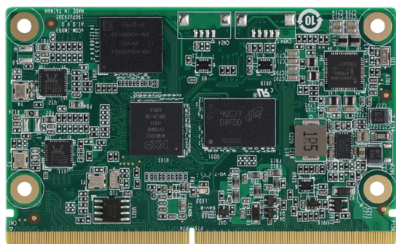# uCOM-IMX93

SMARC CPU Module with NXP i.MX 93 – Dual-Core Arm® Cortex®-A55 + Arm Cortex®-M33 Processor

Features

- **NXP i.MX 93 – Dual-Core Arm® Cortex®-A55 + Arm Cortex®-M33, up to 1.7 GHz**
- **Onboard LPDDR4, Up to 2GB**
- **HDMI x 1 or MIPI-DSI 4 lane x 1, LVDS x 1**
- **GbE x 2**
- **USB 2.0 OTG x 1, USB 2.0 HOST x 4**
- **UART x 4, GPIO x 8, MIPI CSI x 1, TPM 2.0, CAN-FD x 2**

CE FC

Specifications

System

Form Factor	SMARC 2.1 Compliant
CPU	NXP i.MX 93 – Dual-Core Arm® Cortex®-A55 + Arm Cortex®-M33 Processor, 0.5 TOPs Cortex-A55: 1.7 GHz, Cortex-M33: 250 MHz (Default w/NPU, optional w/o NPU)
Chipset	—
Memory	Onboard LPDDR4, up to 2GB
Storage	eMMC 5.1, 16GB (Optional: 32GB/64GB/128GB) SDIO 3.0 x 1 (for SD Card)
BIOS	—
MTBF (Hours)	3,896,445
Wake On LAN	—
Watchdog Timer	Yes
Real Time Clock	RTC x 1
Boot Select	Carrier SD Card Module eMMC Flash Universal Update Utility (UUU) Serial Download Mode
Security	TPM 2.0 (optional)

Display

Graphics Controller	NXP integrated 2D Graphic Acceleration
Video Output	HDMI x 1, 1920 x 1080, 1280 x 720 (optional w/I2S) LVDS 4-Lane x 1 (18/24bit) MIPI-DSI 4-Lane x 1 (by request)

I/O Interfaces

Ethernet	Gigabit Ethernet x 2 (TSN x 1)
USB	USB 2.0 x 4 (Host) USB 2.0 x 1 (OTG)
Serial Port	UART x 4 (2-wire x 2, SER1 for A55 debug port, 4-wire x 2)
Audio	I2S x 1 (optional w/HDMI) x 1
PCIE	—
CANBus	CAN 2.0 FD x 2 (1.8V)
MIPI-CSI	MIPI CSI 2 Lane x 1
GPIO	8 bits (one for PWM)
Other Interfaces	SPI x 2 (SPI1 colay with TPM) I2C x 4

Power

Power Requirement	DC 3.3V ~ 5.25V
Power Consumption	13.8W (Full Loading)

Environmental And Mechanical

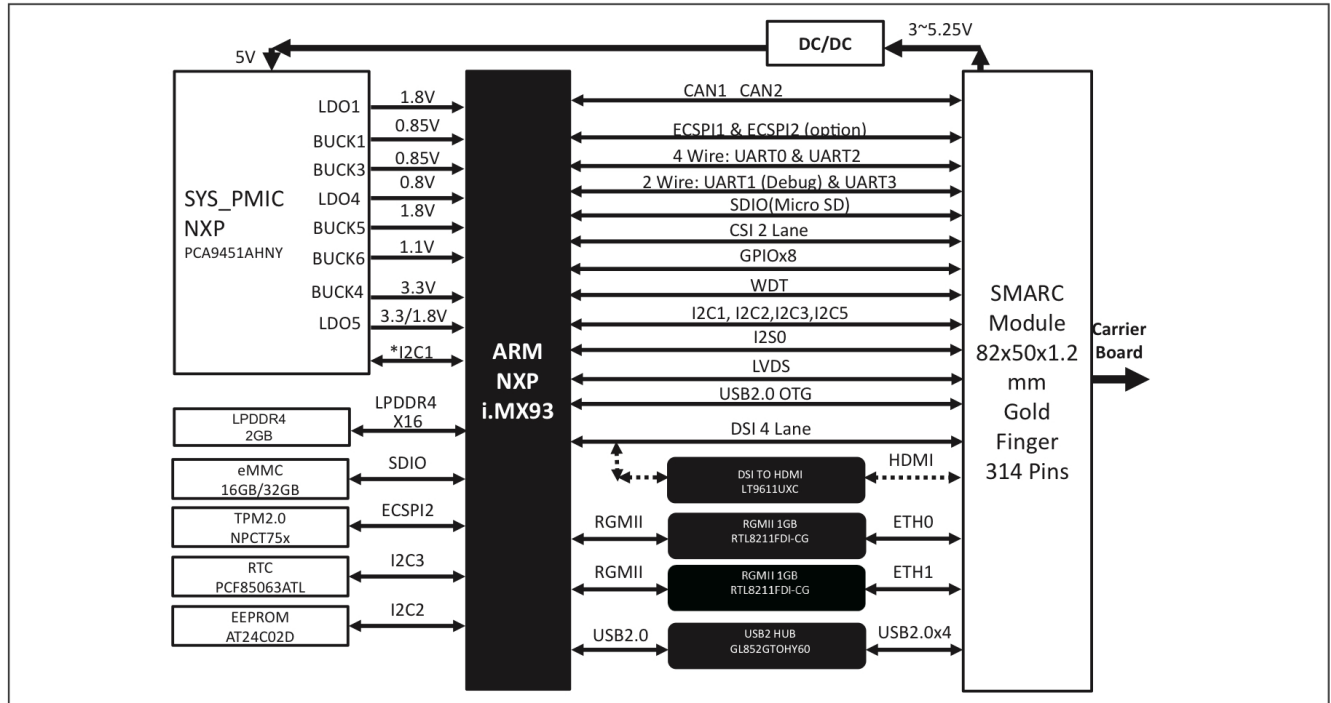|	
Dimensions	3.23" x 1.97" (82mm x 50mm)
Weight	0.03 lb (0.016Kg)
Operating Temperature	-40°F ~ 185°F (-40°C ~ 85°C) Optional: 32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A
OS Support	Yocto 5.0 (kernel 6.6.23) Ubuntu 22.04 (kernel 6.6.23-LTS-next, by request) Windows 11 IOT (by request)
Support Protocol	By request

