Appendix: 2.4G Wi-Fi

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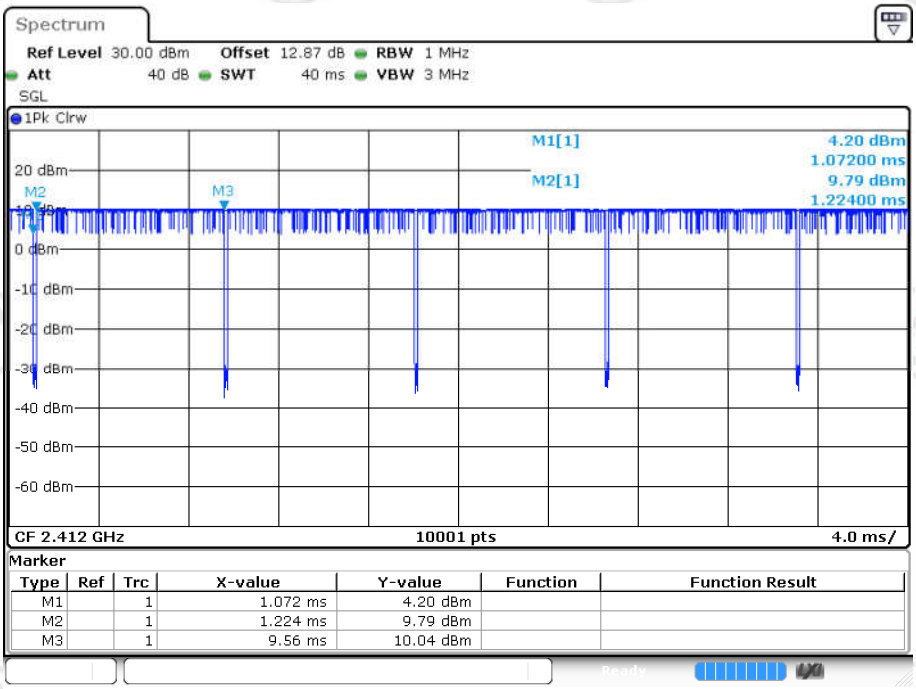
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	98.21	0	0.12
NVNT	b	2437	Ant1	98.21	0	0.12
NVNT	b	2462	Ant1	98.23	0	0.12
NVNT	g	2412	Ant1	97.25	0.12	0.73
NVNT	g	2437	Ant1	97.25	0.12	0.73
NVNT	g	2462	Ant1	97.25	0.12	0.73
NVNT	n20	2412	Ant1	97.07	0.13	0.78
NVNT	n20	2437	Ant1	97.06	0.13	0.78
NVNT	n20	2462	Ant1	97.06	0.13	0.78
NVNT	n40	2422	Ant1	94.27	0.26	1.56
NVNT	n40	2437	Ant1	94.27	0.26	1.56
NVNT	n40	2452	Ant1	94.27	0.26	1.56

Note:Duty Cycle Correction Factor (dB)=-10*lg(Duty Cycle);

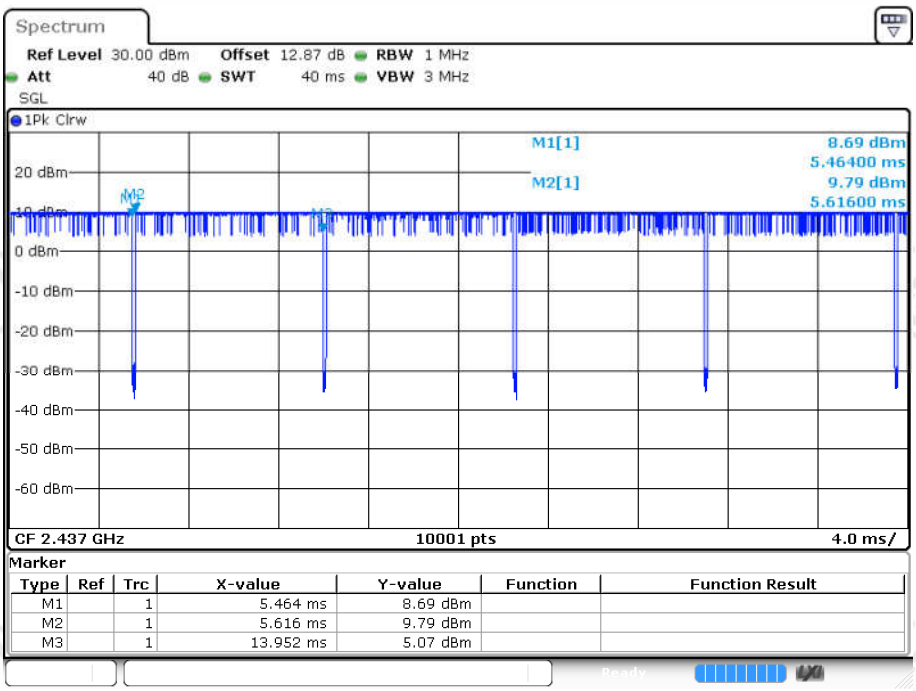
Test Graphs

Duty Cycle NVNT b 2412MHz Ant1



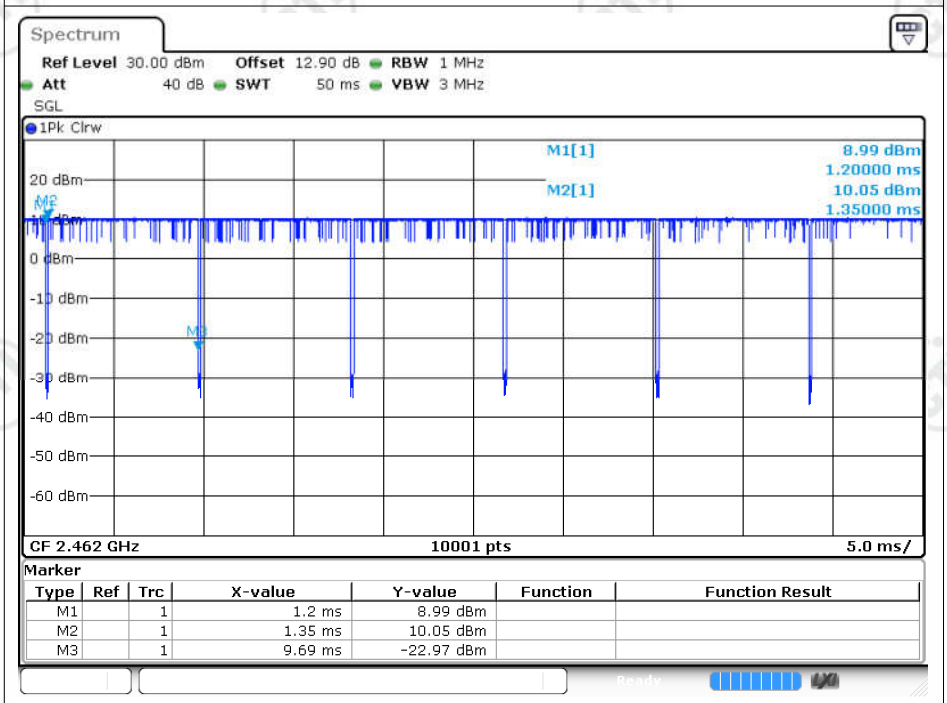
Date: 14.OCT.2024 22:48:06

Duty Cycle NVNT b 2437MHz Ant1



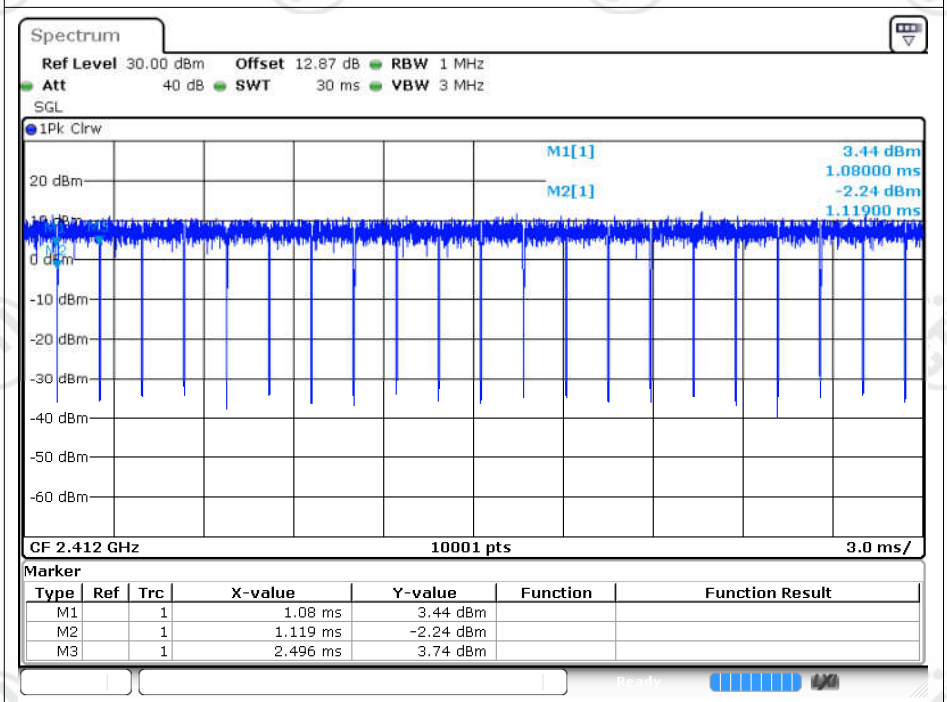
Date: 14.OCT.2024 22:50:39

Duty Cycle NVNT b 2462MHz Ant1



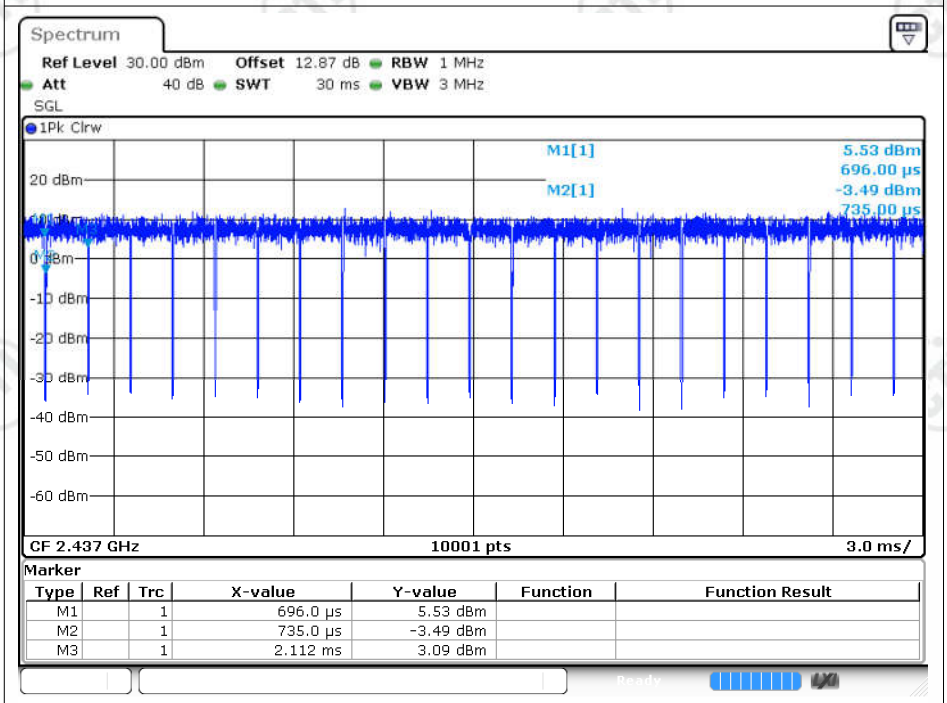
Date: 14.OCT.2024 22:53:00

Duty Cycle NVNT g 2412MHz Ant1



Date: 15.OCT.2024 00:40:19

Duty Cycle NVNT g 2437MHz Ant1



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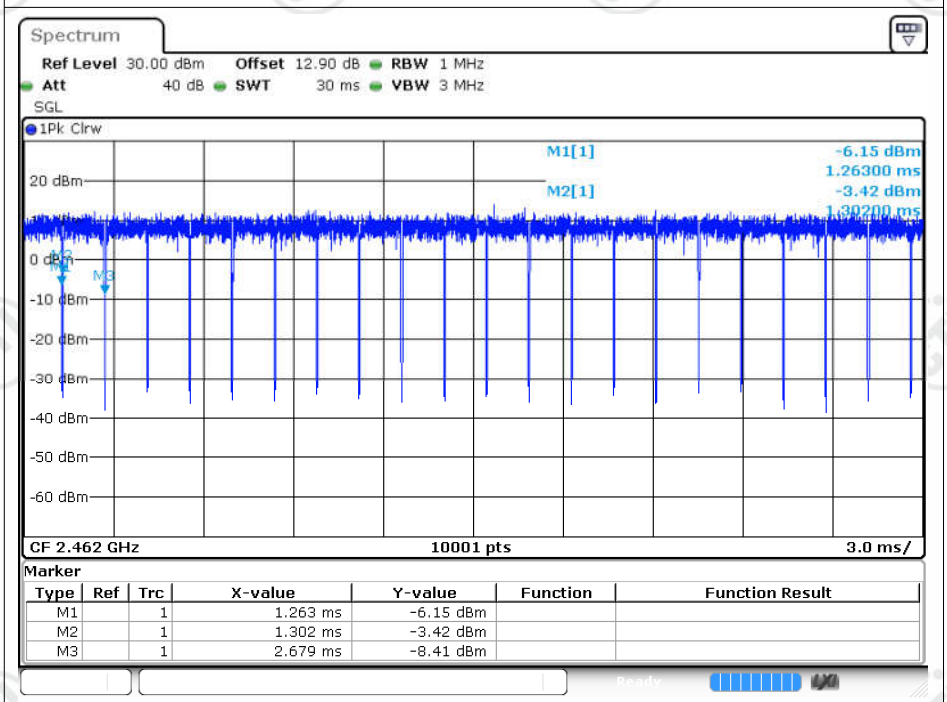
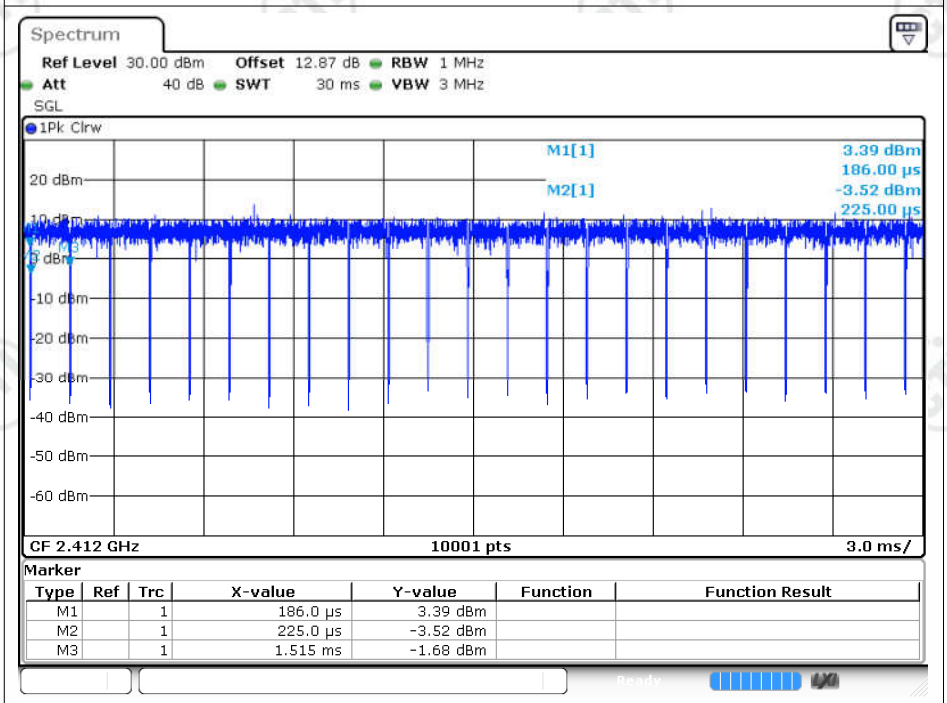
Duty Cycle NVNT g 2462MHz Ant1



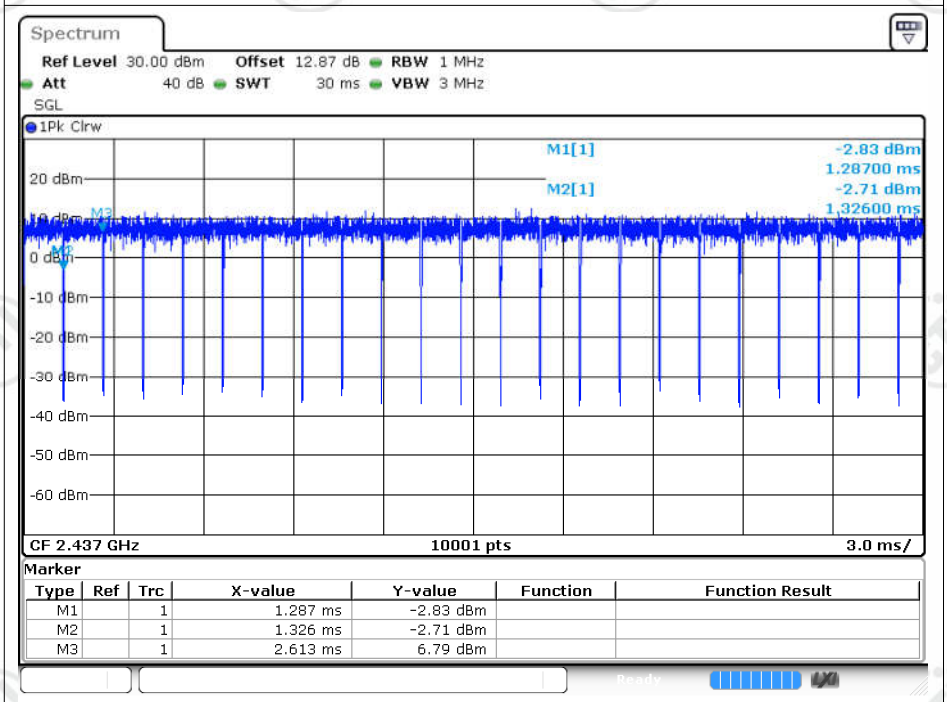
Date: 15.OCT.2024 00:49:20

Duty Cycle NVNT n20 2412MHz Ant1



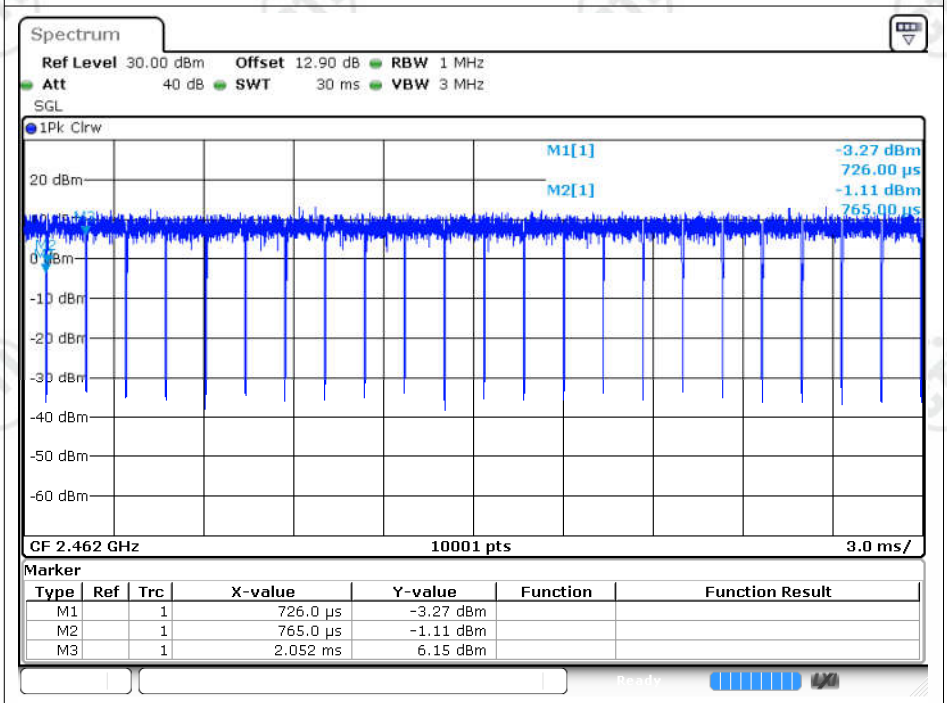
Date: 15.OCT.2024 01:06:33

Duty Cycle NVNT n20 2437MHz Ant1



Date: 15.OCT.2024 01:10:31

Duty Cycle NVNT n20 2462MHz Ant1

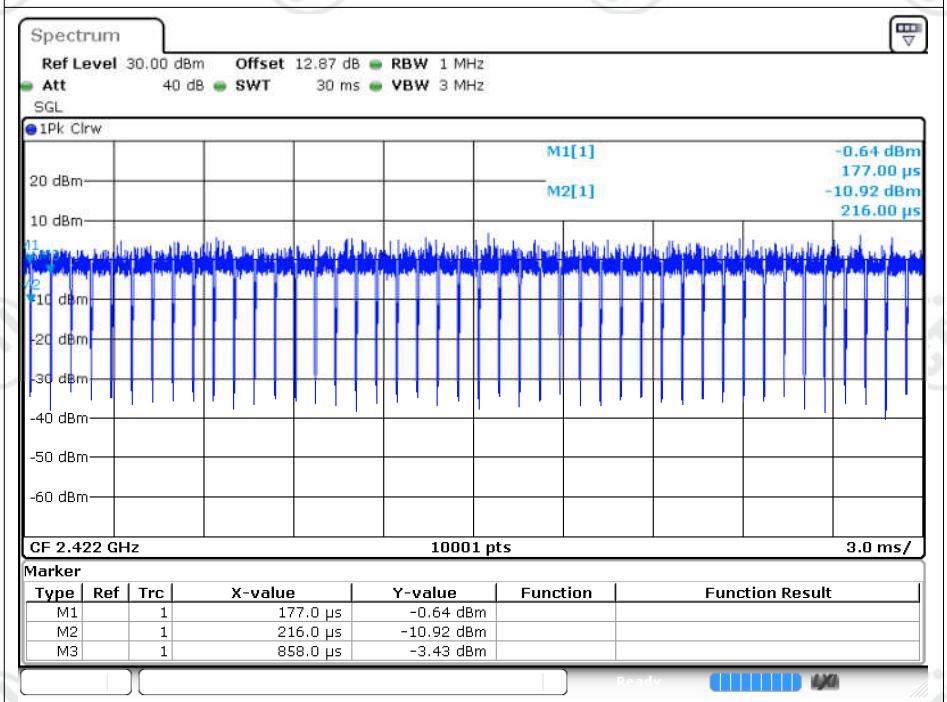


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	726.0 µs	-3.27 dBm		
M2		1	765.0 µs	-1.11 dBm		
M3		1	2.052 ms	6.15 dBm		

Date: 15.OCT.2024 01:13:31

Duty Cycle NVNT n40 2422MHz Ant1

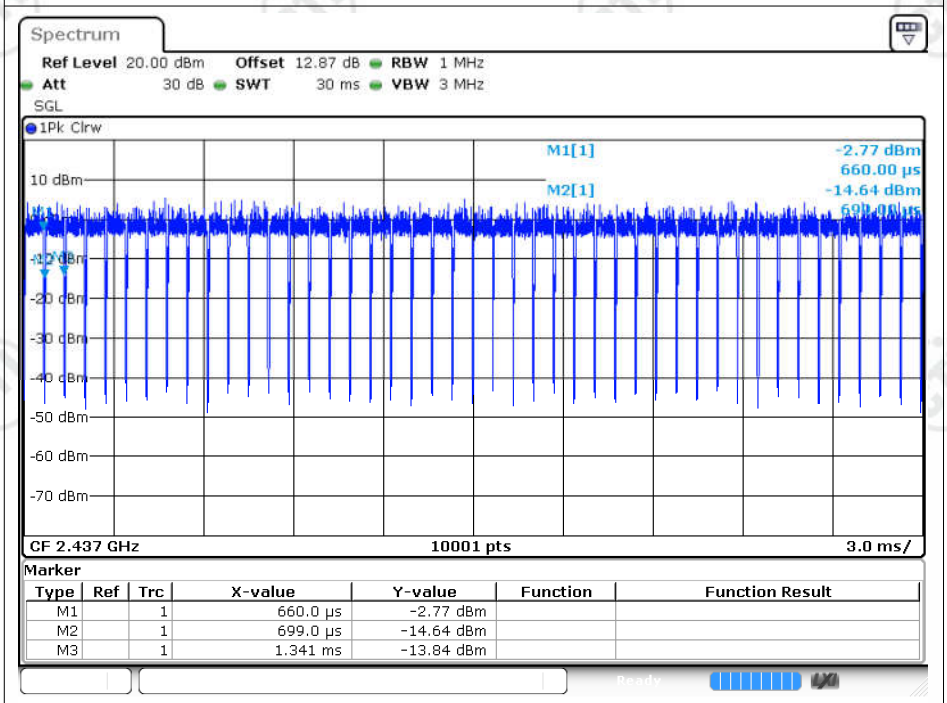


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	177.0 µs	-0.64 dBm		
M2		1	216.0 µs	-10.92 dBm		
M3		1	858.0 µs	-3.43 dBm		

