



ITS3 activities in Bari

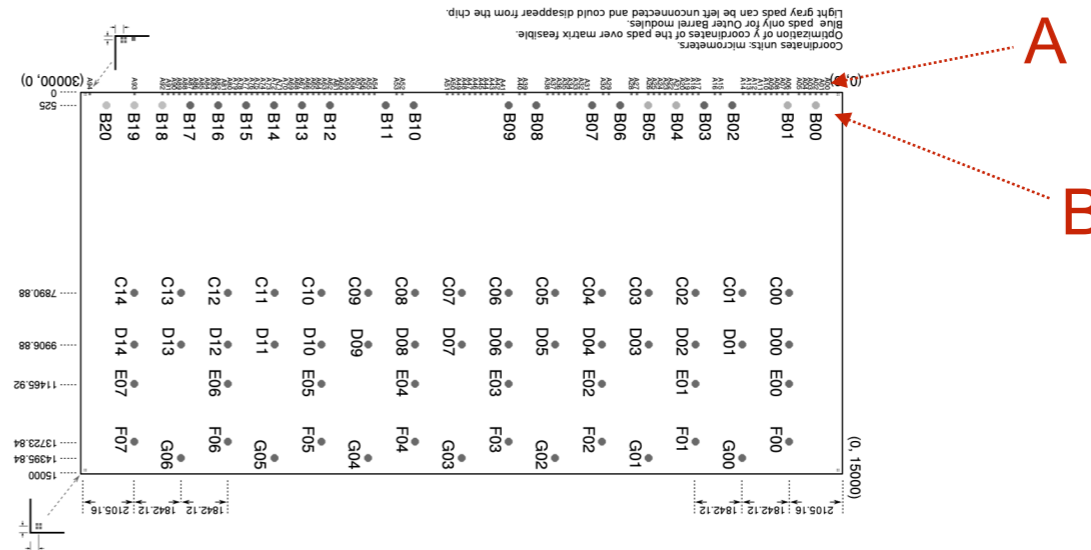
Super-ALPIDE mockup assembly

- Cylindrical bonding tools
- Dummy-super-ALPIDE
- Exoskeleton (v1, by Magnus)
- Exo-FPC

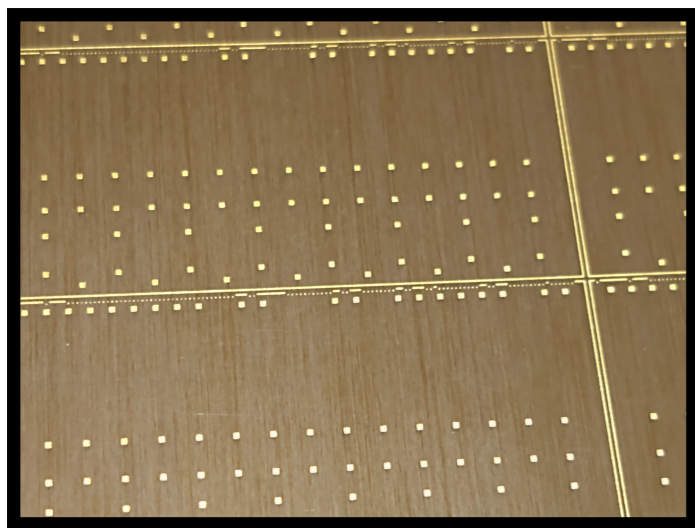


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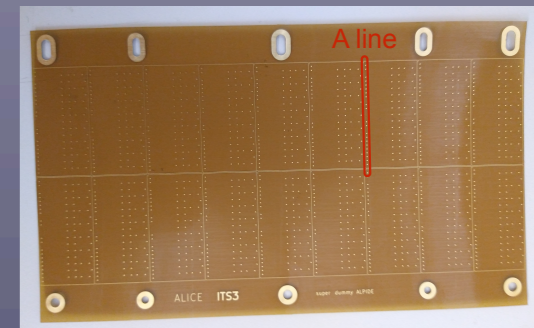
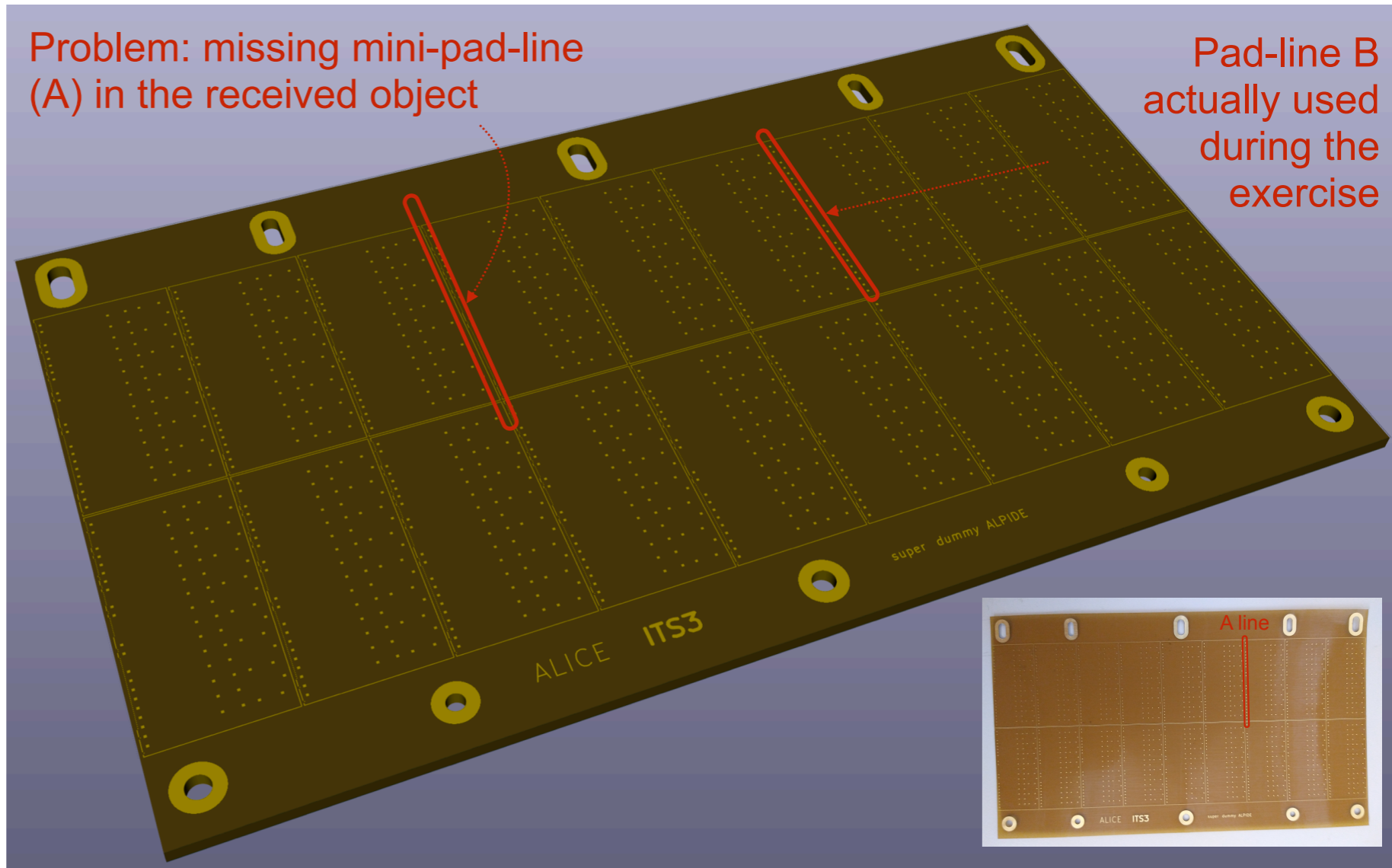


Problem solved in second production (received yesterday)



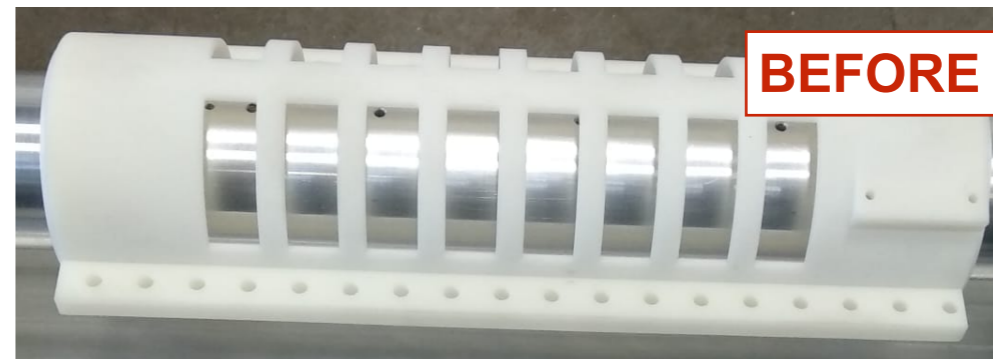
Problem: missing mini-pad-line (A) in the received object

Pad-line B actually used during the exercise

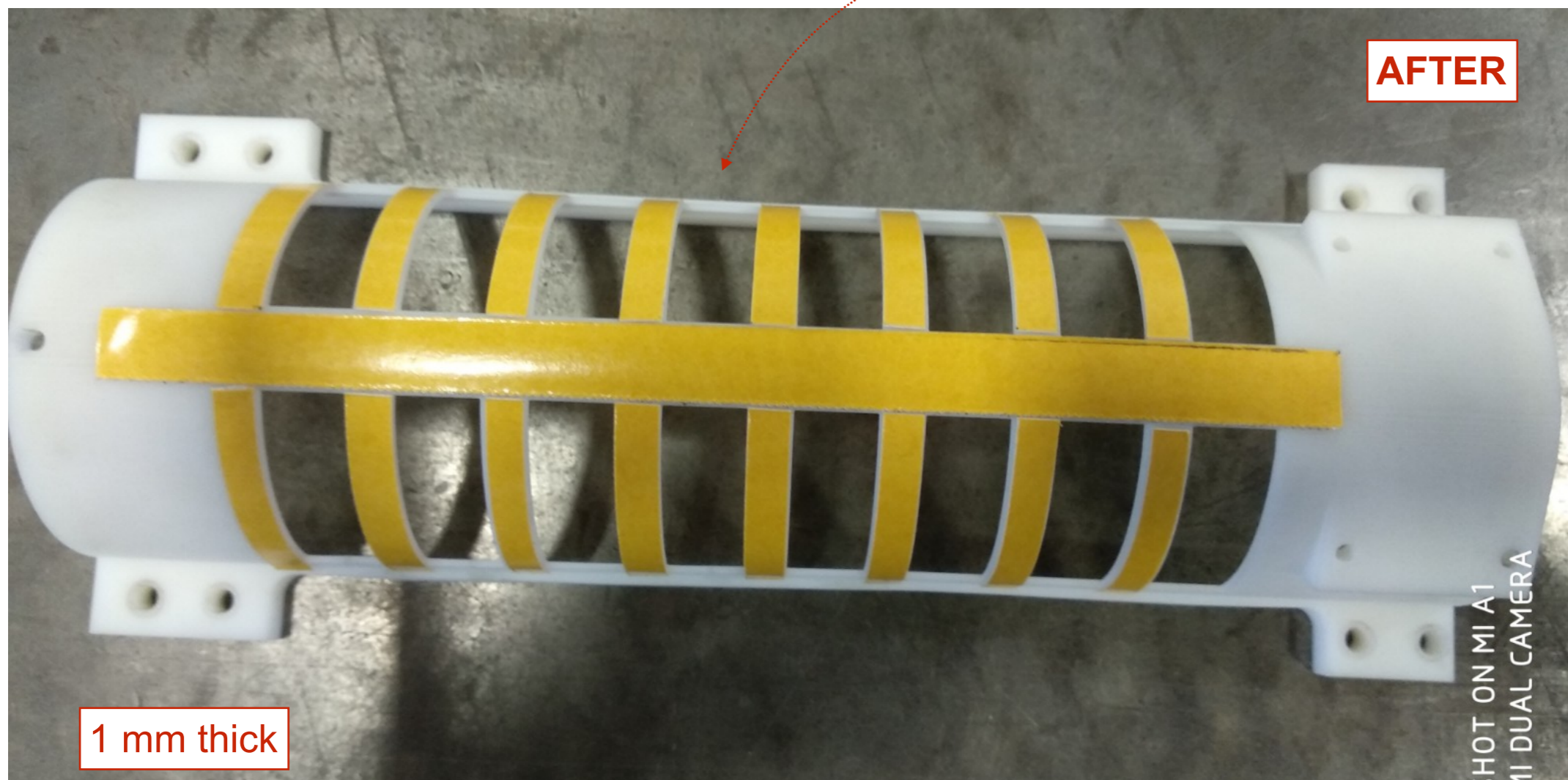


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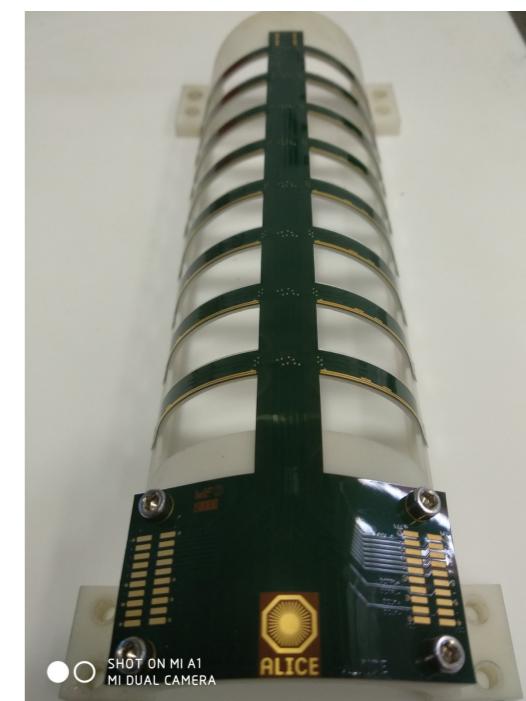
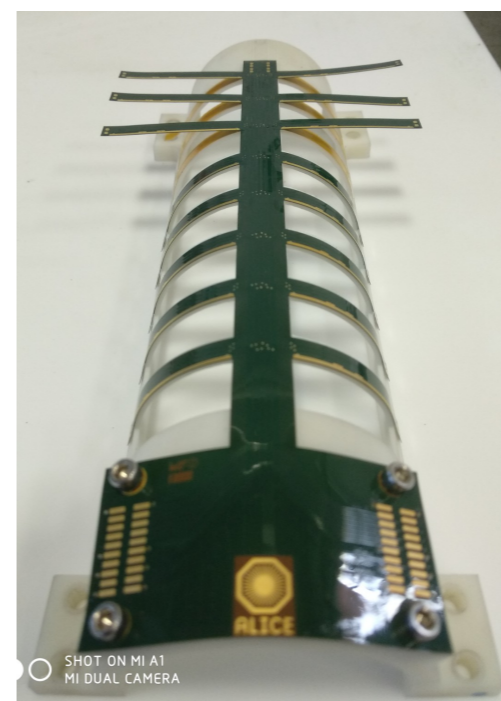
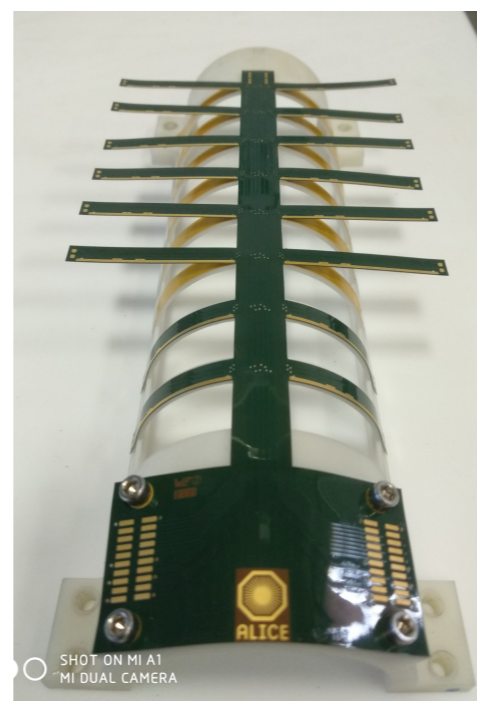
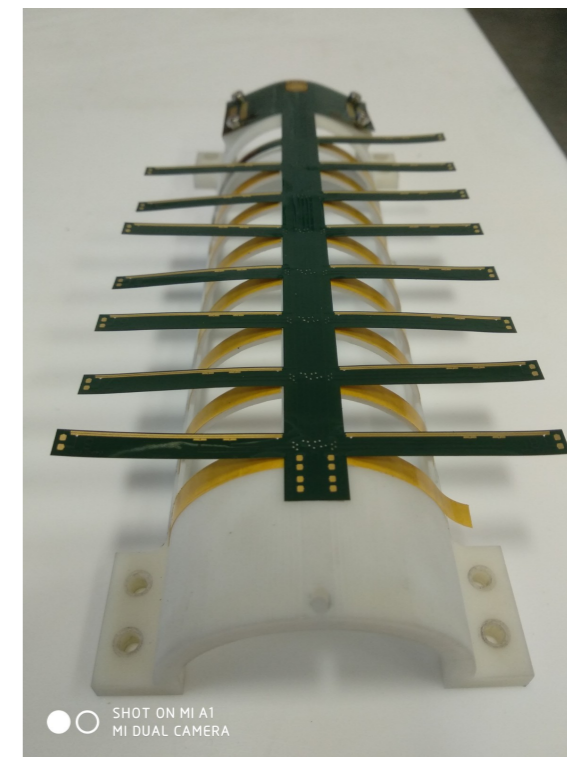
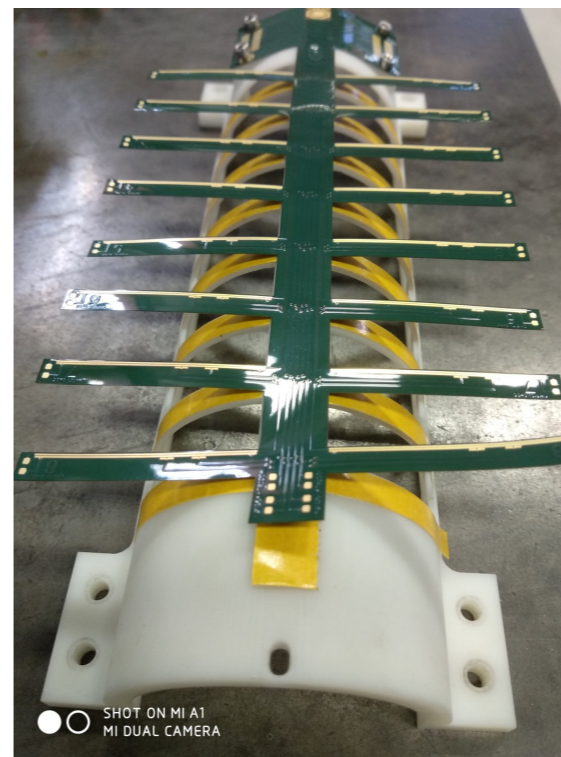
Lateral bars removed



