

HRPPD anode base plate and ASIC interface

- Custom pixelated LTCC anode base plates
 - Samtec Z-Ray compression interposers as a lead interconnect option
 - Fallback solution: conductive epoxy screen printing

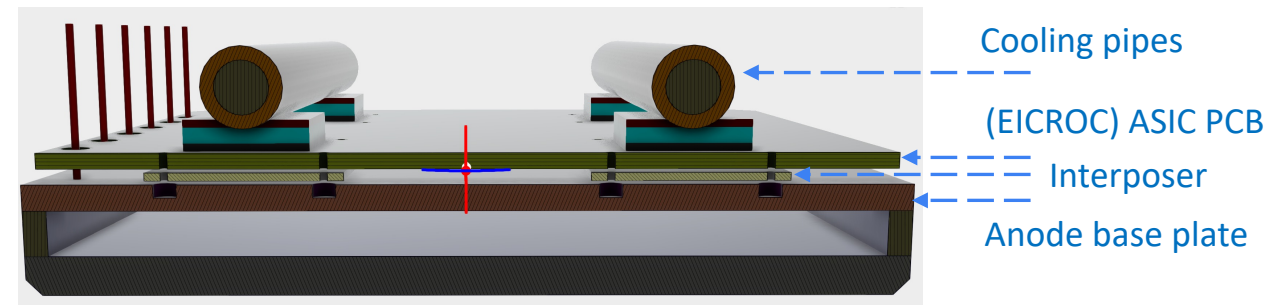
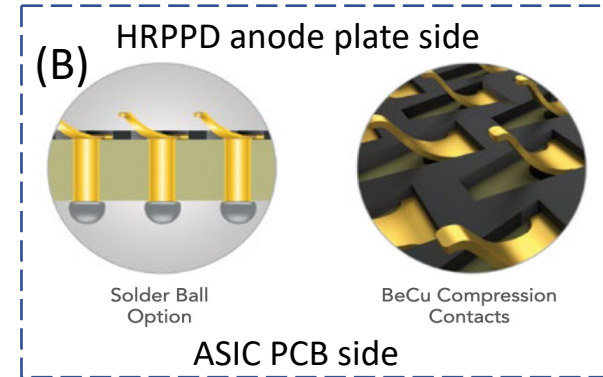
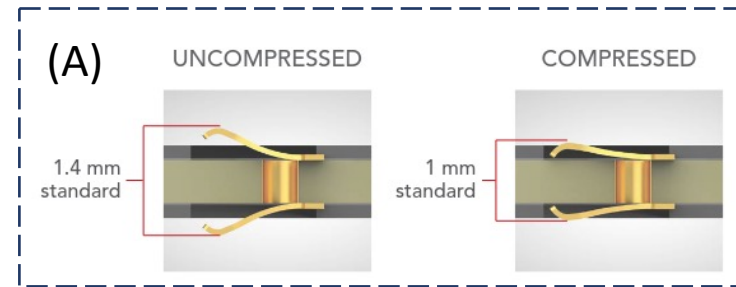
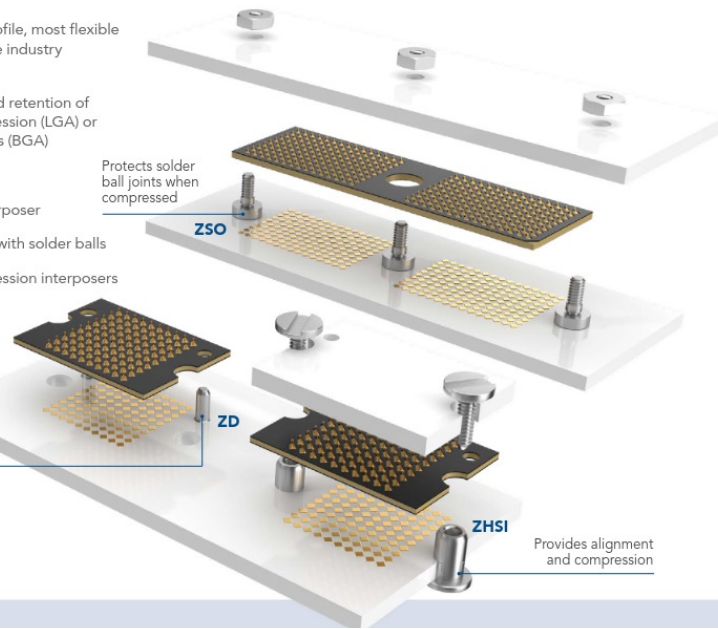
COMPRESSION HARDWARE

