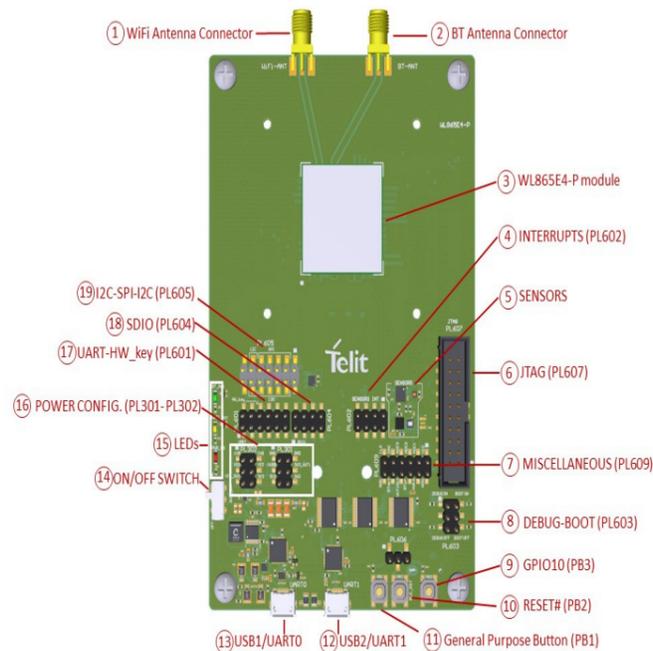


# WL865E4-P Evaluation Board

## Quick Start Guide

This Quick Start Guide will walk you through the easy steps required to setup and run the WL865E4-P evaluation board for Serial-to-Wireless application.



Your kit contains the following:

- 1- Quick Start Guide (this document)
- 1- WL865E4-P Evaluation Board
- 1- Micro-USB Cable
- 1- External Antenna

## 1 Run the WL865E4-P module

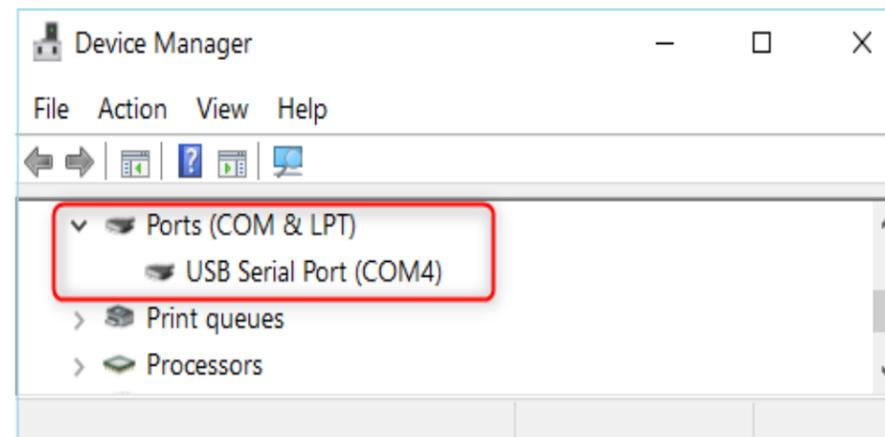


**Alert!** Before you begin, ensure that the **ON/OFF** switch is in **OFF** position and **PL603** jumper is **OPEN**.

**Step 1** Plug the micro-USB cable, one end of the USB port to WL865E4-P Evaluation board and the other end of the USB port to your PC or laptop.

**Step 2** Turn the power switch to **ON** position. Once the connection is established the *Qualcomm HS-USB QDLoader 9008* driver will be automatically installed onto your PC.

**Step 3** Go to **Control Panel > Device Manager** and check the COM port number.



## 1a Configure the WL865E4-P module

**Step 4** Download the Telit AT Controller (TATC) serial interface tool from the following link: <https://www.telit.com/evkevb-drivers/> and place it on your desktop.



