

Wireless Mesh Network with Small and Low Cost Devices

The goal of this project is to implement a wireless mesh network that provides connectivity and multimedia services in a geographic area such as a small campus.

- TP-Link [MR3020](#) wireless router.
- USB WLAN adapter based on the [Ralink RT5370](#) chipset.
- Raspberry Pi [Model B](#).

http://downloads.openwrt.org/attitude_adjustment/12.09/ar71xx/generic/openwrt-ar71xx-generic-tl-mr3020-v1-squashfs-factory.bin opkg update opkg install kmod-rt2800-lib kmod-rt2800-usb kmod-rt2x00-lib kmod-rt2x00-usb

```
root@OpenWrt:/# wifi detect config wifi-device radio2
```

```
option type      mac80211
option channel   11
option macaddr   00:e0:4c:81:88:8a
option hwmode    11ng
option htmode    HT20
list ht_capab    GF
list ht_capab    SHORT-GI-20
list ht_capab    SHORT-GI-40
list ht_capab    RX-STBC1
# REMOVE THIS LINE TO ENABLE WIFI:
option disabled  1
```

```
config wifi-iface
```

```
option device    radio2
option network   lan
option mode      ap
option ssid      OpenWrt
option encryption none
```

```
wifi detect > /etc/config/wireless root@OpenWrt:/# vi /etc/config/wireless
```

```
config wifi-device radio0
```

```
option type      mac80211
option channel   11
option macaddr   f8:d1:11:bd:62:ce
option hwmode    11ng
option htmode    HT20
list ht_capab    SHORT-GI-20
list ht_capab    SHORT-GI-40
list ht_capab    RX-STBC1
```

```
list ht_capab    DSSS_CCK-40
```

config wifi-iface

```
option device    radio0
option network   lan
option mode      ap
option ssid      OpenWrt1
option encryption none
```

config wifi-device radio1

```
option type      mac80211
option channel    11
option macaddr    00:e0:4c:81:88:8a
option hwmode     11ng
option htmode     HT20
list ht_capab     GF
list ht_capab     SHORT-GI-20
list ht_capab     SHORT-GI-40
list ht_capab     RX-STBC1
```

config wifi-iface

```
option device    radio1
option network   lan
option mode      ap
option ssid      OpenWrt2
option encryption none
```

root@OpenWrt:/# wifi up Configuration file: /var/run/hostapd-phy0.conf Using interface wlan0 with hwaddr f8:d1:11:bd:62:ce and ssid "OpenWrt1" Configuration file: /var/run/hostapd-phy1.conf Using interface wlan1 with hwaddr 00:e0:4c:81:88:8a and ssid "OpenWrt2"

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