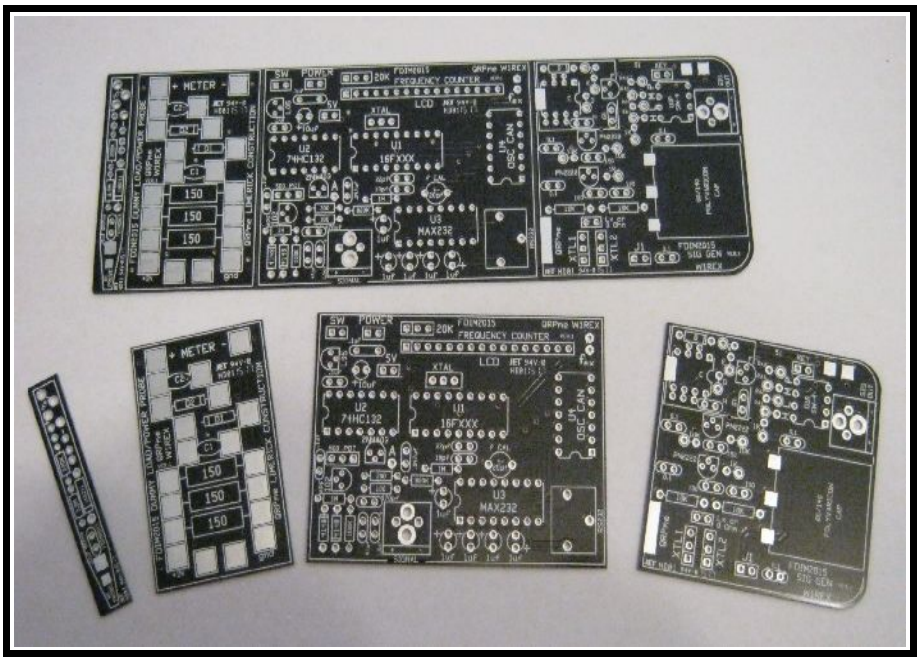
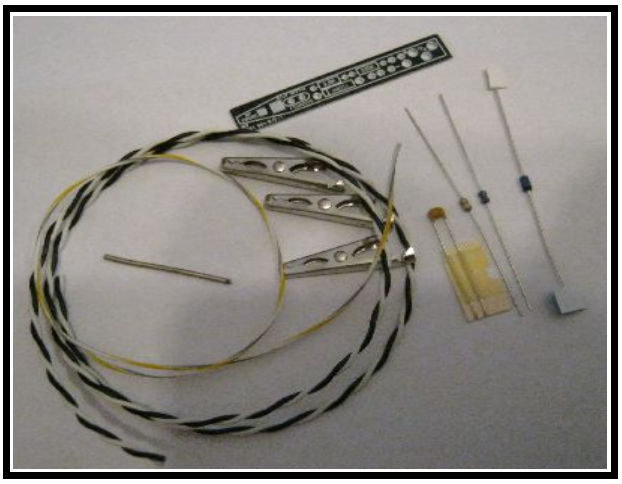
FDIM 2015 Buildathon Projects by QRPme

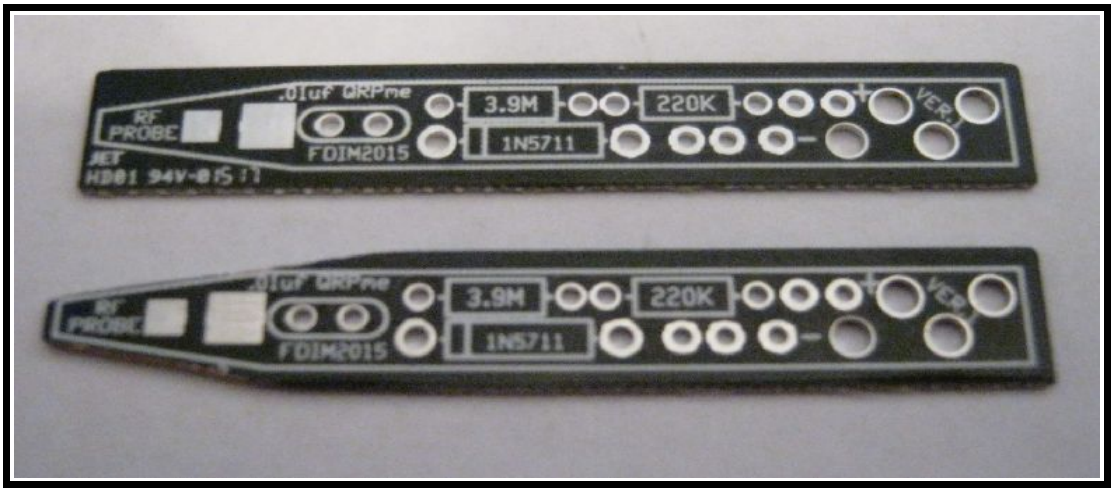


The panel breaks apart into 4 unique project boards.

