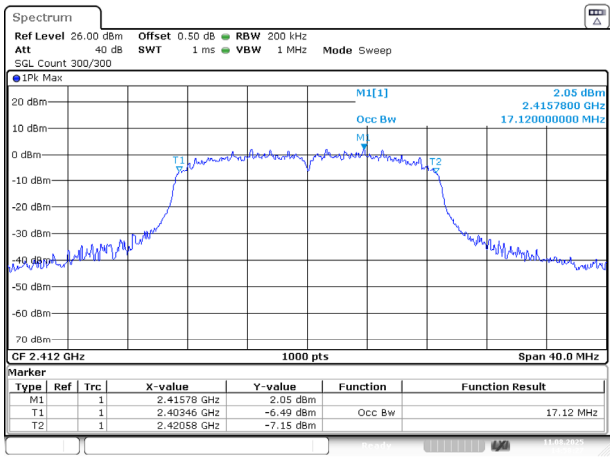
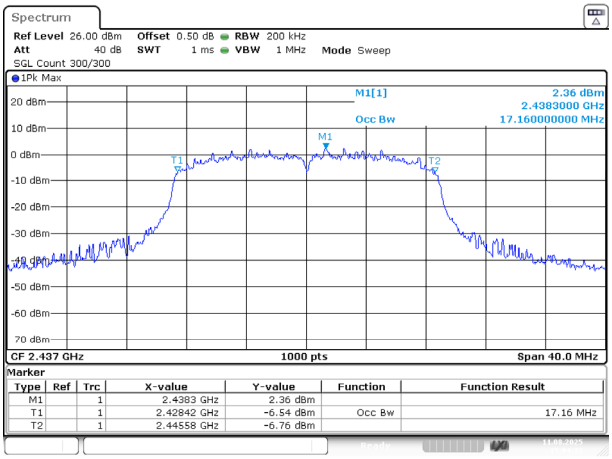
802.11n20_2412MHz



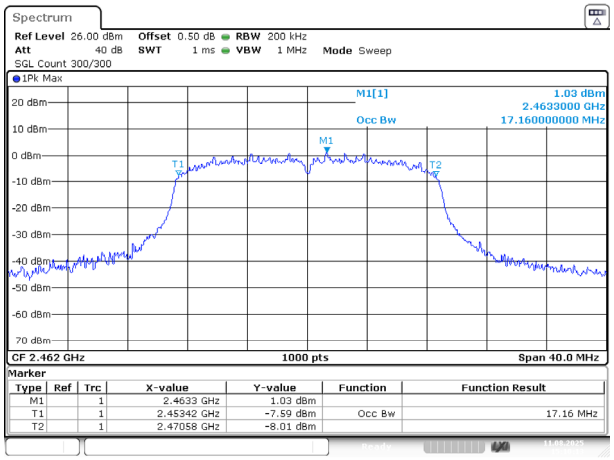
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 14:58:27

802.11n20_2437MHz



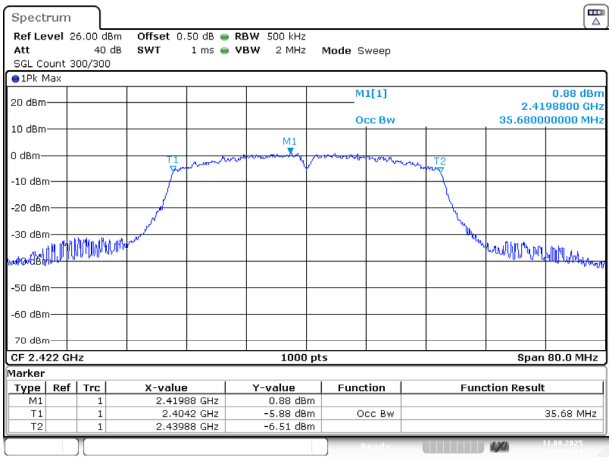
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:04:32

