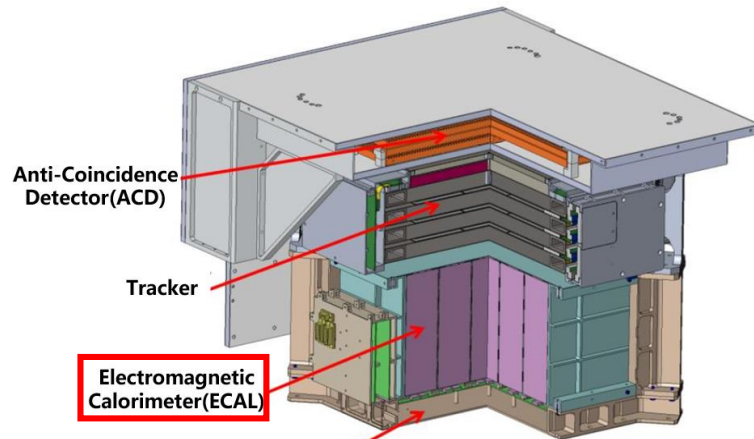
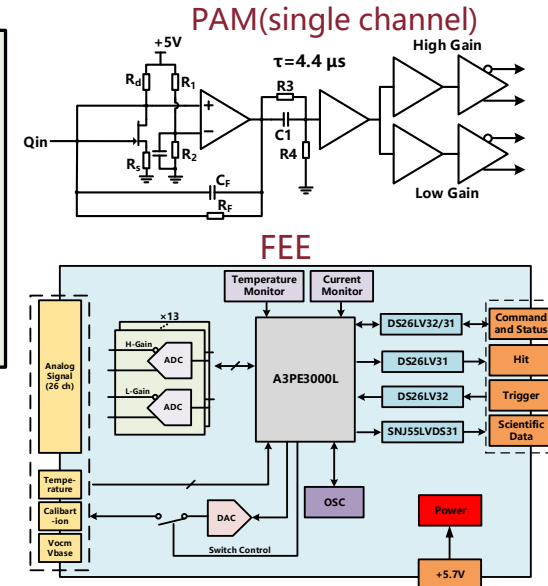
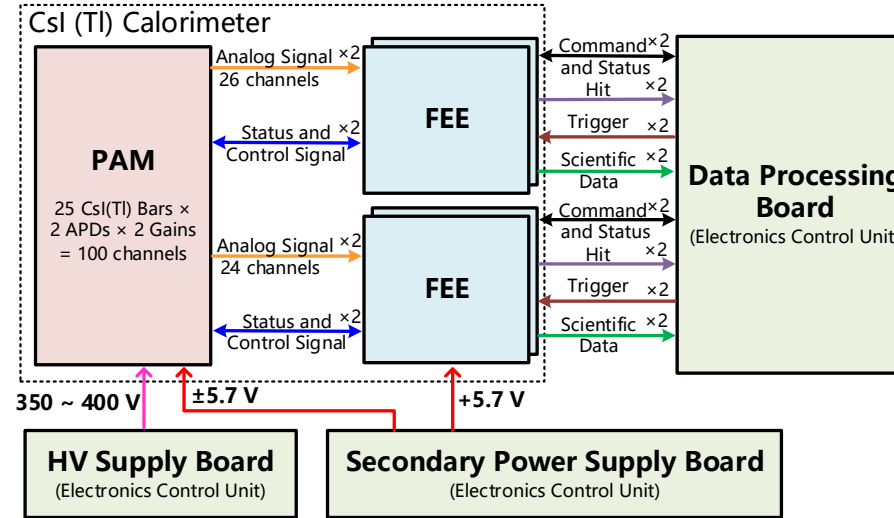


Very Large Area gamma-ray Space Telescope-Pathfinder

- Detect high energy gamma-rays in the MeV to GeV range
- Detect high-energy protons from solar flares
- **ECAL**
- Measure the energy deposited by incident particles
- Identify particles
- 25 CsI(Tl) crystals, each with 2 APDs (one hot backup)

Readout Electronics System



➤ PAM(Pre-Amplifier Module)

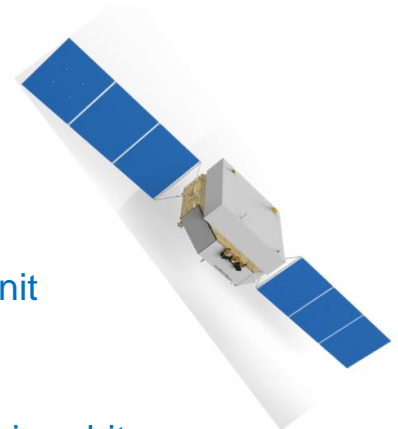
- Amplify and shape the APD signals
- High and low gain channels for wide dynamic range

➤ FEE(Front-End Electronics)

- Digitize signals , Perform waveform processing
- Monitor in-orbit status, Send data to the payload control unit

➤ Radiation-hardened Design

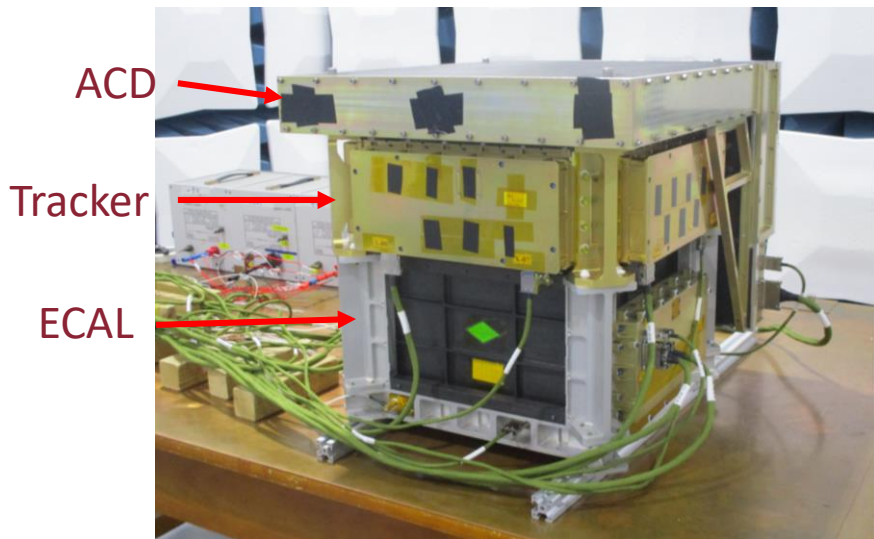
- Resist SEU and SEL, keeping the system running reliably in-orbit



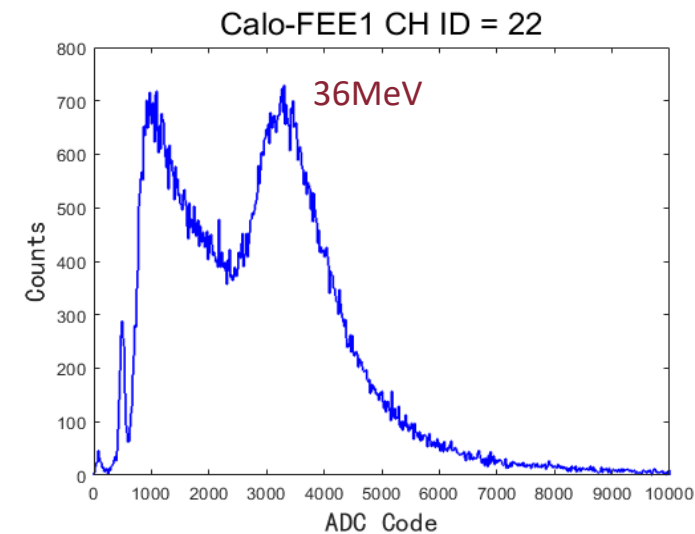
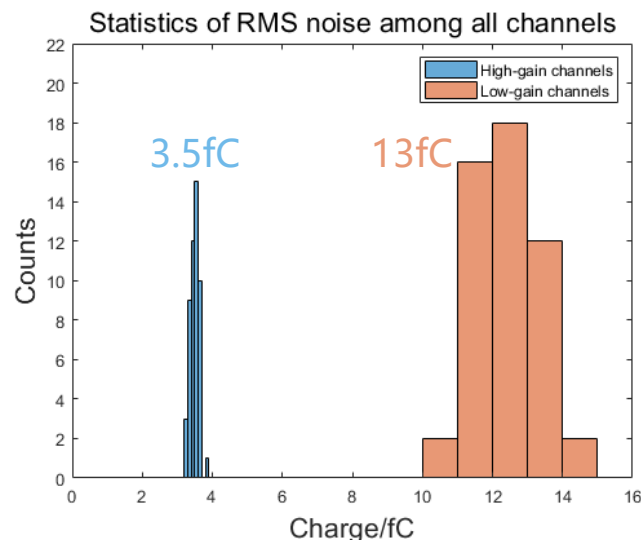
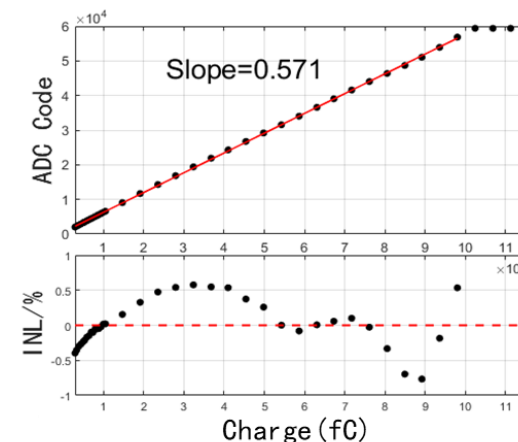
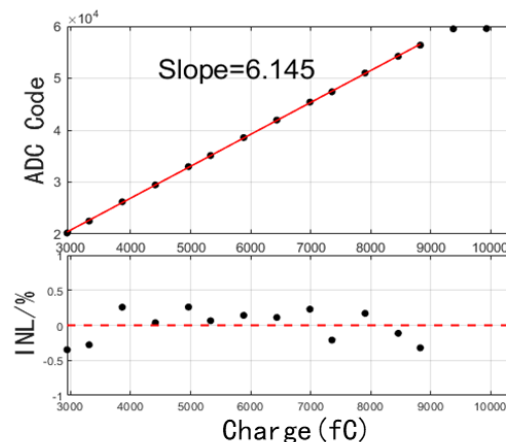
➤ Performance Test

- ENC: 3.5 fC(high gain channels),
- ENE: 0.4 MeV(high gain channels)
- Measurement upper limit:
 - Charge: ~100 pC (with low nonlinearity, <0.8%)
 - Energy: ~6.5 GeV

Low Noise, High Reliability, Large Dynamic Range



The linearity of high-gain channel (left) and low-gain channel (right)



The ENC of all channels

Cosmic-ray test result from one of the channels

Scheduled for launch at the end of 2026