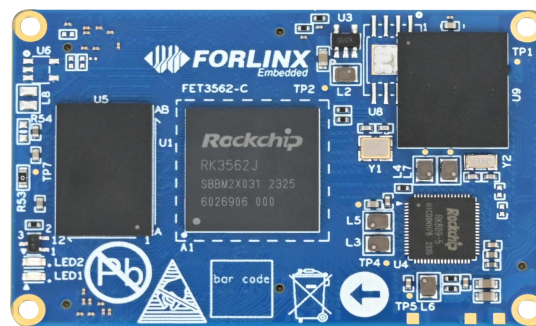


FET3562-C/ FET3562J-C SoM

The FET3562 - C and FET3562J - C System - on - Modules (SoMs) are developed based on the Rockchip RK3562 and RK3562J processors respectively. These high - performance, low - power application processors by Rockchip are tailored for industrial automation and consumer electronics.

Featuring 4 ARM Cortex - A53 high - performance cores and a 3D GPU, they fully support OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, and Vulkan 1.1. A dedicated 2D hardware engine is integrated to optimize display performance and ensure seamless operation.

The SoM adopts a board - to - board connection with a pluggable design, simplifying product installation and maintenance. Rigorously tested in the Forlinx Embedded Laboratory, it guarantees stable operation in complex industrial environments. With a lifespan of 10 - 15 years, it offers long - term supply security.



4×A53

CPU

H.265@4Kp30

Hardware
Decoding

36×56mm

Compact size

Mali-G52-2EE

GPU

1TOPS

NPU

Product Features:

- 3 x 80Pin board-to-board for leading out all processor function pins
- 22 nm advanced process technology
- H.265 HD Hardware Decoding
- Three display interfaces: LVDS, MIPI, DSI, RGB
- Rich industrial bus interfaces: PCIe 2.1, USB 3.0, CAN, etc.

SoM Basic Parameters:

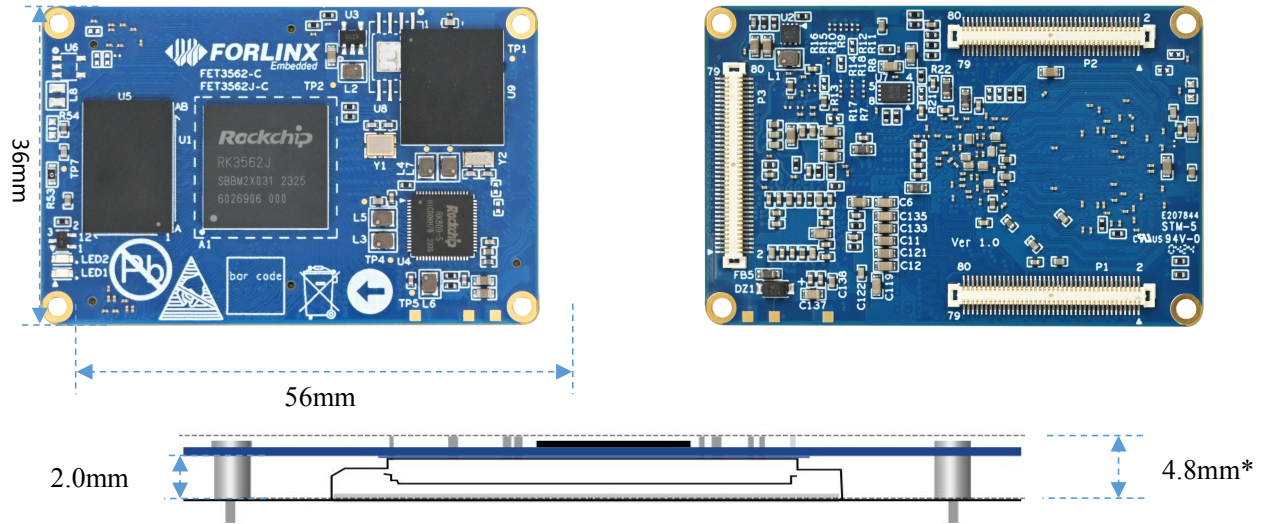
Processor	Rockchip RK3562J	Rockchip RK3562
ARM :	4×Cortex-A53@1.8GHz	4×Cortex-A53@2.0GHz
NPU :	1TOPS INT8, supports INT4/INT8/INT16/FP16	
GPU :	Mali-G52-2EE, supports OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.0 and 1.1.	
VPU :	Hardware Encoding: H.264, 1920×1080@60fps Hardware Decoding: H.265, VP9, 4096×2304@30fps; H.264, 1920×1080@60fps	
RAM	1GB/2GB LPDDR4	1GB/2GB LPDDR4
ROM	8GB/16GB eMMC	8GB/32GB eMMC
Operating Temperature	-40℃~+85℃	0℃~+70℃
Working Voltage	DC 5V	
Connection	Board-to-board connector (3×80Pin), pin pitch: 0.5 mm, mating height: 2.0 mm)	

