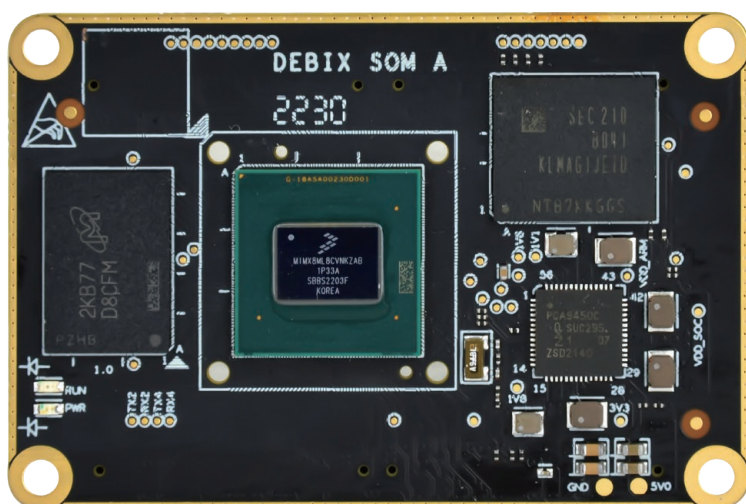


DEBIX SOM A





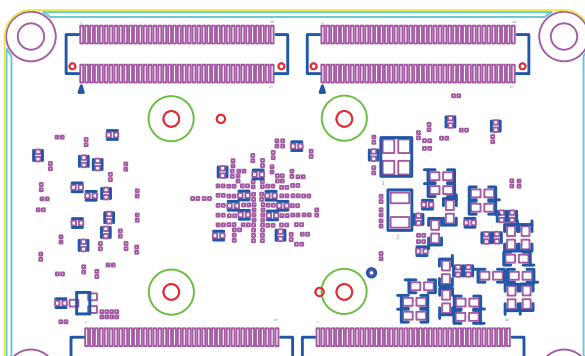
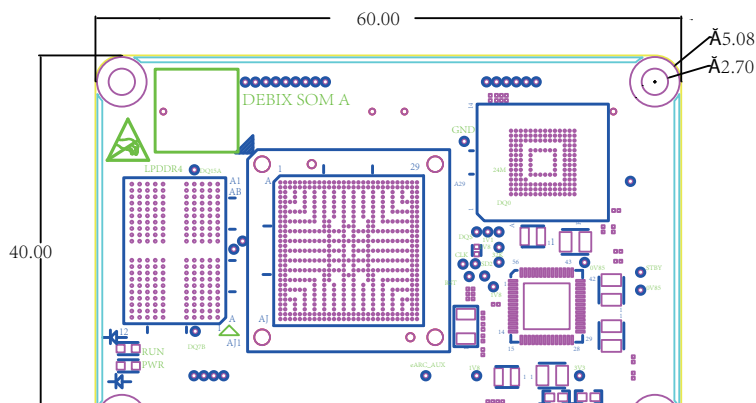
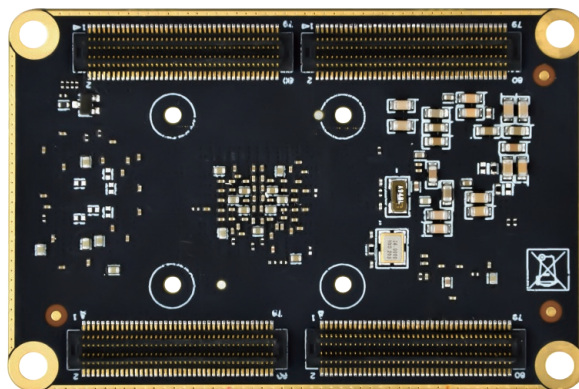
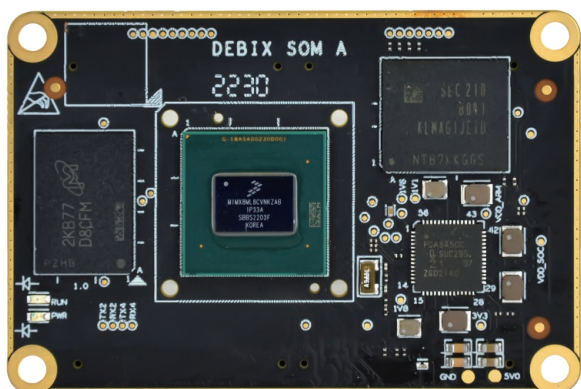
DEBIX SOM A i.MX 8M Plus Core Board

Overview:

DEBIX SOM A is the first System on Module product of the DEBIX series. As with the DEBIX Model A SBC, it is based on NXP i.MX 8M Plus CPU with a 2.3 TOPS NPU, which brings us the same powerful system performance. This core board design has some notable benefits, such as design reutilization, reduction of development time of the carrier boards, and flexible integration into various embedded systems.

