

RF Exposure Report (FCC)

Report No.: WIR128375-FCC-RF Exposure Rev. 1

Test Model: CNX-WiFi

Test Date: April 1, 2024

Issued Date: April 30, 2024

Applicant: Intellian Technologies USA Inc

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1. Certificate of Conformity

Product: CNX-WiFi

Brand: Intellian Technologies USA Inc

Test Model: CNX-WiFi

WIFI FCC ID XXZ-BL5008

Applicant: Intellian Technologies USA Inc

Test Date: April 1, 2024

Standard: 47 CFR FCC Part 2.1093

FCC ID: XXZ-BL5008

IC ID: 26236-BL5008



Donald Salguero
Wireless Lab

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of Part 22 Subpart H and Part 24 Subpart E and Part 27 Subpart L of the FCC Rules under normal use and maintenance.



Michael Griffiths
Manager, Wireless Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
Ø	April 3, 2024	Initial Issue.
1	April 30, 2024	Added FCC/IC IDs; Added Measurement Uncertainty.

2. RF Exposure

Requirement:

47 CFR 2.1091(c)(1)

Evaluation of compliance with the exposure limits in § 1.1310 of this chapter, and preparation of an EA if the limits are exceeded, is necessary for mobile devices with single RF sources having either more than an available maximum time-averaged power of 1 mW or more than the ERP listed in Table 1 to § 1.1307(b)(3)(i)(C), whichever is greater. For mobile devices not exempt by § 1.1307(b)(3)(i)(C) at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 of this chapter is necessary if the ERP of the device is greater than ERP_{20cm} in the formula below. If the ERP of a single RF source at distances from 20 centimeters to 40 centimeters and frequencies from 0.3 GHz to 6 GHz is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP) in comparison with the following formula only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

47 CFR 2.1091(c)(2)

For multiple mobile or portable RF sources within a device operating in the same time averaging period, routine environmental evaluation is required if the formula in § 1.1307(b)(3)(ii)(B) of this chapter is applied to determine the exemption ratio and the result is greater than 1.

2.1 MPE Calculation Formula

$$S = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$$

Where

S = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

FCC									
Frequency (MHz)	Con. Pwr. (dBm)	Con. Pwr. (mW)	Ant. Gain (dBi)	Ant. Gain numeric	Pwr. Density (mW/cm ²)	Limit (mW/cm ²)	Margin	Distance (cm)	Result
2412	21.32	135.519	6.6	4.571	0.12323	1	0.87677	20	Pass
FCC									
Frequency (MHz)	Con. Pwr. (dBm)	Con. Pwr. (mW)	Ant. Gain (dBi)	Ant. Gain numeric	Pwr. Density (mW/cm ²)	Limit (mW/cm ²)	Margin	Distance (cm)	Result
5180	22.67	184.927	7.65	5.821	0.21416	1	0.78584	20	Pass
FCC									
Frequency (MHz)	Con. Pwr. (dBm)	Con. Pwr. (mW)	Ant. Gain (dBi)	Ant. Gain numeric	Pwr. Density (mW/cm ²)	Limit (mW/cm ²)	Margin	Distance (cm)	Result
5310	21.73	148.936	7.31	5.383	0.15949	1	0.84051	20	Pass
5510	21.93	155.955	7.79	6.012	0.18652	1	0.81348	20	Pass
FCC									
Frequency (MHz)	Con. Pwr. (dBm)	Con. Pwr. (mW)	Ant. Gain (dBi)	Ant. Gain numeric	Pwr. Density (mW/cm ²)	Limit (mW/cm ²)	Margin	Distance (cm)	Result
5825	26.56	452.898	7.85	6.095	0.5492	1	0.4508	20	Pass

3. Conclusion

Conclusion:

The minimum separation distance as a mobile transmitter at worse case conditions is 20 cm.

Test Method	Typical Expanded Uncertainty	K	Confidence Level
Radiated Emissions, (30 MHz – 1 GHz)	±3.20	2	95%
Radiated Emissions, (1 GHz – 6 GHz)	±2.52	2	95%
Conducted Emission Voltage	±2.03	2	95%
RF Frequencies	±4.52 Hz	2	95%
RF Power Conducted Emissions	±2.32 dB	2	95%
RF Power Conducted Spurious Emissions	±2.25 dB	2	95%
RF Power Radiated Emissions	±3.01 dB	2	95%

Measurement Uncertainty