

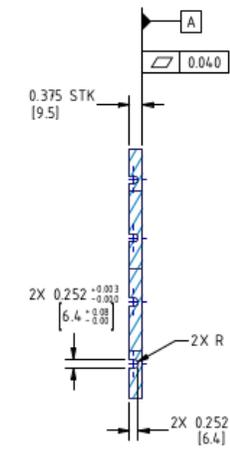
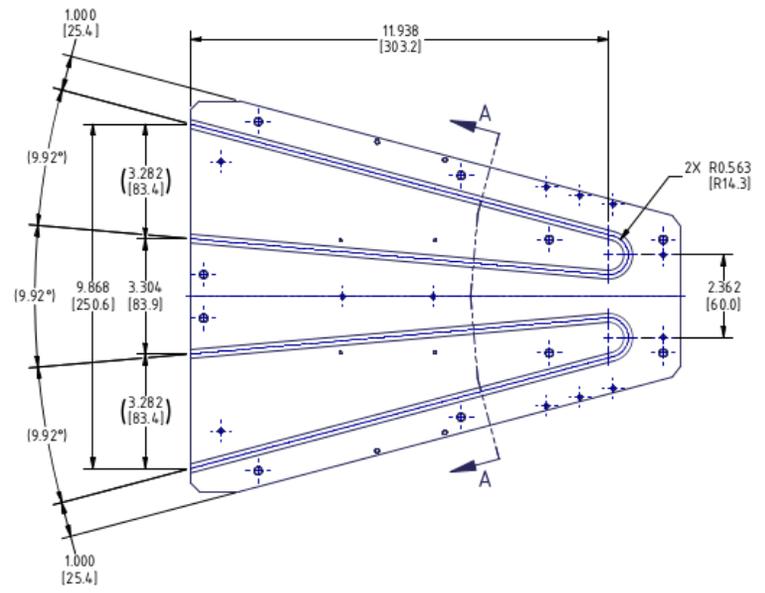
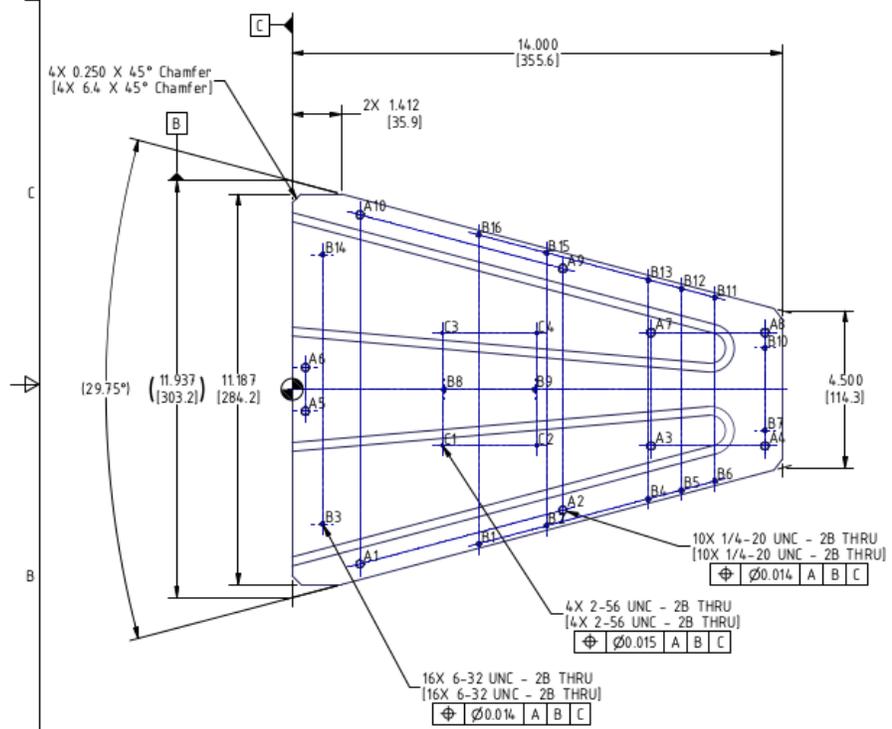
Activities at BNL: ROC Thermal Plates

Robert Pisani, Dan Cacace and Rachid Nouicer

NOTES:

- MATERIAL: Aluminum 6061-T6
- UNTOLERANCED DIMENSIONS ARE BASIC $\square 0.020 \text{ A B C}$
- DRAWING MAY BE USED WITH MODEL " - REV 2 - INTT - ROC Cooling Plate.STP" AND VALUES QUERIED FROM 3-D DIGITAL MODEL ARE BASIC.
- FINISHED ARTICLE SHALL BE FREE OF OILS, LUBRICANTS AND OTHER CONTAMINANTS.

