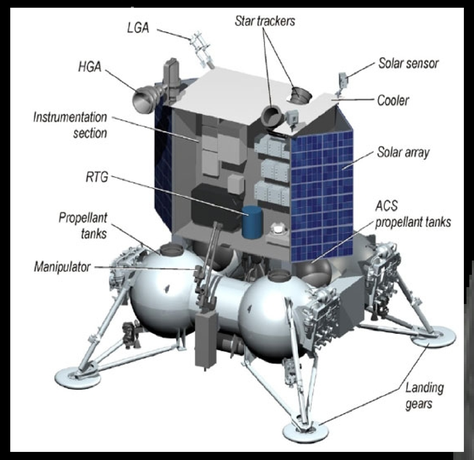
Compact Low Power DPU for Plasma Instrument LINA on the Russian Luna-Glob / Resource Lander

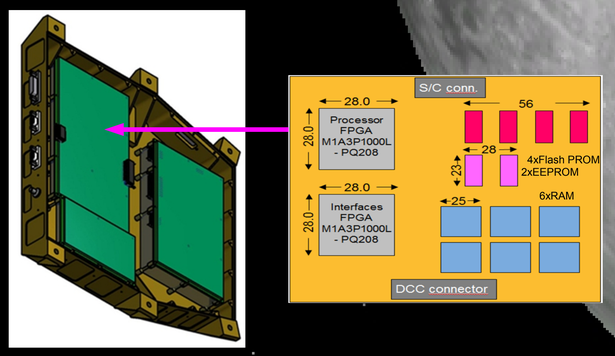


Luna Resource Launch 2017 Lunar South-Pole

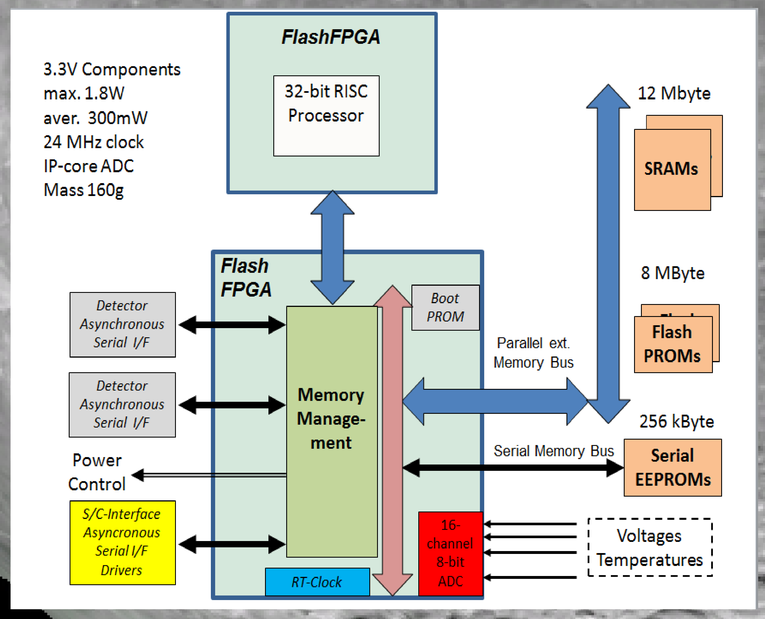
Lunar Ions and Neutrals Analyzer (LINA)

LINA Detectors, responsible: IRF Kiruna, Sweden

- **Lunar Plasma Analyzer LPA**
- **Lunar Neutrals Analyzer LNA**



Layout



Functional diagram

Main Specifications

- 32-bit RISC-processor core in ProASIC3 Flash PROM
- Independent interface controller and memory management system in second FPGA.
- Full detector and memory access through interface controller via communication interface, bypassing the processor to allow parallel hardware and software development.
- Memory: 256 kB serial EEPROM, 8 MB FlashPROM,12 MB RAM
- Digital IP-core 16 channel/8-bit ADC for housekeeping monitoring no power consuming radiation sensitive analog components
- Communication link redundant 1Mbps RS-485 serial full duplex
- Only 3.3V technology to reduce power need
- 300 mW average power, maximum 1.8W with all interfaces active

Image NASA / USGS / JAXA / SELENE

For details of FMI's space instrument activities see Web-site: **http://space.fmi.fi**

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EGU2013-4476