MC-ISAR_AS440_TC3xx_CD_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 complex 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 modules supported in this release are:

- Dma (20.10.0)
- Dsadc (20.25.0) (NA for TC32x/TC33xPD/TC33xEXT/TC35x)
- FlsLoader (20.20.0)
- Smu (20.25.0)
- Uart (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.*

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.

Release Notes
www.infineon.com
Please read the sections "Important notice" and "Warnings" at the end of this document
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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_CD_2.25.0.zip` file. The contents of this file include MCAL software, EB tresos plugin files (BMD included), User Manuals and Release Notes.

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_CD_2.25.0.exe`	Product installer to be used with AUTOSAR Version 4.4.0
`Releasenote_MC-ISAR_AS440_TC3xx_CD_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

Refer to the `Releasenote_MC-ISAR_AS440_TC3xx_BASIC_<yyy>.pdf` for details on the common files, where <yyy> represents corresponding release number.

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1.2.3　　　EB tresos plugin files

Table 3　　　**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 anchors.xml	Contains the plug-in information, located in `\McIsar\PluginsTresos\eclipse\Plugins\<Mod>_Aurix2G`

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 4　　　**Module-wise quality**

Module	Release quality	Safety Level
Dma	PR	ASIL B, SIL2
Dsadc	PR (NA for TC32x/TC33xPD/TC33xEXT/TC35x)	ASIL B, SIL2
FlsLoader	PR	QM
Smu	PR	ASIL B, SIL2
Uart	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

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- 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 5 **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 6 **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

(table continues…)

Tool information

Table 6   **(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-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
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

(table continues…)

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Table 6 **(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-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
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

(table continues…)

Tool information

Table 6 **(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-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
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

(table continues…)

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Table 6 **(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-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
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 7 **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	None
Deleted parameters	None
Modified parameters	**Dsadc**, **Smu**, **Uart** SwMinorVersion default value is updated **Dsadc** DsadcClcFailureNotification*, DsadcFifoFailureNotification* **Smu** SmuSafetyEnable*, SmuDemEventParameterRefsConf*,SwPatchVersion default value is updated
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 8 **Summary of bugs from 2.20.0 to 2.25.0**

Module	Issue number	Description
Dsadc	0000053912-19410	Description: Typo error in plugin files Impact: InputMuxActionMode configuration parameter with dependency on DsadcTriggerMode is not generated correctly.
Dsadc, Uart, Smu	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 9 **Summary of enhancement from 2.20.0 to 2.25.0**

Module	Issue number	Description
Smu, Uart, Dsadc	0000053912-18200	Description: Production and runtime development errors are passed through a wrapper to enable better safety partitioning at system level.
Smu, Uart, Dsadc, Dma	0000053912-18571	Description: Claim to IEC 61508 SIL - 2 to the applicable modules.
Dma, Dsadc	0000053912-19016 0000053912-19017	Description : Return value condition for E_NOT_OK not clear for Dma_InitCheck and Dsadc_InitCheck API

(table continues...)

Summary of changes

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

Module	Issue number	Description
Dma	0000053912-19312	Description: Enhanced the return value explanation of E_NOT_OK for Dma_IsInitDone, Dma_MEStatusClear API.

Note: Generic ones are to be referred from BASIC Release notes.

3.2   Issues fixed in release 2.20.0

Table 10   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	None
Deleted parameters	None
Modified parameters	**FlsLoader, Uart** SwMinorVersion, SwPatchVersion default value is updated **Flsloader** · Added configuration rule for parameters FlsLoaderPF0Sector, FlsLoaderPF1Sector, FlsLoaderPF2Sector, FlsLoaderPF3Sector, FlsLoaderPF4Sector **UART** · Parameter name changed from UartStreamingNotifPtr to UartStreamingRecvNotifPtr
Can the previously saved configuration be reused?	Yes

Table 11   Summary of bugs from 2.10.0 to 2.20.0

Module	Issue number	Description
FlsLoader	0000053912-17797	Description: Limit the maximum erase sector value to 256Kb as per errata FLASH_TC.053 Impact: Fail to start up after a primary voltage monitor triggered (cold) PORST when an erase operation is ongoing and size of logical sector greater than 256KB
	0000053912-17606	Description:FlsLoader_Init() rely on reset value of HF_EER and HF_CCONTROL for proper function of driver. Impact: Drive may not work properly if HF_EER and HF_CCONTROL are modified by user and is not at reset value during the call to FlsLoader_Init().

