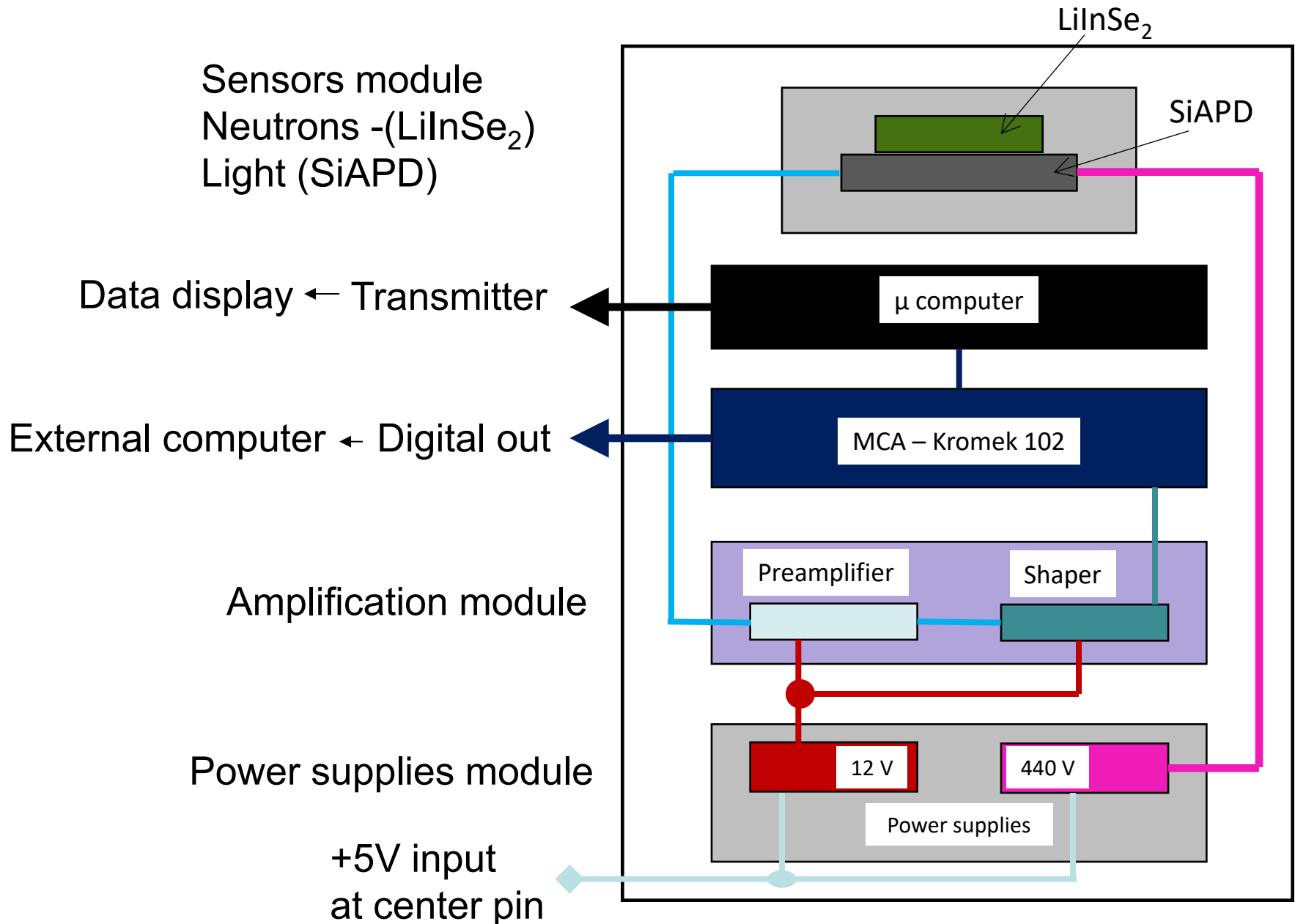


CubeSat II- Neutron detection

Fisk University

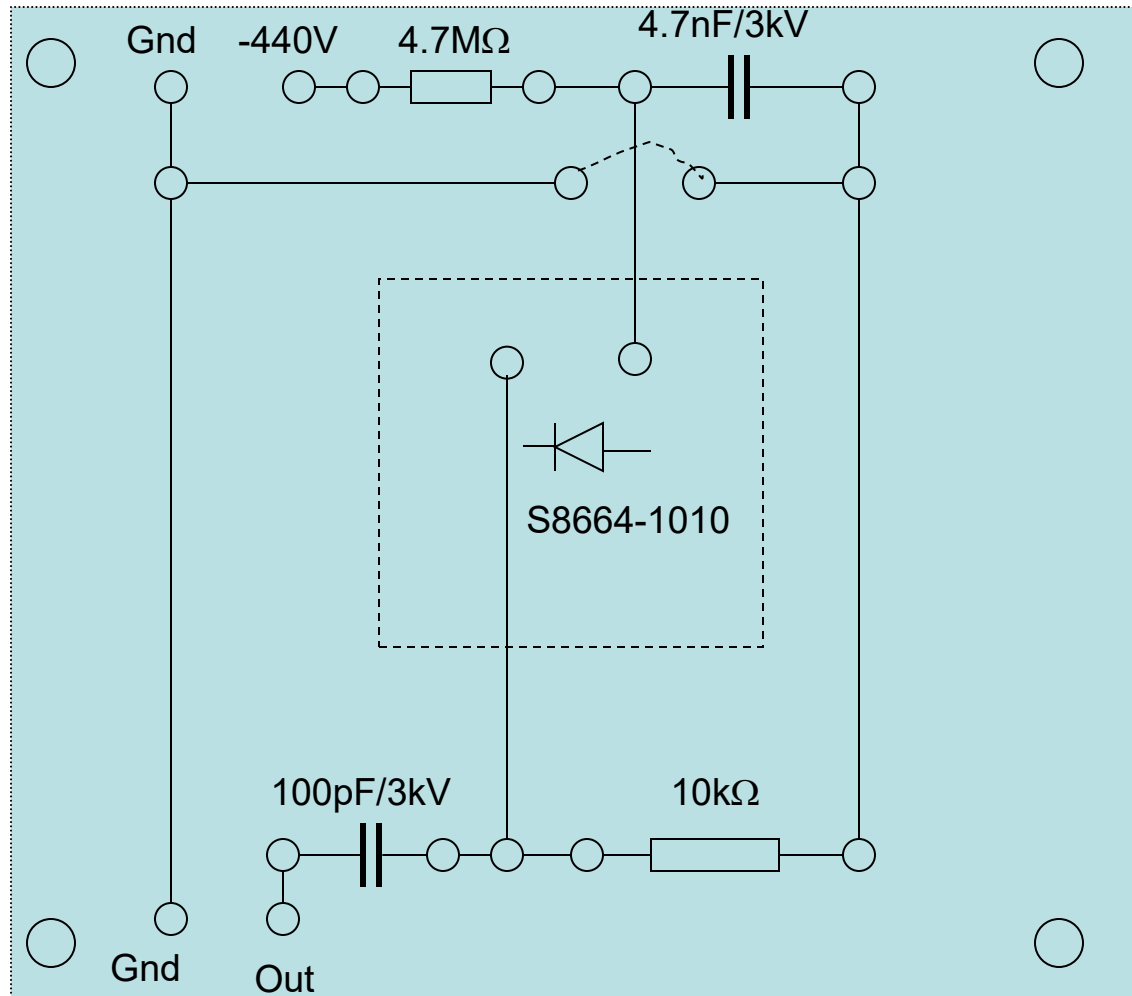
MSAG

Project concept



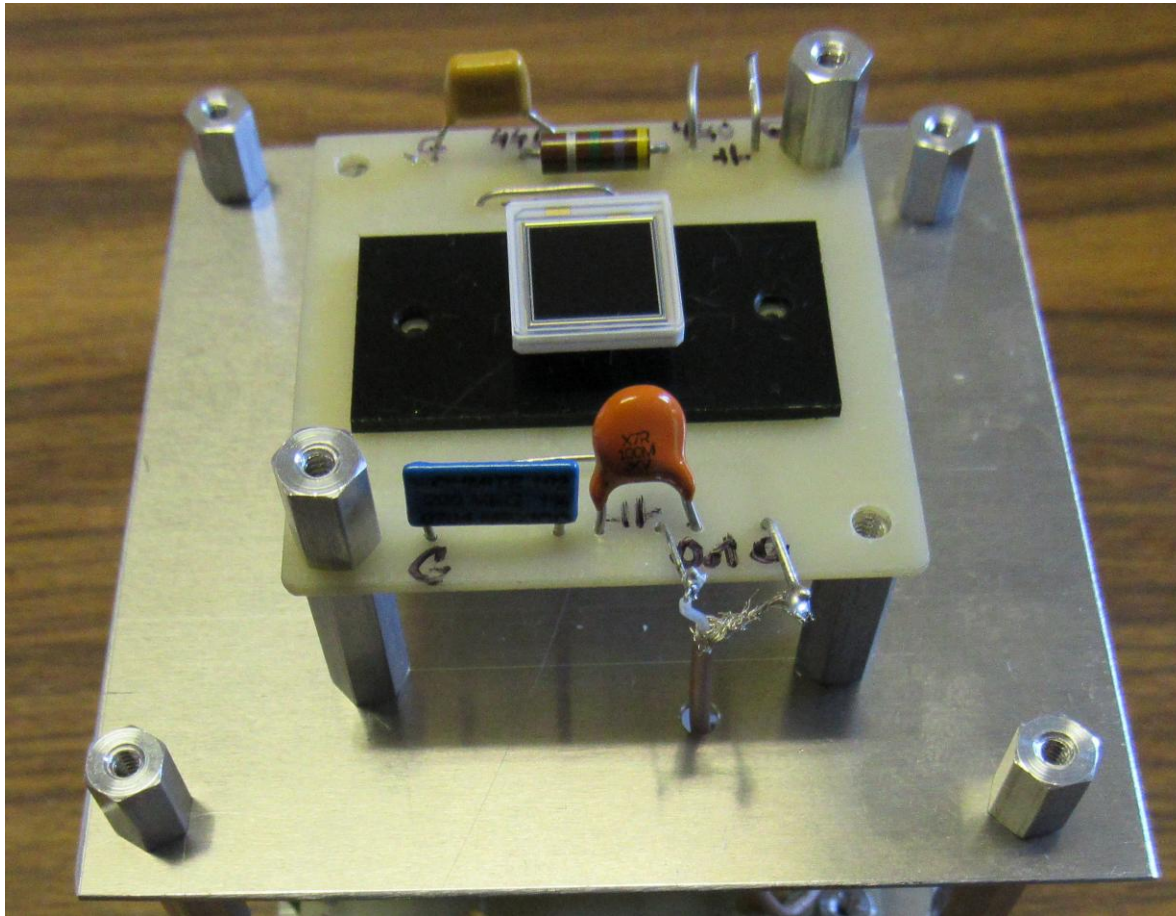
CubeSat modules

Sensor board schematic



