

Internship offer

Engineering:

TT&C board for 12U CUBESAT



Context

The University of Montpellier Space Center (CSUM) is the French leader in the development and operation of nanosatellites developed by students. It has acquired in-depth competence in the field of design, manufacturing, testing and operation of nanosatellites and their subsystems, as well as in the area of space project management and product assurance in the framework of university space projects. The CSUM has an AIT (Assembly Integration and Test) Facility, a CDF (Concurrent Design Facility) and both UHF and S-band Ground Stations. The CSUM develops its own 1U to 12U CubeSat nanosatellite platforms with the support of the Van Allen Foundation and the French and European space agencies.

Internship description

Objectives: CSUM is developing and currently in phase B of a 12U platform designed to accommodate complex payloads from our partners. A team of interns will contribute to finalizing the preliminary design of the platform by capitalizing on the lessons learned from CSUM's numerous missions and will support the development of subsystems up to the implementation of a first functional model called FlatSat. This offer focuses on the Interfaces Boards development for the subsystems and platform.

This offer covers the design of the radio board (TT&C) for this development phase in the UHF band:

Main activities related to your mission:

- Contribute to the design and electronic schematics of a radio board integrating an RF transceiver and a DSP processor.
- Create the PCB layout using tools like Kicad, Eagle, or Altium.
- Collaborate on hardware and software integration of the transceiver and DSP to ensure efficient radio transmission.
- Perform RF simulations and digital signal processing to optimize performance.
- Participate in testing, validation, and improvement of the prototype.

Level: 2nd year of Master Degree or equivalent.

Duration: 4 to 6 months

What we're looking for:

- A student in electronics, telecom, embedded systems, or a field that rocks!
- You're a pro at designing circuits and PCBs.
- RF, modulation, and radio communication protocols are right up your alley.



- You're familiar with DSP, and you code in C, C++, or Python like a boss.
- Autonomous, precise, and with a sharp analytical mind.
- Technical English? No problem for you!

What we offer:

- Hands-on experience in an innovative project.
- A dynamic and stimulating environment.
- The opportunity to contribute to cutting-edge technology.

Location: Centre Spatial Universitaire de Montpellier, Campus Saint-Priest, Montpellier, France.

Stipend: 4.35 euros/worked hours for duration between 308 and 924 hours, 35 hours/week.

Preferred starting date: Between February to April 2026.

Supervisor: Sébastien HESSE, Ground Station Team Leader.