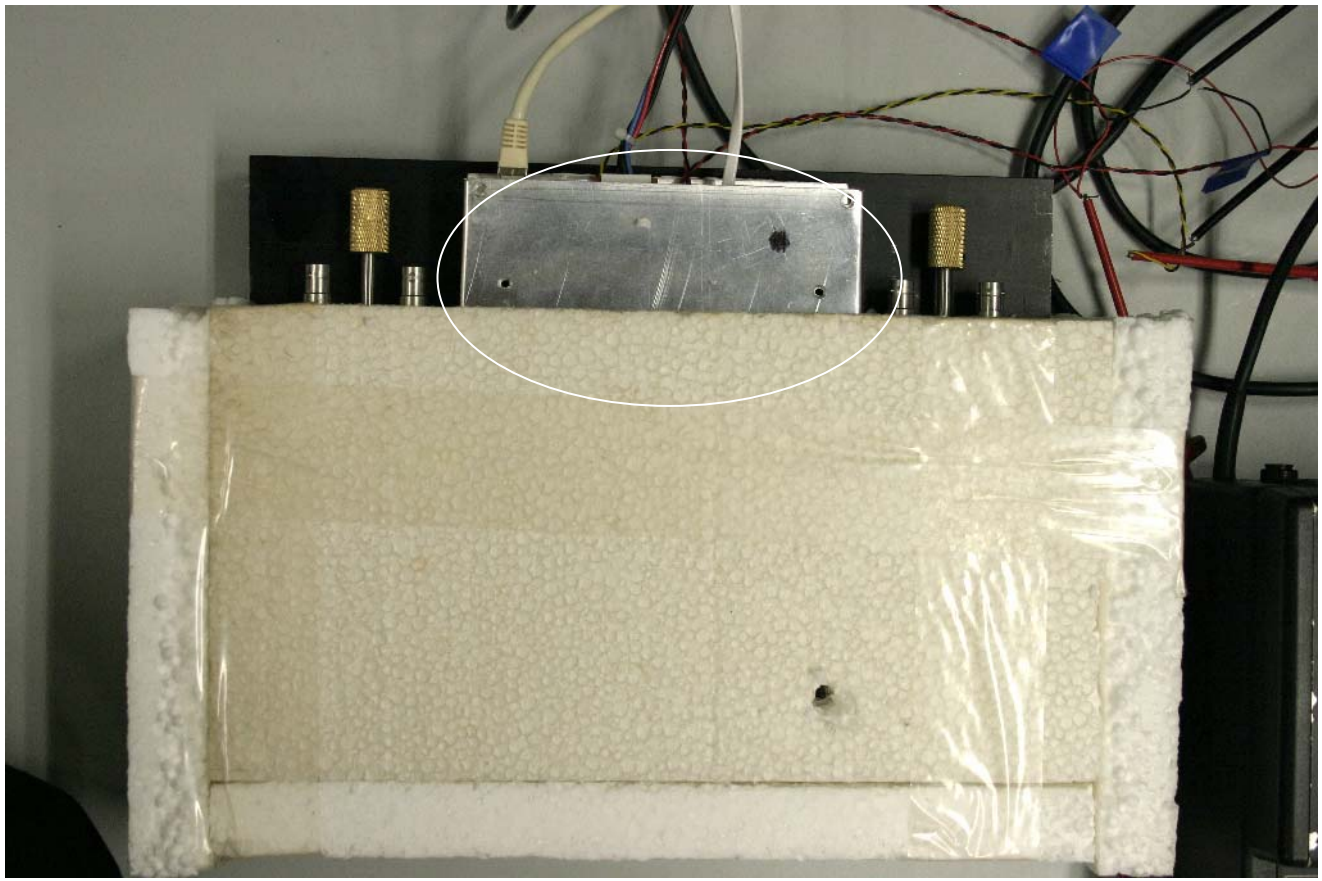
