

Quad-Core PX30 Main Board User Guide

(Model : RP01)

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Chapter 1 - Product Overview

1.1 Overview

RP01 is using the Rockchip® quad-core PX30 solution, the main frequency is 1.3GHz.

Included WIFI, Ethernet data communication, support commonly used external devices, rich interface, stable performance. Suitable for intelligent remote network control: class industry, large advertising machine, education video terminal, self-service all-in-one machine and other equipment.

1.2 Application

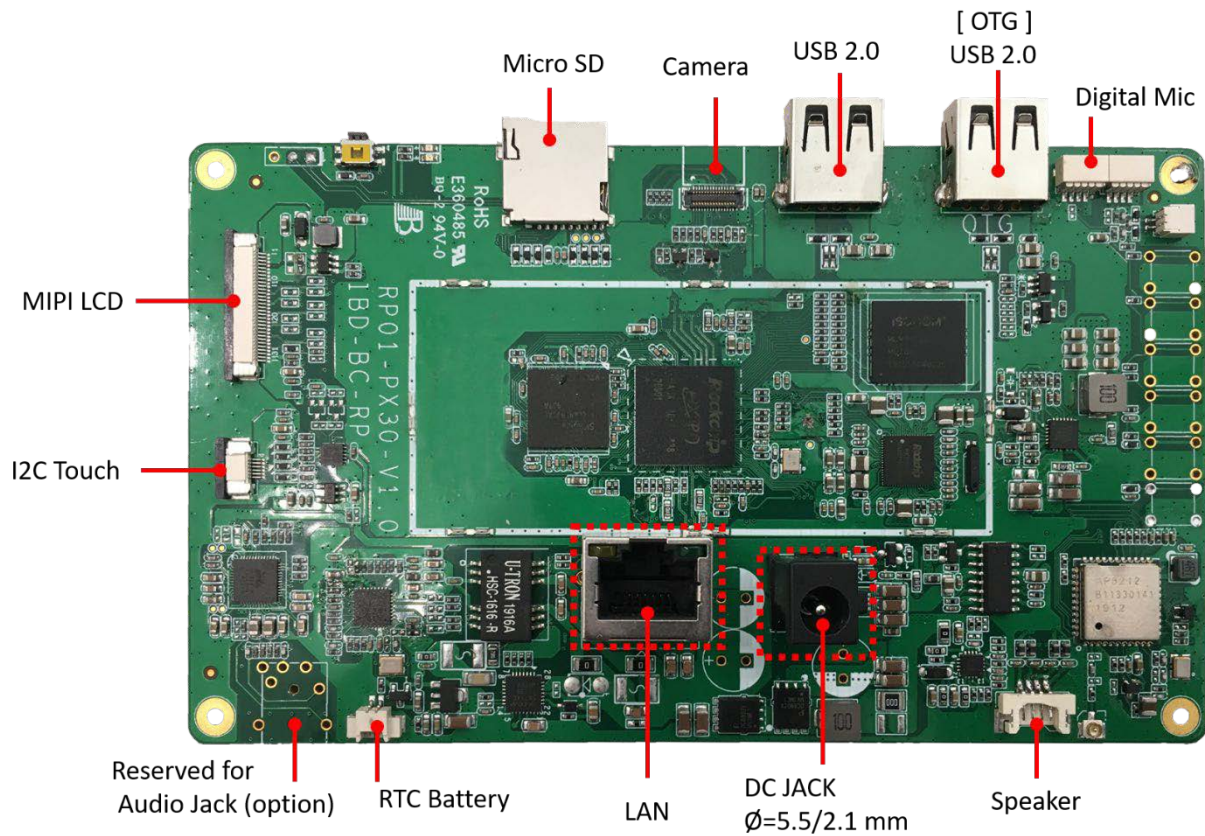
- Commercial Advertising Machine
- Industry control systems
- Education video terminal
- Self-service all-in-one
- Self-service vending machines

