深 圳 金 亚 太 科 技 有 限 公 司

Shenzhen Geniatech Co.,Ltd.

SPECIFICATION

MODEL:RS-G2L100

APPROVED BY GENIATECH		
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Website: www.geniatech.com
Address: 18th Floor, GDC Building, No 9th, Gaoxin Middle 3rd Road, Nanshan, Shenzhen, China

CONTENT

Revision History

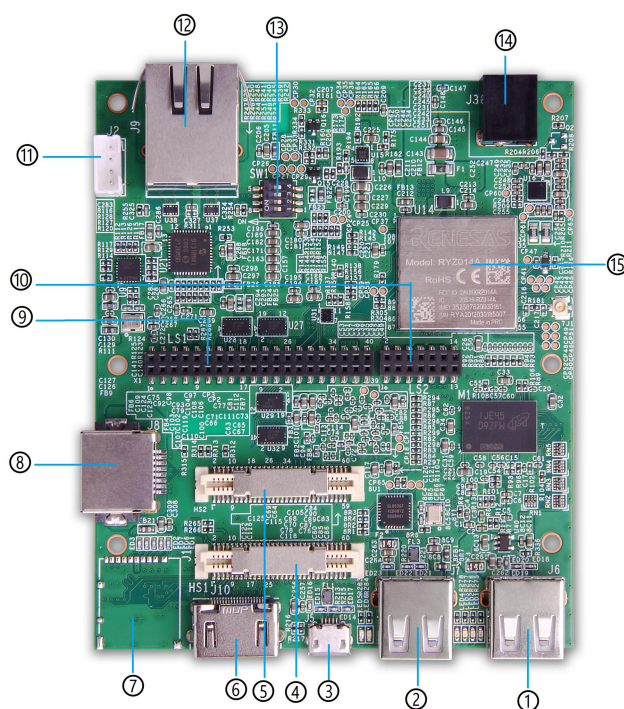| VERSION	DATE	BOARD ID	PAGE	DESCRIPTION	AUTHOR
V1.0	2021/12/14		4		

1. GENERAL DESCRIPTION

RS-G2L100 Development Board follows 96Boards.CE2.0 standard specifications，based on Renesas artificial intelligence chip RZ/G2L developed by GTC Technology. Renesas RZ/G2L chip is a general-purpose SOC with high performance and lower power consumption designed for industrial human machine interface devices and AIoT equipment. It adopts 22nm process technology, integrating 2-core arm architecture Cortex-A55 processor and Cortex-M33 core, 3D Graphics Acceleration Engine Mali-G31 and Video codec H.264. RZ/G2L supports different high speed interfaces such as MIPI-DSI / MIPI-CSI / USB2.0. RZ/G2L supports Linux systems, and is mainly oriented to the customized market of Internet of things gateway, POS terminal, industrial control panel, industrial detection, industrial control box, cloud terminal, vehicle central control and other industries.

This RS-G2L100 key features including a high-performance 64-bit Dual-core processor, HDMI out display support at resolutions up to 1080P，hardware video decode at up to 1080P, up to 4GB of RAM, dual-band 2.4/5.0 GHz wireless LAN, Bluetooth 4.0, two Gigabit Ethernet, two USB 2.0.
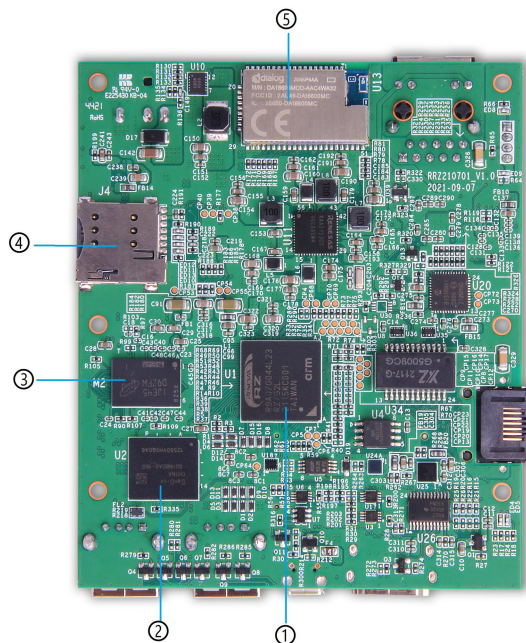
2. PRODUCT OVERVIEW

TOP View is as below picture.

