MC-ISAR_AS440_TC3xx_BASIC_2.25.0

Release Notes
Product name: MC-ISAR_AS440_TC3xx
Release number: 2.25.0
Type of release: MR*
Release method: via Release Area
AUTOSAR specification: 4.4.0
Processor platform: TC39x BC, TC39x BD, TC38x AD, TC38x AE, TC37x AA, TC37xEXT AB, TC35x AB, TC36x AA, TC33x AA, TC33xEXT AA, TC32x AA, TC3Ex AA
Date: 2023-07-26
Previous release number: 2.20.0

About this document

Scope and purpose

This release notes, for the 2.25.0 delivery of MC-ISAR_AS440_TC3xx basic drivers, details the release contents, all known issues in the release and the changes from the last release. This document also provides information on tools, compiler options and support packages.

New issues identified since the last release of this document are detailed first, followed by all issues identified in previous versions of this release.

The following modules are supported in this release:

- Adc (20.25.0)
- Bfx (20.0.1)
- Can_17_McmCan (20.25.0)
- CanTrcv_17_V9251 (20.20.0)
- CanTrcv_17_W9255 (20.25.0)
- Crc (20.20.0)
- Dio (20.25.0)
- Fee (20.25.0)
- Fls_17_Dmu (20.25.0)
- Gpt (20.25.0)
- Icu_17_TimerIp (20.25.0)
- Lin_17_AscLin (20.25.0)
- McalLib (20.25.0)
- Mcu (20.25.0)
- Ocu (20.10.0) (NA for 35x, 33xEXT)
- Port (20.10.0)
- Pwm_17_GtmCcu6 (20.20.0)
- Spi (20.25.0)
- Wdg_17_Scu (20.25.0)

Further generic references to Modules are indicated as <Mod>, where <Mod> represents the above module short names.

Note: ** This release is intended for production use.*

About this document

Attention**:* ***Refer to the Limitations and deviations section before using the software for integration.

Intended audience

This document is intended for anyone using the MC-ISAR_AS440_TC3xx software.

Note: *Users of this product are expected to have knowledge of AURIX™ microcontrollers (TC3xx series), AUTOSAR standards, compilers and configurations tools mentioned in release notes. They are expected to have expertise to use the product in accordance to user manual, release notes, release notes addendum and safety case report.*

Reference documents

None.

Table of contents

1 Release contents

1.1 Release overview

This release is of PR quality. Section 1.4 provides module-wise quality information.

1.2 Released items

The release is contained in the `MC-ISAR_AS440_TC3xx_BASIC_2.25.0.zip` file. The contents of this file include the MCAL software, EB tresos plugin files (BMD included), User Manuals and Release Notes. This zip file also includes support packages, refer to section 6 for details.

Table 1 Release zip contents

Package content	Description
AoUs	Contains Assumptions of Use for SW development(.xml format)
User Manuals	Contains the MCAL User Manual, Configuration Verification Manual and APIs & Data types (.xml format)
`MC-ISAR_AS440_TC3xx_BASIC_2.25.0.exe`	Product installer to be used with AUTOSAR Version 4.4.0
`Releasenote_MC-ISAR_AS440_TC3xx_BASIC_2.25.0.pdf`	Release Note
`MC-ISAR_TC3xx_<Compiler>_2.25.0.pdf`	Contains compiler specific tool information.

Note: "MCAL .c and .h files of MC-ISAR TC3xx were subject to an open source software (OSS) scan using Black Duck Software. As per report result such files do not contain any OSS."

1.2.1 Driver files

Table 2 Driver file description

File name	Description
`<Mod>_<Ie>.c`	Contains the <Mod>_<Ie> source files located in `\McIsar\Src\Mcal\Tricore\<Mod>\ssc\src`.
`<Mod>_<Ie>.h`	Contains the <Mod>_<Ie> header files located in `\McIsar\Src\Mcal\Tricore\<Mod>\ssc\inc`.

Note: In the above table, `Ie` stands for implementation specific.

1.2.2 Common files

Table 3 Common files

File / folder name	Description
`McalLib.c`	Contains MCAL function source file located in `\McIsar\Src\Mcal\Tricore\McalLib\ssc\src`

(table continues...)

Table 3 (continued) Common files

File / folder name	Description
McalLib.h	Contains MCAL library function header file located in \McIsar\Src\Mcal\Tricore\McalLib\ssc\inc
\McIsar\Src\Infra_Prod\Platform	Contains the compiler abstraction and standard type definitions
\McIsar\Src\Infra_Prod\Sfr\TC32xA_Reg \McIsar\Src\Infra_Prod\Sfr\TC33xA_Reg \McIsar\Src\Infra_Prod\Sfr\TC33xA_ED_Reg \McIsar\Src\Infra_Prod\Sfr\TC35xA_Reg \McIsar\Src\Infra_Prod\Sfr\TC36xA_Reg \McIsar\Src\Infra_Prod\Sfr\TC37xA_Reg \McIsar\Src\Infra_Prod\Sfr\TC37xA_ED_Reg \McIsar\Src\Infra_Prod\Sfr\TC38xA_Reg \McIsar\Src\Infra_Prod\Sfr\TC39xB_Reg \McIsar\Src\Infra_Prod\Sfr\TC3ExA_Reg	Contains the Special Function Register (SFR) definitions for device(s)
Mcal_Compiler.h	Contains MCAL-specific compiler abstractions file located in \McIsar\Src\Mcal\Tricore\McalLib\ssc\inc
Mcal_Version.h	Contains MCAL-specific compiler abstractions file located in \McIsar\Src\Mcal\Tricore\McalLib\ssc\inc\AS440

Note: SFRs are distributed with "'Dual-License" . Boost license is only applicable if no other terms of use are agreed.

1.2.3 EB tresos plugin files

Table 4 Plugin files

Folder name	Description
autosar	Contains the BMD files for the module located in \McIsar\PluginsTresos\eclipse\Plugins\<Mod>_Aurix2G
Config	Contains the XDM tresos plugin files for the module located in \McIsar\PluginsTresos\eclipse\Plugins\<Mod>_Aurix2G
Generate	Contains the template for the generated files for the module located in \McIsar\PluginsTresos\eclipse\Plugins\<Mod>_Aurix2G
plugin.properties	Contains the plugin property for the module located in \McIsar\PluginsTresos\eclipse\Plugins\<Mod>_Aurix2G
plugin.xml	Contains the plug-in information, located in \McIsar\PluginsTresos\eclipse\Plugins\<Mod>_Aurix2G
anchors.xml	

Note: *Resource_Aurix2G contains the properties for the TC39x BC, TC39x BD, TC38x AD, TC38x AE, TC37x AA, TC37xEXT AB, TC35x AB, TC36x AA, TC33x AA, TC33xEXT AA, TC32x AA, TC3Ex AA.*

Note: *The plugin is a sample for reference. The integrator shall take care of the appropriate plugin. This note applies for following plugins "Dem_Aurix2G, EcuC_Aurix2G, EcuM_Aurix2G, FrIf_Aurix2G".*

1.3 Safety

For information on safety, refer to the Safety Case Report document.
For Safety level related information, refer section 1.4

1.4 Module-wise quality

Table 5 Module-wise quality

Module	Release quality	Safety Level
Adc	PR	ASIL B, SIL2
Bfx	PR	ASIL B, SIL2
Can_17_McmCan	PR	QM
CanTrcv_17_V9251	PR	QM
CanTrcv_17_W9255	PR	QM
Crc	PR	ASIL B, SIL2
Dio	PR	ASIL B, SIL2
Fee	PR	ASIL B, SIL2
Fls_17_Dmu	PR	ASIL B, SIL2
Gpt	PR	ASIL B, SIL2
Icu_17_TimerIp	PR	ASIL B, SIL2
Lin_17_AscLin	PR	QM
McalLib	PR	ASIL B, SIL2
Mcu	PR	ASIL B, SIL2
Ocu	PR (NA for 35x, 33xEXT)	ASIL B, SIL2
Port	PR	ASIL B, SIL2
Pwm_17_GtmCcu6	PR	ASIL B, SIL2
Spi	PR	ASIL B, SIL2
Wdg_17_Scu	PR	ASIL B, SIL2

1.5 Compatibility

This release is tested with the following SFR packages:

- TC32xA: REG_TC33X32X_UM_V2.0.0.R0
- TC33xA: REG_TC33X32X_UM_V2.0.0.R0
- TC33xA_ED: REG_TC33XED_UM_V2.0.0.R0
- TC35xA: REG_TC35XA_UM_V2.0.0.R0
- TC36xA: REG_TC36XA_UM_V2.0.0.R0
- TC37xA: REG_TC37xPD_UM_V2.0.0.R0
- TC37xA_ED: REG_TC37xED_UM_V2.0.0.R0
- TC38xA: REG_TC38XA_UM_V2.0.0.R0
- TC39xB: REG_TC39XB_UM_V2.0.0.R0
- TC3ExA: REG_TC3EX_UM_V2.0.0.R0

2 Tool information

For compiler version refer release notes appendix MC-ISAR_TC3xx_<Compiler>_2.25.0.pdf available in release package where <Compiler> represent the corresponding compiler.

Table 6 Tool information

Tool description	Version details
Processor platform	TC39x BC, TC39x BD, TC38x AD, TC38x AE, TC37x AA, TC37xEXT AB, TC35x AB, TC36x AA, TC33x AA, TC33xEXT AA, TC32x AA, TC3Ex AA
Evaluation hardware	TriBoard TC3x7 TriBoard TC3x9
Code configuration and generation tool	EB tresos Studio 26.2.0 Build Nr. b191017-0938

Table 7 AURIX™ 2G Device Support TC39x BC/TC39x BD/TC38x AD/TC38x AE/TC37x AA/TC37xEXT AB/TC35x AB/TC36x AA/TC33x AA/TC33xEXT AA/TC32x AA/TC3Ex AA

AURIX™ 2G device	Name displayed in Tresos Tool	Tresos Property File	Range check implemented in MCAL
SAL-TC3E7QX-192F300S	TC3E7	AURIX2G_TC3E7.properties	Yes
SAL-TC3E7QG-160F300S	TC3E7	AURIX2G_TC3E7.properties	No
SAK-TC332LP-32F300F	TC332	AURIX2G_TC332.properties	Yes
SAK-TC333LP-32F300F	TC333	AURIX2G_TC333.properties	Yes
SAK-TC334LP-32F300F	TC334	AURIX2G_TC334.properties	Yes
SAK-TC337LP-32F300S	TC337	AURIX2G_TC337.properties	Yes
SAK-TC336LP-32F300S	TC336	AURIX2G_TC336.properties	Yes
SAL-TC337LP-32F300S	TC337	AURIX2G_TC337.properties	Yes
SAK-TC337DA-32F200S	TC337_ED_ADAS	AURIX2G_TC337_ED_ADAS.properties	No
SAK-TC337DZ-32F200S	TC337_ED_ADAS	AURIX2G_TC337_ED_ADAS.properties	No
SAL-TC333LP-32F300F	TC333	AURIX2G_TC333.properties	Yes
SAK-TC336DA-32F200S	TC336_ED_ADAS	AURIX2G_TC336_ED_ADAS.properties	No
SAK-TC337DA-32F300S	TC337_ED_ADAS	AURIX2G_TC337_ED_ADAS.properties	Yes
SAK-TC336DA-32F300S	TC336_ED_ADAS	AURIX2G_TC336_ED_ADAS.properties	Yes
SAK-TC337DZ-32F300S	TC337_ED_ADAS	AURIX2G_TC337_ED_ADAS.properties	No
SAK-TC336DA-16F200S	TC336_ED_ADAS	AURIX2G_TC336_ED_ADAS.properties	No
SAL-TC336LP-32F300S	TC336	AURIX2G_TC336.properties	Yes
SAL-TC334LP-32F300F	TC334	AURIX2G_TC334.properties	Yes
SAK-TC377VS-96F300S	TC377	AURIX2G_TC377.properties	Yes
SAL-TC332LP-32F300F	TC332	AURIX2G_TC332.properties	Yes
SAK-TC356TA-64F300S	TC356_ADAS	AURIX2G_TC356_ADAS.properties	Yes

(table continues...)

Tool information

Table 7 (continued) AURIX™ 2G Device Support TC39x BC/TC39x BD/TC38x AD/TC38x AE/TC37x AA/TC37xEXT AB/TC35x AB/TC36x AA/TC33x AA/TC33xEXT AA/TC32x AA/TC3Ex AA

AURIX™ 2G device	Name displayed in Tresos Tool	Tresos Property File	Range check implemented in MCAL
SAK-TC365DP-64F300W	TC365_LQFP	AURIX2G_TC365_LQFP.properties	Yes
SAK-TC364DP-64F300W	TC364_LQFP	AURIX2G_TC364_LQFP.properties	Yes
SAK-TC367DP-64F300S	TC367	AURIX2G_TC367.properties	Yes
SAK-TC364DP-64F300F	TC364_TQFP	AURIX2G_TC364_TQFP.properties	Yes
SAK-TC366DP-64F300S	TC366	AURIX2G_TC366.properties	Yes
SAL-TC365DP-64F200W	TC365	AURIX2G_TC365.properties	Yes
SAL-TC367DP-64F200S	TC367	AURIX2G_TC367.properties	No
SAL-TC364DP-64F200F	TC364_TQFP	AURIX2G_TC364_TQFP.properties	No
SAL-TC366DP-64F200S	TC366	AURIX2G_TC366.properties	No
SAL-TC364DP-64F200W	TC364_LQFP	AURIX2G_TC364_LQFP.properties	No
SAL-TC364DP-64F300W	TC364_LQFP	AURIX2G_TC364_LQFP.properties	Yes
SAL-TC377TP-96F300S	TC377	AURIX2G_TC377.properties	Yes
SAL-TC375TP-96F300W	TC375	AURIX2G_TC375.properties	Yes
SAL-TC377DP-96F300S	TC377	AURIX2G_TC377.properties	No
SAL-TC377TX-96F300S	TC377_ED_EX	AURIX2G_TC377_ED_EX.properties	Yes
SAK-TC389QP-160F300S	TC389	AURIX2G_TC389.properties	Yes
SAK-TC387QP-160F300S	TC387	AURIX2G_TC387.properties	Yes
SAL-TC387QP-160F300S	TC387	AURIX2G_TC387.properties	Yes
SAL-TC389QP-160F300S	TC389	AURIX2G_TC389.properties	Yes
SAK-TC3E7QX-192F300S	TC3E7	AURIX2G_TC3E7.properties	Yes
SAK-TC3E7QG-160F300S	TC3E7	AURIX2G_TC3E7.properties	No
SAK-TC3E7QC-192F300S	TC3E7	AURIX2G_TC3E7.properties	No
SAK-TC3E7QF-192F300S	TC3E7	AURIX2G_TC3E7.properties	No
SAL-TC3E7QF-192F300S	TC3E7	AURIX2G_TC3E7.properties	No
SAK-TC334LP-32F200F	TC334	AURIX2G_TC334.properties	No
SAK-TC337LP-32F200S	TC337	AURIX2G_TC337.properties	No
SAL-TC337LP-32F200S	TC337	AURIX2G_TC337.properties	No
SAL-TC334LP-32F200F	TC334	AURIX2G_TC334.properties	No
SAK-TC333LP-32F200F	TC333	AURIX2G_TC333.properties	No
SAL-TC333LP-32F200F	TC333	AURIX2G_TC333.properties	No
SAK-TC323LP-16F160F	TC323	AURIX2G_TC323.properties	No

(table continues...)

