

TINKER SYSTEM 3N

Arm System, Rockchip RK3568 Quad-core, LPDDR4X RAM, eMMC, HDMI, Dual Lan, POE, RS-232/422/485, CAN Bus

SPECIFICATION

Features

- Edge System with Quad-core ARM Cortex-A55 SoC
- Fanless design and diverse I/O in a compact size
- COM RS-232/422/485, CAN Bus 2.0
- Wide range power input 12V~24V and O.P. temperature up to -40~60°C
- Linux Debain 11, Yocto, Android 12 supported



Specifications

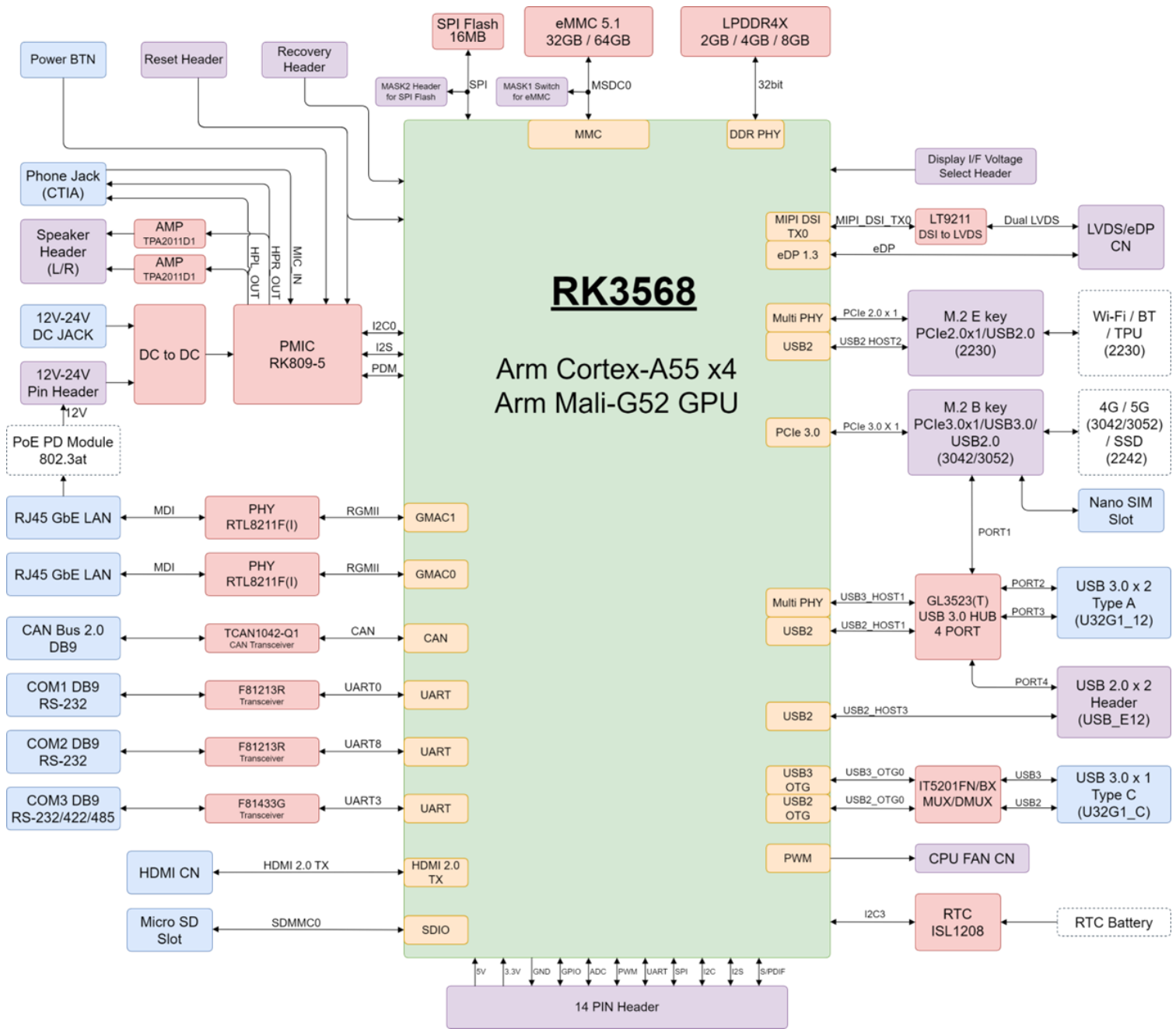
Processor	SoC	Rockchip RK3568
	CPU	Quad-core Arm® Cortex®-A55
	GPU	Arm® Mali™-G52 GPU
Memory	Technology	Dual-CH LPDDR4X On-board
	Size*	2GB / 4GB / 8GB
Storage	eMMC*	none / 32GB / 64GB
	SPI Flash	16MB
Wired Interface	Ethernet	2 x 10/100/1000 Mbps, RJ45
	USB	1 x USB 3.2 Gen1, Type-C® OTG
		2 x USB 3.2 Gen1, Type-A
	COM	2 x USB 2.0, pin header or Type-A on configure port
		2 x RS-232 (w/ flow), DP9, Optional
		1 x RS-232/422/485, DB9, Optional
Wireless	Display	1 x CAN Bus 2.0, DP9, Optional
	Audio	1 x HDMI, 4096 x 2160 @ 60 Hz
	Wi-Fi	1 x 3.5 Phone Jack with Mic-in
	Bluetooth	Optional
	Cellular	Optional
Expansion (separate)	GPS	Optional
	M.2 E key	1 x 2230, for Wi-Fi 5/6 & BT (PCIe 2.0 x1, USB 2.0)
	M.2 B key	1 x 3042/3052, for 4G/5G/SSD (PCIe 3.0 x1, USB 3.0, USB 2.0, SIM)
Slot	POE PD module card	1 x POE slot, 802.3at 25W
	Micro SD	1 x Micro SD (TF) card slot (push & pull)
Configure Port	SIM	1 x nano-SIM slot
	Config 1: Default	n/a
	Config 2:	2 x USB 2.0 Type-A
Power	USB + Power Input	1 x 2-Pin 12 to 24 VDC, Terminal Block
	DC Input	12 to 24 VDC, DC Barrel Jack (5.5/2.5 mm)
Mechanical	Mounting	Wall-mount (support assembly with DIN rail clips)
	Dimension	105 x 175 x 43 mm
	Weight	0.7 KG
Environment	Operating Temperature	0 ~ 35°C / -40 ~ 60°C
	Storage Temperature	-40 ~ 85°C
	Relative Humidity	10 ~ 95% (non-condensing)
	Shock	MIL-STD 810H Method 516.8, Procedure I, 40 Grms, 11ms
Others	Vibration	MIL-STD 810H Method 514.8, Category 4, tighten to 3 Grms, 5-500 Hz, 3 Axes
	Watch Dog Timer	Yes, HW WDT
	Operating System	Linux Debian 11, Yocto, Android 12

