

FCC PART 15.247

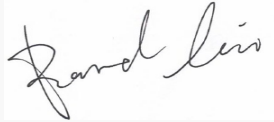
TEST REPORT

For

Hexing Electrical Co.,Ltd

1418 moganshan Road, shangcheng Industrial Zone, Hangzhou, 310011, China

FCC ID: 2AIUZ-HXWSG100

Report Type: Original Report	Product Name: LoRaWAN Gateway
Report Number: <u>RSHA250918001-00B</u>	
Report Date: <u>2025-11-20</u>	
Reviewed By: <u>Bard Liu</u>	
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Kunshan). This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, or any agency of the U.S. Government.

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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RSHA250918001-00B	R1V1	2025-11-20	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Hexing Electrical Co.,Ltd
Tested Model:	HXWSG100
Product Name:	LoRaWAN Gateway
Power Supply:	AC 120V or DC 12.8V powered by battery
RF Function:	2.4G Wi-Fi
Operating Band/Frequency:	2412~2462 MHz(802.11b/g/n20)
Maximum Peak Output Power:	802.11b: 14.42 dBm 802.11g: 14.73 dBm 802.11n20: 14.79 dBm
Channel Number:	11(802.11b/g/n20)
Channel Separation:	5 MHz
Modulation Type:	DSSS, OFDM
★Maximum Antenna Gain:	3.76 dBi

Note: The maximum antenna gain was declared by the manufacturer.

All measurement and test data in this report was gathered from production sample serial number: RSHA250918001-1 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2025-09-18)

Objective

This report is prepared for *Hexing Electrical Co.,Ltd* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commissions' rules.

The tests were performed in order to determine Compliant with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2020, American National Standard of Procedures for Compliant Testing of Unlicensed Wireless Devices and FCC 558074 D01 15.247 Meas Guidance v05r02.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19dB
RF conducted test with spectrum		0.9dB
RF Output Power with Power meter		0.5dB
Radiated emission	9 kHz~150 kHz	3.8dB
	150 kHz~30 MHz	3.4dB
	30MHz~1GHz	6.11dB
	1GHz~6GHz	4.45dB
	6GHz~18GHz	5.23dB
	18GHz~40GHz	5.65dB
Occupied Bandwidth		0.5kHz
Temperature		1.0°C
Humidity		6%

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu Province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) is accredited in accordance with ISO/IEC 17025:2017 by NVLAP (Lab code: 600338-0), and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No.: CN5055.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

Channel List for Wi-Fi Mode:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	/	/

For 802.11b, 802.11g, 802.11n-HT20 mode, EUT was tested with Channel 1, 6 and 11.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

RF test software: DutApiWiFi8801BrdigeEth.exe

Pre-scan with all the data rates, and the worst case was performed as below:

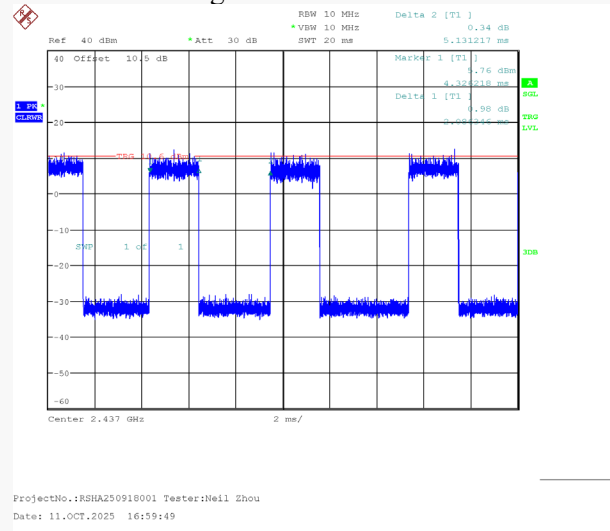
Mode	Data Rate	★Power Level		
		Low Channel	Middle Channel	High Channel
802.11b	1Mbps	17	17	17
802.11g	6Mbps	15	15	12
802.11n-HT20	MCS0	13	13	11

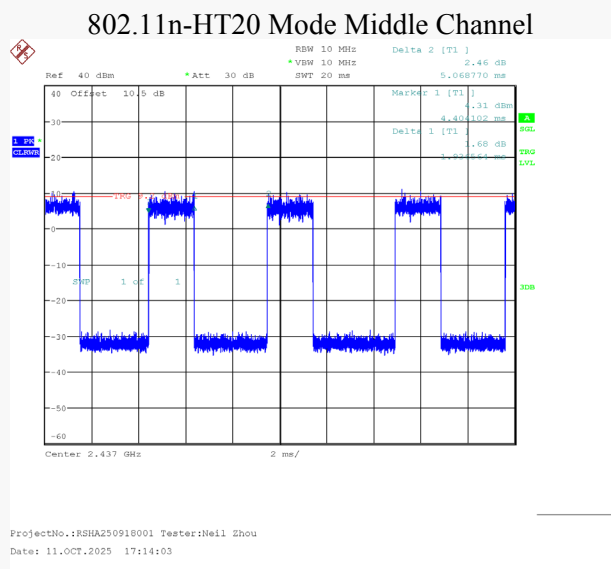
Note: The power level was declared by the applicant.

Test Date:	2025-10-11
Temperature:	24.6 °C
Relative Humidity:	37 %
ATM Pressure:	101.2 kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Note: Offset (10.5dB) = Attenuator (10dB) + Cable Loss (0.5dB)

802.11b Mode Middle Channel





Support Equipment List and Details

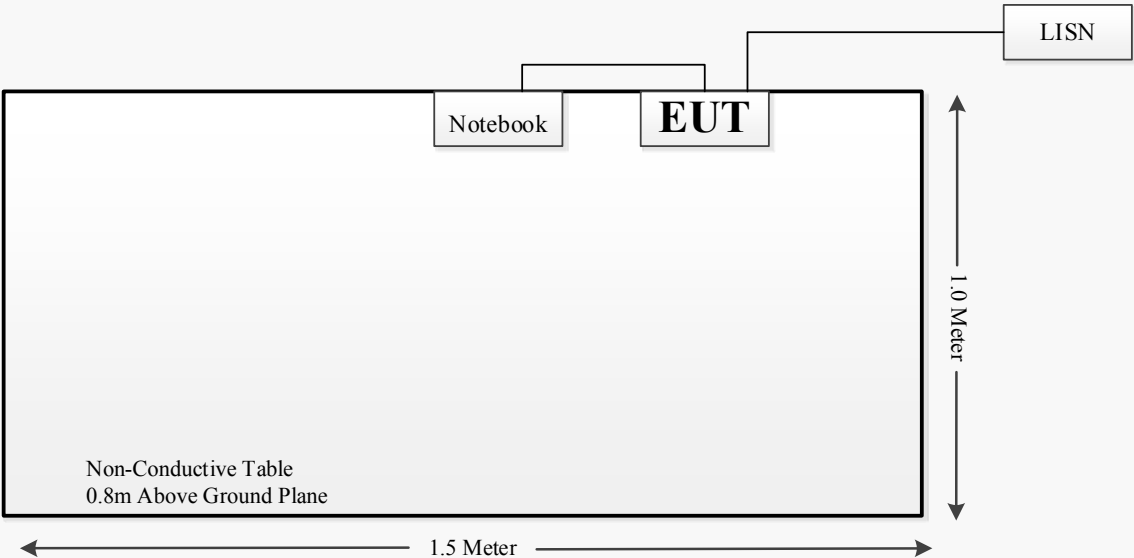
Manufacturer	Description	Model	Serial Number
Lenovo	Notebook	Y700P	PF2B7PL5

External I/O Cable

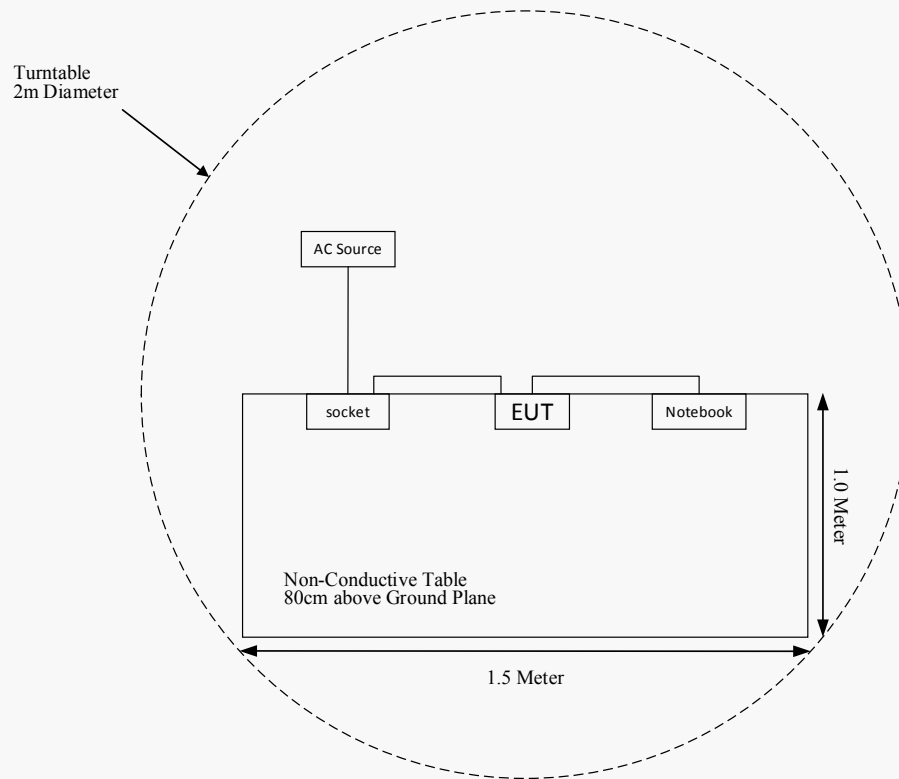
Cable Description	Length (m)	From Port	To Port
Power Cable 1	2.5	LISN	EUT
Power Cable 2	2.0	EUT	Socket
Power Cable 3	1.0	Socket	AC Source
RJ45	2.0	EUT	Notebook

Block Diagram of Test Setup

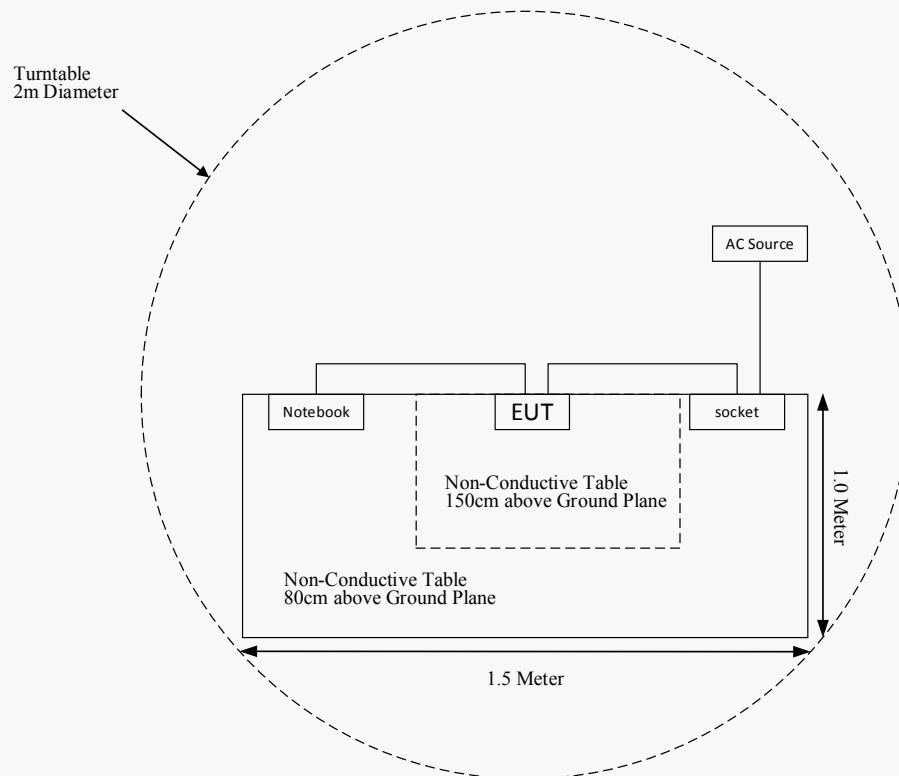
For Conducted Emissions:



For Radiated Emissions (Below 1GHz):



For Radiated Emissions (Above 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310 & §2.1091	MAXIMUM PERMISSIBLE EXPOSURE (MPE)	Compliant
§15.203	Antenna Requirement	Compliant
§15.207 (a)	AC Line Conducted Emissions	Compliant
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliant
§15.247(b)(3)	Maximum Conducted Output Power	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247(d)	Conducted Spurious Emission	Compliant
§15.247(e)	Power Spectral Density	Compliant

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber #1)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2025-04-09	2026-04-08
Sunol Sciences	Broadband Antenna	JB3	A090314-1	2024-11-08	2027-11-07
Narda	6dB Attenuator	773-6	10690812-2-1	2024-11-08	2027-11-07
BACL	Active Loop Antenna	1313-1A	4041511	2024-11-22	2027-11-21
Sonoma Instrument	Pre-amplifier	310N	171205	2025-04-09	2026-04-08
Rohde & Schwarz	Auto Test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-9	009	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-10	010	2025-04-09	2026-04-08
Radiated Emission Test (Chamber #2)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2025-04-09	2026-04-08
ETS-LINDGREN	Horn Antenna	3115	9311-4159	2024-12-02	2025-12-01
ETS-LINDGREN	Horn Antenna	3116	2516	2024-12-12	2027-12-11
A.H.Systems, inc	Amplifier	PAM-0118P	512	2025-04-09	2026-04-08
SELECTOR	Amplifier	EM18G40G	060726	2025-04-09	2026-04-08
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2025-08-01	2026-07-31
Narda	Attenuator	10dB	010	2025-04-08	2026-04-07
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-6	006	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-11	011	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-12	012	2025-04-09	2026-04-08
MICRO-COAX	Coaxial Cable	Cable-13	013	2025-04-09	2026-04-08
RF Conducted Test					
Rohde & Schwarz	Signal Analyzer	FSV40	101116	2025-04-09	2026-04-08
Narda	Attenuator	10dB	010	2025-04-08	2026-04-07
XHFDZ	RG316 Coaxial Cable	SMA-316	XHF-1175	Each time	N/A
Anritsu	Power Sensor	MA24418A	12621	2025-04-09	2026-04-08

Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2025-04-08	2026-04-07
Rohde & Schwarz	LISN	ENV216	101115	2025-04-08	2026-04-07
Audix	Test Software	e3	V9	N/A	N/A
Rohde & Schwarz	Pulse limiter	ESH3-Z2	100552	2025-04-08	2026-04-07
MICRO-COAX	Coaxial Cable	Cable-15	015	2025-04-08	2026-04-07

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

FCC §1.1310 & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §2.1091 and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

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

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

Calculated Formulary

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

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

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

Calculated Data:

Mode	Frequency Range (MHz)	Antenna Gain		★Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
2.4G Wi-Fi	2412~2462	3.76	2.38	15.0	31.62	20	0.0150	1.0
Lora	902.3-927.7	4.39	2.75	26.5	446.68	20	0.2443	0.6015
BLE	2402-2480	2.9	1.95	2.0	1.58	20	0.0006	1.0
GSM850	824-849	2.41	1.74	25.97	395.37	20	0.1368	0.5493
GSM1900	1850-1910	3.18	2.08	22.97	198.15	20	0.082	1.0
WCDMA II	1850-1910	3.18	2.08	25	316.23	20	0.1308	1.0
WCDMA V	824-849	2.41	1.74	25	316.23	20	0.1095	0.5493
LTE Band 2	1850-1910	3.18	2.08	25	316.23	20	0.1308	1.0
LTE Band 4	1710-1755	3.12	2.05	25	316.23	20	0.1290	1.0
LTE Band 5	824-849	2.41	1.74	25	316.23	20	0.1095	0.5493
LTE Band 7	2500-2570	3.76	2.38	25	316.23	20	0.1497	1.0

Note: 1. For the above tune up power were declared by the manufacturer.

