

# Information note

## **N° 10306AERRA**

#### Dear customer,

With this Infineon Technologies AG information note, we would like to inform you about the following

# MC-ISAR AURIX Release Notes Addendum V26.0 affecting dedicated TC2xx products



On 16 April 2020, Infineon acquired Cypress.

We are now in the process of merging and consolidating our tools and processes for PCN, Information Notes, Errata and Product Discontinuance.

For further details, please visit our website:

https://www.infineon.com/cms/en/about-infineon/company/cypress-acquisition/

Infineon Technologies AG

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# Information note

# N° 10306AERRA

► Intended start of

delivery

► Products affected	Please refer to attached affected product list 1_cip10306		
► Detailed change information	ation		
Subject	MC-ISAR AURIX Release Notes Addendum V26.0 affecting dedicated products		
Reason	Update of the Release Notes Addendum due to new known issue		
Description	Old	New	
	Release Notes Addendum V25.0	Release Notes Addendum V26.0	
► Product identification	Not applicable (no change of pro	oduct)	
► Impact of change	Assessment in Application required !		
► Attachments	1_cip10306 affected product I 3_cip10306 Release Notes A	ist ddendum V26.0 (MyICP <u>link</u> )	

If you have any questions, please do not hesitate to contact your local sales office.

Not applicable

#### 10306AERRA



# MC-ISAR\_AURIX

#### Release Notes Addendum

Version: V26.0 Date: 2022-02-09

#### About this document

#### Scope and Purpose

This release notes addendum documents all the known issues in MCAL Releases. The issues pertaining to 'PR' and 'MR' releases are documented.

This release notes addendum also provides the following information

- The additional information related to 'Safety mechanisms mentioned in Safety Manual' to be considered with MCAL. Refer Section 3.
- Details on various derivatives supported and derivative restriction applicable for the MCAL drivers. Refer Section 2.

#### Following HW errata information have been analysed

- 1. TC29x\_BB\_Errata\_Sheet\_v1\_8\_10217AERRA.pdf
- 2. TC29x\_BC\_Errata\_Sheet\_v1\_4\_10218AERRA.pdf
- 3. TC27x\_DC\_Errata\_Sheet\_v1\_4\_10216AERRA.pdf
- 4. TC27x\_DB\_Errata\_Sheet\_v1\_8\_10215AERRA.pdf
- 5. TC27x\_CA\_Errata\_Sheet\_v1\_9\_10214AERRA.pdf
- 6. TC26x\_BB\_Errata\_Sheet\_v1\_7\_10211AERRA.pdf
- 7. TC26x\_BC\_Errata\_Sheet\_v1\_4\_10212AERRA.pdf
- 8. TC23x\_AC\_Errata\_Sheet\_v1\_5\_10210AERRA.pdf
- 9. TC23x\_AB\_Errata\_Sheet\_v1\_8\_10209AERRA.pdf
- 10. TC22x\_TC21x\_AB\_Errata\_Sheet\_v1\_7\_10207AERRA.pdf
- 11. TC22x\_TC21x\_AC\_Errata\_Sheet\_v1\_4\_10208AERRA.pdf

#### Note:

The safety findings which were communicated as part of the disclaimers section of release notes of RelXXX\* have been closed.

To demonstrate the fulfilment of the safety claim, the corresponding safety artefacts have been modified and evidences are collated as part of the safety case.

With this, the ASIL B Process safety claim is available for the release RelXXX\_FS^.

Since the safety relevant productive code delivered in RelXXX\* is functionally identical to RelXXX\_FS^, the ASIL B Process safety claim implicitly extends to the corresponding RelXXX\* Release, assuming the usage of the latest customer documentations[i.e., User Manual, SafetyInformationDocument] delivered along with Release note addendum Ver13.0.

\* RelXXX corresponds to the following Releases:

Rel318, Rel320, Rel322, Rel323, Rel314, Rel326, Rel328, Rel330, Rel334, Rel170, Rel180, Rel185, Rel250, Rel270.

^ RelXXX\_FS Release Packages are Internal only. RelXXX\_FS corresponds to the following Releases: Rel318\_FS, Rel320\_FS, Rel322\_FS, Rel323\_FS, Rel314\_FS, Rel326\_FS, Rel328\_FS, REL330\_FS, REL334\_FS, REL170\_FS, REL180\_FS, REL185\_FS, REL250\_FS, REL270\_FS.

## MC-ISAR\_AURIX

#### **Release Notes Addendum**

# Scope of Release Notes Addendum



#### Intended audience

This release notes addendum is intended for MCAL users.

# **Scope of Release Notes Addendum**

This release notes addendum, documents known issues in following AURIX MCAL releases.

HW Device	Release / Package Name	Date of Release	Release Quality	Release number / Version
TC297TA_BB	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_<cfg_type &gt;_<package_name>_V200</package_name></cfg_type </as_ver>	31-03- 2015	PR	Rel-170/ V2.0.0
TC275_CA, TC277_CA	MC- ISAR_ <as_ver>_AURIX_TC27X_CA_<cfg_type> _<package_name>_V300</package_name></cfg_type></as_ver>	29-05- 2015	PR	Rel185/ V3.0.0
TC275_CA, TC277_CA	MC- ISAR_ <as_ver>_AURIX_TC27X_CA_<cfg_type> _<package_name>_V400</package_name></cfg_type></as_ver>	25-01- 2016	MR	Rel300/ V4.0.0
TC275_DB, TC277_DB	MC- ISAR_ <as_ver>_AURIX_TC27X_DB_<cfg_type &gt;_<package_name>_V200</package_name></cfg_type </as_ver>	15-09- 2015	PR	Rel190/ V2.0.0
TC277_DB TC275_DB	MC- ISAR_ <as_ver>_AURIX_TC27X_DB_PB_BASE_V2 01 MC- ISAR_<as_ver>_AURIX_TC27X_DB_PB_STDLIN_C OMPLEX_V201</as_ver></as_ver>	28-09- 2015	PR	Rel-192/ V2.0.1
TC275_DB, TC277_DB	MC- ISAR_ <as_ver>_AURIX_TC27X_DB_<cfg_type &gt;_<package_name>_V300</package_name></cfg_type </as_ver>	25-01- 2016	MR	Rel302/ V3.0.0
TC264_BB, TC264DA_BB, TC265_BB, TC267_BB	MC- ISAR_ <as_ver>_AURIX_TC26X_BB_<cfg_type &gt;_<package_name>_V200</package_name></cfg_type </as_ver>	19-05- 2015	PR	Rel180/ V2.0.0
TC264_BB, TC264DA_BB, TC265_BB, TC267_BB	MC- ISAR_ <as_ver>_AURIX_TC26X_BB_<cfg_type &gt;_<package_name>_V300</package_name></cfg_type </as_ver>	06-11- 2015	MR	Rel194/ V3.0.0
TC297_BB, TC297TA_BB, TC298_BB, TC299_BB, TC299TX_BB	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_<cfg_type &gt;_<package_name>_V210</package_name></cfg_type </as_ver>	19-05- 2015	PR	Rel180/ V2.1.0

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#### **Release Notes Addendum**



# Scope of Release Notes Addendum

TC297_BB, TC297TA_BB, TC298_BB, TC299_BB, TC299TX_BB	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_<cfg_type &gt;_<package_name>_V300</package_name></cfg_type </as_ver>	30-11-2015	MR	Rel196/ V3.0.0
TC297_BB, TC297TA_BB, TC298_BB, TC299_BB, TC299TX_BB	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_<cfg_type &gt;_<package_name>_V310_TASKING_5_0_R2</package_name></cfg_type </as_ver>	18-12-2015	MR	Rel-198/ V3.1.0
TC234_AB, TC237_AB, TC233_AB	MC- ISAR_ <as_ver>_AURIX_TC23X_AB_<cfg_type &gt;_<package_name>_V300</package_name></cfg_type </as_ver>	15-06-2015	PR	Rel-250/ V3.0.0
TC222_AB, TC223_AB, TC224_AB	MC- ISAR_ <as_ver>_AURIX_TC22X_AB_<cfg_type &gt;_<package_name>_V200</package_name></cfg_type </as_ver>	26-06-2015	PR	Rel-270/ V2.0.0
TC212_AB, TC213_AB, TC214_AB	MC- ISAR_ <as_ver>_AURIX_TC21X_AB_<cfg_type &gt;_<package_name>_V200</package_name></cfg_type </as_ver>	26-06-2015	PR	Rel-270/ V2.0.0
TC26x_BB	MC- ISAR_ <as_ver>_AURIX_TC26X_BB_<cfg_type &gt;_<package_name>_V310_TASKING_5_0_R2</package_name></cfg_type </as_ver>	16-02-2016	MR	Rel-304/ V3.1.0
TC297_BC	MC- ISAR_ <as_ver>_AURIX_TC29X_BC_<cfg_type &gt;_<package_name>_V400</package_name></cfg_type </as_ver>	12-08-2016	MR	Rel-316/ V4.0.0
TC264_BB TC264DA_BB TC265_BB TC267_BB	MC- ISAR_ <as_ver>_AURIX_TC26X_BB_<cfg_type &gt;_<package_name>_V400</package_name></cfg_type </as_ver>	12-08-2016	MR	Rel-312/ V4.0.0
TC234_AB, TC237_AB, TC233_AB	MC- ISAR_ <as_ver>_AURIX_TC23X_AB_<cfg_type &gt;_<package_name>_V400</package_name></cfg_type </as_ver>	12-08-2016	MR	Rel-308/ V4.0.0
TC222_AB, TC223_AB, TC224_AB	MC- ISAR_ <as_ver>_AURIX_TC22X_AB_<cfg_type &gt;_<package_name>_V300</package_name></cfg_type </as_ver>	12-08-2016	MR	Rel-310/ V3.0.0
TC212_AB, TC213_AB, TC214_AB	MC- ISAR_ <as_ver>_AURIX_TC21X_AB_<cfg_type &gt;_<package_name>_V300</package_name></cfg_type </as_ver>	12-08-2016	MR	Rel310/ V3.0.0
TC297_BB	MC- ISAR_AS4XX_AURIX_TC29X_BB_PB_ETH_ENHAN CED_V200	29-07-2016	MR	Rel-306/ V2.0.0
TC297_BB	MC- ISAR_AS4XX_AURIX_TC29X_BB_PB_ETH_ENHAN CED_V210	15-12-2016	MR	Rel-327/ V2.1.0
TC297TX_BC	MC- ISAR_AS4XX_AURIX_TC29X_BC_PB_CAN_ENHAN	31-01-2017	MR	Rel-329/ V3.0.0

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	CED_V300_REL329			
TC29x_BB	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_PB_<packa GE_NAME&gt;_V500_REL314</packa </as_ver>	24-02-2017	MR	Rel-314 V5.0.0
TC29x_BC	MC- ISAR_ <as_ver>_AURIX_TC29X_BC_PB_<packa GE_NAME&gt;_V500_REL326</packa </as_ver>	24-02-2017	MR	Rel-326 V5.0.0
TC27x_CA	MC- ISAR_ <as_ver>_AURIX_TC27X_CA_PB_<packa GE_NAME&gt;_V500_REL318</packa </as_ver>	27-02-2017	MR	Rel-318 V5.0.0
TC27x_DB	MC- ISAR_ <as_ver>_AURIX_TC27X_DB_PB_<packa GE_NAME&gt;_V500_REL320</packa </as_ver>	27-02-2017	MR	Rel-320 V5.0.0
TC27x_DC	MC- ISAR_ <as_ver>_AURIX_TC27X_DC_PB_<packa GE_NAME&gt;_V500_REL322</packa </as_ver>	27-02-2017	MR	Rel-322 V5.0.0
TC27x_DC	MC- ISAR_ <as_ver>_AURIX_TC27X_DC_PB_<packa GE_NAME&gt;_V510_REL323</packa </as_ver>	24-03-2017	MR	Rel-323 V5.1.0
TC26x_BC	MC- ISAR_ <as_ver>_AURIX_TC26X_BC_PB_<packa GE_NAME&gt;_V200_REL328</packa </as_ver>	24-03-2017	MR	Rel-328 V2.0.0
TC23x_AC	MC- ISAR_ <as_ver>_AURIX_TC23X_AC_PB_<packa GE_NAME&gt;_V201_REL330</packa </as_ver>	15-05-2017	MR	Rel-330 V2.0.1
TC23x_AB	MC- ISAR_ <as_ver>_AURIX_TC23X_AB_PB_<packa GE_NAME&gt;_V501_REL334</packa </as_ver>	15-05-2017	MR	Rel-334 V5.0.1
TC22x_AC	MC- ISAR_ <as_ver>_AURIX_TC22X_AC_PB_<packa GE_NAME&gt;_V200_REL_350</packa </as_ver>	06-09-2017	PR	Rel-350 V2.0.0
TC21x_AC	MC- ISAR_ <as_ver>_AURIX_TC21X_AC_PB_<packa GE_NAME&gt;_V200_REL_350</packa </as_ver>	06-09-2017	PR	Rel-350 V2.0.0
TC22x_AB	MC- ISAR_ <as_ver>_AURIX_TC22X_AB_PB_<packa GE_NAME&gt;_V400_REL_332</packa </as_ver>	06-09-2017	MR	Rel-332 V4.0.0
TC21x_AB	MC- ISAR_ <as_ver>_AURIX_TC21X_AB_PB_<packa GE_NAME&gt;_V400_REL_332</packa </as_ver>	06-09-2017	MR	Rel-332 V4.0.0
TC23x_AC	MC- ISAR_AS4XX_AURIX_TC23X_AC_PB_BASE_V200_ REL-342 MC- ISAR_AS4XX_AURIX_TC23X_AC_PB_COM_BASIC_ V200_REL-342 MC- ISAR_AS4XX_AURIX_TC23X_AC_PB_MEM_V200_R	14-09-2017	PR	Rel-342 V2.0.0

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	EL-342			
TC297TX_BC	MC- ISAR_AS4XX_AURIX_TC29X_BC_PB_CAN_ENHAN CED_V400_REL-353	20-09-2017	MR	Rel-353 V4.0.0
TC26x BB	MC- ISAR_AURIX_TC26X_BB_ <package_name>_PB _V410_REL360</package_name>	30-11-2017	MR	Rel-360 V4.1.0
TC26x BC	MC- ISAR_AURIX_TC26X_BC_ <package_name>_PB _V210_REL360</package_name>	30-11-2017	MR	Rel-362 V2.1.0
TC29x BB	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_<cfg_type &gt;_<package_name>V520_REL-354</package_name></cfg_type </as_ver>	26-02-2018	MR	Rel-354 V5.2.0
ТС29х ВС	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_<cfg_type &gt;_<package_name>V520_REL-356</package_name></cfg_type </as_ver>	26-02-2018	MR	Rel-356 V5.2.0
тс297тх вс	MC- ISAR_AS4XX_AURIX_TC29X_BC_PB_CAN_ENHAN CED_REL-355_V420	26-02-2018	MR	Rel-355 V4.2.0
TC297 BB	MC- ISAR_AS4XX_AURIX_TC29X_BB_PB_ETH_ENHAN CED_V220	02-03-2018	MR	Rel-357 V2.2.0
TC27x CA	MC- ISAR_AURIX_TC27X_CA_ <package_name>_PB _V600_REL368</package_name>	06-04-2018	MR	Rel-368 V6.0.0
TC27x DB	MC- ISAR_AURIX_TC27X_DB_ <package_name>_PB _V600_REL370</package_name>	06-04-2018	MR	Rel-370 V6.0.0
TC27x DC	MC- ISAR_AURIX_TC27X_DC_ <package_name>_PB _V600_REL378</package_name>	06-04-2018	MR	Rel-378 V6.0.0
TC23x_AC	MC- ISAR_ <as_ver>_AURIX_TC23X_AC_PB_<packa GE_NAME&gt;_V300_REL374</packa </as_ver>	17-08-2018	MR	Rel-374 V3.0.0
TC23x_AC	MC- ISAR_ <as_ver>_AURIX_TC23X_AC_PB_<packa GE_NAME&gt;_V300_REL374_CANENC</packa </as_ver>	17-08-2018	MR	Rel- 374_CAN ENC V3.0.0
TC23x_AB	MC- ISAR_ <as_ver>_AURIX_TC23X_AB_PB_<packa GE_NAME&gt;_V600_REL372</packa </as_ver>	17-08-2018	MR	Rel-372 V6.0.0
TC22x_AC	MC- ISAR_ <as_ver>_AURIX_TC22X_AC_PB_<packa GE_NAME&gt;_V300_REL-380</packa </as_ver>	17-08-2018	MR	Rel-380 V3.0.0
TC21x_AC	MC- ISAR_ <as_ver>_AURIX_TC21X_AC_PB_<packa GE_NAME&gt;_V300_REL-380</packa </as_ver>	17-08-2018	MR	Rel-380 V3.0.0

