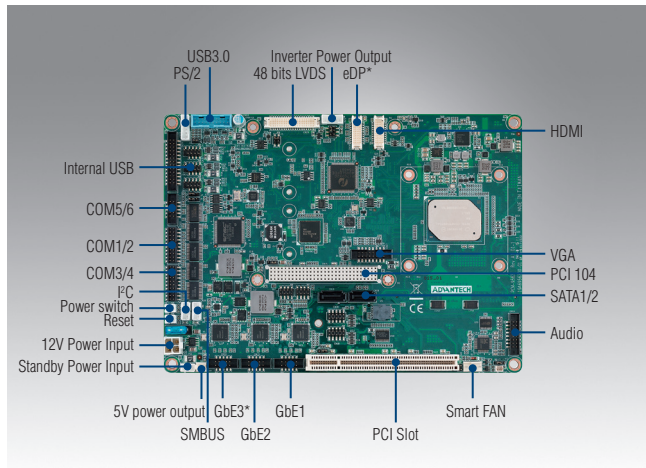


# PCM-9563

**Intel® Pentium N4200 Celeron N3350 & Atom™E3950/E3940/E3930 EBX with VGA/LVDS/HDMI\*, 3 GbE, 8 USB, 1 SATA, Audio, 1 Mini PCIe, 1 M.2 E key, 1 m.SATA, 6 COMs**



## Features

- Embedded Intel® Pentium N4200 & Celeron N3350, Atom™E3950, E3940, E3930, DDR3L 1867 MHz, up to 8GB
- DirectX11, OpenGL3.2, OpenCL1.2, multi-display: VGA+LVDS/eDP+ HDMI\*/DP\*
- Supports up to 3 Intel GbE, 6 COM, 1 Mini PCIe, 1 M.2 E-key, 1 mSATA, PCI-104 and 1 PCI Slot
- High transfer speed COM port design (Transfer rate up to 1 Mbit/s)
- Design complies with CE/FCC
- Supports iManager, WISE-PaaS/RMM, Embedded Software APIs