2. The EUT contains a certificated Lora module, FCC ID: N8N4WNC-2K930NE0, Date of Grant: 2025/09/18

3. The EUT contains a certificated BLE module, FCC ID: 2AFOS-WT-LE5110X, Date of Grant: 2025/06/23

4. The EUT contains a certificated LTE module, FCC ID: XMR202006EC25AUX, Date of Grant: 2020/07/01
Wi-Fi, Lora, BLE, and 2G/3G/4G can transmit simultaneously:

$$\sum_i \frac{S_i}{S_{Limit,i}} = 0.015/1.0 + 0.2443/0.6015 + 0.0006/1.0 + 0.1368/0.5493 = 0.671 < 1.0$$

Result: The device meets MPE at distance 20cm.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, 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 shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine Compliant with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.
- c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT must be professionally installed, fulfill the requirement of this section. Please refer to the EUT photos.

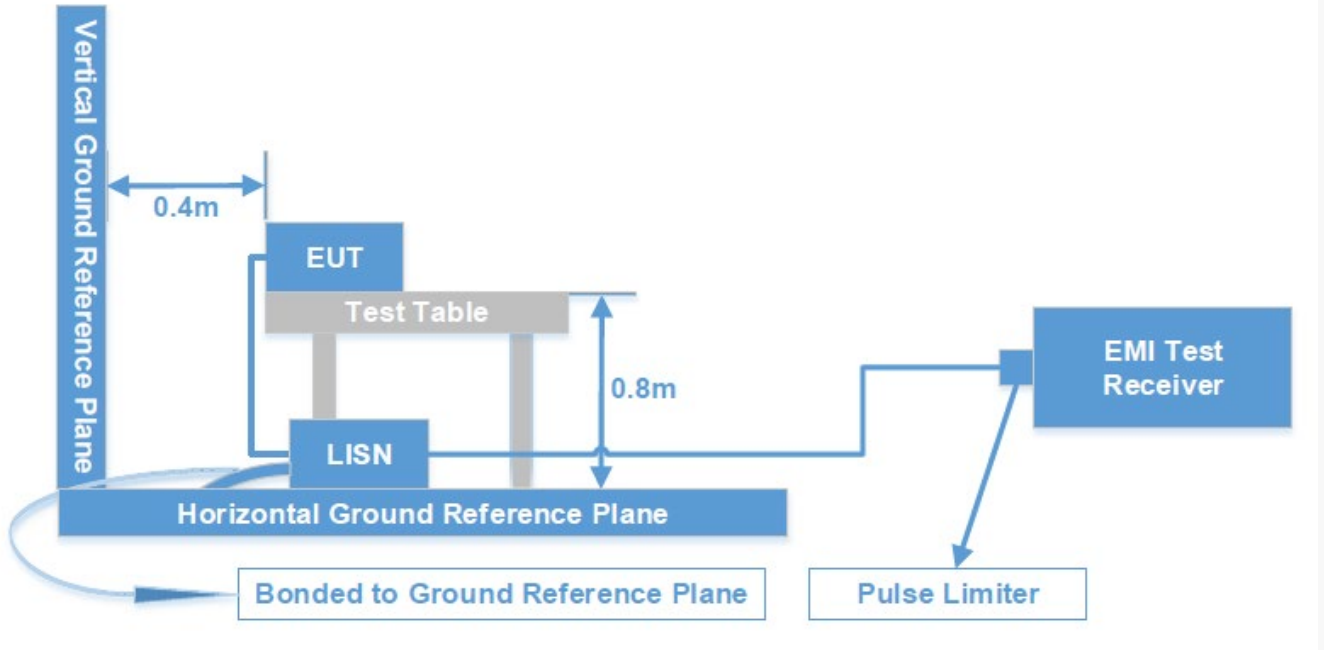
Result: Compliant.

FCC §15.207 (a) - AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

Test System Setup



The measurement procedure of EUT setup is according with ANSI C63.10-2020. The related limit was specified in FCC Part 15.207.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	VBW
150 kHz - 30 MHz	9 kHz	30 kHz

Test Procedure

ANSI C63.10-2020 clause 6.2

During the conducted emission test, the EUT was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

If the maximum peak value of the emissions is below the average limit, the QP value and average value measurement will not need to be performed and only record the maximum peak measured value to meet the requirements.

Level & Over Limit Calculation

The Level is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation from the Meter Reading. The basic equation is as follows:

Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)

Level (dBμV) = Read level (dBμV) + Factor (dB)

The “**Over Limit**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit of 7 dB means the emission is 7 dB above the limit. The equation for Over Limit calculation is as follows:

Over Limit (dB) = Level (dBμV) - Limit (dBμV)

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

Test Data: See Appendix

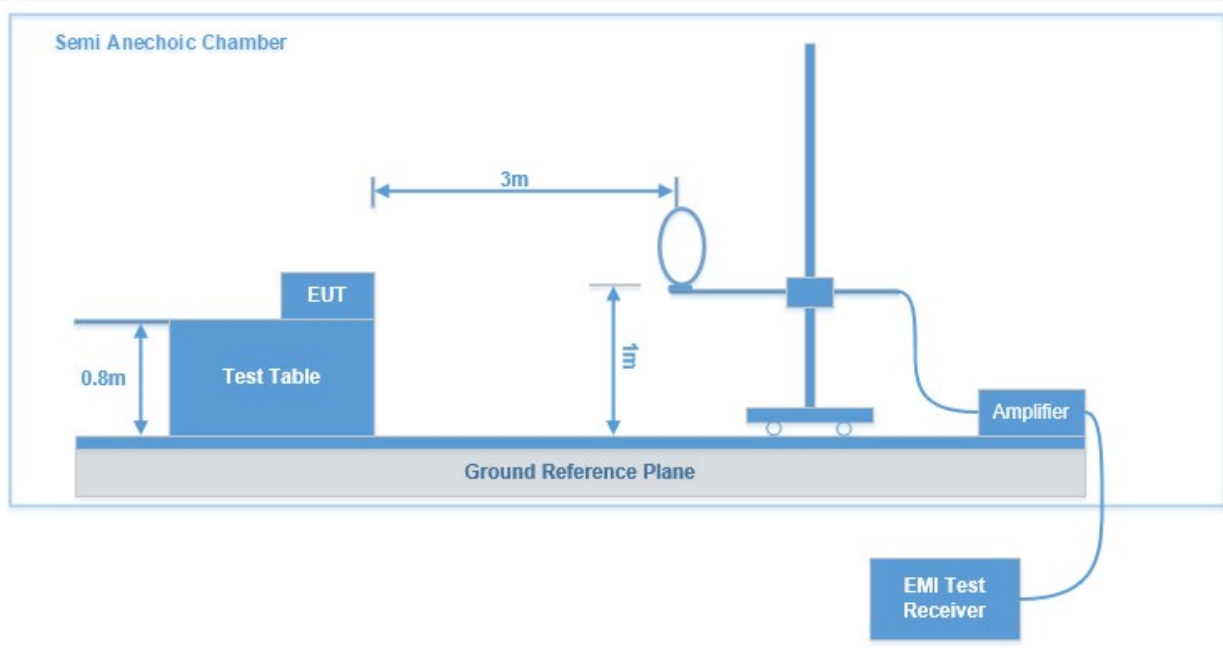
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

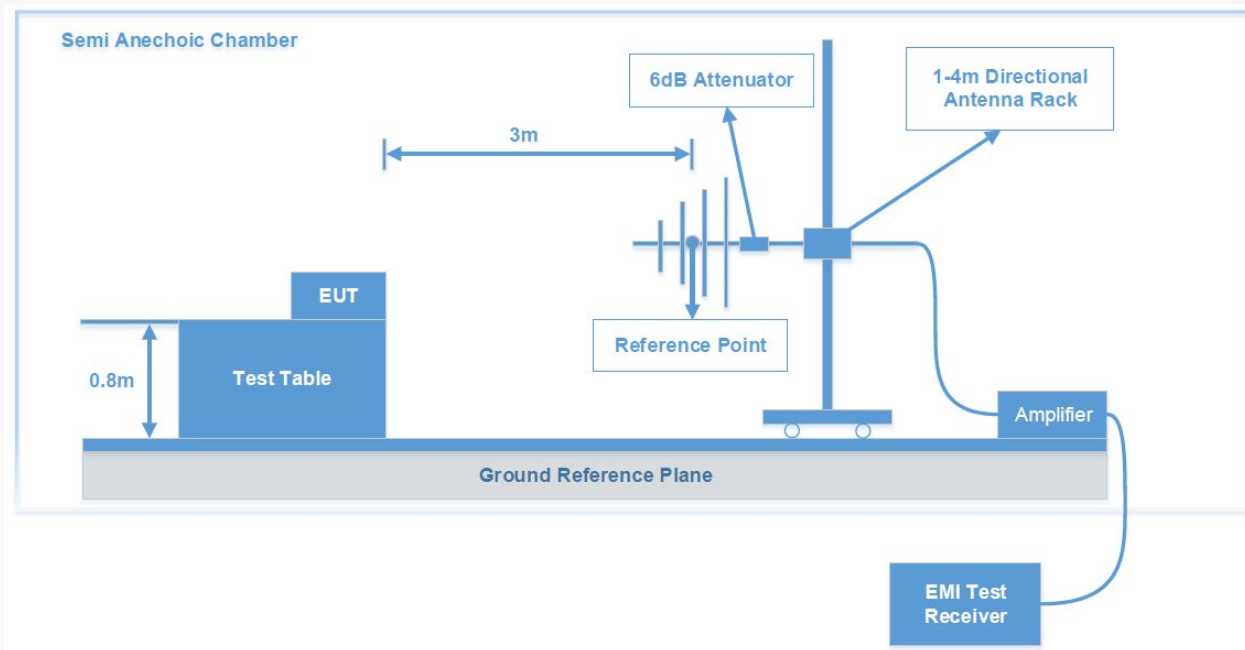
FCC §15.247 (d); §15.209; §15.205;

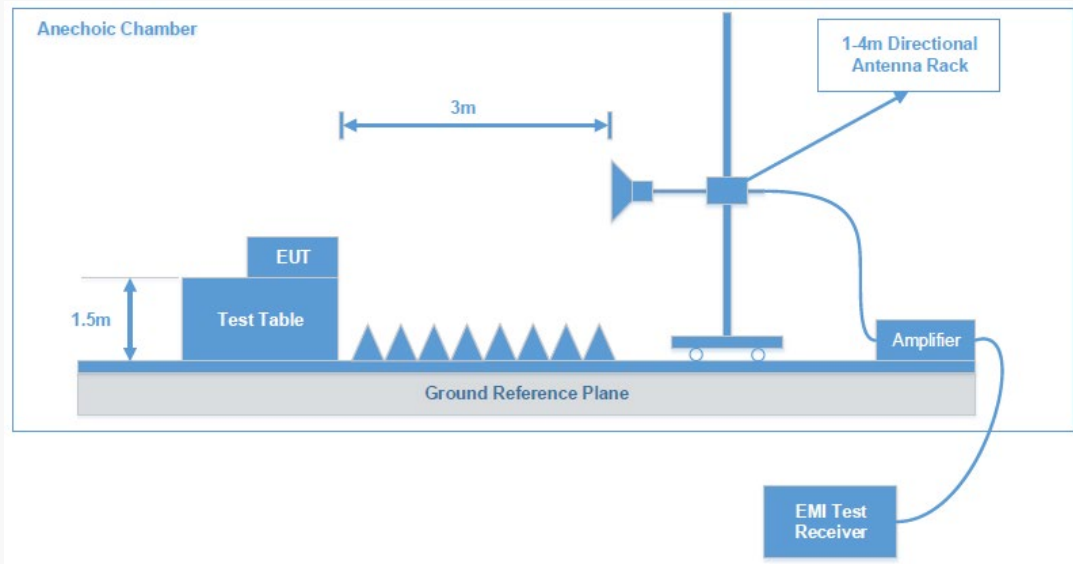
Test System Setup

9 kHz-30 MHz:



30 MHz-1 GHz:



Above 1 GHz:

The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2020. The specification used was the FCC 15.209, and FCC 15.247 limits.

EMI Test Receiver Setup

During the radiated emission test, the EMI test receiver setup was set with the following configurations:

Frequency Range	RBW	VBW	IF B/W	Measurement	Detector
9 kHz - 150 kHz	200 Hz	1 kHz	200 Hz	Peak/QP/Average	Peak/QP/Average
150 kHz - 30 MHz	9 kHz	30 kHz	9 kHz	Peak/QP/Average	Peak/QP/Average
30 MHz - 1000 MHz	100 kHz	300 kHz	/	Peak	Peak
	/	/	120 kHz	QP	QP
Above 1GHz	1MHz	3 MHz	/	Peak	Peak
	1MHz	3 MHz	/	Average	Average

Test Procedure

According to ANSI C63.10-2020 clause 6.4, 6.5 and 6.6.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

If the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 6 dB below the QP emission limit, there's no need to record the measured QP level of the emissions in the report.

For 9 kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude (dB μ V/m) = Meter Reading (dB μ V) + Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dB μ V/m) – Corrected Amplitude (dB μ V/m)

Note: The QuasiPeak (dB μ V/m), MaxPeak (dB μ V/m), Average (dB μ V/m) which shown in the data table are all Corrected Amplitude.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, and Subpart C, section 15.205, 15.209 and 15.247.

Test Data: See Appendix

FCC §15.247(A) (2) - 6 DB EMISSION BANDWIDTH

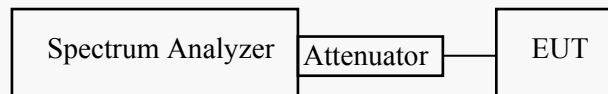
Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

According to ANSI C63.10-2020 sub-clause 11.8.1

- a) Set RBW = shall be in the range of 1% to 5% of the OBW but not less than 100 kHz.
- b) Set the VBW $\geq [3 \times \text{RBW}]$.
- c) Detector = peak.
- d) Trace mode = max-hold.
- e) Sweep = No faster than coupled (auto) time.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission by placing two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the “–6 dB down amplitude”. If a marker is below this “–6 dB down amplitude” value, then it shall be as close as possible to this value.



Note: Offset (10.5dB) = Attenuator (10dB) + Cable Loss (0.5dB)

Test Data: See Appendix

FCC §15.247(B) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

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

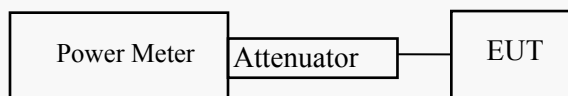
Test Procedure

According to ANSI C63.10-2020 sub-clause 11.9.1.2

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

11.9.2.3.2 Method AVGPM-G

Method AVGPM-G is a measurement using a gated RF average power meter. Alternatively, measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.



