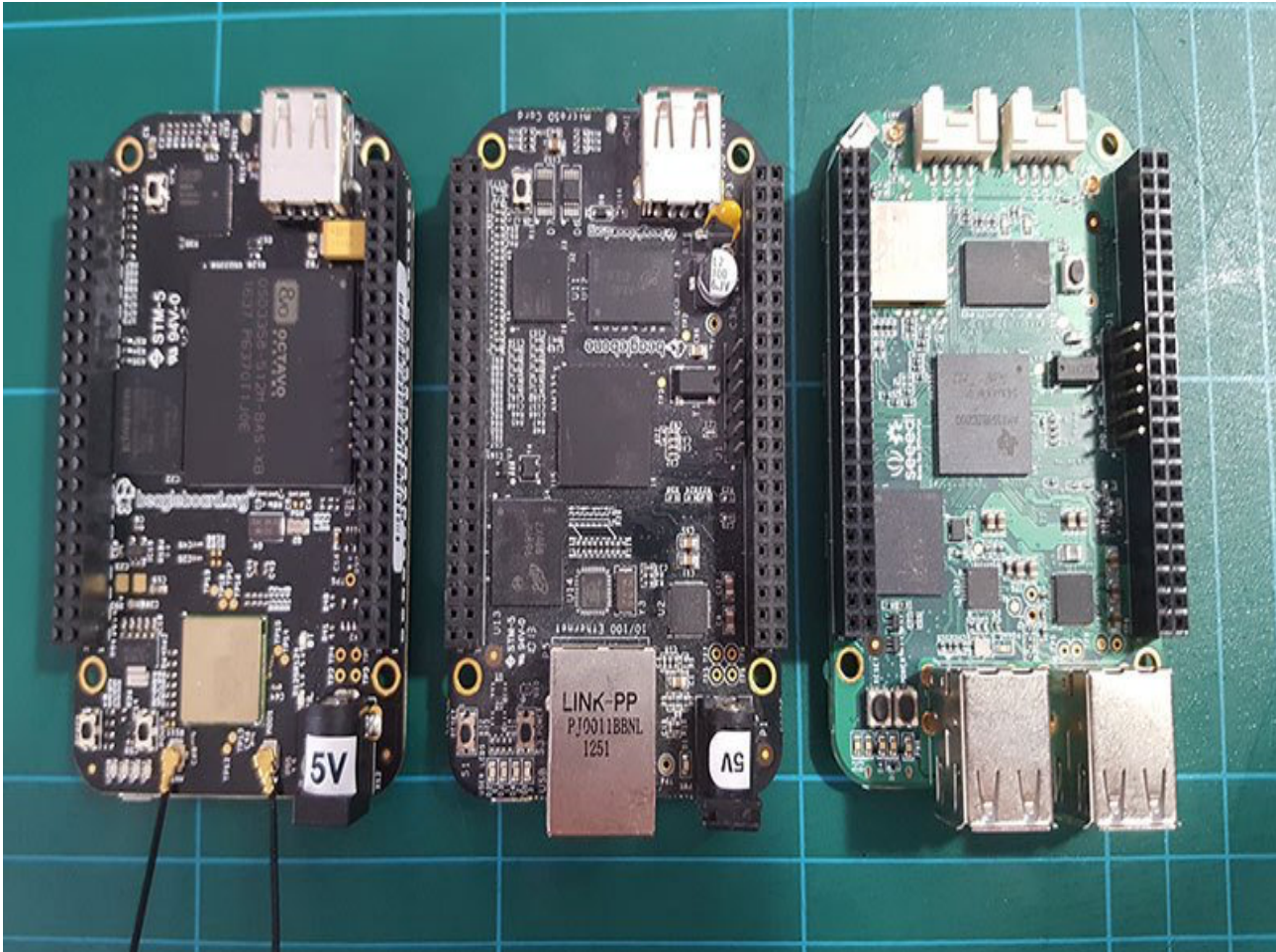**MAKER.IO®**
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How to Setup WiFi on the BeagleBone Black Wireless
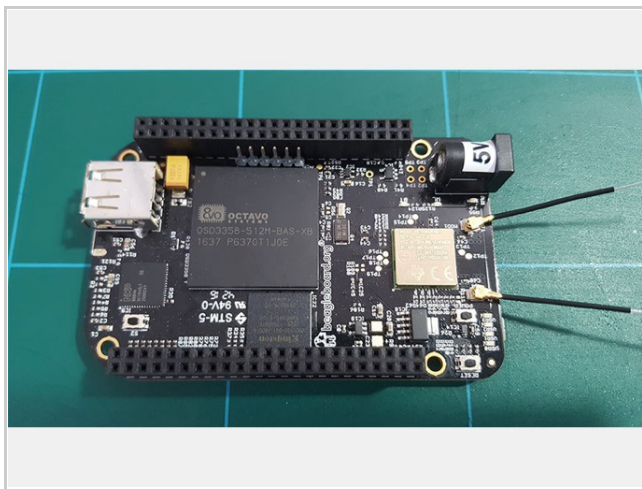
The BeagleBone Black Wireless (/product-detail/en/ghi-electronics-llc/BBBWL-SC-562/BBBWL-SC-562-ND/6211000) is the latest revision of the BeagleBone family adding WiFi and Bluetooth capabilities. Not only does it have wireless capabilities but there are also a few minor changes to the board compared to the pre-vious revision such as the SoC is now an Octavo OSD3358 which allows quicker manufacturing and offers a single chip solution. They have also changed the USB programming port from a mini to a micro, which should allow better compatibility with common cables and power supplies .

