

# Light Barrier Concept Prototype

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19 APRIL 2021

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T2K

# Main Concept

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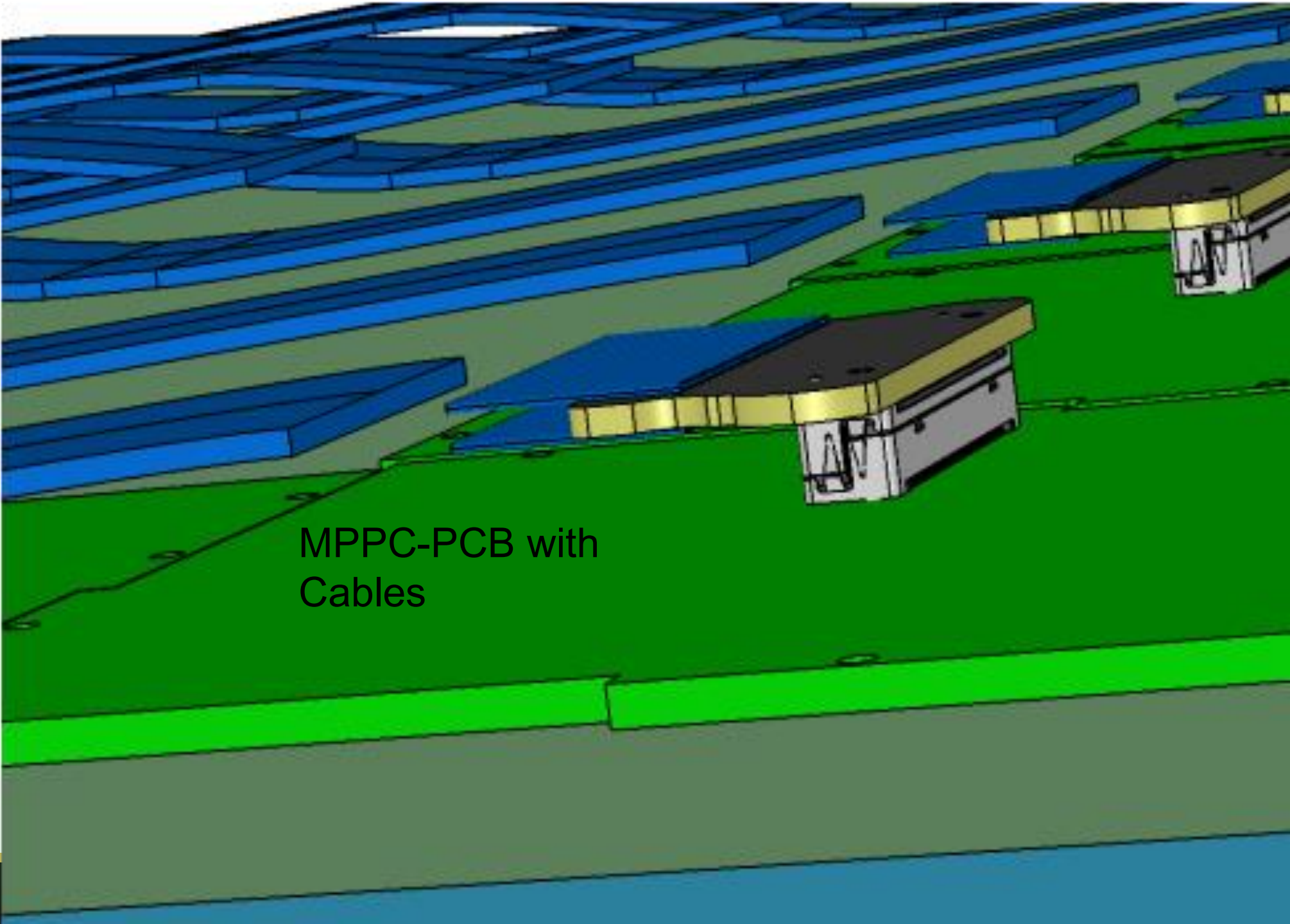
0.01" (~0.25 mm) black vinyl sheet

- <https://www.tekra.com/products/films/rigid-vinyl-pvc-film/black-opaque-mattematte-rigid-vinyl>

Slits at each cable connector site (vinyl will sit between cables and boards)

