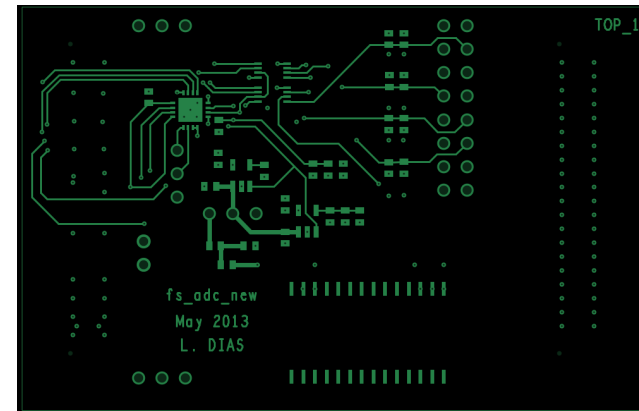# Improving the ADC board

Liliane Dias Fernandes
June 2013

Outline

- Context and needs

- First problem

- Second problem
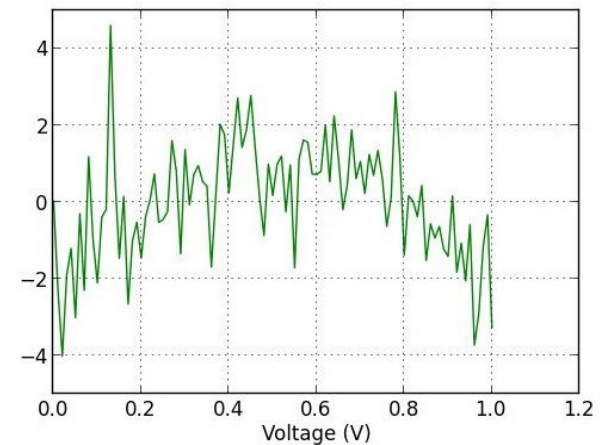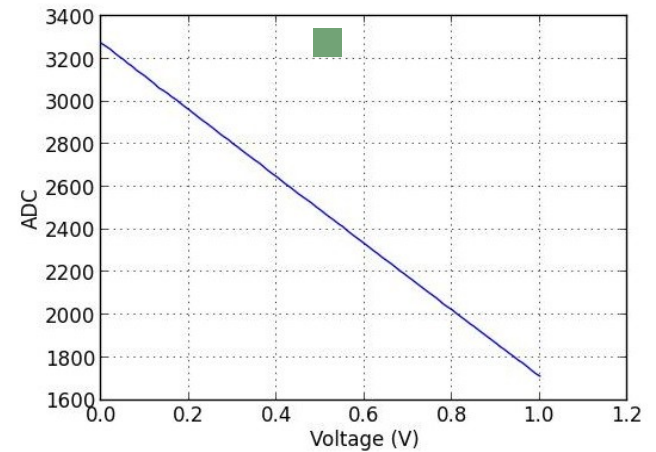
- New board

- Results
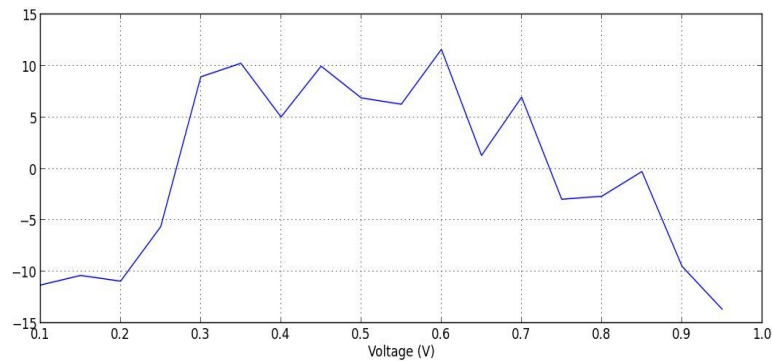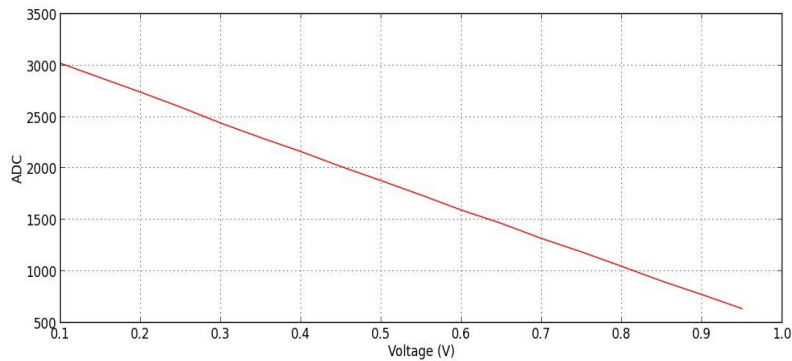
Context and needs

