Appendix: 2.4G Wi-Fi

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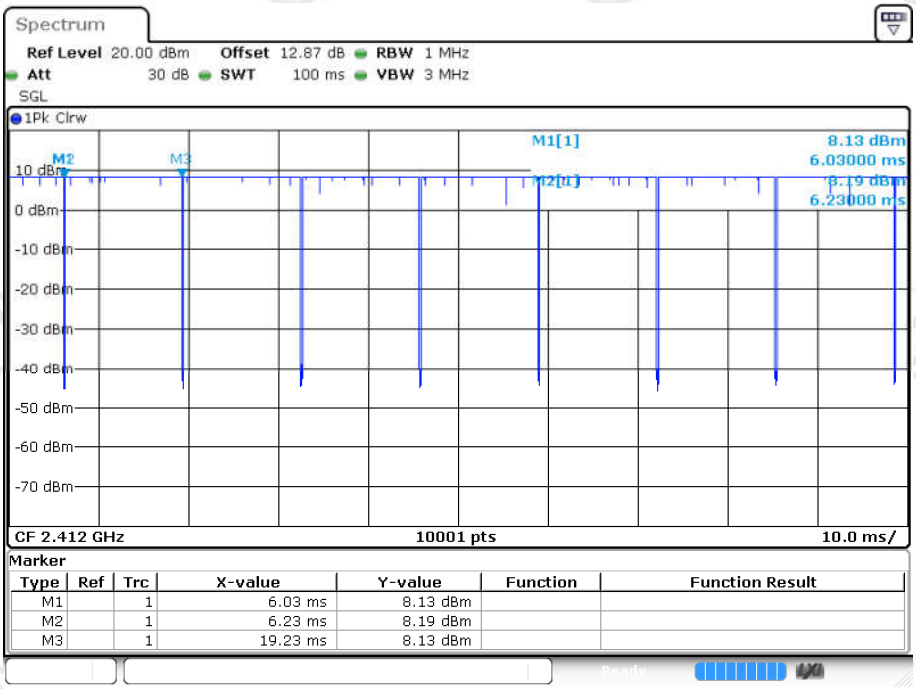
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	98.48	0	0.08
NVNT	b	2437	Ant1	94.68	0.24	0.08
NVNT	b	2462	Ant1	98.48	0	0.08
NVNT	g	2412	Ant1	93.69	0.28	0.32
NVNT	g	2437	Ant1	93.94	0.27	0.32
NVNT	g	2462	Ant1	93.99	0.27	0.32
NVNT	n20	2412	Ant1	93.23	0.3	0.35
NVNT	n20	2437	Ant1	92.92	0.32	0.37
NVNT	n20	2462	Ant1	92.86	0.32	0.38
NVNT	ax20	2412	Ant1	91.78	0.37	0.45
NVNT	ax20	2437	Ant1	90.37	0.44	0.51
NVNT	ax20	2462	Ant1	91.95	0.36	0.42

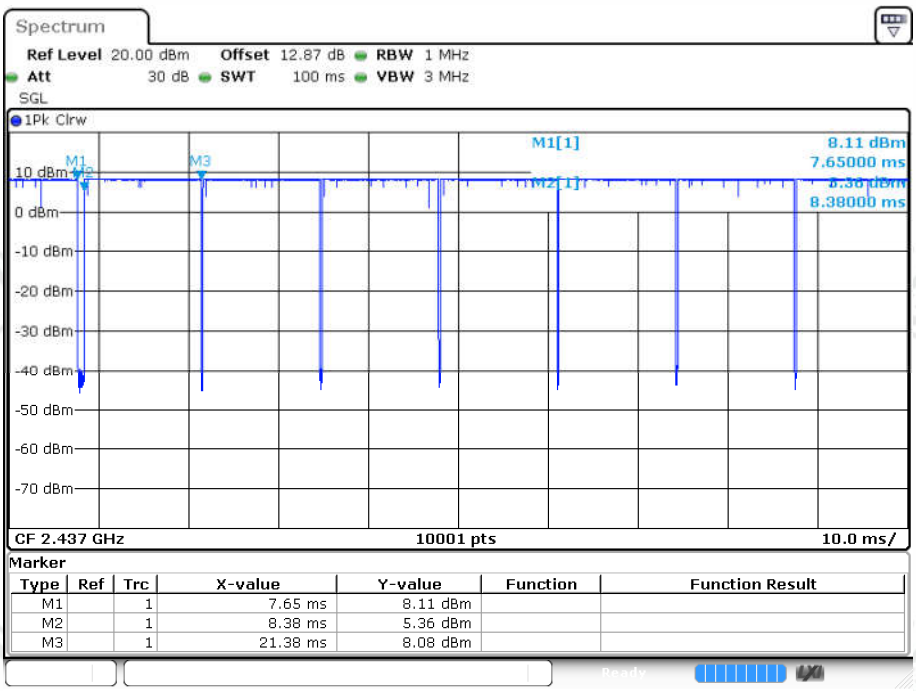
Test Graphs

Duty Cycle NVNT b 2412MHz Ant1



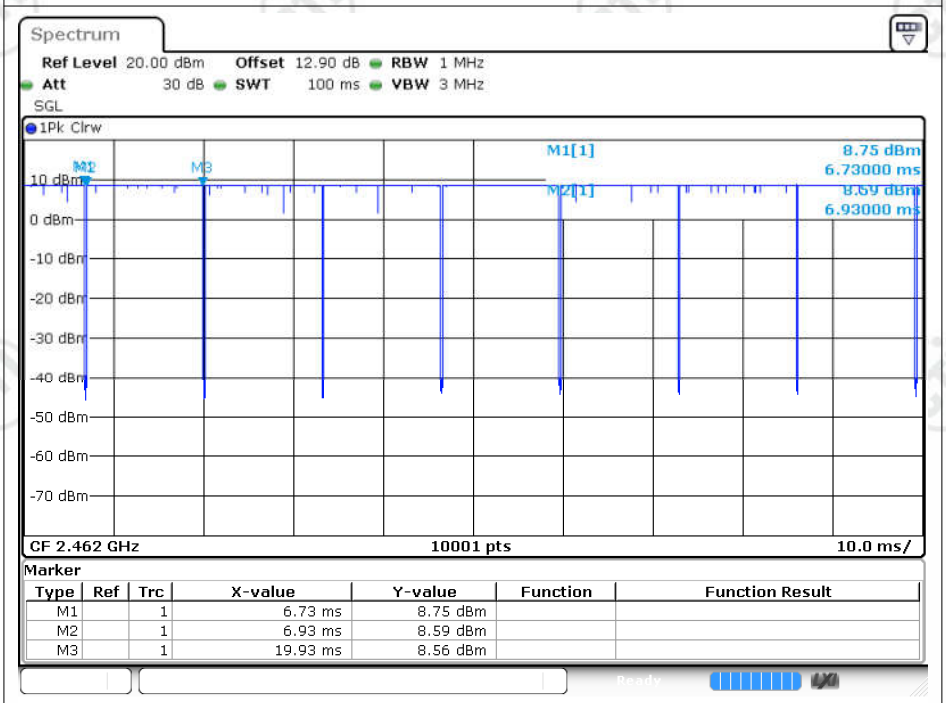
Date: 8.APR.2024 17:03:42

Duty Cycle NVNT b 2437MHz Ant1



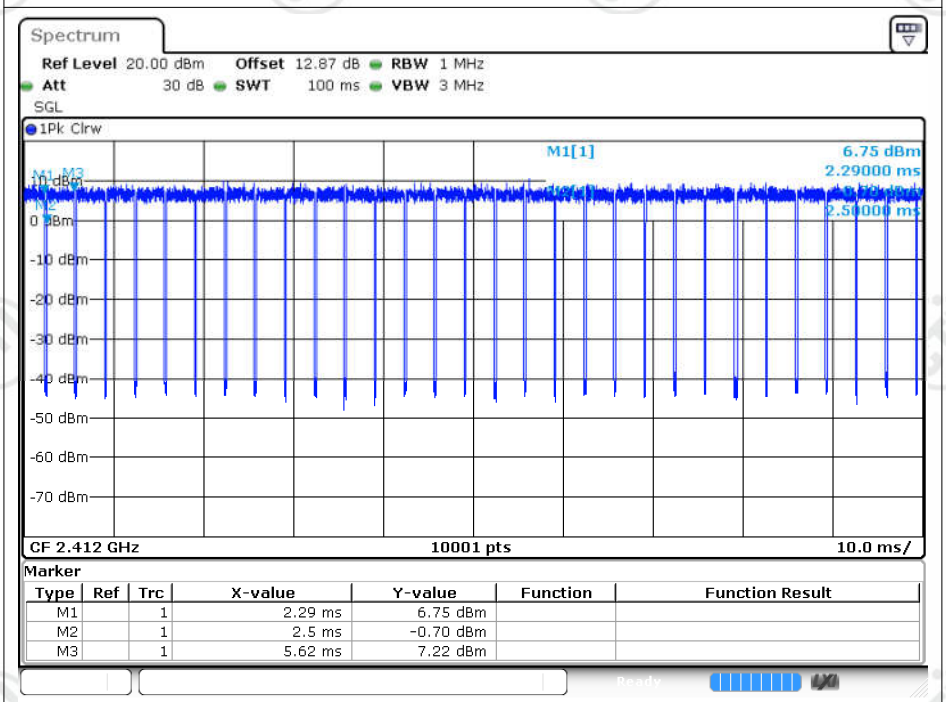
Date: 8.APR.2024 17:05:07

Duty Cycle NVNT b 2462MHz Ant1



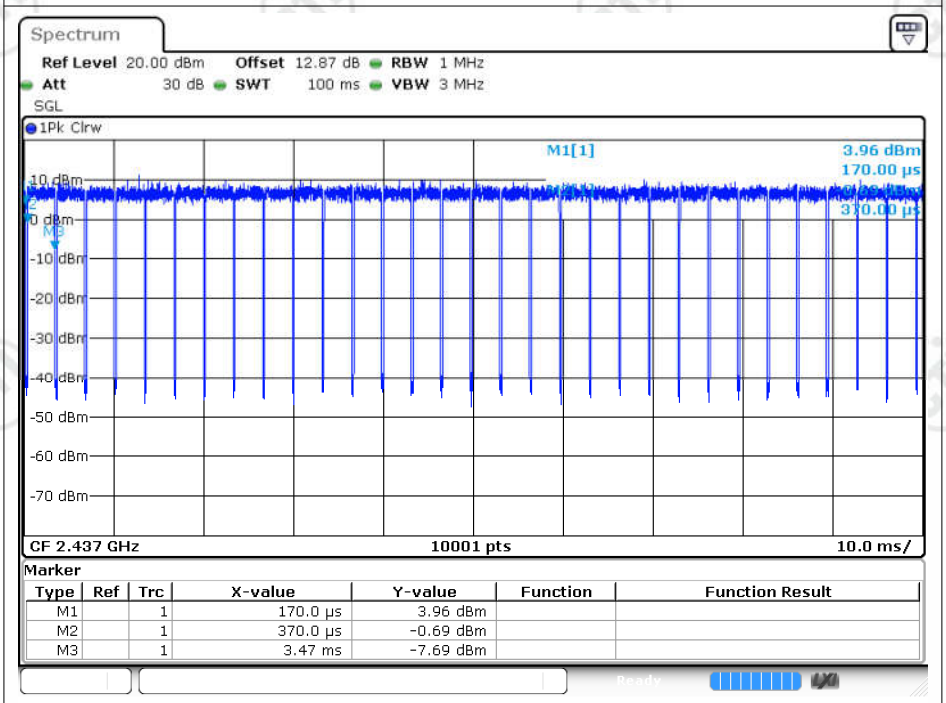
Date: 8.APR.2024 17:06:53

Duty Cycle NVNT g 2412MHz Ant1



Date: 8.APR.2024 17:08:44

Duty Cycle NVNT g 2437MHz Ant1

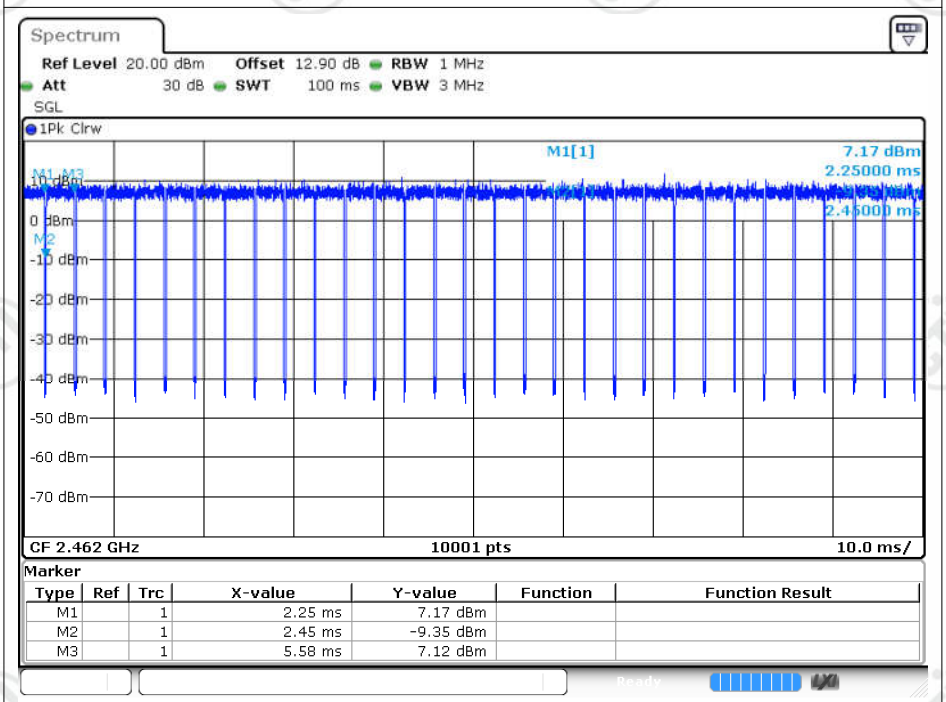


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	170.0 µs	3.96 dBm		
M2		1	370.0 µs	-0.69 dBm		
M3		1	3.47 ms	-7.69 dBm		

Date: 8.APR.2024 17:10:23

Duty Cycle NVNT g 2462MHz Ant1

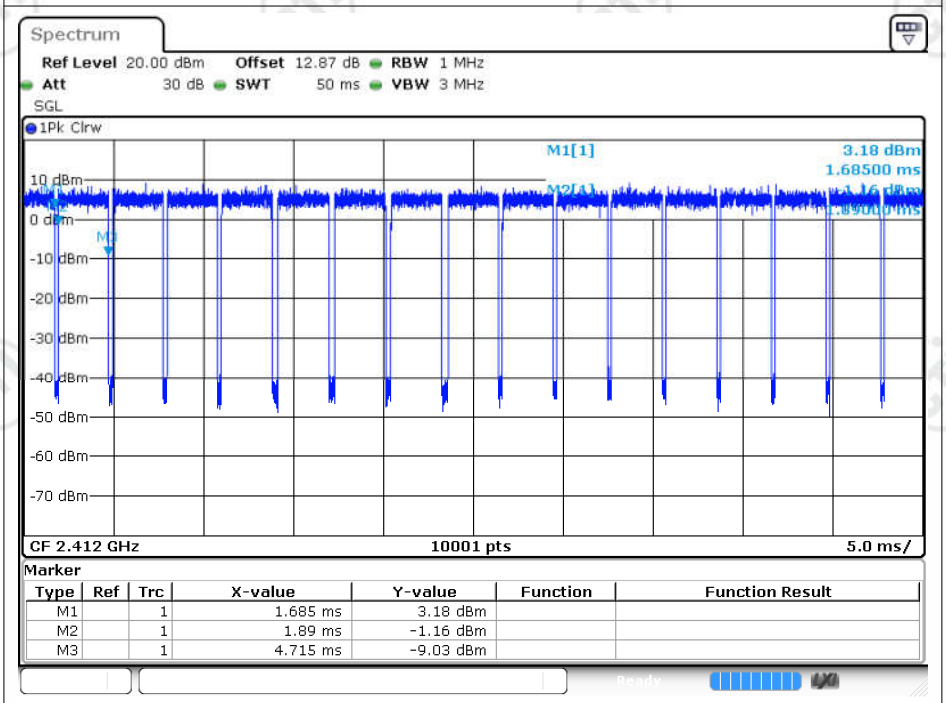


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.25 ms	7.17 dBm		
M2		1	2.45 ms	-9.35 dBm		
M3		1	5.58 ms	7.12 dBm		

Date: 8.APR.2024 17:11:58

Duty Cycle NVNT n20 2412MHz Ant1

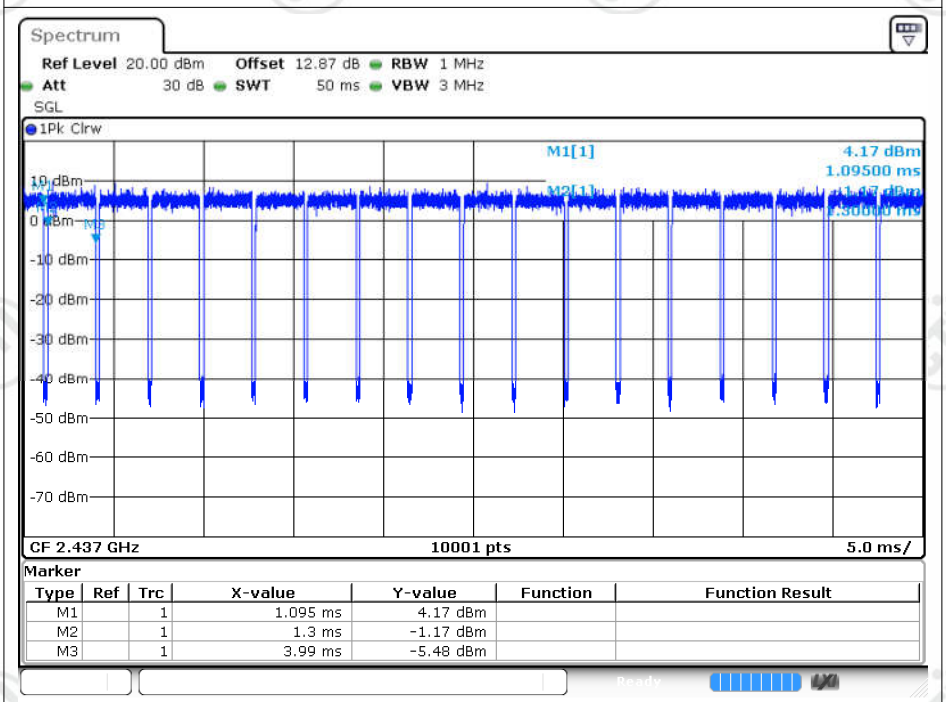


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.685 ms	3.18 dBm		
M2		1	1.89 ms	-1.16 dBm		
M3		1	4.715 ms	-9.03 dBm		

Date: 8.APR.2024 17:14:13

Duty Cycle NVNT n20 2437MHz Ant1

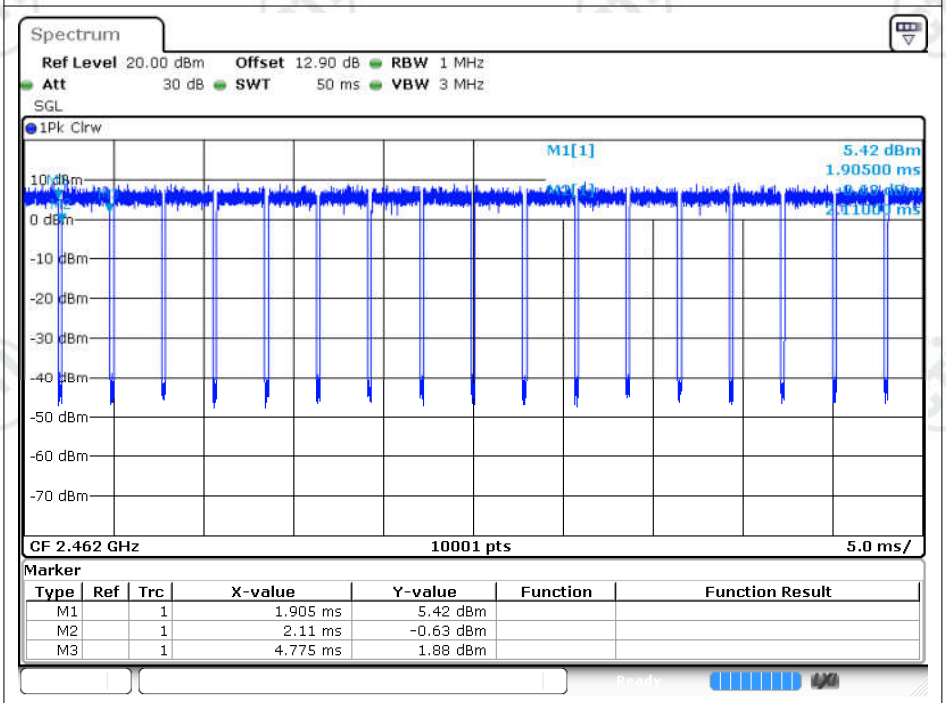


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.095 ms	4.17 dBm		
M2		1	1.3 ms	-1.17 dBm		
M3		1	3.99 ms	-5.48 dBm		

Date: 8.APR.2024 17:16:19

Duty Cycle NVNT n20 2462MHz Ant1

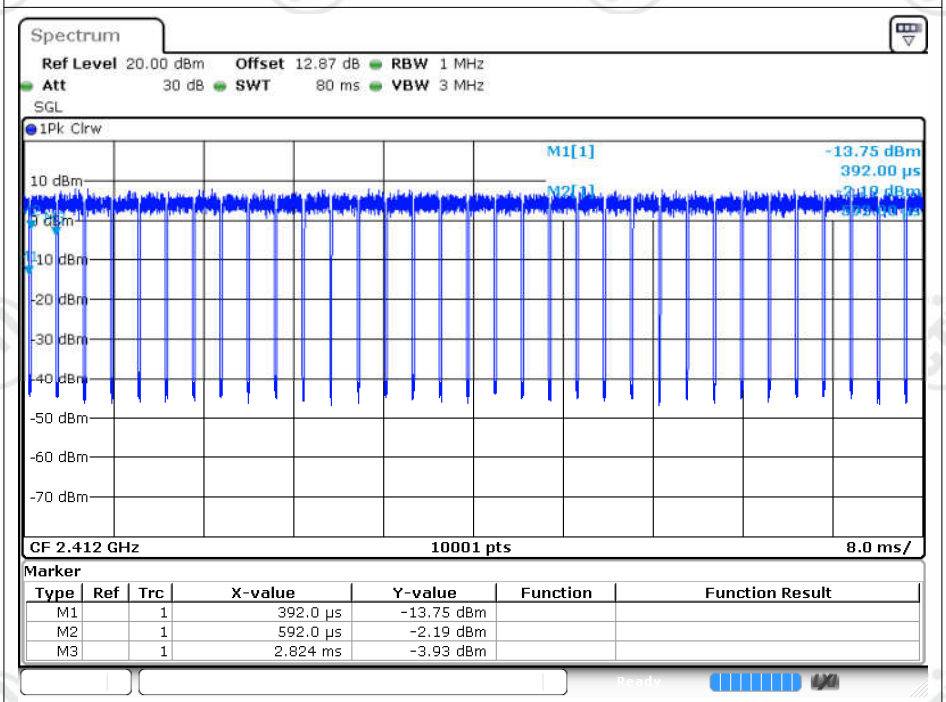


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	1.905 ms	5.42 dBm		
M2		1	2.11 ms	-0.63 dBm		
M3		1	4.775 ms	1.88 dBm		

Date: 8.APR.2024 17:17:54

Duty Cycle NVNT ax20 2412MHz Ant1

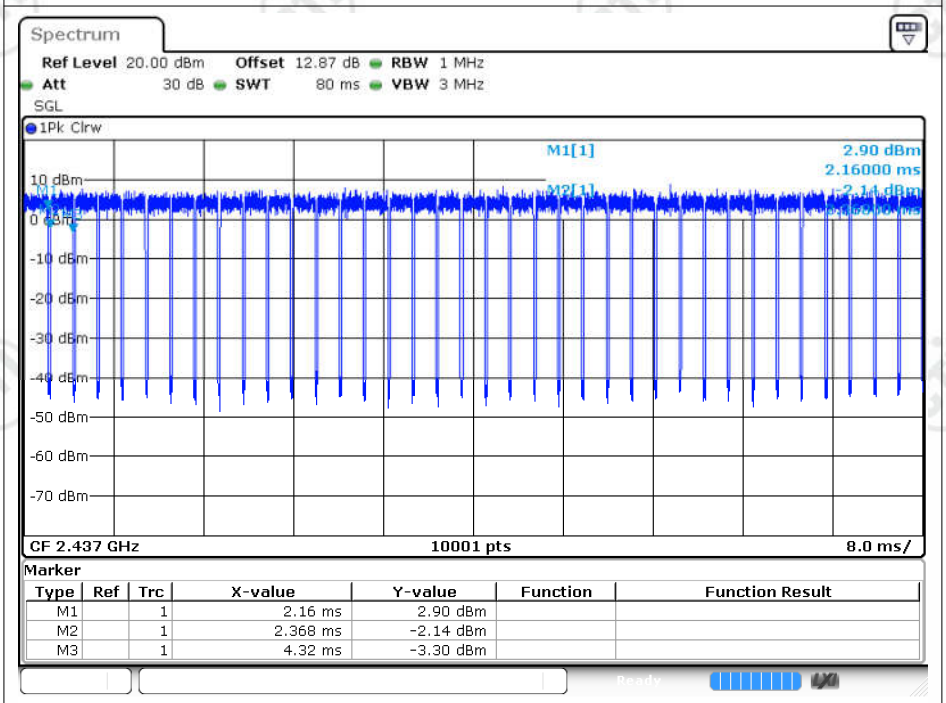


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	392.0 µs	-13.75 dBm		
M2		1	592.0 µs	-2.19 dBm		
M3		1	2.824 ms	-3.93 dBm		

