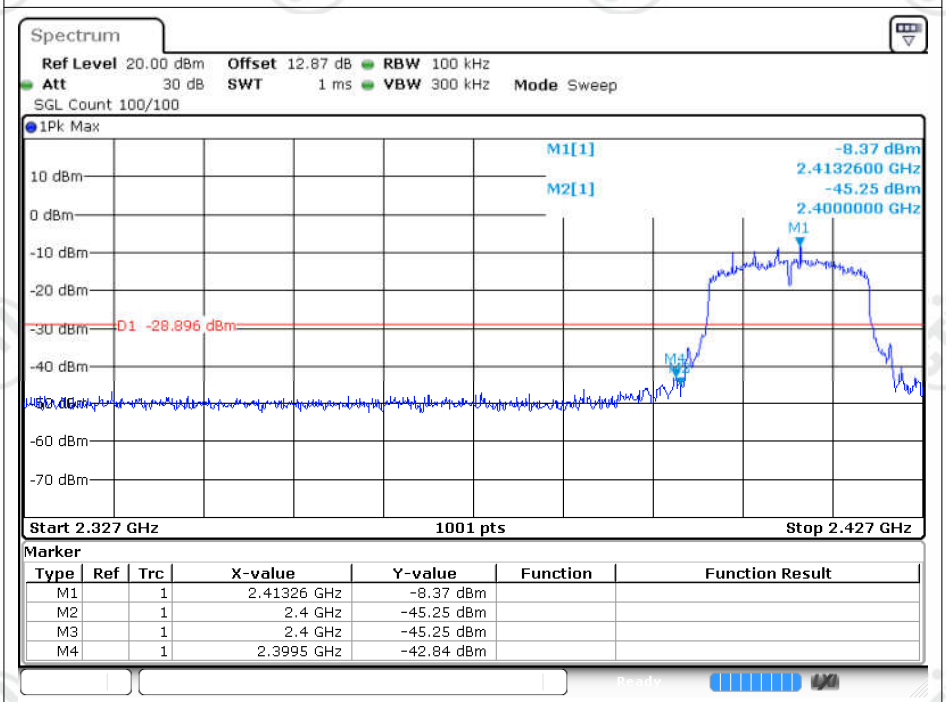
Date: 22.MAR.2024 10:03:44

Band Edge NVNT n20 2412MHz Ant1 Ref



Date: 22.MAR.2024 10:07:06

Band Edge NVNT n20 2412MHz Ant1 Emission

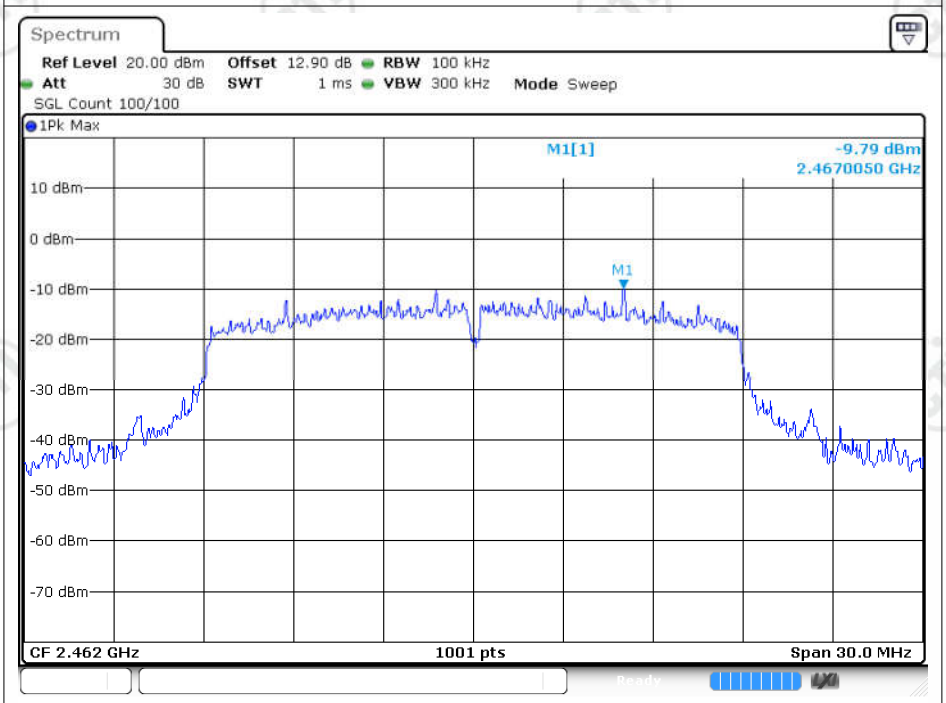


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41326 GHz	-8.37 dBm		
M2		1	2.4 GHz	-45.25 dBm		
M3		1	2.4 GHz	-45.25 dBm		
M4		1	2.3995 GHz	-42.84 dBm		

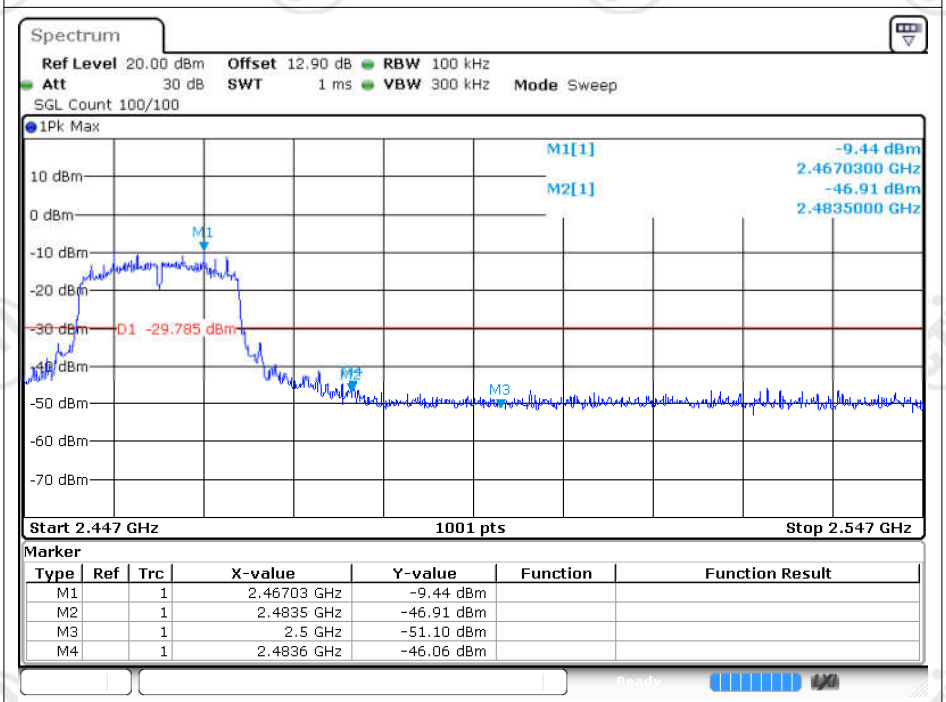
Date: 22.MAR.2024 10:07:08

Band Edge NVNT n20 2462MHz Ant1 Ref



Date: 22.MAR.2024 10:11:08

Band Edge NVNT n20 2462MHz Ant1 Emission

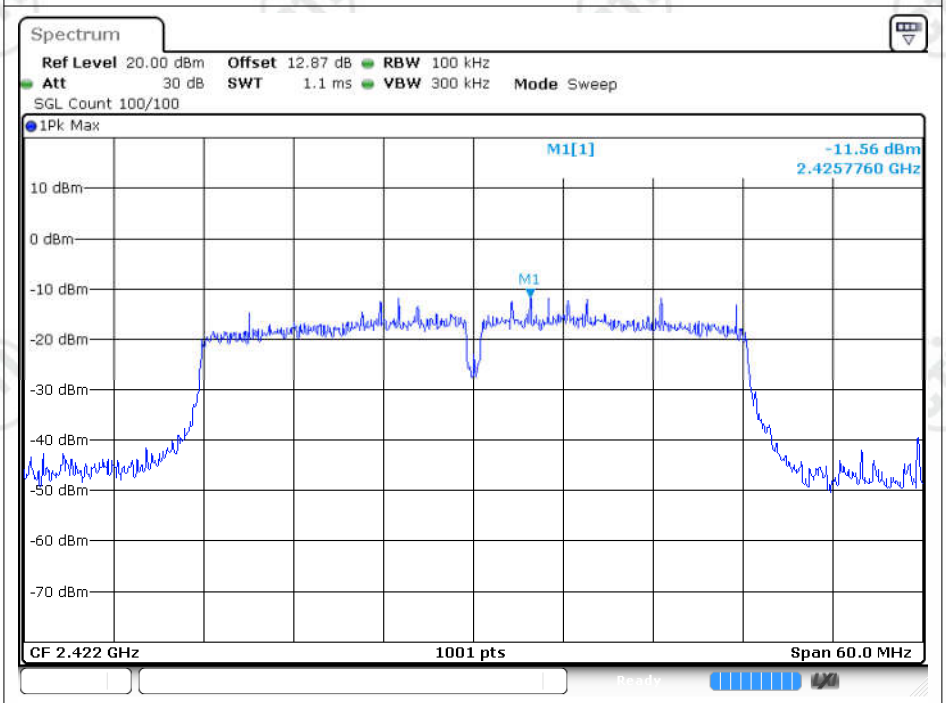


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46703 GHz	-9.44 dBm		
M2		1	2.4835 GHz	-46.91 dBm		
M3		1	2.5 GHz	-51.10 dBm		
M4		1	2.4836 GHz	-46.06 dBm		

