Multi-Band, Multi-Constellation
Centimeter-Accurate GNSS

The Piksi Multi GNSS receiver from Swift Navigation. Its dual-frequency operation offers fast RTK convergence times and reliable, centimeter-accurate results at a breakthrough price.

**Centimeter-Level Accuracy**
Autonomous systems require precision navigation—especially those that perform critical functions. Swift Navigation solutions utilize real-time kinematics (RTK) technology, providing location solutions that are 100 times more accurate than traditional GPS.

**Fast Convergence Times**
Multiple signal bands enable fast convergence times to high-precision mode. Single band RTK systems converge in minutes, while Piksi Multi converges to a high-precision solution within seconds. This allows for much faster system start times, as well as faster reacquisition, which is critical to robotic systems.

**Robust Positioning Performance**
Piksi Multi supports GPS L1/L2 and GLONASS G1/G2 for RTK measurements and positioning. It is hardware-ready for simultaneous reception of the other two global GNSS constellations: BeiDou and Galileo. Additional constellations create more robust positioning performance in a variety of challenging skyview environments. Integrated MEMS oscillator technology enhances robustness under vibration and shock. Integrated MEMS IMU technology allows for sensor fusion techniques that enhance positioning performance.

**Open Platform**
Piksi Multi features a powerful Xilinx Zynq® processor with an FPGA and dual-core ARM® Cortex®-A9 processors. Plenty of computational headroom and on-board Linux enable seamless integration of customer applications.

**Rapid Prototyping**
Piksi Multi is designed to be easy to use. The Piksi Multi Evaluation Kit includes: 2 Piksi Multi GNSS Modules; 2 integrator-friendly Evaluation Boards; 2 GNSS survey grade antennas; 2 powerful radios and integration accessories. Piksi Multi features multiple high-density I/O connectors, providing an enhanced and improved integration experience.

**Breakthrough Price**
Swift Navigation is built on the notion that highly-precise RTK solutions should be offered at an affordable price. Piksi Multi embraces the foundation of unmatched affordability and is available at a much lower cost than comparable systems.

**Benefits**
- Fast RTK Convergence Times
- Highly-Competitive Pricing
- Easy Integration into a Variety of Applications
- Future-Proof Hardware with In-Field Software Upgrades
- Onboard Linux Allows Flexibility

**Features**
- Dual Frequency and Dual Constellation
- Up to 20 Hz Solution Rates
- Advanced MEMS Oscillator Technology
- Raw IMU Data Stream Through On-Board MEMS IMU
- Flexible Interfaces Including UART, Ethernet, CAN® and USB
**Position Performance Specifications**

**Position, Velocity & Time Accuracy**

- Horizontal Position Accuracy (CEP 50 in SPP Mode): 1.1 m
- Velocity Accuracy: 0.03 m/s RMS
- Time Accuracy: 60 ns RMS
- Real Time Kinematic (RTK Accuracy 1σ):
  - Horizontal: 0.010 m + 1 ppm
  - Vertical: 0.015 m + 1 ppm

**RTK Initialization Parameters**

- Initialization Time: < 10 s
- Initialization Reliability: > 99%
- Solution Latency: < 30 ms

**Time to First Fix (TTFF) Specifications**

- Hot Start: < 5 s
- Cold Start: < 60 s
- Reacquisition: < 2 s

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**Electrical & I/O**

**Power**

- Input Voltage: 5 - 15 V DC
- Typical Power Consumption: 2.9 W

**Antenna LNA Power Specifications**

- Output Voltage: 4.85 V DC
- Max Output Current: 100 mA

**Connectors**

- 1 x 20 Pin SAMTEC Connector (PN: TMM-110-03-F-D)
- 2 x 60 Pin High Density Connectors (PN: 61082-061400LF)
- 1 x MMCX Female Antenna Port

**Communication Interfaces**

- 2 x UART-LVTTTL Ports (1 Mbps)
- 2 x CAN Bus (1 Mbps)
- Ethernet support up to 100Mbps
- 2 x USB 2.0 (1 Device, 1 Host)

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**Physical & Environmental**

- **Dimensions**: 48 mm x 71 mm x 12.4 mm
- **Weight**: 26 g
- **Temperature**: Operating -40°C to +85°C, Storage -40°C to +85°C
- **Humidity**: 95% non-condensing as measured by MIL-STD-810G, Method 507.5 Procedure II

**Costs & Accessories**

Visit the Swift online store at www.swiftnav.com

**Piksi Multi Evaluation Kit**

Designed to provide a seamless easy-to-use RTK positioning experience through a single kit consisting of 2 Piksi Multi GNSS Modules; 2 Evaluation Boards; 2 GNSS survey grade antennas; 2 powerful radios and all other required integration accessories.

**Piksi Multi GNSS Receiver Pack**

Quick integration packs designed both for customers seeking to create custom RTK solutions for unique projects or for seasoned RTK systems integrators.

**Piksi Multi GNSS Module**

Designed for the experienced systems integrator and the large volume enterprise customer.