802.11n20_2462MHz



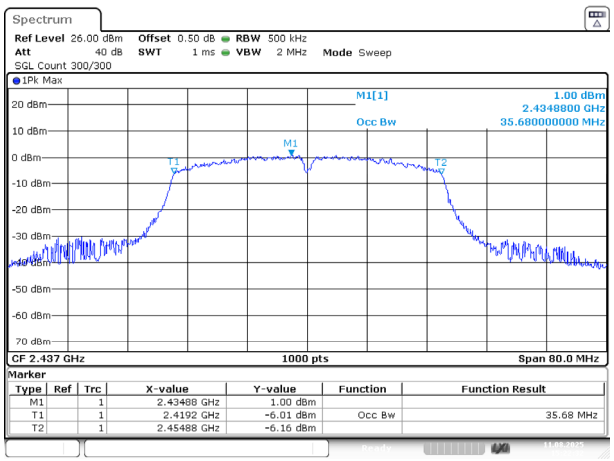
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:10:13

802.11n40_2422MHz



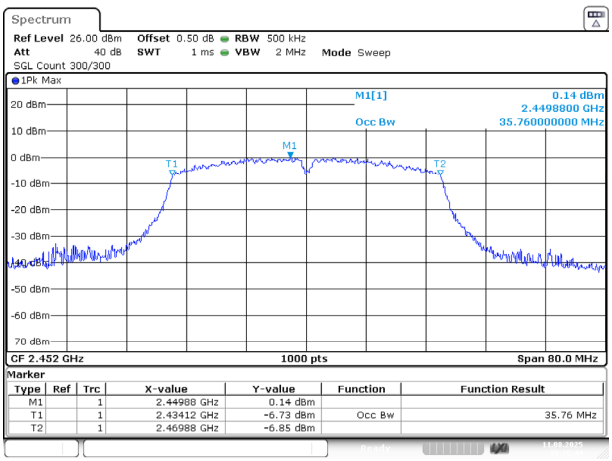
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:16:13

802.11n40_2437MHz



ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:22:32

802.11n40_2452MHz



ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:28:43

FCC §15.247(B) (3) & RSS-247 ISSUE 4 CLAUSE 6.3.2 – MAXIMUM CONDUCTED OUTPUT POWER

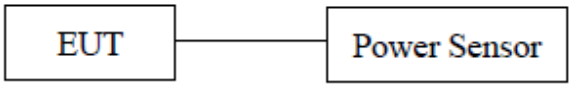
Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

According to RSS-247 Clause 6.3.2, for DTS operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W, and the e.i.r.p. shall not exceed 4 W, except as provided in section 6.5 a) and b).

As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power.

EUT Setup



Note: A short RF cable with low cable loss connected to the EUT antenna port. The insert loss of this RF cable was offset into the setting of test equipment:
Offset = Insert loss of RF cable
★ The Insert loss was declared by manufacturer.

Test Procedure

According to ANSI C63.10-2020 + Cor.1-2023▲ Section 11.9.1.1
the DTS bandwidth is available to perform the measurement:
a) Set the RBW ≥ DTS bandwidth.
b) Set VBW ≥ [3 × RBW].
c) Set span ≥ [3 × RBW].
d) Sweep time = No faster than coupled (auto) time.
e) Detector = peak.
f) Trace mode = max-hold.
g) Allow trace to fully stabilize.
h) Use peak marker function to determine the peak amplitude level.

Test Data

Test Mode:	Transmitting	**Test Engineer:**	Braylon Ma
Test Date:	2025-08-11	**Test Voltage:**	AC 120V/60Hz
Test Result:	Compliance	**Environment:**	Temp.: 25.3℃ Humi.: 61% Atm :100.3kPa
Test Modes	**Test Frequency (MHz)**	**Maximum Peak Conducted Output Power(dBm)**	**Limit (dBm)**
802.11b	2412	17.01	30
	2437	17.12	30
	2462	16.65	30
802.11g	2412	21.33	30
	2437	21.31	30
	2462	20.83	30
802.11n ht20	2412	21.20	30
	2437	21.16	30
	2462	20.72	30
802.11n ht40	2422	21.14	30
	2437	21.12	30
	2452	20.82	30
Antenna gain(dBi):	0	Max.EIRP(dBm):	21.33
EIRP Limit for RSS-247:36 dBm			

