

ICS 35.080
CCS L 79



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

GB/T 46012-2025

**Forestry and grassland internet of things - Architecture and
interface requirements**

林草物联网 体系结构和接口要求

Issued on: August 1, 2025

Implemented on: February 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Preface	III
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Abbreviations	1
5 Architecture	2
5.1 Overview	2
5.2 Target Audience	3
5.3 Perception Control Layer	3
5.4 Edge Computing Layer	4
5.5 Application Layer	5
5.6 User Interaction Layer	8
5.7 Communication Network	8
5.8 System Trust	8
5.9 Users	9
5.10 External Systems	9
6 Interface Requirements	9
6.1 Interface Definition	9
6.2 Interface Performance	9
6.3 Data Interaction Mode	10
6.4 Data interface transmission content	10
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.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the State Forestry and Grassland Administration.

This document was prepared by the National Forestry and Grassland Information

Standardization Technical Committee (SAC/TC386) and the National Information Technology Standardization Technical Committee It is jointly managed by the Committee (SAC/TC28).

This document was drafted by: China Electronics Standardization Institute, Beijing Forestry University, Information Center of the State Forestry and Grassland Administration, Shenzhen Sai Xi Information Technology Co., Ltd., Jiangsu CESI Technology Development Co., Ltd., China Unicom Digital Technology Co., Ltd., Hangzhou Hikvision Digital Technology Co., Ltd.

Co., Ltd., China Mobile Internet of Things Co., Ltd., Shanghai Yixun Information Technology Co., Ltd., China Mobile (Hangzhou) Information Technology Co., Ltd., Zhejiang University Hua Technology Co., Ltd., University of Electronic Science and Technology of China, Beijing Dongtu Technology Co., Ltd., Kashgar Electronic Information Industry Technology Research Institute, Wuxi Internet of Things Industry Research Institute, Chongqing University of Posts and Telecommunications, Beijing University of Posts and Telecommunications, Beijing Shunxin Oasis Ecological Environment Co., Ltd., Shudun Information Technology Limited by Share Ltd.

The main drafters of this document are: Wang Xiaochun, Su Jingru, Xu Fu, Zhuo Lan, Xie Ningbo, Mou Chao, Huang Yuxuan, Yang Hong, Liang Jinjie, Yu Yang, Guo Xiong, Li Zeshan, Luo Chuanwen, Jiang Wei, Zhou Yiou, Yang Chunlong, Liu Ying, Yu Mingyu, Kong Weisheng, Fu Genli, Zeng Zhongyu, Shang Xiaolei, Chen Shuyi, Meng Zhenya, Gao Weidong, Zhang Chi, Fang Bingyi, Mao Jieguan, Tan Xingli, Ke Yuhuang, Fang Guiming, Li Linjing, Cheng Yuan, Huang Qingqing, Sun Xu, Wang Yingjie, Guo Chunjie, Weng Xiangkui.

Forest and grassland Internet of Things architecture and interface requirements

1 Scope

This document establishes the forest and grassland Internet of Things architecture and stipulates the functional requirements and interface requirements of the forest and grassland Internet of Things system.

This document applies to the design, development and application of forest and grassland Internet of Things systems.

2 Normative references

GB/T 22239-2019

GB/T 33474-2025

GB/T 33745-2025

GB/T 35319-2025

GB/T 37025-2018

GB/T 37092-2018

GB/T 43816-2024

GB/T 43958-2024

3 Terms and Definitions

The terms and definitions defined in GB/T 33745-2025, LY/T 2413.2-2015 and the following terms and definitions apply to this document.

3.1 [Source. LY/T 2413.2-2015, 3.1.1, modified]

Through sensing equipment, according to the agreed protocol, intelligent interaction and data sharing between objects and objects, objects and people are carried out to realize forest and grass resources.

The Internet of Things with intelligent identification, positioning, tracking, monitoring and management functions.

Note. Forest and grassland resources include forests, grasslands, wetlands, deserts (desertified areas, sandy areas, rocky desertified areas) and other forest and grassland environments, as well as of wildlife, plants and microorganisms.

4 Abbreviations

The following abbreviations apply to this document.