1.3 Characteristics

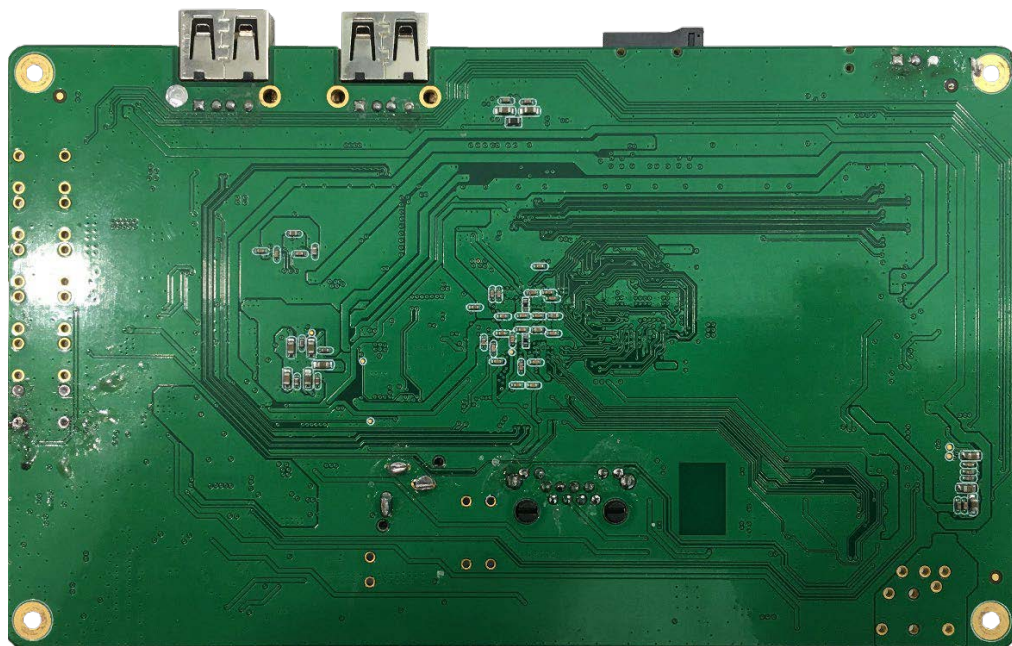
- Display interface: he board supports high performance MIPI graphic interface. .
- Extension interface : 2 * USB2.0. (1x ex-USB support OTG)
- Multiple network interfaces: Ethernet, Wireless Lan, Bluetooth.
- Allow data import via USB port.

1.4 Outlook

Top



Bottom :



Chapter 2 -- Product Specifications

RP01 Product Specifications	
CPU	Rockchip PX30 , Quad-core A35 · 1.3GHz
System memory	DDR3 2 GB,
Storage	eMMC 16GB ·
GPU	Mali-G31 MP2 GPU support OpenGL ES3.2, Vulkan 1.0, OpenCL 2.0
display	1080P H.265/H.264/VC-1/MPEG/VP8 video decoder
Operation System	Android 8.1 (Kernel 4.4)
Network	RJ45 , Ethernet, 10/100Mb,
Wireless	Wi-Fi 802.11b/g/n/ac 2.4GHz, 5GHz) °
	Bluetooth 4.2 BLE (optional BT 5.0)
USB	2x USB 2.0 (1x ex-USB support OTG)
TP interface	1x I2C TP Interface.
Camera	1 x MIPI Camera interface,
Ex-Memory card	1x MicroSD / TF card · support 128GB,
MIPI LCD	1x MIPI LCD interface
Sound & Audio	2 Channel x 2 W Speaker out , / Optional Audio Jack.
MIC in	1x Digital Microphone or Optional Audio Jack..
RTC clock	1x RTC clock battery conn
Key	1 x Reset Key
Indicator	1 x LED for System status .
DC input	DC input Voltage : 12V , Current: 2A (support Ø5.5 / 2.1 mm plug)
Power Design	Wide range design : 9V~24V
Dimention	144 mm x 85mm , PCB Thickness = 1.6 mm

