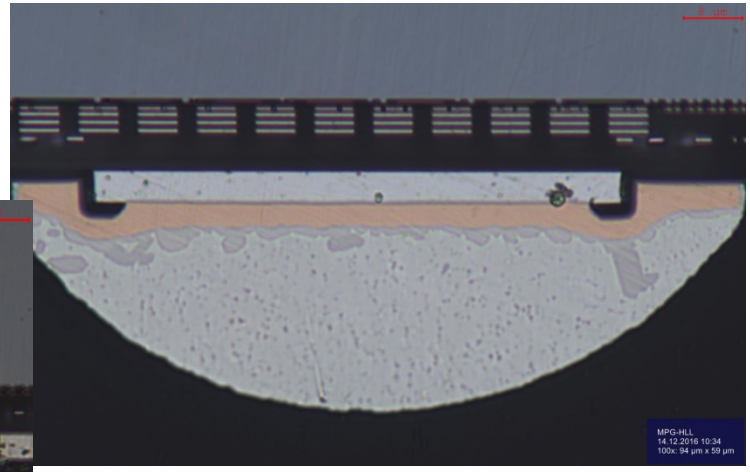
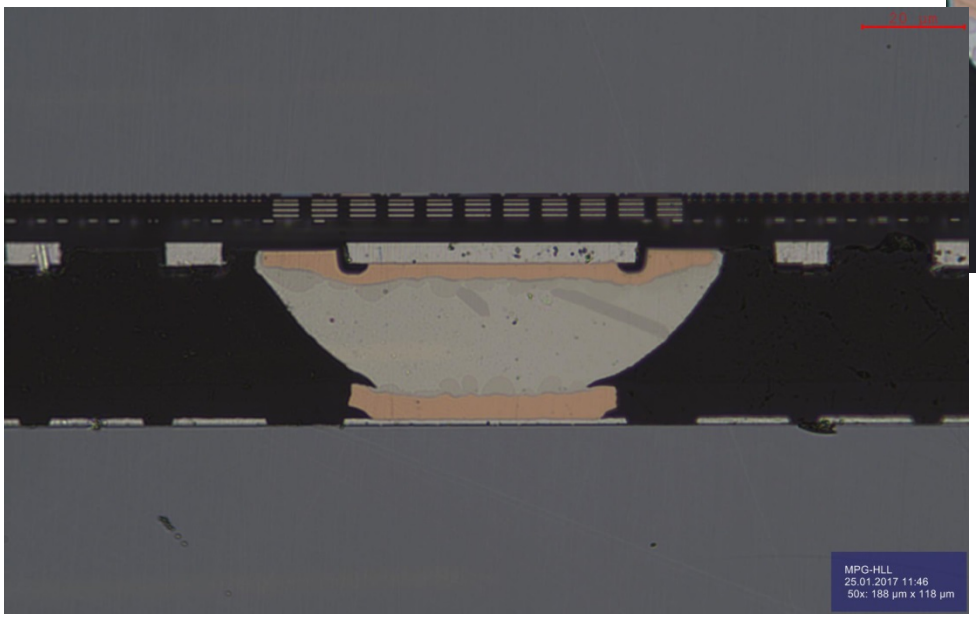
IB/OB JTAG Puzzle

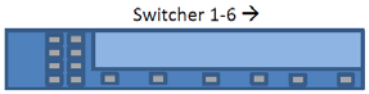
- After checking all first order suspects (r/o system, PS, grounding, re-test of SWBs …)
- Detailed x-ray inspection, cross sections …
- No anomalies, no “smoking gun”



