



OPUS ONE compactRide

32 Channel GPS/AGPS Receiver Module

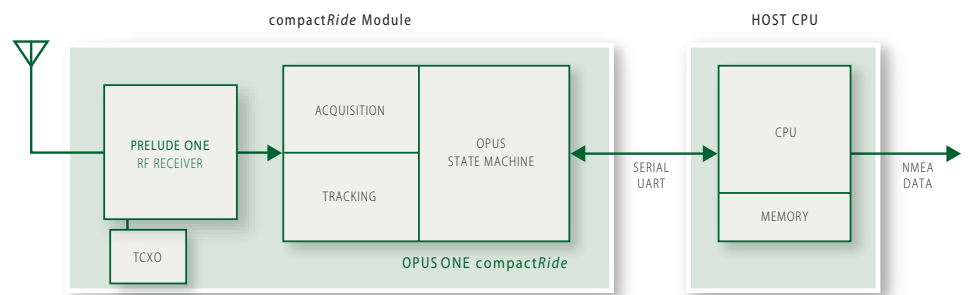


compactRide is a compact high-sensitivity, low-power GPS/AGPS module that integrates eRide's hardware measurement platform (MP) into a single, compact and easy to integrate SMD device. Combined with eRide's powerful navigation software running on a host microprocessor, the module offers a complete high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

compactRide 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 suitable for a broad spectrum of GPS applications where performance, cost and time to market are prime considerations.

FEATURES

- Versatile:** 32 channel receiver integrated module operates in Autonomous and Assisted-GPS mode
- Compact Size:** 14.0 x 18.5 mm small form factor SMD solution supports highly compact designs cost effectively
- Ultra-high Sensitivity:** -157 dBm sensitivity ensures position fix availability indoors, outdoors and in urban canyons
- Fast:** < 3 sec TTFF ensures user satisfaction
- Highly Accurate:** < 3 m outdoor, < 15 m indoor
- 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:** 125 mW power consumption typical 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 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

Receiver Type:	32 Channel Acquisition 8 Channel Tracking L1, C/A Code	
Maximum Update Rate:	1 Hz	
Position Accuracy:	Outdoors ¹ : < 3 m CEP Indoors ² : < 15 m CEP	
Start-up Times:	Hot Start:	Outdoors ¹ : < 2.5 sec Indoors ² : < 9 sec Warm Start: < 36 sec Cold Start: < 38 sec
Sensitivity:	Acquisition & Tracking: -157 dBm, 2.5 sec update rate ³ -155 dBm, 1 sec update rate ³	
Supply Voltage:	OPUS ONE Core: 1.2 V RF and I/O: 3.0 V	
Power Consumption:	Deep Sleep Mode: < 1 mW Search Mode: 180 mW Track Mode: Outdoors: 125 mW	Indoors: 160 mW
Operating Temperature:	-40°C to +85°C	
Package & Ordering:	18.5 mm (L) x 14.0 mm (W) x 2.5 mm (H) SMD Module with QFN Pattern Compatible with Pb-free solder processing P/N: eMD1000K, OPUS ONE compactRide Module	

HOST ENVIRONMENT

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

DATASHEETS 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.

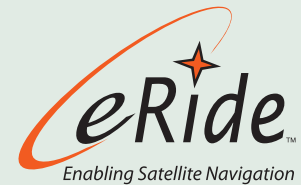
1. Outdoors: Simulator test with all signals at -130 dBm.
2. Indoors: Simulator test with all signals at -150 dBm.
3. With external active antenna.

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The compactRide module (eMD1000K) is housed in a 18.5 x 14.0 x 2.5 mm 20 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 compactRide offer a complete and easy to integrate miniaturized GPS/AGPS solution.



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