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

GY/T 338-2020

**Digital TV satellite transmission channel coding and modulation
specification**

(English Translation)

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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 of Standardization Documents" Drafting.

1 Scope

This document stipulates that in the fixed satellite service (FSS) band, it is used for satellite digital multi-channel program television (including standard definition television, Channel coding and modulation system for primary distribution of high-definition television and ultra-high-definition television) services and digital audio broadcasting services (below Referred to as "system").

This document applies to the fixed satellite service (FSS) band, satellite digital multi-channel program television (including standard definition television, high-definition television) One-time distribution of high-definition television and ultra-high-definition television services and digital audio broadcasting services.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated reference documents, Only the version corresponding to that date is applicable to this document; for undated references, the latest version (including all amendments) is applicable to this document file.

GB/T 17700-1999 Satellite Digital TV Broadcasting Channel Coding and Modulation
Standard GB/T 17975.1 Information Technology General Coding of Moving Pictures and
Accompanying Sound Part 1: System GB/T 17975.2 Information Technology General

Coding of Moving Pictures and Accompanying Sound Part 2: Video ETSI EN 300 468 Digital Video Broadcasting (DVB) Service Information (SI) specification in DVB system (Digital Video Broadcasting (DVB); Specification for Service Information (SI) in DVB systems) ETSI EN 301 192 Digital Video Broadcasting (DVB) DVB specification for data broadcasting (Digital Video Broadcasting (DVB);

DVB specification for data broadcasting) ETSI EN 301 195 Digital Video Broadcasting (DVB) through the Global System for Mobile Communications (GSM) interactive channel (Digital Video Broadcasting (DVB); Interaction channel through the Global System for Mobile communications (GSM)) ETSI EN 301 790 Digital Video Broadcasting (DVB) Satellite Distribution System Interactive Channel (Digital Video Broadcasting) (DVB); Interaction channel for satellite distribution systems) ETSI EN 302 307-2 V1.1.1 Digital Video Broadcasting (DVB) second-generation broadcasting, interactive services, news gathering and other broadband Frame structure, channel coding and modulation standards with satellite application systems. Part 2: S2 extension (S2X) (Digital Video Broadcasting) (DVB); Second generation framing structure, channel coding and modulation systems for Broadcasting, Interactive Services, News Gathering and other broadband satellite applications;

Part 2: S2-Extensions (S2X)) ETSI ES.200 800 Digital Video Broadcasting (DVB) Cable TV Distribution System (CATV) DVB Interactive Channel (Digital Video Broadcasting (DVB); DVB interaction channel for Cable TV distribution systems (CATV)) ETSI ETR 162 Digital Video Broadcasting (DVB) DVB system service information (SI) code distribution (Digital Video Broadcasting) (DVB); Allocation of Service Information (SI) codes for DVB systems) ETSI ETS 300 801 Digital Video Broadcasting (DVB) through the public telecommunications switching network (PSTN)/integrated services data network (ISDN) Interaction channel (Digital Video Broadcasting (DVB); Interaction channel through Public Switched Telecommunications Network (PSTN)/Integrated Services Digital Networks (ISDN)) ETSI ETS 300 802 Digital Video Broadcasting (DVB) DVB Interactive Service Network Independent Protocol (NIP) (Digital Video Broadcasting (DVB); Network-independent protocols for DVB interactive services) ETSI TR 101 154 Digital Video Broadcasting (DVB) uses MPEG-2 systems and audiovisual in satellite, cable and terrestrial broadcasting applications Implementation guidelines for the use of MPEG-2 (Digital Video Broadcasting (DVB); Implementation guidelines for the use of MPEG-2 Systems, Video and Audio in satellite, cable and terrestrial broadcasting applications) ETSI TR 102 376 V1.1.1 Digital Video Broadcasting (DVB) second-generation broadcasting, interactive services, news gathering and other broadband Satellite Application System (DVB-S2) User Guide (Digital Video Broadcasting (DVB); User guidelines for the second generation system for Broadcasting, Interactive Services, News Gathering and other broadband satellite applications (DVB-S2)) ETSI TS 102 005 Digital Video Broadcasting (DVB) Specification for the use of video and audio coding in DVB services directly transmitted in the IP protocol (Digital Video Broadcasting (DVB); Specification for the use of Video and Audio Coding in

DVB services delivered directly over IP protocols)

3 Terms and definitions

There are no terms and definitions that need to be defined in this document.

4.1 Symbols

The following symbols apply to this document.

4.2 Abbreviations

The following abbreviations apply to this document.

ACM Adaptive Coding and Modulation (Adaptive Coding and Modulation) APSK Amplitude Phase Shift Keying ASI asynchronous serial interface (Asynchronous Serial Interface) AWGN Additive White Gaussian Noise BB Base Band (Base Band) BBFRAME Base Band FRAME BCH multiple error correction binary block code (Bose-Chaudhuri-Hocquenghem multiple error correction binary block code) BER Bit Error Ratio (Bit Error Ratio) BPSK Binary Phase Shift Keying CBR fixed bit rate (Constant Bit Rate) CCM Constant Coding and Modulation CNI Carrier to Noise plus Interference ratio (Carrier to Noise plus Interference ratio) CRC Cyclic Redundancy Check DF data field (Data Field) DFL data field length (Data Field Length) DNP deleted empty packages (Deleted Null-Packets) DTH Direct To Home DVB Digital Video Broadcasting DVB-S2 second-generation satellite broadcasting and unicast DVB system (Digital Video Broadcasting-Satellite-2nd Generation) FEC Forward Error Correction FECFRAME Forward Error Correction FRAME FIFO (First-In, First-Out shift register) FSS Fixed Satellite Service (Fixed Satellite Service) GF Galois Field GS Generic Stream IF Intermediate Frequency IP Internet Protocol (Internet Protocol) ISCR Input Stream Clock Reference ISI input stream identifier (Input Stream Identifier) ISSY Input Stream Synchronizer ISSYI Input Stream SYNchronizer Indicator LDPC Low Density Parity Codes LSB Least Significant Bit MA mode adaptation (Mode Adaptation) MIS Multiple Input Stream MPEG Moving Pictures Experts Group (Moving Pictures Experts Group) MSB Most Significant Bit (Most Significant Bit) NA Not Applicable (Not Applicable) NPD Null-Packet Deletion PER Packet Error Rate PID packet identifier (Packet Identifier) PL Physical Layer PLFRAME Physical Layer FRAME PLS Physical Layer Signaling PRBS Pseudo Random Binary Sequence PS dedicated business (Professional S...