Appendix: 2.4G WIFI

Contents

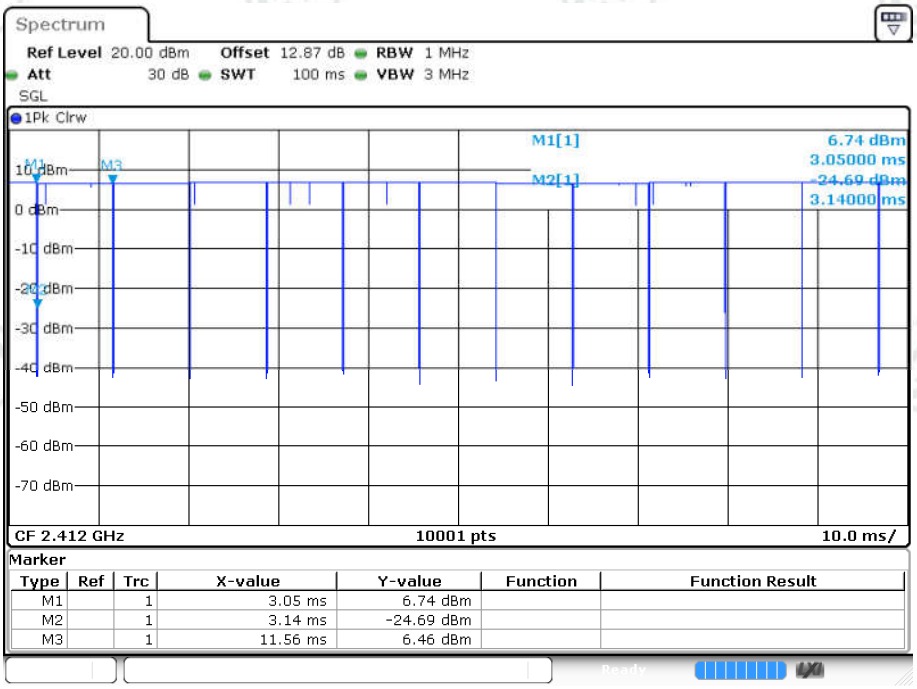
Contents 2
Duty Cycle 3
Maximum Peak Conducted Output Power 9
-6dB Bandwidth 15
Occupied Channel Bandwidth 21
Maximum Power Spectral Density Level 27
Band Edge 33
Conducted RF Spurious Emission 40

Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	98.94	0	0.12
NVNT	b	2437	Ant1	98.94	0	0.12
NVNT	b	2462	Ant1	98.94	0	0.12
NVNT	g	2412	Ant1	93.38	0.3	0.72
NVNT	g	2437	Ant1	93.32	0.3	0.72
NVNT	g	2462	Ant1	93.32	0.3	0.72
NVNT	n20	2412	Ant1	92.88	0.32	0.77
NVNT	n20	2437	Ant1	92.91	0.32	0.76
NVNT	n20	2462	Ant1	92.91	0.32	0.76

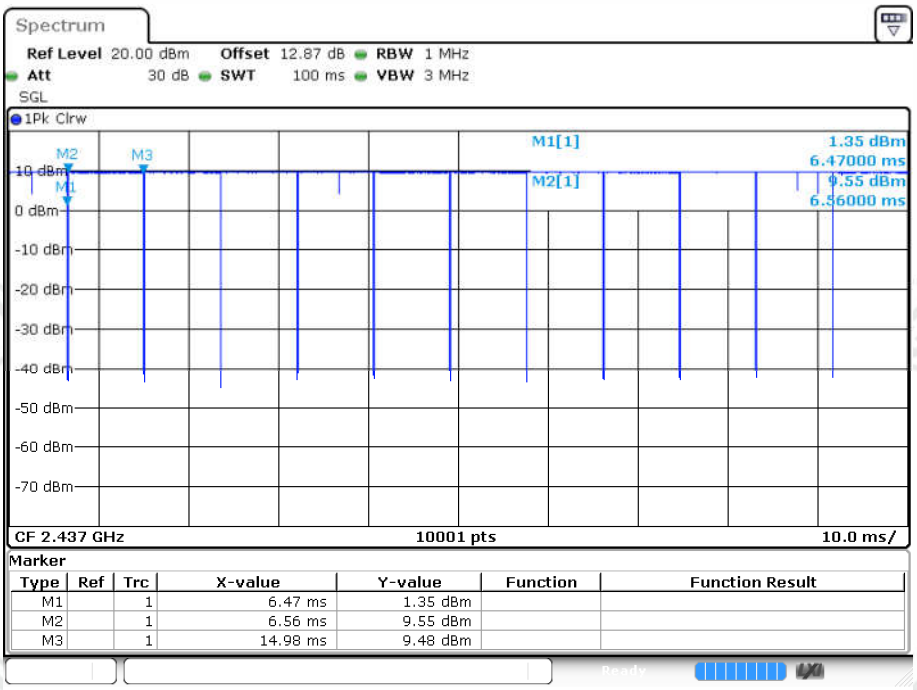
Test Graphs

Duty Cycle NVNT b 2412MHz Ant1



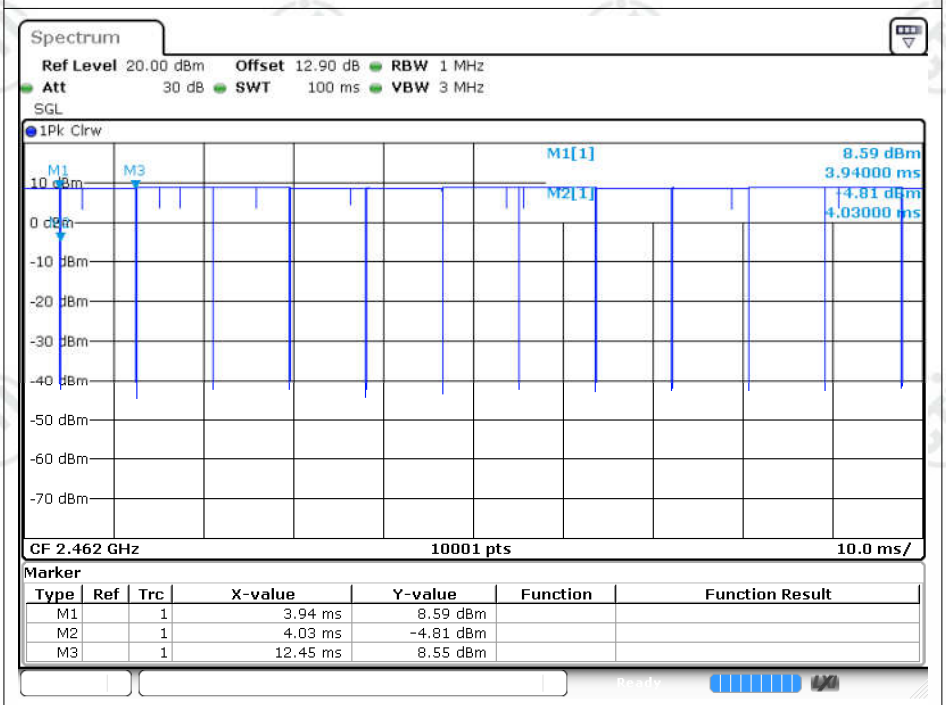
Date: 10.MAR.2023 15:41:33

Duty Cycle NVNT b 2437MHz Ant1



Date: 10.MAR.2023 15:46:06

Duty Cycle NVNT b 2462MHz Ant1

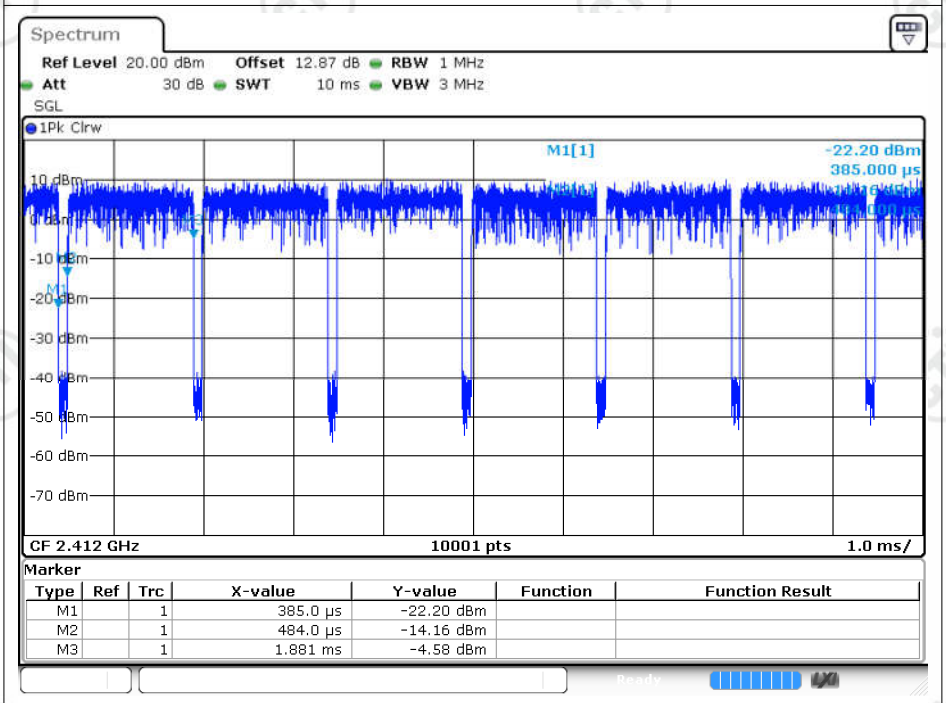


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	3.94 ms	8.59 dBm		
M2		1	4.03 ms	-4.81 dBm		
M3		1	12.45 ms	8.55 dBm		

Date: 10.MAR.2023 15:48:07

Duty Cycle NVNT g 2412MHz Ant1

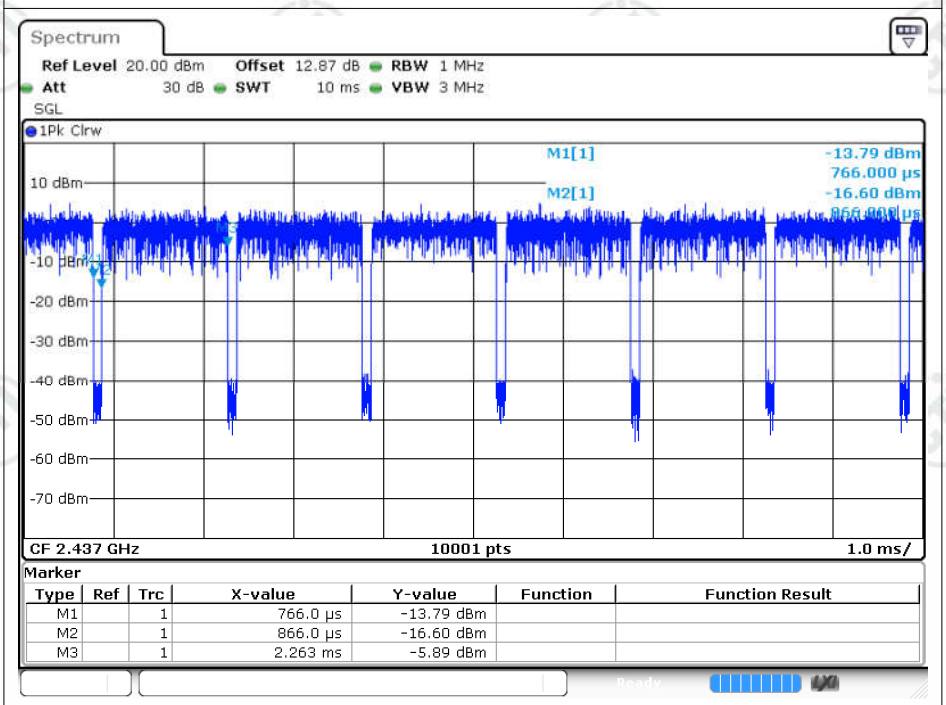


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	385.0 µs	-22.20 dBm		
M2		1	484.0 µs	-14.16 dBm		
M3		1	1.881 ms	-4.58 dBm		

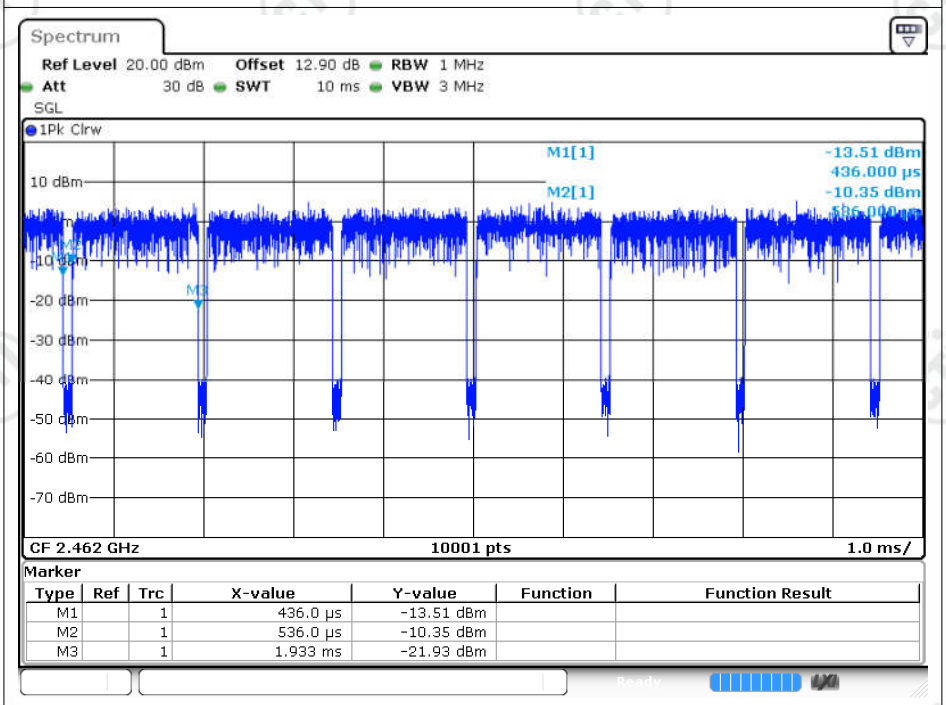
Date: 10.MAR.2023 15:50:28

Duty Cycle NVNT g 2437MHz Ant1



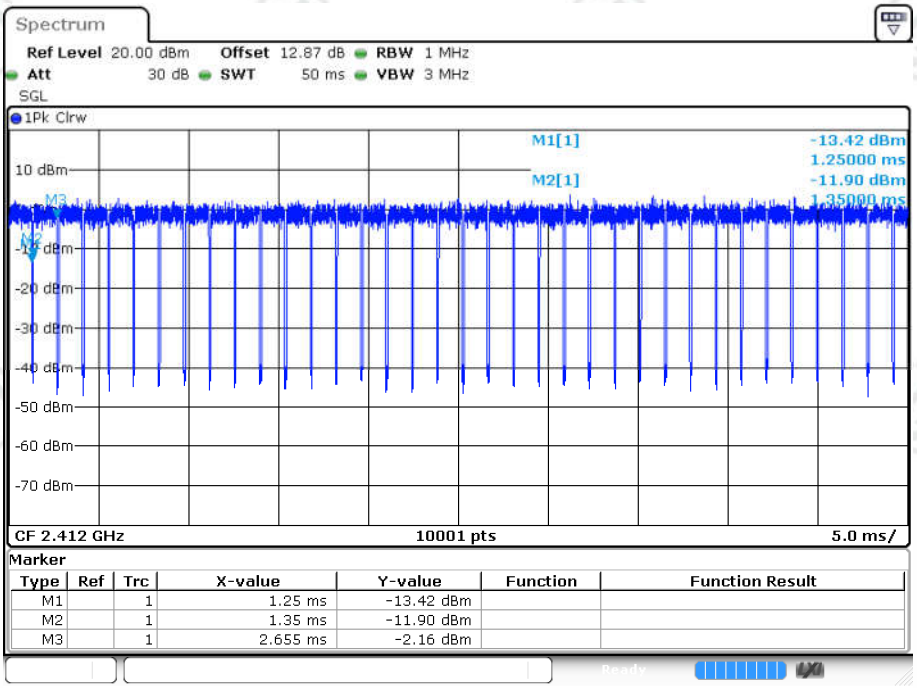
Date: 10.MAR.2023 15:54:06

Duty Cycle NVNT g 2462MHz Ant1



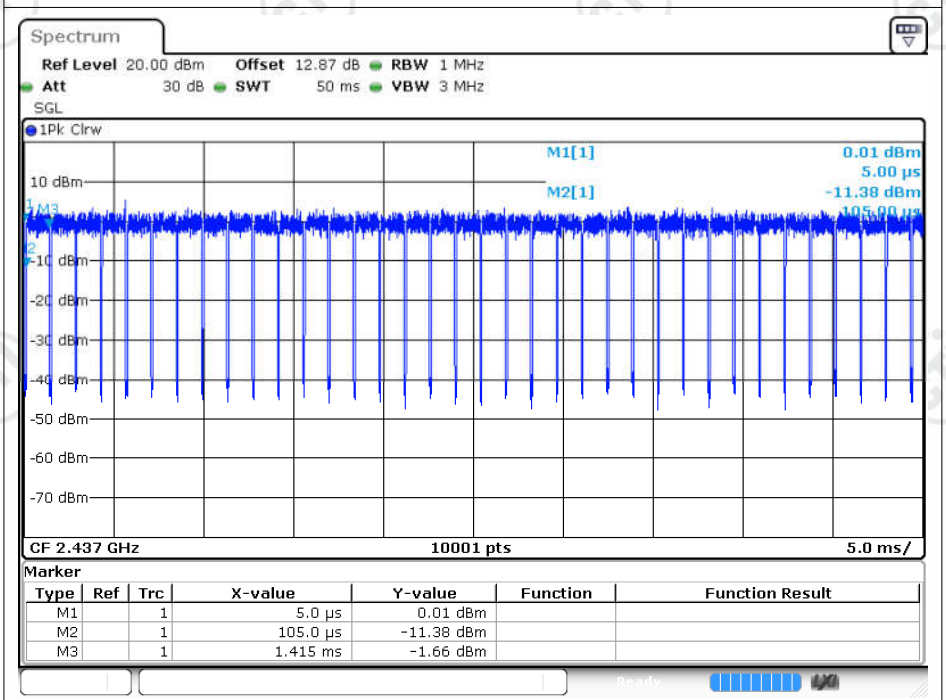
Date: 10.MAR.2023 15:56:04

Duty Cycle NVNT n20 2412MHz Ant1



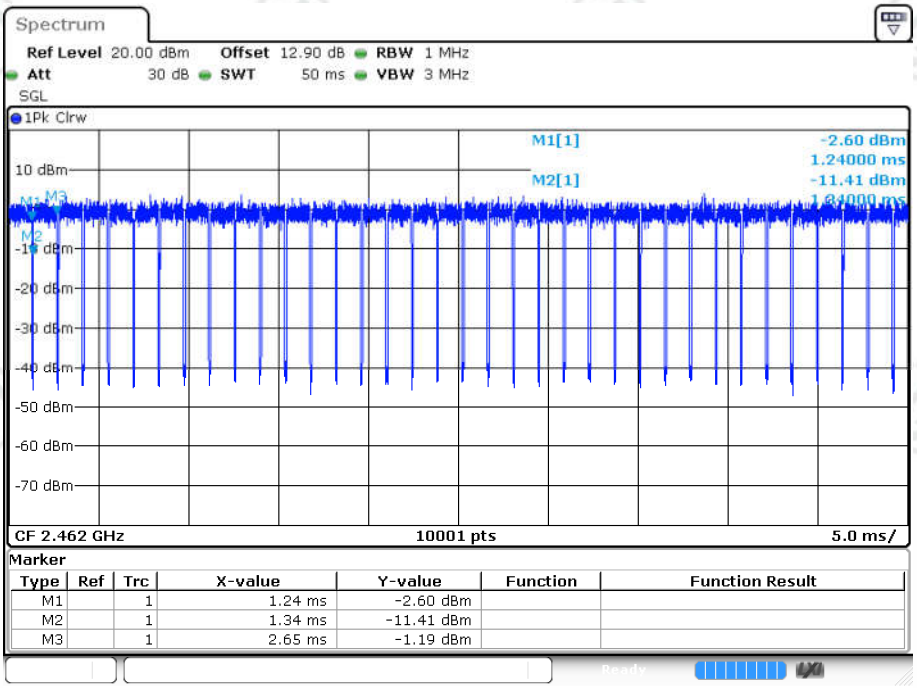
Date: 10.MAR.2023 15:57:45

Duty Cycle NVNT n20 2437MHz Ant1



Date: 10.MAR.2023 15:59:25

Duty Cycle NVNT n20 2462MHz Ant1

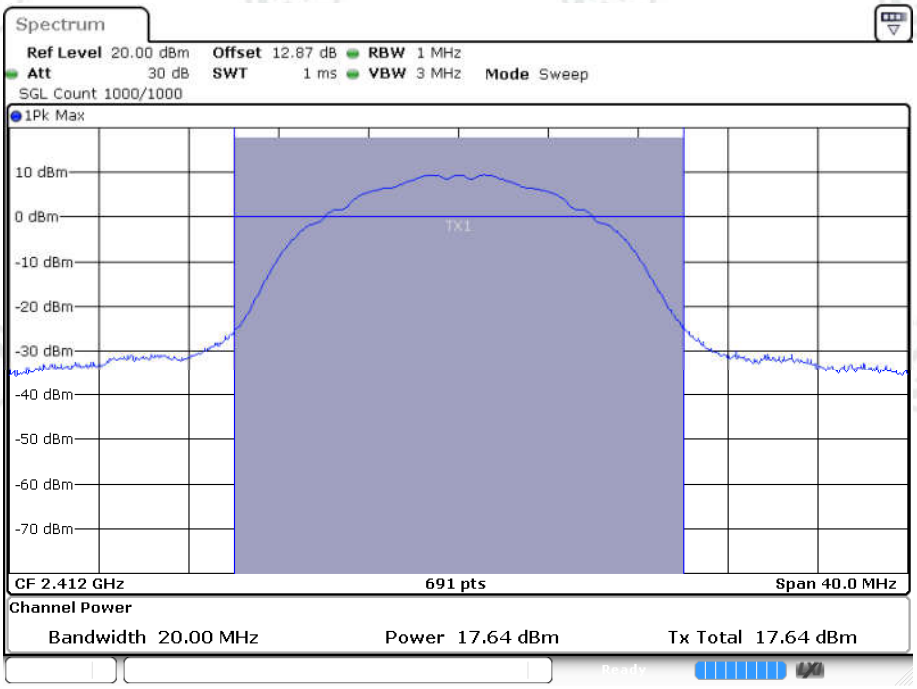


Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	17.64	0	17.64	30	Pass
NVNT	b	2437	Ant1	17.9	0	**17.9**	30	Pass
NVNT	b	2462	Ant1	17.24	0	17.24	30	Pass
NVNT	g	2412	Ant1	15.58	0	15.58	30	Pass
NVNT	g	2437	Ant1	15.77	0	15.77	30	Pass
NVNT	g	2462	Ant1	16	0	16	30	Pass
NVNT	n20	2412	Ant1	14.08	0	14.08	30	Pass
NVNT	n20	2437	Ant1	14.81	0	14.81	30	Pass
NVNT	n20	2462	Ant1	14.57	0	14.57	30	Pass

