

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-20557-01-00 according to DIN EN ISO/IEC 17025:2018

Valid from: 10.05.2022

Date of issue: 20.06.2022

Holder of certificate:

**Funkwerk Systems GmbH
Im Funkwerk 5, 99625 Kölleda**

Tests in the fields:

Telecommunication, Environmental Tests

Within the scope of accreditation marked with *), the testing laboratory is permitted, without being required to inform and obtain prior approval from DAkkS, to use standards or equivalent testing methods listed here with different issue dates.

The testing laboratory maintains a current list of all testing procedures within the flexible scope of accreditation.

The areas marked with ** are not subject to flexibility.

The management system requirements of DIN EN ISO/IEC 17025 are written in the language relevant to the operations of testing laboratories. Laboratories that conform to the requirements of this standard, operate generally in accordance with the principles of DIN EN ISO 9001.

*The certificate together with the annex reflects the status as indicated by the date of issue.
The current status of any given scope of accreditation can be found in the directory of accredited bodies maintained by Deutsche Akkreditierungsstelle GmbH at <https://www.dakks.de/en/content/accredited-bodies-dakks>.*

Department	Standard / In house procedure / Version	Title of standard or in house procedure	Test area / Reductions
Mobile Communication* (flexible)			
Telecommu- nication	3GPP TS 51.010-2 V13.11.0 (2020-06) ETSI TS 151 010-2 V13.11.0 (2019-07)	Digital cellular telecommunications system (Phase 2+) (GSM); Mobile Station (MS) conformance specification; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification	
Telecommu- nication	ETSI EN 301 511 V12.5.1 (2017-03)	Global System for Mobile communications (GSM); Mobile Stations (MS) equipment; Harmonized Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU	Not supported: 4.2.2, 4.2.3, 4.2.7, 4.2.8, 4.2.16-4.2.19, 4.2.33, 4.2.37, 4.2.39, 5.3.3, 5.3.7, 5.3.8, 5.3.16- 5.3.19, 5.3.30, 5.3.31, 5.3.36, 5.3.37, 5.3.39,
Telecommu- nication	ETSI TS 102 933-1 V2.1.1 (2015-06)	Railway Telecommunications (RT); GSM-R improved receiver parameters; Part 1: Requirements for radio reception	
Telecommu- nication	ETSI TS 102 933-2 V2.1.1 (2015-06)	Railway Telecommunications (RT); GSM-R improved receiver parameters; Part 2: Radio conformance testing	
Telecommunication Railway Systems ** (not flexible)			
Telecommu- nication	EIRENE SRS Version 15.4.0 27.04.2014	UIC Project EIRENE System Requirements Specification Standard test procedure - O-3001 Rev. 1.5.0, 28.01.2015 <i>In-house procedure</i> – Add-On O-3001 Version 6.0, 28.01.2015	
Telecommu- nication	EIRENE FRS Version 8.0 18.12.2015	UIC Project EIRENE System Requirements Specification Standard test procedure - O-3001 Part 1 – Cab Radio, Version 1.0.0, July 2017 Part 2 – EDOR, Version 1.0.0 July 2017 Part 3 – SIM cards, Version 1.0.0 July 2017 Part 4 – Network, Version 1.1.0, Nov. 2017 <i>In-house procedure</i> – Add-On O-3001 Version 8.0, 28.04.2016	

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Telecommu- nication	EIRENE SRS Version 16.0 18.12.2015	UIC Project EIRENE System Requirements Specification Standard-Test-Procedure - O-3001 Part 1 – Cab Radio, Version 1.0.0, July 2017 Part 2 – EDOR, Version 1.0.0 July 2017 Part 3 – SIM cards, Version 1.0.0 July 2017 Part 4 – Network, Version 1.1.0, Nov. 2017 <i>In-house procedure – Add-On O-3001</i> Version 8.0, 28.04.2016	
Telecommu- nication	UIC Code 751-3, 4. Issue, July 2005	<i>In-house procedure</i> Test hand book ATR Germany Austria Version 6.0 26.03.2020	No support of Semi- Duplex-Procedure.
Telecommu- nication	UIC Code 568, 3. Issue, 01.01.1996	<i>In-house procedure</i> Test hand book ATR Germany Austria Version 6.0 26.03.2020	Relevant for the connection of the train radio system, compliance with the control signals in accordance with sections 2.2, 6.1, 6.2, and 7.1, 7.6, 7.7 and 7.8 shall be checked.
Telecommu- nication	UIC O-2475 Version 3.0 19.02.2007	Standardised test method for ERTMS / GSM-R Quality of Service Test Specification	
Telecommu- nication	UIC O-2875 Version 0.37 22.11.2015	Standardised test method for ERTMS / GSM-R Quality of Service Test Specification for (MI) EIRENE QoS requirements Voice and non- ETCS data	

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Environmental Tests * (flexible)			
Environ- mental tests	DIN EN 60068-2-1 2008-01	Environmental testing - Part 2-1: Tests - Test A: Cold (IEC 60068-2-1:2007); German version EN 60068-2-1:2007	Level A
Environ- mental tests	DIN EN 60068-2-2 2008-05	Environmental testing - Part 2-2: Tests - Test B: Dry Heat (IEC 60068-2- 2:2007); German version EN 60068-2-2:2007	Level B
Environ- mental tests	DIN EN 60068-2-14 2010-04	Environmental testing - Part 2-14: Tests - Test N: Change of temperature (IEC 60068-2-14:2009); German version EN 60068-2-14:2009; Test Nb	Level N
Environ- mental tests	DIN EN 60068-2-30 2006-06	Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle) (IEC 60068-2-30:2005); German version EN 60068-2-30:2005	Level Db