

# ECS-APCL

Intel Celeron J3455 Fanless System

## Quick Reference Guide

1<sup>st</sup> Ed –11 June 2020

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## FCC Statement



THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

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# 1. Getting Started

## 1.1 Safety Precautions

### Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

### Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

## 1.2 Packing List

- 1 x ECS-APCL Intel® Celeron® J3455 Processor Pico-ITX Fanless Box PC
- 1 x Adapter
- 1 x Power Cord (EU)
- 1 x Screw Kit for SSD/M.2/Bracket



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If any of the above items is damaged or missing, contact your retailer.

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## 1.3 System Specifications

System	
<b>Mother Board</b>	EPX-APLP-3455-A1R
<b>CPU</b>	Onboard Intel Celeron® J3455 processor
<b>CPU Cooler (Type)</b>	Fanless
<b>Memory</b>	1 x 204-pin DDR3L 1600MHz SO-DIMM socket, supports up to 8GB (Default: 1 x 4GB DDR3L)
<b>Adapter</b>	60W Adapter (DC in 12V@5A)
<b>Speaker</b>	1 x Lin-out
<b>Operating System</b>	Windows 10 / Linux
External I/O	
<b>Serial Port</b>	1 x RS-232
<b>USB Port</b>	2 x USB3.0, 2 x USB2.0
<b>Video Port</b>	1 x DP++ (only 3840x2160@60Hz is tested, 4096 x 2160 @ 60Hz needs to be further validated when device is available) 1 x HDMI (3840 x 2160 @ 30Hz, 2560 x 1600 @ 30Hz)
<b>Audio Port</b>	1 x Line-out
<b>LAN Port</b>	2 x Intel I211AT Gigabit Ethernet
<b>Wireless LAN Antenna</b>	2 x SMA Connector (Optional)
<b>Switch</b>	1 x Power on/off button with LED
<b>Indicator Light</b>	1 x Storage LED
<b>Expansion Slots</b>	1 x M.2 Type B 3042/2242/2260 (with 1 x PCI-e x 1, USB 3.0 and SATA Signal) supports SSD, default 64GB SSD 1 x M.2 Type A 2230 supports Wi-Fi module (1 x PCI-e x 1, USB 2.0 Signal)
Mechanical	
<b>Power Type</b>	AT / ATX mode Switchable Through Jumper *Default: ATX mode
<b>Power Connector Type</b>	Lockable DC Jack
<b>Dimension</b>	120.6 x 95.2 x 49.8 mm(L x W x H)
<b>Weight</b>	1kg
<b>Color</b>	Black
<b>Fanless</b>	Yes
<b>OS Support</b>	Windows 10 / Linux
Reliability	
<b>EMI Test</b>	CE/FCC Class B design compatible
<b>Safety</b>	UL/CB design compatible
<b>Vibration Test</b>	<u>Sine Vibration test (Non-operation)</u>

	<p>Reference IEC60068-2-6 Testing procedures</p> <p>Test Fc : Vibration sinusoidal</p> <ol style="list-style-type: none"> <li>1 Test Acceleration : 2G</li> <li>2 Test frequency : 5 ~ 500 Hz</li> <li>3 Sweep : 1 Oct/ per one minute. (logarithmic)</li> <li>4 Test Axis : X,Y and Z axis</li> <li>5 Test time :30 min. each axis</li> <li>6 System condition : Non-Operating mode</li> </ol> <p><u>Package Vibration Test</u></p> <p>Reference IEC60068-2-64 Testing procedures</p> <p>Test Fh : Vibration broadband random Test</p> <ol style="list-style-type: none"> <li>1. PSD: 0.026G<sup>2</sup>/Hz , 2.16 Grms</li> <li>2. Non-operation mode</li> <li>3. Test Frequency : 5-500Hz</li> <li>4. Test Axis : X,Y and Z axis</li> <li>5. 30 min. per each axis</li> </ol> <p><u>Random Vibration Operation</u></p> <p>Reference IEC60068-2-64 Testing procedures</p> <p>Test Fh : Vibration broadband random Test</p> <ol style="list-style-type: none"> <li>1. PSD: 0.00454G<sup>2</sup>/Hz, 1.5 Grms</li> <li>2. Operation mode</li> <li>3. Test Frequency : 5-500Hz</li> <li>4. Test Axis : X,Y and Z axis</li> <li>5. 30 minutes per each axis</li> <li>6. IEC 60068-2-64 Test: Fh</li> <li>7. Storage : SSD or M.2</li> </ol>
<p><b>Mechanical Shock Test</b></p>	<p><u>Bump Test</u></p> <p>Reference IEC 60068-2-29 Testing procedures</p> <p>Test Eb : Bump Test</p> <ol style="list-style-type: none"> <li>1. Wave form : Half Sine wave</li> <li>2. Acceleration Rate : 10g for operation mode</li> <li>3. Duration Time : 11ms</li> <li>4. No. of Shock : Z axis 300 times</li> <li>5. Test Axis: Z axis</li> <li>6. Operation mode</li> </ol>
<p><b>Drop Test</b></p>	<p><u>Packing Drop</u></p> <p>Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed      st Ea : Drop</p> <p>Test1 One corner , three edges, six faces</p>

