# Overview of SC 31 standards related to RFID and encoded data

**What is RFID?**

RFID stands for **R**adio **F**requency **Id**entification

There is not one single RFID technology and ISO/IEC JTC1/SC 31 provides standards for most of them. RFID technologies can be classified according to the following two criteria:

- The operating frequency (LF, HF, UHF or EHF)
- The energy supply (active or passive)

The operating frequencies, together with the different regulations, have an impact on the antenna design, maximum read range as well as the environment in which RFID system can properly operate (e.g., presence of metal or liquids).

The communication protocol can require a tag to have a battery or can allow the tag to be energized by the electromagnetic wave radiated by the reader. Active tags have their own radio emitter and therefore require a battery to operate. Passive tags backscatter/reflect the incoming radio wave from the reader to communicate. They usually require less energy than active tags and can therefore be energized by the incoming radio wave. Such passive tags can sometime have their own battery to either increase the read range or power some embedded sensors. Such tags are called Battery Assisted Passive (BAP) tags.

SC31 provides standards for item identification using these different RFID technologies (e.g., ISO/IEC 18000-2 for Low Frequency RFID, ISO/IEC 18000-3 Modes 1, 2 and 3 for High Frequency RFID, ISO/IEC 18000-4 Modes 1 and 2 for Extra High Frequency (2,45 GHz) RFID, ISO/IEC 18000-61, 62, 63 and 64 for Ultra High Frequency RFID and ISO/IEC 18000-7 for active RFID at 433 MHz).

| | Passive HF | Passive UHF | Active RFID |
|---|---|---|---|
| **Transponder costs** | Low | Very low | Very high |
| **Typical read range** | < 10 cm | < 10m | < 200m |
| **Data Protocols** | Many OEM dependent, but ISO 15693 and NFC/NDEF often supported as standard | ISO 15961 / GS1 TDS | OEM dependent |
| **Infrastructure costs** | Low | Medium | High |
| **Read field** | Very stable and accurate | Inaccurate and best in movement [1] | N/A (Tag sends actively) |
| **Data write speed** | Moderate | Low | N/A |
| **Data read speed (Identifier)** | High | High | N/A |
| **Data read speed (User memory/other banks)** | Moderate | Low | N/A |
| **Bulk reading scenario** | No | Yes | Yes |
| **Realtime Location System (RTLS) scenario** | No | Depending on use case | Yes |
| **Metal/liquid disturbances** | Low | High | Low |

[1] Reflections of metallic surfaces can cause wave interferences causing overshoots and blind spots which should be considered in provided use-case scenarios.

It is worth noting that today, the most widely used RFID technology for item identification and management is the UHF passive RFID technology (aka RAIN RFID) using the ISO/IEC 18000-63 air interface protocol. The rest of the document will mainly focus on this technology.

## ISO/IEC JTC 1/SC 31 - Automatic identification and data capture techniques

SC 31 is a sub-committee of the Joint Technical Committee 1, established between the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). JTC 1 is responsible for Information Technology standards.
The scope of SC 31 is the standardisation of data structures and technologies for Automatic Identification and Data Capture (AIDC). The AIDC technologies addressed by SC 31 include:

- Optical Character Recognition (OCR)
- Bar codes
- Radio Frequency Identification (RFID)
- Real Time Location Systems (RTLS).

SC 31 comprises four Working Groups dealing with:

- Bar codes (WG 1)
- Identification and Data structure (WG 2)
- Radio communications (WG 4)
- Applications (WG 8).

## Purpose & scope of this paper

The scope of this document is to provide a short overview of the standards managed by SC 31 in the areas of RFID and encoded data, which might help identifying the correct SC 31 standard to use for resolving a business need involving AIDC.

## RFID Function Principle

A RFID system consists of 3 elements:

- RFID Reader (precise: Interrogator), being the controller unit for stationary or mobile readers
- RFID Antenna(s), connected to a RFID Reader, sending and receiving radio waves
- RFID Tags, typically printed antennas and chips in label format, without battery