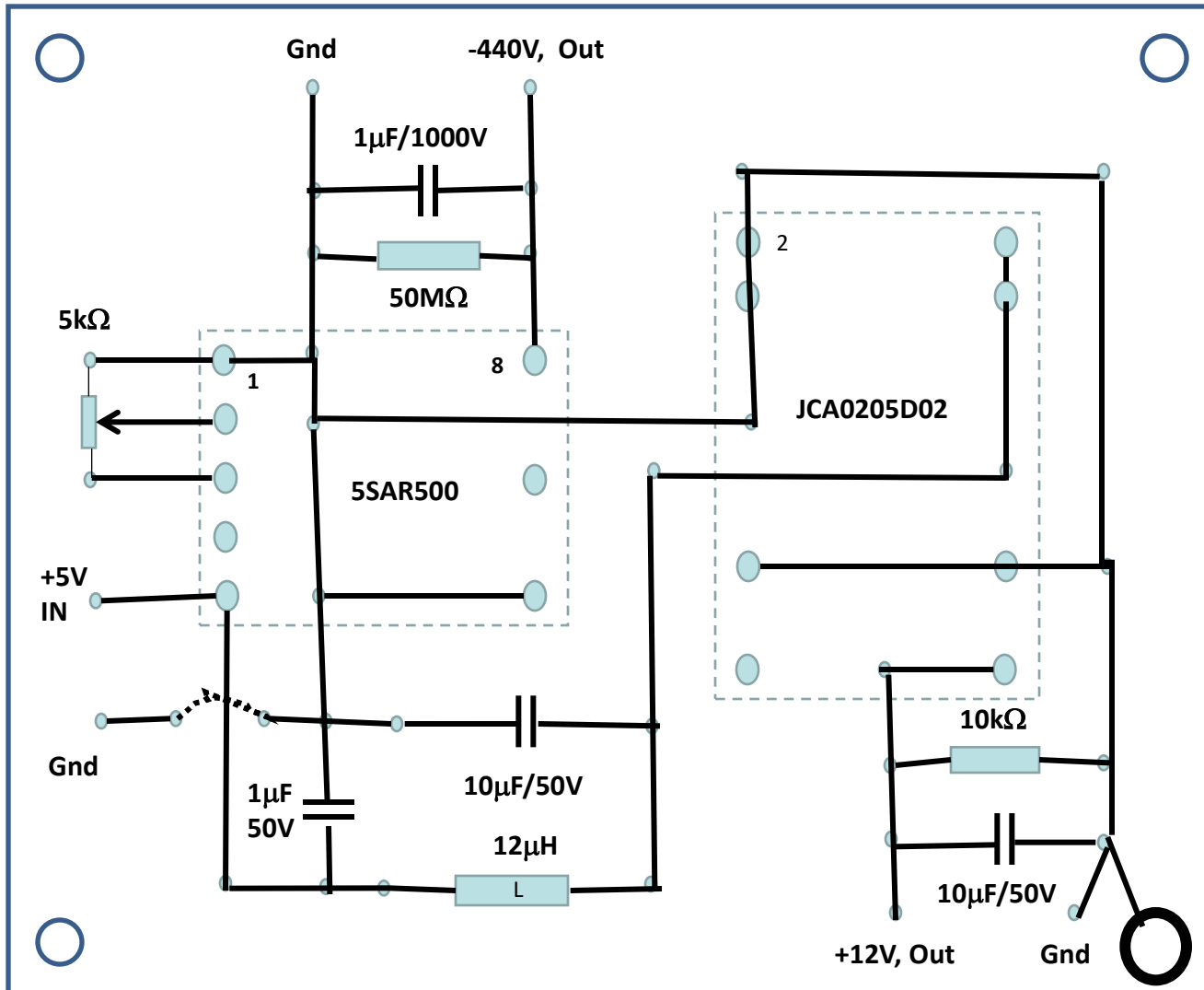
CubeSat modules

Sensor board picture



CubeSat modules

Power supplies board schematic



