



Var-3xx Evaluation Kit User Manual

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○ History

Date	Version	Contents
2008-02-11	1.0	First edition
2008-04-19	1.1	Add expansion connector

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2. About This Manual

The VAR-3xx evaluation kit can be used for evaluating of Variscite's high-end Software and Hardware solutions, based on Marvell® PXA320 Processor.

The VAR-3xx evaluation kit is comprised of two major components:

- i. VAR-3xx Baseboard
- ii. VAR-320SBC Module

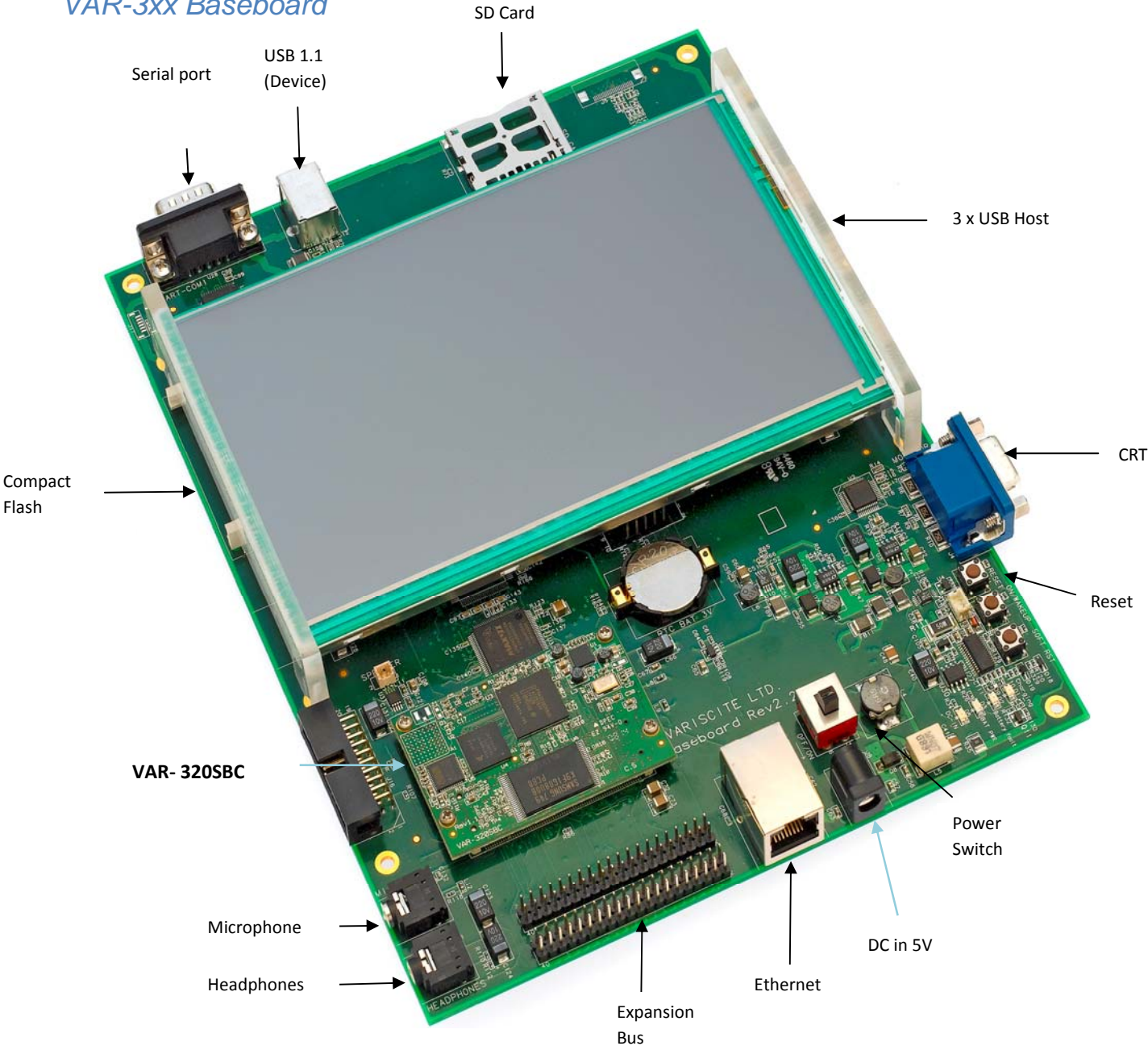
This manual contains hardware specification, usage method, installation procedures and technical information for the Variscite VAR-3xx evaluation kit.

