

## MNT Reform RCM4 with A311D Upgrade

Dear MNT Customer,

thank you for purchasing the MNT RCM4 with A311D Upgrade, a processor module for your MNT Reform that offers a significant performance increase. We hope you will enjoy the enhanced productivity and fun it brings.

### Installation

During installation, refer to the pictures on the right side of this page for guidance.

1. Remove your previous heatsink and CPU module from MNT Reform, but keep one end of the MIPI DSI cable connected to the motherboard. Connect the other end to the matching connector on the RCM4 module.
2. Push the module into the CPU slot of your MNT Reform motherboard at a 45 degree angle and then press it down until it clicks into place.
3. Mount the shorter 2 hex M2 standoffs (included) on the motherboard through the matching holes on RCM4. Mount the longer 2 hex M2 standoffs on the remaining 2 heatsink mounting holes on the motherboard.
4. Exchange the motherboard screw next to the SD card slot with the remaining hex standoff. Mount the acrylic antenna carrier on it using the short M2 screw, as pictured. Attach the WiFi antenna to the carrier. Attach the antenna connectors to the CM4 module.
5. Install the included heatsink using the thermal pad for heat transfer between the CM4's System-on-Chip and the heatsink. Remove protective foil from the thermal pad before attaching it. Mount the heatsink with 4x included M2 screws.

### Safety Instructions

- The module and the adapter are sensitive electronic parts that can be damaged by static electricity. Make sure to ground yourself before touching.
- Before installation, consult the safety instructions of MNT Reform and remove all power sources including batteries from the system.

The product complies with the requirements of the European Directives and DIN standards:  
 EMC Directive 2014/30/EU, Low Voltage Directive 2014/35/EU  
 RoHS Directive 2011/65/EU, DIN EN 55022:2011-12  
 DIN EN 55024:2016-05, DIN EN 61000-6-1:2007  
 DIN EN 61000-6-3:2007/A1:2011/AC:2012  
 DIN EN 61000-3-2:2014, DIN EN 61000-3-3:2013

### Specifications

- Includes BPI CM4 (Amlogic A311D, 4GB RAM)
- 4x2.2GHz Cortex-A73 + 2x1.8GHz Cortex-A53
- ARM Mali G52 MP4 (OpenGL/ES 3.1)
- RTL8822CS WiFi 5 / Bluetooth 5.0
- Size: 68x67.5mm. PCB thickness 1mm.
- Card Edge Connector: 200 pin SO-DIMM card edge (mates with TE 1717254-1 or TE 1473005-1)
- FPC Connectors for: 1x internal HDMI (works only with Raspberry Pi CM4), 1x MIPI-DSI, 1x MIPI-CSI

### Contents

- RCM4 circuit board with BPI CM4 installed
- MNT Reform Generic Heatsink (aluminum)
- 2mm thermal pad
- 4x heatsink hex standoffs (2x5mm, 2x6mm)
- 4x heatsink screws
- Acrylic antenna carrier with hex standoff and screw
- Complimentary WiFi antenna
- Complimentary M.2 to mPCIe adapter

### PCIe

Please note that CM4 compute modules support only one PCIe lane. This is routed to the mPCIe slot on the MNT Reform motherboard, so you will not be able to use the M.2 slot. To install your NVMe SSD, use the included M.2 to mPCIe adapter.

### Software and Sources

All MNT Reform Processor Modules use a unified kernel and Debian GNU/Linux distribution, but each uses a different bootloader configuration. Download the **a311d** image from the following URL, unpack and image it to an SD card:

<https://mnt.re/system-image>

Hardware sources, schematics and software instructions are published at:

