Gboard

-GSM/GPRS/Wireless dev platform based on Arduino

Overview

Gboard is a unique Arduino board which features a SIM900 GSM/GPRS module, an XBee socket, nRF24L01+ module interface and an ATMega328P controller. This board will add wireless XBee / nRF24L01+ control as well as GSM/GPRS connectivity to your projects. It's great for anything from home automation to robot control. The possibilities are endless!
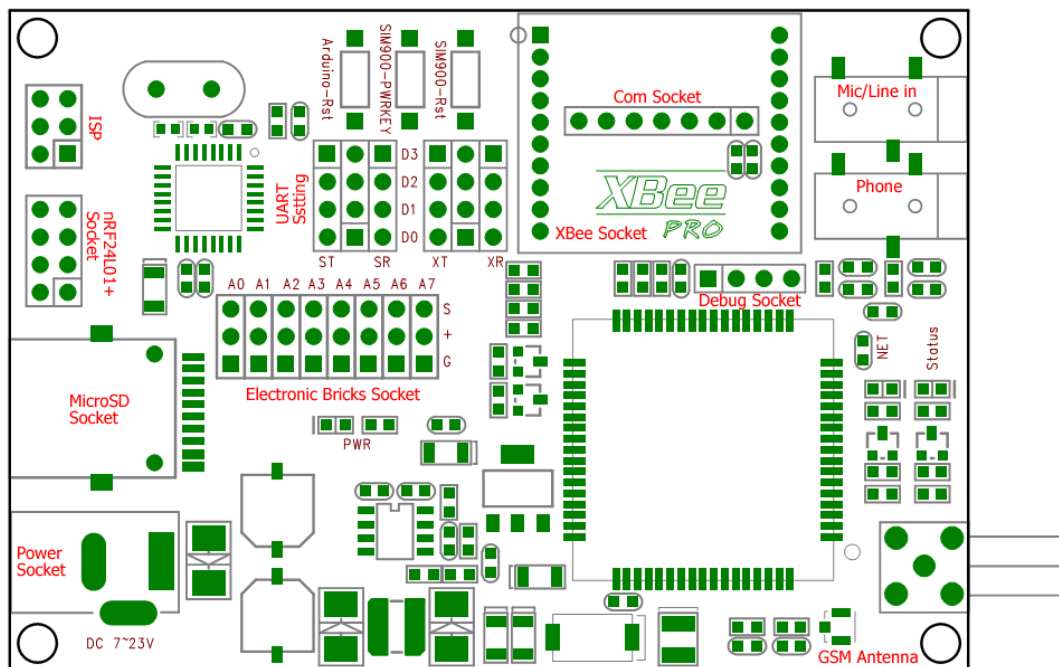
Specifications

PCB size	88.1mm X 60.7mm X 1.6mm
Power supply	6~20V DC
Microprocessor	Atmega328
Indicators	PWR, Status, NET
RoHS	Yes

Electrical Characteristics

Specification		Min	Type	Max	Unit
Power Voltage		6	–	23	VDC
Input Voltage VH	Target Voltage = 3.3V	3	3.3	3.6	V
Input Voltage VL:		–0.3	0	0.5	V
Current Consumption		–	100	500	mA

Hardware

Top View Map

Gboard can be used as a GSM/GPRS data transfer or wireless communication project development platform. Gboard support wide range power supply and Micro SD for mass storage. There are some 3pin electronic brick/ sensor brick interface breakout on board, it offer an easy way for a quick prototyping.
The board requires FTDI basic board to upload sketch, you can use our Foca board to do it. Gboard can be powered by a mini USB, power Jack.

UART Setting Jumpers

The SIM900 module and XBee module communicate to ATMega328 through UART. They cannot be used with the same port at the same time, so there are

two UART setting jumpers to configure the UART communication. The figure of UART setting jumpers is as below.
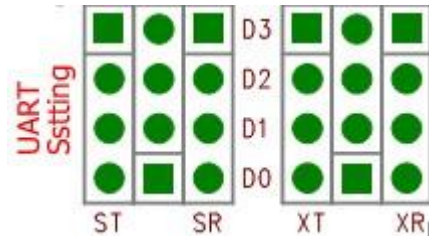

Figure of UART setting jumpers

D0 and D1 are hardware UART ports of Arduino. D2 and D3 are digital GPIO of Arduino. There are two configurations to set the UART communication.

Description	UART Setting Jumpers Connection	Figure
Hardware UART to SIM900, Software UART to Specific	ST － D0（Hardware Rx of Arduino） SR － D1（Hardware Tx of Arduino） XT － D2（Software Rx/Tx of Arduino） XR － D3（Software Rx/Tx of Arduino）	
Software UART to SIM900, Hardware UART to Specific	XT － D0（Hardware Rx of Arduino） XR － D1（Hardware Tx of Arduino） ST － D2（Software Rx/Tx of Arduino） SR － D3（Software Rx/Tx of Arduino）	

ST: UART Tx of SIM900 module   SR: UART Rx of SIM900 module

XT: XBee Tx of XBee module   XR: XBee Rx of XBee module

Power and reset connection of SIM900

In the GBoard, the PWRKEY and RESET pins of SIM900 module connect to Arduino as list below.

Arduino pin	SIM900 pin	Enable
D6	PWR	High level Active
D7	RESET	High level Active

Software

Gboard is designed for compatible for SD Library of Arduino.
With embedded bootloader, Gboard is easy to use by Arduino IDE through Foca series. ISP of Atmega328 is broke out for download firmware easily.

Revision History

Rev.	Description	Release date
v1.0	Initial version	2012-02-06