No.	Name	Description
①	USB2.0 HOST	*1(USB Type-A)
②	USB2.0 HOST	*1(USB Type-A)
③	USB-OTG	*1(Micro-USB Type)
④	High-Speed Connector1	*1(MIPI-CSI/MIPI-DSI/USB/SD1)
⑤	High-Speed Connector2	*1(SPI/GPIO)
⑥	HDMI Connector	*1(up to 1080P60)
⑦	TF Card solt	*1
⑧	Gigabit RJ45 Connector1	*1
⑨	Low-Speed Connector1	*1(UART/I2C/SPI/GPIO/I2S)
⑩	Low-Speed Connector2	*1(Speak/MIC)
⑪	UART Debug connector	*1
⑫	Gigabit RJ45 Connector2	*1
⑬	Model Switch	*1
⑭	DC-IN Jack	*1(12V3A)
⑮	LTE	*1

Bottom　view is as below picture.

No.	Name	Description
①	RZ/G2L SOC	*1(2x Cortex-A55 + 1* Cortex-M33)
②	8G eMMC	*1
③	4G DDR4	*1
④	SIM Card solt	*1
⑤	WIFI/BT Module	*1

3. FEATURES

CHIPSET		Renesas RZ/G2L
MARKET AREA		Global
Processor	OS	Yocto(Linux)
	CPU	2xCortex-A55 core up to 1.2GHz per core 1x Cortex-M33 core up to 200MHz
	DDR4	4GB（4G optional）
	EMMC FLASH	8GB eMMC5.1(8-128GB Optional)
NETWORK	Ethernet	2*RJ45, 10/100/1000M
	WiFi	WIFI Module 2.4G/5.8G (optional)
	Bluetooth	BT4.0(integrated in the WiFi module)
Interface	HDMI Out	*1(up to 1080P60)
	USB 2.0	*2
	SIM Card slot	*1
	USB-OTG	*1
	DC IN	*1 (USB Type-C)
Connectivity	**1x High-Speed Connector1** • intergrade MIPI-CSI/MIPI-DSI/USB/SD1 function **1x High-Speed Connector1** • Support SPI/GPIO **1x Low-Speed Connector1** • UART/I2C/SPI/GPIO/I2S **1x Low-Speed Connector2** • Speak/MIC	
Adapter	DC 5V / 3A	
Dimensions	100*85mm	

4. SUPPORT FORMATS

Audio

• 4 channels bidirectional serial transfer

• 2 external clock sources available

• Full Duplex communication (channel 0, 1, and 3)

• Support of I2S / Monaural / TDM audio formats

• Support of master and slave functions

• Generation of programmable word clock and bit clock

• Multi-channel formats

• Support of 8, 16, 18, 20, 22, 24, and 32-bit data formats

• Support of 32-stage FIFO for transmission and reception

• Support of LR-clock continue function in which the LR-clock signal is not stopped

Video

• H.264 codec module
• Encoding / Decoding support
    – H.264 / AVC (High Profile / Main Profile / Baseline Profile)
    – H.264 / MVC (Stereo High Profile)
• Color format (input in encoding): YcbCr 4:2:0 semi-planar supported
• Color format (output in decoding): YcbCr 4:2:0 semi-planar supported

Image Scaling Unit

• Scaling down function with bilinear interpolation
• Input image Size (max): 5M (2800 × 2047)
• Output image Size (max): Full HD (1920 × 1080)
• Support Color format Conversion
• RGB / ARGB / YcbCr422 / YcbCr420 / RAW (Grayscale)

5. PRECAUTIONS FOR USE

1. Relative humidity: ≤80% .

2. Operation temperature: Commercial field：0~ 50℃； Industrial field: -20~85℃.

3. Keep the Board away from static electricity.

4. Keep the Board away from water and other liquid.

5. Don't use long connect wires which may affect performance and image quality.