

TEST REPORT

Applicant: RATTA US INC

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WASHINGTON United States

Product Name: Electronic-notebook

Model Name: A6 X2-W-J, A6 X2-C-J

Type of Equipment: Certification Ordinance Article 2, Paragraph 1, Item 19-3

Test method(s): DSPR 5 G H z 帶小電力データ通信システムの特性試験方法

Report Number: 2502U63435E-07D

Report Date: 2025/7/11

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2502U63435E-07D	Original Report	2025/7/11

GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

Product Name:	Electronic-notebook
Test Model:	A6 X2-W-J
Multiple Models:	A6 X2-C-J
Model Difference:	Please refer to the DOS
Rated Input Voltage:	DC 3.85V from Battery or DC 5V from Type-C
Serial Number:	3471-1
EUT Received Date:	2025/6/6
EUT Received Status:	Good

Technical Specification

Operation Frequency Range:	802.11a/n ht20/ac vht20: 5180-5240MHz 802.11n ht40/ac vht40: 5190/5230MHz 802.11ac vht80: 5210MHz
Nominal RF Output Power (Conducted, mW/MHz):	802.11 a: 2mW/MHz; 802.11 n20: 1.8mW/MHz; 802.11 n40: 1.2mW/MHz; 802.11 ac80: 0.6mW/MHz
Number of TX Chain(s)	1
Number of RX Chain(s)	1
Antenna System:	SISO
5.2G, Antenna Gain (dBi)[▲]:	-1.1
Modulation Type:	OFDM
Emission Type	G1D, D1D

Objective

The objective of this current document is to demonstrate the EUT, as equipment type in Certification Ordinance Article 2-1-19-3 of Specific Radio Equipment Specified in Article 38-2-2 Paragraph 1 Item 1 of the Radio Law, compliant with Article 49-20 of Radio equipment regulations.

Test Methodology

All measurements contained in this report were conducted with “DSPR 5 GHz 帯小電力データ通信システムの特性試験方法”, released by DSP Research, Inc. on Nov 10, 2022, which was formulated in accordance with the technical regulations of MIC Notice No.88 of 2004 (Version: MIC Notice No.409 of 2023).

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

Measurement Uncertainty

Parameter	Measurement Uncertainty
Frequency error	$\pm 0.082 \times 10^{-6}$
Occupied bandwidth	$\pm 5\%$
Unwanted emission strength(TX&RX)	$\pm 2.47\text{dB}$
RF output power, conducted	$\pm 0.61\text{dB}$
Temperature	$\pm 1^\circ\text{C}$
Humidity	$\pm 5\%$
Duty Cycle	1%
DC and low frequency voltages	$\pm 0.4\%$

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in engineering mode, which was provided by manufacture. The system support 802.11 a/n20/n40/ac20/ac40/ac80, the 802.11 ac20/ac40 were reduced since the identical parameters with 802.11n 20 and n40.

For W52 band, 7 channels are provided:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
38	5190	46	5230
40	5200	48	5240
42	5210	/	/

For 802.11a/n 20, Channel 36, 40 and 48 were tested; for 802.11n 40, Channel 38, 46 were tested; for 802.11ac80, Channel 42 was tested.

The extreme voltage test conditions and the normal conditions are as below:

NV: Normal Voltage 3.85V_{DC}

LV: Low Voltage 3.465V_{DC}

HV: High Voltage 4.235V_{DC}

The EUT in built a power manage system, power deviation of the power system output is less than 1% when extreme voltage supplied, therefore the test only performed at normal voltage condition. Details as following:

Voltage Condition	Input(V _{DC})	Terminal System Voltage(V _{DC})
NV	3.85	3.3
LV	3.465	3.3
HV	4.235	3.3

EUT Exercise Software

The 'CMD[▲]' was used for setting EUT into engineering mode, which was provided by manufacturer. The maximum power level was configured by the software as below table[▲]. The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates, bandwidths, and modulations.

ode	Channel	Frequency (MHz)	Data rate (Mbps)	Power level Setting
802.11 a	Low	5180	6 Mbps	15
	Middle	5200	6 Mbps	15
	High	5240	6 Mbps	15
802.11n20	Low	5180	HT MCS0	15
	Middle	5200	HT MCS0	15
	High	5240	HT MCS0	15
802.11n40	Low	5190	HT MCS0	15
	High	5230	HT MCS0	15
802.11 ac80	Middle	5210	VHT MCS0	15

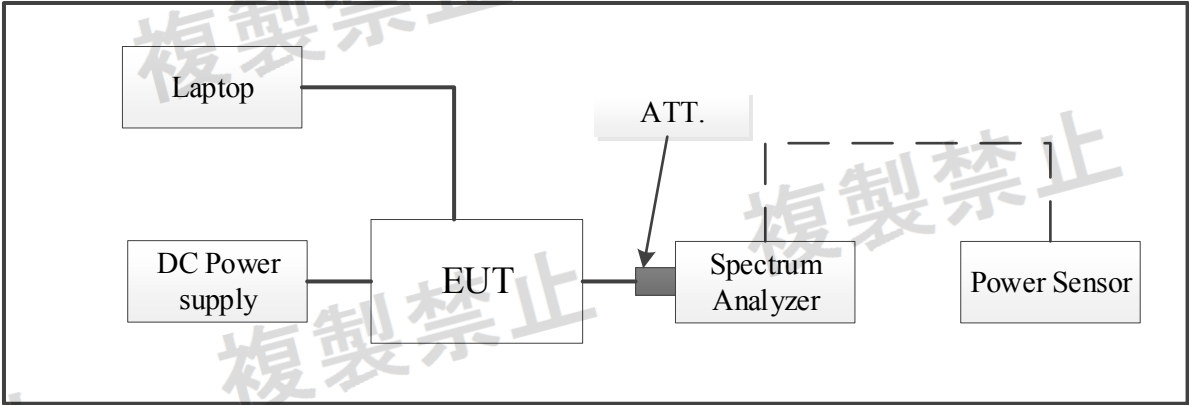
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
TDK-Lambda	DC Power Supply	Z+60-14	F-08-EM038-1
DELL	Laptop	E6410	GMLGPM1

Support Cable List and Details

Cable Description	Shielding Cable	Ferrite Core	Length (m)	From Port	To
USB Cable	NO	NO	1.2	Laptop	EUT
Detachable Power Cable	NO	NO	1	DC Power Supply	EUT

Configuration of Test Setup



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date	Calibration Agency	Calibration Method ^{Note}
R&S	Spectrum Analyzer	FSU 26	100152	2025/3/31	2026/3/30	BACL Metrology	C
R&S	Spectrum Analyzer	FSU 26	200445	2025/3/31	2026/3/30	BACL Metrology	C
Eastsheep	Coaxial Attenuator	2W-SMA-JK-6G-10dB	F-08-EM505	2025/6/6	2026/6/5	BACL(DG)	D
Anritsu	Microwave Peak Power Sensor	MA24418A	12618	2024/8/27	2025/8/26	BACL Metrology	C
Mini-Circuits	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2025/2/25	2026/2/24	BACL(DG)	D
R&S	Wideband Radio Communication Tester	CMW500	147473	2024/9/5	2025/9/4	BACL Metrology	C
All-sun	Multimeter	EM305A	8348897	2024/8/16	2025/8/15	BACL Metrology	C
TDK-Lambda	DC Power Supply	Z+60-14	F-08-EM038-1	N/A	N/A	N/A	N/A
Agilent	Signal Generator	E8247C	MY43321350	2024/9/5	2025/9/4	BACL Metrology	C

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Note:

- A. Calibration conducted by the National Institute of Information and Communications Technology (NICT) (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1).
- B. Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992).
- C. Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1).
- D. Calibration conducted by using measuring instruments and other equipment which shall have been given any of calibration, etc. listed above from a) to c)

Test Environmental Conditions

Temperature:	25.3~26.4℃
Relative Humidity:	57~60%
ATM Pressure:	100.1~100.7kPa
Tester:	Rini Yan
Test Date:	2025/6/9~2025/7/1

SUMMARY OF TEST RESULTS

SN	Description Of Test	Result
1	Frequency Tolerance	Compliant
2	Occupied Bandwidth	Compliant
3	(1) Transmitter Spurious Emission Strength	Compliant
4	(2) Out-Band Leakage Power	Compliant
5	Output Power and Output Power Tolerance	Compliant
6	Adjacent Channel Power	Compliant
7	Secondary Radiated Emission Strength	Compliant
8	Radio Interference Prevention Capability	Compliant
9	Transmission Burst Length	Compliant
10	Transmission Power Control Function (TPC)	Not Applicable*
11	Carrier Sense Capability	Compliant
12	Dynamic Frequency Selection (DFS)	Not Applicable**
13	Construction Protection Confirmation	Compliant

Note:

Not Applicable*: EUT without TPC function.

Not Applicable**: EUT do not work on DFS band.

1 – FREQUENCY TOLERANCE

Limit

Within ± 20 ppm.

Test Procedure

Set the EUT to the measurement frequency without modulation.

Setting of SA is following as: Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold.

Record the peak spot frequency.

If the EUT can't set at un-modulation mode, measure the 10dBc center frequency.

Test Data

Test Result: Compliant

Test Mode: Transmitting

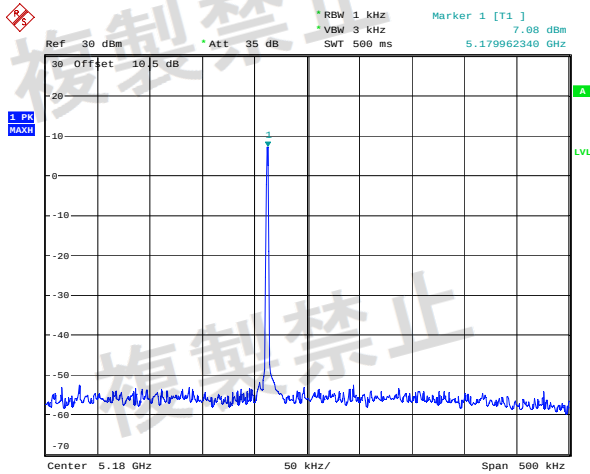
Test Condition	Frequency Band	Channel	Fc (MHz)	Measured Frequency (MHz)	Result (ppm)	Limit (ppm)
NV	W52	Low	5180	5179.96234	-7.27	± 20
			5190	5189.96234	-7.26	
		Middle	5200	5199.96234	-7.24	
			5210	5209.961538	-7.38	
		High	5230	5229.961538	-7.35	
			5240	5239.961538	-7.34	

Note:

$$\text{Result} = (\text{Measured Frequency} - F_c) / F_c * 10^6$$

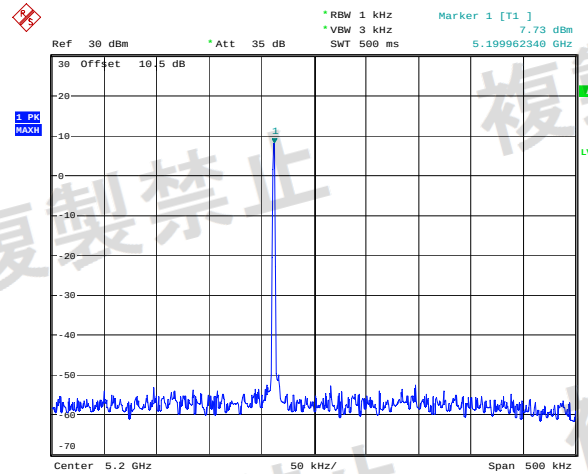
Please refer to the plots for normal voltage test:

5180 MHz,



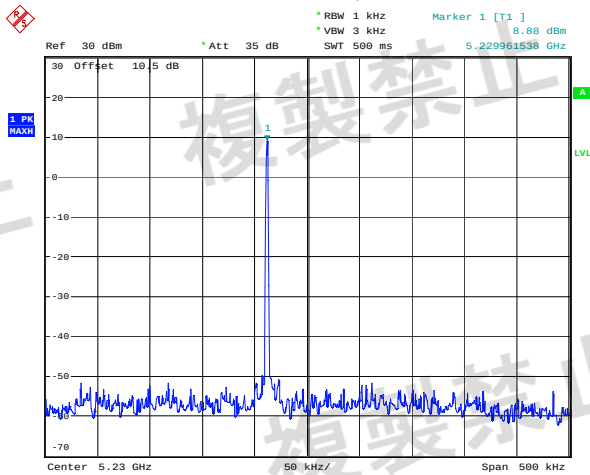
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 13:11:48

5200 MHz,



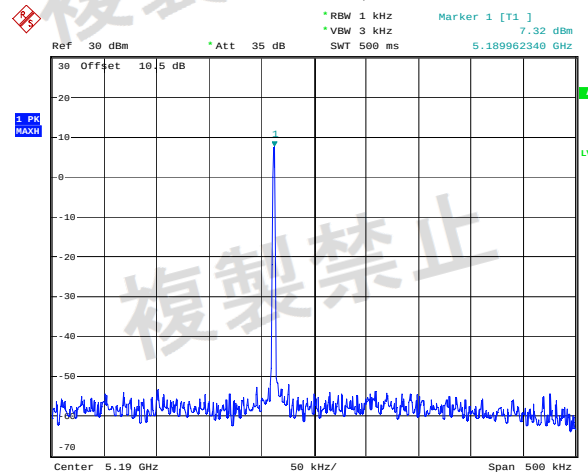
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 13:12:36

5230 MHz,



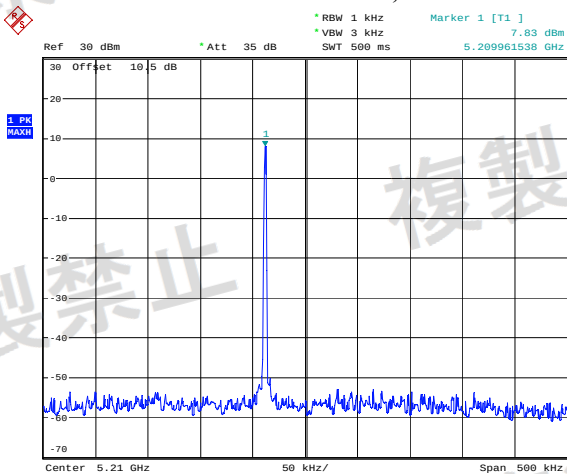
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 13:14:42

5190 MHz,



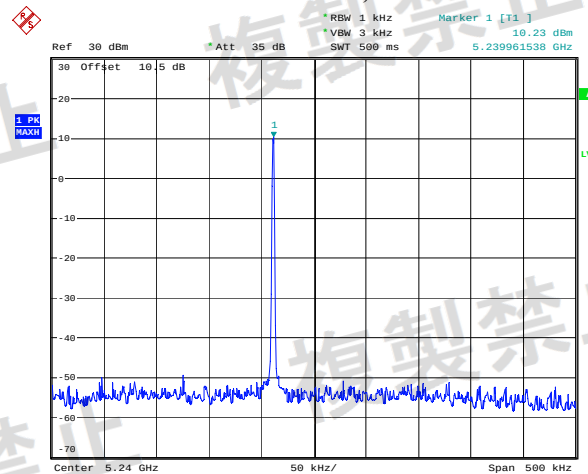
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 13:14:03

5210 MHz,



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 13:15:29

5240 MHz,



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 13:13:21

2 - OCCUPIED BANDWIDTH

Limit

Item	Limits
Occupied Bandwidth:	W52/W53/W56: ≤ 18MHz(20MHz Mode DSSS) ≤ 20MHz(20MHz Mode OFDM) ≤ 40MHz (40MHz Mode OFDM) ≤ 80MHz (80MHz Mode OFDM)

Test Procedure

- Setting of SA is following as: RB: 300 kHz / VB: 300 kHz / SPAN: 2*Nominal Bandwidth/ Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- EUT have transmitted the maximum modulation signal and fixed channelize. SA set to 99% of occupied bandwidth to measure occupied bandwidth.

