

FCC PART 15.247

TEST REPORT

For

Zhishen Xinchuang (Suzhou) Intelligent Technology Co., Ltd.

Floor 5, Building 3, No. 58 Nanhu Road, Chengnan Street, Wuzhong District, Suzhou City,
Jiangsu Province, China

FCC ID: 2BVPE-L1L1W

Report Type: Original Report	Product Name: Quadruped Robot
Report Number: RBJ260416001-00B	
Report Date: 2026-07-02	
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Approved By: Kyle Xu	
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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	RBJ260416001-00B	R1V1	2026-07-02	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Zhishen Xinchuang (Suzhou) Intelligent Technology Co., Ltd.
Tested Model:	ZSXG02
Series Model:	ZSL-1
Model Difference:	Legs, see the declaration for details
Product Name:	Quadruped Robot
Power Supply:	DC 43.2V from battery
RF Function:	2.4G Wi-Fi; BLE
Operating Band/Frequency:	2.4G Wi-Fi: 2412~2462 MHz(802.11b/g/n20), 2422~2452 MHz(802.11n40) BLE(1 Mbps/2 Mbps):2402-2480 MHz
Maximum Conducted Peak Output Power:	2.4G Wi-Fi: 802.11b: 17.91 dBm 802.11g: 22.20 dBm 802.11n20: 21.40 dBm 802.11n40: 21.56 dBm BLE(1 Mbps): -3.49 dBm BLE(2 Mbps): -3.54 dBm
Channel Number:	2.4G Wi-Fi: 11(802.11b/g/n20), 7(802.11n40) BLE(1 Mbps/2 Mbps): 40
Channel Separation:	2.4G Wi-Fi: 5 MHz BLE: 2 MHz
Modulation Type:	2.4G Wi-Fi: DSSS, OFDM BLE: GFSK
★Maximum Antenna Gain:	BLE: 3 dBi 2.4G Wi-Fi : Chain 0: 3.98 dBi; Chain 1: 3.3 dBi
Sample/EUT Status:	Good condition

Adapter information:

Model: FY2475045000

Input: AC 100-240V, 50/60Hz, 3.5A

Output: DC 50.4V, 5A

All measurement and test data in this report was gathered from production sample serial number:

RBJ260416001-1 (ZSXG02), RBJ260416001-2 (ZSL-1) (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2026-04-16.)

Based on the differences between models ZSXG02 and ZSL-1, we measured all items for model ZSXG02, while model ZSL-1 was only tested for Radiated Emissions Below 1GHz.

Objective

This report is prepared for *Zhishen Xinchuang (Suzhou) Intelligent Technology 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, 15.209 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 BLE mode:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	14	2430	28	2458
1	2404	15	2432	29	2460
2	2406	16	2434	30	2462
3	2408	17	2436	31	2464
4	2410	18	2438	32	2466
5	2412	19	2440	33	2468
6	2414	20	2442	34	2470
7	2416	21	2444	35	2472
8	2418	22	2446	36	2474
9	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454	/	/
13	2428	27	2456	/	/

For BLE (1 Mbps/2 Mbps) mode, EUT was tested with channel 0, 19 and 39.

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

For 802.11n-HT40 mode, EUT was tested with Channel 3, 6 and 9.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

The system was configured for testing in an engineering mode, which was provided by manufacturer.

RF test software: adb

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

Mode	Data Rate	Channel	★Power Level	
			Chain 0	Chain 1
802.11b	1 Mbps	Low	16	16
		Middle	16	16
		High	16	16
802.11g	6 Mbps	Low	16	16
		Middle	16	16
		High	16	16
802.11n-HT20	MCS0	Low	12	12
		Middle	12	12
		High	12	12
802.11n-HT40	MCS0	Low	9	9
		Middle	9	9
		High	9	9

Note:

1. The power level was declared by the applicant.
2. 802.11b/g supports SISO mode, 802.11n20/n40 supports SISO and MIMO mode.

Mode	Data Rate	Channel	★Power Level
BLE(1Mbps)	1Mbps	Low	8
		Middle	8
		High	8
BLE(2Mbps)	2Mbps	Low	8
		Middle	8
		High	8

Note: The power level was declared by the applicant.

Environmental Conditions & Test Information

Test Date:	2026-06-01	2026-06-03
Temperature:	25.5℃	25.5℃
Relative Humidity:	47 %	44 %
ATM Pressure:	101.8 kPa	101.4 kPa
Test Engineer:	Neil Zhou	Neil Zhou

2.4G WiFi mode
Chain 0

Mode	Duty Cycle (%)	Ton(ms)	Ton+off(ms)	10log(1/x) (dB)
802.11b	99.35	8.397	8.452	/
802.11g	96.20	1.391	1.446	0.17
802.11n-HT20	95.87	1.299	1.355	0.18
802.11n-HT40	91.44	2437	0.641	0.39

Chain 1

Mode	Duty Cycle (%)	Ton(ms)	Ton+off(ms)	10log(1/x) (dB)
802.11b	99.35	8.397	8.452	/
802.11g	96.20	1.391	1.446	0.17
802.11n-HT20	95.94	1.299	1.354	0.18
802.11n-HT40	92.42	0.646	0.699	0.34

BLE mode

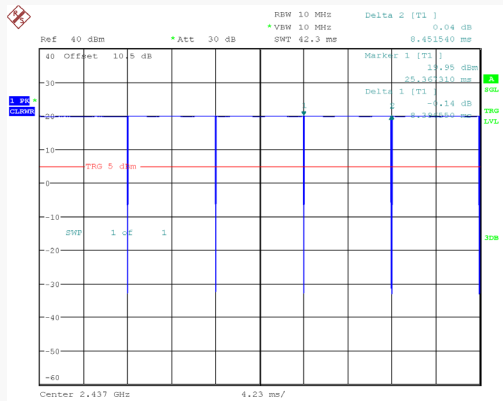
Mode	Duty Cycle (%)	Ton(ms)	Ton+off(ms)	10log(1/x) (dB)
BLE(1Mbps)	48.00	0.600	1.250	3.19
BLE(2Mbps)	49.76	0.311	0.625	3.03

Note:

1. “x” means the Duty Cycle.
2. Note: Offset (10.5dB) = Attenuator (10dB) + Cable Loss (0.5dB)

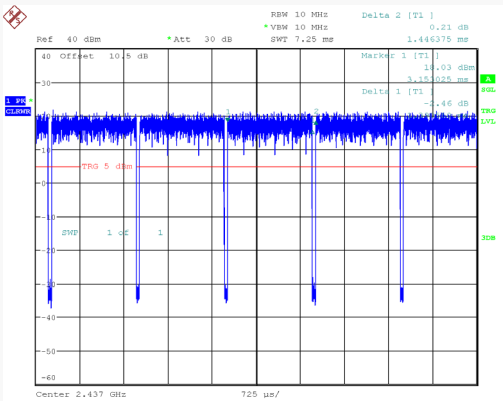
Duty Cycle:
2.4G WiFi mode
Chain 0

802.11b Mode Middle Channel



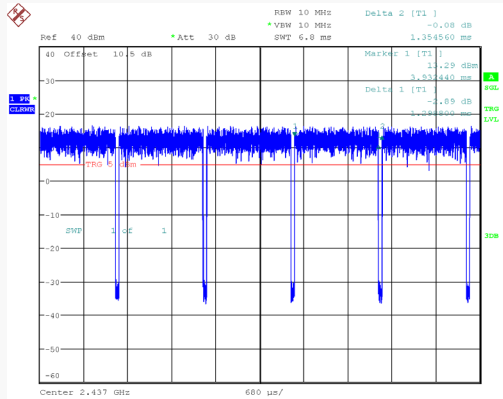
ProjectNo.:RBJ260416001 Tester:Neil Zhou
Date: 1.JUN.2026 10:51:42