Date: 15.OCT.2024 01:16:26

Duty Cycle NVNT n40 2437MHz Ant1

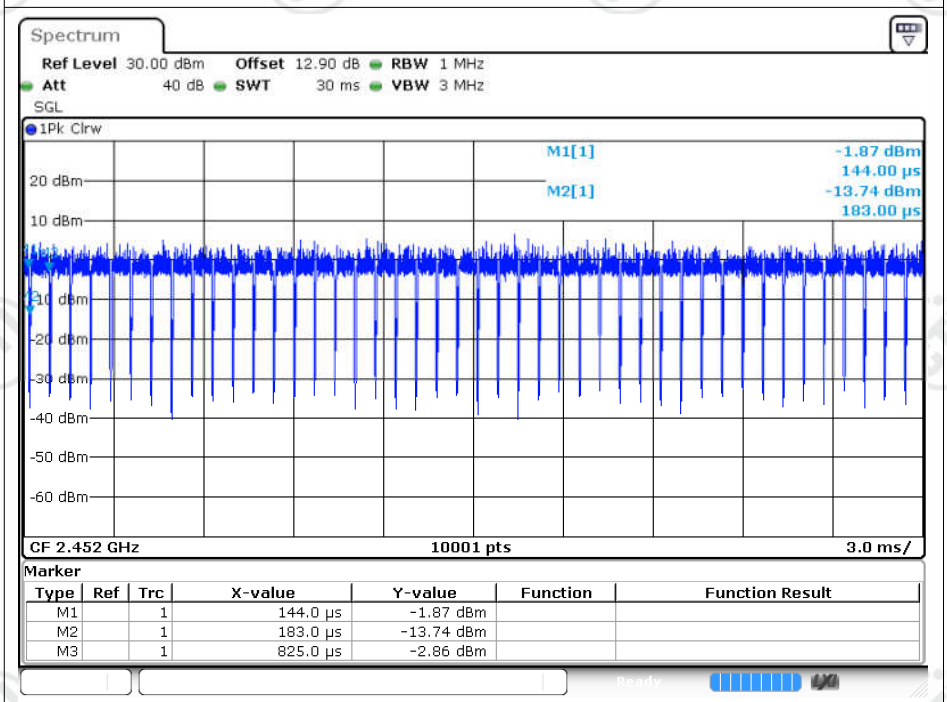


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	660.0 µs	-2.77 dBm		
M2		1	699.0 µs	-14.64 dBm		
M3		1	1.341 ms	-13.84 dBm		

Date: 15.OCT.2024 01:21:14

Duty Cycle NVNT n40 2452MHz Ant1



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	144.0 µs	-1.87 dBm		
M2		1	183.0 µs	-13.74 dBm		
M3		1	825.0 µs	-2.86 dBm		

Date: 15.OCT.2024 01:24:23

Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.54	30	Pass
NVNT	b	2437	Ant1	15.34	30	Pass
NVNT	b	2462	Ant1	15.46	30	Pass
NVNT	g	2412	Ant1	14.87	30	Pass
NVNT	g	2437	Ant1	15.24	30	Pass
NVNT	g	2462	Ant1	**15.68**	30	Pass
NVNT	n20	2412	Ant1	14.86	30	Pass
NVNT	n20	2437	Ant1	15.20	30	Pass
NVNT	n20	2462	Ant1	15.59	30	Pass
NVNT	n40	2422	Ant1	14.13	30	Pass
NVNT	n40	2437	Ant1	13.93	30	Pass
NVNT	n40	2452	Ant1	14.13	30	Pass

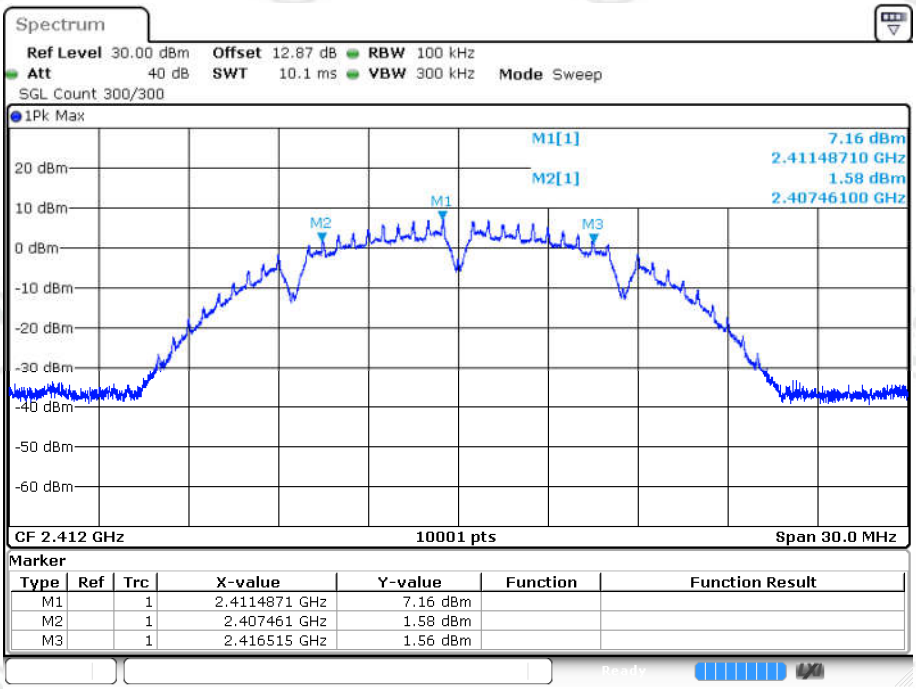
Note:Conducted Power (dBm) has been added Duty Cycle Correction Factor (dB);

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.054	0.5	Pass
NVNT	b	2437	Ant1	10.041	0.5	Pass
NVNT	b	2462	Ant1	10.038	0.5	Pass
NVNT	g	2412	Ant1	15.771	0.5	Pass
NVNT	g	2437	Ant1	15.795	0.5	Pass
NVNT	g	2462	Ant1	15.78	0.5	Pass
NVNT	n20	2412	Ant1	16.05	0.5	Pass
NVNT	n20	2437	Ant1	16.029	0.5	Pass
NVNT	n20	2462	Ant1	16.02	0.5	Pass
NVNT	n40	2422	Ant1	34.644	0.5	Pass
NVNT	n40	2437	Ant1	35.118	0.5	Pass
NVNT	n40	2452	Ant1	35.118	0.5	Pass

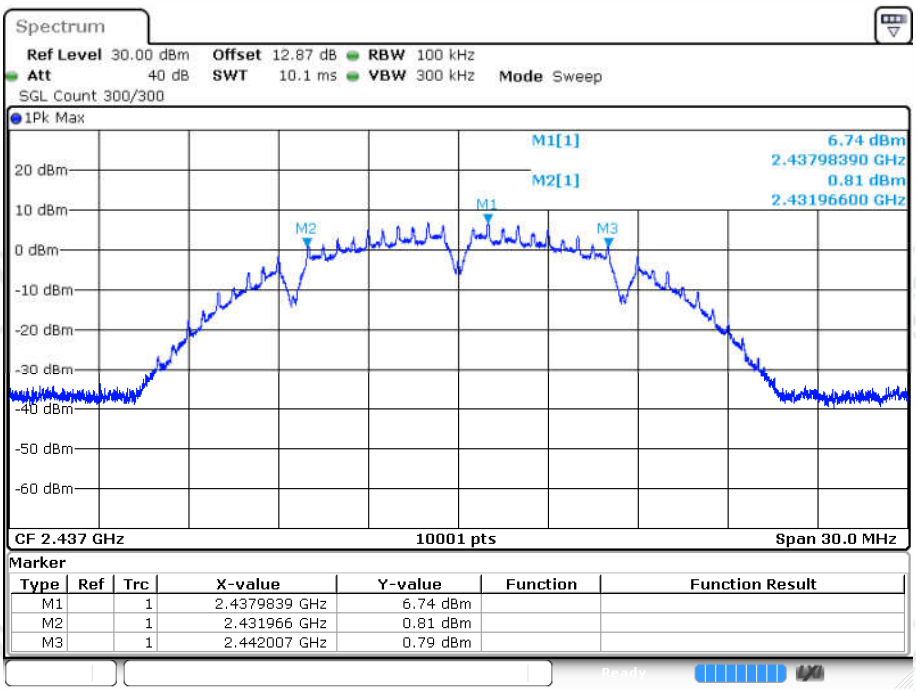
Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



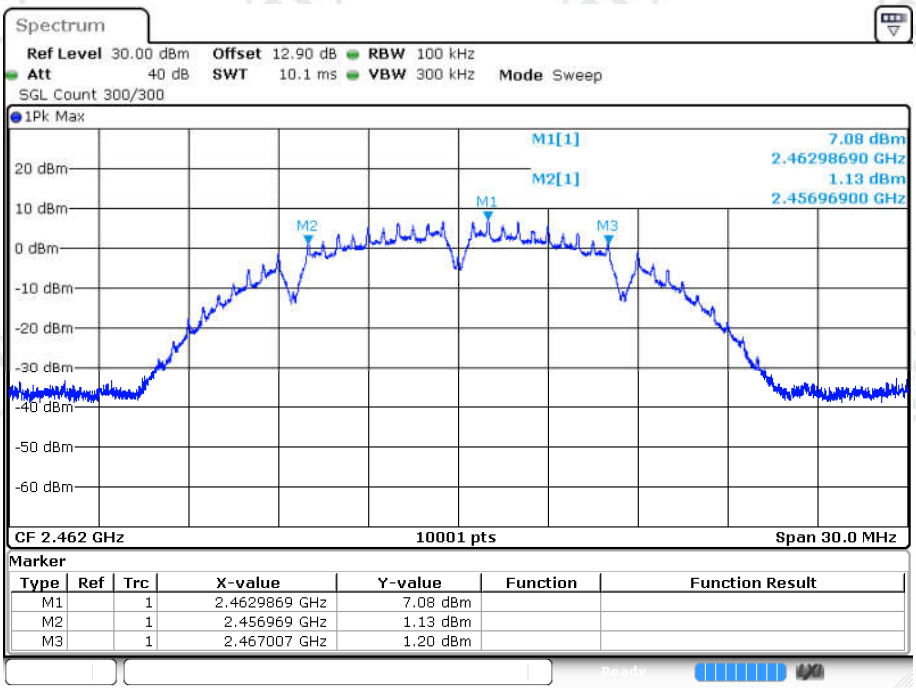
Date: 14.OCT.2024 22:48:59

-6dB Bandwidth NVNT b 2437MHz Ant1



Date: 14.OCT.2024 22:51:10

-6dB Bandwidth NVNT b 2462MHz Ant1



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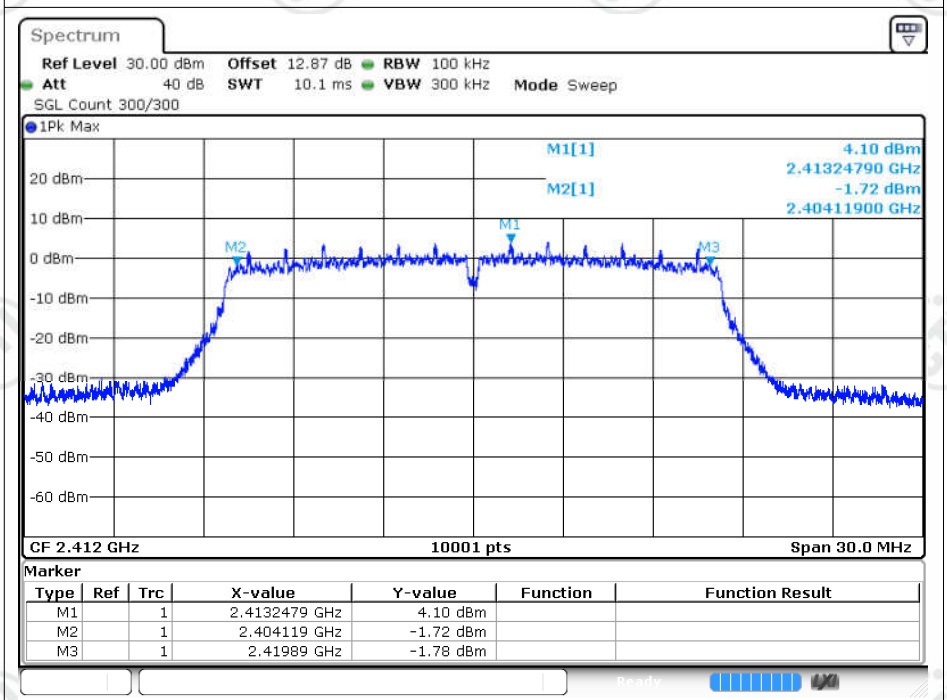
-6dB Bandwidth NVNT g 2412MHz Ant1



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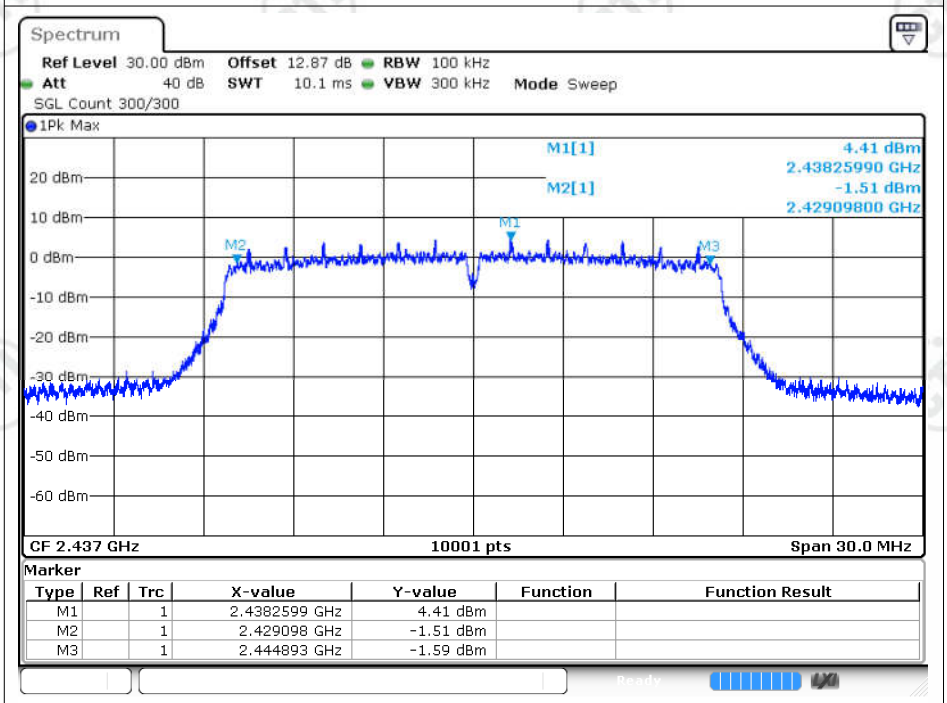
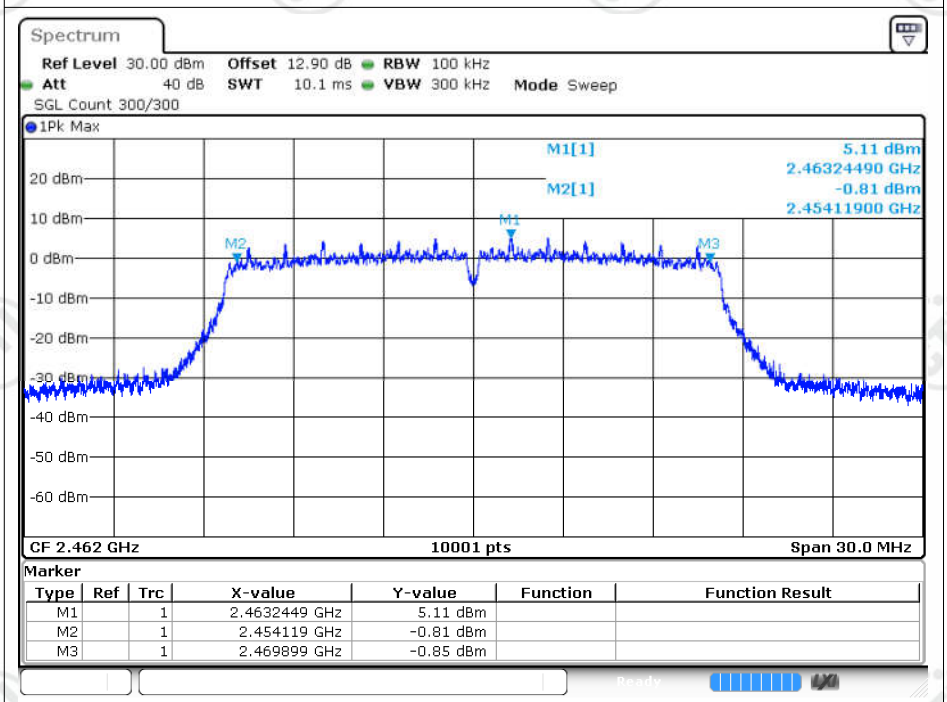
-6dB Bandwidth NVNT g 2437MHz Ant1



