

LMU München - Excellence Cluster Universe

PS & Services

Stefan Rummel

**PXD SVD Meeting Pisa
1.10.14-3.10.14**





- Preproduction, mechanical integration of PS system
- Services:
 - Kapton development
 - Patch pannel, Docks
- Main production

- 8 units are ready and calibrated
→ 24 Channels each, Steering voltages are applied relative to Source
- Adapter boards for EMCM are available
- Power cables arrived from EMS (1 + 3 sets 15m / 4m available)



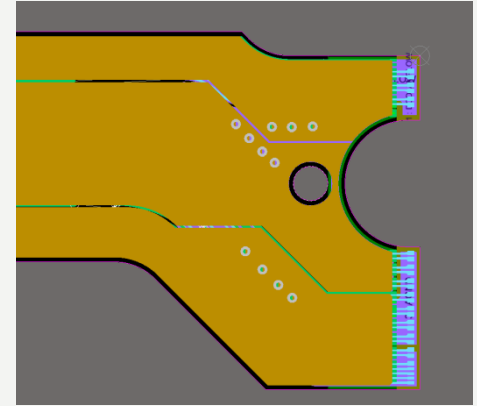


- First Backplanes available
- Tests are promising

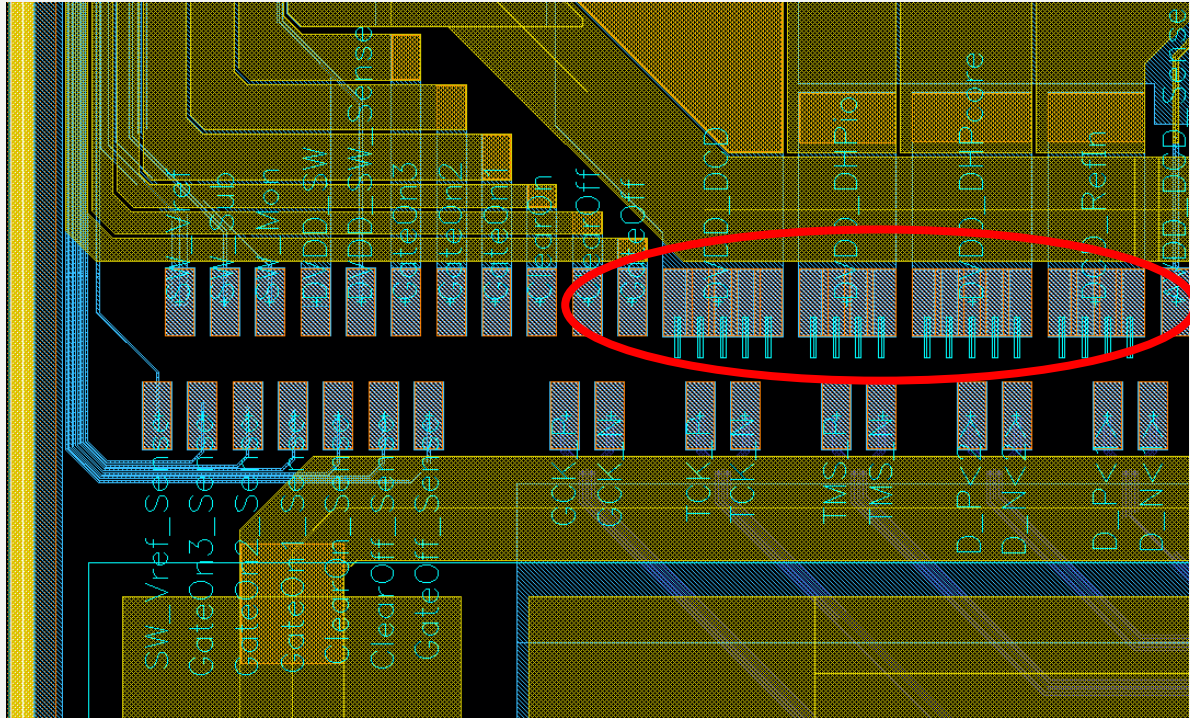
- Recognized issue with PXD9 Bond pattern for various supply voltages (DHP_IO,DHP_CORE)
- Load on singles wires ~500mA

Measure to get rid of this issue:

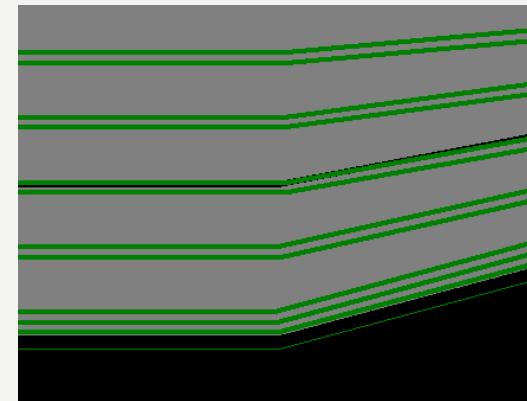
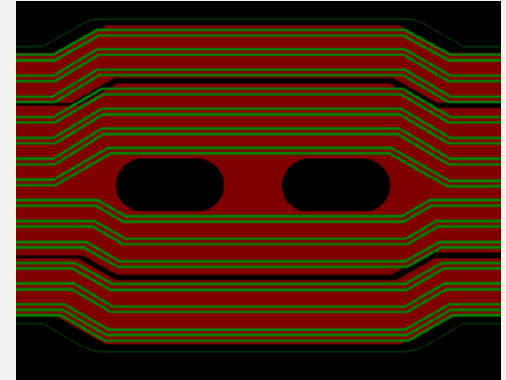
- Thicker bonding wire 30mu instead of 25mu
 - Wire successfully tested at MPI
 - Pull strength 1.5x better than 25mu wire
 - Current density improved by x1.4
- Change of PXD 9 layout incorporating wider pads and balancing currents between various supplies
 - Removal of obsolete TML's in Midlayer
 - No bond carries more than 120mA



