FCC Test Report

Report No.:	2505P37465EG
Applicant:	Huizhou speed wireless technology co.,ltd
Address:	No.138 Huize Road, Hi-Tech Industrial Park of East River, Zhongkai Hi-tech District, Huizhou City, Guangdong Province, China
Product Name:	WiFi+BT Module
Product Model:	WL00033
Multiple Models:	N/A
Trade Mark:	N/A
FCC ID:	2BBLK-WL6376B
Standards:	FCC CFR Title 47 Part 15C (§15.247)
Test Date:	2025-02-07 to 2025-03-04
Test Result:	Complied
Report Date:	2025-03-05

Reviewed by: Abel chen

Abel Chen
Project Engineer

Approved by: Jacob Gong

Jacob Kong
Manager

Prepared by:

World Alliance Testing & Certification (Shenzhen) Co., Ltd

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NVLAP TESTING NVLAP LAB CODE 600335-0

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4. The information marked "#" is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

Revision History

Version No.	Issued Date	Description
00	*2025-03-05*	*Original*

Contents

1 General Information

1.1 Client Information

Applicant:	Huizhou speed wireless technology co.,ltd
Address:	No.138 Huize Road, Hi-Tech Industrial Park of East River, Zhongkai Hi-tech District, Huizhou City, Guangdong Province, China
Manufacturer:	Huizhou speed wireless technology co.,ltd
Address:	No.138 Huize Road, Hi-Tech Industrial Park of East River, Zhongkai Hi-tech District, Huizhou City, Guangdong Province, China

1.2 Product Description of EUT

The EUT is WiFi+BT Module that contains BT, BLE, 2.4G and 5G WLAN radios, this report covers the full testing of the 2.4G WLAN radio.

Sample Serial Number	2XWU-1 for CE test, 2XWU-2 for RE test, 2XWU-3 for RF test(assigned by WATC)
Sample Received Date	2025-01-22
Sample Status	Good Condition
Frequency Range	2412MHz - 2472MHz(802.11b, g, n-HT20) 2422MHz - 2462MHz(802.11n-HT40)
Maximum Conducted Peak Output Power	24.09dBm
Modulation Technology	DSSS, OFDM
Antenna Gain#	ANT 1(chain 0): 2.16dBi ANT 2(chain 1): 1.23dBi
Spatial Streams#	MIMO (2TX, 2RX)
Power Supply	DC 3.3V
Adapter Information	N/A
Modification	Sample No Modification by the test lab

1.3 Antenna information

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Device Antenna information:	

The Wi-Fi antennas are integral antennas which cannot replace by end-user. Please see product external photos for details.

1.4 Related Submittal(s)/Grant(s)

FCC Part 15, Subpart C, Equipment Class: DSS, FCC ID: 2BBLK-WL6376B

FCC Part 15, Subpart E, Equipment Class: NII, FCC ID: 2BBLK-WL6376B

1.5 Measurement Uncertainty

Parameter		Expanded Uncertainty (Confidence of 95%(U = 2Uc(y)))
AC Power Lines Conducted Emissions		±3.14dB
Emissions, Radiated	Below 30MHz	±2.78dB
	Below 1GHz	±4.84dB
	Above 1GHz	±5.44dB
Emissions, Conducted		1.75dB
Conducted Power		0.74dB
Frequency Error		150Hz
Bandwidth		0.34%
Power Spectral Density		0.74dB

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

1.6 Laboratory Location

World Alliance Testing & Certification (Shenzhen) Co., Ltd

No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China

Tel: +86-755-29691511, Email: qa@watc.com.cn

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 463912, the FCC Designation No. : CN5040.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0160.

1.7 Test Methodology

FCC CFR 47 Part 2

FCC CFR 47 Part 15

KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10-2013

Unless otherwise stated there are no any additions to, deviations, or exclusions from the method

2 Description of Measurement

2.1 Test Configuration

Operating channels:

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2412	6	2437	11	2462
2	2417	7	2442	12	2467
3	2422	8	2447	13	2472
4	2427	9	2452	/	/
5	2432	10	2457	/	/

According to ANSI C63.10-2013chapter 5.6.1 Table 11 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing. The detailed frequency points are as follows:

802.11b, 802.11g, 802.11n-HT20

Lowest channel		Middle channel		High channel		2nd Highest channel		Highest channel	
Channel No.	Freq. (MHz)	Channel No.	Freq. (MHz)	Channel No.	Freq. (MHz)	Channel No.	Freq. (MHz)	Channel No.	Freq. (MHz)
1	2412	7	2442	11	2462	12	2467	13	2472

802.11n-HT40

Lowest channel		Middle channel		High channel		2nd Highest channel		Highest channel	
Channel No.	Freq. (MHz)	Channel No.	Freq. (MHz)	Channel No.	Freq. (MHz)	Channel No.	Freq. (MHz)	Channel No.	Freq. (MHz)
3	2422	7	2442	9	2452	12	2467	11	2462

Test Mode:

Transmitting mode:	Keep the EUT in continuous transmitting with modulation
Exercise software#:	QATool_Dbg

Mode	Worst-case Data rate	Power Level Setting#				
		Low Channel	Middle Channel	High Channel	2nd Highest Channel	Highest Channel
802.11b	1Mbps	0x14	0x14	0x14	0x0E	0x0E
802.11g	6Mbps	0x14	0x14	0x14	0x0E	0x0E
802.11n-HT20	MCS0	0x14	0x14	0x14	0x00	0x00
802.11n-HT40	MCS0	0x14	0x14	0x14	0x0A	0x0A

Note:

1. The exercise software and the maximum power setting that provided by manufacturer.
2. The channel 12/13 has same power level setting for 20MHz bandwidth of same mode, channel 10/11 has same power level setting for 40MHz bandwidth.

Worst-Case Configuration:
For radiated emissions, EUT was investigated in three orthogonal orientation, the worst-case orientation was recorded in report For AC power line conducted emission and radiated emission 9kHz-1GHz and above 18GHz were performed with the EUT transmits at the channel with highest output power as worst-case scenario. According to manufacturer, the device support MIMO mode, all modes share the same power level setting under the same modulation. So the worst mode MIMO was selected to test The device have three Bluetooth antenna path designs, all the path signals is from same input, each path can be selected to activate/deactivate by connect/disconnect a 0Ω resistance, detail please refer the EUT photo, only one path will be selected to use at a time. It's not affect Wi-Fi, so only one(sample with BT path 1) of them was selected to test Wi-Fi.

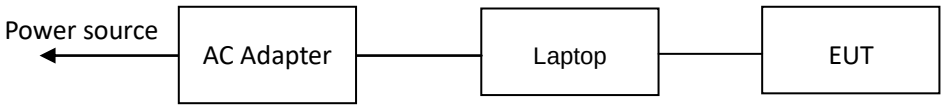
2.2 Test Auxiliary Equipment

Manufacturer	Description	Model	Serial Number
Dell	Laptop	unknown	unknown
Dell	AC Adapter	unknown	unknown

2.3 Interconnecting Cables

Manufacturer	Description	Length(m)	From	To
unknown	USB extension cable	1.0	Laptop	EUT
Dell	AC Power Cable	1.5	Power source	AC Adapter
Dell	DC Power Cable	1.5	AC Adapter	Laptop

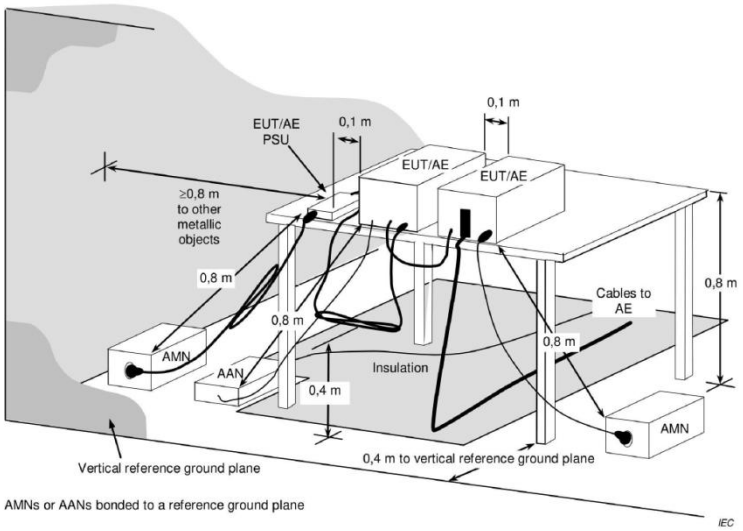
2.4 Block Diagram of Connection between EUT and AE



Note: for reference only, the actual connection setup used for testing please refer to the test photos.

2.5 Test Setup

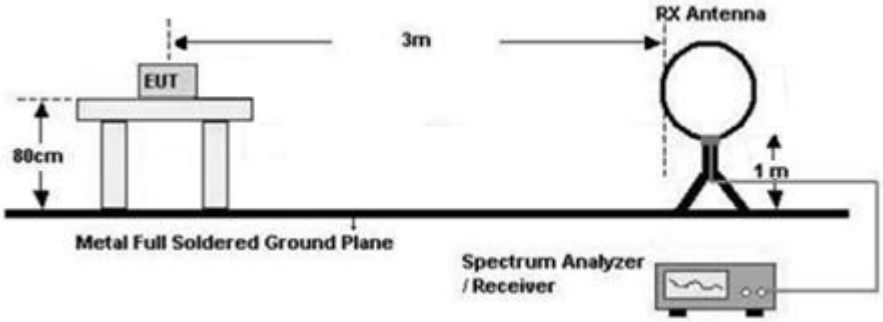
1) Conducted emission measurement:



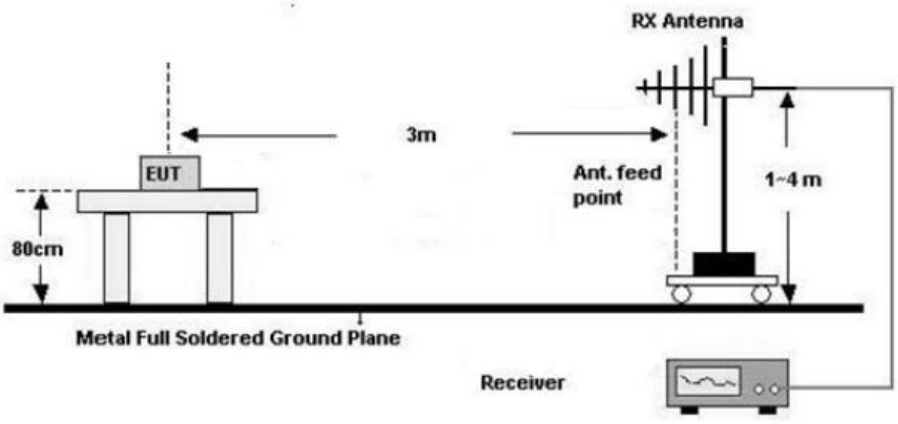
Note: The 0.8 m distance specified between EUT/AE/PSU and AMN/AAN, is applicable only to the EUT being measured. If the device is AE then it shall be >0.8 m.

2) Radiated emission measurement:

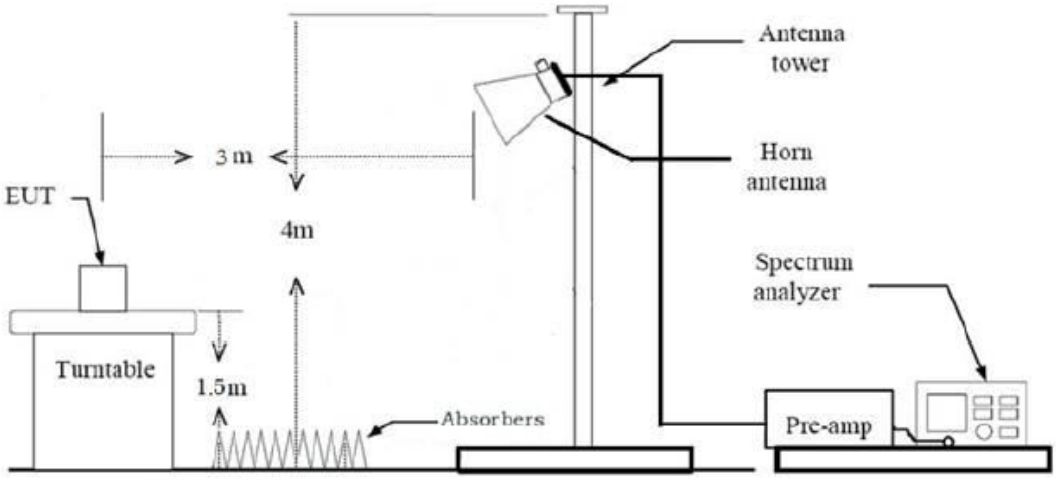
Below 30MHz (3m SAC)



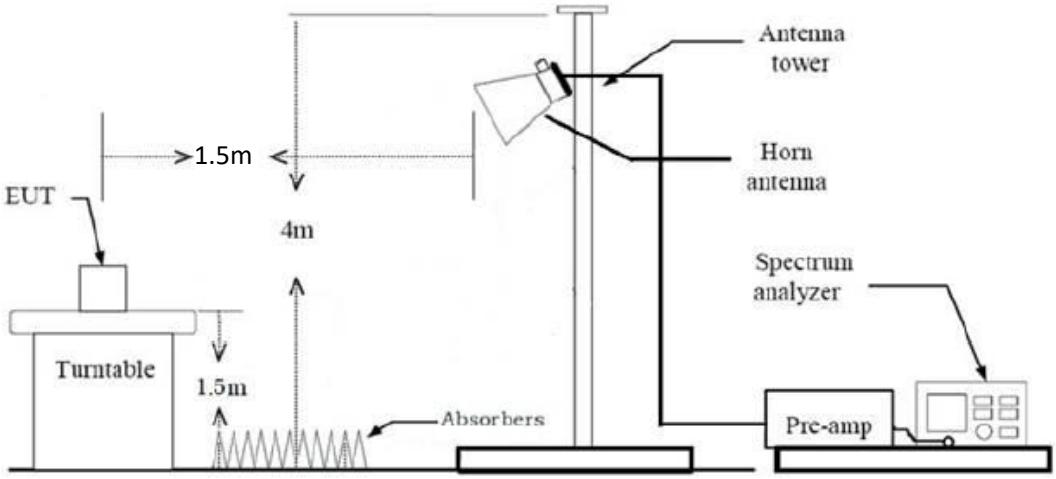
30MHz-1GHz (3m SAC)



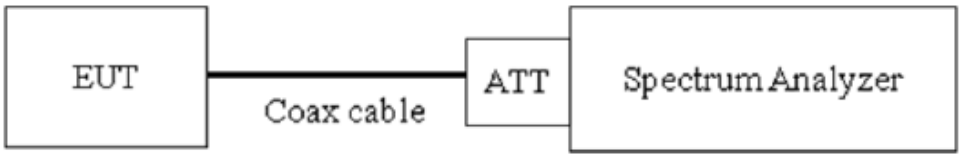
1GHz-18GHz



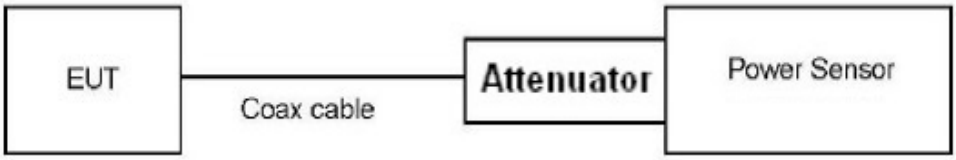
Above 18GHz



3) RF Conducted Test



or



2.6 Test Procedure

Conducted emission:

1. The E.U.T is placed on a non-conducting table 40cm from the vertical ground plane and 80cm above the horizontal ground plane (Please refer to the block diagram of the test setup and photographs).
2. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
3. Line conducted data is recorded for both Line and Neutral

Radiated Emission Procedure:

a) For below 30MHz

1. All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz- 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (test distance / specification distance).
2. Loop antenna use, investigation was done on the three antenna orientations (parallel, perpendicular, gound-parallel)
3. The RBW/VBW of receiver is set to 200Hz/1kHz for 9kHz to 150kHz range, to 9kHz/30kHz for 150kHz to 30MHz range for scan Peak emission, 200Hz/9kHz IF BW was used for final measurement in the Quasi-peak or average detection mode for frequency range 9~150kHz/150kHz~30MHz respectively.
4. If the Peak emission complies with the QP limit, then perform final measurement is optional.

b) For 30MHz-1GHz:

1. The EUT was placed on the tabletop of a rotating table 0.8 m the ground at a 3 m semi anechoic chamber. The measurement distance from the EUT to the receiving antenna is 3 m.
2. EUT works in each mode of operation that needs to be tested. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.
3. The RBW/VBW of receiver is set to 100kHz/300kHz for scan Peak emission, 120kHz IF BW was used for final measurement in the Quasi-peak detection mode.
4. If the Peak emission complies with the QP limit, then perform final measurement is optional.

c) For above 1GHz:

1. The EUT was placed on the tabletop of a rotating table 1.5 m the ground at a 3 m fully anechoic room. The measurement distance from the EUT to the receiving antenna is 3 m (1-18GHz) and 1.5 m (above 18GHz).
2. EUT works in each mode of operation that needs to be tested，and having the EUT continuously working. The highest signal levels relative to the limit shall be determined by rotating the EUT from 0° to 360° and with varying the measurement antenna height between 1 m and 4 m in vertical and horizontal polarizations.

3. The RBW/VBW of spectrum analyzer is set to 1MHz/3MHz for scan Peak emission, for measured average emission, reduce the VBW to 10Hz(for duty cycle≥98%), or ≥1/T(for duty cycle<98%). T is minimum transmission duration. (Note: a high VBW (for example 1kHz, not less than 1/T) may used to scan average emissions to avoid long sweep time.)
4. If the Peak emission complies with the Average limit, then perform average measurement is optional.
5. Open the test software to control the test antenna and test turntable. Perform the test, save the test results, and export the test data.
6. Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

RF Conducted Test:

1. The antenna port of EUT was connected to the RF port of the test equipment (Power Meter or Spectrum analyzer) through Attenuator and RF cable.
2. The cable assembly insertion loss of 8.0dB (including 6.0 dB Attenuator and 2.0 dB cable) was entered as an offset in the power meter. Note: Actual cable loss was unavailable at the time of testing, therefore a loss of 2.0dB was assumed as worst case. This was later verified to be true by laboratory. (if the RF cable provided by client, the cable loss declared by client)
3. The EUT is keeping in continuous transmission mode and tested in all modulation modes.

2.7 Measurement Method

Description of Test	Measurement Method
AC Line Conducted Emissions	ANSI C63.10-2013Section 6.2
Maximum Conducted Output Power	ANSI C63.10-2013Section 11.9.1.2 PKPM1 Peak power meter method or ANSI C63.10-2013Section 11.9.2.3.2 Method AVGPM-G
Power Spectral Density	ANSI C63.10-2013Section 11.10.2 Method PKPSD (peak PSD)
6 dB Emission Bandwidth	ANSI C63.10-2013Section 11.8.1
99% Occupied Bandwidth	ANSI C63.10-2013Section 6.9.3
100kHz Bandwidth of Frequency Band Edge	ANSI C63.10-2013Section 6.10
Radiated emission	ANSI C63.10-2013Section 11.11&11.12
Duty Cycle	ANSI C63.10-2013Section 11.6

2.8 Measurement Equipment

Manufacturer	Description	Model	Management No.	Calibration Date	Calibration Due Date
AC Line Conducted Emission Test					
ROHDE& SCHWARZ	EMI TEST RECEIVER	ESR	101817	2024/6/4	2025/6/3
R&S	LISN	ENV216	101748	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.12	N/A	2024/6/4	2025/6/3
Farad	Test Software	EZ-EMC	Ver. EMEC-3A1	/	/
Radiated Emission Test					
R&S	EMI test receiver	ESR3	102758	2024/6/4	2025/6/3
ROHDE& SCHWARZ	SPECTRUM ANALYZER	FSV40-N	101608	2024/6/4	2025/6/3
SONOMA INSTRUMENT	Low frequency amplifier	310	186014	2024/6/4	2025/6/3
A.H. Systems	PREAMPLIFIER	PAM-0118P	531	2024/6/4	2025/6/3
COM-POWER	Amplifier	PAM-840A	461306	2024/8/7	2025/8/6
BACL	Loop Antenna	1313-1A	4010611	2024/2/7	2027/2/6
SCHWARZBECK	Log - periodic wideband antenna	VULB 9163	9163-872	2023/7/7	2026/7/6
Astro Antenna Ltd	Horn antenna	AHA-118S	3015	2023/7/6	2026/7/5
Ducommun technologies	Horn Antenna	ARH-4223-02	1007726-03	2023/7/10	2026/7/9
Oulitong	Band Reject Filter	OBSF-2400-248 3.5-50N	OE02103119	2024/6/4	2025/6/3
Unknown	6.7G High Pass Filter	Unknown	6.7G	2024/6/4	2025/6/3
Unknown	10dB attenuator	10dB	10-1	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.9	N/A	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.13	N/A	2024/8/7	2025/8/6
N/A	Coaxial Cable	NO.15	N/A	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.16	N/A	2024/6/4	2025/6/3
N/A	Coaxial Cable	NO.17	N/A	2024/6/4	2025/6/3
Audix	Test Software	E3	191218 V9	/	/
RF Conducted Test					
ROHDE& SCHWARZ	SPECTRUM ANALYZER	FSV40	101419	2024/6/4	2025/6/3
ANRITSU	USB Power Sensor	MA24418A	12620	2024/6/4	2025/6/3
narda	6dB attenuator	603-06-1	N/A	2024/6/4	2025/6/3

Note: All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or International standards.

3 Test Results

3.1 Test Summary

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.247(b)(3)	Maximum Conducted Output Power	Compliance
§15.247(e)	Power Spectral Density	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
-	99% Occupied Bandwidth	Report only
§15.247(d)	100kHz Bandwidth of Frequency Band Edge	Compliance
§15.205, §15.209, §15.247(d)	Radiated emission	Compliance
-	Duty Cycle	Report only

3.2 Limit

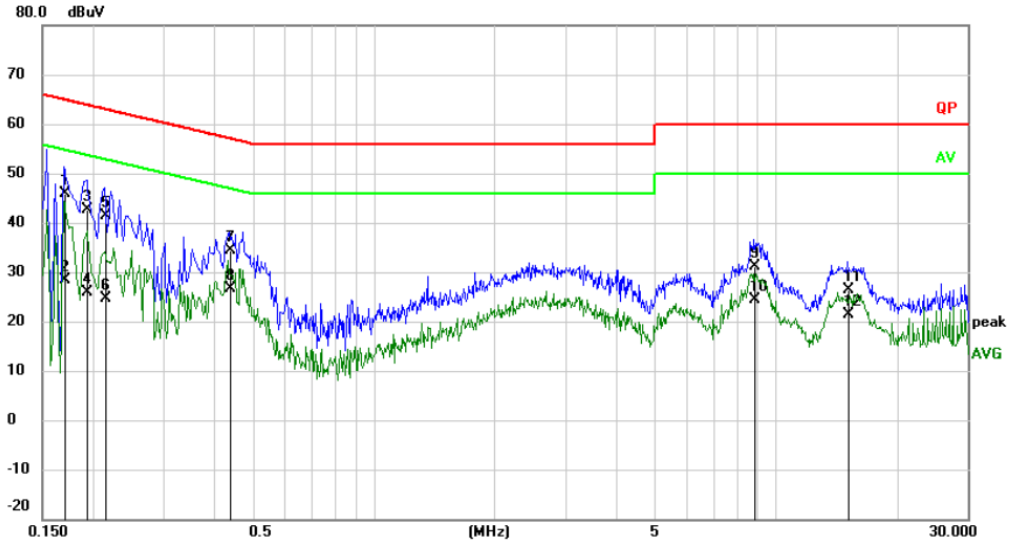
Test items	Limit
AC Line Conducted Emissions	See details §15.207 (a)
Conducted Output Power	For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.
6dB Emission Bandwidth	The minimum 6 dB bandwidth shall be at least 500 kHz.
Power Spectral Density	For 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.
Spurious Emissions, 100kHz Bandwidth of Frequency Band Edge	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)).

