



## i.MX25L 开发套件系统介绍



远盈科技

2010-8-10

A. 更多信息请浏览以下网址:

--- i.MX25L: 基于MX25的Linux系统开发工具: [http://www.yuan-ying.com/product\\_catalog/i.mx25l.html](http://www.yuan-ying.com/product_catalog/i.mx25l.html)

--- i.MX25W: 基于MX25的Wince6.0系统开发工具: [http://www.yuan-ying.com/product\\_catalog/i.mx25w.html](http://www.yuan-ying.com/product_catalog/i.mx25w.html)



## ◆ 系统简介



从2009年10月开始，远盈公司致力于FREESCALE的i.MX系列研发，至今相继已，成功推出基于i.MX28、i.MX35、i.MX51等开发工具，远盈科技紧随市场需要于2010年8月推出基于FREESCALE的i.MX25芯片的平台的Linux开发工具：i.MX25L。

i.MX25以ARM926EJS为核心构架；主频400MHz，片内集成CSI接口。拥有16K的指令缓存和16K数据缓存，128KB SRAM和2KB加密ROM，并且集成了LCD和SLCD控制器，CMOS sensor输入接口，3通道12位ADC，3个I2C接口，5个串口，一个以太网接口，2个CAN接口，2个SD/MMC接口。4个定时器，4个PWM输出，USB HOST，USB DEVICE等丰富的接口，另外内存采用较新的DDR2接口，是目前ARM9当中架构最高端的配置。

i.MX25L系统是基于Linux-2.6.31内核的Linux开发平台，采用ext2文件系统的开发工具，i.mx25+128MB DDR2硬件结构，程序存储可选SD卡或NAND flash，i.MX25L搭载了7" LCD屏和电阻触摸屏，拥有i.mx25的全部输出接口，仍采用远盈科技一贯的核心板加底板的结构，核心板物料全部采用工业级物料，可工作在-40C to +85C环境下，存储温度-55C to +125C i.MX25L可广泛应用于消费电子、户外多媒体、工业控制及操控面板、医疗设备控制等领域。是电力电表终端、工业设备操控面板、汽车控制单元、医疗设备主控与显示等产品的上上之选。

## ◆ 硬件介绍

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## CPU

- i.MX25, ARM926EJS 400MHz主频
- 16K I-Cache, 16K D-Cache
- LCD控制器
- 2xCAN控制器
- 1xEthernet控制, 支持10/100IEEE802.3 MII, 10/100 RMI

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## 存储器

- Memory: Onchip integrate 128KB RAM + 2K security ROM, 系统外接 DDR2 128MB/1片
- Serial Flash: 1MB(可选)
- NAND: 2GB(与SD卡选一)
- I2C EEPROM: 256K(可选)

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## 接口

- USB接口: HS USB OTG, HS USB Host
- SD: SD卡槽 (可做Boot用)
- FEC: 10/100M以太网 (10/100 IEEE802.3 MII)
- UART: UARTx1
- CAN: CAN
- TOUCH: 7" 电阻屏

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## A-V输出

- LCD: TFT LCD 7吋 800x480
- 音频输入: MIC
- 音频输出: Headphones

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## 时钟与电源

- 电源: 5V 2A 电压压输入

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## 无线通讯

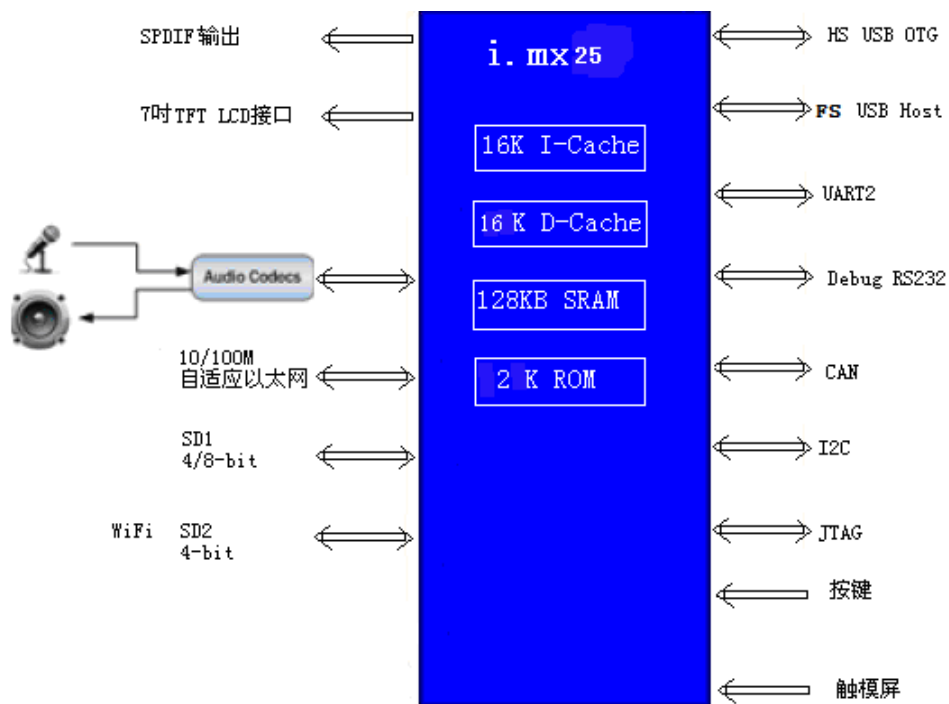
- WiFi: WiFi 802.11g/b(选配项)