Test Graphs

Peak Power NVNT b 2412MHz Ant1



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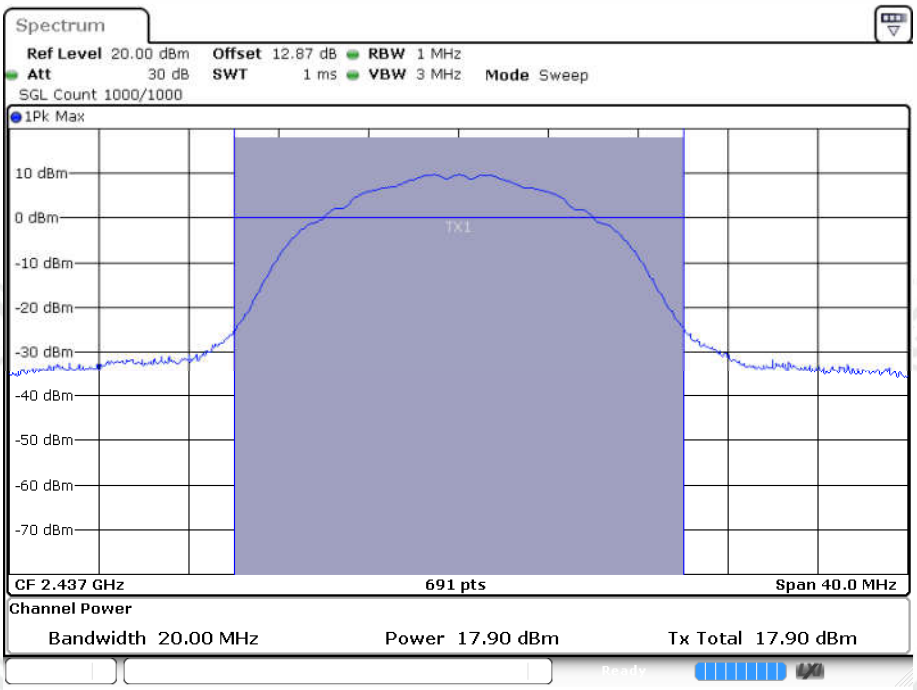
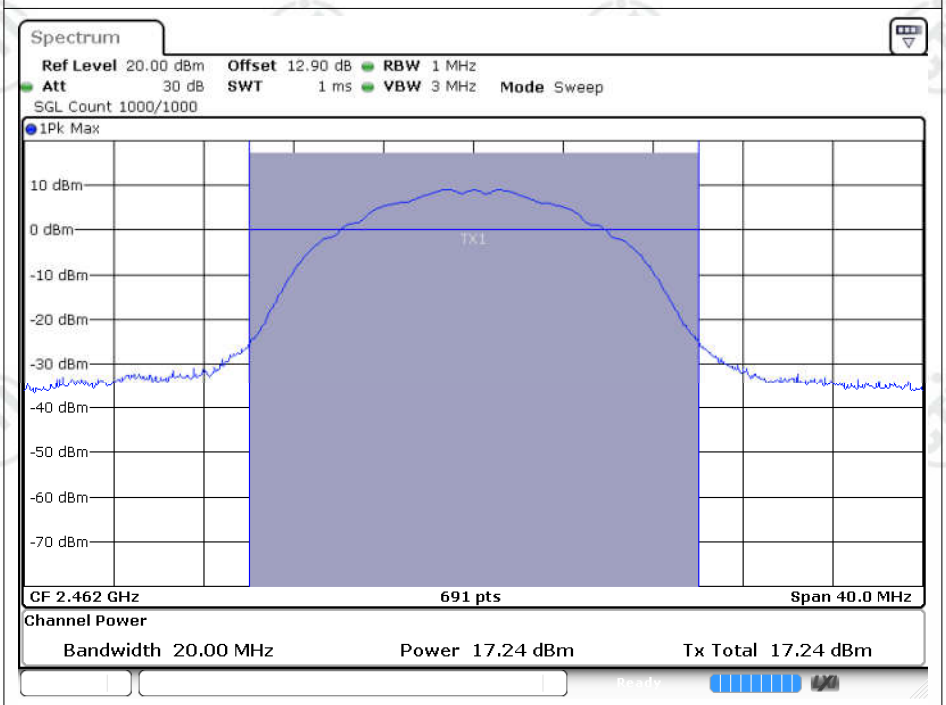
Peak Power NVNT b 2437MHz Ant1



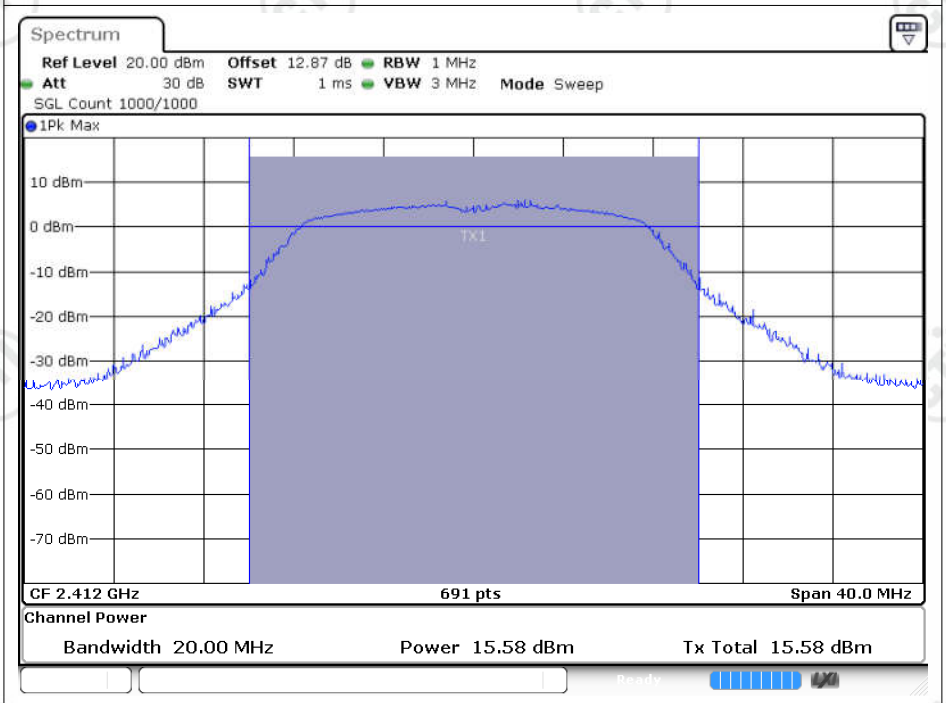
Date: 10.MAR.2023 15:46:12

Peak Power NVNT b 2462MHz Ant1



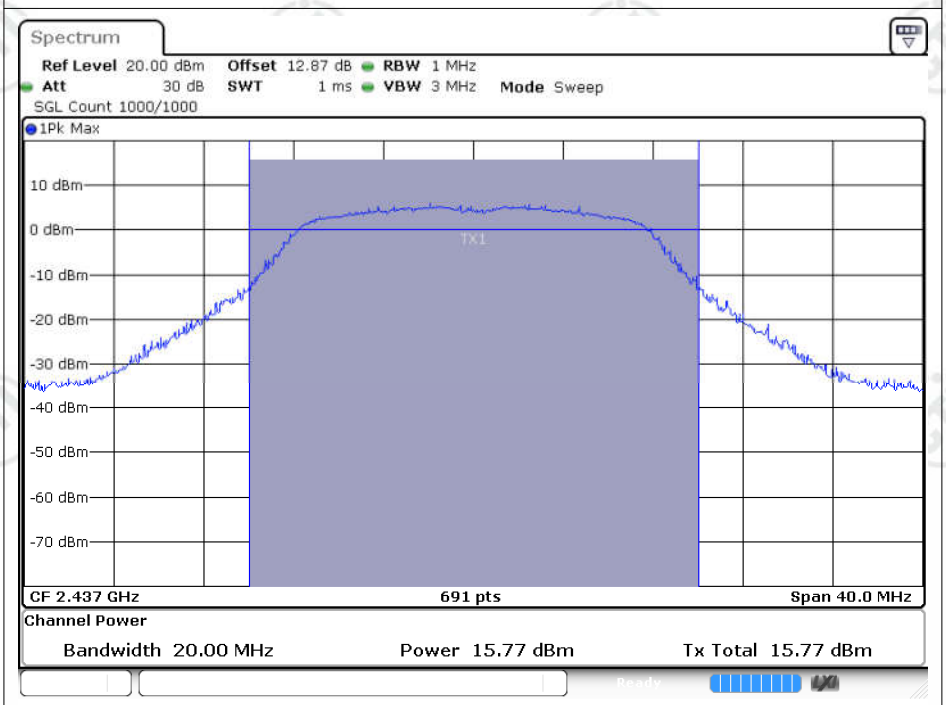
Date: 10.MAR.2023 15:51:48

Peak Power NVNT g 2412MHz Ant1



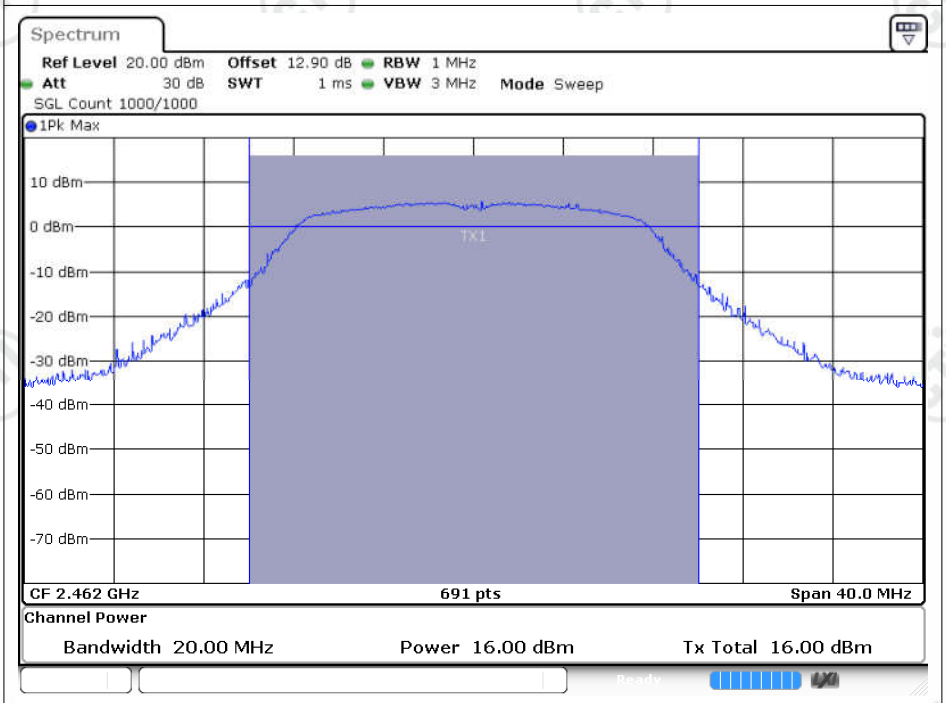
Date: 10.MAR.2023 15:52:15

Peak Power NVNT g 2437MHz Ant1



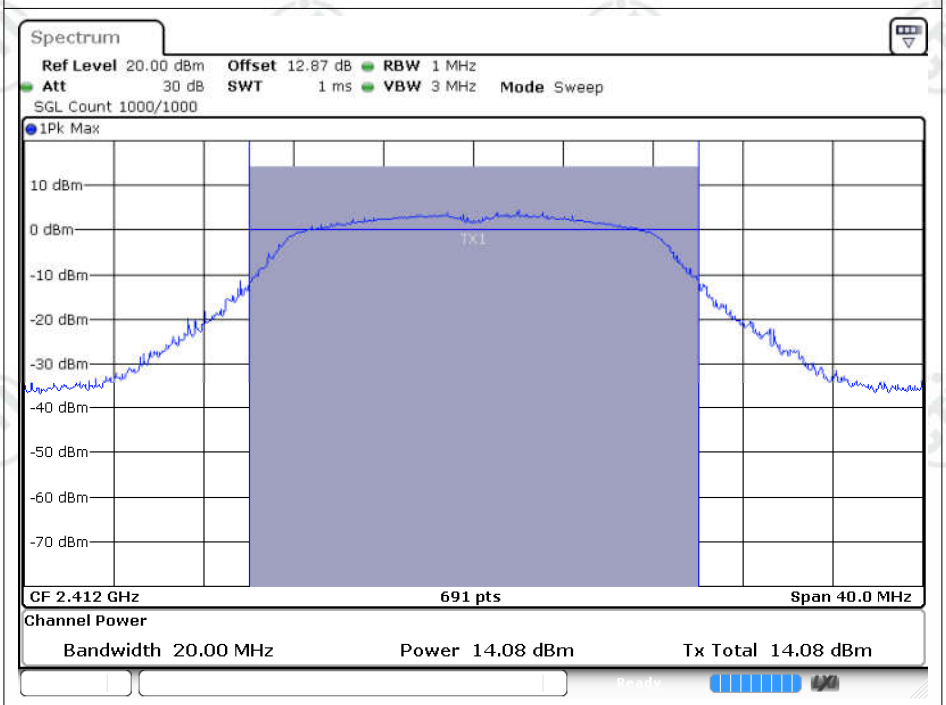
Date: 10.MAR.2023 15:54:11

Peak Power NVNT g 2462MHz Ant1



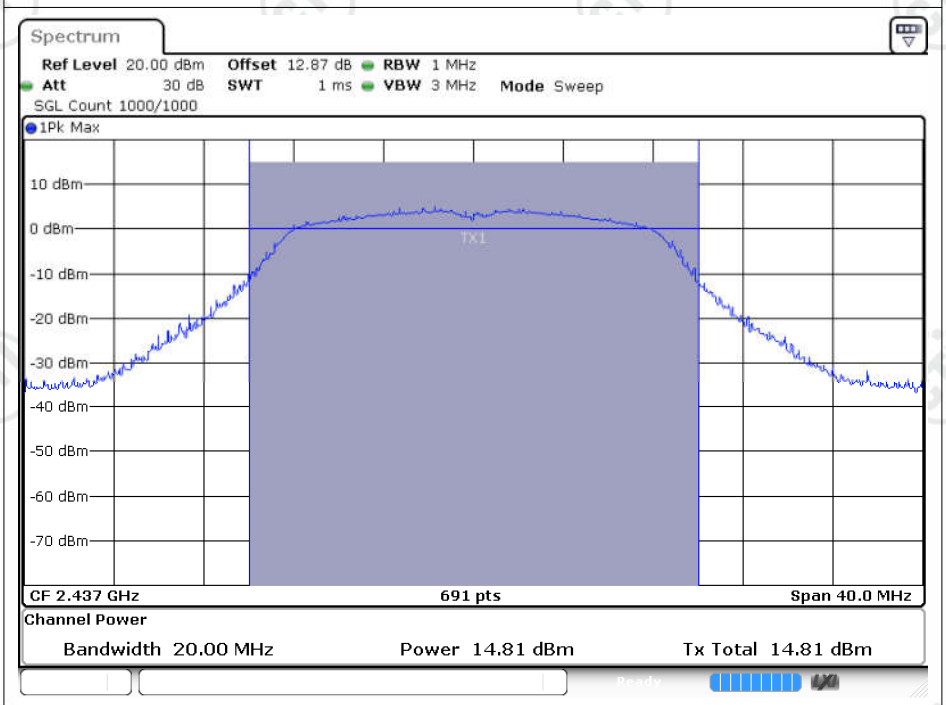
Date: 10.MAR.2023 15:56:09

Peak Power NVNT n20 2412MHz Ant1



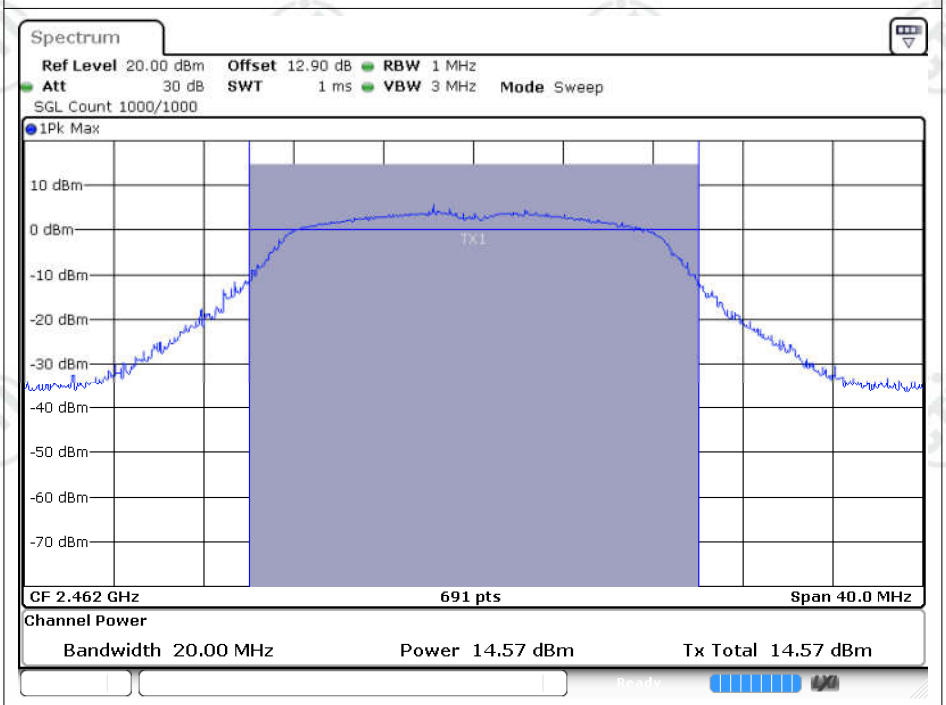
Date: 10.MAR.2023 15:57:52

Peak Power NVNT n20 2437MHz Ant1



Date: 10.MAR.2023 15:59:30

Peak Power NVNT n20 2462MHz Ant1



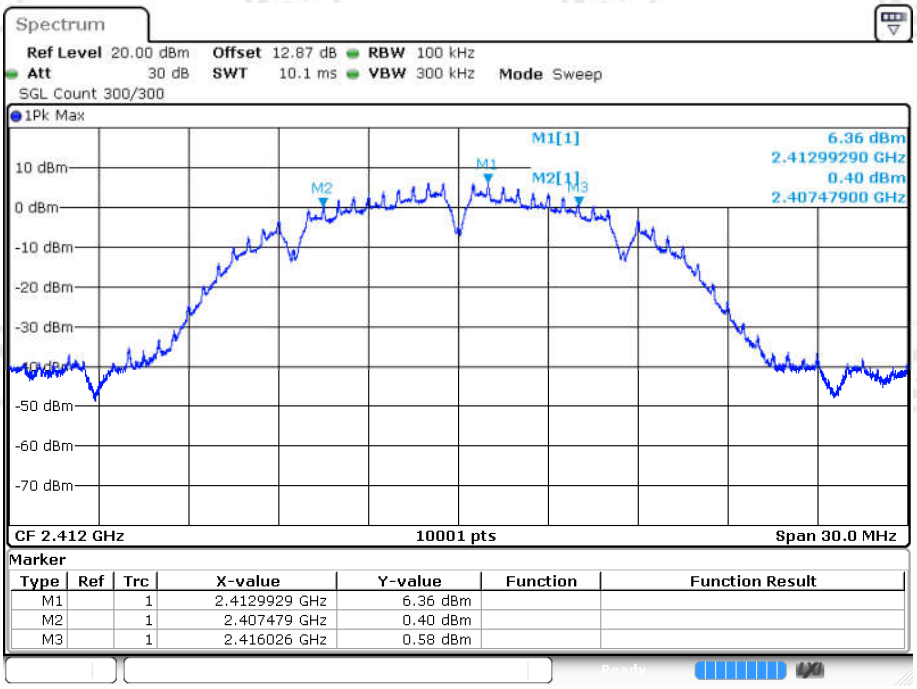
Date: 10.MAR.2023 16:01:27

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	8.547	0.5	Pass
NVNT	b	2437	Ant1	9.018	0.5	Pass
NVNT	b	2462	Ant1	8.511	0.5	Pass
NVNT	g	2412	Ant1	15.093	0.5	Pass
NVNT	g	2437	Ant1	15.105	0.5	Pass
NVNT	g	2462	Ant1	15.315	0.5	Pass
NVNT	n20	2412	Ant1	15.093	0.5	Pass
NVNT	n20	2437	Ant1	15.09	0.5	Pass
NVNT	n20	2462	Ant1	15.099	0.5	Pass

