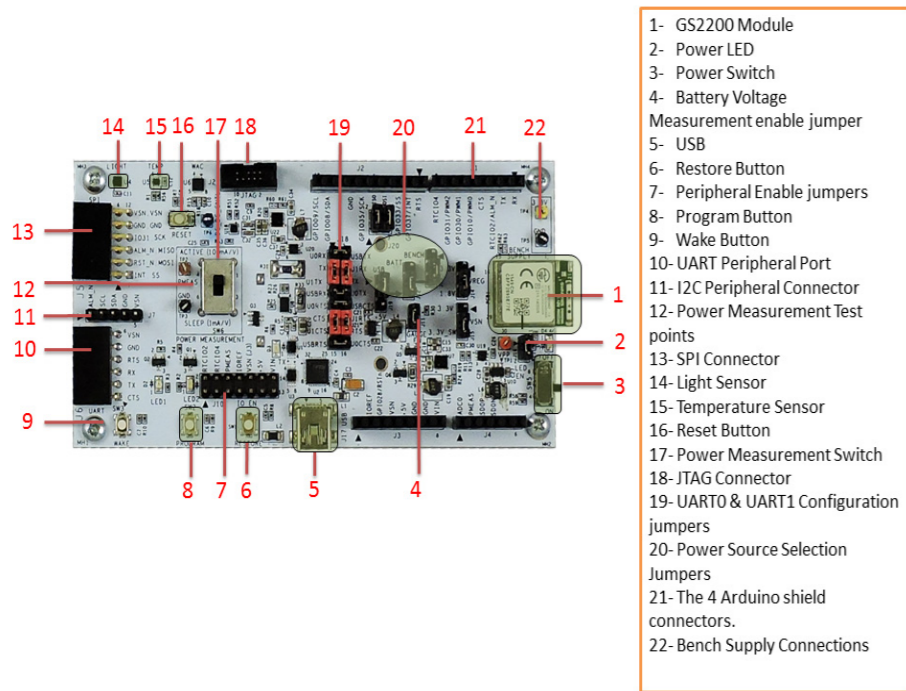


GS2200M SKB S2W Quick Start Guide

Supports GS2200Mxx Modules

This Quick Start Guide will walk you through the steps to setup the Starter Kit Board (SKB) and run S2W Application on GS2200M SKB.



You will need the following items:

- GS2200 Starter Kit Board
- Serial Cable (USB to Mini-USB)
- Windows PC
- Wi-Fi Access Point/Network
- Tera Term VT Utility installed on PC

The S2W application is intended for connected device applications where a GS2000-based module will be used to interface a host micro-controller to a Wi-Fi network. S2W enables the host micro-controller to interface with the module using AT commands over a UART, SPI or SDIO port.

Serial to Wi-Fi (S2W):- GS2200M module is used to interface a host micro-controller to a Wi-Fi network using AT commands, SKB comes pre-loaded with this application.

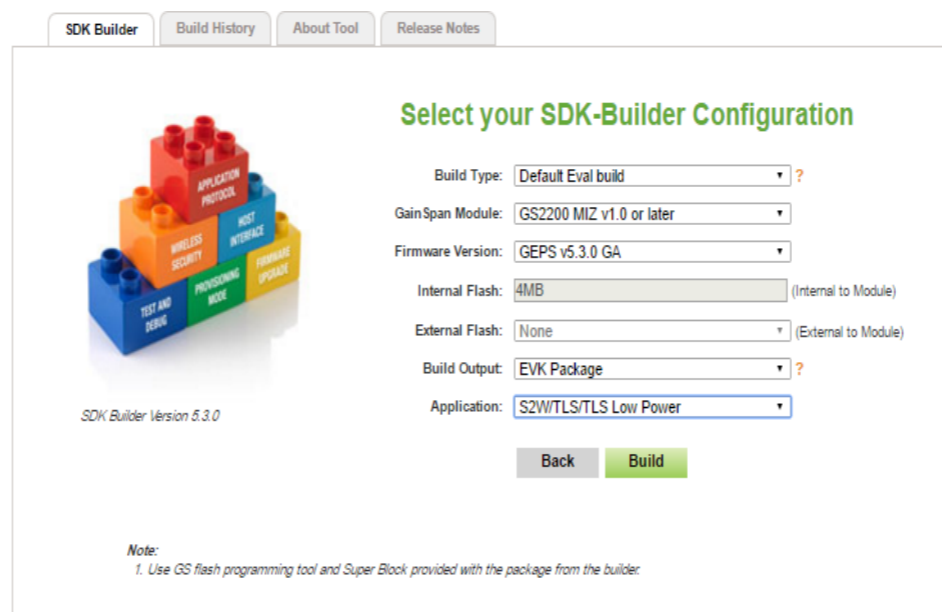


Note: The SKB is shipped with S2W Evaluation Kit (EVK) firmware pre-installed. If you need to reinstall the firmware or install a newer version, please skip to the EVK build, download and programming sections first before proceeding