ULTRA LOW PROFILE SYSTEMS FOR Z-RAY® INTERPOSERS

- Designed for Z-Ray®, the lowest profile, most flexible high-density micro interposer in the industry (ZA8 and ZA1 Series)
- Precise alignment, compression and retention of interposers with either dual compression (LGA) or single compression with solder balls (BGA)
- Ultra low profile
- Reduces risk of damage to the interposer
- ZSO Series for single compression with solder balls
- ZHSI and ZD Series for dual compression interposers

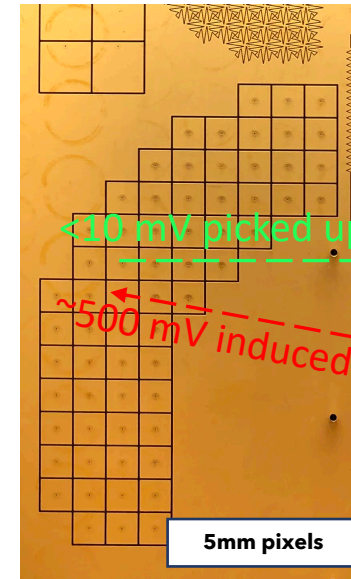
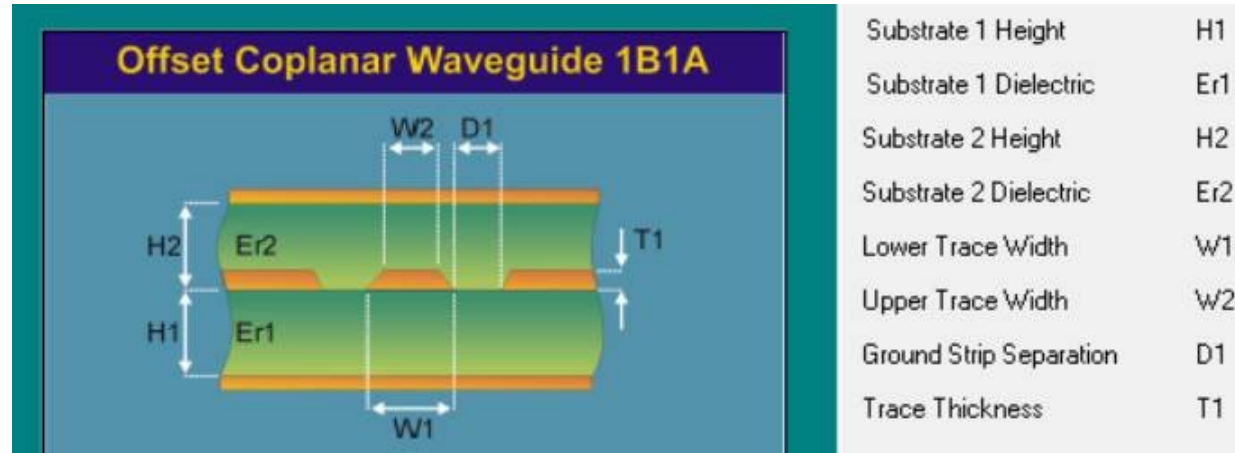


