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

GA/T 528-2015

**Technical specifications for satellite earth station of public
security satellite communication network**

公安卫星通信网卫星地球站技术规范

(English Translation)

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Table of Contents

Preface
1 Scope
2 Normative references
3 Terms, Definitions and Abbreviations
3.1 Terms and Definitions
3.2 Abbreviations
4 General requirements
4.1 Technical system
4.2 Network Structure
4.3 Satellite channel
4.4 Earth station classification and system composition
4.5 IP Address Planning
4.6 Functional Requirements
4.7 Performance Requirements
5 Satellite Earth Station System Configuration and Environmental Requirements
5.1 Fixed earth station configuration and environmental requirements
5.2 Mobile earth station configuration requirements
6 Main equipment performance requirements
6.1 Antenna Feeder System
6.2 RF unit
6.3 Baseband Equipment
6.4 Encryptor
6.5 Access equipment
6.6 Terminal equipment
6.7 Environmental adaptability requirements
7 Safety protection requirements
7.1 General requirements
7.2 Cybersecurity
7.3 Communication encryption
8 Carrier Platform Requirements
8.1 Vehicle platform
8.2 Shipborne platform

8.3 Airborne Platform

Appendix A (Informative) Satellite Network Management System

Appendix B (Informative) Compact Format IP Protocol

Appendix C (Informative) Communication Encryption

Reference

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 of Standardization Documents" drafted.

This document replaces GA/T 528-2015 "Technical Specifications for Satellite Earth Stations of Public Security Satellite Communication Network", compared with GA/T 528-2015 the main technical changes are as follows.

- Modified the description of the scope (see Chapter 1, Chapter 1 of the 2015 edition);
- Modified some normative references (see Chapter 2, Chapter 2 of the 2015 edition);
- Increase the corresponding reference documents (see Chapter 2);
- Delete the terms and definitions of "V.35 technical system" and "IP technical system" (see 3.1.5 and 3.1.6 of the 2015 edition);
- Added the terms and definitions of "satellite earth station" and "mobile satellite earth station" (see 3.1.2, 3.1.4);
- Added "KMC" "IP" "LTE" "IDS" "IPSec" "IPS" "PDT" "PGIS" "RTP" "SIP" "SNMP" "SSH" Abbreviations for "UART" "USART" "UDP" "VoIP" "VPN" (see 3.2);
- Revised the technical system requirements of the public security satellite communication network (see 4.1, 4.1 of the 2015 edition);
- Modified the description and structure diagram of the network structure (see 4.2.1, 4.2 of the 2015 edition);
- Added the description of the control network (see 4.2.2);
- Added the description of the business network (see 4.2.3);
- Added the description of satellite channels (see 4.3);
- Modified the earth station classification and system composition (see 4.4, 4.3 of the 2015 edition);
- Added requirements for IP address planning (see 4.5);

- Modified the functional requirements (see 4.6, 4.4 of the 2015 edition);
- Modified the performance requirements (see 4.7, 4.5 of the 2015 edition);
- Deleted the V.35 technical system fixed earth station configuration requirements (see 5.1.1 of the 2015 edition);
- Delete the configuration requirements of the V.35 technical system mobile earth station (see 5.2.1 of the 2015 edition);
- Modified fixed earth station configuration and environmental requirements (see 5.1, 5.1 of the 2015 edition);
- Modified the configuration requirements for on-board, ship-borne and transportable earth stations (see 5.2.1, 5.2.1 of the 2015 edition);
- Added airborne earth station configuration requirements (see 5.2.2, 5.2.2 of the 2015 edition);
- Revised the requirements for satellite antennas of mobile earth stations (see 6.1.2, 6.1.2 of the 2015 edition);
- Modified the requirements for baseband equipment (see 6.3, 6.3 of the 2015 edition);
- Modified the requirements of the encryption machine (see 6.4, 6.4.5.7 of the 2015 edition);
- Increased the requirements for access equipment (see 6.5);
- Modified the requirements for terminal equipment (see 6.6, 6.4 of the 2015 edition);
- Increased safety protection requirements (see Chapter 7);
- Revised the requirements for the vehicle platform (see 8.1, 7.1 of the 2015 edition);
- Revised the requirements for shipborne platforms (see 8.2, 7.2 of the 2015 edition);
- Increased the requirements for airborne platforms (see 8.3);
- Added satellite network management system, simplified format IP protocol, communication encryption (see Appendix A, Appendix B, Appendix C);
- Added references (see References).

1 Scope

This document specifies the overall requirements, system configuration and environmental requirements, main equipment performance requirements, Safety protection requirements, delivery platform requirements.

This document is applicable to the new construction, upgrade and reconstruction of

Ku-band public security satellite communication network satellite earth stations.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document.

GB 1589 Motor Vehicles, Trailers and Motor Trains Outline Dimensions, Axle Loads and Quality Limits
 GB 4785 Installation Regulations for Exterior Lighting and Light Signaling Devices of Automobiles and Trailers
 GB 7258 Motor Vehicle Operation Safety Technical Conditions
 GB 12676 Technical Requirements and Test Methods for Braking Systems of Commercial Vehicles and Trailers
 GB/T 13594 Motor Vehicle and Trailer Anti-lock Braking Performance and Test Methods
 GB 13615 Earth Station Electromagnetic Environmental Protection Requirements
 GB 14050 System Grounding Type and Safety Technical Requirements
 GB/T 25070 Information Security Technology Network Security Level Protection Security Design Technical Requirements
 GB 50174 Data Center Design Specification
 GJB4.8 Environmental test of ship electronic equipment shock test
 GJB13A-1997 Ship Electrical Code
 GJB150.9A Laboratory Environmental Test Methods for Military Equipment Part 9: Damp heat test
 GJB150.10A Laboratory Environmental Test Methods for Military Equipment Part 10: Mold Test
 GJB150.11A Laboratory Environmental Test Methods for Military Equipment Part 11: Salt Spray Test
 GJB150.16A-2009 Laboratory Environmental Test Methods for Military Equipment Part 16: Vibration Test
 GJB150.23A-2009 Laboratory Environmental Test Methods for Military Equipment Part 23: Tilt and Swing Test
 GJB151A Military Equipment and Subsystem Electromagnetic Emission and Sensitivity Requirements
 GJB151B Military Equipment and Subsystem Electromagnetic Emission and Sensitivity Requirements and Measurements
 GJB203 Technical conditions for marine intermediate frequency generators
 GJB181B Aircraft Power Supply Characteristics
 GJB367A General Specification for Military Communication Equipment
 GJB1060.2 Ship Environmental Conditions Requirements Climatic Environment Implementation of
 GJB1210 Grounding, Bonding and Shielding Design
 GJB1777-1993 General Specification for Military Special Vehicles
 HJB34A Ship Electromagnetic Compatibility Requirements
 GA/T 1056 General Technical Specification for Police Digital Trunking (PDT) Communication System
 GA/T 1466.1 Smartphone-type mobile police terminals - Part 1: Technical requirements
 GY/T 165 TV center broadcast control system digital broadcast channel technical indicators and measurement methods