EBC-3300-AL
Chassis for Mini-ITX
Version: 1.00

Quick Installation Guide

ABOUT THE EBC-3300-AL

The heavy-duty steel EBC-3300-AL compact embedded industrial chassis is designed for Mini-ITX SBC to operate reliably in industrial environments where it will be exposed to dust, wide temperature variations, shocks and vibrations.

PACKING LIST

When unpacking the chassis, make sure the following items have been shipped.

- 1 x Quick Installation Guide
- 1 x Screw set
- 2 x Wall mount brackets
- 1 x LAN1 / LAN2 gasket (P/N: 30700-000491-RS)
- 1 x DP1 / DP2 gasket (P/N: 30700-000497-RS)
- 5 x Cable Ties (P/N: 46004-002500-RS)

OPTIONAL ITEMS

The following items can be purchased separately:

- System fan module (P/N: 19FR123510BH-000002-RS)

SPECIFICATIONS

- **Platform:** Case only
- **Color:** Black
- **Dimensions (WxDxH):** 190 mm x 200 mm x 42 mm
- **Chassis Construction:** Heavy duty metal
- **Motherboard:** tKINO-AL
  (Support 00DB409-04-102-RS test)
- **SBC Size (mm):** Mini-ITX (170 mm x 170 mm)
- **CPU:** Refer to SBC
- **System Memory:**
  2 x DDR3L 1333/1066 SO-DIMM (system Max: 8GB)
- **Storage:**
  - o 1 x 2.5" SATA 6Gb/s HDD/SSD Bay
  - o 1 x microSD socket
- **PS2 (KB/MS):** pin header
- **USB 3.0:** 4
- **USB 2.0:** pin header
- **Ethernet:** 2
- **RS-232/422/485:** 2 (pin header)
- **RS-232:** 4 (pin header)
- **DIO:** 8-bit (pin header)
- **Display:**
  - o 2 x DP++ (up to 4096x2160@60Hz)
- **Audio:** Realtek ALC269
  - o 1 x Audio jacks (line-out, mic-in)
- **Wireless:** Refer to SBC
- **Expansions:**
  - o 1 x PCIe x1
  - o 1 x Full-size PCIe Mini
  - o 1 x M.2 B-key (SATA/USB2)
- **Power Input:** 12V
- **Power Consumption:** 12V@2.58A
- **Indicator and Switch:** 1 x Power switch
- **Mounting:** VESA 100, wall mount
- **Operating Temperature:** -10°C ~ 50°C with air flow

(SSD)

- **Operating Humidity:** 10%~95%, non-condensing
- **Operating Temperature:** -20°C ~ 60°C
- **Operating Shock:** Half-sine wave shock 3G, 11ms, 3 shocks per axis
- **Operation Vibration:** MIL-STD-810G 514.5C-1 (with SSD)
- **Weight (Net/Gross):** 1 kg/ 2kg

DETAILS OF INCLUDED SCREWS

Screws used for installing components are shown below.

A Round head M3*6 **B** Pan head M3*5 **C** Round head M3*6 Black **D** Flat head M3*4 Black

Peripherals/Parts	Screw Label (refer to picture)	Amount	In Package/ On Chassis
Motherboard	A	4	In package
2.5" HDD	B	4	In package
Wall-mount bracket	C	4	In package
Chassis	D	2	In package

