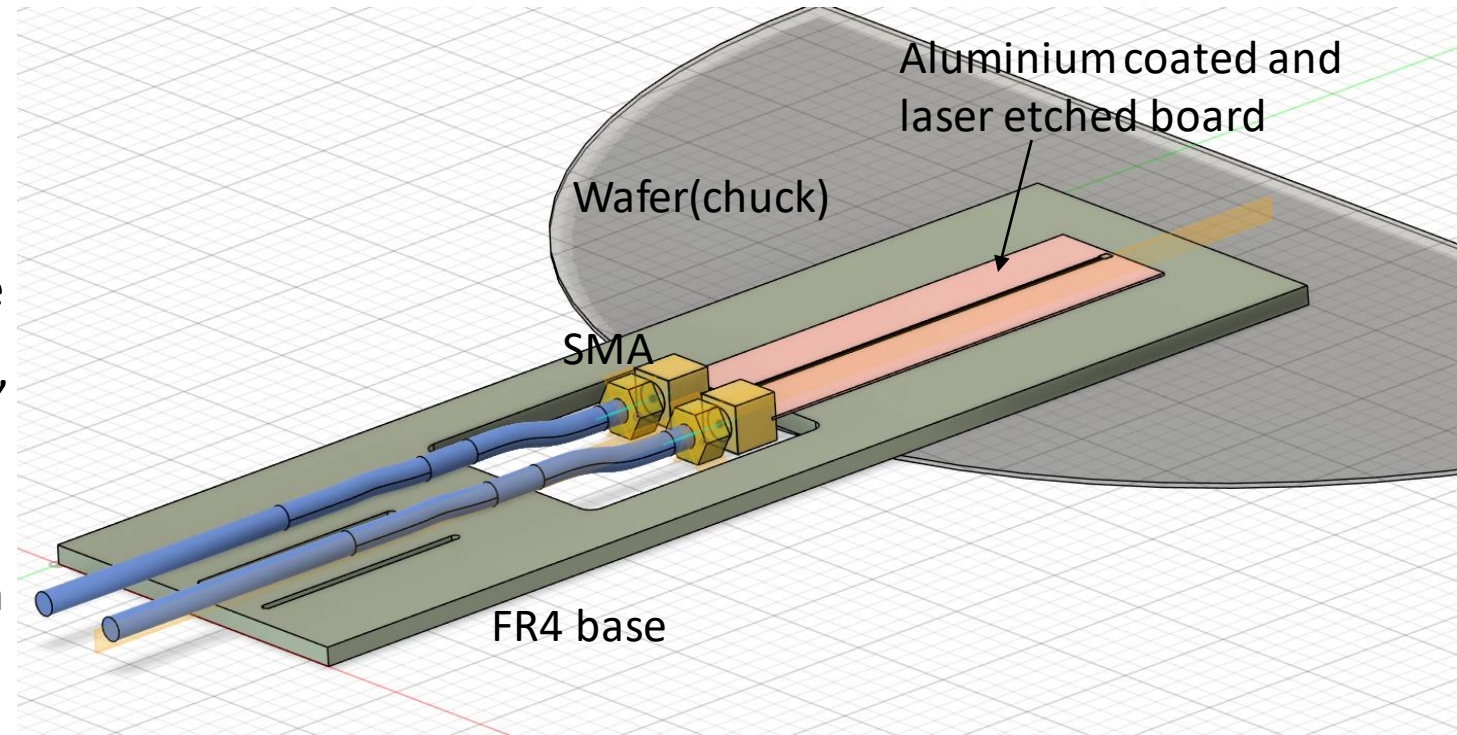


Probecard characterisation without NKF7

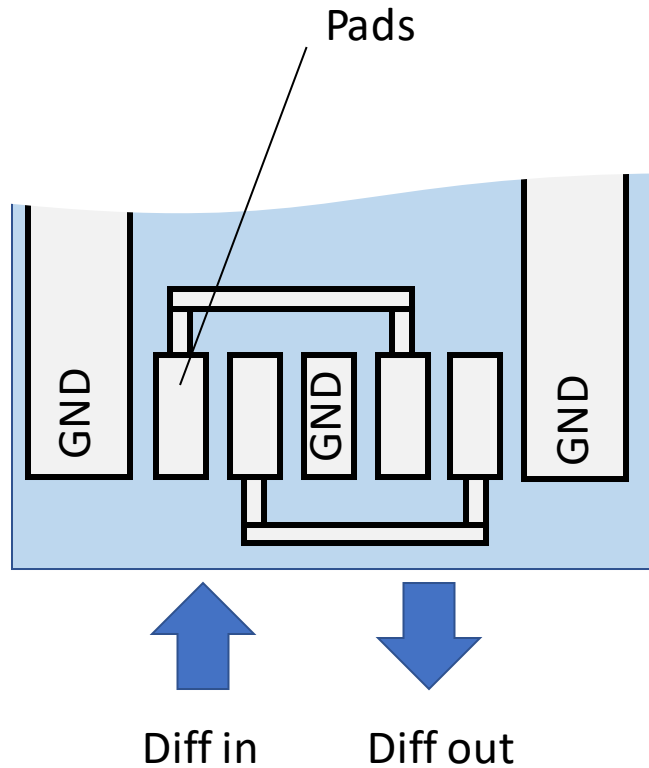
SW: ITS3 ADC implementation -> done ~ next week

Probecard validation:

- Contact one differential pair with a test fixture
- Measure prbs from enclustra, signal generator, and 4-port VNA S-curve
- Need to contact on aluminium -> laser etch on Al-coated FR4 (done before /w Antoine) – impedance matched
- Use edge SMA which are screwed not soldered
- Mount on thick support (e.g. 4mm FR4) to mechanically decouple high speed cables

