

# ECS-BYTC

Intel® Celeron® Processor J1900 fanless BOX PC

## Quick Reference Guide

1<sup>st</sup> Ed -04 August 2017

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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-BYTC Intel® Celeron® Processor J1900 fanless BOX PC
- Other major components include the followings:
  - 1 x Adapter
  - 1 x Power Cord



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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	
Mother Board	<ul style="list-style-type: none"> <li>ACP-BYTC</li> </ul>
CPU	<ul style="list-style-type: none"> <li>Intel® Celeron® Processor J1900 (2M Cache, Up to 2.42 GHz)</li> </ul>
Memory	<ul style="list-style-type: none"> <li>1 x 204-pin DDR3L 1333MHz SO-DIMM Socket (Up to 8GB)</li> </ul>
Adapter	<ul style="list-style-type: none"> <li>60W Adapter (DC in 12V@5A)</li> </ul>
Operating System	<ul style="list-style-type: none"> <li>Windows/ Linux</li> </ul>
Expansion	<ul style="list-style-type: none"> <li>1 x full size Mini PCI-e support mSATA</li> <li>1 x full size Mini PCI-e support Wi-Fi module and SIM Card</li> </ul>
Storage	
Hard Disk Drive	<ul style="list-style-type: none"> <li>1 x 2.5" SATA HDD/SSD</li> </ul>
External I/O	
Serial Port	<ul style="list-style-type: none"> <li>5 x RS-232, 1 x RS-232/RS-485</li> </ul>
USB Port	<ul style="list-style-type: none"> <li>5 x USB 2.0, 1 x USB 3.0</li> </ul>
Video Port	<ul style="list-style-type: none"> <li>1 x VGA, 1 x HDMI</li> </ul>
Audio Port	<ul style="list-style-type: none"> <li>1 x Line-out</li> </ul>
LAN Port	<ul style="list-style-type: none"> <li>2 x Realtek 8111E PCI-Express Gigabit Ethernet</li> </ul>
Wireless LAN Antenna	<ul style="list-style-type: none"> <li>1 x SMA connector (Optional)</li> </ul>
Switch	<ul style="list-style-type: none"> <li>1 x Power on/off Switch</li> </ul>
Indicator Light	<ul style="list-style-type: none"> <li>1 x HDD LED, 1 x Power LED</li> </ul>
Mechanical	
Power Type	<ul style="list-style-type: none"> <li>Single power ATX Support S0, S3, S4, S5</li> </ul>
Power Connector Type	<ul style="list-style-type: none"> <li>DC in 12V</li> </ul>
Dimension	<ul style="list-style-type: none"> <li>180mm x 126mm x 68mm</li> </ul>
Weight	<ul style="list-style-type: none"> <li>3.3lbs (1.5Kgs)</li> </ul>
Color	<ul style="list-style-type: none"> <li>Black</li> </ul>
Fanless	<ul style="list-style-type: none"> <li>Yes</li> </ul>
Mounting	<ul style="list-style-type: none"> <li>VESA/ Din rail (optional)</li> </ul>
Reliability	
EMI Test	<ul style="list-style-type: none"> <li>CE/FCC Class A design compatible</li> </ul>
Safety	<ul style="list-style-type: none"> <li>UL/CB design compatible</li> </ul>
Vibration Test	<ul style="list-style-type: none"> <li><u>Sine Vibration test (Non-operation)</u></li> <li>Reference IEC60068-2-6 Testing procedures</li> <li>Test Fc : Vibration sinusoidal</li> <li>1 Test Acceleration : 2G</li> <li>2 Test frequency : 5 ~ 500 Hz</li> <li>3 Sweep : 1 Oct/ per one minute. (logarithmic)</li> </ul>

