



## 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. 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

GPS / GLONASS  
concurrent GNSS module

BeiDou / Galileo ready

Pin-to-pin compatible with A2200-A

Lowest tracking power consumption

#### Benefits

■ Improved availability and accuracy in urban canyon environments

■ Future-proof design

■ Fastest design-in

■ 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

<b>Channels</b>	52	
<b>Frequency</b>	L1 - 1,575 MHz	
<b>Sensitivity<sup>1</sup></b>	GPS	GLONASS
Tracking	- 165 dBm	- 163 dBm
Navigation	- 160 dBm	- 159 dBm
Acquisition (cold start)	- 147 dBm	
<b>Position Accuracy<sup>2)</sup> (horizontal)</b>	< 2.5 m CEP (autonomous) < 2.0 m CEP SBAS	
<b>Time To First Fix</b>		
Hot Start <sup>2)</sup>	< 1 s	
Warm Start <sup>2)</sup>	< 30 s	
Cold Start <sup>2)</sup>	< 35 s	
<b>Navigation</b>		
Update Rate	1 Hz	

### COMMUNICATION

<b>UART - OSP</b>	
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)
<b>UART - NMEA (default)</b>	
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

<b>SiRFnav™</b>	High availability and coverage; improved TTFF in weak signal environments
<b>Jammer remover technology</b>	Detects and removes up to 8 in-band jammers with minimal loss of sensitivity
<b>A-GPS</b>	Embedded Extended Ephemeris (SiRFInstantFix) and Ephemeris Push support
<b>MEMS I2C interface</b>	Prepared to use additional sensor information for improved navigation

### POWER CONSUMPTION GPS + GLONASS

<b>Supply voltage</b>	3.0 to 3.6 VDC
<b>Average Current Draw</b>	(typical) in LDO mode
Full power mode (Searching) Peak Current	40mA
Full power mode (Searching) Average Current	34mA
Full power mode (Tracking) Average Current	28mA
Trickle Power Mode	10mA
Hibernate Status	60uA

### MECHANICAL

<b>Dimensions</b>	
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"
<b>Weight</b>	1.2 g / 0.04 oz.

### ENVIRONMENT

<b>Temperature</b>	
Operating	-40°C to +85°C
Storage	-40°C to +85°C
<b>Humidity</b>	Non condensing

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