OPUS ONE

32 Channel GPS/AGPS Receiver Chipset

OPUS ONE is a miniature high-sensitivity, low-power GPS/AGPS receiver that combines a hardware measurement platform (MP) with powerful navigation software designed to run on a host microprocessor. It delivers fast, accurate positioning data in challenging locations like indoor environments and deep urban canyons.

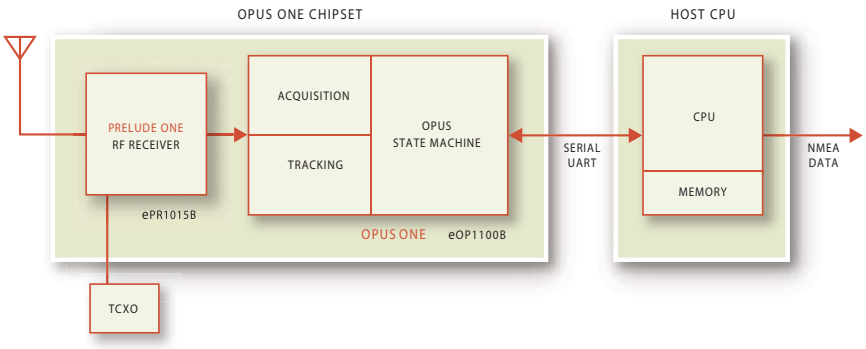
This MP chipset includes the **OPUS One Baseband IC** and the **Prelude One RF Receiver IC**. The navigation software leverages the resources of the host CPU, resulting in a GPS solution that offers less redundancy, lower power consumption, and unparalleled cost savings.

The Opus One baseband employs novel decoding algorithms, effectively achieving 44,000 correlators. Taking measurement data through a single input from the Prelude One, it supplies satellite measurement data to the host processor via a simple UART interface.

The Prelude One combines an LNA with an image-reject mixer/RF-AMP, a bandpass filter, an AGC, and a fully-integrated VCO/PLL.

FEATURES

Versatile:	32 channel receiver/baseband processor chipset operates in Autonomous and Assisted-GPS mode
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
Low Power:	110 mW power consumption while tracking, intelligent power management helps extend battery life in handheld products
Simple, Low cost:	Host based: leverages resources of host CPU and memory Navigation software runs in background, requires just 6 MIPS
Easy Integration:	Connects to host processor via serial port
Miniature Size:	13 x 18 mm total footprint supports miniaturized designs
Scalable:	Navigation software and drivers easily matched to memory footprint and processing power availability on host system



The Opus One chipset is a hosted solution, so it reduces system power consumption, eliminates redundant resources, and lowers costs. You also find that 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.

OPUS ONE

ePR1015B
eOP1100B

32 Channel GPS/AGPS Receiver Chipset

SPECIFICATIONS

Receiver Type:	32 Channel Acquisition 8 Channel Tracking L1, C/A Code
Maximum Update Rate:	1 Hz
Position Accuracy:	Outdoors[1]: < 7 m, 50% CEP, Open Sky[1] Indoors[2]: < 30 m, 50% CEP
Start-up Times:	Hot Start: Outdoors[1]: < 3 sec Indoors[2]: < 20 sec Warm Start: < 37 sec Cold Start: < 44 sec
Sensitivity:	Acquisition & Tracking: -157 dBm, 2.5 sec update rate -155 dBm, 1 sec update rate
Supply Voltage:	OPUS One Core: 1.2 V, I/O: 3.0 V Prelude One: 3.0 V
Power Consumption:	Deep Sleep Mode: < 99 µW Prelude One: 94 mW Opus One Search Mode: 80 mW Opus One Track Mode: Outdoors: 18 mW Indoors: 70 mW
Operating Temperature:	-40° to +85° C
Package & Ordering:	P/N: ePR1015B, RF Receiver IC: 5.0 x 5.0 x 0.8 mm, BCC32 P/N: eOP1100B, Baseband Processor: 7.0 x 7.0 x 0.8 mm, BCC48++

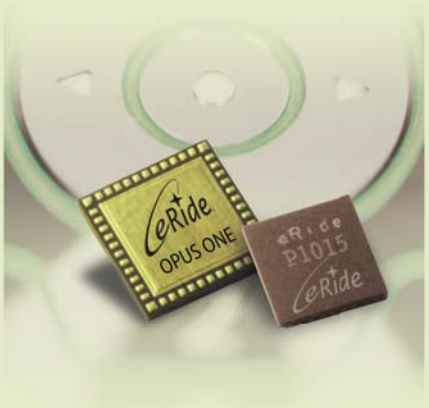
HOST ENVIRONMENT

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

DATA SHEETS 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 Opus One baseband chip (eOP1100B) is housed in a 7.0 x 7.0 x 0.8 mm BCC48++ package. The Prelude One RF chip (ePR1015B) is housed in a 5.0 x 5.0 x 0.8 mm BCC32 package.
Together with eRide's navigation software, they offer a complete GPS/AGPS solution.

eRide™

Enabling Satellite Navigation

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