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# RK7839C-Technical Specification

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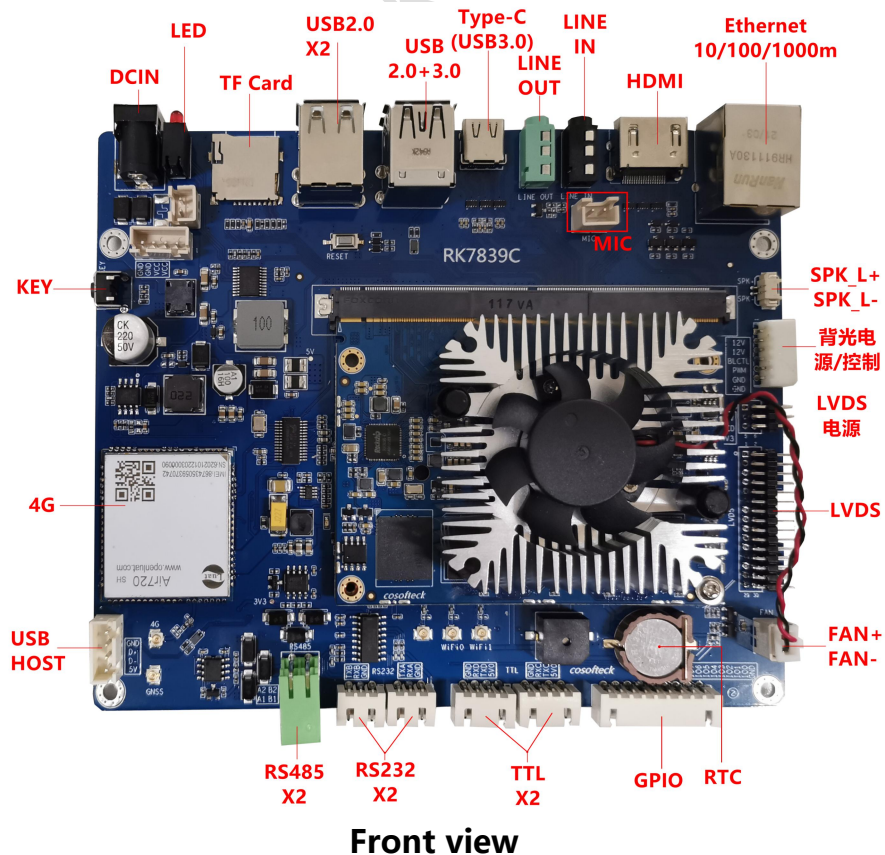
# 1.Parameter List

Motherboard Solutions	
Model Description	RK7839C-WB Standard type(DDR2G+EMMC8G) with WIFI and Bluetooth RK7839C-WB High-rated(DDR4G+EMMC16G) with WIFI and Bluetooth <b>Note: This product also supports 4G function, such as the need to practice customer service to ask the detailed configuration and the corresponding price</b>
CPU	Rockchip RK3399 6-core 64-bit processor
GPU	ARM Mali-T860 MP4 Quad-core GPU
Memory	2GB or 4GB DDR3; Standard 2GB
Local Storage	EMMC Flash Standard 16GB
Supported Operating Systems	Android and Ubuntu
Multimedia	Support 4K VP9 and 4K 10bits H265/H264 video decoding up to 60fps 1080P multi-format video decoding (VC-1, MPEG-1/2/4, VP8) 1080P video encoding, support H.264, VP8 format
Extended memory	TF Card
Ethernet	Wired 10/100/1000M
WIFI	2.4GHz/5.8GHz dual-band WiFi, supports 802.11a/b/g/n/ac protocol, 2x2 MIMO technology (optional)
Bluetooth	Bluetooth 4.2(optional)
USB	USB2.0 x4, USB Type C x1, USB 3.0 x1
MIC	x1
LINEIN	x1
LINE OUT	x1
SPEAKER	3W
HDMI Output	x1
UART	UART TTL x 2 RS232 x 2 RS485 x 2
RTC	Real time clock
EDP	x1(optional)