3.3 AC Line Conducted Emissions Test Data

Test Date:	2025-02-07	Test By:	Ryan Zhang
Environment condition:	Temperature: 22.5°C; Relative Humidity:42%; ATM Pressure: 100.8kPa		

Conducted Emission Measurement

File :2505P37465E-RF Data :#7 Date: 2025/2/7 Time: 16:33:57



Limit: QP
Mode: Transmitting
Note: WIFI 2.4G n40-2442

Phase: L1
Power: AC 120V/60Hz

Temperature: 22.5 ℃
Humidity: 42 %
Air Pressure: 1008 hpa

Receiver Setting: 0.15~30MHz: Pre-scan: RBW: 9kHz, DET: PK/AV; Final measure: RBW: 9kHz, DET: QP/AV

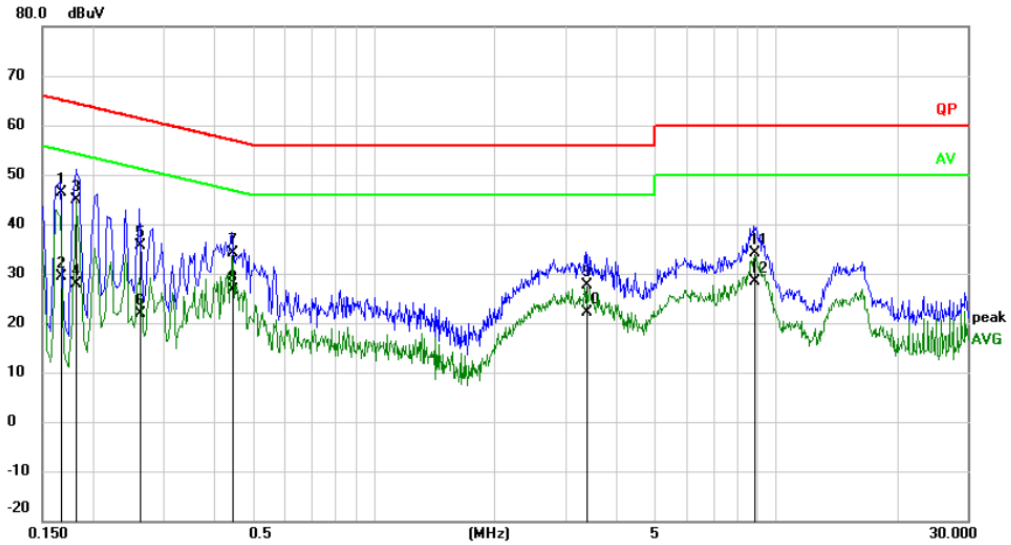
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over Limit		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1700	35.32	10.59	45.91	64.96	-19.05	QP	
2		0.1700	17.70	10.59	28.29	54.96	-26.67	AVG	
3		0.1940	31.95	10.65	42.60	63.86	-21.26	QP	
4		0.1940	15.11	10.65	25.76	53.86	-28.10	AVG	
5		0.2140	30.68	10.66	41.34	63.05	-21.71	QP	
6		0.2140	14.08	10.66	24.74	53.05	-28.31	AVG	
7		0.4380	23.77	10.68	34.45	57.10	-22.65	QP	
8		0.4380	15.89	10.68	26.57	47.10	-20.53	AVG	
9		8.8340	20.75	10.50	31.25	60.00	-28.75	QP	
10		8.8340	13.76	10.50	24.26	50.00	-25.74	AVG	
11		15.1180	15.93	10.50	26.43	60.00	-33.57	QP	
12		15.1180	10.77	10.50	21.27	50.00	-28.73	AVG	

*:Maximum data x:Over limit !:over margin

Engineer Signature: Ryan

Conducted Emission Measurement

File :2505P37465E-RF Data :#8 Date: 2025/2/7 Time: 16:35:44



Limit: QP
Mode: Transmitting
Note: WIFI 2.4G n40-2442

Phase: N
Power: AC 120V/60Hz

Temperature: 22.5 ℃
Humidity: 42 %
Air Pressure: 1008 hpa

Receiver Setting: 0.15~30MHz: Pre-scan: RBW: 9kHz, DET: PK/AV; Final measure: RBW: 9kHz, DET: QP/AV

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over Limit		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1660	35.98	10.45	46.43	65.16	-18.73	QP	
2		0.1660	18.97	10.45	29.42	55.16	-25.74	AVG	
3		0.1819	34.34	10.46	44.80	64.40	-19.60	QP	
4		0.1819	17.33	10.46	27.79	54.40	-26.61	AVG	
5		0.2620	25.19	10.54	35.73	61.37	-25.64	QP	
6		0.2620	11.25	10.54	21.79	51.37	-29.58	AVG	
7		0.4460	23.44	10.73	34.17	56.95	-22.78	QP	
8		0.4460	15.95	10.73	26.68	46.95	-20.27	AVG	
9		3.3740	17.29	10.46	27.75	56.00	-28.25	QP	
10		3.3740	11.68	10.46	22.14	46.00	-23.86	AVG	
11		8.8260	23.64	10.52	34.16	60.00	-25.84	QP	
12		8.8260	17.82	10.52	28.34	50.00	-21.66	AVG	

*:Maximum data x:Over limit !:over margin

Engineer Signature: Ryan

Remark:

Measurement (dBuV)= Reading Level (dBuV) + Correct Factor(dB)

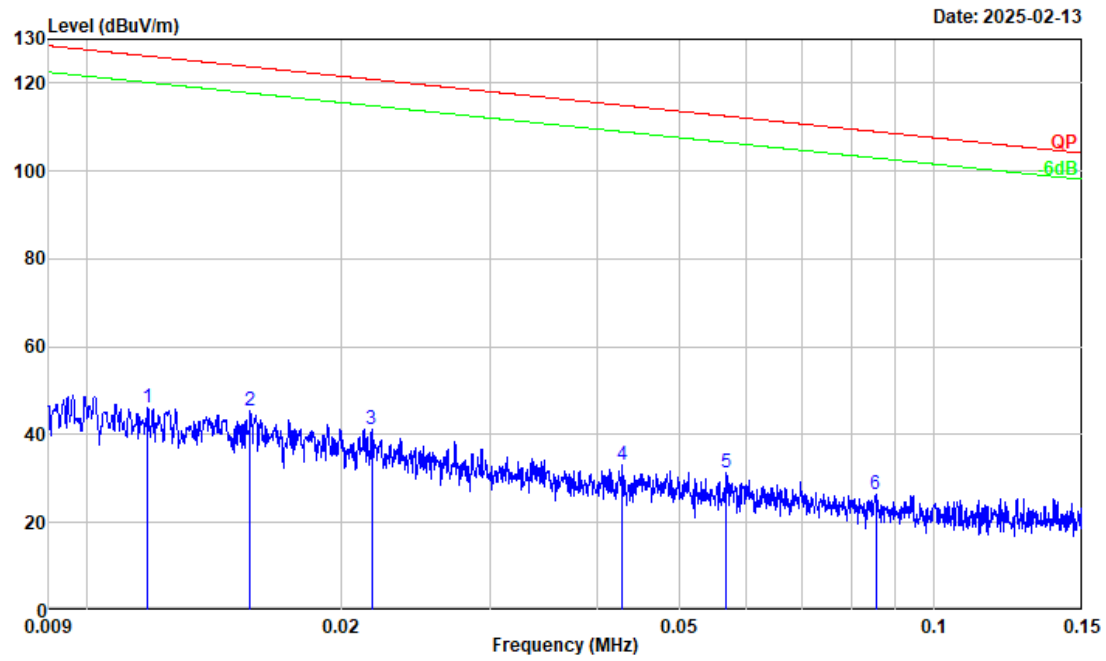
Correct Factor (dB)= LISN Voltage Division Factor (dB)+ Cable loss(dB)

Over Limit = Measurement – Limit

3.4 Radiated emission Test Data

9 kHz-30MHz:

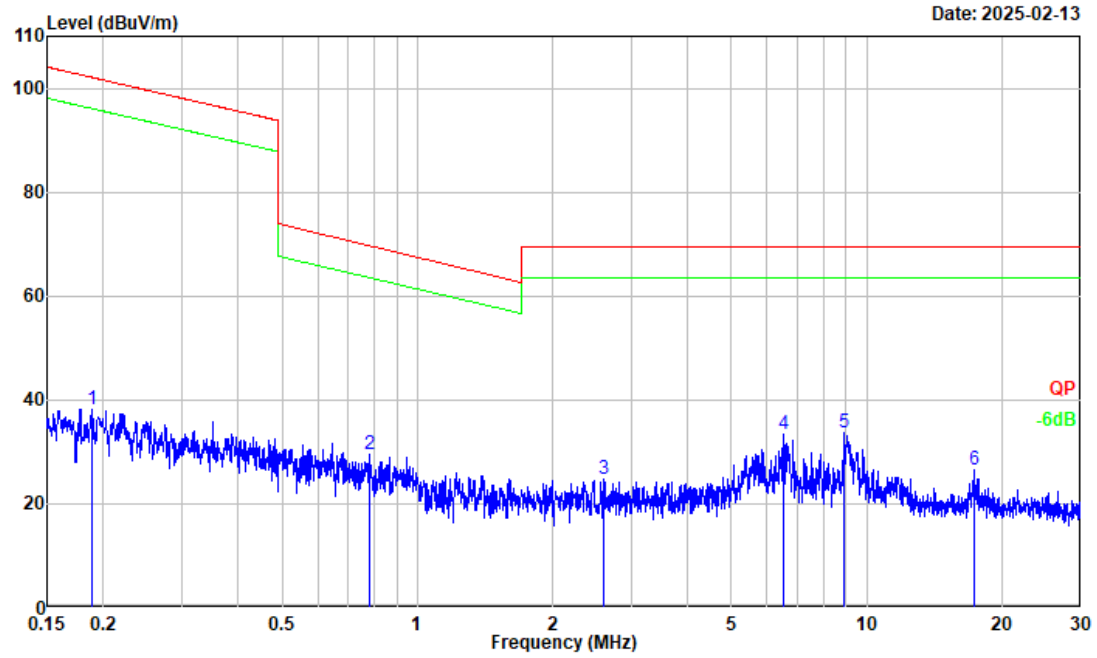
Test Date:	2025-02-13	**Test By:**	Bard Huang
Environment condition:	Temperature: 21.4°C; Relative Humidity:45%; ATM Pressure: 101.2kPa		



Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : PARALLEL
Remark : 2.4G 802.11n40 2442

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	0.012	9.96	36.07	46.03	126.16	-80.13	Peak
2	0.016	11.95	33.66	45.61	123.74	-78.13	Peak
3	0.022	11.29	29.80	41.09	120.88	-79.79	Peak
4	0.043	11.08	21.87	32.95	114.95	-82.00	Peak
5	0.057	11.92	19.46	31.38	112.49	-81.11	Peak
6	0.085	10.41	15.92	26.33	108.97	-82.64	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: RBW/VBW: 200Hz/1kHz, DET: PK



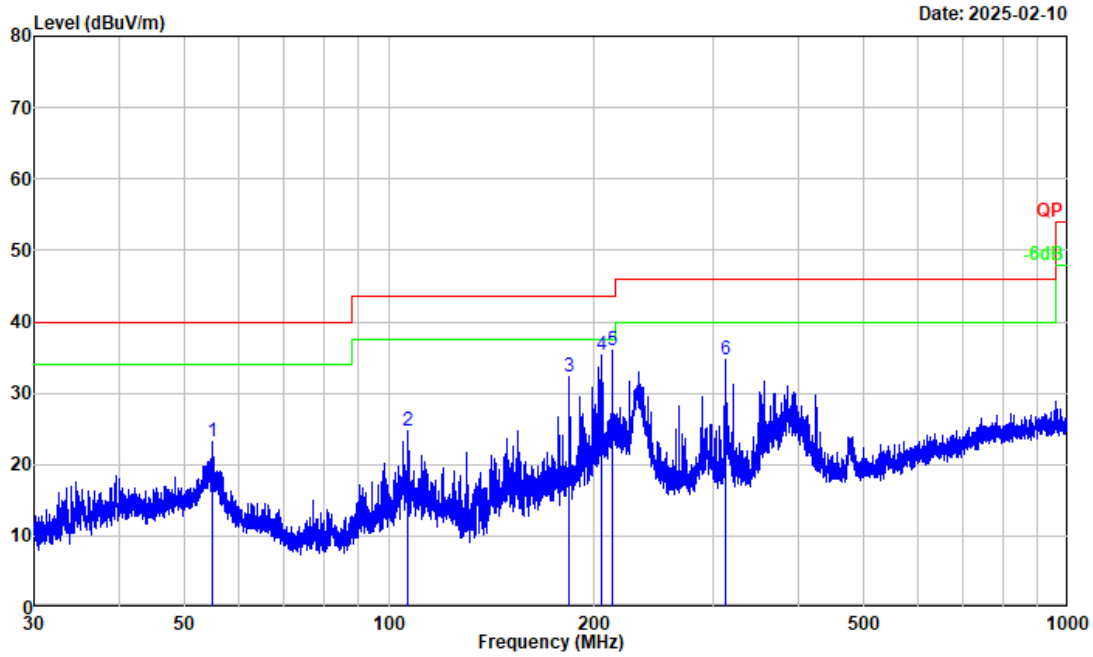
Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : PARALLEL
Remark : 2.4G 802.11n40 2442

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	0.189	25.70	12.48	38.18	102.09	-63.91	Peak
2	0.783	26.83	2.60	29.43	69.65	-40.22	Peak
3	2.606	27.72	-2.93	24.79	69.54	-44.75	Peak
4	6.542	37.35	-4.04	33.31	69.54	-36.23	Peak
5	8.928	37.42	-3.68	33.74	69.54	-35.80	Peak
6	17.288	29.92	-3.27	26.65	69.54	-42.89	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: RBW/VBW: 9kHz/30kHz, DET: PK

30MHz-1GHz:

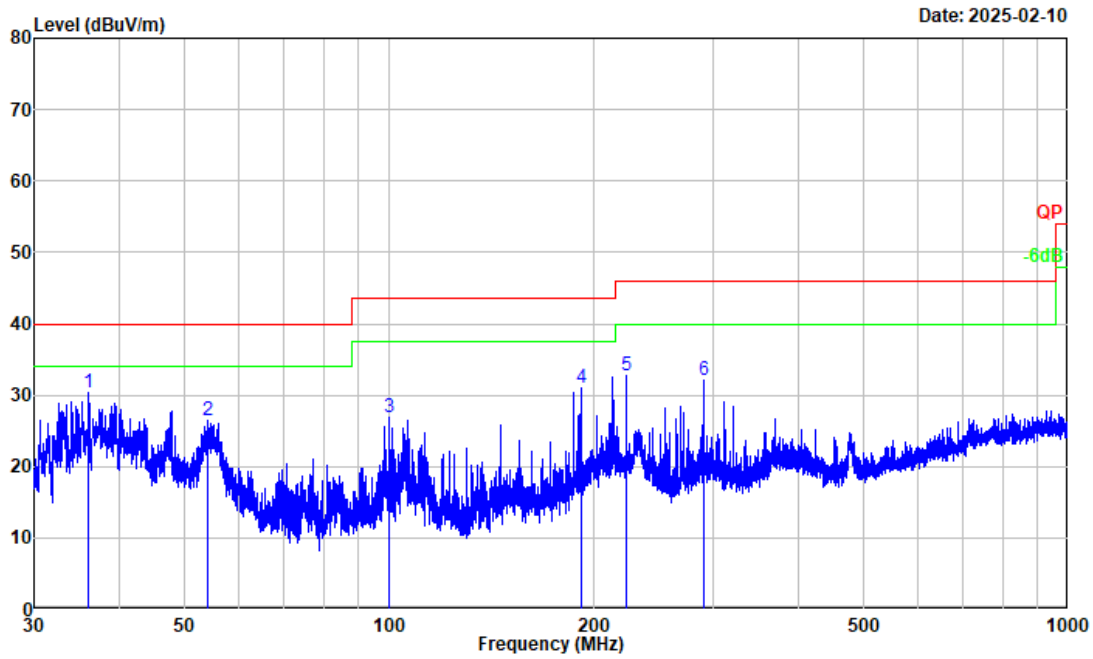
Test Date:	2025-02-10	Test By:	Luke Li
Environment condition:	Temperature: 20.4°C; Relative Humidity:36%; ATM Pressure: 101.6kPa		



Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 20.4℃/36%R.H./101.6kPa
Tested by : Luke Li
Polarization : horizontal
Remark : 2.4G-WiFi 802.11n40 2442

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	54.979	35.92	-12.62	23.30	40.00	-16.70	Peak
2	106.665	38.58	-13.88	24.70	43.50	-18.80	Peak
3	184.409	47.48	-15.14	32.34	43.50	-11.16	Peak
4	205.225	48.95	-13.72	35.23	43.50	-8.27	Peak
5	213.202	49.73	-13.76	35.97	43.50	-7.53	Peak
6	312.590	45.68	-10.99	34.69	46.00	-11.31	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Pre-scan: RBW/VBW: 100kHz/300kHz, DET: PK
Final measure: RBW: 120kHz, DET: QP



Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 20.4℃/36%R.H./101.6kPa
Tested by : Luke Li
Polarization : vertical
Remark : 2.4G-WiFi 802.11n40 2442

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	36.111	44.66	-14.31	30.35	40.00	-9.65	Peak
2	53.953	38.78	-12.40	26.38	40.00	-13.62	Peak
3	100.141	41.00	-14.04	26.96	43.50	-16.54	Peak
4	191.913	45.42	-14.36	31.06	43.50	-12.44	Peak
5	223.244	46.02	-13.34	32.68	46.00	-13.32	Peak
6	290.908	43.58	-11.47	32.11	46.00	-13.89	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Pre-scan: RBW/VBW: 100kHz/300kHz, DET: PK
Final measure: RBW: 120kHz, DET: QP

Above 1GHz:

Test Date:	2025-02-17~2025-02-27	Test By:	Bard Huang
Environment condition:	Temperature: 21.4~22.8°C; Relative Humidity:40~58%; ATM Pressure: 101.2~101.7kPa		

Frequency (MHz)	Reading level (dBμV)	Polar	Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Remark
802.11b							
Low Channel							
4824.000	51.88	horizontal	-2.29	49.59	74.00	-24.41	Peak
4824.000	55.65	vertical	-2.29	53.36	74.00	-20.64	Peak
Middle Channel							
4884.000	49.45	horizontal	-1.84	47.61	74.00	-26.39	Peak
4884.000	49.48	vertical	-1.84	47.64	74.00	-26.36	Peak
High Channel							
4924.000	50.50	horizontal	-1.70	48.80	74.00	-25.20	Peak
4924.000	52.88	vertical	-1.70	51.18	74.00	-22.82	Peak
Highest Channel							
4944.000	50.75	horizontal	-1.70	49.05	74.00	-24.95	Peak
4944.000	52.95	vertical	-1.70	51.25	74.00	-22.75	Peak
802.11g							
Low Channel							
4824.000	46.91	horizontal	-2.29	44.62	74.00	-29.38	Peak
4824.000	48.16	vertical	-2.29	45.87	74.00	-28.13	Peak
Middle Channel							
4884.000	48.58	horizontal	-1.84	46.74	74.00	-27.26	Peak
4884.000	48.25	vertical	-1.84	46.41	74.00	-27.59	Peak
High Channel							
4924.000	48.23	horizontal	-1.70	46.53	74.00	-27.47	Peak
4924.000	49.10	vertical	-1.70	47.40	74.00	-26.60	Peak
Highest Channel							
4944.000	48.33	horizontal	-1.70	46.63	74.00	-27.37	Peak
4944.000	49.17	vertical	-1.70	47.47	74.00	-26.53	Peak
802.11n20							
Low Channel							
4824.000	49.80	horizontal	-2.29	47.51	74.00	-26.49	Peak
4824.000	48.33	vertical	-2.29	46.04	74.00	-27.96	Peak
Middle Channel							

4884.000	49.07	horizontal	-1.84	47.23	74.00	-26.77	Peak
4884.000	48.46	vertical	-1.84	46.62	74.00	-27.38	Peak
High Channel							
4924.000	48.05	horizontal	-1.70	46.35	74.00	-27.65	Peak
4924.000	48.50	vertical	-1.70	46.80	74.00	-27.20	Peak
Highest Channel							
4944.000	48.16	horizontal	-1.70	46.46	74.00	-27.54	Peak
4944.000	48.64	vertical	-1.70	46.94	74.00	-27.06	Peak
802.11n40							
Low Channel							
4844.000	48.84	horizontal	-2.17	46.67	74.00	-27.33	Peak
4844.000	48.94	vertical	-2.17	46.77	74.00	-27.23	Peak
Middle Channel							
4884.000	48.61	horizontal	-1.84	46.77	74.00	-27.23	Peak
4884.000	48.01	vertical	-1.84	46.17	74.00	-27.83	Peak
High Channel							
4904.000	47.25	horizontal	-1.71	45.54	74.00	-28.46	Peak
4904.000	48.90	vertical	-1.71	47.19	74.00	-26.81	Peak
Highest Channel							
4924.000	47.34	horizontal	-1.70	45.64	74.00	-28.36	Peak
4924.000	49.13	vertical	-1.70	47.43	74.00	-26.57	Peak

Remark:

Corrected Amplitude= Reading level + corrected Factor

Corrected Factor = Antenna factor + Cable loss – Amplifier gain

Margin = Corrected Amplitude – Limit

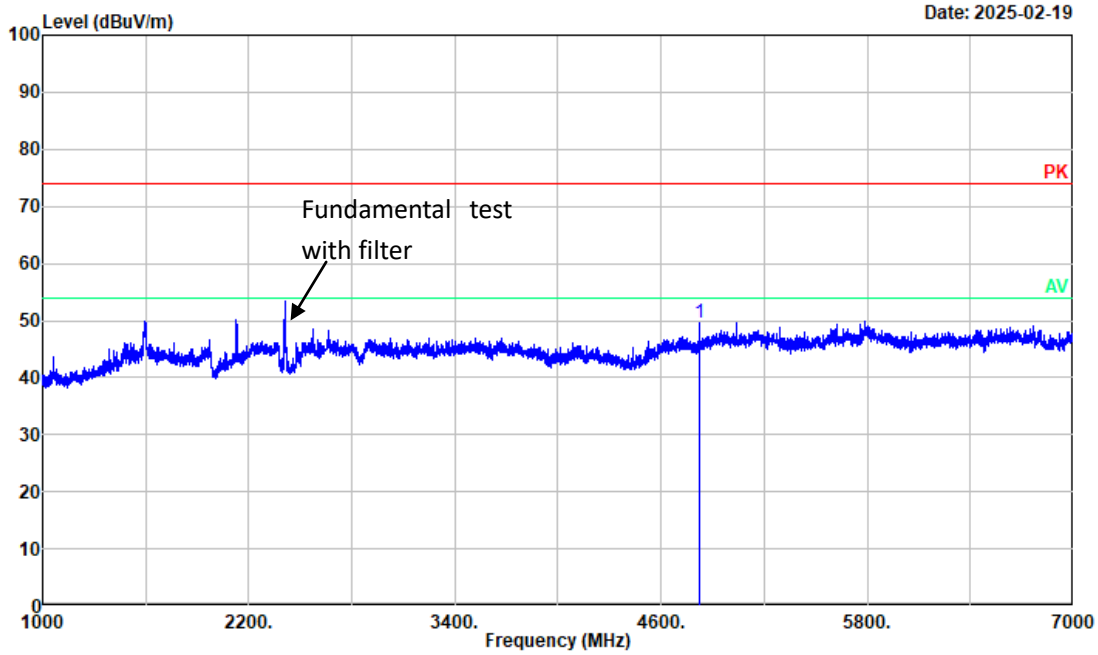
For the test result of Peak below the Peak limit more than 20dB, which can compliance with the average limit, just the Peak level was recorded.

The emission levels of other frequencies that were lower than the limit 20dB not show in test report.

For emissions in 18GHz-25GHz range, all emissions were investigated and in the noise floor level.

Test plot for worst case as below:

Mode:	802.11b	Channel:	2412MHz

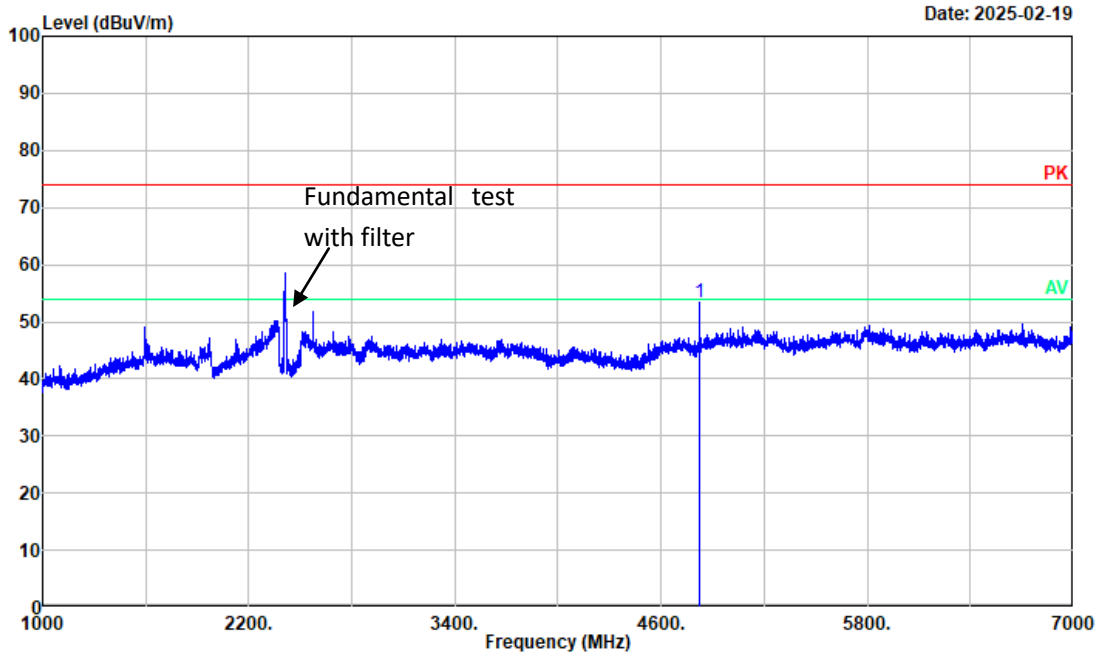


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11b 2412

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	4824.000	51.88	-2.29	49.59	74.00	-24.41	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11b	Channel:	2412MHz

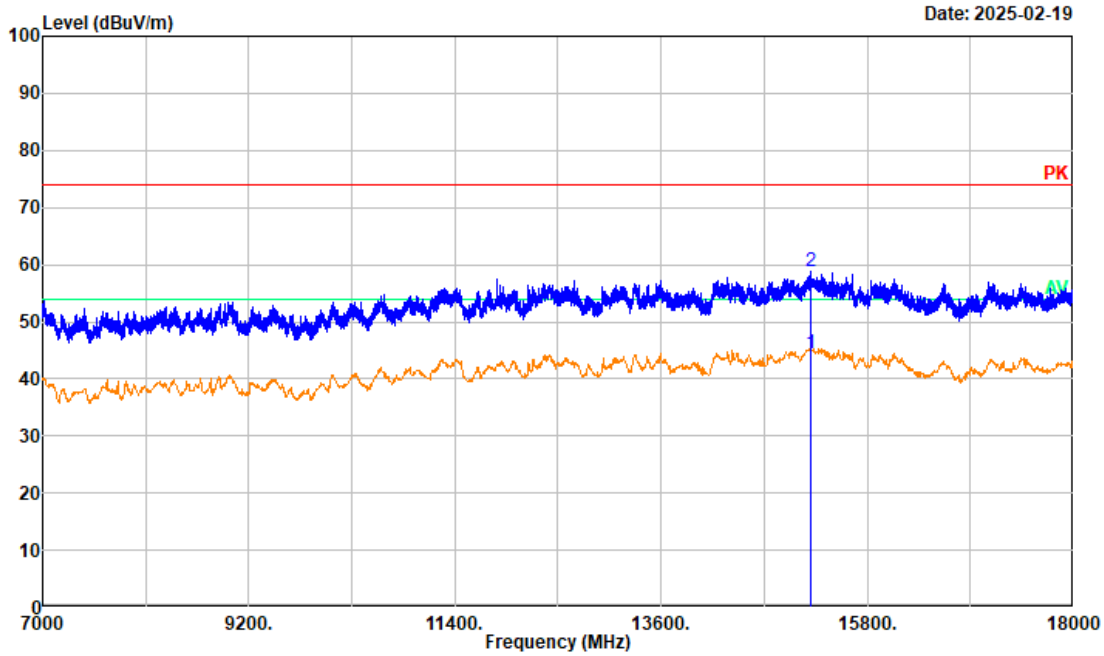


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11b 2412

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	4824.000	55.65	-2.29	53.36	74.00	-20.64	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11b	Channel:	2412MHz

