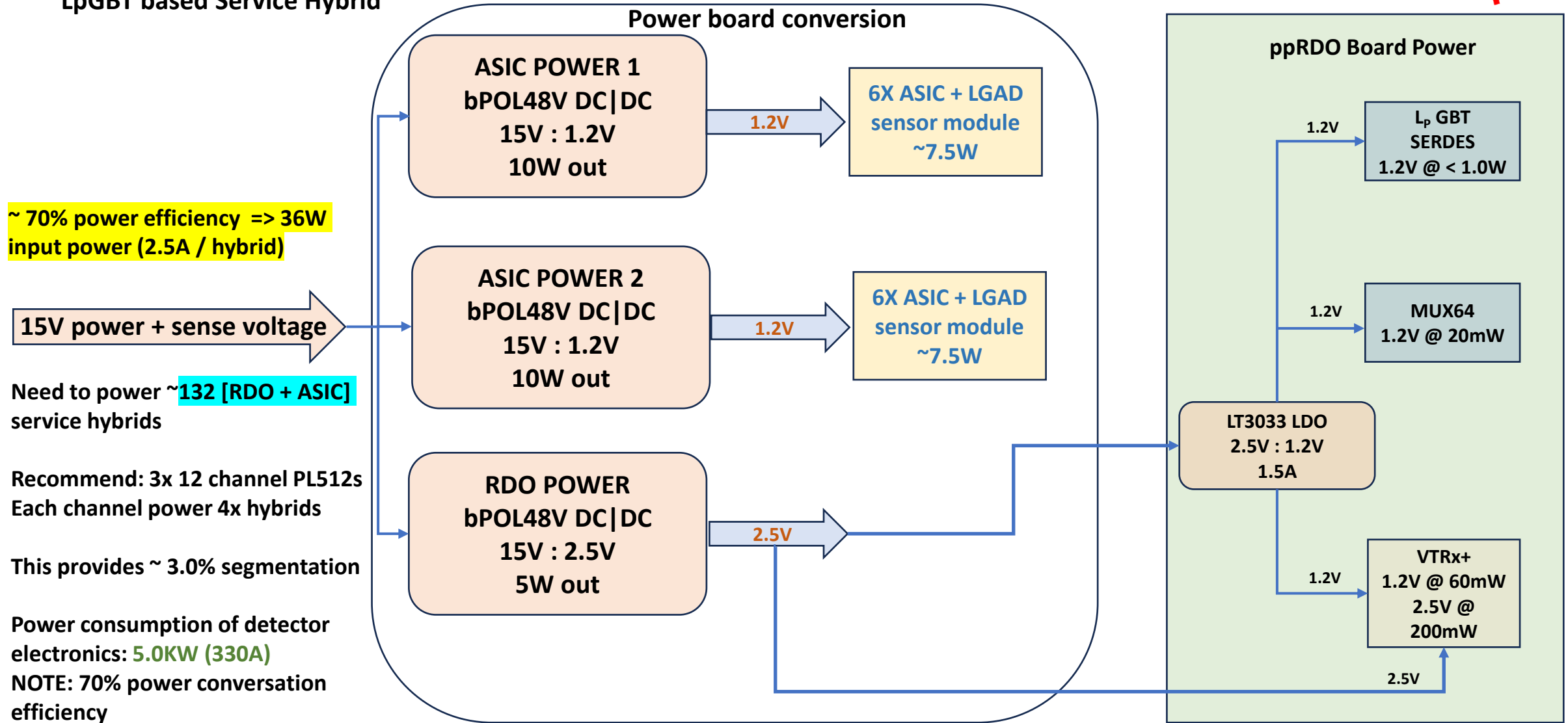


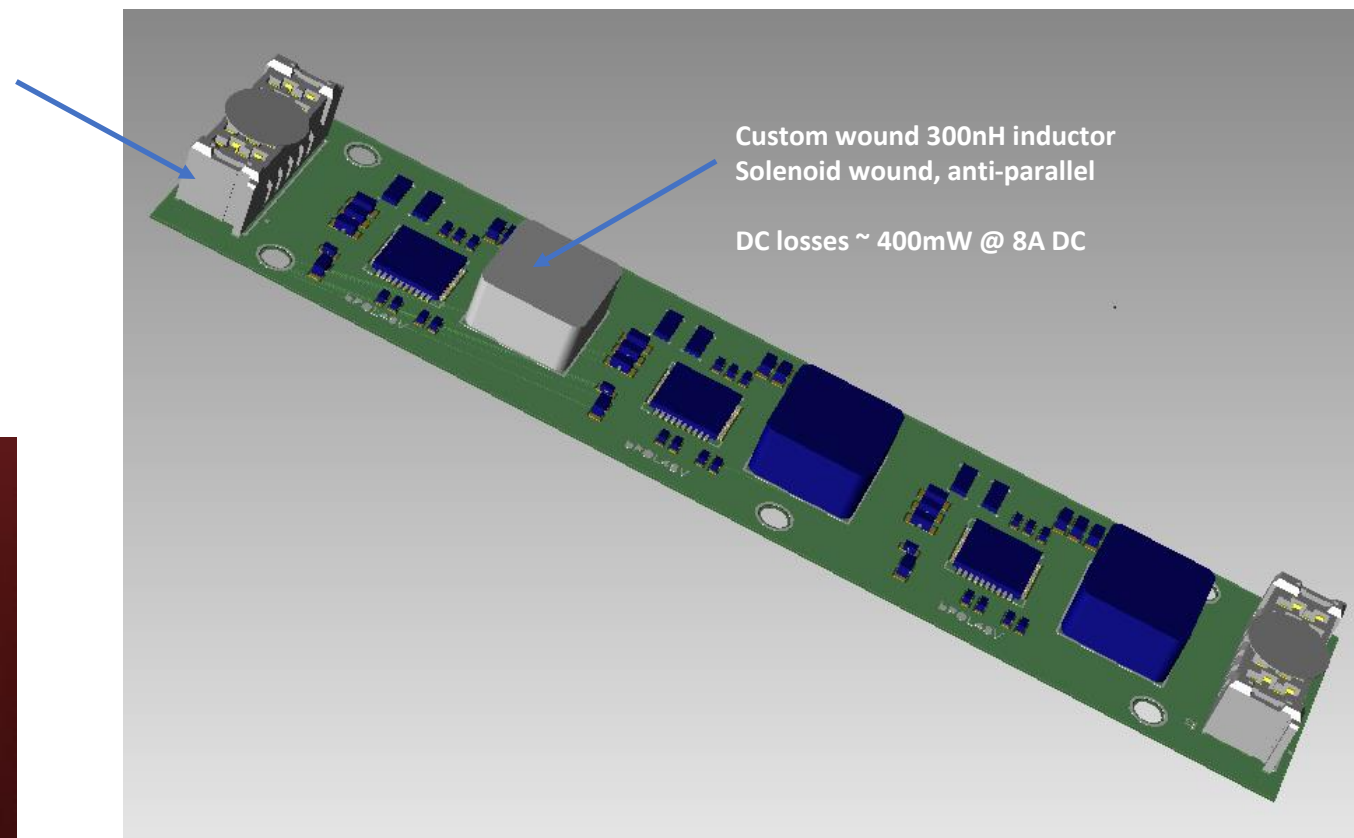
