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INFORMATION TECHNOLOGY – SMALL COMPUTER SYSTEM INTERFACE (SCSI)–

Part 121: Passive interconnect performance (PIP)

FOREWORD

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International Standard ISO/IEC 14776-121 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The list of all currently available parts of the ISO/IEC 14776 series, under the general title *Information technology - Small computer system interface (SCSI),* can be found on the IEC web site.

This International Standard has been approved by vote of the member bodies and the voting results may be obtained from the address given on the second title page.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IMPORTANT – The "colour inside" logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its content. Users should therefore print this publication using a colour printer.

Introduction

The Parallel Interface Performance standard defines requirements for measuring the electrical performance of bulk cable and interconnect assemblies for use in SPI-x applications and specification of performance limits.

The Parallel Interface Performance standard is divided into the following clauses:

Clause 1 is the scope;
Clause 2 enumerates the normative references;
Clause 3 describes the definitions, symbols, conventions and abbreviations;
Clause 4 provides a general overview of the concepts;
Clause 5 contains a summary of bulk cable requirements;
Clause 6 contains sample preparation, fixtures and setups for bulk cable;
Clause 7 contains bulk cable test procedures;
Clause 8 contains a summary of interconnect assembly requirements;
Clause 9 contains sample preparation, fixtures and setups for interconnect assemblies;
Clause 10 contains interconnect test requirements;

Annex A, Single ended bulk cable requirements, forms an integral part of this standard.

The following informative annexes are provided:

- Annex B, Periodic structure effects;
- Annex C, Requirements for SCSI signal driver board (SSDB);
- Annex D, Mirage effects in multi-drop subassemblyTDR impedance measurement.

1 Scope

In the past only the performance requirements for uniform bulk cable (called "media" in earlier standards) have been specified in SCSI standards. Since bulk cable provides only part of the electrical path in a SCSI bus segment, the performance requirements of the interconnect comprising the path is incomplete if only bulk cable is considered. This document expands the coverage to the complete assembled interconnect including connectors, uniform bulk cable, and non-uniform bulk cable. A syntax and framework is described for all types of passive interconnect. The methodology for performing the electrical measurements required to determine compliance with the performance requirements for bulk cable of several types, various assembled interconnects and printed circuit board designs is included.

Details of the measurement methodology are specified to minimize the difference in measured results from different electrical testing laboratories. Details include calibration, fixturing and sample preparation, equipment, measurement procedure and data output format.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 14776-112, *Information technology – Small computer system interface (SCSI) – Part 112: Parallel interface-2* (SPI-2)
ISO/IEC 14776-113, *Information technology – Small computer system interface (SCSI) – Part 113: Parallel interface-3* (SPI-3)
ISO/IEC 14776-115, *Information technology – Small computer system interface (SCSI) – Part 115: Parallel interface-5* (SPI-5) [T10/1525D]
INCITS 362-2002, *Information technology – Small computer system interface (SCSI) – Parallel Interface-4* (SPI-4)