Super-ALPIDE mockup assembly

- Cylindrical bonding tools
- Dummy-super-ALPIDE
- Exoskeleton (v1, by Magnus)
- Exo-FPC

- Double-side adhesive tape (100 μm)
- Placement procedure
 1. Connector side fixed with screws
 2. Spine placement starting from the connector side
 3. One-by-one rib placement starting from the connector side
- Quite good result: smooth FPC surface.
- Screws in the connector head, actually fix the position of the FPC-ribs with respect to the exo-ribs \rightarrow to be evaluated the possibility to replace holes for screw with asole

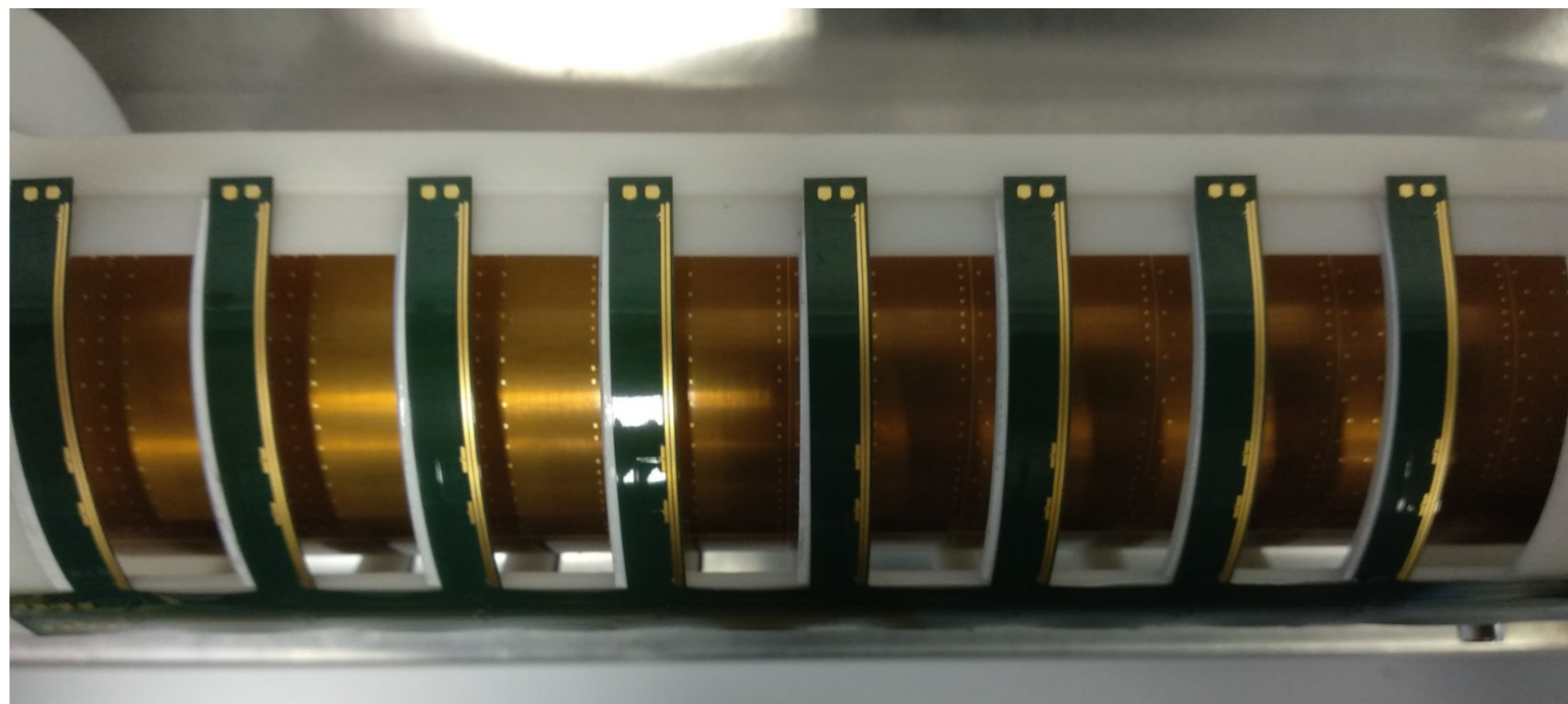
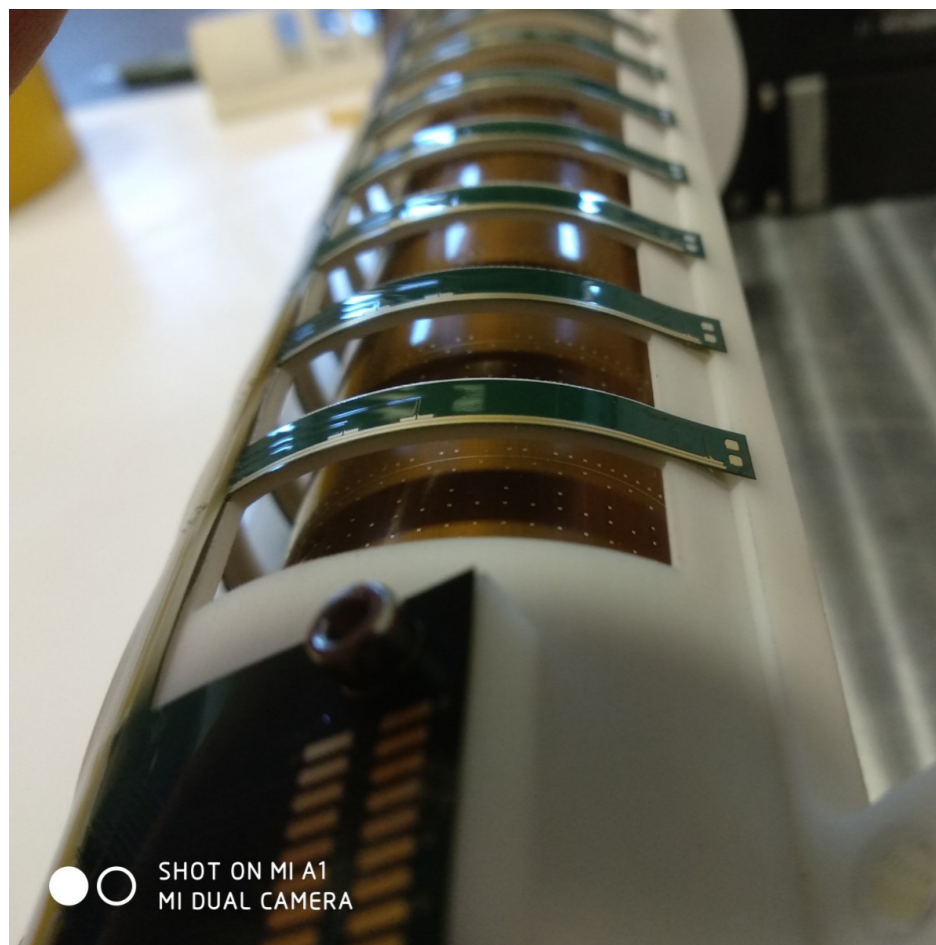
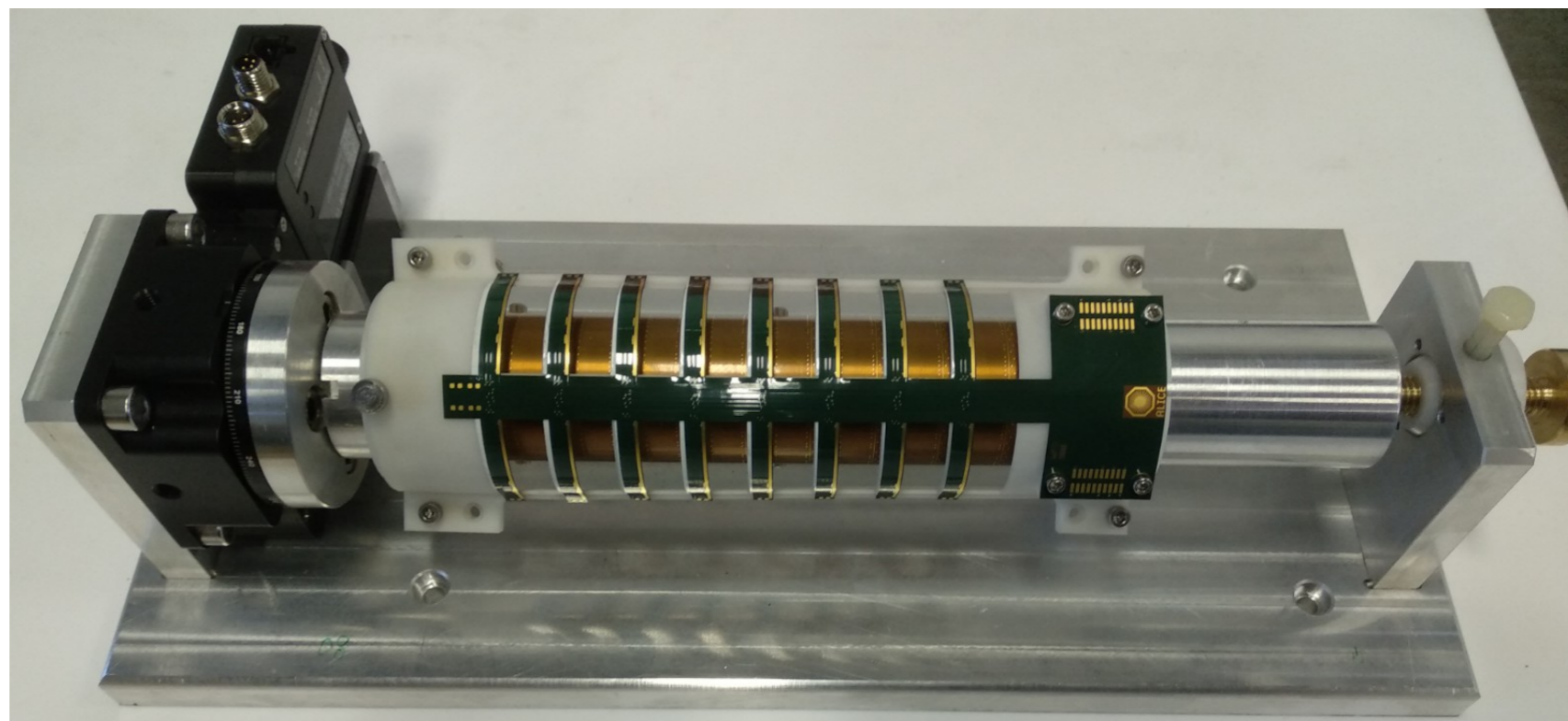