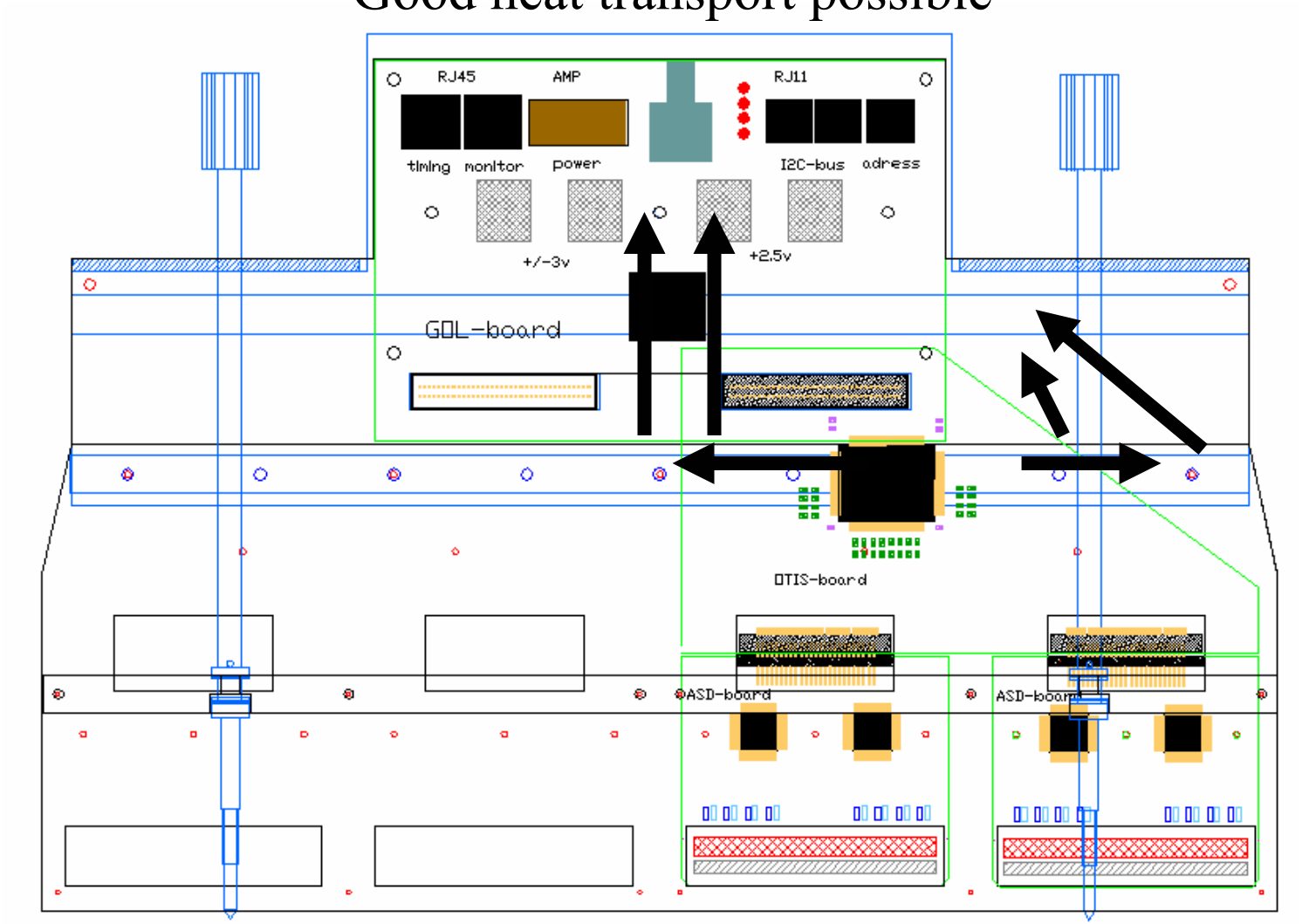
PACKAGED FRONT END COOLING TEST

