Raspberry Pi M.2 HAT+

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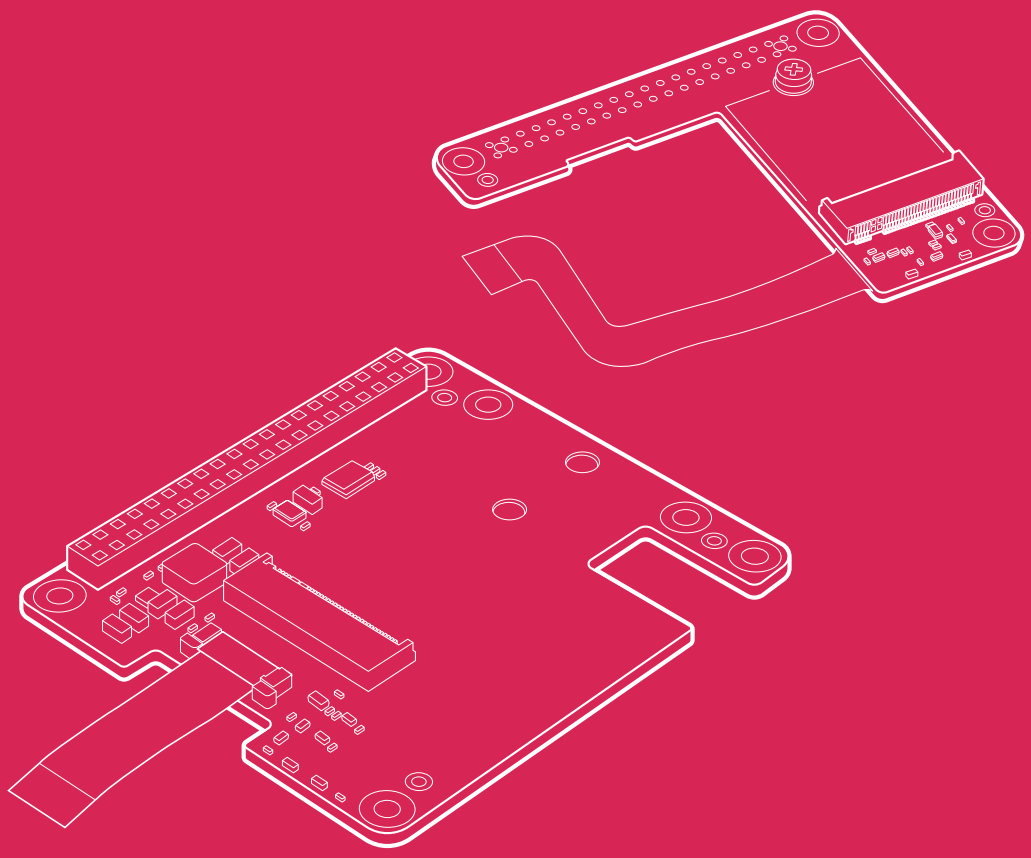
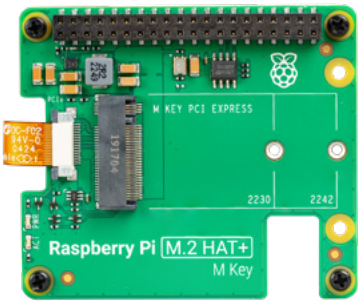
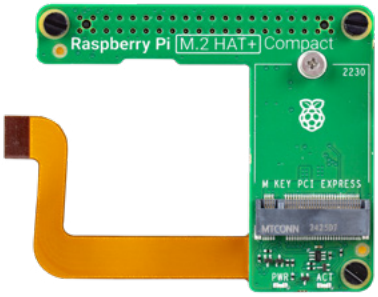


Raspberry Pi Ltd

Overview





The Raspberry Pi M.2 HAT+ enables you to connect M.2 peripherals such as NVMe drives and AI accelerators to Raspberry Pi 5's PCIe 2.0 interface, supporting fast (up to 500 MB/s) data transfer to and from NVMe drives and other PCIe accessories.

Raspberry Pi 5's single-lane PCI Express 2.0 interface is exposed on a 16-pin, 0.5 mm-pitch FPC connector; the M.2 HAT+ M Key, in both its standard and compact variants, is a mechanical adapter board that converts between this connector and a subset of the M.2 standard. It supports devices that have the M.2 M key edge connector, in the 2230 (standard and compact variants) and 2242 (standard variant only) form factors. It is capable of supplying up to 3A to connected M.2 devices.

The Raspberry Pi M.2 HAT+ conforms to the Raspberry Pi HAT+ specification and is autodetected by the latest Raspberry Pi software/firmware. The standard Raspberry Pi M.2 HAT+ is supplied with a 16 mm stacking header and threaded spacers, so it can be fitted to a Raspberry Pi 5 with the Raspberry Pi Active Cooler in place.

The Raspberry Pi M.2 HAT+ Compact is designed for use with the Raspberry Pi Case for Raspberry Pi 5. The Compact form factor enables you to connect M.2 M key peripherals with the 2230 form factor to Raspberry Pi 5, while allowing space for the case's integrated cooling fan.

