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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 46724-2025

**Space data and information transfer systems - Space data link
protocols over DVB-S2 standard**

空间数据与信息传输系统 DVB-S2标准承载空间数据链路协议

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is modified to adopt ISO 2020 7.2015 "Spatial data and information transmission systems based on ETS IDB V-S2 standard".

CCSDS Spatial Link Protocol.

This document has undergone significant structural adjustments compared to ISO 2020 7.2015. A table comparing the structural numbering of the two documents is attached.

Record A.

This document differs significantly from ISO 2020 7.2015. The relevant clauses are indicated in vertical margins.

Single lines (l) are indicated. A summary of these technical differences and their causes can be found in Appendix B.

The following editorial changes have been made to this document.

---To align with existing standards, the standard name has been changed to "DVB-S2 Standard for Space Data and Information Transmission Systems Bearing Space Data Links".

Road Agreement;

---Added a note for USLP transmission frames (see 6.2.1);

---A note on frame length has been added (see Table 3).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Aerospace Technology and Its Applications (SAC/TC425).

1 Scope

This document specifies the interface specifications between the DVB-S2 standard and the Space Data Link Protocol, including the overall architecture, SMTF stream generation, and DVB-S2 transmits and manages parameters, etc.

This document applies to the design, manufacture, and use of spaceborne payloads that employ the DVB-S2 standard for high-speed data transmission.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 39345-2020 Space Data and Information Transmission Systems - Advanced On-Orbit Systems - Space Data Link Protocol (ISO 22666.

2016, MOD)

Note: There are no technical differences between the content referenced in GB/T 39345-2020 and the content referenced in ISO 22666:2016.

GB/T 39351-2020 Telemetry Space Data Link Protocol for Space Data and Information Transmission Systems (ISO 22645:2016) MOD) Note. There are no technical differences between the content referenced in GB/T 39351-2020 and the content referenced in ISO 22645:2016.

GB/T 42040-2022 Unified Space Data Link Protocol for Space Data and Information Transmission Systems GB/T 42041-2022 Aerospace Terminology. Space Data and Information Transmission GY/T 338-2020 Specification for Coding and Modulation of Digital Television Satellite Transmission Channels Note. GY/T 338-2020 has the same technical content as the digital television adaptive transmission protocol standard ETSI EN302307-1 (V1.4.1).

3 Terms and Definitions

The terms and definitions defined in GB/T 42041-2022 and GY/T 338-2020 apply to this document.

4 Abbreviations

The following abbreviations apply to this document.

8PSK. Octal Phase Shift Keying