	<p>4 Test Axis : X,Y and Z axis                      5 Test time :30 min. each axis                      6 System condition : Non-Operating mode                      7. Storage : SSD or mSATA</p> <ul style="list-style-type: none"> <li>• <u>Package Vibration Test</u></li> <li>• Reference IEC60068-2-64 Testing procedures</li> <li>• Test Fh : Vibration boardband random Test                             <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> </li> <li>• <u>Random Vibration Operation</u></li> <li>• Reference IEC60068-2-64 Testing procedures</li> <li>• Test Fh : Vibration boardband random Test                             <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 mSATA</li> </ol> </li> </ul>
<p><b>Mechanical Shock Test</b></p>	<ul style="list-style-type: none"> <li>• <u>Bump Test</u></li> <li>• Reference IEC 60068-2-29 Testing procedures</li> <li>• Test Eb : Bump Test                             <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> <li>7. Storage : SSD or mSATA</li> </ol> </li> </ul>
<p><b>Drop Test</b></p>	<ul style="list-style-type: none"> <li>• <u>Packing Drop</u></li> <li>• Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed Test Ea : Drop Test                             <ol style="list-style-type: none"> <li>1. One corner , three edges, six faces</li> <li>2. ISTA 2A, IEC-60068-2-32 Test:Ed</li> </ol> </li> </ul>
<p><b>Operating Temperature</b></p>	<ul style="list-style-type: none"> <li>• 0°C ~ 40°C (32°F ~ 104°F) (w/HDD), ambient w/ air flow</li> </ul>

## Quick Reference Guide

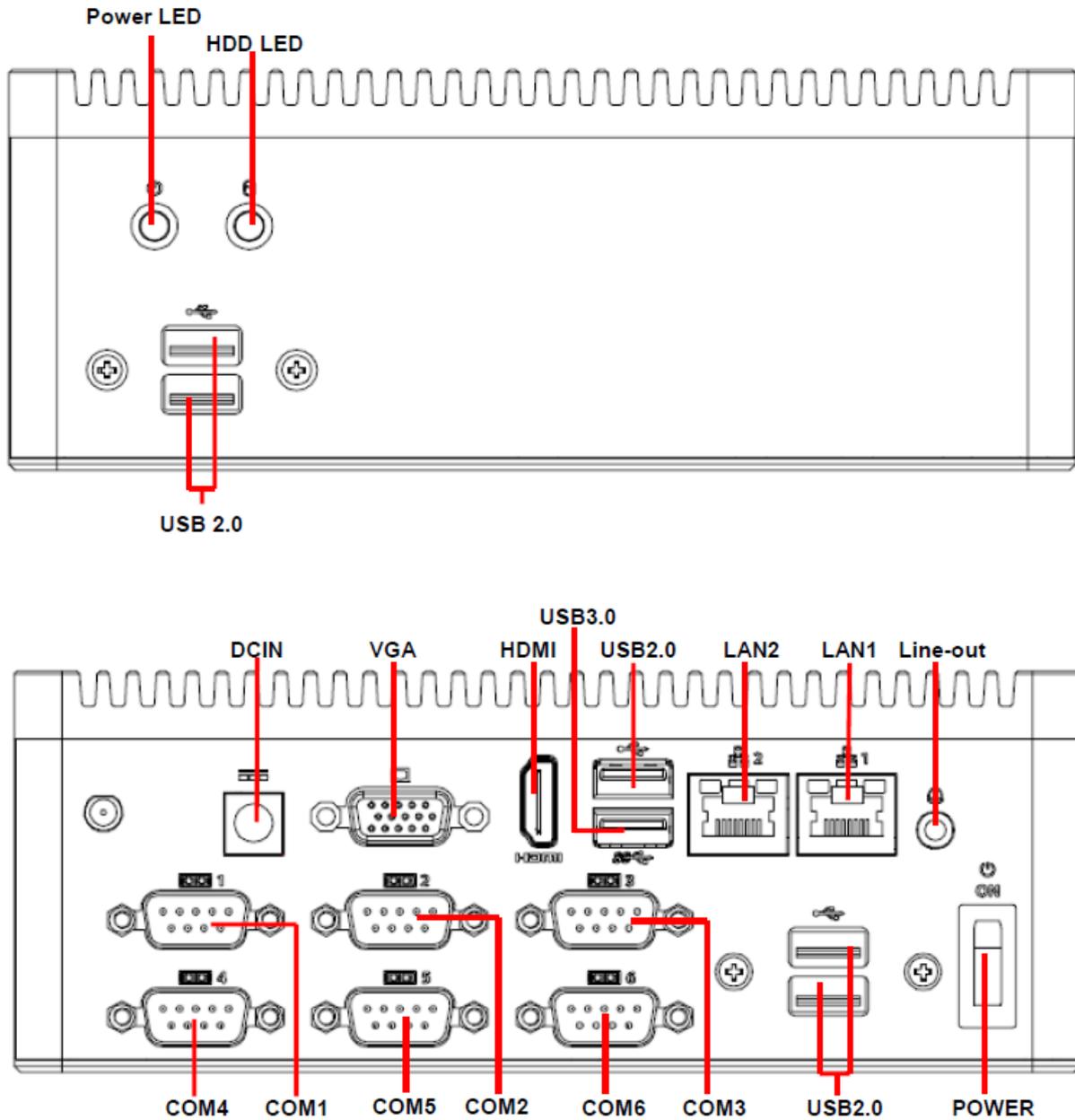
	<ul style="list-style-type: none"><li>• 0°C ~ 45°C (32°F ~ 113°F) (w/SSD, mSATA), ambient w/ air flow</li></ul>
<b>Operating Humidity</b>	<ul style="list-style-type: none"><li>• 0% ~ 90% Relative Humidity, Non-condensing</li></ul>
<b>Storage Temperature</b>	<ul style="list-style-type: none"><li>• -20°C ~ 75°C (-22°F ~ 167°F)</li></ul>



