habsupplies

HAB-GPSPI+-ASSY

Raspberry Pi+ GPS Expansion Board Datasheet

Description

The HAB Supplies Raspberry Pi+ GPS Expansion Board is a Ublox MAX-M8Q GPS expansion board designed for the Raspberry Pi+ boards. Featuring PPS and POWER LED's, battery backup ability to store settings and PPS to permit the use of the module for PPS disciplined NTP servers.

Pin Configurations

Pin	Raspberry Pi Name	HAB-GPSPI+-ASSY
01	3.3V DC Power	3.3V DC Power
03	GPIO02(SDA1,I2C)	UBLOX MAX-M8Q SDA*
05	GPIO03(SCL1,I2C)	UBLOX MAX-M8Q SCL*
08	GPIO14(TXD0)	UBLOX MAX-M8Q RXD
10	GPIO15(RXD0)	UBLOX MAX-M8Q TXD
12	GPIO18(GPIO_GEN1)	UBLOX MAX-M8Q TIME PULSE

* I2C currently not supported as the Raspberry Pi doesn't support clock stretching which is required by the Ublox module.

Board Specifications

Weight	16g
Battery	CR2032 Lithium 3V Cell
Connector Pitch	2.54mm pitch Raspberry Pi 2x20 Header.
Default baud rate	9600bps
Power Usage (from 3.3V)	Acquire 25mA / Tracking 21mA / Cyclic PSM Mode 9mA

Board Absolute Maximums

Operating Temperature -40°C to +85°C

Other parameters and GPS Performance as per Ublox Datasheet here :
http://www.u-blox.com/images/downloads/Product_Docs/MAX-M8_DataSheet_%28UBX-13004644%29.pdf

Operation Above 12km

To enable operation above 12km altitude the module must be placed in Airborne dynamic model. See the Ublox Receiver Description Protocol Specification here :

http://www.u-blox.com/images/downloads/Product_Docs/u-bloxM8_ReceiverDescriptionProtocolSpec_(UBX-13003221)_Public.pdf

Using Battery Backup

Most people won't need to use the battery backup. As per the Ublox datasheet if unused the battery connection is connected via a jumper to VCC. The battery aids hot/warm starts and allows the MAX-M8Q module to store settings. If you wish to use the battery you must remove the solder jumper (just run an iron across the jumper and the solder should lift off).

Disclaimer

All HAB Supplies products are sold as test equipment with no guarantees of performance or operation, they are intended for engineering, research or lab use only not for use in production or commercial systems.

Our products should be used only in testing environments and at your own risk and discretion.

Installation

The board goes battery side up :

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