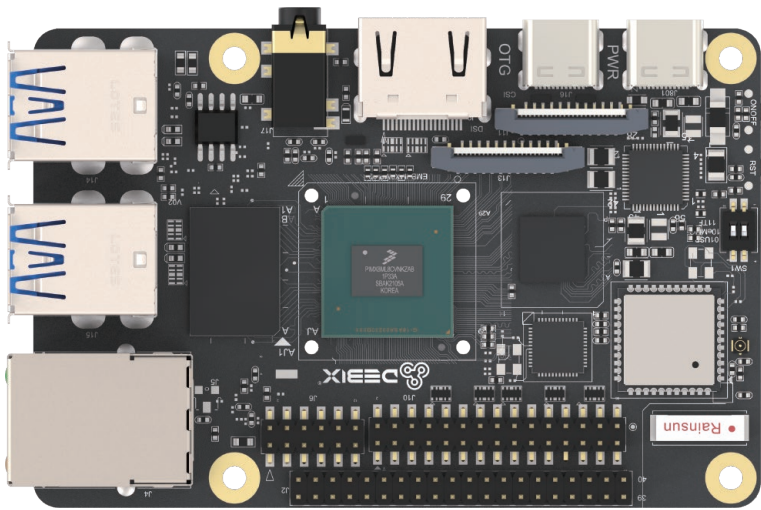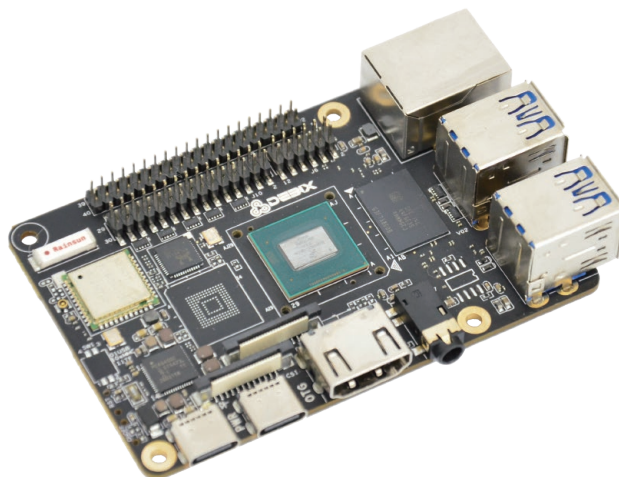# DEBIX Model A

DEBIX Model A Industrial Single Board Computer

Overview:

DEBIX Model A is an industrial grade single board computer to bring you faster speed and more powerful performance. Powered by quad core i.MX 8M Plus with 2.3 TOPS NPU, DEBIX Model A with complete software development and rich I/O ports is ready and capable for direct applications in industry 4.0, IoT, smart city, and multimedia.

Main Features:

· **Powerful Performance:** Built for demanding industrial applications, DEBIX Model A boasts a quad-core ARM Cortex-A53 CPU up to 1.8GHz and 2GB/4GB/8GB LPDDR4 RAM. This combination ensures smooth operation even for complex processing tasks.

· **Industrial Grade Build:** Designed for harsh environments, DEBIX Model A features industrial-grade components and a wide CPU temperature range of -40°C to 105°C. Its DDR inline ECC design and 14 FinFET process further enhance its reliability.

· **Rich Connectivity:** DEBIX Model A offers a comprehensive range of connectivity options, including Gigabit Ethernet, 2.4GHz & 5GHz Wi-Fi, Bluetooth 5.0, high-speed USB 3.0, and PCIe support. This allows for easy connection and control of various industrial peripherals.

· **Advanced Multimedia:** For multimedia applications, DEBIX Model A features 1080p60 video encode and decode (including H.265 and H.264), 3D/2D graphic acceleration, and multiple audio and voice functionalities.

· **Complete Software Support:** It includes Android 11/ Yocto-L5.10.72_2.2.0/ Ubuntu 22.04/ Windows 10 IoT Enterprise operating system and basic software for fast and direct applications.

