UNIVERSITÄT BONN

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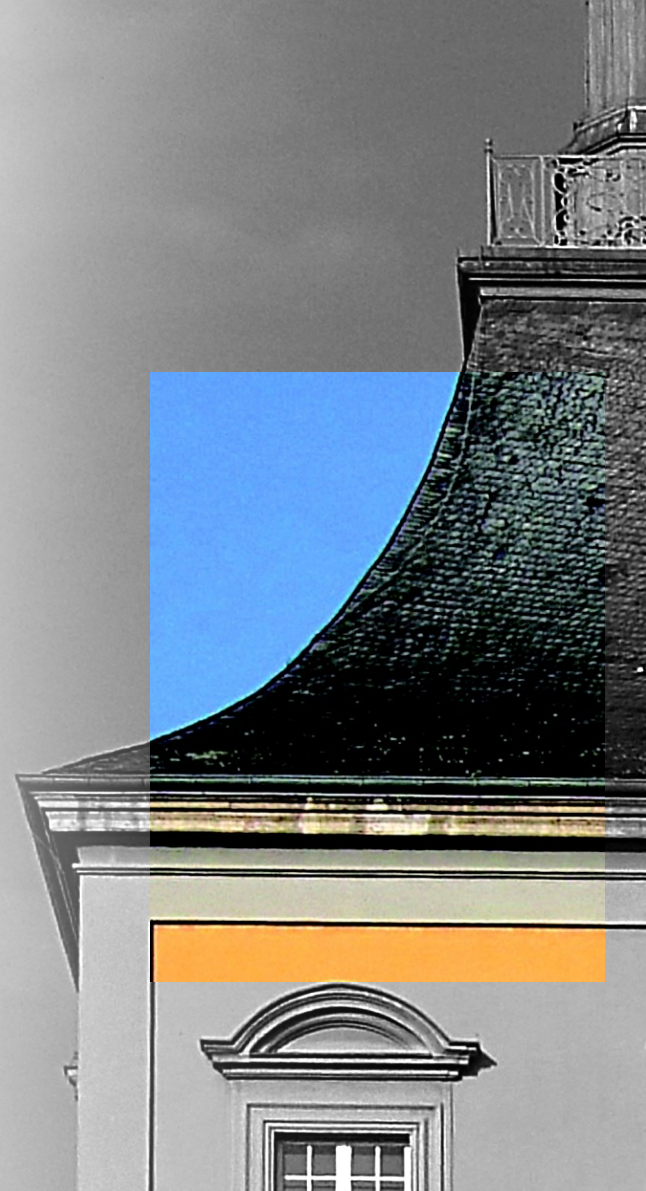
# Update on RDL development



WG4 Meeting – 06.03.2026

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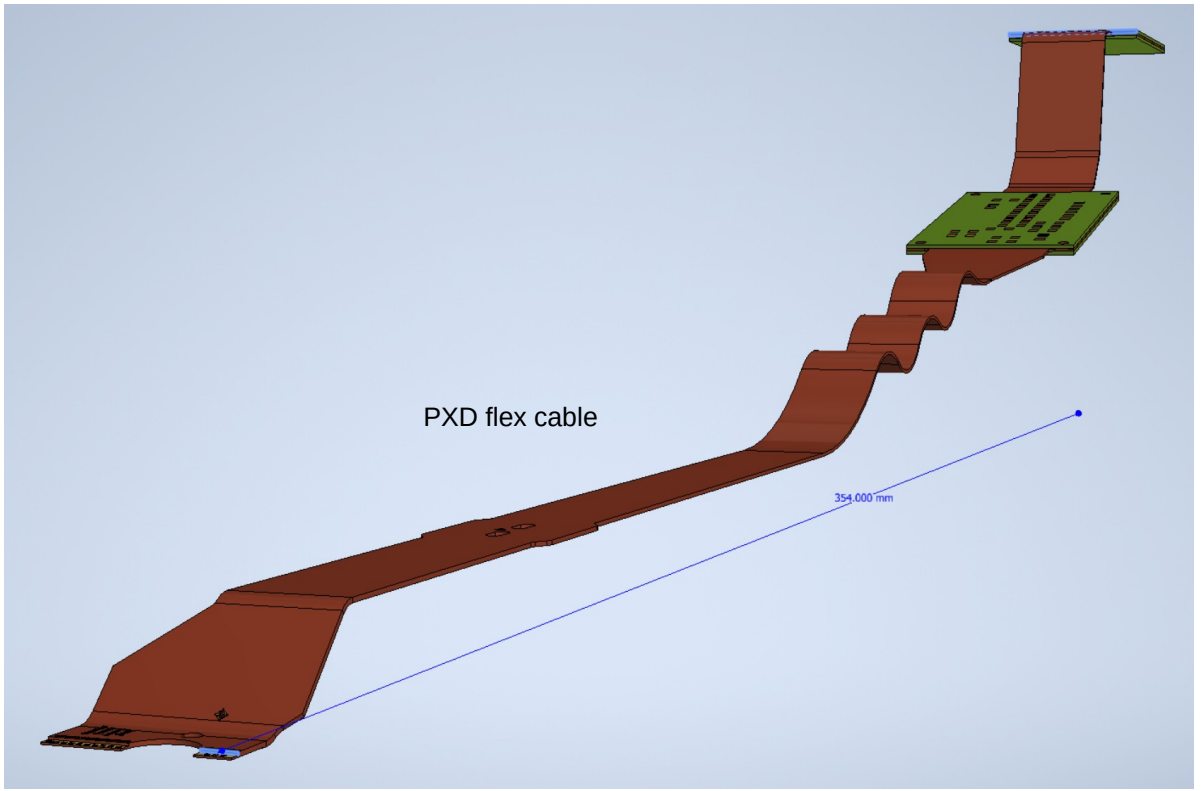
Marco Vogt

