

# TINKER BOARD 3

Arm SBC, Rockchip RK3566 Quad-core, NPU, LPDDR4X RAM, eMMC, HDMI, MIPI-DSI, 12-19V DC in

## Features

- Quad-core ARM Cortex-A55 SoC
- Rockchip NPU on-board
- Dual display with MIPI-DSI/ HDMI
- Support USB 3.0/ Wi-Fi 5 or 6E/ BT 5.0/ GPIO
- Debian, Yocto, and Android supported



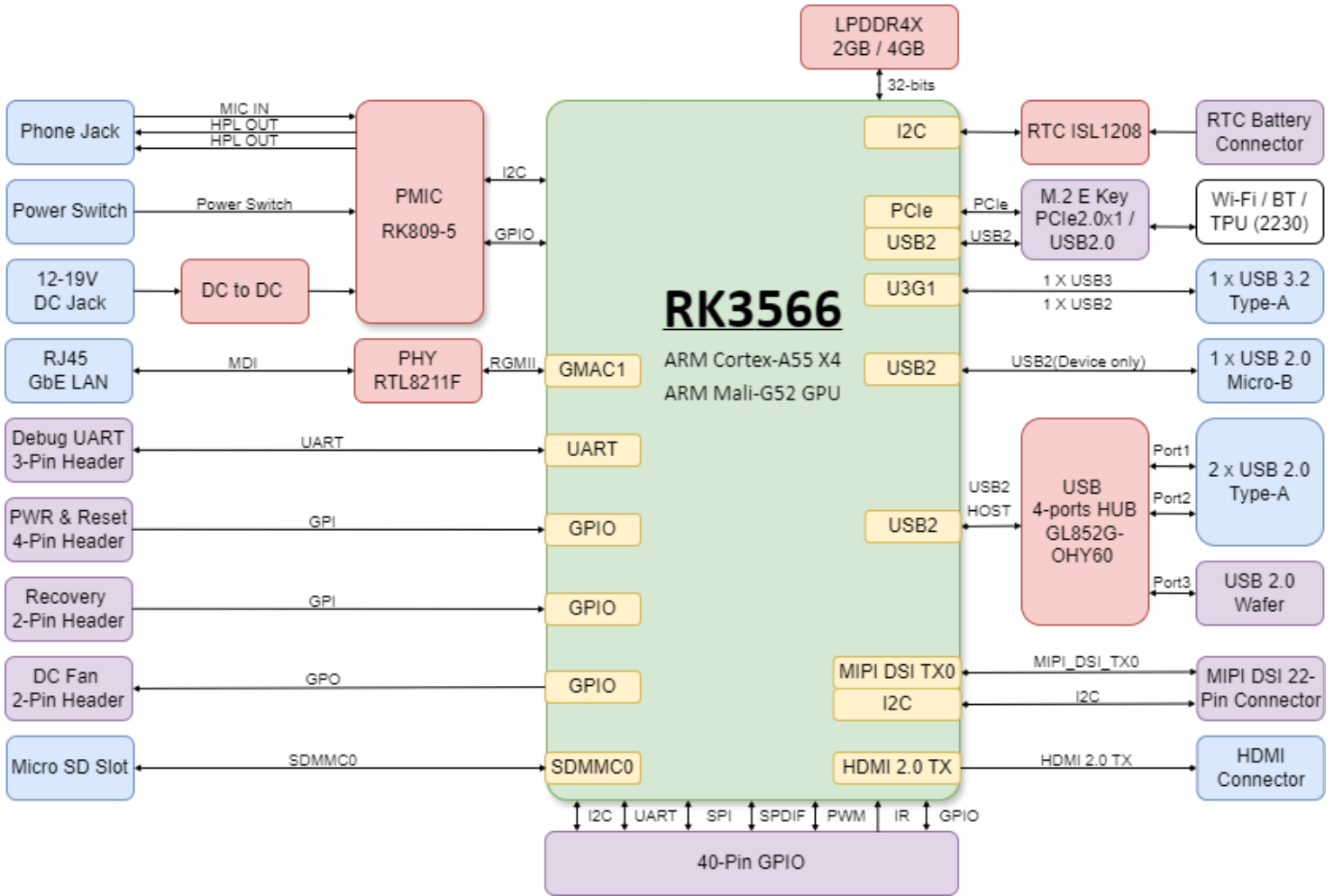
## Specifications

<b>Processor</b>	SoC	Rockchip RK3566	
	CPU	4 x Arm® Cortex®-A55	
	NPU	Rockchip NPU	
	GPU	Arm® Mali™-G52	
<b>Memory</b>	Technology	Dual-CH LPDDR4X On-board	
	Size	2/4GB*	
<b>Storage</b>	Memory Card	1 x Micro SD (TF) card slot (push & pull)	
<b>Ethernet</b>	Speed	10/100/1000Mbps	
	Controller	1 x Realtek RTL8211F	
<b>Wireless</b>	Speed	1 x 802.11 a/b/g/n/ac wireless & BT 5.0 (2T2R)	
	Antenna Connector	2 x I-PEX MHF® 4 (extendable, 2T2R)	
<b>Display</b>	HDMI	1, Supports up to 4096 x 2160 @ 60 Hz	
	MIPI DSI	1, Supports 4 lane up to 6 Gbps, 1920 x1080 @ 60 Hz (22-pin)	
<b>Audio</b>	3.5 Phone Jack	1, w/ Mic	
	HDMI Audio	1	
<b>Rear I/O</b>	USB 3.2 Gen1 Type-A	1	
	USB 2.0 Type-A	2	
	USB 2.0 Micro B	1, Device only	
	Ethernet	1	
	HDMI	1	
<b>Internal I/O</b>	40-pin GPIO Header	up to 28 x GPIO pins that includes the following: - up to 2 x SPI bus (2 select) pins - up to 2 x I2C bus pins - up to 3 x UART bus pins - up to 11 x PWM pins - up to 1 x PCM/I2S (master/slave) pins - up to 1 x S/PDIF TX pin - up to 1 x IR Receiver 2 x 5 V power pins 2 x 3.3 V power pins 8 x ground pins	
