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Overview

- Thermal
  - Update since last meeting
- Mechanical
  - Glue
    - Should this be "ASIC Attachment"?
  - Designs

Thermal

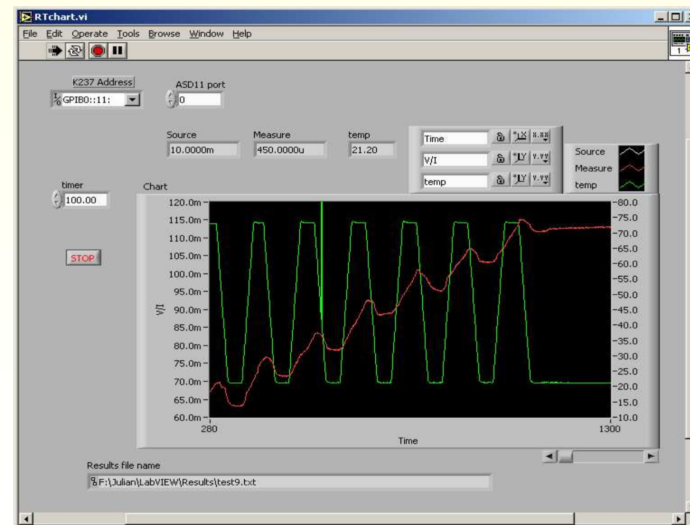
- Steve reported at the UCL meeting
  - First simulations done
  - Layout was close to current design
- Now updated
  - Simulations with realistic design
  - "Gut feeling" that heat quickly gets into the tungsten confirmed by calculation
  - Estimate about 13ºC temperature change along slab
    - Need to check this with the latest pad size layout
    - Points to note
      - Keep the air gaps as small as possible
      - Conduction improved if the chips can be put in better contact with tungsten

Thermal

- Will need to make measurements to verify simulations
  - Propose to build cooling test rig in Manchester
    - Measure real temperature profiles
    - Provide a test bed for implementing active cooling systems if we find it necessary

Glue

- Environmental chamber is now up and running again
  - Moving up to the new labs slowed things down somewhat
  - First results from thermal cycling coming out
- Still have no silicon from Czech people to do tests on despite repeated requests
  - Chasing that now, but probably easier to contact them in Montreal if they're there



More Glue

- Thinking about what was said at the oversight committee
  - We should clearly be thinking about more than just glue.
    - e.g. bump bonding ASIC to wafer.
  - Has overall slab design implications
    - PCB could be replaced with Kapton
    - Better thermal contact between ASIC and tungsten?
      - "Invert" the ASIC and wafer?

Design Work

- Had hoped to have a meeting with all interested people just after Easter.
  - Production of new wafers killed that idea as all the French people were tied up making new slabs.
  - Will re-start this activity in Montreal as most of the protagonists will be there.
- Ideas for automated assembly system are under discussion.
  - e.g Machine vision for assembly robot, multi-tool head.
  - There may need to be some re-optimisation based on what we do with the bump-bonding and endcap design