

# Airborne Antenna Measurements

## RF measurements & Inspections of Transmission Antennas and Towers using RPA (Remotely Piloted Aircraft)

Colibrex proposes RF measurements, mast inspections and sites surveys using a specially adapted and calibrated Remotely Piloted Aircraft (RPA). 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 enables to detect antenna installation errors, to analyze how antennas perform after the 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 high accuracy compared to conventional helicopters
- Extremely high reproducibility of the measurements based on precise flight positioning and orientation
- Export of the true antenna diagram in electronic format
- Possibility to perform new coverage simulation using 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 mobile telecommunications (2G/3G/4G), trunked networks (e.g. Tetra), ...

#### Installation Quality Surveys

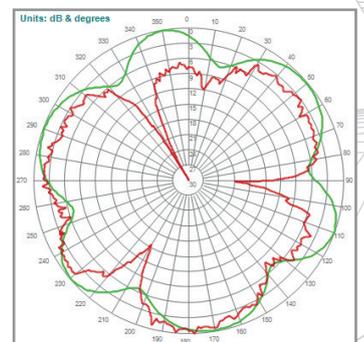
- Remote inspections of mast, mounted equipment and general infrastructure
- HD photography and video
- No need to interrupt transmission

#### Mast Inventory and Regulatory Compliance Audits

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

#### 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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