Setting up the PYNQ

Before you can even try to program the PYNQ board over USB, you must first configure the hardware of the board. Confirm both the **POWER** and **JTAG** selectors are set correctly. Afterwards connect the PYNQ to your computer with the USB cable. The **red light** should come on immediatly. The **green light** should not come on by itself! It should only turn on after programming the PYNQ.

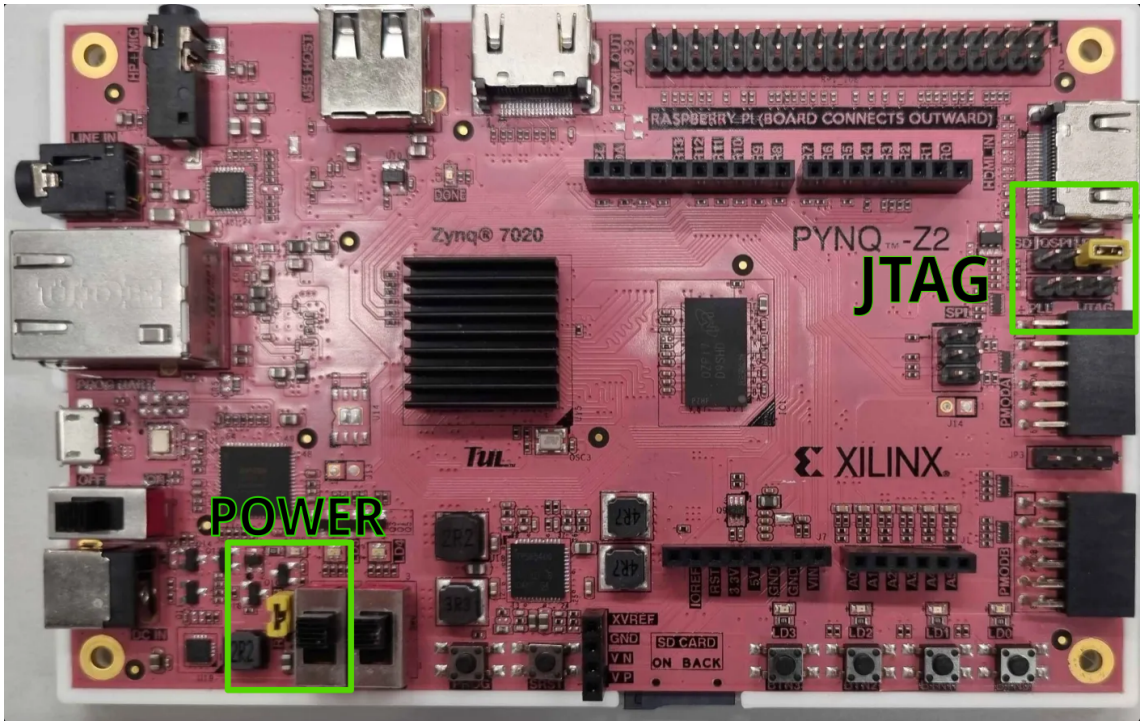
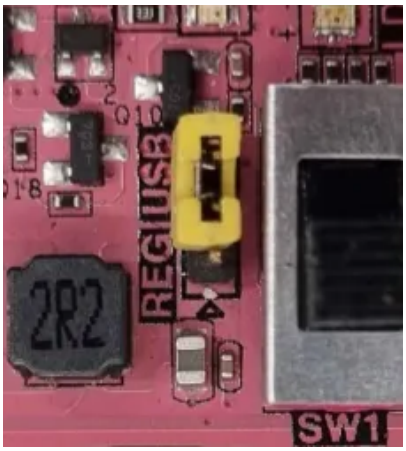


Figure 0.1: PYNQ Board Selector Locations

POWER Selector
Set to USB



JTAG Selector
Set to JTAG

Using the PYNQ from a VirtualBox Virtual Machine

1. Boot the Virtual Machine and wait for the login page.
2. After logging in, go to the **Devices** menu top-left and tick **USB→Xilinx TUL[0700]**
3. To verify the connection from the VM to the PYNQ, you can open the terminal and type `lsusb` then enter. The result should include a **FT2232 Dual UART**.
4. *Redo these steps everytime you start or reboot the Virtual Machine.*

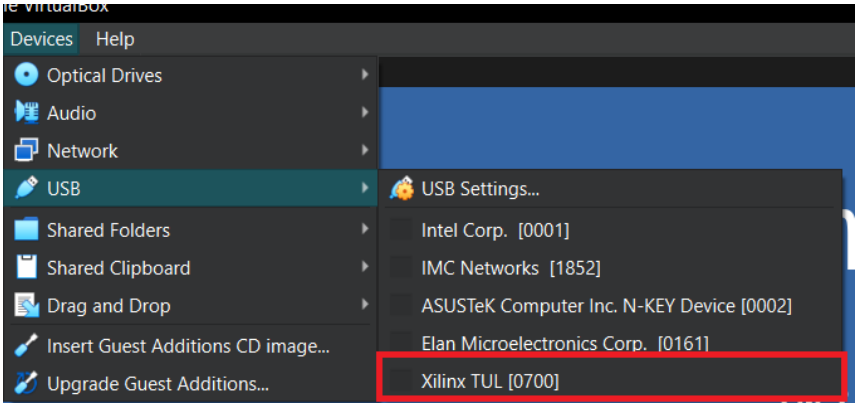


Figure 0.2: `Allow access to the PYNQ.`

```
computation@computation-virtual-machine:~$ lsusb
Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub
Bus 001 Device 003: ID 0403:6010 Future Technology Devices International, Ltd FT2232C/D/H Dual UART/FIFO IC
Bus 001 Device 002: ID 80ee:0021 VirtualBox USB Tablet
Bus 001 Device 001: ID 1d6b:0002 Linux Foundation 2.0 root hub
```

Figure 0.3: `lsusb` output.

Troubleshooting

The PYNQ doesn't power on. No **red light**	Ensure USB is connected properly. The **POWER** selector is set to USB. Make sure to turn on the powerswitch.
Green light turns on immediatly.	Ensure the **JTAG** selector is set to JTAG.
No **FT2232** in `lsusb`	Ensure the **Xilinx TUL[0700]** is given to the VM in **devices**.