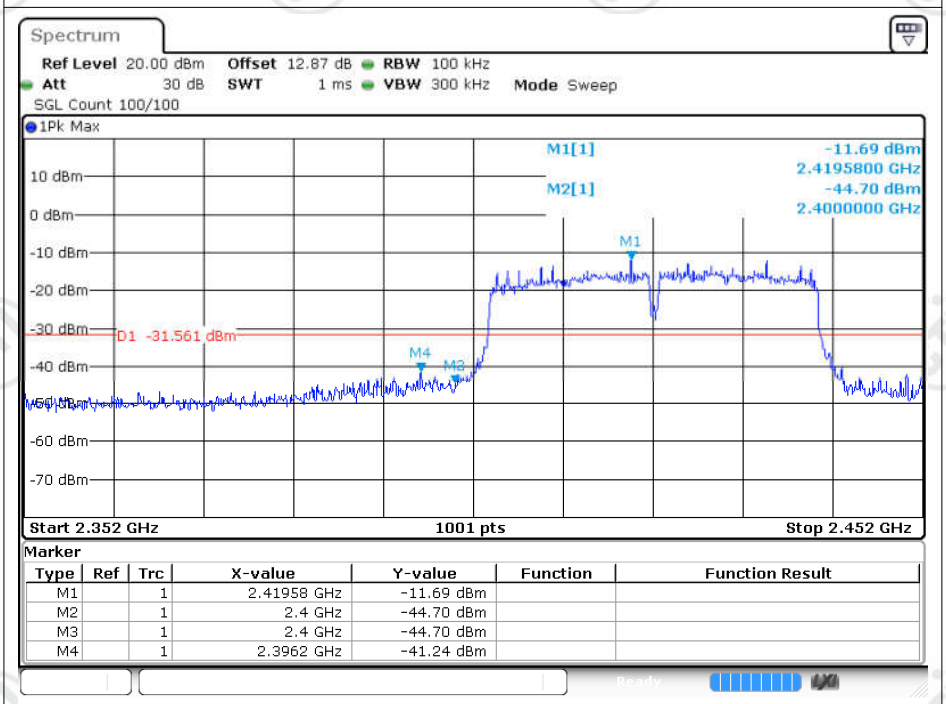
Date: 22.MAR.2024 10:11:09

Band Edge NVNT n40 2422MHz Ant1 Ref



Date: 22.MAR.2024 10:14:32

Band Edge NVNT n40 2422MHz Ant1 Emission

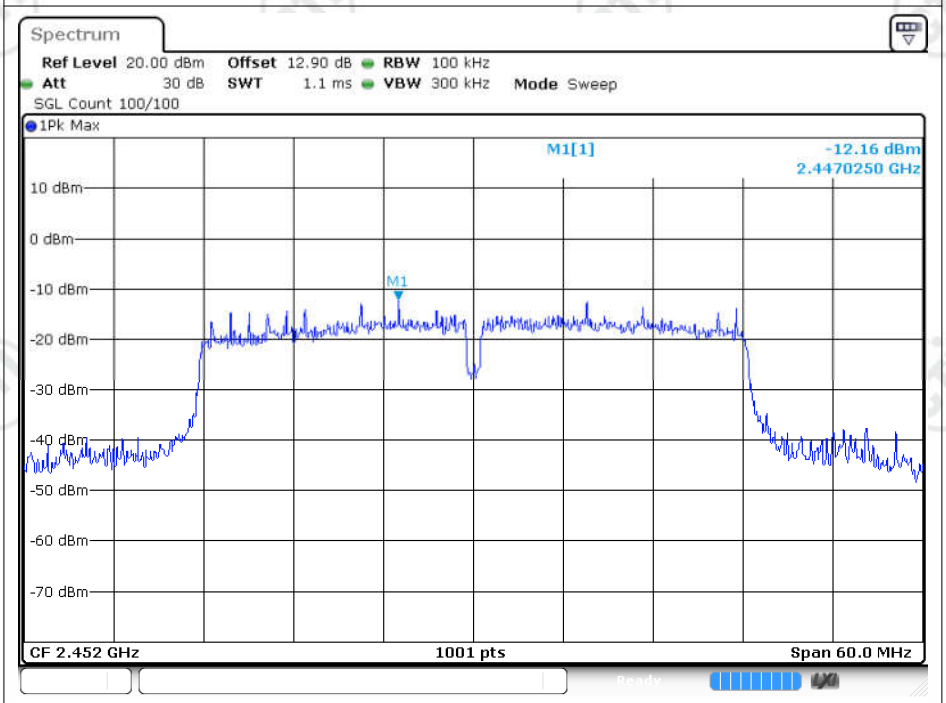


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41958 GHz	-11.69 dBm		
M2		1	2.4 GHz	-44.70 dBm		
M3		1	2.4 GHz	-44.70 dBm		
M4		1	2.3962 GHz	-41.24 dBm		

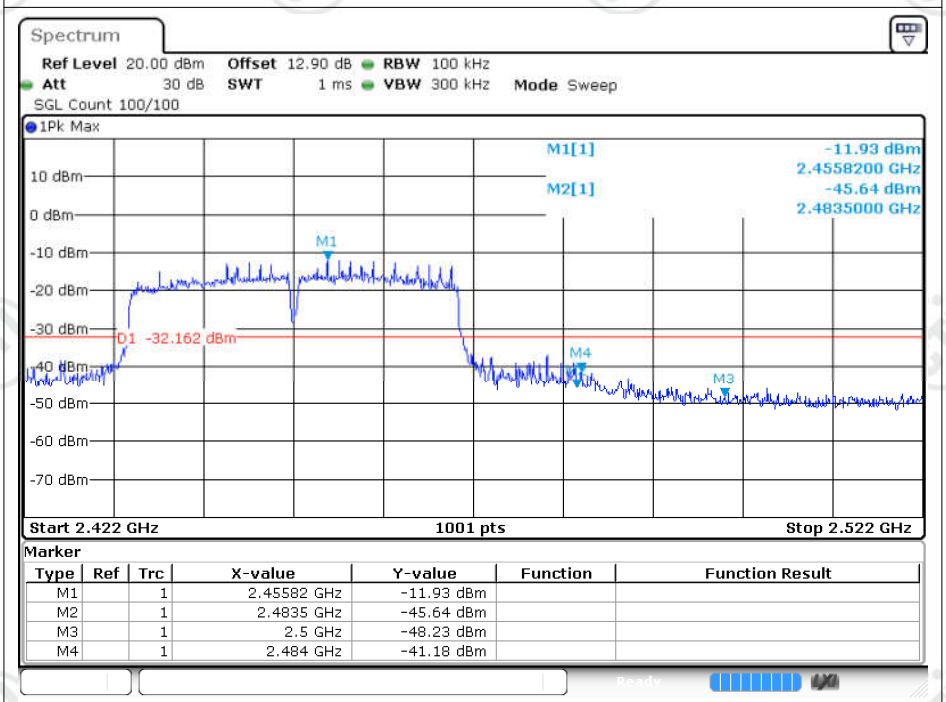
Date: 22.MAR.2024 10:14:34

Band Edge NVNT n40 2452MHz Ant1 Ref



Date: 22.MAR.2024 10:20:26

Band Edge NVNT n40 2452MHz Ant1 Emission



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Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45582 GHz	-11.93 dBm		
M2		1	2.4835 GHz	-45.64 dBm		
M3		1	2.5 GHz	-48.23 dBm		
M4		1	2.484 GHz	-41.18 dBm		

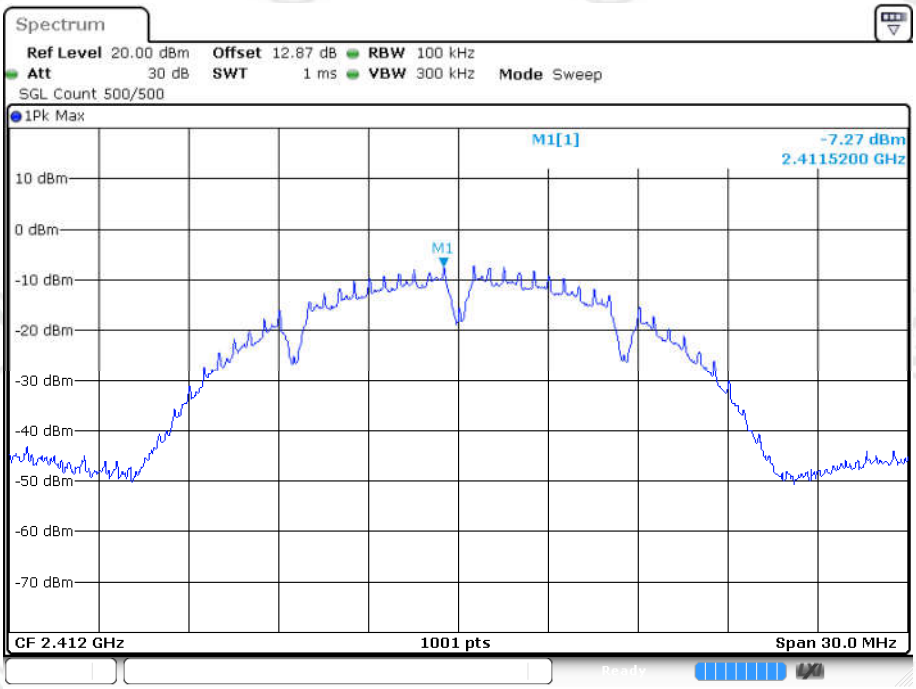
Date: 22.MAR.2024 10:20:27

Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-29.45	-20	Pass
NVNT	b	2437	Ant1	-28.68	-20	Pass
NVNT	b	2462	Ant1	-29.09	-20	Pass
NVNT	g	2412	Ant1	-31.71	-20	Pass
NVNT	g	2437	Ant1	-32.97	-20	Pass
NVNT	g	2462	Ant1	-35.28	-20	Pass
NVNT	n20	2412	Ant1	-31.49	-20	Pass
NVNT	n20	2437	Ant1	-31.43	-20	Pass
NVNT	n20	2462	Ant1	-31.73	-20	Pass
NVNT	n40	2422	Ant1	-29.15	-20	Pass
NVNT	n40	2437	Ant1	-28.18	-20	Pass
NVNT	n40	2452	Ant1	-28.41	-20	Pass