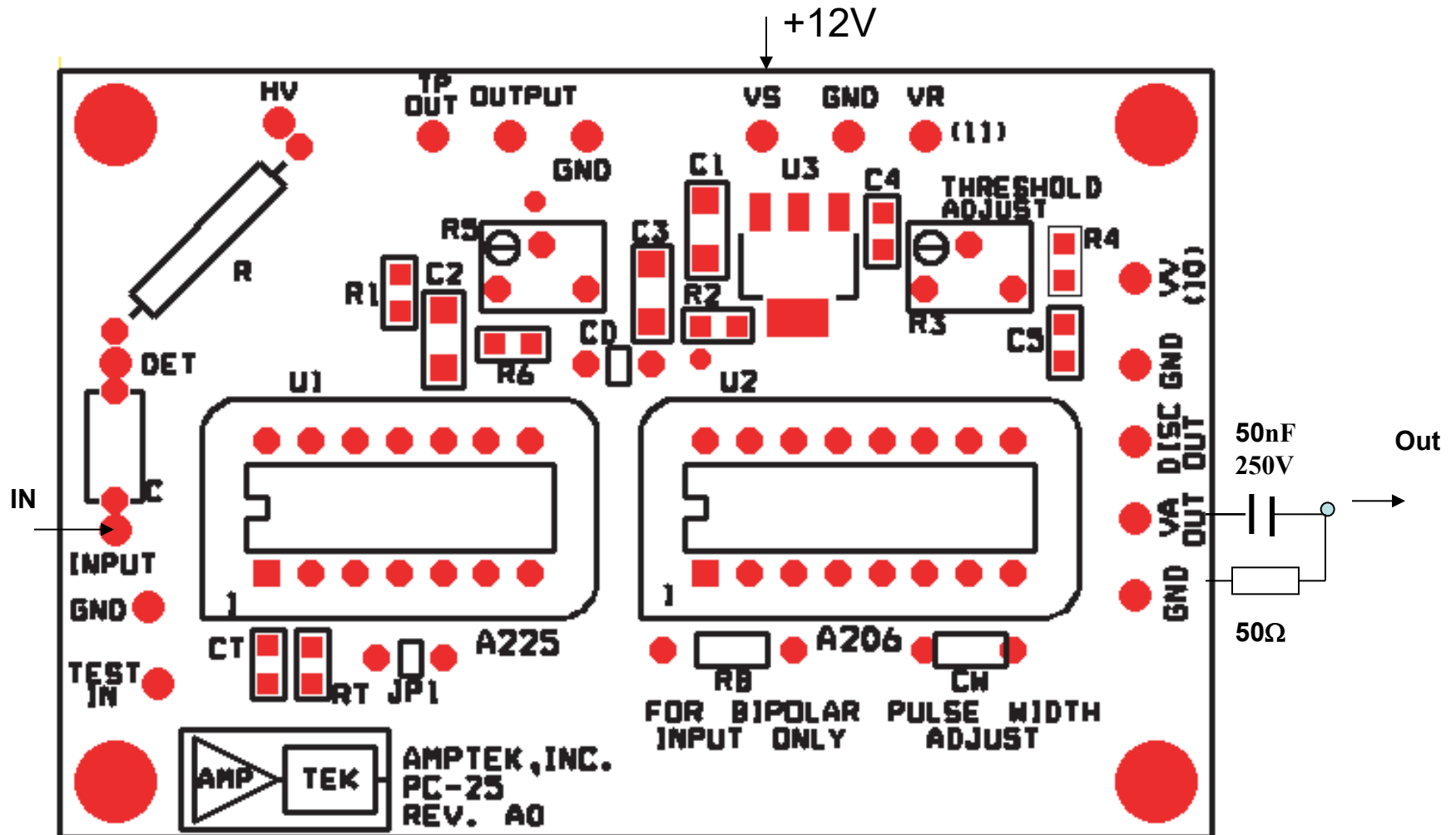
CubeSat modules

Power supplies board picture



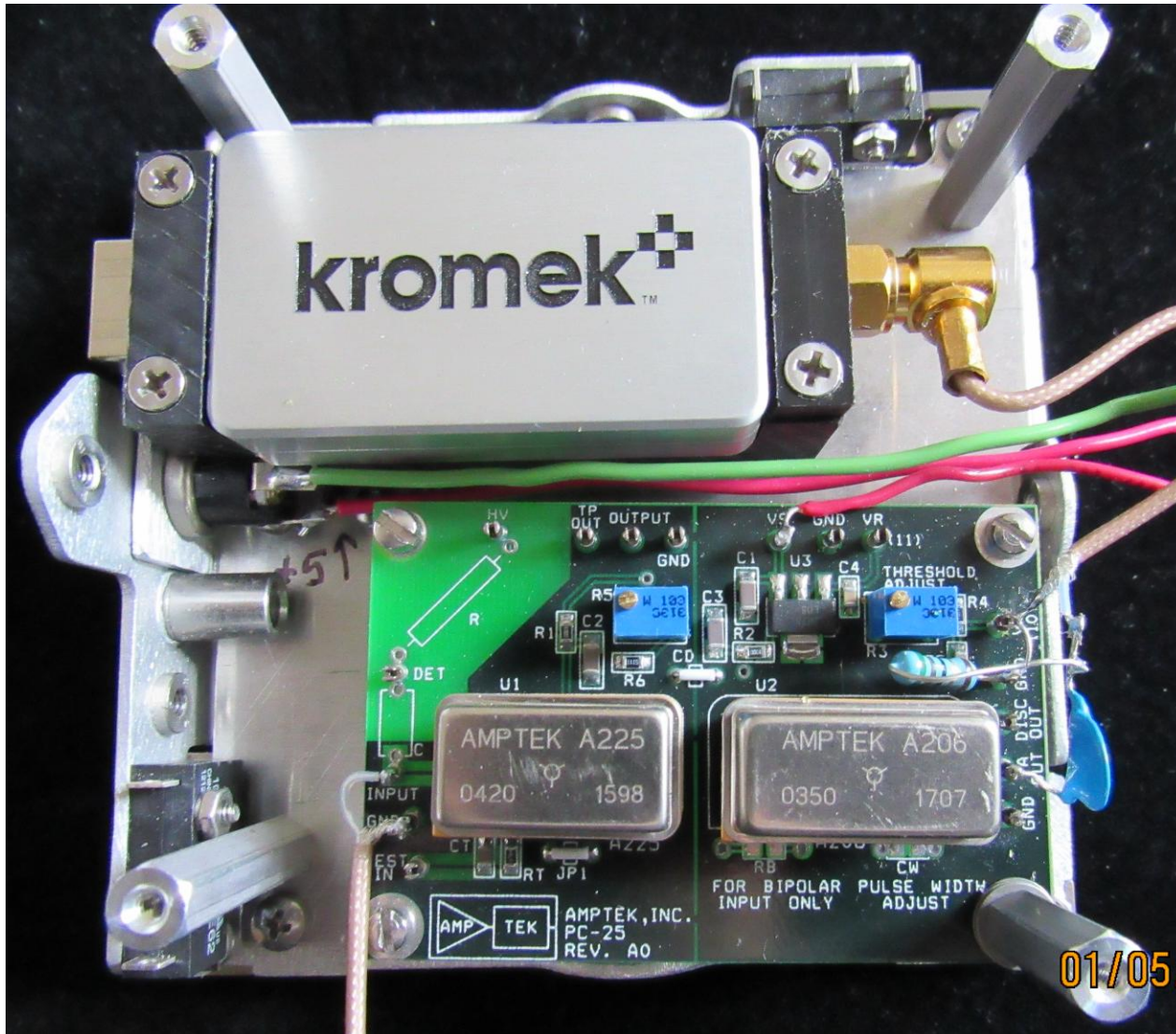
CubeSat modules

