

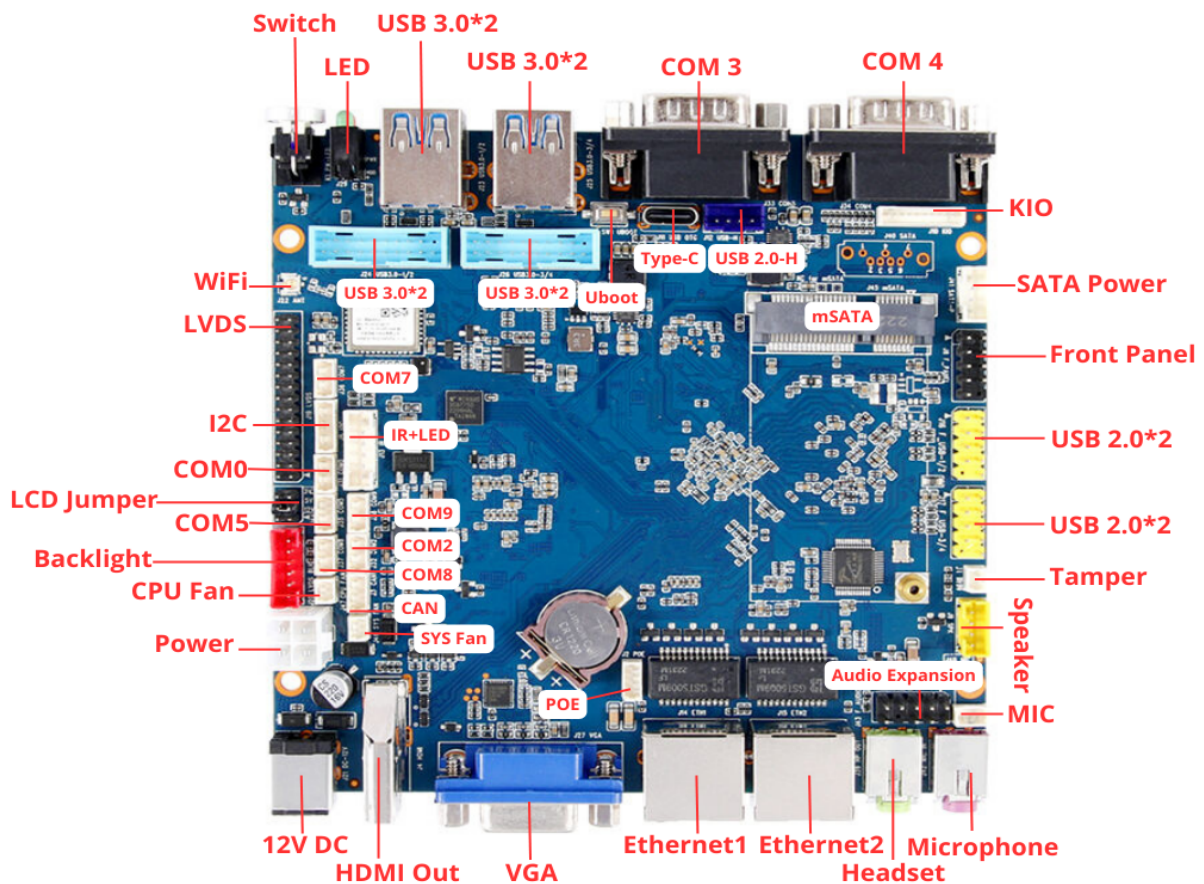


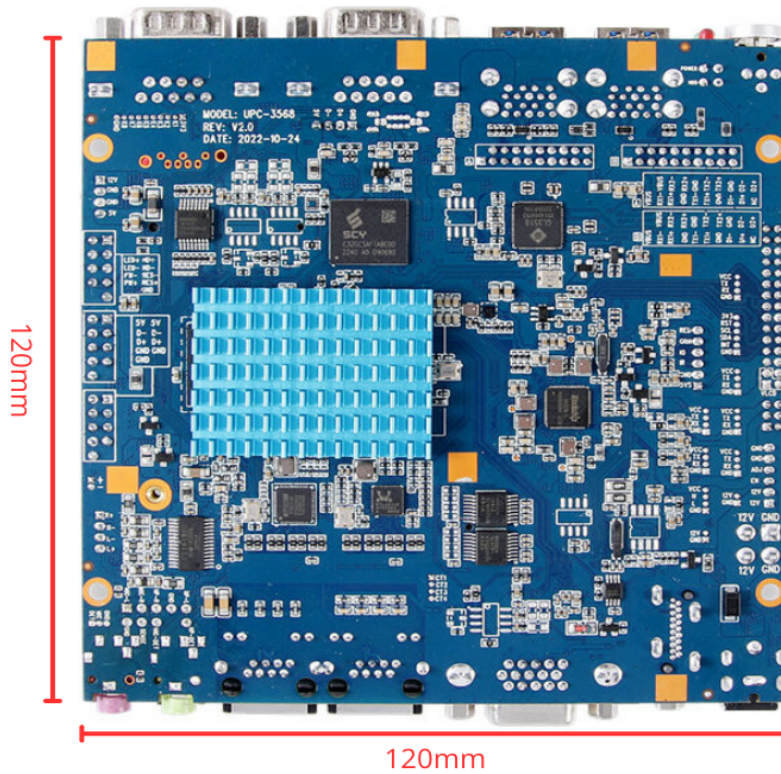
## Embedded Motherboard Based on Rockchip RK3568

### Product Overview:

The EMB-RK3568-03 delivers high performance for demanding applications with its Rockchip RK3568 processor (quad-core Cortex-A55 up to 2.0GHz), integrated 1.0 TOPS NPU, and advanced 2D/3D graphics. Featuring 4K HDMI output, LVDS support, and a comprehensive I/O interface, it's ideally suited for digital signage, industrial automation, and consumer electronics.

### I/O Interfaces:





Specification:

System	
CPU	Rockchip RK3568, Quad-core Cortex-A55 up to 2.0GHz, with an integrated Neural Processing Unit (NPU) delivering up to 1.0 TOPS
Memory	2GB LPDDR4 (4GB/8GB optional)
Storage	16GB eMMC, expandable up to 128GB
OS	Android 11, Linux Buildroot/Debian 10/Ubuntu-18.04 optional
Communication	
Ethernet	2x 10/100/1000Mbps Ethernet RJ45 connectors
Wi-Fi	Wi-Fi 6, supports IEEE 802.11 a/b/g/n/ac/ax
Bluetooth	Bluetooth 5.0
Display	
HDMI	HDMI 2.0, supports up to 4K output
LVDS	Dual 30-pin LVDS supporting VESA/JEITA format up to 1080p output
VGA	DB-15 and 9-pin header VGA output up to 1080p

ABOUT POLYHEX

As a board level and system level designer and manufacturer, Polyhex, always delivers best-in-class embedded computing solutions based on both ARM and X86 architecture, including hardware customization and software debugging etc. Partnered with silicon vendors like Intel, NXP, ST, Rockchip and so on, we have earned trust from clients worldwide. Polyhex is also certified with ISO9001 and ISO13485 for the self-owned manufacture facility.



