



**SLOVENSKI STANDARD**  
**oSIST prEN 16603-50-22:2021**  
**01-september-2021**

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**Vesoljska tehnika - Sprejem obvestila CCSDS 132.0-B-2, protokol vesoljske podatkovne povezave TM, številka 2, september 2015**

Space engineering - Adoption Notice of CCSDS 132.0-B-2, TM Space Data Link Protocol, Issue2, September 2015

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**Ta slovenski standard je istoveten z: ~~oSIST prEN 16603-50-22:2021~~ prEN 16603-50-22**  
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**ICS:**

49.140 Vesoljski sistemi in operacije Space systems and operations

**oSIST prEN 16603-50-22:2021**

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EUROPEAN STANDARD  
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**DRAFT**  
**prEN 16603-50-22**

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English version

## Space engineering - Adoption Notice of CCSDS 132.0-B-2, TM Space Data Link Protocol, Issue2, September 2015

Raumfahrttechnik - Adoption Notice von CCSDS 132.0-B-2, TM Space Data Link Protocol, Ausgabe 2, 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.

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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.

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## European Foreword

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This document (prEN 16603-50-22:2021) has been prepared by Technical Committee CEN/CLC/TC 5 “Space”, the secretariat of which is held by DIN (Germany).

This document (prEN 16603-50-22:2021) originates from ECSS-E-AS-50-22C-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).

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# 1 Scope

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This document identifies the clauses and requirements modified with respect to the standard CCSDS 132.0-B-2, *TM Space Data Link Protocol*, Issue 2, September 2015, for application in ECSS.

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## 2

## Context information

In the standard CCSDS 132.0-B-2, *TM 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.

This Adoption Notice adopts and applies CCSDS 132.0-B-2 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.

The TM Transfer Frame specified in CCSDS 132.0-B-2 is similar to the TM Transfer Frame specified in the EN 16603-50-03:2014 (ECSS-E-ST-50-03), that 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).

Differences between these two standards that are not covered by the normative modifications in clause 4 are described in the informative Annex A.

oSIST prEN 16603-50-22:2021  
<http://standards.iteh.ai/Overview/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)

## Abbreviated terms

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AOS	Advanced Orbiting Systems
SDLS	Space Data Link Security

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## 4

## Application requirements

- a. CCSDS 132.0-B-2, TM Space Data Link Protocol, Issue 2, September 2015 shall apply with the following modifications listed in Table 4-1.

**Table 4-1: Applicability table for CCSDS 132.0-B-2**

Clause or requirement number	Applicability	Applicable text (the new/added text is underlined)	Comments	Text as in the original document (deleted text with strikethrough)
4.1.3.1.7	New requirement	The Transfer Frame Secondary Header may be used to provide an extended virtual channel frame count as specified in 4.1.3.4.	New requirement added: the extended virtual channel frame count added	
4.1.3.4	New section	Extended virtual channel frame count	New section added	
4.1.3.4.1	New section	General The following requirements apply if the Transfer Frame Secondary Header is used to provide an extended virtual channel frame count, see 4.1.3.1.7.		
4.1.3.4.2	New section	Using the extended virtual channel frame count		

## prEN 16603-50-22:2021 (E)

Clause or requirement number	Applicability	Applicable text (the new/added text is underlined)	Comments	Text as in the original document (deleted text with strikethrough)
4.1.3.4.2.1	New requirement	<p>The length of the Transfer Frame Secondary Header shall be 32 bits.</p> <p>NOTE The Transfer Frame Secondary Header has a length of 4 octets, so the Transfer Frame Secondary Header Length contains the value 3.</p>		
4.1.3.4.2.2	New requirement	<p>The Transfer Frame Secondary Header Data Field shall contain the 24-bit extension to the virtual channel frame count.</p>		
4.1.3.4.2.3	New requirement	<p>The extension to the virtual channel frame count shall be a binary count of the roll-overs of the 8-bit value contained in the Virtual Channel Frame Count in the Transfer Frame Primary Header.</p> <p>NOTE This provides a 32-bit count, with the most significant 24 bits in the Transfer Frame Secondary Header Data Field and the least significant 8 bits in the Virtual Channel Frame Count.</p>	<p>STANDARD PREVIEW (standards.iteh.ai)</p> <p>oSIST prEN 16603-50-22:2021 https://standards.iteh.ai/catalog/standards/sist/a37a321d-3065-4e5d-a93d-a7cc80c13d76/sist-pr-en-16603-50-22-2021</p>	