	USB2.0	1 (4-pin)	
	Power-on Header	1 (2-pin)	
	Debug UART Header	1 (3-pin)	
	DC Fan Header	1 (2-pin)	
	RTC Battery Header	1 (2-pin)	
	<b>Power</b>	Power Input	12-19 VDC, barrel jack (5.5/2.5 mm)
	<b>Environment</b>	Operating Temperature	0 ~ 60°C
		Storage Temperature	-40 ~ 85°C
		Relative Humidity	10 ~ 85% (non-condensing)
<b>Others</b>	Operating System	Debian/ Android/ Yocto	
	Dimensions	3.37" x 2.125" (85 x 56 mm)	

\*Spec by SKU

## Block Diagram

## SPECIFICATION



## Ordering Information

PN	Model Name	Description
90ME08C0*	Tinker Board 3/2G	Arm SBC, Rockchip RK3566 Quad-core, 2GB LPDDR4X, HDMI, MIPI-DSI, M.2 E KEY, USB3.2, 12~19V DC in
90ME08C1*	Tinker Board 3/4G	Arm SBC, Rockchip RK3566 Quad-core, 4GB LPDDR4X, HDMI, MIPI-DSI, M.2 E KEY, USB3.2, 12~19V DC in

## Packing List

Item#	Description
1.	2 x Wi-Fi/BT antenna cable
2.	1 x Heatsink

## Optional Accessories

Item#	Description
Power Adapter 45W	DC 19V/2.37A or 19.5V/3.33A (5.5/2.5mm)
Power Adapter 65W	DC 19V/3.42A or 19.5V/2.31A (5.5/2.5mm)
MIPI Convert Board	MIPI to LVDS/eDP converter board
PoE Splitter	Power over Ethernet splitter board
5W Heatsink**	Aluminum heatsink
Fansink**	Aluminum heatsink with fan
Heatspreader**	Aluminum spreader