file:///Users/cyrill/GitHub/EPFL/Wearable-Software/Firmware/Se…%20WiFi%20on%20the%20BeagleBone%20Black%20Wireless.webarchive

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BeagleBone Comparison

The BeagleBone Black Wireless (BBBW) uses the same wireless chip as the Bea-gleBone Green Wireless (/product-detail/en/seeed-technology-co-ltd/102010048/1597-1367-ND/5965297) (BBGW), which is the WL18MODGB TI module. Unlike the BBGW the BBBW does not have a built-in antenna therefore solely relies on the provided external antennas. This revision has also removed the Ethernet port and as such users will have to rely on the WiFi for Internet connectivity.

Unlike the BBGW, which boots up an Access Point Mode (AP) and allows you to connect to it wirelessly to configure the WiFi connection to your local router, on the BBBW you will have to connect it to your computer and configure it using the terminal window.

Getting Connected

Out of the box the board comes supplied with a micro USB cable to connect to your computer and also to provide power to the board. Connect the cable to your BeagleBone and then connect to your computer, it will take a few moments to boot up.

Once booted you should see that the BeagleBone has connected as a media drive. This is where you can install the drivers for your operating system.
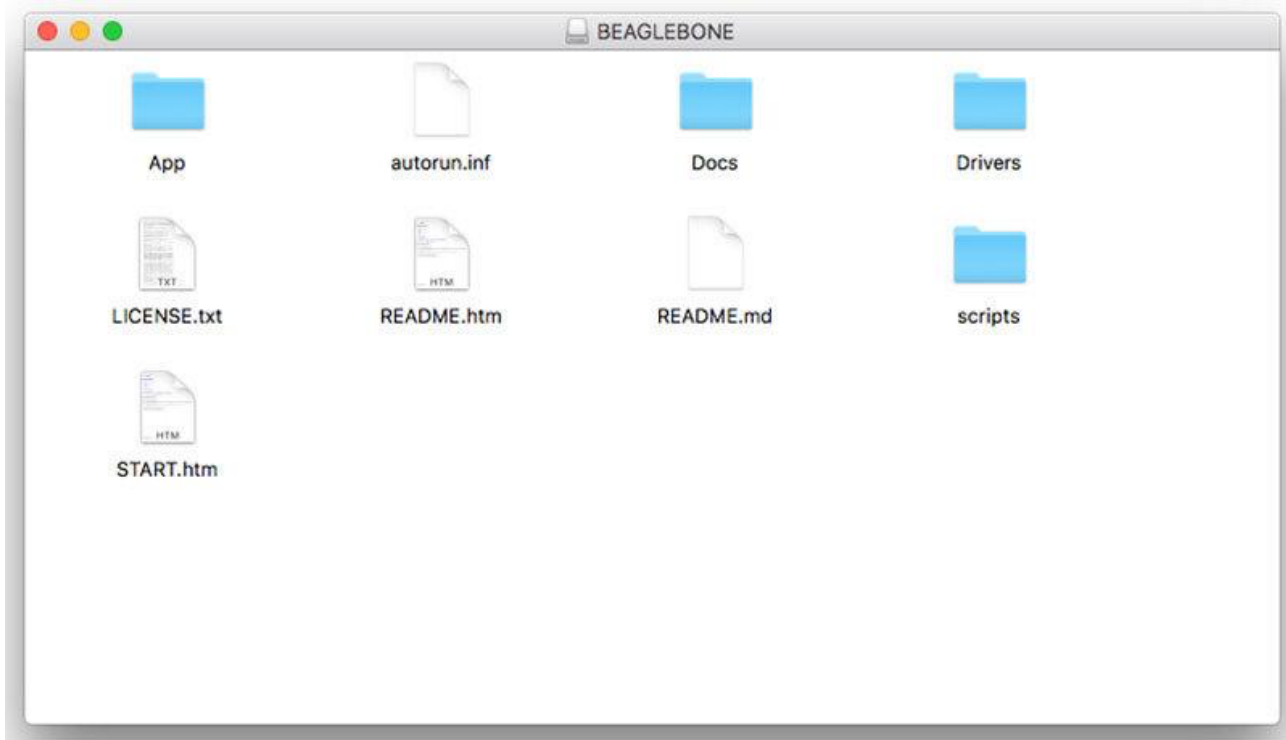
BeagleBone Media Drive
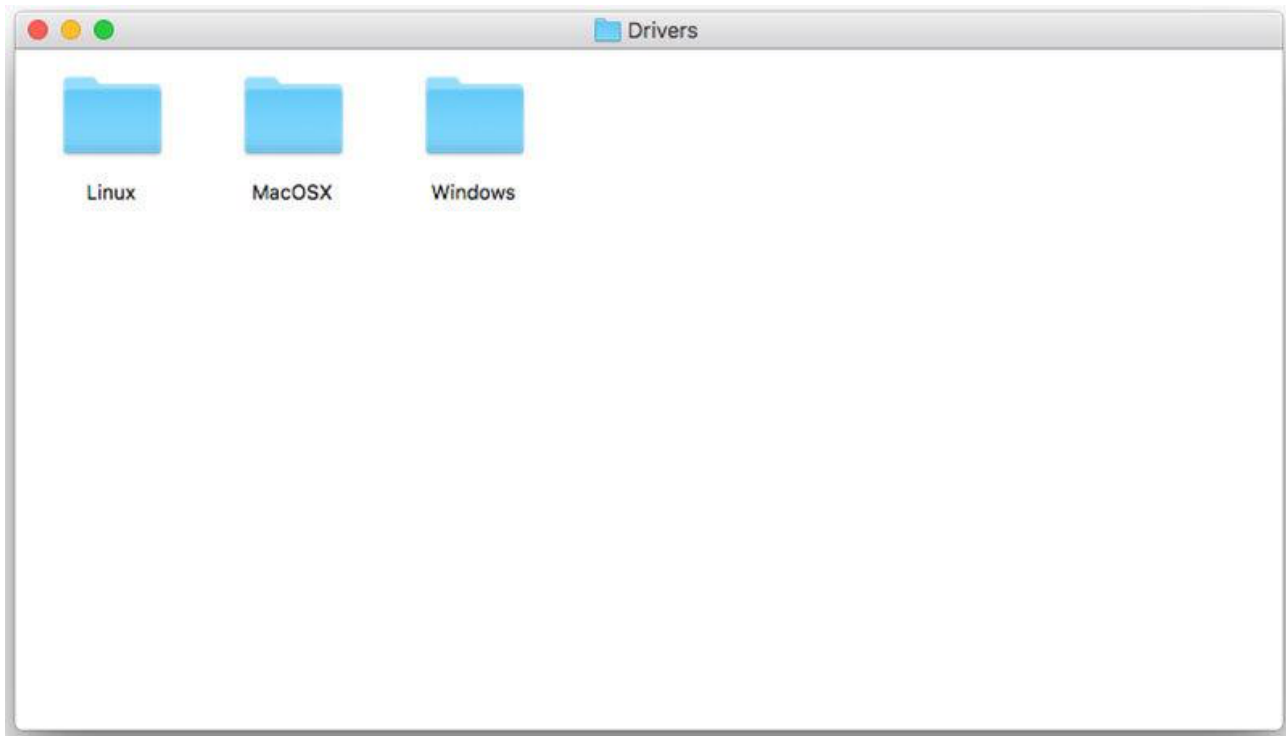
Install Drivers for your Operating System

Once you have installed the drivers you may be required to restart your machine. Once done so re-connect your BeagleBone Black Wireless, you should be able to open the following url in your internet browser:

http://192.168.7.2 (http://192.168.7.2)

Now we are going to connect to the board using SSH in a terminal program. If you are using windows then you can download PuTTY or on Linux or Mac OS X you can just open the terminal window. To connect to the board type the following in the terminal window:

ssh root@192.168.7.2

Once connected you should see the BeagleBone command prompt.

