INTERNSHIP OFFER

Development of a RF test bench

1   UNIVERSITY SPACE CENTER OF MONTPELLIER

The University Space Center of Montpellier (CSUM) is the French leader in the development and operation of nanosatellites developed by students. It has acquired in-depth competences 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 and 3U CubeSat nanosatellite platforms with the support of the Van Allen Foundation and both the French and the European space agencies.
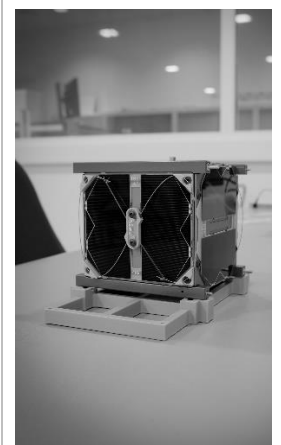
2   INTERNSHIP DESCRIPTION

In the frame of the development of the TT&C board and the ground segment of our satellites, we are looking for an intern to develop a RF testbench. This testbench's purpose is to test as many elements of the earth-space link as possible, such as the hardware RF link, the hardware RF parts, the antennas, the encoding/decoding of packets, sensitivity tests, etc.

For example, on one side of the setup, there could be a computer running our GS program, and on the other side, our TT&C board or the engineering model of one of our satellites, both linked via antennas. Another setup could be, a spectrum analyzer plugged to an antenna to test its bandwidth frequency.

This internship will consists on the development of both the mechanical and software part. This mission will be:
- Writing the specifications based on the needs of the CSUM
- Design, build and develop the mechanical setup.
- Design/update the elements of the software part.
- Test the whole setup

One of our 1U during its AIT in our cleanroom

Skills: Basic knowledge in RF, Python and C. 3D printing and mechanical are optional.

Languages: English or French

Level: Any level, starting from first year of University (Bac +1)

Preferred starting date: March 2023   **Duration: 2 to 6 months**

Supervisor, Function at CSUM: Amaury KNOCKAERT, Embedded systems team leader

Location of the internship: CSUM at Montpellier, France

Stipend: 3.90 euros/worked hours for duration between 308 and 924 hours, 35 hours/week.

3   CONTACT

Please upload your application at: https://csum.umontpellier.fr/en/job-offers-internship/