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colour inside

Process management for avionics – Management plan – Part 1: Preparation and maintenance of an electronic components management plan

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- the subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 62239-1, which is a technical specification, has been prepared by IEC Technical Committee 107: Process management for avionics.

This second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) the number of “shall” requirements has been rationalized;
b) the terms “supplier”, “equipment manufacturer”, and “OEM” have been replaced by “plan owner”;
c) the term “device” has been replaced by “component”;
d) a requirement matrix has been included in Annex A, Table A.1;
e) various specifications and standards have been updated;
f) a new subclause (4.3.5.2) on mechanical stresses generated by temperature variation has been added;
g) a new subclause (4.3.10) on moisture and corrosion has been added.

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

Enquiry draft	Report on voting
107/245/DTS	107/258/RVC

Full information on the voting for the approval of this technical specification 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 the parts in the IEC TS 62239 series under the general title *Process management for avionics – Management plan,* 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 website 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,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This technical specification provides the structure for avionics equipment manufacturers, subcontractors, maintenance facilities, and other aerospace component users to develop their own Electronic Component Management Plans (ECMPs), hereinafter also referred to as ‘plan’. This technical specification states objectives to be accomplished. The plan is not prescriptive and those who prepare plans in compliance with this technical specification will document processes that are the most effective and efficient for them in accomplishing the objectives of this technical specification. In order to allow flexibility in implementing and updating the documented processes, plan owners are encouraged to refer to their own internal process documents instead of including detailed process documentation within their plans.

NOTE The equipment manufacturer, often called in the industry the original equipment manufacturer (OEM) is in general considered as the plan owner.

This component management technical specification is intended for aerospace users of electronic components. This technical specification is not intended for use by the manufacturers of electronic components. Components selected and managed according to the requirements of a plan compliant with this technical specification may be approved by the concerned parties for the proposed application, and for other applications with equal or less severe requirements.

Organizations that prepare such plans may prepare a single plan, and use it for all relevant products supplied by the organization, or may prepare a separate plan for each relevant product or customer.

PROCESS MANAGEMENT FOR AVIONICS – MANAGEMENT PLAN –

Part 1: Preparation and maintenance of an electronic components management plan

1 Scope

This part of IEC 62239, which is a technical specification, defines the requirements for developing an Electronic Components Management Plan (ECMP) to assure customers that all of the electronic components in the equipment of the plan owner are selected and applied in controlled processes compatible with the end application and that the technical requirements detailed in Clause 4 are accomplished.

In general, the plan owner of a complete Electronic Components Management Plan is the avionics original equipment manufacturer (OEM).

This document provides an aid in the aerospace certification process.

Although developed for the avionics industry, this process may be applied by other industrial sectors.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62396-1:2012, *Process management for avionics – Atmospheric radiation effects – Part 1: Accommodation of atmospheric radiation effects via single event effects within avionics electronic equipment*[1]

IEC TS 62647-1, *Process management for avionics – Aerospace and defence electronic systems containing lead-free solder – Part 1: Preparation for a lead-free control plan*

IPC/JEDEC J-STD-20*, Moisture/Reflow Sensitivity Classifications for Nonhermetic Solid State Surface Mount Devices*

[1] A new edition is under development. It will be published soon.