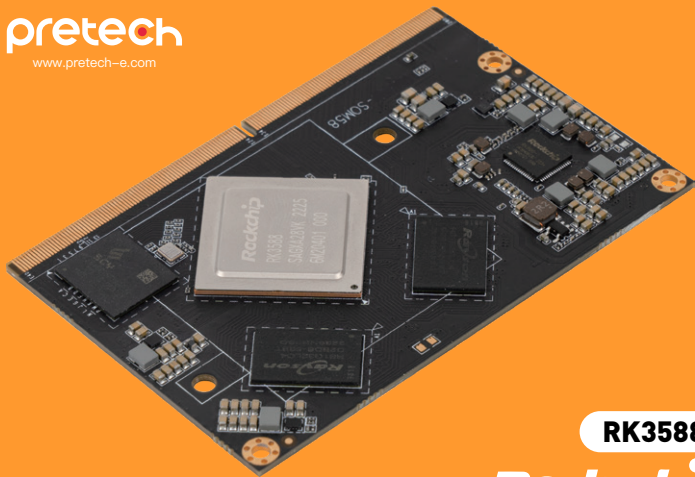




# SOM AND CARRIER BOARD SOLUTION SINGLE BOARD COMPUTER

Rockchip RK3588/RK3568/RK3566 Solution



**RK3588**

# Rock-chip SOM88

4 x Cortex  
A76/A55

8 nm  
Process

2.4 GHz

6.0 TOPS  
NPU

Support  
INT4/INT8/INT16

## SOM88

### SOC

RK3588 4 x Cortex-A76 + 4 x Cortex-A55 2.4GHz, 8nm  
6.0TOPS NPU, Support INT4/INT8/INT16

### OS

Android

### RAM

LPDDR4 4GB/8GB/16GB/32GB

### ROM

EMMC5.1 64G/128G

### Media

Video decoding:

8K@60fps H.265/VP9/AVS2

8K@30fps H.264 AVC/MVC

4K@60fps AV1

### Ethernet

Gigabit Ethernet interface x 2 (The carrier board)

### Display

HDMI out, HDMI2.1, up to 8K@60Hz

HDMI in, HDMI 2.0 RX PHY, 4-lanes, up to 4K@60Hz

eDP1.3, 4Lane, 4K@60Hz

DP1.4 output, 4-Lane x 2

2 x 4-Lane or 1 x 8-Lane MIPI-DSI, LCD interface

### Connectivity

WiFi6 802.11a/b/g/n/ac/ax, Bluetooth5.0, 2T2R (The carrier board)

### USB

USB3.1 OTG x 2

USB 3.0 x 2

USB2.0 x 2

### TF-Card

Micro SD card, up to 128GB (The carrier board)

### Audio

Can be customized

## RK3566

### Interface

PCIe3.0(2 x 2lanes, 1 x 4lanes, 4 x 1lanes)

PCIe2.1(1 1anes) x 3

SATA3.0 x 3

4lane Mipi-CSI

UART/I2C/SPI/PCM/PWM/ADC/SDMMC/GPIO

### Input Power

The carrier board can be customized

### PCB

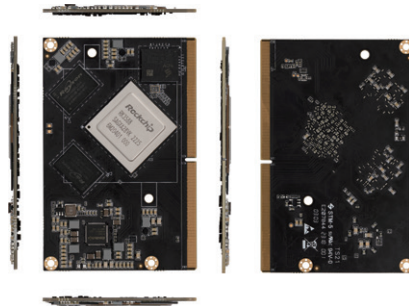
Size: 54 x 82 x 1.2mm

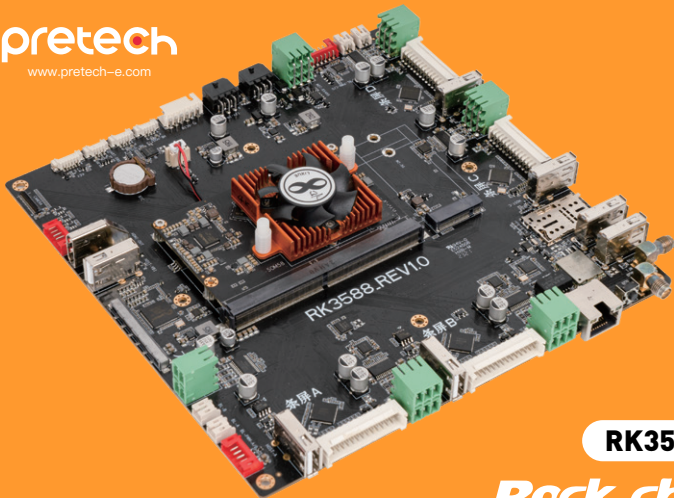
Process: 8-layer HDI Immersion Gold

Package: MXM3.0(314PIN-0.5mm)

### Environment

Operating temperature -20°C ~ 60°C





**RK3588**

*Rack-chip*

**D-SOM88**

4 x Cortex  
A76

8 nm  
Process

2.4 GHz

6.0 TOPS  
NPU

Support  
INT4/INT8/INT16

## D-SOM88

**RK3566**

### SOC

RK3588 4 x Cortex-A76 + 4 x Cortex-A55 2.4GHz, 8nm  
6.0TOPS NPU, Support INT4/INT8/INT16

### OS

Android

### RAM

LPDDR4 4GB/8GB/16GB/32GB

### ROM

EMMC5.1 64G/128G

### Media

Video decoding:

8K@60fps H.265/VP9/AVS2

8K@30fps H.264 AVC/MVC

4K@60fps AV1

### Display

Supports up to 5 screens with different displays, tactile sensations and sounds.

