Dynamic modules - Part 2-1: Reliability qualification - Test template

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

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NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 62343-2-1:2019 sisaldab Euroopa standardi EN IEC 62343-2-1:2019 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 62343-2-1:2019 consists of the English text of the European standard EN IEC 62343-2-1:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 29.11.2019.	Date of Availability of the European standard is 29.11.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 33.180.01

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62343-2-1

November 2019

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Supersedes EN 62343-2:2014 and all of its amendments and corrigenda (if any).

English Version

Dynamic modules - Part 2-1: Reliability qualification - Test template (IEC 62343-2-1:2019)

Modules dynamiques - Partie 2-1: Qualification de fiabilité - Modèle d'essai (IEC 62343-2-1:2019)

Dynamische Module - Teil 2-1: Zuverlässigkeitsnachweis - Prüfvorlage (IEC 62343-2-1:2019)

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 86C/1567/CDV, future edition 1 of IEC 62343-2-1, prepared by SC 86C "Fibre optic systems and active devices" of IEC/TC 86 "Fibre optics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62343-2-1:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-07-21
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-10-21

This document supersedes EN 62343-2:2014 and all of its amendments and corrigenda (if any). This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to EN 62343-2:2014:

a) addition of an Introduction to the background of this document;

b) replacement of "Reliability qualification consideration" by "reliability qualification test consideration";

c) deletion of the consideration of "Design 1" and "Design 2" and change of the contents of "Approach" in "Reliability qualification test considerations";

d) deletion of the details in "Reliability qualification requirements" and replacement by "Reliability qualification test items";

e) deletion of "Reliability calculations" from the sum of failure rates of constituting parts;

f) integration of "Pass/fail criteria" and "Guidance of FMEA" into Annex B (informative);

g) simplification of test items and conditions in Annex A and change of title of Annex A to "Examples of reliability qualification test conditions".

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62343-2-1:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-2-14	NOTE	Harmonized as EN 60068-2-14
IEC 61300 (series)	NOTE	Harmonized as EN 61300 (series)
IEC 61300-2-4	NOTE	Harmonized as EN IEC 61300-2-4
IEC 62005-9-1	NOTE	Harmonized as EN 62005-9-1
IEC 62572-3	NOTE	Harmonized as EN 62572-3

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 62343	-	Dynamic modules – General and guidance	EN 62343	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DYNAMIC MODULES –

Part 2-1: Reliability qualification – Test template

FOREWORD

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International Standard IEC 62343-2-1 has been prepared by subcommittee 86C: Fibre optic systems and active devices, of IEC technical committee 86: Fibre optics.

This first edition cancels and replaces the second edition of IEC 62343-2 published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 62343-2:2014:

a) addition of an Introduction to the background of this document;
b) replacement of "Reliability qualification consideration" by "reliability qualification test consideration";
c) deletion of the consideration of "Design 1" and "Design 2" and change of the contents of "Approach" in "Reliability qualification test considerations";
d) deletion of the details in "Reliability qualification requirements" and replacement by "Reliability qualification test items";

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f) Integration of "Pass/fail criteria" and "Guidance of FMEA" into Annex B (informative);

g) Simplification of test items and conditions in Annex A and change of title of Annex A to "Examples of reliability qualification test conditions".

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

CDV	Report on voting
86C/1567/CDV	86C/1594/RVC

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 62343 series, published under the general title *Dynamic modules,* 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 "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.

NOTICE

INTRODUCTION

Dynamic modules (DMs) are relatively new fibre optic devices. In the industry, there is no de-facto standard of reliability qualification test requirements for DMs. Also, there are many types and functions of DMs, such as optical path switching, wavelength management, chromatic dispersion management, optical channel power management, and optical channel powers and wavelength monitoring. Therefore, it is difficult to standardize the reliability qualification test requirements because their functionality is so diverse. For DMs, a reliability qualification test template rather than particular requirements has been standardized.

The first edition of IEC 62343-2, *Dynamic modules – Part 2: Reliability qualification,* was published in 2011, and the second edition was published in 2014. A survey on reliability qualification test items and conditions was carried out in Japan, China, North America and Europe in 2015 and 2016. The survey revealed that several reliability test conditions were inconsistent with those in IEC 62343-2:2014, and the responses indicated a lack of consensus. As a result of the discussion in SC 86C, it was agreed that it was impossible to unify the test conditions for the reliability qualification of DMs. Instead of a reliability qualification document, it was decided to prepare this template for a reliability qualification test for DMs. Consequently, IEC 62343-2:2014 will be withdrawn and replaced upon publication of this document.