Small felt skirt around cable connection site

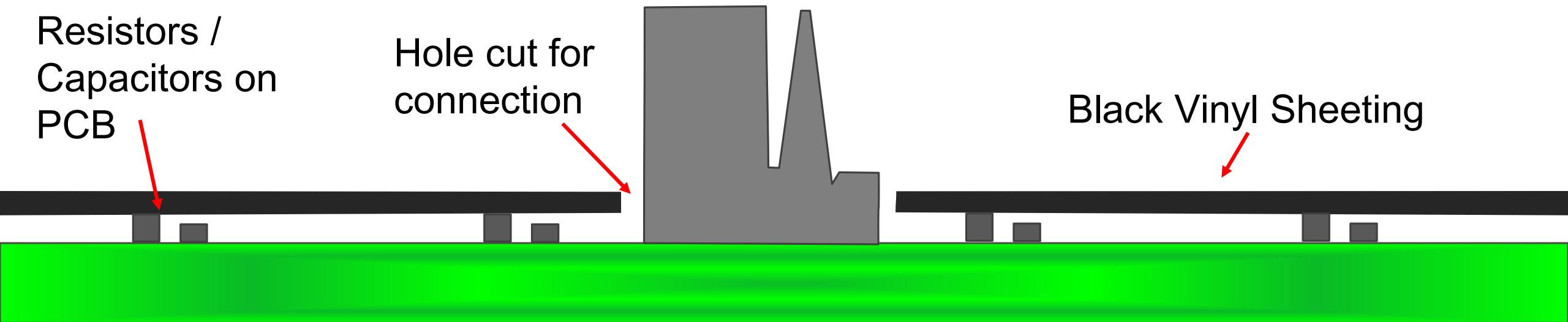


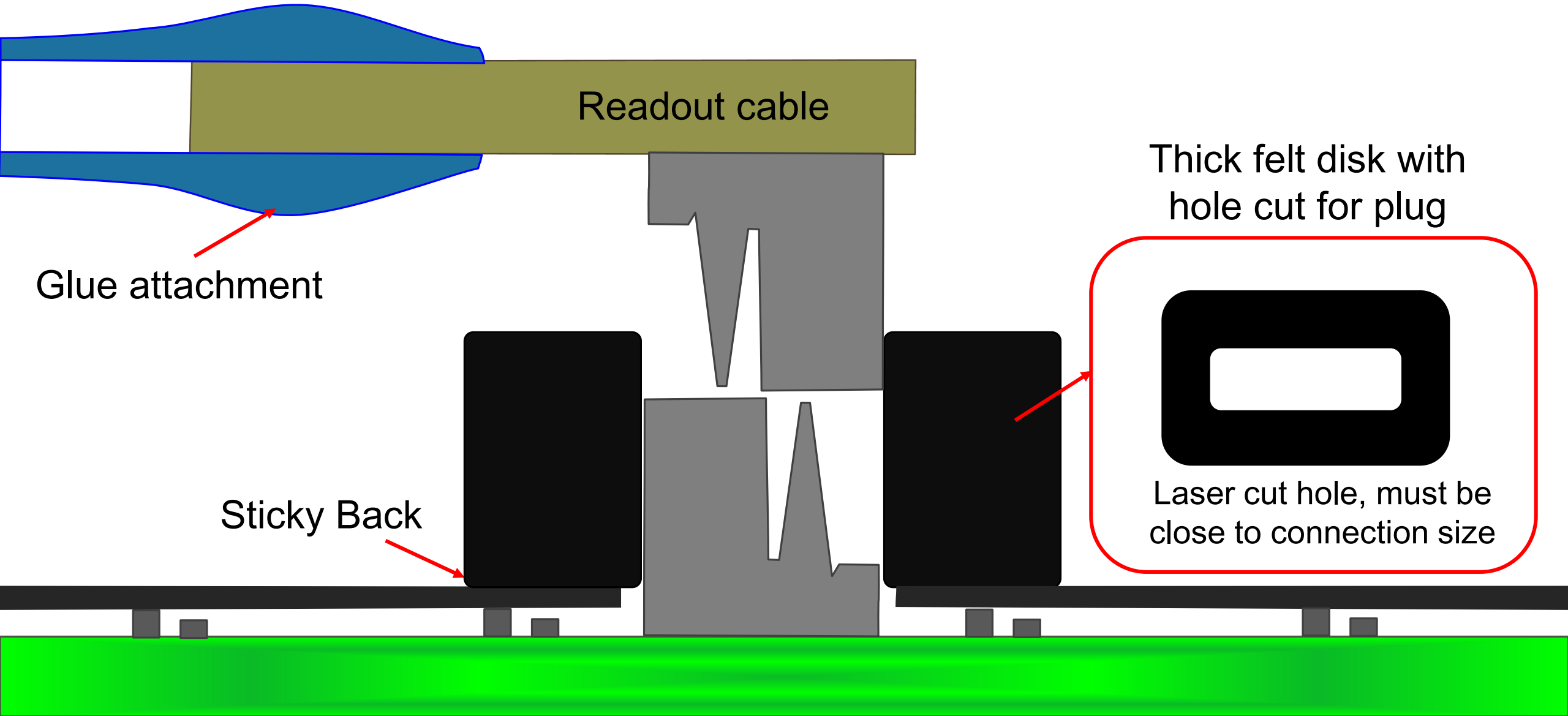


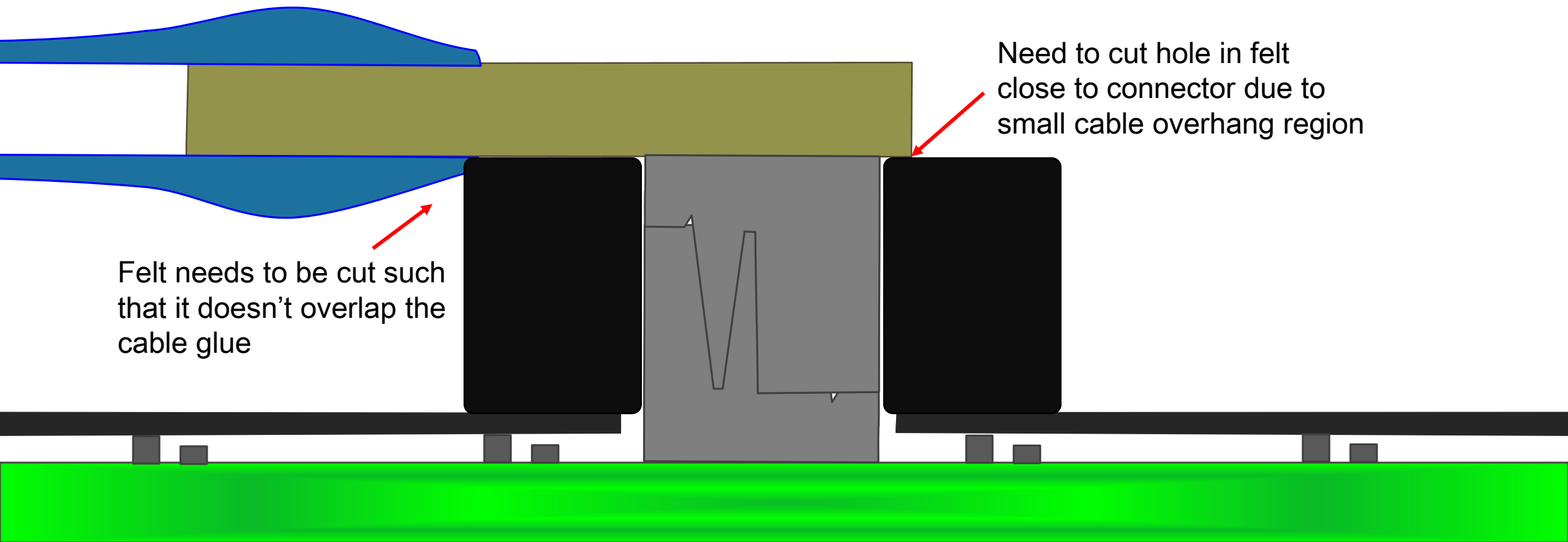
