INTERNATIONAL STANDARD

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Information technology — Mobile item identification and management —

Part 1: Mobile RFID interrogator device protocol for ISO/IEC 18000-63 Type C

Technologies de l'information — Gestion et identification d'élément mobile —

Partie 1: Protocole de dispositif interrogateur RFID mobile pour l'ISO/CEI 18000-63 Type C

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 29173-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

ISO/IEC 29173 consists of the following parts under the general title *Information technology — Mobile item identification and management*:

— *Part 1: Mobile RFID interrogator device protocol for ISO/IEC 18000-63 Type C*

Introduction

This International Standard provides a mobile RFID interrogator device protocol defining the interface between a mobile AIDC application platform and a mobile RFID interrogator.

Without this standard protocol, manufacturers of mobile RFID interrogators would likely develop multiple mobile RFID interrogator device drivers for different mobile AIDC application platforms. Moreover, they also would likely develop a proprietary interface protocol between the mobile AIDC application platform and the mobile RFID interrogator. On the other hand, if both the mobile AIDC application platform and the Mobile RFID interrogator developers follow this standardized mobile RFID interrogator device protocol, various independent products will be mutually interoperable without extra costs.

Previously, the ISO and EPC standards defined an interrogator protocol that supports connection of an RFID interrogator to a host through a network. Those standards are applied mainly in cases in which an RFID interrogator is connected through a network.

In mobile RFID systems, an RFID interrogator is mounted inside a mobile phone or attached to a mobile phone in a dongle configuration. Such RFID systems require a protocol that enables a main control unit of the mobile phone to control the RFID interrogator. Therefore, the Mobile RFID system requires a new interface protocol between the mobile AIDC application platform and the mobile RFID interrogator to meet the new requirements.

There are alternative techniques to meet the use case addressed by this International Standard, and one is the use of EPC and ONS. Those interested in this technique are encouraged to contact GS1 for further information.

Information technology — Mobile item identification and management —

Part 1:
Mobile RFID interrogator device protocol for ISO/IEC 18000-63 Type C

1 Scope

This part of ISO/IEC 29173 defines an interface protocol between a device driver of a mobile AIDC application platform and a mobile RFID interrogator within a mobile AIDC terminal. It is intended that this part of ISO/IEC 29173 be implemented in both the device driver of a mobile AIDC application platform and the mobile RFID interrogator.

In accordance with the ISO/IEC 18000-63 type C RFID air interface, this part of ISO/IEC 29173 includes:

— types of command/response/notification protocol messages and their usages,

— protocol message format, and

— protocol message exchange procedures.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 18000-63, *Information technology — Radio frequency identification for item management: — Part 63: Parameters for air interface communications at 860 MHz to 960 MHz Type C*

ISO/IEC 19762 (all parts), *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary*

ISO/IEC 29143, *Information technology — Mobile item identification and management — Air interface specification for Mobile RFID interrogators*

ISO/IEC TR 29172, *Information technology — Mobile item identification and management — Reference architecture for Mobile AIDC services*