REVISION HISTORY		DATE	APPROVED
REV	ECN NUMBER	ZONE	DESCRIPTION
A			



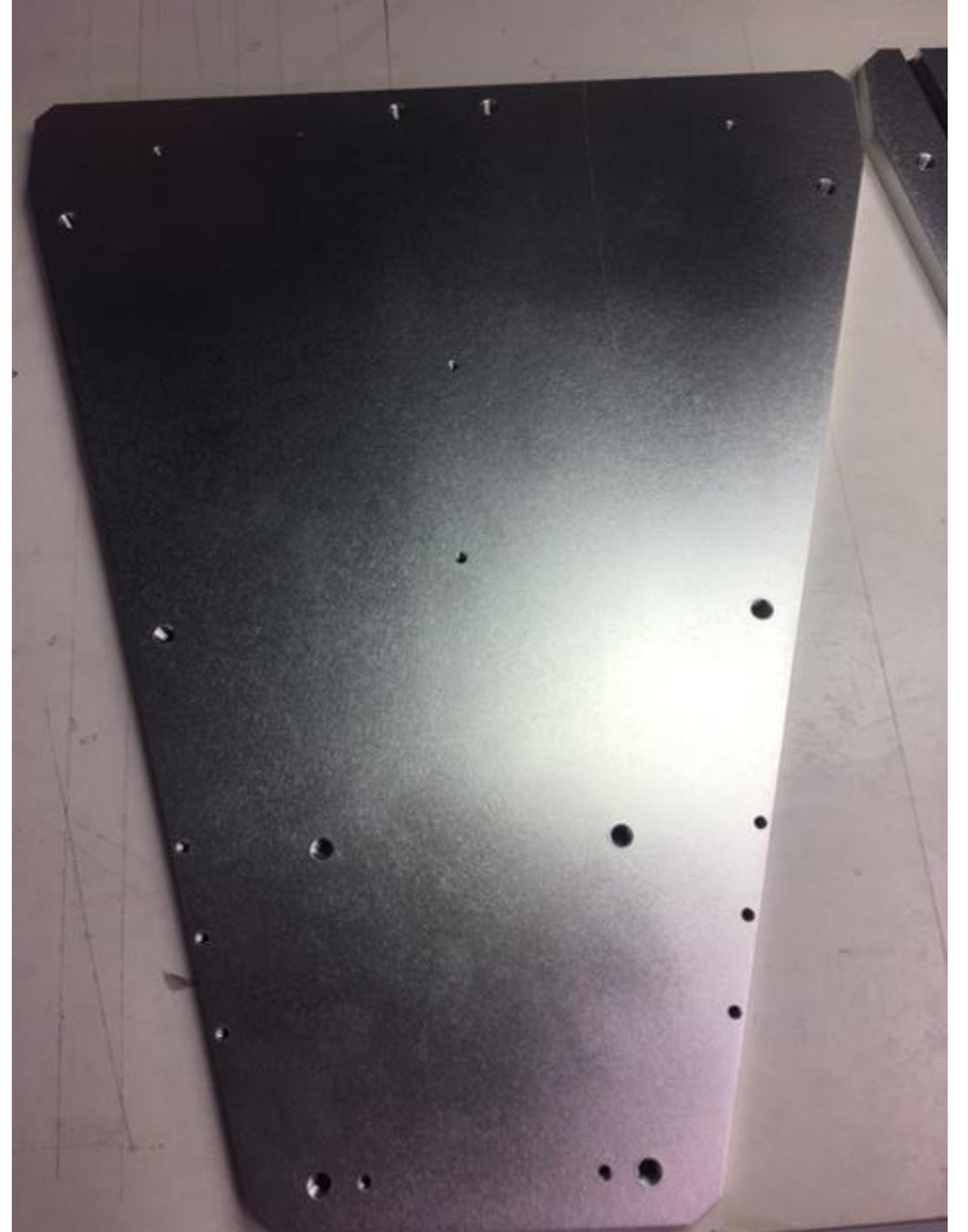
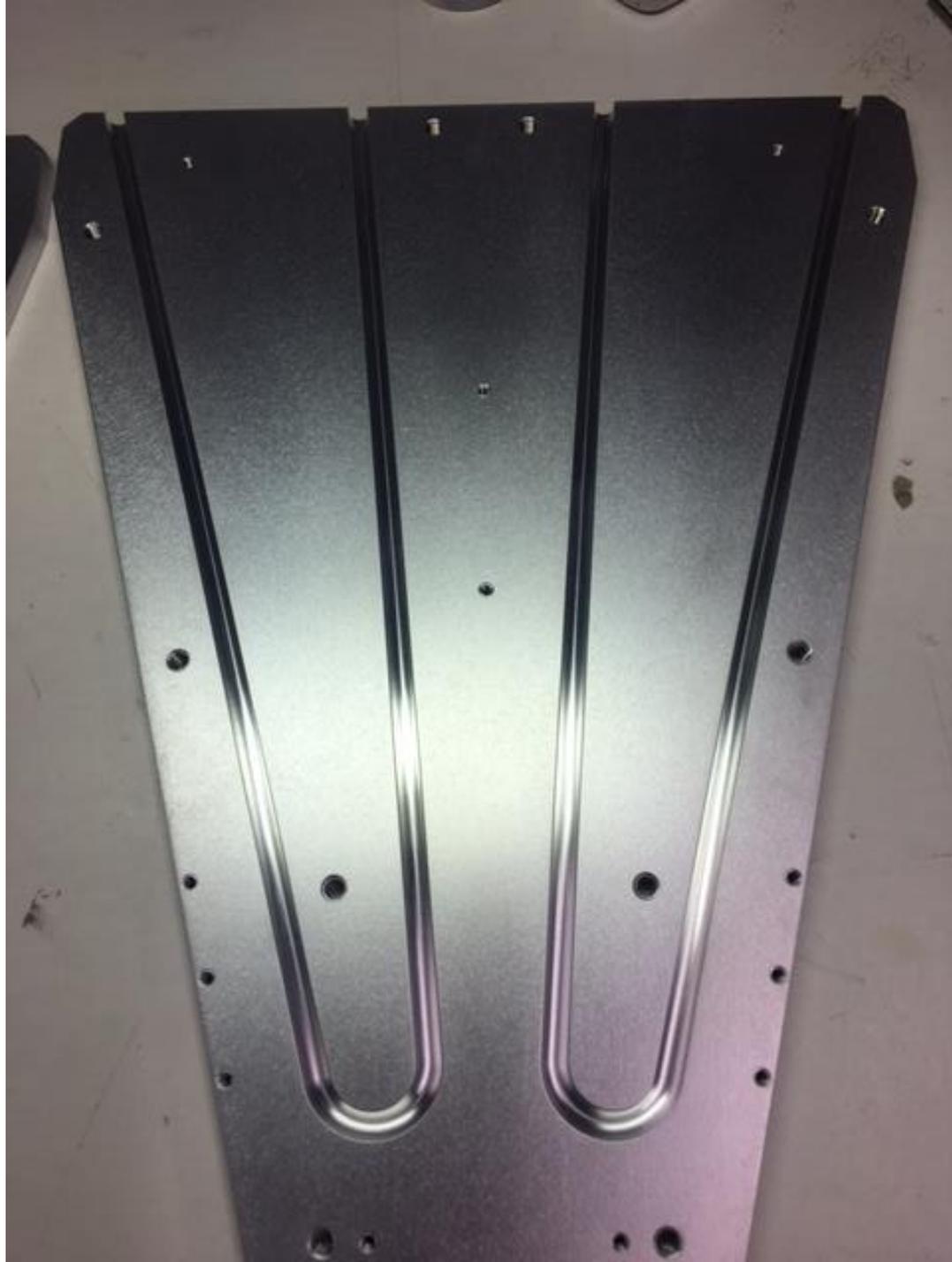
Hole Table			
HOLE	XDIM	YDIM	DESCRIPTION
A1	1.933	-5.002	1/4-20 UNC - 2B THRU
A2	7.732	-3.462	1/4-20 UNC - 2B THRU
A3	10.250	-1.625	1/4-20 UNC - 2B THRU
A4	13.500	-1.625	1/4-20 UNC - 2B THRU
A5	0.375	-0.625	1/4-20 UNC - 2B THRU
A6	0.375	0.625	1/4-20 UNC - 2B THRU
A7	10.250	1.625	1/4-20 UNC - 2B THRU
A8	13.500	1.625	1/4-20 UNC - 2B THRU
A9	7.732	3.462	1/4-20 UNC - 2B THRU
A10	1.933	5.002	1/4-20 UNC - 2B THRU
B1	5.333	-4.423	6-32 UNC - 2B THRU
B2	7.266	-3.909	6-32 UNC - 2B THRU
B3	0.872	-3.860	6-32 UNC - 2B THRU
B4	10.165	-3.139	6-32 UNC - 2B THRU
B5	11.117	-2.886	6-32 UNC - 2B THRU
B6	12.069	-2.634	6-32 UNC - 2B THRU
B7	13.500	-1.181	6-32 UNC - 2B THRU
B8	4.342	0.000	6-32 UNC - 2B THRU
B9	6.933	0.000	6-32 UNC - 2B THRU
B10	13.500	1.181	6-32 UNC - 2B THRU
B11	12.069	2.634	6-32 UNC - 2B THRU
B12	11.117	2.886	6-32 UNC - 2B THRU
B13	10.165	3.139	6-32 UNC - 2B THRU
B14	0.872	3.860	6-32 UNC - 2B THRU
B15	7.266	3.909	6-32 UNC - 2B THRU
B16	5.333	4.423	6-32 UNC - 2B THRU
C1	4.287	-1.600	2-56 UNC - 2B THRU
C2	6.987	-1.600	2-56 UNC - 2B THRU
C3	4.287	1.600	2-56 UNC - 2B THRU
C4	6.987	1.600	2-56 UNC - 2B THRU