MPPC-PCB with  
Cables



## Side view diagram







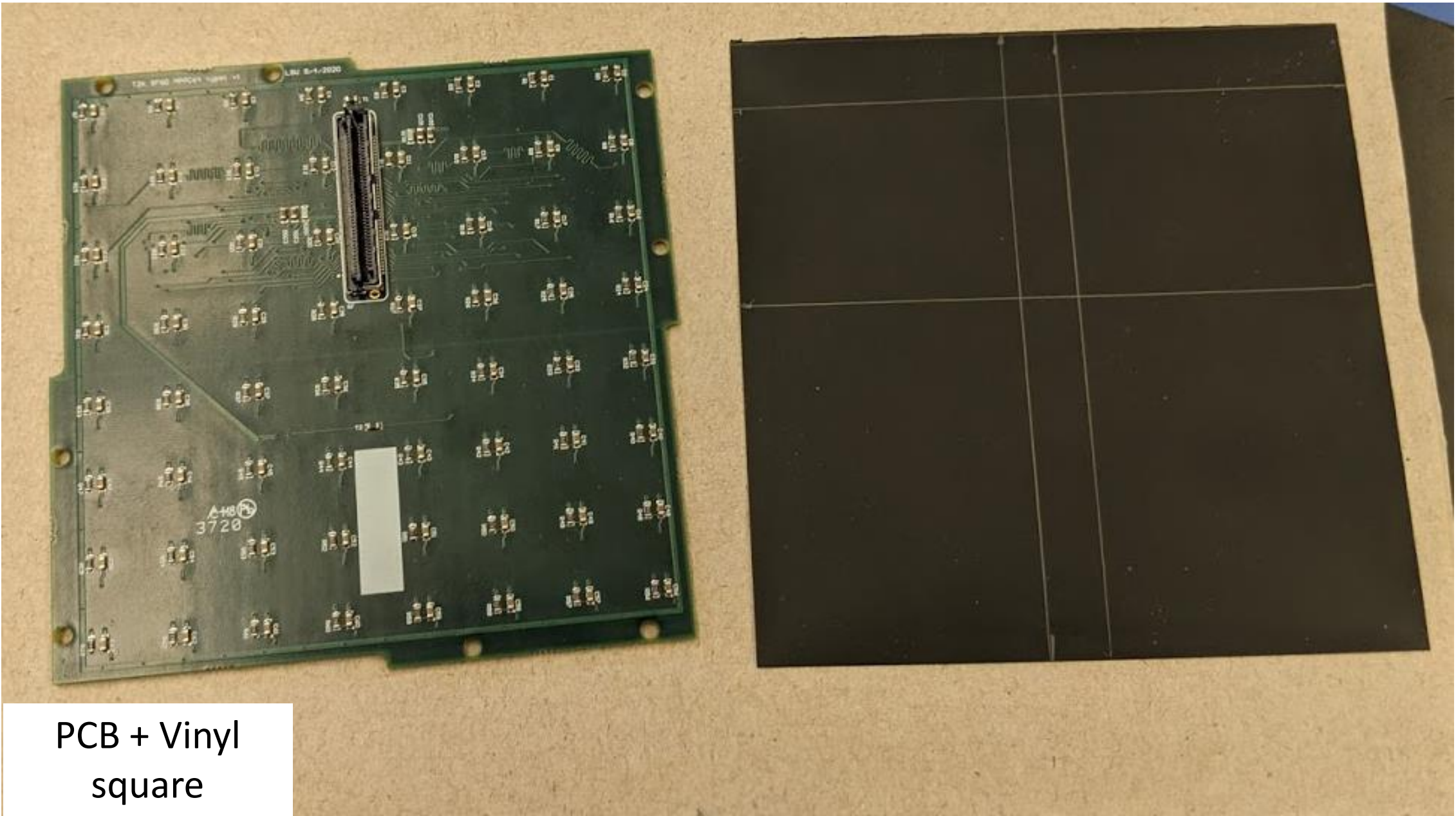
Felt needs to be cut such that it doesn't overlap the cable glue

