

HYPER-RK3566

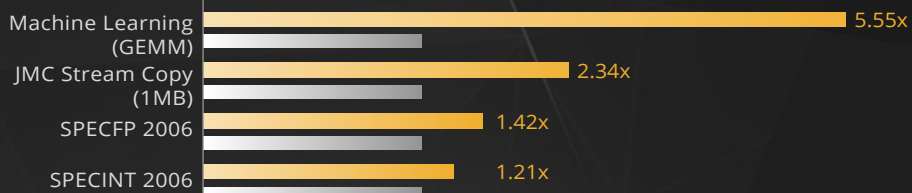
PICO-ITX SBC with RK3566, 2/4GB LPDDR4/4X, 16/32GB eMMC, HDMI2.0, MIPI DSI, LVDS, 1x1GbE RJ45, 1xUSB3.0, 3 x USB2.0, 2x (RS-232+RS-485), Options: WIFI5/6+BT, 12V DC IN, Debian10/Android12, RoHS

Introduction to the RK3566 platform

CPU ▶ 4-Core 4xA55, Frequency 1.8GHz

Cortex-A55 performance relative to Cortex-A53

- Cortex-A55
- Cortex-A53



GPU ▶ Mali-G52

Mali-G52 performance

Mali-G52: Premium Experiences on Mainstream Devices
Efficiently supporting growing graphics & ML complexity

