

Test Information:

Sample No.:	2QQ5-1	Test Date:	2024/09/05
Test Site:	RF	Test Mode:	Transmitting
Tester:	Arthur Su	Test Result:	Pass

Environmental Conditions:

Temperature: (°C):	26.7	Relative Humidity: (%)	54	ATM Pressure: (kPa)	100.4
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
R&S	Spectrum Analyzer	FSU26	200256	2024/04/01	2025/03/31

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

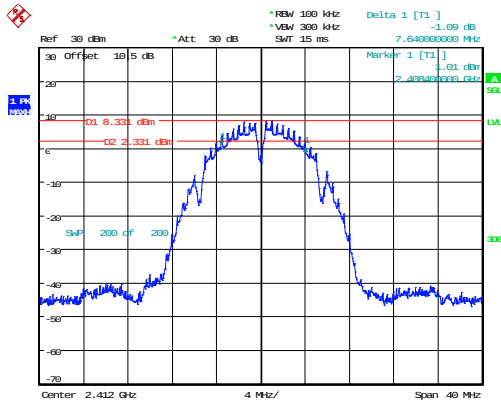
6dB Emission Bandwidth

2412~2472

Mode	Value (MHz)	Limit (MHz)	Result
b_2412MHz_Chain 0	7.640	≥ 0.5	Pass
b_2442MHz_Chain 0	7.640	≥ 0.5	Pass
b_2472MHz_Chain 0	8.080	≥ 0.5	Pass
g_2412MHz_Chain 0	16.440	≥ 0.5	Pass
g_2442MHz_Chain 0	16.440	≥ 0.5	Pass
g_2472MHz_Chain 0	16.440	≥ 0.5	Pass
n20_2412MHz_Chain 0	17.640	≥ 0.5	Pass
n20_2442MHz_Chain 0	17.640	≥ 0.5	Pass
n20_2472MHz_Chain 0	17.640	≥ 0.5	Pass

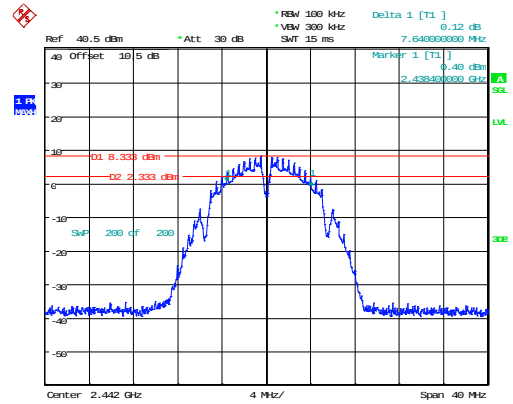
2412~2472

b_2412MHz_Chain 0 7.640MHz



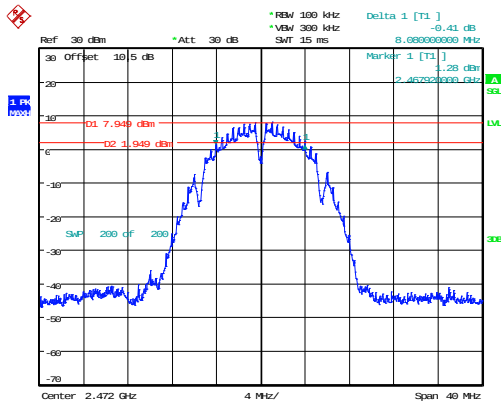
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:36:32

b_2442MHz_Chain 0 7.640MHz



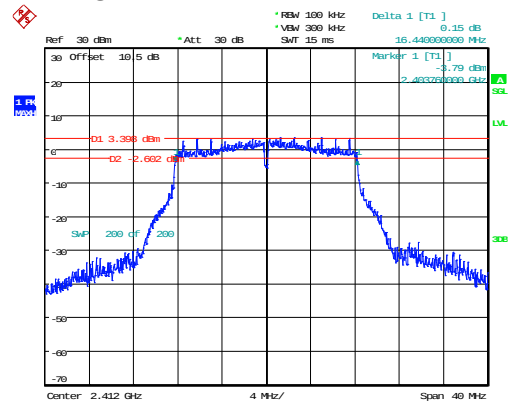
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:40:53

b_2472MHz_Chain 0 8.080MHz



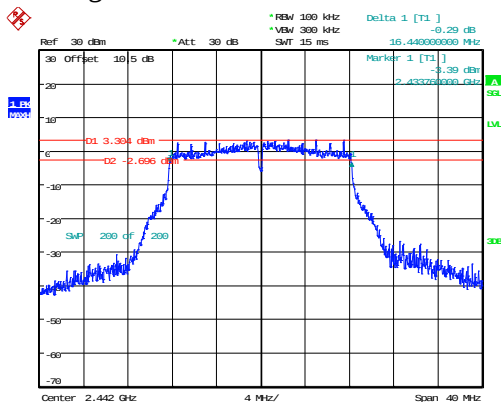
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:44:32

