

TECHNICAL REPORT



**Fibre optic interconnecting devices and passive components –
Part 02: Report of round robin test results on SC plug style fixed attenuators**



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**Fibre optic interconnecting devices and passive components –
Part 02: Report of round robin test results on SC plug style fixed attenuators**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING
DEVICES AND PASSIVE COMPONENTS –****Part 02: Report of round robin test results
on SC plug style fixed attenuators**

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IEC 62627-02, which is a technical report, has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
86B/2941/DTR	86B/2993/RVC

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

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

A list of all parts of the IEC 62627 series, published under the general title *Fibre optic interconnecting devices and passive components*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS –

Part 02: Report of round robin test results on SC plug style fixed attenuators

1 Scope

This part of IEC 62627 reports the measurement results of two round robin test programs each carried out on SC/PC and SC/APC plug style fixed attenuators. The work was initiated at Cenelec TC 86BXA in June 2003 in order to get a clear understanding on the accuracy and repeatability of the spectral attenuation loss measurements on fixed attenuators.

Out of these results recommendations are made for attenuation tolerance values that can be used in the performance standards.

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.

IEC 61300-3-2, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-2: Examinations and measurements – Polarization dependent loss in a single-mode fibre optic device*

IEC 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

IEC 61300-3-7, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-7: Examinations and measurements – Wavelength dependence of attenuation and return loss of single mode components*

IEC 61754-4, *Fibre optic connector interfaces – Part 4: Type SC connector family*

IEC 61755-1, *Fibre optic connector optical interfaces – Part 1: Optical interfaces for single mode non-dispersion shifted fibres – General and guidance*

3 Background

While preparing a product specification for SC plug style fixed attenuators, members of the Cenelec TC86BXA reported unexpected large and wavelength dependent variations in the attenuation. Also poor performance was seen in the mating durability test.

At the same time, several customer complaints were reported from operators that used plug style attenuators on active transceivers.

In order to understand these issues a round robin test was organised among various test laboratories.