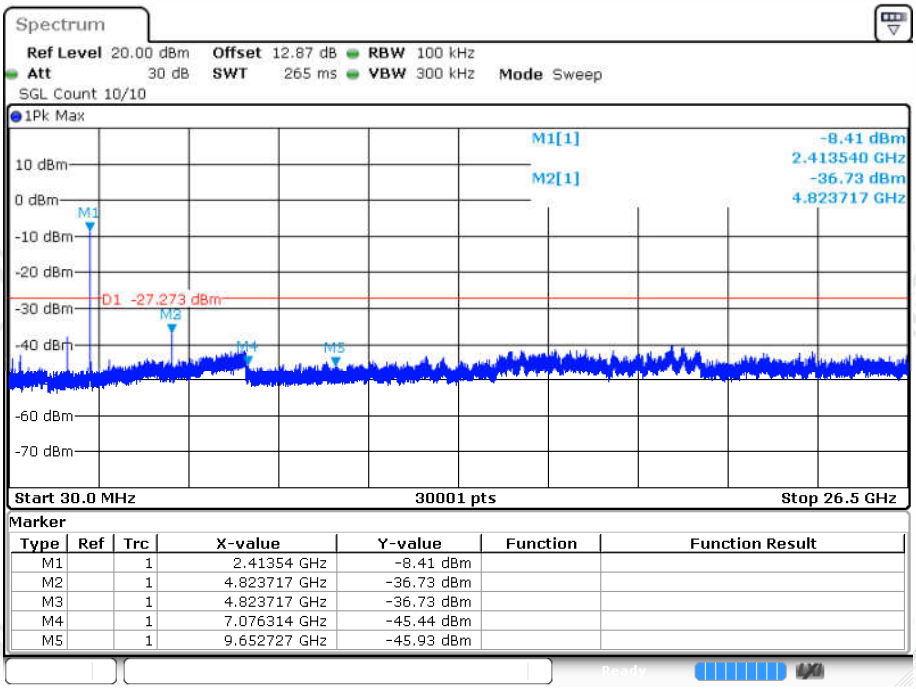
Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref



Date: 22.MAR.2024 09:51:08

Tx. Spurious NVNT b 2412MHz Ant1 Emission

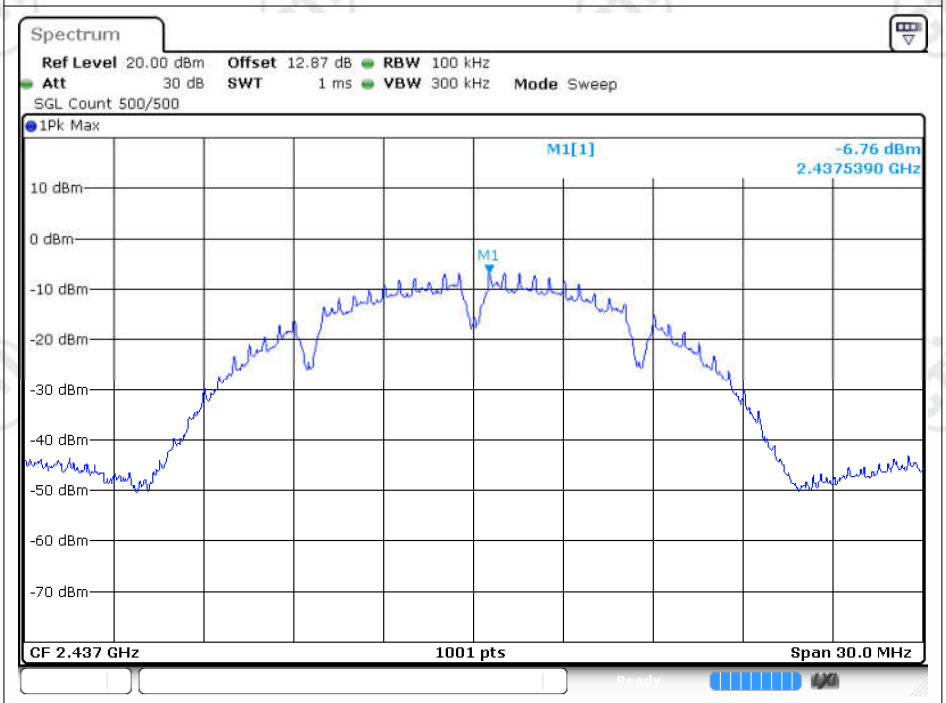


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41354 GHz	-8.41 dBm		
M2		1	4.823717 GHz	-36.73 dBm		
M3		1	4.823717 GHz	-36.73 dBm		
M4		1	7.076314 GHz	-45.44 dBm		
M5		1	9.652727 GHz	-45.93 dBm		

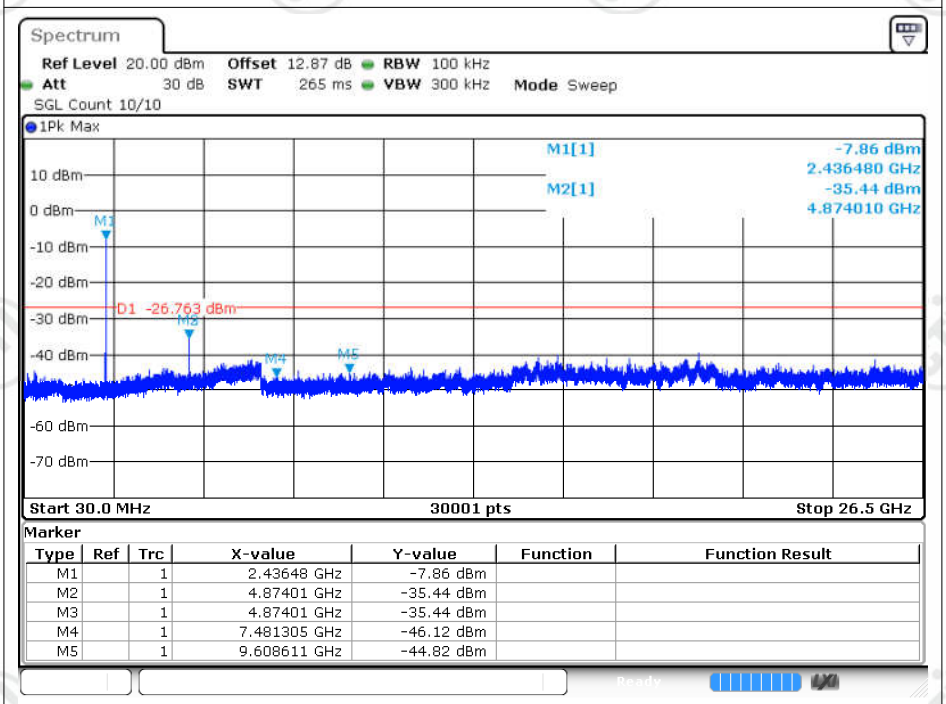
Date: 22.MAR.2024 09:51:20

Tx. Spurious NVNT b 2437MHz Ant1 Ref



Date: 22.MAR.2024 09:52:46

Tx. Spurious NVNT b 2437MHz Ant1 Emission

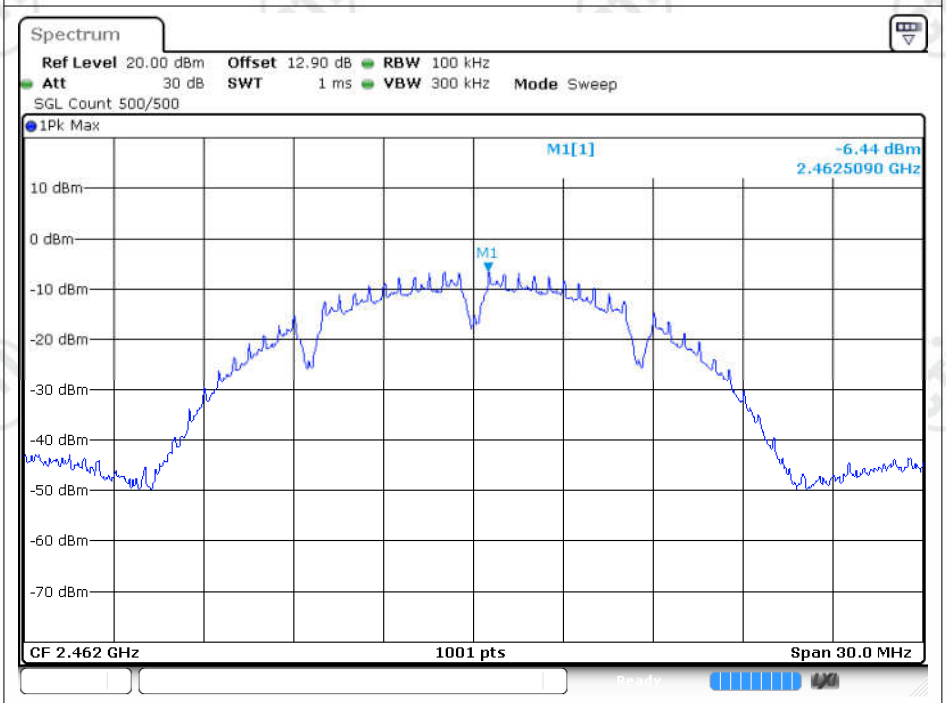


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43648 GHz	-7.86 dBm		
M2		1	4.87401 GHz	-35.44 dBm		
M3		1	4.87401 GHz	-35.44 dBm		
M4		1	7.481305 GHz	-46.12 dBm		
M5		1	9.608611 GHz	-44.82 dBm		