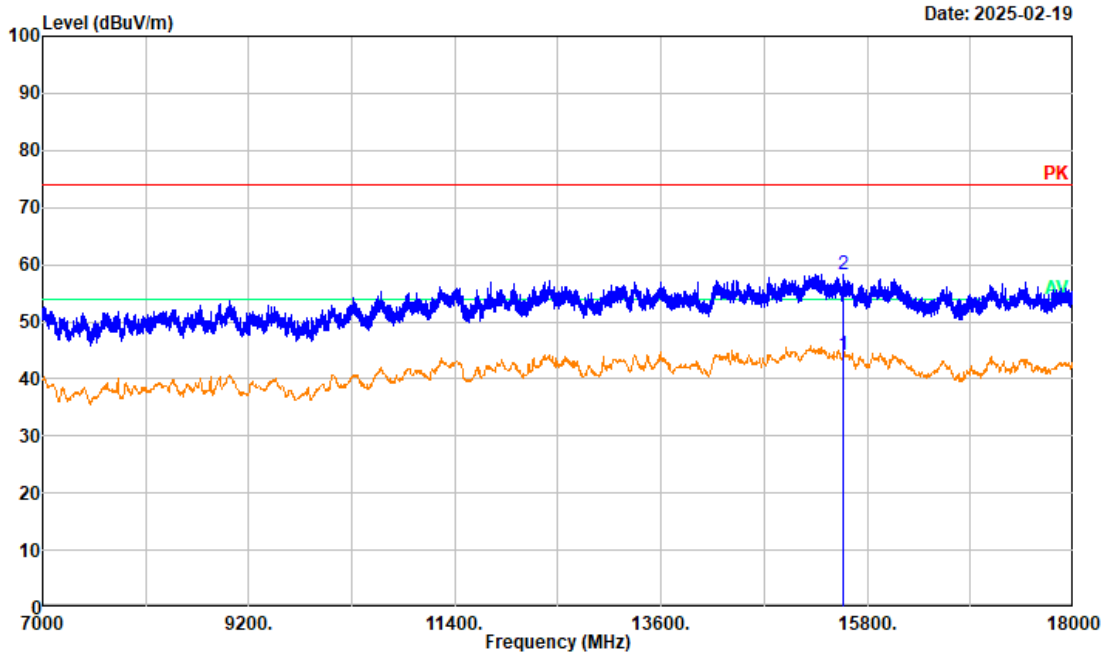


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11b 2412

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	15193.000	38.25	6.29	44.54	54.00	-9.46	Average
2	15193.000	52.55	6.29	58.84	74.00	-15.16	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11b	Channel:	2412MHz

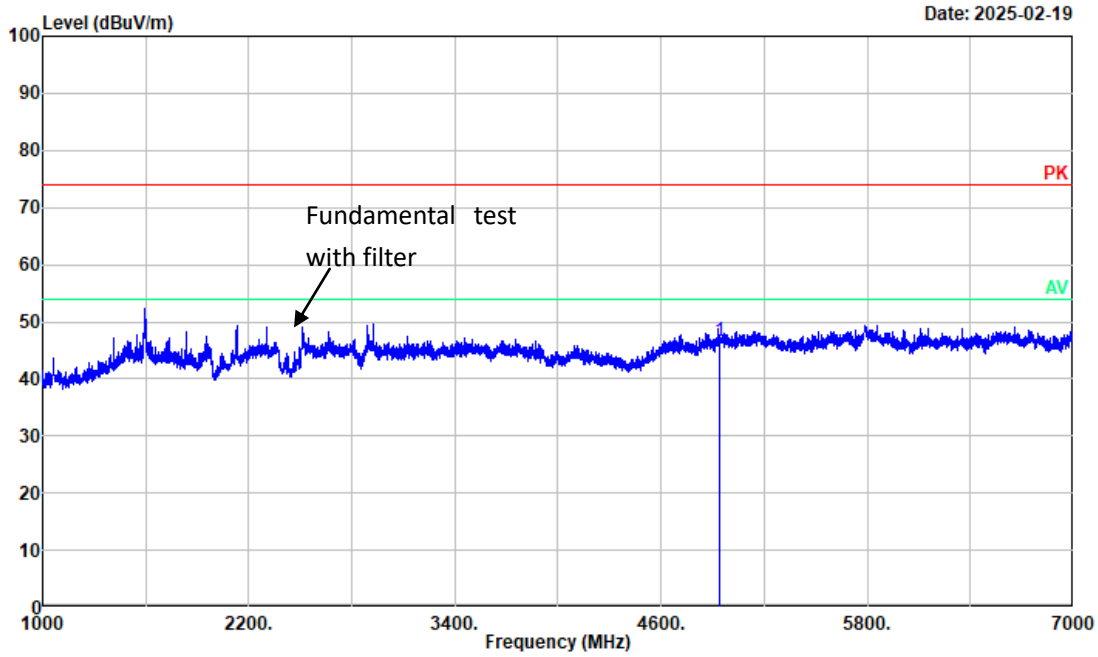


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11b 2412

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	15546.000	38.03	6.14	44.17	54.00	-9.83	Average
2	15546.000	52.10	6.14	58.24	74.00	-15.76	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2472MHz

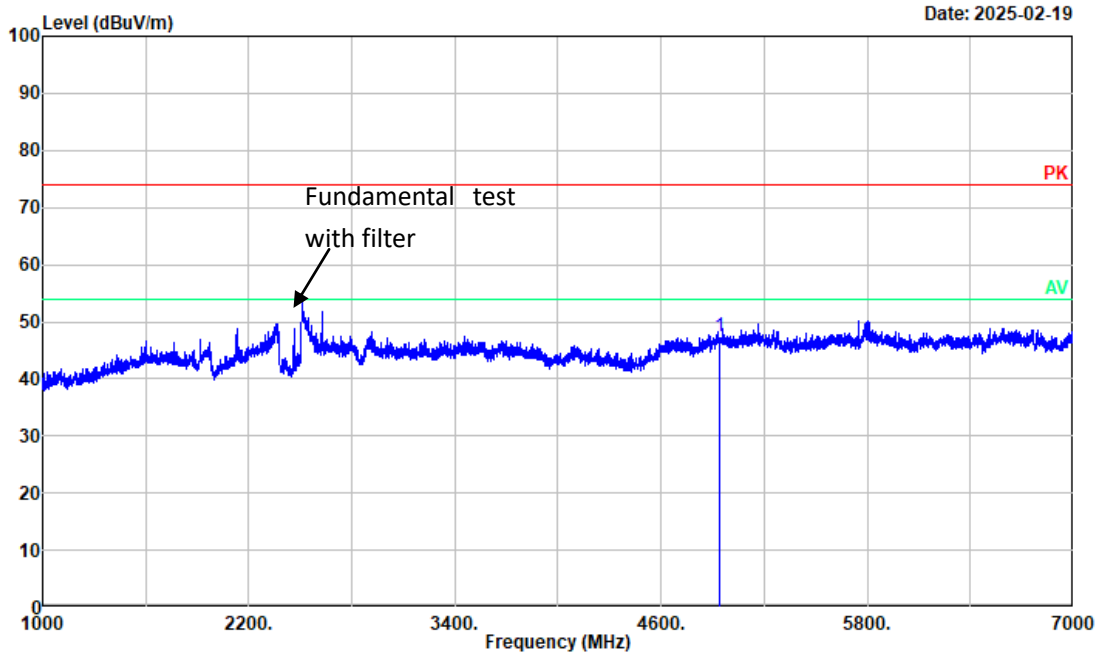


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11g 2472

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	4944.000	48.33	-1.70	46.63	74.00	-27.37	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2472MHz

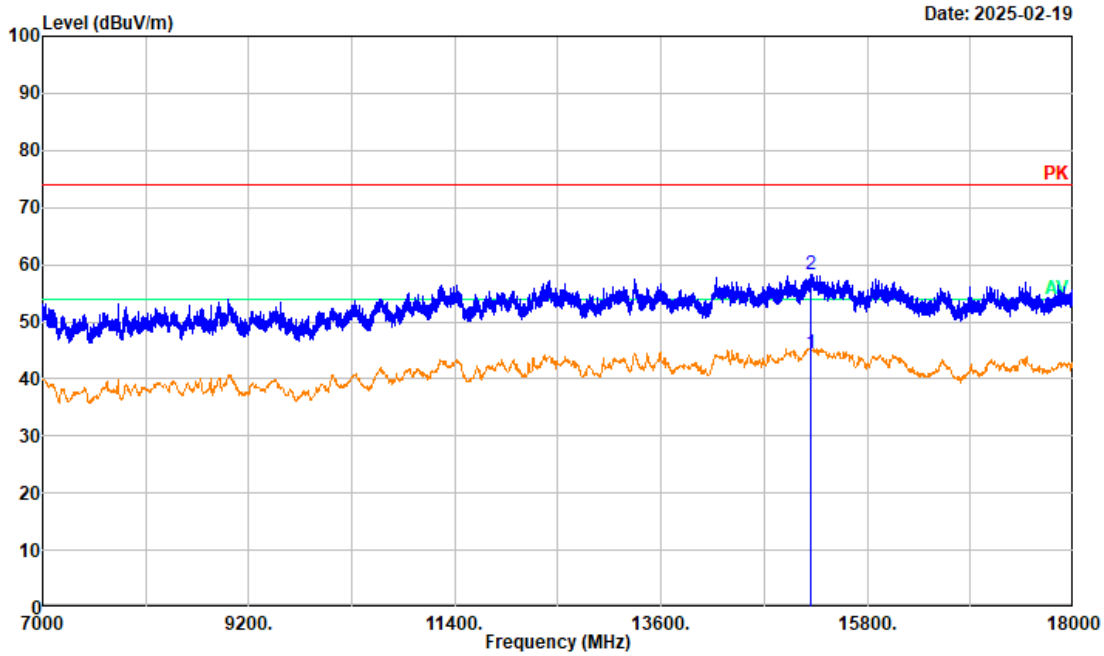


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11g 2472

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	4944.000	49.17	-1.70	47.47	74.00	-26.53	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2472MHz

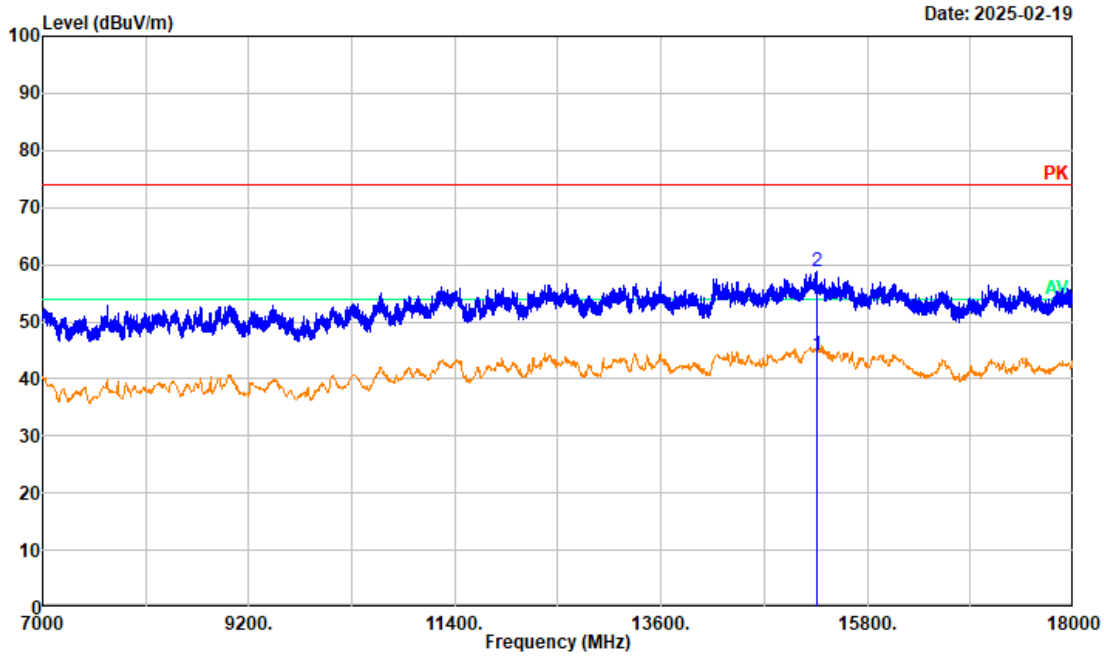


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11g 2472

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	15190.000	38.21	6.28	44.49	54.00	-9.51	Average
2	15190.000	52.04	6.28	58.32	74.00	-15.68	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2472MHz

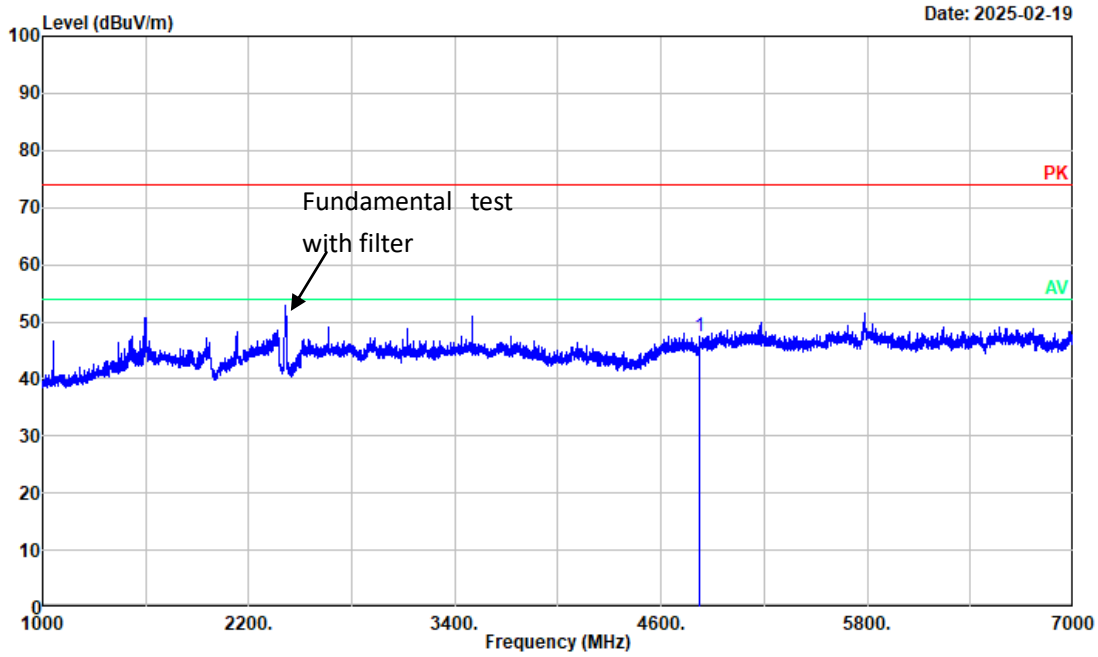


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11g 2472

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	15255.000	38.01	6.22	44.23	54.00	-9.77	Average
2	15255.000	52.46	6.22	58.68	74.00	-15.32	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2412MHz

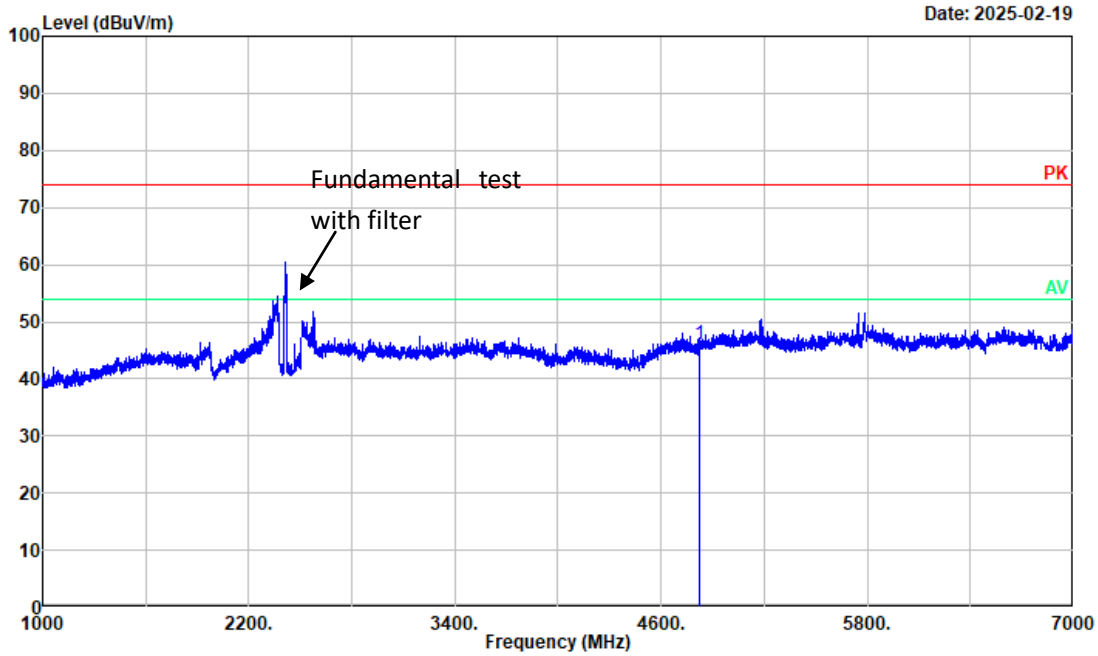


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n20 2412

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	4824.000	49.80	-2.29	47.51	74.00	-26.49	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2412MHz

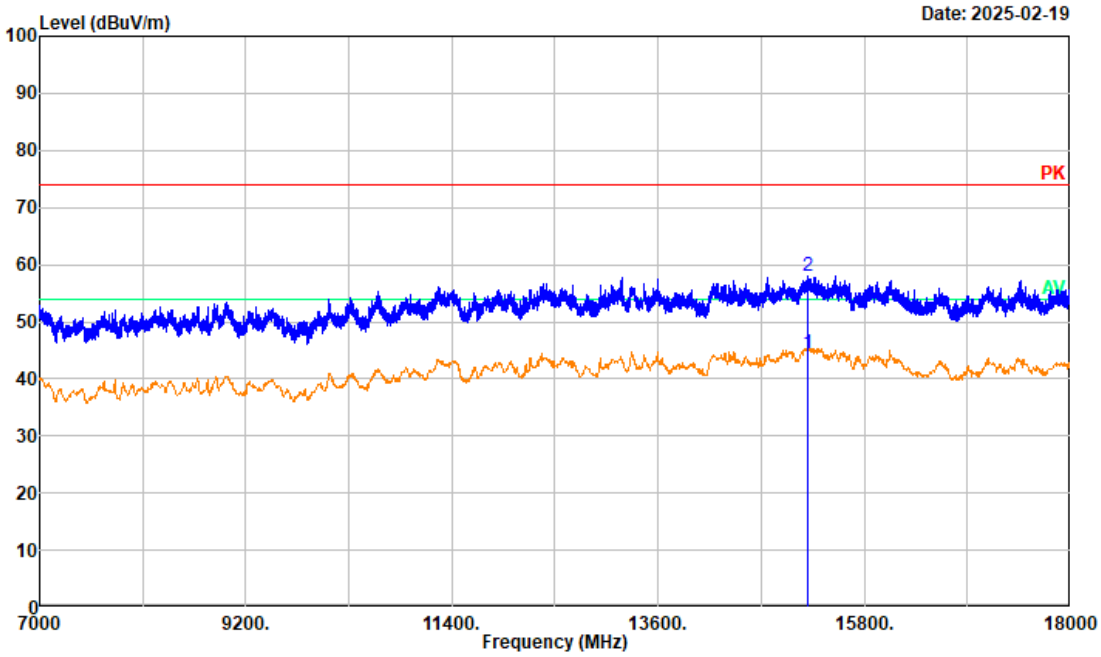


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n20 2412

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	4824.000	48.33	-2.29	46.04	74.00	-27.96	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2412MHz

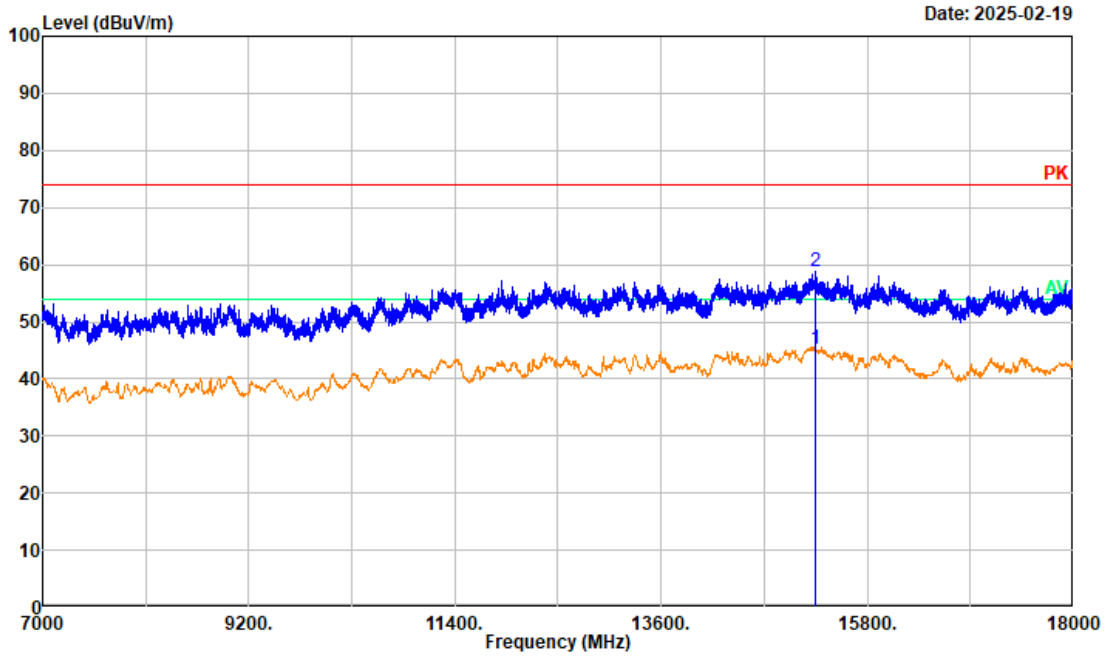


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n20 2412

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	15191.000	38.12	6.29	44.41	54.00	-9.59	Average
2	15191.000	51.70	6.29	57.99	74.00	-16.01	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2412MHz

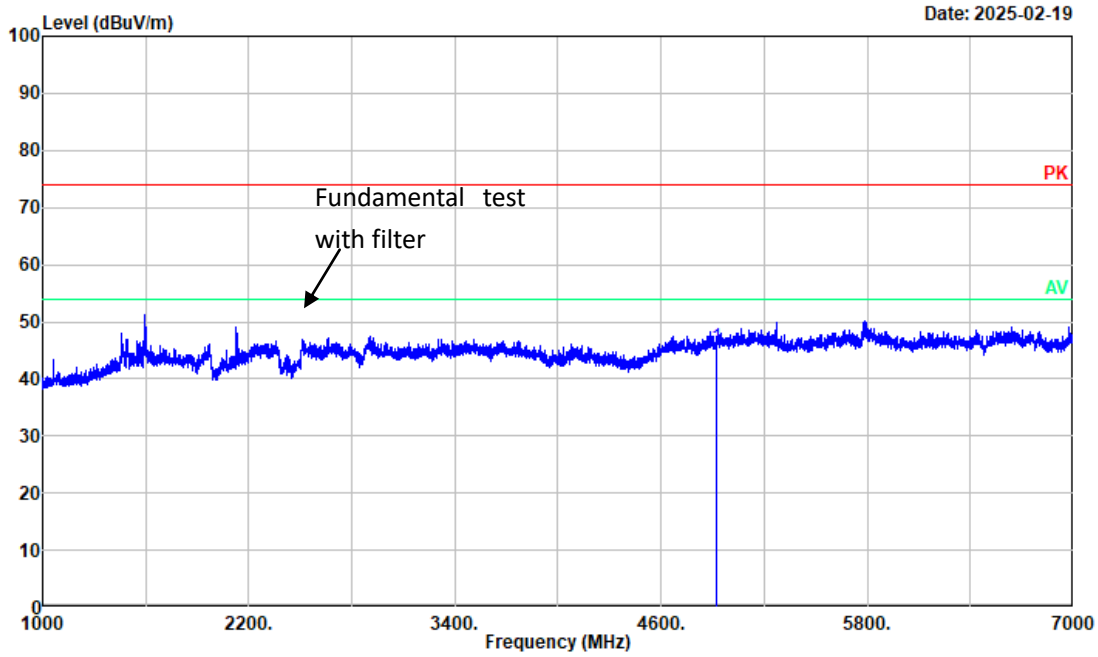


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n20 2412

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	15252.000	38.95	6.22	45.17	54.00	-8.83	Average
2	15252.000	52.57	6.22	58.79	74.00	-15.21	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n40	Channel:	2462MHz

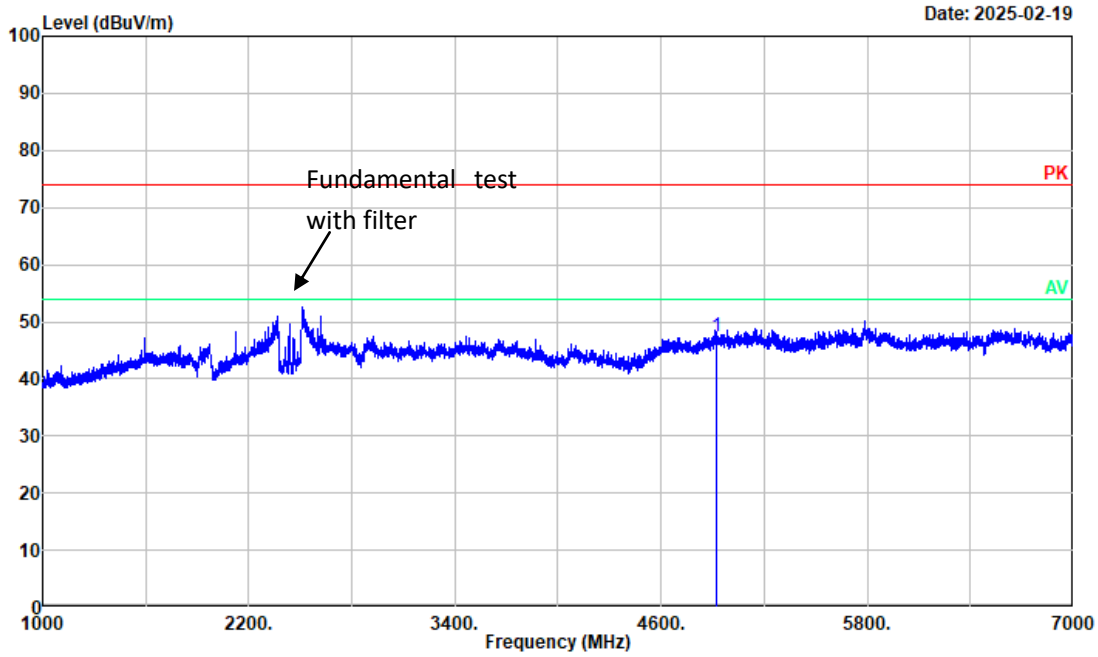


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n40 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	4924.000	47.34	-1.70	45.64	74.00	-28.36	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n40	Channel:	2462MHz

