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Empowering Internet of Things

sigfox operator

Guide - Using the Xkit Shield as a breakout board for the Wisol Module

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XKIT SHIELD BREAKOUT GUIDE

This document provides info on how to use the Xkit Shield (without Arduino Uno board) plugged in your computer USB port as an Evaluation Board for the Wisol module WSSFM10R4.

Prerequisite

Have the CH340 USB to Serial driver installed

For Windows

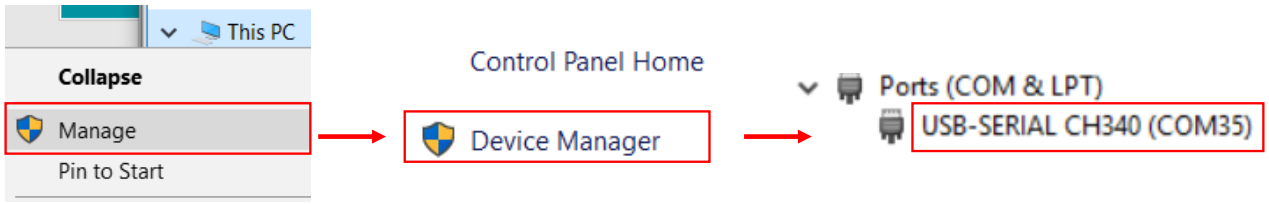
https://github.com/Thinxtra/Xkit-Sample/blob/master/Document/Program/CH341SER.zip

For Mac

https://github.com/Thinxtra/Xkit-Sample/blob/master/Document/Program/CH341SER_MAC.zip

XKIT BREAKDOWN GUIDE – WINDOWS

STEP 1 Identify your COM Port (for Windows)



STEP 2 Download the Wisol Testing program (SFM10R_AT_TEST.exe) or ExtraPutty

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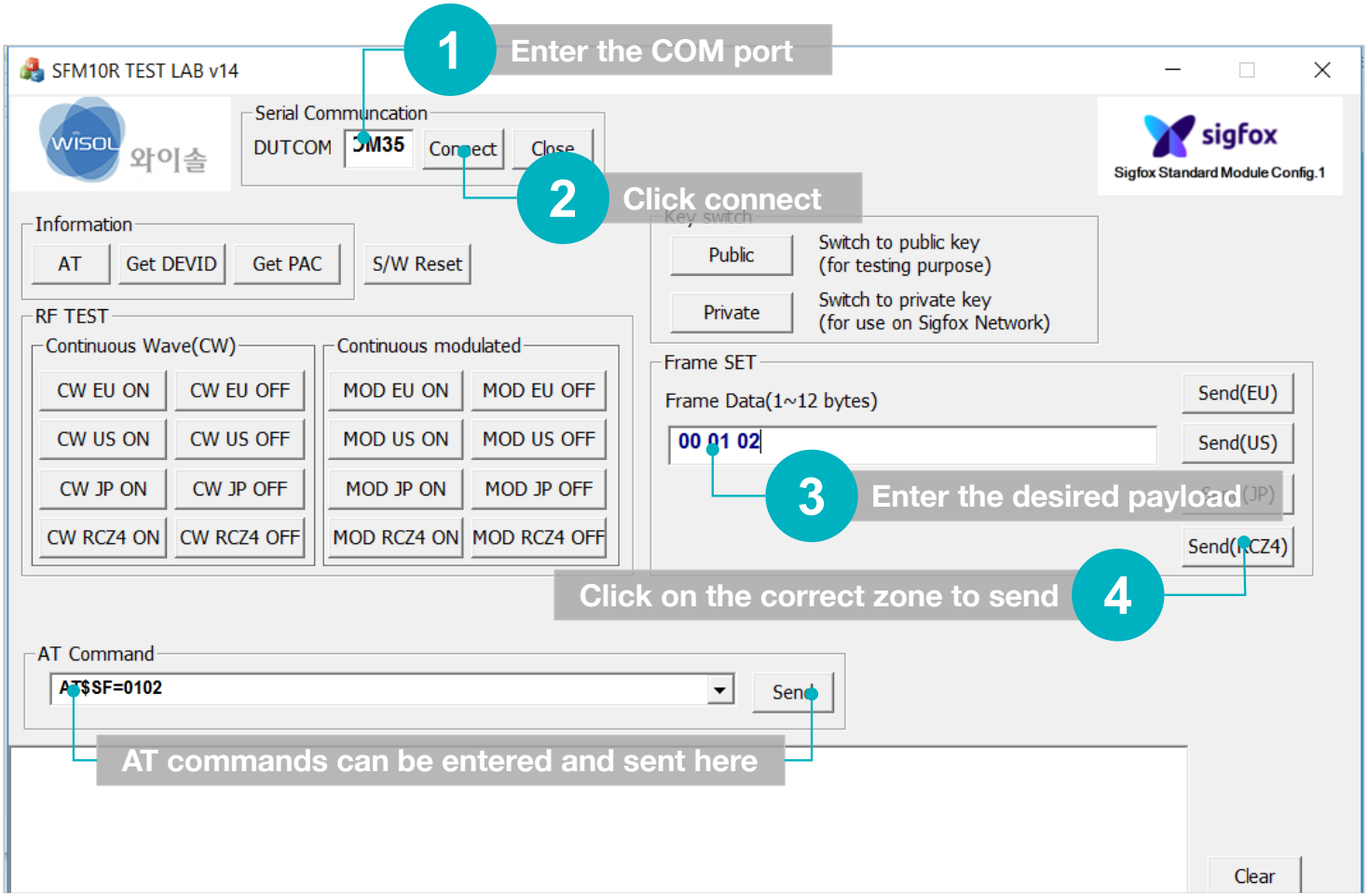
If using **Wisol testing program** (Windows)