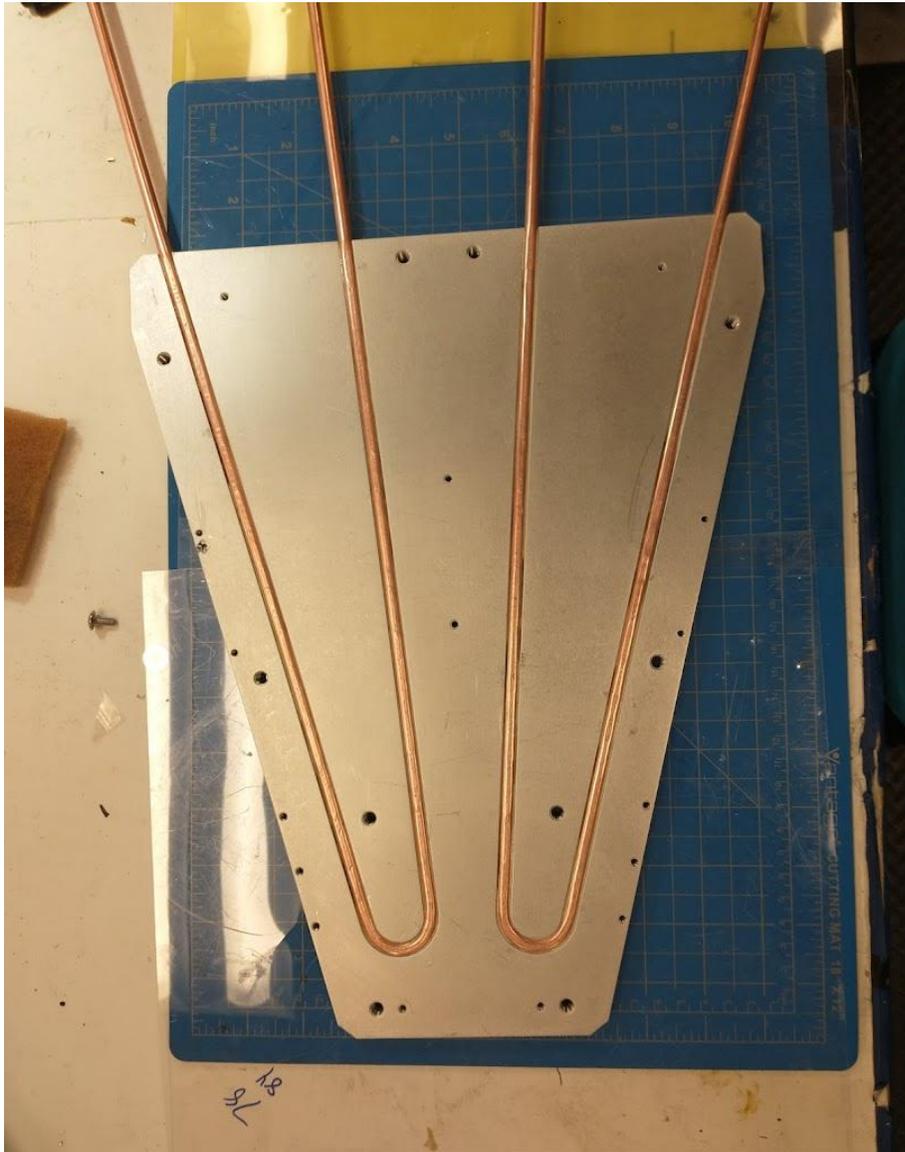
THIRD ANGLE PROJECTION

SPHENIX

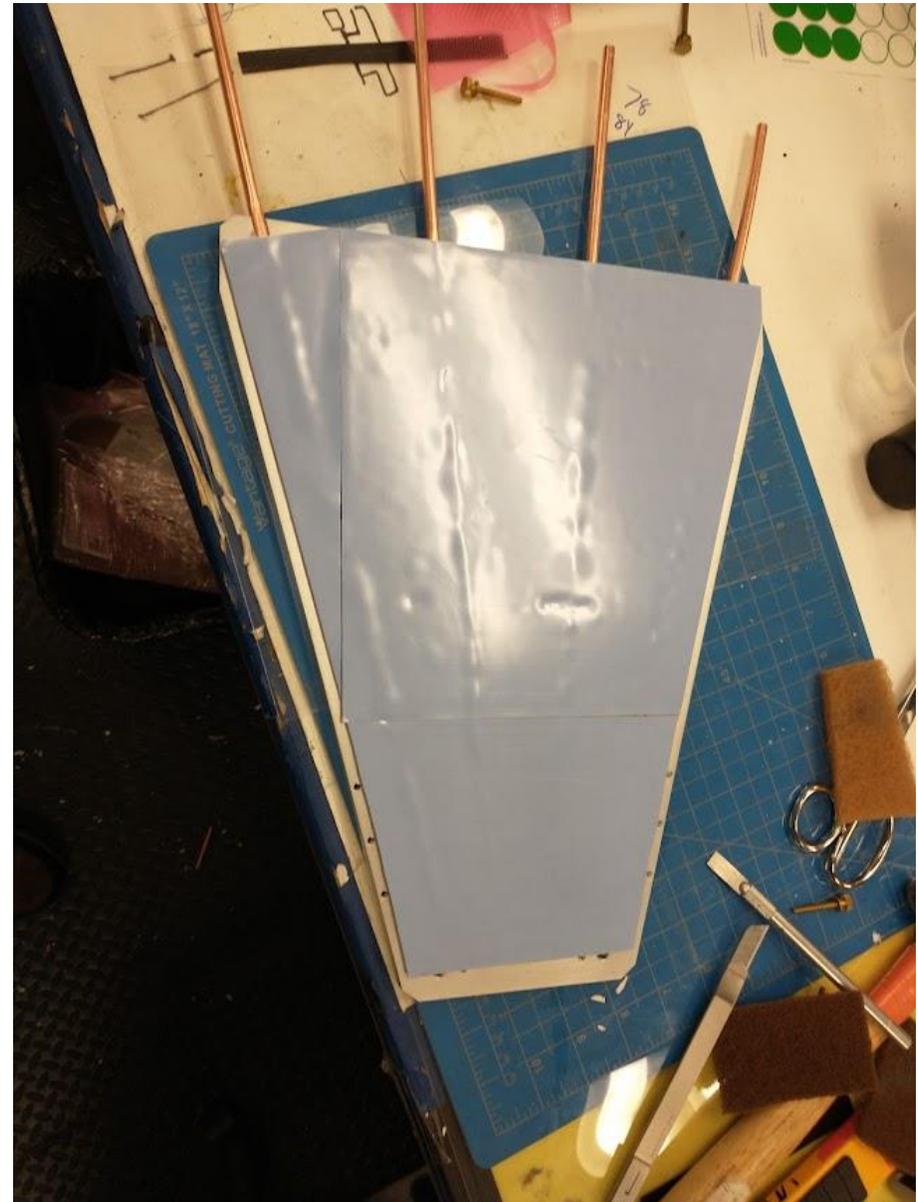
BROOKHAVEN NATIONAL LABORATORY
