



# TIM-EK, SAM-EK

## GPS Evaluation Unit

### SiRFstar™ II Positioning Engine

The TIM-EK and SAM-EK are ready-to-go starter kits that allows fast and easy evaluation of the SiRFstar™ II based TIM GPS receiver and SAM Smart Antenna. Get a feel for the capabilities of the innovative u-blox GPS technology.

#### TIM-EK:



#### SAM-EK:



#### Overview

The evaluation kit provides everything you need to evaluate, test and configure the SiRFstar™ II based TIM products in your application. It is equally suitable for real-time testing in the field or static testing on the laboratory.

The TIM-EK includes an Evaluation Unit that contains the TIM macro-component GPS receiver and the powerful evaluation software u-center. The SAM-EK comes with a SAM Smart Antenna. The Evaluation Unit provides two serial ports to connect to a PC to allow easy monitoring of the current status of the GPS receiver. A variety of visualization and configuration functions allow quick and easy evaluation of the receiver.

#### Hardware (TIM-EK and SAM-EK)

- Evaluation Unit containing u-blox TIM GPS receiver
  - TIM GPS receiver
  - Dual RS-232 serial line transceivers
  - Lithium battery to deliver lifetime battery backup
  - DB9 serial connectors
  - Suitable for use with 12 V car battery system
- Active GPS antenna with SMA connector
- 100-240 VAC power adapter

#### Hardware (TIM-EK only)

- TIM GPS receiver inside Evaluation Unit

#### Hardware (SAM-EK only)

- SAM Smart Antenna module
- Adapter kit to connect SAM to the Evaluation Unit

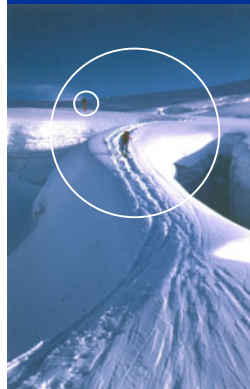
#### Software

- u-center GPS Evaluation Software for Windows
- Firmware upgrade utility to configure firmware parameters and download firmware to the TIM
- u-Logger2 to configure data logger and carry out uploads

#### Documentation

- TIM-EK User's Guide
  - Getting started
  - Description of Evaluation Kit (external and internal interfaces and features)
  - Firmware updates
- u-center User's Guide
- Protocol Specification
- GPS Basics – Introductory manual about GPS

*your position  
is our focus*



## Specifications

### Evaluation Unit



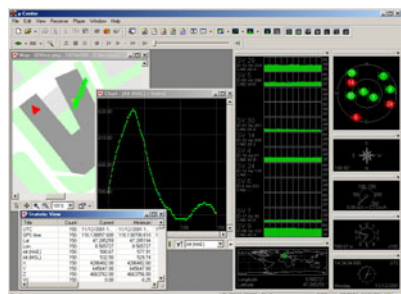
### Receiver Performance Data

<b>Receiver Type</b>	12 channel, L1 frequency, C/A code
<b>Max. Update Rate</b>	1 Hz
<b>Accuracy</b>	Position 4 m CEP DGPS 2 m CEP <sup>1</sup>
<b>Start-up Times</b>	Hot start 2-8 s Warm start 38 s Cold start 45 s
<b>Signal reacquisition</b>	100 ms
<b>Dynamics</b>	< 4 g
<b>Operational Limits</b>	COCOM restrictions apply
<b>Serial Interfaces</b>	2 x RS-232
<b>Power Supply</b>	9 – 18V

<sup>1</sup> Depending on accuracy of correction data

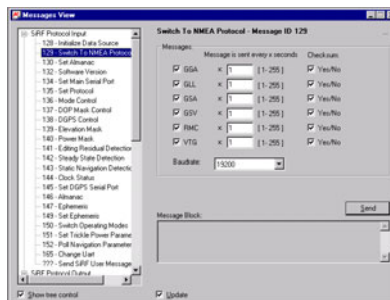
### u-center

The u-center GPS Evaluation Software provides system integrators and end users with a quick and simple way to interface with a u-blox OEM board or sensor product in order to test performance and develop an integrated system. u-center allows easy connection to u-blox products and provides a suite of features to view, log, and analyze performance.



## Configuration

u-center lets you configure the GPS receiver easily. All supported input/output protocols (NMEA and SiRF® binary) can be observed and edited in the Message View.



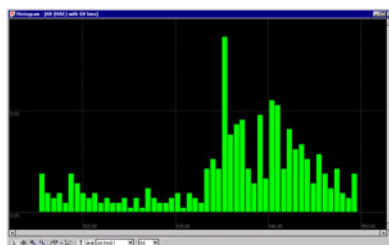
## Visualization

A quick look at a trace on a map tells us a lot about the GPS receiver's performance. u-center lets you put your position on a map and calibrate it.



## Testing

A variety of statistics are calculated by u-center, these can be visualized in histograms or tabular views.



## Ordering Information

<b>TEK-ST-0-000-0</b>	TIM-EK – TIM Evaluation Kit
<b>SEK-ST-0-000-0</b>	SAM-EK – SAM Evaluation Kit
<b>SAB-ST-0-000-0</b>	SAM Adapter Kit to connect SAM to TIM Evaluation Kit

Parts of this product are patent protected.

The specifications in this document are subject to change at u-blox' discretion. u-blox assumes no responsibility for any claims or damages arising out of the use of this document, or from the use of modules based on this document, including but not limited to claims or damages based on infringement of patents, copyrights or other intellectual property rights. u-blox makes no warranties, either expressed or implied with respect to the information and specifications contained in this document. Performance characteristics listed in this document are estimates only and do not constitute a warranty or guarantee of product performance.