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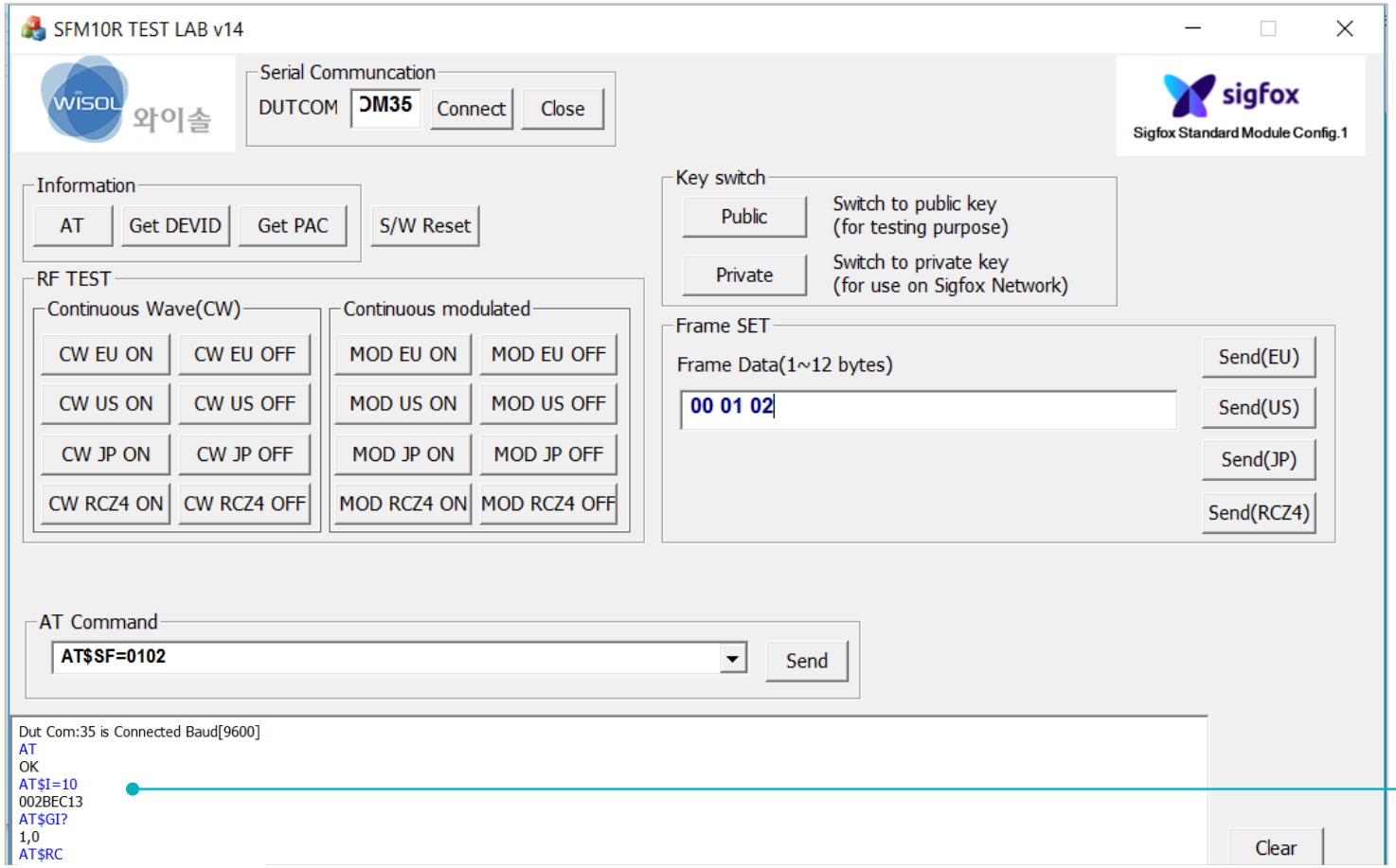
If using **Wisol testing program** (Windows)