Test Data

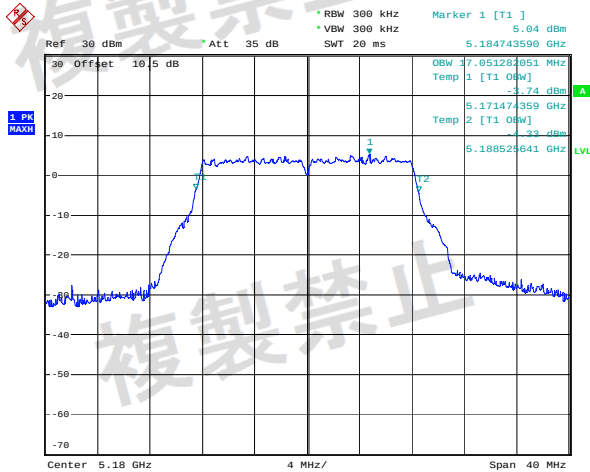
Test Result: Compliant

Test Mode: Transmitting, please refer to following table:

Test Condition	Occupied bandwidth (MHz)				
	Mode	Low Channel	Middle Channel	High Channel	Limit
NV	802.11a	17.051	17.051	17.051	≤ 20
	802.11n20	17.756	18.269	18.269	≤ 20
	802.11n40	36.41	/	36.282	≤ 40
	802.11 ac80	/	75.897	/	≤ 80

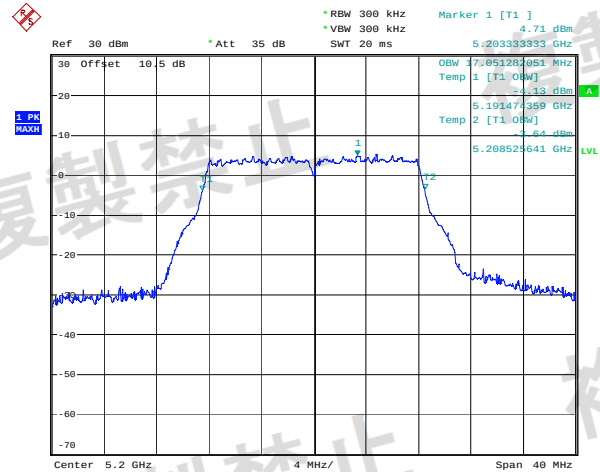
Please refer to the following plots for normal voltage test:

802.11a Low Channel



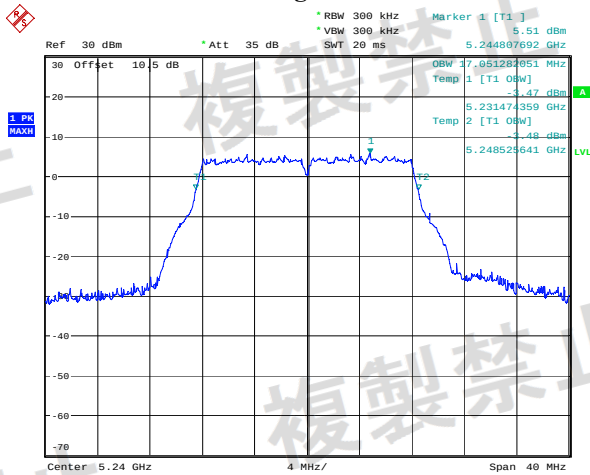
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 10:44:00

802.11a Middle Channel



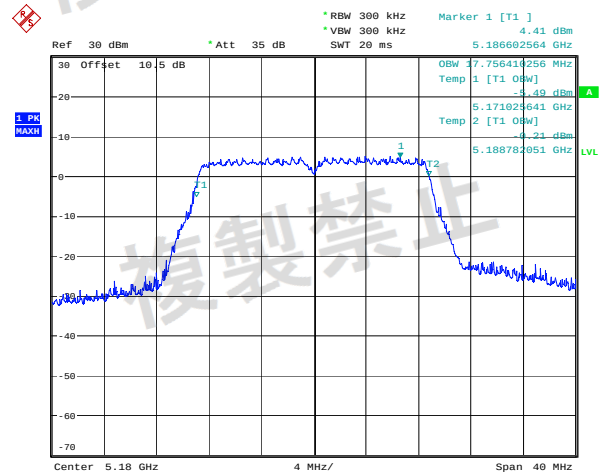
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 10:47:15

802.11a High Channel



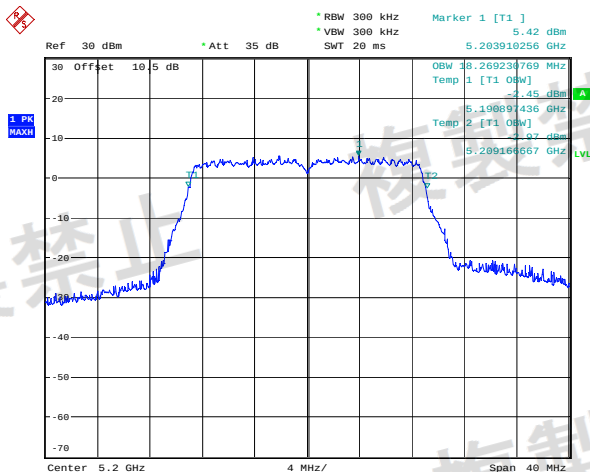
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 10:48:56

802.11n20 Low Channel



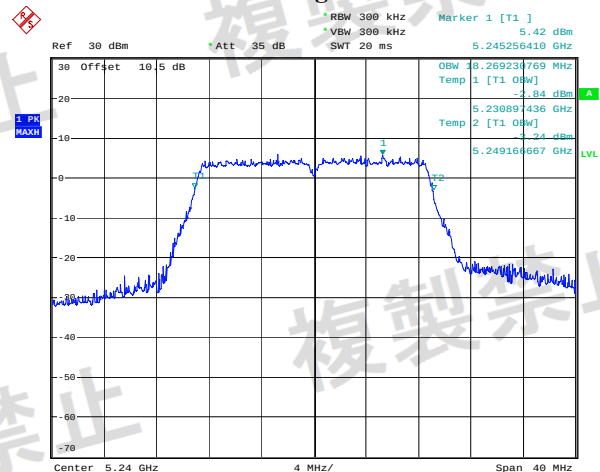
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 10:51:09

802.11n20 Middle Channel



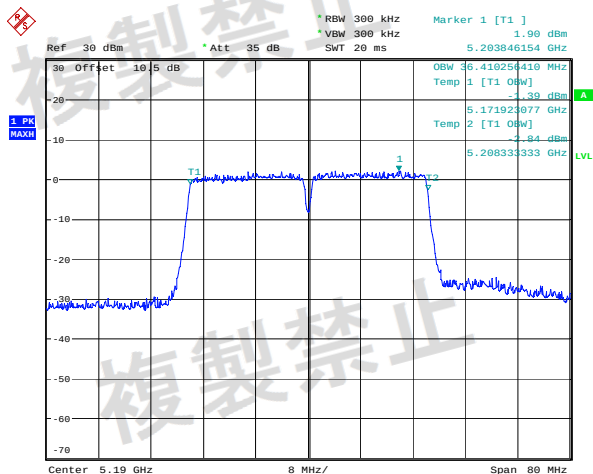
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 10:52:22

802.11n20 High Channel

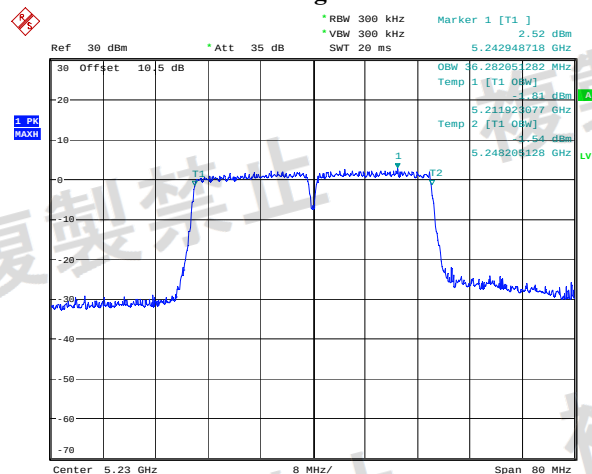


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 10:53:40

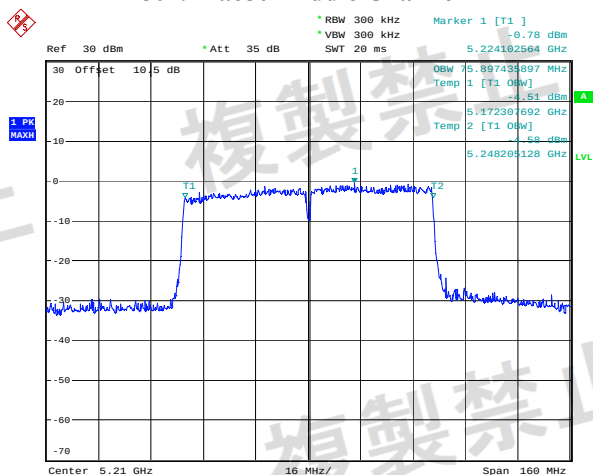
802.11n40 Low Channel



802.11n40 High Channel



802.11 ac80 Middle Channel



3 - TRANSMITTER SPURIOUS EMISSION STRENGTH

Limit

Spurious Emission:

* Attachment 1 (Unwanted Emission Strength)

W52			
20MHz system		40MHz system	80MHz system
OBW : 18MHz or less	OBW : 18 - 20 MHz		
5,142 MHz or less : 2.5 μ W/MHz	5,142 MHz or less : 2.5 μ W/MHz	5,141.6 MHz or less : 2.5 μ W/MHz	5,123.2 MHz or less : 2.5 μ W/MHz
5,142 - 5,150 MHz : 15 μ W/MHz	5,142 - 5,150 MHz : 15 μ W/MHz	5,141.6 - 5,150 MHz : 15 μ W/MHz	5,123.2 - 5,150 MHz : 15 μ W/MHz
5,250 - 5,251 MHz : $10^{1-(f-9)/3}$ mW/MHz	5,250 - 5,251 MHz : $10^{1-(f-9)/3}$ mW/MHz	5,250 - 5,251 MHz : $10^{-(f-20)+\log(1/2)}$ mW/MHz	5,250 - 5,251 MHz : $10^{-(f-40)+\log(1/4)}$ mW/MHz
5,251 - 5,260 MHz : $10^{-1-(8/90)(f-33)}$ mW/MHz	5,251 - 5,260 MHz : $10^{-1-(8/90)(f-33)}$ mW/MHz	5,251 - 5,270 MHz : $10^{-(8/190)(f-21)-1+\log(1/2)}$ mW/MHz	5,251 - 5,260 MHz : $10^{-(8/390)(f-43)-1+\log(1/4)}$ mW/MHz
5,260 - 5,266.7 MHz : $10^{-1.8-(6/50)(f-20)}$ mW/MHz	5,260 - 5,266.7 MHz : $10^{-1.8-(6/50)(f-20)}$ mW/MHz	5,270 - 5,278.4 MHz : $10^{-(3/50)(f-40)-1.8+\log(1/2)}$ mW/MHz	5,260 - 5,266.7 MHz : $10^{-(3/100)(f-80)-1.8+\log(1/4)}$ mW/MHz
5,266.7 MHz or more : 2.5 μ W/MHz	5,266.7 MHz or more : 2.5 μ W/MHz	5,278.4 MHz or more : 2.5 μ W/MHz	5,266.7 MHz or more : 2.5 μ W/MHz
f = MHz, Difference from 5240 (MHz)	f = MHz, Difference from 5240 (MHz)	f = MHz, Difference from 5230 (MHz)	f = MHz, Difference from 5210 (MHz)