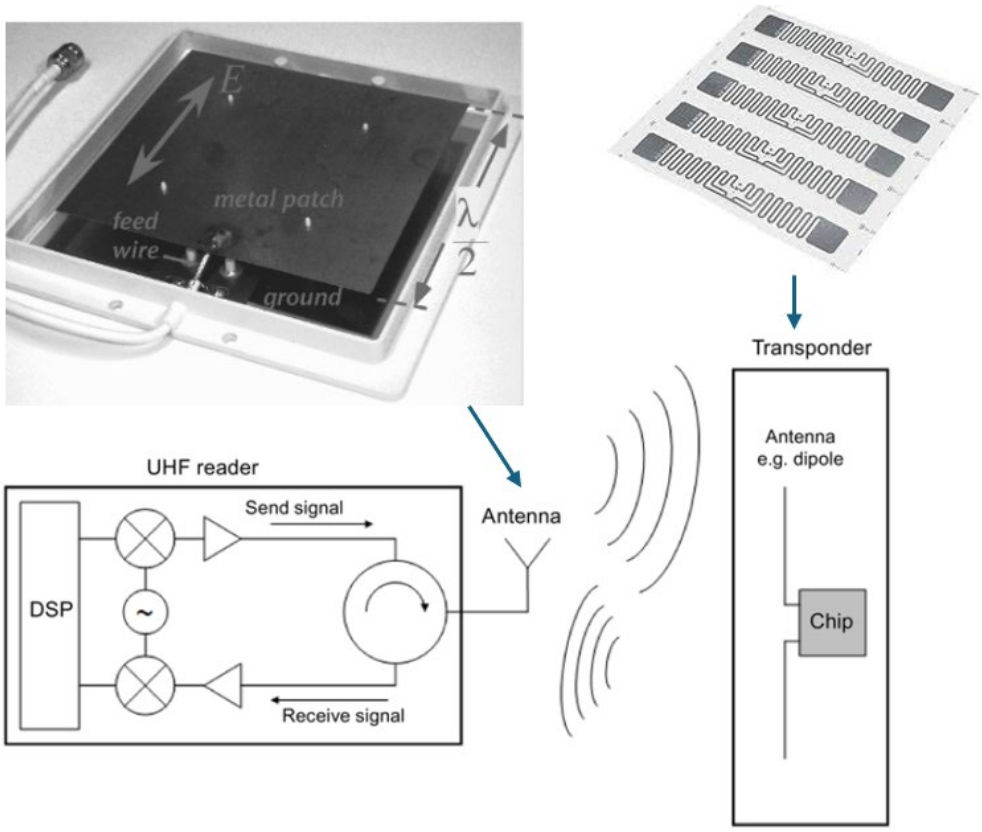


*Figure 1: Sample structure of an UHF RFID system*

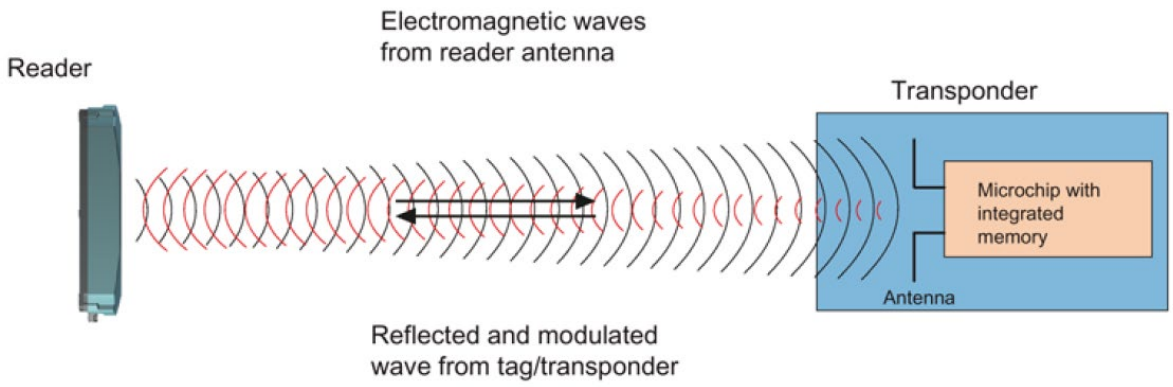


*Figure 2: Functioning principle of an UHF RFID system*

1) An RFID Antenna sends electromagnetic waves with a regulated frequency, encoding a command in the wave modulation
2) The integrated antenna inside the RFID Tag gets energized by the waves
3) The chip inside the RFID Tag receives the command, which is modulated in the received waves, processes it and backscatters a response
4) The RFID Antenna receives the response, forwards it to the RFID Reader which then processes the response

The ISO/IEC 18000-63 air protocol allows many tags in range being identified and additionally communicated with very quickly. Depending on the environmental circumstances, a single RFID

Reader can talk with up to 1,000 tags per second, making RFID an effective way to automatically detect tagged items that are in the range of RFID Antennas.

Electromagnetic waves in the given frequency band of 860-930 MHz are useful to read through non-conducting materials, like cardboard or plastic, without “line of sight” as is needed by optical reading of barcodes. However, they cannot penetrate metallic surfaces and are reflected by them, therefore applications with metals need proper design of antenna setup and power output levels to control the read ranges to a certain degree. The orientation of antennas to each other also has effect on communication capabilities as well as liquids and other RFID readers in proximity. These effects need to be considered to avoid capturing unwanted tags or not being able to read the tags which are in range.