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TC22x_AB	MC- ISAR_ <as_ver>_AURIX_TC22X_AB_PB_<packa GE_NAME&gt;_V500_REL-376</packa </as_ver>	17-08-2018	MR	Rel376 V5.0.0
TC21x_AB	MC- ISAR_ <as_ver>_AURIX_TC21X_AB_PB_<packa GE_NAME&gt;_V500_REL-376</packa </as_ver>	17-08-2018	MR	Rel-376 V5.0.0
TC26x_BB	MC- ISAR_ <as_ver>_AURIX_TC26X_BB_PB_<packa GE_NAME&gt;_V500_REL-400</packa </as_ver>	14-12-2018	MR	Rel-400 V5.0.0
TC26x_BC	MC- ISAR_ <as_ver>_AURIX_TC26X_BC_PB_<packa GE_NAME&gt;_V300_REL-400</packa </as_ver>	14-12-2018	MR	Rel-400 V3.0.0
TC29x_BC	MC- ISAR_ <as_ver>_AURIX_TC29X_BC_PB_<packa GE_NAME&gt;_V600_REL-405</packa </as_ver>	29-07-2019	MR	Rel-405 V6.0.0
TC29x_BB	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_PB_<packa GE_NAME&gt;_V600_REL-405</packa </as_ver>	29-07-2019	MR	Rel-405 V6.0.0
TC27x_DC	MC- ISAR_ <as_ver>_AURIX_TC27X_DC_PB_<packa GE_NAME&gt;_V700_REL-405</packa </as_ver>	29-07-2019	MR	Rel-405 V7.0.0
TC27x_DB	MC- ISAR_ <as_ver>_AURIX_TC27X_DB_PB_<packa GE_NAME&gt;_V700_REL-405</packa </as_ver>	29-07-2019	MR	Rel-405 V7.0.0
TC27x_CA	MC- ISAR_ <as_ver>_AURIX_TC27X_CA_PB_<packa GE_NAME&gt;_V700_REL-405</packa </as_ver>	29-07-2019	MR	Rel-405 V7.0.0
TC21x_AB	MC- ISAR_ <as_ver>_AURIX_TC21X_AB_PB_<packa GE_NAME&gt;_V600_REL-410</packa </as_ver>	03-03-2020	MR	Rel-410 V6.0.0
TC21x_AC	MC- ISAR_ <as_ver>_AURIX_TC21X_AC_PB_<packa GE_NAME&gt;_V400_REL-410</packa </as_ver>	03-03-2020	MR	Rel-410 V4.0.0
TC22x_AB	MC- ISAR_ <as_ver>_AURIX_TC22X_AB_PB_<packa GE_NAME&gt;_V600_REL-410</packa </as_ver>	03-03-2020	MR	Rel-410 V6.0.0
TC22x_AC	MC- ISAR_ <as_ver>_AURIX_TC22X_AC_PB_<packa GE_NAME&gt;_V400_REL-410</packa </as_ver>	03-03-2020	MR	Rel-410 V4.0.0
TC23x_AB	MC- ISAR_ <as_ver>_AURIX_TC23X_AB_PB_<packa GE_NAME&gt;_V700_REL-410</packa </as_ver>	03-03-2020	MR	Rel-410 V7.0.0
TC23x_AC	MC- ISAR_ <as_ver>_AURIX_TC23X_AC_PB_<packa GE_NAME&gt;_V400_REL-410</packa </as_ver>	03-03-2020	MR	Rel-410 V4.0.0
TC22XAB  CANENC_LINEN	MC- ISAR_AS4XX_AURIX_TC22X_AB_PB_BASE_V100_ REL-410	03-03-2020	MR	Rel-410 V1.0.0
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С	MC- ISAR_AS4XX_AURIX_TC22X_AB_PB_COM_BASIC_ V100_REL-410 MC- ISAR_AS4XX_AURIX_TC22X_AB_PB_MEM_V100_ REL-410			
TC22XAC  CANENC_LINEN C	MC- ISAR_AS4XX_AURIX_TC22X_AC_PB_BASE_V100_ REL-410 MC- ISAR_AS4XX_AURIX_TC22X_AC_PB_COM_BASIC_ V100_REL-410 MC- ISAR_AS4XX_AURIX_TC22X_AC_PB_MEM_V100_R EL-410	03-03-2020	MR	Rel-410 V1.0.0
TC23XAC CANENC	MC- ISAR_AS4XX_AURIX_TC23X_AC_PB_BASE_V400_ REL-410 MC- ISAR_AS4XX_AURIX_TC23X_AC_PB_COM_BASIC_ V400_REL-410 MC- ISAR_AS4XX_AURIX_TC23X_AC_PB_MEM_V400_R EL-410	03-03-2020	MR	Rel-410 V4.0.0
TC29x_BC	MC- ISAR_ <as_ver>_AURIX_TC29X_BC_PB_<packa GE_NAME&gt;_V700_REL-415</packa </as_ver>	12-10-2020	MR	Rel-415 V7.0.0
TC29x_BB	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_PB_<packa GE_NAME&gt;_V700_REL-415</packa </as_ver>	12-10-2020	MR	Rel-415 V7.0.0
TC27x_DC	MC- ISAR_ <as_ver>_AURIX_TC27X_DC_PB_<packa GE_NAME&gt;_V800_REL-415</packa </as_ver>	12-10-2020	MR	Rel-415 V8.0.0
TC27x_DB	MC- ISAR_ <as_ver>_AURIX_TC27X_DB_PB_<packa GE_NAME&gt;_V800_REL-415</packa </as_ver>	12-10-2020	MR	Rel-415 V8.0.0
TC27x_CA	MC- ISAR_ <as_ver>_AURIX_TC27X_CA_PB_<packa GE_NAME&gt;_V800_REL-415</packa </as_ver>	12-10-2020	MR	Rel-415 V8.0.0
TC26x_BB	MC- ISAR_ <as_ver>_AURIX_TC26X_BB_PB_<packa GE_NAME&gt;_V600_REL-415</packa </as_ver>	12-10-2020	MR	Rel-415 V6.0.0
TC26x_BC	MC- ISAR_ <as_ver>_AURIX_TC26X_BC_PB_<packa GE_NAME&gt;_V400_REL-415</packa </as_ver>	12-10-2020	MR	Rel-415 V4.0.0
TC21x_AB	MC- ISAR_ <as_ver>_AURIX_TC21X_AB_PB_<packa GE_NAME&gt;_V710_REL-420.1</packa </as_ver>	06-05-2021	MR	Rel- 420.1* V7.1.0

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TC21x_AC	MC- ISAR_ <as_ver>_AURIX_TC21X_AC_PB_<packa GE_NAME&gt;_V510_REL-420.1</packa </as_ver>	06-05-2021	MR	Rel- 420.1* V5.1.0
TC22x_AB	MC- ISAR_ <as_ver>_AURIX_TC22X_AB_PB_<packa GE_NAME&gt;_V710_REL-420.1</packa </as_ver>	06-05-2021	MR	Rel- 420.1* V7.1.0
TC22x_AC	MC- ISAR_ <as_ver>_AURIX_TC22X_AC_PB_<packa GE_NAME&gt;_V510_REL-420.1</packa </as_ver>	06-05-2021	MR	Rel- 420.1* V5.1.0
TC23x_AB	MC- ISAR_ <as_ver>_AURIX_TC23X_AB_PB_<packa GE_NAME&gt;_V810_REL-420.1</packa </as_ver>	06-05-2021	MR	Rel- 420.1* V8.1.0
TC23x_AC	MC- ISAR_ <as_ver>_AURIX_TC23X_AC_PB_<packa GE_NAME&gt;_V510_REL-420.1</packa </as_ver>	06-05-2021	MR	Rel- 420.1* V5.1.0
TC23XAC CANENC	MC- ISAR_AS4XX_AURIX_TC23X_AC_PB_BASE_V510_ REL-420.1  MC- ISAR_AS4XX_AURIX_TC23X_AC_PB_COM_BASIC_ V510_REL-420.1  MC- ISAR_AS4XX_AURIX_TC23X_AC_PB_MEM_V510_R EL-420.1	06-05-2021	MR	Rel- 420.1* V5.1.0
TC29x_BC	MC- ISAR_ <as_ver>_AURIX_TC29X_BC_PB_<packa GE_NAME&gt;_V800_REL-425</packa </as_ver>	06-10-2021	MR	Rel-425 V8.0.0
TC29x_BB	MC- ISAR_ <as_ver>_AURIX_TC29X_BB_PB_<packa GE_NAME&gt;_V800_REL-425</packa </as_ver>	06-10-2021	MR	Rel-425 V8.0.0
TC27x_DC	MC- ISAR_ <as_ver>_AURIX_TC27X_DC_PB_<packa GE_NAME&gt;_V900_REL-425</packa </as_ver>	06-10-2021	MR	Rel-425 V9.0.0
TC27x_DB	MC- ISAR_ <as_ver>_AURIX_TC27X_DB_PB_<packa GE_NAME&gt;_V900_REL-425</packa </as_ver>	06-10-2021	MR	Rel-425 V9.0.0
TC27x_CA	MC- ISAR_ <as_ver>_AURIX_TC27X_CA_PB_<packa GE_NAME&gt;_V900_REL-425</packa </as_ver>	06-10-2021	MR	Rel-425 V9.0.0
TC26x_BB	MC- ISAR_ <as_ver>_AURIX_TC26X_BB_PB_<packa GE_NAME&gt;_V700_REL-425</packa </as_ver>	06-10-2021	MR	Rel-425 V7.0.0
TC26x_BC	MC- ISAR_ <as_ver>_AURIX_TC26X_BC_PB_<packa GE_NAME&gt;_V500_REL-425</packa </as_ver>	06-10-2021	MR	Rel-425 V5.0.0

#### MC-ISAR\_AURIX

#### **Release Notes Addendum**

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#### Scope of Release Notes Addendum

#### Note:

<PACKAGE\_NAME> = BASE / COM\_BASIC / COM\_ENHANCED / MEM / CD / DEMOCD / LIB / STDLIN\_COMPLEX

<CFG\_TYPE> = PB (All except LIB) / PC (Only LIB)

 $\langle AS_VER \rangle = AS3XX / AS4XX$ 

\*Due to crypto file corruption noticed in Rel-420, Productive patch release Rel-420.1 with the fix was released.

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#### **Release Notes Addendum**

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#### **Release Notes Addendum**

**Known Issues Details** 



#### **Known Issues Details** 1

This section summarizes all Known Issues Details identified. Refer "MC-ISAR\_AURIX\_ReleaseNotes\_Addendum.xlsm" document provided in the "MC-ISAR\_AURIX\_Releasenotes\_Addendum.zip" folder for more details.

#### **Release Notes Addendum**

**Derivative Specification** 



# 2 Derivative Specification

This section explains the supported derivatives and affected modules with respect to derivative.

## 2.1 Supported Derivatives

#### 1) Supported derivatives for TC27X\_CA and TC27X\_DB are:

1. SAK-TC275TP-64F200W	1. SAK-TC277TP-64F200S
2. SAK-TC275TC-64F200W	2. SAK-TC277TC-64F200S
3. SAK-TC275T-64F200W	3. SAK-TC277T-64F200S
4. SAL-TC275TP-64F200W	
5. SAL-TC275T-64F200W	

#### 2) Supported derivatives for TC27X\_DC

1. SAK-TC275T-64F200N	1. SAK-TC277T-64F200S
2. SAK-TC275T-64F200W	2. SAL-TC277T-64F200S
3. SAK-TC275TP-64F200N	3. SAK-TC277T-64F200N
4. SAL-TC275TP-64F200N	4. SAK-TC277TP-64F200N
5. SAK-TC275TP-64F200W	5. SAL-TC277TP-64F200N
6. SAL-TC275TP-64F200W	6. SAK-TC277TP-64F200S
7. SAK-TC275TC-64F200W	7. SAK-TC277TC-64F200N
8. SAK-TC275TC-64F200N	8. SAK-TC277TC-64F200S
	<ol> <li>SAK-TC275T-64F200W</li> <li>SAK-TC275TP-64F200N</li> <li>SAL-TC275TP-64F200N</li> <li>SAK-TC275TP-64F200W</li> <li>SAL-TC275TP-64F200W</li> <li>SAK-TC275TC-64F200W</li> </ol>

#### 3) Supported derivatives for TC29x\_BB are:

1. SAL-TC290TP-128F300	1. SAK-TC297TP-128F300S	1. SAL-TC299TP-128F300S
2. SAL-TC290TC-96F300	2. SAK-TC297T-128F300S	2. SAK-TC299TP-128F300S
	3. SAK-TC297TP-96F300S	3. SAK-TC299T-128F300S
	4. SAK-TC297TC-96F300S	4. SAK-TC299TC-96F300S
	5. SAK-TC297T-96F300S	5. SAK-TC299TX-128F300S
	6. SAK-TC297TX-128F300S	6. SAK-TC299TY-128F300S
	7. SAK-TC297TY-128F300S	
	8. SAK-TC297TA-128F300S	
	9. SAK-TC297TB-128F300S	
	10. SAK-TC297TA-64F300S	
1. SAL-TC298TP-128F300L		

#### 4) Supported derivatives for TC29x\_BC are:

1. SAK-TC297TA-64F300S

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#### **Derivative Specification**



- 2. SAK-TC297TB-64F300S
- 3. SAK-TC297TX-128F300N
- 4. SAK-TC297TY-128F300S
- 5. SAK-TC297TA-128F300N
- 6. SAK-TC297TB-128F300S

#### 5) Supported derivatives for TC26x\_BB are:

1. SAL-TC260D-40F200	<ol> <li>SAK-TC264D-40F200W</li> <li>SAK-TC264DC-40F200W</li> <li>SAL-TC264D-40F200W</li> <li>SAK-TC264DA-40F200W</li> </ol>	<ol> <li>SAK-TC265D-40F200W</li> <li>SAK-TC265DC-40F200W</li> <li>SAL-TC265D-40F200W</li> </ol>
1. SAK-TC267D-40F200S 2. SAL-TC267D-40F200S	2. 3 10201311 1012011	

#### 6) Supported derivatives for TC26x BC are:

o) Supported derivatives for 1620	A_DC are.	
1. SAL-TC260D-40F200N	1. SAK-TC264DC-40F200W	1. SAK-TC265DC-40F200W
	2. SAK-TC264D-40F200N	2. SAK-TC265D-40F200N
	3. SAL-TC264D-40F200N	3. SAL-TC265D-40F200N
	4. SAK-TC264D-40F200W	4. SAK-TC265D-40F200W
	5. SAK-TC264DA-40F200N	5. SAK-TC265DE-40F200Q
	6. SAK-TC264DA-40F200W	
	7. SAK-TC264DE-40F200Q	
1. SAK-TC267D-40F200N		
2. SAL-TC267D-40F200N		
3. SAK-TC267D-40F200S		

#### 7) Supported derivatives for TC23x\_AB are:

1. SAK-TC233L-32F200F	1. SAK-TC234L-32F200F	1. SAK-TC237L-32F200S
2. SAK-TC233L-16F200F	2. SAL-TC234L-32F200F	2. SAL-TC237L-32F200S
3. SAL-TC233L-32F200F	3. SAK-TC234LP-32F200F	3. SAK-TC237LP-32F200S
4. SAL-TC233LP-16F200F	4. SAL-TC234LP-16F200F	4. SAL-TC237LP-32F200S
5. SAK-TC233LP-32F200F	5. SAL-TC234LP-32F200F	
6. SAL-TC233LP-32F200F	6. SAK-TC234LP-16F200F	
7. SAK-TC233LP-16F200F		
8. SAK-TC233LC-24F133F		