- Two boards

- Multiplexers, termination, operational amplifier

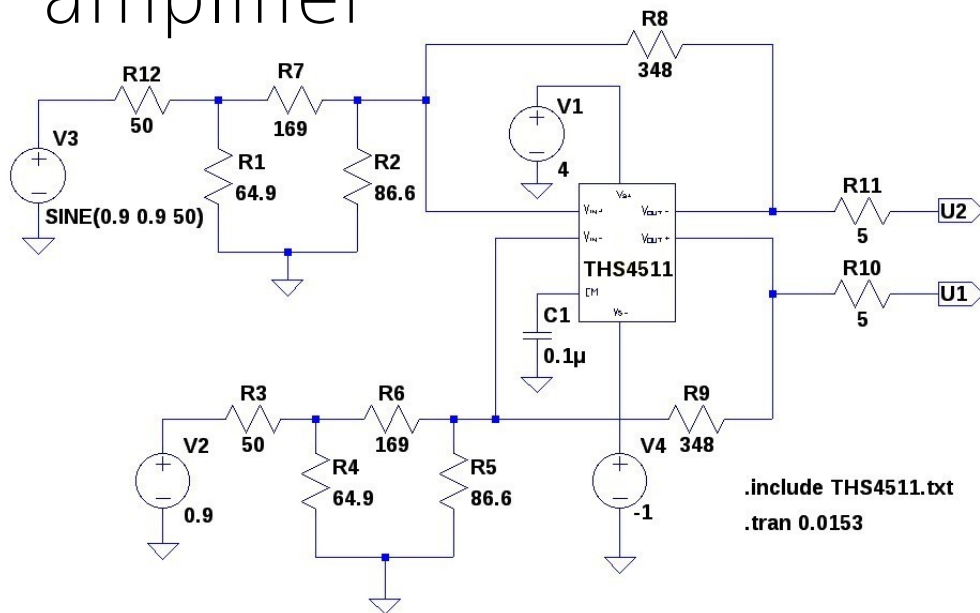- Distortion

- Too noisy

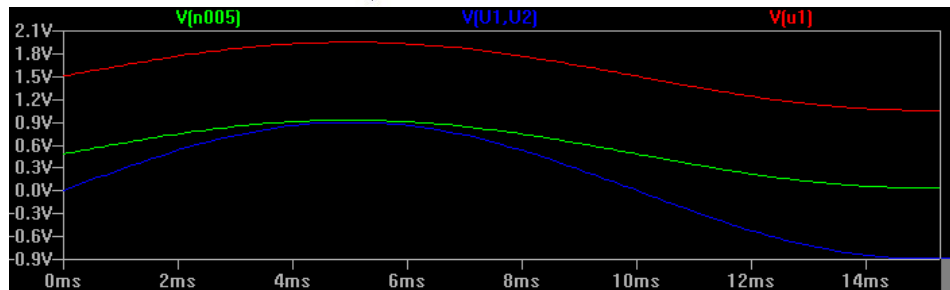# First problem

Distortion of the signal

First problem
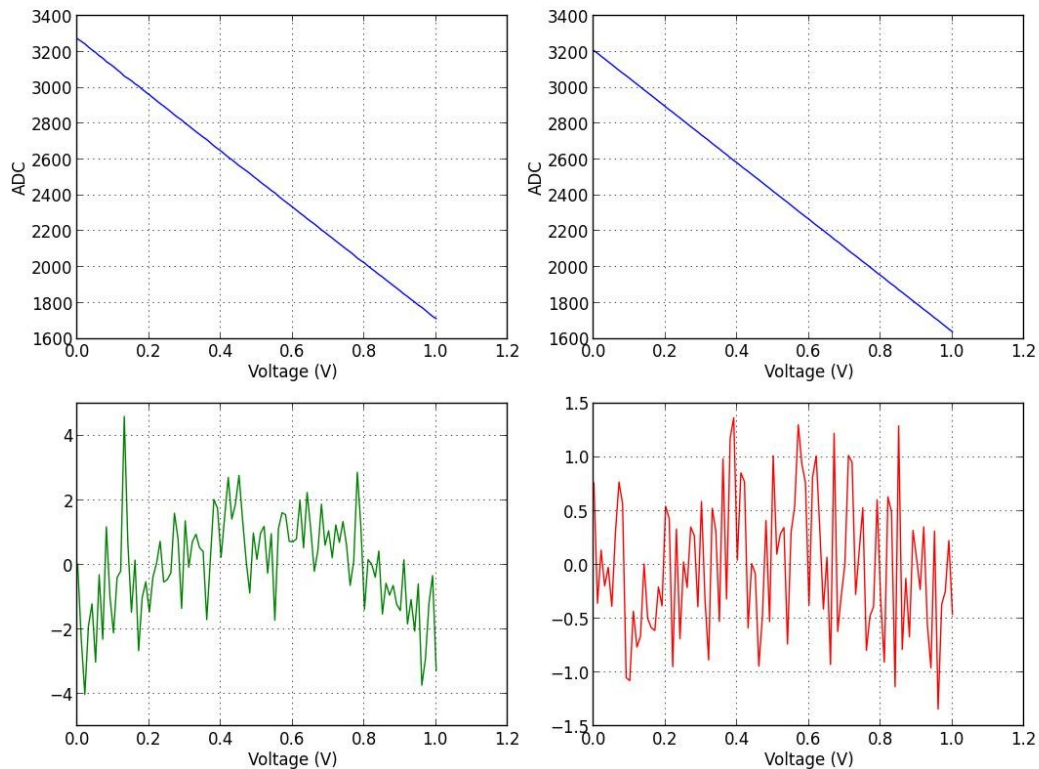
Simulation of the operational amplifier
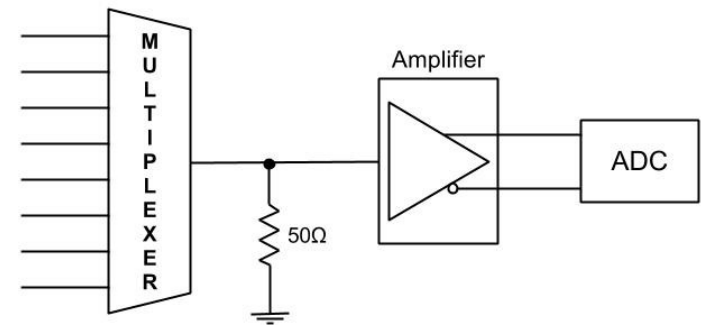