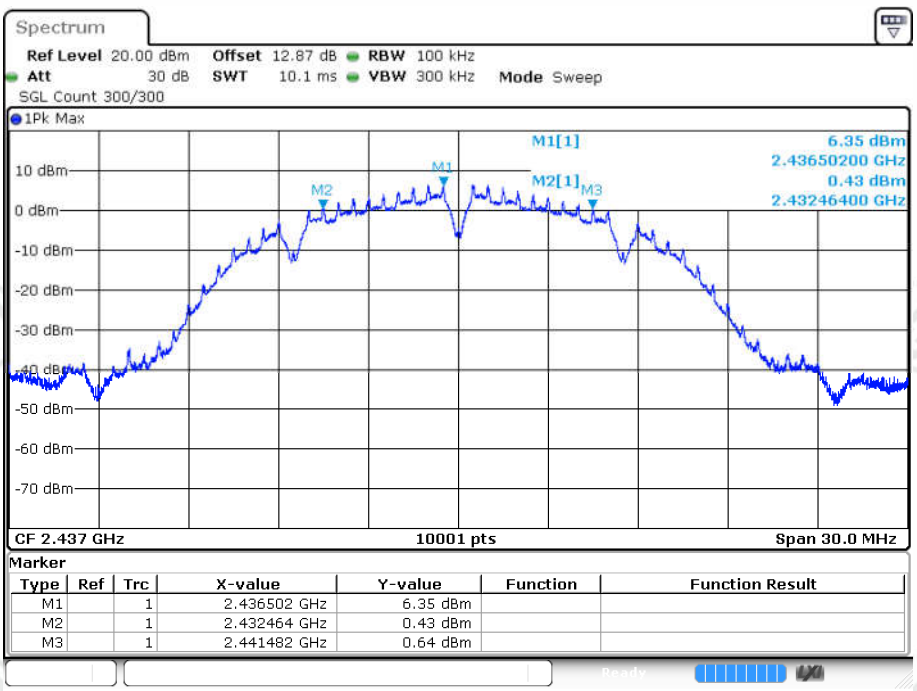
Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



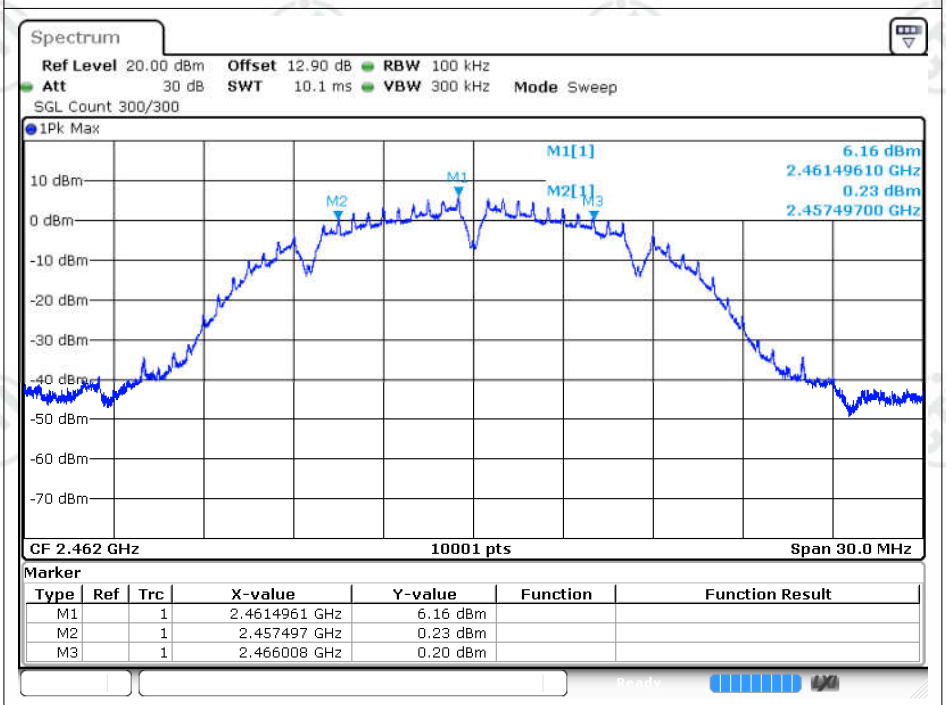
Date: 10.MAR.2023 15:44:43

-6dB Bandwidth NVNT b 2437MHz Ant1



Date: 10.MAR.2023 15:46:33

-6dB Bandwidth NVNT b 2462MHz Ant1

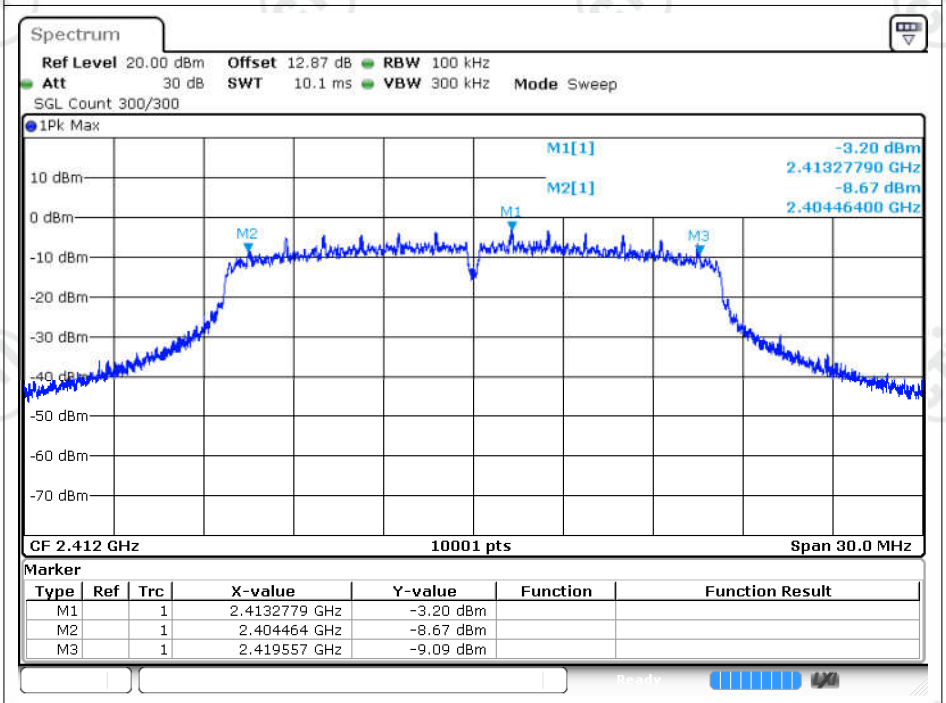


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4614961 GHz	6.16 dBm		
M2		1	2.457497 GHz	0.23 dBm		
M3		1	2.466008 GHz	0.20 dBm		

Date: 10.MAR.2023 15:48:44

-6dB Bandwidth NVNT g 2412MHz Ant1

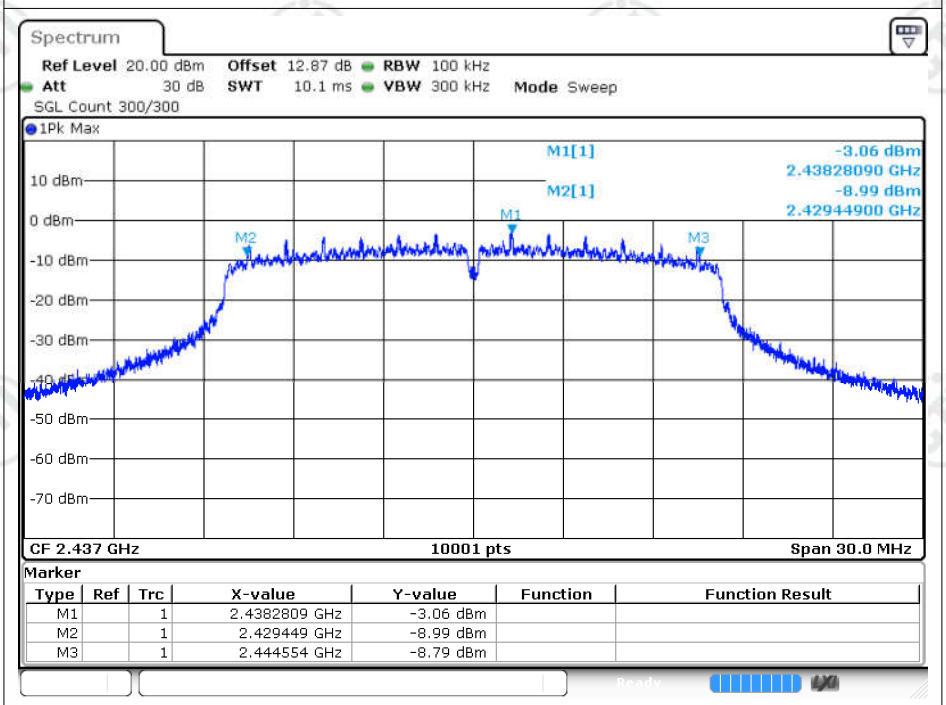


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4132779 GHz	-3.20 dBm		
M2		1	2.404464 GHz	-8.67 dBm		
M3		1	2.419557 GHz	-9.09 dBm		

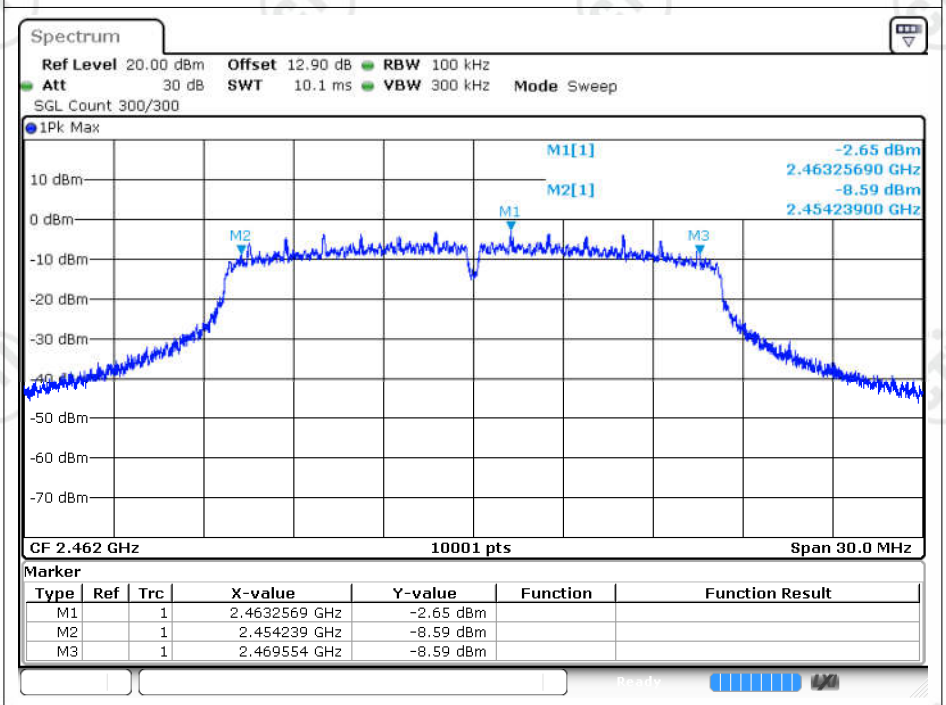
Date: 10.MAR.2023 15:52:43

-6dB Bandwidth NVNT g 2437MHz Ant1



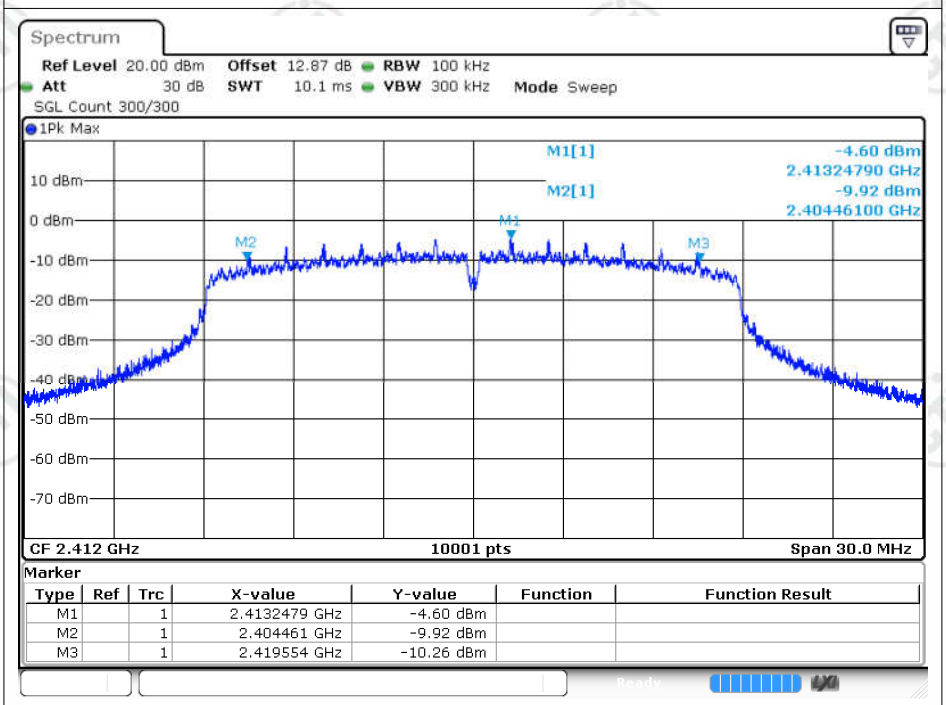
Date: 10.MAR.2023 15:54:32

-6dB Bandwidth NVNT g 2462MHz Ant1



Date: 10.MAR.2023 15:56:32

-6dB Bandwidth NVNT n20 2412MHz Ant1

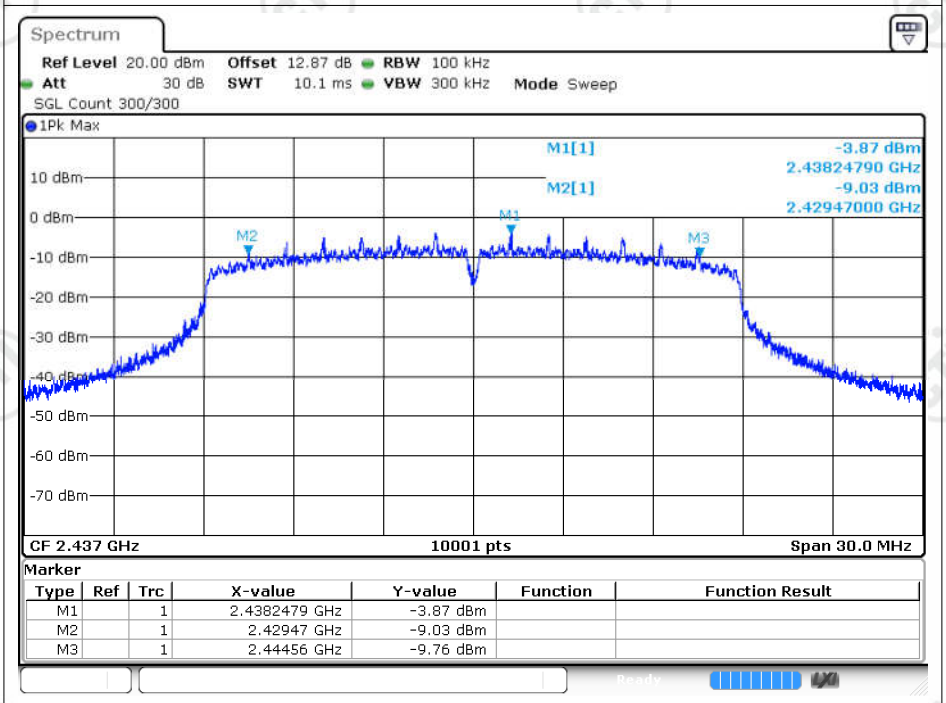


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4132479 GHz	-4.60 dBm		
M2		1	2.404461 GHz	-9.92 dBm		
M3		1	2.419554 GHz	-10.26 dBm		

Date: 10.MAR.2023 15:58:16

-6dB Bandwidth NVNT n20 2437MHz Ant1

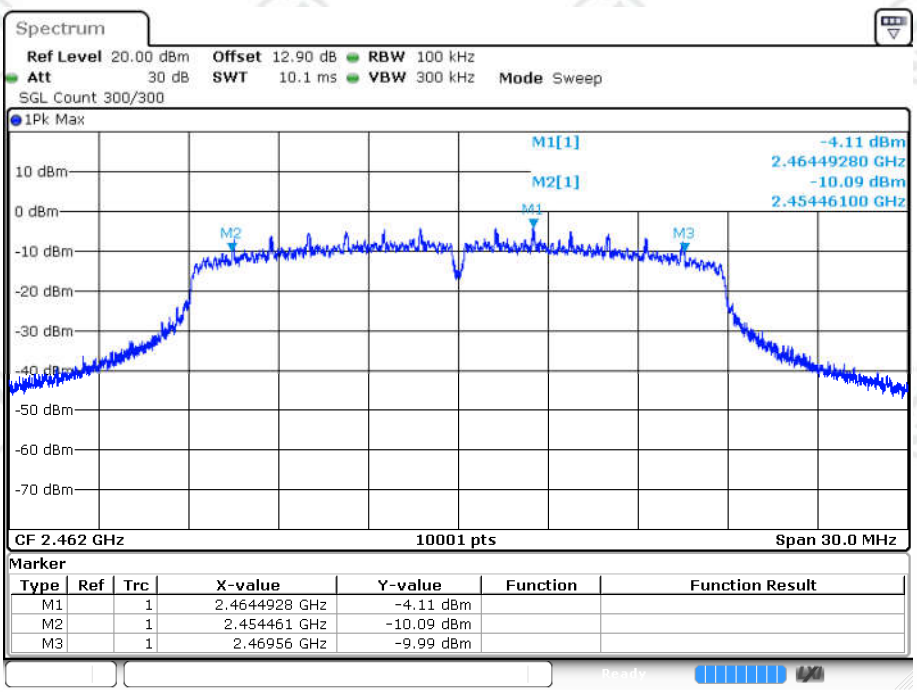


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4382479 GHz	-3.87 dBm		
M2		1	2.42947 GHz	-9.03 dBm		
M3		1	2.44456 GHz	-9.76 dBm		

Date: 10.MAR.2023 15:59:52

-6dB Bandwidth NVNT n20 2462MHz Ant1



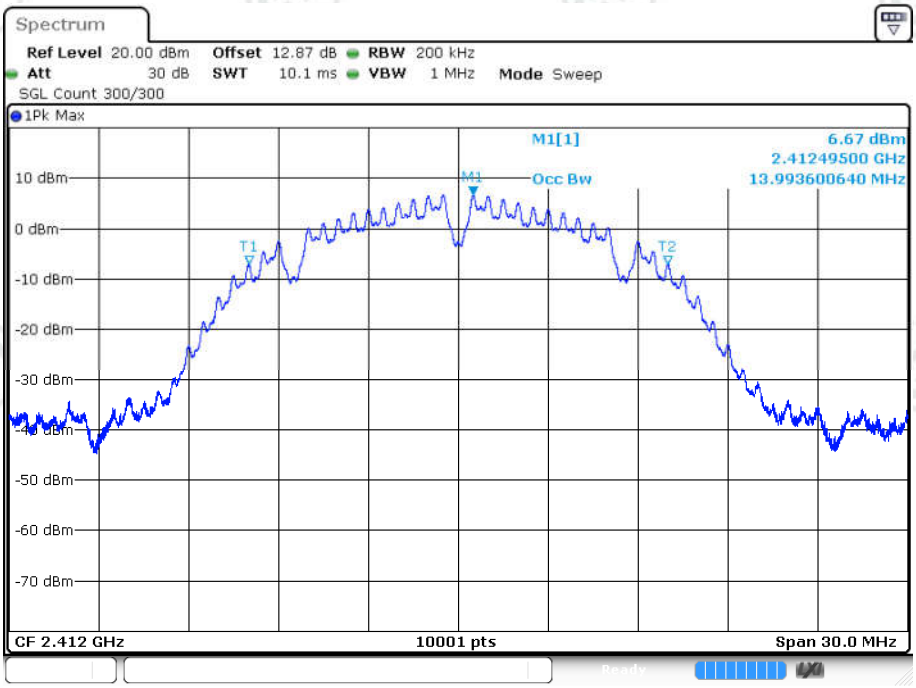
Date: 10.MAR.2023 16:01:50

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	13.994
NVNT	b	2437	Ant1	14.006
NVNT	b	2462	Ant1	14.009
NVNT	g	2412	Ant1	16.309
NVNT	g	2437	Ant1	16.312
NVNT	g	2462	Ant1	16.315
NVNT	n20	2412	Ant1	17.443
NVNT	n20	2437	Ant1	17.446
NVNT	n20	2462	Ant1	17.443

