

Thank you for purchasing Extreme Antenna Mod Kit for your Netgear router. You will see a tremendous improvement in both the signal strength and performance of your wireless network after you complete the steps described in this tutorial. First we will show you how to install the antennas for your router. Next we will teach you how to setup the DD-WRT firmware which will turn your \$60 router into a powerful, highly configurable \$600 router. Finally we will provide you with a tool that will help test the performance of your newly modified Router.



Netgear WNDR3400v1 Antenna Installation Instructions:

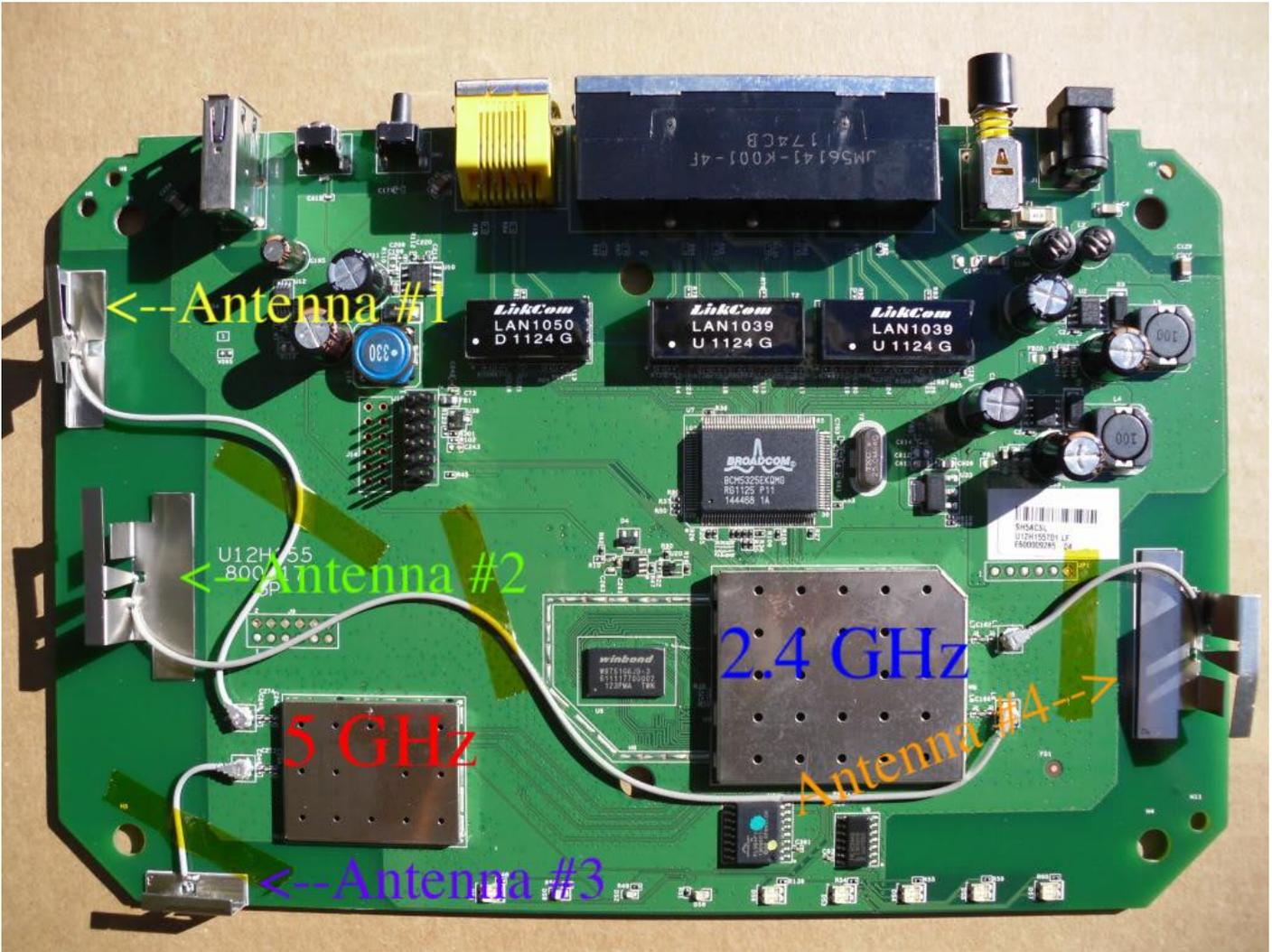
1. No soldering required
2. Open the unit. You can use a torque wrench T9.



