



## iTrax130

### OEM GPS Receiver Module

- Compact design
- High performance, Cost effective design
- Full support for iSuite™ 3 SDK
- iTrax MP Compatible receiver

#### *New family of receivers*

iTrax130 expands Fastrax' product offering in the family of GPS receivers based on SONY CXD2951 single chip GPS receiver LSI. It is pin-compatible with iTrax MP (Multi Platform) family of receivers.

The iTrax130 is an ultra small SMD Macro Component. It is a versatile OEM GPS receiver for applications that require firmware upgradeability. It is suitable for integrated GPS applications where high performance and low cost are key issues.

iTrax130 offers full support for iSuite™ 3 SDK environment. See iTrax130 Development Kit manual for details about free SDK resources.

#### *High performance receiver architecture*

It is based on the SONY single chip GPS receiver device with 8MBit external Flash. In addition a two stage LNA, TCXO and RTC are included. Necessary on board regulators are also included for ease of use. Typical Cold Start TTF is 39s.

#### **iTrax130 Key Features:**

- iTrax MP Compatible
- Small form factor – 16.2 x 18.8 x 2.3 mm
- SMD Macro Component
- Main power supply 3.0...3.6V
- Battery backup supply 3.0V...3.6V
- Low power consumption:
  - 35mA @ 3.3V (normal mode)
  - 20uA @ 3.3V (battery backup)
- Very high sensitivity:
  - 139dBm (Unaided Acquisition)
  - 151dBm (Navigation)
  - 154dBm (Tracking)
- NMEA0183 and iTalk protocols
  - Port0: NMEA (default)
  - Port1: iTalk (default)
- Accurate 1PPS timing output – 20nsRMS
- Cold Start TTF: 39s typical
- Warm Start TTF: 4s typical
- Based on SONY receiver architecture:
  - CXD2951GL-4 Single Chip
  - 8MBit Flash memory
- WAAS/EGNOS Compatible

#### *Versatile interfaces*

The iTrax130 is very easy to use. The user needs only to connect the power supplies (main supply and battery backup supply) to make it functional. Low power mode is simply achieved by removing the main power supply at any time. The receiver will resume normal operation once the main power supply is reconnected.

Two serial ports are available for serial interfacing. Both iTalk binary and NMEA protocols are supported.

A highly stable 1PPS timing pulse is also available with an accuracy of 20nsRMS.

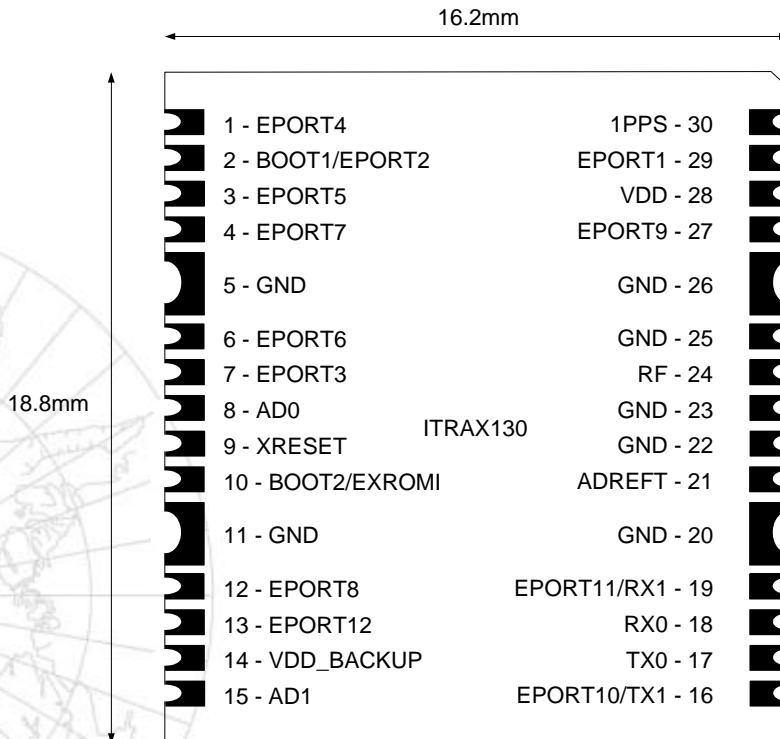
Two 10-bit A/D input channels are also available. A 10-bit GPIO interface is also available (12-bit if UART port 1 is used as GPIO)

The antenna input supports both passive or active GPS antennas.



## iTrax130 OEM GPS Receiver Module Specifications

<b>General:</b>	L1 frequency, C/A code (SPS) 12 independent tracking channels Separate search and acquisition engine	<b>I/O ports:</b>	Two asynchronous UART data ports 12-bit GPIO 10-bit A/D, 2 channel + Reference voltage
<b>Accuracy:</b>	Position (static): 0.2m (CEP50) 0.8m (CEP95) Velocity: 0.1 m/s Time: 20nsRMS	<b>SBAS support:</b>	WAAS/EGNOS
<b>TTFF:</b>	Cold Start: 39s Hot start: 4s	<b>Update rate:</b>	1 fix/s default, up to 4 fix/s
<b>Sensitivity:</b>	Acquisition (unaided): -139dBm Tracking: -154dBm Navigation: -151dBm	<b>Protocol:</b>	NMEA 0183 ver 3.0 (Port 0 by default) iTalk 3 (Port 1 by default)
<b>Power Drain (3.0V):</b>	Acquisition: 65mA Navigation: 35mA Battery backup: 20uA	<b>Dimensions:</b>	16.2mm x 18.8mm x 2.5mm
<b>SDK Resources:</b>	Free CPU capacity: 68 % Internal SRAM: 20kbytes Flash: 550kbytes	<b>Height:</b>	2.3mm nominal, 2.5mm max
		<b>Weight:</b>	4g
		<b>Operating voltage:</b>	3.0V ... 3.6V (main supply) 3.0V ... 3.6V (battery backup)
		<b>Operating temperature:</b>	-40C..+85C
		<b>Antenna input:</b>	50ohm
		<b>Antenna type:</b>	Passive or active antenna
		<b>Antenna Bias:</b>	Same as Main supply (VDD)
		<b>GPS Receiver IC:</b>	Sony CXD2951GL-4 Single Chip LSI
		<b>Flash Memory:</b>	8MBit



**iTrax130 – Top View**

**iTrax130 Evaluation Kit**



**iTrax130 Application Board**



**iSuite™ 3 SDK**

