

TRAVEO™ T2G family AUTOSAR MCAL LIN release notes

SRN223395 version 1.11

About this document

Scope and purpose

Thank you for your interest in the TRAVEO™ T2G family AUTOSAR MCAL LIN driver version 1.11. This document lists the installation requirements, software changes, limitations, and known issues.

Intended audience

This document is intended for anyone who uses the local interconnect network (LIN) driver of the TRAVEO™ T2G family.

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System requirements and recommendations

1 System requirements and recommendations

Software prerequisites	Supported version
EB tresos Studio package for Infineon	26.2.0

1.1 Supported compilers

Green Hills Software, compiler v2017.1.4

IAR Embedded Workbench 8.0, EWARM FS 8.22.3

1.2 Compiler options

This section summarizes the compiler options used to build and test the module. When changing the compiler options, the module must be considered untested.

Compiler	Option (Cortex®-M4F core)
Green Hills Software, compiler v2017.1.4	-cpu=cortexm4f -thumb -thumb_lib -C99 --short_enum -align4 --no_commons --no_alternative_tokens -asm3g -preprocess_assembly_files -nostartfiles -globalcheck=normal -globalcheck_qualifiers --prototype_errors -Wformat -Wimplicit-int -Wshadow -Wtrigraphs -Wundef -reject_duplicates -c -list -Ospeed -OI -Olink -Ointerproc -Omax -fsingle

Compiler	Option (Cortex®-M7 core)
Green Hills Software, compiler v2017.1.4	-cpu=cortexm7 -thumb -thumb_lib -C99 --short_enum -align4 --no_commons --no_alternative_tokens -asm3g -preprocess_assembly_files -nostartfiles -globalcheck=normal -globalcheck_qualifiers --prototype_errors -Wformat -Wimplicit-int -Wshadow -Wtrigraphs -Wundef -reject_duplicates -c -list -Ospeed -OI -Olink -Ointerproc -Omax -fhard

Compiler	Option (Cortex®-M4F core)
IAR Embedded Workbench 8.0, EWARM FS 8.22.3	--debug --endian=little --cpu=Cortex-M4 -e --fpu=VFPv4_sp -Ohs --no_size_constraints

Compiler	Option (Cortex®-M7 core)
IAR Embedded Workbench 8.0, EWARM FS 8.22.3	--debug --endian=little --cpu=Cortex-M7 -e --fpu=VFPv5_d16 -Ohs --no_size_constraints

System requirements and recommendations

1.3 Library compiler options

If a binary library has been delivered with this module, it has been built using the following options:

Compiler	Option (Cortex®-M4F core)
Green Hills Software, compiler v2017.1.4	-cpu=cortexm4f -thumb -thumb_lib -C99 --short_enum -align4 --no_commons --no_alternative_tokens -asm3g -preprocess_assembly_files -nostartfiles -globalcheck=normal -globalcheck_qualifiers --prototype_errors -Wformat -Wimplicit-int -Wshadow -Wtrigraphs -Wundef -reject_duplicates -c -list -Ospeed -OI -Olink -Ointerproc -Omax -fsingle

Compiler	Option (Cortex®-M7 core)
Green Hills Software, compiler v2017.1.4	-cpu=cortexm7 -thumb -thumb_lib -C99 --short_enum -align4 --no_commons --no_alternative_tokens -asm3g -preprocess_assembly_files -nostartfiles -globalcheck=normal -globalcheck_qualifiers --prototype_errors -Wformat -Wimplicit-int -Wshadow -Wtrigraphs -Wundef -reject_duplicates -c -list -Ospeed -OI -Olink -Ointerproc -Omax -fhard

Compiler	Option (Cortex®-M4F core)
IAR Embedded Workbench 8.0, EWARM FS 8.22.3	--debug --endian=little --cpu=Cortex-M4 -e --fpu=VFPv4_sp -Ohs --no_size_constraints

Compiler	Option (Cortex®-M7 core)
IAR Embedded Workbench 8.0, EWARM FS 8.22.3	--debug --endian=little --cpu=Cortex-M7 -e --fpu=VFPv5_d16 -Ohs --no_size_constraints

1.4 Memory consumption

GHS (Lin_lib) section	Size (in bytes)
.text	1218
.bss	1
.rodata	24
Combined	1243

GHS (Lin_src) section	Size (in bytes)
.text	1014
.bss	16
.rodata	29
Combined	1059

System requirements and recommendations

IAR (Lin_lib) section	Size (in bytes)
.text	1266
.bss	1
.rodata	0
Combined	1267

IAR (Lin_src) section	Size (in bytes)
.text	1081
.bss	16
.rodata	0
Combined	1097

Note: The memory consumption of *_src.lib depends on the configuration.

