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 and SBAS for robust sub-meter positioning in non-RTK mode. 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
**Piksi Multi**

**GNSS Characteristics**

**GNSS Signal Tracking**
- GPS L1/L2, GLONASS G1/G2
- SBAS

**GNSS Data Rates**
- Measurements (Raw Data): Up to 20 Hz
- Standard Position Outputs: Up to 20 Hz
- RTK Position Outputs: Up to 10 Hz
- Swift Binary Protocol (SBP) and NMEA-0183

**Maximum Operating Limits**
- Altitude: 18,000 m
- Velocity: 515 m/s

**Position Performance Specifications**

**Position, Velocity & Time Accuracy**
- Horizontal Position Accuracy (CEP 50 in SBAS Mode): 0.75 m
- Velocity Accuracy: 0.03 m/s RMS
- Time Accuracy: 60 ns RMS

**Real Time Kinematic (RTK Accuracy 1o)**
- 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**

<table>
<thead>
<tr>
<th>Hot Start</th>
<th>Cold Start</th>
<th>Re-acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 s</td>
<td>&lt; 60 s</td>
<td>&lt; 2 s</td>
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</tbody>
</table>

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

**Physical & Environmental**

**Dimensions**
- 48 mm x 71 mm x 12.4 mm

**Weight**
- 26 g

**Temperature**
- Operating: -40° C to +85° C
- Storage: -60° C to +85° C

**Humidity**
- 95% non-condensing

**Packaging & 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.