



# APX-20 UAV

## HIGH PERFORMANCE GNSS-INERTIAL SOLUTION WITH DUAL IMU'S

The Trimble APX-20 UAV is a GNSS-Inertial OEM solution designed to reduce the cost and improve the efficiency of mapping from small Unmanned Aerial Vehicles (UAVs). Comprised of small, low power, precision GNSS and inertial hardware components and POSPac UAV post-mission Differential GNSS-Inertial office software, the APX-20 UAV eliminates the need to survey extensive Ground Control Points (GCP's), and reduces the amount of sidelap required to be flown per flight. The innovative APX-20 UAV features a precision, survey grade GNSS receiver and dual inertial measurement units; one embedded onto the GNSS-inertial board and one as an external unit mounted on the sensor to be georeferenced. With this feature the APX-20 UAV automatically supports integration on gimballed platforms without requiring an external interface to an autopilot or the mount itself.

### HIGH ACCURACY, EXTREMELY SMALL PACKAGE

Weighing only 90 grams, and measuring just 60 x 67 x 34 mm for the GNSS-Inertial board, with different types of external IMU sensors, the APX-20 UAV provides unparalleled performance in an extremely small and lightweight package. The APX-20 UAV computes a real-time navigation solution at 100 Hz using its

embedded IMU while simultaneously logging the raw IMU data from both the internal and external IMU at 200 Hz for post-processing in POSPac UAV. The highly accurate post-processed position and orientation solutions are used for direct georeferencing of cameras, LiDARs and other sensors.

### THE APX-20 UAV BRINGS ALL THE BENEFITS OF DIRECT GEOREFERENCING TO UAV PLATFORMS:

- ▶ Turn your UAV into a professional mapping solution
- ▶ Ultra-fast image georeferencing for faster map production and delivery
- ▶ Reduced number of ground control points, saving time and money
- ▶ Consistent, reliable, highly accurate results
- ▶ Increased collection area per flight for greater productivity
- ▶ Redundant navigation solution to autopilot for enhanced safety

## Key Features

- ▶ High-performance Direct Georeferencing solution for improved efficiency and accuracy of mapping from small Unmanned Aerial Vehicles
  - Reduce/eliminate GCP's
  - Reduce sidelap
  - Accurate LiDAR/Camera georeferencing
  - Seamless workflow with gimballed platforms
- ▶ Compact OEM module complete with survey-grade multi-frequency GNSS receiver and embedded and external IMU's
- ▶ Applanix IN-Fusion™ GNSS-Inertial and SmartCal™ compensation technology for superior position and orientation performance
- ▶ POSPac UAV Differential GNSS Inertial post-processing software for highest accuracy georeferencing
- ▶ RTK real-time position for precision landing and real-time mapping applications
- ▶ Supports all common RTK corrections such as CMR, CMR+, RTCM