Note: Offset (10.5dB) = Attenuator (10dB) + Cable Loss (0.5dB)

Test Data: See Appendix

FCC §15.247(D) – 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

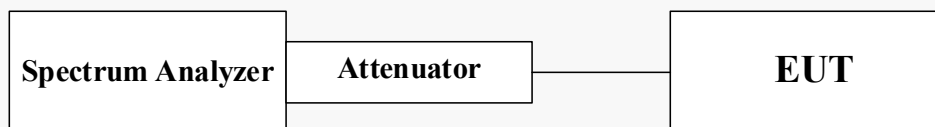
Applicable Standard

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 Compliant 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)).

Test Procedure

According to ANSI C63.10-2020 sub-clause 6.10.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.



Note: Offset (10.5dB) = Attenuator (10dB) + Cable Loss (0.5dB)

Conducted Spurious Emission

Applicable Standard

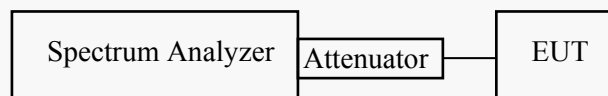
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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)).

Test Procedure

According to ANSI C63.10-2020 Section 11.11

- a) Set the center frequency and span to encompass frequency range to be measured
- b) Set the RBW = 100 kHz.
- c) Set the VBW $\geq [3 \times \text{RBW}]$.
- d) Detector = peak.
- e) Sweep time = No faster than coupled (auto) time.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

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



Note: Offset (11dB) = Attenuator (10dB) + Cable Loss (1.0dB)

Test Data: See Appendix

FCC §15.247(E) - POWER SPECTRAL DENSITY

Applicable Standard

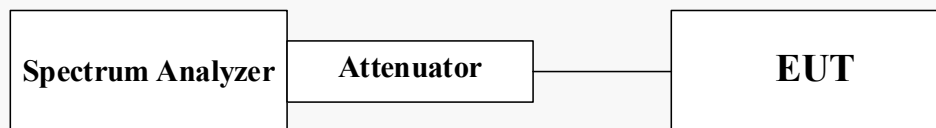
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of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

Test Procedure

According to ANSI C63.10-2020 sub-clause 11.10.2

The following procedure shall be used if maximum peak conducted output power was used to determine Compliant, and it is optional if the maximum conducted (average) output power was used to determine Compliant:

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



Note: Offset (10.5dB) = Attenuator (10dB) + Cable Loss (0.5dB)

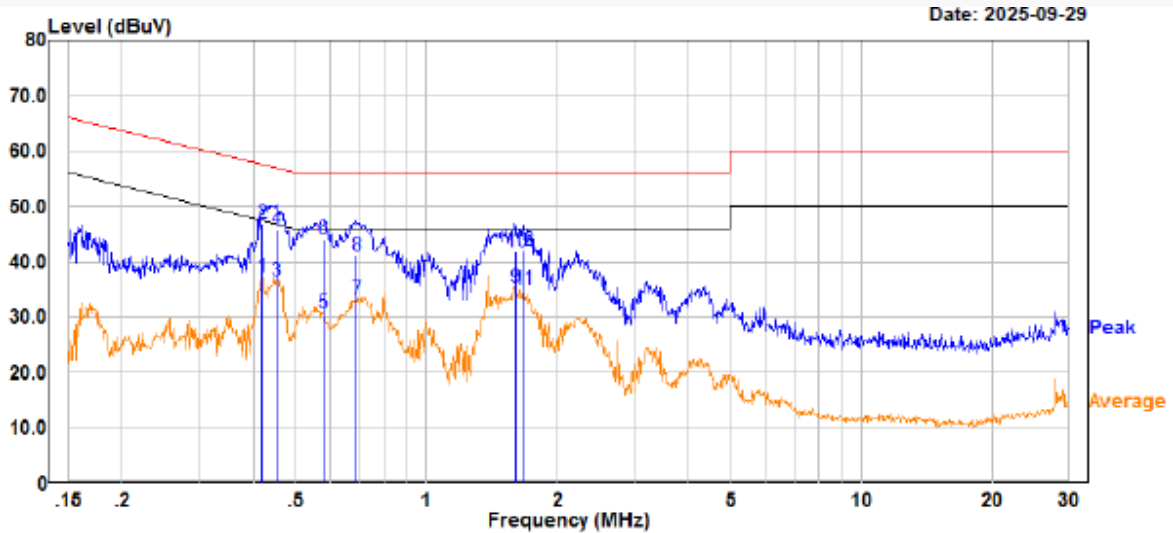
Test Data: See Appendix

APPENDIX - TEST DATA

AC LINE CONDUCTED EMISSIONS

Environmental Conditions & Test Information

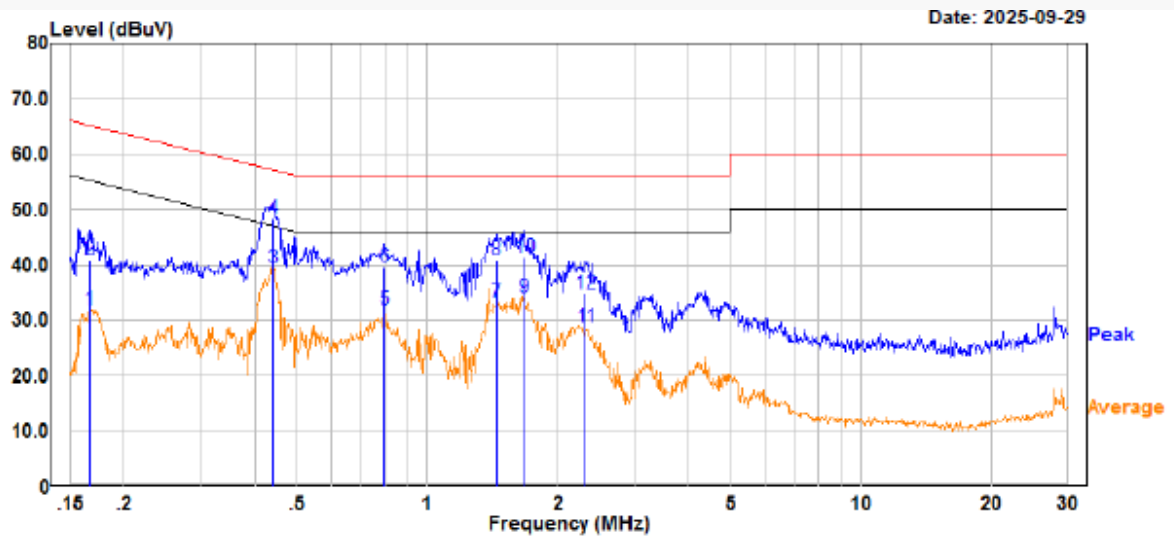
Test Date:	2025-09-29&2025-11-19
Temperature:	20.3 °C~25.8 °C
Relative Humidity:	47%~58 %
ATM Pressure:	101.7 kPa~103.4 kPa
Test Result:	Pass
Test Engineer:	Carto Sun & Jack He

For Wi-Fi Mode:*EUT operation mode: Transmitting in maximum output power mode and 802.11n-HT20 mode low channel*

Trace: 1

Site : CE
Condition : limit\FCC PART 15.207\FCC 15.207 QP.csv Line
: DET:Peak
Project No. : RSHA250918001
Model : HXWSG100
Phase : L
Voltage : 120V/60Hz
Mode : 2.4G Wifi
Test Equipment : ENV216,ESR3
Receiver Setting : RBW: 9 kHz,Sweep Time: Auto
Temperature : 25.8°C
Humidity : 58%
Atmospheric pressure: 101.7kPa
Test Engineer : Carto Sun

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.419	16.90	20.29	37.19	47.47	-10.28	Average
2	0.419	26.60	20.29	46.89	57.47	-10.58	QP
3	0.451	16.20	20.28	36.48	46.85	-10.37	Average
4	0.451	25.50	20.28	45.78	56.85	-11.07	QP
5	0.579	10.60	20.21	30.81	46.00	-15.19	Average
6	0.579	23.70	20.21	43.91	56.00	-12.09	QP
7	0.689	12.90	20.26	33.16	46.00	-12.84	Average
8	0.689	20.80	20.26	41.06	56.00	-14.94	QP
9	1.601	15.10	20.25	35.35	46.00	-10.65	Average
10	1.601	21.50	20.25	41.75	56.00	-14.25	QP
11	1.666	14.70	20.26	34.96	46.00	-11.04	Average
12	1.666	21.80	20.26	42.06	56.00	-13.94	QP



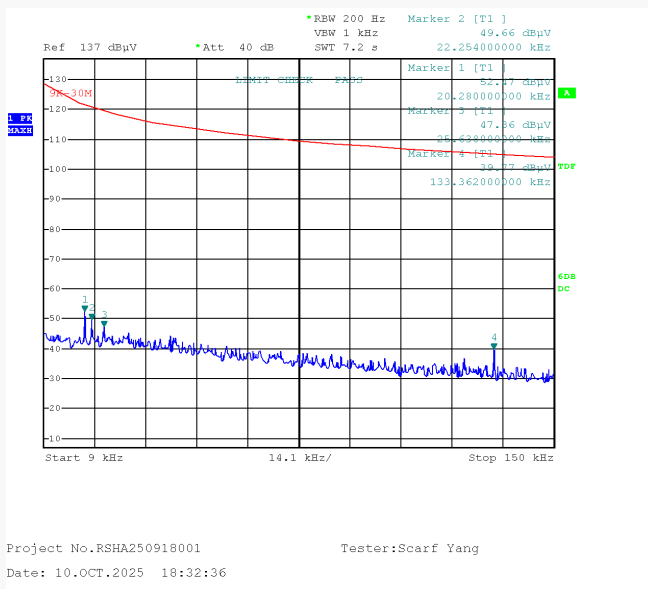
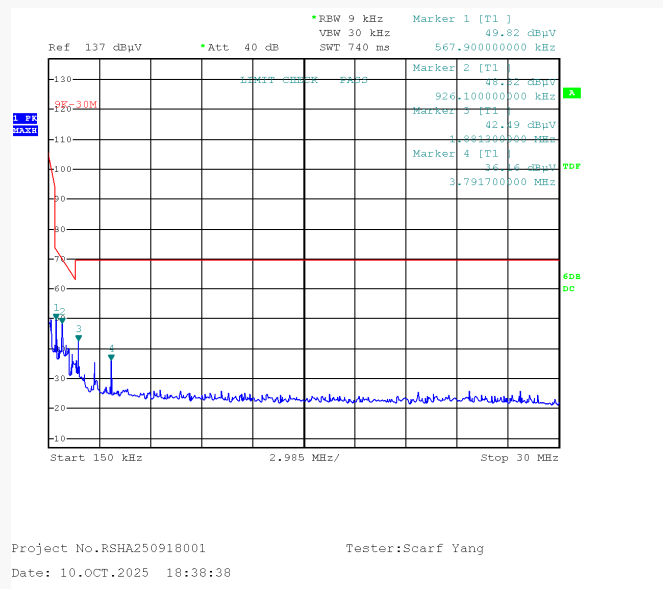
Trace: 1

Site : CE
 Condition : limit\FCC PART 15.207\FCC 15.207 QP.csv Neutral
 : DET:Peak
 Project No. : RSHA250918001
 Model : HXWSG100
 Phase : N
 Voltage : 120V/60Hz
 Mode : 2.4G Wifi
 Test Equipment : ENV216,ESR3
 Receiver Setting : RBW: 9 kHz,Sweep Time: Auto
 Temperature : 25.8°C
 Humidity : 58%
 Atmospheric pressure: 101.7kPa
 Test Engineer : Carto Sun

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.167	11.50	20.41	31.91	55.13	-23.22	Average
2	0.167	20.50	20.41	40.91	65.13	-24.22	QP
3	0.440	19.10	20.31	39.41	47.06	-7.65	Average
4	0.440	28.00	20.31	48.31	57.06	-8.75	QP
5	0.797	11.60	20.22	31.82	46.00	-14.18	Average
6	0.797	19.40	20.22	39.62	56.00	-16.38	QP
7	1.442	12.90	20.23	33.13	46.00	-12.87	Average
8	1.442	20.60	20.23	40.83	56.00	-15.17	QP
9	1.674	13.91	20.24	34.15	46.00	-11.85	Average
10	1.674	21.11	20.24	41.35	56.00	-14.65	QP
11	2.315	8.41	20.26	28.67	46.00	-17.33	Average
12	2.315	14.61	20.26	34.87	56.00	-21.13	QP

SPURIOUS EMISSIONS**Environmental Conditions & Test Information**

Test Item:	SPURIOUS EMISSIONS			
	9kHz – 30MHz	30MHz - 1GHz	1 GHz - 18 GHz	18 GHz - 25 GHz
Test Date:	2025-10-10& 2025-11-18	2025-10-10 to 2025-11-18	2025-10-09 to 2025-11-17	2025-10-13& 2025- 11-18
Temperature:	19.8-23.6℃	19.8-23.6℃	20.1-26.8℃	20.3~25.7℃
Relative Humidity:	51-54 %	51-54 %	50-53 %	50~53%
ATM Pressure:	101.6-103.3 kPa	101.6-103.3 kPa	101.9-103.4 kPa	101.5 kPa-103.3 kPa
Test Result:	Pass	Pass	Pass	Pass
Test Engineer:	Scarf Yang	Scarf Yang	Destine Hu	Hugh Wu

Test Result: Compliant*EUT operation mode: Transmitting**After pre-scan in the X, Y and Z axes of orientation, the worst case is below:***9 kHz-30MHz:** (Transmitting in maximum output power mode and 802.11n-HT20 mode low channel)**Parallel(worst case)****9kHz-150kHz****150kHz-30MHz**

9 kHz-150 kHz:

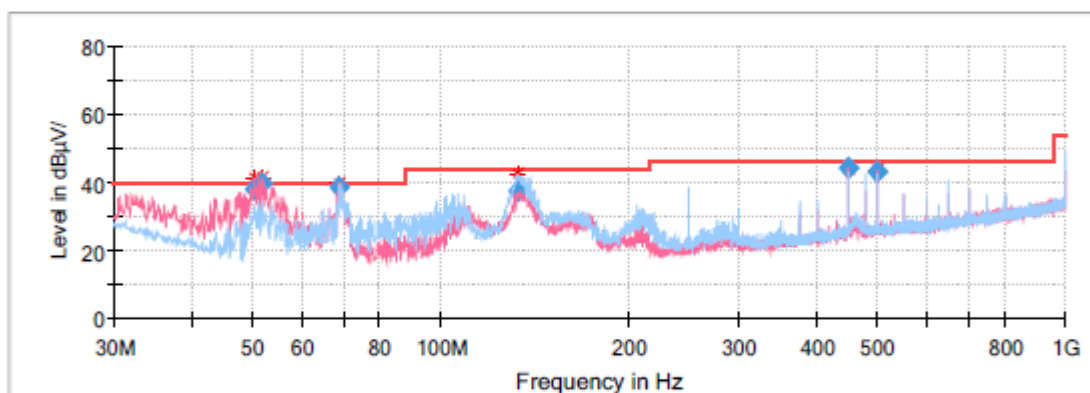
Frequency (MHz)	Corrected Amplitude (dB μ V/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dB μ V/m) @3m	Margin (dB)
0.020280	52.47	PK	-0.56	121.46	68.99
0.022254	49.66	PK	-0.57	120.66	71.00
0.025638	47.36	PK	-0.59	119.43	72.07
0.133362	39.77	PK	-10.63	105.10	65.33

