



Ontploffingvoorkomingstechnologie  
Explosion Prevention Technologies

# MTEEx Laboratories

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## INSPECTION AUTHORITY (IA) CERTIFICATE

**i.safe MOBILE GmbH.**  
**i\_Park Tauberfranken 10**  
**97922 Lauda-Königshofen**  
**Germany**

**Issued:** 2024/01/22  
**Expire:** 2027/01/22  
**Revision:** 1  
**Job File:** 2455

Applicant:

**i.safe MOBILE GmbH.**

For validity purposes, the following marking must be added to all equipment covered by this certificate:

**IA Number:** MTEEx-S/24.0007 X  
**Manufacturer:** i.safe MOBILE GmbH  
**Supplier:** i.safe MOBILE GmbH  
**Equipment:** REALWEAR NAVIGATOR Z1  
**Model/Type:** Intrinsically Safe Head-Mounted Tablet, Model T21S  
**Ex Rating:** Ex ib IIC T4 Gb  
Ex ib IIIC T200°C Db  
**Serial No.:** All units imported between Issued and Expiry dates of this Certificate.



### Standards used:

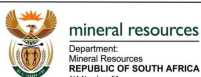
<b>SANS 60079-0: 2019 Ed.6</b> <b>IEC 60079-0: 2017 Ed.7</b>	<b>Explosive atmospheres – Part 0: General requirements.</b>
<b>SANS 60079-11: 2012 Ed.4</b> <b>IEC 60079-11: 2023 Ed.7</b>	<b>Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i".</b>

This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.

This certification indicates compliance with R10.1 of the Mines Health and Safety Act and/or EMR 9(3) of the Occupational Health and Safety Act, provided that the apparatus is used as prescribed in accordance with the following **Notes**:

- 1) Compliance with any conditions set out in this Certificate.
- 2) This certificate only covers equipment imported between the "Issued" and "Expiry" dates of this certificate.
- 3) When the supporting Q.A.N. (Quality Assurance Notification) of the equipment manufacturer expires, it is the responsibility of the applicant (as mentioned above) to submit a valid Q.A.N to MTEEx Laboratories.
- 4) It is the responsibility of the supplier to ensure that the marking label complies with the requirements of the relevant regulator.
- 5) Once issued, the certificate remains valid for the serviceable lifecycle of the device. The state of the device is validated by visual or close inspections, by the end user, at intervals not exceeding two years.

Reviewed By + Signature (TL):	A. van Niekerk	
Approved By + Signature (CB): (MTEEx Laboratories Technical Signatory)	D. Young	



MTEEx Laboratories is an Accredited Test Laboratory (ATL) in terms of the ARP 0108: "Regulatory Requirements for Explosion-Protected Apparatus".

## 1. OVERVIEW

The intrinsically safe, robust REALWEAR NAVIGATOR Z1 head-mounted tablet was developed for use in Zone 1 and 21 hazardous areas. The device offers numerous technologies such as Wi-Fi 6, Bluetooth 5.2, GPS, 3-axis accelerometer, magnetometer, and gyroscope. It is equipped with a 48MP camera, LED light, display with 24° field of view, internal 94dB speaker and 4 digital microphones with active noise suppression, which enable precise speech recognition even in 100dBA typical industrial noise.

## 2. REASON FOR REVIEW

Revision 0: ARP 0108 Requirement (Initial IA Certificate).  
Revision 1: Editorial Corrections.

## 3. DOCUMENTATION PROVIDED

- IECEx Certificate of Conformity (IECEx EPS 23.0053X, Issue 0).
- IECEx Quality Assessment Report (DE/EPS/QAR12.0003/15).

## 4. ELECTRICAL / SAFETY PARAMETERS

### Electrical data:

Power supply: The device has a replaceable and rechargeable Li-Ion battery model B21S.  
 $U_o = 3.7 \text{ V}$  ( $U_{o\_max} = 4.2 \text{ V}$ ) / 2.56 Ah / 9.472 Wh

USB interface: The device has a USB interface for charging and data transfer. Opening the interface cover in hazardous areas is not permitted. Data connections and charging are only permitted outside hazardous areas and only with the i.safe PROTECTOR cable or other accessories specified by i.safe MOBILE GmbH.

Camera module: The device has interchangeable camera modules:  
Visual Camera Module and Thermal Camera Module  
These can be changed outside the hazardous areas. In hazardous areas, a camera module must be properly mounted and screwed down to the device with all screw covers in place.

Audio jack: The device has a 3.5mm audio jack socket. The Earbud hearing protection headphones model H1100G, model H1101G or other accessories that meet the connection values may be used in hazardous areas. The audio jack does not need to be covered.

### **Connection values for the audio jack AJ:**

Output voltage:	$U_{AJ} = U_{o\_max}$	= 4.2 V
Output current:	$I_{o\_max}$	= 274 mA (linear characteristic)
Output power (thermal):	$P_o$	= 288 mW
Effective internal capacitance:	$C_i$	= 0 $\mu\text{F}$
Effective internal inductance:	$L_i$	= 0 $\mu\text{H}$
Internal resistance:	$R_{AJ\_res}$	= 15.323 $\Omega$

An approved headset with high impedance may be connected:

Permissible voltage:	$U_i$	= 4.2 V
Permitted power input:	$P_i$	= 10 mW

Only accessories approved by i.safe MOBILE may be used in hazardous areas.

## 5. INSTALLATION INSTRUCTIONS

The instructions provided with the product shall be followed in detail to assure safe operation.

## 6. CONDITIONS OF CERTIFICATE (X)

- The battery shall be charged outside hazardous areas only.
- The device must be protected from impacts with high impact energy, against excessive UV light emission and high electrostatic charge processes.
- The permissible ambient temperature range is -20 °C to +55 °C.

### MTEEx Laboratories

Note: This document may not be reproduced except in full.

MTEEx Laboratories takes no responsibility for any non-conforming tests / assessments / results which is not in compliance with the relative Standards. By marking the equipment as mentioned in the documentation, the manufacturer takes full responsibility that the equipment has indeed complied with the original type assessment and has been subjected to any routine verification(s) / test(s) respectively.

### End of Certificate