We have all been there. You are on the phone, talking to someone, and suddenly you hear it, “click”, you know immediately that the other caller’s cell phone has died, and that you won’t be able to continue your conversation. Worse, your cell phone dies, and your only clue is the lack of conversation from the other end.

This is the inspiration of our research. We, through the direction of Agilent Technologies, are investigating the talk time the time you can talk on your phone before the battery goes dead of cell phones, and some of the drains on the cell phone battery.

In engineering, tradeoffs often have to be made. For cellular telephones, sometimes, talk time is sacrificed for the performance of the phone. One example of this trade-off is the battery size. The newer, cuter phones have smaller batteries, which hold a smaller amount of power than the larger batteries.

One factor that we are investigating is radio configuration. Your voice contains a lot of information, some amount of simplification of this information is required to be able transmit properly. Radio configuration deals with the amount of simplification that you use. Too much simplification makes the voice you hear sound fuzzy and dull. But, large amounts of information wear down your battery. In addition to this, we are looking at different standards that have been set by the FCC for sending information, to see how they have affected the talk time of cell phones. Using hardware and software given to us by Agilent, we are investigating exactly how these factors affect talk time. In doing this, we are hoping to understand talk time better, and to find a few sets of optimal conditions for sending information over a cellular system.