Features

- **ATR0640-EK users guide**
- **Evaluation board based on Atmel's GPS Chipset**
- **Ashtech® Evaluate Software for performance monitoring and data-logging**
- **An active, magnetic-based, GPS antenna with a 3 meter cable**
- **Cigarette lighter adapter**
- **110VAC – 12VDC power adapter**
- **Serial Cable**

Description

The ATR0640 GPS chipset is based on GPS technology licensed from Thales Navigation, a market leader in the GPS industry.

To ensure the ATR0640 chipset is right for your application, Atmel offers a low cost evaluation kit. The ATR0640-EK evaluation kit comes in a sturdy carrying case and provides all the tools necessary to evaluate the capabilities and performance of the ATR0640 chipset.

ATR0640-EK Evaluation Kit Contents

Atmel Baldur™ Evaluation Kit

ATR0640-EK

Preliminary

The GPS evaluation board is housed in a ruggedized plastic enclosure that can easily be used for bench characterization or driving over the road. LEDs are visible to monitor the current system state. Data is transferred via an RS232 serial cable from the evaluation board to the serial port on your PC via NMEA formatted messages. Every system comes with firmware already loaded into the receiver, ready to plug and play. A 12V DC input is all that is required to power the system.

Evaluation Board with Cover Removed

To evaluate the performance of the system, software is provided to monitor all aspects of the system operation in real-time or by reviewing a data-logged file of a previous trip for later analysis. The graphic display shows information such as satellite tracking, strength of signal, position, velocity and time.
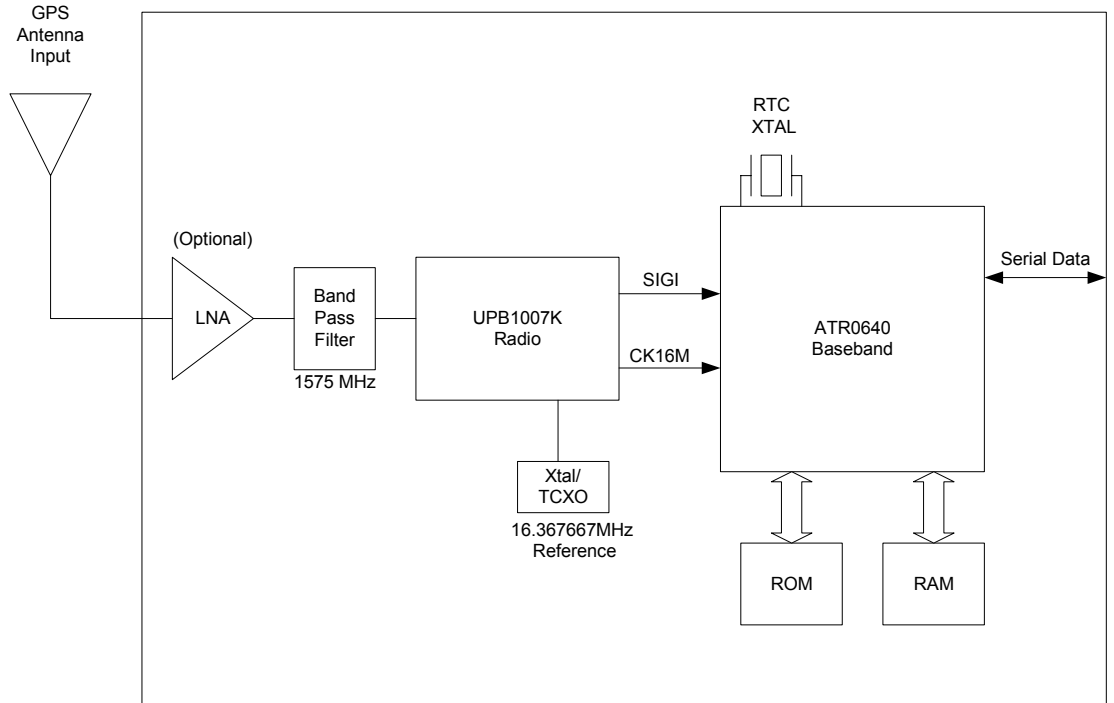
ATR0640-EK and Accessories

ATR0640 [Preliminary]