One more exo-FPC available \rightarrow detailed later



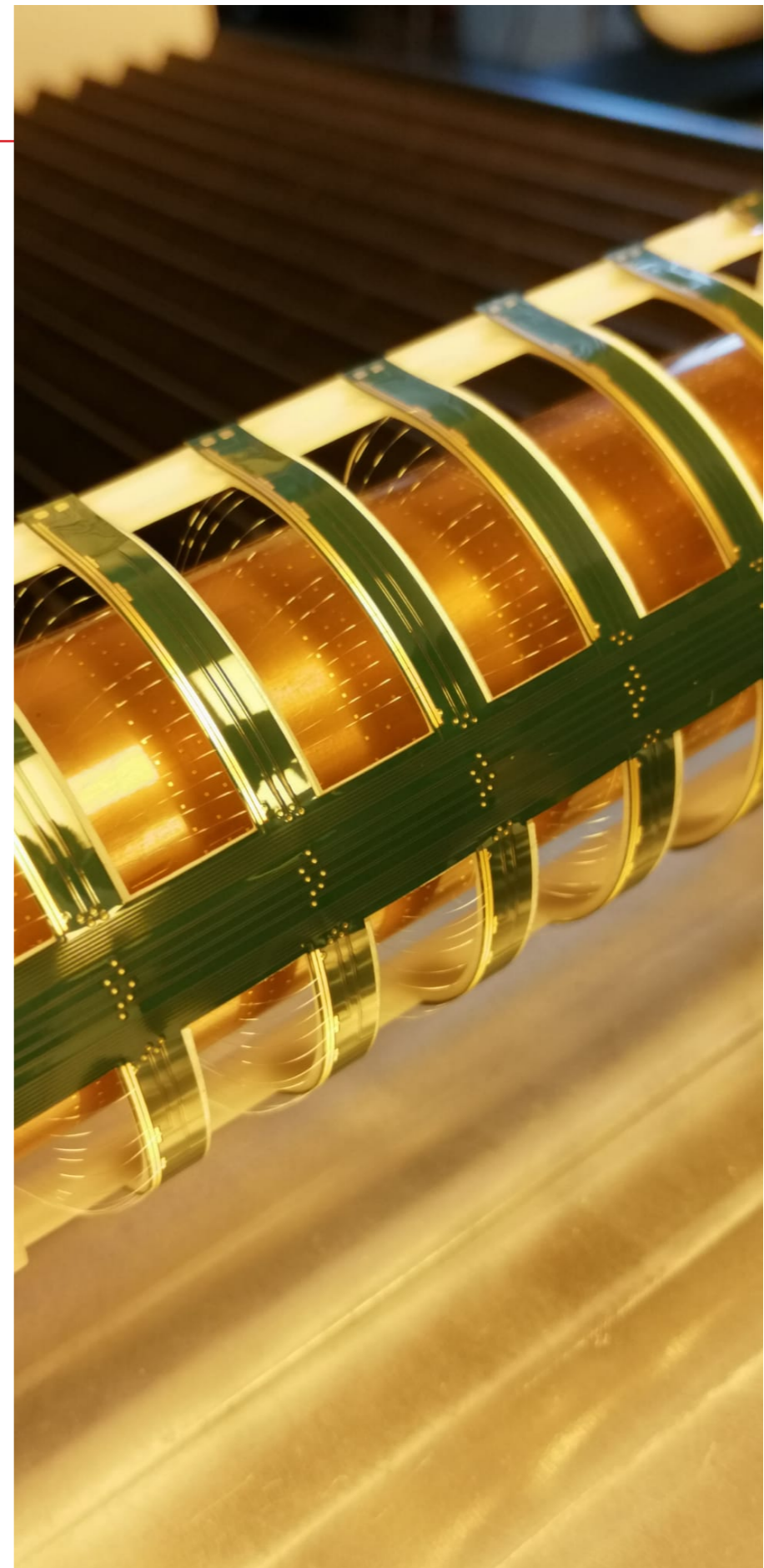
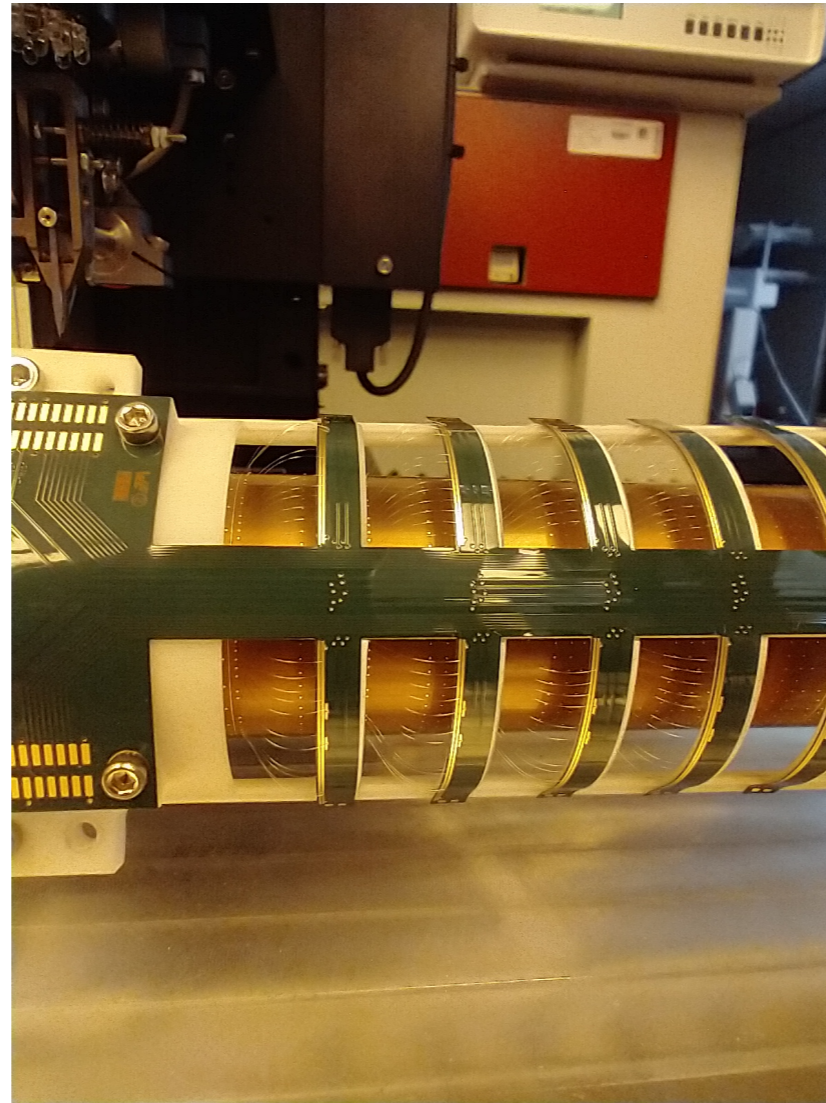
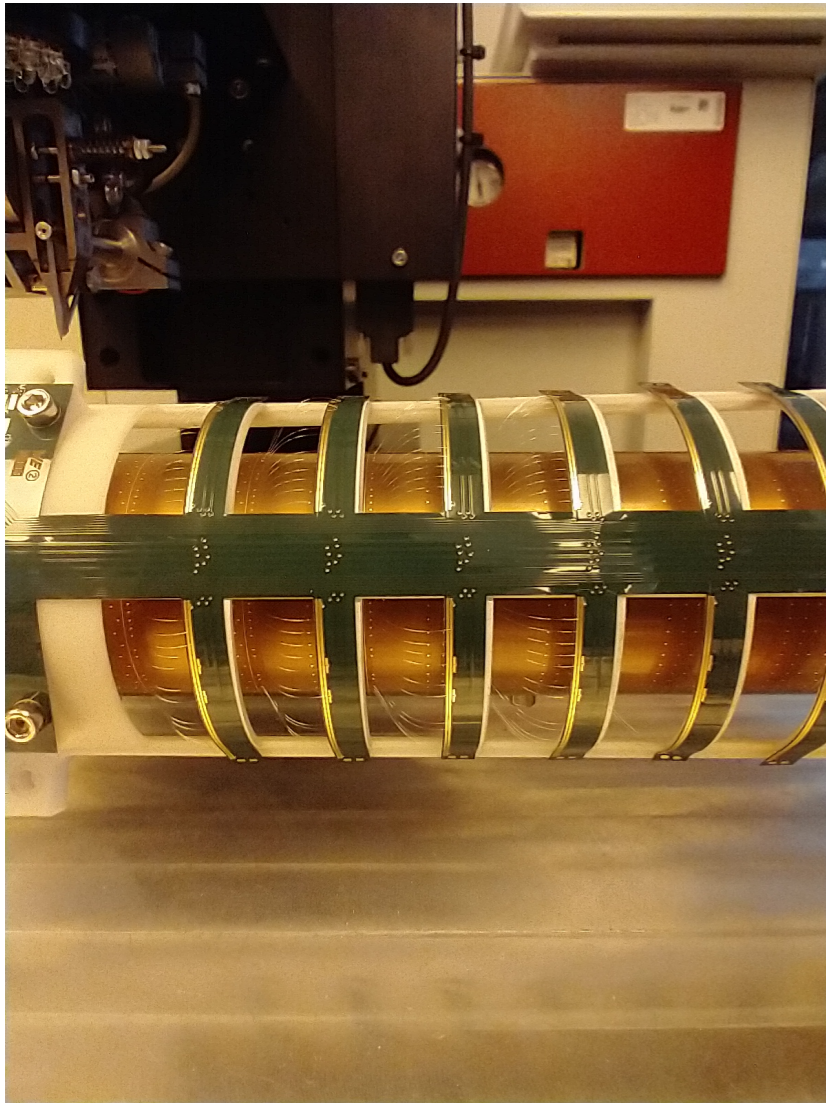
Super-ALPIDE mockup assembly

- Cylindrical bonding tools
- Dummy-super-ALPIDE
- Exoskeleton (v1, by Magnus)
- Exo-FPC



Super-ALPIDE mockup assembly

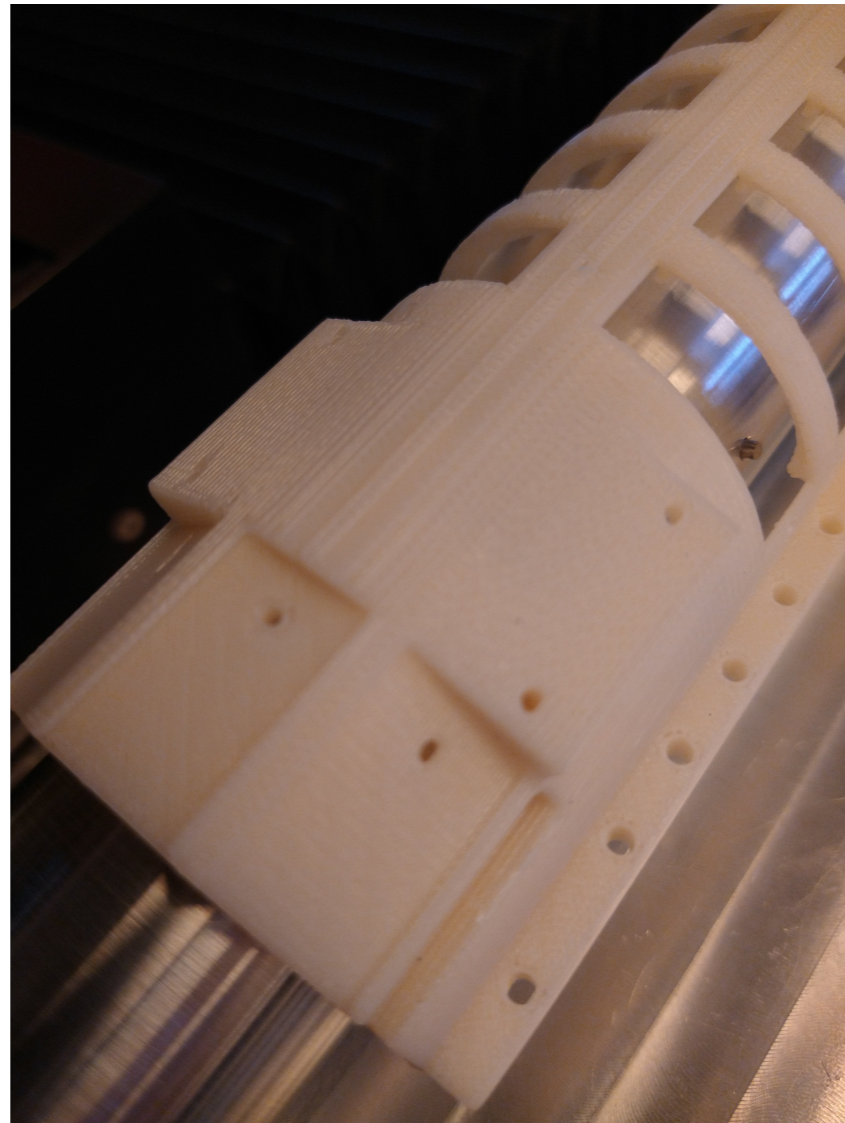
- Cylindrical bonding tools
- Dummy-super-ALPIDE
- Exoskeleton (v1, by Magnus), 1mm
- Exo-FPC



Exoskeleton v2 printing

- Large improvement in the dimensional precision
 - Total length: (v1) $\sim 500 \mu\text{m}$ (v2) $\sim 10 \mu\text{m}$
- Surface very rough
 - Depends on the thickness of the wire used in the printing machine

In this new design, lateral bars simply reduced (not removed) to avoid interference with bonding machine head.



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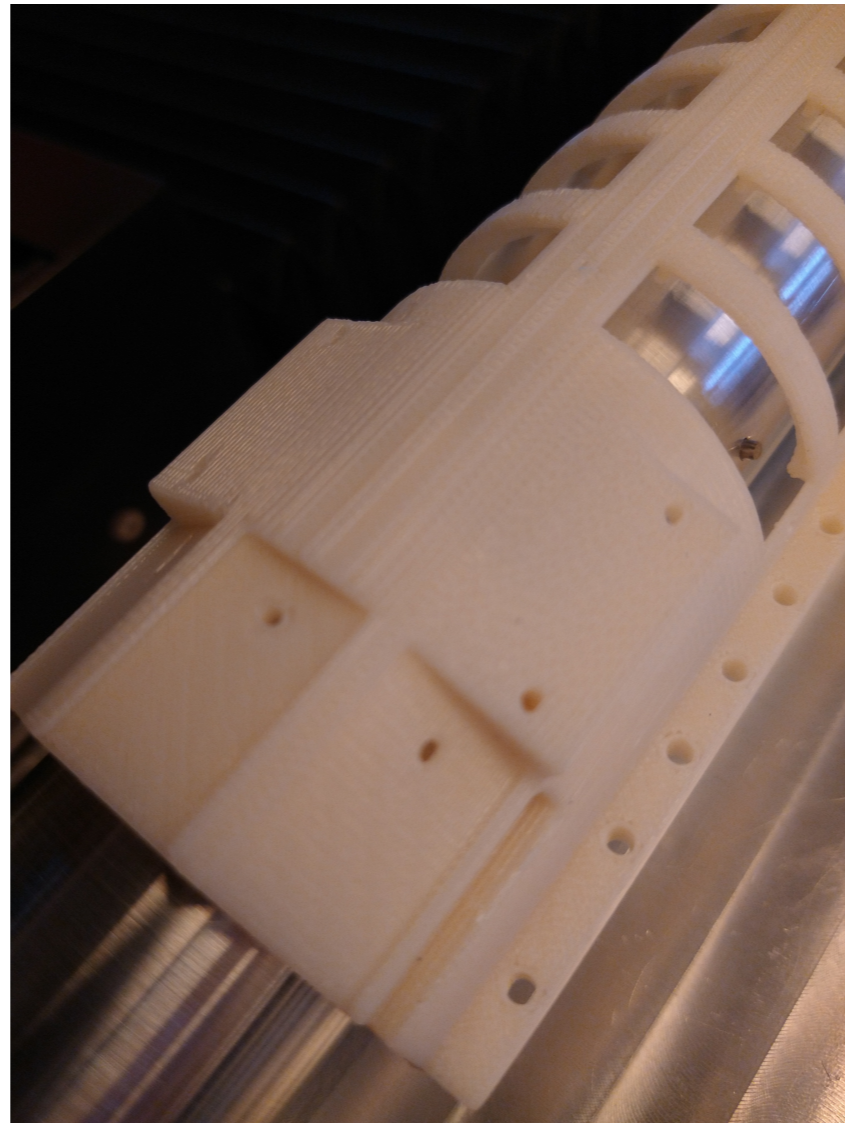
One more exo-FPC available

→ Use it with the new exoskeleton

→ Still thinking about gluing

procedure: glue or adhesive tape

- Rough surface could be better for glue



Component production status

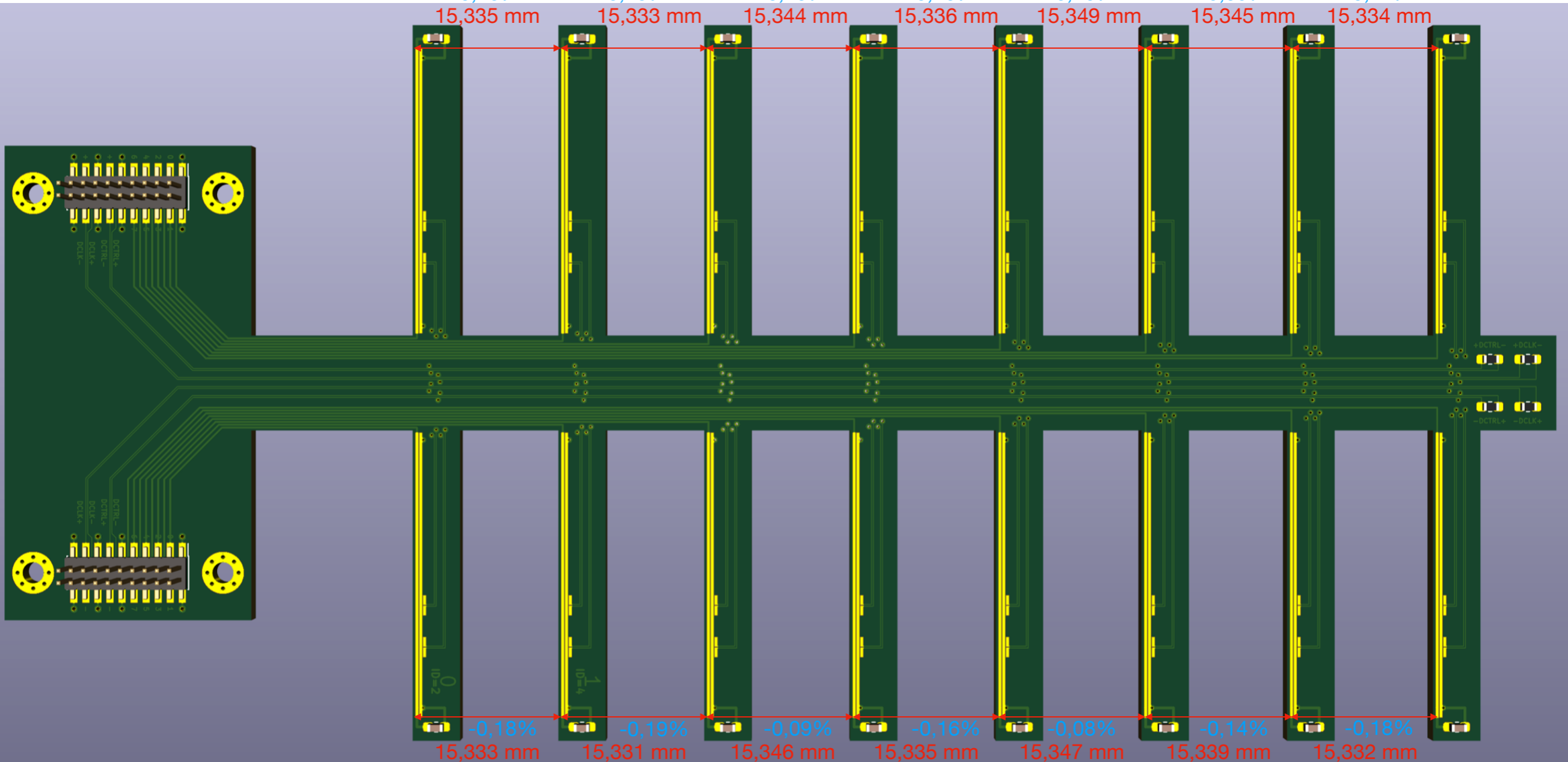
- Dummy super-ALPIDE → Available
- Edge-FPC → Submission completed, starting production
- Exo-FPC → No news
- Exoskeleton (v2) → One produced in Bari