BeagleBone Command Line

Unlike other Linux boards, normally you would have to edit the /etc/network/interfaces file and add your wireless credentials in their and then reboot the network interface. The BeagleBone Black wireless has a built-in network manager program that can do all this for us called "connmanctl". To connect to your Wireless network type the following command in the terminal window:

sudo connmanctl

connmanctl> **enable wifi**

Enabled wifi

connmanctl> **scan wifi**

Scan completed for wifi

connmanctl> **services**

*AO TNCAPA97AB9

wifi_506583d4fc5e_544e434150413937414239_managed_psk

wifi_506583d4fc5e_hidden_managed_psk

DIRECT-roku-876

wifi_506583d4fc5e_4449524543542d726f6b752d383736_managed_psk

BTHub6-H5H7

wifi_506583d4fc5e_4254487562362d48354837_managed_psk

virginmedia2029431

wifi_506583d4fc5e_76697267696e6d656469613230323039343331_managed_psk

VM046693-2G

wifi_506583d4fc5e_564d3034363639332d3247_managed_psk

BTWifi-with-FON

wifi_506583d4fc5e_4254576966692d776974682d464f4e_managed_none

connmanctl> **agent on**

Agent registered

connmanctl> **connect
wifi_506583d4fc5e_544e434150413937414239_managed_psk**

Passphrase? **xxxxxxxxxxx**

connected wifi_506583d4fc5e_544e434150413937414239_managed_psk

connmanctl> **quit**

You should now be connected to your local wifi. You can check that you have an IP address by typing the following in the terminal window:

ifconfig –a

You should now see an IP address under Wlan0 and you can now connect to this IP address in the future to program your BeagleBone Black Wireless.

BBBW Connected to the WiFi

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Doug Reese (/en/maker/profiles/4bd805874d5a43b2a7b79b7735902a90)

1 year ago

1   0

I had to issue:

tether wifi disable

before the scan command found any services. Other than that detail, worked great.

Georges Guinchard (/en/maker/profiles/4c1f93e6b6094128addb04051779d449)

1 year ago

0   0

Thanks Doug,

Right, without this no work.

But please webmaster, correct the line sudo conmanctl in sudo connmanctl with 2 n. For those (I am !) who are not big specialist, and who use copy paste to be sure not to type an error, this lead to loose a lot of time "why is conmanctl unknown !!"

Maker.io Team (/en/maker/profiles/e463e7ae83c14f98bc667178fd20e977)

1 year ago

0   0

Thank you for pointing this out, it has been updated….. happy making

Georges Guinchard (/en/maker/profiles/4c1f93e6b6094128addb04051779d449)

1 year ago

0   0

Now, every things goes fine. I just make a short-circuit on my main electric distribution, and then I have lost the original IP adress. Finally I found it, but I do'nt find any method to setup a fixed IP adress with connmanctl, have you some example or a link pls ?

 (/en/maker/profiles/8990f43bccc44a76ab00e0bbfcfafcb1)

Neil Hancock (/en/maker/profiles/8990f43bccc44a76ab00e0bbfcfafcb1)

1 year ago

0   0

For me the recently received BBW has an out-of-date boot - and trying to figure out how to upgrade it.

Please sign up (https://www.digikey.com/MyDigiKey/Register?
ReturnUrl=https%3A%2F%2Fwww.digikey.com%2Fen%2Fmaker%2Fblogs%2F2017%2Fhow-to-setup-wifi-on-
the-beaglebone-black-wireless) or log in (https://www.digikey.com/MyDigiKey/Login?
ReturnUrl=https%3A%2F%2Fwww.digikey.com%2Fen%2Fmaker%2Fblogs%2F2017%2Fhow-to-setup-wifi-on-
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