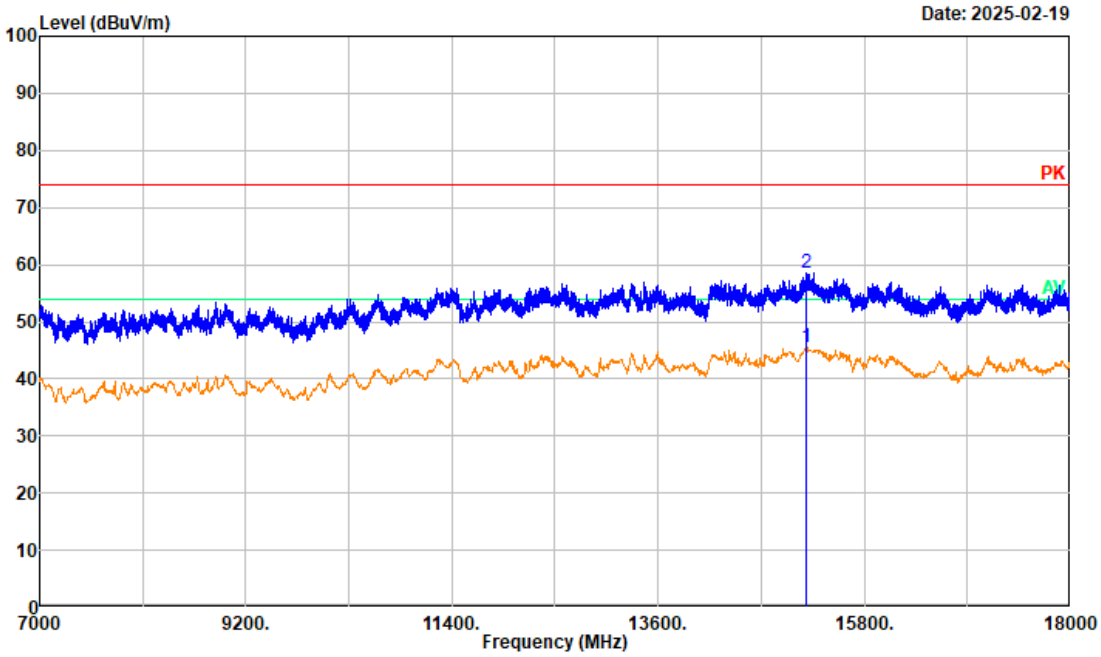


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n40 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	4924.000	49.13	-1.70	47.43	74.00	-26.57	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n40	Channel:	2462MHz

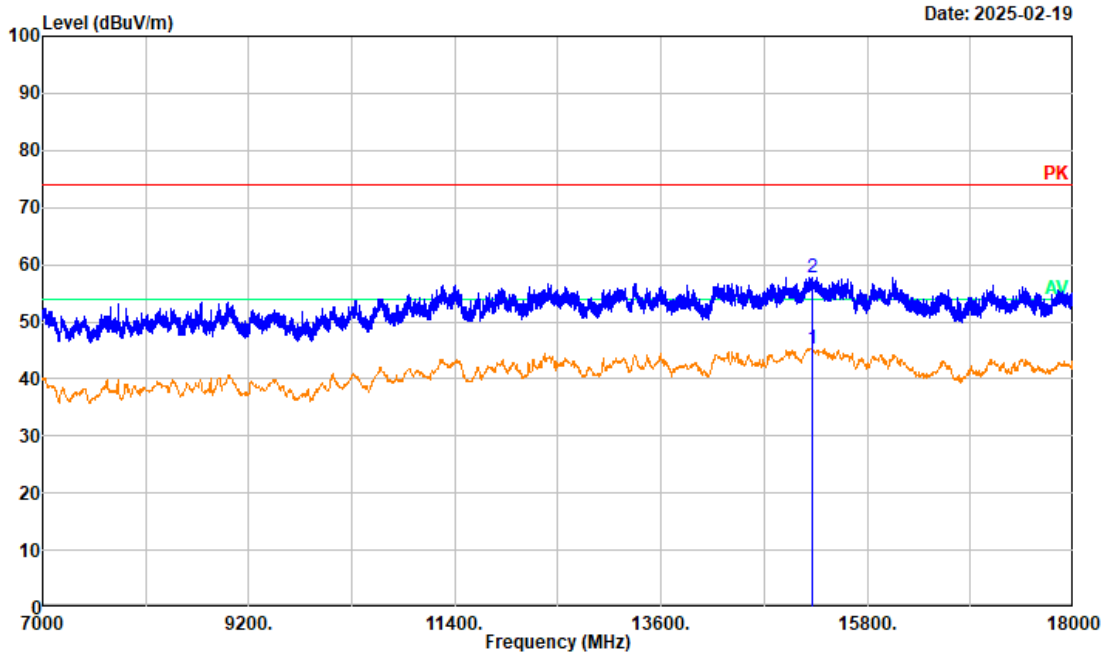


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n40 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	15184.000	39.22	6.27	45.49	54.00	-8.51	Average
2	15184.000	52.25	6.27	58.52	74.00	-15.48	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n40	Channel:	2462MHz

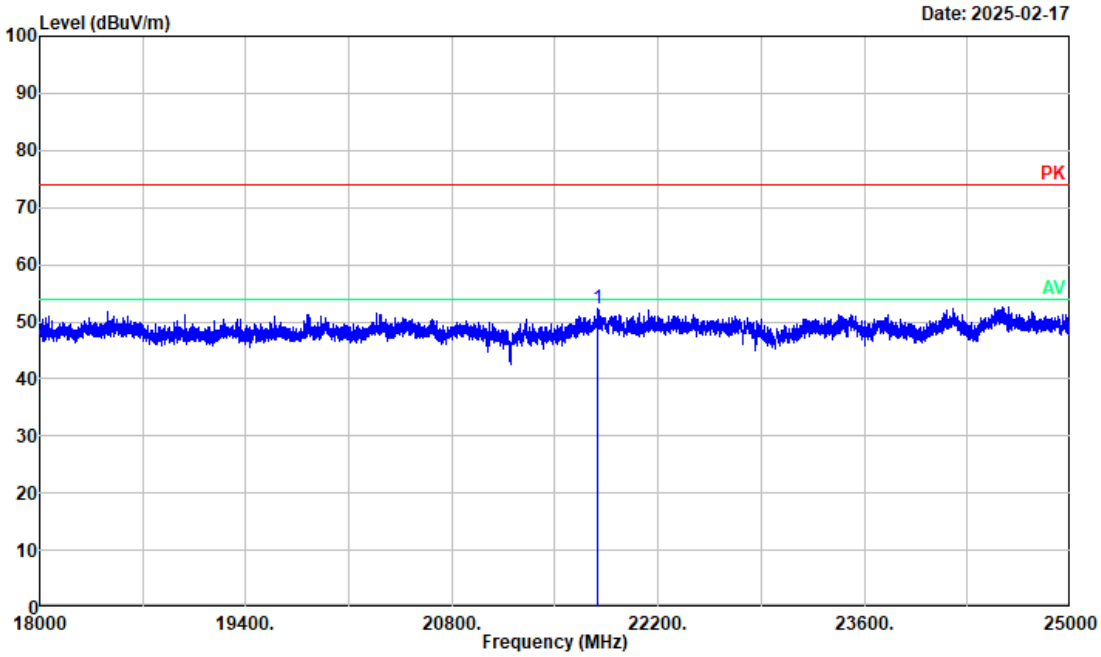


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n40 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	15212.000	38.92	6.29	45.21	54.00	-8.79	Average
2	15212.000	51.50	6.29	57.79	74.00	-16.21	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2462MHz

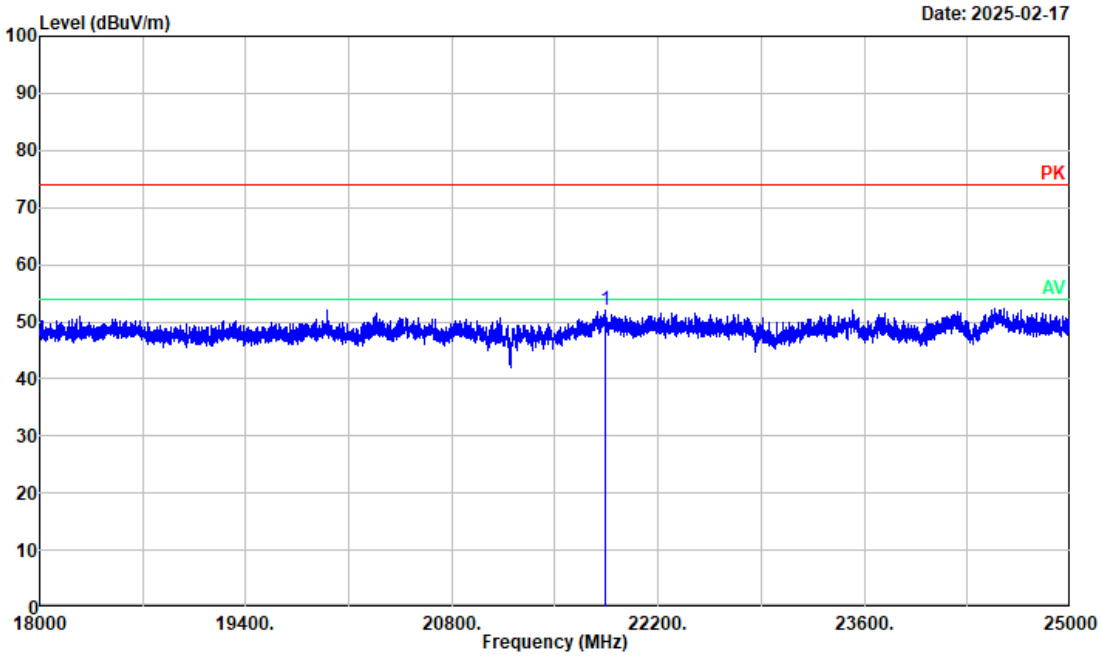


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 2.4G Wifi

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	21787.000	55.49	-3.23	52.26	74.00	-21.74	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain - Distance extrapolate factor
Distance extrapolate factor = 20*log(specified distance/measured distance)
Specified distance = 3 meters, measured distance = 1.5 meters
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VWB: 1MHz/3MHz, DET: PK
Average: RBW/VWB: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2462MHz



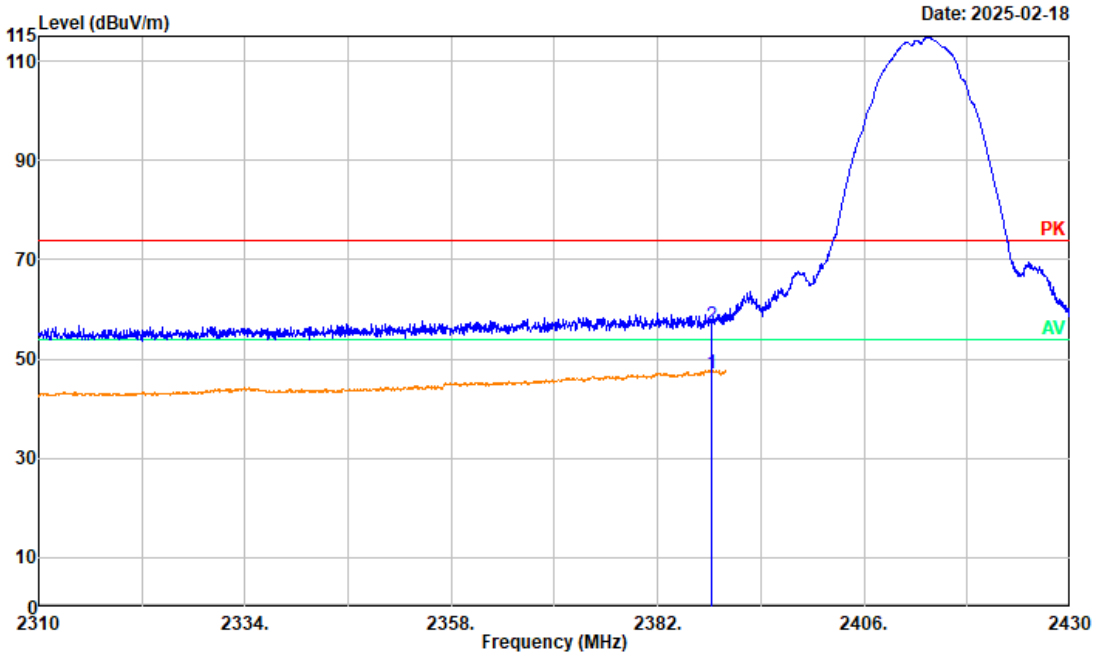
Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 2.4G Wifi

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	21837.000	55.25	-3.16	52.09	74.00	-21.91	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain - Distance extrapolate factor
Distance extrapolate factor = 20*log(specified distance/measured distance)
Specified distance = 3 meters, measured distance = 1.5 meters
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VWB: 1MHz/3MHz, DET: PK
Average: RBW/VWB: 1MHz/1kHz, DET: PK

Radiated Band edge:

Mode:	802.11b	Channel:	2412MHz

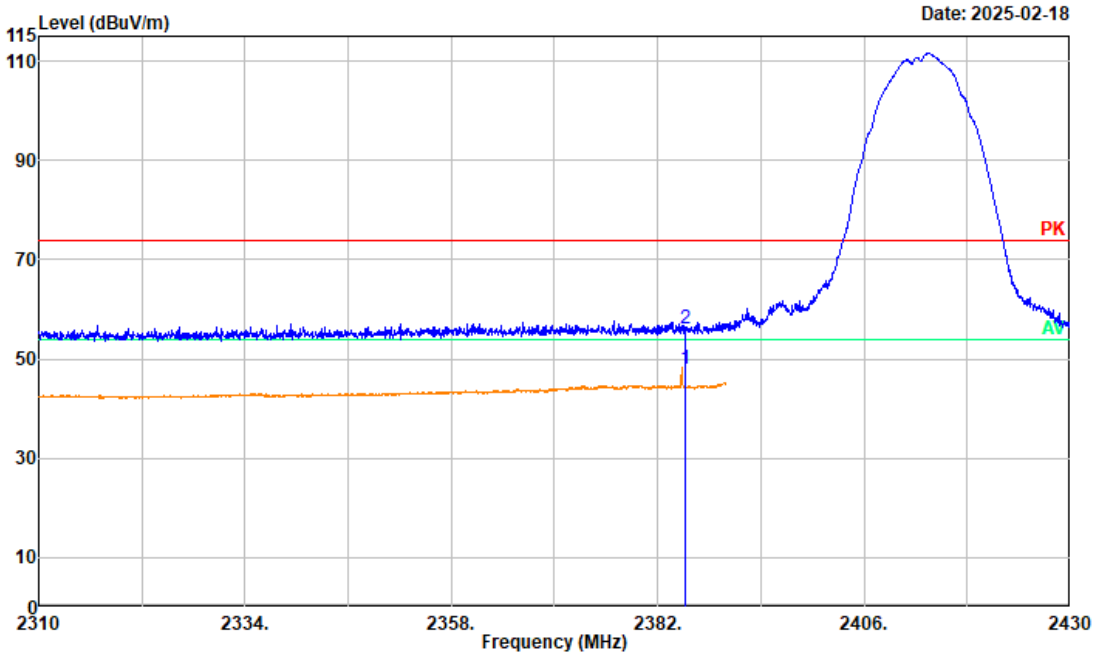


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11b 2412

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	2388.279	39.97	7.00	46.97	54.00	-7.03	Average
2	2388.279	49.77	7.00	56.77	74.00	-17.23	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11b	Channel:	2412MHz

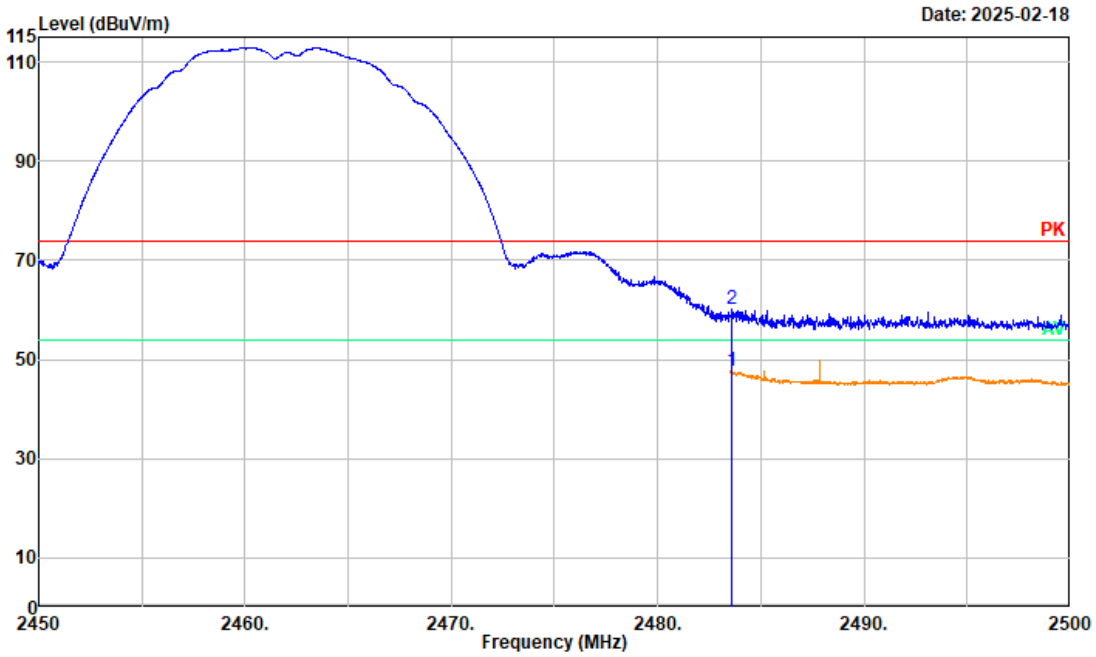


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11b 2412

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2385.278	41.03	7.00	48.03	54.00	-5.97	Average
2	2385.278	49.13	7.00	56.13	74.00	-17.87	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11b	Channel:	2462MHz

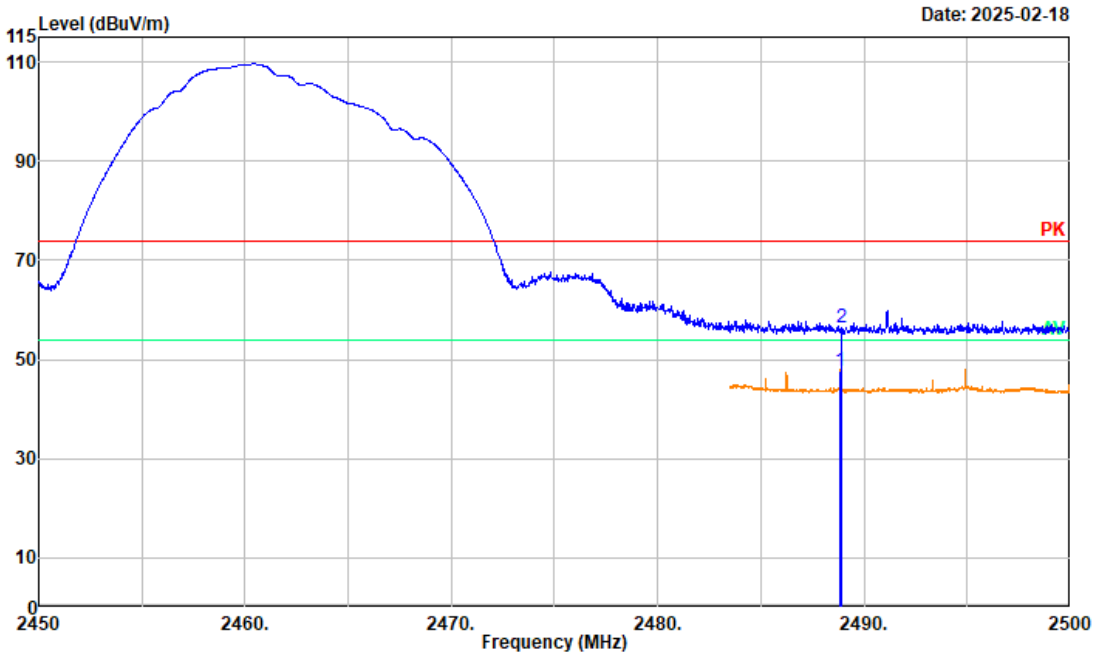


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11b 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.592	40.52	7.20	47.72	54.00	-6.28	Average
2	2483.592	52.97	7.20	60.17	74.00	-13.83	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11b	Channel:	2462MHz

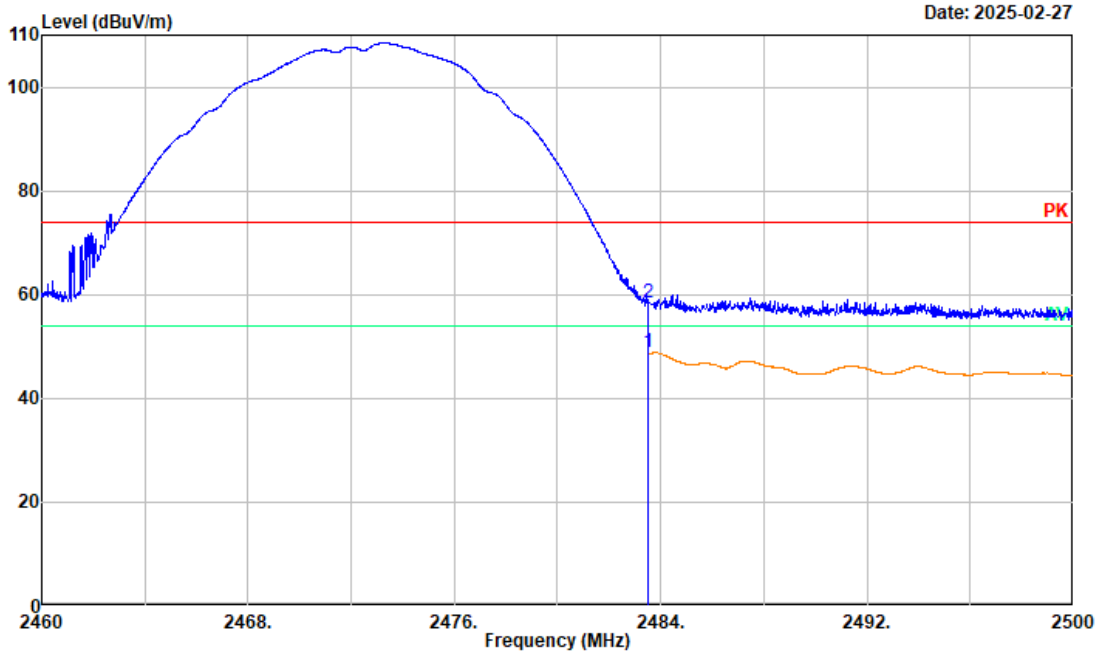


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11b 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2488.844	40.47	7.21	47.68	54.00	-6.32	Average
2	2488.919	49.32	7.21	56.53	74.00	-17.47	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11b	Channel:	2472MHz

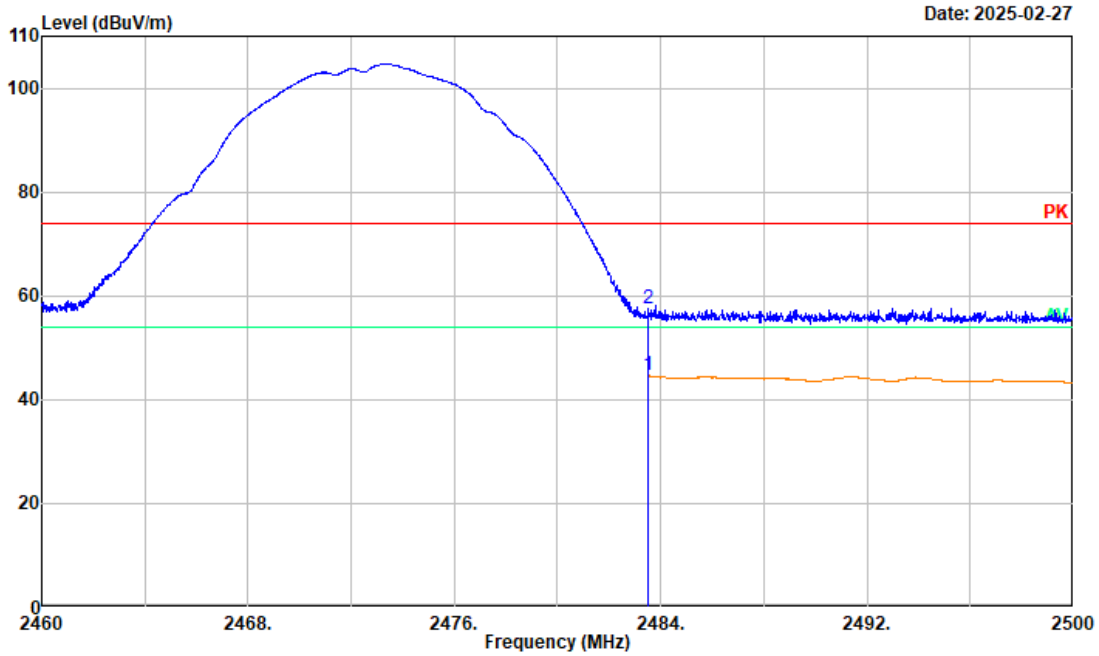


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.8℃/40%R.H./101.7kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11b 2472

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	2483.500	41.62	7.20	48.82	54.00	-5.18	Average
2	2483.500	51.28	7.20	58.48	74.00	-15.52	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11b	Channel:	2472MHz

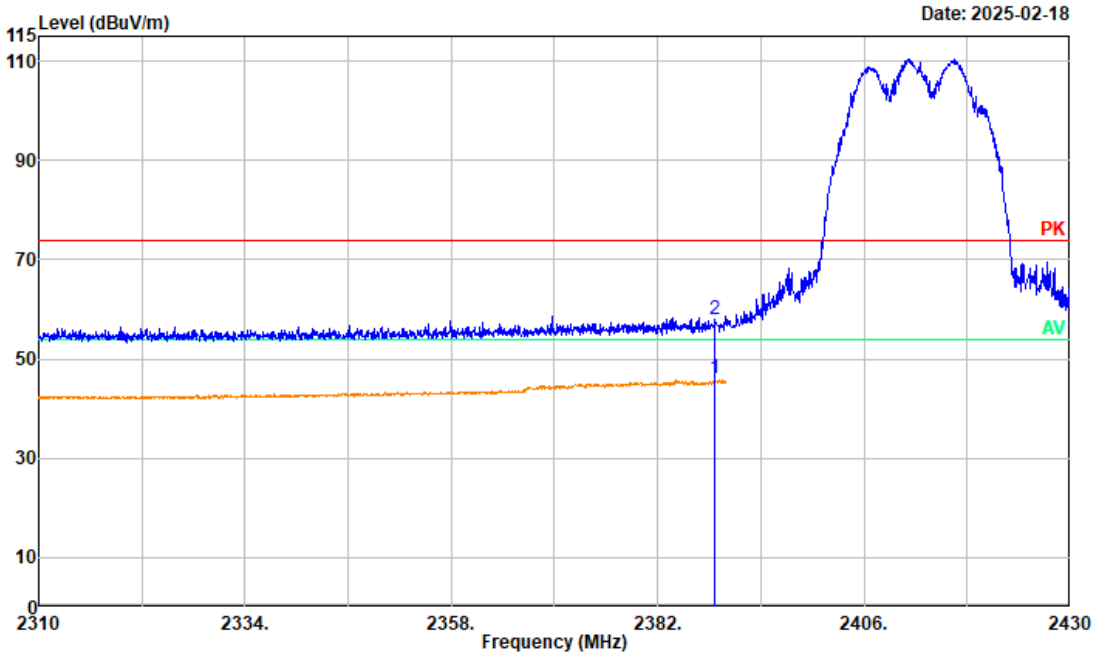


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.8℃/40%R.H./101.7kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11b 2472

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.500	37.48	7.20	44.68	54.00	-9.32	Average
2	2483.500	50.28	7.20	57.48	74.00	-16.52	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2412MHz