## Applications

There is no limit to potential use cases of RFID, but in supply chain scenarios often used are:

- Automated tracking of materials and containers, e.g. RFID gates at docking bays for capture of inbounds and outbounds
- Identifying items and assets with mobile handhelds for very fast inventory runs
- Capture of items and boxes on assembly lines and conveyer belts
- Reading contents of packages or other hidden items, e.g. components inside a car or even medical implants in human bodies
- Close range (<10m) search of specific items with mobile devices navigating the user to the searched object, e.g. a box inside a rack
- Real-time tracking of objects, e.g. assets or wares in a retail store

## RFID Tag as Data Carrier

RFID Tags have several usable memory banks available, each with a different purpose:

- TID – A static unique ID assigned by the manufacturer of the chip
- UII/EPC – The actual identification of the tagged item with a **U**nique **I**tem **I**dentifier (also called **E**lectronic **P**roduct **C**ode by GS1)
- User Memory – Additional memory for optional meta data for free usage

RFID Tags are most used in label format as cheapest possible unit, so that a RFID Printer – a normal printing unit combined with RFID Reader and Antenna – can write data into the chip and print the label in one step. This is useful as a barcode containing the same or additional identification can be placed on the same item, which leaves several options to identify the tagged item.

*Figure 3: RFID Printer printing & encoding RFID labels*

## Standards requirements

Many standards have been developed in SC 31 over the years to meet Users' demand and to follow the evolution of technologies. The different categories of standards related to data and bar codes are described below.

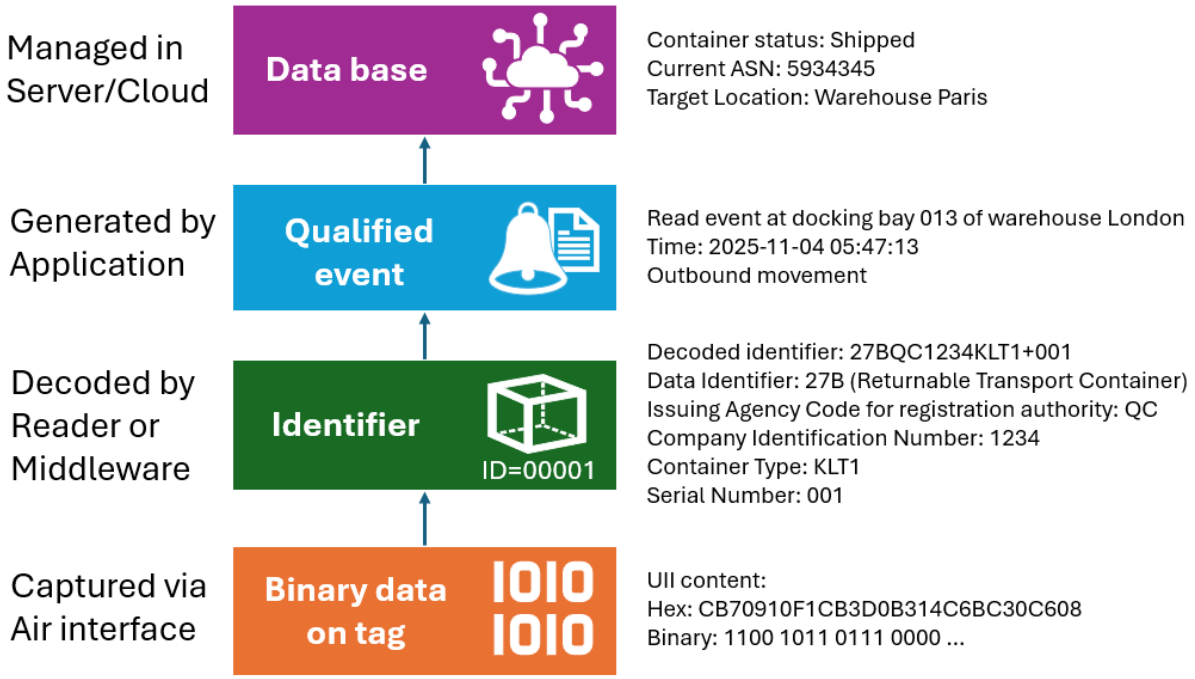


*Figure 4: Sample application layer for data capture event*

### 1) Air Interface and Data Carrier

The main standard ISO/IEC 18000-63[2] developed by SC 31 for RFID communication specifies available commands between RFID Readers and RFID Tags as well as the logical memory of RFID Tags. The standard specifies mandatory commands every vendor needs to fulfil but also leaves optional commands for extended functionality.