Preamplifier-Shaper schematic

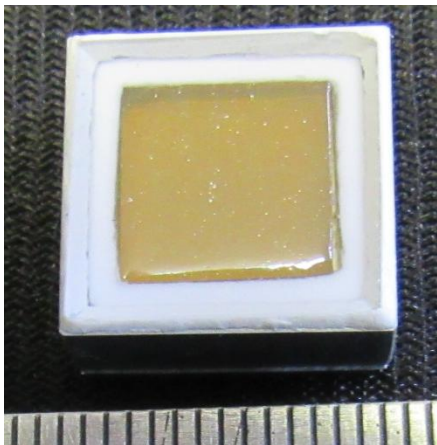


CubeSat modules

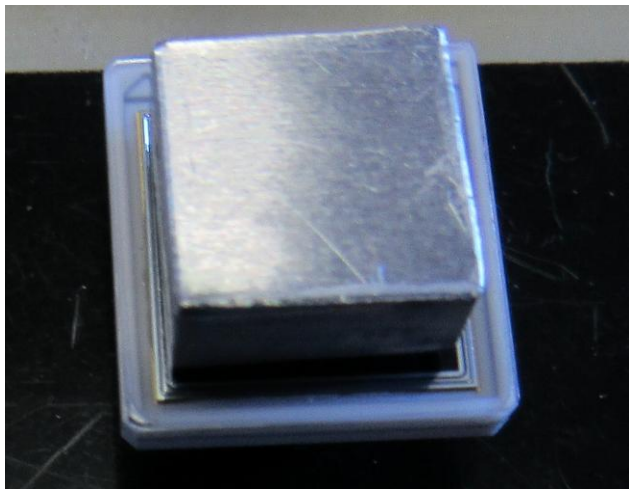