### Software APIs:



### Utilities:

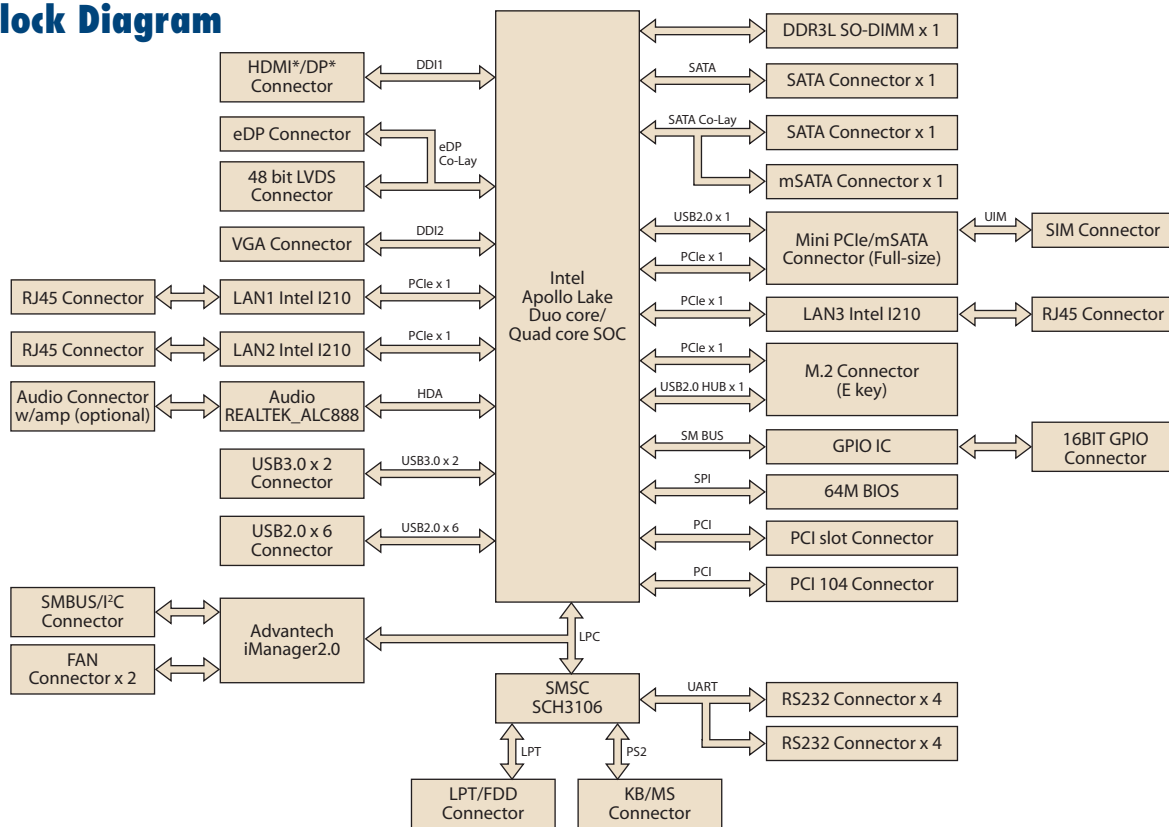


## Specifications

|                          |                                           |                                                                                                    |
|--------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------|
| Processor System         | CPU                                       | Intel Pentium N4200 Celeron N3350 & Atom™E3950/E3940/E3930                                         |
|                          | Core                                      | 4/2/4/2                                                                                            |
|                          | Frequency                                 | 1.1/1.1/1.6/1.6/1.3                                                                                |
|                          | L2 Cache                                  | 2MB                                                                                                |
| Memory                   | BIOS                                      | AMI 64 Mbit                                                                                        |
|                          | Technology                                | DDR3L 1867MHz                                                                                      |
|                          | Max. Capacity                             | 8 GB                                                                                               |
|                          | Socket                                    | 1 x 204 pin SODIMM                                                                                 |
| Display                  | VRAM                                      | Optimized Shared Memory Architecture up to 224 MB                                                  |
|                          | Graphics Engine                           | Gen-9Low Power; 18 Execution Units54K Codec Decode& Encode for HEVC4, H.264, VP8, SVC, MVC         |
|                          | HDMI                                      | 1.4b(1920x1200@30Hz)                                                                               |
|                          | DP                                        | 1.2a(1920x1200@60Hz)                                                                               |
|                          | eDP                                       | v1.4(1920x1200@60Hz)                                                                               |
|                          | LVDS                                      | Single channel 48-bit LVDS up to 1920 x 1200                                                       |
|                          | VGA                                       | Maximum Resolution up to 1920 x 1200                                                               |
| Ethernet                 | Multi Display                             | VGA+ LVDS/eDP+ HDMI*/DP*                                                                           |
|                          | Interface                                 | Up to 3 (the 3th GbE by request)                                                                   |
|                          | Controller                                | Intel I210                                                                                         |
| Audio                    | Connector                                 | Box header                                                                                         |
|                          | Chipset                                   | ALC888 HD Codec, Speaker out, CD-input, Line-in, Line-out, Mic-in                                  |
| WatchDog Timer           | Amplifier                                 | Max 2.2W/ch Stereo into a 3Ω Load                                                                  |
|                          | Output                                    | System reset                                                                                       |
| Storage                  | Internal                                  | Watchdog timer: monitor the system status before OS is ready (programmable 10ms, disable, 1s, 60s) |
|                          | mSATA                                     | 1 x full size mSATA                                                                                |
|                          | SATA                                      | 2" SATAIII (Max. Data Transfer Rate up to 6.0 Gb/s)                                                |
|                          | Floppy                                    | Share with LPT (Optional)                                                                          |
|                          | SPI Flash                                 | 64 Mbit                                                                                            |
| Internal I/O             | HDMI                                      | (Support by request)                                                                               |
|                          | DP                                        | (Support by request)                                                                               |
|                          | LVDS                                      | 1 x 48bit LVDS                                                                                     |
|                          | Serial                                    | 4 x RS-232 (Transfer rate up to 1 Mbit/s)                                                          |
|                          | Ethernet                                  | 2 x RS-422/485                                                                                     |
|                          | PS/2 KB/Mouse                             | Up to 3 GbE (the 3th GbE by request)                                                               |
|                          | VGA                                       | 1                                                                                                  |
|                          | eDP                                       | (Support by request)                                                                               |
|                          | Reset Button                              | 1                                                                                                  |
|                          | USB                                       | 6 x USB2.0 + 2 x USB3.0                                                                            |
|                          | Parallel (LPT)                            | 1                                                                                                  |
|                          | GPIO                                      | 16-bit GPIO                                                                                        |
|                          | SMBUS                                     | 1                                                                                                  |
|                          | I²C                                       | 1                                                                                                  |
| Expansion                | PCI-104                                   | 1                                                                                                  |
|                          | Full-size Mini PCIe with SIM card holder  | 1                                                                                                  |
|                          | PCI Slot                                  | 1                                                                                                  |
|                          | mSATA                                     | 1                                                                                                  |
|                          | M.2 E key                                 | 1                                                                                                  |
| Power                    | Power Type                                | AT / ATX (Both AT/ATX can support ACPI)                                                            |
|                          | Power Supply Voltage                      | ATX: 12V ±10%, 5VSB ±5%<br>AT: 12V ±10% only                                                       |
|                          | Power Consumption (Typical)               | PCM-9563N-S2A1E with N4200: 0.44 @ 12V (5.28W)<br>PCM-9563N-S1A1E with N3350: 0.48 @ 12V (5.76W)   |
|                          | Power Consumption (Max, test in HCT)      | PCM-9563N-S2A1E: 1.32 @ 12V (15.84W)<br>PCM-9563N-S1A1E: 1.36 @ 12V (16.32W)                       |
| Environment              | Operating                                 | 0 ~ 60° C (32 ~ 140° F) (Operating humidity: 40° C @ 95% RH non-condensing)                        |
|                          | Non-Operating                             | -40° C ~ 85° C and 60° C @ 95% RH non-condensing                                                   |
| Physical Characteristics | Dimensions (L x W)                        | 203 x 146 mm (8" x 5.75")                                                                          |
|                          | Weight                                    | 0.7 kg (1.54 lb) (with heatsink)                                                                   |
|                          | Total Height (with cooler + PCB + Bottom) | 29mm                                                                                               |