802.11g Mode Middle Channel



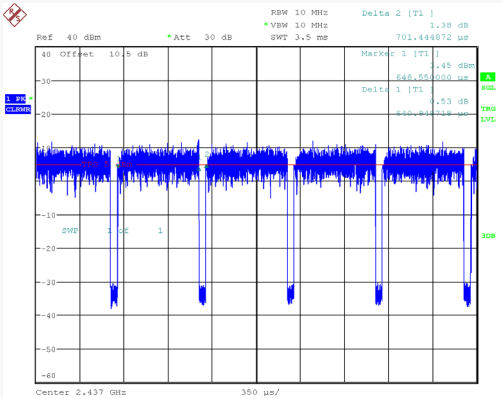
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802.11n-HT20 Mode Middle Channel



ProjectNo.:RBJ260416001 Tester:Neil Zhou
Date: 1.JUN.2026 13:57:11

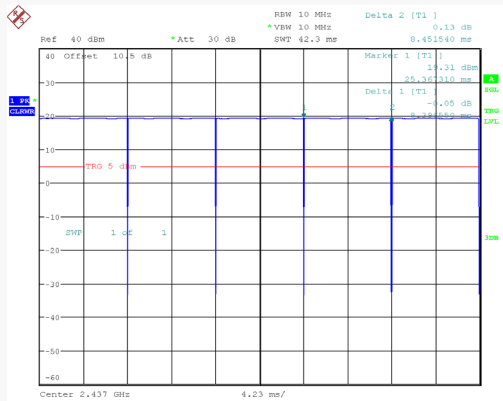
802.11n-HT40 Mode Middle Channel



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Date: 1.JUN.2026 14:57:42

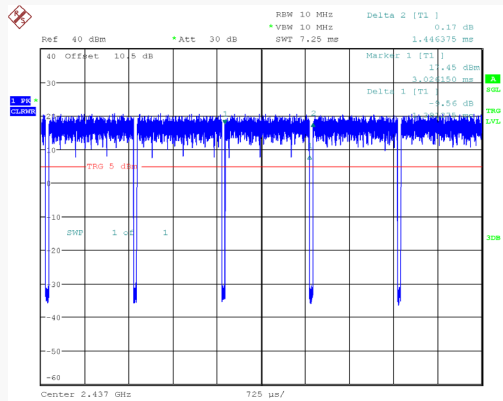
Duty Cycle:
Chain 1

802.11b Mode Middle Channel



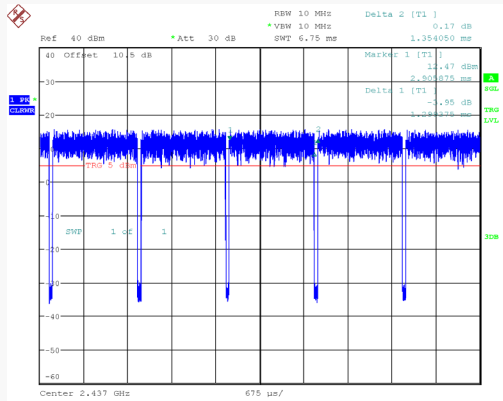
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802.11g Mode Middle Channel



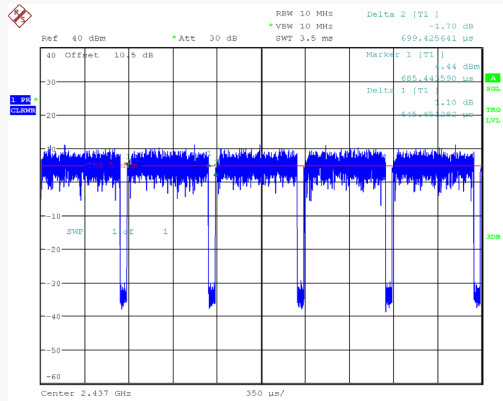
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802.11n-HT20 Mode Middle Channel