Date: 8.APR.2024 17:19:56

Duty Cycle NVNT ax20 2437MHz Ant1



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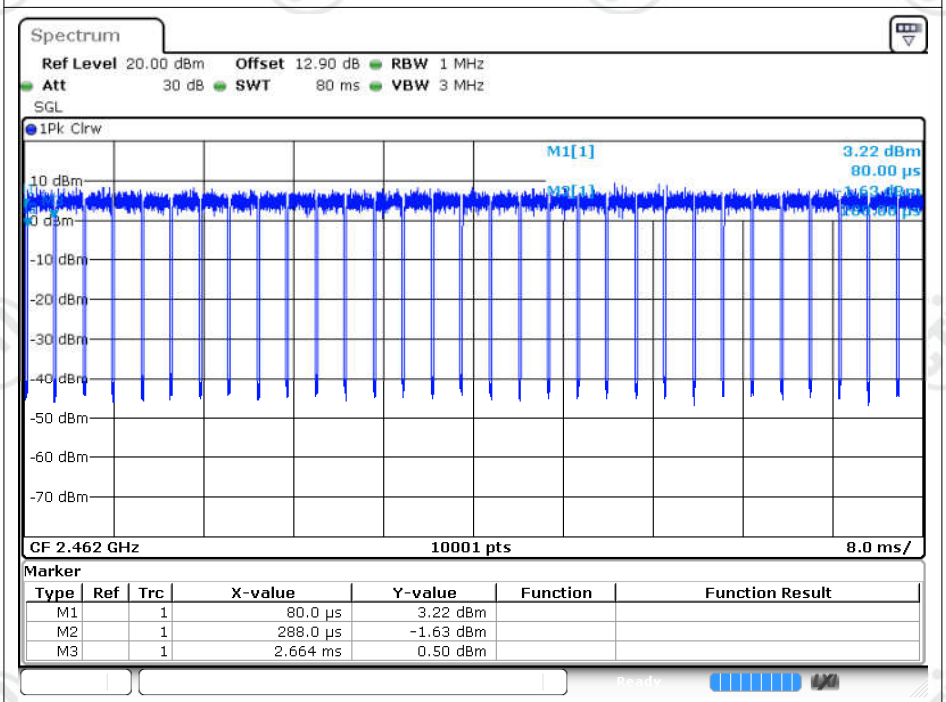
Duty Cycle NVNT ax20 2462MHz Ant1



Date: 8.APR.2024 17:23:03

Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	14.6	30	Pass
NVNT	b	2437	Ant1	14.61	30	Pass
NVNT	b	2462	Ant1	**14.78**	30	Pass
NVNT	g	2412	Ant1	13.34	30	Pass
NVNT	g	2437	Ant1	13.34	30	Pass
NVNT	g	2462	Ant1	13.64	30	Pass
NVNT	n20	2412	Ant1	12.47	30	Pass
NVNT	n20	2437	Ant1	12.41	30	Pass
NVNT	n20	2462	Ant1	12.7	30	Pass
NVNT	ax20	2412	Ant1	10.52	30	Pass
NVNT	ax20	2437	Ant1	10.48	30	Pass
NVNT	ax20	2462	Ant1	10.78	30	Pass

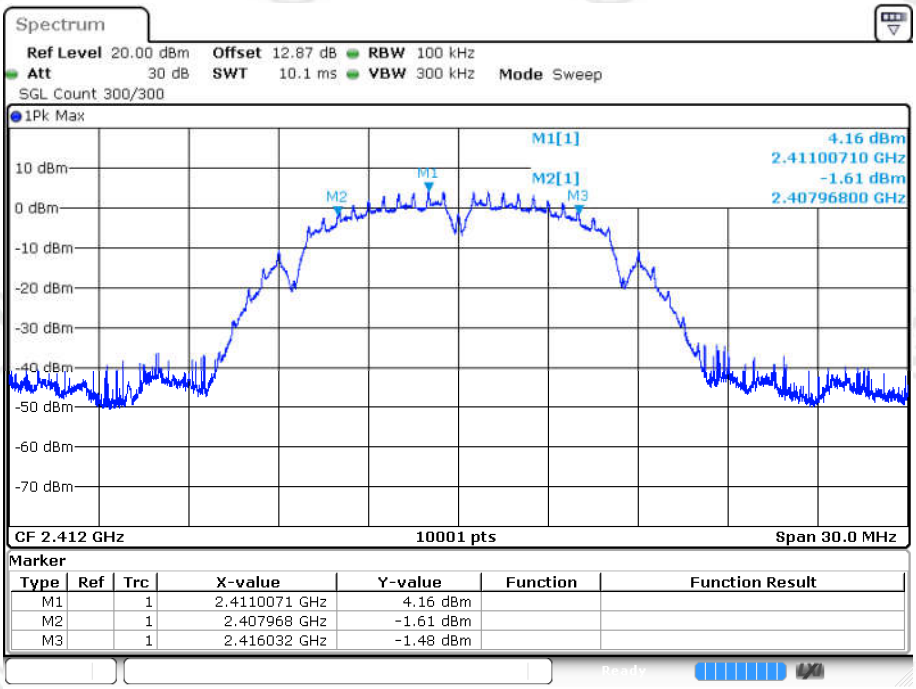
Note:Conducted Power has been added Duty Cycle Correction Factor.

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	8.064	0.5	Pass
NVNT	b	2437	Ant1	8.526	0.5	Pass
NVNT	b	2462	Ant1	9.018	0.5	Pass
NVNT	g	2412	Ant1	15.093	0.5	Pass
NVNT	g	2437	Ant1	15.117	0.5	Pass
NVNT	g	2462	Ant1	15.165	0.5	Pass
NVNT	n20	2412	Ant1	15.15	0.5	Pass
NVNT	n20	2437	Ant1	15.18	0.5	Pass
NVNT	n20	2462	Ant1	15.12	0.5	Pass
NVNT	ax20	2412	Ant1	15.138	0.5	Pass
NVNT	ax20	2437	Ant1	15.153	0.5	Pass
NVNT	ax20	2462	Ant1	15.09	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



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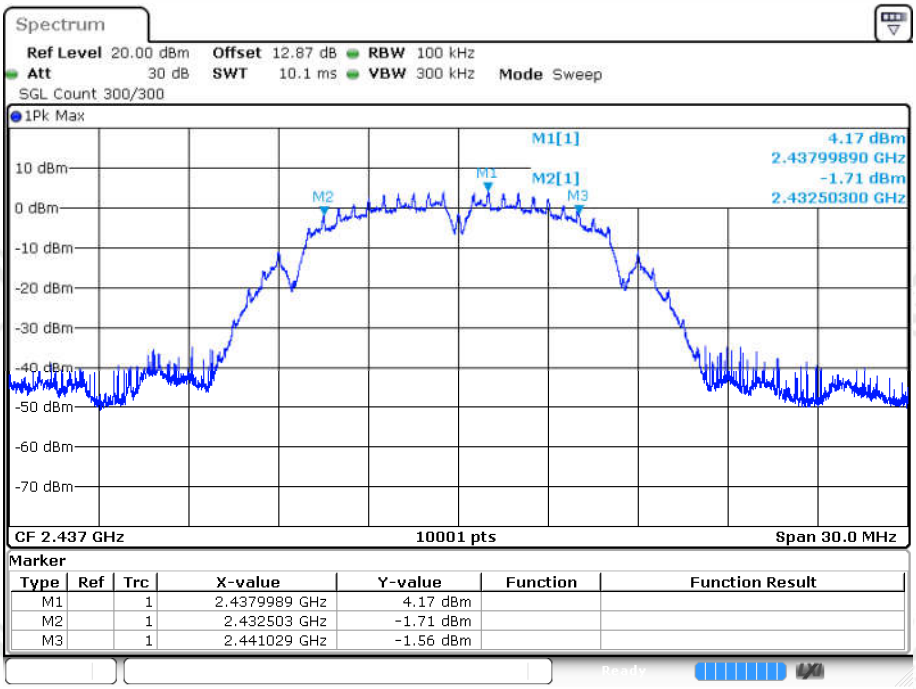
-6dB Bandwidth NVNT b 2437MHz Ant1



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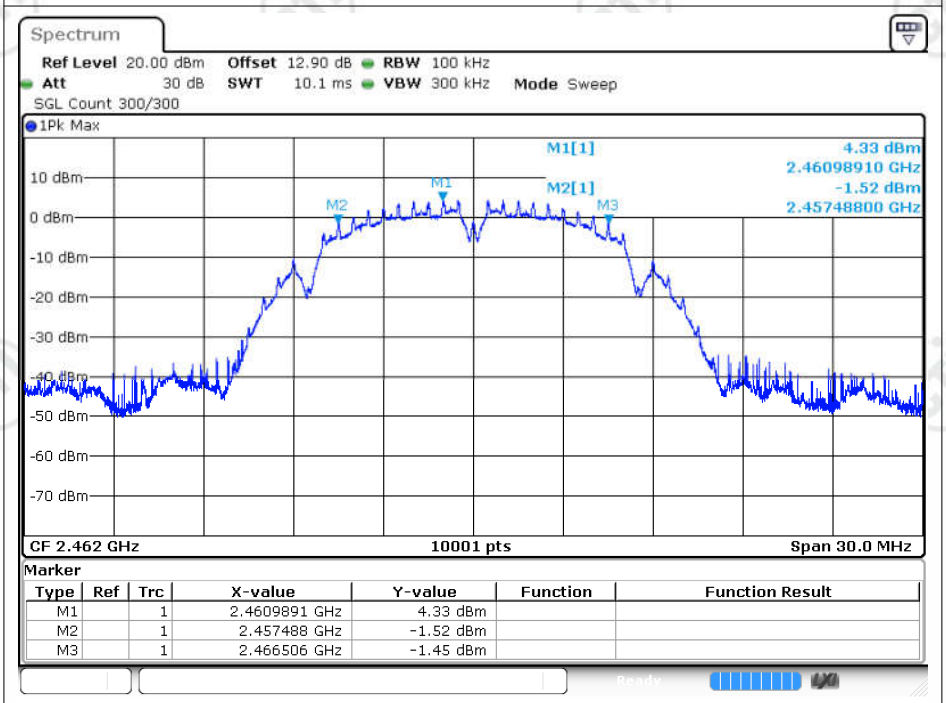
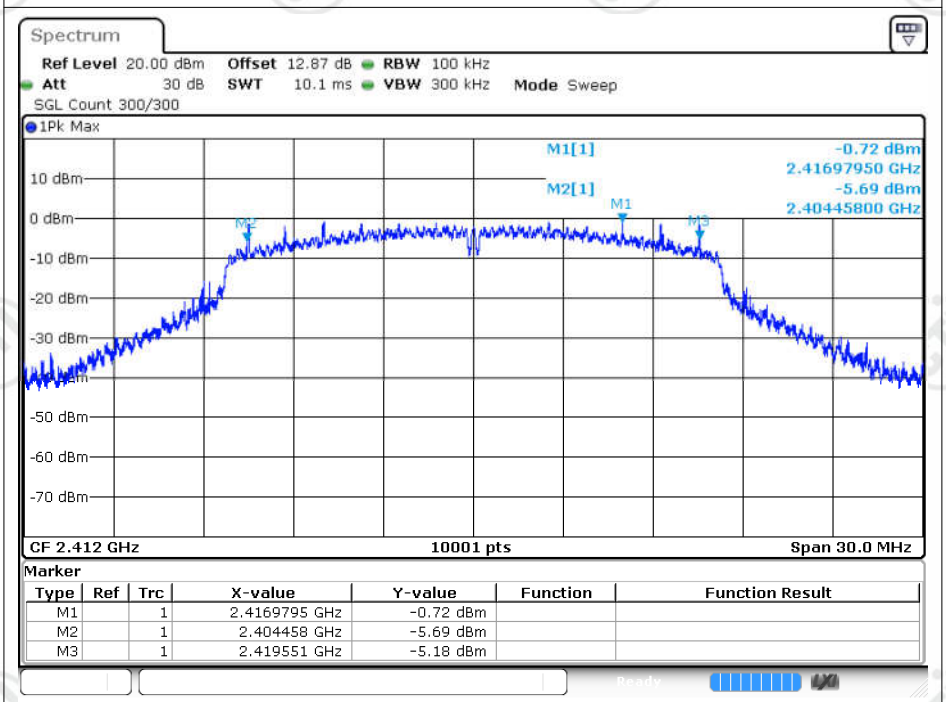
-6dB Bandwidth NVNT b 2462MHz Ant1



Date: 8.APR.2024 17:07:20

-6dB Bandwidth NVNT g 2412MHz Ant1



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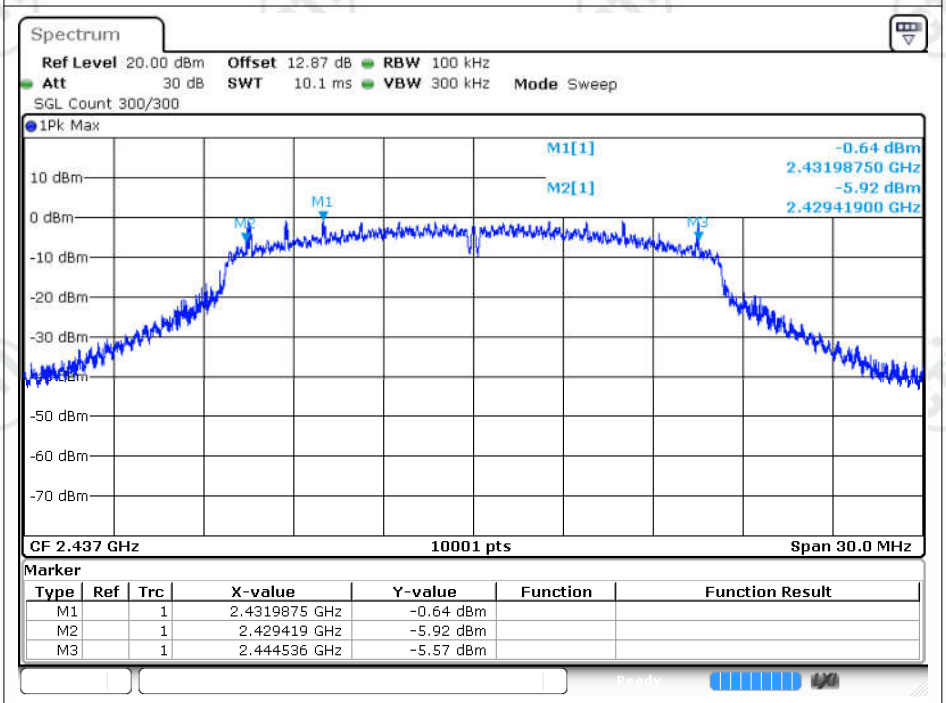
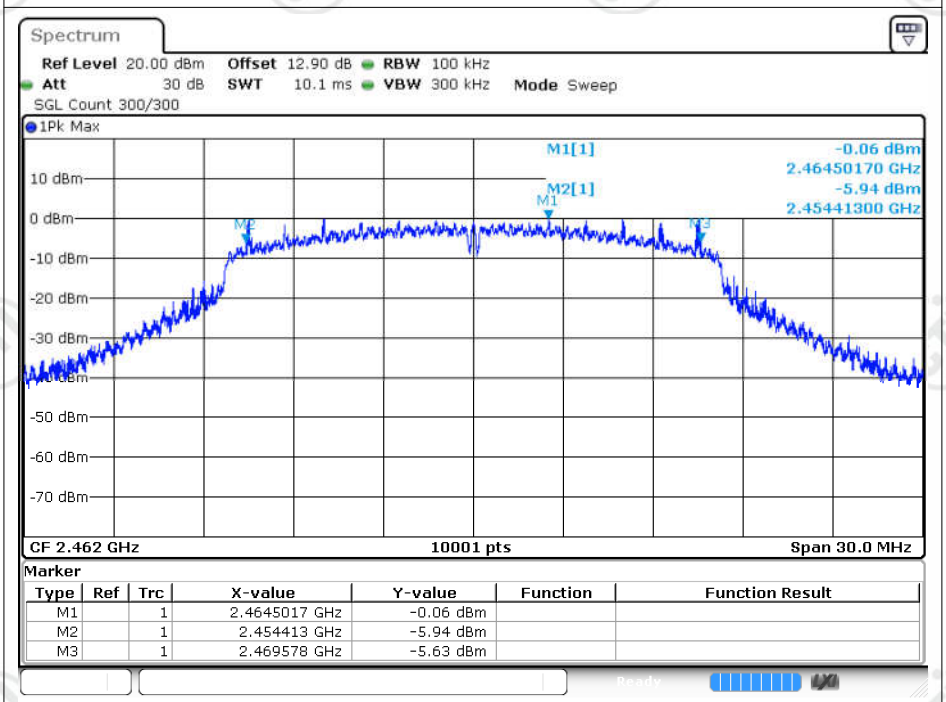
-6dB Bandwidth NVNT g 2437MHz Ant1



