Errata
XMSM0C110x, XMS003Fx Microcontrollers

TEXAS INSTRUMENTS

ABSTRACT

This document describes the known exceptions to the functional specifications (advisories).

Table of Contents

1 Functional Advisories

Advisories that affect the device's operation, function, or parametrics.

✓ The check mark indicates that the issue is present in the specified revision.

Errata Number	Rev A
ADC_ERR_04	✓
ADC_ERR_05	✓
PMCU_ERR_04	✓
PMCU_ERR_05	✓
PMCU_ERR_06	✓
UART_ERR_01	✓

2 Preprogrammed Software Advisories

Advisories that affect factory-programmed software.

✓ The check mark indicates that the issue is present in the specified revision.

3 Debug Only Advisories

Advisories that affect only debug operation.

✓ The check mark indicates that the issue is present in the specified revision.

4 Fixed by Compiler Advisories

Advisories that are resolved by compiler workaround. Refer to each advisory for the IDE and compiler versions with a workaround.

✓ The check mark indicates that the issue is present in the specified revision.

5 Device Nomenclature

To designate the stages in the product development cycle, TI assigns prefixes to the part numbers of all MSP MCU devices. Each MSP MCU commercial family member has one of two prefixes: MSP or XMS. These

ADVANCE INFORMATION

prefixes represent evolutionary stages of product development from engineering prototypes (XMS) through fully qualified production devices (MSP).

XMS – Experimental device that is not necessarily representative of the final device's electrical specifications

MSP – Fully qualified production device

Support tool naming prefixes:

X: Development-support product that has not yet completed Texas Instruments internal qualification testing.

null: Fully-qualified development-support product.

XMS devices and X development-support tools are shipped against the following disclaimer:

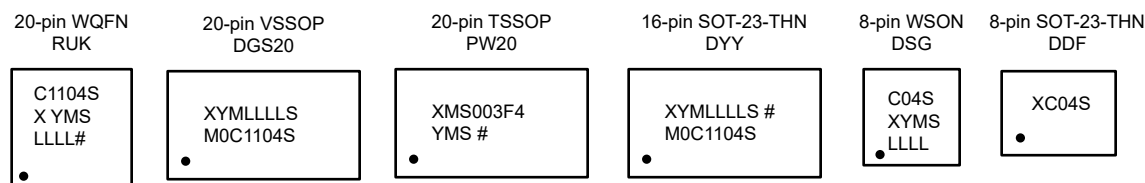"Developmental product is intended for internal evaluation purposes."

MSP devices have been characterized fully, and the quality and reliability of the device have been demonstrated fully. TI's standard warranty applies.

Predictions show that prototype devices (XMS) have a greater failure rate than the standard production devices. TI recommends that these devices not be used in any production system because their expected end-use failure rate still is undefined. Only qualified production devices are to be used.

TI device nomenclature also includes a suffix with the device family name. This suffix indicates the temperature range, package type, and distribution format.

5.1 Device Symbolization and Revision Identification

The package diagrams below indicate the package symbolization scheme, and Table 5-1 defines the device revision to version ID mapping.

20-pin WQFN RUK	20-pin VSSOP DGS20	20-pin TSSOP PW20	16-pin SOT-23-THN DYY	8-pin WSON DSG	8-pin SOT-23-THN DDF
C1104S X YMS LLLL#	XYMLLLLS M0C1104S	XMS003F4 YMS #	XYMLLLLS # M0C1104S	C04S XYMS LLLL	XC04S

YM = Year, month date code   # = Die revision
S = Assembly site   LLLL = Assembly lot code

Figure 5-1. Package Symbolization

Table 5-1. Die Revisions

Revision Letter (package marking)	Version (in the device factory constants memory)
A	1

The revision letter indicates the product hardware revision. Advisories in this document are marked as applicable or not applicable for a given device based on the revision letter. This letter maps to an integer stored in the memory of the device, which can be used to look up the revision using application software or a connected debug probe.

ADVANCE INFORMATION

6 Advisory Descriptions

ADC_ERR_04	***The trim of ADC offset error is not correctly applied***

Revisions Affected

Rev A

Details

The value of ADC offset error trim is not correctly applied. As a result, the offset can be in the range of +/-10mV.

This issue is going to be resolved in next version.

Workaround

Implement the user's own calibration and compensating the offset during the ADC measurement.

ADC_ERR_05	***ADC 10-bit DNL performance exceeds -1LSB***

Revisions Affected

Rev A

Details

When the ADC is configured as 10-bit resolution, the DNL performance could hit the targeted specification of -1LSB.

This issue is going to be resolved in next version.

Workaround

N/A

PMCU_ERR_04	***nRST pin low for more than 1 second does not trigger POR***

Revisions Affected

Rev A

Details

Applying a low signal to the nRST pin for more than 1 second does not trigger POR, instead, it results a BOOTRST.

This issue is going to be resolved in next version.

Workaround

Considering BOOTRST to reset the device instead of POR.

ADVANCE INFORMATION

ADVANCE INFORMATION

PMCU_ERR_05   *SRAM and internal LDO generate high leakage current*

Revisions Affected

Rev A

Details

Due to the timing issue caused by the internal logic, when the operating temperature is over 105C, SRAM and internal LDO have high leakage current. This prevents the device from entering STANDBY0 or STANDBY1 mode.

This issue is going to be resolved in next version.

Workaround

Limit the operating temperature to be <105C.

PMCU_ERR_06   *CPU AND DMA are not able to access the flash at the same time*

Revisions Affected

Rev A

Details

CPU AND DMA cannot concurrently access the flash; for instance, this simultaneous access results in reading incorrect data from the flash during the flash erase operation.

This issue is going to be resolved in next version.

Workaround

Do not access the flash via CPU AND DMA concurrently.

| **UART_ERR_01** | ***UART is failed to request asynchronous fast clock in STANDBY1 mode*** |

Revisions Affected

Rev A

Details

When the device is operating STANDBY1 mode, it can be awakened by UART transmission (start condition) and request an asynchronous fast clock. After that, it re-enters STANDBY1 mode. If a new start condition in UART communication occurs during the transition to STANDBY1 mode, the UART is not able to detect it and request an asynchronous fast clock.

Workaround

Use STANDBY0 or higher power mode when UART is needed to detect the new start conduction.

7 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

DATE	REVISION	NOTES
October 2023	*	Initial Release

ADVANCE INFORMATION

IMPORTANT NOTICE AND DISCLAIMER