



## EPS-CFS

### Intel® 8th/9th Coffee Lake Rugged Fanless Embedded System



- > 8th/9th Generation Intel® Processors (6-Core/8-Core)
- > Intel® Q370/H310 Express Chipset
- > Intel® UHD Graphics 630/610
- > Intel® Gigabit LAN Controller
- > Memory Max. Up to 32GB DDR4 2666
- > mPCIe Expansion Slot (Max. Up to 2)
- > -10~60C Operating Temperature
- > Support RAID 0/1 (Q370 only)
- > Support Firmware TPM 2.0

#### + Spec

-System Information-	
<b>Processor</b>	Intel® Core™ i7-8700T Processor (12M Cache, up to 4.00 GHz) Intel® Core™ i5-8500T Processor (9M Cache, up to 3.50 GHz) Intel® Core™ i3-8100T Processor (6M Cache, 3.10 GHz) Intel® Pentium® Gold G5400T Processor (4M Cache, 3.10 GHz) Intel® Celeron® G4900T Processor (2M Cache, 2.90 GHz) Intel® Core™ i7-9700TE Processor (12M Cache, up to 3.80 GHz) Intel® Core™ i5-9500TE Processor (9M Cache, up to 3.60 GHz) Intel® Core™ i3-9100TE Processor (6M Cache, up to 3.20 GHz)
<b>Platform Controller Hub</b>	Intel® Q370 Express Chipset Intel® H310 Express Chipset
<b>System Memory</b>	1 x 260-Pin SO-DIMM Socket, Max. Up to 32GB DDR4 2400/2666MHz
<b>BIOS Information</b>	AMI UEFI BIOS, 256 Mbit SPI Flash ROM
<b>Watchdog Timer</b>	H/W Reset, 1sec. ~ 65535sec. and 1sec./step
<b>H/W Status Monitor</b>	Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control
<b>TPM</b>	TPM 2.0 (Firmware)
<b>SBC</b>	ECM-CFS
Expansion	
<b>Expansion</b>	1 x mPCIe Socket (Q370 w/PCIe/SATA/USB 2.0) (H310 w/SATA/USB2.0) 1 x mPCIe Socket (USB, Factory Option)
Storage	
<b>Storage</b>	1 x mSATA 2 x 2.5" Drive Bay (Internal)
I/O	
<b>USB Port</b>	2 x USB 2.0 4 x USB 3.2 (w/Q370 Gen. 2, w/H310 Gen. 1)
<b>COM Port</b>	2 x RS-232
<b>GPIO</b>	1 x 8-Bit GPIO
<b>Antenna</b>	2 x Antenna Mounting Hole
System Control	
<b>LED Indicator</b>	1 x Power on/off LED on Rear side 1 x Storage Access LED on Front/Rear side
Display	
<b>Graphic Chipset</b>	Intel® UHD Graphics 630 (i7-8700T,i7-9700TE, i5-8500T,i5-9500TE, i3-8100T,i3-9100TE) Intel® UHD Graphics 610 (Pentium G5400T, Celeron G4900T)
<b>Spec. &amp; Resolution</b>	2 x HDMI 1.4: Max. Resolution 4096x2304@24Hz
<b>Multiple Display</b>	Dual Display
Audio	
<b>Audio Codec</b>	Realtek ALC888S
<b>Audio Interface</b>	1 x Mic-In 1 x Line-Out
Certifications	
<b>Certification Information</b>	CE FCC Class B
Ethernet	
<b>LAN Chipset</b>	1 x Intel® I211AT 1 x Intel® I219LM
<b>Ethernet Interface</b>	10/100/1000 Base-Tx GbE compatible



<b>LAN Port</b>	2 x RJ-45
<b>Power Requirement</b>	
<b>DC Input</b>	+12V
<b>DC Input Connector</b>	Lockable DC Jack
<b>ACPI</b>	Single Power ATX Support S0,S3, S4, S5 ACPI 5.0 Compliant
<b>Power Mode</b>	AT/ATX (ATX is default setting)
<b>Adapter</b>	Input: 100 ~ 240Vdc/ 50 ~ 60Hz Output: AC-DC 120W Adapter
<b>Mechanical &amp; Environmental</b>	
<b>Operating Temperature</b>	With extended temperature peripherals:-10°C ~ 60°C (14°F ~ 140°F), with 0.5m/s air flow(i5/i7 CPU) With extended temperature peripherals:-10°C ~ 50°C (14°F ~ 122°F), with 0.2m/s air flow(i5/i7 CPU) With extended temperature peripherals:-10°C ~ 45°C (14°F ~ 113°F), with 0.5m/s air flow(i3-8100T)
<b>Storage Temperature</b>	-30°C ~ 70°C (-22°F ~ 158°F)
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Dimension (W x L x H)</b>	212mm x 240mm x 85mm
<b>Weight</b>	5.4kg (w/Packing) 3.1kg (System)
<b>Vibration Test</b>	With SSD: 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
<b>Shock Test</b>	With SSD: 50Grms, IEC 60068-2-27, Half Sine, 11ms
<b>Mounting Kit</b>	Wall Mount kit (Standard)
<b>Drop</b>	ISTA 2A, IEC-60068-2-32 Test : Ed
<b>Construction</b>	Aluminum + Metal
<b>Software Support</b>	
<b>OS Information</b>	Win10 Linux
<b>Ordering Information</b>	
<b>Ordering Information</b>	<p>With Intel® Q370 Chipset            EPS-CFS-Q37-B1-1R (i7-8700T)            EPS-CFS-Q37-B1-2R (i5-8500T)            EPS-CFS-Q37-B1-3R (i3-8100T)            EPS-CFS-Q37-B1-4R (Pentium Gold G5400T)            EPS-CFS-Q37-B1-5R (Celeron G4900T)            EPS-CFS-Q37-B1-6R (i7-9700TE)            EPS-CFS-Q37-B1-7R (i5-9500TE)            EPS-CFS-Q37-B1-8R (i3-9100TE)</p> <p>With Intel® H310 Chipset            EPS-CFS-H31-B1-1R (i7-8700T)            EPS-CFS-H31-B1-2R (i5-8500T)            EPS-CFS-H31-B1-3R (i3-8100T)            EPS-CFS-H31-B1-4R (Pentium Gold G5400T)            EPS-CFS-H31-B1-5R (Celeron G4900T)            EPS-CFS-H31-B1-6R (i7-9700TE)            EPS-CFS-H31-B1-7R (i5-9500TE)            EPS-CFS-H31-B1-8R (i3-9100TE)</p> <p>Power Cord information            USA Power Cord: E1702031833R            UK Power Cord: E170P060380R            EU Power Cord: E1702031000R            Australia Power Cord: E1702031831R</p>