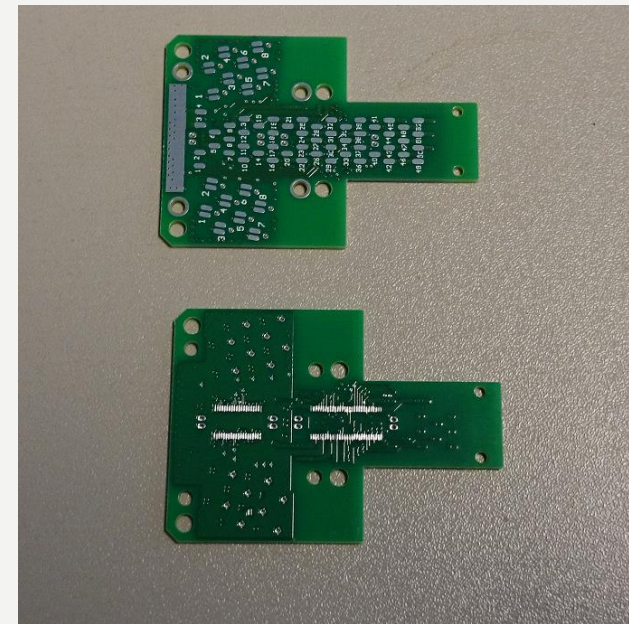
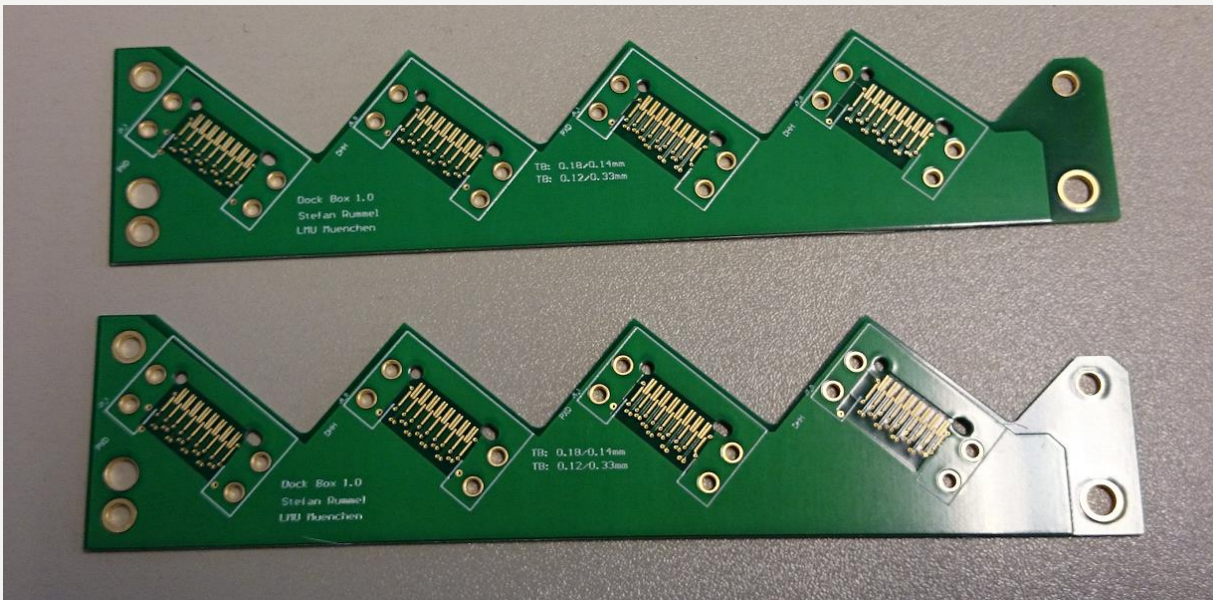
Services – Kapton – Current in Bonds



- Some indication that certain layout features have impact on link stability
 - Distance to edges of reference planes
- Fixing of the issue is underway
- Aiming for production in October



- Electrical prototypes of Docks and PP's arrived for the signal integrity measurements @ MPI
- Important input for finalizing design of Docks, PP and Data cables and procurement





- One batch of 68 units including those for Belle PF
- Started to fix some remaining issues:
 - Added possibility to go for 200V on HV
 - More conservative rating of some passives
 - More conservative layout of board with respect to design specs.
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- Lesson learned from Preproduction - put more time consuming work towards EMS (setting solder jumpers, basic electrical tests individual cards...)
 - Significant speedup of commissioning of units
- Finalization of designs ongoing
 - MCU – done
 - Step Down Converters - done



- Preproduction finished
- Ready to distribute more PS's to our collaborators
 - EMCM adapter and cables available
 - Adapters for other systems on request
- Services fixed issue with bond wires, improving signal integrity of TML's
- Main production started