

## Features

- High-performance, low-power signal conditioning for GPS and spread spectrum communications
- FFT-based filtering provides best results for mitigating unintentional co-channel interference and narrowband jammers
- Less than 60 mW (continuous operation) to protect all current and planned civilian and military codes
- Less than 20 mW (continuous operation) to protect C/A-code
- Less than 5  $\mu$ s suspend/resume
- Near zero standby power
- Provides rapid response to time-varying interference
- Effective against multiple interference sources
- Easy integration into existing digital IF designs
- Portable to any technology library

## Benefits

- Improved acquisition and tracking in GPS receivers
- Improved performance in spread spectrum receivers



## **ADEPT GPS**

### ***Athena Digital Excision Processor Technology***

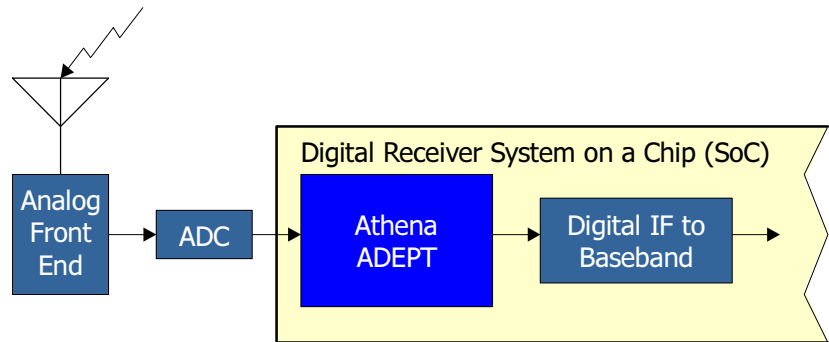
**The Athena Group delivers the world's lowest power anti-jam GPS applique as a small, power efficient IP core.** The first member of Athena's ADEPT™ family of ultra-low-power anti-jam (AJ) GPS pre-processors, the AD-2800, establishes the new standard for low-power narrowband AJ-GPS signal processing. The AD-2800 protects all current and planned GPS codes (C/A, P(Y), M, F) from multiple co-channel interference sources, processing a 50 million sample per second digital IF stream while using less than 60 mW of power. The second member of the ADEPT family, the AD-10200, will offer four times greater frequency resolution, allowing the suppression of even more interference sources than the AD-2800.

GPS has become a critical part of the information infrastructure, with applications ranging from military, to civil aviation, to emergency services. The ADEPT family of AJ-GPS processors addresses the need for greater GPS robustness in the face of demonstrated threats from both unintentional "industrial" signal sources and low-cost jammers. The ADEPT family of AJ-GPS processors can also be used for co-channel interference mitigation in spread spectrum communications, such as used in 3G cellular telephony.

The entire family of Athena digital signal processing (DSP) accelerator cores is designed specifically for computationally intensive system-on-a-chip (SoC) applications. Additional products are in development for the wireless and broadband communications markets. These new processors will join Athena's complete DSP semiconductor IP library designed for power-sensitive applications requiring extraordinary performance.

## Other Applications

- 3G cellular telephony
- Spread spectrum communications



**Figure 1: Block Diagram of ADEPT Application**

### Product Description

Figure 1 shows a block diagram of a typical ADEPT application. The ADEPT is placed before the digital IF to baseband processor in your digital receiver/baseband processor SoC to secure your application against narrowband interference. The ADEPT can be used full-time or, to save power, it can be bypassed and suspended.

Each ADEPT core package is delivered as a firm core optimized to any customer-specified library. The package includes the core, verification suites, timing and simulation models, and documentation.

Athena's IP cores are designed for efficient implementation and rapid delivery. The company's proprietary, wholly automated implementation and verification methodology produces synchronous, testable IP cores of the highest quality. All Athena IP cores achieve a score of 95% or better on the OpenMore scale of IP reusability.

### About The Athena Group, Inc.

The Athena Group, Inc. of Gainesville, Florida licenses high-performance DSP technology that delivers breakthrough performance, reduced area, and lower power consumption in a broad range of SoC products. Athena's proprietary technology powers leading edge applications such as secure e-commerce, wireless communications, and video compression. In addition to their high-value application level solutions, Athena also produces a full line of fundamental DSP functions suitable for SoC integration.

Athena was founded in 1986 and is privately held.



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