Sierra Wireless AirPrime™ XM0110 GPS Module and Location Plug-In for Open AT®

Optimized GPS solution for AirPrime™ Intelligent 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™ Intelligent 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 Intelligent Embedded 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 Plug-In 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.
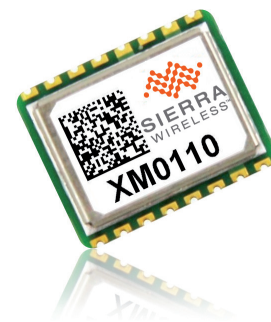
FUTURE PROOF SOLUTION
The GPS library and firmware, as well as the customer application software, can be remotely monitored and upgraded thanks to the device management solution Sierra Wireless AirVantage™ Management Services for AirPrime.

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

SiRF Powered
SiRFstarIV™

SIERRA WIRELESS™ | AirPrime™

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 WMP100/120/150, SL6087, Q2686, Q2687 and Q26Extreme
- UART Serial Interface to AirPrime™ Embedded 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 Plug-In for Open AT® with generic GPS APIs
- Fully upgradeable over-the-air (Host Software and GPS chipset firmware)

ASSISTED GPS

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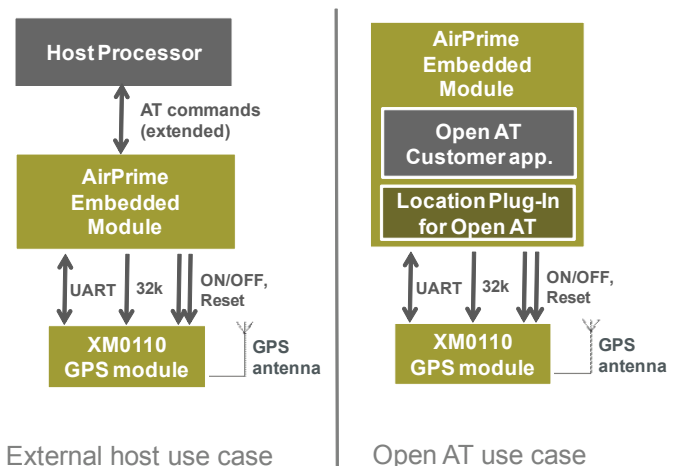- Server based SiRFInstantFix™ with up to 7 days Extended Ephemeris

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

External host use case

Open AT use case

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