WAFER-RK3568

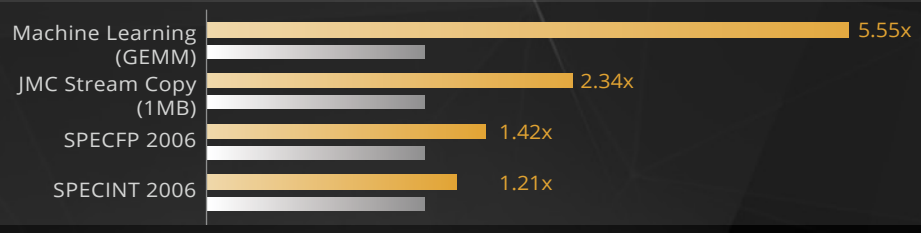
3.5”SBC supports RK3568 processor motherboard

Provide AI demo kit

CPU ▶ 4-Core 4xA55,Frequency 2.0GHz

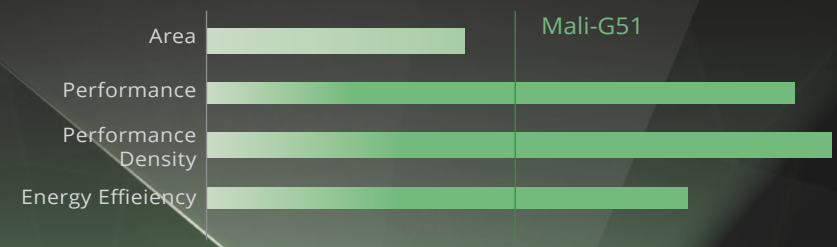
Cortex-A55 performance relative to Cortex-A53

