

## A1080-A/B

### Positioning Product

## Benchmarking GPS performance

Developed to set the benchmark in GPS performance and power consumption, this SiRFStar III-based GPS receiver is ideally suited for every kind of positioning application. It offers a small footprint and its design supports fast integration. Half-vias allow for easy AOI during the assembly process. Just connect an antenna and a power supply to receive your position! Fastest start-up behaviour and various power save modes additionally contribute to the extension of the lifetime of battery-powered devices.

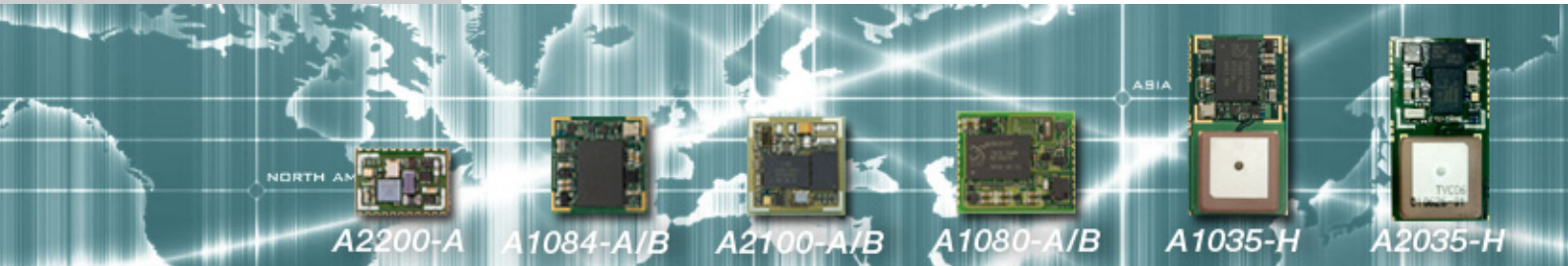
#### Features

#### Benefits

Bench marking sensitivity	■	-159 dBm tracking
Fasted TTFF (Time To First Fix)	■	< 35 s under cold start condition (typical)
Very small footprint	■	19 x 16 mm <sup>2</sup>
Ultra-low power consumption	■	76 mW average in tracking mode
Most accurate position	■	2 m CEP with SBAS support

# Positioning Receiver Portfolio

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.



## GPS Receivers

	Supply voltage / V	Current draw @ 1fix per sec / mA	Operating temperature / °C	Low Power Mode	Trickle Power	Low Power Mode Push-To-Fix	Low Power Mode Keep Ephemeris Alive	AGPS Ephemeris Push	Active antenna	Passive antenna	2nd antenna input	Antenna switch	Firmware update (Flash)	ROM	SBAS support	Back-up battery option	Shielding lid	Sensor Interface	Size / mm <sup>2</sup>
A1080-A	3.3	23	-30/85	■	■		■	■	■	■	■	■	■	■	■	■			19x16
A1080-B	3.3	23	-40/85	■	■		■	■	■	■	■	■	■	■	■	■			19x16
A1084-A	3.3	26	-30/85	■	■		■	■	■	■	■	■	■	■	■	■	■		15x15
A1084-B	3.3	26	-30/85	■	■		■	■	■	■	■	■	■	■	■	■	■		15x15
A2100-A	3.3	32	-40/85	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	15x15
A2100-B	1.8	64	-40/85	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	15x15

## GPS Receiver w/ Smart Antenna

A1035-H

	Antenna Type	Circular polarisation	Linear polarisation	SMD solderable	External antenna pin	Shielding lid	Size / mm <sup>2</sup>	Based on GPS receiver
A1035-H	patch	■		■	■	■	30x17	A1080-A

## Technical Details A1080-A/B

### PERFORMANCE

<b>Channels</b>	20 parallel tracking
<b>Correlators</b>	200,000 plus
<b>Frequency</b>	L1 - 1,575 MHz
<b>Sensitivity</b>	
Tracking	- 159 dBm
Acquisition (cold start)	- 142 dBm
<b>Position Accuracy (horizontal)</b>	< 2.5 m CEP (autonomous) < 2.0 m CEP SBAS
<b>Time To First Fix</b>	
Hot Start <sup>1)</sup>	< 1 s
Warm Start <sup>2)</sup>	< 32 s
Cold Start <sup>3)</sup>	< 35 s

### COMMUNICATION

Standard GPS software	
NMEA message Switchable	GGA, GSA, GSV, VTG, RMC, GLL
Baud rate	4,800 (default) to 115,200
<b>Serial ports</b>	3.3 V CMOS compatible
Tx0	NMEA output
Rx0	NMEA input

### ENVIRONMENT

<b>Temperature</b>	
Operating A1080-A	-30°C to +85°C
Operating A1080-B	-40°C to +85°C
Storage	-40°C to +85°C
<b>Humidity</b>	Non condensing

### POWER

<b>Input voltage</b>	3.0 to 3.6 VDC
<b>Current draw</b>	
Acquisition	28 mA (typical)
Tracking	23 mA (typical)
Standby	20 µA (typical)
<b>Antenna supply via Vant</b>	
Voltage range	up to 5.0V
Max. allowed current <sup>4)</sup>	50 mA

### MECHANICAL

<b>Dimensions</b>	
L x W x H	16.2 x 19.0 x 2.4 mm <sup>3</sup>
L x W x H	0.64" x 0.75" x 0.095"
<b>Weight</b>	1.2 g / 0.042 oz.

1) The receiver has estimates of time/date/position and valid almanac and ephemeris data.  
2) The receiver has estimates of time/date/position and almanac.  
3) The receiver has no estimate of time/date/position, and no recent almanac.  
4) An external current limiter is suggested to avoid damage in fault conditions

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