(table continues...)

Summary of changes

Table 11   **(continued) Summary of bugs from 2.10.0 to 2.20.0**

Module	Issue number	Description
Smu	0000053912-18457	Description: SMU_stdby restriction for using P33.8 as Emergency Stop input as per errata SMU_TC.H016 Impact: SMU_stdby sets P33.8 to high impedance the port triggered emergency stop function on this port will be disabled and no emergency stop event will be generated as consequence
Uart	0000053912-17921	Description: Name mismatch for the configuration parameter between the UART user manual and the UART plugin file. As per the UART user manual, the parameter name is 'UartStreamingRecvNotifPtr', but in the UART plugin it is given as 'UartStreamingNotifPtr'. Impact: No functional impact.

Table 12   **Summary of enhancement from 2.10.0 to 2.20.0**

Module	Issue number	Description
FlsLoader	0000053912-18248	Description: No warning in Tresos for different sector-wise protection settings for PFlash Impact: PFlash not protected sector-wise as configured

Note: *Generic ones are to be referred from BASIC Release notes.*

3.3   Issues fixed in release 2.10.0

Table 13   **Configuration changes from 2.0.0 to 2.10.0**

Compatibility check	Result
Are there any change in parameters supplied from previous version?	Yes
Added parameters	**Dsadc** • DsadcRestartIntegratorApi **Uart** • UartStreamingRecvModeApi • UartStreamingNotifPtr
Deleted parameters	None
Modified parameters	**Dma, Dsadc, Uart** • SwMinorVersion, SwPatchVersion default value is updated
Can the previously saved configuration be reused?	Yes

Summary of changes

Table 14 **Summary of bugs from 2.0.0 to 2.10.0**

Module	Issue number	Description
Dma	0000053912-17255	Description: The user manual of DMA driver contains the following errors. 1. The data type of input parameter for Dma_InitCheck API was incorrect. 2. DMA_E_NULL_POINTER was incorrectly mentioned as one of the errors reported by Dma_GetCrcValue API. Impact: No functional impact.
	0000053912-16902	Description: DMA UM unused error code DMA_E_NOT_IN_FREEZE_STATE for Dma_ChEnableHardwareTrigger(). Impact: Wrong documentation in DMA UM of unused error code DMA_E_NOT_IN_FREEZE_STATE for Dma_ChEnableHardwareTrigger().
	0000053912-17436	Description: The DMA driver APIs (Dma_ChInterruptHandler, Dma_MEInterruptDispatcher) used the same service IDs assigned for the DSADC driver APIs (Dsadc_Init, Dsadc_DeInit). Impact: DMA and DSADC are complex drivers and the Module ID will be same as 255 for both. During the DET/Safety error reporting, the user will not be able to differentiate the errors reported from Dma_ChInterruptHandler and Dsadc_Init as same service ID 0x1A is used. Dma_MEInterruptDispatcher does not have any impact since it does not report any error, even though Service ID is 0x1B same with Dsadc_DeInit.
	0000053912-17548	Description: Dma driver does not clear ME error flags during the initialization of the driver. Impact: If there are any ME errors present in the ME registers before initialization of the driver, they would not be cleared. When new errors occur, these flags are also reported along with any new error flags, unless cleared explicitly.
Uart	0000053912-17497	Description: Uart_Init() function did not explicitly configure the FIFO mode. Impact: If the UART FIFO mode register bits are not in reset state while UART driver initialization, UART driver functionality may fail.
	0000053912-17107	Description: Inconsistent error handling macro names given for frame error and parity error in source code and User Manual. Impact: Ambiguity in application software during UART error processing.

Table 15 **Summary of enhancement from 2.0.0 to 2.10.0**

Module	Issue number	Description
Dsadc	0000053912-11104	New APIs introduced to support the Calibration of external components.
	0000053912-10171	New APIs introduced which helps in improving the Angle accuracy measurements.

(table continues...)

Summary of changes

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

Module	Issue number	Description
Uart	0000053912-12624	The feature "UART reception in streaming mode" is added. The streaming mode allows to receive the UART data, in which the data length and data receive instant is not known.