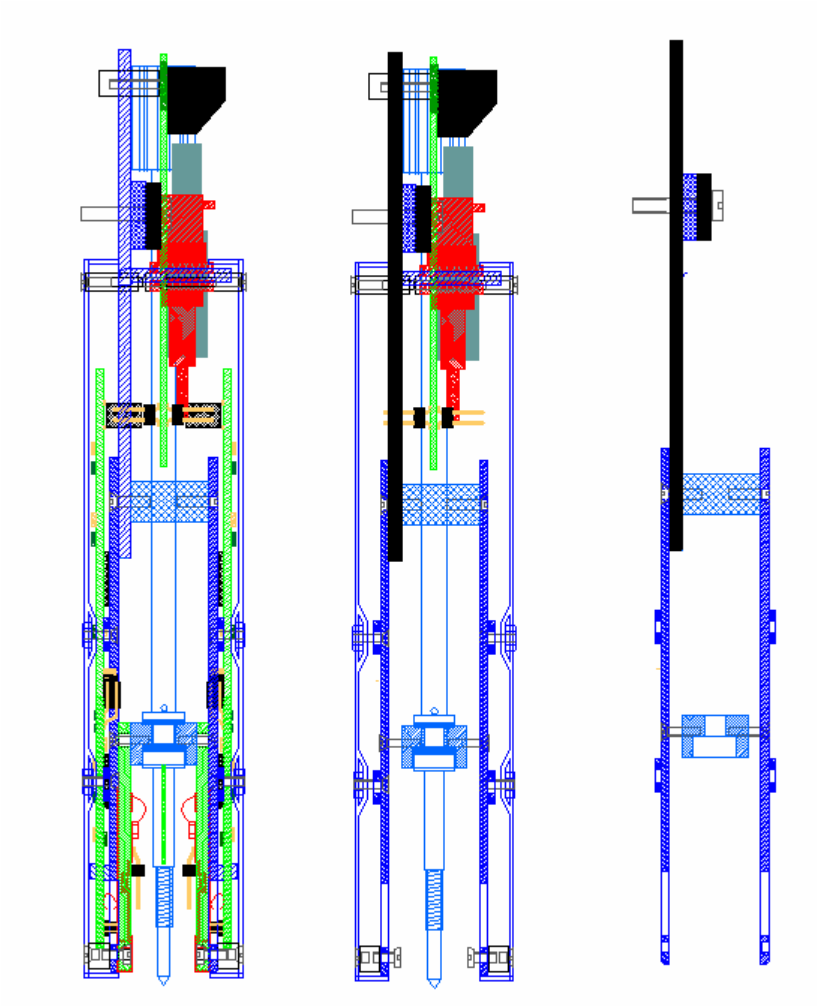


The Front Ends of the Outer Tracker are closely packed, heat must be extracted with cooling water along the Aluminium cooling extension plate. For the test we use a cooling block with forced air Several sensors monitor heatup of components.