<https://source.mnt.re/reform/mnt-reform-raspberry-pi-cm4-som>

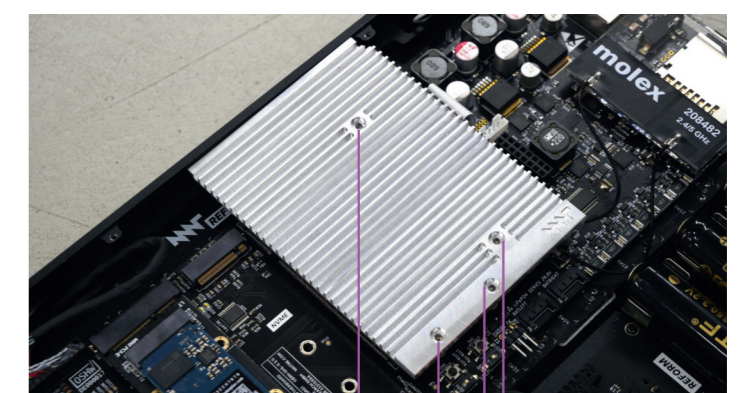
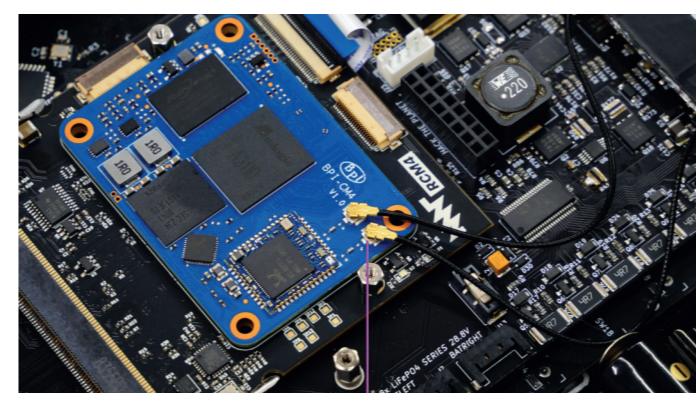