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## 板结构与尺寸

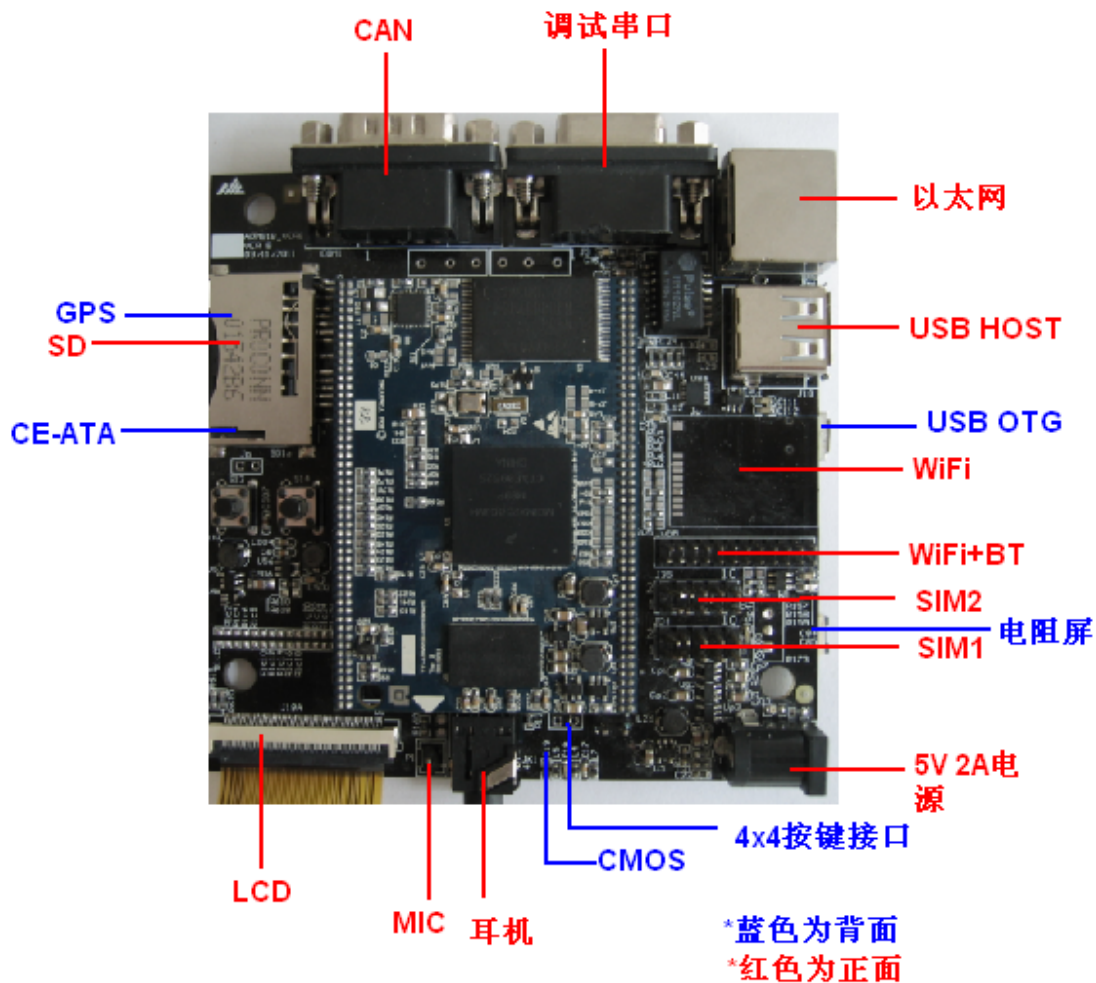
- 主板: 9.5cm X 9.5cm 2层PCB
- 核心板: 4.5cm X 6.5cm 6层PCB

