

STRUMENTAZIONE BIOMEDICA

... ora inizia il divertimento ...

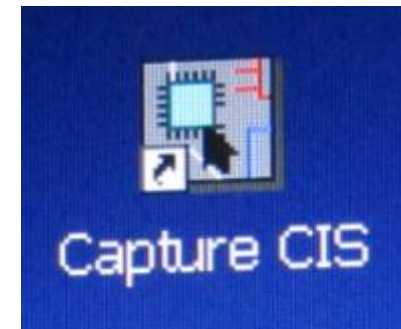


Scopo della seconda parte del corso

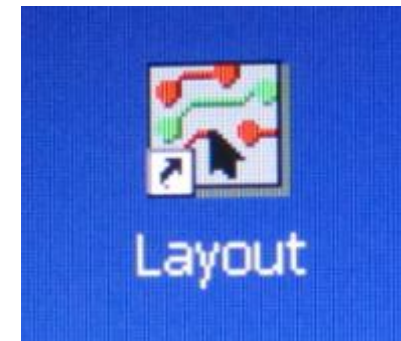
ogni gruppo progetta e realizza un
ECG

OrCAD 10.3

OrCAD Capture CIS

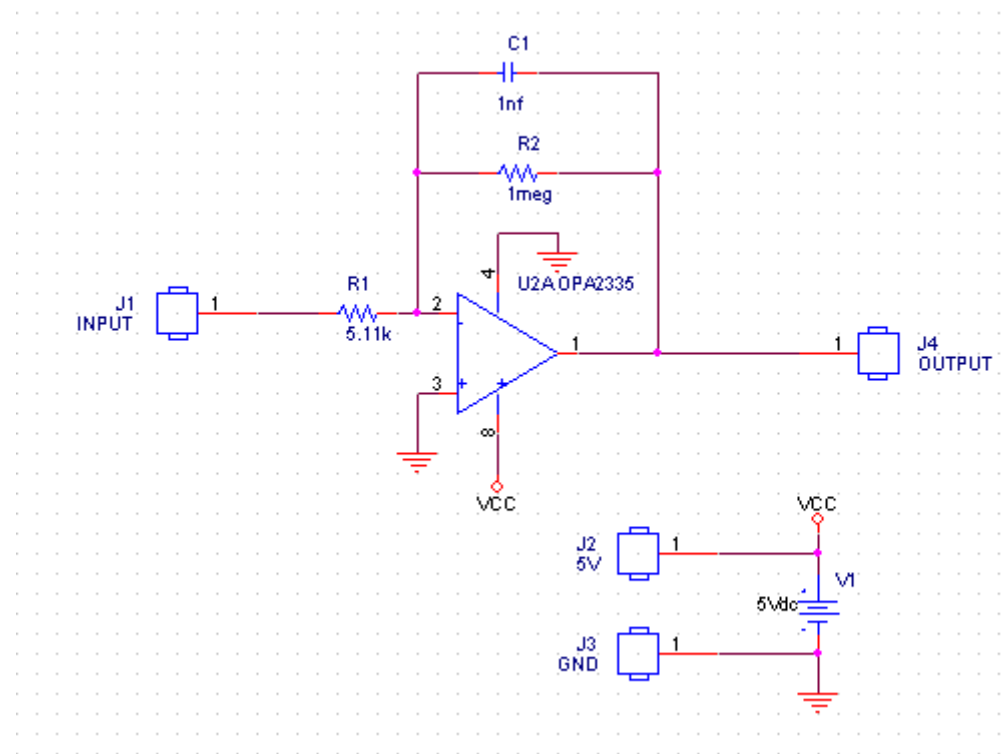


OrCAD Layout

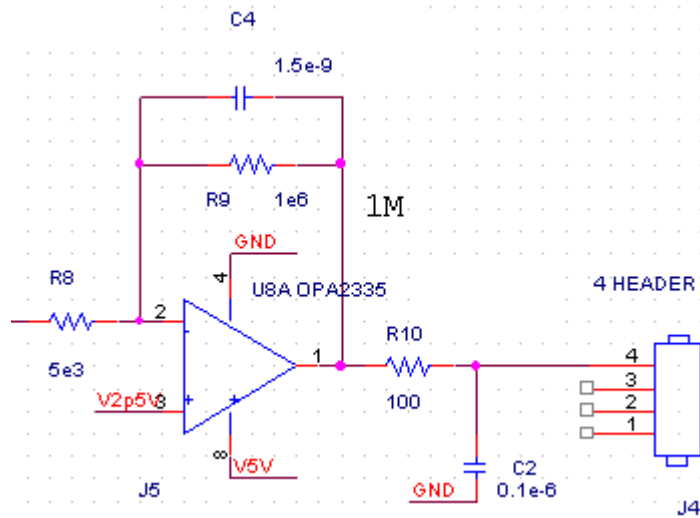


OrCAD Capture CIS:

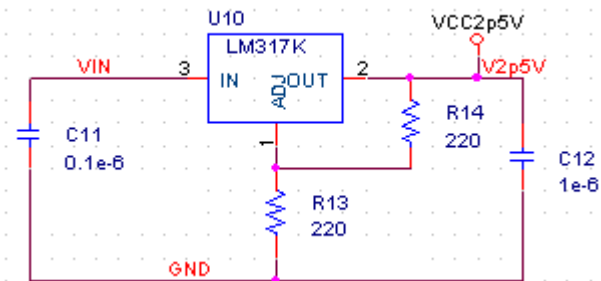
come si disegna lo schematico



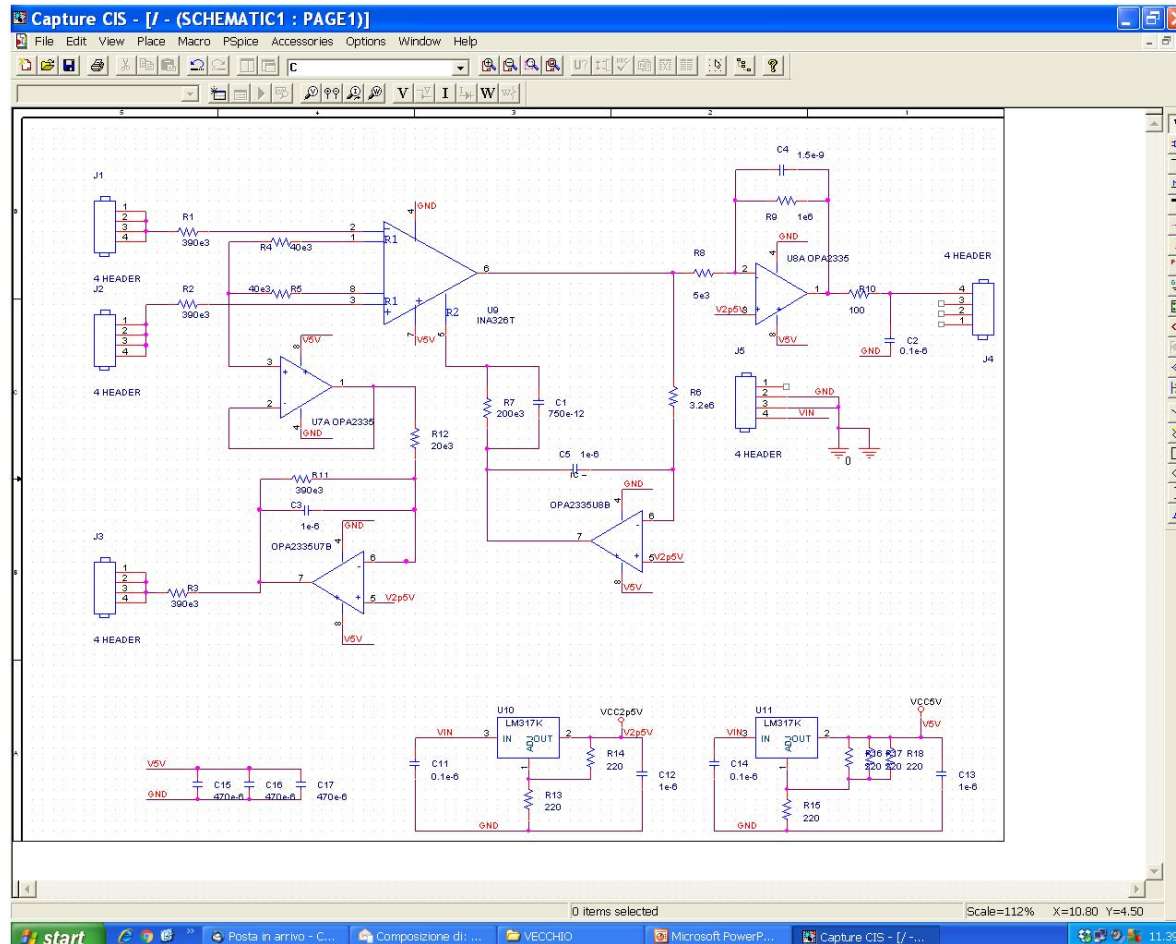
OrCAD Capture CIS:



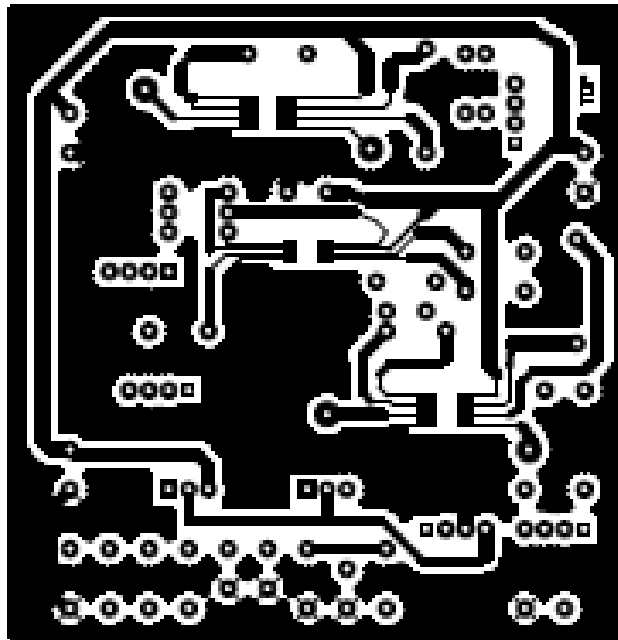
simulazioni
separate
dei vari pezzi



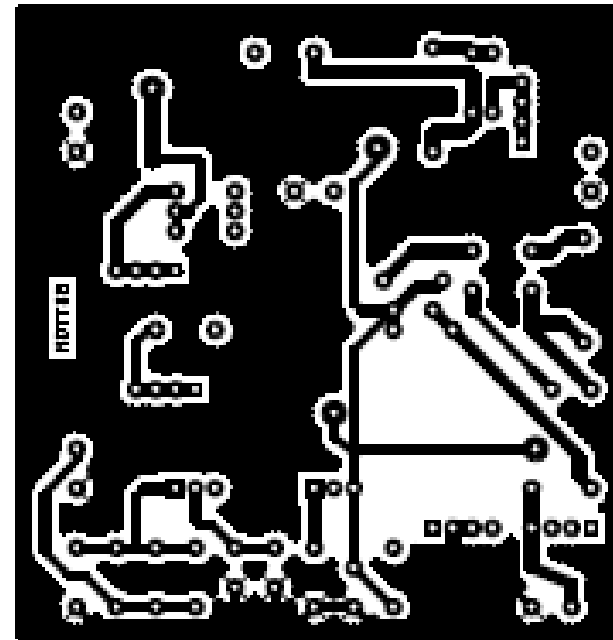
OrCAD Capture CIS: Schematico



OrCAD Layout: Disegno

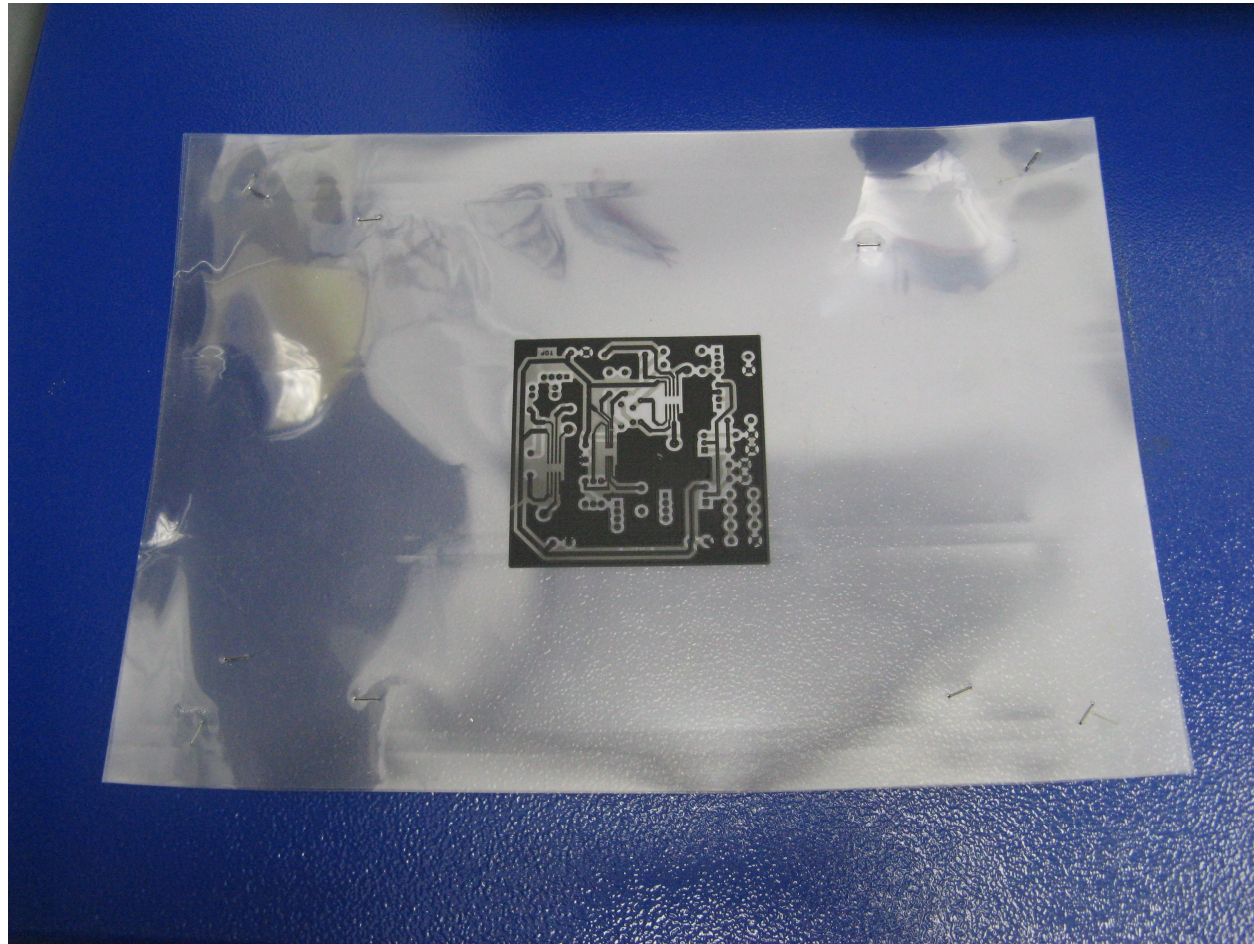


**LATO
COMPONENTI**

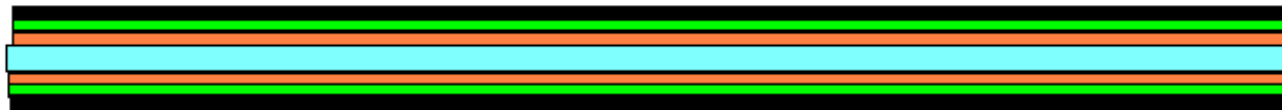


**LATO
PISTE**

Lucido



