# ▶ 3.5"–SBC–APL V2.0 – QUICK INSTALLATION GUIDE

Thank you for purchasing the Kontron 3.5"-SBC-APL V2.0 embedded board. This document provides information to allow you to quickly install this product.

Packing Checklist

1. Take the 3.5"-SBC-APL V2.0 out of the packing box and check if the unit is properly secure in the plastic bag.

2. Check the contents of the carton box: (*: optional)

   - ▶ 3.5"-SBC-APL V2.0 main board
   - ▶ 1x DC IN Cable
   - ▶ SATA Cable*
   - ▶ COM Port Cable*
   - ▶ DIO Cable*
   - ▶ USB Cable*
   - ▶ SATA Cable With Power*
   - ▶ Audio Cable*
   - ▶ 3G / 4G Mini SIM Card Holder Kit*

Top Side Jumper and Internal Connector Locations
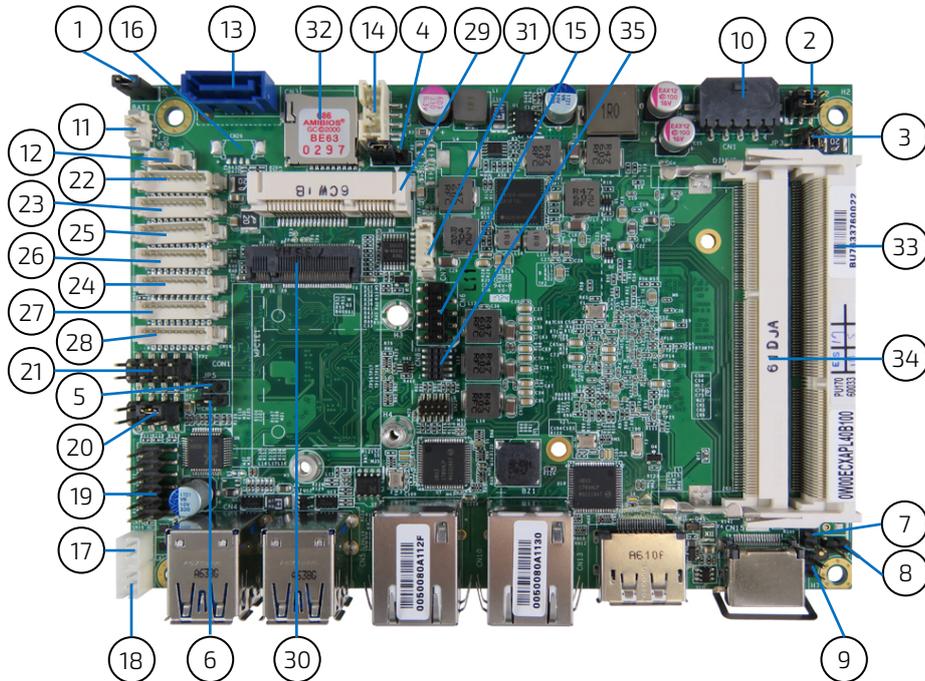
▶ Jumper List

Item	Designation	Description
1	JP1	SIM Card Selection
2	JP2	Backlight Enable Selection
3	JP3	Panel & Backlight Power Selection
4	JP4	AT / ATX Power Mode Selection
5	JP5	M.2 Key B LED Pin Header
6	JP6	MPCIE Activity LED Pin Header
7	JP8	RTC Reset Selection
8	JP9	USB Power Selection
9	JP10	ME F/W Selection

▶ Internal Connector List

Item	Designation	Description
10	CN1	DC 12V Power Input Wafer
11	BAT1	CR2032 Battery Power Input Wafer
12	FAN1	DC5V Fan Wafer
13	SATA1	Serial ATA Port 0 Connector
14	CN2	HDD Power Output Wafer
15	CN6	USB2.0 Port DN_1, DN_2 Pin Header
16	CN26	USB2.0 Port Wafer (Optional)

Item	Designation	Description
17	CN12	Left Channel 3W Audio AMP Output Wafer
18	CN16	Right Channel 3W Audio AMP Output Wafer
19	CN11	Audio Input / Output Pin Header
20	FP1	Front Panel 1 Pin Header
21	FP2	Front Panel 2 Pin Header
22	CN17	COM1 RS-232/422/485 Port Wafer
23	CN18	COM2 RS-232/422/485 Port Wafer
24	CN19	COM3 RS-232 Port Wafer
25	CN20	COM4 RS-232 Port Wafer
26	CN21	COM5 RS-232 Port Wafer
27	CN22	COM6 RS-232 Port Wafer
28	CN14	Digital Input / Output Wafer
29	MPCIE1	Mini-PCI Express v1.2 Socket (Full Size)
30	CON1	NGFF M.2 Key B Socket
31	CN7	SIM Interface Wafer for MPCIE1 and M.2 Key B
32	CN3	Micro-SD Card Cage
33	DIMM1	DDR3L Memory SO-DIMM Socket
34	DIMM2	DDR3L Memory SO-DIMM Socket
35	CN8	P80_Header

Jumper Settings

▶ SIM Card Selection (JP1)
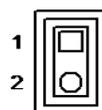
Jumper Position	Description
Pin 1-2	
X	MPCIE (default)
-	M.2 Key B

"X" = Jumper set (short) and "-" = jumper not set (open)

▶ Backlight Enable Selection (JP2)

```
1 ┌─────┐ 2
  │ ▢  ○ │
  │ ○  ○ │
5 │ ○  ○ │ 6
  └─────┘
```
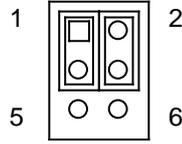
Jumper 1 Position		Description
Pin 1-3	Pin 3-5	
X	-	Backlight Enable Voltage = +3.3V
-	X	Backlight Enable Voltage = +5V
Jumper 2 Position		Description
Pin 2-4	Pin 4-6	
X	-	Active High
-	X	Active Low

