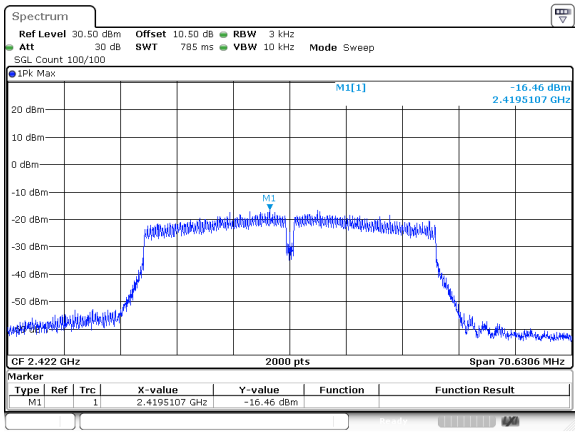
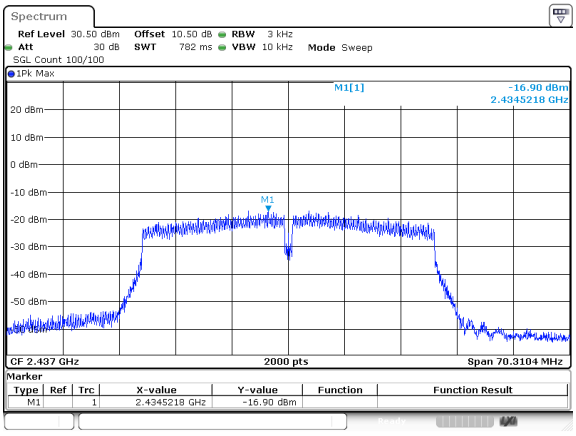
Chain 0

802.11n40_2422MHz_Chain 0

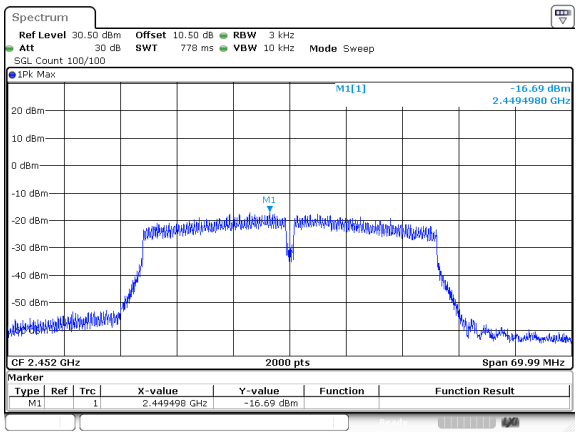


802.11n40_2437MHz_Chain 0

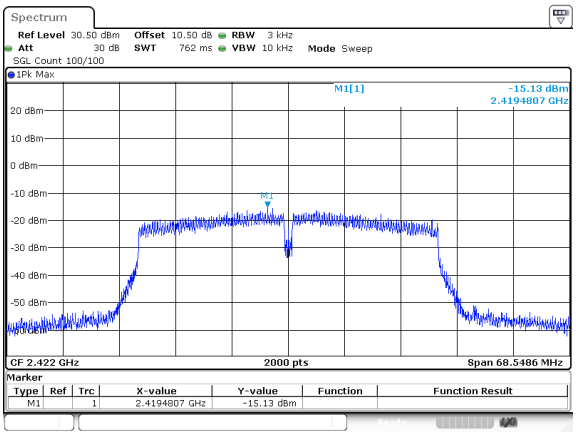


Chain 1

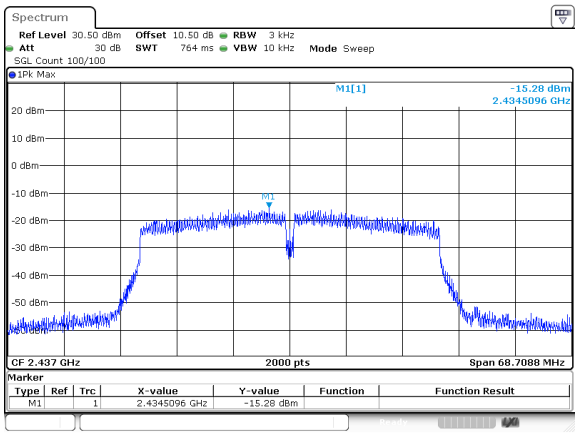
802.11n40_2452MHz_Chain 0



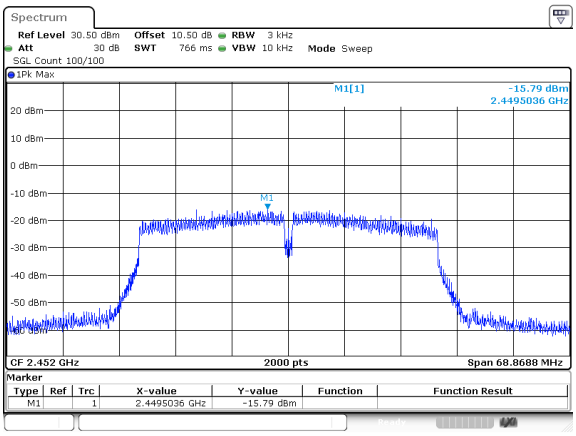
802.11n40_2422MHz_Chain 1



802.11n40_2437MHz_Chain 1



802.11n40_2452MHz_Chain 1



100 kHz Bandwidth of Frequency Band Edge

Test Information:

Sample No.:	356Q-3	**Test Date:**	2025/07/15~2025/07/16
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Rainbow Zhu	**Test Result:**	Pass

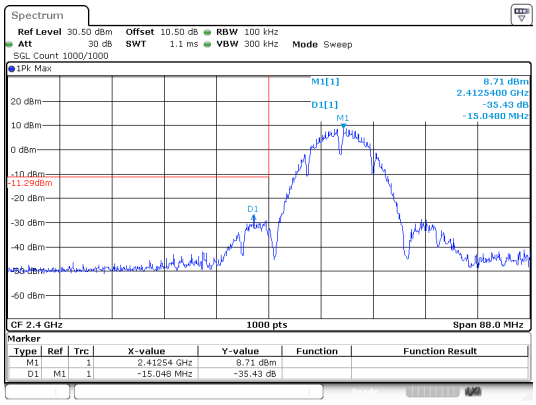
Environmental Conditions:

Temperature: (°C)	23.4~23.9	**Relative Humidity: (%)**	52~56	**ATM Pressure: (kPa)**	99.7~99.8

Test Data:

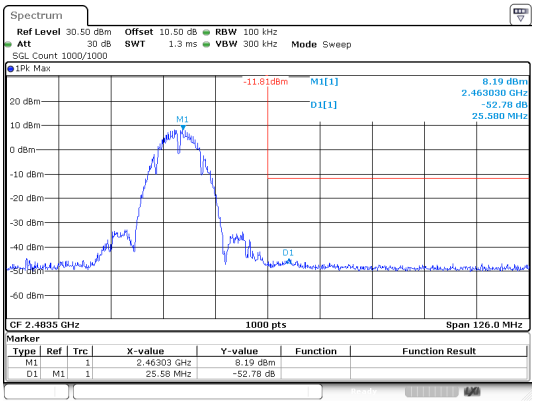
Chain 0

802.11b_2412MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 16.JUL.2025 09:59:33

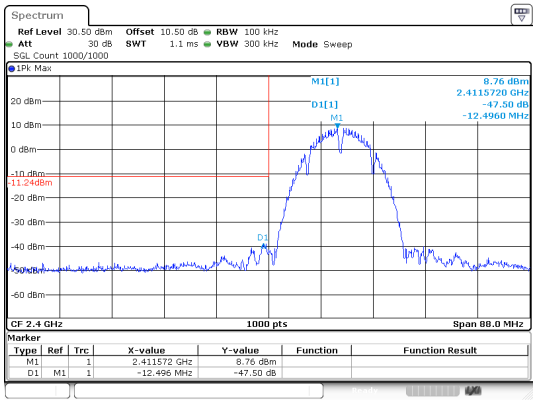
802.11b_2462MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 16.JUL.2025 10:06:26

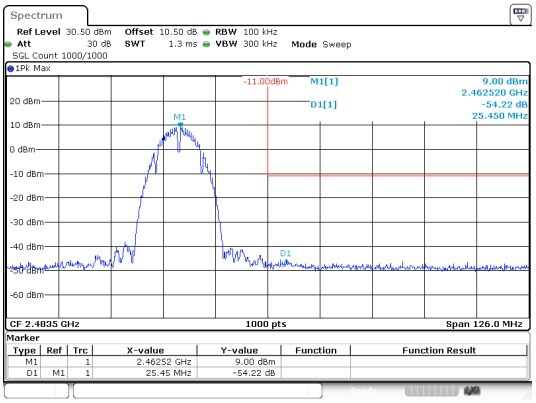
Chain 1

802.11b_2412MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 16.JUL.2025 10:19:58

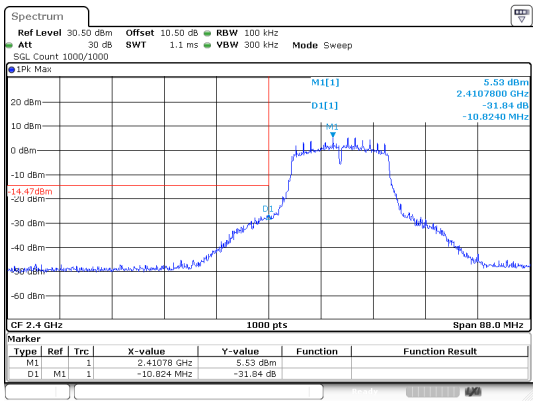
802.11b_2462MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 16.JUL.2025 10:27:40

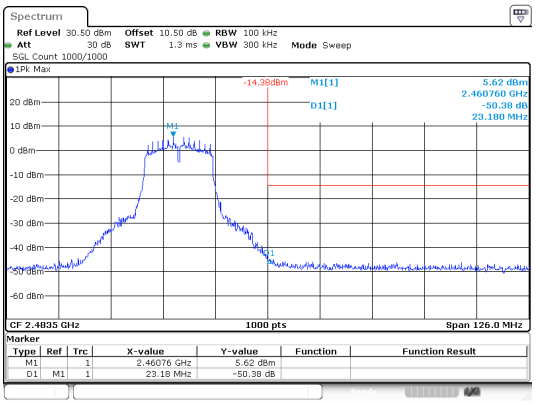
Chain 0

802.11g_2412MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 11:36:47

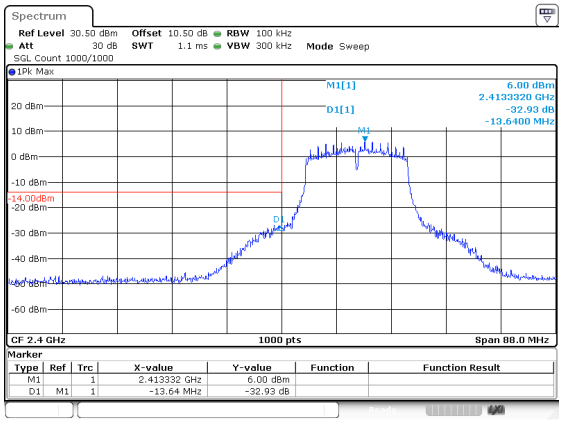
802.11g_2462MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 11:58:20

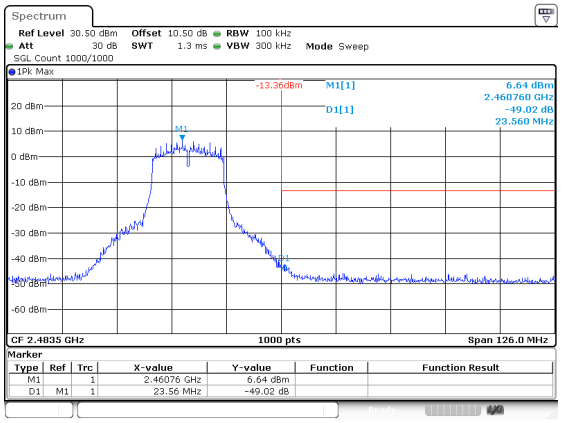
Chain 1

802.11g_2412MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 14:33:03

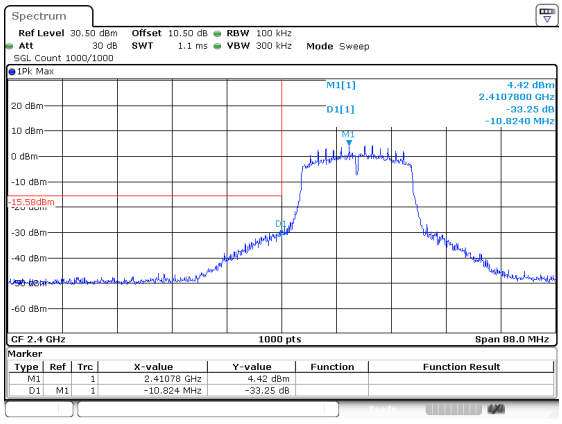
802.11g_2462MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 14:43:45

