

All-Silicon Update. Temperature measurements

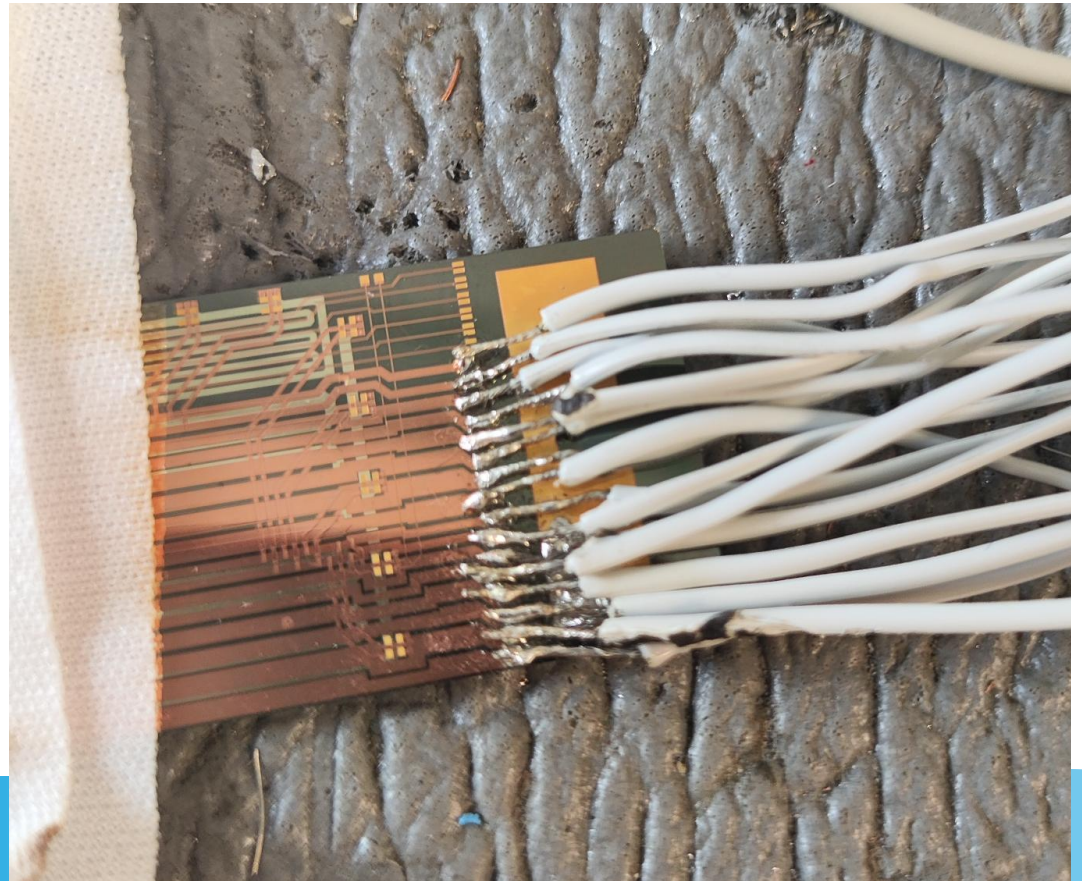
Nana Chychkalo
02.10.2025

Content

- Setup
- Partially connected module
- Fully connected module (15 minutes)
- Fully connected module (30 minutes)

