

03/04/2026

SEWIO Networks s.r.o (part of HID Global Corporation)
Purkynova 7/99
Brno 612 00

Dear Petr Batchuluun Prachar,

Enclosed is the EMC test report for testing of the SEWIO Networks s.r.o (part of HID Global Corporation), tested to the requirements of FCC 2.1091, RSS-102 Issue 6, IEC62311 Issue 2

Thank you for using the services of Eurofins E&E North America. If you have any questions regarding these results or if MET can be of further service to you, please do feel free to contact me.

Sincerely,



Nancy LaBrecque
Documentation Department
Eurofins Electrical and Electronic Testing NA, Inc.

Reference: WIRA-139650-MPE



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**RF Exposure Criteria
Test Report
Using Maximum Permissible Exposure (MPE) Calculations**

for the

SEWIO Networks s.r.o (part of HID Global Corporation)

Tested under

FCC 2.1091, RSS-102 Issue 6, IEC62311 Issue 2

Report: WIRA-139650-MPE

03/04/2026



Bryan Taylor, Wireless Team Lead
Electromagnetic Compatibility Lab



Nancy LaBrecque
Documentation Department

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 the FCC Rules Part 15.247 under normal use and maintenance.



Matthew Hinojosa
EMC Manager, Austin Electromagnetic Compatibility Lab

Report Status Sheet

Revision	Report Date	Reason for Revision
0	03/04/2026	Initial Issue.

List of Terms and Abbreviations

AC	Alternating Current
ACF	Antenna Correction Factor
Cal	Calibration
<i>d</i>	Measurement Distance
dB	Decibels
dBμA	Decibels above one microamp
dBμV	Decibels above one microvolt
dBμA/m	Decibels above one microamp per meter
dBμV/m	Decibels above one microvolt per meter
DC	Direct Current
E	Electric Field
DSL	Digital Subscriber Line
ESD	Electrostatic Discharge
EUT	Equipment Under Test
<i>f</i>	Frequency
CISPR	Comite International Special des Perturbations Radioelectriques (International Special Committee on Radio Interference)
GRP	Ground Reference Plane
H	Magnetic Field
HCP	Horizontal Coupling Plane
Hz	Hertz
IEC	International Electrotechnical Commission
kHz	kiloHertz
kPa	kiloPascal
kV	kilovolt
LISN	Line Impedance Stabilization Network
MHz	MegaHertz
μH	microHenry
μF	microFarad
μs	microseconds
PRF	Pulse Repetition Frequency
RF	Radio Frequency
RMS	Root-Mean-Square
V/m	Volts per meter
VCP	Vertical Coupling Plane

1.0 Requirements Summary

Page Number	Test Name	Result
11	IEC62311: 2019 MPE Limits (For General Public Exposure)	Compliant
12	RSS-102 Issue 5 MPE Limits (For General Public Exposure)	Compliant
12	FCC Part 2.1091 MPE Limits (For General Public Exposure)	Compliant

Table 1. Summary of Test Results

2.0 Equipment Configuration

2.1 Overview

Eurofins MET Labs was contracted by SEWIO Networks s.r.o (part of HID Global Corporation) to perform testing on the RTLS Anchor, under SEWIO Networks s.r.o (part of HID Global Corporation)'s purchase order number PO01126.

This document describes the test setups, test methods, required test equipment, and the test limit criteria used to perform compliance testing of the SEWIO Networks s.r.o (part of HID Global Corporation) RTLS Anchor

The results obtained relate only to the item(s) tested.

Model(s) Tested:	RTLS Anchor	
Model(s) Covered:	Zevon Omni, Zevon Direct	
EUT Specifications:	Primary Power: 48 – 57VDC (Power Over Ethernet)	
	Antenna Gain ¹ :	Zevon Direct: 9.06dBi Zevon Omni: 2.85dBi BLE: 3dbi (part of a preapproved transmitter module)
	EUT Frequency Ranges:	UWB: 7.9872GHz BLE: 2402 – 2480Hz
	Maximum Declared Conducted Output Power:	UWB: -41.3dBm BLE: 4.0dBm (per BLE modules technical documentation)
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: 15-35° C	
	Relative Humidity: 30-60%	
	Barometric Pressure: 860-1060 mbar	
Type of Filing:	Original	
Evaluated by:	Bryan Taylor	
Report Date(s):	03/04/2026	

Table 2. EUT Summary Table

¹ The antenna gain information was provided by SEWIO Networks s.r.o (part of HID Global Corporation) at the time of testing.