Need to cut hole in felt close to connector due to small cable overhang region



# Assembling the Prototype

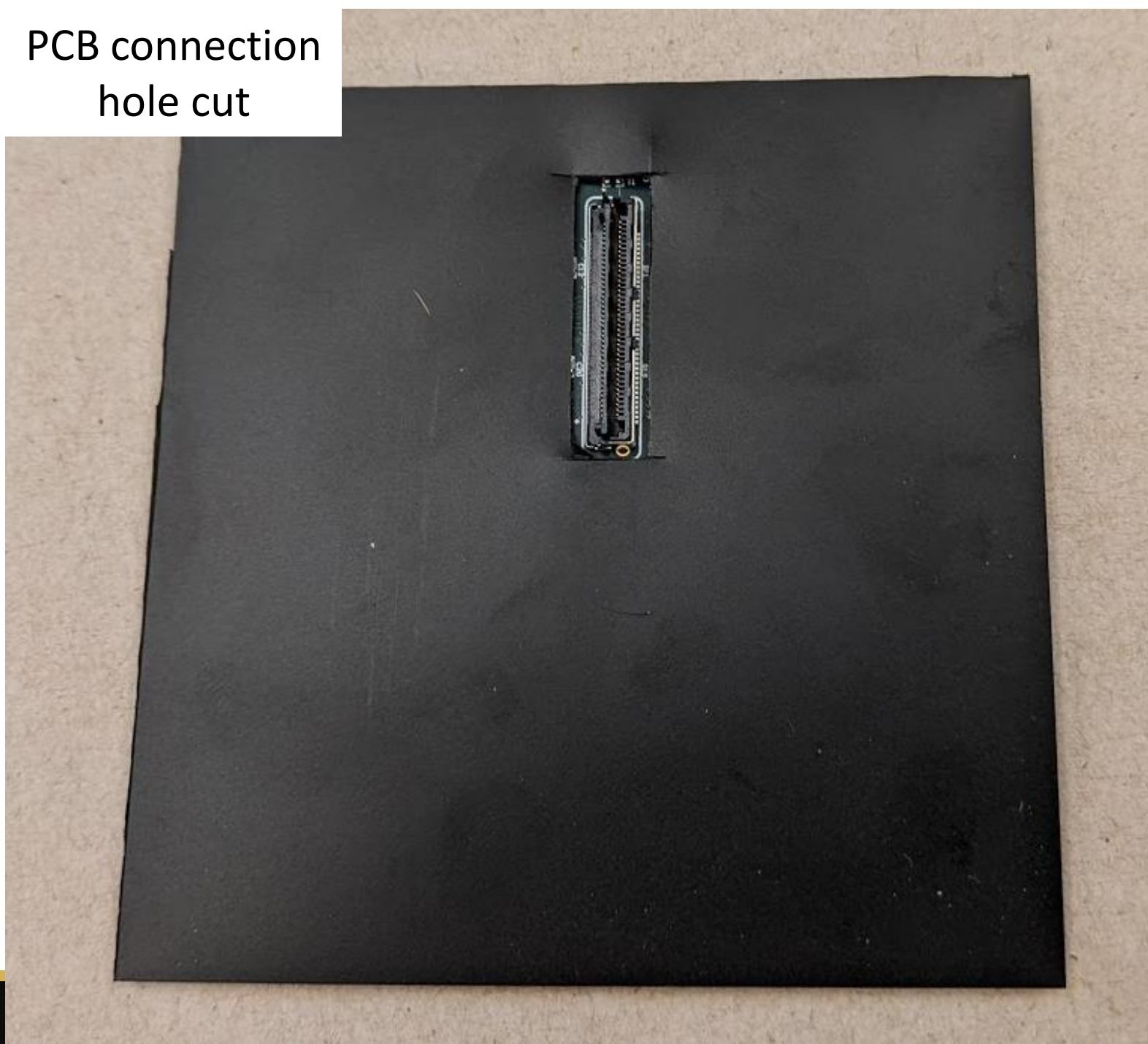
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PCB + Vinyl  
square