Tool information

Table 7 (continued) AURIX™ 2G Device Support TC39x BC/TC39x BD/TC38x AD/TC38x AE/TC37x AA/TC37xEXT AB/TC35x AB/TC36x AA/TC33x AA/TC33xEXT AA/TC32x AA/TC3Ex AA

AURIX™ 2G device	Name displayed in Tresos Tool	Tresos Property File	Range check implemented in MCAL
SAK-TC324LP-16F160F	TC324	AURIX2G_TC324.properties	No
SAK-TC322LP-16F160F	TC322	AURIX2G_TC322.properties	Yes
SAK-TC332LP-32F200F	TC332	AURIX2G_TC332.properties	No
SAL-TC332LP-32F200F	TC332	AURIX2G_TC332.properties	No
SAK-TC323LP-24F200F	TC323	AURIX2G_TC323.properties	Yes
SAK-TC324LP-24F200F	TC324	AURIX2G_TC324.properties	Yes
SAK-TC323L-24F200F	TC323	AURIX2G_TC323.properties	No
SAK-TC324L-24F200F	TC324	AURIX2G_TC324.properties	No
SAK-TC336LP-32F200S	TC336	AURIX2G_TC336.properties	No
SAL-TC336LP-32F200S	TC336	AURIX2G_TC336.properties	No
SAL-TC323LP-16F160F	TC323	AURIX2G_TC323.properties	No
SAL-TC324LP-16F160F	TC324	AURIX2G_TC324.properties	No
SAL-TC322LP-16F160F	TC322	AURIX2G_TC322.properties	Yes
SAL-TC327LP-16F160S	TC327	AURIX2G_TC327.properties	Yes
SAK-TC333L-32F200F	TC333	AURIX2G_TC333.properties	No
SAK-TC334L-32F200F	TC334	AURIX2G_TC334.properties	No
SAL-TC333L-32F200F	TC333	AURIX2G_TC333.properties	No
SAL-TC334L-32F200F	TC334	AURIX2G_TC334.properties	No
SAK-TC327LP-16F160S	TC327	AURIX2G_TC327.properties	Yes
SAL-TC323LP-24F200F	TC323	AURIX2G_TC323.properties	Yes
SAL-TC324LP-24F200F	TC324	AURIX2G_TC324.properties	Yes
SAL-TC323L-24F200F	TC323	AURIX2G_TC323.properties	No
SAL-TC324L-24F200F	TC324	AURIX2G_TC324.properties	No
SAK-TC322LS-24F160F	TC322	AURIX2G_TC322.properties	No
SAK-TC323LS-24F160F	TC323	AURIX2G_TC323.properties	No
SAK-TC332LS-32F200F	TC332	AURIX2G_TC332.properties	No
SAK-TC357TA-64F300S	TC357_ADAS	AURIX2G_TC357_ADAS.properties	No
SAK-TC357TH-64F300S	TC357_ADAS	AURIX2G_TC357_ADAS.properties	No
SAK-TC356TH-64F300S	TC356_ADAS	AURIX2G_TC356_ADAS.properties	No
SAK-TC356TD-48F300S	TC356_ADAS	AURIX2G_TC356_ADAS.properties	No
SAK-TC367VB-32F200S	TC367	AURIX2G_TC367.properties	No

(table continues...)

Tool information

Table 7 (continued) AURIX™ 2G Device Support TC39x BC/TC39x BD/TC38x AD/TC38x AE/TC37x AA/TC37xEXT AB/TC35x AB/TC36x AA/TC33x AA/TC33xEXT AA/TC32x AA/TC3Ex AA

AURIX™ 2G device	Name displayed in Tresos Tool	Tresos Property File	Range check implemented in MCAL
SAK-TC367V0-64F300S	TC367	AURIX2G_TC367.properties	No
SAL-TC367DP-64F300S	TC367	AURIX2G_TC367.properties	Yes
SAL-TC365DP-64F300W	TC365_LQFP	AURIX2G_TC365_LQFP.properties	Yes
SAK-TC365DP-64F200W	TC365_LQFP	AURIX2G_TC365_LQFP.properties	No
SAK-TC367DP-48F200S	TC367	AURIX2G_TC367.properties	No
SAL-TC364DP-64F300F	TC364_TQFP	AURIX2G_TC364_TQFP.properties	Yes
SAK-TC364DP-48F300F	TC364_TQFP	AURIX2G_TC364_TQFP.properties	No
SAK-TC364DP-48F200F	TC364_TQFP	AURIX2G_TC364_TQFP.properties	No
SAL-TC366DP-64F300S	TC366	AURIX2G_TC366.properties	Yes
SAK-TC367DP-48F300S	TC367	AURIX2G_TC367.properties	No
SAK-TC364DP-64F200W	TC364_LQFP	AURIX2G_TC364_LQFP.properties	No
SAK-TC367DP-64F200S	TC367	AURIX2G_TC367.properties	No
SAK-TC364DP-64F200F	TC364_TQFP	AURIX2G_TC364_TQFP.properties	No
SAK-TC366DP-64F200S	TC366	AURIX2G_TC366.properties	No
SAK-TC377TP-96F300S	TC377	AURIX2G_TC377.properties	Yes
SAK-TC375TP-96F300W	TC375	AURIX2G_TC375.properties	Yes
SAK-TC377DP-96F300S	TC377	AURIX2G_TC377.properties	No
SAK-TC375DP-96F300W	TC375	AURIX2G_TC375.properties	No
SAL-TC375DP-96F300W	TC375	AURIX2G_TC375.properties	No
SAK-TC375TI-96F300W	TC375	AURIX2G_TC375.properties	No
SAL-TC375TI-96F300W	TC375	AURIX2G_TC375.properties	No
SAK-TC377TX-96F300S	TC377_ED_EX	AURIX2G_TC377_ED_EX.properties	Yes
SAK-TC377TX-64F300S	TC377_ED_EX	AURIX2G_TC377_ED_EX.properties	No
SAK-TC387TP-128F300S	TC387	AURIX2G_TC387.properties	No
SAK-TC387QN-160F300S	TC387	AURIX2G_TC387.properties	No
SAK-TC389QN-160F300S	TC389	AURIX2G_TC389.properties	No
SAL-TC387TP-128F300S	TC387	AURIX2G_TC387.properties	No
SAK-TC387TP-160F300S	TC387	AURIX2G_TC387.properties	No
SAL-TC387TP-160F300S	TC387	AURIX2G_TC387.properties	No
SAL-TC399XX-256F300S	TC399	AURIX2G_TC399.properties	No
SAL-TC399XP-256F300S	TC399	AURIX2G_TC399.properties	No

(table continues...)

Table 7 (continued) AURIX™ 2G Device Support TC39x BC/TC39x BD/TC38x AD/TC38x AE/TC37x AA/TC37xEXT AB/TC35x AB/TC36x AA/TC33x AA/TC33xEXT AA/TC32x AA/TC3Ex AA

AURIX™ 2G device	Name displayed in Tresos Tool	Tresos Property File	Range check implemented in MCAL
SAL-TC397XP-256F300S	TC397	AURIX2G_TC397.properties	No
SAK-TC399XP-256F300S	TC399	AURIX2G_TC399.properties	No
SAK-TC399XX-256F300S	TC399	AURIX2G_TC399.properties	No
SAK-TC397XP-256F300S	TC397	AURIX2G_TC397.properties	No
SAK-TC397XA-256F300S	TC397_ADAS	AURIX2G_TC397_ADAS.properties	No
SAK-TC397QA-160F300S	TC397_ADAS	AURIX2G_TC397_ADAS.properties	No
SAK-TC397QP-192F300S	TC397	AURIX2G_TC397.properties	No
SAK-TC397QP-256F300S	TC397	AURIX2G_TC397.properties	No
SAK-TC397XZ-256F300S	TC397	AURIX2G_TC397.properties	No
SAK-TC397XM-256F300S	TC397	AURIX2G_TC397.properties	No
SAL-TC397QP-192F300S	TC397	AURIX2G_TC397.properties	No
SAL-TC397QP-256F300S	TC397	AURIX2G_TC397.properties	No
SAL-TC397XZ-256F300S	TC397	AURIX2G_TC397.properties	No
SAL-TC397XX-256F300S	TC397	AURIX2G_TC397.properties	No
SAK-TC399QP-192F300S	TC399	AURIX2G_TC399.properties	No
SAK-TC397XX-256F300S	TC397	AURIX2G_TC397.properties	No

Note: For those devices for which range check is not implemented in MCAL plugins, the integrator needs to select the specified device from the drop down list and additionally ensure that the configuration parameters are entered within the range and only available features are selected as specified in the device specific data sheet.

2.1 Compiler options

For compiler options refer release notes appendix MC-ISAR_TC3xx_<Compiler>_2.25.0.pdf available in release package where <Compiler> represent the corresponding compiler.

3 Summary of changes

Configuration changes

Table 8 Configuration changes from 2.20.0 to 2.25.0

Compatibility check	Result
Are there any change in parameters supplied from previous version?	Yes
Added parameters	**ResourceM** ResourceMNumberOfActiveCores
Deleted parameters	None
Modified parameters	**Adc, Can_17_McmCan, CanTrcv_17_V9255, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, Mcu, Mcallib , Spi, Wdg_17_Scu** SwMinorVersion default value is updated **Adc** AdcDemEventParameterRefs* **Dio** SwPatchVersion default value is updated **Fls_17_Dmu** FlsDemEventParameterRefs* **Gpt** GptRunTimeErrorDetect* **Lin_17_AscLin** LinDemEventParameterRefs*, LIN_E_TIMEOUT* **Mcu** McuClockSourceFailureNotification*, McuDemEventParameterRefs*, McuDemEventParameterRefsConf* **Spi** SpiDemEventParameterRefs* **Wdg_17_Scu** WdgSafetyEnable*, WdgDemEventParameterRefs*
Can the previously saved configuration be reused?	Yes

*Note: * For these parameters, the parameter description only changed related to Mcal_Wrapper.*

3.1 Issues fixed in release 2.25.0

Table 9 Summary of bugs from 2.20.0 to 2.25.0

Module	Issue number	Description
General	0000053912-18455	Description: Reference mentioned in AoU 'Hardware resource access' does not exist Impact: Documentation Type. Reference was misleading and does not exist.
	0000053912-18550 0000053912-18577	Description: Sub variants devices with lesser number of cores than the lead device. Still have the Mcal code generated with the number of cores considered with respect to the lead device. Impact: Sub variant cores with lesser number of cores available has a software accessing larger number of cores.
	0000053912-18766	Description: ASIL D safety initialization of Wdg, Dma and Spi not documented Impact: No functional impact, Gives wrong information to the customers as Wdg, Dma and Spi achieve ASIL D for initialization at system level.
	0000053912-18848	Description: QSPI2 support incorrectly enabled instead of QSPI3 in TC332 device configuration. Impact: QSPI3 cannot be configured or used for TC332 device implementation using MCAL.
	0000053912-19170	Description: Application Assumptions not updated for IEC 61508 compliance. Impact: Application assumptions to be updated with the info on IEC 61508 compliance.
	0000053912-19472	Description: No clear documentation regarding correlation of initcheck and safety switch on the safety claim for the MCAL modules. Impact: Common AoU to be appended to clearly document the impact on safety claim due to the safety switch and initcheck usage
	0000053912-18555	Description: Few MISRA violations are not documented in respective Release notes for few modules Impact: MISRA violations will be not reported in RN
Icu_17_TimerIp	0000053912-17519	Description: Icu_17_TimerIp_Init() relies on reset value of some SFRs Impact: Icu functionality will be impacted if the below SFRs are modified by user and is not at reset value during the call to Icu_17_TimerIp_Init() - For CCU6 based ICU channels, CCU6_IEN, CCU6_TCTR0 and CCU6_PISEL2 must be at reset value - For GTM TIM based ICU channels, channel must be disabled in GTM_TIM_CH_CTRL - For ERU based channels, EIFR should be cleared else Icu_17_TimerIp_GetInputState() might return a wrong value

(table continues...)

Summary of changes

Table 9 (continued) Summary of bugs from 2.20.0 to 2.25.0

Module	Issue number	Description
	0000053912-18146	Description: Coherency check run during Duty cycle calculation for GTM TIM channel uses 0 to 7 bit instead of 1 to 7 bit (As per HW user manual). Impact: In the corner case, When a new edge is detected between the reads of GPR0 and GPR1 registers (due to the extra 0 bit included in the duty cycle calculation) a wrong duty cycle is returned.
	0000053912-18869	Description: The mask values generated for the filter modes of TimChFilterModeForRisingEdge and TimChFilterModeForFallingEdge parameter configuration are generated incorrectly. Impact: the Filter modes DEGLITCH_WITH_UPDOWN_COUNTER and DEGLITCH_WITH_HOLD_COUNTER shall not be supported for TimChFilterModeForRisingEdge and TimChFilterModeForFallingEdge configuration parameter used for Tim channels in MCAL.
Mcu	0000053912-18515	Description: Discrepancy between the function header description and the processing of Mcu_lCcuconLckChk()of return value. Impact: No functional impact. Incorrect information in function header
	0000053912-18540	Description: The functions Mcu_xxx_TimerInitCheck() are re-entrant for different channels but in function header and UM it is mentioned non-reentrant. Impact: No functional impact. Correction in function header and UM
	0000053912-18549	Description: All Predefined McuResetReason are not available in MCU user manual Impact: All McuResetReason are not documented in user manual
	0000053912-18642	Description: The ASIL level and service Id of Mcu_17_Gtm_ConnectTimerOutToPortPin Api is incorrect in Mcu UM. Service id of APIs Mcu_17_Gtm_AtomChannelDisable, Mcu_17_Gtm_TomChannelEnable and Mcu_17_Gtm_IsTomChannelEnabled are incorrect in UM. The service id of Mcu_17_Gtm_ConnectTimerOutToPortPin will be updated as 0xA0 in function header and in UM to maintain unique service id Impact: No functional impact. Correction in UM.
	0000053912-18811	Description: Parameter verification description inconsistent. Impact: No functional impact. Correction in configuration verification user manual.
Fee	0000053912-18523	Description: Invalid comment "Return value above is ignored" present in local function Fee_lLocalRead Impact: Invalid comment in code. No functional impact.
	0000053912-18525	Description: Invalid comment "Check if immediate data is written beyond threshold" present in local function Fee_lLastPgHandler() Impact:Invalid comment in code. No functional impact.

(table continues...)

Summary of changes

Table 9 (continued) Summary of bugs from 2.20.0 to 2.25.0

Module	Issue number	Description
	0000053912-18511	Description: Ambiguous description for API Fee_17_GetQuasiStaticBlockInfo in UserManual regarding the call sequence of Fee_17_GetQuasiStaticBlockInfo Impact: User unaware of the precondition for calling the API Fee_17_GetQuasiStaticBlockInfo.
Spi	0000053912-18551	Description: Mismatch Between behavior seen and CVM documentation for the parameter Spi_SequenceConfigType.u8Comm. Impact: No functional impact.Correction in configuration verification user manual.
	0000053912-18601	Description: Parameter verification description inconsistent. Impact: No functional impact.Correction in configuration verification user manual.
	0000053912-19004	Description: Spi_SyncTransmit() API has a probable infinite loop when waiting for the TRAIL phase completion without timeout mechanism. Impact: HW failure can lead to endless loop
McalLib	0000053912-18605	Description: Cert-C warning 'EXP30-C' reported from the API Mcal_DelayResetTickCalibration() Impact: Cert C Tool reports the warning:EXP30-C, "Do not depend on the order of evaluation for side effects". No functional impact.
	0000053912-18997	Description:Description of AoU Test, Test and set spinlock mechanism shall be updated to clarify the Intent to not use in interrupts. Impact: No functional impact. The AoU documentation has been updated to make clarity on its intent.
Dio	0000053912-18870	Description: Description of parameter DioChannelEcucPartitionRef misleading. Impact: No functional impact. Documentation of parameter description to be updated.
	0000053912-18990	Description: Compilation error message macro missing Function arguments for API Dio_MaskedWritePort Impact: No Functional impact .Compilation error message will be corrected.
Adc	0000053912-18443	Description: ADC polling mode related unused macro 'ADC_POLLING_MODE_RESULT_HANDLING' available in configuration code. Impact: No Functional impact. Unused macro present in the productive code
Adc, Pwm_17_GtmCcu6	0000053912-18655	Description: InitCheck related AoU available only in certain modules. Impact: AoU to be added in the user manuals of all the applicable modules.