- Cortex-A55
- Cortex-A53



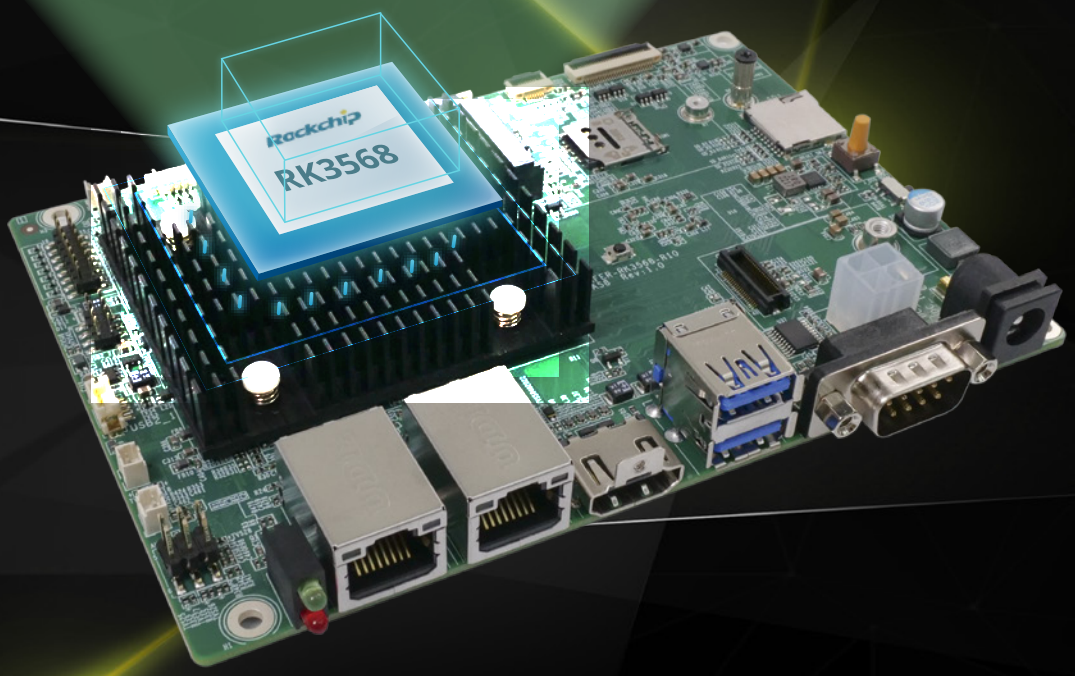
GPU ▶ Mali-G52

Mali-G52 performance relative to Mali-G51



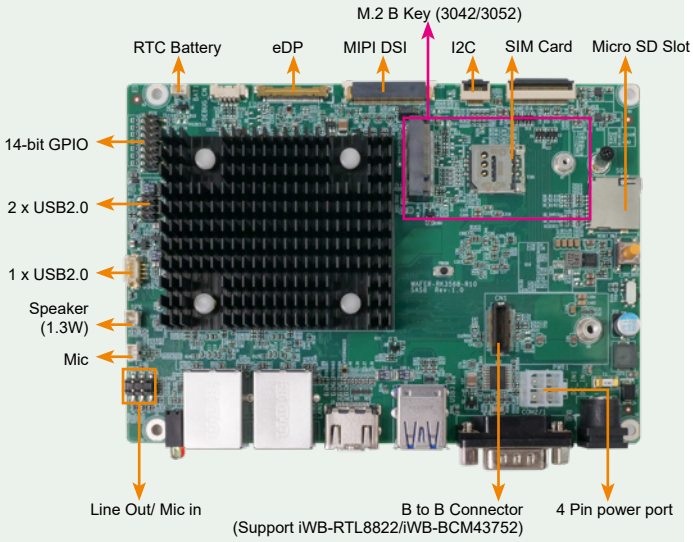
NPU ▶ 0.8 Tops Support int8/int16/FP16/BFP16

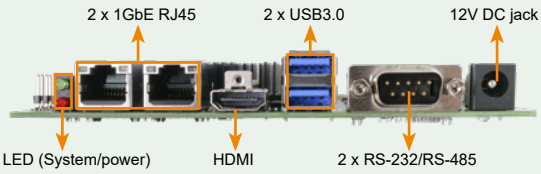
Support framework such as ONNX mxnet TensorFlow Caffe PYTORCH

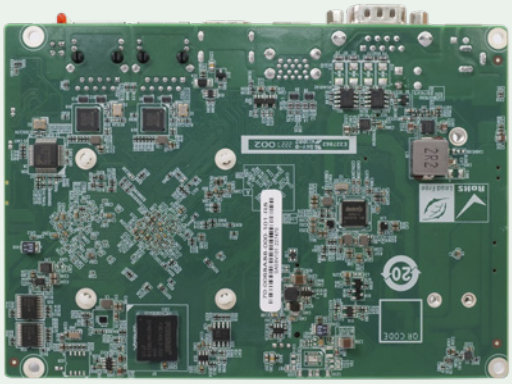


WAFER-RK3568

3.5" SBC with RK3568; 2/4GB LPDDR4/4X; 16/32GB eMMC; 2 x 1GbE RJ45; 2 x (RS-232+RS-485); 2 x USB 3.0 Type A; 3 x USB 2.0 HOST; HDMI2.0; MIPI DSI Edp and MIPI CSI; M.2 Slot; SD Card Slot; DC 12V; Debian10/Android12; RoHS







LPDDR4X 1866 | 2.5GbE LAN | Multiple Display | Wi-Fi 5 Wi-Fi 6 | Linux

Support Rockchip 3568

Quad A55,Up to 2.0GHz, Is 20% more efficient than A53 Release super performance, can handle multiple tasks at the same time

Support Mali-G52 GPU

RK self-developed NPU, computing power 0.8Tops 512 INT8 MAC,128 INT16/FP16/BFP16 MAC,Up to 800MHz

Easy to use Model Transformation Etool RKNN-Toolkit

Support Caffe / Tensor Flow/TF-Lite / ONNX/PyTorch /Keras / Darknet One-click transformation of mainstream architectural models Continuously update and improve the OP