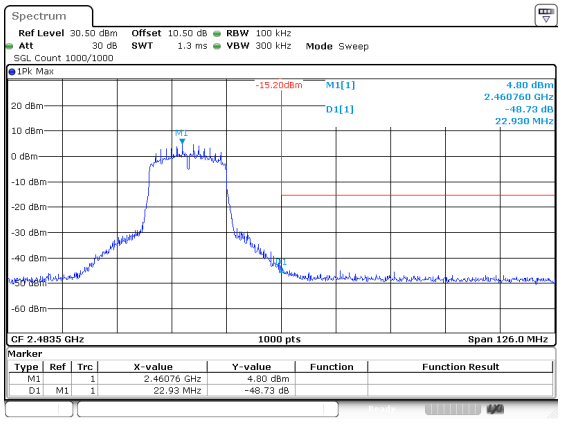
Chain 0

802.11n20_2412MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 12:04:06

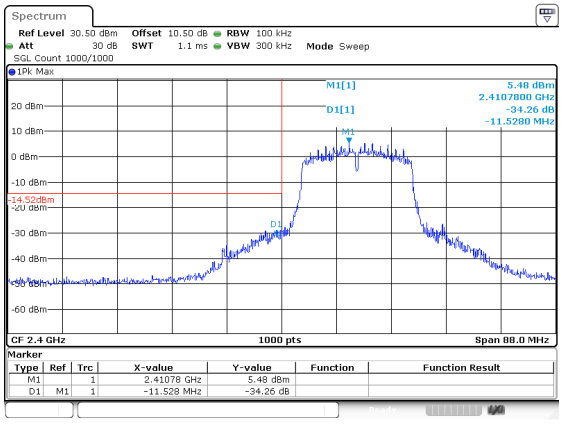
802.11n20_2462MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 12:41:45

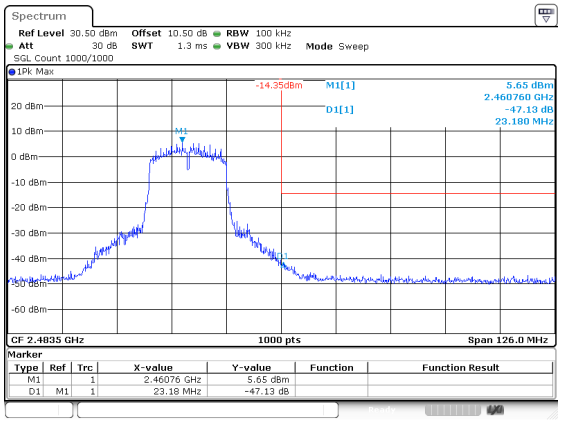
Chain 1

802.11n20_2412MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 14:50:21

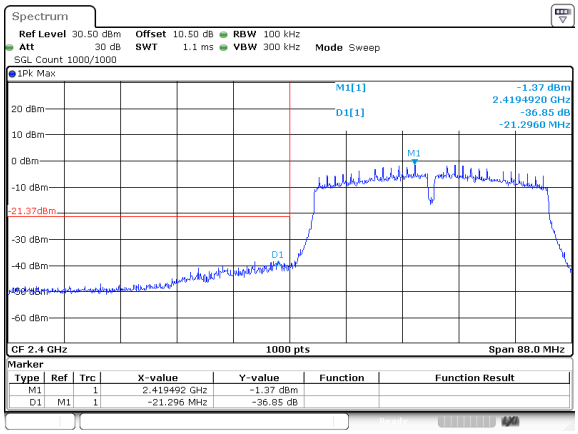
802.11n20_2462MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 14:59:03

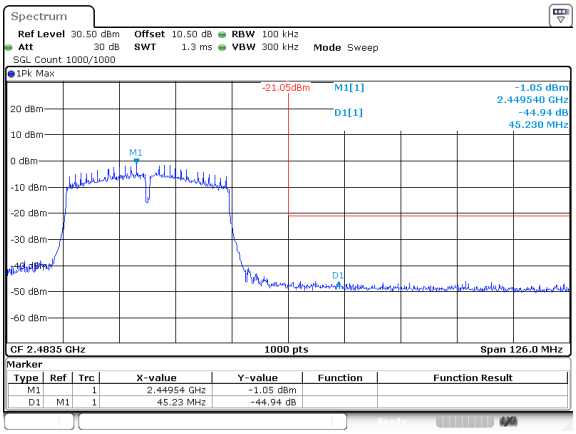
Chain 0

802.11n40_2422MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 12:47:48

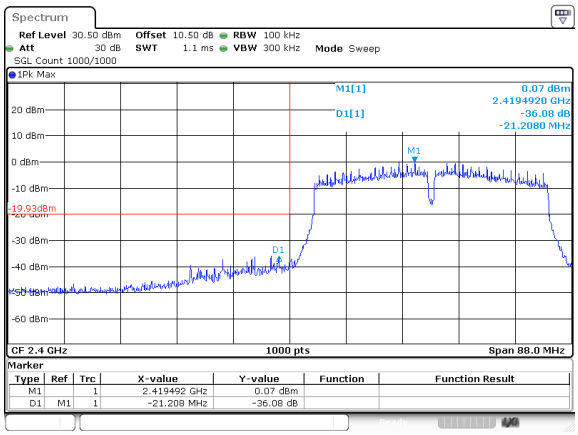
802.11n40_2452MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 13:17:45