(table continues...)

Summary of changes

Table 9 (continued) Summary of bugs from 2.20.0 to 2.25.0

Module	Issue number	Description
Fee, Fls_17_Dmu	0000053912-18900	Description: User manual does not have a clear statement about FEE and FLS not resulting in endless loop leading to a watchdog timeout. Impact: No technical impact. But clear statement missing in the user manual.

Table 10 Summary of enhancement from 2.20.0 to 2.25.0

Module	Issue number	Description
Can_17_McmCan	0000053912-18147	Description: Transmission using 16 bit CAN FD based ID is not supported. Issue is due to the software expecting a set at the 30th bit of the CAN FD based ID requested to be transmitted which is not available in the 16 bit CAN ID passed.
	0000053912-18960	Description:CanHwFilterMask parameter description is misleading regarding the process for creating Filter mask for MIXED CanIdType IDs.
Adc, Lin_17_AscLin, Mcu, Wdg_17_Scu, Fee, Spi, CanTrcv_17_V9251, CanTrcv_17_V9255, Can_17_McmCan, Fls_17_Dmu, Gpt, Icu_17_TimerIp	0000053912-18200	Description: Production and runtime development errors are passed through a wrapper to enable better safety partitioning at system level.
Adc, Bfx, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu	0000053912-18571	Description: Claim to IEC 61508 SIL - 2 to the applicable modules.
Adc	0000053912-18620	Description: User manual enhanced with details on No DMA support when using ADC converter diagnostics.
Wdg_17_Scu	0000053912-18659	Description: Wdg_SetTriggerCondition API not working as per the AUTOSAR specifications.
Spi	0000053912-18987	Description: Comment mismatch with respect to code in SPI_JOB_FAILED status update in internal function Spi_lErrorHandler.
McalLib	0000053912-18988	Description: Code comment mismatch with implementation for GHS specific definition for __mtcr() in Mcal_Compiler.h.
Adc, Gpt, Ocu Icu_17_TimerIp, Mcu,Spi	0000053912-19015	Description: Enhanced the return value explanation of E_NOT_OK for InitCheck API.
	0000053912-19018	
	0000053912-19019	

(table continues...)

Summary of changes

Table 10 (continued) Summary of enhancement from 2.20.0 to 2.25.0

Module	Issue number	Description
	0000053912-19020	
	0000053912-19312	

3.2 Issues fixed in release 2.20.0

Configuration changes

Table 11 Configuration changes from 2.10.0 to 2.20.0

Compatibility check	Result
Are there any change in parameters supplied from previous version?	Yes
Added parameters	**Fee** FeeOngoingWriteCancelSupport
Deleted parameters	None
Modified parameters	**Adc, CanTrcv_17_V9251, Can_17_McmCan, Crc, Fee, Fls_17_Dmu, Gpt,Mcu, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu** SwMinorVersion, SwPatchVersion default value is updated **Mcu** Updated tool tip for parameter McuInitCheckApi **CanTrcv_17_V9251** Updated the parameter from list to container CanTrcvWakeupByBusUsed **Spi** Updated configuration rule SpiIdleTime , SpiTrailingTime, SpiDelayParamTrailPre, SpiDelayParamTrailLength, SpiDelayParamIdlePre, SpiDelayParamIdleLength, SpiDelayParamLeadPre, SpiDelayParamLeadLength and SpiTimeClk2Cs Updated default value for the following parameters SpiDelayParamTrailLength, SpiDelayParamIdleLength and SpiDelayParamLeadLength
Can the previously saved configuration be reused?	Yes

Table 12 Summary of bugs from 2.10.0 to 2.20.0

Module	Issue number	Description
General	0000053912-18401	Description: Support for devices TC33xExt is not mentioned in the Release document Impact: User not aware of the supported TC33xExt devices in MCAL

(table continues...)

Summary of changes

Table 12 (continued) Summary of bugs from 2.10.0 to 2.20.0

Module	Issue number	Description
	0000053912-18315	Description: Support for device SAK-TC377VS-96F300S AA in MCAL is not mentioned in the Release document. Impact: Documentation issue, SAK-TC377VS-96F300S AA device is supported in MCAL. Hence, no functional impact
Adc	0000053912-18371	Description: The ADC code generator incorrectly generates settings for EMUX functionality Impact: Emux functionality is not usable
Can_17_McmCan	0000053912-18276	Description: Typo in CAN user manual under section CANControllerBaudrateConfig Container for baud rate range while the supported range is 40-1000kbps Impact: The range of CANControllerBaudrateConfig is 40 to 1000 but a typo in the description leads the CAN user to have an unclear information on baudrate setting
	0000053912-18039	Description: Overwriting of the CAN Hardware Object space in CAN message RAM Impact: In Tresos, if RX CAN Hardware objects are not configured in ascending order of CAN object IDs and/or List order, or 'RXFIFO ' objects are configured before 'RX dedicated' objects, the offset for standard/extended IDs are generated with incorrect values. This will result in overwriting of the CAN HW Object space in CAN message RAM
	0000053912-17920 , 0000053912-17944	Description: The CAN driver BSWMD arxml generates the BSW-TIMING-EVENT for CAN driver main functions unconditionally, without considering the polling or interrupt is configured. Impact: The BSW-TIMING-EVENT for CAN driver main functions are generated in interrupt mode.
	0000053912-17604	Description: Can_17_McmCan_Init() relies on reset value of some SFRs Impact: CAN driver functionality will be impacted if the SFRs listed below are modified by user and is not at reset value during the call to Can_17_McmCan_Init() CAN_N_CCCR, CAN_N_GRINT1, CAN_N_GRINT2, CAN_N_RX_BC, CAN_N_NDATA1, CAN_N_NDATA2, CAN_N_TESTi, CAN_N_RWDi, CAN_N_RXF0Si, CAN_N_RXF1Si, CAN_N_RXESCi, CAN_N_TXFQSi, CAN_TXBTIEi, CAN_TXEFSi
CanTrcv_17_V9251	0000053912-18038	Description: As per Autosar specification CanTrcvWakeupByBusUsed parameter should be used as a Boolean parameter but in CanTrcv_17_V9251.xdm this parameter is added as a List parameter due to which error is reported during code generation. Impact: Code generation will not proceed, so build error will be observed.

(table continues...)

Summary of changes

Table 12 (continued) Summary of bugs from 2.10.0 to 2.20.0

Module	Issue number	Description
Mcu	0000053912-18381	Description: The Mcu_InitCheck() API is available in Mcu and can be utilized by the MCAL user, but the TOOLTIP for the parameter 'McuInitCheckApi' described as not supported Impact: Ambiguous description for the parameter 'McuInitCheckApi' with respect to the user manual since Mcu_InitCheck() functionality is supported in MCAL
	0000053912-18321	Description: Verification step of Mcu_17_Eru_ChUserData[MCU_17_ERU_NO_OF_OGU] parameter is not correct in Mcu configuration verification manual. Impact: User unable to verify the generated element 'Mcu_17_Eru_ChUserData[MCU_17_ERU_NO_OF_OGU]' as per Mcu configuration verification manual.
	0000053912-18239	Description: Container "McuHardwareResourceAllocationConf" not mentioned in Mcu UM Limitation section: Syntax to be followed for short name of configuration container and parameters Impact: Wrong configuration generation.
	0000053912-17534	Description: Mcu_Init() relies on reset value of some GPT12 SFR Impact: Mcu only configures the prescalar values in GPT12 T3CON and T6CON and assumes the other bits are at reset value.
	0000053912-18504	Description: Description and verification step of below parameters are not correct in Mcu configuration verification manual. Mcu_17_Gtm_TomChUserData Mcu_17_Gtm_AtomChUserData Mcu_17_Gpt12_ChUserData Mcu_kPllDistributionConfiguration_Config.Ccucon0 Mcu_kPllDistributionConfiguration_Config.CcuconCpu Mcu_kGtmConfiguration_Config.GtmTomCfg Mcu_kGtmConfiguration_Config.GtmAtomCfg Mcu_kGtmConfiguration_Config.GtmTimInSelCfg All the above parameters will be corrected in CVM. Impact: User unable to verify the generated elements as per Mcu configuration verification manual.
Pwm_17_GtmCcu6	0000053912-17527	Description: Pwm_17_GtmCcu6_Init() rely on CCU6 reset value for CMPSTAT, CMPMODIF, CCU6_PISEL2 SFRs Impact: Pwm functionality for CCU6 based PWM channels will be impacted if CMPSTAT, CMPMODIF, CCU6_PISEL2 are modified by user and is not at reset value during the call to Pwm_17_GtmCcu6_Init().

(table continues...)

Summary of changes

Table 12 (continued) Summary of bugs from 2.10.0 to 2.20.0

Module	Issue number	Description
	0000053912-17860	Description: Pwm_17_GtmCcu6_DeInit() does not reset all SFRs Impact: Pwm_17_GtmCcu6_DeInit() does not reset these SFRs : CN0, CM0, CM1, SR0, SR1, IRQ_MODE for a PWM channel to 0. Even though these SFRs for a PWM channel is not reset, the PWM channel is disabled and output signal will be at idle state. The missed SFRs will not impact the PWM functionality at shutdown but will have a static configured value other than 0.
	0000053912-18249	Description: Incorrect interrupt connection description for GTM TOM and ATOM timer in section 1.1.4.6 Impact: The desired interrupts are not getting configured
Fls_17_Dmu	0000053912-18277	Description: In example of usage inside MCAL User Manual for Fls_17_Dmu the erase, write and read incorrectly passes Start address of DF0 (0xaf000000) when this APIs need the relative offset Impact: No functional impact if user follow the parameter information in the specification of API.
	0000053912-17562	Description: Fls_17_Dmu() rely on reset value of SFRs HF_ECCW, HF_CCONTROL, HF_PCONTROL and HF_PROCONDF for proper function of driver Impact: Drive may not work properly if SFRs HF_ECCW, HF_CCONTROL, HF_PCONTROL and HF_PROCONDF are modified by user and is not at reset value during the call to Fls_17_Dmu().
	0000053912-18382	Description: FLS changes the reload value of WDG which was set previously, cleared and configured to 0xFFFC as watchdog timer mode enters time out mode. Impact: Unintended Watchdog behavior when FLS APIs are invoked
Wdg_17_Scu	0000053912-18193	Description: Multiple Wdg instances are not supported in the MCAL project Impact: The code generator may throw error if more than one WDG instances are present in the MCAL project
Fee	0000053912-18500	Description: Inconsistency between prototype declaration and the function definitions. Impact: static functions declared as inline
Spi	0000053912-18340	Description: Frame delays are not configurable when chip selection via GPIO is selected Impact: User experience long fixed delay between frames reduces the SPI bus utilization.
Crc	0000053912-17965	Description: Removed the macro 'UNUSED_PARAMETER(Channel) from Crc_DmaErrorIsr as the variable 'Channel' is used in this function. This macro was used to suppress compiler warnings for unused variables Impact: No functional impact

(table continues...)

Summary of changes

Table 12 (continued) Summary of bugs from 2.10.0 to 2.20.0

Module	Issue number	Description
Lin_17_AscLin	0000053912-18585	Description: Removed the non-ASCII character from the code comment. Impact: No functional impact

Table 13 Summary of enhancement from 2.10.0 to 2.20.0

Module	Issue number	Description
Gpt	0000053912-18505	Description: Tresos description of parameter 'GptChannelClkSrcRef' is incomplete as the phrase 'clock is derived' is missed at the end of description statement. Impact: No functional impact since it is only incomplete description of the tresos configuration parameter.
	0000053912-18377	Description: In GPT UM 'Limitation' section updated to indicate that “In a special case where there is no GPT channel allocated to a slave-core and the PREDEF timer must be accessed from this slave core, then at least one GPT timer channel shall be defined and allocated to the slave-core”. Impact: Gpt_GetPredefTimerValue API reports GPT_E_UNINIT when called from slave core which has no GPT channel.
Adc	0000053912-18478	Description: Limitation for ADC Converter Diagnostic feature with synchronous conversion of Master/Slave configuration across different ADC hardware Units. Impact: ADC Converter Diagnostic feature with synchronous conversion of Master/Slave configuration across different ADC hardware Units is not supported
Port	0000053912-18467	Description: The handle IDs for the port Pins are generated based on IFX parameter PortPinSymbolicName Impact: The IFX parameter 'PortPinSymbolicName' was introduced for generating the handle Ids with user defined symbolic names for port pins to ensure easy navigation but does not conform to AUTOSAR requirements ECUC_Port_00127: PortPinId and TPS_ECUC_02108.

(table continues...)

Table 13 (continued) Summary of enhancement from 2.10.0 to 2.20.0

Module	Issue number	Description
Fee	0000053912-18432	Description: As per the existing implementation, Fee_Cancel() does not cancel ongoing write and invalidate jobs. Due to this, a new high priority Fee write request shall not be accepted. This fix is to support cancellation of the ongoing write or invalidate job using Fee_Cancel() API. The following are the known features: 1. As ongoing write request in hardware (command already requested from Flash) cannot be canceled by Fee_Cancel() API , user has to consider the write time as described below before issuing Fee_Write after Fee_Cancel(). This will ensure that write request after cancel will not fail due to hardware busy. –154 microsecond (Fee/Fls running only in HOST) – 5154 microseconds (Fee/Fls running in HOST and HSM parallelly) 2. When Fee_Cancel is called near to the block Write/ invalidate request completion, there is a possibility of having a valid write/ invalidate block still present in the flash. Impact: The Fee_Cancel() api does not cancel ongoing write and invalidate jobs. Due to this, a new high priority Fee write request shall not be accepted.
McalLib	0000053912-18271	Description: Restriction on memory section mapping for the LockAddress used by Mcal_Getspinlock() is not documented Impact: Possibility of inconsistent value of variables under spin lock during mutli-core access(due to core specific cache access) at the same time when lock address passed is stored in cache memory
Spi	0000053912-18157	Description: The LEVEL 1 SPI driver implementation not supported polling mode Impact: The user shall rely on interrupt and DMA for the asynchronous transfer
Can_17_McmCan	0000053912-17794	Description: CAN driver AS422 report CAN_E_DATALOST with error ID 0x01 Impact: Error id for "Received CAN message is lost" shares the same numeric value with error ids of API Service called with wrong parameter

3.3 Issues fixed in release 2.10.0

Table 14 Configuration changes from 2.0.0 to 2.10.0

Compatibility check	Result
Are there any change in parameters supplied from previous version?	Yes

(table continues...)

