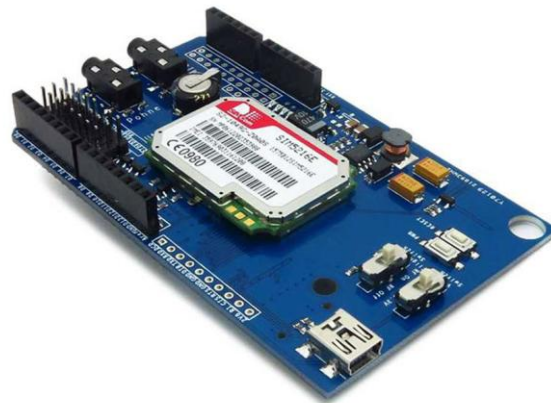


# Arduino 3G Shield

-A high performance 3G module breakout for Arduino

## Overview



The 3G shield is based on SIM5216E module. The SIM5216 series is Multi-Band HSDPA/WCDMA/GSM/GPRS/EDGE module solution which supports HSDPA up to 3.6Mbps for downlink data transfer. The 3G shield can be used for 3G communication, it is controlled via AT commands and fully compatible with Arduino.

## Features

- Multi-modules support: SIM5216A/SIM5216E/SIM5216J
- Configurable pins for UART communication
- With the MIC and earphone interface
- Control via AT commands
- RTC supported with Super Capacitor
- Optimization of the power supply circuit
- Operation temperature:  $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

## Specifications

PCB size	91.93mmX57.15mm X 1.6mm
Indicators	PWR,5V,2.8V, Status
Power supply	5V support by Arduino
Communication Protocol	UART

## Electrical Characteristics

Specification	Min	Type	Max	Unit
Power Voltage	4.5	5	5.5	VDC
current	-	-	300	mA
Input Voltage VH(5V):	2.3	5	5.5	V
Input Voltage VL(5V):	-0.3	0	1.0	V

## Hardware

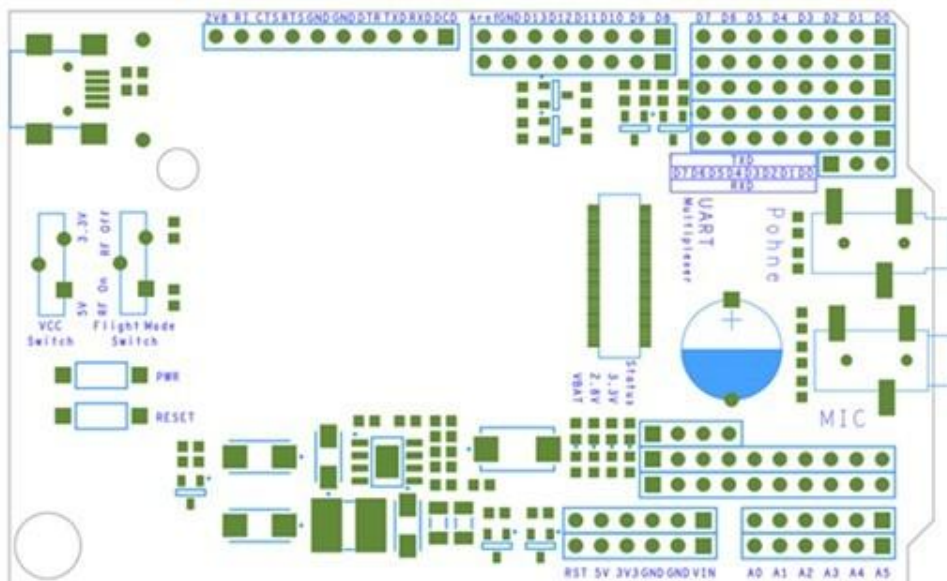


Figure 1 Top Map

### Pin Map

Arduino PIN	Description
D0	-
D1	-
D2	-

D3	-
D4	-
D5	-
D6	-
D7	-
D8	POWER (High Active)
D9	Reset (High Active)
D10	-
D11	-
D12	-
D13	-
A0	-
A1	-
A2	-
A3	-
A4	-
A5	-

## Installation

### (1) UART Multiplexer

The UART multiplexer can assign Tx / Rx of SIM5216E to D0 ~D7.

*Note: Don't assign TX/RX of SIM5216E to the same digital pin at the same time.*

### (2) Operation Level Setting Switch

When install 3G shield to Arduino, please check the operation voltage level of development board. If the voltage is 3.3V (Leaf maple), set the Operation Level Setting switch to 3.3V. If the voltage is 5V (Arduino), set the Operation Level Setting switch to 5V.

### (3) Indicator Description

- PWR: When the board is connected to the power, the power indicator light is on.
- 2.8V: The 2.8 V power is properly if the indicator light is on.
- 3.3V: The 3.3 V power is properly if the indicator light is on.
- Status: The indicator light has four statuses. As shown below:

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LED Status	Module Status
Always On	Searching Network/Call Connect
200ms ON, 200ms OFF	Data Transmit
800ms ON, 800ms OFF	Registered network
Off	Power off / Sleep

## Revision History

Rev.	Description	Release date
v1.0	Initial version	2012-10-30