Specification

Features:

Supports single-lane PCIe 2.0 interface
(500 MB/s peak transfer rate)

Supports devices that use the M.2 M key edge connector

Supported device form factors:

- M.2 HAT+ Standard: 2230, 2242
- M.2 HAT+ Compact: 2230 only

Capable of supplying up to 3A to connected M.2 devices

Includes power and activity LEDs

Conforms to the Raspberry Pi HAT+ specification

Supplied with:

- Ribbon cable
- 16 mm stacking header
- Threaded spacers and screws
- Knurled double-flanged screw to secure and support the M.2 peripheral

Operating temperature:

0° to 50° (ambient)

Production lifetime:

The Raspberry Pi M.2 HAT+ will remain in production until at least January 2032

List price:

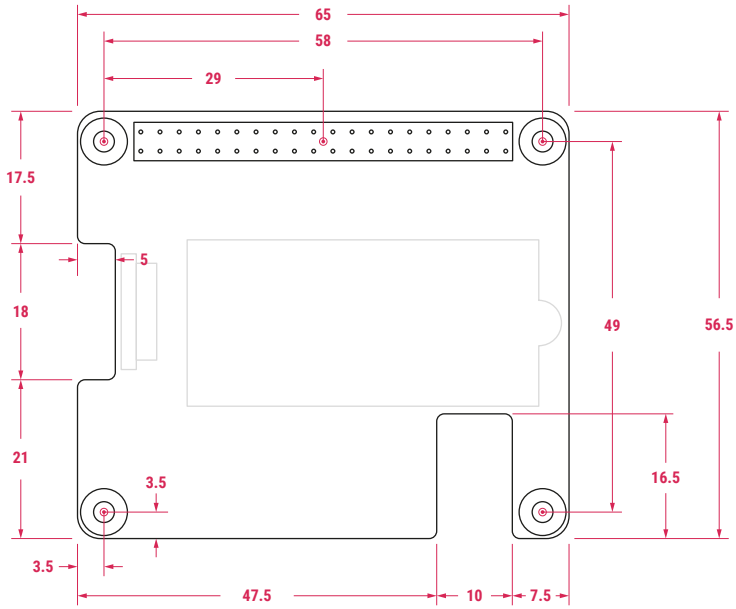
M.2 HAT+ Standard: $12
M.2 HAT+ Compact: $15

Compliance:

For a full list of local and regional product approvals, please visit pip.raspberrypi.com

Physical specification

M.2 HAT+



Note:

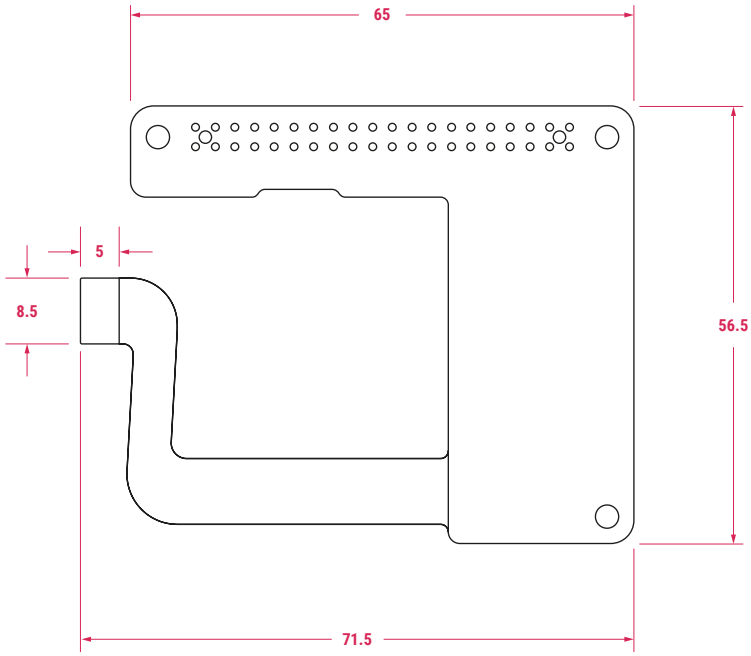
All dimensions in mm

All dimensions are approximate and for reference purposes only; the dimensions shown should not be used for producing production data

