



bridge the gap

# Quick Start Guide

## UP Squared 6000

Up to 1.7x improvement in single-thread performance and up to 2x performance for 3D graphics compared with previous generation Intel processors.

I/O interfaces include 1x USB 3.2 Type-C (OTG support)\*, 2x USB 3.2 Type-A, 2x GbE, 1x COM Port\*, 1x SATA 3.0, 1x M.2 2230 E key, 1x M.2 2280 M key, 1x M.2 3052 B key with micro-SIM card slot, 1x HDMI 2.0b, 1x DP 1.2, 1x eDP\*, Audio jack line I/O, 1x 40-pin HAT, 1x 100-pin header\*,  
\*Only in Intel Atom® x6413E, Intel Atom® x6425RE SKUs

### WHAT 'S IN YOUR KIT ?



1x UP Squared 6000



1x passive heatsink (already attached)



1x RTC Battery (already attached)

Please refer to <https://github.com/up-board/up-community/wiki/UP-Squared-6000> or scan the QR code for instructions to prepare a bootable USB drive for your preferred operating system.

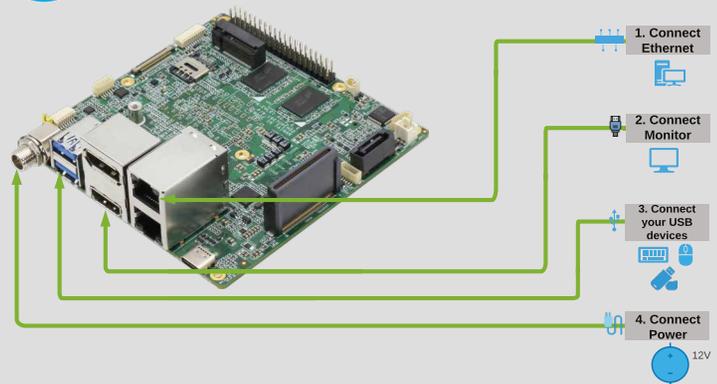


Instructions to install Ubuntu Desktop 20.04 are provided in this Quick Start Guide.

## 1 PREPARE THE USB INSTALLER

- Download the Ubuntu Desktop 20.04 for Intel IoT Platforms image from <https://tinyurl.com/4nfv6uw6>
- Burn the downloaded image to a USB flash drive. We suggest using Etcher, which you can download from <https://etcher.io>
- Connect the USB flash drive to your board and proceed to step 2.

## 2 CONNECT HARDWARE



## 3 INSTALL THE OPERATING SYSTEM AND ADDITIONAL LIBRARIES

- Follow the guided procedure from the Ubuntu installer.
- After installing Ubuntu Desktop 20.04 for Intel IoT Platforms, please follow these instructions to install an updated version of MRAA libraries with support for your board/system:

```
sudo add-apt-repository ppa:up-division/mraa
sudo apt-get update
sudo apt-get install mraa-tools mraa-examples
libmraa2 libmraa-dev libupm-dev libupm2
upm-examples python3-mraa libmraa-java
```

## 4 INSTALL Intel® Edge Insights for Vision

- Follow the instructions from this link to download and install the Intel® Edge Insights for Vision software package (skip Step 2 in the link): <https://www.intel.com/content/www/us/en/develop/documentation/edge-insights-vision-doc/get-started-guide-using-linux/install-edge-insights-for-vision.html>

### Caution:

**This is a high performance system and may get hot during operation.**  
**HAT 40-pin maximum current for each pin: 3mA**  
**PC Client SKUs do not support 100-pin header.**

# Expand your UP Squared 6000 to fit your exact needs



M.2 2230 WiFi Kit with UP Squared 6000  
Intel® Wireless-AC 9260  
(802.11ac, Bluetooth® 5.0)



UP AI Core XM 2280 with UP Squared 6000  
AI hardware accelerator with  
2x Intel® Movidius™ Myriad™ X



Carrier board with UP Squared 6000  
Provides programmable 40pin, CAN,  
extra 2x Gb LAN, mPCIe, and serial ports.