#### 8) Supported derivatives for TC23x\_AC are:

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#### Release Notes Addendum

#### **Derivative Specification**



1. S	SAK-T	C23	3LP-	-32F	200	0N
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- 2. SAL-TC233LP-32F200N
- 3. SAK-TC233L-32F200N
- 4. SAK-TC233LP-16F200N
- 5. SAK-TC233LC-24F133F
- 6. SAK-TC233LP-32F200F
- 7. SAL-TC233LP-32F200F
- 8. SAK-TC233S-32F200N
- 9. SAL-TC233L-32F200F
- 10. SAK-TC233L-32F200F
- 11. SAK-TC233LP-16F200F
- 12. SAK-TC233SP-32F200N
- 13. SAK-TC233LP-24F200N

- 1. SAK-TC234LP-32F200N
- 2. SAK-TC234L-32F200N
- 3. SAK-TC234LP-16F200F
- 4. SAK-TC234L-24F200F
- 5. SAK-TC234L-24F200N
- 6. SAK-TC234LC-24F133F
- 7. SAK-TC234LP-24F200F
- 8. SAK-TC234L-32F200F
- 9. SAK-TC234LP-32F200F

- 1. SAK-TC237LP-32F200N
- 2. SAL-TC237LP-32F200N
- 3. SAK-TC237L-32F200S
- 4. SAK-TC237LP-32F200S
- 5. SAL-TC237LP-32F200S

#### 9) Supported derivatives for TC22x\_AB are:

1	SAK-TC222L-16F1331	7

- 2. SAL-TC222L-16F133F
- 3. SAK-TC222S-16F133F
- 4. SAK-TC222L-12F133F
- 5. SAK-TC222S-12F133F

#### 1. SAK-TC223L-16F133F

- 2. SAL-TC223L-16F133F
- 3. SAK-TC223S-16F133F
- 4. SAK-TC223S-12F133F
- 5. SAK-TC223L-12F133F
- 1. SAK-TC224L-16F133F
- 2. SAL-TC224L-16F133F
- 3. SAK-TC224S-16F133F

#### 10) Supported derivatives for TC21x\_AB are:

1. SAK-TC212L-8F133I

- 2. SAK-TC212S-8F133F
- 3. SAL-TC212L-8F133F
- 1. SAK-TC213L-8F133F
- 2. SAK-TC213S-8F133F
- 3. SAL-TC213L-8F133F
- 1. SAK-TC214L-8F133F
- 2. SAK-TC214S-8F133F
- 3. SAL-TC214L-8F133F

#### **Release Notes Addendum**





#### 2.2 **Derivative Restriction**

#### 1) Derivate Restrictions for TC27X\_CA and TC27X\_DB are:

#	Module	Description
1	CAN	For the devices SAK-TC277TC-64F200S and SAK-TC275TC-64F200W, CAN FD
		feature is not present. Hence it is not expected to configure CAN FD related
		parameters.
2	ETH	For the devices SAK-TC277TC-64F200S and SAK-TC275TC-64F200W,
		Ethernet module is not present. Hence it is not expected to configure Ethernet
		related parameters.
3	FLS	For the devices SAK-TC277TC-64F200S and SAK-TC275TC-64F200W,
		FlsTotalSize must not exceed 147456 (decimal value for 144KB)

#### 2) Derivate Restrictions for TC26X\_BB are:

#	Module	Description
1	CAN	For the devices SAK-TC265DC-40F200W and SAK-TC264DC-40F200W, CAN
		FD feature is not present. Hence it is not expected to configure CAN FD related
		parameters.
2	ETH	For the devices SAK-TC265DC-40F200W and SAK-TC264DC-40F200W,
		Ethernet module is not present. Hence it is not expected to configure Ethernet
		related parameters.
3	FLS	For the devices SAK-TC265DC-40F200W and SAK-TC264DC-40F200W,
		FlsTotalSize must not exceed 65536 (decimal value for 64KB)
4	MCU	MCU Standby Mode is not available for the given derivatives :
		SAK-TC265DC-40F200W, SAK-TC264DC-40F200W.

#### 3) Derivate Restrictions for TC29X\_BB are:

#	Module	Description
1	CAN	For the devices SAK-TC299TC-96F300S, SAK-TC297TC-96F300S and SAL-
		TC290TC-96F300, CAN FD feature is not present. Hence it is not expected to
		configure CAN FD related parameters.
2	ETH	For the devices SAK-TC299TC-96F300S, SAK-TC297TC-96F300S and SAL-
		TC290TC-96F300, Ethernet module is not present. Hence it is not expected
		to configure Ethernet related parameters.
3	ERAY	For the devices SAK-TC299TC-96F300S, SAK-TC297TC-96F300S and SAL-
		TC290TC-96F300, Only one ERAY controller is present. Hence it is not
		expected to configure the second ERAY controller.
4	FLSLOADER	Flash Size is 6MB for the given derivatives :
		SAK-TC299TC-96F300S, SAK-TC297TP-96F300S, SAK-TC297TC-96F300S,
		SAK-TC297T-96F300S, SAL-TC290TC-96F300.
5	FLS	For the devices SAK-TC299TC-96F300S, SAK-TC297TC-96F300S and SAL-
		TC290TC-96F300, FlsTotalSize must not exceed 196608 (decimal value for
		192KB)

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**Derivative Specification** 

#### 4) Derivate Restrictions for TC23X\_AB are:

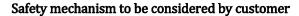
#	Module	Description
1	MCU	CPU frequency is 133 MHz for SAK-TC233LC-24F133F AB
		For rest TC23x_AB derivatives it is 200 MHz
2	FLSLOADER	Flash Size is 1 MB for the given derivatives :
		SAK-TC234LP-16F200F, SAK-TC233L-16F200F, SAK-TC233LP-16F200F
		SAL-TC234LP-16F200F, SAL-TC233LP-16F200F
		Flash Size is 1.5 MB for the given derivative :
		SAK-TC233LC-24F133F

#### 5) Derivate Restrictions for TC22X\_AB are:

#	Module	Description
1	FLSLOADER	Flash Size is 0.75 MB for the given derivatives :
		SAK-TC223S-12F133F, SAK-TC222S-12F133F, SAK-TC223L-12F133F
		SAK-TC222L-12F133F

#### 6) Derivate Restrictions for TC21X\_AB are:

#	Module	Description
-	-	-





#### 3 Safety mechanism to be considered by customer

The Aurix Safety Manual [AURIX Safety Manual\_V1.4.pdf, 2015-11, Infineon Technologies AG Munich] lists the safety mechanisms for each functional part of the AURIX microcontroller architecture and state the assumptions related to the use of each safety mechanism.

For few AoU's the MCAL Implementation hints are provided below.

#### Interrupt source check \* 3.1

SMU ID	SM1[AoU].IR:SrcCheck
Short Description	Interrupt plausibility check, to detect unexpected triggering of service requests or call of a wrong ISR, based on additional information from the interrupt source.
Applicable to MCAL	Yes
Comments	The customer shall implement Interrupt source check for overall software and for the existing MCAL software, Interrupt source check has to be done in the respective module IRQ file, before the call of MCAL interrupt handle as per AoU in AURIX Safety Manual.  Hint: As an example, In Spi_Irq.c file before calling Spi_IsrQspiPt(SPI_QSPIO_INDEX) (Phase transition interrupt handler which is invoked at the end of the last channel of last job in a sequence.) following changes has to be done in QSPIOPT_ISR(QSPIO PT2interrupt)  /* Check the QSPIO status register */  if(SPI_HW_BASE[0].STATUS.B.PT2F == 1U)  {  /* Call QSPIO Interrupt function*/  Spi_IsrQspiPt(SPI_QSPIO_INDEX);  /* Clear the PT2F event flag via FLAGSCLEAR register */  SPI_HW_BASE[0].FLAGSCLEAR.B.PT2C = 1U;  }  Where #define SPI_HW_BASE ((volatile Ifx_QSPI*)(void*) &(MODULE_QSPIO))

#### \*Applicable only for Rel180, Rel185, Rel190

#### **QSPI Protection** 3.2

SMU ID	SM1[AoU].QSPI:SafeProtocol
Short Description	Safety mechanism to detect the following errors:
	- Baud Rate Error Detection - Spike Detection
Applicable to MCAL	Yes
Comments	Assumption of Use shall be implemented in all safety related SPI communication which uses QSPI slave loop back mechanism.

#### **Release Notes Addendum**



Safety mechanism to be considered by customer

#### 3.3 **DMA Monitor**

SMU ID	SM1[AoU].DMA:Monitor
Short Description	The application software shall verify the integrity of data transferred by DMA.
Applicable to MCAL	Yes
Comments	The Customer shall implement safety mechanism specified in AURIX safety Manual. Hint: Use SPI loop back mechanism or an equivalent safety mechanism.

#### Watchdog Timer Initialization Check 3.4

SMU ID	SM2[AoU].WDT:InitCheck
Short Description	To detect permanent failures in the configuration registers of the watchdog Timers, the user shall implement a software level safety mechanism verifying the correct watchdog configuration, after initial software initialization and every subsequent configuration change.
Applicable to MCAL	Yes
Comments	The customer shall read and verify Watchdog configuration registers after initialization or mode change to ensure the reload values and other configurations are valid.

#### 3.5 Register Based DMA

SMU ID	SM_AURIX_DMA_5
Short Description	TC23x, TC22x, and TC21x series implement a register-based DMA instead of the SRAM-based DMA of the other series. For these devices, the increased failure rate, related to soft errors in configuration registers, shall be considered by the application. Rationale: in a register-based DMA, the transaction control set of each channel is not monitored by ECC as it is in a SRAM-based DMA.
Applicable to MCAL	Yes
Comments	Dedicated measures on system level are needed.  Hint: SDCRC, E2E for DMA transaction.





# 4 AoU's of Aurix Hardware Safety Manual V1.2, V1.3,V1.4 and V1.5.1

# 4.1 AoU's considered from AURIX Safety Manual V1.2 2015-01 and AURIX Safety Manual v1.2 Addendum V2.0, 2015-04

AoU ID	Comments/Implementation hints from MCAL
SM1[AoU].CPU:SoftErrorMon	Not Implemented and not applicable for current delivery. CPU error monitoring is not in the scope of MCAL. E.g.: Plausibility check not done at driver level.
SM1[AoU].CPU:SBST	Not Implemented and not applicable for current delivery. CPU Software Based Self-Test is not in the scope of MCAL
SM1[AoU].SPB:TEST	Not Implemented and not applicable for current delivery. SPB Test Pattern is not in the scope of MCAL
SM1[AoU].STM:Plausibility	Not Implemented and not applicable for current delivery. MCAL module doesn't use STM, it is OS/application software to take care.
SM1[AoU].WDT:TIMEOUT	Not Implemented and not applicable for current delivery. Deadline monitoring is part of WDG Manager. WDG driver only provides an interface to service the WDG.
SM1[AoU].WDT:PFM	Not Implemented and not applicable for current delivery. Program flow monitoring is part of WDG Manager. WDG driver only provides an interface to service the WDG.
SM1[AoU].ExtWDT	Not Implemented and not applicable for current delivery. The prerequisite to safety concept of MCAL is system should have SafeTlib/equivalent Software. The SafeTlib/equivalent software shall support monitoring
	with external watchdog.
SM1[AoU].IR:Monitor	Not Implemented and not applicable for current delivery. Interrupt subsystem is assigned to OS and hence this AoU shall be taken care by OS.
SM1[AoU].IR:SrcCheck	Not Implemented in MCAL but needs implementation for correct usage of MCAL. The customer shall implement Interrupt source check for overall software and for the existing MCAL software, Interrupt source check has to be done in the respective module IRQ file, before the call of MCAL interrupt handle as per AoU.
	Hint: As an example, In Spi_Irq.c file before calling Spi_IsrQspiPt(SPI_QSPI0_INDEX) (Phase transition interrupt handler which is invoked at the end of the last channel of last job in a sequence.)following changes has to be done in

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	<pre>QSPIOPT_ISR(QSPI0 PT2interrupt) /* Check the QSPI0 status register */ if(SPI_HW_BASE[0].STATUS.B.PT2F == 1U) {     /* Call QSPI0 Interrupt function*/     Spi_IsrQspiPt(SPI_QSPI0_INDEX); /* Clear the PT2F event flag via FLAGSCLEAR register */     SPI_HW_BASE[0].FLAGSCLEAR.B.PT2C = 1U; }</pre>
	Where #define SPI_HW_BASE ((volatile Ifx_QSPI *)(void *) &(MODULE_QSPI0))
SM1[AoU].DMA:Monitor	Not Implemented in MCAL but needs implementation for correct usage of MCAL. The Customer shall implement safety mechanism specified in AURIX safety Manual.  Hint: Use SPI loop back mechanism or an equivalent safety mechanism. If SPI loop back mechanism is used then the application software shall verify the integrity of data transferred by DMA.
SM1[AoU].CAN: SafeProtocol, SM1[AoU].ERAY: SafeProtocol, SM1[AoU].ETH: SafeProtocol	Not Implemented in MCAL but needs implementation for correct usage of MCAL.
SM1[AoU].QSPI: SafeProtocol	Not Implemented in MCAL but needs implementation for correct usage of MCAL.
SM1[AoU].EVR:CFGMON	Not Implemented and not applicable for current delivery. EVR configuration monitor is not part of MCAL.
SM2[AoU].CPU:LOCKSTEP.ALARM_TES	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].CPU.TRAP:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].EVR:MON	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].EVR33:MON	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].EVR13:MON	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].ExtVREG:MON	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].CLK:CLKMON	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SRAM:ECC	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].LMU.SRAM.ECC:MONITOR	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SRAM:ADDRMON	Not Implemented and not applicable for current delivery. It is related to start-up test.

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SM2[AoU].SRAM:Monitor	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].PFLASH:ECC	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].PFLASH:ADDRMON	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].PFLASH.EDC:CMP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].PFLASH:Monitor	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SRI:EDC	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SRI:EH	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SPB:EH	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SPB:TIMEOUT	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].Register:SFF	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].Register:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].STM:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].DMA:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].IR:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SBCU:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SMU:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].FCE:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].IOM:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].PORT:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].QSPI:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].MSC:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].CAN:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SENT:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].ERAY:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].GTM:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].CCU6:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].VADC:AP	Not Implemented and not applicable for current delivery. It

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	is related to start-up test.
SM2[AoU].DSADC:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].MTU:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SCU:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].Ethernet:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].HSSL:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].PSI5:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SRI:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].HSM:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].CIF:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].I2C:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].CPU.MPU:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].CPU.BUS.MPU:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].CPU.AP:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].WDT:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].RESET:SSCheck	Not Implemented and not applicable for current delivery. It is related to start-up sw. In MCAL start-up software is a demo file(Mcal.c)
SM2[AoU].SBCU:InitCheck	Not Implemented and not applicable for current delivery.
SM2[AoU].SMU.FSP:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test
SM2[AoU].SMU:InitCheck	Not Implemented and not applicable for current delivery.
SM2[AoU].SMU.LOCK:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SMU.ALARM:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SMU:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].SMU.RT:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].CPU.MPU:InitCheck	Not Implemented and not applicable for current delivery.
SM2[AoU].CPU.BUS.MPU:InitCheck	Not Implemented and not applicable for current delivery.
SM2[AoU].LMU.MPU:InitCheck	Not Implemented and not applicable for current delivery.
SM2[AoU].WDT:InitCheck	Not Implemented in MCAL but needs implementation for correct usage of MCAL.  Hint: The customer shall read and verify Watchdog configuration registers after initialization or mode change to ensure the reload values and other configurations are valid.