Summary of changes

Table 14 (continued) Configuration changes from 2.0.0 to 2.10.0

Compatibility check	Result
Added parameters	**Pwm_17_GtmCcu6** • Cout6xChEnable • Cout6xChPolarity
Deleted parameters	None
Modified parameters	**Adc, Can_17_McmCan, CanTrcv_17_V9251, CanTrcv_17_W9255, Fee, Fls_17_Dmu, Gpt,Icu_17_TimerIp, Lin_17_AscLin, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu** • SwMinorVersion, SwPatchVersion default value is updated **Icu_17_TimerIp** • Added configuration rule for the parameter TimInterruptMode **Mcu** • Added additional literals for the parameter McuStdbyModeRamEnable **Pwm_17_GtmCcu6** • Removed invalid multiplicity class attribute from PwmCoherentUpdate, PwmDutycycleUpdatedEndperiod parameter • Removed optional attribute from PwmLowPowerStatesSupport parameter • Removed invalid multiplicity class attribute from PwmPeriodUpdatedEndperiod **ResourceM** • ResourceMResourceRef parameter reference path is modified for SPI driver **Wdg_17_Scu** • Tooltip is removed for module level configuration • Optional attribute removed from WdgExternalContainerRef parameter
Can the previously saved configuration be reused?	Yes

Table 15 Summary of bugs from 2.0.0 to 2.10.0

Module	Issue number	Description
Adc	0000053912-17558	Description: On-chip Supervision Signals and Restricted Usage of Certain ADC Channels. Impact: Alias feature in ADC will not work for the unavailable Physical channels.

(table continues...)

Summary of changes

Table 15 (continued) Summary of bugs from 2.0.0 to 2.10.0

Module	Issue number	Description
Can_17_McmCan	0000053912-17435	Description: CanIf_TriggerTransmit call exists in CAN driver even if not enabled in Tresos. Impact: Compilation issues may arise since CanIf_TriggerTransmit call exists in CAN driver even if its not enabled.
	0000053912-16624	Description: After reporting the DATALOST DET from the Can_MainFunction_Read() API, the API continue to perform its nominal functionality. This is the deviation of the PRQ. Impact: No functional impact is seen due to this. This behavior is intentionally implemented to enable the normal functionality of Can_MainFunction_Read() API even after DATALOST DET is reported. That is, the CAN application can continue with normal functionality even after DATALOST DET detected.
Fee	0000053912-17500	Description: Due to an error in the software implementation of FEE driver, driver may report trap or provide wrong data for given block number. Impact: 1. Fee_Read/Fee_17_GetPrevData API may provide wrong data for given block number. 2. DET/Safety error FEE_E_INVALID_BLOCK_NO may not be reported by Fee_Write/Fee_Read/Fee_InvalidateBlock/Fee_17_GetPrevData/ Fee_17_GetCycleCount. 3. Trap(DAE/DSE) may be reported when unconfigured block detect during initialization (cache build) or read/write/invalidate request given for unconfigured block.
	0000053912-17108	Description: Incorrect name of DEM interface mentioned in user manual. Impact: Incorrect DEM interface name may lead to confusion during integration.
	0000053912-17777	Description: Due to error in driver software Fee_GetStatus() API may provide MEMIF_IDLE instated of MEMIF_BUSY_INTERNAL when following condition met together. 1) Configuration parameter FeeBlockTypeConfigured and FeeGcRestart is set to FEE_DOUBLE_SECTOR_AND_QUASI_STATIC_DATA and FEE_GC_RESTART_WRITE respectively. 2) Following call sequenced occurred. Fee_Init() --> Fee_Read() for QS block or Fee_Init() --> Fee_Read() for NVM block --> Fee_Read() for QS block Impact: No impact on normal operations of Fee. New user request will be accepted and executed normally after driver internal status changes from MEMIF_BUSY_INTERNAL to MEMIF_IDLE.

(table continues...)

Summary of changes

Table 15 (continued) Summary of bugs from 2.0.0 to 2.10.0

Module	Issue number	Description
	0000053912-17098	Description 1: Due to error in driver software, driver will not return to IDLE state when following conditions are met together. 1) configuration parameter FeeGcRestart and FeeBlockTypeConfiguredis set to FEE_GC_RESTART_WRITE and FEE_DOUBLE_SECTOR_AND_QUASI_STATIC_DATA respectively. 2) Flash area configured for QS blocks is in virgin state (flash is completely erased) OR QS block state needs repair. 3) QS block read or write job is requested immediately after Fee_Init(). Impact 1: In scenario mentioned in description QS block write or read will not be executed and driver status will not return to MEMIF_IDLE. Description 2: Due to error in driver software ,QS erase Job is rejected after Fee_Init() when following conditions are met together. 1) configuration parameter FeeGcRestart and FeeBlockTypeConfiguredis set to FEE_GC_RESTART_WRITE and FEE_DOUBLE_SECTOR_AND_QUASI_STATIC_DATA respectively. 2) Flash area configured for QS blocks is in virgin state (flash is completely erased) OR QS block state needs repair. 3)QS block erase job is requested immediately after Fee_Init(). Impact 2: In scenario mentioned in description QS block erase request will not be accepted.
	0000053912-17410	Description: Example given in configuration verification manual for FEE_MAX_BLOCK_COUNT macro generation is wrong. Impact: No functional impact, macro FEE_E_GC_INIT is wrongly mentioned in the example.
	0000053912-16984	Description: Due to an error in the software implementation of FEE driver, when block resize feature is used and newly configured block size is greater than old size, then read of this block leads to overflow of user data buffer by 1 byte. This happens every time the block is read, until it is written for the first time with the new size. Impact: In the scenario mentioned in the description, any user variable located next to user data buffer may be corrupted.
Fls_17_Dmu	0000053912-17024	Description: Due to software error in driver , unintended timeout safety error may be reported by Fls_17_Dmu_IsHardeningRequired() API if higher priority task or interrupt is invoked while this API is being executed. This happen only if configuration parameter FeeBlockTypeConfigured is set to FEE_DOUBLE_SECTOR_AND_QUASI_STATIC_DATA. Impact: Unintended timeout safety error from Fls_17_Dmu and hardening error notification from Fee may be reported.

(table continues...)

Summary of changes

Table 15 (continued) Summary of bugs from 2.0.0 to 2.10.0

Module	Issue number	Description
Gpt	0000053912-17484	Description: GetPredefTimerValue returns wrong value if value > 16-bit timer value. Impact: GetPredefTimerValue() calculates incorrectly when retrieving the upper 16-bit if predef resolution is GPT_PREDEF_TIMER_1US_24BIT or GPT_PREDEF_TIMER_1US_32BIT or GPT_PREDEF_TIMER_100US_32BIT.
Lin_17_AscLin	0000053912-17542	Description: When Lin_FrameResponseType is a slave response, LIN driver reports incorrect driver status when LIN bus is shorted. Impact: When Lin_FrameResponseType is slave response, Lin Driver reports channel status as LIN_OPERATIONAL instead of LIN_TX_HEADER_ERROR when LIN bus is shorted.
	0000053912-17105	Description: The order for setting the hardware flags TRRQS and THRQS is not followed in LIN driver software as per hardware user manual recommendation. This caused failure of master response frame transmission, when previous frame was slave response and slave did not response before timeout. Impact: If the slave node did not response for a slave response frame and the application tries to send a master response frame, then the LIN application cannot send any further LIN frames.
McalLib	0000053912-17835	Description: UM confusion for constants placement. Impact: In "Multicore and Resource Manager" UM section, the placement of constants is wrongly mentioned to be put in non-cached LMU. The constants marked as global is recommended to be placed to any PFLASH region.
	0000053912-17106	Description: McalLib UM has incomplete information for modules calling Mcal_DelayGetTick(). Impact: No functional impact, only documentation is inconsistent and missing for some modules invoking Mcal_DelayGetTick().
Mcu	0000053912-17198	Description: Mcu driver does not support non-cached memory. Impact: User cannot configure non-cached memory for - Mcu_InitRamSection() to clear the memory - Mcu_SetMode(MCU_STANDBY) for StandbyRAM configuration. This may result in MPU protection trap if user uses non-cached memory.
	0000053912-17792	Description: Mcu Clock calculator tool has inconsistent names with respect to Mcu driver configuration. Impact: Clock calculator has confusing names as Fpll0, Fpll1 and Fpll2 which is not inline with the Mcu driver configuration and users cannot co-relate.

(table continues...)

Summary of changes

Table 15 (continued) Summary of bugs from 2.0.0 to 2.10.0

Module	Issue number	Description
	0000053912-17036	Description: Mcu_Init relies on reset value for some GTM SFRs. Impact: Mcu_Init does not modify the some of the GTM SFRs if modified by user at startup and relies on the reset value. The list of GTM SFRs are : - TOM[i]_TGC[y]_FUPD_CTRL - TOM[i]_TGC[y]_INT_TRIG - ATOM[i]_AGC_FUPD_CTRL - ATOM[i]_AGC_INT_TRIG
Ocu	0000053912-17522	Description: Ocu_Init() relies on reset value of FUPD SFRs. Impact: Ocu_Init() relies FUPD control of TOM (TOM[i]_TGC[y]_FUPD_CTRL) and ATOM (ATOM[i]_AGC_FUPD_CTRL) to be explicitly disabled. If it is enabled by user, host trigger initiated by another module after Ocu_Init() will impact any running OCU channels.
	0000053912-17523	Description: Ocu_InitCheck does not check IRQ_NOTIFY flag in ATOM SOMC mode. Impact: Ocu_InitCheck missed to check clearing of interrupts flags (IRQ_NOTIFY) in ATOM SOMC mode as these channels are not started and can be verified after Ocu_Init.
Port	0000053912-17843	Description: UM: Port InitCheck API signature is not matching with code. Impact: Code and UM inconsistent.
Pwm_17_GtmCcu6	0000053912-17502	Description: Warnings reported during configuration project creation time for PWM. Impact: Warnings reported when loaded in Tresos tool. No functional impact.
	0000053912-17686	Description: Pwm_17_GtmCcu6_Init() wrong initialization when PwmHandleShiftByOffset = TRUE and non-coherent channels. Impact: Pwm_17_GtmCcu6_Init() does not initialize the channel clock if the PWM channels are non-coherent and PwmHandleShiftByOffset is TRUE.
	0000053912-17526	Description: Pwm_17_GtmCcu6_InitCheck missed to verify CCU6 T13 period. Impact: Pwm_17_GtmCcu6_InitCheck() does not verify the correctness of CCU6 T13PR SFR after Pwm_17_GtmCcu6_Init().
	0000053912-17145	Description: PWM Shift issue seen with CCU6 for 0% or 100% duty cycle. Impact: Incorrect PWM output is generated if user configures CCU6 with PwmShiftValue for 0% or 100% duty cycle.

(table continues...)

Summary of changes

Table 15 (continued) Summary of bugs from 2.0.0 to 2.10.0

Module	Issue number	Description
Spi	0000053912-17254	Description: The destination reference path of the Non-Autosar parameter SpiHwConfigurationQspi is incorrect in the ResourceM module. It should start with AURIX2G instead of AUTOSAR. So, the SpiHwConfigurationQspi parameter will not be available in ResourceRef of DaVinci Configurator. Impact: The SpiHwConfigurationQspi parameter will not be available in ResourceRef of DaVinci Configurator.
	0000053912-17348	Description: 32 bit alignment sections not used for defining SPI buffers in Demo code. Impact: If 16bit or 32bit data widths are specified and if buffer alignment is not 32bit then data alignment trap will be raised.
Wdg_17_Scu	0000053912-17766	Description: Deviation of the header file inclusion order in Wdg_17_Scu.h for Autosar 4.2.2 and 4.4.0 compatibility. Impact: Wdg_17_Scu.h need to include WdgIf.h (for Autosar 4.4.0) and WdgIf_Types.h (for Autosar 4.2.2) for the declaration of WdgIf_ModeType. Since WdgIf.h includes WdgIf_Types.h, compatibility between both Autosar versions is maintained without including WdgIf_Types.h explicitly. However, this can give rise to circular inclusion, depending on the order of inclusion being used in the upper layers. For instance, if the WdgIf_Cfg.h includes Wdg_17_Scu.h for implementation, the following circular inclusion can result: Wdg_17_Scu.h -> WdgIf.h -> WdgIf_Cfg.h -> Wdg_17_Scu.h.

Table 16 Summary of enhancement from 2.0.0 to 2.10.0

Module	Issue number	Description
Generic	0000053912-17208	Redundant attributes PostBuildVariantSupport, Optional, Visible, Tooltips are removed from AS440 WDG XDM files.
	0000053912-17039	MCAL driver shall configure the SFR registers, required for the functionality and in accordance to the configuration of the driver. AoU provided in General UM for SFRs not owned by MCAL.
	0000053912-17345	New demo quality, perl based tool provided with the release package to analyze the FEE memory dump from dflash and provide some useful insights such as block numbers written, whether the data is completely written and consistent, etc.
	0000053912-17378	Updated license text as provided by legal.
	0000053912-16559	A note is added in the General UM to provide more clarity to users about verifying the generated configuration data AoU.
	0000053912-17729	#IF conditions in Demo Application files updated in a way that Customer can integrate these files without defining Infineon specific controlling Macros(e.g., APP_SW=0, DEMO_APP=1, TEST_APP=2) in Customer project setup.

(table continues...)

Summary of changes

Table 16 (continued) Summary of enhancement from 2.0.0 to 2.10.0

Module	Issue number	Description
	0000053912-17871	General UM update to provide more clarity on Resource Manager indicating that it is pre-compile and core related resource allocation shall be same across the different configuration variants for all modules in MCAL.
	0000053912-17326	Impact analysis performed based on the Safety manual SMv2.0
	0000053912-17731	Limitation added in General UM for deviation of SWS_COMPILER_00010.
	0000053912-17312	A note added in MCAL General User manual about usage of Tresos tool for the code generation.
	0000053912-17291	Black duck warnings are seen in non productive code. Updated OSS statement in release notes.
Can_17_McmCan	0000053912-16120	Runtime Performance improvement by processing the FIFO related code only if FIFO mode is configured.
	0000053912-17794	The runtime error 'CAN_E_DATALOST' reported with same error ID value 0x01 in both Autosar 422 and 440 driver.
Fee	0000053912-17703	Reduced the execution time of the user read request during initialization by avoiding interrupted garbage collection operation when the configuration parameter FeeGcRestart is set to FEE_GC_RESTART_WRITE.
Mcu	0000053912-16873	Mcu configuration plugin corrected as per HW UM 2.0 for EXTCLK0 and EXTCLK1 SFRs.
Ocu	0000053912-17825	Optimization done in Ocu_StartChannel, Ocu_SetAbsoluteThreshold and Ocu_SetRelativeThreshold to determine whether the compare value lies in the future or in the past.
Port	0000053912-17570	Code snippet example given in the UM is updated to remove the ambiguous example.
	0000053912-17310	Non functional change done in Port.c file, CRLF new line added the at the end of line.
	0000053912-17488	The initial mode of the device TC3E7 pin P32.4 is updated as per the latest HW Data sheet changes.
	0000053912-13333	Runtime Performance of Port_SetPinDirection API is improved.
Pwm_17_GtmCcu6	0000053912-17441	PWM driver enhanced to support CCU6 output generation on COUT6x also (apart from CC6x).
Spi	0000053912-17042	Enhance the SPI UM Interrupt configuration section with an example for Polling, Interrupt and Error scenarios.