HDMI2.1 out or HDMI convert to VbyOne 4K@60fps

DP1.4 convert to Dual-LVDS 1080@60fps

DP1.4 convert to Dual-LVDS 1080@60fps

4-Lane MIPI-DSI convert to Dual-LVDS 1080@60fps

4-Lane MIPI-DSI convert to Dual-LVDS 1080@60fps

### Ethernet

Ethernet interface x1

### Connectivity

WiFi6 802.11a/b/g/n/ac/ax, Bluetooth5.0, 2T2R

### USB

USB2.0 x 5 for USB-TP

USB2.0 (with OTG) x 1 for update

USB2.0 x 1 for 4G module

USB2.0 x 3 host

### TF-Card

/

### Audio

Speaker: 10 speaker total

10W x 2 Stereo

3W x 2 Stereo

3W x 2 Stereo

3W x 2 Stereo

3W x 2 Stereo

### Interface

2 x RS485 for motor control

Key interface

### Input Power

DC-12V via 8pin-PH2.54

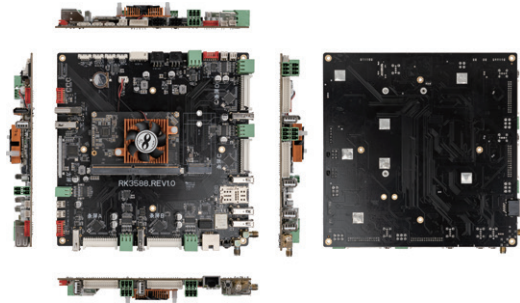
### PCB

Size: 180 x 180 x 1.6mm

Process: 4-layer Immersion Gold

### Environment

Operating temperature -20°C ~ 60°C





**RK3566**

*Rack-chip*

**SOM66**

4 x Cortex A55 | 1.8 GHz | 22 nm Process | ARM G52 2EE | 0.8 TOPS NPU

## SOM66

### SOC

RK3566, 4 x Cortex-A55, 1.8G, 22nm  
ARM G52 2EE, 0.8 TOPS NPU

### OS

Android

### RAM

LPDDR4 2G/3G/4G/6G/8G

### ROM

EMMC5.1 8GB/16G/32G/64G/128G

### Media

4K 60fps H.265/H.264/VP9 decode  
1080P 100fps H.265/H.264 codec

### Display

HDMI2.0 port (4Kp60)  
4-lane EDPI(2560\*1600@60FPS)  
4-lane MIPI-DSI(1920\*1200@60FPS)

### Ethernet

Gigabit Ethernet interface x 1 (The carrier board)

### Connectivity

WiFi6 802.11a/b/g/n/ac, Bluetooth5.0

### USB

USB3.0 x 1  
USB2.0 x 3(One port with OTG)

### TF-Card

Micro SD card, up to 128GB (The carrier board)

