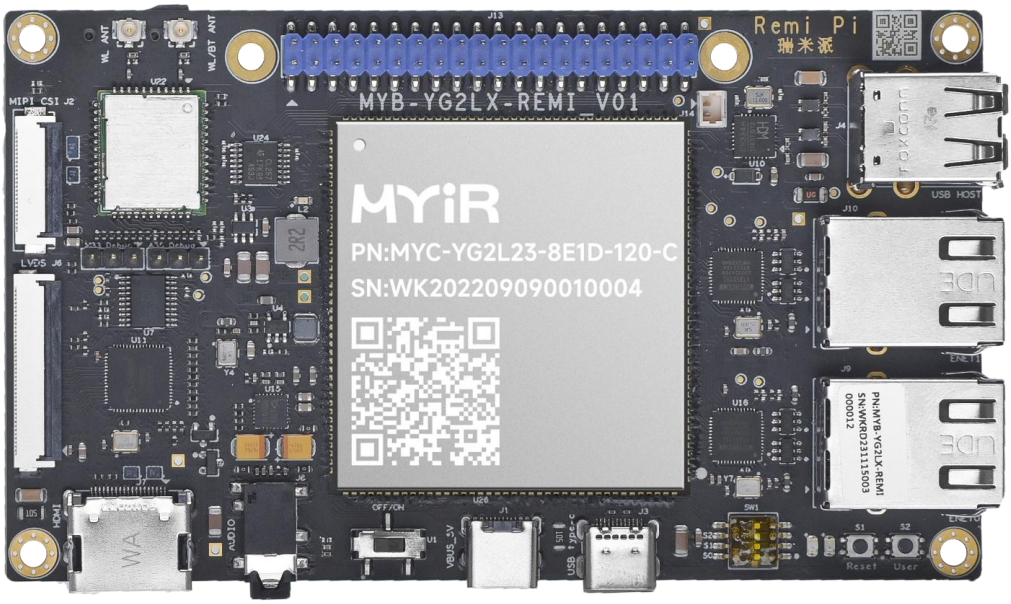
MYiR 米尔电子
Make Your Idea Real

Remi Pi

Overview

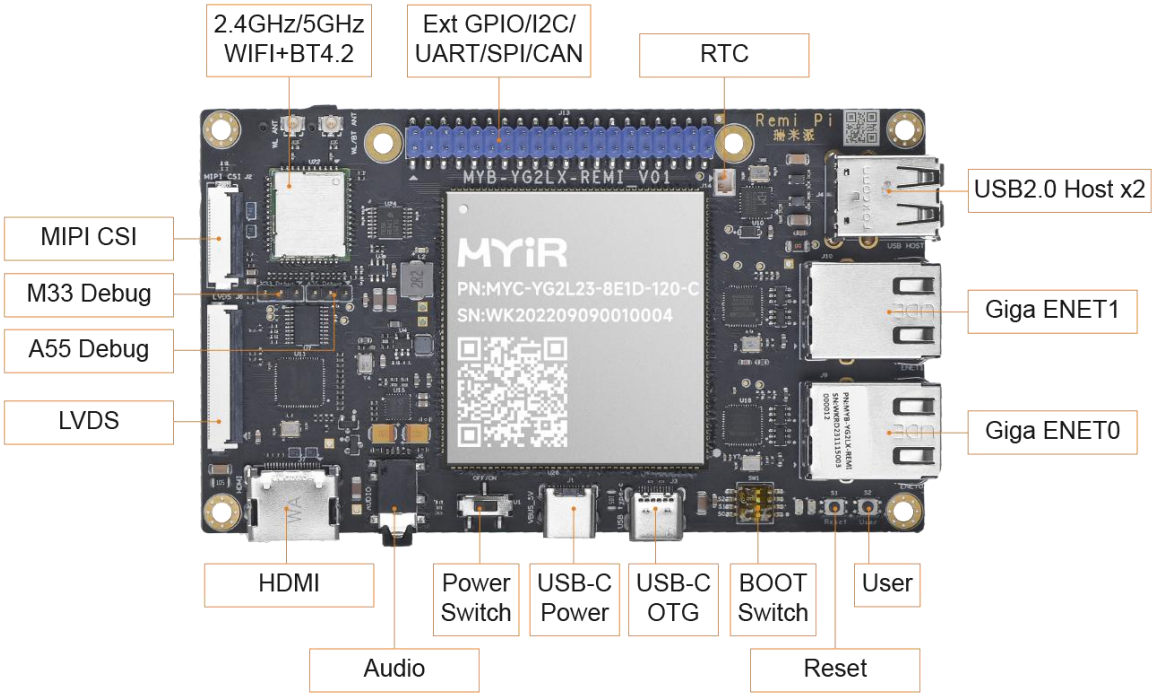




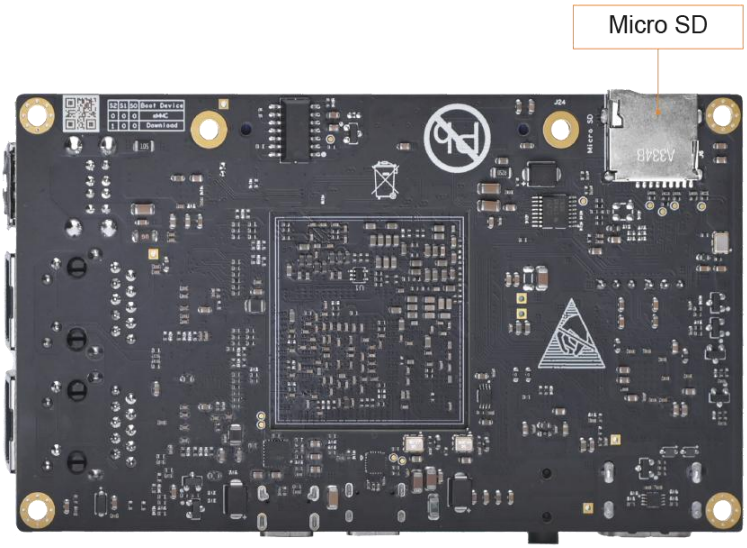
- ✓ *RENESAS RZ/G2L Processor based on 1.2GHz Dual ARM Cortex-A55 and 200MHz Cortex-M33 Cores*
- ✓ *1GB DDR4, 8GB eMMC Flash, 32KB EEPROM*
- ✓ *UARTs, 2 x USB 2.0 HOST, 1 x USB 2.0 OTG, 2 x Gigabit Ethernet, WiFi/Bluetooth, Micro SD card Slot*
- ✓ *Camera Interface (MIPI-CSI), LVDS, HDMI, Audio Input/Output*
- ✓ *Optional 7-inch LCD Modules, Camera Module and RPI Module (RS232/RS485/CAN)*
- ✓ *Supports Running Linux 5.10.83 OS*

Measuring only 70mm by 120mm, the Remi Pi is a versatile and compact computer board designed by MYIR, powered by the Renesas RZ/G2L processor. This processor boasts dual-core Arm Cortex-A55, capable of operating at a maximum speed of 1.2GHz, an embedded Cortex-M33 core that can reach up to 200MHz, and an ARM Mali-G31 based 3D graphics and video codec engine. The typical applications include industrial control, medical devices, instrument displays, charging piles, industrial gateways, energy storage EMS systems and more others which require robust performance and low power.

The Remi Pi integrates the RZ/G2L processor, 1GB DDR4, 8GB eMMC, 32KB EEPROM and a rich set of peripherals including two debug serial ports, two USB 2.0 HOST, one USB 2.0 OTG, two Gigabit Ethernet interfaces, WiFi/Bluetooth module, one Micro SD card slot, and one GPIO/I2C/UART/SPI/CAN extension header. Furthermore, it supports MIPI-CSI camera interface, HDMI display, LVDS display and Audio input/output capabilities, making it particularly suitable for applications such as entry-level industrial human machine interfaces (HMI) and embedded devices with video functionality.



Remi Pi Top-view



Remi Pi Bottom-view

The Remi Pi is capable of running Linux OS. MYIR has ported Linux 5.10.83 to the board, facilitating Debian distribution (available later), Ubuntu distribution (available later) and Yocto project with ported QT. MYIR provides abundant software resources including image files, kernel and driver source code, application demos and compilation tools to enable users to start their development rapidly and easily.