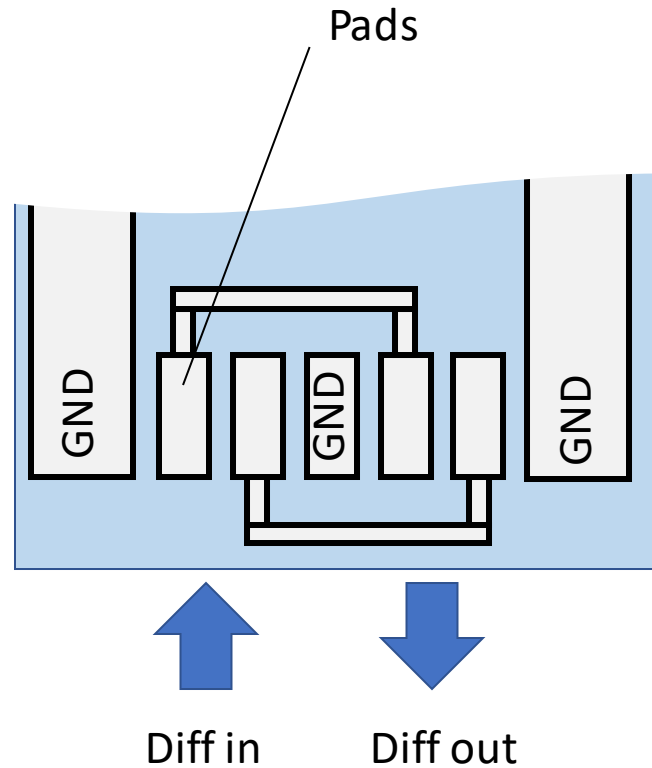


Loopback option

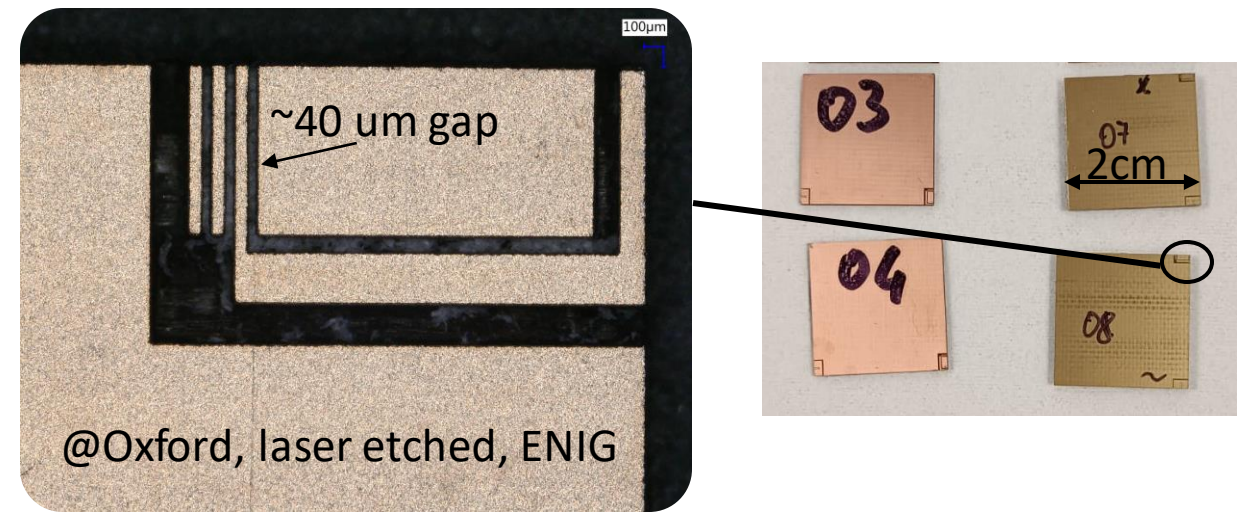


- Fast & safe option -> also consider for MOSAIX card
- O(<1000 chf) – laser etched, Al coated FR4
- Double trace length, potential impedance mismatch (see backup)
- -> we should try this

Loopback option



- Fast & safe option -> also consider for MOSAIX card
- O(<1000 chf) – laser etched, Al coated FR4