3.4 Issues fixed in release 2.0.0

Table 17 Configuration changes from 2.0.0-rc to 2.0.0

Compatibility check	Result
Are there any change in parameters supplied from previous version?	Yes
Added parameters	None
Deleted parameters	None
Modified parameters	**Adc ,Can_17_McmCan,Crc,Fee,Lin_17_AscLin,Port, Pwm_17_GtmCcu6,Spi** • SwPatchVersion is updated **Mcu** • SwPatchVersion is updated • McuGEthFrequency default value XPath expression is modified • McuStdbyModeClkSelection editable condition is modified **Fls_17_Dmu** • SwMinor and SwPatch Version is updated
Can the previously saved configuration be reused?	Yes

Table 18 Summary of bugs from 2.0.0-rc to 2.0.0

Module	Issue number	Description
Generic	0000053912-16545	Description: Incorrect SWS ID provided in "Known deviation" of the SW module UMs. Impact: Incorrect documentation only, no functional impact. Applies to the following SW module UMs : LIN, WDG, CAN, CANTRCV and MCU.
	0000053912-16144	Description: <CoreScope> is used in MEMMAP macro for constant and config data and hence this violates the Autosar requirements. Impact: While integrating the MCAL, standard Autosar MEMMAP package needs modification.
	0000053912-16150	Description: MCAL build failure on filesystems which are case-sensitive. Impact: MCAL build will fail on filesystems which are case-sensitive Impacted modules: DSADC, DMA, LIN, I2C, FEE
	0000053912-16606	Description: Inconsistency in the artifact file names for configuration plugins. Impact: The file names are not consistent with AUTOSAR standards, in the usage of uppercase/lowercase, for the following files: Dsadc_PBCfg.h, Dsadc_PBCfg.c, Crc_cfg.c, Iom_PBCfg.c. No functional impact. Impacted modules:DSADC, IOM, CRC

(table continues...)

Summary of changes

Table 18 (continued) Summary of bugs from 2.0.0-rc to 2.0.0

Module	Issue number	Description
Adc	0000053912-16348	Description: ADC unavailable channels for TC322, TC332, TC323 and TC333 devices. Impact: As per TC33x_TC32x_Data_Sheet_Addendum_v1.4.pdf and TC33x_TC32xAA_DS_v10pdf_Z8F70651493_1.0.pdf, ADC channels G1CH2 and G8CH14 are unavailable in TC322, TC332, TC323 and TC333 devices.
Can_17_McmCan	0000053912-16125	Description: L-Pdu callout function call is done with hoh type as uint8. Impact: If more than 255 hardware objects are configured then the Hoh id passed to L-Pdu callout will not be correct.
	0000053912-16118	Description: During RxFIFO watermark interrupt processing interrupt flags are only cleared if FIFO level is greater than or equal to watermark. If level is crossed during the processing of FIFO watermark interrupt will be retriggered. During 2nd watermark interrupt, watermark interrupt flag will not be cleared if the FIFO level is less than the configured threshold. Impact: Watermark interrupts will not be triggered instead FIFO Full interrupt will be triggered, successive interrupt will again be watermark interrupt.
Crc	0000053912-15755	Description: Crc driver will give build errors, if only CRC64 polynomial is enabled for any method. Impact: If CRC64 is enabled, without enabling any other polynomials, the driver would give build errors due to selective enabling of the shared code across the polynomials.
Fee	0000053912-16757	Description: Due to an error in the software implementation of FEE driver, when a pending user normal block write request which has trigger the garbage collection (GC) operation or immediate block write request is pending due to garbage collection (GC) is cancelled by Fee_Cancel() then driver may write unintended data during garbage collection (GC). Impact: In the scenario mentioned in the description, the data flash content may be corrupted leading to • Data loss of user blocks and/or • Trap (DAE/DSE)
	0000053912-15914	Description: Tasking compiler warning (condition is always true) when FeeBlockTypeConfigured is configured to FEE_QUASI_STATIC_DATA_ONLY. Impact: No functional impact.

(table continues...)

Summary of changes

Table 18 (continued) Summary of bugs from 2.0.0-rc to 2.0.0

Module	Issue number	Description
Fls_17_Dmu	0000053912-16746	Description: Software version information in xdm and bmd files are wrong. Impact: No functional impacts ,because software version information is generated using plugin_AS440.xml and information in plugin_AS440.xml is proper.
Lin_17_AscLin	0000053912-16000	Description: LIN frames not being transmitted after error is reported due to no response from slave node. Impact: No further Frames are transmitted after error occurrence.
Mcu	0000053912-16884	Description: MemMap start/stop sections not properly generated in Mcu_17_TimerIp_Cfg.c plugin for devices where GTM IP is not present Impact: For devices where GTM IP is not present, Mcu_17_TimerIp_Cfg.c will not generate the proper START or STOP memory map sections. This results in compilation error.
	0000053912-15987	Description: Mcu_Init() overwrites and disables the Standby controller (SCR) module. Impact: Mcu_Init() overwrites the other bits of PMSWCR4 which disable the SCR module. This impacts the customer who require SCR to remain enabled for standby related purposes like RTC functionality.
	0000053912-16904	Description: Mcu_InitCheck returns E_NOT_OK incorrectly if some GTM configuration parameters are enabled. Impact: Mcu_InitCheck will compare with the wrong SFR value of TOM/ATOM FUPD_CTRL or INT_TRIG against the configuration. This will result in E_NOT_OK being returned incorrectly.
Port	0000053912-16783	Description: Port_InitCheck() will fail if PORTS_TC.H012 errata is applicable. Impact: Port_InitCheck will fail since it compares against the configuration values and not the update done by Port_Init() for PORTS_TC.H012 errata workaround. This error will happen only if below conditions are met: - PORTS_TC.H012 errata which is applicable only for TC387, TC397, TC397_ADAS devices - LVDS pair 9,10 is configured - Port_InitCheck() is called
	0000053912-16680	Description: Incorrect code generation for PORTS_TC.H012 Errata fix for TC397 device. Impact: Errata PORTS_TC.H012 fix will not work for TC397 device user.

(table continues...)

Summary of changes

Table 18 (continued) Summary of bugs from 2.0.0-rc to 2.0.0

Module	Issue number	Description
Pwm_17_GtmCcu6	0000053912-16124	Description: Unreferenced function GHS compiler warning reported for Pwm_lClearDuty_0_Or_100_Status. Impact: Pwm_lClearDuty_0_Or_100_Status function will not be referenced resulting in GHS compiler warning. This compiler warning occurs due to configuration combination of below parameters 1) Parameter PwmNotificationSupported is enabled and 2) Parameter PwmSetPeriodAndDuty is enabled and 3) Parameter PwmEnable0Or100DutyNotification is enabled and 4) Parameter PwmSetDutyCycle is disabled
	0000053912-16675	Description: Limitation of PWM driver when PwmHandleShiftByOffset is FALSE. Impact: Channels of TGC or AGC can be shared across other drivers but users of the other drivers or within the PWM driver should not introduce the sequence of referenced fixed period and fixed period shifted channels when PwmHandleShiftByOffset parameter is FALSE or referenced fixed period and fixed period center-aligned channels in-between the other channels sequence. This is because, introducing channel sequence in-between will break the sequence of other channels.
Spi	0000053912-16245	Description: UM limitation description on TRL-lost is ambiguous and needs to be corrected. Impact: The TRL interrupt does occur, however its processing and further notification to the user (from DMA module) is avoided in case DmaTcsInterruptTransactionLoss is disabled.
	0000053912-16329	Description: IB buffer copy during Spi_WriteIB are protected within a critical section. Impact: In SPI driver IB buffer update is protected within a critical section (ChannelLock) which will disable the interrupt and will not allow any high priority tasks to copy IB buffers associated to a different channel.
	0000053912-16709	Description: If the sequence contains 1 Job, 1 channel with short data length (2 to 8bits) and a very small lead delay (in nsec) there is a possibility that sequence status will remain in pending state indefinitely. Impact: Successive transmission of sequences is not possible since the SPI driver will be stuck indefinitely due to sequence stuck in pending state.
	0000053912-16036	Description: QSPI2 doesn’t have QSPI2_MTSR pin available in TQFP-80 package. Impact: QSPI2 node for TC322 device cannot be used.

Summary of changes

Table 19 Summary of enhancement from 2.0.0-rc to 2.0.0

Module	Issue number	Description
Generic	0000053912-12771	Update of MCAL packaging strategy.
	0000053912-15446	MCAL package contents updated for non productive files.
	0000053912-15372	HW Errata analysis will be available for all the production releases.
Fee	0000053912-7114	Demo quality reference tool that provides an estimated number of FEE/FLS main function cycles required to complete 1 GC cycle and 1 block write.
	0000053912-16006	In the MC-ISAR_TC3xx_FEE_Cycle_Calculator tool HW limit on endurance is incorporated in the formulae and added warnings when this limit is crossed.
	0000053912-16007	FEE UM limitation section updated for Behavior of Fee_Cancel().
	0000053912-13105	In the MC-ISAR_TC3xx_FEE_Cycle_Calculator tool readMe sheet updated to enhance description of the parameters involved in the calculation.
Icu_17_TimerIp	0000053912-16868	Limitation section updated in ICU UM based on errata not to use Level mode if Timeout is enabled for that channel.
Mcu	0000053912-16873	MCU UM updated based on HW UM 2.0 not to use TCK_EXT_CLOCK0_SEL13 in configuration parameter "McuExtClockOutSel0" and OSCFL_EXT_CLOCK1_SEL15 in configuration parameter "McuExtClockOutSel1".
	0000053912-15988	Description corrected in the function banner for Mcu_SetMode .
Spi	0000053912-16233	Update of DemoApp to include Spi_AsyncTransmit.

3.5 Issues fixed in release 2.0.0-rc

Configuration changes

Table 20 Configuration changes from 2.0.0-alpha to 2.0.0-rc

Compatibility check	Result
Are there any change in parameters supplied from previous version?	Yes

(table continues...)

Table 20 (continued) Configuration changes from 2.0.0-alpha to 2.0.0-rc

Compatibility check	Result
Added parameters	**Fee:** • FeeEccErrorInfoApi, FeeRunTimeErrorDetect,FeeBlocksScannedPerCycle **Fls_17_Dmu:** • FlsEccErrorInfoApi, FlsEraseVerificationEnabled, FlsTimeoutSupervisionEnabled, FlsWriteVerificationEnabled, FlsEcucPartitionRef **Mcu:** • McuStdbyModeVextUVThres, McuStdbyModeVextUMMonMode, McuStdbyModeVddUVThres, McuStdbyModeVddUMMonMode
Deleted parameters	**Fls_17_Dmu:** • FlsDemEventParameterRefs container and it's parameters FLS_E_COMPARE_FAILED, FLS_E_ERASE_FAILED, FLS_E_READ_FAILED,FLS_E_UNEXPECTED_FLASH_ID, FLS_E_WRITE_FAILED **Icu_17_TimerIp:** • TimChannelPortPinSelect

(table continues...)

Table 20 (continued) Configuration changes from 2.0.0-alpha to 2.0.0-rc

Compatibility check	Result
Modified parameters	**Adc, Can_17_McmCan, CanTrcv_17_V9251, CanTrcv_17_W9255, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, McalLib, Mcu, Ocu, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu :** • SwPatchVersion default value is updated. **Fee:** • FeeBlockConfiguration Max multiplicity test expression is modified to restrict to based on the availability of HW. • Added invalid error check for FeeSafetyEnable parameter configuration • FeeBlockSize , FeeMaxBlockCount range value restriction is modified **Fls_17_Dmu:** • FlsSectorSize range restriction is modified. **Gpt:** • GptInitCheckApi parameter is disabled for configuration **Lin_17_AscLin:** • LinTimeoutDuration default and range value is modified. • LinInterruptEnable parameter is renamed to LinMasterInterruptEnable and added parameter editable condition. • LinNodeType invalid condition is removed. **Mcu:** • McuGEthFrequency editable condition is modified. • McuStdbyModeWakeupFromPORST parameter default value is modified. • McuStdbyModeEntryOnVEXTRampDown, McuStdbyModeEntryOnVDDRampDown parameters moved from McuStdbyModeSettingConf to new container McuStdbyModeVddVextConf **Spi:** • SpiBaudrate range value is modified.
Can the previously saved configuration be reused?	Yes

Summary of changes

Table 21 Summary of bugs from 2.0.0-alpha to 2.0.0-rc

Module	Issue number	Description
Generic	0000053912-13391	Description: MCAL inclusion of respective AS440 and AS422 upper layer header files. Impact: MCAL did not include AS440 related upper layer header files. Only AS422 was considered.
Adc	0000053912-15524	Description: The ADC EMUX feature cannot be used with DMA mode Result Handling. Impact: The ADC EMUX feature leads to build failure if configured with DMA mode Result handling.
	0000053912-13223	Description: When EMUX feature is enabled, Adc_ReadGroup API is expected to update last converted results of all the configured EMUX channels into the passed data buffer even though only 1 physical channel is configured for a given group. Impact: User is not able to read last converted results of all the configured EMUX channels using Adc_ReadGroup API
Can_17_McmCan	0000053912-15844	Description: CAN_17_MCMCAN_SID_RECEIVEHANDLER and CAN_17_MCMCAN_SID_GETCONTROLLERMODE both have value of 0x12. Impact: Receive handler DET will also report with same SID leading to confusion at application.
	0000053912-15871	Description: Calling Multiple Period Main Function API without call of Can_Init API is resulting in 'Memory Protection Null Address Trap' Impact: Leads to 'Memory Protection Null Address Trap'
	0000053912-13025	Description: Can_17_McmCan_Externals.h removed from MCAL perspective Impact: CAN driver will populate the configured interface but the prototype is moved to Application's responsibility (Can_17_McmCan_Externals.h)
	0000053912-15607	Description: If Rx objects not configured as mentioned in CAN UM rules, in a corner case empty structures are getting generated leading to compilation failures. Impact: Empty structure will get generated.
	0000053912-15851	Description: The API call Can_GetControllerMode() results in Trap when called to read CAN_CS_UNINIT state of driver when DET is OFF and module is not initialized. Impact: Trap observed
	0000053912-15427	Description: Calling Can_17_McmCan_Write API without call of Can_Init API is resulting in 'Memory Protection Null Address Trap' Impact: Leads to 'Memory Protection Null Address Trap' when DET is OFF
	0000053912-13255	Description: If CanControllerSspOffset is configured as 0, baudrate is wrongly calculated as 0. This problem is specifically for FD baudrate. Impact: FD baudrate is calculated as 0.

(table continues...)

Summary of changes

Table 21 (continued) Summary of bugs from 2.0.0-alpha to 2.0.0-rc

Module	Issue number	Description
	0000053912-15350	Description: module header files SHALL NOT include the prototype declarations of Main Functions Impact: AUTOSAR violation in file inclusion structure in upper layers.
	0000053912-13560	Description: In Mixed mode Tx processing for Queue is not giving notification in the same order of transmission. Impact: Very first CanWrite notification is given at last and rest are given in same order.
	0000053912-13277	Description: Can_17_McmCan_DisableControllerInterrupts() should disable only the interrupt enabled for the Can Controller as per the Configuration Impact: If user has enabled any interrupt for CAN controller outside of MCAL, those interrupt will be disabled.
	0000053912-13251	Description: Can_17_McmCan_GetControllerErrorState,Can_17_McmCan_GetControllerRxErrorCounter,Can_17_McmCan_GetControllerTxErrorCounter. If these API's are called from any other core than Core 0, API call is resulting in Data asynchronous tarp. Impact: Above mentioned APIs cannot be used in multicore scenario.
	0000053912-13137	Description: Calling Can_17_McmCan_GetControllerErrorState,Can_17_McmCan_GetControllerRxErrorCounter,Can_17_McmCan_GetControllerTxErrorCounter without call of Can_Init Api is resulting in 'Memory Protection Null Address Trap' Impact: Above APIs will not provide a DET if Init is not performed before invoking the APIs.
	0000053912-15588	Description: If all objects of all the CAN controllers are configured only as transmit objects, a warning is reported as "unused static function Can_17_McmCan_lReceiveHandler' from Can_17_McmCan.c Impact: Dead code for rxhandling will be present in the HEX image, warning will be observed in code when compiled.
	0000053912-15574	Description: Can_17_McmCan_GetControllerRxErrorCounter() does not indicate PASSIVE state transition due to HW counter limit of 127. Impact: User application will not get to know if controller is in active / passive state.
CanTrcv_17_W9255	0000053912-15350	Description: module header files SHALL NOT include the prototype declarations of Main Functions Impact: AUTOSAR violation in file inclusion structure in upper layers.