The dimensions are subject to part and manufacturing tolerances

Dimensions may be subject to change

M.2 HAT+ Compact



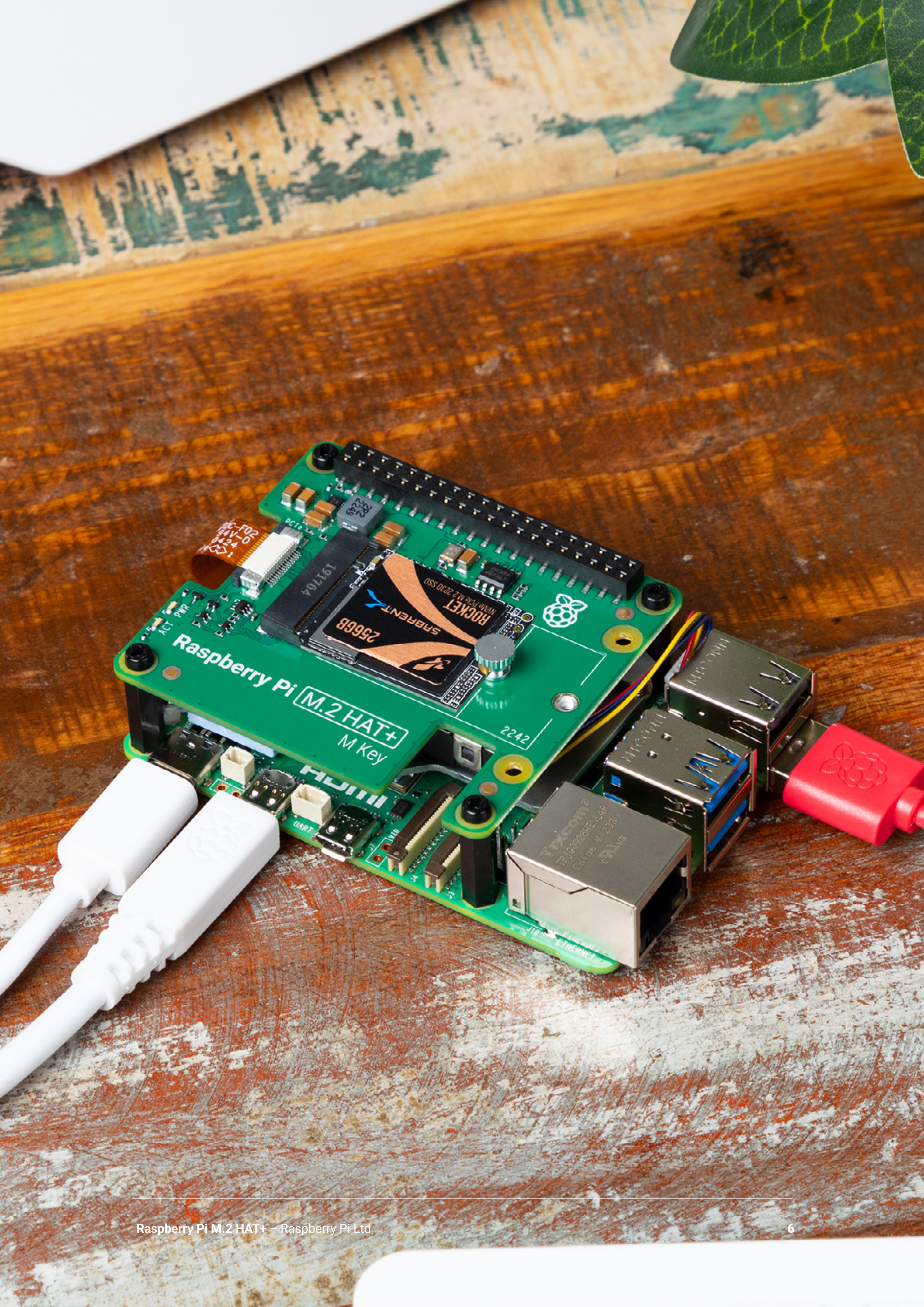
WARNINGS

- This product shall only be connected to a Raspberry Pi via the PCIe interface.
- Any external power supply used with the Raspberry Pi M.2 HAT+ shall comply with relevant regulations and standards applicable in the country of intended use.
- This product should be operated in a well-ventilated environment, and if used inside a case, the case should not be covered.
- Whilst in use, this product should be firmly secured, and should not be contacted by conductive items.
- The connection of incompatible devices to the Raspberry Pi M.2 HAT+ may affect compliance, result in damage to the unit, and invalidate the warranty.
- The connection of incompatible devices to the PCIe interface of a Raspberry Pi computer may affect compliance and result in damage to the unit and invalidate the warranty.
- All peripherals used with this product should comply with relevant standards for the country of use and be marked accordingly to ensure that safety and performance requirements are met.
- The cables and connectors of all peripherals used with this product must have adequate insulation so that relevant safety requirements are met.
- Operation of this device requires adult supervision.

SAFETY INSTRUCTIONS

To avoid malfunction or damage to this product, please observe the following:

- Do not expose to water or moisture, or place on a conductive surface whilst in operation.
- Do not expose to heat from any source; Raspberry Pi computers and the Raspberry Pi M.2 HAT+ are designed for reliable operation at normal ambient temperatures.
- Take care whilst handling to avoid mechanical or electrical damage to the printed circuit board and connectors.
- Whilst it is powered, avoid handling the printed circuit board, or only handle it by the corners to minimise the risk of electrostatic discharge damage.


Raspberry Pi
M.2 HAT+
M Key
2242
SABRENT
ROCKET
256GB
PWR
ACT