## Quick Reference Guide

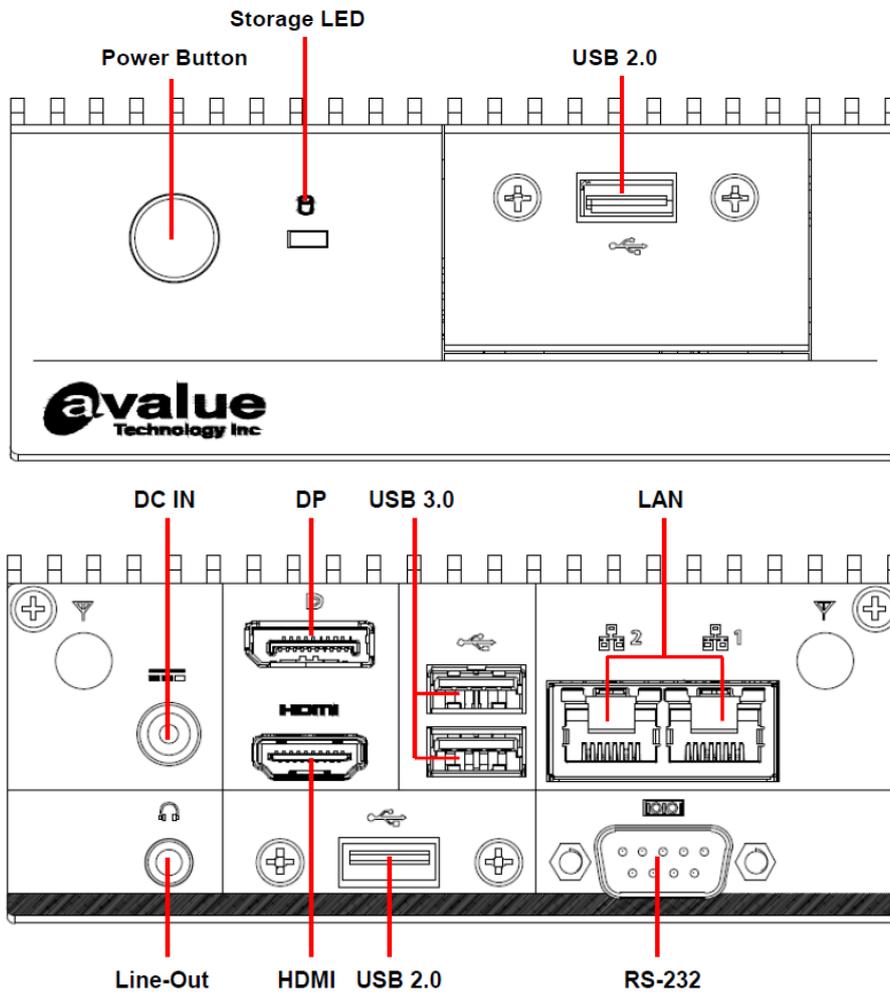
	2 ISTA 2A, IEC-60068-2-32 Test:Ed
<b>Operating Temperature</b>	-10°C ~ 50°C (32°F ~ 122°F) (w/SSD), ambient w/0.5 m/s air flow -10°C ~ 40°C (32°F ~ 104°F) (w/SSD), ambient w/0.2 m/s air flow
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Storage Temperature</b>	-20°C ~ 75°C (-4°F ~ 167°F)



