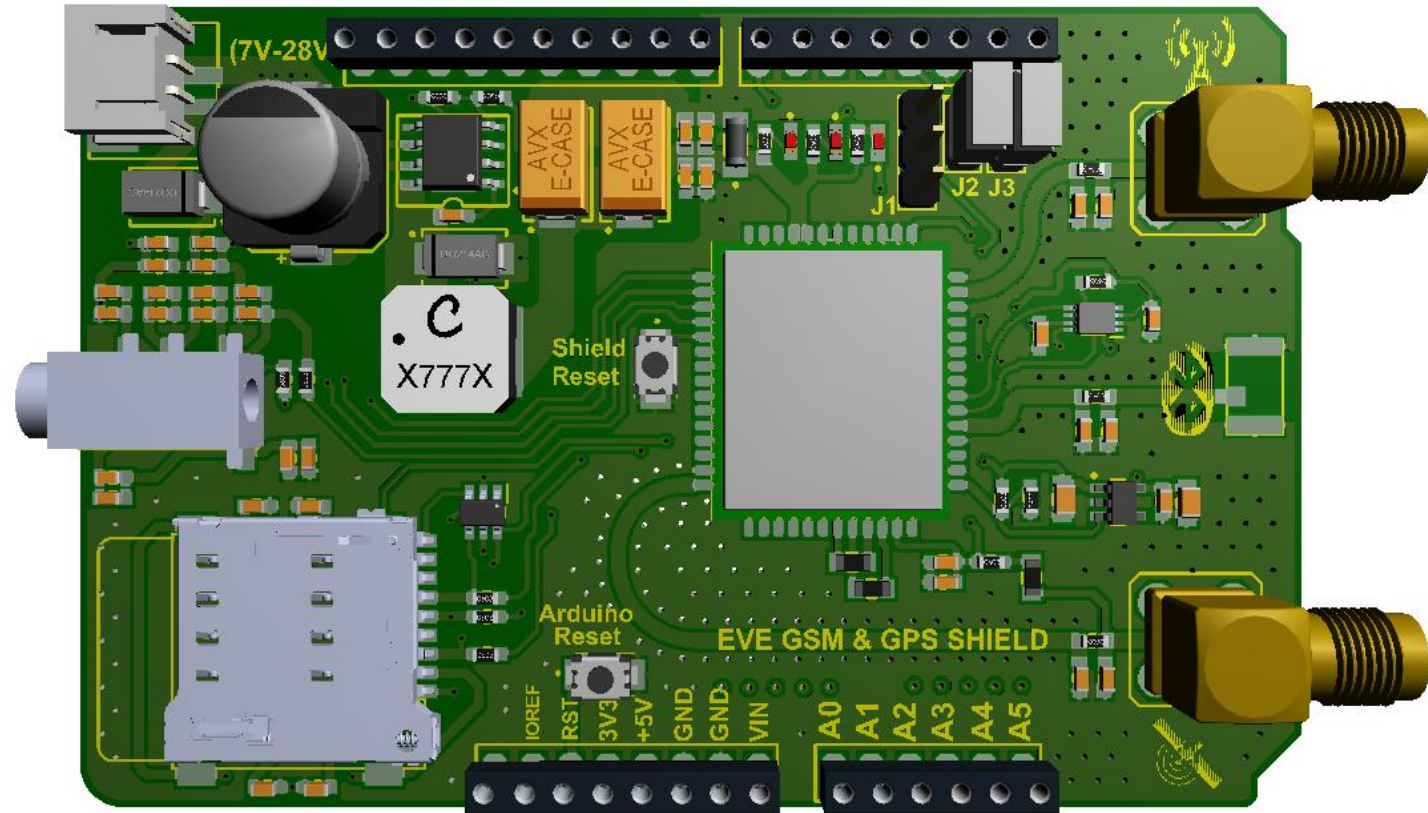


EVE GSM and GPS Shield



The EVE GSM and GPS Shield allows an Arduino board to connect to the internet, make/receive voice calls, send/receive SMS messages and Location tracking. The shield uses a radio modem MC60 Quectel. MC60 is a quad-band full-featured GSM/GPRS/GNSS module. It is possible to communicate with the board using AT commands. The shield uses Arduinos digital pins 2 and 3 for software serial communication with the MC60.

