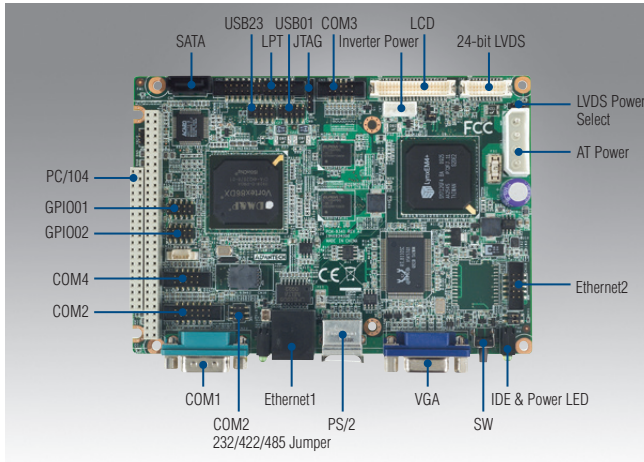


# PCM-9343

**DM&P Vortex86DX 800MHz 3.5" SBC, Ultra Low Power, Onboard Memory, Dual Ethernet, CF, PC/104**



## Features

- DM&P Vortex86DX, onboard DDR2 memory up to 512 MB
- Display type: VGA, 18/24-bit LVDS, 18/24-bit TTL
- Supports Floating Point Unit, total power consumption 4 ~ 6 Watts, supports extended temperature to -40 ~ 85° C
- Dual Ethernet: 10/100 Ethernet1 and 10/100 Ethernet2, supports PC/104 (8-bit/16-bit ISA) expansion
- Supports SUSIAccess and Embedded Software APIs

### Software APIs:



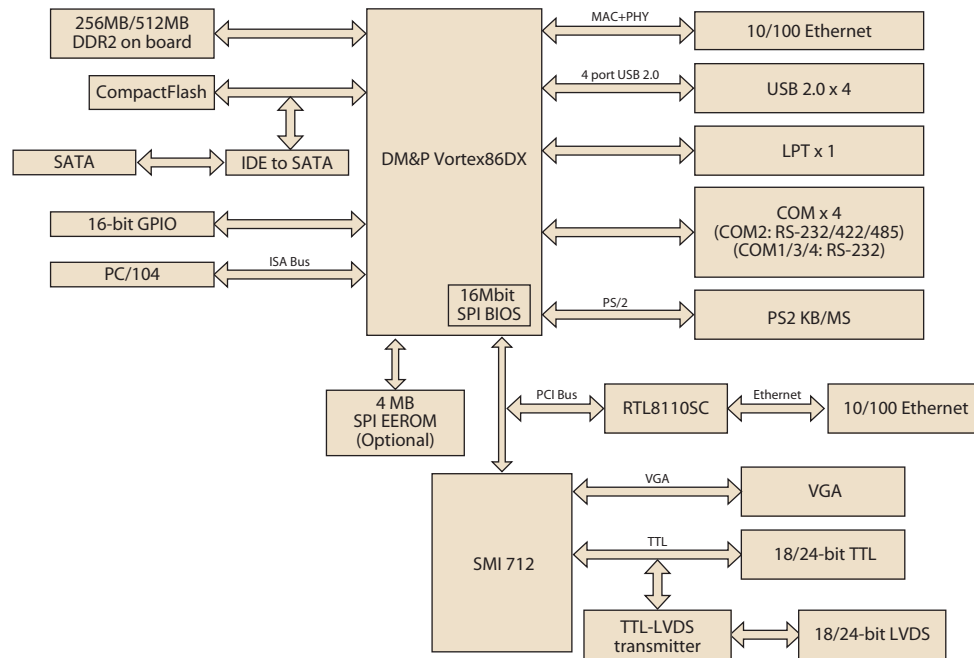
### Utilities:



## Specifications

|                          |                                      |                                                                                                                                                     |
|--------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor System         | CPU                                  | DM&P Vortex86DX 800 MHz, supports floating Point Unit (FPU)                                                                                         |
|                          | Frequency                            | 800 MHz                                                                                                                                             |
|                          | L2 Cache                             | 256 KB                                                                                                                                              |
|                          | System Chipset                       | DM&P Vortex86DX + SMI SM712                                                                                                                         |
|                          | BIOS                                 | Award integrated 16 Mbit ROM in SOC                                                                                                                 |
| Memory                   | Technology                           | DDR2 333 MHz SDRAM on board                                                                                                                         |
|                          | Max. Capacity                        | 512 MB                                                                                                                                              |
|                          | Onboard memory                       | Onboard 256 MB or 512 MB                                                                                                                            |
| Display                  | Chipset                              | SMI SM712 2D graphics chip                                                                                                                          |
|                          | VRAM                                 | 4 MB internal memory                                                                                                                                |
|                          | Graphics Engine                      | 62.5 MHz single clock/cycle engine (EM+)                                                                                                            |
|                          |                                      | 86 MHz single clock/cycle engine (EM4+)                                                                                                             |
|                          |                                      | Designed to accelerate DirectDraw                                                                                                                   |
|                          | LVDS                                 | Supports single channel 18/24-bit LVDS LCD Panel to 1024 x 768 (1280 x 1024 supported by request)                                                   |
|                          | VGA                                  | Supports up to 1024 x 768 @ 85 Hz                                                                                                                   |
| Ethernet                 | TTL LCD                              | Supports up to 1024 x 768 @ 24-bit TFT LCD Panel                                                                                                    |
|                          | Dual Display                         | VGA + TTL, VGA + LVDS                                                                                                                               |
|                          | Speed                                | 10/100 Mbps                                                                                                                                         |
|                          | Controller                           | Ethernet1: 10/100 Mbps on DM&P Vortex86DX<br>Ethernet2: 10/100 Mbps on Realtek RTL8110SC                                                            |
|                          | Connector                            | RJ-45 on Ethernet1, box header on Ethernet2                                                                                                         |
| WatchDog Timer           |                                      | Internal: 2 sets,<br>32.768 KHz frequency source to count a 24-bit counter so the time range is from 30.5µ sec to 512 sec with resolution 30.5µ sec |
| Storage                  | CompactFlash                         | CompactFlash type I/II (Primary Master IDE Channel)<br>Supports 2 channels Ultra-DMA 100                                                            |
|                          | SATA                                 | 1 x SATA (Max. Data Transfer Rate 150 MB/s)                                                                                                         |
|                          | SPI Flash                            | Optional onboard 4MB SPI Flash Disk (Supported by request)                                                                                          |
| Rear I/O                 | Serial                               | 1 (COM1 supports RS-232) (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV) (COM1 supports console mode)                                      |
|                          | Ethernet                             | 1 (10/100 Mbps Ethernet1)                                                                                                                           |
|                          | PS/2 KB/Mouse                        | 1                                                                                                                                                   |
|                          | VGA                                  | 1                                                                                                                                                   |
|                          | IDE&PWR LED                          | 1                                                                                                                                                   |
|                          | Reset Button                         | 1                                                                                                                                                   |
| Internal I/O             | USB                                  | 4 x USB 2.0                                                                                                                                         |
|                          | Serial                               | 3 COM (COM2, COM3, COM4) (ESD protection for RS-232: Air gap ±15kV, Contact ±8kV)                                                                   |
|                          |                                      | COM2 supports RS-232/422/485 (Supports RS-485 auto flow control), COM2 supports console mode                                                        |
|                          |                                      | COM3/COM4 supports RS-232                                                                                                                           |
|                          | Ethernet                             | 1 (10/100 Mbps Ethernet2)                                                                                                                           |
|                          | Parallel (LPT)                       | 1                                                                                                                                                   |
| Expansion                | GPIO                                 | 16-bit GPIO                                                                                                                                         |
|                          | I²C                                  | 1                                                                                                                                                   |
|                          | PC/104 Slot                          | PC/104 Expansion (8/16-Bit ISA)                                                                                                                     |
|                          | Power Type                           | AT                                                                                                                                                  |
|                          | Power Supply Voltage                 | Single +5V boot up, ± 5% (+12V option for LCD, ISA)                                                                                                 |
| Power                    | Power Consumption (Typical)          | PCM-9343EL: 0.44 A @ 5 V (2.2 W)                                                                                                                    |
|                          |                                      | PCM-9343EF: 0.81 A @ 5 V (4.05 W)                                                                                                                   |
|                          |                                      | PCM-9343EFG: 1.02 A @ 5 V (5.1 W)                                                                                                                   |
|                          | Power Consumption (Max, test in HCT) | PCM-9343EL: 0.75 A @ 5 V (3.75 W)                                                                                                                   |
|                          |                                      | PCM-9343EF: 1.09 A @ 5 V (5.45 W)                                                                                                                   |
|                          | Power Management                     | APM                                                                                                                                                 |
| Environment              | Battery                              | Lithium 3 V / 210 mAh                                                                                                                               |
|                          | Operational                          | 0 ~ 60° C (32 ~ 140° F) (Operating humidity: 40° C @ 95% RH non-condensing)                                                                         |
|                          | Non-Operational                      | -40° C ~ 85° C and 60° C @ 95% RH non-condensing                                                                                                    |
| Physical Characteristics | Dimensions (L x W)                   | 146 x 102 mm (5.7" x 4")                                                                                                                            |
|                          | Weight                               | 0.64 kg (1.41 lb), weight of total package                                                                                                          |
|                          | Total Height                         | 23.7 mm                                                                                                                                             |