### 2) Tag Data Content

When considering a RFID project, the first question to be answered relates to the process that shall be automated and whether the physical conditions are given for the specific use case. Secondly, the data that will be encoded in the chip and captured automatically. A good practice is to consider international standards right from the start. Even if the immediate need is for some internal applications with limited impact, the adoption of international standards right from the beginning will enormously facilitate the growth of the application in scope and number of parties impacted. Compared to other technologies like barcodes and short distance RFID (like NFC), using standards are much more relevant on UHF RFID technology as tags communicate on high distance and in today's world it is almost unavoidable to encounter all kinds of foreign RFID tags in your own environment – be it from containers, items or clothing of your workers.

[2] Also known in GS1 as EPC Gen2

History has shown cases where custom identification numbers have led to irritated systems, posting automated movements for items which were physically not there, but a clash in IDs from other vendors, accidentally using the same content to identify their asset. It is highly recommended to utilize data standards to avoid such scenarios, even if your tagged items never leave your premises – because you can never know what other tags your system will be encountered with in the future.

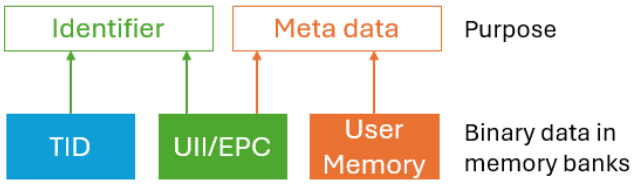


*Figure 5: General purpose of logical memory banks*

All data carriers[3] can be encoded in one or more ways, and the data can be formatted in one or more ways. Data carriers have as such control information which tells the reader how to decode the information as stored in the tag, and how to present it. For example, a barcode and an NFC tag may contain text, and the text is formatted as free-from, or say an URI, or a business card. RFID tags, likewise, have controls which informs the reader that the tag data is encoded according to GS1 rules (GS1 TDS) or ISO rules as specified by the ISO/IEC 15961 Data Construct Register.

- **Identifiers**

A RFID Tag is typically associated with a physical object, and it carries the object identifier. Because RFID systems are designed to capture a huge number of tags without line of sight, it is worth noting that every single object identifier encoded in an RFID Tag shall be globally unique. Control data is also to be encoded in the tags so that the reader knows how to interpret and parse these unique identifiers.
Tags can either encode a GS1 unique identifier named EPC (Electronic Product Code) or an ISO-based unique item identifier (UII). In the first case, the user must refer to the GS1 Tag Data Standard to know how GS1 identifiers can be converted into EPCs. In the second case, the ISO/IEC 15961 series of standards provide a way to encode and use unique objects identifiers in RFID applications, thereby opening access to global supply chains. The user must refer to AIM Global, the ISO/IEC 15961 Registration Authority, to have the list of assigned Application Family Identifiers (AFI) and related standards and encoding rules.

- **Qualifiers**

A RFID Tag can encode different data elements, usually utilizing the optional User Memory for additional information if required. For example, the manufacturing lot number of the item and its production date. Both above mentioned standards provide methods for encoding structured data in the User Memory. Using standard qualifiers ensures interoperability between different systems.
It is a good practise to use publicly managed fields, like the ANSI MH10.2 Data Identifiers (DIs) and GS1 Application Identifiers (AIs). ISO/IEC 20248 provides a method for adding verifiable client specific data fields.

[3] Reminder: Barcodes are also data carriers.

- **Data protection and authentication**

UII and User Memory banks can be write-protected with a 32-bit password or can be permanently locked. Some applications require the tag, the reader or both to be authenticated before manipulating data. The communication between tags and readers must sometime also be protected against eavesdropping. For these use cases, SC 31 has developed the ISO/IEC 29167 series, a full set of crypto suites that can be implemented in RFID tags and readers. ISO/IEC 20248 provides a method to encode a digitally signed data structures both natively or as an add-on to an existing identifier.

