The S2525F8-BD-RTK is a cost-effective OEM GNSS receiver that delivers centimeter-level position accuracy for various high-precision applications, such as aerial mapping, machine control guidance, and GIS data collection.

The S2525F8-BD-RTK receives RTCM 3.x data from a base station, or another receiver in base station mode outputing SkyTraq raw measurement, to perform carrier phase RTK processing, achieving centimeter-level accurate relative positioning. In challenging signal environments where cm-level RTK positioning is not possible, S2525F8-BD-RTK delivers high accuracy Differential-GNSS and GNSS positioning.

The S2525F8-BD-RTK has size of 25mm x 25mm, roughly dimension of a quarter; and 230mW power consumption. This very small size and low power makes it ideal for integration into small handheld devices for mobile GIS application or for UAV applications.

FEATURES
- cm-level accuracy RTK receiver
- Support base and rover mode
- 25mm x 25mm small size
- 230mW low power
- GPS L1, BDS B1, QZSS, SBAS
- Weighs 3 gram
**S2525F8-BD-RTK**

**Centimeter-Level Accuracy**

## TECHNICAL SPECIFICATIONS

### Receiver Type
- **167 Channels**
- Dedicated search and track engine
- GPS L1, BDS B1, QZSS, SBAS

### Performance Spec
- **Hot Start** 1 sec
- **Warm Start** 28 sec
- **Cold Start** 29 sec
- **Reacquisition** 1 sec
- **Velocity Accuracy** 0.05m/sec
- **Timing Accuracy** 10nsec
- **Acceleration** 4g

### Sensitivity
- **Cold Start** -148dBm
- **Tracking** -160dBm

### Position Accuracy
- **Autonomous** 2.5m CEP
- **DGPS** < 1m
- **RTK** centimeter-level

### Communication
- 3.3V UART serial
- 57600 baud, 8, N, 1

### Supported Protocol
- **Rover Mode**
  - NMEA-0183 V3.01
  - GPGGA, GPGLL,
  - GPGSA, BDGSA
  - GPGSV, BDGSV,
  - GPVTG, GPRMC
- **Base Mode**
  - RTCM-SC104
  - 3.0, 3.1
- **SkyTraq Raw Data**

### PHYSICAL CHARACTERISTICS
- **Size** 25mm x 25mm
- **Weight** < 3g

### Electrical Characteristics
- **Voltage** 3.3V +/- 5%
- **Current** 70mA

### Environmental Characteristics
- **Working temperature** -40°C ~ +85°C
- **Storage temperature** -55°C ~ +100°C
- **Humidity** 5% ~ 95%

### Ordering Information

<table>
<thead>
<tr>
<th>GPS/BDS RTK Model</th>
<th>RTK Maximum Update Rate</th>
<th>Time/Position Stamp</th>
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<tbody>
<tr>
<td></td>
<td>1Hz</td>
<td>5Hz</td>
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<td>S2525F8-BD-RTK</td>
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SkyTraq Technology, Inc.  
empower mobility, without uncertainty  
www.skytraq.com.tw

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