### Audio

Can be customized

## RK3566

### Interface

4-lane/2x2-lane, Camera ISP, 8MP@30fps HDR  
UART/SPI/PWM/I2C/ADC/KEY/3.3V etc

### Input Power

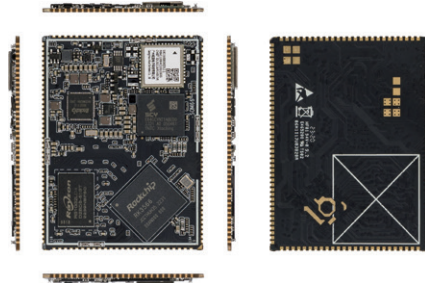
The carrier board can be customized

### Environment

Operating temperature -20°C ~ 60°C

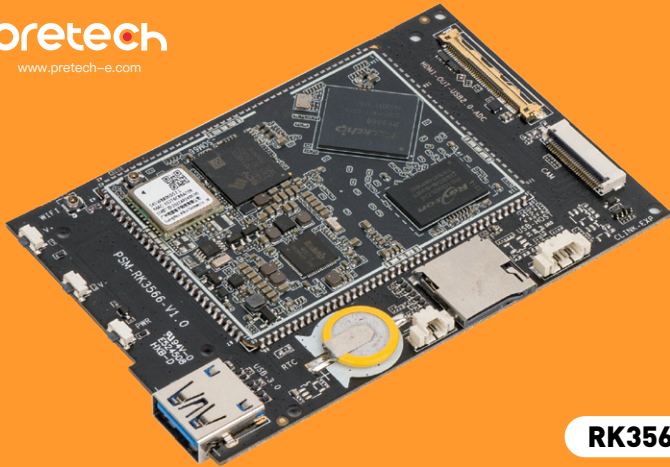
### PCB

Size: 45 x 60 x 1.0mm  
Process: 6-layer HDI Immersion Gold  
Package: LCC134



pretech

www.pretech-e.com



**RK3566**

*Rack-chip*

**D-SOM66**

4 x Cortex A55 | 1.8 GHz | 22 nm Process | ARM G52 2EE | 0.8 TOPS NPU

## D-SOM66

### SOC

RK3566, 4 x Cortex-A55, 1.8G, 22nm  
ARM G52 2EE, 0.8 TOPS NPU

### OS

Android

### RAM

LPDDR4 2G/4G/6G/8G

### ROM

EMMC5.1 32G/64G/128G

### Media

4K 60fps H.265/H.264/VP9 decode  
1080P 100fps H.265/H.264 codec

### Display

HDMI2.0 port (4Kp60)

### Ethernet

/

### Connectivity

WiFi6 802.11a/b/g/h/ac, Bluetooth5.0

### USB

USB3.0 x 1(with OTG)

### TF-Card

Micro SD card, up to 128GB

### Audio

HDMI audio out

### Interface

4-lane mipi Camera, SMP@30fps HDR  
UART/USB/ADC/KEY/VBAT via 40Pin-FPC

### Input Power

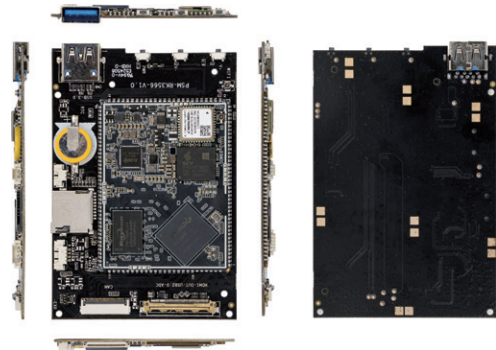
VBAT 3.8V via 40Pin-FPC

### PCB

Size: 95 x 64 x 1.0mm  
Process: 6-layer HDI Immersion Gold  
Package: LCC134

### Environment

Operating temperature -20°C ~ 60°C



## RK3568



## SOM88

RK3588

4 x Cortex-A76 +  
4 x Cortex-A55 2.4GHz  
8nm 6.0TOPS NPU  
Support INT4/INT8/INT16



## D-SOM88

RK3588

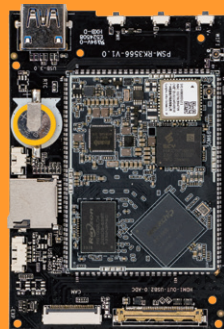
4 x Cortex-A76 +  
4 x Cortex-A55 2.4GHz  
8nm 6.0TOPS NPU  
Support INT4/INT8/INT16