W53			
20MHz system		40MHz system	80MHz system
OBW : 18MHz or less	OBW : 18 - 20 MHz		
5,233.3 MHz or less : 2.5 μ W/MHz	5,233.3 MHz or less : 2.5 μ W/MHz	5,221.6 MHz or less : 2.5 μ W/MHz	5,203.3 MHz or less : 2.5 μ W/MHz
5,233.3 - 5,240 MHz : $10^{-1.8-(6/50)(f-20)}$ mW/MHz	5,233.3 - 5,240 MHz : $10^{-1.8-(6/50)(f-20)}$ mW/MHz	5,221.6 - 5,230 MHz : $10^{-(9/50)(f-40)-1.8+\log(1/2)}$ mW/MHz	5,203.3 - 5,210 MHz : $10^{-(3/100)(f-80)-1.8+\log(1/4)}$ mW/MHz
5,240 - 5,249 MHz : $10^{-1-(8/90)(f-11)}$ mW/MHz	5,240 - 5,249 MHz : $10^{-1-(8/90)(f-11)}$ mW/MHz	5,230 - 5,249 MHz : $10^{-(8/190)(f-21)-1+\log(1/2)}$ mW/MHz	5,210 - 5,249 MHz : $10^{-(8/390)(f-41)-1+\log(1/4)}$ mW/MHz
5,249 - 5,250 MHz : $10^{1-(f-9)/3}$ mW/MHz	5,249 - 5,249.8 MHz : $10^{1-(f-9)/3}$ mW/MHz	5,249 - 5,250 MHz : $10^{-(f-20)+\log(1/2)}$ mW/MHz	5,249 - 5,250 MHz : $10^{-(f-40)+\log(1/4)}$ mW/MHz
5,350 MHz or more : 2.5 μ W/MHz	5,249.8 - 5,250 MHz : $10^{1-(9/3)(f-9.75)}$ mW/MHz	5,350 - 5,358.4 MHz : 15 μ W/MHz	5,350 - 5,376.8 MHz : 15 μ W/MHz
f = MHz, Difference from 5260 (MHz)	f = MHz, Difference from 5260 (MHz)	f = MHz, Difference from 5270 (MHz)	f = MHz, Difference from 5290 (MHz)

W56			
20MHz system		40MHz system	80MHz system
DSSS, etc.	OFDM		
5,470 MHz or less : 12.5 μ W/MHz	5,460 MHz or less : 2.5 μ W/MHz	5,460 MHz or less : 12.5 μ W/MHz	5,460 MHz or less : 12.5 μ W/MHz
	5,460 - 5,470 MHz : 12.5 μ W/MHz	5,460 - 5,470 MHz : 50 μ W/MHz	5,460 - 5,469.5 MHz : 50 μ W/MHz
5,730 MHz or more : 12.5 μ W/MHz	5,745 - 5,765 MHz : 12.5 μ W/MHz	5,770 MHz or more : 12.5 μ W/MHz	5,469.5 - 5,470 MHz : 51.2 μ W/MHz
	Over 5,765 MHz : 2.5 μ W/MHz		5,770 MHz or more : 12.5 μ W/MHz

Test Procedure

❖ Conditions of Application Equipment (EUT)

- The modulation state shall be “continuous transmitting mode” by spread spectrum.

Test Data

Note:

1. Antenna gain is add into the test result;

Test Result: Compliant, the tables and plots for normal voltage listed as following:

Test Condition	Frequency Band	Mode	Frequency Range		Max. Emission Located (GHz)	Max. Emission		Limit (μW/MHz)
			Start (GHz)	Stop (GHz)		EIRP (dBm/MHz)	EIRP (μW/MHz)	
NV	W52	802.11a_Low Channel	0.03	5.1	4.51500	-30.76	0.839	2.5
			5.2667	26	8.05337	-36.19	0.24	2.5
	W52	802.11a_Middle Channel	0.03	5.1	4.39313	-30.39	0.914	2.5
			5.2667	26	15.31827	-37.04	0.198	2.5
	W52	802.11a_High Channel	0.03	5.1	4.48250	-30.58	0.875	2.5
			5.2667	26	15.25192	-37.05	0.197	2.5

Test Condition	Frequency Band	Mode	Frequency Range		Max. Emission Located (GHz)	Max. Emission		Limit (μW/MHz)
			Start (GHz)	Stop (GHz)		EIRP (dBm/MHz)	EIRP (μW/MHz)	
NV	W52	802.11n20_Low Channel	0.03	5.1	4.44188	-30.60	0.871	2.5
			5.2667	26	12.33269	-36.99	0.2	2.5
	W52	802.11n20_Middle Channel	0.03	5.1	4.32000	-31.01	0.793	2.5
			5.2667	26	12.29952	-37.57	0.175	2.5
	W52	802.11n20_High Channel	0.03	5.1	4.88063	-28.99	1.262	2.5
			5.2667	26	25.80096	-36.58	0.22	2.5

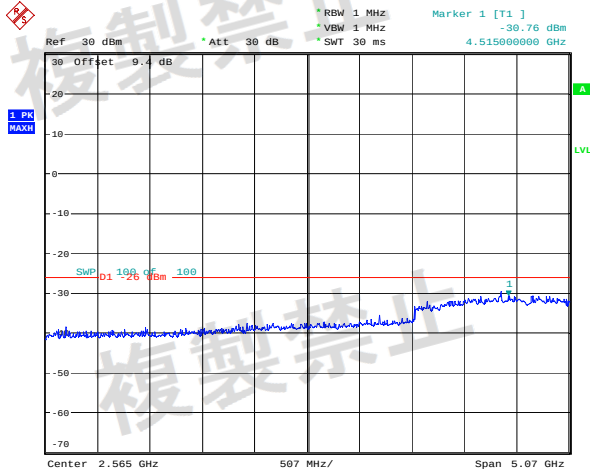
Test Condition	Frequency Band	Mode	Frequency Range		Max. Emission Located (GHz)	Max. Emission		Limit (μW/MHz)
			Start (GHz)	Stop (GHz)		EIRP (dBm/MHz)	EIRP (μW/MHz)	
NV	W52	802.11n40_Low Channel	0.03	5.1	4.22250	-31.42	0.721	2.5
			5.2784	26	7.85433	-37.00	0.2	2.5
	W52	802.11n40_High Channel	0.03	5.1	4.71000	-30.93	0.807	2.5
			5.2784	26	5.30000	-36.82	0.208	2.5
	W52	802.11ac80_Middle Channel	0.03	5.1	3.93813	-31.12	0.773	2.5
			5.2967	26	15.01971	-36.64	0.217	2.5

Note:

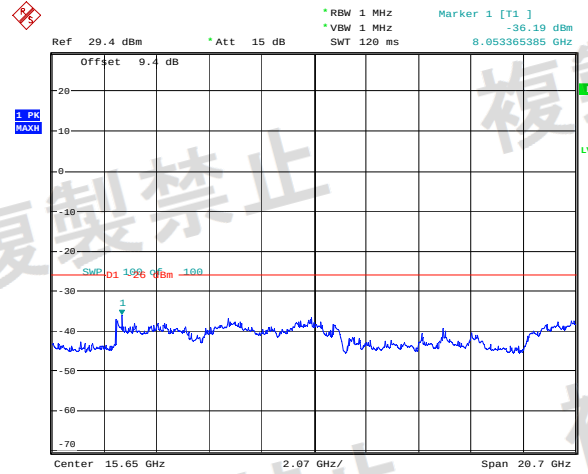
Band I:30MHz~5100MHz

Band II:5300MHz~26000MHz

802.11a Low Channel

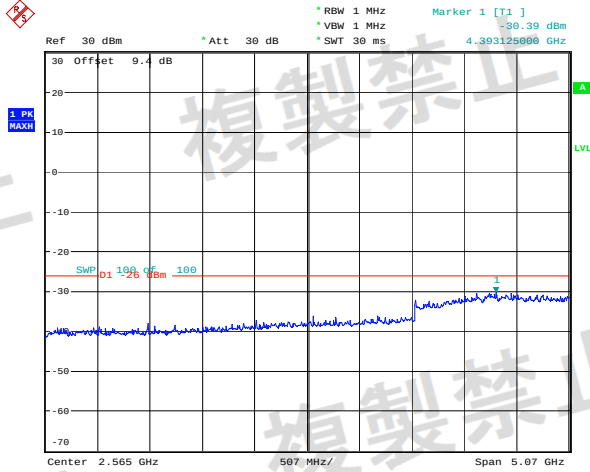


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
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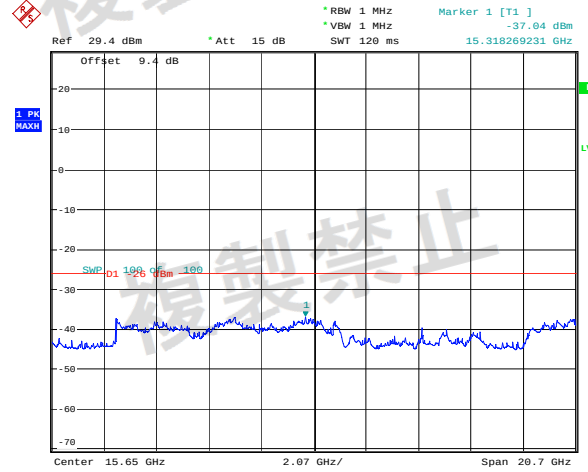


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802.11a Middle Channel

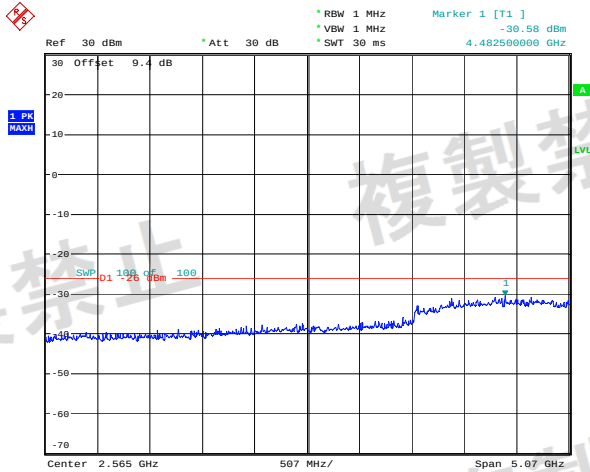


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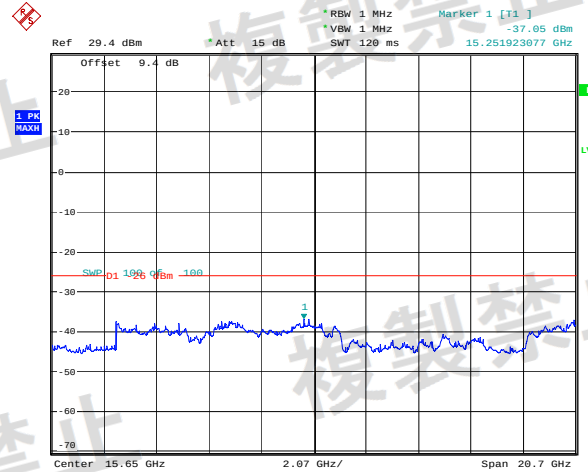


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Date: 20 JUN.2025 08:38:41

802.11a High Channel

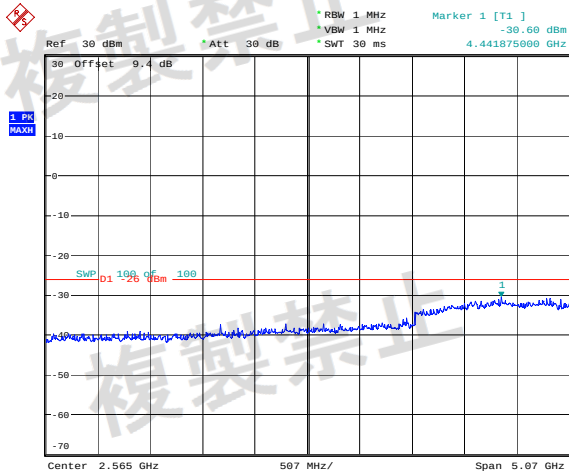


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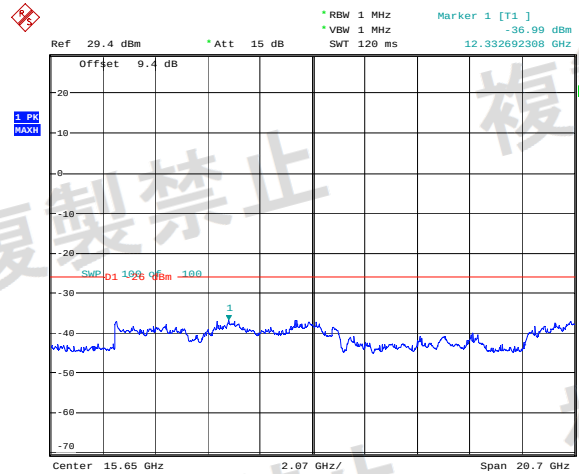


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Date: 20 JUN.2025 08:35:11

802.11n20 Low Channel

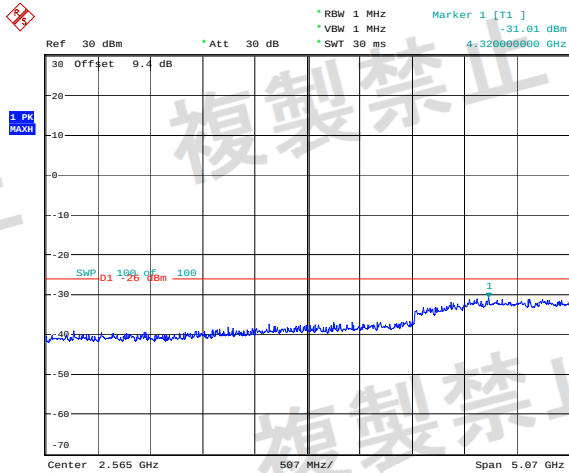


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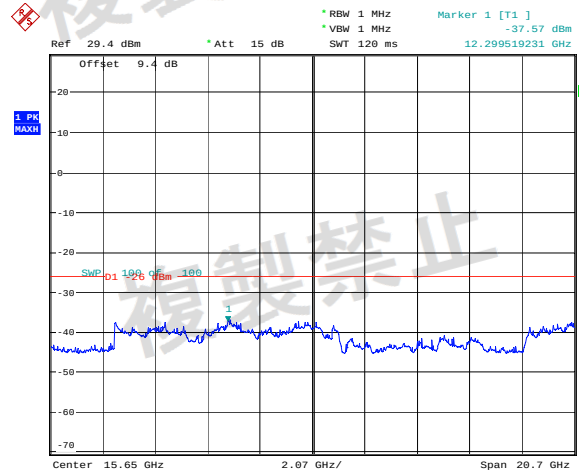