Main Features:

- Powerful industrial grade core board built to meet the needs of industry 4.0, IoTs, smart cities and multimedia
- Complete software development including Android 11/ Yocto-L5.10.72_2.2.0/ Ubuntu 20.04/ Windows 10 IoT Enterprise operating system and basic software for fast and direct applications
- Real-time control with Cortex-M7. Robust control networks supported by CAN FD and dual Gigabit Ethernets, one of which supports Time Sensitive Networking (TSN)
- Dual Image Signal Processors (ISP) and dual camera inputs for an efficient advanced vision system
- Advanced multimedia capabilities include 1080p60 video encode and decode (including H.265, H.264), 3D/2D graphic acceleration, and multiple audio and voice functionalities



Specification:

System	
CPU	NXP i.MX 8M Plus (default), 4 x 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 (1GB/4GB optional, while 8GB is optional when operating temp. is -20°C to 70°C)
Flash	Onboard 16GB eMMC (8GB/32GB/64GB/128GB optional)
OS	Ubuntu20.04, Android11, Yocto-L5.10.72_2.2.0, Windows 10 IoT Enterprise Note: 4GB and 8GB LPDDR4 supports Windows 10 IoT Enterprise, recommend 8GB version.
I/O Interfaces	
Ethernet	2 x Gigabit Ethernet controller, one of them supports Time Sensitive Networking (TSN)
Display	1 x HDMI 2.0a, support 3840 x 2160@30Hz, 1920 x 1080@120Hz, 1920 x 1080@ 60Hz 1 x LVDS, support 4Lane and 8Lane 1 x MIPI DSI, support 2560 x 1080@60Hz
Camera	2 x MIPI CSI
Audio	Up to 6 x SAI (synchronous audio interface), HiFi4 DSP, 1 x SPDIF IN, 1 x SPDIF OUT (Note: 1 x SAI with 8 TX and 8 RX lanes, 1 x SAI with 4 TX and 4 RX lanes, 2 x SAI with 2 TX and 2 RX lanes, 2 x SAI with 1 TX and 1RX lane, all SAIs support I2S and AC97)
USB	2 x USB 3.0, configurable as device or host
UART	Up to 4 x UART
I2C	Up to 6 x I2C, I2C2~I2C6 are exposed to the connectors (2 of the five I2Cs are multiplexed as SD1). I2C1 is not allowed to be configured.
SDIO	2 x SDIO
SPI	Up to 3 x ECSPI
PCIe	1 x PCIe Gen3
CAN	2 x CAN
GPIO	13 x GPIO for default, other functional pins can be configured as GPIO through software
Power Supply	
Input Voltage	3.5V~5V
Operating Temperature	
Temp. Range	-20°C~70°C for default, -40°C~85°C optional
Mechanical	
Connector	4 x Double-sided board-to-board connector (model number BB51024A-R80-10-32), 2 x 40pin/0.5mm pitch, matching sockets of various heights
Dimension	60mm(L) x 40mm(W) x 5.6mm(H)

Product Version:

DEBIX SOM A has two versions, the standard and SE version. Their differences lie in the



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

Certificates:



Safety Instruction:

To avoid malfunction or damage to this product please observe the following:

- Do not expose to water, moisture or place on a conductive surface whilst in operation.
- Take care while handling to avoid mechanical or electrical damage to the printed circuit board and connectors.
- Avoid handling the printed circuit board whilst it is powered and only handle by the edges to minimize the risk of electrostatic discharge damage.

Warnings:

- This product should be used with a carrier board and connected to an 5V external power supply.
- This product should be operated in a well-ventilated environment and, if used inside a case, the case should not be covered.
- This product should be placed on a stable, flat, non-conductive surface in use and should not be contacted by conductive items.
- All peripherals used with this product should comply with relevant standards for the country of use and be marked accordingly to ensure that safety and performance requirements are met. These articles include but are not limited to keyboards, monitors and mice when used in conjunction with DEBIX.
- Where peripherals are connected that do not include the cable or connector, the cable or connector must offer adequate insulation and operation in order that the relevant performance and safety requirements are met.

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