1 Build the Package

Step 1 Open the SDK Builder <https://wifi.telit.com/secure/login> and select the following for S2W:

If you do not have a login, sign up and register for a Portal account at: <https://wifi.telit.com/secure/register>



Step 2 Click the **Build** button to generate the S2W binaries. The build configuration will be submitted and a confirmation email will be sent notifying that the S2W/TLS EVK package is complete and ready to download.

Download and unzip file containing the firmware and binaries used to program the board to a local folder.

2 Program GS2200M SKB

Step 1 Plug the mini-USB cable, one end of the **USB** port to GS2200 SKB USB and the other end of the USB port to the computer or laptop.

Step 2 Ensure the Power Measurement Switch SW6 is in the "ACTIVE" Position.

Step 3 Switch SKB power switch to the 'ON' position and check if the green LED near the switch is illuminated.



Note: If this is the first time you've connected the board, it may take Windows a few minutes to install the USB serial port driver.

Step 4 Press and hold down both the PROGRAM and RESTORE buttons, simultaneously press and release the RESET button to put the GS2200 SKB into flash programming mode. Now release the PROGRAM and RESTORE buttons.

Step 5 Launch the GainSpan Serial Flash Programmer GUI utility from "`\\Tools\GS_programming_tool\gs2k_flashprogram.exe`".

Step 6 Select UART, the port assigned to the SKB, 921600 baud.

Step 7 Click Check Connection -if the status reported is Connection OK, proceed else repeat steps 2 through 6 carefully verifying the UART settings are correct and ensure the button pressing sequence exactly as described.

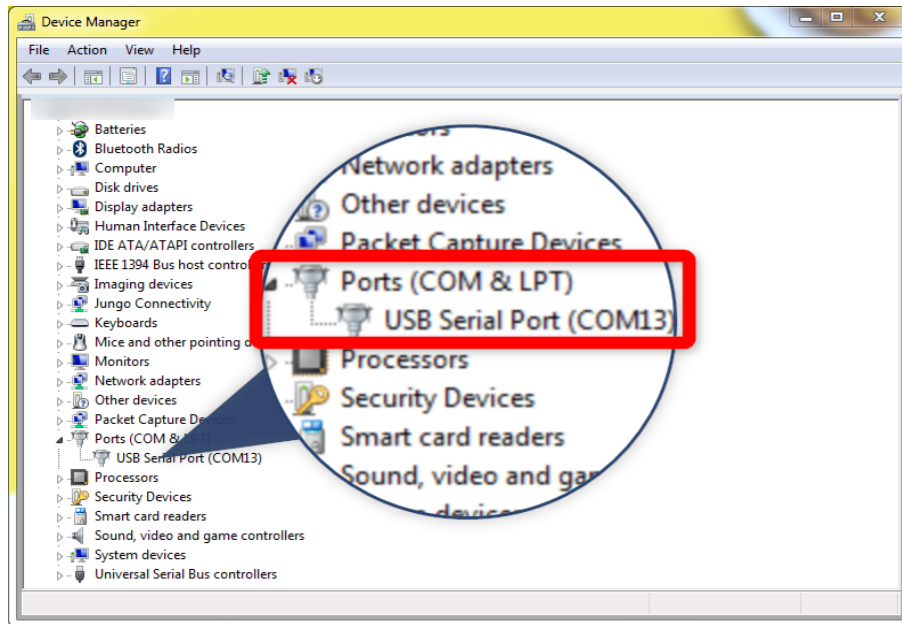
Step 8 Browse to and select the Super Block file, named superblock... and select the Current FW Version file name gs2200..., located at "\Embedded". "Erase and Program" button and wait for the programming utility to indicate it has finished programming.



