

INTERNATIONAL STANDARD

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**Connectors for electrical and electronic equipment – Tests and measurements –
Part 27-200: Additional specifications for signal integrity tests up to 2 000 MHz
on IEC 60603-7 series connectors – Tests 27a to 27g**

**Connecteurs pour équipements électriques et électroniques – Essais et
mesures –
Partie 27-200: Spécifications supplémentaires pour les essais d'intégrité des
signaux jusqu'à 2 000 MHz sur les connecteurs de la série IEC 60603-7 –
Essais 27a à 27g**



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IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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TESTS AND MEASUREMENTS –**
**Part 27-200: Additional specifications for signal integrity tests
up to 2 000 MHz on IEC 60603-7 series connectors –
Tests 27a to 27g**

FOREWORD

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IEC 60512-27-200 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
48B/2976/FDIS	48B/2988/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts of IEC 60512 series, under the general title *Connectors for electrical and electronic equipment – Tests and measurements*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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INTRODUCTION

This document is primarily intended for use in signal integrity and transmission performance testing up to 2 000 MHz of IEC 60603-7 series 8-way connector type IEC 60603-7-81, according to connector test method IEC 60512-28-100.

This document covers test connectors and associated indirect-reference test fixtures used for connector signal integrity and transmission performance measurements of connector requirements specified in IEC 60603-7 series 8-way connector types defined in these published standards:

- IEC 60603-7-2
- IEC 60603-7-3
- IEC 60603-7-4
- IEC 60603-7-5
- IEC 60603-7-41
- IEC 60603-7-51
- IEC 60603-7-81.

This document provides supplementary information on test connectors and test fixtures used in connector performance measurements according to those connectors' respective test methods standards:

- IEC 60512-26-100
- IEC 60512-27-100
- IEC 60512-28-100.

The test fixtures and reference connectors, e.g., test plugs, specified in this document are referenced by test method IEC 60512-28-100.

The test fixtures and reference connectors, e.g., cord test heads, specified in this document are referenced by test method IEC 61935-2.

CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 27-200: Additional specifications for signal integrity tests up to 2 000 MHz on IEC 60603-7 series connectors – Tests 27a to 27g

1 Scope

This part of IEC 60512 covers additional, supplemental test method specifications to extend the upper frequency for the test connectors and associated indirect-reference test fixtures used in the signal integrity and transmission performance tests specified in IEC 60512-27-100. In support of de-embedded crosstalk and related transmission requirements specified in IEC 60603-7-81, for frequencies up to 2 000 MHz, these supplemental specifications extend the upper test frequency from IEC 60512-27-100 up to 500 MHz to the upper test frequency of IEC 60512-28-100 up to 2 000 MHz.

This document covers measurements of connector signal integrity and transmission performance of 8-way connector types defined in these published connector series standards:

IEC 60603-7-2
IEC 60603-7-3
IEC 60603-7-4
IEC 60603-7-5
IEC 60603-7-41
IEC 60603-7-51
IEC 60603-7-81.

This document covers respective performance test procedures of connector signal integrity and transmission performance defined in these published connector test method series standards:

IEC 60512-26-100
IEC 60512-27-100
IEC 60512-28-100.

These additional specifications are also suitable for testing the series related lower frequency backward compatible connectors. However, the actual measurement or test procedure specified in the detail specification for any particular connector remains the reference conformance test for that connector category; see Table 1.

The test procedures of IEC 60512-27-100 affected by these supplemental specifications are:

- insertion loss, test 27a;
- return loss, test 27b;
- near-end crosstalk (NEXT) test 27c;
- far-end crosstalk (FEXT), test 27d;
- transverse conversion loss (TCL), test 27f;
- transverse conversion transfer loss (TCTL), test 27g.
- transfer impedance (Z_T), see IEC 60512-26-100, test 26e.