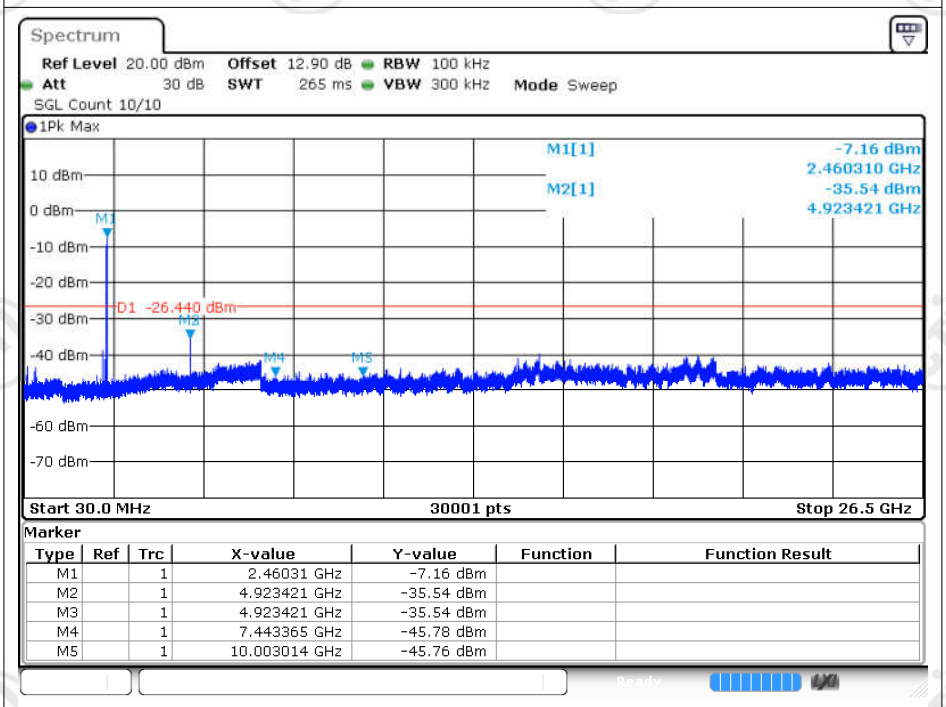
Date: 22.MAR.2024 09:52:57

Tx. Spurious NVNT b 2462MHz Ant1 Ref



Date: 22.MAR.2024 10:24:00

Tx. Spurious NVNT b 2462MHz Ant1 Emission

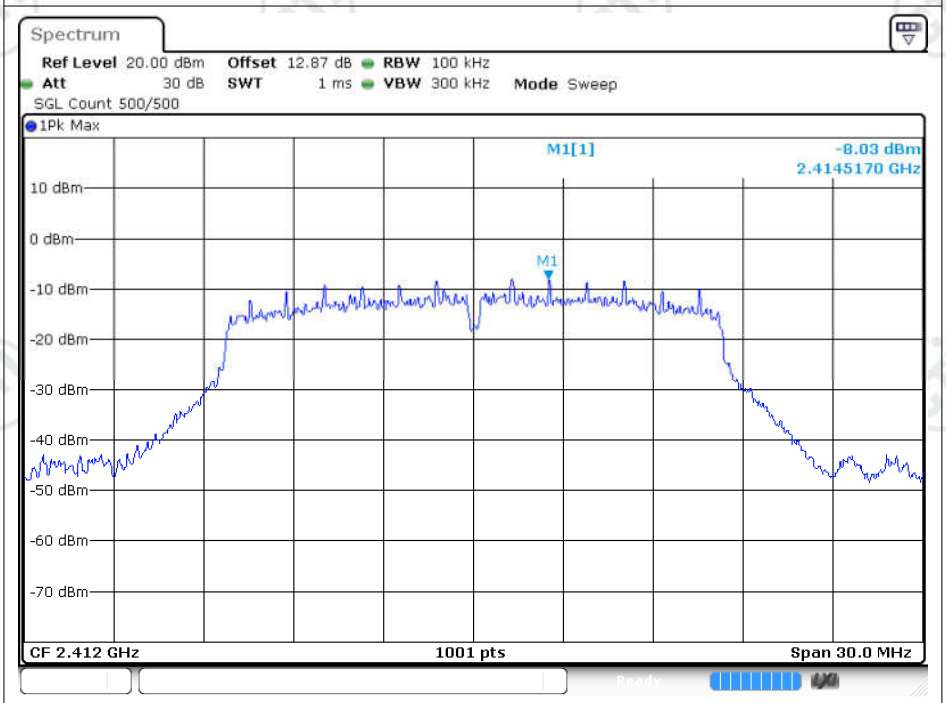


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46031 GHz	-7.16 dBm		
M2		1	4.923421 GHz	-35.54 dBm		
M3		1	4.923421 GHz	-35.54 dBm		
M4		1	7.443365 GHz	-45.78 dBm		
M5		1	10.003014 GHz	-45.76 dBm		

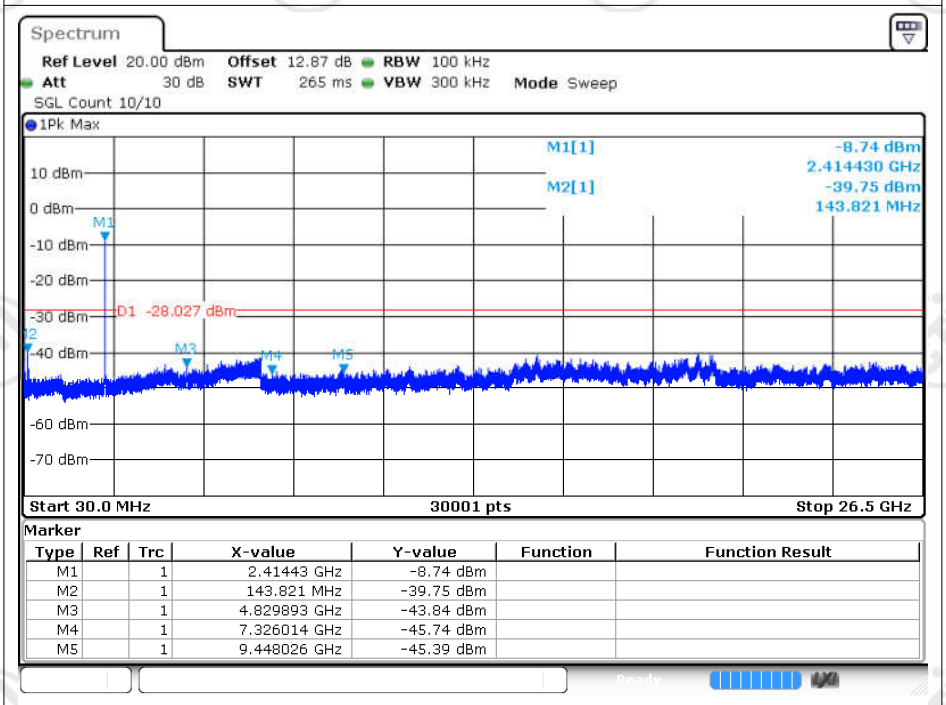
Date: 22.MAR.2024 10:24:11

Tx. Spurious NVNT g 2412MHz Ant1 Ref



Date: 23.MAR.2024 13:02:50

Tx. Spurious NVNT g 2412MHz Ant1 Emission

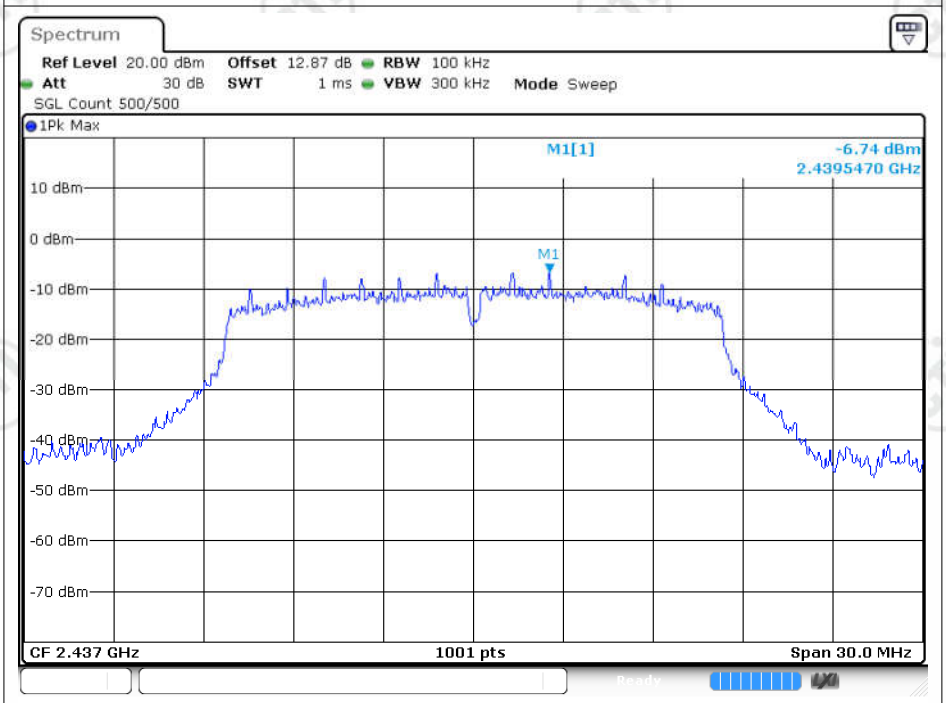


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41443 GHz	-8.74 dBm		
M2		1	143.821 MHz	-39.75 dBm		
M3		1	4.829893 GHz	-43.84 dBm		
M4		1	7.326014 GHz	-45.74 dBm		
M5		1	9.448026 GHz	-45.39 dBm		

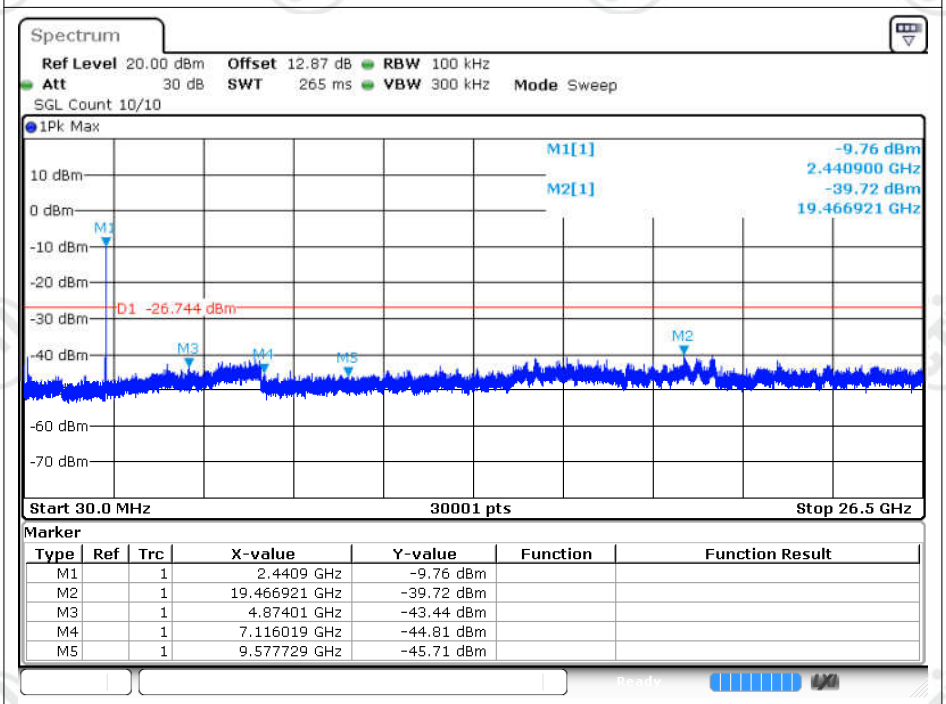
Date: 23.MAR.2024 13:03:02

Tx. Spurious NVNT g 2437MHz Ant1 Ref



Date: 23.MAR.2024 13:04:39

Tx. Spurious NVNT g 2437MHz Ant1 Emission

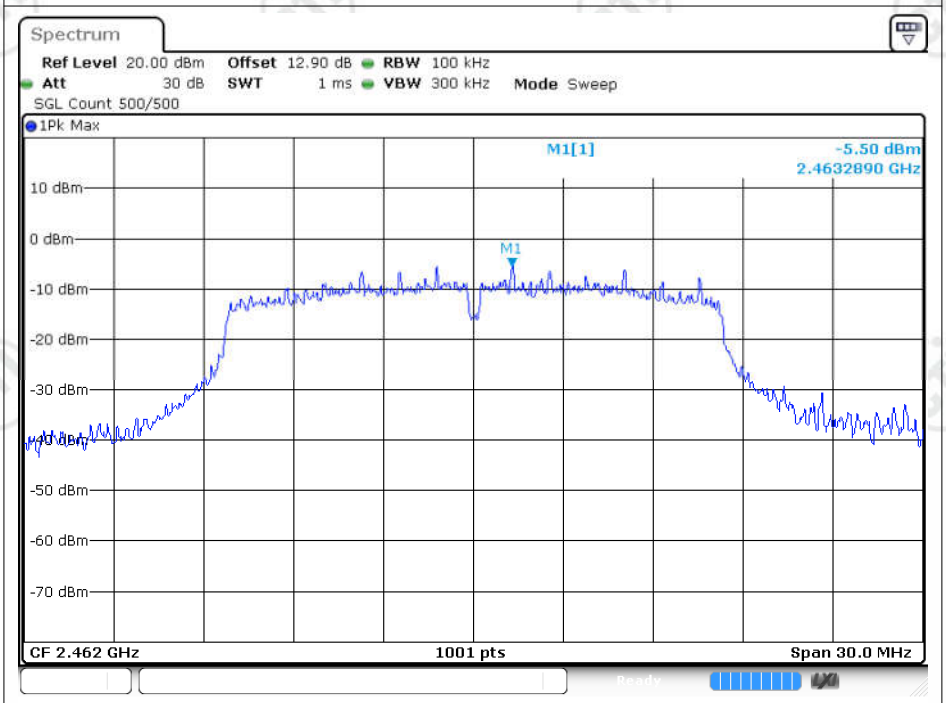


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4409 GHz	-9.76 dBm		
M2		1	19.466921 GHz	-39.72 dBm		
M3		1	4.87401 GHz	-43.44 dBm		
M4		1	7.116019 GHz	-44.81 dBm		
M5		1	9.577729 GHz	-45.71 dBm		

