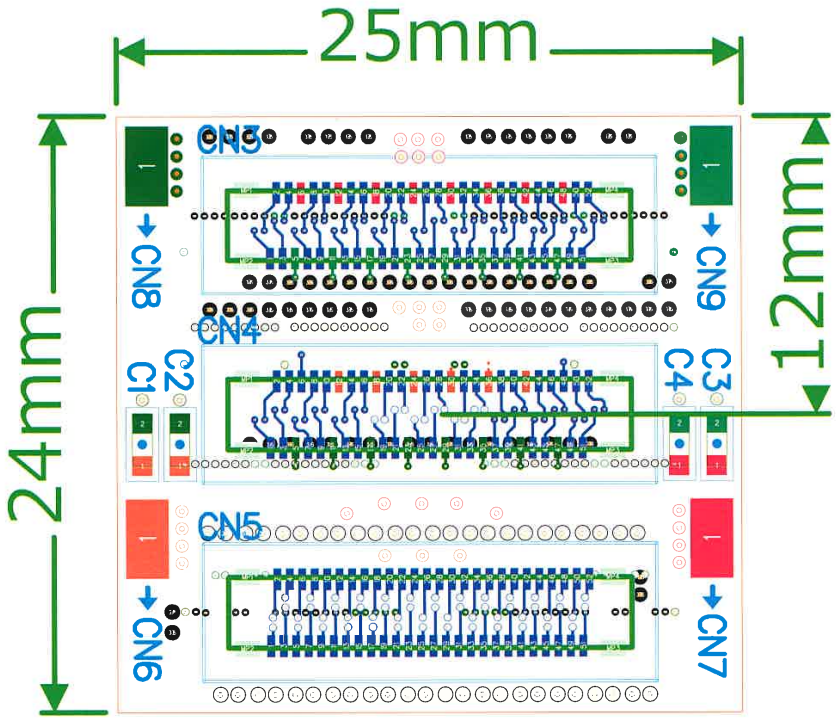
Conversion Cable Update

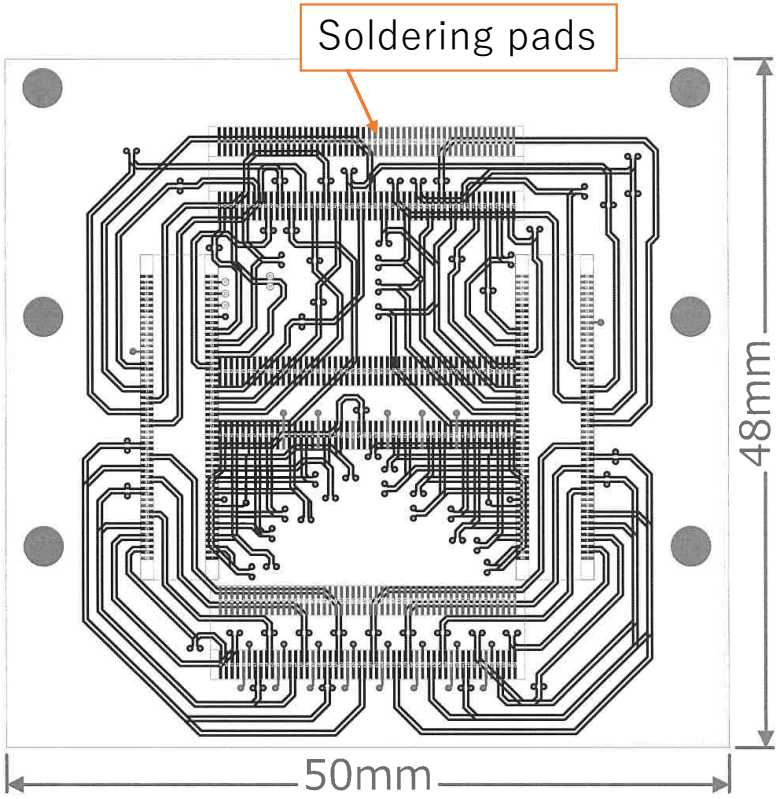
RIKEN/RBRC

Itaru Nakagawa

Connector Design

- The design is almost completed by Hayashi REPIC



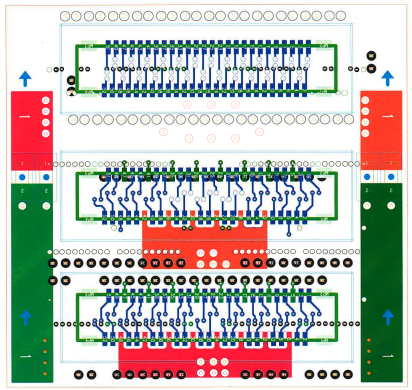


ROC End
- 8 Layers
- 3 KEL Connectors
- Compact enough not to interfere with adjacent ports