Specification:

System	
CPU	NXP i.MX 8M Plus (default), 4 x ARM Cortex-A53, comes with an integrated neural processing unit (NPU) that delivers up to 2.3 TOPS. Industrial grade CPU runs at 1.6GHz, and commercial grade CPU runs at up to 1.8GHz. (i.MX 8M Plus series CPU optional)
Memory	2GB LPDDR4 (4GB/8GB optional)
Storage	Micro SD card (Onboard 8GB/16GB/32GB/64GB/128GB/256GB eMMC optional)
OS	Android 11, Yocto-L5.10.72_2.2.0, Ubuntu 22.04, Windows 10 IoT Enterprise Note: 4GB/8GB LPDDR4 supports Windows 10 IoT, recommend 8GB version.
I/O Interfaces	
Gigabit Ethernet	1 x RJ45, support POE power supply (need POE power device module) 1 x pin header (without network transformer)
WIFI & BT	2.4GHz & 5GHz WIFI, BT5.0
USB	4 x USB 3.0 Host Type-A, 1 x USB 2.0 OTG Type-C
Audio	1 x Headphone and Mic combo port
HDMI	1 x HDMI OUT
Expansion	
40-Pin Double-Row Headers	(1) 3 x UART, 2 x I2C, 2 x SPI, 2 x CAN, 6 x GPIO for default, can be reused as I2S, PWM, SPDIF and GPIO through software configuration. (2) 5V power supply, system reset, ON/OFF
LVDS	1 x LVDS, single & dual channel 8bit, 2 x 15-Pin double-row headers
MIPI CSI	1 x MIPI CSI, support 4-lane 24-Pin 0.5mm Pitch FPC socket
MIPI DSI	1 x MIPI DSI, support 4-lane 24-Pin 0.5mm Pitch FPC socket
PCIe	1 x PCIe, support PCIe x1, 19-Pin 0.3mm Pitch FPC socket
Power Supply	
Power Supply	DC 5V/3A Type-C
Mechanical & Environmental	
Size	85.0mm x 56.0mm
Operating Temp.	-20℃ to 70℃

Product Version:

DEBIX Model A has two versions, the standard and SE version. Their differences lie in the CPU modules, see the table below for details.

Version	NPU	VPU	ISP	HiFi 4
DEBIX Model A Standard	1	1	1	1
DEBIX Model A SE	N/A	N/A	N/A	N/A

Certificates:

FCC ID: 2A4SS-DEBIX-MODEL-A

ⓇR 210–188060

I/O Interfaces:

- Audio
- DSI Output
- HDMI
- CSI Input
- OTG
- PWR
- 2 x USB 3.0
- 2 x USB 3.0
- RJ45 (TSN) (Ethernet1 port)
- LAN(Ethernet2 port)
- Dual LVDS
- UART/I2C/CAN/GPIO/SPI...