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SM2[AoU].IR:EDC	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].DMA:TIMESTAMP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].FCE:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].DMA.DATA:CRC32	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].DMA.ADDR:CRC32	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].LMU.MPU:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].LMU.AP:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].IOM:TEST	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].PSRAM:ECC	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].PSRAM:ADDRMON	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].PSRAM:Monitor	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM2[AoU].MTU:AP	Not Implemented and not applicable for current delivery. It is related to start-up test.
SM_AURIX_24	To be taken care by Integrator.
SM_AURIX_25	Not Implemented and not applicable for current delivery. Info to user.
SM_AURIX_17	Not Implemented and not applicable for current delivery. Info to user.
SM_AURIX_18	Not Implemented and not applicable for current delivery.
SM_AURIX_19	Not Implemented and not applicable for current delivery.
SM_AURIX_20	Not Implemented and not applicable for current delivery.
SM_AURIX_22	Not Implemented and not applicable for current delivery.
SM_AURIX_15	Not Implemented and not applicable for current delivery.
SM_AURIX_01	Not Implemented and not applicable for current delivery.
SM_AURIX_02	Not Implemented and not applicable for current delivery.
SM_AURIX_07	Not Implemented and not applicable for current delivery.
SM_AURIX_03	Not Implemented and not applicable for current delivery.
SM_AURIX_04	Not Implemented and not applicable for current delivery.
SM_AURIX_05	Not Implemented and not applicable for current delivery.
SM_AURIX_06	Not Implemented and not applicable for current delivery.  Not Implemented and not applicable for current delivery.
SM_AURIX_9	Not Implemented and not applicable for current delivery.  Not Implemented and not applicable for current delivery.
SM_AURIX_14	Implemented in MCAL (Needs evaluation of integrator for rest of the software)
SM_AURIX_16	Not Implemented and not applicable for current delivery.
SM_AURIX_DEBUG_1	Not Implemented and not applicable for current delivery.
SM_AURIX_DEBUG_2	Not Implemented and not applicable for current delivery.
SM_AURIX_08	Not Implemented in MCAL but needs implementation for correct usage of MCAL
SM_AURIX_FFI_2	Not Implemented and not applicable for current delivery.

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SM_AURIX_ISR_1	Not Implemented and not applicable for current delivery. IRQ is the responsibility of user / OS
SM_AURIX_FFI_3	Not Implemented and not applicable for current delivery.
SM_AURIX_OVC_1	Not Implemented and not applicable for current delivery.
SM_AURIX_SMU_4	Not Implemented and not applicable for current delivery. From MCAL only configuration is provided
SM_AURIX_SMU_5	Implemented in MCAL (Needs evaluation of integrator for rest of the software). Configuration possibility provided.
SM_AURIX_SMU_3	Not Implemented and not applicable for current delivery.
SM_AURIX_SMU_2	Not Implemented and not applicable for current delivery.
SM_AURIX_CPU_1	Not Implemented and not applicable for current delivery.
SM_AURIX_CPU_2	Not Implemented and not applicable for current delivery.
SM_AURIX_NLSCPU_4	Not Implemented and not applicable for current delivery.
SM_AURIX_NLSCPU_5	Not Implemented and not applicable for current delivery.
SM_AURIX_NLCPU_3	Not Implemented and not applicable for current delivery.
SM_AURIX_NLCPU_2	Not Implemented and not applicable for current delivery.
SM_AURIX_PMC_1	Not Implemented and not applicable for current delivery.
SM_AURIX_EVR_1	Not Implemented and not applicable for current delivery.
SM_AURIX_EVR_2	Not Implemented and not applicable for current delivery.
SM_AURIX_EVR_4	Not Implemented and not applicable for current delivery.
SM_AURIX_RCU_1	Not Implemented and not applicable for current delivery.
SM_AURIX_RCU_2	Not Implemented and not applicable for current delivery.
SM_AURIX_CCU_1	Not Implemented and not applicable for current delivery.
SM_AURIX_CCU_2	Not Implemented and not applicable for current delivery.
SM_AURIX_WDT_1	Not Implemented and not applicable for current delivery.
SM_AURIX_SRI_1	Not Implemented and not applicable for current delivery.
SM_AURIX_SRI_2	Not Implemented and not applicable for current delivery.
SM_AURIX_SPB_1	Not Implemented and not applicable for current delivery.
SM_AURIX_SPB_2	Not Implemented and not applicable for current delivery.
SM_AURIX_SPB_3	Not Implemented and not applicable for current delivery.
SM_AURIX_CPU_3	Not Implemented and not applicable for current delivery.
SM_AURIX_CPU_4	Not Implemented and not applicable for current delivery.
SM_AURIX_SHARED_SRAMS	Not Implemented and not applicable for current delivery.
SM_AURIX_NLCPU_4	Not Implemented and not applicable for current delivery.
SM_AURIX_NLCPU_5	Not Implemented and not applicable for current delivery.
SM_AURIX_LMU_1	Not Implemented and not applicable for current delivery.
SM_AURIX_LMU_2	Not Implemented and not applicable for current delivery.
SM_AURIX_PMU_1	Not Implemented and not applicable for current delivery.
SM_AURIX_PMU_2	Not Implemented and not applicable for current delivery.
SM_AURIX_PMU_3	Not Implemented and not applicable for current delivery.
SM_AURIX_PMU_4	Not Implemented and not applicable for current delivery.
SM_AURIX_DMA_1	Not Implemented and not applicable for current delivery.
SM_AURIX_DMA_2	Not Implemented and not applicable for current delivery.
SM_AURIX_DMA_3	Not Implemented in MCAL but needs implementation for correct usage of MCAL. The Customer shall implement safety mechanism specified in AURIX safety Manual. Hint: Use SPI

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	loop back mechanism or an equivalent safety mechanism
SM_AURIX_DMA_4	Not Implemented and not applicable for current delivery.
SM_AURIX_DMA_5	Not Implemented in MCAL but needs implementation for correct usage of MCAL. Dedicated measures on system level are needed. Hint: SDCRC, E2E for DMA transaction.
SM_AURIX_STM_1	Not Implemented and not applicable for current delivery.
SM_AURIX_STM_2	Not Implemented and not applicable for current delivery.
SM_AURIX_STM_3	Not Implemented and not applicable for current delivery.
SM_AURIX_IR_1	Not Implemented and not applicable for current delivery.
SM_AURIX_IR_2	Not Implemented and not applicable for current delivery.
SM_AURIX_IR_3	Not Implemented in MCAL but needs implementation for correct usage of MCAL.
SM_AURIX_CAN_2	Not Implemented and not applicable for current delivery.
SM_AURIX_CAN_1	Not Implemented and not applicable for current delivery.
SM_AURIX_CAN_3	Not Implemented in MCAL but needs implementation for correct usage of MCAL.
SM_AURIX_CAN_4	Not Implemented and not applicable for current delivery
SM_AURIX_ERAY_2	Not Implemented and not applicable for current delivery
SM_AURIX_ERAY_1	Not Implemented and not applicable for current delivery
SM_AURIX_ERAY_3	Not Implemented in MCAL but needs implementation for correct usage of MCAL.
SM_AURIX_ERAY_4	Not Implemented and not applicable for current delivery
SM_AURIX_QSPI_4	Not Implemented and not applicable for current delivery
SM_AURIX_QSPI_1	Not Implemented and not applicable for current delivery
SM_AURIX_QSPI_2	Not Implemented and not applicable for current delivery
SM_AURIX_QSPI_3	Not Implemented in MCAL but needs implementation for correct usage of MCAL.
SM_AURIX_SERIAL_COMM_1	Not Implemented and not applicable for current delivery
SM_AURIX_ADC_4	Implemented in MCAL. (Needs evaluation of integrator for rest of the software)
SM_AURIX_ADC_5	Implemented in MCAL. (Needs evaluation of integrator for rest of the software)
SM_AURIX_ADC_1	Not Implemented and not applicable for current delivery
SM_AURIX_ADC_2	Implemented in MCAL. (Needs evaluation of integrator for rest of the software)
SM_AURIX_ADC_3	Implemented in MCAL. (Needs evaluation of integrator for rest of the software)
SM_AURIX_DIO_1	Not Implemented and not applicable for current delivery
SM_AURIX_DIO_2	Not Implemented and not applicable for current delivery
SM_AURIX_IOM_1	Not Implemented and not applicable for current delivery
SM_AURIX_IOM_2	Not Implemented and not applicable for current delivery
SM_AURIX_GTM_1	Not Implemented and not applicable for current delivery
SM_AURIX_DIO_3	Implemented in MCAL. (Needs evaluation of integrator for rest of the software)
SM_AURIX_ADAS_1	Not Implemented and not applicable for current delivery
SM_AURIX_EXTVREG_TEST	Not Implemented and not applicable for current delivery
SM_AURIX_EVR_3	Not Implemented and not applicable for current delivery

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01/ AVDVV TVD =	
SM_AURIX_EVR_5	Not Implemented and not applicable for current delivery
SM_AURIX_DFA_CLK_1	Not Implemented and not applicable for current delivery
SM_AURIX_DFA_CLK_2	Not Implemented and not applicable for current delivery
SM_AURIX_SRAM_INIT	Not Implemented and not applicable for current delivery
SM_AURIX_SRAM_ALM	Not Implemented and not applicable for current delivery
SM_AURIX_PSRAM_2	Not Implemented and not applicable for current delivery
SM_AURIX_PSRAM_3	Not Implemented and not applicable for current delivery
SM_AURIX_PMU_1:1	Not Implemented and not applicable for current delivery
SM_AURIX_PMU_1:4	Not Implemented and not applicable for current delivery
SM_AURIX_CPUCRC32_1	Not Implemented and not applicable for current delivery
SM_AURIX_AP_1	Not Implemented and not applicable for current delivery
SM_AURIX_ADC_2:1	Not Implemented and not applicable for current delivery
SM_AURIX_SRI_2:1	Not Implemented and not applicable for current delivery
SM_AURIX_DMA_2:1	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_TRAP_TEST	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_1:1	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_1:2	Not Implemented and not applicable for current delivery
SM_AURIX_EVR_1:1	Not Implemented and not applicable for current delivery
SM_AURIX_CCU_1:1	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_3:1	Not Implemented and not applicable for current delivery
SM_AURIX_LMU_1:1	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_3:2	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_3:3	Not Implemented and not applicable for current delivery
SM_AURIX_PMU_1:2	Not Implemented and not applicable for current delivery
SM_AURIX_PMU_1:6	Not Implemented and not applicable for current delivery
SM_AURIX_PMU_1:3	Not Implemented and not applicable for current delivery
SM_AURIX_PMU_1:5	Not Implemented and not applicable for current delivery
SM_AURIX_PMU_1:7	Not Implemented and not applicable for current delivery
SM_AURIX_SRI_1:1	Not Implemented and not applicable for current delivery
SM_AURIX_SRI_1:3	Not Implemented and not applicable for current delivery
SM_AURIX_SPB_1:3	Not Implemented and not applicable for current delivery
SM_AURIX_SPB_1:1	Not Implemented and not applicable for current delivery
SM_AURIX_SFF_TEST	Not Implemented and not applicable for current delivery
SM_AURIX_SPB_2:1	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_2:1	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_2:2	Not Implemented and not applicable for current delivery
SM_AURIX_2:3	Not Implemented and not applicable for current delivery
SM_AURIX_WDT_TEST	Not Implemented and not applicable for current delivery
SM_AURIX_RCU_2:1	Not Implemented and not applicable for current delivery
SM_AURIX_SPB_1:2	Not Implemented and not applicable for current delivery
SM_AURIX_SMU_2:1	Not Implemented and not applicable for current delivery
SM_AURIX_SMU_3:2	Not Implemented and not applicable for current delivery
SM_AURIX_SMU_3:3	Not Implemented and not applicable for current delivery
SM_AURIX_SMU_3:4	Not Implemented and not applicable for current delivery
SM_AURIX_SMU_TEST_1	Not Implemented and not applicable for current delivery

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SM_AURIX_SMU_TEST_2	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_MPU_INIT_1	Not Implemented and not applicable for current delivery
SM_AURIX_CPU_MPU_INIT_2	Not Implemented and not applicable for current delivery
SM_AURIX_LMU_MPU_INIT_1	Not Implemented and not applicable for current delivery
SM_AURIX_WDT_TEST:1	Not Implemented in MCAL but needs implementation for correct usage of MCAL. The customer shall read and verify Watchdog configuration registers after initialization or mode change to ensure the reload values and other configurations are valid.
SM_AURIX_IR_1:1	Not Implemented and not applicable for current delivery
SM_AURIX_DMA_TEST_1	Not Implemented and not applicable for current delivery
SM_AURIX_FCE_TEST_1	Not Implemented and not applicable for current delivery
SM_AURIX_FCE_TEST_2	Not Implemented and not applicable for current delivery
SM_AURIX_DMA_TEST_2	Not Implemented and not applicable for current delivery
SM_AURIX_LMU_MPU_TEST_1	Not Implemented and not applicable for current delivery
SM_AURIX_LMU_AP_TEST_1	Not Implemented and not applicable for current delivery
SM_AURIX_IOM_TEST_1	Not Implemented and not applicable for current delivery
SM_AURIX_PSRAM_1	Not Implemented and not applicable for current delivery
SM_AURIX_PSRAM_1:3	Not Implemented and not applicable for current delivery
SM_AURIX_PSRAM_1:2	Not Implemented and not applicable for current delivery
SM_AURIX_NLCPU_2:1	Not Implemented and not applicable for current delivery
SM_AURIX_NLCPU_2:2	Not Implemented and not applicable for current delivery
SM_AURIX_NLCPU_1	Not Implemented and not applicable for current delivery
SM_AURIX_SPB_3:1	Not Implemented and not applicable for current delivery
SM_AURIX_STM_3:1	Not Implemented and not applicable for current delivery
SM_AURIX_WDT_1:1	Not Implemented and not applicable for current delivery
SM_AURIX_WDT_1:2	Not Implemented and not applicable for current delivery
SM_AURIX_WDT_1:3	Not Implemented and not applicable for current delivery
SM_AURIX_IR_3:1	Not Implemented and not applicable for current delivery
SM_AURIX_IR_3:2	Not Implemented in MCAL but needs implementation for correct usage of MCAL. The customer shall implement Interrupt source check for overall software and for the existing MCAL software, Interrupt source check has to be done in the respective module IRQ file, before the call of MCAL interrupt handle as per AoU.
SM_AURIX_DMA_3:1	Not Implemented in MCAL but needs implementation for correct usage of MCAL. The Customer shall implement safety mechanism specified in AURIX safety Manual. Hint: Use SPI loop back mechanism or an equivalent safety mechanism. If SPI loop back mechanism is used then the application software shall verify the integrity of data transferred by DMA.
SM_AURIX_SAFE_COMM_1	Not Implemented in MCAL but needs implementation for correct usage of MCAL.
SM_AURIX_QSPI_3:1	Not Implemented in MCAL but needs implementation for correct usage of MCAL.
SM_AURIX_EVR_4:1	Not Implemented and not applicable for current delivery
SM_AURIX_26	Not Implemented and not applicable for current delivery

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## AoU's of Aurix Hardware Safety Manual V1.2, V1.3,V1.4 and V1.5.1

SM_AURIX_27	Not Implemented and not applicable for current delivery
SM_AURIX_28	Not Implemented and not applicable for current delivery
SM_AURIX_29	Not Implemented and not applicable for current delivery
SM_AURIX_DFA_1	Not Implemented and not applicable for current delivery
SM_AURIX_DFA_2	Not Implemented and not applicable for current delivery
SM_AURIX_DFA_3	Implemented in MCAL. (Needs evaluation of integrator for rest of the software)
SM_AURIX_23	To be taken care by Integrator.
SM_AURIX_ALARM_INIT_1	Not Implemented and not applicable for current delivery

# 4.2 AURIX Safety Manual V1.3 changes w.r.t V1.2

Change Description from Safety manual V1.2 to V1.3	Comments / Implementation hints from MCAL
[0000047041-113, 0000047041-157] Added section 3.10, SM_AURIX_DEBUG_1, SM_AURIX_DEBUG_2	NA for MCAL as it is related to On-Chip Debug Support (OCDS) module
[0000047041-110] Added information for initialization of safety mechanisms in sections 5.1.11, 5.1.12, 5.1.14, 5.1.15	Not in the scope of MCAL as it's a hardware safety mechanism.
[0000047041-161] Improved description of SM2[AoU].Reset:SSCheck in section 5.2.23	Not in the scope of MCAL as it is related to start-up software. In MCAL, start-up software is a demo(Mcal.c)
[0000047041-108, 0000047041-106, 0000047041-116] Added assumptions about PFLASH erase and programming: SM_AURIX_PMU_3, SM_AURIX_PMU_4, in section 4.17	NA for MCAL, System integrator has to take care.
[0000047041-103, 0000047041-104, 0000047041-105] Extended recommendations for the choice of independent redundant ADC channels, Timer channels, and QSPI channels, in section 7	NA for MCAL, as more description/text added to the existing method of using diverse modules as redundant channels
[0000047041-190] added new AoU SM_AURIX_DFA_CLK_2	Not in the scope of MCAL as its user responsibility to configure SMU to react to a clock monitor error with a system reset.
[0000047041-117] section 5.1.11: Enhanced Error Signalling, added new AoU SM_AURIX_SRAM_ALM	NA for MCAL, as it is related to start-up test
[0000047041-200] section 5.3.9: Added recommendation regarding unused SRN	Applicable and considered in MCAL. Only the configured modules SRE are enabled in the respective modules. The operating system to take care of remaining SRN bits.

