

WT-SOM6ULX Specification



1 . Introduction

The WT-SOM6ULX is a tiny insert-ready System on Module populated with the NXP® Semiconductor i.MX 6ULL SoC based on the ARM Cortex-A7 architecture. The module has integrated with DDR3L, Nand Flash(or eMMC) and one 10/100M Ethernet PHY on board. It delivers high performance with ultra-efficient power that targets Industry Control, HMI, Smart Healthcare and Internet of Things (IoT) applications.

The i.MX 6ULL is a power efficient and cost-optimized applications processor family featuring an advanced implementation of a single Arm® Cortex®-A7 core, which operates at speed up to 900 MHz.

Main Features:

- Arm Cortex-A7 core up to 900 MHz, 128 KB L2 cache
- Parallel LCD Display up to WXGA (1366x768)
- 8/10/16/24-bit Parallel Camera Sensor Interface
- 2x MMC 4.5/SD 3.0/SDIO Port
- 2x USB 2.0 OTG, HS/FS, Device or Host with PHY
- Audio Interfaces include 3x I2S/SAI, S/PDIF Tx/Rx
- 2x 10/100Mbps Ethernet with IEEE802.3
- UP to 8 UARTs
- 2x 12-bit ADC, up to 10 input channel, with resistive touch controller (4-wire/5-wire)
- Security Block: TRNG, Crypto Engine (AES with DPA, TDES/SHA/RSA), Secure Boot

i.MX6ULL functional framework:

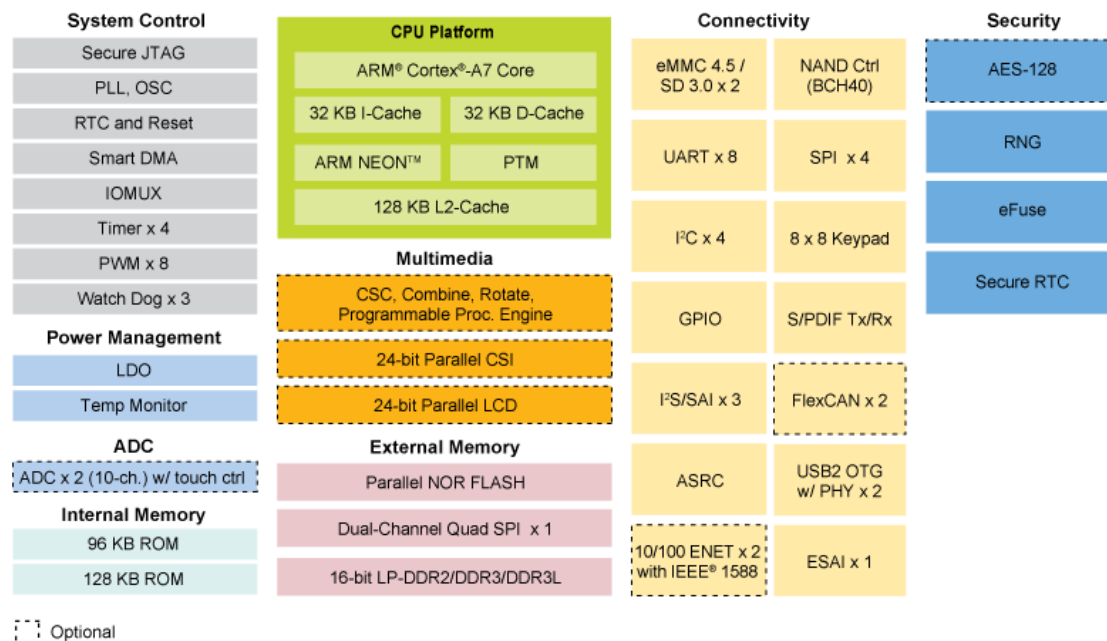


Figure 1 i.MX6ULL functional framework

2 . WT-SOM6ULX module features

- ARM Cortex-A7 high efficiency processor, can adopt 528MHz~900MHz processor.
- Compact size (38mm*38mm). Only front side layout, back side is blocked, can choose shield for the front side.
- 128Pin with 1.1mm pitch, extend i.MX 6ULL all the pins resources.
- Default configuration is 256MB DDRL (up to 512MB) , 256MB Nand Flash (up to 2GB).Nand Flash can be changed to eMMC(from 4GB to 32GB).
- Integrated 1 way 10/100M Ethernet physical chip.
- Strict signal integrity and power integrity design and test, compliance with CE and FCC.
- On-board power on reset circuit and power management circuit.
- Support system standby and wake up, standby current is 8mA at 3.3V power supply.