No distortion shown

First problem

With and without the multiplexer

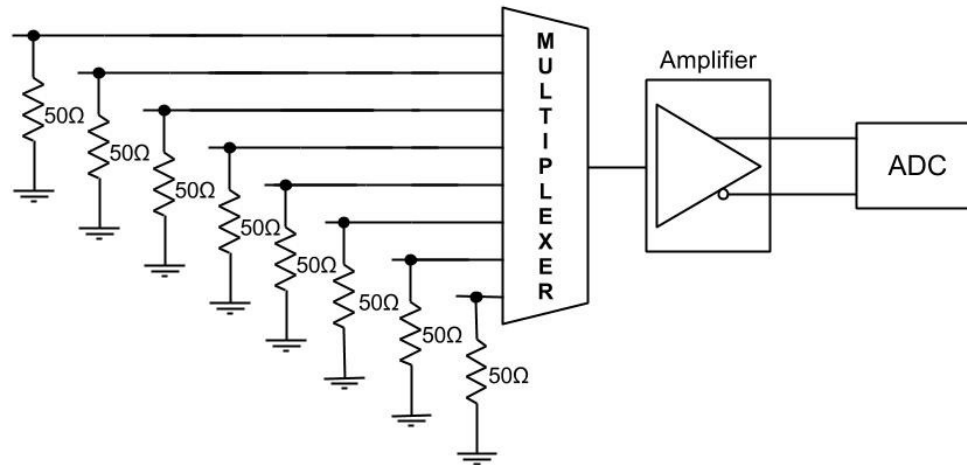Residual resistor of the multiplexer

Current in the termination

First problem
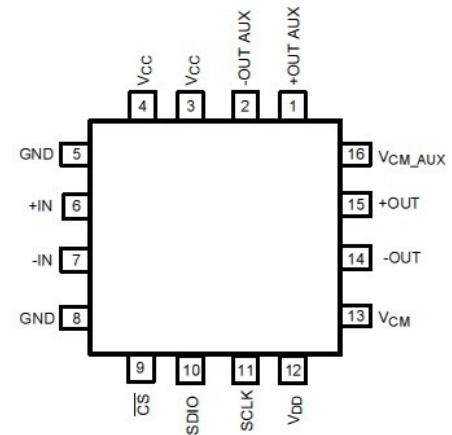