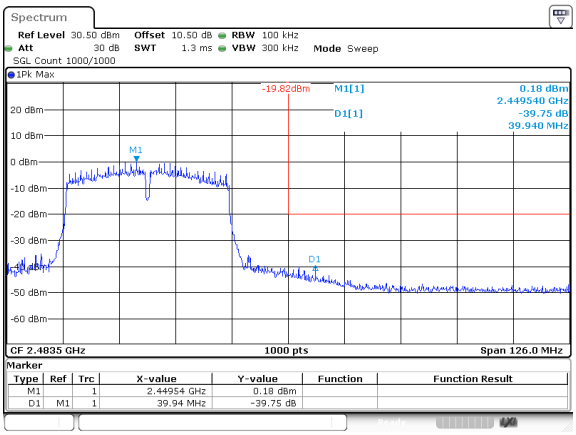
Chain 1

802.11n40_2422MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 15:06:49

802.11n40_2452MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 15:16:30

Conducted Spurious Emission

Test Information:

Sample No.:	356Q-3	**Test Date:**	2025/08/06
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Rainbow Zhu	**Test Result:**	Pass

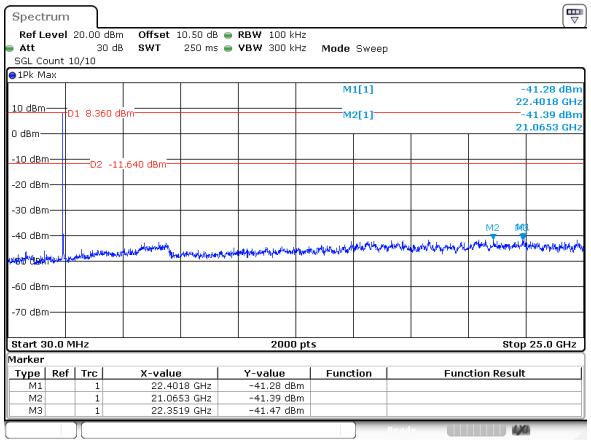
Environmental Conditions:

Temperature: (°C)	23.4~28.9	**Relative Humidity: (%)**	52~56	**ATM Pressure: (kPa)**	99.7~99.9

Test Data:

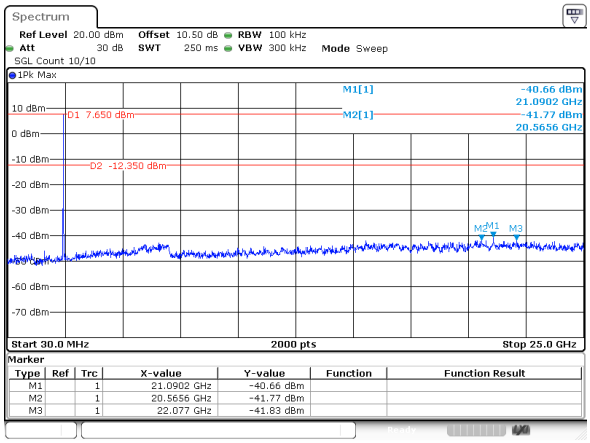
Chain 0

802.11b_2412MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:13:34

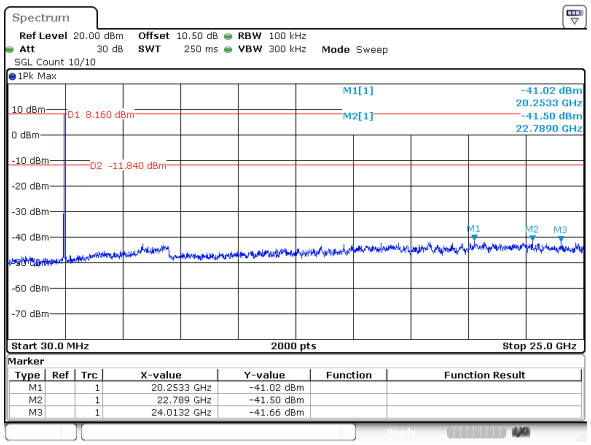
802.11b_2437MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:14:52

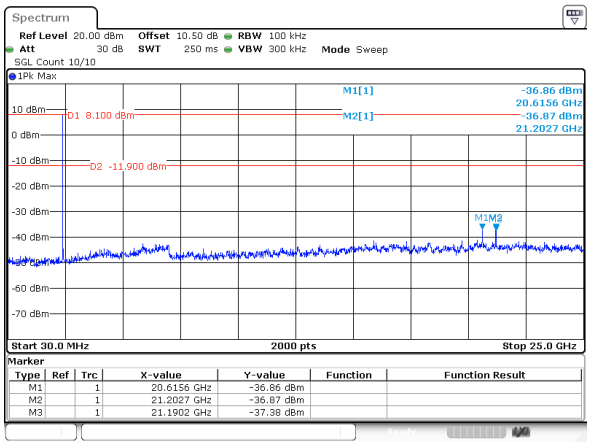
Chain 1

802.11b_2462MHz_Chain 0



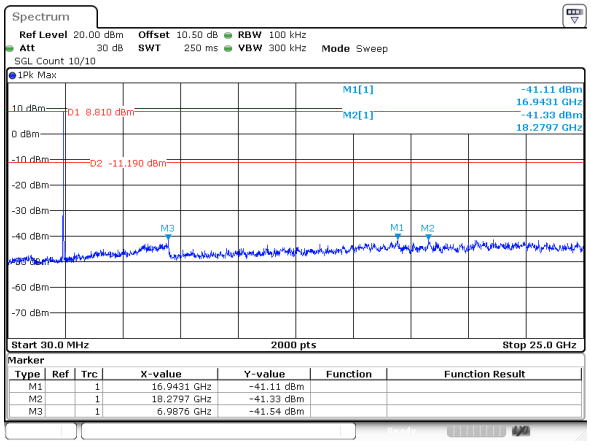
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:16:22

802.11b_2412MHz_Chain 1



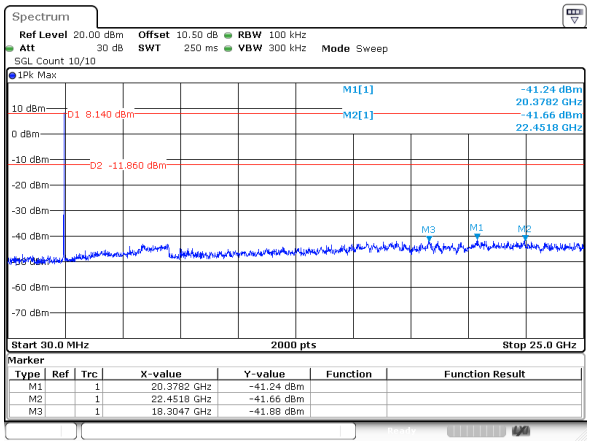
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:43:56