The compact form factor, great positioning performance, low power consumption and Wide input voltage operating range make the EVE GSM and GPS Shield the best choice for a wide range of M2M applications, such as automotive, telematics, asset tracker, pet tracker, and so on.

SPECIFICATION :

Dimensions : 82.5 x 52 x 14 mm

Power : Operates through External supply 7V – 28V

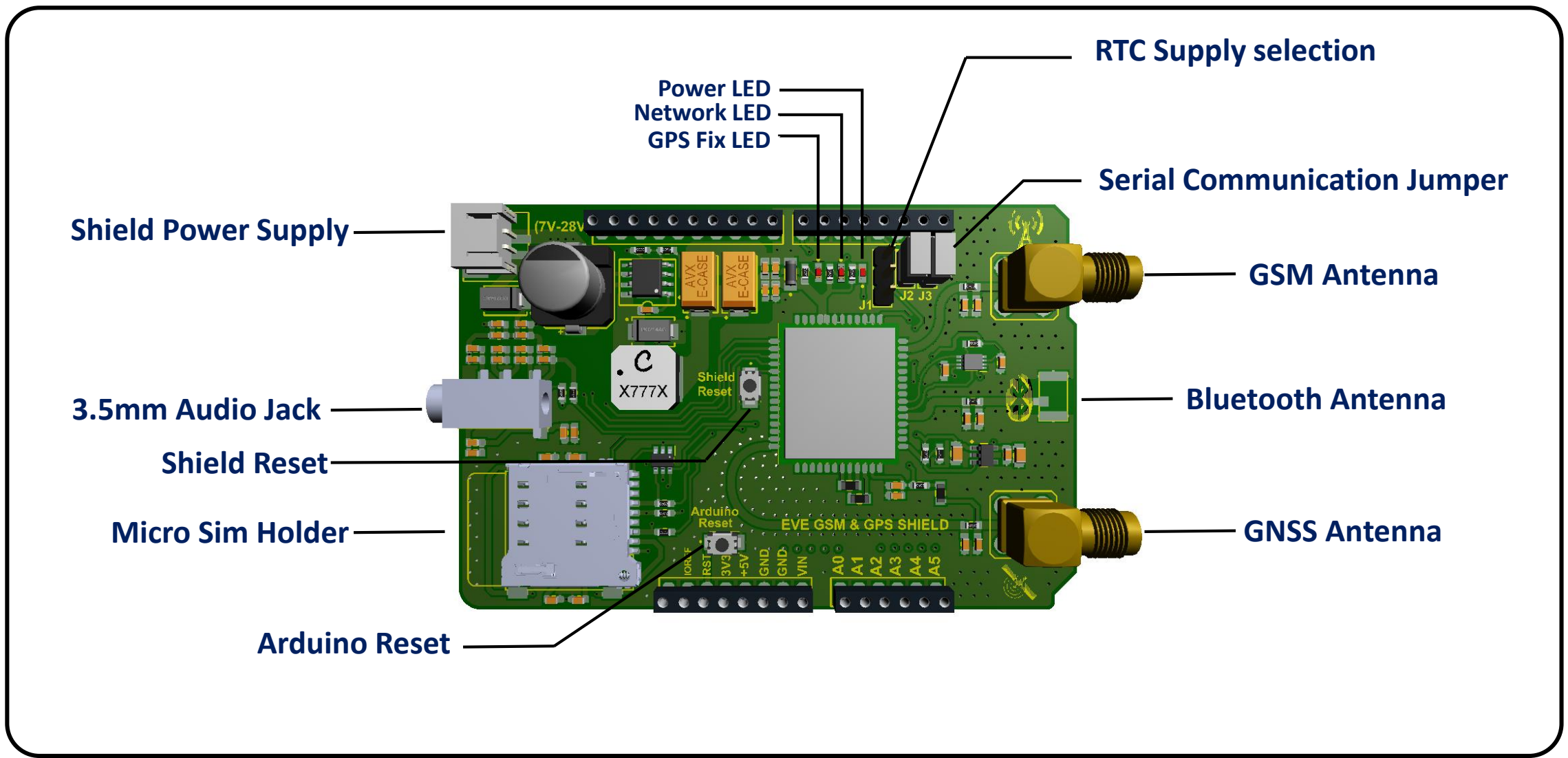
CONNECTORS :