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Date: 20 JUN.2025 08:32:47

802.11n20 Middle Channel

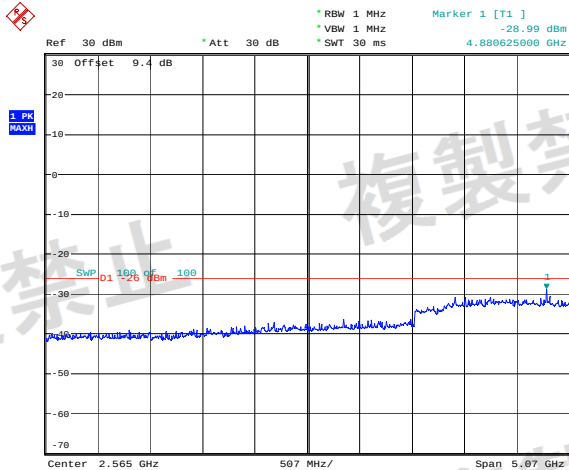


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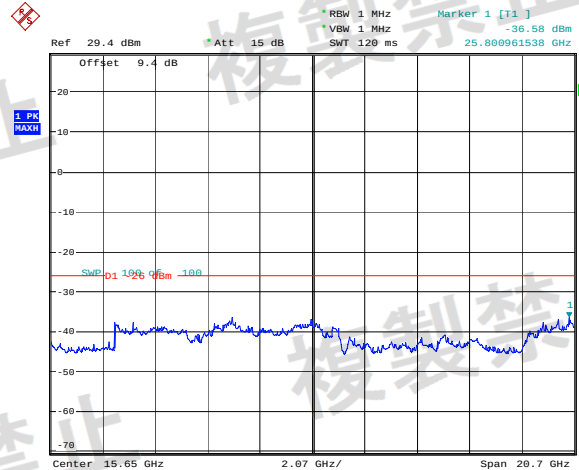


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Date: 20 JUN.2025 08:46:04

802.11n20 High Channel

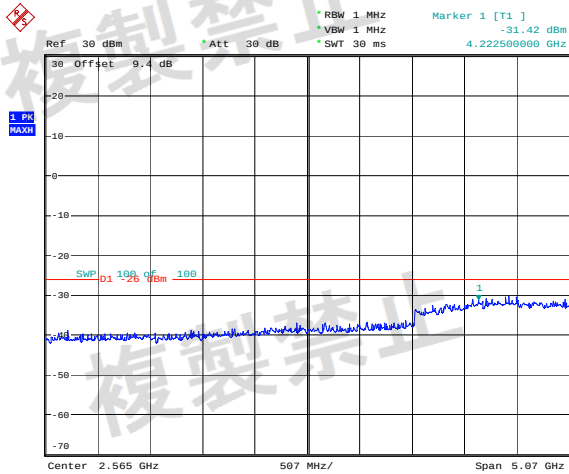


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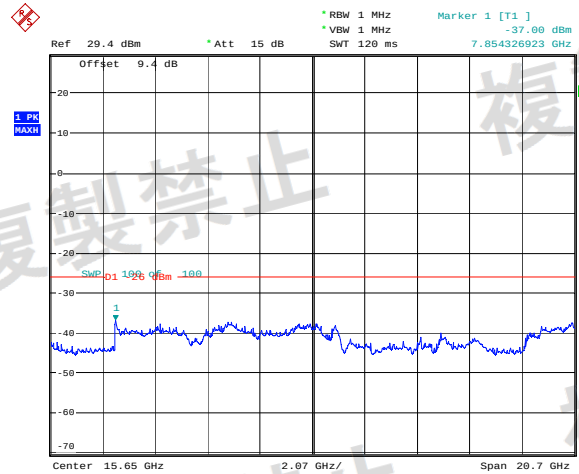


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Date: 20 JUN.2025 08:47:57

802.11n40 Low Channel

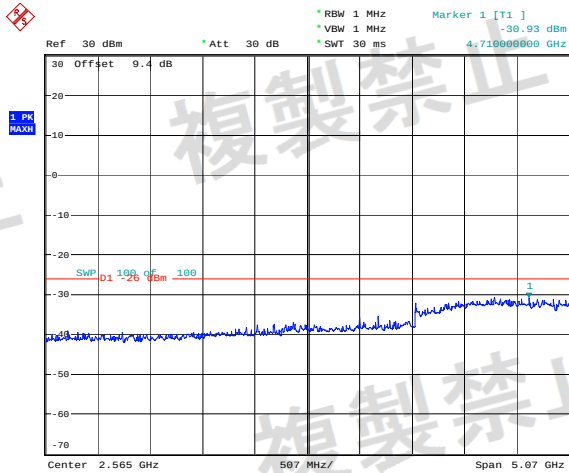


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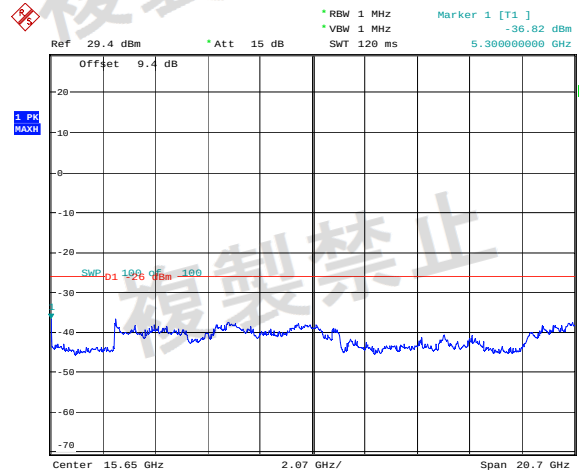


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Date: 20.JUN.2025 08:50:24

802.11n40 High Channel

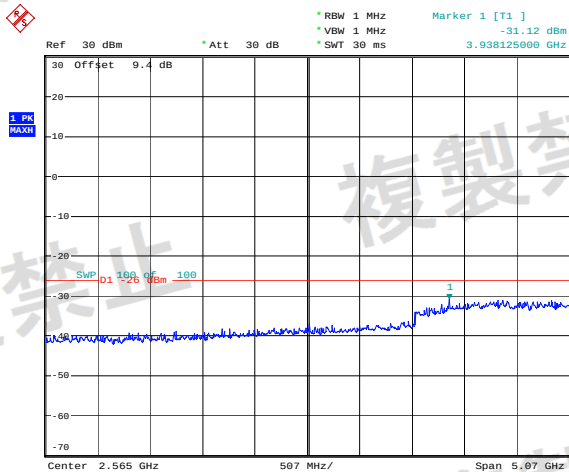


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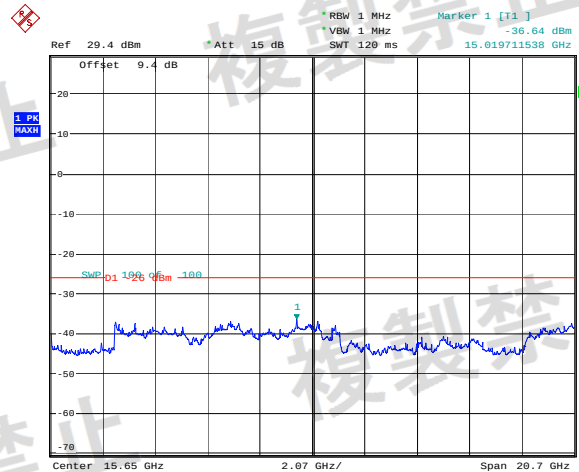


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 08:52:21

802.11 ac80 Middle Channel



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 08:53:25



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 08:54:06

4 - OUT-BAND LEAKAGE POWER

Limit

* Attachment 1 (Unwanted Emission Strength)

W52			
20MHz system		40MHz system	80MHz system
OBW : 18MHz or less	OBW : 18 - 20 MHz		
5,142 MHz or less : 2.5 μ W/MHz	5,142 MHz or less : 2.5 μ W/MHz	5,141.6 MHz or less : 2.5 μ W/MHz	5,123.2 MHz or less : 2.5 μ W/MHz
5,142 - 5,150 MHz : 15 μ W/MHz	5,142 - 5,150 MHz : 15 μ W/MHz	5,141.6 - 5,150 MHz : 15 μ W/MHz	5,123.2 - 5,150 MHz : 15 μ W/MHz
	5,250 - 5,250.2 MHz : $10^{1-(9/3)(f-9.75)}$ mW/MHz		
5,250 - 5,251 MHz : $10^{1-(f-9)}$ mW/MHz	5,250.2 - 5,251 MHz : $10^{1-(f-9)}$ mW/MHz	5,250 - 5,251 MHz : $10^{-(f-20)+\log(1/2)}$ mW/MHz	5,250 - 5,251 MHz : $10^{-(f-40)+\log(1/4)}$ mW/MHz
5,251 - 5,260 MHz : $10^{-1-(9/90)(f-11)}$ mW/MHz	5,251 - 5,260 MHz : $10^{-1-(9/90)(f-11)}$ mW/MHz	5,251 - 5,270 MHz : $10^{-(9/190)(f-21)-1+\log(1/2)}$ mW/MHz	5,251 - 5,290 MHz : $10^{-(9/390)(f-41)-1+\log(1/4)}$ mW/MHz
5,260 - 5,266.7 MHz : $10^{-1.8-(6/50)(f-20)}$ mW/MHz	5,260 - 5,266.7 MHz : $10^{-1.8-(6/50)(f-20)}$ mW/MHz	5,270 - 5,278.4 MHz : $10^{-(3/50)(f-40)-1.8+\log(1/2)}$ mW/MHz	5,290 - 5,296.7 MHz : $10^{-(3/100)(f-80)-1.8+\log(1/4)}$ mW/MHz
5,266.7 MHz or more : 2.5 μ W/MHz	5,266.7 MHz or more : 2.5 μ W/MHz	5,278.4 MHz or more : 2.5 μ W/MHz	5,296.7 MHz or more : 2.5 μ W/MHz
f = MHz, Difference from 5240 (MHz)	f = MHz, Difference from 5240 (MHz)	f = MHz, Difference from 5230 (MHz)	f = MHz, Difference from 5210 (MHz)

W53			
20MHz system		40MHz system	80MHz system
OBW : 18MHz or less	OBW : 18 - 20 MHz		
5,233.3 MHz or less : 2.5 μ W/MHz	5,233.3 MHz or less : 2.5 μ W/MHz	5,221.6 MHz or less : 2.5 μ W/MHz	5,203.3 MHz or less : 2.5 μ W/MHz
5,233.3 - 5,240 MHz : $10^{-1.8-(6/50)(f-20)}$ mW/MHz	5,233.3 - 5,240 MHz : $10^{-1.8-(6/50)(f-20)}$ mW/MHz	5,221.6 - 5,230 MHz : $10^{-(3/50)(f-40)-1.8+\log(1/2)}$ mW/MHz	5,203.3 - 5,210 MHz : $10^{-(3/100)(f-80)-1.8+\log(1/4)}$ mW/MHz
5,240 - 5,249 MHz : $10^{-1-(8/90)(f-11)}$ mW/MHz	5,240 - 5,249 MHz : $10^{-1-(8/90)(f-11)}$ mW/MHz	5,230 - 5,248 MHz : $10^{-(8/190)(f-21)-1+\log(1/2)}$ mW/MHz	5,210 - 5,248 MHz : $10^{-(8/390)(f-41)-1+\log(1/4)}$ mW/MHz
5,249 - 5,250 MHz : $10^{1-(f-9)}$ mW/MHz	5,249 - 5,249.8 MHz : $10^{1-(f-9)}$ mW/MHz	5,249 - 5,250 MHz : $10^{-(f-20)+\log(1/2)}$ mW/MHz	5,249 - 5,250 MHz : $10^{-(f-40)+\log(1/4)}$ mW/MHz
	5,249.8 - 5,250 MHz : $10^{1-(8/3)(f-9.75)}$ mW/MHz	5,350 - 5,358.4 MHz : 15 μ W/MHz	5,350 - 5,376.8 MHz : 15 μ W/MHz
5,350 MHz or more : 2.5 μ W/MHz	5,350 MHz or more : 2.5 μ W/MHz	5,358.4 MHz or more : 2.5 μ W/MHz	5,376.8 MHz or more : 2.5 μ W/MHz
f = MHz, Difference from 5260 (MHz)	f = MHz, Difference from 5260 (MHz)	f = MHz, Difference from 5270 (MHz)	f = MHz, Difference from 5290 (MHz)

W56			
20MHz system		40MHz system	80MHz system
DSSS, etc.	OFDM		
5,470 MHz or less : 12.5 μ W/MHz	5,460 MHz or less : 2.5 μ W/MHz	5,460 MHz or less : 12.5 μ W/MHz	5,460 MHz or less : 12.5 μ W/MHz
	5,460 - 5,470 MHz : 12.5 μ W/MHz	5,460 - 5,470 MHz : 50 μ W/MHz	5,460 - 5,469.5 MHz : 50 μ W/MHz
	5,745 - 5,765 MHz : 12.5 μ W/MHz		5,469.5 - 5,470 MHz : 51.2 μ W/MHz
5,730 MHz or more : 12.5 μ W/MHz	Over 5,765 MHz : 2.5 μ W/MHz	5,770 MHz or more : 12.5 μ W/MHz	5,770 MHz or more : 12.5 μ W/MHz

Test Procedure

◆ Conditions of Application Equipment (EUT)

- The modulation state shall be “continuous transmitting mode” by spread spectrum.
- The antenna gain was added into the offset.