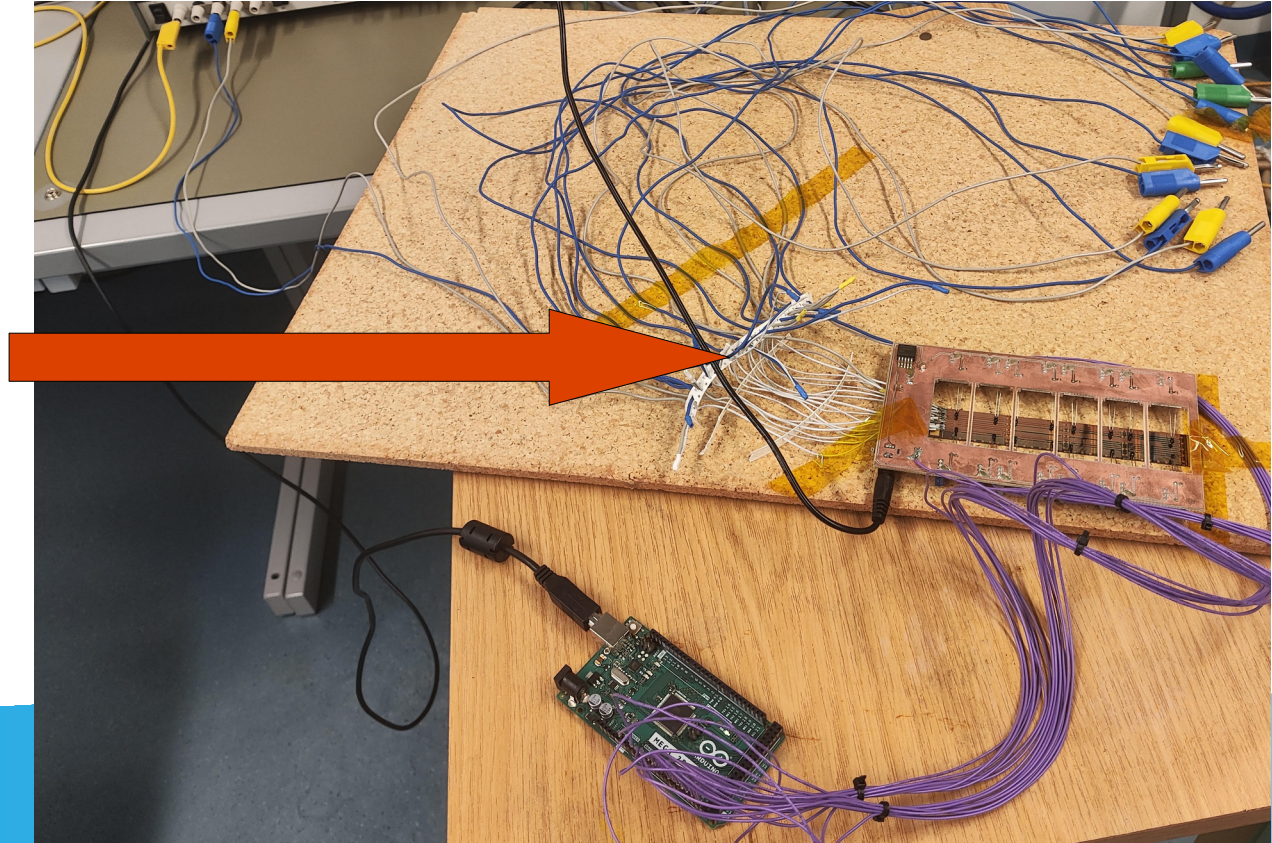
Setup

- Wire-bonding pads soldering.
- Easy to pull out the WB connections – re-soldered them several times.



