

Positioning Products

Get your Position!

AI080-A Full NMEA GPS Module

Developed for indoor use and based on the SiRF Star III low power chip, the AI080-A is a benchmark not only in sensitivity and power consumption. Pin-to-pin compatible with the Vincotech AI037-A GPS module, the AI080-A guarantees smallest footprint and easy implementation even in handheld devices and other space-optimized battery powered applications. Get your Evaluation Kit and check the outstanding performance of Vincotech's AI080-A!

- 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
- Ultra-low power consumption ■ 31 mA average tracking current
- SBAS support ■ For most accurate position calculation

Positioning Receiver Portfolio

With the mission to support customers in implementing GPS functionality into their systems, Vincotech is offering a large product portfolio covering almost all integration possibilities in an easy way. A dedicated R&D team located in Ottobrunn, Germany, develops sensitive positioning solutions based on state of the art technologies. All GPS products are manufactured in our ISO9001 and TS16949 certified factory inside the EU. Our modules comply with the RoHS standard and are 100% electrically and functionally tested prior packaging. This way we constantly guarantee high quality products.



PRODUCTS SHOWN IN ACTUAL SIZE



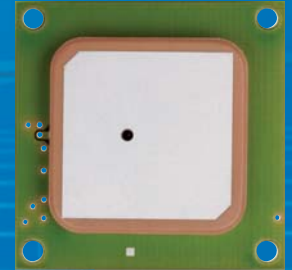
AI029-C



AI080-A/B



AI082-A



AI035-D

	I PPS	Antenna active	Antenna passive	Antenne status detection	Assisted GPS	Connection plug-in	Connection solderable	Dead reckoning	Differential GPS	RTCM input	Flash, programmable	GPIO	GPS/UTC raw data	I2C interface	Memory free flash (byte)	free SRAM	Power Management Mode	Processor:	available power	ROM	SBAS support	Size (mm)	SPI interface	UART NMEA	UTM projection
AI029-C	■	■	■	■	■		■	■	■	■	■	■	■	■	80k/16k			3 MIPS			■	28 × 22 × 3.2	■	■	■
AI029-D	■	■	■	■	■	■		■	■	■	■	■	■	■	80k/16k			3 MIPS			■	46 × 33 × 4.5		■	■
AI080-A/B	■	■					■				■						■				■	19 × 16 × 2.4		■	
AI082-A	■	■			■		■													■		15 × 11 × 2.4		■	
AI035-D	■	■				■											■				■	35.6 × 35.6 × 8		■	

■

 Standard firmware: revision 1xx

■

 Standard firmware: revision 2xx

■

 With custom firmware support

Technical Details AI080-A

PERFORMANCE

Channels	20 parallel tracking
Correlators	200,000 plus
Frequency	L1 - 1,575 MHz
Sensitivity	
Tracking	-159 dBm
Acquisition (cold start)	-142 dBm
Position accuracy (horizontal)	< 2.5 m CEP autonomous < 2.0 m CEP SBAS
Time to first fix	
Hot start ¹⁾	< 1 s
Warm start ²⁾	< 32 s
Cold ³⁾	< 35 s

COMMUNICATIONS

Standard GPS software	
NMEA message switchable	GGA, GSA, GSV, VTG, RMC, GLL
Baudrate (in baud)	4800 (default) to 115,200
Serial ports	3.3V CMOS compatible
Tx0	NMEA output
Rx0	NMEA input

ENVIRONMENT

Temperature	
Operating	-30°C to +85°C
Storage	-40°C to +85°C
Humidity	Non-condensing

POWER

Input voltage	3.0 to 3.6 VDC
Current draw	
Average acquisition	36 mA (typical)
Tracking	31 mA (typical)
Standby	20 µA (typical)
Antenna supply via VANT	
Voltage range	up to 5.0 V
Max. allowed current ⁴⁾	50 mA

MECHANICALS

Dimensions	16.2mm x 19mm x 2.4mm 0.75" x 0.64" x 0.095"
Weight	1g < 0.05 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.

YOUR PARTNER

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