

Omnima MiniEMBiWi developer notes

The MiniEMBiWi hardware is compatible with the OpenWrt Fon branch as the board runs the RT3050F SOC.

The changes to support MiniEMBiWi will soon be incorporated into the OpenWrt trunk from the Fon branch.

The Serial port is taken out to JP2. The 2.54mm pitch pinheader pinout is:

```
Pin 1 - 3.3V
Pin 2 - RX (input) UART line
Pin 3 - GND
Pin 4 - TX (output) UART line
```

Connection speed: 57600, 8N1

Much of the OpenWrt Fon documentation applies to the MiniEMBiWi board.

To checkout OpenWrt source follow the instructions here:

<http://trac.fonosfera.org/fon-ng/wiki/build>

Once the complete firmware is compiled run the following command from the trunk\openwrt folder:

```
make kernel_menuconfig
```

Select:

```
Machine selection --->
DRAM Size -->
  32MB
```

Exit and save the configuration.

Now run:

```
make V=99
```

U-Boot and firmware upload

The built binary will be located here:

```
trunk/openwrt/bin/openwrt-fonera2n-squashfs.img
```

To upload the firmware to the MiniEMBiWi board flash:

- Setup a TFTP server on your host computer
- Copy the bin file to the TFTP folder and rename it to a shorter name such as: openwrt.bin
- Connect to the board the serial port
- Press 2 immediately after the U-boot text is printed
- Are you sure? Yes/No
- Enter the IP address for the board (in the same IP range as the TFTP server)
- Enter the IP address of the TFTP server
- Enter the name of the file to upload to flash (openwrt.bin)

To enter the U-Boot console press 4 when the menu is displayed.

Your now firmware will be uploaded and running.

The default IP address of the LAN interface will be: 192.168.10.1

To change the LAN IP address via the serial console enter:

```
uci set network.lan.ipaddr=192.168.1.111 (or an address of your choice)
uci commit network
/etc/init.d/network restart
```

To connect to the web interface enter the address of the device in your browser:

```
http://192.168.1.111 (or an address of your choice)
```

Configuring the networking: http://wiki.fon.com/wiki/Bridge_Fonera%2B

Important Update Notice:

Procedures for [Checking out and Compiling OpenWRT](#) as well as [Setting up LAN](#) have changed with newer versions of OpenWRT. Please refer to <http://robosavvy.com/store/omnima> for the latest Information and Pre Compiled Firmware files.