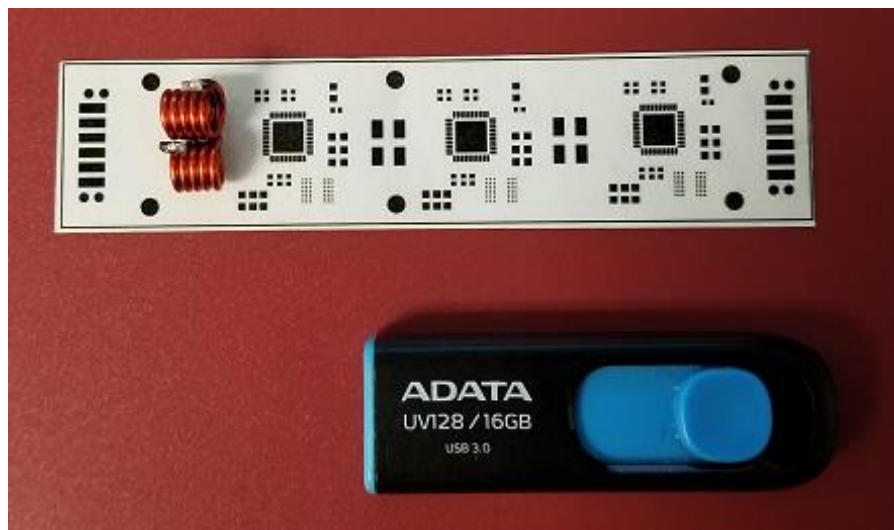
fTOF POWER BOARD POWER DISTRIBUTION BLOCK LpGBT based Service Hybrid