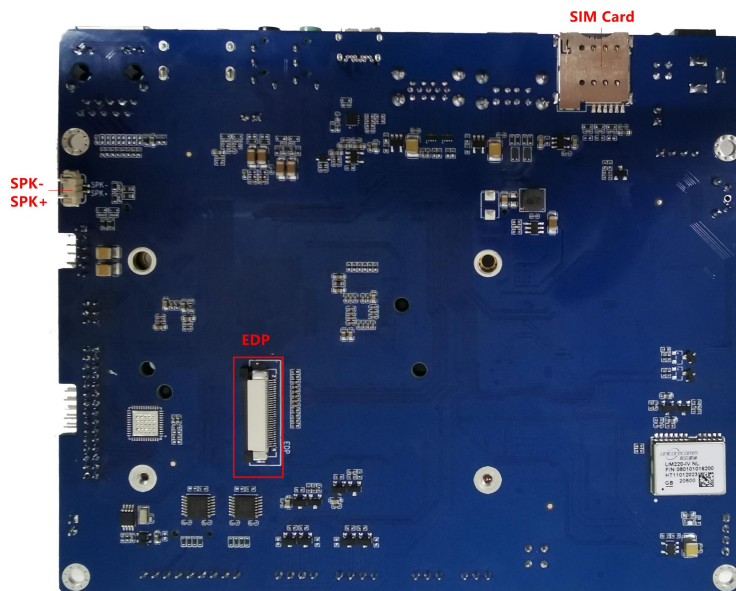
4G	x1(optional)
GPS	4G module built-in (optional)
Extended Port	bi-directionalx4 I/O; +/- 15KV ESD
Power	8~40V ; <10W
Operating temperature	-30-75°C
Product Size	125x150mm

## 2.Hardware interface

### 2.1 Appearance



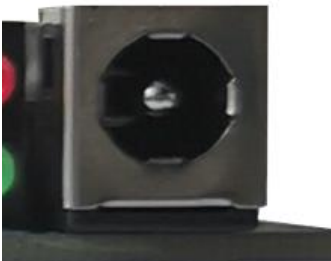
Front view



Back view

## 2.2 Power connector

- Provide the use of DC-005 horizontal power supply holder for power supply interface. Outer diameter 5.5mm inner diameter 2.1mm, can access 8V~40V DC power supply.



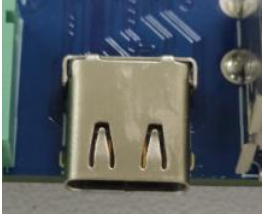
## 2.3 LED

Using an upper red and lower green light set, the green light is connected to the 3.3V power supply and the red light is controlled through the GPIO port.



## 2.4 Type-C

Provide 1 way TYPE-C (USB3.0) interface.



## 2.5 USB

- 2-way connection via dual horizontal USB 2.0 sockets.



- 2-way connection via USB 2.0+3.0 dock.



- 1 way connected via 4 PIN 2.54mm pitch white socket.



Pin	Description	Pin	Description
1	GND	2	D+
3	D-	4	5V

## 2.6 SPEAK

There is one SPK connector on the front and one on the back. The front is for the left channel and the back is for the right channel. Both are connected via 2PIN 1.25mm pitch horizontal patch connectors.



Front side



Back side

Terminal: SMD-1.25-2P	
Pin	Description
1	SPK_L+
2	SPK_L-

Terminal: SMD-1.25-2P	
Pin	Description
1	SPK_R+
2	SPK_R-

## 2.7 MIC

The MIC connector is connected via a 2PIN 2.54mm pitch white socket.



Terminal: PH2.54-2PIN	
Pin	Description
1	MIC+
2	MIC-

## 2.8 Backlight power/control

The backlight power control interface is connected via a 6PIN PH2.0mm pitch curved white socket.



Terminal: PH2.0-6PIN			
Pin	Description	Pin	Description
1	12V	2	12V
3	LVDS_BL_EN	4	LVDS_PWM
5	GND	6	GND

## 2.9 LVDS Power

The LVDS power supply is connected via 6PIN 2.0mm pitch curved double row pins. Input power is selected using a jumper cap short.



