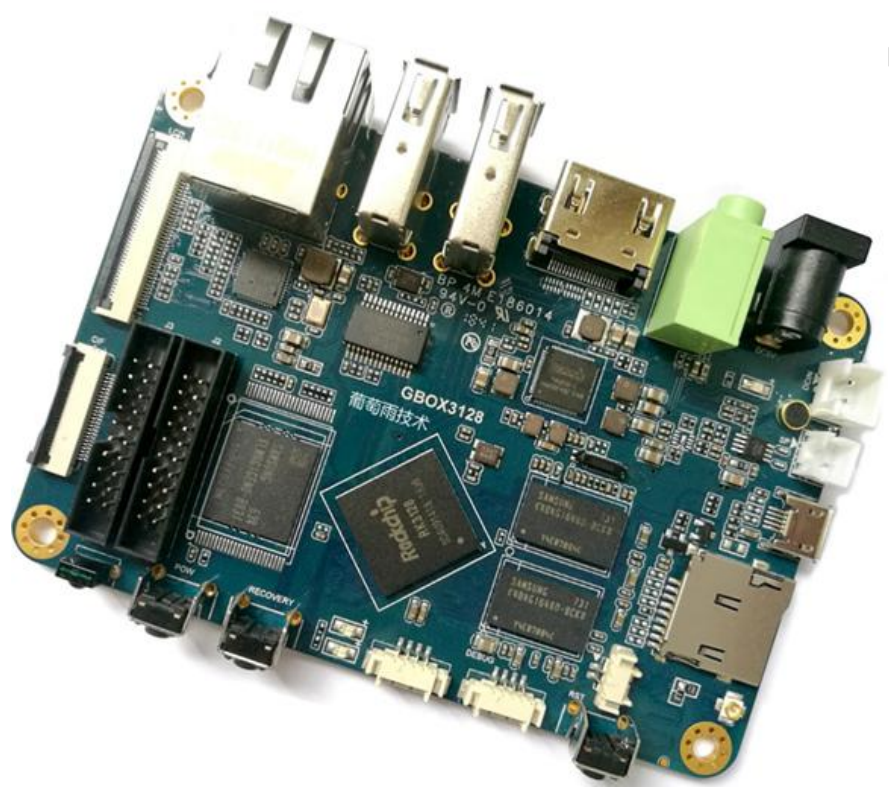


G3128 Single Board Computer Introduction



Shenzhen Graperain Technology Co., Ltd.

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Release Note

Version	Date	Author	Description
Rev.01	2018-8-20	David	Revision

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Contents

Chapter 1 G3128 Single Board Computer Introduction.....	6
1.1 Brief Introduction.....	6
1.2 Specifications.....	6
1.3 Board appearance.....	7
1.4 Board structure.....	8
Chapter 2 Hardware Features.....	9
2.1 Hardware interfaces description.....	9
2.2 Expand IO Descriptions.....	10
2.3 Display and Gigabit Ethernet.....	11
Chapter 3 Product Portfolio.....	12
3.1 System on Module Series.....	12
3.2 Development Board Series.....	12
3.3 Single Board Computer (SBC) Series.....	12

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Chapter 1 G3128 Single Board Computer Introduction

1.1 Brief Introduction

G3128 SBC is based on Rockchip RK3128, quad core A7 processor. The frequency can be up to 1.3GHz. Integrating with ARM Mali-400 MP2 dual core GPU, it supports OpenGL ES1.1/2.0, embedded with 2D accelerate hardware. It supports 1080P multi-media decoder, including 1080P H.265 hardware decoder, 1080P encoder, H.264.

G3128 SBC uses 512MB/1GB/2GB/DDR3, 4GB/8GB/16GB/32GB eMMC, independent power management system, RK818 PMU, Ethernet, variable interfaces. It supports Android 5.1, Android 6.0, Linux+QT and Ubuntu.

G3128 SBC size is only 100mm*68mm, portable and stable. It can be applied in many areas.