Chapter 3 PCB Size and Interface PCB Layout

3.1 Board dimension

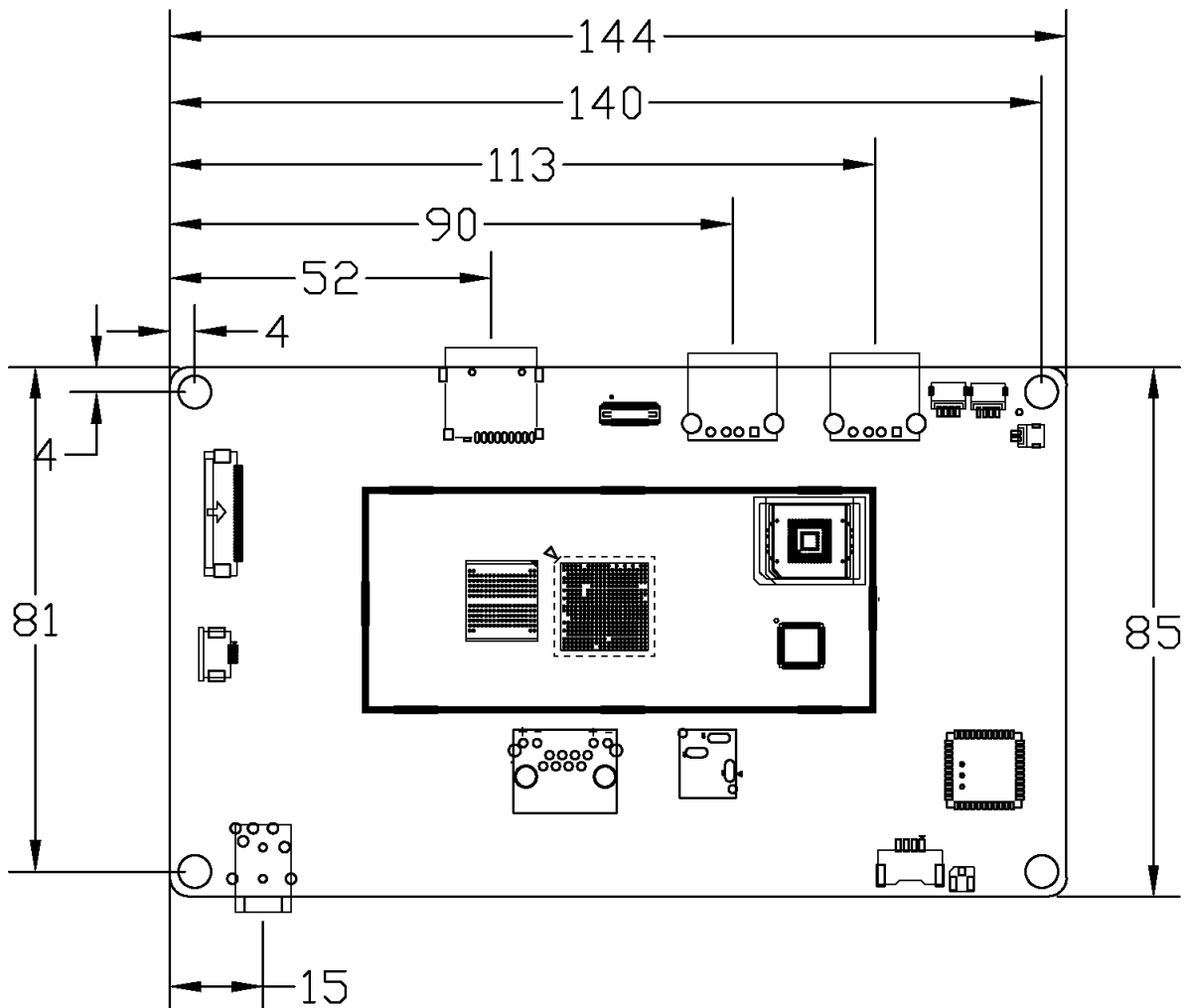
PCB: thickness 1.6mm

Dimension: 144*85mm*13mm (Limit: top =9mm, bottom =3.5mm)

L A N Port: Hight 16mm form PCB surface.

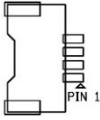
D C Jack : Hight 13.5 mm form PCB surface.

Screw hole: $\varnothing = 2.5\text{mm}$




3.2 Interface parameter PIN define description

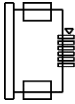
- SPEAKER (PH socket · 1*4pin · 1.25mm)

No.	define	Attribute	Description	
1	SPK-R+	Output	Output R+	
2	SPK-R-	Output	Output R-	
3	SPK-L-	Output	Output L-	
4	SPK-L+	Output	Output L+	


Digital MIC (PH socket · 1*4pin · 1.0mm)

No.	define	Attribute	Description	
1	VCC+	Input	VCC	
2	DMIC_CLK	Input	CLK	
3	DMIC_DATA	Input	DATA	
4	GND	GND	GND	

- I2C_TP *1 (FPC socket · 1*6pin · 0.5mm)

No.	define	Attribute	Description	
1	VCC	VCC	3.3V VCC	
2	GND	Ground	Ground	
3	SCL	O	I2C Clcok	
4	SDA	I/O	I2C Data	
5	INT	I	Interrupt	
6	RST	O	Reset	

- MIPI *1 (FPC socket · 1*31 pin) for MIPI LCD

No.	define	Attribute	Description	
1				
- Pin define follows ESQ spec.				
31				

- CAM_CN1

No.	define	Attribute	Description
1	AGND	Ground	Ground
2	PWDN	Output	MIPI Camera DN
3	AF_VCC2.8V	AFPower	MIPI Camera AF Power
4	SDA	Data	MIPI Camera I2C Data
5	AF_GND	Ground	Ground
6	SCL	clock	MIPI Camera I2C Clock
7	AVDD2.8V	Power	MIPI Camera Power 2.8V
8	STORBE	NC	N/A
9	DGND1	Ground	Ground
10	DOVDD1.8V	Power	MIPI Camera 1.8V Power
11	MDP2(NC)	Input	MIPI TX D2 positive
12	DGND	Ground	Ground
13	MDN2(NC)	Input	MIPI TX D2 negative
14	MCLK	clock	MIPI CLK
15	DGND2	Ground	Ground
16	DGND3	Ground	Ground
17	MCP	Clock	MIPI CLK positive
18	MDP0	Input	MIPI TX D0 positive
19	MCN	Clock	MIPI CLK negative
20	MDN0	Input	MIPI TX D0 negative
21	DGND4	Ground	Ground
22	DGND5	Ground	Ground
23	MDP3(NC)	Input	MIPI TX D3 positive
24	MDP1	Input	MIPI TX D1 positive
25	MDN3(NC)	Input	MIPI TX D3 negative
26	MDN1	Input	MIPI TX D1 negative
27	DVDD1.2V	Power	MIPI Camera Power 1.2V
28	DGND6	Ground	Ground
29	DVDD1.2V	Power	MIPI Camera Power 1.2V
30	RESET	Reset	RESET