PCB connection  
hole cut

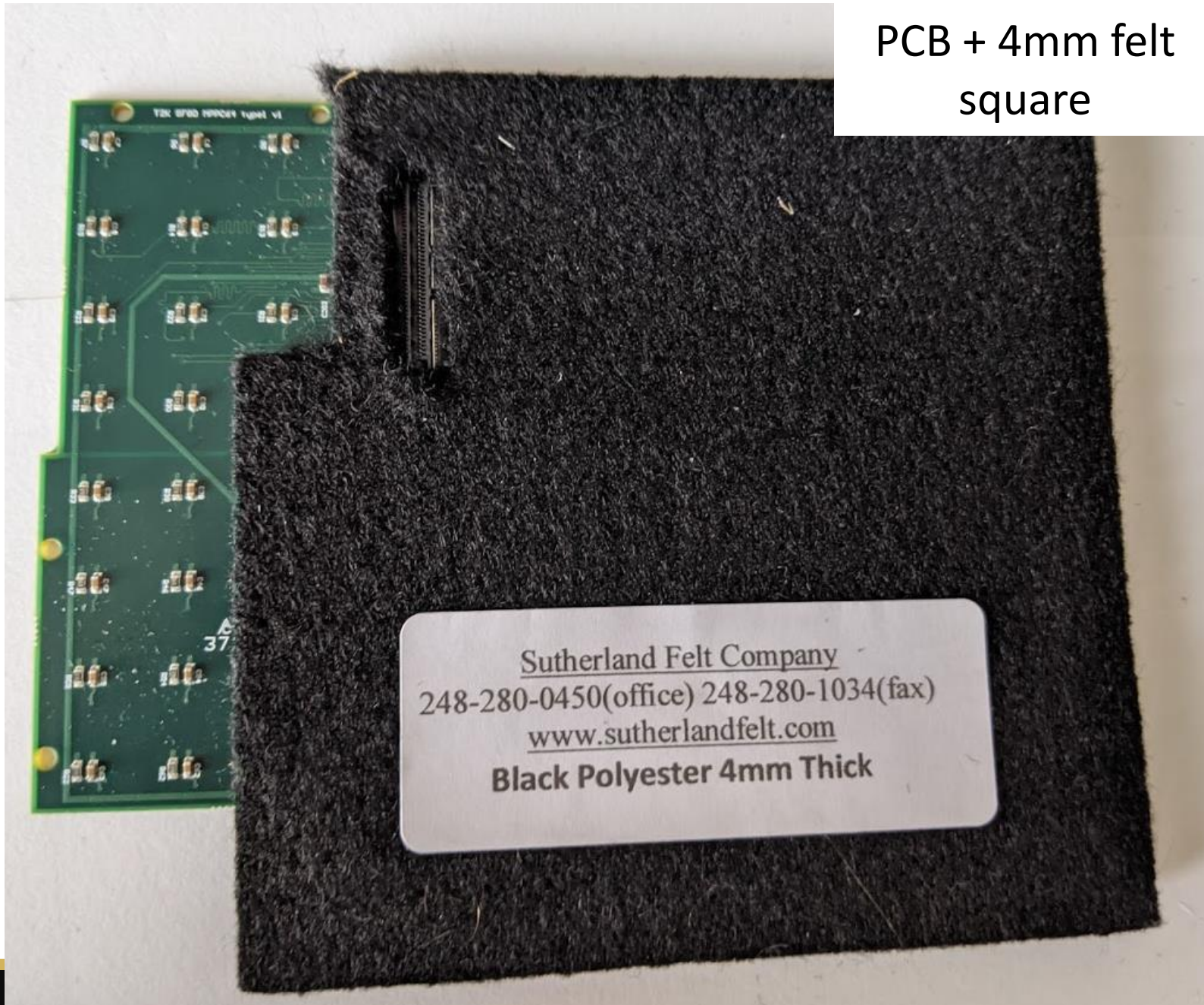




PCB + Vinyl side view



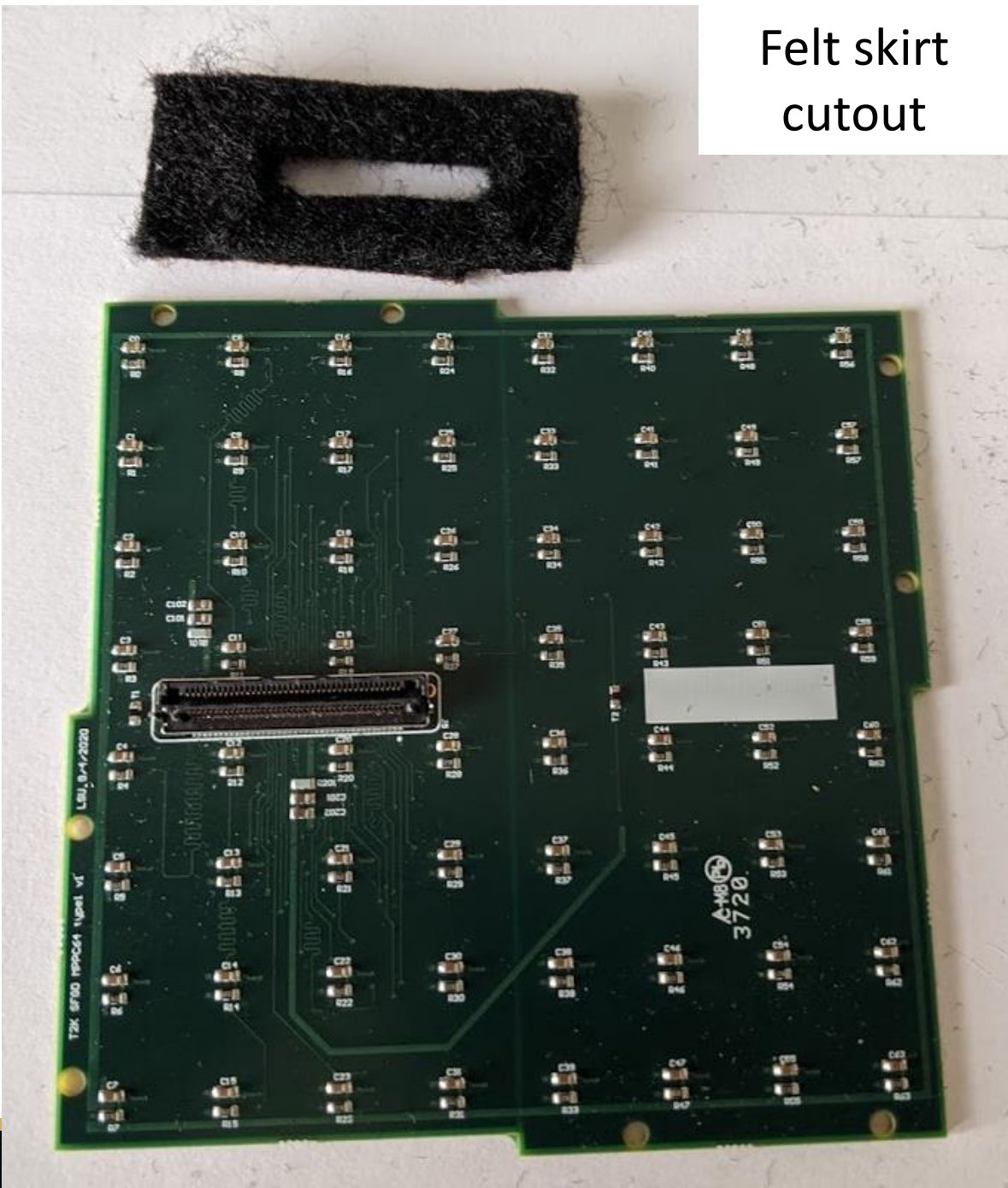
PCB + 4mm felt  
square