Pin	Description	Pin	Description
1	NC	2	12V
3	5V	4	VCC-LCD
5	NC	6	3.3V

- The LVDS power input is 12V when the jumper cap is shorted to pins 2 and 4.



- The LVDS power input is 5V when the jumper cap is shorted to pins 3 and 4.



- The LVDS power input is 3.3V when the jumper cap is shorted to pins 6 and 4.



## 2.10 LVDS

LVDS LCD (row of plugs): Compatible with 8-bit or 6-bit LVDS signals, rich resolution support. Connects via 30PIN 2.0mm pitch curved double row pins.



Pin	Description	Pin	Description
1	VCC_LCD	2	VCC_LCD
3	VCC_LCD	4	GND
5	GND	6	GND
7	LVDS0_VN0	8	LVDS0_VP0
9	LVDS0_VN1	10	LVDS0_VP1
11	LVDS0_VN2	12	LVDS0_VP2
13	GND	14	GND
15	LVDS0_VNC	16	LVDS0_VPC
17	LVDS0_VN3	18	LVDS0_VP3
19	LVDS1_VN0	20	LVDS1_VP0
21	LVDS1_VN1	22	LVDS1_VP1
23	LVDS1_VN2	24	LVDS1_VP2
25	GND	26	GND
27	LVDS1_VNC	28	LVDS1_VPC
29	LVDS1_VN3	30	LVDS1_VP3



## 2.11 RTC

- A 1220 coin cell battery holder is provided as an RTC battery interface.



## 2.12 FAN

A FAN connector is provided. Connects via a 2PIN 2.54mm pitch white socket.



Terminal: PH2.54-2PIN	
Pin	Description
1	FAN+
2	FAN-

## 2.13TTL

Two TTL channels are provided, each connected via a 4PIN 2.54mm pitch gray socket.



Terminal: XH2.54-4PIN

Pin	Description	Pin	Description
1	GND	2	RXD
3	TXD	4	5V

Serial port and device number correspondence

Serial port identification	Equipment number
UARTC	/dev/ttyWK2
UARTD	/dev/ttyWK3

## 2.14 RS232

Two RS232 channels are provided, each connected via a 3PIN 2.54mm pitch terminal.



Terminal: XH2.54-3PIN					
Pin	Description	Pin	Description	Pin	Description
1	TXB	2	RXB	3	GND
4	TXA	5	RXA	6	GND

## 2.15 RS485

Two RS485 channels are provided, connected via 4PIN 3.5mm pitch double-layer Phoenix terminals.



Terminal: 15EDGRHB-THR-3.5			
Pin	Description	Pin	Description
1	RS485_1A	2	RS485_1B
3	RS485_2A	4	RS485_1B

RS485 and device number correspondence

Serial port identification	Equipment number
RS485_1	/dev/ttyS2
RS485_2	/dev/ttyS4

## 2.16.GPIO Interface

- Connected via a 9PIN 2.54mm pitch terminal block.



Terminal: XH2.54-9PIN			
Pin	Description	Pin	Description
1	GND	2	IO0
3	IO1	4	IO2
5	IO3	6	IO4
7	IO5	8	IO6
9	IO7		