■ SoM Function Parameters:

Function	Quantity	Parameter		
MIPI DSI	≤1	Supports 1 x MIPI DSI TX, 4-lanes, resolution up to 2048 × 1080 @ 60Hz;	MIPI DSI and LVDS pin multiplexing, only one can be used at a time.	It can support up to 2 x display outputs simultaneously, with displays on dual screens.
LVDS	≤1	Supports VESA/JEIDA LVDS data format, resolution up to 800 × 1280@60Hz;		
RGB	≤1	Supports RGB888 format, resolution up to 2048 × 1080@60Hz;		
MIPI CSI	4	MIPI_CSI_RX0 and MIPI_CSI_RX1 total 2 x port; 1 x port supports 4-lanes, speed up to 2.5Gbps per lane; 1 x port can also be split into 2 x 2-lanes.		Supports up to 4 x camera inputs simultaneously.
Audio	/	The SoM has a built-in codec, which directly outputs audio analog signals with a sampling rate ranging from 48KHz to 192KHz. It features a mono speaker with a Class-D amplifier and an output power of 1.3W. Stereo headphone output, 32Ohm load; 2 x single ended MIC inputs.		
SAI	≤3	SAI0 ~ SAI2, supporting I2S/PCM/TDM audio protocol, resolution 8bits ~ 32 bits and sampling rate up to 192kHz; SAI0 is occupied by the SoM and led to the built-in Codec of the SoM.		
PDM	≤1	Maximum 8 channels, sampling up to 192KHz, main receiving mode.		
SPDIF	≤1	Supports storing 2 x 16-bit audio data in a 32-bit wide location; Supports the output of stereo audio data in dual-phase format; Supports the transmission of 16/20/24-bit audio data in the linear PCM mode; Supports non-linear PCM transmission.		
SD Card	1	Compatible with SDIO 3.0 protocol, 4bits data bit width		
SDIO	≤1	Compatible with SDIO 3.0 protocol, 4bits data bit width		
Ethernet	≤2	Supports 1 x RGMII (10/100/1000Mbps adaptive) and 1 x RMII (10/100Mbps adaptive)		
USB2.0	1	Supports 1 x USB 2.0 HOST up to 480Mbps		
USB3.0	≤1	Supports USB3.0 master-slave mode, compatible with USB2.0	USB3.0 and PCIe2.1 pins are multiplexed, and only one of them can be used at a time. USB2.0 functionality is available in USB3.0 when PCIe 2.0 is selected.	
PCIe2.1	≤1	It can only be used in RC mode, and only supports single channel, 5Gbps.		
UART(1)	≤10	UART0 ~ UART9, supporting 5/6/7/8 bits serial data sending or receiving; support flow control mode (except UART0), and the baud rate is up to 4Mbps.		
CAN	≤2	Supports CAN2.0B, data rate 1Mbps.		
SPI	≤3	Supports master and slave mode.		
I2C	≤5	I2C1 ~ I2C5, supporting 7bits and 10bits address modes, standard mode 100Kbit/s and fast mode 400Kbit/s		
PWM	≤16	Supports 16 x on-chip PWMs with interrupt operation, embedded 32-bit timer/counter; supports capture mode; supports continuous mode or one-time mode;		
ADC(2)	≤16	2 x SARADC, each with 8-channel single-ended input, 10 bits resolution, maximum sampling rate 1MS/s		
GPIO	≤79	GPIO has interface multiplexing, which is the theoretical maximum.		

Note: The parameters in the table are hardware design or theoretical CPU values; UART0 is a debug serial port and is not recommended for other function; SARADC0 _ BOOT and SARADC0 _ IN1 are related to system startup and are not recommended as common ADCs.