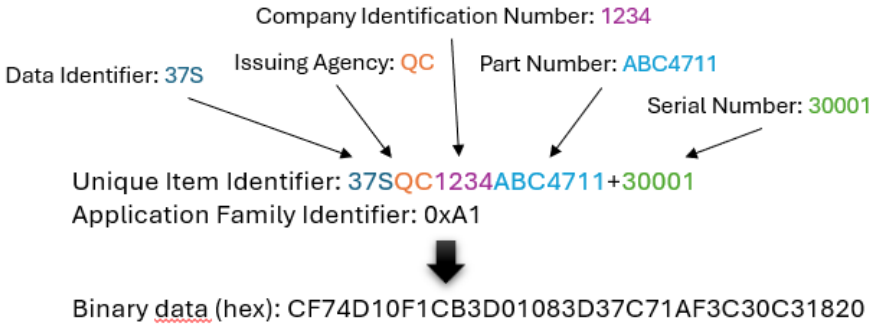


*Figure 6: Sample encoding of a serialized part via ISO/IEC 15961*

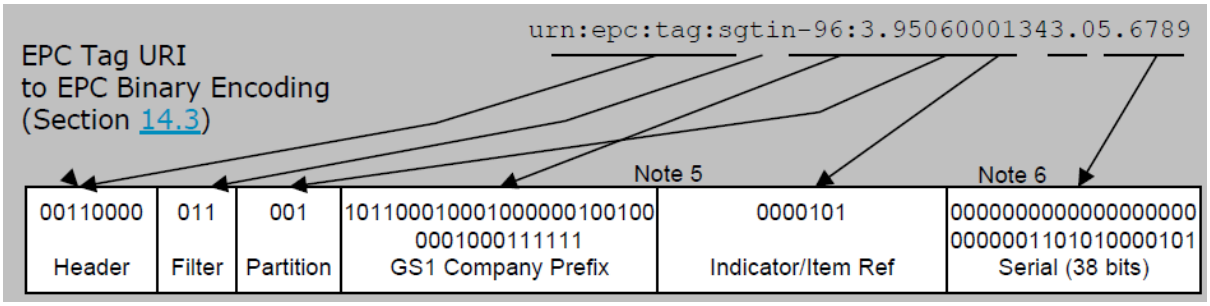


*Figure 7: Sample encoding of a serialized global trade item (SGTIN) via GS1 Tag Data Standard*

### 3) Conformance & Performance

Conformance standards provide the test methods to ensure interoperability. Performance test methods provide the tools to evaluate if, and how well a data carrier, and the encoded data will perform against the use-case. For example, ISO/IEC 21277 provides test methods to determine how well/fast a tag will read for a specific tag data configuration like size and crypto method used.

## SC 31 standards related to RFID

*Categories: AI = Air Interface, AC = Air Interface Crypto, AR = Air Interface RTLS, AP = Applications, CO = Conformance, DA = Data, PE = Performance, SE = Sensor functionality, OT = Other*

*Status: December 2025*

| Standard | Document title | Cat |
|---|---|---|
| **ISO/IEC 18000-2:2009** | Information technology — Radio frequency identification for item management — Part 2: Parameters for air interface communications below 135 kHz | AI |
| **ISO/IEC 18000-3:2010** | Information technology — Radio frequency identification for item management — Part 3: Parameters for air interface communications at 13,56 MHz | AI |
| **ISO/IEC 18000-4:2018** | Information technology — Radio frequency identification for item management — Part 4: Parameters for air interface communications at 2,45 GHz | AI |
| **ISO/IEC 18000-6:2025** | Information technology — Radio frequency identification for item management — Part 6: Parameters for air interface communications at 860 MHz to 960 MHz General | AI |
| **ISO/IEC 18000-61:2012** | Information technology — Radio frequency identification for item management — Part 61: Parameters for air interface communications at 860 MHz to 960 MHz Type A | AI |
| **ISO/IEC 18000-62:2012** | Information technology — Radio frequency identification for item management — Part 62: Parameters for air interface communications at 860 MHz to 960 MHz Type B | AI |
| **ISO/IEC 18000-63:2021** | Information technology — Radio frequency identification for item management — Part 63: Parameters for air interface communications at 860 MHz to 960 MHz Type C | AI |
| **ISO/IEC 18000-64:2012** | Information technology — Radio frequency identification for item management — Part 64: Parameters for air interface communications at 860 MHz to 960 MHz Type D | AI |
| **ISO/IEC 18000-7:2014** | Information technology — Radio frequency identification for item management — Part 7: Parameters for active air interface communications at 433 MHz | AI |
| **ISO/IEC 29143:2011** | Information technology — Automatic identification and data capture techniques — Air interface specification for Mobile RFID interrogators | AI |
| **ISO/IEC 22243:2019** | Information technology — Radio frequency identification for item management — Methods for localization of RFID tags | AI |
| **ISO/IEC DIS 18000-65** | Information technology — Radio frequency identification for item management — Part 65: Parameters for air interface communications for streaming sensors based on ISO/IEC 18000-63 | AI |
| **ISO/IEC 29167-1:2014** | Information technology — Automatic identification and data capture techniques — [Multiple Parts for Crypto Suites] | AC |
| **ISO/IEC 29167-10:2017** | Information technology — Automatic identification and data capture techniques — Part 10: Crypto suite AES-128 security services for air interface communications | AC |
| **ISO/IEC 29167-11:2025** | Information technology — Automatic identification and data capture techniques — Part 11: Crypto suite PRESENT-80 security services for air interface communications | AC |
| **ISO/IEC 29167-12:2015** | Information technology — Automatic identification and data capture techniques — Part 12: Crypto suite ECC-DH security services for air interface communications | AC |
| **ISO/IEC 29167-13:2015** | Information technology — Automatic identification and data capture techniques — Part 13: Crypto suite Grain-128A security services for air interface communications | AC |
| **ISO/IEC 29167-14:2015** | Information technology — Automatic identification and data capture techniques — Part 14: Crypto suite AES OFB security services for air interface communications | AC |
| **ISO/IEC 29167-16:2022** | Information technology — Automatic identification and data capture techniques — Part 16: Crypto suite ECDSA-ECDH security services for air interface communications | AC |
| **ISO/IEC 29167-17:2015** | Information technology — Automatic identification and data capture techniques — Part 17: Crypto suite cryptoGPS security services for air interface communications | AC |
| **ISO/IEC 29167-19:2019** | Information technology — Automatic identification and data capture techniques — Part 19: Crypto suite RAMON security services for air interface communications | AC |
| **ISO/IEC 29167-21:2018** | Information technology — Automatic identification and data capture techniques — Part 21: Crypto suite SIMON security services for air interface communications | AC |