Note: The listed memory consumption will vary depending on customer configuration.

1.4.1 Explanatory notes for this section

Section	Description
.text	Program code
.data	Variables with explicitly initialized values
.bss	Variables that are not explicitly initialized
.rodata	Read-only data

1.5 Stack consumption

1.5.1 Green Hills Software

Function	Max stack usage (in bytes)
Lin_Init	40
Lin_DeInit	32
Lin_GetVersionInfo	20
Lin_SendFrame	72
Lin_GoToSleep	52
Lin_GoToSleepInternal	32
Lin_Wakeup	48
Lin_WakeupInternal	48
Lin_GetStatus	52
Lin_CheckWakeup	28

System requirements and recommendations

Function	Max stack usage (in bytes)
Lin_IsrWrapper_LIN00_TxRx_Cat1	24
Lin_IsrWrapper_LIN00_TxRx_Cat2	24

Note: Stack consumption has been evaluated using the *gstack* utility program, which is part of the Green Hills release package. To enable the measurement of stack consumption in your project, build the source code according to the instructions given in the "Measuring Stack Consumption" section of the module's user guide.

Note: The listed stack consumption will vary depending on customer configuration.

Note: The GHS stack consumption listed in the release notes was measured using the additional compile option "*-gs*". The GHS compiler cannot measure stack consumption for the selected optimization level (see compilation options). Green Hills cannot exclude possible effects of "*-gs*" on optimization and stack consumption. Therefore, Infineon cannot guarantee the accuracy of these values. For more information on measuring GHS stack consumption, see the section *gstack* utility program in *Build_arm.pdf*.

1.5.2 IAR Embedded Workbench

Function	Max stack usage (in bytes)
Lin_Init	48
Lin_DeInit	32
Lin_GetVersionInfo	16
Lin_SendFrame	64
Lin_GoToSleep	48
Lin_GoToSleepInternal	40
Lin_Wakeup	48
Lin_WakeupInternal	48
Lin_GetStatus	56
Lin_CheckWakeup	32
Lin_IsrWrapper_LIN00_TxRx_Cat1	32
Lin_IsrWrapper_LIN00_TxRx_Cat2	32

Note: To enable the measurement of stack consumption in your project, build the source code with the linker option "*--enable_stack_usage --log call_graph*". See stack usage analysis of the IAR C/C++ development guide for details.

Note: The listed stack consumption will vary depending on customer configuration.

System requirements and recommendations**1.6 Note on "*_Bswmd.arxml"**

Note that the `<Module>_Bswmd.arxml` files are templates that can be freely modified by the customer or RTE vendor.

These are in the `output\generated\swcd` subfolder of your project folder.

Named files are not tested.

1.7 Release details

Module software version

1.11.x

(x=software patch version; see the delivery notes for details)

AUTOSAR specification version (ASR)

4.2.2

Target

MXS40

MCAL configuration settings	Supported derivatives
See the resource release notes	See the resource release notes

Corresponding Lin_MemMap.h stub file version

1.0.1

Installation

2 Installation

See the installation manual for EB tresos Studio for INFINEON AUTOSAR software products and installation manual for MCAL42-TRAVEO.

3 Deviations from AUTOSAR

T2MC-2746 - [SWS_Lin_00032] Sleep and wake-up functionality

Title: [SWS_Lin_00032] Sleep and wake-up functionality

Description: [SWS_Lin_00032] When the LIN channel enters sleep mode, it shall perform the transition to low-power mode of the LIN hardware unit (if available) (see `Lin_GoToSleep/Lin_GoToSleepInternal`). (SRS_Lin_01524)

Reason for rejection: Not feasible because this function is not supported by the HW.