- Double trace length, potential impedance mismatch (see backup)
- -> we should try this



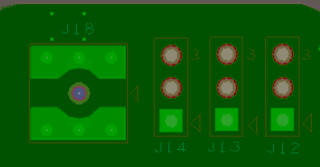
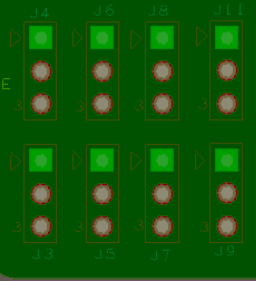
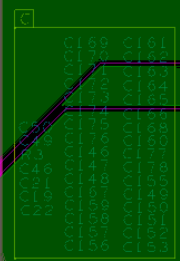
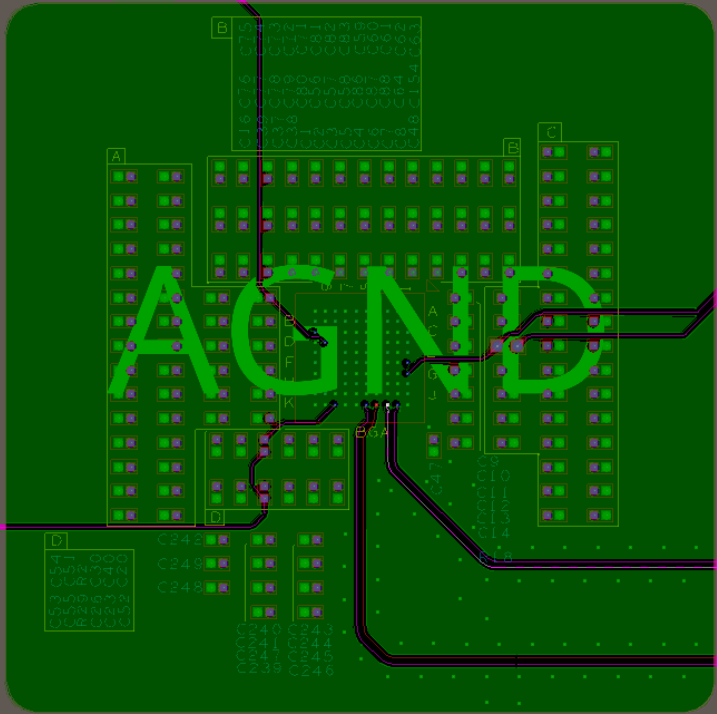
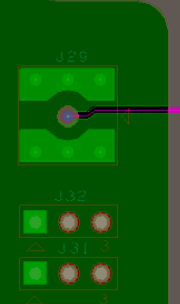
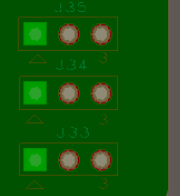
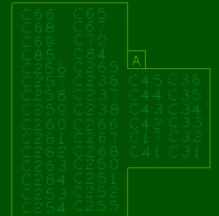
Backup