30%

More Performance density

15%

Better energy efficiency

3.6x

ML improvements



NPU ▶ 0.8 Tops Support int8/int16/FP16/BFP16

Support framework such as



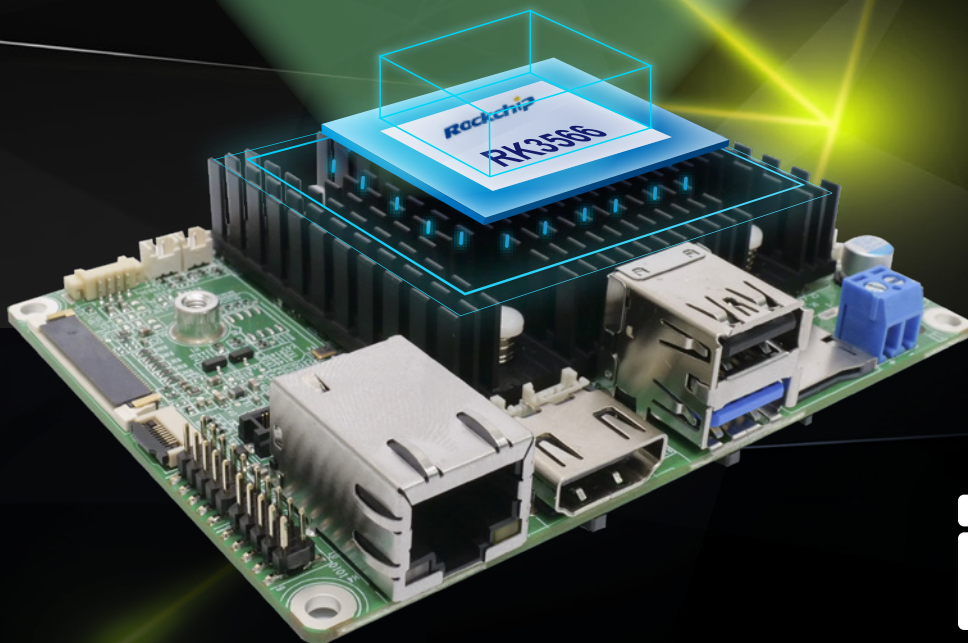
ONNX



TensorFlow

Caffe

PYTORCH

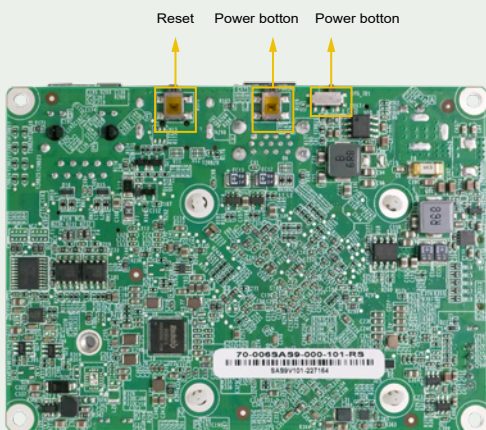
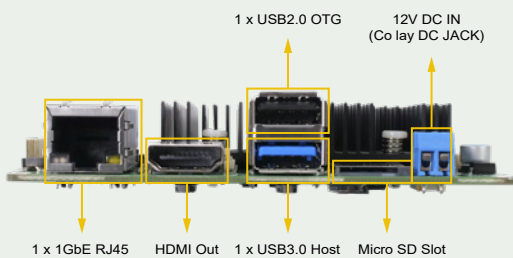
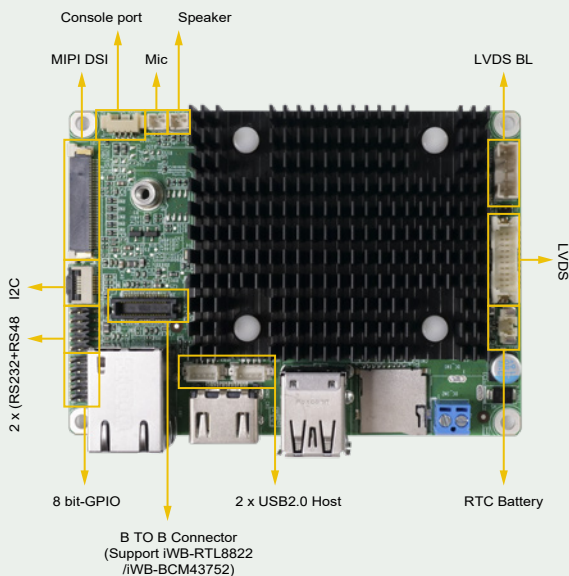
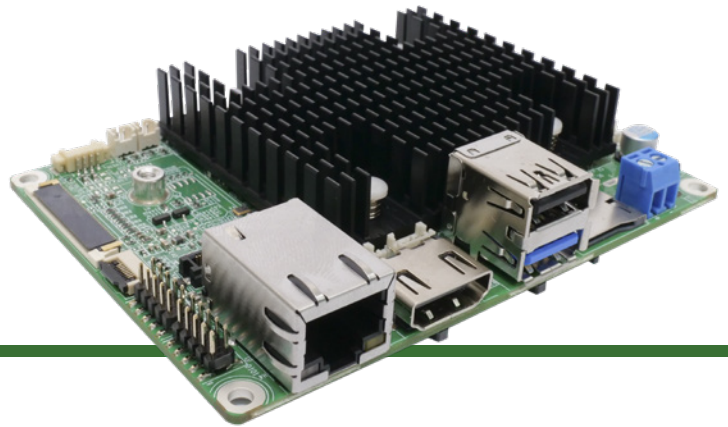


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PICO-ITX SBC with RK3566, 2/4GB LPDDR4/4X, 16/32GB eMMC, HDMI2.0, MIPI DSI, LVDS, 1x1GbE RJ45, 1xUSB3.0, 3 x USB2.0, 2x (RS232+RS485), Options: WIFI5/6+BT, 12V DC IN, Debian10/Android12, ROHS



