

# David McPhee

RF Systems Engineer-in-Training

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## EXPERIENCE

### Calian, RF Systems Engineer-in-Training

March 2022- PRESENT

- Tested live satellites on strict timeline (Antenna Patterns, Gain Stability, Group Delay)
- International travel for site work (Malaysia, United States)
- Led customer witnessed Factory Acceptance Tests
- Proposal drafting for prospective customers
- On-site hardware and software integration (Antennas, LNA, BUC, HPA, ACU, etc)
- Continuation of Design role with expanded responsibilities

### Calian, RF Systems Designer

May 2021 - Feb 2022

- RF Designer for the In-Orbit Test group
- Satellite Simulator Design and Integration (HW & SW)
- Created documents for Test Plans, Operations Manuals, System Design
- Engaged with customer to develop detailed system requirements
- Link Budget Detailed Design
- Designed Test Scripts in Python to Integration System

### University of Saskatchewan, Research Assistant

May 2020 - April 2021

- Co-author of paper on the topic of Zonal asymmetry of the QBO temperature signal in the tropical tropopause region
- Designed code to estimate the QBO amplitude and variability over the past half-century
- Refined and improved Matlab skills resulting high quality plots, figures and other data representations
- Dependable, honest, and respectful with regard to the sudden shift to work-from-home policies

## SKILLS

Python 2 & 3

Can solve a Rubik's Cube in less than 30 seconds

Operation of VNA, Signal Analyzers, etc

TCP/IP Set-up and Integration

## Training / Certifications

### RF Ground Station Training

Six-month course taught by VP of Engineering at Calian

### Software Unit Testing

One-week intensive course taught by Senior Software Engineers

### Mobile Work Platform Training

12-hour course

## Other Activities

Vice-President of Student Affairs during University

Created personal website using HTML, CSS, JS

Member of Association of Engineers and Geoscientists of Saskatchewan

## EDUCATION

### **University of Saskatchewan, Engineering Physics**

September 2017 - April 2021

Grade: Great Distinction

Notable Classes: Electromagnetism, Analog Electronics, Digital Electronics, Material Science, Quantum Mechanics, Classical Mechanics, Physics Laboratories, Optics, Ethics, Economics

## PROJECTS

### **C, Ku, Ka, QV Satellite Testing — *Malaysian Teleport***

Designed, integrated and tested In-Orbit-Test System for French Aerospace company. Traveled to Malaysia to verify the performance of a complex satellite payload. Designed, integrated, and installed test equipment and measurements techniques. Ran antenna patterns, gain stability, and group delay measurements. 12 hours of testing a day for two weeks.

### **Ka, QV Ground Stations — *USA Internet Provider***

Traveled across the USA integrating 10-meter Ka and V antennas for launch of largest ever commercial telecommunications satellite.. Performed ground station antenna patterns using active satellite beacons to calibrate reflectors. Integrated BUCs, ACU, software, etc.

### **Ka Carrier Monitoring System — *Indonesian Teleport***

Designed, integrated, tested Carrier Monitoring Systems and Monitor and Control Systems for an Indonesian Teleport. Presented multiple in-depth training presentations and hands-on to customers.