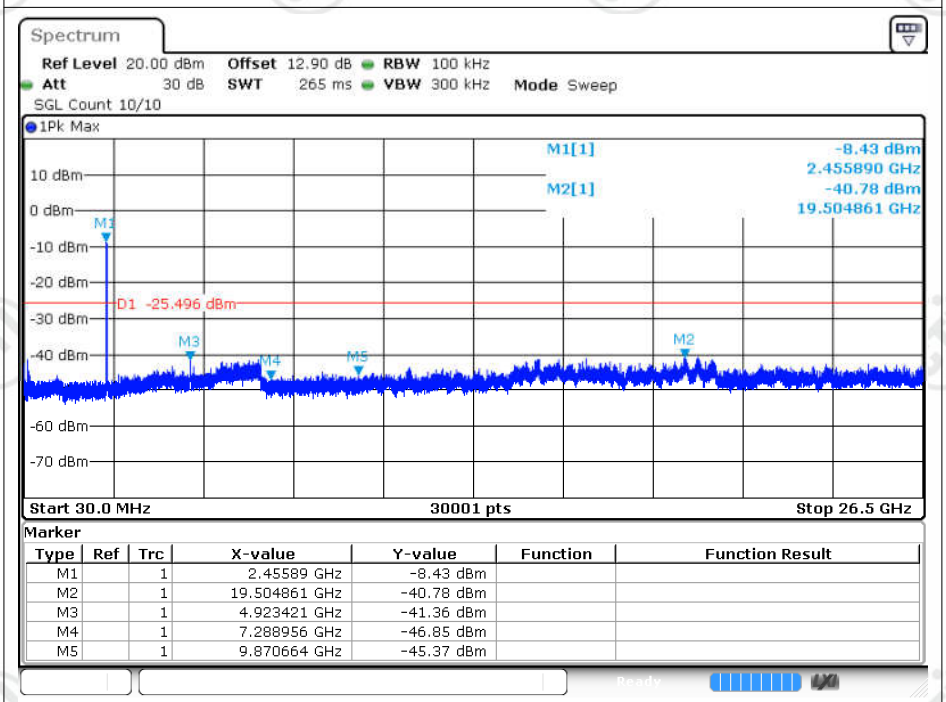
Date: 23.MAR.2024 13:04:50

Tx. Spurious NVNT g 2462MHz Ant1 Ref



Date: 23.MAR.2024 13:05:18

Tx. Spurious NVNT g 2462MHz Ant1 Emission

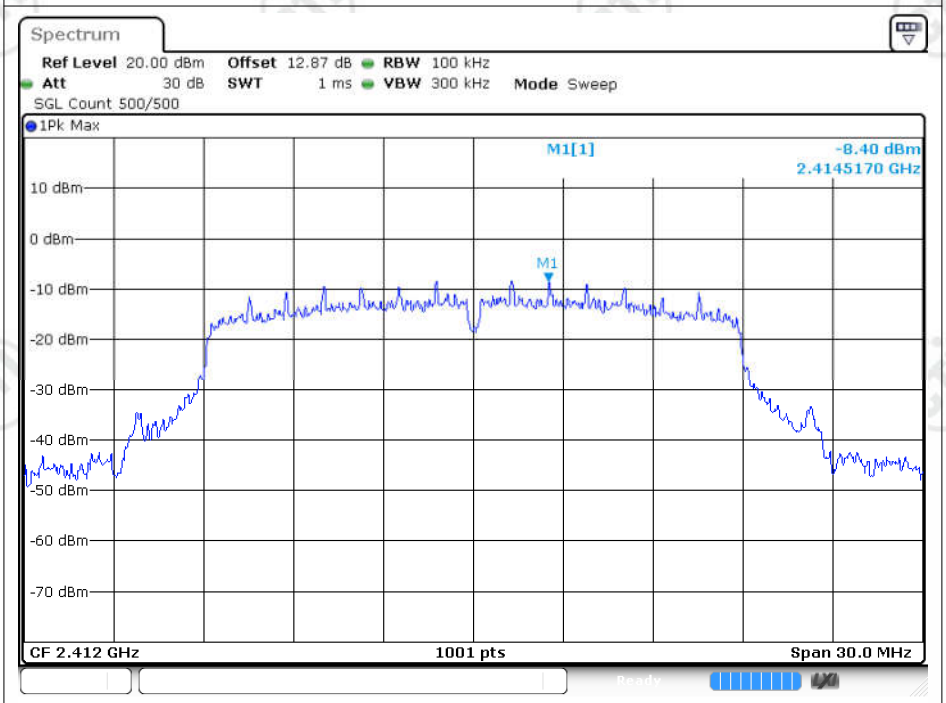


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45589 GHz	-8.43 dBm		
M2		1	19.504861 GHz	-40.78 dBm		
M3		1	4.923421 GHz	-41.36 dBm		
M4		1	7.288956 GHz	-46.85 dBm		
M5		1	9.870664 GHz	-45.37 dBm		

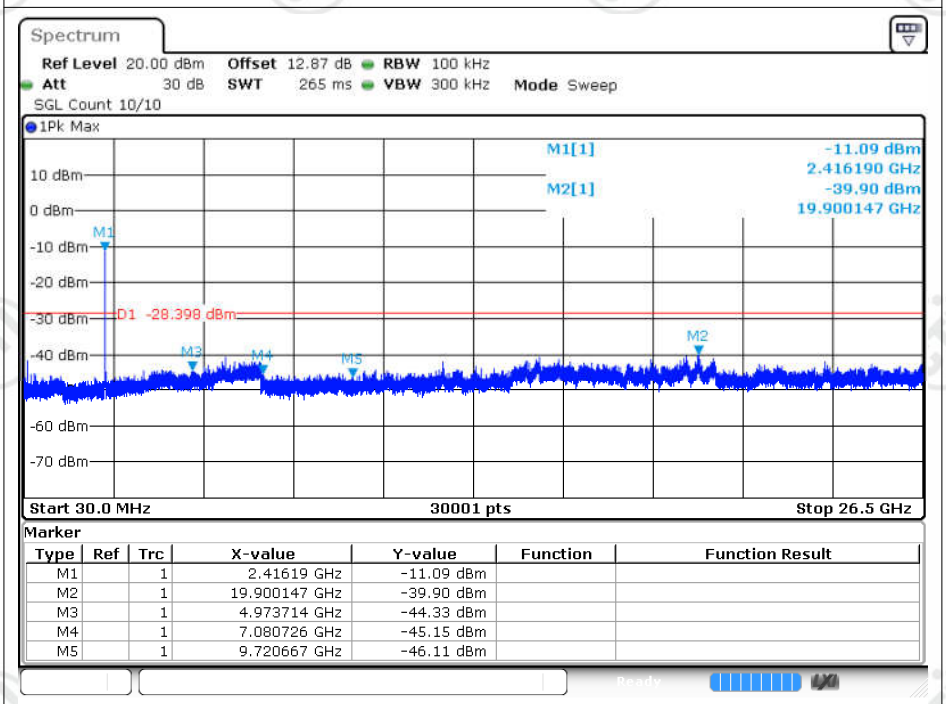
Date: 23.MAR.2024 13:05:29

Tx. Spurious NVNT n20 2412MHz Ant1 Ref



Date: 22.MAR.2024 10:07:15

Tx. Spurious NVNT n20 2412MHz Ant1 Emission

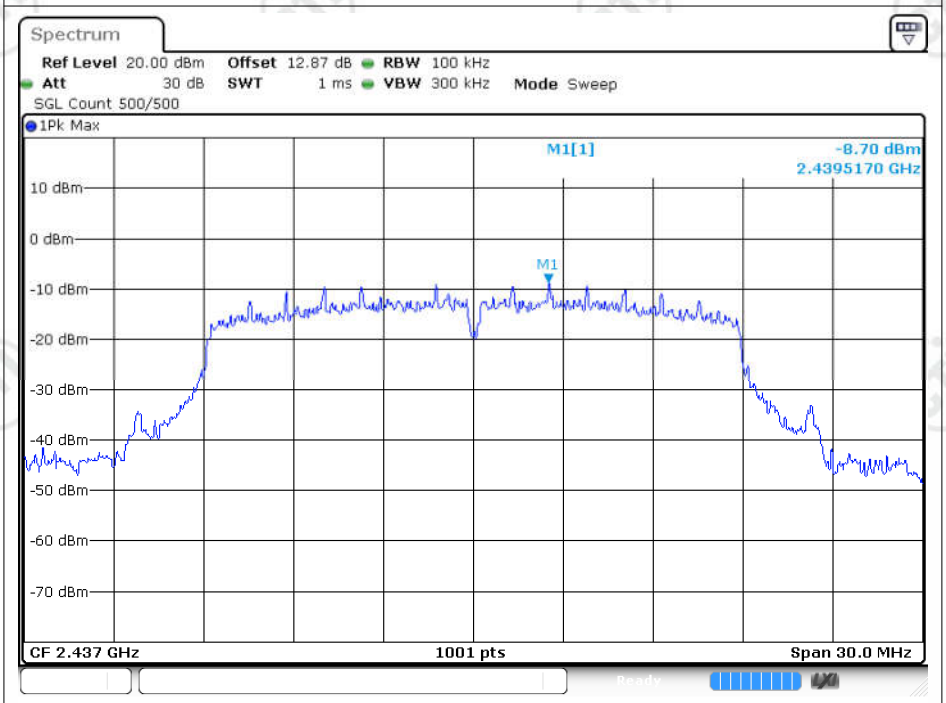


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41619 GHz	-11.09 dBm		
M2		1	19.900147 GHz	-39.90 dBm		
M3		1	4.973714 GHz	-44.33 dBm		
M4		1	7.080726 GHz	-45.15 dBm		
M5		1	9.720667 GHz	-46.11 dBm		

