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

GB/T 5095.2304-2021

**Electromechanical components for electronic equipment - Basic testing
procedures and measuring methods - Part 23-4: Screening and filtering tests -
Test 23d: Transmission line reflections in the time domain**

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Table of Contents

1 Scope	1
2 Test equipment	1
3 Test sample	1
4 Test device	1

Foreword

GB/T 5095 "Basic test procedures and measurement methods for electromechanical components for electronic equipment" is divided into several parts according to the test methods.

Part 23 of GB/T 5095 is shielding and filtering test. The parts that have been released or planned to be released are as follows.

---Part 23-3. Shielding and Filtering Test Test 23c. The shielding effect line injection method of connectors and accessories;

---Part 23-4. Shielding and filtering test test 23d. reflection of transmission line in the time domain;

--- Part 23-7. Shielding and Filtering Test Test 23g. The effective transfer impedance of the connector.

This part is part 23-4 of GB/T 5095.

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

The translation method used in this part is equivalent to IEC 60512-23-4.2001 "Connector Test and Measurement for Electronic Equipment Part 23-4"

Minutes. shielding and filtering test 23d. reflection of transmission line in the time domain.

This section has made the following editorial changes.

---The standard name is composed of "Connector Test and Measurement for Electronic Equipment Part 23-4. Shielding and Filtering Test Test 23d. Time

The Reflection of Transmission Lines in the Domain is revised to Part 23-4 of the Basic Test Procedures and Measurement Methods of Electromechanical Components for Electronic Equipment.

Shielding and filtering test 23d. reflection of transmission line in the time domain".

1 Scope

This part of GB/T 5095 specifies two test methods.

The performance of the connector. In these methods, the connector under test is regarded as a transition point with a controlled characteristic impedance in the transmission line.

Test method A uses precision coaxial cable and semi-rigid coaxial cable to connect with the connector under test and the test equipment. This test method is applicable

For connectors or cable assemblies of various shapes.

Test method B uses a precision test board, a precision coaxial cable and a semi-rigid coaxial cable to connect with the connector under test and the test equipment. The try

The inspection method is suitable for printed board connectors.

2 Test equipment

Time domain reflectometer (TDR) or pulse generator and oscilloscope, precision cable with characteristic impedance and step

Signal generator (if applicable).

3 Test sample

The test sample shall consist of a connector mating pair and/or cable assembly equipped with multiple contacts. The contact can be connected with the corresponding test cable

Different signal or ground conductor connections.

4.1 Test device for test method A

The required device is a semi-rigid coaxial cable (or equivalent). If special devices are required, as described in 6.1.

4.2 Test board for test method B

For the board-to-board connector, two printed circuit test boards with controlled characteristic impedance circuit structure are used. Detailed description in Appendix A

The requirements and structure of these test boards are discussed.

5 Test procedure (Method A and B)

5.1 Calibration of the test signal. A calibration curve is used to measure the effective rise time and amplitude of the test signal. The calibration curve used includes

The influence of the device in the rise time of the measurement system.

Note. It is recommended that the product of the upper frequency limit (MHz) and the rise time of the input signal is approximately 0.6.

5.2 Establishing a zero-reflection baseline. Establish a zero-reflection baseline for the measurement of connector reflection (see Appendix B in B.2 for more information).

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