Fix the multiplexer problem   move terminations
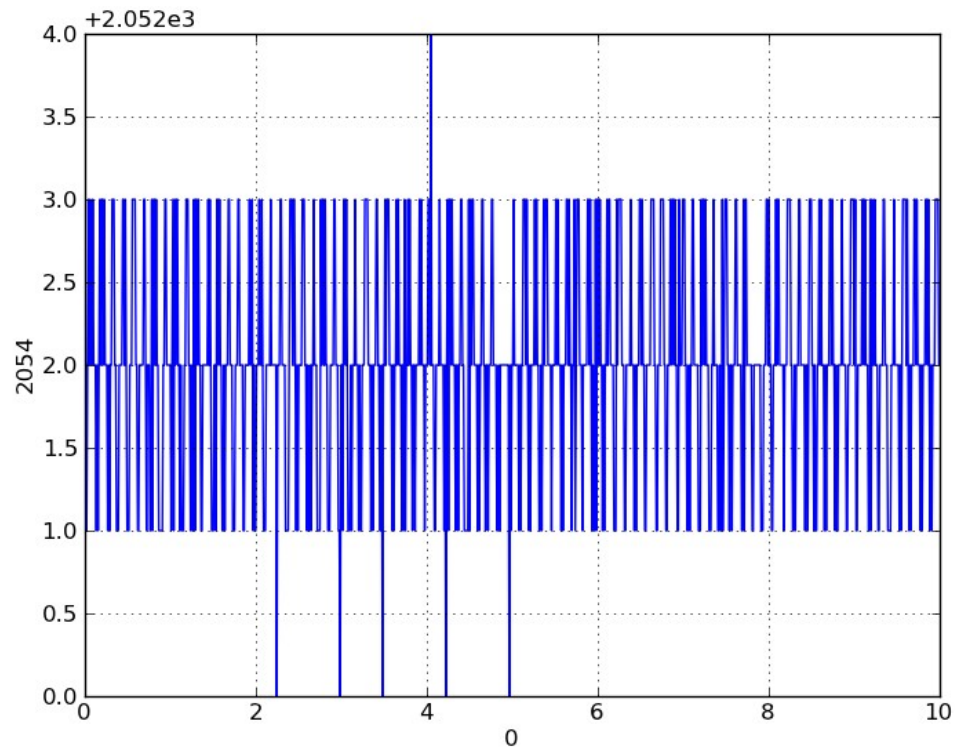
First problem

New amplifier : LMH6518

- High impedance input
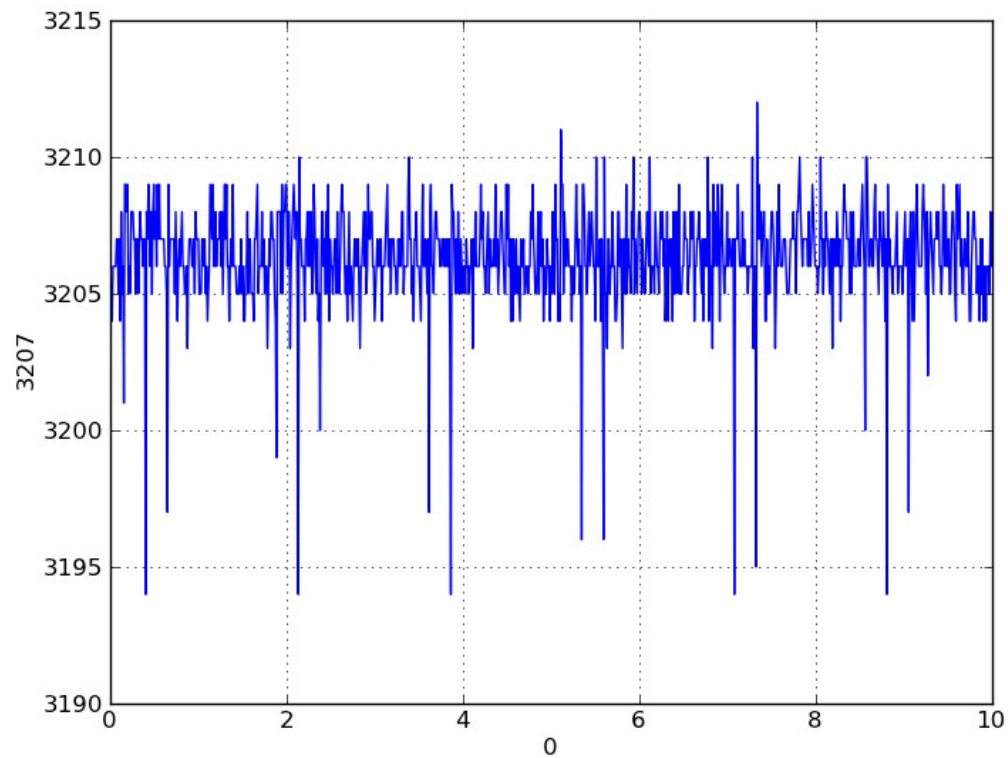- Programmable low pass filter
- Programmable gain

