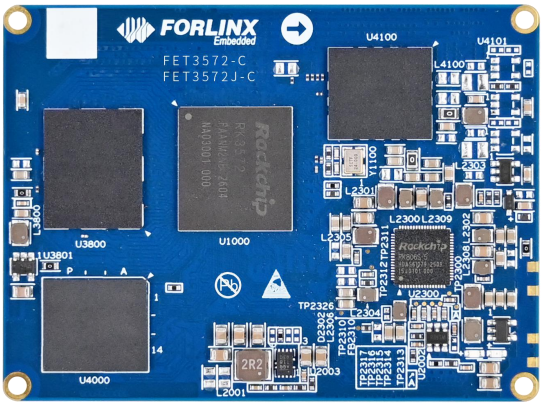
FET3572-C SoM

It is developed based on the Rockchip RK3572 processor. It integrates 2 x ARM Cortex-A73 cores and 6 x ARM Cortex-A53 high-performance cores, with a built-in 4 TOPS NPU to empower your AI applications. The RK3572 features 2 x Gigabit Ethernet ports, 3 x PCIe 2.1 lanes, 2 x USB 3.0 ports, and DSMC interfaces, supporting high-throughput network connectivity to meet the needs of complex data-driven applications. Furthermore, the RK3572 provides 4 x CAN-FD interfaces, 12 x UART, 5 x SPI, and 10 x IIC interfaces. It utilizes a board-to-board connection method and features a modular design, which simplifies product installation and maintenance.

It has undergone thorough testing in industrial environments by Forlinx Embedded Laboratory to ensure stability and reliability. 10 to 15 years longevity, ensuring a consistent supply over time.

Product Features:

- TEE (Trusted Execution Environment), hardware-based encryption, secure boot comprehensive data security protection;
- DSMC parallel bus for easy connecting with FPGA and DSP;
- Five display interface types: HDMI, eDP, RGB, EBC, and MIPI DSI; supporting dual-screen independent display;
- Rich bus interfaces: PCIe 2.1, USB 3.0, CAN-FD, etc.
- Compatible with the pin design of the *FET3576 - C SoM, leaving room for performance upgrades.



FET3572-C SoM

2×A73+6×A53 CPU	CAN-FD 4	12MP@30fps ISP
Mali-G310 MC1 GPU	4TOPS NPU	H.265 8K@30fps Ultra HD Hardware Decoding

Note *: For compatibility design, please refer to the "Comparison Table of OK3572-C and OK3576-C Pin Differences".

SoM Parameter:

Processor	**Rockchip RK3572** **ARM：** 2×Cortex-A73 + 2×Cortex-A53+ 4×Cortex-A53 **NPU：** 4TOPS INT8，supporting INT4/INT8/INT16/FP4/FP8/FP16/BF16 **GPU：** ARM Mali-G310V2 Mc1, supporting OpenGL ES 1.1/2.0/3.2, OpenCL3.0, Vulkan 1.4 **VPU：** **Hardware Encoding：** H.264, H265, 4K@60fps **Hardware Decoding：** H.264, H.265, VP9, AV1, AVS2, 8K@30fps or 4K@120fps
RAM	2GB/4GB/8GB LPDDR5
ROM	64GB eMMC
Operating Temperature	**FET3572-C SoM：0℃~+80℃** **FET3572J-C SoM：-40℃~+85℃**
Operating Voltage	DC 5V-13V
Connection	Board-to-board connector (4 × 100Pin, pin pitch 0.4mm, combined height 1.5mm)

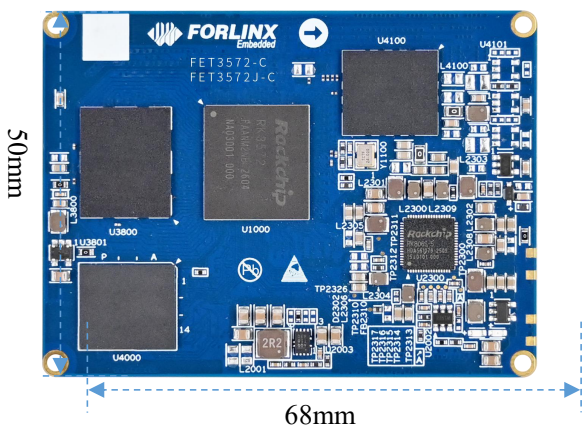
SoM Function Parameters:

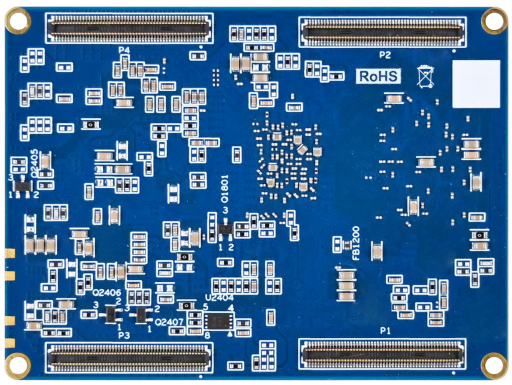
Function	Quantity	Parameter
MIPI CSI	2	2 × MIPI CSI-2 interfaces, each supporting 4 data lanes D-PHY v1.2 (2.5Gbps); Each 4 data lanes can be split into 2 x 2 data lanes configurations; Maximum of 4 x 2 data lanes cameras supported.
DVP	1	Standard DVP interface (8/10/12/16-bit, up to 150 MHz); Supports BT.601, BT.656, and BT.1120 VI interfaces.
HDMI/eDP TX	1	Support 1 x HDMI and eDP multiplexing interface; HDMI 2.1 interface supports up to 4 lane * 6Gbps, up to 4K @ 60Hz, and HDCP2.3; EDP 1.3 interface supports up to 4 lane * 5.4Gbps, up to 4K @ 60Hz, and HDCP 1.3.
MIPI DSI	1	1 × MIPI DSI 1.2: Up to 4 lane*2.5Gbps;
PARA	1	Parallel display interface: RGB (up to 8-bit)/BT656/BT1120; Maximum resolution: 1920 × 1080@60Hz.
EBC	1	E-ink EPD (Electronic Paper Display) support; Supports hardware decoding up to 1872 × 1404 resolution; 16-bit data bus bandwidth.
SAI	≤5	SAI 0/1/4: 4 TX lanes + 4 RX lanes; SAI 2/3: 1 TX lane + 1 RX lane; Maximum sample rate: 192 kHz.

		Audio resolution: 16-bit to 32-bit
SPDIF TX	≤2	2 x SPDIF TX ports;
SPDIF RX	1	1 x SPDIF RX ports;
PDM	1	Up to 8 channels, audio resolution: 16-bit to 24-bit, sample rate up to 192 kHz; Supports PDM master receive mode.
Ethernet	≤2	2 × GMAC with RGMII / RMII interfaces; Data rates: 10/100/1000 Mbps.
Combo high speed interface	3	2 × single-lane combo ports (PCIe 2.1 / SATA 3.1 / USB 3.0); 1 × single-lane combo port (PCIe 2.1 / SATA 3.1).
USB 2.0 OTG	2	2 x USB2.0 OTG
SDIO	≤2	SDIO v3.0，4-bit data bus widths
SPI	≤5	2 chip-selects per channel; Configurable as serial-master or serial-slave.
I2C	≤9	Supports 7-bit and 10-bit address modes; Data transmission rate of 100K bits/s in standard mode and 400k bits/s in fast mode.
I3C	1	Supports 1 x I3C master ports.
UART	≤12	Built-in 2 × 64-bit FIFO (separate TX/RX); Supports 5-, 6-, 7-, 8-bit serial data transmission; Baud rate up to 4 Mbps; 12 × UART all support auto-flow-control (AFC) mode; 12 × UART all support RS-485 mode.
CAN FD	≤4	Compliant with CAN & CAN FD specifications; Supports standard & extended frame transmission 8192-bit receive FIFO.
DSMC	1	Up to 4 chip-selects; Supports 8-wire and 16-wire serial transfer modes; Configurable serial address width: 16-bit or 32-bit.
PWM	≤16	Supports up to 16 on-chip PWM with interrupt-based operation and capture mode.
ADC	≤8	8 × 12-bit single-ended ADC inputs, sample rate up to 1 MS/s
GPIO	n	All GPIOs can be used to generate interrupts; Supports level-triggered and edge-triggered interrupts; Configurable trigger polarity (level/edge); Supports rising-edge, falling-edge, and both-edge triggering; Configurable pull-up / pull-down (weak pull-up / pull-down); Configurable drive strength.