BROOKHAVEN SCIENCE ASSOCIATES
UPTON, NY 11973

INTT
ROC Cooling Plate

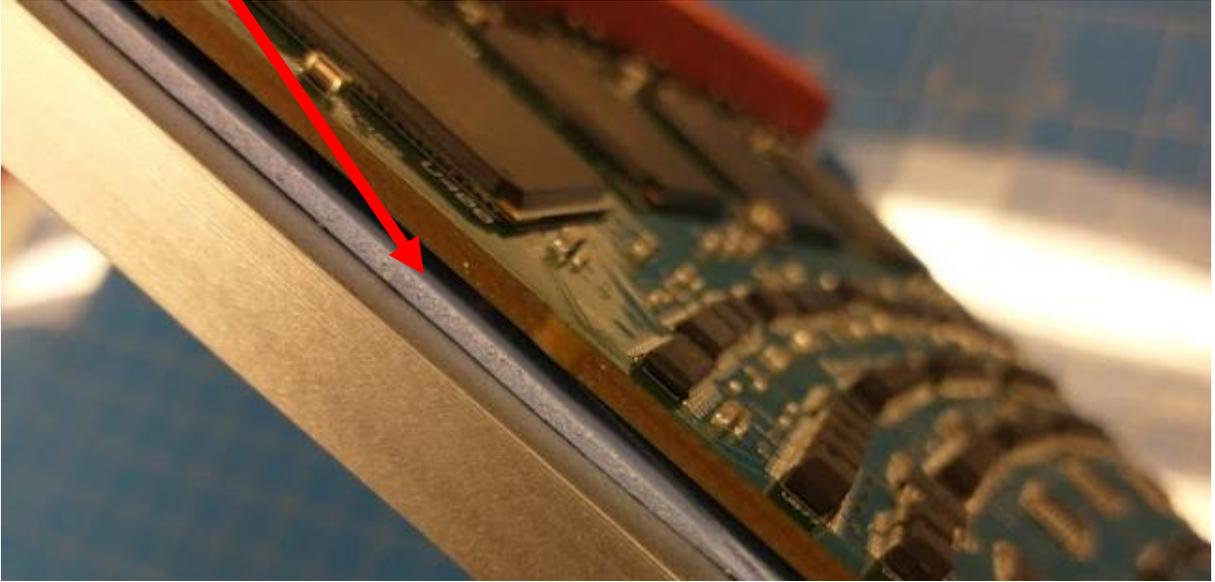
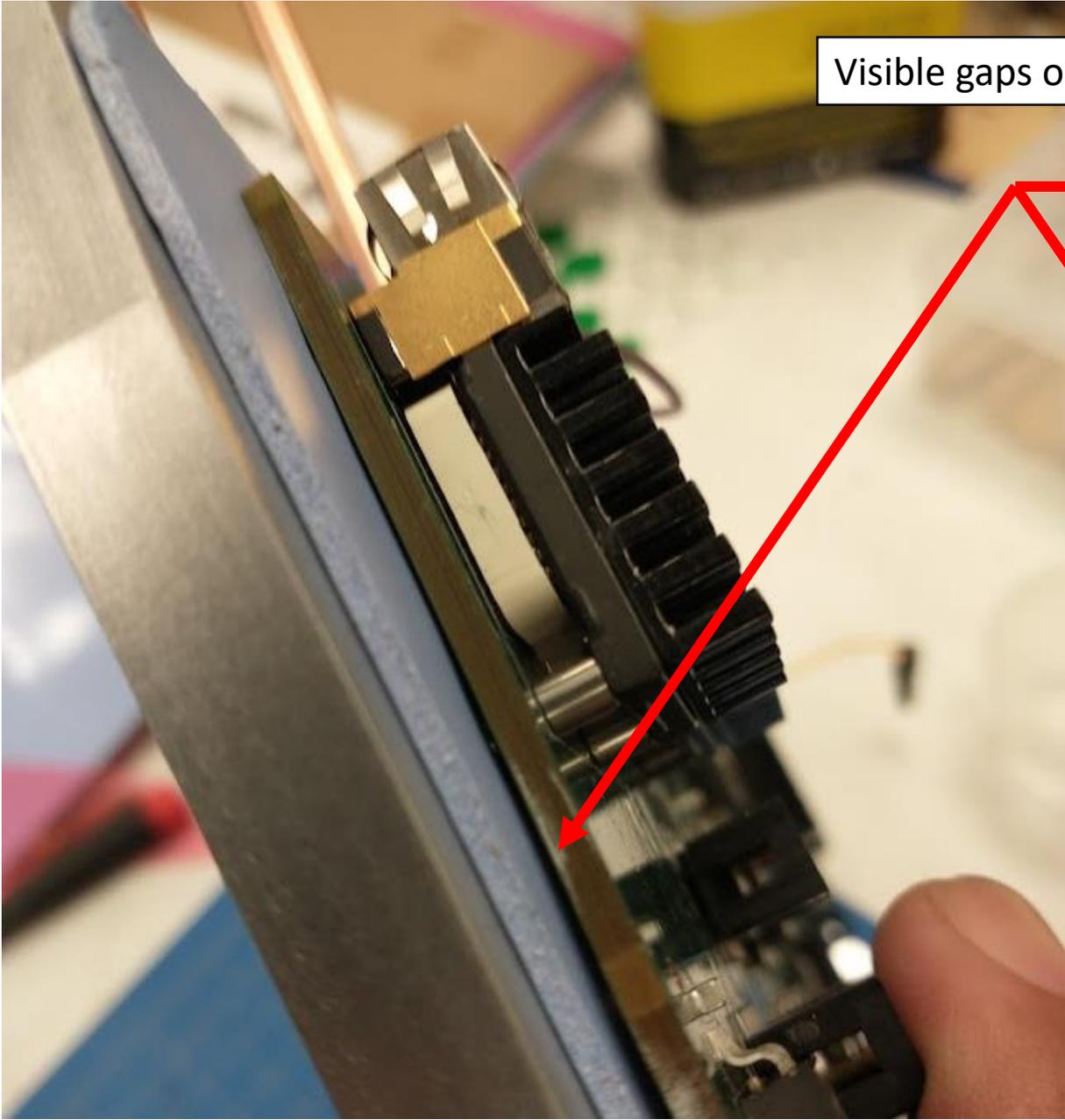