150 kHz-30 MHz:

Frequency (MHz)	Corrected Amplitude (dB μ V/m) @3m	Detector PK/QP/Ave.	Corrected Factor (dB/m)	Limit (dB μ V/m) @3m	Margin (dB)
0.567900	49.82	PK	-23.27	72.52	22.70
0.926100	48.32	PK	-27.09	68.27	19.95
1.881300	42.49	PK	-30.52	69.54	27.05
3.791700	36.16	PK	-31.81	69.54	33.38

30MHz-1GHz (Transmitting in maximum output power 802.11n-HT20 mode low channel):**Low Channel: 2412MHz****Common Information**

Project No: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11n-HT20 mode low channel
Standard: FCC Part 15.247
Test Equipment: ESCI, JB3, 310N
Receiver Setting: RBW:100 kHz, VBW: 300 kHz, Sweep Time: Auto
Temperature: 23.6°C
Humidity: 51%
Barometric Pressure: 101.6kPa
Test Engineer: Scarf Yang
Test Date: 2025/10/10

**Final Result**

Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
50.370000	37.84	40.00	2.16	V	-17.0
51.825000	39.76	40.00	0.24	V	-17.0
68.921250	38.47	40.00	1.53	V	-16.6
132.941250	37.47	43.50	6.03	H	-11.1
450.010000	44.48	46.00	1.52	V	-6.7
499.965000	42.87	46.00	3.13	V	-5.4

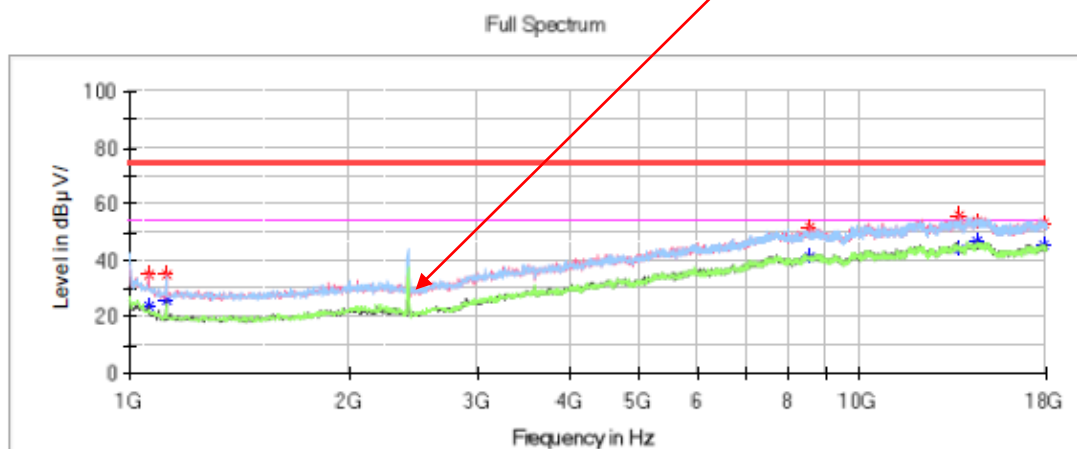
1GHz-18GHz:
802.11b Mode:

Low Channel: 2412MHz

Common Information

Project No.:	RSHA250918001
EUT Model:	HXWSG100
Test Mode:	2.4G WIFI 802.11b mode Low Channel
Standard:	FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment:	ESU40,3115,PAM-0118P
Receiver Setting:	RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature:	26.8°C
Humidity:	53%
Atmospheric Pressure:	101.9kPa
Test Engineer:	Destine Hu
Test Date:	2025/10/9

Fundamental Test with
Band Reject Filter

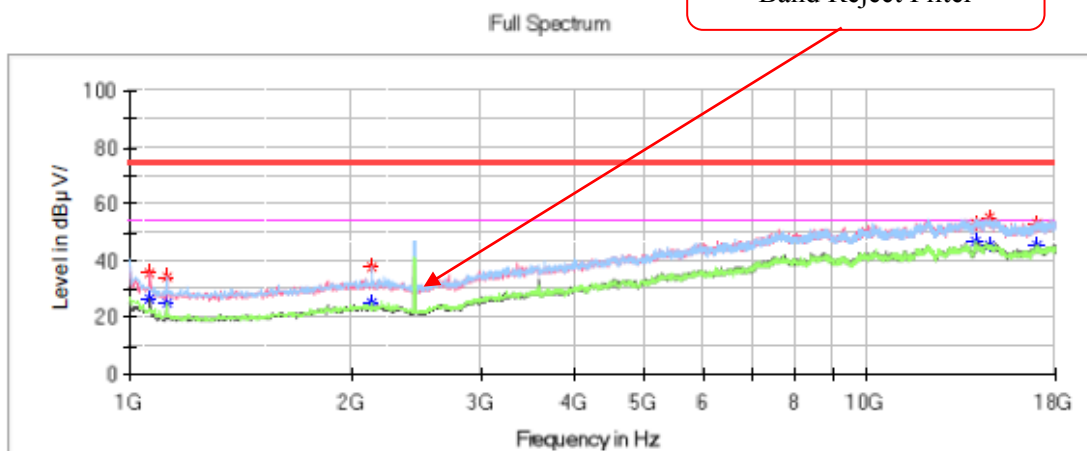


Critical Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1061.200000	---	23.85	54.00	30.15	V	-15.0
1061.200000	34.90	---	74.00	39.10	V	-15.0
1122.400000	34.74	---	74.00	39.26	V	-14.8
1122.400000	---	26.03	54.00	27.97	V	-14.8
8558.200000	---	40.95	54.00	13.05	V	4.7
8558.200000	51.50	---	74.00	22.50	V	4.7
13675.200000	55.79	---	74.00	18.21	V	10.4
13675.200000	---	43.98	54.00	10.02	V	10.4
14494.600000	53.55	---	74.00	20.45	H	12.0
14494.600000	---	46.96	54.00	7.04	H	12.0
17843.600000	---	45.71	54.00	8.29	H	11.3
17843.600000	52.84	---	74.00	21.16	H	11.3

Middle Channel: 2437MHz**Common Information**

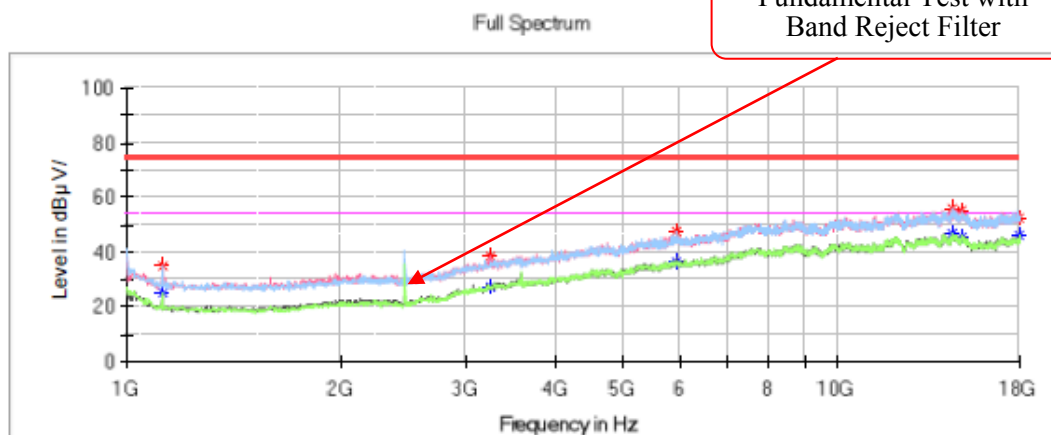
Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11b mode Middle Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8°C
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1064.600000	---	26.62	54.00	27.38	V	-15.0
1064.600000	35.81	---	74.00	38.19	V	-15.0
1122.400000	---	25.27	54.00	28.73	H	-14.8
1122.400000	34.57	---	74.00	39.43	H	-14.8
2128.800000	---	25.08	54.00	28.92	H	-9.9
2128.800000	37.83	---	74.00	36.17	H	-9.9
14056.000000	53.46	---	74.00	20.54	V	11.2
14056.000000	---	46.64	54.00	7.36	V	11.2
14695.200000	55.10	---	74.00	18.90	V	11.3
14695.200000	---	45.33	54.00	8.67	V	11.3
17017.400000	---	45.42	54.00	8.58	H	10.9
17017.400000	53.04	---	74.00	20.96	H	10.9

High Channel: 2462MHz**Common Information**

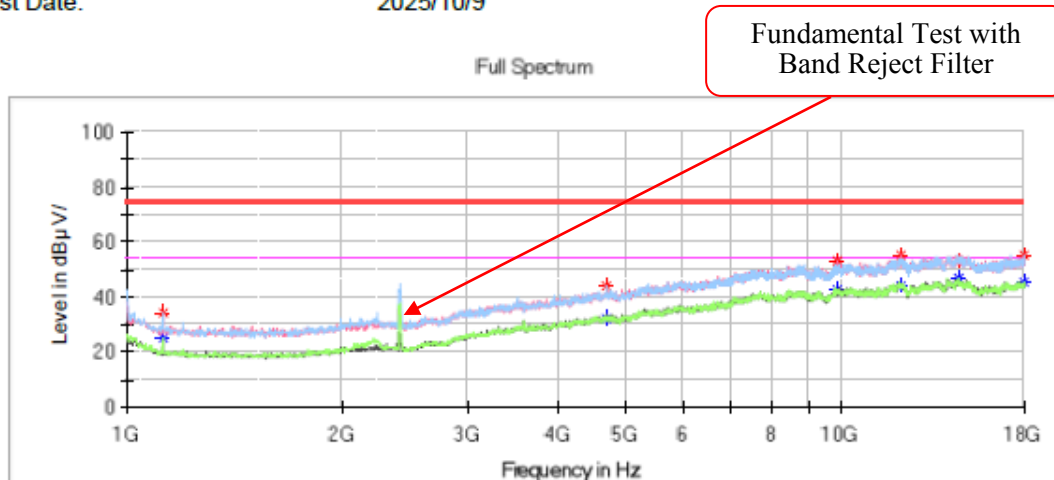
Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11b mode High Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8℃
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1122.400000	35.09	---	74.00	38.91	H	-14.8
1122.400000	---	25.41	54.00	28.59	H	-14.8
3240.600000	38.41	---	74.00	35.59	V	-7.2
3240.600000	---	27.20	54.00	26.80	V	-7.2
5933.400000	47.59	---	74.00	26.41	H	-0.8
5933.400000	---	36.64	54.00	17.36	H	-0.8
14511.600000	---	46.87	54.00	7.13	H	11.9
14511.600000	55.72	---	74.00	18.28	H	11.9
14926.400000	---	45.16	54.00	8.84	V	10.5
14926.400000	55.22	---	74.00	18.78	V	10.5
17996.600000	---	46.02	54.00	7.98	H	11.8
17996.600000	52.77	---	74.00	21.23	H	11.8

802.11g Mode:**Low Channel: 2412MHz****Common Information**

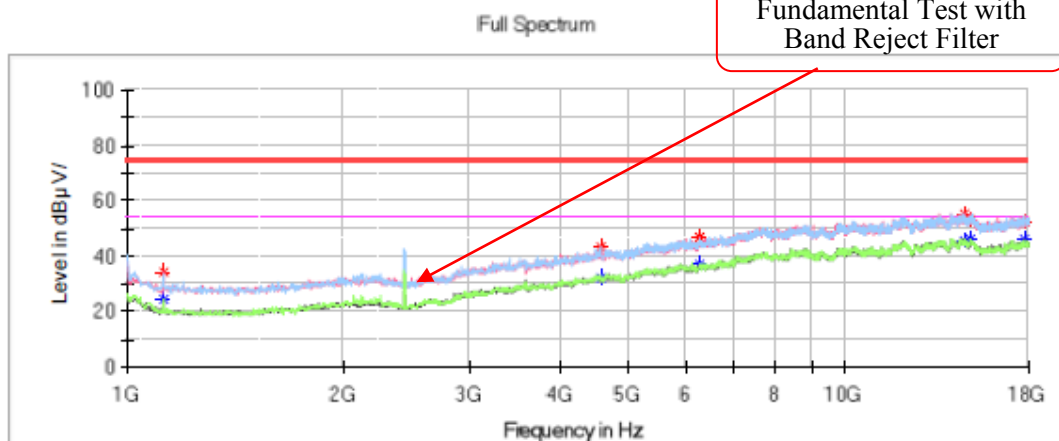
Project No.: RSHA250918001
 EUT Model: HXWSG100
 Test Mode: 2.4G WIFI 802.11g mode Low Channel
 Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 26.8℃
 Humidity: 53%
 Atmospheric Pressure: 101.9kPa
 Test Engineer: Destine Hu
 Test Date: 2025/10/9

**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1122.400000	---	24.90	54.00	29.10	H	-14.8
1122.400000	33.98	---	74.00	40.02	H	-14.8
4695.800000	---	31.89	54.00	22.11	H	-3.7
4695.800000	43.74	---	74.00	30.26	H	-3.7
9840.000000	---	42.47	54.00	11.53	H	5.9
9840.000000	52.80	---	74.00	21.20	H	5.9
12077.200000	---	44.05	54.00	9.95	V	9.0
12077.200000	55.18	---	74.00	18.82	V	9.0
14538.800000	---	46.54	54.00	7.46	H	11.8
14538.800000	53.31	---	74.00	20.69	H	11.8
17972.800000	---	45.55	54.00	8.45	H	11.7
17972.800000	55.52	---	74.00	18.48	H	11.7

Middle Channel: 2437MHz**Common Information**

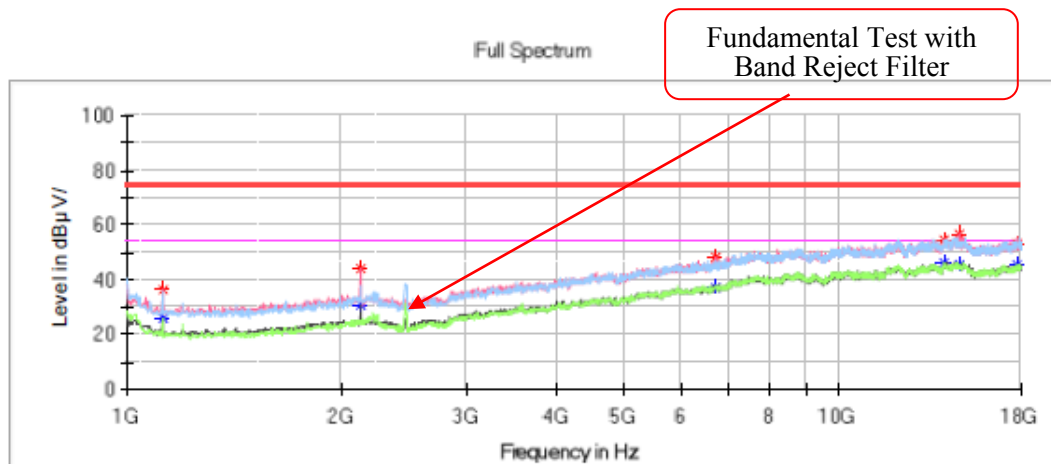
Project No.: RSHA250918001
 EUT Model: HXWSG100
 Test Mode: 2.4G WIFI 802.11g mode Middle Channel
 Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
 Test Equipment: ESU40,3115,PAM-0118P
 Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
 Temperature: 26.8℃
 Humidity: 53%
 Atmospheric Pressure: 101.9kPa
 Test Engineer: Destine Hu
 Test Date: 2025/10/9