802.11b_2437MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:58:50

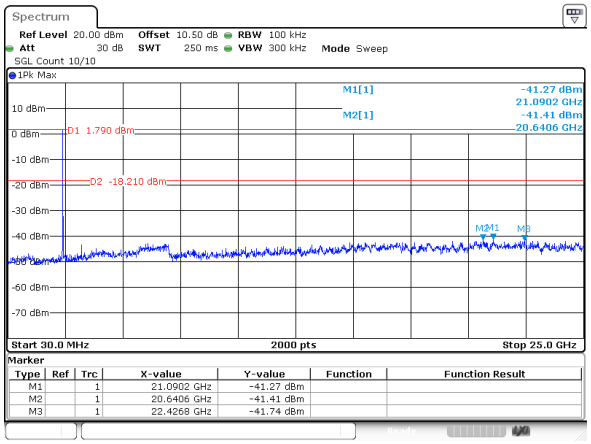
802.11b_2462MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:46:54

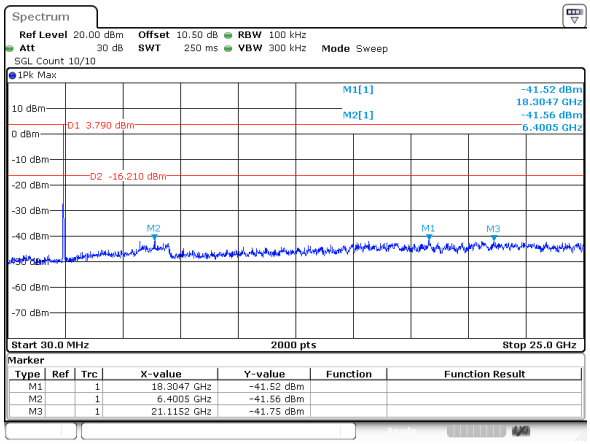
Chain 0

802.11g_2412MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:34:25

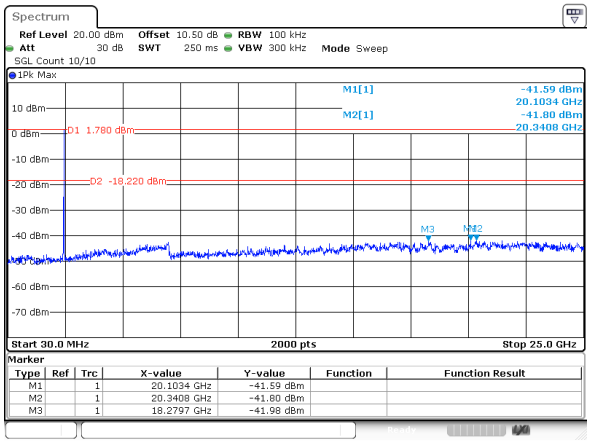
802.11g_2437MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:35:07

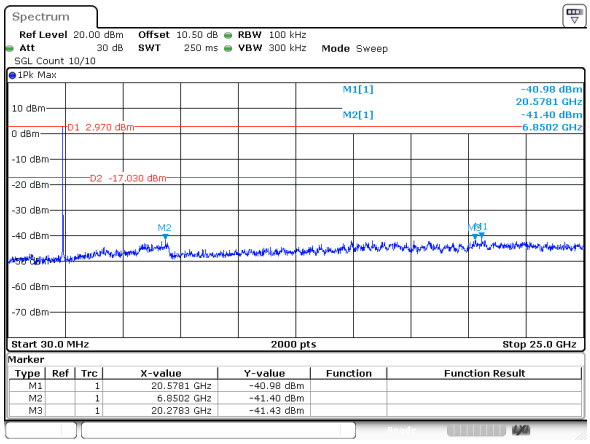
Chain 1

802.11g_2462MHz_Chain 0



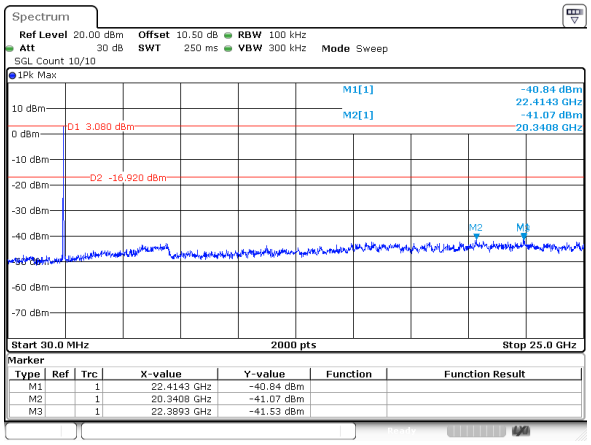
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:35:50

802.11g_2412MHz_Chain 1



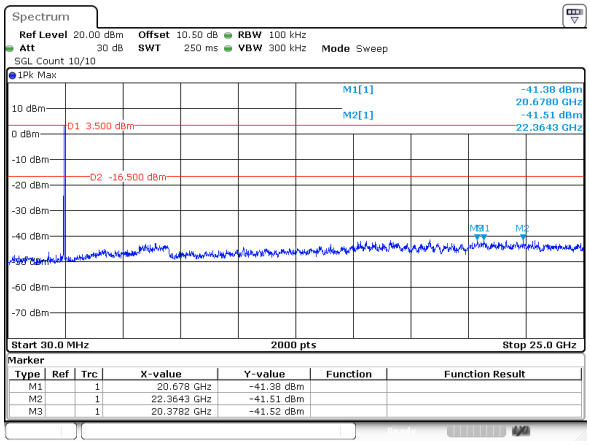
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:47:58