## QUESTIONS? REACH US HERE



UP Community  
<https://www.up-community.org>

## Product specifications

<b>System</b>	UP Squared 6000
<b>SoC</b>	Intel® Celeron® N6210 (up to 2.60 GHz), Intel® Pentium® J6426 (up to 3.00 GHz), Intel Atom® x6413E (up to 3.00 GHz), Intel Atom® x6425RE (1.90 GHz)
<b># of Cores</b>	N6210 - Dual Core J6426/ x6413E/ x6425RE - Quad Core
<b>Graphics</b>	Intel® UHD Graphics
<b>VPU</b>	Optional (via M.2 2280)
<b>System memory</b>	N6210 - 2GB J6426 / x6413E - 4GB x6425RE - 8GB
<b>Storage capacity</b>	N6210/ J6426/ x6413E - 32GB x6425RE - 64GB
<b>Power Requirement</b>	DC-IN (12V) lockable power connector
<b>Power Supply Type</b>	AT/ATX (default: AT mode)
<b>Power Consumption(Typical)</b>	N6210 - 22W, J6426 - 25W, x6413E - 35W, x6425RE - 38W
<b>Compatible operating system</b>	Windows 10 / Windows 10 IoT Core, Ubuntu 20.04 LTS, Yocto 3.1

## China RoHS Requirements

Component Name	Hazardous or Toxic Materials or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Chromium (Cr(VI))	Hexavalent Chromium (Cr(VI))	Polybrominated biphenyls (PBBs)
PCB and Components	0	0	0	0	0	0
Wires & Connectors for Ext. Connections	0	0	0	0	0	0
CPU & RAM	0	0	0	0	0	0

This form is prepared in compliance with the provisions of SJ/T 11364.  
 O: The level of toxic or hazardous materials present in this component and its parts is below the limit specified by GB/T 26572.  
 X: The level of toxic or hazardous materials present in the component exceed the limits specified by GB/T 26572, but is still in compliance with EU Directive 2011/65/EU (RoHS 2).

**Notes:**  
 1. The Environment Friendly Use Period indicated by labelling on this product is applicable only to use under normal conditions.  
 2. Individual components including the CPU, RAM/memory, HDD, optical, and PSU are optional.  
 3. LCD Module and Touch Control Module only applies to certain products which feature these components.

## Safety Precaution

Please read the following safety instructions carefully. It is advised that you keep this quick start guide for future references.

1. Take note of all cautions and warnings on the device.
2. Make sure the power source matches the power rating of the device.
3. Position the power cord so that people do not step on it. Do not place anything over the power cord.
4. Always completely disconnect the power before working on the system's hardware.
5. Do not make any connections while the device is powered on. A sudden rush of power may damage sensitive electronic components.
6. If you plan to not use the device for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
7. Always disconnect this device from any power supply before cleaning.
8. While cleaning, use a damp cloth instead of liquid or spray detergents.
9. Make sure the device is installed near a power outlet and is easily accessible.
10. Keep this device away from humidity.
11. Place the device on a solid surface during installation to prevent it from falling.
12. Do not cover the openings on the chassis. This is to ensure optimal heat dissipation.
13. Keep an eye for high temperatures when the system is running.
14. Do not touch the heat sink or heat spreader when the system is running.
15. Never pour any liquid into the openings. This could cause fire or electric shock.
16. As most electronic components are sensitive to static electrical charge, be sure to ground yourself when installing internal components in any static-shielded containers.
17. If any of the following situations arise, please contact our service personnel:
  - I. Damaged power cord or power supply
  - II. Liquid intrusion through the device
  - III. Exposure to moisture
  - IV. Device is not working as expected or in a manners as described in this quick start guide
  - V. The device is dropped or damaged
  - VI. Any obvious signs of damage on the device
18. Do not operate the device in an uncontrolled environment temperatures beyond 60 °C.
19. Store the device between -40 °C ~ 80 °C to prevent damage.

## FCC Statement

This device complies with Part FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

**Caution:** There is a danger of explosion if the battery is incorrectly replaced, replaced only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

**Attention:** Il y a u risque d'explosion si la batterie est remplacée de façon incorrecte. Ne la remplacer qu' avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

## Regulatory