Support Motorcomm YT8521S Network Control chip

I/O layout 2x1GbE RJ45,Base on Motorcomm YT8521S Network control chip

Rich Extension Interfaces

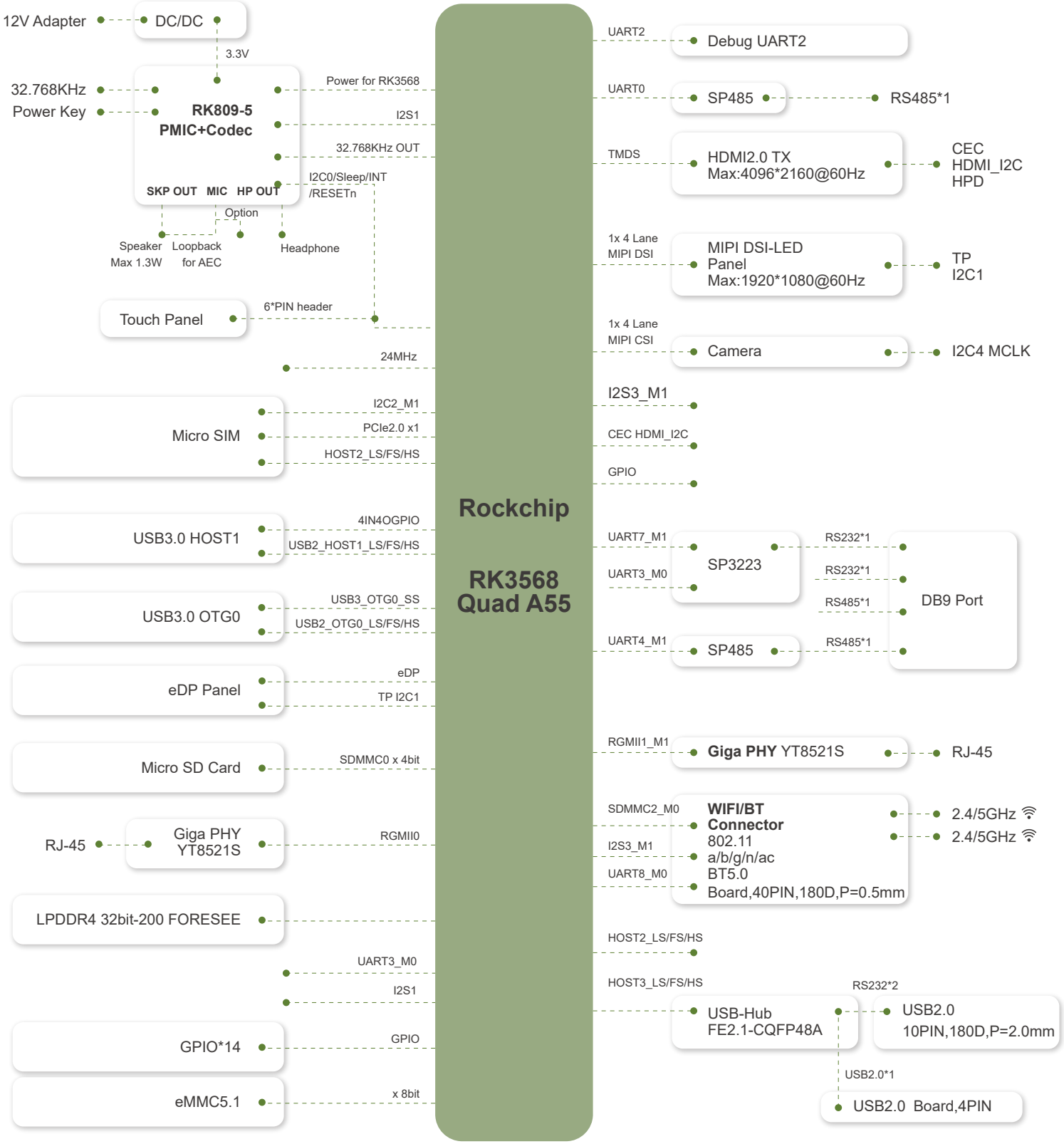
Motherboard support M.2 B key Slot,Installable 3042 4G Module or 3052 5G Module,Also a B TO B Connector to support WIFI5/BT or WIFI6/BT options