Support Rockchip 3566

Quad A55, Up to 1.8 GHz, A55 is 20% more efficient than A53



Medium computing power

22nm process G52 GPU
4 x A55 CPU 0.8T NPU



Multimedia capabilities

4K 60 Video decoding
1080P 60 video coding



Display capability

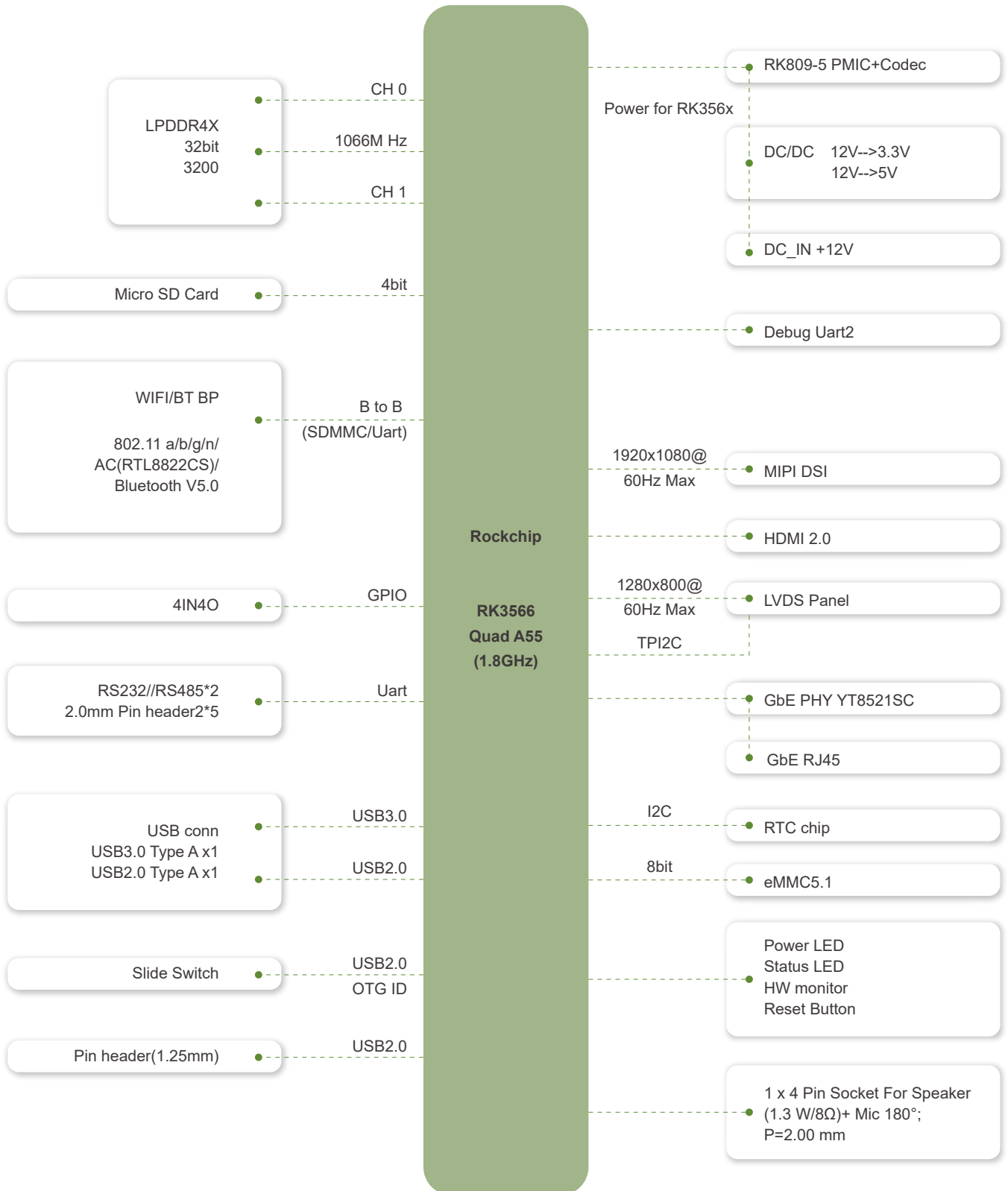
Android OS Support Dual-screen display of the same content
Debian OS Support Single screen display
Display Interface Support HDMI/MIPI DSI/LVDS



