maestro
GPS receiver

A2200-A

GPS Receiver Modules
Smart GPS Antenna Modules
Telematics Platforms

SiRFstarIV - GPS Module:
The Answer to All Challenges

The A2200 GPS modules enable fastest acquisition and tracking with the latest SiRFstarIV technology. In any case the module fully answers the demand for lowest power consumption with – amongst other features – SiRFaware™ technology. The removal of jammers does not only facilitate designs of new products, but guarantees operation even in hostile environments. Highest sensitivity, during acquisition or while tracking, allows for use in many different environments and under toughest conditions.

Features	**Benefits**
Complete GPS module Jamming detection and removal	Easy integration Minimal BOM
Direct passive antenna support	Fastest design-in
Best acquisition sensitivity Lowest tracking power consumtion SiRFaware™ for constant Hot Start	Ideally suited for all small battery powered GPS applications

GPS Solutions for Many Applications

With the mission to support our customers in implementing GPS functionality into their systems, Maestro Wireless Solutions is offering a distinct product portfolio to address a wide area of applications. These range from traditional telematics solutions to latest highly integrated consumer devices, all of them having their special requirements towards a GPS module. Based on SiRFstarIII and now also SiRFstarIV chip sets, Maestro Wireless Solutions GPS module solutions address different specific needs and combine high performance, low power consumption, and simplified integration effort. Our modules comply with the RoHS standard and are 100% electrically and functionally tested prior to packaging, thereby assuring the guarantee of the highest quality products.

A2200-A   A1084-A/B   A2100-A/B   A1090-A/B   A1035-H   A2035-H

Technical Details A2200-A

PERFORMANCE

Channels	48
Correlators	~ 400,000
Frequency	LI - 1,575 MHz
Sensitivity[1]	
Tracking	- 163 dBm
Navigation	- 160 dBm
Acquisition (cold start)	- 148 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]	< 35 s
Cold Start[2]	< 35 s

COMMUNICATION

UART - NMEA (Default)	
NMEA message Switchable	GGA, RMC, GSA, GSV, VTG, GLL, ZDA
Baud rate Switchable	4,800 (default) 1,200 to 115.2k
Ports	Tx (NMEA output) Rx (NMEA input)
UART - SiRF Specific SSB/OSP	
SiRFbinary protocol	Protocol for SiRFstar product family up to SSIII
Open Socket Protocol	Protocol extension for SiRFstarIV
Baud rate Switchable	57.6k (default) 1,200 to 115.2k
Ports	Tx (Binary output) Rx (Binary input)
SPI - NMEA/SiRF Specific	
Clock	Up to 6.8 MHz
Ports	DO (NMEA / Binary output) DI (NMEA / Binary input) SPI CLK (clock - input) SPI CS (chip select - 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 (SiRFInstantFix1) 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)	55 mA
Full Power Mode (tracking)	43 mA
Trickle Power Mode (1Hz)	12.9mA
PTF Mode	350 µA
MPM/SiRFaware Mode	39 µA
Hibernate Mode	28 µA
Antenna supply via Vant	up to 6.8 MHz
Voltage range	up to 5.0V
Max. allowed current[3]	50 mA

MECHANICAL

Dimensions	
L x W x H	14 x 10.2 x 2.5 mm^3
L x W x H	0.55" x 0.4" x 0.1"
Weight	0.6 g / 0.02 oz.

ENVIRONMENT

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

1) With best matched antenna
2) All SVs with -130dBm

3) External current limiter suggested

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