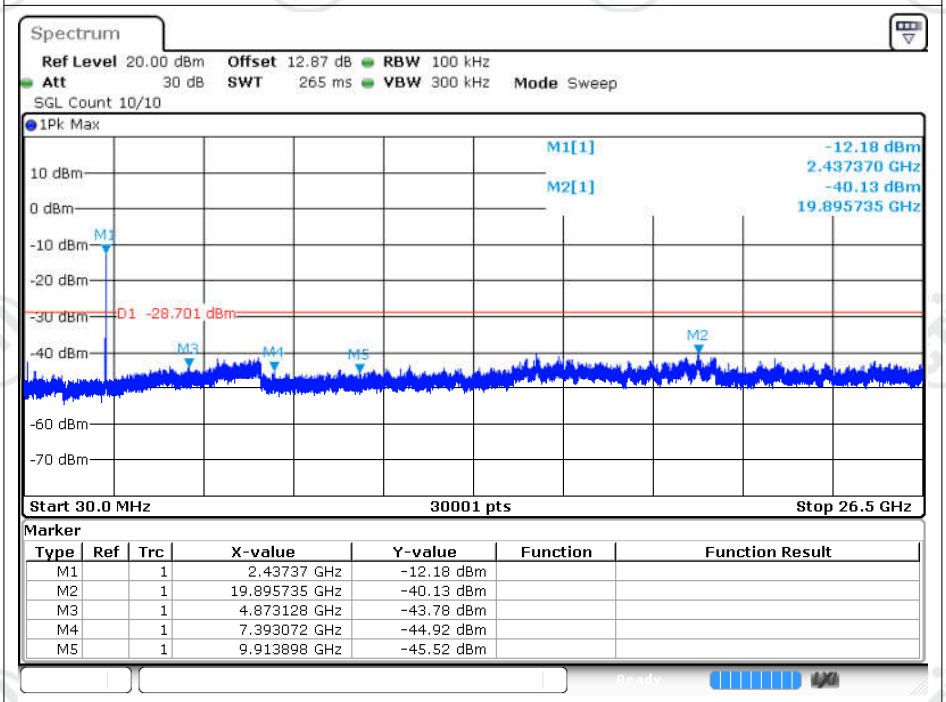
Date: 22.MAR.2024 10:07:27

Tx. Spurious NVNT n20 2437MHz Ant1 Ref



Date: 22.MAR.2024 10:08:40

Tx. Spurious NVNT n20 2437MHz Ant1 Emission

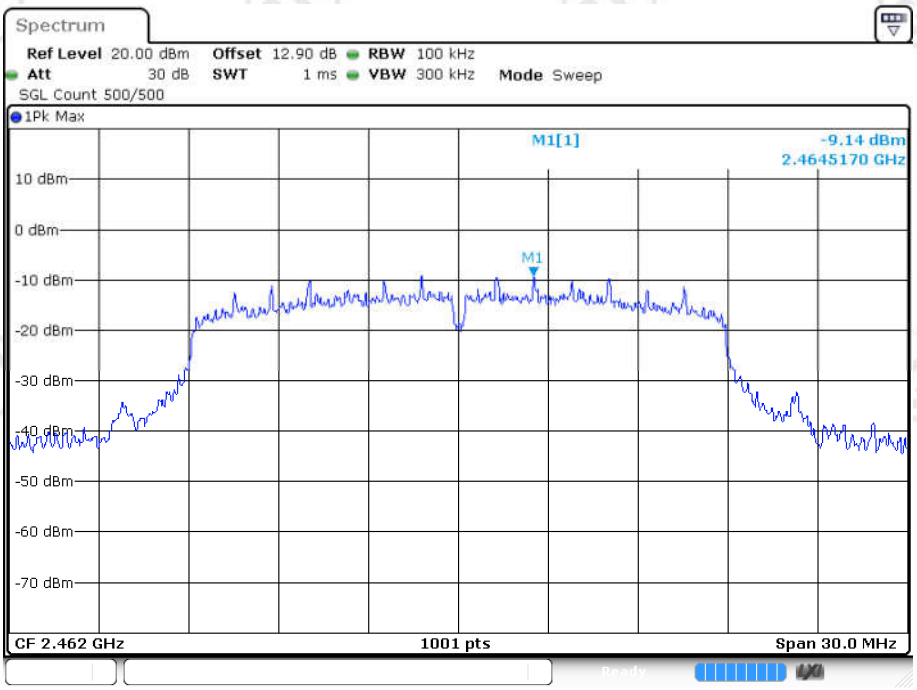


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43737 GHz	-12.18 dBm		
M2		1	19.895735 GHz	-40.13 dBm		
M3		1	4.873128 GHz	-43.78 dBm		
M4		1	7.393072 GHz	-44.92 dBm		
M5		1	9.913898 GHz	-45.52 dBm		

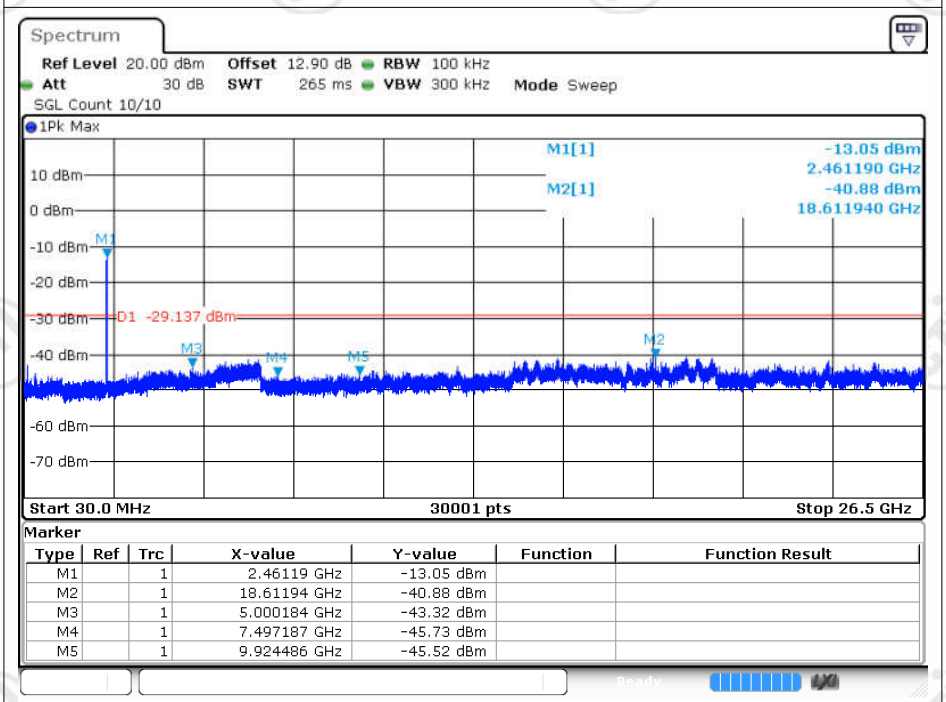
Date: 22.MAR.2024 10:08:51

Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Date: 22.MAR.2024 10:11:19

Tx. Spurious NVNT n20 2462MHz Ant1 Emission

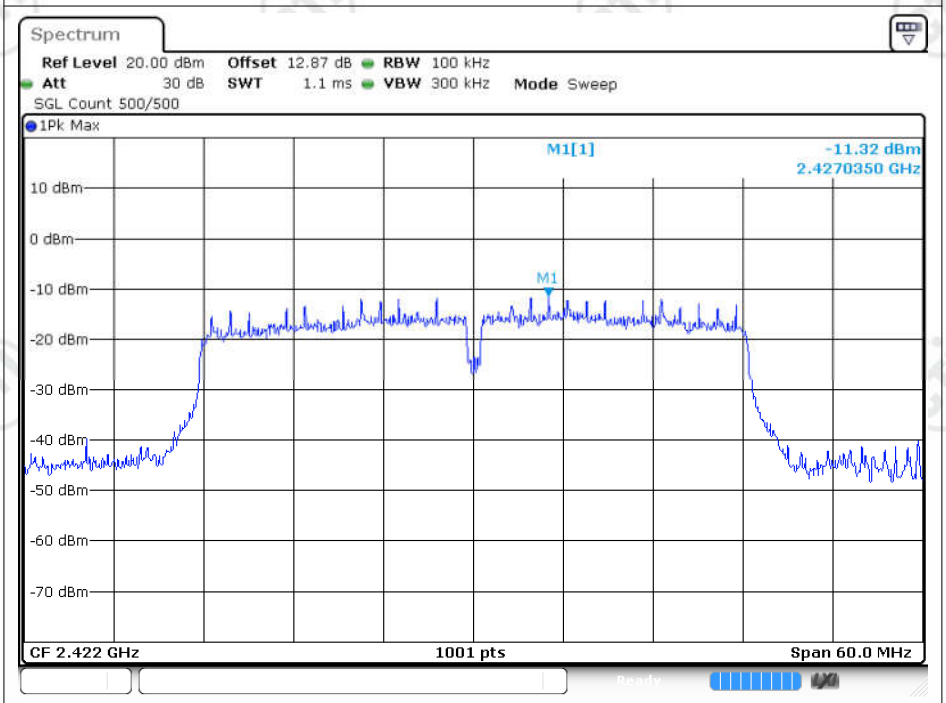


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46119 GHz	-13.05 dBm		
M2		1	18.61194 GHz	-40.88 dBm		
M3		1	5.000184 GHz	-43.32 dBm		
M4		1	7.497187 GHz	-45.73 dBm		
M5		1	9.924486 GHz	-45.52 dBm		

