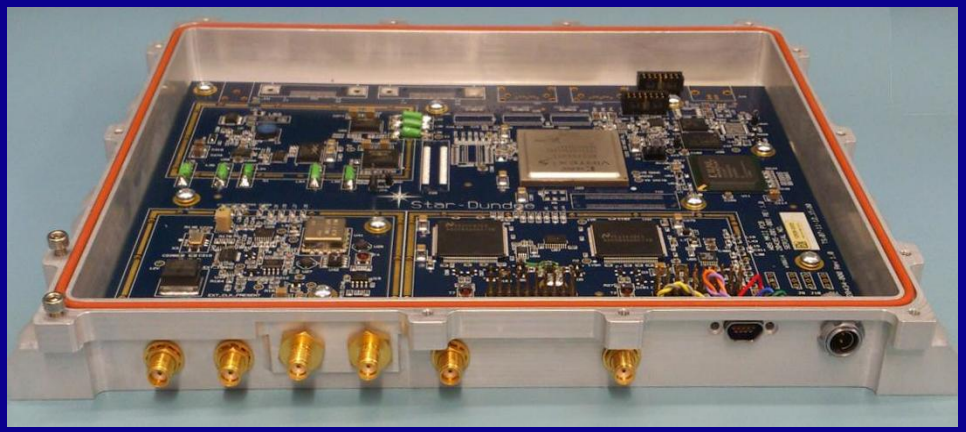
Wideband Spectrometer

- Digital spectrometers offer
  - Stability
  - Large number of simultaneous channels
- FFT is today's preferred option
  - Enabled by current FPGA/ASIC technology
- 2.8Gsps I&Q; 1.5MHz channels
- Deployed on RAL 340GHz radiometer on Jungfraujoch
- Next step: MARSCHALS flight on Geophysica

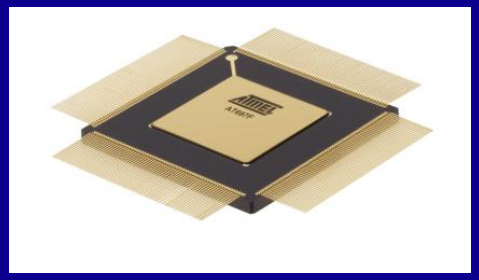
Photo: RAL



CASTOR: Next Generation of Spaceflight Processors

- Low Power, High Performance
- Integrated SpaceWire Router and Protocol Engines
- Atmel 90nm technology
- Integrated IEEE 754 Floating-Point Unit
  - Evaluation kit available
  - SDE from STAR-Dundee
    - incorporating Code Rocket technology

AT6981 Prototype



SpaceFibre

2.5 Gbits/s flight qualified technology; 20 Gbits/s with multi-laning

- Galvanic isolation
  - copper and fibre-optic cables
- Integrated QoS and FDIR
- Compatible with SpaceWire at packet level
- Long cable runs (e.g. Launchers)
- SpaceFibre interface design
  - University of Dundee and STAR-Dundee
  - Funded by ESA, EC, STAR-Dundee
- Implemented as VHDL IP Core
  - Used to test and validate standard
- VHiSSI (Very High Speed Serial Interface) chip developed under FP7
  - University of Dundee, Astrium GmbH, STAR-Dundee Ltd, Ramon Chips, ACE-IC, IHP, Synergie CAD Instruments
  - Prototypes available this year