EB tresos® AutoCore Generic 8 J1939 Stack documentation

release notes update for the J1939Tp module

product release 8.8.7

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1. Overview

This document provides you with the release notes to accompany an update to the `J1939Tp` module. Refer to the changelog Section 2.1, "Change log" for details of changes made for this update.

Release notes details

▶ EB tresos AutoCore release version: 8.8.7

▶ EB tresos Studio release version: 29.2.1

▶ AUTOSAR R4.5 Rev 0

▶ Build number: B614323

2.   J1939Tp module release notes

- ► AUTOSAR R4.5 Rev 0

- ► AUTOSAR SWS document version: 20.11.0

- ► Module version: 1.2.6.B614323

- ► Supplier: Elektrobit Automotive GmbH

2.1. Change log

This chapter lists the changes between different versions.

Module version 1.2.6

2023-03-06

- ► Rebase requirements to ASR20-11. This module version update does not affect module functionality.

- ► Internal module improvement. This module version update does not affect module functionality.

- ► ASCJ1939TP-336 Fixed known issue: J1939Tp wrongly calls for the upper layer indicating a failure in transmission

- ► ASCJ1939TP-327 Add support for parallel connections for the same SA/DA in different channels.

Module version 1.2.5

2022-11-14

- ► ASCJ1939TP-312 Fixed known issue: J1939Tp Burst transmission of DirectPG doesn't work correctly

Module version 1.2.4

2022-10-26

- ► ASCJ1939TP-311 Fixed known issue: "J1939Tp_TxConfirmation" redeclared with a different type in source code.

- ► ASCJ1939TP-302 Fixed known issue: Transmission time-out leads to Tx channel getting stuck

Module version 1.2.3

2022-07-04

► Provide J1939 Improvements according to SAE-J1939 Specs

► Internal module improvement. This module version update does not affect module functionality.

Module version 1.2.2

2022-04-11

► Support for assurance data reception for BAM and CMDT transfer on CanFD bus according to SAE-J1939-22.

► ASCJ1939TP-297 Fixed known issue: TX Confirmation mismatch between J1939Tp and PduR/IpduM

Module version 1.2.1

2022-02-18

► Support for assurance data transmission for BAM and CMDT transfer on CanFD bus according to SAE-J1939-22.

► ASCJ1939TP-271 Fixed known issue: No length check against received CANFD Tx control messages.

► ASCJ1939TP-274 Fixed known issue: Using of J1939TpTxDtNPdu instead of J1939TpTxCmNPdu for sending EOMS.

► ASCJ1939TP-275 Fixed known issue: Problem in receiving message with a total message size greater than 15300.

► ASCJ1939TP-288 Fixed known issue: Data corruption in the last packet due to the transmission of wrong bytes.

► ASCJ1939TP-264 Fixed known issue: Receiving a multi-frame PDU via CMDT fails.

Module version 1.2.0

2021-12-28

► Initial support for CanFD bus operations. BAM, CMDT and direct frames transfer according to SAE-J1939-22.

Module version 1.1.3

2021-10-08

► Internal module improvement. This module version update does not affect module functionality.

► Internal module improvement. This module version update does not affect module functionality.

► Rebase to ASR20-11. This module version update does not affect module functionality

Module version 1.1.2

2021-06-25

► ASCJ1939TP-243 Fixed the Data packets dropping issue of CMDT and BAM reception.

Module version 1.1.1

2021-03-05

► Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.7

2021-02-12

► Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.6

2021-01-22

► Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.5

2020-10-23

Module version 1.0.4

2020-06-19

► Internal module improvement. This module version update does not affect module functionality.

► Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.2

2020-02-21

► Internal module improvement. This module version update does not affect module functionality.

► ASCJ1939TP-168 Fixed known issue: Wrong generation of TxChannels when no J1939TpRxFcNPdu is configured.

Module version 1.0.1

2020-01-31

Module version 1.0.0

2019-12-19

Module version 0.0.1

2019-07-12

► Initial version

2.2. New features

► No new features have been added since the last release

2.3. Elektrobit-specific enhancements

This chapter lists the enhancements provided by the module.

► No enhancements have been added to the J1939Tp module

2.4. Deviations

This chapter lists the deviations of the module from the AUTOSAR standard.

► the transport protocol variant ,SA and DA shall be configured

Description:

The J1939TP assumes that the transport protocol variant (BAM/CMDT), SA and DA are configured .

Requirements:

SWS_J1939Tp_00039

► No J1939Tp_ConfigType Usage

Description:

J1939Tp uses different type name called J1939Tp_GeneralConfigType that contains configuration data

Requirements:

SWS_J1939Tp_00175

► J1939TpMaxPacketsPerBlock is Not Optional

Description:

J1939Tp Assume that J1939TpTxMaxPacketsPerBlock and J1939TpRxPacketsPerBlock shall be configured .