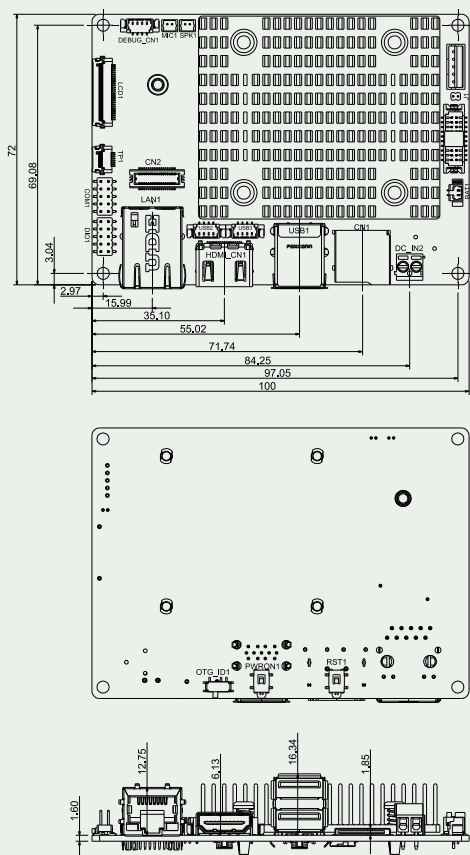
I/O Interface

1 x USB3.0 TypcA Host
3 x USB2.0 (1x Type A OTG, 2x Connector Host)
1 x 1GbE RJ45 Port
1 x HDMI Out Port
2 x (RS232+RS485)
8bit-GPIO
B TO B Connector Support WIFI/BT Module

HYPER-RK3566 Block Diagram



Dimensions



Specifications

| Model Name | HYPER-RK3566 | |
|---------------------|---|--|
| Dimension | 100mm x72mm | |
| Motherboard | CPU | Rockchip RK3566 (Quad-code Cortex-A55 Up to 1.8Ghz) |
| | Syetem Memory | 2/4GB LPDDR4/4X,Up to 8GB (Option:2GB Sku only support Linux) |
| Storage | SD Card | 1 x Micro SD Slot |
| | Flash | 16/32GB Emmc NAND FLASH (Option:16GB Sku only support Linux) |
| Wireless (Optional) | WLAN | Wi-Fi 5/6 (B to B interface with IEI wireless module) |
| | Bluetooth | Bluetooth V5.0 (B to B interface with IEI wireless module) |
| I/O Interfaces | COM Port | 2 x (RS-232+RS-485), 2 x 5Pin Pin Header |
| | Ethernet | 1 x 1GbE RJ45 by YT8521 |
| | GPIO Port | 8-bit (4 in/4 out,pin header) |
| | USB3.0 | 1 x USB 3.0 HOST |
| | USB 2.0 | 3 x USB 2.0 (2x HOST with 1x 4 FRAME,180°, P=1.25mm ;1xOTG Type A) |
| | Display (Android OS Supports Dual-screen display of the same content; Debian os supports single-screen display) | 1 x HDMI2.0 Type A 1 x LVDS (SMD;30PIN;180°;P=1.25MM) 1 x MIPI DSI 4 Lanes (ZIF FPC; SMD;40PIN;180°, P=0.5mm,) |
| | I2C | 1 x TP-I2C (8pin 2.0mm FPC) |
| Audio&Button | Console port | 1 x Console port |
| | Audio | 1 x 2PIN socket for speaker (1.3W); WAFER 1*2 with frame; SMD; 2PIN;180°; P=1.25mm 1 x 2PIN socket for MIC, Connectors; Wire toBoard; WAFER 1*2PIN; DIP; 2PIN; 180°; P=1.25mm |
| | Button | 1 x Reset Key |
| Power | LED Indicator | 1 x Power 1 x Reserved (Programmable) |
| | Power input | 12V DC IN |
| Reliability | Operating Temperature | 0°C ~ 60°C with air flow |
| | Storage Temperature | -20°C ~ 70°C |
| | Humidity | 10% ~ 90%,no-condensing |
| | Safety/EMC | EMC Class A |
| OS | Supported OS | Android 12.0, Linux Debian 10 (kernel 4.19) |
| | Watchdog Timer | Yes |