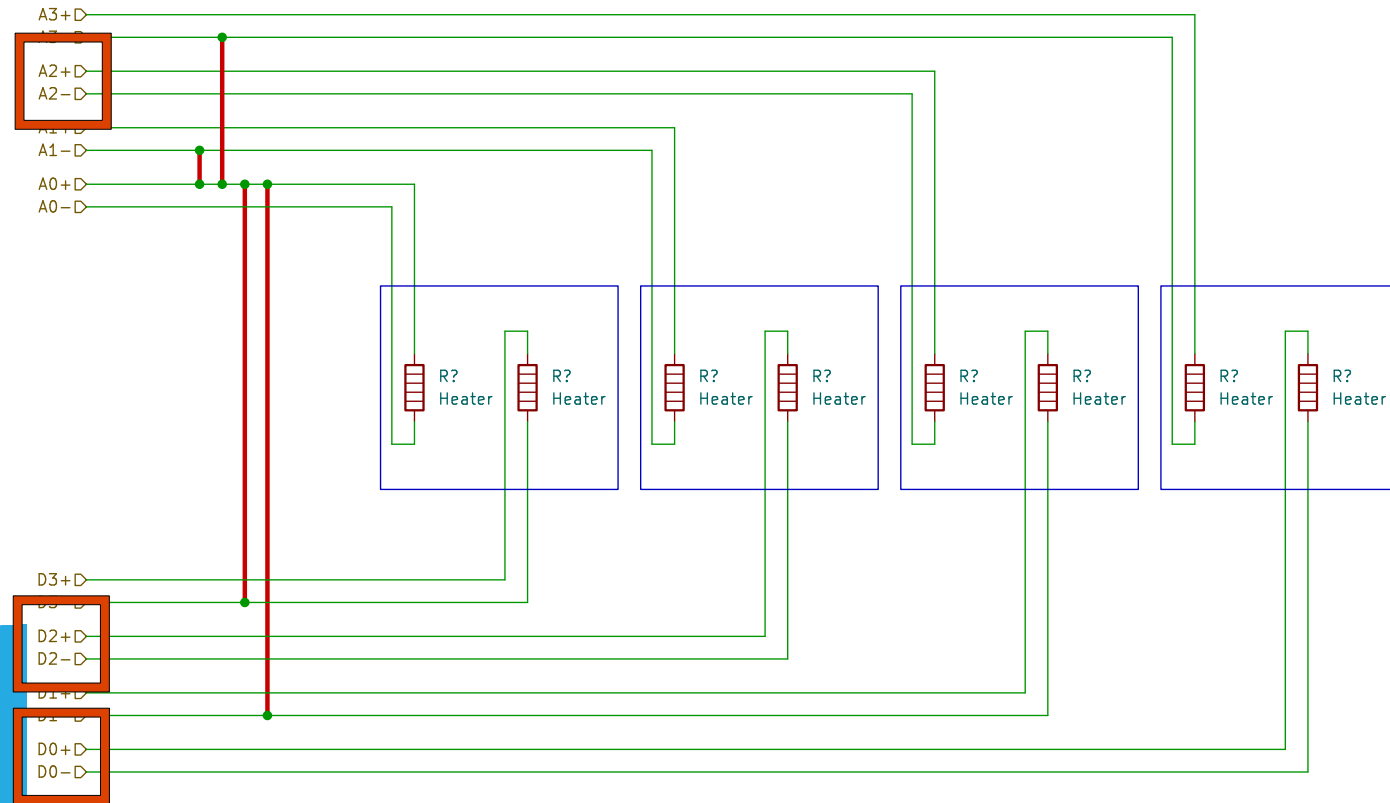
Setup

- Soldered connections of wire bonding pads – very fragile.
- A “bridge” prevents from pulling out connections.



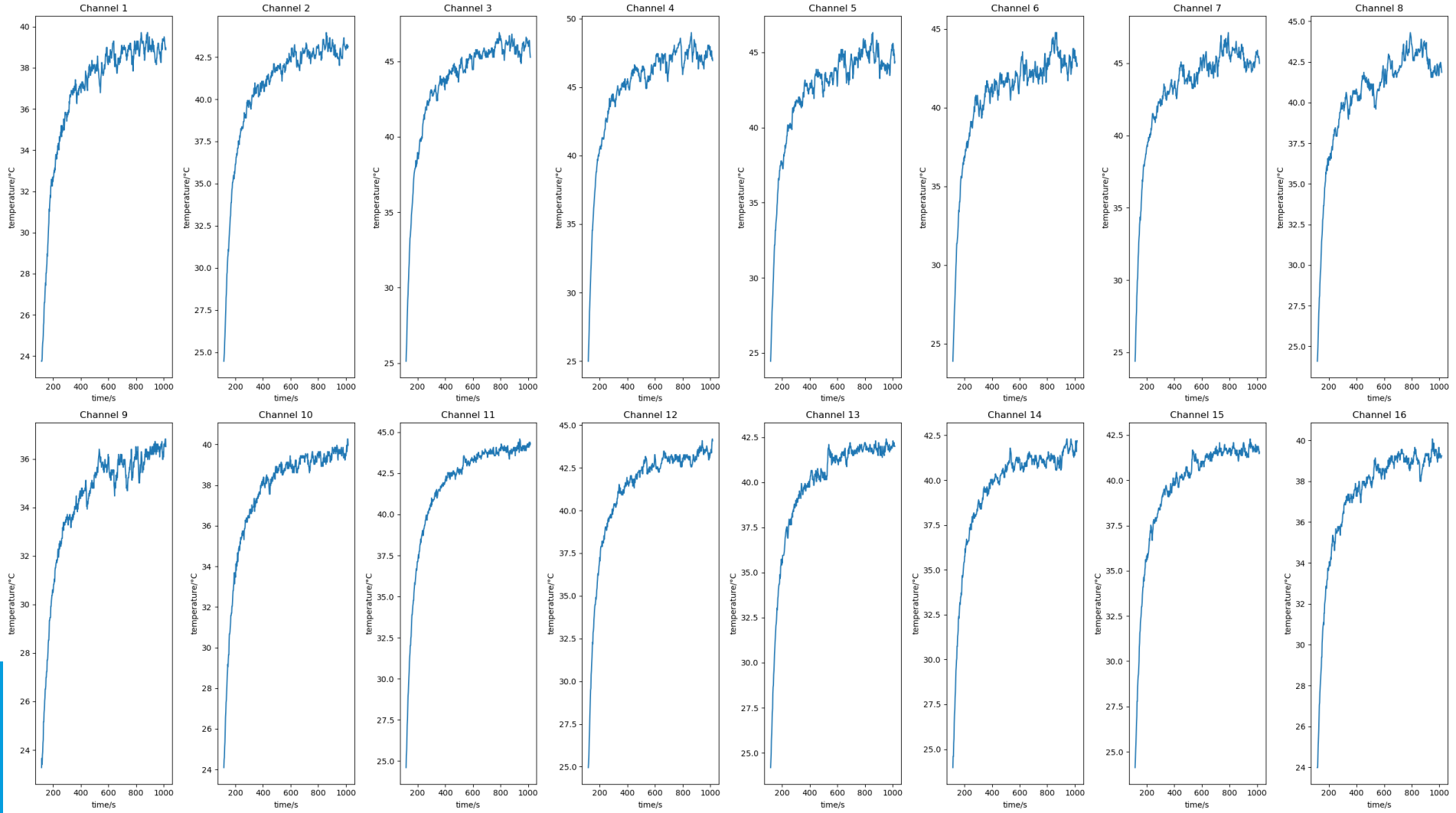
Powering (Partially connected module)

- Powered only independent lines simultaneously.



