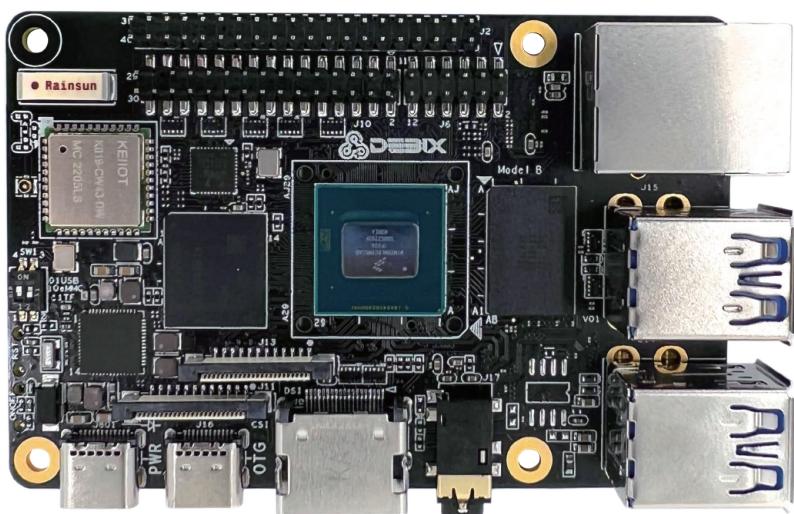




DEBIX Model B



DEBIX Industrial Computer

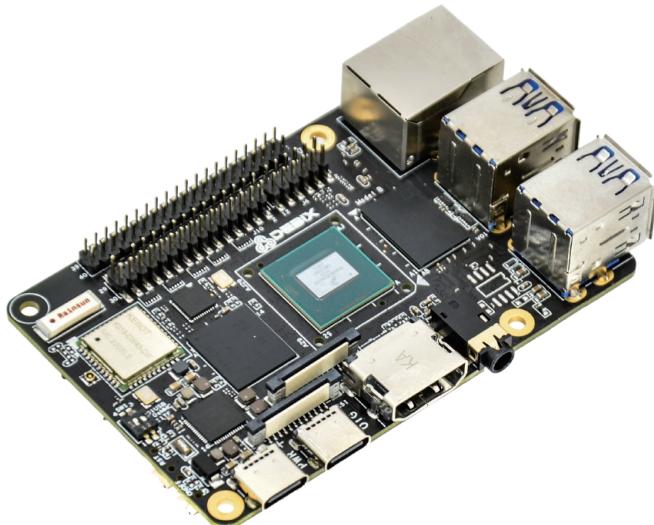
DEBIX Model B Industrial Single Board Computer

Overview:

DEBIX Model B is a high-performance, industrial-grade single-board computer designed for challenging and demanding applications. It boasts superior features compared to its predecessor, DEBIX Model A, making it a compelling choice for projects operating in extreme temperature conditions.

Main Features:

- **Wider Operating Temp.:** DEBIX Model B confidently operates in -40°C to 85°C environment. This enhanced resilience makes it ideal for industrial applications with extreme temperatures.
- **Shared DNA with DEBIX Model A:** Both share the same powerful i.MX 8M Plus CPU with 2.3 TOPS NPU and identical PCB design, contributing to their similar appearance. They also offer the same type and number of interfaces.
- **Targeted Upgrade:** Upgrade individual chips and components on the board, it is convenient for customers to choose a board according to the temperatures of their real-world application environment.
- **Powerful Connectivity:** A full suite of connectivity options, including Gigabit network, 2.4GHz & 5GHz Wi-Fi, Bluetooth 5.0, high-speed USB 3.0, and PCIe support.
- **Advanced Multimedia:** Multimedia capabilities are equally impressive, featuring 1080p60 video encode and decode (including H.265 and H.264), 3D/2D graphic acceleration, and advanced audio and voice functionalities.
- **Software Compatibility:** Support Android 11, Yocto-L6.6.36, Ubuntu 22.04, Debian 12 and Windows 10 IoT Enterprise operating systems.



