

Proxmark.org - Build a cheap 13.56MHz MIFARE antenna for the Proxmark - v1.0

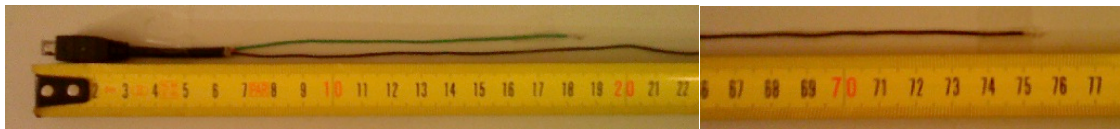


To make a very cheap High-Frequency (HF) antenna for all 13.56 MHz modulations (MIFARE, Felica, etc.), you only need a cheap USB<->Hirose cable. On the left you see a Hirose connector, there are multiple mini-USB cables available on the market, so make sure you buy the correct one.

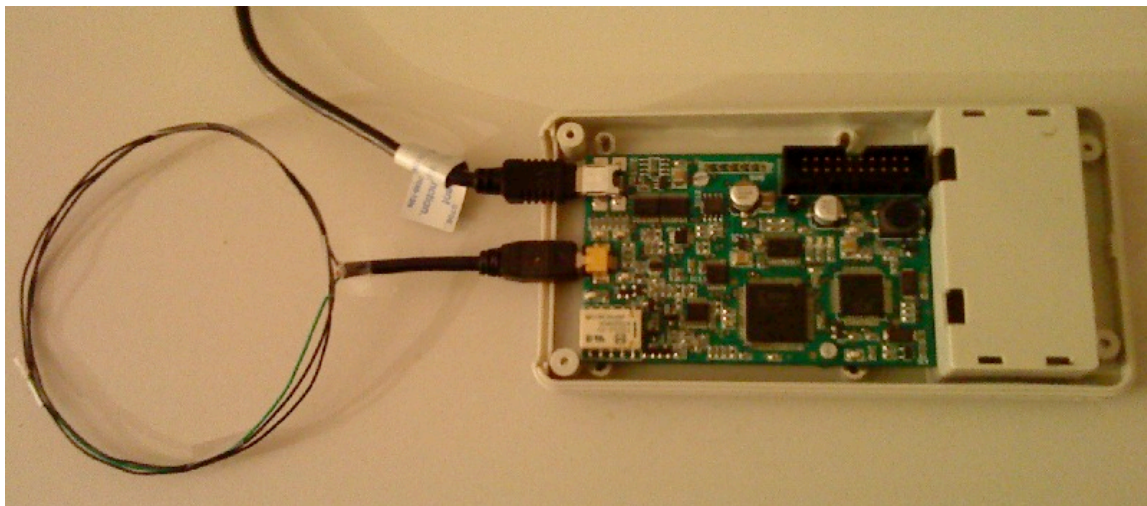
First you have to strip the cable. You can cut off the USB side; we do not need this part. Make sure the total size of the cable is bigger than 80cm. After cutting the cable you make an incision at ~6.5cm and remove the isolation. Do the same to the shielding that is underneath the plastic isolation. You will see 4 wires appear in different colors.



We do not need the red and white wire for a HF antenna. Those are for connecting a LF antenna. So cut away the shielding, red and white wire. We have left, the connector and 2 wires, black and green, which are at least 80cm. Cut the green wire at ~19cm from the connector and strip it a bit. Do the same to the black wire, but use the length ~76cm.



Make an antenna coil of 3 windings using the green cable. Connect the green cable with the black one and tape them together so they won't unwind.



Plug it into the Proxmark and you will get an antenna with 13V. You can even optimize this value by adjusting the length of the wires. Note that small changes (1cm) can already have a big impact. If you found out better values than we describe, please drop a note so we update this manual.

Roel Verdult

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