ProjectNo.:RBJ260416001 Tester:Neil Zhou
Date: 1.JUN.2026 18:51:51

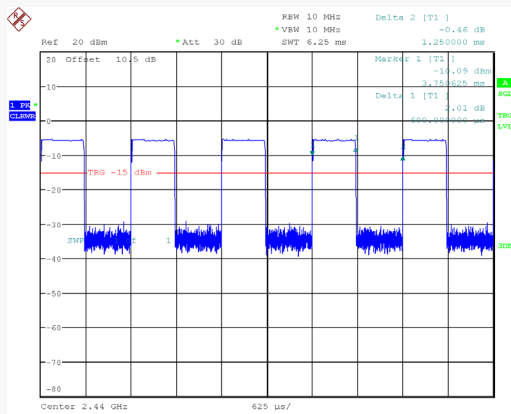
802.11n-HT40 Mode Middle Channel



ProjectNo.:RBJ260416001 Tester:Neil Zhou
Date: 1.JUN.2026 19:45:56

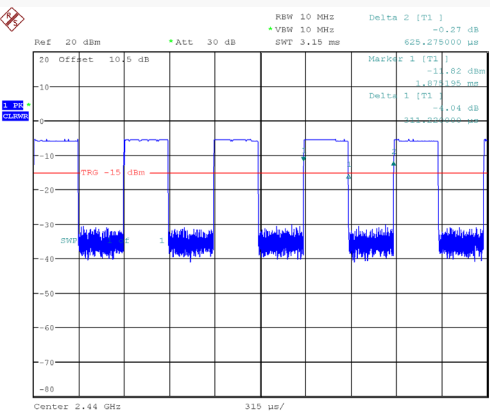
BLE mode

BLE(1Mbps) Mode Middle Channel



ProjectNo.:RBJ260416001 Tester:Neil Zhou
Date: 3.JUN.2026 13:19:51

BLE(2Mbps) Mode Middle Channel



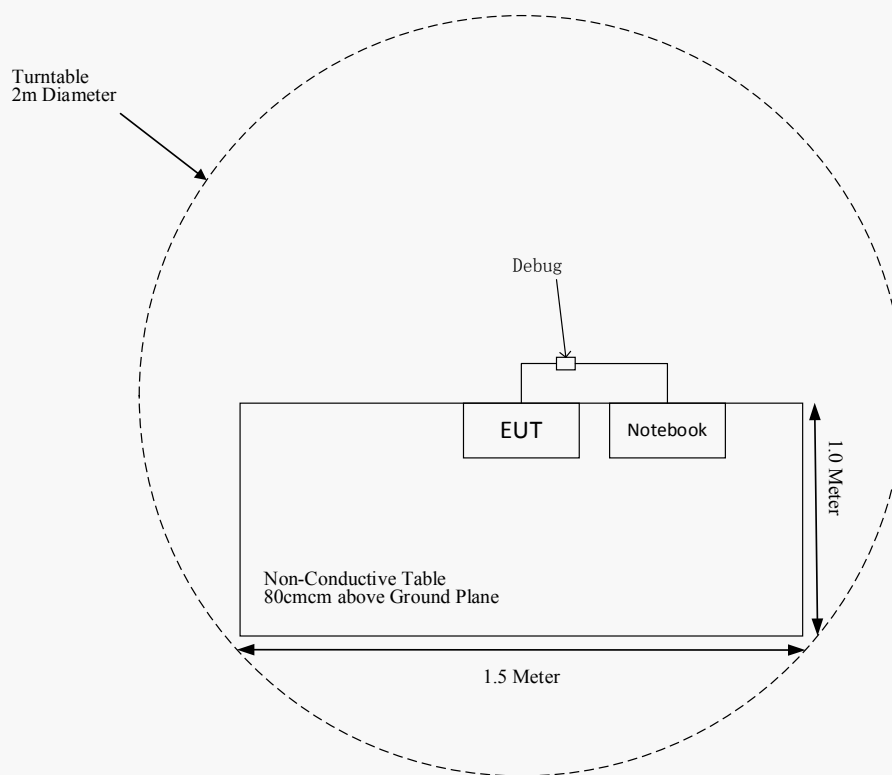
ProjectNo.:RBJ260416001 Tester:Neil Zhou
Date: 3.JUN.2026 13:20:24

Support Equipment List and Details

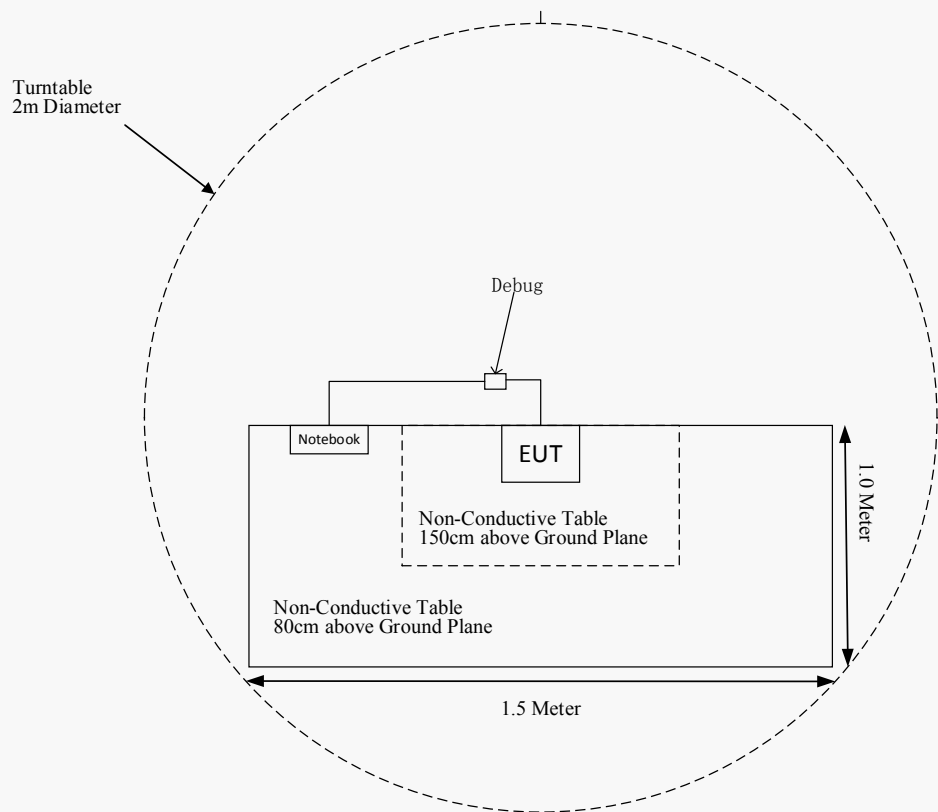
Manufacturer	Description	Model	Serial Number
Lenovo	Notebook	Y700P	PF2B7PL5
/	Debug board	/	/

External I/O Cable

Cable Description	Length (m)	From Port	To Port
DuPont Cable	0.2	EUT	Debug board
USB Cable	0.8	Debug board	Notebook

Block Diagram of Test Setup**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	Not Applicable (See Note)
§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

Note: The EUT is powered by battery.

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	2026-03-13	2027-03-12
Sunol Sciences	Hybrid Antenna	JB3	A090314-2	2024-10-29	2027-10-28
Narda	6dB Attenuator	773-6	10690812-2-1	2024-11-08	2027-11-07
BACL	Active Loop Antenna	1313-1A	4041511	2025-08-10	2028-08-09
Sonoma Instrument	Pre-amplifier	310N	171205	2026-03-13	2027-03-12
Rohde & Schwarz	Auto Test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-7	007	2026-03-16	2027-03-15
MICRO-COAX	Coaxial Cable	Cable-8	008	2026-03-13	2027-03-12
MICRO-COAX	Coaxial Cable	Cable-9	009	2026-03-13	2027-03-12
MICRO-COAX	Coaxial Cable	Cable-10	010	2026-03-13	2027-03-12
Radiated Emission Test (Chamber #2)					
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2026-03-16	2027-03-15
EMCO	Horn Antenna	3115	9207-3900	2024-11-03	2027-11-02
ETS-LINDGREN	Horn Antenna	3116	2516	2024-12-12	2027-12-11
A.H.Systems, inc	Amplifier	PAM-0118P	512	2026-03-16	2027-03-15
SELECTOR	Amplifier	EM18G40G	60726	2026-03-13	2027-03-12
MICRO-TRONICS	Band Reject Filter	BRM50702	G024	2026-04-08	2027-04-07
Narda	Attenuator	10dB	010	2026-03-13	2027-03-12
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-11	011	2026-03-16	2027-03-15
MICRO-COAX	Coaxial Cable	Cable-12	012	2026-03-16	2027-03-15
MICRO-COAX	Coaxial Cable	Cable-13	013	2026-03-16	2027-03-15
MICRO-COAX	Coaxial Cable	Cable-25	025	2026-03-12	2027-03-11
RF Conducted Test					
Rohde & Schwarz	Spectrum Analyzer	FSU26	200103	2026-03-16	2027-03-15
Rohde & Schwarz	Signal Analyzer	FSV40	101116	2026-03-16	2027-03-15
Narda	Attenuator	10dB	010	2026-03-13	2027-03-12
XHFDZ	RG316 Coaxial Cable	SMA-316	XHF-1175	Each time	N/A
Anritsu	Power Sensor	MA24418A	12621	2026-03-13	2027-03-12

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 WiFi	2412-2462	3.98	2.50	22.5	177.83	20	0.0884	1.0
BLE	2402-2480	3.0	2.00	-3.0	0.50	20	0.0002	1.0
5G WiFi	5150-5250	3.90	2.45	14.5	28.18	20	0.0137	1.0
	5250-5350	3.98	2.50	14.5	28.18	20	0.0140	1.0
	5470-5725	3.94	2.48	13.0	19.95	20	0.0098	1.0
	5725-5850	3.87	2.44	18.0	63.10	20	0.0306	1.0

Note:

1. For the above tune up power were declared by the manufacturer.
2. The Wi-Fi and BLE can be transmitting simultaneously, So

$$\sum_i \frac{S_i}{S_{Limit,i}} = 0.0884 + 0.0002 = 0.0886 < 1.0$$

Result: The device meet FCC MPE at 20 cm distance.