BACKUP



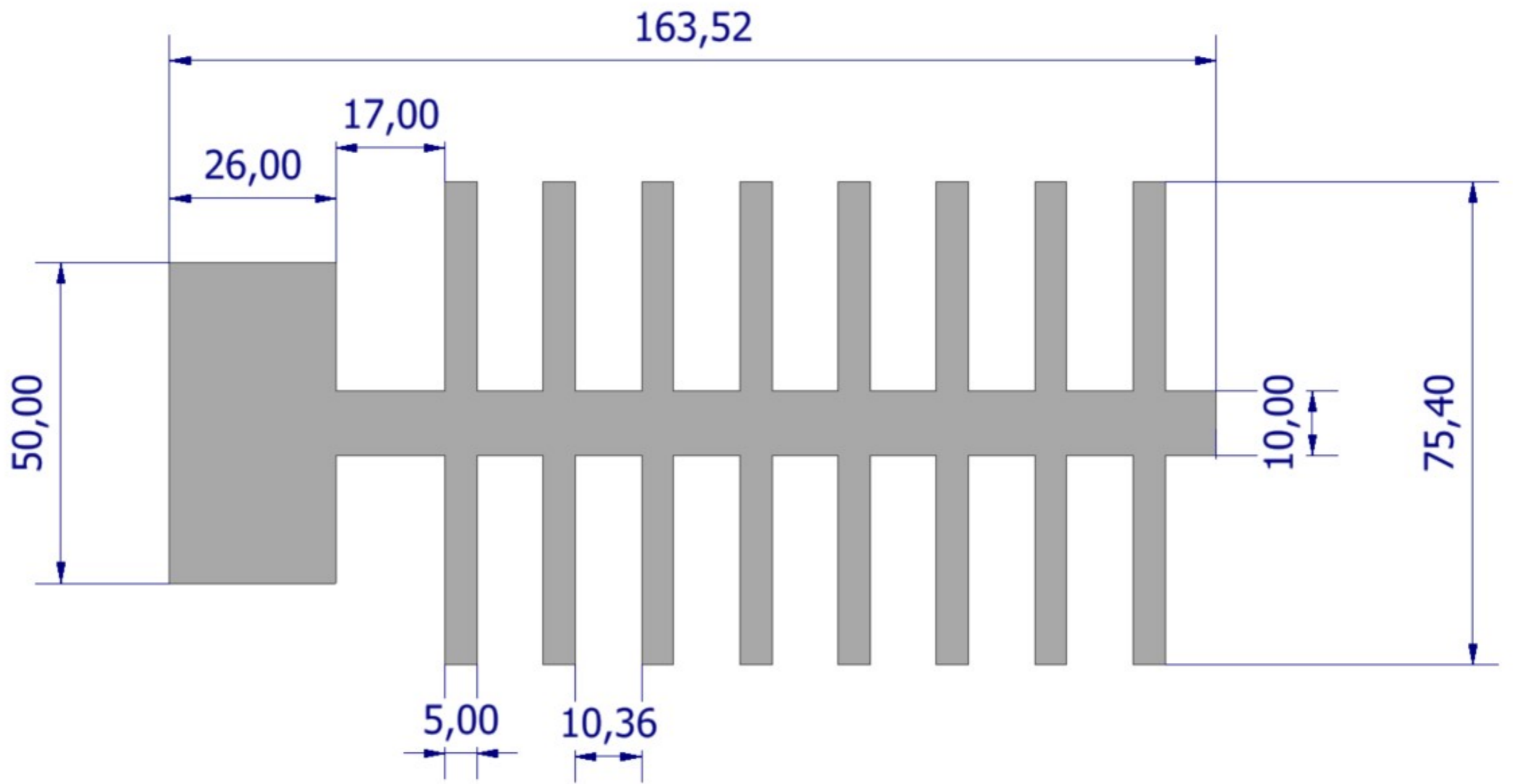
| | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| y: 77,295 | y: 77,305 | y: 77,315 | y: 77,318 | y: 77,316 | y: 77,316 | y: 77,309 | y: 77,302 |
| z: -0,583 | z: -0,487 | z: -0,487 | z: -0,487 | z: -0,487 | z: -0,488 | z: -0,417 | z: -0,359 |

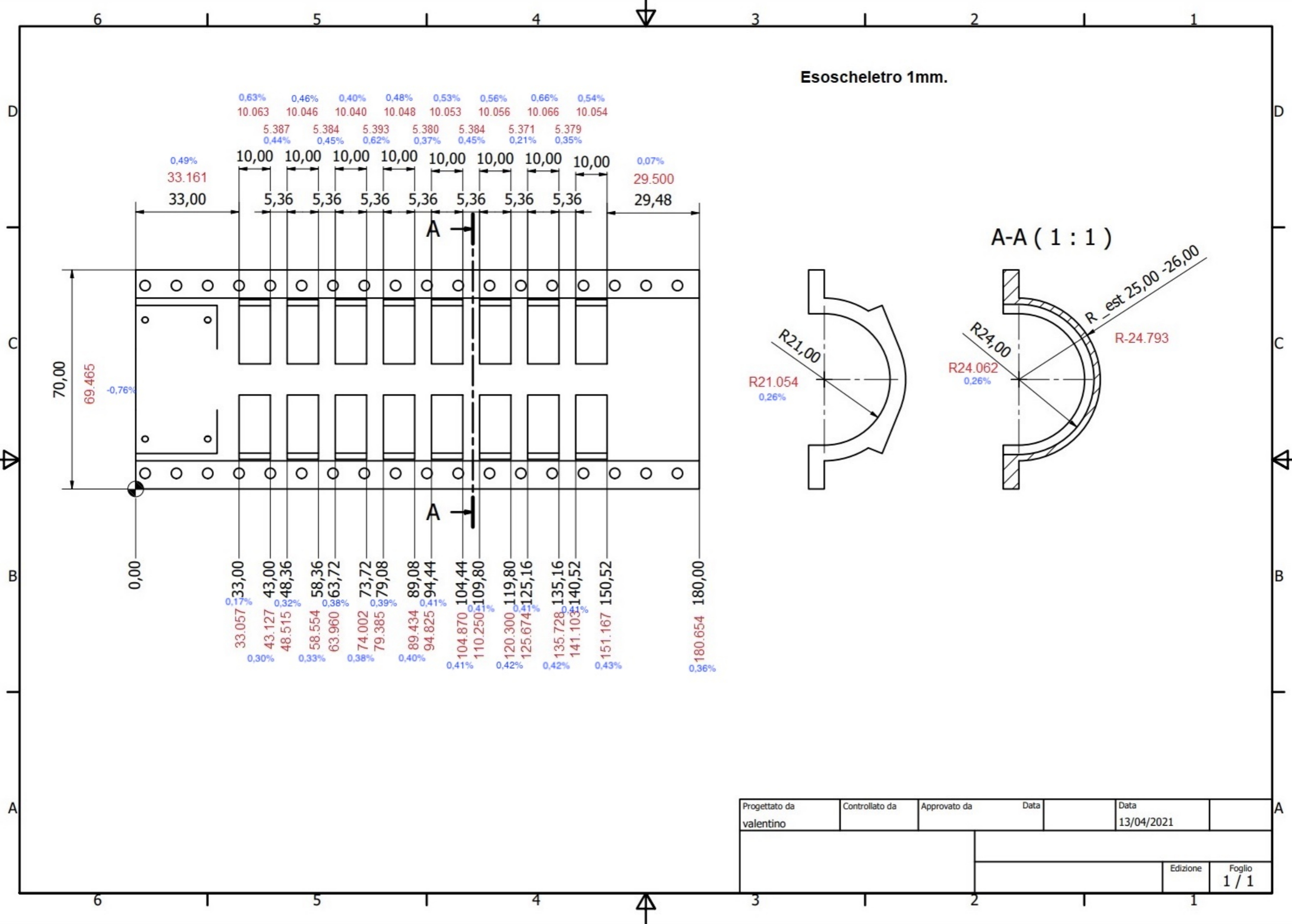
| | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| -0,16% | -0,18% | -0,10% | -0,16% | -0,16% | -0,09% | -0,17% |
| 15,335 mm | 15,333 mm | 15,344 mm | 15,336 mm | 15,349 mm | 15,345 mm | 15,334 mm |



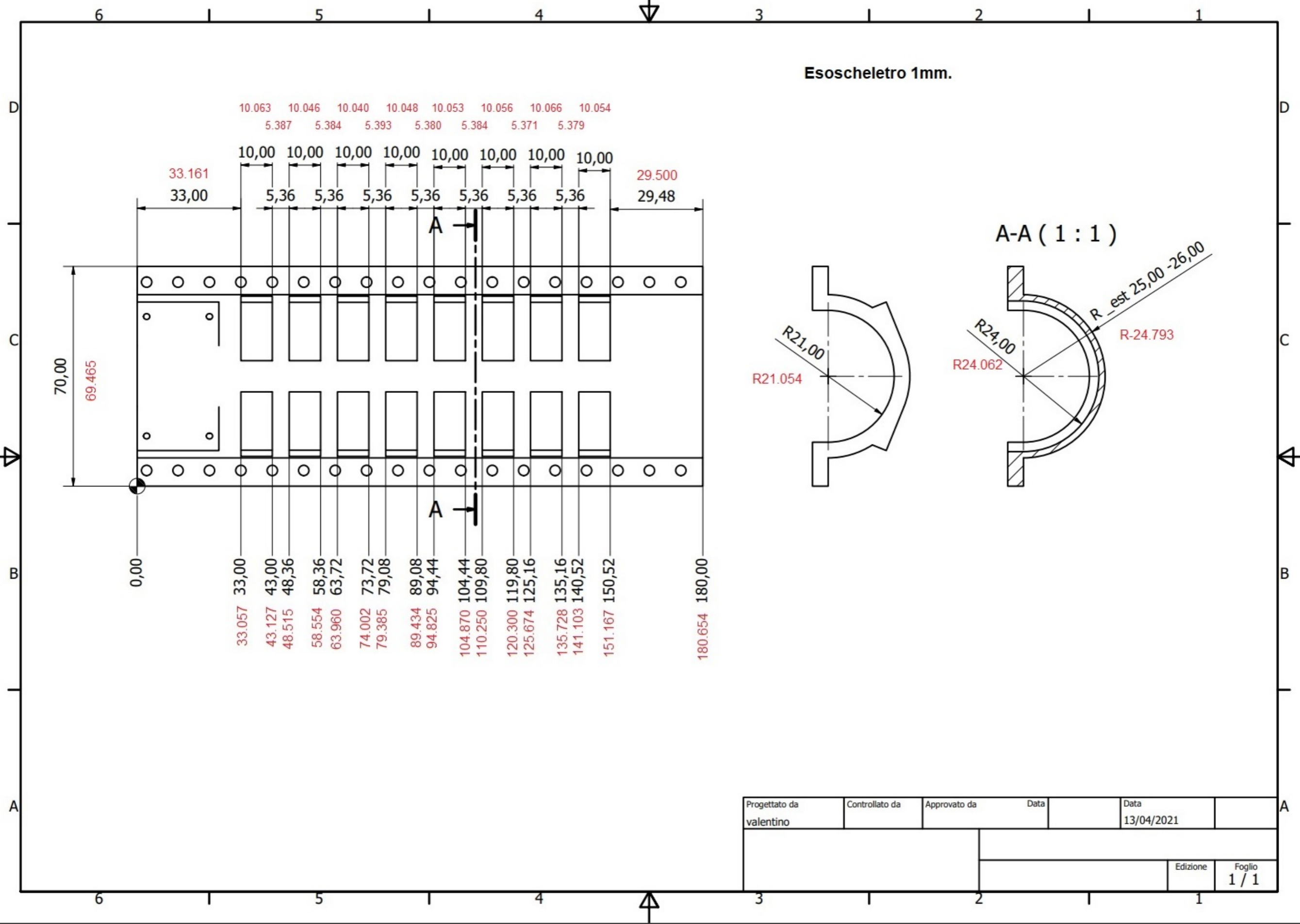
| | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| -0,18% | -0,19% | -0,09% | -0,16% | -0,08% | -0,14% | -0,18% |
| 15,333 mm | 15,331 mm | 15,346 mm | 15,335 mm | 15,347 mm | 15,339 mm | 15,332 mm |

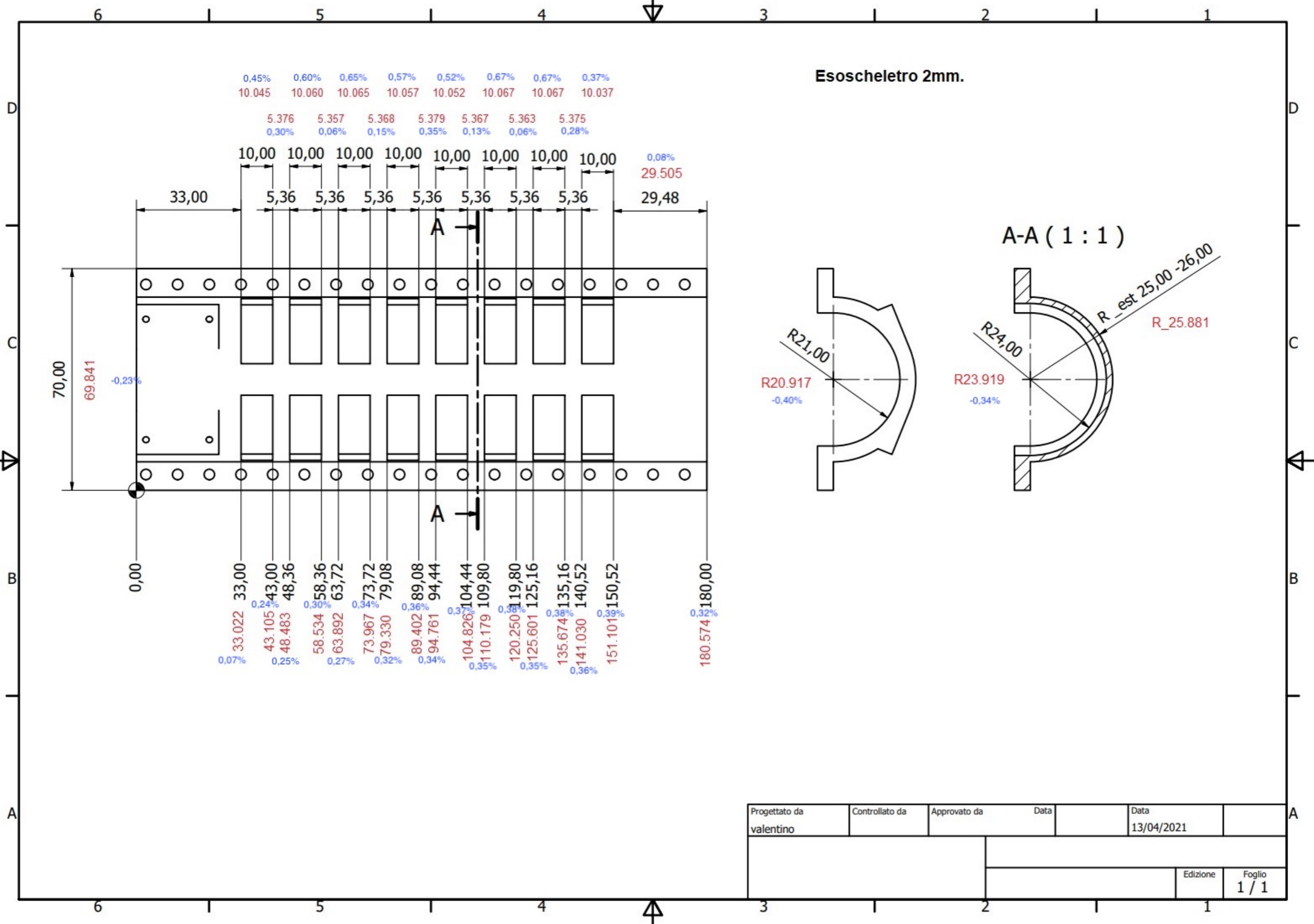
| | | | | | | | |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| y: 0,000 | y: 0,003 | y: 0,011 | y: 0,009 | y: 0,008 | y: 0,007 | y: 0,000 | y: 0,001 |
| z: 0,000 | z: -0,410 | z: -0,473 | z: -0,472 | z: -0,472 | z: -0,472 | z: -0,452 | z: -0,364 |