Micro Sim Card : Micro Sim Card
Arduino Stackable Connector : 2 x 8 pin,1 x 6 pin,1 x 10pin 2.54mm pitch
External Power Connector : 2-pin 2mm pitch JST Connector
GNSS & GSM Antenna Connectors : 2 x Right angle female SMA connector
CR1220 SMD Battery Holder : CR1220 Button coin cell battery
Audio Connector : 3.5mm TRRS Audio Jack

SHIELD KEY FEATURES :

- Fully compatible with Arduino UNO R3, Arduino mega
- Supports any Micro SIM.
- High-efficiency power regulation.
- Wide input voltage operating range 7V to 28V
- GSM quad-band: 850/ 900/ 1800/ 1900MHz
- Multi internet protocols: TCP/UDP/FTP/PPP/HTTP/NITZ/NTP/PING/HTTPS/TCP/SSL/MQTT
- Optional Send/Receive AT commands over UART port is available
- Support Voice, SMS, QuecFOTA, DSSS and QuecOpen.
- Support Bluetooth SPP & HFP-AG profiles (BT 3.0)/
- Multi navigation constellation: GPS/ GLONASS/ Galileo/ BeiDou/ QZSS.
- GNSS receiver channels: 99 acquisition/ 33 tracking channels
- Working temperature range: -40°C ~ 80°C.

BOARD LAYOUT FRONT:



Shield Power Supply

3.5mm Audio Jack

Shield Reset

Micro Sim Holder

Arduino Reset

Power LED
Network LED
GPS Fix LED

RTC Supply selection

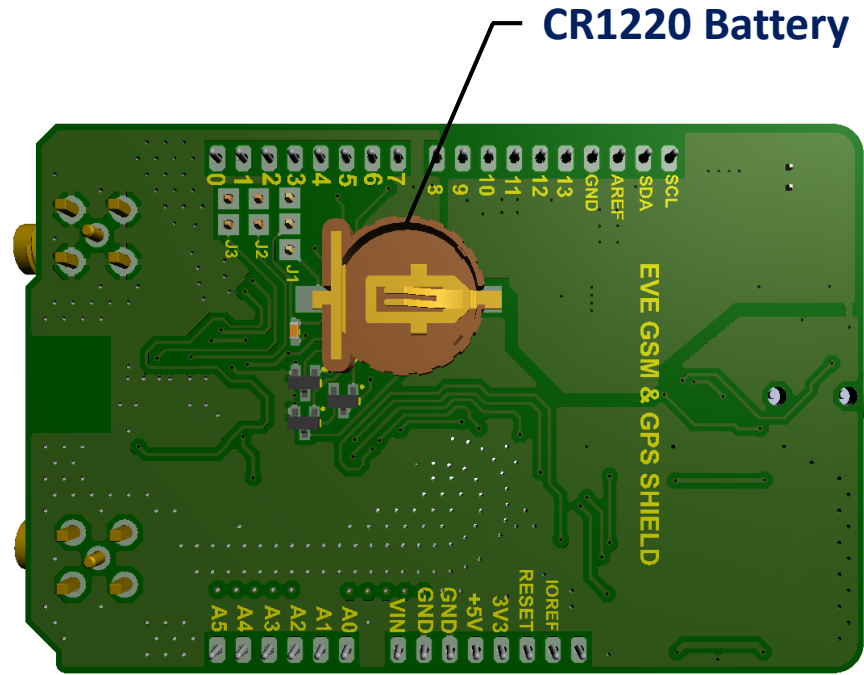
Serial Communication Jumper

GSM Antenna

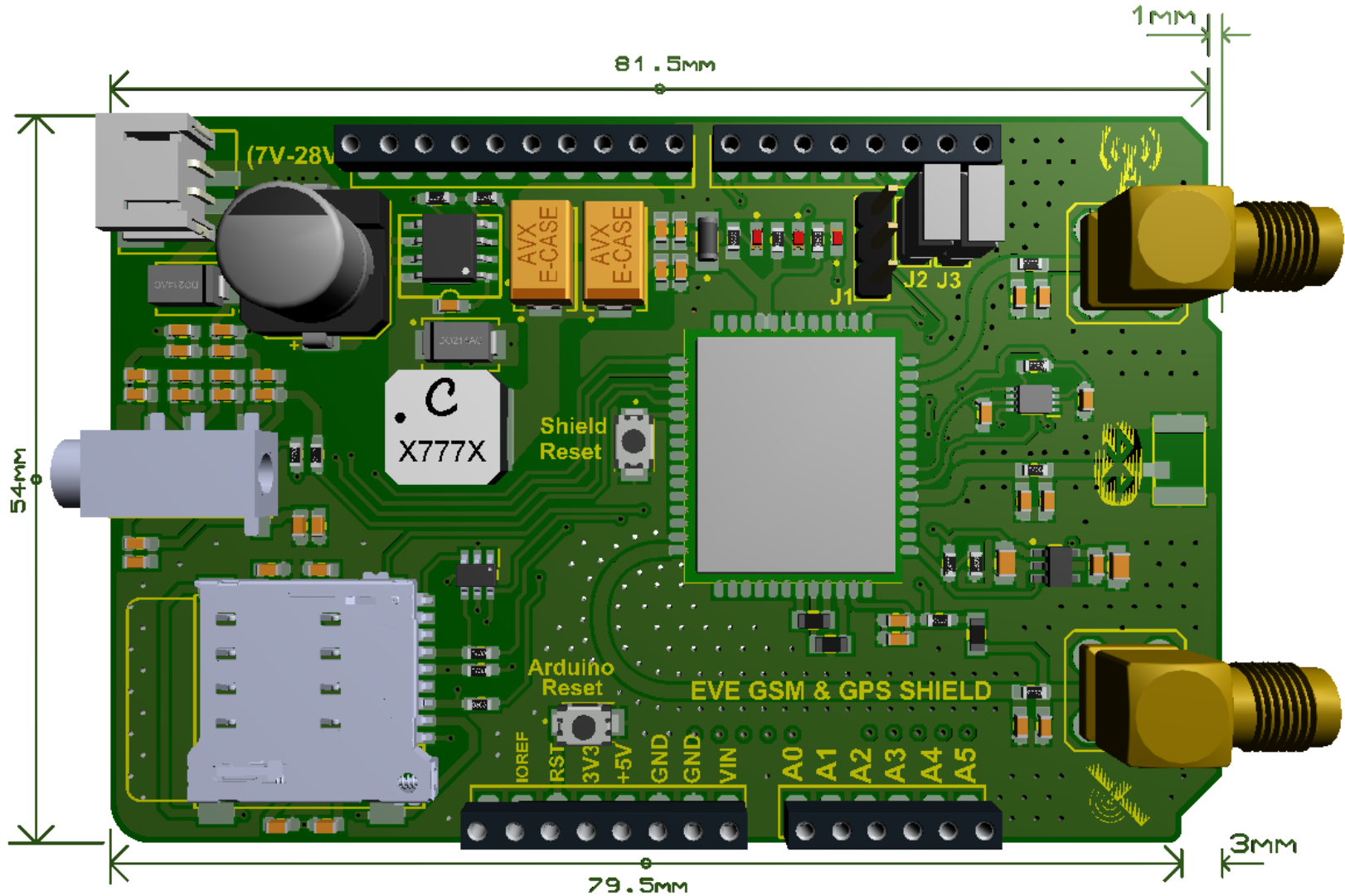
Bluetooth Antenna

GNSS Antenna

BOARD LAYOUT BACK:



DIMENSIONS:



INTERFACE APPLICATION:

Power Supply-

- EVE Shield is powered through 2-pin 2mm pitch JST Connector. The voltage input should be 7v-28v with a minimum of 2A current rating.