Provides alignment



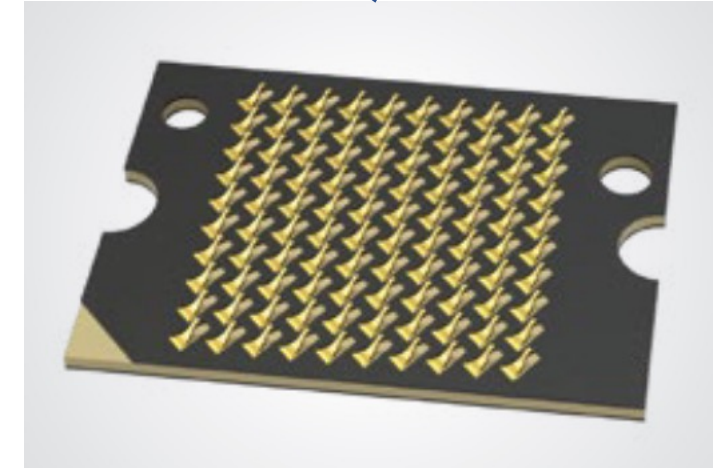
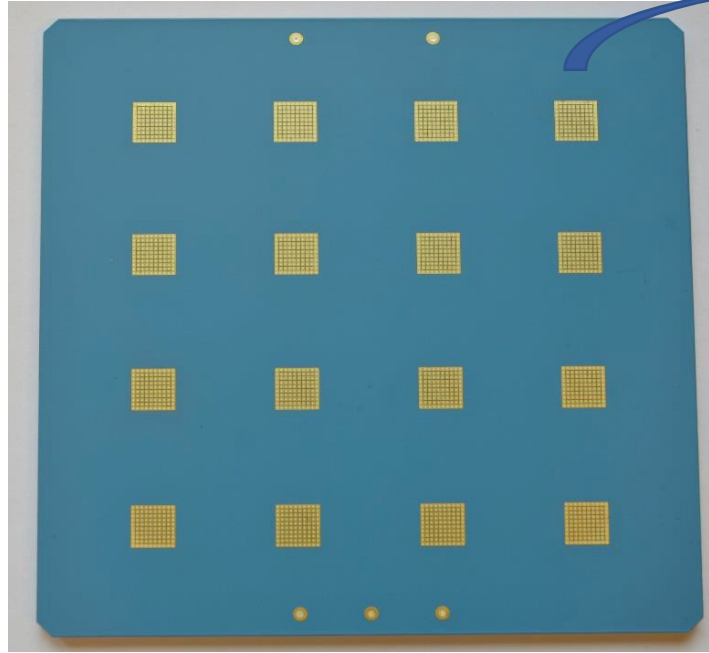
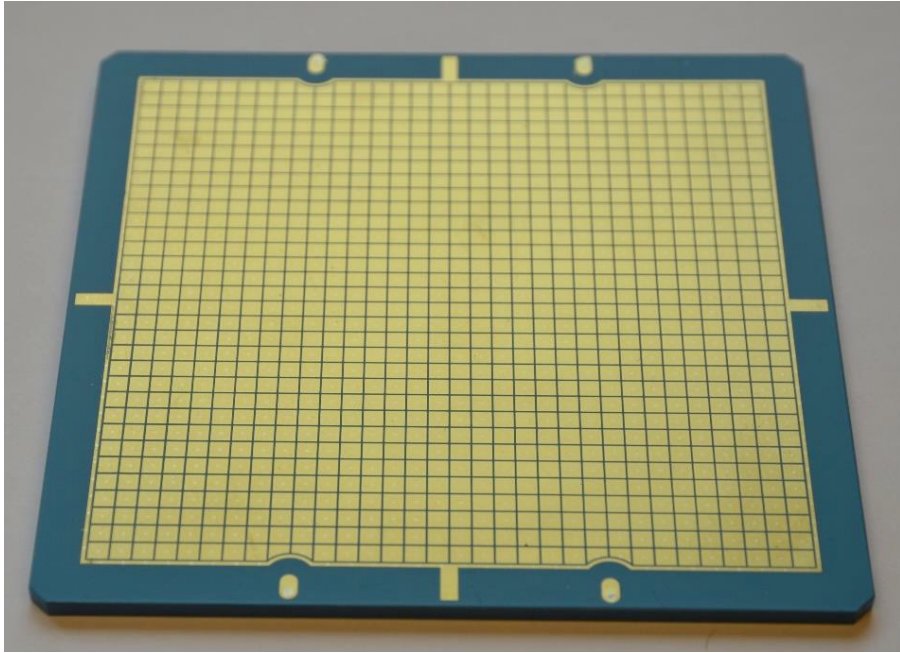
HRPPD face down