The Remi Pi is delivered with a detailed Quick Start Guide and one USB-to-TTL serial cable. MYIR offers MY-CAM003M MIPI Camera Module, MY-WIREDCOM RPI Module (RS232/RS485/CAN), and MY-LVDS070C LCD Module as add-on options for the board for hardware expansion to meet the needs of various projects. From image recognition to communication control to display interface, these modules will provide you with full support.

Hardware Specification

The Remi Pi is using the 15 x 15mm, 0.5 mm ball pitch, 456pin LFBGA package, 1.2 GHz RZ/G2L (R9A07G044L23GBG) MPU which belongs to the RENESAS RZ/G2L product group and features dual-core Arm Cortex-A55 (1.2 GHz) CPUs and Single-core Arm Cortex-M33 (200 MHz) CPU, with 3D graphics and video CODEC engine. And the microprocessor also comes with 16-bit DDR4-1600/DDR3L-1333 dynamic Random access memory, camera interface (MIPI-CSI/Parallel-IF), display interface (MIPI-DSI/Parallel-IF), and USB2.0 Interface, UART interface, CAN interface, Gigabit Ethernet interface, making it ideal for applications such as entry-class industrial human-machine interfaces (HMIs) and embedded devices with video capabilities.

Function		RZ/G2L	RZ/G2LC	RZ/G2UL
Cortex-A55*1	Dual	✓	✓	—
	Single	✓	✓	✓
Cortex-M33		✓	✓	✓/—*2
3D Graphics (Arm Mali-G31)		✓	✓	—
Video Codec (H.264)		✓	—	—
Display Interface		MIPI DSI or Parallel	MIPI DSI	Parallel
Camera Interface		MIPI CSI-2 or Parallel	MIPI CSI-2	MIPI CSI-2
Gigabit Ethernet		2ch	1ch	2ch
12-bit A/D Converter		8ch	—	1ch
Package (PBGA)		551pin, 21mm□ (0.8mm pitch) 456pin, 15mm□ (0.5mm pitch)	361pin, 13mm□ (0.5mm pitch)	361pin, 13mm□ (0.5mm pitch)

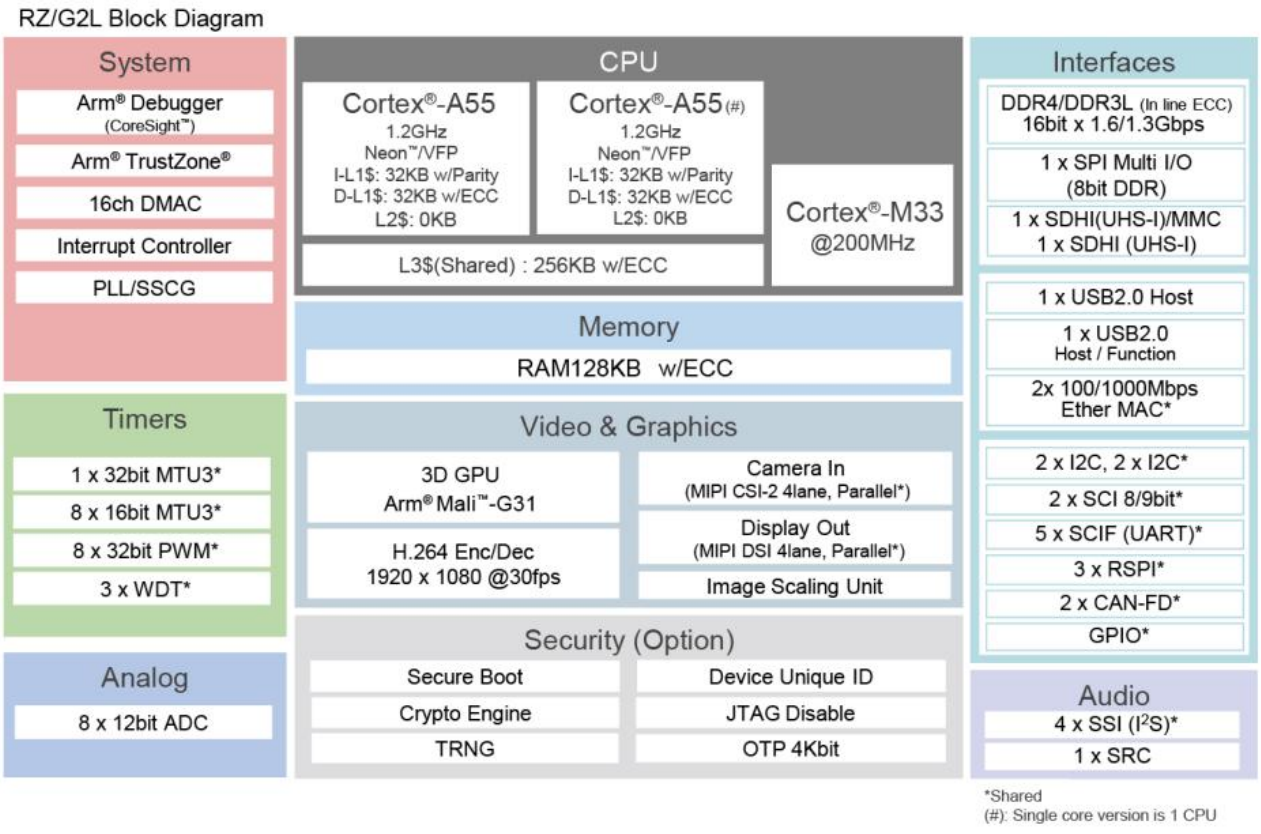
***1: The maximum operating frequency of Cortex-A55 is 1.2GHz for RZ/G2L, RZ/G2LC, and 1.0GHz for RZ/G2UL.**