802.11g_2437MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:48:33

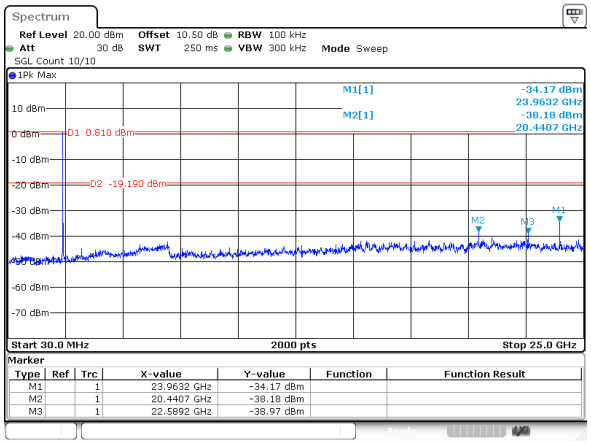
802.11g_2462MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:49:27

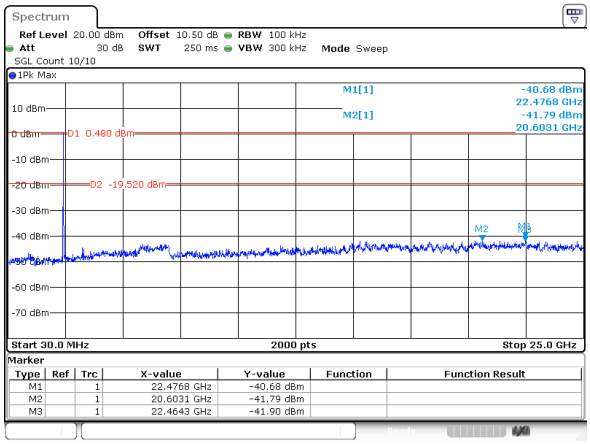
Chain 0

802.11n20_2412MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:37:11

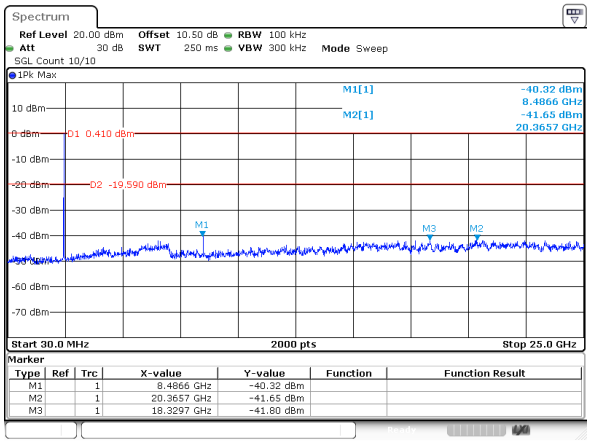
802.11n20_2437MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:38:03

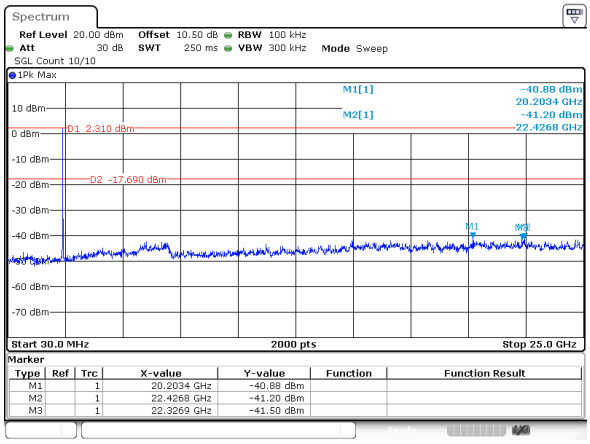
Chain 1

802.11n20_2462MHz_Chain 0



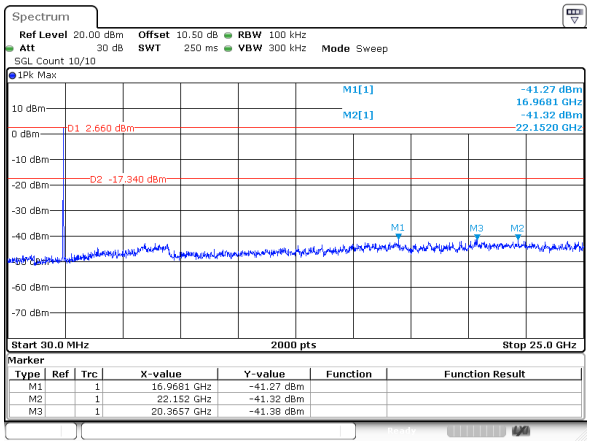
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:38:56

802.11n20_2412MHz_Chain 1



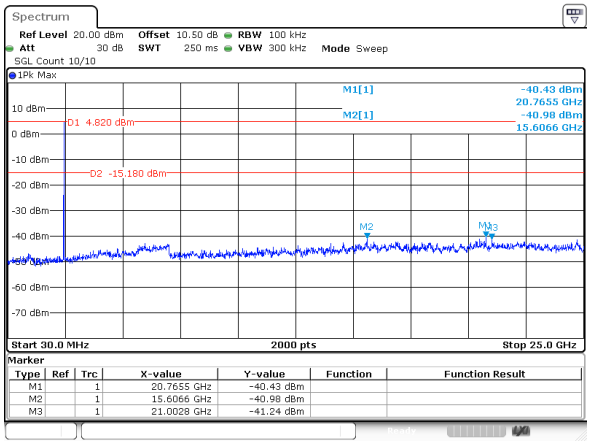
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:52:05

802.11n20_2437MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:52:40

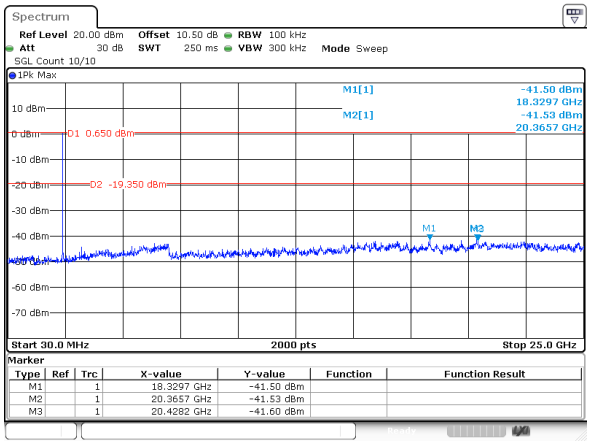
802.11n20_2462MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:53:57

