

## **TC Space Data Link Protocol**

### **TECHNICAL CORRIGENDUM 1**

The Management Council of the Consultative Committee for Space Data Systems (CCSDS) has authorized the publication of technical corrigendum 1 to CCSDS 232.0-B-4, issued October 2021.

*Page 4-10, paragraph 4.1.4.2.2, add after “Frame Error Control Field”*

“(FECF)”

*Page 6-10, 6.5.2.1 Virtual Channel Reception Function, list item a), delete*

“(first step of processing)”

*Page 6-11, 6.5.2.2 Discussion*

*after first paragraph, add*

#### **All Frames Reception Function**

- The All Frames Reception Function is the first procedure that receives valid octets from the Channel Coding Sublayer. A decoding failure will cause the Frame Delimiting and Fill Removal Procedure within the All Frames Reception Function to discard all the transfer frames contained within a CLTU.
- The Frame Validation Check Procedure within the All Frames Reception Function includes the check of the FECF, if it is present. A transfer frame that fails any of these checks is discarded.

#### **Virtual Channel Reception Function**

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NOTE – Current versions of CCSDS documents are maintained at the CCSDS Web site:

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# TECHNICAL CORRIGENDUM 1 TO CCSDS 232.0-B-4 (Continued)

*Page 6-11, 6.5.2.2 Discussion (continued)*

*paragraph beginning “The FARM-1 specified in reference [4]”*

*add at beginning of paragraph*

“FARM-1 function: ”

*paragraph beginning “Depending on the security features”*

*add at beginning of paragraph*

“SDLS ProcessSecurity function: ”

*indent all three paragraphs under new heading **Virtual Channel Reception Function***

*add bullets to first two of those paragraphs*

*delete paragraph beginning “Before a frame reaches”*

*add before 6.5.3 MAP PACKET EXTRACTION FUNCTION WITH SDLS*

NOTE – If authentication is used, and whenever retransmission of Type-AD Transfer Frames is required in a series of frames that originally included both Type-AD and Type-BD frames, then the SDLS ProcessSecurity Anti-Replay function will reject any retransmitted frames, based upon their lower anti-replay sequence count in comparison to the Type-BD anti-replay sequence count (falsely labelling them as SDLS security failures). Therefore, mixing Type-AD and Type-BD frames on the same VC secured by SDLS is generally not advised unless Type-BD frames are sent only after all Type-AD frames have been accepted on board.