## 2.17 EDP

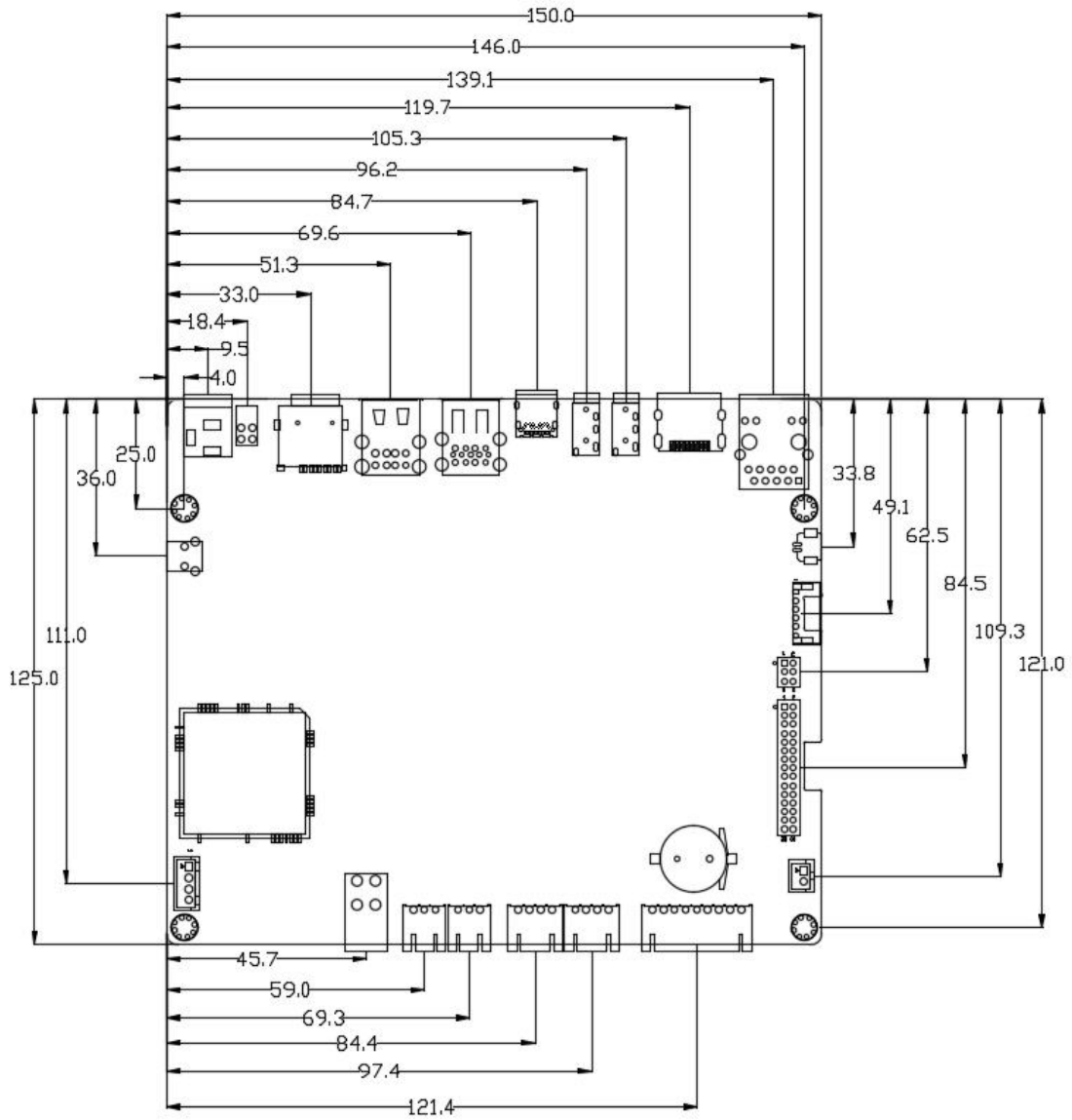
Provide 1 way EDP interface, connect through FPC 0.5-30PIN connector.



Terminal: FPC0.5-30PIN

<b>Pin</b>	<b>Description</b>	<b>Pin</b>	<b>Description</b>
1	VCC-3V3	2	GND
3	EDP-TX1N	4	EDP-TX1P
5	GND	6	EDP-TX0N
7	EDP-TX0P	8	GND
9	EDP-AUXP	10	EDP-AUXN
11	GND	12	VCC-3V3
13	VCC-3V3	14	VCC-3V3
15	GND	16	GND
17	HPD	18	GND
19	GND	20	GND
21	GND	22	LCD-BL-EN
23	LCD-PWM	24	NC
25	NC	26	12V
27	12V	28	12V
29	12V	30	NC

# 3.Dimension drawing



注：未标注公差为±0.3mm。