

ICS 35.020  
CCS L 09



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

**GB/T 34093-2017**

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**Safety aspects for xDSL signals on circuits connected to  
telecommunication networks (DSL: Digital Subscriber Line)**

与通信网络连接的电路上的xDSL信号的安全性 (DSL: 数字用户线)

**(English Translation)**

**Issued on: July 31, 2017**

**Implemented on: November 1, 2017**

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**Issued by: General Administration of Quality Supervision, Inspection and  
Quarantine of the People's Republic of China, Standardization  
Administration of the People's Republic of China**

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### Foreword

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

This standard uses the translation method is equivalent to using IEC/T S62367.2004 "xDSL signal on the circuit connected to the communication network security Sex (DSL. Digital Subscriber Line). " the documents of our country that are consistent with the corresponding international documents that are normative references in this standard are as follows.

--- GB 4943 (all parts) Safety of Information Technology Equipment [IEC 60950 (all sections)]

--- GB 4943.1-2011 Information technology equipment safety Part 1. General requirements (IEC 60950-1:2005, MOD) this standard proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This standard by the People's Republic of China Ministry of Industry and Information Technology (E) centralized.

This standard drafting unit. Beijing West Technology Development Co., Ltd., China Electronics Standardization Institute, Shenzhen West Information Technology Co., Ltd., China National Accreditation Center for Conformity Assessment.

### Introduction

This standard provides guidance for the safety of xDSL signals on circuits connected to communication networks.

The xDSL signal is a high-speed communication signal that may appear in the communication line, with.

--- Analog PSTN (Public Switched Telephone Network);

--- ISDN (Integrated Services Digital Network) signal; or

--- DC power supply components.

The xDSL signal is characterized by an amplitude of about 3Vr.ms, superimposed with a very short delay (about 1μs) spike and with a peak value of no more than 30V.

When superimposed on other network services, the peak voltage rarely exceeds the TNV-3 limit. However, these limits are exceeded Exist in the very short delay spikes.

At present, the documents published by the IEC have not touched upon the impact of such spikes on the human body. However, based on the experience of using xDSL devices, the next factor, even if there is a safety hazard, the risk is very small.

--- Peak power is low;

--- TNV circuit is limited to contact.

Peak amplitude and probability of occurrence have been calculated as follows.

--- Spikes up to 15V/1μs may appear every few seconds or minutes;

--- Spikes up to 20V/1μs may occur every few hours;

--- Spikes up to 27V/1μs may appear every few years.

Appendix A gives a detailed operation of the xDSL communication system.

XDSL on the circuit connected to the communication network Signal Security (DSL. Digital Subscriber Line)

## 1 Scope

This standard specifies the meaning of the xDSL signal safety on the circuit connected to the communication network, and gives the IEC 60950 (all departments Points) dealing with the provisions of such equipment.

## 2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

IEC 60950 (all parts) Information Technology Equipment Safety  
(Informationtechnologyequipment-Safety) IEC 60950-1 Information Technology Equipment Security Part 1. General requirements (Informationtechnologyequipment-Safety-Part 1: Generalrequirements)

### 3 Terms, definitions and abbreviations

The terms and definitions defined in IEC 60950 (all sections) and the following abbreviations apply to this document.

ADSL Asymmetric Digital Subscriber Line (Asymmetric Digital SubscriberLine) CF crest factor (CrestFactor) CO Central Office (CentralOffice) CPE user terminal equipment (CustomerPremisesEquipment) DMT discrete multi-tone multiplexing (DiscreteMultiTone) DSL Digital Subscriber Line (DigitalSubscriberLine) HDSL high-speed digital subscriber line (HighSpeedDigitalSubscriberLine) IEC International Electrotechnical Commission (InternationalElectrotechnicalCommission) ISDN Integrated Services Digital Network (IntegratedServicesDigitalNetwork) ITU International Telecommunication Union (International Telecommunication Union) ITU-T International Telecommunication Union Telecommunication Standardization Organization (Telecommunication Standardizationector of ITU) NT Network Terminal (NetworkTermination) PAR peak to average power ratio (PeaktoAverageRatio) PSTN public switched telephone network (PublicSwitchedTelephoneNetwork) QAM quadrature amplitude modulation (Quadrature AmplitudeModulation) RSS Remote Source (RemoteSignalSource) SDSL Symmetric Digital Subscriber Line TNV communication network voltage (TelecommunicationNetworkVoltage) VDSL Very high-speed digital subscriber line (Very-high-bit-rateDigitalSubscriberLine)