Basetta presensibilizzata



ADESIVO DI PROTEZIONE
FOTORESIST
RAME
MATERIALE ISOLANTE
RAME
FOTORESIST
ADESIVO DI PROTEZIONE

Lab. Fotoincisione di Circuiti Stampati



Fase 1: Esposizione

Fase 2: Sviluppo

Fase 3: Incisione

Fase 4: Pulizia

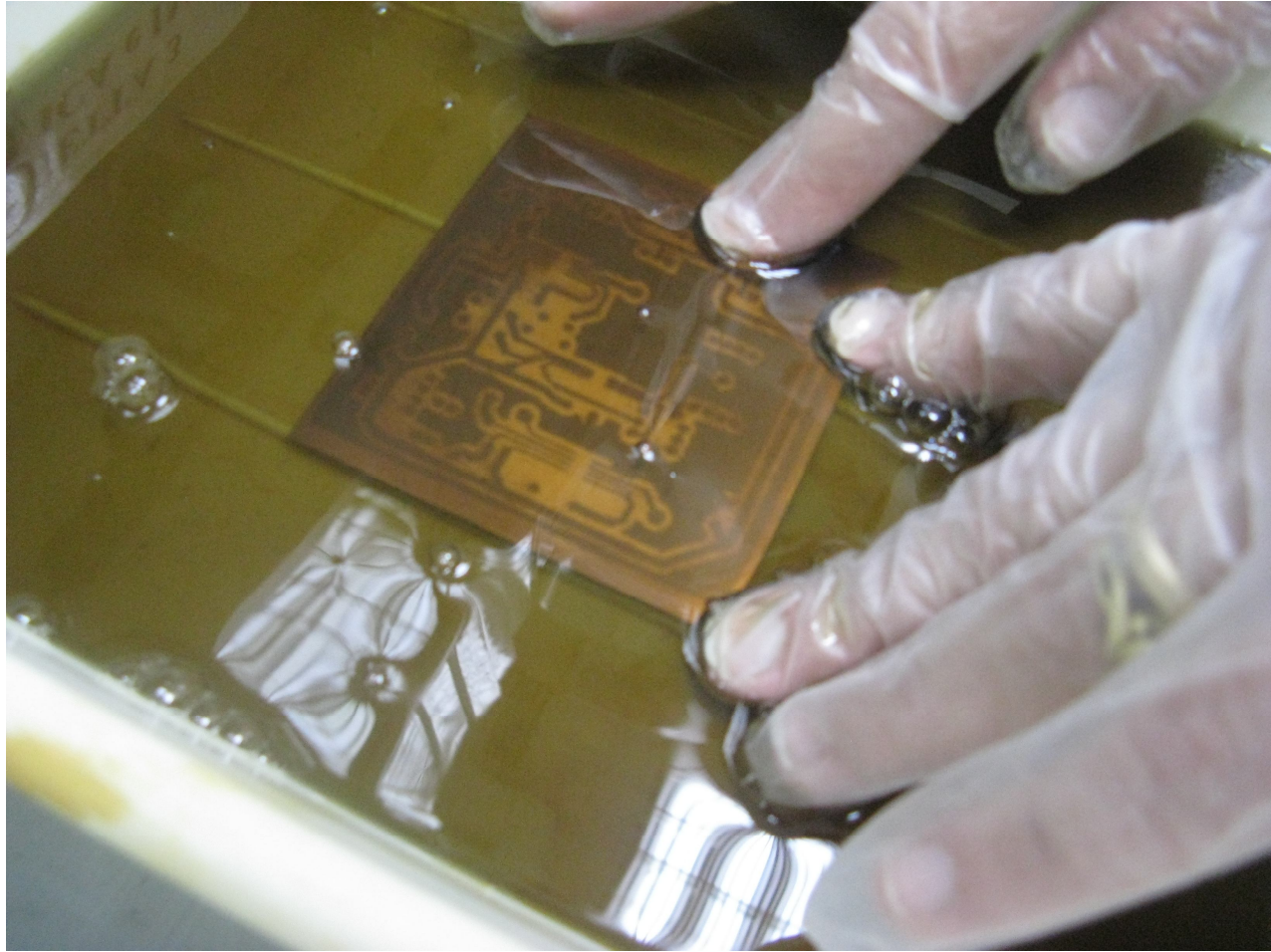
Fase 1: Esposizione

