

## RF Exposure Assessment

<b>Product</b>	<b>InSite Construction Data Acquisition System</b>
<b>Name and address of the applicant</b>	<b>Vemaventuri AB Johan på Gårdas Gata 5A 412 50 Gothenburg, Sweden</b>
<b>Name and address of the manufacturer</b>	<b>Vemaventuri AB Johan på Gårdas Gata 5A 412 50 Gothenburg, Sweden</b>
<b>Model</b>	<b>NODE-0</b>
<b>Rating</b>	<b>3.7VDC</b>
<b>Trademark</b>	<b>ISC Node</b>
<b>Additional information</b>	<b>WiFi</b>
<b>Evaluated according to</b>	<b>FCC Part 1.1310(e) RF Exposure Assessment FCC KDB 447498 D01 v06 General RF Exposure Guidance ISED RSS-102, Issue 5 Radio Frequency (RF) Exposure Compliance of Radiocommunications Apparatus</b>
<b>Order number</b>	<b>PRJ0046680</b>
<b>Issue date</b>	<b>2024-04-29</b>
<b>Name and address of the testing laboratory</b>	  Nemko Scandinavia AS      CAB Number: Instituttveien 6      FCC: NO0001 2007 Kjeller, Norway      ISED: NO0470 www.nemko.com      ISED No: 2040D-1 <p style="text-align: right; color: red; font-weight: bold;">An accredited technical test executed under the Norwegian accreditation scheme</p>
 Prepared by [Frode Sveinsen]	
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## Revision history

Revision	Date	Comment	Sign
A	2024-04-29	First Edition	FS

## GENERAL REMARKS

This report applies only to the sample(s) tested. It is the manufacturer's responsibility to ensure the additional production units of this product are manufactured with identical electrical and mechanical components. The manufacturer is solely responsible for any modifications to the product that could result in non-compliance with the relevant regulations.

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Opinions expressed within this report regarding general assessments and qualifications for PASS or FAIL to the standards limits and requirements, are not part of the current accreditation. Neither are opinions expressed regarding model variants covered by the testing of this report.

# 1 Exposure Evaluation

## 1.1 EUT Technical Information

Name	ISC NODE
FCC ID	2A60FPICBKM01
Model/version	NODE-0
Hardware identity and/or version	HV02MK08
Software identity and/or version	v.1.4.3
Operating Modes	WiFi 2.4
Type of Power Supply	3.7VDC (System has one 3.7 lithium-ion battery) (100 -240AC AC/DC charger)
Device Category	Mobile or Fixed Device
Internet	N/A

### Description of Tested Device(s)

The EUT is a InSite Construction Data Acquisition System.

The EUT supports IEEE 802.11 b/g/n modes and HT20 and HT40 modes.

The antenna used for WiFi is the antenna recommended by the module manufacturer.

The EUT does not have smart antenna system.

The EUT contains the following radio module:

Marketing Name	FCC ID	ISED Canada ID	HVIN
WROOM-32U	2A60F-ESP32WROOM32U	28483-ESPWROOM32U	02MK08

## 1.2 Evaluation Summary

Maximum whole body power density is calculated using formula 3) from OET Bulletin 65 Edition 97-01 (page 19):

$$S = \frac{PG}{4\pi R^2}$$

Where: S = power density  
 P = power input to the antenna  
 G = power gain of the antenna in the direction of interest relative to an isotropic radiator  
 R = distance to the center of radiation of the antenna

RF Function	WiFi
Frequency (MHz)	2412
Conducted Output Power (dBm)	15.90
Tune Up Tolerance (dB)	0.00
Maximum Antenna Gain (dBi)	5.00
Prediction Distance (cm)	20
Calculated Power Density (W/m <sup>2</sup> )	0.245
FCC Limit (W/m <sup>2</sup> )	10.00
ISED Limit (W/m <sup>2</sup> )	5.37

Maximum Duty Cycle is assumed to be 100%.

The EUT is compliant with FCC and ISED Canada Exposure requirements for simultaneous operation as long as the maximum antenna gain is below 5 dBi.

### References

- 1) OET Bulletin 65 Edition 97-01, August 1997
- 2) KDB 447498 D01 General RF Exposure Guidance v06, October 23, 2015
- 3) Code of Federal Regulations, Title 47, FCC §1.131