Product Change Notification - SYST-28LESW804

Date:

29 Jan 2019

Product Category:

Bluetooth Module

Affected CPNs:

Notification subject:

ERRATA - BM70/BM71/RN4870/RN4871 Bluetooth Low Energy Module Errata Errata Document Revision

Notification text:

SYST-28LESW804

Microchip has released a new DeviceDoc for the BM70/BM71/RN4870/RN4871 Bluetooth Low Energy Module Errata of devices. If you are using one of these devices please read the document located at BM70/BM71/RN4870/RN4871 Bluetooth Low Energy Module Errata.

Notification Status: Final

Description of Change: Initial errata document release.

Impacts to Data Sheet: None

Reason for Change: To Improve Productivity

Change Implementation Status: Complete

Date Document Changes Effective: 29 Jan 2019

NOTE: Please be advised that this is a change to the document only the product has not been changed.

Markings to Distinguish Revised from Unrevised Devices: N/A

Attachment(s):

BM70/BM71/RN4870/RN4871 Bluetooth Low Energy Module Errata

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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Affected Catalog Part Numbers (CPN)

BM70BLE01FC2-0002AA
BM70BLE01FC2-0B03AA
BM70BLE01FC2-0B04AA
BM70BLES1FC2-0002AA
BM70BLES1FC2-0B03AA
BM70BLES1FC2-0B04AA
BM70BLES1FC2-P002AA
BM71BLE01FC2-0002AA
BM71BLE01FC2-0B02AA
BM71BLE01FC2-0B04AA
BM71BLES1FC2-0002AA
BM71BLES1FC2-0B02AA
BM71BLES1FC2-0B04AA
RN4870-I/RM128
RN4870-I/RM130
RN4870-V/RM118
RN4870U-V/RM118
RN4871-I/RM128
RN4871-I/RM130
RN4871-V/RM118
RN4871-V/RM130
RN4871U-V/RM118

BM70/BM71/RN4870/RN4871

Bluetooth® Low Energy Module Errata

BM70/BM71/RN4870/RN4871 Family Errata

The BM70/BM71/RN4870/RN4871 family of devices that you have received conform functionally to the current device datasheet located on the Microchip website (BM70, BM71, RN4870, and RN4871), except for the anomalies that are described in this document.

Affected Devices

Erratum	Affected Devices
Invalid Bluetooth Address	BM70, BM71, RN4870, and RN4871
P1_6 Pin is Driven Low during Firmware Start-up	RN4871, and BM71 series

Table of Contents

1. Invalid Bluetooth Address

Issue

Under a certain set of operating conditions, the BM70/BM71/RN4870/RN4871 may exhibit the following symptoms:

- %UNKNOWN DEVICE% during reboot
- BT address 000000000000

The CPU program counter can be corrupted under the following conditions:

1. After a slow rise of VBAT / BOR event with a dwell time > 10 mS between 0.95 VDC and 1.1 VDC
2. Voltage back feed through a GPIO pin before VBAT is applied

Once the program counter is corrupted, it is possible to execute a section of code that erases the Information Block of Flash memory (PFM sector holding manufacturing information, including calibrations and Bluetooth address).

Workarounds

1. To prevent this from occurring, a software write-protect feature is provided in BM70/BM71 firmware v1.11 and RN4870/RN4871 firmware v1.30, which ensures the memory is not altered if the Flash modification operations are called inadvertently. Update BM70/BM71 devices to firmware 1.11 or newer and RN4870/RN4871 to firmware 1.30 or newer. Follow the firmware update instructions provided in the device user guide and web page for each type of module.
2. Use the latest CPNs for new designs:
    2.1. BM70BLES1FC2-0B04AA
    2.2. BM71BLES1FC2-0B04AA
    2.3. RN4870-I/RM130
    2.4. RN4871-I/RM130

2. P1_6 Pin is Driven Low during Firmware Start-up

Issue

The P1_6 pin of the RN4871/BM71 series is configured as output and pulled low during the firmware start-up. The P1_6 pin is driven low after 22 ms (approximate) from start-up and the pin is in low level state for 1.6 ms (approximate) before it goes to an input state.

There is a possibility for high in-rush current on this pin when an external MCU with high source current capability drives it high during this time.

Workaround

Set the external MCU pin connected to P1_6 pin of the RN4871/BM71 series to an input as default. Wait for this pin to transition from a low level to high level before configuring this MCU pin to the output mode.

3. Document Revision History

Revision	Date	Section	Description
A	01/2019	Document	Initial Revision

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