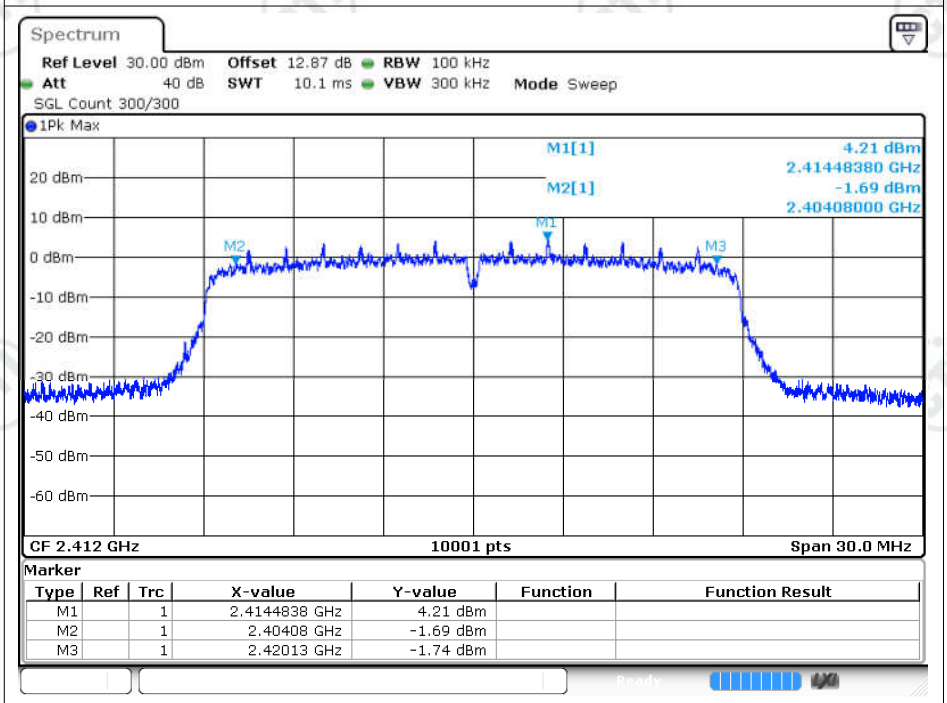
Date: 15.OCT.2024 00:43:04

-6dB Bandwidth NVNT g 2462MHz Ant1



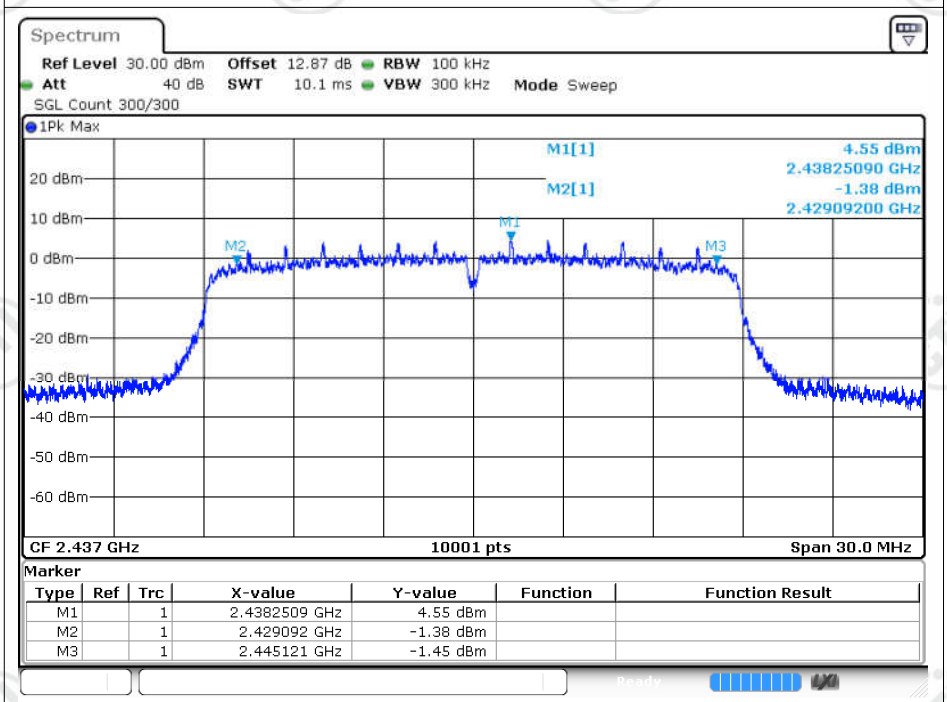
Date: 15.OCT.2024 00:49:47

-6dB Bandwidth NVNT n20 2412MHz Ant1



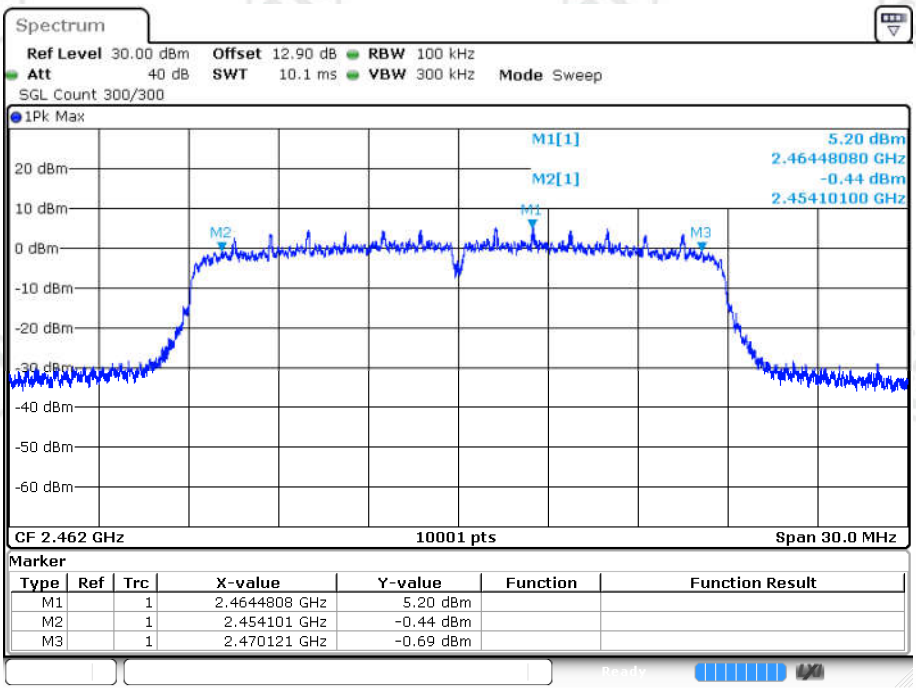
Date: 15.OCT.2024 01:06:56

-6dB Bandwidth NVNT n20 2437MHz Ant1



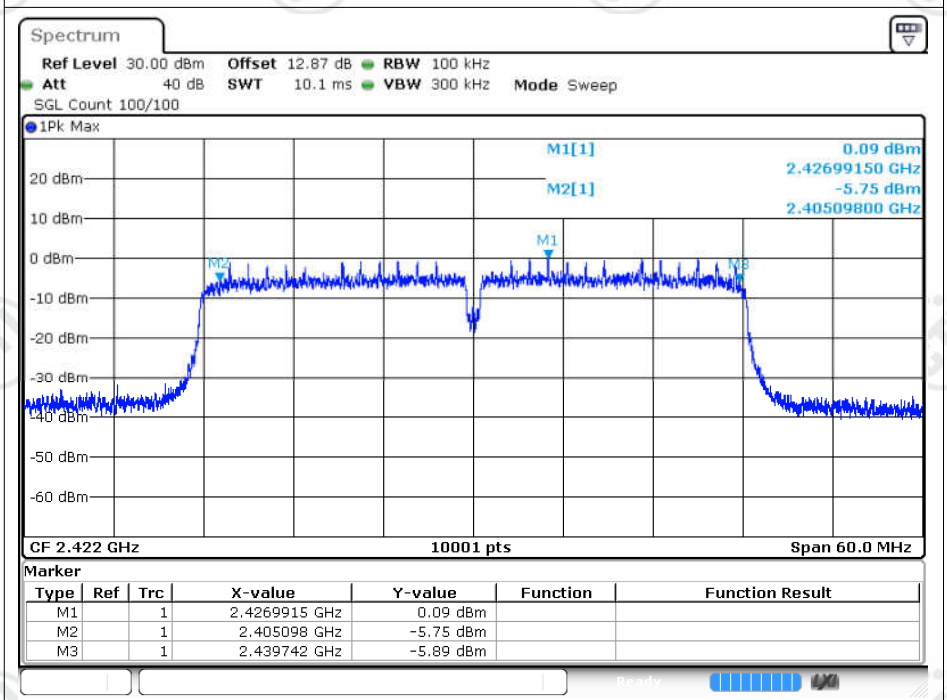
Date: 15.OCT.2024 01:10:56

-6dB Bandwidth NVNT n20 2462MHz Ant1



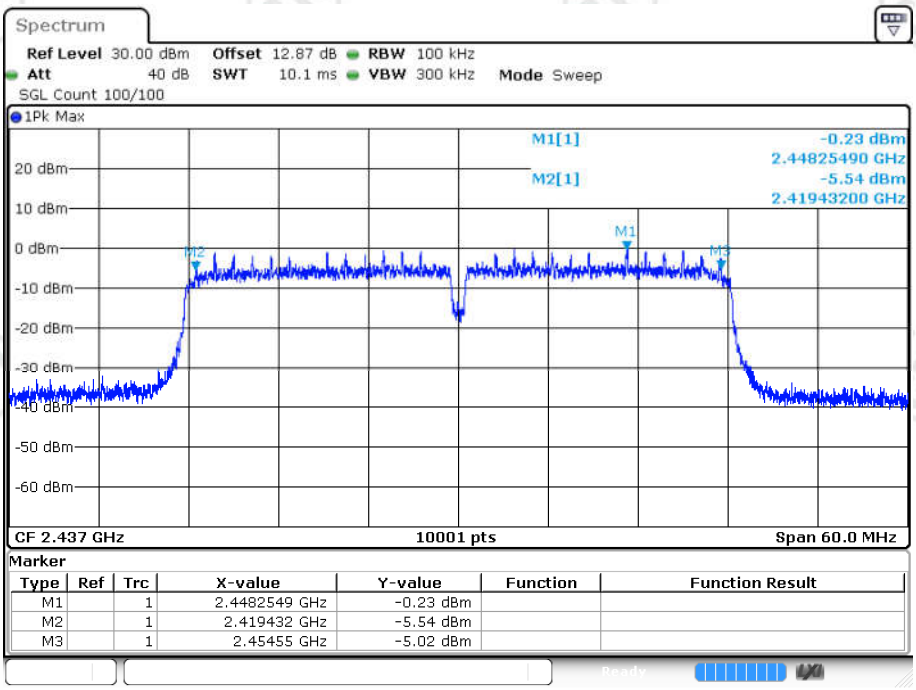
Date: 15.OCT.2024 01:13:58

-6dB Bandwidth NVNT n40 2422MHz Ant1



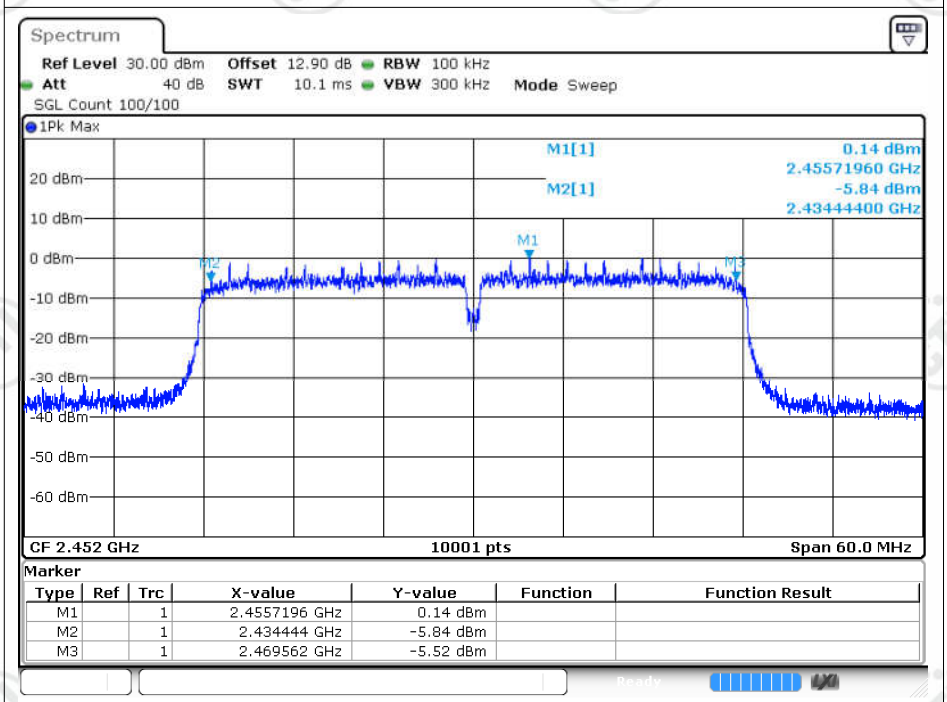
Date: 15.OCT.2024 01:16:39

-6dB Bandwidth NVNT n40 2437MHz Ant1



Date: 15.OCT.2024 01:21:28

-6dB Bandwidth NVNT n40 2452MHz Ant1



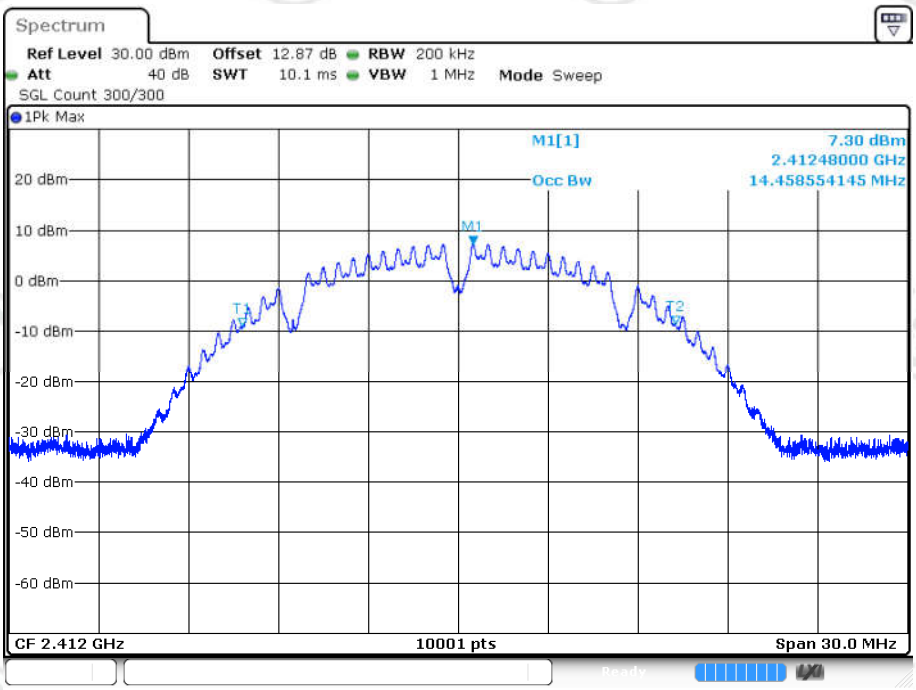
Date: 15.OCT.2024 01:24:36

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	14.459
NVNT	b	2437	Ant1	14.489
NVNT	b	2462	Ant1	14.423
NVNT	g	2412	Ant1	16.36
NVNT	g	2437	Ant1	16.369
NVNT	g	2462	Ant1	16.366
NVNT	n20	2412	Ant1	17.347
NVNT	n20	2437	Ant1	17.35
NVNT	n20	2462	Ant1	17.344
NVNT	n40	2422	Ant1	35.864
NVNT	n40	2437	Ant1	35.888
NVNT	n40	2452	Ant1	35.87

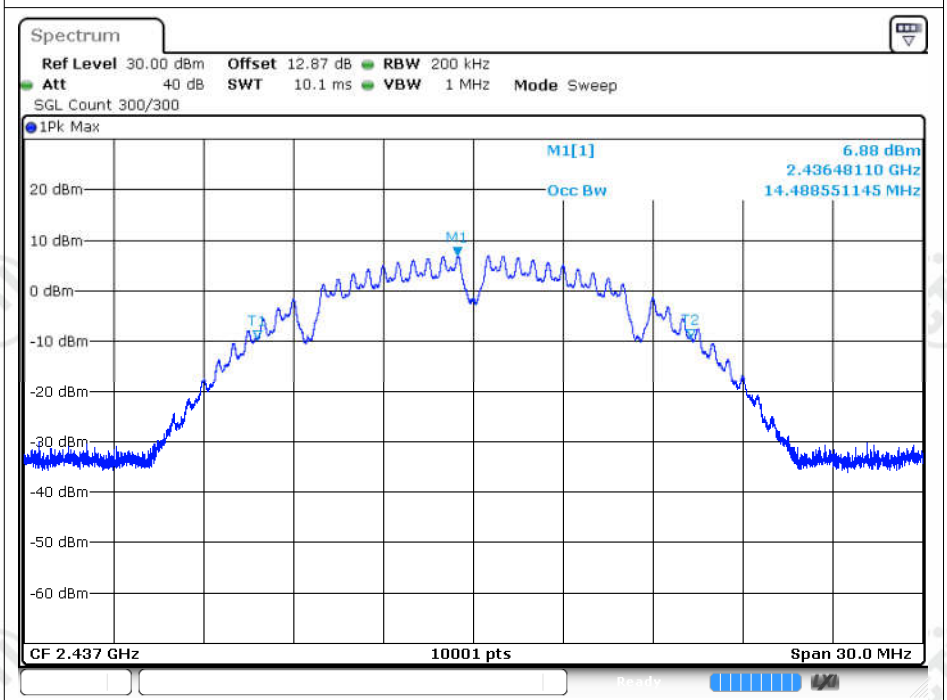
Test Graphs

OBW NVNT b 2412MHz Ant1



Date: 14.OCT.2024 22:48:48

OBW NVNT b 2437MHz Ant1



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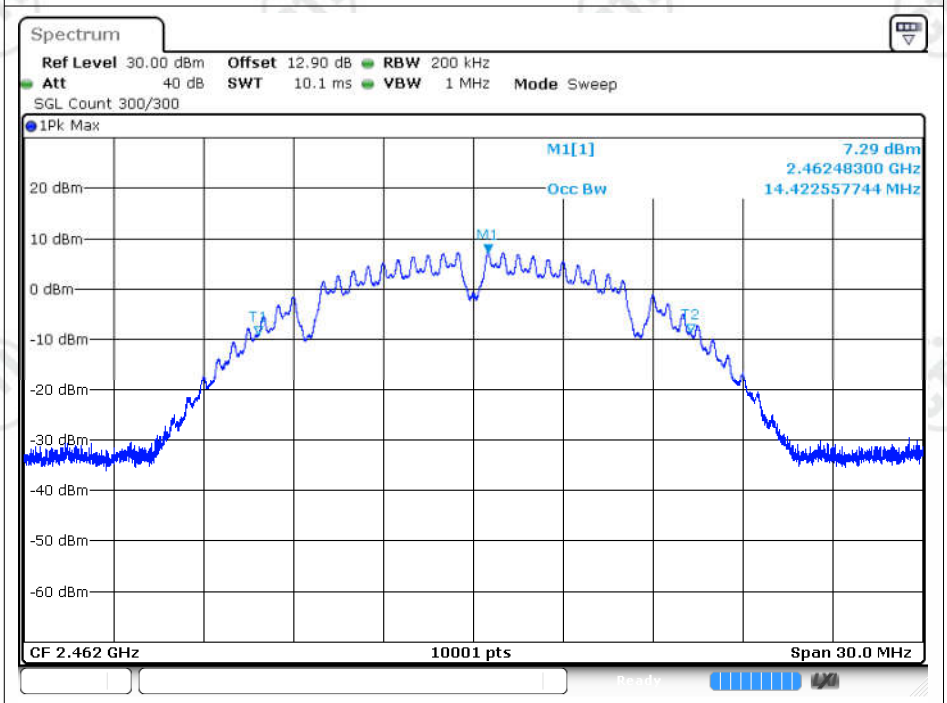
OBW NVNT b 2462MHz Ant1



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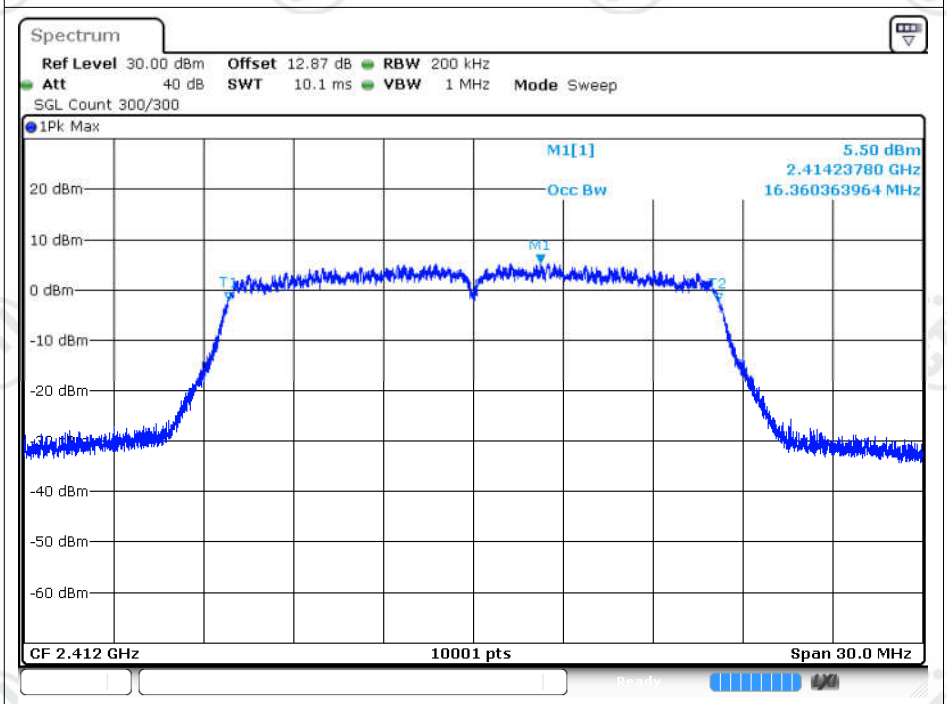
OBW NVNT g 2412MHz Ant1



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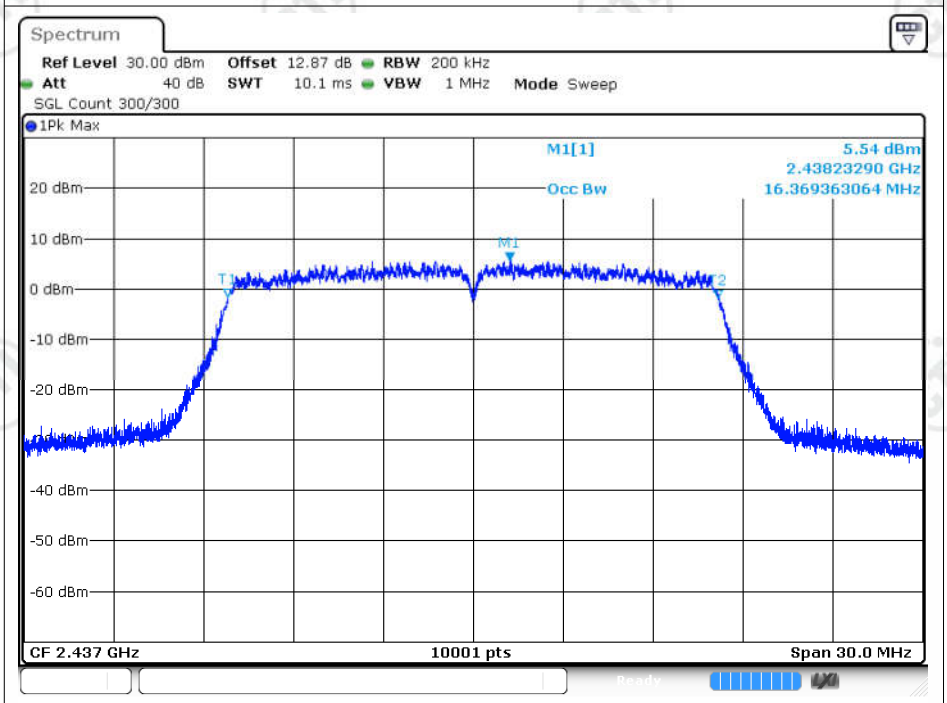
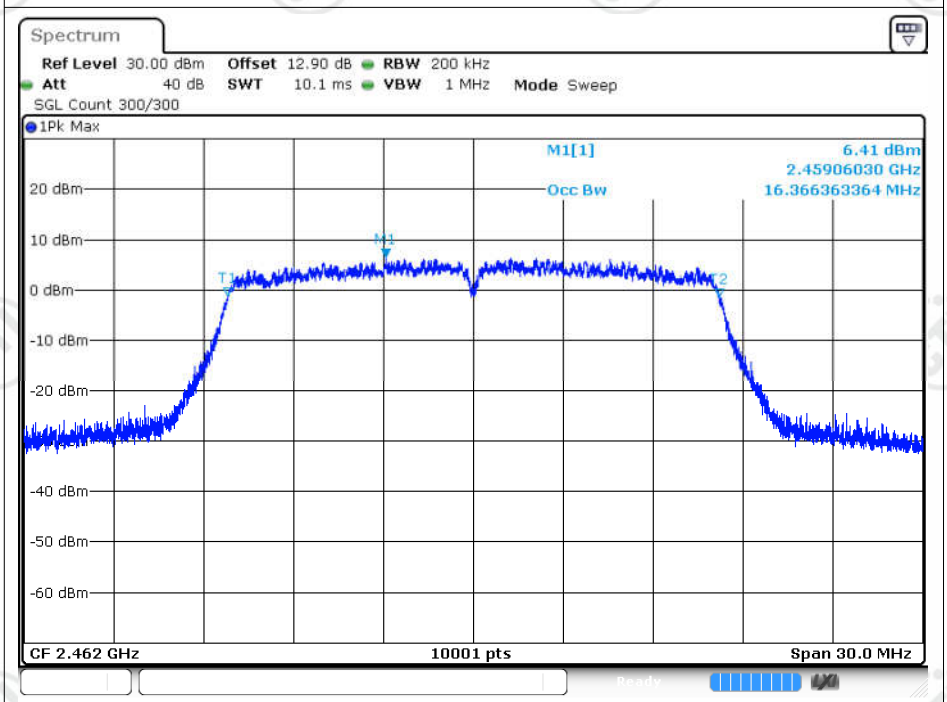
OBW NVNT g 2437MHz Ant1



