

DIN EN 18031-1:2025-05 (E)

Common security requirements for radio equipment - Part 1: Internet connected radio equipment

| Contents | | Page |
|-------------------------|---|-------------|
| European foreword | | 4 |
| Introduction | | 5 |
| 1 | Scope | 6 |
| 2 | Normative references | 6 |
| 3 | Terms and definitions | 6 |
| 4 | Abbreviations | 11 |
| 5 | Application of this document | 12 |
| 6 | Requirements | 15 |
| 6.1 | [ACM] Access control mechanism | 15 |
| 6.1.1 | [ACM-1] Applicability of access control mechanisms | 15 |
| 6.1.2 | [ACM-2] Appropriate access control mechanisms | 20 |
| 6.2 | [AUM] Authentication mechanism | 25 |
| 6.2.1 | [AUM-1] Applicability of authentication mechanisms | 25 |
| 6.2.2 | [AUM-2] Appropriate authentication mechanisms | 34 |
| 6.2.3 | [AUM-3] Authenticator validation | 37 |
| 6.2.4 | [AUM-4] Changing authenticators | 41 |
| 6.2.5 | [AUM-5] Password strength | 44 |
| 6.2.6 | [AUM-6] Brute force protection | 52 |
| 6.3 | [SUM] Secure update mechanism | 56 |
| 6.3.1 | [SUM-1] Applicability of update mechanisms | 56 |
| 6.3.2 | [SUM-2] Secure updates | 59 |
| 6.3.3 | [SUM-3] Automated updates | 64 |
| 6.4 | [SSM] Secure storage mechanism | 68 |
| 6.4.1 | [SSM-1] Applicability of secure storage mechanisms | 68 |
| 6.4.2 | [SSM-2] Appropriate integrity protection for secure storage mechanisms | 72 |
| 6.4.3 | [SSM-3] Appropriate confidentiality protection for secure storage mechanisms | 77 |
| 6.5 | [SCM] Secure communication mechanism | 82 |
| 6.5.1 | [SCM-1] Applicability of secure communication mechanisms | 82 |
| 6.5.2 | [SCM-2] Appropriate integrity and authenticity protection for secure communication mechanisms | 88 |
| 6.5.3 | [SCM-3] Appropriate confidentiality protection for secure communication mechanisms | 94 |
| 6.5.4 | [SCM-4] Appropriate replay protection for secure communication mechanisms | 99 |
| 6.6 | [RLM] Resilience mechanism | 105 |
| 6.6.1 | [RLM-1] Applicability and appropriateness of resilience mechanisms | 105 |
| 6.7 | [NMM] Network monitoring mechanism | 109 |
| 6.7.1 | [NMM-1] Applicability and appropriateness of network monitoring mechanisms. 109 | 6.8 |
| | [TCM] Traffic control mechanism | 113 |
| 6.8.1 | [TCM-1] Applicability of and appropriate traffic control mechanisms | 113 |
| 6.9 | [CCK] Confidential cryptographic keys | 117 |
| 6.9.1 | [CCK-1] Appropriate CCKs | 117 |
| 6.9.2 | [CCK-2] CCK generation mechanisms | 121 |
| 6.9.3 | [CCK-3] Preventing static default values for preinstalled CCKs | 125 |
| 6.10 | [GEC] General equipment capabilities | 129 |

| | | |
|--|---|------------|
| 6.10.1 | [GEC-1] Up-to-date software and hardware with no publicly known exploitable vulnerabilities | 129 |
| 6.10.2 | [GEC-2] Limit exposure of services via related network interfaces | 134 |
| 6.10.3 | [GEC-3] Configuration of optional services and the related exposed network interfaces | 138 |
| 6.10.4 | [GEC-4] Documentation of exposed network interfaces and exposed services via network interfaces | 141 |
| 6.10.5 | [GEC-5] No unnecessary external interfaces | 144 |
| 6.10.6 | [GEC-6] Input validation | 147 |
| 6.11 | [CRY] Cryptography | 152 |
| 6.11.1 | [CRY-1] Best practice cryptography | 152 |
| Annex A (informative) Rationale | | 157 |
| A.1 | General | 157 |
| A.2 | Rationale | 157 |
| A.2.1 | Family of standards | 157 |
| A.2.2 | Security by design | 157 |
| A.2.3 | Threat modelling and security risk assessment | 158 |
| A.2.4 | Functional sufficiency assessment | 159 |
| A.2.5 | Implementation categories | 159 |
| A.2.6 | Assets | 160 |
| A.2.7 | Mechanisms | 161 |
| A.2.8 | Assessment criteria | 162 |
| A.2.9 | Interfaces | 165 |
| Annex B (informative) Mapping with EN IEC 62443-4-2: 2019 | | 168 |
| B.1 | General | 168 |
| B.2 | Mapping | 168 |
| Annex C (informative) Mapping with ETSI EN 303 645 (Cyber Security for Consumer Internet of Things: Baseline Requirements) | | 171 |
| C.1 | General | 171 |
| C.2 | Mapping | 171 |
| Annex D (informative) Mapping with Security Evaluation Standard for IoT Platforms (SESIP) | | 175 |
| D.1 | General | 175 |
| D.2 | Mapping | 175 |
| Annex ZA (informative) Relationship between this European Standard and the Delegated Regulation (EU) 2022/30 supplementing Directive 2014/53/EU of the European Parliament and of the Council with regard to the application of the essential requirements referred to in Article 3(3), points (d) (e) and (f), of that Directive aimed to be covered | | 178 |
| Bibliography | | 179 |