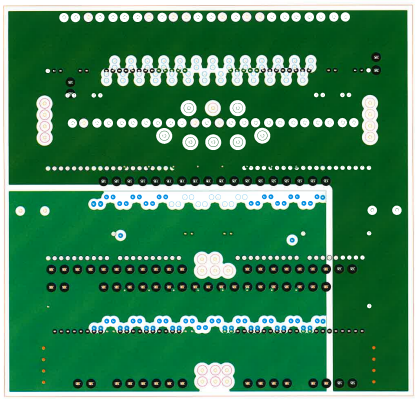
Bus Extender End
- 6 layers
- Direct soldering to pads

ROC End Connector – 8 layers

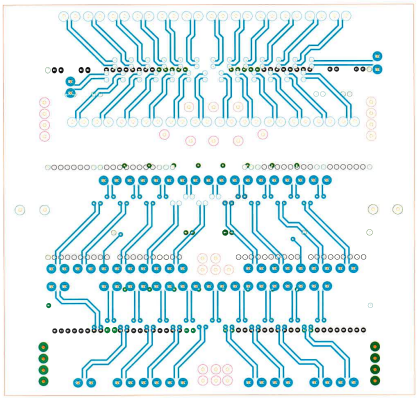
L1



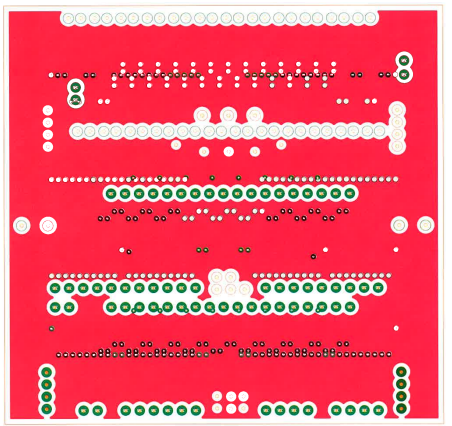
L2



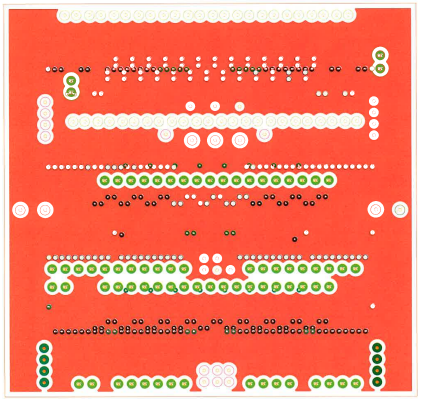
L3



L4



L5



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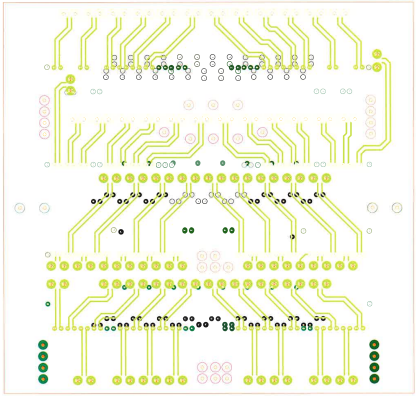
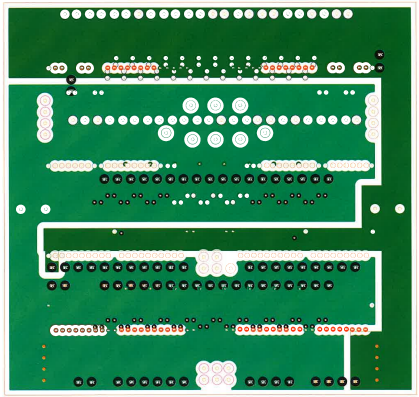
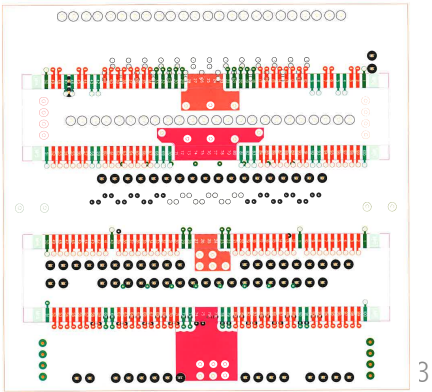