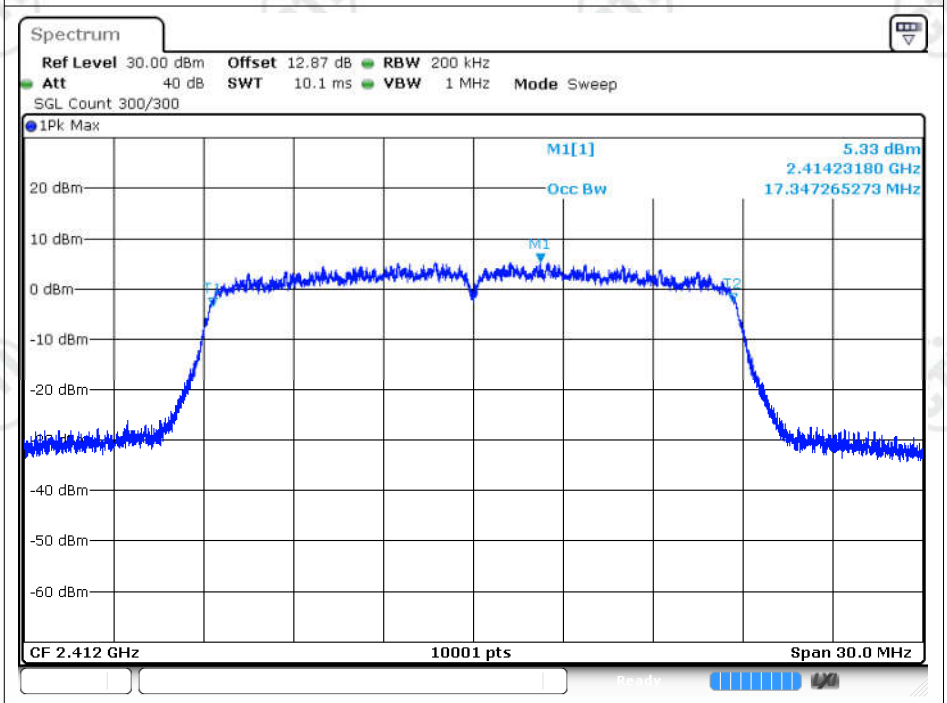
Date: 15.OCT.2024 00:42:52

OBW NVNT g 2462MHz Ant1



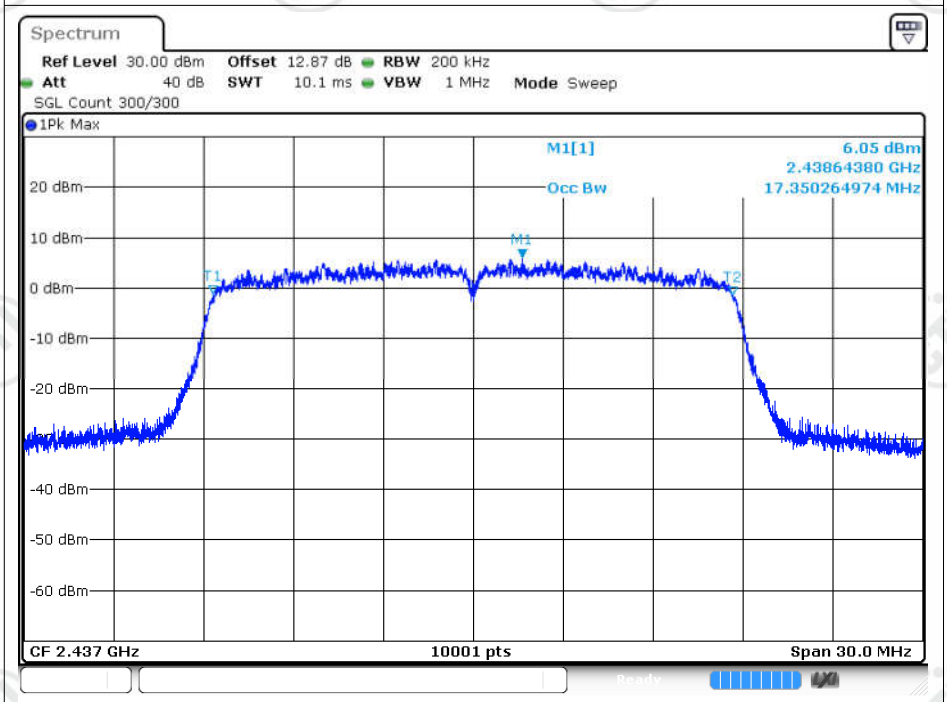
Date: 15.OCT.2024 00:49:34

OBW NVNT n20 2412MHz Ant1



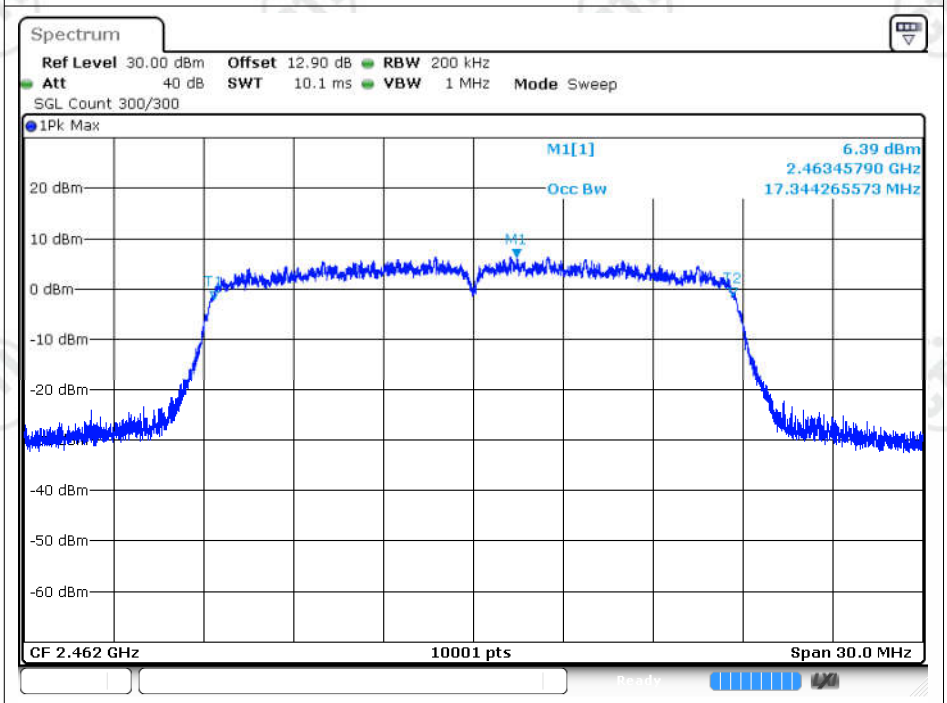
Date: 15.OCT.2024 01:06:45

OBW NVNT n20 2437MHz Ant1



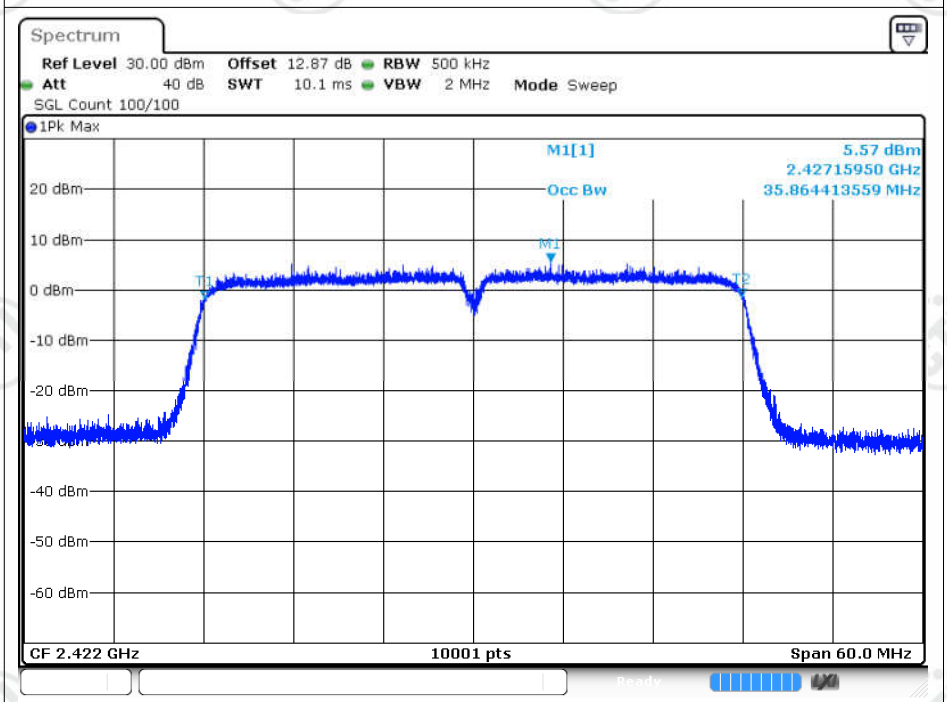
Date: 15.OCT.2024 01:10:44

OBW NVNT n20 2462MHz Ant1



Date: 15.OCT.2024 01:13:45

OBW NVNT n40 2422MHz Ant1



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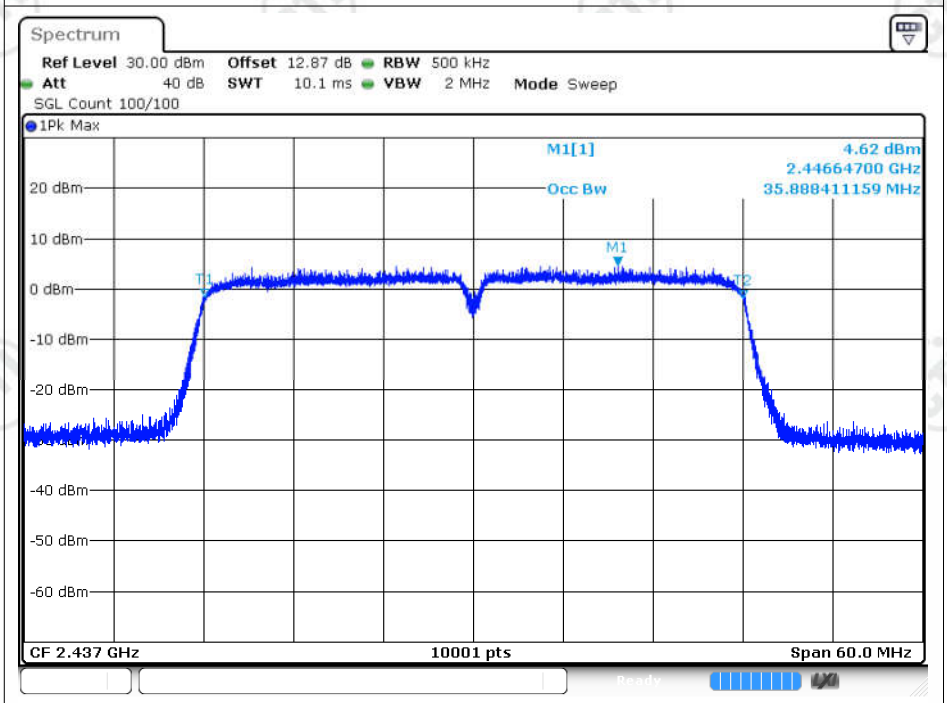
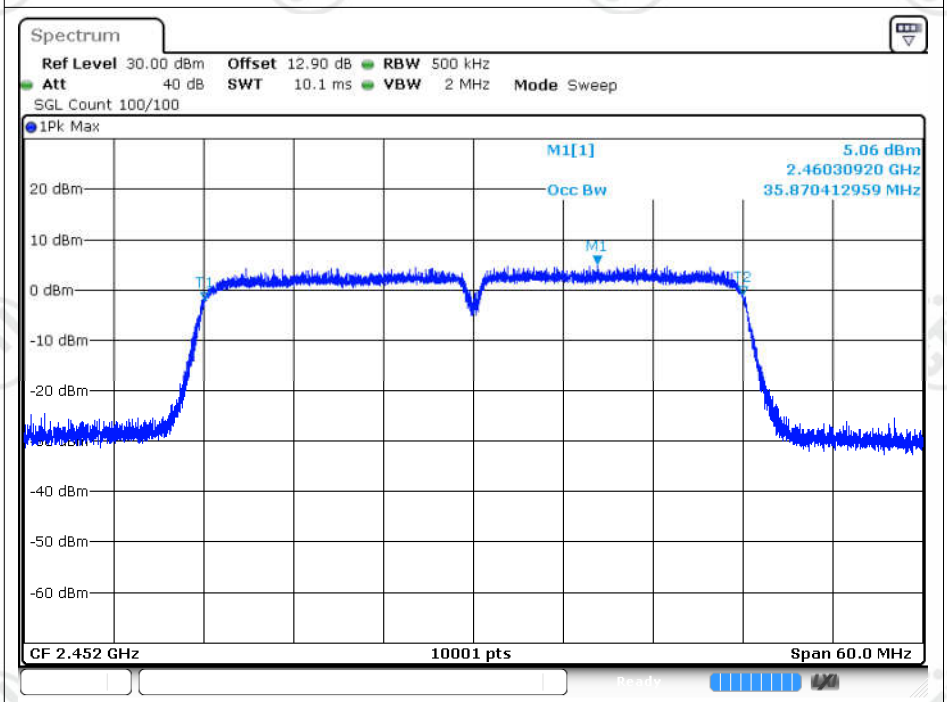
OBW NVNT n40 2437MHz Ant1



Date: 15.OCT.2024 01:21:22

OBW NVNT n40 2452MHz Ant1



Date: 15.OCT.2024 01:24:30

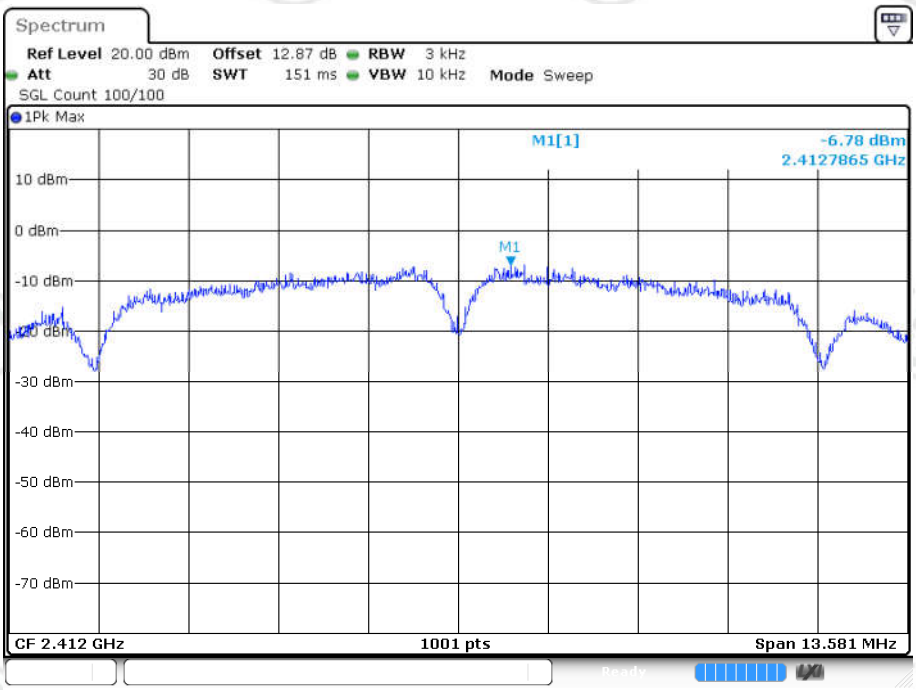
Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-6.78	8	Pass
NVNT	b	2437	Ant1	-4.77	8	Pass
NVNT	b	2462	Ant1	-4.26	8	Pass
NVNT	g	2412	Ant1	-8.32	8	Pass
NVNT	g	2437	Ant1	-8.25	8	Pass
NVNT	g	2462	Ant1	-7.43	8	Pass
NVNT	n20	2412	Ant1	-9.46	8	Pass
NVNT	n20	2437	Ant1	-8.99	8	Pass
NVNT	n20	2462	Ant1	-7.77	8	Pass
NVNT	n40	2422	Ant1	-13.64	8	Pass
NVNT	n40	2437	Ant1	-13.04	8	Pass
NVNT	n40	2452	Ant1	-11.4	8	Pass

Note:Conducted PSD (dBm/3kHz) has been added Duty Cycle Correction Factor (dB);

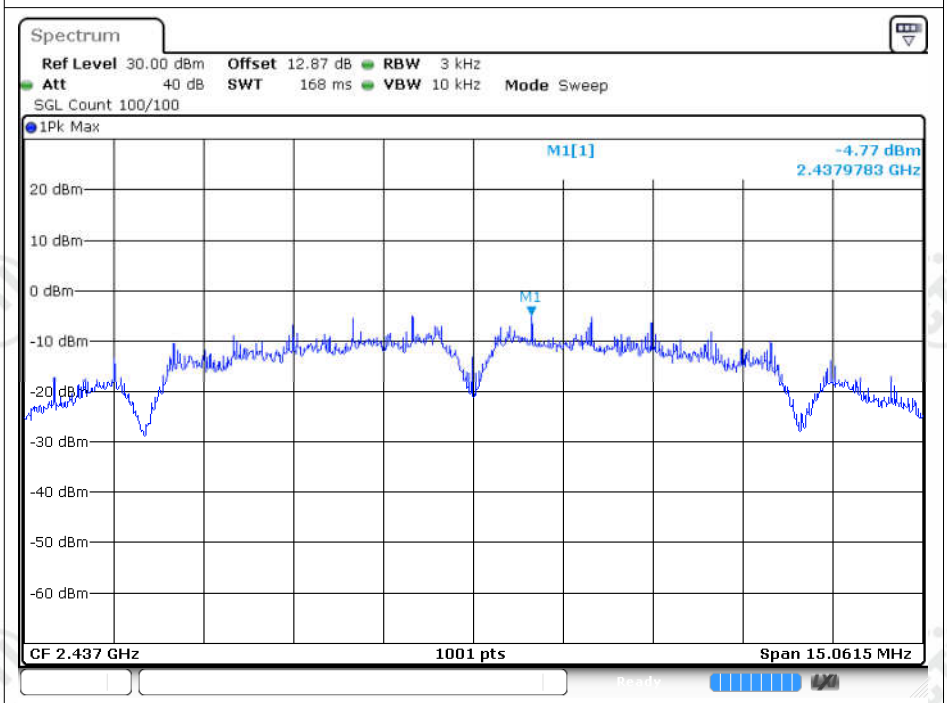
Test Graphs

PSD NVNT b 2412MHz Ant1



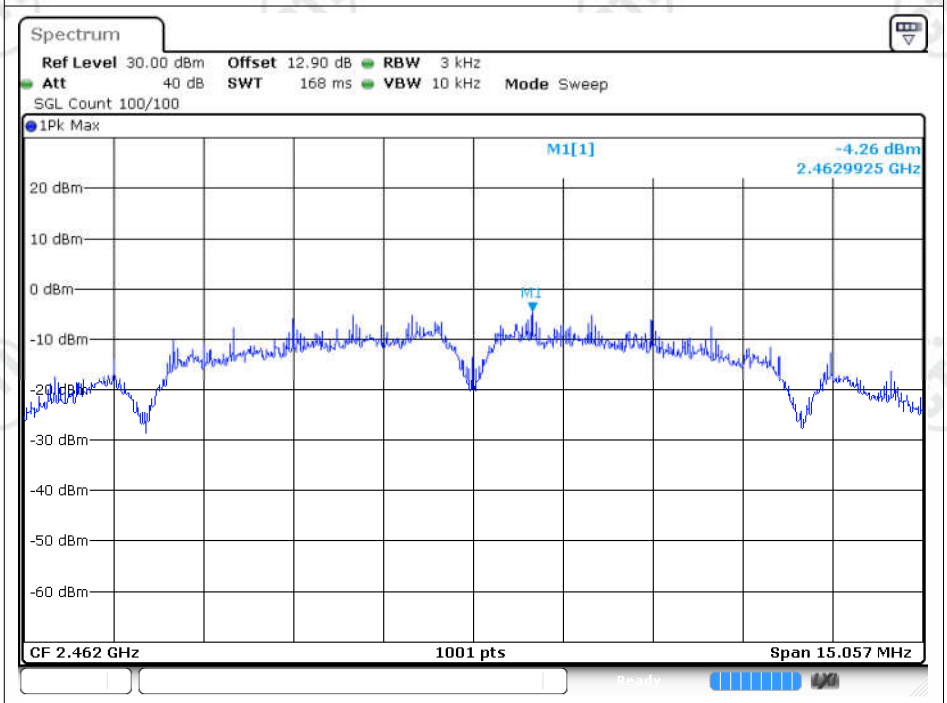
Date: 14.OCT.2024 22:49:21

PSD NVNT b 2437MHz Ant1



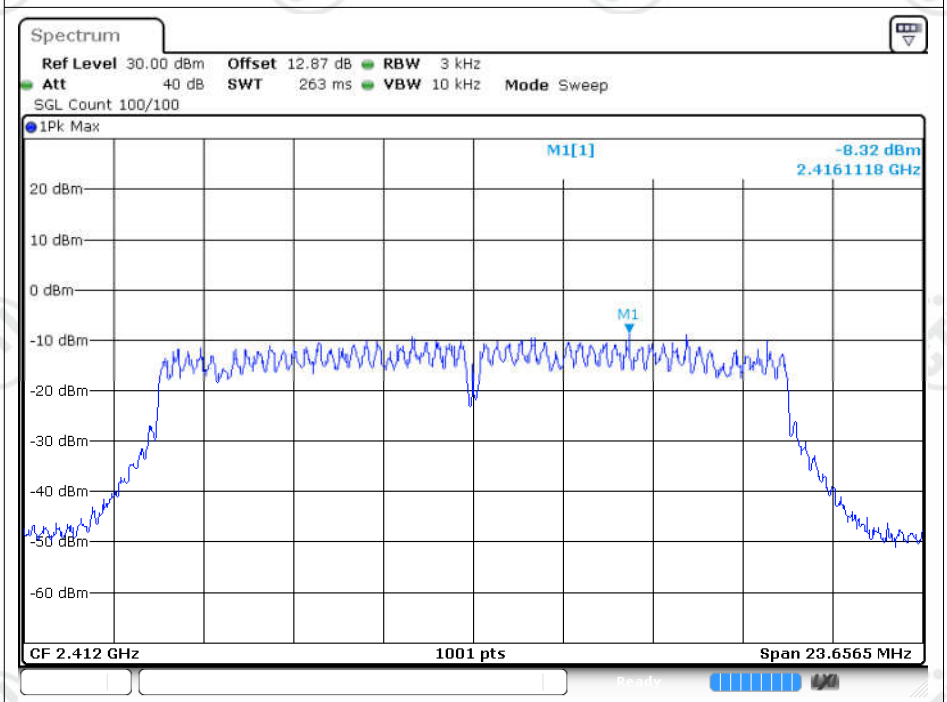
Date: 14.OCT.2024 22:51:54

PSD NVNT b 2462MHz Ant1



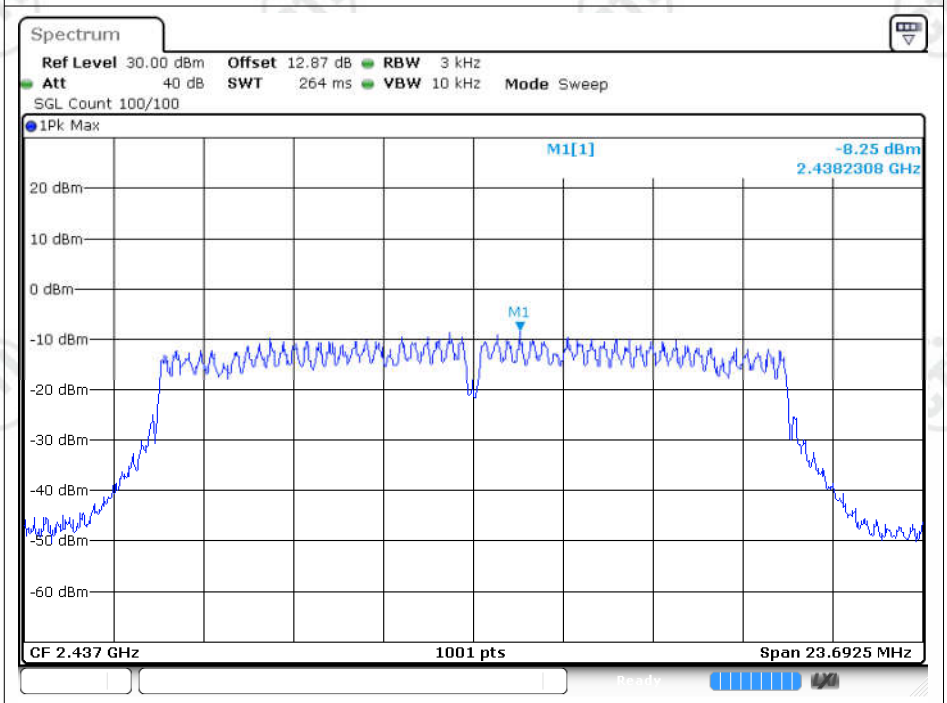
Date: 14.OCT.2024 22:53:51

PSD NVNT g 2412MHz Ant1



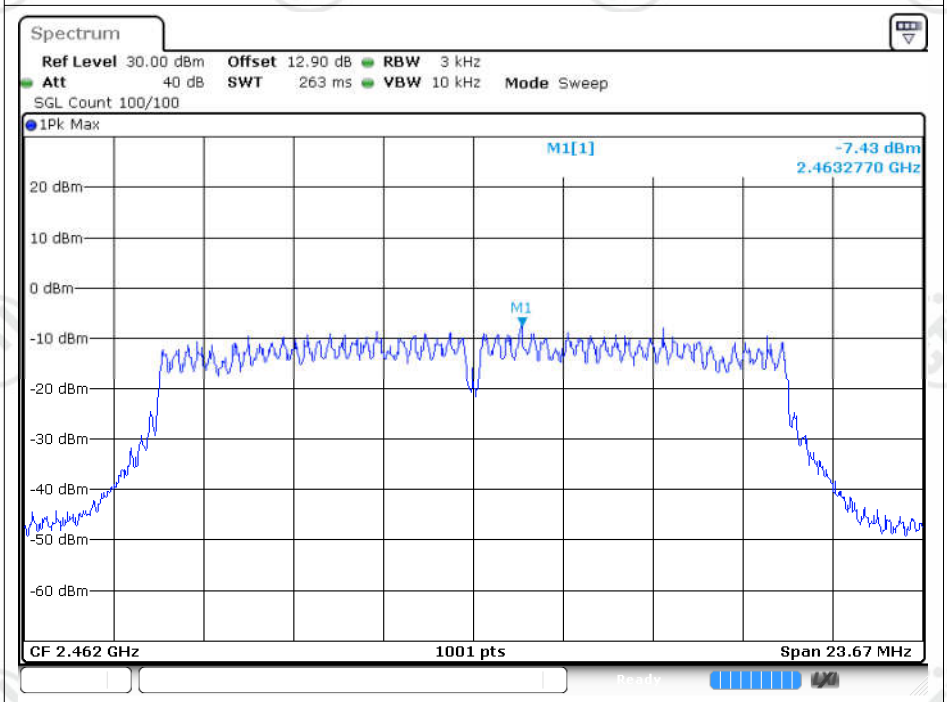
Date: 15.OCT.2024 00:41:18

PSD NVNT g 2437MHz Ant1



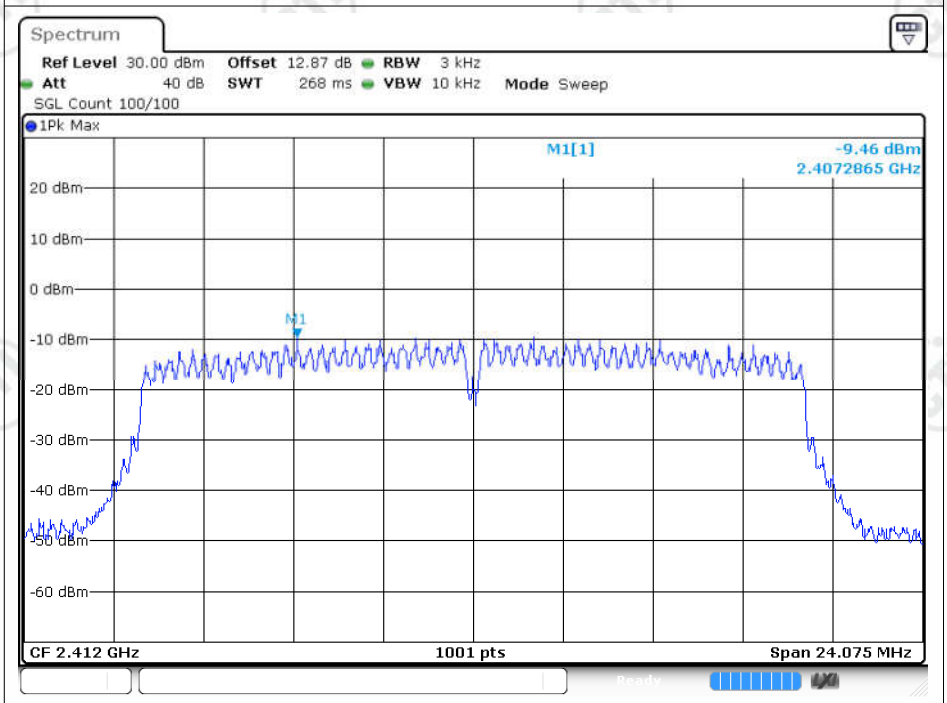
Date: 15.OCT.2024 00:43:59

PSD NVNT g 2462MHz Ant1



Date: 15.OCT.2024 00:50:22

PSD NVNT n20 2412MHz Ant1



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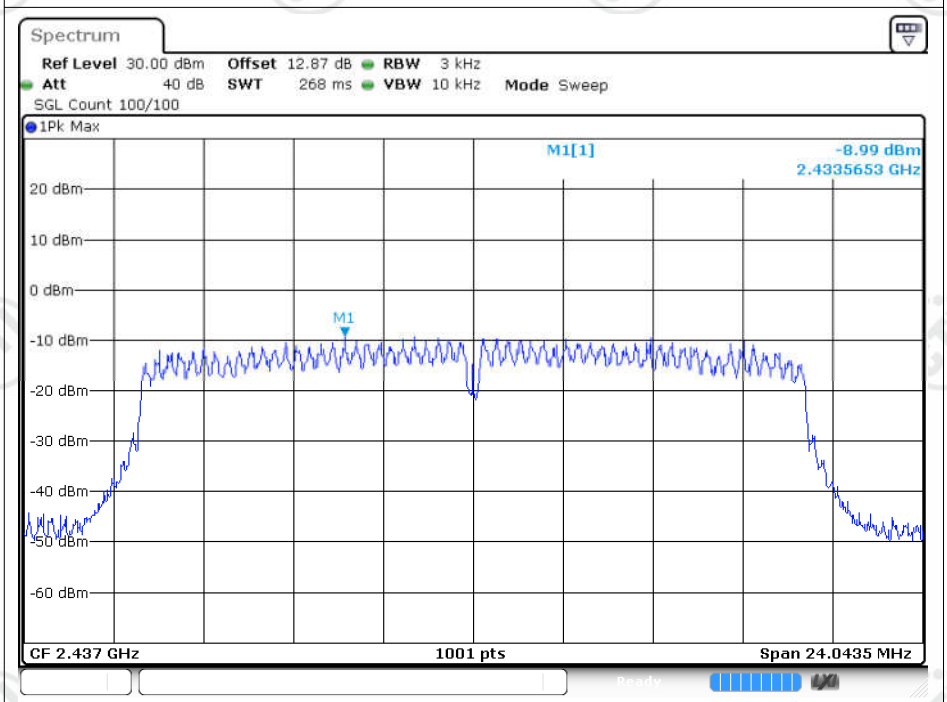

