



**Drone-based Measurements**



# Airborne Antenna Measurements

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## RF measurements and Inspections of Transmission Antennas & Towers using Drones

Colibrex proposes RF measurements, mast inspections and site surveys using a specially adapted and calibrated drone. Determine in an easy, quick and cost-efficient way the true radiation characteristics of RF transmission systems and receive high-resolution video and photography of the installed infrastructure.

Taking into consideration that in average, at least 20% of the current transmitting antennas are not radiating as they are supposed to, this kind of measurements becomes crucial for both operators and regulators. It allows you to detect antenna installation errors, to analyze how antennas perform after refarming due to the second digital dividend, or to verify the conformity of a transmission to the granted license.

### Our services include the following:

#### Antenna radiation pattern measurements

- Horizontal and vertical radiation pattern measurements
- Key data on tilt, null fills and Effective Radiated Power (ERP)
- Cost-effective and highly accurate compared to conventional helicopters
- Extremely high reproducibility of the measurements based-on precise flight positioning and orientation
- Possibility to perform new coverage simulation using the network planning tool CHIRplus\_BC
- Flexible deployment enabling to measure high, medium or low power transmission sites in various types of environment
- Measurements follow the guidelines of ITU (ITU Report ITU-R SM.2056)
- For all broadcasting standards as well as further applications like trunked networks (e.g. TETRA)

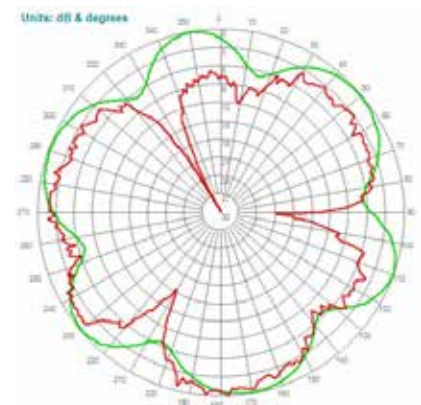


#### Mast inventory & regulatory compliance audits

- Detailed information on mast occupancy via photography and video
- Audit compliance to prescribed antenna radiation parameters

#### Further application fields with our measurement RPA

- Analysis of microwave links
- On-air radio frequency monitoring and direction finding
- On-air measurement of ILS and VOR signals at airports
- Specific measurements for R&D projects (e.g. radar)



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