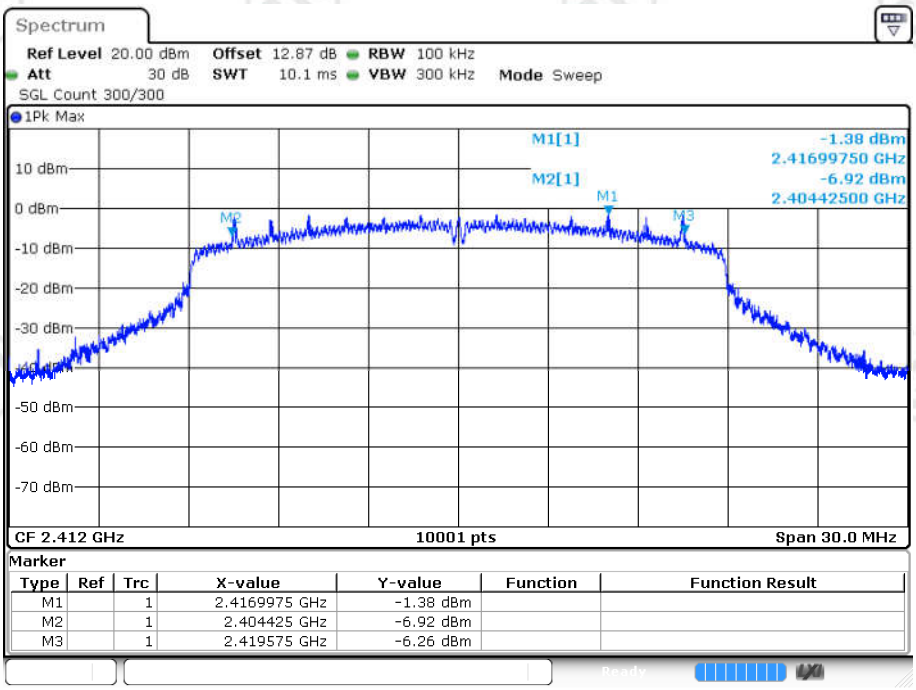
Date: 8.APR.2024 17:10:49

-6dB Bandwidth NVNT g 2462MHz Ant1



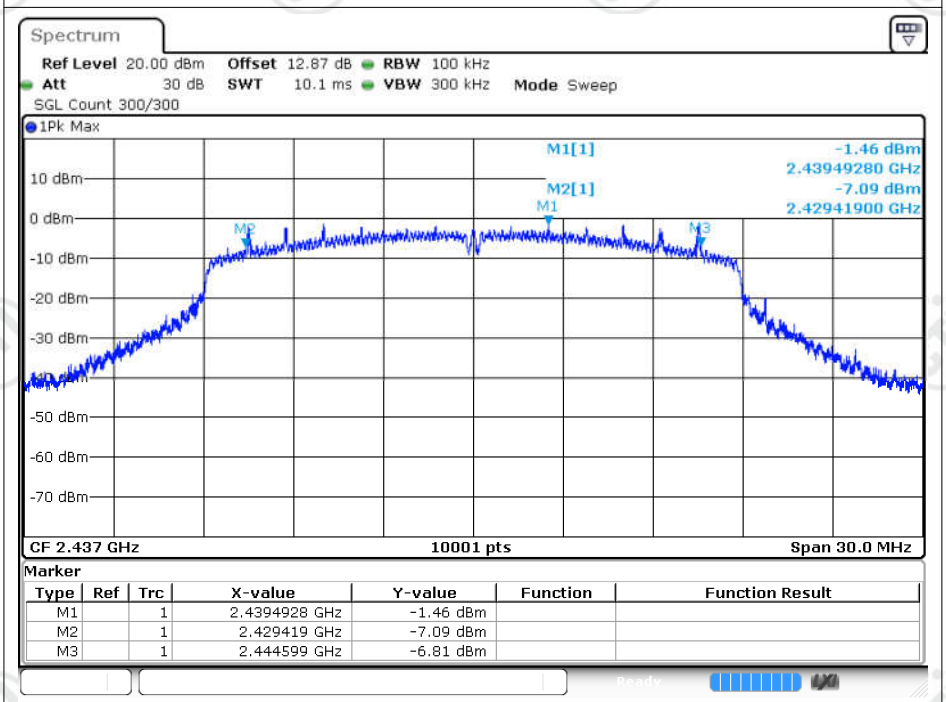
Date: 8.APR.2024 17:12:25

-6dB Bandwidth NVNT n20 2412MHz Ant1



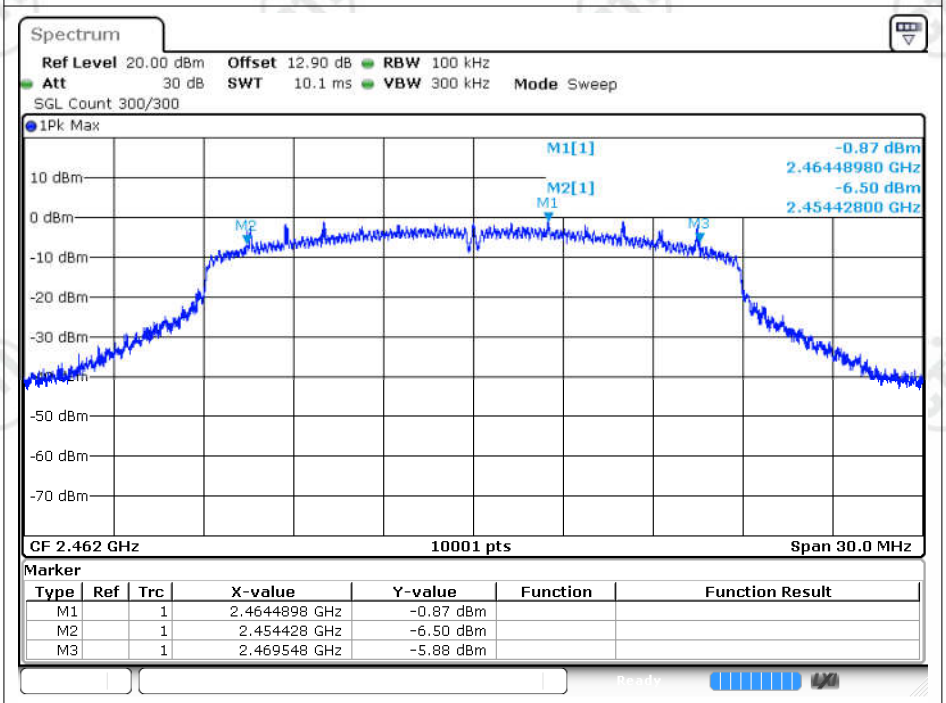
Date: 8.APR.2024 17:14:37

-6dB Bandwidth NVNT n20 2437MHz Ant1



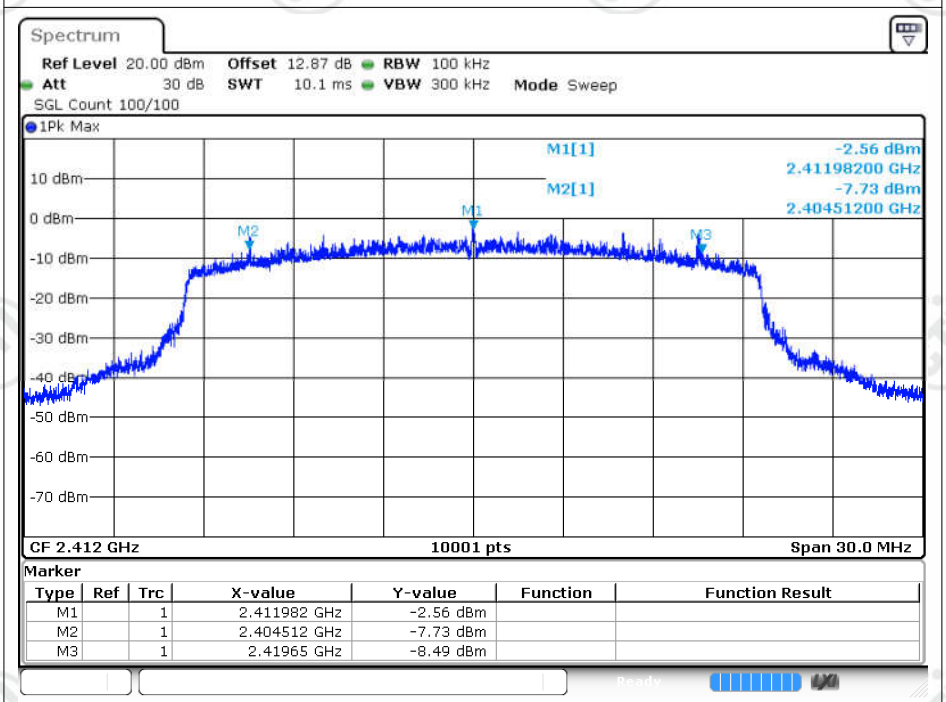
Date: 8.APR.2024 17:16:44

-6dB Bandwidth NVNT n20 2462MHz Ant1



Date: 8.APR.2024 17:18:21

-6dB Bandwidth NVNT ax20 2412MHz Ant1



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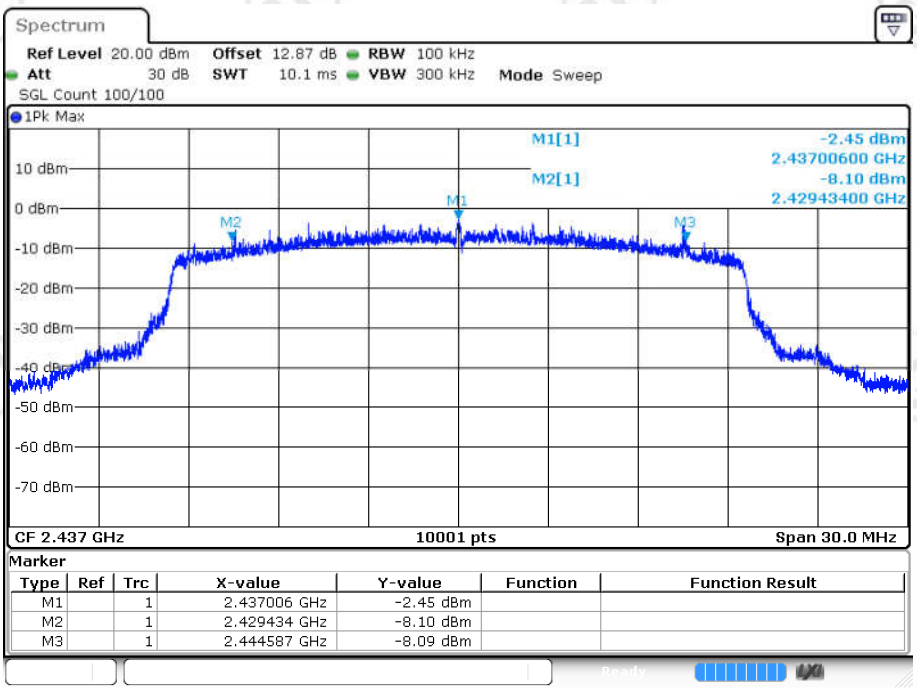
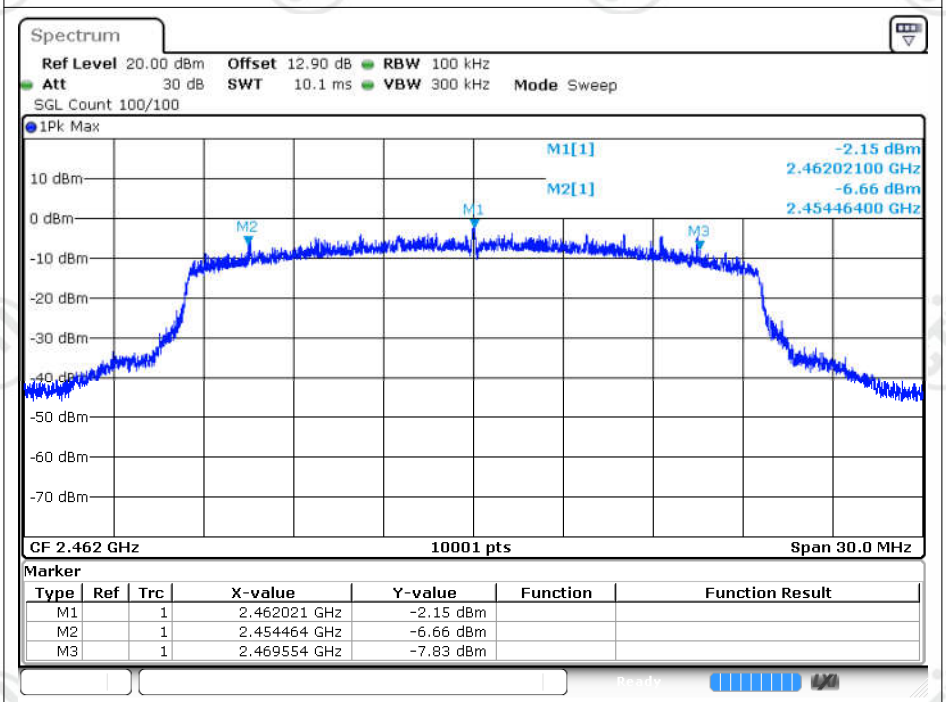
-6dB Bandwidth NVNT ax20 2437MHz Ant1



Date: 8.APR.2024 17:21:43

-6dB Bandwidth NVNT ax20 2462MHz Ant1



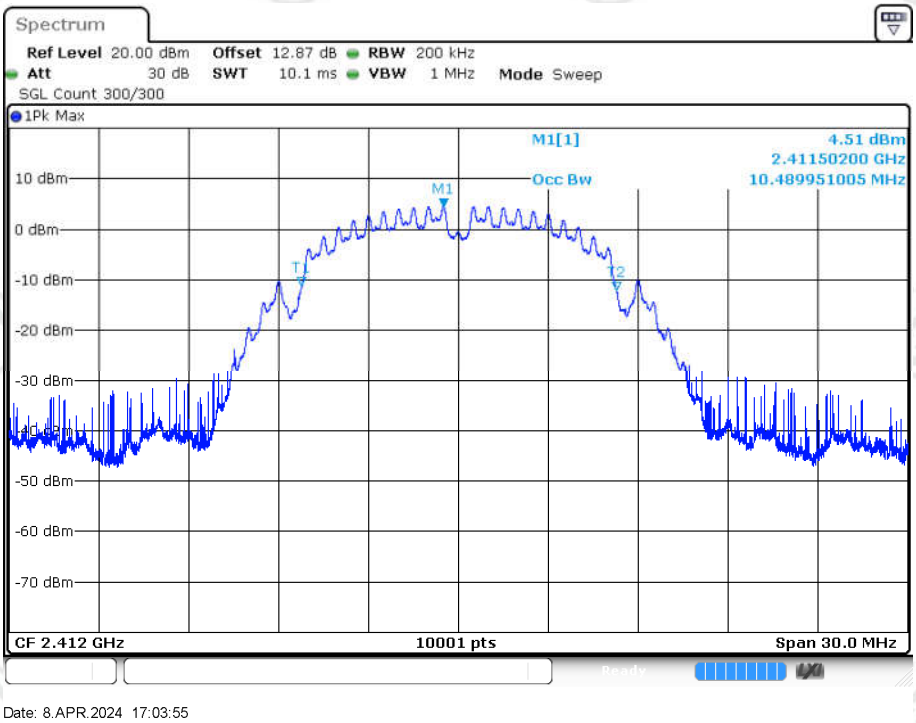
Date: 8.APR.2024 17:23:20

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	10.49
NVNT	b	2437	Ant1	10.472
NVNT	b	2462	Ant1	10.445
NVNT	g	2412	Ant1	16.309
NVNT	g	2437	Ant1	16.339
NVNT	g	2462	Ant1	16.339
NVNT	n20	2412	Ant1	17.344
NVNT	n20	2437	Ant1	17.344
NVNT	n20	2462	Ant1	17.35
NVNT	ax20	2412	Ant1	18.625
NVNT	ax20	2437	Ant1	18.628
NVNT	ax20	2462	Ant1	18.628

Test Graphs

OBW NVNT b 2412MHz Ant1



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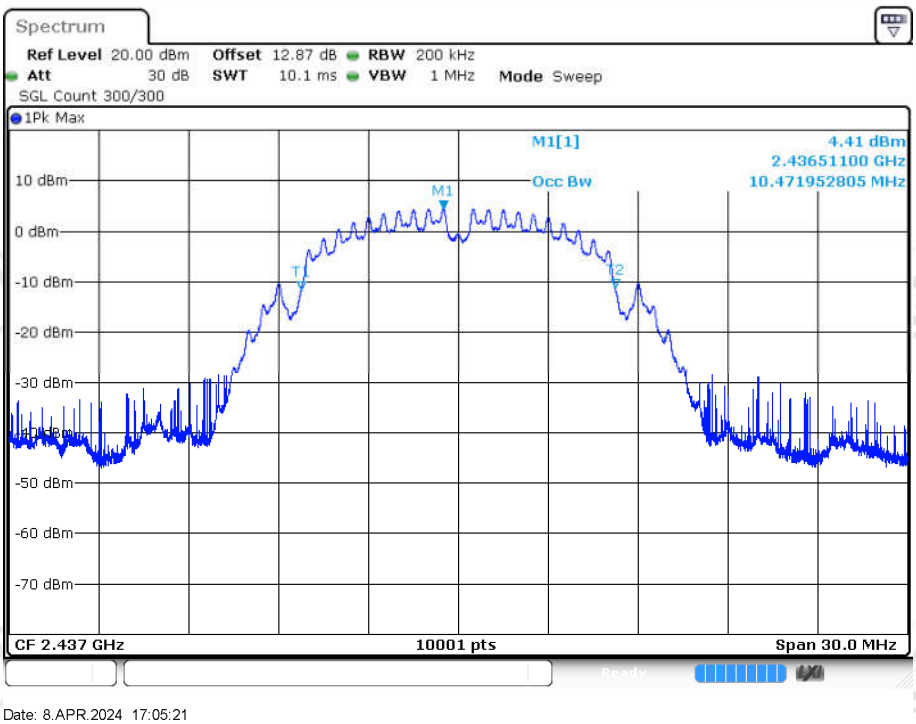
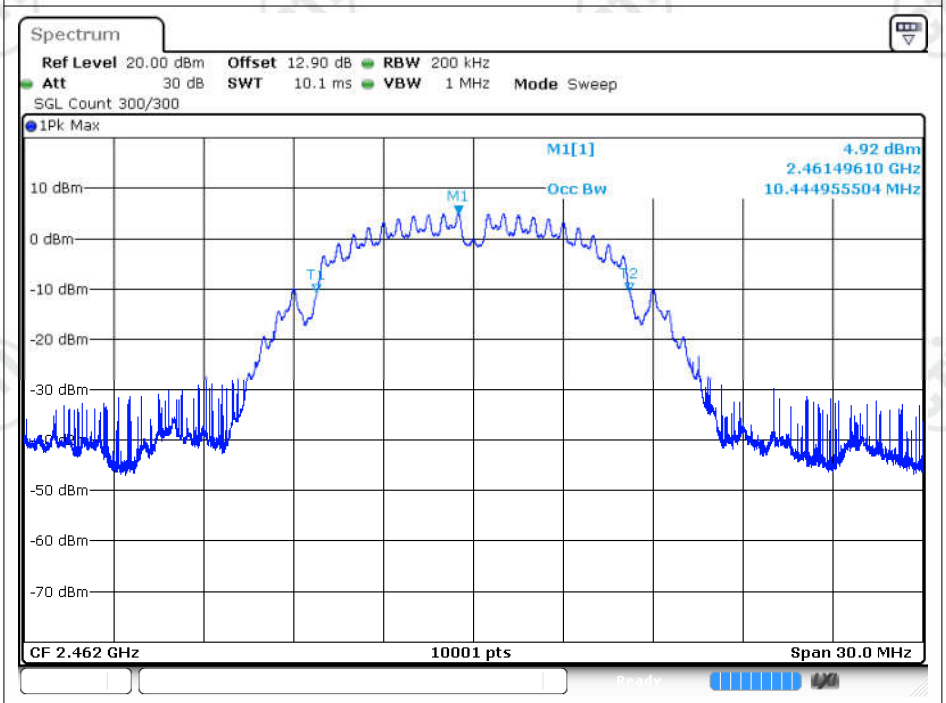
OBW NVNT b 2437MHz Ant1



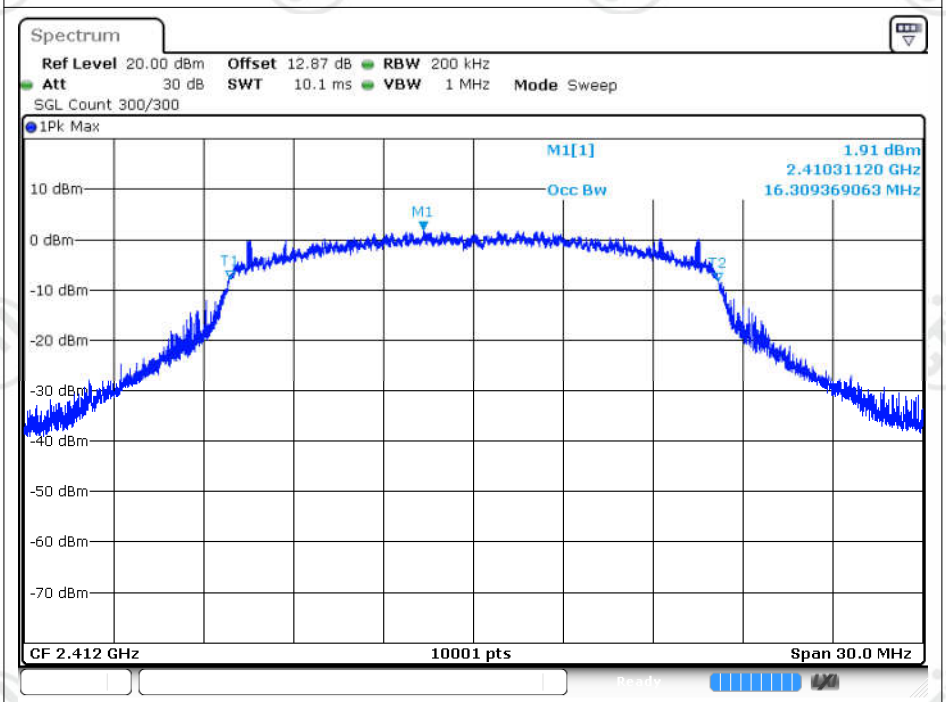
Date: 8.APR.2024 17:05:21

OBW NVNT b 2462MHz Ant1



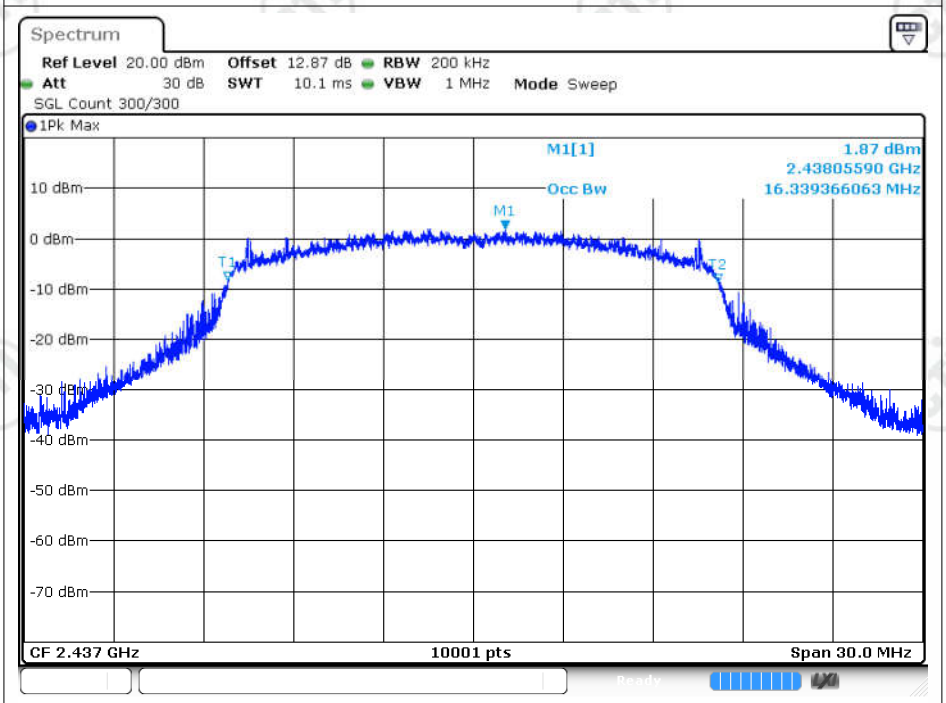
Date: 8.APR.2024 17:07:08

OBW NVNT g 2412MHz Ant1



Date: 8.APR.2024 17:08:57

OBW NVNT g 2437MHz Ant1



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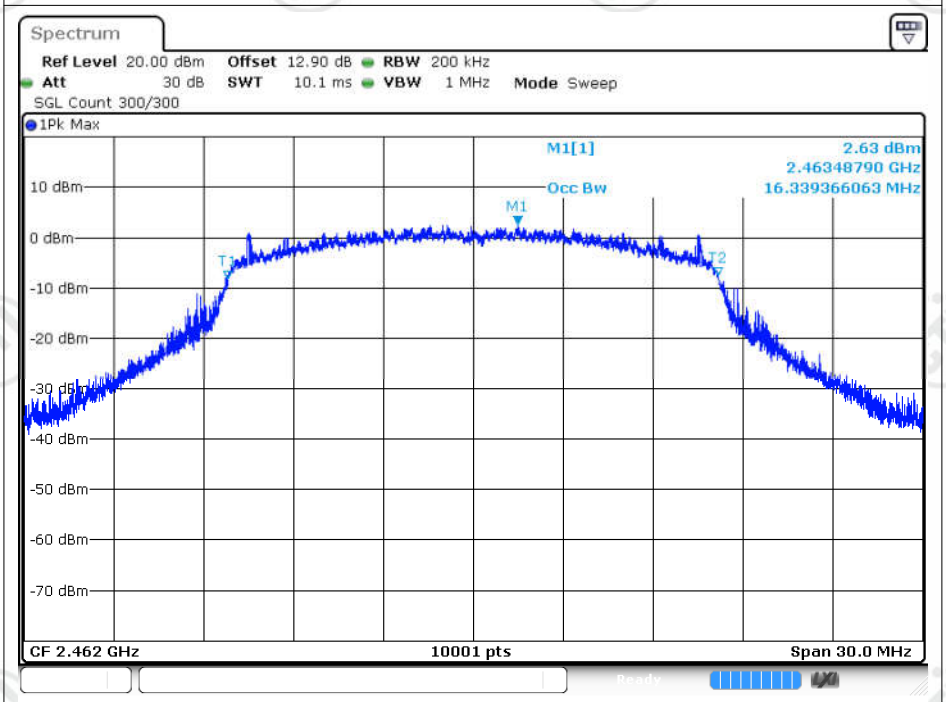
OBW NVNT g 2462MHz Ant1



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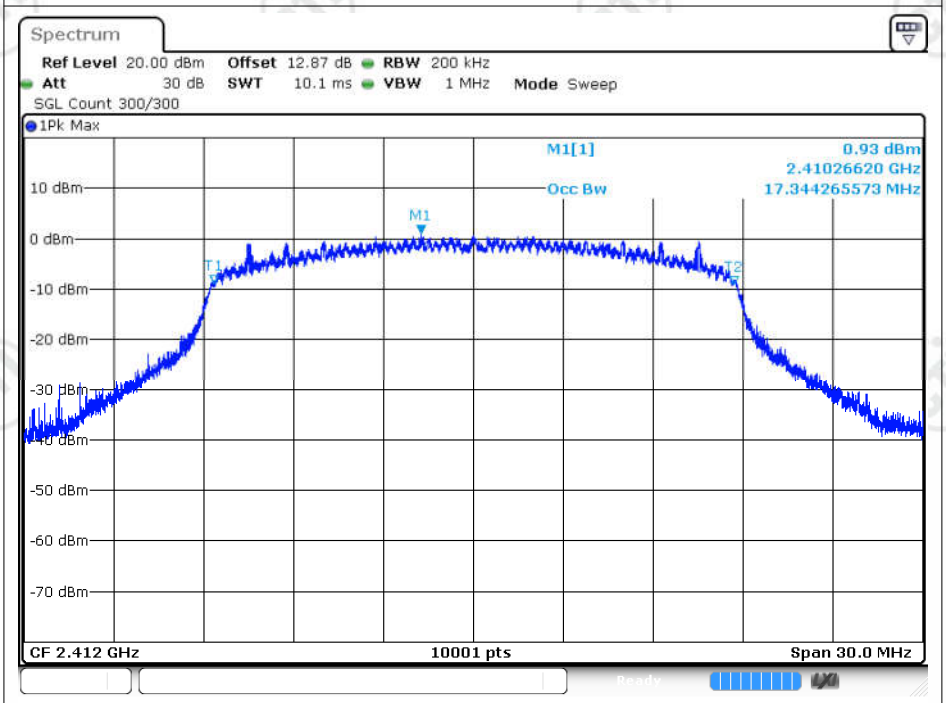
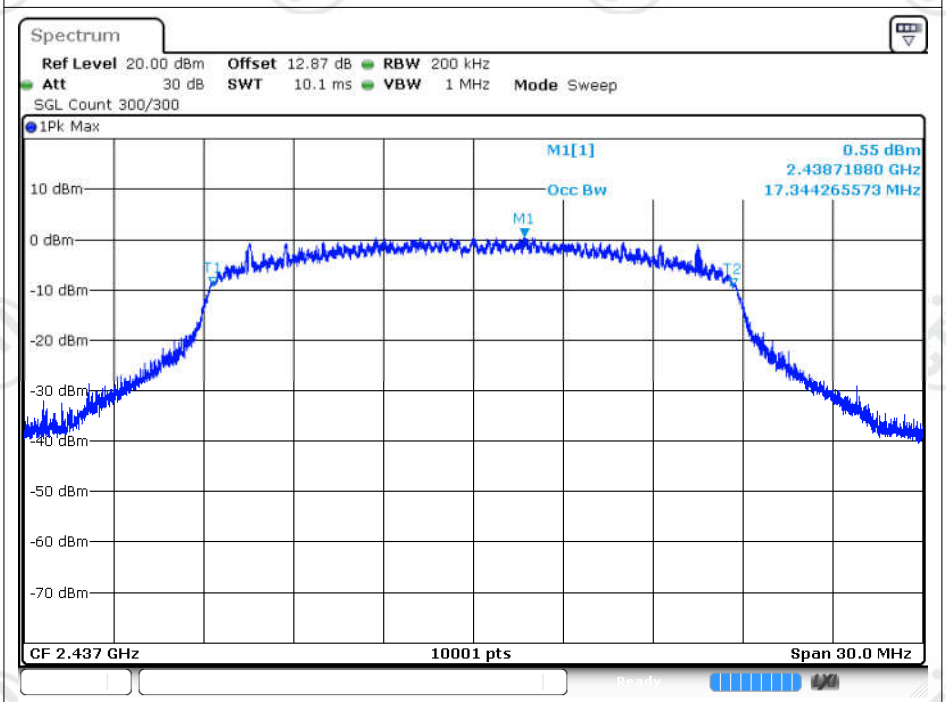
OBW NVNT n20 2412MHz Ant1



Date: 8.APR.2024 17:14:26

OBW NVNT n20 2437MHz Ant1



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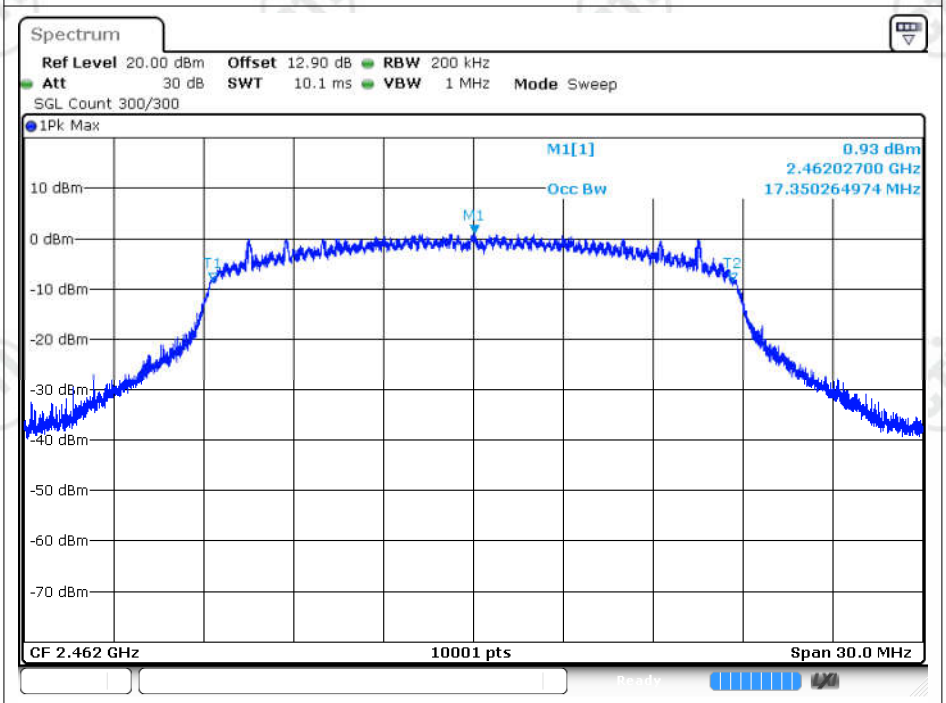
OBW NVNT n20 2462MHz Ant1