*Spec by SKU

Software / SDK / API / SaaS

Configuration Tool	Configuration device setting, hardware overlay, etc.
Power Management	CPU, GPU frequency and governor setting, monitoring.
USB Management	Control USB port, enable or disable or reset the device.
Schedule Power On/Off	Scheduled system auto power on or off by daily, weekly, etc.
Device Management	ASUS IoT Cloud Console (AICC), A device-management and data-collection SaaS.

Block Diagram



Ordering Information (Key Option Table)

SPECIFICATION

PN	O.P. Temp.	RAM	eMMC	Wi-Fi/BT (M.2 E-Key)	4G/5G or SSD (M.2 B-Key)	Config Port	POE	PSU	OS (Pre-load)
90AE01T1-M*	0 ~ 35	2 GB	32 GB	n/a	n/a	Default	n/a	n/a	n/a
	-40 ~ 60	4 GB	64 GB	Wi-Fi 5	4G LTE**	USB + Power Input	w/ PD module	65W	Android
		8 GB		Wi-Fi 6**	5G NR**				Debian
				Wi-Fi 6E**	SSD**				Yocto

* Optional and part number might vary for different regulations and package. Please consult the local sales representative for the exact 90PN.
** By special request.

Packing List

Description	Qty
Wall mount bracket	2

Optional Accessories: (Purchased Separately)

Item#	Description
PoE PD Module	
90ME08B0-MNUBYO	PoE Board 802.3at, enable POE PD
Wi-Fi/BT Module	
0C011-00211000	M.2 2230 802.11 Wi-Fi 5 + BT 5.0
0C011-00214100	M.2 2230 802.11 Wi-Fi 5 + BT 5.0, Wide Temperature
4G Module	
0C031-00052500*	M.2 3042 EM05-G 4G LTE Cat.4 module, Wide Temperature (for Global)
5G Module	
0C032-00020100*	M.2 3052 RM520N-GL 5G NR module, Wide Temperature (for Global)
Wi-Fi/BT ANTENNA	
14008-04490000	Omni-directional rubber duck Wi-Fi antenna, 2.4/5/6GHz, 3.83dBi
4G/5G ANTENNA	
14008-05640000*	Omni-directional rubber duck LTE/NR antenna, 617-960,1410-1610,1710-2690,3300-7125MHz, 4dBi

* By special request.



Optional Accessories: (purchased separately)

Item#	Description
ADAPTER	
0A001-00891600	65W Power adapter, input 100 - 240Vac, output 19Vdc / 3.42A, C6, 0 to 35°C O.P. temperature
POWER CORD	
14G1100083A0	C6 Power cord with United States (US) plug, 150cm
14G110060341	C6 Power cord with Europe (EU) plug, 80cm
14G110008300	C6 Power cord with China (CN) plug, 80cm
14G110008330	C6 Power cord with Japan (JP) plug, 80cm
14G110060365	C6 Power cord with Australia (AU) plug, 80cm
14G110008350	C6 Power cord with United Kingdom (UK) plug, 80cm
14G110008310	C6 Power cord with Korea (KR) plug, 80cm
14G1100083E0	C6 Power cord with Swiss (CH) plug, 80cm
14G11006032B	C6 Power cord with Taiwan (TW) plug, 80cm

* The part number might vary due to part number revision.