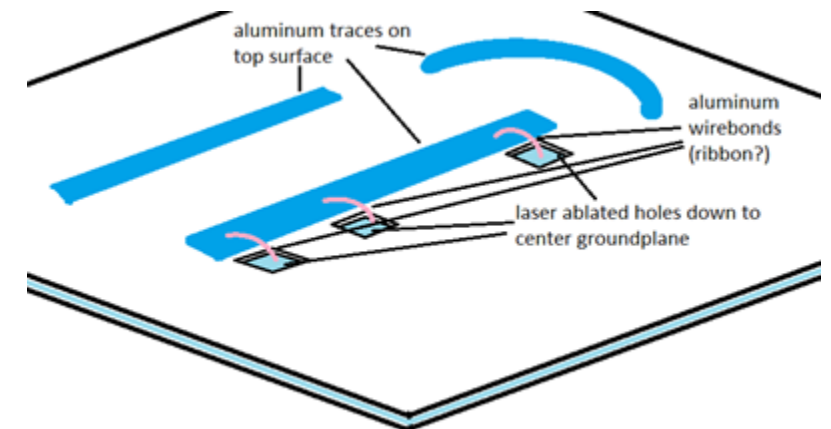


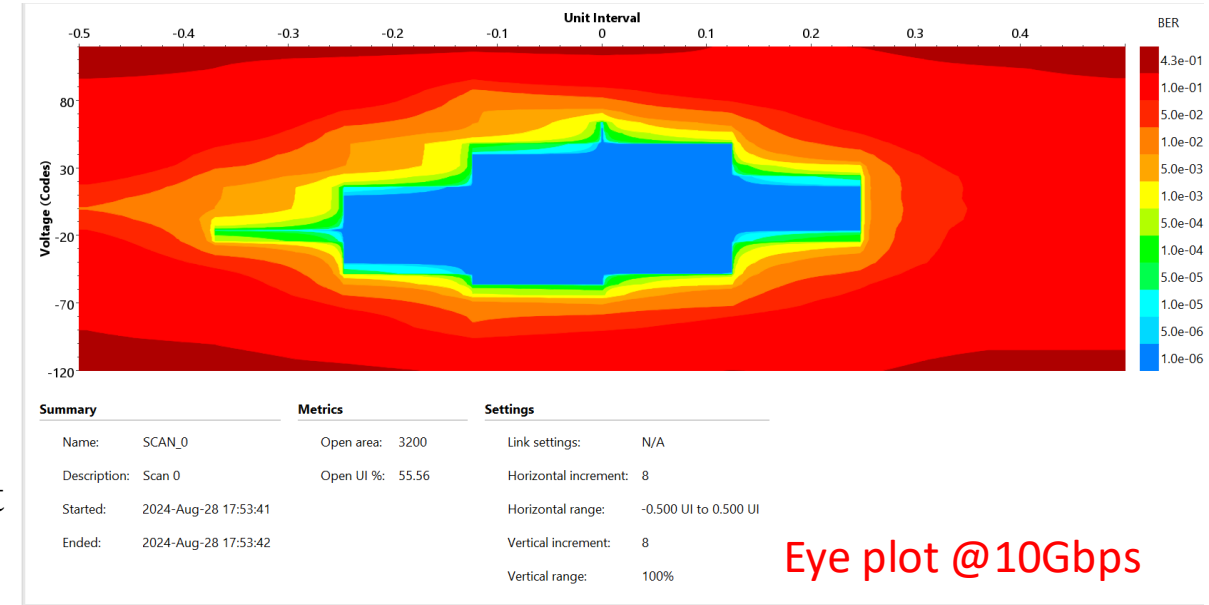
Summary and Outlook from May 9, 2024

- First low TRL prototypes produced by Omni and evaluated
 - Based on a PCB design from another project
 - Ok for wire-bonding but not soldering
 - Significant signal loss at high frequency
- Second iteration is being worked on
 - Dedicated for signal transmission investigation to understand and improve signal losses: different substrate materials, different width/pitch, with and without soldering mask
 - Make use of selective Cu plating for soldering, and wire-bonding to connect top and bottom
 - Make plated-thru holes in an all-aluminum stack