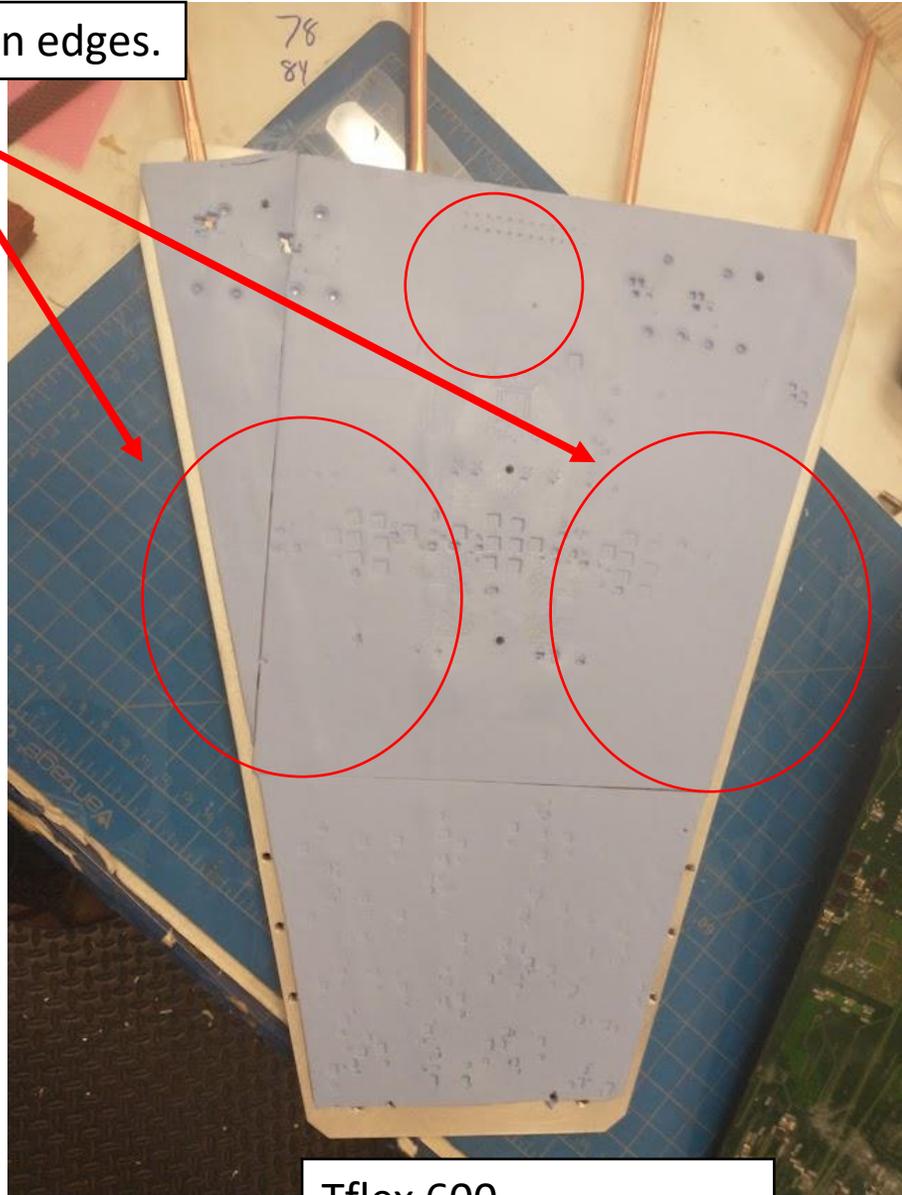
First try pressing copper tubing into channel



