



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jared M. Clark</b>	<b>Project Number</b> <b>S0904</b>
<b>Project Title</b> <b>Has Interference Knocked Your Wi-Fi Down for the Count?</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The purpose of this project was to see if wave emitting devices had an effect on the signal quality of a home networks Wi-Fi router. The hypothesis was that the household wave emitting devices will have an effect on the signal quality of a home networks Wi-Fi router. Changing the channel that the router is on will decrease the amount of interference. <b>Methods/Materials</b> The signal and noise levels from the computer to the interference source were monitored by a piece of software called iStumbler. The wave emitting devices that were tested were a microwave, a cordless phone, a blue tooth, walkie talkies, and a wireless controller. The router was tested close to the computer, close to the interference source, and equidistant from both the computer and the wave emitting device. Different channels on the router were tested to see what channels were not affected by the microwaves energy. <b>Results</b> The microwave had the largest effect on the signal quality of the home Wi-Fi router. The lower channels were not interfered with the microwave while the microwave affected the higher up channels. <b>Conclusions/Discussion</b> The results of the experiment suggest that the microwave will interrupt music playing wirelessly and slow video feed from online videos. Further research could investigate questions like, What kind of router works best in an environment with many wave emitting devices?	
<b>Summary Statement</b> This project investigated the effect of wave emitting household appliances on the signal quality of a home networks Wi-Fi router.	
<b>Help Received</b> My science teacher proofread my papers.	