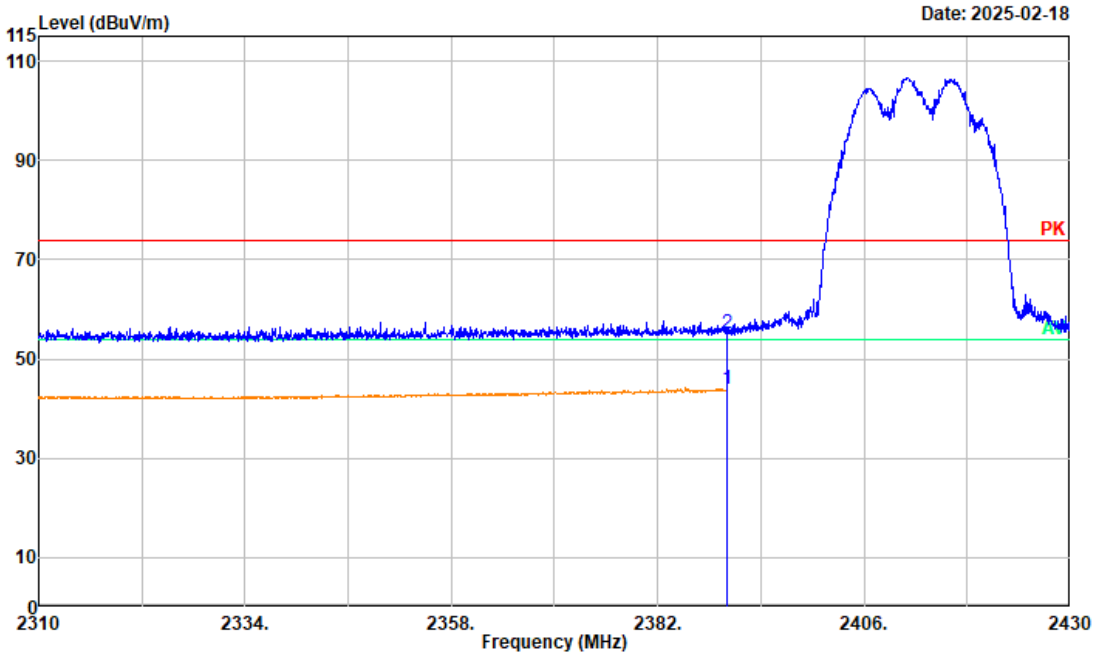


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11g 2412

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2388.639	39.02	7.00	46.02	54.00	-7.98	Average
2	2388.639	50.93	7.00	57.93	74.00	-16.07	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2412MHz

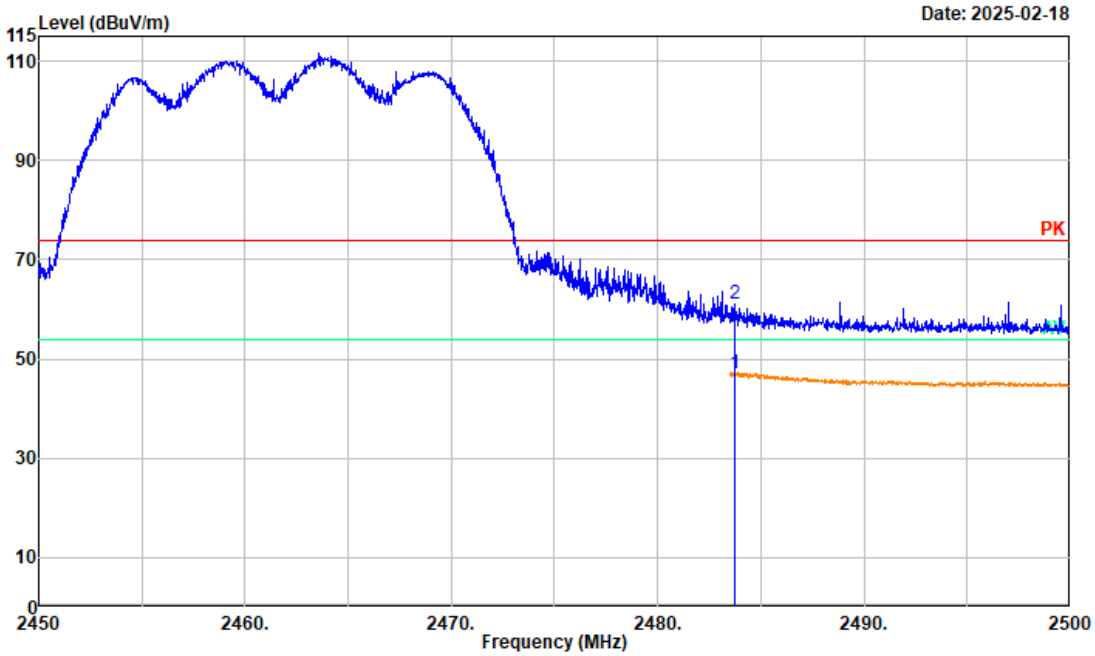


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11g 2412

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2390.000	37.09	7.00	44.09	54.00	-9.91	Average
2	2390.000	48.27	7.00	55.27	74.00	-18.73	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2462MHz

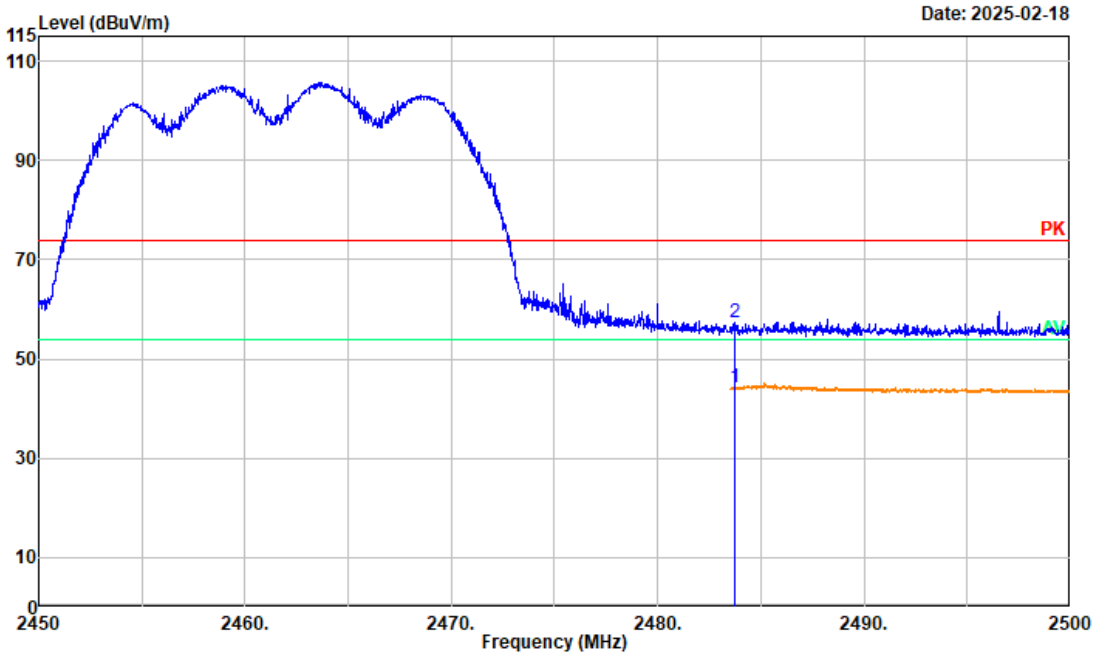


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11g 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.717	39.97	7.20	47.17	54.00	-6.83	Average
2	2483.717	53.96	7.20	61.16	74.00	-12.84	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2462MHz

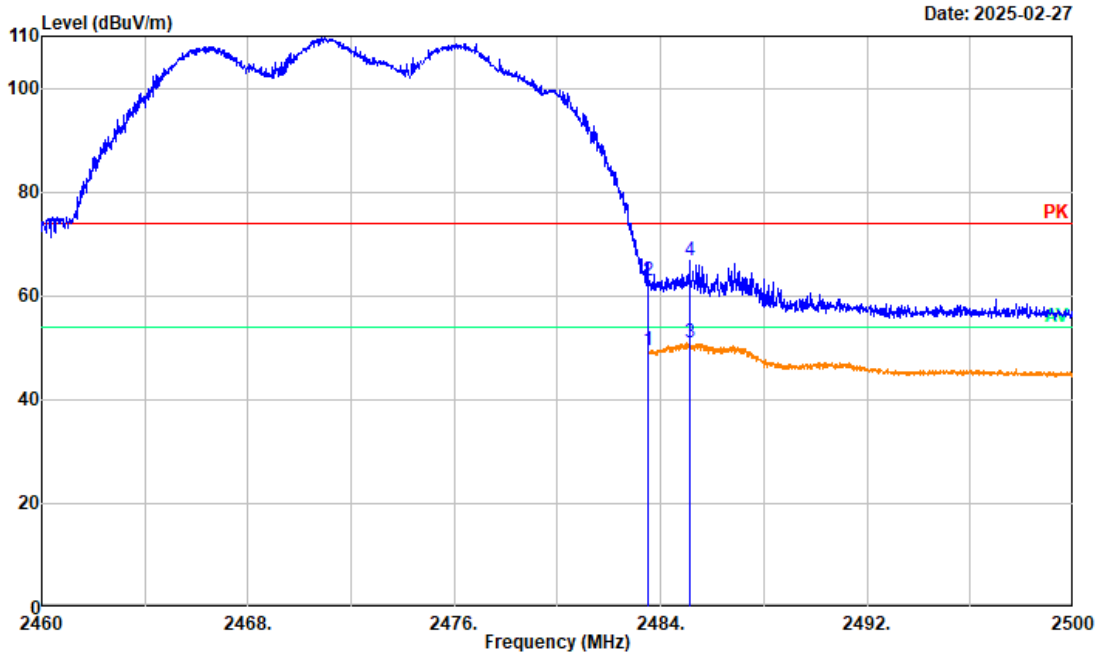


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 21.4℃/45%R.H./101.2kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11g 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.767	37.19	7.20	44.39	54.00	-9.61	Average
2	2483.767	50.16	7.20	57.36	74.00	-16.64	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2472MHz

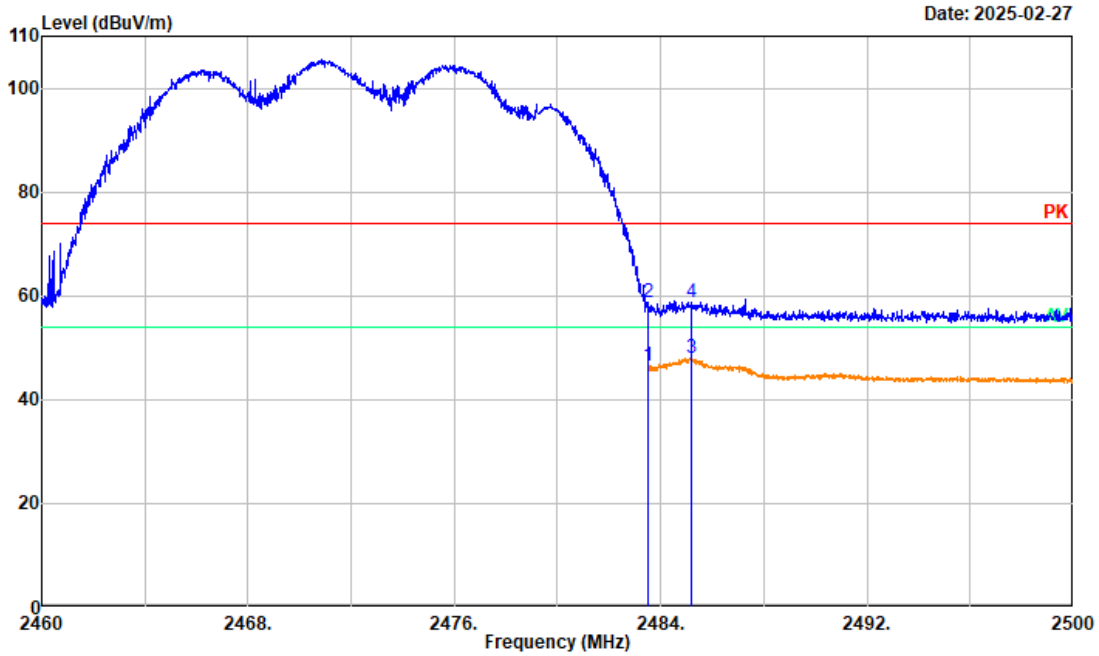


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.8℃/40%R.H./101.7kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11g 2472

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.500	42.43	7.20	49.63	54.00	-4.37	Average
2	2483.500	55.58	7.20	62.78	74.00	-11.22	Peak
3	2485.133	43.78	7.20	50.98	54.00	-3.02	Average
4	2485.133	59.47	7.20	66.67	74.00	-7.33	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11g	Channel:	2472MHz

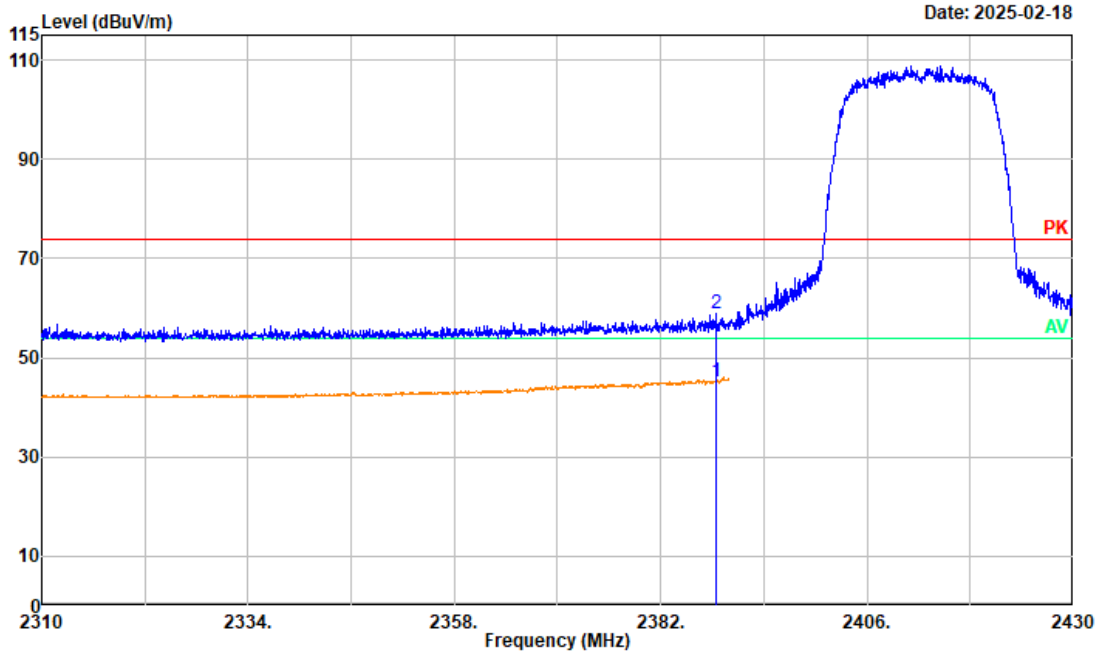


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.8℃/40%R.H./101.7kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11g 2472

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.500	39.25	7.20	46.45	54.00	-7.55	Average
2	2483.500	51.66	7.20	58.86	74.00	-15.14	Peak
3	2485.173	40.89	7.20	48.09	54.00	-5.91	Average
4	2485.173	51.55	7.20	58.75	74.00	-15.25	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2412MHz

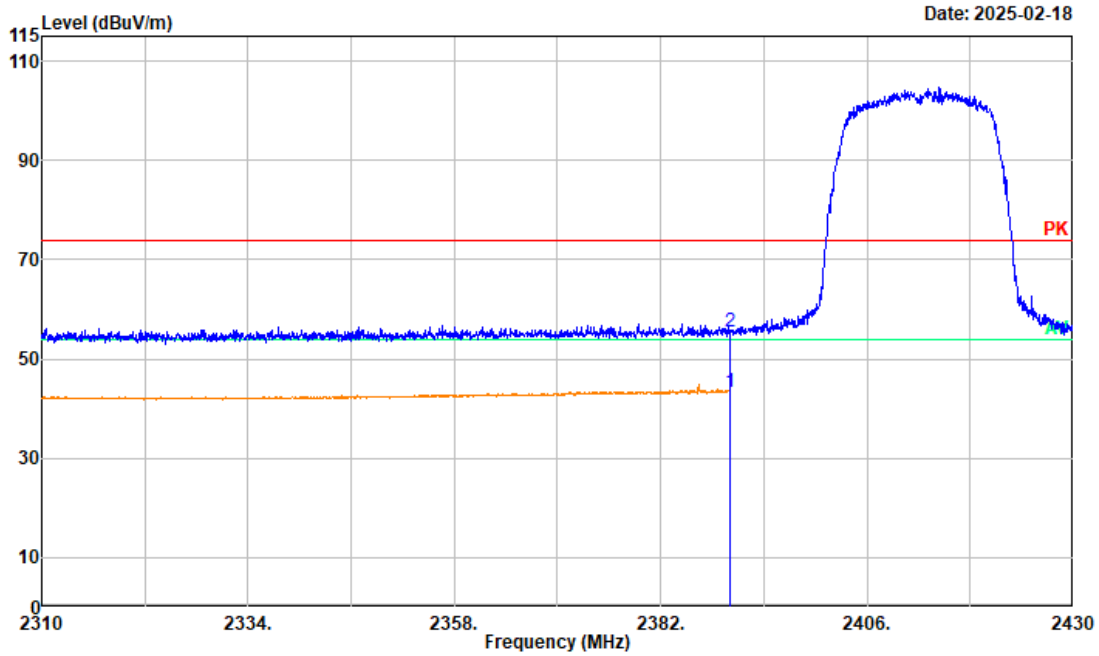


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n20 2412

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2388.399	38.06	7.00	45.06	54.00	-8.94	Average
2	2388.399	51.79	7.00	58.79	74.00	-15.21	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2412MHz

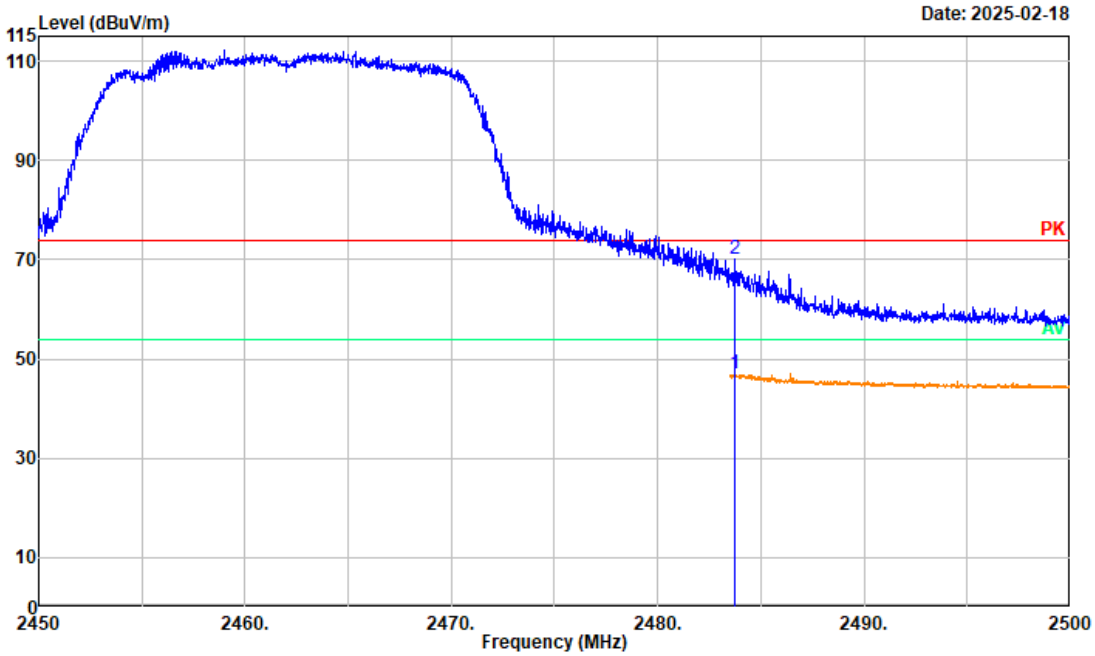


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n20 2412

--No.	Frequency (MHz)	Reading (dBμV)	Factor (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Over Limit (dB)	Detector
1	2390.000	36.35	7.00	43.35	54.00	-10.65	Average
2	2390.000	48.60	7.00	55.60	74.00	-18.40	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2462MHz

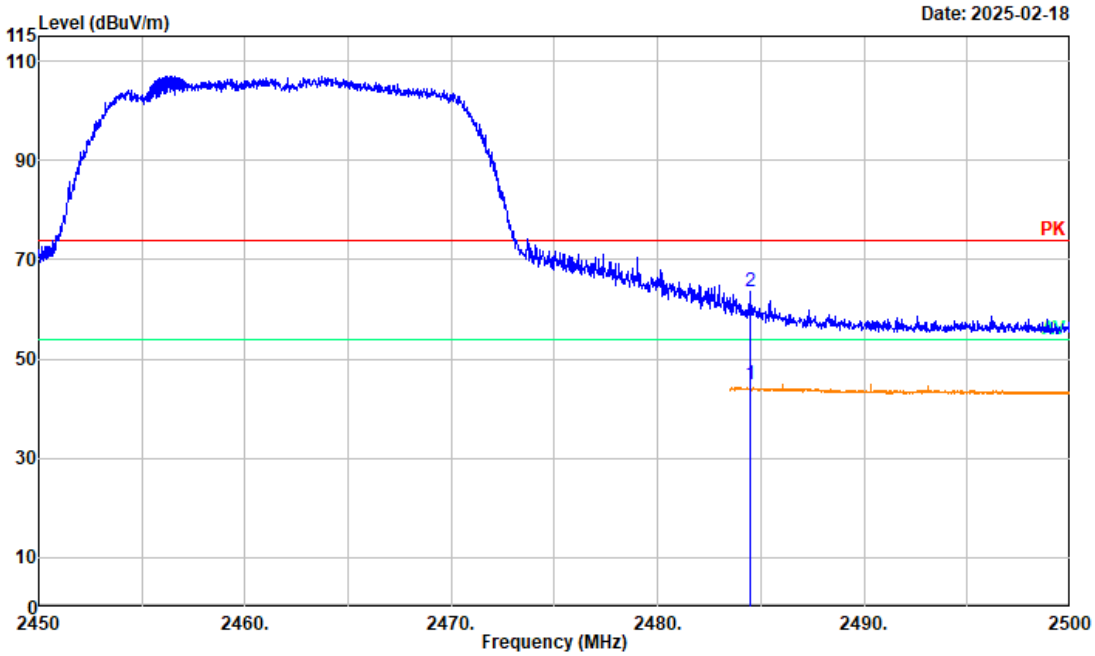


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n20 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.767	39.73	7.20	46.93	54.00	-7.07	Average
2	2483.767	62.81	7.20	70.01	74.00	-3.99	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2462MHz

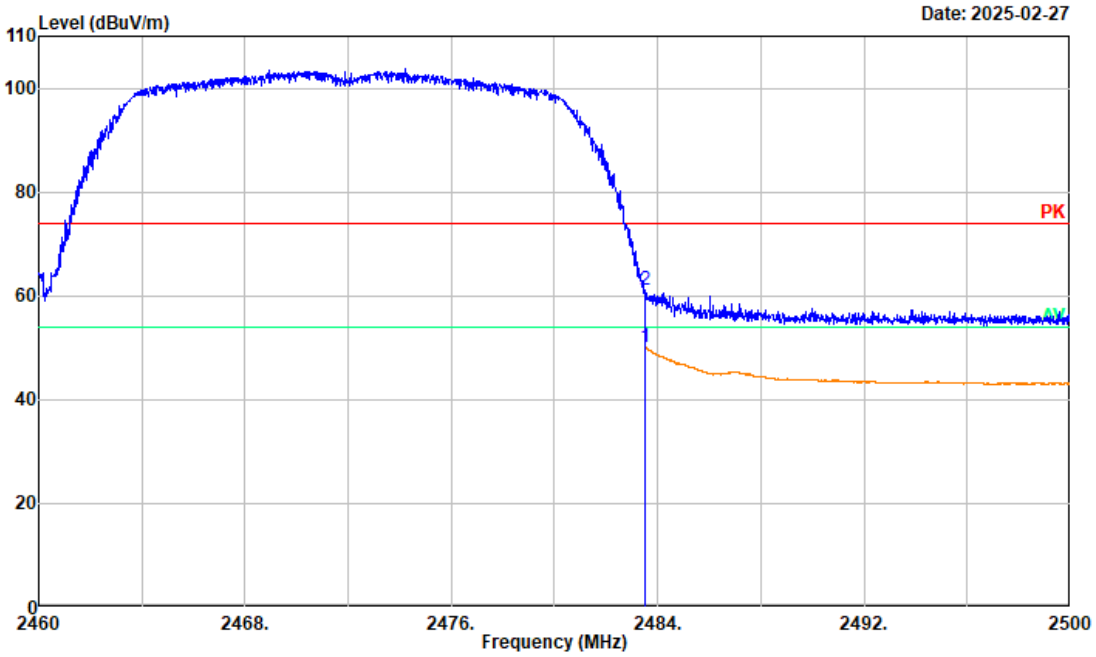


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n20 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2484.467	37.66	7.20	44.86	54.00	-9.14	Average
2	2484.467	56.40	7.20	63.60	74.00	-10.40	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2472MHz

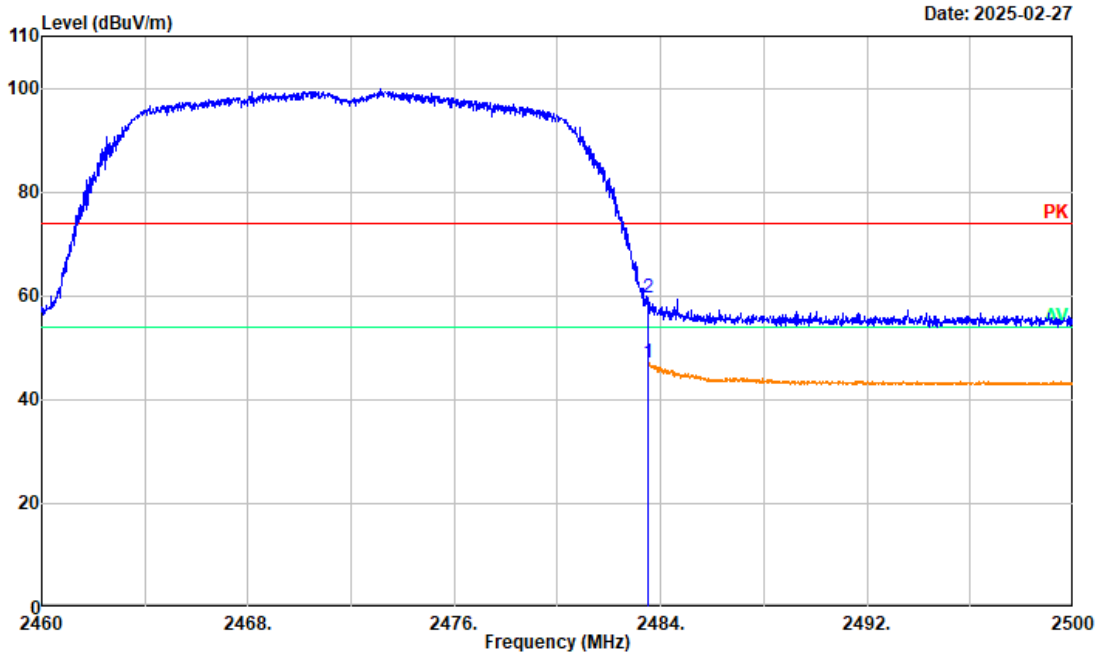


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.8℃/40%R.H./101.7kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n20 2472