g_2412MHz_Chain 0 16.440MHz



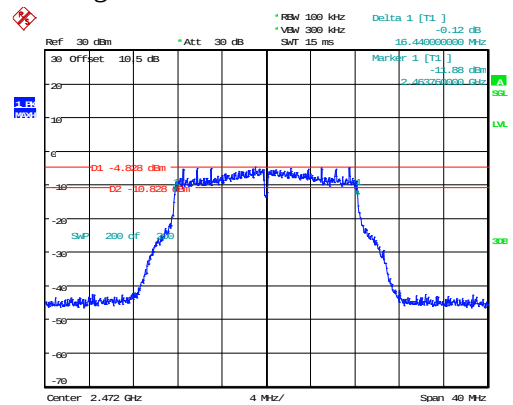
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:47:36

g_2442MHz_Chain 0 16.440MHz



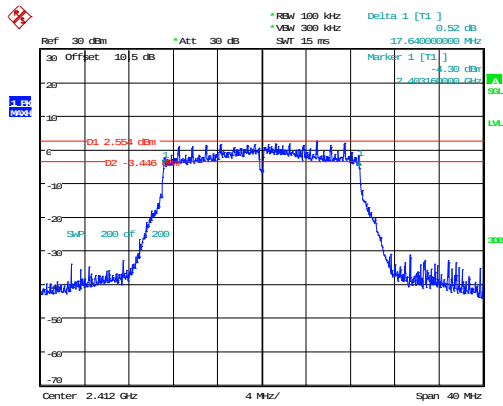
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Date: 5.SEP.2024 15:50:08

g_2472MHz_Chain 0 16.440MHz



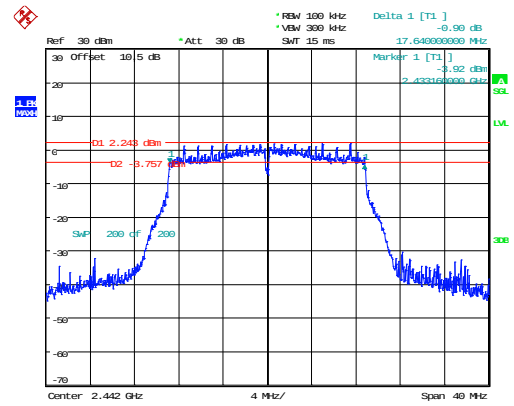
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:52:52

n20_2412MHz_Chain 0 17.640MHz



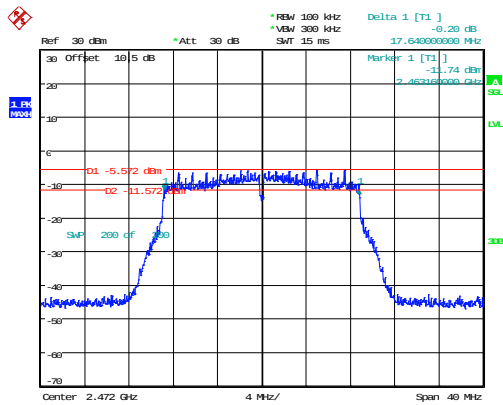
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:55:59

n20_2442MHz_Chain 0 17.640MHz



ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:58:34

n20_2472MHz_Chain 0 17.640MHz



ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:03:26

99% Occupied Bandwidth**2412~2472**

Mode	99% OBW (MHz)
b_2412MHz_Chain 0	10.760
b_2442MHz_Chain 0	10.880
b_2472MHz_Chain 0	10.840
g_2412MHz_Chain 0	16.760
g_2442MHz_Chain 0	16.760
g_2472MHz_Chain 0	16.720
n20_2412MHz_Chain 0	17.760
n20_2442MHz_Chain 0	17.760
n20_2472MHz_Chain 0	17.760

