SLOVENSKI STANDARD
SIST EN 16602-70-28:2015

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Zagotavljanje varnih proizvodov v vesoljski tehniki - Popravilo in spreminjanje plošč tiskanih vezij za vesoljsko uporabo

Space product assurance - Repair and modification of printed circuit board assemblies for space use

Raumfahrtproduktsicherung - Reparatur und Modifikation von Leiterplatten-Baugruppen für den Einsatz im Weltraum

Assurance produit des projets spatiaux - Réparation et modification des ensembles de circuits imprimés pour utilisation spatiale

Ta slovenski standard je istoveten z: EN 16602-70-28:2014

ICS:

31.180	Tiskana vezja (TIV) in tiskane plošče	Printed circuits and boards
49.140	Vesoljski sistemi in operacije	Space systems and operations

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English version

Space product assurance - Repair and modification of printed circuit board assemblies for space use

Assurance produit des projets spatiaux - Réparation et modification des ensembles de circuits imprimés pour utilisation spatiale

Raumfahrtproduktsicherung - Reparatur und Modifikation von Leiterplatten-Baugruppen für den Einsatz im Weltraum

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Foreword

This document (EN 16602-70-28:2014) has been prepared by Technical Committee CEN/CLC/TC 5 "Space", the secretariat of which is held by DIN.

This standard (EN 16602-70-28:2014) originates from ECSS-Q-ST-70-28C.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2015, and conflicting national standards shall be withdrawn at the latest by April 2015.

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

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document has been developed to cover specifically space systems and has therefore precedence over any EN covering the same scope but with a wider domain of applicability (e.g. aerospace).

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

The requirements and procedures for repair and modification detailed in this Standard are designed to maintain the rigorous standards set by the customer for the manufacture and assembly of space-quality printed circuit boards.

This Standard is confined to the repair and modification of single-sided, double-sided and multi-layer printed circuit board assemblies.

This Standard does not address the potential need for rework resulting from a repair or modification and unassembled (bare) printed circuits boards.

This standard may be tailored for the specific characteristics and constraints of a space project, in conformance with ECSS-S-ST-00.

2
Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this ECSS Standard. For dated references, subsequent amendments to, or revisions of any of these publications do not apply. However, parties to agreements based on this ECSS Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references the latest edition of the publication referred to applies

EN reference	Reference in text	Title
EN 16001-00-01	ECSS-S-ST-00-01	ECSS system — Glossary of terms
EN 16602-10-09	ECSS-Q-ST-10-09	Space product assurance — Nonconformance control system
EN 16602-20	ECSS-Q-ST-20	Space product assurance — Quality assurance
EN 16602-70	ECSS-Q-ST-70	Space product assurance — Materials, mechanical parts and processes
EN 16602-70-08	ECSS-Q-ST-70-08	Space product assurance — Manual soldering of high- reliability electrical connections
EN 16602-70-10	ECSS-Q-ST-70-10	Space product assurance — Qualification of printed circuit boards
EN 16602-70-38	ECSS-Q-ST-70-38	Space product assurance — High-reliability soldering for surface-mount and mixed technology

3 Terms, definitions and abbreviated terms

3.1 Terms from other standards

For the purpose of this Standard, the terms and definitions from ECSS-S-ST-00-01 apply.

3.2 Terms specific to the present standard

3.2.1 modification

process of modifying an electronic circuit by means of the addition or removal of electrical parts or wiring

3.2.2 repair

change of a component with all its associated connections, including the fixing down of a lifted pad or track or any similar procedure described in this Standard

NOTE 1 Changing of components for tuning, i.e. de-soldering and changing component value is not considered a repair, rework or modification operation.

NOTE 2 During tuning, solder jointing is achieved with a minimum of solder, just enough to ensure contact.

3.2.3 rework

process of reworking of a defective solder joint (without component changing) as a consequence of the repair or modification process or for restoring good workmanship of potentially defective solder joints

3.3 Abbreviated terms

For the purpose of this Standard, the abbreviated terms from ECSS-S-ST-00-01 and the following apply:

Abbreviation	Meaning
PCB	printed circuit board
PTFE	Polytetrafluoroethylene
PTH	plated-through hole
DIL	dual-in-line