



**User Guide**  
**iolinker Arduino Adapter Board**  
**J11x-81L-LVL**

## 1 Features

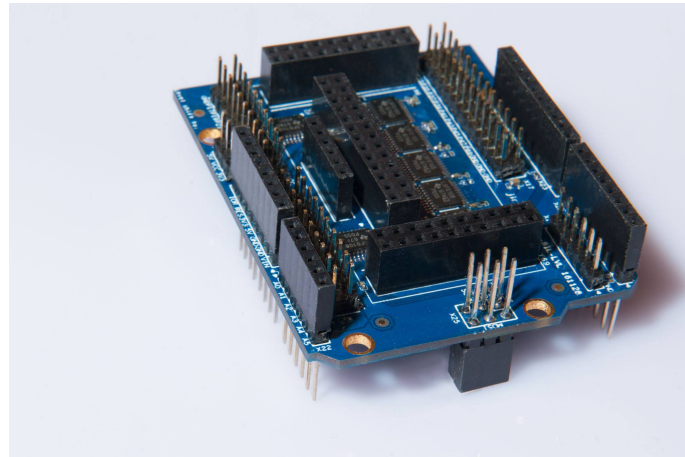


Figure 1: Product illustration

The Arduino adapter board JI1x-81L-LVL allows to plug on any JI11x-81L-B iolinker Evaluation Board, with any valid VCC\_IO value – usually 3.3V. All GPIOs are connected to bidirectional level shifters, and translated into a higher voltage VCC\_Level. VCC\_Level can be the supply voltage of an Arduino, or a different voltage entirely.

<b>Lower voltage</b>	1.2V – 3.6V
<b>Higher voltage</b>	1.65V – 5.5V
<b>Voltage translation for pins</b>	P1 - P49, INT, COM1 - COM4

Table 1: Hardware feature list

## 2 Quick Start

Plug in the FPGA board on top of the Arduino adapter. Be slow and careful to not put pressure on either board. If you ever need to remove the FPGA board again, this is particularly important, as bending either one board may cause damage to tracks and / or soldering.

Place the Arduino adapter shield on top of your Arduino.

After flashing the appropriate software onto the Arduino, you're good to go! The FPGA board's communication interfaces are wired up to your Arduino already.

### 3 Voltages

The VCC\_IO voltage (LV) is taken from the FPGA board, on connector X7 pin 26. If a different setup is desired, it can be changed manually by removing the 0K resistors R15 and R16, and hard-wiring a different lower voltage.

The VCC\_Level voltage (HV) can be chosen by jumper on connector X31, or fed directly into pin 2 of X31. The 3.3 V and 5 V on X31 are those from the Arduino header X21.

If you use the adapter board standalone, i.e. without Arduino, take care to still feed 5V in on either connector X31 or X21, for it is used as voltage supply for the FPGA board.

## 4 Connecting the Communications Interface

The UART, SPI and I2C interfaces of the FPGA board are wired up directly to the Arduino by the adapter board. Depending on the FPGA board type and your application, you may want to remove some of the connections, for they may interfere with other periphery in your Arduino application. To ease that modification, the connections are made through 0K resistors R8 - R15. Refer to the schematic in figure 2 to see which you can safely remove.



## 6 Assembly Drawing

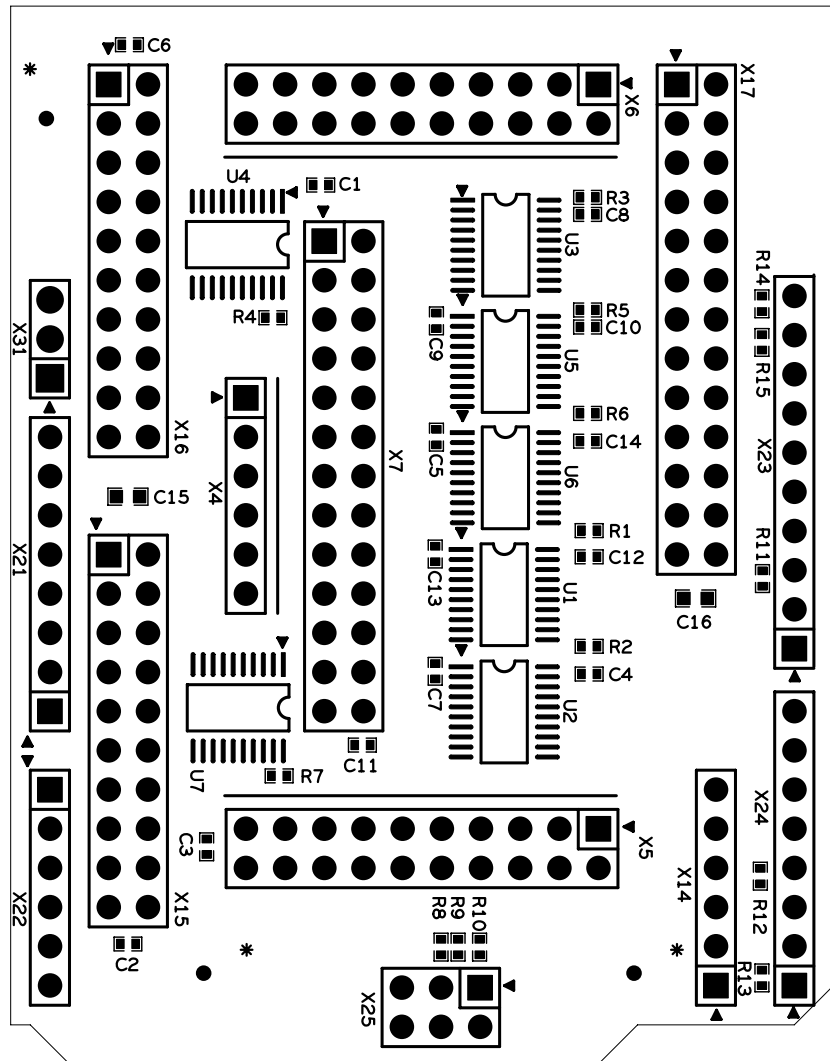


Figure 3: Assembly Drawing

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