MCAL_AM263_10.01.00 Release Notes

MCAL Release Notes

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Introduction

This is the release notes for **MCAL_AM263_10.01.00** release, done on 2024-12-20.

The MCAL package consists of MCAL Driver & Applications for **AM263x family of devices**. The MCAL modules are compliant to AUTOSAR specification versioned **4.3.1**.

Licensing

Refer to AM263x manifest at top level for MCAL_AM263_10.01.00_manifest.html

Getting Started

The AM263x [HTML] User Guide provides the documentation and references necessary to begin development on TI's platforms using AM263x.

Datasheet

The AM263x [HTML] User Guide provides the Memory footprint details.

Documentation

The AM263x [HTML] User Guide provides the documentation and references necessary to begin development on TI's platforms using AM263x.

This document details about supported driver, installation, dependencies, build instructions, steps to run example applications. This release package also includes module specific User Guides, test reports, configurator User Guide and others.

Dependencies

NA

What's New

1. New in this Release:
   - Pre-integration guide for vector startup and OS task configuration
   - MCELF Build Support
   - Bug Fixes. Please refer **Fixed Defects** section for more details.
2. Full functional testing is performed for all the MCAL drivers mentioned in below table
3. Drivers Supported:

Drivers	Modules
Micro controller Drivers	GPT, WDG, MCU
Memory Driver	FLS
Communication Driver	SPI, CAN, ETH, ETHTRCV, LIN
I/O Drivers	ADC, DIO, PORT, PWM, ICU
CDD	IPC, UART, I2C, DMA, FSI, PWM

TEXAS INSTRUMENTS

Device Support

SoC	HOST (OS)	Target (OS)	Supported CPU	Test Platform
AM263x	Windows / Linux, EB configurator only on Windows	Baremetal	R5F	am263x

Tools and Compilers

1. Code Composer Studio: 12.5.0 or later.
2. TI ARM CLANG Compiler Version: 2.1.3
3. Elektrobit Tresos Studio: 24.0 (**EB_Tresos_ACG8.5.0_Installer.zip**). Please use link to request access to EB Tresos Studio and License: [Click Here](#)

Compatibility

Driver	Compatibility Information	Comments	Recommended update for Customer Application
Cdd Ipc	Ipc driver is compatible with MCU_SDK 10.01.00	MCU+SDK version 10.01.00 available at [ti.com](#)	None
Common	Extra Compiler Options are removed	Compiler options not in use were removed, and details can be found in the UserGuide	Customer to change the compiler options accordingly
Common	Added Linker Options in the UserGuide	None	Customer to check the linker options and can use accordingly
Can	BSWMD Template updated, previously missing template for main functions	None	Customer to take the latest BSWMD from the release
Common	MCELF Build format is included	None	Customer to refer Readme or UserGuide for the dependency installation in order to build MCAL

*Internal Files are organized in V0, V1, V2 and V3 folders. The below table lists the associated V0/V1/V2/V3 files to be used as per device.

#	Modules	AM263x	AM273	AM263Px	AM261x
1.	ADC	V0	V1	V0	V0
2.	CAN	V0	V0	V0	V0
3.	CDD I2C	V0	V0	V0	V0
4.	CDD IPC	V0	V1	V0	V2
5.	CDD UART	V0	V1	V0	V0
6.	CDD DMA	V0	V1	V0	V0
7.	CDD PWM	V0	NA	V0	NA
8.	DIO	V0	V1	V0	V0
9.	ETH	V0	V1	V0	NA
10.	ETHTRCV	V0	V1	V0	NA
11.	FLS	V0	V1	V2	V2
12.	FSI	V0	NA	V0	NA
13.	GPT	V0	V0	V0	V0
14.	ICU	V0	V1	V0	V0
15.	LIN	V0	NA	V0	NA
16.	MCU	V0	V1	V2	V3
17.	PORT	V0	V1	V0	V0
18.	PWM	V0	V1	V0	V0
19.	SPI	V0	V1	V0	V0
20.	WDG	V0	V0	V0	V0

TEXAS INSTRUMENTS

Validation

Examples are validated with SBL Prebuilt binary of MCU+SDK 10.01.00 available at ti.com

#	Module	Validation Scope	Remarks (Refer to *Open Defects* for details)
1.	ADC	Unit Functional Testing and Code Coverage	None
2.	CAN	Unit Functional Testing and Code Coverage	None
3.	CDD FSI	Unit Functional Testing	None
4.	CDD I2C	Unit Functional Testing and Code Coverage	None
5.	CDD IPC	Unit Functional Testing and Code Coverage	None
6.	CDD UART	Unit Functional Testing and Code Coverage	None
7.	CDD PWM	Unit Functional Testing and Code Coverage	None
8.	DIO	Unit Functional Testing and Code Coverage	None
9.	DMA	Unit Functional Testing and Code Coverage	None
10.	ETH	Unit Functional Testing	ETH is not tested on RMII mode because of the limitation in current ETHTRCV, as it won't support RMII mode.
11.	ETHTRCV	Unit Functional Testing	None
12.	FLS	Unit Functional Testing and Code Coverage	None
13.	GPT	Unit Functional Testing and Code Coverage	None
14.	ICU	Unit Functional Testing and Code Coverage	None
15.	MCU	Unit Functional Testing and Code Coverage	Reset Reason tested only for Power on Reset, SW Warm Reset and Watchdog reset
16.	PORT	Unit Functional Testing and Code Coverage	None

17.	PWM	Unit Functional Testing and Code Coverage	None
18.	SPI	Unit Functional Testing and Code Coverage	None
19.	WDG	Unit Functional Testing and Code Coverage	None
20.	LIN	Unit Functional Testing and Code Coverage	Tested: 1. Internal sleep wakeup functionality. 2. Transmission types tested by connecting two simulated slaves on network: · Master Response · Slave Response · Slave to Slave Not Tested: 1. Network level sleep wakeup functionality

Fixed Defects

ID	Summary
MCAL-27992	AM26x: FSI: Example build fail for pre-compile
MCAL-27350	AM26x: CAN: BSWMD file template missing for main function
MCAL-27115	Flash: Qspi Flash dma read fails for data_lengths>62KB
MCAL-27081	CDD_I2C: Example stucks when write and read is called in loop
MCAL-26931	Documentation: Extra Compiler Build Options in MCAL UserGuide

MCAL-26722	Errata i2443: CPSW: Ethernet to host timestamp Issue
MCAL-26717	Documentation: Linker Build Options are not specified in MCAL UserGuide
MCAL-26397	ADC Conversion through XBar trigger with GPIO short was not working
MCAL-26396	ADC: Adc stress test case fixed
MCAL-25926	MDIO: MDIO interface corruption (CPSW and PRU-ICSS)
MCAL-24835	CCS Example: Debug mode in projectspec showing warning

Open Defects

ID	Summary	Workaround
MCAL-27722	UART: Multiple UART instance are not working	Can use the instance configured
MCAL-27501	WDG: WDG doesn't follow SWS_Wdg_00140 completely	None
MCAL-25969	Connecting Multiple Interrupt sources to single Interrupt Xbar line is not supported	None
MCAL-24809	ETH: EcuM_cacheInvalidate and EcuM_cacheWbInv should not be included in Application side	None
MCAL-13434	SPI: Dma mode is not working with cache writeback enabled	Enable Cachewrite through mode
MCAL-11007	PWM: Unable to generate high resolution PWM waveform for non zero prescaler value in UP-Down count mode	None

Known Limitations

ID	Description	Workaround	Comments
NA	NA	NA	NA

Support

For technical support and additional assistance, visit E2E or contact local TI Field Application Engineer.