(table continues...)

Summary of changes

Table 21 (continued) Summary of bugs from 2.0.0-alpha to 2.0.0-rc

Module	Issue number	Description
Crc	0000053912-15755	Description: Crc driver will give build errors, if only CRC64 polynomial is enabled for any method. Impact:If CRC64 is enabled, without enabling any other polynomials, the driver would give build errors due to selective enabling of the shared code across the polynomials.
	0000053912-15199	Description: Crc driver reports spurious interrupt DET - CRC_E_INVALID_ISR, in the event of a Dma error. Impact: In the event of a DMA error, the Crc_DmaErrorIsr will stop and deinitialize the DMA channel being used. If the DMA channel transfer interrupt gets triggered before this channel gets stopped, the CRC_E_INVALID_ISR will get reported from Crc_DmaErrorIsr. This is expected as the DMA MoveEngine hardware continues the transfer, inspite of the Dma error, as documented in the DMA driver user manual.
	0000053912-15200	Description: The Dma channel assigned to Crc driver gets deinitialized in the event of a Dma error. Impact: In the event of a DMA error, the associated DMA channel is stopped and deinitialized in the Crc_DmaErrorIsr ISR, by invoking the Dma_ChStopTransfer API. After this, if the Dma channel is accessed by using the Dma driver APIs, the 'DMA_E_CHANNEL_NOT_INITIALIZED' DET would be reported from the Dma driver.
	0000053912-13398	Description: Incorrect descriptions given for some of the Crc Configuration Parameters in the schema file. Impact: There is no functional impact, incorrect description gives wrong interpretation for the configuration parameters.
	0000053912-12941	Description: Incorrect maximum length for CRC-DMA driver in UM. Impact: In case customer passes CRC data length as 16384 bytes, then incorrect CRC value is written.
Fee	0000053912-13314	Description: Default value of FeeMaxBytesPerCycle configuration mentioned in user manual is wrong. Impact: Inconsistent value between default value and the value mentioned in the User Manual.
	0000053912-15678	Description: Unnecessary re-generation even if configuration has not changed for DMA, PORT, FEE and PWM configuration plugins Impact: Plugins for DMA, PORT, FEE and PWM will re-generate the configuration even though configuration has not changed. No functional impact, only extra time for re-generation.
	0000053912-15350	Description: module header files SHALL NOT include the prototype declarations of Main Functions Impact: AUTOSAR violation in file inclusion structure in upper layers.

(table continues...)

Summary of changes

Table 21 (continued) Summary of bugs from 2.0.0-alpha to 2.0.0-rc

Module	Issue number	Description
Fls_17_Dmu	0000053912-13222	Description: EVR error detected during the erase suspend operation is not reported when configuration FlsIfxFeeUse is disabled. Impact: RTE FLS_17_DMU_E_ERASE_FAILED and job error notification is not reported.
	0000053912-13167	Description: When configuration FlsIfxFeeUse is enabled and erase operation fails due to EVR error then unintended DET/ SE error FLS_17_DMU_E_VERIFY_ERASE_FAILED is reported. Impact: Unintended DET/ SE error FLS_17_DMU_E_VERIFY_ERASE_FAILED is reported.
	0000053912-15390	Description: OPER error handling during FLS initialization is not proper. When OPER error is detected during initialization , FEE illegal notification is called , this may lead to unintended safety error or Trap. Only applicable when FLS is used with IFX FEE. Impact: FEE Safety is ON: Fee will raise UNINT safety error , because of Fee is not yet initialized. In this case illegal state notification will not reach NVM. Also if FLS runtime error is enabled, then Fls_17_Dmu will report the FLS_17_DMU_E_INIT_FAILED. FEE Safety is OFF: Trap will occur because of Fee_17_IllegalStateNotification() will try dereference the NULL pointer.
Icu_17_TimerIp	0000053912-13299	Description: Timeout notifications not occurring in the ICU Edge count measurement mode. Impact: ICU notification function is not reported if timeout happened in Edge count measurement mode.
	0000053912-13117	Description: Trap will occur if ICU Timeout feature for Edge detection is used. Impact: On edge being detected for ICU timeout feature, trap will occur since notification pointer is NULL and no plausibility check is done.
	0000053912-15709	Description: Icu_17_TimerIp_SetTimeoutValue error reporting corrected with proper SID if the ICU channel is not configured for timeout functionality Impact: Icu_17_TimerIp_SetTimeoutValue reports wrong SID if the ICU channel is not configured for timeout functionality
Lin_17_AscLin	0000053912-13290	Description: When Sleep command is sent, illegal checksum issue is seen. Impact: No valid checksum will be reported when sleep command is sent

(table continues...)

Summary of changes

Table 21 (continued) Summary of bugs from 2.0.0-alpha to 2.0.0-rc

Module	Issue number	Description
	0000053912-12966	Description: LinIf_LinErrorIndication() callback function is called with the parameter LIN_ERR_INC_RESP instead of LIN_ERR_NO_RESP. Impact: LinIf layer will not receive LinIf_LinErrorIndication() with LIN_ERR_NO_RESP when no response is received from slave device.
	0000053912-13072	Description: UNINIT DET is reported on one compiler i.e Dcc compiler for functional APIs. During initialization of the module, channel initialization is not properly happening Impact: For Dcc compiler the multicore scenarios will not function as expected
	0000053912-12959	Description: If LIN Init is failed due to failure of setting the CLC bit DEM failure is not reported. Impact: Application will not get to know why Init function has failed.
McalLib	0000053912-13551	Description: Mcal_WriteSafetyEndInitProtRegMask() does not mask the "DataValue". Impact: Mcal_WriteSafetyEndInitProtRegMask() does not mask the "DataValue" and undesired bits might be set in the register.
	0000053912-14150	Description: Mcal_WriteCpuEndInitProtReg, Mcal_WriteSafetyEndInitProtReg and Mcal_WriteSafetyEndInitProtRegMask APIs description update to additionally support endinit protected CSFRs. Impact: In addition to writing endinit protected peripheral SFRs, Mcal_WriteCpuEndInitProtReg, Mcal_WriteSafetyEndInitProtReg and Mcal_WriteSafetyEndInitProtRegMask APIs support write access to endinit protected CSFRs (using MTCR operation) which is missed in respective API description.
Mcu	0000053912-13562	Description: List of SMU Alarm names to be provided in AoU Impact: The AoU to disable SMU alarms relating to the clock tree do not specify the alarm names.
	0000053912-13134	Description: Mcu.fERAYExists property plugin incorrect in 32x devices. Impact: As ERAY hardware is not present in 32x, Mcu.fERAYExists property variable should be false for TC32X devices.
	0000053912-12914	Description: Incorrect code generation error for GTM for clusters 5 and above. Impact: Cluster Clock frequency should be <=100 MHZ for GTM clusters 5 and above. Currently, Mcu plugin reports incorrect code generation error if GtmCmuClusterInputClockDividerEnable = CLS_CLK_CFG_ENABLED_WITHOUT_DIV_SEL1 for GTM cluster 5 and above, even though Cluster clock frequency is <= 100MHz

(table continues...)

Summary of changes

Table 21 (continued) Summary of bugs from 2.0.0-alpha to 2.0.0-rc

Module	Issue number	Description
	0000053912-12690	Description: Mcu initialization and Mcu_InitCheck independence restricted to clock initialization only. Impact: Mcu initialization (Mcu_Init(), Mcu_InitClock(), Mcu_DistributePllClock() functions) and Mcu_InitCheck independence has been analyzedok will rephrase only with respect to clock initialization. It has not considered the other aspects of Mcu_Init like GTM initialization etc.
	0000053912-15679	Description: Mcu_InitCheck() failure for EXTCON register verification. Impact: DIV1 of EXTCON is wrongly masked in Mcu_InitCheck. The highest 2 MSB bits of DIV1 is always treated as 0., which is incorrect.
Port	0000053912-13264	Description: Incorrect Port configuration in TC366, TC327 and TC337 devices. Impact: 1) For TC366 device, Port 11 pins 2,3 & 6 are wrongly mapped to FAST. These should be RFAST pins. 2) For TC327 and TC337 devices, P14.9 is wrongly mapped to SLOW. This should be FAST.
	0000053912-15247	Description: Configuration parameter PortLVDSTxPowerDownPullDown range values mismatch between Code (Port.xdm) and UM. UM Range ENABLE/DISABLE is updated to match with code. Impact: Configuration parameter range ambiguity between code and UM.
	0000053912-15678	Description: Unnecessary re-generation even if configuration has not changed for DMA, PORT, FEE and PWM configuration plugins Impact: Plugins for DMA, PORT, FEE and PWM will re-generate the configuration even though configuration has not changed. No functional impact, only extra time for re-generation.
Pwm_17_GtmCcu6	0000053912-13076	Description: Non-coherent GTM channels period/duty cannot be set after using Pwm_17_GtmCcu6_SetOutputToIdle. Impact: If Pwm_17_GtmCcu6_SetOutputToIdle is invoked on non-coherent GTM channels, further calls to Pwm_17_GtmCcu6_SetPeriodAndDuty or Pwm_17_GtmCcu6_SetDutyCycle does not set the period/duty.
	0000053912-15908	Description: PwmInitCheckApi default value mismatch between PWM UM and code plugin. Impact: No functional impact, only wrong default value for PwmInitCheckApi in PWM UM

(table continues...)

Summary of changes

Table 21 (continued) Summary of bugs from 2.0.0-alpha to 2.0.0-rc

Module	Issue number	Description
	0000053912-15678	Description: Unnecessary re-generation even if configuration has not changed for DMA, PORT, FEE and PWM configuration plugins Impact: Plugins for DMA, PORT, FEE and PWM will re-generate the configuration even though configuration has not changed. No functional impact, only extra time for re-generation.
	0000053912-15992	Description: Pwm_17_GtmCcu6_InitCheck() may return false positive. Impact: ErrorStatus can be overwritten in local functions Pwm_lInitFixedPeriodCheck, Pwm_lInitVariablePeriodCheck and Pwm_lInitShiftedCentreAlignedCheck. If failure occurred in the above local functions, it may get overwritten with E_OK and return false positive result to Pwm_17_GtmCcu6_InitCheck().
Spi	0000053912-13315	Description: The QSPI RX FIFO overflows due to DMA congestion. The RX FIFO overflow error triggered on QSPI, due to high priority DMA transfers. Impact: The transmission and Reception of a sequence will be incomplete due to the error getting triggered and respective job and sequence status will be FAILED.
	0000053912-12998	Description: If QSPI error occurs, the error is handled via IsrQspiError handler in which all the error flags are cleared in the GLOBALCON register. At this time, if another QSPI error comes before the current ISR is completed, then there is a possibility that a SPI_E_SAFETY_SPURIOUS_INTERRUPT is reported. Impact: Unexpected SPI_E_SAFETY_SPURIOUS_INTERRUPT is reported.
	0000053912-12685	Description: When an DMA error occurs during asynctransfer, sequence status if read to be SPI_SEQ_FAILED recommendation is to perform a DmaChDeInit and DmaChInit before successive SPI communication. Impact: Successive SPI asynchronous transfers fails.
	0000053912-15350	Description: module header files SHALL NOT include the prototype declarations of Main Functions Impact: AUTOSAR violation in file inclusion structure in upper layers.
Wdg_17_Scu	0000053912-15251	Description: Wdg_17_Scu_InitCheck() will fail if the WDG timer reload value has incremented after Wdg_17_Scu_Init(). Impact: Wdg_17_Scu_InitCheck() will fail since it does an exact comparison of the timer reload value to the configured reload value.
	0000053912-15054	Description: Wdg_17_Scu_InitCheck() will fail if debugger is connected and Suspend mode if OFF (disabling the Wdg timer) Impact: If debugger is connected and suspend mode is OFF, it will disable the WDG timer causing Wdg_17_Scu_InitCheck() to fail. The reload value will be at 0xFFC and will not match the configured reload value.

Summary of changes

Table 22 Summary of enhancement from 2.0.0-alpha to 2.0.0-rc

Module	Issue number	Description
Generic	0000053912-13493	Impact analysis done based on safety manual SMv1.10
	0000053912-14031	BSWMD plugin update to handle enumeration literals and conditional inclusion of error reporting interfaces (like DET, DEM, Safety error)
	0000053912-14147	UM Update for AUTOSAR Release Version drop-down list in tresos
	0000053912-15725	Change in Tresos customer activation code from the current perpetual scheme to multiple time bound keys
Adc	0000053912-12604	Redundant AoUs for Adc driver removed.
Can_17_McmCan	0000053912-15434	UM text enhancement related to configuration rules
	0000053912-15600	Can_write calls during busoff state blocks the transmit HW objects.
	0000053912-15873	Can_write attempt after busoff recovery is creating a overwrite of swpdu ID
Fee	0000053912-7024	Optimized the DFLASH scanning(Cache build) algorithm during initialization to reduces peak execution timing of Fee_MainFunction().
	0000053912-12726	[ISOLAR-28016] MCAL[FEE] : Watchdog timeout during Cache Table update
Fls_17_Dmu	0000053912-10183	Drive is enhanced to change the job status only after the job request is accepted.
	0000053912-6713	Additional check is added to insure FlsSectorSize is multiple of 4096 Bytes.
	0000053912-10197	Job error notification will not be raised whenever user job request is rejected
	0000053912-12708	User manual is updated with for better clarification related to concurrent access to DFLASH0 by Fls_17_Dmu and user application
Icu_17_TimerIp	0000053912-6600	Support of incremental interface where GPT Timer is reset on zero position
	0000053912-3723	Support for ICU timeout detection feature (TDU)
	0000053912-11678	ICU driver InitCheck ASIL-B(D) performed to ensure safe initialization
	0000053912-12679	Configuration support of port pin connection to ICU TIM channels provided centrally in Mcu driver
Mcu	0000053912-12679	Configuration support of port pin connection to ICU TIM channels provided centrally in Mcu driver
	0000053912-9533	Support for Standby entry on VEXT supply ramp-down/up
Spi	0000053912-13386	Generic AOU present in the SPI UM, these AOUs are handled by common MCAL AOU.
	0000053912-15080	Image for configuring the DMA callout and DMA Errorhandler notification are not proper.

3.6 Issues fixed in release 2.0.0-alpha

Configuration changes

This is first release with AS440.

Table 23 Summary of bugs from 1.40.0 to 2.0.0-alpha

Module	Issue number	Description
Generic	0000053912-8816	Description: Clarity to achieve SMC[SW]:SMU:CONFIG is incomplete in SW User Manual Impact: Due to incomplete information in the UM for SMC[SW]:SMU:CONFIG, User may incorrectly deploy the safety measure.
	0000053912-12177	Description: ESM[SW]:DMA:ERROR_HANDLING description insufficient. Impact: Due to incomplete information in the UM for ESM[SW]:DMA:ERROR_HANDLING, User may incorrectly deploy the safety measure.
	0000053912-12772	Description: OSS finding in ISAR_AS422_TC3xx_Greenhills_1-40-0 Impact: User would not understand the presence of an additional boost license in SFR files.
	0000053912-13053	Description: Compilation error if CONSTP2VAR and CONSTP2CONST macros are used. Impact: Compilation error will occur for the below macros: 1) CONSTP2CONST - Constant pointer to constant variable 2) CONSTP2VAR - Constant pointer to variable
CanTrcv_17_V9251	0000053912-12336	Description: In tresos, option to add new element is not available in CanTrcvWaitTime and CanTrcvTimerType containers. Impact: User is not able to add the elements in CanTrcvWaitTime and CanTrcvTimerType containers.
	0000053912-12770	Description: As per Autosar specification CanTrcvWakeupByBusUsed parameter should be used as a Boolean parameter but in CanTrcv_17_W9255.xdm this parameter is added as a List parameter due to which error is reported during code generation. Impact: Code generation will not proceed, so build error will be observed.
CanTrcv_17_W9255	0000053912-13366	Description: TC332 Device support missing Impact: User will not be able to select and configure TC332 device
Crc	0000053912-8823	Description: SMC[SW]:FCE:CRC_CFG safety measure to be handled by integrator Impact: No impact to CRC driver. User shall implement the safety measure described in SMC[SW]:FCE:CRC_CFG.