T2MC-2876 - [SWS_Lin_00039] Configuration specification

Title: [SWS_Lin_00039] Configuration specification

Description: [SWS_Lin_00039] Values that can be configured are hardware dependent. Therefore, the rules and constraints cannot be given in the standard. (SRS_BSW_00167)

Reason for rejection: This is out of the scope of the LIN driver.

T2MC-2769 - [SWS_Lin_00058] Error notification

Title: [SWS_Lin_00058] Error notification

Description: [SWS_Lin_00058] The only production error that can be reported by the LIN driver is the `LIN_E_TIMEOUT` error. (BSW00421)

Reason for rejection: LIN does not report any production errors to DEM because the hardware operates without the waiting condition.

T2MC-2767 - [SWS_Lin_00097] Error detection

Title: [SWS_Lin_00097] Error detection

Description: [SWS_Lin_00097] If a change to the LIN hardware control registers results in the need to wait for a status change, this shall be protected by a configurable time out mechanism (`LinTimeoutDuration`). If such a time out is detected the `LIN_E_TIMEOUT` error shall be raised to the DET or DEM. This situation should only arise in the event of a LIN hardware unit fault, and should be communicated to the rest of the system. ()

Reason for rejection: LIN does not report any production errors to DEM, because the hardware operates without the waiting condition.

T2MC-2880 - [SWS_Lin_00104] Configuration specification variants

Title: [SWS_Lin_00104] Configuration specification variants

Description: [SWS_Lin_00104] VARIANT-POST-BUILD: Parameters with "Pre-compile time", "Link time" and "Post-build time" are allowed in this variant. ()

Reason for rejection: "Link time" is not supported. "Post-build time" is not supported because there is no post-build parameter. Refer to T2MC-2891 and T2MC-2895.

Deviations from AUTOSAR

T2MC-2678 - [SWS_Lin_00177] Multiple driver naming

Title: [SWS_Lin_00177] Multiple driver naming

Description: [SWS_Lin_00177] In case several LIN driver instances (of same or different vendor) are implemented in one ECU the file names, API names, and published parameters must be modified such that no two definitions with the same name are generated. The name shall be extended according to SRS_BSW_00347 with a Vendor Id (needed to distinguish LIN drivers from different vendors) and a Vendor specific name (needed to distinguish different hardware units implemented by one Vendor): <Module abbreviation>_<Vendor Id>_<Vendor specific name>.(.)

Reason for rejection: Only one type of LIN HW is supported in the scope of the project (only mxlin. SCB-Lin not supported).

T2MC-2677 - [SWS_Lin_00201] HW unit types and channels

Title: [SWS_Lin_00201] HW unit types and channels

Description: [SWS_Lin_00201] For different LIN hardware units a separate LIN driver needs to be implemented. It is up to the implementer to adapt the driver to the different instances of similar LIN channels. ()

Reason for rejection: Only one type of LIN HW is supported in the scope of the project (only mxlin. SCB-Lin not supported).

T2MC-2686 - [SWS_Lin_00205] Header file structure

Title: [SWS_Lin_00205] Header file structure

Description: [SWS_Lin_00205] Lin.h shall include ComStack_Types.h. ()

Reason for rejection: ComStack types are not used by LIN. Instead, Lin_GeneralTypes defines the necessary types.

T2MC-2759 - [SWS_Lin_00218] Error classification

Title: [SWS_Lin_00218] Error classification

Description: [SWS_Lin_00218] The LIN Driver module shall report the production or default error "LIN_E_TIMEOUT (value assigned by DEM)", when Timeout caused by hardware error. ()

Reason for rejection: Lin does not report any production errors to DEM because the hardware operates without the waiting condition.

T2MC-2829 - [SWS_Lin_00221] Lin_GoToSleep

Title: [SWS_Lin_00221] Lin_GoToSleep

Description: [SWS_Lin_00221] The function Lin_GoToSleep shall optionally set the LIN hardware unit to reduced power operation mode (if supported by HW), even in case of an erroneous transmission of the go-to-sleep-command. ()

Reason for rejection: Not feasible because reduced power consumption mode is not supported by the HW.