Packing List

1x HYPER-RK3566 Single board compute

Optional accessories



Ordering Information

| Item | Part NO | Description |
|-------------------|-------------------------|--|
| Mother board | HYPER-RK3566-R10 | PICO-ITX SBC with RK3566, 4GB LPDDR4/4X, 32GB eMMC, HDMI2.0, MIPI DSI, LVDS, 1x1GbE RJ45, 1xUSB3.0, 3 x USB2.0, 2x(RS232+RS485), Options:WIFI5/6+BT, 12V DC IN, Debian10, RoHS |
| | HYPER-RK3566-2/16GB-R10 | PICO-ITX SBC with RK3566, 2GB LPDDR4/4X, 16GB eMMC, HDMI2.0, MIPI DSI, LVDS, 1x1GbE RJ45, 1xUSB3.0, 3 x USB2.0, 2x(RS232+RS485), Options:WIFI5/6+BT, 12V DC IN, Debian10, RoHS |
| | HYPER-RK3566-A-R10 | PICO-ITX SBC with RK3566, 4GB LPDDR4/4X, 32GB eMMC, HDMI2.0, MIPI DSI, LVDS, 1x1GbE RJ45, 1xUSB3.0, 3 x USB2.0, 2x(RS232+RS485), Options: WIFI5/6+BT, 12V DC IN, Android12, RoHS |
| Power Adapter | 63040-380036-201-RS | Adapter Power; Vin:90~264VAC; 36W; Vout:12VDC; Φ2.5 Φ5.5/90°; CCL; RoHS |
| USB Cable | 32001-027800-100-RS | Round cable;USB cable; 2;200mm; 28AWG |
| MIPI DSI FPC | 32440-000502-100-RS | FFC cable; FFC 40PIN; P=0.5mm; T=0.3mm; L=100mm; One Reverse Bare cable; Switchtech; RoHS |
| I2C FPC | 32408-000102-100-RS | FFC cable; FFC 8PIN; P=0.5mm; T=0.3mm; L=50mm; Polywell; RoHS |
| LCD Bonding Touch | 23700-01010AW01-RS | LCD bonding touch; 10.1"; 800*1280; 340 cd/ m ² ; TQ101AJ02TP;MIPI 8BIT; TOUCH WINDOWS; Capacity Type; RoHS |
| MIPI LCD | 23000-01010AW01-RS | LCD-TFT;10.1"; All Win ;800*1280;400 cd/ m ² ; LED; TQ101AJ02;MIPI 8BIT; RoHS |
| IPEX to SMA cable | 32501-000705-100-RS | RF cable for DVBT; LINE DIAMETER:1.37mm; 213mm; 50Ω; 0-6GHz; VSWR ≤ 1.5; SMA JACK; NUT*1; WASHER*2; RoHS |
| WIFI5/BT Module | iWB-RTL8822-R10 | Radio frequency card, Support 2-stream 802.11ac solutions, A 2T2R capable WLAN ,Bluetooth 5.0,B TO B Connector, RoHS |
| WIFI6/BT Module | iWB-BCM43752-R10 | Radio Frequency Card,WIFI+BlueTooth MODULE, AP6275S, 2T2R, 802.11 a/b/g/n/ac/ax Wi-Fi + BT 5.0; RoHS |
| WIFI5/BT Antenna | 32505-004800-100-RS | WLAN; 2.4G+5G WI-FI ANTENNA: 2dBi,Wave length:1/2λ,Dipole; 50Ω; JOYMAX; 2.4-2.5GHz/5.15-5.85GHz; VSWR ≤ 2.0;SMA |
| WIFI6/BT Antenna | 32505-010601-100-RS | WLAN; Wifi6E Antenna; OUTSIDE DIAMETER:1.13mm;120mm; 50Ω; Bdtron; 2.4-2.5GHz/5.15-5.85GHz/5.925-7.125GHz; FPC ANTENNA:34.8*6.8mm; RoHS |