## SOM66

RK3566

4 x Cortex-A55 1.8G  
22nm ARM G52 2EE  
0.8 TOPS NPU

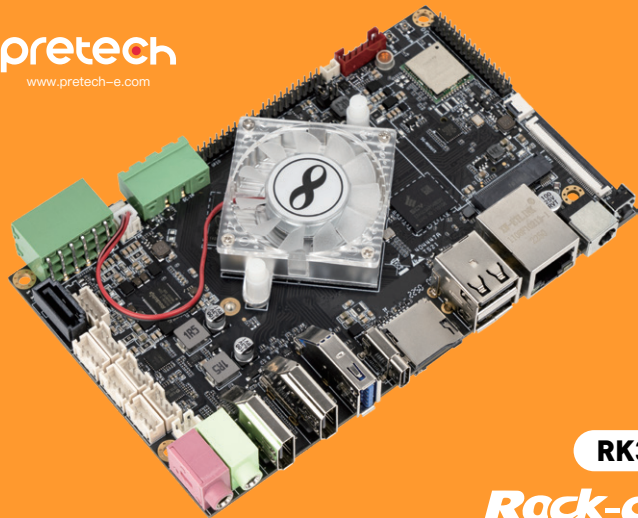


## D-SOM66

RK3566

4 x Cortex-A55 1.8G  
22nm ARM G52 2EE  
0.8 TOPS NPU

	SOM88	D-SOM88	SOM66	D-SOM66
SOC	RK3588 4x Cortex-A76 + 4 x Cortex-A55 2.4GHz, 8nm 6.0TOPS NPU, Support INT4/INT8/INT16	RK3588 4 x Cortex-A76 + 4 x Cortex-A55 2.4GHz, 8nm 6.0TOPS NPU, Support INT4/INT8/INT16	RK3566 4 x Cortex-A55, 1.8G, 22nm ARM G52 2EE, 0.8 TOPS NPU	RK3566 4 x Cortex-A55, 1.8G, 22nm ARM G52 2EE, 0.8 TOPS NPU
OS	Android	Android	Android	Android
RAM	LPDDR4 4GB/8GB/16GB/32GB	LPDDR4 4GB/8GB/16GB/32GB	LPDDR4 2G/4G/6G/8G	LPDDR4 2G/4G/6G/8G
ROM	EMMC5.1 64G/128G	EMMC5.1 64G/128G	EMMC5.1 32G/64G/128G	EMMC5.1 32G/64G/128G
Media	Video decoding: 8K@60fps H.265/VP9/AVS2 8K@30fps H.264 AVC/MVC 4K@60fps AV1	Video decoding: 8K@60fps H.265/VP9/AVS2 8K@30fps H.264 AVC/MVC 4K@60fps AV1	4K 60fps H.265/H.264/VP9 decode 1080P 100fps H.265/H.264 codec	4K 60fps H.265/H.264/VP9 decode 1080P 100fps H.265/H.264 codec
Display	HDMI out, HDMI2.1,up to 8K@60Hz HDMI in, HDMI 2.0 RX PHY,4-lanes,up to 4K@60Hz eDP1.3, 4Lane, 4K@60Hz DP1.4 output, 4-Lane x 2 2 x 4-Lane or 1 x 8-Lane MIPI-DSI,LCD interface	Supports up to 5 screens with different displays, tactile sensations and sounds. HDMI2.1 out or HDMI convert to VbyOne 4K@60fps DP1.4 convert to Dual-LVDS 1080@60fps DP1.4 convert to Dual-LVDS 1080@60fps 4-Lane MIPI-DSI convert to Dual-LVDS 1080@60fps 4-Lane MIPI-DSI convert to Dual-LVDS 1080@60fps	HDMI2.0 port (4Kp60)	HDMI2.0 port (4Kp60)
Ethernet	Gigabit Ethernet interface x 2 (The carrier board)	Ethernet interface x 1	Gigabit Ethernet interface x 1 (The carrier board)	/
Connectivity	WiFi6 802.11a/b/g/n/ac/ax, Bluetooth5.0, 2T2R (The carrier board)	WiFi6 802.11a/b/g/n/ac/ax, Bluetooth5.0, 2T2R	WiFi6 802.11a/b/g/n/ac, Bluetooth5.0	WiFi6 802.11a/b/g/n/ac, Bluetooth5.0
USB	USB3.1 OTG x 2 USB 3.0 x 2 USB2.0 x 2	USB2.0 x 5 for USB-TP USB2.0 (with OTG) x 1 for update USB2.0 x 1 for 4G module USB2.0 x 3 host	USB3.0 x 1(with OTG)	USB3.0 x 1(with OTG)
TF-Card	Micro SD card,up to 128GB (The carrier board)	/	Micro SD card,up to 128GB	Micro SD card,up to 128GB
Audio	Can be customized	Speaker: 10 speaker total 10W x 2 Stereo 3W x 2 Stereo 3W x 2 Stereo 3W x 2 Stereo 3W x 2 Stereo	HDMI audio out	HDMI audio out
Interface	PCIe3.0(2 x 2lanes,1 x 4lanes,4 x 1lanes) PCIe2.1(1 1lanes) x 3 SATA3.0 x 3 4lane Mipi-CSI UART/I2C/SPI/PCMC/PWM/ADC/SDMMC/GPIO	2 x RS485 for motor control Key interface	4-lane mipi Camera,5MP@30fps HDR UART/USB/ADC/KEY/VBAT via 40Pin-FPC	4-lane mipi Camera,5MP@30fps HDR UART/USB/ADC/KEY/VBAT via 40Pin-FPC
Input Power	The carrier board can be customized	DC-12V via 8pin-PH2.54	VBAT 3.8V via 40Pin-FPC	VBAT 3.8V via 40Pin-FPC
PCB	Size: 54 x 82 x 1.2mm Process: 8-layer HDI Immersion Gold Package:MM3.0(314PIN-0.5mm)	Size: 180 x 180 x 1.6mm Process: 4-layer Immersion Gold	Size: 95 x 64 x 1.0mm Process: 6-layer HDI Immersion Gold Package:LCC134	Size: 95 x 64 x 1.0mm Process: 6-layer HDI Immersion Gold Package:LCC134
Environment	Operating temperature -20°C ~ 60°C	Operating temperature -20°C ~ 60°C	Operating temperature -20°C ~ 60°C	Operating temperature -20°C ~ 60°C



**RK3588**

*Rack-chip*

**D-V88-RCL**

4 x Cortex  
A76/A55

8 nm  
Process

2.4 GHz

6.0 TOPS  
NPU

Support  
INT4/INT8/INT16

## D-V88-RCL

**RK3588**

### SOC

RK3588 4 x Cortex-A76 + 4 x Cortex-A55, 2.4GHz, 8nm  
ARM Mali-G610 MP4  
6.0TOPS NPU, Support INT4/INT8/INT16

### OS

Android/Ubuntu

### RAM

LPDDR4 4GB/8GB/16GB/32GB

### ROM

EMMC5.1 64G/128G

### Media

Video decoding:  
8K@60fps H.265/VP9/AVS2  
8K@30fps H.264 AVC/MVC  
4K@60fps AV1