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.

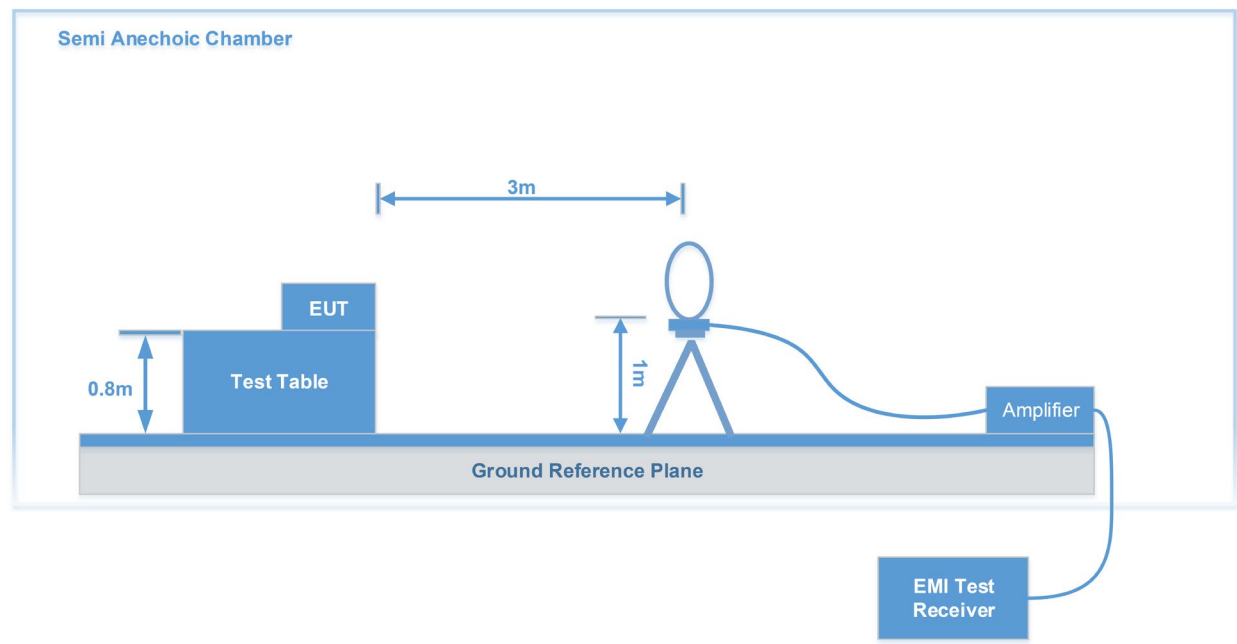
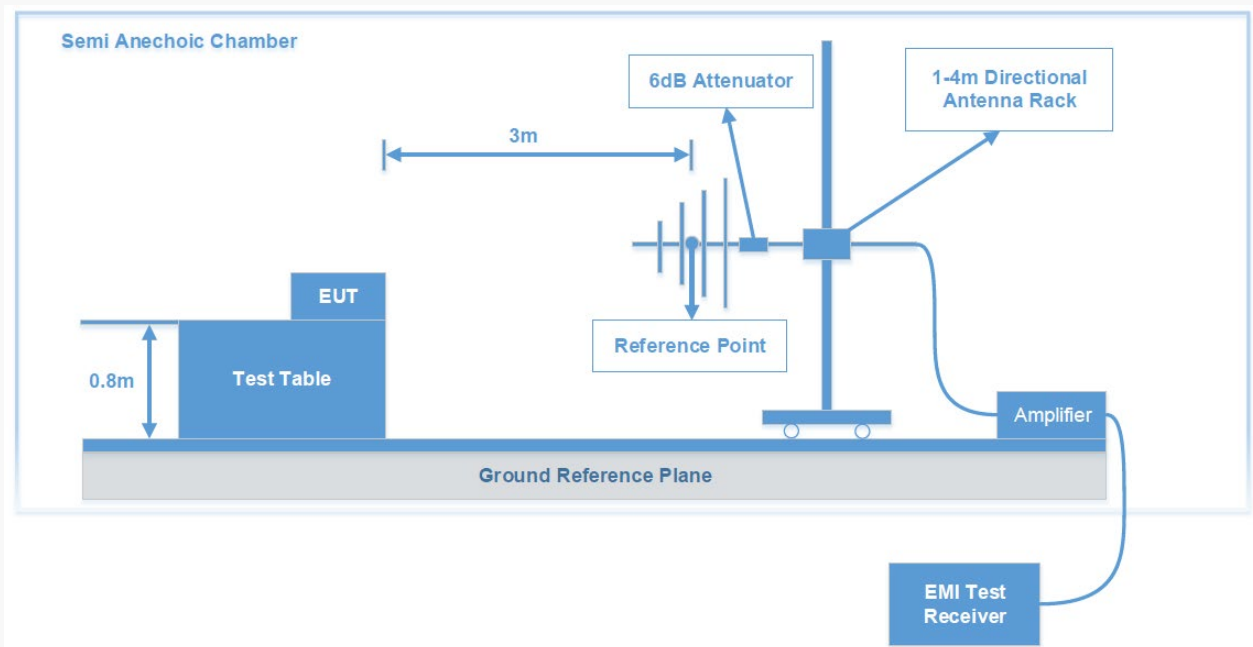
Antenna Connector Construction

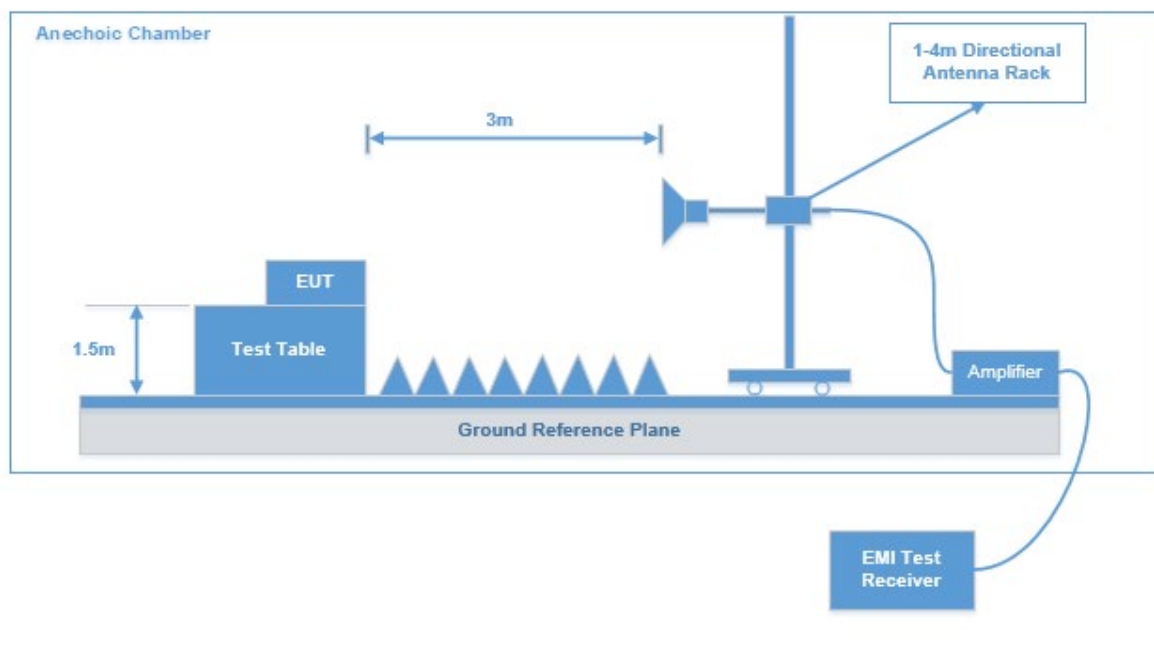
The EUT has two FPC antenna for wifi and has a chip antenna for ble which permanently attached to the unit. fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliant.