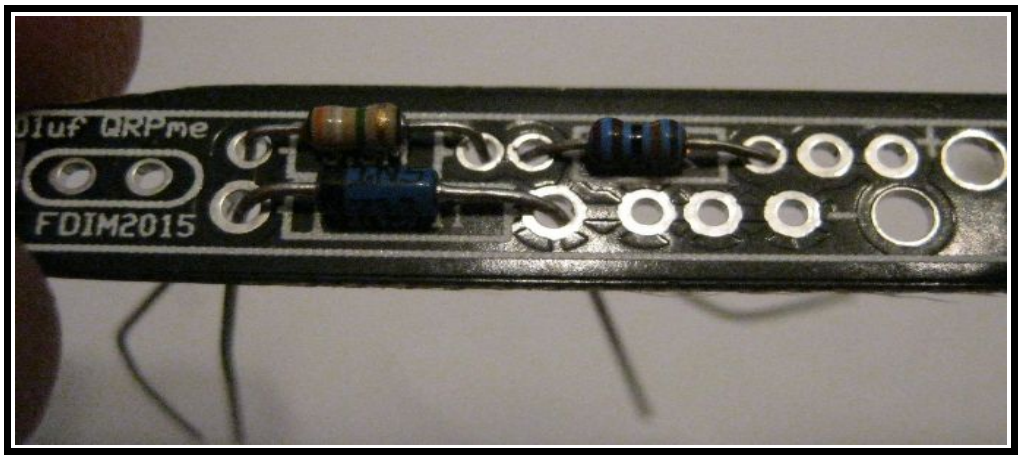
The parts for the RF Probe kit:



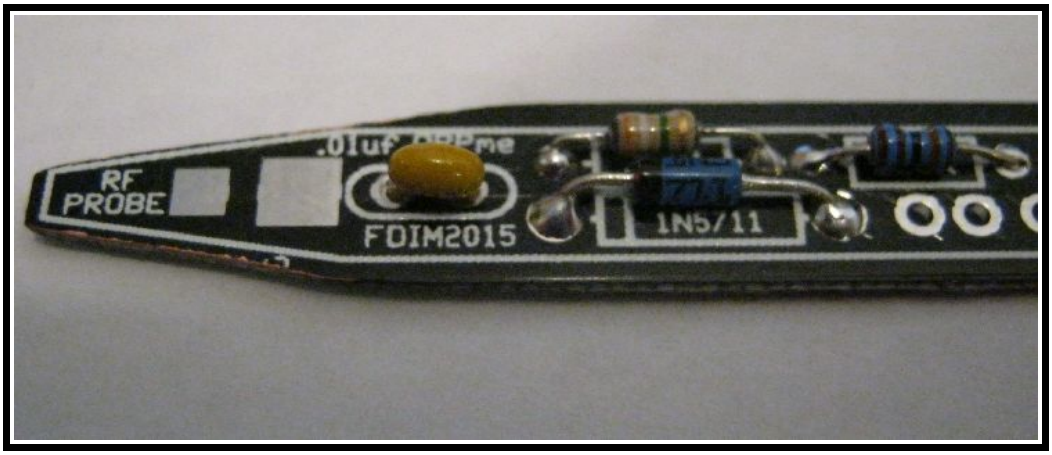
Printed circuit board
1N5711 Diode (marked 1N5711)
3.9M Resistor (ORG-WHT-GRN)
220K Resistor (RED-RED-BLK-ORG)
.01uf Diode (marked 103)
Alligator clips Qty=3
1 piece buss wire
1 piece twisted pair wire
1 piece 24ga wire



The corners can be snipped off the RF Probe pcb for closer access when using the probe in tight places. Use a pair of tin snips to cut the corners off.

