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**Technical specification of 10Gbps IP video broadcast for CATV
network
(English Translation)**

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References

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard is under the jurisdiction of the National Radio, Film and Television Standardization Technical Committee (SAC/TC 239).

This standard was drafted. State Radio and Television Research Institute of Radio and Television Science, Ji Shi Media Co., Ltd., Anhui Radio and Television Information Network Co., Ltd., Guangxi Radio and Television Information Network Co., Ltd., Beijing Jishi Huitong Technology Co., Ltd.

Introduction

The issuer of this document draws attention to the fact that when it declares compliance with this document, it may use relevant authorized and the following patents are applied for.

Serial number	Chapter name	Patent name
1	4.8.2	Optical fiber receiving device
2	8.3	Integrated circuits and data processing methods
3	4	Data sending front end in network data

transmission system 4 8 Data receiving terminal in network data transmission system 5 7, 8
network data transmission system 6 4 Optical Transmission System the issuing authority of
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Technical Specifications for Fiber-to-the-Home 10G Unidirectional IP Broadcast System

1 Scope

This standard specifies the composition, channel division, and coding standards of video
and audio data for the cable-to-home fiber-to-the-home 10G unidirectional IP broadcast
system.

Standards and technical requirements for packaging, broadcast service information, IP
broadcast transmission systems, and IP broadcast receiving modules.

This standard is applicable to the development, research, networking, operation, and
management of cable-to-home fiber-to-the-home 10G unidirectional IP broadcast systems.

2 Normative references

The following documents are essential for the application of this document. For dated
references, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this
document.

GB/T 17975.1-2010 Information technology. Universal coding of moving pictures and
associated audio information. Part 1. System (ISO/IEC 13818-1.:2007, MOD) GB
18030-2005 Information Technology Chinese Coded Character Set GB/T 28161-2011
Digital TV Broadcasting Service Information Specification GB/T 28430-2012 Digital TV
system data broadcasting technical specifications GY/T 306.1-2017 Technical
Specifications for Cable-to-Home Fiber-to-the-Home System Part 1. General Technical
Requirements China Radio and Television IPv6 Address Planning Plan (2018 Edition)
(Guangdong Radio [2018] No. 45) IEEE 802.3ae-2002 Information technology and IEEE
standard system communication and information exchange Seeking part 3. CSMA/CD
access method and physical layer specification 10Gb/s Ethernet MAC parameters, physical
layer and management parameters (IEEE Standard for Information Technology-

Telecommunications and Information Exchange Between Systems- Local and Metropolitan Area Networks- Specific Requirements Part 3. Carrier Sense Multiple Access With Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications Amendment. Media Access Control (MAC) Parameters, Physical Layers, and Management Parameters for 10 Gb/S Operation) SFF INF-8077i Revision 4.5 10Gb Small Pluggable Module SFP Specification (10 Gigabit Small Form Factor Pluggable Module)

3.1 Terms and definitions

The following terms and definitions apply to this document.

3.1.1

Fiber to the home

In cable television networks or other networks, only the fiber-optic medium is used to connect the access network office and the home residential access method.

3.1.2

10Gbps unidirectional IP broadcast A kind of baseband IP stream broadcast based on 10 Gigabit Ethernet physical layer protocol implemented on optical distribution network.

3.1.3

IP broadcast channel Especially refers to the data channel identified by the class D IP address and the UDP destination port in the 10 Gigabit IP broadcast, usually each channel corresponds to a digital TV Transport stream or service stream.

3.1.4

Main channel

Broadcast service channel for transmitting digital television service index data.

3.2 Acronyms

The following abbreviations apply to this document.

ACT Area Code Table

BER Bit Error Rate

BSI Broadcast Service Information bslbf bit string (left bit first) DLT 10 Gigabit IP Broadcast Distribution Terminal (Distribution Line Terminal) DTT Date Time Table DVB Digital Video Broadcast EPG Electronic Program Guide EPON Ethernet Passive Optical Network HTML Hyper Text Markup Language HTTP Hyper Text Transfer Protocol ID (Identity) IEEE Institute of Electrical and Electronics Engineers IPv4 Internet Protocol, version 4 IPv6 Internet Protocol, version 6 GPON Gigabit-Capable Passive Optical Network MIT Channel