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.

Data was recorded in Quasi-peak detection mode for frequency range of 9 kHz -1 GHz, except 9-90 kHz, 110-490 kHz, employing an average detector, peak and Average detection modes for frequencies above 1 GHz.

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 (dBμV/m) = Meter Reading (dBμV) + 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 (dBμV/m) – Corrected Amplitude (dBμV/m)

Note: The QuasiPeak (dBμV/m), MaxPeak (dBμV/m), Average (dBμV/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

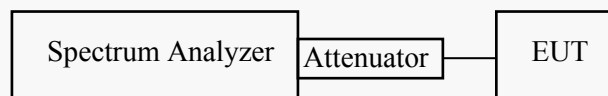
Applicable Standard

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

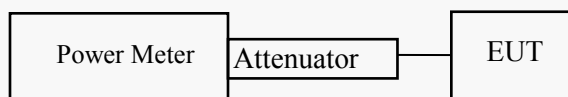
For 2.4G Wi-Fi:

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)

For BLE:

According to ANSI C63.10-2020 sub-clause 11.9.1.1

- Set the RBW $\geq$ DTS bandwidth.
- Set VBW $\geq [3 \times \text{RBW}]$.
- Set span $\geq [3 \times \text{RBW}]$.
- Sweep time = No faster than coupled (auto) time.
- Detector = peak.
- Trace mode = max-hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.



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 & CONDUCTED SPURIOUS EMISSION

Band Edges

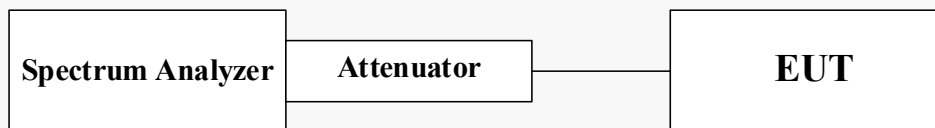
Applicable Standard

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 Section 11.11

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

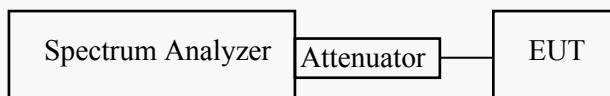
Applicable Standard

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 (13dB) = Attenuator (10dB) + Cable Loss (3.0dB)

Test Data: See Appendix

FCC §15.247(E) - POWER SPECTRAL DENSITY

Applicable Standard

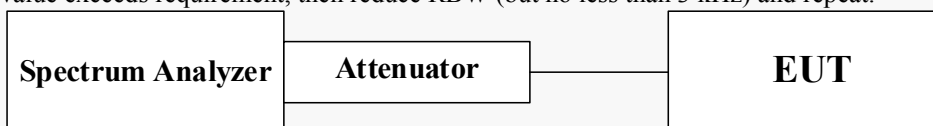
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of 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

SPURIOUS EMISSIONS

Environmental Conditions & Test Information

Test Item:	SPURIOUS EMISSIONS						
	9kHz – 30MHz		30MHz - 1GHz		1 GHz - 18 GHz		18 GHz - 25 GHz
Test Date:	2026-05-19	2026-06-26	2026-05-19	2026-06-26	2026-05-20	2026-05-25	2026-05-26
Temperature:	24.5 °C	23.2 °C	24.5 °C	23.2 °C	24.5 °C	24.9 °C	20.1 °C
Relative Humidity:	53 %	56 %	53 %	56 %	52 %	53 %	48 %
ATM Pressure:	101.1 kPa	100.9 kPa	101.1 kPa	100.9 kPa	100.7 kPa	100.5 kPa	103.5 kPa
Test Result:	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Test Engineer:	Scarf Yang	Scarf Yang	Scarf Yang	Scarf Yang	Destine Hu	Destine Hu	Hugh Wu

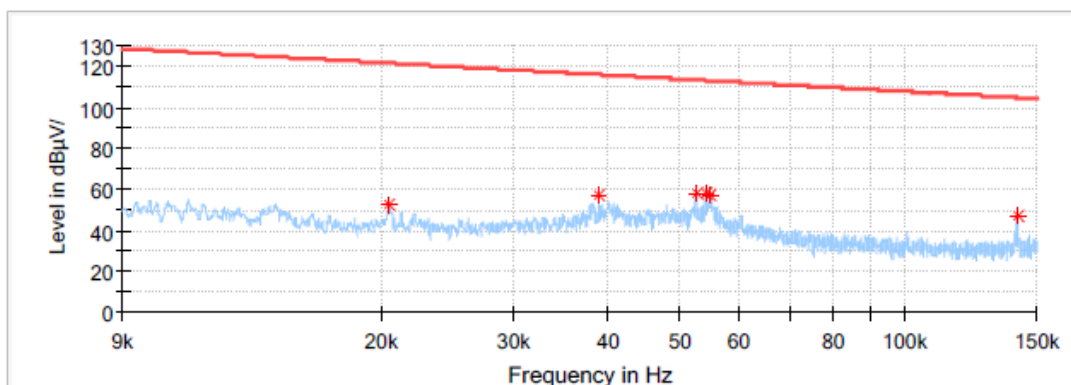
Test Result: Compliant

EUT operation mode: Transmitting

Model: ZSXG02**Wi-Fi Mode:****9kHz-150kHz:** (Transmitting in maximum output power 802.11g mode high channel)**Parallel(worst case)****High Channel: 2462MHz**

Common Information

Project No: RBJ260416001
EUT Model: ZSXG02
Test Mode: Transmitting in 802.11g mode High channel
Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment: ESCI, 1313-1A, 310N
Receiver Setting: RBW: 200 Hz, VBW: 1 kHz, Sweep Time: Auto
Temperature: 24.5°C
Humidity: 53%
Barometric Pressure: 101.1kPa
Test Engineer: Scarf Yang
Check by: Jason Lu
Test Date: 2026/5/19