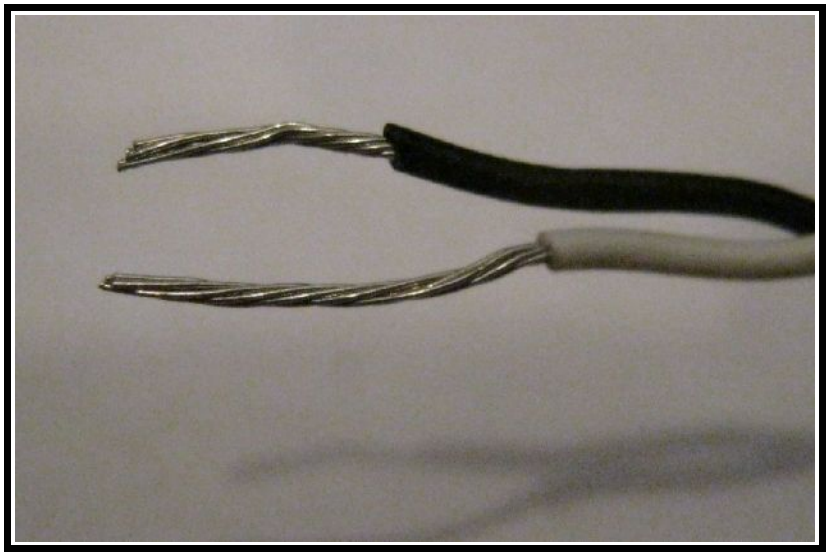


The first 3 parts to install are the 3.9Mohm and 220Kohm resistors and the 1N5711 diode. Glass diodes and 1/8 watt resistors are fragile and could be broken in the bending process when bending without stress relief. Use care, and a nice pair of needle nose pliers to make the lead bends. With nice sharp needles, place the plier tips to the body side of the bend to protest the part from fracturing when making the bend.



The .01uf (marked 103) with .1" spacing is next.

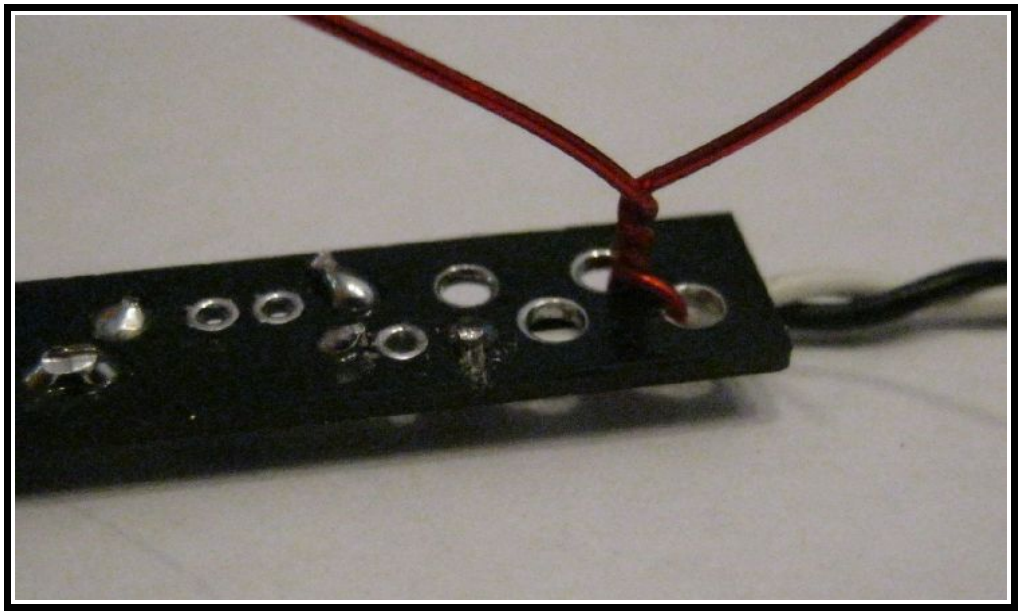
Use a short piece of buss wire to fashion a probe tip. Solder it across BOTH pads on the point of the RF probe pcb.



Strip and tin a 1' piece of twisted pair to use as clip leads going to the DMM. Notice that the white positive lead is stripped further back than the black ground lead by about 3/16". This is so that the twisted pair lays flat on the pcb for strain relief purposes. Dry fit your wire before soldering it to make sure it fits nicely at the end of the pcb without bunching or extra wire looping out.