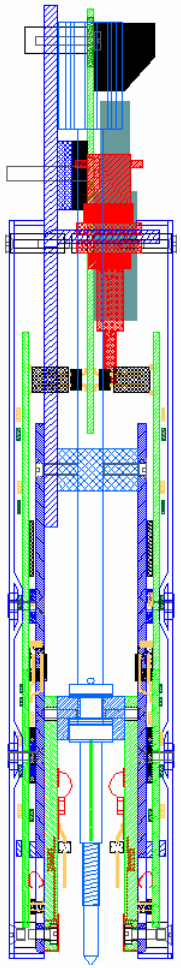
Good heat transport possible

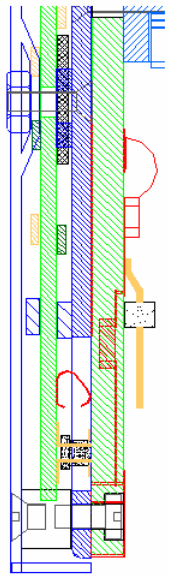


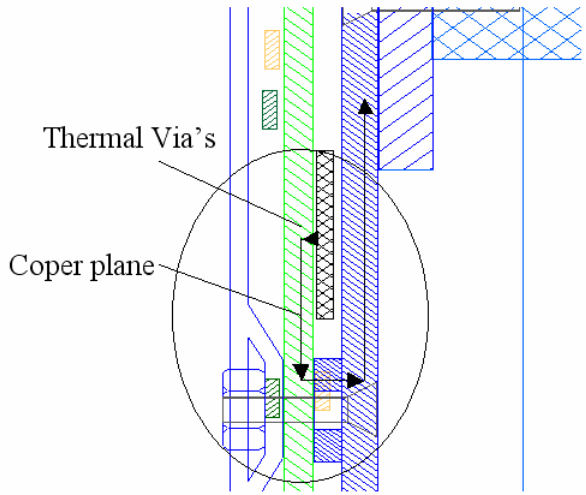
Frame sideview



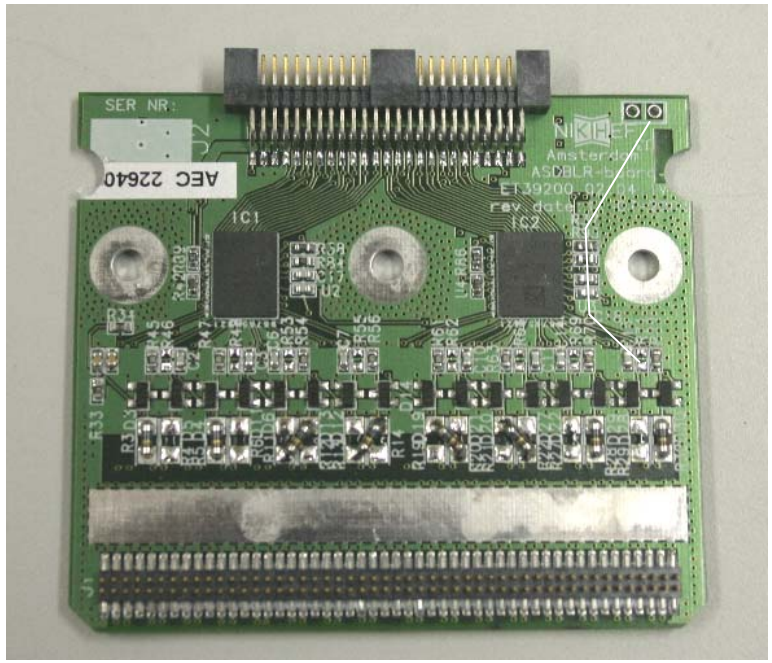
ASDBLR COOLING CONSTRUCTION

