Installation Instructions
PPEB086
Application note

The PPEB086 is a board that accepts a micro-ICR formfactor Integrated Coherent Receiver. It integrates mechanical mounting, heatsinking, DC connections and RF connections. The RF lines are specified at 40GHz BW, making this product suitable for class 20 and class 40 micro-ICRs. The RF outputs are 8x SMPM connectors (female).

This Application note describes how to install the micro-ICR on the PPEB086 and how to integrate the PPEB076 (ICR control board) with the PPEB086.
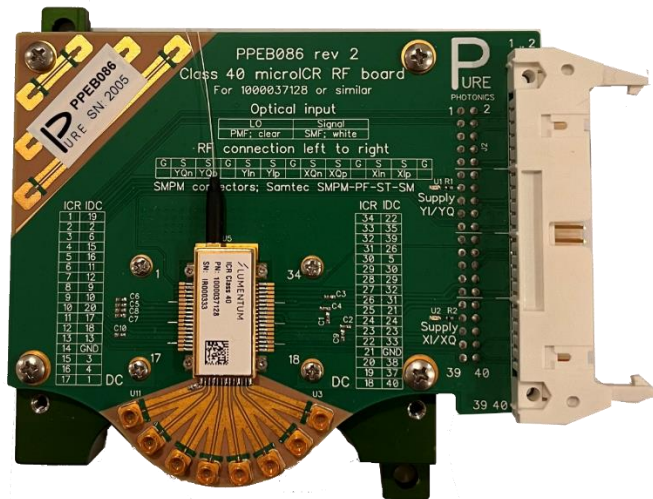
1. Table of Contents

2. PPEB086 integration

Currently the micro-ICR is installed on the PPEB086 board by Pure Photonics. In the future we will make a clamp solution available.

The micro-ICR is installed by placing it on the PPEB086 board. It is recommended to add some thermal paste below the module (in contact with the exposed metal heatsink. Make sure that paste does not spill on the solder contacts.

The RF and DC pins are aligned with the pads. At the 4 corners M1.2 screws need to be inserted through the tabs of the micro-ICR. After inserting the M1.2 screws and loosely tightening them, carefully monitor the alignment. Once alignment is good, tighten the screws gradually. Move around from screw to screw to ensure all screws are equally tightened. Keep checking on the alignment and correct when needed. There is no need to overtighten.

Solder all leads onto the contacts. Make sure to apply appropriate ESD precautions and to limit the heating time for each lead. This is not an easy soldering task and should only be attempted by experienced experts.
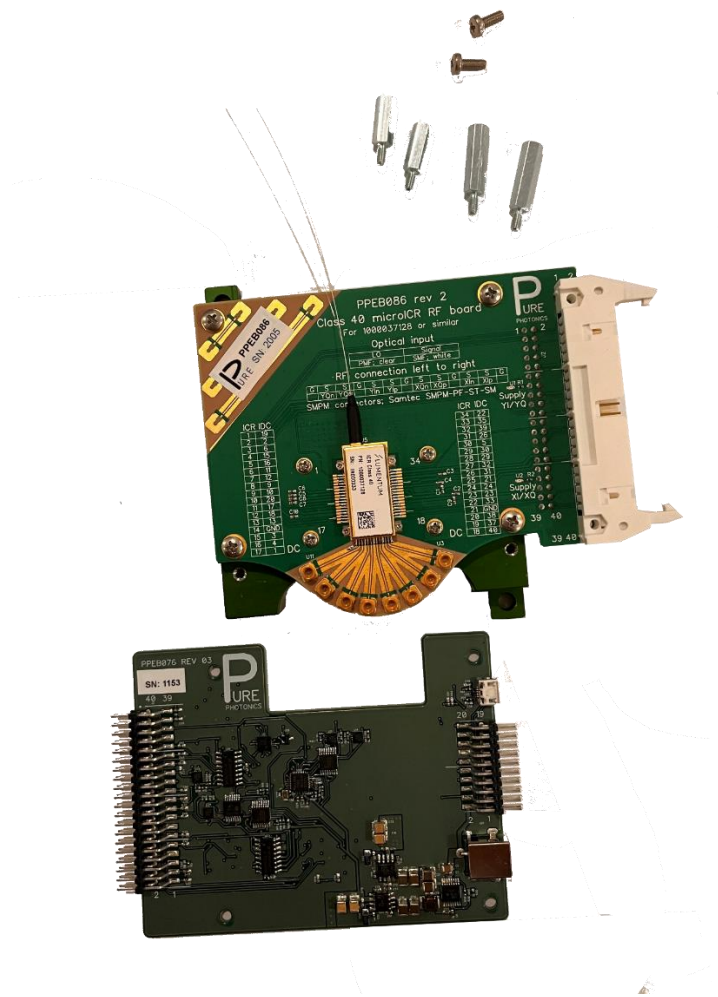