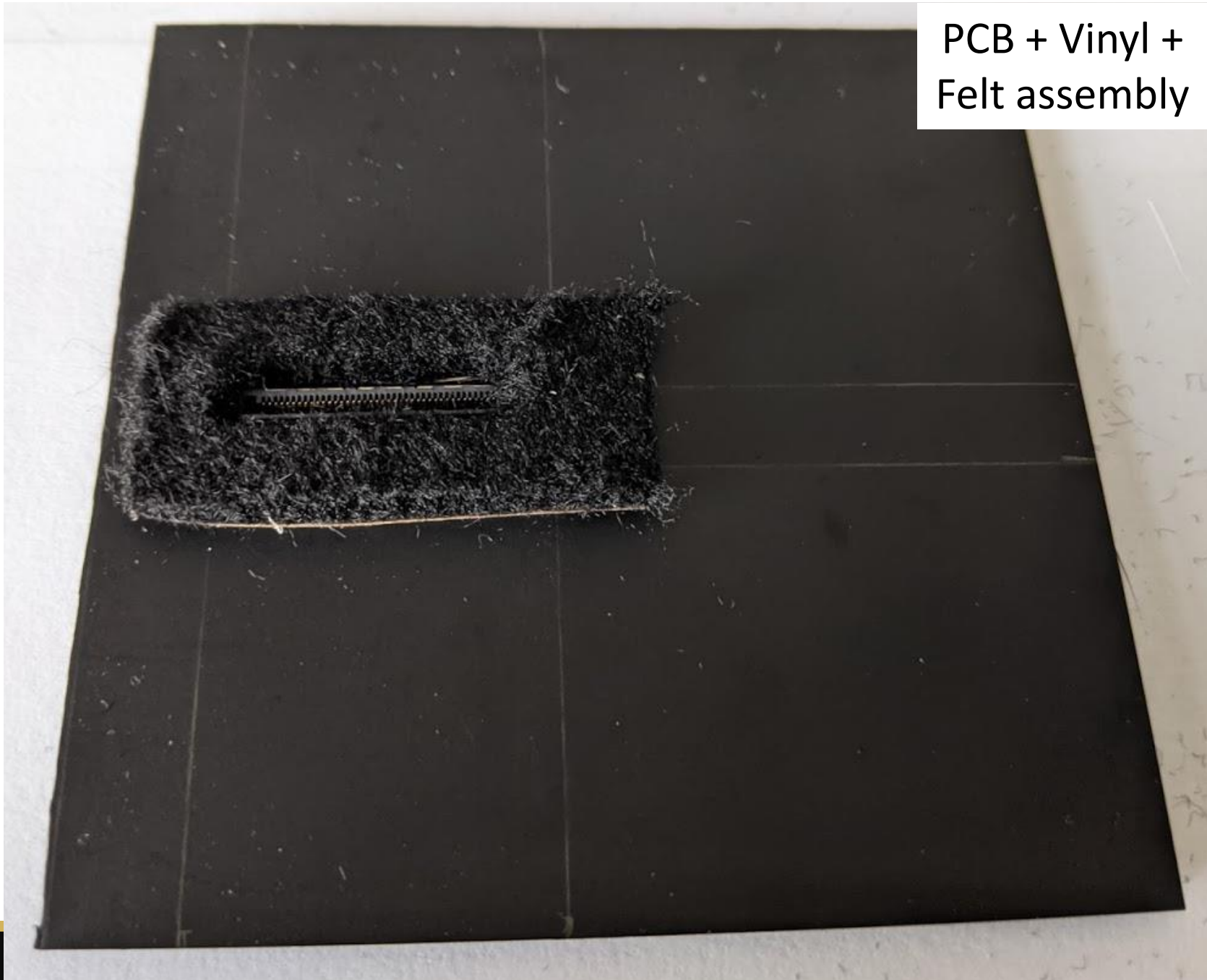
Sutherland Felt Company  
248-280-0450(off) 248-280-1034(fax)  
www.sutherlandfelt.com  
**Black Polyester 4mm Thick**