### Display

Standard HDMI out Port, HDMI2.1, up to 8K@60Hz  
Standard HDMI in Port, HDMI 2.0 RX PHY, 4-lanes, up to 4K@60Hz  
eDP1.3, 4Lane, 4K@60Hz  
Dual-LVDS Port, 1080P@60Hz  
8-Lane MIPI-DSI, LCD interface  
Type C DP out, DP1.4 output

### Ethernet

RJ45 Gigabit Ethernet interface, supporting external POE module

### Connectivity

WiFi6 802.11a/b/g/n/ac/ax, 2T2R

### USB

USB Type C x 1 (OTG, DP output support)  
USB Type A 2.0 x 2  
USB Type A 3.0 x 1  
USB 2.0 x 2 4Pin-PH1.25

### TF-Card

Micro SD card, up to 128GB

### Audio

Line-out, 3.5mm Jack  
Line-in, 3.5mm Jack  
Speaker, 2 x 3W, 4Pin-PH 1.25  
Mic input, 2Pin-PH 1.25

### Interface

2 x UART/RS232 or 1 x UART/RS232  
1 x UART/RS232/RS485  
Key Interface (PWR/ADC/Reset/GND)  
1 x DI 2 x DO 1 x CAN 1 x RS232  
1 x RS485 (2 x 6Pin Phoenix fixing)  
4lane Mipi-CSI Camera Interface  
UART/I2C/SPI/PCM/PWM

### Input Power

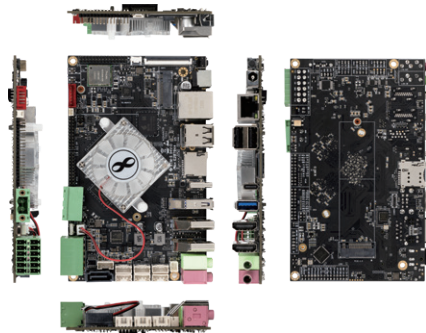
12V DC via DC5.5 connector  
12V DC via 2Pin-5.08mm Flange fixing

### PCB

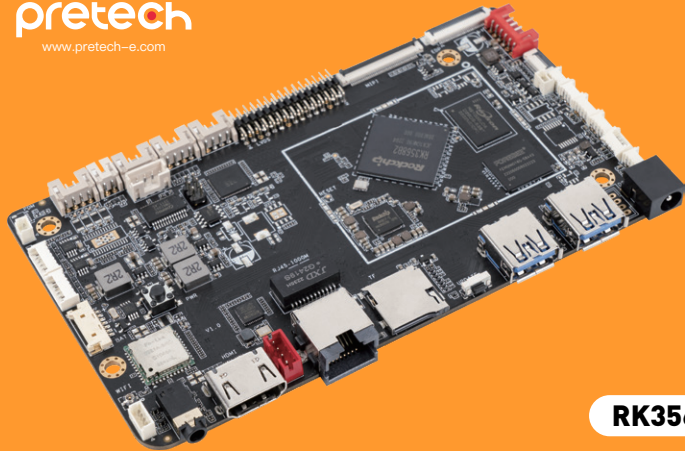
Size: 85 x 138 x 1.6mm  
Process: 8-layer Immersion Gold  
Hole:  $\varnothing$  3.2mm x 4

### Environment

Operating temperature -20°C ~ 60°C







**RK3568**

*Rack-chip*

**D-T68-RCL**

4 x Cortex A55 | 2.0 GHz | 22 nm Process | ARM G52 2EE | 0.8 TOPS NPU

## D-T68-RCL

RK3568

### SOC

RK3568, 4 x Cortex-A55, 2.0GHz, 22nm  
ARM G52 2EE, 0.8 TOPS NPU

### OS

Android

### RAM

LPDDR4 2G/3G/4G/6G/8G

### ROM

EMMC5.1 8GB/16G/32G/64G/128G

### Media

4K 60fps H.265/H.264/VP9 decode  
1080P 100fps H.265/H.264 codec

### Display

MIPI-DSI display port, 4-Lane  
eDP1.3 display port, FHD  
Dual-LVDS display port, 8bit,FHD  
HDMI2.0 Type-A port (up to 4Kp60 supported)  
Support Dual Display

### Ethernet

Gigabit Ethernet port (supports PoE with add-on PoE HAT)

### Connectivity

WiFi 802.11b/g/n or 802.11a/b/g/n/ac, Bluetooth 4.2 or 5.0

### USB

USB3.0 x 1 (Type A) OTG  
USB3.0 x 1 (Type A)  
USB2.0 x 4 4Pin-phy2.0

### TF-Card

Micro SD card, up to 128GB

### Audio

Speaker: 10W x 2 or 3W x 2 Stereo  
Headset: 3.5mm Earphone  
Mic: MIC Input

### Interface

1 x ADC key	2 x LED + 1 x IR
2 x uart	1 x uart/RS232
1 x uart/RS232/RS485	4 x GPIO
1 x I2C	1 x PDM