Note*: The parameters listed above are based on hardware design or theoretical CPU limits. Interfaces may be multiplexed; numbers represent maximum theoretical availability.

Appearance & Dimension:





Height after installation

Note*: The dimensional tolerance is ±0.2mm.

Software Support:

OS	Linux 6.12, Forlinx Desktop 24.04（R&D), Android 16（R&D), Debian13（R&D）
Flashing	•USB OTG •TF card

Peripheral Support List:

	Interface	Function	Plan
Linux 6.12 Drive Support List	SDIO	Onboard SDIO WIFI module	AW-CM358SM
	IIS	Audio chip	NAU88C22
	USB	USB Camera	A4Tech PK-838 UVC Camera
	MIPI-CSI	MIPI Camera	ov5645,ov13855
	UART	ttl to 485	TDH341S485S
	Ethernet	NIC	Realtek RTL 8125
	PCIe	PCIE	SSDPEKKW256G8
	MIPI-DSI	7-inch MIPI screen	LCD070CM+1024600AB21
	HDMI	HDMI	AOC Q2490PXQ
	IIC	RTC chip	RX8010
	USB	4G module	EM05
	USB	5G module	RM500U
	CAN-FD	CAN Transceiver	TDH541SCANFD
	Ethernet	Network Port PHY	RTL8211FSI

Product Materials:

Linux 6.12	User's Manual, User's Compilation Manual, Factory Image, Kernel Source Code, Test Program Source Code, File System, Driver Tool, Download Tool, Burning Tool, Development , Application Notes.
Hardware Documentation	Hardware Manual, Pin Multiplexing Comparison Table, Pin Function Comparison Table, SoM STEP File, Carrier Board STEP File, SoM DXF File, Carrier Board DXF File, Carrier Board PDF Schematic, Carrier Board PCB Source File, Carrier Board Design Data.

Note*: Forlinx will keep providing more product information.

Order Model List:

Specification Model	CPU SoM and main frequency	DDR	RAM	ROM	Temperature Scope	Supply
FET3572-C+222GSE64GCxx: xx	2×A73@2.2GHz +6×A53@2.1GHz	LPDDR5	2GB	64GB	0℃~+80℃	R&D
FET3572-C+224GSE64GCxx: xx	2×A73@2.2GHz +6×A53@2.1GHz	LPDDR5	4GB	64GB	0℃~+80℃	Samples:
FET3572-C+228GSE64GCxx: xx	2×A73@2.2GHz +6×A53@2.1GHz	LPDDR5	8GB	64GB	0℃~+80℃	R&D
FET3572J-C+212GSE64GIxx: xx	2×A73@2.2GHz +6×A53@2.1GHz	LPDDR5	2GB	64GB	-40℃~+85℃	R&D
FET3572J-C+214GSE64GIxx: xx	2×A73@2.2GHz +6×A53@2.1GHz	LPDDR5	4GB	64GB	-40℃~+85℃	R&D
FET3572J-C+218GSE64GIxx: xx	2×A73@2.2GHz +6×A53@2.1GHz	LPDDR5	8GB	64GB	-40℃~+85℃	R&D

SoM Naming Rules:

