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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 41732.2-2023

**Radiofrequency identification of animals - Advanced
transponders - Part 2: Code and command structure**

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foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents"

drafting:

This document is Part 2 of GB/T 41732 "Enhanced RFID Tags for RFID of Animals": GB/T 41732 has issued

Published the following sections:

--- Part 1: Air interface;

--- Part 2: Code and instruction structure:

This document is modified to adopt ISO 14223-2:2010 "Enhanced RFID tags for RFID of animals - Part 2: Codes and instructions

structure":

Compared with ISO 14223-2:2010, this document has made the following structural adjustments:

---Chapter 3 corresponds to Chapter 4 of ISO 14223-2:2010, Chapter 4 corresponds to

Chapter 5 of ISO 14223-2:2010, and Chapter 5 to

Chapter 3 of ISO 14223-2:2010 shall be adopted:

The technical differences between this document and ISO 14223-2:2010 and their reasons are as follows:

---Changed the scope of application of the standard (see Chapter 1) to adapt to the development of my country's industry;

--- Replaced ISO 11784 (see 3:1, Chapter 6, Chapter 7, Chapter 9) with the normative reference GB/T 20563 to adapt to our country technical conditions;

--- Replaced ISO 11785:1996 with the normative reference GB/T 22334 (see 3:1, 5:2, Chapter 6, Chapter 7, Chapter 8, Chapter

Chapter 9 and Chapter 10) to adapt to the technical conditions of our country;

--- Replaced ISO 24631-1 (see 6:1) with the normatively quoted GB/T 41734:1 to adapt to the technical conditions of our country;

--- Replaced ISO /IEC 7816-6 (see 6:2) with the normatively quoted GB/T 16649:6 to adapt to the technical conditions of our country:

The following editorial changes have been made to this document:

--- Changed the definition of the term "byte" and added a note (see 3:4):

--- Increased abbreviations "FDX-ADV" "HDX-ADV" (see Chapter 4):

Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents:

Introduction

The technical concept of enhanced radio frequency identification tags for animal identification is based on the principle of radio frequency identification (RFID), which is GB/T 20563 and

Extension of GB/T 22334: In addition to the transmission of the animal's unique identifier, the application of augmented technology facilitates additional information (integrated data library), authentication, and reading data from integrated sensors: GB/T 41732 mainly stipulates the enhanced radio frequency identification

Label-related interfaces, instructions, codes and programs, GB/T 41732 is proposed to be composed of three parts:

--- Part 1: Air interface: The purpose is to standardize the air interface between RFID

readers and enhanced RFID tags:

--- Part 2: Code and instruction structure: The purpose is to standardize the code and command structure for enhanced RFID tags:

--- Part 3: Application: The purpose is to standardize applications for enhanced RFID tags:

Animal RFID Enhanced RFID Tags

Part 2: Code and Instruction Structure

1 Scope

This document specifies the code and command structure between animal RFID readers and enhanced RFID tags: The content of this document is related to

The contents of GB/T 20563 and GB/T 22334 are fully compatible:

This document is a direct extension of GB/T 22334, used together with GB/T 22334:

This document applies to enhanced radio frequency identification tags used in animal farming:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document:

GB/T 16649:6 IC cards with contacts for identification cards Part 6: Inter-industry data elements (GB/T 16649:6-

2001, idtISO /IEC 7816-6:1996)

GB/T 20563 Animal RFID code structure (GB/T 20563-2006, ISO 11784:1996, MOD)

GB/T 22334 Animal Radio Frequency Identification Technical Guidelines (GB/T 22334-2008, ISO 11785:1996, MOD)

GB/T 41734:1 Radio Frequency Identification of Animals Part 1: Radio Frequency Identification Labels Consistent with GB/T 20563 and GB/T 22334

Performance assessment (including the issuance and use of manufacturer codes) (GB/T 41734:1-2022, ISO 24631-1:2017, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document:

3:1

Enhanced radio frequency identification tag advancedtransponder

Equipped with data storage and retrieval, integrated sensors and other equipment, in line with ISO 14223 and compatible with GB/T 20563, GB/T 22334

RFID tags:

3:2

Enhanced mode advancedmode

How an enhanced RFID tag works after receiving a valid command:

3:3

anticollision sequence anticollisionsequence

Algorithms used in the stimulus field to prepare and process a conversation between an RFID interrogator and one or more RFID tags:

3:4

byte byte

8-bit data represented by b1~b8:

Note: b8 is the most significant bit (MSB), and b1 is the least significant bit (LSB):