



## Resolution SMT™x Timing Module on a Carrier Card

### KEY FEATURES

- Extended temperature range (-40°C / +85°C)
- Accurate 1 PPS or even second output, synchronized to GPS or UTC within 15 ns (1 sigma)
- T-RAIM (Timing Receiver Autonomous Integrity Monitoring) provides high PPS integrity
- Automatic self-survey
- Supports 3V or 5V Antennas
- RoHS-II Compliant

### FULL FEATURED, LOW-COST, EMBEDDED GPS TIMING RECEIVER

The Trimble® delivers the next generation GPS timing solution in the Resolution SMT™x GPS timing module. Designed specifically for compact, high-volume applications, the Resolution SMTx shrinks its form factor. With the same pulse per second (PPS) accuracy and timing features.

The Resolution SMTx includes many of Trimble's standard timing features, including the Timing Receiver Autonomous Integrity Monitoring (T-RAIM) algorithm, and automatic self-survey

### Features Flexibility with Software

The Resolution SMTx GPS timing module can be updated easily in the field with new features as they become available. The modular design also allows for both reduced integration time and low implementation risk.



### 3 or 5 Volt Antenna Compatible

The receiver is designed for 3.3 V DC prime power, but provides a separate pin on the I/O connector for powering the antenna with a user-supplied voltage from 3.0 to 5.5 V DC

### Starter Kit

The Resolution SMTx Starter Kit provides everything you need to start integrating the module into your application. The kit includes an active, external 5V DC Bullet-style antenna, 50 feet of RG-59 cable, and an AC/DC power adapter. The starter kit enclosure includes a mother board that provides serial output, and a USB interface cable.

# RESOLUTION SMT™x on a CARRIER CARD

## GENERAL SPECIFICATIONS

Receiving Signal.....L1 (1575.42MHz), C/A Code  
Positioning System.....SPS, Timing  
Acquisition Channels.....12 Channels  
Tracking Channels.....12 Channels  
1 PPS Timing Accuracy .....15 ns (1 sigma)  
Horizontal Position Accuracy.....<6m (50%), <9m (90%)  
Vertical Position Accuracy.....<11m (50%), <18m (90%)  
Update Rate.....1 Hz  
Data Format.....TEP (M12 Compatible)  
Typical Min. Acq. Sensitivity.....-142dBm cold start  
Typical Min. Tracking Sensitivity .....-160dBm  
Time to First Fix.....<46s (50%), <50s (90%) cold start  
Typical Time to Re-acquisition.....<2s (90%)

## INTERFACE CHARACTERISTICS

Serial Port.....1 serial port  
PPS / Even Second.....CMOS-compatible  
TTL-level pulse, once per second  
Protocols.....TEP, TSIP, NMEA 0183  
RF Input Connector.....Right-angle SMB

## PINOUT ASSIGNMENTS

|   |     |  |     |   |
|---|-----|--|-----|---|
| 1 | ANT |  | RXD | 5 |
| 2 | VCC |  | PPS | 6 |
| 3 | TXD |  | NC  | 7 |
| 4 | RSV |  | GND | 8 |

## ELECTRICAL CHARACTERISTICS

Supply Voltage Range.....3.0v DC to 3.6v DC  
Power Consumption.....100mA @ 3.3V  
Ripple Noise.....Max 50mV, peak-to-peak 1Hz to 1MHz  
Antenna Feed Pin 9.....+3.0 to +5.5v DC 55mA max

## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature.....-40°C to +85°C  
Vibration 0.008 g<sup>2</sup>/Hz.....5 Hz to 20 Hz  
0.05 g<sup>2</sup>/Hz.....20 Hz to 100 Hz  
-3 dB/octave.....100 Hz to 900 Hz  
Operating Humidity...5% to 95% RH non-condensing (+60°C)

## GENERAL INFORMATION & ACCESSORIES

Please go to [www.trimble.com/timing](http://www.trimble.com/timing) for updated ordering information, part numbers and antenna options.

*Parts of the product are patent protected.*

*Trimble has relied on representations made by its suppliers in certifying this product as RoHS-II compliant.*

*Specifications subject to change without notice.*

*Trimble Navigation Limited is not responsible for the operation or failure of operation of GPS satellites or the availability of GPS satellite signal.*

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