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1122.400000	---	24.78	54.00	29.22	V	-14.8
1122.400000	34.21	---	74.00	39.79	V	-14.8
4556.400000	---	32.46	54.00	21.54	H	-4.1
4556.400000	43.53	---	74.00	30.47	H	-4.1
6270.000000	---	36.81	54.00	17.19	H	-0.7
6270.000000	46.97	---	74.00	27.03	H	-0.7
14685.000000	---	45.20	54.00	8.80	V	11.3
14685.000000	55.35	---	74.00	18.65	V	11.3
14953.600000	---	46.39	54.00	7.61	V	10.4
14953.600000	53.49	---	74.00	20.51	V	10.4
17775.600000	52.59	---	74.00	21.41	H	11.2
17775.600000	---	45.87	54.00	8.13	H	11.2

High Channel: 2462MHz**Common Information**

Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11g mode High Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8℃
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

**Critical Freqs**

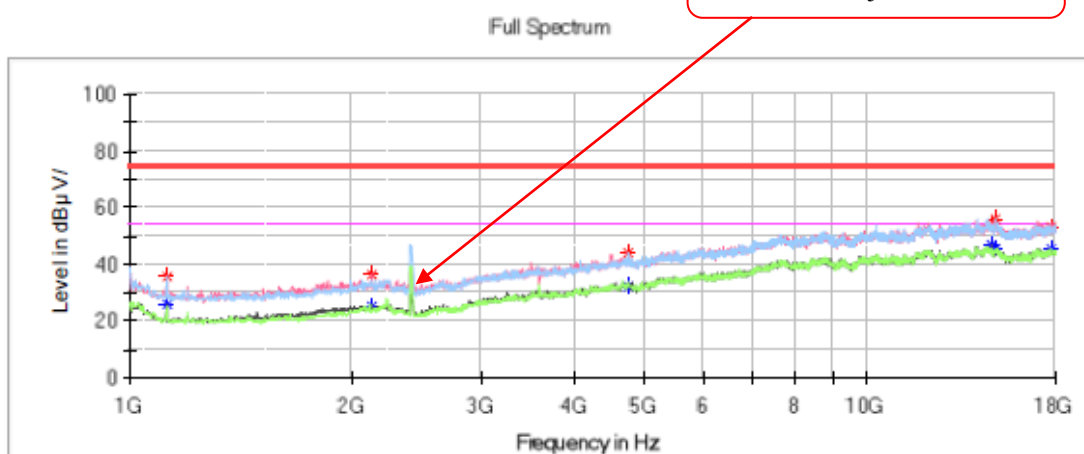
Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1122.400000	---	26.06	54.00	27.94	V	-14.8
1122.400000	36.68	---	74.00	37.32	V	-14.8
2132.200000	---	31.04	54.00	22.96	V	-9.9
2132.200000	43.89	---	74.00	30.11	V	-9.9
6695.000000	---	37.26	54.00	16.74	H	0.1
6695.000000	48.21	---	74.00	25.79	H	0.1
14035.600000	---	46.50	54.00	7.50	H	11.2
14035.600000	54.37	---	74.00	19.63	H	11.2
14776.800000	---	45.13	54.00	8.87	V	11.0
14776.800000	56.34	---	74.00	17.66	V	11.0
17782.400000	---	45.60	54.00	8.40	V	11.2
17782.400000	53.39	---	74.00	20.61	V	11.2

802.11n-HT20 Mode :

Low Channel: 2412MHz

Common Information

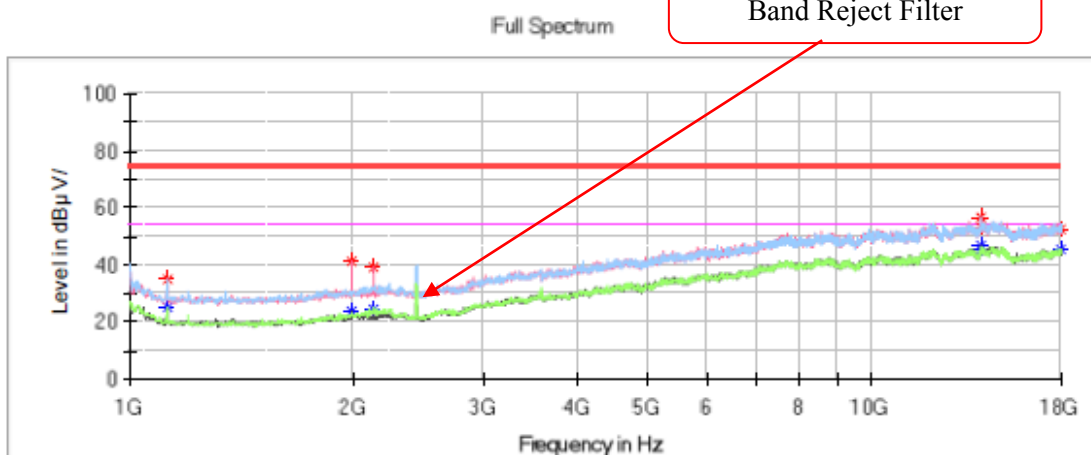
Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11n20 mode Low Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8℃
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μV/m)	Average (dB μV/m)	Limit (dB μV/m)	Margin (dB)	Pol	Corr. (dB/m)
1122.400000	---	25.68	54.00	28.32	V	-14.8
1122.400000	35.33	---	74.00	38.67	V	-14.8
2132.200000	---	24.96	54.00	29.04	V	-9.9
2132.200000	36.27	---	74.00	37.73	V	-9.9
4757.000000	---	32.41	54.00	21.59	H	-3.5
4757.000000	44.23	---	74.00	29.77	H	-3.5
14729.200000	---	46.63	54.00	7.37	V	11.2
14729.200000	53.58	---	74.00	20.42	V	11.2
14940.000000	---	45.70	54.00	8.30	H	10.5
14940.000000	55.90	---	74.00	18.10	H	10.5
17738.200000	53.06	---	74.00	20.94	V	11.1
17738.200000	---	45.55	54.00	8.45	V	11.1

Middle Channel: 2437MHz**Common Information**

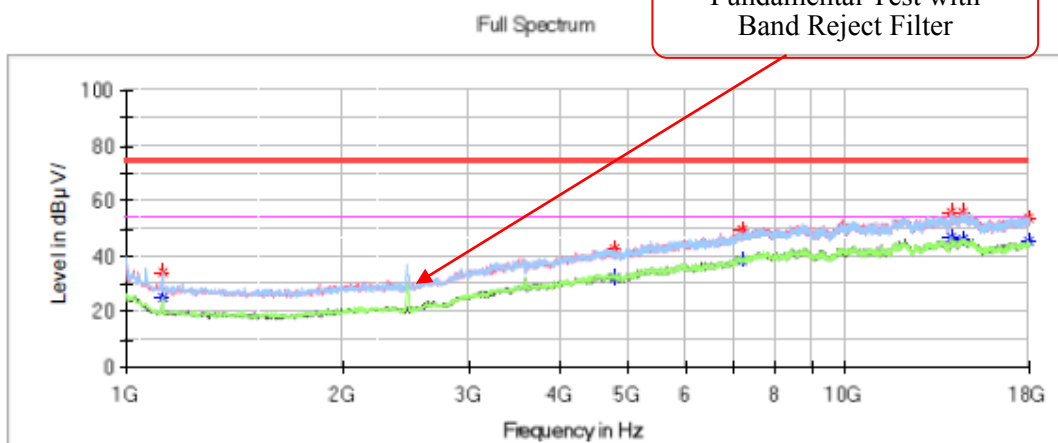
Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11n20 mode Middle Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8℃
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1122.400000	---	25.22	54.00	28.78	H	-14.8
1122.400000	34.65	---	74.00	39.35	H	-14.8
1989.400000	---	23.80	54.00	30.20	V	-10.1
1989.400000	41.16	---	74.00	32.84	V	-10.1
2128.800000	---	24.52	54.00	29.48	V	-9.9
2128.800000	39.01	---	74.00	34.99	V	-9.9
14035.600000	---	46.93	54.00	7.07	V	11.2
14035.600000	53.30	---	74.00	20.70	V	11.2
14045.800000	---	45.69	54.00	8.31	H	11.2
14045.800000	56.54	---	74.00	17.46	H	11.2
17969.400000	52.44	---	74.00	21.56	V	11.7
17969.400000	---	45.74	54.00	8.26	V	11.7

High Channel: 2462MHz**Common Information**

Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11n20 mode High Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8°C
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1122.400000	34.10	---	74.00	39.90	V	-14.8
1122.400000	---	25.43	54.00	28.57	V	-14.8
4767.200000	---	32.43	54.00	21.57	H	-3.5
4767.200000	42.76	---	74.00	31.24	H	-3.5
7191.400000	---	38.46	54.00	15.54	V	2.1
7191.400000	49.87	---	74.00	24.13	V	2.1
14035.600000	55.89	---	74.00	18.11	H	11.2
14035.600000	---	46.66	54.00	7.34	H	11.2
14569.400000	---	45.84	54.00	8.16	V	11.7
14569.400000	55.72	---	74.00	18.28	V	11.7
17969.400000	---	45.30	54.00	8.70	H	11.7
17969.400000	53.53	---	74.00	20.47	H	11.7

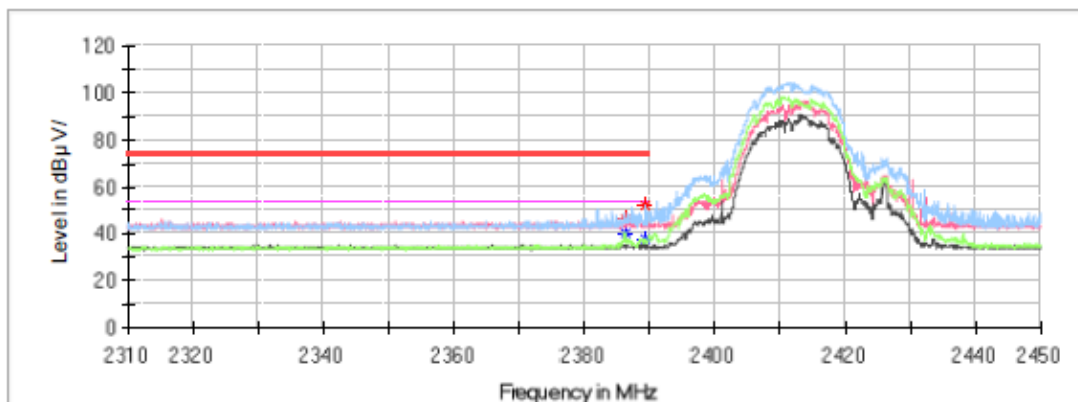
Band Edge:
802.11b Mode:

Low Channel

Common Information

Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11b mode Low Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8℃
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

Full Spectrum



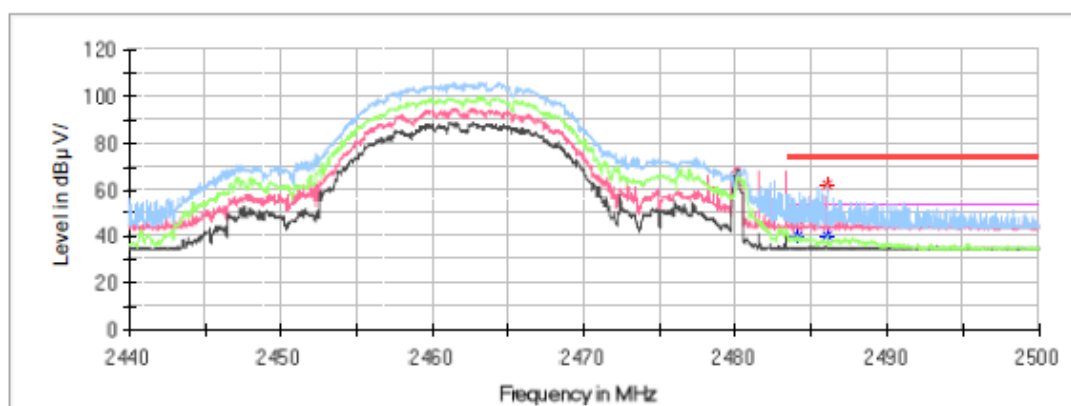
Critical Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2386.272000	---	40.58	54.00	13.42	H	0.2
2386.272000	46.53	---	74.00	27.47	H	0.2
2389.408000	---	37.68	54.00	16.32	H	0.2
2389.408000	52.10	---	74.00	21.90	H	0.2

High Channel**Common Information**

Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11b mode High Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8℃
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

Full Spectrum

**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2484.064000	---	40.27	54.00	13.73	H	0.4
2484.064000	47.24	---	74.00	26.76	H	0.4
2486.008000	---	40.03	54.00	13.97	H	0.4
2486.008000	61.80	---	74.00	12.20	H	0.4

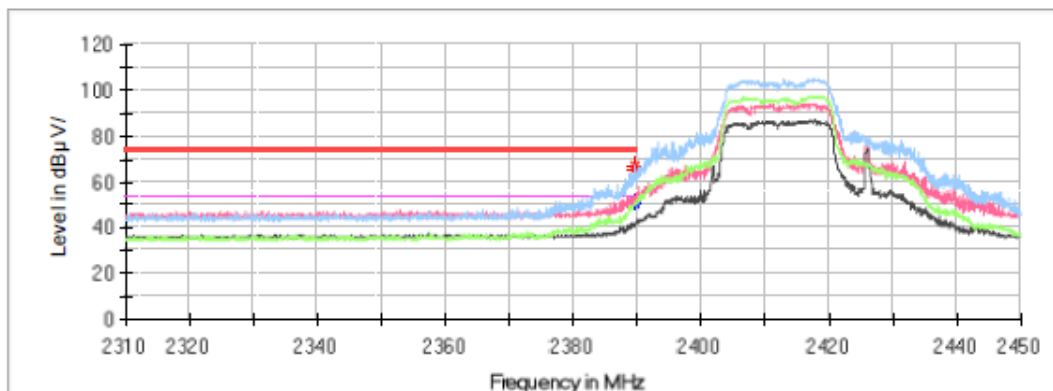
802.11g Mode :

Low Channel

Common Information

Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11g mode Low Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8°C
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

Full Spectrum



Critical Freqs

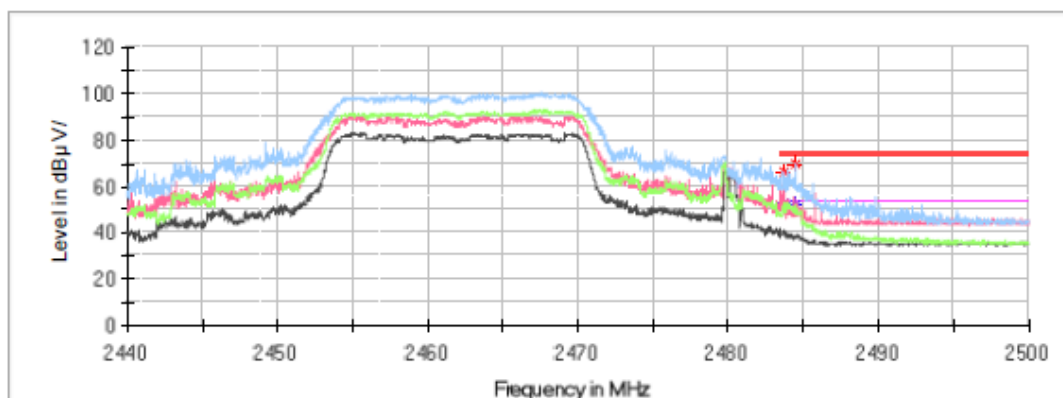
Frequency (MHz)	MaxPeak (dB µV/m)	Average (dB µV/m)	Limit (dB µV/m)	Margin (dB)	Pol	Corr. (dB/m)
2389.576000	67.36	---	74.00	6.64	H	0.2
2389.576000	---	50.40	54.00	3.60	H	0.2
2389.688000	65.65	---	74.00	8.35	H	0.2
2389.688000	---	51.47	54.00	2.53	H	0.2