Trace layout in PCB stack



- 50 Ohm coplanar waveguide configuration
- Worst case X-talk ~few % level
- See Y05a gerbers as a reference

First iteration: anode base plate Y03e

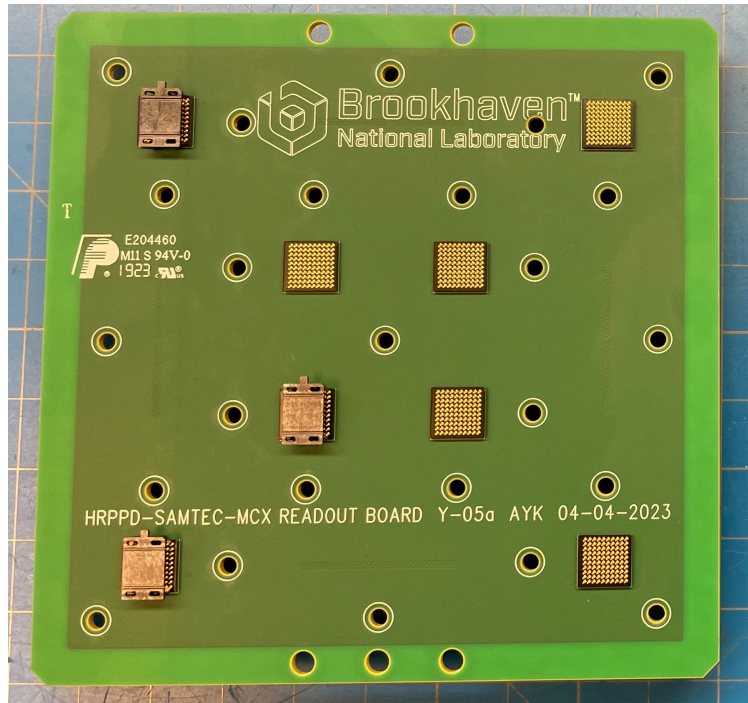


Stock interposer with 800 μm pitch

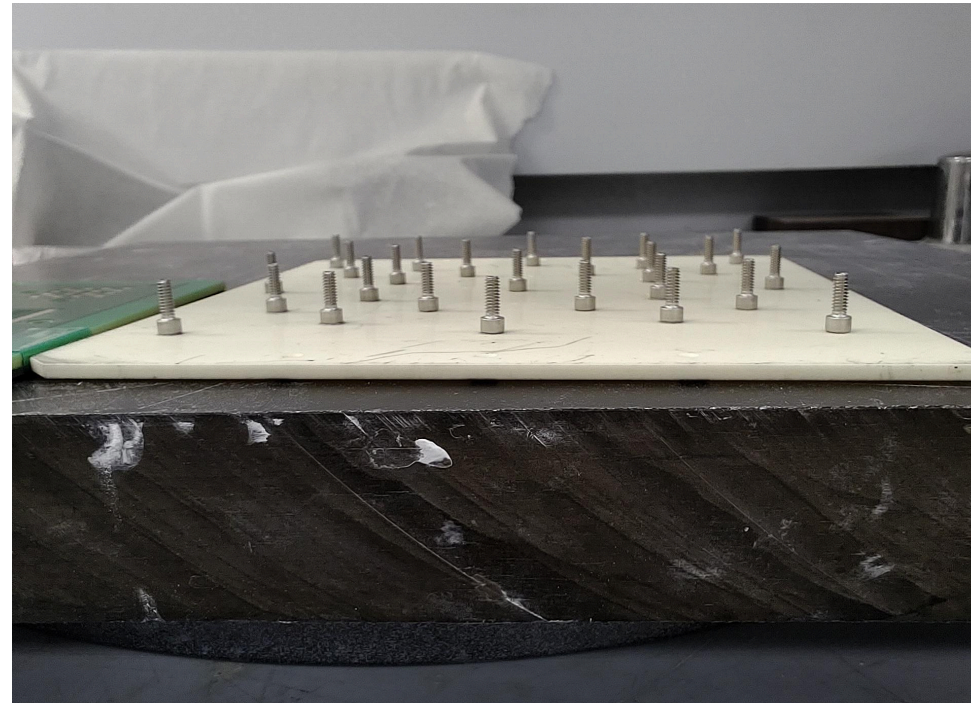
Full size (120mm) HRPPD anode plate by Techtra