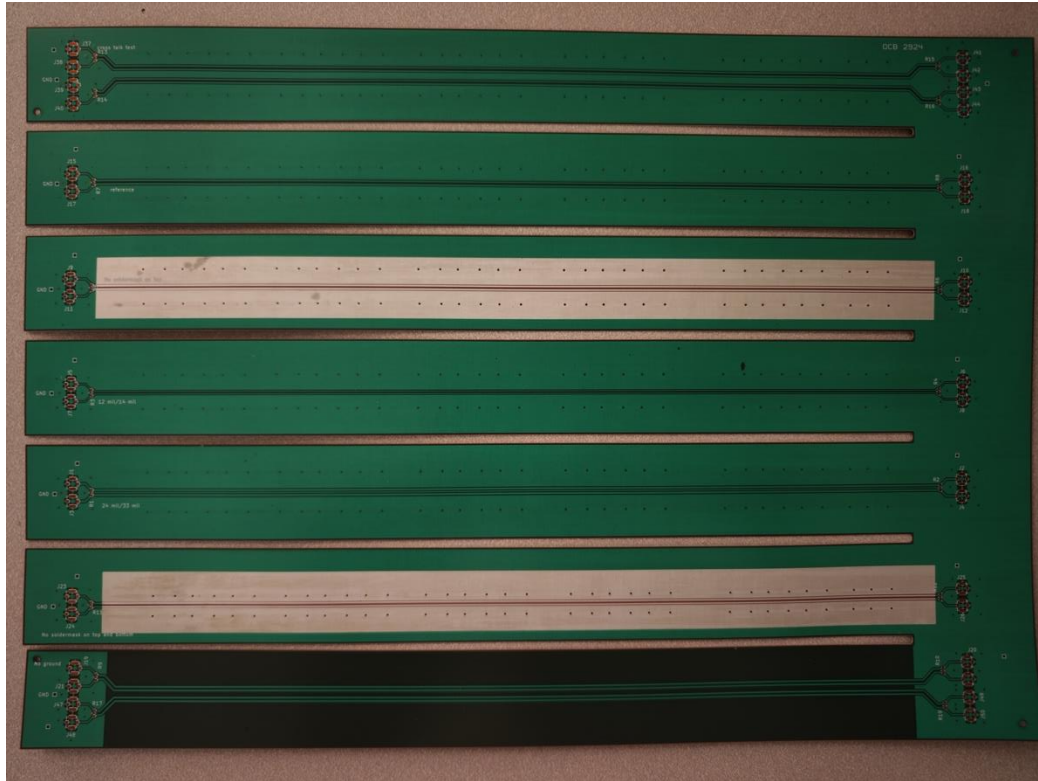
Updates for Today

- Received a 2nd set of AI-based FPC prototypes from OMNI.
 - Double metal layer with 25 cm long differential lines for high-speed data transmission
- Improvements compared to the previous set
 - Soldering and vias facilitated by selective Cu plating
 - Improved high frequency signal transmission property based on S21 measured up to 4 GHz
 - IBERT test done with FPGA suggests that these FPC support GTY communication @10Gbps
- Questions to follow up:
 - Check the mechanical properties of the FPC
 - 2 out of 36 connector pads detached from the FPC when disconnecting the cable
 - Total material budget of the FPC is 0.136% X_0 (TBC), with dominant contribution from dielectrics. Can this be reduced
- Plan:
 - Manufacture FPC based on LTU/STFC design but modified to be consistent with vendor's design rules if there is no objection.

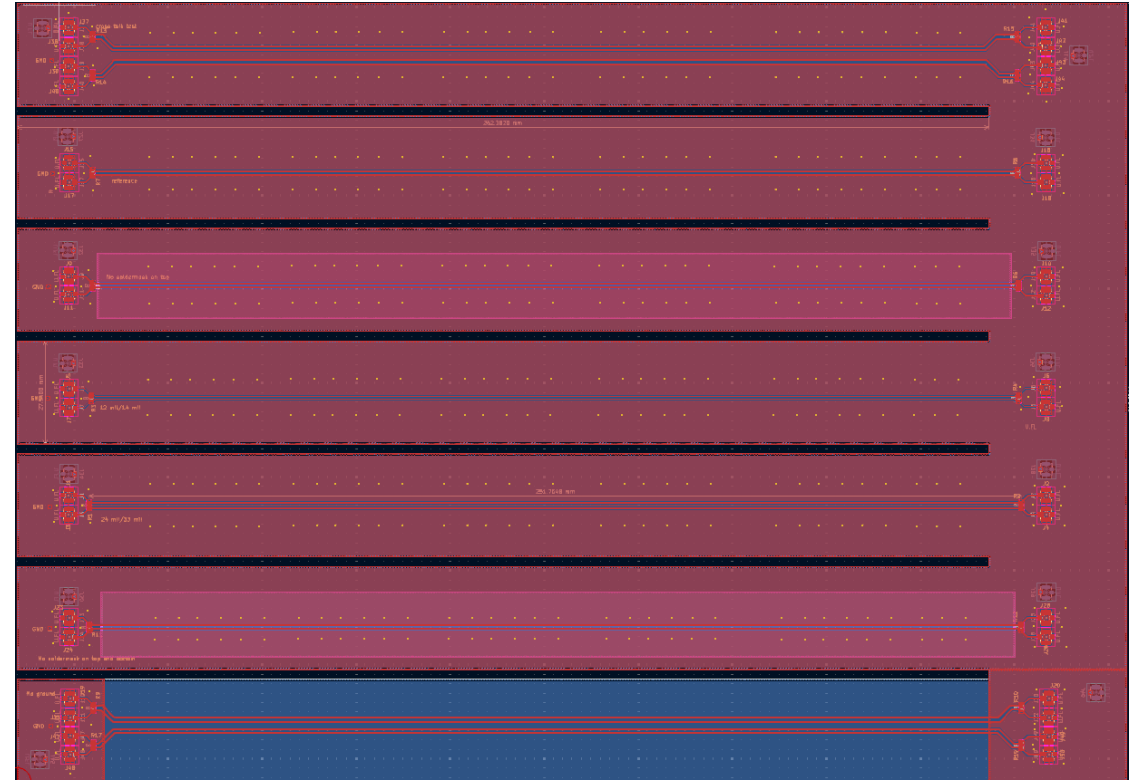


RX	Status	Bits	Errors	BER	BERT Reset	TX Pattern	RX Pattern	TX Pre-Cursor	TX Post-Cursor
:5p_0 Quad_225/MGT_X0Y4/RX (xcou25p_0)	10.000 Gbps	9.702E10	0E0	1.031E-11	<input type="button" value="Reset"/>	PRBS 7-bit	PRBS 7-bit	0.01 dB (00000)	0.00 dB (00000)
					<input type="button" value="Reset"/>	PRBS 7-bit	PRBS 7-bit	0.01 dB (00000)	0.00 dB (00000)

Updates for Today



The photo of Aluminum FPC



The layout of FPC