High Channel

Common Information

Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11g mode High Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8℃
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

Full Spectrum



Critical Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2483.656000	---	52.90	54.00	1.10	V	0.4
2483.656000	66.02	---	74.00	7.98	V	0.4
2484.448000	---	52.24	54.00	1.76	H	0.4
2484.448000	69.30	---	74.00	4.70	H	0.4

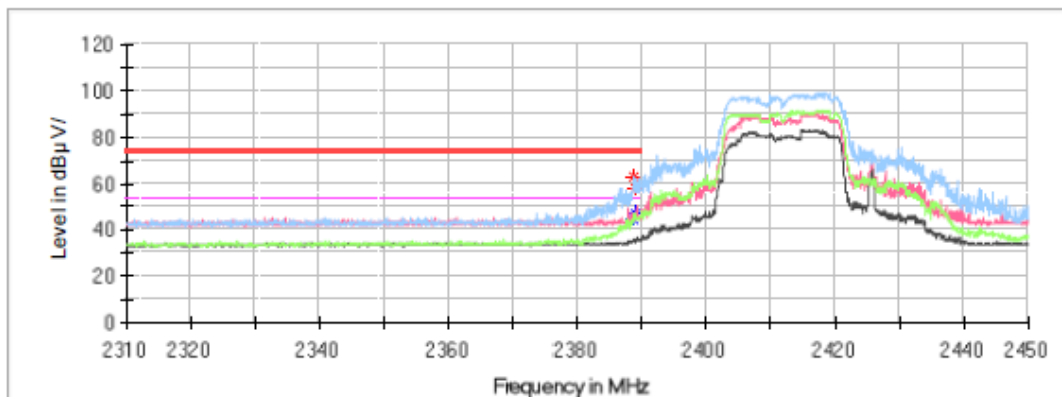
802.11n-HT20 Mode:

Low Channel

Common Information

Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11n20 mode Low Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8°C
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

Full Spectrum



Critical Freqs

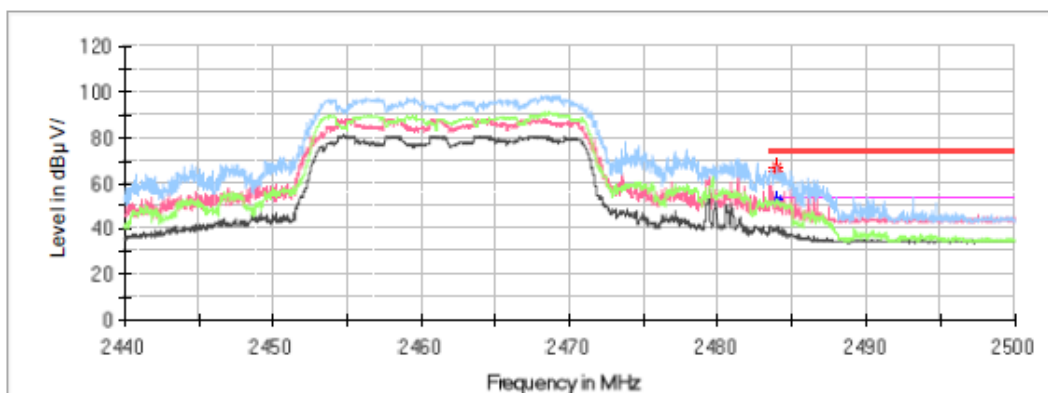
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2388.680000	62.82	---	74.00	11.18	H	0.2
2388.680000	---	44.41	54.00	9.59	H	0.2
2388.960000	58.32	---	74.00	15.68	H	0.2
2388.960000	---	47.06	54.00	6.94	H	0.2

High Channel

Common Information

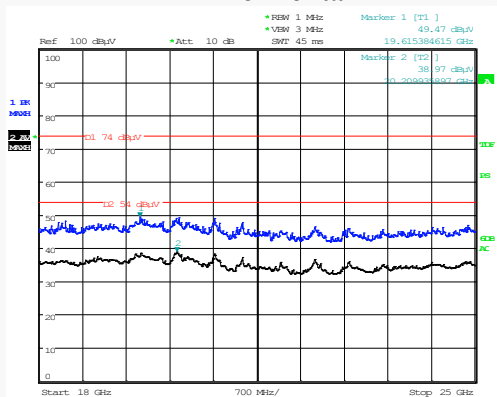
Project No.: RSHA250918001
EUT Model: HXWSG100
Test Mode: 2.4G WIFI 802.11n20 mode High Channel
Standard: FCC Part 15.247& FCC Part 15.205& FCC Part 15.209
Test Equipment: ESU40,3115,PAM-0118P
Receiver Setting: RBW: 1MHz, VBW: 3MHz, Sweep Time: Auto
Temperature: 26.8°C
Humidity: 53%
Atmospheric Pressure: 101.9kPa
Test Engineer: Destine Hu
Test Date: 2025/10/9

Full Spectrum

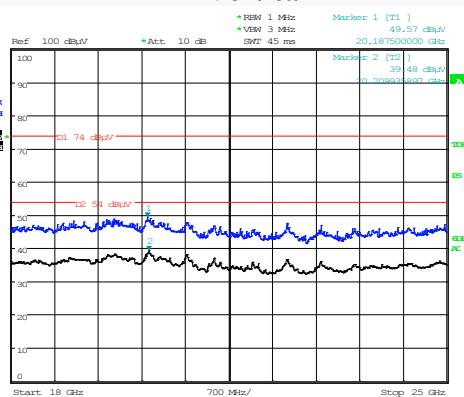


Critical Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
2483.968000	66.82	---	74.00	7.18	H	0.4
2483.968000	---	51.67	54.00	2.33	H	0.4
2484.016000	65.49	---	74.00	8.51	H	0.4
2484.016000	---	52.88	54.00	1.12	H	0.4

18GHz-25GHz: Transmitting in maximum output power mode and 802.11n-HT20 mode low channel**Horizontal**

Project No :RSHA250918001 Tester :Hugh Wu
Date: 13.OCT.2025 12:04:01

Vertical

Project No :RSHA250918001 Tester :Hugh Wu
Date: 13.OCT.2025 12:36:43

Frequency (GHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
20.21	---	39.48	54	14.52	V	12.47
20.19	49.57	---	74	24.43	V	12.45
20.21	---	38.97	54	15.03	H	12.47
19.62	49.47	---	74	24.53	H	11.18

Note: The test distance is 3m. The limit is 74dB μ V/m (Peak) and 54dB μ V/m (Average).

6 dB EMISSION BANDWIDTH**Environmental Conditions & Test Information**

Test Date:	2025-10-11
Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	101.2 kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

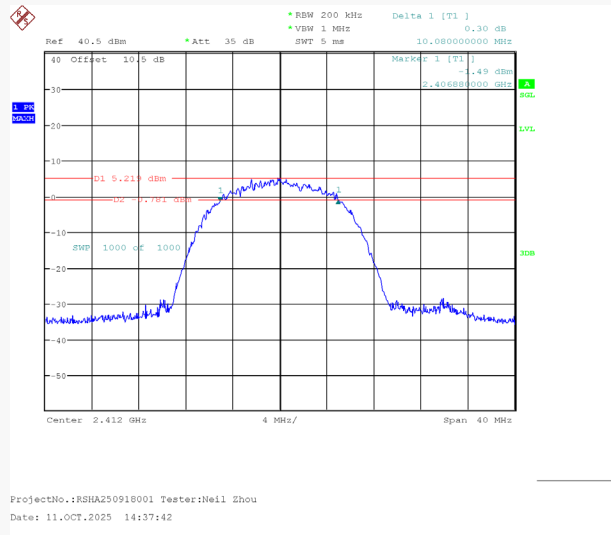
Test Result: Compliant.

EUT operation mode: Transmitting

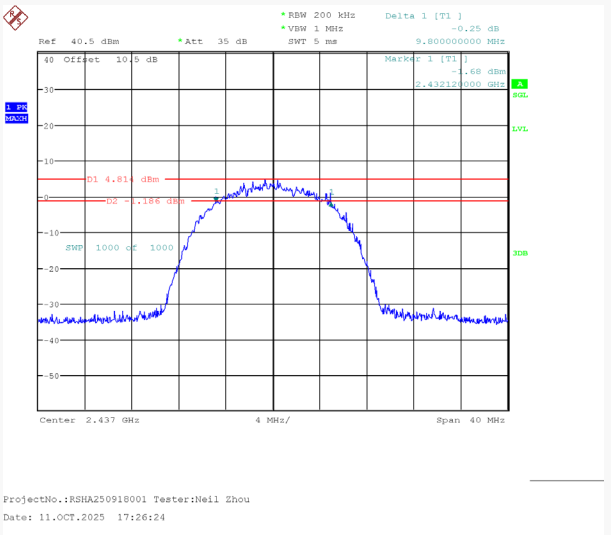
For Wi-Fi Mode:

Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (MHz)	Result
802.11b Mode				
Low	2412	10.080	≥ 0.5	Pass
Middle	2437	9.800	≥ 0.5	Pass
High	2462	10.320	≥ 0.5	Pass
802.11g Mode				
Low	2412	16.520	≥ 0.5	Pass
Middle	2437	16.440	≥ 0.5	Pass
High	2462	16.480	≥ 0.5	Pass
802.11n-HT20 Mode				
Low	2412	17.760	≥ 0.5	Pass
Middle	2437	17.720	≥ 0.5	Pass
High	2462	17.760	≥ 0.5	Pass