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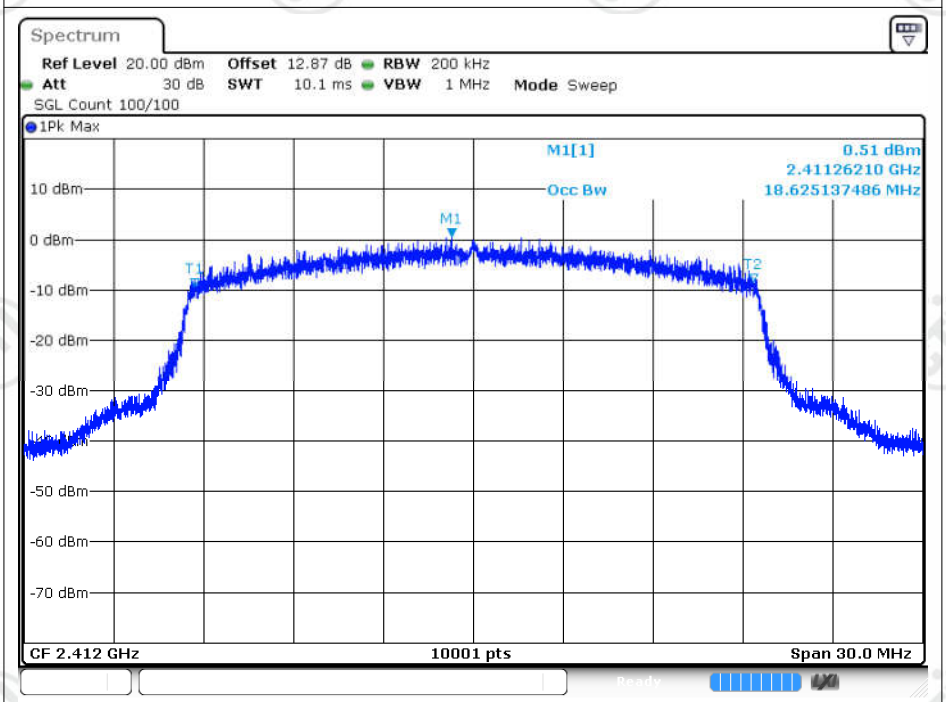
OBW NVNT ax20 2412MHz Ant1



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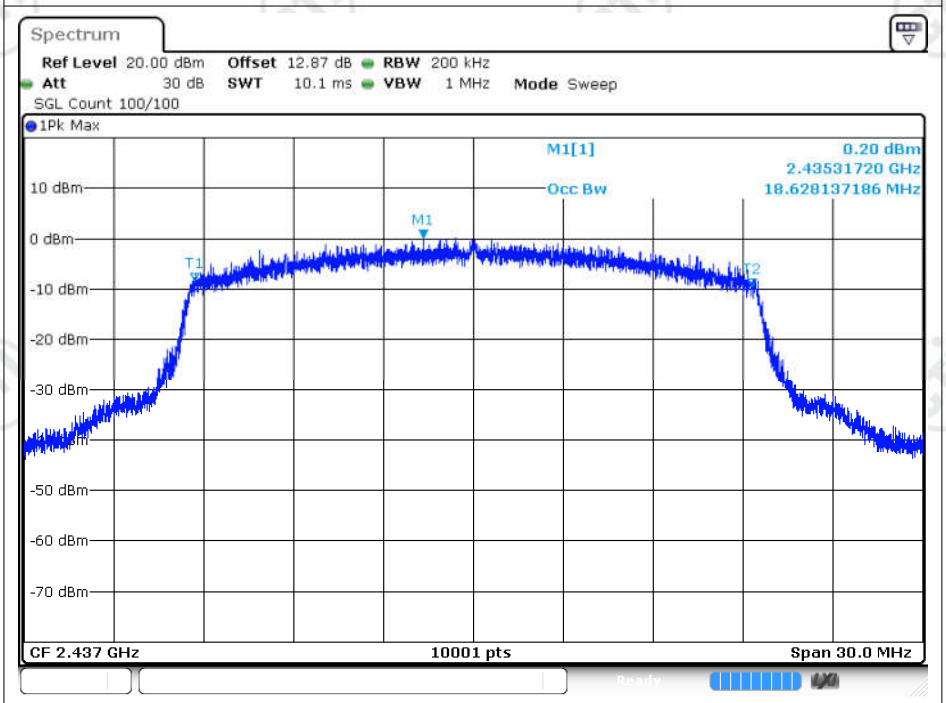
OBW NVNT ax20 2437MHz Ant1



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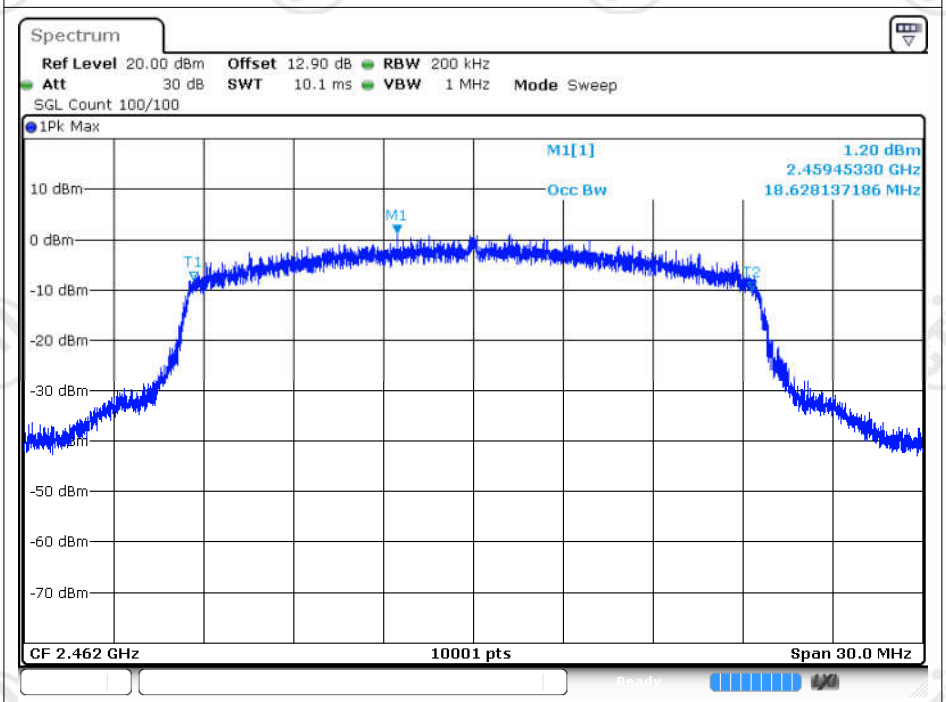
OBW NVNT ax20 2462MHz Ant1



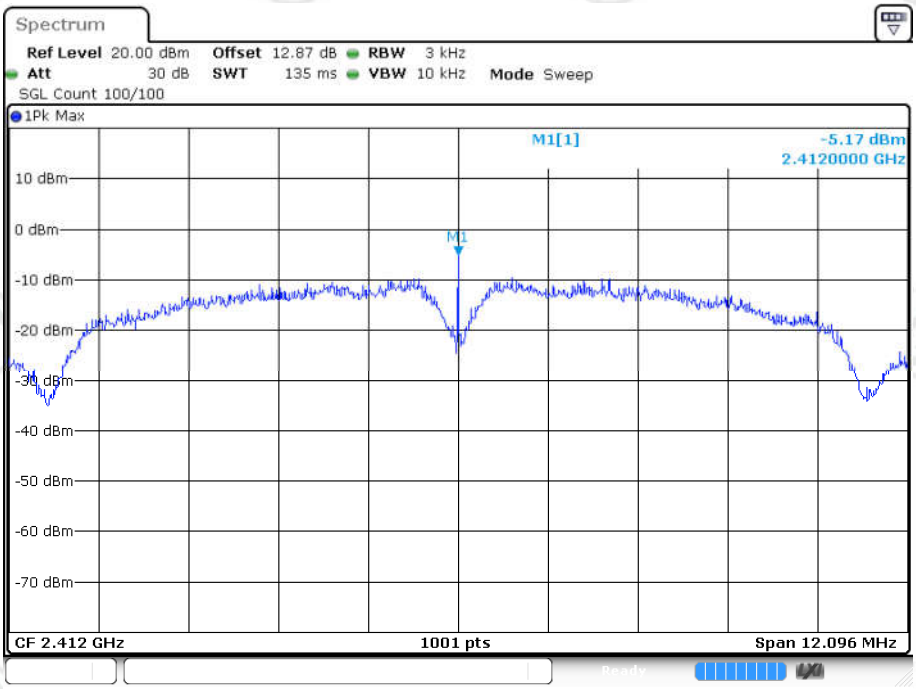
Date: 8.APR.2024 17:23:13

Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-5.17	8	Pass
NVNT	b	2437	Ant1	-4.46	8	Pass
NVNT	b	2462	Ant1	-4	8	Pass
NVNT	g	2412	Ant1	-4.76	8	Pass
NVNT	g	2437	Ant1	-4.69	8	Pass
NVNT	g	2462	Ant1	-3.97	8	Pass
NVNT	n20	2412	Ant1	-4.88	8	Pass
NVNT	n20	2437	Ant1	-4.92	8	Pass
NVNT	n20	2462	Ant1	-4.32	8	Pass
NVNT	ax20	2412	Ant1	-4.89	8	Pass
NVNT	ax20	2437	Ant1	-4.92	8	Pass
NVNT	ax20	2462	Ant1	-4.44	8	Pass

