EUROTECH GROUP

Digital Technologies for a Better World

Product Training - PROTEUS

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PROTEUS Stand Alone and COM Express

- **Processor**
  - Z530 Processor 1.6GHz (2.3W) (Default)
  - Z510 Processor 1.1GHz (2W)
- **Chipset**
  - System Controller Hub US15W (2.3W)
- **Supported OS**
  - Windows XP / XP Embedded / CE 6.0
  - Linux
- **Memory**
  - DDR2 SDRAM – Up to 1GB / 533MHz (1GB Default)
- **FLASH**
  - Up to 4GB parallel ATA Flash on board (2GB Default)
- **Serial Port**
  - 1x Full RS232 interface
- **SDIO**
  - 1x MicroSD socket (Up to 2GB)
- **GPS**
  - 20-channel GPS receiver SirFStar III chipset module
- **ITP**
  - Intel XDP JTAG interface
- **TPM**
  - Atmel Trusted Platform Module Device, TCG v1.2 compatible
  - SMBUS interface
- **Touchscreen**
  - 4 and 8 wire resistive touchscreen interface (5 wire – no software support yet)
- **Bluetooth OR ZigBee (Optional)**
  - Bluetooth WT11 or nanoZigBee

PROTEUS Stand Alone vs. COM Express

STAND ALONE

Graphics
- Ultra low power integrated 3D graphics
- 2x single-channel LVDS connector (*)
- 1x backlight connector

* Note: PROTEUS V1I1 supports 1x single-channel LVDS connector only

Audio
- HD Audio codec and 2W audio amplifier supporting stereo speakers, line in, mic in and headphone

USB Support
- USB 2.0 supporting low/full/high speed modes
- 2x user accessible ports (pin header, one client configurable)
- 1x port connected to board edge Type A connector

Ethernet
- Gigabit Ethernet port supporting 10/100/1000BaseT
- Output to board edge RJ-45 connector

Serial ATA
- Support 1x serial ATA 300
- 1x SATA connector
- 1x power connector for 2.5” SATA drive

PCIE minicard
- x1 PCIE minicard socket connected to System controller + SIM card slot
- x1 PCIE minicard socket connected to PCIE switch

COM EXPRESS

Graphics
- Ultra low power integrated 3D graphics
- 1x single-channel LVDS connector (*)
- 1x single-channel LVDS to COM Express (*)
- 1x backlight connector

* Note: PROTEUS V1I1 supports 2x single-channel LVDS to COM Express only.

Audio
- HD Audio interface on COM Express board to board connector

USB Support
- USB 2.0 supporting low/full/high speed modes
- 2x user accessible ports (pin header, one client configurable)
- 4x port connected to COM Express board to board connector (Two ports are High speed only)

Ethernet
- Gigabit Ethernet port supporting 10/100/1000BaseT
- Output to COM Express board to board connector

Serial ATA
- Support 2x serial ATA 300
- Output to COM Express board to board connector

PCIE minicard
- Two x1 PCIE minicard sockets connected to PCIE switch, 1x SIM card slot

COM Express connector
- Four PCI Express, LPC, four USB host, SMBus/I2C, HD Audio, one LVDS video output (*), Gigabit Ethernet, two SATA, system and control, Power

* Note: PROTEUS V1I1 supports two single-channel LVDS interfaces on COM Express connector

Power consumption / Mechanical

HW / SW	Board power			Note
	VIN rail		Total board power [W]	
	Input voltage [V]	Current [mA]		
Board only / XPe, Idle	19.99	437.50	8.75	
Board only / XPe, BurnIn test + Video	20.05	487.50	9.77 W	Board only
Board, 8.4" Display with Backlight, Keyboard, Mouse, USB hub, Ethernet / XPe, BurnIn + Video	20.00	937.50	18.75	Standard with display, no HDD
Board, 8.4" Display with Backlight, Keyboard, Mouse, USB hub, Ethernet, Active hard disk drive / XPe, BurnIn + Video	19.84	1075.00	21.33 W	Standard with display and HDD
Board, 8.4" Display with Backlight, Ethernet, Active hard disk drive, 3x Full loaded USB (3x500mA), Wifi card, GSM card / XPe, BurnIn + Video	19.95	1487.50	29.68	Heavy loaded
S3 – Sleep, Board only / Sleep mode (Suspend mode)	10.00	87.50	0.88	Board in sleep

Physical

- COM Express Extended module mechanical footprint
- 155mm x 110mm
- Operating temperature: 0°C to 70°C (*)

*Note: The board can run without any heatsink / heat-spreader at room temperature, but is recommended to use a heat dissipater when the board runs over a wider temperature range.

