

ICS 65.040.99

CCS B 90



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

GB/T 41734.4-2023

**Radiofrequency identification of animals - Part 4: Evaluation of
performance of RFID transceivers conforming with GB/T 20563
and GB/T 22334**

Issued on: March 17, 2023

Implemented on: October 1, 2023

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Preface	
Introduction	
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Abbreviations	2
5 Consistency	2
6 Application	2
7 Test procedure	3
Appendix A (Normative) Test Application Form	6
Appendix B (Normative) RFID tag emulation circuit (TEC) design specification	7
Appendix C (informative) distance map example	11
Reference	12

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 4 of GB/T 41734 "Radio Frequency Identification of Animals": GB/T 41734 has issued the following parts:

--- Part 1: Consistency assessment of radio frequency identification labels and GB/T 20563 and GB/T 22334 (including the issue of manufacturer codes

put and use);

--- Part 2: Consistency assessment of radio frequency identification readers and GB/T 20563 and GB/T 22334;

--- Part 3: Performance evaluation of radio frequency identification tags in accordance with GB/T 20563 and GB/T 22334;

--- Part 4: Performance evaluation of radio frequency identification readers in accordance with GB/T 20563 and GB/T 22334;

--- Part 6: Animal identification information format (visual display/data transmission);

--- Part 7: Synchronization between GB/T 22334 identification systems:

This document is modified to adopt ISO 24631-4:2017 "Radio Frequency Identification of Animals Part 4: Radio Frequency Identification Compliant with ISO 11784 and ISO 11785 Frequency Identification Reader Performance Evaluation":

Compared with ISO 24631-4:2017, this document has made the following structural adjustments:

--- Chapter 4 corresponds to Chapter 5 of ISO 24631-4:2017;

---Chapter 5 corresponds to Chapter 4 of ISO 24631-4:2017:

The technical differences between this document and ISO 24631-4:2017 and their reasons are as follows:

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

--- Added GB/T 41734:1 (see Chapter 3 and Chapter 4) for normative references to adapt to the technical conditions of our country;

--- Replaced ISO 11784 (see Chapter 5, 6:11, B:3:2) with the normatively quoted GB/T 20563 to adapt to the technology of our country

condition;

--- Replaced ISO 11785 (see Chapter 5, 6:11, B:3:2 and B:3:3) with the normatively quoted GB/T 22334 to adapt to our country

technical conditions;

--- Replaced ISO 24631-2 (see Chapter 5, 6:4) with the normatively quoted GB/T 41734:2 to adapt to the technical conditions of our country;

--- Changed Table A:1 to adapt to my country's technical conditions:

The following editorial changes have been made to this document:

--- In order to coordinate with existing standards, change the name of the standard to "Radio Frequency Identification of Animals Part 4: Compliant with GB/T 20563 and GB/T 22334 Radio Frequency Identification Reader Performance Evaluation";

--- Deleted the ISO and IEC standardized terminology database address (see Chapter 3);

--- Deleted the source information of the term "[Source: ISO /IEC 17000:2004,5:6]" (see 3:1);

--- Removed the terms "Certification", "Country Code", "Manufacturer", "Manufacturer Code", "RA Approved Test Center", "RA Registered Radio Frequency

Labels" "Reference RFID Labels" "Registration Authorities" "RF Readers" "RF Tags" "ISO 11784 and ISO 11785 Radiation

"Frequency recognition reader" "ISO 11784 and ISO 11785 radio frequency tags" (see Chapter 3), delete the abbreviations FDX-B, HDX,

MFC, RA, RFID, TUT and RF (see Chapter 4);

--- Delete the term "radio frequency identification tag code" and change its definition to the note of 6:5 (see 6:5);

--- Replaced ISO /IEC 17025 with the informative referenced GB/T 27025 (see 6:2);

--- Deleted the informative reference document EN300330:

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

GB/T 41734 mainly involves the consistency of radio frequency identification tags and radio frequency identification readers: Currently, radio frequency identification tags used for animal identification

The main type of tag is injection type RFID tag, mainly including electronic ear tag RFID tag, electronic rumen pill RFID tag, leg ring

RFID tags: GB/T 20563 specifies the code structure for animal radio frequency identification, and GB/T 22334 specifies the technical code for animal radio frequency identification:

Technical guidelines, GB/T 41734 mainly solves the problems of radio frequency identification tags, radio frequency identification readers and GB/T 20563 and GB/T 22334

Consistency assessment, performance assessment and other issues:

GB/T 41734 is proposed to consist of seven parts:

--- Part 1: Consistency assessment of radio frequency identification labels and GB/T 20563 and GB/T 22334 (including the issue of manufacturer codes

put and use): The purpose is to give the consistency assessment of radio frequency identification tags and GB/T 20563 and GB/T 22334

method:

--- Part 2: Consistency assessment of RFID readers and GB/T 20563 and GB/T 22334: The purpose is to give the shot

Consistency assessment method for frequency identification readers and GB/T 20563 and

GB/T 22334:

--- Part 3: Performance evaluation of radio frequency identification tags in accordance with GB/T 20563 and GB/T 22334: The purpose is to give

Performance evaluation methods for GB/T 20563 and GB/T 22334 radio frequency identification tags:

--- Part 4: Performance evaluation of radio frequency identification readers in accordance with GB/T 20563 and GB/T 22334: The purpose is to give

Compatible with GB/T 20563 and GB/T 22334 RFID reader performance evaluation method:

--- Part 5: Test procedures for the ability of radio frequency identification readers to read GB/T 20563 and GB/T 22334 radio frequency identification tags:

The purpose is to give the ability test of the radio frequency identification reader to read the radio frequency identification tags of GB/T 20563 and GB/T 22334

program:

--- Part 6: Animal identification information format (visual display/data transmission): The purpose is to regulate the display/transmission of animal identification information

input data format:

--- Part 7: Synchronization between GB/T 22334 identification systems: The purpose is to give synchronization with the GB/T 22334 identification system

method:

Radio Frequency Identification of Animals Part 4:

Compliant with GB/T 20563 and GB/T 22334

RFID Reader Performance Evaluation

1 Scope

This document describes the performance evaluation of radio frequency identification readers for animal identification in accordance with GB/T 20563 and GB/T 22334

method:

The performance evaluation method specified in this document is applicable to RFID readers used in animal farming:

2 Normative references

The contents of the following documents constitute the essential provisions of this