Audio	
Line Out	Standard Left and Right Channel Line Output
Amplifier	6W 8Ω Dual Audio Amplifier Output
Headphone	3-Pole 3.5mm Headphone Jack
MIC	Differential MIC Input
I/O Interfaces	
USB Host	4x External USB ports; 9x Internal USB ports (4x USB 3.0 multiplexed with external USB 3.0 ports via dual-row 2.0mm pin header; 5x USB 2.0 headers)
USB OTG	1x Type-C OTG socket
Serial Ports	2x DB-9 serial ports with signal and power isolation 1x TTL serial port 4x TTL/RS-232 compatible serial ports 1x TTL/RS-485 compatible serial port
USB Camera	Supports USB cameras up to 8MP resolution
Backlight	LCD backlight control header (switch and brightness adjustment)
GPIO	8x GPIO signals
IR	IR Pin Header Interface
Security Port	1x Tamper-proof port
CAN Bus	1 CAN pin header for CAN Bus peripherals
I2C Bus	I2C pin header for I2C capacitive touchscreen, etc
SATA HD	1x SATA 3.0 hard disk port with power supply header
mSATA	1x mSATA Socket. Support standard mSATA modules
RTC	Ultra-low-power RTC circuit (CR1220 battery) with timer and alarm functionalities
Buttons	Recovery mode button and power switch button
Power	
DC Input	Supports 9-15V DC power input
Mechanical & Environmental	
Size (L x W x H)	120mm x 120mm x 18mm
Operating Temp.	-20°C to 70°C
Operating Humidity	0%-95% (non-condensing)

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