Display Capability

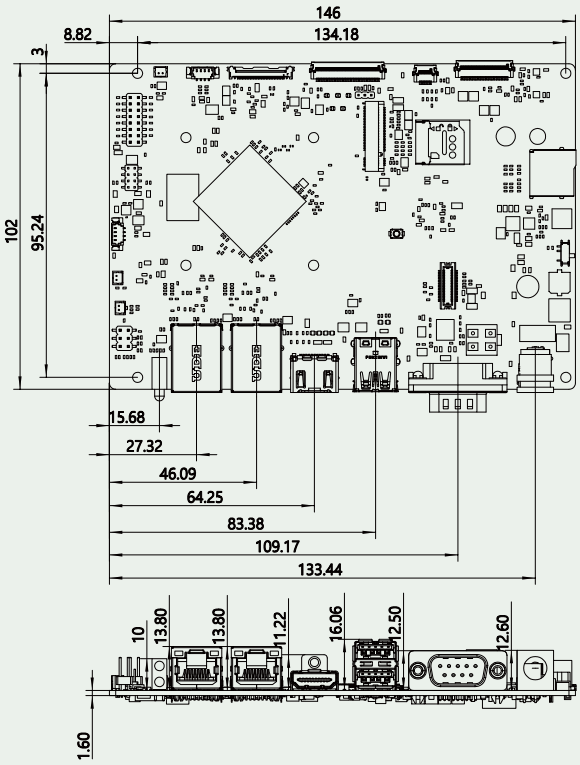
Support HDMI/eDP/MIPI DSI Triple Different Display

intel partner Titanium

Block Diagram



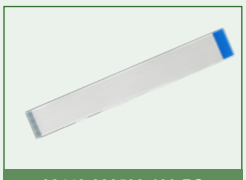
Dimensions

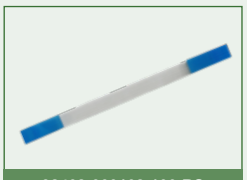


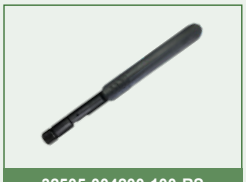
Optional Accessories

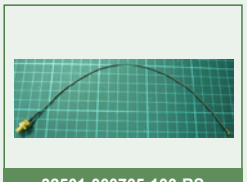
32001-027800-100-RS

32001-008604-100-RS


32440-000502-100-RS


32408-000102-100-RS


32505-004200-100-RS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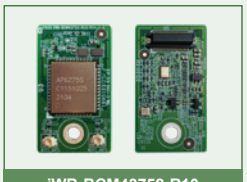
iWB-RTL8822-R10


iWB-BCM43752-R10

Specifications

Model		WAFER-RK3568
Dimension	Dimensions (WxHxD)	146mm x102mm
Motherboard	CPU	Rockchip RK3568 (Quad-code Cortex-A55 up to 2.0Ghz)
	Syetem Memory	2/4GB LPDDR4/4X, up to 8GB (2GB Sku only support Linux)
	Flash	16/32GB Emmc NAND FLASH
Storage	SD Card	1 x Micro SD Slot
Wireless	WLAN&Bluetooth (Option)	Wi-Fi 5/6 (B TO B interface with IEI wireless module)
		Bluetooth V5.0 (B TO B interface with IEI wireless module)
I/O Interfaces	COM Port	1 x DB9 Port , 2 x (RS232+RS485)
	GPIO	14-bit (7 in/7 out, pin header)
	Ethernet	2 x 1GbE RJ45 By YT8521
	USB3.0	2 x USB 3.0 Type A (1x OTG,1x HOST)
	USB 2.0	3 x USB 2.0 HOST (1 x 4 with FRAME,180° P=1.25mm, 2 x 4Pin pin header p= 2.0 mm)
	Display (Support Three screens of different display)	1 x HDMI2.0 Type A , Up to 4K 1 x MIPI DSI 4 Lanes (40Pin 0.5mm FPC 90°) 1 x eDP1.3 (30Pin 0.5mm FPC 90°)
	Camera	1 x MIPI CSI 4 Lanes (30pin 0.5mm FPC)
	I2C Connecter	1 x I2C Connecter For TP (8pin, 90°, P=0.5mm)
	Console port	1 x Console port
	M.2	1 x M.2 B Key, Support 4G (3042) or 5G (3052) Module
	SIM CARD	1 x NANO SIM CARD Slot
	Power port	DC JACK/TERMINAL BLOCKS Colay Design
Audio&Button	Audio	1 x Line out+Mic, 2x3 pin header 1 x 2pin Socket for Speaker (1x 1.3W) 1 x MIC (Wire to Board,WAFER 1 X2pin,DIP,180°，P=1.25mm)
	Button	1 x Reset Key
	LED Indicator	1 x Power 1 x Reserved (Programmable)
Power	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

