

## REALLY CHEAP WIFI ANTENNA

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### EXECUTIVE SUMMARY

Here is a simple and cheap way to improve the performance of your wireless notebook or any wireless adapter having a built-in antenna. The antenna is made from about 20-feet of RG-6 coax cable and some tape. Mine raised the WiFi signal strength from one bar to three bars.

### BACKGROUND

The Really Cheap WiFi Antenna is a passive repeater. Passive repeaters have been used for decades to bring TV signals into canyons and to route microwave signals around buildings and mountains. It consists of one antenna located so it has line of sight to the distant WiFi terminal, and a second antenna located near the wireless notebook or wireless adapter. The two antennas are connected to each other with a short length of coax cable. No direct connection to the wireless notebook or adapter is required. Most wireless Internet signals operate on about 2500 MHz. The antennas of this repeater are each center-fed half-wave dipoles, each half being one-quarter wavelength in length. One-quarter wavelength at 2500 MHz is 3 centimeters or 1.18 inches in length. In this example, both antennas are made from the cable itself.

### MATERIALS

1. About 20-feet of high-quality RG-6 cable having a shield braid.
2. Black electrical tape or other tape good for outdoor use.

### CONSTRUCTION

1. Strip exactly 3-centimeters of the black outer covering off BOTH ENDS of the RG-6.
2. Gently peel back the shield braid and fold it down over the black outer insulation so you have 3 cm of center conductor sticking out and 3 cm of braid pointing the other way. Tape the braid down so it will stay put.
3. If there is aluminum foil shielding on the 3 cm center wire, remove the aluminum foil but not the insulation from the center wire on each end.
3. Stick one end of the RG-6 high in the air. Mine uses 1/2-inch PVC pipe for support but it can be tie-wrapped or taped to any suitable support. If you use pipe make sure the outdoor antenna sticks out of the pipe- do not conceal it inside the pipe.
4. Stick the other end of the RG-6 within a few feet of your wireless adapter or card. Mine is about 3-feet away.