**Step 5** Unzip the folder and run **Setup\_TATC\_3.4.11\_XFP\_4.0.5.msi** file. Upon successful software installation, following files will be created on your desktop:

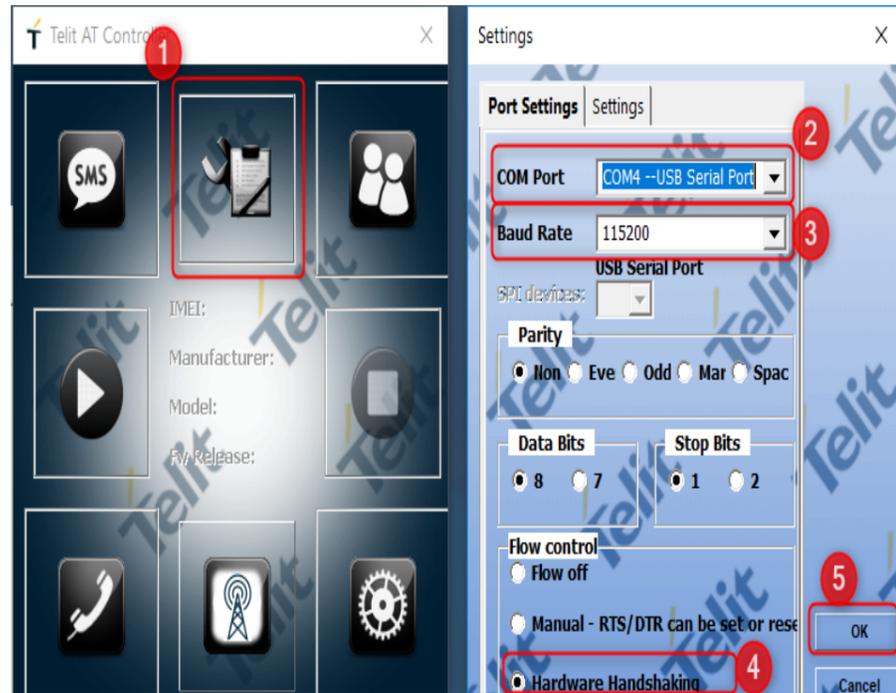
- **Telit AT Controller.Ink**
- **Xfp.Ink**



**Step 6** Double-click on **Telit AT Controller** icon to open the application.

**Step 7** Click **Settings > Port Settings** to setup the AT port parameters such as:

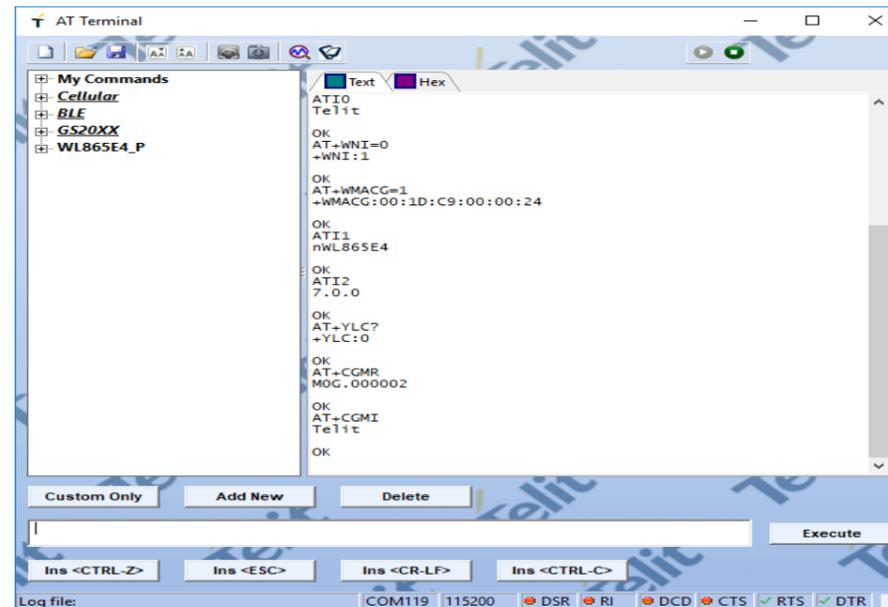
- COM Port
- Baud Rate
- Parity
- Data Bits
- Start Bits
- Flow Control, and click **OK**.



**Step 8** Upon successful configuration, click **Connect**. The module information such as: MAC Address, Manufacturer Name, Model Number, Fw Release version will be displayed.