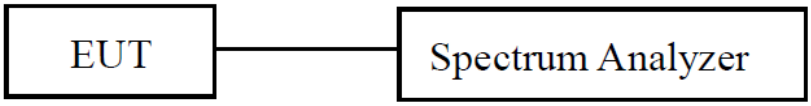
FCC §15.247(d) & RSS-247 ISSUE 4 Clause 6.6 – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

FCC §15.247 (d)
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

RSS-247 Issue 4 Clause 6.6
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum device, digitally modulated device, or hybrid system is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power – based on either an RF conducted or a radiated measurement – provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 6.3.2, the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

EUT Setup



Note: A short RF cable with low cable loss connected to the EUT antenna port. The insert loss of this RF cable was offset into the setting of test equipment:
Offset = Insert loss of RF cable
★ The Insert loss was declared by manufacturer.

Test Procedure

According to ANSI C63.10-2020 + Cor.1-2023▲ Section 11.11
a) Set the center frequency and span to encompass frequency range to be measured. Note that the frequency range might need to be divided into multiple frequency ranges to retain frequency resolution.
NOTE—the number of points can also be increased for large spans to retain frequency resolution
b) Set the RBW = 100 kHz.
c) Set the VBW ≥ [3 × RBW].
d) Detector = peak.
e) Sweep time = No faster than coupled (auto) time.
f) Trace mode = max-hold.
g) Allow trace to fully stabilize.
h) Use the peak marker function to determine the maximum amplitude level.

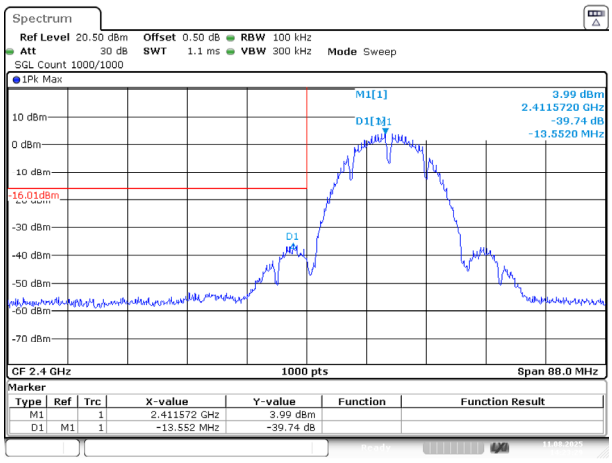
Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

Test Data

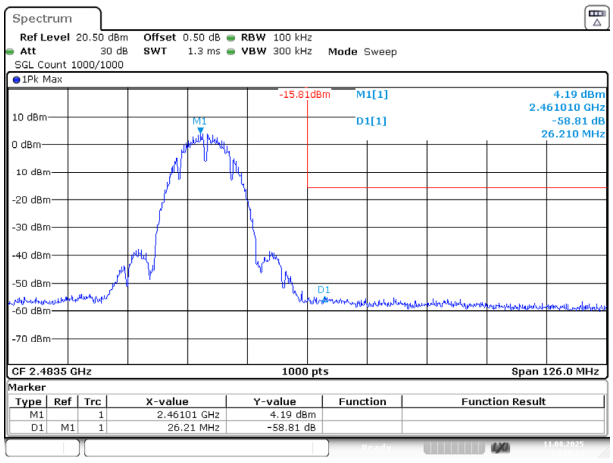
Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-08-11	Test Voltage:	AC 120V/60Hz
Test Result:	Compliance	Environment:	Temp.: 25.3℃ Humi.: 61% Atm :100.3kPa

Please refer to the below plots:

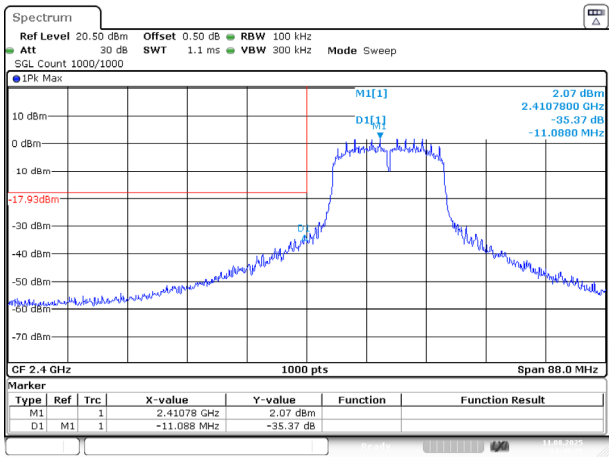
802.11b_2412MHz



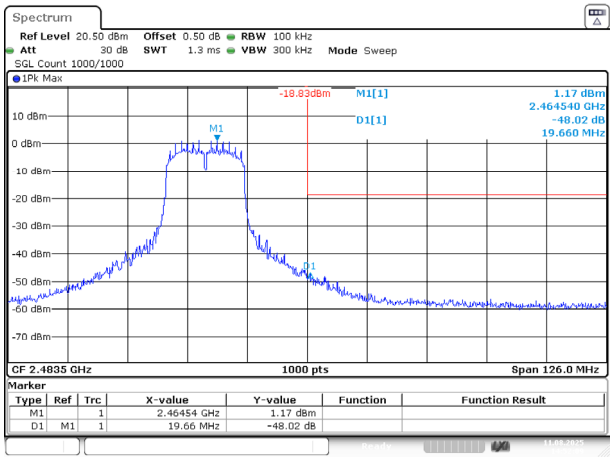
802.11b_2462MHz



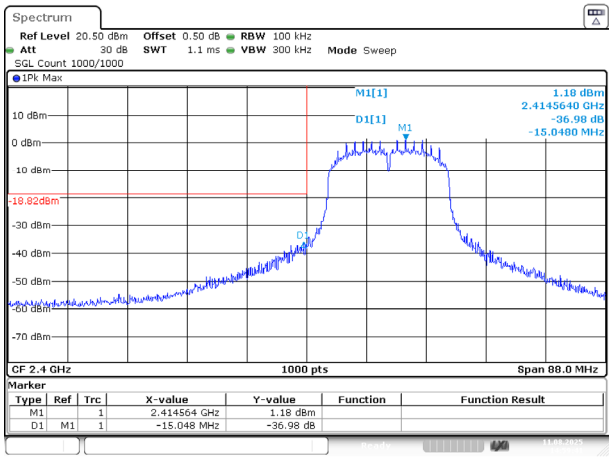
802.11g_2412MHz



802.11g_2462MHz

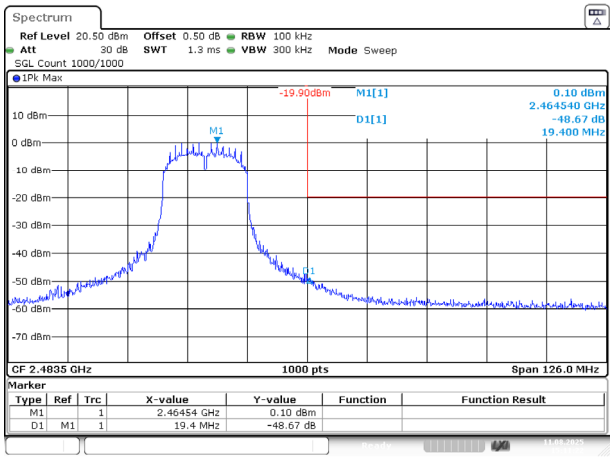


802.11n20_2412MHz



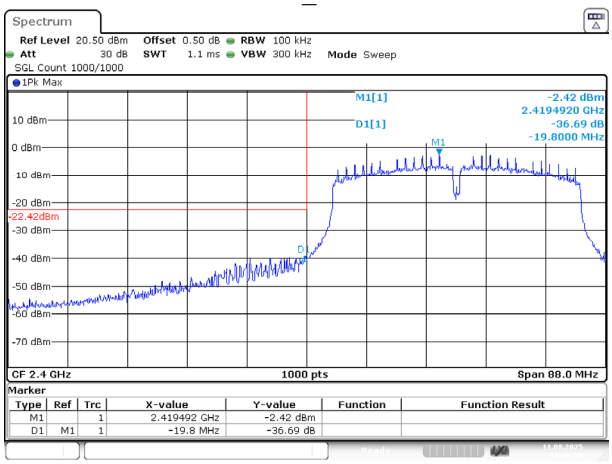
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 14:59:41

802.11n20_2462MHz



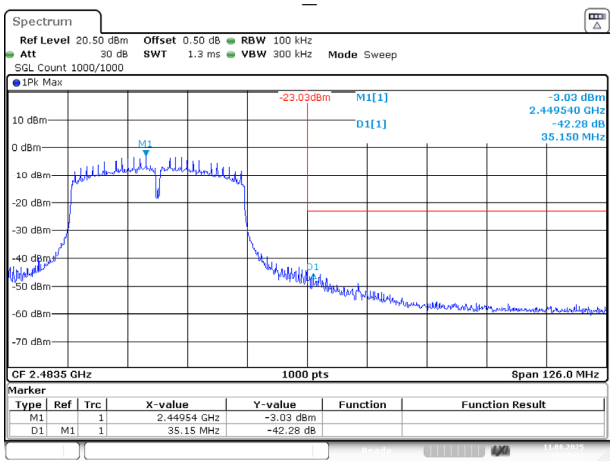
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:11:22

802.11n40_2422MHz



ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:16:49

802.11n40_2452MHz



ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:29:21

FCC §15.247(e) & RSS-247 ISSUE 4 CLAUSE 6.3.1 b- POWER SPECTRAL DENSITY

Applicable Standard

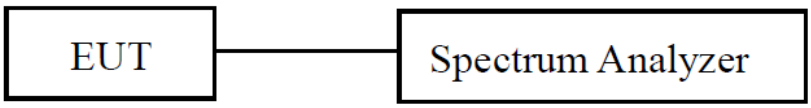
FCC §15.247 (e)

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

RSS-247 Clause 6.3.1 b

the transmitter power spectral density conducted from the transmitter to the antenna(s) shall not be greater than 8 dBm/3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of section 6.3.2. The power spectral density shall be determined using the same method as is used to determine the maximum conducted output power.

EUT Setup



Note: A short RF cable with low cable loss connected to the EUT antenna port. The insert loss of this RF cable was offset into the setting of test equipment:
Offset = Insert loss of RF cable
★ The Insert loss was declared by manufacturer.

Test Procedure

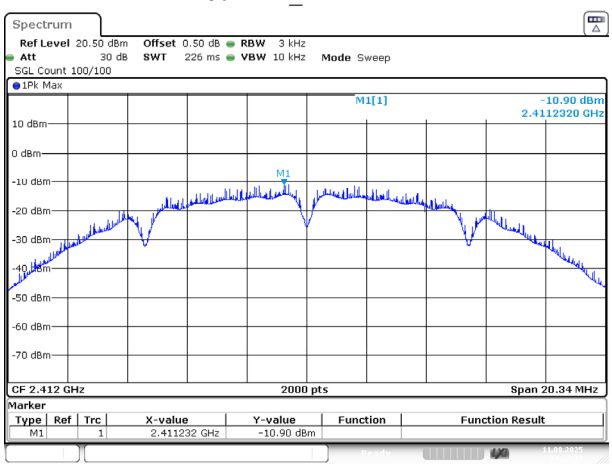
According to ANSI C63.10-2020 + Cor.1-2023▲ Section 11.10.2

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span >1.5 times the DTS bandwidth.
c) Set the RBW to 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ [3 × RBW].
e) Detector = peak.
f) Sweep time = No faster than coupled (auto) time.
g) Trace mode = max-hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

