

BIGTREETECH CB1 V2.2

BIGTREETECH CB1 V2.2 Core Control Board Instruction Manual

Model: CB1 V2.2

1. PRODUCT OVERVIEW

The BIGTREETECH CB1 V2.2 is a core control board designed as an alternative to the Raspberry Pi CM4. It features the same BTB header as the Raspberry Pi CM4, allowing for direct integration with compatible carrier boards such as the Pi4B adapter, Manta M4P, Manta M5P, and Manta M8P. When combined with a Pi4B adapter, its performance is comparable to the Raspberry Pi 3B, making it a suitable solution for various embedded applications, including 3D printer control with Klipper or Debian.

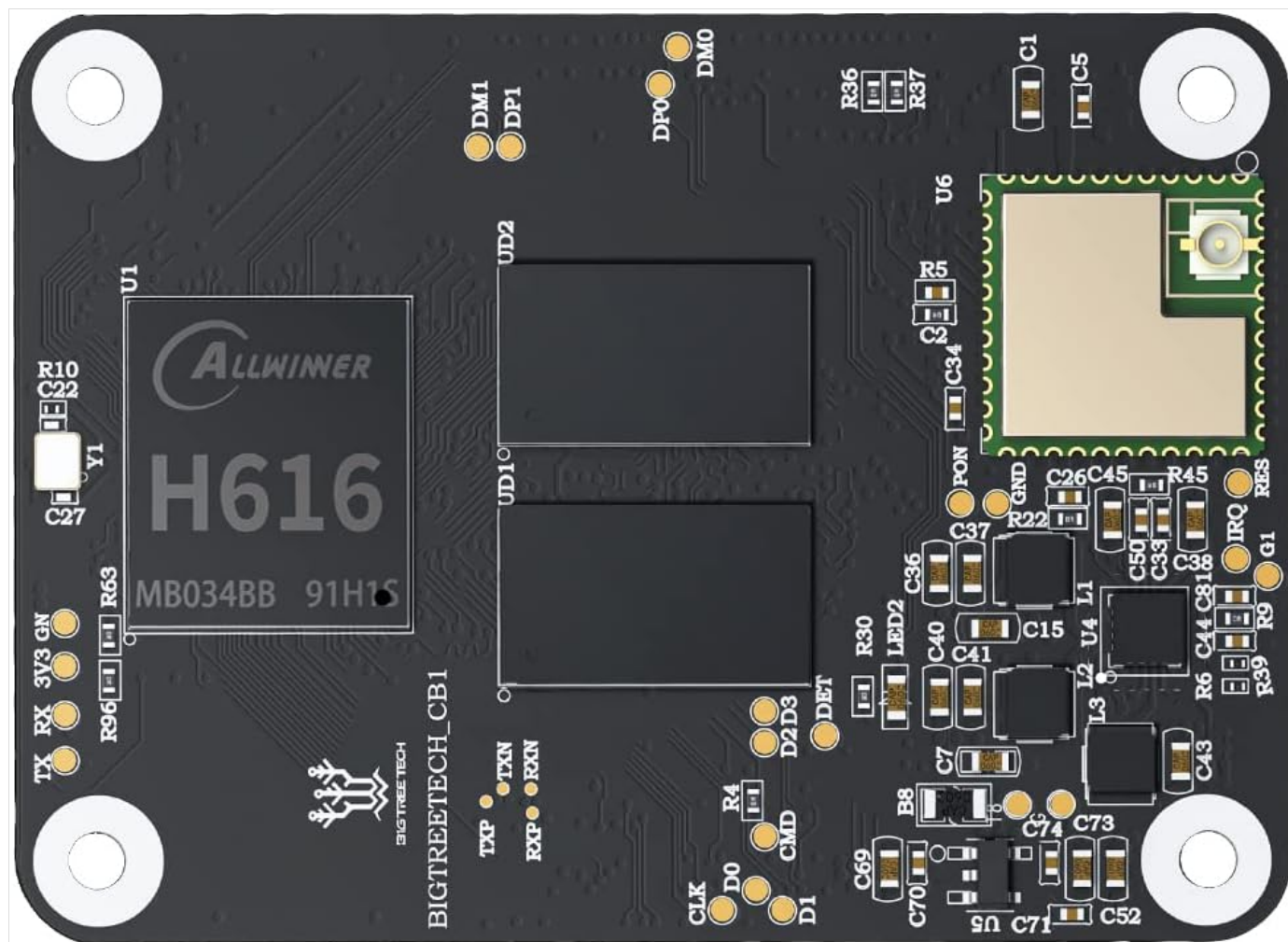


Image 1.1: Top view of the BIGTREETECH CB1 V2.2 Core Control Board, showcasing its compact design and main components.

