M_CAN

Controller Area Network

Support of optional ISO 11898-1 Features

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Revision History

Revision	Date	Changes
REL20150123	23.01.2015	Initial version.
REL20150824	24.08.2015	M_CAN Release Overview updated.
REL20160324	24.03.2016	References to ISO updated.
REL20160404	04.04.2016	Document restructured.

M_CAN Release Overview

Release	CREL	Date of Delivery	M_CAN Spec	Remark
1.0.0	100 0 02 10	10.02.2010	v1.21	first release, conformance tested
1.0.1	101 0 12 20	20.12.2010	v1.22	updated to fit with M_TTCAN
1.0.2	102 1 03 01	28.03.2011	v1.23	release for MDG1 RC1, conformance tested
1.1.0	110 1 08 31	31.08.2011	v1.23 + Debug Support v0.2	release with JDP debug support and dedicated Rx Buffers, verification not completed
1.1.1	111 1 12 15	15.12.2011	v1.23 + Debug Support v0.2	release with JDP debug support and dedicated Rx Buffers, verification completed
1.9.5	195 2 02 24	24.02.2012	v2.0.1	snapshot for JDP
2.0.0	200 2 03 21	21.03.2012	v2.0.1	release with CAN FD8 support and CU interface, conformance tested
2.9.5	295 2 10 31	31.10.2012	v3.0	release candidate for JDP and Renesas, verification not completed
2.9.6	296 2 12 18	18.12.2012	v3.0.1	snapshot for JDP, verification not completed
3.0.0	300 3 01 31	31.01.2013	v3.0.2	release with CAN FD64 support, conformance tested
3.0.1	301 3 05 06	17.05.2013	v3.0.2	bug-fix release
3.1.0	310 4 07 30	31.07.2014	v3.1.0	update to ISO/CD11898-1, Tx handling optimized, known errata fixed, conformance tested
3.1.5	315 4 11 14	14.11.2014	v3.2.0	VHDL snapshot
3.2.0	320 4 12 18	19.12.2014	v3.2.0	CAN FD frame format updated, known errata fixed
3.2.1	321 5 03 20	25.03.2015	v3.2.1	bug-fix release, conformance tested

The release implemented in a specific device can be identified by reading out the Core Release Register **CREL** on module address 0x00. For details about the coding of the Core Release Register see the M_CAN User's Manual.

M_CAN support of ISO 11898-1:2015 Non-mandatory Implementation Features

No	Non-mandatory Feature according to ISO 11898-1:2015, Table A.2	Remark	Rev.
1	**FD frame format**	Classical CAN and CAN FD frame format supported	R3.2.0 or later
2	**Disabling of frame formats**	Disabling of FD format (Classical CAN only) supported, FD only operation not supported	all revisions
3	**Limited LLC frames**	All base/extended IDs and data fields with up to 64 byte supported	R2.9.5 or later
4	**No transmission of frames including padding bytes**	In case the data length code DLC of a Tx Buffer element is configured to a value equal or lower than the configured Tx Buffer data field size TXESC.TBDS, no padding bytes are inserted	not supported
5	**LLC abort interface**	Transmit cancellation supported	all revisions
6	**ESI and BRS bit values**		R1.9.5 or later
7	**Method to provide MAC data consistency**	Switch to restricted operation mode on Message RAM error or Message RAM access failure	all revisions
8	**Time and time triggering**	M_TTCAN only	not supported
9	**Time stamping**	16-bit internal/external time stamp	all revisions
10	**Bus monitoring mode**		all revisions
11	**Handle**	Supported by Message Marker	all revisions
12	**Restricted operation**		all revisions
13	**Separate prescalers for nominal bits and for data bits**		R1.9.5 or later
14	**Disabling of automatic retransmission**		all revisions
15	**Max number of retransmissions**	Not configurable	not supported
16	**Disabling of protocol exception event on res bit detected recessive**		R3.1.0 or later
17	**PCS_Status**	Module-internal interface, needed for feature #20	all revisions
18	**Edge filtering during the bus integration state**		R3.1.0 or later
19	**Time resolution for SSP placement**	Full time resolution for SSP placement implemented	R3.0.0 or later
20	**FD_T/R message**	Signalled by m_can_rxfd and m_can_txfd	R1.9.5 or later

Table 1: M_CAN ISO 11898-1:2015 non-mandatory implementation features support