Power Spectral Density**2412~2472**

Mode	Value (dBm/3kHz)	Limit (dBm/3kHz)	Result
b_2412MHz_Chain 0	-6.10	8	Pass
b_2412MHz_Chain 1	-4.64	8	Pass
b_2442MHz_Chain 0	-6.46	8	Pass
b_2442MHz_Chain 1	-4.42	8	Pass
b_2472MHz_Chain 0	-5.85	8	Pass
b_2472MHz_Chain 1	-6.70	8	Pass
g_2412MHz_Chain 0	-8.40	8	Pass
g_2412MHz_Chain 1	-10.07	8	Pass
g_2442MHz_Chain 0	-8.59	8	Pass
g_2442MHz_Chain 1	-9.65	8	Pass
g_2472MHz_Chain 0	-17.14	8	Pass
g_2472MHz_Chain 1	-16.42	8	Pass
n20_2412MHz_Chain 0	-10.50	8	Pass
n20_2412MHz_Chain 1	-11.82	8	Pass
n20_2412MHz_Chain 0+Chain 1	-8.10	8	Pass
n20_2442MHz_Chain 0	-10.26	8	Pass
n20_2442MHz_Chain 1	-10.82	8	Pass
n20_2442MHz_Chain 0+Chain 1	-7.52	8	Pass
n20_2472MHz_Chain 0	-18.15	8	Pass
n20_2472MHz_Chain 1	-18.71	8	Pass
n20_2472MHz_Chain 0+Chain 1	-15.41	8	Pass

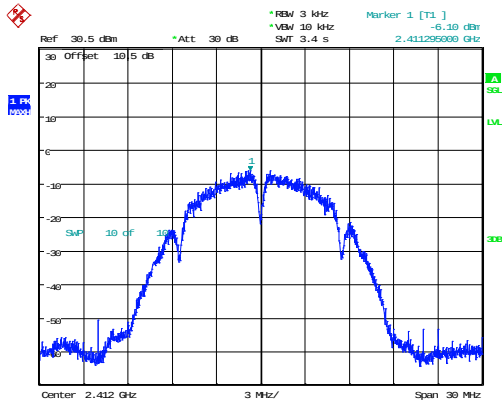
Note: The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power spectral density (PSD) measurements on the devices:

Array Gain = $10 \log(N_{\text{ANT}}/N_{\text{SS}})$ dB,

So directional gain = antenna gain + array gain = $2.44 + 10 * \log(2/1) = 5.44$ dBi.

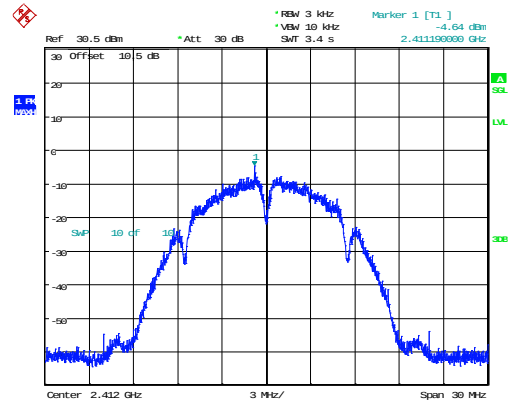
2412~2472

b_2412MHz_Chain 0 -6.10dBm/3kHz



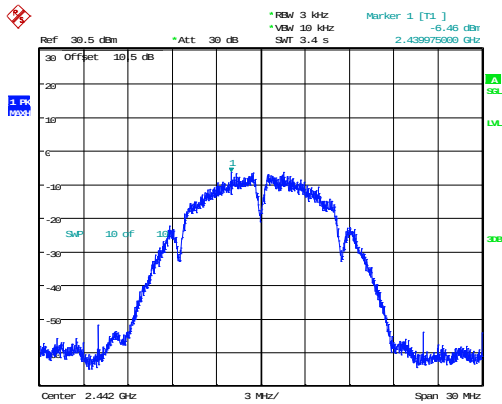
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:37:51

b_2412MHz_Chain 1 -4.64dBm/3kHz



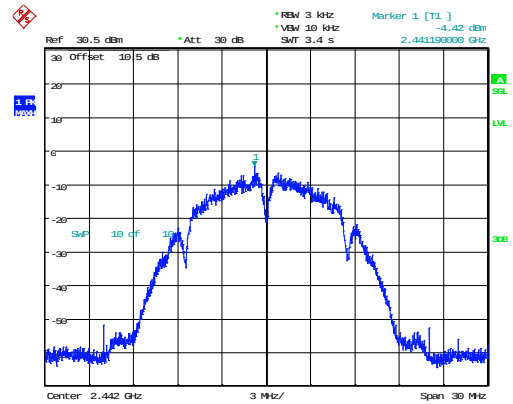
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:17:48

b_2442MHz_Chain 0 -6.46dBm/3kHz



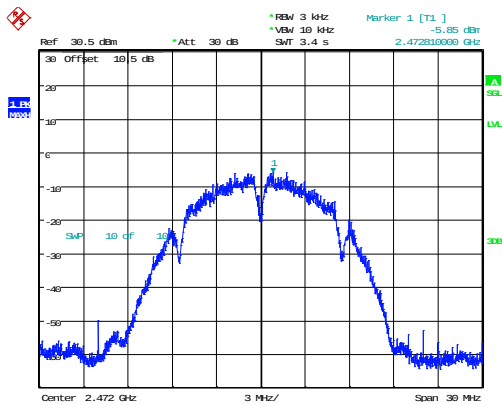
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:42:10