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

## 1.4 System Overview

### 1.4.1 Front/Rear View

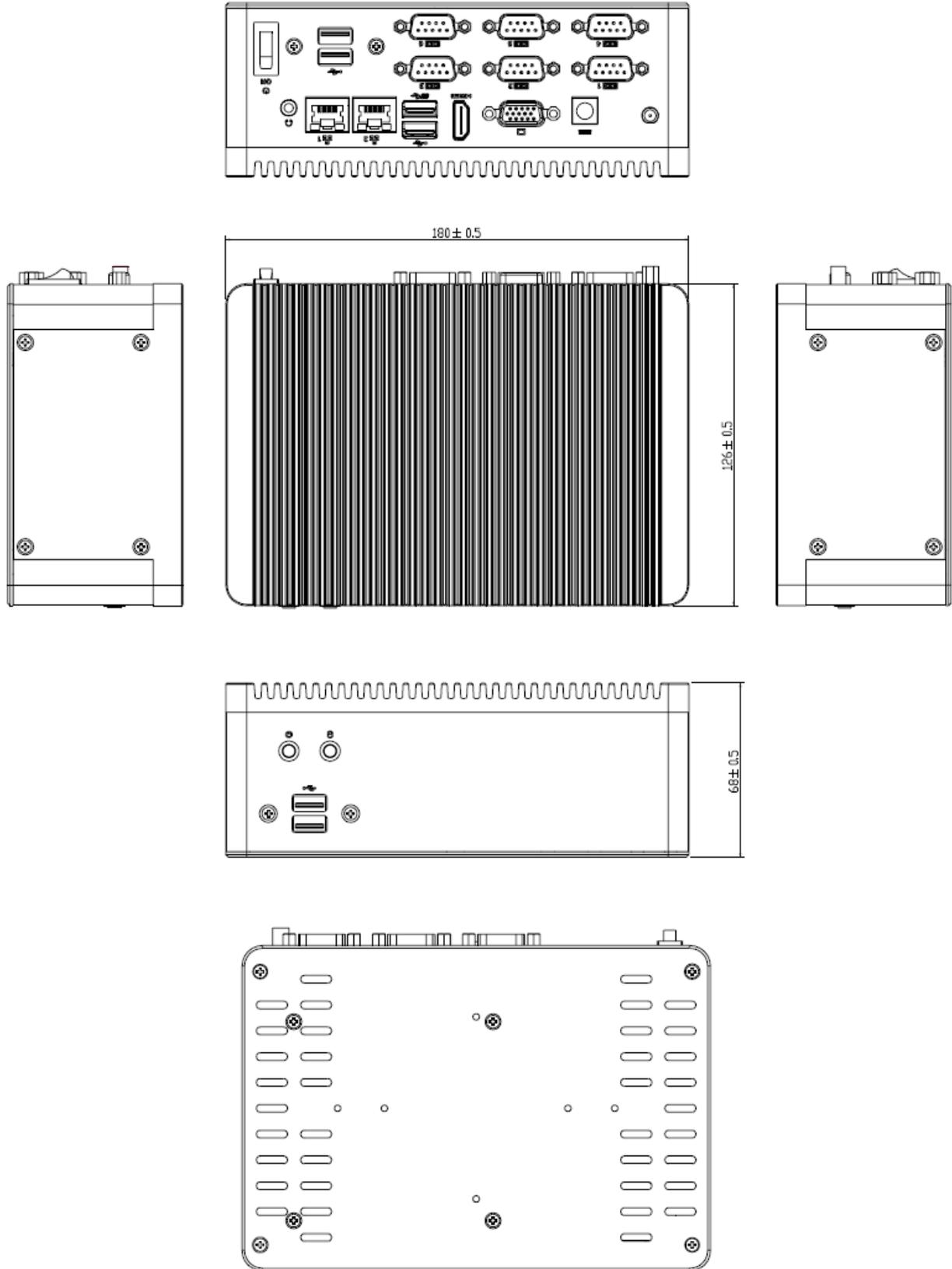


#### Connectors

Label	Function	Note
POWER	Power on button	
HDD LED	HDD Indicator	
Power LED	System power indicator	
LAN1/2	RJ-45 Ethernet 1/2	

<b>USB</b>	5 x USB2.0 connector 1 x USB3.0 connector
<b>COM1~6</b>	Serial port 1~6 connector      COM4-232/485 (Optional)
<b>DC IN</b>	DC power-in connector
<b>HDMI</b>	HDMI connector
<b>LINE OUT</b>	Line-out audio jack
<b>VGA</b>	VGA connector