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.500	42.97	7.20	50.17	54.00	-3.83	Average
2	2483.500	53.97	7.20	61.17	74.00	-12.83	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n20	Channel:	2472MHz

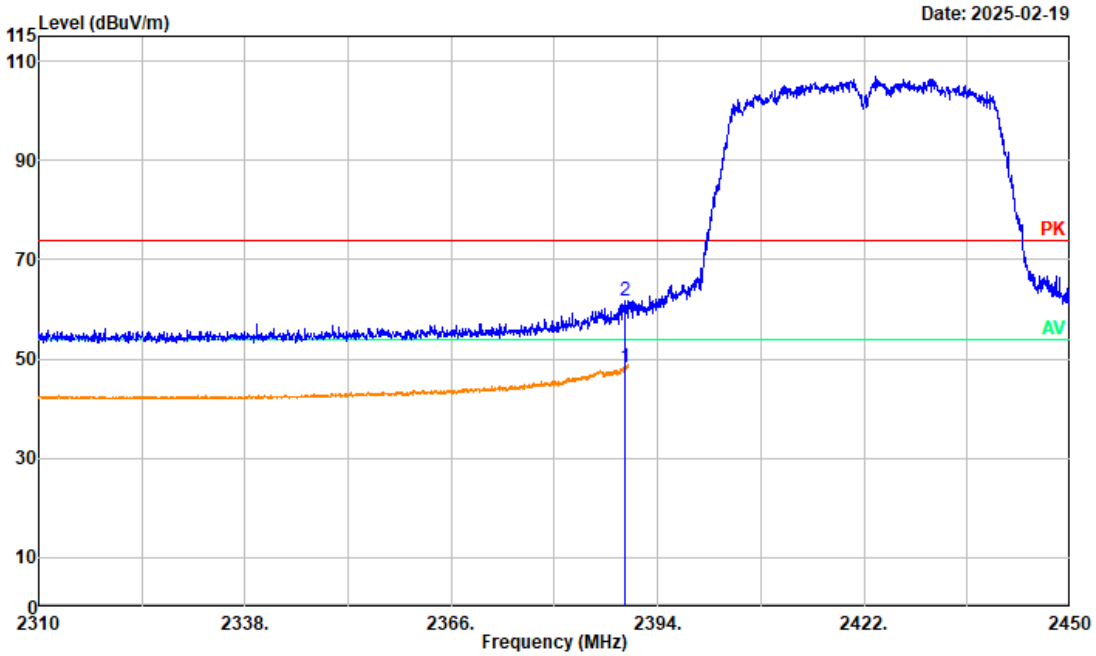


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.8℃/40%R.H./101.7kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n20 2472

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.500	39.81	7.20	47.01	54.00	-6.99	Average
2	2483.500	52.41	7.20	59.61	74.00	-14.39	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/1kHz, DET: PK

Mode:	802.11n40	Channel:	2422MHz

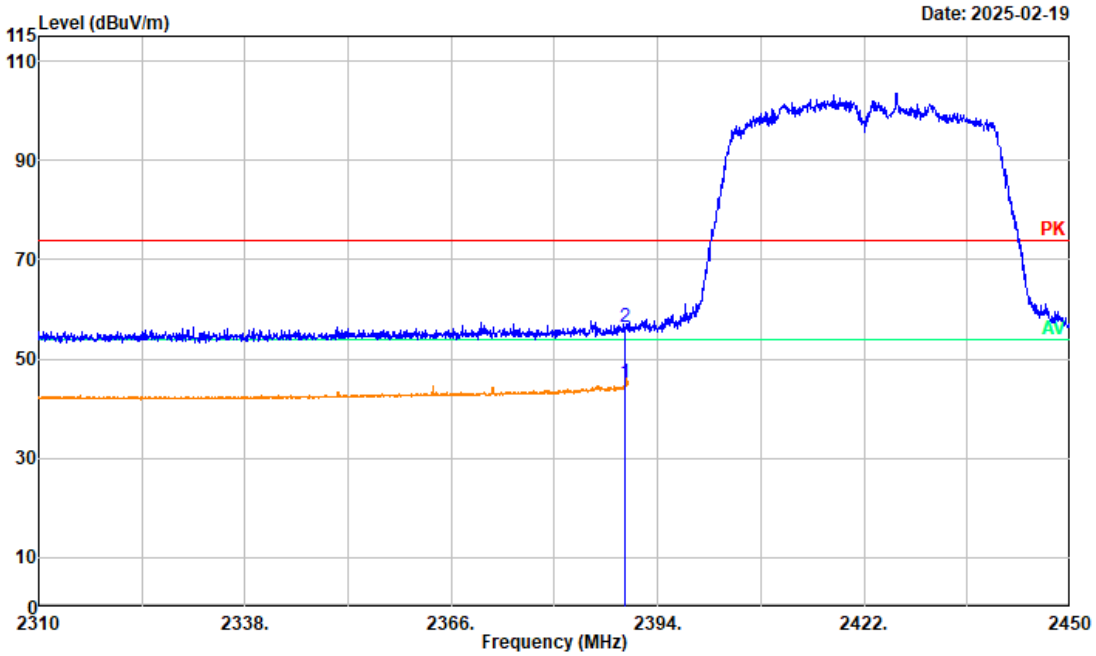


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n40 2422

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2389.560	41.25	7.00	48.25	54.00	-5.75	Average
2	2389.560	54.86	7.00	61.86	74.00	-12.14	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/2KHz , DET: PK

Mode:	802.11n40	Channel:	2422MHz

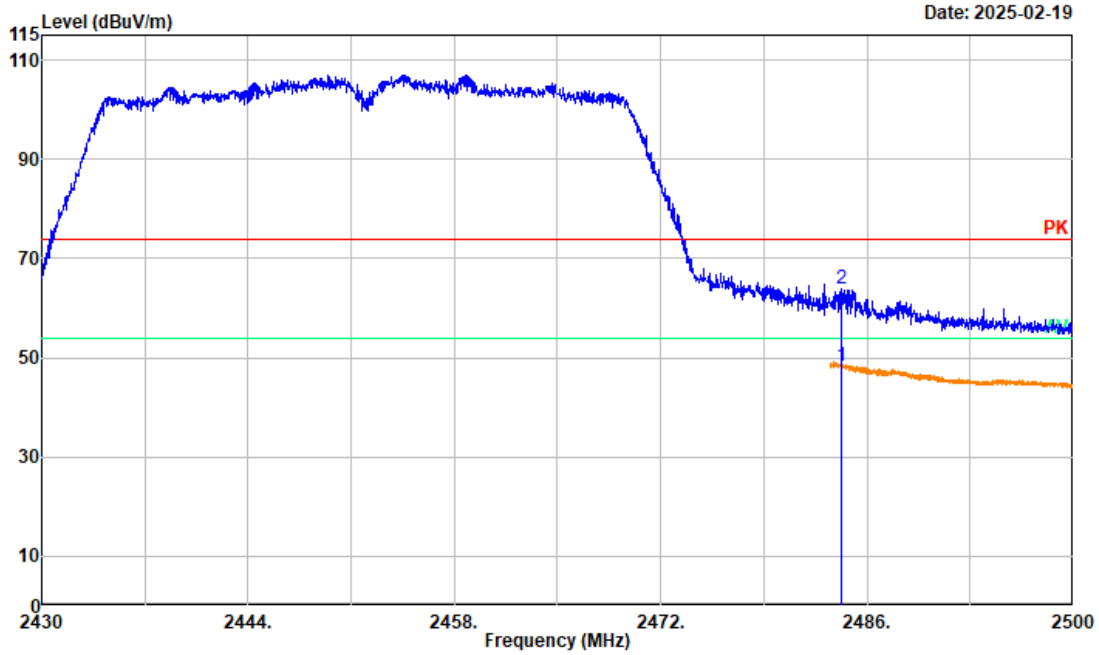


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n40 2422

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2389.630	38.08	7.00	45.08	54.00	-8.92	Average
2	2389.630	49.27	7.00	56.27	74.00	-17.73	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/2KHz , DET: PK

Mode:	802.11n40	Channel:	2452MHz

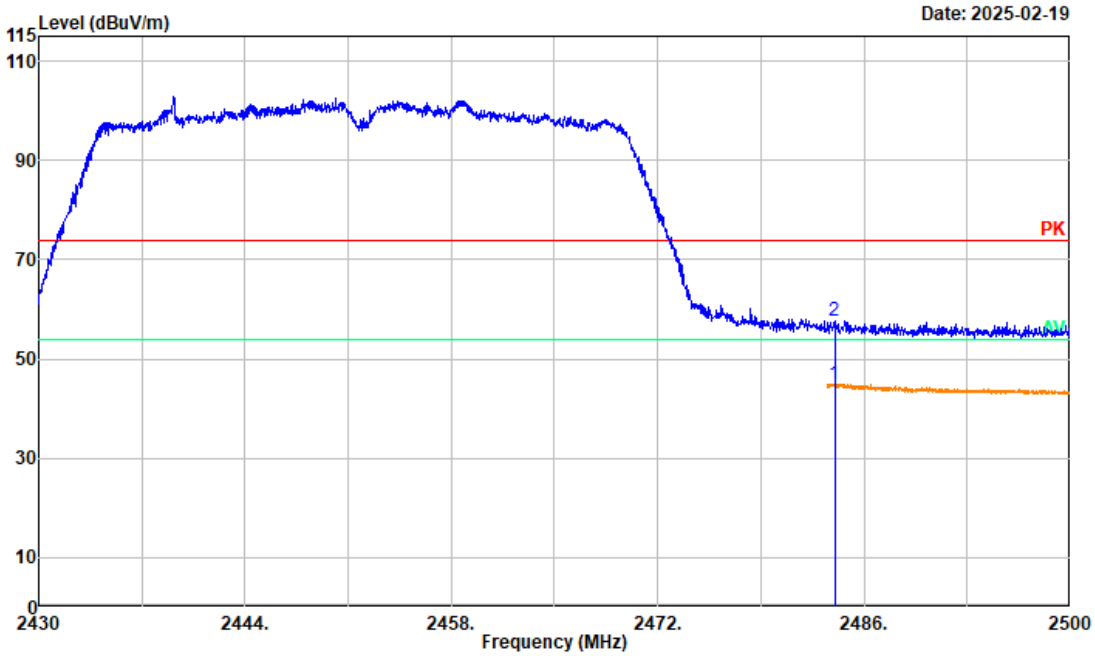


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n40 2452

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2484.277	41.19	7.20	48.39	54.00	-5.61	Average
2	2484.277	56.56	7.20	63.76	74.00	-10.24	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/2KHz , DET: PK

Mode:	802.11n40	Channel:	2452MHz

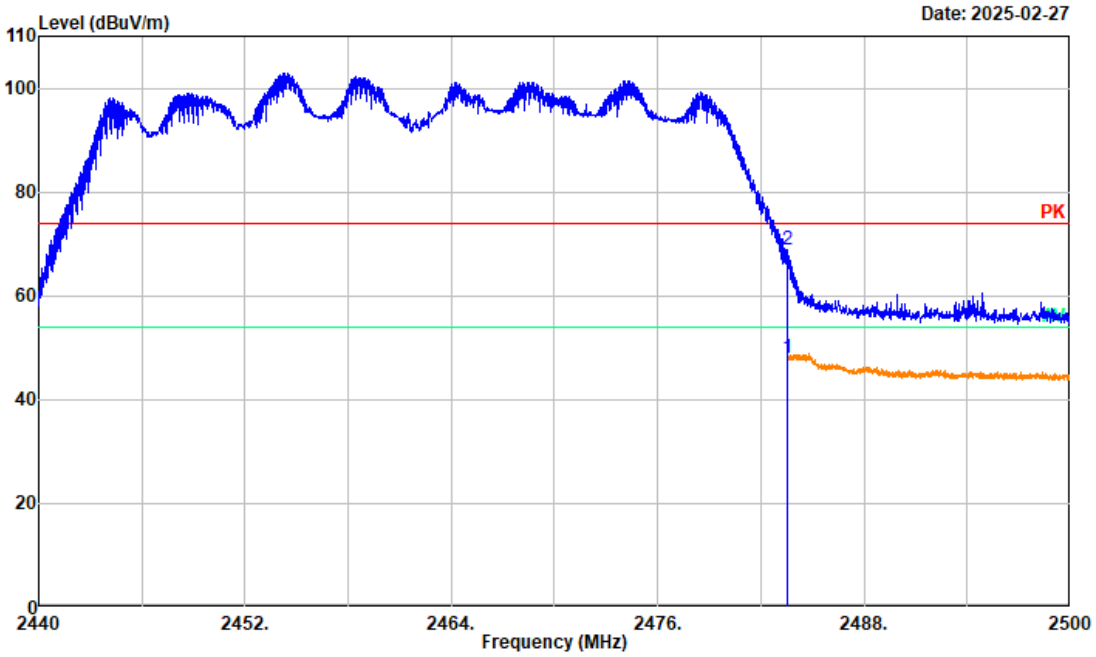


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.6℃/58%R.H./101.3kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n40 2452

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.997	37.75	7.20	44.95	54.00	-9.05	Average
2	2483.997	50.60	7.20	57.80	74.00	-16.20	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/2KHz , DET: PK

Mode:	802.11n40	Channel:	2462MHz

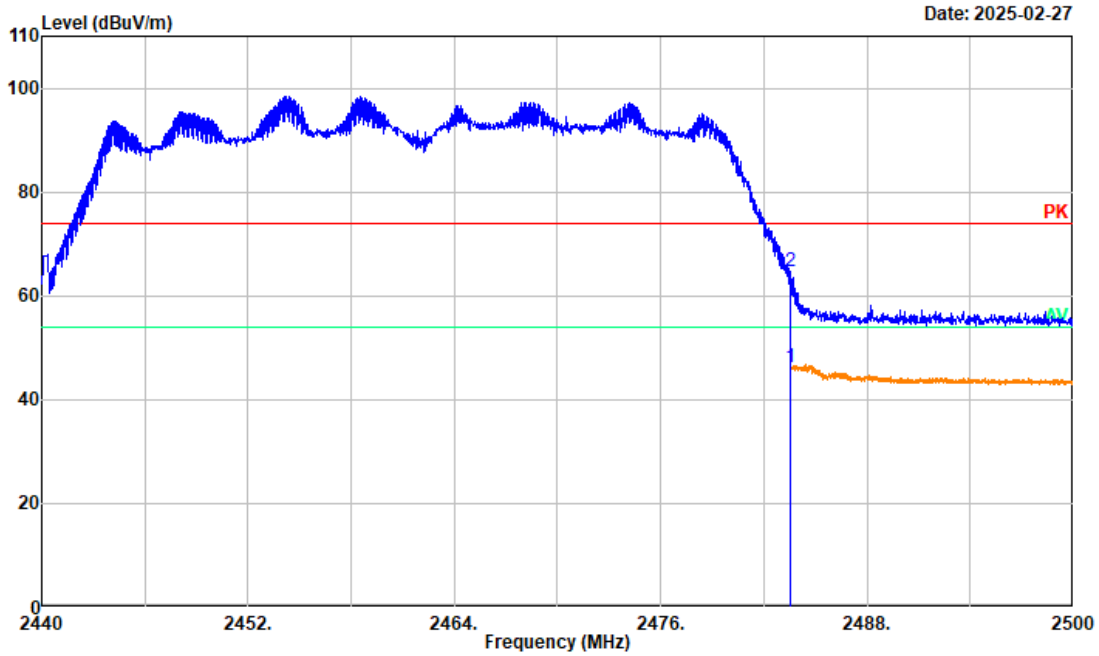


Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.8℃/40%R.H./101.7kPa
Tested by : Bard Huang
Polarization : horizontal
Remark : 802.11n40 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.552	40.87	7.20	48.07	54.00	-5.93	Average
2	2483.552	61.67	7.20	68.87	74.00	-5.13	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/2KHz , DET: PK

Mode:	802.11n40	Channel:	2462MHz



Project No. : 2505P37465E
Test Mode : Transmitting
Test Voltage : AC 120V/60Hz
Environment : 22.8℃/40%R.H./101.7kPa
Tested by : Bard Huang
Polarization : vertical
Remark : 802.11n40 2462

--No.	Frequency (MHz)	Reading (dBµV)	Factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Over Limit (dB)	Detector
1	2483.582	38.89	7.20	46.09	54.00	-7.91	Average
2	2483.582	57.36	7.20	64.56	74.00	-9.44	Peak

Remarks: Factor = Antenna factor + Cable loss - Preamp gain
Result = Reading + Factor
Over Limit = Result - Limit
SA setting: Peak: RBW/VBW: 1MHz/3MHz, DET: PK
Average: RBW/VBW: 1MHz/2KHz , DET: PK

3.5 RF Conducted Test Data

Test Date:	2025-02-25~2025-03-04	Test By:	Ryan Zhang
Environment condition:	Temperature: 23.7~24.1°C;RelativeHumidity:50~57%; ATM Pressure: 100.8~101.3kPa		

3.5.1 6dB Emission Bandwidth

Mode	Antenna	Test Frequency (MHz)	Result (MHz)	Limit (MHz)	Verdict
802.11b	Chain 0	2412	8.609	≥0.5	Pass
		2442	8.128	≥0.5	Pass
		2472	9.089	≥0.5	Pass
	Chain 1	2412	8.128	≥0.5	Pass
		2442	9.089	≥0.5	Pass
		2472	9.129	≥0.5	Pass
802.11g	Chain 0	2412	15.215	≥0.5	Pass
		2442	15.215	≥0.5	Pass
		2472	15.215	≥0.5	Pass
	Chain 1	2412	15.215	≥0.5	Pass
		2442	15.175	≥0.5	Pass
		2472	15.175	≥0.5	Pass
802.11n20	Chain 0	2412	15.215	≥0.5	Pass
		2442	15.215	≥0.5	Pass
		2472	15.415	≥0.5	Pass
	Chain 1	2412	15.215	≥0.5	Pass
		2442	15.175	≥0.5	Pass
		2472	15.175	≥0.5	Pass
802.11n40	Chain 0	2422	35.235	≥0.5	Pass
		2442	35.315	≥0.5	Pass
		2462	35.235	≥0.5	Pass
	Chain 1	2422	35.235	≥0.5	Pass
		2442	35.315	≥0.5	Pass
		2462	35.235	≥0.5	Pass

3.5.2 99% Occupied Bandwidth

Mode	Antenna	Test Frequency (MHz)	99% OBW (MHz)
802.11b	Chain 0	2412	13.280
		2442	13.280
		2472	13.320
	Chain 1	2412	13.280
		2442	13.280
		2472	13.320
802.11g	Chain 0	2412	16.400
		2442	16.400
		2472	16.440
	Chain 1	2412	16.400
		2442	16.440
		2472	16.440
802.11n20	Chain 0	2412	17.520
		2442	17.520
		2472	17.560
	Chain 1	2412	17.560
		2442	17.560
		2472	17.600
802.11n40	Chain 0	2422	36.080
		2442	36.080
		2462	36.160
	Chain 1	2422	36.080
		2442	36.080
		2462	36.240

3.5.3 Maximum Conducted Peak Output Power

Mode	Antenna	Test Frequency (MHz)	Peak Output Power(dBm)	Limit (dBm)	Verdict
802.11b	Chain 0	2412	11.41	30	Pass
		2442	11.62	30	Pass
		2462	11.66	30	Pass
		2467	8.60	30	Pass
		2472	8.65	30	Pass
	Chain 1	2412	11.84	30	Pass
		2442	12.08	30	Pass
		2462	12.10	30	Pass
		2467	9.00	30	Pass
		2472	9.07	30	Pass
	Chain 0+Chain 1	2412	14.64	30	Pass
		2442	14.87	30	Pass
		2462	14.90	30	Pass
		2467	11.81	30	Pass
		2472	11.88	30	Pass
802.11g	Chain 0	2412	19.34	30	Pass
		2442	18.97	30	Pass
		2462	19.82	30	Pass
		2467	15.98	30	Pass
		2472	16.15	30	Pass
	Chain 1	2412	19.54	30	Pass
		2442	19.87	30	Pass
		2462	20.20	30	Pass
		2467	16.69	30	Pass
		2472	16.13	30	Pass
	Chain 0+Chain 1	2412	22.45	30	Pass
		2442	22.45	30	Pass
		2462	23.02	30	Pass
		2467	19.36	30	Pass
		2472	19.15	30	Pass
802.11n20	Chain 0	2412	19.51	30	Pass
		2442	19.74	30	Pass
		2462	19.94	30	Pass
		2467	13.02	30	Pass
		2472	13.02	30	Pass
	Chain 1	2412	19.84	30	Pass

Mode	Antenna	Test Frequency (MHz)	Peak Output Power(dBm)	Limit (dBm)	Verdict
		2442	20.64	30	Pass
		2462	21.65	30	Pass
		2467	13.16	30	Pass
		2472	12.65	30	Pass
	Chain 0+Chain 1	2412	22.69	30	Pass
		2442	23.22	30	Pass
		2462	23.89	30	Pass
		2467	16.10	30	Pass
		2472	15.85	30	Pass
802.11n40	Chain 0	2422	19.07	30	Pass
		2442	21.62	30	Pass
		2452	20.19	30	Pass
		2457	14.53	30	Pass
		2462	14.38	30	Pass
	Chain 1	2422	19.69	30	Pass
		2442	20.45	30	Pass
		2452	19.87	30	Pass
		2457	14.93	30	Pass
		2462	14.96	30	Pass
	Chain 0+Chain 1	2422	22.40	30	Pass
		2442	24.09	30	Pass
		2452	23.04	30	Pass
		2457	17.74	30	Pass
		2462	17.69	30	Pass

Note:

The device employ Beamforming for MIMO mode, according to KDB 662911 D01 Multiple Transmitter Output v02r01, Directional gain = $G_{ANT} + 10\log(N_{ANT}/N_{SS})$

$G_{ANT\,1}=2.16dBi$, $G_{ANT\,2}=1.23dBi$

Directional gain=2.16+10*log(2)=5.16dBi<6dBi

3.5.4 Power Spectral Density

Mode	Antenna	Test Frequency (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
802.11b	Chain 0	2412	-12.33	8	Pass
		2442	-12.54	8	Pass
		2472	-15.70	8	Pass
	Chain 1	2412	-12.49	8	Pass
		2442	-12.02	8	Pass
		2472	-15.11	8	Pass
	Chain 0+Chain 1	2412	-9.40	8	Pass
		2442	-9.26	8	Pass
		2472	-12.38	8	Pass
802.11g	Chain 0	2412	-16.64	8	Pass
		2442	-16.29	8	Pass
		2472	-19.64	8	Pass
	Chain 1	2412	-16.11	8	Pass
		2442	-16.61	8	Pass
		2472	-18.89	8	Pass
	Chain 0+Chain 1	2412	-13.36	8	Pass
		2442	-13.44	8	Pass
		2472	-16.24	8	Pass
802.11n20	Chain 0	2412	-15.78	8	Pass
		2442	-15.62	8	Pass
		2472	-23.82	8	Pass
	Chain 1	2412	-14.83	8	Pass
		2442	-15.67	8	Pass
		2472	-24.30	8	Pass
	Chain 0+Chain 1	2412	-12.27	8	Pass
		2442	-12.63	8	Pass
		2472	-21.04	8	Pass
802.11n40	Chain 0	2422	-19.54	8	Pass
		2442	-18.82	8	Pass
		2462	-24.26	8	Pass
	Chain 1	2422	-18.76	8	Pass

Mode	Antenna	Test Frequency (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
		2442	-19.29	8	Pass
		2462	-23.27	8	Pass
	Chain 0+Chain 1	2422	-16.12	8	Pass
		2442	-16.04	8	Pass
		2462	-20.73	8	Pass

Note:

The device employ Beamforming for MIMO mode, according to KDB 662911 D01 Multiple Transmitter Output v02r01, Directional gain = $G_{ANT} + 10\ log(N_{ANT}/N_{SS})$

$G_{ANT\,1}=2.16dBi$, $G_{ANT\,2}=1.23dBi$

Directional gain=2.16+10*log(2)=5.16dBi<6dBi

3.5.5 100 kHz Bandwidth of Frequency Band Edge

Mode	Antenna	Test Frequency (MHz)	Result (dB)	Limit (dB)	Verdict
802.11b	Chain 0	2412	47.98	20	Pass
		2472	47.43	20	Pass
	Chain 1	2412	48.44	20	Pass
		2472	46.58	20	Pass
802.11g	Chain 0	2412	44.11	20	Pass
		2472	42.44	20	Pass
	Chain 1	2412	43.72	20	Pass
		2472	42.25	20	Pass
802.11n20	Chain 0	2412	43.64	20	Pass
		2472	39.57	20	Pass
	Chain 1	2412	43.82	20	Pass
		2472	38.85	20	Pass
802.11n40	Chain 0	2422	39.92	20	Pass
		2462	37.48	20	Pass
	Chain 1	2422	40.46	20	Pass
		2462	38.21	20	Pass

3.5.6 Duty Cycle

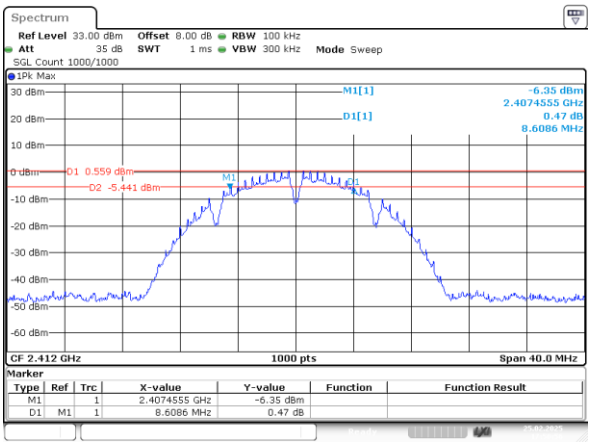
Mode	Antenna	Test Frequency (MHz)	Ton (ms)	Ton+Toff (ms)	Duty Cycle (%)	Duty Cycle Factor(dB)	1/Ton (Hz)	VBW Setting (kHz)
802.11b	Chain 0	2442	8.375	8.422	99.44	/	/	0.010
802.11g	Chain 0	2442	1.391	1.437	96.80	0.14	719	1
802.11n20	Chain 0	2442	1.287	1.333	96.55	0.15	777	1
802.11n40	Chain 0	2442	0.635	0.680	93.38	0.30	1575	2