\*It will not be supported in default, please contact to Advantech if this function is needed.

## Block Diagram



## Ordering Information

| Model Name       | CPU                 | Memory | VGA | LVDS | HDMI* | DP* | eDP* | GbE 1 | SATAIII | mSATA | HD Audio | RS-422/485 | RS-232 | USB3.0 | USB2.0 | miniPCIe | M.2 E key | PCI-104 |
|------------------|---------------------|--------|-----|------|-------|-----|------|-------|---------|-------|----------|------------|--------|--------|--------|----------|-----------|---------|
| PCM-9563N-S1A1E  | Intel Celeron N3350 | SODIMM | 1   | 1    | -     | -   | -    | 2     | 1       | 1     | V        | 2          | 4      | 2      | 6      | 1        | 1         | Yes     |
| PCM-9563NF-S2A1E | Intel Pentium N4200 | SODIMM | 1   | 1    | -     | -   | -    | 3     | 2       | -     | V        | 2          | 4      | 2      | 6      | 1        | 1         | Yes     |
| PCM-9563NF-S1A1E | Intel Celeron N3350 | SODIMM | 1   | 1    | -     | -   | -    | 3     | 2       | -     | V        | 2          | 4      | 2      | 6      | 1        | 1         | Yes     |

\* Support by request

## Packing List

| Part No.       | Description           | Quantity |
|----------------|-----------------------|----------|
|                | PCM-9563 SBC          | 1        |
| 9689000002     | Mini Jumper Pack      | 1        |
| 2006956300     | Startup Manual        | 1        |
| 1960074974N001 | Heatsink for PCM-9563 | 1        |

## Optional Accessories

| Part No.       | Description                     |
|----------------|---------------------------------|
| PCM-10586-9563 | Wiring kit for PCM-9563         |
| 1703100260     | USB cable                       |
| 170304015K     | AT cable 4P x 2/4200-H-4P 15 cm |
| TBD            | Heatspreader                    |

## Embedded OS/API

| Embedded OS/API | Part No.   | Description  |
|-----------------|------------|--------------|
| Win 10          | 2070015275 | Win10 64 bit |
| QNX             |            |              |
| VxWorks         |            |              |
| Linux           |            |              |
| Software API    | TBD        |              |

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