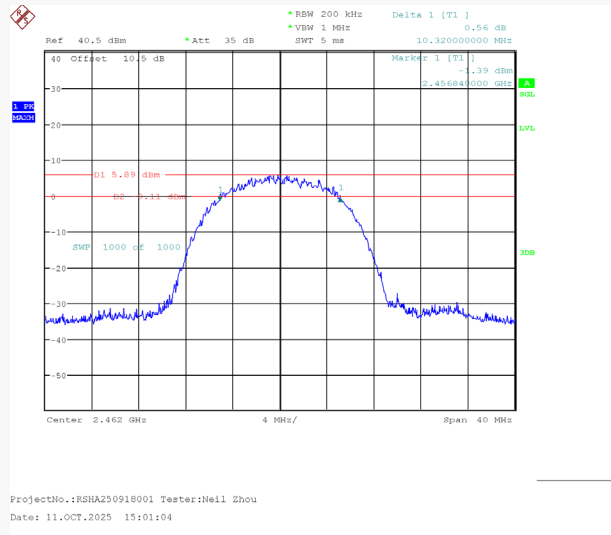
802.11b_2412MHz



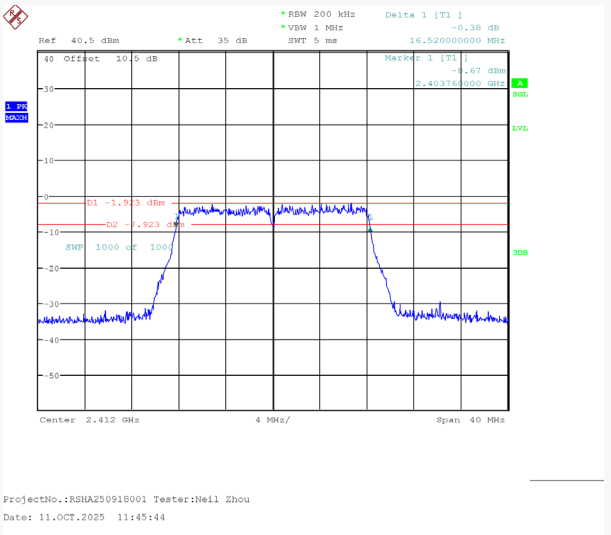
802.11b_2437MHz



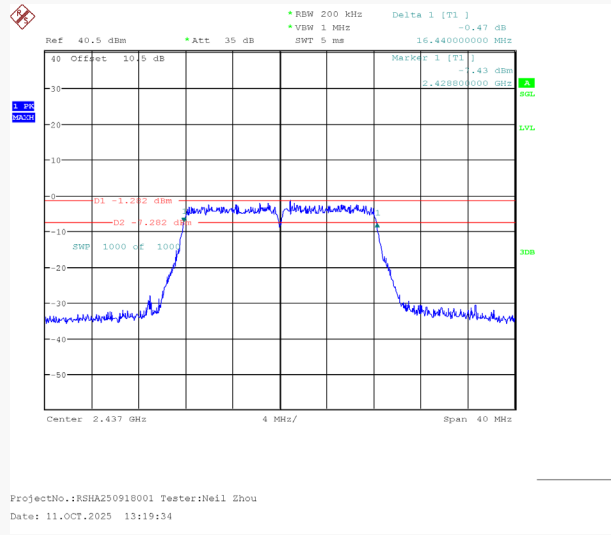
802.11b_2462MHz



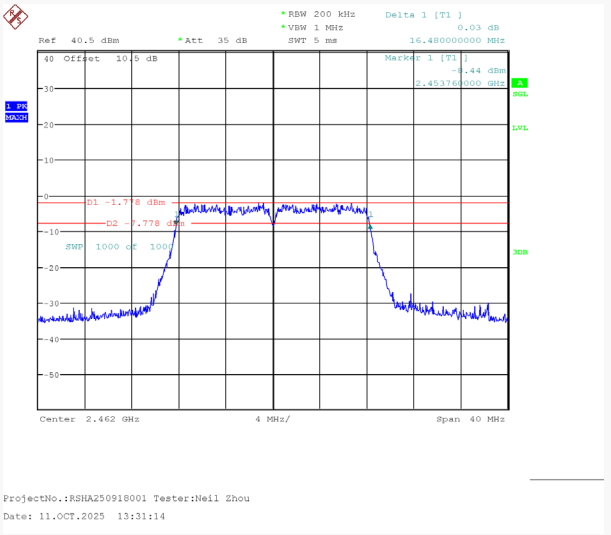
802.11g_2412MHz



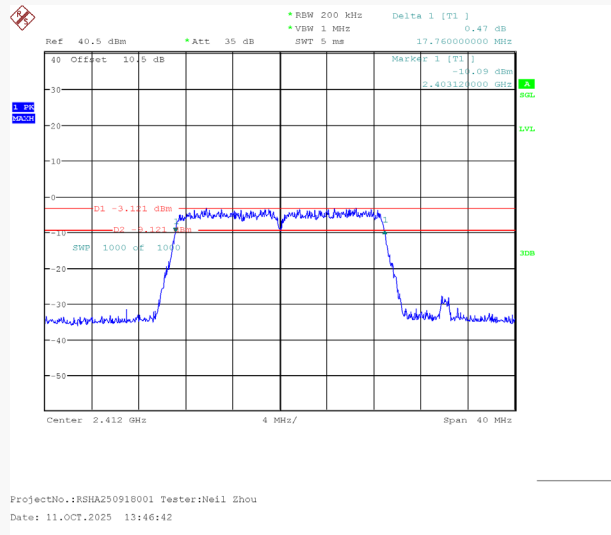
802.11g_2437MHz



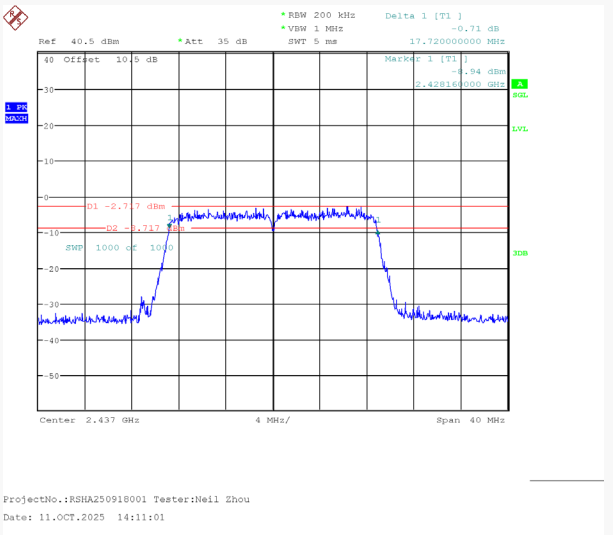
802.11g_2462MHz



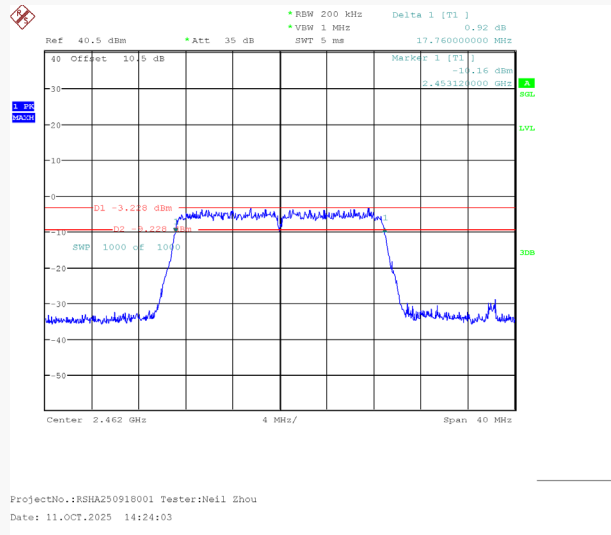
802.11n20_2412MHz



802.11n20_2437MHz



802.11n20_2462MHz



MAXIMUM CONDUCTED OUTPUT POWER**Environmental Conditions & Test Information**

Test Date:	2025-10-11
Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	101.2 kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Test Result: Compliant.

EUT operation mode: Transmitting

For Wi-Fi Mode:

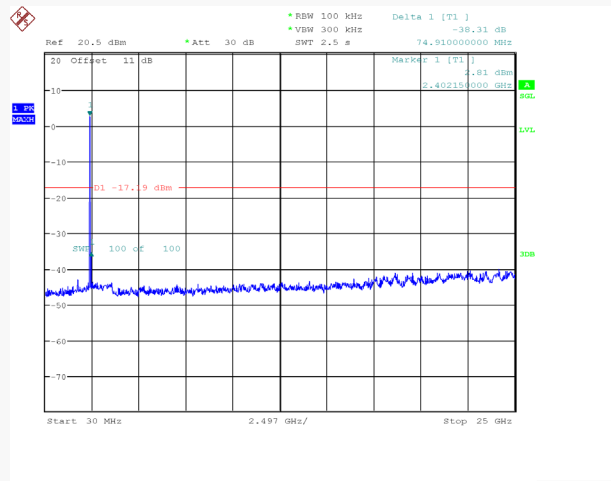
Channel	Frequency (MHz)	Max Conducted Peak Output Power (dBm)	Peak Output Power Limit (dBm)
802.11b Mode			
Low	2412	14.42	≤30
Middle	2437	14.39	≤30
High	2462	14.42	≤30
802.11g Mode			
Low	2412	14.73	≤30
Middle	2437	14.52	≤30
High	2462	14.37	≤30
802.11n-HT20 Mode			
Low	2412	14.79	≤30
Middle	2437	14.03	≤30
High	2462	14.32	≤30

CONDUCTED SPURIOUS EMISSION

Environmental Conditions & Test Information

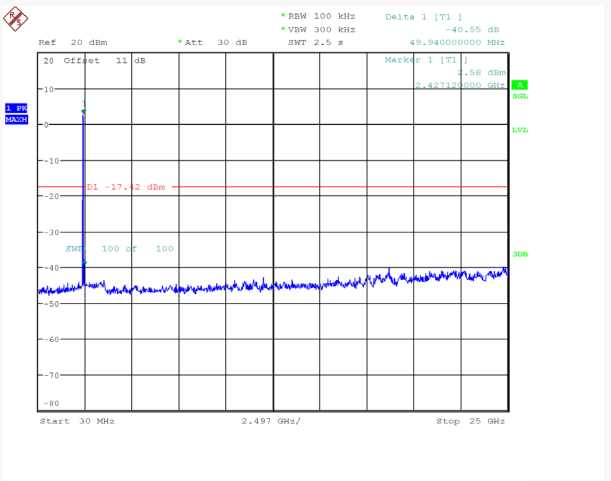
Test Date:	2025-10-11
Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	101.2 kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

802.11b_2412MHz



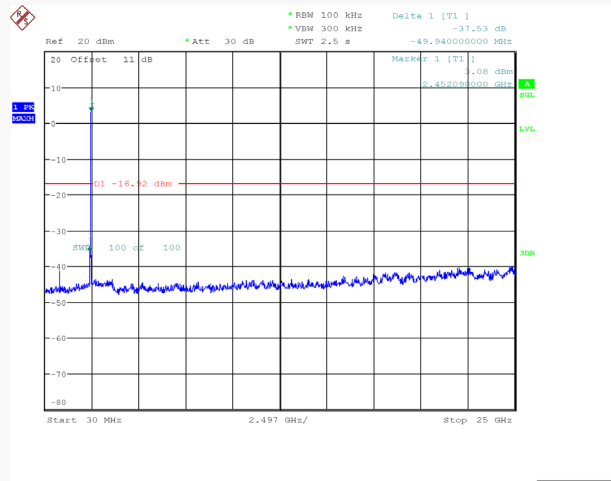
ProjectNo.:RSHA250918001 Tester:Neil Zhou
Date: 11.OCT.2025 15:14:11

802.11b_2437MHz



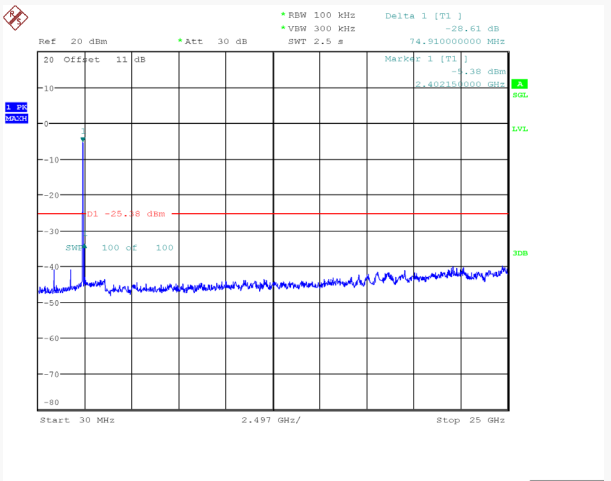
ProjectNo.:RSHA250918001 Tester:Neil Zhou
Date: 11.OCT.2025 15:20:01

802.11b_2462MHz



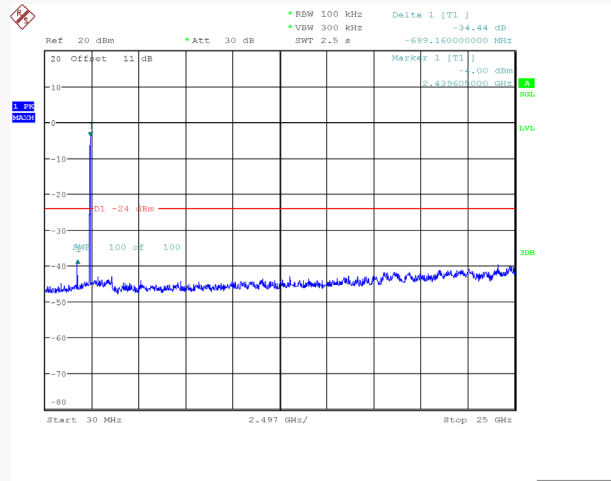
ProjectNo.:RSHA250918001 Tester:Neil Zhou
Date: 11.OCT.2025 15:30:07

802.11g_2412MHz



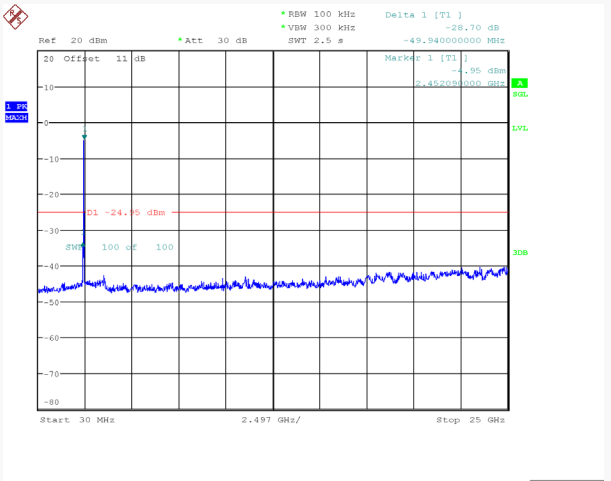
ProjectNo.:RSHA250918001 Tester:Neil Zhou
Date: 11.OCT.2025 15:35:53

802.11g_2437MHz



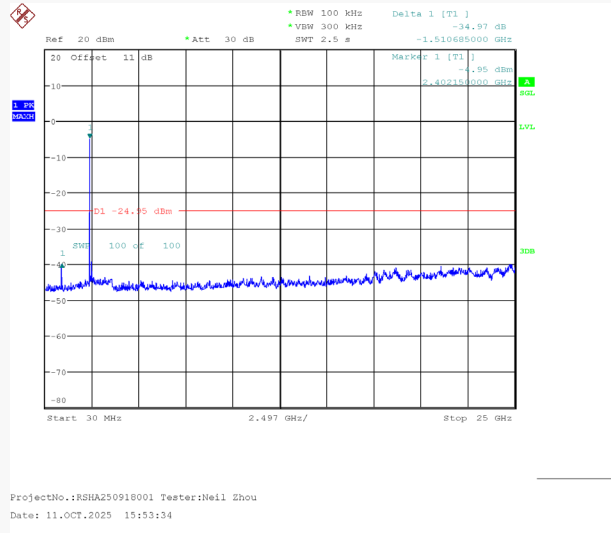
ProjectNo.:RSHA250918001 Tester:Neil Zhou
Date: 11.OCT.2025 15:41:43

802.11g_2462MHz

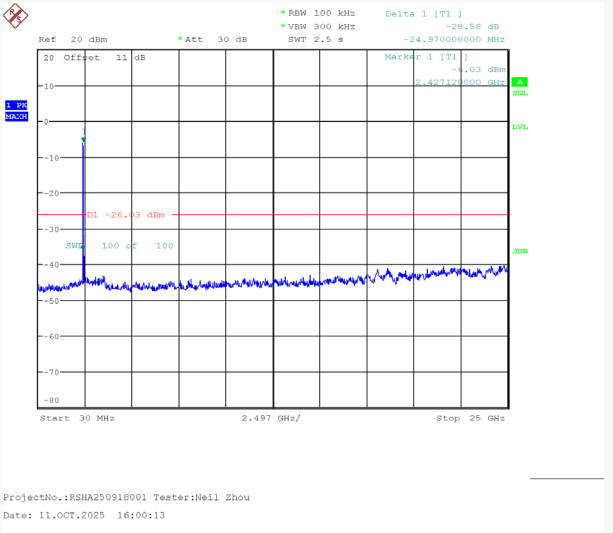


ProjectNo.:RSHA250918001 Tester:Neil Zhou
Date: 11.OCT.2025 15:47:58

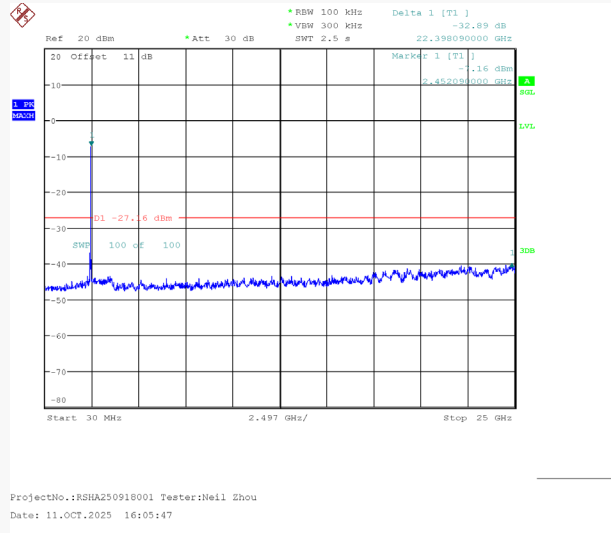
802.11n20_2412MHz



802.11n20_2437MHz



802.11n20_2462MHz



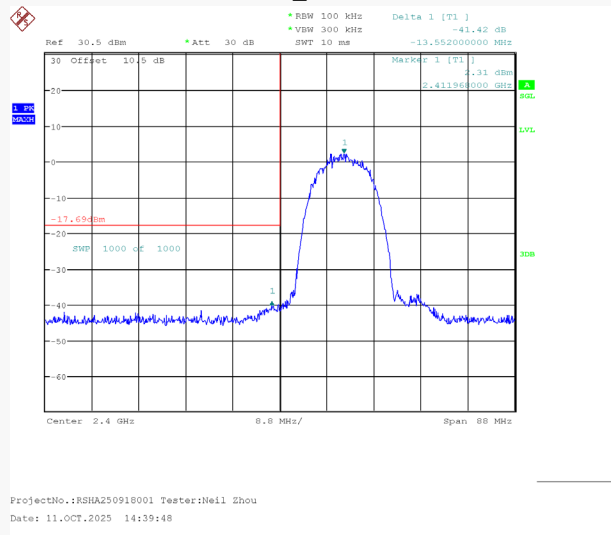
100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE**Environmental Conditions & Test Information**

Test Date:	2025-10-11
Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	101.2 kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

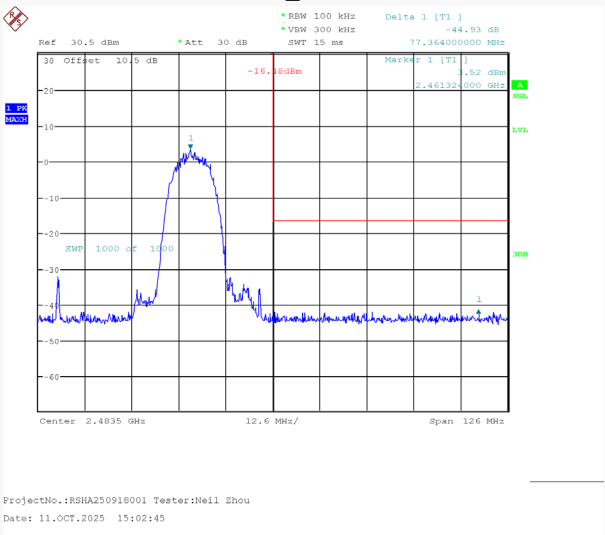
*EUT operation mode: Transmitting***Test Result:** Compliant