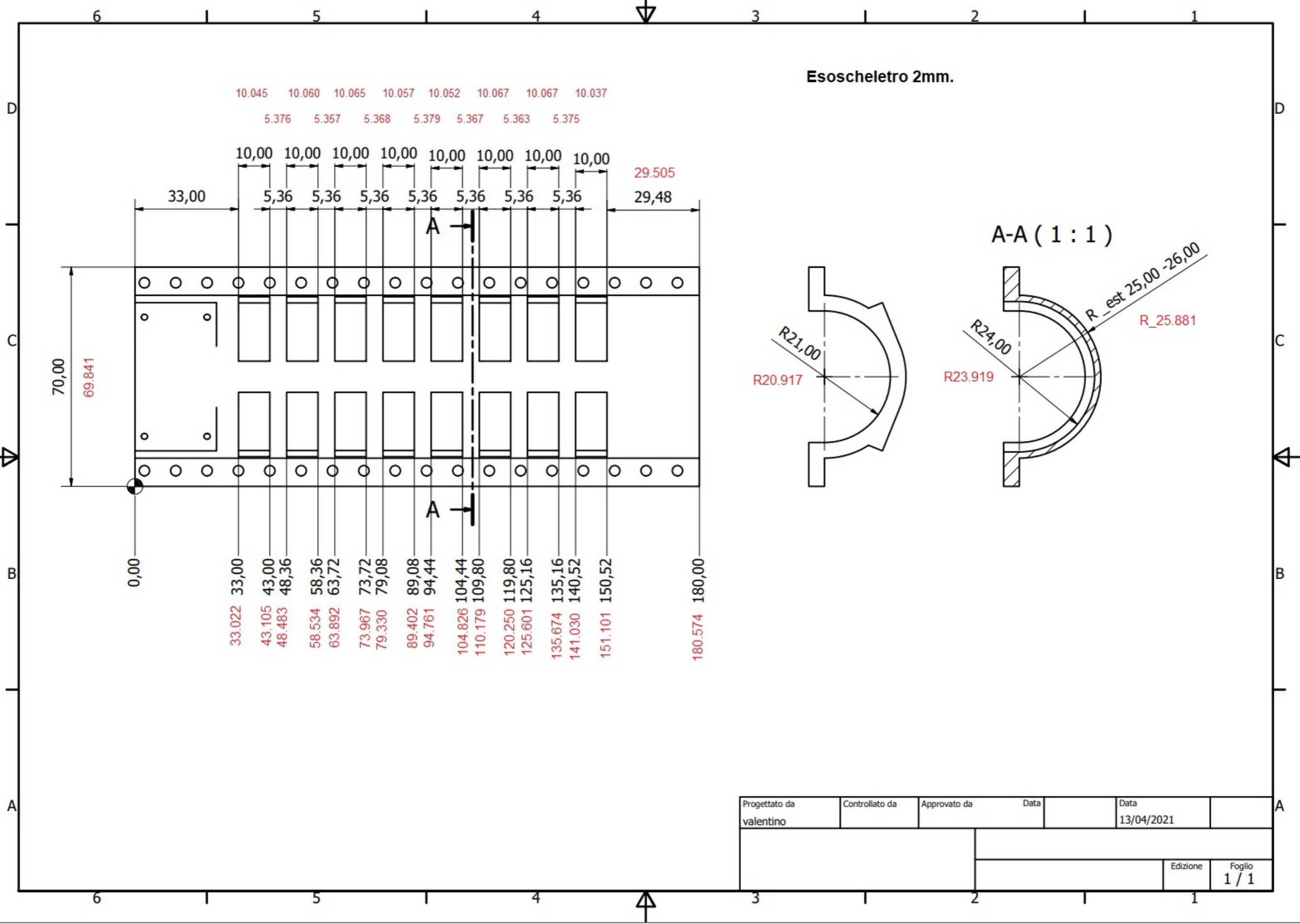


| | | | | |
|----------------------------|----------------|--------------|----------|--------------------|
| Progettato da valentino | Controllato da | Approvato da | Data | Data 13/04/2021 |
| | | | Edizione | Foglio 1 / 1 |





| | | | | |
|----------------------------|----------------|--------------|----------|--------------------|
| Progettato da valentino | Controllato da | Approvato da | Data | Data 13/04/2021 |
| | | | Edizione | Foglio 1 / 1 |



Esoscheletro 2mm.

10.045 10.060 10.065 10.057 10.052 10.067 10.067 10.037
 5.376 5.357 5.368 5.379 5.367 5.363 5.375

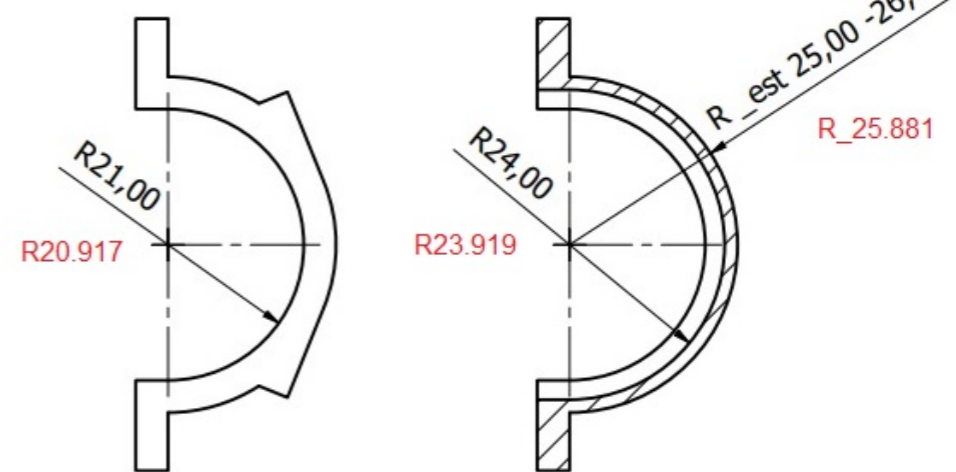
10,00 10,00 10,00 10,00 10,00 10,00 10,00 10,00

33,00 5,36 5,36 5,36 5,36 5,36 5,36 5,36 29,505 29,48

70,00
69.841

0,00 33,00 43,00 48,36 58,36 63,72 73,72 79,08 89,08 94,44 104,826 109,80 119,80 125,16 135,16 140,52 150,52 180,00
 33.022 43.105 48.483 58.534 63.892 73.967 79.330 89.402 94.761 104.826 109.179 119.250 125.601 135.674 141.030 151.101 180.574

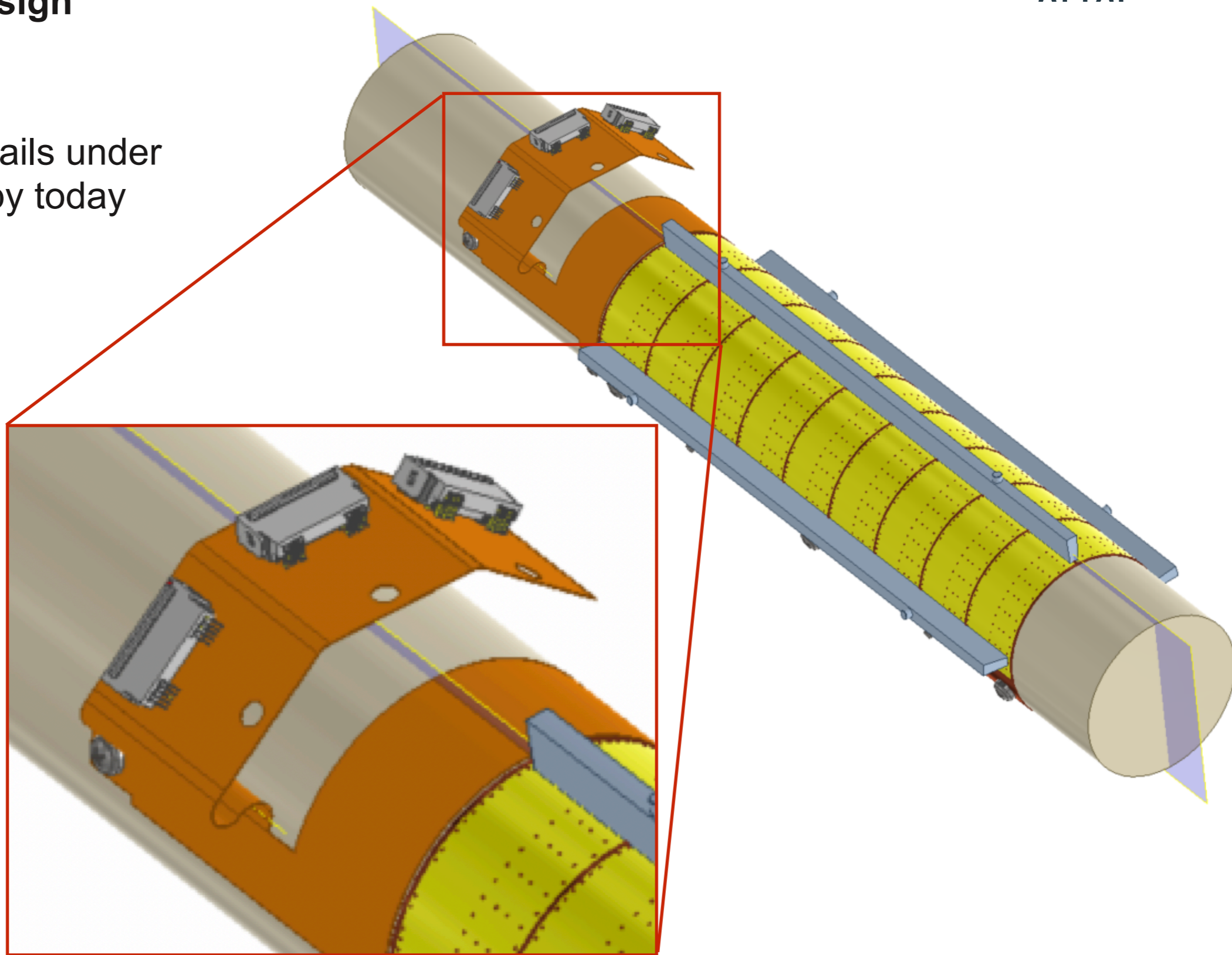
A-A (1 : 1)



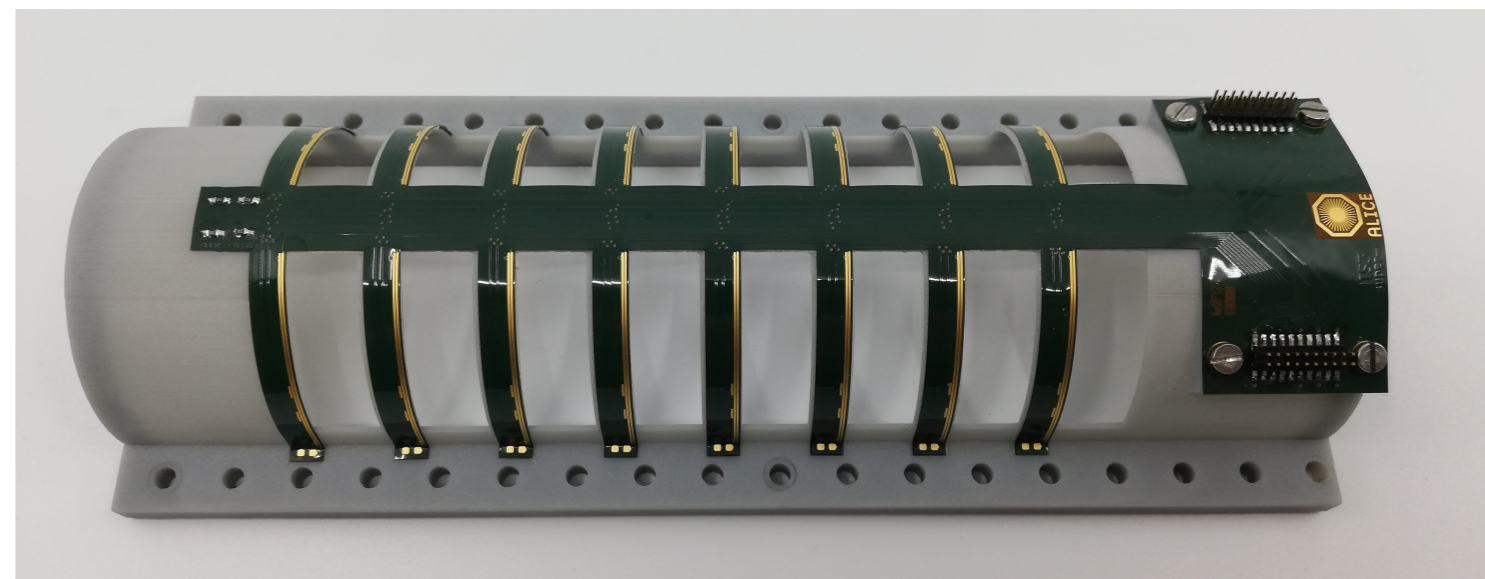
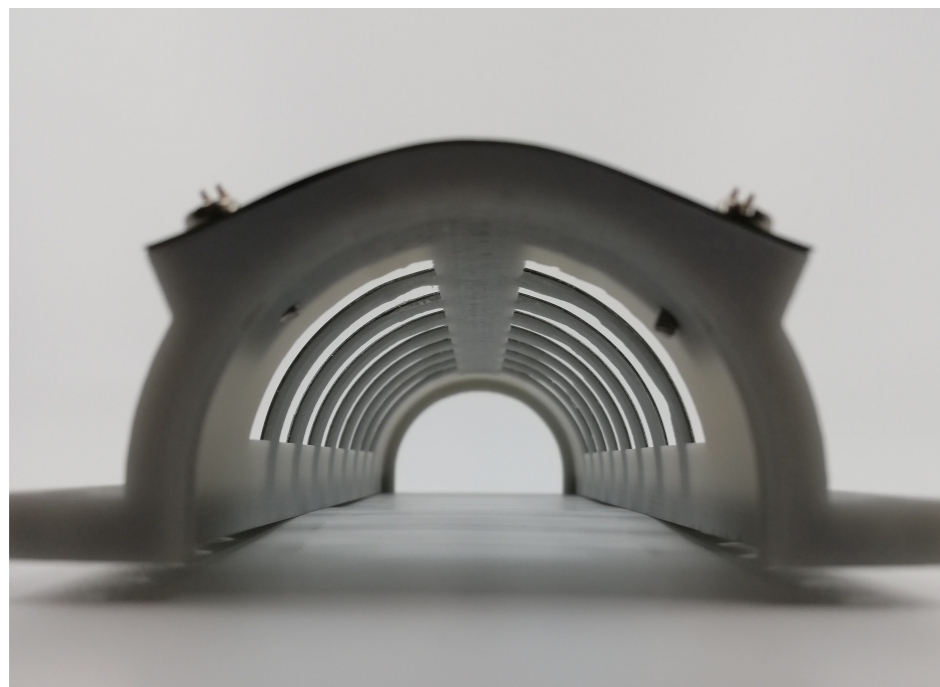
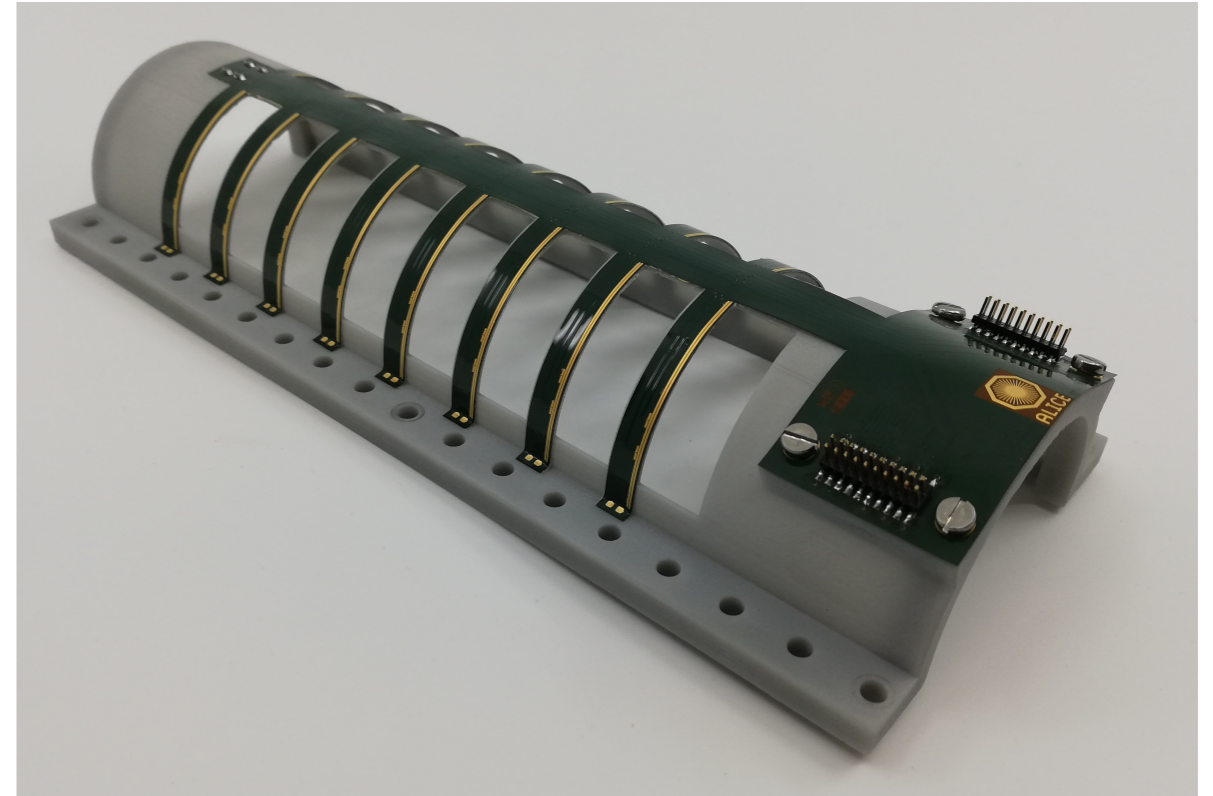
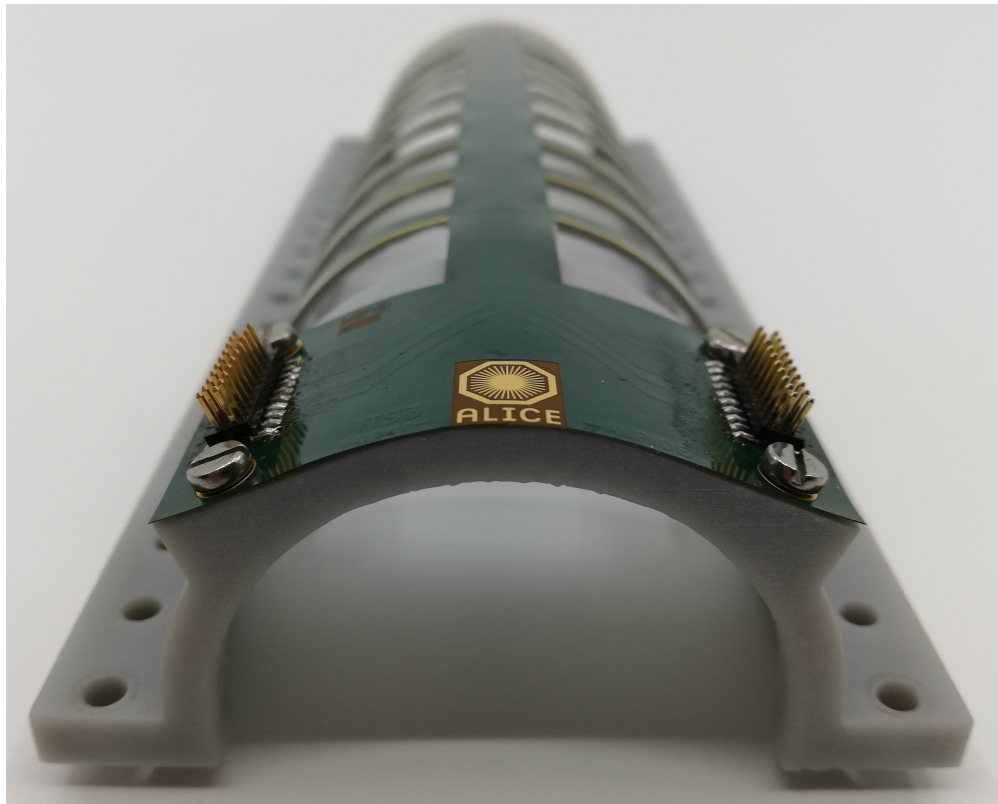
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|----------------------------|----------------|--------------|----------|--------------------|
| Progettato da valentino | Controllato da | Approvato da | Data | Data 13/04/2021 |
| | | | Edizione | Foglio 1 / 1 |