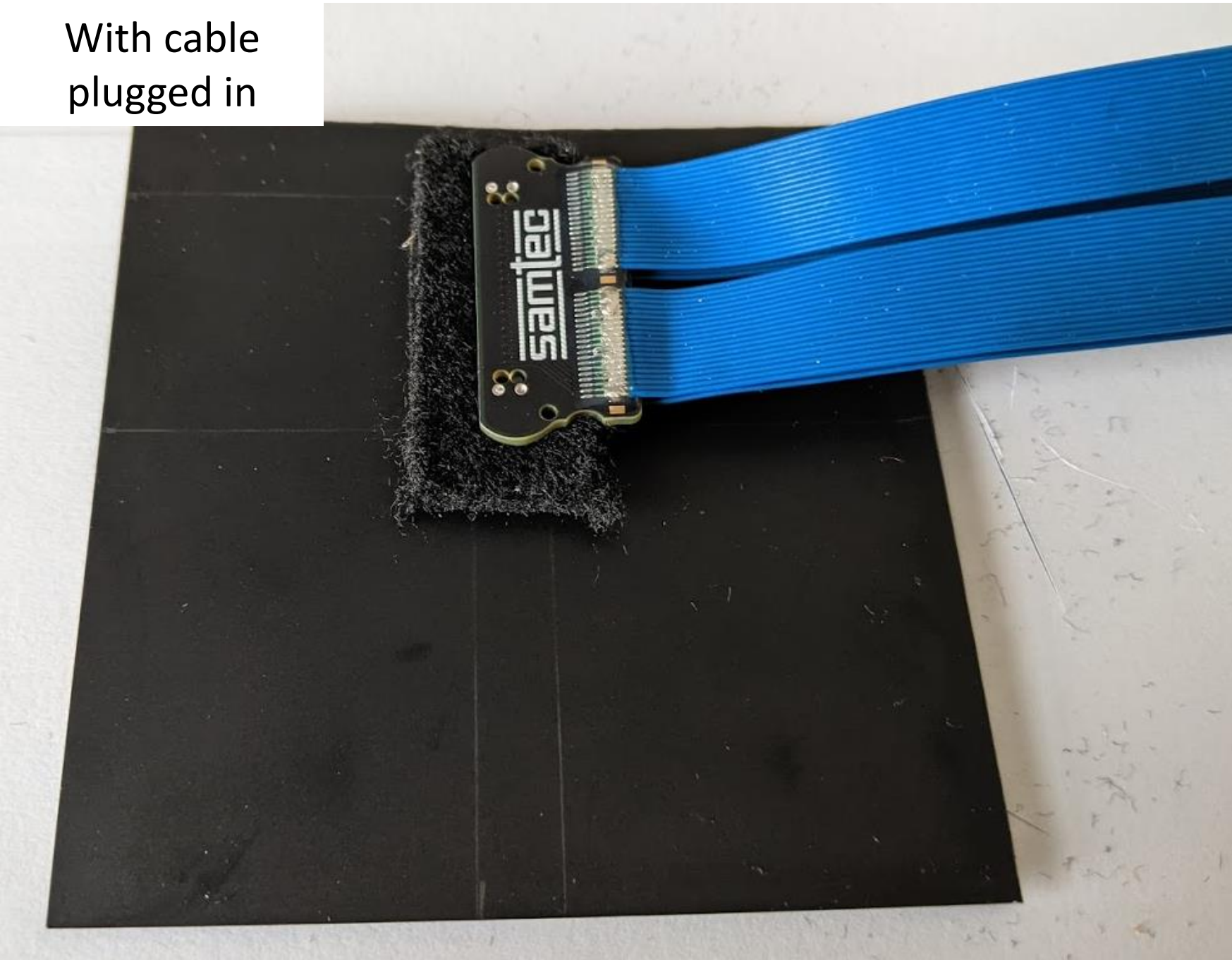
Felt skirt  
cutout



PCB + Vinyl +  
Felt assembly



With cable  
plugged in



# Side views



# Backup

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(VINYL SHEET INSTALLATION)



# Vinyl Sheeting

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0.01" (~0.25 mm) black opaque vinyl sheets

Come in sheets of 25"x52" (~0.625m x 1.32m)