Test Data

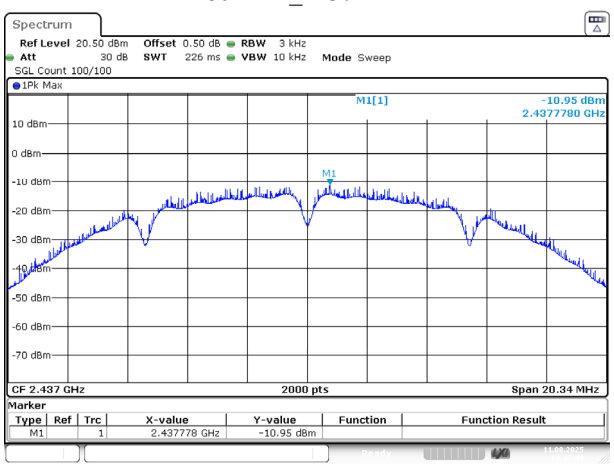
Test Mode:	Transmitting	**Test Engineer:**	Braylon Ma
Test Date:	2025-08-11	**Test Voltage:**	AC 120V/60Hz
Test Result:	Compliance	**Environment:**	Temp.: 25.3℃ Humi.: 61% Atm :100.3kPa
Test Modes	**Test Frequency (MHz)**	**Power Spectral Density (dBm/3kHz)**	**Limit (dBm/3kHz)**
802.11b	2412	-10.9	8.00
	2437	-10.95	8.00
	2462	-11.26	8.00
802.11g	2412	-13.95	8.00
	2437	-13.73	8.00
	2462	-14.89	8.00
802.11n ht20	2412	-14.81	8.00
	2437	-14.58	8.00
	2462	-15.77	8.00
802.11n ht40	2422	-18.34	8.00
	2437	-18.24	8.00
	2452	-19.11	8.00

802.11b_2412MHz



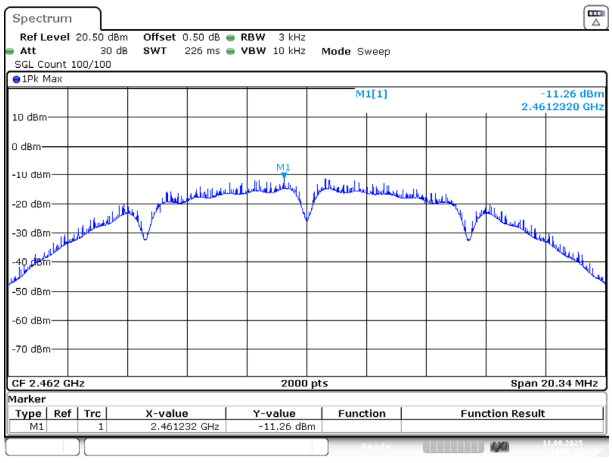
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 14:27:33

802.11b_2437MHz



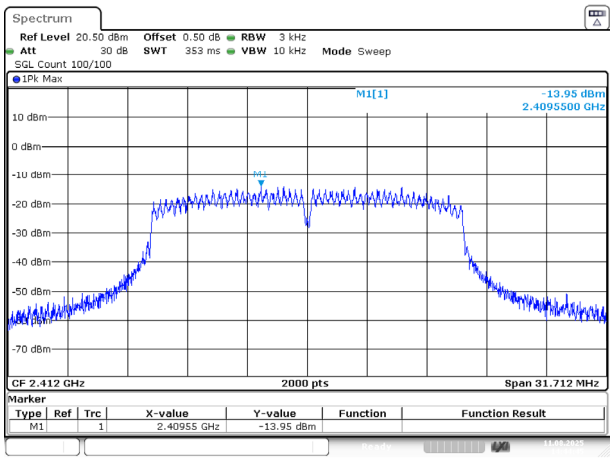
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 14:32:49

802.11b_2462MHz



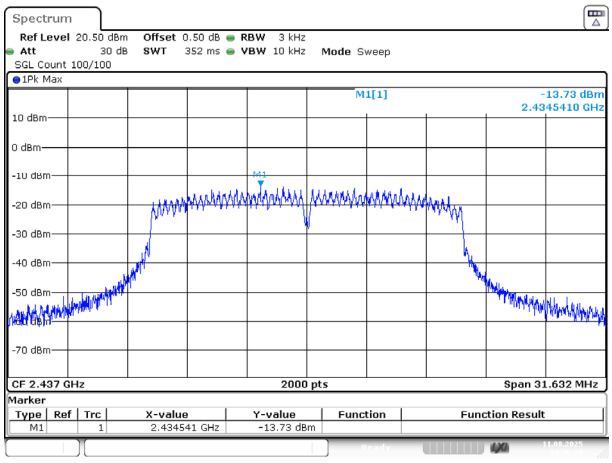
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 14:38:35