2.2 Test Site

All testing was performed at Eurofins E&E North America, Austin, TX. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

2.3 References

IEC62311 Edition 2.0 (2019-04)	Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)
RSS-102: Issue 6	Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)
FCC Part 2.1091	Radiofrequency radiation exposure evaluation: mobile devices.

Table 3. References

2.4 Description of Test Sample

The RTLS Anchor Anchor (Zevon Omni or Zevon Direct) is a UWB transceiver with a known position in the RTLS System. A set of Anchors creates location infrastructure where Tags are being located with sub-meter accuracy. The primary goal of the device is to gather radio signals from mobile locators, called Tags, and forward them to Sewio RTLS Studio software (via Ethernet), where the position is estimated. Anchors can also receive data from sensors equipped within the Tag, such as acceleration, orientation, button event, or custom data payload. Data are further exposed to the user via open API. Anchors can also communicate with the Tags via 2.4 GHz, BLE channels. UWB and 2.4GHz transmitters on the Anchor never transmit simultaneously. Anchors can also send UWB signals to each other to ensure precise synchronization. An anchor is an IP network device equipped with an Ethernet interface for both data backhaul and power supply. Anchors are configured and managed via RTLS Studio software. They support a variety of holders to simplify the installation in any premises. They are mounted above Tags, which ensures maximum coverage and minimizes obstacles blocking their communication line.

Zevon Anchors are produced in two variants, which only differ in the UWB antenna and enclosure. The rest of the HW is the same. Zevon Omni - it is equipped with an omnidirectional UWB antenna. Zevon Direct - it is equipped with a directional UWB antenna.

2.5 Modifications

2.5.1 Modifications to EUT

No modifications were made to the EUT.

2.5.2 Modifications to Test Standard

No modifications were made to the test standard.

2.6 Disposition of EUT

The test sample including all support equipment submitted to the Electro-Magnetic Compatibility Lab for testing was returned to SEWIO Networks s.r.o (part of HID Global Corporation) upon completion of testing.

3.0 Maximum Permissible Exposure Results

3.1 IEC62311 (ICNIRP) RF Exposure Limits

Table 7. Reference levels for general public exposure to time-varying electric and magnetic fields (unperturbed rms values).^a

Frequency range	E-field strength (V m ⁻¹)	H-field strength (A m ⁻¹)	B-field (μT)	Equivalent plane wave power density S_{eq} (W m ⁻²)
up to 1 Hz	—	3.2×10^4	4×10^4	—
1–8 Hz	10,000	$3.2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8–25 Hz	10,000	$4,000/f$	$5,000/f$	—
0.025–0.8 kHz	$250/f$	$4/f$	$5/f$	—
0.8–3 kHz	$250/f$	5	6.25	—
3–150 kHz	87	5	6.25	—
0.15–1 MHz	87	$0.73/f$	$0.92/f$	—
1–10 MHz	$87/f^{1/2}$	$0.73/f$	$0.92/f$	—
10–400 MHz	28	0.073	0.092	2
400–2,000 MHz	$1.375f^{1/2}$	$0.0037f^{1/2}$	$0.0046f^{1/2}$	$f/200$
2–300 GHz	61	0.16	0.20	10

^a Note:

1. f as indicated in the frequency range column.
2. Provided that basic restrictions are met and adverse indirect effects can be excluded, field strength values can be exceeded.
3. For frequencies between 100 kHz and 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any 6-min period.
4. For peak values at frequencies up to 100 kHz see Table 4, note 3.
5. For peak values at frequencies exceeding 100 kHz see Figs. 1 and 2. Between 100 kHz and 10 MHz, peak values for the field strengths are obtained by interpolation from the 1.5-fold peak at 100 kHz to the 32-fold peak at 10 MHz. For frequencies exceeding 10 MHz it is suggested that the peak equivalent plane wave power density, as averaged over the pulse width does not exceed 1,000 times the S_{eq} restrictions, or that the field strength does not exceed 32 times the field strength exposure levels given in the table.
6. For frequencies exceeding 10 GHz, S_{eq} , E^2 , H^2 , and B^2 are to be averaged over any $68/f^{1.05}$ -min period (f in GHz).
7. No E-field value is provided for frequencies <1 Hz, which are effectively static electric fields, perception of surface electric charges will not occur at field strengths less than 25 kV m^{-1} . Spark discharges causing stress or annoyance should be avoided.

