

Sierra Wireless AirPrime™ XM0110 GPS Module and Location Library for Open AT®

Optimized GPS solution for AirPrime Wireless Embedded Modules

The Sierra Wireless AirPrime™ XM0110 GPS module is a GPS solution specifically designed to offer the easiest and most optimized GPS feature integration for wireless applications using AirPrime Wireless Embedded Modules.

POWERFUL TECHNOLOGIES

Built upon CSR's SiRFstarIV™ GSD4t GPS receiver, the AirPrime XM0110 GPS module offers to extend the field-proven Sierra Wireless cellular connectivity with the latest GPS technology.

EASY HARDWARE INTEGRATION

The AirPrime XM0110 GPS module connects directly to the UART serial interface of the AirPrime module and can share its power supply, rendering hardware integration straightforward. The only external component required is the GPS antenna, either active or passive.

EASY SOFTWARE INTEGRATION

The AirPrime XM0110 ready-to-use GPS solution can be simply driven with AirPrime Embedded Module AT command extension for GPS and Assisted GPS. Alternatively, Sierra Wireless also provides a Location Library for Open AT® which eliminates the need for an external host processor for the customer application, reducing total solution cost and accelerating software development.

SMALL AND COST-EFFICIENT DESIGN

The AirPrime XM0110 GPS module is delivered in a compact (10 mm x 12.5 mm x 2.5 mm) and robust 16 pins castellation package for efficient manufacturing.

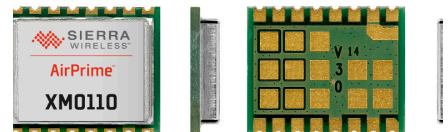
FUTURE PROOF SOLUTION

The GPS library and firmware, as well as the customer application software, can be remotely monitored and upgraded thanks to the device management solution Sierra Wireless AirPrime Management Services.



KEY BENEFITS:

- Fast and accurate location fixes
- Cost-optimized final product architecture
- Low power consumption
- Fast time-to-market
- Integrated autonomous and server based Assisted GPS
- Investment protection with over-the-air upgrades



Sierra Wireless AirPrime™ Wireless Embedded Modules AR Series

Technical Specifications

TECHNOLOGY

- SiRFstarIV™ GPS receiver
- 48 channels, 400,000 correlators
- GPS L1 frequency (1575.42 MHz). C/A code. SBAS (WAAS/EGNOS) support.
- Active anti-jamming. Jammers removed prior to correlation. Up to 8 CW in-band jammers, up to 80dB-Hz.

SENSITIVITY

- Tracking: -163dBm
- Navigation : -160dBm
- Acquisition : -158dBm (aided); -148dBm (autonomous)

TIME TO FIRST FIX*

- Hot Start: <1 second
- Aided Start : <4.7 seconds
- Cold Start: <35 seconds

ACCURACY

- Horizontal Position Accuracy (2): <2.5m
- Velocity Accuracy (3): <0.01m/s speed, <0.01° heading

POWER SUPPLY RANGE

- 1V8 to 5.25V. Power supply can be shared with AirPrime Embedded Module

POWER CONSUMPTION**

- Full Power 1Hz Tracking: <70 mW
- Low Power 1Hz Tracking: <10 mW
- Sleep Mode (maintaining permanent hot start conditions): <1mW
- Deep Sleep Mode: <30uA
- Compatible with AirPrime Embedded Modules low power mode

INTERFACES OPTIMIZED FOR AIRPRIME™ EMBEDDED MODULES

- Compatible with WMP100/150, SL6087, Q2686, Q2687 and Q26 Extreme
- UART or I2C Serial Interface to AirPrime module
- Inputs: Power on, Reset and 32kHz driven directly by AirPrime Embedded Module
- RF input supporting passive and active GPS antenna
- Outputs: PPS; LNA enable to control active antenna

AIRPRIME™ HOST SOFTWARE

- GPS AT commands extension for AirPrime Embedded Modules
- Location Library for Open AT® with generic GPS APIs
- Fully upgradeable over-the-air (Host Software and GPS chipset firmware)

ASSISTED GPS

- Autonomous SiRFInstantFix™ technology
- Server based SiRFInstantFix™ with up to 7 days Extended Ephemeris

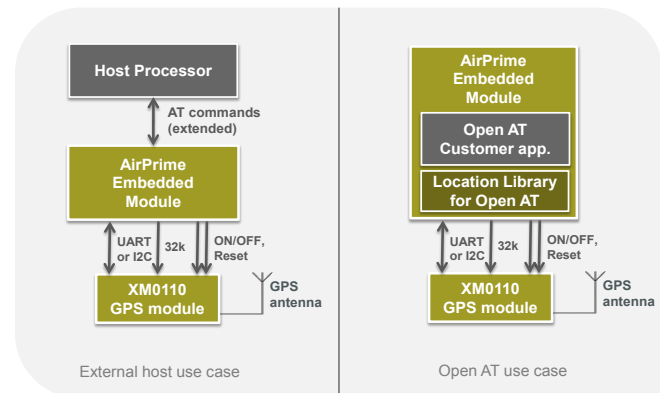
DIMENSIONS

- 10.0 mm x 12.5 mm x 2.5 mm
- 16 SMT pads (castellation). 1.5mm pitch

ENVIRONMENTAL

- Operating Temperature: -40 to 85° Celsius
- RoHs compliant

TYPICAL APPLICATION



Performances are target performances, to be confirmed by product qualification. * -130dBm. ** At 1V8 power supply.

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AirPrime™