## Block Diagram



## Ordering Information

| Part No.           | CPU        | CPU Frequency | Onboard Memory | TTL       | LVDS      | VGA | 10/100 Ethernet | RS-232/422/485 | RS-232 | USB 2.0 | CF | SATA | Expansion | Thermal Solution | Operational Temp. |
|--------------------|------------|---------------|----------------|-----------|-----------|-----|-----------------|----------------|--------|---------|----|------|-----------|------------------|-------------------|
| PCM-9343EL-S6A1E   | Vortex86DX | 800 MHz       | 256 MB         | -         | -         | -   | 1               | 1              | 1      | 2       | 1  | -    | PC/104    | Passive          | 0 ~ 60° C         |
| PCM-9343EF-S6A1E   | Vortex86DX | 800 MHz       | 256 MB         | 18/24-bit | 18/24-bit | Yes | 1               | 1              | 3      | 4       | 1  | 1    | PC/104    | Passive          | 0 ~ 60° C         |
| PCM-9343EFG-S6A1E  | Vortex86DX | 800 MHz       | 512 MB         | 18/24-bit | 18/24-bit | Yes | 2               | 1              | 3      | 4       | 1  | 1    | PC/104    | Passive          | 0 ~ 60° C         |
| PCM-9343FGZ-S6A1E  | Vortex86DX | 800 MHz       | 512 MB         | 18/24-bit | 18/24-bit | Yes | 2               | 1              | 3      | 4       | 1  | 1    | PC/104    | Passive          | -20 ~ 80° C       |
| PCM-9343FGZ2-S6A1E | Vortex86DX | 800 MHz       | 512 MB         | 18/24-bit | 18/24-bit | Yes | 2               | 1              | 3      | 4       | 1  | 1    | PC/104    | Passive          | -40 ~ 85° C       |

Note: Passive = fanless; Active = with fan

## Packing List

| Part No.       | Description                                    | Quantity |
|----------------|------------------------------------------------|----------|
|                | PCM-9343 SBC                                   |          |
|                | Startup Manual                                 |          |
|                | Utility CD                                     |          |
| 1700008894     | SATA 7P 30 cm cable                            | 1        |
| 1700060202     | PS2 6P x 2 20 cm cable                         | 1        |
| 1700100250     | COM3/4 IDE D-SUB 25 cm cable                   | 2        |
| 1701140201     | COM2 IDE D-SUB 20 cm cable                     | 1        |
| 1700260250     | LPT IDE 26P D-SUB 25 cm cable                  | 1        |
| 1703100121     | USB 2 x 5P-2.0 12 cm W/BKT cable               | 1        |
| 1700017863     | Ethernet cable RJ45 15cm (PCM-9343EFG/FGZ use) | 1        |
| 9689000002     | mini jumper pack                               | 1        |
| 1960047356N001 | Heatsink for DM&P Vortex86DX (27x27x6.3mm)     | 1        |

## Optional Accessories

| Part No.   | Description            |
|------------|------------------------|
| 1703150102 | SATA 10 cm Power cable |

## Embedded OS/API

| Embedded OS/API | Part No.   | Description                                |
|-----------------|------------|--------------------------------------------|
| WinCE           | 2070009764 | CE 5.0 Pro PCM-9343 V1.3 ENG               |
|                 | 2070009537 | Image CE 6.0 Pro PCM-9343 V1.3 ENG         |
|                 | 2070010821 | Image CE 7.0 Pro PCM-9343 ENG              |
| Win XPE         | 2070009528 | Image XPE for PCM-9343 ENG                 |
|                 | 2070009529 | Image XPE for PCM-9343 24MUI               |
| QNX             |            | 6.4.1                                      |
| Vxwork          |            | 5.5                                        |
| Linux           |            | Ubuntu 10.04.1                             |
| Software API    | 2056343000 | SUSI 3.0 SW API for PCM-9343 B:20100122 XP |

## Rear I/O View



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