

MNT RCORE RK3588 Processor Module

Dear MNT Customer,

thank you for purchasing the MNT RCORE with RK3588, version 2. This processor module for your MNT Reform offers significant CPU, GPU and I/O performance increases as well as up to 32GB of RAM. We hope you'll enjoy the enhanced productivity and fun it brings.

Installation

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

1. Remove your previous heatsink and processor module from MNT Reform, including the MIPI DSI flat cable.
2. Connect the included, longer MIPI DSI flat cable to the connector on the underside of RCORE. The blue side of the cable goes up. Connect the other side of the cable to the matching connector on the MNT Reform motherboard (the blue side goes up on this side, as well).
3. 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.
4. Mount the shorter 2 hex M2 standoffs on the motherboard through the matching holes on RCORE. Mount the longer 2 hex M2 standoffs on the 2 other heatsink mounting holes on the motherboard.
5. Install the included heatsink using the thermal pad for heat transfer between the RK3588 processor 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 is a sensitive electronic part 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 (EN 55032:2015/A11:2020, EN 55035:2017/A11:2020)



Low Voltage Directive 2014/35/EU (EN 62368-1:2014)
RoHS Directive 2011/65/EU (EN 63000:2018)

Specifications

- Includes Firefly iCore-3588Q (Rockchip RK3588, 16GB or 32GB RAM, 256GB eMMC)
- 4x2.4GHz Cortex-A76 + 4x1.8GHz Cortex-A55 CPUs
- ARM Mali G610 MP4 GPU (OpenGL 3.1, Vulkan 1.3)
- Card edge connector: 200 pin SO-DIMM card edge (mates with TE 1717254-1 or TE 1473005-1)
- FPC Connectors for: 1x internal HDMI, 1x MIPI-DSI (on back side), 1x optional WiFi/BT expansion
- Dual PCIe controllers
- Gigabit Ethernet controller

Contents

- RCORE with iCore-3588Q and display cable
- MNT Reform RCORE Heatsink (copper)
- Thermal pad (1mm thickness)
- 4x heatsink hex standoffs (2x7mm, 2x8mm)
- 4x heatsink screws
- 1x Wi-Fi antenna with acrylic carrier
- 1x hex standoff (5mm) and screw for antenna carrier

Wi-Fi Antenna and Carrier

If you have a Wi-Fi card and an old version of the antenna carrier, mount the included acrylic carrier above the SD card slot (see last two pictures on the back) using the 5mm hex standoff and screw, and use the included antenna.

Software and Sources

The RCORE module comes with the MNT Reform System Image preinstalled on the 256GB eMMC flash, so you don't need an SD card.

If you want to start again with a fresh System Image, download the **reform-system-rk3588-dsi** image from the following URL, unpack and image it to an SD card, which RCORE can boot: <https://mnt.re/system-image>

Sources and schematics are published at:
<https://source.mnt.re/reform/mnt-reform-rk3588-som>

Warranty

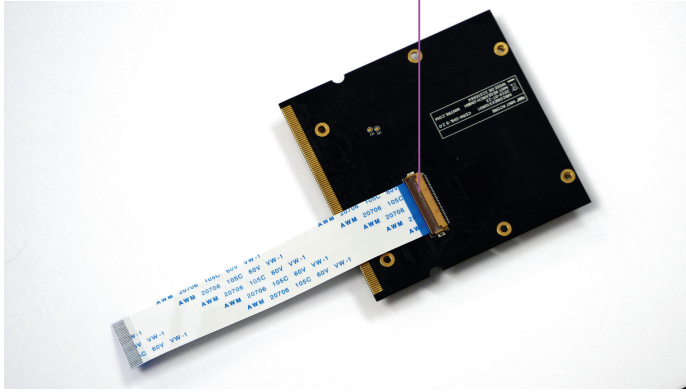
MNT Research covers the warranty to the extent required by law for the unmodified product and following the safety instructions. Warranty does not cover any modifications made to the product.

Get updates and source code at: mntre.com/reform

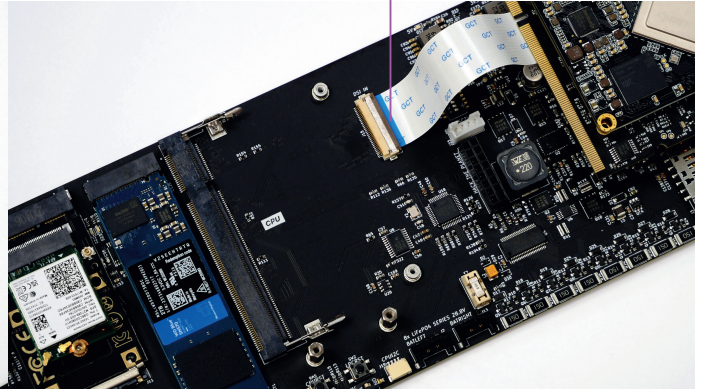
Need help? Post on community.mnt.re or write us at support.mnt.re