Test Graphs

OBW NVNT b 2412MHz Ant1



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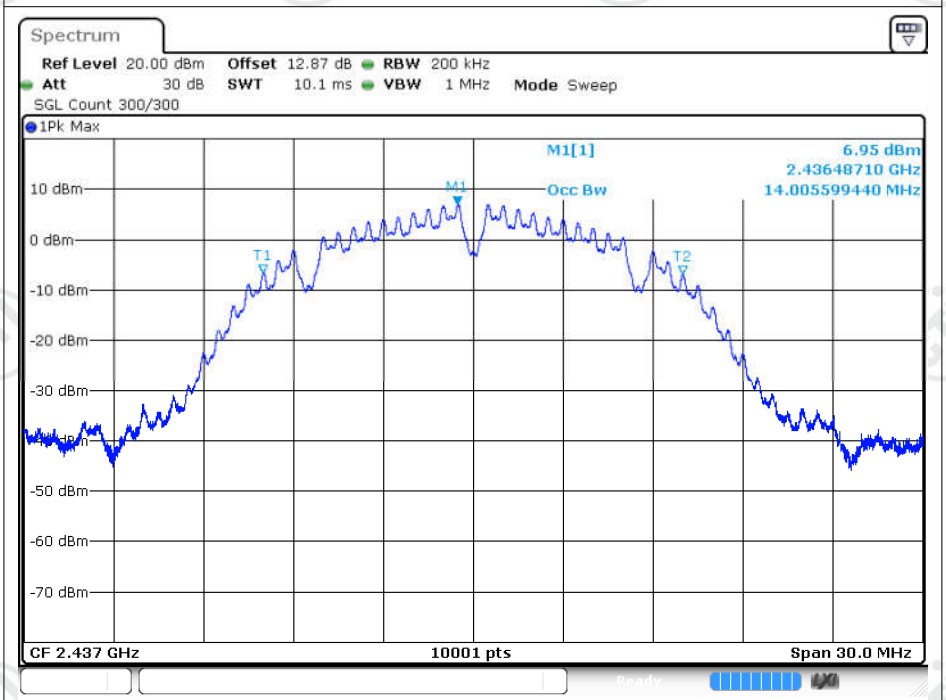
OBW NVNT b 2437MHz Ant1



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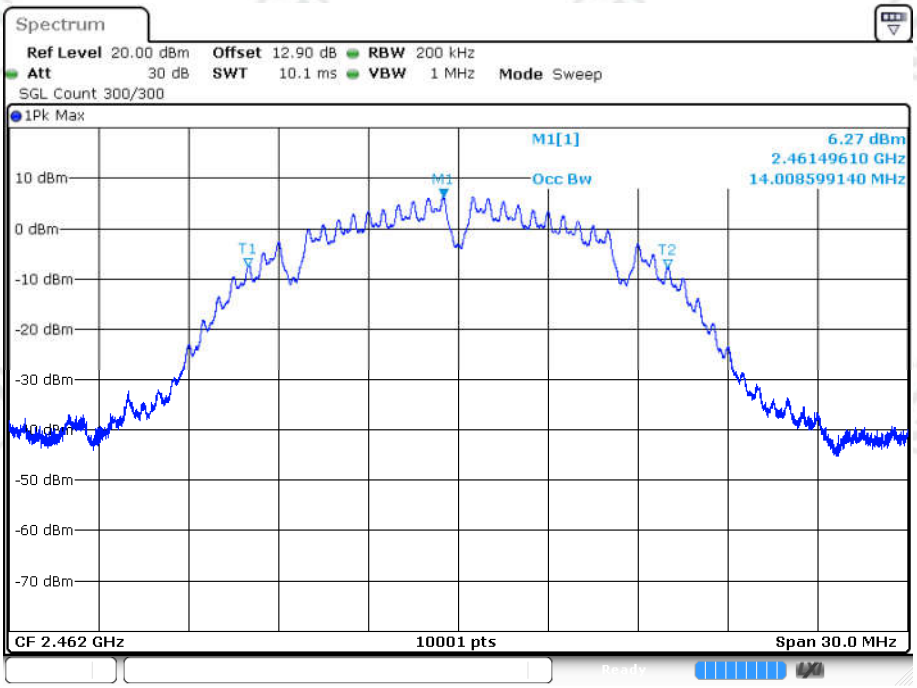
OBW NVNT b 2462MHz Ant1



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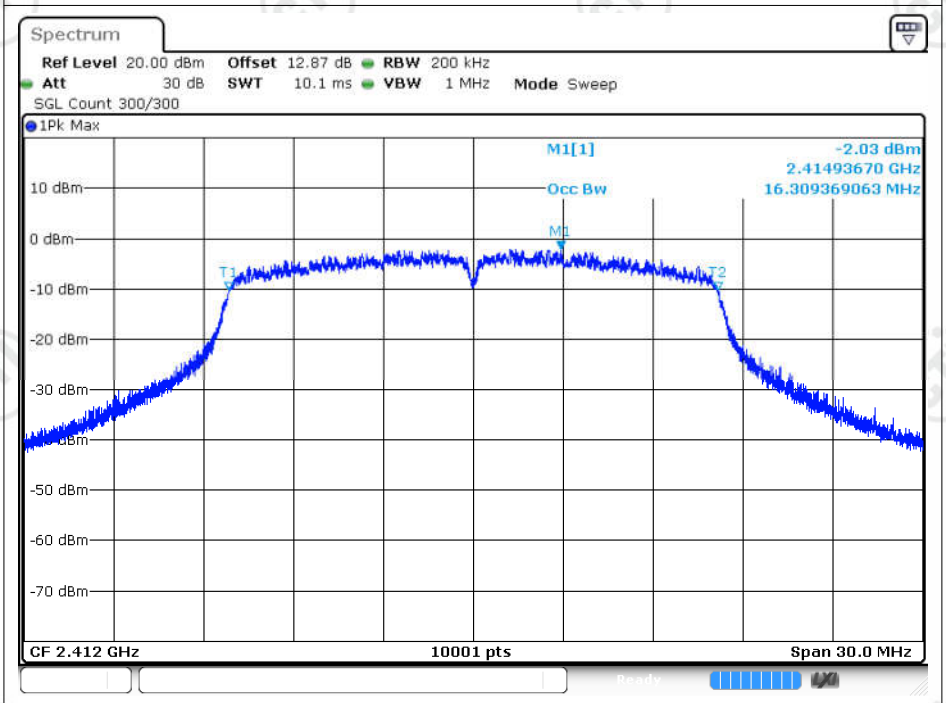
OBW NVNT g 2412MHz Ant1



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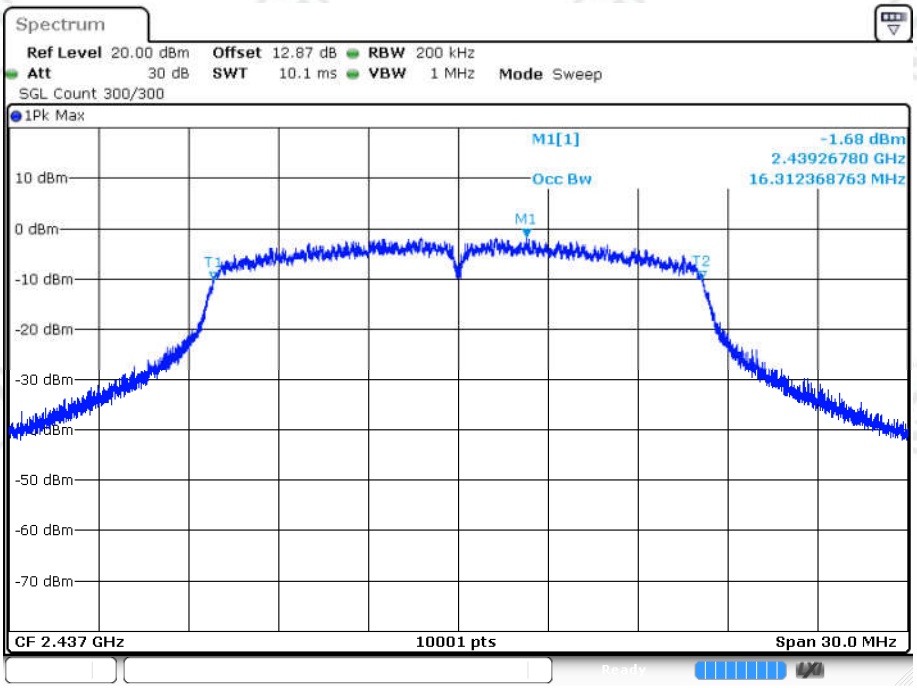
OBW NVNT g 2437MHz Ant1



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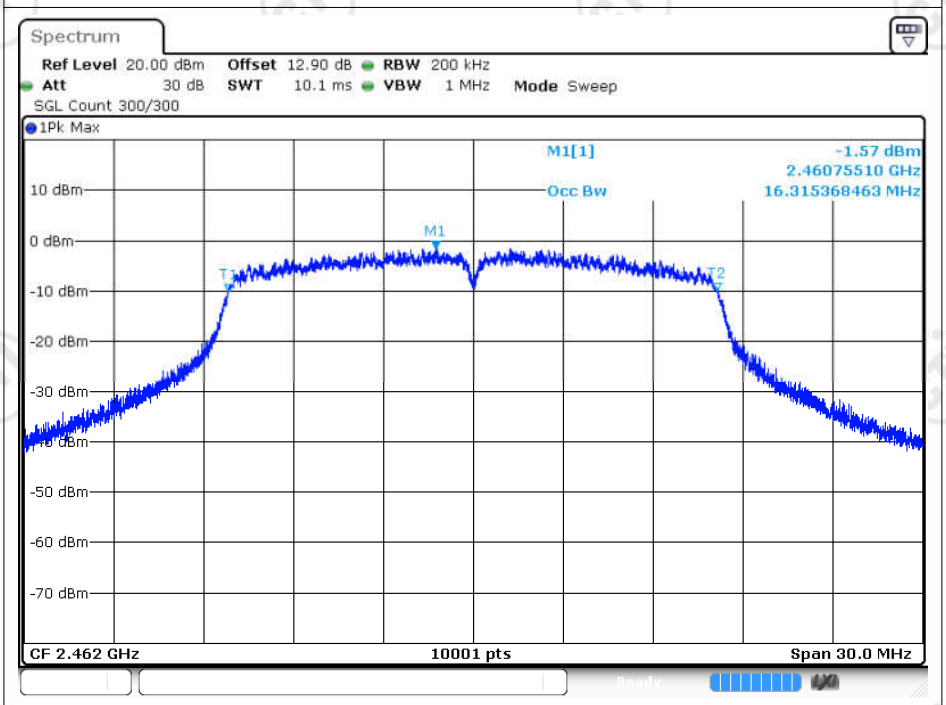
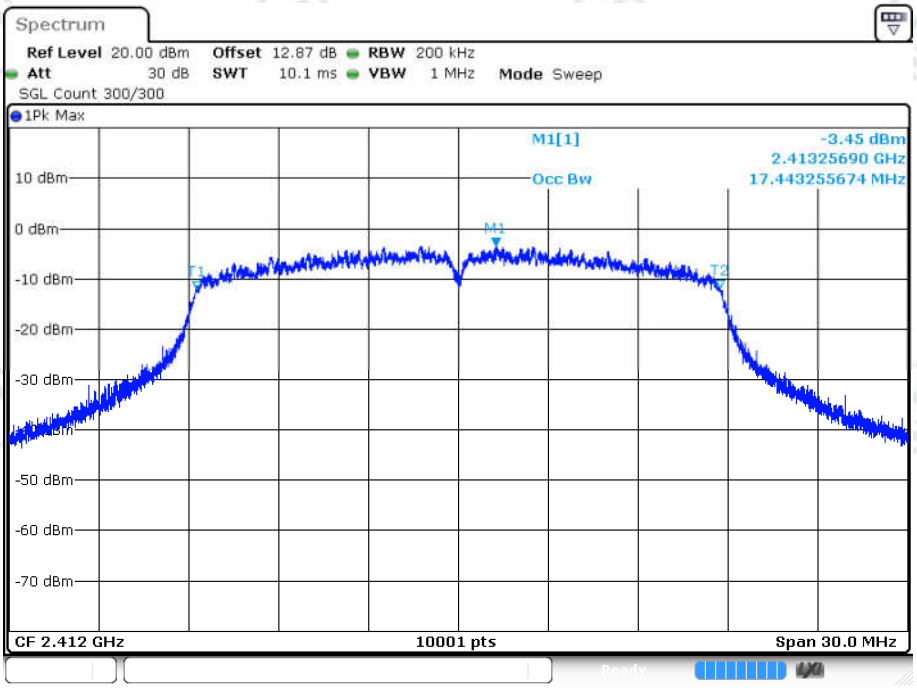
OBW NVNT g 2462MHz Ant1



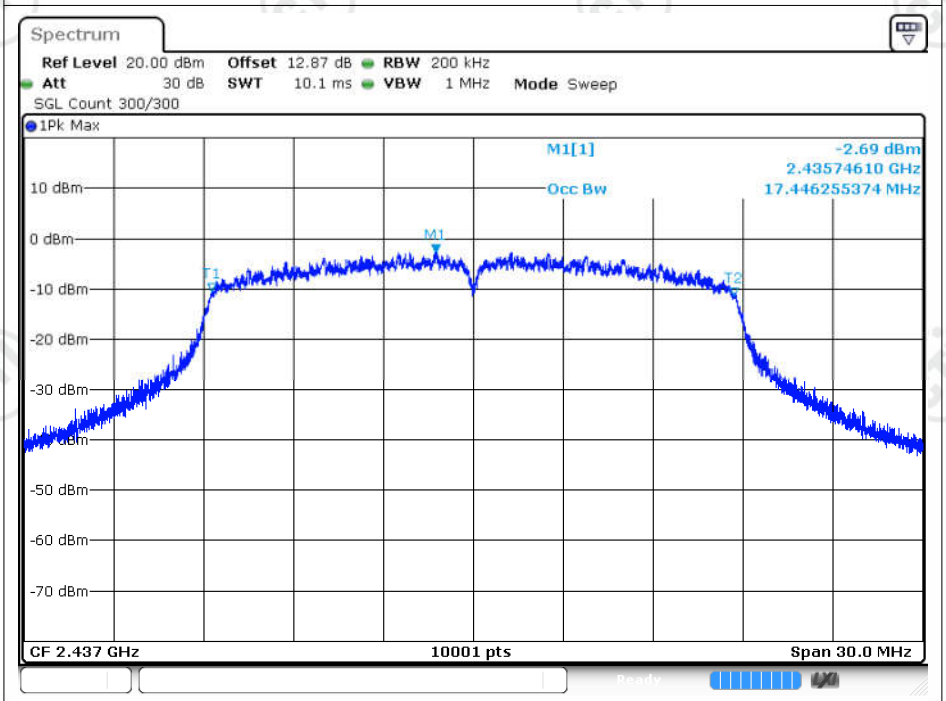
Date: 10.MAR.2023 15:56:20

OBW NVNT n20 2412MHz Ant1



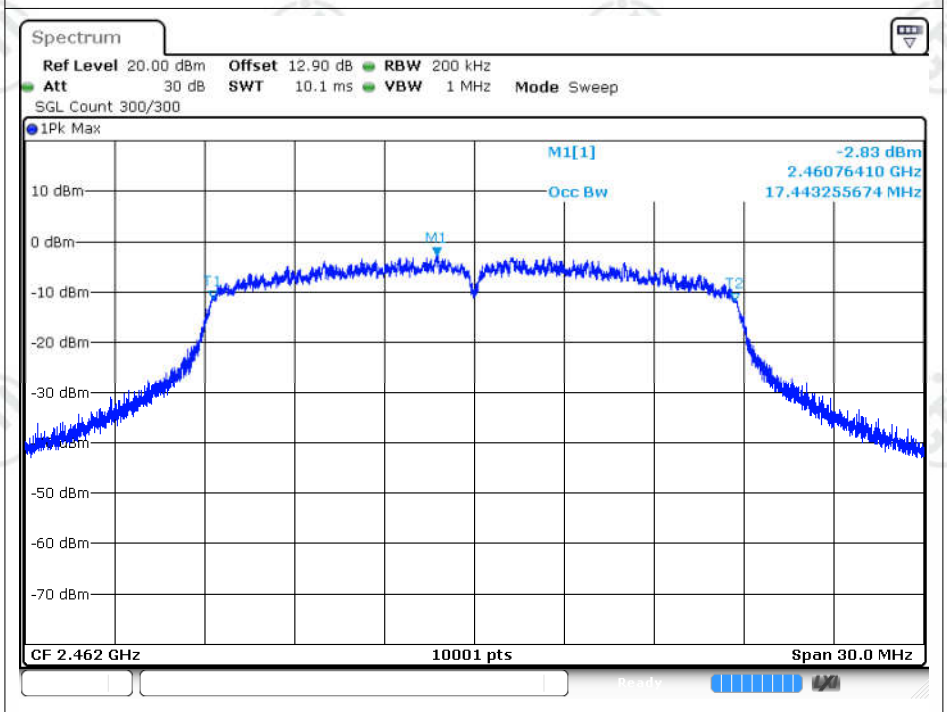
Date: 10.MAR.2023 15:58:06

OBW NVNT n20 2437MHz Ant1



Date: 10.MAR.2023 15:59:41

OBW NVNT n20 2462MHz Ant1

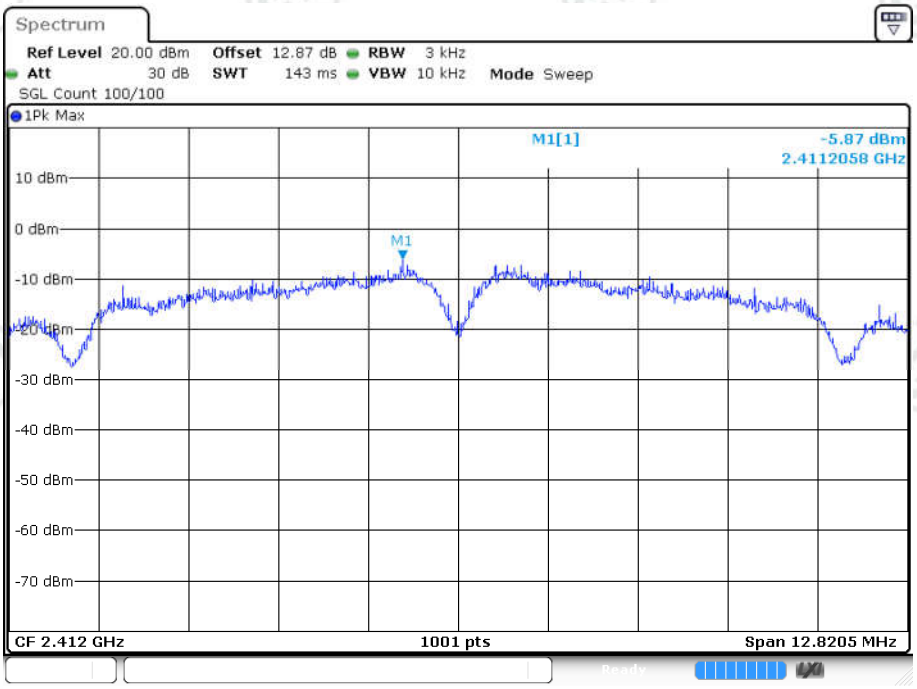


Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-5.87	0	-5.87	8	Pass
NVNT	b	2437	Ant1	-5.76	0	-5.76	8	Pass
NVNT	b	2462	Ant1	-6.98	0	-6.98	8	Pass
NVNT	g	2412	Ant1	-16.86	0	-16.86	8	Pass
NVNT	g	2437	Ant1	-16	0	-16	8	Pass
NVNT	g	2462	Ant1	-16.28	0	-16.28	8	Pass
NVNT	n20	2412	Ant1	-17.64	0	-17.64	8	Pass
NVNT	n20	2437	Ant1	-17.7	0	-17.7	8	Pass
NVNT	n20	2462	Ant1	-18.43	0	-18.43	8	Pass