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	<del>,</del>
[0000047041-196]	
section 4.17 :Improved	NA for MCAL, System integrator has to take care.
SM_AURIX_PMU_4	
[0000047041-185, 0000047041-151]	
section 5.1.25: Added recommendation	NA for MCAL as it's a hardware safety machanism
about IR EDC failure mode coverage	NA for MCAL, as it's a hardware safety mechanism.
and for reaction to ALM2[25]	
[0000047041-165]	
section 5.3.8 :Added recommendation	NA for MCAL, Interrupt subsystem is assigned to OS and
to check the content of SRC registers	hence this AoU shall be taken care by OS.
after write	,
[0000047041-189]	
section 5.2.26 :Extended	
SM_AURIX_SMU_3:2 with the list of	NA for MCAL as SMU initcheck is not part of MCAL.
registers to be considered	
[0000047041-153] Added additional	
hint about checking configuration	
registers after write in the description	NA for MCAL as SPB Test Pattern is not in the scope of MCAL
of SM1[AoU].SPB:TEST	NATOL MCAL as SLD Test Lattern is not in the scope of MCAL
of SMT[A00].SFB.TEST	
[0000047041-111]	
section 5.1.39: removed SRI Bus Error	NA for MCAL chapter 5.1.39 is for hardware safety
from "Error Signalling"	mechanism.
[0000047041-179, 0000047041-208]	
Removed all references to HSM:AP	
section 5.2.18, 5.2.19 corrected	Not in the scope of MCAL as it is related to start-up test
wording [0000047041-246, 0000047041-240,	
0000047041-246, 0000047041-240,	
Section 5.2.45: SM_AURIX_EVR_4:1	
	Not in the scope of MCAL as it is related to start-up test
Fixed description of SM1[AoU].EVR:	
CFGMON, and moved it to 5.2 (startup	
test).	
[0000047041-265]	
Requirement tagging issues, removed	
following requirements tags:	
SM_AURIX_FFI_2, SM_AURIX_PSRAM_2,	
SM_AURIX_PSRAM_3,	NA MONTO I CONTRACTOR INC.
SM_AURIX_CPU_TRAP_TEST,	NA to MCAL, removal of requirements tags.
SM_AURIX_WDT_1:3,	
SM_AURIX_PMC_1, SM_AURIX_EVR_4,	
SM_AURIX_DMA_3, SM_AURIX_STM_3,	
SM_AURIX_IR_3, SM_AURIX_CAN_3,	
SM_AURIX_QSPI_3, SM_AURIX_RCU_2	
[0000047041-272]	NA for MCAL. Description is provided below:
improved wording of following AoUs	SM_AURIX_20:
(no change in the objectives):	NA for MCAL.Startup is responsibility of user
	SM_AURIX_07:
SM_AURIX_20,	NA for MCAL as this is a requirement on ECU design;
SM_AURIX_07,	responsibility of user.
SM_AURIX_04, SM_AURIX_FFI_3,	SM_AURIX_04:
SM_AURIX_NLSCPU_4,	NA for MCAL as this is related to SMU
SM_AURIX_PMU_1,	SM_AURIX_FFI_3:

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SM_AURIX_SHARED_SRAMS,	NA for MCAL software as it's a hardware safety mechanism.
SM_AURIX_PMU_3, SM_AURIX_PMU_4,	SM_AURIX_NLSCPU_4:
SM_AURIX_DMA_4, SM_AURIX_DMA_5,	NA for MCAL as it is start-up self-tests.
SM_AURIX_IR_3, SM_AURIX_CAN_4,	SM_AURIX_PMU_1:
SM_AURIX_ERAY_4, SM_AURIX_GTM_1,	NA for MCAL software as it's a hardware safety mechanism.
SM_AURIX_EXTVREG_TEST,	SM_AURIX_SHARED_SRAMS:
SM_AURIX_SRAM_INIT,	NA for MCAL software as it's a hardware safety mechanism.
SM_AURIX_CPU_1:1,	SM_AURIX_PMU_3, SM_AURIX_PMU_4:
SM_AURIX_CPU_1:2	NA for MCAL, Applicable for SafeTlib as reading back /
SM_AURIX_EVR_1:1,	checking of FSR for errors is part of SafeTlib.
SM_AURIX_CCU_1:1,	SM_AURIX_DMA_4:
SM_AURIX_CPU_3:1,	NA for MCAL as DMA SRAM errors leads to SMU alarm;
SM_AURIX_CPU_3:2,	configuration of alarm reaction is responsibility of user.
SM_AURIX_PMU_1:6,	SM_AURIX_DMA_5:
SM_AURIX_SRI_1:3, SM_AURIX_SPB_2:1,	Dedicated measures on system level are needed e.g. SDCRC,
SM_AURIX_CPU_2:1,	E2E for DMA transaction.
SM_AURIX_CPU_2:2,	SM_AURIX_IR_3:
SM_AURIX_WDT_TEST,	Removed in Safety manual V1.3
SM_AURIX_SPB_1:2,	SM_AURIX_CAN_4:
SM_AURIX_SMU_2:1,	NA for MCAL as SRAM errors leads to SMU alarm;
SM_AURIX_SMU_3:2,	configuration of alarm reaction is responsibility of user
SM_AURIX_CPU_MPU_INIT_1,	SM_AURIX_ERAY_4:
SM_AURIX_CPU_MPU_INIT_2,	NA for MCAL as SRAM errors leads to SMU alarm;
SM_AURIX_DMA_TEST_1,	configuration of alarm reaction is responsibility of user
SM_AURIX_FCE_TEST_1,	SM_AURIX_GTM_1:
SM_AURIX_DMA_TEST_2,	NA for MCAL as SRAM errors leads to SMU alarm;
SM_AURIX_LMU_MPU_TEST_1,	configuration of alarm reaction is responsibility of user
SM_AURIX_PSRAM_1:2,	SM_AURIX_EXTVREG_TEST:
SM_AURIX_NLCPU_1, SM_AURIX_IR_1,	NA for MCAL as it is Start-up test.
M6AHRIX MPOr Relaction and Fault	SM_AURIX_SRAM_INIT: NA for MCAL software as it's a
Changed names of section 6 and 7:	hardware safety mechanism.
	SM_AURIX_CPU_1:1, SM_AURIX_CPU_1:2,
Tole ance becomes "fratores eaction	SM_AURIX_EVR_1:1, SM_AURIX_CCU_1:1,
and Fault Tolerance Considerations"	SM_AURIX_CPU_3:1, SM_AURIX_CPU_3:2,
	SM_AURIX_CPU_2:2, SM_AURIX_WDT_TEST,
becomes "7 Dependent Failures	SM_AURIX_SPB_1:2, SM_AURIX_SMU_2:1,
Considerations"	SM_AURIX_SMU_3:2, SM_AURIX_CPU_MPU_INIT_1,
Considerations	SM_AURIX_CPU_MPU_INIT_2, SM_AURIX_DMA_TEST_1,
	SM_AURIX_FCE_TEST_1, SM_AURIX_DMA_TEST_1,
	SM_AURIX_LMU_MPU_TEST_1, SM_AURIX_PSRAM_1:2:
	NA for MCAL as it is start-up self-tests.
	SM_AURIX_NLCPU_1:
	NA for MCAL as CPU Software Based Self-Test is not in the
	scope of MCAL
	SM_AURIX_IR_1:
	NA for MCAL as it's a hardware safety mechanism.
	SM_AURIX_WDT_1:1
	NA for MCAL, it is part of WDG Manager.
CM AUDIN 07	NA for MCAL as this is a requirement on ECU design;
SM_AURIX_07	responsibility of user
SM_AURIX_04	NA for MCAL as this is related to SMU
SM_AURIX_FFI_3	NA for MCAL software as it's a hardware safety mechanism.
0000047041-244]	WITTO FIGAL SOftware as it's a flatuware safety fliethallish.
	For each new requirement, the comments are given below.
sections 4.23, 4.25, 4.26, 7	

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Application Dependent Parts	
Redundant scenario described with	
more details for digital I/Os, ADC, and	
QSPI. Also aligned with DFA, and list of	
Dependent Failure Initiators completed	
and split into DFI applicable to basic	
device operation, DFI applicable to all	
redundant peripheral scenarios, DFI	
specific to each specific application	
usage scenario.	
new requirements:	
SM_AURIX_GTM_DFI_1	Not in the scope of MCAL, System integrator needs to take
SM_AOMA_GTM_DF1_1	care.
SM_AURIX_GTM_DFI_2	Not in the scope of MCAL, System integrator needs to take
SM_AURIA_GTM_DF1_2	care.
SM_AURIX_GTM_DFI_3	Not in the scope of MCAL, System integrator needs to take
SM_AURIA_GTM_DF1_5	care.
SM_AURIX_GTM_DFI_4	Not in the scope of MCAL, System integrator needs to take
JM_AUNIA_GTM_DITL4	care.
SM_AURIX_GTM_DFI_5	Not in the scope of MCAL, System integrator needs to take
SM_AOMA_GTM_DI1_5	care.
SM_AURIX_GPI_DFI_1	Not in the scope of MCAL, System integrator needs to take
SM_AURIX_GFI_DFI_1	care.
SM_AURIX_GPO_DFI_1	Not in the scope of MCAL, System integrator needs to take
SM_AURIX_GFU_DF1_1	care.
SM_AURIX_QSPI_DFI_1	Not in the scope of MCAL, System integrator needs to take
	care.
removed requirements:	
SM_AURIX_DFA_1, SM_AURIX_DFA_2,	NA for MCAL, as removal of requirements.
SM_AURIX_DFA_3	
[0000047041-248]	NA for MCAL, HSSL driver is provided as demo driver from
section 5.3.11 :added	MCAL.
SM1[AoU].HSSL:SafeProtocol	MGAL.
[0000047041-206]	
Sections 5.15.3, 5.3.13 added runtime	NA for MCAL as LMU SRAM run test is not part of MCAL.
test for LMU SRAM.	With the Method as bisto statist that test is not part of Metho.
SM1[AoU].LMU.DP:TEST	
[0000047041-245]	
Sections 5.3.5, 5.3.6 removed	NA for MCAL, deadline monitoring and program flow
references to AURIX internal WDT. Goal	monitoring is part of WDG Manager. WDG driver only
is to leave the implementation of these	provides an interface to service the WDG.
safety mechanisms open.	
[0000047041-275, 0000047041-278]	
Renamed section 3.4 into "Operating	
Modes" (was previously "Safe State	NA for MCAL. Maintaining normal run-time mode is
Support"), extended the list of	responsibility of user
operating modes, modified wording of	
SM_AURIX_18	
[0000047041-280]	
Section 5.3.4 :SM_AURIX_STM_3:1	
Added additional hints to the	NA for MCAL , OS / Application software to take care
description of SM1[AoU].STM:	
Plausibility.	

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[0000047041-209, 0000047041-214, 0000047041-238] Section 5.1.32: updated SM1 [HW].SMU: LOCK Error Signalling. Section 5.2.26: SM_AURIX_SMU_3:2 extended list of registers to be checked Section 5.2.27: fixed SM_AURIX_SMU_3:3 (no alarm or SPB error generated)	SM1[HW].SMU:LOCK:  NA for MCAL software as it's a hardware safety mechanism  SM_AURIX_SMU_3:2: NA for MCAL as its related to start-up  test  SM_AURIX_SMU_3:3: NA for MCAL as its related to start-up  test
[0000047041-253] add or removed information in following AoUs (does not change the meaning of the AoU): SM_AURIX_22, SM_AURIX_08, SM_AURIX_SPB_2:1	SM_AURIX_22: NA for MCAL as it's a hardware safety mechanism SM_AURIX_08: Applicable, provided as part of Safety app note. SM_AURIX_SPB_2:1: NA for MCAL as its related to start-up test
[0000047041-282] 5.11, 5.12, 5.13, 5.15 minor fixes in safety mechanisms description and error detection time.	NA for MCAL as it's a hardware safety mechanism
[0000047041-291] Section 5.11 :SM_AURIX_SRAM_INIT added clarification that this is only needed after a Cold PORST	NA for MCAL as it is related to start-up code.
[0000047041-241] 4.5 fixed wording of SM_AURIX_NLSCPU_4 5.3.2 improved SBST description.	NA for MCAL, only description is improved.
[0000047041-279, -217] Section 1.1, and 1.4 fixed description of the SEooC Section 3.1: improved parts categories description, added comments to the list of parts in table 3.	NA for MCAL, only description is improved.
[0000047041-219] Section 4.16 :removed EMEM from the list of peripheral SRAM instances Section 4.28 :add safety mechanisms for EMEM and limitations (notes)	NA for MCAL software as it's a hardware safety mechanism
[0000047041-221] Sections 5.1.22, 5.1.21 fixed SRI EDC description: behavior in case of failure during SRI transaction.	NA for MCAL as its related to start-up test
[0000047041-276] Section 5.2.9: simplified text of SM_AURIX_PMU_1:2, and added references Section 5.2.10 :simplified text of SM_AURIX_PMU_1:3, and added references Section 5.2.11: simplified text of SM_AURIX_PMU_1:5, and added references	NA for MCAL as its related to start-up test