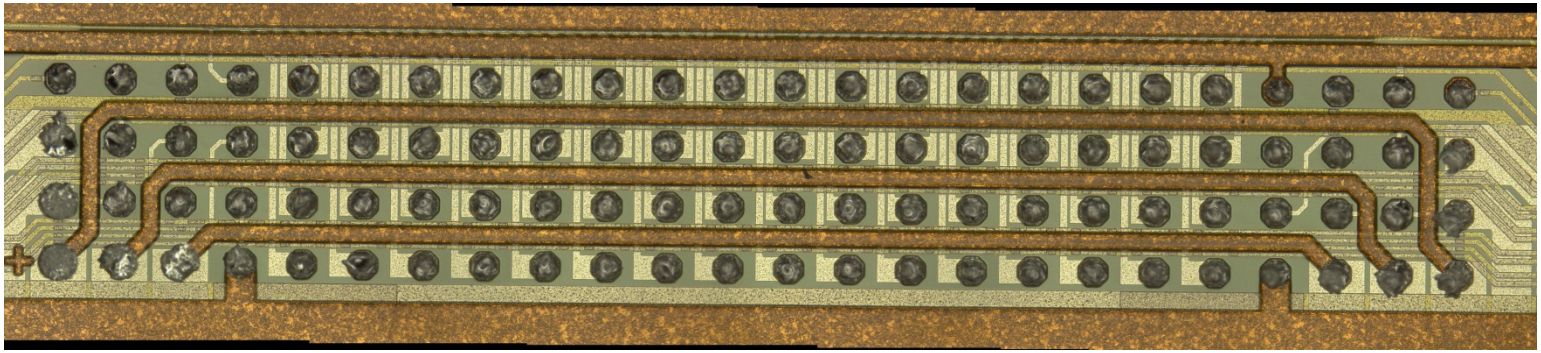


- All SWBs from W31-OB2 have been removed today (manual de-soldering)