(table continues...)

Summary of changes

Table 23 (continued) Summary of bugs from 1.40.0 to 2.0.0-alpha

Module	Issue number	Description
Fee	0000053912-12347	Description: When NVM block read request is made while QS block erase is ongoing in the hardware and if suspending the ongoing erase fails, then the NVM block read request will be rejected with E_NOT_OK along with DET error FEE_E_BUSY or Safety error FEE_SE_BUSY. Impact: Unintended DET or safety error (FEE_E_BUSY\FEE_SE_BUSY) is reported.
	0000053912-12595	Description: Fee cycle calculator formulas not populated in all cells. Impact: For some of the cells the value will not be calculated.
	0000053912-13370	Description: Fee initial data tool does not generate segment record correctly in the hex file before the sector 1 record. Impact: Hex file generated does not flash correctly.
Fls_17_Dmu	0000053912-12365	Description: When configuration parameter FlsIfxFeeUse is not enabled and if erase operation fails due to EVER error, runtime error FLS_17_DMU_E_ERASE_FAILED is not reported. Impact: Run time error FLS_17_DMU_E_ERASE_FAILED is not reported.
	0000053912-12506	Description: In the Example code presented in the user manual, the call to Fls_17_Dmu_Write () function is incorrect. The parameter pass to this function are not in the correct order. Impact: If the customer uses the same example mentioned in the user manual, then 1. If DET/Safety is enabled, FLS_17_DMU_E_PARAM_ADDRESS DET will be raised. 2. If DET/Safety is disabled then incorrect behavior will occur and may lead to trap.
	0000053912-13365	Description: TC374_ED Device support missing Impact: User will not be able to select and configure TC374_ED device
Mcu	0000053912-12344	Description: Incorrect Tresos description for McuClockReferencePointFrequency2 Impact: No functional impact. Tresos description for McuClockReferencePointFrequency2 (fPLL2) should be calculated as : fPLL2 = ((N+1)* fOSC)/((P+1) * (K3 + 1)* 1, 6) if McuPll2DivSelect= MCU_K3_DIV_FACTOR_NOT_BYPASSED_SEL0 OR fPLL2 = ((N+1)* fOSC) / ((P+1) * (K3 + 1)) if McuPll2DivSelect= MCU_K3_DIV_FACTOR_BYPASSED_SEL1

(table continues...)

Summary of changes

Table 23 (continued) Summary of bugs from 1.40.0 to 2.0.0-alpha

Module	Issue number	Description
Ocu	0000053912-13010	Description: AUTOSAR violation with respect to multiplicity of OCU configuration parameters Impact: Ocu plugin have conditional expression for the upper multiplicity of below AUTOSAR configuration parameters: - OcuNotification - OcuHardwareTriggeredAdc - OcuHardwareTriggeredDMA - OcuOutputPinDefaultState BMD users cannot use the configuration parameters if upper multiplicity is 0.
Pwm_17_GtmCcu6	0000053912-11103	Description: Glitch possible during Pwm_Init for ATOM fixed period/ variable period channels Impact: Glitch is observed during Pwm_Init only for ATOM fixed period/variable period channels with shifted channels handled by offset (PwmHandleShiftByOffset = true) and with polarity LOW(PwmPolarity = PWM_LOW)
Spi	0000053912-11379	Description: Default value of xdm file and UM documents are not in sync for SpiIdleTime, SpiTrailingTime and SpiTimeClk2Cs. Impact: Much lower delay will be allowed to be configured since the start range is lower value.
	0000053912-12218	Description: SPI_E_UNINIT DET reported from Spi_MainFunction_Handling. Impact: DET reported when Spi_MainFunction_Handling is called when SPI module is not initialized.
Wdg_17_Scu	0000053912-12307	Description: Incorrect information provided in WDG UM Impact: In WDG UM, "system WDT" is mentioned in Hardware-software mapping chapter. The "system WDT" peripheral does not exist and should be renamed as "Safety WDT"

Table 24 Summary of enhancement from 1.40.0 to 2.0.0-alpha

Module	Issue number	Description
Generic	0000053912-9812	<Mod>_InitCheck() re-entrancy attribute corrected and made consistent across MCAL
	0000053912-9090	UM update: Provide SFRs accessed per API
	0000053912-8608	AoUs provided in a separate XML file, in addition documented in UM
	0000053912-8075	UM update: AMDC violations described
	0000053912-788	MCAL developed in compliance with SEI CERT-C Coding Standard, 2016 Edition and MISRA-C:2012 guidelines and its Amendment 1.
	0000053912-6691	Generate variation point from Tresos command line

(table continues...)

Summary of changes

Table 24 (continued) Summary of enhancement from 1.40.0 to 2.0.0-alpha

Module	Issue number	Description
	0000053912-661	DMA driver for User mode access corrected (instead of Mcal_SetBitAtomic mapping)
	0000053912-12549	JIRA descriptions in the Release note to be enhanced
	0000053912-12140	UM update: "HW features not supported by drivers" is part of Hardware-Software mapping section
Adc	0000053912-8275	Adc_TriggerStartupCal function description rephrased for clarity
	0000053912-10900	New diagnostic support feature for ADC driver
Bfx	0000053912-4529	BFX APIs made inline
Can_17_McmCan	0000053912-7425	CanObjectId rules are not followed, empty structures will be generated. Refer to UM section: CanObjectId configuration rules.
	0000053912-6029	Implementation of the mixed mode as per AUTOSAR 4.4.0
Crc	0000053912-7888	CRC based CPU instructions used for performance
	0000053912-4717	DMA support added for CRC driver
Fee	0000053912-12148	User manual update for better understanding and clarity regarding polling mode.
Fls_17_Dmu	0000053912-12163	Missing compilation error message for Fls_17_Dmu_VerifyErase when FlsIfxFeeUse not selected. This is API available only when FlsIfxFeeUse is selected.
Gpt	0000053912-6550	AMDC violation corrected in GPT plugin
	0000053912-5341	Support for Gpt_GetTimeElapsed and Gpt_GetTimeRemaining to be invoked across cores
	0000053912-11152	New Safety error GPT_E_INVALID_START for Gpt_StartTimer
Lin_17_AscLin	0000053912-4558	Timeout duration for hardware bit set/rest is made as configurable parameter
Mcu	0000053912-8481	MCU plugin: Restriction of GTM channel usage for one DSADC channel removed
	0000053912-8077	MCU UM limitation added for naming syntax of specific MCU configuration containers
	0000053912-5596	Performance improvements for MCU GTM library
	0000053912-11956	PERPLL errata warning to be raised for affected devices only
	0000053912-11726	Cert-C compliance: MCU GTM library structures aligned to 4-byte boundary
	0000053912-11484	MCU plugin: Clock default values aligned with HW UM
	0000053912-11090	Allocation and association of ASCLIN Kernel to LIN or UART module
	0000053912-11053	ACCESS re-definition compilation error
	0000053912-10551	Peripheral PLL unstable clock output when PERPLLCON0.DIVBY=1 as per PER_PLL_TC.001_EPN

(table continues...)

Summary of changes

Table 24 (continued) Summary of enhancement from 1.40.0 to 2.0.0-alpha

Module	Issue number	Description
Spi	0000053912-9978	Two successive DEMs are reported with DEM_EVENT_STATUS_FAILED and DEM_EVENT_STATUS_PASSED.
	0000053912-7094	For every asynchronous channel transmission, couple of DMA TRL errors will be reported one during the BACON update and second after the last element movement from FIFO.
	0000053912-10697	SpiJobQueueLengthQspix to consider additional slot as part of code generation itself, documentation regarding SpiJobQueueLengthQspix to be updated.
	0000053912-10696	Spi_QspiDmaCallout,Spi_QspiDmaErrCallout and Spi_IsrQspiError functions does not report any errors if invalid DMA channeld / event / invalid QSPI number is passed to listed functions.
	0000053912-10277	SpiTrailingTime is the delay introduced for every data element transmitted on SPI interface, details about the same is missing in parameter description.

4 Known issues

This chapter describes the prescribed workarounds for all the open issues identified.

Table 25 Known issues

Module	Issue number	Description
Pwm_17_GtmCcu6	0000053912-18365	Description: Glitch during Pwm_Init on PWM TOUT pins if default TOUT is used for other TOM/ATOM channels. Impact: Initialization of one of the GTM PWM channels may trigger a glitch on the output pin of other TOUTSEL. The scenario occurs when the affected TOUTSEL holds a default value (HW reset value) such that the PWM channel under initialization is driving the affected TOUTSEL (in turn the PORT pin also, note that Port_Init() is already invoked). Hence, during the initialization phase a glitch is observed on such channels. Work around: In order to avoid such a glitch on the port pins, the user may follow one of the following workarounds: • To set the port pins used by the PWM channels as input during the initialization phase of the PWM driver. After completion of the initialization, the port pin's ALT mode can be restored to PWM. • To set the port pins used for PWM channels as "Output Low" or "Output High" during the initialization phase of the PWM driver. After completion of the initialization, the port pin's ALT mode can be restored to PWM.
	0000053912-18326	Description: Tresos error description when referred channel number is less for center-aligned and Shifted period with PwmHandleShiftByOffset disabled is not clear. PwmHandleShiftByOffset is not applicable for PWM Center aligned channels the same shall be added as limitation in UM. Impact: No functional impact. Improvement needed in tresos error message description and UM to be updated for limitation. Workaround: None
	0000053912-18882	Description: Multiple PWM instances are not supported in the MCAL project Impact: The code generator may throw error if more than one PWM instances are present in the MCAL project Workaround: None

(table continues...)

Known issues

Table 25 (continued) Known issues

Module	Issue number	Description
Fee	0000053912-18334	Description: Software skips 3 wordlines instead of 2 wordlines when Fee_Cancel/Fee_17_CancelAll is called during comparison after marker page of a block is written and the marker page is the last page of the wordline. Impact: No functional impact but results in reduced memory space in sector. Workaround: None
	0000053912-18598	Description: Incorrect generation of Sector 1 address using FEE initial data generator pearl script when the size of NVM sector 1 size is greater than 65536 to 131071 Impact: :Incorrect values shall be generated for Sector address. Workaround: address is correctly generated by modifying perl script.
	0000053912-18727	Description: The Fee_Init() may invoke the endinit function in FLS via Fls_17_Dmu_ReadWordsSync(), meant to be called only during runtime, causes unintended user mode API access. Impact:The Fee initialization access user mode function in FLS, deviates the trusted code access. Workaround: None
	0000053912-19510	Description: Fee_17_GetQuasiStaticBlockInfo rejects request when driver state is MEMIF_BUSY_INTERNAL. Impact: MCAL raises "FLS_17_DMU_SE_HW_BUSY" DET and rejects BlockInfo request (Fee_17_GetQuasiStaticBlockInfo) being called when Fee is in MEMIF_BUSY_INTERNAL state. Workaround: Fee status needs to be idle before calling Fee_17_GetQuasiStaticBlockInfo API
Fls_17_Dmu	0000053912-18512	Description: 'Fls_17_Dmu_Job_Type' data type is referenced two times in Fls_17_Dmu_Bswmd.arxml file Impact: No functional impact. Workaround: None
	0000053912-18878	Description: Multiple FLS instances are not supported in the MCAL project Impact: The code generator may throw error if more than one FLS instances are present in the MCAL project Workaround: None
	0000053912-19320	Description: Mismatch of default value between User Manual and Configuration Verification Manual for parameters FLS_17_DMU_ERASE_TIME and FLS_17_DMU_WRITE_TIME Impact: No functional impact. Workaround: User to consider default value from User Manual for verification

(table continues...)

Known issues

Table 25 (continued) Known issues

Module	Issue number	Description
Bfx	0000053912-18681	Description: Missing <module>_AR_RELEASE_<MAJOR|MINOR|REVISION>VERSION for Bfx Impact: <module>_AR_RELEASE_<MAJOR|MINOR|REVISION>VERSION version check cannot be done Workaround: None
Can_17_McmCan	0000053912-18837	Description: McuClockReferencePointConfig <ORIGIN> is "AUTOSAR" but it should be "AURIX2G" as the <ORIGIN> is assigned to "INFINEON_AURIX2G". Impact:BMD and XDM files are having incorrect <ORIGIN> for McuClockReferencePointConfig parameter. Workaround: User shall consider <ORIGIN> to be AURIX2G for McuClockReferencePointConfig parameter.
	0000053912-18876	Description: Multiple CAN instances are not supported in the MCAL project Impact: The code generator may throw error if more than one CAN instances are present in the MCAL project Workaround: None
Icu_17_TimerIp	0000053912-18880	Description: Multiple ICU instances are not supported in the MCAL project Impact: The code generator may throw error if more than one ICU instances are present in the MCAL project Workaround: None
	0000053912-19027	Description: Inconsistent Period and Active Time values from Icu_17_TimerIp_GetDutyCycleValues() API Impact: Inconsistency between PeriodTime and ActiveTime leads to wrong signal measurements Workaround: Don't enable the interrupts before invoking Mcu_17_Ccu6_ChannelIsr(CCU6_KERNEL_0, CCU6_CHANNEL_0); in Ccu6_Irq.c, the file is editable by customer yes
Lin_17_AscLin	0000053912-18881	Description: Multiple LIN instances are not supported in the MCAL project Impact: The code generator may throw error if more than one LIN instances are present in the MCAL project Workaround: None
	0000053912-18963	Description: When Go-to-Sleep command send to slave, the Lin module clears the interrupts for the falling edge detection on the RX line Impact: LIN not to wakeup even if a wakeup is detected from that channel once its moved to sleep. Workaround: User can enable/re-enable the wakeup functionality with the API Lin_GoToSleepInternal()

(table continues...)

Table 25 (continued) Known issues

Module	Issue number	Description
Port	0000053912-19210	Description: PCSR register incompletely documenting use for EVADC PDD and MD feature -TC33x/TC32x Impact:The user cannot use the EVADC Pull Down Diagnostics (PDD) / Multiplexer Diagnostics (MD) feature for the following Port analog input pins P00.10, P00.11 and P40.5. Workaround: None
CanTrcv_17_V9251, CanTrcv_17_V9255	0000053912-19278	Description: As per Autosar specification CanTrcvWakeupSourceRef parameter shall be optional parameter under CanTrcvChannel but it was implemented as a container inside a list in CanTrcv definition file. Impact: Invalid reference to CanTrcvWakeupSourceRef can throw generation error. Workaround: The user of CanTrcv to update there reference path to locate the IFX provided CanTrcvWakeupSourceRef parameter
General	0000053912-18587 0000053912-18658	Description: Verification criteria/action items/procedures described in configuration verification manual are not as per generated values Impact: No functional impact. Documentation issue Workaround: None
Adc, Can_17_McmCan, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu	0000053912-18845	Description: Post build variant supported only with Infineon EcuC plugin Impact: The postbuild variants cannot be generated without Infineon EcuC plugin and the plugin is not conforms to Autosar Standard Workaround: The EcuC plugin can be adapted in reference with the Infineon provided EcuC plugin stub and utilized for generation of MCAL modules

5 Limitations and deviations

This chapter describes the limitations and deviations due to software/hardware design constraints.