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[0000047041-252]	
Section 4.15: SM_AURIX_LMU_1 added	
SM1[HW].LMU:PD:EDC to the list	
Section 5.1.36 :modified field "error	NA for MCAL software as it's a hardware safety mechanism
detection time"	,
Section 5.1.52: created	
SM1[HW].LMU:PD:EDC	
[0000047041-212]	
Section 5.1.29 :SM_AURIX_CPUCRC32_1	NA for MCAL coftware as it's a hardware safety mechanism
	NA for MCAL software as it's a hardware safety mechanism
updated: Non-Lockstep CPU only	
[0000047041-215]	
Section 5.3.12: in	
SM1[AoU].QSPI:SafeProtocol	Applicable. Assumption of Use shall be implemented in all
description, removed alternative using	safety related SPI communication which uses QSPI slave loop
another QSPI module as slave to	back mechanism
monitor some properties of the	
communication	
[0000047041-320]	
Section 5.1.1 :improved wording in field	
"product configuration"	
Section 5.1.34: improved wording in	NA for MCAL towns in all our improvement
field "description"	NA for MCAL, terminology improvement
Section 5.1.37 :improved wording in	
fields "description" and "limitations and	
recommendations"	
[0000047041-311]	
Section 5.1.22: aligned alarms	
descriptions with user manual	NA for MCAL as it's a hardware safety mechanism or start-up
Section 5.2.14: added references to	test
support the software implementation	
support the software implementation	
[0000047041-309]	
Section 4.12.2 :SM_AURIX_SPB_1 added	
SM1[HW].SPB:EH to the list of	
hardware safety mechanisms for SPB	
Sections 4.24.2, 5.1.41 added	NA for MCAL as it's a hardware safety mechanism or start-up
SM1[HW].PSI5-S:AP	test
Section 5.2.18: added	
SM2[AoU].PMU:AP and SM2[AoU].PSI5-	
S:AP	
[0000047041-321]	
Section 5.1.46: Fixed error signalling	
description for Endinit protection	
(alarm)	NA for MCAL as it's a hardware safety mechanism
Section 5.2.26: added a	,
recommendation to verify ARSTDIS and	
RSTCON by software after	
configuration	
[0000047041-325]	
Sections 4.28, 5.1.41, 5.2.18 removed all	
references to SM1[HW].CIF:AP	NA for MCAL as it's a hardware safety mechanism
Section 4.28: added a note in 4.28 that	
CIF has no ACCEN protection	
[0000047041-315]	NA for MCAL as it's a hardware safety mechanism or start-up
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Sections 5.1.16, 5.1.17, 5.1.18, 5.1.19,	test
Section 5.1.20 :fixed "error detection	test
time"	
Section 5.20: fixed wording and added	
references to CBABSTAT and CBABCFG	
Section 5.2.9: SM_AURIX_PMU_1:2	
added that SM2[AoU].PFLASH:ECC	
must also be tested	
[0000047041-257]	
Section 3.8.2: SM_AURIX_5 change "pull	
device" into "pull-down device"	Applicable, Configuration possibility provided from PORT
Section 4.3 :SM_AURIX_SMU_5 clarified	driver.
assumed configuration or error pin	
[0000047041-277]	
General terminology improvement:	
Consolidated usage of "user" and	
"integrator". Both terms replaced by	
"system integrator".	
Consolidated usage of "user software"	
and "application software". "User	NA for MCAL, terminology improvement
software" replaced by "application	,
software.	
Section 1.6.2 :added definition of	
"application software"	
Section 1.6.3 :added definition of	
"system level"	
[0000047041-299]	
Section 3.9.1: SM_AURIX_9 updated the	Notice the second of MCAL costs in all the day of the second on
hint for the implementation of this AoU	Not in the scope of MCAL as it is related to start-up sequence
(Note)	
[0000047041-307]	NA for MCAL software as it's a hardware safety mechanism
Section 5.1.27: added limitations to the	and MCAL doesn't use DMA timestamp feature.
usage of SM1[HW].DMA:TIMESTAMP	and MGAL doesn't use DMA diffestant pleature.
[0000047041-217]	
Sections 1.1, 1.4 updated SEooC	
description	NA for MCAL as only SEooC definition text is changed.
Section 3.1: updated definition of part	
types and list of parts	
[0000047041-211]	
Section 5.1.4: SM_AURIX_EVR_3 added	NA for MCAL as EVR is not part of MCAL
note that the AoU is only valid for	
TC27x, TC29x, and TC26x	
[0000047041-340]	
Section 5.2.4 :added recommendations	Not in the scope of MCAL as it is related to start-up test
for testing the system PLL clock	
monitor	
[0000047041-347]	
Section 3.7: added figure 4 to illustrate	
startup phase	
Section 3.7.1: SM_AURIX_20 added	NA for MCAL, Just info to user.
reference to figure 4	
Section 3.7.2: SM_AURIX_22 added	
reference to figure 4	
Section 3.7.2 :added new AoU	

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## AoU's of Aurix Hardware Safety Manual V1.2, V1.3,V1.4 and V1.5.1

SM_AURIX_30 for startup check of all	
safety mechanisms configuration	
registers	
[0000047041-349]	
Section 4.1.1: Removed reference to	
safety analysis report.	NA for MCAL reference removed
Section 5: removed reference to safety	NA for MCAL, reference removal
analysis report.	
[0000047041-350]	See below comments
Section 3.2: Updated Top Level Safety	Top Level Safety Requirement 4 and Top Level Safety
Requirements	Requirement 3.
Top Level Safety Requirement 4: Avoid	
undetected unavailability of a safety	
mechanism implemented by the	
microcontroller SEooC for longer than	NA for MCAL. SafeTlib or similar software to be used.
the multiple point fault detection	
interval in order to reach the target	
value for LFM.	
Top Level Safety Requirement 3:	
Provide information related to the	
avoidance of dependent failures to	
enable the monitoring of application	
dependent parts failure modes caused	
by random hardware faults by means of	GTM TIM/TIM, GTM TOM/TOM/IOM, QSPI/QSPI not
internal functional redundancies. At	supported in the existing MCAL without additional safety
least the following redundancy use	measure.
cases shall	
be considered:	VADC/VADC:
GTM TIM /CCU6 (or GPT12)	Limitation are mentioned in the
GTM TIM/TIM,	Aurix_MC-ISAR_SoftwareSafetyInformation document.
GTM TOM/TIM	
GTM TOM/CCU6/IOM	DSADC/VADC:
GTM TOM/TOM/IOM	Not in the scope of MCAL.
GPI/GPI	
GPO/GPO	
QSPI/QSPI	
VADC/VADC	
DSADC/VADC	

# 4.3 AURIX Safety Manual V1.4 changes w.r.t V1.3

Change Description from Safety manual V1.3to V1.4	Comments / Implementation hints from MCAL
[0000047041-363] Section 4.28.1: SM_AURIX_ADAS_2 New AoU specific to ADAS products	Safety applications should not use EMEM as several generic hardware safety mechanisms are not available.
[0000047041-365] Sections 4.26.4, 4.26.5 Fixed figures 14 and 15 as they were not representing the correct scenario (swapped the two	Does not impact MCAL. Only Documentation update.

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## AoU's of Aurix Hardware Safety Manual V1.2, V1.3,V1.4 and V1.5.1

figures)	
[0000047041-368] Section 5.1.40 :extended	NA for MCAL. Only Documentation update
SM1[HW].LMU:AP safety mechanism description	•
[0000047041-354, 0000047041-358] Section 5.1.50 :fixed description of	
SM1[HW].Register:SFF, and added	NA for MCAL, it is related to hardware safety mechanism.
reference	
to SM1[HW].Register:FTSFF	
[0000047041-360]	
Section 5.2.27: changed hint that SMU	NA for MCAL.
need to be in START state for this test,	NA IOI MCAL.
actually it must be in RUN state	
[0000047041-348]	NA for MCAL, more of hardware design consideration for
Section 8 :SM_AURIX_31 New AoU	system integrators.
specific to bare die products	System mitegrators.

#### AURIX Safety Manual V1.5.1 changes w.r.t V1.4 4.4

Change Description from Safety manual	Comments / Implementation hints from MCAL
V1.5.1 to V1.4	,
[0000047041-422]	Only cross-reference addition
Section 5.3.10: Added cross-references	Only cross reference addition
[0000047041-421]	
Section 4.25.1: Added note for usage of	Redundant Acquisition Using two VADC Groups not impacting
TC23x ADAS ADCs in redundant VADC	MCAL
VADC scenario	
[0000047041-419]	
Section 3.8.2: Changed cross-reference	Only cross-reference addition
from 4.2.5 to 4.3	
[0000047041-417]	
Section 7.3: Added attention section to	
mention missing dependent failure	Not impacting MCAL. Note to integerator.
initiator in VADC-VADC Application	
Dependant Scenario	
[0000047041-416]	
Section 3.1: Added ERU to list of non-	Not safety related. Documentation/information update.
safety related parts	
[0000047041-414]	
Section 4.5.1: Updated 1st and 2nd	
attention section. Scope of SBST on CPU	Note to integerator. Not impacting MCAL
core refined according to SBST Safety	
Analysis	
[0000047041-404]	Typo correction.
Section 5.2.26: Typo in SMU Alarm	Already analyzed as part of STL. Reanalysis is not done.
configuration register names	Air cady analyzed as part of STE. Nearlarysis is not dolle.
[0000047041-402]	
Section 4.15.2, 5.2.41: New AoU	Not impacting MCAL. Note to integerator.
SM_AURIX_LMU_SRAM_2	
[0000047041-401]	Note to integerator. Not impacting MCAL

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## AoU's of Aurix Hardware Safety Manual V1.2, V1.3,V1.4 and V1.5.1

Ī	-
Section 4.7.2: Added reference to	
AP32329 AURIX™ Secondary Voltage	
Monitors - Setting threshold levels	
[0000047041-400]	
Section 3.1: Added SPB to SRI Bridge and	General information. Not impacting MCAL.
IR to list of critical parts	
[0000047041-399]	
Section 1.4: Replaced the term "single	Documentation
channel software applications" by "non-	Documentation
Lockstep CPU"	
[0000047041-398]	
Section 5.2.34: Added WDTxCON0.PW,	WDT is a OM module and Initehople is not part of the driver
WDTxCON1.PAR and	WDT is a QM module and Initcheck is not part of the driver
WDTxCON1.TCR to list of register to	scope.
check	
[0000047041-395]	Description improvement "The safety mechanism shall consist
Section 5.2.31, 5.2.32, 5.2.33: Extended	of
description of CPU MPU, BUS MPU and	reading the relevant configuration registers and comparing the
LMU MPU safety mechanisms	read value to the expected value". Not impacting MCAL
[0000047041-392]	
Section 5.2.3: Removed reference to	Obsolata SM
SM2[HW].BANDGAP:HWBIST. This safety	Obsolete SM
mechanism is obsolete	
[0000047041-390]	
Section 5.3.13: Added SENT, ASCLIN and	Not impacting MCAL. E-to-E requirements included in Safety
PSI5 SafeProtocol safety	case.
mechanisms	
[0000047041-389]	
Section 5.1.27: Modified limitation on	Timestamp feature isn't supported by the driver. Refer All
timestamp usage with circular buffer with	devices MC-ISAR_HWErrataAnalysis.xls.
regards to erratum DMA_TC.034	
[0000047041-388]	
Section 5.1.31: Added limitation to usage	Not impacting MCAL. Limitation already taken into
of DMA Address CRC safety	consideration and documented in the UM.
mechanism	
[0000047041-383, 0000047041-384]	
Section 1.1, 1.6.1: Added notes to	
introduce requirement tags and	Documentation improvement
differentiate them from safety	·
mechanism tags	
[0000047041-381, 0000047041-413]	
Section 4.25.1: Updated figure 9 and 10	Redundant Acquisition Using two VADC Groups not impacting
and added table 7 and 9 to support	MCAL
BGA416 package	
[0000047041-379]	
Section 4.15: Added TC23x ADAS in the	
list of devices implementing the LMU	Documentation update. Not impacting MCAL.
SRAM	
[0000047041-377]	
Section 5.3.10: SM_AURIX_DMA_3:1	Documentation update, enhancement in representation alone.
completely reworked the description of	Not impacting MCAL.

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## New AoU's additional to Aurix\_MC-ISAR\_SoftwareSafetyInformation V3.0

SM1[AoU].DMA:Monitor with a better identification of the failure modes to be covered by software and additional implementation hints	
[0000047041-376] Section 4.16: Removed FSI0 from table 5. FSI0 RAM is neither accessible nor testable. Typo corrected: GTM MSC0/1 replaced by GTM MCS0/1	General information. Not impacting MCAL.
0000047041-443], [0000047041-444] Section 5.1.27: Added limitation on DMA timestamp usage with regards to erratum DMA_TC.063, and usage with circular buffer with regards to erratum DMA_TC.034	Timestamp feature isn't supported by the driver. Refer All devices MC-ISAR_HWErrataAnalysis.xls.
[0000047041-442] Section 5.1.30: Added limitation in the usage of DMA Data CRC.	Not impacting MCAL. Limitation already taken care in module implementation.
[0000047041-438] Section 5.2.41: Description of SM_AURIX_LMU_SRAM_2 updated and relocated in sub-chapter 5.2	Not impacting MCAL. Note to integerator.
[0000047041-435] Section 1.1: Typo in requirement tag. SM_AURIX_25 corrected into SM_AURIX_24	Requirement tag correction. Documentation
[0000047041-434], [0000047041-439] Section 5.1.12, 5.1.15: Extended error signalling section of SRAM Address Monitor and SRAM Error Tracking safety mechanisms	Not impacting MCAL. Note to integerator.
[0000047041-431], [0000047041-432], [0000047041-433] Section 3.4, 4.3.1: Fragmented tagging issue solved	Documentation
[0000047041-422] Section 5.3.10: Added cross-references	Only cross-reference addition
[0000047041-421] Section 4.25.1: Added note for usage of TC23x ADAS ADCs in redundant VADC VADC scenario	Redundant Acquisition Using two VADC Groups not impacting MCAL

### New AoU's additional to Aurix\_MC-ISAR\_SoftwareSafetyInformation 5 V3.0

Module	AoU
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## New AoU's additional to Aurix\_MC-ISAR\_SoftwareSafetyInformation V3.0

General	The integrator shall protect the Stack memory from the corruption using MPU protection to avoid corruption of stack memory leading to wrong behavior.	
General	If Flash, SRAM ECC alarm (uncorrectable), is triggered application shall not rely on any MCAL data (for example, ADC conversion result). Refer SM_AURIX_CPU_3 and SM_AURIX_PMU_1 in HW Safety Manual for more information.	
General	Integrator shall ensure that the valid pointer is passed to <mod>_GetVersionInfoApi() to avoid memory corruption, if wrong pointer is passed.</mod>	
	Valid pointer means: no NULLPTR and a writeable location with appropriate access rights for the caller	
General	The integrator shall not call <mod>_Init() and <mod>_DeInit() APIs from QM partition for drivers targeted to be used with ASIL claim.</mod></mod>	
General	It is assumed that the integrated system shall support to have mixed ASIL software with software modules (below RTE) and SW-Cs (above RTE)	
General	It is assumed that the invoked OS calls are developed by integrator according to ISO26262 based on the ASIL level of the intended application	
MCU	The integrator shall not call the following APIs from QM partition, if MCU driver is targeted to be used with ASIL claim.	
	a. Mcu_InitClock()	
	b. Mcu_DistributePllClock()	
	c. Mcu_RampToBackUpClockFreq()	
	d. Mcu_17_CcuconRegUpdate()	
	e. Mcu_SetMode()	
	f. Mcu_SetStandbyCtrlReg()	
MCU	The integrator shall provide access to Mcu_Init() API for all the resources used by GTM complex driver, if used in the system for the GTM complex driver initialization including the required SFRs.	
MCU	The integrator shall ensure that GTM ISRs for TOM and ATOM are called with correct module and channel numbers.	
PWM	The integrator shall verify the correctness of initialization done by the Pwm_17_Gtm_Init() API, after initialization of all modules to ensure no corruption of variables and SFR. Alternatively, verify the generated PWM signals using redundancy (for example, feedback or loopback mechanisms using ICU driver) to detect the errors in the generated PWM signal.	
ICU	The integrator shall not call Icu_17_GtmCcu6_SetMode() API from QM partition, if ICU driver is targeted to be used with ASIL claim.	

