

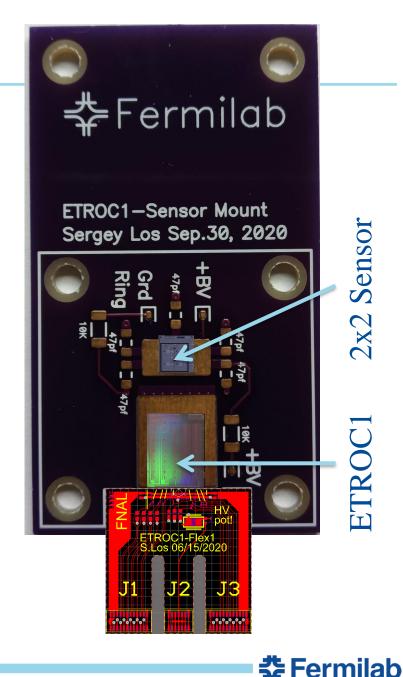
Managed by Fermi Research Alliance, LLC for the U.S. Department of Energy Office of Science

ETROC1 Wire Bonding with 2x2 Sensor

Sergey Los for ETL Phase 2 Upgrade August 26, 2021

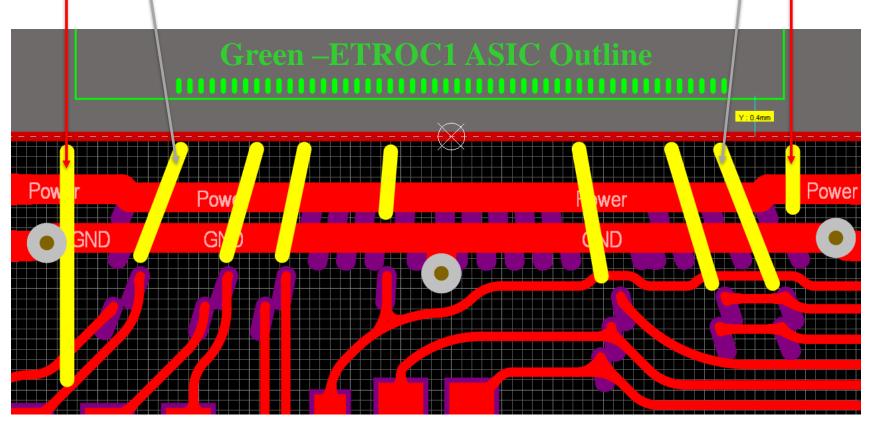
Overall View of the Assembly

- Board size 32 x 56 mm
- Mounting holes spaced:
 - 24mm horizontally
 - 24mm vertically
- Flex cable overlap 5mm
- Nominal gap between the Flex and ETROC1 0.4mm
- Center Flex against SilkScreen outline
- Use conductive film to attach 2x2 Sensor, align the 4 pixels over the 4 holes in the Sensor mounting pad



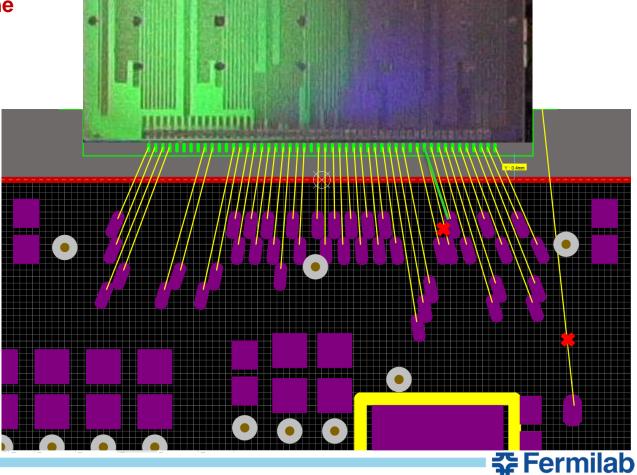
ETROC1 and Flex Alignment

- Align the ETROC1 chip against the silk screen guidelines (it is not going to be centered on the pad)
- Angled silk screen markers indicate general direction of wire bonding





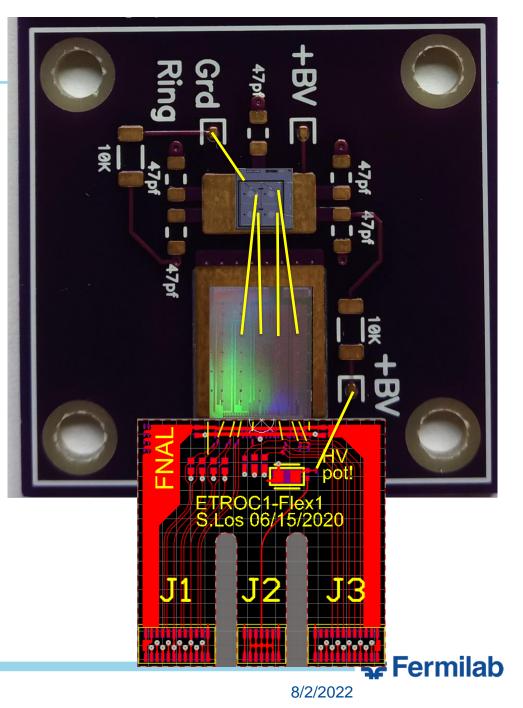
See how to bond the rightmost +BV long wire in the next slide



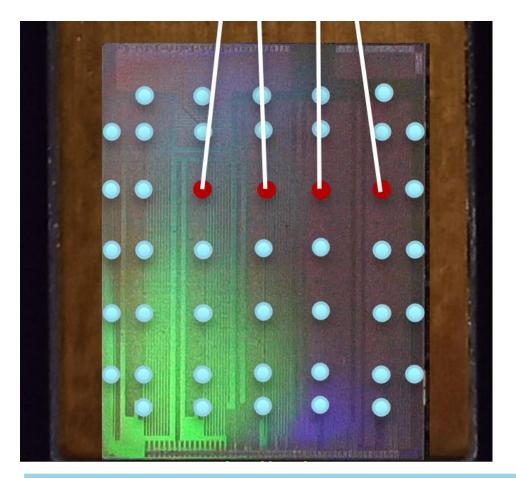
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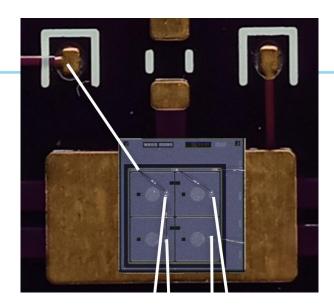
Wire Bonding 2x2 Sensor

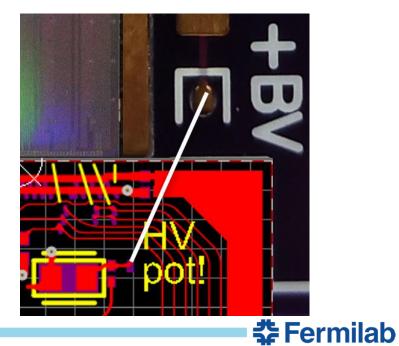
- Remove all old wirebonds from the Sensor
- 4 signal wirebonds go to the ETROC1
- 1 wirebond connects Sensor guard ring to a corresponding pad on the board
- 1 wirebond connects Flex HV with the board +BV pad
- See details below



Details







8/2/2022