***2: RZ/G2UL Cortex-M33 is optional.**

RZ/G2L Group Function Differences

Product Group	RZ/G2L			
Part No.	R9A07G044L24GBG	R9A07G044L14GBG	R9A07G044L23GBG	R9A07G044L13GBG
Arm Cortex-A55	2	1	2	1
Arm Cortex-M33	1	1	1	1
3D Graphics (Arm Mali-G31)	✓	✓	✓	✓
Video Codec (H.264)	✓	✓	✓	✓
Display Interface	1x MIPI DSI or 1x Digital Parallel output	1x MIPI DSI or 1x Digital Parallel output	1x MIPI DSI or 1x Digital Parallel output	1x MIPI DSI or 1x Digital Parallel output
Camera Interface	1x MIPI CSI-2 or 1x Digital Parallel input	1x MIPI CSI-2 or 1x Digital Parallel input	1x MIPI CSI-2 or 1x Digital Parallel input	1x MIPI CSI-2 or 1x Digital Parallel input
Gigabit Ethernet	2ch	2ch	2ch	2ch
12-bit A/D Converter	8ch	8ch	8ch	8ch
Package	LFBGA	LFBGA	LFBGA	LFBGA
Pin Count	551pin	551pin	456pin	456pin
Package Information	21mm x 21mm 0.8mm pitch	21mm x 21mm 0.8mm pitch	15mm x 15mm 0.5mm pitch	15mm x 15mm 0.5mm pitch

RZ/G2L Product Group



RZ/G2L Processor Block Diagram

Mechanical Parameters

- Dimensions: 120mm x 70mm
- PCB Layers: 6-layer design
- Power supply: USB power supply (Type-C)
- Working temperature: 0~70 Celsius (commercial grade)

Processor

- RENESAS RZ/G2L processor (R9A07G044L23GBG)
  - 1.2 GHz Dual-core ARM Cortex-A55
  - 200 MHz ARM Cortex-M33
  - 3D graphics functions (Arm Mali-G31)
  - Video codec (H.264)