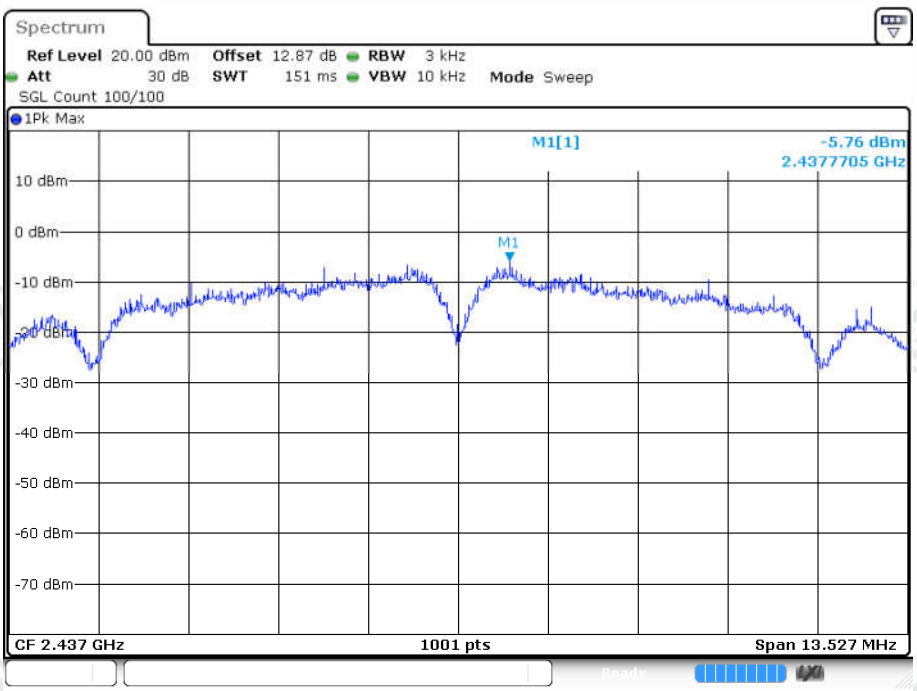
Test Graphs

PSD NVNT b 2412MHz Ant1



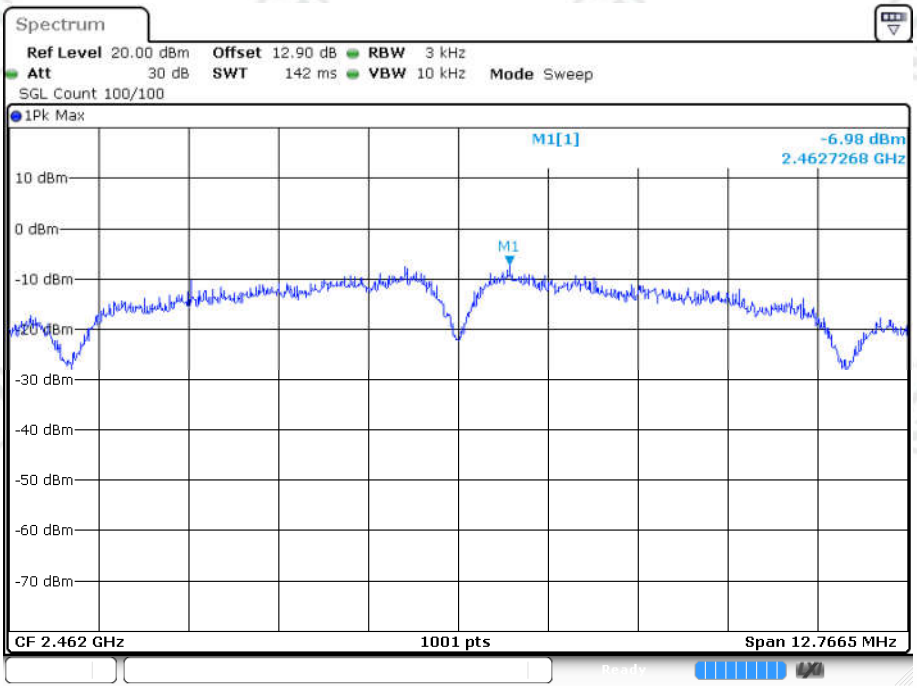
Date: 10.MAR.2023 15:45:04

PSD NVNT b 2437MHz Ant1



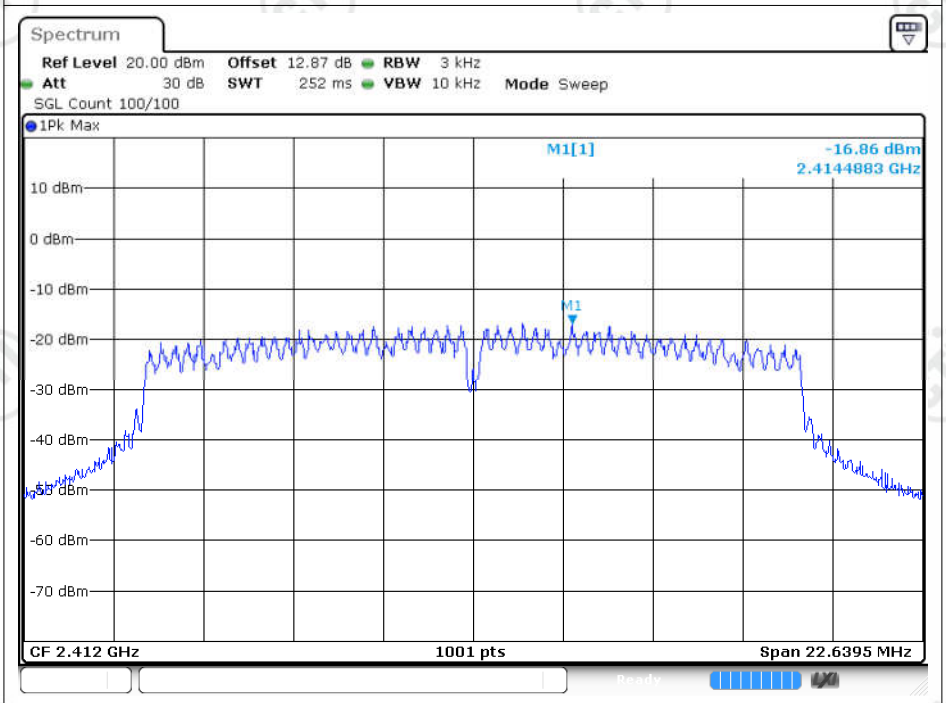
Date: 10.MAR.2023 15:47:14

PSD NVNT b 2462MHz Ant1



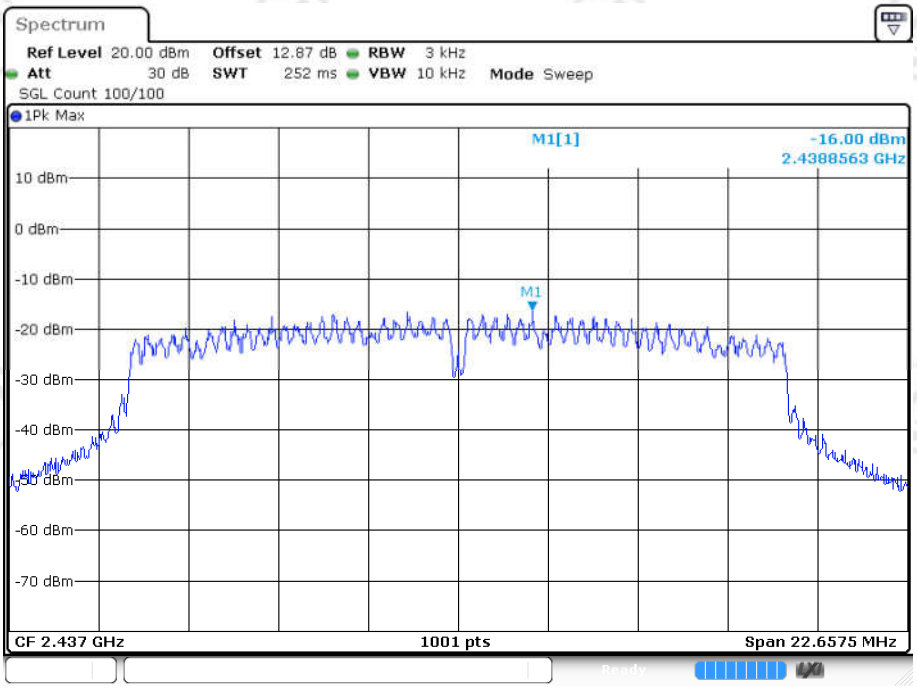
Date: 10.MAR.2023 15:49:04

PSD NVNT g 2412MHz Ant1



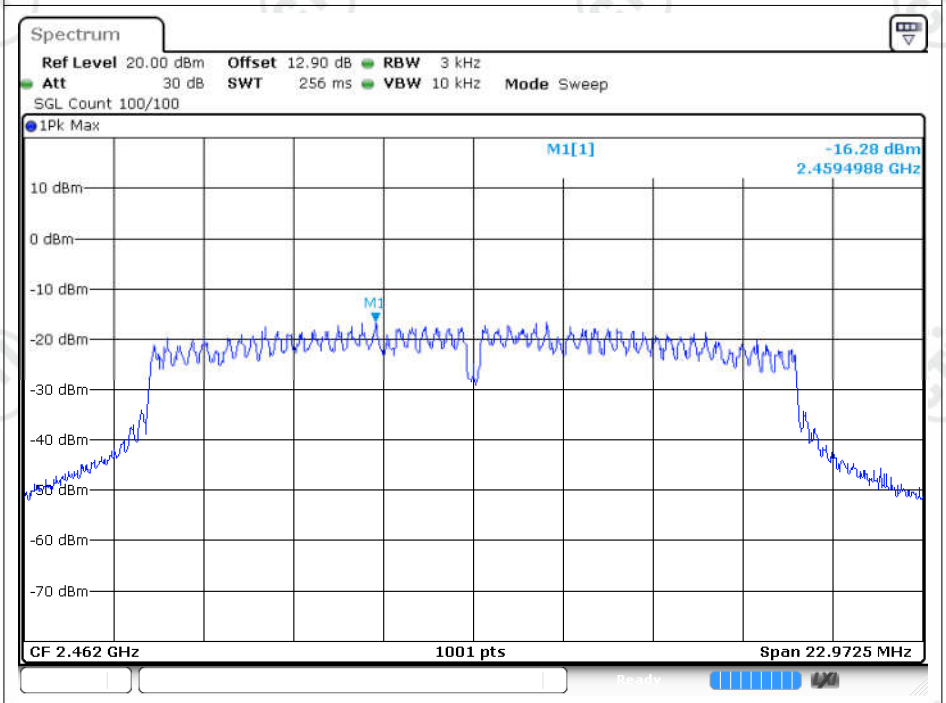
Date: 10.MAR.2023 15:53:17

PSD NVNT g 2437MHz Ant1



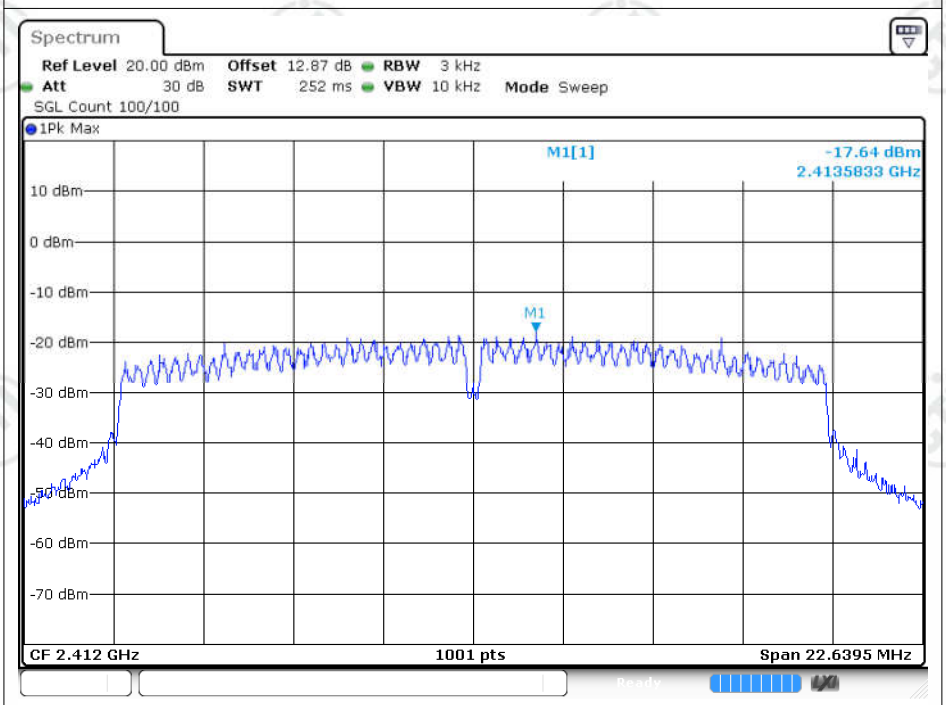
Date: 10.MAR.2023 15:55:25

PSD NVNT g 2462MHz Ant1



Date: 10.MAR.2023 15:57:07

PSD NVNT n20 2412MHz Ant1



Date: 10.MAR.2023 15:58:50

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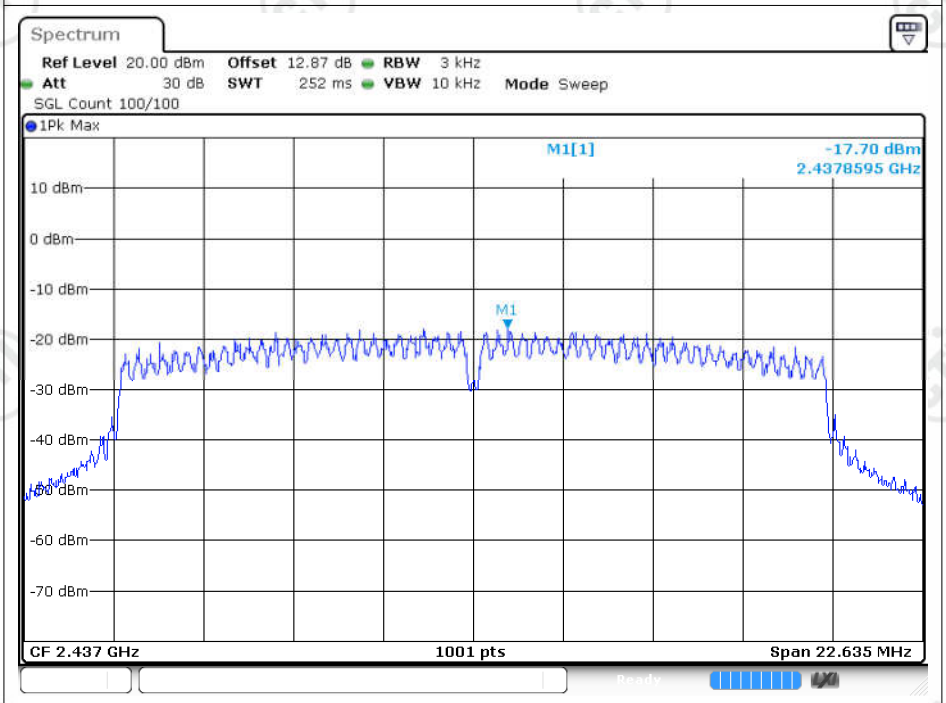
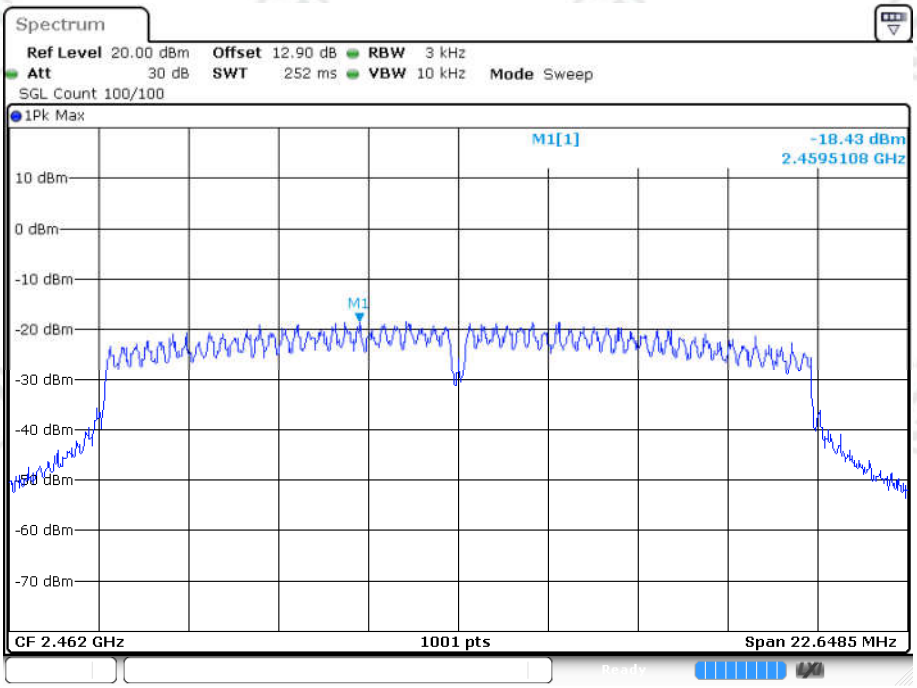


Date: 10.MAR.2023 16:00:45

PSD NVNT n20 2462MHz Ant1

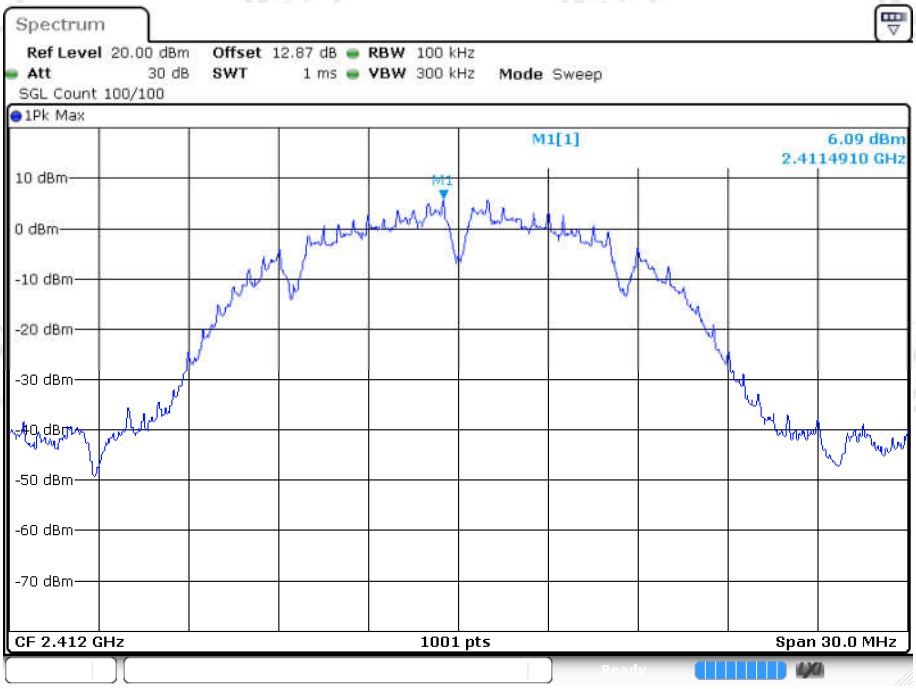


Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-44.39	-20	Pass
NVNT	b	2462	Ant1	-49.77	-20	Pass
NVNT	g	2412	Ant1	-35.05	-20	Pass
NVNT	g	2462	Ant1	-41.41	-20	Pass
NVNT	n20	2412	Ant1	-33.74	-20	Pass
NVNT	n20	2462	Ant1	-41.4	-20	Pass

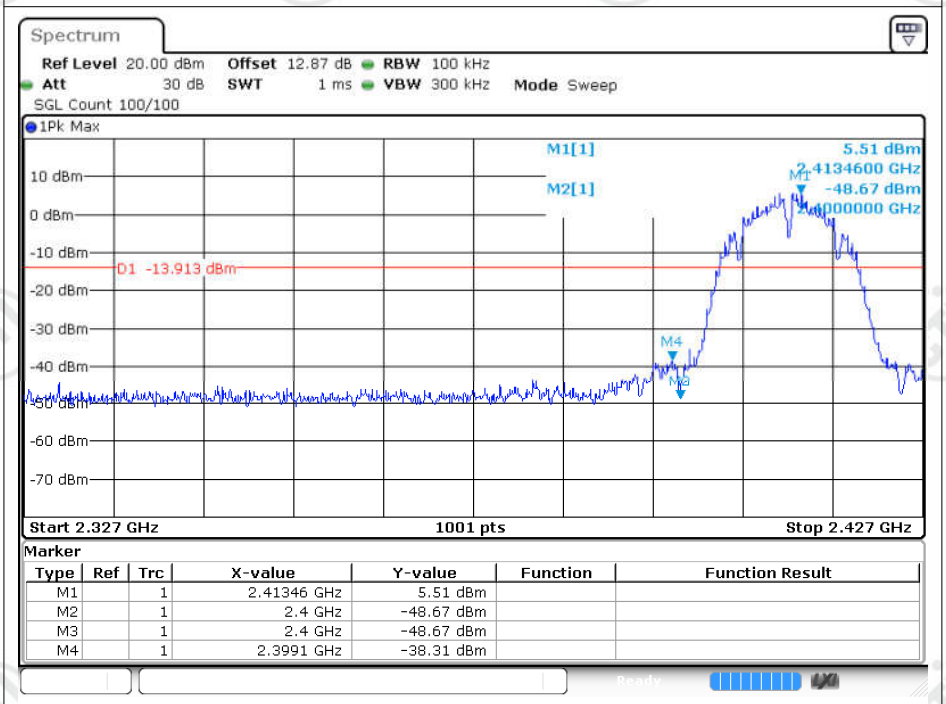
Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



Date: 10.MAR.2023 15:45:07

Band Edge NVNT b 2412MHz Ant1 Emission

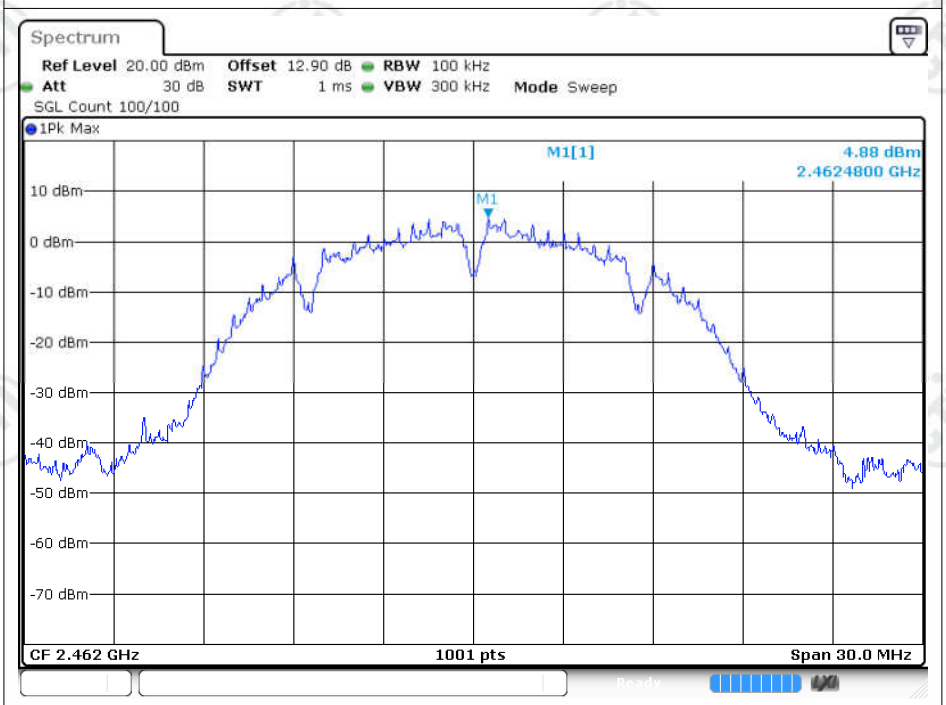


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41346 GHz	5.51 dBm		
M2		1	2.4 GHz	-48.67 dBm		
M3		1	2.4 GHz	-48.67 dBm		
M4		1	2.3991 GHz	-38.31 dBm		