G3128 SBC specifications:

- Size: 100mm*68mm
- Power Management: RK818 PMU
- Supports different brands eMMC, default 8g eMMC.
- Single channel DDR3, default 1GB, can be custom to 2GB
- Supports power sleep/wake up
- Android 5.1, Android 6.0, Linux + qt, Ubuntu

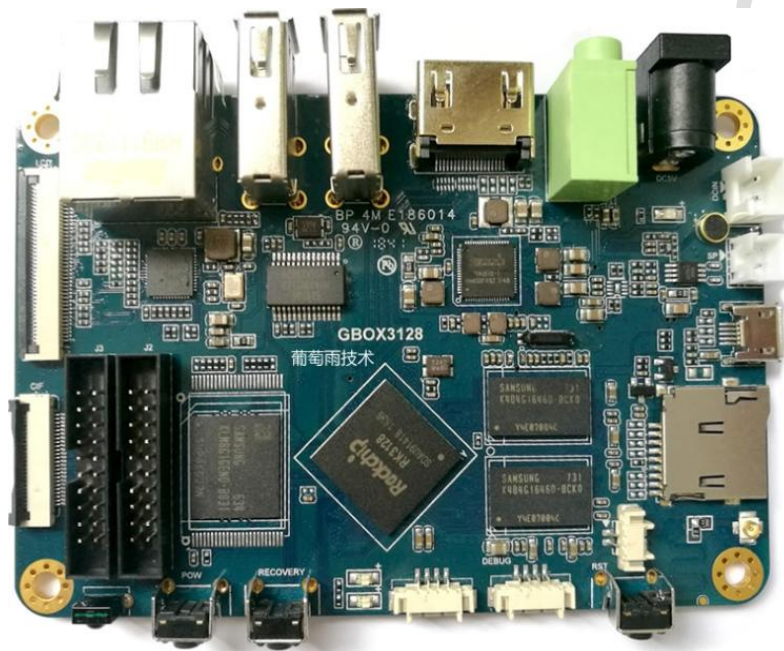
1.2 Specifications

Parameters	
Appearance	Single board computer
Size	100mm*68mm
Layer	6

System Configuration	
CPU	Rockchip RK3128
Frequency	Cortex A7 quad core 1.3GHz
RAM	standard 1GB, can be custom to 2GB
eMMC	4GB/8GB/16GB/32GB eMMC optional, standard 8GB
Power IC	RK818, dynamic frequency modulation
Graphic and video	ARM Mali-400 MP2 dual core GPU, supports OpenGL ES1.1/2.0, embedded with 2D accelerate hardware. 1080P multi-media decoder, including 1080P H.265 hardware decoder, 1080P encoder, H.264.
Power	Input voltage 5V, peak current 2A

Electrical characteristics	
Input Voltage	5V/2A
Output Voltage	5V, 3.3V
Storage temperature	-30~80 degree
Working temperature	-20~70 degree