■ Appearance and Dimensions:



Schematic Diagram of Height After Installation

* Note: Dimensional tolerance $\pm 0.2\text{mm}$.

■ Software Support:

OS	Linux 5.10.198+QT5.15, AMP, Forlinx Desktop 22.04, Debian 11 (In development), Android (In development)
Flashing Method	<ul style="list-style-type: none"> • USB OTG • TF card

■ OS Support:

Specification Model	CPU clock	RAM	ROM	Temperature Range	Supply	Linux5.10.198	Forlinx Desktop22.04
FET3562J-C	1.8 GHz	1GB	8GB	-40°C~+85°C	Mass Production	Support	No
FET3562J-C	1.8 GHz	2GB	16GB	-40°C~+85°C	Mass Production	Support	Support
FET3562-C	2.0 GHz	1GB	8GB	0°C~+70°C	Mass Production	Support	No
FET3562-C	2.0 GHz	2GB	32GB	0°C~+70°C	Mass Production	Support	Support

■ Peripherals:

Linux 5.10.198 Driver Support List	Interface	Function	Plan
	SDIO	Wi-Fi/Bluetooth	6221A-SRC
	I2S	Audio Chip	Rk809, 16bits~32bits, sampling rate up to 192KHz
	I2C	RTC chip	PCF8563 and RX8010 chip
	I2C	Capacitive touch	GT928, FT5x06
	MIPI DSI	7" Capacitive Touch Screen	FIT-LCD7.0_MIPI V2.1 V3.0, FT5x06 capacitive touch, resolution 1024×600
	LVDS	10.1" Capacitive Touch Screen	FIT_LVDS_10.1_C, GT928 capacitive touch, resolution 1280 × 800
	MIPI CSI	Camera	OV13855, OV5645,IMX415
	USB	4G	EC20, Mini PCI-e package
	USB	USB to 4 serial ports	USB-TO-4-UARTS
	PCIe	PCIE NIC	E1000E, RTL8125
	RGMII	Gigabit Ethernet	YT8521SH-CA
	RMII	100Mbps Ethernet	YT8512H
	CAN	General	
	PWM	General	
	ADC	General	
	SPI	General	
UART	General		
GPIO	General		
Forlinx Desktop 22. 04 Driver Support List	Interface	Function	Plan
	SDIO	Wi-Fi/Bluetooth	6221A-SRC
	I2S	Audio Chip	Rk809, 16bits~32bits, sampling rate up to 192KHz
	I2C	RTC chip	PCF8563 and RX8010 chip
	I2C	Capacitive touch	GT928, FT5x06
	MIPI DSI	7" Capacitive Touch Screen	FIT-LCD7.0_MIPI V2.1 V3.0, FT5x06 capacitive touch, resolution 1024×600
	LVDS	10.1" Capacitive Touch Screen	FIT_LVDS_10.1_C, GT928 capacitive touch, resolution 1280 × 800
	MIPI CSI	Camera	OV13855, OV5645,IMX415
	USB	4G	EC20, Mini PCI-e package
	USB	USB to 4 serial ports	USB-TO-4-UARTS
	PCIe	PCIE NIC	E1000E, RTL8125
	RGMII	Gigabit Ethernet	YT8521SH-CA
	RMII	100Mbps Ethernet	YT8512H
	CAN	General	
	PWM	General	
	ADC	General	
	SPI	General	

	UART	General	
	GPIO	General	

■ Product Materials:

Linux 5.10.198 Documentation List	User's Manual, User's Compilation Manual, Module Support List, Image, Source Code, AMP Test Program, File System, Driver Tools, Download Tools, Programming (or Flashing) Tools, AMP Application Notes.
Forlinx Desktop 22.04 Materials List	User's Manual, User's Compilation Manual, Module Support List, Image, Source Code, File System, Driver Tools, Download Tools, Programming Tools
Hardware Materials List	Hardware Manual, Pin Multiplexing Comparison Table, Carrier Board DXF File, Carrier Board PDF Schematic, Carrier Board PCB Source File

***More product information will be provided gradually after the product launch.**

■ Order Model List:

Specification Model	SoM	CPU clock	RAM	ROM	Temperature Range	Supply
FET3562J-C+181GSE8GIxx:xx	4×A53	1.8 GHz	1GB	8GB	-40℃~+85℃	Mass Production
FET3562J-C+182GSE16GIxx:xx	4×A53	1.8 GHz	2GB	16GB	-40℃~+85℃	Mass Production
FET3562J-C+184GSE32GIxx:xx	4×A53	1.8 GHz	4GB	32GB	-40℃~+85℃	Plan
FET3562-C+201GSE8GCxx:xx	4×A53	2.0 GHz	1GB	8GB	0℃~+70℃	Mass Production
FET3562-C+202GSE32GCxx:xx	4×A53	2.0 GHz	2GB	32GB	0℃~+70℃	Mass Production
FET3562-C+204GSE32GCxx:xx	4×A53	2.0 GHz	4GB	32GB	0℃~+70℃	Plan

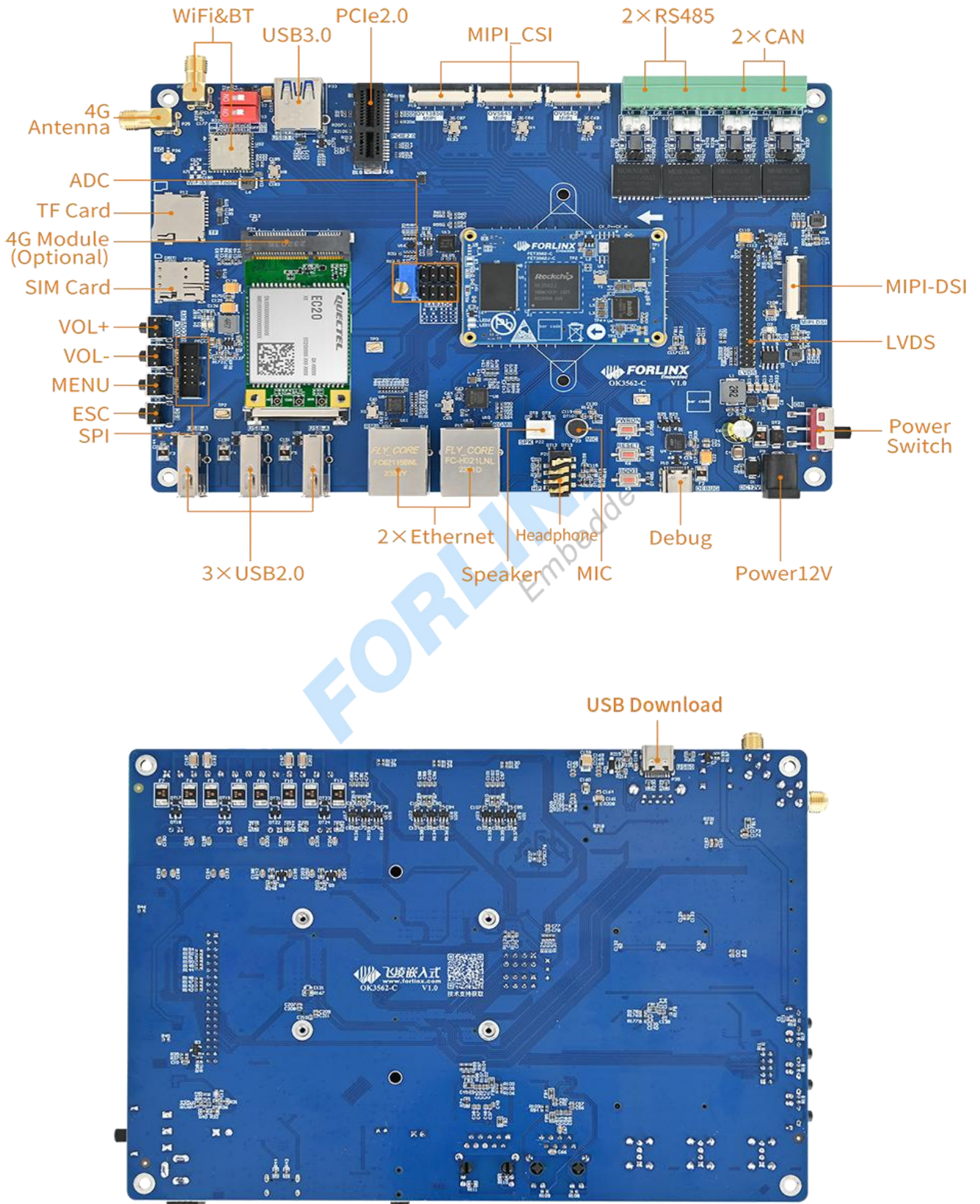
■ SoM Naming Rule:

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

This table describes the terminology used for SoM numbering to identify the features of the SoM (such as CPU, frequency, temperature grade, version, etc.).