Preamp-Shaper-MCA board picture



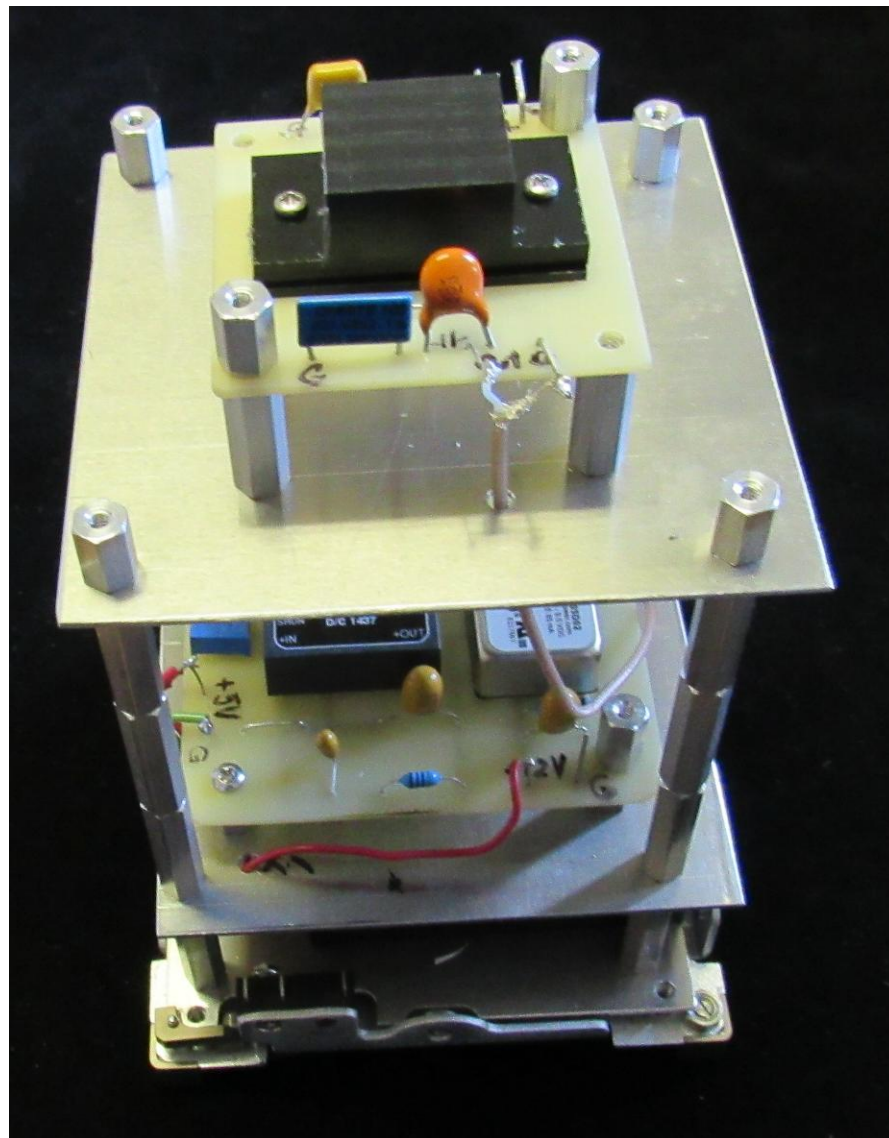
CubeSat modules interconnected and stacked