Critical_Freqs

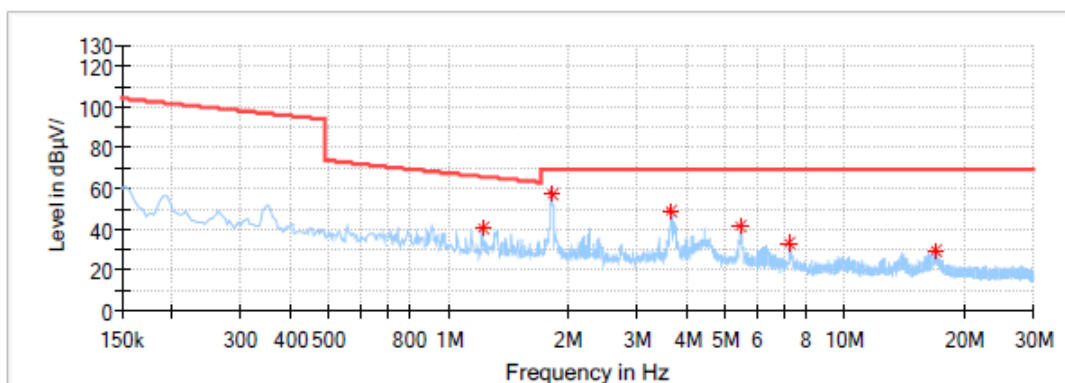
Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
0.020474	52.81	121.37	68.56	Parallel	-0.1
0.038980	57.61	115.78	58.17	Parallel	-1.5
0.052587	58.10	113.18	55.09	Parallel	-3.6
0.054279	58.48	112.91	54.43	Parallel	-3.8
0.054896	57.06	112.81	55.76	Parallel	-3.8
0.141540	47.23	104.58	57.35	Parallel	-10.3

150kHz-30MHz: (Transmitting in maximum output power 802.11g mode high channel)
Parallel(worst case)

High Channel: 2462MHz

Common Information

Project No:	RBJ260416001
EUT Model:	ZSXG02
Test Mode:	Transmitting in 802.11g mode High channel
Standard:	FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
Test Equipment:	ESCI, 1313-1A, 310N
Receiver Setting:	RBW: 9k Hz, VBW: 30 kHz, Sweep Time: Auto
Temperature:	24.5°C
Humidity:	53%
Barometric Pressure:	101.1kPa
Test Engineer:	Scar Yang
Check by:	Jason Lu
Test Date:	2026/5/19

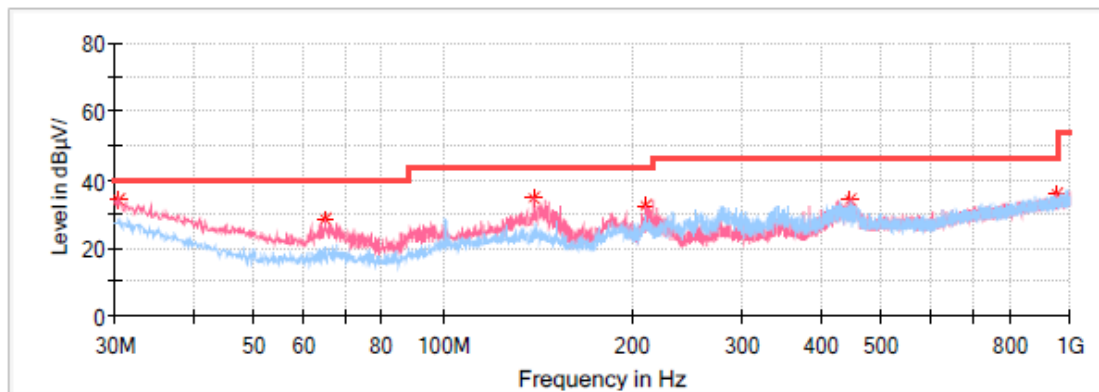


Critical_Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1.217138	40.48	65.73	25.25	Parallel	-27.8
1.821600	56.77	69.54	12.77	Parallel	-29.8
3.642450	48.87	69.54	20.67	Parallel	-31.1
5.452106	41.74	69.54	27.80	Parallel	-31.5
7.284150	33.26	69.54	36.28	Parallel	-31.9
17.086144	29.37	69.54	40.17	Parallel	-32.6

30MHz-1GHz (Transmitting in maximum output power 802.11g mode high channel):**High Channel: 2462MHz****Common Information**

Project No: RBJ260416001
 EUT Model: ZSXG02
 Test Mode: Transmitting in 802.11g mode High channel
 Standard: FCC Part 15.205 & FCC Part 15.209 & FCC Part 15.247
 Test Equipment: ESCI, JB3, 310N
 Receiver Setting: RBW: 100 kHz, VBW: 300 kHz, Sweep Time: Auto
 Temperature: 24.5°C
 Humidity: 53%
 Barometric Pressure: 101.1kPa
 Test Engineer: Scarf Yang
 Check by: Jason Lu
 Test Date: 2026/5/19

**Critical_Freqs**

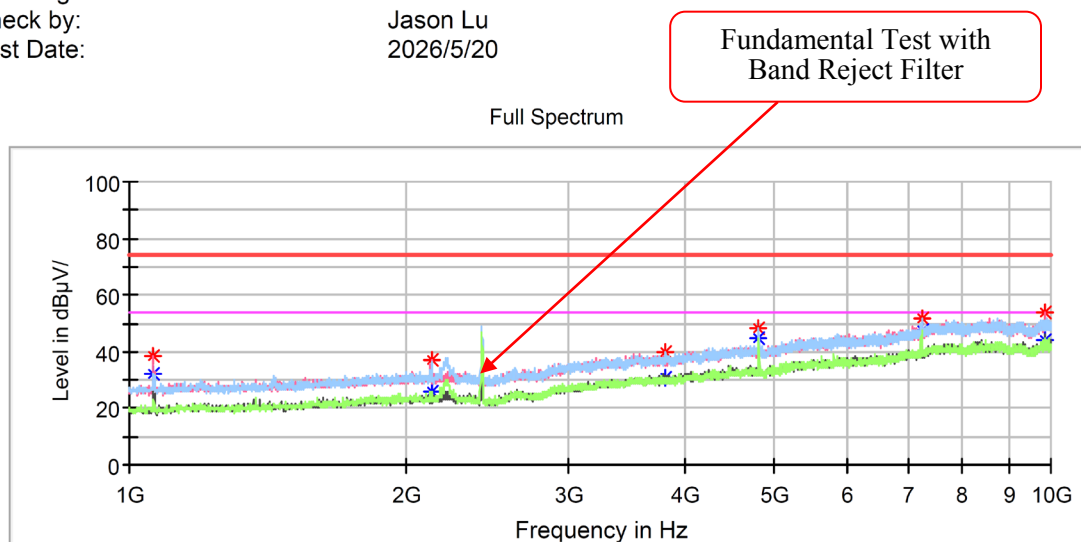
Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
30.485000	33.94	40.00	6.06	V	-4.9
64.920000	28.26	40.00	11.74	V	-16.7
139.731250	34.36	43.50	9.14	V	-11.0
210.662500	32.54	43.50	10.96	V	-12.5
446.251250	34.07	46.00	11.93	V	-6.5
951.015000	35.76	46.00	10.24	V	2.2