"X" = Jumper set (short) and "-" = jumper not set (open)

▶ Panel & Backlight Power Selection (JP3)

```
1 ┌─────┐ 2
  │ ▢  ○ │
  │ ○  ○ │
5 │ ○  ○ │ 6
  └─────┘
```
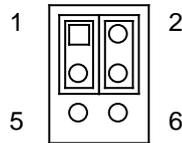
Jumper 1 Position		Description
Pin 1-3	Pin 3-5	
X	-	Backlight Power = +12V
-	X	Backlight Power = +5V
Jumper 2 Position		Description
Pin 2-4	Pin 4-6	
X	-	Panel Power = +3,3V
-	X	Panel Power = +5V

"X" = Jumper set (short) and "-" = jumper not set (open)

▶ AT / ATX Power Mode Selection (JP4)

Jumper 1 Position		Description
Pin 1-2	Pin 2-3	
X	-	ATX Mode
-	X	AT Mode

"X" = Jumper set (short) and "-" = jumper not set (open)
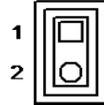
▶ M.2 Key B Activity LED Pin Header (JP5)
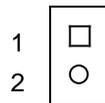
Pin	Signal
1	LED+
2	LED-

▶ MPCIE1 Activity LED Indication (JP6)
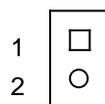
Pin	Signal
1	LED+
2	LED-

▶ RTC Reset Selection (JP8)

```
1 ┌─────┐
  │ ┌─┐ │
  │ └─┘ │
2 │ ┌─┐ │
  │ │O│ │
  │ └─┘ │
  └─────┘
```

Jumper Position	Description
Pin 1-2	
X	Enable Clear CMOS RTC content
	(board does not boot with the jumper in this position)
-	Normal operation (default position)

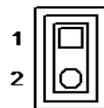"X" = Jumper set (short) and "-" = jumper not set (open)

▶ USB Power Selection (JP9)

```
1 ┌─────┐
  │ ┌─┐ │
  │ └─┘ │
2 │ ┌─┐ │
  │ │O│ │
  │ └─┘ │
  └─────┘
```
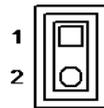
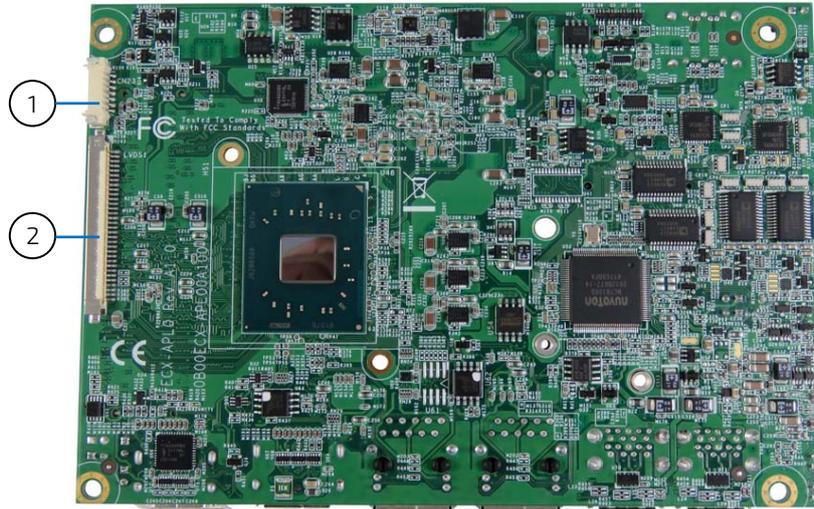| Jumper Position	Description
Pin 1-2	
X	USB power is always supply.
-	USB power will be cut off in S4 & S5 state.

"X" = Jumper set (short) and "-" = jumper not set (open)

▶ ME F/W Selection (JP10)

```
1 ┌─────┐
  │ ┌─┐ │
  │ └─┘ │
2 │ ┌─┐ │
  │ │O│ │
  │ └─┘ │
  └─────┘
```

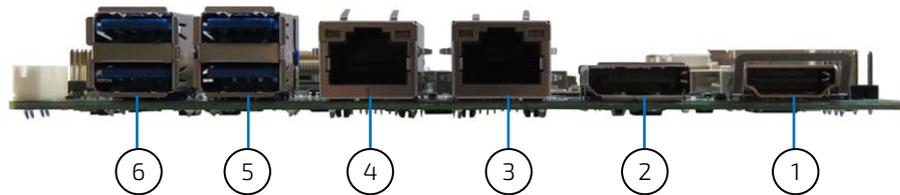| Jumper Position	Description
Pin 1-2	
X	ME F/W Disabled
-	Normal Operation

"X" = Jumper set (short) and "-" = jumper not set (open)

Bottom Side Internal Connector Locations

Item	Designation	Description
1	CN23	Backlight Power Output Wafer
2	LVDS1	18/24-bit, 1/2-channel LVDS Panel Connector

Real I/O Panel Connector Locations

Item	Designation	Description
1	CN15	HDMI Connector
2	CN13	DP Connector
3	CN10	GbE LAN2 RJ-45 Connector
4	CN9	GbE LAN1 RJ-45 Connector
5	CN5	USB3.0 Port 3,4 Type-A Connector
6	CN4	USB3.0 Port 1,2 Type-A Connector