

Chance Hill
Combating Pick Pockets of Future

The purpose of this project was to find out which material would protect an RFID card at the closest position to a RFID reader. I hypothesized that if I tested different materials to try to protect a RFID card from being read at the closest position to a RFID reader, I will find that the copper foil will protect it the most because copper is one of the number one things used in RFID shielding wallets. The experiment involved placing a RFID reader and tag in two separate wooden boxes (to keep them stable), then taking a control test, and then placing a shielding material in between the tag and the reader. I then slowly moved the tag (covered in the shielding material) closer to the reader. As soon as the tag's reading came through on the computer, I stopped moving the tag and measured (in cm.) how far the tag was from the reader. I then subtracted the experimental test distance from the control test distance to get the difference for a more controlled reading. Whichever tag had the biggest difference was the best shielding material. The data collected did support my original hypothesis. The copper foil was the biggest difference from the control. The copper foil had an average difference of 12.53cm of three tests. This data led me to believe that copper and aluminum are the best materials to use to keep your RFID tags & cards safe.