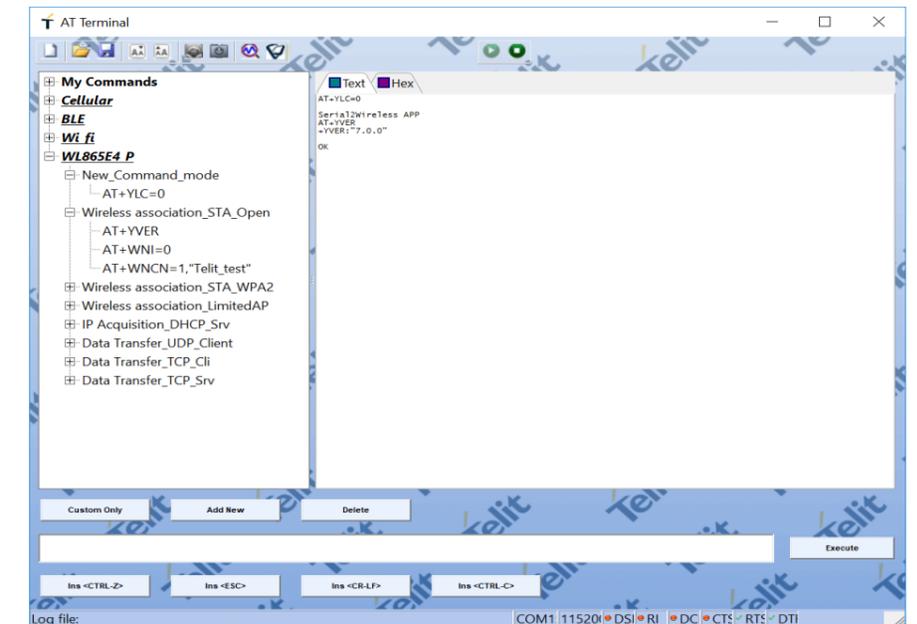
**Step 9** Now, click **AT Terminal** to start the AT Terminal window.



**Note:** WL865E4 S2W Firmware supports two styles of AT commands:

- Legacy (GS2K Style)
- New (Telit Style)
- By default, the firmware supports legacy (GS2K Style) AT Command mode for backward compatibility with GS2K based Wi-Fi module.

**Step 10** Issue the following commands, to verify the version  
AT+YLC=0  
AT+YVER



## 2 Wireless Operations

The following use cases describes the wireless operations of the WL865E4-P module using legacy and New AT commands. The WL865E4-P module supports two modes of operations:

- Station Mode
- Limited AP Mode

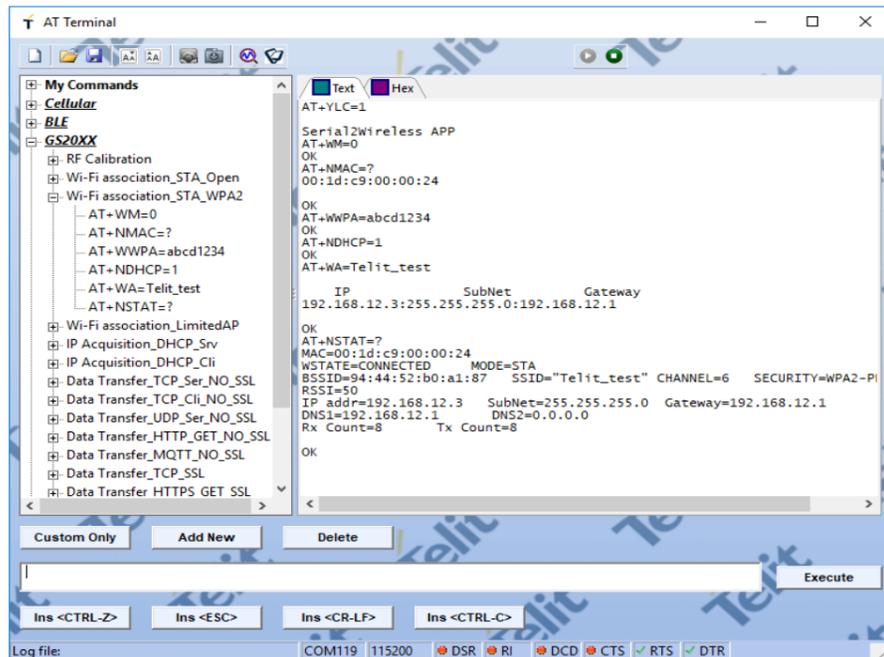
**Note:** In legacy AT command mode, both command and responses will be similar to GS2K module platform whereas in New AT command mode, the commands and their responses will be different.

## 2a Use Case 1: Configure WL865E4-P module using Legacy Commands

### Station Mode

Following commands are used to configure the WL865E4-P module in station mode.

