HAB-BO-M8Q

u-blox MAX-M8Q Breakout With Maruwa SL1252R Antenna with SAW/LNA

Description

The Uputronics u-blox MAX-M8Q Breakout with Maruwa (formerly Sarantel) SL-1252R Antenna permits the connection of the Ublox MAX-M8Q GPS module to a microcontroller.

The level converted version is designed to allow a 5V microcontrollers such as the Arduino to interface with the 3.3V u-blox MAX-M8Q GPS module. The level convertors to prevent damage to the GPS module and a regulated power supply is provided to ensure clean power supply to the GPS module.

On the 5V version the board needs to be enabled before it will work. This means you can safely leave the module connected to the Arduino RX/TX pins when programming the Arduino. To enable the board either connect the EN pin to a digital I/O and set it high or connect EN to the 5V line.

Pin Configurations

SCL	I²C Clock Line.
SDA	I²C Data Line.
TX	Serial TX Line. Connect to microcontroller RX line.
RX	Serial RX. Connect to microcontroller TX line.
EN	Enable pin. Connect to 5V to enable the module. Not connected on 3V boards.
TP	Time Pulse Output. When Locked the GPS will output a 1hz pulse to this pin.
VCC	3/5V Supply Pin.Only 5V on boards with suitable level convertors.
GND	GND

Board Specifications

Weight	10g
Battery	1216 Lithium 3V Cell
Connector Pitch	2.54mm
Default baud rate	9600bps
Power Usage (from 5V Line)	Acquire 25mA / Tracking 21mA / Cyclic PSM Mode 6mA

Board Absolute Maximums

3V Board VCC Max Voltage	3.6V
5V Board VCC Max Voltage	30V
Operating Temperature	-40°C to +85°C

GPS Performance

Data obtained from u-blox M8Q GPS/GNSS Module Data sheet:

https://www.u-blox.com/sites/default/files/MAX-M8_DataSheet_%28UBX-13004644%29.pdf

Parameter	Specification		
Antenna Type	Maruwa SL1252R	Quadfilar Helical	
Receiver Type	56 Channels GPS L1C/A SBAS L1C/A QZSS L1C/A		
Time To First Fix	Cold Start Warm Start Hot Start	29s 28s 1s	
Horizontal Position accuracy	2.5m		
Max Navigation Rate	10Hz		
Frequency of Time Pulse	0.25Hz -> 10Mhz		Configurable.
Operational Limits	Dynamics Altitude Velocity	< 4G 50,000m / 164000 feet 500m/s / 1118 mph	**These figures assume Airborne < 4g dynamic model.**

Disclaimer

All Uputronics 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.