Second problem
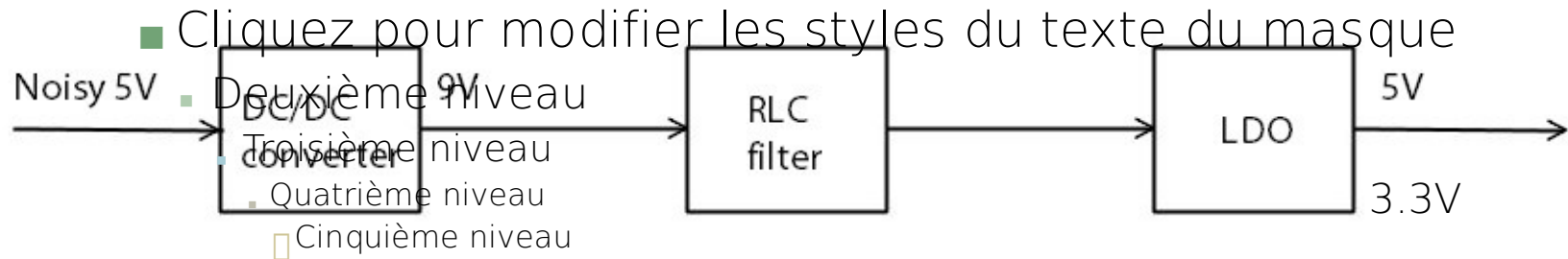
Supplied directly

Second problem

With the second board

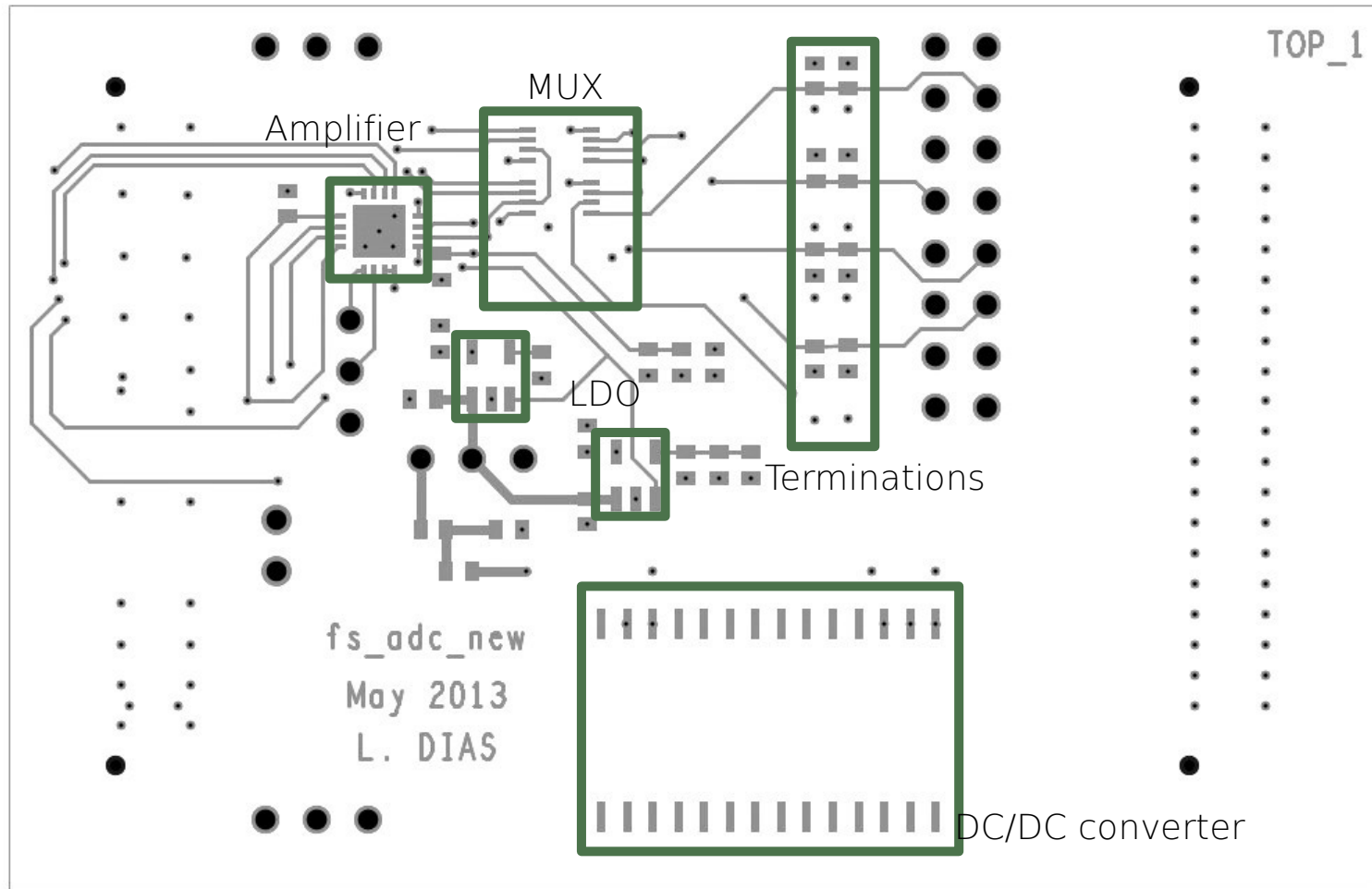# Second problem

To fix the problem

Noisy 5V → DC/DC converter → 9V → RLC filter → LDO → 5V / 3.3V

- Cliquez pour modifier les styles du texte du masque
  - Deuxième niveau
    - Troisième niveau