Related Documents

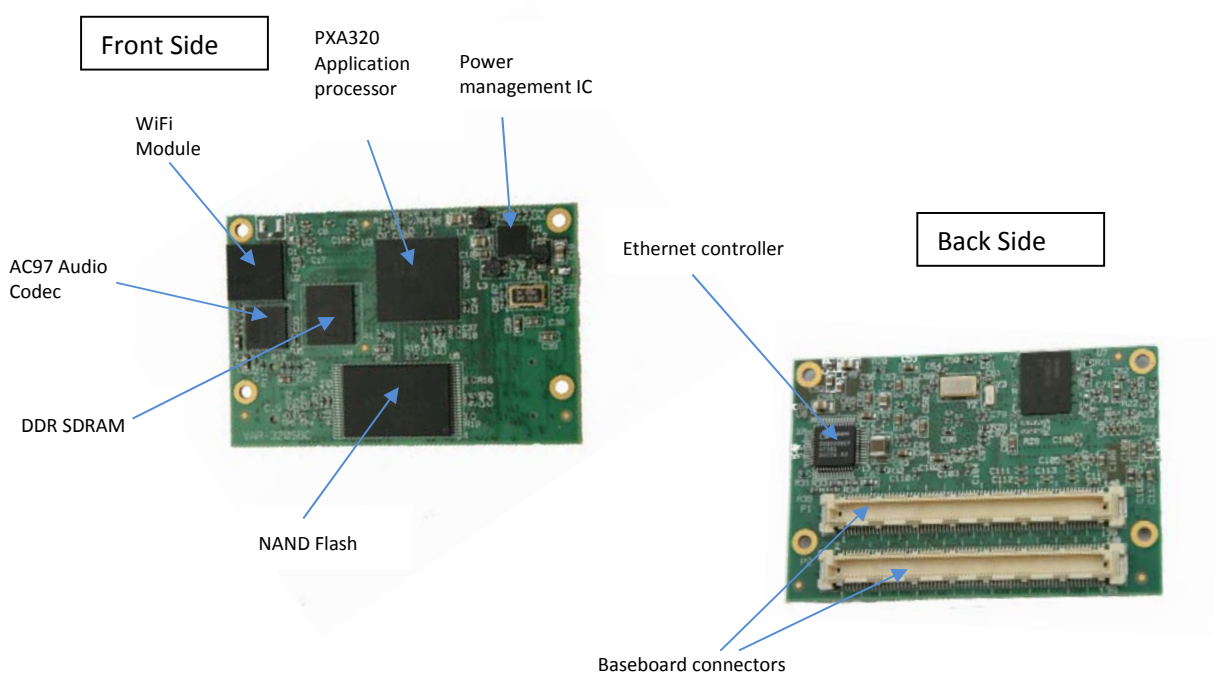
- VAR-SBC320 Datasheet

3. Hardware Overview

VAR-3xx Baseboard



VAR-320SBC



4. Hardware Specifications

VAR-320SBC

Microprocessor CPU

The VAR-320SBC is based on Marvell's PXA320 application processor.

NAND Flash Memory

128MB-1GB NAND Flash

DDR SDRAM

64-256MB mobile DDR SDRAM

Audio Codec

The VAR-320SBC is equipped with Wolfson WM9705 Audio Codec and Touch screen interface. It is connect through the PXA320 AC97 interface.

WM9705 supports:

- Microphone
- Mono Speaker output
- Built-in Headphones interface

Ethernet Controller

Davicom DM9000 for high-speed Ethernet

Power Supply Circuit

- National LP3972[®] power management IC. Supports SpeedStep™ technology to achieve the most efficient power consumption.
- Lowest power solution, down to 1mw in sleep mode.
Single 3-4.8V power supply.(One lithium-ion cell battery)
- Backup battery charger

VAR-3xx Baseboard

Compact Flash

Compact flash TYPE 2, using the built-in CompactFlash interface

Current version supports 3.3V Compact flashes only.

SD/SDIO

SD/SDIO uses the processor built-in SD/MMC Controller

USB1.1 Client Port

Connected to processor's built-in USB 1.1 Client Controller

USB1.1 Host Ports

3 USB Hosts available

CRT, LCD & Touch Panel

- Option 1: 7" TFT LCD , 800×480 installed (optional) connected to processor's built-in TTL LCD interface
- Option 2: Use onboard LVDS transmitter to use with TFT LVDS LCD
- Option 3: CRT monitor

4-wire Touch Panel connector onboard.