Note: Generic ones are to be referred from BASIC Release notes.

3.4   Issues fixed in release 2.0.0

Configuration changes

Table 16   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	**Dma,Smu** • SwPatchVersion is updated.
Can the previously saved configuration be reused?	Yes

Table 17   Summary of bugs from 2.0.0-rc to 2.0.0

Module	Issue number	Description
Dma	0000053912-16826	Description: Interrupt event information can be missed in the Dma channel interrupt notification call. Impact: If channel interrupts for same channel occurs again while the interrupt service routine is being executed, the event information can be missed in the latter interrupt notification call, as the interrupt flags get cleared only at the end of the interrupt service routine. In such instances, the Dma driver would report 'DMA_EVENT_CH_UNKNOWN_EVENT' as the event information in the channel notification function.
	0000053912-16681	Description: Init check service reports failure if CRC is configured in linked list. Impact: The Init check service can report a failure if all of the following conditions are true: Init check service is enabled, linked list feature is enabled, the TCSes are created using the configuration tool (e.g. EB Tresos) and the first TCS of the linked list uses the CRC registers with non-zero values. Please note that there would not be any impact if the TCSes are created at runtime, instead of creating in the configuration tool.

(table continues...)

Summary of changes

Table 17 **(continued) Summary of bugs from 2.0.0-rc to 2.0.0**

Module	Issue number	Description
Smu	0000053912-16142	Description: Description correction in Smu AoU on Initialization check. Impact: Smu_LockConfigRegs() need not be called immediately after Smu_InitCheck since user may require to configure the ErrorPin and Release FSP.
	0000053912-16295	Description: Errata SMU_TC.013 - Unexpected setting of Alarm Missed Event bit xAEM in Alarm Executed Status register SMU_AEX. Impact: If the xAEM bit is not cleared while clearing xSTS, only the alarm missed event xAEM functionality will not be available for later alarm events. Please refer SMU_TC.013 for more details.
	0000053912-16345	Description: SMU unavailable alarms for TC36x devices. Impact: As per TC36x_appx_um_v1.6.pdf, SMU alarms ALM7[12:16] and ALM11[0:1] are unavailable in TC36x devices.
	0000053912-16874	Description: For TC33xED devices, SMU Group 6 ALM10 to 12 and Group 7 ALM19 are reserved. Impact: User can configure SMU alarms for these reserved bits but expected reaction will not be generated for these reserved alarms.

Table 18 **Summary of enhancement from 2.0.0-rc to 2.0.0**

Module	Issue number	Description
Dsadc	0000053912-16875	DSADC UM updated based on HW UM 2.0 with a note to the Gain factor parameter descriptions, to help the user to configure the parameter correctly.

Note: *Generic ones are to be referred from BASIC Release notes.*

3.5 Issues fixed in release 2.0.0-rc

Configuration changes

Table 19 **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
Added parameters	None
Deleted parameters	None

(table continues...)

Summary of changes

Table 19   **(continued) Configuration changes from 2.0.0-alpha to 2.0.0-rc**

Compatibility check	Result
Modified parameters	**Dma, Dsadc, Smu, Uart:** • SwPatchVersion default value is updated. **Uart:** • UartSafetyEnable, UartAutoCalcBaudParams, UartChanBaudPrescalar parameter default value is modified. • Added editable condition UartCTSPinSelection parameter
Can the previously saved configuration be reused?	Yes

Table 20   **Summary of bugs from 2.0.0-alpha to 2.0.0-rc**

Module	Issue number	Description
Dma	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.
	0000053912-15430	Description: DMA does not fulfill the requirement for Spurious interrupt handling Impact: DMA driver does not validate the interrupt and report spurious interrupt error. Dma driver will gracefully exit if invalid interrupt occurs.
	0000053912-15624	Description: Dma_SetPattern support for User mode execution. Impact: Dma_SetPattern execution in User mode will not work as the registers accessed can be written only in Supervisor mode.
	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.
	0000053912-15686	Description: Compiler warnings observed from Dma_DeInit API of DMA driver for single core devices. Impact: Compiler warnings will be observed from Dma_DeInit API of DMA driver on single core devices. This is due to the multicore error check to ensure other cores are de-initialized before master core is de-initialized. This is redundant check for single core devices.
Dsadc	0000053912-13284	Description: Incorrect timestamp value is given for invalid scenario i.e, when Linear buffer is used and before window close event occurs buffer is filled, in this scenario driver should fill buffer entry location with the value 0xFFFF, but some random value is stored. Impact: User might interpolate result value with the wrong timestamp value.