- AT+WM=0
- AT+NMAC=?
- AT+WVPA=abcd1234
- AT+NDHCP=1
- AT+WA=Telit\_test
- AT+NSTAT=?



### Limited AP Mode

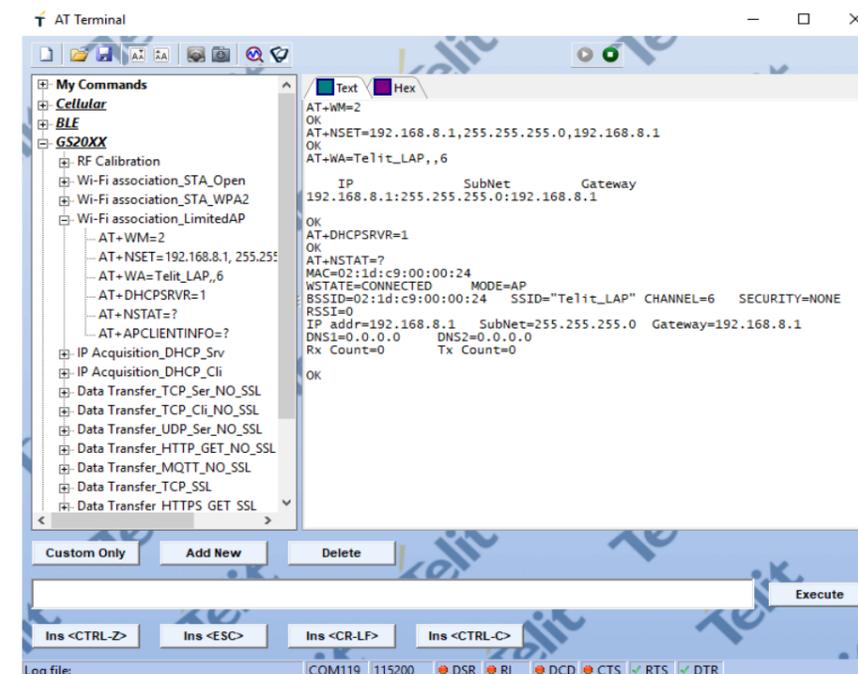
Following commands are used to configure the WL865E4-P module in WPA2 Secured Limited AP mode.

Where,

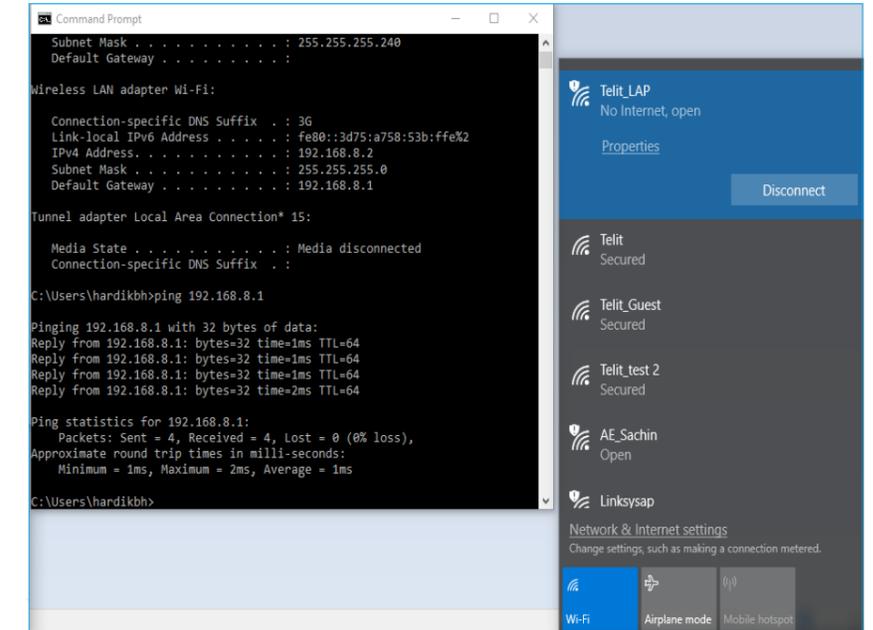
- Module's SSID is: Telit\_LAP and,
- IP Address is: 192.168.45.3

- AT+WM=2
- AT+NSET=192.168.8.1,255.255.255.0,192.168.8.1
- AT+WA=Telit\_LAP,,6
- AT+DHCP SRVR=1
- AT+NSTAT=?

