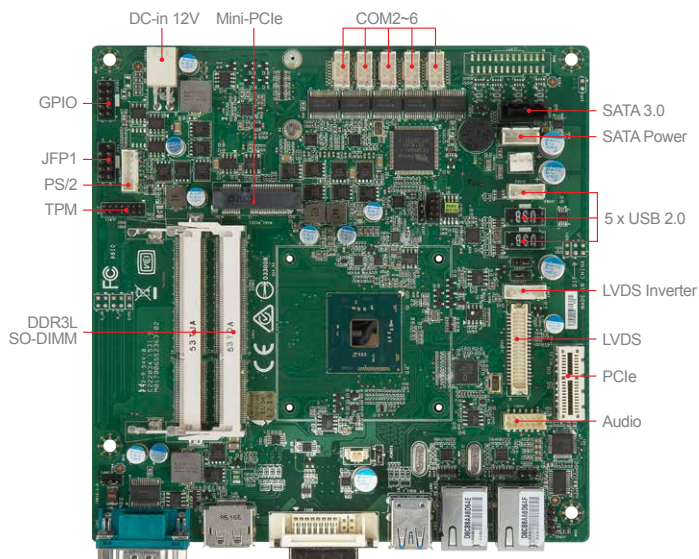


# MS-9810

Mini-ITX with Intel® Atom™ Braswell Platform for Low-Power, Low profile and Fanless Solution



## 919-9810-103



## 919-9810-104



## Features

- Intel® Atom™ Braswell Series SoC processor
- Embedded Mini-ITX Motherboard with low power, slim and fanless design
- 3 independent displays : 1 x DP/HDMI , 1x DVI-D, 1 x LVDS
- 5 x USB 2.0, 2 x USB 3.0, 6 x COM, and SATA3.0 supported
- TPM supported with onboard chip or pin header
- Supports DC 12V power
- Entry level with best-value for choice

## Ordering Information

| Part Number  | Description                                                                                                               |
|--------------|---------------------------------------------------------------------------------------------------------------------------|
| 919-9810-103 | MS-9810\609-9810-030\809-9810-103 STD VER 1.0, FANLESS, Braswell CPU N3160, 1*SATA CABLE, 1*Power CABLE, I/O Shield, BULK |
| 919-9810-104 | MS-9810\609-9810-040\809-9810-104 STD VER 1.0, FANLESS, Braswell CPU N3060, 1*SATA CABLE, 1*Power CABLE, I/O Shield, BULK |

## Packing List

| Part Number     | Description             |
|-----------------|-------------------------|
| E21-9810010-C22 | I/O Shielding (2 x LAN) |
| E21-9810020-C22 | I/O Shielding (1 x LAN) |
| G71-SEDC146-N56 | Driver CD               |
| K1D-1012064-V03 | SATA Cable, 200mm       |
| K10-3004215-V03 | DC power cable, 160mm   |

## Specifications

|                   |                       |                                                                                                                                                                      |
|-------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor         | CPU                   | Intel® Pentium processor N3710, QC, 6W<br>Intel® Celeron processor N3160, QC, 6W<br>Intel® Celeron processor N3060, DC, 6W<br>Intel® Celeron processor N3010, DC, 4W |
|                   | Frequency             | N3710, 1.6 GHz, up to 2.56 GHz<br>N3160, 1.6 GHz, up to 2.24 GHz<br>N3060, 1.6 GHz, up to 2.48 GHz<br>N3010, 1.04 GHz, up to 2.24 GHz                                |
|                   | L2 Cache              | 2MB                                                                                                                                                                  |
|                   | CPU Type              | BGA                                                                                                                                                                  |
|                   | Chipset               | Integrated                                                                                                                                                           |
|                   | BIOS                  | AMI                                                                                                                                                                  |
| Memory            | Technology            | Dual-channel DDR3L 1333/1600 MHz                                                                                                                                     |
|                   | Max. Capacity         | Up to 8 GB                                                                                                                                                           |
|                   | Socket                | 2 x 204-pin SO-DIMMs (1 slot for opt SKU)                                                                                                                            |
| Display           | Controller            | Intel® HD Graphics                                                                                                                                                   |
|                   | Graphic Memory        | Shared system memory up to 1.7 GB SDRAM                                                                                                                              |
|                   | LVDS                  | Dual channel 24-bit                                                                                                                                                  |
|                   | DVI                   | 1 (DVI-D)                                                                                                                                                            |
|                   | HDMI                  | 1 (colay with DP)                                                                                                                                                    |
|                   | DisplayPort           | 1 (colay with HDMI)                                                                                                                                                  |
|                   | Multiple Display      | 3 independent displays                                                                                                                                               |
| Ethernet          | Controller            | LVDS up to 1920 x 1200<br>DP up to 3840 x 2160<br>HDMI up to 1920 x 1200<br>DVI up to 1920 x 1200                                                                    |
|                   |                       | 2 or 1 x Realtek® RTL8111G-CG GbE LAN (depends on SKU)                                                                                                               |
| Audio             | Controller            | Realtek® ALC887 co-lay ALC888S                                                                                                                                       |
| Super I/O         | Controller            | Fintek F81866AD-I                                                                                                                                                    |
| H/W Monitor       | Watchdog Timer        | 256-level Watchdog Timer                                                                                                                                             |
|                   | Smart Fan             | Yes                                                                                                                                                                  |
| TPM               | Controller            | Pin header (default)<br>Infineon SLB9635TT 1.2 (by BOM option)                                                                                                       |
| I/O Interface     | USB                   | 2 x USB 3.0 (rear)<br>5 x USB 2.0 (internal)                                                                                                                         |
|                   | Serial                | 6 x COM (1 x rear; 5 x internal)<br>COM1: RS-232/422/485, 0V/5V/12V<br>COM2~6: RS-232, w/o power                                                                     |
|                   | Parallel              | 1 (by BOM option)                                                                                                                                                    |
|                   | PS/2                  | 1 (pin header)                                                                                                                                                       |
|                   | GPIO                  | 8-bits (4 x GPI; 4 x GPO), 5V                                                                                                                                        |
| Expansion Slot    | PCIe x 1              | 1                                                                                                                                                                    |
|                   | Mini-PCIe             | 1 (Full size co-lay mSATA, support Half size card)                                                                                                                   |
| Storage           | SATA                  | 1 x SATA 3.0                                                                                                                                                         |
|                   | mSATA                 | 1 (support by mini PCIe slot)                                                                                                                                        |
| Power Supply      | DC                    | DC-in 12V                                                                                                                                                            |
|                   | ATX                   | N/A                                                                                                                                                                  |
| Environment       | Operating Temperature | 0 ~ 60°C                                                                                                                                                             |
|                   | Operating Humidity    | 10 ~ 90%, non-condensing                                                                                                                                             |
|                   | Storage Temperature   | -20 ~ 80°C                                                                                                                                                           |
|                   | Storage Humidity      | 10 ~ 90%, non-condensing                                                                                                                                             |
| Form Factor       | Dimensions            | 170mm x 170mm (Mini-ITX)                                                                                                                                             |
|                   | Weight                | 0.37 kg                                                                                                                                                              |
| Certification     | EMC                   | FCC, CE, C-Tick, VCCI                                                                                                                                                |
| Software Platform | OS Support            | Windows 7 (32/64-bit)<br>Windows 8.1 (64-bit)<br>Windows 10 (64-bit)<br>Linux Ubuntu 14.04.3 & Fedora 20                                                             |