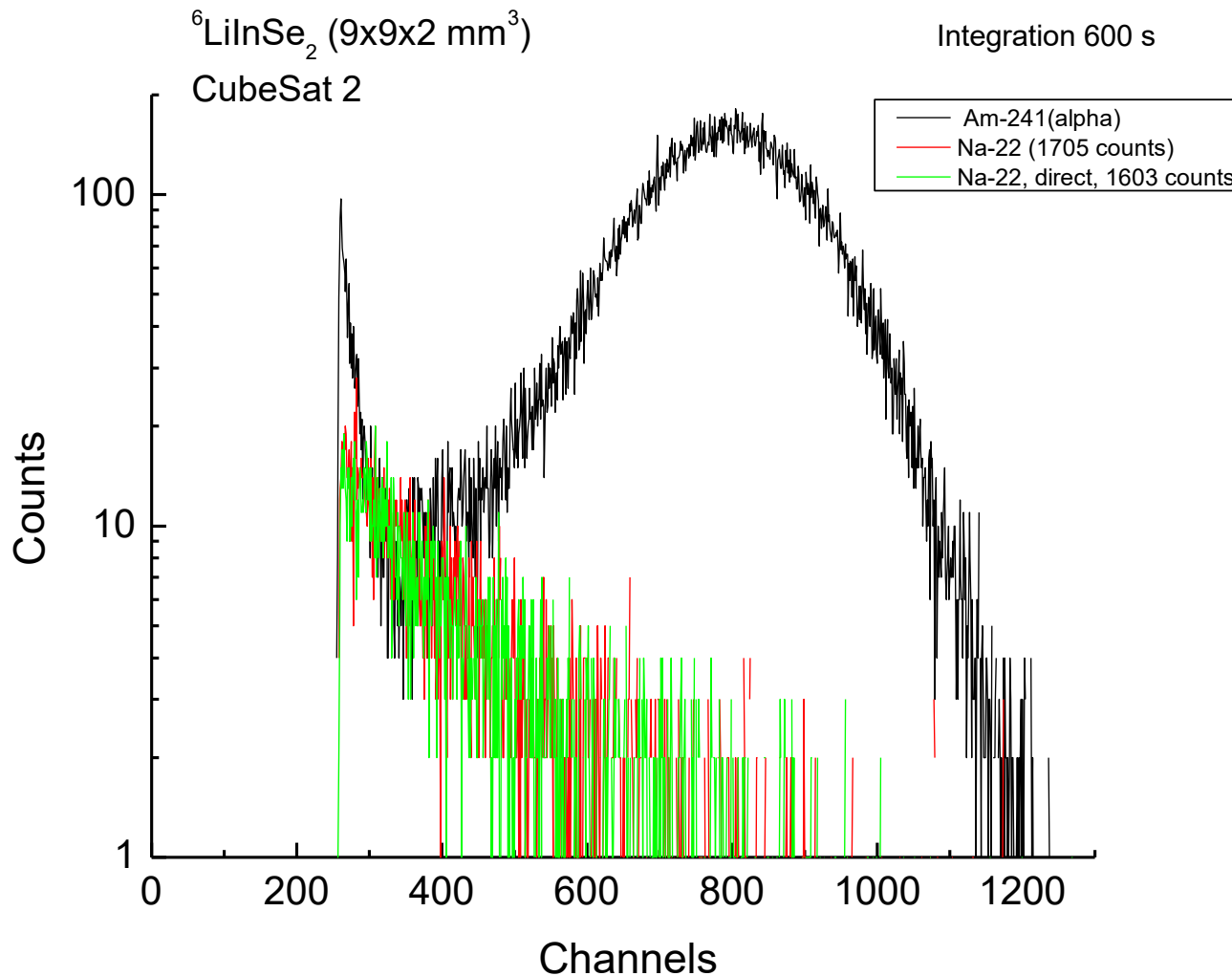
Encapsulated (9x9x2 mm³) ${}^6\text{LiInSe}_2$ with window face up