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. (i.MX 8M Plus series CPU optional)
Memory	4GB LPDDR4 (1GB/2GB optional)
Storage	16GB eMMC (8GB/32GB/64GB/128GB/256GB optional), support Micro SD card
OS	Android 11, Yocto-L6.6.36, Ubuntu 22.04, Debian 12, Win10 IoT Enterprise (also supports OpenWRT and FreeRTOS) Note: DEBIX Model B with 4GB LPDDR4 supports Windows 10 IoT Enterprise
I/O Interfaces	
Gigabit Ethernet	1x Gigabit Ethernet port, support TSN and POE power supply (need POE power device module) 1x Gigabit Ethernet port, 12pin header (without network transformer)
WIFI & BT	2.4GHz & 5GHz WIFI5, BT5.0
USB	4 x USB 3.0 Host 1 x USB 2.0 OTG
Audio	1 x Headphone and Mic combo port
HDMI	1 x HDMI OUT
Expansion	
40-Pin Double-Row Header	(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
MIPI CSI	1 x MIPI CSI (4-lane)
MIPI DSI	1 x MIPI DSI (4-lane)
PCIe	1 x PCIe Gen3 1-lane
Power Supply	
Power Supply	DC 5V/3A Type-C
Mechanical & Environmental	
Size	85.0mm x 56.0mm ($\pm 0.5\text{mm}$)
Operating Temp.	-40°C to 85°C
Net Weight	46g($\pm 0.5\text{g}$)
Gross Weight	72g($\pm 0.5\text{g}$)

Product Version:

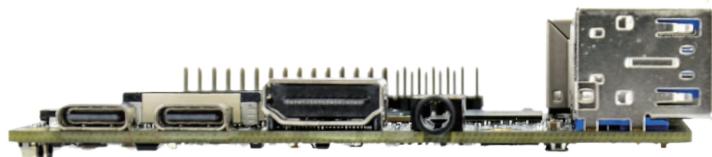
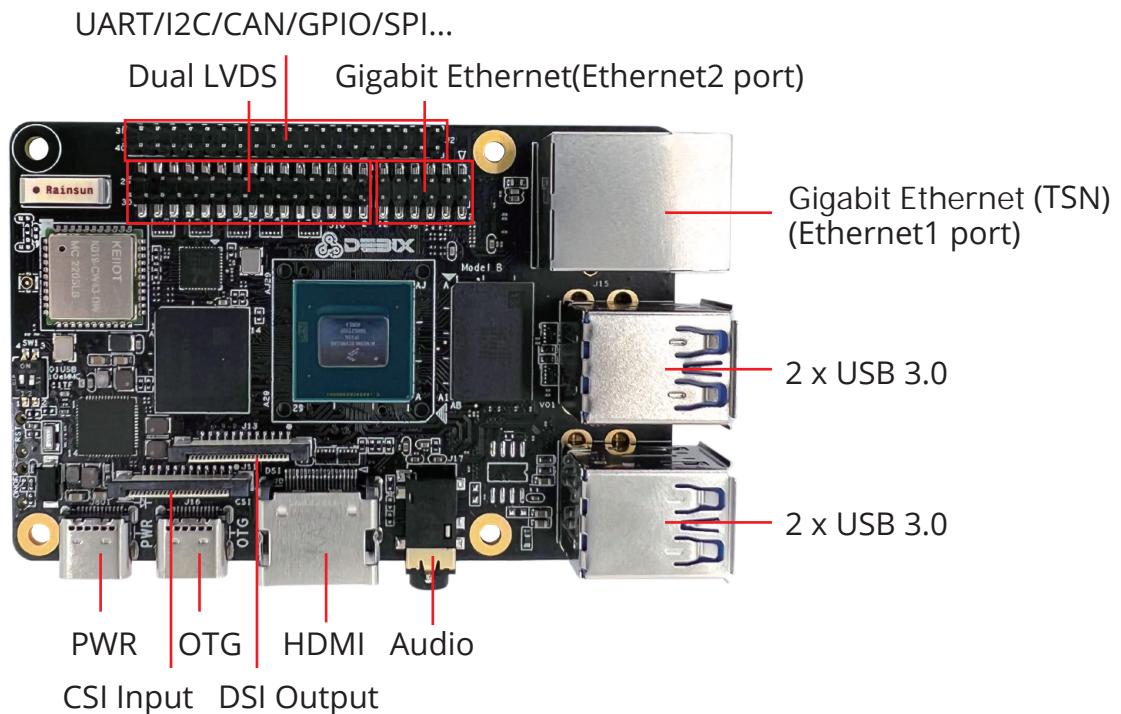
DEBIX Model B standard version, see the table below for details.