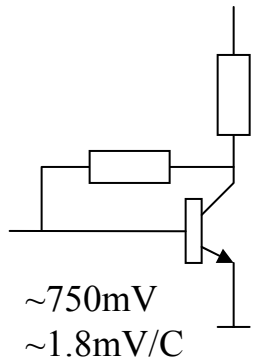






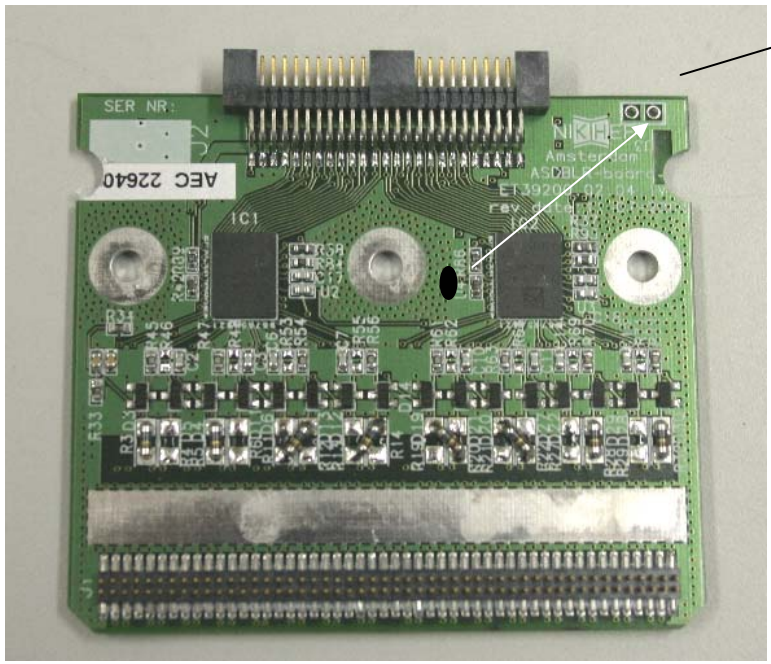
ASDBLR AS TEMPERATURE SENSOR





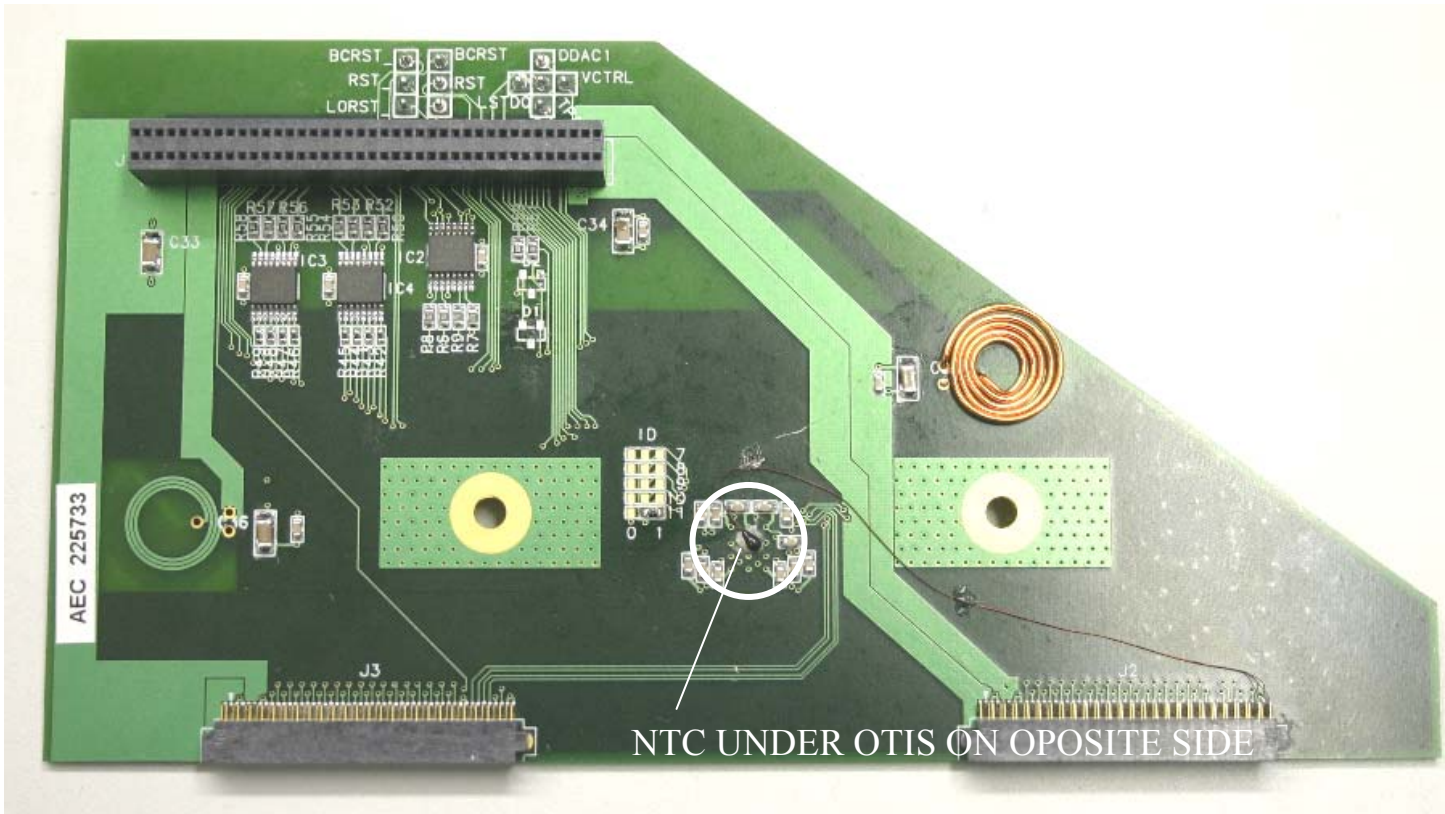
We use a dummy input diode as temperature sensor (Not callibrated yet)