Deviations from AUTOSAR

T2MC-2838 - [SWS_Lin_00223] Lin_GoToSleepInternal

Title: [SWS_Lin_00223] Lin_GoToSleepInternal

Description: [SWS_Lin_00223] The function `Lin_GoToSleepInternal` shall optionally set the LIN hardware unit to reduced power operation mode (if supported by HW). ()

Reason for rejection: Not feasible because reduced power consumption mode is not supported by the HW.

T2MC-2903 - [SWS_Lin_00999] Not applicable requirements

Title: [SWS_Lin_00999] Not applicable requirements

Description: [SWS_Lin_00999] These requirements are not applicable to this specification.

(SRS_BSW_00307, SRS_BSW_00312, SRS_BSW_00325, SRS_BSW_00326, SRS_BSW_00328, SRS_BSW_00329, SRS_BSW_00330, SRS_BSW_00331, SRS_BSW_00336, SRS_BSW_00339, SRS_BSW_00342, SRS_BSW_00343, SRS_BSW_00353, SRS_BSW_00357, SRS_BSW_00359, SRS_BSW_00360, SRS_BSW_00361, SRS_BSW_00373, SRS_BSW_00376, SRS_BSW_00378, SRS_BSW_00383, SRS_BSW_00395, SRS_BSW_00397, SRS_BSW_00398, SRS_BSW_00399, SRS_BSW_00400, SRS_BSW_00413, SRS_BSW_00415, SRS_BSW_00416, SRS_BSW_00417, BSW00420, SRS_BSW_00422, SRS_BSW_00423, SRS_BSW_00424, SRS_BSW_00425, SRS_BSW_00426, SRS_BSW_00427, SRS_BSW_00428, SRS_BSW_00429, BSW00431, SRS_BSW_00432, SRS_BSW_00433, BSW00434, SRS_BSW_00005, SRS_BSW_00007, SRS_BSW_00162, SRS_BSW_00168, SRS_Lin_01551, SRS_Lin_01568, SRS_Lin_01569, SRS_Lin_01570, SRS_Lin_01564, SRS_Lin_01546, SRS_Lin_01561, SRS_Lin_01549, SRS_Lin_01571, SRS_Lin_01514, SRS_Lin_01515, SRS_Lin_01502, SRS_Lin_01558, BSW01527, SRS_Lin_01523, SRS_Lin_01540, SRS_Lin_01545, SRS_Lin_01534, SRS_Lin_01574, SRS_Lin_01539, SRS_Lin_01544, SRS_Lin_01590)

Reason for rejection: Named RQMs are not applicable.

Limitations

4 Limitations

T2MC-2885 - [ECUC_Lin_00066] Configuration specification LinGeneral

Title: [ECUC_Lin_00066] Configuration specification LinGeneral

Description:

SWS Item	ECUC_Lin_00066 :		
Name	LinDevErrorDetect		
Description	Switches the Default Error Tracer (Det) detection and notification ON or OFF. - true: enabled (ON). - false: disabled (OFF).		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	--		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	--	
	Post-build time	--	
Scope / Dependency	scope: local		

Limitation: Setting this parameter to 'false' will disable the notification of default error via DET. However, in contrast the AUTOSAR specification, detection of default errors is still enabled and errors will be reported via `LinErrorCalloutFunction`.

T2MC-2887 - [ECUC_Lin_00093] Configuration specification LinGeneral

Title: [ECUC_Lin_00093] Configuration specification LinGeneral

Description:

SWS Item	ECUC_Lin_00093:		
Name	LinTimeoutDuration		
Description	Specifies the maximum number of loops for blocking function until a timeout is raised in short term wait loops		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	0 .. 65535		
Default value	--		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	--	
	Post-build time	--	
Scope / Dependency	scope: local		

Limitations

Limitation: There is no blocking function (e.g., polling a HW register in a while loop). This parameter is not used by the LIN driver and therefore not being evaluated.

