

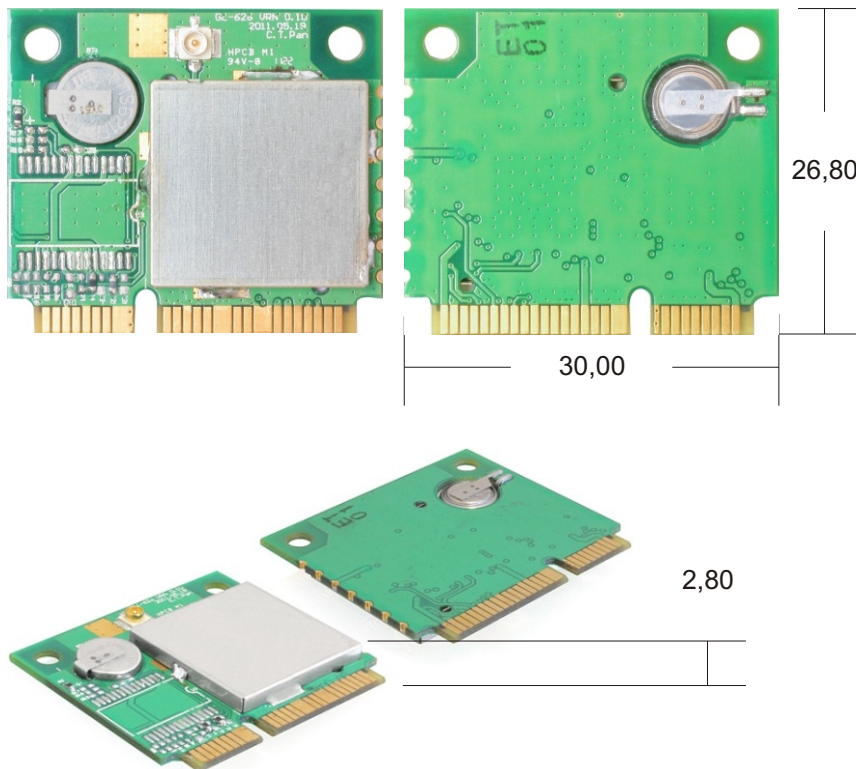
# Specification

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## 95924

Navilock industry MiniPCle GPS TTL 4800 module

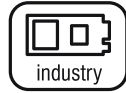
EAN: 4043619959242



**Edition: 11/2011**



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Navilock industry MiniPCIe GPS TTL 4800 module

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### Overview

95924 is equipped with the **u-blox 6** high-sensitivity engine, RF connector, and optional backup battery. The Mini PCI Express standard design allows it to be easily applied in devices with PC architecture. The half-length design allows it to be used in dimension demanding environment. It supports UART/TTL interface. The backup battery allows faster position fix and it is optional in case extended temperature range is required.

### Features

- PCI Express Mini Card standard compliant
- Built-in RF connector, reduce RF tuning efforts
- The tiny I-PEX RF connector allows flexibly placing GPS antenna at a suitable location.
- External active antenna short circuit protection
- Optional backup battery for faster position fix.
- Support UART/TTL interface.
- High sensitivity+/-160dBm tracking/-146dBm



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### Technical specifications

Receiver performance data

|                              |  |
|------------------------------|--|
| Receiver Type                | u-blox 6 UBX-G6010-ST, 50-channel,<br>L1 frequency, C/A code                                     |
| Horizontal Position Accuracy | < 2.5m (Autonomous)<br>< 2.0m (WAAS)<br>(CEP, 50%, 24-hour static,<br>-130dBm, SEP < 3.5m )      |
| Velocity Accuracy            | <0.1 m/s (speed)<br><0.5° (heading)<br>(50% @ 30 m/s)  |
| Time Pulse                   | 30ns (RMS)   |
| Signal Accuracy              | <60 ns (99%)   |
| Time To First Fix            | Autonomous (all at -130dBm)  |
| Hot start                    | 1sec   |
| Warm start                   | 32sec  |
| Cold start                   | 32sec  |
| Sensitivity                  | -146dBm (acquisition)  |
| (Autonomous)                 | -160dBm (tracking & navigation)  |
| Max. Update Rate             | 5Hz  |
| Max. Altitude                | < 50.000 m   |
| Max. Velocity                | < 1.800 km/hr  |
| Protocol Support             | NMEA 0183 v2.3 (compatible to 3.0)<br>UART: 4800 bps N,8,1;<br>GGA, GLL, GSA, GSV, RMC, VTG, TXT |
| SBAS Support                 | WAAS, EGNOS, MSAS, GAGAN   |
| Dynamics                     | < 4g   |



