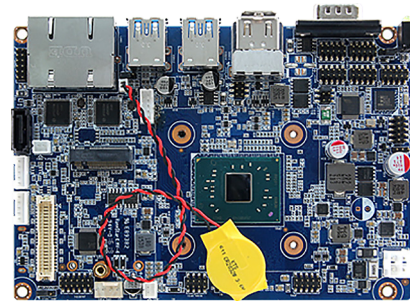


Features

- Top Layer Soldered
- Intel® Pentium®/Celeron®/Atom™ BGA Processor
- Intel® HD Graphics 500/505 Graphic Engine
- Single DRAM Socket, Max. Up to 8GB DDR3 1866MHz
- Supports Triple Display (2 x HDMI, LVDS)
- 1 x M.2, 1 x mini-mPCIe
- 2 x Gigabit Ethernet
- HD Audio Code
- Intel® Pentium® N Series and Intel® Celeron® J Series supports 0°C ~ 60°C Standard Temperature
- Intel® Atom® E Series supports -40°C ~ 85°C Extended Temperature
- Optional TPM 2.0

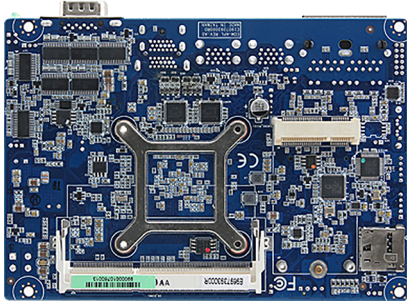


Specifications

System	
CPU	Intel® Atom x7-E3950 Processor (2M Cache, up to 2.00 GHz) Intel® Atom x5-E3940 Processor (2M Cache, up to 1.80 GHz) Intel® Atom x5-E3930 Processor (2M Cache, up to 1.80 GHz) Intel® Pentium Processor N4200 (2M Cache, up to 2.50 GHz) Intel® Celeron Processor N3350 (2M Cache, up to 2.40 GHz) Intel® Celeron Processor J3455E (2M Cache, up to 2.30 GHz) Please note: CPU coolers is included. Please see manual for included accessories.
System Chipset	Intel® Apollo SoC Integrated
System Memory	1 x 204-Pin DDR3L 1866MHz SO-DIMM, supports 4G/8G & up to 8GB DDR3L 1866MTs SDRAM (Non-ECC)
BIOS	AMI uEFI BIOS, 128Mbit SPI Flash ROM
I/O Chip	EC(IT8528E), I-series CPU use EC (IT8528I) for Wide Temp Version
Audio	Realtek ALC892 HD Audio supports 5.1-CH
Ethernet	LAN 1: Intel® I211AT Gigabit Ethernet Controller LAN 2: Intel® I211AT Gigabit Ethernet Controller * Intel® Atom® E3900 Series CPU uses Intel® I210IT for Wide Temp Version
Expansion	1 x mini-PCIe (for PCIe & USB 2.0) 1 x M.2 B-Key 2242 1 x Micro SIM Card Slot
Storage	1 x M.2 supports SATA/USB interface & with Micro SIM card connector for SSD/3G/4G
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
H/W Status Monitor	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
OS Support	Win 10, Linux
Display	
Chipset	Intel® Apollo Lake SoC Integrated Gen9 LP Graphics
Resolution	2 x HDMI: Max. Resolution 3840x2160 @ 30Hz 1 x LVDS: Max. Resolution 1920x1080 @ 60Hz
LCD Interface	Dual channel 18/24-bit LVDS
Multiple Display	Supports Triple Display

External I/O	
HDMI	2 x HDMI
LAN	2 x RJ45
USB	4 x USB 3.0
COM	1 x RS-232/422/485
Internal I/O	
USB	1 x USB 2.0
COM	5 x RS-232
SATA	1 x SATA III
GPIO	1 x 8-bit GPIO
MIO	1 x LPC, 1 x SPI
Touch Screen (Optional)	
Built-in Touch controller	EETI ETP-CP-MER4485XRU 1 x 5-pin 2.54mm Pin Header

Intel® Pentium®/Celeron®/Atom® SoC Processor 3.5" Micro Module SBC



Mechanical and Environment

Power Requirement	Typical 12/24Vdc (+12V ~ +26V)
Power Type	AT/ATX
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F) (For Intel® Pentium® N4200/Celeron® N3350 Series) -40°C ~ 85°C (-40°F ~ 185°F) (For Intel® Atom® E3900 Series) (Optional for Wide Temperature Model)
Storage Temperature	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Form Factor	3.5" Single Board Computer (SBC)
Dimensions	5.7" x 4" (146mm x 101mm)
Weight	0.44 lbs (0.2kg)
Certification Information	CE FCC Class B

Ordering Info

ECM-APL-N4200	3.5" Board Intel® ApolloLake N4200 1.1GHz Quad Core
ECM-APL-N3350	3.5" Board Intel® ApolloLake N3350 1.1GHz Dual Core

* All product specifications and images are subject to change without notice. Last update: 2021/02/23



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