T2MC-2895 - [ECUC_Lin_00094] Configuration specification LinChannel

Title: [ECUC_Lin_00094] Configuration specification LinChannel

Description:

SWS Item	ECUC_Lin_00094:		
Name	LinClockRef		
Description	Reference to the LIN clock source configuration, which is set in the MCU driver configuration.		
Multiplicity	1		
Type	Reference to [McuClockReferencePoint]		
Post-Build Variant Value	true		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	--	
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: local dependency: LIN clock source configuration in MCU Driver		

Limitation: Peripheral clock and baud rate are supplied externally. They are not controlled by the LIN driver.

T2MC-2891 - [ECUC_Lin_00180] Configuration specification LinChannel

Title: [ECUC_Lin_00180] Configuration specification LinChannel

Description:

SWS Item	ECUC_Lin_00180:		
Name	LinChannelBaudRate		
Description	Specifies the baud rate of the LIN channel		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	1000 .. 20000		
Default value	--		
Post-Build Variant Value	true		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	--	
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: local		

Limitation: Peripheral clock and baud rate are supplied externally. They are not controlled by the LIN driver.

Limitations

T2MC-2892 - [ECUC_Lin_00181] Configuration specification LinChannel

Title: [ECUC_Lin_00181] Configuration specification LinChannel**Description:**

SWS Item	ECUC_Lin_00181:		
Name	LinChannelId		
Description	Identifies the LIN channel. Replaces LIN_CHANNEL_INDEX_NAME from the LIN SWS.		
Multiplicity	1		
Type	EcucIntegerParamDef (Symbolic Name generated for this parameter)		
Range	0 .. 65535		
Default value	--		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	--	
	Post-build time	--	
Scope / Dependency	scope: local		

Limitation: LIN API functions require a channel parameter of type `uint8`. Therefore, the valid range of `LinChannelId` has been restricted to 0...255. The value of `LinChannelId` must be unique among all configured channels.

T2MC-2900 - [ECUC_Lin_00189] Configuration specification LinDemEventParameterRefs

Title: [ECUC_Lin_00189] Configuration specification LinDemEventParameterRefs**Description:**

SWS Item	ECUC_Lin_00189:		
Name	LIN_E_TIMEOUT		
Description	Reference to the DemEventParameter which shall be issued when the error "Timeout caused by hardware error" has occurred. If the reference is not configured the error shall be reported as DET error.		
Multiplicity	0..1		
Type	Symbolic name reference to [DemEventParameter]		
Post-Build Variant Multiplicity	False		
Post-Build Variant Value	False		
Multiplicity Configuration Class	Pre-compile time	X	All Variants
	Link time	--	
	Post-build time	--	
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	--	
	Post-build time	--	
Scope / Dependency	scope: local		

Limitations

Limitation: The production error LIN_E_TIMEOUT is currently not reported by any function of the LIN driver.

T2MC-2752 - [SWS_Lin_00048] Error classification

Title: [SWS_Lin_00048] Error classification

Description: [SWS_Lin_00048] The following errors and exceptions shall be detectable by the LIN driver depending on its build version (development/production mode) (SRS_BSW_00323, SRS_BSW_00327, SRS_BSW_00337, SRS_BSW_00385)

Limitation: Error LIN_E_TIMEOUT is never reported because it does not apply to the implementation: there is no waiting condition on hardware that could run into timeout.

T2MC-2697 - [SWS_Lin_00055] C implementation rules

Title: [SWS_Lin_00055] C implementation rules

Description: [SWS_Lin_00055] The Lin module shall fulfill all design and implementation guidelines as described in [12]. (SRS_BSW_00306, SRS_BSW_00308, SRS_BSW_00309)

Limitation: Out of scope: keyword macros 'CONST' and 'VAR' are not required for declaration/definition of the local variable, function parameter, and structure/union fields. AUTOSAR_TR_CImplementationRules.pdf does not exist in AUTOSAR 4.2.2. Therefore, the MCAL modules shall fulfill all design and implementation guidelines as described in specification of C implementation rules AUTOSAR_TR_CImplementationRules.pdf in AUTOSAR 4.0.3.

T2MC-2865 - [SWS_Lin_00234] Mandatory interfaces

Title: [SWS_Lin_00234] Mandatory interfaces

Description: [SWS_Lin_00234]

API function	Description
Dem_ReportErrorStatus	Queues the reported events from the BSW modules (API is only used by BSW modules). The interface has an asynchronous behavior, because the processing of the event is done within the Dem main function. OBD Events Suppression shall be ignored for this computation.
EcuM_SetWakeupEvent	Sets the wakeup event.
LinIf_WakeupConfirmation	The LIN Driver or LIN Transceiver Driver will call this function to report the wake up source after the successful wakeup detection during CheckWakeup or after power on by bus.

Limitation: There are no production errors to be reported by LIN driver; therefore, the interface to DEM is not used.

Known defects

5 Known defects

The listed issues were known at the day this release note was generated. Further problems may have been discovered in the meantime. For an up-to-date list of known issues, contact your Infineon sales representative.

This release has no known issues at the time of release.

6 Documentation

All user guides for MCAL drivers are in the \doc subdirectory of the installation directory. The default location is:

C:\INFINEON_ESDB\Tresos26_2_0\doc

7 Technical support

If you have questions related to the driver, contact the local support application engineer.

Version history

8 Version history

8.1 Module SW-Version 1.3

Initial module setup.

8.2 Module SW-Version 1.4

T2MC-38111 - Base module in conflict with EB Base module

Title: Base module in conflict with EB Base module

Description: Base module delivered by Infineon is containing files in conflict with the Base module delivered by EB.

Infineon Base module follows these rules:

- Keep the standard files in Base module
- Move controller/compiler specific headers in platform plugin

This could be achieved with moving files from CYT2 folder into platform Infineon plugin.

T2MC-38074 - File extension should be changed from .bmd to .arxml

Title: File extension should be changed from .bmd to .arxml

Description: The file extension should be changed from *.bmd to *.arxml.
Each module still has an autosar/<module>.bmd file.

T2MC-38112 - Invalid Lin arxml file

Title: Invalid Lin arxml file

Description: The BSWMD arxml file for LIN is invalid.
"BSW-INTERRUPT-ENTITY" node should contain a subnode of type : "INTERRUPT-SOURCE"
This causes validation errors in Tresos. To avoid this, you must add the above subnode.

T2MC-38142 - LIN mismatch of baudrate is indicated as warning

Title: LIN mismatch of baudrate is indicated as warning

Description: If LinChannelBaudRate is set to a value that is inconsistent with LinClockRef, a warning is generated in Tresos. It should be reported as error, not warning.

Version history

8.3 Module SW-Version 1.5

T2MC-39747 - [All] Checking for valid C function name and including filename in configuration parameters

Title: [All] Checking for valid C function name and including filename in configuration parameters

Description: Checking for valid C function name:

Check all configuration parameters related to the function name to see if it is a valid C function name.

A part of parameters are not checked.

If an invalid function name is set, a compile error will occur during the build process, which is inconvenient for users.

Therefore, it is better to check whether the configured function names are valid C function names in advance (i.e. during configuration phase).

Checking for valid filename:

Check all configuration parameters related to the file name to see if it is valid.

A part of parameters cannot check the fact that empty file name (i.e. ".h") is wrong.

If an invalid file name is set, a compile error will occur during the build process, which is inconvenient for users.

Therefore, it is better, to check in advance, whether the configured file names are valid.

This CR is intended to solve the inconvenience.

T2MC-50557 - [LIN] Generation of LIN_E_TIMEOUT configuration is wrong

Title: [LIN] Generation of LIN_E_TIMEOUT configuration is wrong

Description: Generation of LIN_E_TIMEOUT configuration is wrong.

Even if Dem is enable, The generated LIN_E_TIMEOUT does not refer to DEM.

Currently, The fixed value such as following is generated since the path is wrong.

```
#define LIN_E_TIMEOUT 6U
```

T2MC-48071 - [LIN] permission state for GoToSleep command is wrong

Title: [LIN] permission state for GoToSleep command is wrong

Description: The permission state for GoToSleep command is wrong.

The GoToSleep command will be sent by the `Lin_GoToSleep()` request in the LIN_CH_SLEEP_PENDING state.

In AUTOSAR spec, the GoToSleep command should not be permitted to send in the LIN_CH_SLEEP_PENDING state.