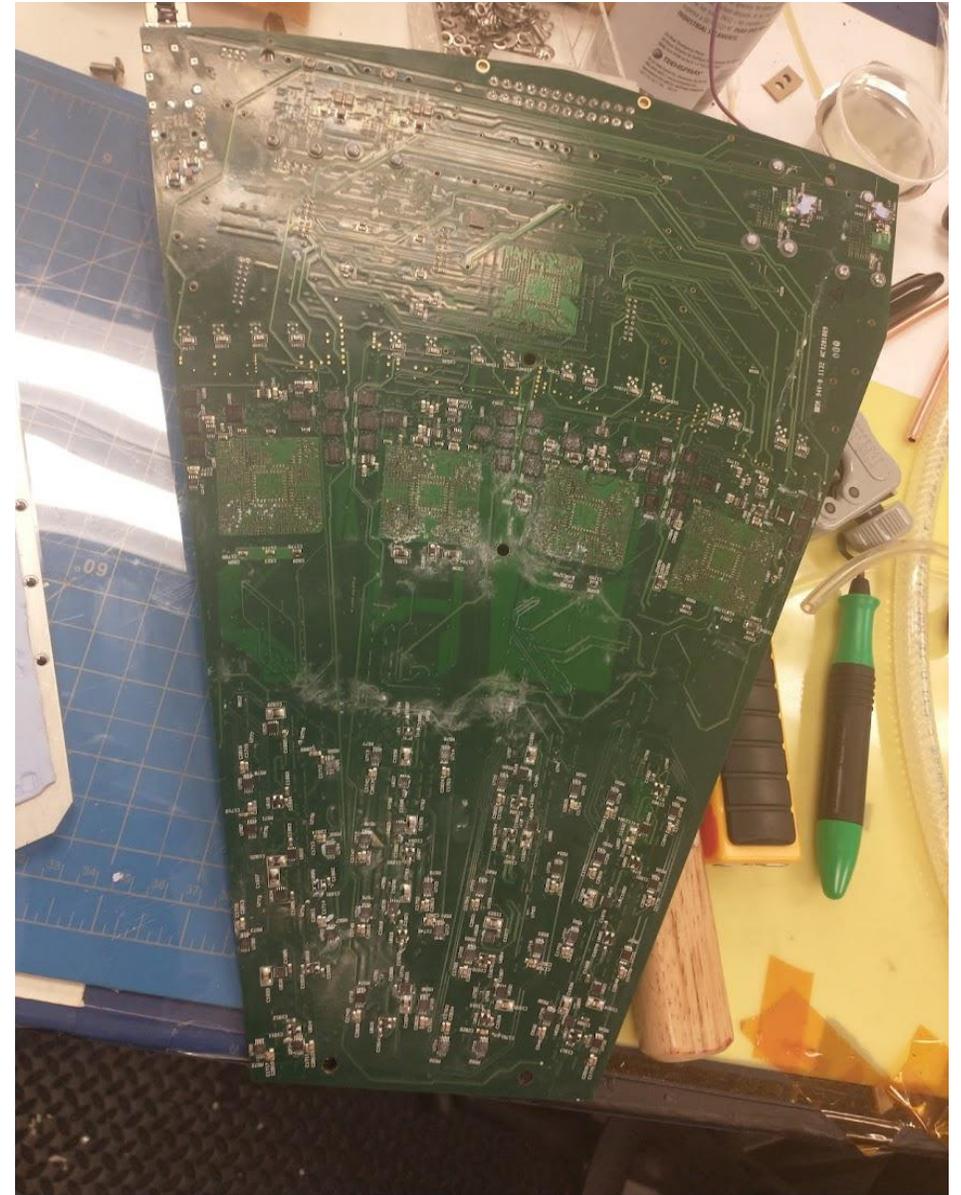
Visible gaps on both side edges

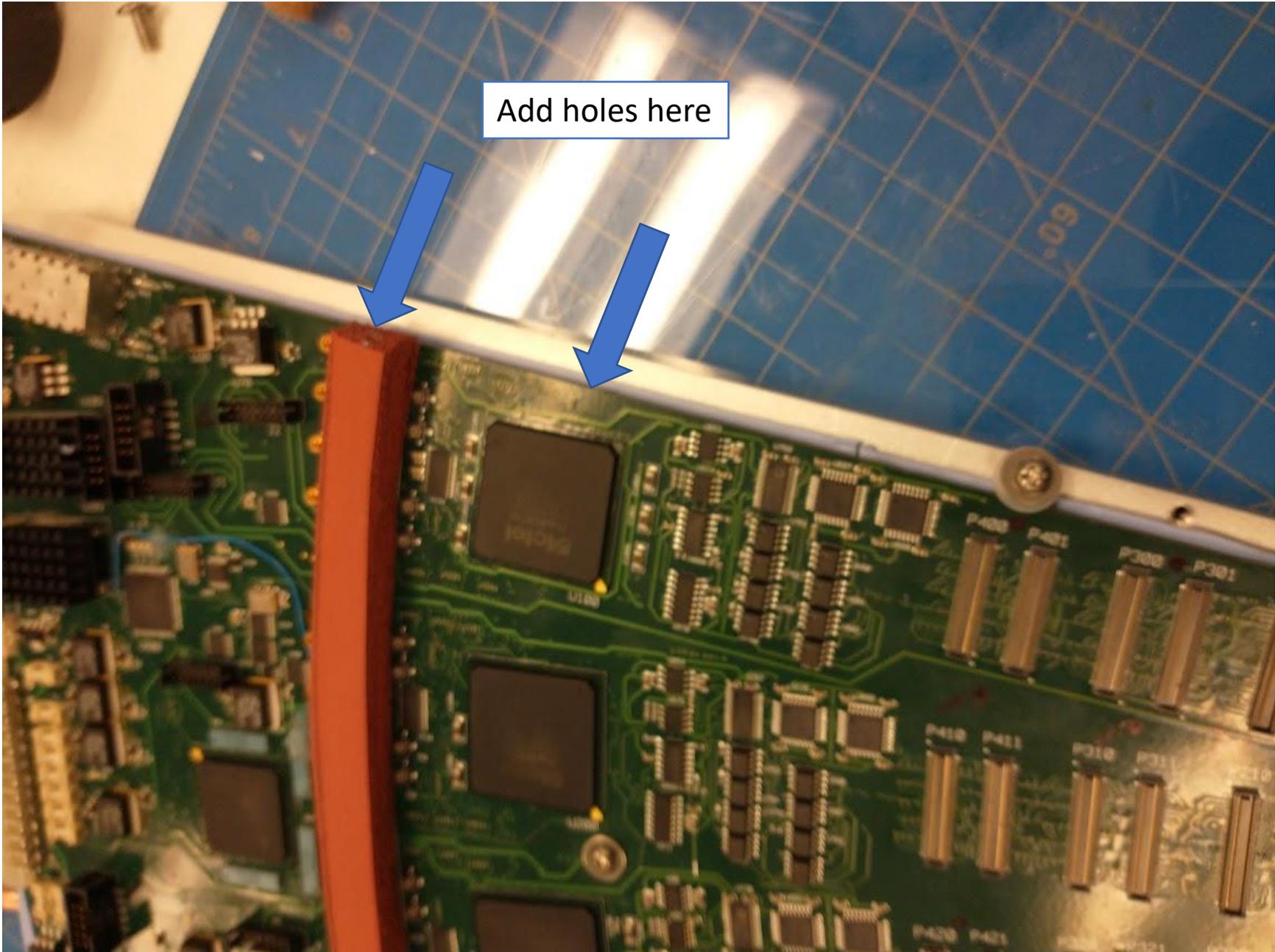


No contact on edges.

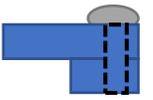


Tflex 600





Add holes here



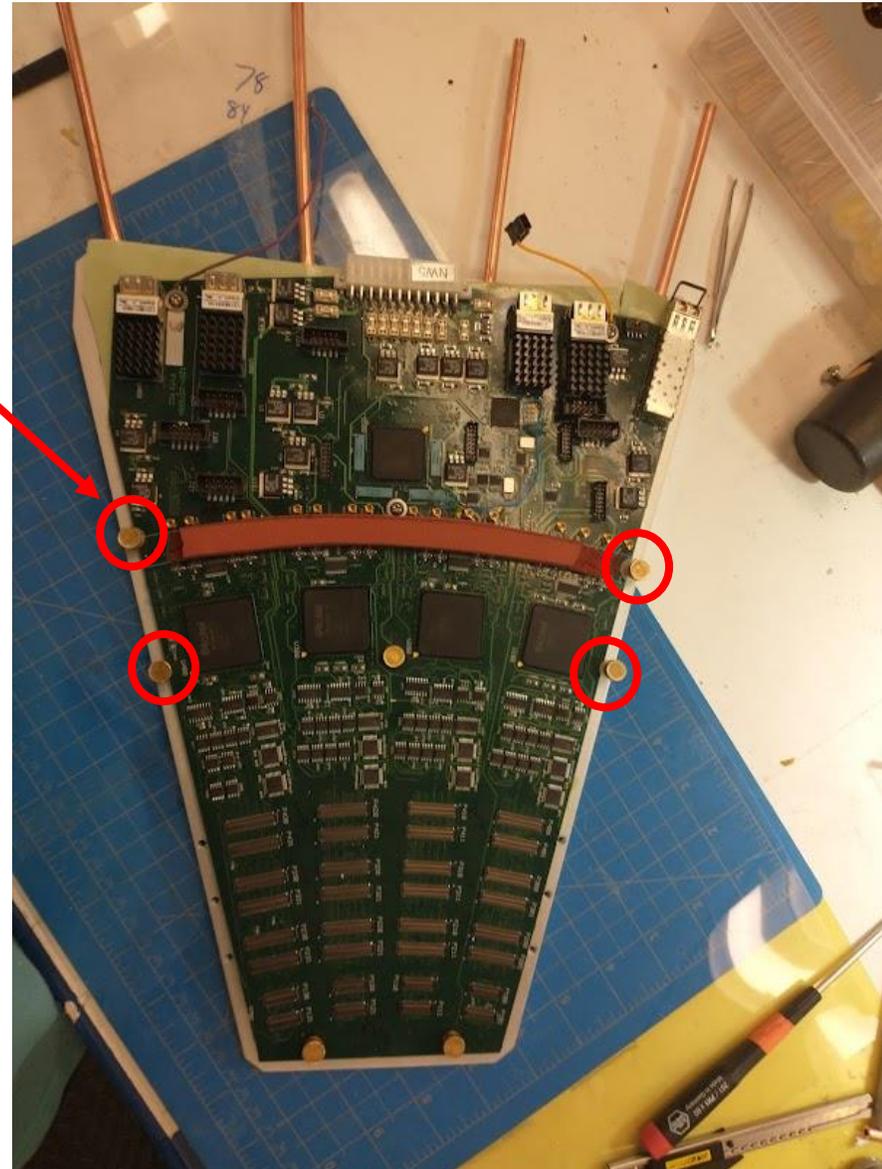
Added four 6-32 holes on edge

All mounting screws have nylon washers under them to prevent shorts.