2. KEY FEATURES

- **Processor:** Allwinner H616, Quad-core Cortex-A53 @1.5GHz.
- **Graphics:** Mali G31 MP2 GPU, supporting OpenGL3.2 and HDMI2.0A for 4K display output.
- **Memory:** Available with 512MB or 1GB DDR3L SDRAM.
- **Connectivity:** Integrated 100M Ethernet and 100M WiFi for network access.
- **Interfaces:** Includes a USB 2.0 port.
- **Compatibility:** Features the same BTB header as the Raspberry Pi CM4, ensuring broad compatibility with existing carrier boards.
- **Operating Systems:** Supports Linux and Debian, suitable for Klipper firmware.

BIGTREETECH CB1

Powerful Enough to Run Linux | Support Debian | Programmable
High speed and high stability

64-bit
Quad-core Architecture

ARM® Cortex-A53
Processor

1GB DDR3
RAM

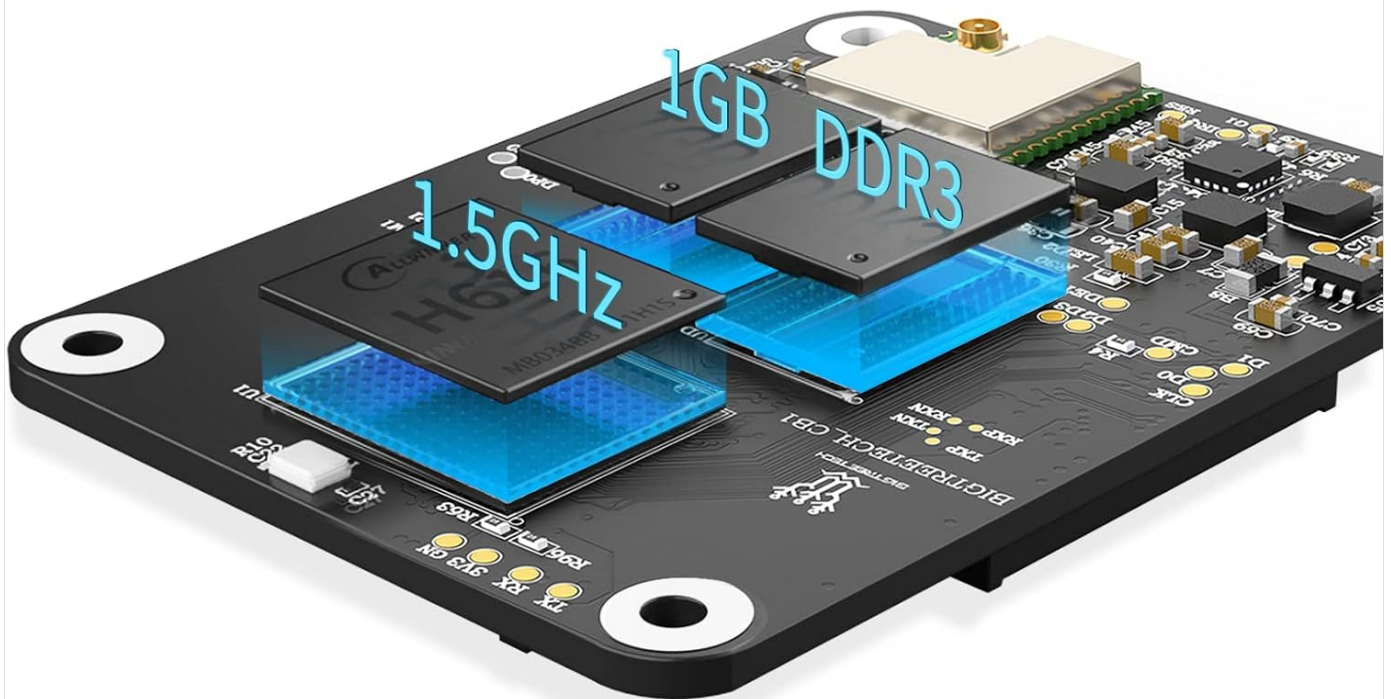


Image 2.1: Illustration highlighting the 64-bit quad-core ARM Cortex-A53 processor and 1GB DDR3 RAM of the CB1 V2.2.

Display Adopts MaliG31 MP2 GPU

Support OpenGL3.2 and HDMI 4K UHD output, Powerful
High performance details and clarity