**Note:** Specifications are subject to change without notice.

## 1.4 System Overview

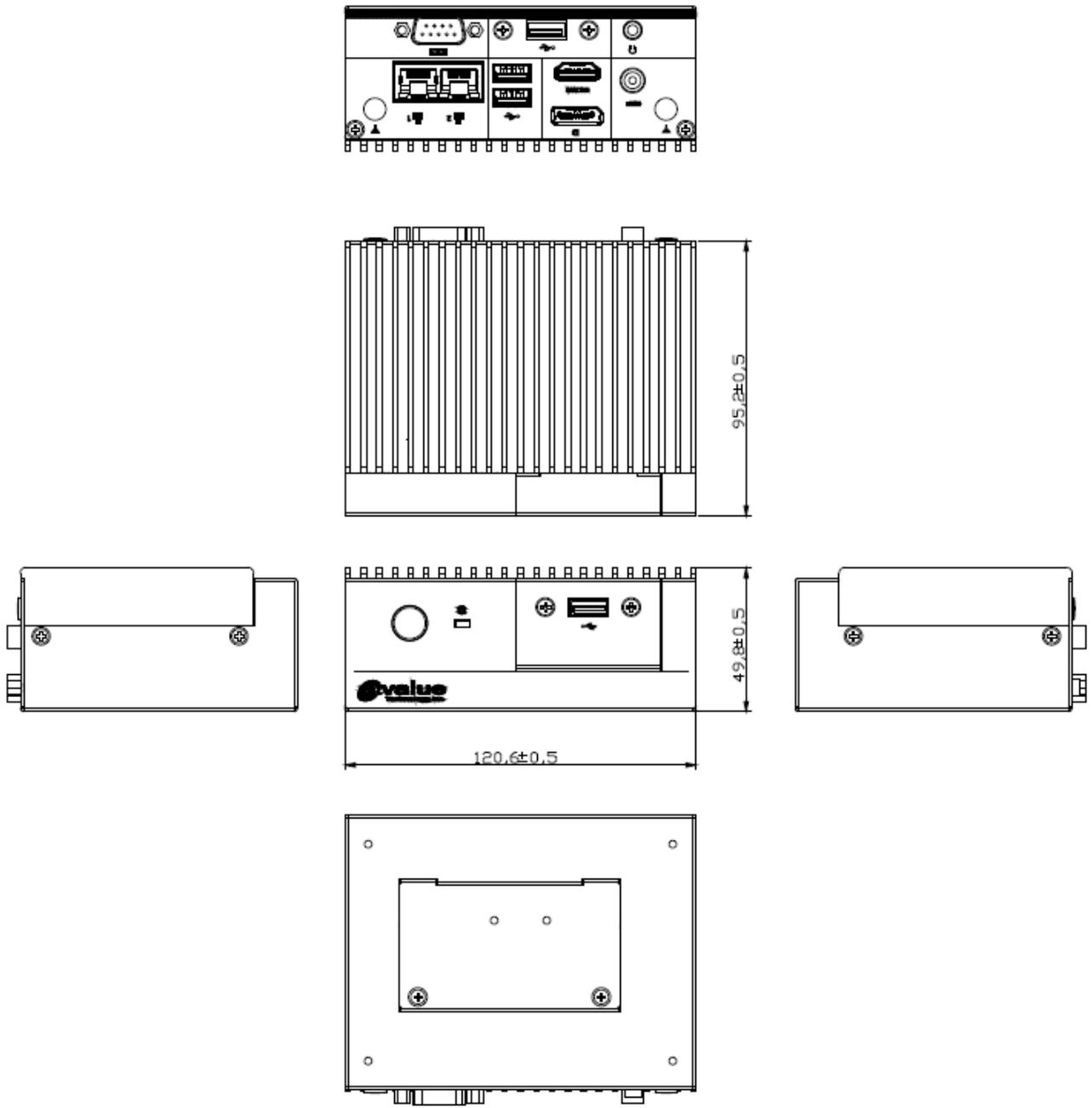
### 1.4.1 Front/Rear View



#### Connectors

Label	Function	Note
POWER	Power on button	
Storage LED	Storage indicator	
USB	2 x USB2.0 connector 2 x USB3.0 connector	
Line-out	Line-out audio jack	
Mic-in	Mic-in audio jack	
LAN1/2	RJ-45 Ethernet 1/2	
HDMI	HDMI connector	
DP	DP connector	
COM	Serial port connector	
DC IN	DC power-in connector	

## 1.5 System Dimensions



(Unit: mm)

# 2. Hardware Configuration

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For advanced information, please refer to:

- 1- EPX-APLP User's Manual

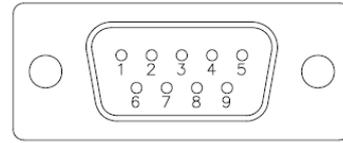
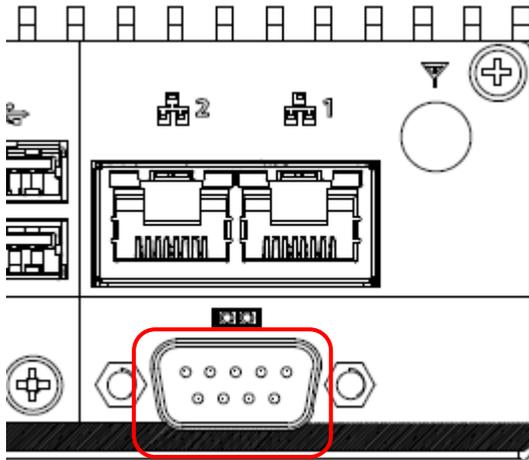