- PCIe
- Micro SD Slot
- 56mm
- 85mm
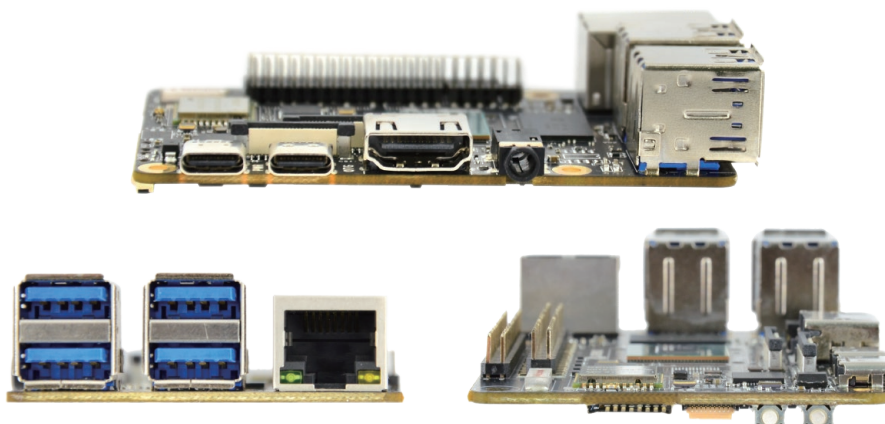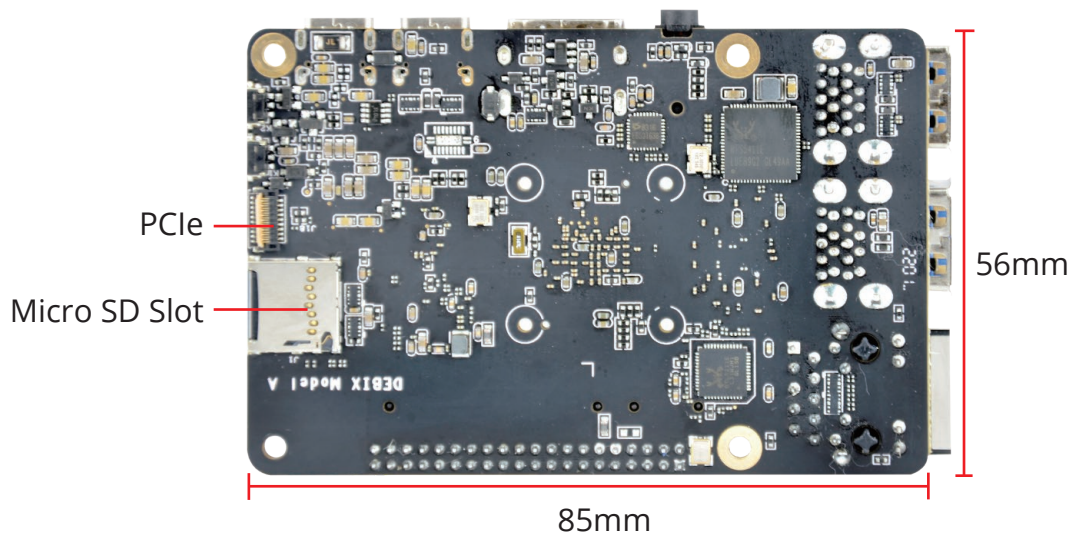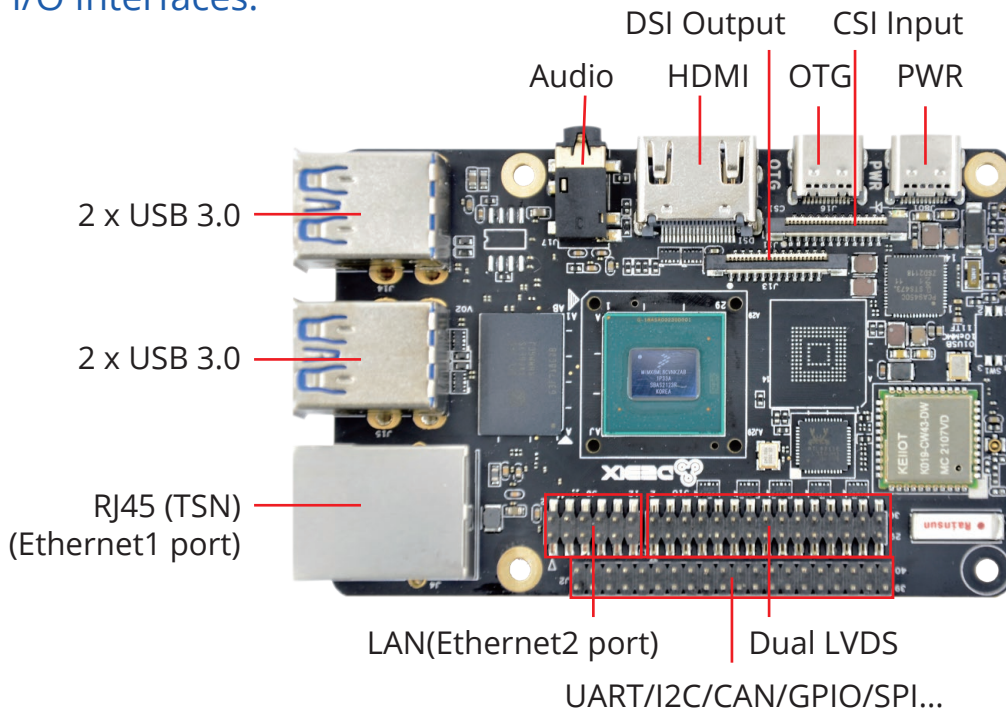
Safety Instruction and Warnings:

General:

• Avoid exposure to water, moisture, and conductive surfaces while operating.

• Handle with care to avoid mechanical or electrical damage to the circuit board and connectors.

• Only handle the board by the edges when powered on to minimize the risk of electrostatic discharge damage.

Power:

• Use only a 5V/3A DC minimum external power supply that complies with relevant regulations and standards for your country.

Environment:

• Operate in a well-ventilated environment, even if using a case.

• Place on a stable, flat, non-conductive surface and avoid contact with conductive items.

Connections:

• Only connect compatible devices to the GPIO ports to avoid damage and warranty voiding.

• Use peripherals that comply with relevant standards for the country of use and ensure proper insulation and operation.

Additional notes:

• This summary is not exhaustive, please refer to the full User Manual for details.

• If you are unsure about any aspect of safety or operation, consult a qualified professional.

Contact Us:

DEBIX

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