### Input Power

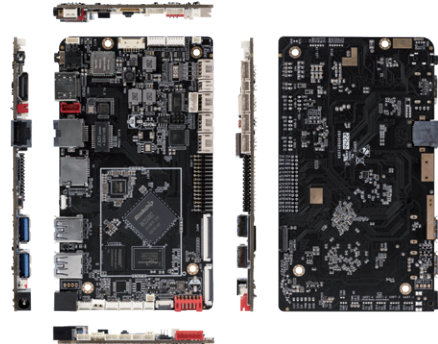
DC5.5mm 12V/2-5A  
Power over Ethernet (requires separate PoE HAT)

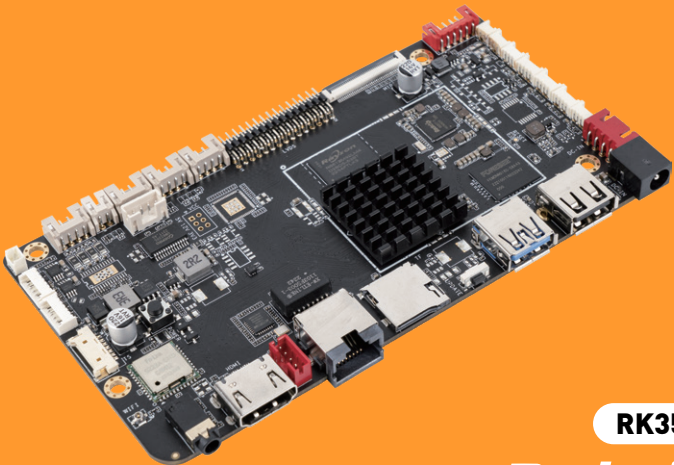
### PCB

Size: 80 x 142 x 1.6mm  
Process: 6-layers Immersion Gold  
Hole:  $\varnothing$  3.5mm x 4

### Environment

Operating temperature -20°C ~ 60°C





**RK3566**

*Rock-chip*

**D-E66-RCL**

4 x Cortex A55 | 1.8 GHz | 22 nm Process | ARM G52 2EE | 0.8 Top NPU

## D-E66-RCL

### SOC

RK3566, 4 x Cortex-A55, 1.8GHz, 22nm  
ARM G52 2EE, 0.8 TOPS NPU

### OS

Android

### RAM

LPDDR4 2G/3G/4G/6G/8G

### ROM

EMMC5.1 8GB/16G/32G/64G/128G

### Media

4K 60fps H.265/H.264/VP9 decode  
1080P 100fps H.265/H.264 encode

### Display

MIPI-DSI display port, 4-Lane  
eDP1.3 display port, FHD  
Dual-LVDS display port, 8bit, FHD  
HDMI2.0 Type-A port, (up to 4Kp60 supported)

### Ethernet

100M Ethernet port (supports PoE with add-on PoE HAT)

### Connectivity

WiFi 802.11b/g/n or 802.11a/b/g/n/ac, Bluetooth 4.2 or 5.0

### USB

USB2.0 x 1 (Type A) OTG  
USB3.0 x 1 (Type A)  
USB2.0 x 4 4Pin-phy2.0

### TF-Card

Micro SD card, up to 128GB

### Audio

Speaker: 10W x 2 or 3W x 2 stereo  
Headset: 3.5mm Earphone  
Mic: MIC Input

### Interface

1 x ADC key                    2 x LED + 1 x IR  
2 x uart                        1 x uart/RS232  
1 x uart/RS232/RS485       4 x GPIO  
1 x I2C

### Input Power

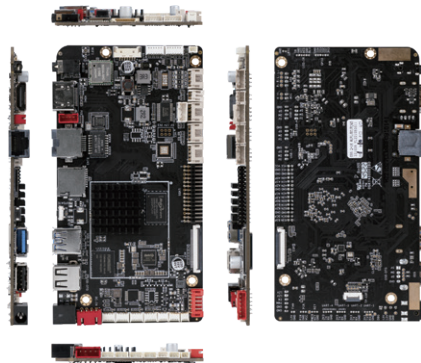
DC5.5mm 12V/2-5A  
Power over Ethernet(requires separate PoE HAT)

### PCB

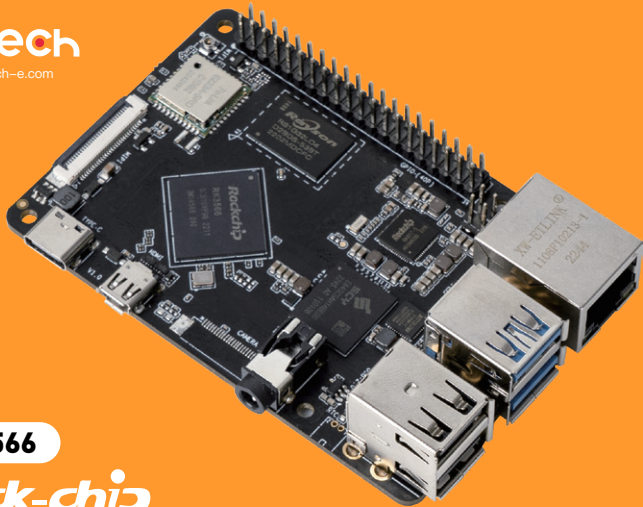
Size: 75 x 142 x 1.6mm  
Process: 6-layers Immersion Gold  
Hole:  $\varnothing$  3.5mm x 4