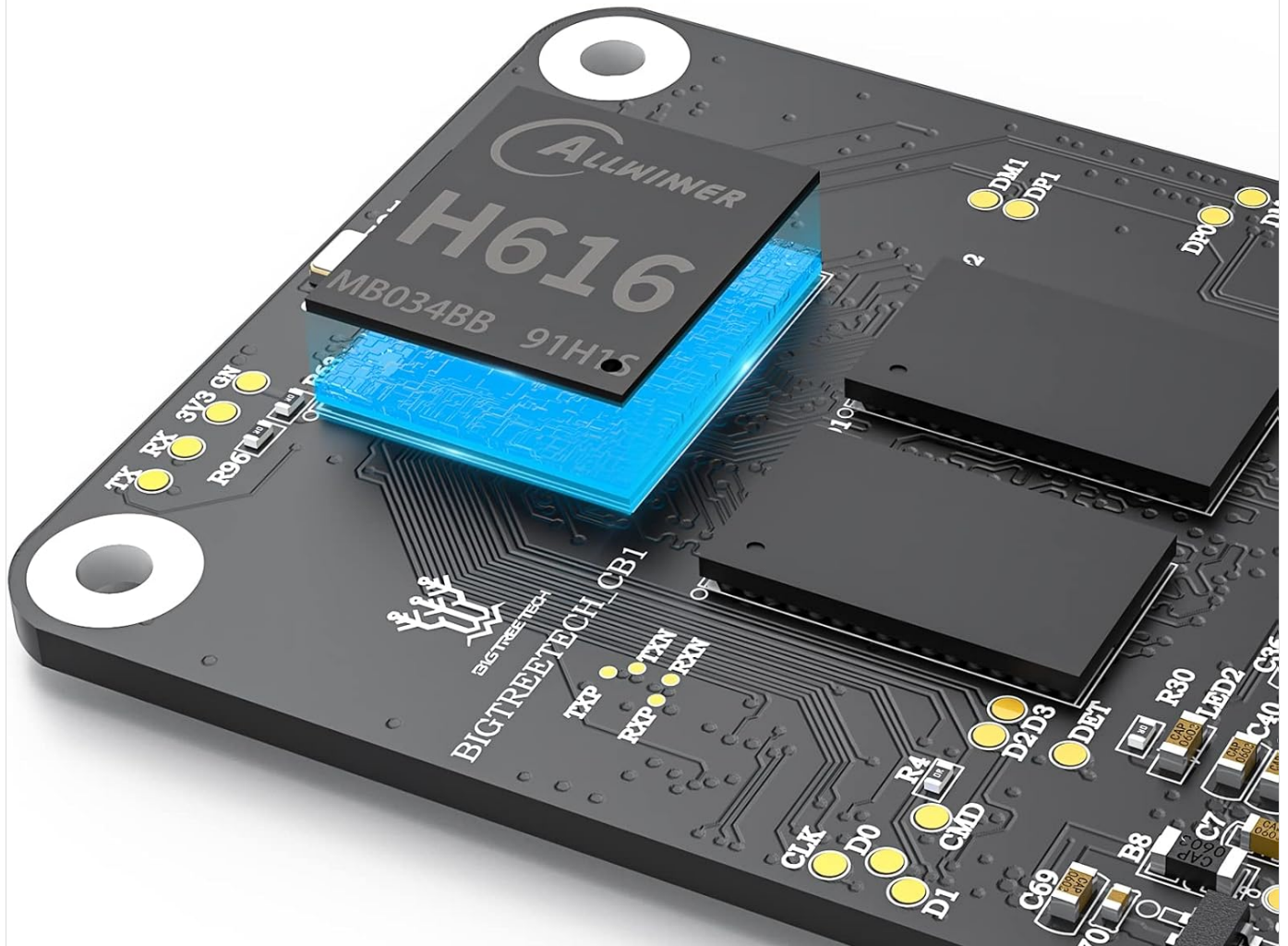


Image 2.2: Visual representation of the MaliG31 MP2 GPU, supporting OpenGL3.2 and HDMI 4K UHD output.