b_2442MHz_Chain 1 -4.42dBm/3kHz



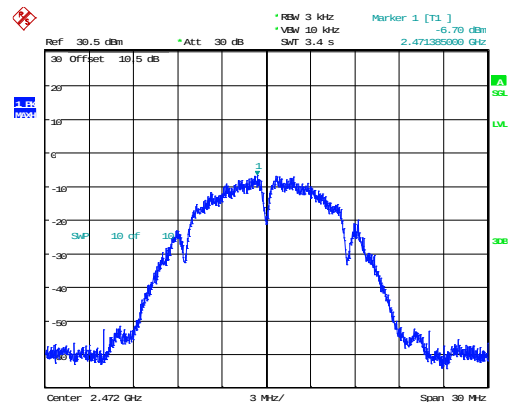
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:19:51

b_2472MHz_Chain 0 -5.85dBm/3kHz



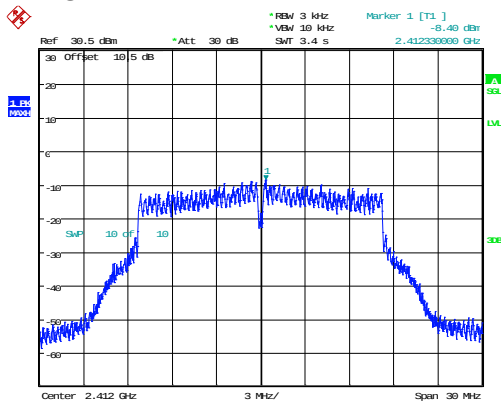
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:45:53

b_2472MHz_Chain 1 -6.70dBm/3kHz



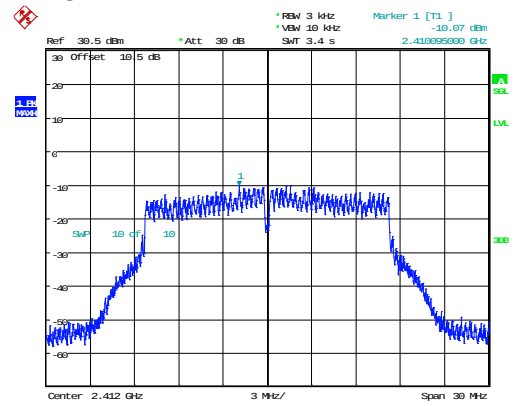
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:22:40

g_2412MHz_Chain 0 -8.40dBm/3kHz



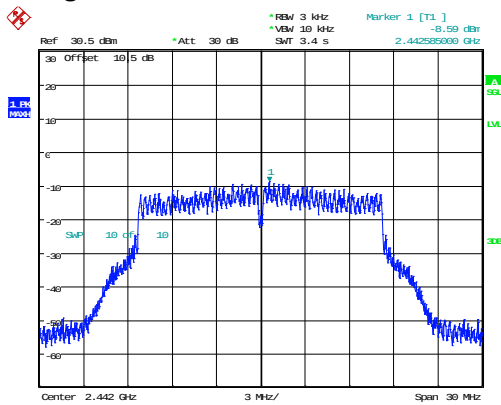
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:48:53

g_2412MHz_Chain 1 -10.07dBm/3kHz



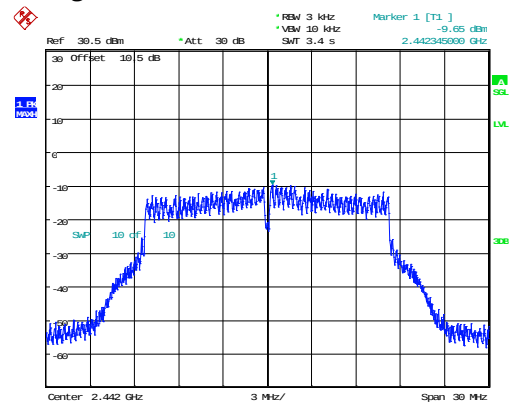
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:26:32

g_2442MHz_Chain 0 -8.59dBm/3kHz



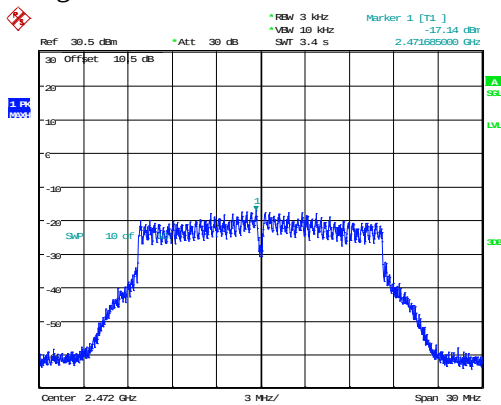
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:51:25