**Note:** If you need more information, please visit our website:

<http://www.avalue.com.tw>

## 2.1 ECS-APCL connector mapping

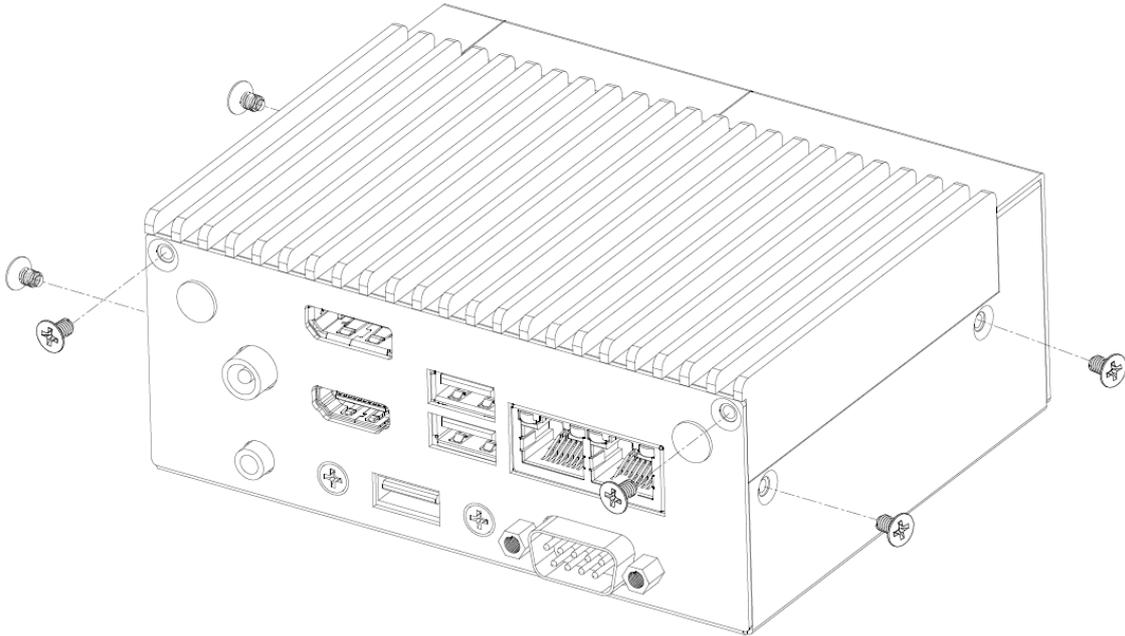
### 2.1.1 Serial Port connector (COM)



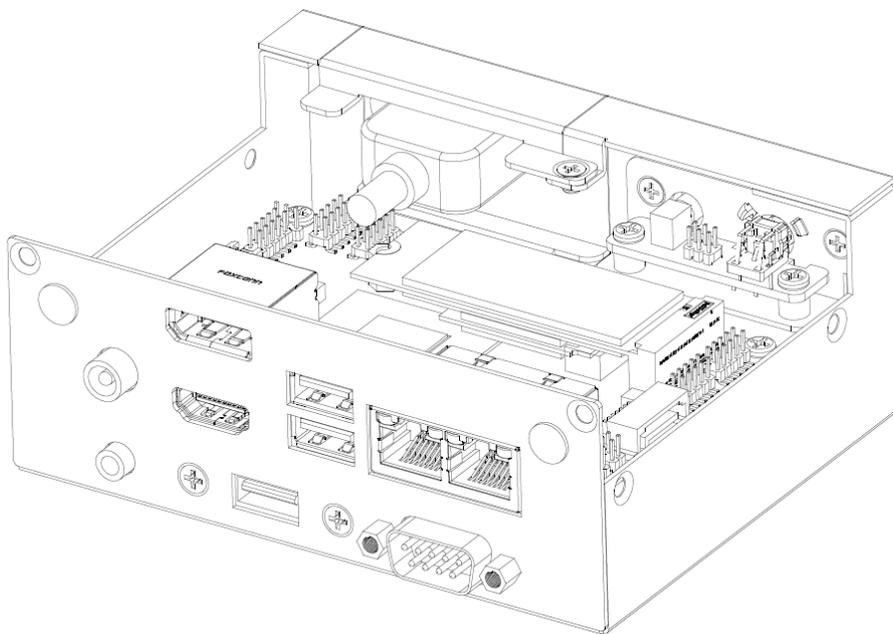
Signal	PIN	PIN	Signal
DCD#	1	6	DSR#
RXD	2	7	RTS#
TXD	3	8	CTS#
DTR#	4	9	RI#
GND	5		

## 2.2 Installing SSD (ECS-APCL)

ECS-APCL default 64GB M.2 SSD installed, photo below for reference if customer may need to install SSD.



**Step1.** Take off screws from bottom cover.



**Step2.** Fix screw and install SSD.