Edge-FPC design

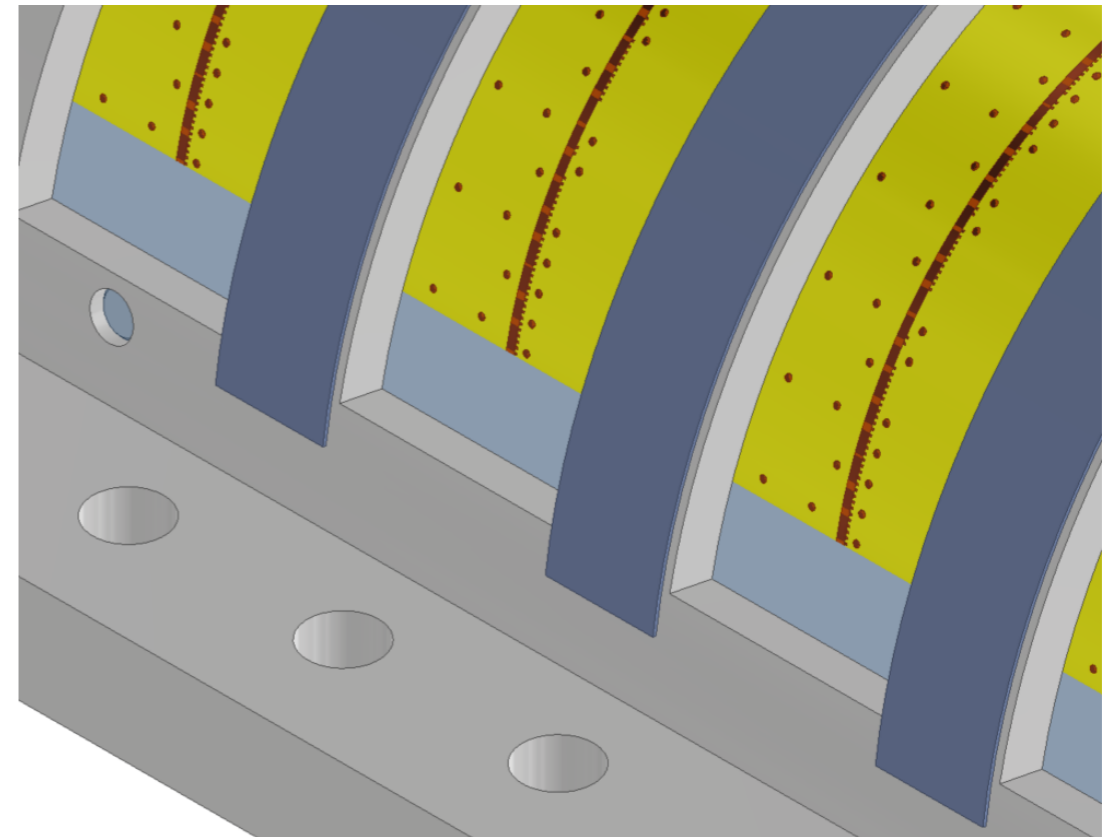
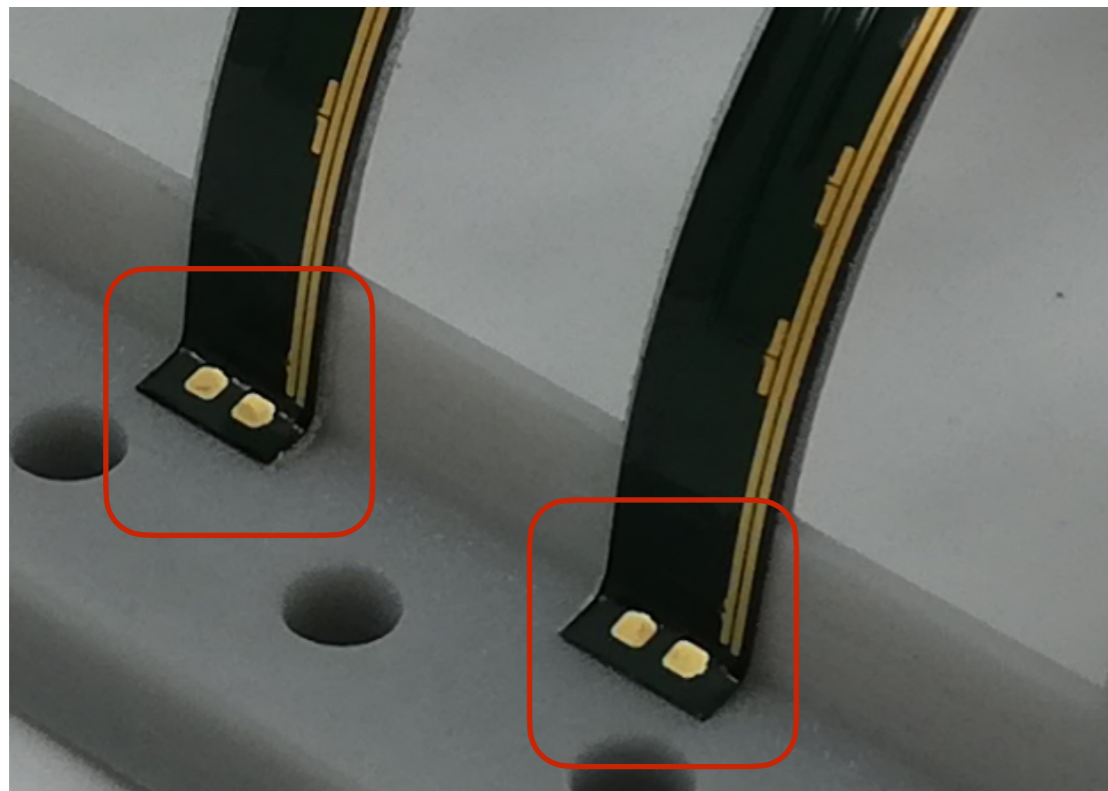
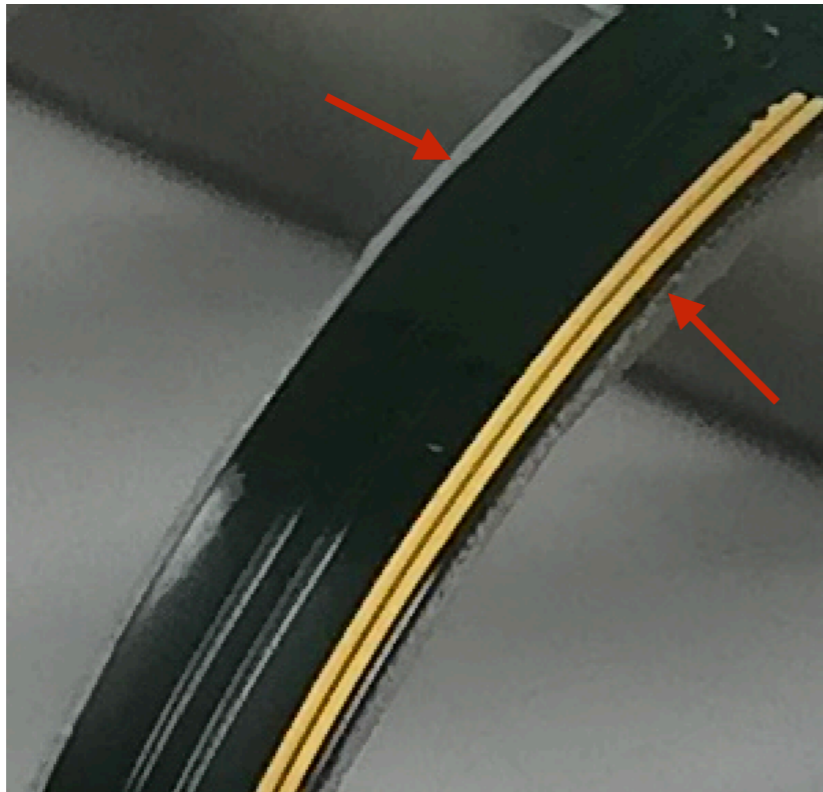
Very last details under completion by today



Super-ALPIDE FPCs support mechanics integration



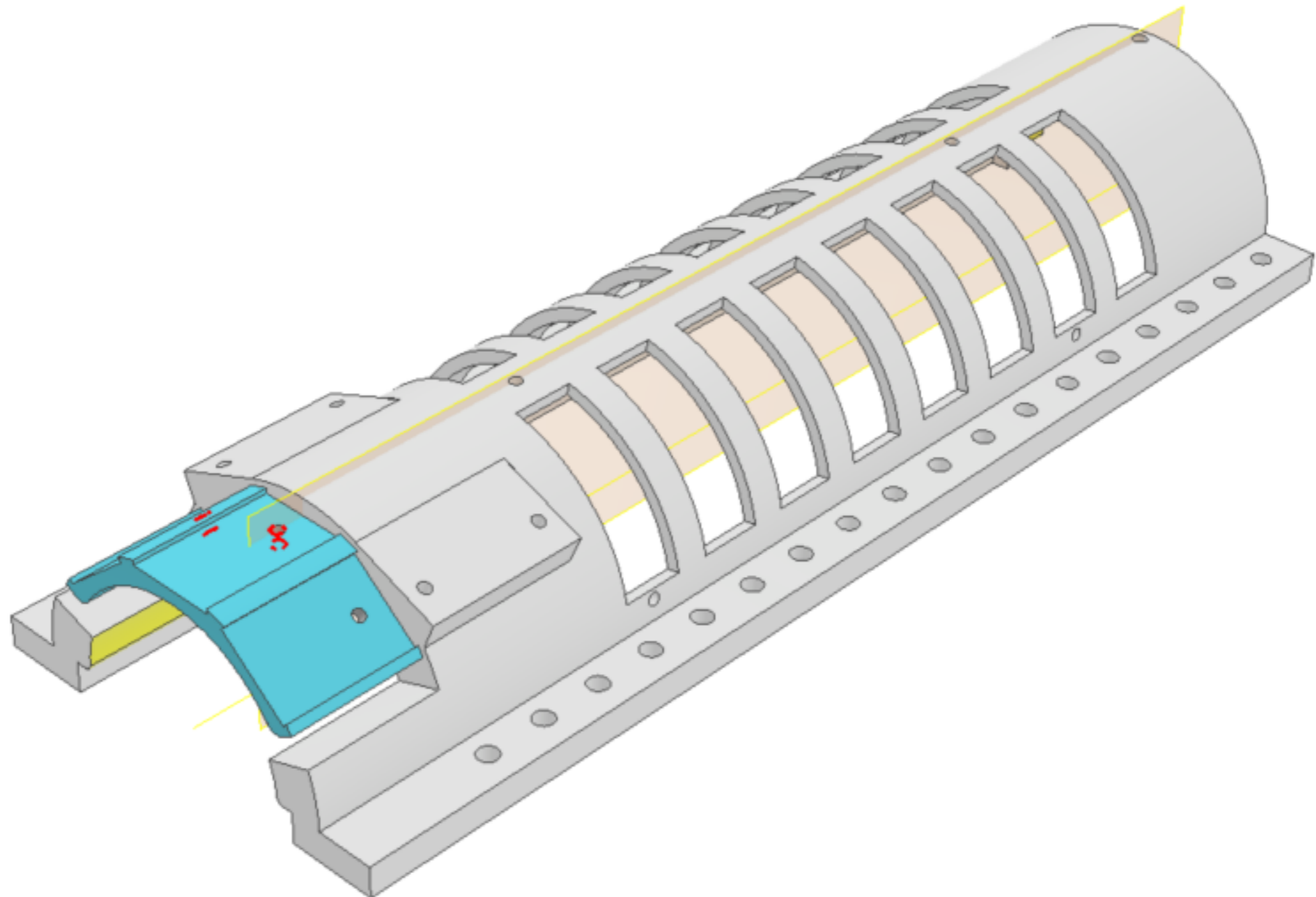
Super-ALPIDE FPCs support mechanics integration



To be understood

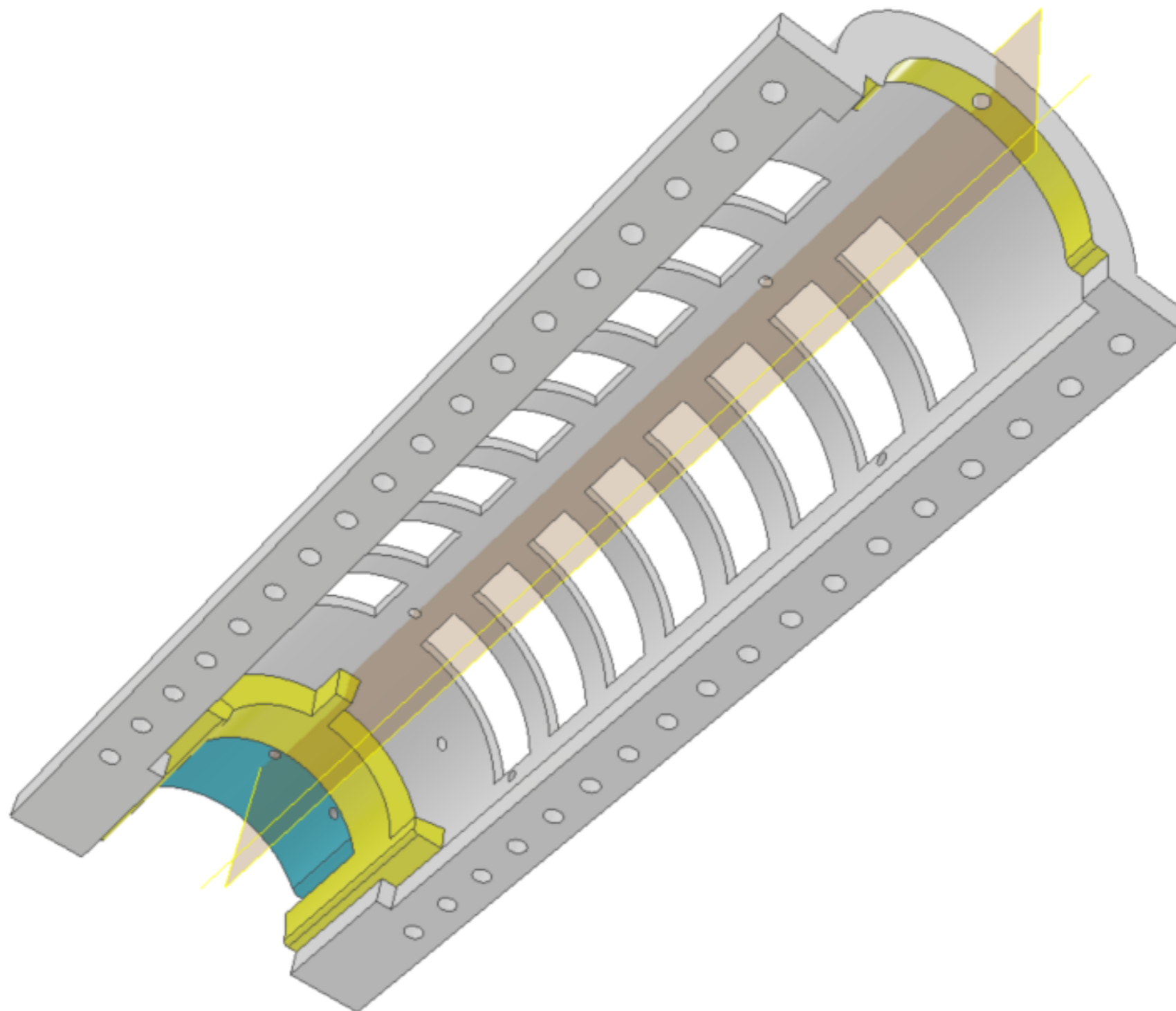
- One source: having used the 1mm thick exoskeleton (reduced radius) for an FPC designed for a 2 mm thick one