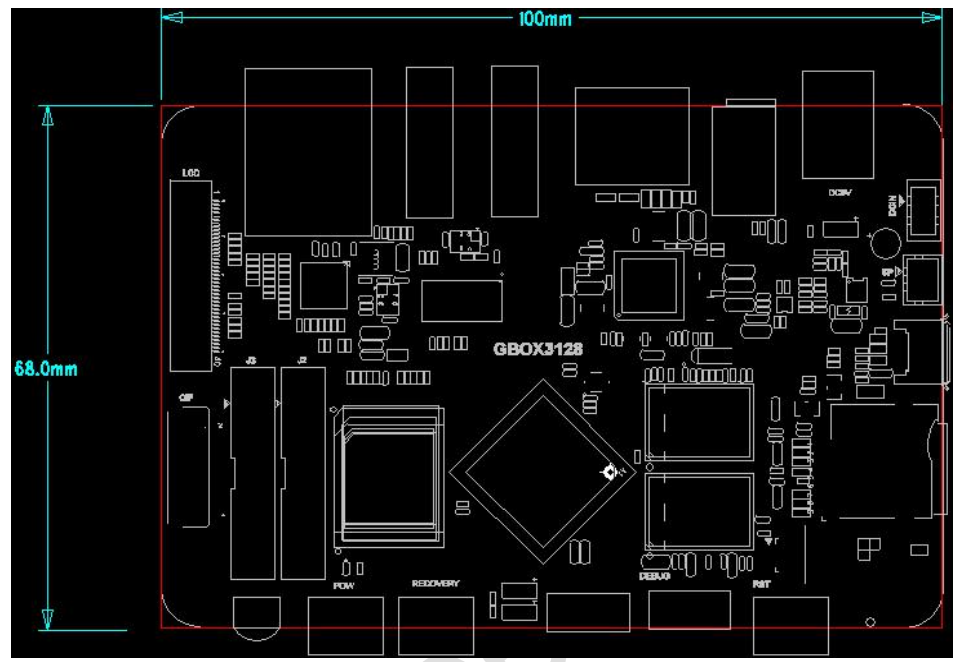
1.3 Board appearance



Front side

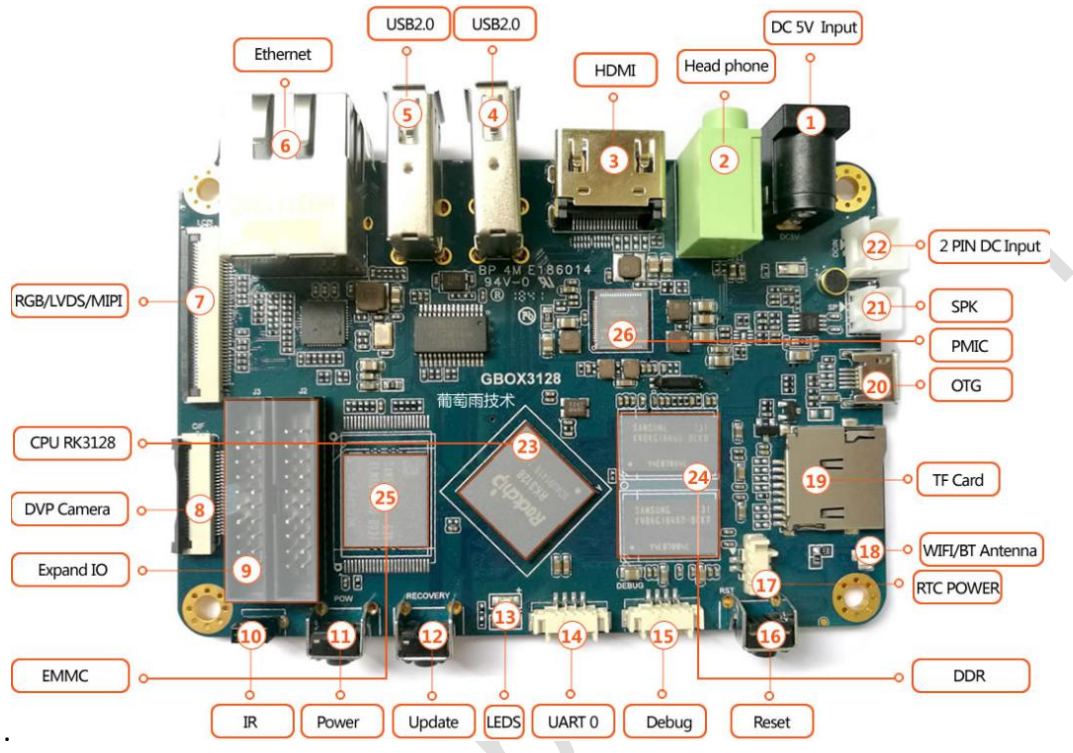
1.4 Board structure

Size



Chapter 2 Hardware Features

2.1 Hardware interfaces description



G3128 SBC

G3128 SBC		
Number	Name	Description
1	DC 5V Input	5V Power input
2	Head phone	Earphone output
3	HDMI	HDMI output, TypeA
4	USB2.0	USB2.0 host
5	USB2.0	USB2.0 host
6	Ethernet	Gigabit ethernet, RJ45
7	RGB/LVDS/MIPI	RGB/LVDS/MIPI
8	DVP Camera	Parallel camera
9	Expand IO	Extension IO
10	IR	IR receive
11	Power	Power key
12	Update	Update key
13	LEDS	Controllable LED