Physikalisches Institut der Universität Bonn

# Current flex cable

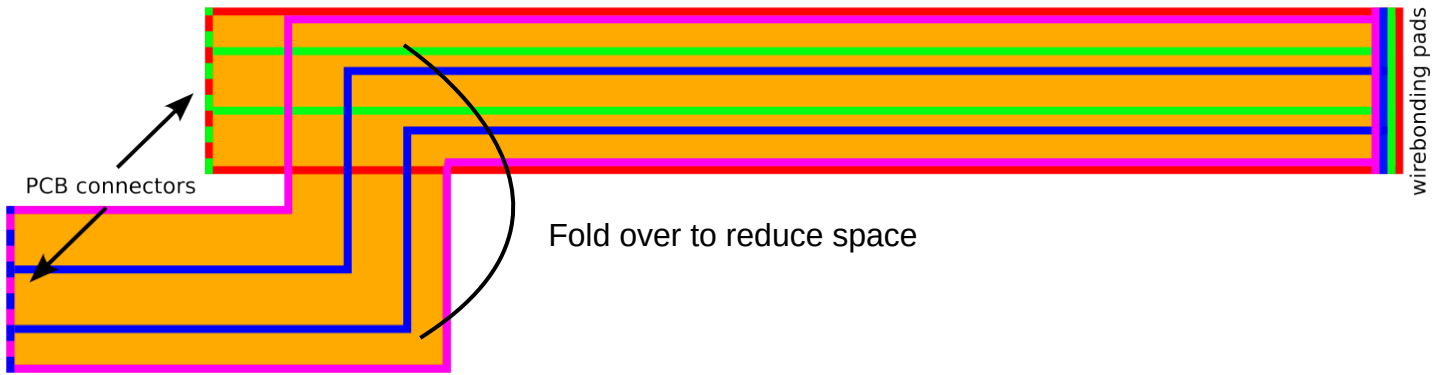
- Need list of signals and voltages
- Need connector on PCB side
- Length: ca. 40cm

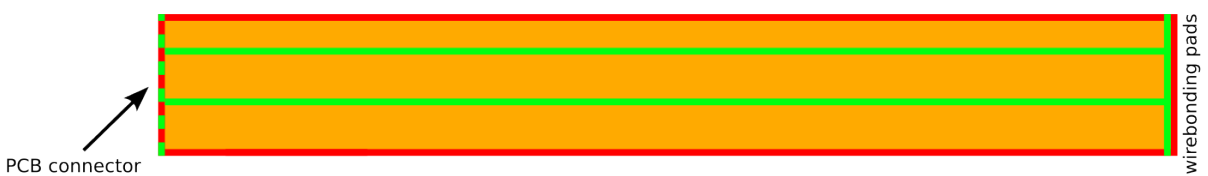


# Flex cable options:

- Depending on amount of signal and power capability of connectors two options:

- 4 layers:
  Dual connector for many signal pins and two layers for power



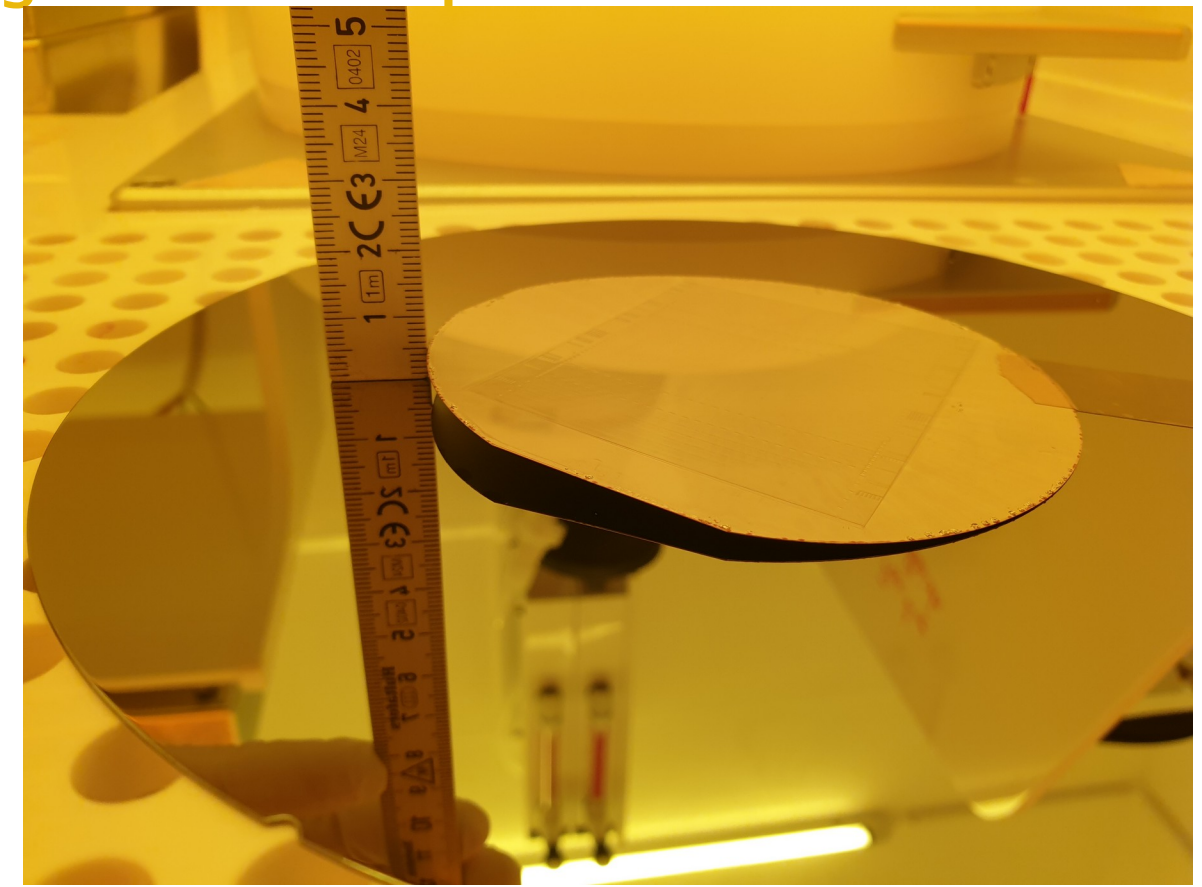




- 2 layers:
  One layer for power, one for signals

# Bending Issues - recap

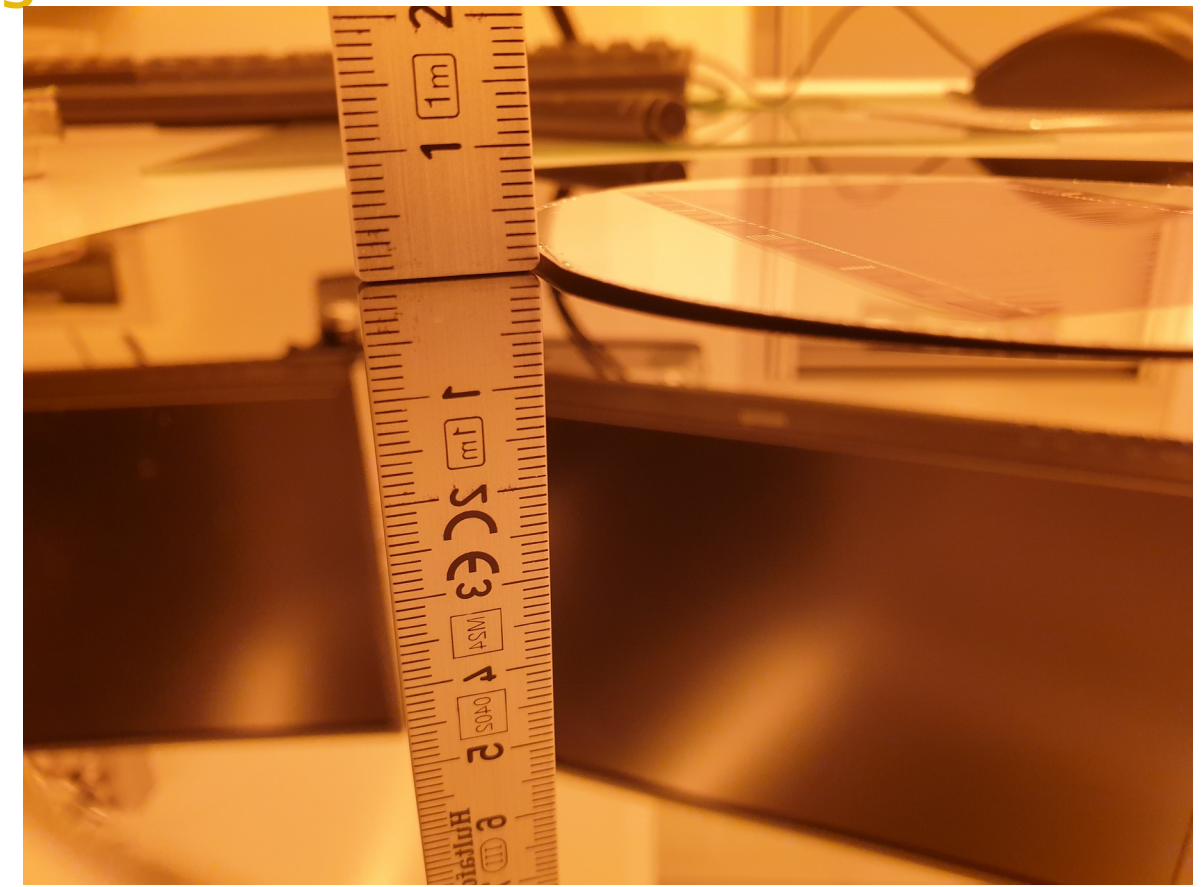
- Bending of 100mm wafer, 200um thickness after all polyimide layers were applied
- About 5mm upwards bending!
- Measurement will be repeated after dicing
- I think we need to switch away from PI. Other options:
  BCB, Ceramic (PECVD)

