



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.: IECEX EPS 17.0004X

Issue No: 1

Certificate history:

Issue No. 1 (2019-08-08)

Issue No. 0 (2018-03-29)

Status: Current

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Date of Issue: 2019-08-08

Applicant: i.safe MOBILE GmbH
i_Park Tauberfranken 10
97922 Lauda-Koenigshofen
Germany

Equipment: HMT-1Z1, intrinsically safe Head-Mounted-Tablet, model T1100S

Optional accessory:

Type of Protection: intrinsic safety "i"

Marking:

Ex ib IIC T4 Gb

Ex ib IIIC T135°C Db IP6X

Approved for issue on behalf of the IECEX
Certification Body:

Holger Schaffer

Position:

Manager certification

Signature:
(for printed version)

Date:

2019-08-08



1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEX Website](http://www.iecex.com).

Certificate issued by:

Bureau Veritas Consumer Products Services Germany GmbH
Businesspark A96
86842 Türkheim
Germany





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Manufacturer: **i.safe MOBILE GmbH**
i_Park Tauberfranken 10
97922 Lauda-Koenigshofen
Germany

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

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

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

DE/EPS/ExTR17.0003/00 DE/EPS/ExTR17.0003/01

Quality Assessment Report:

DE/EPS/QAR12.0003/05



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The intrinsically safe, rugged industrial Head-Mounted Tablet HMT-1Z1, also marketed as RealWear HMT-1Z1 and i.safe MOBILE HMT-1Z1, has been designed for use in explosion hazardous areas of zone 1 and 21. The device provides numerous technologies like Wi-Fi, Bluetooth, GPS, 3-axis accelerometer, magnetometer and gyroscope. Equipped with a 16MP camera, display with 20° field-of-view, internal 91 dB loudspeaker, 4 digital microphones with active noise cancellation which allows accurate voice recognition even in 95 dBA of typical industrial noise.

With exception of accessories connecting to the audio jack, only RealWear accessories approved by i.safe MOBILE GmbH are allowed to be used with the HMT-1Z1 inside explosion hazardous areas, and they are only approved when used with the HMT-1Z1. For a list of approved accessories, see:

[https://www.realwear.com/...](https://www.realwear.com/)

[http://www.isafe-mobile.com/...](http://www.isafe-mobile.com/)

Electrical data: See attachment to certificate.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The battery shall be charged outside explosion 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 permitted ambient temperature range is -20°C °C to +60 °C.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Changed description in CoC,

IEC 60079-0 (Ed. 7.0)

Annex:

[i.safe_17TH0236_Attachment to IECEx certificate.pdf](#)

Applicant: i.safe MOBILE GmbH
i_Park Tauberfranken 10
97922 Lauda-Koenigshofen
Germany

Electrical Equipment: HMT-1Z1, intrinsically safe Head-Mounted-Tablet,
model T1100S

Electrical data:

Power Supply: The device has a fixed installed rechargeable battery.
Li-Ion battery $U_o = 3.8 \text{ V}$ ($U_o_{\text{max}} = 4.2 \text{ V}$) / 3.48 Ah /
12.528 Wh

USB Interface: The device has an USB interface for charging and data transfer. The opening of the USB interface cover in explosive atmospheres is not permitted.
Wired data connection and charging is only allowed outside explosion hazardous areas and only with the i.safe PROTECTOR cable from i.safe MOBILE GmbH or other accessories specified by i.safe MOBILE GmbH.

Audio Jack: The device has a 3.5 mm audio jack. The Ear Bud Hearing Protection Headphone Model H1100G or other accessory fulfilling the entity parameters are allowed to use inside explosion hazardous areas. The audio jack interface is not mandatory to cover.

Entity parameters for the audio jack (AJ):

Output voltage (spark): $U_{AJ_spark} = U_o_{\text{max}} = 4.2 \text{ V}$
Output voltage (thermal): $U_{AJ} = U_o = 3.8 \text{ V}$
Output current (spark): $I_o_{\text{max}} = 249 \text{ mA}$ (linear characteristic)
Output power (thermal): $P_o = 214 \text{ mW}$

Effective internal capacitance: $C_i = 0 \text{ }\mu\text{F}$
Effective internal inductance: $L_i = 0 \text{ }\mu\text{H}$
Internal resistance: $R_{AJ_res} = 16.841 \text{ Ohm}$

It is also allowed to connect an approved headset with high resistance.

Permissible input voltage: $U_i = 4.2 \text{ V}$
Permissible input power: $P_i = 10 \text{ mW}$

Gas group: IIC

Lo [mH]	1	0.5	0.2	0.1	0.05	0.02	0.01	0.005	0.002	0.001
Co [μ F]	2.9	4.6	6.8	8.9	12	17	25	40	130	420

Gas group: IIB

Lo [mH]	4.1	2	1	0.5	0.2	0.1	0.05	0.02	0.01	0.005
Co [μ F]	12	19	25	32	45	59	83	150	310	1000

By using gas group IIB parameters for accessory, the gas group of the combination (HMT-1Z1 with approved accessory) is reduced to gas group IIB.

With exception of accessories connecting to the audio jack, only RealWear accessories approved by i.safe MOBILE GmbH are allowed to be used with the HMT-1Z1 inside explosion hazardous areas, and they are only approved when used with the HMT-1Z1.

For a list of approved accessories, see:

www.realwear.com/...

www.isafe-mobile.com/...