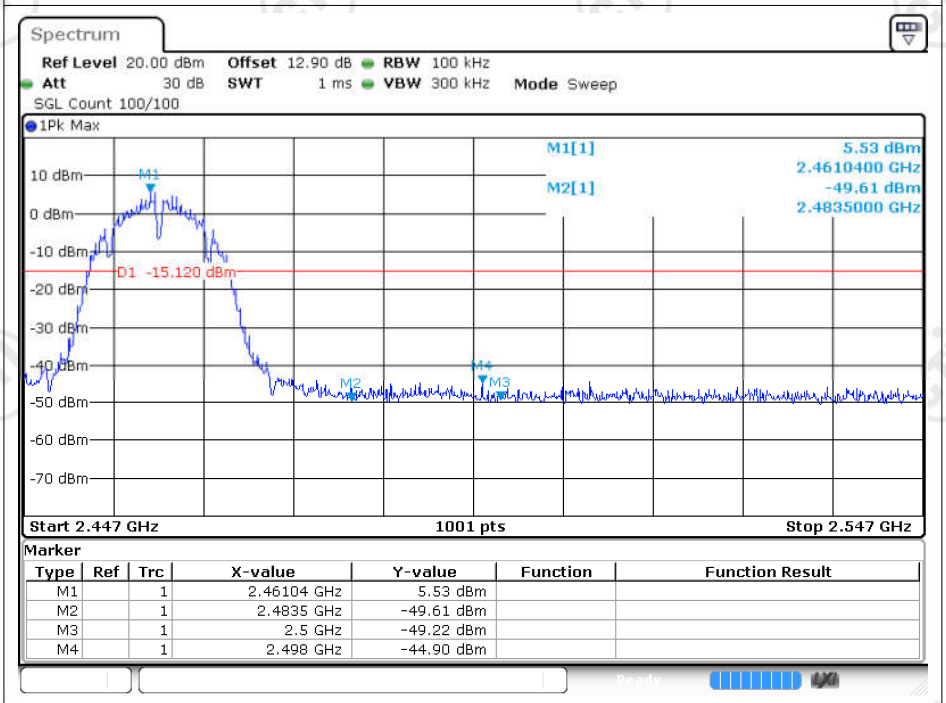
Date: 10.MAR.2023 15:45:09

Band Edge NVNT b 2462MHz Ant1 Ref



Date: 10.MAR.2023 15:49:08

Band Edge NVNT b 2462MHz Ant1 Emission

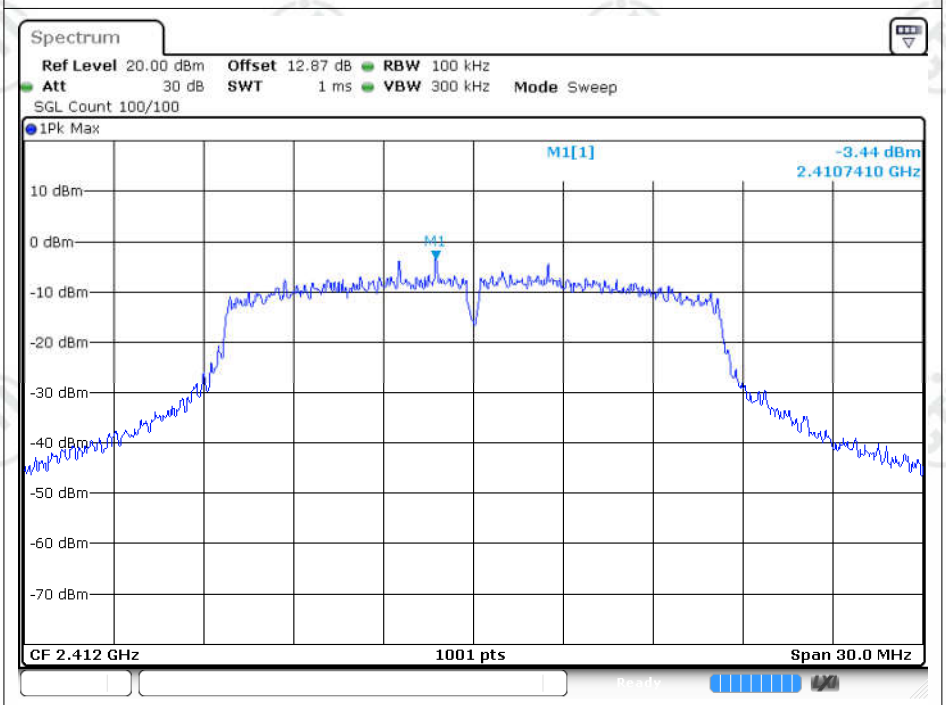


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46104 GHz	5.53 dBm		
M2		1	2.4835 GHz	-49.61 dBm		
M3		1	2.5 GHz	-49.22 dBm		
M4		1	2.498 GHz	-44.90 dBm		

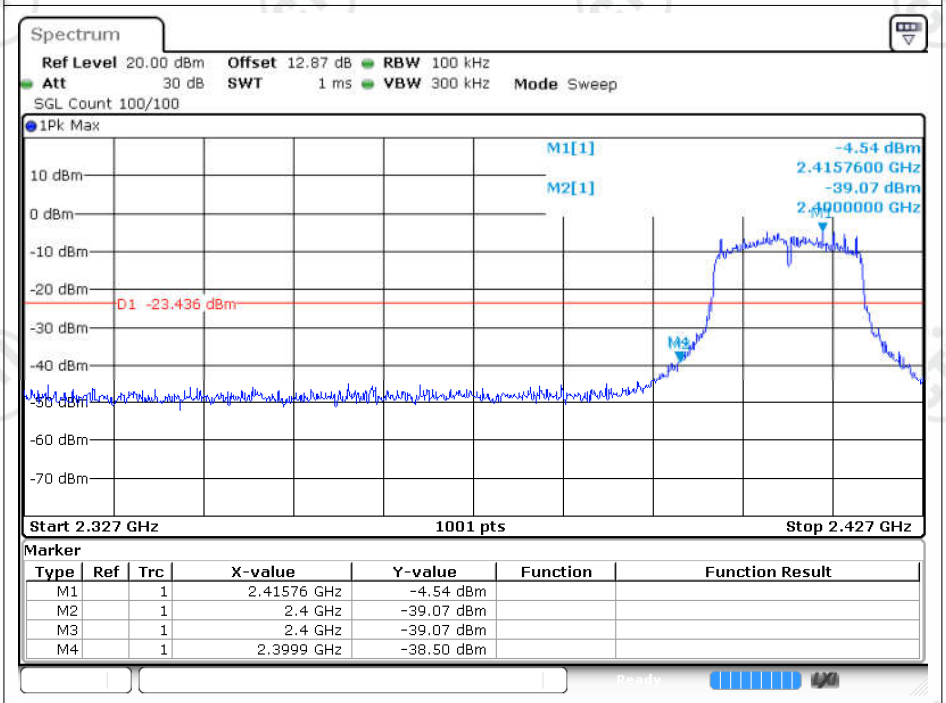
Date: 10.MAR.2023 15:49:10

Band Edge NVNT g 2412MHz Ant1 Ref



Date: 10.MAR.2023 15:53:21

Band Edge NVNT g 2412MHz Ant1 Emission

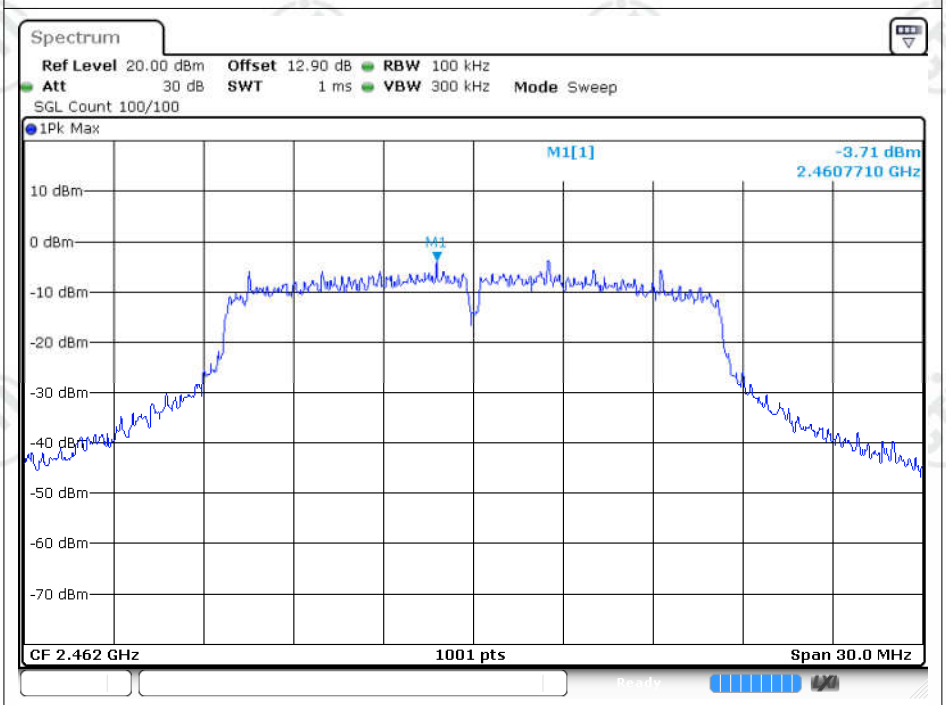


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41576 GHz	-4.54 dBm		
M2		1	2.4 GHz	-39.07 dBm		
M3		1	2.4 GHz	-39.07 dBm		
M4		1	2.3999 GHz	-38.50 dBm		

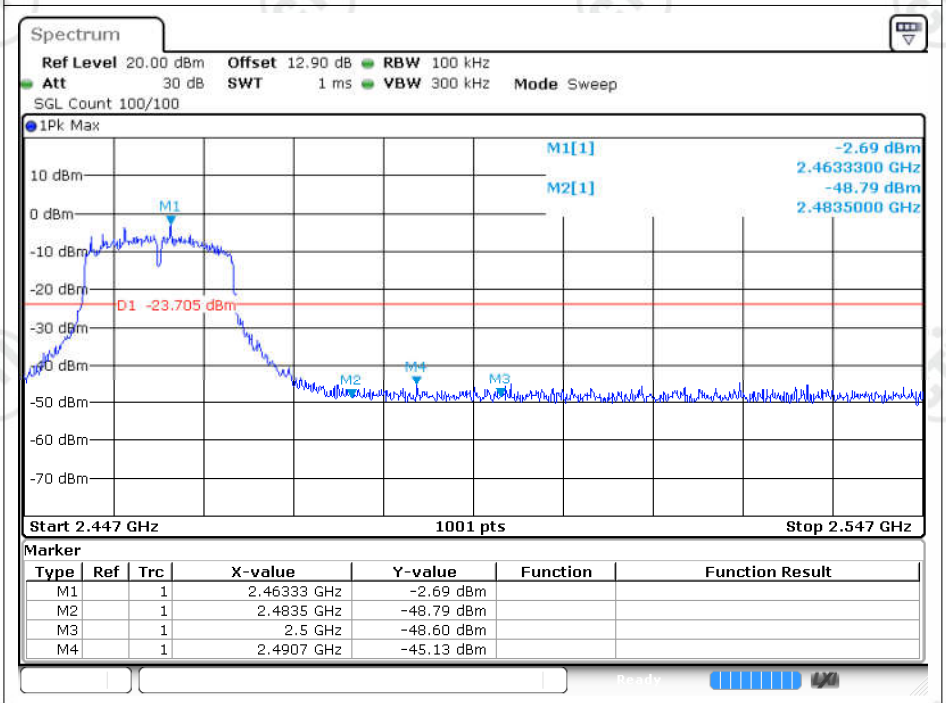
Date: 10.MAR.2023 15:53:22

Band Edge NVNT g 2462MHz Ant1 Ref



Date: 10.MAR.2023 15:57:11

Band Edge NVNT g 2462MHz Ant1 Emission

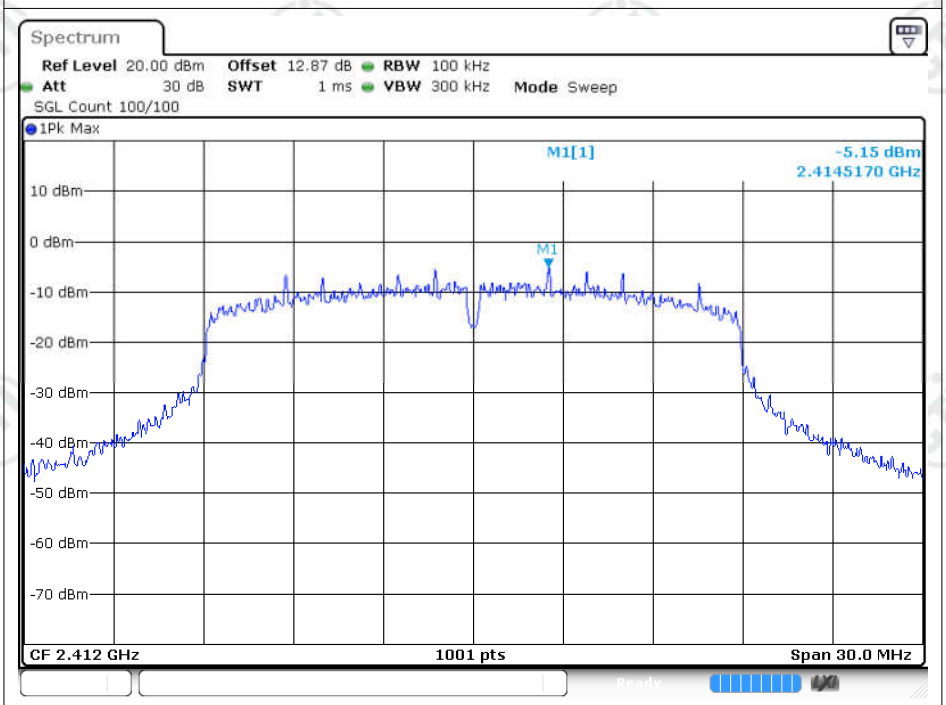


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46333 GHz	-2.69 dBm		
M2		1	2.4835 GHz	-48.79 dBm		
M3		1	2.5 GHz	-48.60 dBm		
M4		1	2.4907 GHz	-45.13 dBm		

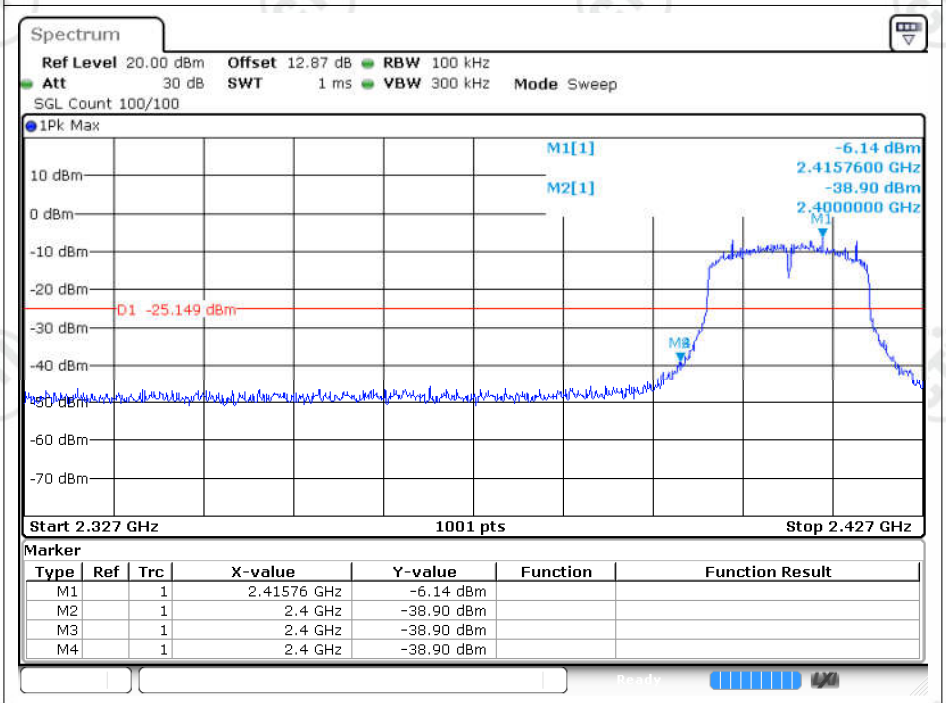
Date: 10.MAR.2023 15:57:12

Band Edge NVNT n20 2412MHz Ant1 Ref



Date: 10.MAR.2023 15:58:54

Band Edge NVNT n20 2412MHz Ant1 Emission

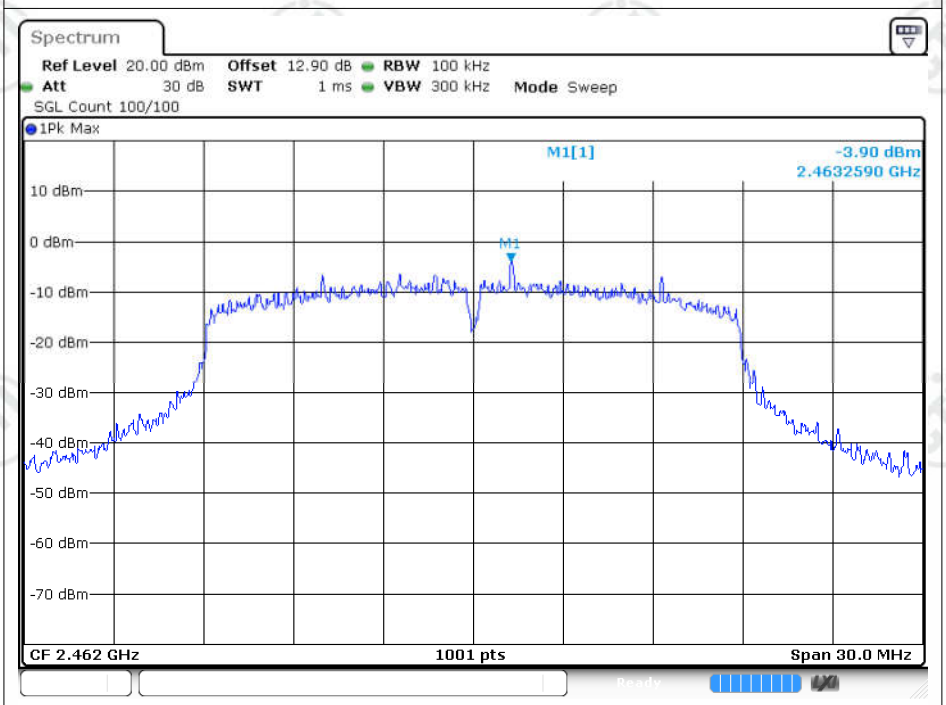


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41576 GHz	-6.14 dBm		
M2		1	2.4 GHz	-38.90 dBm		
M3		1	2.4 GHz	-38.90 dBm		
M4		1	2.4 GHz	-38.90 dBm		

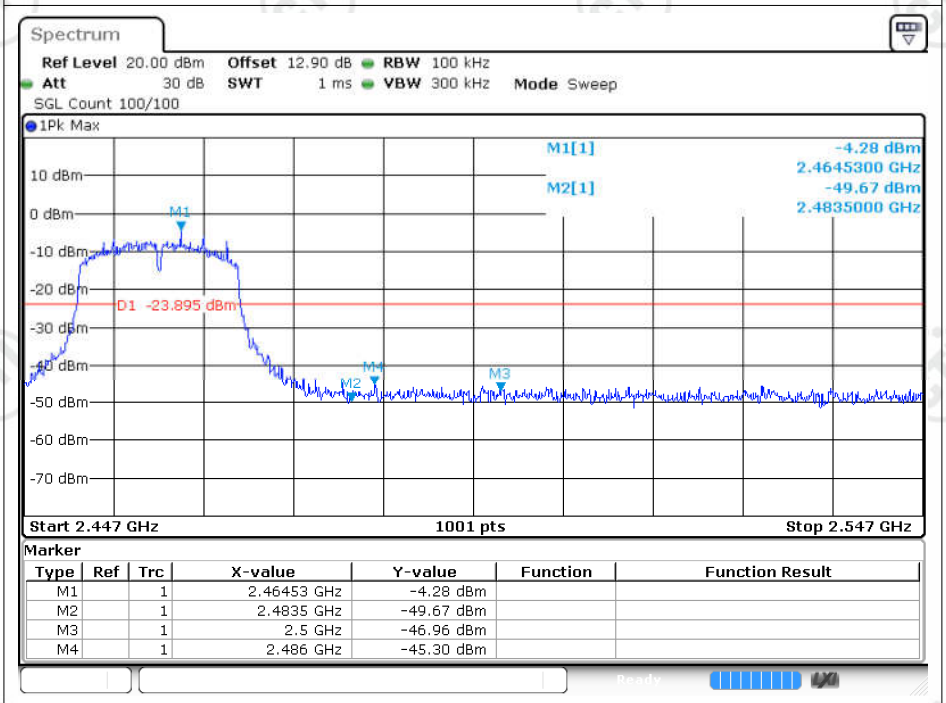
Date: 10.MAR.2023 15:58:55

Band Edge NVNT n20 2462MHz Ant1 Ref



Date: 10.MAR.2023 16:02:28

Band Edge NVNT n20 2462MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46453 GHz	-4.28 dBm		
M2		1	2.4835 GHz	-49.67 dBm		
M3		1	2.5 GHz	-46.96 dBm		
M4		1	2.486 GHz	-45.30 dBm		