◆ 系统框图



- 注：---
- TFT 7” LCD 屏
  - WiFi为可选配件（扩展）
  - 触摸屏为电阻屏
  - SD与NAND FLASH可选其一

◆ 实板接口指示



**BOOT模式说明:**

BT_MEM_CTL[1:0]	00 = WEIM 01 = NAND Flash 10 = Reserved 11 = Expansion	BT_PAGE_SIZE[1:0]	BT_MEM_CTL = NAND Flash 00 = 512 bytes 01 = 2K bytes 10 = 4K bytes 11 = Reserved
BT_MEM_TYPE[1:0]	BT_MEM_CTL = WEIM 00 = NOR 01 = Reserved 10 = One Nand 11 = Reserved BT_MEM_CTL = NAND 00 = 3 address cycles 01 = 4 address cycles 10 = 5 address cycles 11 = Reserved BT_MEM_CTL = Expansion 00 = SDMMC/MovinAND/CE_ATA 01 = Reserved 10 = Serial ROM via I2C 11 = Serial ROM via SPI	BT_BUS_WIDTH[1:0]	BT_MEM_CTL = NAND Flash 00 = 8 bit bus 01 = 16 bit bus 10 = Reserved 11 = Reserved BT_MEM_CTL = WEIM(NOR) 00 = 16 bit A/D mux 01 = 16 bit A/D unumux 10 = Reserved 11 = Reserved BT_MEM_CTL = Expansion 00 = 2-Address SPI(16-bit) 01 = 3-Address SPI(24-bit) 10/11 = Reserved
BT_USB_SRC[1:0]	00 = Internal UTMI PHY 01 = External ULPI PHY 10 = Reserved 11 = Reserved	BT_SRC[1:0]	MEM_CTL=11/MEM_TYPE=00 00 = eSDHC-1 01 = eSDHC-2 10 = Reserved 11 = Reserved
BT_MLC_SEL	0 = SLC Device 1 = MLC Device	BT_LP_FREQ[2:0]	MEM_CTL=11/MEM_TYPE=10 00 = I2C1 01 = I2C2 10 = I2C3 11 = Reserved
BT_SPARE_SIZE	0 = 128 bytes spare 1 = 218 bytes spare	BT_LP_FREQ[2:0]	MEM_CTL=11/MEM_TYPE=11 00 = CSPI1 01 = CSPI2 10 = CSPI3 11 = Reserved
BT_EEPROM_CFG	0 = Use EEPROM DCD 1 = Donot use EEPROM DCD	BT_LP_FREQ[2:0]	4 = 83MHz 5 = 166MHz 6 = 266MHz 7 = Normal boot freq
BT_LP_FREQ[2:0]	0 = 133MHz (Default) 1 = CKIH 2 = 55.33MHz 3 = 66MHz		
<b>Configure set infomation</b>			

◆ Linux BSP

Bootloader	
U-boot	支持SD卡更新内核和文件系统，支持FEC网络下载内核和文件系统

Linux Kernel	
Linux 2.6.31	

底层驱动	
FEC Driver	以太网驱动程序
USB OTG Driver	USB OTG驱动程序
USB Host Driver	USB Host 驱动程序
UART Driver	串口驱动程序
Audio Driver	音频codec驱动程序
TOUCH Driver	触摸屏驱动程序
I2C Driver	I2C驱动程序

Flex CAN Driver	CAN 驱动程序
Camera Driver	摄像头驱动程序
MMC/SD/SDIO Driver	MMC/SD/SDIO驱动程序
SPI Driver	SPI ROM驱动程序
PWM Driver	PWM驱动程序
WDOG Driver	看门狗驱动程序
1-Wire	1-Wire驱动程序
IEEE1588 Driver	IEEE1588驱动程序
RTC Driver	RTC驱动程序
WDOG Driver	看门狗驱动程序

多媒体支持	
Video decoding	<ul style="list-style-type: none"> <li>● MPEG4 decode: 320x240p,30fps</li> <li>● H.264 decode: 320x240,30fps</li> </ul>
Audio decoding	<ul style="list-style-type: none"> <li>● AAC MPEG-2 and MPEG-4 audio low complexity</li> <li>● AAC PLUS MPEG-2 and MPEG-4 audio low complexity</li> <li>● MP3 MPEG-1 Audio Layer I II III</li> <li>● WMA Standard WMA V10 Standard L1/L2/L3 profile</li> <li>● WMA Professional WMA V10 Professional M0a/b profile</li> </ul>
支持文件格式	MP3,wma,aac,m4a,m4b,mp4,mov,3gp,m4v,avi

※ **i.MX25 Linux 开发工具基本配置**

- ① i.MX25 Linux开发板一块
- ② 7吋液晶屏一块，电阻触摸屏一块
- ③ 4G SD卡一张（或NAND Flash 内置Demo）
- ④ RS232数据线一根
- ⑤ USB数据线一根
- ⑥ 5V 2A电源一个
- ⑦ 开发板资料光盘一张
- ⑧ 纸质开发板简介一份

※ **i.MX25 Linux 开发板光盘文件列表**

- ① i.MX25芯片手册
- ② 开发板参考原理图一份(部分PDF)
- ③ 开发板硬件手册一份
- ④ 开发板Linux BSP用户手册一份
- ⑤ i.MX25 Linux操作说明一份



