深圳市海天雄电子有限公司
Shenzhen Haitianxiong Electronic Co., Ltd.

CES-AM335X
Product Manual

TI Development Platform

Rev. V1.0

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Introduction

CES-AM335X Development Platform is an industrial development platform designed by Haitianxiong. It is based on TI Sitara ARM processor AM335x, adopting highly integrated SOM core board, which integrated 512MB DDR3, 1GB SLC NandFlash and power management chip.

CES-AM335X Development Platform is composed by core board, motherboard, display drive board and development tools. Its core board is AM3354, an industrial control MCU with the most clearly product positioning, with frequency up to 800MHz, and integrated with ARM Cortex-A8 microprocessor, 2-channel MAC controller and POWERVR SGXTM graphic accelerator which was enhanced in image, graphic processing and peripherals to ensure high performance and low power consumption. This core board can be directly used in products to save developing time and costs. The motherboard is composed by functional units and extended modules. Its functional units includes UART interface, USB interface, Ethernet interface, I2C communication interface, SPI, MMC/SDIO interface, McASP interface, ADC interface, AUIAO, LVDS and RGB dual-channel display control interface, GPIO input/output function and other functions.
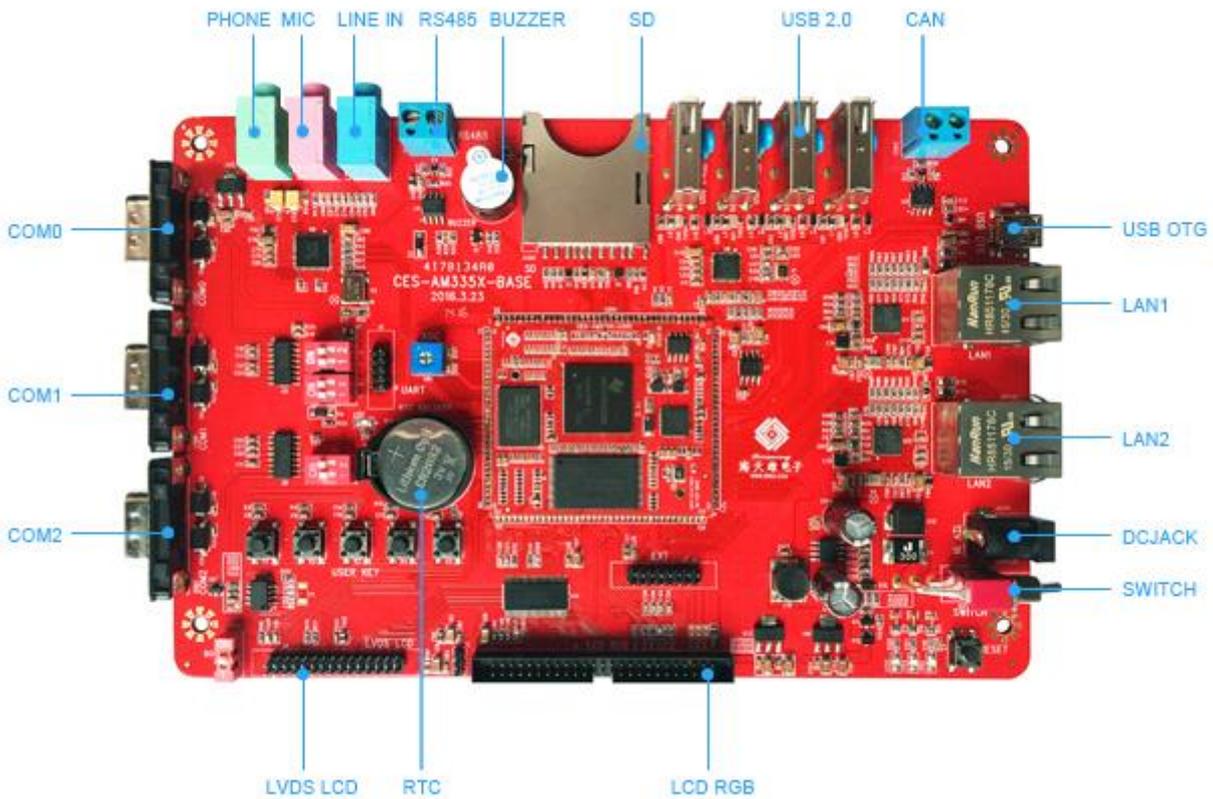
CES-AM335X Development Platform is optional for 7 inch resistive touch LCD and 10.1 inch capacitive touch LCD, providing a complete set of development kits and software package. Rich sources, optimized hardware and software, making it fulfill needs of most products and various situations, such as industrial control, medical electronics, energy saving, environmental protection, intelligent transportation, power system, communication, CNC industry, automotive electronics, industrial touch screen control system, robot visual, media processing wireless applications, digital home appliances, mobile equipment, network terminals, etc.
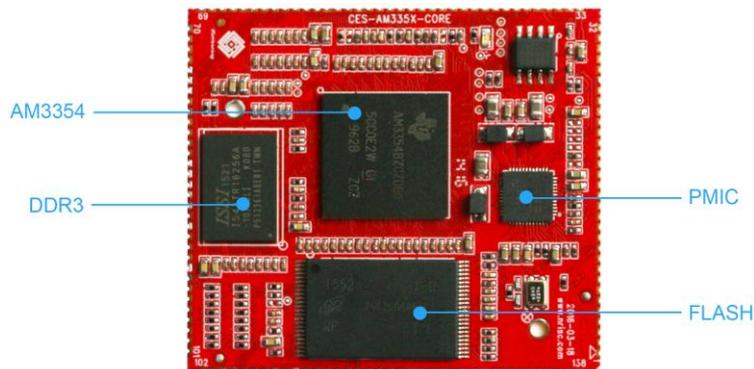
Features