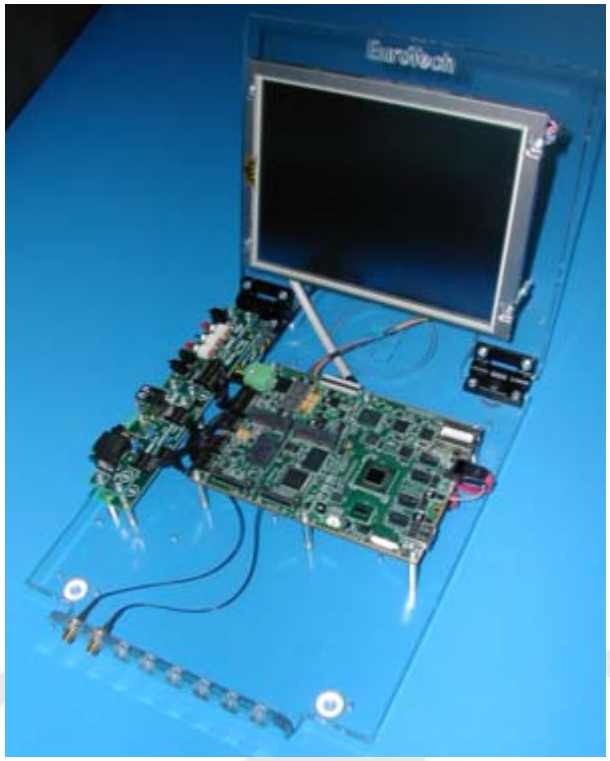
Power

- PROTEUS Stand Alone: +8.5 to +24V DC (+12V nominal)
- PROTEUS COM Express: +12V (optional: +5V standby, +3.3V Battery)

PROTEUS Development kit / PROTEUS ICE

PROTEUS Development Kit

- **PROTEUS Board**
  - CPU 1.6GHz, DDR2 1GB/533MHz, 2GB on board PATA FLASH
  - 1x LVDS connector (PROTEUS V1I1), Backlight, Touchscreen
  - 1x Gb Ethernet, 1x SATA, SATA power
  - 2x PCIE minicard socket, one SIM card slot
  - 3x USB, 1x RS232, 8x GPIO, Audio, GPS, SDIO socket
- **Display Set**
  - 800x 600 8.4" TFT LVDS display
  - +5V operation FPD inverter
  - 8.4" 4 wire resistive touchscreen
- **Breakouts**
  - System: Buttons (On/Off, Reset, User) and LEDs (Power, HDD activity, 2x User, PCIE minicards activity)
  - DB9U RS232 and 2x USB Type A connector
  - Audio jacks; Mic Input, Line Input, Headpohne, Stereo Speakers
  - GPIO: 8 General Inputs/Outputs
- **+12V Power supply**
- **Available with OS**
  - Windows XP/XPe
  - Linux



PROTEUS ICE

- PROTEUS board
- Black enclosure
- Remote access software preinstalled

PROTEUS Breakouts

System

- Buttons: On/Off, Reset, User button
- LEDs: Power, HDD access, PCIE minicard acces, User LED

Serial and USB

- 1x DB9M RS232
- 1x double USB A Type connector (default), 1x USB A Type connector + USB B client conenctor (optional)

Audio

- Mic input, Line input, Headphone, Speaker jacks

GPIO

- 8x general Input/Output on screw terminal
- 8x line status LED

LVDS to VGA adapter

- 1x LVDS input connector
- 1x VGA output connector

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