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Space engineering - Electromagnetic compatibility handbook

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European Foreword

This document (CEN/TR 17603-20-07:2022) has been prepared by Technical Committee CEN/CLC/JTC 5 “Space”, the secretariat of which is held by DIN.

It is highlighted that this technical report does not contain any requirement but only collection of data or descriptions and guidelines about how to organize and perform the work in support of EN 16603-20.

This Technical report (CEN/TR 17603-20-07:2022) originates from ECSS-E-HB-20-07A.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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 TR covering the same scope but with a wider domain of applicability (e.g.: aerospace).

Introduction

The purpose of the present handbook is to support the use of ECSS-E-ST-20-07C. It aims at providing practical and helpful information for electromagnetic compatibility (EMC) in the development of space equipment and systems.

It gathers EMC experience, know-how and lessons-learnt from the European Space Community with the intention to assist project groups and individual implementers.

1 Scope

The objective of this EMC Handbook is to point out all the issues relevant to space systems EMC, to provide a general technical treatment and to address the interested reader to more thorough and in-depth publications.

NOTE It is possible to find fundamental and advanced treatment of many aspects related to EMC: many universities offer courses on EMC and a large number of textbooks, papers and technical documents are available. Therefore replicating in this Handbook the available knowledge is impractical and meaningless.

Emphasis is given to space systems EMC design, development and verification, and specifically to the practical aspects related to these issues.

NOTE This has been possible thanks to the collaboration of space industry, especially on items which are not textbook issues and whose solution needs the widespread experience gained in large number of projects.

2 References

EN Reference	Reference in text	Title
EN 16601-00-01	ECSS-S-ST-00-01	ECSS System: - Glossary of terms
EN 17603-20	ECSS-E-ST-20	Space engineering - Electric and electronic
EN 17603-20-07	ECSS-E-ST-20-07	Space engineering - Electromagnetic compatibility
EN 17603-33-11	ECSS-E-ST-33-11	Space engineering - Explosive systems and devices
EN 17603-10-03	ECSS-E-ST-10-03	Space engineering – Testing
EN 17602-70-71	ECSS-Q-ST-70-71	Space product assurance - Materials, processes and their data selection