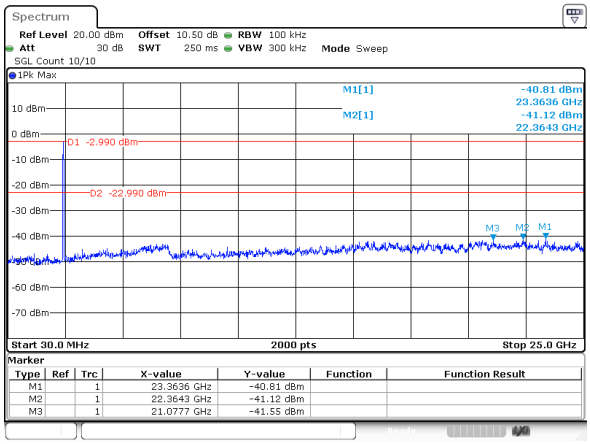
Chain 0

802.11n40_2422MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:40:09

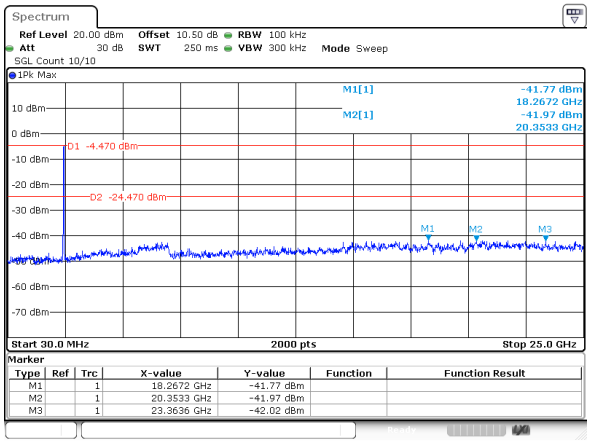
802.11n40_2437MHz_Chain 0



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:40:50

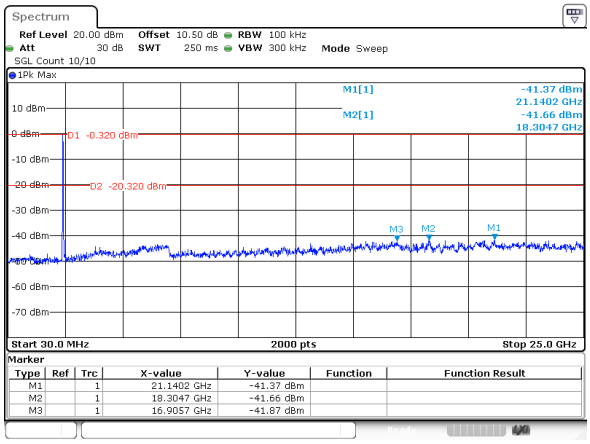
Chain 1

802.11n40_2452MHz_Chain 0



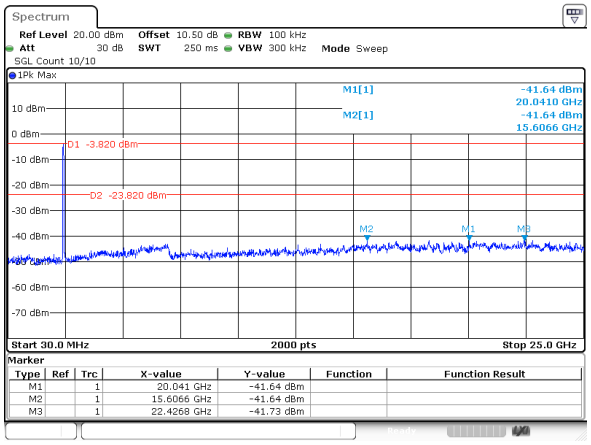
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:41:34

802.11n40_2422MHz_Chain 1



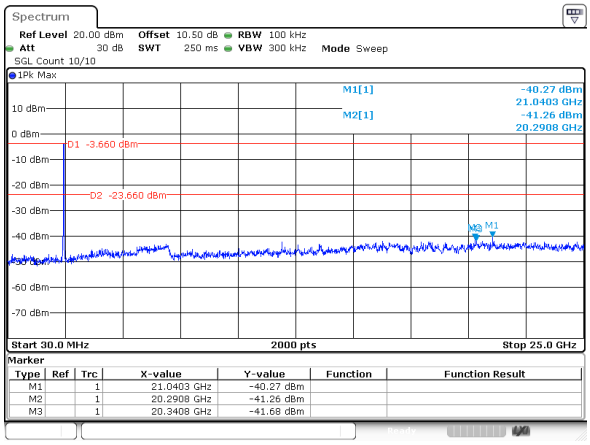
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:55:02

802.11n40_2437MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:55:42

802.11n40_2452MHz_Chain 1



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 6.AUG.2025 10:56:25

Duty Cycle

Test Information:

Sample No.:	356Q-3	**Test Date:**	2025/07/15~2025/07/16
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Rainbow Zhu	**Test Result:**	Pass

Environmental Conditions:

Temperature: (°C)	23.4~23.9	**Relative Humidity: (%)**	52~56	**ATM Pressure: (kPa)**	99.7~99.8

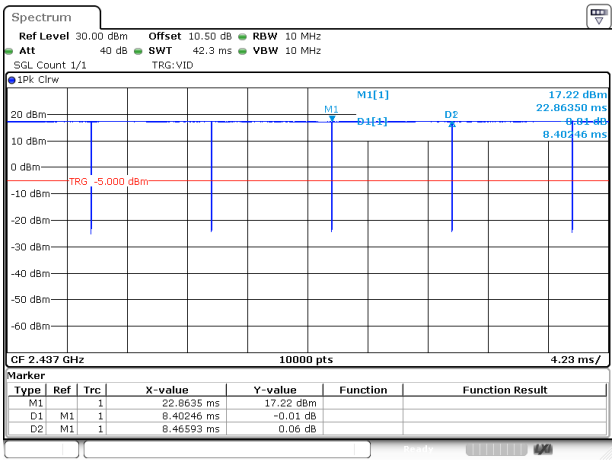
Test Data:

Chain0:

Mode	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11b	2437	**8.402**	8.466	99.24	/	/	0.010
802.11g	2437	1.392	1.449	96.07	0.17	718	1
802.11n20	2437	1.292	1.349	95.77	0.19	774	1
802.11n40	2437	0.647	0.703	92.03	0.36	1546	2