5.1 Limitations

Refer to the *Deviation and limitations* section in the respective MCAL User Manual.

5.2 Deviations

Table 26 Known deviations

Module name	Description	Impact on module
BMD	The BMD files provided in the package are not fully compliant to AUTOSAR.	Following warnings are observed in the plug-in files: • Software version check: No corresponding BSW-IMPLEMENTATION node for component 'MOD' found. • Vendor ID check: No corresponding BSW-IMPLEMENTATION node for component 'MOD' found. • BSW-IMPLEMENTATION node should exist but was not found. ArMajorVersion/ArMinorVersion/ArPatchVersion/ SwMajorVersion/SwMinorVersion/SwPatchVersion/ VendorId should not be set in the CommonPublishedInformation container in AUTOSAR Version 3.x or higher. Parameter maximum value should not be set with the value 'INF' in VSMD.

Note: For AMDC & VSMD deviations please refer to respective module User manual.

5.2.1 HIS-MISRA violations

Table 27 MISRA violations

MISRA_2012_Rule	Rule description	Justification for deviation	Modules applicable
1.3	There shall be no occurrence of undefined or critical unspecified behavior	This rule violation is agreed as we need to store the address passed in the called function in many scenarios.	Adc, Can_17_McmCan, Crc, Fee, Fls_17_Dmu, Icu_17_TimerIp, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
2.2	There shall be no dead code	Values are assigned in assembly instructions. Therefore, they are actually used and not dead code.	Adc, Dio, Gpt, Icu_17_TimerIp, Mcu, Ocu, Port, Pwm_17_GtmCcu6
2.5	A project should not contain unused macro declarations	Allowed violations as macros used in different configuration.	CanTrcv_17_V9251, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Ocu, Port, Pwm_17_GtmCcu6, Spi
2.7	There should be no unused parameters in functions	Parameters are used in assembly instructions. Therefore, they are actually used.	Adc, Bfx, Dio, Icu_17_TimerIp, McalLib, Mcu, Pwm_17_GtmCcu6

(table continues...)

Table 27 (continued) MISRA violations

MISRA_2012_Rule	Rule description	Justification for deviation	Modules applicable
4.9	A function should be used in preference to a function-like macro where they are interchangeable	Allowed violations in cases where function like macro, '*_GetVersionInfo', and intrinsic macros.	Adc, Bfx, CanTrcv_17_V9251, CanTrcv_17_W9255, Can_17_McmCan, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
4.10	Precautions shall be taken in order to prevent the contents of a header file being included more than once	Allowed violations in case where Mod_Memmap.h is repeatedly included without include guard. This is as per AUTOSAR.	Adc, Bfx, CanTrcv_17_V9251, CanTrcv_17_W9255, Can_17_McmCan, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
5.1	External identifiers shall be distinct	Allowed violations in cases where external identifiers are going beyond 32 chars (some due to AS naming conventions, some due to module design, but mostly in the generated code.)	Adc, CanTrcv_17_V9251, CanTrcv_17_W9255, Can_17_McmCan, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
5.2	Identifiers declared in the same scope and name space shall be distinct	Allowed violations in cases where external identifiers are going beyond 32 chars (some due to AS naming conventions, some due to module design, but mostly in the generated code.)	Adc, CanTrcv_17_V9251, CanTrcv_17_W9255, Can_17_McmCan, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu

(table continues...)

Table 27 (continued) MISRA violations

MISRA_2012_Rule	Rule description	Justification for deviation	Modules applicable
5.4	Macro identifiers shall be distinct	Allowed violations in cases where external identifiers are going beyond 32 chars (some due to AS naming conventions, some due to module design, but mostly in the generated code.)	Adc, CanTrcv_17_V9251, CanTrcv_17_W9255, Can_17_McmCan, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
5.5	Identifiers shall be distinct from macro names	Allowed violations in cases where external identifiers are going beyond 32 chars (some due to AS naming conventions, some due to module design, but mostly in the generated code.)	Adc, CanTrcv_17_V9251, CanTrcv_17_W9255, Can_17_McmCan, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
8.3	All declarations of an object or function shall use the same names and type qualifiers	parameter list differs from prior declaration	Ocu
8.4	A compatible declaration shall be visible when an object or function with external linkage is defined	Allowed violations for the following intrinsic functions: IMASKLDMST, EXTRACT.	Crc, Fee, Fls_17_Dmu, Spi
8.7	Functions and objects should not be defined with external linkage if they are referenced in only one translation unit	The extern declaration should be done by the application. Hence, the structure is not made static.	Fee, Spi
8.9	An object should be defined at block scope if its identifier only appears in a single function	Global constants not declared within block scope, but used only in one function. Declaring const in an API scope may lead to confusion.	Adc, CanTrcv_17_W9255, Crc, Can_17_McmCan, Dio, Gpt, Icu_17_TimerIp, Fls_17_Dmu, Mcu,Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
8.13	A pointer should point to a const-qualified type whenever possible	Use of assembly instruction on some address pointers, hence cannot pass them as const.	Adc, Bfx, Gpt, Icu_17_TimerIp, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6

(table continues...)

Table 27 (continued) MISRA violations

MISRA_2012_Rule	Rule description	Justification for deviation	Modules applicable
10.1	Operands shall not be of an inappropriate essential-type	Measurement Mode Default Start Edge Measurement Property Wakeup capability Assigned Hardware Resource Number. Hence, no side effects foreseen by violating this.	Icu_17_TimerIp
10.3	The value of an expression shall not be assigned to an object with a narrower essential type or of a different essential type category	DataType is defined as enum to differentiate between type of data NORMAL DATA and IMMEDIATE DATA. It is defined as enum to increase the readability of the code such that the values being used could be identified. Changing this will compromise the code maintainability and readability.	Adc, Crc, Fee, Lin_17_AscLin, Mcu, Port, Spi
10.4	Both operands of an operator in which the usual arithmetic conversions are performed shall have the same essential type category	Typecasting is done. Types are same and hence no issue is seen.	Fee, Fls_17_Dmu, Icu_17_TimerIp
10.5	The value of an expression should not be cast to an inappropriate essential type	DataType is defined as enum to differentiate between type of data NORMAL DATA and IMMEDIATE DATA. It is defined as enum to increase the readability of the code such that the values being used could be identified. Changing this will compromise the code maintainability and readability.	Lin_17_AscLin, Mcu
10.8	The value of a composite expression shall not be cast to a different essential type category or a wider essential type	Impermissible cast of composite expression used for hardware descriptor access. Hence no issues are seen.	Fls_17_Dmu

(table continues...)

Table 27 (continued) MISRA violations

MISRA_2012_Rule	Rule description	Justification for deviation	Modules applicable
11.1	Conversions shall not be performed between a pointer to a function and any other type	Cast between pointer to another type does not cause any side effect.	Mcu
11.3	A cast shall not be performed between a pointer to object type and a pointer to a different object type	Cast performed between a pointer to object type and a pointer to a different object type due to SFR access.	Can_17_McmCan, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
11.4	A conversion should not be performed between a pointer to object and an integer type	Allowed violations in cases where rule is violated for SFR access only.	Adc, Can_17_McmCan, Crc, Fls_17_Dmu, McalLib, Mcu, Spi
11.5	A conversion should not be performed from pointer to void into pointer to object	Allowed violations as internal function performs initialization at 1 byte at a time. For such operations, the pointer type conversion is required.	Crc, Dio, Gpt, Icu_17_TimerIp, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
11.6	A cast shall not be performed between pointer to void and an arithmetic type	Allowed violations for SFR access only.	Adc, Can_17_McmCan, Crc, Fls_17_Dmu, McalLib, Mcu, Spi
11.8	A cast shall not remove any const or volatile qualification from the type pointed to by a pointer	Allowed violation for SFR access only and the solution gives compile time warning with different compilers.	Adc, Fee, Fls_17_Dmu, Icu_17_TimerIp, Lin_17_AscLin, McalLib, Port, Pwm_17_GtmCcu6, Spi
13.2	The value of an expression and its persistent side effects shall be the same under all permitted evaluation orders	No side effects foreseen. This rule violation is agreed as we need to store the address passed in the called function in many scenarios.	Fls_17_Dmu
13.5	The right hand operand of a logical && or || operator shall not contain persistent side effects	SFR register which is volatile is used to check for condition directly. It is checked in the timeout count while loop. The checked value does not keep changing. It is checked only for transition from 0 to 1. Hence, it is not an issue.	Can_17_McmCan, Fls_17_Dmu

(table continues...)

Table 27 (continued) MISRA violations

MISRA_2012_Rule	Rule description	Justification for deviation	Modules applicable
15.4	There should be no more than one break or goto statement used to terminate any iteration statement	Terminating the loop is required since every element needs to be checked before inserting in the Queue.	Spi
18.1	A pointer resulting from arithmetic on a pointer operand shall address an element of the same array as that pointer operand	The timer values are read from status register and, therefore, the value of timer is within range.	Fee,Adc
18.4	The +, -, += and -= operators should not be applied to an expression of pointer type	Allowed violation in cases where pointer arithmetic other than array indexing is used.	Adc, Dio, Fee, Fls_17_Dmu, Gpt, Ocu, Port
19.2	The union keyword should not be used	Allowed violation in cases where pointer arithmetic other than array indexing is used for SFR access.	Adc, Can_17_McmCan, Crc, Gpt, Icu_17_TimerIp, Mcu, Spi, Wdg_17_Scu
20.1	#include directives should only be preceded by preprocessor directives or comments	Allowed violations in cases where declaration before #include memap.h as per AUTOSAR.	Adc, Bfx, CanTrcv_17_V9251, CanTrcv_17_W9255, Can_17_McmCan, Crc, Dio, Fee, Fls_17_Dmu, Gpt, Icu_17_TimerIp, Lin_17_AscLin, McalLib, Mcu, Ocu, Port, Pwm_17_GtmCcu6, Spi, Wdg_17_Scu
20.10	The # and ## preprocessor operators should not be used	Function like macro used to call the TriCoreTM intrinsic function, and reviewed to confirm no side effects.	McalLib

5.2.2 Cert C violations

Table 28 Cert C violations

CertC_2016_Rule	Rule description	Justification for deviation	Modules applicable
ARR30-C	Do not form or use out-of-bounds pointers or array subscripts	DLC length parameter which is passed is used as the index. This parameter is checked to be valid by the caller.	Fee

(table continues...)

Table 28 (continued) Cert C violations

CertC_2016_Rule	Rule description	Justification for deviation	Modules applicable
DCL39-C	Avoid information leakage in structure padding	The pointer parameter passed might be a NULL_PTR as the external function is called to initialize the pointer. This is the intended design	Can_17_McmCan, Crc, Spi
EXP36-C	Do not cast pointers into more strictly aligned pointer types	Conversion between pointers of different object types due to SFR access.	Fee, McalLib, Mcu, Port, Spi
EXP39-C	Do not access a variable through a pointer of an incompatible type	Pointer used for SFR access. Type casted to the base type	Can_17_McmCan, Fee, Fls_17_Dmu, Icu_17_TimerIp, Mcu, Port, Spi, Wdg_17_Scu
INT30-C	Ensure that unsigned integer operations do not wrap	It is ensured during configuration that every job contains atleast one channel and thus the minimum value of the ChannelIndex is always 1. Hence, there is no case of an overflow	Crc, Fee, Spi

6 Support packages

Attention**: **The following information is given for evaluation purposes only. Modifications to these packages are made at your own risk.

The package also includes Build Environment, Demo Application, Fee Cycle Calculator, Fee GC & Write Cycles, Fee Initial Data Generator, Fee Data Analyzer, MCU Clock Calculator which are not attached with any quality but provided for demonstration purpose only.

Table 29 Release zip contents with no quality associated

Package content	Description
`MC-ISAR_TC3xx_MemoryConsumption.zip`	Memory footprint and corresponding configuration files for drivers. *Note: The values are indicative. Exact values will depend on Configuration and compilers used.*
`MC-ISAR_TC3xx_SW_WCET.xlsx`	File contains the Worst Case execution time for various drivers. *Note: The values are indicative. Exact values will depend on Configuration and compilers used.*
`MC-ISAR_TC3xx_MCU_Clock_Calculator.xslm`	Mcu clock calculator tool generates the clock tree frequencies which can be used for Mcu clock configuration. The tool accepts inputs like PLL divider values and oscillator frequency. Based on the input, it generates multiple sets of frequencies for different divider values for the clock tree. *Note: The values are indicative. Exact values will depend on Configuration and compilers used*
`MC-ISAR_AS440_TC3xx_Package_Integrity_BASIC_2.25.0.txt`	This file contains information about the package integrity checksum with instructions to the user on how to check the package integrity.
`MC-ISAR_TC3xx_HWErrataAnalysis.xlsx`	Contains analysis for the hardware errata sheet
`MC-ISAR_TC3xx_FEE_Cycle_Calculator.xlsx`	Calculates required amount of threshold and flash cycles based on user provided block information, such as block size and no of writes over the lifecycle.
`MC-ISAR_TC3xx_Fee_GC_&_Write_Cycles.zip`	This perl script provides the estimated number of FEE and FLS Main Function cycles needed for completing Garbage Collection and 1 FEE write.

(table continues...)

Table 29 (continued) Release zip contents with no quality associated

Package content	Description
MC-ISAR_TC3xx_FEE_Initial_Data_Generator.zip	This tool can be used for creating hex file with initial state pages as per FEE design, with/without first version of data blocks. This zip includes a perl script, example input & out files and tool user manual.
MC-ISAR_TC3xx_FEE_data_analyzer.zip	'Fee data analyzer' tool analyzes the data-flash dump taken in the Intel hex format and provides key information about the FEE blocks and sectors found in the data dump.
MC-ISAR_AS440_TC3xx_BASIC_2.25.0_File_Version.html	Version information for files provided in package executable.

6.1 Build environment

Table 30 Build environment

Folder name	Description
Tools\ Bifaces	Contains tools for the Build environment

6.1.1 Open source software

The Tools\Bifaces folder contains items that are governed by Open Source Software.

The following table lists details related to copyright information, licensing terms and additional information (for example, how to obtain the source code of such Open Source Software).

Table 31 Bifaces and tools

Folder name	Copyright and licensing details
bin	Contains GNU tools. GNU General Public License, version 2 (GPLv2): https://www.gnu.org/licenses/old-licenses/gpl-2.0.en.html GNU General Public License, version 3 (GPLv3): https://www.gnu.org/licenses/gpl.html
DocTools\doxygen	Contains Doxygen tool. GNU General Public License, version 2 (GPLv2): https://www.gnu.org/licenses/old-licenses/gpl-2.0.en.html
DocTools\Graphviz	Contains Graph tool. Common Public License, version 1.0 (CPL-1.0) https://opensource.org/licenses/cpl1.0.php
Php\license.txt Php\php.exe Php\php5.dll	Contains PHP script interpreter. PHP License, version 3.01 http://php.net/license/3_01.txt

6.2 Example demo application

These files contain the TC3xx demo routines. The following table describes different folders/files.

Table 32 Demo workspace

Folder / file name	Description
`\DemoWorkspace\McalDemo\<device>\0_Src`	Contains the source files needed to run the Demo application
`\DemoWorkspace\McalDemo\<device>\1_ToolEnv`	Contains the tools necessary to build the Demo application
`DemoAppBuild.bat`	Batch file that can be used to build the Demo application

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