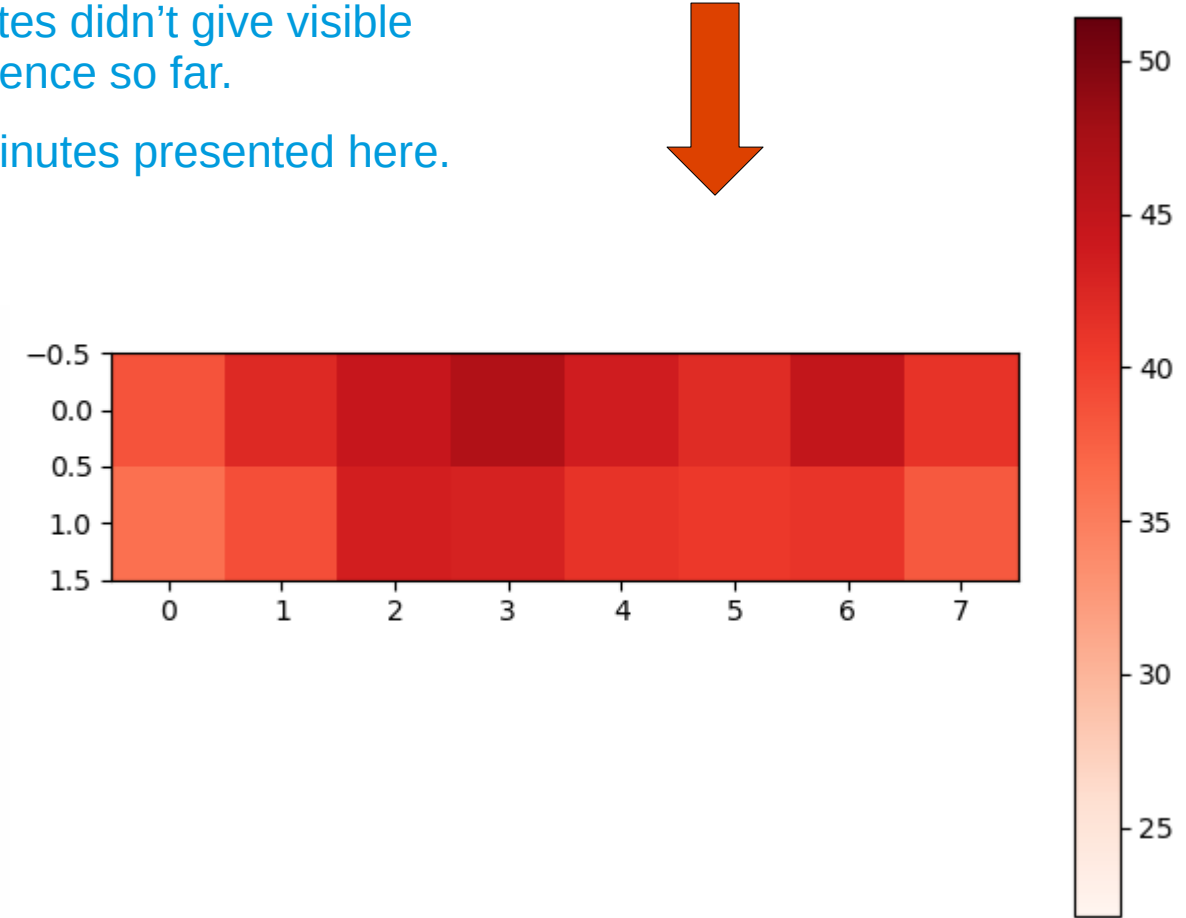
Partially connected

- 6 pads connected ONLY.
Duration: 15 minutes.

