



ECM-APL

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

- > Top Layer Soldered
- > Intel® Pentium®/Celeron®/Atom™ BGA Processor
- > Intel® HD Graphics 500/505 Graphic Engine
- > Single DRAM Socket, Max. Up to 8GB DDR3L 1600&1333MHz
- > Triple Display (Dual HDMI, LVDS)
- > Dual Expansion Slot, M.2 & mPCIe
- > Dual Gigabit Ethernet, HD Audio Code
- > 0~60C for N & J Series, -40~85C for E Series
- > TPM 2.0 (Factory Option)

+ Spec

-System Information-	
Processor	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 J3455 (2M Cache, up to 2.30 GHz)
Platform Controller Hub	Apollo SoC integrated
System Memory	1 x 204-Pin DDR3L 1600&1333MHz SO-DIMM, supports up to 8GB (Non-ECC)
I/O Chipset	EC(IT8528E), I-series CPU use EC (IT8528I) for WT
BIOS Information	AMI uEFI BIOS, 128Mbit SPI Flash ROM
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
Expansion	
Expansion	1 x Mini PCIe (for PCIe & USB2.0) 1 x M.2 (2242)B-Key
Storage	
Storage	1 x M.2 support SATA/USB interface & with Micro SIM card connector for SSD/3G/4G
Touch Screen	
Built-in Touch controller (optional)	EETIETP-CP-MER4485XRU 1 x 5-pin 2.54mm Pin Header
I/O	
USB Port	1 x USB 2.0 4 x USB 3.0
COM Port	1 x RS-232/422/485 5 x RS-232
GPIO	1 x 8bit GPIO
SIM Slot	1 x Micro SIM Card Slot
SATA	1 x SATA3
MIO	1 x LPC 1 x SPI
Display	
Graphic Chipset	Intel® Apollo Lake SoC integrated Gen9 LP Graphics
Spec. & Resolution	2 x HDMI: Max. Resolution 3840x2160 @ 30Hz 1 x LVDS: Max. Resolution 1920x1080 @ 60Hz
Multiple Display	Triple Display
Audio	
Audio Codec	Realtek ALC888S supports 5.1-CH
Audio Interface	Mic-In, Line-In, Line-Out
Certifications	
Certification Information	CE, FCC Class B
Ethernet	
LAN Chipset	2 x Intel® I210AT Intel I210IT for WT
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
LAN Port	2 x RJ-45
Mechanical & Environmental	
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)(J3455/N4200/N3350) -40°C ~ 85°C (-40°F ~ 185°F)(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
Weight	0.44lbs (0.2kg)
Power Requirement	Typical 12/24Vdc (+12V ~ +26V)
Power Mode	AT/ATX
Dimension (L x W)	5.7" x 4" (146mm x 101mm)
Software Support	
OS Information	Win 10, Linux
Ordering Information	
Ordering Information	ECM-APL-N4200-C2R 3.5" W/N4200/5USB/6COM/2LAN/C2 ECM-APL-N3350-C2R 3.5" W/N3350/5USB/6COM/2LAN/C2 ECM-APL-J3455-C2R 3.5" W/J3455/5USB/6COM/2LAN/C2 ECM-APL-E50-C1R(0~+60C) 3.5" W/E3950/5USB/6COM/2LAN/C1 ECM-APL-E40-C1R(0~+60C) 3.5" W/E3940/5USB/6COM/2LAN/C1 ECM-APL-E30-C1R(0~+60C) 3.5" W/E3930/5USB/6COM/2LAN/C1 ECM-APL-E50W-C1R(Wide temp.-40~+85C) 3.5" W/E3950/5USB/6COM/2LAN/C1 ECM-APL-E40W-C1R(Wide temp.-40~+85C) 3.5" W/E3940/5USB/6COM/2LAN/C1 ECM-APL-E30W-C1R(Wide temp.-40~+85C) 3.5" W/E3930/5USB/6COM/2LAN/C1