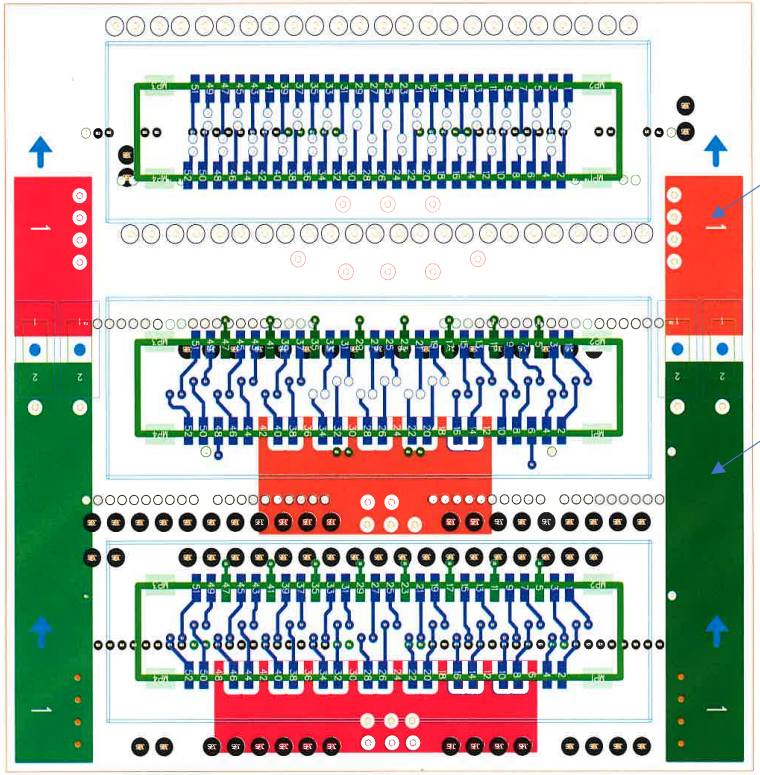
L7



L8



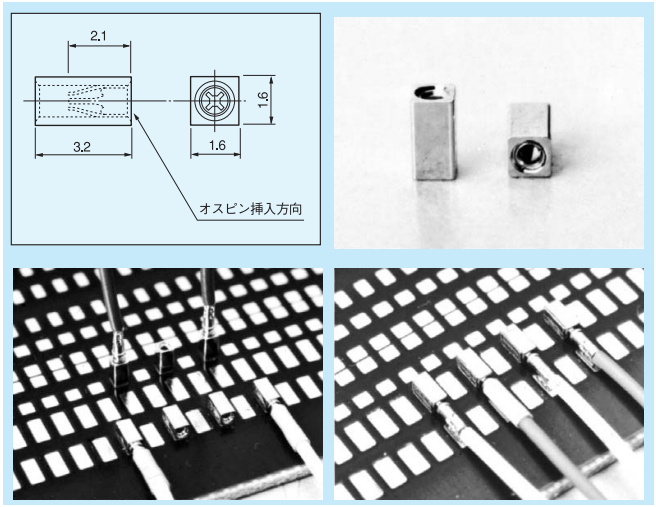
Power Connector on ROC side connector



Power

GND

Mac-8 HHJ Connector



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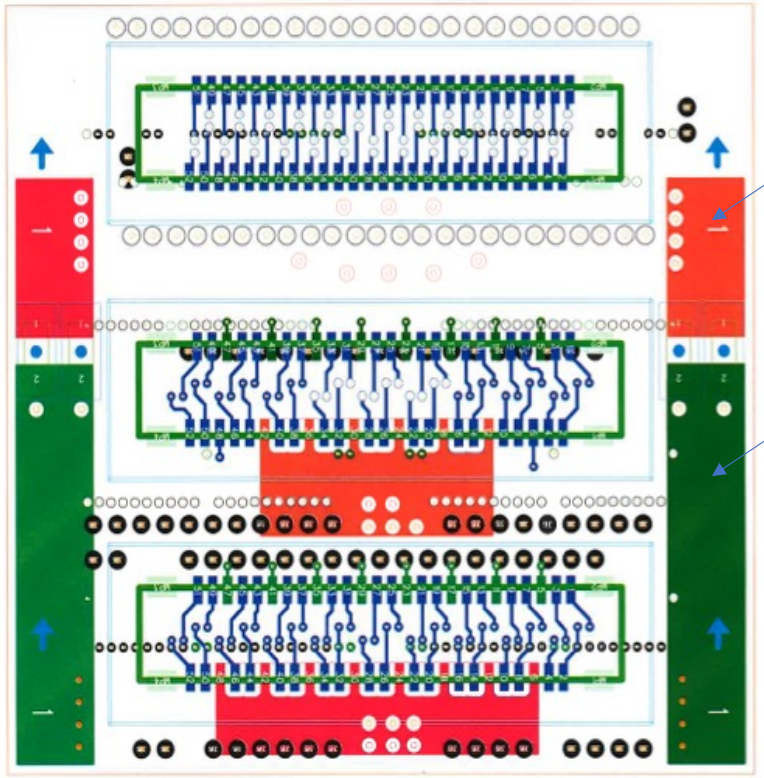
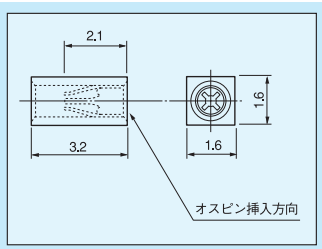
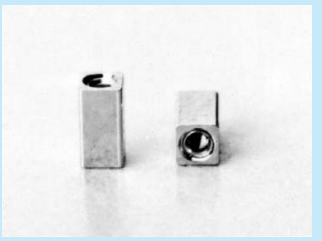