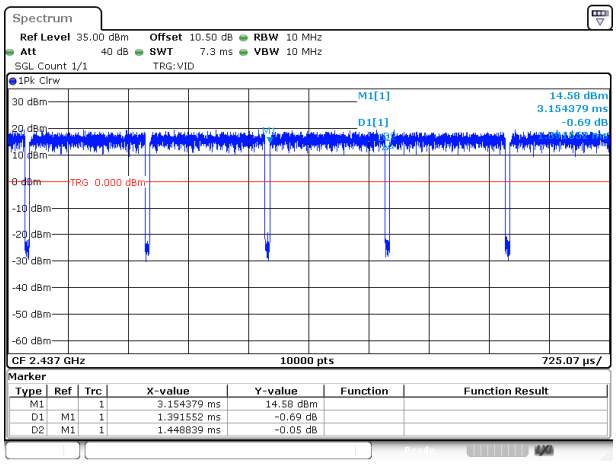
Duty Cycle = Ton/(Ton+Toff)*100%

802.11b_2437MHz



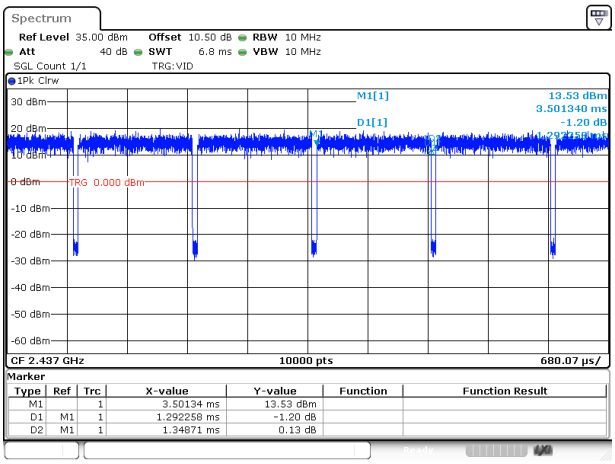
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 16.JUL.2025 09:51:49

802.11g_2437MHz



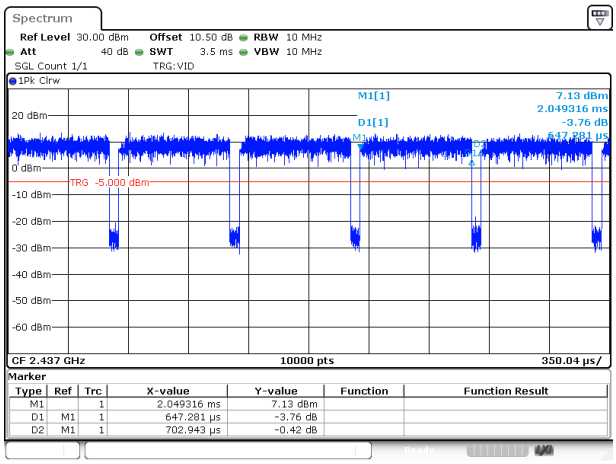
ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 11:14:05

802.11n20_2437MHz



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 11:15:42

802.11n40_2437MHz



ProjectNo.:2501U16912E-RF Tester:Rainbow Zhu
Date: 15.JUL.2025 11:17:28

RF EXPOSURE EVALUATION

MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Result

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Calculated Data:

For worst case:

Mode	Frequency (MHz)	Antenna Gain#		Max Tune-up Power#		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
2.4G Wi-Fi	2412-2462	7.13	5.16	26.5	446.68	20	0.4585	1.0
5G Wi-Fi	5180-5240	7.00	5.01	18.5	70.79	20	0.0706	1.0
	5260-5320	7.00	5.01	19.0	79.43	20	0.0792	1.0
	5500-5720	7.00	5.01	17.0	50.12	20	0.0500	1.0
	5745-5825	7.00	5.01	19.0	79.43	20	0.0792	1.0

Note:
1) The tune up conducted power and antenna gain was declared by the applicant.
2) For the Wi-Fi mode, the antenna gain should be the directional gain.
3) The 2.4G and 5G Wi-Fi can transmit at same time.

Simultaneous transmitting consideration (worst case):

The ratio=$MPE_{2.4G}$/limit+ $MPE_{5.3G}$/limit = 0.4585/1.0+0.0792/1.0 =0.538<1.0

So simultaneous exposure is compliant.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliant.

Field Reference Level Exposure Exemption Limits

Applicable Standard

According to RSS-102 Issue 6§6.6:

Field reference level (FRL) exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm (i.e. mobile devices), except when the device operates as follows:

• below 20 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 1 W (adjusted for tune-up tolerance)

• at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz

• at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance)

• at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz

• at or above 6 GHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 5 W (adjusted for tune-up tolerance) In these cases, the information contained in the RF exposure technical brief may be limited to information that demonstrates how the EIRP was derived.

Calculated Data:

Mode	Frequency (MHz)	Maximum tune-up conducted power# (dBm)	Antenna Gain#	Maximum tune-up EIRP		Evaluation Distance (m)	Limit (mW)
			(dBi)	(dBm)	(mW)		
2.4G Wi-Fi	2412-2462	26.5	7.13	33.63	2306.75	0.2	2684
5.2G Wi-Fi	5180-5240	16.0	7.00	23.00	199.53	0.2	4525
5.3G Wi-Fi	5260-5320	17.0	7.00	24.00	251.19	0.2	4573
5.6G Wi-Fi	5500-5720	17.0	7.00	24.00	251.19	0.2	4714
5.8G Wi-Fi	5745-5825	19.0	7.00	26.00	398.11	0.2	4857

Note: 1. The tune up conducted power# and antenna gain# was declared by the applicant.
2. For Wi-Fi, the antenna gain should be the directional gain.
3. The 2.4G and 5G Wi-Fi cannot transmit at same time.

Simultaneous transmitting consideration (worst case):

The ratio= $EIRP_{2.4G}$ /limit + $EIRP_{5.8G}$/limit = 2306.75/2684+ 398.11/4857=0.941<1.0

So simultaneous exposure is compliant.

Result: Compliant

Note: To maintain compliance with the RF exposure guidelines, place the equipment at least 20cm from nearby persons.

EUT PHOTOGRAPHS

Please refer to the attachment 2501U16912E-RF External photo and 2501U16912E-RF Internal photo.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2501U16912E-RFA Test Setup photo.

******* END OF REPORT *******