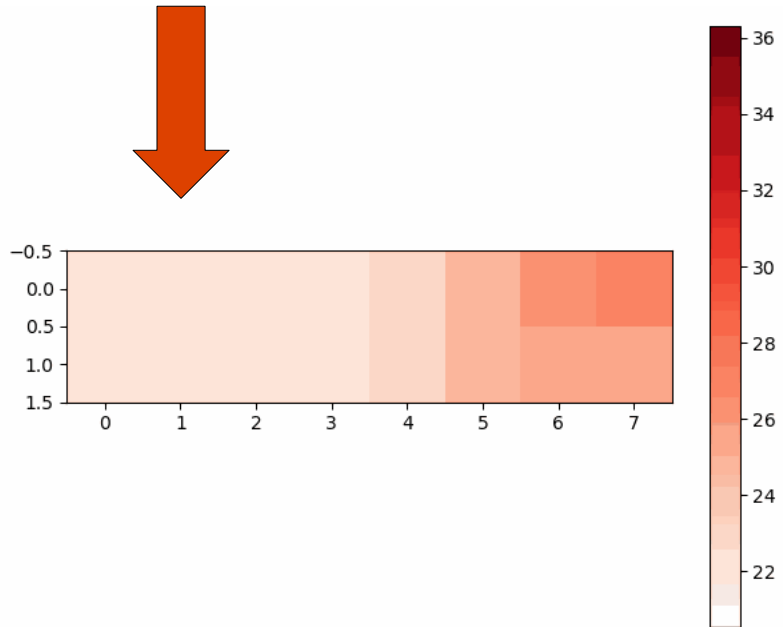


Partially connected • 6 pads connected ONLY.

- Runs with the duration of 15 or 30 minutes didn't give visible difference so far.
- 15 minutes presented here.

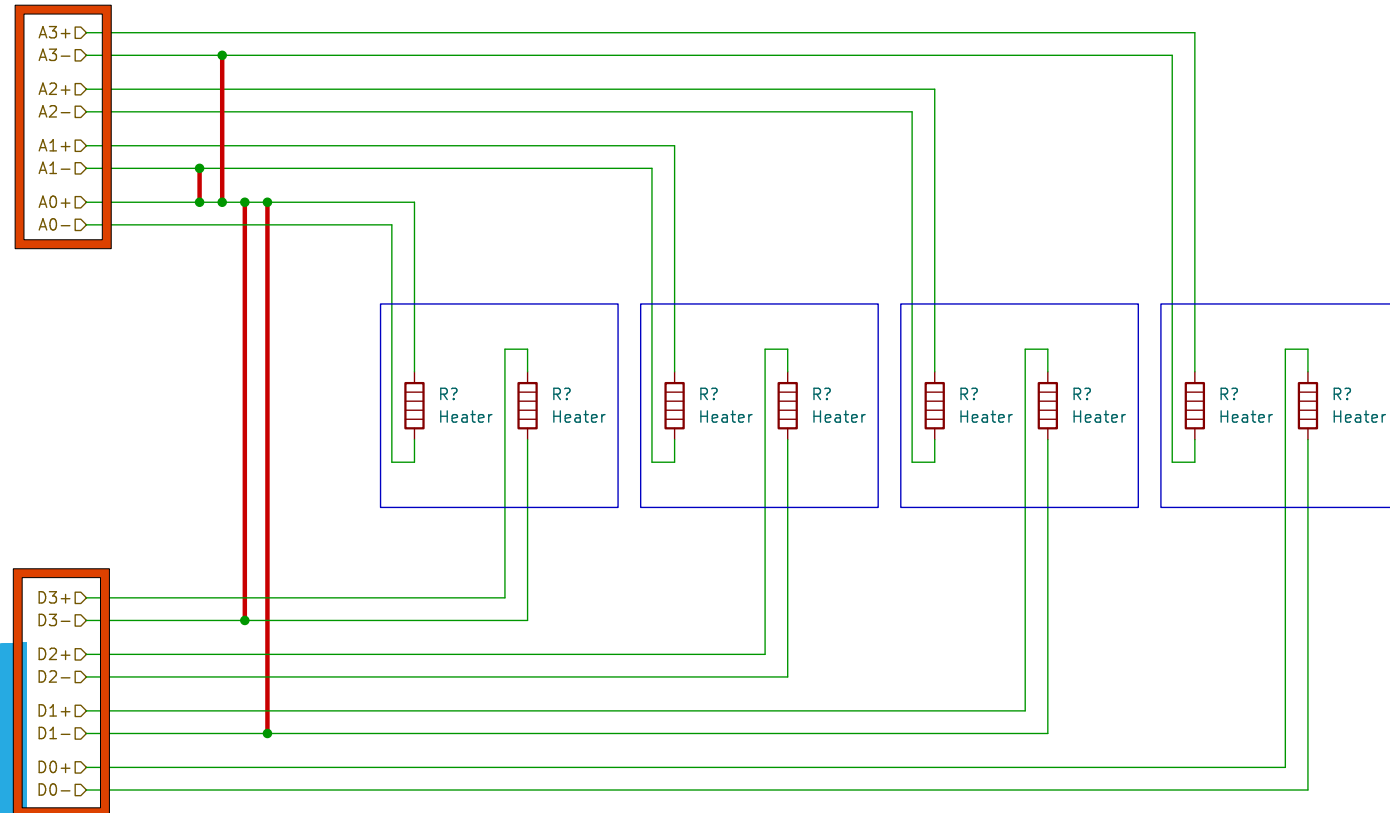


- 2 pads connected ONLY.