Super-ALPIDE FPCs support mechanics integration

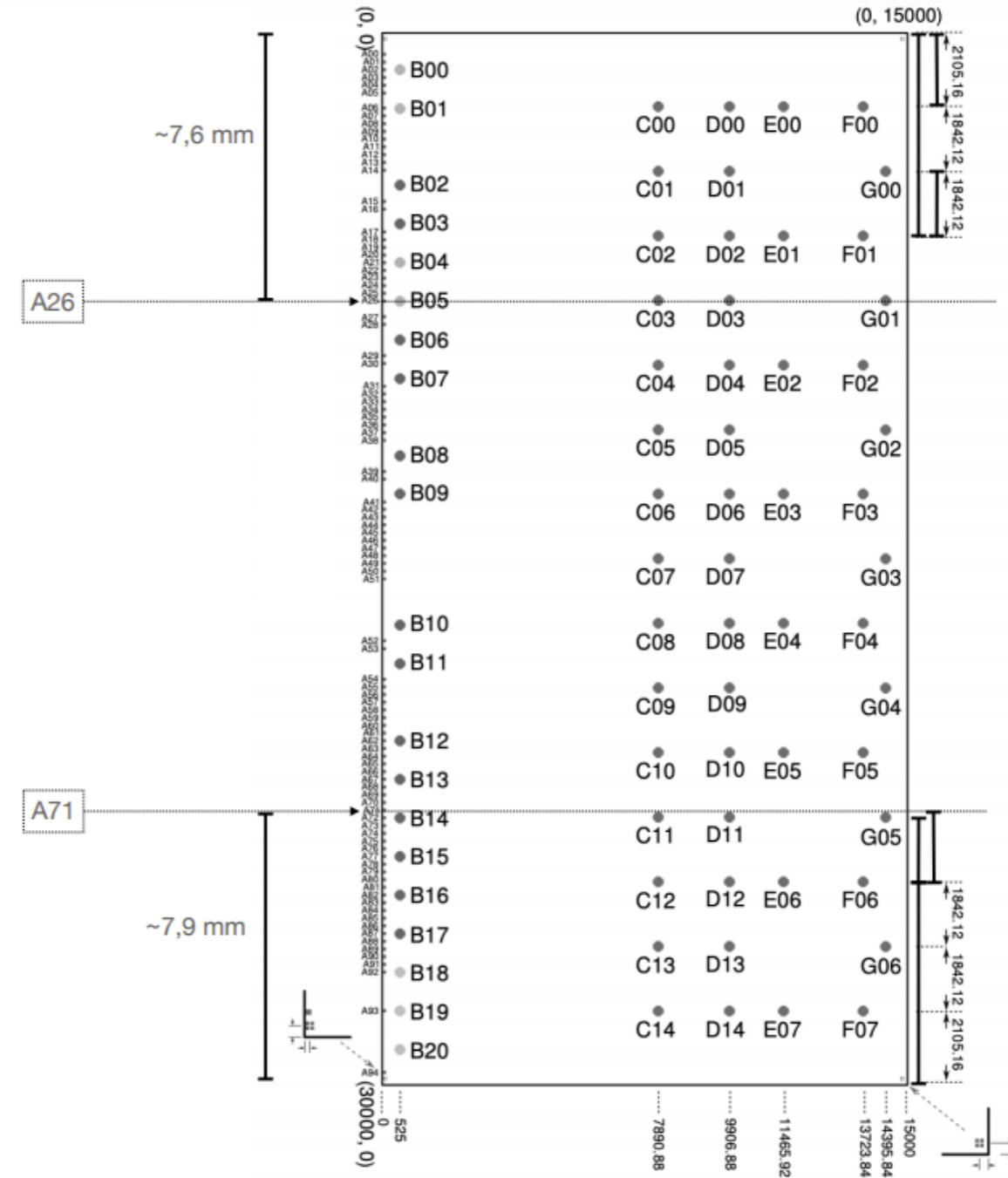
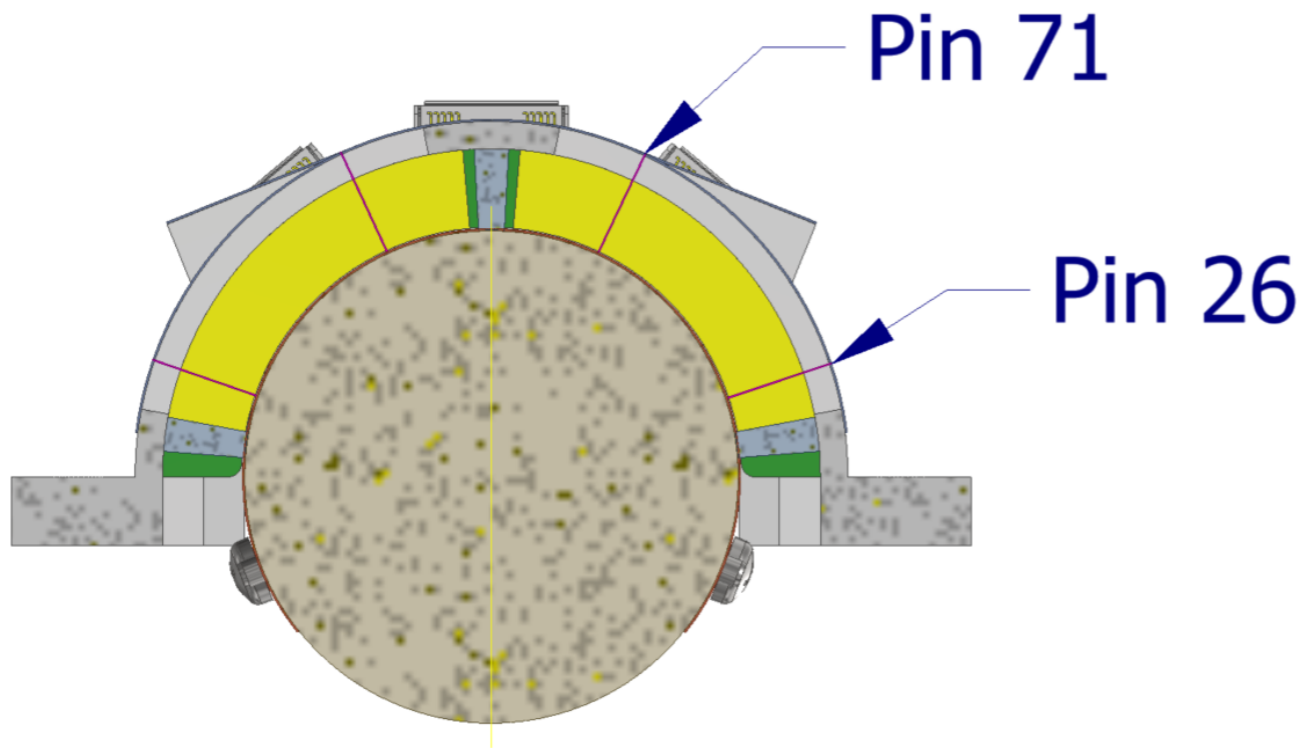


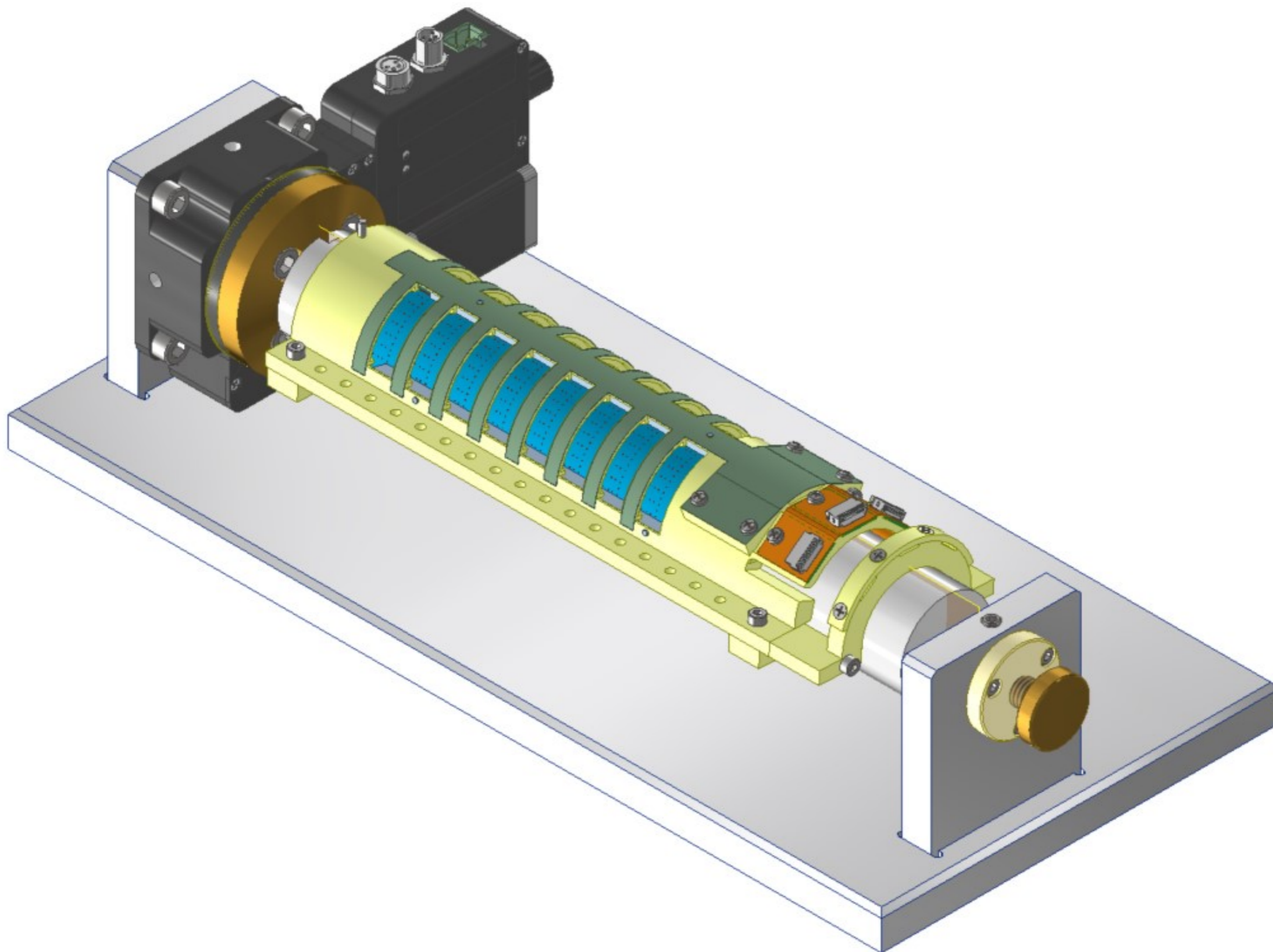


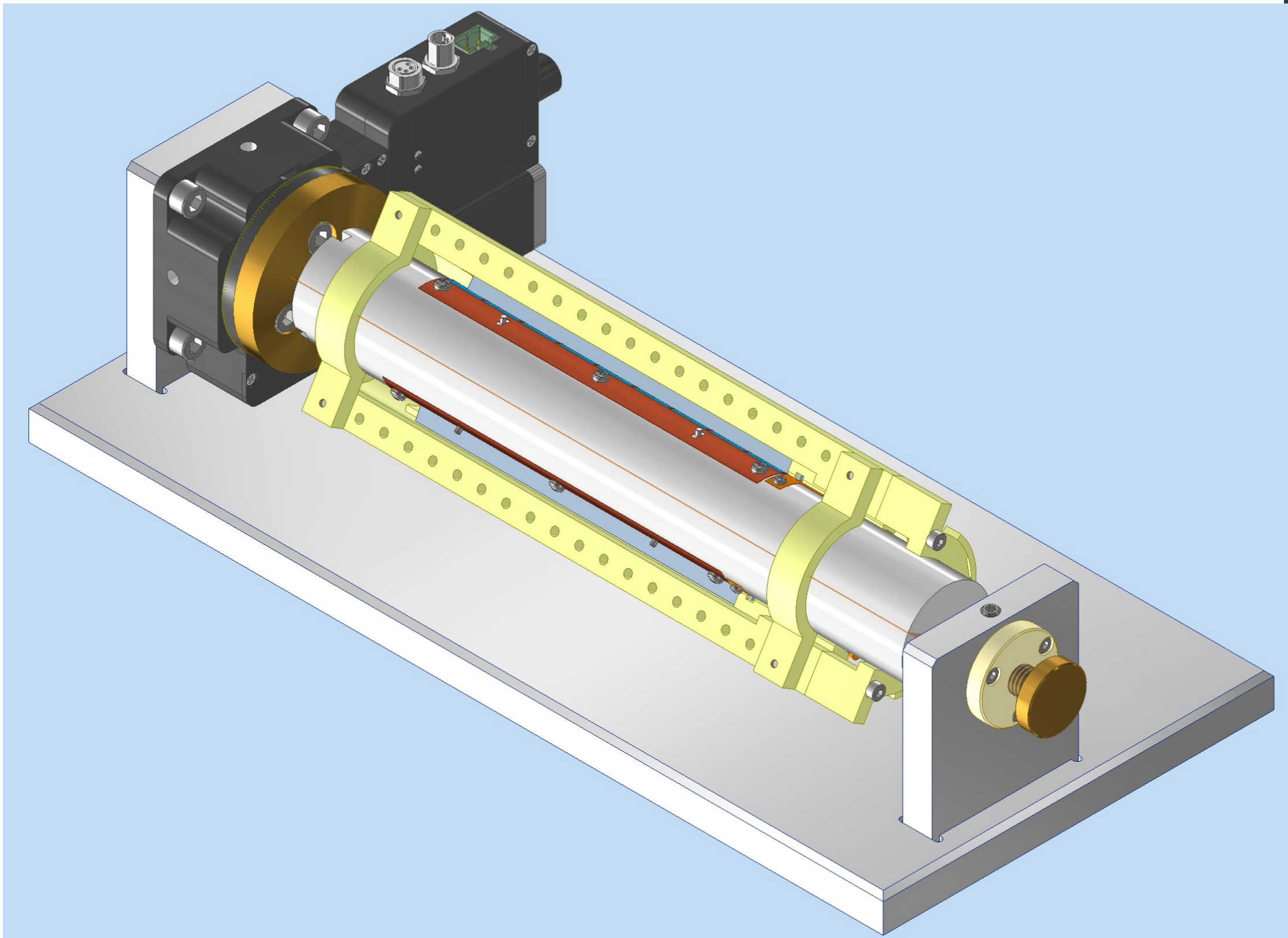
Super-ALPIDE FPCs support mechanics integration