Encapsulated ${}^6\text{LiInSe}_2$ face down optically coupled with SiAPD sensor



$^6\text{LiInSe}_2$ - test for scintillation response to alphas/gamma (prior to encapsulation)

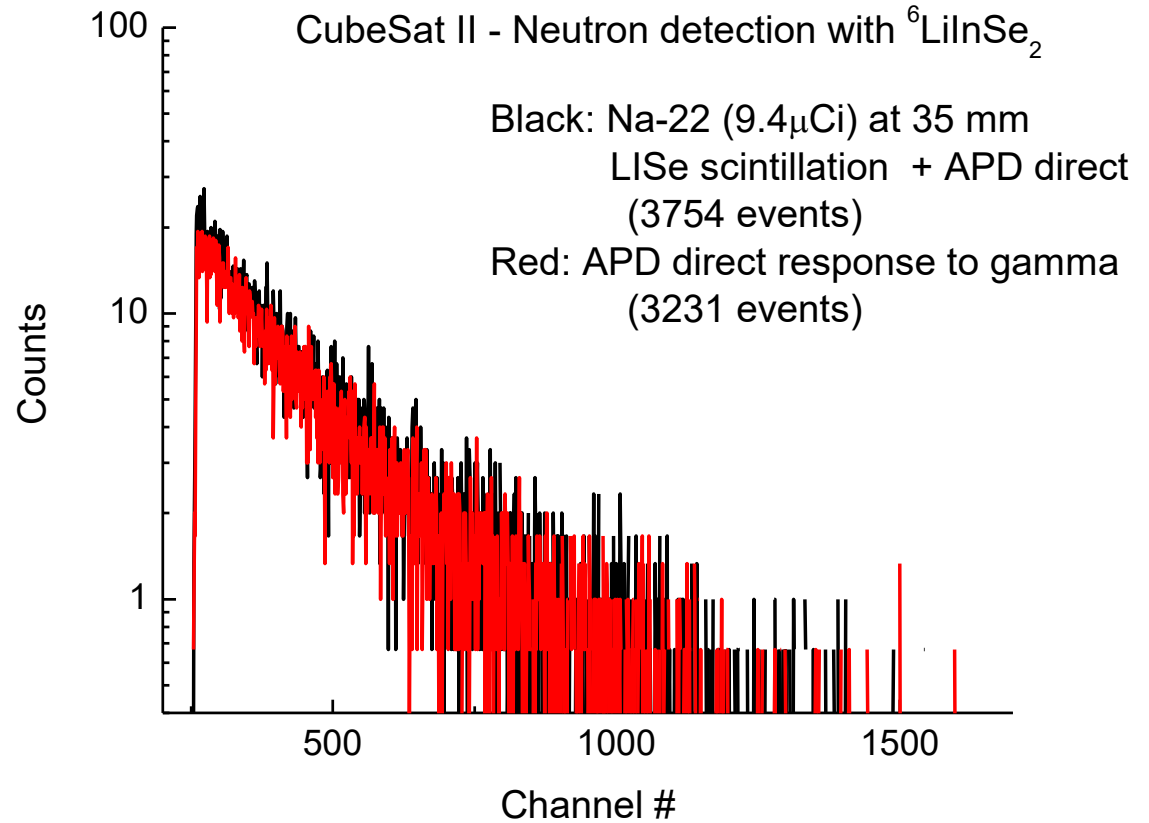


Final test



USB digital output

+5 VDC
Input (center pin)



CubeSat II (LiSe 7x7x2 mm³) neutrons detector
response to gamma 511-1275 keV
(Na-22, $9.4\mu\text{Ci}$ at 35 mm)