

RF Exposure Evaluation Report

Product : Home Assistant Connect ZWA-2
Trade mark : Nabu Casa
Model/Type reference : NC-ZWA-9734
Serial Number : N/A
Report Number : EED32R80742402
FCC ID : 2A8ZE03
Date of Issue : Jun. 17, 2025
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
KDB 447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

Nabu Casa, Inc.

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Prepared by:

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1 Version

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3 General Information

3.1 Client Information

Applicant:	Nabu Casa, Inc.
Address of Applicant:	8 The Green, Suite 12630, Dover, DE, United States, 19901
Manufacturer:	Nabu Casa, Inc.
Address of Manufacturer:	8 The Green, Suite 12630, Dover, DE, United States, 19901
Factory:	Yuan Sheng Technology (Shenzhen) Co., Ltd.
Address of Factory:	3rd Floor, Building D1, Foxconn Industrial Park, Donghuan 2nd Road, Longhua District, Shenzhen City.

3.2 General Description of EUT

Product Name:	Home Assistant Connect ZWA-2
Model No.:	NC-ZWA-9734
Trade mark:	Nabu Casa
Product Type:	<input type="checkbox"/> Mobile <input type="checkbox"/> Portable <input checked="" type="checkbox"/> Fix Location
Power Supply:	DC 5V
Test Voltage:	DC 5V
Sample Received Date:	May 27, 2025
Sample tested Date:	May 27, 2025 to May 30, 2025

3.3 Product Specification subjective to this standard

Frequency Range:	902~928MHz GFSK: 916MHz FSK: 908.4MHz FSK: 908.42MHz OQPSK: 912MHz OQPSK 920MHz
Number of Channels:	5
Modulation type:	GFSK, FSK, OQPSK
Antenna Type:	External Antenna
Antenna gain:	902~928MHz: 2.78dBi
Test Software of EUT:	sscom5.13.1
Test Power Grade:	Default
Power Supply:	DC 5V
Test Voltage:	DC 5V
Sample Received Date:	May 27, 2025
Sample tested Date:	May 27, 2025 to May 30, 2025
Remark:	Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.

3.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

3.5 Deviation from Standards

None.

3.6 Abnormalities from Standard Conditions

None.

3.7 Other Information Requested by the Customer

None.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

4.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at the only channel individually.

4.1.3 EUT RF Exposure Evaluation

Frequency (MHz)	Field strength of the fundamental signal (dBuV/m@3m)	ERP (dBm)	ERP (mW)	Limit (mW)	Result
915	78.96	-18.42	0.014	≤7.0540	PASS

Note:

- ① EIRP=conducted power+antenna gain;
- ② $ERP=EIRP-2.15$;
- ③ $EIRP(dBm) = \text{Field strength of the fundamental signal}(dBuV/m@3m) - 95.23$;
- ④ $ERP(mW) = 10^{(ERP(dBm)/10)}$;
- ⑤ The estimation distance is 0.5cm;
- ⑥ The test data please refer to the report of EED32Q81030401 and only the worst case data was recorded in the report.

Statement

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule stated in ILAC-G8:09/2019/CNAS-GL015:2022;
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*** End of Report ***