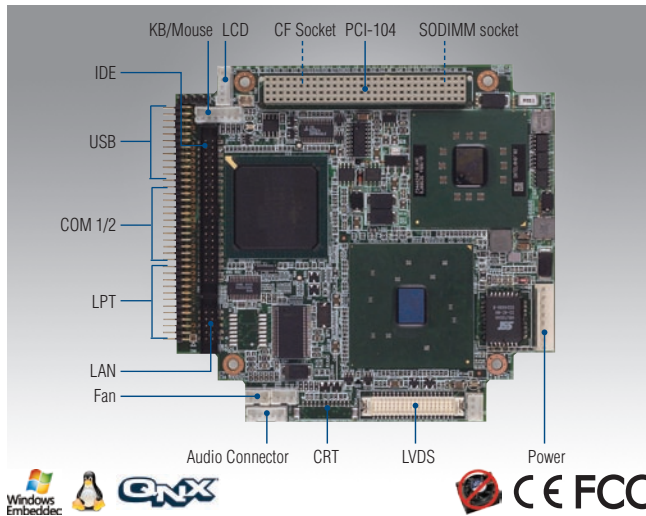


# PCM-3386

## Intel® Celeron® M PCI-104 CPU Module



### Features

- Intel® Pentium® M Processor 1.1 GHz/1.4 GHz/1.6 GHz or Celeron® M 600 MHz
- Intel® 852 GM ICH4 Chipset
- Supports 36-bit LVDS (48-bit LVDS optional)/ VGA
- Supports six USB 2.0 ports
- Supports Embedded Software API and Utility

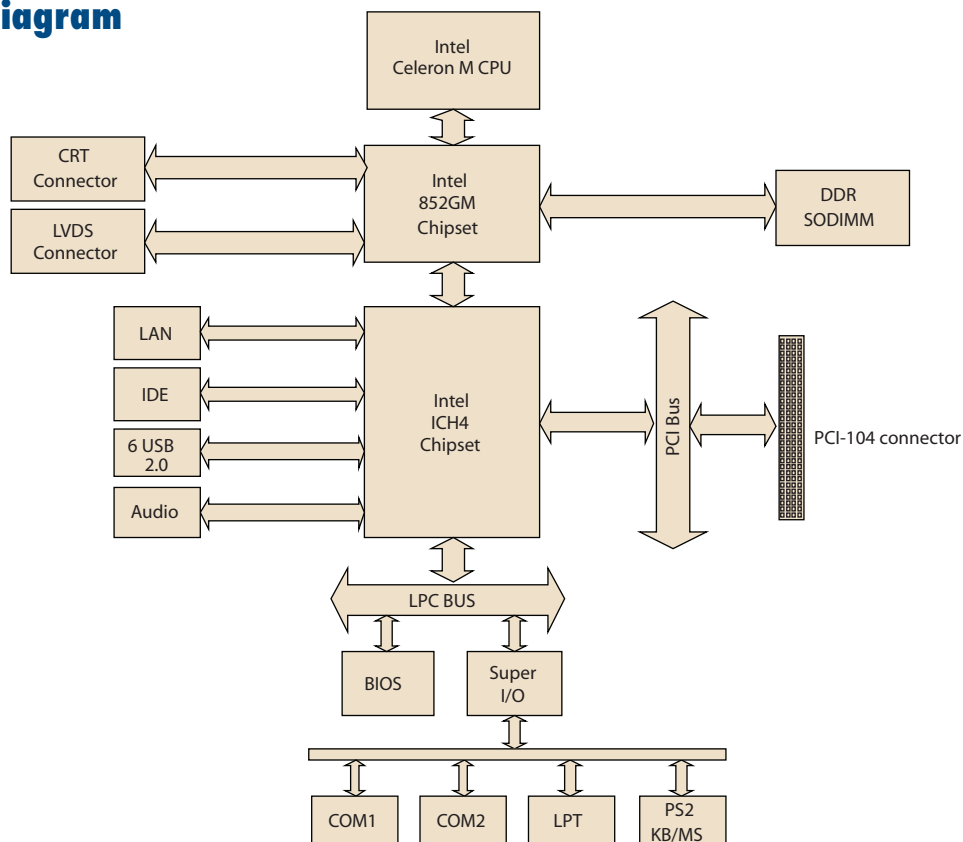
**Software APIs:**

**Utility:**

### Specifications

Processor System	CPU	Intel Celeron M 600 MHz	Intel Celeron M 1 GHz
	Front Side Bus	400 MHz	400 MHz
	L2 Cache	512 KB	-
	Chipset	Intel 852GM + ICH4	852GM + ICH4
	BIOS	Award 4-Mbit	Award 4-Mbit
Memory	Technology	DDR 200/266 MHz	
	Max. Capacity	1 GB	
	Socket	1 x 200-pin SODIMM	
SSD	CompactFlash	Card Type I, Type II (option for Micro Drive)	
I/O Interface	LPT	1 (share with FDD)	
	FDD	1 (share with LPT)	
	RS-232	2	
	RS-232/422/485	-	
	K/B	1	
	Mouse	1	
	USB	6 x USB 2.0	
EIDE	Mode	UDMA 33	
	Channel	1	
Expansion Slot	PCI-104	1	
Ethernet	Speed	10/100 Mbps	
	Controller	Intel 82562EM	
	Interface	1 x RJ-45 by cable	
Display	Controller	Intel 852GM/GMCH	
	VRAM	Optimized Shared Memory Architecture up to 64 MB system memory	
	LVDS LCD	1 x 36-bit LVDS (1 x 48-bit optional) LCD Panel 16:9 wide screen panel supported	
Environment	Dual Independent Display	CRT + LVDS	
	Operating Temperature	0 ~ 60° C (32 ~ 140° F)	
Power	Operating Humidity	0% ~ 90% relative humidity, non-condensing	
	Power Type	ATX	
	Power Supply Voltage	+5 V ± 5%, +12 V ± 5%	
	Power Consumption: Typical (WinXP Idle Mode)	+5 V @ 2.06 A (Celeron M 600 MHz)	
	Power Consumption: Max, Test in HCT	+5 V @ 2.16 A (Celeron M 600 MHz)	
	Power Management	APM, ACPI	
	Battery	Lithium 3 V / 210 mAH	
Watchdog Timer	Output	System reset	
	Interval	Programmable 1 ~ 255 sec	
Physical Characteristics	Dimensions (L x W)	108 x 115 mm (4.3" x 4.5")	
	Weight	0.279 kg (0.62 lb) (with heat-sink)	