3 . WT-SOM6ULX module block diagram

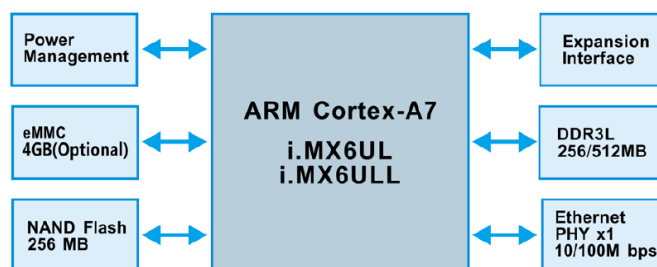


Figure 2. WT-SOM6ULX module framework

4 . WT-SOM6ULX pin definition

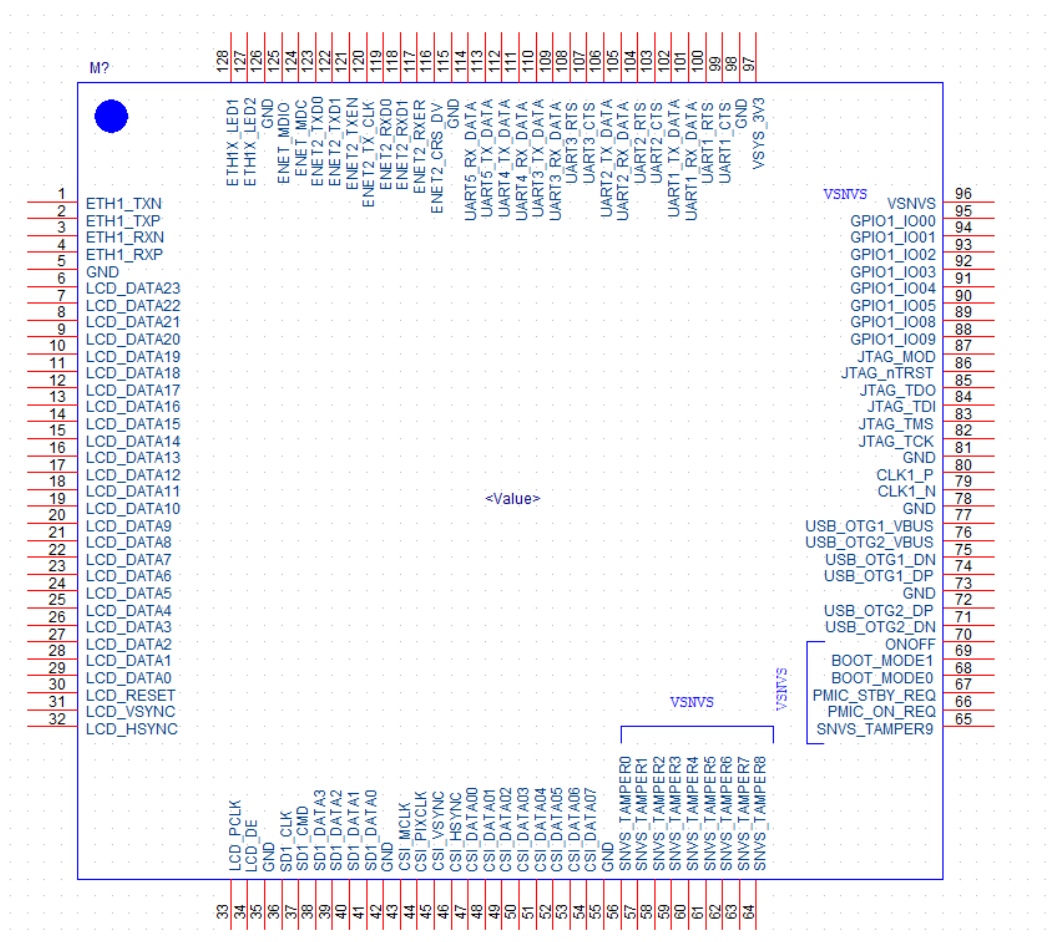


Figure 3. WT-SOM6ULX pin definition

Note: detail pin definition and functional reuse please refer to the document "WT-SOM6ULX Pinout.pdf"

5. Module measurement

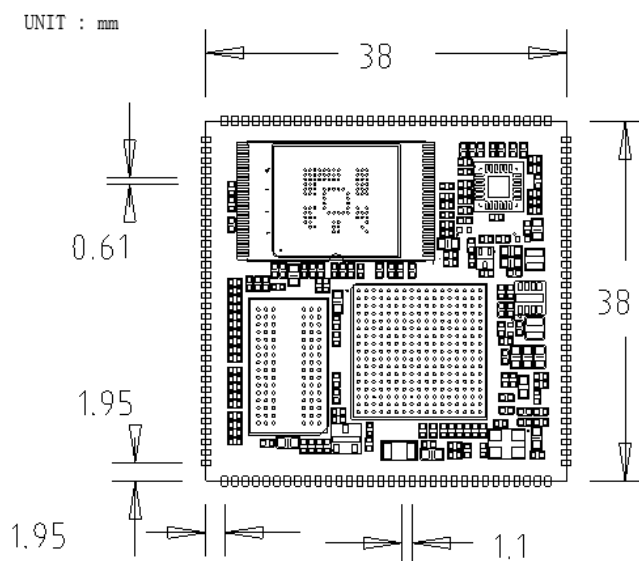


Figure 4. WT-SOM6ULX measurement

6 . Module electrical parameters

Power pin	Min	Max	Current	Power supply ripple requirements
VSYS_3V3	3.2V	3.4V	<190mA(full mode) <9mA (Standby mode)	<30mVrms
VSNVS	2.8V	3.4V	<500uA	<30mVrms
USB_OTG2_VBUS	4.7V	5.2V	<50MA	<50mVrms
USB_OTG1_VBUS	4.7V	5.2V	<50MA	<50mVrms

Remark: USB_OTG1_VBUS can use it not be a power supply pin, can us as OTG VBUS functional only.
Other electrical parameters please refer to i.MX6ULL Datasheet.

7 . Ordering information

Order part number	DDR3L	ROM	CUP	Temperature
WT-SOM6ULX-Y2-D256N256-80-C	256MB	NAND 256MB	800MHZ	0~70
WT-SOM6ULX-Y2-D256N256-80-I	256MB	NAND 256MB	800MHZ	-40~85
WT-SOM6ULX-Y2-D256E8G-80-C	256MB	EMMC 8GB	800MHZ	0~70
WT-SOM6ULX-Y2- D256E8G-80-I	256MB	EMMC 8GB	800MHZ	-40~85