### Environment

Operating temperature -20°C ~ 60°C



**RK3566**



**RK3566**

*Rack-chip*

**D-E6-RCL**

4 x Cortex A55 | 1.8 GHz | 22 nm Process | ARM G52 2EE | 0.8 TOPS NPU

## D-E6-RCL

**RK3566**

### SOC

RK3566, 4 x Cortex-A55, 1.8GHz, 22nm  
ARM G52 2EE, 0.8 TOPS NPU

### OS

Android/Debian/Bulldroot/Ubuntu

### RAM

LPDDR4 2G/3G/4G/6G/8G

### ROM

EMMC5.1 8GB/16G/32G/64G/128G

### Media

4K 60fps H.265/H.264/VP9 decode  
1080P 100fps H.265/H.264 codec

### Display

MIPI-DSI display port, 2-Lane  
Micro-HDMI port (up to 4Kp60 supported)  
4-lane MIPI CSI, Camera interface

### Ethernet

Gigabit Ethernet port (supports PoE with add-on PoE HAT)

### Connectivity

WiFi 802.11b/g/n or 802.11a/b/g/n/ac, Bluetooth 4.2 or 5.0

### USB

USB2.0 x 1 (Type C) OTG  
USB3.0 x 1 (Type A)  
USB2.0 x 2 (Type A)

### TF-Card

Micro SD card, up to 128GB

### Audio

Speaker: /  
Headset: 3.5mm Earphone  
Mic: MIC Input

### Interface

40Pin GPIO extension: UART/I2C/SPI/PCM/PWM/ADC/GPIO etc.

### Input Power

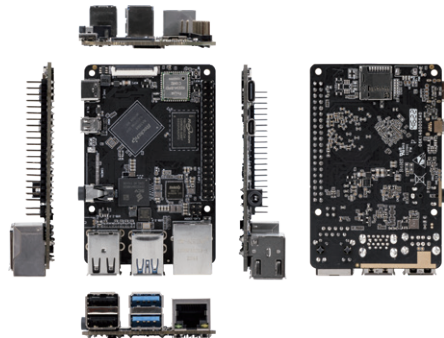
5V DC via USB C connector  
5V DC via GPIO header  
Power over Ethernet (requires separate PoE HAT)

### PCB

Size: 56 x 85 x 1.6mm  
Process: 6-layers Immersion Gold  
Hole:  $\varnothing$  2.5mm x 4

