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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 31723.412-2021

Metallic communication cable test methods - Part 4-12: Electromagnetic compatibility (EMC) - Coupling attenuation or screening attenuation of connecting hardware - Absorbing clamp method

Issued on: December 31, 2021 **Implemented on: July 1, 2022**

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Table of Contents

foreword

The electromagnetic compatibility part of GB/T 31723 "Test methods for metallic communication cables" has released the following parts:

--- Part 4-5: Electromagnetic compatibility coupling or shielding attenuation absorption clamp method;

--- Part 4-6: Electromagnetic compatibility surface transfer impedance line injection method;

--- Part 4-11: Coupling attenuation or shielding attenuation absorption of electromagnetic compatibility jumpers, coaxial cable assemblies, and connectorized cables

clamp method;

--- Part 4-12: Coupling attenuation or shielding attenuation absorption clamp method of electromagnetic compatibility connecting hardware;

--- Part 4-13: Coupling attenuation absorption clamp method for electromagnetic compatibility links and channels (laboratory conditions);

--- Part 4-14: Coupling attenuation absorption clamp method for electromagnetic compatibility cable assemblies (field conditions):

This part is part 4-12 of GB/T 31723:

This section is drafted in accordance with the rules given in GB/T 1:1-2009:

This section uses the translation method equivalent to IEC 62153-4-12:2009 "Test methods for metallic communication cables - Part 4-12: Electromagnetic and

Coupling or Shielding Attenuation Absorption Clamping of Capacitive Connection Hardware:

The Chinese documents that have consistent correspondence with the international documents normatively cited in this part are as follows:

---GB/T 14733:2-2008 Telecommunications Terminology Transmission Lines and Waveguides [IEC 60050-726:1982, IDT];

---GB/T 17737:1-2013 Coaxial Communication Cable Part 1: General Specifications General Rules, Definitions and Requirements (IEC 61196-1:

2005, IDT):

The following editorial changes have been made to this section:

---According to the order of appearance in the text, the positions of footnotes c and d in Table 1 are exchanged;

--- The fourth paragraph of 4:1:3:1 and the "jumper wire" in 4:5 are corrected to "connect the hardware":

Please note that some content of this document may be patented: The issuing authority of this document assumes no responsibility for identifying these patents:

This part is proposed by the Ministry of Industry and Information Technology of the People's Republic of China:

This part is under the jurisdiction of the National Standardization Technical Committee of High Frequency Cables and Connectors for Electronic Equipment (SAC/TC190):

This section was drafted by: China Electronics Standardization Institute, Shenzhen Kingsignal High-tech Co:, Ltd:

1 Scope

This part of GB/T 31723 describes the coupling or shielding attenuation test method for connecting hardware for analog and digital communication systems:

This section applies to testing single connection hardware (for example: a separate wall socket or plug), also applies to testing connection hardware plug

match:

2 Normative references

The following documents are essential for the application of this document: 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:

GB/T 31723:405-2015 Test methods for metallic communication cables Part 4-5: Electromagnetic compatibility coupling or shielding attenuation absorption

Clamping method (IEC 62153-4-5:2006, IDT)

IEC 60050-726 International Electrotechnical Vocabulary Part 726: Transmission lines and waveguides (International Electrotechnical Vo-

cabulary-Part 726: Transmissionlinesandwaveguides)

IEC 61196-1 Coaxial Communication Cables Part 1: General Specifications General, Definitions and Requirements (Coaxialcommunicationca-

bles-Part 1:Genericspecification-General,definitionsandrequirements)

ITU-T Recommendation G:117:1996 Unbalanced transmission to ground (Transmissionaspectsofunbalanceabout

earth)

ITU-T RecommendationO:9:1999 Test configuration for evaluating unbalance to ground (Measuringarrangementsto

assessthedegreeofunbalanceaboutearth)

3 Terms and Definitions

Terms and definitions defined in IEC 60050-726 and IEC 61196-1 apply to this document:

Connection hardware is defined in this section as a complete connection including compensation or matching networks (if any), connectors and cable terminations

connection device:

4 Test methods

4:1 Equipment

4:1:1 General

See 5:1:1 in GB/T 31723:405-2015 and Figure 1 in this section:

The connection hardware to be tested shall be terminated with a termination method and a cable compatible with its construction: If only a part of the connected hardware is measured

If it is divided, a test port should be used to insert the part under test: