TRAVEO™ T2G family AUTOSAR MCAL DIO release notes

SRN223343 Version 1.11

About this document

Scope and purpose

Thank you for your interest in the TRAVEO™ T2G family AUTOSAR MCAL DIO 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 digital input/output (DIO) driver of the TRAVEO™ T2G family.

Table of contents

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`

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 (Dio_lib) section	Size (in bytes)
.text	550
Combined	550

GHS (Dio_src) section	Size (in bytes)
.text	510
.rodata	64
Combined	574

IAR (Dio_lib) section	Size (in bytes)
.text	532
Combined	532

System requirements and recommendations

IAR (Dio_src) section	Size (in bytes)
.text	490
.rodata	48
Combined	538

Note: The memory consumption of *_src.lib depends on the configuration.
             The listed memory consumption will vary depending on customer configuration.

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

Green Hills Software

Function	Max stack usage (in bytes)
Dio_ReadChannel	40
Dio_WriteChannel	28
Dio_ReadPort	32
Dio_WritePort	28
Dio_MaskedWritePort	40
Dio_ReadChannelGroup	40
Dio_WriteChannelGroup	36
Dio_FlipChannel	48
Dio_GetVersionInfo	12

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.

System requirements and recommendations

IAR Embedded Workbench

Function	Max stack usage (in bytes)
`Dio_ReadChannel`	48
`Dio_WriteChannel`	16
`Dio_ReadPort`	40
`Dio_WritePort`	16
`Dio_MaskedWritePort`	24
`Dio_ReadChannelGroup`	48
`Dio_WriteChannelGroup`	16
`Dio_FlipChannel`	56
`Dio_GetVersionInfo`	16

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.

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

System requirements and recommendations
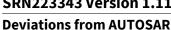
Corresponding Dio_MemMap.h stub file version

1.0.1

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-12104 - [SWS_Dio_00084] If not support the direct read-back, read functions shall provide the value of the output register level of the channel.

Title: [SWS_Dio_00084] If not support the direct read-back, read functions shall provide the value of the output register level of the channel.

Description: [SWS_Dio_00084] [If the microcontroller does not support the direct read-back of a pin value, the Dio module's read functions shall provide the value of the output register, when they are used on a channel which is configured as an output channel.⌋ (SRS_Dio_12352)

Reason for rejection: This requirement is not supported because the target MCU supports direct read-back of a pin value.

T2MC-12239 - [SWS_Dio_00195] Not applicable requirements

Title: [SWS_Dio_00195] Not applicable requirements

Description: [SWS_Dio_00195] [These requirements are not applicable to this specification.⌋
(SRS_BSW_00005, SRS_BSW_00006, SRS_BSW_00007, SRS_BSW_00009, SRS_BSW_00010, SRS_BSW_00160, SRS_BSW_00161, SRS_BSW_00162, SRS_BSW_00164, SRS_BSW_00167, SRS_BSW_00168, SRS_BSW_00170, SRS_BSW_00172, SRS_BSW_00304, SRS_BSW_00306, SRS_BSW_00307, SRS_BSW_00308, SRS_BSW_00309, SRS_BSW_00314, SRS_BSW_00321, SRS_BSW_00325, SRS_BSW_00326, SRS_BSW_00328, SRS_BSW_00329, SRS_BSW_00330, SRS_BSW_00331, SRS_BSW_00333, SRS_BSW_00334, SRS_BSW_00335, SRS_BSW_00336, SRS_BSW_00339, SRS_BSW_00341, SRS_BSW_00342, SRS_BSW_00343, SRS_BSW_00347, SRS_BSW_00355, SRS_BSW_00357, SRS_BSW_00359, SRS_BSW_00360, SRS_BSW_00369, SRS_BSW_00370, SRS_BSW_00371, SRS_BSW_00373, SRS_BSW_00375, SRS_BSW_00376, SRS_BSW_00377, SRS_BSW_00378, BSW00382, SRS_BSW_00384, SRS_BSW_00387, SRS_BSW_00399, SRS_BSW_00400, SRS_BSW_00404, SRS_BSW_00405, SRS_BSW_00406, SRS_BSW_00413, 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_SPAL_00157, SRS_SPAL_12063, SRS_SPAL_12067, SRS_SPAL_12068, SRS_SPAL_12069, SRS_SPAL_12075, SRS_SPAL_12077, SRS_SPAL_12078, SRS_SPAL_12092, SRS_SPAL_12129, SRS_SPAL_12169, SRS_SPAL_12265, SRS_SPAL_12267)

Reason for rejection: Named RQMs are not applicable.

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4   Limitations

T2MC-12278 - [DIO] AUTOSAR C implementation rules

Title: [DIO] AUTOSAR C implementation rules

Description: The MCAL modules shall fulfill all design and implementation guidelines as described in Specification of C Implementation Rules AUTOSAR_TR_CImplementationRules.pdf.

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.

T2MC-12212 - [ECUC_Dio_00142] DioDevErrorDetect

Title: [ECUC_Dio_00142] DioDevErrorDetect

Description:

SWS Item	**ECUC_Dio_00142:**		
Name	DioDevErrorDetect		
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: DET error detection mechanism is used as a safety mechanism (fault detection), so detection of development errors cannot be disabled.

T2MC-12226 - [ECUC_Dio_00149] DioChannelGroupIdentification

Title: [ECUC_Dio_00149] DioChannelGroupIdentification

Description:

SWS Item	**ECUC_Dio_00149:**
Name	DioChannelGroupIdentification
Description	The DIO channel group is identified in DIO API by a pointer to a data structure (of type Dio_ChannelGroupType). That data structure contains the channel group information. This parameter contains the code fragment that has to be inserted in the API call of the calling module to get the address of the variable in memory which holds the channel group information. Example values are "&MyDioGroup1" or "&MyDioGroupArray[0]"

Limitations

Multiplicity	1
Type	EcucStringParamDef (Symbolic Name generated for this parameter)
Default Value	--
maxLength	--
minLength	--
regularExpression	--
Post-Build Variant Value	False
Value Configuration Class	*Pre-compile Time*	X	All Variants
	Link Time	--	
	Post-build Time	--	
Scope / Dependency	scope: ECU

Limitation: Example value is &Dio_ChannelGroupCfg[0]. Only array index can be changed.

T2MC-12227 - [ECUC_Dio_00150] DioPortMask

Title: [ECUC_Dio_00150] DioPortMask

Description:

SWS Item	**ECUC_Dio_00150:**
Name	DioPortMask
Description	This shall be the mask which defines the positions of the channel group. The channels shall consist of adjoining bits in the same port. The data type depends on the port width.
Multiplicity	1
Type	EcucIntegerParamDef
Range	1 .. 4294967295	
Default Value	--
Post-Build Variant Value	False
Value Configuration Class	*Pre-compile Time*	X	VARIANT-PRE-COMPILE
	Link Time	X	VARIANT-LINK-TIME
	Post-build Time	--	
Scope / Dependency	scope: local

Limitation: When DioPortMask is set to 0, the channels are not present in the channel group. Therefore, setting of zero value is forbidden. In addition, TRAVEO™ T2G has only 8 channels in one port. Therefore, the bits from 8 to 31 cannot be modified.

Limitations

T2MC-12228 - [ECUC_Dio_00151] DioPortOffset

Title: [ECUC_Dio_00151] DioPortOffset

Description:

SWS Item	ECUC_Dio_00151:		
Name	DioPortOffset		
Description	The position of the Channel Group on the port, counted from the LSB. This value can be derived from DioPortMask. calculationFormula = Position of the first bit of DioPortMask which is set to '1' counted from LSB		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	0 .. 31		
Default Value	--		
Post-Build Variant Value	False		
Value Configuration Class	**Pre-compile Time**	X	VARIANT-PRE-COMPILE
	Link Time	X	VARIANT-LINK-TIME
	Post-build Time	--	
Scope / Dependency	scope: local		

Limitation: DioPortOffset is not user-changeable. This parameter is calculated from DioPortMask at code generation time and saved in the driver's channel group structure.

T2MC-12118 - [SWS_Dio_00074] Channel parameter checking

Title: [SWS_Dio_00074] Channel parameter checking

Description: [SWS_Dio_00074] [If default error detection is enabled, the services Dio_ReadChannel and Dio_WriteChannel shall check the "Channels" parameter to be valid within the current configuration. If the "Channels" parameter is invalid, the functions shall report the error code DIO_E_PARAM_INVALID_CHANNEL_ID to the DET.] (SRS_BSW_00323, SRS_SPAL_12448)

Limitation: DET error detection mechanism is used as safety a mechanism (fault detection), so detection of development errors cannot be disabled.

T2MC-12119 - [SWS_Dio_00075] Port parameter checking

Title: [SWS_Dio_00075] Port parameter checking

Description: [SWS_Dio_00075] [If default error detection is enabled, the functions Dio_ReadPort, Dio_WritePort and Dio_MaskedWritePort shall check the "Ports" parameter to be valid within the current configuration. If the "Ports" parameter is invalid, the functions shall report the error code DIO_E_PARAM_INVALID_PORT_ID to the DET.] (SRS_BSW_00323, SRS_SPAL_12448)

Limitation: DET error detection mechanism is used as a safety mechanism (fault detection), so detection of development errors cannot be disabled.

Limitations

T2MC-12120 - [SWS_Dio_00114] ChannelGroup parameter checking

Title: [SWS_Dio_00114] ChannelGroup parameter checking

Description: [SWS_Dio_00114] [If default error detection is enabled, the functions Dio_ReadChannelGroup and Dio_WriteChannelGroup shall check the "ChannelGroupIdPtr" parameter to be valid within the current configuration. If the "ChannelGroupIdPtr" parameter is invalid, the functions shall report the error code DIO_E_PARAM_INVALID_GROUP to the DET. ⌋ (SRS_BSW_00323, SRS_SPAL_12448)

Limitation: DET error detection mechanism is used as a safety mechanism (fault detection), so detection of development errors cannot be disabled.

T2MC-12208 - [SWS_Dio_00129] Configuration variants

Title: [SWS_Dio_00129] Configuration variants

Description: [SWS_Dio_00129] [At least one of the following variants has to be supported by implementation:

- VARIANT-PRE-COMPILE
- VARIANT-LINK-TIME⌋ ()

Limitation: DIO driver provides only pre-compile configuration parameter.

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.

8 Version history

8.1 Module SW-Version 1.3

Initial module setup.

8.2 Module SW-Version 1.4

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.

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-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.

Version history

T2MC-52239 - [PORT/DIO] Support TRAVEO™ T2G-B-H-8M

Title: [PORT/DIO] Support TRAVEO™ T2G-B-H-8M

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

The following materials will be changed on PORT and DIO module:
- User guide: Add TRM of TRAVEO™ T2G-B-H-8M in related documentation
- Release notes: Add compiler options for TRAVEO™ T2G-B-H-8M (Cortex®-M7 core)

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-50519 - [General] Export Issue with MCAL ES10_20180308

Title: [General] Export Issue with MCAL ES10_20180308

Description: An example of the issue is described below.

The configuration exported from Tresos does not correspond to the real configuration shown in Tresos. See the attached example.

The issue concerns other modules too, not only the Port described in attached pdf file.

8.4 Module SW-Version 1.6

T2MC-56736 - [DIO] DioChannelGroupIdentification has serious issues

Title: [DIO] DioChannelGroupIdentification has serious issues

Description: DioChannelGroupIdentification has serious issues:

Issue 1. Port IDs in the Dio_ChannelGroupCfg[] are not generated based on the DioChannelGroupIdentification

- Port 0 : DioPort_0
  - DioChannelGroupIdentification = &Dio_ChannelGroupCfg[1] , DioPortMask = 14
- Port 1 : DioPort_1
  - DioChannelGroupIdentification = &Dio_ChannelGroupCfg[0] , DioPortMask = 1

Generated the wrong code DIO_CHANNEL_GROUP_CONFIG:

```
#define DIO_CHANNEL_GROUP_CONFIG \
{ \
    {DioConf_DioPort_DioPort_0,1u,14u}, \
    {DioConf_DioPort_DioPort_1,0u,1u}, \
}
```

It should be generated as follow:

```
#define DIO_CHANNEL_GROUP_CONFIG \
{ \
    {DioConf_DioPort_DioPort_1,0u,1u}, \
```

Version history

```
    {DioConf_DioPort_DioPort_0,1u,14u}, \
}
```

Issue 2. The variable name is not checked

- Although the beginning of DioChannelGroupIdentification is not "&", no error occurs.
- The C naming rule is not verified

Issue 3. The array number in the string DioChannelGroupIdentification is not checked.

It can be set to the larger values than the data structure like "Dio_ChannelGroupCfg[100]".

Issue 4. DIO module does not define the variables named by DioChannelGroupIdentification excluding Dio_ChannelGroupCfg[].

The following is supported in release V1.2.4.

T2MC-77594 – Support IAR compiler

Title: Support IAR compiler

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

8.5 Module SW-Version 1.7

T2MC-83798 - [DIO] Modify the arxml file to support TRAVEO™ T2G family for clusters (CYT4DN).

Title: [DIO] Modify the arxml file to support TRAVEO™ T2G family for clusters (CYT4DN).

Description: The arxml file of Dio module must be modified to support TRAVEO™ T2G family for clusters (CYT4DN).

8.6 Module SW-Version 1.8

T2MC-91749 - [DIO] Dio.xdm is inconsistent with Dio.arxml

Title: [DIO] Dio.xdm is inconsistent with Dio.arxml

Description: There are some inconsistencies between *Dio.xdm* and *Dio.arxml* in the following definitions: In Dio.arxml:

- LOWER-MULTIPLICITY of Dio module should be 0
- POST-BUILD-VARIANT-MULTIPLICITY is not configured for following parameters (it should be false):
  - DioConfig
  - DioPort
  - DioPortId
  - DioChannel
  - DioChannelId
  - DioChannelPin
  - DioChannelGroup
  - DioChannelGroupIdentification
  - DioPortMask

Version history

- DioPortOffset
- DioGeneral
- DioDevErrorDetect
- DioFlipChannelApi
- DioVersionInfoApi
- DioMaskedWritePortApi
- DioErrorCalloutFunction
- DioIncludeFile

In Dio.xdm:

- POSTBUILDVARIANTMULTIPLICITY is not configured for following parameters (it should be false):
  - DioConfig
  - DioPort
  - DioPortId
  - DioChannel
  - DioChannelId
  - DioChannelPin
  - DioChannelGroup
  - DioChannelGroupIdentification
  - DioPortMask
  - DioPortOffset
  - DioGeneral
  - DioDevErrorDetect
  - DioFlipChannelApi
  - DioVersionInfoApi
  - DioMaskedWritePortApi
  - DioErrorCalloutFunction
  - DioIncludeFile
- POSTBUILDVARIANTVALUE is not configured for following parameters (it should be false):
  - DioPortId
  - DioChannelId
  - DioChannelPin
  - DioChannelGroupIdentification
  - DioPortMask
  - DioPortOffset
  - DioDevErrorDetect
  - DioFlipChannelApi
  - DioVersionInfoApi
  - DioMaskedWritePortApi
  - DioErrorCalloutFunction
  - DioIncludeFile
- Minor inconsistency in the description of DioDevErrorDetect

8.7 Module SW-Version 1.9

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;

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.

Version history

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.

T2MC-97128 - Unnecessary exclusive control for a process

Title: Unnecessary exclusive control for a process

Description: Some modules have exclusive control in the section where only variables and registers are written atomically. Exclusive control should not be performed for a process that is clearly not affected by interference.

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.

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.

T2MC-166533 - [DIO] 4 enumeration definitions of DioChannelPin in arxml are added for cluster devices

Title: [DIO] 4 enumeration definitions of DioChannelPin in arxml are added for cluster devices
Description: Following are the changes made for cluster devices:

DioChannelPin P001_7, P008_5, P008_6 and P008_7 are added for cluster devices

So, 4 enumeration definitions of DioChannelPin are needed to be added in *Dio.arxml* for cluster devices.

Version history

T2MC-166993 - [DIO] Support intermittent port numbering for cluster device

Title: [DIO] Support intermittent port numbering for cluster device
Description: Support updated TRAVEO™ T2G cluster device.

Those devices have intermittent port numbering.
e.g. Device has P000,P002,P003, P001 isn't mounted.

The current DIO module assumes that all ports are numbered contiguously. Therefore, intermittent pin numbering causes incorrect port access. Change the port config value generation logic to support intermittent port numbering.

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.