T2MC-41871 - [LIN] Support TRAVEO™ T2G-B-H-8M

Title: [LIN] Support TRAVEO™ T2G-B-H-8M

Description: AUTOSAR MCAL supports the TRAVEO™ T2G-B-H-8M.

LIN resource data has instances of mxlin. Therefore, Lin driver must identify LIN resource instances in the following cases.

- LIN resources for all instances need to be obtained from the resource properties file and made selectable in the module configuration.
-

Version history

-
- Instance support is required for processing associated with LIN resources (configuration, generated code).
In addition to the above, users guide needs update.
-

T2MC-41850 - [General] <CODE-DESCRIPTORS> Node should be added to the *arxml* files of all modules

Title: [General] <CODE-DESCRIPTORS> Node should be added to the *arxml* files of all modules

Description: For all modules, the <CODE-DESCRIPTORS> Node needs to be added for the RTE within the BSWMD *arxml* file.

8.4 Module SW-Version 1.6

T2MC-50612 - [General] Delete device-dependent information from the user guide

Title: [General] Delete device-dependent information from the user guide

Description: Any device-dependent information should not be included in the user guide. Therefore, delete the datasheet name from the related documentation in the user guide.

T2MC-54382 - [LIN] Inconsistency of Lin.arxml and Lin.xdm

Title: [LIN] Inconsistency of Lin.arxml and Lin.xdm

Description: Several inconsistencies between .arxml and .xdm were detected in the unit test.

.arxml and .xdm should be consistent.

- Lin.xdm

1) LinDemEventParameterRefs

There is not "IMPLEMENTATIONCONFIGCLASS" in Lin.xdm.

2) LinChannel

There is not "IMPLEMENTATIONCONFIGCLASS" in Lin.xdm.

Version history

8.5 Module SW-Version 1.7

T2MC-59609 - [LIN] Return the Lin status as TX BUSY when the slave does not respond

Title: [LIN] Return the Lin status as TX BUSY when the slave does not respond

Description: `Lin_GetStatus()` API return the Lin status as TX_BUSY when the slave does not respond.

In this case, `Lin_GetStatus()` API have to return the Lin status as RX_NO_RESPONSE.

T2MC-62317 - [LIN] Change the maximum value of `LinChannelBreakLength` configuration

Title: [LIN] Change the maximum value of `LinChannelBreakLength` configuration

Description: The Lin hardware allows the value of Lin break length up to 31.

However, LIN protocol allows this value is up to 26.

Therefore, the maximum value of `LinChannelBreakLength` configuration needs to change to 26 from 31.

8.6 Module SW-Version 1.8

T2MC-65905 - [LIN] The inconsistency in resource properties

Title: [LIN] The inconsistency in resource properties

Description: There is an inconsistency in `MXS40_CYT4BF8CES.properties`.

`LIN.0.CH_NR` is 20ch(20).

`LIN.0.LIN_CH.instances` is 17ch (0-16).

The following warning is reported at build execution, because of the generated source code for Lin contains the multiple "`LIN_CH_LIN_BASE_ADDRESS_LIN0`" definition.

This warning does not affect the function of the LIN driver, it can be ignored.

This warning occurs when the specific device such as `CYT4BF8CES` is selected.

"`Lin_Defines.h`", line 230: warning #1105-D:

#warning directive: `LIN_CH_LIN_BASE_ADDRESS_LIN0` is overridden by

the environment. This is not intended for production software!

#warning `LIN_CH_LIN_BASE_ADDRESS_LIN0` is overridden by the environment. This is not intended for production software!

affected device

768K:CYT2B63

Version history

1M:CYT2B73, CYT2BG3

1.5M:CYT2BH3, CYT2BH4, CYT2BH5

2M:CYT2B93, CYT2B94, CYT2B95, CYT2BJ3, CYT2BJ4, CYT2BJ5

6M:CYT3BM8, CYT4BM8

8M:CYT4BF8

T2MC-77594 – Support IAR compiler

Title: Support IAR compiler

Description: Support IAR compiler (IAR EWARM FS 8.22.3.15992).