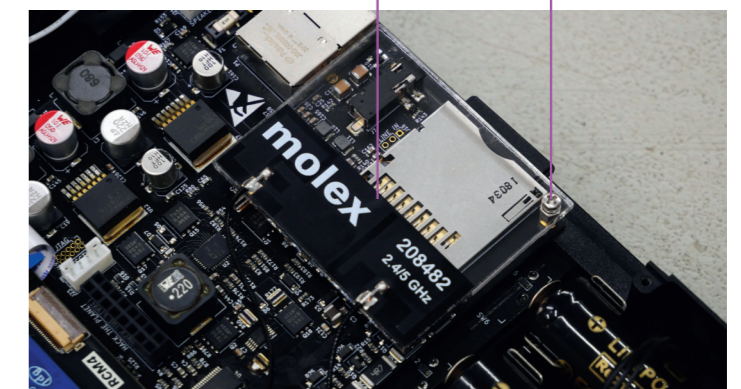
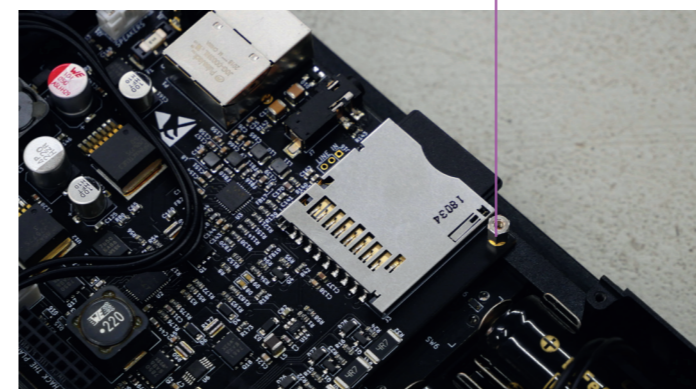
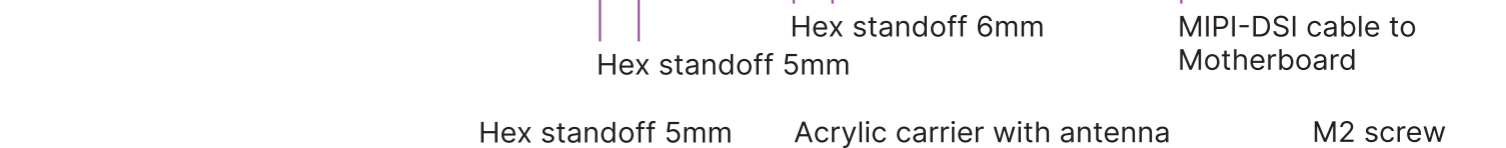
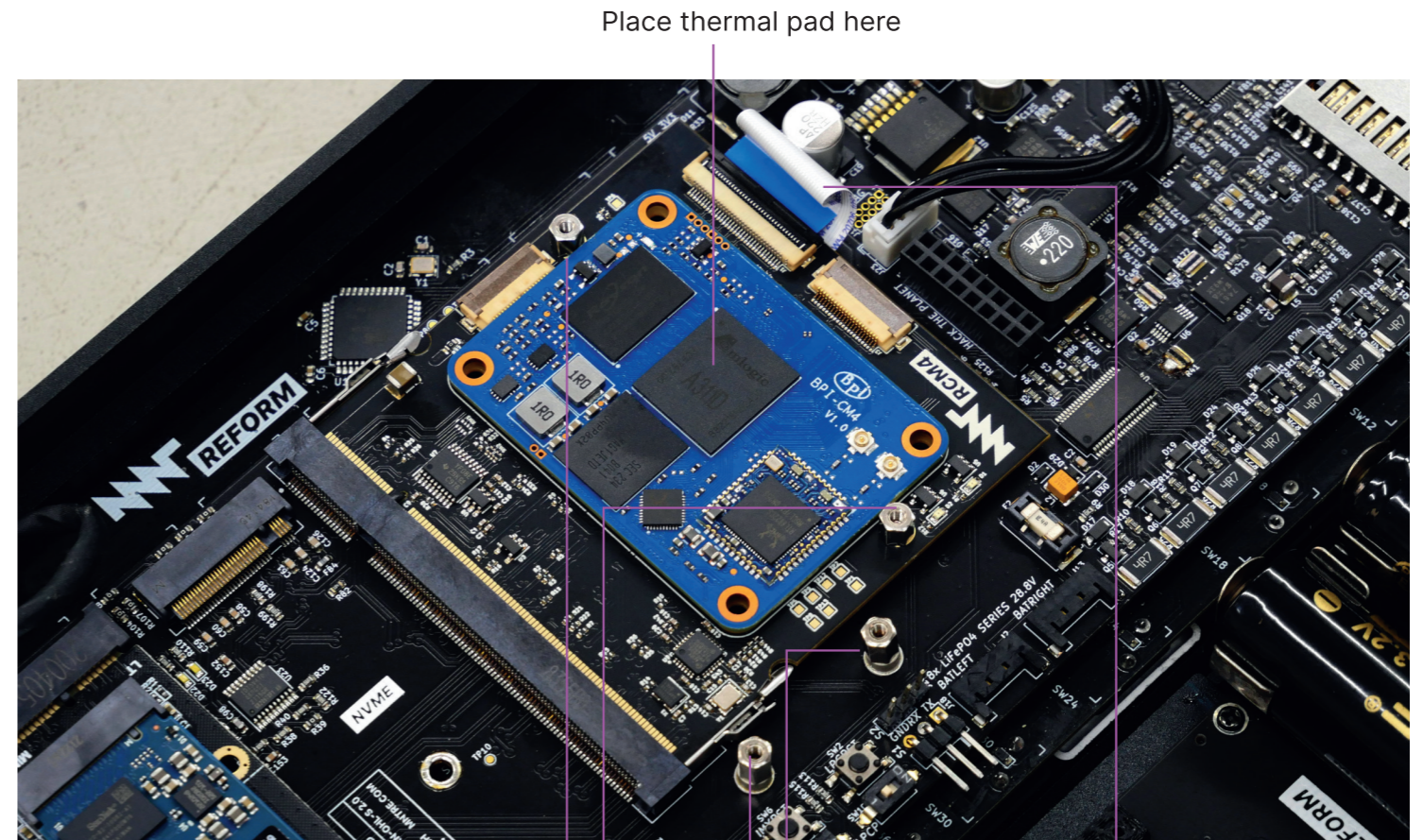
### Warranty