Support 100M Ethernet+100M Wifi

For network connectivity

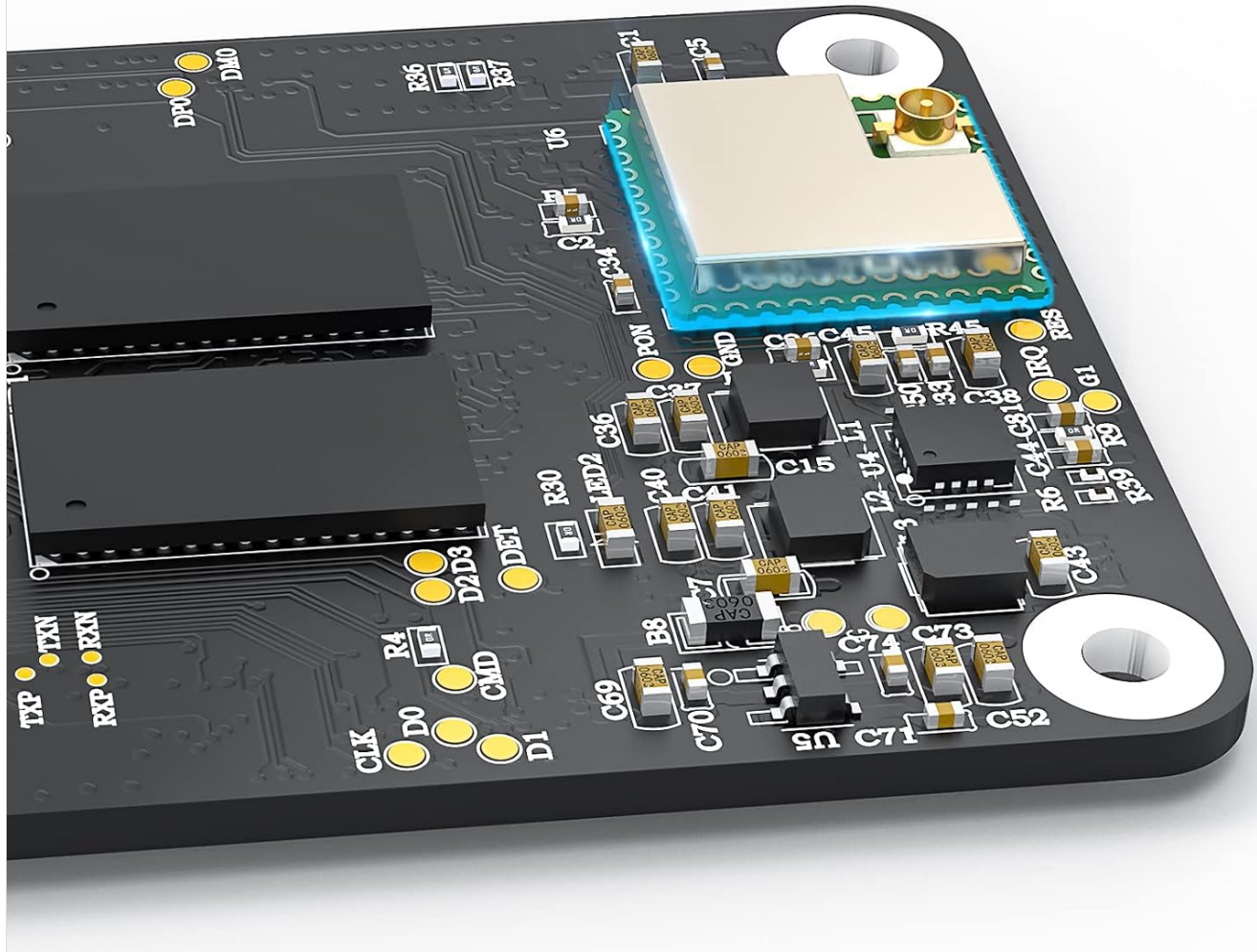


Image 2.3: Close-up view of the CB1 V2.2 board, indicating support for 100M Ethernet and 100M WiFi for robust network connectivity.

3. INSTALLATION AND COMPATIBILITY

The CB1 V2.2 board is designed for direct installation onto carrier boards that feature a Raspberry Pi CM4-compatible BTB header. This includes the BIGTREETECH Pi4B adapter, as well as Manta series motherboards such as M4P, M5P, and M8P. Ensure proper alignment and secure connection when installing the CB1 onto the carrier board.

Main Features

The Highly Cost-Effective Way to Run Your Klipper
CB1 can working with the Pi4B Adapter or Raspberry-Pi