g_2442MHz_Chain 1 -9.65dBm/3kHz



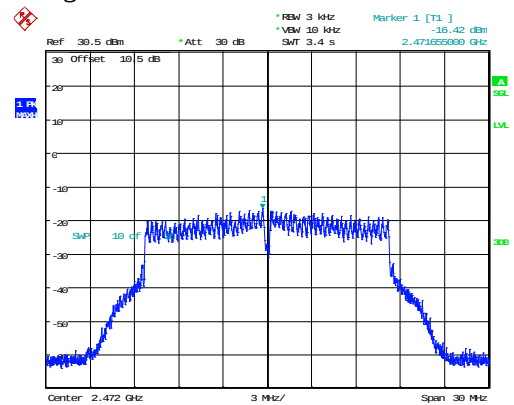
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:29:01

g_2472MHz_Chain 0 -17.14dBm/3kHz



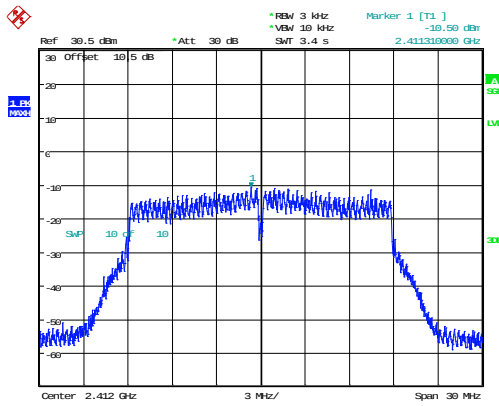
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:54:13

g_2472MHz_Chain 1 -16.42dBm/3kHz



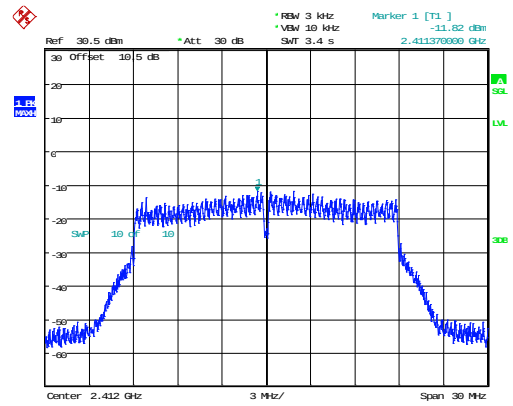
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:30:39

n20_2412MHz_Chain 0 -10.50dBm/3kHz



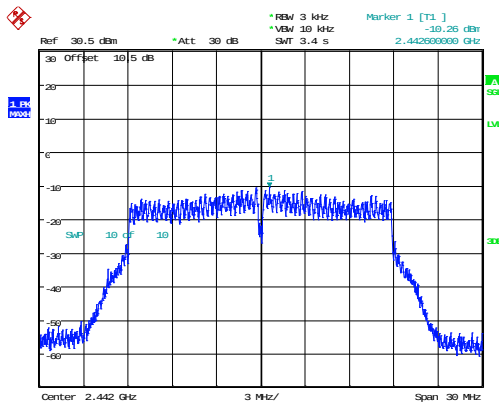
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:57:17

n20_2412MHz_Chain 1 -11.82dBm/3kHz



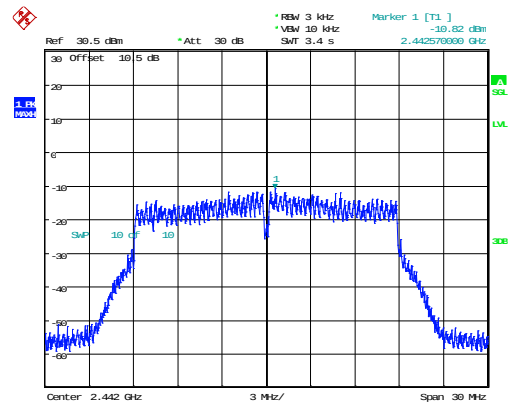
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:33:18

n20_2442MHz_Chain 0 -10.26dBm/3kHz



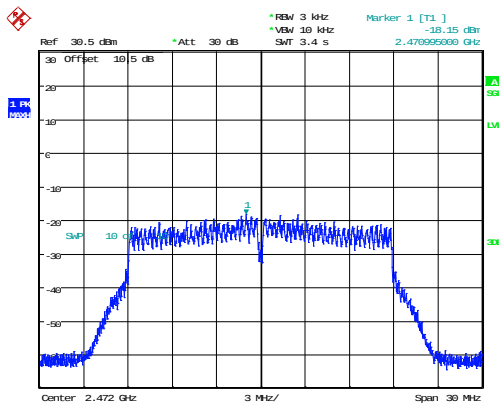
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:59:58

