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Transmitting equipment for radiocommunication – Radio-over-fibre technologies for electromagnetic-field measurement

Part 1: Radio-over-fibre technologies for antenna measurement

bsi.

National foreword

This British Standard is the UK implementation of IEC/TR 63099-1:2017.

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TECHNICAL REPORT

colour inside

Transmitting equipment for radiocommunication – Radio-over-fibre technologies for electromagnetic-field measurement – Part 1: Radio-over-fibre technologies for antenna measurement

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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TRANSMITTING EQUIPMENT FOR RADIOCOMMUNICATION – RADIO-OVER-FIBRE TECHNOLOGIES FOR ELECTROMAGNETIC-FIELD MEASUREMENT –

Part 1: Radio-over-fibre technologies for antenna measurement

FOREWORD

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IEC TR 63099-1, which is a Technical Report, has been prepared by IEC technical committee 103: Transmitting equipment for radiocommunication.

The text of this Technical Report is based on the following documents:

Enquiry draft	Report on voting
103/156/DTR	103/162/RVDTR

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

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

This document provides information on the current and latest applications for antenna measurement using radio-over-fibre technology. Antenna gain and antenna pattern measurement systems are covered, which are practically in use or will be used soon. It will be beneficial to system developers and system users in the fields of antenna measurement. As a Technical Report, this document contains no requirements and is informative only.

TRANSMITTING EQUIPMENT FOR RADIOCOMMUNICATION – RADIO-OVER-FIBRE TECHNOLOGIES FOR ELECTROMAGNETIC-FIELD MEASUREMENT –

Part 1: Radio-over-fibre technologies for antenna measurement

1 Scope

The purpose of this document is to provide information about the current and latest applications for antenna measurement that use radio-over-fibre technologies. Antenna gain and the antenna radiation pattern measurement system are covered, which are practically in use and will be used soon. Basic concepts, system configurations and measurement examples of the systems are included. The theoretical background of antenna measurement is beyond the scope of this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEEE Std. 145-2013, *IEEE Standard for Definitions of Terms for Antennas*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEEE Std. 145-2013 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1
Mach-Zehnder modulator
optical modulator used for controlling the amplitude of an optical wave

3.1.2
UTC-PD
uni-travelling-carrier photo-diode
high-speed photo-diode that can generate millimeter-wave and THz wave

3.1.3
log-periodic dipole array antenna
LPDA antenna
antenna having wideband characteristics due to logarithmic periodically aligned dipole elements