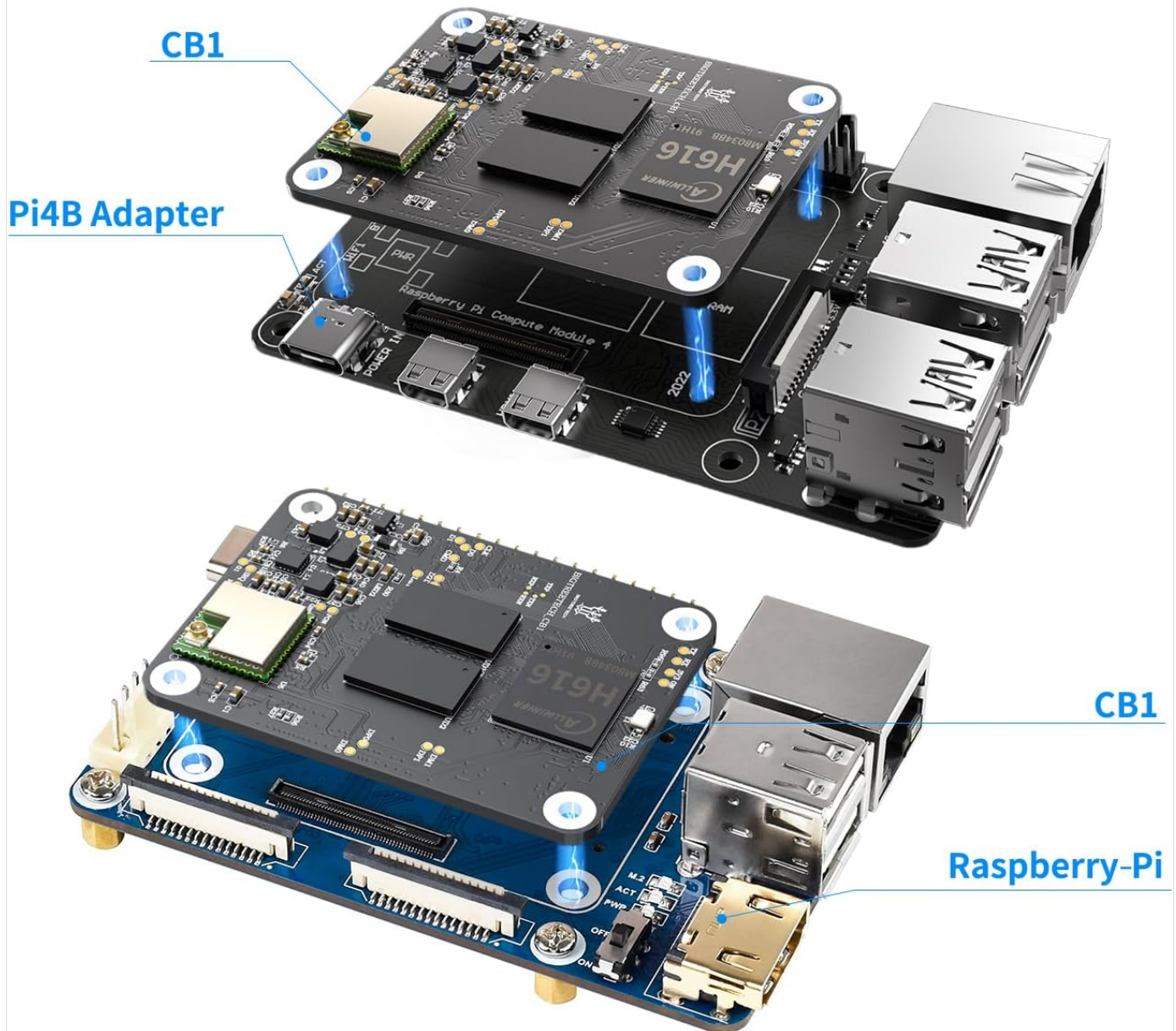


Image 3.1: The CB1 V2.2 board shown installed on a Pi4B adapter (top) and a Raspberry Pi (bottom), demonstrating its versatile compatibility.

4. OPERATING ENVIRONMENT

The BIGTREETECH CB1 V2.2 is capable of running Linux-based operating systems, including Debian. It is commonly used with Klipper firmware for 3D printer control, offering high speed and stability for programmable applications. Users can customize and develop their own solutions using the board's capabilities.