1 x WAFER-RK3568 single board

Ordering Informaiton

WAFER-RK3568-R10	3.5" SBC with RK3568; 4GB LPDDR4/4X; 32GB eMMC; 2× 1GbE RJ45; 2x (RS232+RS485); 2× USB 3.0 Type A; 3×USB 2.0 HOST; HDMI2.0; MIPI DSI, Edp and MIPI CSI; M.2 Slot; SD Card Slot; DC 12V; Debian10; RoHS
WAFER-RK3568-2/16GB-R10	3.5" SBC with RK3568 , 2GB LPDDR4/4X, 16GB eMMC, 2×1GbE RJ45 , 2x(RS232+RS485), 2× USB 3.0 Type A, 3× USB 2.0 HOST, HDMI2.0, MIPI DSI, Edp and MIPI CSI, M.2 Slot, SD Card Slot, DC 12V, Debian10, RoHS
WAFER-RK3568-A-R10	3.5" SBC with RK3568, 4GB LPDDR4/4X, 32GB eMMC, 2× 1GbE RJ45 , 2x (RS232+RS485), 2× USB 3.0 Type A, 3× USB 2.0 HOST, HDMI2.0, MIPI DSI, Edp and MIPI CSI, M.2 Slot, SD Card Slot, DC 12V, Android12, RoHS
PTC-63040-010040-020-RS	Adapter Power; Vin: 90~264VAC; 40W; Cable=1500mm; Vout:12VDC; Φ2.5/Φ5.5; CCL; RoHS
32001-027800-100-RS	Round cable; USB cable; 2;200mm; 28AWG;
32001-008604-100-RS	USB cable; USB A type 4P FEMALE*2+#4-40 NUC; (B)DUPONT 2*4P P=2.0; RoHS
32440-000502-100-RS	MIPI DSI FFC cable; FFC 40PIN; P=0.5mm; T=0.3mm; L=100mm; ONE reverse bare cable; Switchtech; RoHS
32408-000102-100-RS	I2C FFC cable; FFC 8PIN; P=0.5mm;T=0.3mm;L=50mm; Polywell; RoHS
23T00-01010AW01-RS	LCD bonding touch;10.1"; 800*1280; 340 cd/ ㎡ ; TQ101AJ02TP; MIPI 8BIT; touch windows; Capactity Type; RoHS
23000-01010AW01-RS	LCD-TFT; 10.1"; All Win; 800*1280; 400 cd/ ㎡ ;LED; TQ101AJ02; MIPI 8BIT; RoHS
32505-004200-100-RS	LTE full band antenna; RG 178; 137mm; RFA-LTE-C55-U-B70-1:4dBi; 50Ω; aristotle; 700~2700MHz; VSWR ≦ 4.0; SMA RoHS
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
iWB-RTL8822-R10	Radio frequency card, Support 2-stream 802.11ac solutions, A 2T2R capable WLAN ,Bluetooth 5.0,B TO B connecter, RoHS
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
27370-000001-RS	Wireless lan module; LTE cat 4 Module; Longsung; E7600C-M2; M.2 3042; 3.3V; 30x42x2.3mm; Longsung; RoHS