**Ceramic plate Y03e, matching 800 μm pitch Samtec interposers:
appeared to be too tight**

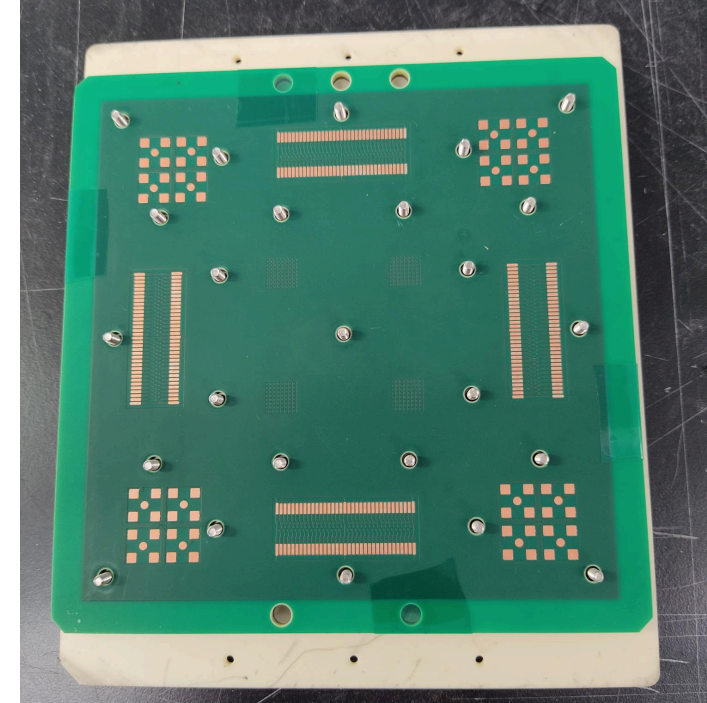
First iteration: a matching Y05a connector board