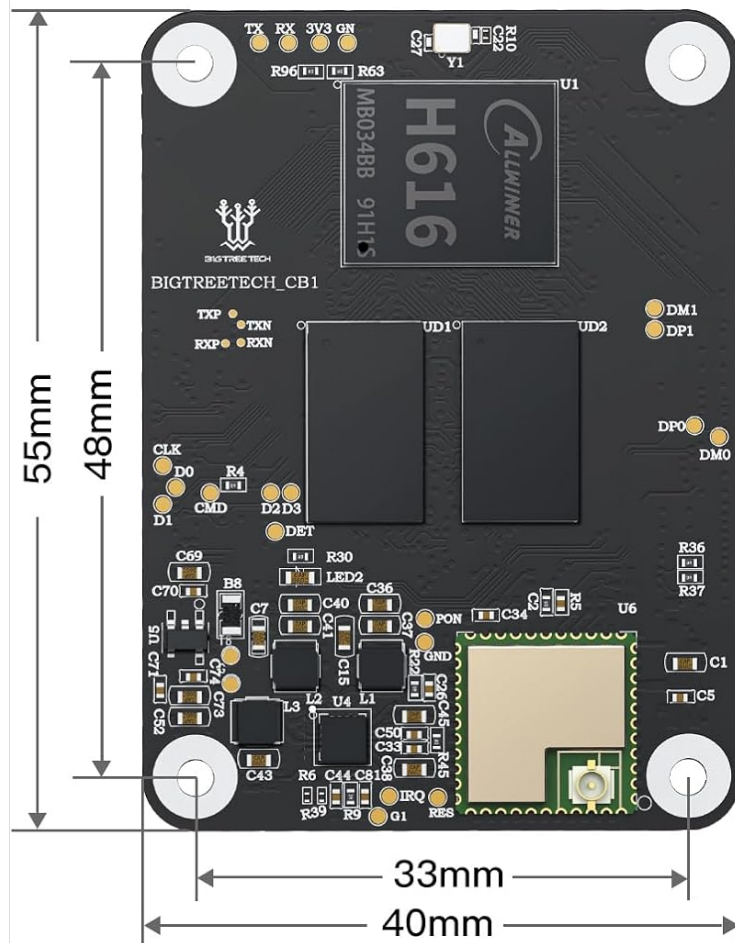
5. TECHNICAL SPECIFICATIONS

Specification	Detail
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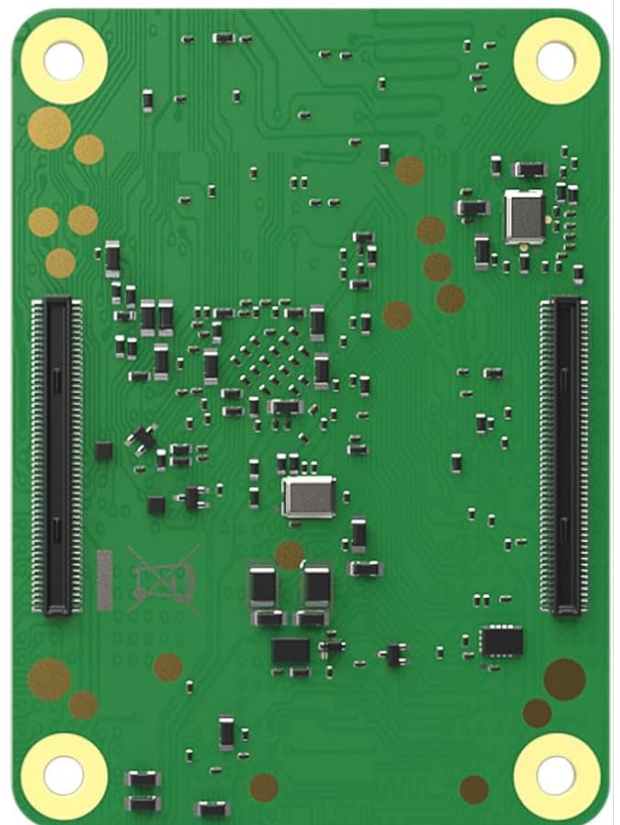
Specification	Detail
Product Dimensions	2.48 x 3.3 x 0.65 inches
Item Weight	1.13 ounces
CPU Model	Allwinner H616, Quad-core Cortex-A53 @1.5GHz
GPU Model	Mali G31 MP2
RAM Memory Installed Size	1 GB DDR3L (also available in 512 MB)
Network	100M Ethernet + 100M WiFi
Display Output	HDMI2.0A, supports 4K
USB Ports	1x USB 2.0
Model Number	US66-1020000405
Date First Available	November 3, 2022

Size: CB1 is the same as CM4

Can be directly installed on Raspberry-pi



BIGTREETECH CB1



Raspberry-Pi CM4

Image 5.1: Size comparison of the BIGTREETECH CB1 V2.2 with a Raspberry Pi CM4, illustrating its compact dimensions (55mm x 40mm).

6. TROUBLESHOOTING

If you encounter issues with your BIGTREETECH CB1 V2.2, consider the following steps:

- **Power Supply:** Ensure the carrier board providing power to the CB1 is receiving adequate and stable power.
- **Connections:** Verify all connections between the CB1 and the carrier board are secure and correctly aligned.
- **Firmware/OS:** Confirm that the correct operating system image or Klipper firmware is properly flashed and configured for the CB1. Refer to official BIGTREETECH documentation or community resources for specific flashing instructions.
- **Network:** If experiencing network issues, check WiFi credentials and Ethernet cable connections. Ensure the network environment is stable.
- **Display:** If no display output, check HDMI cable connections and ensure the display device is compatible with the CB1's output resolution.
- **Software Logs:** Access system logs for error messages that can provide clues to the problem.

For persistent issues, consult the BIGTREETECH official support channels or community forums for assistance.

7. MAINTENANCE

To ensure the longevity and optimal performance of your BIGTREETECH CB1 V2.2, follow these general maintenance guidelines:

- **Cleanliness:** Keep the board free from dust and debris. Use a soft, dry brush or compressed air for cleaning. Avoid liquid cleaners.
- **Environment:** Operate the board within recommended temperature and humidity ranges. Avoid extreme heat, cold, or moisture.
- **Handling:** Handle the board by its edges to avoid touching components, especially when power is applied. Static electricity can damage electronic components.
- **Firmware Updates:** Regularly check for and apply official firmware or operating system updates to benefit from performance improvements and bug fixes.

8. WARRANTY AND SUPPORT INFORMATION

For specific warranty terms and conditions, please refer to the documentation provided with your purchase or visit the official BIGTREETECH website. In case of technical issues or inquiries not covered in this manual, please contact BIGTREETECH customer support through their official channels. Provide your product model (CB1 V2.2) and any relevant purchase information when seeking support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

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