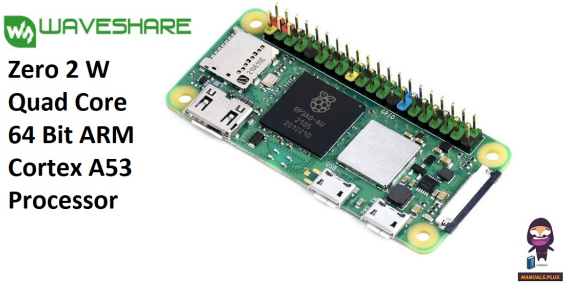

WAVESHARE Zero 2 W Quad Core 64 Bit ARM Cortex A53 Processor Instruction Manual

Contents

WAVESHARE Zero 2 W Quad Core 64 Bit ARM Cortex A53 Processor

Specifications

- **Processor:** Broadcom BCM2710A1, 1GHz quad-core 64-bit Arm Cortex-A53 CPU
- **Memory:** 512MB LPDDR2 SDRAM
- **Wireless Connectivity:** 2.4GHz 802.11 b/g/n, Bluetooth 4.2, Bluetooth Low Energy (BLE)
- **Ports:** Mini HDMI port, micro USB On-The-Go (OTG) port, MicroSD card slot, CSI-2 camera connector
- **Graphics:** OpenGL ES 1.1, 2.0 graphics support

Product Usage Instructions

Powering Up the Raspberry Pi Zero 2 W
Connect the micro USB power source to the Raspberry Pi Zero 2 W to power it up.

Connecting Peripherals
Use the available ports to connect peripherals like a monitor through the mini HDMI port, USB devices through the OTG port, and a camera using the CSI-2 connector.

Operating System Installation
Install the desired operating system on a compatible MicroSD card and insert it into the MicroSD card slot.

GPIO Interfacing
Utilize the Raspberry Pi 40 Pin GPIO footprint to connect external devices and sensors for various projects.

Wireless Connectivity Setup
Configure the wireless LAN and Bluetooth settings through the respective interfaces for connectivity.

MODELS

Raspberry Pi Zero 2 W

Raspberry Pi Zero 2 WHC

Raspberry Pi Zero 2 WH

Introduction

At the heart of Raspberry Pi Zero 2 W is RP3A0, a custom-built system-in-package designed by Raspberry Pi in the UK. With a quad-core 64-bit ARM Cortex-A53 processor clocked at 1GHz and 512MB of SDRAM, Zero 2 is up to five times as fast as the original Raspberry Pi Zero. As for heat dissipation concern, Zero 2 W uses thick internal copper layers to conduct heat away from the processor, sustaining higher performance without higher temperature.

Raspberry Pi Zero 2 W Features

- Broadcom BCM2710A1, 1GHz quad-core 64-bit Arm Cortex-A53 CPU
- 512MB LPDDR2 SDRAM
- 2.4GHz 802.11 b/g/n wireless LAN
- Bluetooth 4.2, Bluetooth Low Energy (BLE), onboard antenna
- Mini HDMI port and micro USB On-The-Go (OTG) port
- MicroSD card slot
- CSI-2 camera connector
- HAT-compatible 40-pin header footprint (unpopulated)
- Micro USB power

- Composite video and reset pins via solder test points
- H.264, MPEG-4 decode (1080p30); H.264 encode (1080p30)
- OpenGL ES 1.1, 2.0 graphics

Raspberry Pi Zero serires

Product	Zero	Zero W	Zero WH	Zero 2 W	Zero 2 WH	Zero 2 WHC
Processor	BCM2835			BCM2710A1		
CPU	1GHz ARM11 single core			1GHz ARM Cortex-A53 64-bit quad-core		
GPU	VideoCore IV GPU, OpenGL ES 1.1, 2.0					
Memory	512 MB LPDDR2 SDRAM					
WIFI	–	2.4GHz IEEE 802.11b/g/n				
Bluetooth	–	Bluetooth 4.1, BLE, onboard antenna		Bluetooth 4.2, BLE, onboard antenna		
Video	Mini HDMI port, supports PAL and NTSC standard, supports HDMI (1.3 and 1.4), 640 × 350 to 1920 × 1200 pixels					
Camera	CSI-2 connector					
USB	micro USB On-The-Go (OTG) connector, supports USB HUB expansion					
GPIO	Raspberry Pi 40 Pin GPIO footprint					
SLOT	Micro SD card slot					
POWER	5V, via Micro USB or GPIO					
Pre-soldered pin header	–		black	–	black	color coded

General Tutorial Series

- Raspberry Pi Tutorial Series
- Raspberry Pi Tutorial Series: Access your Pi
- Raspberry Pi Tutorial Series: Getting Started with lighting up an LED
- Raspberry Pi Tutorial Series: External Button
- Raspberry Pi Tutorial Series: I2C
- Raspberry Pi Tutorial Series: I2C Programming

- Raspberry Pi Tutorial Series: 1-Wire DS18B20 Sensor
- Raspberry Pi Tutorial Series: Infrared Remote Control
- Raspberry Pi Tutorial Series: RTC
- Raspberry Pi Tutorial Series: PCF8591 AD/DA
- Raspberry Pi Tutorial Series: SPI

Documents of Raspberry Pi Zero 2 W

- **Raspberry Pi Zero 2 W Produt Brief**
- **Raspberry Pi Zero 2 W Schematic**
- **Raspberry Pi Zero 2 W Mechanical Drawing**
- **Raspberry Pi Zero 2 W Test Pads**
- **Official resources**

Software

- **putty**
- **Panasonic_SDFormatter**
- **Win32DiskImager**

Package C – Vision package

- RPi_Zero_V1.3_Camera

Package D – USB HUB package

- USB-HUB-BOX

Package E – Eth/USB HUB package

- ETH-USB-HUB-BOX

Package F – Misc package

- PoE-ETH-USB-HUB-BOX

Package G – LCD and UPS package

- 1.3inch LCD HAT
- UPS HAT (C)

Package H – e-Paper package

- 2.13inch Touch e-Paper HAT (with case)

FAQ

- FAQ

Support

Technical Support
If you need technical support or have any feedback/review, please click the Submit Now button to submit a ticket, Our support team will check and reply to you within 1 to 2 working days. Please be patient as we make every effort to help you to resolve the issue. Working Time: 9 AM – 6 AM GMT+8 (Monday to Friday)

FAQ

Q: How can I access technical support for Raspberry Pi Zero 2 W?
A: To access technical support or submit feedback, click on the “Submit Now” button to raise a ticket. Our support team will respond within 1 to 2 working days.

Q: What is the clock speed of the processor in Raspberry Pi Zero 2 W?
A: The processor in Raspberry Pi Zero 2 W runs at a clock speed of 1GHz.

Q: Can I expand the storage on Raspberry Pi Zero 2 W?
A: Yes, you can expand the storage by inserting a MicroSD card into the dedicated slot on the device.

Documents / Resources

	WAVESHARE Zero 2 W Quad Core 64 Bit ARM Cortex A53 Processor [pdf] Instruction Manual Zero 2 W Quad Core 64 Bit ARM Cortex A53 Processor, Quad Core 64 Bit ARM Cortex A53 Processor, 64 Bit ARM Cortex A53 Processor, Cortex A53 Processor, Processor

References

- User Manual