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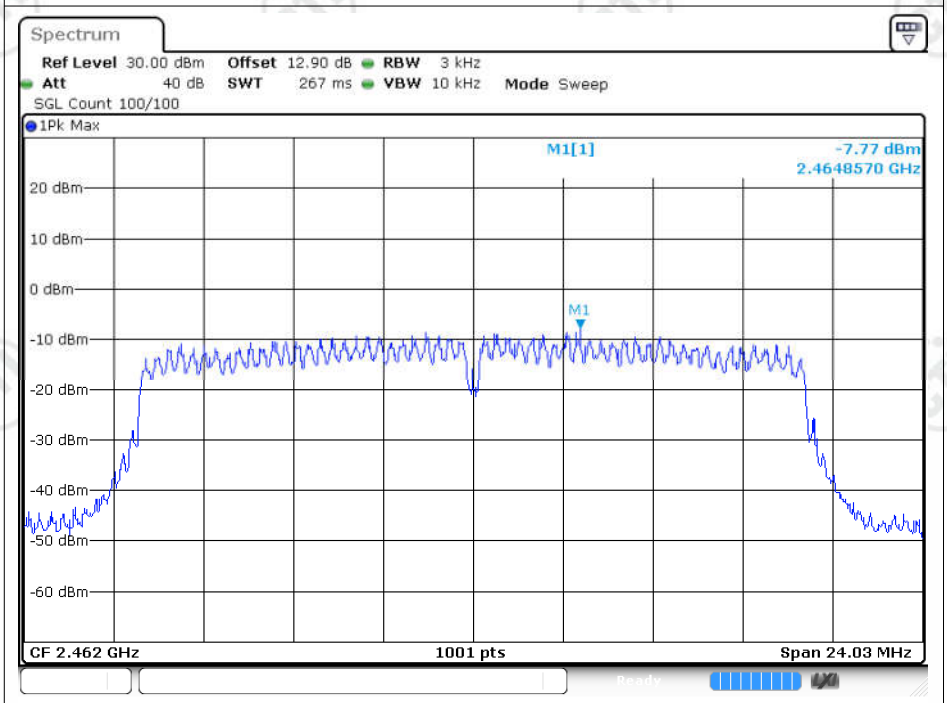
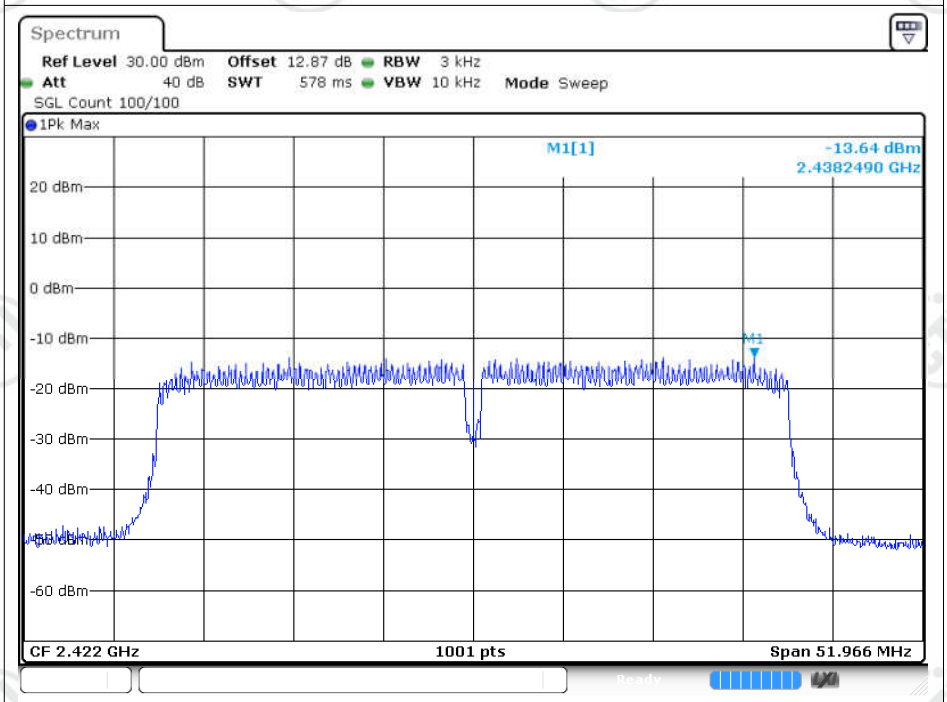
PSD NVNT n20 2462MHz Ant1



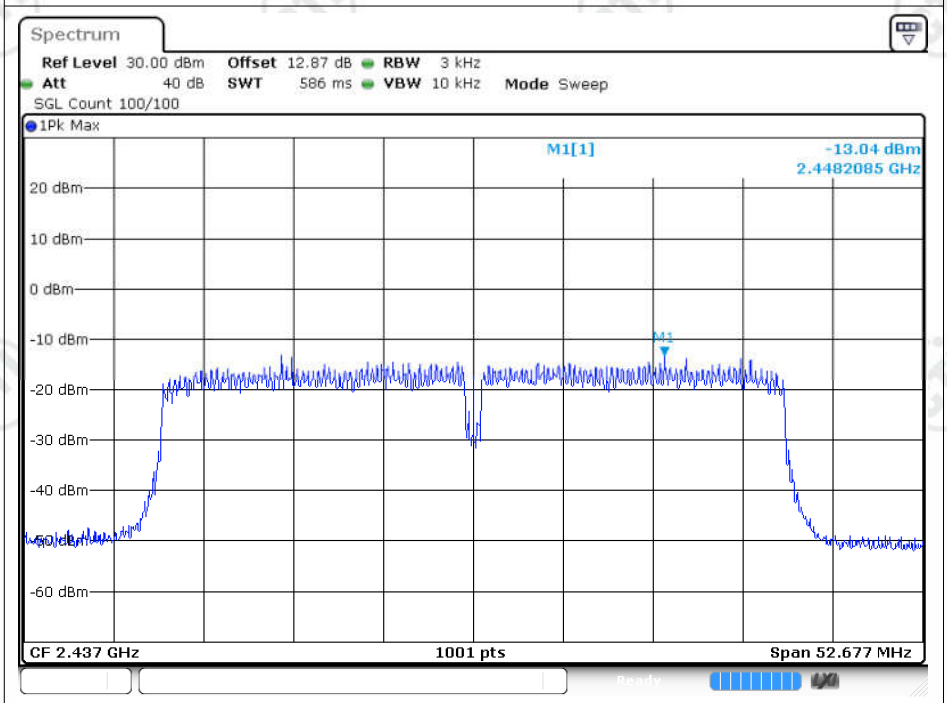
Date: 15.OCT.2024 01:14:34

PSD NVNT n40 2422MHz Ant1



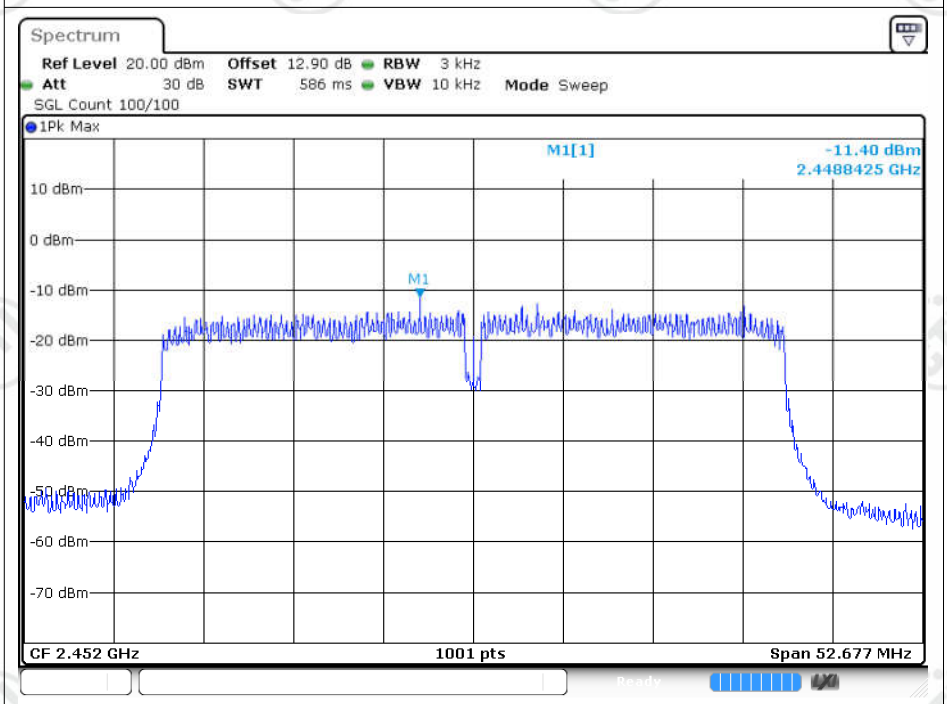
Date: 15.OCT.2024 01:17:53

PSD NVNT n40 2437MHz Ant1



Date: 15.OCT.2024 01:22:42

PSD NVNT n40 2452MHz Ant1



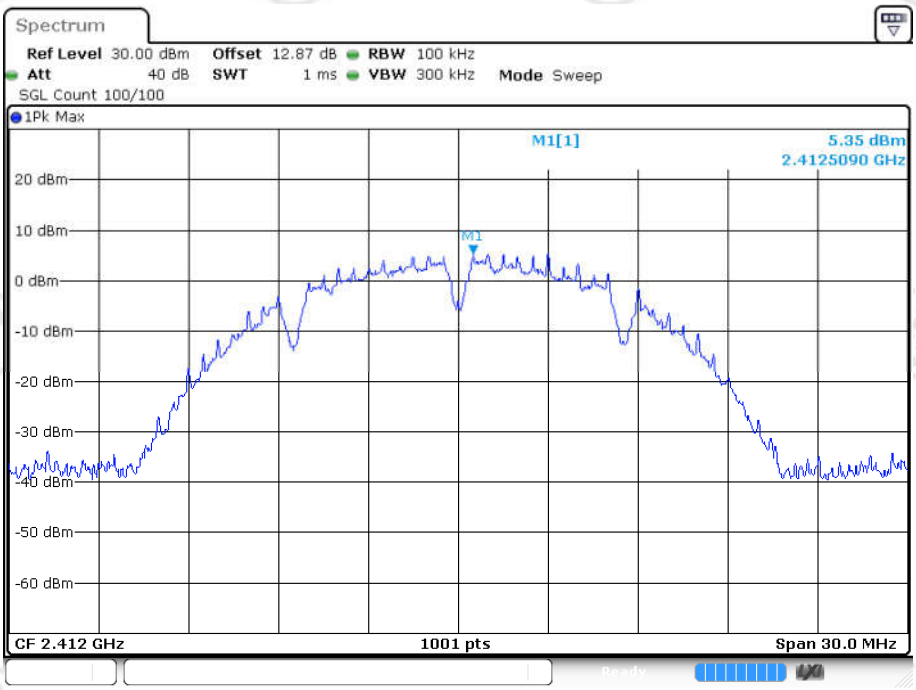
Date: 15.OCT.2024 01:25:51

Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-39.1	-20	Pass
NVNT	b	2462	Ant1	-42.16	-20	Pass
NVNT	g	2412	Ant1	-36.66	-20	Pass
NVNT	g	2462	Ant1	-38.99	-20	Pass
NVNT	n20	2412	Ant1	-35.17	-20	Pass
NVNT	n20	2462	Ant1	-41.3	-20	Pass
NVNT	n40	2422	Ant1	-32.89	-20	Pass
NVNT	n40	2452	Ant1	-34.12	-20	Pass

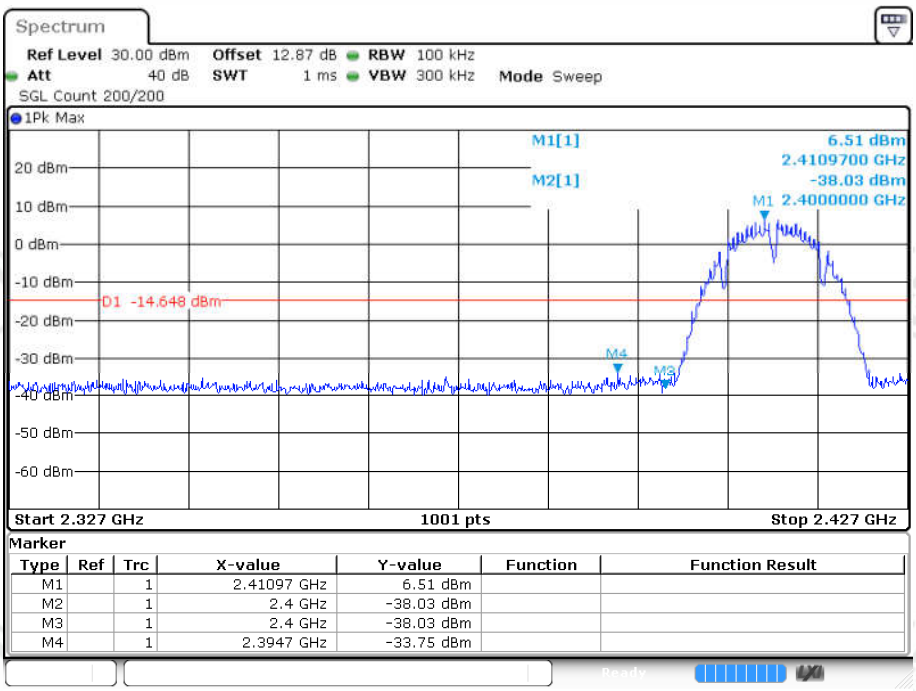
Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



Date: 14.OCT.2024 22:49:25

Band Edge NVNT b 2412MHz Ant1 Emission

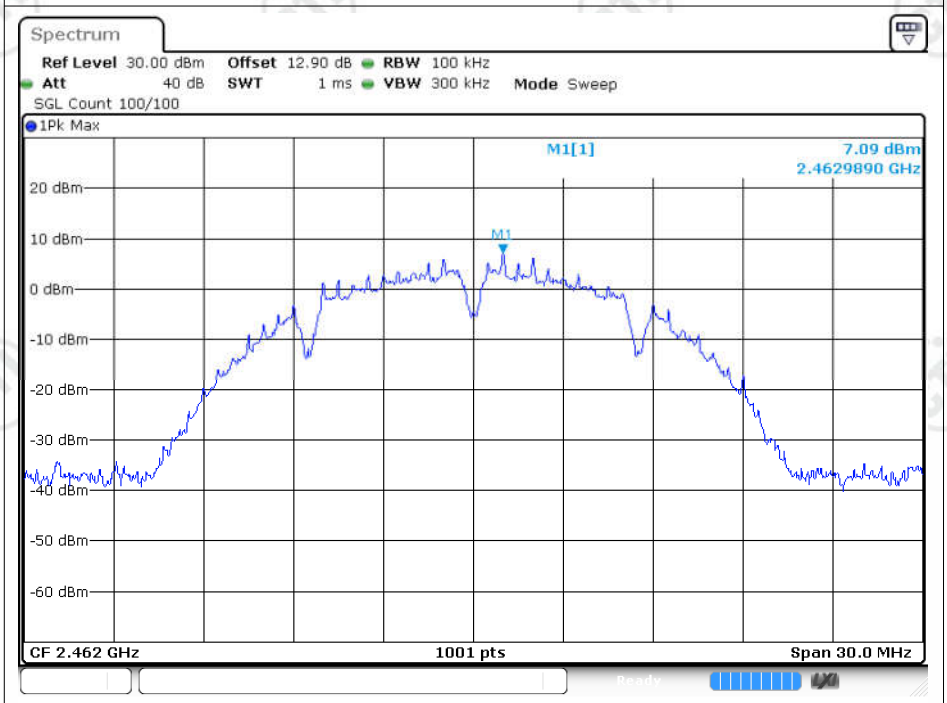


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41097 GHz	6.51 dBm		
M2		1	2.4 GHz	-38.03 dBm		
M3		1	2.4 GHz	-38.03 dBm		
M4		1	2.3947 GHz	-33.75 dBm		

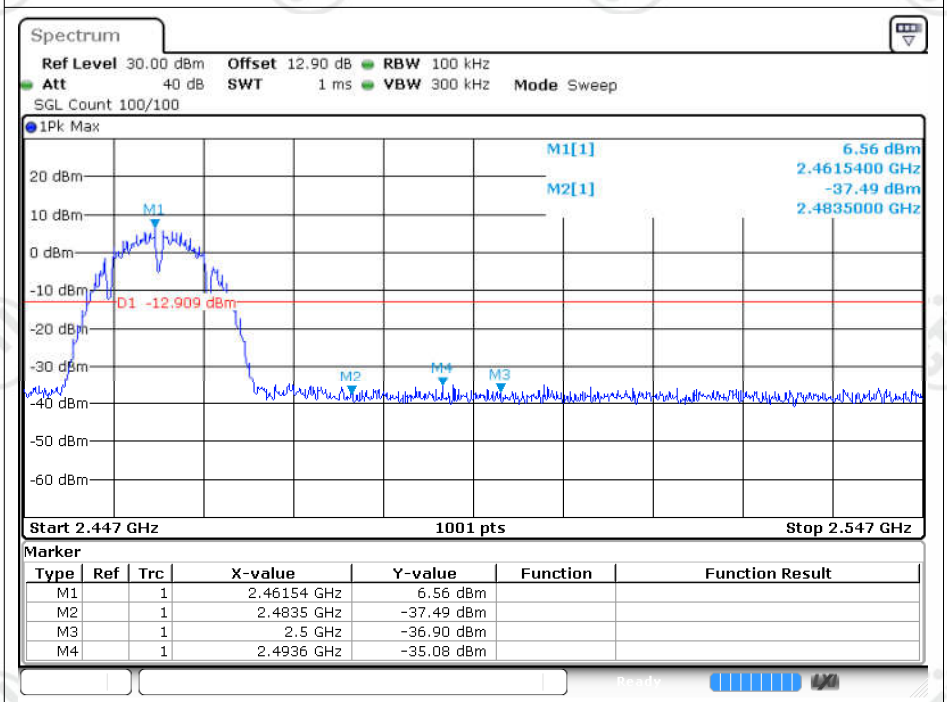
Date: 14.OCT.2024 22:49:27

Band Edge NVNT b 2462MHz Ant1 Ref



Date: 14.OCT.2024 22:53:55

Band Edge NVNT b 2462MHz Ant1 Emission

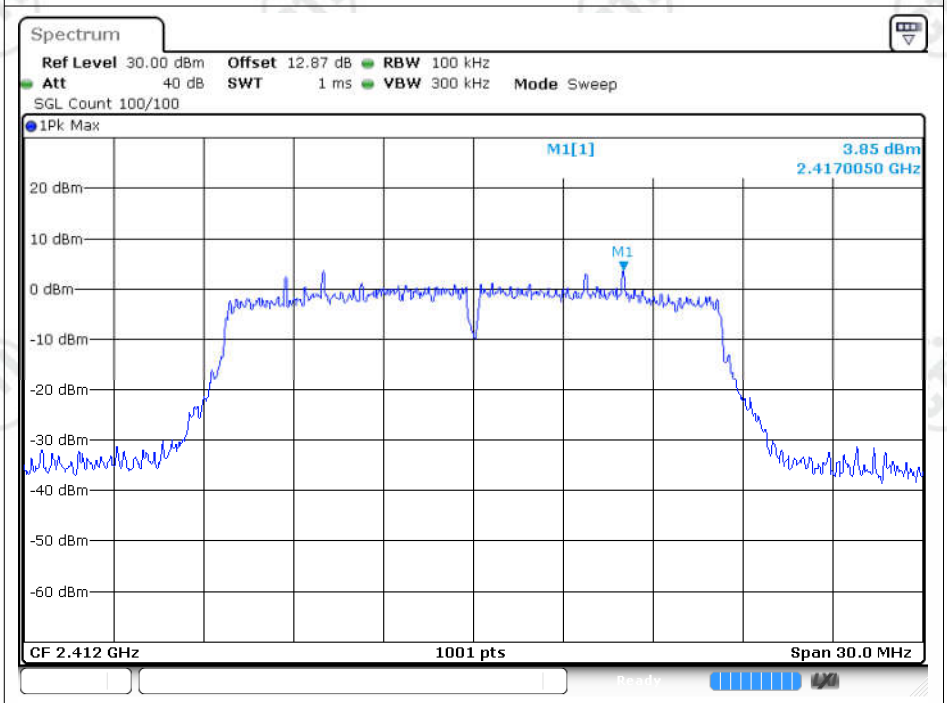


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46154 GHz	6.56 dBm		
M2		1	2.4835 GHz	-37.49 dBm		
M3		1	2.5 GHz	-36.90 dBm		
M4		1	2.4936 GHz	-35.08 dBm		

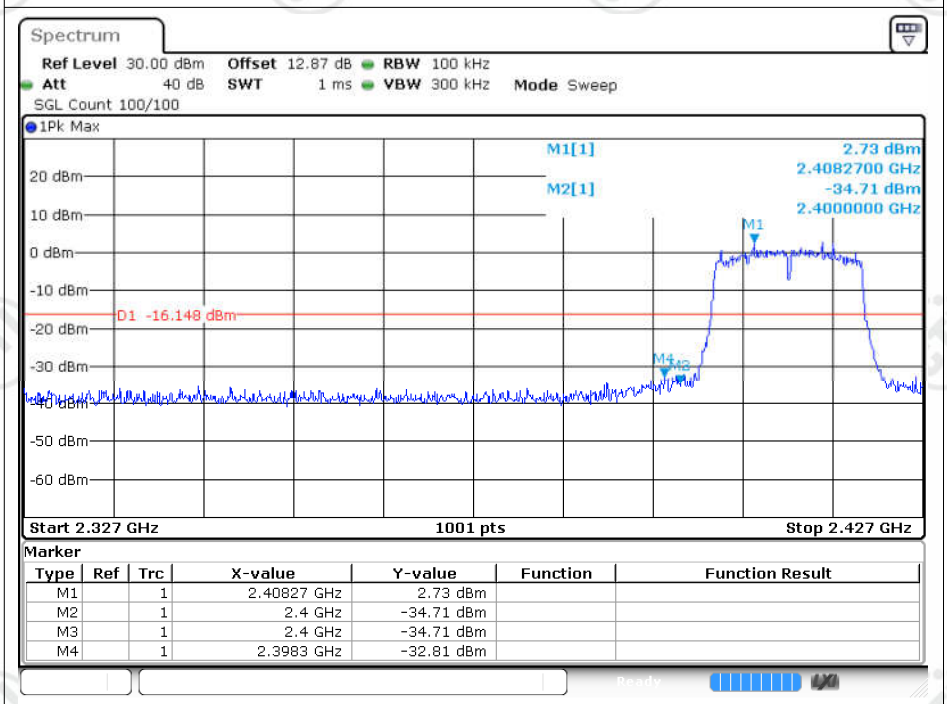
Date: 14.OCT.2024 22:53:57

Band Edge NVNT g 2412MHz Ant1 Ref



Date: 15.OCT.2024 00:41:22

Band Edge NVNT g 2412MHz Ant1 Emission

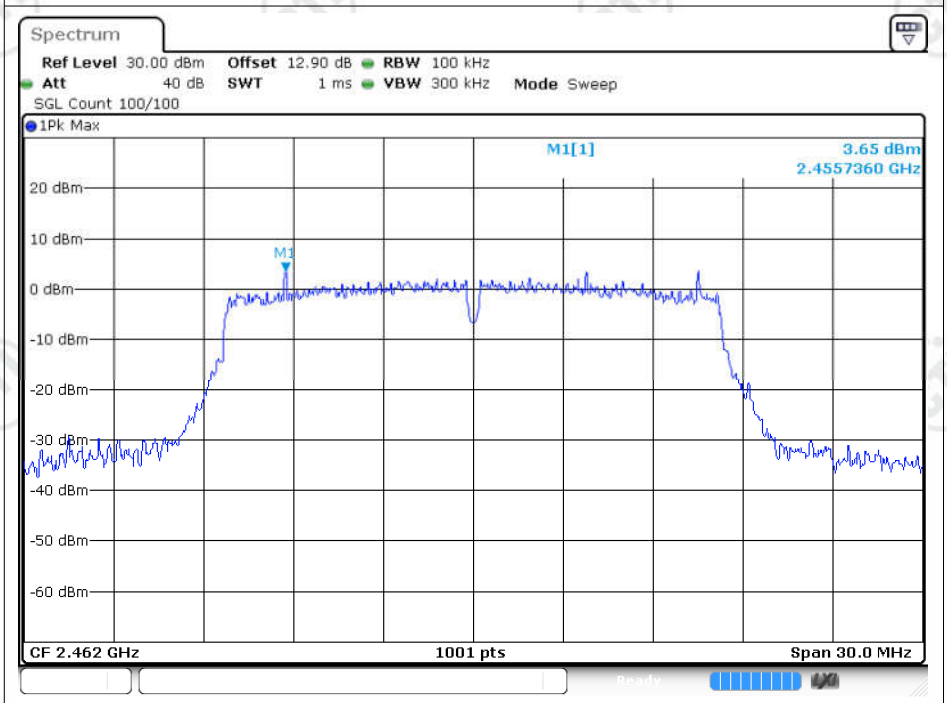


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40827 GHz	2.73 dBm		
M2		1	2.4 GHz	-34.71 dBm		
M3		1	2.4 GHz	-34.71 dBm		
M4		1	2.3983 GHz	-32.81 dBm		