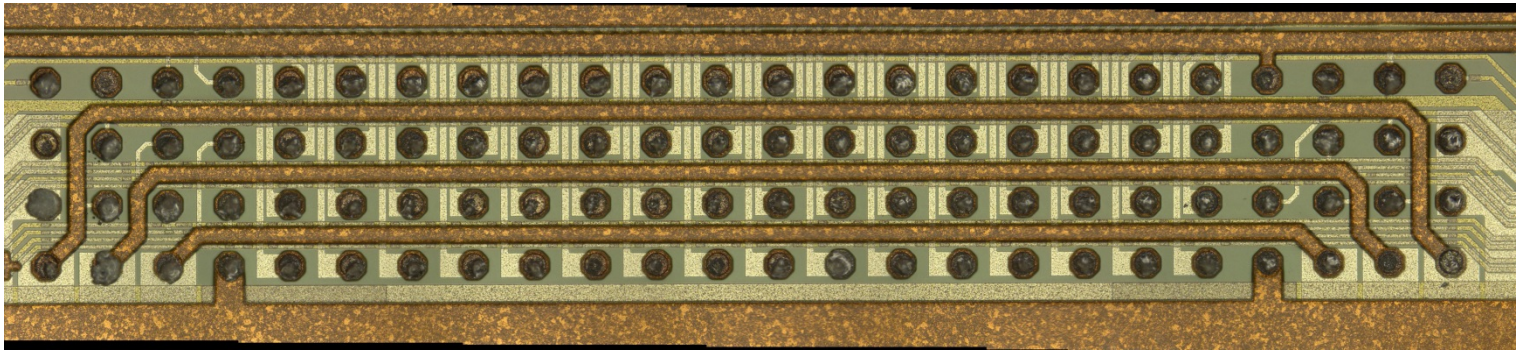
Pads on Module after removal



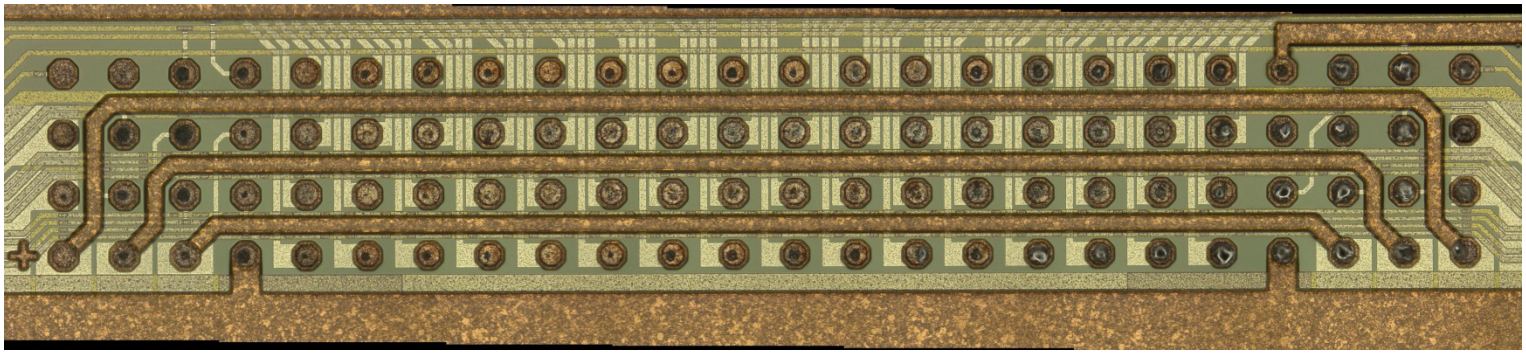
SWB1



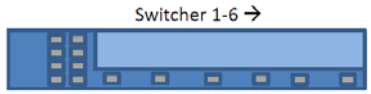
SWB2



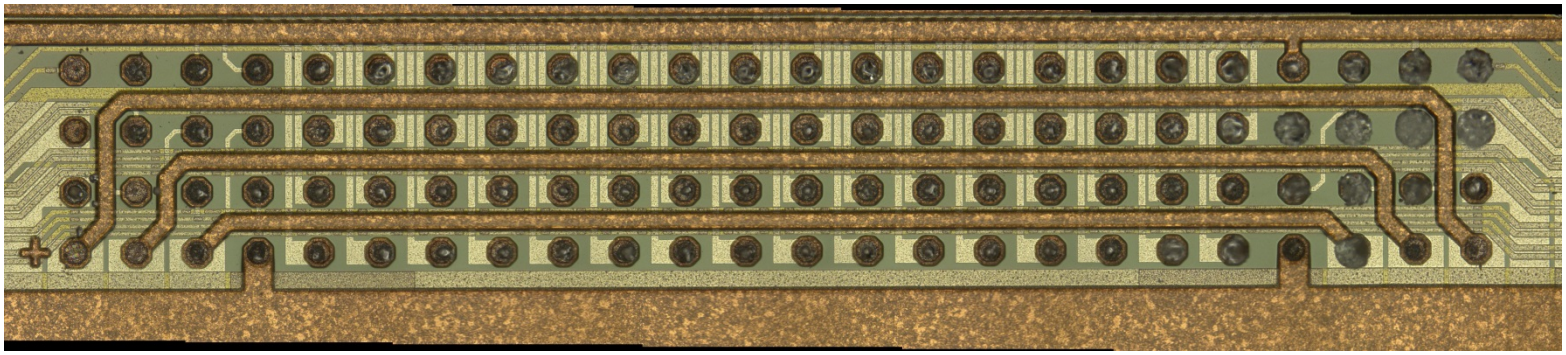
SWB3



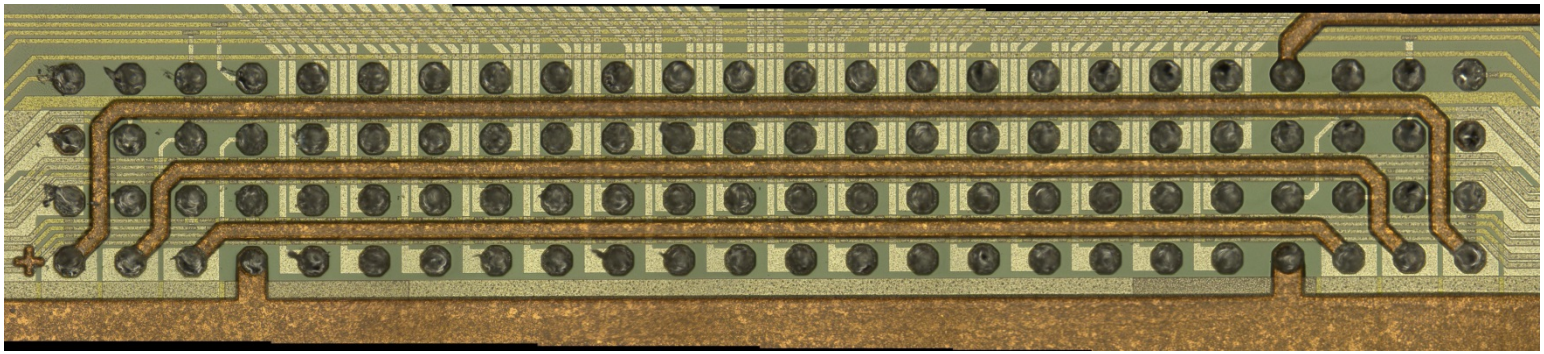
Pads on Module after removal



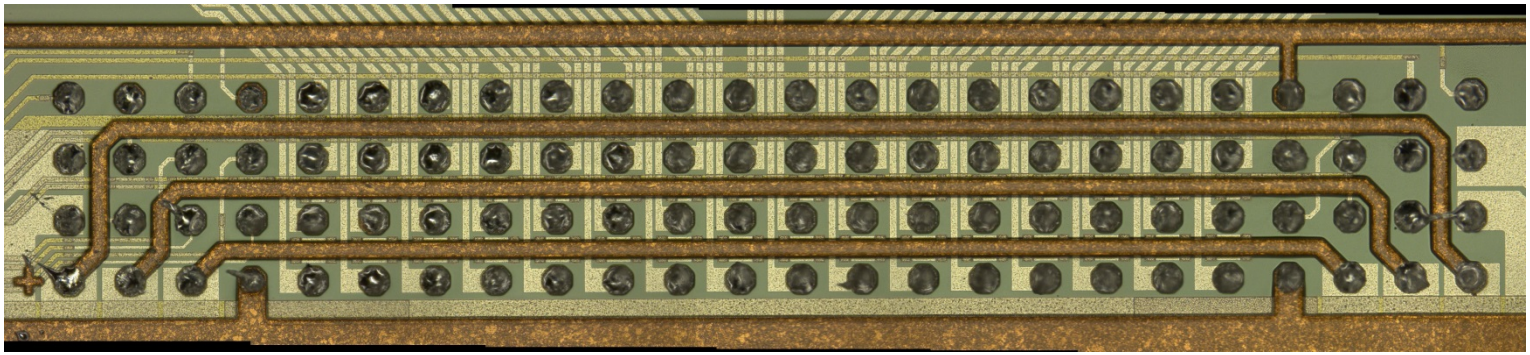
SWB4



SWB5



SWB6



Hi-Res pictures at http://hll.mpg.de/~lca/temp/W31-OB2-after-SWB-removal/

Conclusion, possible reasons, mitigation

- Going from SWB1 → SWB6 wetting gets worse towards SWB3 and 4, then better towards SWB5 and 6

- Possible reasons
  - Reflow temperature not reached in the middle of the module due bad contact to the heat plate
    - talk to IZM….
    - In this case a second (local) reflow with HCOOH or flux might help
  - BCB (final passivation, solder stop) residues on the pads
    - Inhomogeneous „descum" (plasma process is worse at bottom and at the edge of the wafer..)
    - Needs cross check,
      - possibly more descum, currently we remove 300-400 nm of BCB after final passivation