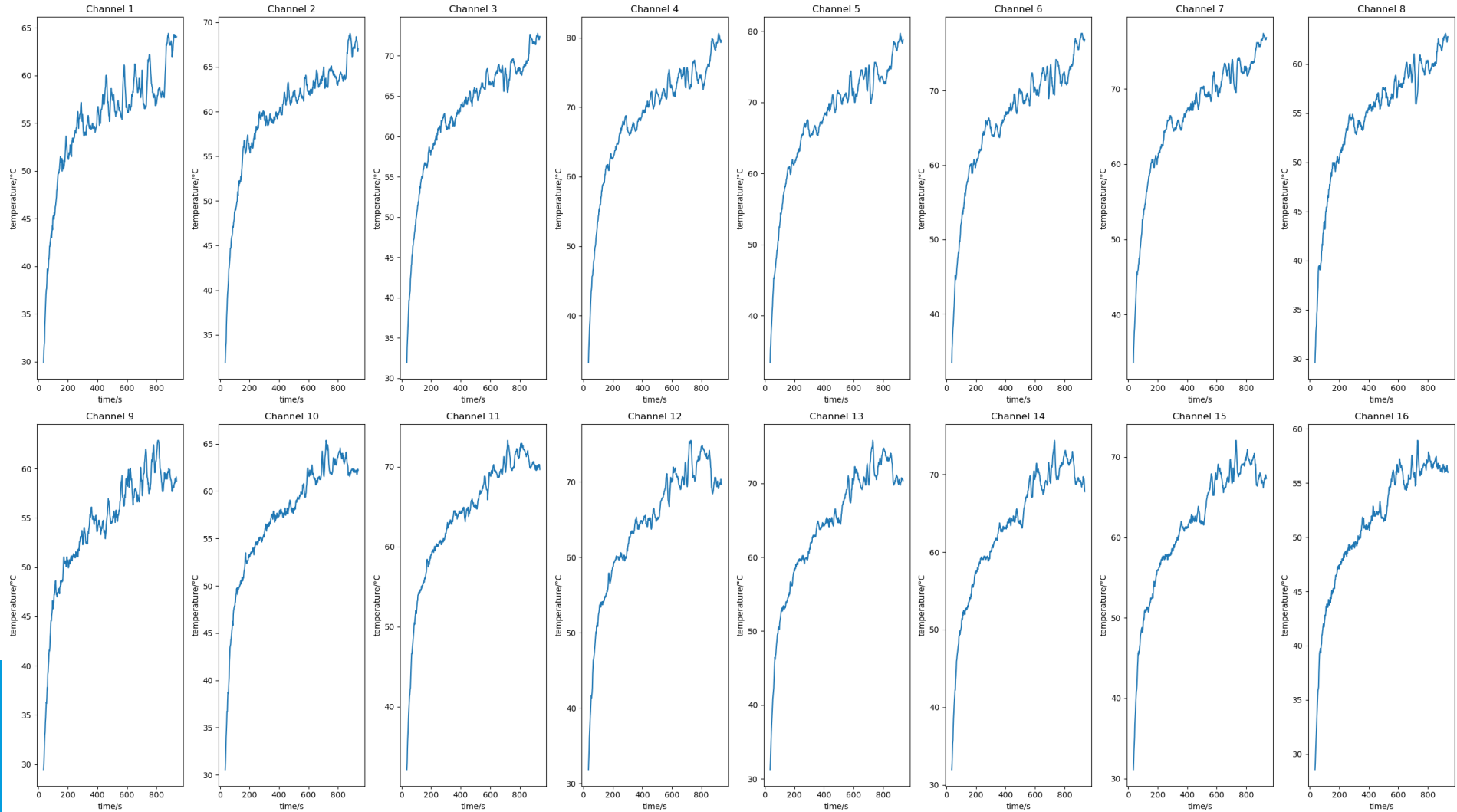
Powering (Fully connected module)

- Powered all lines simultaneously.