(table continues…)

Infineon

Summary of changes

Table 20 **(continued) Summary of bugs from 2.0.0-alpha to 2.0.0-rc**

Module	Issue number	Description
	0000053912-13279	Description: Incorrect compiler error string is reported when Dsadc_Isr function is called and the corresponding pre compile switch is disabled.
		Impact: Since compiler error text does not contain function name, user will not be able to find the invalid function call.
Smu	0000053912-15058	Description: Smu_ClearAlarmStatus will incorrectly disable SMU_stdby.
		Impact: Smu_ClearAlarmStatus will disable SMU_stdby Module (SMUEN bit = 0) in addition to clearing the SMU alarm
Uart	0000053912-15350	Description: module header files SHALL NOT include the prototype declarations of MainFunctions.
		Impact: AUTOSAR violation in file inclusion structure in upper layers.
	0000053912-15516	Description: Irrelevant information related to PortPinControllerSelect parameter is present in Uart UM document.
		Impact: As per UM, User will expect this parameter needs to be configured in the port section though not needed by UART driver.
	0000053912-15740	Description: Inconsistent default values given for UartAutoCalcBaudParams, UartChanBaudPrescalar and UartRunTimeErrorDetect parameters in xdm and SAS. Inconsistent ranges given for UartParityBit parameter in xdm and SAS.
		Impact: Tresos does not generate expected code for the default settings of the parameters.

Table 21 **Summary of enhancement from 2.0.0-alpha to 2.0.0-rc**

Module	Issue number	Description
Dsadc	0000053912-15852	Enhancement in gate level & polarity details in UM

Note: *Generic ones are to be referred from BASIC Release notes.*

3.6 Issues fixed in release 2.0.0-alpha

Configuration changes

This is first release with AS440.

Table 22 **Summary of bugs from 1.40.0 to 2.0.0-alpha**

Module	Issue number	Description
Dma	0000053912-12349	Description: Incorrect documentation of ASIL level for Dma_ChInterruptHandler() and Dma_MEInterruptDispatcher().
		Impact: No functional impact. ASIL level for Dma_ChInterruptHandler() and Dma_MEInterruptDispatcher() should be ASIL B, instead of QM.

(table continues…)

Summary of changes

Table 22	(continued) Summary of bugs from 1.40.0 to 2.0.0-alpha	
Module	**Issue number**	**Description**
	0000053912-10890	Description: DMA driver support for CAT2 interrupts added Impact: DMA driver can support CAT2 interrupt context when existing configuration parameter DmaRuntimeApiMode = DMA_MCAL_USER1MODE, in addition to runtime APIs being made available to User1 protection mode.
Smu	0000053912-8818	Description: A2GT-REQ_AoU_SW-15' in MCAL user manual is not inline with 'ESM[SW]:SMU:ALIVE_ALARM_TEST' AoU in safety manual. Impact: Information related to frequency of the "SMU Alive Test" execution is not mentioned. This may lead to incorrect deployment of the safety measure.
	0000053912-12189	Description: Smu_SetAlarmAction() does not support disable of FSP action Impact: User cannot disable FSP action at runtime using Smu_SetAlarmAction() API

Table 23	Summary of enhancement from 1.40.0 to 2.0.0-alpha	
Module	**Issue number**	**Description**
Dsadc	0000053912-8483	DSADC Timestamp feature is added for the window close event
	0000053912-8482	Dsadc_RestartDemodulator service added to support parallel start of DSADC channels
Dma	0000053912-643	DMA plugin update for allocation and association of DMA Channels to Application/MCAL drivers
	0000053912-1966	Pattern matching and Conditional Linked list feature added in DMA driver
	0000053912-11099	DMA driver de-intialization feature is added.
Smu	0000053912-7291	Configuration parameter SmuAGStatusTimeout removed

Note: Generic ones are to be referred from BASIC Release notes.