Table 1: Screw set

DIMENSION DRAWING
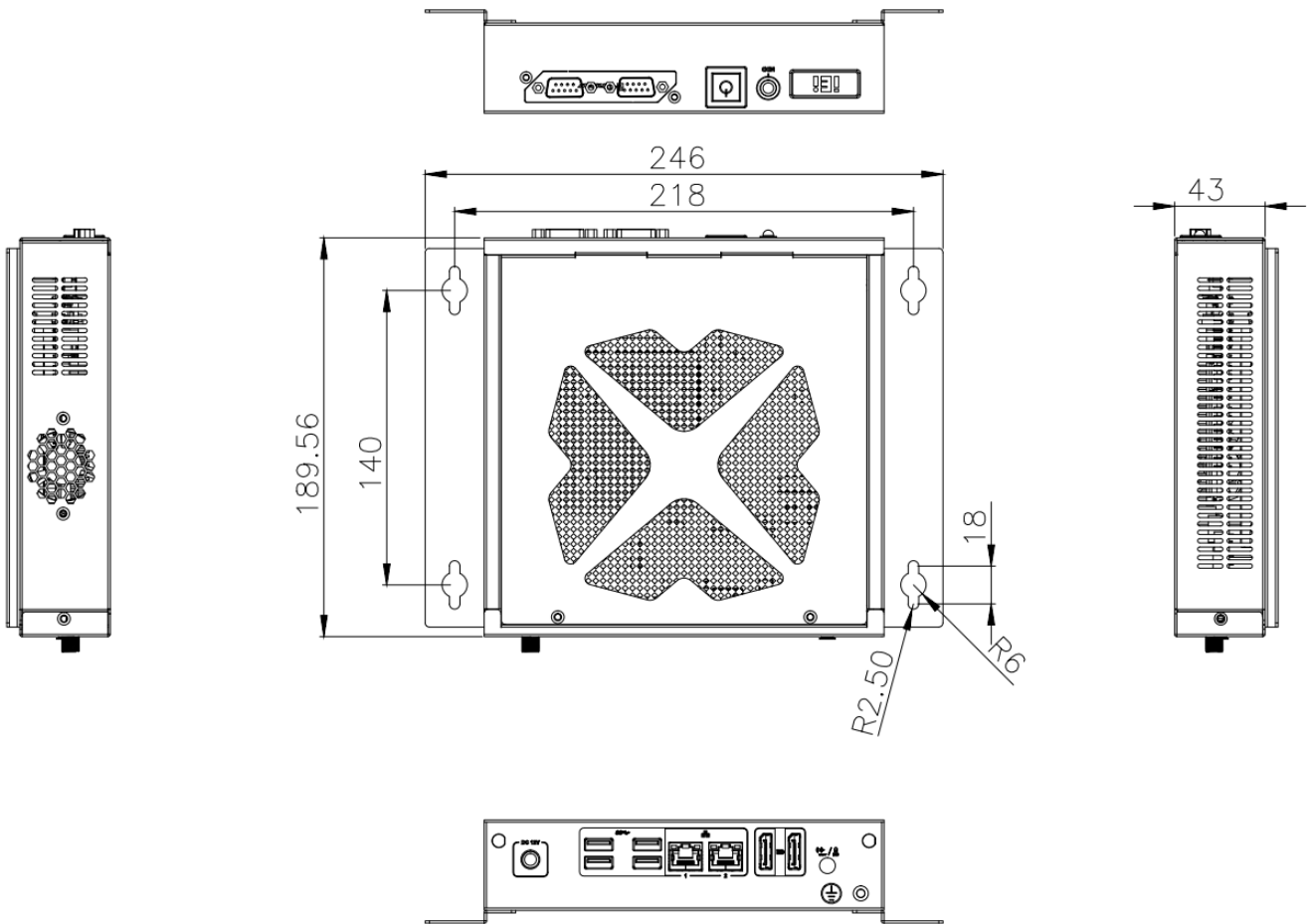
The dimensions of EBC-3300-AL are shown below.

Figure 1: Dimension Drawing

INSTALLATION STEPS

To install the EBC-3300-AL chassis, the following installation steps must be completed:

Step 1:   Unpack the chassis.

Step 2:   Remove the top cover.

Step 3:   Install the SBC (Single Board Computer).

Step 4:   Install the memory.

Step 5:   Install the wireless LAN (WLAN) module (optional).

Step 6:   Install the system fan (optional).

Step 7:   Install the internal 2.5" HDD.

Step 8:   Connect the cables.

Step 9:   Reinstall the top cover.

Step 10: Mount the chassis (optional).

The installation steps outlined above are described in detail below. Please refer to the relevant section.

STEP 1: UNPACK

The EBC-3300-AL is shipped in a plastic bag that is placed inside a cardboard box. The items are also shipped with the chassis. When unpacking the chassis please:

- Make sure all the items listed in the **PACKING LIST** section are present.
- Make sure the chassis has not been damaged in any way.

STEP 2: REMOVE THE TOP COVER AND I/O PANEL

To remove the top cover and I/O panel, please follow the instruction below:

Step 1:   Remove two retention screws on the top panel, two retention screws on side panel and two retention screws on the bottom panel.

Figure 2: Remove the Top Cover and I/O Panel

Step 2:   Remove the top cover and I/O panel.

STEP 3: MOTHERBOARD INSTALLATION

To install a Mini-ITX motherboard, please follow the instructions below:

Step 1:   Align the four retention screws holes on the motherboard with the retention screw holes on the bottom of the chassis.