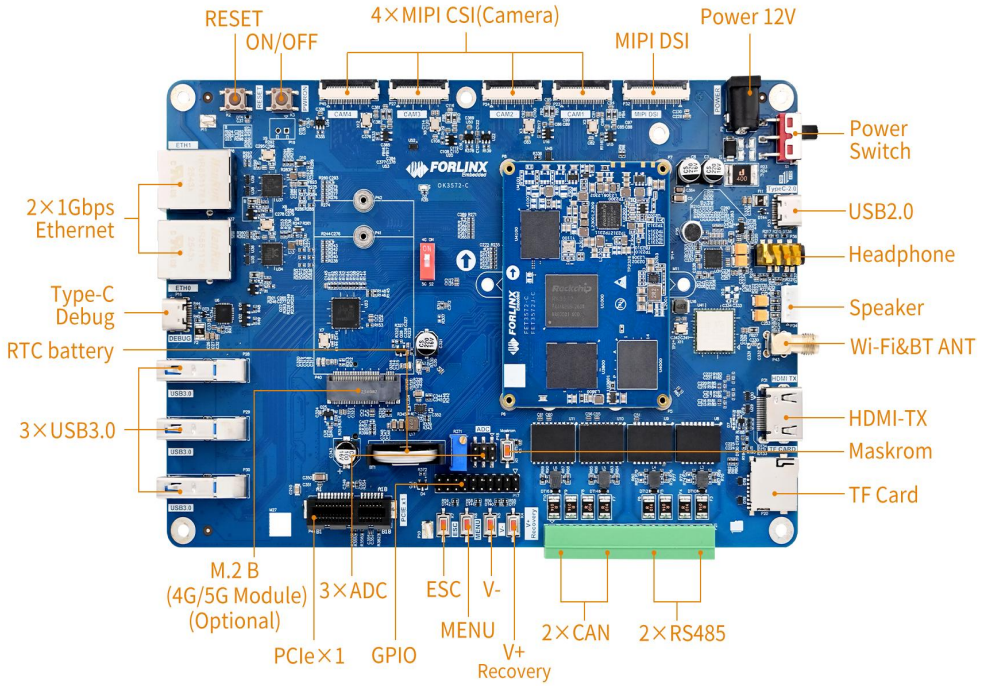
A	B	-	C	+	D	E	F	G	H	I	J	:	K	L

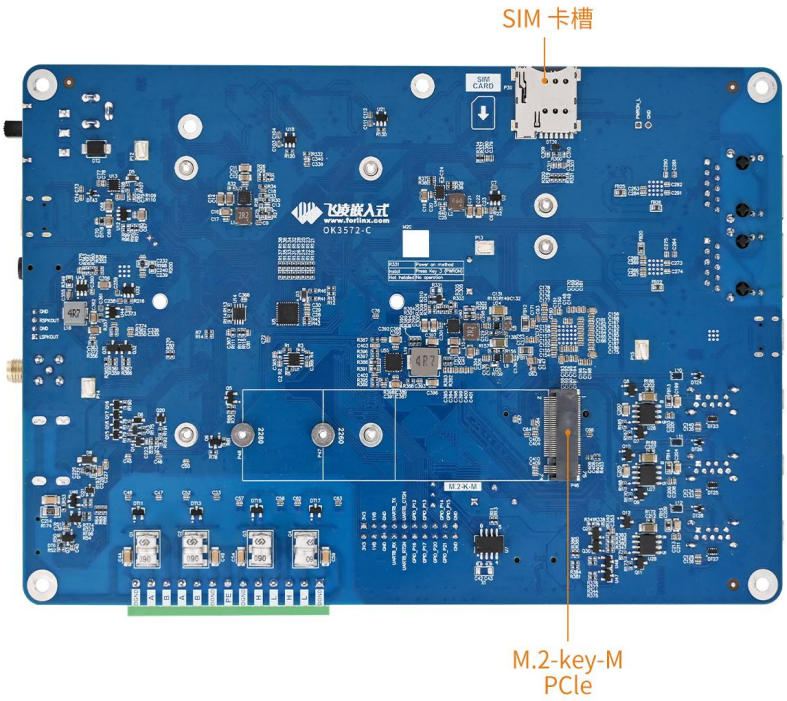
This table describes SoM number terms to define its characteristics (e.g., CPU, frequency, temperature grade, version).

Field	Field Description	Value	Description
A	Product Line Identification	FET	Forlinx Embedded SoM
		FL	Forlinx Embedded All in One Panel
B	CPU Name	3572	Commercial level
		3572J	Industrial-grade
-	Segment Identification	-	
C	Connection	C/C2	Board to Board Connector
+	Segment Identification	+	The configuration parameter section follows this identifier.