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

Test Plots:

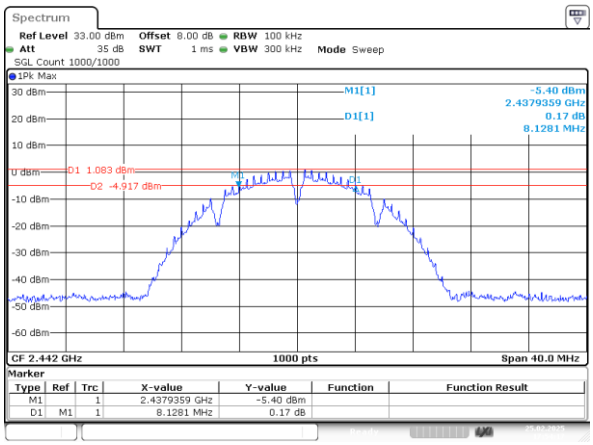
6 dB Emission Bandwidth:

802.11b_2412MHz_Chain 0



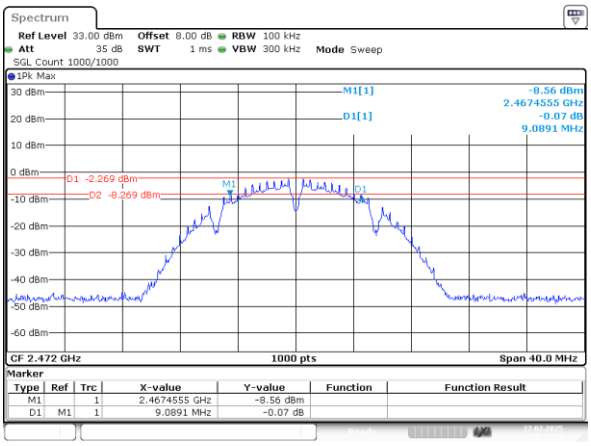
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 17:50:56

802.11b_2442MHz_Chain 0



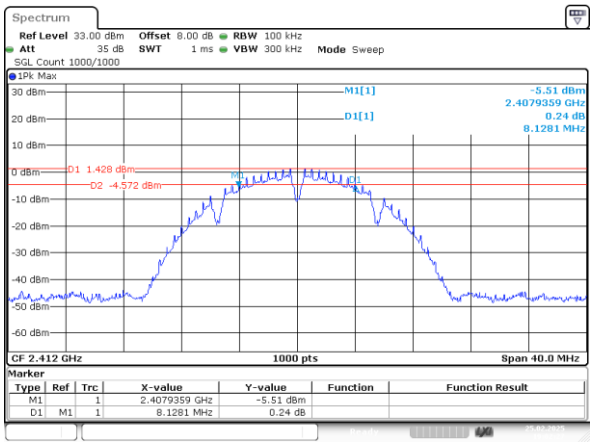
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 17:54:16

802.11b_2472MHz_Chain 0



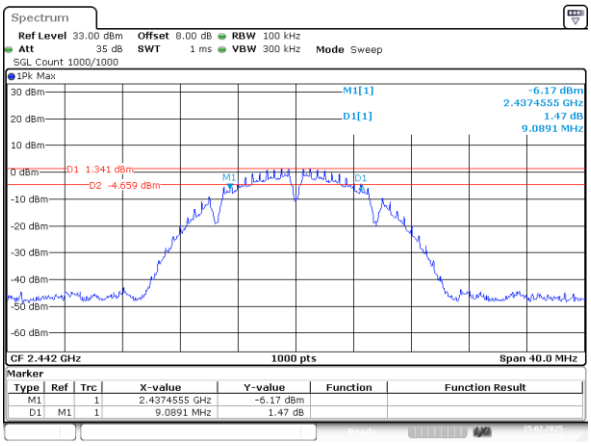
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:12:20

802.11b_2412MHz_Chain 1



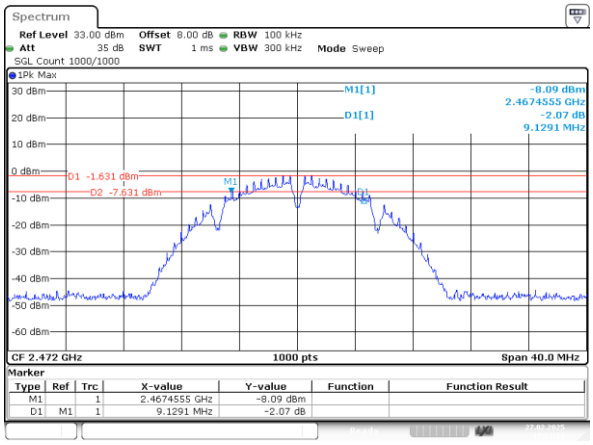
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:02:26

802.11b_2442MHz_Chain 1



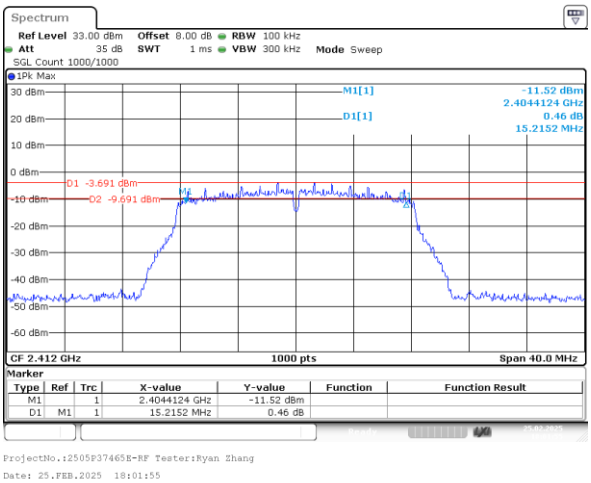
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:05:29

802.11b_2472MHz_Chain 1



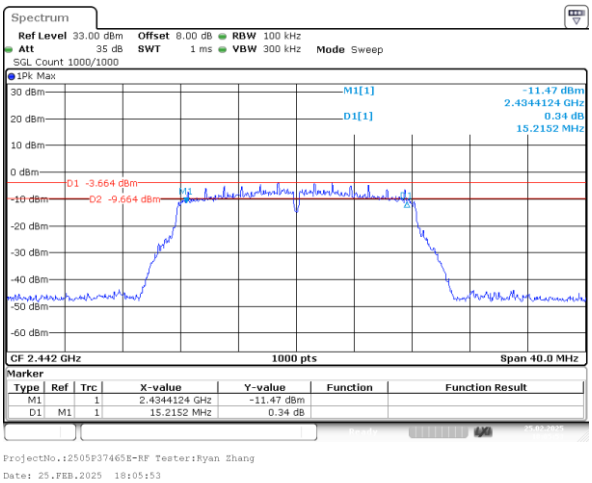
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:31:12

802.11g_2412MHz_Chain 0



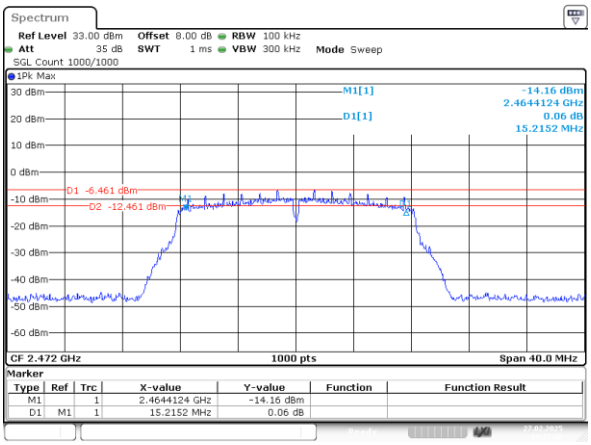
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 18:01:55

802.11g_2442MHz_Chain 0



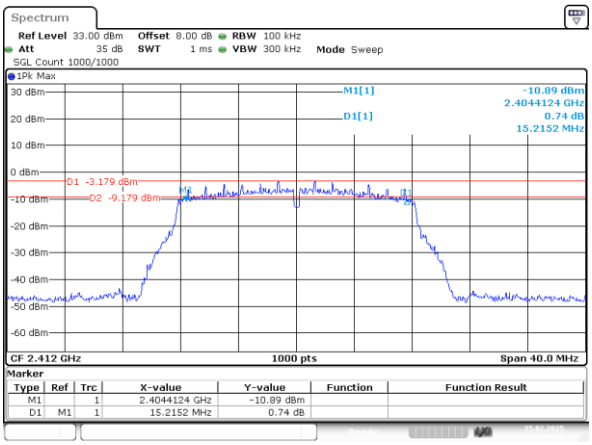
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 18:05:53

802.11g_2472MHz_Chain 0



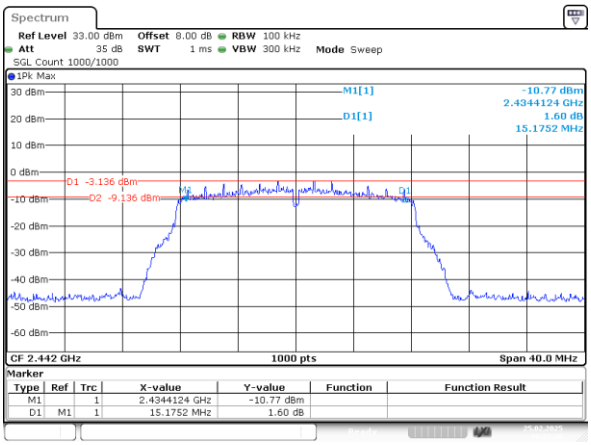
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:15:56

802.11g_2412MHz_Chain 1



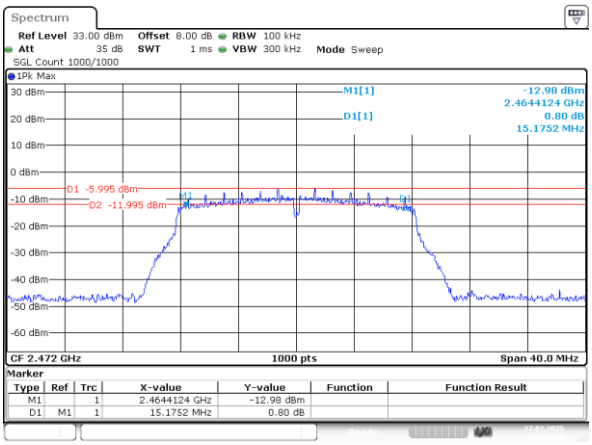
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:18:48

802.11g_2442MHz_Chain 1



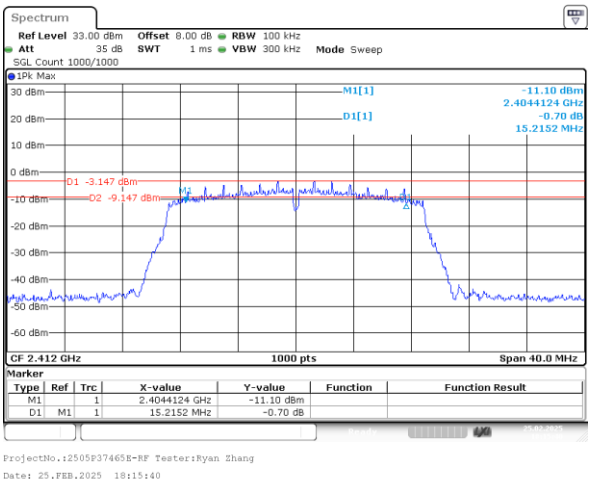
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:22:36

802.11g_2472MHz_Chain 1



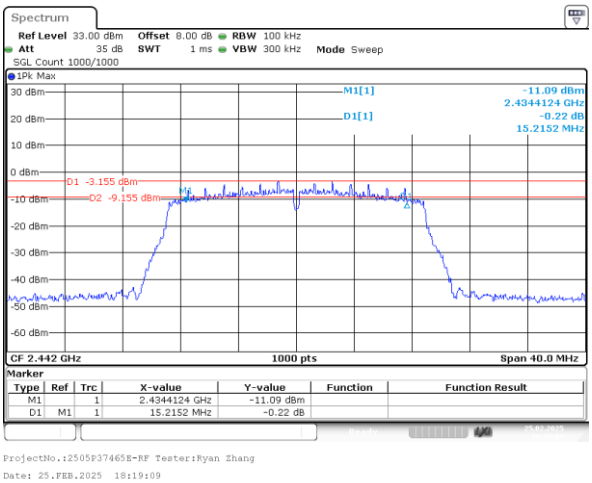
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:34:30

802.11n20_2412MHz_Chain 0



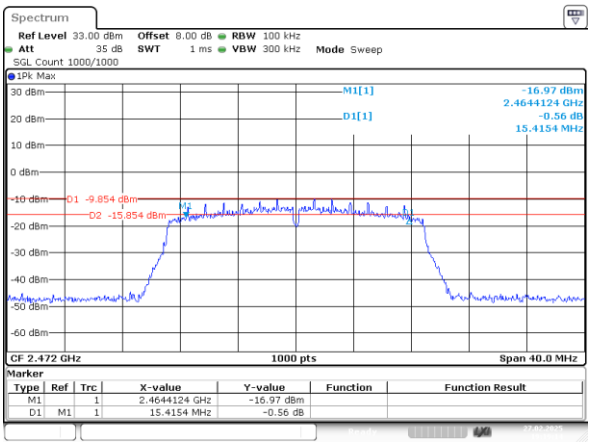
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 18:15:40

802.11n20_2442MHz_Chain 0



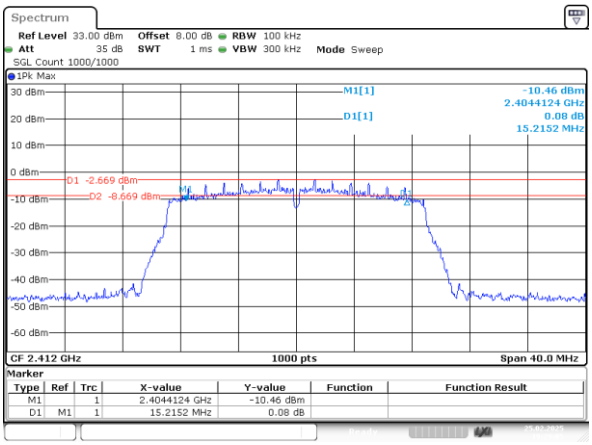
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 18:19:09

802.11n20_2472MHz_Chain 0



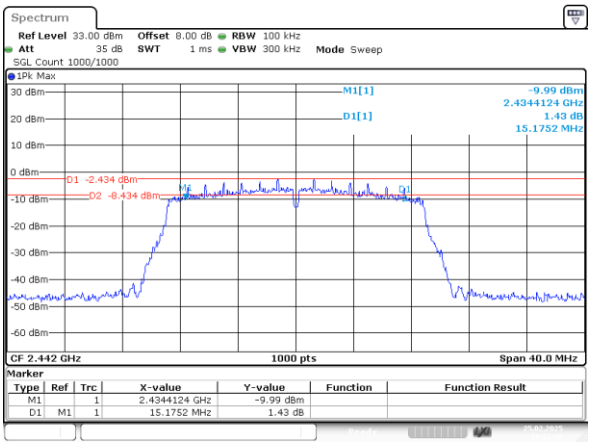
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:19:14

802.11n20_2412MHz_Chain 1



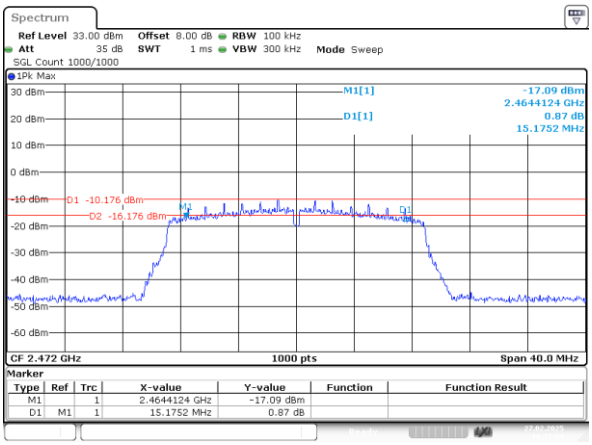
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:29:05

802.11n20_2442MHz_Chain 1



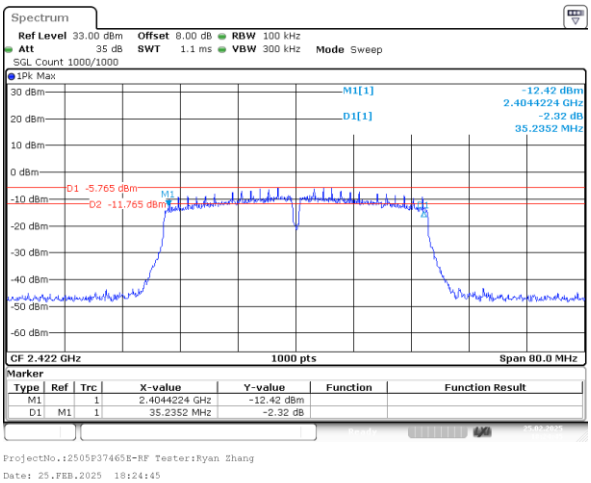
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:32:38

802.11n20_2472MHz_Chain 1



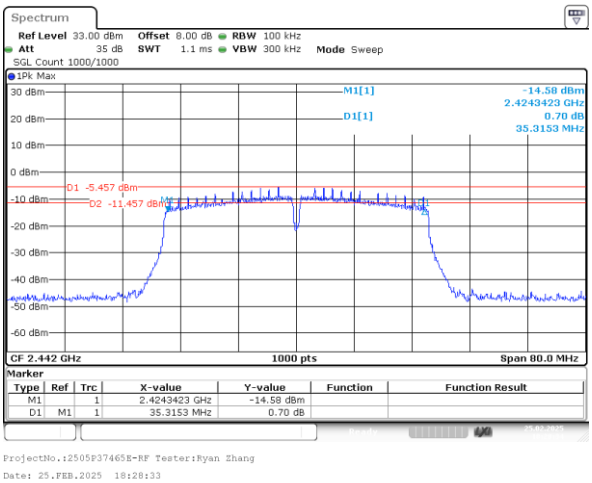
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:37:54

802.11n40_2422MHz_Chain 0



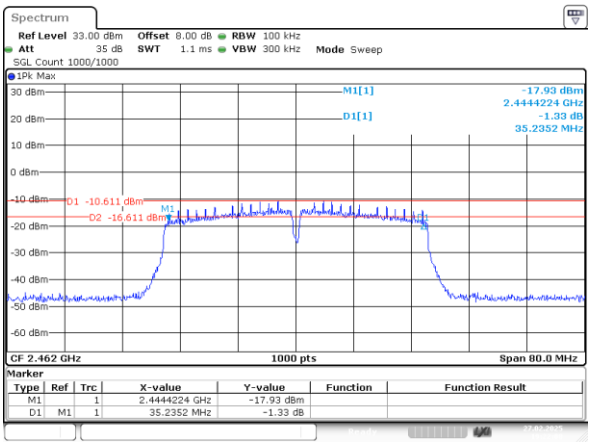
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 18:24:45

802.11n40_2442MHz_Chain 0



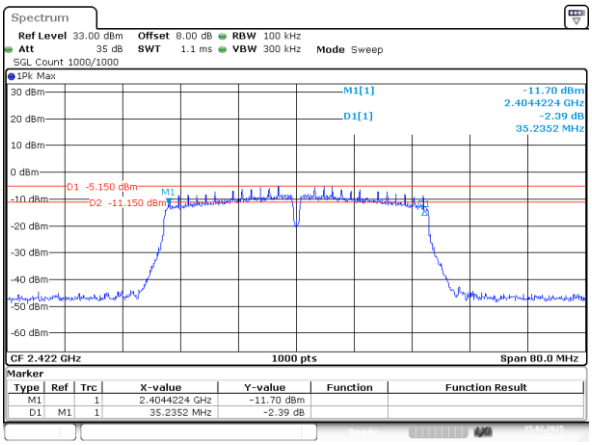
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 18:28:33

802.11n40_2462MHz_Chain 0



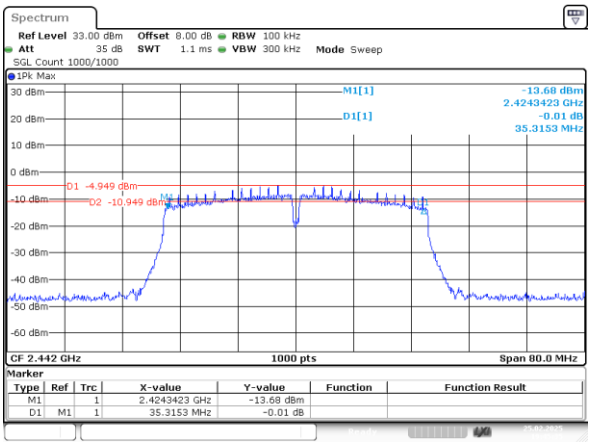
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:22:08

802.11n40_2422MHz_Chain 1



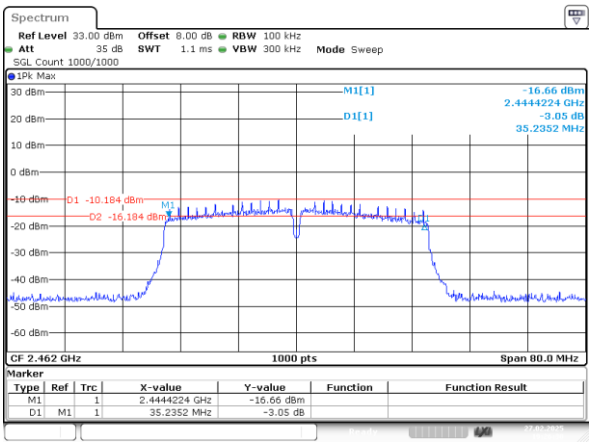
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:41:49

802.11n40_2442MHz_Chain 1



ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:45:34

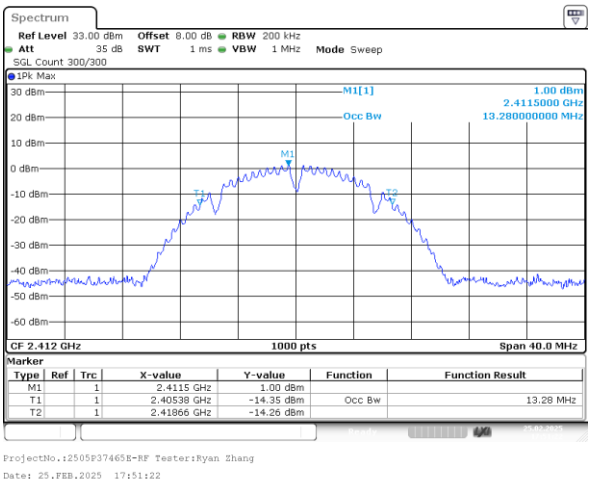
802.11n40_2462MHz_Chain 1



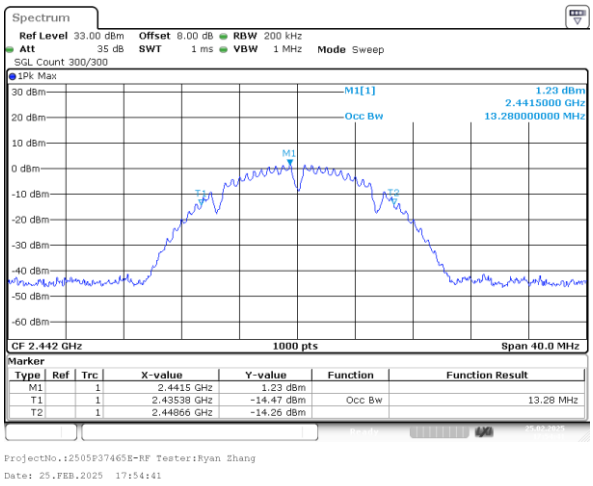
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:26:31

99% Occupied Bandwidth:

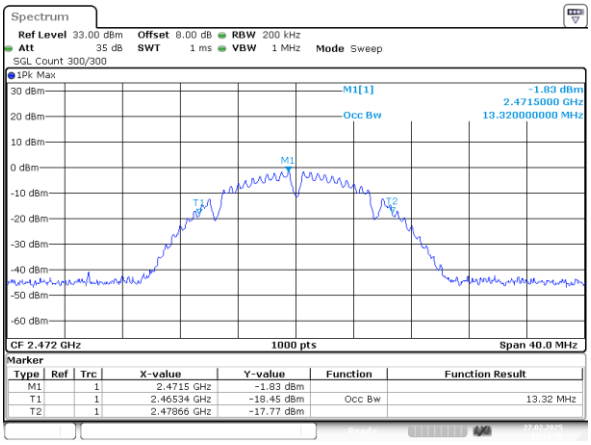
802.11b_2412MHz_Chain 0



802.11b_2442MHz_Chain 0



802.11b_2472MHz_Chain 0



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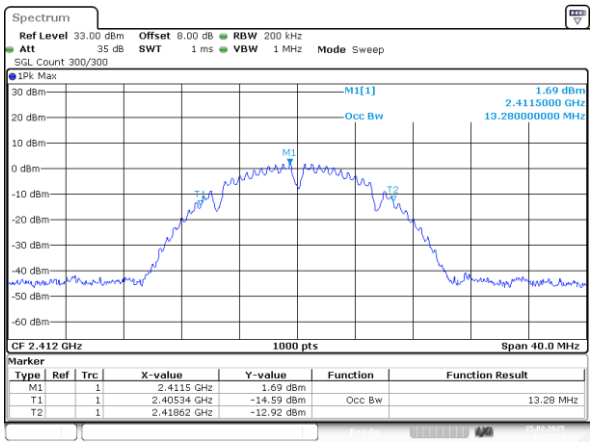

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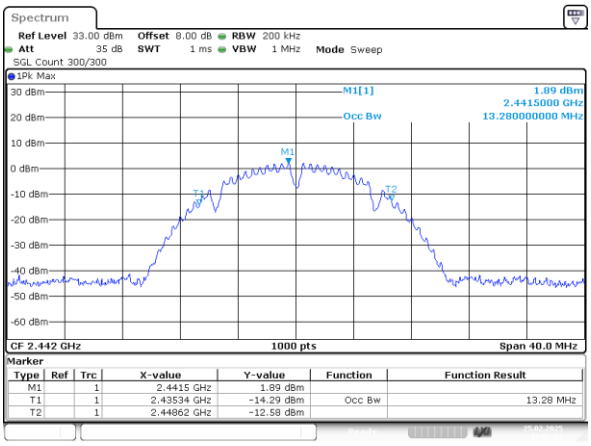