      - Quatrième niveau
        - Cinquième niveau

New board

- Multilayered circuit board

- Two types of ground

- Mechanical connector

New board

TOP_1

MUX

Amplifier

Terminations
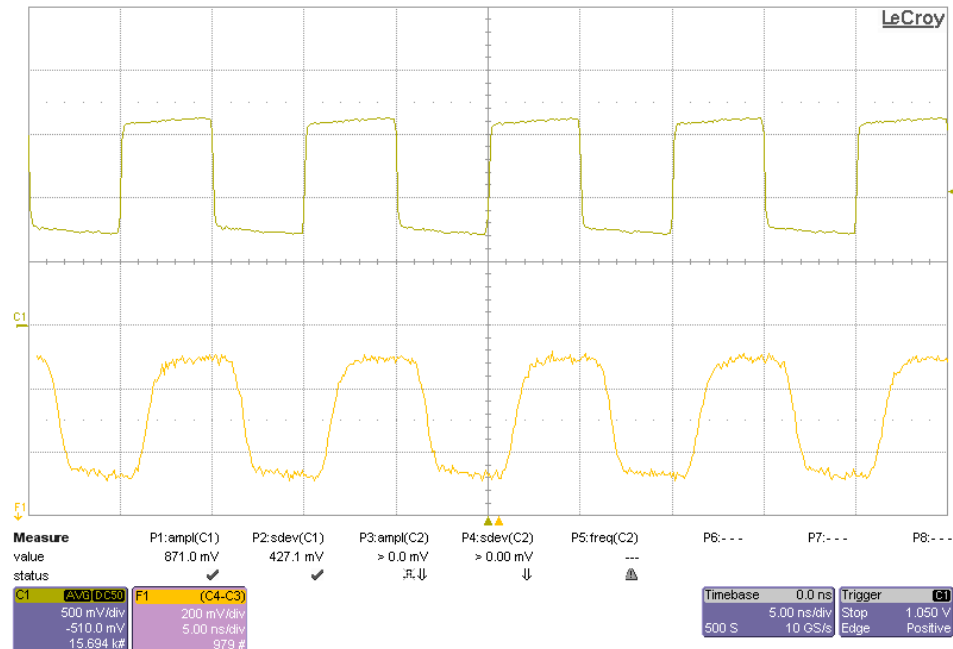
LDO

fs_adc_new
May 2013
L. DIAS

DC/DC converter

Results

- Debugging

- Tests

Thank you for your attention.