## Board Diagram



## Ordering Information

Part No.	CPU	L2 Cache	Chipset	CRT	LVDS	LAN	USB2.0	RS-232	LPT	CF	KB/MS	PCI-104 connector	Thermal Solution	Operating Temp.
PCM-3386F-S0A2E	ULV Celeron M 1 GHz	0 KB	852 GM	Yes	36-bit	1 FE	6	2	Yes	Yes	Yes	Yes	Passive	0 ~ 60° C
PCM-3386F-M0A2E	Celeron M 600 MHz	512 KB	852 GM	Yes	36-bit	1 FE	6	2	Yes	Yes	Yes	Yes	Passive	0 ~ 60° C

## Packing List

Part No.	Description	Quantity
	PCM-3386 SBC	1
1703060053	Y -Cable external cable	1
1701440350	IDE 44P/44P/40P cable 35cm	1
1701440504	IDE cable(44pin to 40/44pin)	1
1703200380	Wire ATX power	1
1701100202	Ethernet RJ-45 Conn.conversion cable	1
1700060202	KB / mouse Y-cable	1
1701200220	COM port cable	1
1700000897	USB Cable 26cm	1
1700000898	VGA cable	1
1700000916	LPT port cable	1
1700000918	Audio cable (Line-in, Line-out, Mic-in)	1

# Value-Added Software Services

**Software API:** An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances security and offers add-on value for Advantech platforms. It plays the role of catalyst between developer and solution, and makes Advantech embedded platforms easier and simpler to adopt and operate with customer applications.

## Software APIs

### Control



**GPIO**

General Purpose Input/Output is a flexible parallel interface that allows a variety of custom connections. It allows users to monitor the level of signal input or set the output status to switch on/off a device. Our API also provides Programmable GPIO, which allows developers to dynamically set the GPIO input or output status.



**SMBus**

SMBus is the System Management Bus defined by Intel® Corporation in 1995. It is used in personal computers and servers for low-speed system management communications. The SMBus API allows a developer to interface a embedded system environment and transfer serial messages using the SMBus protocols, allowing multiple simultaneous device control.



**I2C**

I2C is a bi-directional two wire bus that was developed by Philips for use in their televisions in the 1980s. The I2C API allows a developer to interface with an embedded system environment and transfer serial messages using the I2C protocols, allowing multiple simultaneous device control.

### Display



**Brightness Control**

The Brightness Control API allows a developer to interface with an embedded device to easily control brightness.



**Backlight**

The Backlight API allows a developer to control the backlight (screen) on/off in an embedded device.

### Monitor



**Watchdog**

A watchdog timer (WDT) is a device that performs a specific operation after a certain period of time if something goes wrong and the system does not recover on its own. A watchdog timer can be programmed to perform a warm boot (restarting the system) after a certain number of seconds.



**Hardware Monitor**

The Hardware Monitor (HWM) API is a system health supervision API that inspects certain condition indexes, such as fan speed, temperature and voltage.



**Hardware Control**

The Hardware Control API allows developers to set the PWM (Pulse Width Modulation) value to adjust fan speed or other devices; it can also be used to adjust the LCD brightness.

### Power Saving



**CPU Speed**

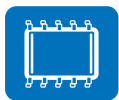
Make use of Intel SpeedStep technology to reduce power consumption. The system will automatically adjust the CPU Speed depending on system loading.



**System Throttling**

Refers to a series of methods for reducing power consumption in computers by lowering the clock frequency. These APIs allow the user to lower the clock from 87.5% to 12.5%.

## Software Utilities



**BIOS Flash**

The BIOS Flash utility allows customers to update the flash ROM BIOS version, or use it to back up current BIOS by copying it from the flash chip to a file on customers' disk. The BIOS Flash utility also provides a command line version and API for fast implementation into customized applications.



**Embedded Security ID**

The embedded application is the most important property of a system integrator. It contains valuable intellectual property, design knowledge and innovation, but it is easily copied! The Embedded Security ID utility provides reliable security functions for customers to secure their application data within embedded BIOS.



**Monitoring**

The Monitoring utility allows the customer to monitor system health, including voltage, CPU and system temperature and fan speed. These items are important to a device; if critical errors happen and are not solved immediately, permanent damage may be caused.



**eSOS**

The eSOS is a small OS stored in BIOS ROM. It will boot up in case of a main OS crash. It will diagnose the hardware status, and then send an e-mail to a designated administrator. The eSOS also provides remote connection: Telnet server and FTP server, allowing the administrator to rescue the system.



**Flash Lock**

Flash Lock is a mechanism that binds the board and CF card (SQFlash) together. The user can "Lock" SQFlash via the Flash Lock function and "Unlock" it via BIOS while booting. A locked SQFlash cannot be read by any card reader or boot from other platforms without a BIOS with the "Unlock" feature.