ESP32-C3 Series SoC

Errata

Introduction

This document describes known errata in ESP32-C3 series of SoCs.

Version 1.0

Espressif Systems

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Chip Revision Identification

> **Note:**
>
> Check the link or the QR code to make sure that you use the latest version of this document:
> https://espressif.com/sites/default/files/documentation/esp32-c3_errata_en.pdf

Espressif is introducing **vM.X** numbering scheme to indicate chip revisions.

M – Major number, indicating the major revision of the chip product. If this number changes, it means the software used for the previous version of the product is incompatible with the new product, and the software version shall be upgraded for the use of the new product.

X – Minor number, indicating the minor revision of the chip product. If this number changes, it means the software used for the previous version of the product is compatible with the new product, and there is no need to upgrade the software.

The vM.X scheme replaces previously used chip revision schemes, including ECOx numbers, Vxxx, and other formats if any.

The chip revision is identified by:

- eFuse field EFUSE_RD_MAC_SPI_SYS_5_REG[25:23] and EFUSE_RD_MAC_SPI_SYS_3_REG[20:18]

Table 1: Chip Revision Identification by eFuse Bits

|	eFuse Bit	Chip Revision				
		v0.0	v0.1	v0.2	v0.3	v0.4
Major Number	EFUSE_RD_MAC_SPI_SYS_5_REG[25]	0	0	0	0	0
	EFUSE_RD_MAC_SPI_SYS_5_REG[24]	0	0	0	0	0
Minor Number	EFUSE_RD_MAC_SPI_SYS_5_REG[23]	0	0	0	0	0
	EFUSE_RD_MAC_SPI_SYS_3_REG[20]	0	0	0	0	1
	EFUSE_RD_MAC_SPI_SYS_3_REG[19]	0	0	1	1	0
	EFUSE_RD_MAC_SPI_SYS_3_REG[18]	0	1	0	1	0

- **Main Die** line in chip marking

Pin 1

Espressif Logo

Product Name

Date Code

Main Die

Product Name

WWYYYY
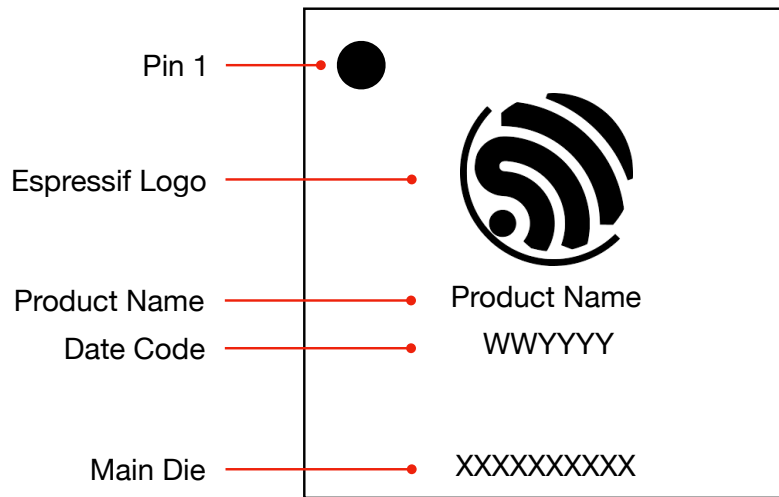
XXXXXXXXX

Figure 1: Chip Marking Diagram

Table 2: Chip Revision Identification by Silk Print

Chip Revision	Main Die
v0.0	XAXXXXXXXX
v0.1	XBXXXXXXXX
v0.2	XCXXXXXXXX
v0.3	XDXXXXXXXX
v0.4	XEXXXXXXXX

Note:

- Information about ESP-IDF release that supports a specific chip revision is provided in ESP Product Selector.

- For more information about the chip revision upgrade and their identification of ESP32-C3 series products, please refer to ESP32-C3 Product/Process Change Notifications (PCN).

- For more information about the chip revision numbering scheme, see Compatibility Advisory for Chip Revision Numbering Scheme.

Errata Description

<div align="center">Table 3: Errata Summary</div>

Category	Description	Affected Revisions				
		v0.0	v0.1	v0.2	v0.3	v0.4
SAR ADC	1.1 *The Digital Controller of SAR ADC2 cannot work*	Y	Y	Y	Y	Y

1 SAR ADC

1.1 The Digital Controller of SAR ADC2 cannot work

Description

The Digital Controller of SAR ADC2 may receive a false sampling enable signal. In such case, the controller will enter an inoperative state.

Workarounds

It is suggested to use SAR ADC1.

Projected Solution

No fix scheduled.

Related Documentation and Resources

Related Documentation

- [ESP32-C3 Series Datasheet](#) – Specifications of the ESP32-C3 hardware.
- [ESP32-C3 Technical Reference Manual](#) – Detailed information on how to use the ESP32-C3 memory and peripherals.
- [ESP32-C3 Hardware Design Guidelines](#) – Guidelines on how to integrate the ESP32-C3 into your hardware product.
- *Certificates*
  https://espressif.com/en/support/documents/certificates
- *ESP32-C3 Product/Process Change Notifications (PCN)*
  https://espressif.com/en/support/documents/pcns?keys=ESP32-C3
- *ESP32-C3 Advisories* – Information on security, bugs, compatibility, component reliability.
  https://espressif.com/en/support/documents/advisories?keys=ESP32-C3
- *Documentation Updates and Update Notification Subscription*
  https://espressif.com/en/support/download/documents

Developer Zone

- [ESP-IDF Programming Guide for ESP32-C3](#) – Extensive documentation for the ESP-IDF development framework.
- *ESP-IDF* and other development frameworks on GitHub.
  https://github.com/espressif
- *ESP32 BBS Forum* – Engineer-to-Engineer (E2E) Community for Espressif products where you can post questions, share knowledge, explore ideas, and help solve problems with fellow engineers.
  https://esp32.com/
- *The ESP Journal* – Best Practices, Articles, and Notes from Espressif folks.
  https://blog.espressif.com/
- See the tabs *SDKs and Demos*, *Apps*, *Tools*, *AT Firmware*.
  https://espressif.com/en/support/download/sdks-demos

Products

- *ESP32-C3 Series SoCs* – Browse through all ESP32-C3 SoCs.
  https://espressif.com/en/products/socs?id=ESP32-C3
- *ESP32-C3 Series Modules* – Browse through all ESP32-C3-based modules.
  https://espressif.com/en/products/modules?id=ESP32-C3
- *ESP32-C3 Series DevKits* – Browse through all ESP32-C3-based devkits.
  https://espressif.com/en/products/devkits?id=ESP32-C3
- *ESP Product Selector* – Find an Espressif hardware product suitable for your needs by comparing or applying filters.
  https://products.espressif.com/#/product-selector?language=en

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- See the tabs *Sales Questions*, *Technical Enquiries*, *Circuit Schematic & PCB Design Review*, *Get Samples* (Online stores), *Become Our Supplier*, *Comments & Suggestions*.
  https://espressif.com/en/contact-us/sales-questions

Revision History

Date	Version	Release Notes
2022-11-14	v1.0	First release