8.7 Module SW-Version 1.9

T2MC-91454 - [LIN] Lin.xdm is inconsistent with Lin.arxml

Title: [LIN] Lin.xdm is inconsistent with Lin.arxml

Description: Following values in *Lin.xdm* are inconsistent with *Lin.arxml*.

- LIN_EcuParameterDefinition
- Lin (REFINED_MODULE_DEF)

As a result, these must be modified in *Lin.xdm*:

Following value in *Lin.xdm* and *Lin.arxml* is inconsistent with AUTOSAR_MOD_ECUConfigurationParameters.arxml.

- Lin (LOWER-MULTIPLICITY)

As a result, the value must be modified in *Lin.xdm* and *Lin.arxml*.

The following are supported in release V1.5.0.

T2MC-97382 - Macro definition at variable declaration is missing and the limitation is not mentioned in release notes

Title: Macro definition at variable declaration is missing and the limitation is not mentioned in release notes

Description: Macro definitions are not used when declaring some variables and pointers (in FLS, MCU, PORT, SPI, and WDG).

According to AUTOSAR specification:

[SWS_COMPILER_00026]

#define VAR(vartype, memclass)

True:

volatile P2VAR(Spi_DmaChannelRegsType, AUTOMATIC, REGSPACE) retPtr;

Version history

False:

volatile Spi_DmaChannelRegsType * retPtr;

This issue is present in the following cases:

- All types of pointer declaration/definition are defined without macros.
These contain the function parameter/global variable/local variable/structure field/union field.
- All types of function declaration/definition are defined without macros.
- When there is nested macro usage in function macros.
- Raw pointer is used in the function macro:
e.g., FUNC(int *, memclass) function(void);
- Global variable or static variable in the function is not defined with macros.

To fully comply with the above cases, change variable and function definitions in FLS, MCU, PORT, SPI, and WDG.

In requirements, keyword macros 'CONST' and 'VAR' are not required for declaration/definition of the local variable, function parameter, and structure/union fields.

The information must be described in all release notes.

T2MC-39519 - Support EB tresos V26.2.0

Title: Support EB tresos V26.2.0

Description: Support EB tresos V26.2.0

[Impact]

Strict AUTOSAR specification and check for parameter configuration errors are implemented in EB tresos V26.2.0.

In addition, handling of reference paths (relative paths) such as system description file (ARXML) is changed in EB tresos V26.2.0.

Therefore, if the current ECUC configuration definitions XML file contains deviations or errors, you may find errors during import to tresos26. In that case, the ECUC configuration definitions XML file must be modified appropriately.

In addition, if the current ARXML file contains unresolvable paths, you may find errors during import to tresos26. In that case, ARXML file must be modified.

The SW has been tested; no risks except for the low-level risk listed above were found.

8.8 Module SW-Version 1.10

T2MC-164778 - Support MISRA C:2012 coding rule

Title: Support MISRA C:2012 coding rule

Description: Support MISRA C:2012 coding rule.

The MISRA C:2012 coding rule checks the source code.

If a deviation from the rules is required, add the deviation comment to the code and report the result.

If a deviation is for MISRA-C:2004 only, remove the deviation comment.

Version history

8.9 Module SW-Version 1.11

T2MC-164831 - [ALL] Misleading comment in Module_MemMap.h

Title: [ALL] Misleading comment in Module_MemMap.h

Description: *{Mip}_MemMap.h* files are provided as sample template files. But, the file header comment cannot be modified, which is a contradiction. To resolve this contradiction, change the file header comment to allow user modification.

Also, to make sure that the file is not a part of the commercial product, move the *{Mip}_MemMap.h* files to the *MemMap* stub folder.

The following are supported in release V1.12.0.

T2MC-178688 - Addition of the notice for Arm® errata and workaround in the user guide

Title: Addition of the notice for Arm® errata and workaround in the user guide

Description: Add a notice for Arm® Cortex®-M4 errata 838869 and software workaround in the user guide.

The following are supported in release V1.15.0.

T2MC-183983 - Update copyright notice and disclaimer statement

Title: Update copyright notice and disclaimer statement

Description: Copyright notice and disclaimer statement in the file header comment are updated to follow the up-to-date specifications.

Trademarks

All referenced product or service names and trademarks are the property of their respective owners.

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