Test Data

Note:

- 1, Antenna gain was added into the test result.
- 2, The Unit of result μ W/MHz was equivalently convert to dBm/MHz with formula:

$$\text{dBm/MHz} = 10 \cdot \log((\mu\text{W/MHz})/1000)$$

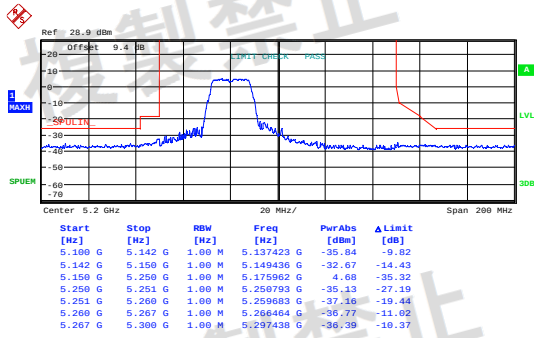
Test Result: Compliant, the table and plots for normal voltage listed as following:

Test Condition	Frequency Band	Mode	Frequency Range		Max. Emission Located (GHz)	Max. Emission		Limit (μW/MHz)
			Start (GHz)	Stop (GHz)		EIRP (dBm/MHz)	EIRP (μW/MHz)	
NV	W52	802.11a_Low Channel	5.1	5.142	5.13742	-35.84	0.261	2.5
			5.142	5.15	5.14944	-32.67	0.541	15.0
			5.25	5.251	5.25079	-35.13	0.307	161.1
			5.251	5.26	5.25968	-37.16	0.192	16.9
			5.26	5.2667	5.26646	-36.77	0.21	2.7
	W52	802.11a_Middle Channel	5.1	5.142	5.13864	-35.95	0.254	2.5
			5.142	5.15	5.14509	-35.72	0.268	15.0
			5.25	5.251	5.25093	-36.27	0.236	116.7
			5.251	5.26	5.25984	-36.85	0.207	16.4
			5.26	5.2667	5.26670	-36.85	0.207	2.5
	W52	802.11a_High Channel	5.1	5.142	5.12834	-35.25	0.299	2.5
			5.142	5.15	5.14897	-35.69	0.27	15.0
			5.25	5.251	5.25073	-13.39	45.814	186.6
			5.251	5.26	5.25404	-18.95	12.735	53.6
			5.26	5.2667	5.26637	-31.74	0.67	2.7

Test Condition	Frequency Band	Mode	Frequency Range		Max. Emission Located (GHz)	Max. Emission		Limit (μW/MHz)
			Start (GHz)	Stop (GHz)		EIRP (dBm/MHz)	EIRP (μW/MHz)	
NV	W52	802.11n20_Low Channel	5.1	5.142	5.13204	-35.81	0.262	2.5
			5.142	5.15	5.14889	-30.86	0.82	15.0
			5.25	5.251	5.25100	-37.04	0.198	100.0
			5.251	5.26	5.25994	-37.21	0.19	16.0
			5.26	5.2667	5.26669	-37.11	0.195	2.5
	W52	802.11n20_Middle Channel	5.1	5.142	5.12322	-35.63	0.274	2.5
			5.142	5.15	5.14401	-35.31	0.294	15.0
			5.25	5.251	5.25096	-35.69	0.27	100.8
			5.251	5.26	5.25986	-36.46	0.226	16.3
			5.26	5.2667	5.26666	-35.11	0.308	2.5
	W52	802.11n20_High Channel	5.1	5.142	5.10592	-35.75	0.266	2.5
			5.142	5.15	5.14521	-35.47	0.284	15.0
			5.25	5.251	5.25064	-10.57	87.7	228.6
			5.251	5.26	5.25872	-21.26	7.482	20.6
			5.26	5.2667	5.26357	-22.49	5.636	5.9

Test Condition	Frequency Band	Mode	Frequency Range		Max. Emission Located (GHz)	Max. Emission		Limit (μW/MHz)
			Start (GHz)	Stop (GHz)		EIRP (dBm/MHz)	EIRP (μW/MHz)	
NV	W52	802.11n40_Low Channel	5.1	5.1416	5.13353	-45.85	0.026	2.5
			5.1416	5.15	5.14987	-43.78	0.042	15.0
			5.25	5.251	5.25099	-49.00	0.013	50.9
			5.251	5.27	5.26778	-49.04	0.012	9.8
			5.27	5.2784	5.27836	-50.64	0.009	2.5
	W52	802.11n40_High Channel	5.1	5.1416	5.14133	-51.30	0.007	2.5
			5.1416	5.15	5.14987	-49.94	0.01	15.0
			5.25	5.251	5.25096	-32.67	0.541	54.4
			5.251	5.27	5.26982	-38.14	0.153	8.1
			5.27	5.2784	5.27284	-39.20	0.12	5.4
	W52	802.11ac80_Middle Channel	5.1	5.1232	5.12112	-41.82	0.066	2.5
			5.1232	5.15	5.12329	-41.57	0.07	15.0
			5.25	5.251	5.25099	-35.00	0.316	25.6
			5.251	5.29	5.28788	-41.66	0.068	4.4
			5.29	5.2967	5.29547	-41.88	0.065	2.7

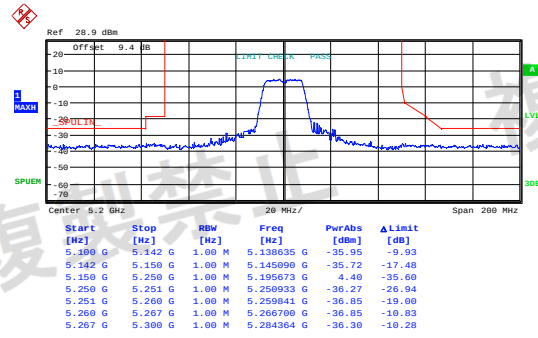
802.11a Low Channel



ProjectNo.:2502U63435E-RF Tester:Rini Yan

Date: 1.JUL.2025 09:46:45

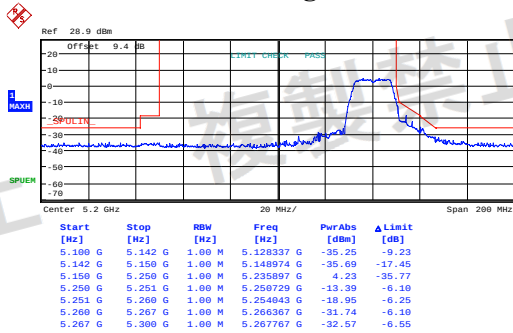
802.11a Middle Channel



ProjectNo.:2502U63435E-RF Tester:Rini Yan

Date: 1.JUL.2025 09:47:56

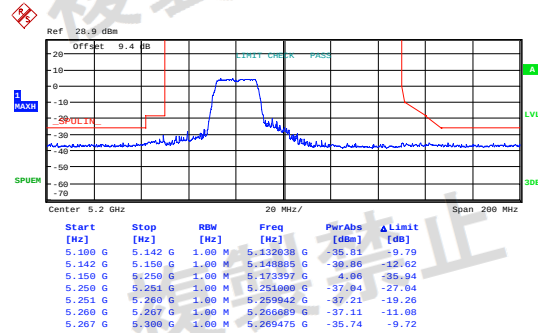
802.11a High Channel



ProjectNo.:2502U63435E-RF Tester:Rini Yan

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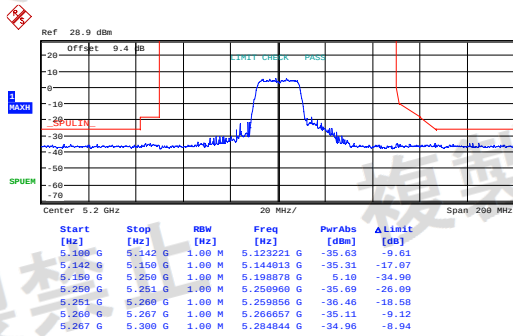
802.11n20 Low Channel



ProjectNo.:2502U63435E-RF Tester:Rini Yan

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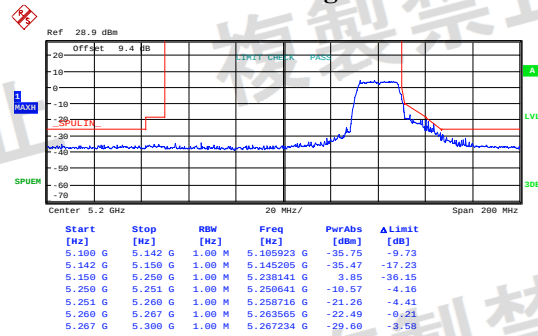
802.11n20 Middle Channel



ProjectNo.:2502U63435E-RF Tester:Rini Yan

Date: 1.JUL.2025 09:00:48

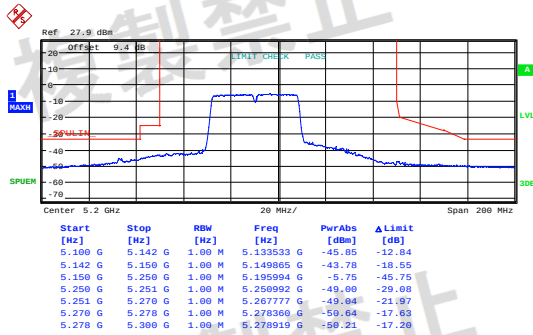
802.11n20 High Channel



ProjectNo.:2502U63435E-RF Tester:Rini Yan

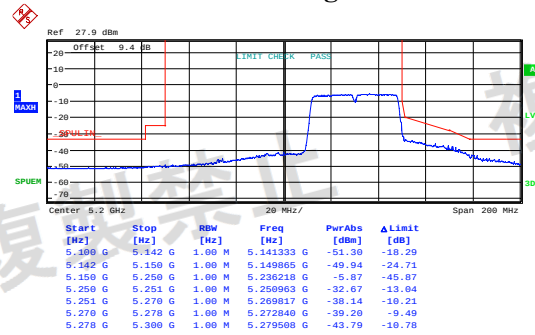
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802.11n40 Low Channel



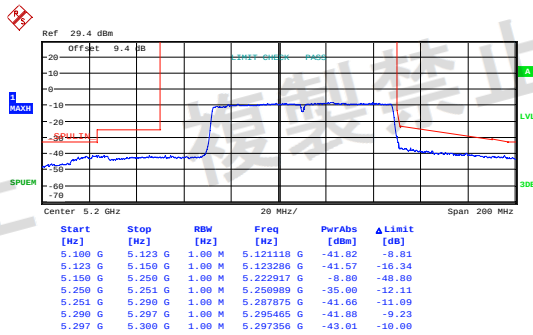
ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 1.JUL.2025 09:44:38

802.11n40 High Channel



ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 1.JUL.2025 09:24:35

802.11 ac80 Middle Channel



ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 1.JUL.2025 09:41:51

5 - OUTPUT POWER AND OUTPUT POWER TOLERANCE

Limit

For W52, W53 Band:

Item	Band	Limits
Antenna Power	W52/W53	20M System: $\leq 10\text{mW/MHz}$ 40M System: $\leq 5\text{mW/MHz}$ 80M System: $\leq 2.5\text{mW/MHz}$
E.I.R.P.	W52	20M System: $\leq 10\text{mW/MHz}$ 40M System: $\leq 5\text{mW/MHz}$ 80M System: $\leq 2.5\text{mW/MHz}$
	W53	With TPC: 20M System: $\leq 10\text{mW/MHz}$ 40M System: $\leq 5\text{mW/MHz}$ 80M System: $\leq 2.5\text{mW/MHz}$ Without TPC: 20M System: $\leq 5\text{mW/MHz}$ 40M System: $\leq 2.5\text{mW/MHz}$ 80M System: $\leq 1.25\text{mW/MHz}$
Antenna Power Tolerance	W52/W53	$\leq +20\%$, -80%

For W56 Band:

Item	Band	Limits
Antenna Power	W56	20M System: $\leq 10\text{mW/MHz}$ 40M System: $\leq 5\text{mW/MHz}$ 80M System: $\leq 2.5\text{mW/MHz}$
E.I.R.P.	W56	With TPC: 20M System: $\leq 50\text{mW/MHz}$ 40M System: $\leq 25\text{mW/MHz}$ 80M System: $\leq 12.5\text{mW/MHz}$ Without TPC: 20M System: $\leq 25\text{mW/MHz}$ 40M System: $\leq 12.5\text{mW/MHz}$ 80M System: $\leq 6.25\text{mW/MHz}$
Antenna Power Tolerance	W56	$\leq +50\%$, -50%

Test Procedure

Step 1:

Use the following settings on the spectrum analyser:

- Centre Frequency: The centre frequency of the channel under test.
- Resolution BW: 1 MHz.
- Video BW: 3 MHz.
- Detector mode: Peak.
- Averaging: Off.
- Sweep: Continuous.
- Span: Twice the nominal OBW.

Step 2:

Connect the E.U.T. to the Spectrum Analyzer and switch on the U.U.T.

Step 3:

Adjust the Reference Level of the Spectrum Analyzer so that the peak of the power envelope is between the Reference Level and the Reference Level - 10 dB. This assumes a 10 dB/division setting is used on the spectrum analyser.

Step 4:

Use the marker to find the peak value of the power envelope.

Adjust the centre frequency of the analyser to the marker frequency, resulting in the peak of the power envelope being in the centre of the screen.

Step 5:

Change the Spectrum Analyzer settings as follows:

- Resolution BW: 1 MHz.
- Video BW: 1 MHz.
- Detector mode: Peak.
- Averaging: Off.
- Sweep: Continuous.
- Span: 0 Hz.

Step 6:

Connect a Power Meter to the "Narrow I.F" output port of the Spectrum Analyzer. The power is set Auto Duty factor.

NOTE: The IF output of the spectrum analyser may be 20 dB or more below the input level of the spectrum analyser. Unless the power meter has adequate sensitivity, a wideband amplifier may be required.