Mode	Channel	Test Frequency (MHz)	Result (dB)	Limit (dB)
802.11b	Low	2412	41.42	20
	High	2462	44.93	20
802.11g	Low	2412	36.74	20
	High	2462	38.75	20
802.11n20	Low	2412	34.49	20
	High	2462	35.70	20

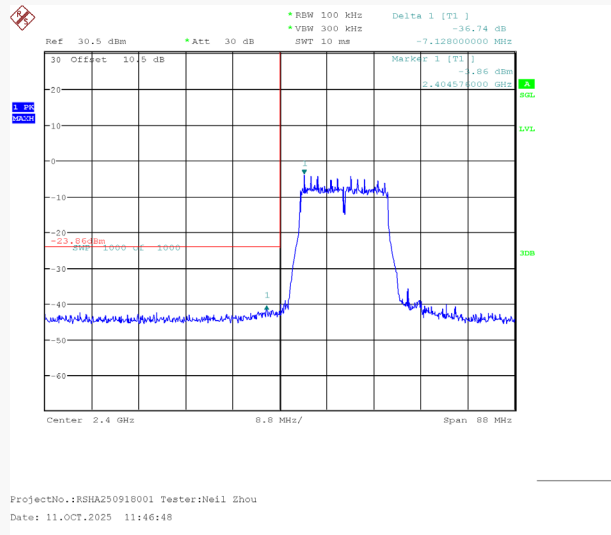
802.11b_2412MHz



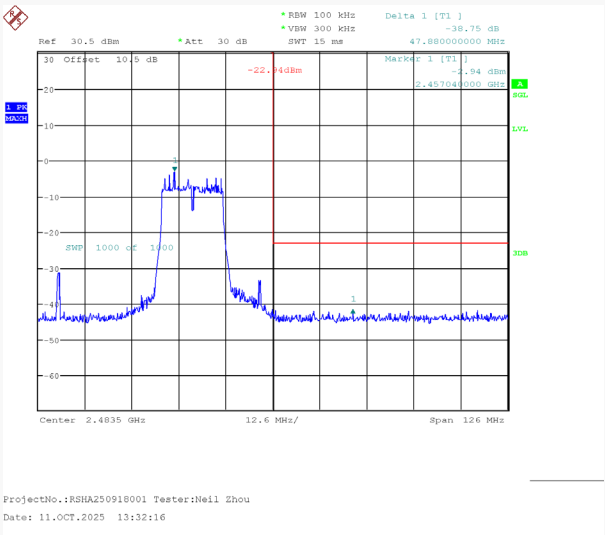
802.11b_2462MHz



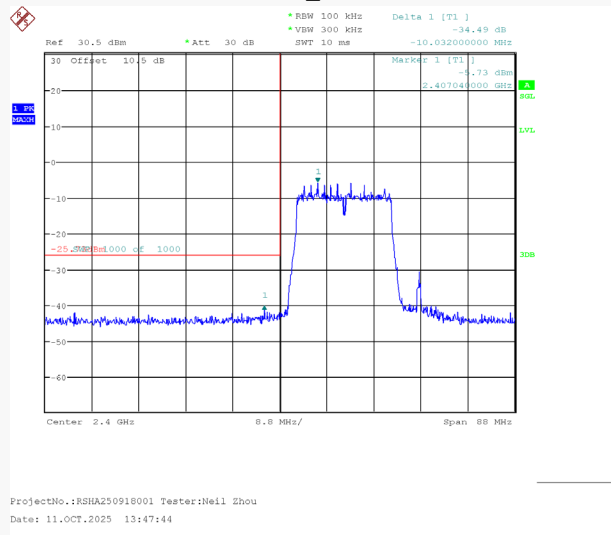
802.11g_2412MHz



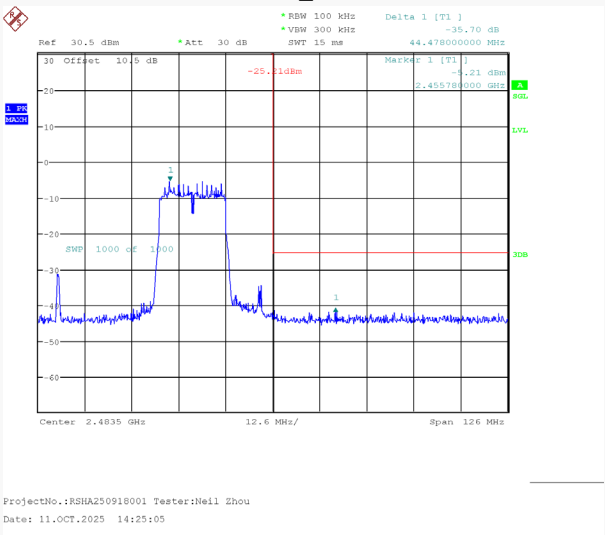
802.11g_2462MHz



802.11n20_2412MHz



802.11n20_2462MHz



POWER SPECTRAL DENSITY**Environmental Conditions & Test Information**

Test Date:	2025-10-11
Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	101.2 kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

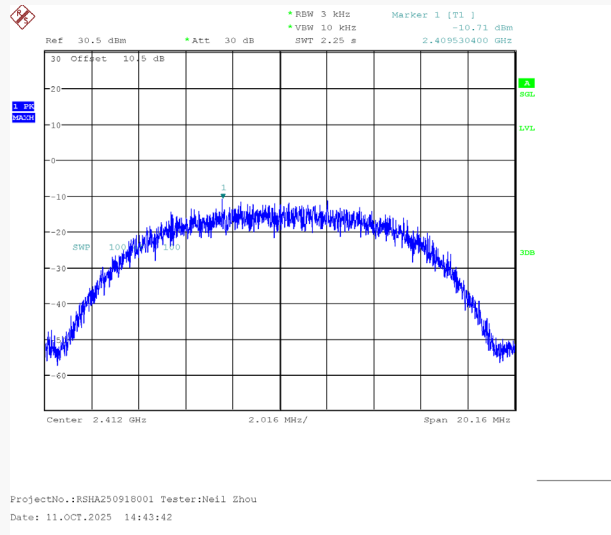
Test Result: Compliant.

EUT operation mode: Transmitting

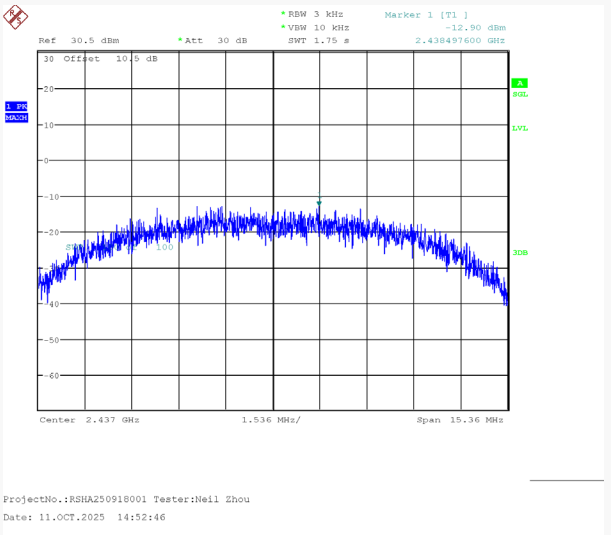
For Wi-Fi Mode:

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
802.11b Mode				
Low	2412	-10.71	≤ 8	Pass
Middle	2437	-12.90	≤ 8	Pass
High	2462	-11.50	≤ 8	Pass
802.11g Mode				
Low	2412	-19.01	≤ 8	Pass
Middle	2437	-17.24	≤ 8	Pass
High	2462	-18.09	≤ 8	Pass
802.11n-HT20 Mode				
Low	2412	-17.81	≤ 8	Pass
Middle	2437	-18.37	≤ 8	Pass
High	2462	-17.52	≤ 8	Pass

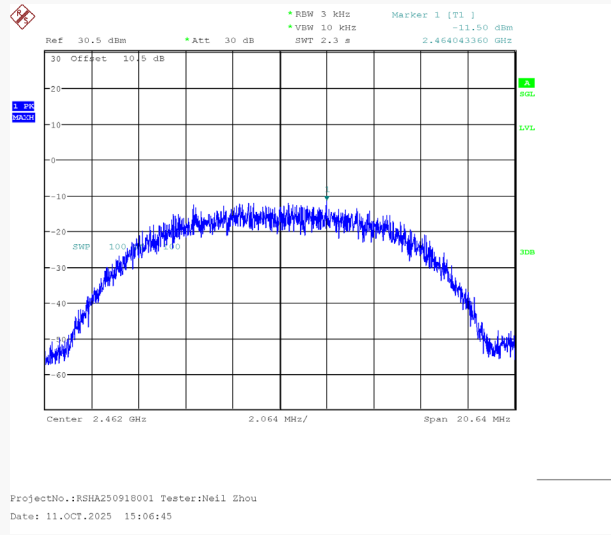
802.11b_2412MHz



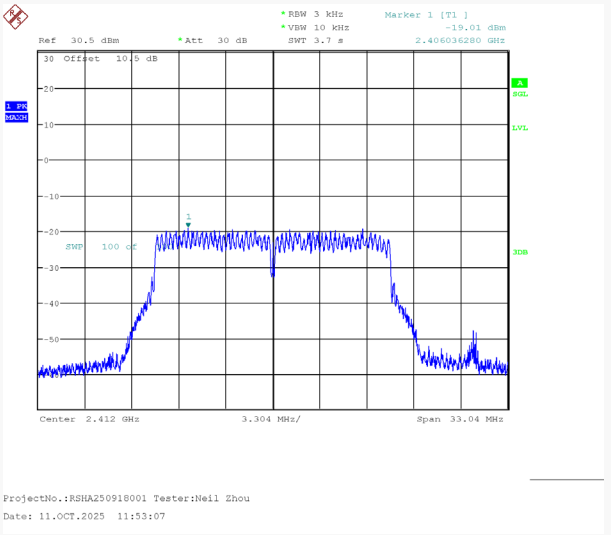
802.11b_2437MHz



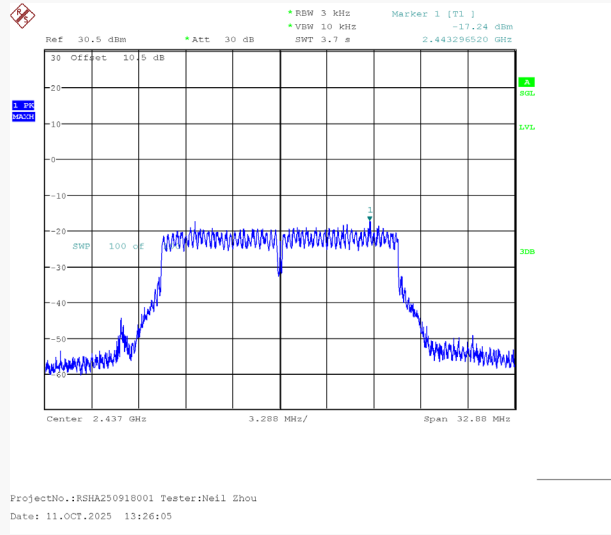
802.11b_2462MHz



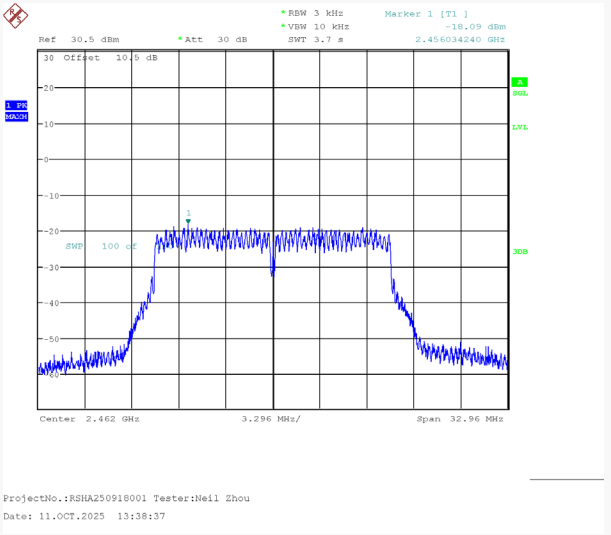
802.11g_2412MHz



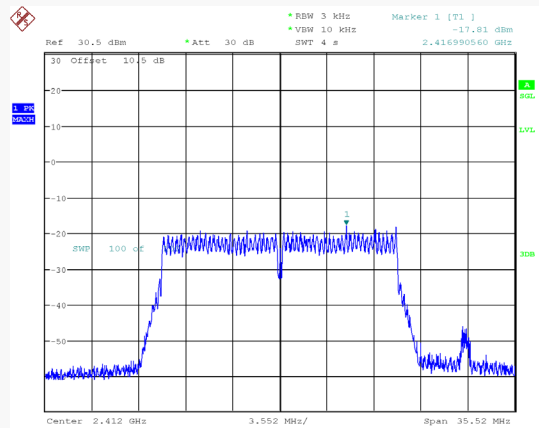
802.11g_2437MHz



802.11g_2462MHz

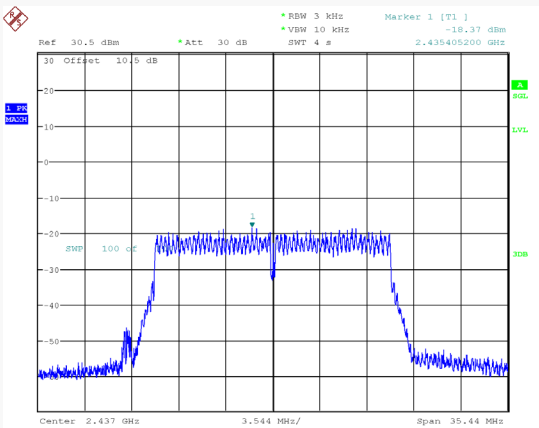


802.11n20_2412MHz



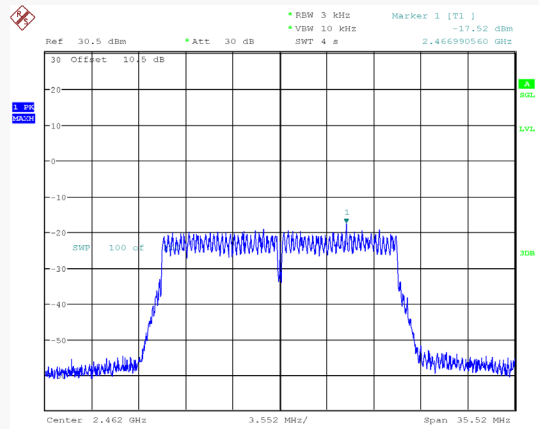
ProjectNo.:RSHA250918001 Tester:Neil Zhou
Date: 11.OCT.2025 13:54:34

802.11n20_2437MHz



ProjectNo.:RSHA250918001 Tester:Neil Zhou
Date: 11.OCT.2025 14:18:04

802.11n20_2462MHz



ProjectNo.:RSHA250918001 Tester:Neil Zhou
Date: 11.OCT.2025 14:31:56

EUT PHOTOGRAPHS

Please refer to the attachment EXHIBIT A - EUT EXTERNAL PHOTOGRAPHS and EXHIBIT B - EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment EXHIBIT C - TEST SETUP PHOTOGRAPHS.

Declarations

1. The laboratory is not responsible for the authenticity of any information provided by the applicant. Information from the applicant that may affect test results is marked with “★” .
2. The test data was only valid for the test sample(s).
3. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.
4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
5. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor $k=2$ with the 95.45% confidence interval.

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