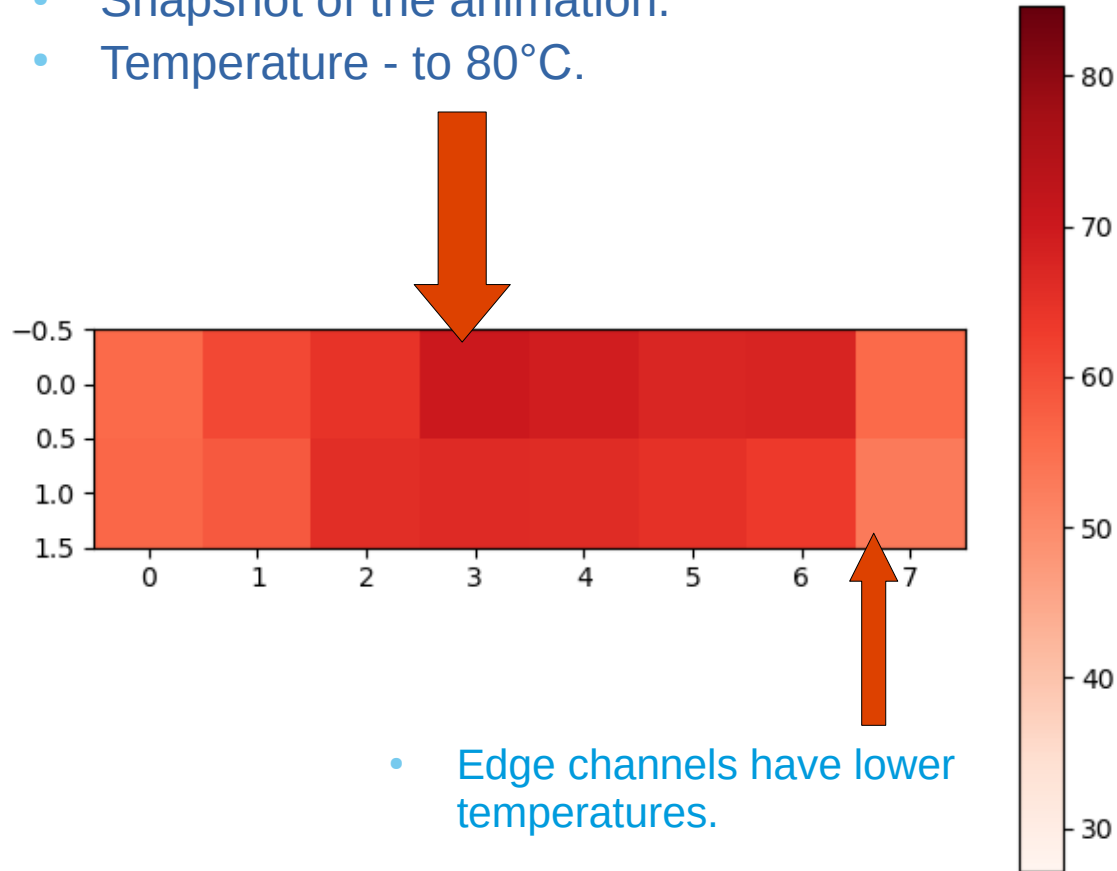
Fully connected

- All 16 pads connected.
Duration: 15 minutes.



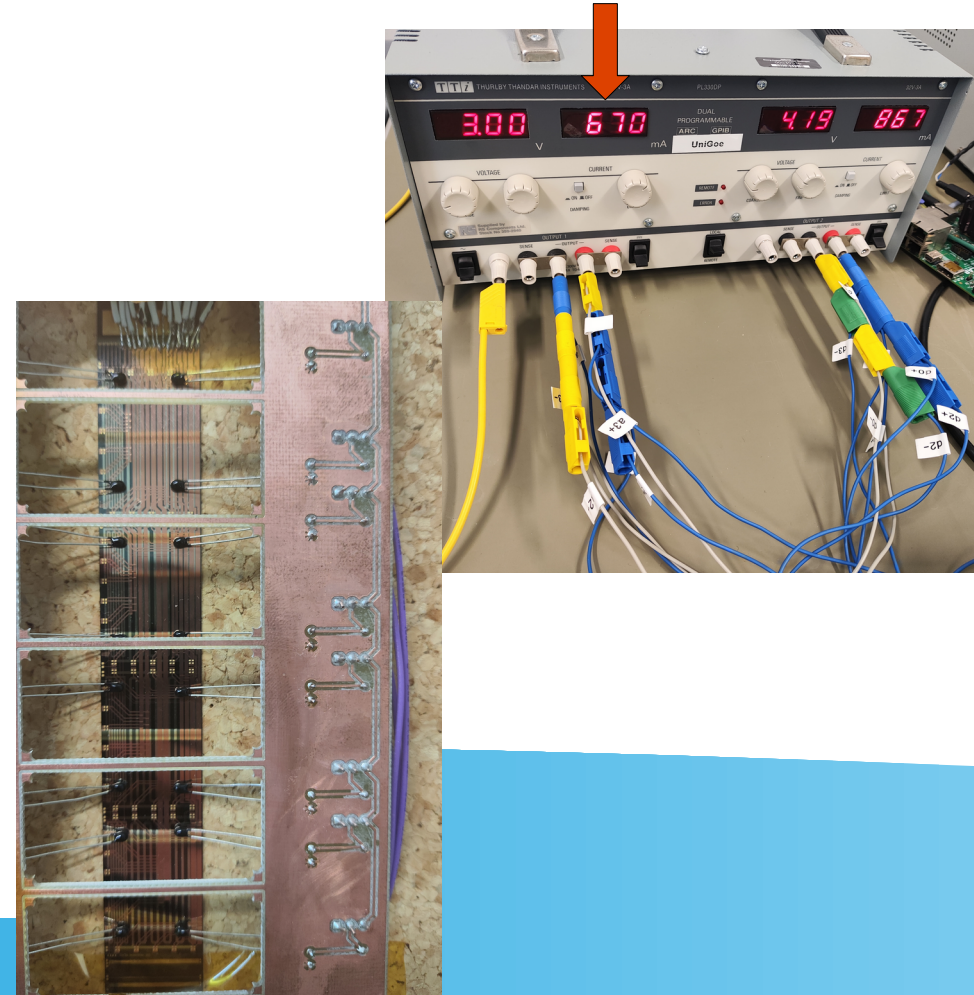
Fully connected

- Snapshot of the animation.
- Temperature - to 80°C.



