UPX-EDGE i11 DevCup Ubuntu 20.04 Installation Guide

REVISION HISTORY

Revision	Date	Comments	Author(s)
R0.1	2021.08.31	Initial release	Gary

Table of Content

1. UPX-EDGE i11 *1

2. 12V Power adapter *1

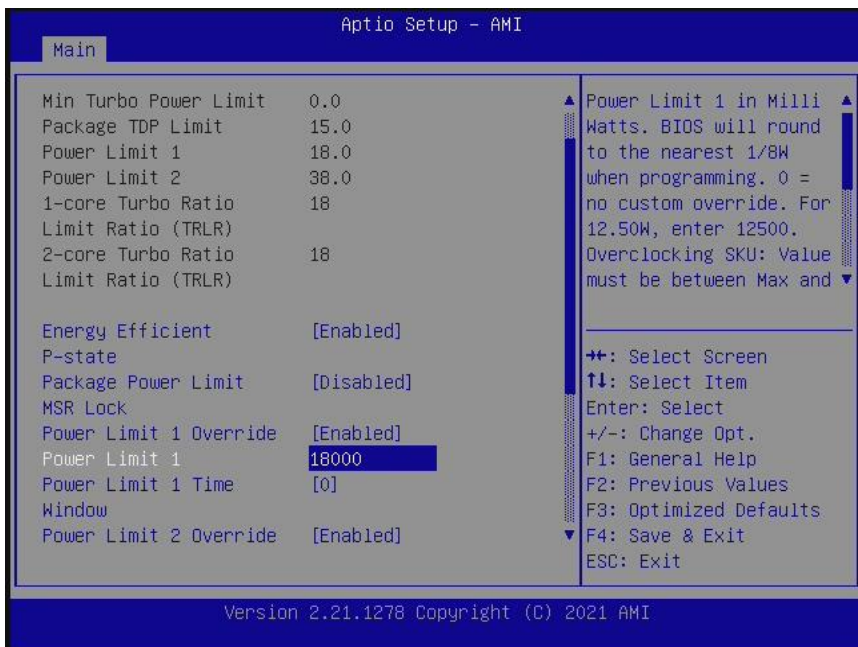3. Power cord- US type *1

1. Optimize Performance

#1 This step is only required for Intel Celeron 6305E, and is otherwise optional.

#2 Press the delete (Del) key when powering on the system to enter BIOS settings program

#3 Enter the admin password to open CRB settings. Default passwords is "upassw0rd".

#4 Navigate the menus as follows: CRB Setup -> CRB Advanced -> Power & Performance

#5 Set Power Limit 1 to 18000

```
                         Aptio Setup - AMI
  Main

  Min Turbo Power Limit    0.0          ▲ Power Limit 1 in Milli ▲
  Package TDP Limit        15.0           Watts. BIOS will round
  Power Limit 1            18.0           to the nearest 1/8W
  Power Limit 2            38.0           when programming. 0 =
  1-core Turbo Ratio       18             no custom override. For
  Limit Ratio (TRLR)                      12.50W, enter 12500.
  2-core Turbo Ratio       18             Overclocking SKU: Value
  Limit Ratio (TRLR)                      must be between Max and ▼

  Energy Efficient        [Enabled]
  P-state                                 ←→: Select Screen
  Package Power Limit     [Disabled]      ↑↓: Select Item
  MSR Lock                                Enter: Select
  Power Limit 1 Override   [Enabled]      +/-: Change Opt.
  Power Limit 1            18000          F1: General Help
  Power Limit 1 Time       [0]            F2: Previous Values
  Window                                  F3: Optimized Defaults
  Power Limit 2 Override   [Enabled]    ▼ F4: Save & Exit
                                          ESC: Exit

                Version 2.21.1278 Copyright (C) 2021 AMI
```
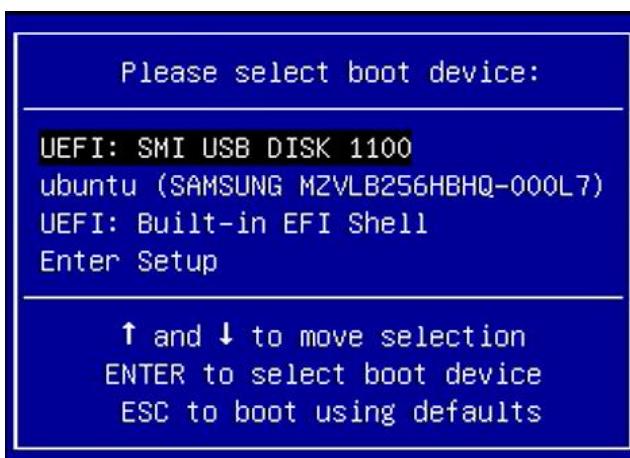
#6 Save the settings and reboot the system.

