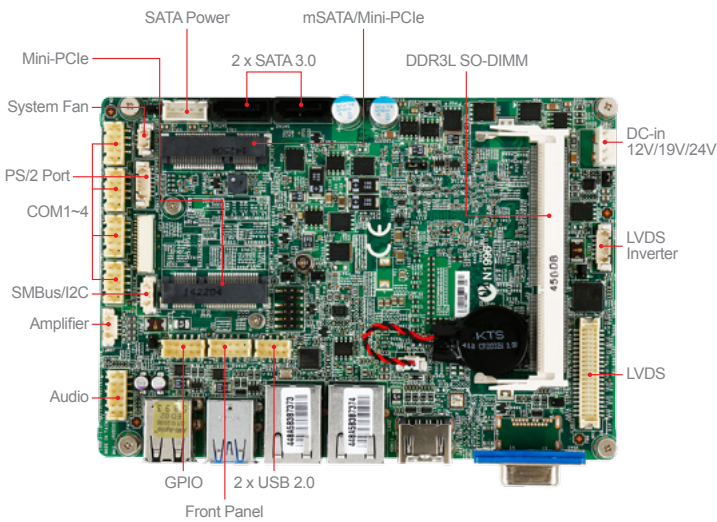
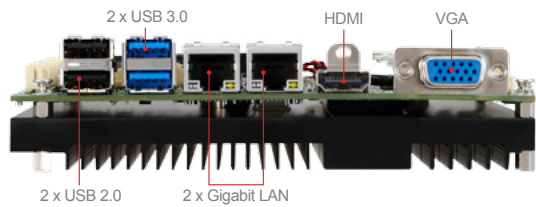


MS-98F3

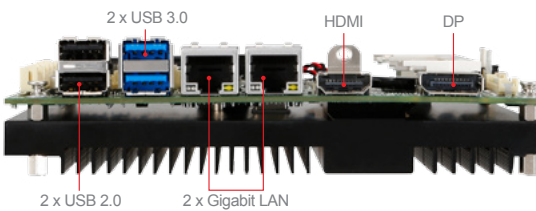
3.5" SBC with Intel® HSW/BDW ULT Series Platform for High-Performance, Low-Power & Fanless Solution



**919-98F3-009/919-98F3-011/919-98F3-013
919-98F3-014/919-98F3-016/919-98F3-017**



919-98F3-015/919-98F3-018



Features

- Intel® HSW/BDW ULT Series Processors
- Supports DDR3L 1600 MHz SO-DIMM memory up to 8GB
- HDMI and VGA/DP and LVDS display interfaces
- Dual GbE LAN, USB 3.0, and 4 COM
- Dual Mini-PCle, dual SATA 3.0, and mSATA

Ordering Information

Part Number	Description
919-98F3-009	MS-98F3/609-98F3-110/809-98F3-008 VER11 STD Intel HSW ULT i3-4010U,DDR3 SO DIMM+VGA+HDMI+LVDS+2*Mini-PCle+2*LAN+2*SATA3.0+2*USB3.0+4*USB 2.0+4*COM,DC 12V/19V/24V
919-98F3-011	MS-98F3/609-98F3-130/809-98F3-008 VER11 OPT-B Intel HSW ULT i5-4300U,DDR3 SO DIMM+VGA+HDMI+LVDS+2*Mini-PCle+2*LAN+2*SATA3.0+2*USB3.0+4*USB 2.0+4*COM,DC 12V/19V/24V
919-98F3-013	MS-98F3/609-98F3-150/809-98F3-010 VER11 OPT-D Intel BDW ULT i3-5010U,DDR3 SO DIMM+VGA+HDMI+LVDS+2*Mini-PCle+2*LAN+2*SATA3.0+2*USB3.0+4*USB 2.0+4*COM,DC 12V/19V/24V
919-98F3-014	MS-98F3/609-98F3-160/809-98F3-010 VER11 OPT-E Intel BDW ULT i7-5650U,DDR3 SO DIMM+VGA+HDMI+LVDS+2*Mini-PCle+2*LAN+2*SATA3.0+2*USB3.0+4*USB 2.0+4*COM,DC 12V/19V/24V
919-98F3-015	MS-98F3/609-98F3-170/809-98F3-010 VER11 OPT-F Intel BDW ULT i3-5010U,DDR3 SO DIMM+DP+HDMI+LVDS+2*Mini-PCle+2*LAN+2*SATA3.0+2*USB3.0+4*USB 2.0+4*COM,DC 12V/19V/24V
919-98F3-016	MS-98F3/609-98F3-180/809-98F3-010 VER11 OPT-G Intel BDW ULT i5-5350U,DDR3 SO DIMM+VGA+HDMI+LVDS+2*Mini-PCle+2*LAN+2*SATA3.0+2*USB3.0+4*USB 2.0+4*COM,DC 12V/19V/24V
919-98F3-017	MS-98F3/609-98F3-210/809-98F3-010 VER11 OPT-J Intel BDW ULT i7-5650U 3.5" DDR3L SO-DIMM, VGA+HDMI+LVDS+2*Mini-PCle+2*LAN+2*SATA3+2*USB3+4*USB2+4*COM+DC-IN 12V/19V/24V, SATA CABLE+SATA POWER CABLE+USB CABLE+USB CALBE+COM CALBE+DC POWER CABLE, CD, SINGLE
919-98F3-018	MS-98F3/609-98F3-220/809-98F3-010 VER11 OPT-K Intel BDW ULT i7-5650U,DDR3 SO DIMM+DP+HDMI+LVDS+2*Mini-PCle+2*LAN+2*SATA3.0+2*USB3.0+4*USB 2.0+4*COM,DC 12V/19V/24V