D	CPU Clock (Max.)	22	2.2 GHz
		21	2.1 GHz
E	RAM Capacity (Unite：Byte)	2G	2GB
		4G	4GB
		8G	8GB
F	Single ROM Type	SE	eMMC
G	Single ROM Capacity (Unite：Byte)	16G	16GB
		32G	32GB
		64G	64GB
H	Operating Temperature	C	0 to 80℃ Commercial-grade
		I	-40 to 85℃ Industrial-grade
I	Configuration No.	A~Z	If the D ~ H field values of each product are the same, the field values are the same, in ascending order according to the configuration release time
J	PCB Version	10	V1.0
		11	V1.1
		xx	Vx.x
:	Separator	:	This symbol is followed by the internal identification of the manufacturer, which has no effect on the use.
KL	Internal Identification of the Manufacturer	xx	This is the internal identification of the manufacturer and has no impact on the use.

Development Board Interface（Size 190mm× 130mm）：





Development Board Function Parameters:

Function	Quantity	Parameter
HDMI TX	1	Led out through a standard HDMI socket; HDMI V2.1, up to 4096x2160 @ 60Hz;
MIPI DSI	1	The MIPI interface supports 4 lanes output with a maximum resolution of 2560x1600 @ 60Hz; Suitable for Forlinx 7-inch MIPI screen with resolution of 1024 × 600 @ 30 FPS;
MIPI CSI	4	The carrier board features 4 x MIPI CSI interfaces: Supports 2 x MIPI CSI 4-lane interfaces, with the OV13855 camera mounted by default. Supports 4 x MIPI CSI 2-lane interfaces, mounting the OV5645 camera instead.
Type_USB 2.0	1	Led out through Type-C interface, supporting OTG and program flashing;
Audio	1	Onboard Codec chip, supporting functions such as headphone output, MIC input and Speaker output;
TF Card	1	TF (MicroSD) card slot compliant with SD V3.0, which supports the SDR104 mode
Ethernet	2	Led out via 2 x RJ45 interfaces; Supports 10/100/1000 Mbps data transmission rate.
4G/5G	1	Supports M.2 packaged 4G/5G modules;
Wi-Fi&Bluetooth	1	On-board AzureWave AW-CM358SM WiFi & Bluetooth module; Supports WiFi 2.4 GHz/5 GHz dual-band and Bluetooth 5.0.
USB3.0 Host	3	Led out through 3 x Type-A USB
PCIe	2	1 x PCIe ×1 slot and 1 x M.2 Key M interface. PCIe 2.1 supports a transfer rate of up to 5 Gbps.
UART	1	Led out via 2.54 mm pitch;Up to 4Mbps baud rate;
CAN	2	Comply with CAN and CAN FD specifications, two CAN buses are led out through the CAN transceiver;
RS485	2	2 x RS485 CAN bus routed out through RS485 transceiver;
ADC	3	Led out through 2.54mm spacing pins; 12 bits single ended input SAR-ADC, with a sampling rate of up to 1MS/s;
RTC	1	Onboard RTC chip and battery socket;
GPIO	8	8 x GPIO, 3.3V power, and 1.8V power, all accessible via a 2.54mm pitch header.

Note*: The parameters in the table are the theoretical values of hardware design or CPU.

Power Consumption:

No.	Test Item	SoM Consumption (W)	Development Board Power (including SoM) (W)
1	No-load starting peak power	3.84	5.76
2	No-load standby peak power	1.32	3
3	CPU+GPU+Memory+eMMC pressure test	4.8	6.36
4	7-inch LCD screen + 4G + U disk + video decoding	2.4	9.84
5	7-inch LCD screen + 4G + U disk + video encoding	2.28	9.6
6	Pwron Key (Long press)	0.0048	0.0048
7	Pwron Key (Short press)	0.6	2.16

Note*:

- **The SoM configuration is 8GB memory+64GB eMMC, the 4G module is Quectel EM05-CN, and the screen is an Forlinx optional product;**
- **SoM power supply: 12V; and the carrier board is 12V.**

