SLOVENSKI STANDARD
oSIST prEN 16603-50-23:2021

01-september-2021

Vesoljska tehnika - Sprejem obvestila CCSDS 732.0-B-3, protokol vesoljske podatkovne povezave AOS, številka 3, september 2015

Space engineering - Adoption Notice of CCSDS 732.0-B-3, AOS Space Data Link Protocol, Issue 3, September 2015

Raumfahrttechnik - Adoption Notice von CCSDS 732.0-B-3, AOS Space Data Link Protocol, Ausgabe 3, September 2015

Ta slovenski standard je istoveten z: **prEN 16603-50-23**

ICS:

49.140	Vesoljski sistemi in operacije	Space systems and operations

oSIST prEN 16603-50-23:2021 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 16603-50-23

July 2021

ICS 49.140

English version

Space engineering - Adoption Notice of CCSDS 732.0-B-3, AOS Space Data Link Protocol, Issue 3, September 2015

Raumfahrttechnik - Adoption Notice von CCSDS 732.0-B-3, AOS Space Data Link Protocol, Ausgabe 3, September 2015

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/CLC/JTC 5.

If this draft becomes a European Standard, CEN and CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN and CENELEC in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN and CENELEC members are the national standards bodies and national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

Table of contents

European Foreword

This document (prEN 16603-50-23:2021) has been prepared by Technical Committee CEN/CLC/TC 5 “Space”, the secretariat of which is held by DIN (Germany).

This document (prEN 16603-50-23:2021) originates from ECSS-E-AS-50-23C-DIR1.

This document is currently submitted to the ENQUIRY.

EN 16603-50-22 and EN 16603-50-23 will together supersede EN 16603-50-03:2014.

The main changes with respect to EN 16603-50-03:2014 are listed below:

- Replacement of document by two Adoption Notices.

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

1
Scope

This document identifies the clauses and requirements modified with respect to the standard CCSDS 732.0-B-3, *AOS Space Data Link Protocol*, Issue 3, September 2015 for application in ECSS.

2 Context information

In the standard CCSDS 732.0-B-3 "AOS Space Data Link Protocol" CCSDS specifies a data link layer protocol for the efficient transfer of space application data of various types and characteristics over space links. The protocol specified in CCSDS 732.0-B-3 "AOS Space Data Link Protocol" has a similar purpose as CCSDS 132.0-B-2 "TM Space Data Link Protocol" and supports some features not available in the TM Space Data Link Protocol.

This Adoption Notice adopts and applies CCSDS 732.0-B-3 with a minimum set of modifications, identified in the present document, to allow for reference and for a consistent integration in the ECSS system of standards.

EN 16603-50-03:2014 (based on ECSS-E-ST-50-03) is superseded by the following two Adoption Notices: EN 16603-50-22 (ECSS-E-AS-50-22) and EN 16603-50-23 (ECSS-E-AS-50-23). EN 16603-50-03 (based on ECSS-E-ST-50-03) was limited to the TM Transfer Frame: it did not include the AOS Transfer Frame.

Overview of superseded EN 16603-50-xx Standards

Superseded EN	New EN	Based on CCSDS
EN 16603-50-01:2014	EN 16603-50-21	CCSDS 131.0-B-3 (Sept. 2017)
EN 16603-50-03:2014	EN 16603-50-22	CCSDS 132.0-B-2 (Sept. 2015)
	EN 16603-50-23	CCSDS 732.0-B-3 (August 2016)
EN 16603-50-04:2014	EN 16603-50-24	CCSDS 231.0-B-3 (Sept. 2017)
	EN 16603-50-25	CCSDS 232.0-B-3 (Sept. 2015)
	EN 16603-50-26	CCSDS 232.1-B-2 (Sept. 2010)

3 Abbreviated terms

Abbreviation	Meaning
AOS	Advanced Orbiting Systems
SDLS	Space Data Link Security

4
Application requirements

a. CCSDS 732.0-B-3, AOS Space Data Link Protocol, Issue 3, September 2015 shall apply with the following modifications listed in Table 4-1.

Table 4-1: Applicability table for CCSDS 732.0-B-3

Clause or requirement number	Applicability	Applicable text (the new/added text is underlined)	Comments	Text as in the original document (deleted text with strikethrough)
1.1	Modified (statement scope)	This protocol is a Data Link Layer protocol (see reference [1]) to be used over space-to-ground or space-to-space communications links by space missions.	Text of scope modified: change of scope. Words “ground to space” deleted	This protocol is a Data Link Layer protocol (see reference [1]) to be used over space-to-ground~~, ground-to-space,~~ or space-to-space communications links by space missions.

Clause or requirement number	Applicability	Applicable text (the new/added text is underlined)	Comments	Text as in the original document (deleted text with strikethrough)
4.1.2.5.2	Modified	The Replay Flag shall be set to '0'.	CCSDS requirement modified restricted use of the Replay Flag. Sentense "Recognizing the need to store Transfer Frames during periods when the space link is unavailable, and to retrieve them for subsequent replay when the link is restored, this flag shall alert the receiver of the Transfer Frames with respect to its 'realtime' or 'replay' status. Its main purpose is to discriminate between realtime and replay Transfer Frames when they both may use the same Virtual Channel."	~~Recognizing the need to store Transfer Frames during periods when the space link is unavailable, and to retrieve them for subsequent replay when the link is restored, this flag shall alert the receiver of the Transfer Frames with respect to its 'realtime' or 'replay' status. Its main purpose is to discriminate between realtime and replay Transfer Frames when they both may use the same Virtual Channel.~~
4.1.2.5.2	New NOTE	NOTE – When the Replay Flag is '0' it indicates a Realtime Transfer Frame. CCSDS allows also the value '1' for this flag to indicate Replay Transfer Frames. ECSS does not allow this as there are alternative means of replaying Frames and there is an increase of complexity for processing at Receiving End.	New NOTE added.	
4.1.2.5.3	Deleted requirement		CCSDS requirement deleted.	~~The Replay Flag is interpreted as follows:~~ ~~a) '0' = Realtime Transfer Frame;~~ ~~b) '1' = Replay Transfer Frame.~~