After completion the assembly should look as above.
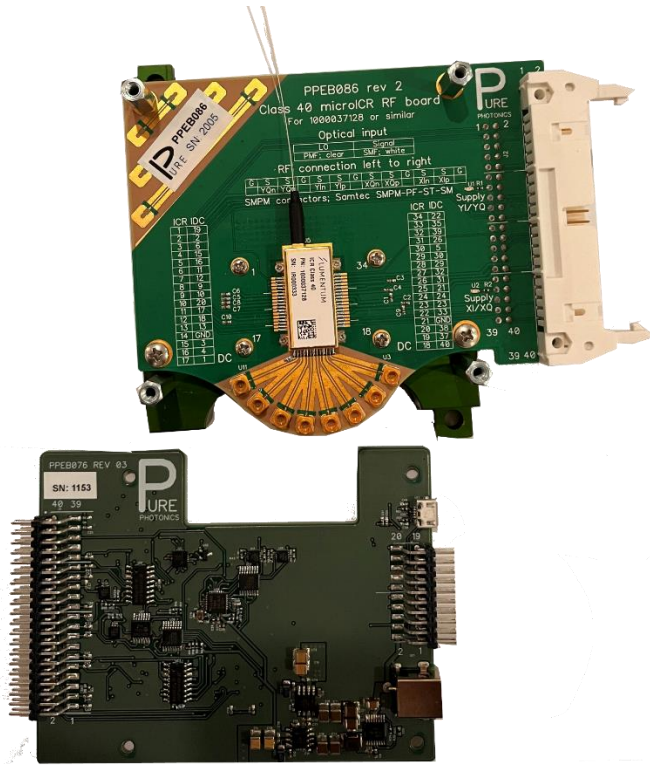
3. Installing PPEB076

To install the PPEB076, stand-offs need to be installed.
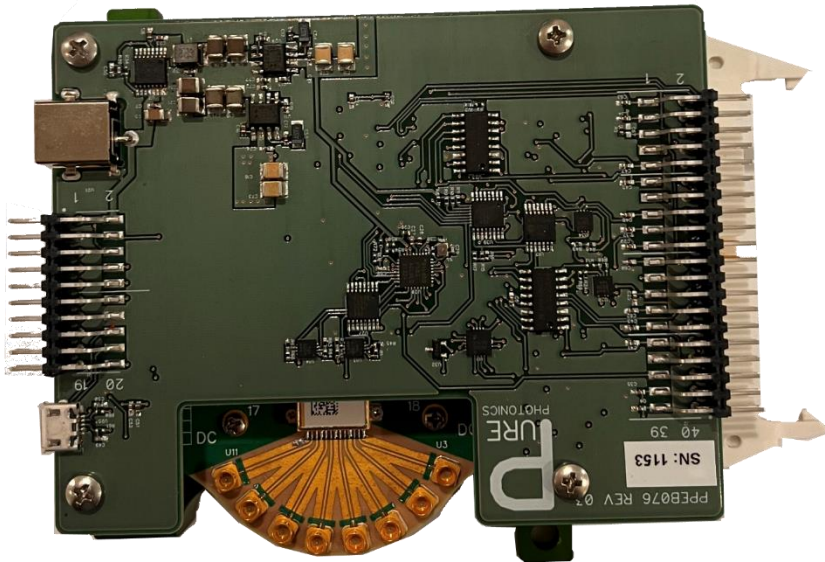
First prepare the material:

- PPEB086 with micro-ICR
- PPEB076
- 2x 20mm M3 standoff
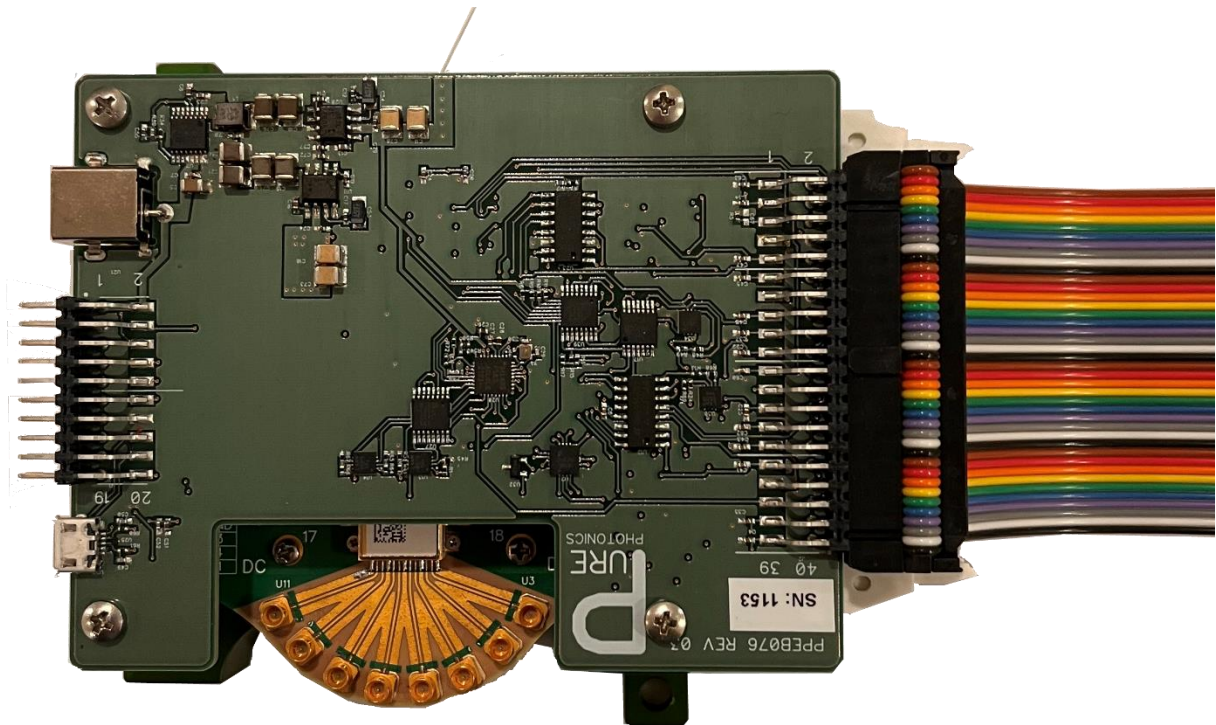- 2x 14mm M3 standoff
- 2x M3 screw

Remove the 2 M3 screws in the upper corners of the PPEB086 (making the total number of screws 4), Replace them by the 14mm stand-offs. Add the 20 mm standoffs in the open M3 holes

Mount the PPEB076 on top and align the holes with the standoffs. Insert the M3 screws into the standoffs. The 40pin connectors should be on the same side.

Add the 40pin IDC cable.

4. Connection

The unit is now operational and can be operated by connecting a 10-25V voltage supply on the 2.5mm/5.5mm barrel plug. For communications add a micro-USB cable.

The unit will install on a connected PC as a virtual OCM port. It can be operated by our Command Line Interface (CLI), our latest GUI (version 2025.02.15 and later) and directly through a user script.