

Vladimir Marinov

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PROFILE

I am a passionate RF and Microwave Hardware Engineer, skilled in development of electronics systems from low frequency analog to mm-Wave frequencies (110 GHz and beyond).

WORK EXPERIENCE

RF and Microwave Engineer - EECL

October 2024 - Present

- Led end-to-end development of a novel W-Band frequency converter (70 GHz to 86 GHz) — from initial RF/microwave design and simulation, through manufacturing, assembly, and delivery. Published an academic paper detailing the design and results.
- Improved RF performance of complex microwave hardware by conducting full-wave 3D electromagnetic simulations and optimizations in Ansys HFSS.
- Designed an ultra-low phase-noise LO generation subsystem to support a space-based 2 GHz to 18 GHz Software-Defined Radio (SDR).
- Leading ongoing technical development of 82 GHz to 86 GHz FMCW radar front-end.

Part Time Hardware Engineer - EnduroSat

October 2023 - April 2024

- Developed mission-critical satellite hardware in Altium (schematic and layout) with a focus on very high density PCB designs.

Teaching Assistant - Imperial College London

July 2022 - April 2024

- Provided teaching support for the *Instrumentation* module, focusing on hardware design for precision analog measurements, and analog and high-frequency metrology and calibration.
- Worked on implementing a fully-functional 32-bit RISC-V processor in SystemVerilog, which is now used for teaching in the Instruction Architectures course. Provided teaching support for the course.

Full Time Hardware Engineer - EnduroSat

April 2023 - October 2023

- Developed satellite hardware in Altium (schematic and layout) including antennas and RF hardware, precision protected power supplies and other custom mission-specific devices.
- Developed internal company guidelines on EMI/EMC and grounding practices for flight hardware.
- Worked on reliability analysis of hardware including Failure Mode and Effect Analysis (FMEA), Fault Detection, Isolation and Recovery (FDIR), and reliability simulations in Ansys Sherlock.

Part Time RF Engineer - EnduroSat

July 2019 - March 2020

- Worked on software and hardware realizations of Software-Defined-Radio (SDR) Ground Stations for satellite communications.

EDUCATION

MEng Electrical and Electronics Engineering, Imperial College London

2020 - 2024

- Graduated with First Class Honours, and with Dean's List distinction
- Master's thesis on Differential Slow-Wave structures, with a focus on 3D electromagnetic simulations, RF PCB design, and precision VNA measurements of differential devices. The thesis was awarded the Nicholas Battersby prize for excellence in analog electronics.

PUBLICATIONS

Design of a Highly-Integrated W-Band Up-Down Frequency Converter - published and presented (as first author), at Automated Radio Frequency and Microwave Measurement Society (ARMMMS) Conference, April 2025 -  [Link](#)

PROJECTS

Avionics Team Lead - Karman Space Program, London October 2021 - July 2023

- Led the avionics team of university student rocketry project, and developed custom flight computer hardware, RF telemetry hardware, and power supplies. Initiated and later support embedded software development (in C) for custom hardware. Led integration of hardware for test rocket launches and high-altitude balloon tests.

SKILLS

RF and Microwave Hardware Design

PCB & Hardware Design

RF Measurement and Calibration

RF Simulation

FPGA

Embedded C/C++

RF and Microwave systems design up to and exceeding 110 GHz

Schematic Design and Layout in Altium Designer, Kicad

VNA, Spectrum Analyzers, Custom Calibration Kit Design

3D Electromagnetic Simulation in Ansys HFSS

RTL development in SystemVerilog, Verilog

Development of low-level firmware, driver, and RTOS