Field	Field Description	Value	Description
A	Product Line Identification	FET	Folinx Embedded SoM
		FL	Folinx Embedded All-in-one Panel
B	CPU	3562	Commercial-grade
		3562J	Industrial-grade
-	Segment Identification	-	
C	Connection	C	Board-to-board Connector
+	Segment Identification	+	This identifier is followed by the configuration parameter.
D	Maximum CPU Clock	20	2.0 GHz
		18	1.8 GHz
E	RAM Capacity (Unit: Byte)	1G	1GB
		2G	2GB
		4G	4GB
F	Single ROM Type	SE	eMMC
G	Single ROM Capacity (Unit: Byte)	8G	8GB
		16G	16GB
		32G	32GB
H	Operating Temperature	C	0 to 70°C Commercial Grade
		I	-40 to 85°C Industrial Grade
I	Configuration No.	A~Z	If D-H field values are identical across products, they are treated the same and sorted by release time in ascending order.
J	PCB Version	10	V1.0
		11	V1.1
		xx	Vx.x
:	Separator	:	This symbol is followed by the internal identification of the manufacturer without effect on the customer's use.
KL	Manufacturer's Internal Logo	xx	It is manufacturer's internal logo without influence on use.

■ **Development Board:**



■ Function Parameters:

Function	Quantity	Parameter	
MIPI DSI	1	4-lanes MIPI DSI, support capacitive touch screen, support backlight brightness adjustment	MIPI DSI and LVDS interfaces are multiplexed, and only one of them can be used.
LVDS	1	4-lanes LVDS, support capacitive touch screen and backlight brightness adjustment	
MIPI-CSI	3	FPC led out, 4lanes+2lanes+2lanes	
Audio	/	Mono speaker connector, class-D, 1.3 W; stereo headphone output, 32 Ohm load; headphone recording + onboard MIC recording.	
Wi-Fi	1	Single antenna 2.4G & 5GHz	
Bluetooth	1	Wi-Fi Dual-band 1×1 802.11ac+Bluetooth 4.2	
Ethernet	2	Standard RJ45 socket led out, 1 x 100m port and 1 x Gigabit port	
USB2.0	3	USB HUB led out, only supporting master mode	
USB3.0	1	Master-slave mode can be switched	USB3.0 and PCIe2.1 pins are multiplexed, and only one of them can be used. USB2.0 functionality is available in USB3.0 when PCIe 2.0 is selected
PCIe	1	PCIe2.1, can only be used in RC mode, and only supports single channel, 5Gbps.	
CAN	2	Supports CAN2.0B and electrical isolation	
SPI	1	Led out from the horn-shaped socket	
4G	1	4G module with Mini PCI-e interface & USB 2.0 signals.	
TF Card	1	Supports maximum SDR104 speed	
PWM	1	Connect the display for backlight brightness adjustment	
ADC	13	Pin led-out function, which can be connected to the sliding rheostat to collect the voltage value	
KEY ADC	4	1 x SARADC to output 4 buttons	
RTC	1	On-board CR2032 battery, power-off keep time	
USER GPIO	1	User GPIO, key input+LED output	
RS485	2	Electrical isolation	UART9 serves both debugging and RS485, selectable via a DIP switch.
UART Debug	2	Integrated in a Type-C port that can be connected to a computer for debugging	
JTAG Debug	1		

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

■ Power Consumption:

No.	Test Project	SoM Consumption		Development Board (including SoM) Consumption	
		Power Voltage(V)	Power	Power Voltage(V)	Power
1	No-load starting peak power	5V	1.7W	12V	2.8W
2	No-load standby power	5V	0.5W	12V	1.8W
3	CPU + GPU + Memory + eMMC Stress Test	5V	2.2W	12V	3.2W
4	7-inch LCD screen + 4G + U disk + video decoding	5V	1.8W	12V	7.3W
5	SoM Power off	5V	0.7mW	/	/
6	SoM hibernation	5V	97mW	/	/

Note: The parameters in the table are experimental data for reference only.