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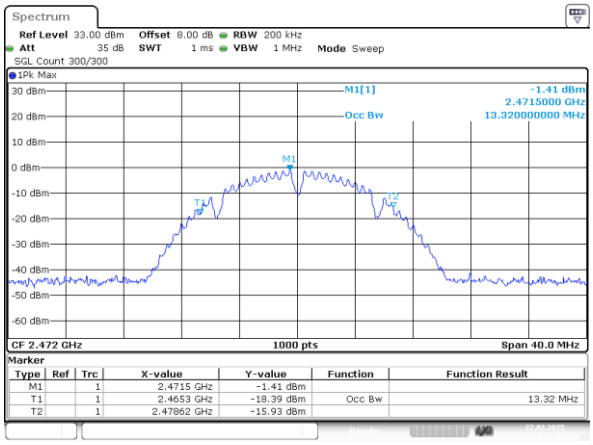
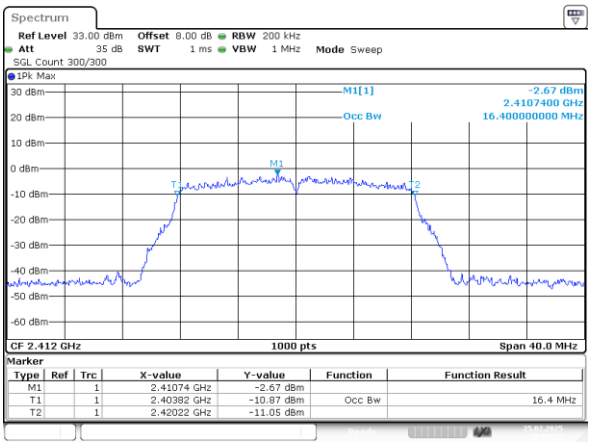


802.11g_2412MHz_Chain 0



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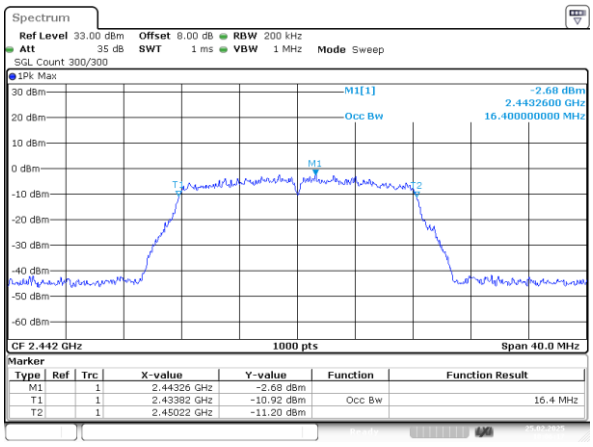
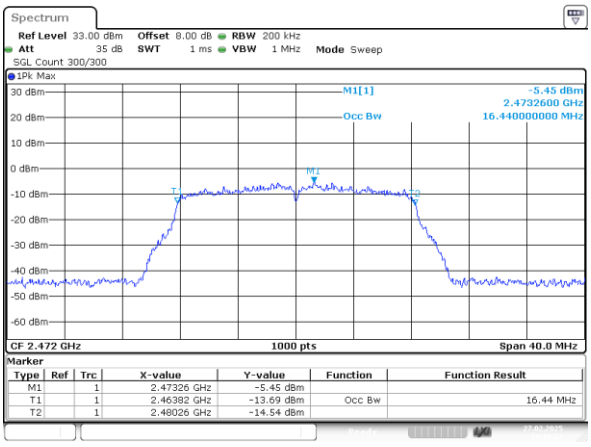


802.11g_2472MHz_Chain 0



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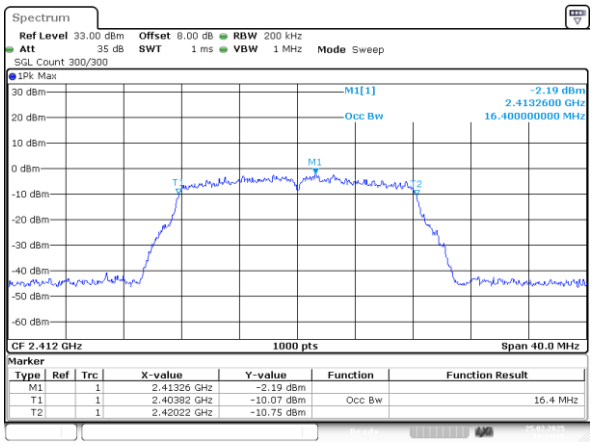

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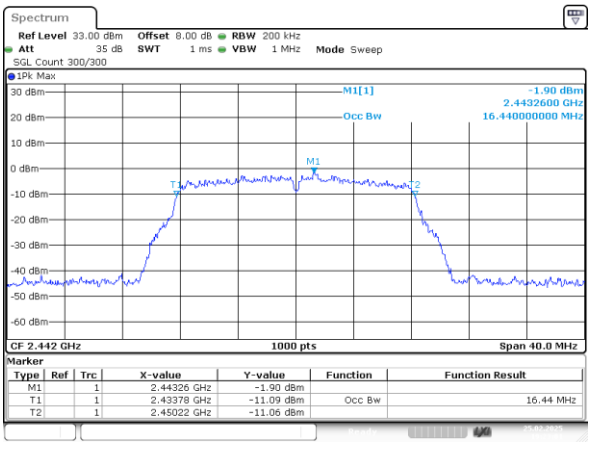
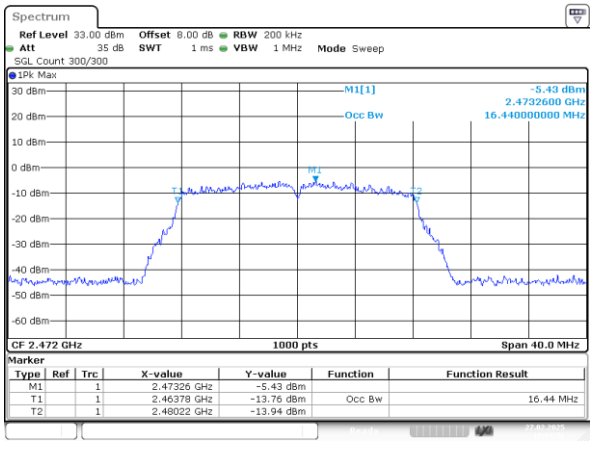
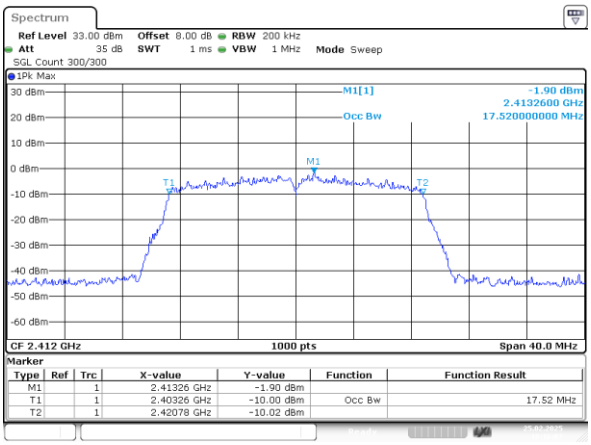


802.11g_2472MHz_Chain 1

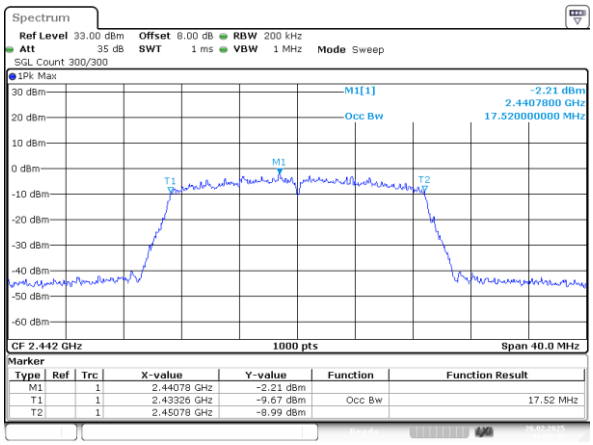


802.11n20_2412MHz_Chain 0



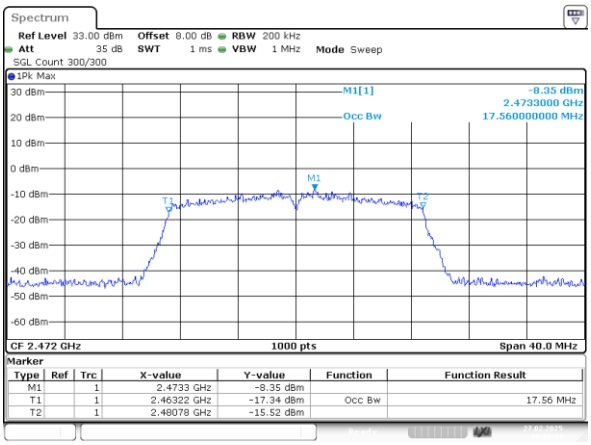
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 18:16:07

802.11n20_2442MHz_Chain 0



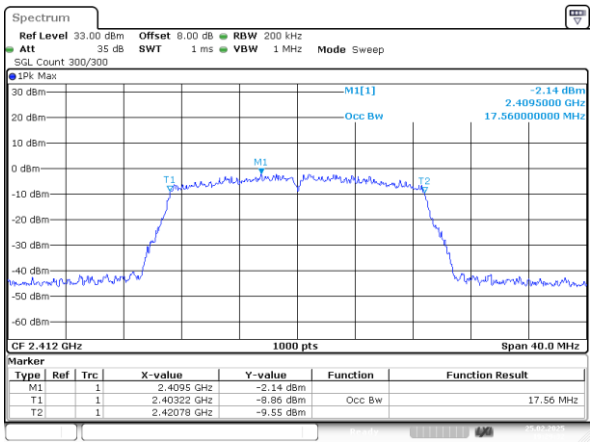
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 26.FEB.2025 16:49:44

802.11n20_2472MHz_Chain 0



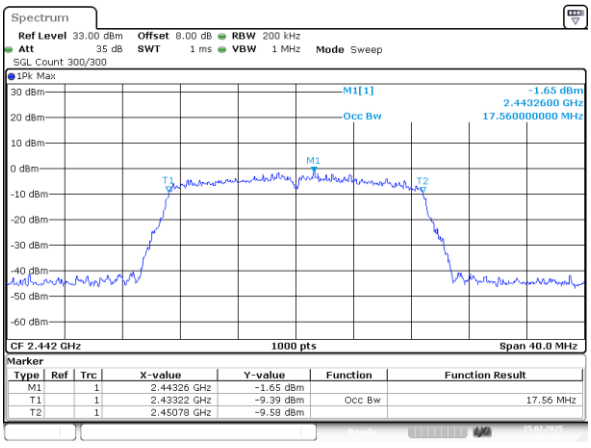
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:19:41

802.11n20_2412MHz_Chain 1



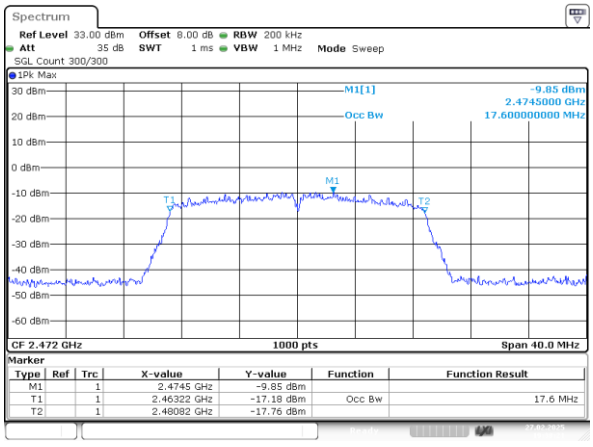
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:29:33

802.11n20_2442MHz_Chain 1



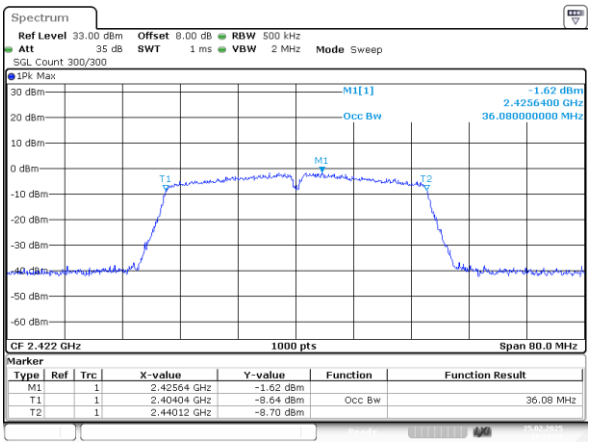
ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 25.FEB.2025 19:33:02

802.11n20_2472MHz_Chain 1

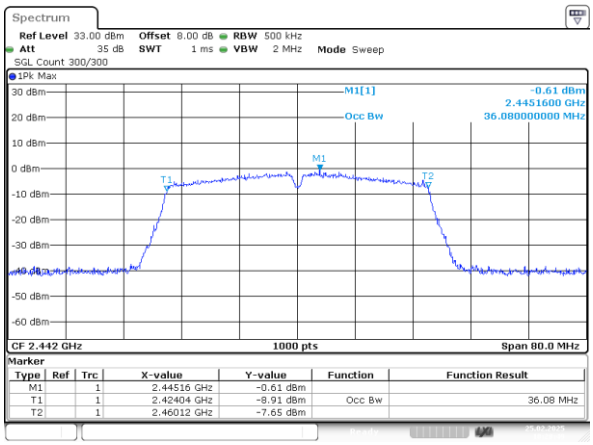


ProjectNo.:2505P37465E-RF Tester:Ryan Zhang
Date: 27.FEB.2025 19:38:21

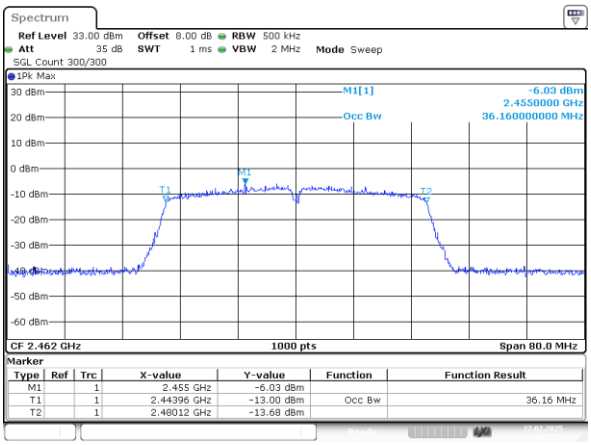
802.11n40_2422MHz_Chain 0



802.11n40_2442MHz_Chain 0



802.11n40_2462MHz_Chain 0



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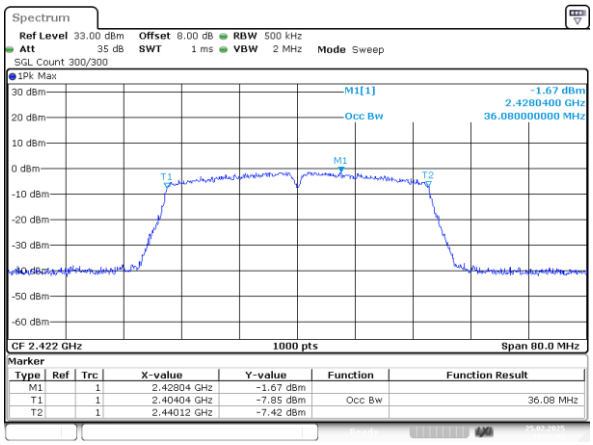
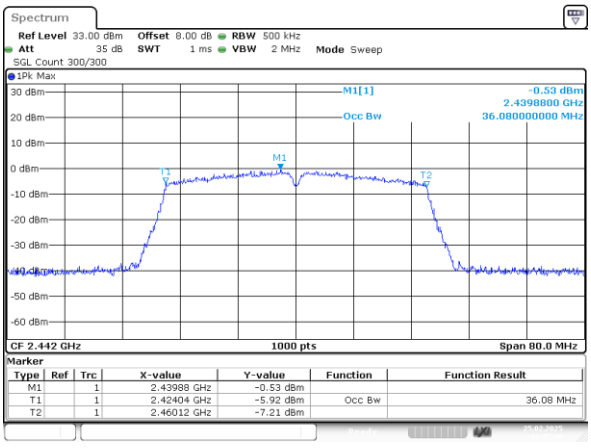
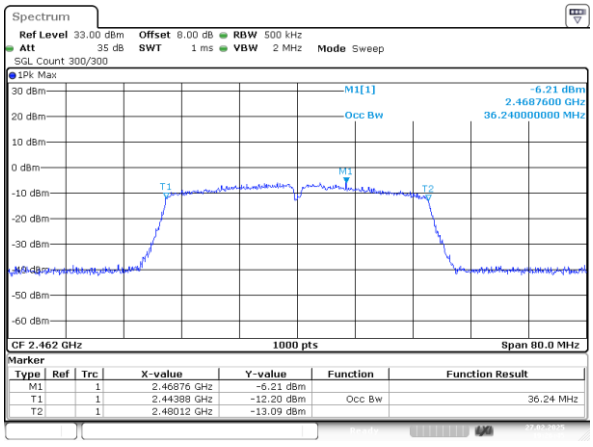


802.11n40_2442MHz_Chain 1

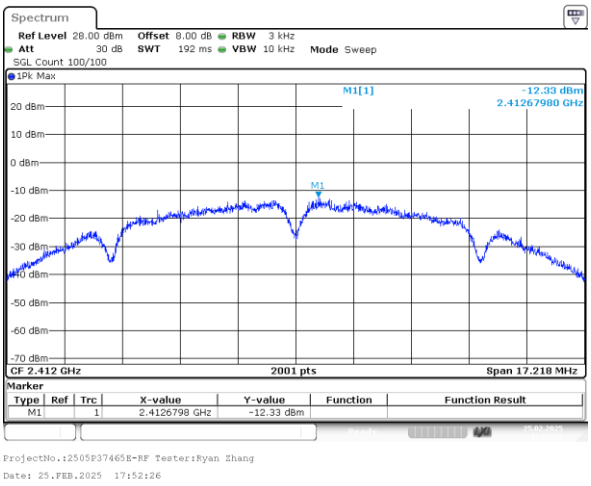


802.11n40_2462MHz_Chain 1

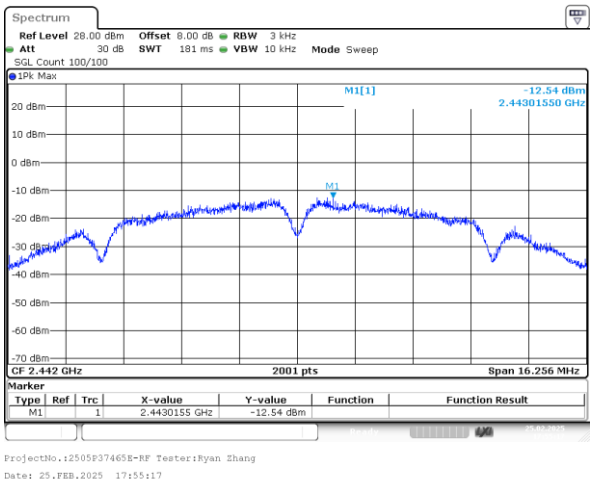


Power Spectral Density:

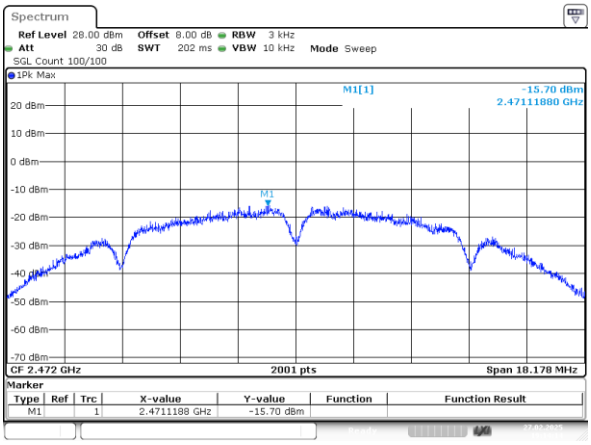
802.11b_2412MHz_Chain 0



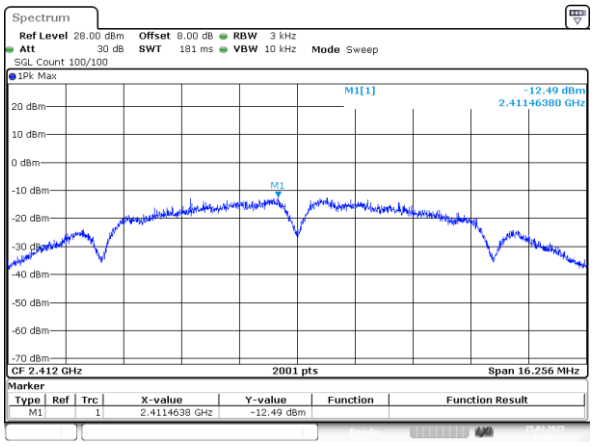
802.11b_2442MHz_Chain 0



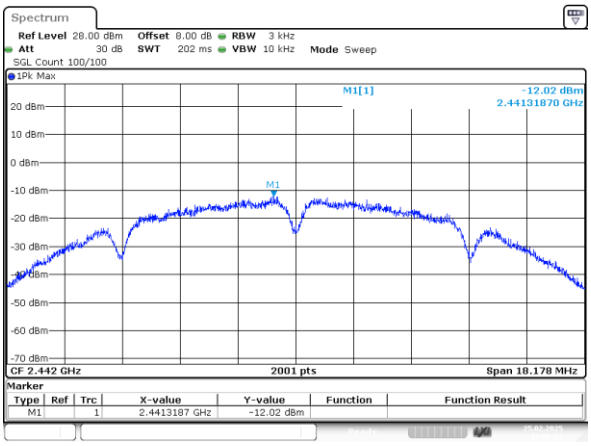
802.11b_2472MHz_Chain 0



802.11b_2412MHz_Chain 1



802.11b_2442MHz_Chain 1



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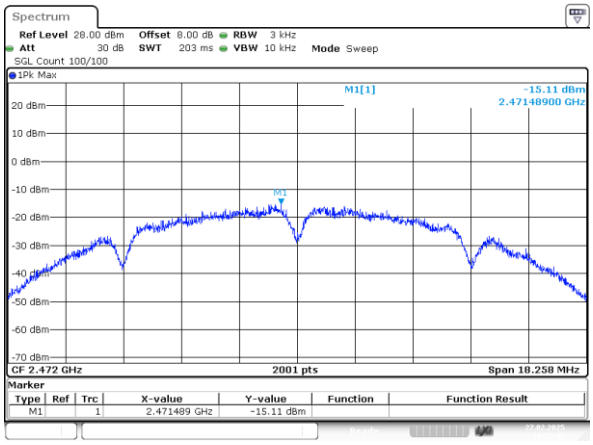
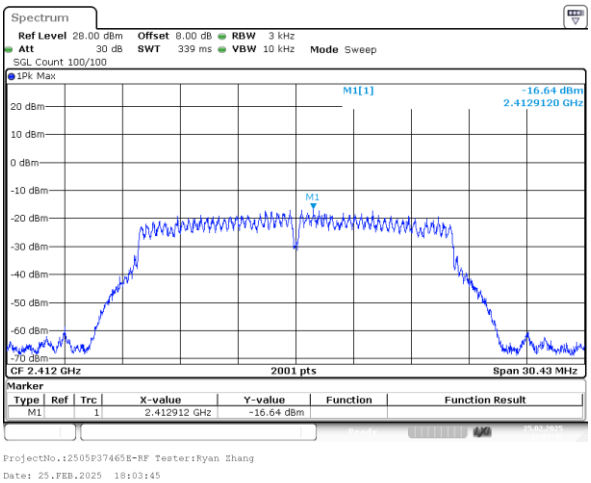
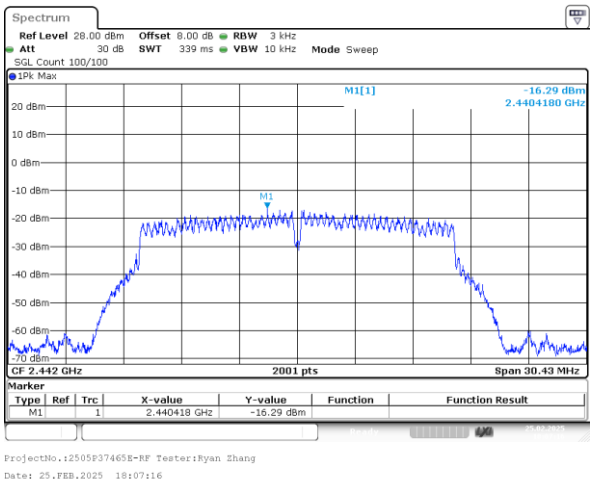


802.11g_2412MHz_Chain 0



802.11g_2442MHz_Chain 0



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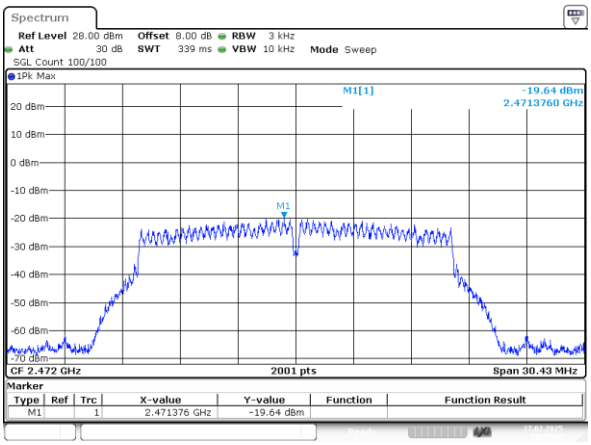
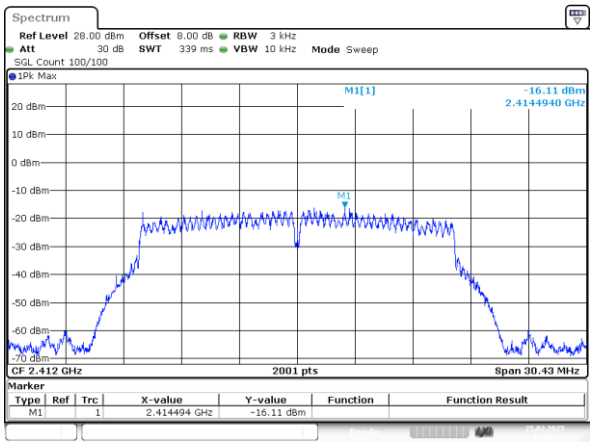
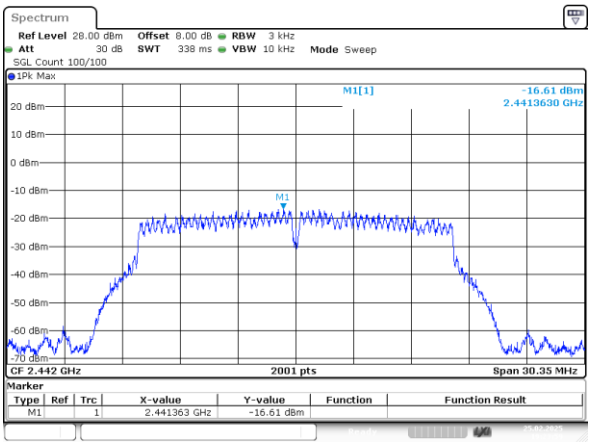


802.11g_2412MHz_Chain 1



802.11g_2442MHz_Chain 1



802.11g_2472MHz_Chain 1