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|---|---|---|
| **ISO/IEC 29167-22:2018** | Information technology — Automatic identification and data capture techniques — Part 22: Crypto suite SPECK security services for air interface communications | AC |
| **ISO/IEC TS 29167-15:2017** | Information technology — Automatic identification and data capture techniques — Part 15: Crypto suite XOR security services for air interface communications | AC |
| **ISO/IEC 24730-1:2014** | Information technology — Real-time locating systems (RTLS) — Part 1: Application programming interface (API) | AR |
| **ISO/IEC 24730-2:2012** | Information technology — Real time locating systems (RTLS) — Part 2: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol | AR |
| **ISO/IEC 24730-21:2012** | Information technology — Real time locating systems (RTLS) — Part 21: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol: Transmitters operating with a single spread code and employing a DBPSK data encoding and BPSK spreading scheme | AR |
| **ISO/IEC 24730-22:2012** | Information technology — Real time locating systems (RTLS) — Part 22: Direct Sequence Spread Spectrum (DSSS) 2,4 GHz air interface protocol: Transmitters operating with multiple spread codes and employing a QPSK data encoding and Walsh offset QPSK (WOQPSK) spreading scheme | AR |
| **ISO/IEC 24730-5:2010** | Information technology — Real-time locating systems (RTLS) — Part 5: Chirp spread spectrum (CSS) at 2,4 GHz air interface | AR |
| **ISO/IEC 24730-61:2013** | Information technology — Real time locating systems (RTLS) — Part 61: Low rate pulse repetition frequency Ultra Wide Band (UWB) air interface | AR |
| **ISO/IEC 24730-62:2013** | Information technology — Real time locating systems (RTLS) — Part 62: High rate pulse repetition frequency Ultra Wide Band (UWB) air interface | AR |
| **ISO/IEC 18305:2016** | Information technology — Real time locating systems — Test and evaluation of localization and tracking systems | AR |
| **ISO/IEC 20248:2022/Amd 1:2024** | Information technology — Automatic identification and data capture techniques — Digital signature data structure schema — Amendment 1: Domain authority identifier (DAID) specification for the GS1 legal entity identifier and encoding clarifications | OT |
| **ISO/IEC 18047-2:2012** | Information technology — Radio frequency identification device conformance test methods — Part 2: Test methods for air interface communications below 135 kHz | CO |
| **ISO/IEC 18047-3:2022** | Information technology — Radio frequency identification device conformance test methods — Part 3: Test methods for air interface communications at 13,56 MHz | CO |
| **ISO/IEC 18047-6:2025** | Information technology — Radio frequency identification device conformance test methods — Part 6: Test methods for air interface communications at 860 MHz to 960 MHz | CO |
| **ISO/IEC 18047-63:2023** | Information technology — Radio frequency identification device conformance test methods — Part 63: Test methods for air interface communications at 860 MHz to 960 MHz | CO |
| **ISO/IEC 19823-10:2020** | Information technology — Conformance test methods for security service crypto suites — [Multiple parts] | CO |
| **ISO/IEC 19823-11:2025** | Information technology — Conformance test methods for security service crypto suites — Part 11: Crypto suite PRESENT-80 | CO |
| **ISO/IEC 19823-13:2018** | Information technology — Conformance test methods for security service crypto suites — Part 13: Cryptographic Suite Grain-128A | CO |
| **ISO/IEC 19823-16:2020** | Information technology — Conformance test methods for security service crypto suites — Part 16: Crypto suite ECDSA-ECDH security services for air interface communications | CO |
| **ISO/IEC 19823-19:2018** | Information technology — Conformance test methods for security service crypto suites — Part 19: Crypto suite RAMON | CO |
| **ISO/IEC 19823-21:2019** | Information technology — Conformance test methods for security service crypto suites — Part 21: Crypto suite SIMON | CO |
| **ISO/IEC 19823-22:2019** | Information technology — Conformance test methods for security service crypto suites — Part 22: Crypto suite SPECK | CO |
| **ISO/IEC TR 18047-4:2004** | Information technology — Radio frequency identification device conformance test methods — Part 4: Test methods for air interface communications at 2,45 GHz | CO |
| **ISO/IEC TR 18047-7:2010** | Information technology — Radio frequency identification device conformance test methods — Part 7: Test methods for active air interface communications at 433 MHz | CO |
| **ISO/IEC 24769-2:2013** | Information technology — Real-time locating systems (RTLS) device conformance test methods — Part 2: Test methods for air interface communication at 2,4 GHz | CO |