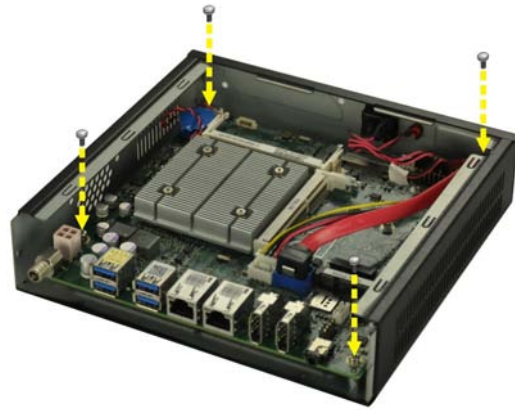Step 2:   Install the motherboard to the chassis with four retention screws.

Figure 3: Motherboard Retention Screws

Step 3:   Stick the LAN1 / LAN2 gasket (P/N: 30700-000491-RS, L35*W10*H10mm) and DP1 / DP2 gasket (P/N: 30700-000497-RS, L18*W15*H5mm) to the locations as shown in the following diagram.
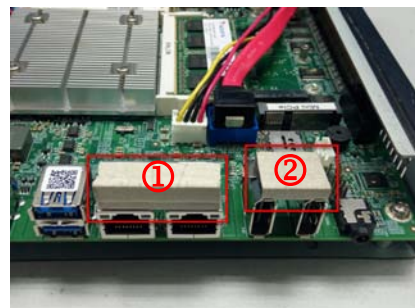

Figure 4: LAN1 / LAN2 and DP1 / DP2 Gaskets

Step 4:   Make sure the external peripheral interface connectors fit into the predrilled holes on the I/O panel.

Step 5:   Secure the I/O panel using four retention screws.

Figure 5: I/O Shielding Installation

Step 6:   Secure the power connector.

Step 7:   Replace the top cover and secure it using two retention screws.

STEP 4: SO-DIMM INSTALLATION

To install the SO-DIMM, please follow the steps below.

Step 1:   Locate the SO-DIMM socket on the motherboard.

Figure 6: SO-DIMM Locations

Step 2:   Align the notch on the memory with the notch on the memory socket. Push the memory in at a 20º angle.

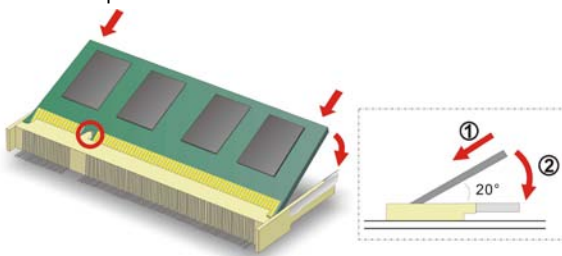Step 3:   Gently push downwards and the arms clip into place.

Figure 7: SO-DIMM Installation

CAUTION:

If an MPCIE-UART-KIT02-R10 module is installed, the DIMM1 slot cannot be used. Please install the memory in the DIMM2 slot.

STEP 5: WLAN MODULE INSTALLATION (OPTIONAL)

To install the optional wireless LAN (WLAN) module, please follow the steps below.

Step 1:   Remove the two knockout holes for antenna installation. The two knockout holes are located on the rear panel of the EBC-3300-AL as shown in the following diagram.

Figure 8: Knockout Holes for Wireless Antenna

Step 2:   Locate the PCIe Mini slot on the motherboard.

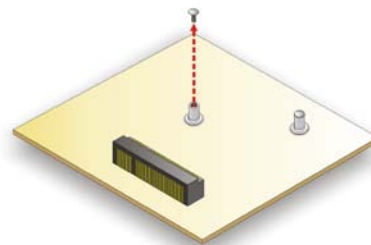Step 3:   Remove the retention screw for half-size card installation.

Figure 9: Removing the Retention Screw

Step 4:   Line up the notch on the WLAN module with the notch on the slot. Slide the WLAN module into the slot at an angle of about 20º.
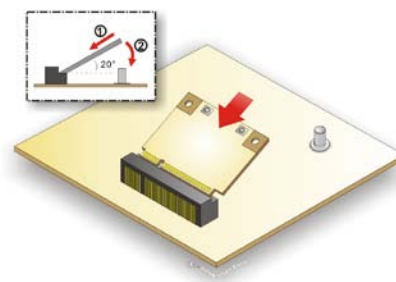