Bottom (interposer) side



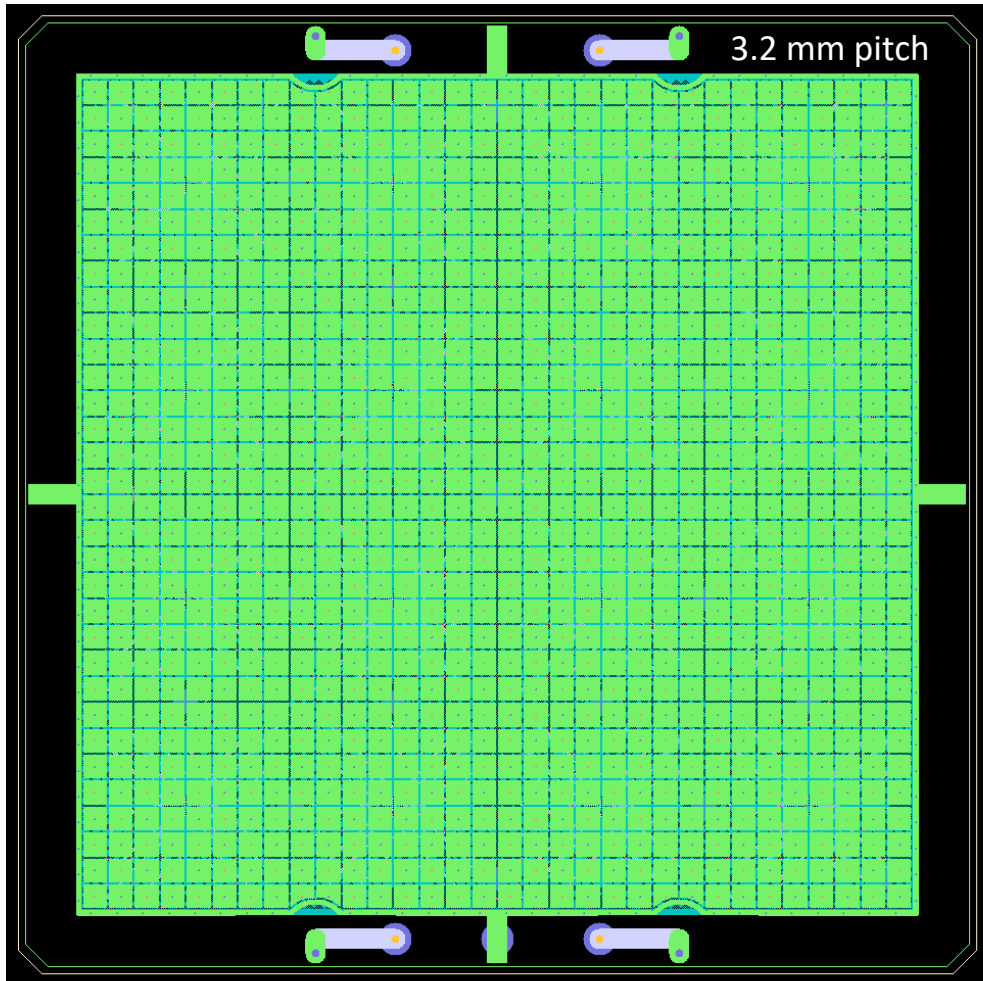
Screws epoxy glued onto a dummy ceramic plate