Specifications

Processor	CPU	Intel® Core™ i5-4300U/i3-4010U Processors, DC, 15W Intel® Core™ i7-5650U/i5-5350U/i3-5010U/3765U Processors, DC, 15W
	Frequency	i5-4300U, 1.9GHz, up to 2.9GHz i3-4010U, 1.7GHz i7-5650U, 2.2GHz, up to 3.1GHz i5-5350U, 1.8GHz, up to 2.9GHz i3-5010U, 2.1GHz 3765U, 1.9GHz
	L2 Cache	2MB-4MB (Depends on CPU)
	CPU Type	BGA
Memory	Chipset	N/A
	BIOS	AMI
	Technology	Single-channel for DDR3L 1600 MHz
	Max. Capacity	Up to 8 GB
Display	Socket	1 x 204-pin SO-DIMM
	Controller	Intel® HD Graphics
	Graphic Memory	Shared system memory up to 1.7 GB SDRAM
	LVDS	Dual channel 18/24-bit
Ethernet	VGA	1 (optional)
	HDMI	1
	DisplayPort	1 (optional)
	Multiple Display	3 independent displays
Audio	Display Interface	VGA up to 1920 x1200 HDMI up to 1920 X1080 LVDS up to 1920 x 1200 DP up to 3840 x 2160 @ 60 Hz
	Controller	1 x Intel® I210-AT GbE LAN 1 x Intel® I218-LM GbE LAN PHY
Super I/O	Controller	Realtek® ALC887-VD2-CG HD Audio Codec
H/W Monitor	Controller	Fintek F81866AD-I
I/O Interface	Watchdog Timer	256-level Watchdog Timer
	USB	4 x USB 2.0 (2 x internal; 2 x rear) 2 x USB 3.0 (2 x rear with USB 2.0 signal)
	Serial	4 x COM (internal) COM1: RS-232/422/485, 0V/5V/12V COM2~4: RS-232, 0V/5V/12V
	PS/2	1 (pin header)
Expansion Slot	GPIO	8-bits (4 x GPI; 4 x GPO), 5V
	M.2	N/A
Storage	Mini-PCle	1 x Full-size (w/ mSATA) 1 x Half-size
	SATA	2 x SATA 3.0
Power Supply	mSATA	1
	DC	DC-in 12V/19V/24V
Environment	Operating Temperature	-10 ~ 60°C
	Operating Humidity	10 ~ 90%, non-condensing
	Storage Temperature	-20 ~ 80°C
	Storage Humidity	10 ~ 90%, non-condensing
Form Factor	Dimensions	146mm x 102mm (3.5")
	Weight	0.56 kg
Certification	EMC	FCC, CE, RCM, VCCI, BSMI
Software Platform	OS Support	Windows 7 (32/64-bit) Windows 8.1 (32/64-bit) Windows 10 (64 Bit) Fedora 19 Ubuntu 13.04

Packing List

Part Number	Description	Quantity
G71-SEDC161-N56 (HSW ULT SKU) G71-SEDC162-N56 (BDW ULT SKU)	Driver DVD	1
K10-3002145-V03	DC Power Cable, 120mm	1
K14-1009062-V03	COM Port Cable, 250mm	1
K1B-3008034-V03	USB Cable, 150mm	1
K1D-1012064-V03	SATA Cable with Power, 200mm	1
K1D-3008006-V03	SATA Cable, 300mm	1

HMI Panel PC
 Embedded System Board
 Embedded Board
 Semi-rugged Terminal
 POS System
 COM Express Board
 Qseven Board
 Pico-ITX Board
 3.5" Board
 EPIC Board
 PICMG 1.0 Board
 Mini-ITX Board
 Micro-ATX Board
 ATX Board