# 1.5 System Dimensions



(Unit: mm)

# 2. Hardware Configuration

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For advanced information, please refer to:

- 1- ACP-BYTC User's Manual

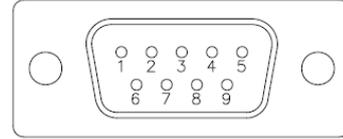
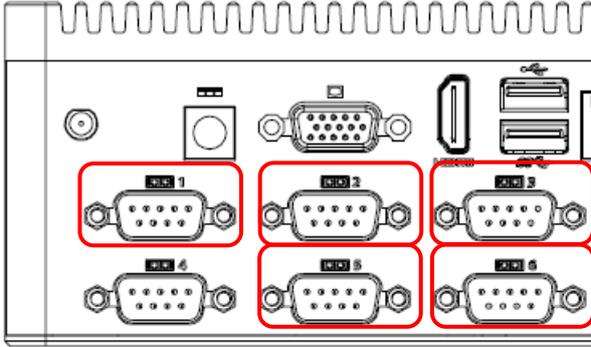


**Note:** If you need more information, please visit our website:

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

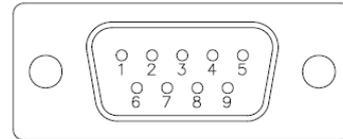
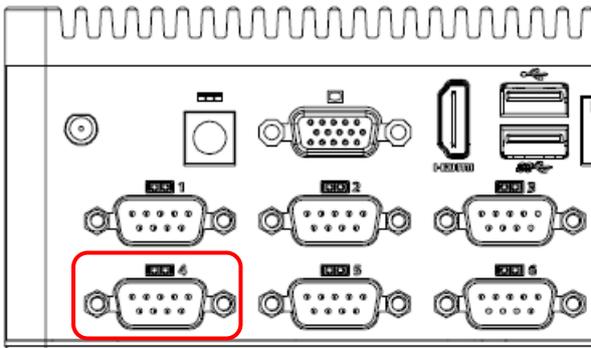
## 2.1 ECS-BYTC connector mapping