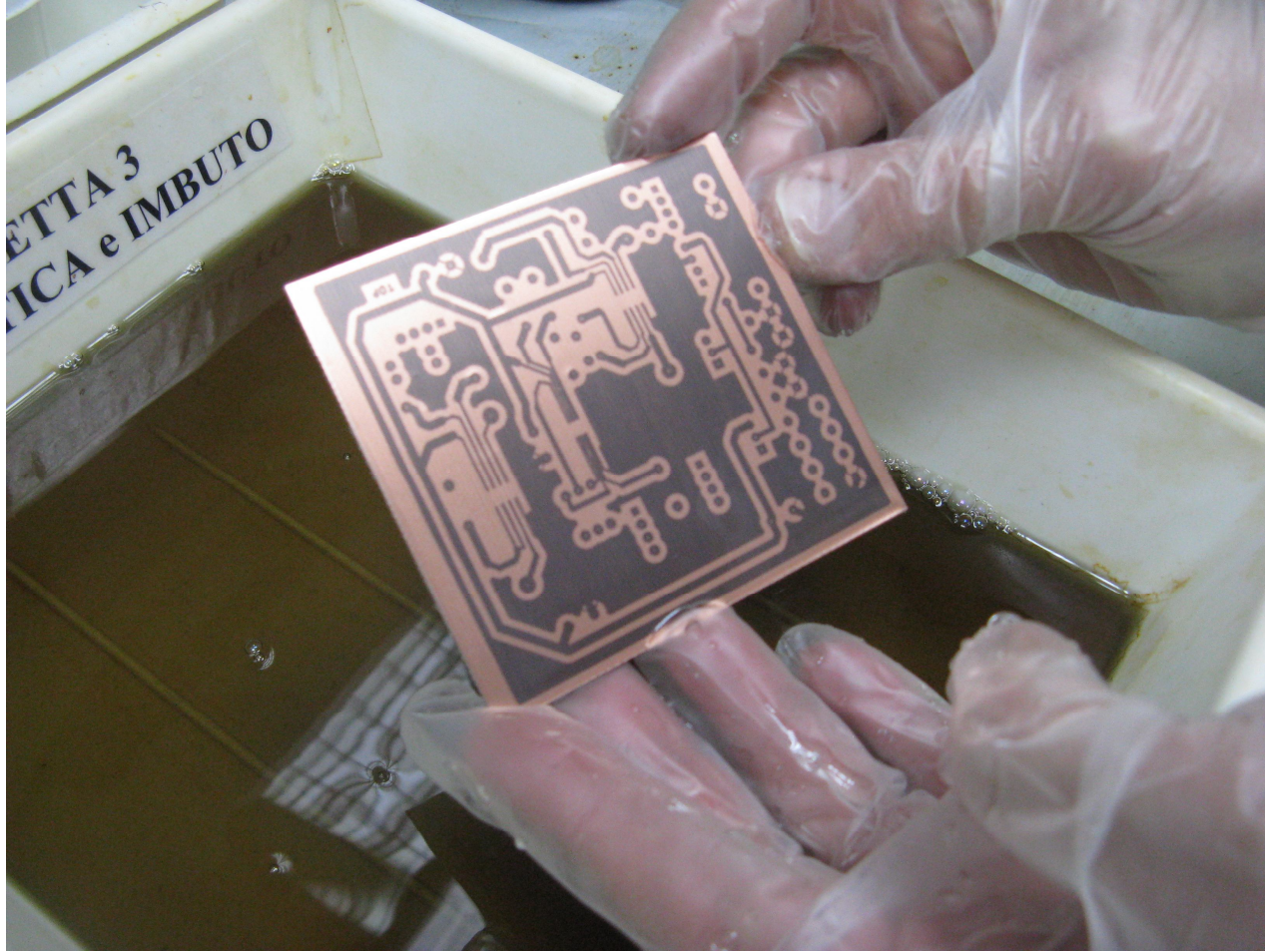


Fase 2: Sviluppo





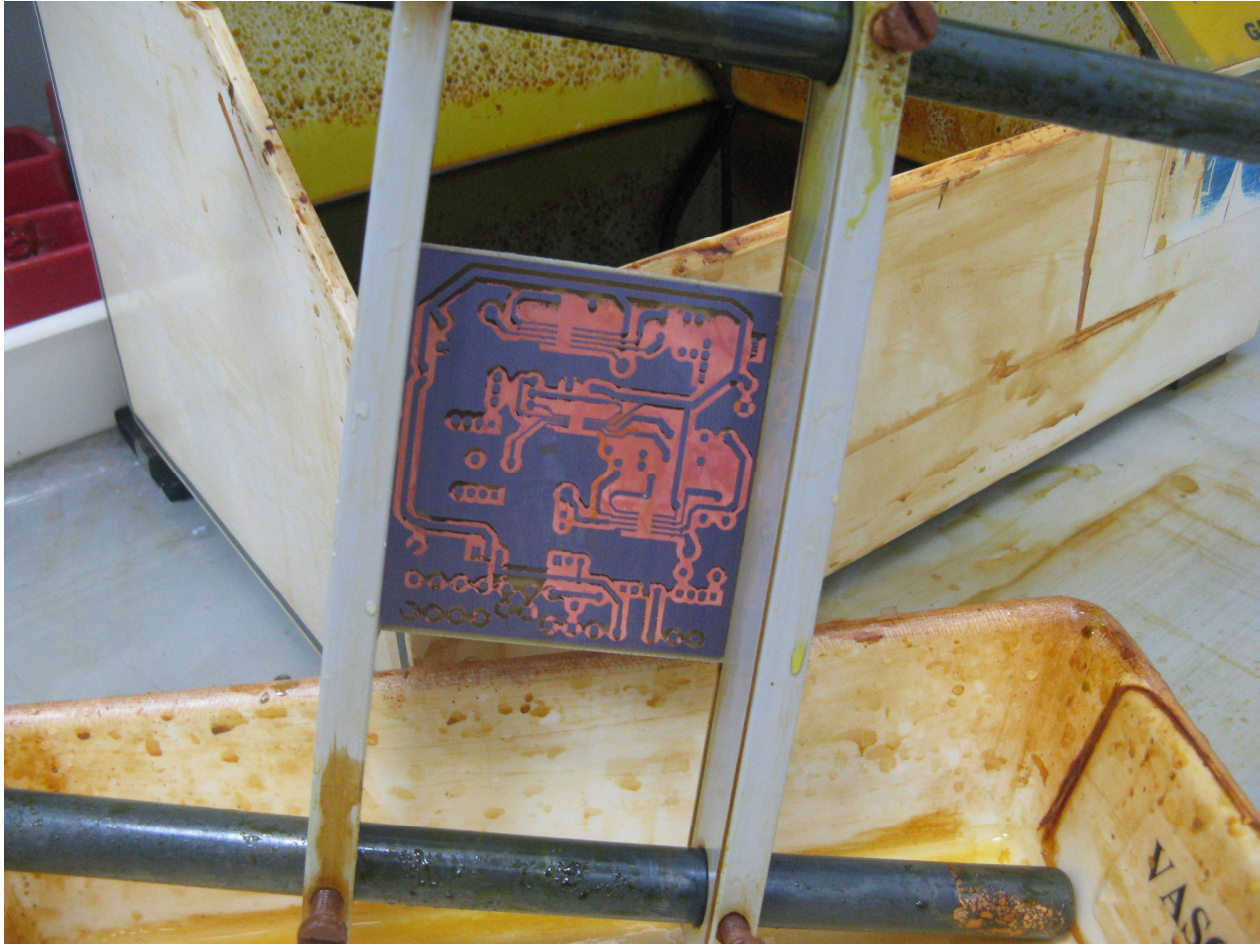


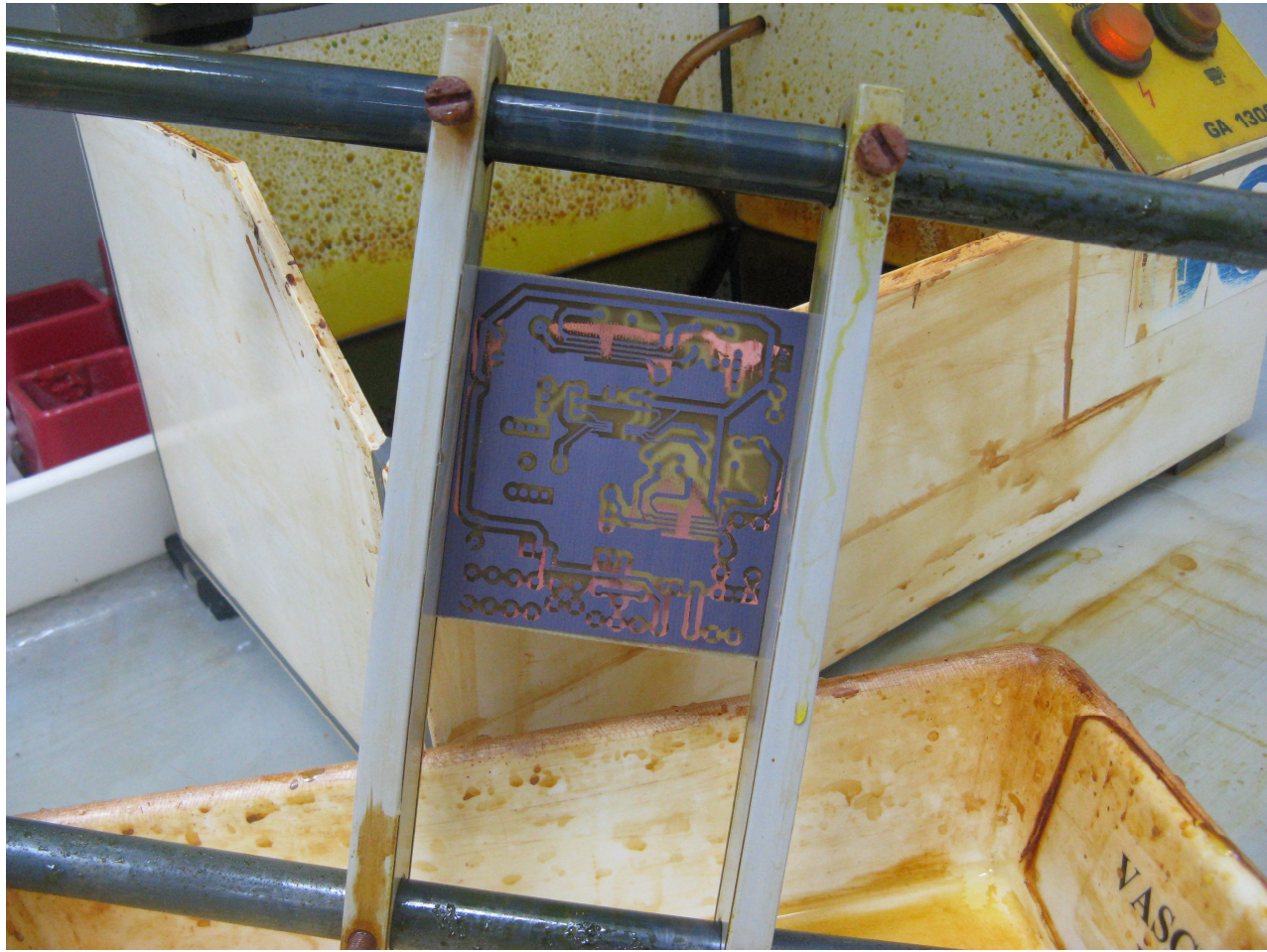


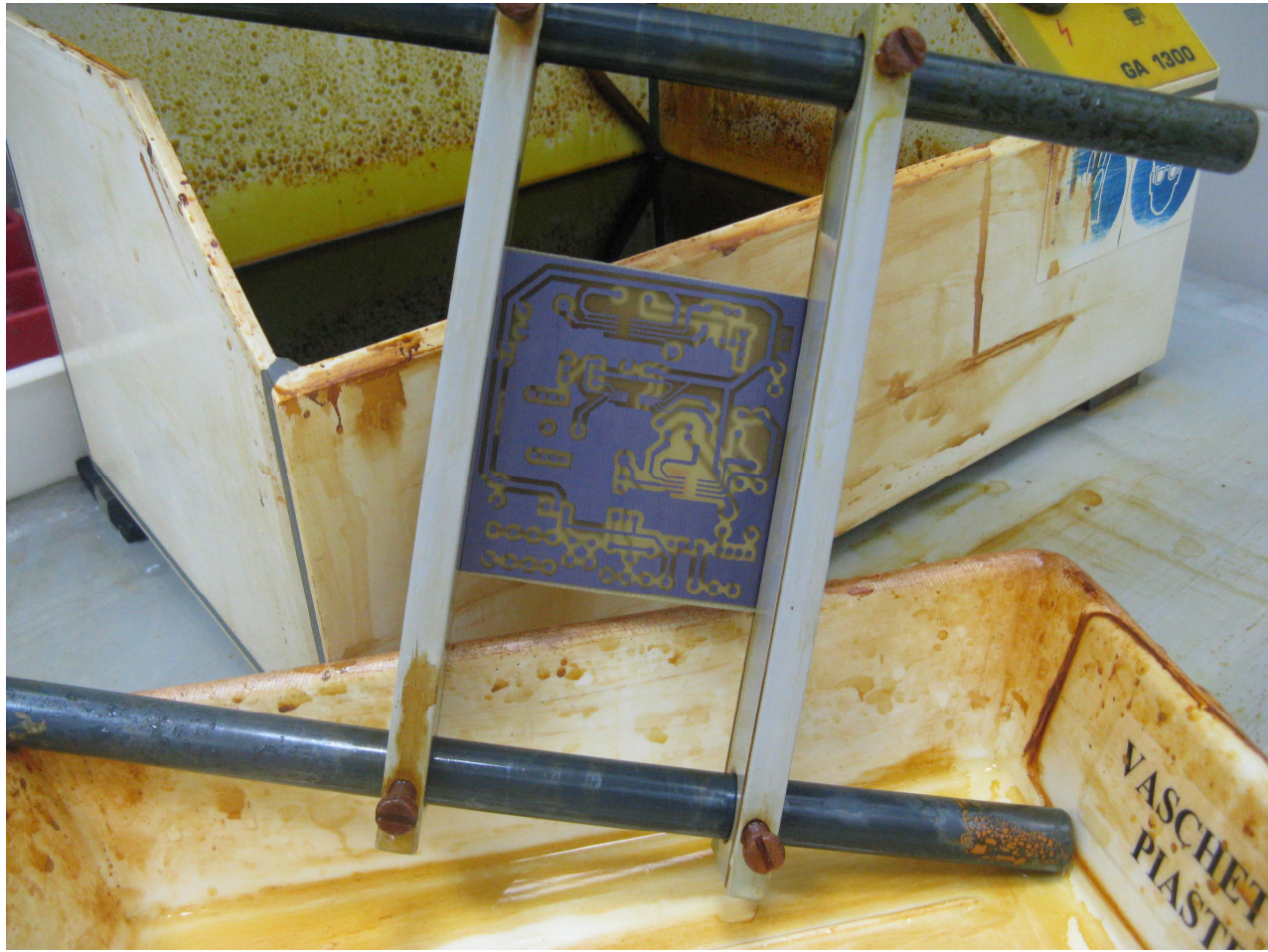
Fase 3: Incisione

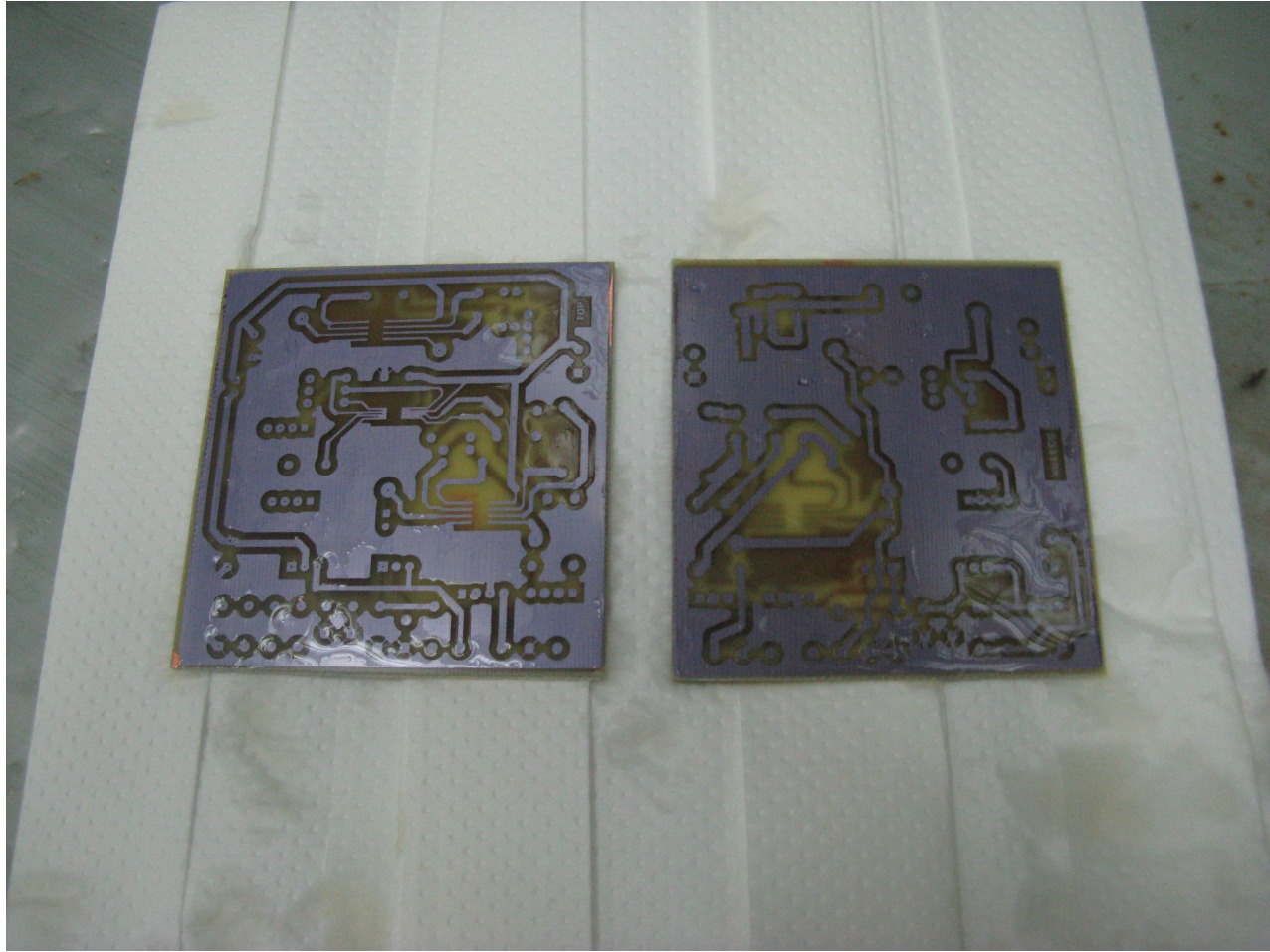




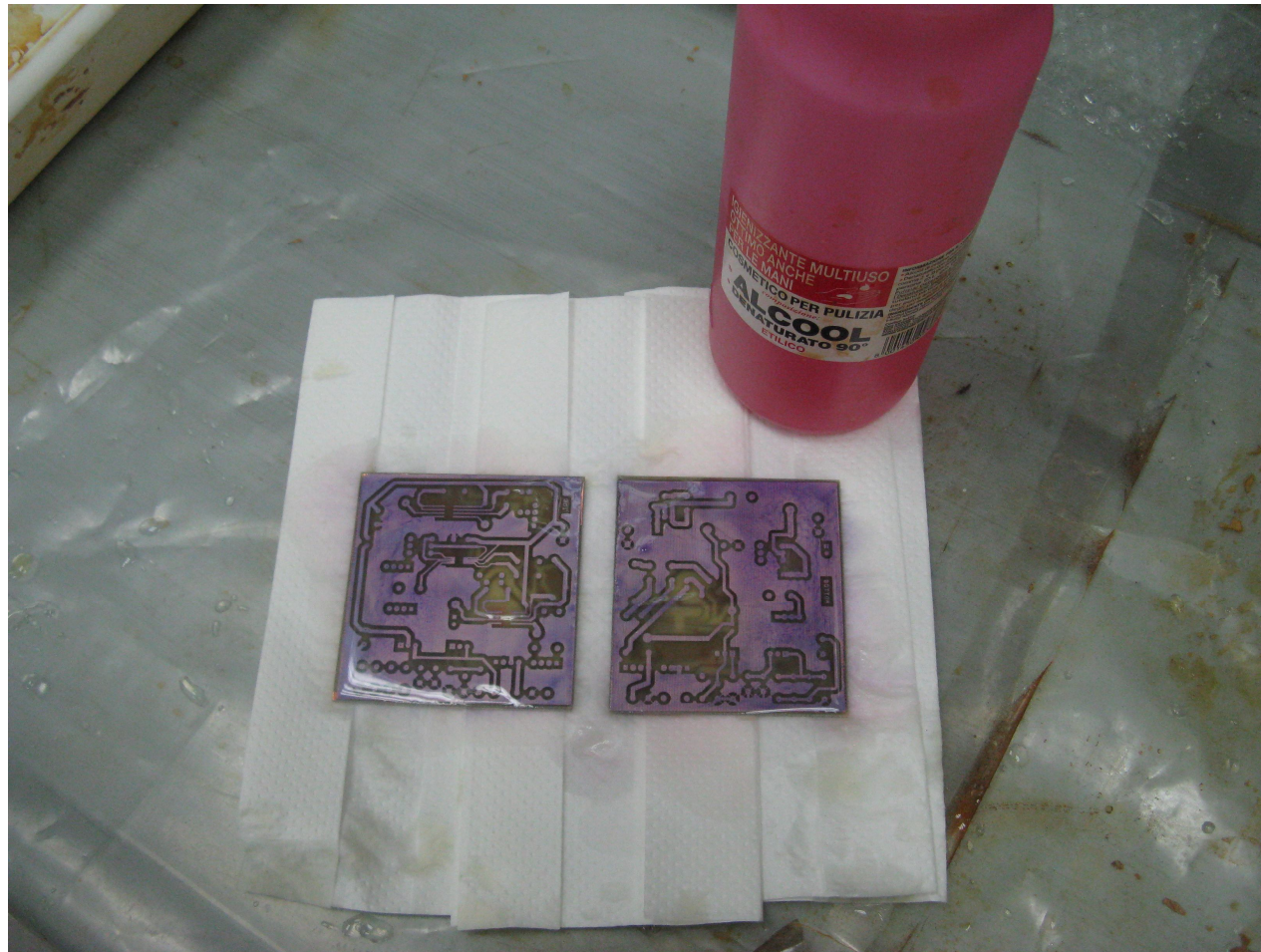


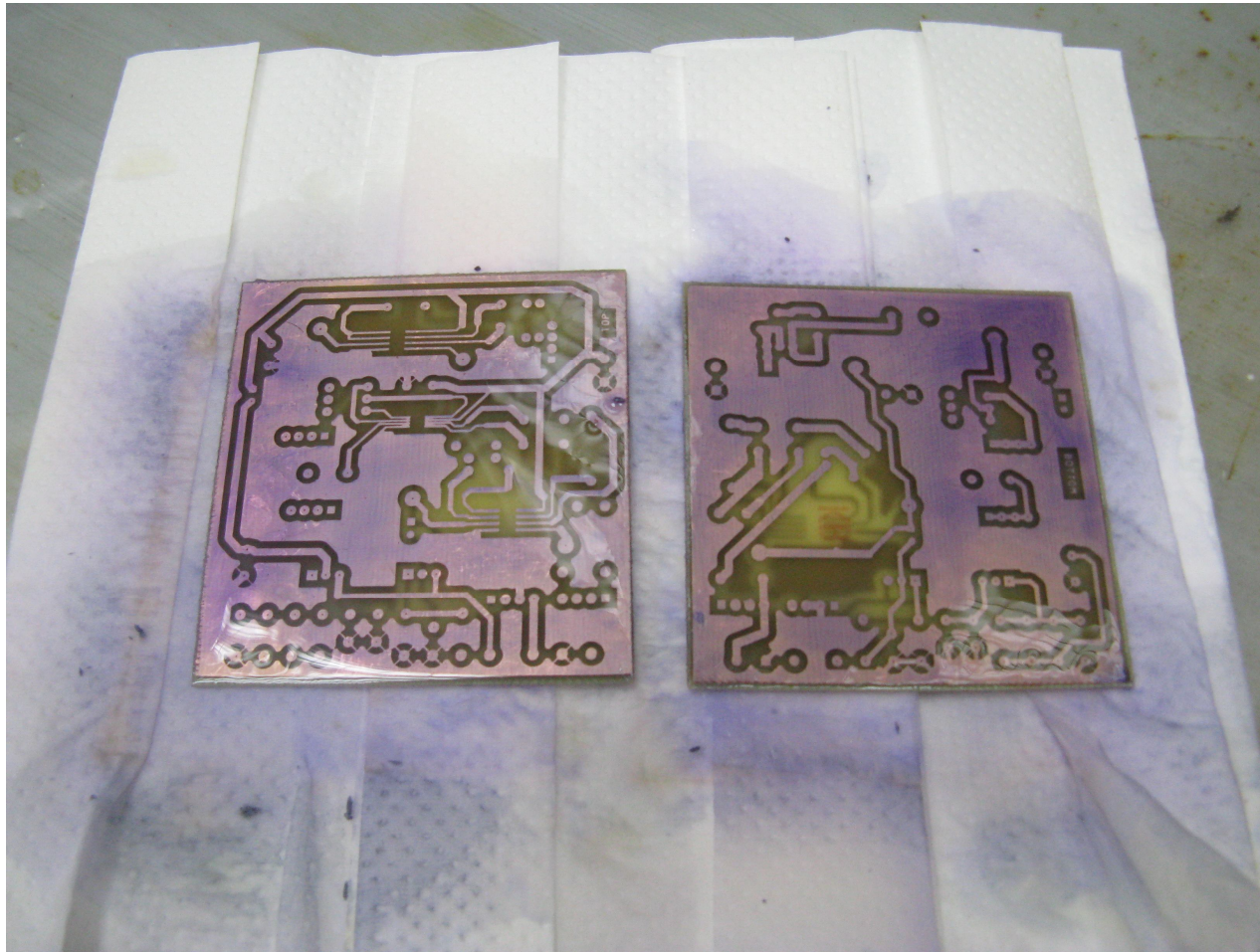