802.11g_2412MHz



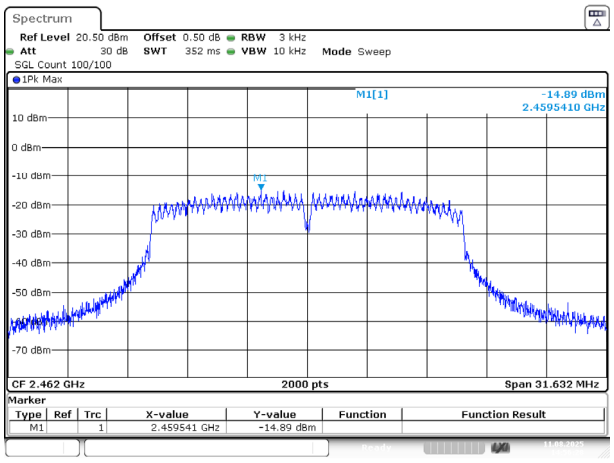
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 14:44:45

802.11g_2437MHz



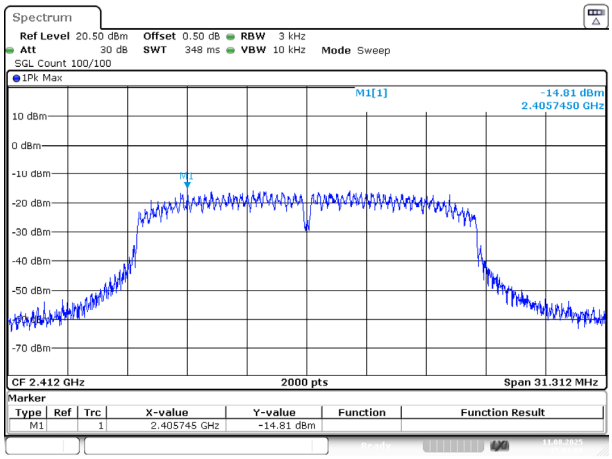
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 14:50:29

802.11g_2462MHz



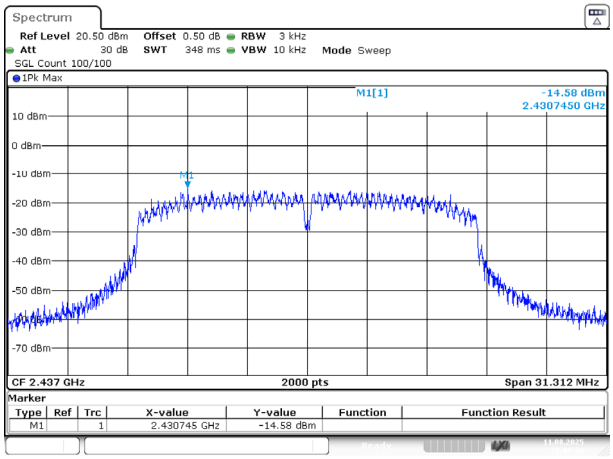
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 14:56:28

802.11n20_2412MHz



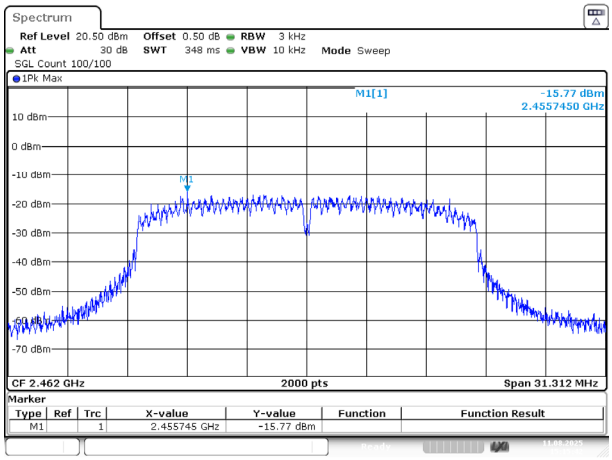
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:04:00