Packing List

- uCOM-IMX93

Optional Accessories

Part Number	Description
UCOM-IMX93-HSK01	Heatsink.82*42*21.5mm.for uCOM-IMX93
ECB-960T-A15-0002	Carrier board for uCOM-IMX93

Note: All specifications are subject to change without notice.

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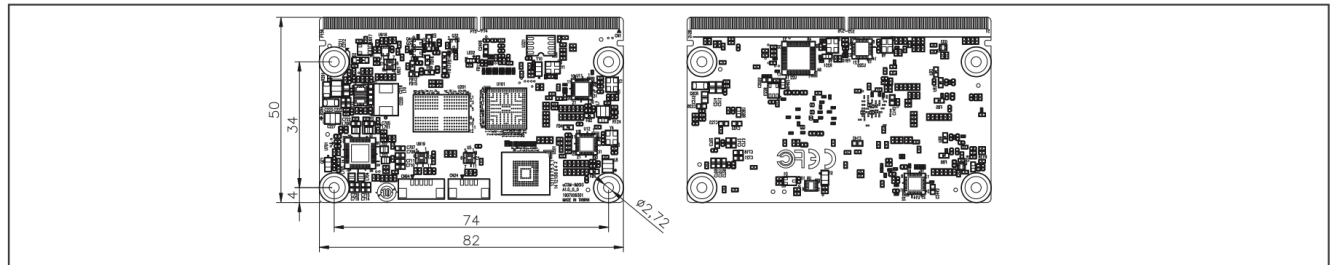an ASUS assoc. co.

uCOM-IMX93

Block Diagram

Dimension

Unit: mm

Ordering Information

Part Number	Form Factor	CPU	Memory	ECC Support	Display	Storage	LAN	USB	UART	Expansion	Power	Temperature	Others
uCOM-IMX93-A10-0001	SMARC	NXP I.MX93 – Dual-Core Arm® Cortex® -A55 + Cortex® -M33 Processor, 0.5 TOPs Cortex-A55: 1.7GHz, Cortex-M33: 250MHz	Onboard LPDDR4 2GB	—	LVDS 4-Lane x 1 (18/24bit)	16GB eMMC	GbE x 2	USB 2.0 x 5 (Host x 1, OTG x 1)	UART x 4 (2-wire x 2, SER1 for A55 debug port, 4-wire x 2)	—	+5V	-40°C ~ 85°C	CAN-FD x 2 SPI x 2 I2C x 4 GPIO 8 bits (one for PWM) MIPI CSI x 1 I2S x 2
uCOM-IMX93-A10-0002	SMARC	NXP I.MX93 – Dual-Core Arm® Cortex® -A55 + Cortex® -M33 Processor, 0.5 TOPs Cortex-A55: 1.7GHz, Cortex-M33: 250MHz	Onboard LPDDR4 2GB	—	HDMI x 1 LVDS 4-Lane x 1	16GB eMMC	GbE x 2	USB 2.0 x 5 (Host x 1, OTG x 1)	UART x 4 (2-wire x 2, SER1 for A55 debug port, 4-wire x 2)	—	+5V	-40°C ~ 85°C	CAN-FD x 2 SPI x 2 I2C x 4 GPIO 8 bits (one for PWM) MIPI CSI x 1 TPM 2.0