

Certificate of Conformity

Ex EQUIPMENT

Certificate No.:	ANZEx 23.2001X	Current Issue:	0	Date of Issue:	2023-12-07
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Applicant: i.safe MOBILE GmbH
i_Park Tauberfranken 10
97922 Lauda-Koenigshofen
GERMANY

Equipment: IS540.M1 Intrinsically safe Smartphone

Type of Explosion Protection: Intrinsic Safety "i"

Explosion Protection Marking: Ex ia I Ma
Ex ib IIC T4 Gb
Ex ib IIIC T135°C Db

*This certificate is granted subject to the requirements as set out in
Joint Accreditation System of Australia and New Zealand Publications
ANZEx System Rules 2020 & ANZEx Certified Equipment Scheme Rules 2021*

Signed for and on behalf of issuing body

Name & Position


Geoff Barnier
Principal Engineer - Certification

This certificate is not transferable and remains the property of the issuing body.

The status of this certificate can be confirmed through the database located at www.anzex.com.au

Certificate issued by:

Safety in Mines, Testing and Research Station
2 Robert Smith Street, REDBANK QLD 4301

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

**Additional
Manufacturing
Location(s):** None

STANDARDS:

The equipment 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 Ed 7.0 Explosive atmospheres - Part 0: Equipment - General requirements

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

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

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Schedule

Equipment Description:

The intrinsically safe 5G smartphone IS540.M1 for the use in mines susceptible to firedamp is equipped with a 6-inch full HD display, supports multiple frequency bands and also NFC, Bluetooth 5.2 and Wi-Fi 6.

The high-end Qualcomm chipset ensures fast data processing for the most demanding industrial applications such as predictive maintenance.

The 16-pin ISM interface provides a secure connection for audio accessories, barcode scanner or other add-ons.

Other advantages include the 48 MP main camera, an amplified loudspeaker, a replaceable 4400 mAh battery and programmable buttons (for PoC/PTT/lone worker protection/SOS).

Electrical Ratings/Parameters

Battery charging: $U_m = 5.88 \text{ V}$

The supply and interface connection of the IS540.M1 is carried out via the ISM interface of the compatible communication devices. The IS540.M1 is certified for use with devices that comply with the connection parameters in accordance with document 1058AD04, Entity parameters 16pin ISM interface.

Specific Conditions of Use:

1. The battery may be charged and replaced outside explosion hazardous areas only.
2. The device must be protected from impacts with high impact energy, against excessive UV light emission and high electrostatic charge processes.
3. The covers for the USB-C and ISM interface must be securely closed inside explosion hazardous areas.
4. The device shall be protected from the exposure of oils, greases and hydraulic fluids.
5. The permitted ambient temperature range is $-20 \text{ }^\circ\text{C}$ to $+55 \text{ }^\circ\text{C}$.

Conditions of Certification:

None

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Additional Information:

The following accessories covered by this certification may be used:

- Headband IS-HDHS1A.1 and IS-HS2A.1
- Neckband IS-HDHS1B.1
- SD cards type IS-SD164.1 and IS-SD1128.1

No other accessories are included in this certification.

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Register of Issues and Variations

includes the current issue

Issue 0 dated 2023-12-07

Original issue.

Standards relevant for this issue:

- IEC 60079-0:2017 Ed 7.0** Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-11:2011 Ed 6.0 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

Test & Assessment Reports relevant for this issue:

TR No. & Issuing CBs: DE/EPS/ExTR23.0004/00; Bureau Veritas
 QAR No. & Issuing CB: DE/EPS/QAR12.0003/15; Bureau Veritas
 File Reference: 230005Cert

Manufacturer's Documents/Drawings associated with this issue:

Document Number	Pages / Sheets	Document Title	Revision	Date
1059AD01	4	IS540.M1 List of Documents	00	2023-04-18
1059AD02	4	IS540.M1 ATEX + IECEx Description	00	2023-04-18
1059AD03	6	IS540.M1 (Ex only) Safety Instructions	00	2023-04-18
1058AD02	59	IS540.1 ATEX, IECEx + UKEX Description	04	2023-02-02
1058AD04	5	Entity parameters 16pin ISM interface	00	2022-11-28
1058BP07	21	BOM Mainboard, Subboard, LCD and Battery Board	01	2022-11-29
1058AG01	3	Functional description of the battery board	00	2022-09-19
1058BS01	1	Battery Board Schematic	02	2022-10-10
1058BN01	1	Layout Top	02	2022-07-11
1058BN01	1	Layout Layer2	02	2022-07-11
1058BN01	1	Layout Layer3	02	2022-07-11
1058BN01	1	Layout Bottom	02	2022-07-11
1058BQ01	1	Assembly Top	02	2022-07-11
1058BR01	1	Assembly Bottom	02	2022-07-11
1058BS05	1	IS540.1 LCD-VAR1	00	2022-09-29
1058BN05	2	IS540.1 LCD-VAR1 Layout	00	2022-10-04
1058BR05	1	IS540.1 LCD-VAR1 Assembly	00	2022-10-04
1058BS06	1	IS540.1 LCD-VAR2	00	2022-09-29

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Document Number	Pages / Sheets	Document Title	Revision	Date
1058BN06	2	IS540.1 LCD-VAR2 Layout	00	2022-10-06
1058BR06	1	IS540.1 LCD-VAR2 Assembly	00	2022-10-06
1058BS07	60	IS540.1 Mainboard	01	2022-11-29
1058BN07	12	IS540.1 Mainboard Layout	00	2022-10-17
1058BR07	2	IS540.1 Mainboard Assembly	00	2022-10-17
1058BT07	1	IS540.1 Mainboard	00	2022-10-17
1058BN09	1	IS540.1_LCD-VAR1_Backlight_Layout_Assembly_Schematic	00	2022-10-17
1058BN10	1	IS540.1_LCD-VAR2_Backlight_Layout_Assembly_Schematic	00	2022-10-17
1058BS11	2	IS540.1 Subboard Schematics	00	2022-11-16
1058BN11	8	IS540.1 Subboard Layout	00	2022-10-17
1058BR11	2	IS540.1 Subboard Assembly	00	2022-10-17
1058BT11	1	IS540.1 Subboard	00	2022-09-29
1058DG01	11	IS540.1 Parts and Materials	00	2022-10-20
1059DM01	1	IS540.M1 Main Label ATEX IECEx ANZEx	02	2023-12-06
1059MM11	5	IS540.M1 (model M540A01) Safety Instructions	02	2023-11-23
1059MM10	17	IS540.M1 (model M540A01) Operating Manual	02	2023-11-23