\*\*Please request L/T and MOQ

# TINKER BOARD 3S

Arm SBC, Rockchip RK3566 Quad-core, NPU, LPDDR4X RAM, eMMC, HDMI, MIPI-DSI, 12-19V DC in

## Features

- Quad-core ARM Cortex-A55 SoC
- Rockchip NPU on-board
- Dual display with MIPI-DSI/ HDMI
- Support USB 3.0/ Wi-Fi 5 or 6E/ BT 5.0/ GPIO
- Debain, Yocto, and Android supported



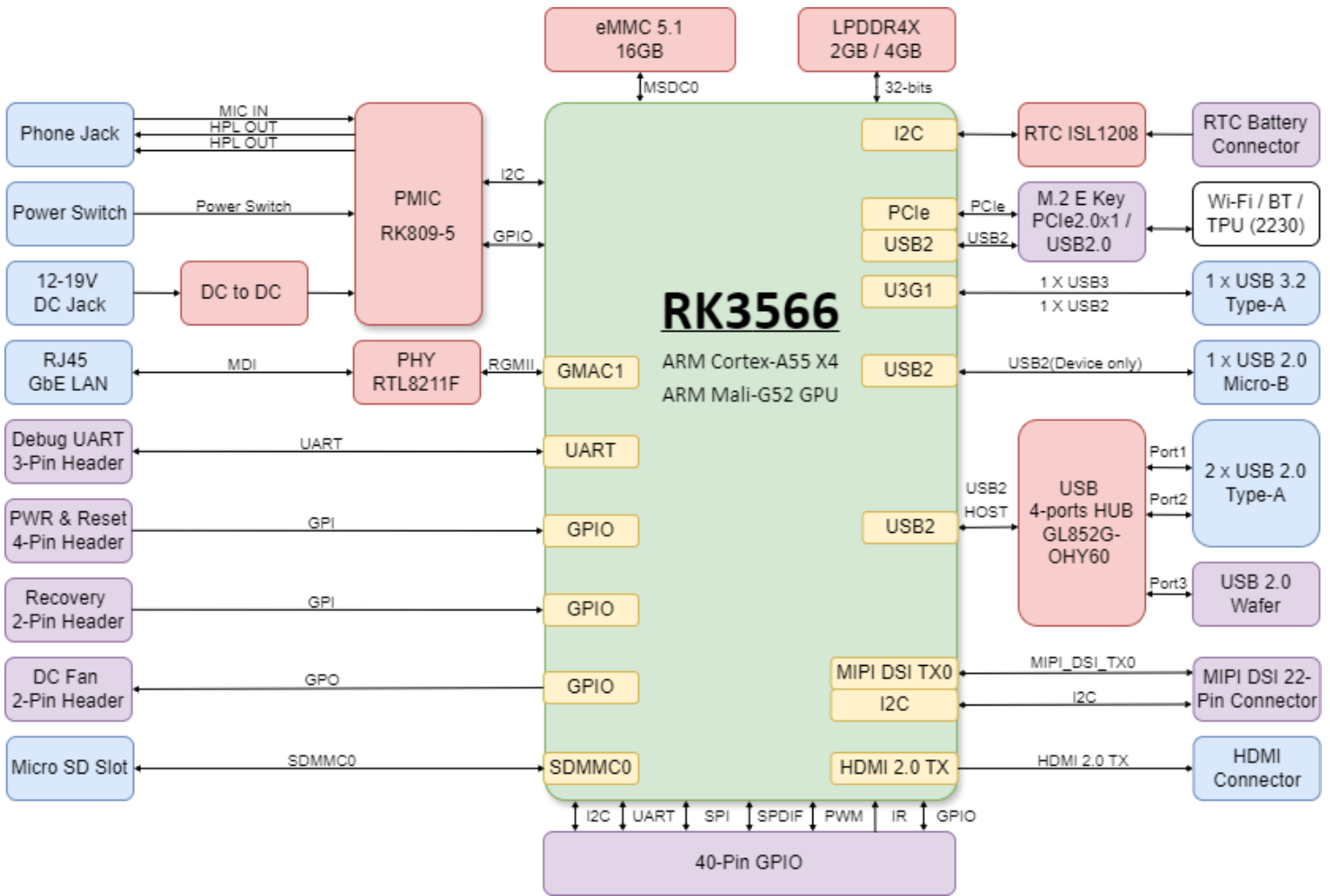
## Specifications

<b>Processor</b>	SoC	Rockchip RK3566
	CPU	4 x Arm® Cortex®-A55
	NPU	Rockchip NPU
	GPU	Arm® Mali™-G52
<b>Memory</b>	Technology	Dual-CH LPDDR4X On-board
	Size	2/4GB*
<b>Storage</b>	eMMC	16GB On-board
	Memory Card	1 x Micro SD (TF) card slot (push & pull)
<b>Ethernet</b>	Speed	10/100/1000Mbps
	Controller	1 x Realtek RTL8211F
<b>Wireless</b>	Speed	1 x 802.11 a/b/g/n/ac wireless & BT 5.0 (2T2R)
	Antenna Connector	2 x I-PEX MHF® 4 (extendable, 2T2R)
<b>Display</b>	HDMI	1, Supports up to 4096 x 2160 @ 60 Hz
	MIPI DSI	1, Supports 4 lane up to 6 Gbps, 1920 x1080 @ 60 Hz (22-pin)
<b>Audio</b>	3.5 Phone Jack	1, w/ Mic
	HDMI Audio	1
<b>Rear I/O</b>	USB 3.2 Gen1 Type-A	1
	USB 2.0 Type-A	2
	USB 2.0 Micro B	1, Device only
	Ethernet	1
	HDMI	1
<b>Internal I/O</b>	40-pin GPIO Header	up to 28 x GPIO pins that includes the following: - up to 2 x SPI bus (2 select) pins - up to 2 x I2C bus pins - up to 3 x UART bus pins - up to 11 x PWM pins - up to 1 x PCM/I2S (master/slave) pins - up to 1 x S/PDIF TX pin - up to 1 x IR Receiver 2 x 5 V power pins 2 x 3.3 V power pins 8 x ground pins