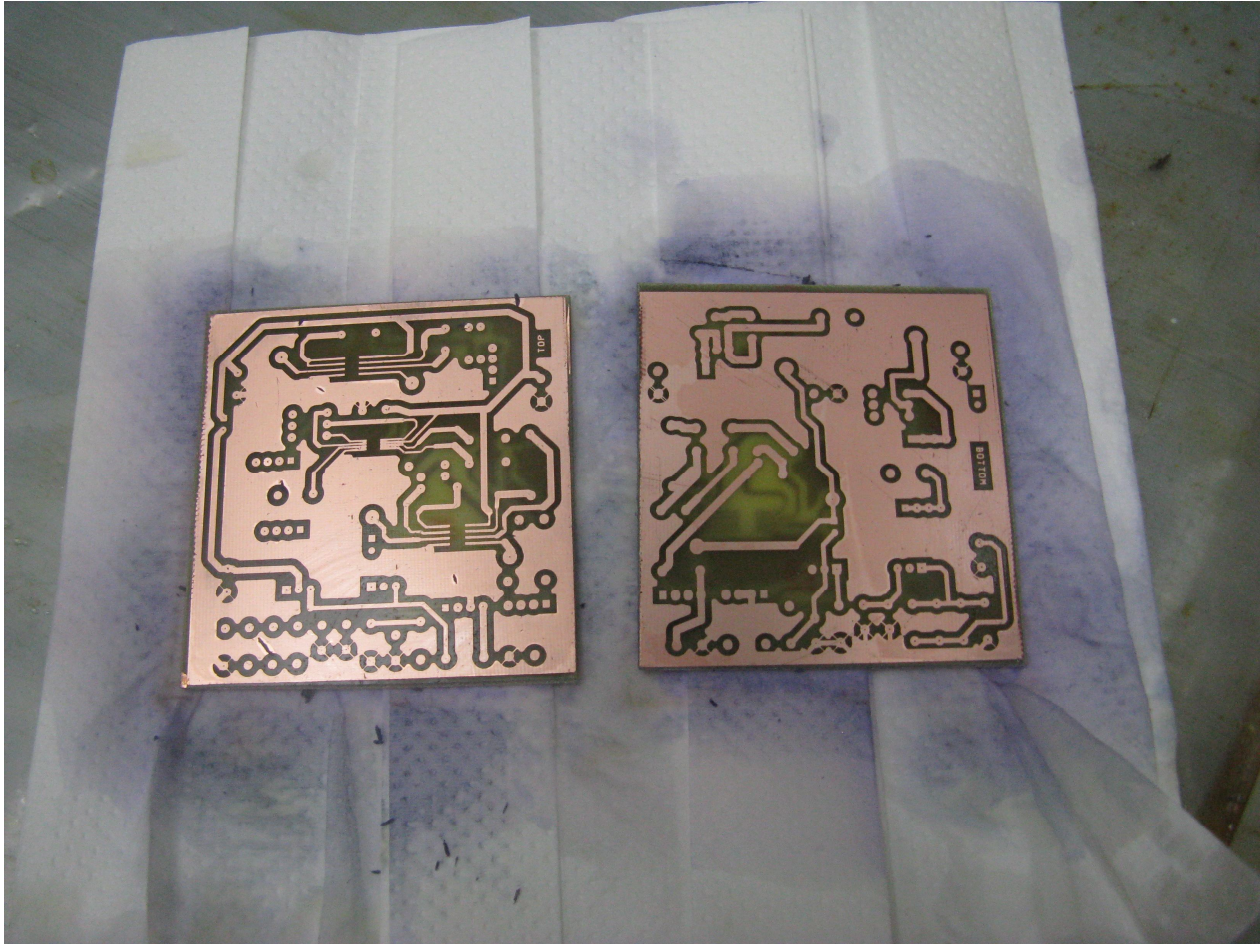


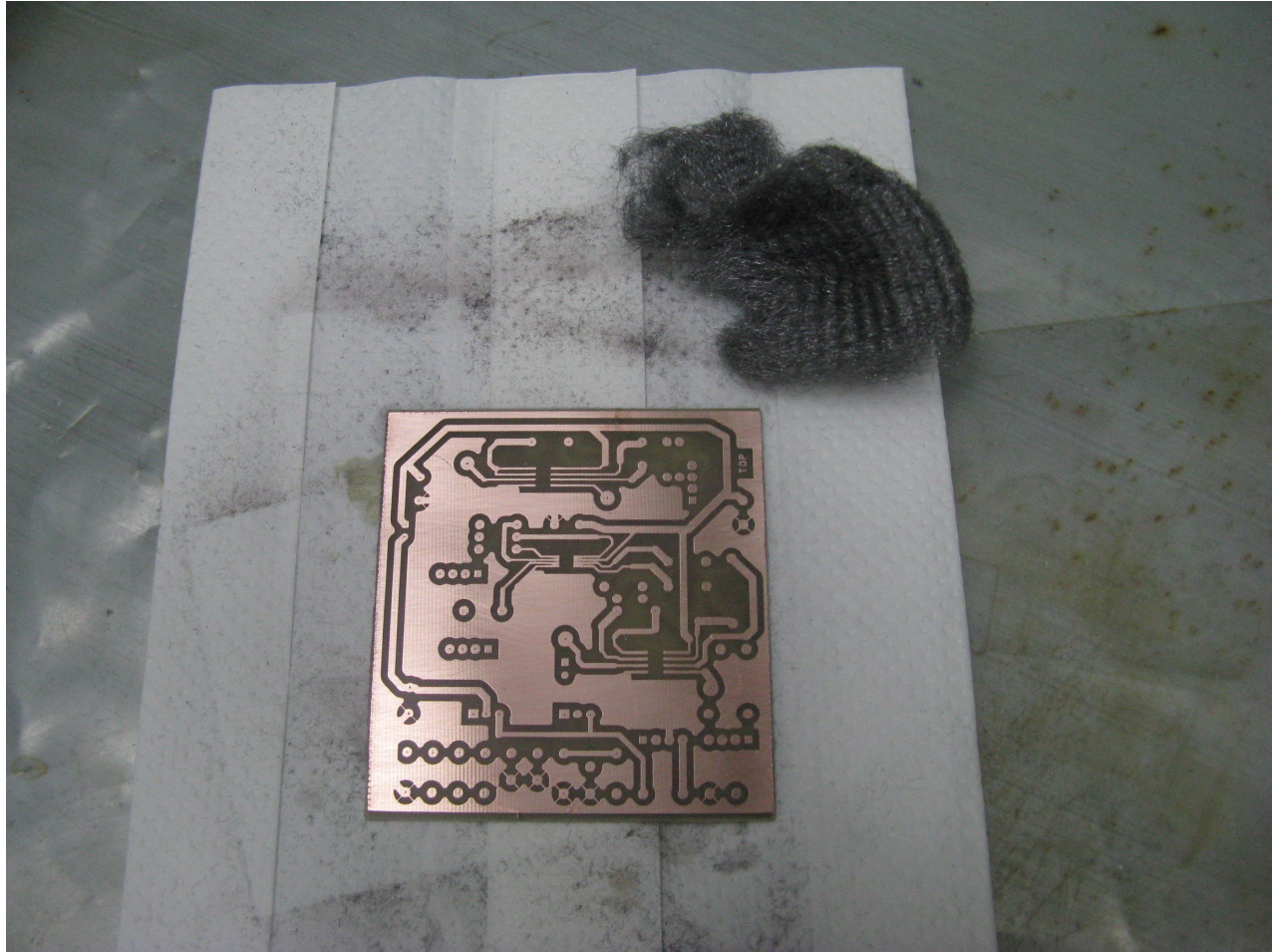


Fase 4: Pulizia

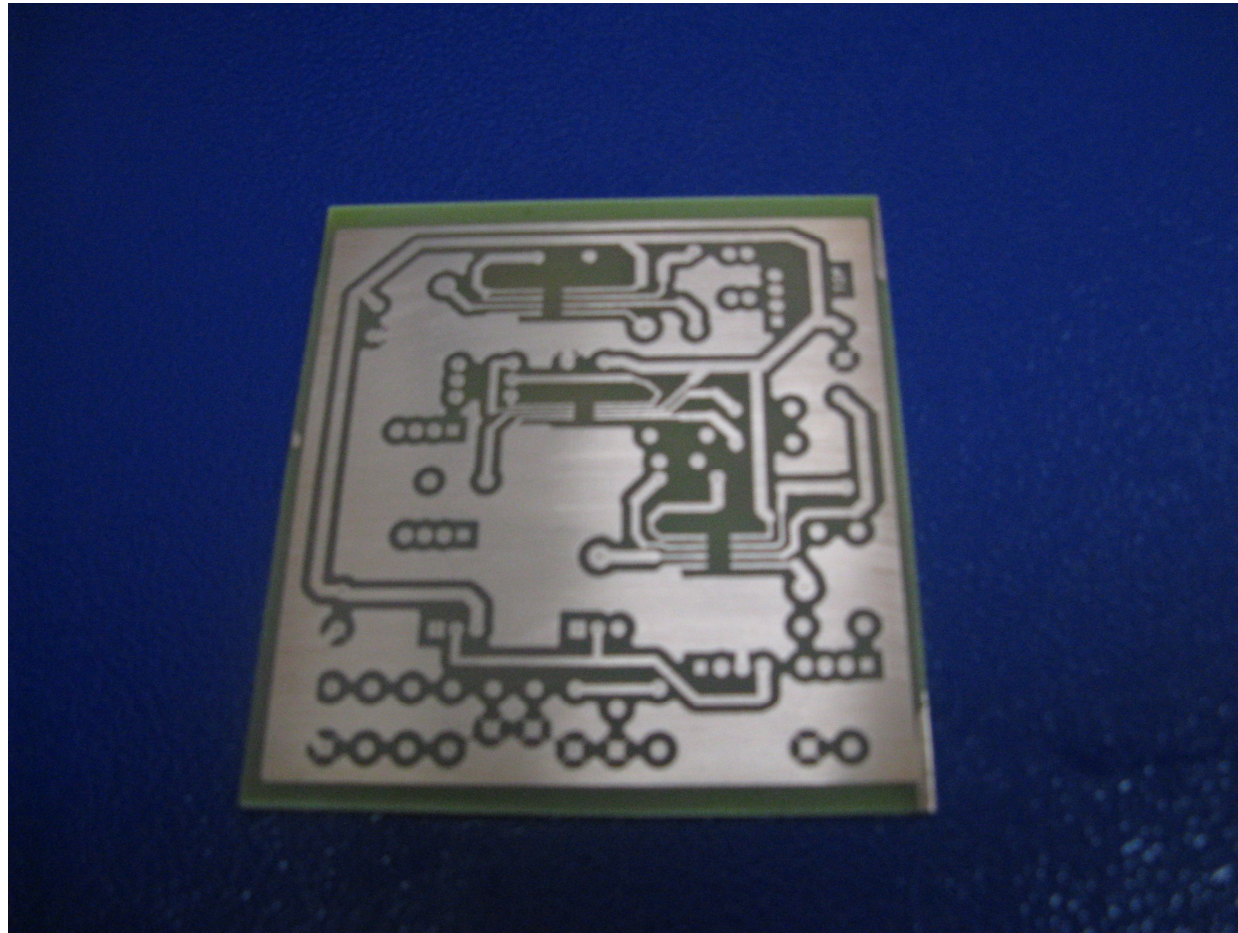




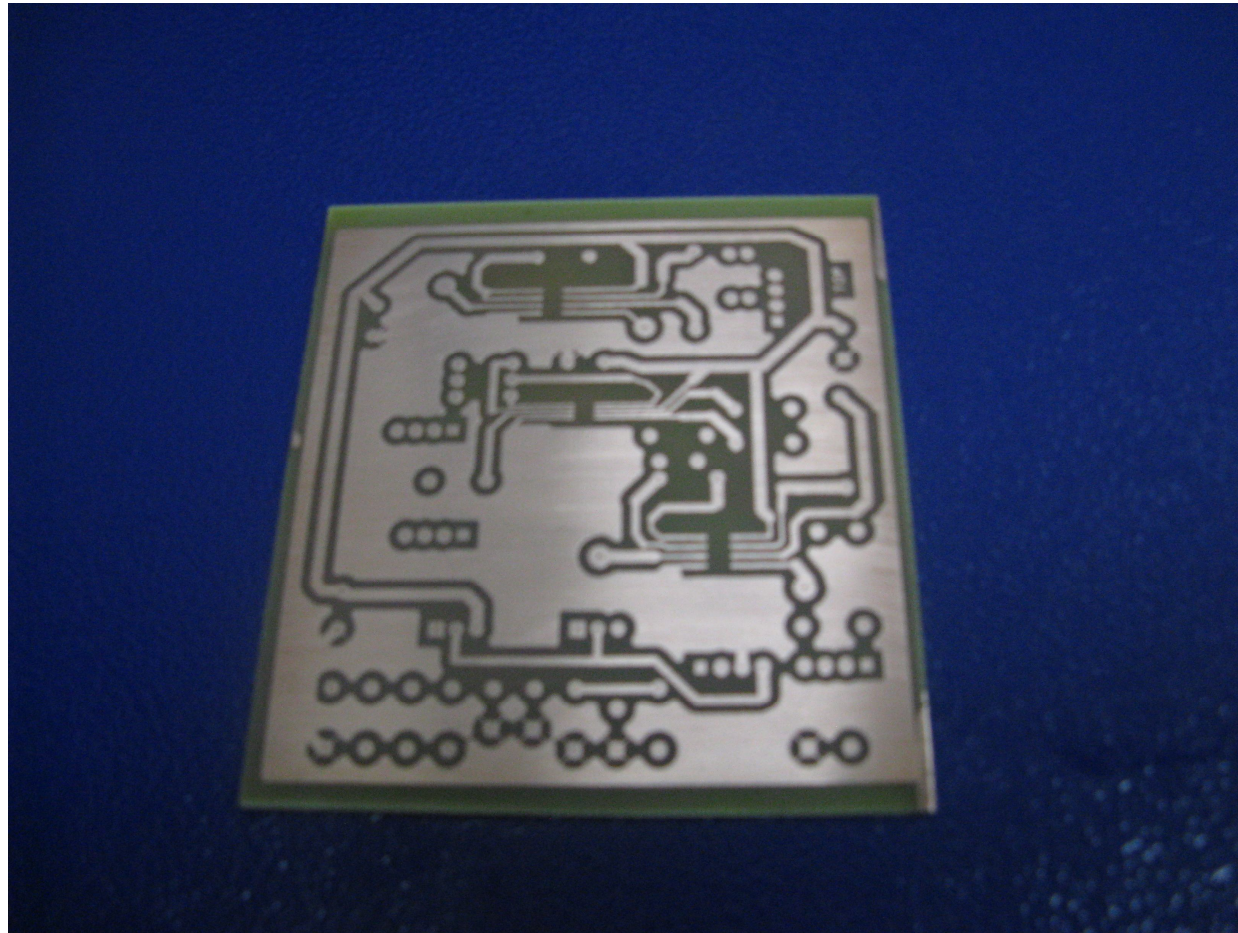




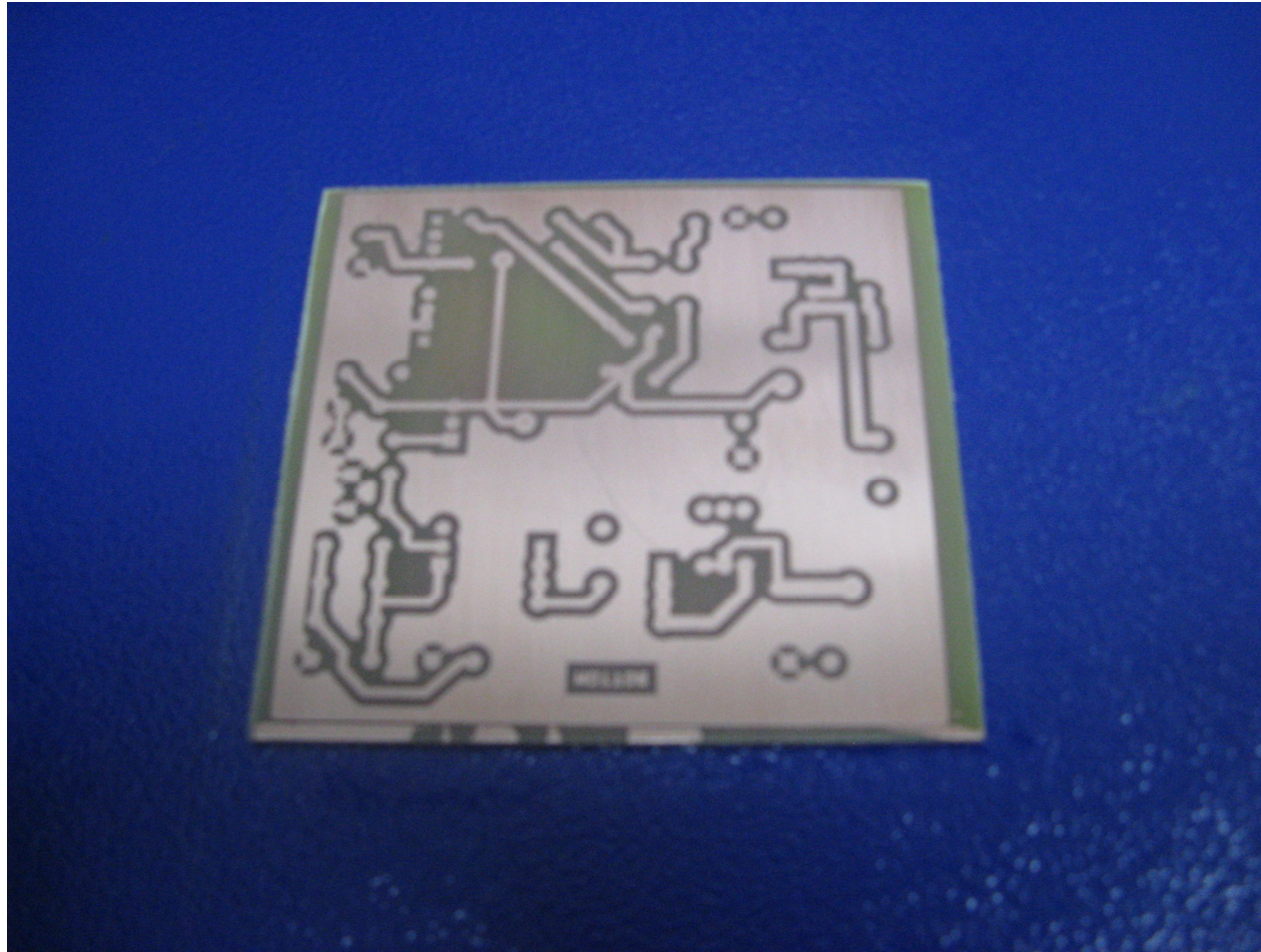
Circuito Stampato



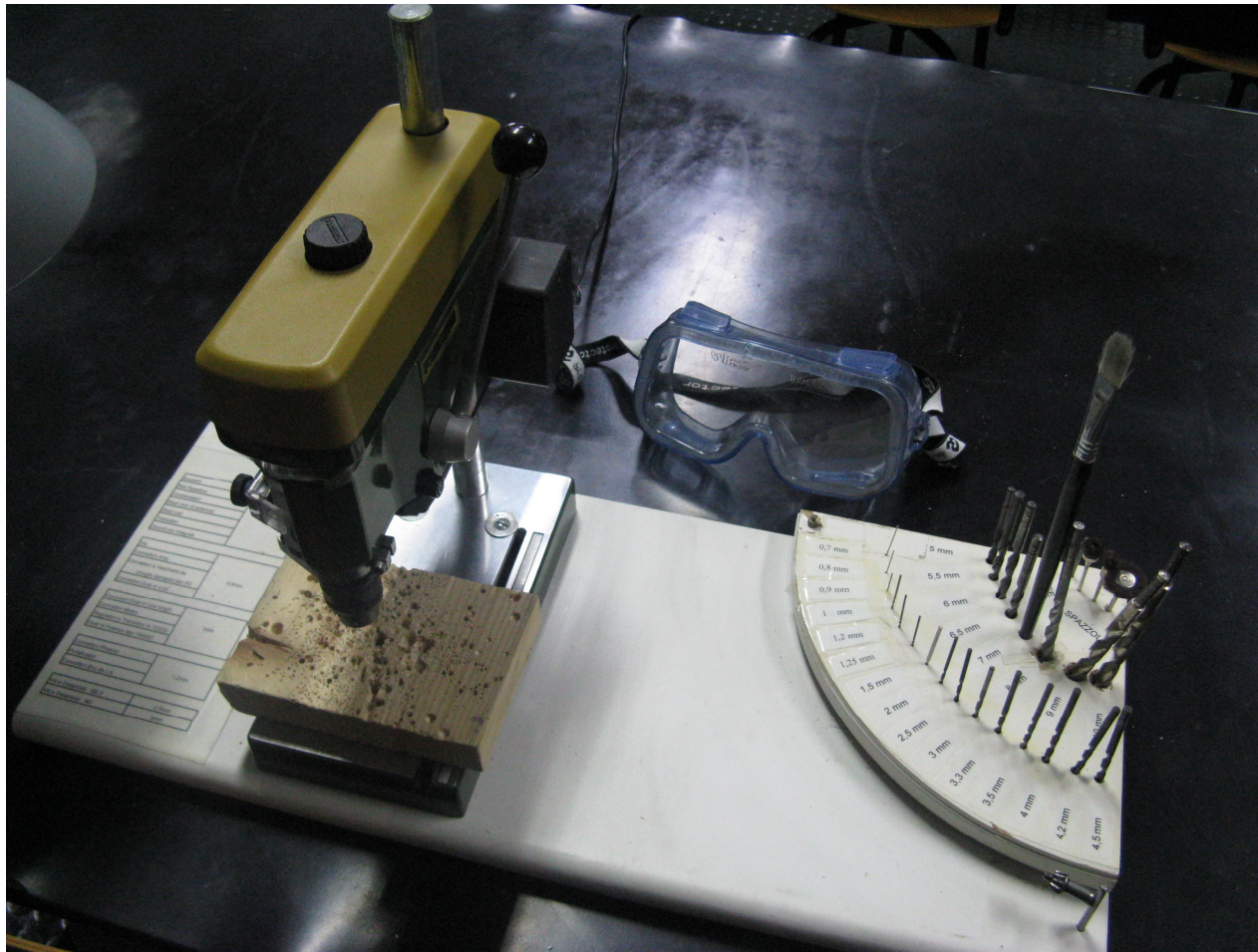