Memory

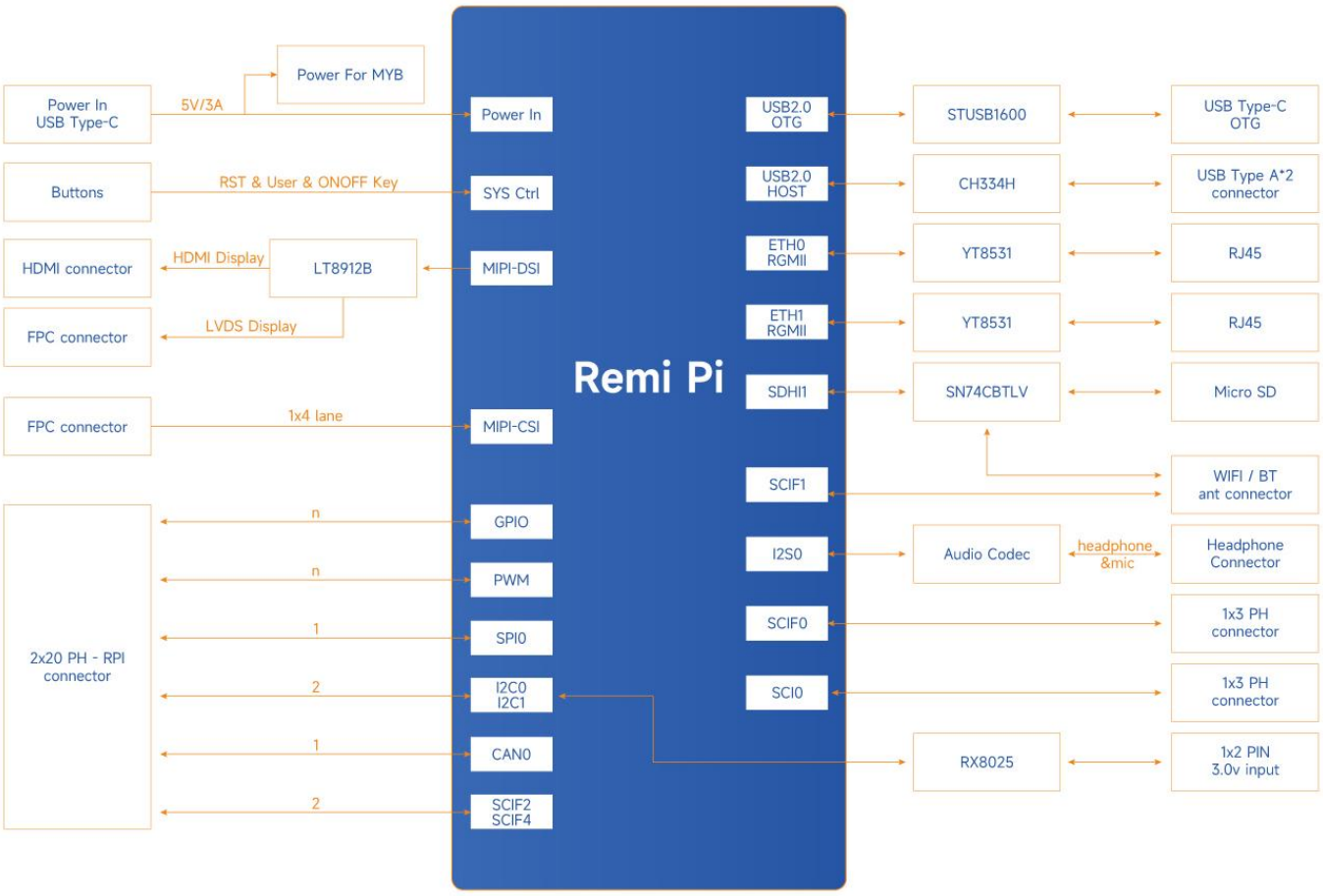
- 1GB DDR4
- 8GB eMMC
- 32KB EEPROM

PMIC

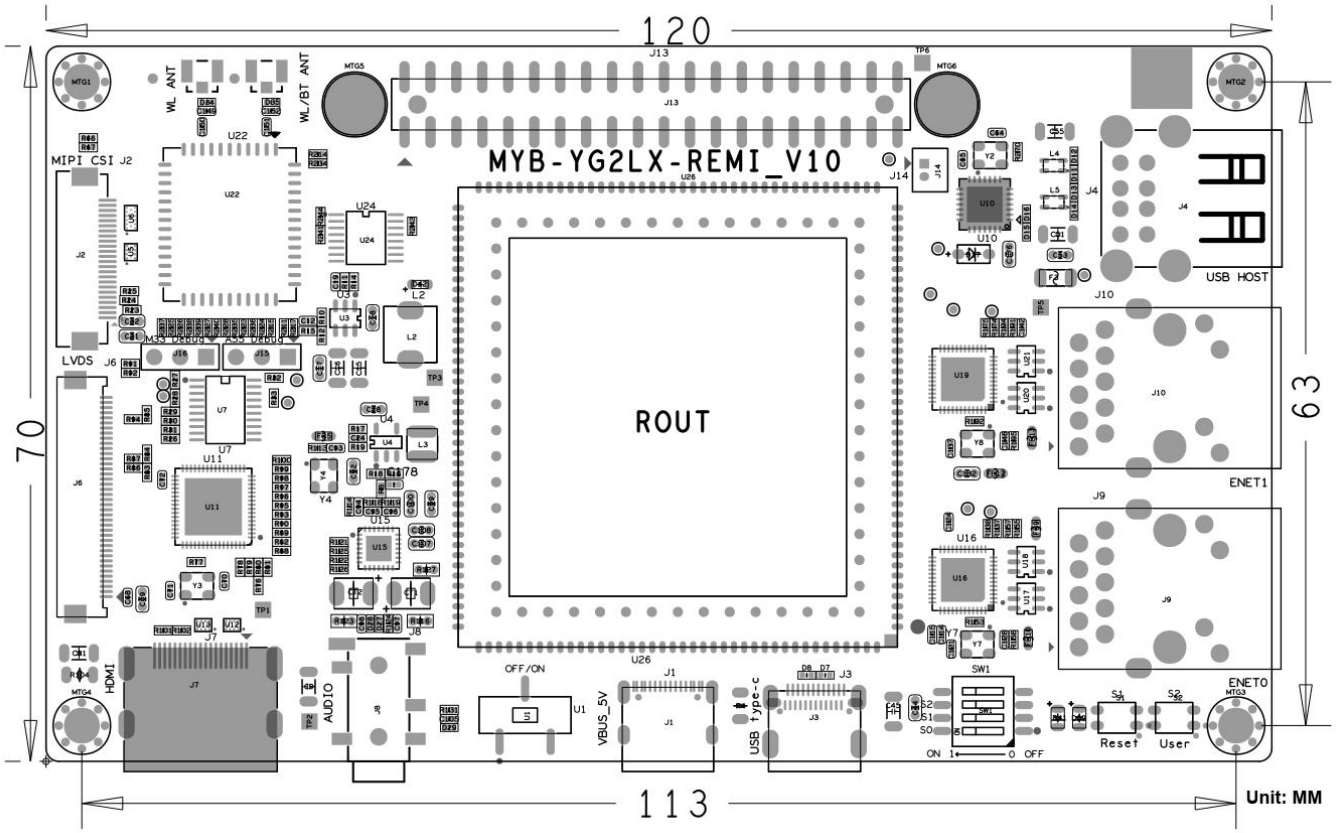
- Power Management IC (RAA215300)

Peripherals

- 2 x Debug UART (one for Cortex-A55 and one for Cortex-M33)
- 2 x USB2.0 Host (Type-A)
- 1 x USB2.0 OTG (Type-C)
- 2 x 10/100/1000 Mbps Ethernet interface
- 1 x 2.4GHz/5GHz WiFi and Bluetooth 4.2 Module
- 1 x Micro SD card slot
- 1 x HDMI Display Interface
- 1 x LVDS Display Interface (J6, 30-pin 0.5mm pitch FPC connector)
  Supports MYIR's MY-LVDS070C LCD Module with Capacitive Touch Screen through the LCD interface
- 1 x MIPI-CSI Camera Interface (0.5mm pitch 24-pin FPC connector)
  Supports MYIR's MY-CAM003M Camera Module through J2
- Audio Input and Output Interface
- 3 x Buttons (one for Reset, one for Power On/Off and one for User)
- 2 x LEDs (One for Power LED and one for System Status LED)
- 1 x 2.54mm 2 x 20-pin male expansion header
  (GPIO/I2C/UART/SPI/CAN, compatible with Raspberry PI standard 40-pin extension interface)
  Supports MYIR's MY-WIREDCOM RPI Module through J13 to extend RS485, RS232 and CAN functions
- 1 x RTC Battery Holder