n20_2442MHz_Chain 1 -10.82dBm/3kHz



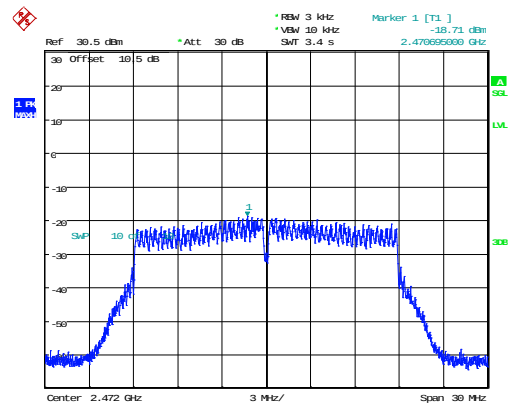
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:34:19

n20_2472MHz_Chain 0 -18.15dBm/3kHz



ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:04:47

n20_2472MHz_Chain 1 -18.71dBm/3kHz



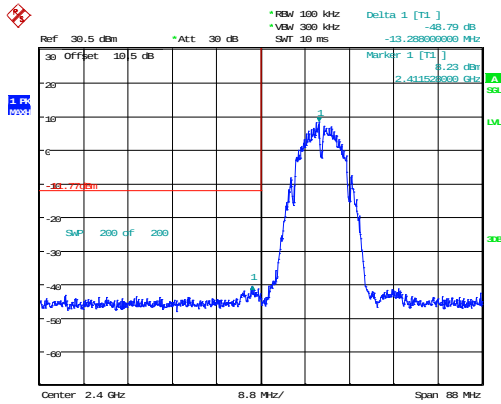
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:37:01

100 kHz Bandwidth of Frequency Band Edge**2412~2472**

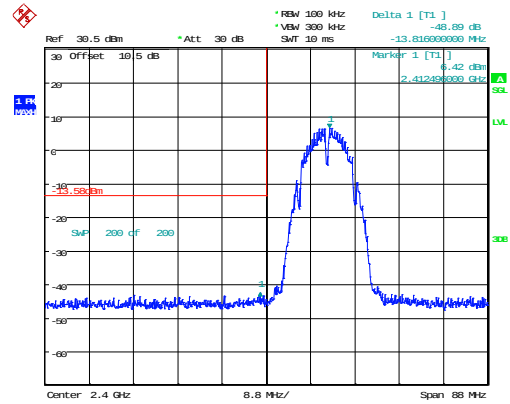
Mode	Value (dB)	Limit (dB)	Result
b_2412MHz_Chain 0	48.79	20	Pass
b_2412MHz_Chain 1	48.89	20	Pass
b_2472MHz_Chain 0	50.95	20	Pass
b_2472MHz_Chain 1	49.01	20	Pass
g_2412MHz_Chain 0	33.08	20	Pass
g_2412MHz_Chain 1	36.32	20	Pass
g_2472MHz_Chain 0	35.74	20	Pass
g_2472MHz_Chain 1	36.58	20	Pass
n20_2412MHz_Chain 0	38.13	20	Pass
n20_2412MHz_Chain 1	37.10	20	Pass
n20_2472MHz_Chain 0	36.20	20	Pass
n20_2472MHz_Chain 1	36.20	20	Pass

