Vincotech
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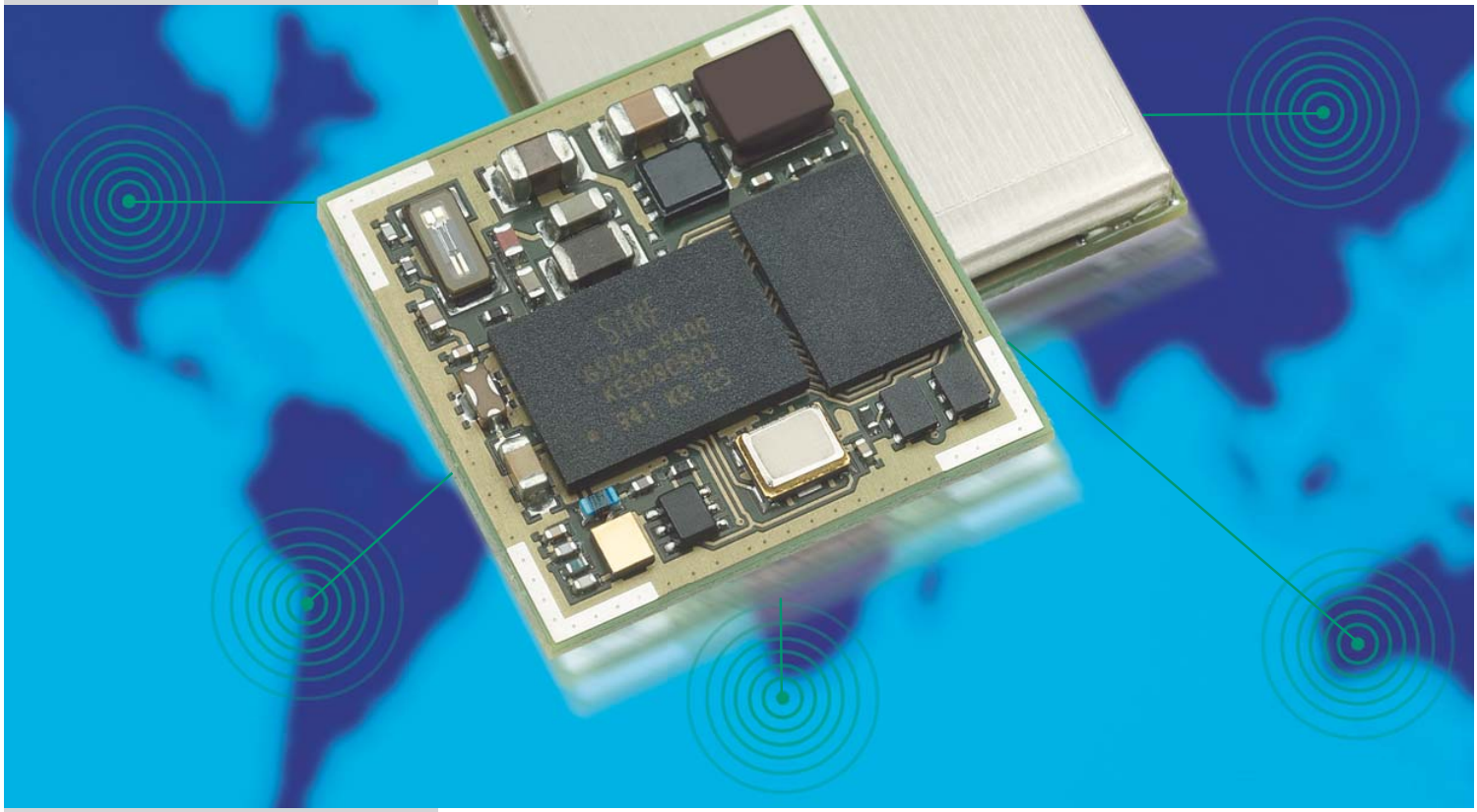


A2100-A/B

Positioning Products

GPS Receiver Modules
Smart GPS Antenna Modules
Telematics Platforms

SiRFstarIV GPS Module: The Answer to All Challenges

The A2100 GPS modules enable fastest acquisition and tracking with the latest SiRFstarIV technology. With module versions supporting either 3.3V or 1.8V there is an appropriate solution for all telematics and power-sensitive mobile consumer application devices. 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 Direct passive antenna support Jamming detection and removal	Easy integration Fastest design-in Minimal BOM
Flash-based design	Configuration / Firmware update
Best acquisition sensitivity Lowest tracking power consumption SiRFaware™ for constant Hot Start	Ideally suited for all small battery powered GPS applications

SiRF A CSR plc Company Powered SiRFstarIV™

GPS Solutions for Many Applications

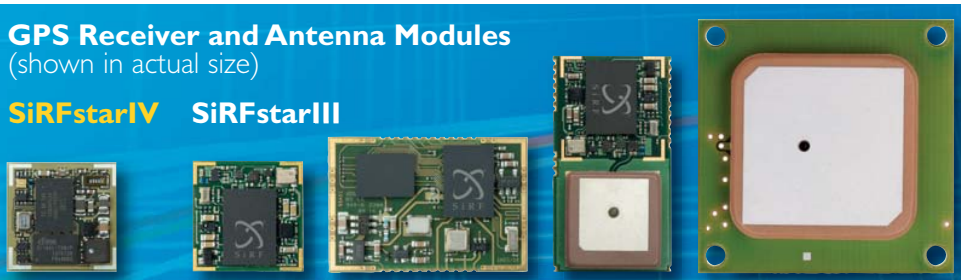
With the mission to support our customers in implementing GPS functionality into their systems, Vincotech is offering a distinct product portfolio to address a wide area of applications. These range from traditional telematics solutions to latest highly integrated consumer devices, all of them having their special requirements towards a GPS module. Based on SiRFstarIII and now also SiRFstarIV chip sets, Vincotech 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.

Telematics Unit with A2100 inside

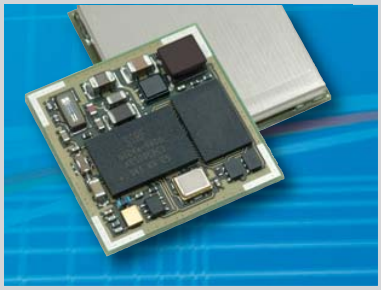
A1091

GPS Receiver and Antenna Modules
(shown in actual size)

SiRFstarIV **SiRFstarIII**



A2100 A1084 A1088-A A1035-H A1035-D



Technical Details A2100-A/B

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]	< 32 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 (in preparation for A/B)	
Clock	Up to 6.8 MHz
Ports	DO (NMEA / Binary output) DI (NMEA / Binary input) SPI CLK (clock - input) SPI CS (chip select - input)
I2C - NMEA/SiRF Specific (in preparation for B)	
Clock	Up to 400 kbps
Ports	I2C DIO (NMEA / Binary input / output) I2C CLK (clock - input)

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

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
Flash-based design	Prepared to store configuration and calibration data and to allow firmware updates

POWER

Supply voltage	3.0 to 3.6 VDC [A2100-A] 1.7 to 1.9 VDC [A2100-B]
Power consumption	(typical)
Fully tracking	47 mW
Trickle Power Mode (1Hz)	8 mW
SiRFaware™ Mode	500 µW
Hibernate Mode	30 µW
Antenna supply via Vant	
Voltage range	up to 5.0 V
Max. allowed current[3]	50 mA

MECHANICAL

Dimensions	
L x W x H	15.2 x 15.2 x 2.4 mm³
L x W x H	0.6" x 0.6" 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

3) External current limiter suggested

YOUR PARTNER

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