NTC 5K on Copper Surface Close to ASDBLR

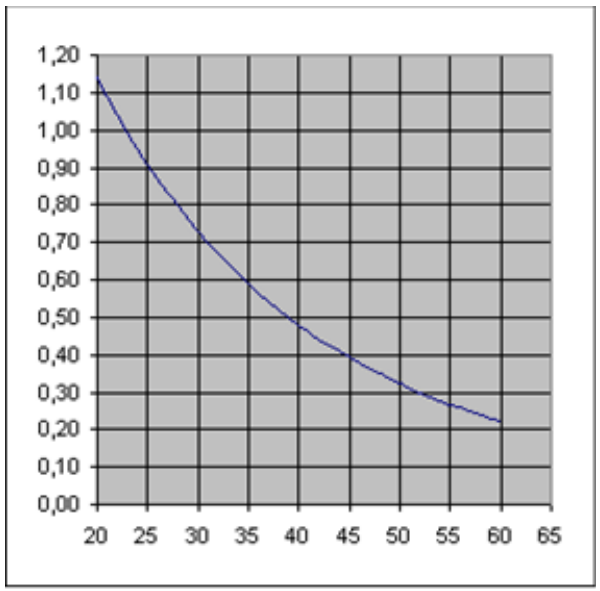


Each oard has a sensor
Connection point

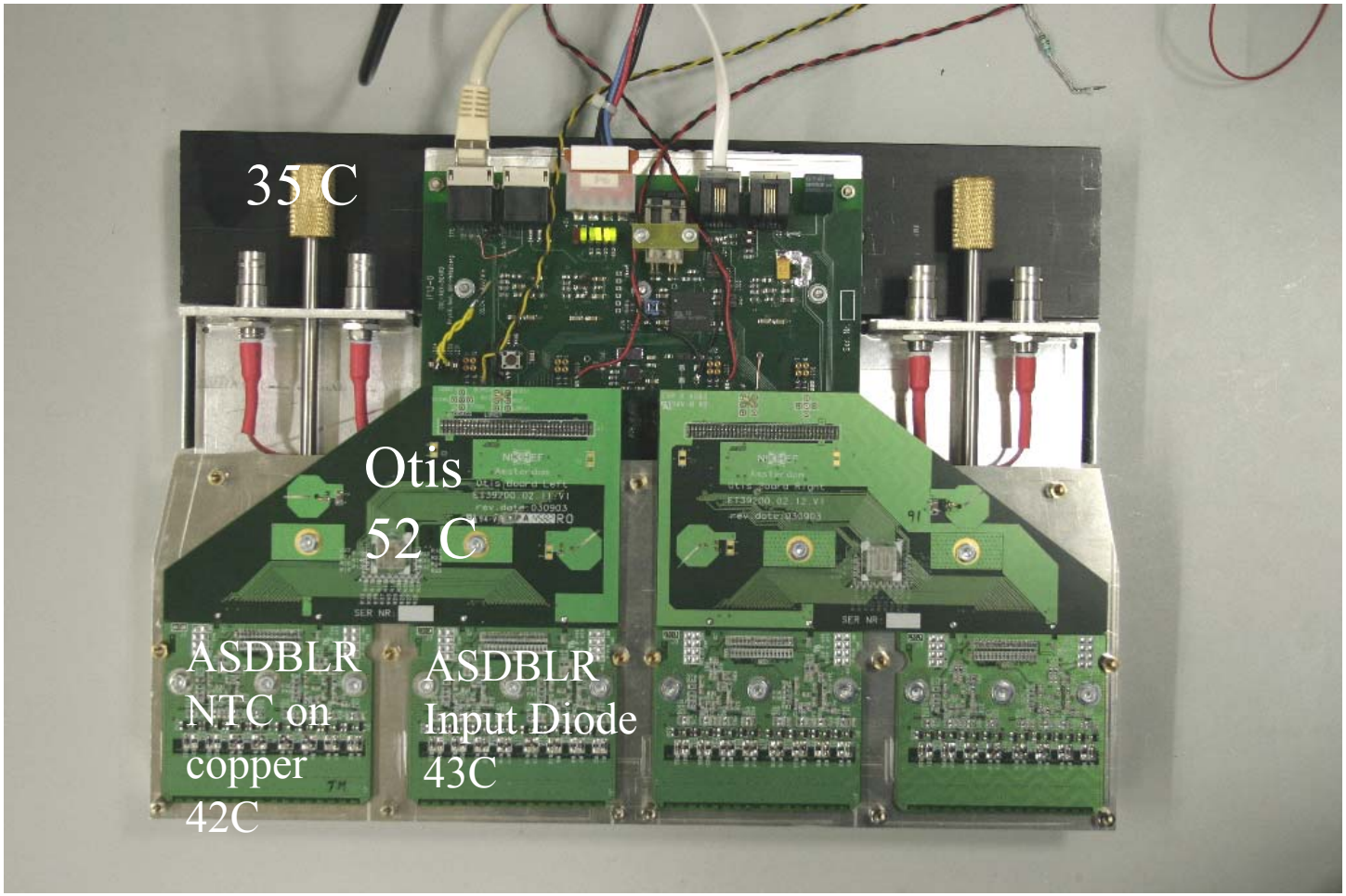
OTIS NTC


BCRST
RST
LORST
BCRST
RST
DDAC1
VCTRL
C33
C34
IC3
IC2
IC4
D1
ID
AEC 225733
J3
NTC UNDER OTIS ON OPOSITE SIDE

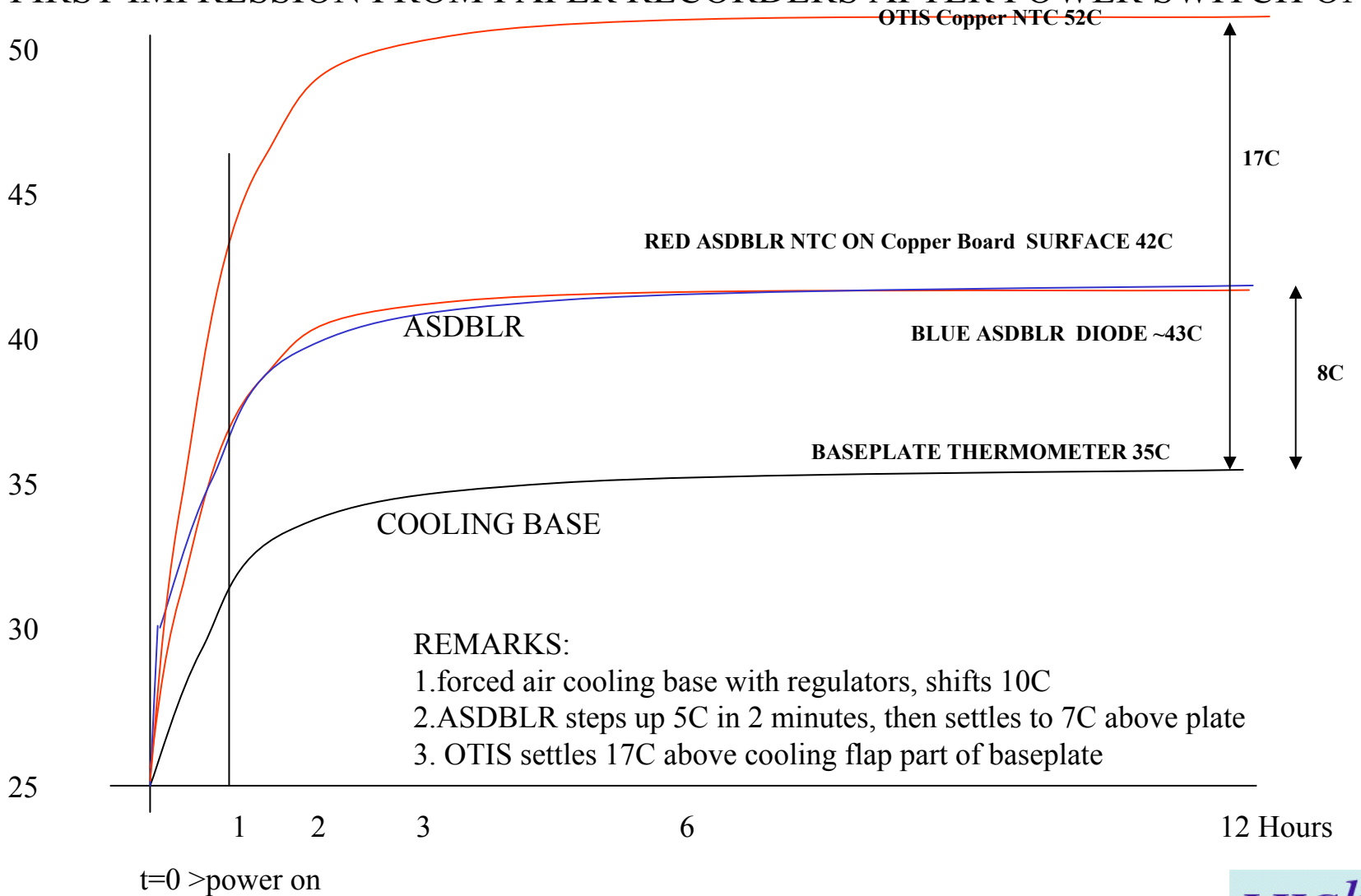
NTC GRAPH


1,20
1,10
1,00
0,90
0,80
0,70
0,60
0,50
0,40
0,30
0,20
0,10
0,00
20 25 30 35 40 45 50 55 60 65

RESULTS AFTER SETTLING



FIRST IMPRESSION FROM PAPER RECORDERS AFTER POWER SWITCH ON



FIRST CONCLUSIONS

The ASDBLR has low temperature rise thanks to strong thermal coupling trough PCB
Delta T=7 degrees C

The maximum delta T is 17 degrees C for the Otis chip

The regulators are mounted directly on the cooling plate , no internal sensor available, but adequate cooling is ok.