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### Electrical data

|                   |                          |
|-------------------|--------------------------|
| Power Supply      | 3,3 +- 0,3 V             |
| Power Consumption | 50 mA / average tracking |

### RF interface

|           |       |
|-----------|-------|
| Connector | I-PEX |
|-----------|-------|

### Environmental data

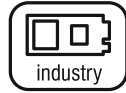
|                       |   |
|-----------------------|---|
| Operating temperature | -20 ~ 60°C (without battery -40 ~ 85°C) |
| Storage temperature   | -20 ~ 60°C (without battery -40 ~ 85°C) |

### Mechanical data

|           |                                |
|-----------|--------------------------------|
| Dimension | 30 (W) x 26,8 (L) x 2,8 (H) mm |
|-----------|--------------------------------|

### Pin Interface

| Pin    | Pins   | Function            | I/O    |
|--------|--|---------------------|--------|
| VCC    | 2, 24, 39, 41, 52                                    | 3,0 ~ 3,6 V         | Input  |
| GND    | 4, 9, 15, 18, 21, 26, 27, 29, 34, 35, 37, 40, 43, 50 | Ground              | Input  |
| RXD    | 45   | TTL input into GPS  | Input  |
| TXD    | 47   | TTL output from GPS | Output |
| LED    | 42   | GPS fix indication  | Output |
| nRESET | 5  | RESET pin           | Input  |
| NC     | Remaining pins                                       | No connection       | -      |



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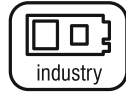
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### Pin assignment

|    |        |        |    |    |        |     |    |
|----|--------|--------|----|----|--------|-----|----|
| 1  | NC     | VCC    | 2  | 1  | NC     | VCC | 2  |
| 3  | NC     | GND    | 4  | 3  | NC     | GND | 4  |
| 5  | nRESET | NC     | 6  | 5  | nRESET | NC  | 6  |
| 7  | NC     | NC     | 8  | 7  | NC     | NC  | 8  |
| 9  | GND    | NC     | 10 | 9  | GND    | NC  | 10 |
| 11 | NC     | NC     | 12 | 11 | NC     | NC  | 12 |
| 13 | NC     | NC     | 14 | 13 | NC     | NC  | 14 |
| 15 | GND    | NC     | 16 | 15 | GND    | NC  | 16 |
|    |        |        |    |    |        |     |    |
| 17 | NC     | GND    | 18 | 17 | NC     | GND | 18 |
| 19 | NC     | NC     | 20 | 19 | NC     | NC  | 20 |
| 21 | GND    | NC     | 22 | 21 | GND    | NC  | 22 |
| 23 | NC     | VCC    | 24 | 23 | NC     | VCC | 24 |
| 25 | NC     | GND    | 26 | 25 | NC     | GND | 26 |
| 27 | GND    | NC     | 28 | 27 | GND    | NC  | 28 |
| 29 | GND    | NC     | 30 | 29 | GND    | NC  | 30 |
| 31 | NC     | NC     | 32 | 31 | NC     | NC  | 32 |
| 33 | NC     | GND    | 34 | 33 | NC     | GND | 34 |
| 35 | GND    | USB_DM | 36 | 35 | GND    | NC  | 36 |
| 37 | GND    | USB_DP | 38 | 37 | GND    | NC  | 38 |
| 39 | VCC    | GND    | 40 | 39 | VCC    | GND | 40 |
| 41 | VCC    | LED    | 42 | 41 | VCC    | LED | 42 |
| 43 | GND    | NC     | 44 | 43 | GND    | NC  | 44 |
| 45 | NC     | NC     | 46 | 45 | RXD    | NC  | 46 |
| 47 | NC     | NC     | 48 | 47 | TXD    | NC  | 48 |
| 49 | NC     | GND    | 50 | 49 | NC     | GND | 50 |
| 51 | NC     | VCC    | 52 | 51 | NC     | VCC | 52 |

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Bottom Side

26.90 REF

Pin 52

13.60 Both Sides

2.05

8.25

Both Sides 5.60

Pin 2

2x 2.15 REF

2x R 0.80 MAX

2x 3.20 MIN

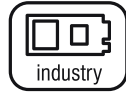
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25.70

0.10 (M) A B C



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### **Support Navilock**

If you have further questions, please contact our customer support  
[support@navilock.de](mailto:support@navilock.de).

You can find current product information on our homepage: [www.navilock.com](http://www.navilock.com).

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