◆   TI Cortex-A8 AM3354 Processor；

◆   With 512MB DDR3 and 1GB SLC NandFlash；

- ◆ Support 7-inch RGB 24bit resistor touch screen（800*480）and 10.1-inch LVDS（1024*600）screen；

- ◆ Support dual Gigabit Ethernet interfaces，including RS485、CAN bus、USB etc. to meet industrial applications；

- ◆ Support Linux3.2、Android4.2 operating system；

Function Interface

Core Board

Hardware Parameter

CPU	TI AM335X Cortex-A8 processor，AM3354BZCZD80，324Pin，NFBGA paceage，operating temperature range：–40°C~+90°C
Architecture	ARMv7 Cortex-A8
Frequency	800MHz
Memory	512MB DDR3 IS43TR16256A，96-ball FBGA，Lead-free，operating temperature range：–40°C~+95°C
FLASH	1GB SLC NANDFLASH MT29F8G08ABABA，48-pin TSOP，100-ball BGA operating temperature range：–40°C~+85°C
Graphics Processor	POWERVR SGX530，Industry-standard API support – Direct3D Mobile, OpenGL ES 1.1 and 2.0, OpenVG v1.0.1
PMIC	Use TPS65217C，operating temperature range：–40°C 至+105°C，suitable for industrial applications
Core Board interface	Stamp hole
LCD	Support 7 inches RGB 24bit LCD screen with resistive touch function, default support 800*480 resolution； Support 10.1 inches LCD screen with capacitive touch function, default support 1024*600 resolution；
CAN	Onboard 1 channel CAN interface
RS485	Onboard 1 channel RS485 interface
UART interface	Onboard 3 COM0-COM2 UART serial port，baud rate 115200bps，for common serial、debugging information output, etc.
USB 2.0 HOST	Onboard 4 USB 2.0 HOST interface
USB OTG	Onboard 1 USB OTG2.0 interface
SD/HSMMC	Onboard 1 SD/MMC card slot
Ethernet	Onboard 2 Gigabit Ethernet slots，use RGMII interface form，use AR8031 physical layer connection
Audio	TLV320AIC3106 IIS interface，leads 3 channel interface（1 channel Phone，1 channel MIC，1 channel Line in），support for recording broadcast function
Function key	Onboard 5 user buttons
ADC	Onboard 5 channel adjustable ADC（4 channel resistive touch，1 channel sliding rheostat)
Buzzer	Onboard 1 MMBT3904/SOT buzzer