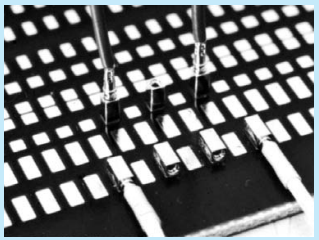
Power

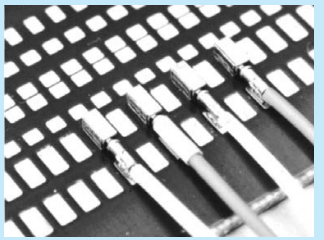
GND

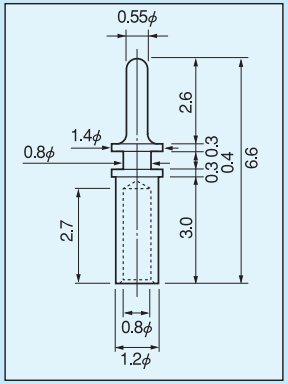
Mac-8 HHJ Connector



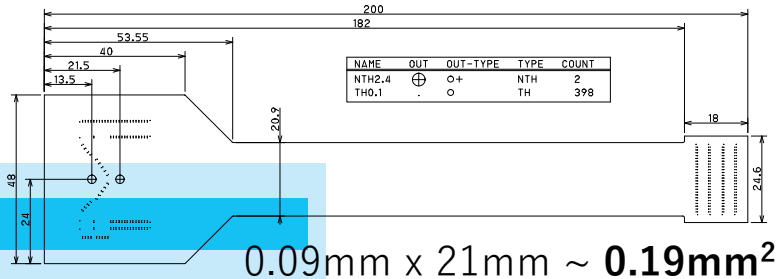








Power Cable Gauge



0.09mm x 21mm ~ **0.19mm²**

FPC Power line cross secttion

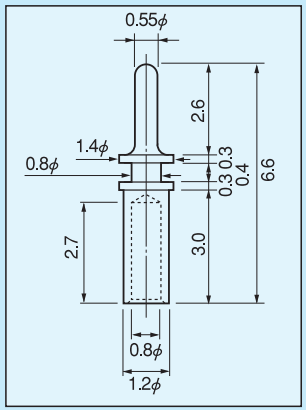
Male pin for HH-1 [Part number: HJ-1] (100pcs/pack)

- This male pin is used for the connector for surface mounting (HH series).
- By crimping electric wire to this product and mounting it to HH series, signal can be taken out form a board for surface mounting.
- There is no problem even if a pin contacts with the next pin, as long as the shrinkage tube for HJ-1 (HJ-T) is fit to this product.
- Material: Brass
- Finish: Gold plating over nickel base
- Electric wire diameter that can be fit: Thinner than AWG26
- Rated current: 2A

■ Part number:HJ-1

- Crimping tool: Part number: OMXT-1
- Edge bracket for HJ-1: Part number: X-7

) Please purchase both products.



Wire Gage <= AWG26

Diameter = 0.4mm

s = 0.128 mm^2 < 0.19 mm^2 (FPC)

Not sufficient. Additional signals lines 0.00125mm^2/wire doesn't help unless we bundle 50 of them.

Requested to use AWG24 or larger gauge

Conversion Cable Prototype Schedule

- The connector ends design are almost completed.
- KEL company notified us there is no domestic option to fabricate μ-Coax cables faster. Effectively 3 months.
- Started to look for different μ-Coax cable company. (May need to redesign the ROC side connector end.)
- Once μ-Coax cables are available, the lead time for the fabrication is 3 weeks or so for prototypes. 1 week for printed circuit boards, 2 weeks for soldering.