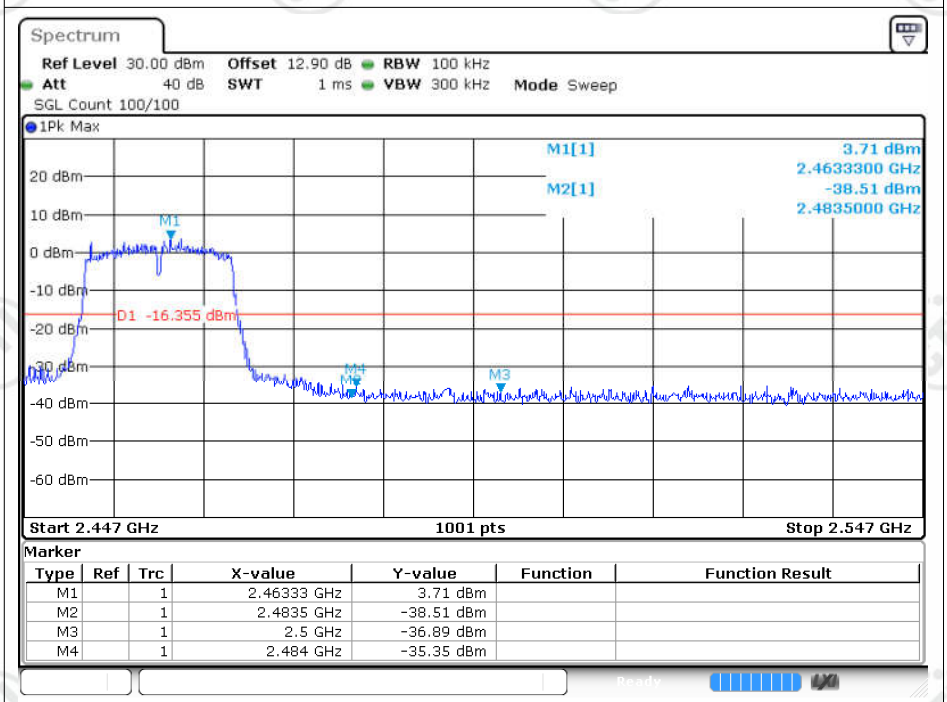
Date: 15.OCT.2024 00:41:24

Band Edge NVNT g 2462MHz Ant1 Ref



Date: 15.OCT.2024 00:50:26

Band Edge NVNT g 2462MHz Ant1 Emission

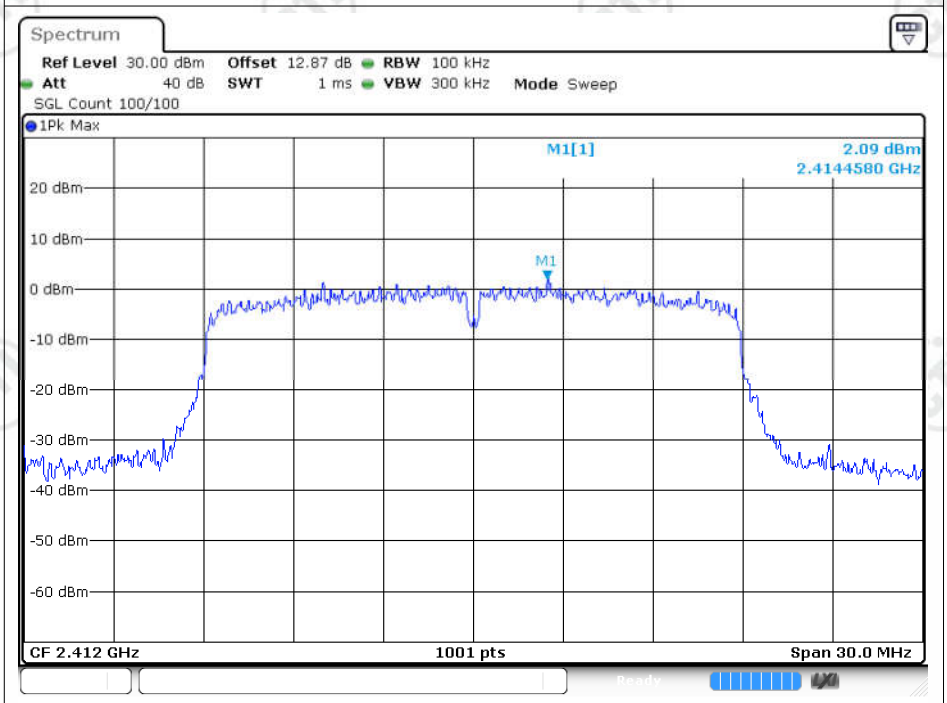


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46333 GHz	3.71 dBm		
M2		1	2.4835 GHz	-38.51 dBm		
M3		1	2.5 GHz	-36.89 dBm		
M4		1	2.484 GHz	-35.35 dBm		

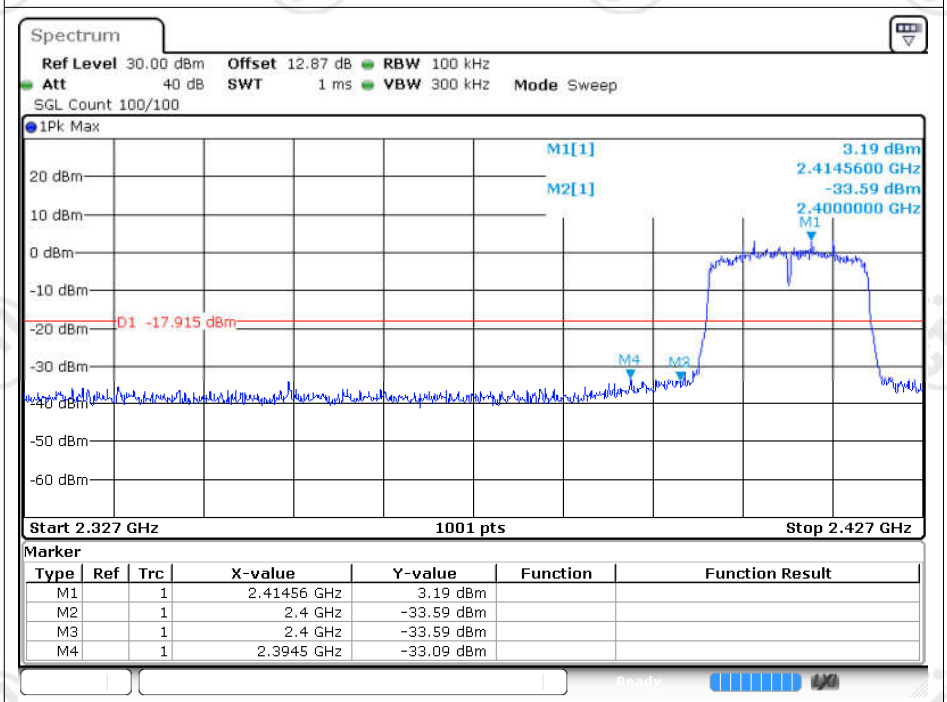
Date: 15.OCT.2024 00:50:28

Band Edge NVNT n20 2412MHz Ant1 Ref



Date: 15.OCT.2024 01:07:36

Band Edge NVNT n20 2412MHz Ant1 Emission

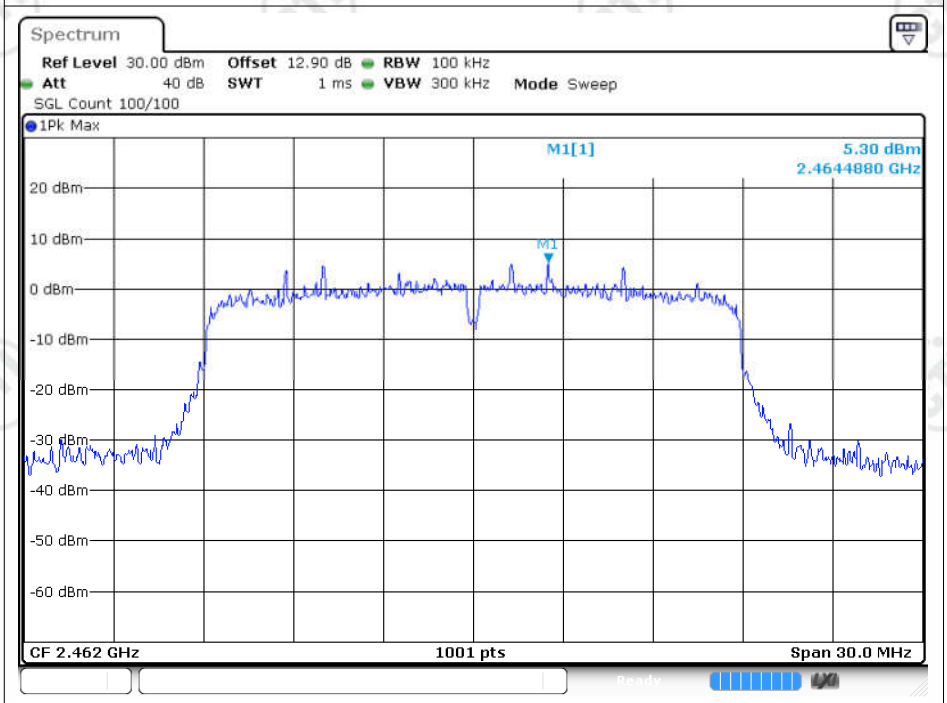


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41456 GHz	3.19 dBm		
M2		1	2.4 GHz	-33.59 dBm		
M3		1	2.4 GHz	-33.59 dBm		
M4		1	2.3945 GHz	-33.09 dBm		

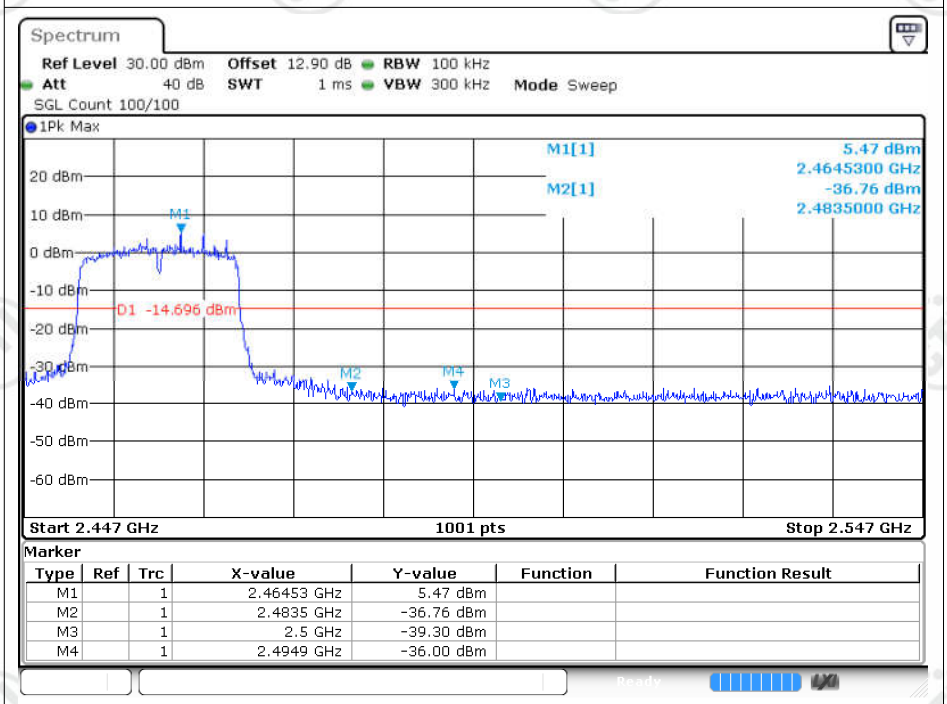
Date: 15.OCT.2024 01:07:38

Band Edge NVNT n20 2462MHz Ant1 Ref



Date: 15.OCT.2024 01:14:38

Band Edge NVNT n20 2462MHz Ant1 Emission

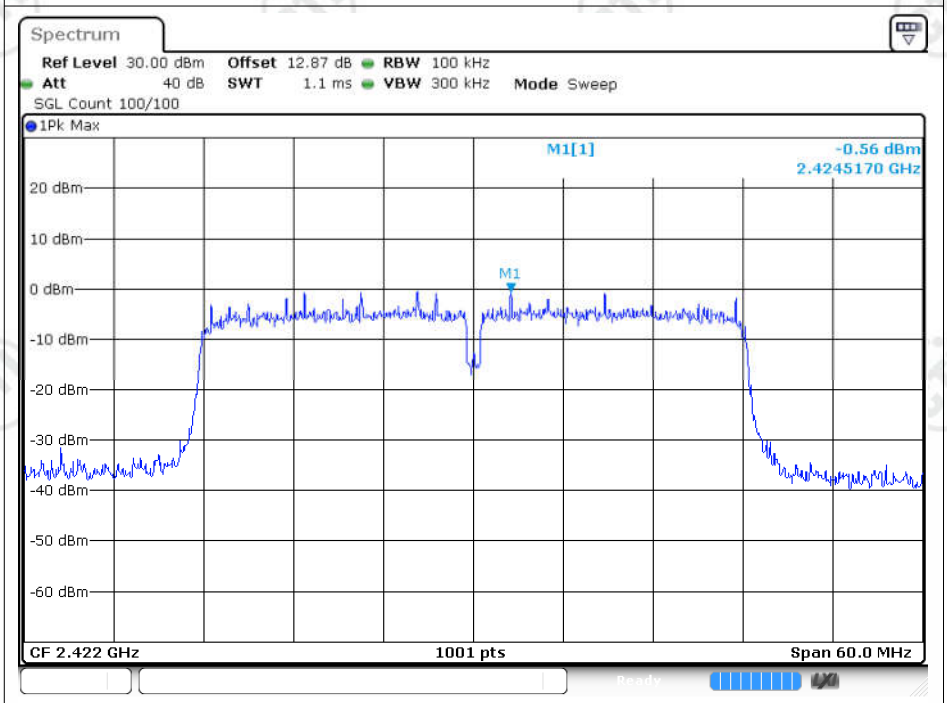


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46453 GHz	5.47 dBm		
M2		1	2.4835 GHz	-36.76 dBm		
M3		1	2.5 GHz	-39.30 dBm		
M4		1	2.4949 GHz	-36.00 dBm		

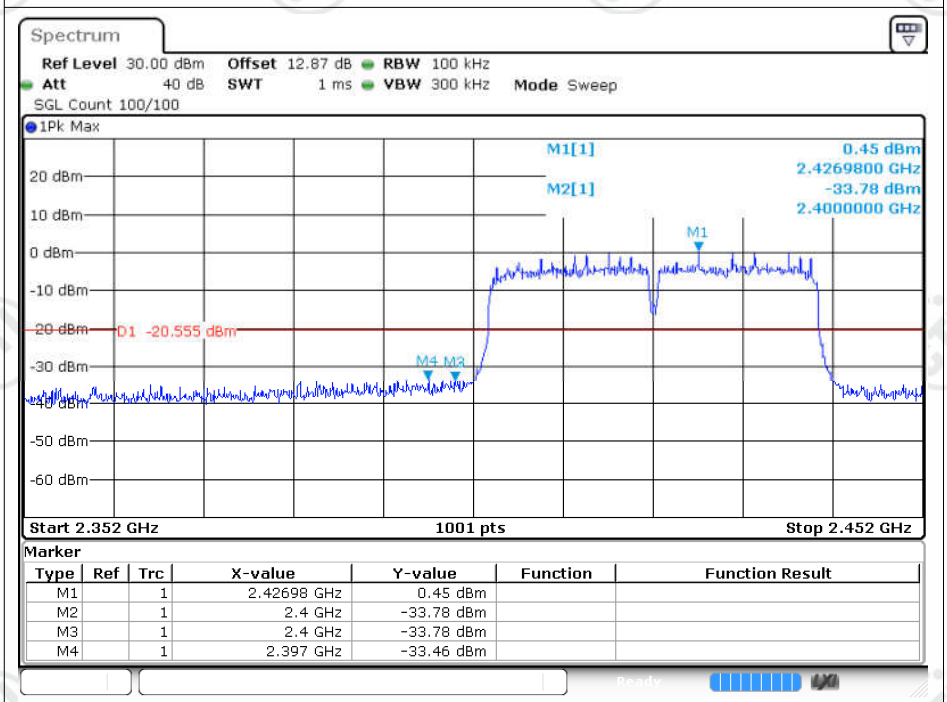
Date: 15.OCT.2024 01:14:39

Band Edge NVNT n40 2422MHz Ant1 Ref



Date: 15.OCT.2024 01:17:56

Band Edge NVNT n40 2422MHz Ant1 Emission

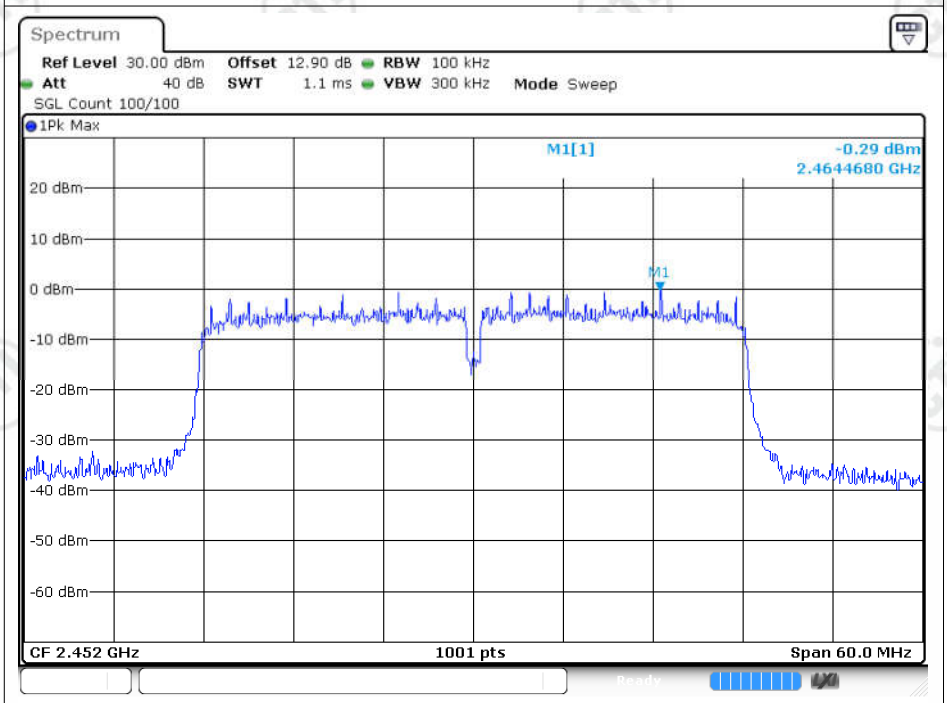


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.42698 GHz	0.45 dBm		
M2		1	2.4 GHz	-33.78 dBm		
M3		1	2.4 GHz	-33.78 dBm		
M4		1	2.397 GHz	-33.46 dBm		

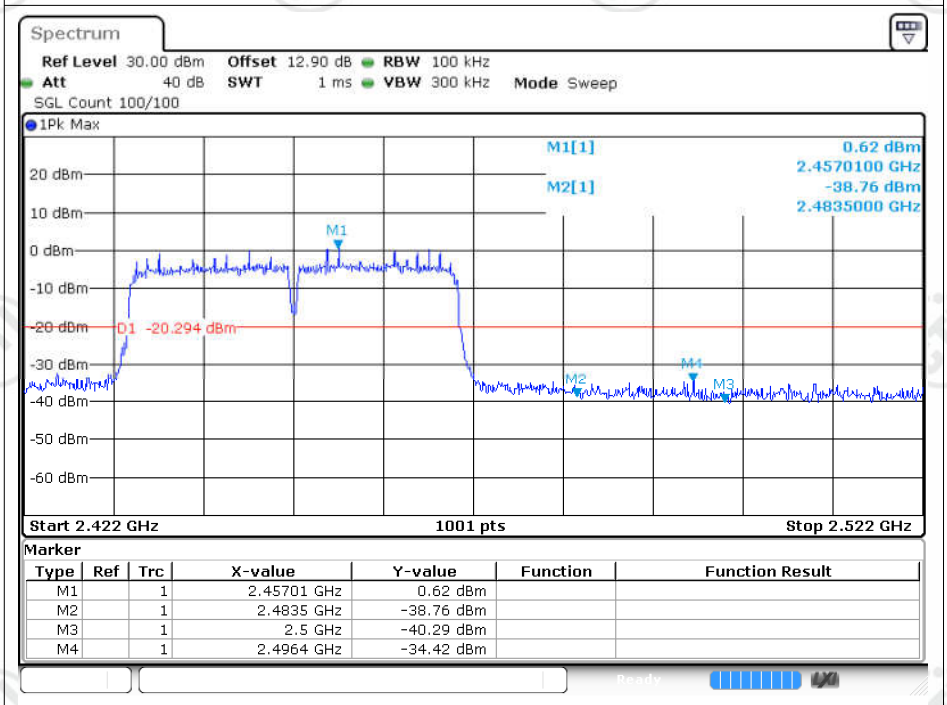
Date: 15.OCT.2024 01:17:57

Band Edge NVNT n40 2452MHz Ant1 Ref



Date: 15.OCT.2024 01:25:54

Band Edge NVNT n40 2452MHz Ant1 Emission



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Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.45701 GHz	0.62 dBm		
M2		1	2.4835 GHz	-38.76 dBm		
M3		1	2.5 GHz	-40.29 dBm		
M4		1	2.4964 GHz	-34.42 dBm		

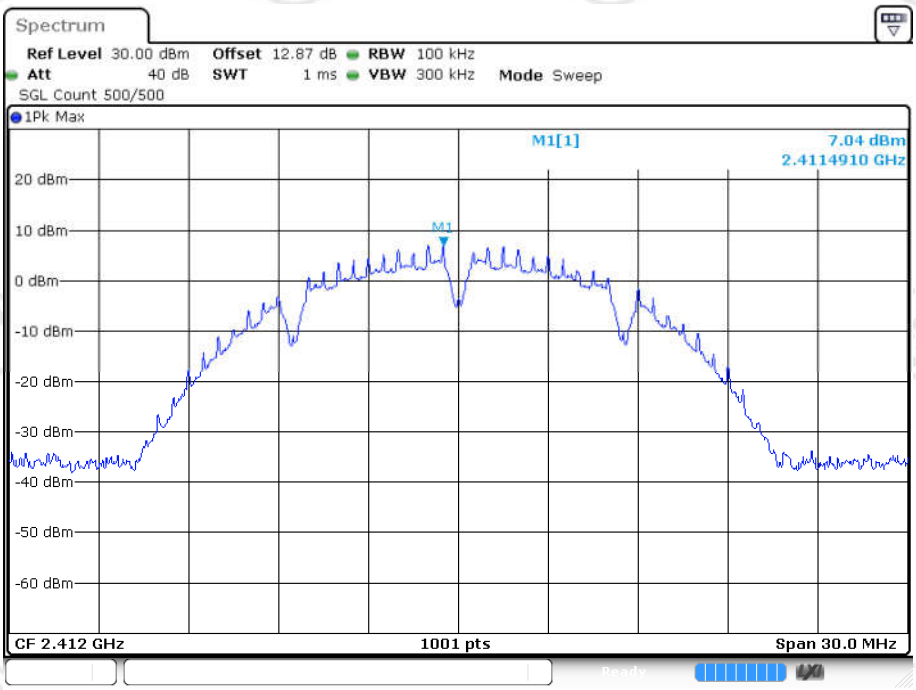
Date: 15.OCT.2024 01:25:55

Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-35.38	-20	Pass
NVNT	b	2437	Ant1	-34.41	-20	Pass
NVNT	b	2462	Ant1	-36.09	-20	Pass
NVNT	g	2412	Ant1	-32.1	-20	Pass
NVNT	g	2437	Ant1	-32.55	-20	Pass
NVNT	g	2462	Ant1	-33.99	-20	Pass
NVNT	n20	2412	Ant1	-31.96	-20	Pass
NVNT	n20	2437	Ant1	-33.05	-20	Pass
NVNT	n20	2462	Ant1	-33.16	-20	Pass
NVNT	n40	2422	Ant1	-28.8	-20	Pass
NVNT	n40	2437	Ant1	-29.03	-20	Pass
NVNT	n40	2452	Ant1	-29.48	-20	Pass

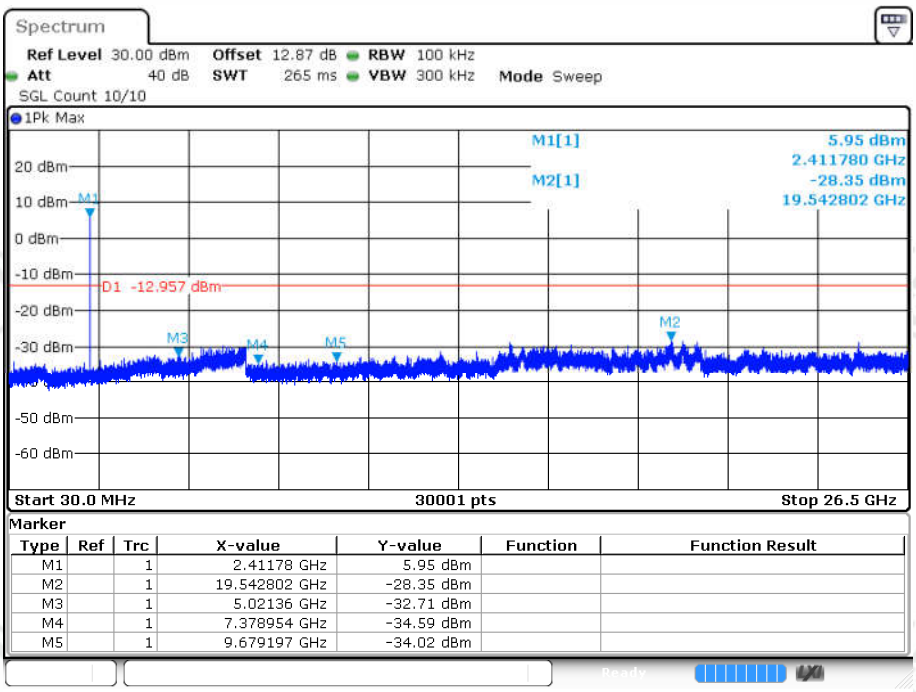
Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref



Date: 14.OCT.2024 22:49:35

Tx. Spurious NVNT b 2412MHz Ant1 Emission

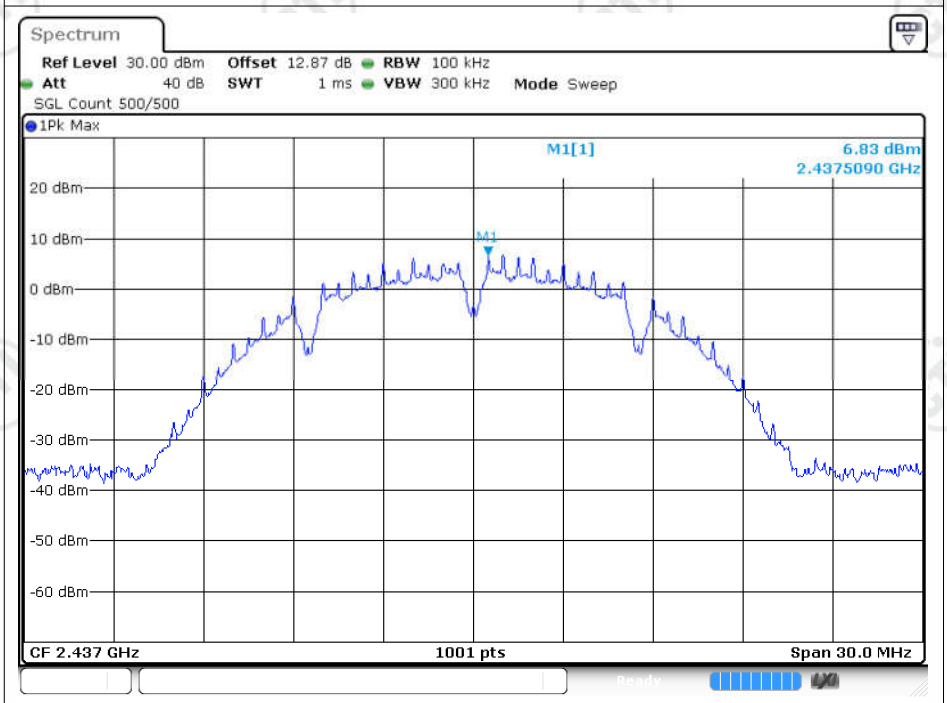


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41178 GHz	5.95 dBm		
M2		1	19.542802 GHz	-28.35 dBm		
M3		1	5.02136 GHz	-32.71 dBm		
M4		1	7.378954 GHz	-34.59 dBm		
M5		1	9.679197 GHz	-34.02 dBm		