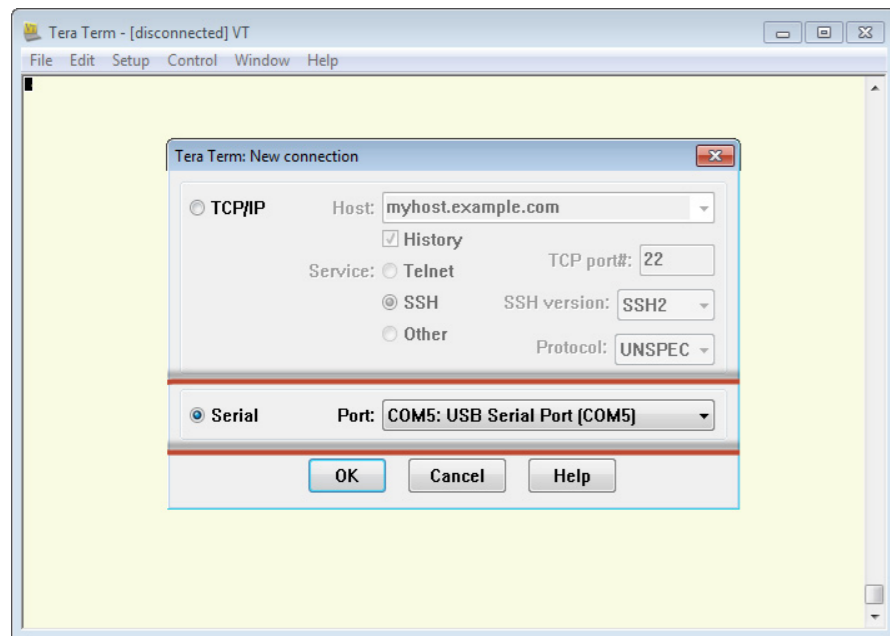
The firmware files are located in the folder "Embedded\s2w" for S2W.

3 Configure the Serial Port

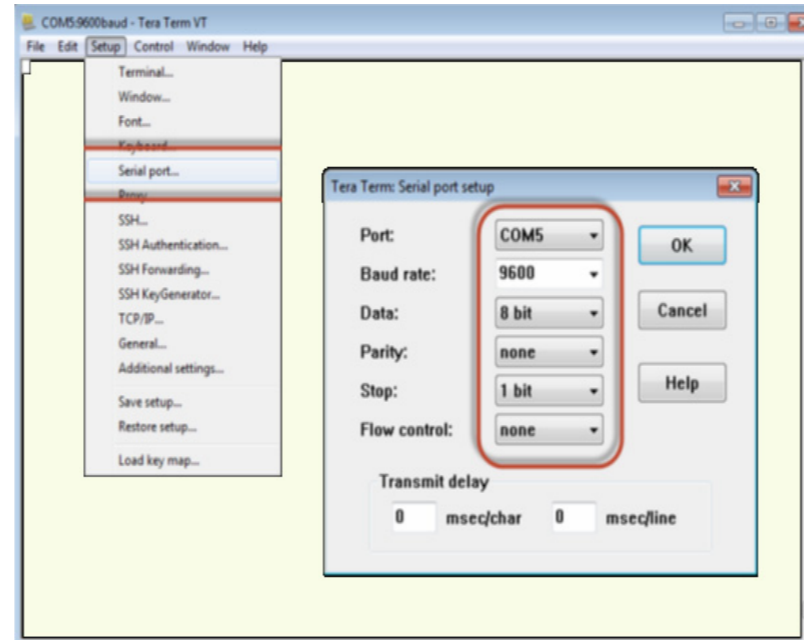
Note: To verify you have the correct Serial COM port, open the Windows Control Panel and select Device Manager



Open a Serial Terminal Emulation Software of your choice. Select the serial COM port associated with the board. In this example we are using Tera Term VT. You can download a copy of Tera Term VT at: <http://tssh2.sourceforge.jp/>

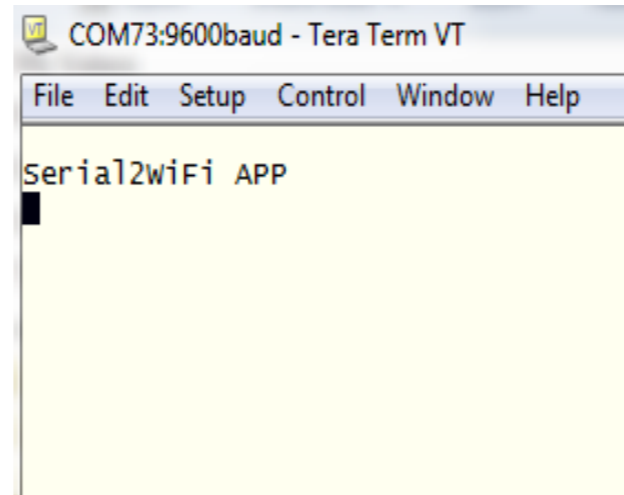


Setup the Serial port as below:



4 Run GS2200M SKB

Step 1 Power cycle the SKB board (press and release the RESET button with power ON) to start the firmware. The Serial to Wi-Fi banner will appear.