Battery	Onboard a lithium button battery for RTC use
Power supply mode	DC 12V/5A power supply, with power switch and indicator lights

Software Parameter——Linux 3.2

Operating system	Linux 3.2.0
Kernel version	Linux 3.2.0
System boot program	U-boot2013.01
Cross compile tool	arm-linux-gnueabihf-gcc(gcc4.9)
Serial debugging tools	Minicom terminal
System file format	UBI
GUI	QT4.8.5
Video playback	MPlayer
Ethernet drive	Support Dual Gigabit wired Ethernet (1000M/100M)
Audio drive	Support record and playback
LCD drive	Support 10.1 inches / 7 inches LCD screen
TOUCH drive	Support capacitive single point / resistive single point touch drive
USB HOST drive	Support USB mouse, USB keyboard, U disk read function
USB OTG drive	Support g_file_storage、g_mass_storage、g_ether function
Keypad drive	Support 5 GPIO key functions
SD/MMC drive	Support 32GB high-capacity SD card memory read and write operating
RTC drive	Support real-time clock function
UART drive	Support debugging serial port and communication functions
PWM drive	Two PWM support backlight adjustment function and buzzer control functions
LED drive	Support LED control function

ADC drive	Support resistive touch screen and one slide rheostat ADC value read function
USB camera drive	Support USB Camera preview and camera functions
CAN drive	Support CAN communication
RS485 drive	Support RS485 communication
SPI drive	Support SPI communication

Software Parameter——Android 4.2

Operating system	Android 4.2
Kernel version	Linux 3.2.0
System boot program	U-boot2013.01
Cross compile tool	arm-eabi-4.6
Serial debugging tools	Minicom terminal
System file format	UBI
GUI	Android 4.2.2 Jelly Bean
Ethernet drive	Support Dual Gigabit wired Ethernet (1000M/100M)
Audio drive	Support record and playback
LCD drive	Support 10.1 inches / 7 inches LCD screen
TOUCH drive	Support capacitive multi point / resistive single point touch drive
USB HOST drive	Support USB mouse, USB keyboard, U disk read function
USB OTG drive	Support ADB and MTP function
Keypad drive	Support 4 GPIO key functions
SD/MMC drive	Support 32GB high-capacity SD card memory read and write operating
RTC drive	Support real-time clock function
UART drive	Support debugging serial port and communication functions

PWM drive	Two PWM support backlight adjustment function and buzzer control functions
LED drive	Support LED control function
ADC drive	Support resistive touch screen and one slide rheostat ADC value read function
USB camera drive	Support USB Camera preview and camera functions
CAN drive	Support CAN communication
RS485 drive	Support RS485 communication
SPI drive	Support SPI communication

Package List

	Development Platform (expanding board+Core board)		User CD
	Serial line		Touch Pen
	Cable		10.1-inch LVDS （1024*600）screen
	USB line		7-inch RGB 24bit resistor touch screen（Optional）
	Power Adapter		SD card（Optional）

Service Support

Technician contact information :

TEL : 0755-86325375   86325376

E-mail : ces_support@ces-tech.com

Working Time :

Monday-Friday : 9 : 00～12 : 00 , 13 : 30～18 : 00

Statement

This introduction Information is only for users' reference , without prior notice for the necessary amendment.

More product information, please visit www.nrisc.com

Shenzhen Haitianxiong Electronic Co., Ltd. (Headquarters)

ADD : 6th Floor,Skyworth Digital Building, Songbai Road, Shiyan Street,Baoan District, Shenzhen, China.

TEL : +86 755-86325375   86325376

E-mail : ces_market@ces-tech.com

URL : www.nrisc.com

Shenzhen Haitianxiong Electronic Co., Ltd. (Chengdu Branch)

ADD : No. 27, Section 4, Renmin South Road, Chengdu, Sichuan, China.

TEL : +86 028-85123126

E-mail : cqmarket@ces-tech.com