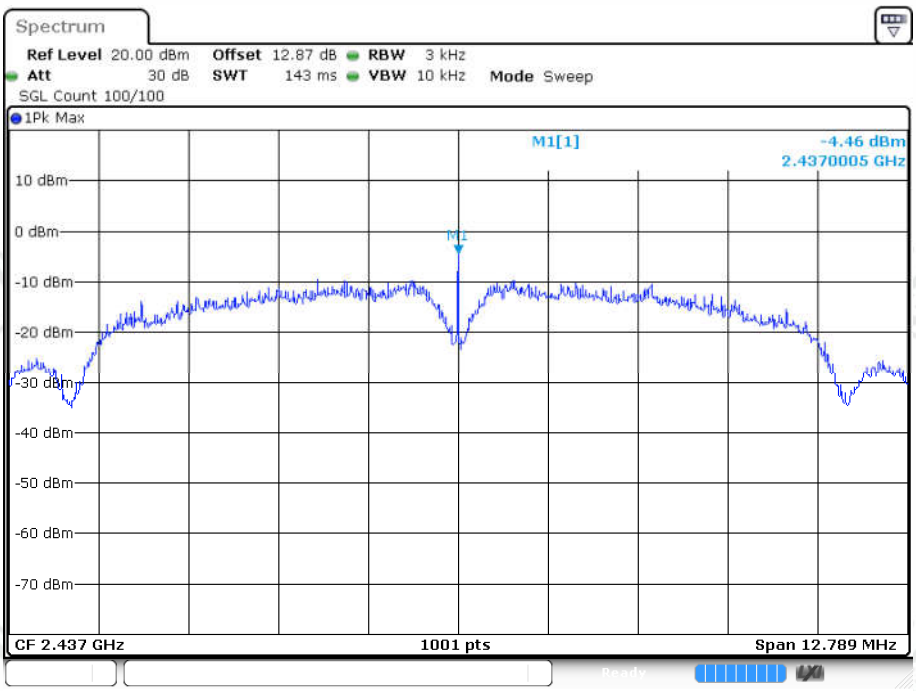
Test Graphs

PSD NVNT b 2412MHz Ant1



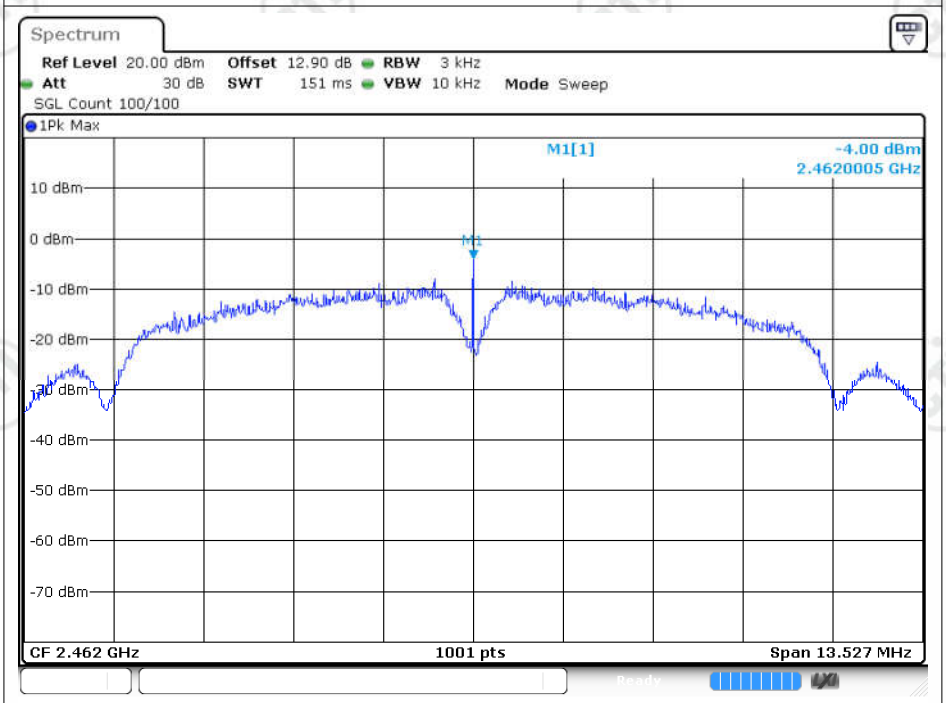
Date: 8.APR.2024 17:04:26

PSD NVNT b 2437MHz Ant1



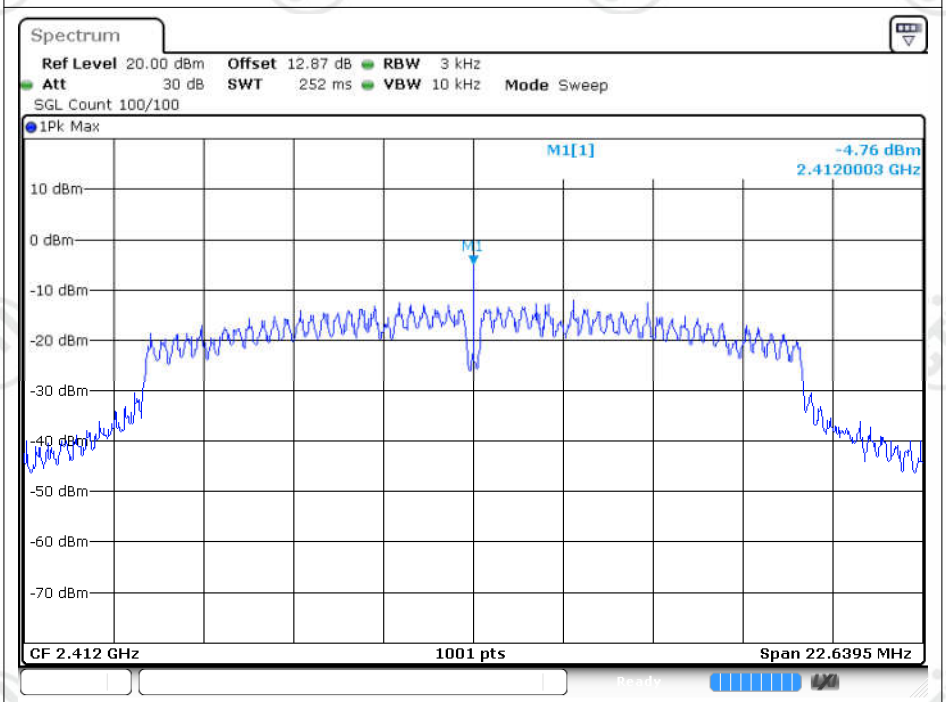
Date: 8.APR.2024 17:06:13

PSD NVNT b 2462MHz Ant1



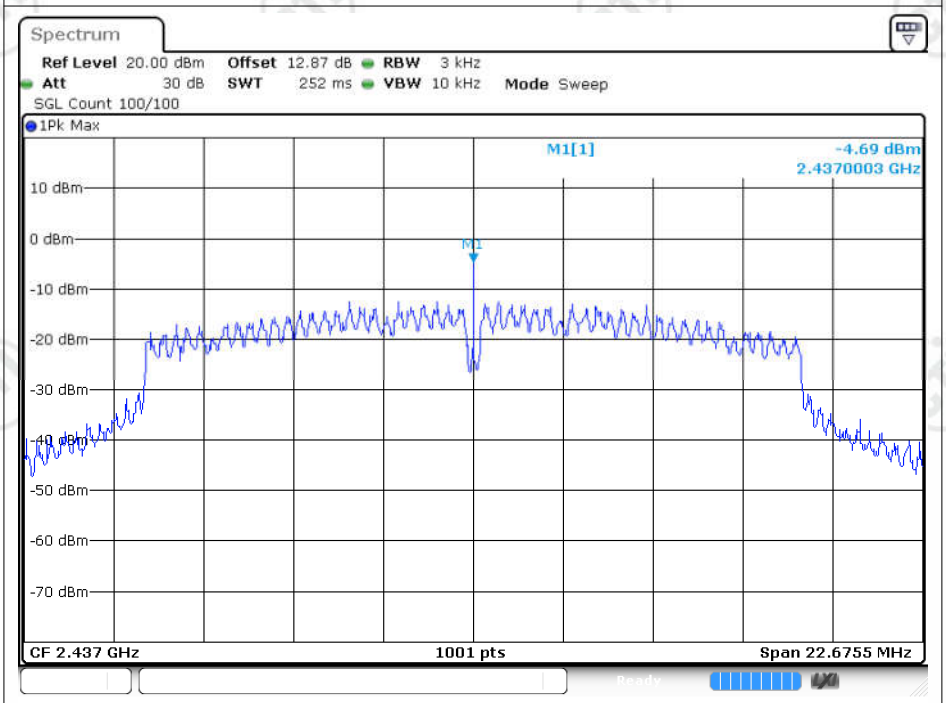
Date: 8.APR.2024 17:07:42

PSD NVNT g 2412MHz Ant1



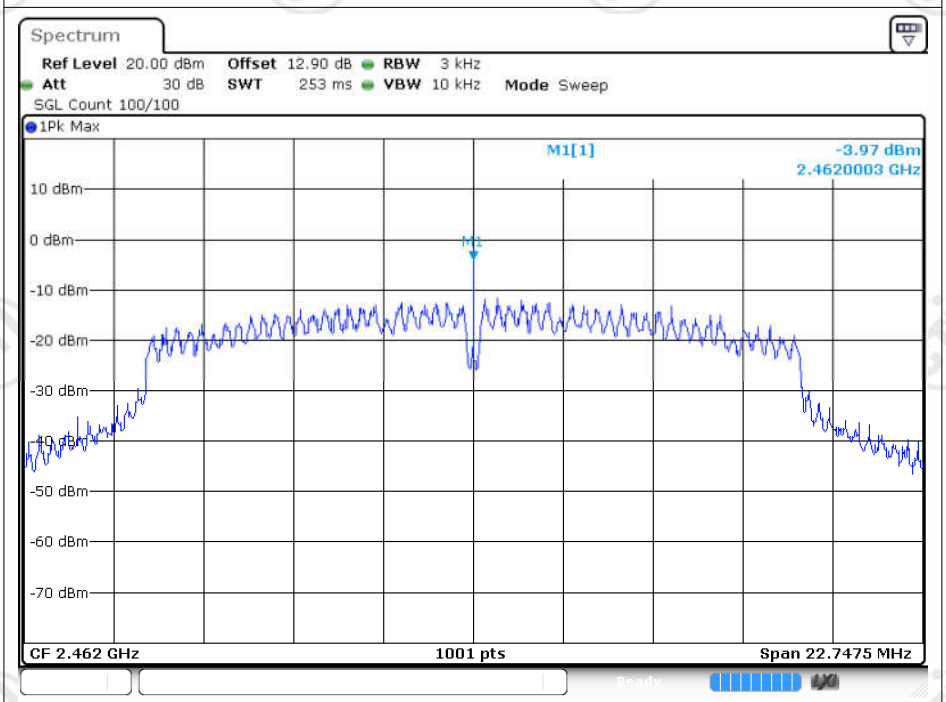
Date: 8.APR.2024 17:09:42

PSD NVNT g 2437MHz Ant1



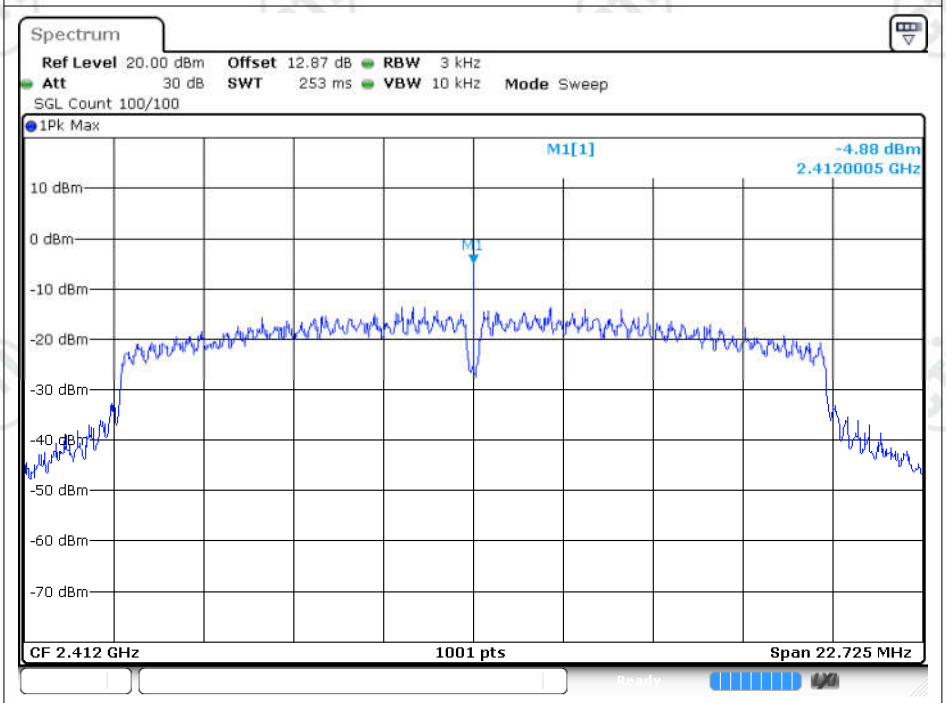
Date: 8.APR.2024 17:11:43

PSD NVNT g 2462MHz Ant1



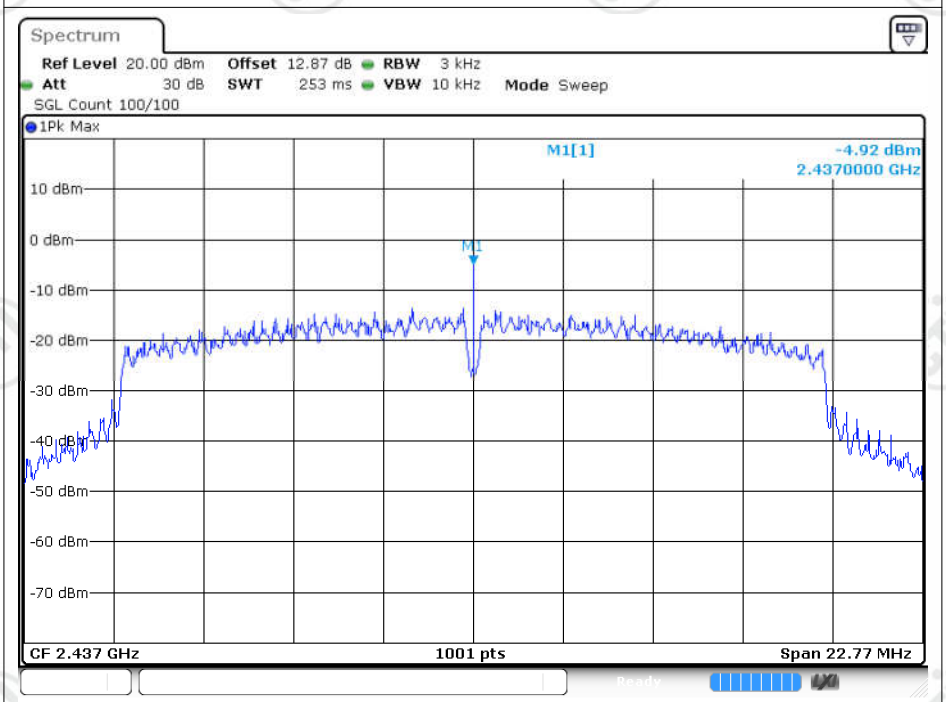
Date: 8.APR.2024 17:12:59

PSD NVNT n20 2412MHz Ant1



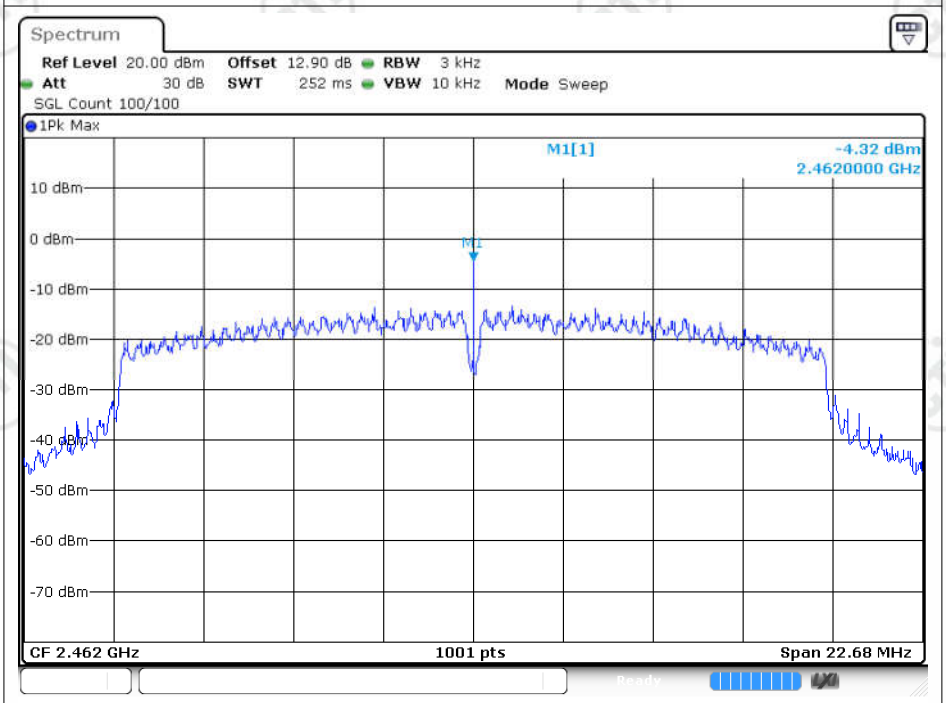
Date: 8.APR.2024 17:15:11

PSD NVNT n20 2437MHz Ant1



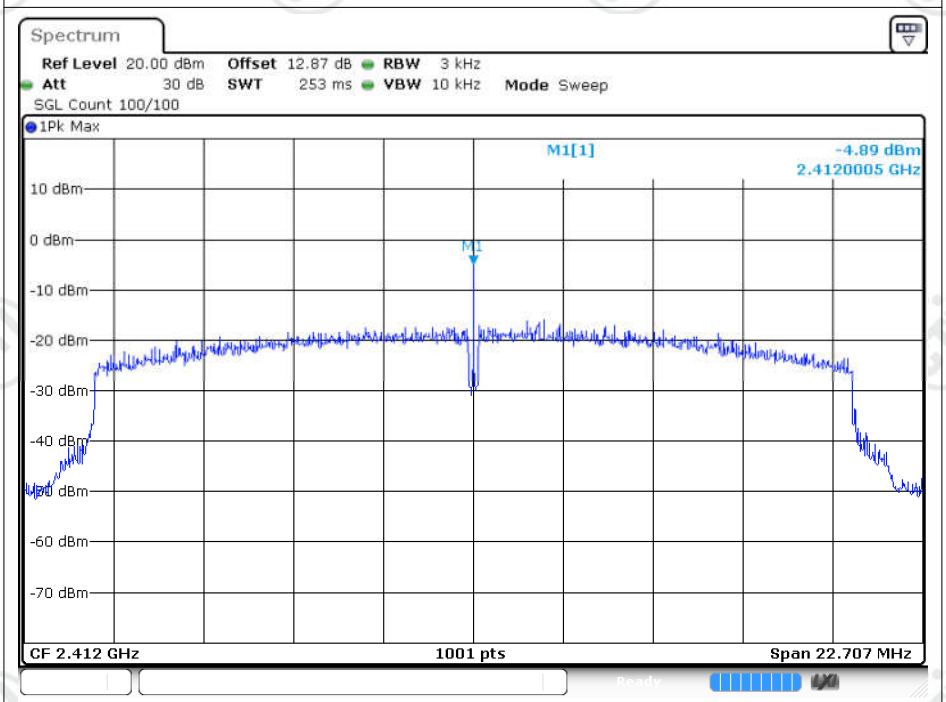
Date: 8.APR.2024 17:17:38

PSD NVNT n20 2462MHz Ant1



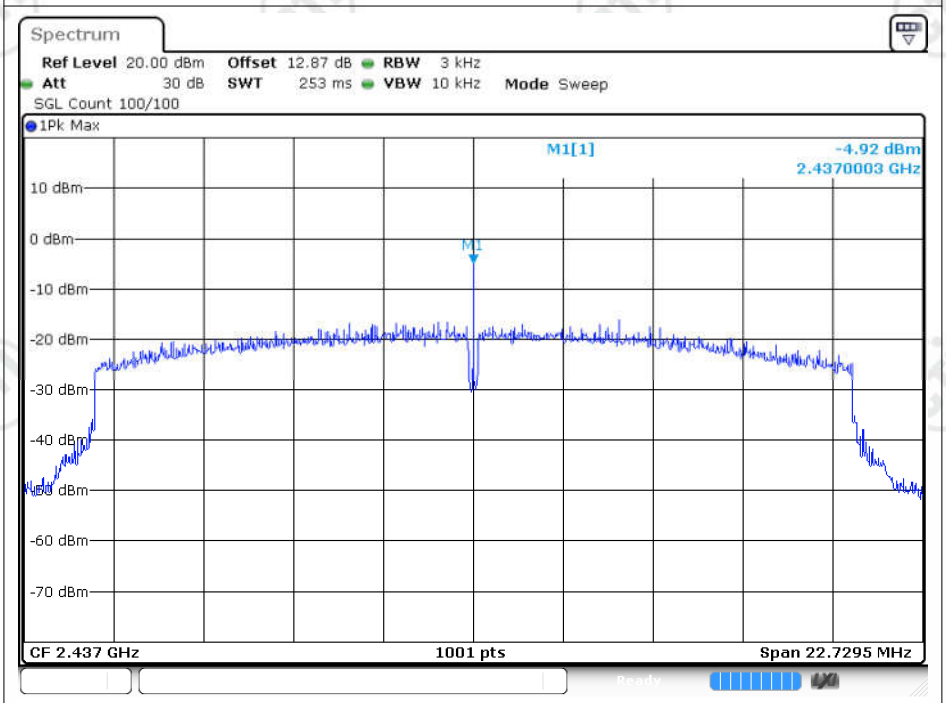
Date: 8.APR.2024 17:18:55

PSD NVNT ax20 2412MHz Ant1



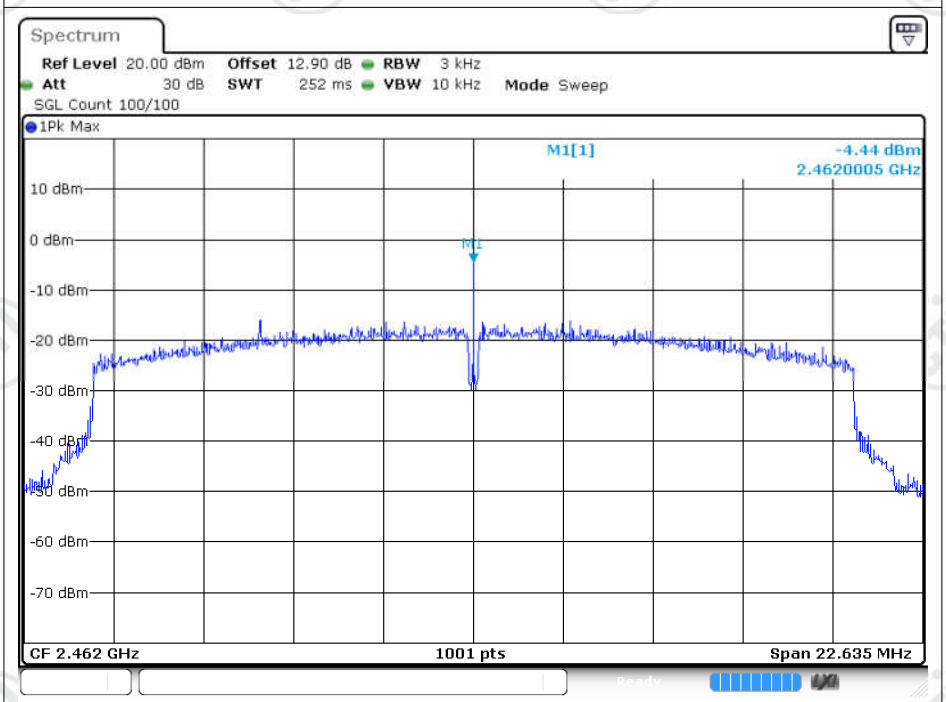
Date: 8.APR.2024 17:20:46

PSD NVNT ax20 2437MHz Ant1



Date: 8.APR.2024 17:22:17

PSD NVNT ax20 2462MHz Ant1



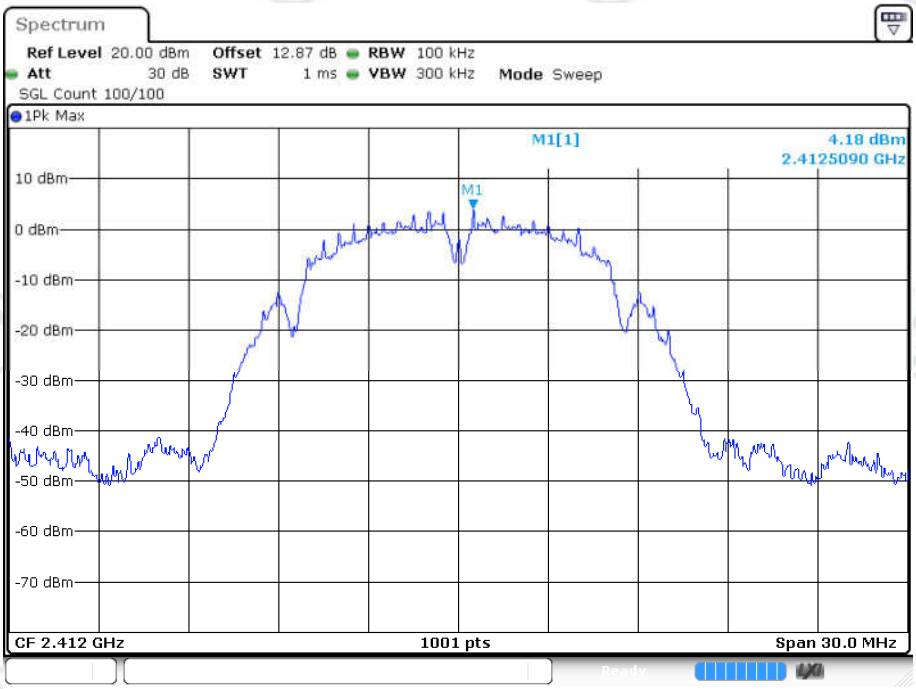
Date: 8.APR.2024 17:23:54

Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-47.76	-20	Pass
NVNT	b	2462	Ant1	-49.75	-20	Pass
NVNT	g	2412	Ant1	-31.92	-20	Pass
NVNT	g	2462	Ant1	-45.54	-20	Pass
NVNT	n20	2412	Ant1	-30.63	-20	Pass
NVNT	n20	2462	Ant1	-44.68	-20	Pass
NVNT	ax20	2412	Ant1	-33.95	-20	Pass
NVNT	ax20	2462	Ant1	-42.97	-20	Pass

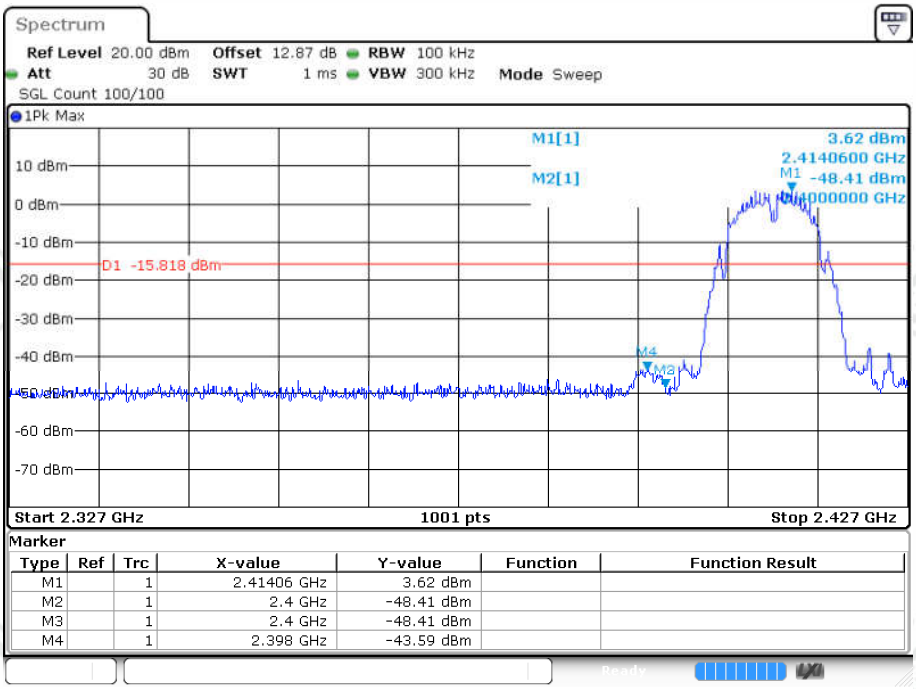
Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



Date: 8.APR.2024 17:04:29

Band Edge NVNT b 2412MHz Ant1 Emission

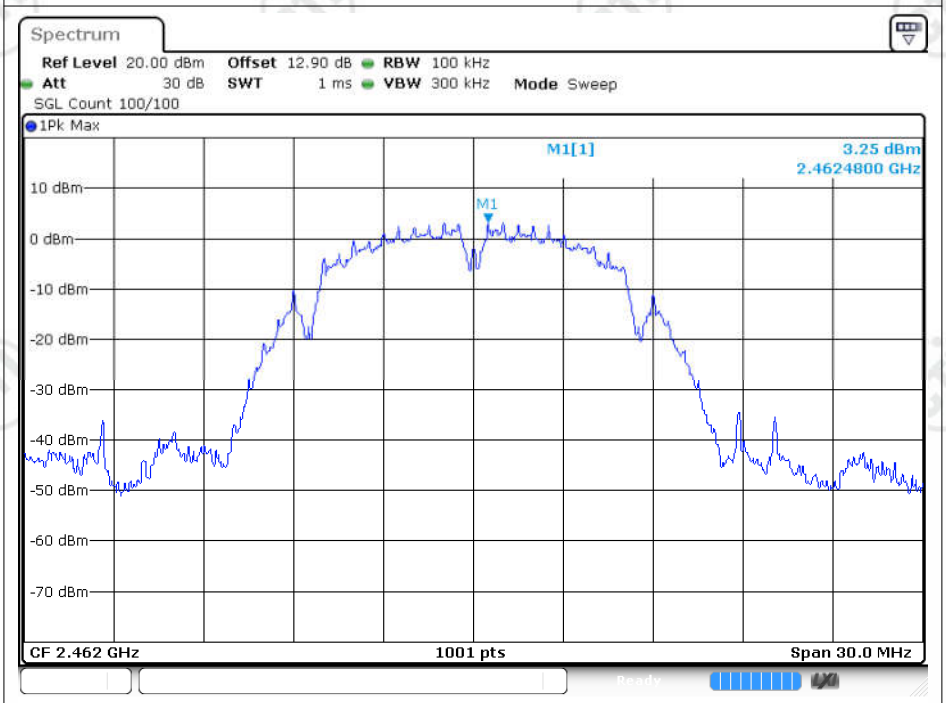


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41406 GHz	3.62 dBm		
M2		1	2.4 GHz	-48.41 dBm		
M3		1	2.4 GHz	-48.41 dBm		
M4		1	2.398 GHz	-43.59 dBm		

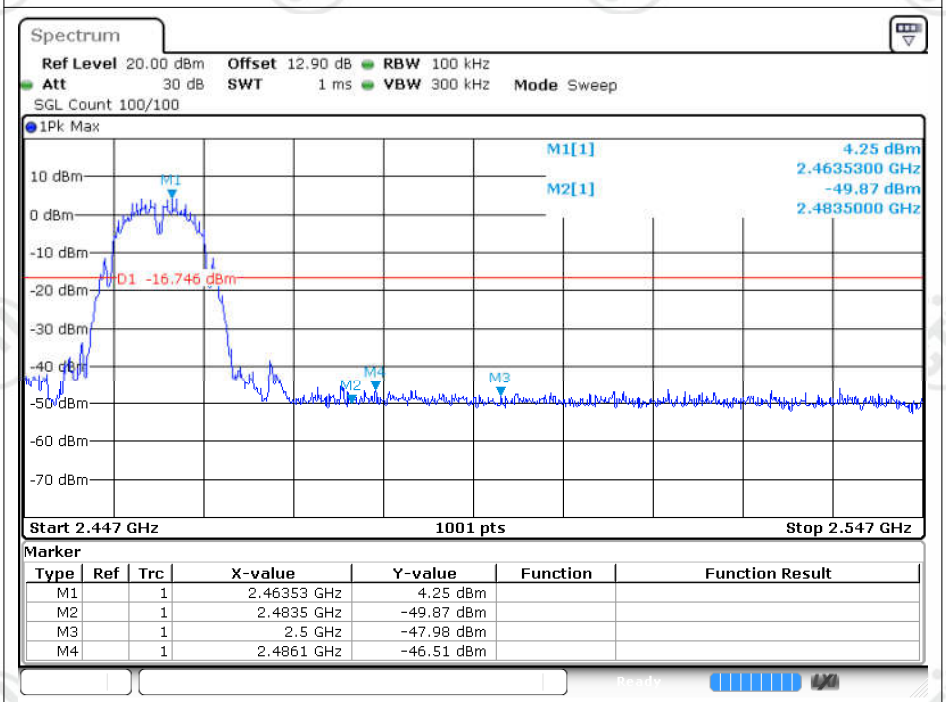
Date: 8.APR.2024 17:04:31

Band Edge NVNT b 2462MHz Ant1 Ref



Date: 8.APR.2024 17:07:46

Band Edge NVNT b 2462MHz Ant1 Emission

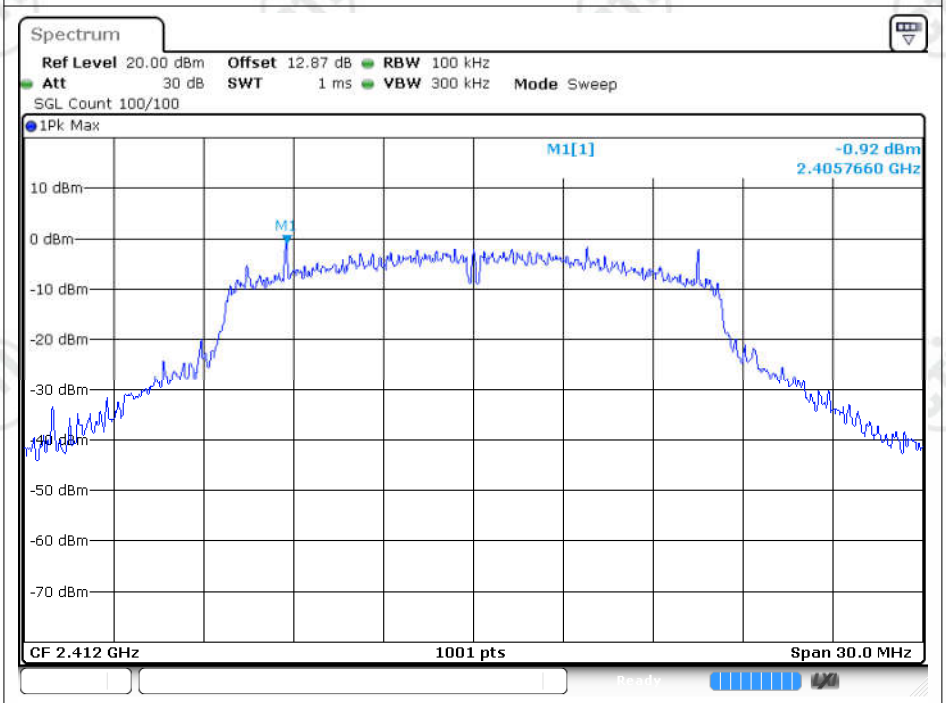


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46353 GHz	4.25 dBm		
M2		1	2.4835 GHz	-49.87 dBm		
M3		1	2.5 GHz	-47.98 dBm		
M4		1	2.4861 GHz	-46.51 dBm		

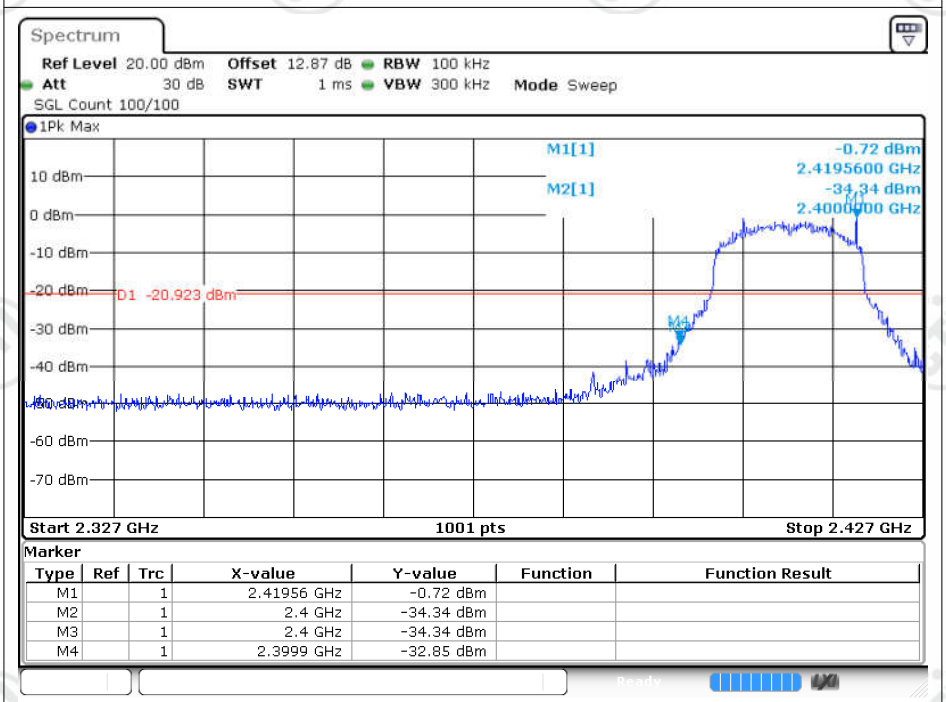
Date: 8.APR.2024 17:07:47

Band Edge NVNT g 2412MHz Ant1 Ref



Date: 8.APR.2024 17:09:46

Band Edge NVNT g 2412MHz Ant1 Emission

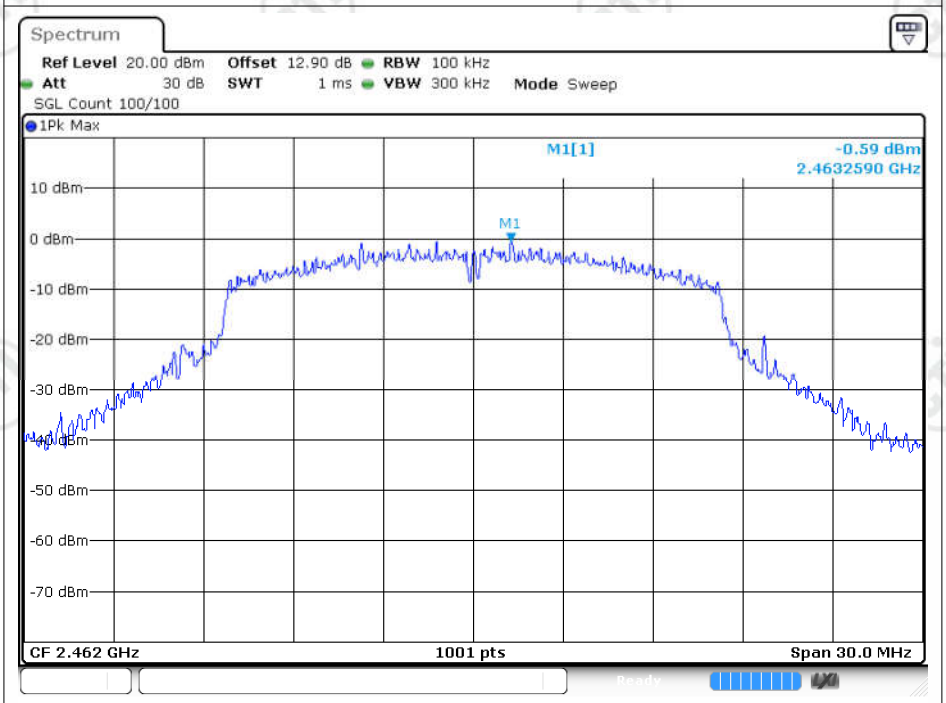


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41956 GHz	-0.72 dBm		
M2		1	2.4 GHz	-34.34 dBm		
M3		1	2.4 GHz	-34.34 dBm		
M4		1	2.3999 GHz	-32.85 dBm		

