

Get your Position!



A1035 Smart

GPS Antenna Modules

The A1035 antenna module family is based on Tyco's GPS receiver A1029-A incorporating STMicroelectronics' STA2051 base-band chip and SiGe's SE4100L downconverter. The family comprises three modules for different kind of applications: Automotive, Bluetooth and Consumer. All modules offer an antenna for optimum signal reception and performance. The A1035-A takes advantage of the integral CAN controller within the STA2051. A CAN transceiver and an RS232 interface allow the transmission of position, velocity and time information over long distance in a cost-effective way. In combination with a wide voltage input range this module is ideally suited for automotive applications. The Bluetooth version A1035-B is optimized for use in navigation applications. With the Bluetooth stack running in the STA2051 and the integration of the STLC2500 Bluetooth RF frontend module this combination provides the most integrated solution transmitting the PVT information via SPP protocol stack. Finally the consumer version A1035-C is addressing telematics applications where a board-to-board or cable connection to a smart antenna module is required. Information can be exchanged via UART or SPI on CMOS TTL level.

- Samples and off-the-shelf smart antenna solutions
- Optimized designs for different applications (OEM versions)
- Cost-efficient, fast and easy system integration
- Best performance due to perfect trimming
- Ultra-low power consumption
- SBAS (WAAS/EGNOS/MSAS) support

Performance

Channels	12 parallel tracking
Frequency	L1 - 1575 MHz
Position Accuracy	
Stand alone	3 m CEP, SA off
Differential ¹	< 1 m CEP
Time To First Fix	
Obscuration recovery ²	1 s
Hot start ³	< 3 s
Warm start ⁴	< 32 s
Autonomous/Cold ⁵	< 60 s (Std.), < 45 s (TCXO)
Power-off start ⁶	varying



Example only, A 1035-A module comes without housing

Environment

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

1) Assumes a benign multipath environment and differential corrections once per second.
 2) The receiver's calibrated clock is not stopped, thus it knows precise time (to the μ s level).
 3) The receiver has estimates of time/date/position and valid almanac and ephemeris data.
 4) The receiver has estimates of time/date/position and almanac.
 5) The receiver has no estimate of time/date/position, and no recent almanac.
 6) Receiver is powered-off, clock stops. Start-up time depends on time to power on and power-on location.

A1035-A

Dimensions	60 mm x 36 mm x 11 mm (appr.) 2.36" x 1.42" x 0.43" (appr.)
Weight	24 g, 1.2 oz (appr.)
Power	7 V to 30 V
Connector	9 pin cable connector with Power/GND, CANbus and RS232
Protocols	Proprietary or custom specific on CANbus (PVT), NMEA (GGA, GSA, GSV, RMC, VTG) on RS232

A1035-B

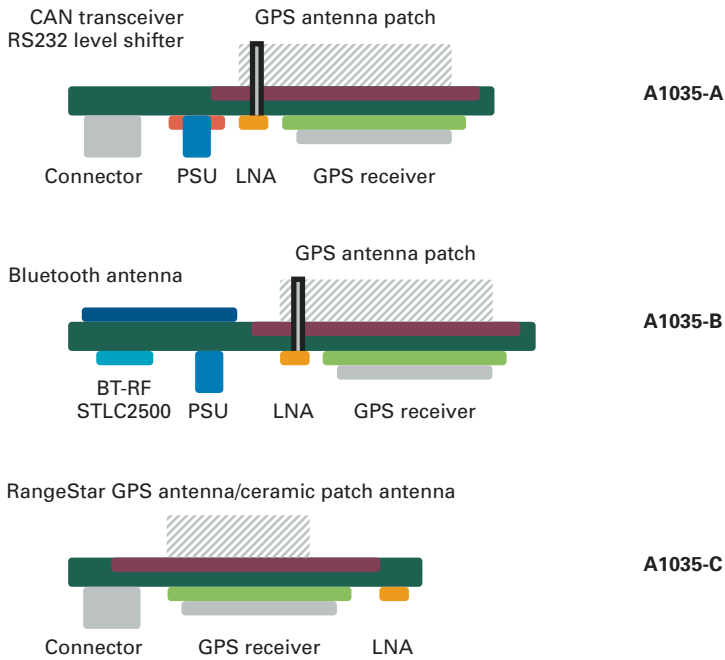
Dimensions	60 mm x 36 mm x 11 mm 2.36" x 1.42" x 0.43"
Weight	13 g, 0.6 oz (appr.)
Power	5 V regulated
Connector	2 solder pads
Protocols	SPP 1.1 with NMEA (GGA, GSA, GSV, RMC, VTG)

A1035-C

Dimensions	35.6 mm x 35.6 mm x 11 mm (appr.) 1.4" x 1.4" x 0.43" (appr.)
Weight	11 g, 0.5 oz (appr.)
Power	3.3 V ± 5%
Connector	9 pin board-to-board or cable connector with Power/GND, UART and SPI on CMOS TTL
Protocols	Proprietary or custom specific on SPI (PVT), NMEA (GGA, GSA, GSV, RMC, VTG)

Products

A1035-A	GPS antenna module for automotive applications (12V PWR, CANbus)
DK1035-A	Demo kit for above with CD, cable set
A1035-B	GPS antenna module with Bluetooth interface (5V PWR)
DK1035-B	Demo kit for above with CD
A1035-C	GPS antenna module (CMOS TTL PWR)
DK1035-C	Demo kit for above with CD, cable set



ANTENNA PRINCIPLES

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**Tyco Electronics
Power Systems**
Finsinger Feld 1
85521 Ottobrunn, Germany
Tel.: +49 (0)89 6089-838
Fax: +49 (0)89 6089-835
gps@tycoelectronics.com
www.tycoelectronics.com/gps

Your Partner:

tyco
Electronics