



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

GB/T 31723.414-2021

**Metallic communication cable test methods - Part 4-14:
Electromagnetic compatibility (EMC) - Coupling attenuation of
cable assemblies (field conditions) - Absorbing clamp method**

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Standardization Administration**

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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 4-14 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 62153-4-14:2012 "Test methods for metallic communication cables - Part 4-14: Electromagnetic and

Coupling Attenuation Absorption Clamp Method for Capacitive Cable Assemblies (Field Conditions):

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:

--- ITU-T Recommendation G.117:1996 and ITU-T Recommendations normatively referenced in Table 1

O.9:1999 incorporated into Chapter 2;

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

--- Correct the note "TO" in 4.5.2 to "WO":

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 field test of coupling attenuation of installed links and channels for analog and digital communication systems

method:

This part applies to determining the attenuation of interference power to signal power in the cabling system, and also applies to determining the electromagnetic compatibility of the cabling to the system:

(EMC) effects:

NOTE 1 Coupling attenuation in installed links and channels depends on cabling components (symmetrical and shielded, if applicable), workmanship (especially shielded termination) and grounding, etc:

performance: This test method determines the overall effect of these factors:

Note 2: This method is not used for the verification of the radiation and immunity EMC standards of the complete system (including active components):

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 Dictionary Part 726: Transmission lines and waveguides (International Electrotechnical

Vocabulary-Part 726: Transmissionlinesandwaveguides)

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

cables-Part 1:Genericspecification-General,definitionsandrequirements)

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

earth)

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

assessthe degree of unbalance about earth)

3 Terms and Definitions

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

The theoretical basis is given in IEC /T R62153-4-0 and IEC /T R62153-4-1:

4 Test methods

4:1 Equipment

4:1:1 General

According to the principle defined in 5:1:1 of GB/T 31723:405-2015 and Figure 1 of this part, the field test equipment 1) should be able to measure the coupling

attenuation:

- 1) Field test equipment may use spectrum analyzers with tracer generators instead of signal generators and measurement receivers or network analyzers:

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