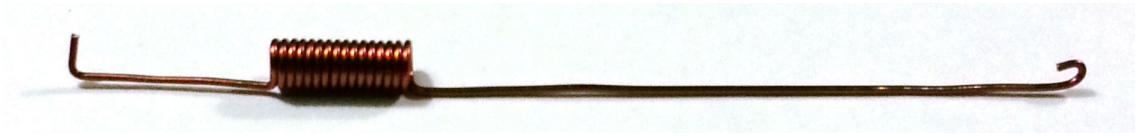


A while ago I started to automate my house with KiKa devices which stands Click On Click Off (Klik Aan Klik Uit in Dutch).
See more at their website http://www.klikaanklikuit.nl

I wanted to make the lights controlled automatically. So you can buy this at a local store but what is the fun in that??? So, I started to develop an automation unit for KiKa controlled lights. Next to that, I also wanted to measure the temperature in every room and log it. Just for fun…

So I bought a lot of cheap 433MHz transmitters and receivers at deal extreme (www.dx.com) and started with development. The receivers and transmitters don't have antennas and just a piece of wire (1/4 of the wavelength) was not very satisfying. The range of the transmitter was around 3 meters…

Luckily I had an antenna from an old project which was able to transmit and receive for more than 10 meters. Meets requirements for my project and I even didn't had to tune the antennas ;)

So, how to build such an antenna? Simply with the tools you probable all have lying around…

Needed:


Plier


Cutting plier


Ruler


Pencil


Isolation wire

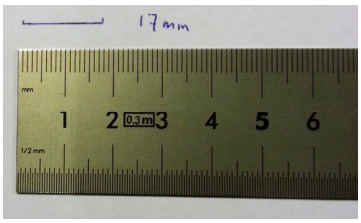

isolated wire

- Black installation wire 1,5mm^2 (ϕ 2,5mm (0.1"), length : ~5cm (2"))
- Isolated wire (ϕ 0,6mm (0.023") , length:25cm (10"))

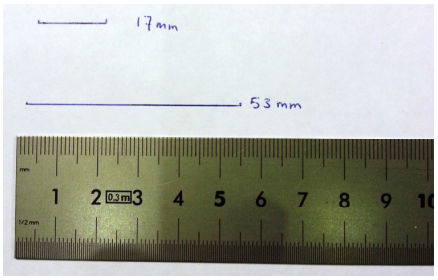
The coil inductance will be around 0.22023 µH.

Now how to build:

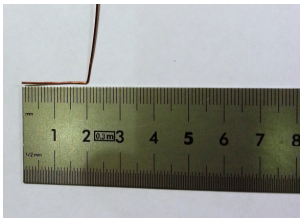
1. Draw a small line of 1,7cm (0,67”) on the piece of paper.



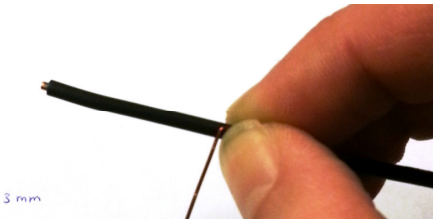
2. Draw a second line of 5,3cm (2.1”) on the piece of paper.



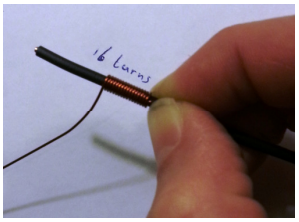
3. Bend the isolated wire at approximately 2cm (0,79”) at an angle of 90 degrees.



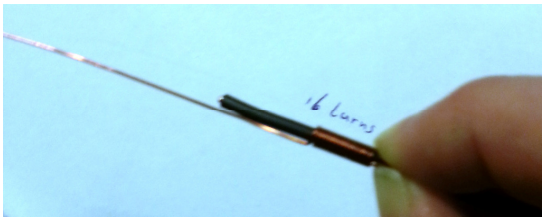
4. Place the bended part in line with the installation wire



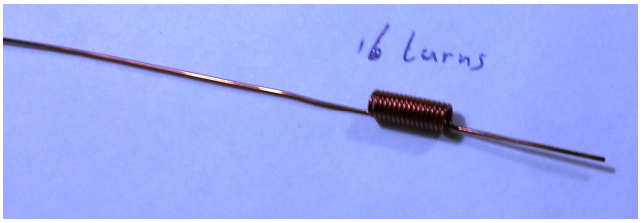
5. Make 16 turns around the installation wire



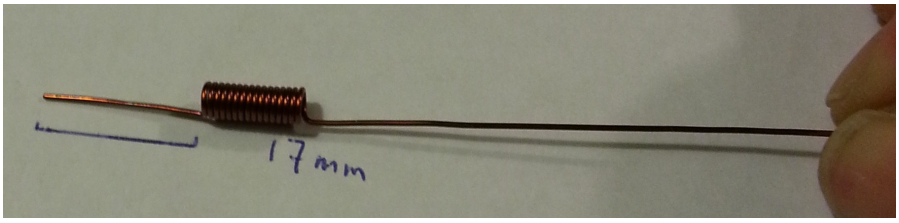
6. Bend the part of the wire that's still left over 90 degrees in line with the installation wire



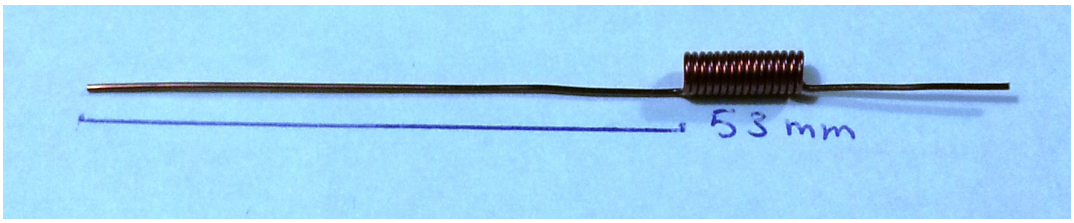
7. Take the coils slightly off the installation wire by making small twits



8. Cut the short wire so the length will be 1,7cm (0.67")



9. Cut the long wire so the length will be 5,3cm (2.1")



10. If desired, bent a small part of the short wire for angled mounting

11. Make a small rounding at the end of the long wire (no sharp point at the end)