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# PCN 20

## Raspberry Pi 2 Model B, Use of BCM2836 and BCM2837A1 SoC variants

Raspberry Pi Ltd

2023-06-27: githash: 4961771-clean

# Colophon

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Release	Date	Description
1.0	22 May 2023	<ul style="list-style-type: none"><li data-bbox="1099 273 1246 297">• Initial release</li></ul>

# 1. Product Change Note

## 1.1. Title

Use of the BCM2836 and BCM2837A1 SoCs on the Raspberry Pi 2 Model B

## 1.2. Notification ID

20

## 1.3. Notification date

1 June 2023

## 1.4. Products Affected

Raspberry Pi 2 Model B

## 1.5. Reason for Change

Chip supply constraints on the original BCM2836 SoC.

## 1.6. Change Description

Raspberry Pi 2 model B devices are now manufactured using either the BCM2836 or BCM2837A1 SoC. The processor clock speed and voltage on BCM2837A1-based boards are set to achieve very similar performance and thermal characteristics to the original BCM2836-based version.

BCM2836 PCB revision: R1

BCM2836 software model number: 1.1

BCM2837A1 PCB revision: R2

BCM2837A1 software model number: 1.2

Raspberry Pi Ltd have extensively tested and qualified alternatives which closely match the original parts in terms of specification and performance.

## 1.7. Mechanical (Form, Fit, Function) Changes

No change

## 1.8. Electrical

No change

## 1.9. Software/Firmware Changes Required

This new product revision is supported in firmware versions from 2016 onwards.

The firmware version can be queried by running 'vcgencmd version' from the Raspberry Pi OS command line. It can also be found for an image by running

```
strings /boot/start.elf | grep VC_BUILD
```

(where /boot/ is the boot partition of the filesystem).

Raspberry Pi Ltd always recommend using the latest version of firmware and Linux kernel, wherever that is practical.

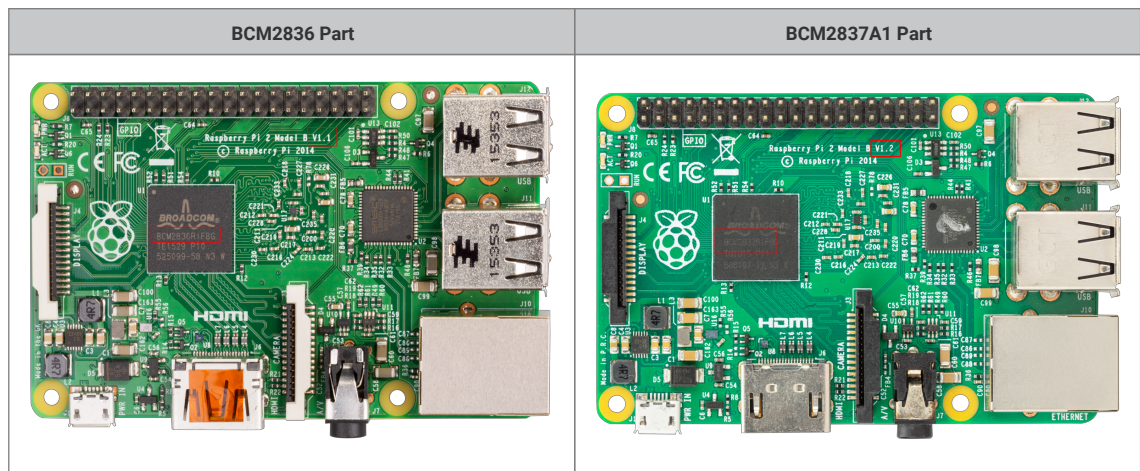
## 1.10. Transition Date(s)

2016

## 1.11. Identification Method to Distinguish Change

The boards can be distinguished by visual examination, the silk-screened version number is v1.1 for the BCM2836 and v1.2 for the BCM2837A1.

The SoC will also include either the text **BCM2836** or **BCM2837**, as shown in the image below.



The change can be identified programmatically by running the following command in a terminal window:

```
cat /proc/cpuinfo
```

The Model will be reported as Raspberry Pi 2 Model B Rev 1.1 for the BCM2836 version, and Raspberry Pi 2 Model B Rev 1.2 for the BCM2837A1 version

In addition, the specific devices SoC can be identified programmatically by running the following command in a terminal window:

```
cat /proc/cpuinfo | grep Revision | cut -c 14
```

This extracts the processor identifier from the revision code. The BCM2836-based devices will have an identifier of 1, and the BCM2837A1-based devices will have an identifier of 2.

## 1.12. Contact Details for more information

Please contact [applications@raspberrypi.com](mailto:applications@raspberrypi.com) if you have any queries about this PCN.

Web: [www.raspberrypi.com](http://www.raspberrypi.com)



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