# Wideband Dual-Circularly Polarized Antennas for QuadSAT UAS

**Keywords**: Dual-Circularly Polarized Antennas, Wideband Antennas, Unmanned Aerial Systems (UAS)

**Context:** UAS-based antenna measurements are becoming a popular solution for in-situ antenna testing in outdoor scenarios. To provide new types of measurements and enable the characterization of an increasing number of antenna systems, QuadSAT is developing new advanced payload solutions that will integrate broadband and dual-polarized probe antennas.

**Objectives:** The main goal of this project is to develop new antenna technology that is particularly suitable for QuadSAT UAS. The new antennas must be lightweight to conform to our drone weight specifications. The main requirements are summarized as follows:

- Broadband Dual Circular Polarization operating from 2 to 18 GHz.
- Peak axial ratio of 1.5 dB for both polarization states. Additionally, a peak axial ratio of 0.5 dB for S and X bands.
- High gain performance of at least 10 dBi.

The main tasks will include theoretical studies on circular polarization techniques, numerical analysis of wideband antennas, investigation of the polarization, beamwidth, gain, and side lobe level changes due to the electromagnetic scattering of the UAS platform, and investigation of modern additive manufacturing technology.

**Expected Profile:** The candidate must have a degree in Electrical Engineering or related fields, with a solid background in electromagnetism, theory, design, and experimental evaluation of antenna systems. The candidate is also expected to have good knowledge of electromagnetic design software and be fluent in English.

**Research Environment:** At Quadsat, you will join a diverse team of innovative colleagues who are impacting the future by changing the game of antenna testing. We have the freedom to make decisions - and the room to innovate, meaning you can make a big impact with your work. As we continue to experience high growth, there are ample opportunities for career advancement and skill development as the company expands.

In the R&D department, you will join a team of driven and innovative engineers with specialties in robotics, software, and RF. Our passionate team of dedicated engineers is looking to drive innovation in the antenna test and measurement industry.

**Duration:** 4 months

**Starting date:** As soon as possible.

**Location**: Odense N, Denmark.

**Contact**:

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