JOB OFFER

Title: Radio Frequency Engineer

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.
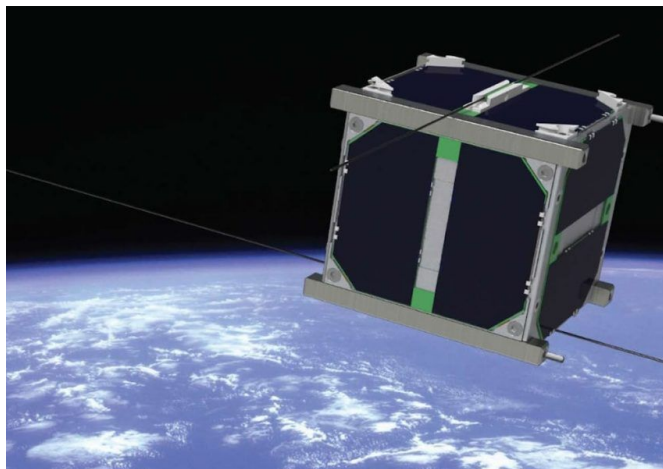
2   JOB DESCRIPTION

We are looking for an engineer with a broad skillset to cover development and validation with an emphasis on radio-frequency and telecommunications skills.

You will be joining CSUM's core team in Montpellier (France) and will be responsible to develop RF systems that will be part of both our satellite missions and ground station. The work involves tight interaction with the satellite development team and mission operations to devise signal processing modules to receive/transmit and decode/encode satellite data. The work will involve developing and improving the RF signal processing modules of our Software-Defined Radio Ground Station and of our satellite subsystems.

Experience working with RF systems design and characterization is a must. Knowledge about signal processing module development for SDR applications using GnuRadio is a big plus.

At CSUM, we speak English, but if you speak French, that is a bonus!

Main Tasks:

- Architect, design and implementation of RF systems operating in UHF and S-Band frequency bands.

- Measurement and characterization of RF systems at both the satellite and ground station levels.

- Responsible for planning and implementing agreed test strategies during development.

- Conception and definition of test procedures, test plans and test strategies in alignment with design.

- Creation and execution of tests on demand from analysis, requirements.

- Provide design feedback according to testing results.

- Provide support to the satellite operations and design team.

Skills, attitude and experience:

- Experience with development, test and characterization of RF systems.

- Knowledge of RF principles/theory (signal path, power, frequency, noise, modulations, etc.).

- RF PCB design.

- Proficiency with GIT.

- Experience in software studies, architecture, development, validation.

- Basic programming skills in Python or C.

- Basic software development skills for signal processing applications.

Bonus Skills:

- Experience with Software-Defined Radio development tools such as Gnuradio.

- Experience with continuous integration and unit testing tools.

- Familiarity with communications protocols used in small satellites: CSP (Cubesat Space Protocol), CCSDS, AX25.

- Proficiency with Linux-based systems.

Location: Montpellier - France

Preferred starting date: As soon as possible

Duration: 1 year (CDD)

Supervisor, Function at CSUM: Rafael Duarte - Board-to-Space Division Manager

3   CONTACT

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