2. Install Ubuntu 20.04

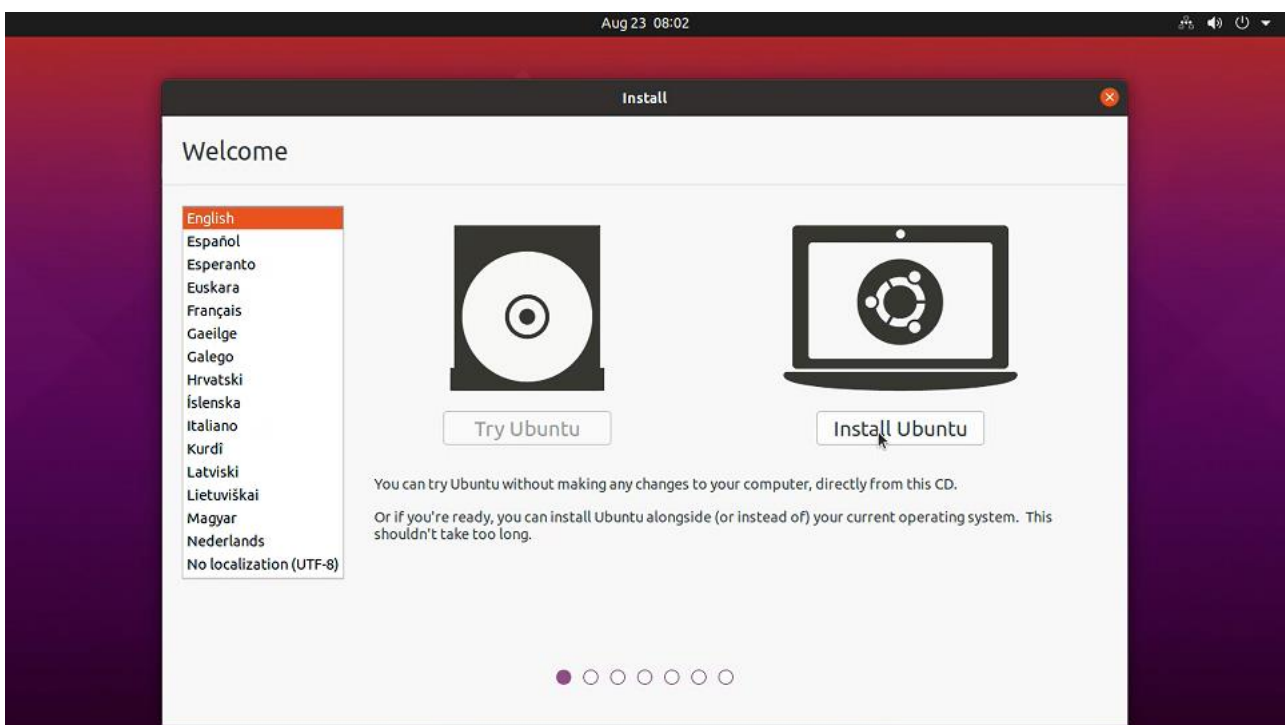#1 Prepare a bootable Ubuntu 20.04 live disk USB thumb drive

#2 Insert the USB drive into one of the USB ports on the UPX-TGL01

#3 Power on the UPX-TGL01 and press the F7 key to enter the boot order menu

#4 Select the Ubuntu 20.04 live USB drive

#5 After the drive boots, install Ubuntu 20.04 onto the system.

3. Enable HAT Functionality from User Space

#1 Install upboard-extras

```
sudo apt install upboard-extras
```

#2 Add Groups

GPIO
```
sudo usermod -a -G gpio ${USER}
```
LEDs
```
sudo usermod -a -G leds ${USER}
```
SPI
```
sudo usermod -a -G spi ${USER}
```
I2C
```
sudo usermod -a -G i2c ${USER}
```
UART
```
sudo usermod -a -G dialout ${USER}
```
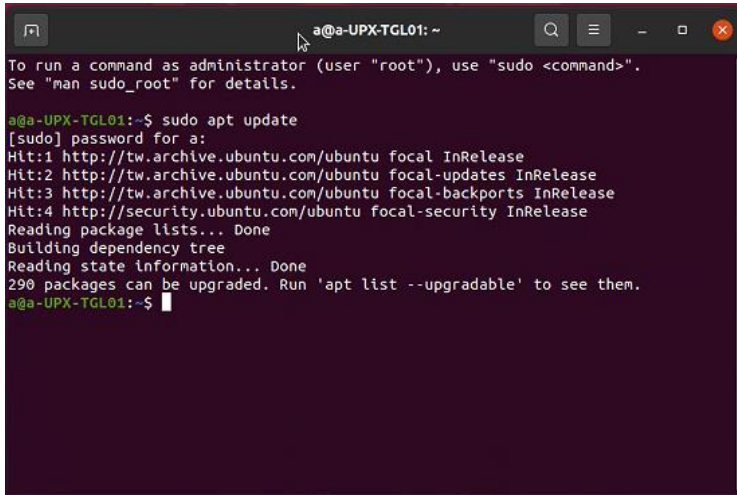
For More Details visit the following link:

Ubuntu_20.04 · up-board/up-community Wiki · GitHub

4. Setup and Run OpenVINO in Docker

#1 Install Docker Utility with the following commands:

```
sudo apt update
```



```
sudo apt-get remove docker docker-engine docker.io containerd runc
```

```
sudo apt install curl
```

```
curl -fsSL https://get.docker.com -o get-docker.sh
```

```
sudo sh get-docker.sh
```

```
sudo usermod -aG docker $USER
```


You will need to logout or reboot the system to run docker as non-root user

```
docker run hello-world
```

Reboot the system

```
reboot
```

#2 Get docker image and verify installation   *Focus • Agility • Competitiveness*

Download Docker image

```
docker pull sertek/openvino:2021.3_developer_models
```
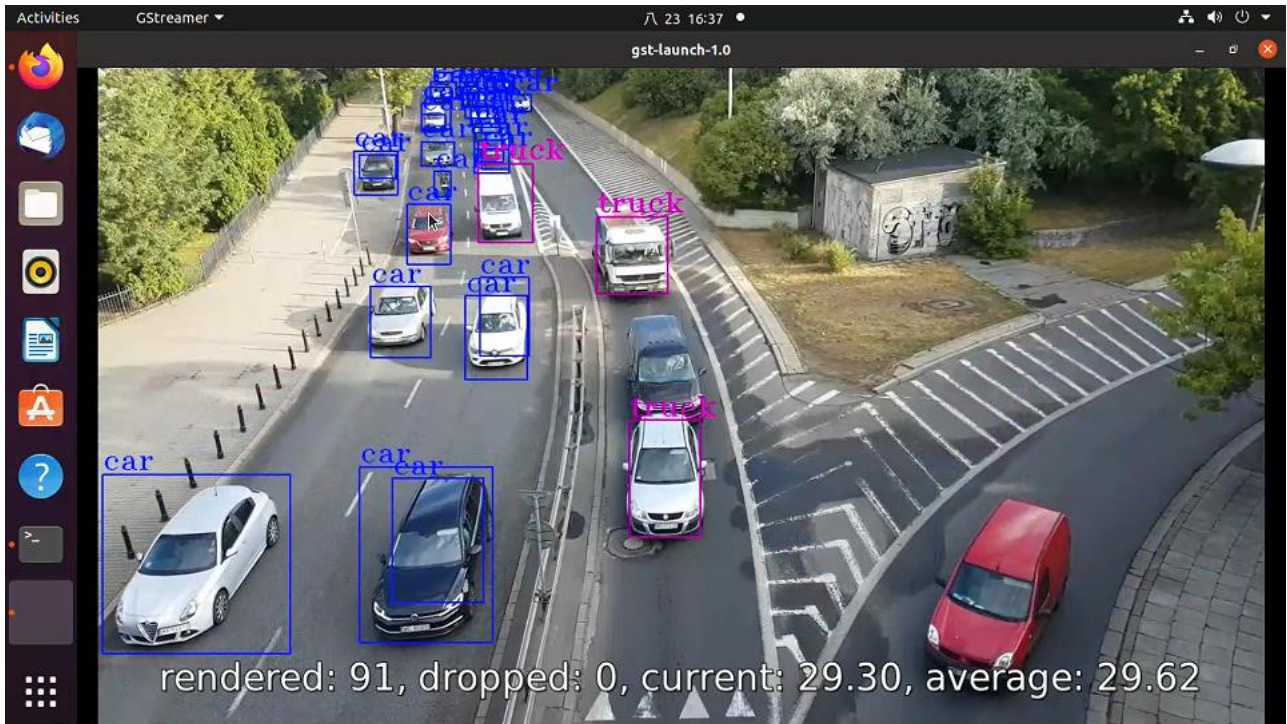

Run Object Detection Demo

```
docker run -it -v /tmp/.X11-unix:/tmp/.X11-unix -e DISPLAY=$DISPLAY -v
~/Downloads:/mnt --device /dev/dri:/dev/dri --group-add=$(stat -c "%g"
/dev/dri/render*) --rm your_dockerhub_id/openvino:2021.3_developer_models
```

```
cd
./smartcity_demo.sh
```

For more details, visit the following link:

Intel AI Sales Kit - Object Detection Demo and Benchmark with YOLO v3 - HackMD