Specifications

Table 1. Specifications

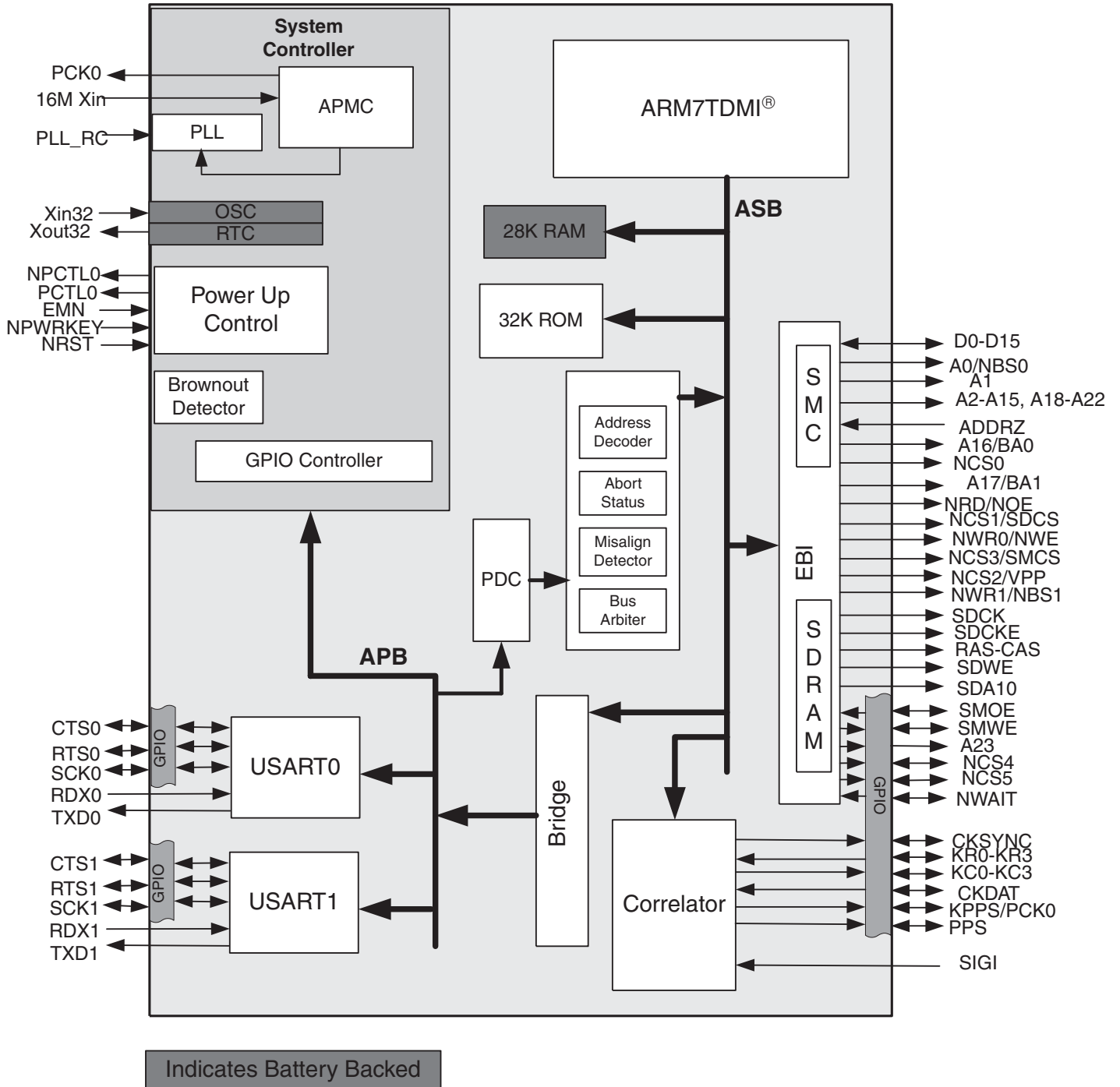| Characteristic	Details	Value
Position Accuracy	Autonomous (without corrections)	4.0m
	With WAAS/EGNOS/MSAS Corrections	2.0m
	With DGPS Corrections	1.0m
Acquisition Time	Typical Acquisition Time[1,2,3]	Hot Start < 10 sec Warm Start < 45 sec Cold Start < 150 sec
	Typical Reacquisition Time	< 1 sec
Dynamics	Sensitivity	–145 dBm
	Max. Velocity	425 m/s (951 mph)
	Altitude	–500m to +17,500m (–1600 to 57,400 ft)
	Data Output Rate	1 Hz
Communication	Standard NMEA–0183 V2.2 output messages	$GGA, $GSA, $ZDA, $RMC, $GLL, $GSV
Electrical Characteristics	Power (Reference Design)	35 mA, typ
	Voltage	2.7 – 3.3 VDC, I/O ring 1.8V ±5% core logic
	Back-up Power	< 12 µA @ 25 C
	GPS signal input, SIGI	400 mV p-p (min) 800 mV p-p (typ) 1.8V p-p (max) AC coupled
	Reference Clock Input	16.367667 MHz from RF section 400 mV p-p (min) 800 mV p-p (typ) 1.8V p-p (max) AC coupled

Notes: 1. Cold – No Time/Position/Ephemeris
2. Warm – Estimate of Time and/or Position, Collecting Ephemeris
3. Hot – Up-to-Date Time/Position/Ephemeris

ATR0640 Chipset Block Diagram

ATR0640 Baseband Block Diagram

Indicates Battery Backed

Ordering Information

Extended Type Number	Remarks
ATR0640-EK	Baldur™ Evaluation Kit

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