2412~2472

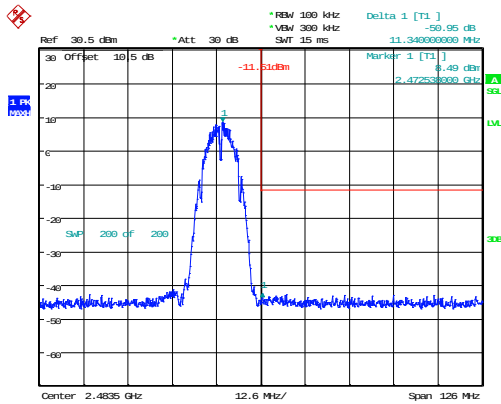
b_2412MHz_Chain 0 48.79dB

ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:36:03

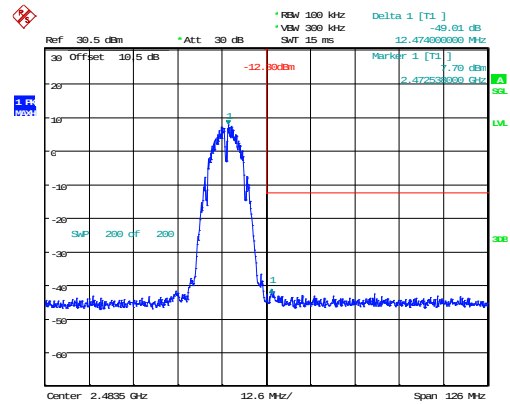
b_2412MHz_Chain 1 48.89dB

ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:16:02

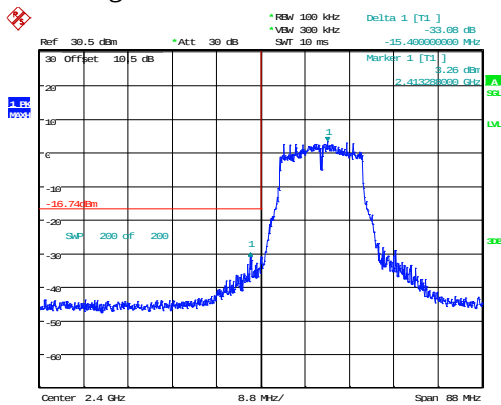
b_2472MHz_Chain 0 50.95dB

ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:43:59

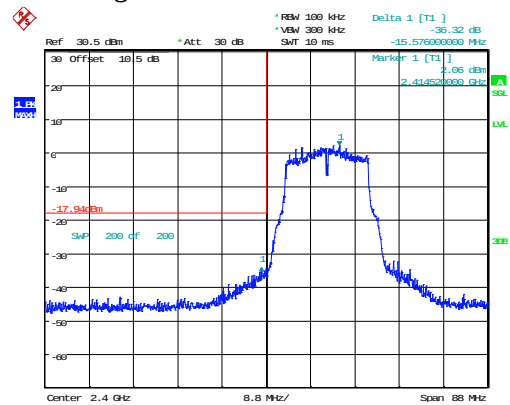
b_2472MHz_Chain 1 49.01dB

ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:21:51

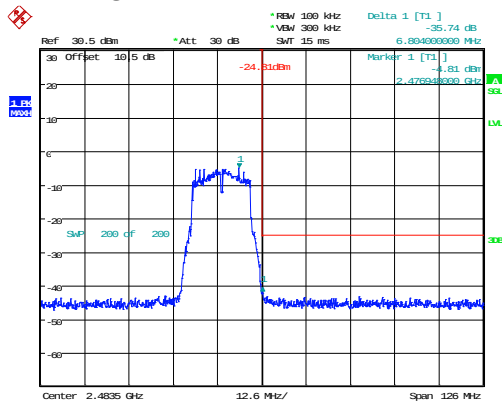
g_2412MHz_Chain 0 33.08dB

ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:47:05

g_2412MHz_Chain 1 36.32dB

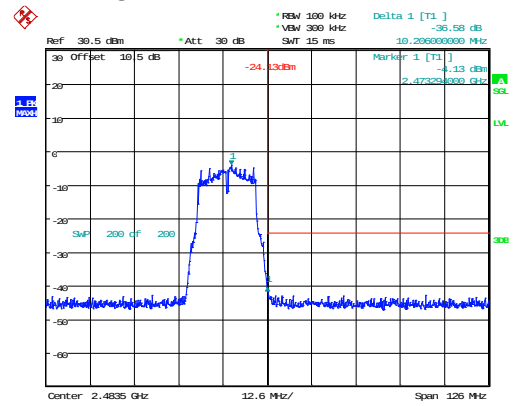
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:25:46

g_2472MHz_Chain 0 35.74dB



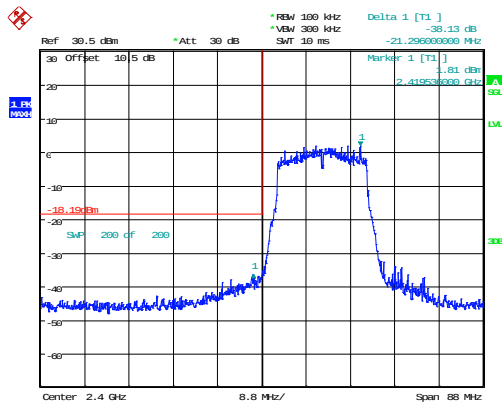
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:52:20

g_2472MHz_Chain 1 36.58dB



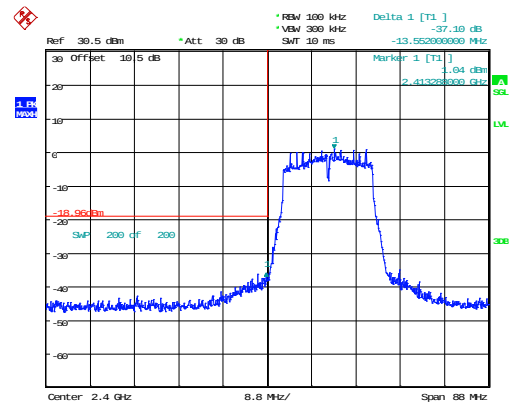
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:29:54