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

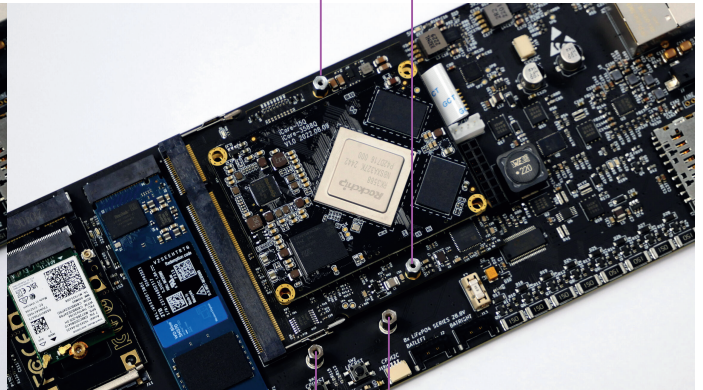
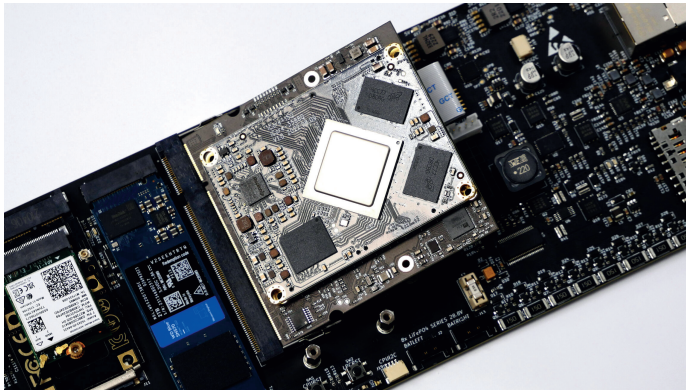
Blue end on top



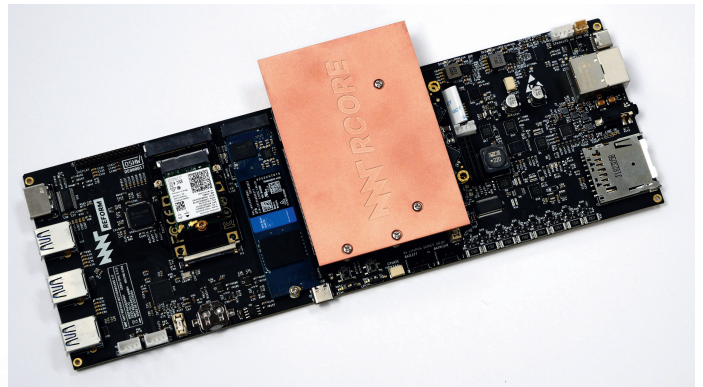
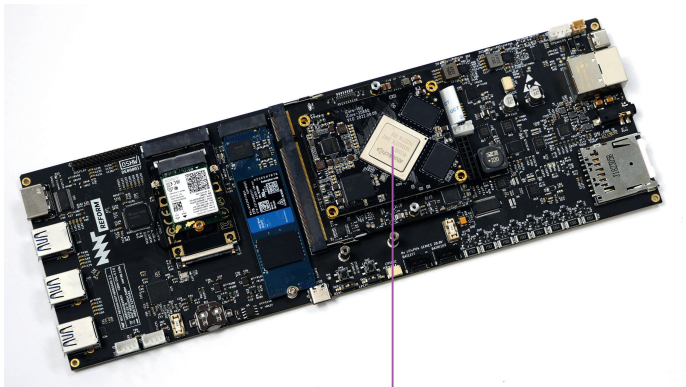
Blue end on top



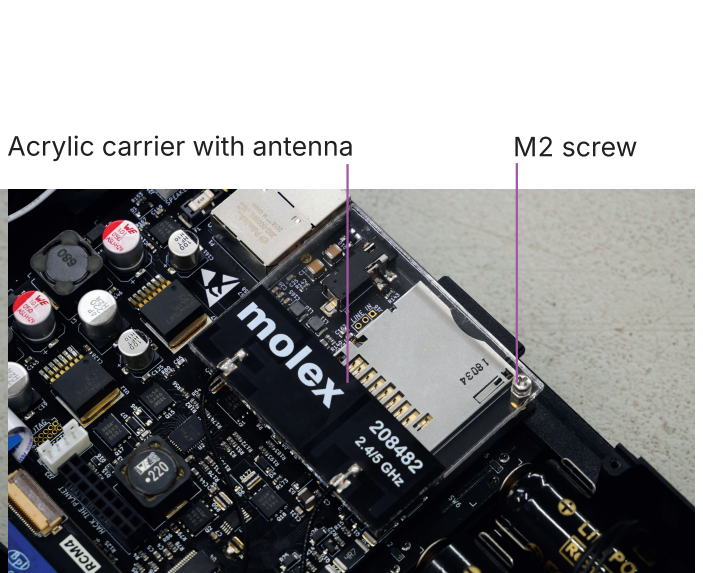
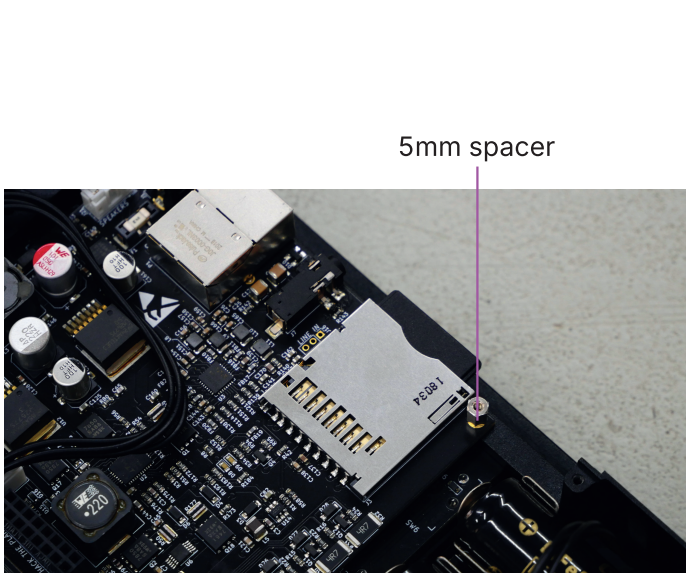
7mm spacers



8mm spacers



Apply thermal pad



5mm spacer

Acrylic carrier with antenna

M2 screw

