

Reverse Engineering Online Challenge

Jack

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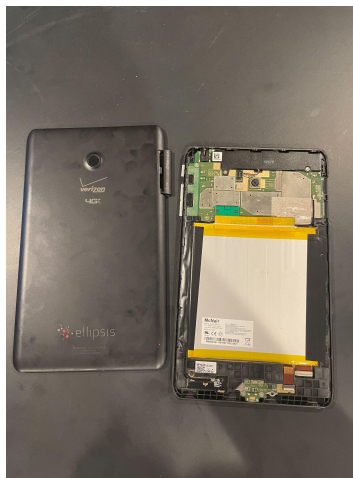
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I chose to work on a Verizon Ellipsis tablet that I have owned for a few years. I mainly chose it because it was old and wasn't working well anymore, but it also seemed like a simple project to do for my first time working on a complex electronic device like this one. Tablets have a lot of similarities to smartphones, and something that I use every day without a second thought began to intrigue me as to how it functioned.

During the deconstruction, I was able to locate a battery, a charging connector, an antenna, a speaker, and the motherboard. The charging connector provides a means to provide electricity for the battery to store, which the motherboard can then distribute to the other components. The power is used by the wireless antenna in the tablet to provide internet connection. The antenna focuses RF frequencies to give or receive instructions from other devices. The one in this tablet seems to be a patch/panel antenna because of its compact design and printed circuit board. The speaker sends the electricity through a coil to produce a magnetic field. When an audio signal is sent through the coil, the coil is attracted and repelled by a magnet. The vibrations from this motion generate waves that are perceived as sound.

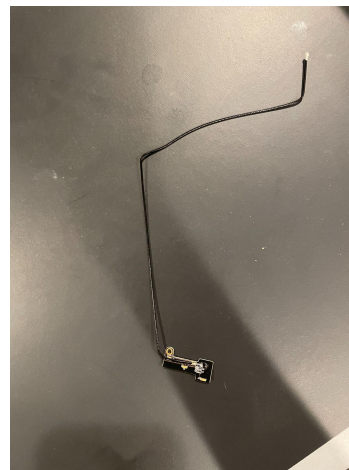
Overall, this was a pretty simple electronic device to examine. There weren't very many components and it wasn't very difficult to understand what role each component played in the device. It was a good experience to work with a simple device like this for how relatively inexperienced I am taking apart electronics like this.



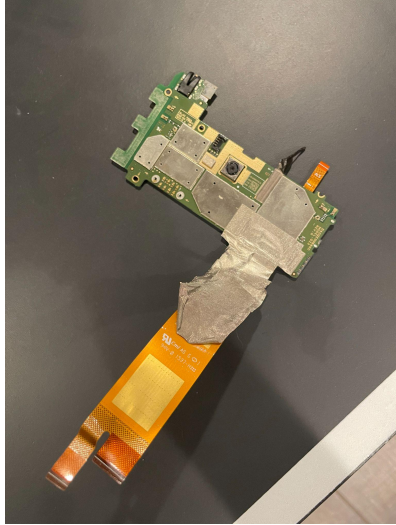
(Tablet with backplate removed)



(Battery and charging connector)



(Wireless antenna)



(Motherboard)



(Speaker)

Citations

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