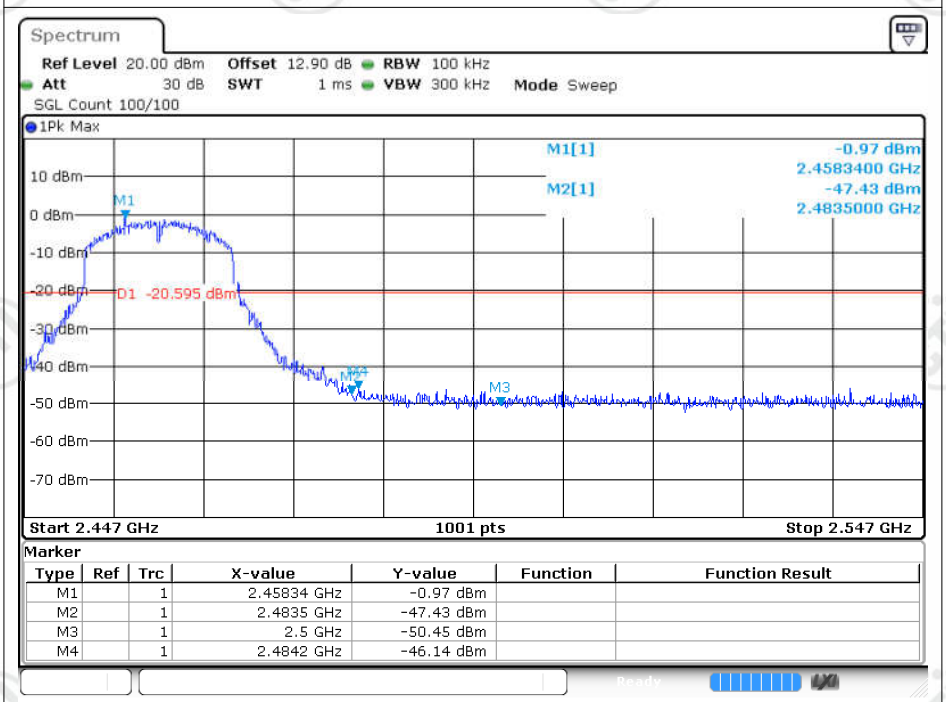
Date: 8.APR.2024 17:09:48

Band Edge NVNT g 2462MHz Ant1 Ref



Date: 8.APR.2024 17:13:03

Band Edge NVNT g 2462MHz Ant1 Emission

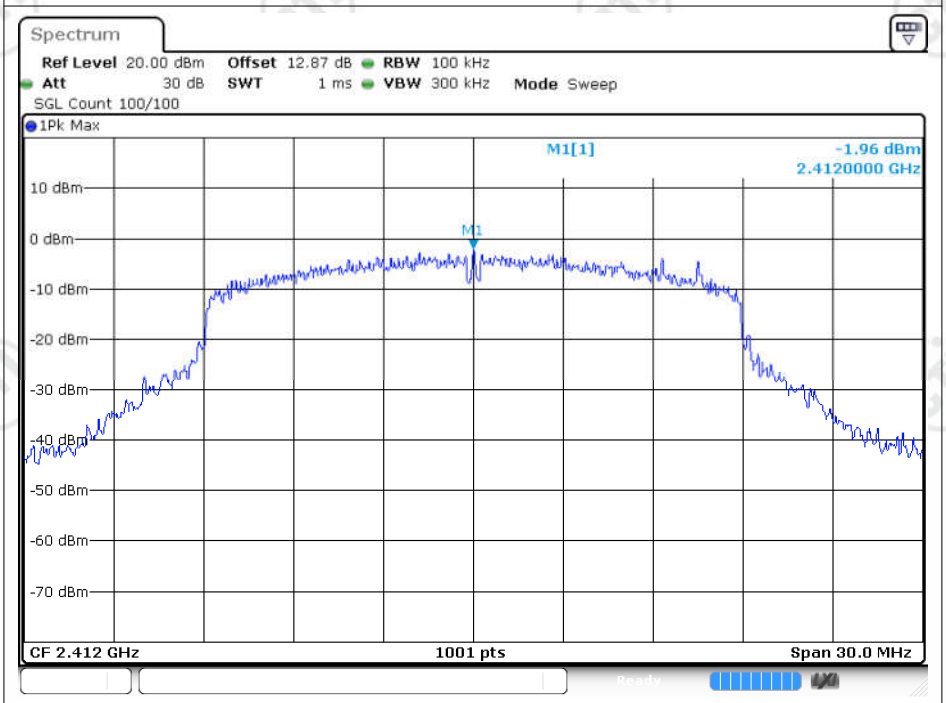


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45834 GHz	-0.97 dBm		
M2		1	2.4835 GHz	-47.43 dBm		
M3		1	2.5 GHz	-50.45 dBm		
M4		1	2.4842 GHz	-46.14 dBm		

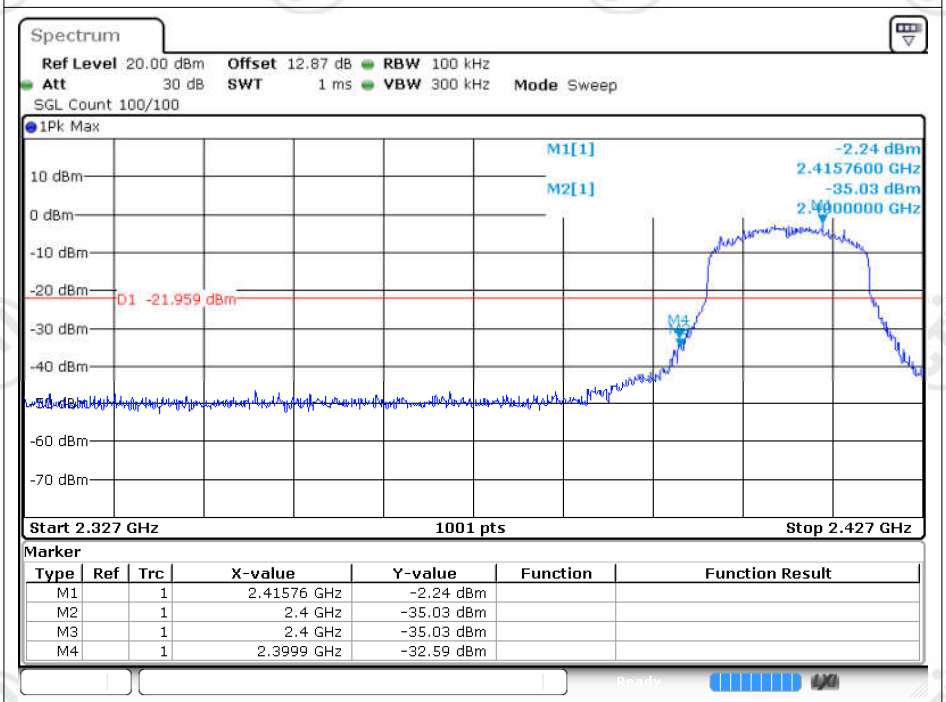
Date: 8.APR.2024 17:13:05

Band Edge NVNT n20 2412MHz Ant1 Ref



Date: 8.APR.2024 17:15:14

Band Edge NVNT n20 2412MHz Ant1 Emission

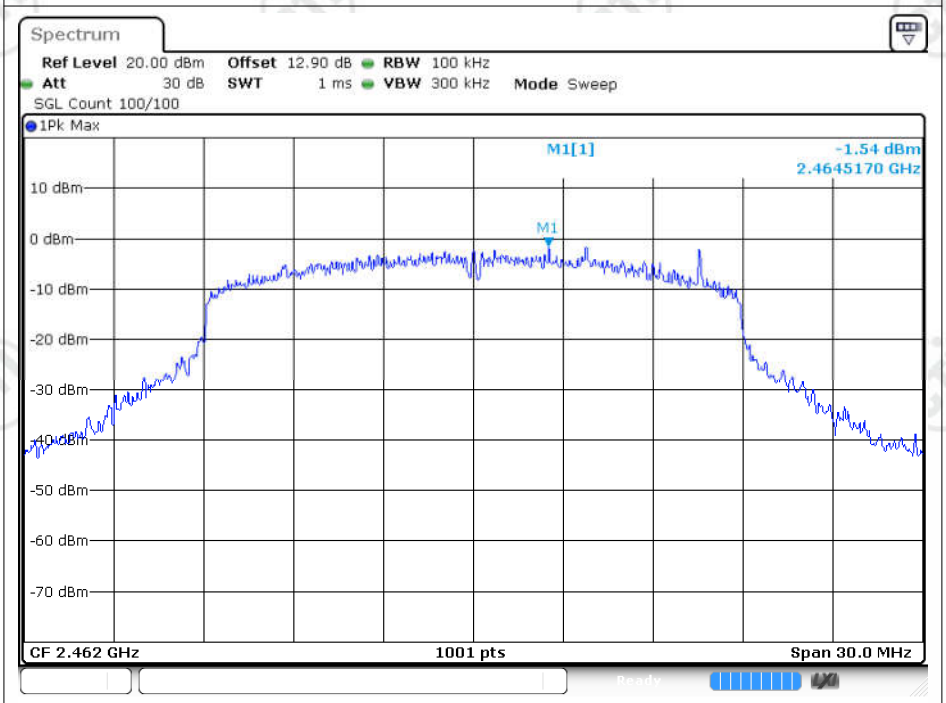


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41576 GHz	-2.24 dBm		
M2		1	2.4 GHz	-35.03 dBm		
M3		1	2.4 GHz	-35.03 dBm		
M4		1	2.3999 GHz	-32.59 dBm		

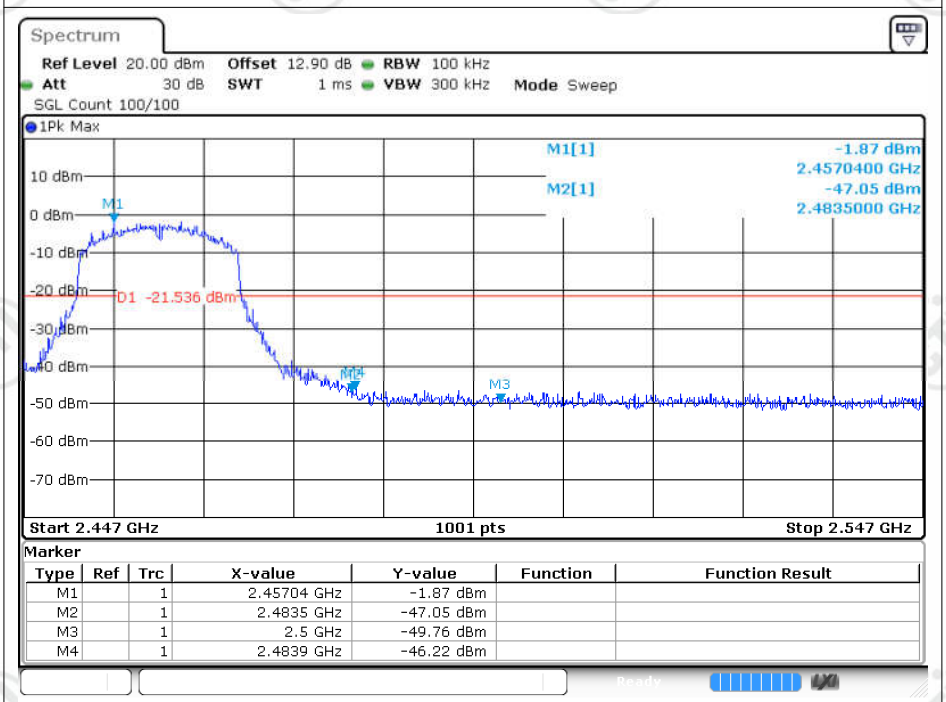
Date: 8.APR.2024 17:15:16

Band Edge NVNT n20 2462MHz Ant1 Ref



Date: 8.APR.2024 17:18:59

Band Edge NVNT n20 2462MHz Ant1 Emission

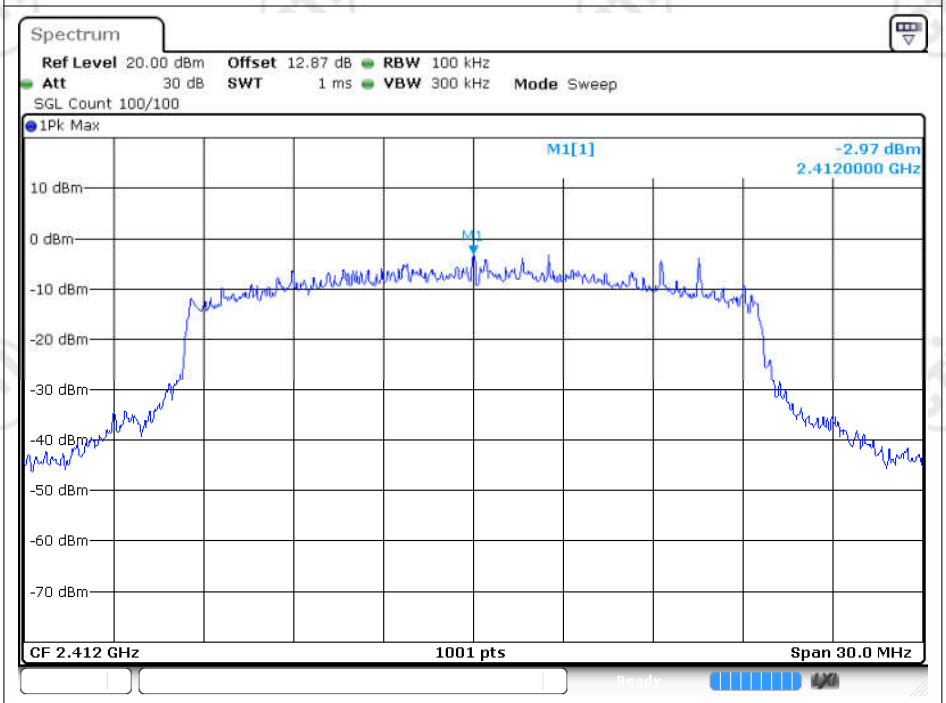


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45704 GHz	-1.87 dBm		
M2		1	2.4835 GHz	-47.05 dBm		
M3		1	2.5 GHz	-49.76 dBm		
M4		1	2.4839 GHz	-46.22 dBm		

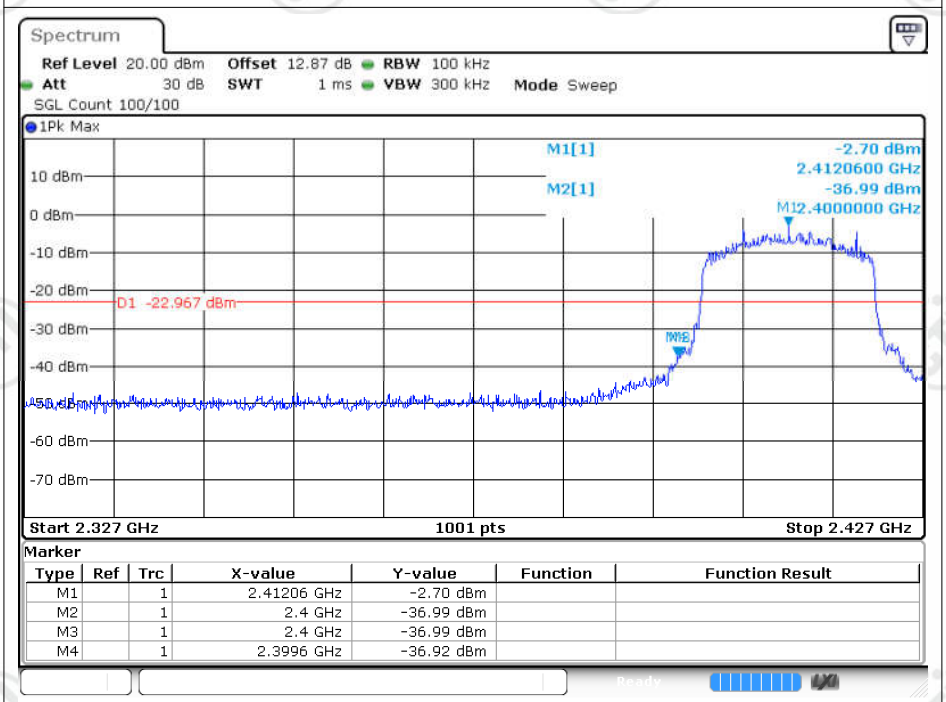
Date: 8.APR.2024 17:19:00

Band Edge NVNT ax20 2412MHz Ant1 Ref



Date: 8.APR.2024 17:20:49

Band Edge NVNT ax20 2412MHz Ant1 Emission

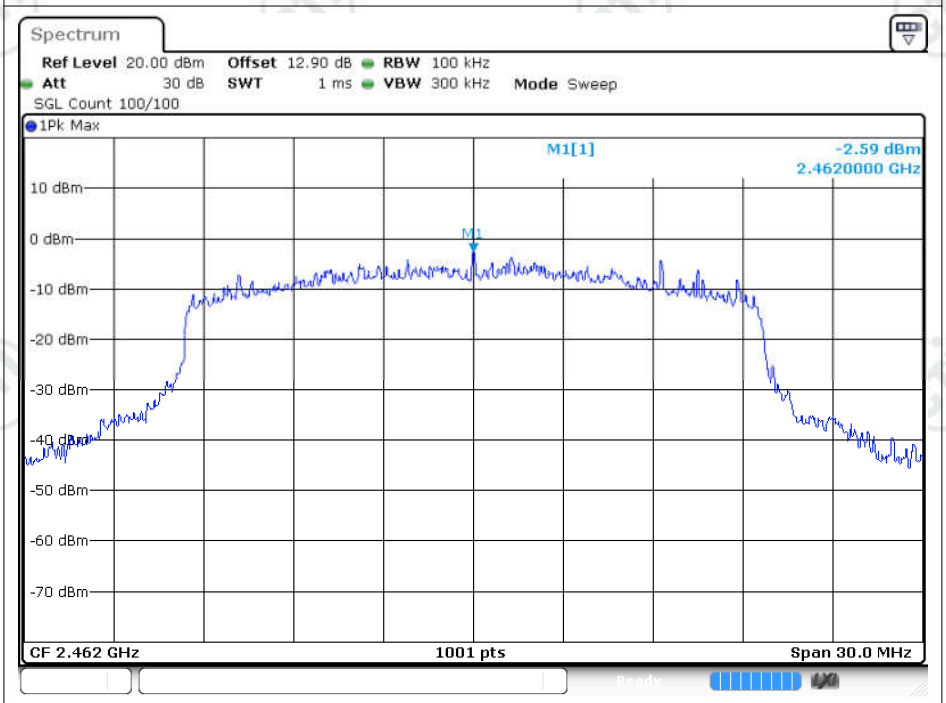


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41206 GHz	-2.70 dBm		
M2		1	2.4 GHz	-36.99 dBm		
M3		1	2.4 GHz	-36.99 dBm		
M4		1	2.3996 GHz	-36.92 dBm		

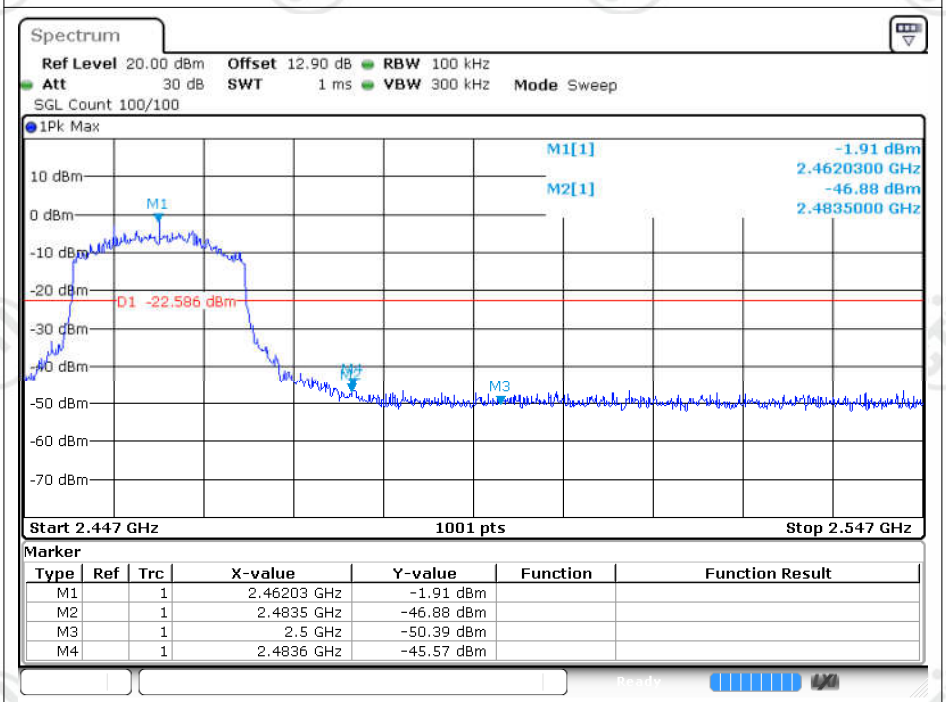
Date: 8.APR.2024 17:20:51

Band Edge NVNT ax20 2462MHz Ant1 Ref



Date: 8.APR.2024 17:23:58

Band Edge NVNT ax20 2462MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46203 GHz	-1.91 dBm		
M2		1	2.4835 GHz	-46.88 dBm		
M3		1	2.5 GHz	-50.39 dBm		
M4		1	2.4836 GHz	-45.57 dBm		

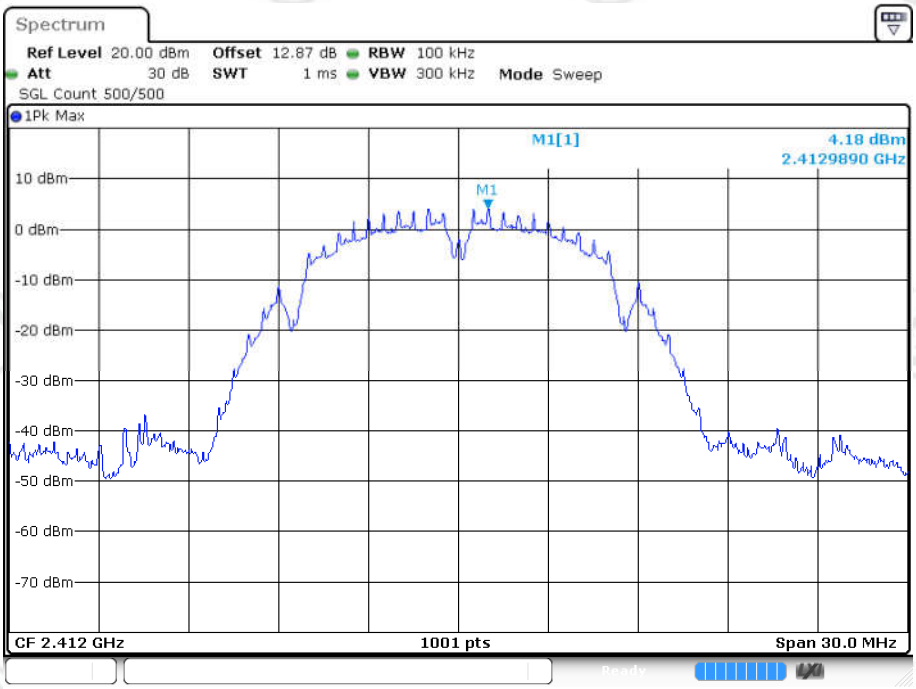
Date: 8.APR.2024 17:23:59

Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-44.82	-20	Pass
NVNT	b	2437	Ant1	-43.35	-20	Pass
NVNT	b	2462	Ant1	-45.23	-20	Pass
NVNT	g	2412	Ant1	-39.22	-20	Pass
NVNT	g	2437	Ant1	-39.77	-20	Pass
NVNT	g	2462	Ant1	-39.99	-20	Pass
NVNT	n20	2412	Ant1	-39.77	-20	Pass
NVNT	n20	2437	Ant1	-38.23	-20	Pass
NVNT	n20	2462	Ant1	-38.81	-20	Pass
NVNT	ax20	2412	Ant1	-37.88	-20	Pass
NVNT	ax20	2437	Ant1	-37.96	-20	Pass
NVNT	ax20	2462	Ant1	-36.66	-20	Pass

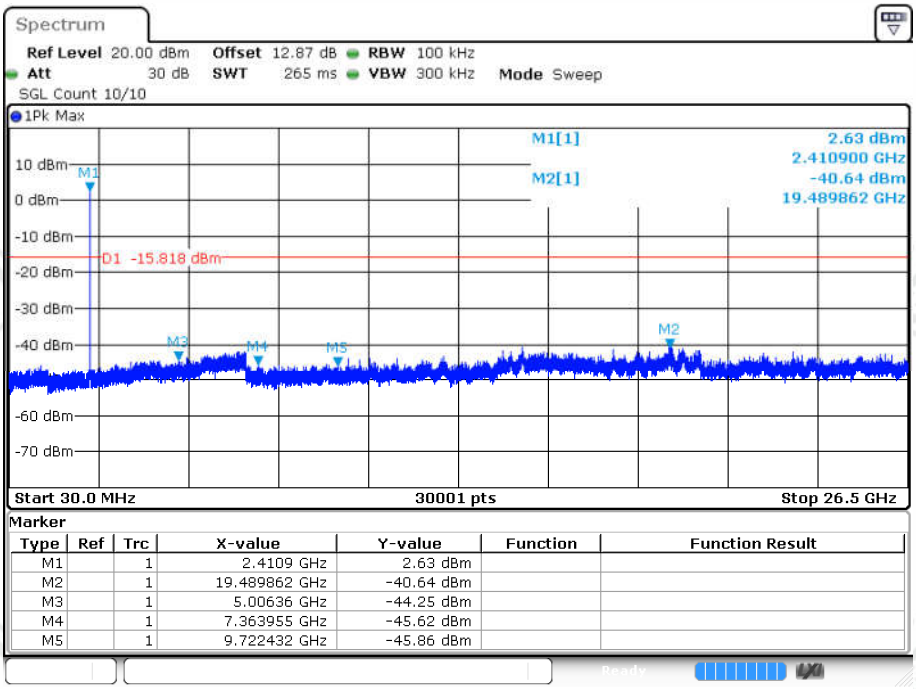
Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref



Date: 8.APR.2024 17:04:39

Tx. Spurious NVNT b 2412MHz Ant1 Emission

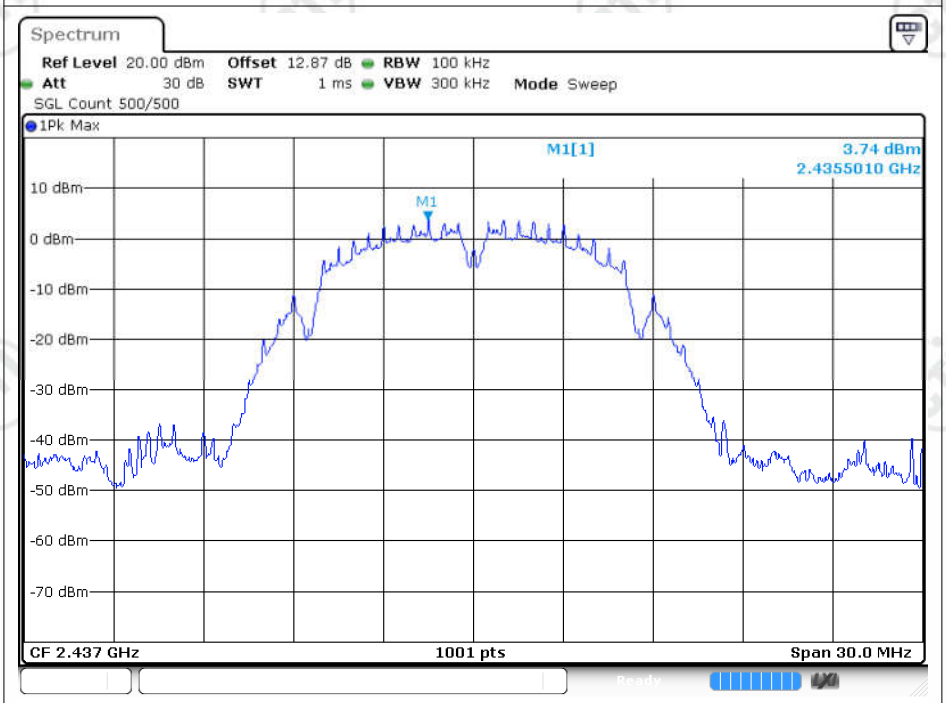


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4109 GHz	2.63 dBm		
M2		1	19.489862 GHz	-40.64 dBm		
M3		1	5.00636 GHz	-44.25 dBm		
M4		1	7.363955 GHz	-45.62 dBm		
M5		1	9.722432 GHz	-45.86 dBm		

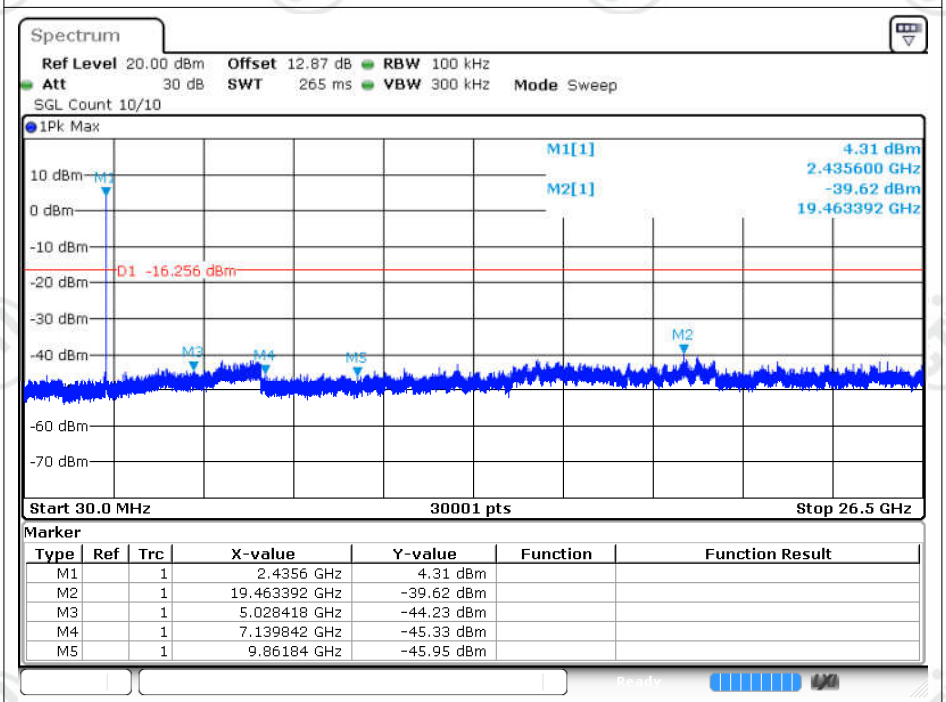
Date: 8.APR.2024 17:04:50

Tx. Spurious NVNT b 2437MHz Ant1 Ref



Date: 8.APR.2024 17:05:41

Tx. Spurious NVNT b 2437MHz Ant1 Emission

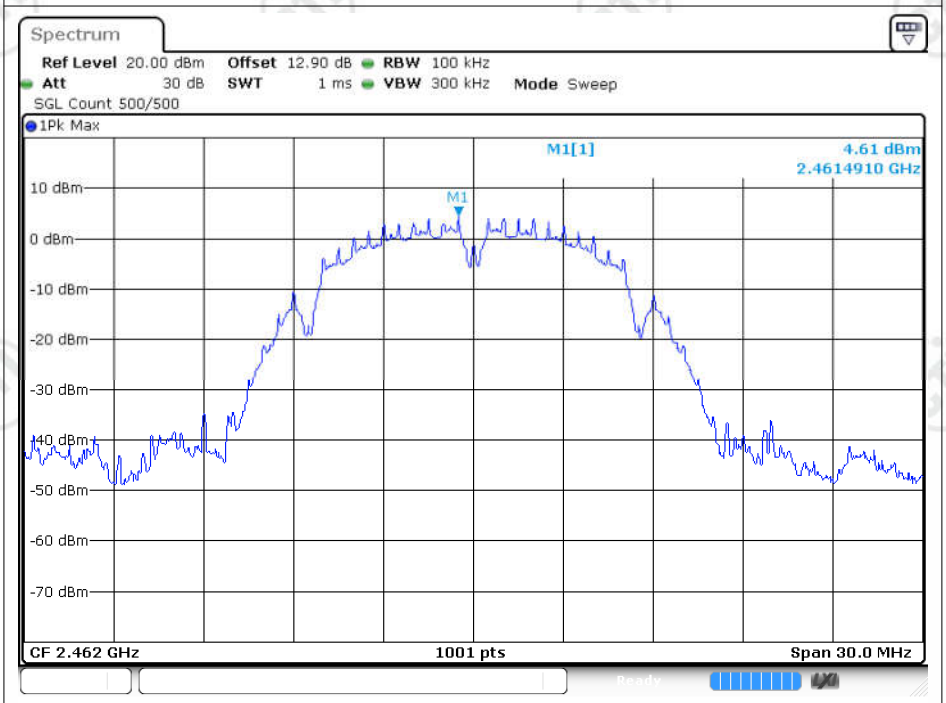


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4356 GHz	4.31 dBm		
M2		1	19.463392 GHz	-39.62 dBm		
M3		1	5.028418 GHz	-44.23 dBm		
M4		1	7.139842 GHz	-45.33 dBm		
M5		1	9.86184 GHz	-45.95 dBm		

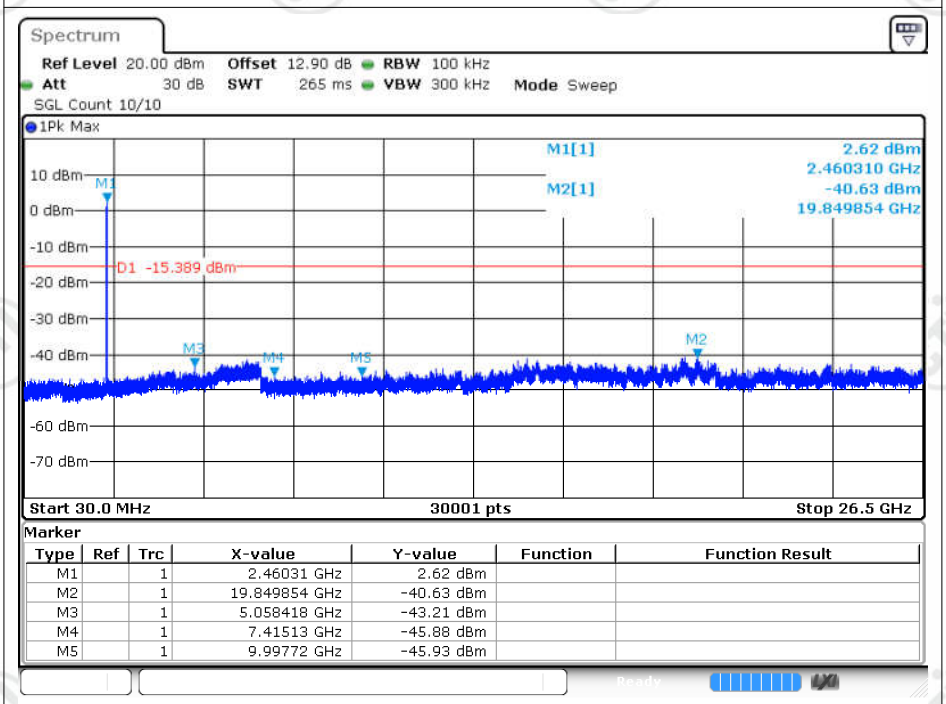
Date: 8.APR.2024 17:05:52

Tx. Spurious NVNT b 2462MHz Ant1 Ref



Date: 8.APR.2024 17:07:57

Tx. Spurious NVNT b 2462MHz Ant1 Emission

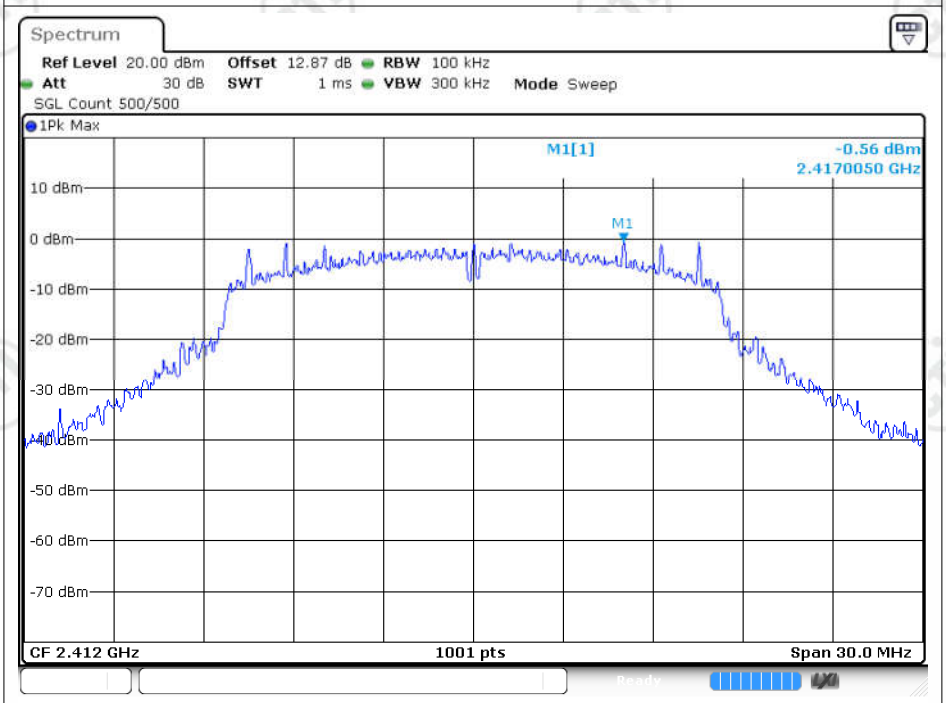


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46031 GHz	2.62 dBm		
M2		1	19.849854 GHz	-40.63 dBm		
M3		1	5.058418 GHz	-43.21 dBm		
M4		1	7.41513 GHz	-45.88 dBm		
M5		1	9.99772 GHz	-45.93 dBm		

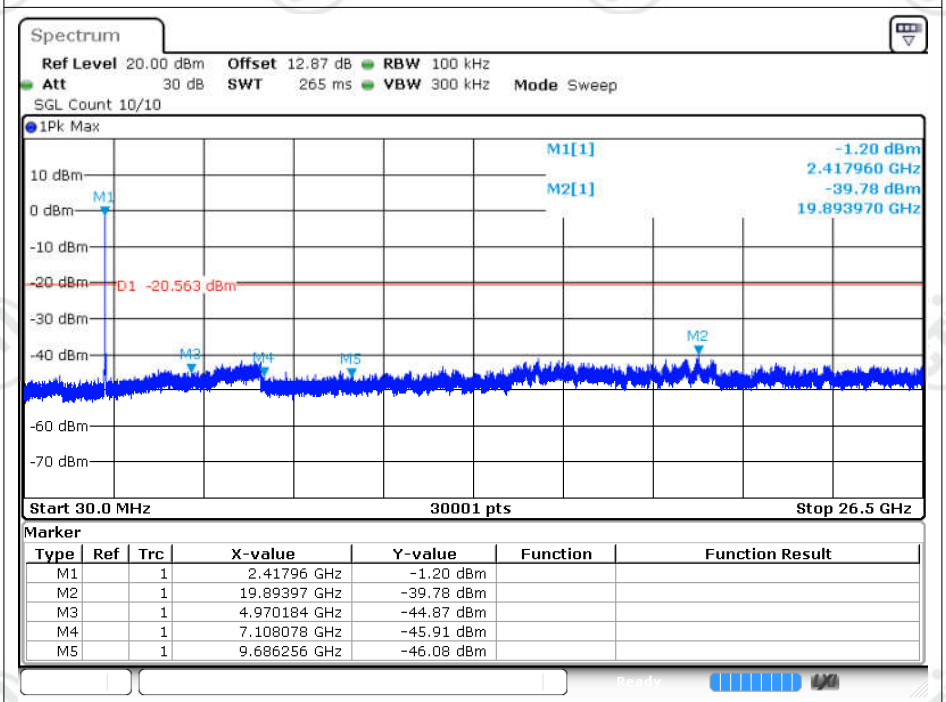
Date: 8.APR.2024 17:08:09

Tx. Spurious NVNT g 2412MHz Ant1 Ref



Date: 8.APR.2024 17:09:55

Tx. Spurious NVNT g 2412MHz Ant1 Emission

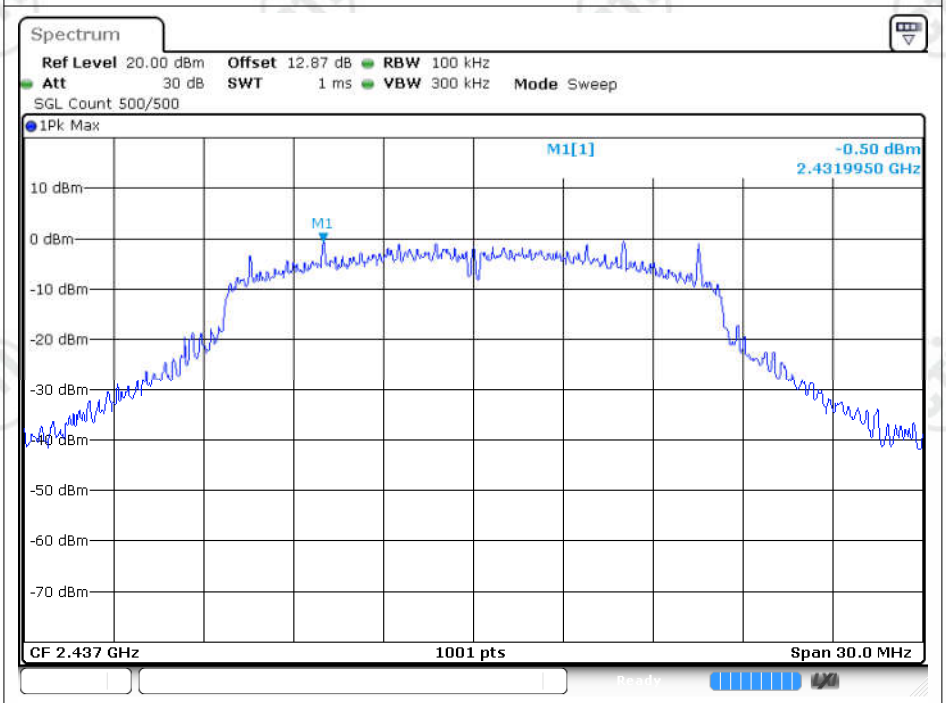


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41796 GHz	-1.20 dBm		
M2		1	19.89397 GHz	-39.78 dBm		
M3		1	4.970184 GHz	-44.87 dBm		
M4		1	7.108078 GHz	-45.91 dBm		
M5		1	9.686256 GHz	-46.08 dBm		

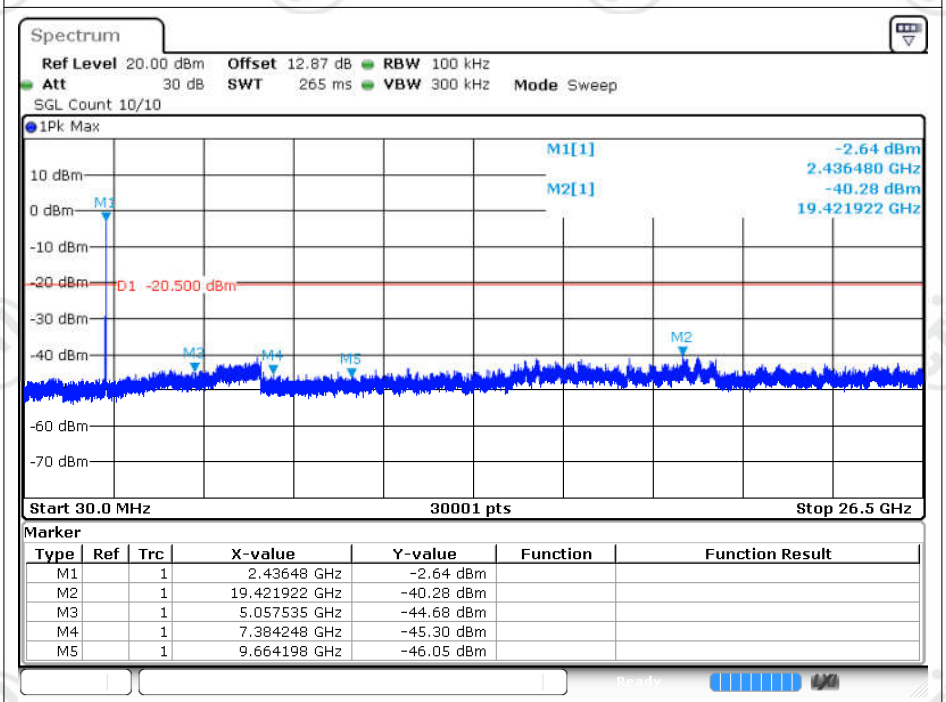
Date: 8.APR.2024 17:10:07

Tx. Spurious NVNT g 2437MHz Ant1 Ref



Date: 8.APR.2024 17:10:57

Tx. Spurious NVNT g 2437MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43648 GHz	-2.64 dBm		
M2		1	19.421922 GHz	-40.28 dBm		
M3		1	5.057535 GHz	-44.68 dBm		
M4		1	7.384248 GHz	-45.30 dBm		
M5		1	9.664198 GHz	-46.05 dBm		

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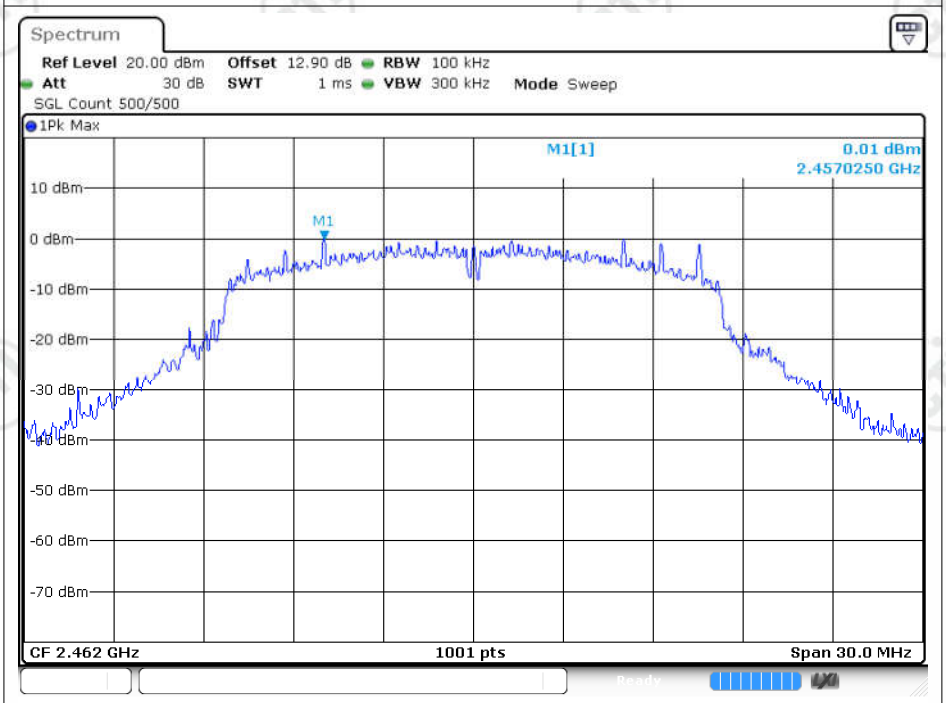
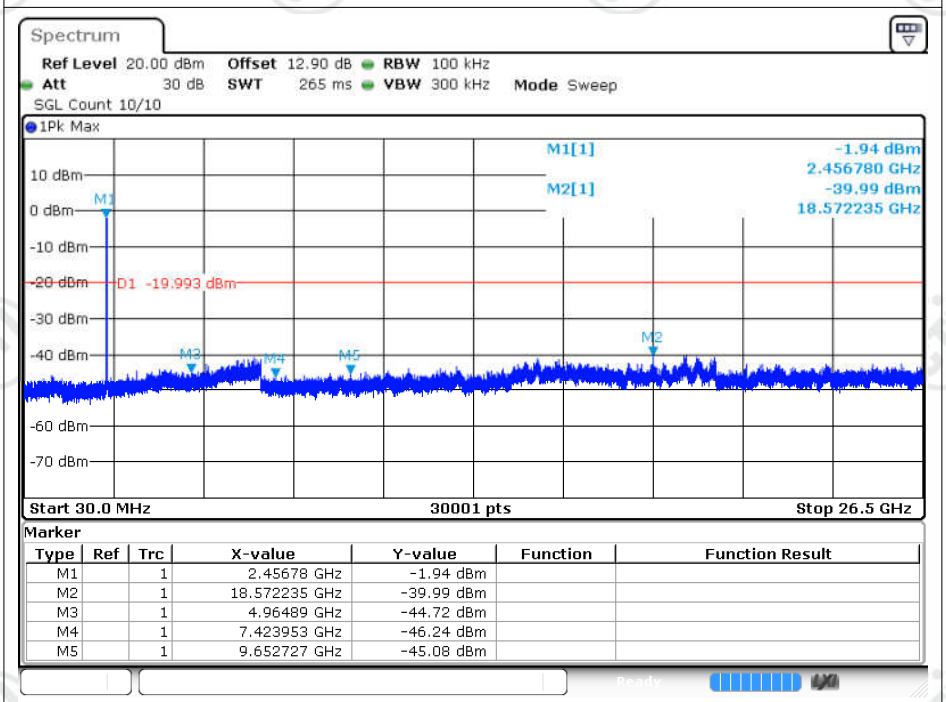
Tx. Spurious NVNT g 2462MHz Ant1 Ref



Date: 8.APR.2024 17:13:15

Tx. Spurious NVNT g 2462MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45678 GHz	-1.94 dBm		
M2		1	18.572235 GHz	-39.99 dBm		
M3		1	4.96489 GHz	-44.72 dBm		
M4		1	7.423953 GHz	-46.24 dBm		
M5		1	9.652727 GHz	-45.08 dBm		

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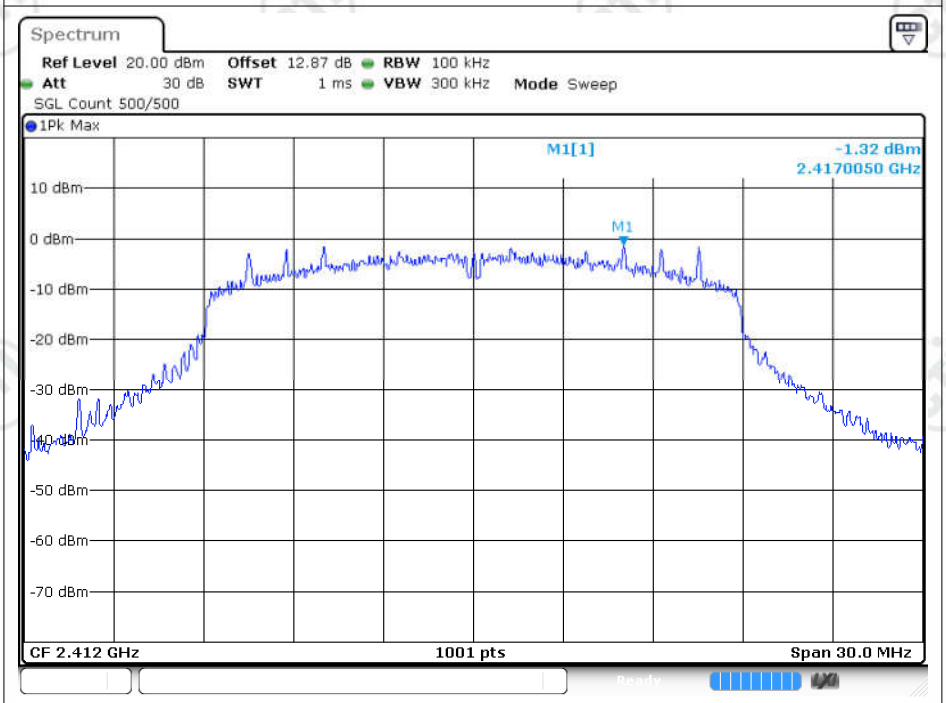
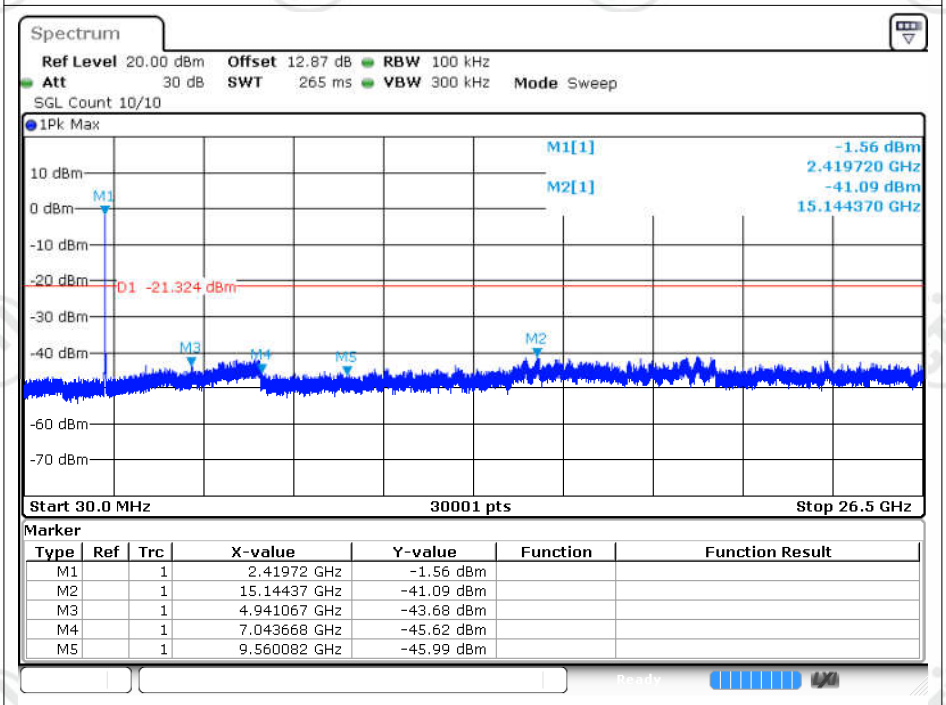
Tx. Spurious NVNT n20 2412MHz Ant1 Ref