Circuito Stampato: lato componenti



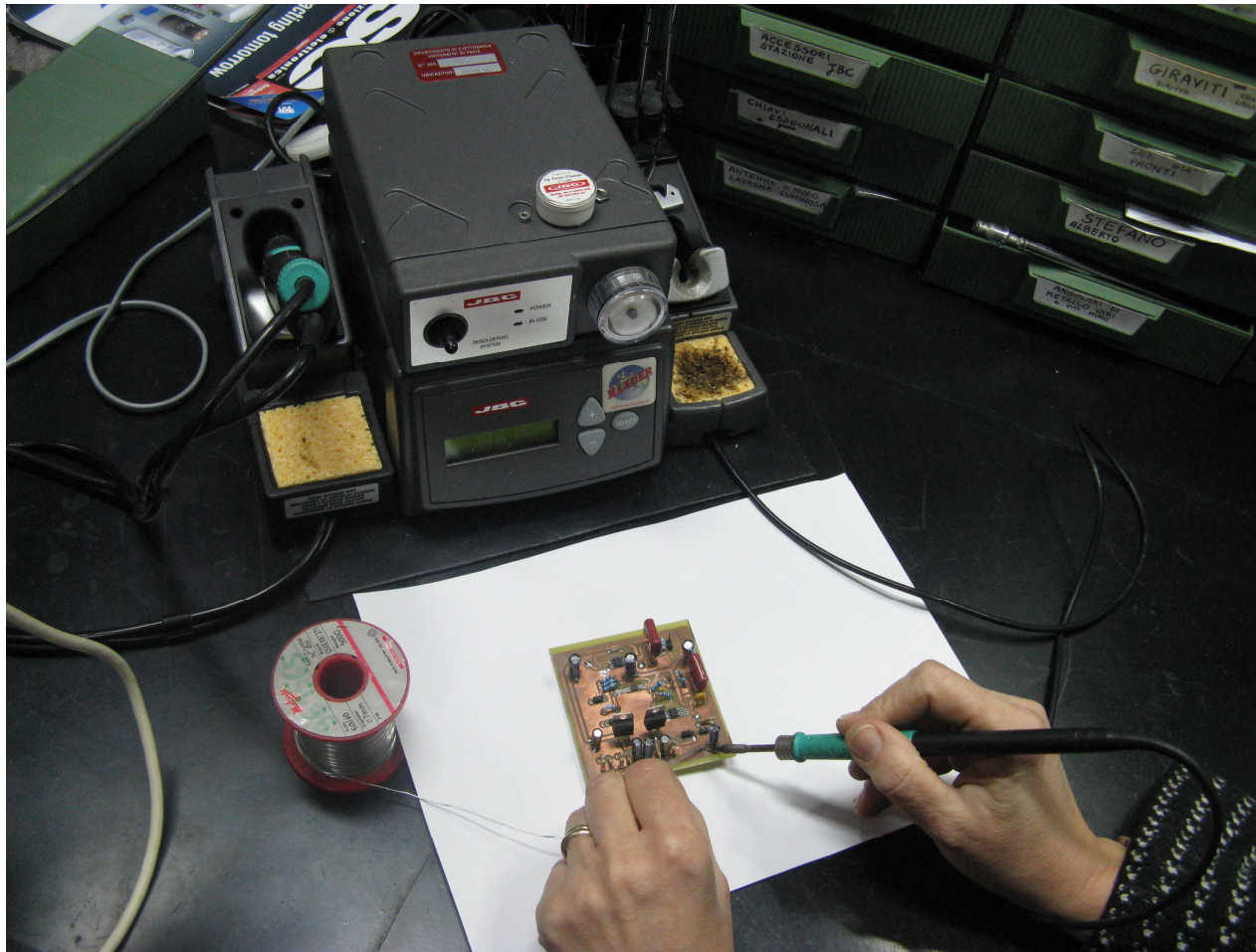
Circuito Stampato: lato piste



Forare con trapano a colonna



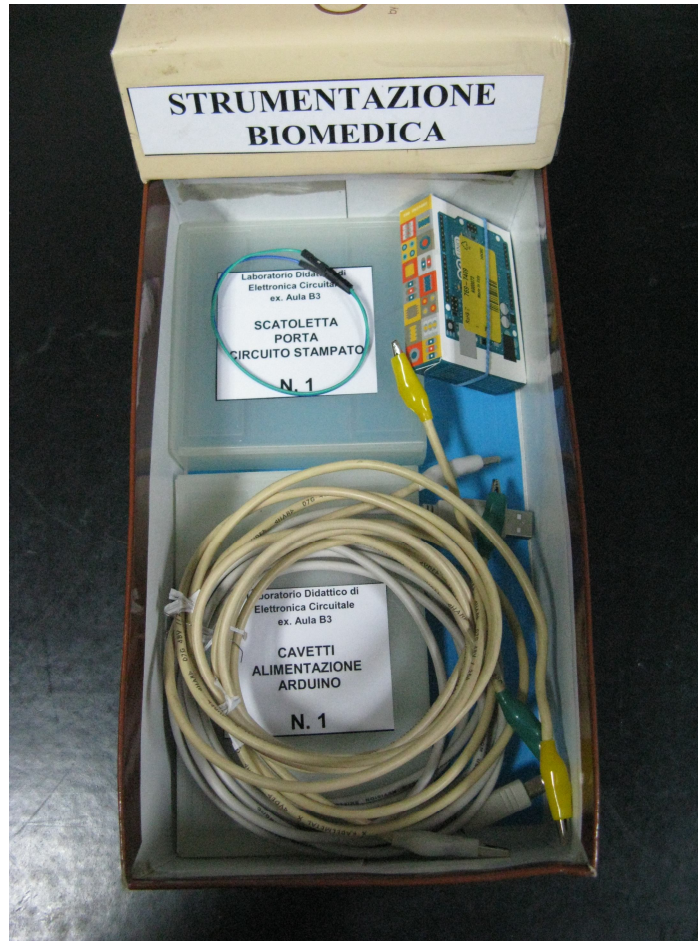
Inserire i componenti e saldare



Circuito Pronto - ECG



Scatola con cavi + Arduino



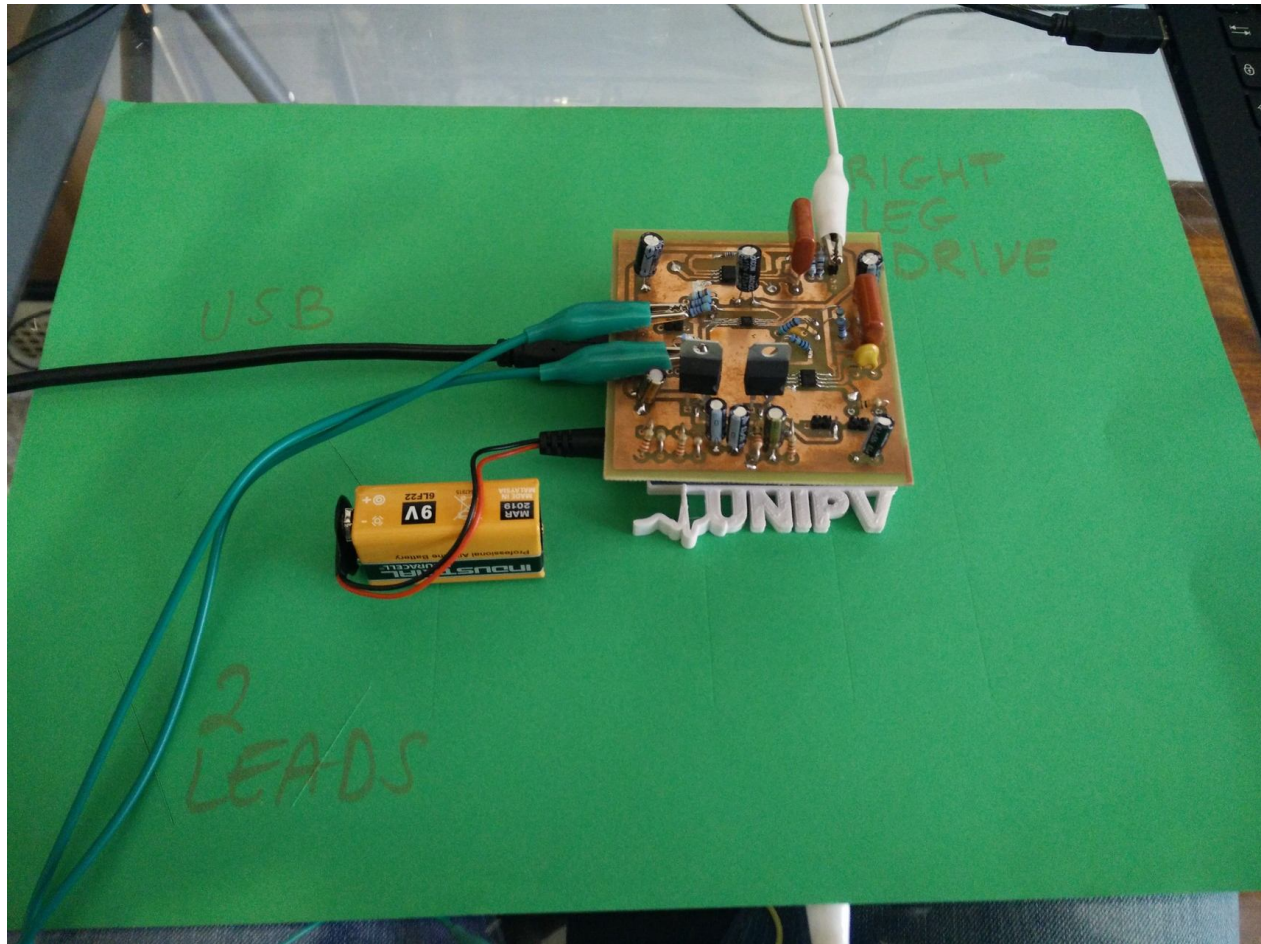
