



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Lonnie R. Taylor	Project Number J0834
Project Title Focusing Signals for a Better Wireless Network	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective is to see if home made antennas made out of everyday materials will effect the signal of a wireless router.</p> <p>Methods/Materials I conducted sixteen different tests using the homemade antennas on the wireless router antennas facing north, south, east, and west and took the different signals strengths in each room of my house. Then I used the same method by taking off the supports which were the toilet paper and the paper towel rolls. I used two Toilet Paper rolls, 2 Paper Towel rolls, a five by five inch piece of cardboard, a ten by ten inch piece of cardboard, scissors foil, a hot glue gun, and a wireless capable laptop.</p> <p>Results When I tested the toilet paper roll and compared it to my testing without the toilet paper roll, I found that without the roll and just the cardboard I got better results because with the roll the signal was not focused and it scattered the signal. When I tested the paper towel roll I got the same results that I did with the toilet paper roll and that the signal was scattered and not able to be focused. When all of my tests were compared to the original signals I found that with the rolls the signals came out higher than the original signals displaced by the router itself.</p> <p>Conclusions/Discussion In my conclusion I dicided that it was better just to have the piece of cardboard with foil and not the roll because the roll damaged the signal. I also had noticed that with some of my testings they did not come out the same and that they did not match up, i realized that when i had conducted the tests that something that interfears with the wireless signal such as cell phones, cars, metal filing cabnets, radios, or televisions could have been around or in use at the time which interacts with the radio waves displaced by the router.</p>	
Summary Statement Using everyday things to enhance a wireless routers signal.	
Help Received	