AGND

AGND

AGND

TOP (TESTER)SIDE



The image displays a PCB layout viewer interface. The main workspace shows a green PCB with various components and traces. Large green text "AGND" is overlaid on the board. Components include capacitors (C240-C249), connectors (J12, J13, J14, J18, J74, J75, J77, J78, J30), and a grid of components labeled A through K. Traces are shown in purple and pink. The interface includes a "Visibility" panel on the left with a layer stackup and a "Properties" panel with selection filters and status indicators. The status bar at the bottom shows coordinates (-12.5071, -1.1054) and units (mm).

Visibility Panel:

- All Layers: On
- Layer Stackup: PRIMARY
- Views: File: PASTEMASK-TOP
- All: [Icons]
- Pastemask_Top: [Grid]
- Silkscreen_Top: [Grid]
- Soldermask_Top: [Grid]
- Top: [Grid]
- L02_Agnd: [Grid]
- L03_Sig1: [Grid]
- L04_Agnd: [Grid]
- L05_Userpower: [Grid]
- L06_Agnd: [Grid]
- L07_Agnd: [Grid]
- L08_Sig2: [Grid]
- L09_Agnd: [Grid]
- Bottom: [Grid]
- Soldermask_Bottom: [Grid]
- Silkscreen_Bottom: [Grid]
- Pastemask_Bottom: [Grid]
- Through All: [Grid]
- Outer Layers: [Grid]
- Inner Planes: [Grid]
- Inner Signals: [Grid]

Properties Panel:

- Selection Filter: All Objects, Groups
- Trace Segments: Traces, Line Segments, Lines, Wires, Vias
- Fingers: Components, Gates, Pins, Shapes, Voids, Text
- DRC: Nets, Diff Pairs, Buses, Net Groups, Connections
- Virtual Points: [Grid]
- Status: Unplaced Components (0/11), Unrouted Nets (0/5), Unrouted Connections (0/47)
- Shape Islands: Unassigned Shapes, Out of Date Shapes
- DRC Status: Out of Date, DRC Errors, Shorting Errors
- Walked Errors: Walked Shorting Errors
- Grids: Off, Dots, Lines, Both
- Presets: Major (x,y)

Visibility

All Layers: On Off

Layer Stackup: PRIMARY

Views: File: PASTEMASK-TOP

All: [Icons]

Pastemask_Top
Silkscreen_Top
Soldermask_Top
Top
L02_Agnd
L03_Sig1
L04_Agnd
L05_Userpower
L06_Agnd
L07_Agnd
L08_Sig2
L09_Agnd
Bottom
Soldermask_Bottom
Silkscreen_Bottom
Pastemask_Bottom

Through All
Outer Layers
Inner Planes
Inner Signals

Single Object = Alt

Properties

Selection Filter

All Objects Groups

Trace Segments Traces Line Segments Lines Wires Vias
Fingers Components Gates Pins Shapes Voids Text

