

(1) **EU - Type Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 2014/34/EU

(3) EU - Type Examination Certificate Number

EPS 17 ATEX 1 014 X

Revision 1

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

(5) Manufacturer: i.safe MOBILE GmbH

(6) Address: i_Park Tauberfranken 10
97922 Lauda-Koenigshofen
Germany

(7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.

(8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment has been found to comply with the essential health and safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 17TH0236.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN 60079-0:2018


EN 60079-11:2012

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the annex to this certificate.

(11) This EU - Type Examination Certificate relates only to the design and examination of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.

(12) The marking of the equipment shall include the following:

 II 2G Ex ib IIC T4 Gb

 II 2D Ex ib IIIC T135°C Db IP6X



Certification department of explosion protection

Hamburg, 2019-08-08



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(13)

Annex

(14) EU - Type Examination Certificate EPS 17 ATEX 1 014 X

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(15) Description of equipment:

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.

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: $P_i = 10 \text{ mW}$

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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/...](http://www.realwear.com/)

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

(16) Reference number: 17TH0236

(17) Special conditions for safe use:

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 to +60 °C.

(18) Essential health and safety requirements:

Met by compliance with standards.

Certification department of explosion protection

Hamburg, 2019-08-08



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