- Will need multiple sheets per side for coverage



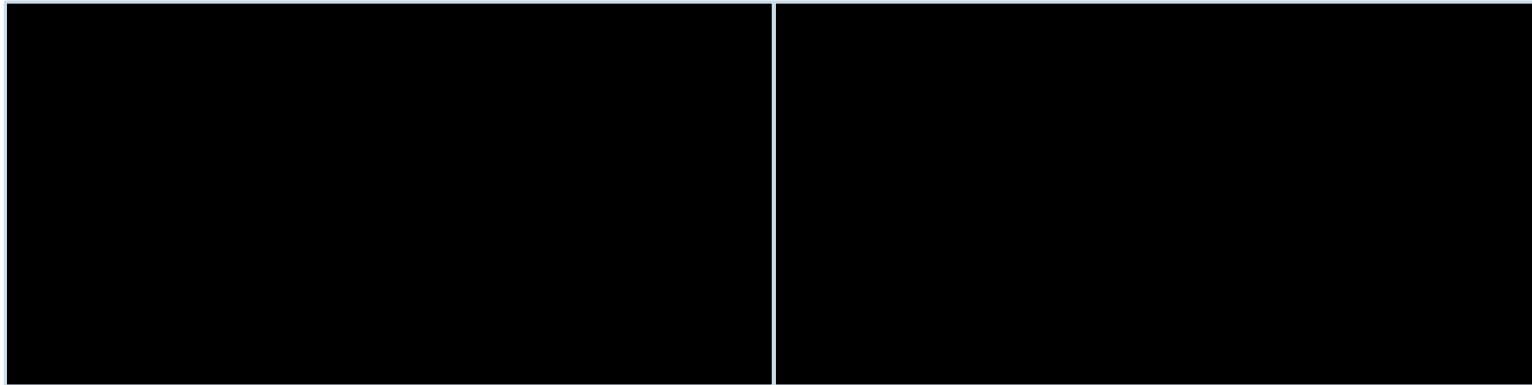
Top View



Side View

Side View





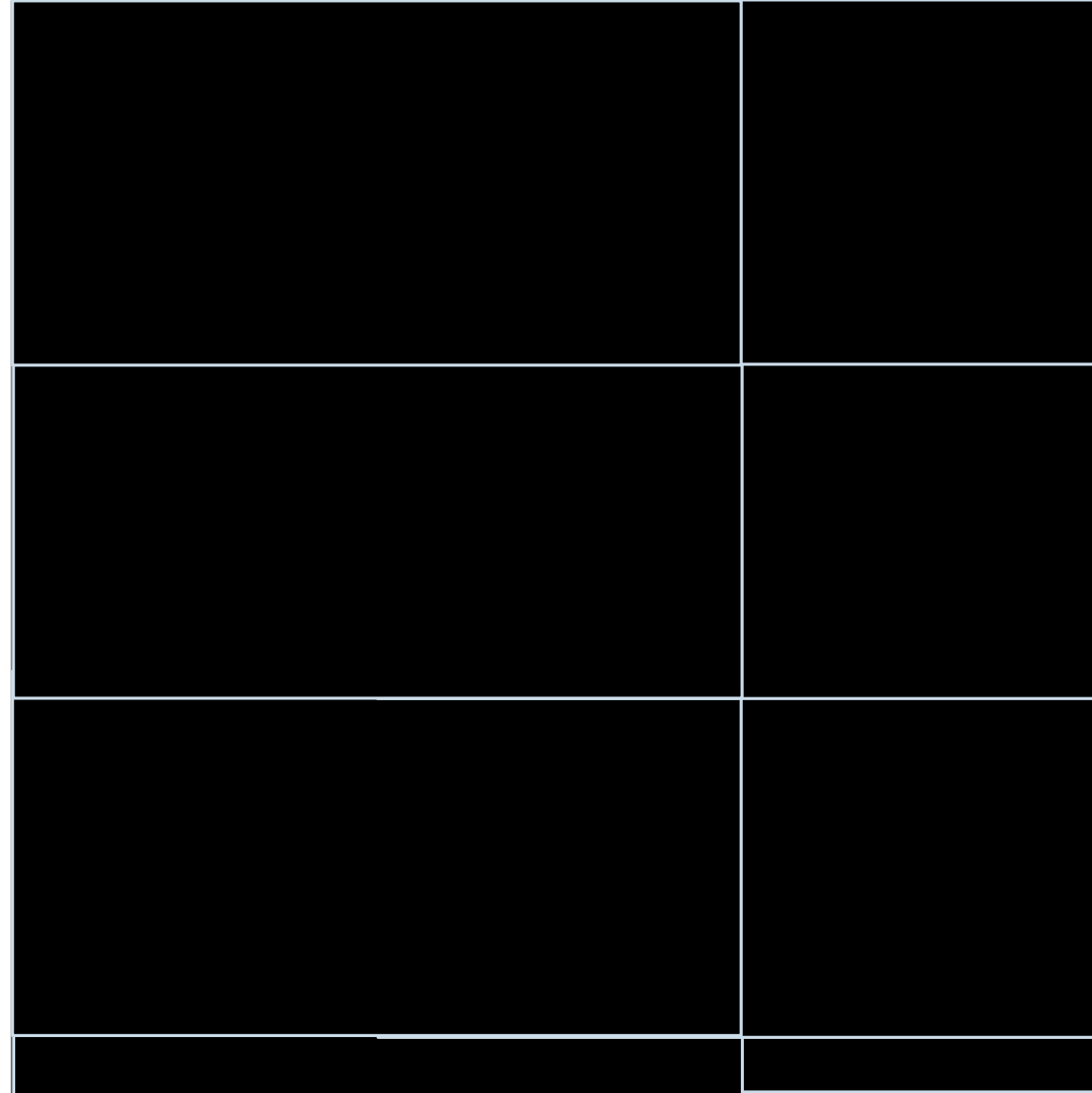
Side panels will fit well with  
this arrangement under the  
current sheet sizes

Top View



8 Sheets gives safe coverage, but have to worry about large overlap

Must avoid putting overlap regions near cable connection sites



Seal material  
Tape? RTV? Anything else?



- Sheets will have to have holes cut individually relative to their anchor position to the box
- After cutting, put all sheets on the box in their working configuration to ensure individual fit & mark overlap borders
- Attach sheets together off the box to ensure quality seal
- Put attached sheets on the box for final mounting