DRC Nets Diff Pairs Buses Net Groups Connections

Virtual Points

Status

Unplaced Components 0/11
Unrouted Nets 0/5
Unrouted Connections 0/47

Shape Islands
Unassigned Shapes
Out of Date Shapes

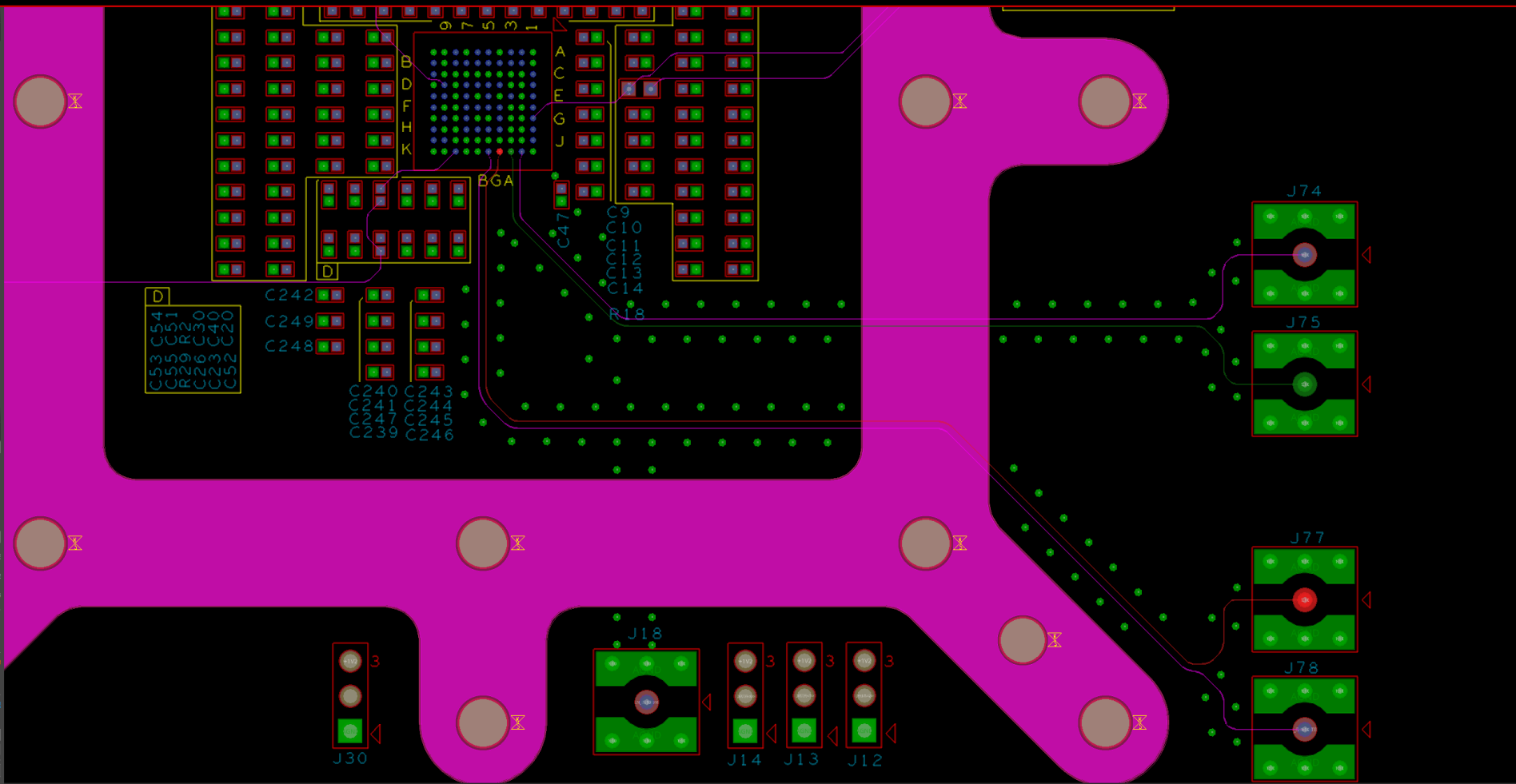
DRC Status Out of Date
DRC Errors
Shorting Errors

Walked Errors
Walked Shorting Errors

Grids
Off Dots Lines Both

Presets
Major (x,y)