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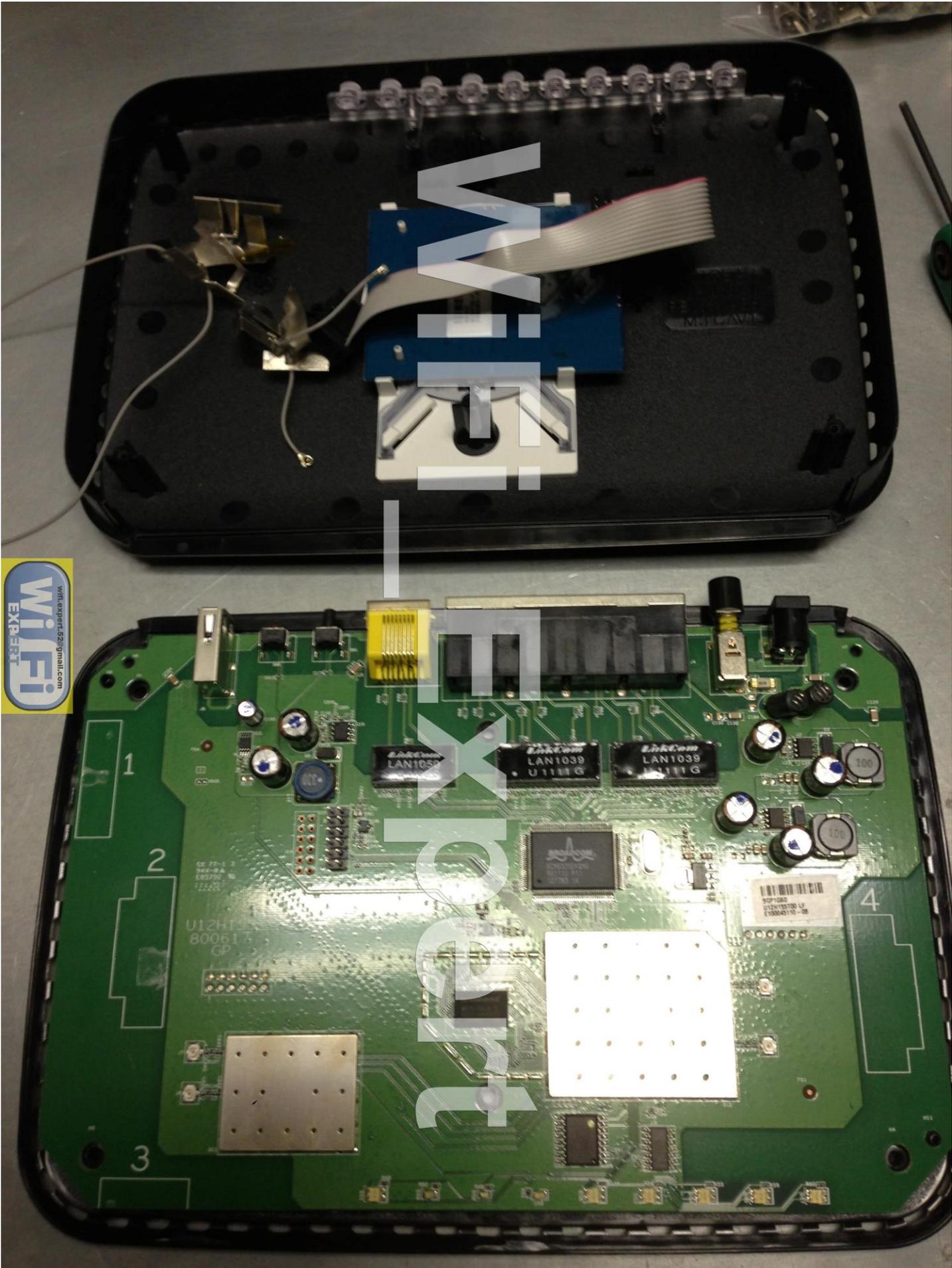




Inside of the Netgear WNDR3400 v.1

Before the modification.

After Modification V1 (by default you will get all 4 inch cables, which means 2 antennas on each side)



3. Remove the UFL antenna connectors and antennas.



4. Now this part requires some patience.

5. Fitting your new UFL connectors into the little holes can take a little practice, and patience



6. So do this first: Practice removing the original UFL antenna cables and then putting them back on.
7. Attach the U.FI cables on each side.

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8. Now you are ready to drill.
9. Remove the board from the unit.
10. Mark on the unit with a pen or whatever where you want to drill.
11. Look at the image bellow on to where to mount the Antennas.



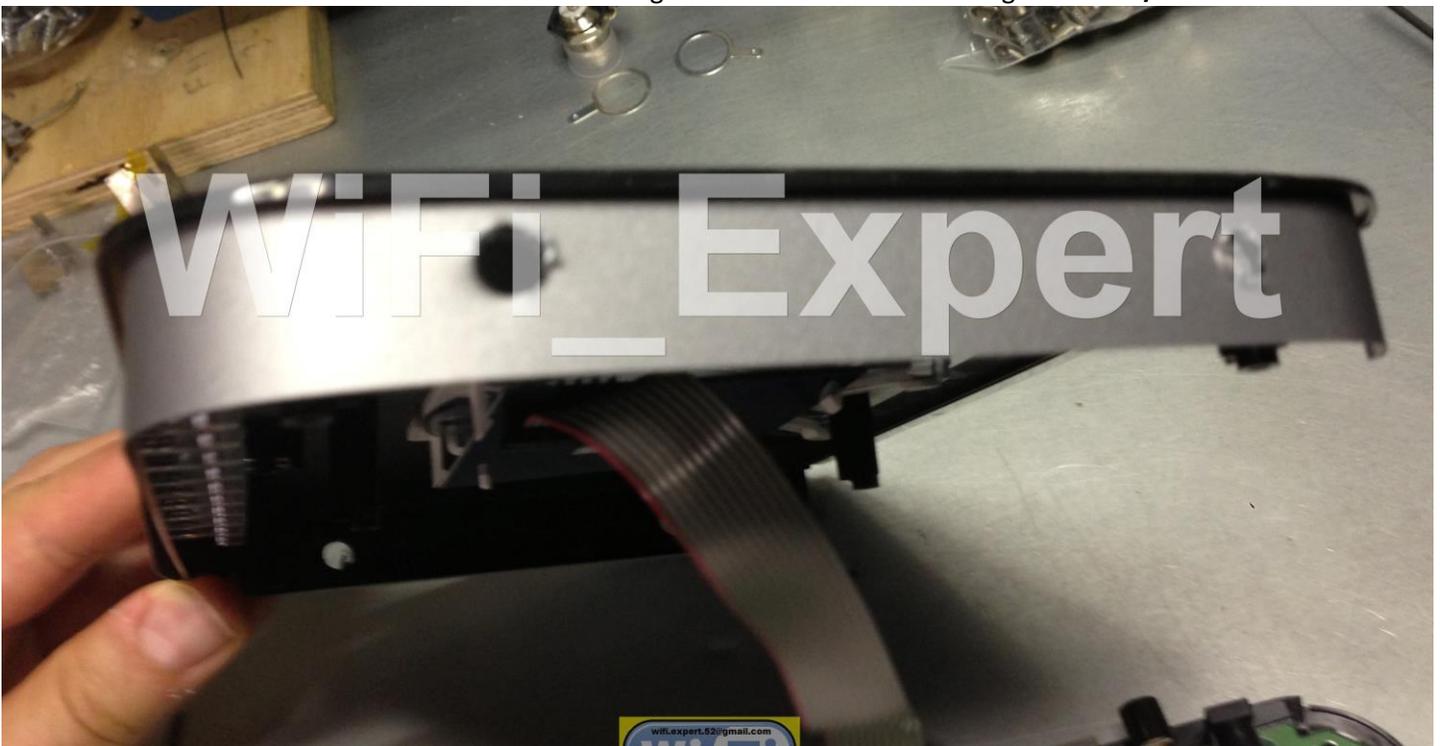
N600 WIRELESS DUAL BAND ROUTER

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12. Drill a smaller hole first with a smaller bit and then go ahead and finish the drilling with **the 1/4" drill bit.**





13. You may want to get someone to help you hold the unit in place as you drill. Hold the unit vertically on a solid surface before drilling. Take your time. No hurry!

14. After drilling there will be a little plastic left around the inside hole that will need removing. Just use a kitchen knife or other small knife to remove the plastic.

15. Attach the UFL cables and the RP-SMA and you are set to go.



Be sure the nut on the RP-SMA plug is nice and tight, otherwise your antennas will flop.



When putting the case back together make sure the wires are secured in place (use clear tape for that) otherwise you can pinch them with screws!

Enjoy

DD-WRT:

For optimal performance we recommend replacing the Linksys firmware with DD-WRT. This is a free third party firmware that will help turn your \$60 router into a powerful, highly configurable \$600 router.

NETGEAR WNDR v1 (VERSION 2 IS NOT SUPPORTED YET)

http://www.dd-wrt.com/wiki/index.php/Netgear_WNDR3400

DD-WRT Firmware installed on the Linksys WRT320N

dd-wrt.com ... control panel

Firmware: DD-WRT v24-sp2 (12/19/09) mini
Time: 22:31:01 up 10 min, load average: 0.00, 0.00, 0.00
WAN IP: 192.168.0.5

Setup Wireless Services Security Access Restrictions NAT / QoS Administration **Status**

Router WAN LAN Wireless Bandwidth Sys-Info

Router Information

System

| | |
|------------------|---|
| Router Name | DD-WRT |
| Router Model | Linksys WRT320N |
| Firmware Version | DD-WRT v24-sp2 (12/19/09) mini - build 13493M NEWD-2 K2.6 Eko |
| MAC Address | <u>00:25:9C:48:B2:B1</u> |
| Host Name | |
| WAN Domain Name | nc.rr.com |
| LAN Domain Name | |
| Current Time | Tue, 22 Dec 2009 22:31:01 |
| Uptime | 10 min |

CPU

| | |
|--------------|---|
| CPU Model | Broadcom BCM4716 chip rev 1 |
| CPU Clock | 354 MHz |
| Load Average | 0.00, 0.00, 0.00  |

Memory

| | | |
|-----------------|---------------------|--|
| Total Available | 27528 kB / 32768 kB |  |
| Free | 16224 kB / 27528 kB |  |
| Used | 11304 kB / 27528 kB |  |
| Buffers | 1392 kB / 11304 kB |  |
| Cached | 4228 kB / 11304 kB |  |
| Active | 844 kB / 11304 kB |  |
| Inactive | 762 kB / 11304 kB |  |

Help more...

Router Name:
This is the specific name for the router, which you set on the *Setup* tab.

MAC Address:
This is the router's MAC Address, as seen by your ISP.

Firmware Version:
This is the router's current firmware.

Current Time:
This is time received from the ntp server set on the *Setup / Basic Setup* tab.

Uptime:
This is a measure of the time the router has been "up" and running.

Load Average:
This is given as three numbers that represent the system load during the last one, five, and fifteen minute periods.

dd-wrt.com ... control panel

Firmware: DD-WRT v24-sp2 (12/19/09) mini
Time: 23:44:39 up 3 min, load average: 0.02, 0.02, 0.00
WAN IP: 192.168.0.56

Setup **Wireless** Services Security Access Restrictions NAT / QoS Administration Status

