maestro
GPS receiver

A5100-A

Positioning Product

GNSS Receiver Modules
Telematics Platforms
Vehicle / Asset tracking
Timing and Synchronization
Road & Traffic Management
Security & Surveillance
Insurance Telematics
Automotive
Personal trackers
Recreational devices
Mobile Gaming
Marine

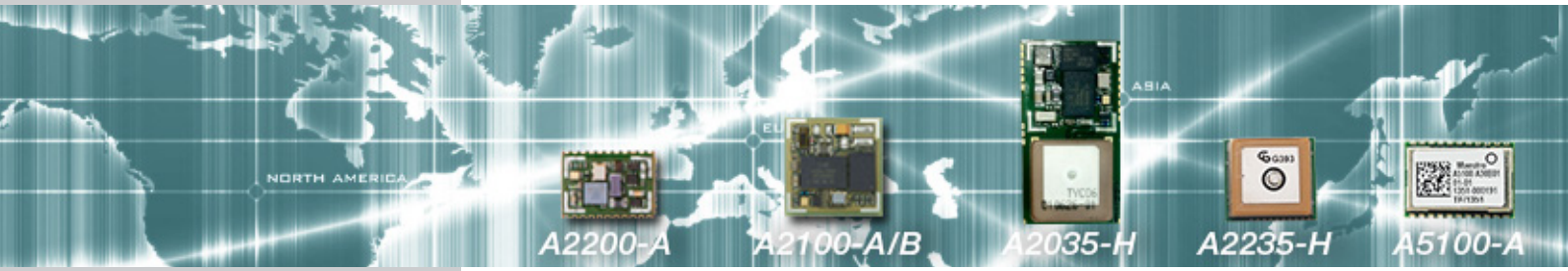
Concurrent GNSS Module:

The A5100-A is a compact high-sensitivity concurrent GNSS modules that integrates CSR's latest SiRFstarV technology into a single, compact and easy to integrate SMT device. By supporting simultaneous GLONASS, GPS, QZSS and SBAS measurements with the industry's best sensitivity engine, the highest accuracy, ground tracks and fastest time-to-first-fix (TTFF) are ensured even under tough operating conditions. The jammers removal algorithm not only facilitates integration in today's ever more complex communication devices, but guarantees performance even in hostile situations. SiRFaware's advanced low power management modes, high level of integration and multiple communication ports in a small form-factor makes the A5100-A suitable for a broad spectrum of GNSS applications where performance, cost and time to market are prime considerations.

Features	Benefits
GPS / GLONASS concurrent GNSS module	Improved availability and accuracy in urban canyon environments
BeiDou / Galileo ready	Future-proof design
Pin-to-pin compatible with A2200-A	Fastest design-in
Lowest tracking power consumption SiRFaware™ for constant Hot Start	Ideally suited for battery powered GPS applications

GNSS solutions for many applications

With the mission of facilitating our customers' implementation of GNSS functionality into their systems, Maestro Wireless Solutions offers a distinct product portfolio that addresses a wide area of applications. These range from traditional telematics solutions to latest highly integrated consumer devices, all of which dictate distinct requirements for GNSS modules. Based on SiRFstarIV and SiRFstarV chipsets, Maestro Wireless Solutions' GNSS module solutions address different specific needs and combine high performance, low power consumption, and simplified integration effort. Our modules comply with the RoHS standard, are submitted to tough reliability processes and are 100% test, both electrically and functionally prior to packaging, thereby guaranteeing the highest of quality products.



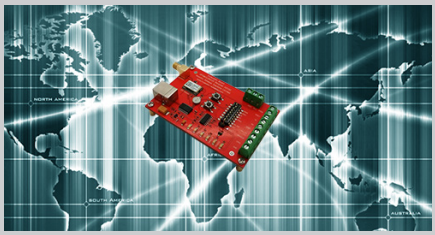
The A5100-A module is housed in a 15.0 x 10.2 x 2.5mm 22-pin SMD package with castellated edge that includes all RF matching elements, antenna DC control, RF SAW filtering, various thermal and peripheral components and the TCXO crystal reference.

Ordering information:

Part number: **A5100-A**
MOQ: 1 reel / 1300pcs

Evaluation Kit:

Part number: **EVA5100-A**
MOQ: 1 piece



Technical Details A5100-A

PERFORMANCE

Channels	52	
Frequency	LI - 1,575 MHz	
Sensitivity[1]	GPS	GLONASS
Tracking	- 165 dBm	- 163 dBm
Navigation	- 160 dBm	- 159 dBm
Acquisition (cold start)	- 147 dBm	
Position Accuracy[2] **(horizontal)**	< 2.5 m CEP (autonomous) < 2.0 m CEP SBAS	
Time To First Fix		
Hot Start[2]	< 1 s	
Warm Start[2]	< 30 s	
Cold Start[2]	< 35 s	
Navigation		
Update Rate	1 Hz / 5 Hz Supported	

COMMUNICATION

UART - OSP	
SiRFbinary protocol	Protocol for SiRFstar product family up to SSIII
Open Socket Protocol	Protocol extension for SiRFstarV
Baud rate Switchable	115.2k (default) 1,200 to 115.2k
Ports	Tx (Binary output) Rx (Binary input)
UART - NMEA (default)	
NMEA message Switchable	GGA, RMC, GSA, GSV, VTG, GLL, ZDA
Baud rate Switchable	1,200 to 115.2k Default 9600
Ports	Tx (NMEA output) Rx (NMEA input)

HIGHLIGHTS

SiRFnav™	High availability and coverage; improved TTFF in weak signal environments
SiRFaware™	Keeps module in a state of readiness for rapid navigation (hot start)
Jammer remover technology	Detects and removes up to 8 in-band jammers with minimal loss of sensitivity
A-GPS	Embedded Extended Ephemeris (SiRFInstantFix) and Ephemeris Push support
MEMS I2C interface	Prepared to use additional sensor information for improved navigation

POWER

Supply voltage	3.0 to 3.6 VDC
Average Current Draw	(typical)
Full power mode (Searching) Peak Current	40mA
Full power mode (Searching) Average Current	37mA
Full power mode (Tracking) Average Current	31mA
Micro Power Mode (SiRFawareTM)	300uA
Hibernate Status	180uA

MECHANICAL

Dimensions	
L x W x H	15 x 10.2 x 2.5 mm
L x W x H	0.59" x 0.4" x 0.1"
Weight	1.2 g / 0.04 oz.

ENVIRONMENT

Temperature	
Operating	-40°C to +85°C
Storage	-40°C to +85°C
Humidity	Non condensing

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