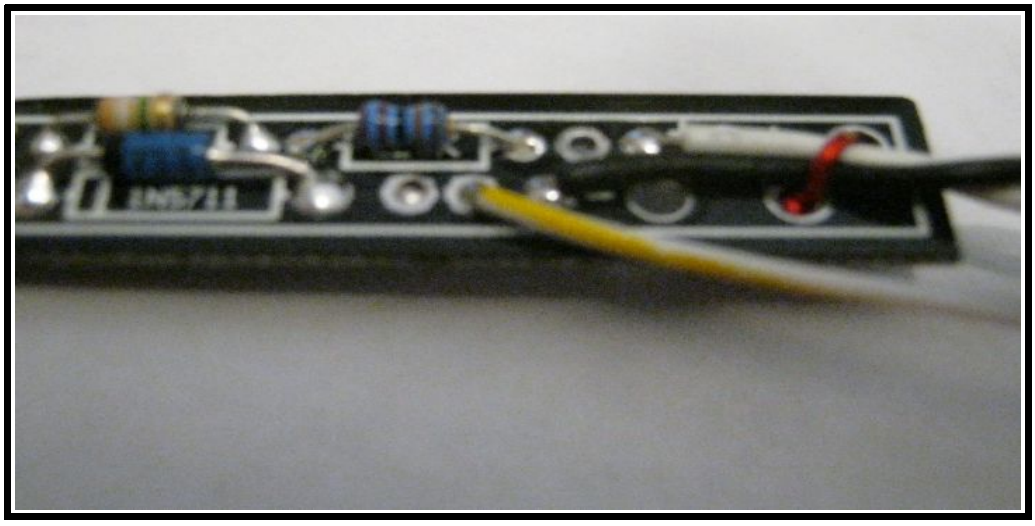
See how cleanly it fits onto the end of the pcb....

Solder two clip leads onto the other ends of the twisted pair wire. Notice that the wire has been untwisted and that the white (positive) lead is cut (about 1.5 times the length of the alligator clip) longer than the black ground wire.

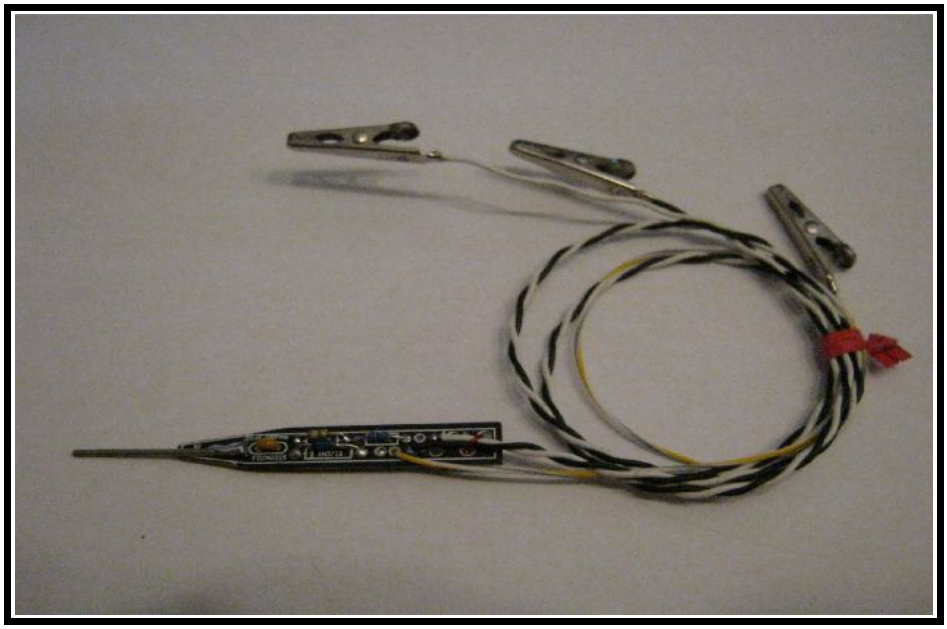


A **short piece of magnet wire can be inserted into the larger hole at the end of the pcb and then twisted together to form a strain relief for the twisted pair wires. Don't use solder here as it might melt the insulation on the wires.**

Cut the strain relief off close to the board and bend it flat against the pcb.



Attach a third wire to one of the 'extra' grounding holes and solder an alligator clip lead to it. This is the grounding wire that you attach to the project you are probing. The twisted pair wires go to the DMM that you are using to read the RF voltages.



The RF Probe is now built and ready to work!

It is not mandatory but you can use heat shrink sleeving to cover the circuitry or install the circuit board into some sort of tube like an old pen or marker body or some plastic item laying about.

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