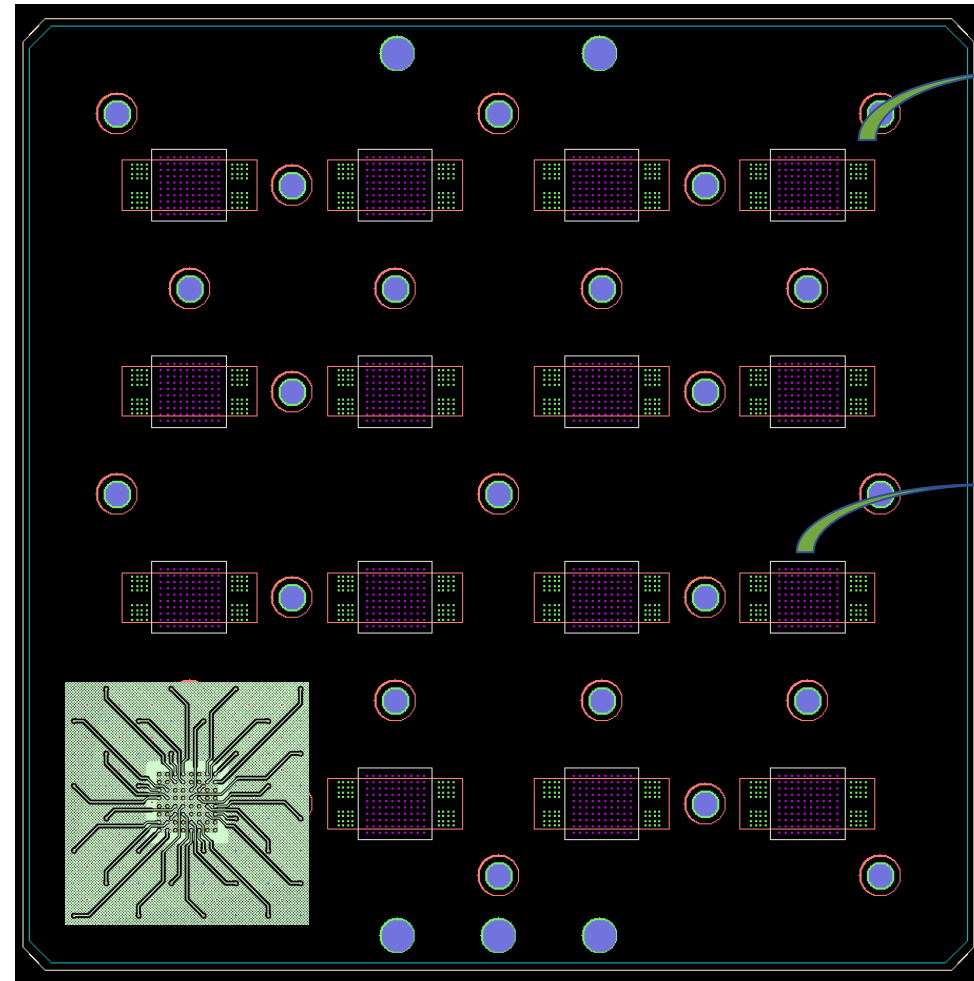
Top (connector) side

Matches ceramic plate Y03e (800 μm pitch Samtec interposers)

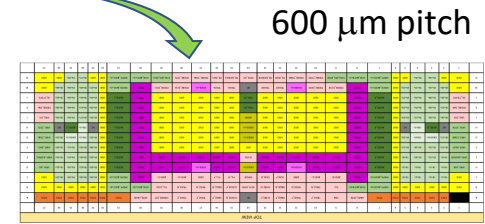
Y03e ceramic plate overlaid with HGCROCs



