Application Note

AM263Px Revision 1.0 to 1.2 Migration Guide

Abstract

This application note provides a comprehensive overview of the differences between Texas Instruments' AM263P Revision 1.0 and Revision 1.2 microcontrollers. The document details the key improvements and considerations when migrating from AM263P Rev 1.0 to AM263P Rev 1.2 , with a focus on Ethernet subsystem enhancements.

Table of Contents

1 Introduction 2
2 Detailed Description 3
2.1 Ethernet Subsystem Fixes 3
2.2 RAM SEC Fixes 3
2.3 Software Migration Recommendations 4
2.4 Board Changes 4
3 Silicon Version Identification 5
4 Summary 6
5 References 7

Trademarks

Sitara™ is a trademark of Texas Instruments.
All trademarks are the property of their respective owners.

Copyright © 2026 Texas Instruments Incorporated

1 Introduction

This guide is designed for customers working with Texas Instruments' AM263P microcontrollers who need to understand the specific differences between Revision 1.0 to Revision 1.2 . The AM263P is part of TI's Sitara™ family of microcontrollers designed for high-performance industrial and automotive control applications requiring robust connectivity and integrated industrial Ethernet.

The document highlights the critical enhancements in Revision 1.2, specifically focusing on important fixes to the Ethernet subsystem that improve overall reliability.

Customers migrating from AM263P Rev 1.0 to Rev 1.2 can find detailed information on the Ethernet subsystem changes and software migration recommendations. This guide is especially valuable for applications that rely on the Ethernet connectivity capabilities of the AM263P platform, as there are improvements in the latest revision

By understanding these differences, customers can make informed decisions about silicon revision selection and software updates to take full advantage of the enhancements offered in AM263P Revision 1.2.

Copyright © 2026 Texas Instruments Incorporated

2 Detailed Description

2.1 Ethernet Subsystem Fixes

Table 2-1 provides a list of known issues in AM263P 1.0 and fixes in AM263P 1.2 with respect to the CPSW module. Full details for the errata items are provided in the AM263P Sitara™ Microcontroller Silicon Revision 1.0 errata.

Table 2-1. Device Comparison

Sr. No.	Module	Issue Description	Silicon version affected		
			AM263P 1.0 (A)	AM263P 1.1 (B) (1)	AM263P 1.2 (C)
1	CPSW	i2401 - Host Timestamps cause CPSW port to lock up	Present	Fixed	Fixed
2	CPSW	i2438- CPSW: Host to Ethernet Checksum Generation with VLAN ADD/Remove	Present	Fixed	Fixed
3	CPSW	i2439 - Host to Ethernet Timestamp accuracy issue	Present	Fixed	Fixed

(1) This silicon version is not in production

2.1.1 Host Timestamp Fix

In AM263P Rev 1.0, host timestamps can cause the CPSW port to lock up (Errata i2401). This occurred when the packet preamble was corrupted, preventing timestamp requests from being sent to CPTS and resulting in a lockup condition in the CPSW port FIFO.

This erratum is fixed in AM263P Rev 1.2, allowing the timestamp option to be safely enabled.

Software Impact: Yes

CPTS Timestamp is now enabled by default in SDK version: **AM26xx MCU+ SDK 26.01.00.08.LTS**.

2.1.2 Host to Ethernet Timestamp Accuracy Issue

In AM263P Rev 1.0, when transmitting a packet from the Host to Ethernet with a timestamp request for Ethernet egress, packets with a length containing 0xD5 in the lower eight bits resulted in timestamp errors (Errata i2439).

This erratum is fixed in AM263P Rev 1.2, providing accurate timestamps across all packet lengths and improving the reliability of time-sensitive applications.

Software Impact: Yes

CPTS Timestamp is now enabled by default in SDK version : **AM26xx MCU+ SDK 26.01.00.08.LTS**.



Figure 2-1. Host Receive Timestamp Enable in Sysconfig

2.2 RAM SEC Fixes

Table 2-2 provides a list of known issues in AM263P 1.0 and fixes in AM263P 1.2 with respect to the RAM SEC module. Full details for the errata items are provided in the AM263P Sitara™ Microcontroller Silicon Revision 1.0 errata.

Table 2-2. Device Comparison

Sr. No.	Module	Issue Description	Silicon version affected		
			AM263P 1.0 (A)	AM263P 1.1 (B) (1)	AM263P 1.2 (C)
1	RAM SEC	i2427- RAM SEC can cause spurious RAM writes resulting in L2 and MBOX memory corruption	Present	Present	Fixed

Copyright © 2026 Texas Instruments Incorporated

Table 2-2. Device Comparison (continued)

Sr. No.	Module	Issue Description	Silicon version affected		
			AM263P 1.0 (A)	AM263P 1.1 (B) (1)	AM263P 1.2 (C)
2	RAM SEC	i2499- Incorrect data returned to controller on single error detection during burst read	Present	Present	Fixed

(1) This silicon version is not in production.

Software Impact : Yes

For earlier version (1.0), it is necessary to enable one of the workarounds described in the AM263P Sitara™ Microcontroller Silicon Revision 1.0 errata.

2.3 Software Migration Recommendations

2.3.1 CPSW Fixes

To take advantage of the Ethernet subsystem improvements in AM263P Rev 1.2, we recommend updating to the latest SDK version. The **AM26xx MCU+ SDK 26.01.00.08.LTS** enables timestamp by default, providing improved network functionality out of the box. For backward compatibility, existing applications disabling these features continue to work without changes.

2.4 Board Changes

No hardware or board-level changes are required when migrating from AM263P Rev 1.0 to Rev 1.2.

Copyright © 2026 Texas Instruments Incorporated

3 Silicon Version Identification

If software relies on silicon revision identification to enable or disable features, or to implement workarounds for known silicon errata, please note the following detection procedure.

The silicon version can be identified by reading bits [3:0] of TOP_CTRL: EFUSE_ROW_15, located at memory location 0x50D8 0434.

Note

The MCU+ SDK OTP Keywriter contains a PG_VER check. When switching to a new device revision, make sure the latest OTP Keywriter from the SDK is used for key programming.

Table 3-1. BIT FIELD DESCRIPTION OF TOP_CTRL:EFUSE_ROW_15

Reserved																										PG Version			
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0

Table 3-2. IDENTIFYING PG_VERSION USING BITS[3:0] OF TOP_CTRL:EFUSE_ROW_15

PG VERSION	Description of Bits [3:0]
AM263P 1.0	0001
AM263P 1.1(1)	0010
AM263P 1.2	0011

(1) This silicon version is not in production

Copyright © 2026 Texas Instruments Incorporated

4 Summary

The transition from AM263P 1.0 to AM263P 1.2 brings improvements in network functionality.

The fixes implemented in Rev 1.2 are largely transparent to software applications, requiring minimal changes for customers migrating between revisions. We recommend updating to the latest SDK version to benefit from these improvements.

Copyright © 2026 Texas Instruments Incorporated

5 References

1. Texas Instruments, *Errata AM263Px Sitara™ Microcontroller Silicon Revision*, errata

Copyright © 2026 Texas Instruments Incorporated

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you fully indemnify TI and its representatives against any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale, TI’s General Quality Guidelines, or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products. Unless TI explicitly designates a product as custom or customer-specified, TI products are standard, catalog, general purpose devices.

TI objects to and rejects any additional or different terms you may propose.

Copyright © 2026, Texas Instruments Incorporated

Last updated 10/2025