MNT Research covers the warranty to the extent required by law for the unmodified product and following the safety instructions. Warranty does not cover any modifications made to the product.

Get updates and source code at: [mntre.com/reform](https://mntre.com/reform)

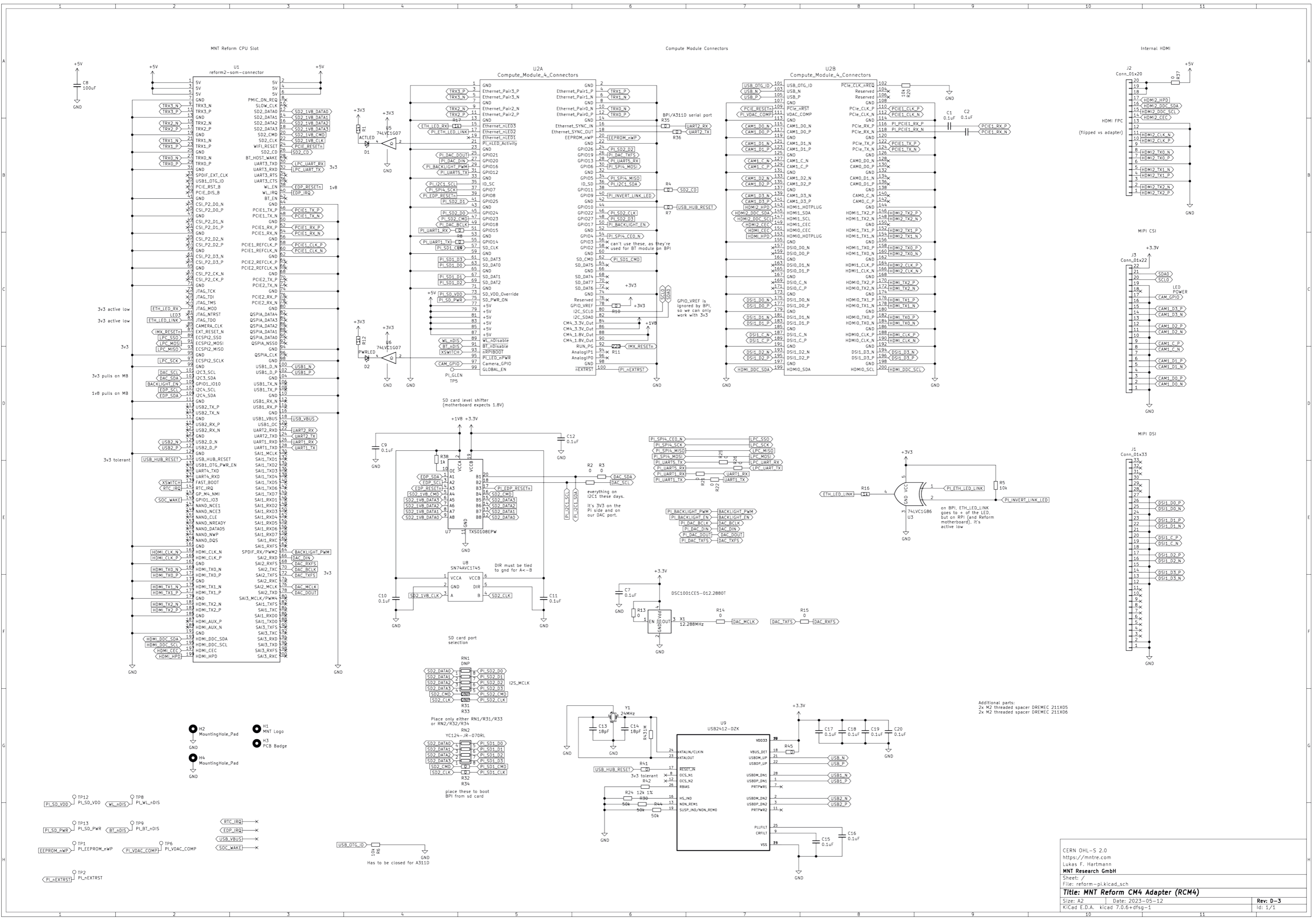
Need help? Join [community.mnt.re](https://community.mnt.re) or write to [support@mntre.com](mailto:support@mntre.com)

Join our IRC channel [#mnt-reform](https://irc.libera.chat) on: [#mnt-reform](https://irc.libera.chat)



Antenna connectors

Mount heatsink with 4 screws



Additional parts:  
 2x M2 threaded spacer DREMEC 211X05  
 2x M2 threaded spacer DREMEC 211X06