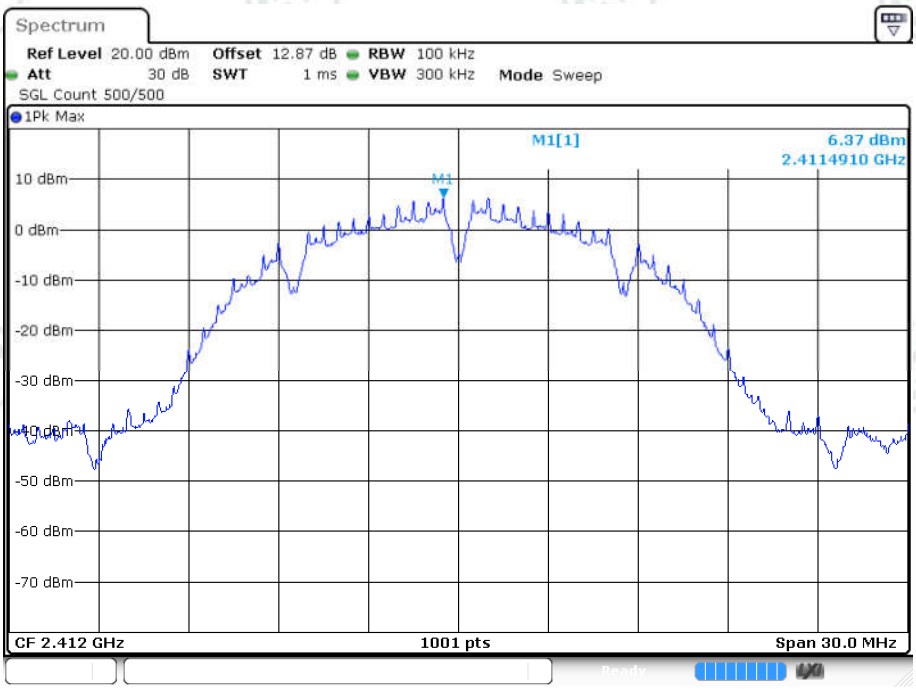
Date: 10.MAR.2023 16:02:29

Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-44.61	-20	Pass
NVNT	b	2437	Ant1	-45.37	-20	Pass
NVNT	b	2462	Ant1	-44.67	-20	Pass
NVNT	g	2412	Ant1	-35.24	-20	Pass
NVNT	g	2437	Ant1	-36.15	-20	Pass
NVNT	g	2462	Ant1	-36.03	-20	Pass
NVNT	n20	2412	Ant1	-33.98	-20	Pass
NVNT	n20	2437	Ant1	-34.71	-20	Pass
NVNT	n20	2462	Ant1	-34.61	-20	Pass

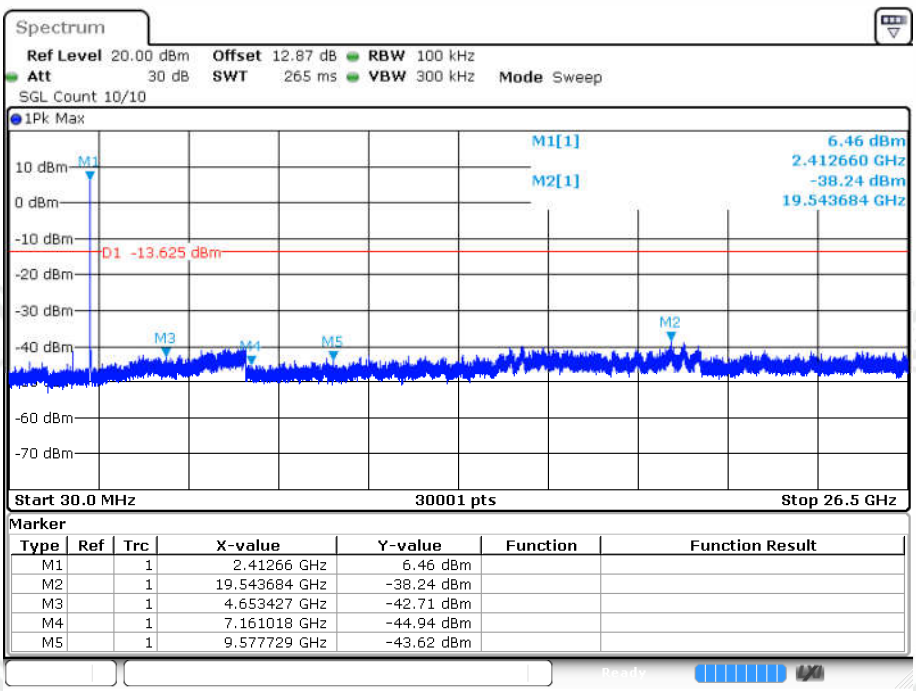
Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref



Date: 10.MAR.2023 15:45:16

Tx. Spurious NVNT b 2412MHz Ant1 Emission

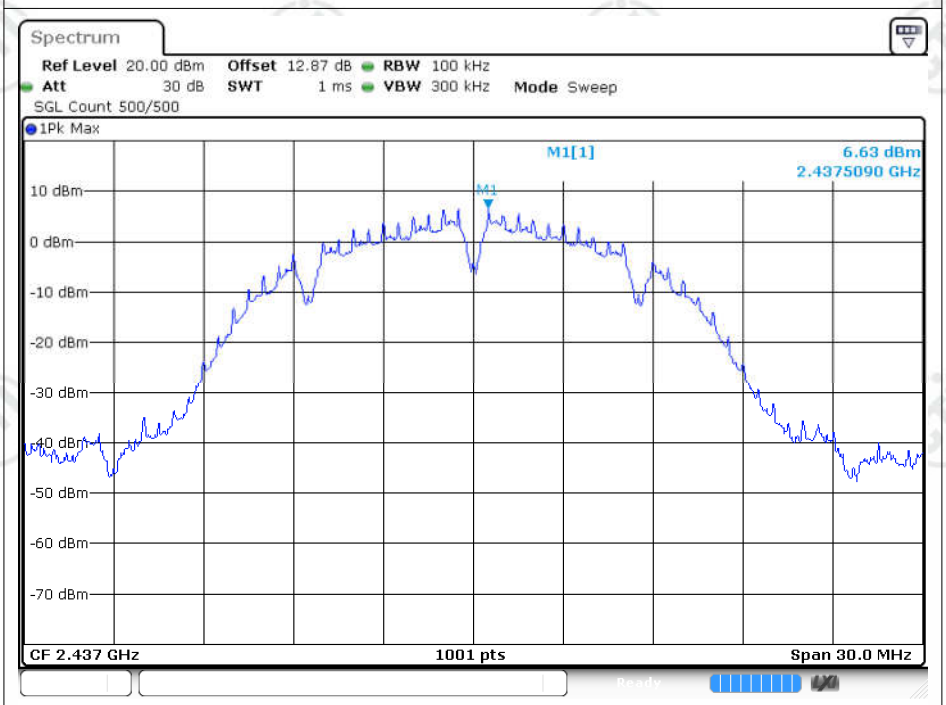


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41266 GHz	6.46 dBm		
M2		1	19.543684 GHz	-38.24 dBm		
M3		1	4.653427 GHz	-42.71 dBm		
M4		1	7.161018 GHz	-44.94 dBm		
M5		1	9.577729 GHz	-43.62 dBm		

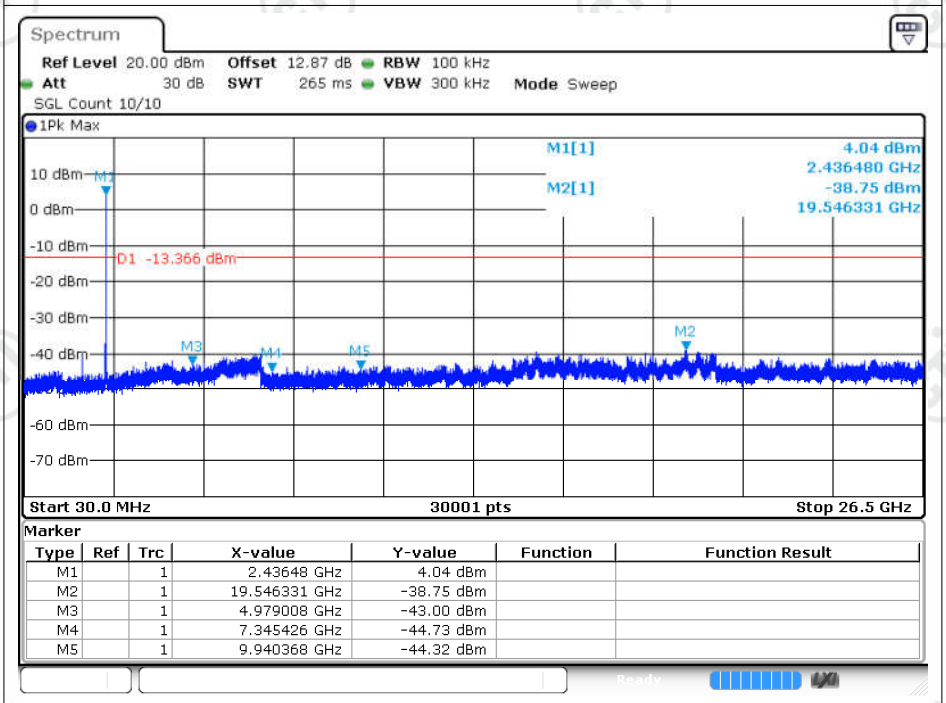
Date: 10.MAR.2023 15:45:27

Tx. Spurious NVNT b 2437MHz Ant1 Ref



Date: 10.MAR.2023 15:46:41

Tx. Spurious NVNT b 2437MHz Ant1 Emission

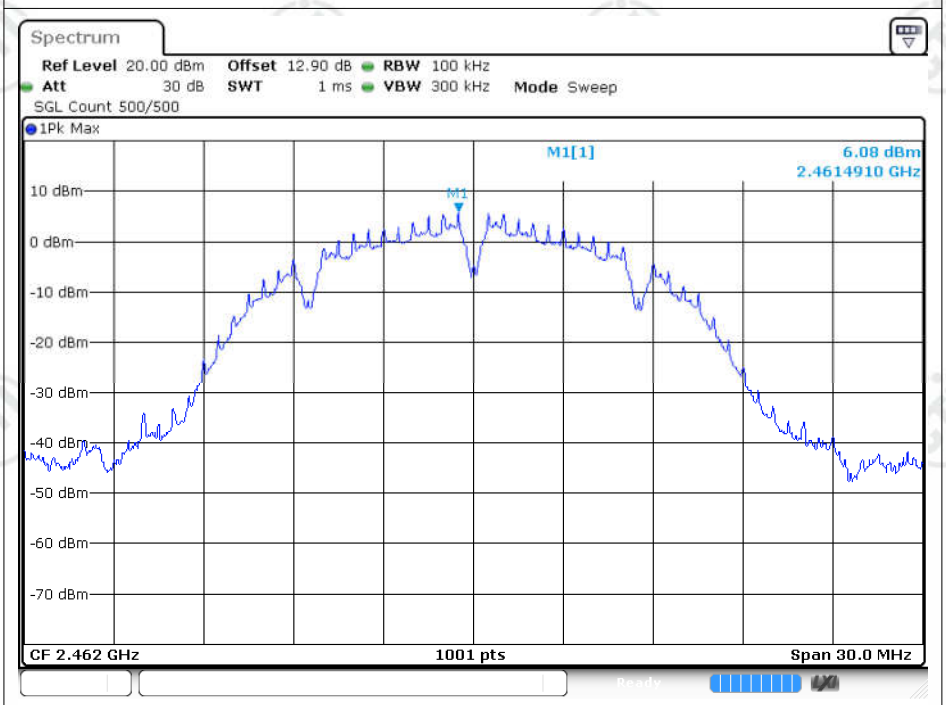


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43648 GHz	4.04 dBm		
M2		1	19.546331 GHz	-38.75 dBm		
M3		1	4.979008 GHz	-43.00 dBm		
M4		1	7.345426 GHz	-44.73 dBm		
M5		1	9.940368 GHz	-44.32 dBm		

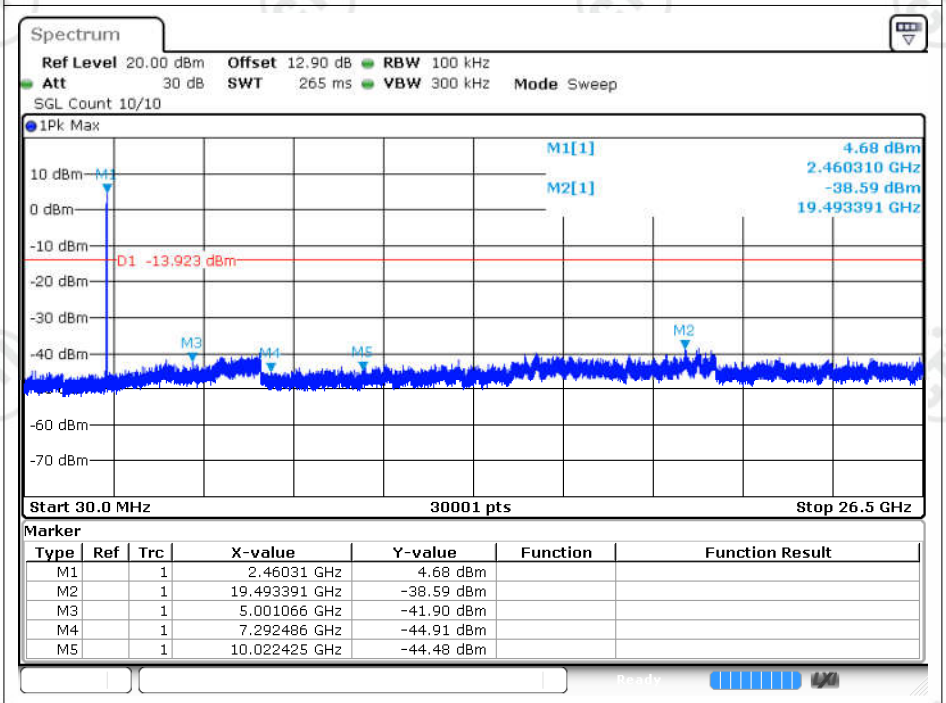
Date: 10.MAR.2023 15:46:52

Tx. Spurious NVNT b 2462MHz Ant1 Ref



Date: 10.MAR.2023 15:49:20

Tx. Spurious NVNT b 2462MHz Ant1 Emission

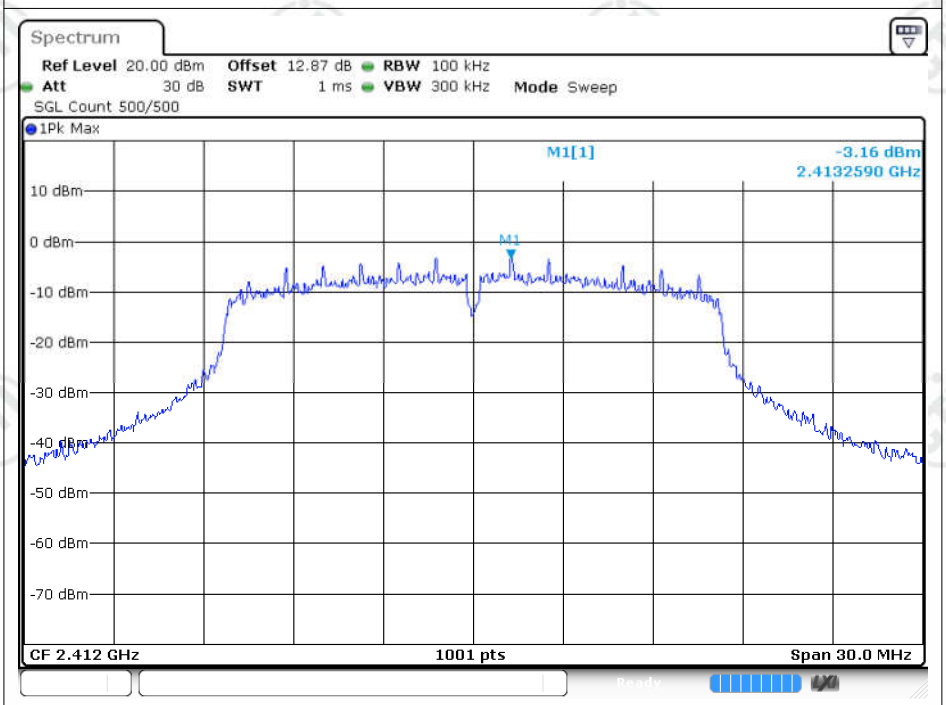


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46031 GHz	4.68 dBm		
M2		1	19.493391 GHz	-38.59 dBm		
M3		1	5.001066 GHz	-41.90 dBm		
M4		1	7.292486 GHz	-44.91 dBm		
M5		1	10.022425 GHz	-44.48 dBm		

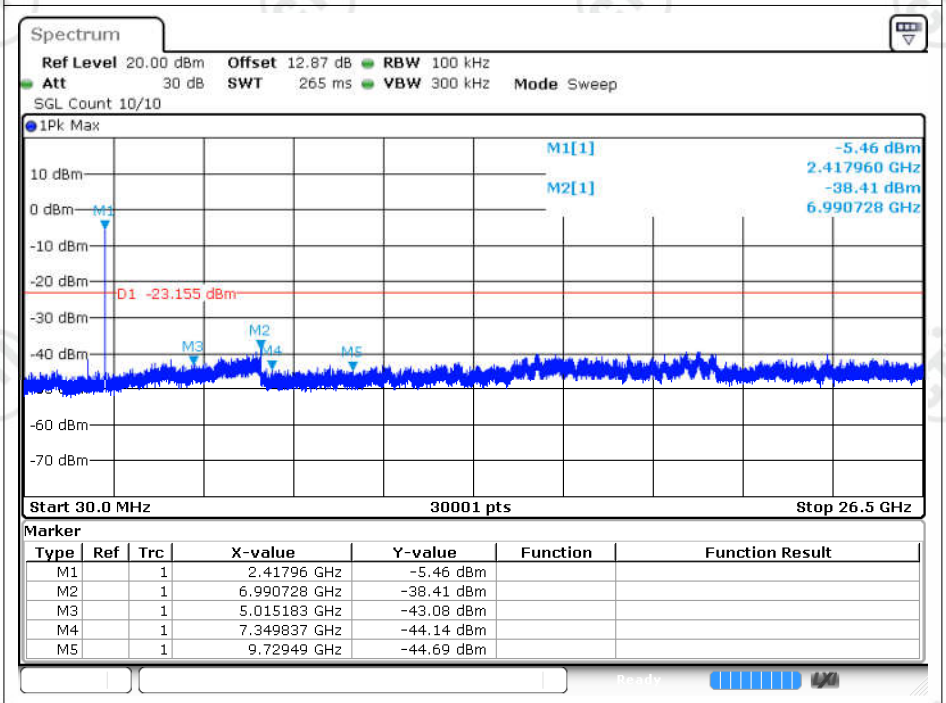
Date: 10.MAR.2023 15:49:30

Tx. Spurious NVNT g 2412MHz Ant1 Ref



Date: 10.MAR.2023 15:53:30

Tx. Spurious NVNT g 2412MHz Ant1 Emission

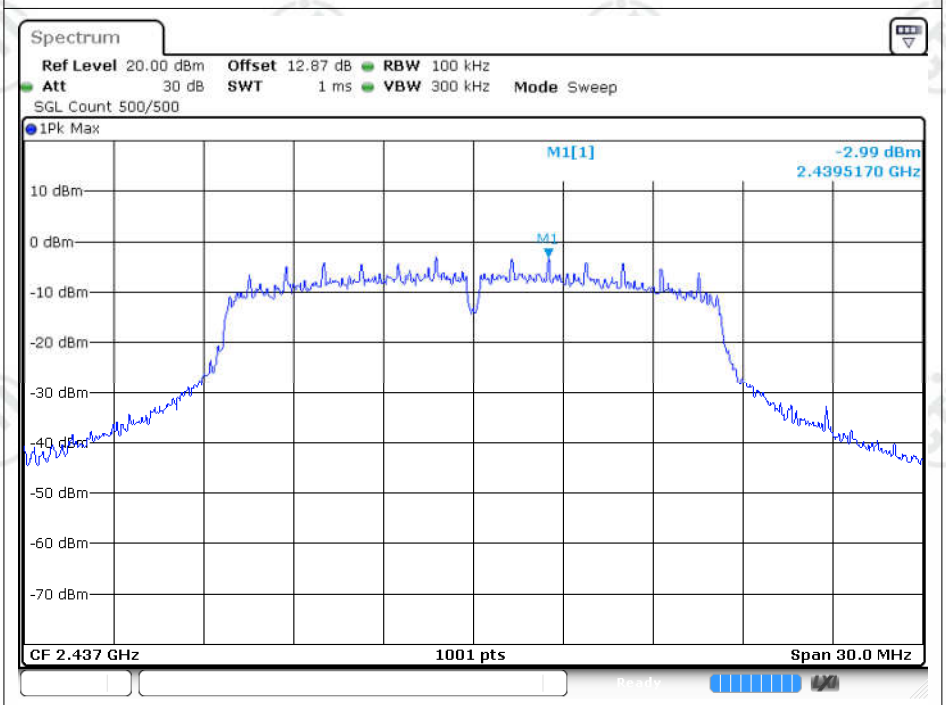


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41796 GHz	-5.46 dBm		
M2		1	6.990728 GHz	-38.41 dBm		
M3		1	5.015183 GHz	-43.08 dBm		
M4		1	7.349837 GHz	-44.14 dBm		
M5		1	9.72949 GHz	-44.69 dBm		