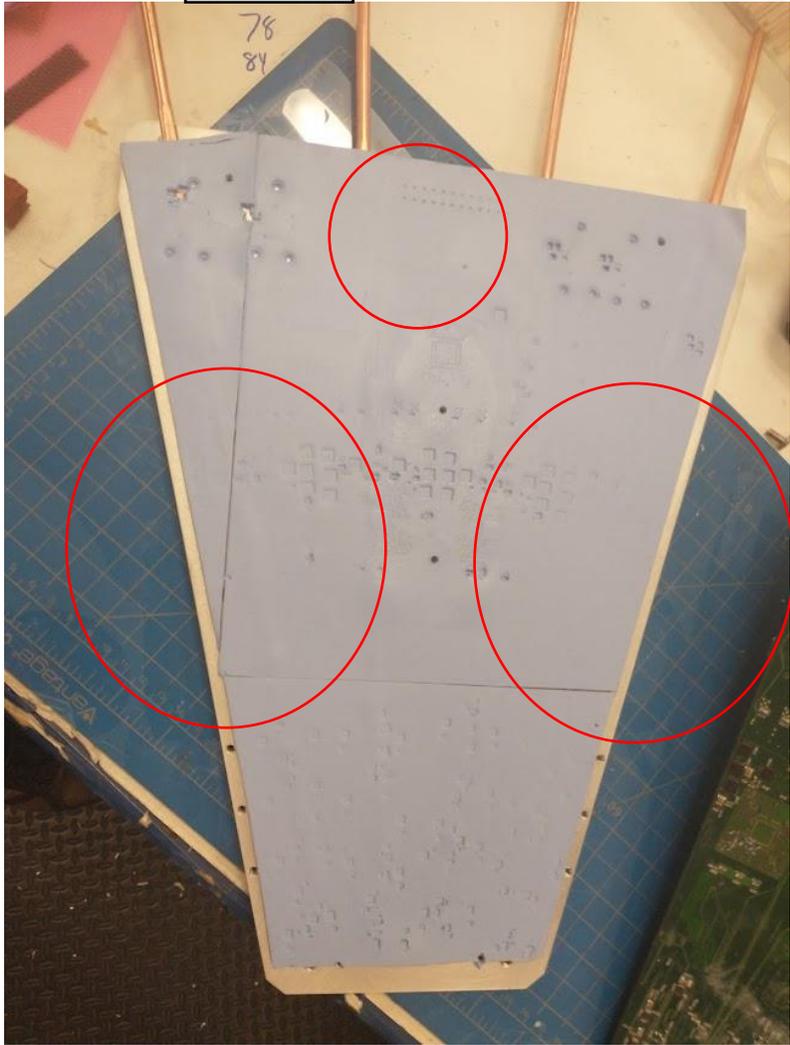
Green → Gap Pad Tflex 300
A little softer
1.2W/m-K
\$12 a sheet

Blue → Gap Pad Tflex 600
Very soft
3.0W/m-K
\$125 a sheet

We will test with Tflex 300 first.