Remi Pi Function Block Diagram



Remi Pi Dimension Chart

Software Features

The Remi Pi supports Linux OS and comes with complete software package. The following are a summary of the software features:

Item	Features	Description	Source Code
Bootloader	trusted-firmware-a	fsbl boot	YES
	U-boot	second boot program based on uboot_2021.10	YES
Linux kernel	Linux kernel	Customized base on official kernel_5.10.83 version	YES
Drivers	PMIC	RAA215300A2GNP driver	YES
	EEPROM	BL24C256A	YES
	USB Host	USB Host driver	YES
	USB OTG	USB OTG driver	YES
	I2C	I2C driver	YES
	SPI	SPI driver	YES
	Ethernet	YT8531 driver	YES
	SDHI	eMMC/SD card storage drive	YES
	HDMI	LT8912 driver	YES
	LVDS	LT8912 driver	YES
	Audio	ES8388 driver	YES
	Camera(MIPI)	OV5640 driver	YES
	RTC	RX-8025T	YES
	GPIO	Generic GPIO driver	YES
	UART	RS232/RS485/TTL driver	YES
	CAN	CAN driver	YES
	WiFi/BT	BL-M8822 driver	YES
File system	myir-image-core (available later)	image without GUI interface built with Yocto	YES
	myir-image-full	full-featured image built with Yocto	YES
	myir-image-ubuntu (available later)	image built with ubuntu system	YES
	myir-image-debian (available later)	image built with debian system	YES

Remi Pi Software Features

Order Information

Product Item	Part No.	Packing List
Remi Pi	MYD-YG2L23-8E1D-120-C-REMI	✓ One Remi Pi board ✓ One USB-to-TTL serial cable ✓ One Quick Start Guide
MY-LVDS070C LCD Module	MY-LVDS070C	**Add-on Options** ✓ MY-LVDS070C 7-inch LCD Module ✓ MY-CAM003M MIPI Camera Module ✓ MY-WIREDCOM RPI Module
MY-CAM003M Camera Module	MY-CAM003M	
MY-WIREDCOM RPI Module	MY-WIREDCOM	

MYIR Tech Limited
Headquarter Address: Room 04, 6th Floor, Building No.2, Fada Road, Yunli Smart Park, Bantian, Longgang District, Shenzhen, Guangdong, China 518129

Factory Address: Room 201, Block C, Shengjianli Industrial Park, Dafu Industrial Zone, Guanlan, Longhua District, Shenzhen, 518110, China

Website: www.myirtech.com
Email: sales@myirtech.com
Tel: +86-755-22984836

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

MYiR:

MY-WF003U MYD-C8MMQ6-V2-8E2D-160-I MYS-6ULX-IND MYS-7Z010-V2-0E1D-667-C-S
MYC-JX8MMA7-8E2D-32Q256D-160-I MYC-Y3358-V2-256N256D-100-I
MYD-JX8MMA7-8E2D-32Q256D-160-I MYD-YF135-256N256D-100-I MYC-YM6254-8E2D-140-I
MYD-LT527MN-32E4D-180-I-GK MYC-C3358-V4-256N256D-100-I MYC-LR3568J-16E2D-180-I
MYC-Y6ULY2-V2-256N256D-50-C MYC-YA157C-V3-8E512D-65-I MYC-YM6252-8E1D-140-I
MYD-LT527MN-32E4D-180-I MYD-YT507H-8E2D-150-I MYS-6ULX-IOT MYC-C3358-V4-512N512D-100-I
MYC-J3358-V2-256N256D-100-I MYC-Y7Z020-V2-4E512D-766-I MYD-LR3568B2-16E2D-200-E
MYD-Y6ULY2-V2-4E512D-50-I MYD-YG2L23-8E1D-120-I MYD-YG2L23-8E2D-120-I
MYD-YM6254-8E2D-140-I MYC-Y6ULG2-V2-256N256D-50-I MYC-Y6ULY2-V2-256N256D-50-I
MYC-YT507H-8E1D-150-I MYD-C7Z020-V2-4E1D-766-I