802.11n20_2437MHz



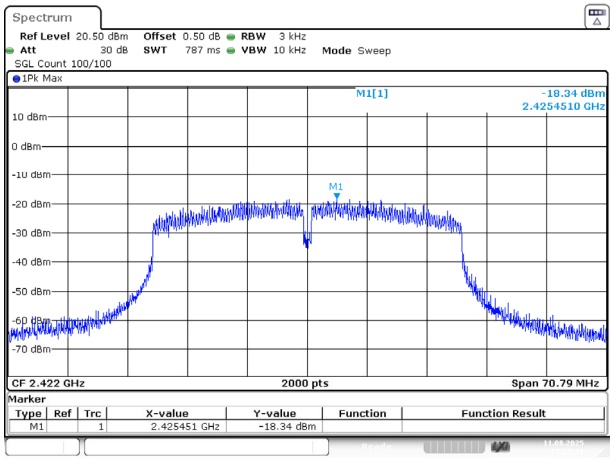
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:09:36

802.11n20_2462MHz



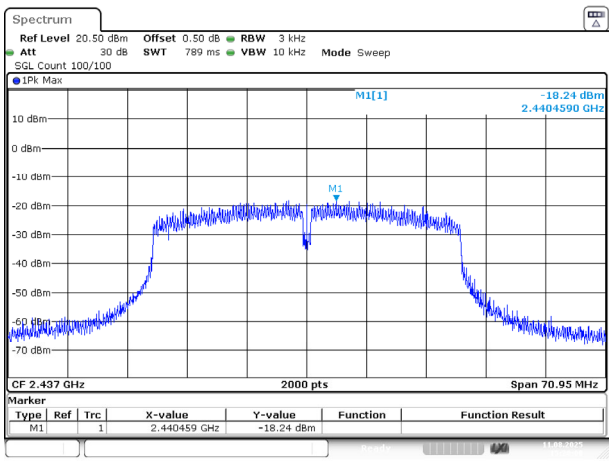
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:15:42

802.11n40_2422MHz



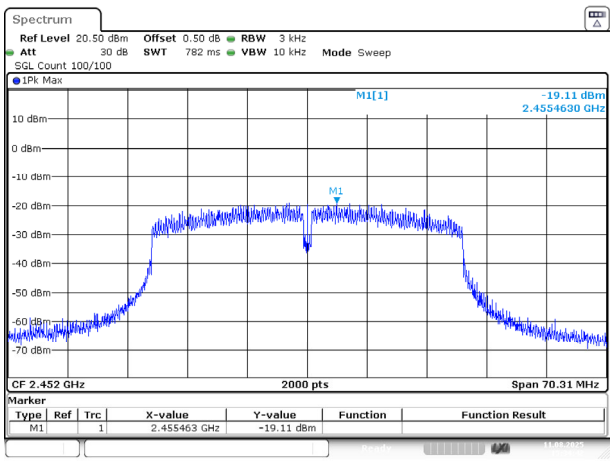
ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:22:10

802.11n40_2437MHz



ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:28:09

802.11n40_2452MHz



ProjectNo.:2507W27469E-RF Tester:Braylon Ma
Date: 11.AUG.2025 15:34:43

EUT PHOTOGRAPHS

Please refer to the attachment 2507W27469E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2507W27469E-RF-INP EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2507W27469E-RF-TSP TEST SETUP PHOTOGRAPHS.

Declarations

1. Bay Area Compliance Laboratories Corp. (Xiamen) is not responsible for authenticity of any information provided by the applicant. Information from the applicant that may affect test results are marked with an asterisk "★".

2. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.

3. Unless required by the rule provided by the applicant or product regulations, then decision rule in this report did not consider the uncertainty.

4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor k=2 with the 95% confidence interval.

5. This report cannot be reproduced except in full, without prior written approval of Bay Area Compliance Laboratories Corp. (Xiamen).

6. This report is valid only with a valid digital signature. The digital signature may be available only under the adobe software above version 7.0.

7. This report may contain data that are not covered by the accreditation scope and shall be marked with ▲.

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