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## New AoU's additional to Aurix\_MC-ISAR\_SoftwareSafetyInformation V3.0

ICU	The integrator shall not use the Wakeup functionality in QM partition, if ICU driver targeted to be used with ASIL claim.
GPT	The integrator shall not call Gpt_SetMode() API from QM partition, if GPT driver is targeted to be used with ASIL claim.
ADC	The integrator shall ensure that buffer provided is properly aligned (16bit memory alignment required, in case 10bit or 12bit resolution is used for any channel).
ADC	The integrator shall read the data only after confirming the channel specific conversion is completed in polling mode using Adc_17_GetChannelStatus() API.
ADC	The integrator shall configure the different pairs of ERU units to ASIL and QM ADC hardware groups.
	For example, ERU0 and ERU1 can be assigned to ASIL ADC hardware groups, ERU2 and ERU3 can be assigned to QM ADC hardware groups.
ADC	The integrator shall limit one TOM/ATOM module to one driver, for instance TOM0 shall be allocated to ADC and TOM1 shall be allocated to GPT/PWM.
SPI	The integrator shall not call the following APIs from QM partition, if SPI driver is targeted to be used with ASIL claim.
	a. Spi_SetAsyncMode()
	b. Spi_AsyncTransmit()
	c. Spi_SyncTransmit()
	d. Spi_WriteIB()
	e. Spi_SetupEB()
	f. Spi_IsrQspiError()
	g. Spi_IsrQspiPt()
	h. Spi_IsrDMAQspiRx()
	i. Spi_IsrDmaError()
	j. Spi_IsrDmaQspiTxRuntime()
	k. Spi_IsrQspiUsr()
PORT	The integrator shall not call the Port_RefreshPortDirection() API from QM partition, if PORT driver is targeted to be used with ASIL claim.
PORT	The integrator shall call Port_SetPinDirection() and Port_SetPinMode() APIs from QM and ASIL partition, only for the pins of a different port.
DIO	The integrator shall call Dio_WriteChannelGroup() API from QM and ASIL partition, only for the channel groups of a different port.
MCALLIB	The integrator shall ensure that the APIs Mcal_SafetyModifyAccess() and Mcal_SafetyCheckAccess() are not

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## Release Notes Addendum



## New AoU's additional to Aurix\_MC-ISAR\_SoftwareSafetyInformation V3.0

	1. Called concurrently from other cores
	2. Called when Mcal_ResetSafetyENDINIT_Timed()/Mcal_SetSafetyENDINIT_Timed() are being executed or vice versa
MCALLIB	The integrator shall ensure that the valid values are passed to all MCALLIB APIs as per the input parameter range, if these functions are called directly in applications.
MCALLIB	The integrator shall ensure that the APIs Mcal_SafetyModifyAccess() and Mcal_SafetyCheckAccess() are not 1. Called concurrently from other cores 2. Called when Mcal_ResetSafetyENDINIT_Timed()/Mcal_SetSafetyENDINIT_Timed() are being executed or vice versa

## Release Notes Addendum





Date	Version	Description of change
2022-02-09	V26.0	Release notes addendum 2022-02
		- (Issue confirmed till 07-Feb-2022)
		<ul> <li>Added REL425 release information</li> </ul>
2021-08-05	V25.0	Release notes addendum 2021-08
		- (Issue confirmed till 23-Jul-2021)
		<ul> <li>Added REL420.1 release information.</li> </ul>
		- Added section 4.4 AURIX Safety manual V1.5.1 changes w.r.t V1.4
		- Added new AoU's in section 5
2021-03-03	V24.0	Release notes addendum 2021-02
		(Issue confirmed till 18-Feb-2021 are considered)
2020-11-18	V23.0	Release notes addendum 2020-11
		(Issue confirmed till 17-Nov-2020 are considered)
		- Added REL415 release information.
		<ul> <li>Following new Errata sheets are verified:</li> </ul>
		TC29x_BB_Errata_Sheet_v1_8_10217AERRA.pdf
		TC29x_BC_Errata_Sheet_v1_4_10218AERRA.pdf
		TC27x_DC_Errata_Sheet_v1_4_10216AERRA.pdf
		TC27x_DB_Errata_Sheet_v1_8_10215AERRA.pdf
		TC27x_CA_Errata_Sheet_v1_9_10214AERRA.pdf
		TC26x_BB_Errata_Sheet_v1_7_10211AERRA.pdf
		TC26x_BC_Errata_Sheet_v1_4_10212AERRA.pdf
		TC23x_AC_Errata_Sheet_v1_5_10210AERRA.pdf
		TC23x_AB_Errata_Sheet_v1_8_10209AERRA.pdf
		TC22x_TC21x_AB_Errata_Sheet_v1_7_10207AERRA.pdf
		TC22x_TC21x_AC_Errata_Sheet_v1_4_10208AERRA.pdf
2020-06-12	V22.0	Release notes addendum 2020-06
		(Issue confirmed till 01-June-2020 are considered)
2020-04-29	V21.1	FEE specific Releasenotes Addendum.
		(Issue confirmed till 21-Jan-2020 are considered)
		<ul> <li>Added following new FEE issues.</li> </ul>
		1) 0000051018-3127
		2) 0000051018-3128
		<ul> <li>Added REL410 release applicability to the above JIRAs only.</li> </ul>
		Note: Complete list of open issues for REL410 will be published in next
		Releasenotes Addendum.
2020-02-03	V21.0	Release notes addendum 2020-01
		(Issue confirmed till 21-Jan-2020 are considered)
2019-10-23	V20.1	Release notes addendum 2019-10
		(Issue confirmed till 02-Sep-2019 are considered)
		- Following new Errata sheets are verified :
		TC26x_BB_Errata_Sheet_v1_6_022_19.pdf

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## Release Notes Addendum



Date	Version	Description of change
		TC26x_BC_Errata_Sheet_v1_3_024_19.pdf
2019-09-20	V20.0	Release notes addendum 2019-09
		(Issue confirmed till 02-Sep-2019 are considered)
		<ul> <li>Added REL405 release information.</li> </ul>
		<ul> <li>Following new Errata sheets are verified :</li> </ul>
		TC29x_BB_Errata_Sheet_v1_7_029_190.pdf
		TC29x_BC_Errata_Sheet_v1_3_030_190.pdf
		TC27x_DC_Errata_Sheet_v1_3_028_190.pdf
		TC27x_DB_Errata_Sheet_v1_7_027_190.pdf
		TC27x_CA_Errata_Sheet_v1_8_026_190.pdf
		TC23x_AC_Errata_Sheet_v1_4_097_19.pdf
		TC23x_AB_Errata_Sheet_v1_7_096_19.pdf
		TC22x_TC21x_AB_Errata_Sheet_v1_6_094_19.pdf
		TC22x_TC21x_AC_Errata_Sheet_v1_3_095_19.pdf
2019-05-10	V19.0	Release notes addendum 2019-05
		(Issue confirmed till 02-May-2019 are considered)
2019-02-12	V18.0	Release notes addendum 2019-02
		(Issue confirmed till 30-Jan-2019 are considered)
		<ul> <li>Added TC26xBB and TC26xBC REL400 release information.</li> </ul>
		<ul> <li>Updated Scope of Release Notes Addendum section for missing</li> </ul>
		release i.e. TC26xBB Rel-304.
2018-10-23	V17.0	Release notes addendum 2018-10
		(Issue confirmed till 12-0ct-2018 are considered)
		<ul> <li>Added REL374, REL372, REL380 and REL376 release information.</li> </ul>
		- Updated release note addendum for REL-180, REL-185, REL-250 and for REL-270.
		<ul> <li>Following new Errata sheets are verified:</li> </ul>
		TC29x_BB_Errata_Sheet_v1_6_162_17.pdf
		TC29x_BC_Errata_Sheet_v1_2_163_17.pdf
		TC26x_BB_Errata_Sheet_v1_5_164_17.pdf
		TC26x_BC_Errata_Sheet_v1_2_165_17.pdf
		TC23x_AC_Errata_Sheet_v1_3_063_18.pdf
		TC23x_AB_Errata_Sheet_v1_6_062_18.pdf
		TC22x_TC21x_AB_Errata_Sheet_v1_5_064_18.pdf
		TC22x_TC21x_AC_Errata_Sheet_v1_2_065_18.pdf
2018-05-28	V16.0	Updated release note addendum for REL170
2018-05-08	V15.0	Release notes addendum 2018-04
		(Issues reported till 24-April-2018 are considered)
		<ul> <li>Added REL170, REL192, REL198, REL368, REL370 and REL378</li> </ul>
		release information.
		<ul> <li>Following new Errata sheets are verified :</li> </ul>
		TC27x_DC_Errata_Sheet_v1_2_184_17.pdf
		TC27x_DB_Errata_Sheet_v1_6_183_17.pdf
		TC27x_CA_Errata_Sheet_v1_7_182_17.pdf
2018-01-12	V14.0	Release notes addendum 2018-01

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## Release Notes Addendum



Date	Version	Description of change			
		(Issues reported till 15-Dec-2017 are considered)			
		<ul> <li>Editorial changes (Feature re-ordering of the issues)</li> </ul>			
		- New issues are added under section 1.1			
		<ul> <li>New issues details are added under section 2.1</li> </ul>			
		<ul> <li>Following new Errata sheets are verified:</li> </ul>			
		TC26x_BB_Errata_Sheet_v1_4_098_17.pdf			
		TC26x_BC_Errata_Sheet_v1_1_099_17.pdf			
2017-08-10	V13.0	Release notes addendum 2017-07			
		(Issues reported till 15-July-2017 are considered)			
		Note added in cover sheet with respect to ASIL B claim.			
		Section 1 updated.			
		New issues are added under section 1.1.			
		Section 2 updated.			
		New issues details are added under section 2.1.			
		New Errata sheets verified :			
		TC29x_BB_Errata_Sheet_v1_5_054_17.pdf			
		TC29x_BC_Errata_Sheet_v1_1_055_17.pdf			
		TC27x_CA_Errata_Sheet_v1_6_029_17.pdf			
		TC26x_BC_Errata_Sheet_v1_0.pdf			
		TC23x_AB_Errata_Sheet_v1_4_052_17.pdf			
		TC22x_TC21x_AB_Errata_Sheet_v1_3_070_17.pdf			
		TC22x_TC21x_AC_Errata_Sheet_v1_0_071_17.pdf			
2017-07-18	V12.2	Reformulation of workaround for 0000051018-683 JIRA.			
2017-07-06	V12.1	Updated workaround and description for 0000051018-683 JIRA.			
2017-06-06	V12.0	Release notes addendum 2017-05			
		(Issues reported till 16-May-2017 are considered)			
		Section 1 updated			
		New issues are added under section 1.1			
		Section 2 updated			
		New issues details are added under section 2.1			
		Section 3.1 updated with device details of 23x AC, 26x BC, 27x DC			
		New Errata sheet verified : TC23x_AC_Errata_Sheet_v1_1_053_17.pdf			
		New Release information added for: Rel314, Rel326, Rel318, Rel320,			
		Rel322, Rel323, Rel328, Rel330, Rel334			
2017-02-24	V11.0	Release notes addendum 2017-01			
		(Issues till 02-Feb-2017 are considered)			
		<ul> <li>Editorial changes (Feature re-ordering of the issues)</li> </ul>			
		New issues are added under section 1.1			
		New issues details are added under section 2.1			
		Added Chapter 6 "New AoU's additional to Aurix_MC-			
		ISAR_SoftwareSafetyInformation V3.0"			
		Added the following new releases			
		- MR - TC297_BB (Rel306/V2.0.0)			
		- MR - TC297_BB (Rel306/V2.0.0) - MR - TC297_BB (Rel327/V2.1.0)			
		· · · · ·			
2016 12 15	V100	MR - TC297TX_BC (Rel329/V3.0.0)			
2016-12-15	V10.0	Release notes addendum 2016-12			

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## Release Notes Addendum



Date	Version	Description of change			
		(Issues till 29-Nov-2016 are considered)			
		<ul> <li>Editorial changes (Feature re-ordering of the issues)</li> </ul>			
		- New issues are added under section 1.1			
		New issues details are added under section 2.1			
2016-09-30 V9.0		Release notes addendum 2016-09			
		(Issues till 22-Sept-2016 are considered)			
		<ul> <li>Editorial changes (Feature re-ordering of the issues)</li> </ul>			
		New issues are added under section 1.1			
		New issues details are added under section 2.1			
2016-06-14	V8.0	Release notes addendum 2016-06			
		(Issues till 31-May-2016 are considered)			
		<ul> <li>Editorial changes (Feature re-ordering of the issues)</li> </ul>			
		New issues are added under section 1.1			
		New issues details are added under section 2.1			
2016-05-03	V7.0	Release notes addendum 2016-05			
2010 00 00	, , , ,	(Issues till 25-April-2016 are considered)			
		- Editorial changes (Feature re-ordering of the issues)			
		New issues are added under section 1.1			
2016-03-18	V6.0	Rolling forecast column is added in section 2 and section 2.1  Release notes addendum 2016-03			
2010 05 10	V 0.0				
		(Issues till 15-Mar-2016 are considered)			
		- Editorial changes (Feature re-ordering of the issues)			
		- New issues are added in Section 1.1			
		- HW Errata's which have been analysed are added in Front page			
		- Added back following previous PR releases			
		PR - TC26xBB (Rel180/V2.0.0)			
		PR - TC29xBB (Rel180/V2.1.0))			
		<ul> <li>Added following new releases</li> </ul>			
		MR - TC27xCA (Rel300/V4.00)			
		MR - TC27xCA (Rei300/V4.00) MR - TC27xDB (Rei302/V3.0.0)			
		1.11 1.021 KDD (1.010.01)			
2016-02-03	V5.1	New issue about release Notes not properly conveying the information			
		that "Released Items" are productive code is added in Section 3.3 and			
		details available in Section 4			
2016-01-05	V5.0	Release notes addendum 2016-01			
		(Issues till 04-Jan-2016 are considered)			
		<ul> <li>Removed following releases</li> </ul>			
		PR - TC26xBB (Rel180/V2.0.0)			
		PR - TC29xBB (Rel180/V2.1.0)			
		_ Added following releases			
		- Added following releases			
		MR - TC26xBB (Rel194/V3.00)			
		MR - TC29xBB (Rel196/V3.0.0)			
		<ul> <li>Streamlined Issues applicable to all releases in Section 3.1.</li> </ul>			
		<ul> <li>Streamlined Issues applicable to all releases in Section 3.1.</li> <li>Added new issues for releases based on its applicability in Section 3</li> </ul>			

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## Release Notes Addendum



Date	Version	Description of change		
		- Added details of Issues in Section 4.		
		Added Section 7.3 . AURIX Safety Manual V1.4 changes w.r.t V1.3		
2015-11-06	V4.0	Release notes addendum 2015-11		
		<ul> <li>Addendum for the given Releases</li> </ul>		
		- TC27X_CA: V300		
		- TC27X_DB: V200		
		- TC29X_BB: V210		
		- TC26X_BB: V200		
		- TC23X_AB: V300		
		- TC22X_AB: V200		
		- TC21X_AB: V200		
		Added Section 5. AoU's of Aurix Hardware Safety Manual V1.2 and V1.3		
2015-09-03	-09-03 V3.0 Release notes addendum 2015-09			
		<ul> <li>Addendum for the given Releases</li> </ul>		
		- TC27X_CA: V300		
		- TC27X_DB: V100		
		- TC29X_BB: V210		
		- TC26X_BB: V200		
		- TC23X_AB: V300		
		- TC22X_AB: V200		
		- TC21X_AB: V200		
		Added Section 4. Safety mechanism to be considered.		
2015-06-15	V2.0	Release notes addendum 2015-06		
		<ul> <li>Addendum for the given Releases</li> </ul>		
		- TC27X_CA: V300		
		- TC29X_BB: V210		
		- TC26X_BB: V200		
		Added Section 3. Supported Derivative and Derivative Restriction Info		
2015-02-27	V1.0	Release notes addendum 2015-02		
		<ul> <li>Addendum for the given Releases</li> </ul>		
		- TC27X_BC: V240		
		- TC27X_CA: V200		
		- TC29X_BB: V100		
		- TC26X_BB: V100		
		TC23X_AB: V200		