**Note:** For more information regarding Legacy AT Commands, refer to WL865E4-P Legacy Command Reference Guide.



The 'Telit\_LAP' appears in the Scan List of Wi-Fi Settings of your laptop or PC. Check the accessibility of the connected network by pinging to it from the laptop.



## 2b Use Case 2: Configure WL865E4-P module using New AT Commands

To switch to New AT Command mode, issue the following command.

AT+YLC=0

### Station Mode

Following commands are used to configure the WL865E4-P module in Station Mode and associate to WPA2 Secured Wi-Fi Network.

Where,

- Module's SSID is: Telit\_test and,
- Passphrase is: abcd1234

- AT+WNI=0
- AT+WNCN=1,"Telit\_test","abcd\_1234"

```

AT Terminal
My Commands
  Cellular
  BLE
  GS20XX
  WL865E4_P
    New_Command_mode
    Wi-Fi STA Open Security
    Wi-Fi STA WPA2 Security
    Wi-Fi Limited AP Open Security
    Wi-Fi Limited AP WPA Security
    Data Transfer_UDP_Client
    Data Transfer_TCP_Client
    Data Transfer_TCP_Srv
  Custom Only
  Add New
  Delete
  Execute
  Log file: COM119 115200 DSR RI DCD CTS RTS DTR
  
```

### Limited AP Mode

Following commands are used to configure the WL865E4-P module in WPA Secured Limited AP mode. Where,

- Module's SSID is: Telit\_LAP and,
- IP Address is:192.168.45.3

```

AT+WNI=1
AT+WNIPC=0,1,192.168.45.3,255.255.255.0,192.168.45.1
AT+WNAPIPC=0,192.168.45.4,192.168.45.10,10000
AT+WNCR=0,"Telit_LAP",6,"WPA","TKIP","12345678"
  
```

```

AT Terminal
My Commands
  Cellular
  BLE
  GS20XX
  WL865E4_P
    New_Command_mode
    Wi-Fi STA Open Security
    Wi-Fi STA WPA2 Security
    Wi-Fi Limited AP Open Security
    Wi-Fi Limited AP WPA Security
    Data Transfer_UDP_Client
    Data Transfer_TCP_Client
    Data Transfer_TCP_Srv
  Custom Only
  Add New
  Delete
  Execute
  Log file: COM119 115200 DSR RI DCD CTS RTS DTR
  
```

The 'Telit\_LAP' appears in the Scan List of Wi-Fi Settings of your laptop or PC.

```

Command Prompt
Default Gateway . . . . . :
Wireless LAN adapter Wi-Fi:
Connection-specific DNS Suffix . : 36
Link-local IPv6 Address . . . . . : fe80::3d75:a758:53b:ffe42
IPv4 Address. . . . . : 192.168.8.2
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.8.1
Tunnel adapter Local Area Connection* 15:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
C:\Users\hardikbh>ping 192.168.45.3
Pinging 192.168.45.3 with 32 bytes of data:
Reply from 192.168.45.3: bytes=32 time=1ms TTL=64
Reply from 192.168.45.3: bytes=32 time=1ms TTL=64
Reply from 192.168.45.3: bytes=32 time=3ms TTL=64
Reply from 192.168.45.3: bytes=32 time=9ms TTL=64
Ping statistics for 192.168.45.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 99ms, Average = 28ms
C:\Users\hardikbh>
  
```

**Note:** For more information regarding New AT Commands, refer to WL865E4-P AT Command Reference Guide.

## Technical and Product Support

For any clarification, technical and product support, please email to Telit Technical Support at:

[TS-SRD@telit.com](mailto: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:

- WL865E4-P AT Command Reference Guide
  - For detailed description of every New (Telit Style) AT command
- WL865E4-P Legacy Command Reference Guide
  - For detailed description of every Legacy(GS2K Style) AT command
- WL865E4-P Module Hardware User Guide
  - For detailed description of the hardware solutions for developing a product with Telit WL865E4-P module
- WL865E4-P Module Programming and Protocol Reference Guide
  - For detailed description of programming Telit WL865E4-P module
- WL865E4-P EVB User Guide
  - For evaluation board description and hardware setup, jumper-settings, component description, board specifications, and pin outs

For further information, please visit the website link:

<https://www.telit.com/products/wifi-and-bluetooth/#wifi>