



# OPUS ONE miniRide

## 32 Channel GPS/AGPS Receiver Module



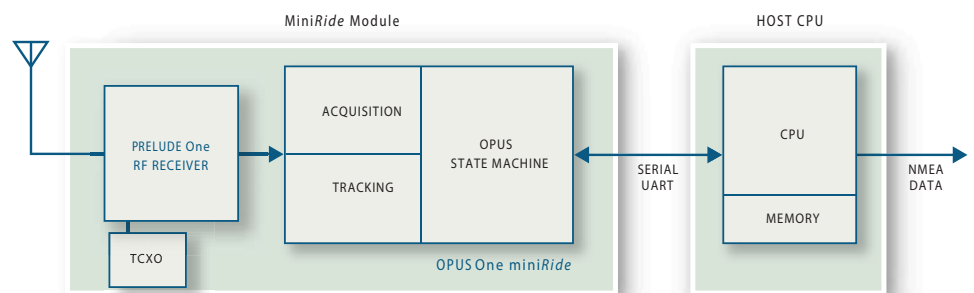
**miniRide** is a miniature high-sensitivity, low-power GPS/AGPS module that integrates eRide's hardware measurement platform (MP) into a single, compact and easy to integrate SMD device. Combined with eRide's powerful navigation software running on a host microprocessor, the module offers a complete high performance GPS receiver.

**miniRide** is based on **OPUS ONE** technology and includes the **Prelude One RF Receiver IC, OPUS One Baseband IC**, a SAW filter, the TCXO and various matching and peripheral components in a small form factor.

**miniRide** has been engineered specifically for mobile and embedded applications such as Personal Navigation Devices or Smart Phones, where performance, time to market and real estate are prime considerations.

### FEATURES

- Versatile:** 32 channel receiver integrated module operates in Autonomous and Assisted-GPS mode
- Miniature Size:** 11 x 9 mm small form factor SMD solution supports highly compact miniaturized designs
- Ultra-high Sensitivity:** -157 dBm sensitivity ensures position fix availability indoors, outdoors and in urban canyons
- Fast:** < 4 sec TTFF ensures user satisfaction
- Highly Accurate:** < 7 m outdoor, < 30 m indoor typical, live-sky measurements
- Easy Integration:** Optimized RF and electrical design ease GPS system integration  
Standard SMD package enables cost-efficient, high volume production
- Simple, Low cost:** Host based: leverages resources of host CPU and memory  
Navigation software runs in background, requires under 6 MIPS
- Low Power:** 120 mW power consumption including TCXO and peripherals  
intelligent power management helps extend battery life
- Scalable:** Navigation software and drivers easily matched to memory footprint and processing power availability on host system



The OPUS One **miniRide** module is a hosted solution, so it reduces system power consumption, eliminates redundant resources, and lowers costs. eRide has the tools and the engineering team support it takes to get your new GPS-equipped products up and running and off to market, quickly and efficiently.

## 32 Channel GPS/AGPS Receiver Module

### SPECIFICATIONS

<b>Receiver Type:</b>	32 Channel Acquisition 8 Channel Tracking L1, C/A Code
<b>Maximum Update Rate:</b>	1 Hz
<b>Position Accuracy:</b>	Outdoors <sup>1</sup> : < 7 m, 50% CEP, Open Sky <sup>1</sup> Indoors <sup>2</sup> : < 30 m, 50% CEP
<b>Start-up Times:</b>	Hot Start:       Outdoors <sup>1</sup> : < 4 sec   Indoors <sup>2</sup> : < 20 sec Warm Start:     < 37 sec Cold Start:      < 44 sec
<b>Sensitivity:</b>	Acquisition & Tracking: -157 dBm, 2.5 sec update rate -155 dBm, 1 sec update rate
<b>Supply Voltage:</b>	OPUS One Core: 1.2 V RF and I/O: 3.0 V
<b>Power Consumption:</b>	Deep Sleep Mode: < 99 µW Search Mode: 175 mW Track Mode: Outdoors: 120 mW       Indoors: 165 mW
<b>Operating Temperature:</b>	-30° to +85° C
<b>Package &amp; Ordering:</b>	10.9 mm (L) x 9.1 mm (W) x 1.4 mm (H) SMD Module with QFN Pattern P/N: eMD1100Z, Opus One MiniRide Module

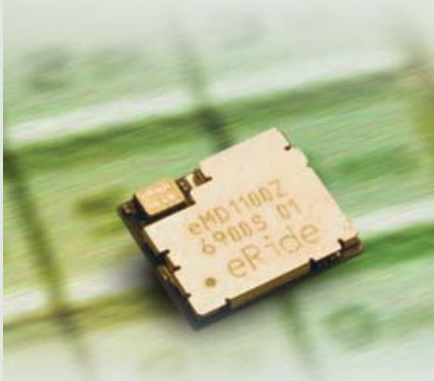
### HOST ENVIRONMENT

<b>Host CPU Load:</b>	6 MIPS
<b>RAM:</b>	128 KB
<b>ROM/Flash:</b>	256 KB
<b>Host Processor:</b>	ARM, Strong ARM, Pentium, SH, Motorola, NEC, Samsung
<b>Host OS:</b>	Single thread, OS independent

### DATA SHEET AND EVALUATION KITS AVAILABLE

eRide, Inc. is a fabless semiconductor company that develops advanced satellite navigation solutions. eRide products help fuse wireless technology with the internet, enabling the rollout of mobile commerce and location-based services. Our products are designed to be easily integrated and scalable, and to help ensure end-user satisfaction and loyalty. They include ultra-sensitive GPS chipsets, as well as navigation and server software.

1. Open Sky: All visible satellites with received power at -140 dBm or higher.  
2. Indoors: All visible satellites with power levels at -153 dBm or lower



The miniRide module (eMD1100Z) is housed in a 10.9 x 9.1 x 1.4 mm 36 pins SMD package, that includes all RF matching elements, an RF SAW filter, thermal components and the TCXO crystal reference.

Combined with eRide's navigation software, the miniRide offer a complete and easy to integrate miniaturized GPS/AGPS solution.



Enabling Satellite Navigation

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