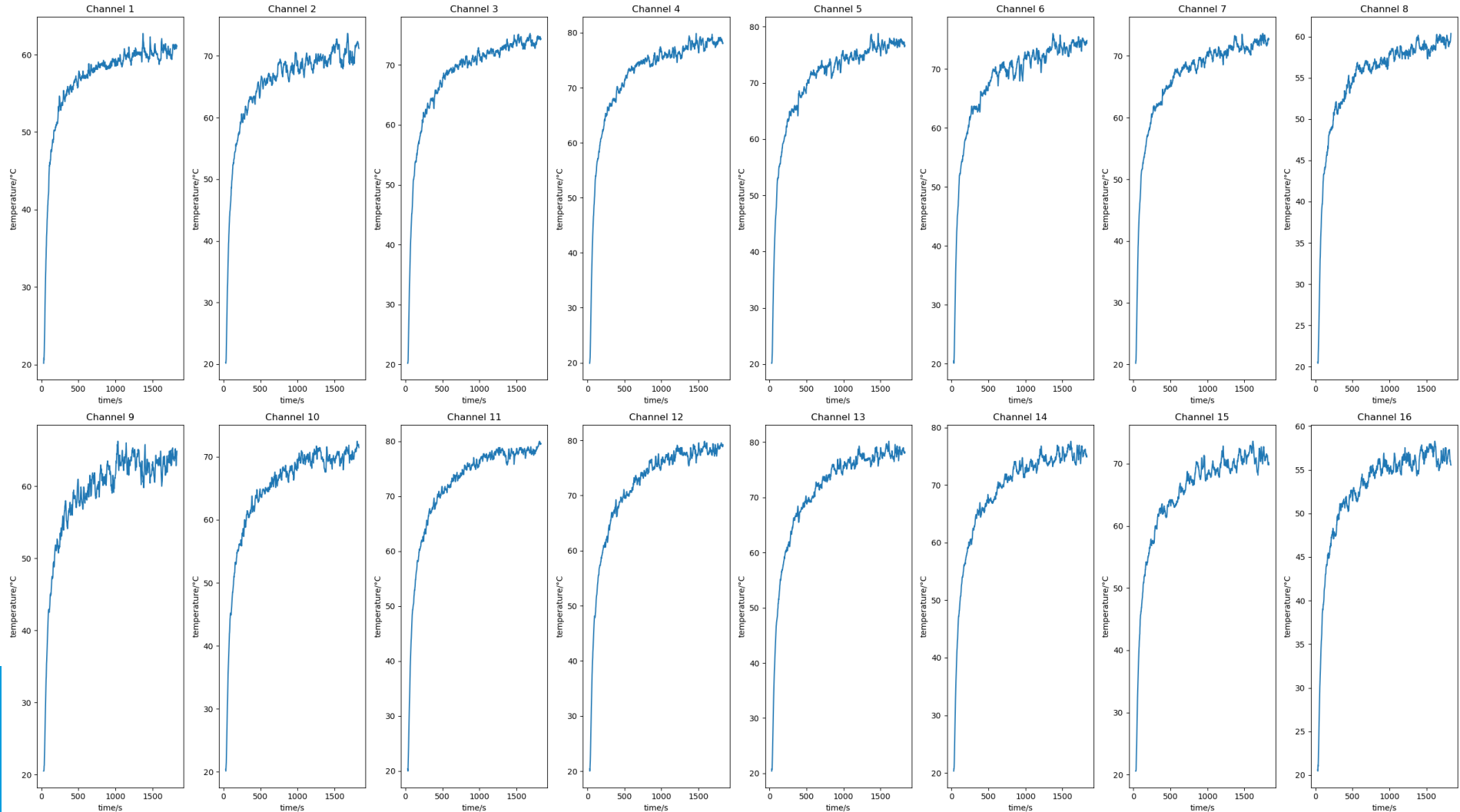
- Edge channels have lower temperatures.

- All 16 pads connected. Duration: 15 minutes.
- Interesting observation: current slowly decreases over time.



Fully connected

- All 16 pads connected.
Duration: 30 minutes.



Fully connected

- All 16 pads connected.
Duration: 30 minutes.