	USB2.0	1 (4-pin)
	Recovery Header	1 (2-pin)
	Power-on Header	1 (2-pin)
	Debug UART Header	1 (3-pin)
	DC Fan Header	1 (2-pin)
	RTC Battery Header	1 (2-pin)
	Maskrom DIP switch	1
	<b>Power</b>	Power Input
<b>Environment</b>	Operating Temperature	0 ~ 60°C
	Storage Temperature	-40 ~ 85°C
	Relative Humidity	10 ~ 85% (non-condensing)
<b>Others</b>	Operating System	Debian/ Android/ Yocto
	Dimensions	3.37" x 2.125" (85 x 56 mm)

\*Spec by SKU

## Block Diagram

## SPECIFICATION



## Ordering Information

PN	Model Name	Description
90ME09B0*	Tinker Board 3S/2G/16G	Arm SBC, Rockchip RK3566 Quad-core, 2GB LPDDR4X, eMMC, HDMI, MIPI-DSI, M.2 E KEY, USB3.2, 12~19V DC in
90ME09B1*	Tinker Board 3S/4G/16G	Arm SBC, Rockchip RK3566 Quad-core, 4GB LPDDR4X, eMMC, HDMI, MIPI-DSI, M.2 E KEY, USB3.2, 12~19V DC in

## Packing List

Item#	Description
1.	2 x Wi-Fi/BT antenna cable
2.	1 x Heatsink

## Optional Accessories

Item#	Description
Power Adapter 45W	DC 19V/2.37A or 19.5V/3.33A (5.5/2.5mm)
Power Adapter 65W	DC 19V/3.42A or 19.5V/2.31A (5.5/2.5mm)
MIPI Convert Board	MIPI to LVDS/eDP converter board
PoE Splitter	Power over Ethernet splitter board
5W Heatsink**	Aluminum heatsink
Fansink**	Aluminum heatsink with fan
Heatspreader**	Aluminum spreader

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