Version	CPU	NPU	VPU	ISP	HiFi 4
DEBIX Model B Standard	NXP i.MX 8M Plus	1	1	1	1
DEBIX Model B Lite	NXP i.MX 8M Plus Quad Lite	N/A	N/A	N/A	N/A

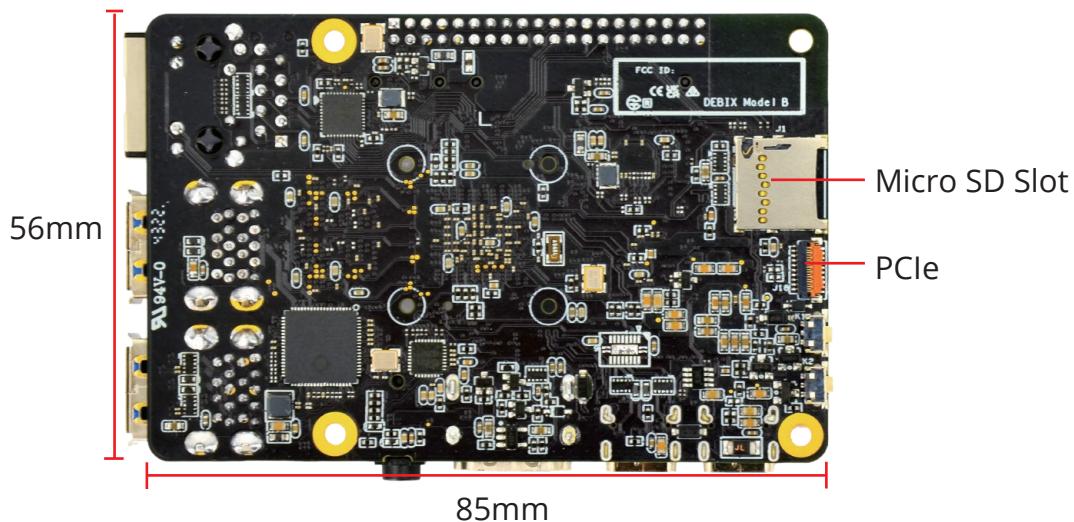
Certificates:



I/O Interfaces:



I/O Interfaces: (continued)



Ordering Codes:

RAM LPDDR4	eMMC Storage	PN for Model B	PN for Model B Lite
1GB DDR	8GB	Model B-D1E8	Model B Lite-D1E8
	16GB	Model B-D1E16	Model B Lite-D1E16
	32GB	Model B-D1E32	Model B Lite-D1E32
	64GB	Model B-D1E64	Model B Lite-D1E64
2GB DDR	8GB	Model B-D2E8	Model B Lite-D2E8
	16GB	Model B-D2E16	Model B Lite-D2E16
	32GB	Model B-D2E32	Model B Lite-D2E32
	64GB	Model B-D2E64	Model B Lite-D2E64
4GB DDR	8GB	Model B-D4E8	Model B Lite-D4E8
	16GB	Model B-D4E16	Model B Lite-D4E16
	32GB	Model B-D4E32	Model B Lite-D4E32
	64GB	Model B-D4E64	Model B Lite-D4E64

Compatible with DEBIX's Accessories:

Product	Model
DEBIX Fanless Aluminum Enclosure	EMC-7090B Model A/B
I/O Board	EMB-AS-E01
4G Board	EMB-AS-05
LoRa Board	EMB-AS-03
SBC POE Board	EMB-AS-06
DEBIX Camera Module	Camera 200A
	Camera 500A
	Camera 1300A
DEBIX Display Screen	DEBIX TD050A
	DEBIX TD070A
	DEBIX TD101A
	DEBIX TD050H
	DEBIX TD070H
	DEBIX TD101H

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.

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