October 2024, T. Camarda BNL

Connector Samtec:
UMPS-06-05.5-G-V-S-W-TR

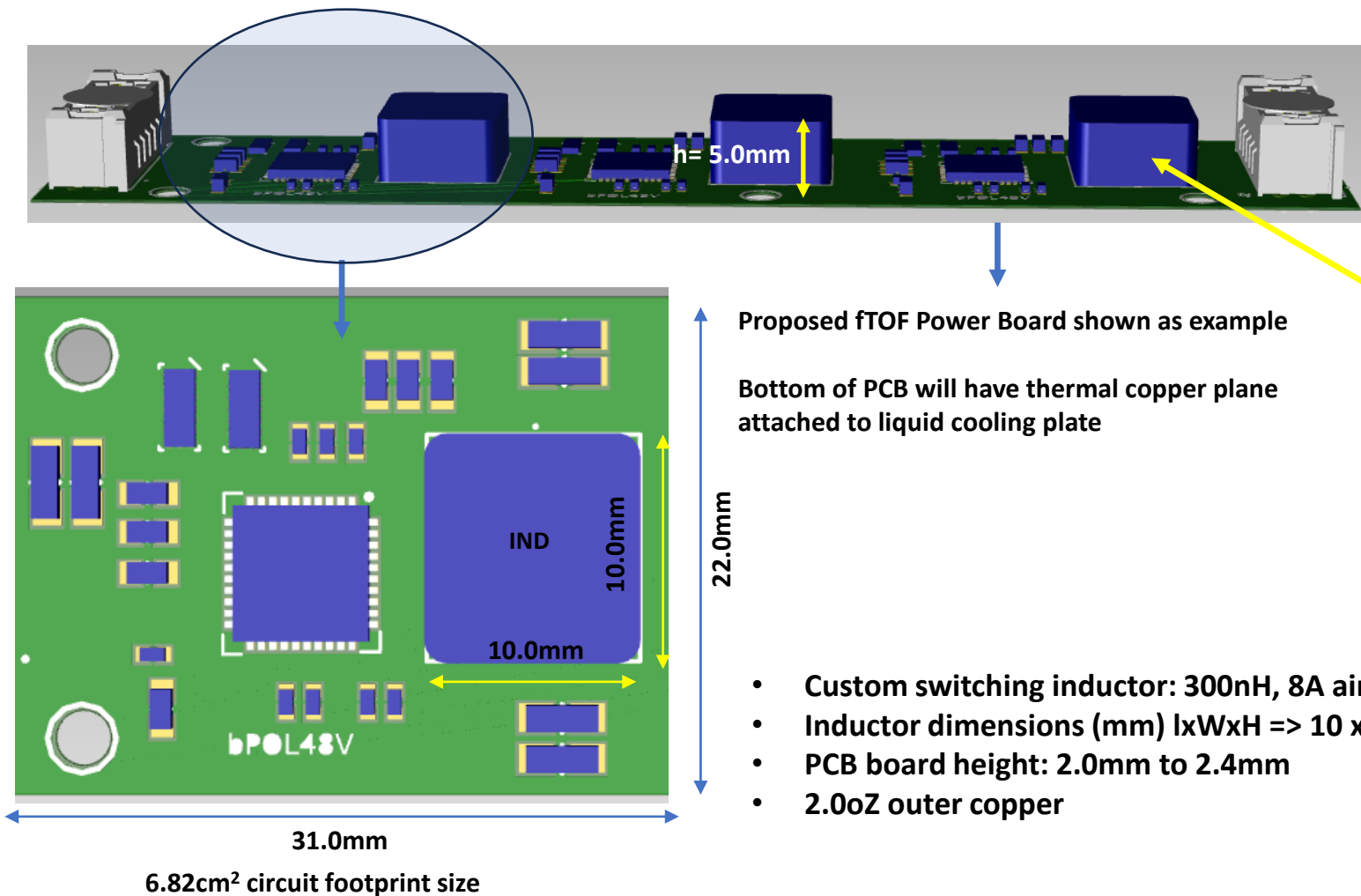
6 pin blade type connector on each side:
plenty for power + signals



100mm x 22mm service hybrid power board

bPOL48V power regulator board: 30W total (10W/ ch)

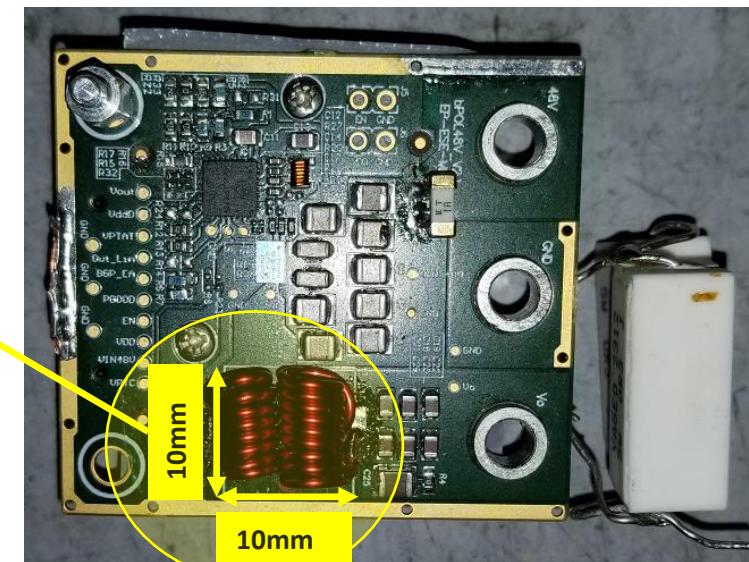
1.2V_{OUT} @ 8A



Proposed fTOF Power Board shown as example

Bottom of PCB will have thermal copper plane attached to liquid cooling plate

- Custom switching inductor: 300nH, 8A air-core, solenoid wound in anti-parallel
- Inductor dimensions (mm) l x W x H => 10 x 10 x 5 => allow ~ 8mm clearance height
- PCB board height: 2.0mm to 2.4mm
- 2.0oz outer copper



CERN bPOL48V evaluation board
Modified for 1.2V_{OUT} 8A, ~10W
Heat-sink attached w/ thermal pad at bottom

FEE board to power board stack-up height