UARTs

3 UARTs are available on Extension header

UART1 is also connected to RS-232 Transceiver and RS-232 connector

LED

Standard equipped with LED used to confirm the power supply and status

Supply Voltage

Single 5v (2A) supply. Use built-in 3.3v power regulator, and 12v boost regulator for LVDS CCFL inverter

Power consumption

2W to 5W in full activity, depending on CPU speed and selected features

Operation temp

Commercial: 0° to 70° C
Extended: -20° to 70° C

Storage temp

-40° to 85° C

MTBF

>10000 hours

Extension headers

This section describes the specification of expansion connector:

J20:

BT_TXD	1	2	GND
BT_RXD	3	4	nCS_2
BT_CTS	5	6	CF_CD_N
BT_RTS	7	8	GPIO122
DF_IO_0	9	10	GPIO123
DF_IO_1	11	12	I2C_SCL
DF_IO_2	13	14	I2C_SDA
DF_IO_3	15	16	DF_ALE_NWE
DF_IO_4	17	18	DF_CLE_NOE
DF_IO_5	19	20	LLA_N
DF_IO_6	21	22	LUA_N
DF_IO_7	23	24	DF_ADDR_0
DF_IO_8	25	26	DF_ADDR_1
DF_IO_9	27	28	DF_ADDR_2
DF_IO_10	29	30	DF_ADDR_3
DF_IO_11	31	32	SMEM_DF_XCVREN
DF_IO_12	33	34	SSP4_SCLK
DF_IO_13	35	36	SSP4_SFRM
DF_IO_14	37	38	SSP4_TXD
DF_IO_15	39	40	SSP4_RXD

Pin name	Functionality
BT_TXD	BTUART(UART2) TX
BT_RXD	BTUART(UART2) RX
BT_CTS	BTUART(UART2) Clear To Send
BT_RTS	BTUART(UART2) Request To Send
nCS_2	CS2 – For CF access
CF_CD_N	CF Card Detect signal
GPIO122	General purpose GPIO 122
GPIO123	General purpose GPIO 123
I2C_SCL	I2C Bus - Serial Clock Line
I2C_SDA	I2C Bus - Serial Data Line
DF_ALE_NWE	PXA3xx Write Enable
DF_CLE_NOE	PXA3xx Output Enable
LLA_N	PXA3xx Lower 16 address lines Latch
LUA_N	PXA3xx Upper 16 address lines Latch
SSP4_SCLK	SSP Ch #4 CLK
SSP4_SFRM	SSP Ch #4 CLK
SSP4_TXD	SSP Ch #4 TX
SSP4_RXD	SSP Ch #4 RX
DF_ADDR_(0-3)	Latch bypassed first 4 address lines of DFIO
DF_IO(0-15)	Data Flash Interface lines

J22:

FFRTS	1	2	DC_IN
FFDTR	3	4	DC_IN
FFTXD	5	6	DC_IN
FFDCD	7	8	VCC3_3
FFRXD	9	10	VCC3_3
FFDSR	11	12	VCC3_3
FFCTS	13	14	VCC5
FFRI	15	16	VCC5
MMC_DAT_0	17	18	VCC5
MMC_DAT_1	19	20	VCC12_INV
MMC_DAT_2	21	22	VCC12_INV
MMC_DAT_3	23	24	VCC12_INV
MMC_CLK	25	26	GPIO105
MMC_CMD_0	27	28	GPIO113
GPIO78	29	30	GPIO114
GPIO76	31	32	GPIO118
GPIO88	33	34	GPIO119
ONE_WIRE	35	36	GPIO120
PWR_EN	37	38	GPIO124
GND	39	40	GND

Pin name	Functionality
FFRTS	FFUART RTS
FFDTR	FFUART DTR
FFTXD	FFUART TXD
FFDCD	FFUART DCD
FFRXD	FFUART RXD
FFDSR	FFUART DSR
FFCTS	FFUART CTS
MMC_DAT_(0-3)	SD / MMC DATA 0-3
MMC_CLK	I2C Bus - Serial Clock Line
MMC_CMD_O	I2C Bus - Serial Data Line
DC_IN	DC-IN voltage from AC adaptor battery
VCC3_3	3.3v output 0.8A max
VCC5	5v output 0.8A max
VCC12_INV	12v output 0.8A max
ONE_WIRE	PXA320 ONE WIRE

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