### Environment

Operating temperature: -20°C ~ 60°C





## D-V88-RCL

RK3588

4 x Cortex-A76  
+4 x Cortex-A55  
2.4GHz, 8nm  
6.0 TOPS NPU



## D-T68-RCL

RK3568

4 x Cortex-A55  
2.0GHz, 22nm  
ARM G52 2EE  
0.8 TOPS NPU



## D-E66-RCL

RK3566

4 x Cortex-A55  
1.8GHz, 22nm  
ARM G52 2EE  
0.8 TOPS NPU



## D-E6-RCL

RK3566

4 x Cortex-A55  
1.8GHz, 22nm  
ARM G52 2EE  
0.8 TOPS NPU

	D-V88-RCL	D-T68-RCL	D-E66-RCL	D-E6-RCL
<b>SOC</b>	RK3588, 4 x Cortex-A76 + 4 x Cortex-A55 2.4GHz Bnn, 6.0TOPS NPU, Support INT4/INT8/INT16	RK3568, 4 x Cortex-A55, 2.0GHz, 22nm ARM G52 2EE, 0.8 TOPS NPU	RK3566, 4 x Cortex-A55, 1.8GHz, 22nm ARM G52 2EE, 0.8 TOPS NPU	RK3566, 4 x Cortex-A55, 1.8GHz, 22nm ARM G52 2EE, 0.8 TOPS NPU
<b>OS</b>	Android/Ubuntu	Android	Android	Android/Debian/Bulldozer/Ubuntu
<b>RAM</b>	LPDDR4 4GB/8GB/16GB/32GB	LPDDR4 2G/3G/4G/6G/8G	LPDDR4 2G/3G/4G/6G/8G	LPDDR4 2G/3G/4G/6G/8G
<b>ROM</b>	EMMC5.1 64G/128G	EMMC5.1 8GB/16G/32G/64G/128G	EMMC5.1 8GB/16G/32G/64G/128G	EMMC5.1 8GB/16G/32G/64G/128G
<b>Media</b>	Video decoding: 8K@60fps H.265/VP9/AVS2 8K@30fps H.264 AVC/MVC 4K@60fps AV1	4K 60fps H.265/H.264/VP9 decode 1080P 100fps H.265/H.264 codec	4K 60fps H.265/H.264/VP9 decode 1080P 100fps H.265/H.264 codec	4K 60fps H.265/H.264/VP9 decode 1080P 100fps H.265/H.264 codec
<b>Display</b>	Standard HDMI out Port, HDMI2.1, up to 8K@60Hz Standard HDMI in Port, HDMI 2.0 RX PHY, 4-lanes, up to 4K@60Hz eDP1.3, 4Lane, 4K@60Hz Dual-LVDS Port, 1080P@60Hz 8-Lane MIPI-DSI, LCD interface Type C-DP out, DP1.4 output	MPI-DSI display port, 4-Lane eDP1.3 display port, FHD Dual-LVDS display port, BitFHD HDMI2.0 Type-A port (up to 4Kp60 supported) Support Dual Display	MPI-DSI display port, 4-Lane eDP1.3 display port, FHD Dual-LVDS display port, BitFHD HDMI2.0 Type-A port, (up to 4Kp60 supported)	MPI-DSI display port, 2-Lane Micro-HDMI port (up to 4Kp60 supported) 4-lane MIPI CSI, Camera interface
<b>Ethernet</b>	RJ45 Gigabit Ethernet interface, supporting external POE module	Gigabit Ethernet port (supports PoE with add-on PoE HAT)	100M Ethernet port (supports PoE with add-on PoE HAT)	Gigabit Ethernet port (supports PoE with add-on PoE HAT)
<b>Connectivity</b>	WiFi6 802.11a/b/g/n/ac/ax,2T2R	WiFi4 802.11b/g/n or 802.11a/b/g/n/ac Bluetooth 4.2 or 5.0	WiFi 802.11b/g/n or 802.11a/b/g/n/ac Bluetooth 4.2 or 5.0	WiFi 802.11b/g/n or 802.11a/b/g/n/ac Bluetooth 4.2 or 5.0
<b>USB</b>	USB Type C x 1 (OTG, DP output support) USB Type A 2.0 x 2 USB Type A 3.0 x 1 USB 2.0 x 2 4Pin-PH1.25	USB3.0 x 1 (Type A) OTG USB3.0 x 1 (Type A) USB2.0 x 4 4Pin-ph2.0	USB2.0 x 1 (Type A) OTG USB3.0 x 1 (Type A) USB2.0 x 4 4Pin-ph2.0	USB2.0 x 1 (Type C) OTG USB3.0 x 1 (Type A) USB2.0 x 2 (Type A)
<b>TF-Card</b>	Micro SD card, up to 128GB	Micro SD card, up to 128GB	Micro SD card, up to 128GB	Micro SD card, up to 128GB
<b>Audio</b>	Line-out, 3.5mm Jack Line-in, 3.5mm Jack Speaker, 2 x 3W, 4Pin-PH1.25 Mic input, 2Pin-PH 1.25	Speaker: 10W x 2 or 3W x 2 Stereo Headset: 3.5mm Earphone Mic: MIC Input	Speaker: 10W x 2 or 3W x 2 stereo Headset: 3.5mm Earphone Mic: MIC Input	Speaker: / Headset: 3.5mm Earphone Mic: MIC Input
<b>Interface</b>	2 x UART/RS232 or 1 x UART/RS232 1 x UART/RS232/RS485 Key Interface (PWR/ADC/Reset/GND) 1 x DI, 2 x DO, 1 x CAN, 1 x RS232 1 x RS485 (2 x 6Pin Phoenix fixing) 4lane Mipi-CSI Camera Interface UART/I2C/SPI/PCM/PWM	1 x ADC key 2 x uart 1 x uart/RS232/RS485 1 x I2C	2 x LED + 1 x IR 1 x uart/RS232 4 x GPIO 1 x PDM	40 Pin GPIO extension: UART/I2C/SPI/PCM/PWM/ADC/GPIO etc.
<b>Input Power</b>	12V DC via DC5.5 connector 12V DC via 2Pin-5.08mm Flange fixing	DC5.5mm 12V/2-5A Power over Ethernet (requires separate PoE HAT)	DC5.5mm 12V/2-5A Power over Ethernet (requires separate PoE HAT)	5V DC via USB-C connector 5V DC via GPIO header Power over Ethernet (requires separate PoE HAT)
<b>PCB</b>	Size: 85 x 138 x 1.6mm Process: 8-layers Immersion Gold Hole: $\phi$ 3.2mm x 4	Size: 80 x 142 x 1.6mm Process: 6-layers Immersion Gold Hole: $\phi$ 3.5mm x 4	Size: 75 x 142 x 1.6mm Process: 6-layers Immersion Gold Hole: $\phi$ 3.5mm x 4	Size: 56 x 85 x 1.6mm Process: 6-layers Immersion Gold Hole: $\phi$ 2.5mm x 4
<b>Environment</b>	Operating temperature -20°C ~ 60°C	Operating temperature -20°C ~ 60°C	Operating temperature -20°C ~ 60°C	Operating temperature -20°C ~ 60°C

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