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|---|---|---|
| **ISO/IEC 24769-5:2012** | Information technology — Automatic identification and data capture techniques — Real time locating systems (RTLS) device conformance test methods — Part 5: Test methods for chirp spread spectrum (CSS) at 2,4 GHz air interface | CO |
| **ISO/IEC 24769-61:2015** | Information Technology — Real Time Locating System (RTLS) Device Conformance Test Methods — Part 61: Low rate pulse repetition frequency Ultra Wide Band (UWB) air interface | CO |
| **ISO/IEC 24769-62:2015** | Information Technology — Real Time Locating System (RTLS) Device Conformance Test Methods — Part 62: High rate pulse repetition frequency Ultra Wide Band (UWB) air interface | CO |
| **ISO/IEC 15418:2016** | Information technology — Automatic identification and data capture techniques — GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance | DA |
| **ISO/IEC 15459-1:2014** | Information technology — Automatic identification and data capture techniques — Unique identification — [Multiple parts] | DA |
| **ISO/IEC 15459-2:2015** | Information technology — Automatic identification and data capture techniques — Unique identification — Part 2: Registration procedures | DA |
| **ISO/IEC 15459-3:2014** | Information technology — Automatic identification and data capture techniques — Unique identification — Part 3: Common rules | DA |
| **ISO/IEC 15459-4:2014** | Information technology — Automatic identification and data capture techniques — Unique identification — Part 4: Individual products and product packages | DA |
| **ISO/IEC 15459-5:2014** | Information technology — Automatic identification and data capture techniques — Unique identification — Part 5: Individual returnable transport items (RTIs) | DA |
| **ISO/IEC 15459-6:2014** | Information technology — Automatic identification and data capture techniques — Unique identification — Part 6: Groupings | DA |
| **ISO/IEC 29161:2016** | Information technology — Data structure — Unique identification for the Internet of Things | DA |
| **ISO/IEC 15961-1:2021** | Information technology — Data protocol for radio frequency identification (RFID) for item management — Part 1: Application interface | DA |
| **ISO/IEC 15961-2:2019** | Information technology — Data protocol for radio frequency identification (RFID) for item management — Part 2: Registration of RFID data constructs | DA |
| **ISO/IEC 15961-3:2019** | Information technology — Data protocol for radio frequency identification (RFID) for item management — Part 3: RFID data constructs | DA |
| **ISO/IEC 15961-4:2016** | Information technology — Radio frequency identification (RFID) for item management: Data protocol — Part 4: Application interface commands for battery assist and sensor functionality | DA |
| **ISO/IEC 15962:2022** | Information technology — Radio frequency identification (RFID) for item management — Data protocol: data encoding rules and logical memory functions | DA |
| **ISO/IEC 15963-1:2020** | Information technology — Radio frequency identification for item management — Part 1: Unique identification for RF tags numbering systems | DA |
| **ISO/IEC 15963-2:2020** | Information technology — Radio frequency identification for item management — Part 2: Unique identification for RF tags registration procedures | DA |
| **ISO/IEC 24753:2011** | Information technology — Radio frequency identification (RFID) for item management — Application protocol: encoding and processing rules for sensors and batteries | DA |
| **ISO/IEC 29160:2020** | Information technology — Radio frequency identification for item management — RFID Emblem | DA |
| **ISO/IEC/IEEE 21450:2010** | Information technology — Smart transducer interface for sensors and actuators — Common functions, communication protocols, and Transducer Electronic Data Sheet (TEDS) formats | SE |
| **ISO/IEC/IEEE 21451-1:2010** | Information technology — Smart transducer interface for sensors and actuators — Part 1: Network Capable Application Processor (NCAP) information model | SE |
| **ISO/IEC/IEEE 21451-2:2010** | Information technology — Smart transducer interface for sensors and actuators — Part 2: Transducer to microprocessor communication protocols and Transducer Electronic Data Sheet (TEDS) formats | SE |
| **ISO/IEC/IEEE 21451-4:2010** | Information technology — Smart transducer interface for sensors and actuators — Part 4: Mixed-mode communication protocols and Transducer Electronic Data Sheet (TEDS) formats | SE |
| **ISO/IEC/IEEE 21451-7:2011** | Information technology — Smart transducer interface for sensors and actuators — Part 7: Transducer to radio frequency identification (RFID) systems communication protocols and Transducer Electronic Data Sheet (TEDS) formats | SE |