Requirements:

SWS_J1939Tp_00208,SWS_J1939Tp_00211

► Metadata is not appended after the payload data

Description:

J1939Tp doesn't append metadata to payload data, it uses EcuC_SetMetaData and EcuC_GetMetaData APIs to transfer metadata between layers.

Requirements:

SWS_J1939Tp_00045

► post-build configuration is not supported

Description:

J1939Tp doesn't provide a support for post-build configuration.

Requirements:

SWS_J1939Tp_00187

► No error event reporting on exceptions

Description:

On errors and exceptions, the J1939Tp module doesn't report the error event and it raises development error (DET) .

Requirements:

SWS_J1939Tp_00071

► PGN is not contained in Direct NPDU metadata

Description:

J1939Tp doesn't contain the related PGN in the Direct NPDU metadata if MetaDataLength is 4 , it leave third byte in metadata as don't care .

Requirements:

SWS_J1939Tp_00198

► PduInfoPtr pointer to variable in J1939Tp_RxIndication

Description:

For compatibility with CanIf, J1939Tp_RxIndication's PduInfoPtr argument changed to be a pointer to variable instead of being a pointer to constant.

Requirements:

SWS_J1939Tp_00108

► Buffer size is not checked

Description:

Message is not aborted when the buffer is smaller than the total data length of the N-SDU.

Requirements:

SWS_J1939Tp_00040

► The J1939Tp module shall follow the recommendations of SAE J1939-21 [REF] if they are not explicitly excluded in this document.

Description:

This requirement is informational only.

Requirements:

SWS_J1939Tp_00018

▶ API Function | Header File | Description Det_ReportError | Det.h | Service to report development errors.

Description:

This requirement is informational only.

Requirements:

SWS_J1939Tp_00060

▶ The function J1939Tp_RxIndication shall be callable in interrupt context (it could be called from the CAN receive interrupt).

Description:

This requirement is informational only.

Requirements:

SWS_J1939Tp_00110

▶ The function J1939Tp_TxConfirmation shall be callable in interrupt context (it could be called from the CAN transmit interrupt)

Description:

This requirement is informational only.

Requirements:

SWS_J1939Tp_00114

▶ API Function | Header File | Description CanIf_Transmit | CanIf.h | Requests transmission of a PDU. Det_ReportRuntimeError | Det.h | Service to report runtime errors. If a callout has been configured then this callout shall be called. PduR_J1939TpCopyRxData | PduR_J1939Tp.h | This function is called to provide the received data of an I-PDU segment (N-PDU) to the upper layer. Each call to this function provides the next part of the I-PDU data. The size of the remaining buffer is written to the position indicated by bufferSizePtr. PduR_J1939TpCopyTxData | PduR_J1939Tp.h | This function is called to acquire the transmit data of an I-PDU segment (N-PDU). Each call to this function provides the next part of the I-PDU data unless retry->TpDataState is TP_DATARETRY. In this case the function restarts to copy the data beginning at the offset from the current position indicated by retry->TxTpDataCnt. The size of the remaining data is written to the position indicated by availableDataPtr. PduR_J1939TpRxIndication | PduR_J1939Tp.-h | Called after an I-PDU has been received via the TP API, the result indicates whether the transmission

was successful or not. PduR_J1939TpStartOfReception | PduR_J1939Tp.h | This function is called at the start of receiving an N-SDU. The N-SDU might be fragmented into multiple N-PDUs (FF with one or more following CFs) or might consist of a single N-PDU (SF). The service shall provide the currently available maximum buffer size when invoked with TpSduLength equal to 0. PduR_J1939TpTxConfirmation | PduR_-J1939Tp.h | This function is called after the I-PDU has been transmitted on its network, the result indicates whether the transmission was successful or not.

Description:

This requirement is informational only.

Requirements:

SWS_J1939Tp_00116

► These requirements are not applicable to this specification.

Description:

This requirement is not applicable to this specification.

Requirements:

SWS_J1939Tp_99999

2.5. Limitations

This chapter lists the limitations of the module. Refer to the module references chapter *Integration notes*, subsection *Integration requirements* for requirements on integrating this module.

The J1939Tp module has following limitations:

► J1939Tp module does not support bi-directional CMDT channels and shared Pdu.

► J1939Tp doesn't provide a support for post-build configuration.

► J1939Tp assumes that the transport protocol variant (BAM/CMDT), SA and DA are configured.

► J1939Tp_CancelTransmit and J1939Tp_CancelReceive APIs are available regardless of J1939TpCancellationSupport is enabled or not.

► J1939Tp doesn't verify that "total number of packets" in the received TP.CM/RTS frame match the "total message size".

► J1939Tp limits the maximum range of J1939TpMainFunctionPeriod to 65.535".

2.6. Open-source software

J1939Tp does not use open-source software.