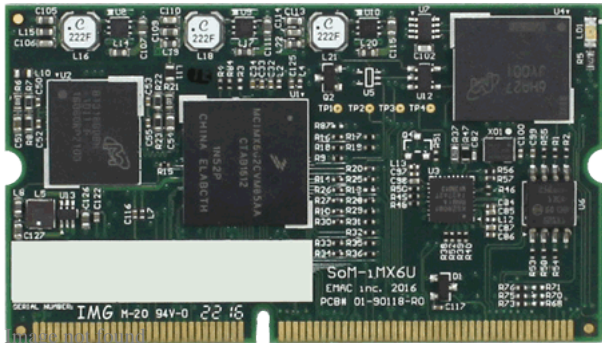


Source URL: <http://emacinc.com/content/som-imx6u-system-module>

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## SoM-IMX6U System on Module



[EMAC OEM](http://emacinc.com/sites/default/files/EMAC%20OEM%20LOGO_sm_2_0.png) [http://emacinc.com/sites/default/files/EMAC%20OEM%20LOGO\\_sm\\_2\\_0.png](http://emacinc.com/sites/default/files/EMAC%20OEM%20LOGO_sm_2_0.png)

- Freescale/NXP i.MX6 UltraLite (MCIMX6G1) Cortex A7 528Mhz Processor
- 3.5mA APM Sleep, or less.
- 4 GB of eMMC Flash
- 16 MB of Serial Data Flash
- 128 MB of LP DDR2 RAM
- 4x serial port with no handshake
- 1x serial ports with handshake
- 1x 10/100 BaseT Ethernet port
- 1x USB 2.0 High Speed Host port
- 1x USB 2.0 High Speed Host/Device OTG port
- 4x channels of 12 bit A/D (0 to 3.3V)
- Internal Real time clock/calendar (with external battery backup)
- External Address/Data Bus
- 22x GPIO (3.3V) Lines (Shared with Timer/Counters, Prog Clocks, PWM, I2S, etc.)
- 1x CAN Port
- 1x I2C Port
- Small, form factor (2.66" x 1.5")
- External Reset Button provision and green Status (software controlled) LED
- 1x SDIO SD port
- +3.3 volt board input voltage required
- Temperature Range: -40 to +85C

Designed and manufactured in the USA, the SoM-iMX6U is an ultra low power System on Module (SoM) designed to plug into an EMAC carrier board that contains all the connectors and I/O required for a system. The SoM-iMX6U is based on the Freescale/NXP i.MX6 UltraLite Cortex A7 processor and has ARM Sleep Mode of 3.5mA.

A SoM is a small embedded module that contains the core of a microprocessor system. The SoM-iMX6U is industrial wide temperature, ultra-low power 528 MHz module with 4GB of eMMC Flash, 8MB of serial data flash, and 512MB of LP DDR2 RAM. The module has 10/100 BaseT Ethernet, 5x serial ports (4x

without handshake and 1x with handshake). The recommended development / carrier board is the SoM-112 or SoM-150 carrier board.

The SoM approach allows clients to develop a product using a commercial off the shelf (COTS) development/baseboard/carrier board for the proof of concept or production units. If the product or project has specific dimensional, I/O or connector placement requirements a custom carrier board can be created in as little as a month. Use of an off-the-shelf carrier board allows clients to start developing their software while the custom carrier board is being designed and build. Using the SoM approach, product lifecycle concerns for the processor, memory and other SoM based components are minimized.

The System On Module approach provides the flexibility of a fully customized product at a greatly reduced cost.

## Specifications

### **SOM Type:**

Microcontroller SODIMM Modules

#### Processor

##### **Processor:**

Freescale/NXP i.MX6 UltraLite (MCIMX6G1) Cortex A7 Processor

##### **Clock Speed:**

528 MHz

##### **Real Time Clock:**

#### Memory

##### **BIOS/ Bootloader:**

Uboot

##### **Primary Flash:**

4GB eMMC Flash

##### **Secondary Flash:**

16MB of Serial Data Flash

##### **Memory Misc.:**

Other Memory sizes Build to order

#### Primary I/O

##### **GPIO:**

22 GPIO (3.3V) Lines (Shared with Timer/Counters

Prog Clocks

PWM

I2S

etc.)

##### **SDIO:**

1x SDIO SD Port

##### **Disk Interface:**

1x SD Flash Card Socket

##### **SPI:**

1x SPI

##### **Audio:**

1x I2S Audio Port with Line In/Out

##### **Ethernet:**

1x 100 BaseT Ethernet

**USB:**

2x USB 2.0 Hosts & 1 USB OTG

**Serial Ports:**

5x Serial Ports

**I2C:**

1x I2C hardware port

**Watchdog:**

Secondary I/O

**CAN:**

1x CAN port

**Timers/ Counters/ PWM:**

2 Timer/Counters/PWM

**LPT Port:**

**Keypad:**

**PS/2:**

Analog on

**A/D:**

**A/D Channels:**

4

**A/D Resolution:**

12

**D/A:**

Dimensions

**Dimensions:**

2.66 × 1.5 in

**Form Factor:**

144-pin SODIMM

Power Requirements

**Voltage:**

3.3 V

**Sleep Current:**

3.5 mA

**Idle Current:**

150 mA

**Typical Current:**

160 mA

**Max Boot Current:**

270 mA

**Power Misc.:**

APM Sleep Mode of 3.5mA, Low power, High-performance SOM

Environmental

**Low Operating Temperature:**

-40 C

**High Operating Temperature:**

85 C

**Upper Operating Humidity:**

90%

**Environmental Misc.:**

Operating temperature of -40° to +85°C optional

**Pricing**

**SOM-IMX6U-120**

SOM-IMX6U, MCIMX6G1, 128MB RAM, 4GB eMMC, 16MB Serial Data Flash, 2x USB, 10/100 LAN, (-40° to 85°C)

\$115.00

Stock

**Order:**

0

**Parent Product:**

SoM-IMX6U

**Base Product:**

SoM-IMX6U

**SOM-IMX6U-140**

SOM-IMX6U, MCIMX6G1, 512MB RAM, 4GB eMMC, 16MB Serial Data Flash, 2x USB, 10/100 LAN, (-40° to 85°C)

\$115.00

Build to Order

**Order:**

0

**Parent Product:**

SoM-IMX6U

**Base Product:**

SoM-IMX6U

**Non-Stock NCNR:**

0

**Carrier Boards:**

**Title: SoM-150ES-000**

Standard Carrier Board

\$150.00

**Base Product:**

SoM-150ES

**Title: SoM-150ES-007**

Bare-Bones Carrier Board

\$100.00

**Base Product:**

SoM-150ES

**Title: SoM-150ES-031**

Deluxe Carrier Board with A/D, D/A, Audio

\$220.00

**Base Product:**

SoM-150ES