Date: 8.APR.2024 17:15:24

Tx. Spurious NVNT n20 2412MHz Ant1 Emission

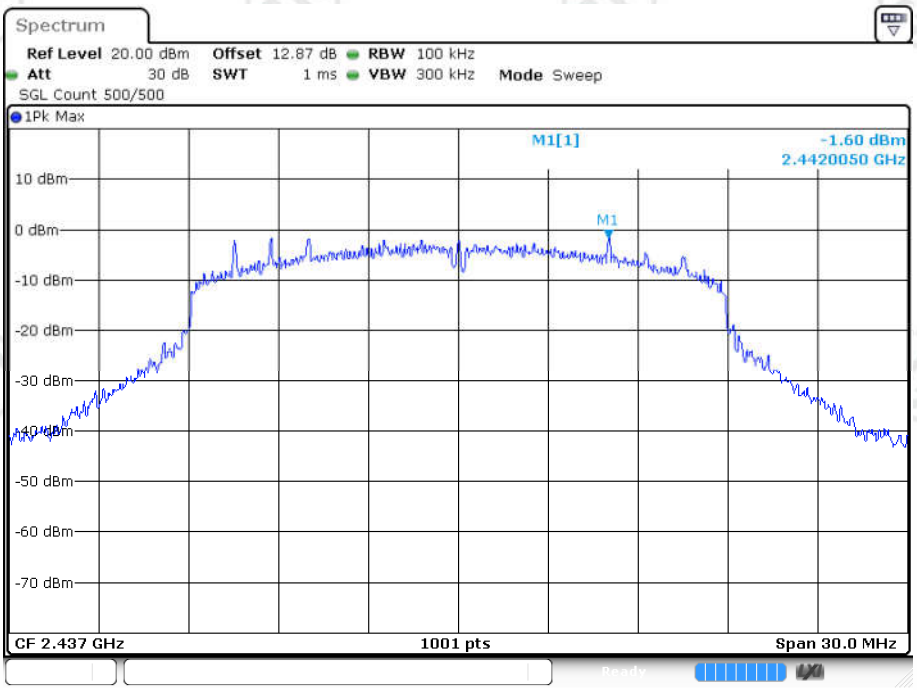


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41972 GHz	-1.56 dBm		
M2		1	15.14437 GHz	-41.09 dBm		
M3		1	4.941067 GHz	-43.68 dBm		
M4		1	7.043668 GHz	-45.62 dBm		
M5		1	9.560082 GHz	-45.99 dBm		

Date: 8.APR.2024 17:15:35

Tx. Spurious NVNT n20 2437MHz Ant1 Ref



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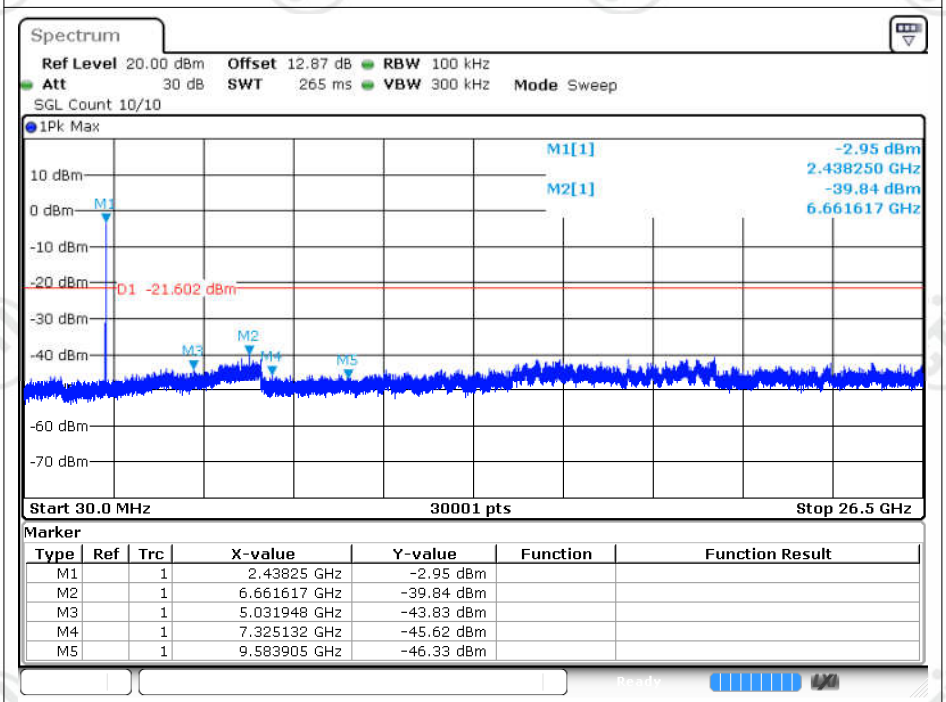
Tx. Spurious NVNT n20 2437MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43825 GHz	-2.95 dBm		
M2		1	6.661617 GHz	-39.84 dBm		
M3		1	5.031948 GHz	-43.83 dBm		
M4		1	7.325132 GHz	-45.62 dBm		
M5		1	9.583905 GHz	-46.33 dBm		

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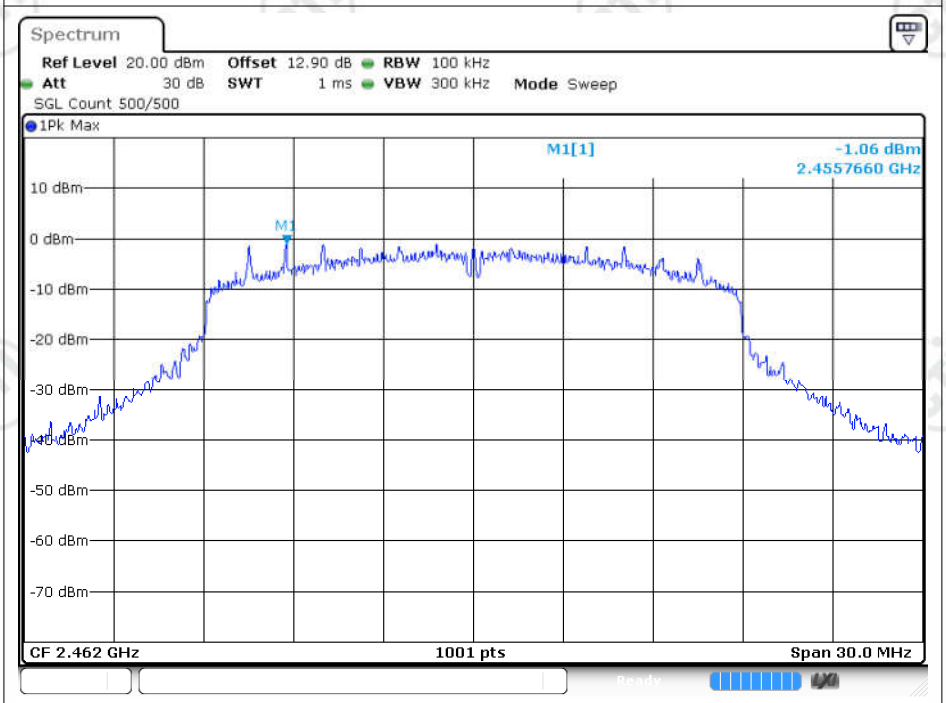
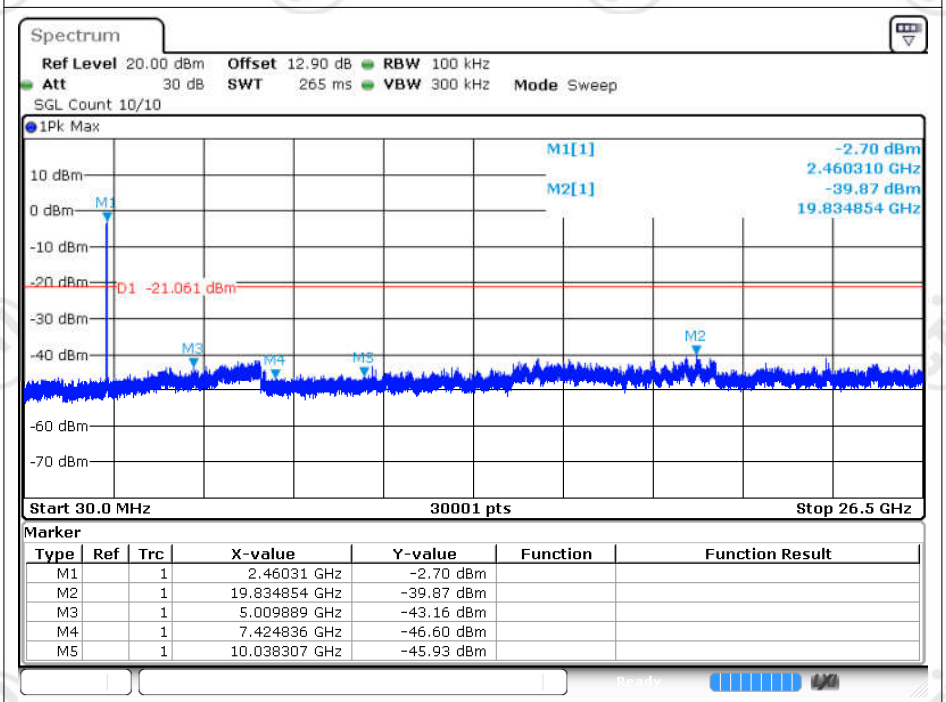
Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Date: 8.APR.2024 17:19:10

Tx. Spurious NVNT n20 2462MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46031 GHz	-2.70 dBm		
M2		1	19.834854 GHz	-39.87 dBm		
M3		1	5.009889 GHz	-43.16 dBm		
M4		1	7.424836 GHz	-46.60 dBm		
M5		1	10.038307 GHz	-45.93 dBm		

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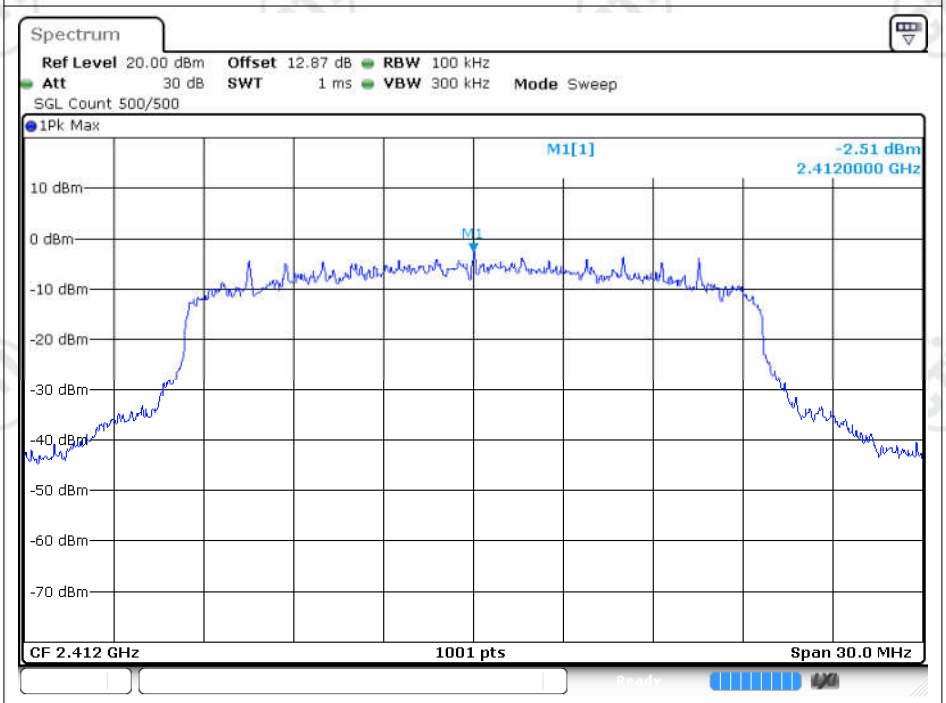
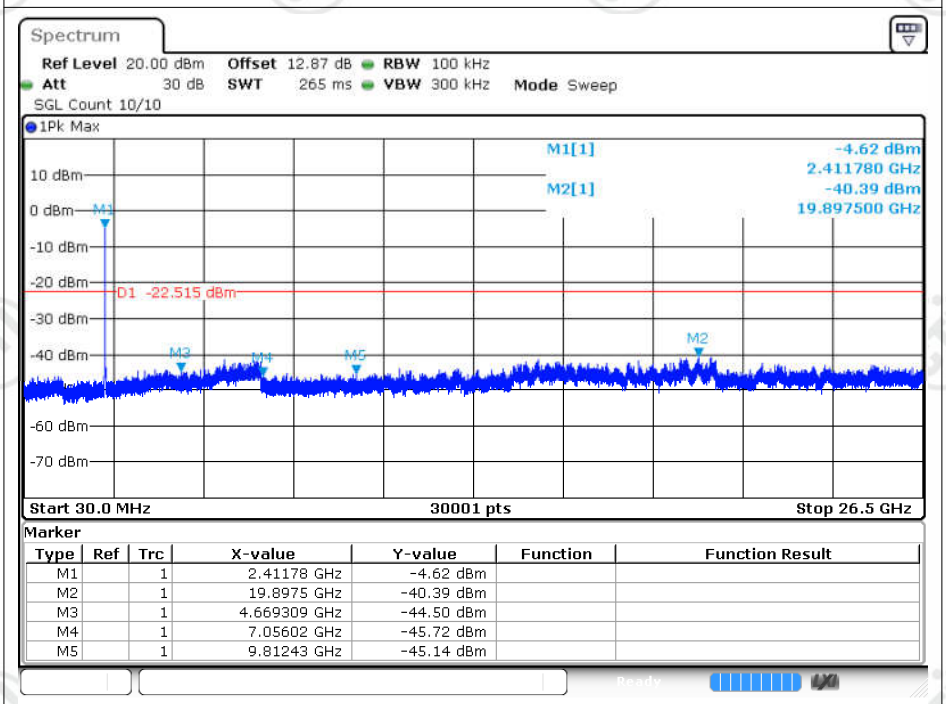
Tx. Spurious NVNT ax20 2412MHz Ant1 Ref



Date: 8.APR.2024 17:20:59

Tx. Spurious NVNT ax20 2412MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41178 GHz	-4.62 dBm		
M2		1	19.8975 GHz	-40.39 dBm		
M3		1	4.669309 GHz	-44.50 dBm		
M4		1	7.05602 GHz	-45.72 dBm		
M5		1	9.81243 GHz	-45.14 dBm		

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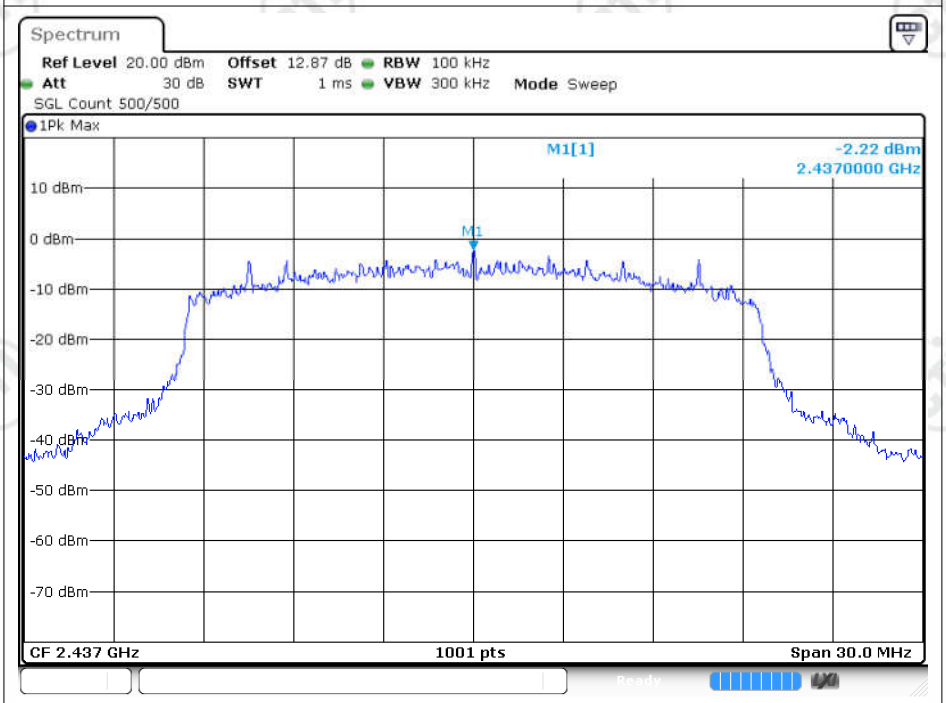
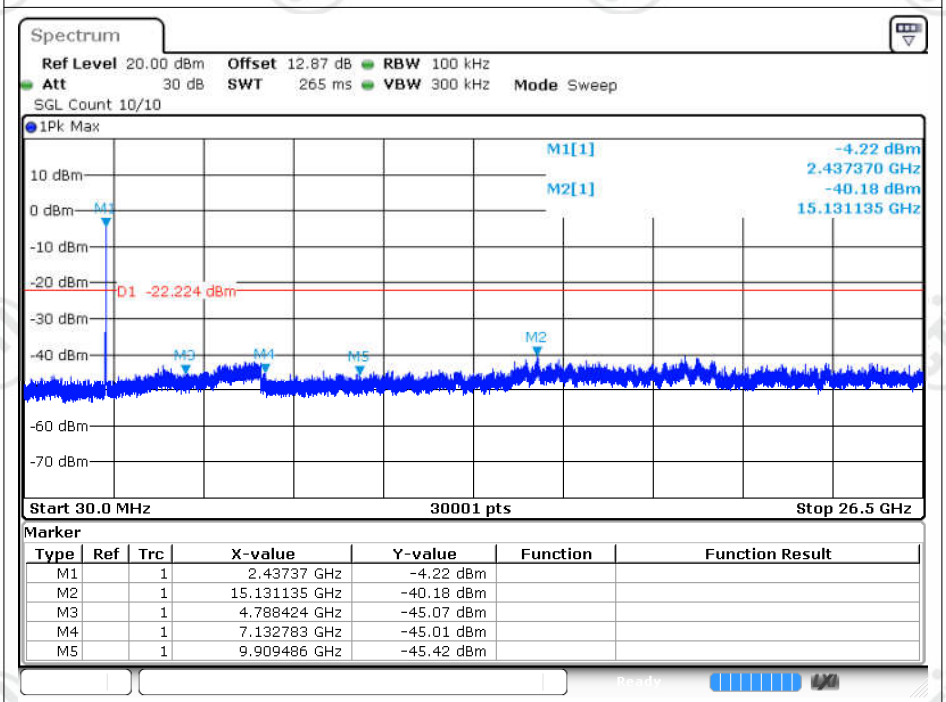
Tx. Spurious NVNT ax20 2437MHz Ant1 Ref



Date: 8.APR.2024 17:22:26

Tx. Spurious NVNT ax20 2437MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43737 GHz	-4.22 dBm		
M2		1	15.131135 GHz	-40.18 dBm		
M3		1	4.788424 GHz	-45.07 dBm		
M4		1	7.132783 GHz	-45.01 dBm		
M5		1	9.909486 GHz	-45.42 dBm		

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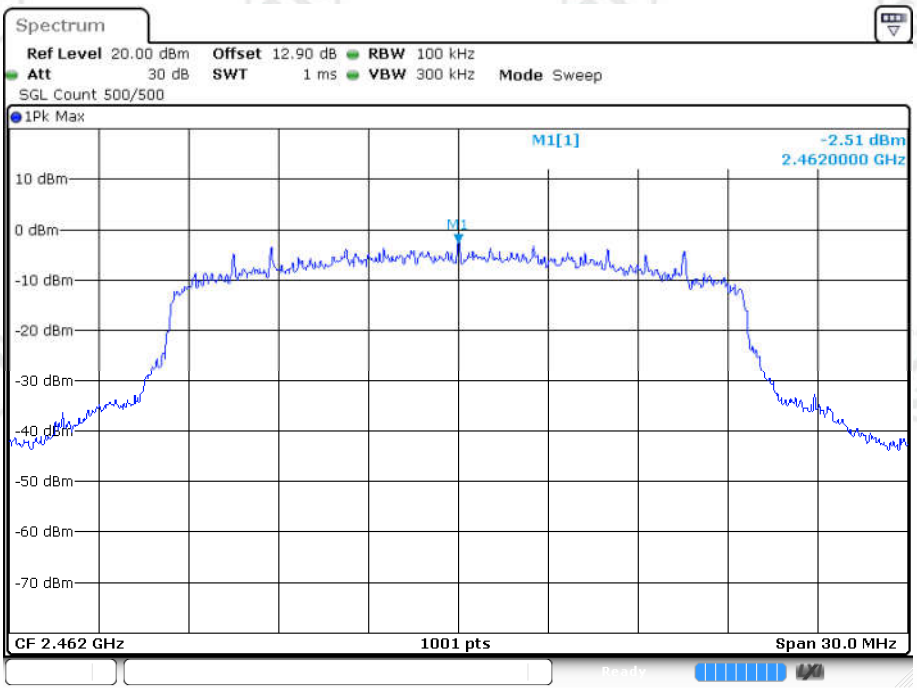
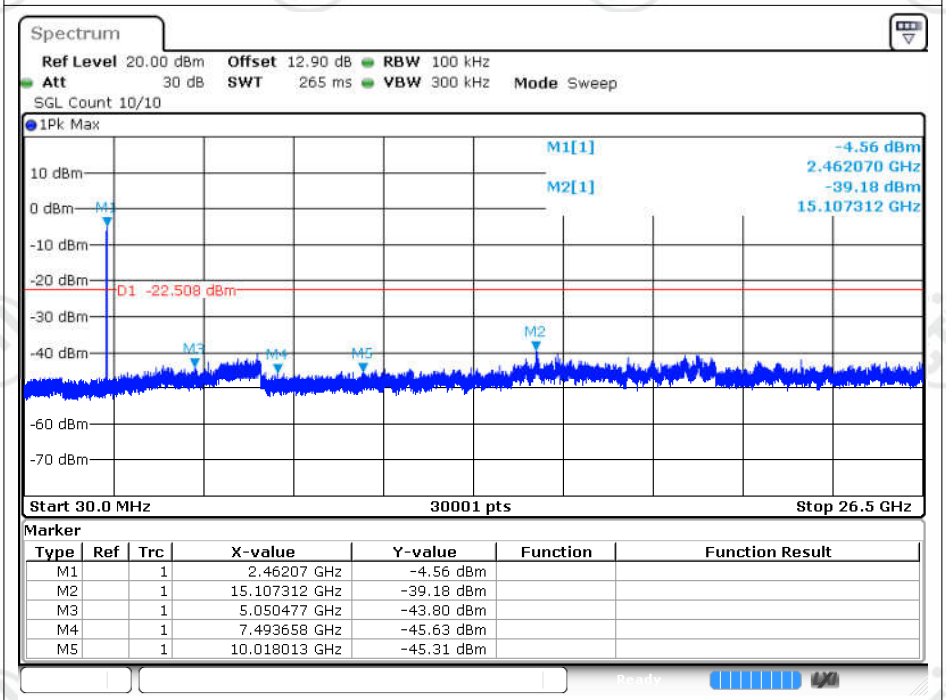
Tx. Spurious NVNT ax20 2462MHz Ant1 Ref



Date: 8.APR.2024 17:24:09

Tx. Spurious NVNT ax20 2462MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46207 GHz	-4.56 dBm		
M2		1	15.107312 GHz	-39.18 dBm		
M3		1	5.050477 GHz	-43.80 dBm		
M4		1	7.493658 GHz	-45.63 dBm		
M5		1	10.018013 GHz	-45.31 dBm		

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*** End of Report ***