Basic Settings Radius Wireless Security MAC Filter Advanced Settings WDS

Advanced Wireless Settings

Advanced Settings

| | | |
|--------------------------------|--|-------------------------------------|
| Authentication Type | <input checked="" type="radio"/> Auto <input type="radio"/> Shared Key | (Default: Auto) |
| Basic Rate | Default | (Default: Default) |
| MIMO - Transmission Fixed Rate | Auto | (Default: Auto) |
| Transmission Fixed Rate | Auto | (Default: Auto) |
| CTS Protection Mode | <input checked="" type="radio"/> Auto <input type="radio"/> Disable | (Default: Auto) |
| Frame Burst | <input type="radio"/> Enable <input checked="" type="radio"/> Disable | |
| Beacon Interval | 100 | (Default: 100ms, Range: 10 - 65535) |
| DTIM Interval | 1 | (Default: 1, Range: 1 - 255) |
| Fragmentation Threshold | 2346 | (Default: 2346, Range: 256 - 2346) |
| RTS Threshold | 2347 | (Default: 2347, Range: 0 - 2347) |
| Max Associated Clients | 128 | (Default: 128, Range: 1 - 256) |
| AP Isolation | <input type="radio"/> Enable <input checked="" type="radio"/> Disable | (Default: Disable) |
| TX Antenna | Auto | (Default: Auto) |
| RX Antenna | Auto | (Default: Auto) |
| Preamble | Long | (Default: Long) |
| Shortslot Override | Auto | (Default: Auto) |
| TX Power | 185 | (Default: 71, Range: 1 - 251mW) |
| Afterburner | Disable | (Default: Disable) |
| Bluetooth Coexistence Mode | Disable | (Default: Disable) |
| Wireless GUI Access | <input checked="" type="radio"/> Enable <input type="radio"/> Disable | (Default: Enable) |

Radio Time Restrictions

| | | |
|------------------|---|--------------------|
| Radio Scheduling | <input type="radio"/> Enable <input checked="" type="radio"/> Disable | (Default: Disable) |
|------------------|---|--------------------|

Help (build 13493M) - Advanced Wireless Settings - Mozilla ...

http://192.168.1.1/help/HWirelessAdvanced.asp

AP Isolation
The default value is *Off*. This setting isolates wireless clients so access to and from other wireless clients are stopped.

TX Antenna / RX Antenna
Values are *Auto*, *Left*, *Right*, default value is *Auto*. This is used in conjunction with external antennas to give them optimum performance. On some router models left and right antennas may be reversed depending on you point of view.

Preamble
Values are *Long* and *Short*, default value is *Long*. If your wireless device supports the short preamble and you are having trouble getting it to communicate with other 802.11b devices, make sure that it is set to use the long preamble.

TX Power
This value ranges from 1 - 251 mw, default value is 28mw. A safe increase of up to 70 would be suitable for most users. Higher power settings are not recommended for users due to excess heat generated by the radio chipset, which can affect the life of the router.

Afterburner
The default value is *Off*. This should only be used with WRT54GS Models and only in conjunction with other Linksys "GS" wireless clients that also support Linksys "Speedbooster" technology.

Wireless GUI Access
The default value is *Enabled*. The setting allows access to the routers setup (GUI) from wireless clients. Disable this if you wish to block all wireless clients from accessing the setup pages.

Radio Times Restrictions
The *Radio Times Restriction* facility constitutes a time switch for the radio. By default, the time switch is not active and the WLAN is permanently on. Enable the time switch, if you want to turn off the WLAN during some hours of the day. Hours during which the WLAN is on are marked in green, while red indicates that the radio is off. Clicking on the respective hour toggles between on and off.

WMM Support
Enable support of Wi-Fi Multimedia feature. Configuring QoS options consists of setting parameters on existing queues for different types of wireless traffic. You can configure different minimum and maximum wait times for the transmission of packets in each queue based on the requirements of the media being sent. Queues automatically provide minimum transmission delay for Voice, Video, multimedia, and mission critical applications, and rely on best-effort parameters for traditional IP data.

Advanced Wireless Settings: TX/RX External Antenna adjustments, TX Power adjustments, etc...

WiFi Radar Scanner:

<http://www.metageek.net/products/insider/> (free download)

The WiFi Radar Scanner will show the signal strength of your router. We recommend using it before and after installing the antennas to see the improvement of the signal strength. It can also show you which antenna position and router location can give you the best signal. The closer to -0db the better the signal, and the closer to -100db the worse.