1GHz-10GHz:
802.11b Mode:
Chain 0

Low Channel: 2412MHz

Common Information

Project No.:	RBJ260416001
EUT Model:	ZSXG02
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:	24.5°C
Humidity:	52%
Atmospheric Pressure:	100.7kPa
Test Engineer:	Destine Hu
Check by:	Jason Lu
Test Date:	2026/5/20



Critical Freqs

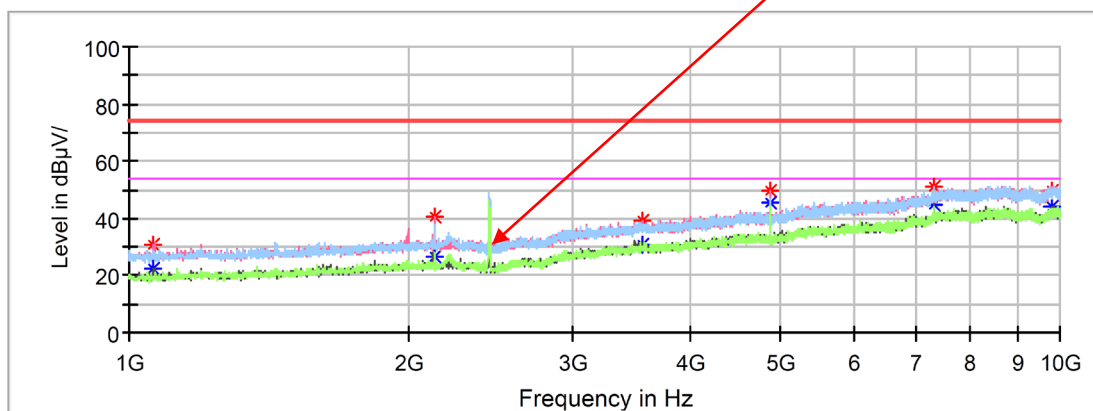
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1061.200000	---	32.00	54.00	22.00	V	-15.9
1061.200000	38.57	---	74.00	35.43	V	-15.9
2127.700000	---	25.69	54.00	28.31	V	-11.3
2127.700000	36.92	---	74.00	37.08	V	-11.3
3824.200000	---	30.51	54.00	23.49	H	-5.4
3824.200000	39.76	---	74.00	34.24	H	-5.4
4824.100000	---	44.64	54.00	9.36	H	-3.4
4824.100000	48.04	---	74.00	25.96	H	-3.4
7237.000000	51.68	---	74.00	22.32	H	2.4
7237.900000	---	47.38	54.00	6.62	H	2.4
9833.500000	---	44.19	54.00	9.81	V	5.9
9833.500000	53.61	---	74.00	20.39	V	5.9

Middle Channel: 2437MHz**Common Information**

Project No.: RBJ260416001
 EUT Model: ZSXG02
 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: 24.5°C
 Humidity: 52%
 Atmospheric Pressure: 100.7kPa
 Test Engineer: Destine Hu
 Check by: Jason Lu
 Test Date: 2026/5/20

Fundamental Test with
Band Reject Filter

Full Spectrum

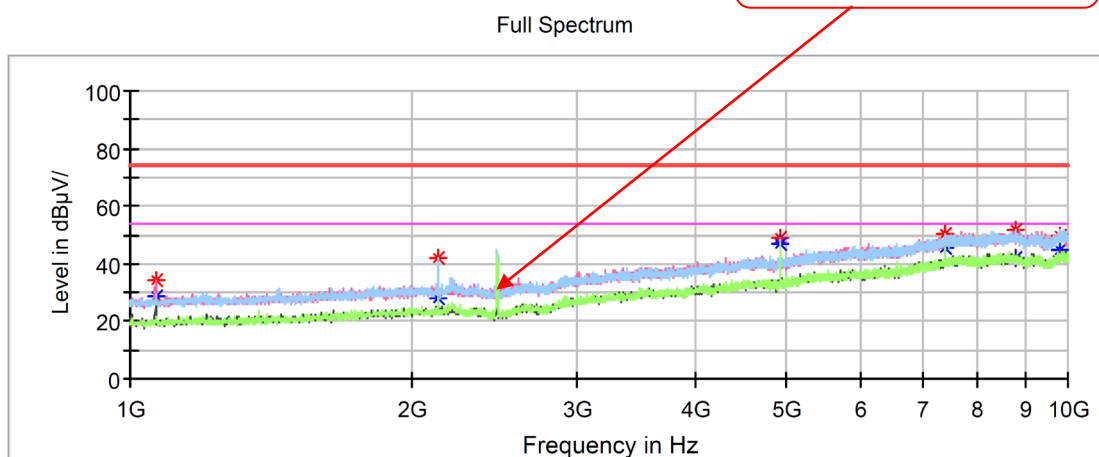
**Critical Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1061.200000	30.64	---	74.00	43.36	V	-15.9
1061.200000	---	22.35	54.00	31.65	V	-15.9
2128.600000	40.24	---	74.00	33.76	V	-11.3
2128.600000	---	26.69	54.00	27.31	V	-11.3
3568.600000	---	30.55	54.00	23.45	V	-6.1
3568.600000	39.38	---	74.00	34.62	V	-6.1
4873.600000	49.34	---	74.00	24.66	V	-3.2
4873.600000	---	45.71	54.00	8.29	V	-3.2
7312.600000	---	44.60	54.00	9.40	H	2.7
7312.600000	50.84	---	74.00	23.16	H	2.7
9828.100000	49.51	---	74.00	24.49	V	5.8
9828.100000	---	44.40	54.00	9.60	V	5.8

High Channel: 2462MHz**Common Information**

Project No.: RBJ260416001
 EUT Model: ZSXG02
 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: 24.5℃
 Humidity: 52%
 Atmospheric Pressure: 100.7kPa
 Test Engineer: Destine Hu
 Check by: Jason Lu
 Test Date: 2026/5/20

Fundamental Test with
Band Reject Filter

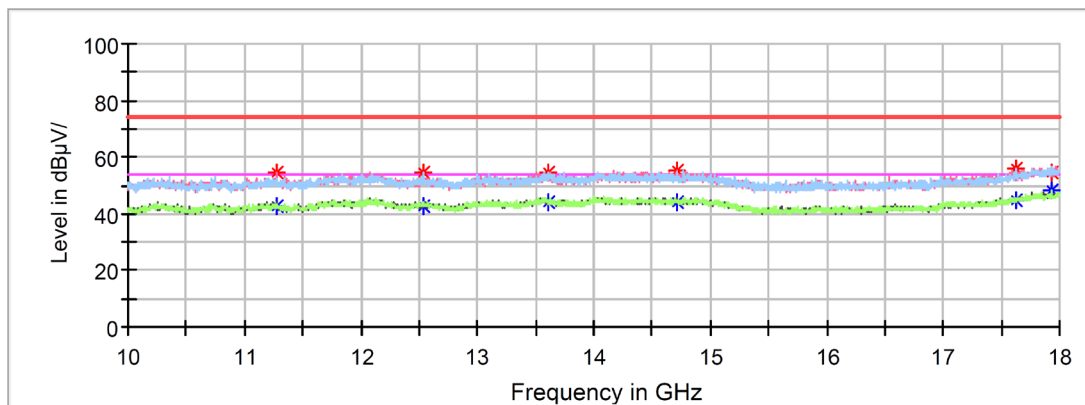
**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1065.700000	---	28.84	54.00	25.16	V	-15.9
1065.700000	34.53	---	74.00	39.47	V	-15.9
2129.500000	---	27.98	54.00	26.02	H	-11.3
2129.500000	41.81	---	74.00	32.19	H	-11.3
4924.000000	---	46.72	54.00	7.28	V	-3.0
4924.000000	49.26	---	74.00	24.74	V	-3.0
7384.600000	50.01	---	74.00	23.99	V	2.9
7384.600000	---	45.51	54.00	8.49	V	2.9
8776.900000	---	42.13	54.00	11.87	H	4.8
8776.900000	51.68	---	74.00	22.32	H	4.8
9820.000000	49.58	---	74.00	24.42	V	5.8
9820.000000	---	44.68	54.00	9.32	V	5.8