Adjust the Centre Frequency of the spectrum analyser carefully (fine tune) for maximum indication on the power meter.

The level measured by the power meter shall be recorded as level "D".

The maximum e.i.r.p. is calculated from the above measured "D", and the applicable antenna assembly gain "G" in dBi, according to the formula below. If more than one antenna assembly is intended for this power setting, the gain of the antenna assembly with the highest gain shall be used.

- $PD = D + G$

The above procedure shall be repeated for each of the frequency channels.

Where the spectrum analyser bandwidth is non-Gaussian, a suitable correction factor shall be determined and applied.

Test Data

Test Result: Compliant

Test Mode: *Transmitting*

Declared Power

Mode	Declared power (mW/MHz)
802.11 a	2.0
802.11 n20	1.8
802.11 n40	1.2
802.11 ac80	0.6

Antenna output power

Test Condition	Mode	Channel	Conducted power (dBm/MHz)	Antenna output power (mW/MHz)		Antenna output tolerance (%)		EIRP (mW/MHz)	
				Result	Limit	Result	Limit	Result	Limit
NV	802.11 a	Low	1.72	1.486	≤ 10	-25.70	-80~+20	1.15	≤ 10
		Middle	2.73	1.875	≤ 10	-6.25		1.46	≤ 10
		High	2.33	1.710	≤ 10	-14.50		1.33	≤ 10
	802.11n20	Low	1.81	1.517	≤ 10	-15.72		1.18	≤ 10
		Middle	1.83	1.524	≤ 10	-15.33		1.18	≤ 10
		High	2.19	1.656	≤ 10	-8.00		1.29	≤ 10
	802.11n40	Low	-0.72	0.847	≤ 5	-29.42		0.66	≤ 5
		High	-1.37	0.729	≤ 5	-39.25		0.57	≤ 5
	802.11 ac80	Middle	-4.07	0.392	≤ 2.5	-34.67		0.3	≤ 2.5

Note:

$$\text{Antenna output power (mW/MHz)} = 10^{\lfloor \text{Conducted power (dBm/MHz)} / 10 \rfloor}$$

$$\text{Antenna output power tolerance (\%)} = (\text{Antenna output power} - \text{Declared power}) / \text{Declared power} * 100$$

$$\text{EIRP (mW/MHz)} = 10^{\lfloor [\text{Conducted power (dBm/MHz)} + \text{Antenna gain}] / 10 \rfloor}$$

6 - ADJACENT CHANNEL POWER

Limit

Bandwidth System	Occupied Bandwidth	Sweep bandwidth	Adjacent Channel	Limits
20MHz System	OBW < 18MHz	18MHz (± 9 MHz)	Adjacent Channel: ± 20 MHz	≥ 25 dB
			Second Adjacent Channel: ± 40 MHz	≥ 40 dB
	18MHz < OBW < 20MHz	20MHz (± 10 MHz)	Adjacent Channel: ± 20 MHz	≥ 25 dB
			Second Adjacent Channel: ± 40 MHz	≥ 40 dB
40MHz System	20MHz < OBW < 40MHz	40MHz (± 20 MHz)	Adjacent Channel: ± 40 MHz	≥ 25 dB
			Second Adjacent Channel: ± 80 MHz	≥ 40 dB
80MHz System	40MHz < OBW < 80MHz	80MHz (± 40 MHz)	Adjacent Channel: ± 80 MHz	≥ 25 dB

Test Procedure

1. EUT transmitted in fixed channel (test channel) with modulation signal.
2. Setting of SA is following as: RB: 300 kHz / VB: 300 kHz / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Peak/ Trace mode: Max hold.
3. SA set the Channel Power Function and Channel Bandwidth: Sweep bandwidth corresponding to the tested signal, Center Frequency: The center frequency of testing for EUT, adjacent channel and second adjacent Channel as "Adjacent Channel" above. Then SA automatically calculate the channel power of EUT and adjacent channel power.

Test Data

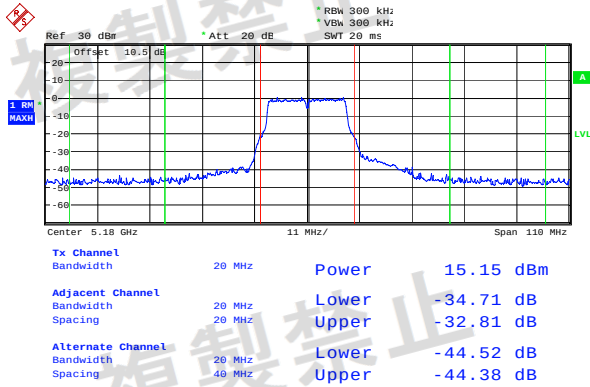
Test Mode: Transmitting

Test Result: Compliant

Test Condition	Frequency Band	Mode	Frequency offset (MHz)	Result (dB)			Limit (dB)
				Low Channel	Middle Channel	High Channel	
NV	W52	802.11 a	-20	34.71	34.57	34.13	≥ 25
			+20	32.81	32.90	33.43	≥ 25
			-40	44.52	47.75	45.74	≥ 40
			+40	44.38	46.74	46.07	≥ 40
		802.11 n20	-20	33.07	33.08	33.45	≥ 25
			+20	30.71	30.46	30.71	≥ 25
			-40	47.24	47.03	47.41	≥ 40
			+40	46.65	46.48	46.73	≥ 40
		802.11 n40	-40	35.35	/	38.20	≥ 25
			+40	30.94	/	32.63	≥ 25
			-80	42.86	/	45.84	≥ 40
			+80	42.06	/	44.90	≥ 40
		802.11 ac80	-80	/	35.42	/	≥ 25
			+80	/	31.86	/	≥ 25

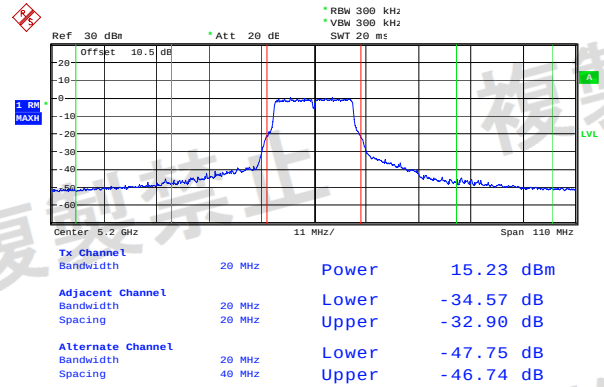
Please refer to the following plots for normal voltage test:

802.11a Low Channel



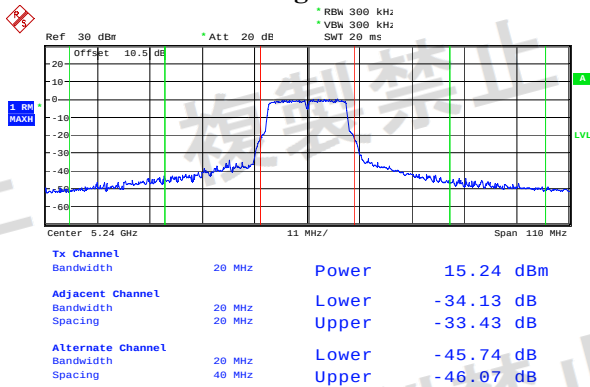
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 14:14:08

802.11a Middle Channel



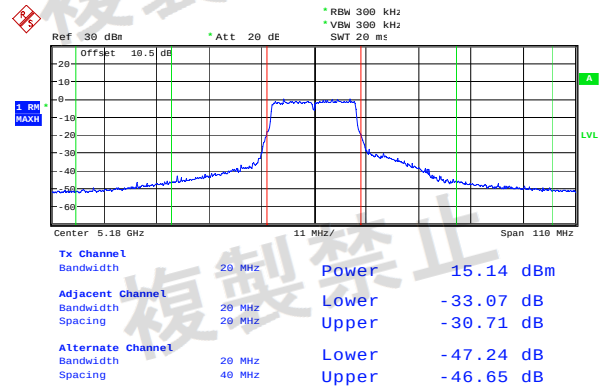
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 14:15:34

802.11a High Channel



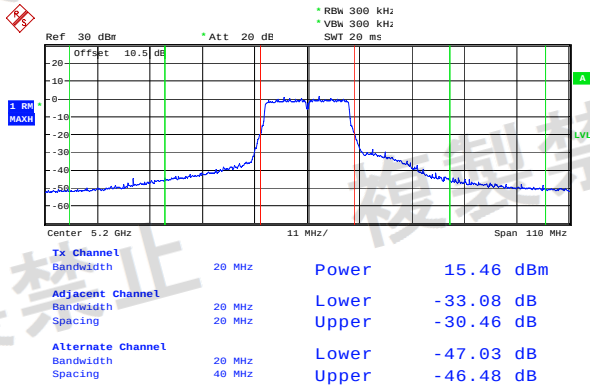
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 14:16:15

802.11n20 Low Channel



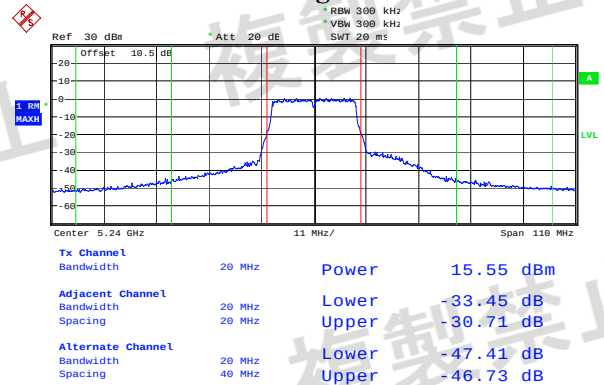
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 14:17:27

802.11n20 Middle Channel



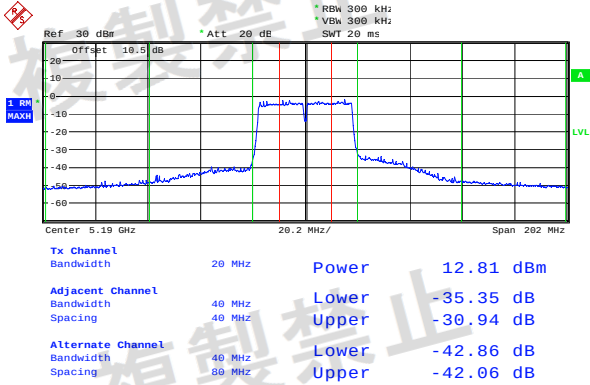
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 14:18:26

802.11n20 High Channel

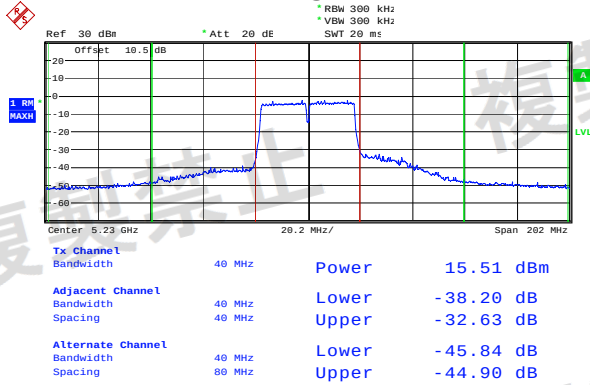


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20.JUN.2025 14:19:10

802.11n40 Low Channel

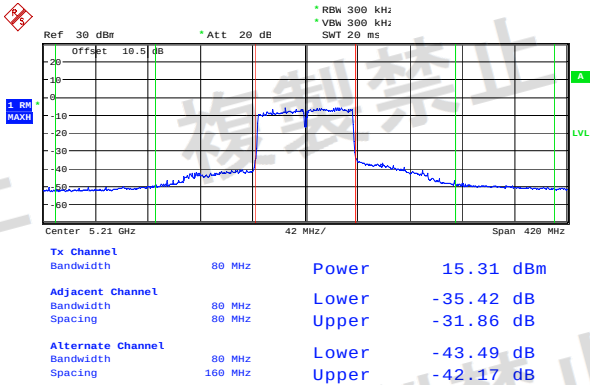


802.11n40 High Channel



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20 JUN.2025 14:26:15

802.11 ac80 Middle Channel



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 20 JUN.2025 15:49:52

7 - SECONDARY RADIATED EMISSION STRENGTH

Limit

4nW or below (Frequency range: 30MHz – 1GHz); 20n W or below (frequency range: 1GHz – 26GHz).

Test Procedure

❖ Conditions of Application Equipment (EUT)

- The modulation state shall be “continuous receiving mode”.