Step 2 Enter AT Command, `AT+VER=?` to verify that the board is communicating and the firmware version on the board is displayed

```
File Edit Setup Control Window Help
Serial2WiFi APP
AT+VER=?
S2W APP VERSION=5.3.0
S2W GEPS VERSION=5.3.0
S2W WLAN VERSION=5.3.0
S2W BIN TYPE=GS2K_DEFAULT
S2W RELEASE TYPE=Beta2
BUILD TIME=16:59:54
BUILD DATE=Mar 10 2017
WLAN EXT VERSION=55
S2W APP EXT VERSION=29
WLAN FEAT BMAP=0000000000000237
GEPS EXT VERSION=29
FLASH ID=0x000020c2:MICRONIX-4MB
OK
```

Step 2 Enter the following AT commands to connect to your Wi-Fi network, providing the Wi-Fi password and the name for your Wi-Fi network.

```
AT+WRXACTIVE=1
OK
AT+WPA=test1234
OK
AT+WA=TestAP
      IP           SubNet       Gateway
192.168.0.100:255.255.255.0:192.168.0.1
OK
```

Step 3 To Ping the gateway, enter `AT+PING=<gatewayaddress>,5`. The address will be displayed:

```
AT+PING=192.168.1.1,5
Pinging for 192.168.1.1 with 56 bytes of data
OK
Reply from 192.168.1.1: bytes=56 time=4 ms TTL 64
Reply from 192.168.1.1: bytes=56 time=2 ms TTL 64
Reply from 192.168.1.1: bytes=56 time=1 ms TTL 64
Reply from 192.168.1.1: bytes=56 time=1 ms TTL 64
Reply from 192.168.1.1: bytes=56 time=1 ms TTL 64
Ping Statistics for 192.168.1.1:
    Packets: Sent = 5, Received = 5, Lost = 0 percent
Approximate round trip times in milliseconds
    Minimum = 1ms, Maximum = 4ms, Average = 1ms
AT+PING=www.google.com,5
Pinging for 216.58.194.164 with 56 bytes of data
```

Step 4 If the Wi-Fi access point is connected to the Internet then type the following command to ping Google's web server:
`AT+PING=www.google.com,5`

```
AT+PING=www.google.com,5
Pinging for 216.58.194.164 with 56 bytes of data

OK

Reply from 216.58.194.164: bytes=56 time=13 ms TTL 64
Reply from 216.58.194.164: bytes=56 time=14 ms TTL 64
Reply from 216.58.194.164: bytes=56 time=13 ms TTL 64
Reply from 216.58.194.164: bytes=56 time=22 ms TTL 64
Reply from 216.58.194.164: bytes=56 time=13 ms TTL 64
Ping statistics for 216.58.194.164:
    Packets: Sent = 5, Received = 5, Lost = 0 percent
Approximate round trip times in milliseconds
    Minimum = 13ms, Maximum = 22ms, Average = 15ms
```

Technical and Product Support

For any clarification, technical and product support, please email to Telit Technical Support at:
TS-SRD@telit.com

We recommend adding “Wi-fi” in subject of the email. For example, the subject of email can be “Wi-Fi: Association failing”, “Wi-Fi: SPI Driver Issue”.

Also, in description of your email, please provide details about the issue, product, module and use case including software firmware version, module version and type, application being used, customizations done to application, use case and issue frequency and ability to recreate it.

Information

For information, please refer to the following documents:

- *GS2K SDK Builder User Guide*
 - Configuring and generating custom S2W firmware binary images from web portal based on features required
- *GS2K Module Programming User Guide*
 - How to Program the module
- *GS2K SDK Application Programming Guide*
 - If SDK is purchased, for setting up, compiling, and debugging firmware using IAR IDE. This also has reference codes for various use cases, debugging mechanisms, detailed description of various modules and features and much more
- *GS2K S2W Use Case Reference Guide*
 - For evaluation board description and hardware setup, jumper settings, component description, board specifications, and pin outs
- *GS2K SKB Hardware User Guide*
 - For sequence of AT commands to be used for any particular use case
- *GS2200M S2W Adapter Command Reference Guide*
 - For detailed description of every AT command
- *GS2K Live Calibration Application Note*
 - For calibrating the module for optimum reception, which needs to be done once in the lifetime of the product unless the flash is erased completely for some reason

- *GS2K Memory Map and File System Application Note*
 - Provides the memory architecture of the Wi-Fi modules and provide details about types of memory, location, and content of various items in these memory locations

For further information, please visit the website link:
<https://www.telit.com/products/wifi-and-bluetooth/#wifi>