### 2.1.1 Serial Port 1/2/3/5/6 connector (COM1/2/3/5/6)



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

### 2.1.2 Serial Port 4 connector (COM4)



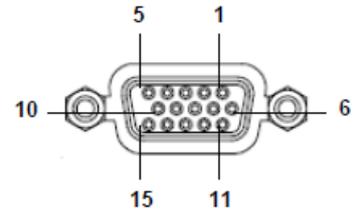
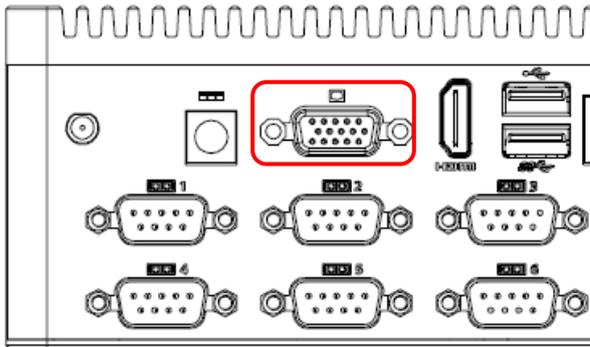
#### RS-232

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

#### RS-485(D-sub 9pin Male)

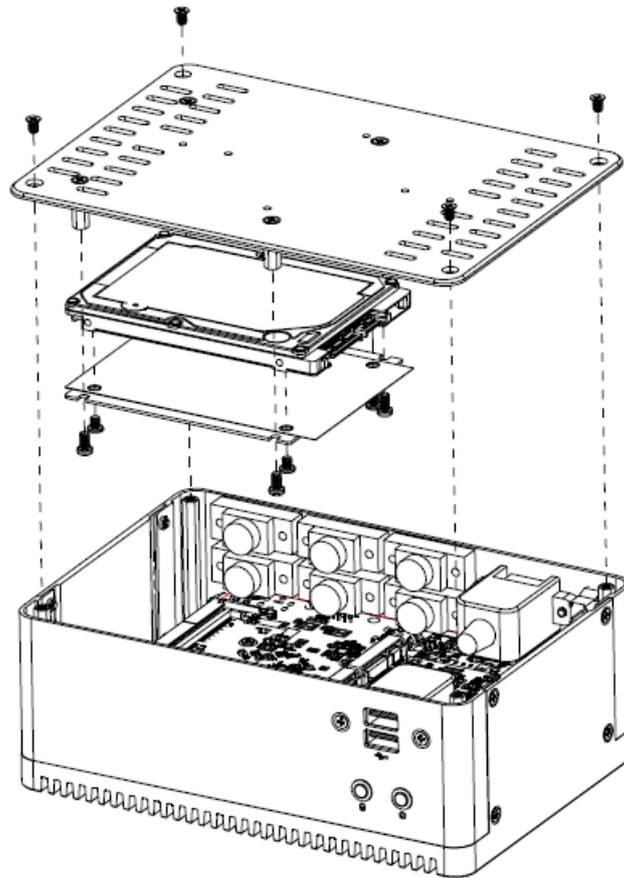
Signal	PIN		
485_Tx-	1	6	NC
485_Tx+	2	7	NC
NC	3	8	NC
NC	4	9	NC
GND	5		

2.1.3 VGA connector (VGA)



PIN	Signal	PIN	Signal	PIN	Signal
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	DDCDAT
3	BLUE	8	GND	13	HSYNC
4	NC	9	+5V	14	VSYSNS
5	GND	10	GND	15	DDCCLK

## 2.2 Installing Hard Disk (ECS-BYTC)



**Step1.** Remove 4 screws from rear side before removing back cover.

**Step2.** Secure HDD by means of 8 screws.

**Step3.** Re-assemble your system back through previous steps to complete the installation.