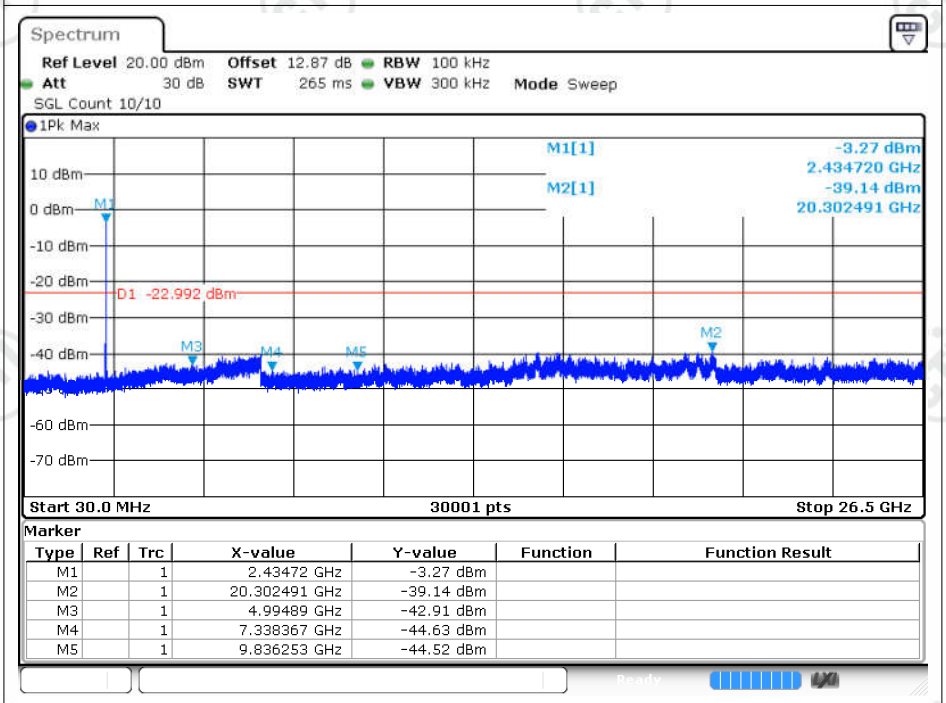
Date: 10.MAR.2023 15:53:41

Tx. Spurious NVNT g 2437MHz Ant1 Ref



Date: 10.MAR.2023 15:54:40

Tx. Spurious NVNT g 2437MHz Ant1 Emission

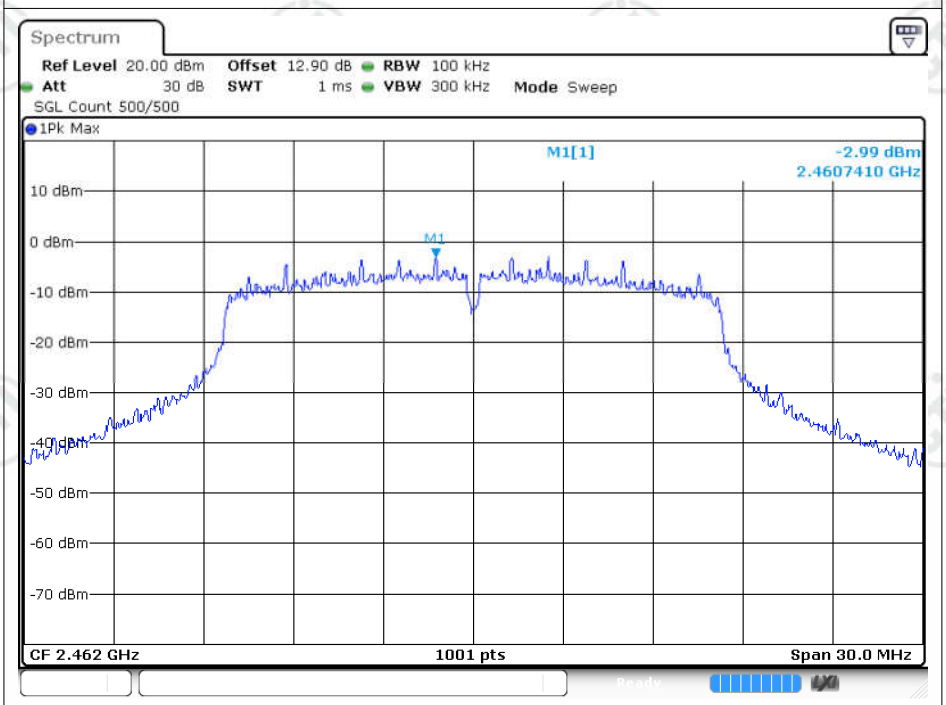


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43472 GHz	-3.27 dBm		
M2		1	20.302491 GHz	-39.14 dBm		
M3		1	4.99489 GHz	-42.91 dBm		
M4		1	7.338367 GHz	-44.63 dBm		
M5		1	9.836253 GHz	-44.52 dBm		

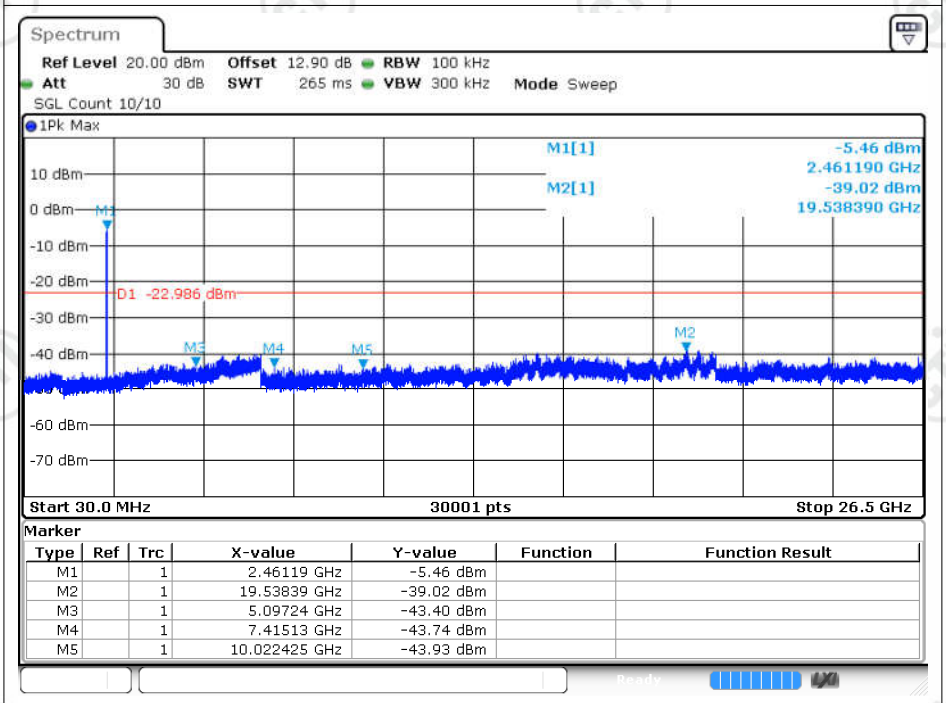
Date: 10.MAR.2023 15:54:51

Tx. Spurious NVNT g 2462MHz Ant1 Ref



Date: 10.MAR.2023 15:57:22

Tx. Spurious NVNT g 2462MHz Ant1 Emission

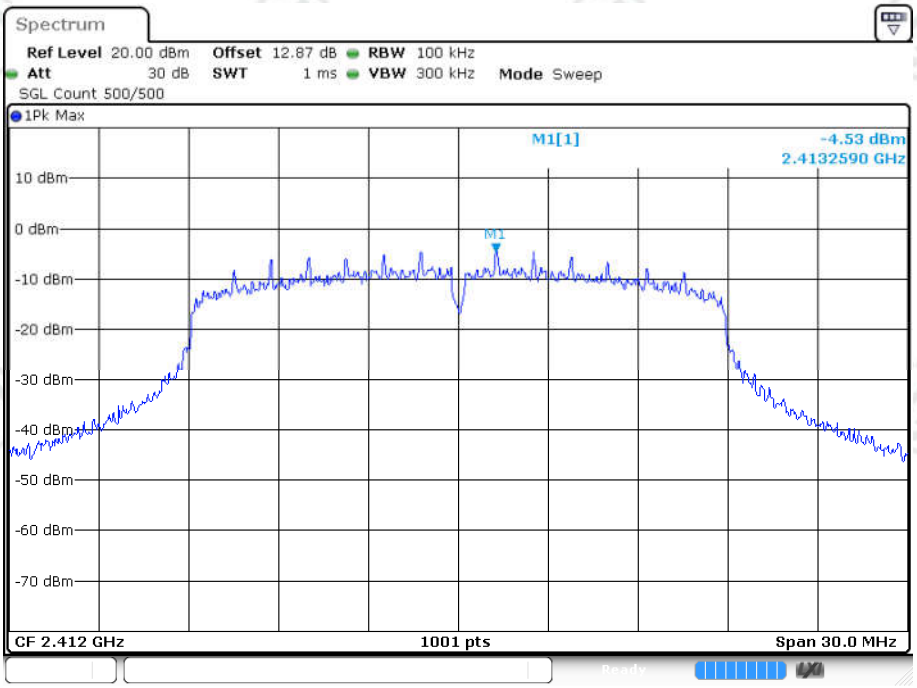


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46119 GHz	-5.46 dBm		
M2		1	19.53839 GHz	-39.02 dBm		
M3		1	5.09724 GHz	-43.40 dBm		
M4		1	7.41513 GHz	-43.74 dBm		
M5		1	10.022425 GHz	-43.93 dBm		

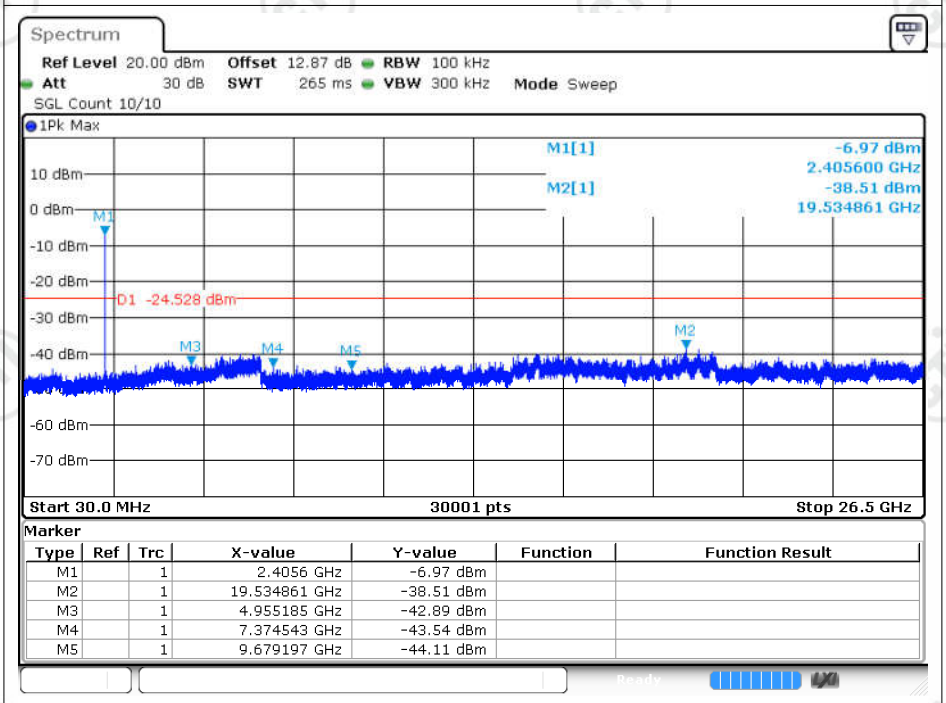
Date: 10.MAR.2023 15:57:33

Tx. Spurious NVNT n20 2412MHz Ant1 Ref



Date: 10.MAR.2023 15:59:03

Tx. Spurious NVNT n20 2412MHz Ant1 Emission

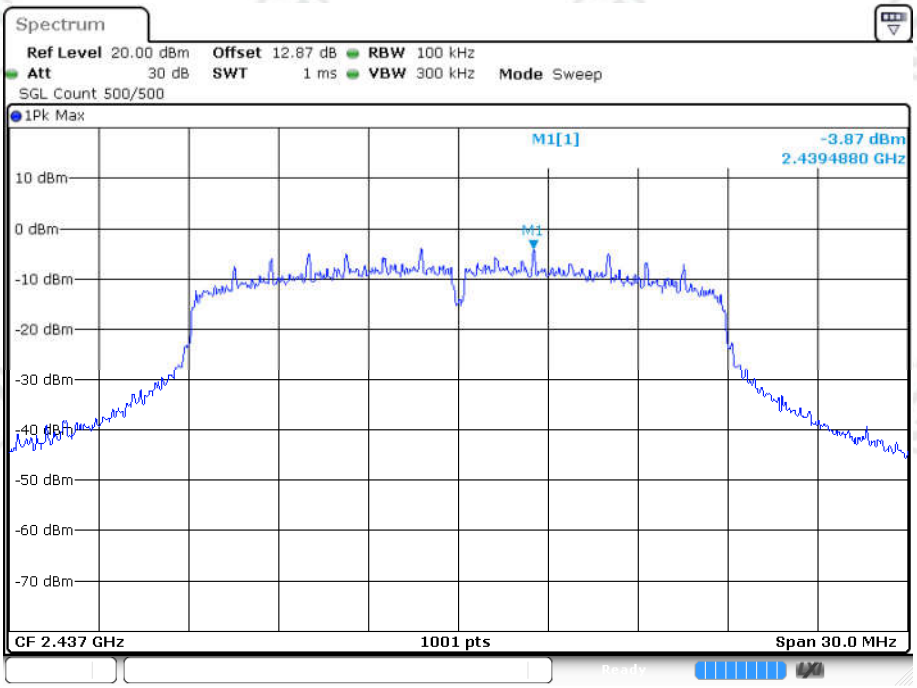


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.4056 GHz	-6.97 dBm		
M2		1	19.534861 GHz	-38.51 dBm		
M3		1	4.955185 GHz	-42.89 dBm		
M4		1	7.374543 GHz	-43.54 dBm		
M5		1	9.679197 GHz	-44.11 dBm		

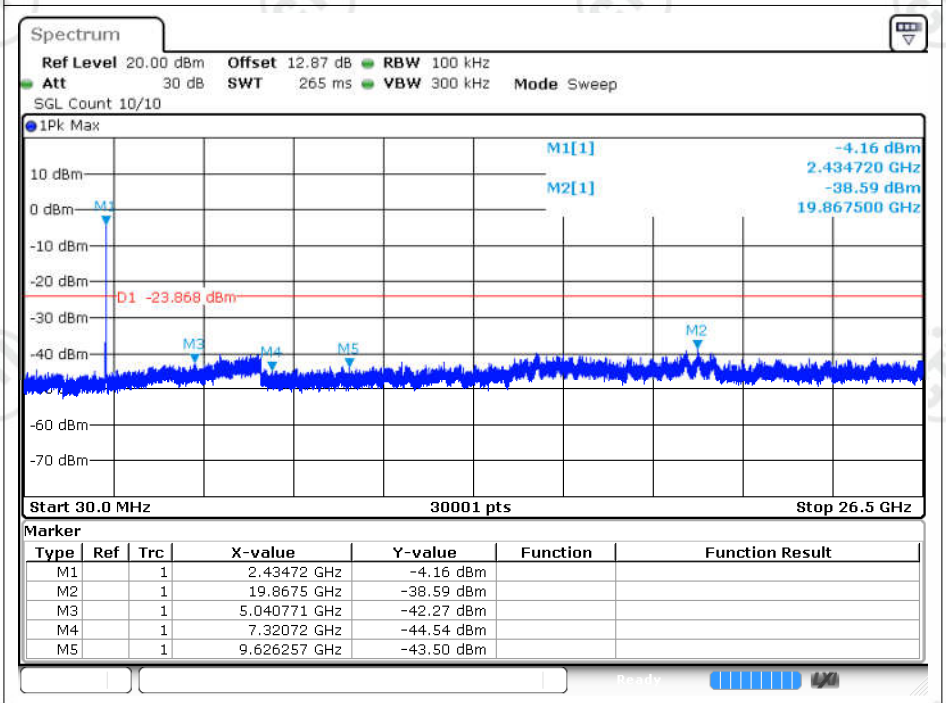
Date: 10.MAR.2023 15:59:14

Tx. Spurious NVNT n20 2437MHz Ant1 Ref



Date: 10.MAR.2023 16:00:00

Tx. Spurious NVNT n20 2437MHz Ant1 Emission

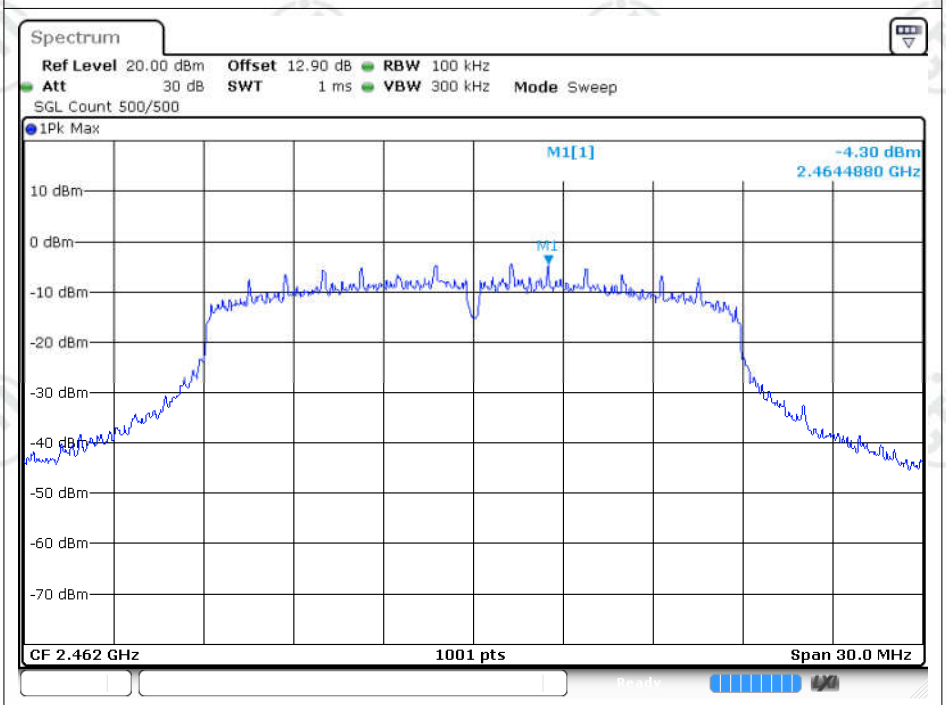


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43472 GHz	-4.16 dBm		
M2		1	19.8675 GHz	-38.59 dBm		
M3		1	5.040771 GHz	-42.27 dBm		
M4		1	7.32072 GHz	-44.54 dBm		
M5		1	9.626257 GHz	-43.50 dBm		

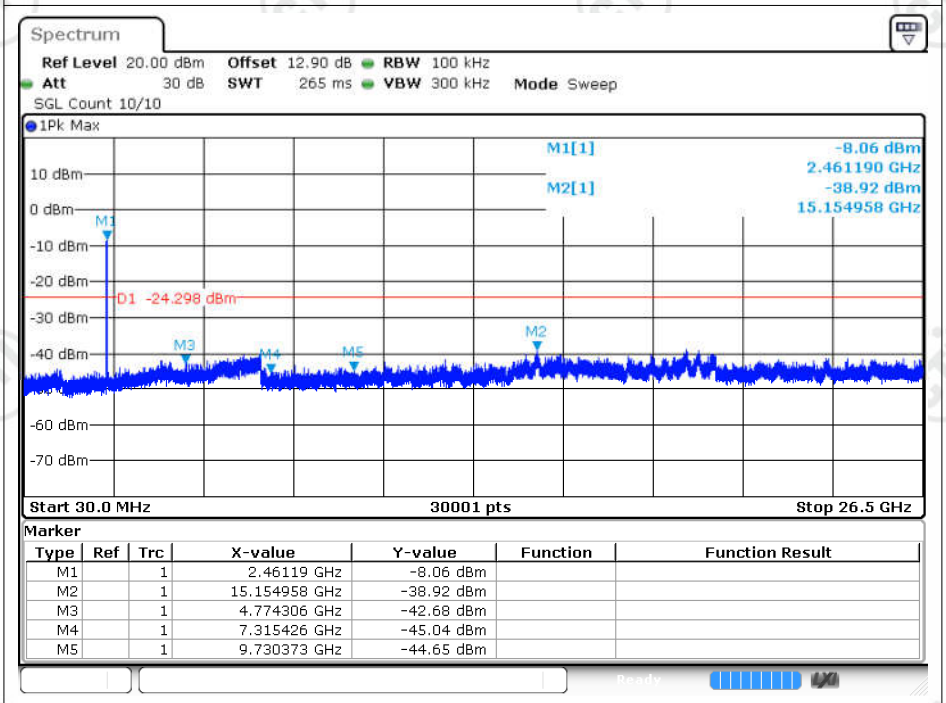
Date: 10.MAR.2023 16:00:10

Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Date: 10.MAR.2023 16:02:39

Tx. Spurious NVNT n20 2462MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46119 GHz	-8.06 dBm		
M2		1	15.154958 GHz	-38.92 dBm		
M3		1	4.774306 GHz	-42.68 dBm		
M4		1	7.315426 GHz	-45.04 dBm		
M5		1	9.730373 GHz	-44.65 dBm		

Date: 10.MAR.2023 16:02:50

*** End of Report ***