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|---|---|---|
| **ISO/IEC 17360:2023** | Automatic identification and data capture techniques — Supply chain applications of RFID — Product tagging, product packaging, transport units, returnable transport units and returnable packaging items | DA |
| **ISO/IEC 18046-1:2011** | Information technology — Radio frequency identification device performance test methods — [Multiple Parts] | PE |
| **ISO/IEC 18046-2:2020** | Information technology — Radio frequency identification device performance test methods — Part 2: Test methods for interrogator performance | PE |
| **ISO/IEC 18046-3:2020** | Information technology — Radio frequency identification device performance test methods — Part 3: Test methods for tag performance | PE |
| **ISO/IEC 18046-4:2015** | Information technology — Radio frequency identification device performance test methods — Part 4: Test methods for performance of RFID gates in libraries | PE |
| **ISO/IEC 18046-5:2025** | Information technology — Radio frequency identification device performance test methods — Part 5: Test methods for the environmental characteristics of RFID tags used in sporting goods | PE |
| **ISO/IEC 21277:2018** | Information technology — Radio frequency identification device performance test methods — Crypto suite | PE |
| **ISO/IEC 24770-5:2019** | Information technology —Real-time locating system (RTLS) device performance test methods — Part 5: Test methods for chirp spread spectrum (CSS) air interface | PE |
| **ISO/IEC 24770-61:2015** | Information technology — Real Time Locating System (RTLS) device performance test methods — Part 61: Low rate pulse repetition frequency Ultra Wide Band (UWB) air interface | PE |
| **ISO/IEC 24770-62:2015** | Information technology — Real-time locating system (RTLS) device performance test methods — Part 62: High rate pulse repetition frequency Ultra Wide Band (UWB) air interface | PE |
| **ISO/IEC 24770:2012** | Information technology — Real-time locating system (RTLS) device performance test methods — Test methods for air interface communication at 2,4 GHz | PE |
| **ISO/IEC 24791-1:2010** | Information technology — Radio frequency identification (RFID) for item management — Software system infrastructure — [Multiple Parts] | AP |
| **ISO/IEC 24791-2:2011** | Information technology — Radio frequency identification (RFID) for item management — Software system infrastructure — Part 2: Data management | AP |
| **ISO/IEC 24791-3:2022** | Information technology — Radio frequency identification (RFID) for item management — Software system infrastructure — Part 3: Device management | AP |
| **ISO/IEC 24791-5:2025** | Information technology — Radio frequency identification (RFID) for item management — Software system infrastructure — Part 5: Device interface | AP |
| **ISO/IEC 23200-1:2021** | Information technology — Radio frequency identification for item management — Part 1: Interference rejection performance test method between a tag as defined in ISO/IEC 18000-63 and a heterogeneous wireless system | CO |
| **ISO/IEC 23200-2:2023** | Information technology — Radio frequency identification for item management — Part 2: Interference rejection performance test method between an Interrogator as defined in ISO/IEC 18000-63 and a heterogeneous wireless system | CO |
| **ISO/IEC 19762** | Information technology — Automatic identification and data capture (AIDC) techniques — Vocabulary | OT |

## References

- General information about SC 31 - https://www.iso.org/committee/45332.html
- History of SC 31: https://jtc1info.org/sd-2-history/jtc1-subcommittees/sc-31/
- Public material: https://www.iso.org/committee/45332.html?view=documents
- Current list of published standards: https://www.iso.org/committee/45332/x/catalogue/p/1/u/0/w/0/d/0

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