4 Known issues

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

Table 24 **Known issues**

Module	Issue number	Description
Smu	0000053912-18327	Description: The FSP Signal is corrupted by the Smu_Init() function. Impact: A glitch is observed in FSP signal during Smu_Init() after Application/System reset. Workaround: None
	0000053912-18457	Description: SMU_stdby restriction for using P33.8 as Emergency Stop input as per errata SMU_TC.H016. Impact:SMU_stdby sets P33.8 to high impedance the port triggered emergency stop function on this port will be disabled and no emergency stop event will be generated as consequence. Workaround: Use port pin P21.2 (PORT B) as Emergency Stop input when SMU_stdby is configured to report fault on P33.8
Dma	0000053912-18807	Description: Parameter ShortName changes in DMA was missed to update in RN. Impact:User unaware of the parameter ShortName changes. Workaround: User can follow the parameter name provided in user manual.
Dma, Dsadc, Smu, Uart	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

Note: *Generic ones are to be referred from BASIC Release notes.*

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

Refer to the `Releasenote_MC-ISAR_AS440_TC3xx_BASIC_<yyy>.pdf` for details on the bmd deviations, where <yyy> represents corresponding release number.

5.2.1 HIS-MISRA violations

Table 25   **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.	Dma
2.2	There shall be no dead code	Values are assigned in assembly instructions. Therefore, they are actually used and not dead code.	Dsadc
2.5	A project should not contain unused macro declarations	Allowed violations as macros used in different configuration.	Dma
2.7	There should be no unused parameters in functions	Parameters are used in assembly instructions. Therefore, they are actually used.	Dsadc
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.	Dma, Dsadc, FlsLoader, Smu, Uart
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.	Dma, Dsadc, FlsLoader, Smu, Uart

(table continues…)

Limitations and deviations

Table 25   **(continued) MISRA violations**

MISRA_2012_Rule	Rule description	Justification for deviation	Modules applicable
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.)	Dma, Dsadc, FlsLoader, Smu, Uart
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.)	Dma, Dsadc, FlsLoader, Smu, Uart
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.)	Dma, Dsadc, FlsLoader, Smu, Uart
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.)	Dma, Dsadc, FlsLoader, Smu, Uart
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.	Dma, FlsLoader
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.	Dma, FlsLoader, Smu
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.	Dma, Dsadc, FlsLoader

(table continues...)

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Limitations and deviations

Table 25 (continued) MISRA violations

MISRA_2012_Rule	Rule description	Justification for deviation	Modules applicable
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.	FlsLoader
11.6	A cast shall not be performed between pointer to void and an arithmetic type	Allowed violations for SFR access only.	Dma, Dsadc, FlsLoader
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.	Dma, Dsadc, FlsLoader
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.	Smu
18.2	Subtraction between pointers shall only be applied to pointers that address elements of the same array	Buffer address comparison is used to identify the Result buffer range within the channel buffer range. Validated and no side effects are foreseen	Dsadc
18.3	The relational operators >, >=, < and <= shall not be applied to objects of pointer type except where they point into the same object	Buffer address comparison is used to identify the Result buffer range within the channel buffer range. Validated and no side effects are foreseen	Dsadc
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.	Dsadc, FlsLoader
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.	Dma, FlsLoader
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.	Dma, Dsadc, FlsLoader, Smu, Uart

Limitations and deviations

5.2.2 Cert C violations

Table 26 **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	FlshBank is calculated as per the target addressed passed by user, Target address is validated part of det check hence Flashbank cannot be out of range.	FlsLoader
EXP39-C	Do not access a variable through a pointer of an incompatible type	Casting is done for matching the API, alignment is ensured separately.	Dma, FlsLoader, Smu
INT31-C	Ensure that integer conversions do not result in lost or misinterpreted data	Range check is performed on the input parameter size in the local function Uart_lCheckSize before accessing it. Hence it is safe.	Uart
EXP36-C	Do not cast pointers into more strictly aligned pointer types	Conversion between pointers of different object types due to SFR access.	Dma, FlsLoader

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 Demo Application which is not attached with any quality but provided for demonstration purpose only.

Table 27   Release zip contents with no quality associated

Package content	Description
MC-ISAR_AS440_TC3xx_Package_Integrity_CD_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_AS440_TC3xx_CD_2.25.0_File_Version.html	Version information for files provided in package executable.

6.1   Example demo application

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

Table 28   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

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