Ready Idle



K

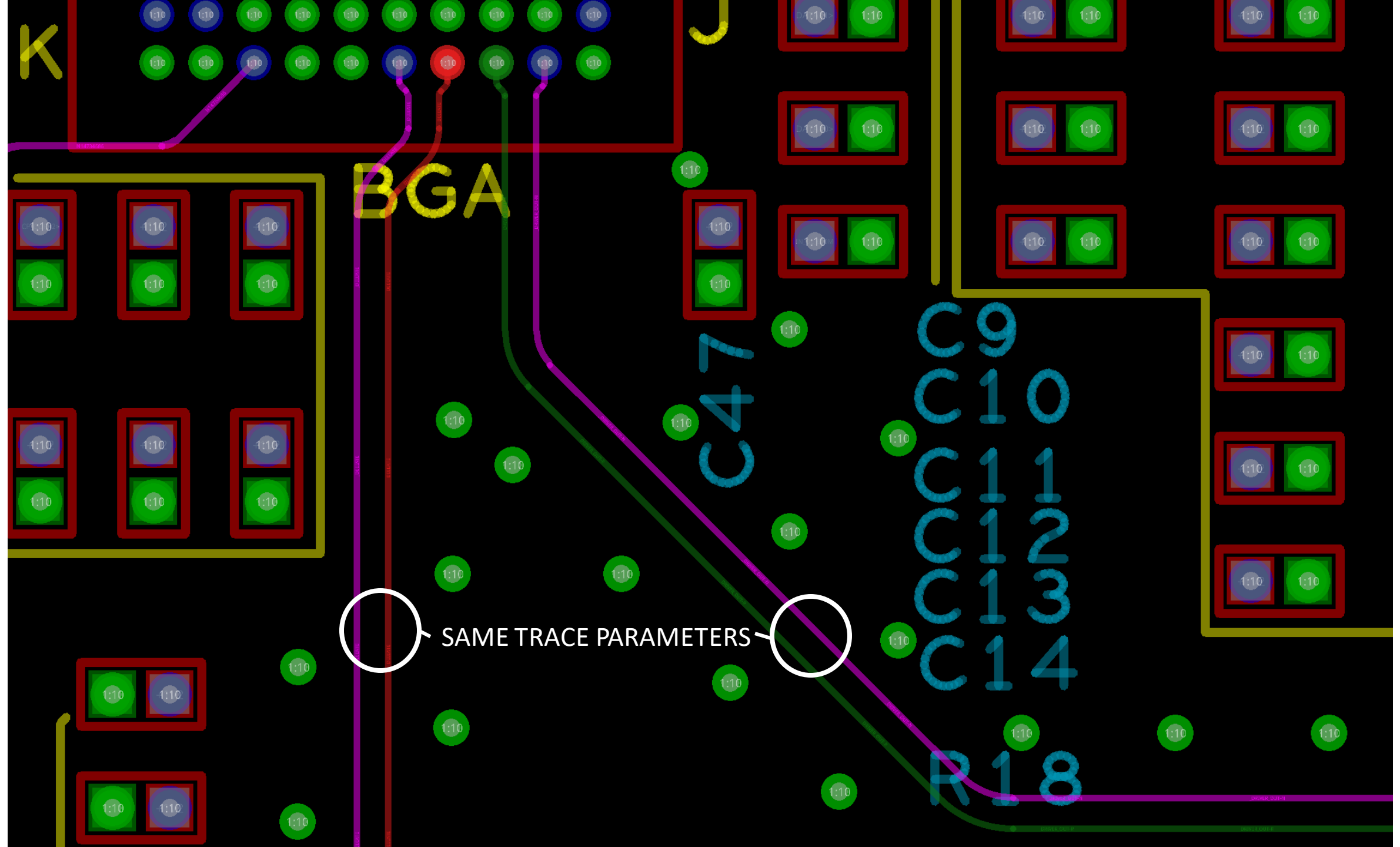
BGA

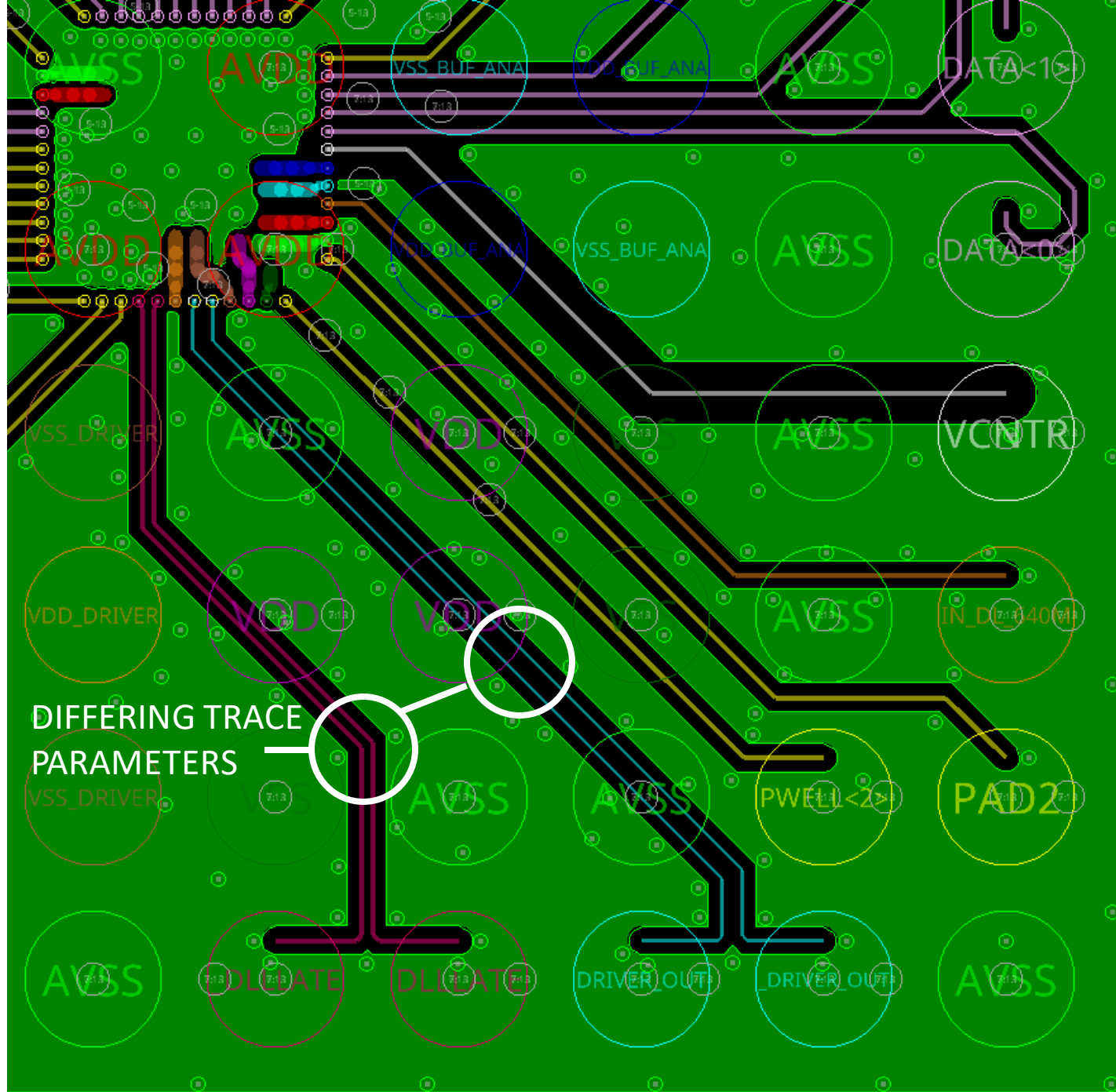
C47

C9
C10
C11
C12
C13
C14

R18

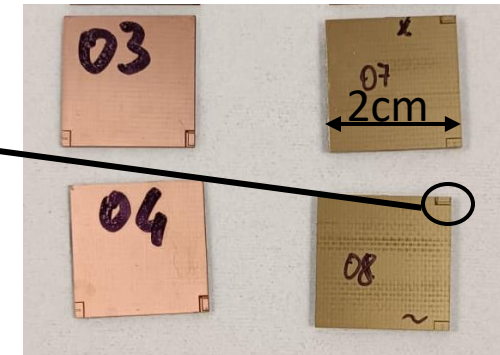
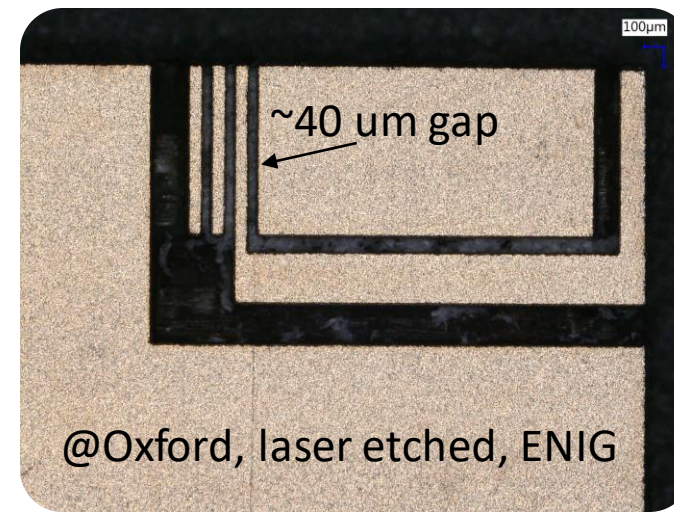
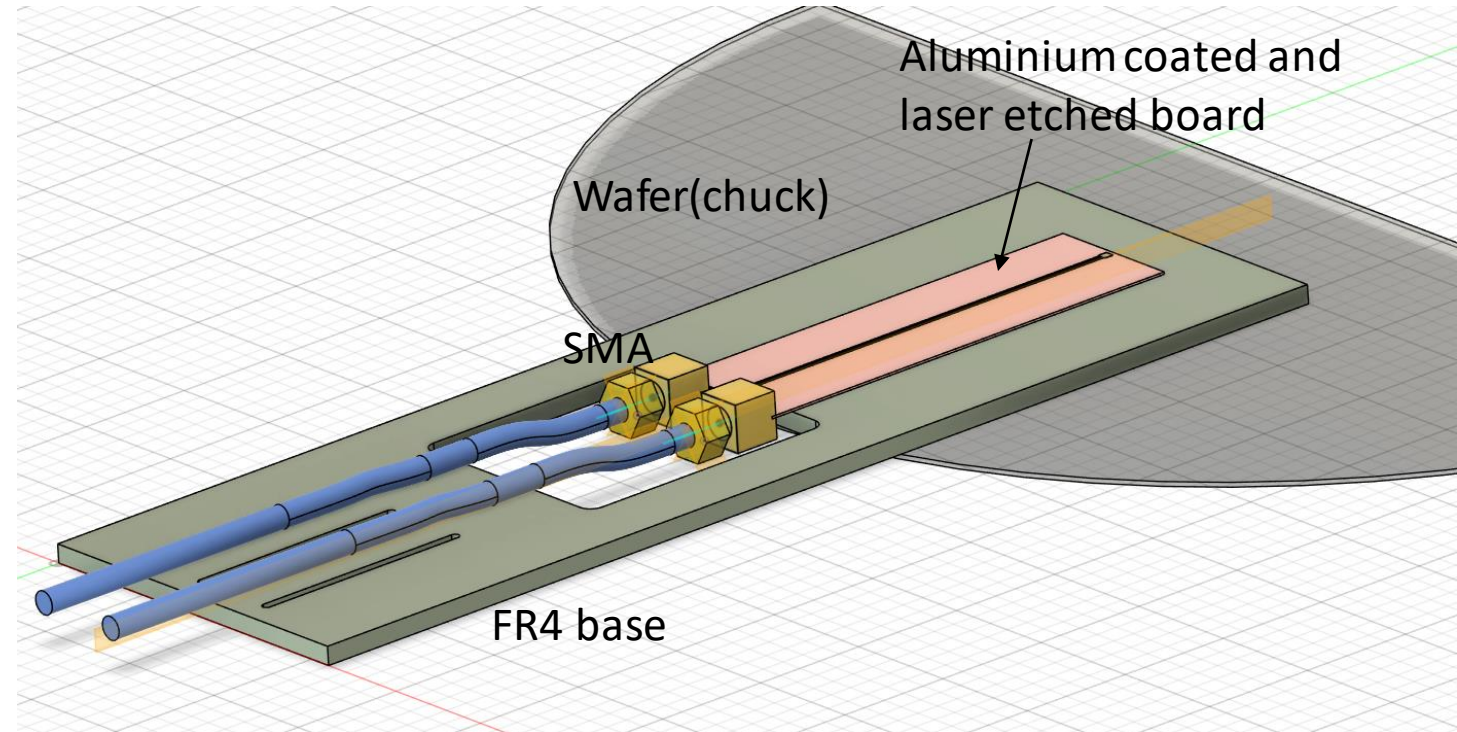
SAME TRACE PARAMETERS





Probecard characterisation without NKF7

- Contact one differential pair with a test fixture
- Measure prbs from enclustra, signal generator, and 4-port VNA S-curve
- Need to contact on aluminium -> laser etch on Al-coated FR4 (done before /w Antoine) – impedance matched
- Use edge SMA which are screwed not soldered
- Mount on thick support (e.g. 4mm FR4) to mechanically decouple high speed cables
- Alternative: Impedance matched loopback (double ended) -> fast, no need to route out cables (trace length important, reflections – but quick check with Stefano promising regarding pinout)
- Additional route: test fixture from MPI -> do both in parallel (short/long term NKF7/MOSAIX pinout)



VNA setup @Oxford

Use VNA to perform 4-port measurement:

