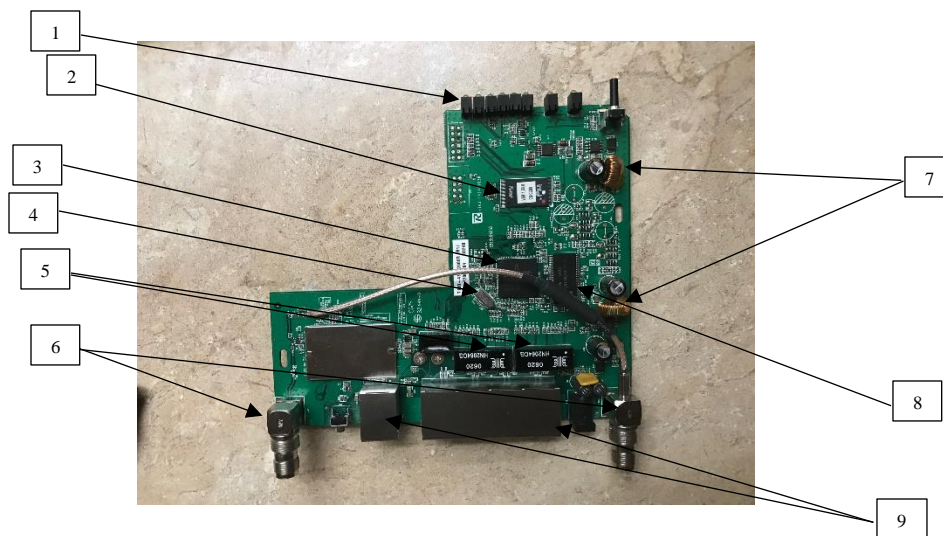


I started the challenge wanting to take apart my old iPod Touch (4th generation). Upon further research, I decided that another electronic would be easier to disassemble and analyze the components within the device. My parents had an old wireless broadband router they allowed me to take apart. A wireless broadband router is a device that provides wireless internets to multiple devices along with wired ethernet connections. I thought it would be interesting to see what is used to provide wireless internet, something so integral to our culture and society.



After disassembling the router, the only thing inside was a motherboard. Upon observing the motherboard, I realized I had no idea what any of the components were. The first thing I did was looked at the brands and serial number on the parts. I saw no components being the name Texas Instruments or TI, then I went through all of the parts, googling the company name and serial number to find out exactly what the component did. I identified the majority of parts that had some form of identification on them.



1. Lights: indicates what the module is doing
2. ROM Chip: permanently stores information that is essential to function
3. CPU: a computer processing unit.
4. SMD Oscillator: creates the frequency for the internet

5. Voltage Regulator: regulates the voltage in a device
6. Antennas: captures and transmits radio frequencies
7. Inductors: blocks AC power while still allowing DC power to flow through
8. RAM (random access memory): stores day-to-day information that is lost when turned off.
9. Ethernet Port: used to create a wired internet connection



Close-up of various components

The taking apart of a wireless broadband router was very interesting and educating. Even though I did not find any TI parts, it was really interesting to go through all of the components, label them, and learn what they do. I have a better understand of what components are used in motherboards and the functions they perform to make a fully functioning router.

Websites Used

http://rfmw.em.keysight.com/wireless/helpfiles/89600B/WebHelp/Subsystems/lte/Content/lte_antenna_paths_ports_explanation.htm

<http://www.it4nextgen.com/motherboard-components/>

<https://www.computer-hardware-explained.com/what-is-a-motherboard.html>

<https://www.pchardware.co.uk/motherboards.php>