



OPUS III

32 Channel GPS/AGPS and 2 Channel SBAS Receiver Chip Set



OPUS III 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.

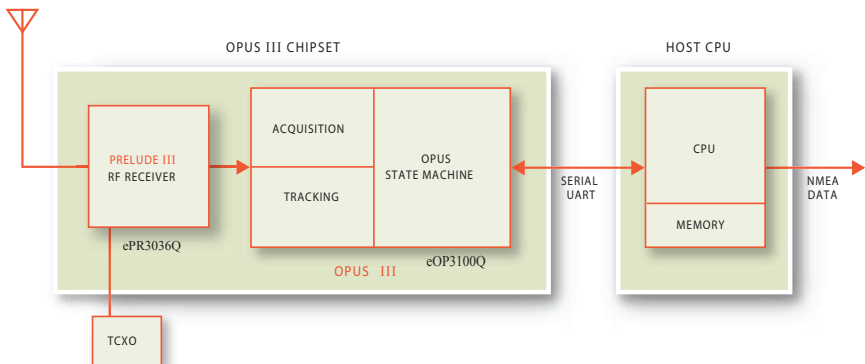
This MP chipset includes the **Opus III Baseband IC** and the **Prelude III, RF Receiver IC**. The navigation software leverages the resources of the host CPU, resulting in a GPS solution that offers less redundancy, lower power consumption, and unparalleled cost savings.

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

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

FEATURES

Versatile:	32 channel receiver/baseband processor chip set operates in Autonomous and Assisted-GPS mode and 2 Channel Real Time Differential GPS with SBAS (ie. EGNOS, WASS and MSAS).
Ultra-high sensitivity:	-161 dBm sensitivity ensures position fix availability indoors, outdoors and in urban canyons
Fast:	< 1 sec TTFF ensures user satisfaction
Highly accurate:	< 5 m outdoor, < 20 m indoor
Low power:	130 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 7 MIPS
Easy integration:	Connects to host processor via serial port
Miniature size:	13 x 17 mm total footprint supports miniaturized designs
Scalable:	Navigation software and drivers easily matched to bandwidth availability



The Opus III chip set 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.

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SPECIFICATIONS

Receiver Type:	L1, C/A Code 32 Channel Acquisition 12 Channel Tracking 2 Channel capable SBAS
Maximum Update Rate:	1 Hz
Position Accuracy:	Outdoors: < 5 m Indoors: < 20 m
Start-up Times:	Hot Start: Outdoors: < 1 sec Indoors: < 20 sec Warm Start: < 30 sec Cold Start: < 35 sec
Sensitivity:	Acquisition & Tracking: -161 dBm, variable update rate -155 dBm, 1 sec update rate
Supply Voltage:	Prelude III : 3.0v , Opus III : 1.2v
Power Consumption:	Deep Sleep Mode: < 99 μ W Prelude III : < 45mW * Opus III Search / Track Mode < 85 mW * * @ 100% Duty Cycle , Power Reduction via Power Management Possible
Operating Temperature:	-40° to +85°C
Package:	Baseband Processor: 7.0 x 7.0 x 0.8 mm, QFN48 RF Receiver IC: 5.0 x 5.0 x 0.75mm, T5U (QFN28)

HOST ENVIRONMENT

Host CPU Load:	5 – 7 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.



The Opus III baseband chip is housed in a 7.0 x 7.0 x 0.8 mm QFN48 package. The Prelude III RF chip is housed in a 5.0 x 5.0 x 0.75 mm QFN28 package. Together with eRide's navigation software, they offer a complete GPS/AGPS solution.



Satellite Navigation Technology

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