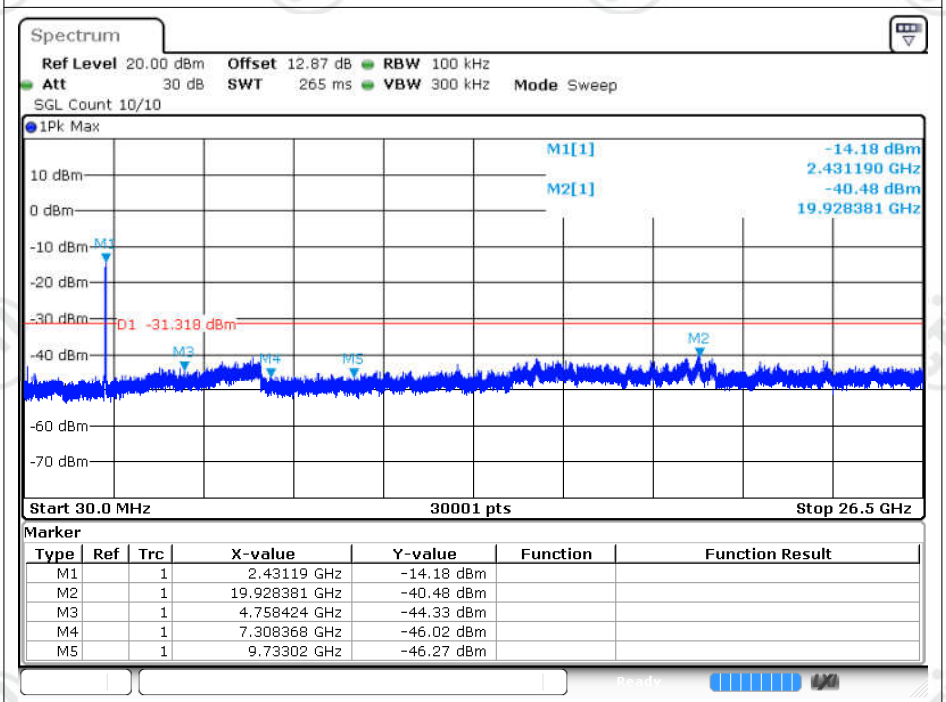
Date: 22.MAR.2024 10:11:31

Tx. Spurious NVNT n40 2422MHz Ant1 Ref



Date: 22.MAR.2024 10:14:38

Tx. Spurious NVNT n40 2422MHz Ant1 Emission

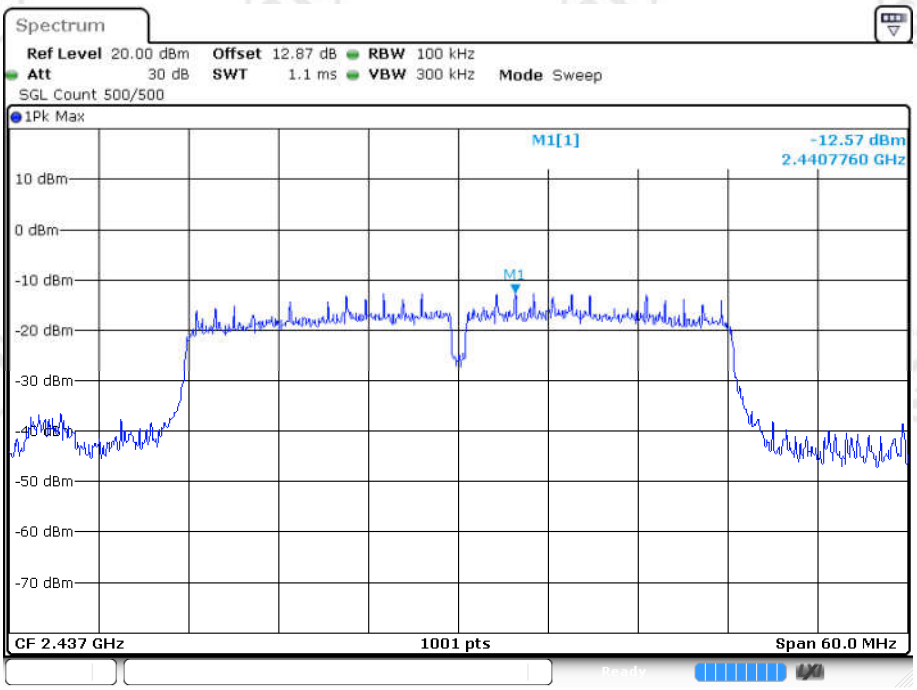


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43119 GHz	-14.18 dBm		
M2		1	19.928381 GHz	-40.48 dBm		
M3		1	4.758424 GHz	-44.33 dBm		
M4		1	7.308368 GHz	-46.02 dBm		
M5		1	9.73302 GHz	-46.27 dBm		

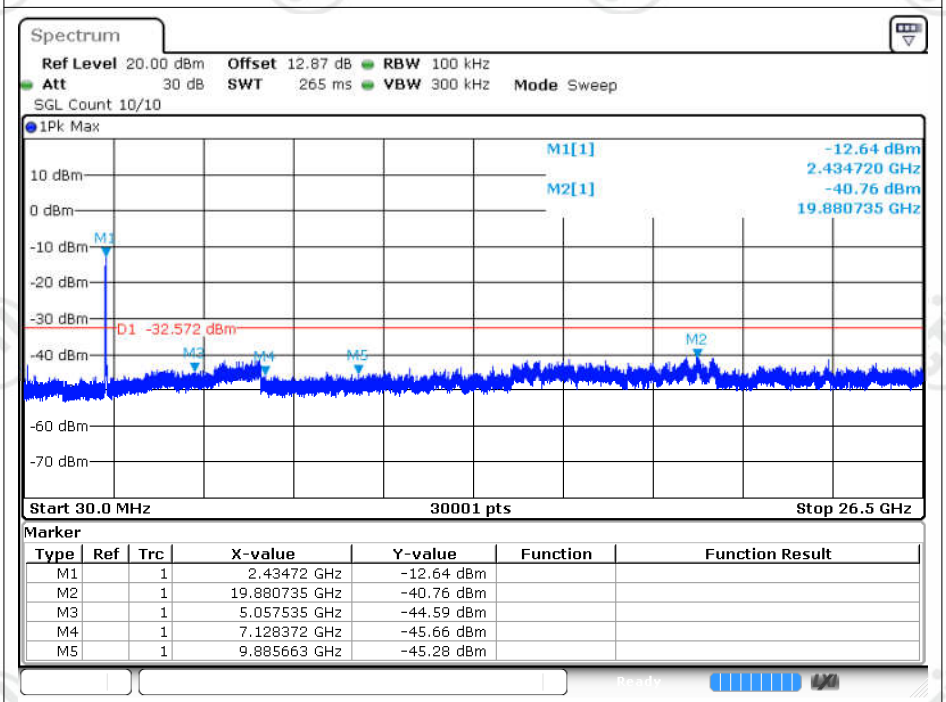
Date: 22.MAR.2024 10:14:50

Tx. Spurious NVNT n40 2437MHz Ant1 Ref



Date: 22.MAR.2024 10:18:05

Tx. Spurious NVNT n40 2437MHz Ant1 Emission

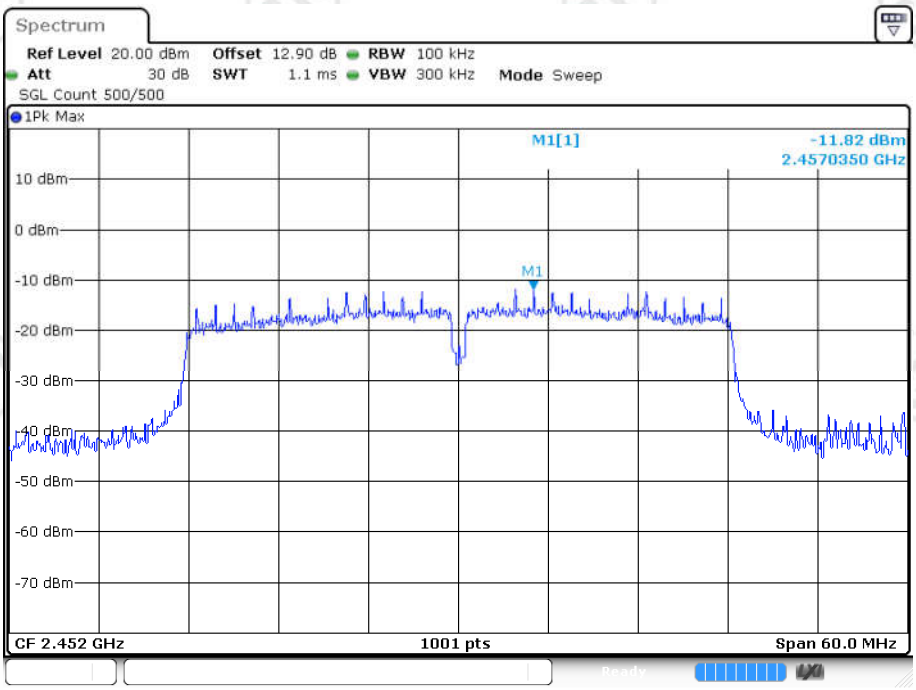


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43472 GHz	-12.64 dBm		
M2		1	19.880735 GHz	-40.76 dBm		
M3		1	5.057535 GHz	-44.59 dBm		
M4		1	7.128372 GHz	-45.66 dBm		
M5		1	9.885663 GHz	-45.28 dBm		

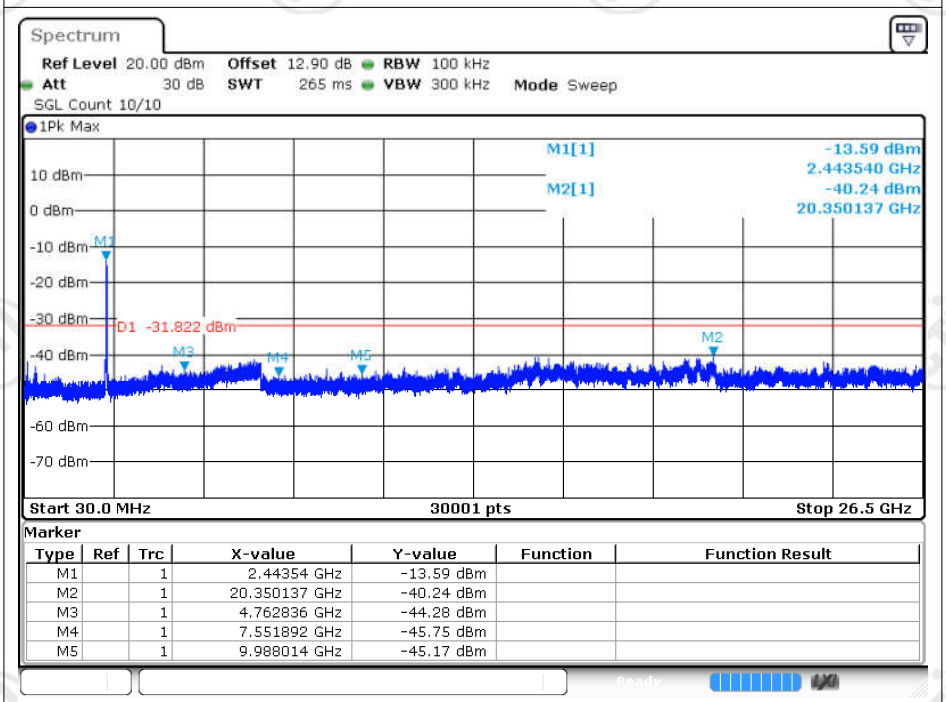
Date: 22.MAR.2024 10:18:16

Tx. Spurious NVNT n40 2452MHz Ant1 Ref



Date: 22.MAR.2024 10:20:31

Tx. Spurious NVNT n40 2452MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.44354 GHz	-13.59 dBm		
M2		1	20.350137 GHz	-40.24 dBm		
M3		1	4.762836 GHz	-44.28 dBm		
M4		1	7.551892 GHz	-45.75 dBm		
M5		1	9.988014 GHz	-45.17 dBm		

Date: 22.MAR.2024 10:20:42

*** End of Report ***