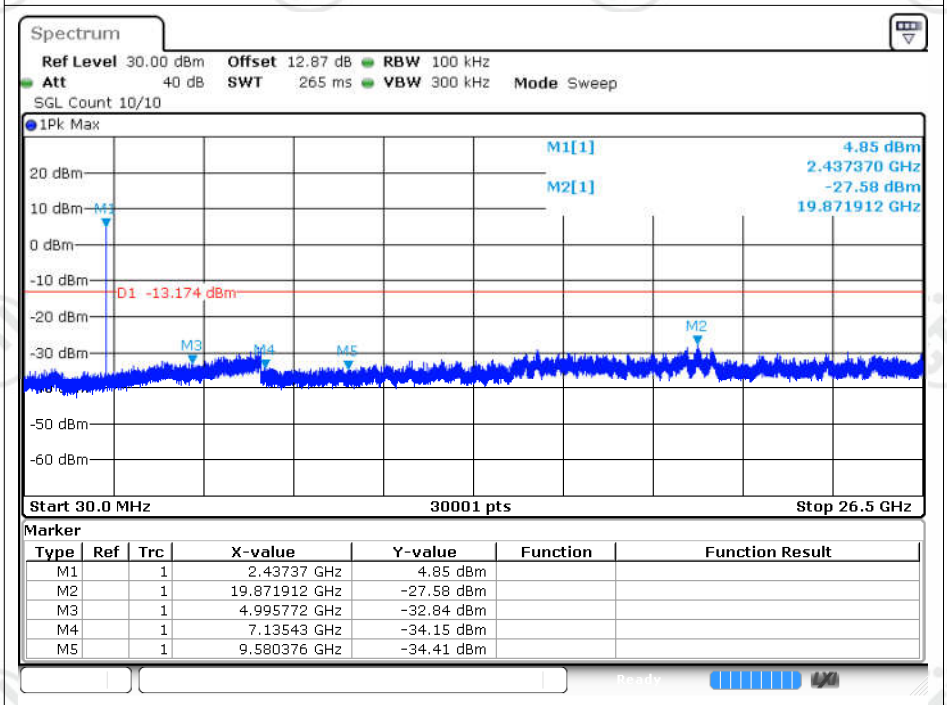
Date: 14.OCT.2024 22:49:46

Tx. Spurious NVNT b 2437MHz Ant1 Ref



Date: 14.OCT.2024 22:51:18

Tx. Spurious NVNT b 2437MHz Ant1 Emission

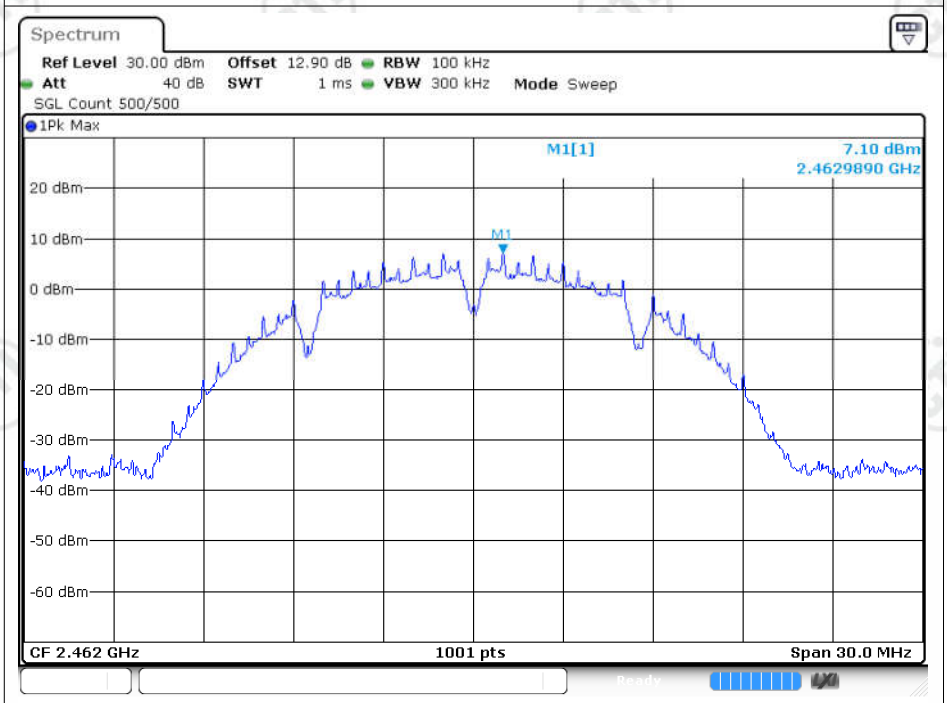


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43737 GHz	4.85 dBm		
M2		1	19.871912 GHz	-27.58 dBm		
M3		1	4.995772 GHz	-32.84 dBm		
M4		1	7.13543 GHz	-34.15 dBm		
M5		1	9.580376 GHz	-34.41 dBm		

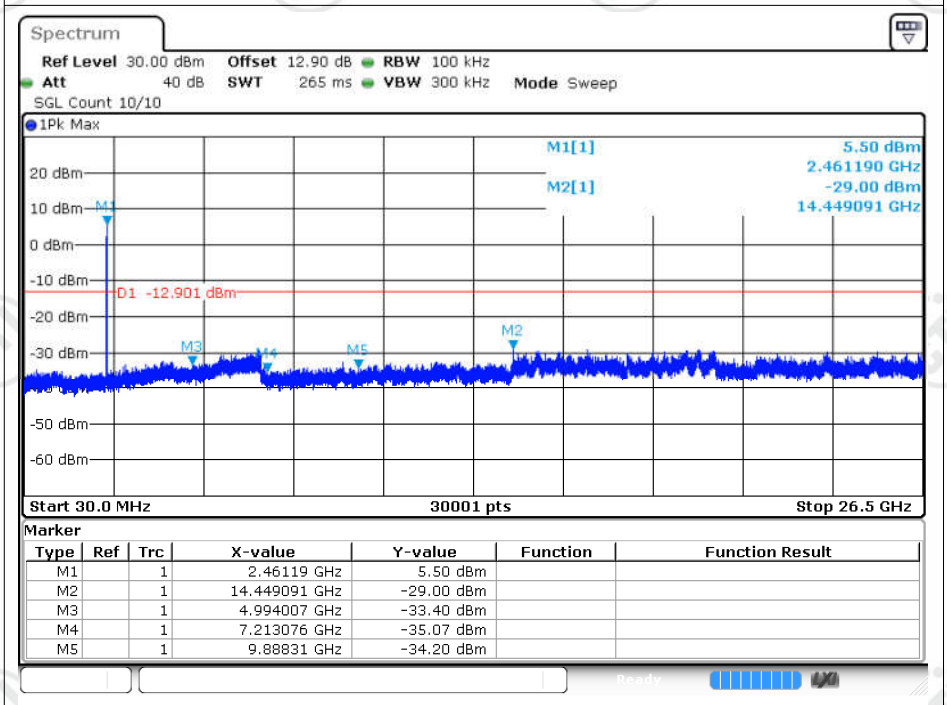
Date: 14.OCT.2024 22:51:30

Tx. Spurious NVNT b 2462MHz Ant1 Ref



Date: 14.OCT.2024 22:54:07

Tx. Spurious NVNT b 2462MHz Ant1 Emission

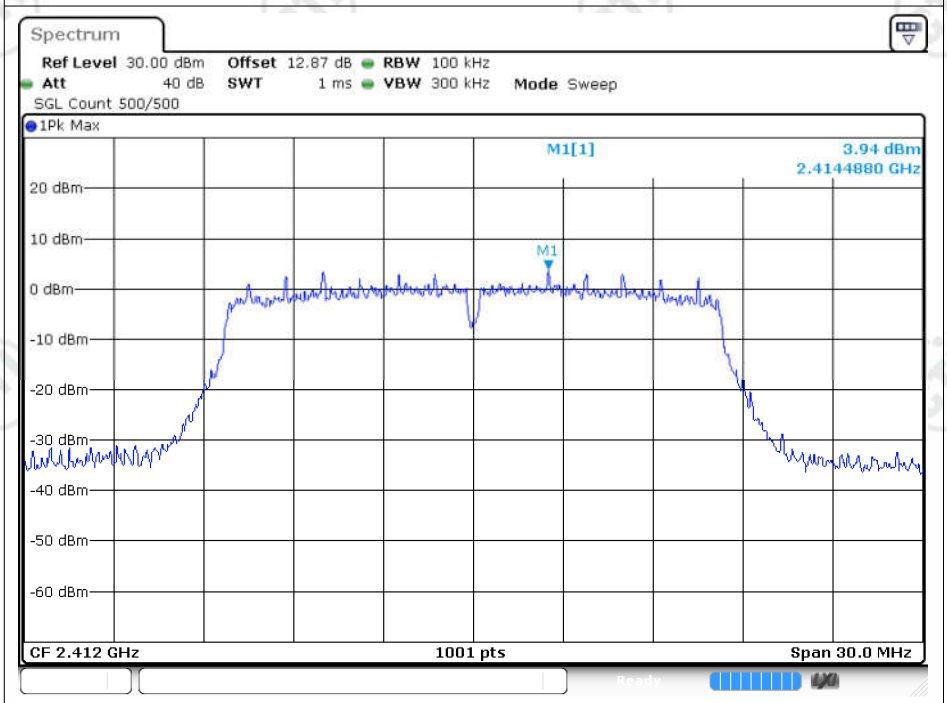


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46119 GHz	5.50 dBm		
M2		1	14.449091 GHz	-29.00 dBm		
M3		1	4.994007 GHz	-33.40 dBm		
M4		1	7.213076 GHz	-35.07 dBm		
M5		1	9.88831 GHz	-34.20 dBm		

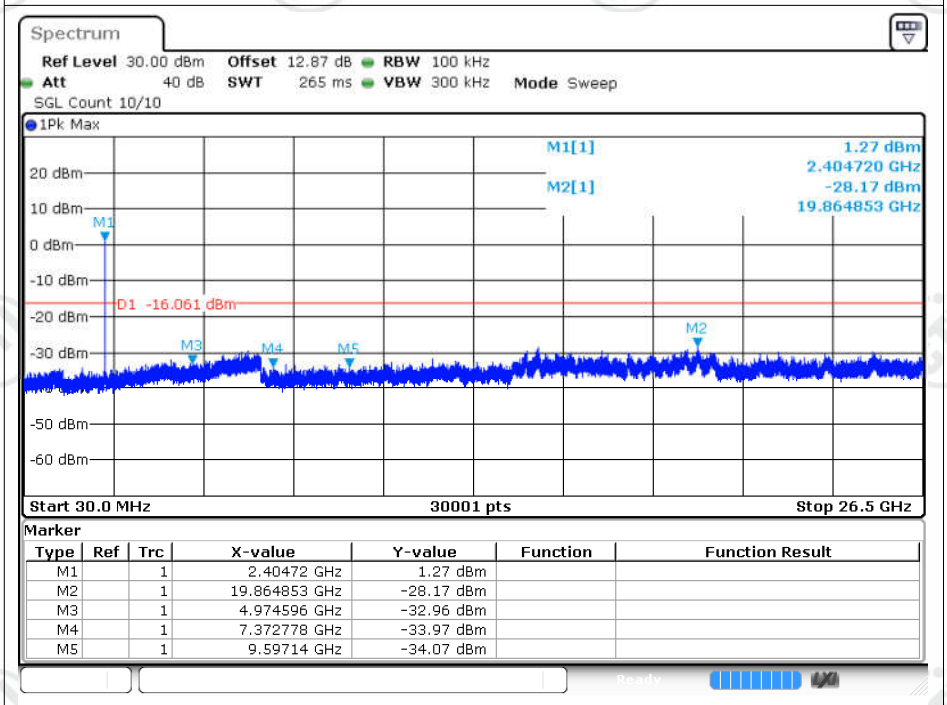
Date: 14.OCT.2024 22:54:18

Tx. Spurious NVNT g 2412MHz Ant1 Ref



Date: 15.OCT.2024 00:41:31

Tx. Spurious NVNT g 2412MHz Ant1 Emission

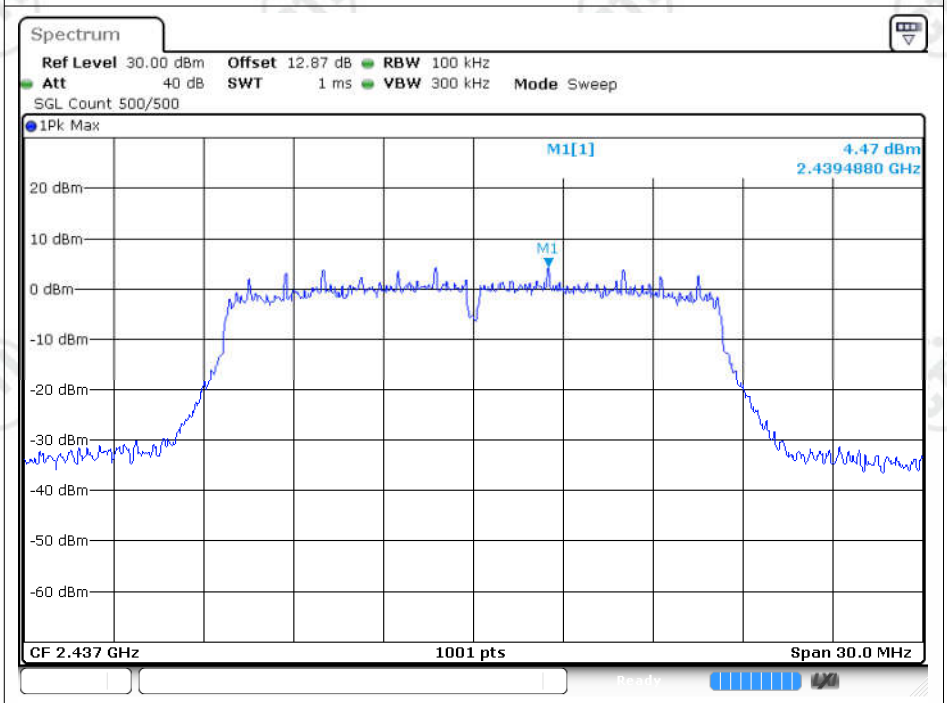


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40472 GHz	1.27 dBm		
M2		1	19.864853 GHz	-28.17 dBm		
M3		1	4.974596 GHz	-32.96 dBm		
M4		1	7.372778 GHz	-33.97 dBm		
M5		1	9.59714 GHz	-34.07 dBm		

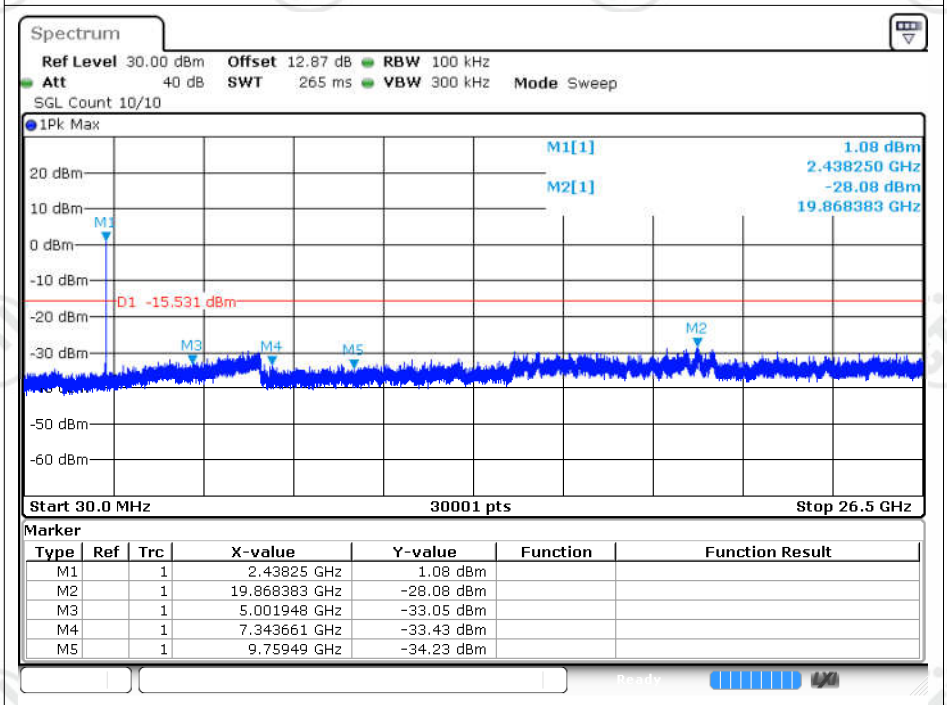
Date: 15.OCT.2024 00:41:43

Tx. Spurious NVNT g 2437MHz Ant1 Ref



Date: 15.OCT.2024 00:43:12

Tx. Spurious NVNT g 2437MHz Ant1 Emission

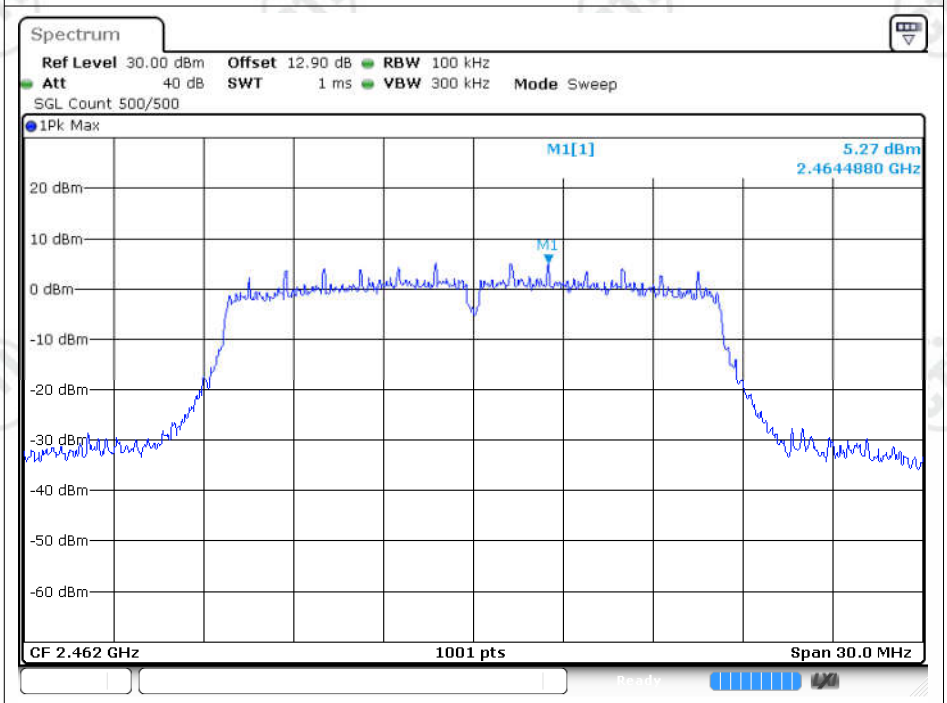


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43825 GHz	1.08 dBm		
M2		1	19.868383 GHz	-28.08 dBm		
M3		1	5.001948 GHz	-33.05 dBm		
M4		1	7.343661 GHz	-33.43 dBm		
M5		1	9.75949 GHz	-34.23 dBm		

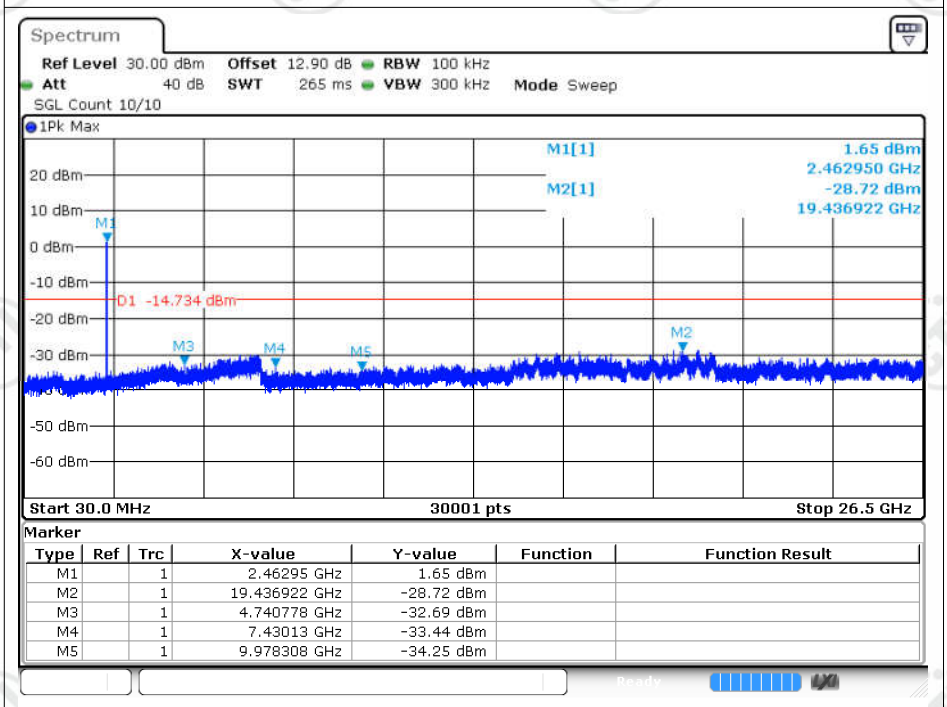
Date: 15.OCT.2024 00:43:23

Tx. Spurious NVNT g 2462MHz Ant1 Ref



Date: 15.OCT.2024 00:50:38

Tx. Spurious NVNT g 2462MHz Ant1 Emission

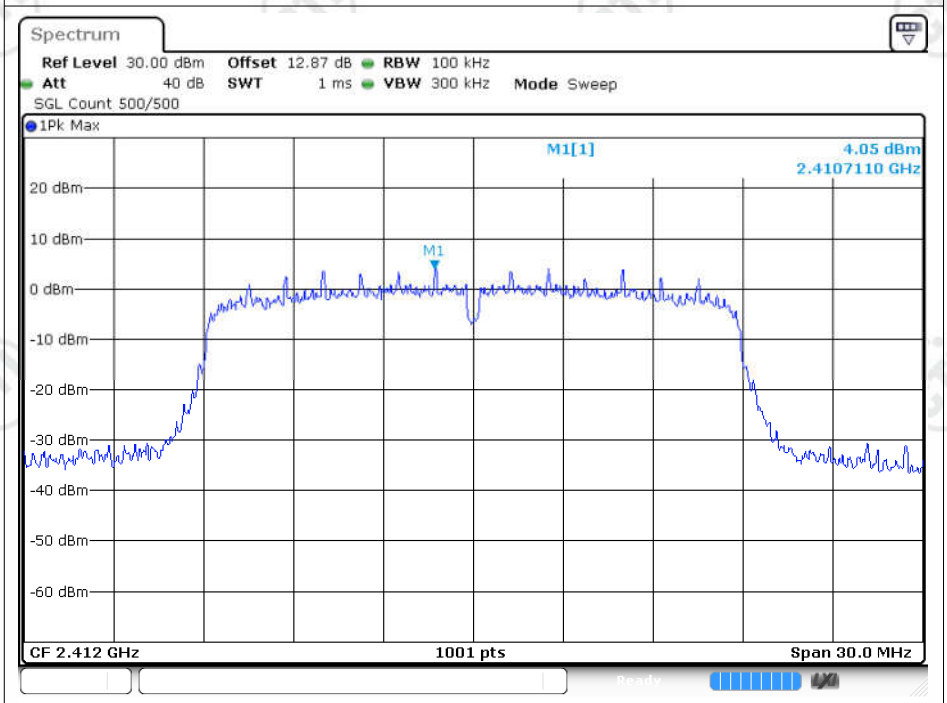


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46295 GHz	1.65 dBm		
M2		1	19.436922 GHz	-28.72 dBm		
M3		1	4.740778 GHz	-32.69 dBm		
M4		1	7.43013 GHz	-33.44 dBm		
M5		1	9.978308 GHz	-34.25 dBm		