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Sales name	SP number	OPN	Package
SAK-TC233L-32F200F AB	SP001268346	TC233L32F200FABKXUMA1	PG-TQFP-100-23
SAK-TC233L-32F200F AB	SP004396818	TC233L32F200FABKXUMA2	PG-TQFP-100-23
SAK-TC233L-32F200F AC	SP001674224	TC233L32F200FACKXUMA1	PG-TQFP-100-23
SAK-TC233L-32F200F AC	SP001700652	TC233L32F200FACKXQMA1	PG-TQFP-100-23
SAK-TC233L-32F200N AC	SP001408138	TC233L32F200NACKXUMA1	PG-TQFP-100-23
SAK-TC233LC-24F133F AB	SP001270740	TC233LC24F133FABKXUMA1	PG-TQFP-100-23
SAK-TC233LC-24F133F AC	SP001584028	TC233LC24F133FACKXUMA1	PG-TQFP-100-23
SAK-TC233LC-24F133N AC	SP002725546	TC233LC24F133NACKXUMA1	PG-TQFP-100-23
SAK-TC233LP-16F200F AB	SP001270730	TC233LP16F200FABKXUMA1	PG-TQFP-100-23
SAK-TC233LP-16F200F AC	SP001682994	TC233LP16F200FACKXUMA1	PG-TQFP-100-23
SAK-TC233LP-16F200N AC	SP001627900	TC233LP16F200NACKXUMA1	PG-TQFP-100-23
SAK-TC233LP-24F200N AC	SP002944554	TC233LP24F200NACKXUMA1	PG-TQFP-100-23
SAK-TC233LP-32F200F AB	SP001268348	TC233LP32F200FABKXUMA1	PG-TQFP-100-23
SAK-TC233LP-32F200F AC	SP001399222	TC233LP32F200FACKXUMA1	PG-TQFP-100-23
SAK-TC233LP-32F200F AC	SP001692512	TC233LP32F200FACKXQMA1	PG-TQFP-100-23
SAK-TC233LP-32F200N AC	SP001397720	TC233LP32F200NACKXUMA1	PG-TQFP-100-23
SAK-TC233LP-32F200N AC	SP001641894	TC233LP32F200NACKXQMA1	PG-TQFP-100-23
SAK-TC233S-32F200N AC	SP001658270	TC233S32F200NACKXUMA1	PG-TQFP-100-23
SAK-TC233S-32F200N AC	SP001720744	TC233S32F200NACKXQMA1	PG-TQFP-100-23
SAK-TC233SP-32F200N AC	SP001689232	TC233SP32F200NACKXUMA1	PG-TQFP-100-23
SAK-TC233SP-32F200N AC	SP001708334	TC233SP32F200NACKXQMA1	PG-TQFP-100-23
SAK-TC234L-24F200F AC	SP001658274	TC234L24F200FACKXUMA1	PG-TQFP-144-27
SAK-TC234L-24F200N AC	SP001624402	TC234L24F200NACKXUMA1	PG-TQFP-144-27
SAK-TC234L-32F200F AB	SP001268350	TC234L32F200FABKXUMA1	PG-TQFP-144-27
SAK-TC234L-32F200F AC	SP001658280	TC234L32F200FACKXUMA1	PG-TQFP-144-27
SAK-TC234L-32F200N AC	SP001408144	TC234L32F200NACKXUMA1	PG-TQFP-144-27
SAK-TC234LA-32F200F AB	SP001276932	TC234LA32F200FABKXUMA1	PG-TQFP-144-27
SAK-TC234LC-24F133F AC	SP001584026	TC234LC24F133FACKXUMA1	PG-TQFP-144-27
SAK-TC234LH-32F200F AB	SP005184614	TC234LH32F200FABKXUMA1	PG-TQFP-144-27
SAK-TC234LP-24F200F AC	SP001658278	TC234LP24F200FACKXUMA1	PG-TQFP-144-27
SAK-TC234LP-32F200F AB	SP001268352	TC234LP32F200FABKXUMA1	PG-TQFP-144-27
SAK-TC234LP-32F200F AC	SP001399224	TC234LP32F200FACKXUMA1	PG-TQFP-144-27
SAK-TC234LP-32F200F AC	SP002574662	TC234LP32F200FACKXQMA1	PG-TQFP-144-27
SAK-TC234LP-32F200N AC	SP001397714	TC234LP32F200NACKXUMA1	PG-TQFP-144-27
SAK-TC234LP-32F200N AC	SP001642890	TC234LP32F200NACKXQMA1	PG-TQFP-144-27
SAK-TC234LX-32F200F AB	SP001350934	TC234LX32F200FABKXUMA1	PG-TQFP-144-27
SAK-TC234LX-32F200F AB	SP001689442	TC234LX32F200FABKXQMA1	PG-TQFP-144-27
SAK-TC237L-32F200S AB	SP001268354	TC237L32F200SABKXUMA1	PG-LFBGA-292-6
SAK-TC237L-32F200S AC	SP001658282	TC237L32F200SACKXUMA1	PG-LFBGA-292-6
SAK-TC237LP-32F200N AC	SP001397698	TC237LP32F200NACKXUMA1	PG-LFBGA-292-6



Sales name	SP number	OPN	Package
SAK-TC237LP-32F200S AB	SP001268356	TC237LP32F200SABKXUMA1	PG-LFBGA-292-6
SAK-TC237LP-32F200S AC	SP001399220	TC237LP32F200SACKXUMA1	PG-LFBGA-292-6
SAK-TC264D-40F200N BC	SP001676268	TC264D40F200NBCKXUMA2	PG-LQFP-144-22
SAK-TC264D-40F200W BB	SP001257822	TC264D40F200WBBKXUMA1	PG-LQFP-144-22
SAK-TC264D-40F200W BC	SP001399214	TC264D40F200WBCKXUMA1	PG-LQFP-144-22
SAK-TC264DA-40F200N BC	SP001676270	TC264DA40F200NBCKXUMA2	PG-LQFP-144-22
SAK-TC264DA-40F200N BC	SP004374874	TC264DA40F200NBCKXUMA3	PG-LQFP-144-22
SAK-TC264DA-40F200W BB	SP001257824	TC264DA40F200WBBKXUMA1	PG-LQFP-144-22
SAK-TC264DA-40F200W BB	SP005562408	TC264DA40F200WBBKXUMA3	PG-LQFP-144-22
SAK-TC264DA-40F200W BC	SP001399218	TC264DA40F200WBCKXUMA1	PG-LQFP-144-22
SAK-TC264DC-40F200W BB	SP001399740	TC264DC40F200WBBKXUMA1	PG-LQFP-144-22
SAK-TC264DC-40F200W BC	SP001611462	TC264DC40F200WBCKXUMA1	PG-LQFP-144-22
SAK-TC265D-40F200N BC	SP001397662	TC265D40F200NBCKXUMA1	PG-LQFP-176-22
SAK-TC265D-40F200W BB	SP001257830	TC265D40F200WBBKXUMA1	PG-LQFP-176-22
SAK-TC265D-40F200W BB	SP005337974	TC265D40F200WBBKXUMA2	PG-LQFP-176-22
SAK-TC265D-40F200W BC	SP001399216	TC265D40F200WBCKXUMA1	PG-LQFP-176-22
SAK-TC265DC-40F200W BB	SP001363114	TC265DC40F200WBBKXUMA1	PG-LQFP-176-22
SAK-TC265DC-40F200W BC	SP001611464	TC265DC40F200WBCKXUMA1	PG-LQFP-176-22
SAK-TC267D-40F200N BC	SP001592934	TC267D40F200NBCKXUMA1	PG-LFBGA-292-6
SAK-TC267D-40F200S BB	SP001270092	TC267D40F200SBBKXUMA1	PG-LFBGA-292-6
SAK-TC267D-40F200S BC	SP001662612	TC267D40F200SBCKXUMA1	PG-LFBGA-292-6
SAK-TC275T-64F200N DC	SP001651570	TC275T64F200NDCKXUMA1	PG-LQFP-176-22
SAK-TC275T-64F200W CA	SP001106358	TC275T64F200WCAKXUMA1	PG-LQFP-176-22
SAK-TC275T-64F200W DB	SP001217592	TC275T64F200WDBKXUMA1	PG-LQFP-176-22
SAK-TC275T-64F200W DC	SP001662592	TC275T64F200WDCKXUMA1	PG-LQFP-176-22
SAK-TC275TC-64F200N DC	SP001667658	TC275TC64F200NDCKXUMA1	PG-LQFP-176-22
SAK-TC275TC-64F200W CA	SP001217626	TC275TC64F200WCAKXUMA1	PG-LQFP-176-22
SAK-TC275TC-64F200W DB	SP001217602	TC275TC64F200WDBKXUMA1	PG-LQFP-176-22
SAK-TC275TC-64F200W DC	SP001611466	TC275TC64F200WDCKXUMA1	PG-LQFP-176-22
SAK-TC275TP-64F200N DC	SP001397622	TC275TP64F200NDCKXUMA1	PG-LQFP-176-22
SAK-TC275TP-64F200N DC	SP001630432	TC275TP64F200NDCKXQMA1	PG-LQFP-176-22
SAK-TC275TP-64F200W CA	SP001105592	TC275TP64F200WCAKXUMA1	PG-LQFP-176-22
SAK-TC275TP-64F200W CA	SP001332056	TC275TP64F200WCAKXQMA1	PG-LQFP-176-22
SAK-TC275TP-64F200W DB	SP001217586	TC275TP64F200WDBKXUMA1	PG-LQFP-176-22
SAK-TC275TP-64F200W DC	SP001366138	TC275TP64F200WDCKXUMA1	PG-LQFP-176-22
SAK-TC277T-64F200N DC	SP001665660	TC277T64F200NDCKXUMA1	PG-LFBGA-292-6
SAK-TC277T-64F200N DC	SP005337796	TC277T64F200NDCKXUMA2	PG-LFBGA-292-10
SAK-TC277T-64F200S CA	SP001146094	TC277T64F200SCAKXUMA1	PG-LFBGA-292-6
SAK-TC277T-64F200S CA	SP005337784	TC277T64F200SCAKXUMA2	PG-LFBGA-292-10
SAK-TC277T-64F200S DB	SP001217632	TC277T64F200SDBKXUMA1	PG-LFBGA-292-6



Sales name	SP number	OPN	Package
SAK-TC277T-64F200S DB	SP005337792	TC277T64F200SDBKXUMA2	PG-LFBGA-292-10
SAK-TC277T-64F200S DC	SP001662590	TC277T64F200SDCKXUMA1	PG-LFBGA-292-6
SAK-TC277T-64F200S DC	SP005337794	TC277T64F200SDCKXUMA2	PG-LFBGA-292-10
SAK-TC277TC-64F200N DC	SP001667664	TC277TC64F200NDCKXUMA1	PG-LFBGA-292-6
SAK-TC277TC-64F200N DC	SP005345020	TC277TC64F200NDCKXUMA2	PG-LFBGA-292-10
SAK-TC277TC-64F200S CA	SP001217636	TC277TC64F200SCAKXUMA1	PG-LFBGA-292-6
SAK-TC277TC-64F200S CA	SP005337788	TC277TC64F200SCAKXUMA2	PG-LFBGA-292-10
SAK-TC277TC-64F200S DB	SP001217638	TC277TC64F200SDBKXUMA1	PG-LFBGA-292-6
SAK-TC277TC-64F200S DB	SP005337798	TC277TC64F200SDBKXUMA2	PG-LFBGA-292-10
SAK-TC277TC-64F200S DC	SP001611468	TC277TC64F200SDCKXUMA1	PG-LFBGA-292-6
SAK-TC277TC-64F200S DC	SP005337800	TC277TC64F200SDCKXUMA3	PG-LFBGA-292-10
SAK-TC277TC-64F200S DC	SP005345022	TC277TC64F200SDCKXUMA2	PG-LFBGA-292-10
SAK-TC277TP-64F200N DC	SP001397616	TC277TP64F200NDCKXUMA1	PG-LFBGA-292-6
SAK-TC277TP-64F200N DC	SP003475204	TC277TP64F200NDCKXQMA1	PG-LFBGA-292-6
SAK-TC277TP-64F200N DC	SP005337810	TC277TP64F200NDCKXUMA3	PG-LFBGA-292-10
SAK-TC277TP-64F200N DC	SP005345024	TC277TP64F200NDCKXUMA2	PG-LFBGA-292-10
SAK-TC277TP-64F200S CA	SP001146098	TC277TP64F200SCAKXUMA1	PG-LFBGA-292-6
SAK-TC277TP-64F200S CA	SP005337786	TC277TP64F200SCAKXUMA2	PG-LFBGA-292-10
SAK-TC277TP-64F200S DB	SP001217634	TC277TP64F200SDBKXUMA1	PG-LFBGA-292-6
SAK-TC277TP-64F200S DB	SP005337806	TC277TP64F200SDBKXUMA2	PG-LFBGA-292-10
SAK-TC277TP-64F200S DC	SP001366136	TC277TP64F200SDCKXUMA1	PG-LFBGA-292-6
SAK-TC277TP-64F200S DC	SP005337808	TC277TP64F200SDCKXUMA3	PG-LFBGA-292-10
SAK-TC277TP-64F200S DC	SP005345026	TC277TP64F200SDCKXUMA2	PG-LFBGA-292-10
SAK-TC297T-96F300N BC	SP001684616	TC297T96F300NBCKXUMA1	PG-LFBGA-292-6
SAK-TC297T-96F300N BC	SP005411081	TC297T96F300NBCKXUMA2	PG-LFBGA-292-10
SAK-TC297T-96F300S BB	SP001265616	TC297T96F300SBBKXUMA1	PG-LFBGA-292-6
SAK-TC297TA-128F300N BC	SP001397668	TC297TA128F300NBCKXUMA1	PG-LFBGA-292-6
SAK-TC297TA-128F300N BC	SP005337844	TC297TA128F300NBCKXUMA2	PG-LFBGA-292-10
SAK-TC297TA-128F300S BB	SP001130460	TC297TA128F300SBBKXUMA1	PG-LFBGA-292-6
SAK-TC297TA-128F300S BB	SP005337840	TC297TA128F300SBBKXUMA2	PG-LFBGA-292-10
SAK-TC297TA-128F300S BC	SP001662208	TC297TA128F300SBCKXUMA1	PG-LFBGA-292-6
SAK-TC297TA-128F300S BC	SP005337846	TC297TA128F300SBCKXUMA2	PG-LFBGA-292-10
SAK-TC297TA-64F300S BB	SP001265584	TC297TA64F300SBBKXUMA1	PG-LFBGA-292-6
SAK-TC297TA-64F300S BC	SP001662210	TC297TA64F300SBCKXUMA1	PG-LFBGA-292-6
SAK-TC297TC-96F300S BB	SP001265598	TC297TC96F300SBBKXUMA1	PG-LFBGA-292-6
SAK-TC297TC-96F300S BB	SP005411079	TC297TC96F300SBBKXUMA2	PG-LFBGA-292-10
SAK-TC297TC-96F300S BC	SP005411082	TC297TC96F300SBCKXUMA2	PG-LFBGA-292-10
SAK-TC297TP-128F300N BC	SP001396392	TC297TP128F300NBCKXUMA1	PG-LFBGA-292-6
SAK-TC297TP-128F300N BC	SP005411083	TC297TP128F300NBCKXUMA2	PG-LFBGA-292-10
SAK-TC297TP-128F300S BB	SP001207656	TC297TP128F300SBBKXUMA1	PG-LFBGA-292-6



Sales name	SP number	OPN	Package
SAK-TC297TP-128F300S BC	SP001366094	TC297TP128F300SBCKXUMA1	PG-LFBGA-292-6
SAK-TC297TP-128F300S BC	SP005411084	TC297TP128F300SBCKXUMA2	PG-LFBGA-292-10
SAK-TC297TP-96F300N BC	SP001662190	TC297TP96F300NBCKXUMA1	PG-LFBGA-292-6
SAK-TC297TP-96F300N BC	SP005425539	TC297TP96F300NBCKXUMA2	PG-LFBGA-292-10
SAK-TC297TP-96F300S BB	SP001001102	TC297TP96F300SBBKXUMA1	PG-LFBGA-292-6
SAK-TC297TT-128F300N BC	SP001789674	TC297TT128F300NBCKXUMA1	PG-LFBGA-292-6
SAK-TC297TX-128F300N BC	SP001397674	TC297TX128F300NBCKXUMA1	PG-LFBGA-292-6
SAK-TC297TX-128F300N BC	SP005337854	TC297TX128F300NBCKXUMA2	PG-LFBGA-292-10
SAK-TC297TX-128F300S BB	SP001265592	TC297TX128F300SBBKXUMA1	PG-LFBGA-292-6
SAK-TC297TX-128F300S BB	SP005337850	TC297TX128F300SBBKXUMA2	PG-LFBGA-292-10
SAK-TC297TX-128F300S BC	SP001662196	TC297TX128F300SBCKXUMA1	PG-LFBGA-292-6
SAK-TC297TY-128F300S BB	SP001265594	TC297TY128F300SBBKXUMA1	PG-LFBGA-292-6
SAK-TC299T-128F300S BC	SP001662172	TC299T128F300SBCKXUMA1	PG-LFBGA-516-5
SAK-TC299TC-96F300S BB	SP001265604	TC299TC96F300SBBKXUMA1	PG-LFBGA-516-5
SAK-TC299TC-96F300S BC	SP001611508	TC299TC96F300SBCKXUMA1	PG-LFBGA-516-5