10GHz-18GHz:**802.11b Mode:****Chain 0****Low Channel: 2412MHz****Common Information**

Project No.: RBJ260416001
 EUT Model: ZSXG02
 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: 24.5°C
 Humidity: 52%
 Atmospheric Pressure: 100.7kPa
 Test Engineer: Destine Hu
 Check by: Jason Lu
 Test Date: 2026/5/20

Full Spectrum

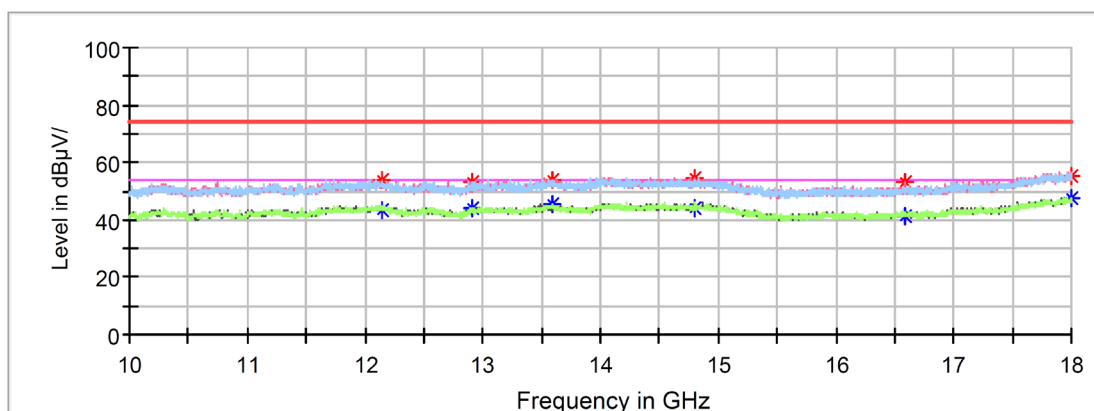
**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
11273.600000	---	42.91	54.00	11.09	V	7.5
11273.600000	54.34	---	74.00	19.66	V	7.5
12540.800000	---	42.92	54.00	11.08	H	8.8
12540.800000	54.38	---	74.00	19.62	H	8.8
13606.400000	54.87	---	74.00	19.13	H	9.9
13606.400000	---	44.39	54.00	9.61	H	9.9
14707.200000	---	44.39	54.00	9.61	V	10.4
14707.200000	54.99	---	74.00	19.01	V	10.4
17620.800000	55.68	---	74.00	18.32	H	11.5
17620.800000	---	44.68	54.00	9.32	H	11.5
17932.800000	54.59	---	74.00	19.41	H	13.4
17932.800000	---	47.92	54.00	6.08	H	13.4

Middle Channel: 2437MHz**Common Information**

Project No.: RBJ260416001
EUT Model: ZSXG02
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: 24.5°C
Humidity: 52%
Atmospheric Pressure: 100.7kPa
Test Engineer: Destine Hu
Check by: Jason Lu
Test Date: 2026/5/20

Full Spectrum

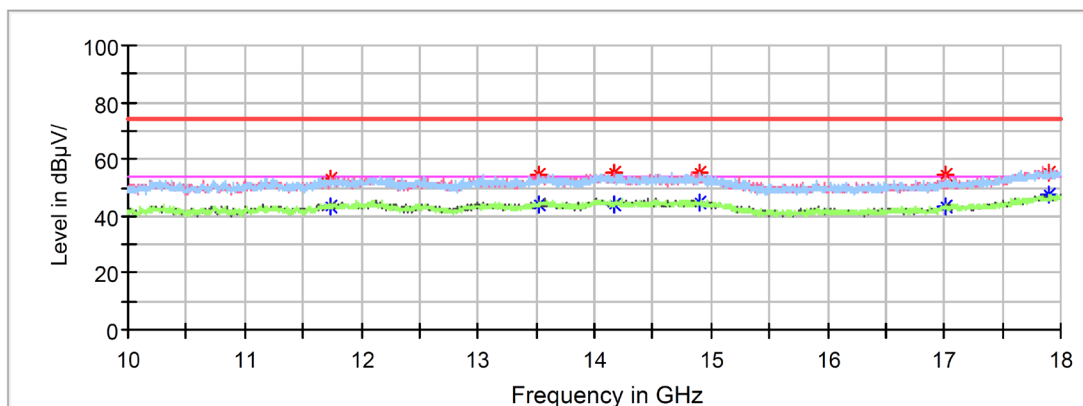
**Critical_Freqs**

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Pol	Corr. (dB/m)
12142.400000	53.69	---	74.00	20.31	V	9.0
12142.400000	---	43.70	54.00	10.30	V	9.0
12913.600000	---	43.73	54.00	10.27	H	8.7
12913.600000	53.48	---	74.00	20.52	H	8.7
13587.200000	53.93	---	74.00	20.07	H	9.8
13587.200000	---	45.39	54.00	8.61	H	9.8
14792.000000	54.89	---	74.00	19.11	V	10.1
14792.000000	---	44.19	54.00	9.81	V	10.1
16592.000000	53.45	---	74.00	20.55	V	7.9
16592.000000	---	41.52	54.00	12.48	V	7.9
17996.800000	---	47.62	54.00	6.38	V	13.8
17996.800000	55.31	---	74.00	18.69	V	13.8

High Channel: 2462MHz**Common Information**

Project No.: RBJ260416001
 EUT Model: ZSXG02
 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: 24.5°C
 Humidity: 52%
 Atmospheric Pressure: 100.7kPa
 Test Engineer: Destine Hu
 Check by: Jason Lu
 Test Date: 2026/5/20

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)
11731.200000	53.47	---	74.00	20.53	V	8.6
11731.200000	---	43.48	54.00	10.52	V	8.6
13515.200000	---	44.09	54.00	9.91	H	9.7
13515.200000	54.47	---	74.00	19.53	H	9.7
14176.000000	---	44.39	54.00	9.61	V	10.8
14176.000000	55.23	---	74.00	18.77	V	10.8
14910.400000	54.99	---	74.00	19.01	H	9.7
14910.400000	---	44.51	54.00	9.49	H	9.7
17017.600000	54.35	---	74.00	19.65	V	9.5
17017.600000	---	43.11	54.00	10.89	V	9.5
17891.200000	---	47.88	54.00	6.12	H	13.2
17891.200000	55.11	---	74.00	18.89	H	13.2