n20_2412MHz_Chain 0 38.13dB



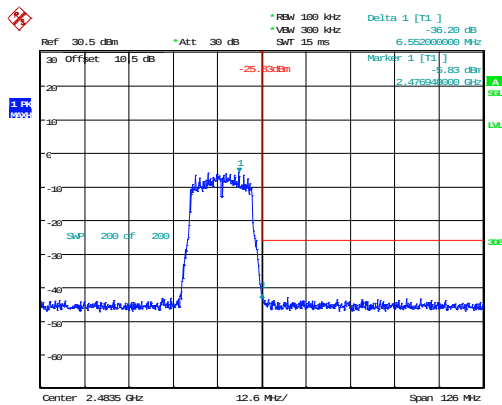
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:55:30

n20_2412MHz_Chain 1 37.10dB



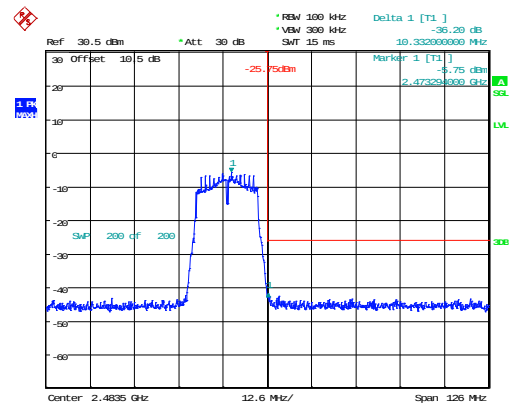
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:32:34

n20_2472MHz_Chain 0 36.20dB



ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:02:55

n20_2472MHz_Chain 1 36.20dB



ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 16:36:15

Duty Cycle

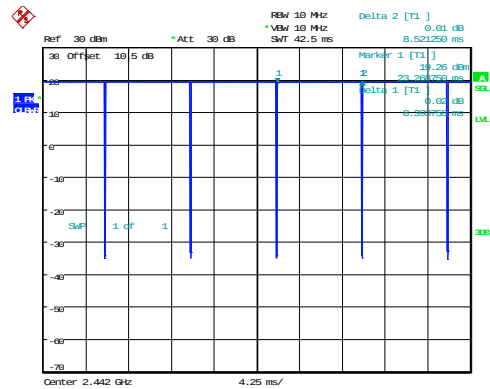
2412~2472

Mode	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
b_2442MHz_Chain 0	8.394	8.521	98.51	/	/	0.010
g_2442MHz_Chain 0	2.048	2.096	97.71	0.10	488	0.500
n20_2442MHz_Chain 0	0.976	1.008	96.83	0.14	1025	2

Duty Cycle = Ton/(Ton+Toff)*100%

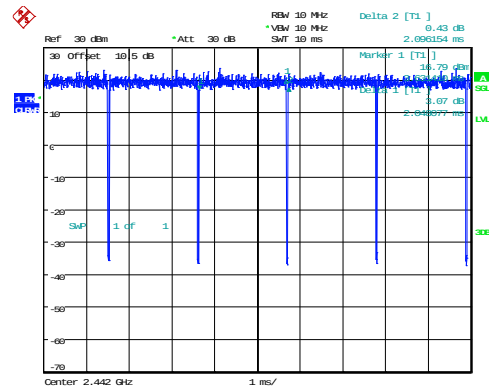
2412~2472

b_2442MHz_Chain 0
8.394ms,8.521ms



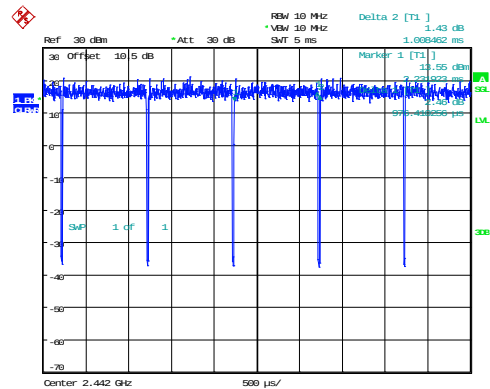
ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:22:01

g_2442MHz_Chain 0
2.048ms,2.096ms



ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:26:02

n20_2442MHz_Chain 0
0.976ms,1.008ms



ProjectNo.:2403W29386E-RF Tester:Arthur Su
Date: 5.SEP.2024 15:28:04