  PECVD: Plasma enhanced chemical vapor deposition



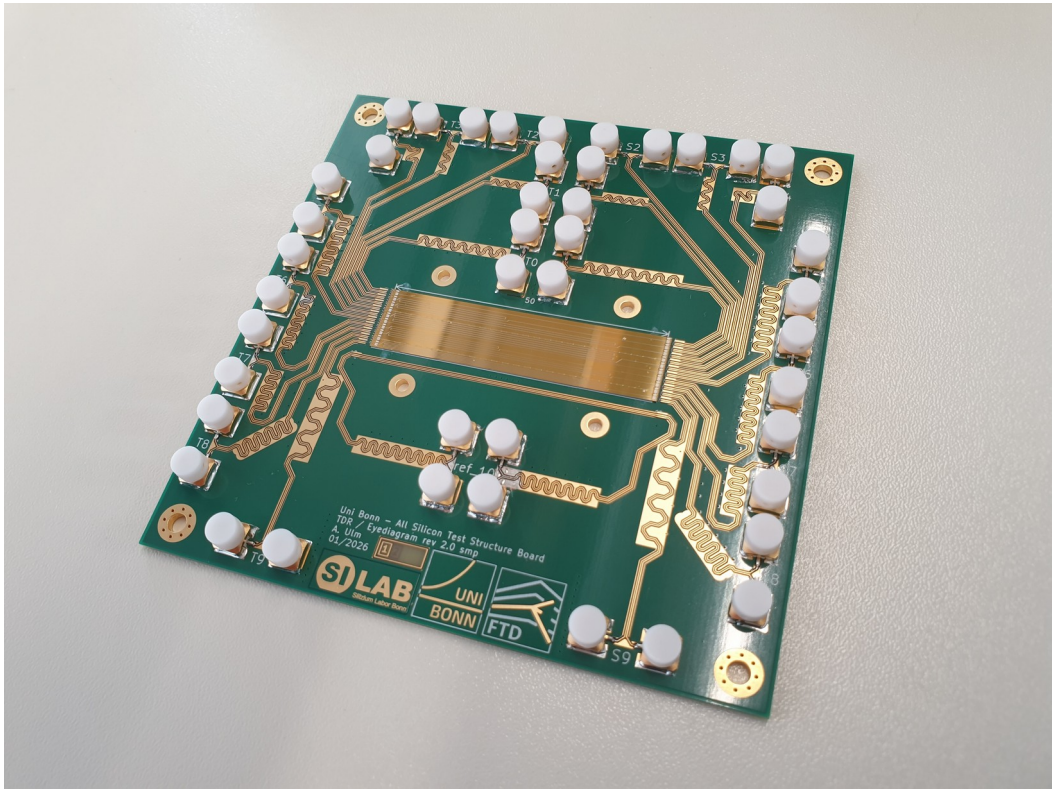
# Bending Issues

- After hardbake bending reduced to ~1.5mm over full wafer (10cm)
- Still too much, need concept for structural support on ladders



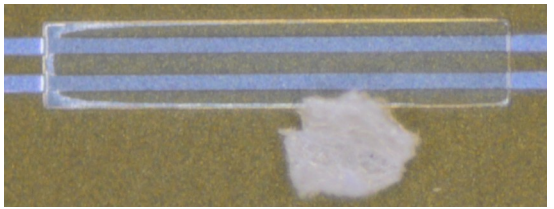
# New teststructures

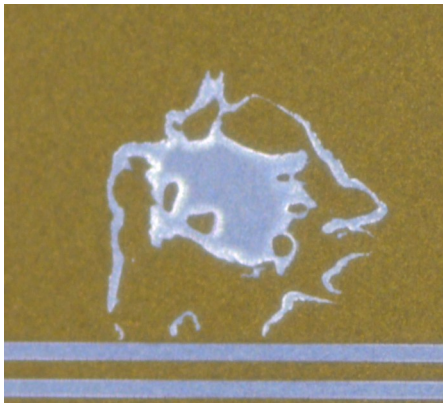
- 5cm to 20cm long test structures produced and bonded to pcb
- Dimensions 40um/40um/3um width/gap/height
- Next week measurements of resistance, TDR, eyediagrams

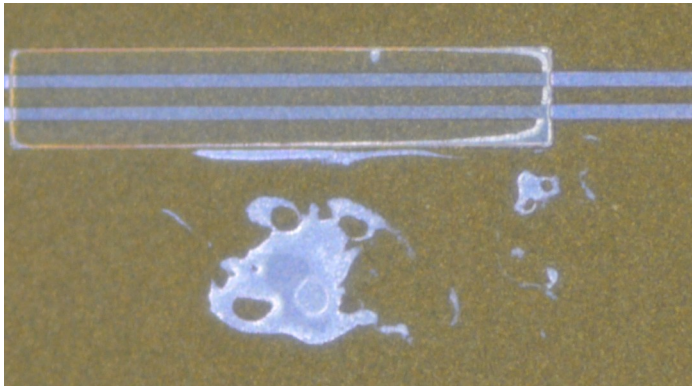


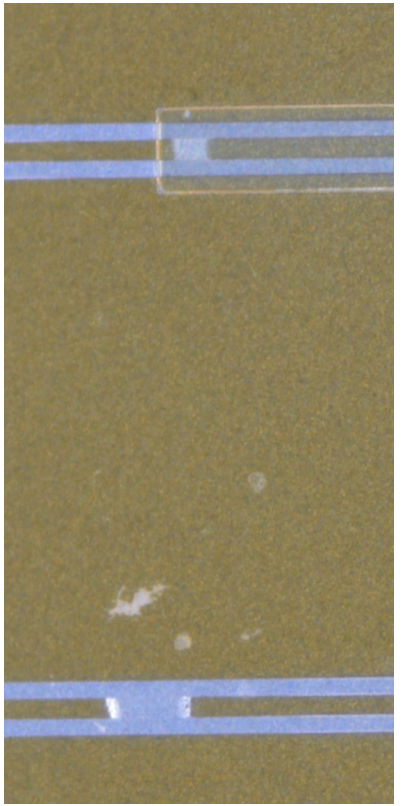
# New teststructures - defects

- Some defects found on the new structures:

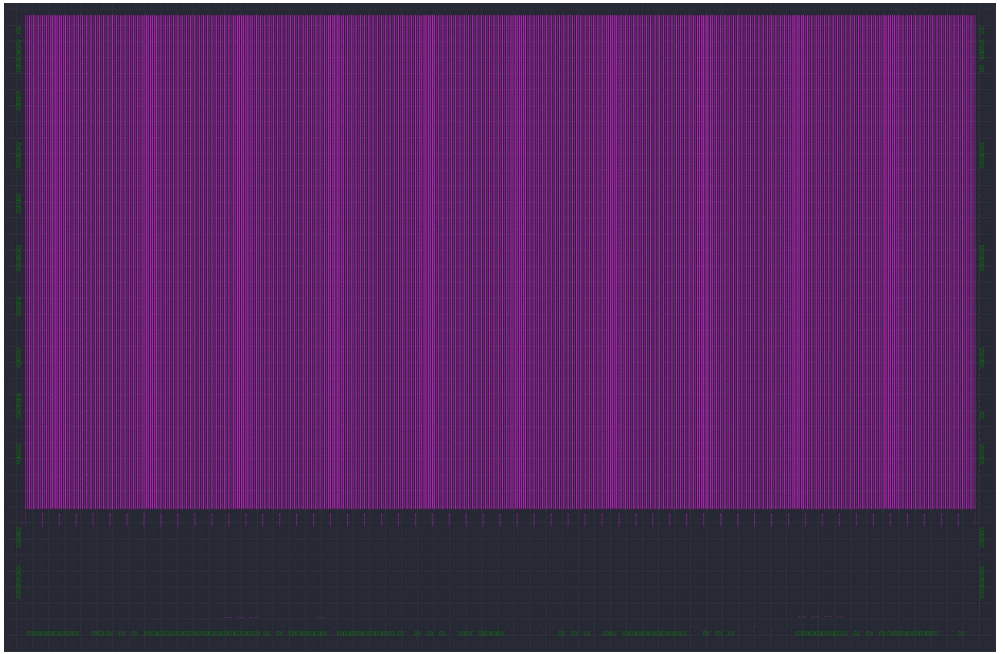




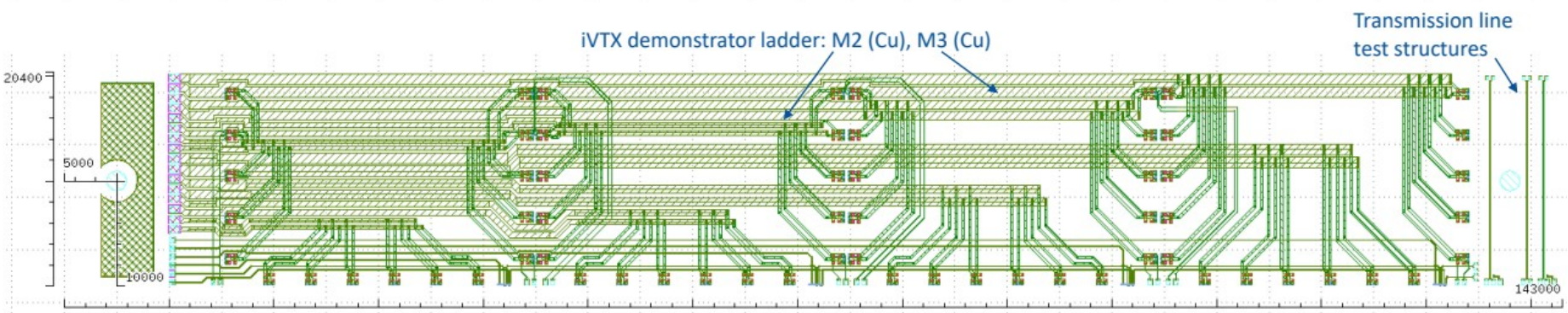




# New RDL design



- Got pinout of Obelix form Ichi
- Once I have list of necessary pins, will design new RDL
- RDL will be much more complex, because more transmission lines exist



# Upcomming Meeting

- Next week will have a meeting with IZM for new prototypes
- Will discuss test structures and Obelix one ladders
- Will discuss pricing