3.2 RSS-102 RF Exposure Limits

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)				
Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m ²)	Reference Period (minutes)
0.003-10 ²¹	83	90	-	Instantaneous*
0.1-10	-	0.73/ f	-	6**
1.1-10	87/ f ^{0.5}	-	-	6**
10-20	27.46	0.0728	2	6
20-48	58.07/ f ^{0.25}	0.1540/ f ^{0.25}	8.944/ f ^{0.5}	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 f ^{0.3417}	0.008335 f ^{0.3417}	0.02619 f ^{0.6834}	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ f ^{1.2}
150000-300000	0.158 f ^{0.5}	4.21 x 10 ⁻⁴ f ^{0.5}	6.67 x 10 ⁻⁵ f	616000/f ^{1.2}
Note: f is frequency in MHz. * Based on nerve stimulation (NS). ** Based on specific absorption rate (SAR).				

3.3 FCC Exposure Limits

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
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
300-1,500			f/1500	<30
1,500-100,000			1.0	<30
f = frequency in MHz. * = Plane-wave equivalent power density.				

Test Procedure:

An MPE evaluation for was performed in order to show that the device was compliant with the general population exposure limits. The maximum power density was calculated for each transmitter band at a separation distance of 20cm using the maximum declared output power including tune up tolerance.

For each transmitter the maximum RF exposure at a 20 cm distance using the formula:

$$ConductedPower_{mW} = 10^{ConductedPower(dBm)/10}$$

$$PowerDensity = \frac{ConductedPower_{mW} \times Ant.Gain}{4\pi \times (20_{cm})^2}$$

For transmitters that could operate simultaneously, the MPE to limit ratio for each was calculated and then summed. If the sum of the MPE to limit ratios was less than 1, that specific combination of transmitters was deemed to comply.

Test Results:

The RTLS Anchor was **compliant** with FCC 2.1091, RSS-102 Issue 6, IEC62311 Issue 2. The calculated maximum power density at 20cm distance was equal to or less than the required limits for general population exposure for FCC 2.1091, RSS-102 Issue 6, IEC62311 Issue 2.

According to SEWIO Networks s.r.o (part of HID Global Corporation) the BLE radio and the UWB radio do not transmit simultaneously.

Test Data:

Duty Cycle	100 (%)						
Separation Dist.	20 (cm)						
Operating Mode	Frequency (MHz)	Declared Max Cond. Power (Inc. Tolerance) (dBm)	Duty Cycle Adjusted Cond. Output Power (dBm)	Antenna Gain (dB)	MPE Value (mW/cm ²)	MPE Limit (mW/cm ²)	Margin to Limit (mW/cm ²)
UWB (Zevo Direct)	7987.2	-41.3	-41.30	9.06	0.00000012	1.0000	1.0000
UWB (Zevo Omni)	7987.2	-41.3	-41.30	2.85	0.00000003	1.0000	1.0000
BLE	2402	4	4.00	3	0.00099708	1.0000	0.9990

FCC MPE Data

Duty Cycle	100 (%)						
Separation Dist.	20 (cm)						
Operating Mode	Frequency (MHz)	Declared Max Cond. Power (Inc. Tolerance) (dBm)	Duty Cycle Adjusted Cond. Output Power (dBm)	Antenna Gain (dB)	MPE Value (W/m ²)	MPE Limit (W/m ²)	Margin to Limit (W/m ²)
UWB (Zevo Direct)	7987.2	-41.3	-41.30	9.06	0.00000119	10.0000	10.0000
UWB (Zevo Omni)	7987.2	-41.3	-41.30	2.85	0.00000028	10.0000	10.0000
BLE	2402	4	4.00	3	0.00997080	5.3508	5.3408

ISED MPE Data

Duty Cycle	100 (%)						
Separation Dist.	20 (cm)						
Operating Mode	Frequency (MHz)	Declared Max Cond. Power (Inc. Tolerance) (dBm)	Duty Cycle Adjusted Cond. Output Power (dBm)	Antenna Gain (dB)	MPE Value (W/m ²)	MPE Limit (W/m ²)	Margin to Limit (W/m ²)
UWB (Zevo Direct)	7987.2	-41.3	-41.30	9.06	0.00000119	10.0000	10.0000
UWB (Zevo Omni)	7987.2	-41.3	-41.30	2.85	0.00000028	10.0000	10.0000
BLE	2402	4	4.00	3	0.00997080	10.0000	9.9900

IEC62311 MPE Data

Test Engineer(s): Bryan Taylor

Test Date(s): 1/5/2026 – 1/12/2026