❖ Spectrum Analyzer Conditions

- Start Frequency: Start Frequency of frequency range to measure (30MHz or 1GHz)
- Stop Frequency: Stop Frequency of frequency range to measure (1GHz or 26GHz)
- Span: AUTO (Measurement Range)
- RBW: 100 kHz, VBW: 100 kHz for Frequency < 1 GHz
- RBW: 1MHz, VBW: 1MHz for Frequency > 1 GHz
- Sweep time: AUTO or more
- Log scale: 10dB/Div, Data points: 501points (400 points or more)
- Detection: Positive Peak
- Reference Level: Enough level for maximum dynamic range

Test Data

Test Result: Compliant, the tables and plots for normal voltage listed as following:

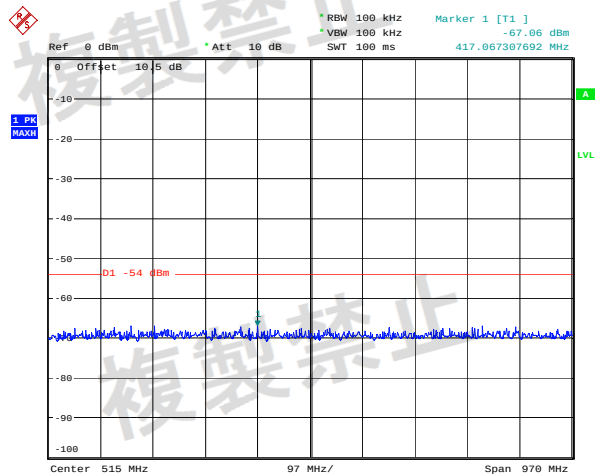
Frequency Band	Mode	Frequency Range		Max. Emission Located (GHz)	Max. Emission			Limit (nw)
		Start (GHz)	Stop (GHz)		Reading (dBm)	EIRP (dBm)	EIRP (nw)	
W52	802.11a_Low Channel	0.03	1	0.41700	-67.06	-68.16	0.305	4
		1	26	12.41800	-54.21	-55.31	5.875	20
	802.11a_Middle Channel	0.03	1	0.80700	-66.45	-67.55	0.351	4
		1	26	7.89100	-54.69	-55.79	5.26	20
	802.11a_High Channel	0.03	1	0.30200	-67.02	-68.12	0.308	4
		1	26	7.89100	-54.51	-55.61	5.483	20
	802.11n20_Low Channel	0.03	1	0.10500	-66.68	-67.78	0.333	4
		1	26	15.90400	-54.55	-55.65	5.433	20
	802.11n20_Middle Channel	0.03	1	0.09700	-66.81	-67.91	0.323	4
		1	26	12.45800	-54.45	-55.55	5.559	20
	802.11n20_High Channel	0.03	1	0.82100	-67.45	-68.55	0.279	4
		1	26	7.89100	-54.99	-56.09	4.909	20
	802.11n40_Low Channel	0.03	1	0.13300	-66.39	-67.49	0.356	4
		1	26	26.00000	-54.14	-55.24	5.97	20
	802.11n40_High Channel	0.03	1	0.82700	-66.47	-67.57	0.349	4
		1	26	7.89100	-55.33	-56.43	4.539	20
	802.11ac80_Middle Channel	0.03	1	0.75900	-66.61	-67.71	0.338	4
		1	26	7.85100	-54.71	-55.81	5.236	20

Note:

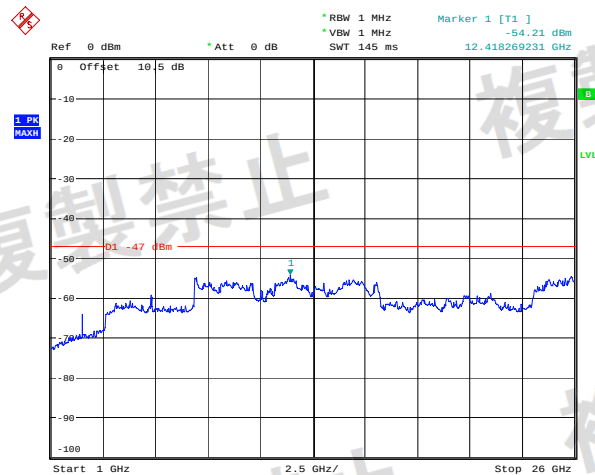
Band I:30MHz~1000MHz

Band II:1000MHz~26000MHz

802.11a Low Channel

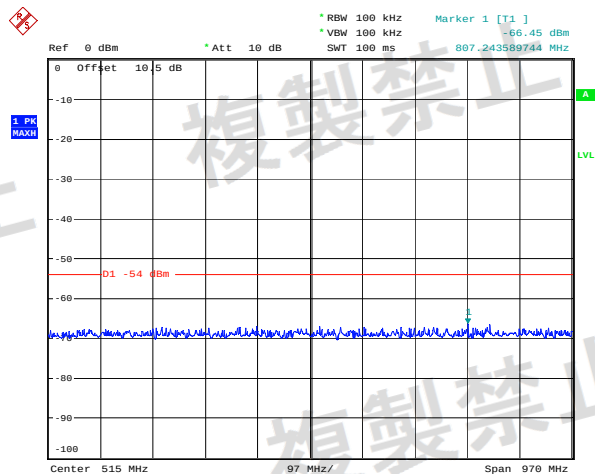


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 11:42:02

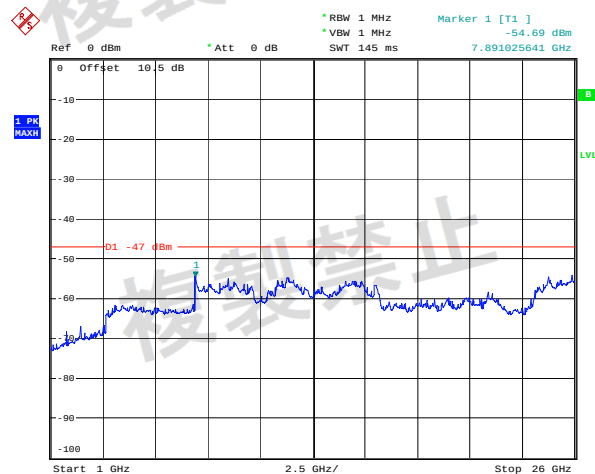


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 11:43:30

802.11a Middle Channel

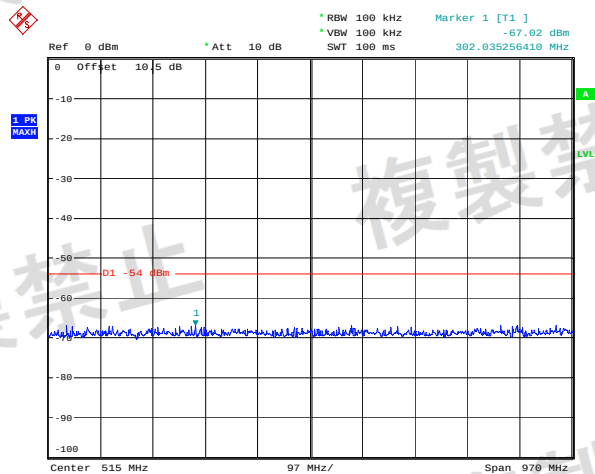


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Date: 19.JUN.2025 11:44:18

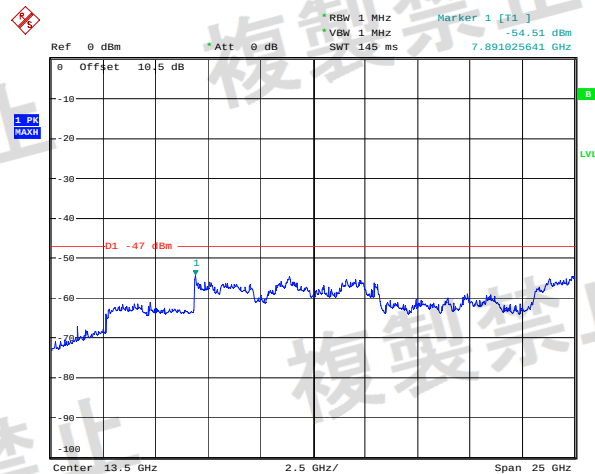


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 11:44:34

802.11a High Channel

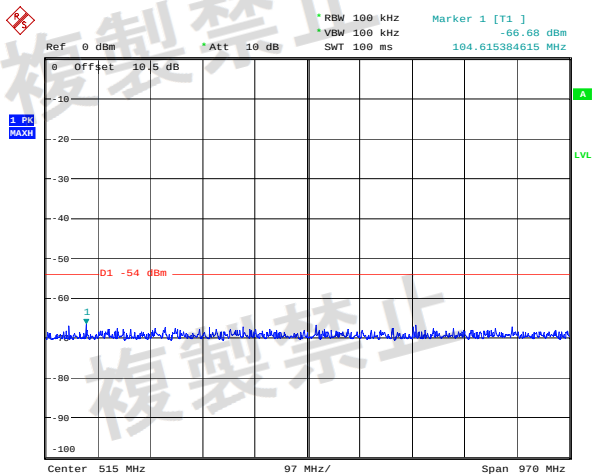


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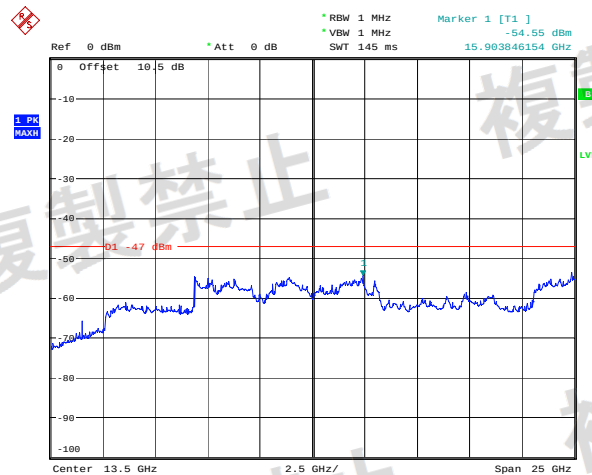