Contenuto della scatola



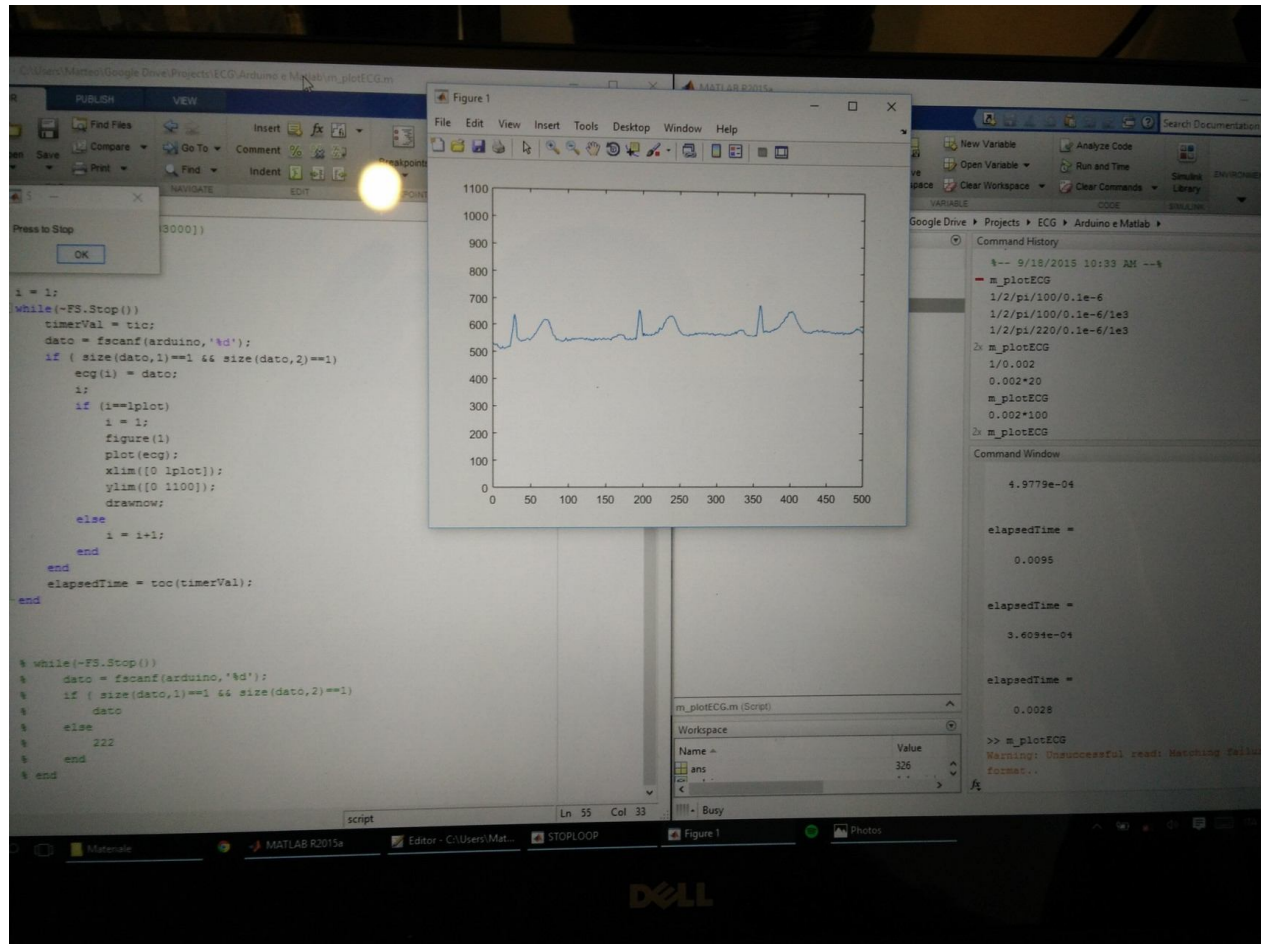
n.6 elettrodi x ECG

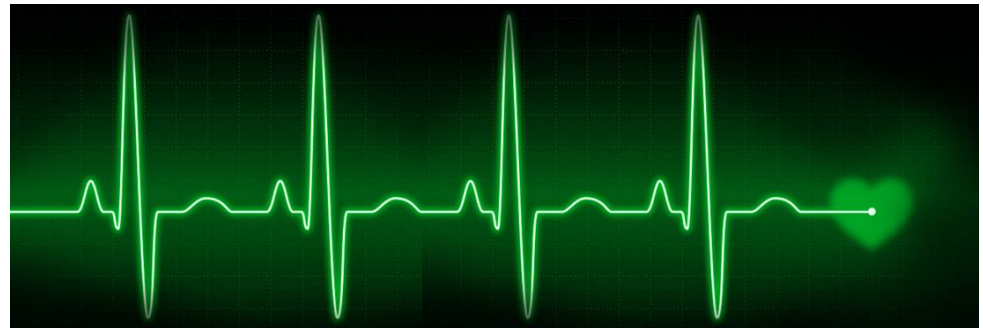
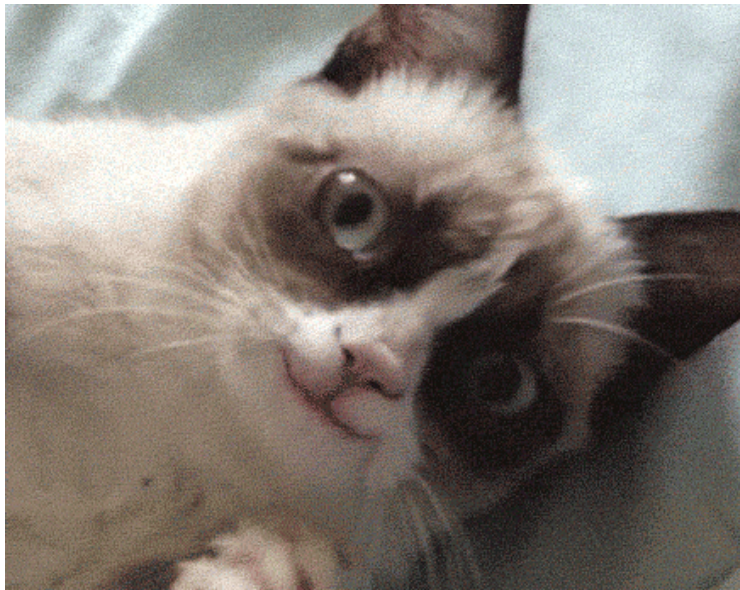
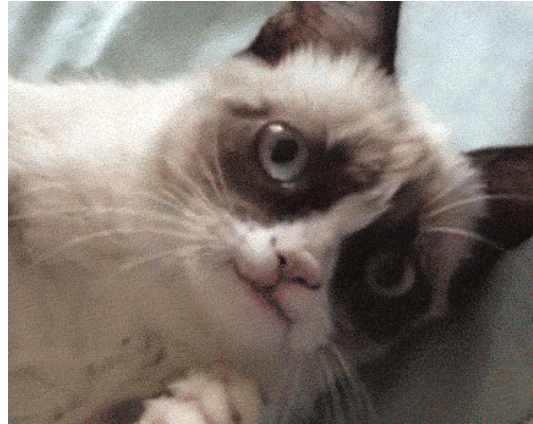
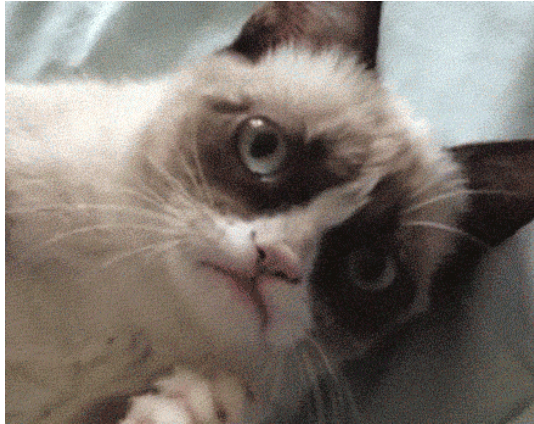
- n.1 scatoletta porta circuito stampato
- n.1 scatoletta x cavi di alimentazione rosso - neri
- n.1 cavetto doppio maschio - femmina x connettori a pettine
- n.1 scheda ARDUINO
- n.2 cavetti di alimentazione rosso - neri
- n.1 cavo di collegamento PC - ARDUINO
- n.3 cavetti coccodrillo - coccodrillo

Prova funzionamento circuito



Risultato Finale





Buon Lavoro!!!