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**Fibre optic active components and devices – Performance standards –
Part 10: Radio-over-fibre (RoF) transceivers for mobile fronthaul**

**Composants et dispositifs actifs fibroniques – Normes de performances –
Partie 10: Émetteurs récepteurs radio sur fibre (RoF) pour le fronthaul des
réseaux mobiles**



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CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Terms, definitions, symbols and abbreviated terms.....	7
3.1 Terms and definitions.....	7
3.2 Symbols.....	7
3.3 Abbreviated terms.....	7
4 Product parameters	8
4.1 Absolute limiting ratings	8
4.2 Operating environment.....	8
4.3 Functional specification.....	8
5 Testing	8
5.1 General.....	8
5.2 Characterization testing	9
5.3 Performance testing.....	9
6 Environmental specifications	9
6.1 General safety	9
6.2 Laser safety	9
6.3 Electromagnetic compatibility (EMC) requirements.....	9
Annex A (normative) Specifications for RoF transceivers for mobile fronthaul	10
A.1 Absolute limiting ratings	10
A.2 Operating environment.....	10
A.3 Functional specification.....	10
A.4 Diagrams	11
A.5 Labelling	13
A.6 Testing	13
A.6.1 General	13
A.6.2 Characterization testing.....	14
A.6.3 Performance testing.....	14
Annex B (normative) Sample size and grouping requirements.....	17
Bibliography.....	18
Figure A.1 – Block diagram of RoF transceiver	12
Figure A.2 – Interface/reference points compliant with ITU-T G-Series Recommendations – Supplement 55	13
Table 1 – Operating environment	8
Table A.1 – Absolute limiting ratings	10
Table A.2 – Functional specification.....	11
Table A.3 – Characterization tests	14
Table A.4 – Performance test plan	15
Table B.1 – Sample size, sequencing and grouping requirements.....	17

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES –
PERFORMANCE STANDARDS –**
Part 10: Radio-over-fibre (RoF) transceivers for mobile fronthaul**FOREWORD**

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

CDV	Report on voting
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Full information on the voting for the approval of this International Standard 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.

A list of all parts in the IEC 62149 series, published under the general title *Fibre optic active components and devices – Performance standards*, can be found on the IEC website.

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INTRODUCTION

This part of IEC 62149 covers the performance specification for radio-over-fibre (RoF) transceivers in fibre optic mobile fronthaul applications. The performance criteria are generally well specified for a number of internationally agreed application areas, such as ITU-T G-series Recommendations – Supplement 55. This document provides optical interface specifications toward the realization of transversely compatible mobile fronthaul systems based on RoF technology. RoF transceivers for mobile fronthaul systems are supplied by different manufacturers, but those manufacturers do not guarantee the operation of RoF transceivers in mobile fronthaul systems. Manufacturers using this document are responsible for meeting the required performance and/or reliability and quality assurance under a recognized scheme.

FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – PERFORMANCE STANDARDS –

Part 10: Radio-over-fibre (RoF) transceivers for mobile fronthaul

1 Scope

This part of IEC 62149 covers the performance specification for radio-over-fibre (RoF) transceivers used for mobile fronthaul systems. The performance standard contains a definition of the product performance requirements together with a series of tests and measurements with clearly defined conditions, severities, and pass/fail criteria. The tests are intended to be run on a one-off basis to prove any product's ability to satisfy the performance standard's requirements.

A product that has been shown to meet all the requirements of a performance standard can be declared to be in compliance with the performance standard.

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.

IEC 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-20, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

IEC 60068-2-27, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 60068-2-38, *Environmental testing – Part 2-38: Tests – Test Z/AD: Composite temperature/humidity cyclic test*

IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60749-25, *Semiconductor devices – Mechanical and climatic test methods – Part 25: Temperature cycling*

IEC 60749-26, *Semiconductor devices – Mechanical and climatic test methods – Part 26: Electrostatic discharge (ESD) sensitivity testing – Human body model (HBM)*

IEC 60825-1, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 60950-1, *Information technology equipment – Safety – Part 1: General requirements*

IEC 61300-2-47, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-47: Tests – Thermal shocks*

ITU-T G-Series Recommendations – Supplement 55, *Radio-over-fibre (RoF) technologies and their applications*