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Date: 19.JUN.2025 11:45:29

802.11n20 Low Channel

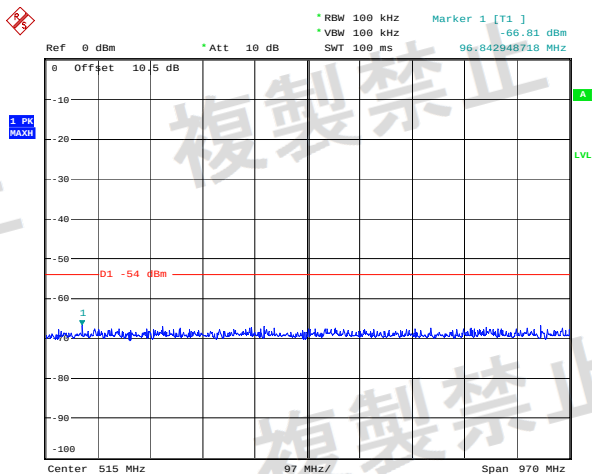


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 11:45:48



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 11:46:19

802.11n20 Middle Channel

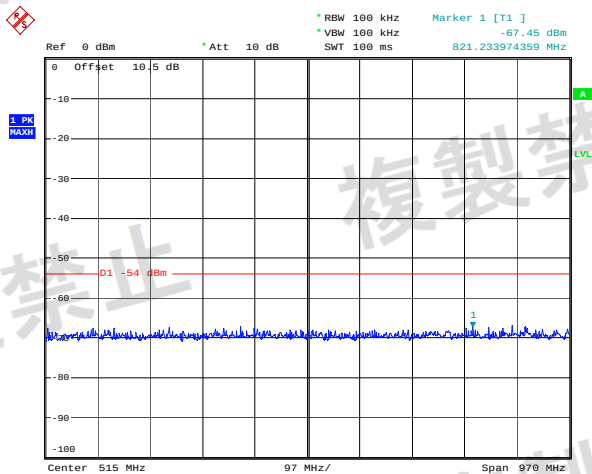


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Date: 19.JUN.2025 11:46:49

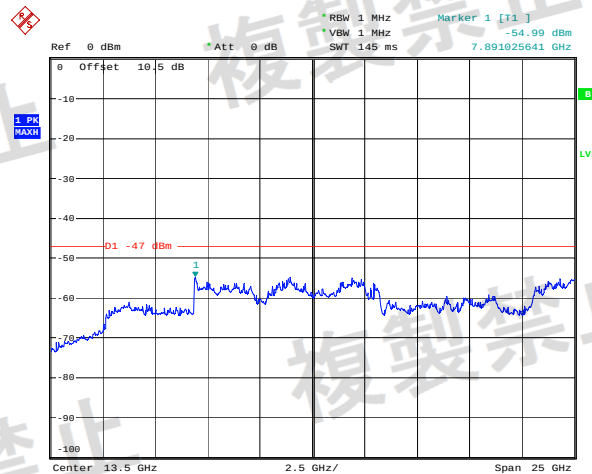


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 11:47:24

802.11n20 High Channel

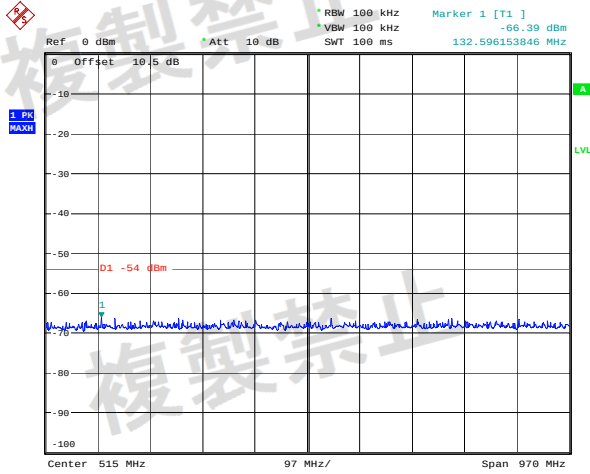


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 11:47:47

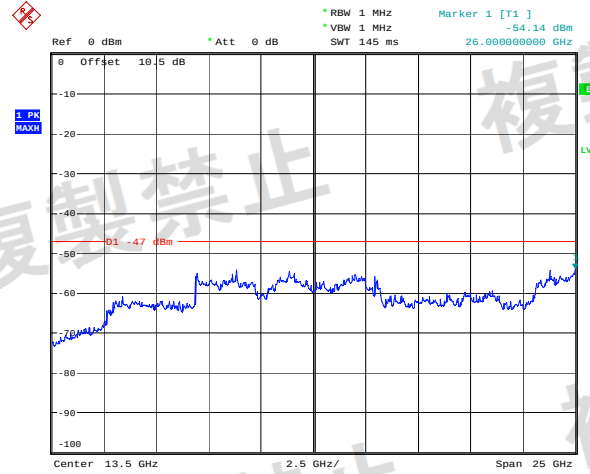


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Date: 19.JUN.2025 11:48:07

802.11n40 Low Channel

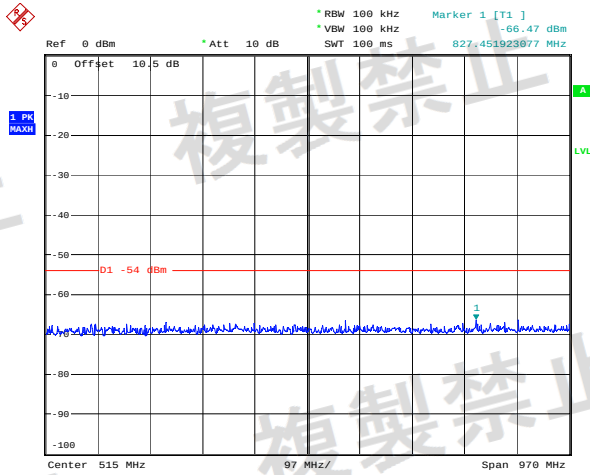


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19 JUN.2025 11:49:05

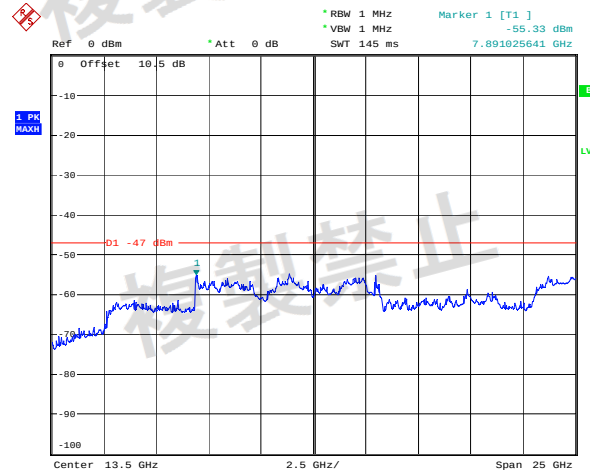


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19 JUN.2025 11:49:26

802.11n40 High Channel

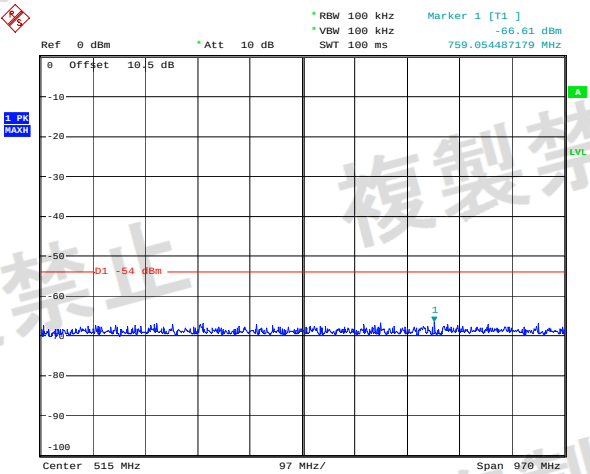


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Date: 19 JUN.2025 11:49:47

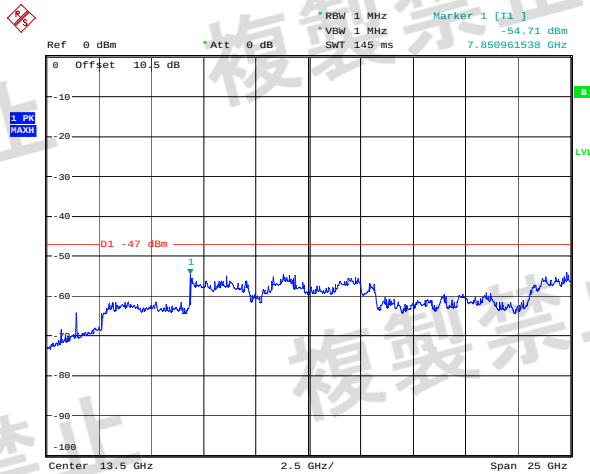


Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19 JUN.2025 11:50:15

802.11 ac80 Middle Channel



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19 JUN.2025 11:50:45



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19 JUN.2025 11:51:34

8 - RADIO INTERFERENCE PREVENTION CAPABILITY

Requirement

Article 6-2.3 of Regulations for Enforcement of the radio law

A wireless device used mainly in the same premises to automatically transmit or receive identification codes.

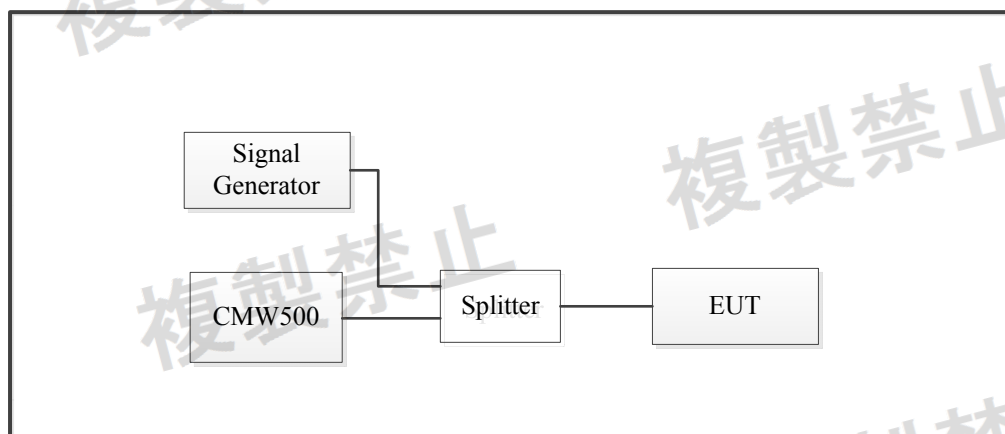
Article 1.8 of MPT Ministerial Notice No. 424 of 1994 (the last revision: Notice No. 374 of Nov. 10, 2023)

48 bits or more. However, for radio of the following frequencies, the requirement is 19 bits or more:

- (1), 5150-5250MHz; 5470-5730MHz; 5925-6425MHz;
- (2), 24.77-25.23GHz;
- (3), 57-66GHz.

Test Procedure

❖ Measurement System Diagram



- ❖ 1. In the case that the EUT has the function of automatically transmitting the identification code: a. Transmit the predetermined identification codes from EUT. b. Check the transmitted identification codes with the demodulator.
- ❖ 2. In the case of receiving the identification code: a. Transmit the predetermined identification codes from the counterpart. b. Check if communication is normal. c. Transmit the signals other than predetermined ID codes from the counterpart. d. Check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

Test Data

Item	Result	Requirement	Verdict
Methodology to transmit ID Code:	Automatically	Automatically	Compliant
Methodology to receive ID Code:	Automatically	Automatically	Compliant
Identification Codes (ID Codes):	b8:2d:28:c1:07:ad	/	/
Bits of ID Codes:	48 bits	19 bits or more	Compliant

Plot:

Wi-Fi MAC

b8:2d:28:c1:07:ad

Test Result: Compliant

9 - TRANSMISSION BURST LENGTH

Limit

Item	Limit
Transmission Burst Length	≤8 ms

Test Procedure

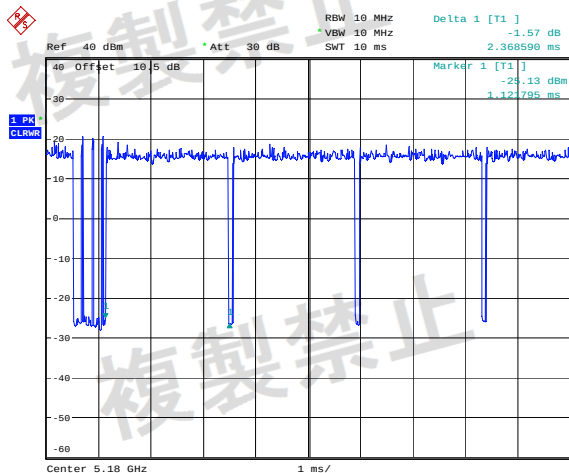
- ❖ 1. The transmitter output (antenna port) was connected to the spectrum analyzer
- ❖ 2. Set RBW of spectrum analyzer to 10MHz and VBW to 10MHz.
- ❖ 3. Use a video trigger with the trigger level set to enable triggering only on full pulses.
- ❖ 4. Sweep Time is more than once pulse time.
- ❖ 5. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- ❖ 6. Measure the maximum time duration of one single pulse.

Test Data

Test Result: Compliant

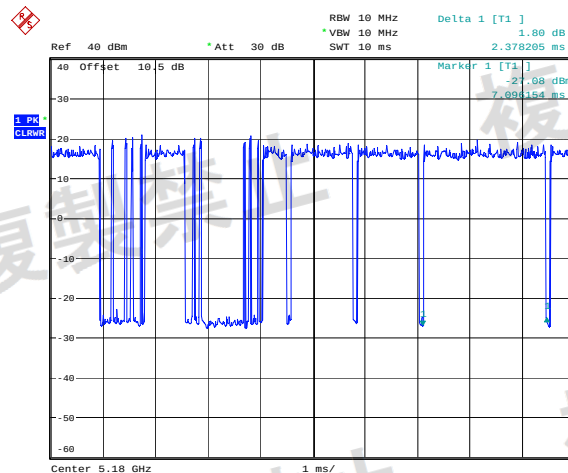
Test Mode	Test Frequency (MHz)	Transmission Burst Length (ms)	Limit (ms)
802.11a	5180	2.369	≤ 8
802.11n ht20	5180	2.378	≤ 8
802.11n ht40	5190	0.491	≤ 8
802.11ac vht80	5210	0.49	≤ 8

802.11a



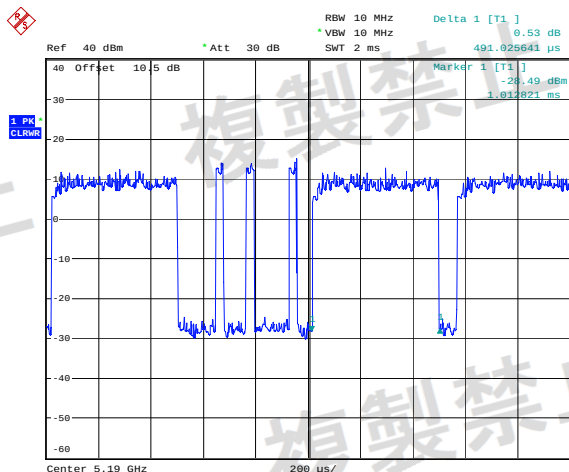
Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 16:21:10

802.11n20



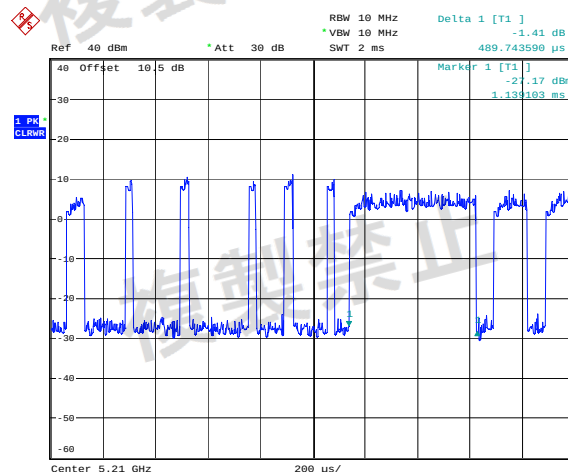
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Date: 19.JUN.2025 16:20:43

802.11n40



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 16:18:30

802.11 ac80



Comment: ProjectNo.:2502U63435E-RF Tester:Rini Yan
Date: 19.JUN.2025 16:16:26

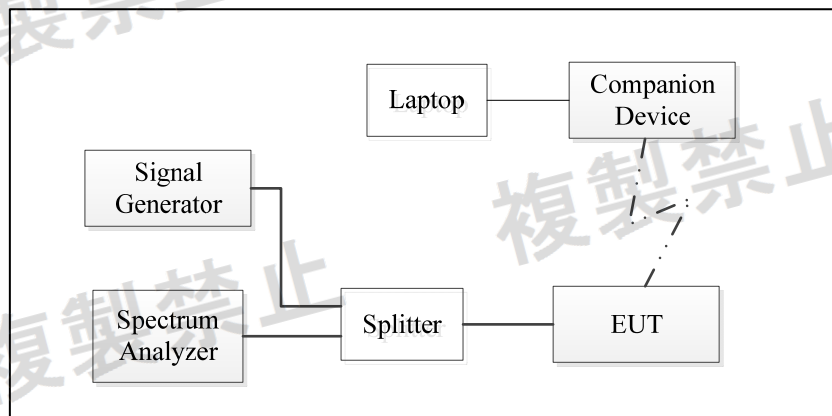
11 - CARRIER SENSE CAPABILITY

Limit

EUT stop RF transmission signal after carrier inject to EUT

Test Procedure

❖ Measurement System Diagram



Companion Device:

Manufacturer	Description	Model	Serial Number
Tenda	Router	W18E	E9382010341000028

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
/	/	/	/

❖ Conditions of Application Equipment (EUT)

- The EUT state shall be “normal mode link with wireless router”.

❖ Test Procedure

- SG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SG and power level is

$$P_{CS} = \frac{G \lambda^2}{480 \pi^2} \times E^2$$

- turn off the RF signal of the SG.
- EUT have transmitted the maximum modulation signal and fixed channelize.
- Setting of SA :RBW/VBW=1MHz/1MHz,Span=50MHz,Sweep time=auto,Sweep mode=continuous, Detect mode=positive peak
- SG RF signal on.

6. EUT shall be stop the transmitted any signal and SG RF signal off, the EUT will be continuous transmitted signal.

Test Data

Result: Compliant. The EUT stop transmitting in step 5, the test result is good.

13 - CONSTRUCTION PROTECTION CONFIRMATION

Limit

The high-frequency section and modulation section of the radio equipment except for the antenna system shall not be capable of being opened easily.

Confirmation Result

Compliant, the RF part(Except for antenna) was covered by metal shielding case, it can't be opened easily. Please refer the EUT photo.

EXHIBIT A – EUT PHOTOGRAPHS

Please refer to the attachment 2502U63435E-EXP EUT External photos and 2502U63435E-INP EUT Internal photos.

EXHIBIT B – TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2502U63435E-RF-TSP Test Setup Photos.

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