Figure 10: Inserting the WLAN Module

Step 5:   Secure the WLAN module. Secure the WLAN module with the retention screw previously removed. Then, connect the two RF cables to the antenna connectors on the WLAN module.
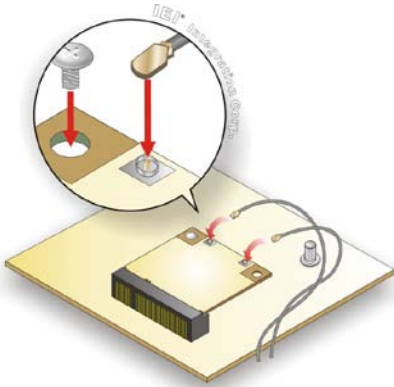

Figure 11: Removing the Retention Screw

Step 6:   Remove the nut and washer from the SMA connector at the other end of the RF cable.

Step 7:   Insert the SMA connector to the antenna connector holes on the rear panel. Then, secure the SMA connector by inserting the washer and tightening it with nut.

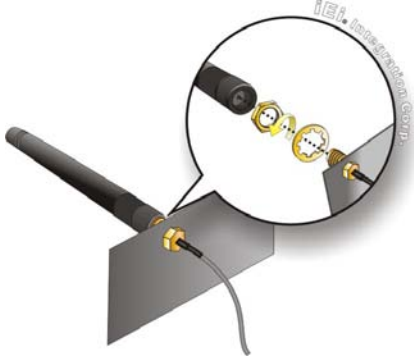Step 8:   Install the external antenna.

Figure 12: Securing SMA Connector and External Antenna

STEP 6: SYSTEM FAN INSTALLATION (OPTIONAL)

A system fan module can be purchased separately for the EBC-3300-AL chassis. To install the system fan module, please follow the steps below.

Step 1:   Place the system fan inside the chassis beside the vents for system fan.

Figure 13: Vents for System Fan

Step 2:   Align the four retention screws holes on the system fan with the retention screw holes on the chassis.

Step 3:   Install the fan to the chassis with two retention screws.

Figure 14: System Fan Retention Screws

STEP 7: DISK DRIVE INSTALLATION

The EBC-3300-AL chassis has the capacity for one 2.5" internal HDD. To install the HDD, please follow the steps below.

Step 1:   Remove six retention screws from the HDD cover.

Figure 15: HDD Bracket Retention Screws

Step 2:   Mount a 2.5" HDD onto the HDD bracket. To do this, align the four retention screw holes in the sides of 2.5" HDD with the retention screw holes in the HDD bracket.

Step 3:   Insert the four retention screws to secure the HDD with the bracket.

Figure 16: HDD Retention Screws

Step 4:   Replace the HDD cover and secure it using six retention screws.

STEP 8: CABLING

STEP 8.1: FRONT PANEL CABLE CONNECTION

There is a power button, a power LED and an HDD LED on the front panel of the EBC-3300-AL chassis.

This button is connected to the motherboard with cables. To correctly connect these cables, please refer to the user manual that came with the motherboard. The connectors that are provided with the chassis are listed below.

Chassis Cables	Label	Description
Power LED Power Button HDD LED	F_PANEL1	Front panel connector

Table 2: Cables and Connector

STEP 8.2: HDD CABLE CONNECTION

To correctly connect the HDD SATA cable and SATA power cable from the HDD to the motherboard, please refer to the user manual that came with the motherboard.

STEP 8.3: FAN CABLE CONNECTION (OPTIONAL)

To correctly connect the system fan cable from the system fan to the motherboard, please refer to the user manual that came with the motherboard.

STEP 9: WALL-MOUNT BRACKETS INSTALLATION

Two wall-mount brackets are shipped with the EBC-3300-AL chassis. The wall-mount brackets are installed on the sides, at the bottom of the chassis. Each bracket is secured to the chassis by two retention screws. To install the wall-mount brackets, please follow the steps below.

Step 1: Align the four retention screw holes in the wall-mount brackets with the retention screw holes on the side of the chassis.
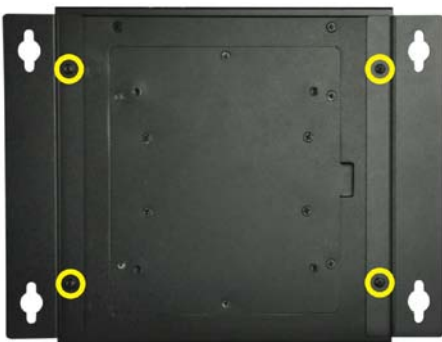
Step 2: Insert two retention screws for each wall-mount bracket.

Figure 17: Wall-mount Brackets Retention Screws