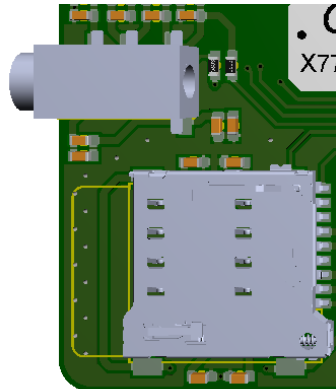
Sim card -

The SIM card port connects with the MC60 Modem.

The EVE Shield uses the SIM card with the different functions: SMS, Phone Calls & Internet.

Sim card orientation:

Micro SIM Card



INTERFACE APPLICATION:

Audio Interface –

EVE shield having Audio jack. This is a 'standard' TRRS 3.5mm phone headset jack with stereo earphone and mono microphone. Any 'iPhone' or 'Android' compatible (but not iPhone original) should work. By using AT command input gain level of microphone can be adjusted.

LEDs –

Power LED – Shows Shield Power ON status

Network LED –

State	MC60 Modem Function
OFF	The module is not running.
GPIO 15 (RX)	TX
64ms ON/800ms OFF	The module is not synchronized with network.
64ms ON/2000ms OFF	The module is synchronized with network.
64ms ON/600ms OFF	GPRS data transmission after dialing the PPP connection.

GPS fix LED – Once GPS is locked then this led will glow per second

UART –

A UART is a communication channel between Shield Arduino.

UART Pins : The shield uses Arduinos digital pins 2 and 3 for software serial communication with the Shield.

Arduino	EVE Shield
D2 (Software Serial RX)	TX
D3 (Software Serial TX)	RX

Jumpers –

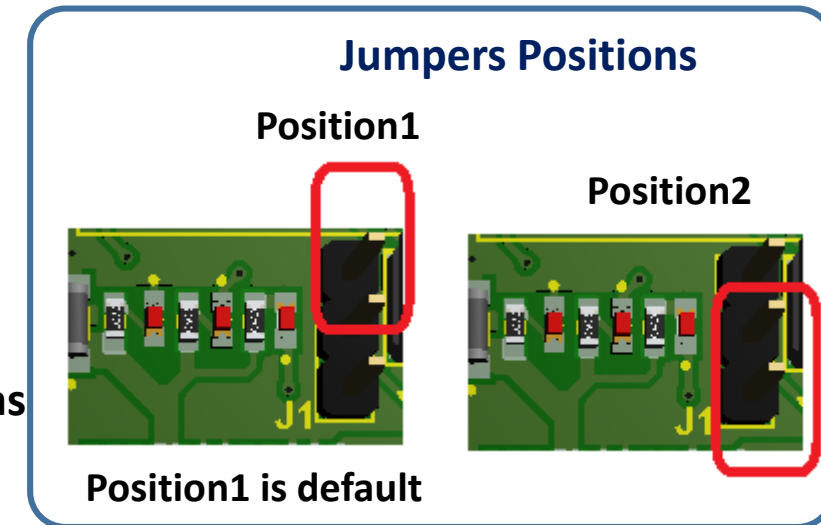
There are total 3 Jumpers on Shield – J1,J2,J3

J1 – This jumper is used to select RTC source – Button coin cell or Main supply.

Position 1	Position 2
Main Voltage	CR1220 Cell

When jumper is in position 1 then GNSS's backup mode will be active as long as the main power supply is present. No need to insert coin cell battery CR1220

When jumper is in position 2 then GNSS's backup mode will be active even main power supply is off because of CR1220 battery.