14	UART 0	Serial 0
15	Debug	Debug serial
16	Reset	Reset key
17	RTC POWER	RTC power
18	WIFI/BT Antenna	WIFI/BT antenna(onboard antenna on backside of the board)
19	TF Card	TF card slot
20	OTG	OTG
21	SPK	Speaker
22	2 PIN DC Input	2 PIN DC 5V input
23	CPU RK3128	CPU RK3128
24	DDR	DDR
25	EMMC	EMMC
26	PMIC	PMIC

2.2 Expand IO Descriptions

Expand IO J2

1	VCC_IO (3.3V)	2	GPIO1_B1
3	GND	4	GPIO1_B2
5	GPIO0_B0	6	GPIO1_B3
7	GPIO1_A5	8	GPIO1_B0
9	GPIO1_A4	10	GPIO1_B4
11	GPIO1_A2	12	GPIO0_B6
13	GPIO1_A1	14	GPIO0_B5
15	GPIO1_A0	16	GPIO0_B3
17	GPIO1_A3	18	GPIO0_B4
19	GND	20	GPIO0_B1

Expand IO J3

1	GND	2	RK818_5V_IN
3	SPDIF_TX	4	GND
5	GND	6	DM4(USB2.0)
7	CODEC_AOMS	8	DP4(USB2.0)
9	CODEC_AOM	10	PWM1
11	GND	12	PWM2
13	LINE_LIN	14	I2C1_SDA
15	LINE_RIN	16	I2C1_SCL
17	GND	18	ADCIN0
19	VDAC_OUTP	20	ADCIN2

2.3 Display and Gigabit Ethernet

RGB, LVDS, MIPI DSI and Ethernet functions of RK3128 multiplexing the same pins. Please choose the right one when use them. When choose Ethernet, RGB/LVDS/MIPI display can't be used. When choose RGB/LVDS/MIPI display, Ethernet can't be used. So does the design of G3128 SBC. User can only choose one function. In two usages, G3128 SBC has differences in hardware. About this part, please contact us.

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Chapter 3 Product Portfolio

3.1 System on Module Series

G4418 SOM (Samsung S5P4418)
G6818 SOM (Samsung S5P 6818)
G3288 SOM (Rockchip RK3288 stamp hole)
GR3288 SOM (Rockchip RK3288 Immersion Gold MXM)
G3128 SOM (Rockchip RK3128 Immersion Gold MXM)
G3399 SOM (Rockchip RK3399 stamp hole)
GR3399 SOM (Rockchip RK3399 Immersion Gold MXM)
M9 SOM (Qualcomm 8916)

3.2 Development Board Series

G4418 development board (Samsung S5P4418)
G6818 development board (Samsung S5P 6818)
G3288 development board (Rockchip RK3288 stamp hole)
GR3288 development board (Rockchip RK3288 Immersion Gold MXM)
G3399 development board (Rockchip RK3399 stamp hole)
GR3399 development board (Rockchip RK3399 Immersion Gold MXM)

3.3 Single Board Computer (SBC) Series

G4418 single board computer (Samsung S5P4418)
G6818 single board computer (Samsung S5P 6818)
G3128 single board computer (Rockchip RK3128)
G3288 single board computer (Rockchip RK3288)
GR3399 single board computer (Rockchip RK3399)

Instructions: More information of specifications and other products, please pay attention to website and contact us directly.

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