



Flight Hardware Test Engineer

Job Overview

Microsat Systems Canada Inc. (MSCI) is a leading privately-held Canadian corporation in design, build and operation of space hardware, and a leader in the development and manufacturing of spacecraft reaction wheels and rate measurement units. We are currently seeking an individual to fill a Flight Hardware Test Engineer position within the engineering team. This is a full-time position.

Duties and Responsibilities

- Generate and maintain a suite of test equipment, test scripts and analysis algorithms for MSCI's line of products.
- Generate products functional, performance, and environmental test documentation (e.g., hardware integration procedures, Verification and Validation test procedures).
- Review products assembly and integration test records and reports at sub-system and completed unit level.
- Support Non-Conformance Reporting (NCR) investigations and remedial actions.
- Partner with other engineers in analysis, debugging and anomaly resolution of highly complex and critical issues.
- Review of other teammates documents, reports and scripts as required.

Education/Experience Requirements

- Bachelor's degree in Mechanical, Mechatronics or Aerospace Engineering or related technical discipline with a minimum of 3 years of related experience
- Extensive experience using Matlab/Simulink and Python
- Ability to write clear and concise work instructions, procedures and forms for use in testing / assembly
- Familiarity with operating electrical and mechanical test instrumentation (oscilloscope, digital voltmeter, logic analyzer, current probe, accelerometer)
- Experience with automated test scripting (e.g. LabVIEW, Python)
- Ability to comprehend circuit data sheets and harness design documentation
- Familiarity with LaTeX
- Demonstrated experience in critical thinking, problem solving and trade space design studies



- Ability to write clear and concise design documents, work instructions, test procedures, forms, and records for use in testing / assembly
- Ability to work effectively independently and in a team environment with limited supervision
- Strong attention to detail
- Strong written and verbal communication skills
- Ability to rapidly change roles/responsibilities while working in a high-paced, challenging work environment
- It is a condition of employment that the employee obtain and maintain, through the Company, eligibility for access to controlled goods and / or technology in accordance with the policies and regulations of the Controlled Goods Directorate of the Government of Canada
- Canadian Citizen or Permanent Resident and living in Canada

Bonus Points

- General understanding and application of standard principles, theories, concepts and techniques in integration, verification and validation, and sub-system level testing of space equipment, including test planning, test procedures development, test execution, and post test data analysis
- General knowledge of applicable industry and/or academic practices and standards in flight hardware design, development and qualification
- Experience in one or more of the following areas:
 - Guidance navigation and control (GN&C) actuator and/or sensor hardware and software integration and testing
 - Sub-system level integration and test
 - Hardware/software interfaces
- Experience in hands-on hardware testing and debugging
- Experience in design and development of reaction wheels and rate measurement units
- Experience with space hardware calibration and performance testing
- Experience with space hardware environmental testing (vibration, shock, EMI/RMC, radiation)
- Working knowledge of analog and digital electronics design / diagnosis