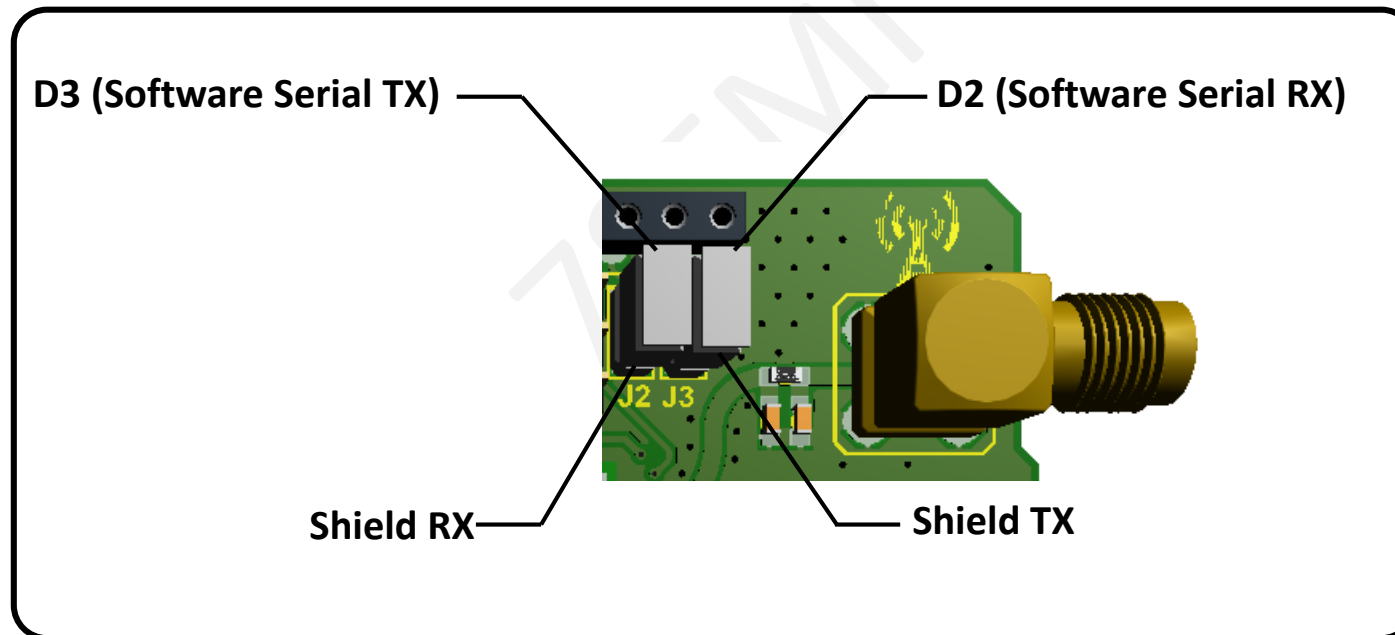


INTERFACE APPLICATION:

J2,J3 – J2 connects Arduino D3(Software serial TX) to shields RX

J3 connects Arduino D2(Software serial RX) to shields TX

By removing these two jumpers, serial communication between shield and Arduino is disconnected and shield can be able to communicate with any TTL compatible external serial device.



POWER ON SHIELD

The Shield can be turned on by driving the pin D7 pin of Arduino to a High level voltage for 100ms .

POWER OFF SHIELD

The following procedures can be used to turn off the Shield:

- 1. Normal power down procedure: Turn off Shield using the PWRKEY pin.**

- It is a safe way to turn off the Shield part by driving the D7 pin of Arduino to a High level voltage between 0.7s to 1s

- 2. Turn off Shield using command AT+QPOWD.**

- 3. Under-voltage automatic shutdown: Take effect when under-voltage is detected.**

MC60 FIRMWARE UPGRADE

TXD and RXD can be used for firmware upgrade in both All-in-one solution and Stand-alone solution.
The D7 pin must be High before firmware upgrade.

7SEMI