Inner side of a 32x32 pad ceramic base plate

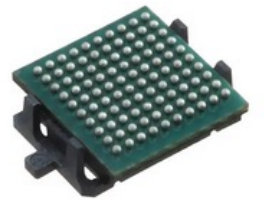


Outer side overlaid with a 16x HGCROC PCB template

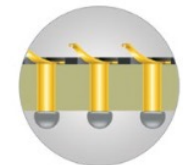


HGCROC ASIC

800 μm pitch



Samtec interposer

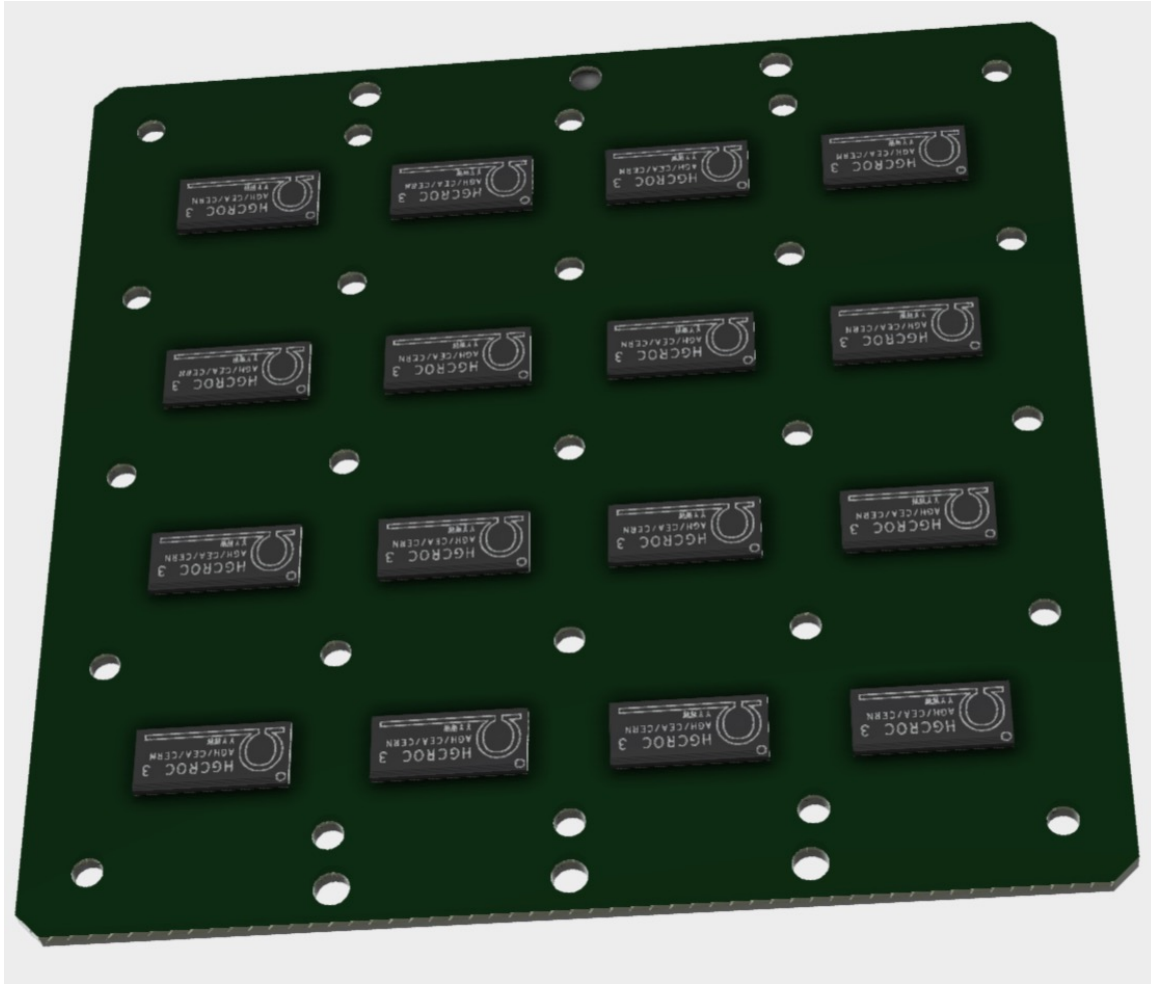


Solder Ball
Option

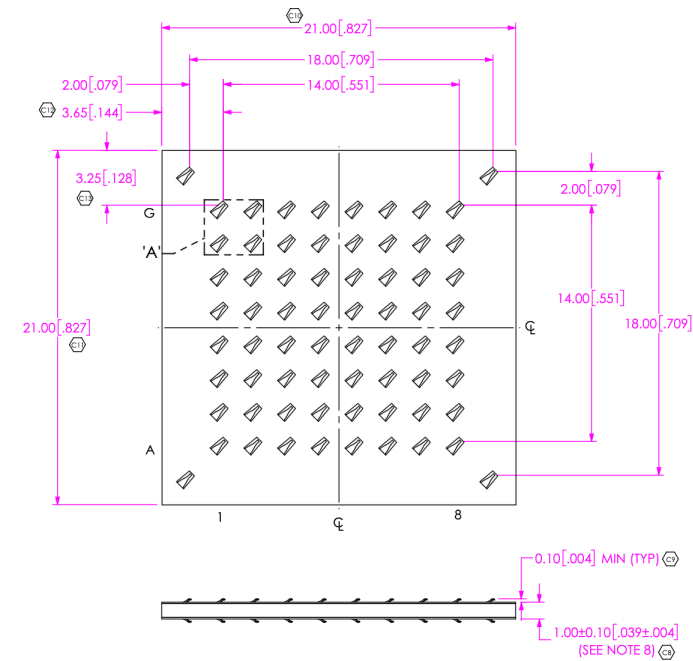
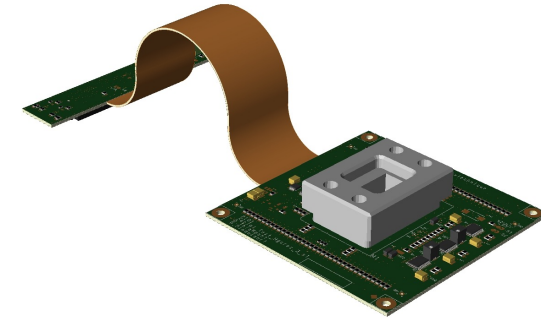


BeCu Compression
Contacts

HGCROC3 backplane for EIC HRPPDs



EIC HRPPD ASIC board layout (+ a flex with FMC connector)



**This interposer layout matches the ordered
five new EIC HRPPDs (Y03h)
as well as Y05d dummy board layout**