Before



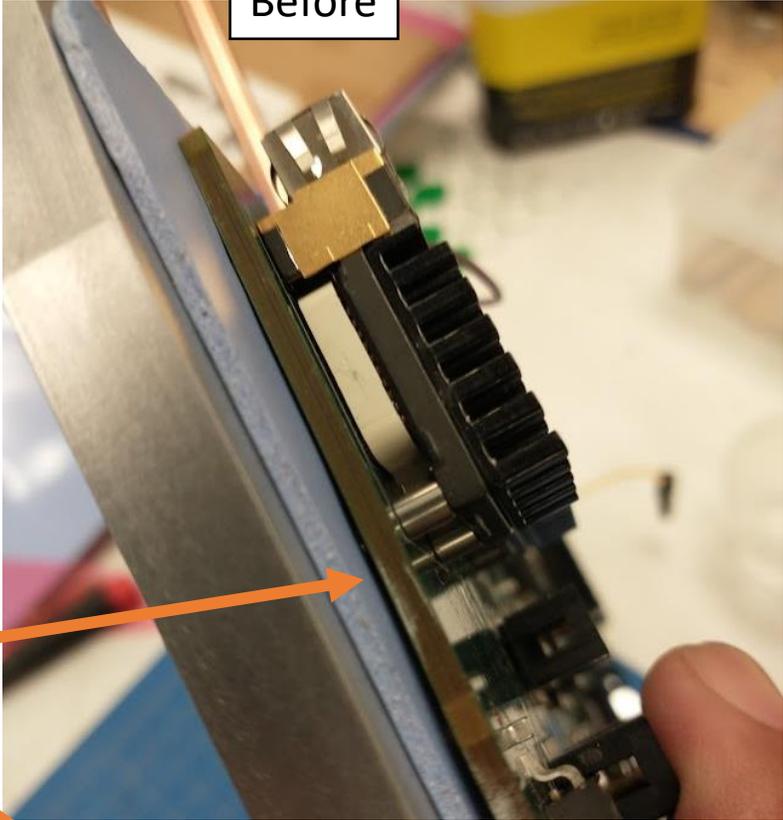
Tflex 600

After adding extra screws

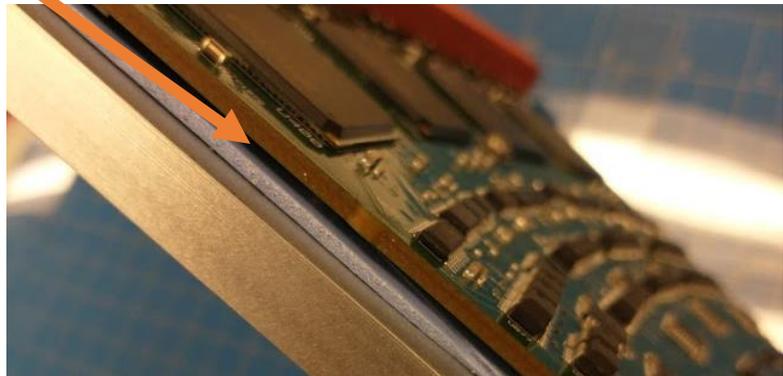


Switched to Tflex 300

Before

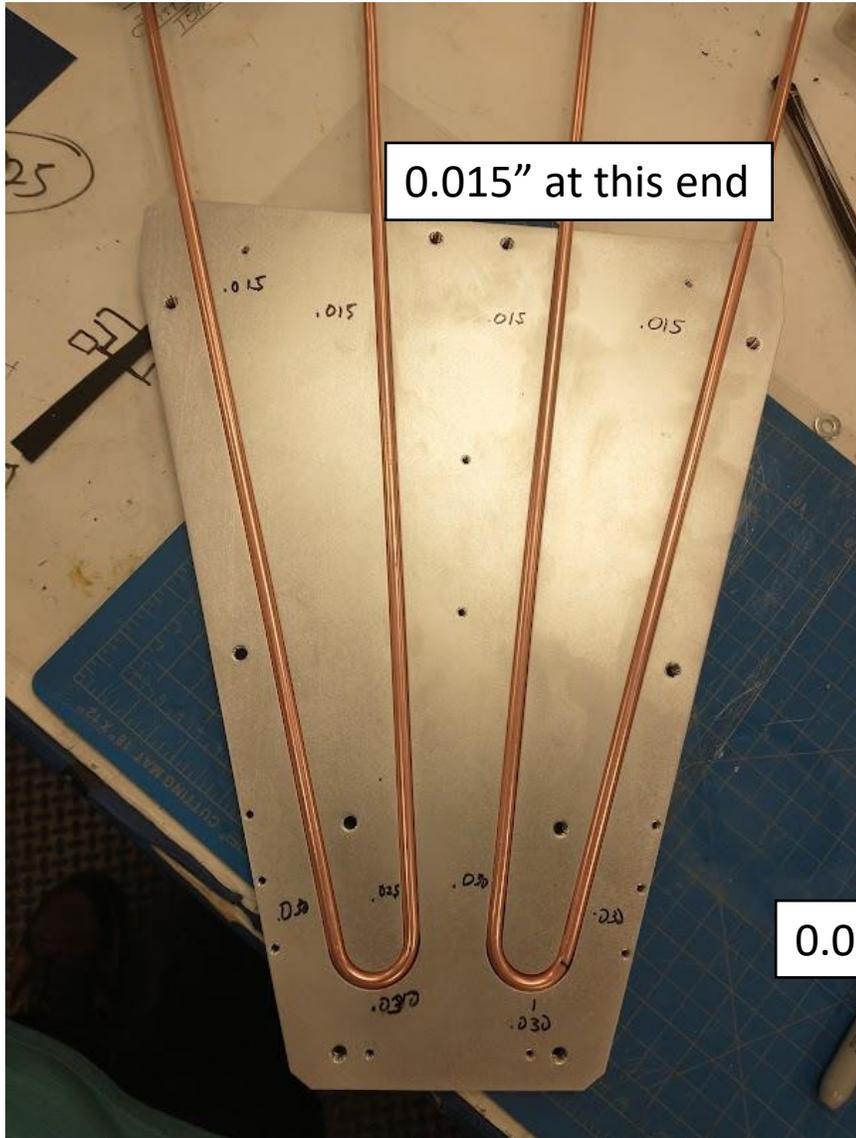


Gap No Contact



Gap Gone





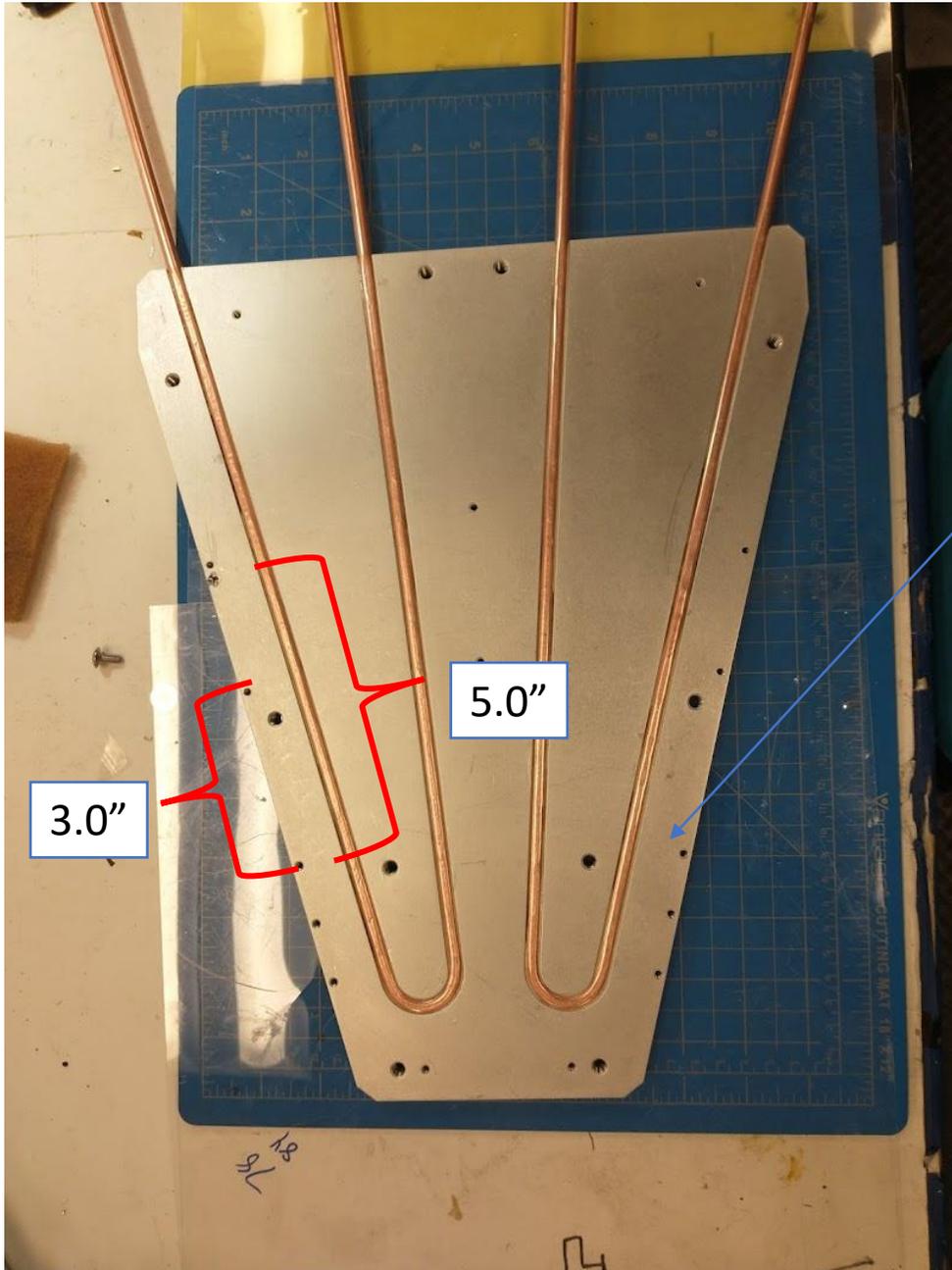
0.015" at this end

Amount tube sticks out above Al Plate

0.015 side is fine.

May make a mod to design to make the channel 0.015" deeper.

0.030" at this end



Placement of 4 new holes.

In line with these holes