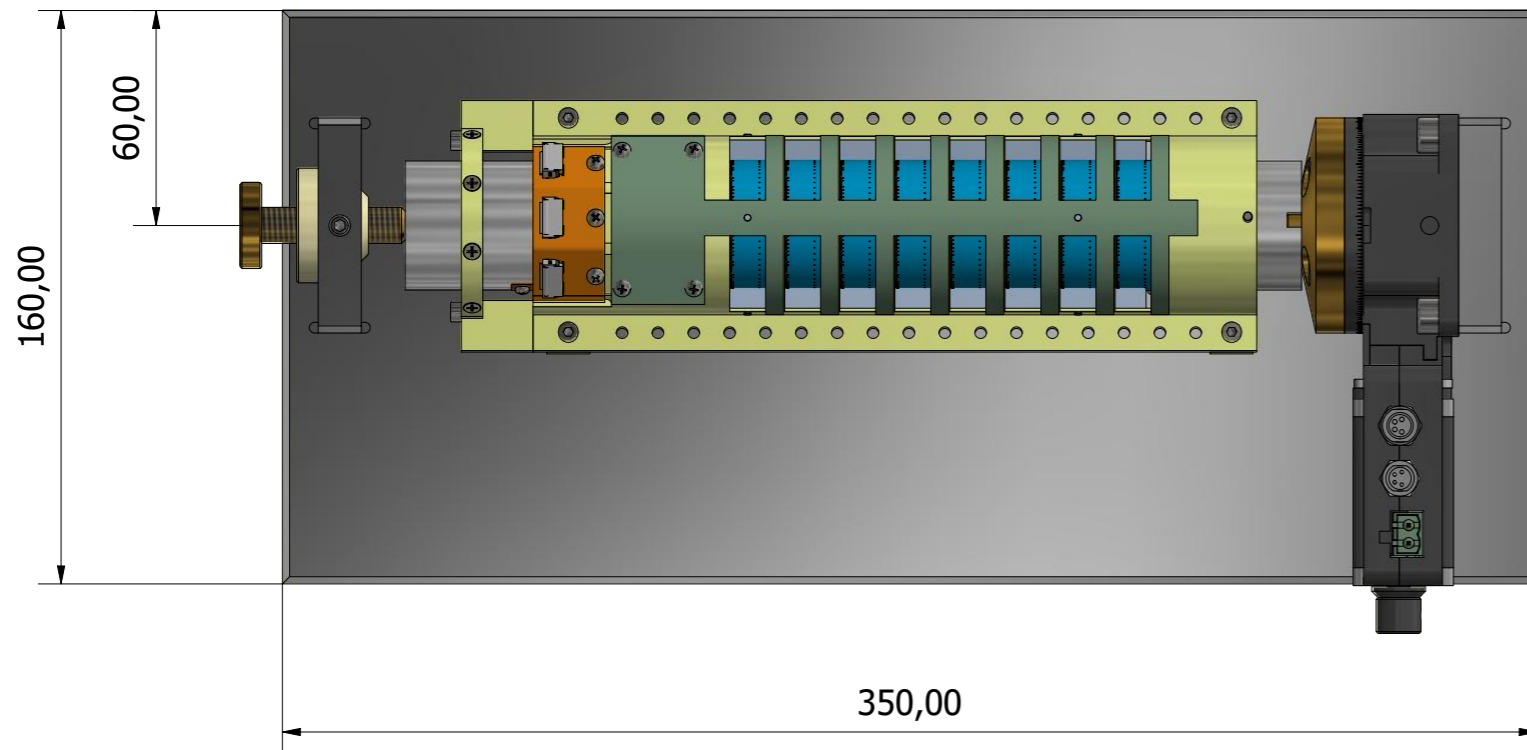
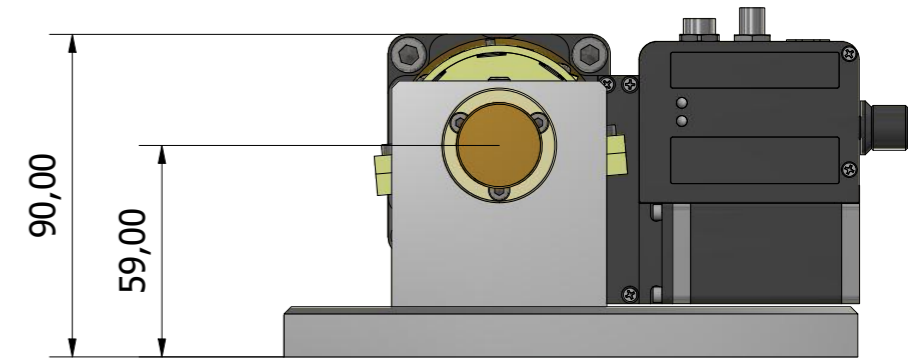
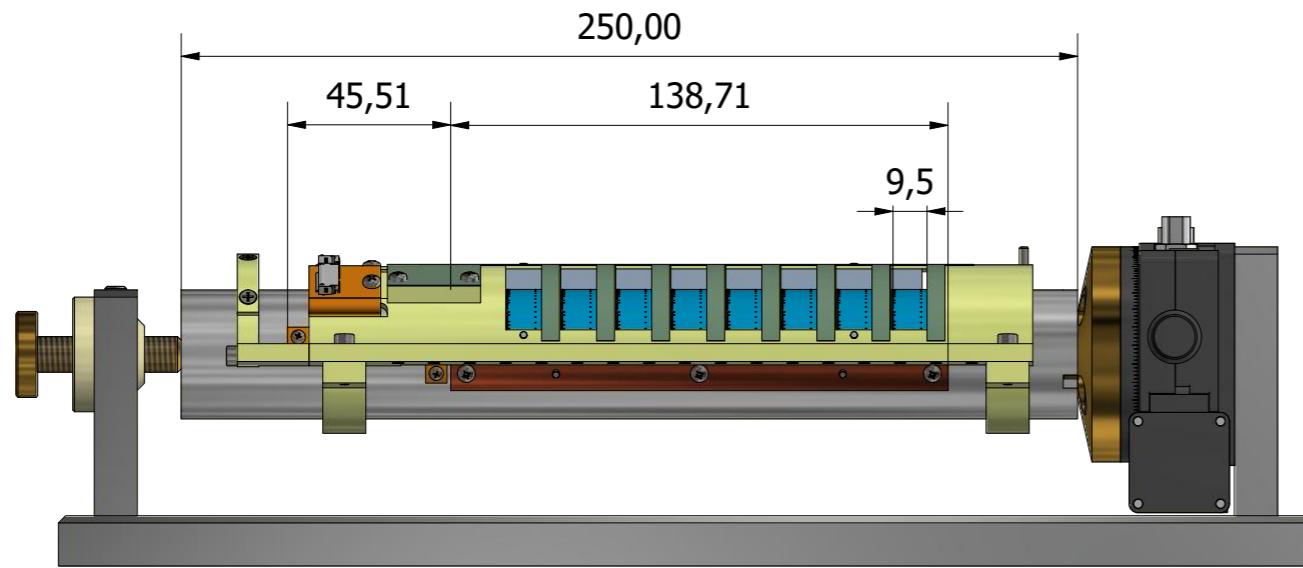


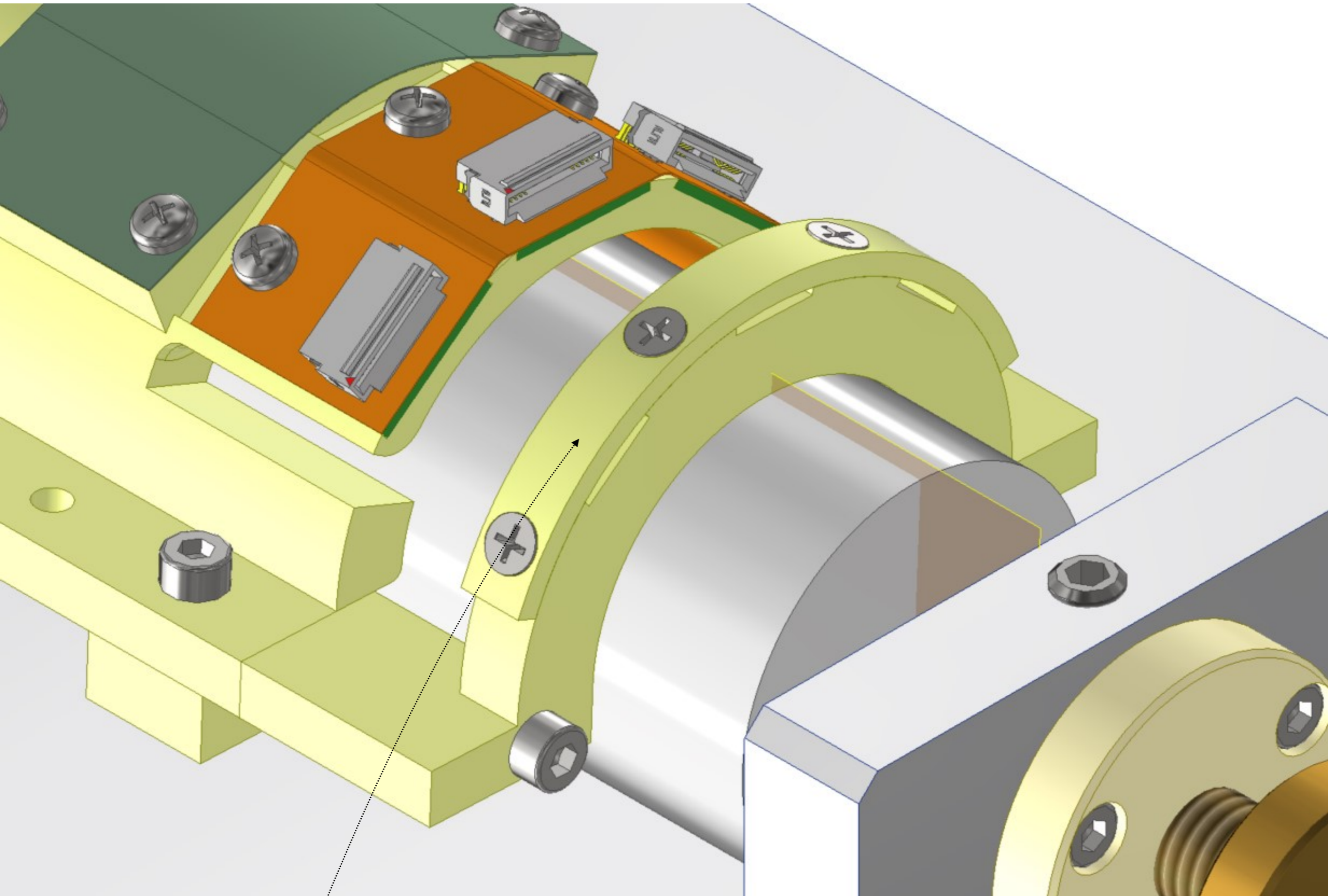
Super-ALPIDE FPCs support mechanics integration



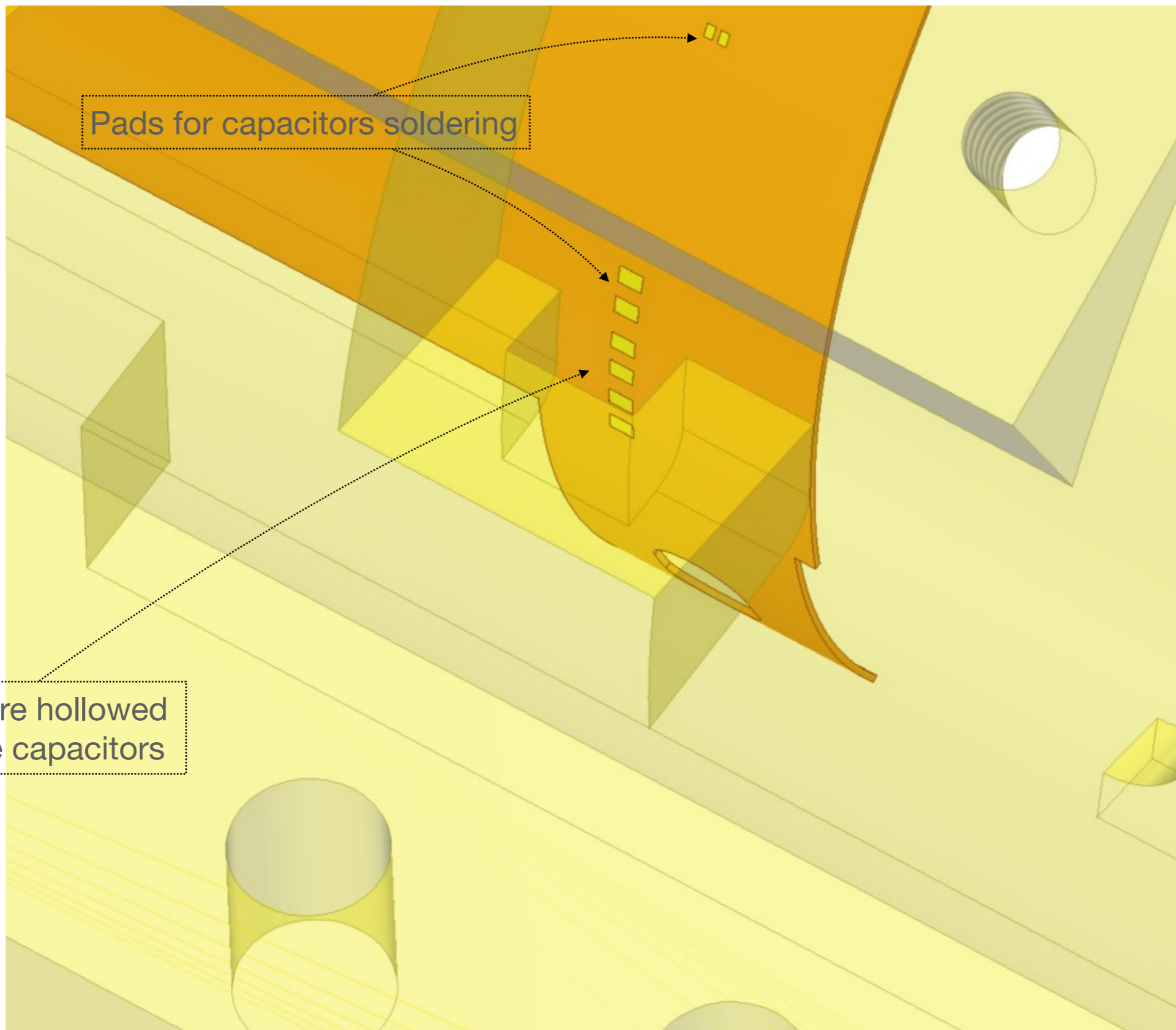








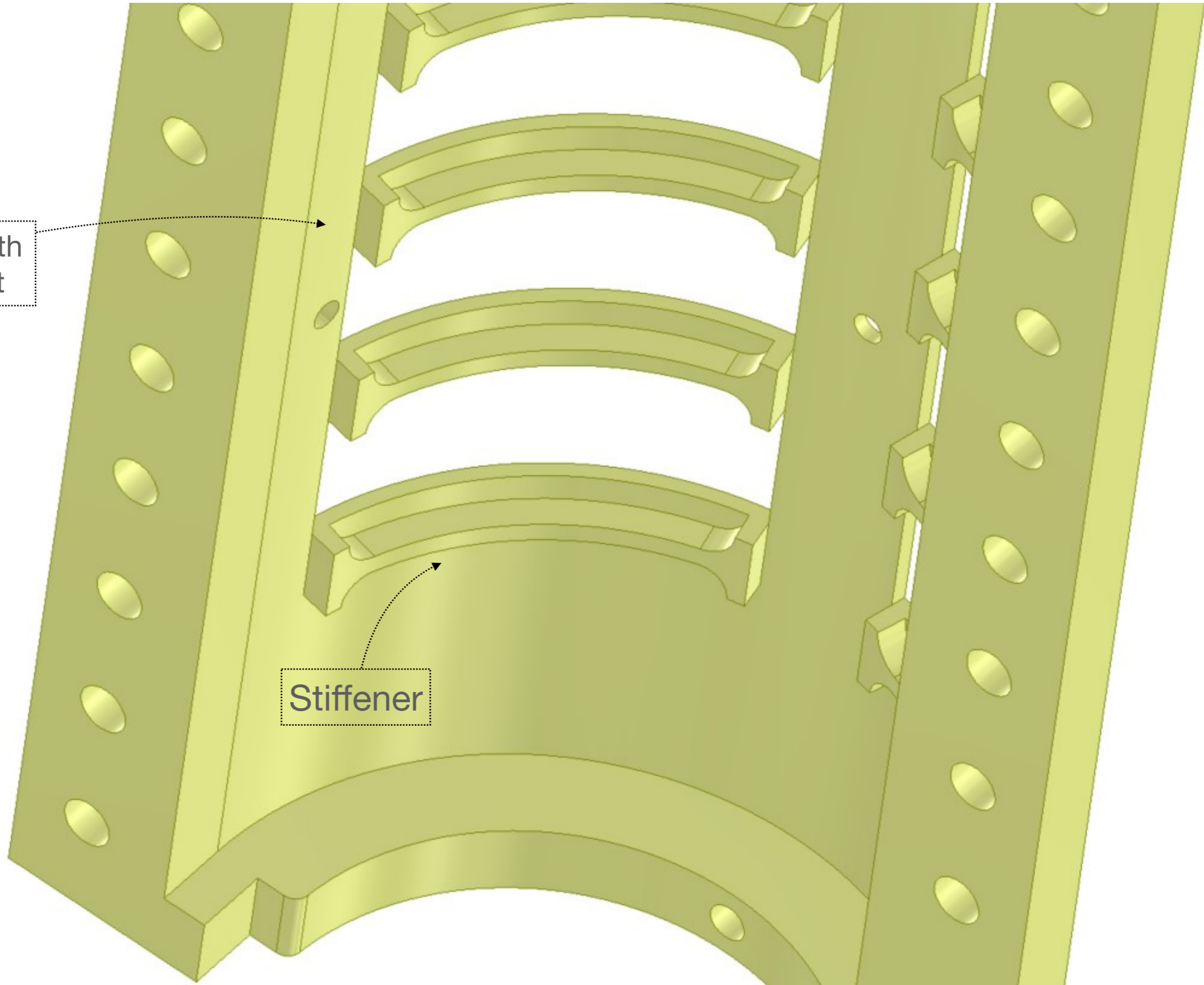
SAMTEC cables support and holder



Pads for capacitors soldering

Support structure hollowed to not touch the capacitors

Do not interfere with wedges placement



Stiffener