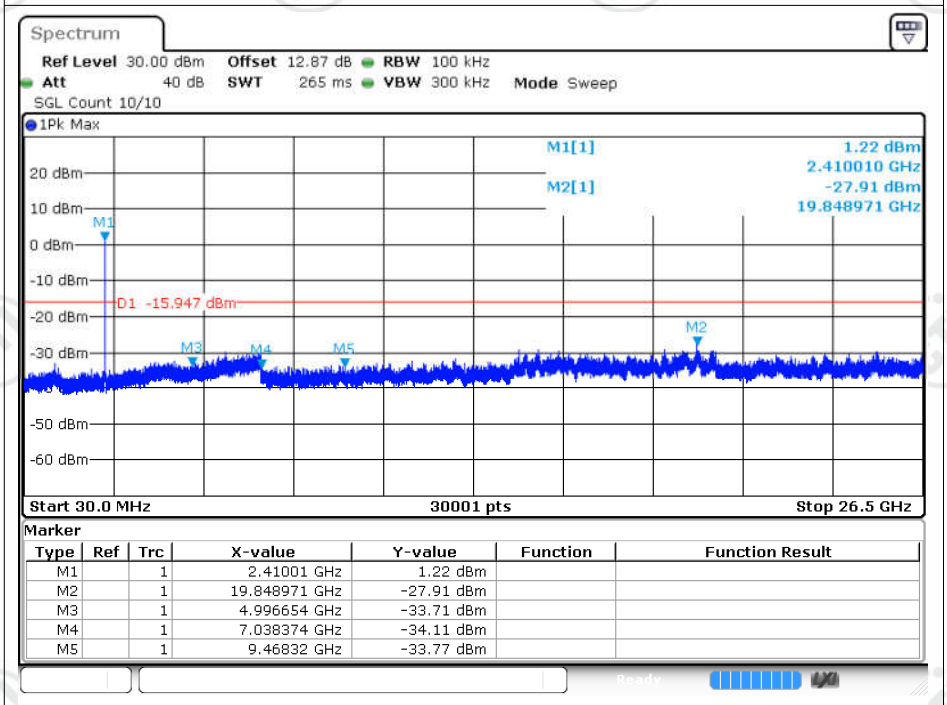
Date: 15.OCT.2024 00:50:49

Tx. Spurious NVNT n20 2412MHz Ant1 Ref



Date: 15.OCT.2024 01:07:46

Tx. Spurious NVNT n20 2412MHz Ant1 Emission

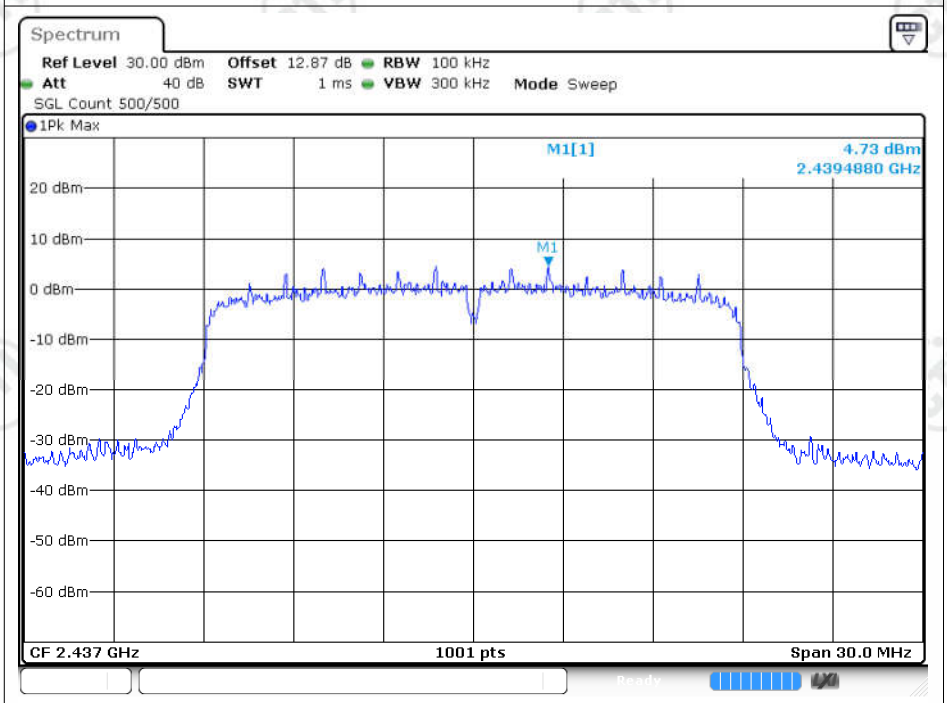


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.41001 GHz	1.22 dBm		
M2		1	19.848971 GHz	-27.91 dBm		
M3		1	4.996654 GHz	-33.71 dBm		
M4		1	7.038374 GHz	-34.11 dBm		
M5		1	9.46832 GHz	-33.77 dBm		

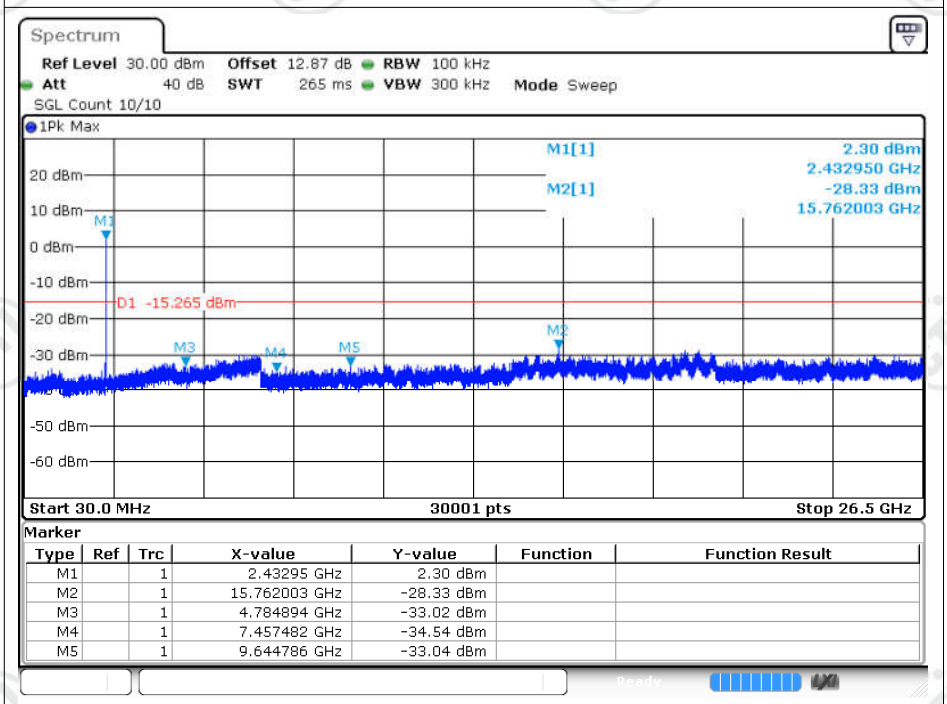
Date: 15.OCT.2024 01:07:57

Tx. Spurious NVNT n20 2437MHz Ant1 Ref



Date: 15.OCT.2024 01:11:04

Tx. Spurious NVNT n20 2437MHz Ant1 Emission

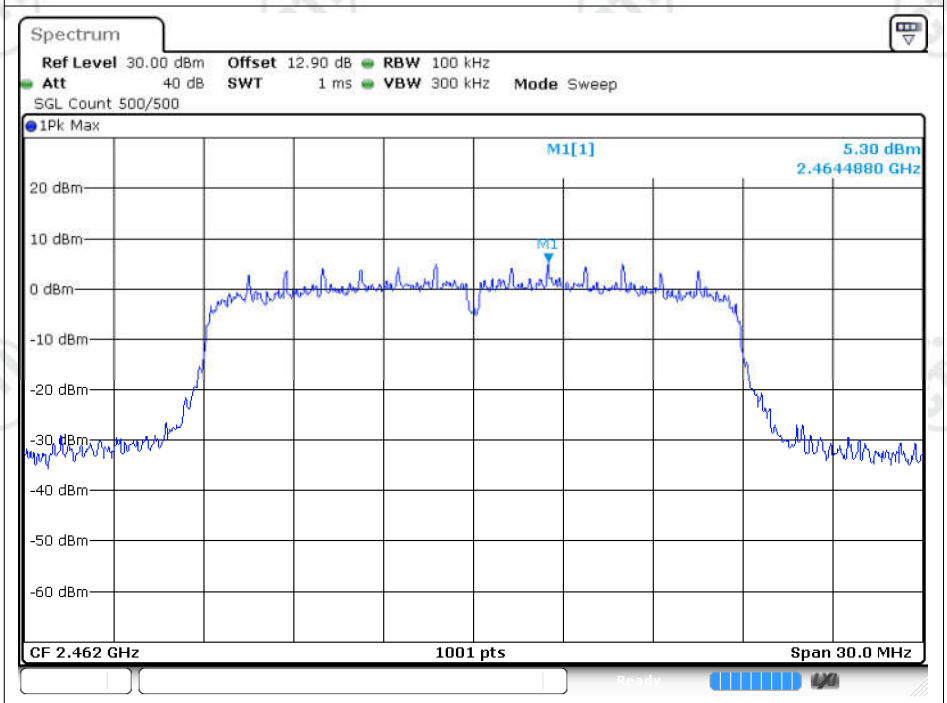


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43295 GHz	2.30 dBm		
M2		1	15.762003 GHz	-28.33 dBm		
M3		1	4.784894 GHz	-33.02 dBm		
M4		1	7.457482 GHz	-34.54 dBm		
M5		1	9.644786 GHz	-33.04 dBm		

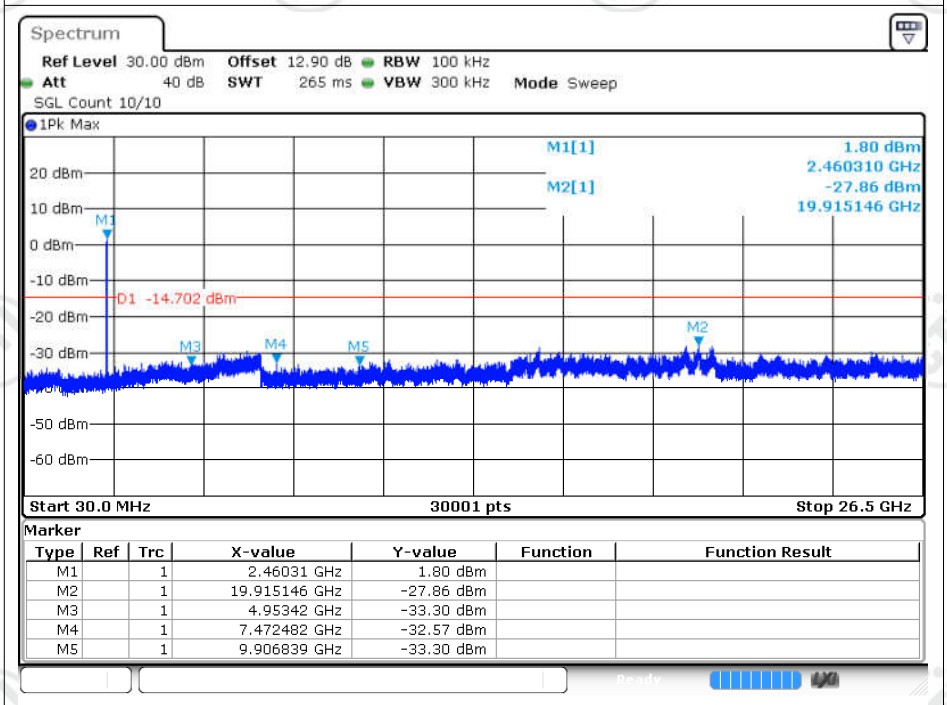
Date: 15.OCT.2024 01:11:15

Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Date: 15.OCT.2024 01:14:50

Tx. Spurious NVNT n20 2462MHz Ant1 Emission

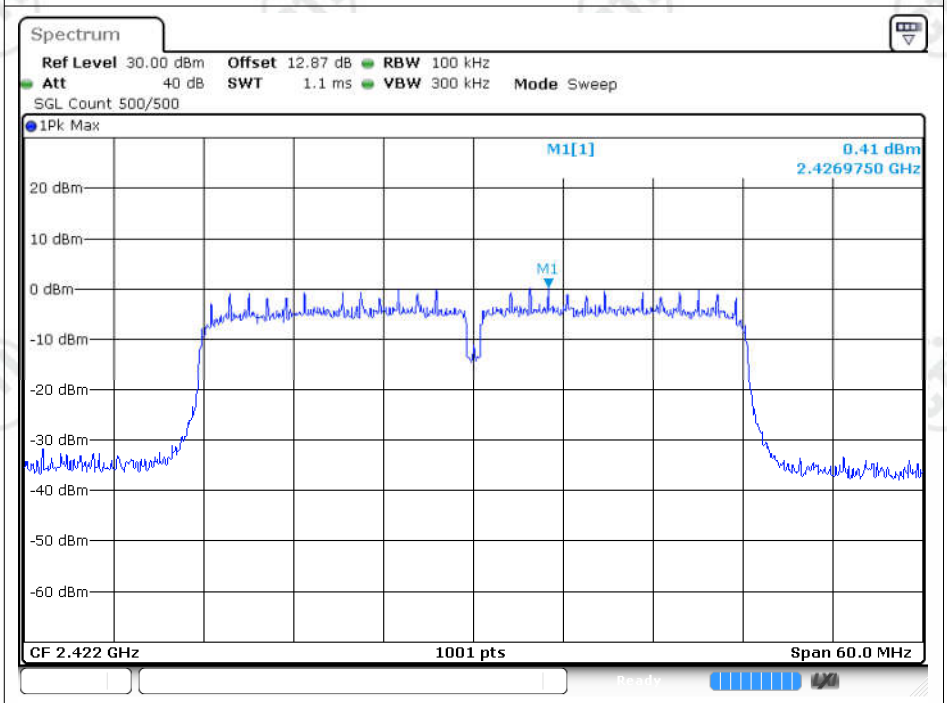


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.46031 GHz	1.80 dBm		
M2		1	19.915146 GHz	-27.86 dBm		
M3		1	4.95342 GHz	-33.30 dBm		
M4		1	7.472482 GHz	-32.57 dBm		
M5		1	9.906839 GHz	-33.30 dBm		

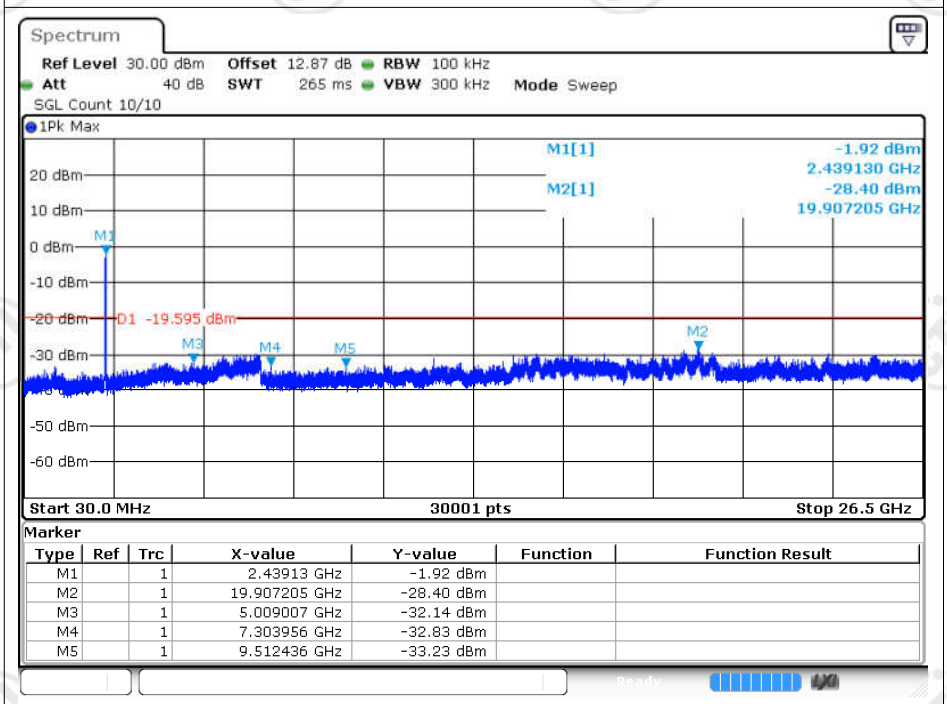
Date: 15.OCT.2024 01:15:01

Tx. Spurious NVNT n40 2422MHz Ant1 Ref



Date: 15.OCT.2024 01:18:01

Tx. Spurious NVNT n40 2422MHz Ant1 Emission

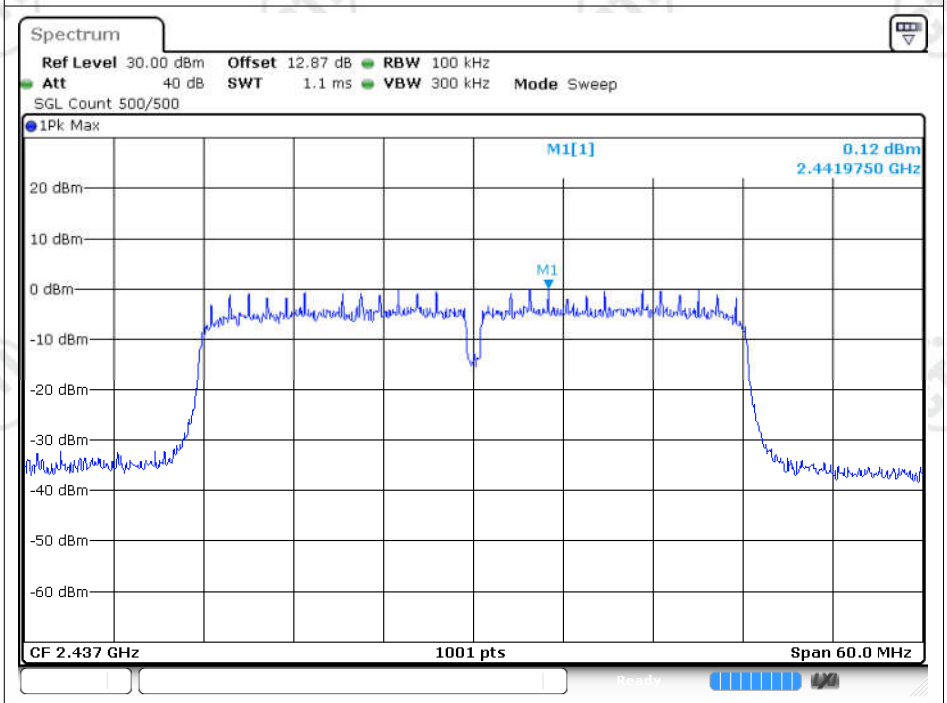


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.43913 GHz	-1.92 dBm		
M2		1	19.907205 GHz	-28.40 dBm		
M3		1	5.009007 GHz	-32.14 dBm		
M4		1	7.303956 GHz	-32.83 dBm		
M5		1	9.512436 GHz	-33.23 dBm		

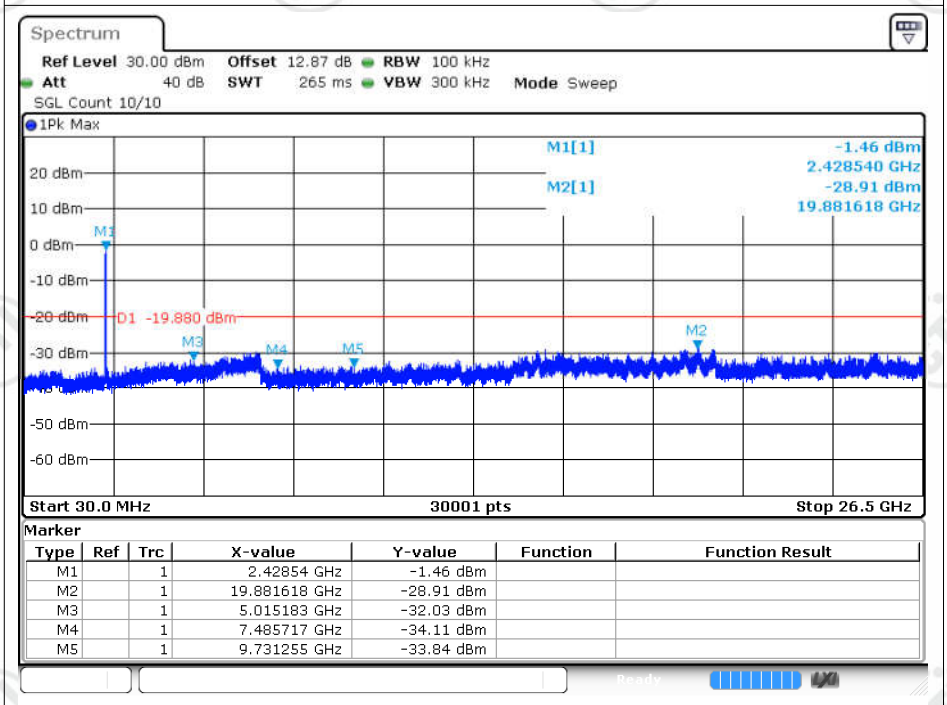
Date: 15.OCT.2024 01:18:13

Tx. Spurious NVNT n40 2437MHz Ant1 Ref



Date: 15.OCT.2024 01:22:46

Tx. Spurious NVNT n40 2437MHz Ant1 Emission

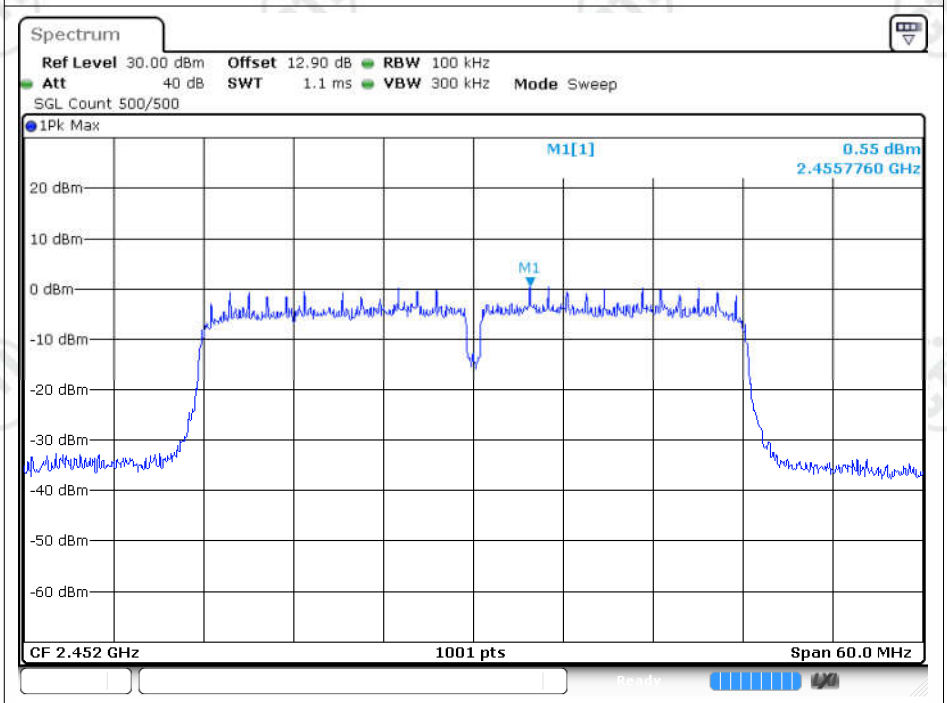


Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.42854 GHz	-1.46 dBm		
M2		1	19.881618 GHz	-28.91 dBm		
M3		1	5.015183 GHz	-32.03 dBm		
M4		1	7.485717 GHz	-34.11 dBm		
M5		1	9.731255 GHz	-33.84 dBm		

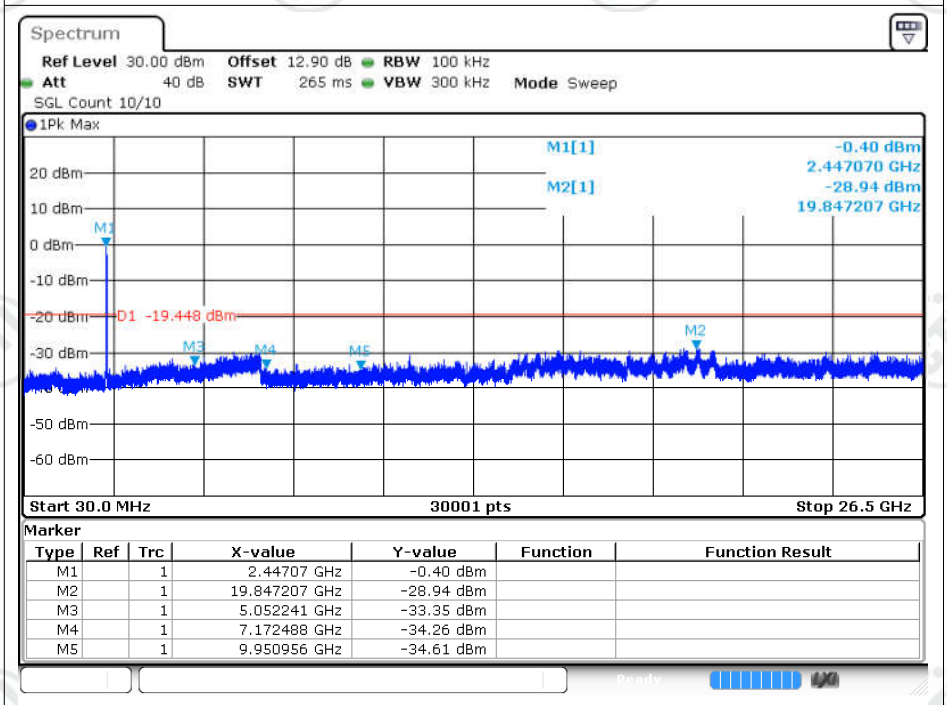
Date: 15.OCT.2024 01:22:57

Tx. Spurious NVNT n40 2452MHz Ant1 Ref



Date: 15.OCT.2024 01:25:59

Tx. Spurious NVNT n40 2452MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.44707 GHz	-0.40 dBm		
M2		1	19.847207 GHz	-28.94 dBm		
M3		1	5.052241 GHz	-33.35 dBm		
M4		1	7.172488 GHz	-34.26 dBm		
M5		1	9.950956 GHz	-34.61 dBm		

Date: 15.OCT.2024 01:26:10

END OF REPORT