Dut Com:35 is Connected Baud[9600]
AT
OK
AT$I=10
002BEC13
AT$GI?
1,0
AT$RC
OK
AT$SF=000102

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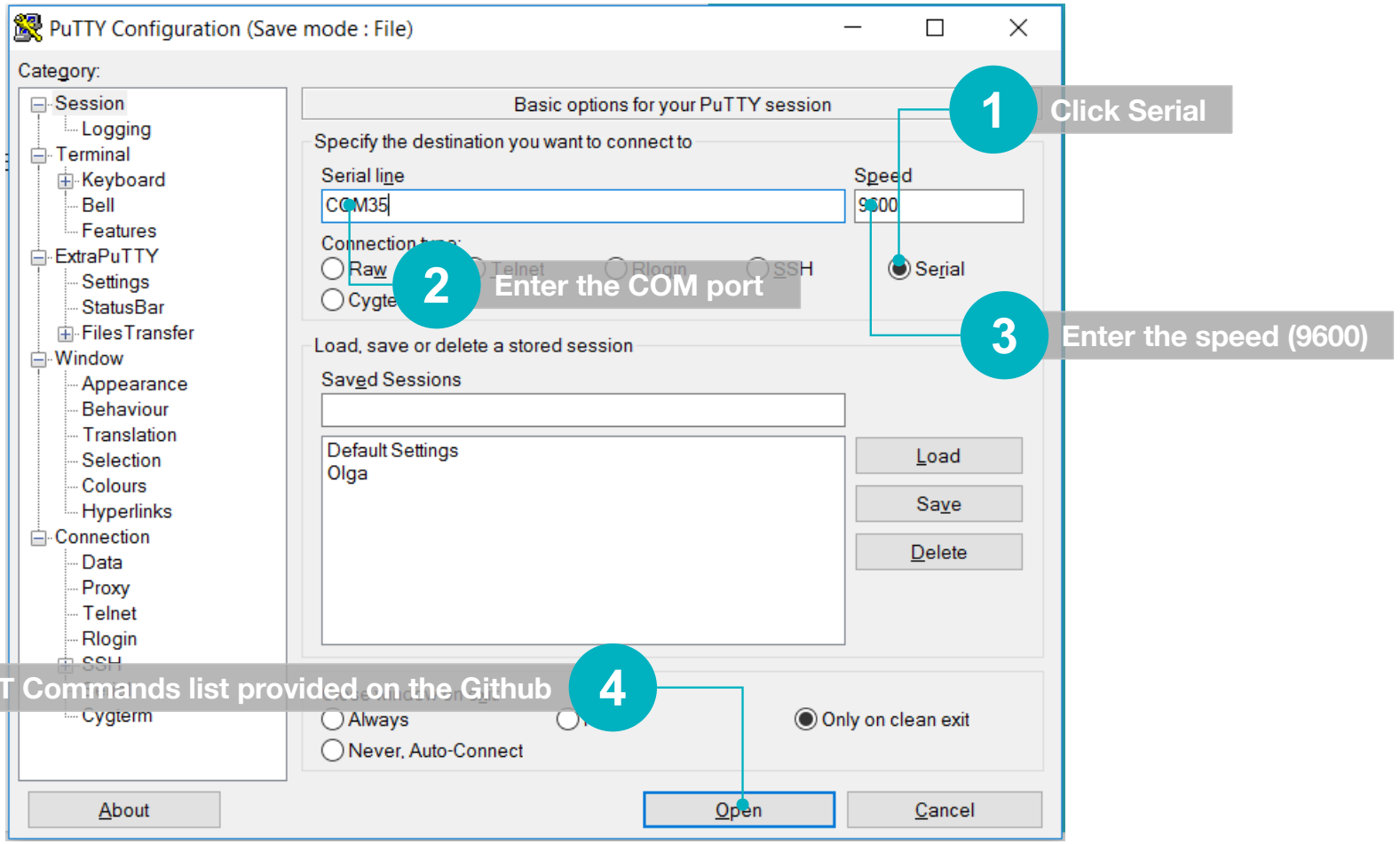
If using **ExtraPutty** (Windows)



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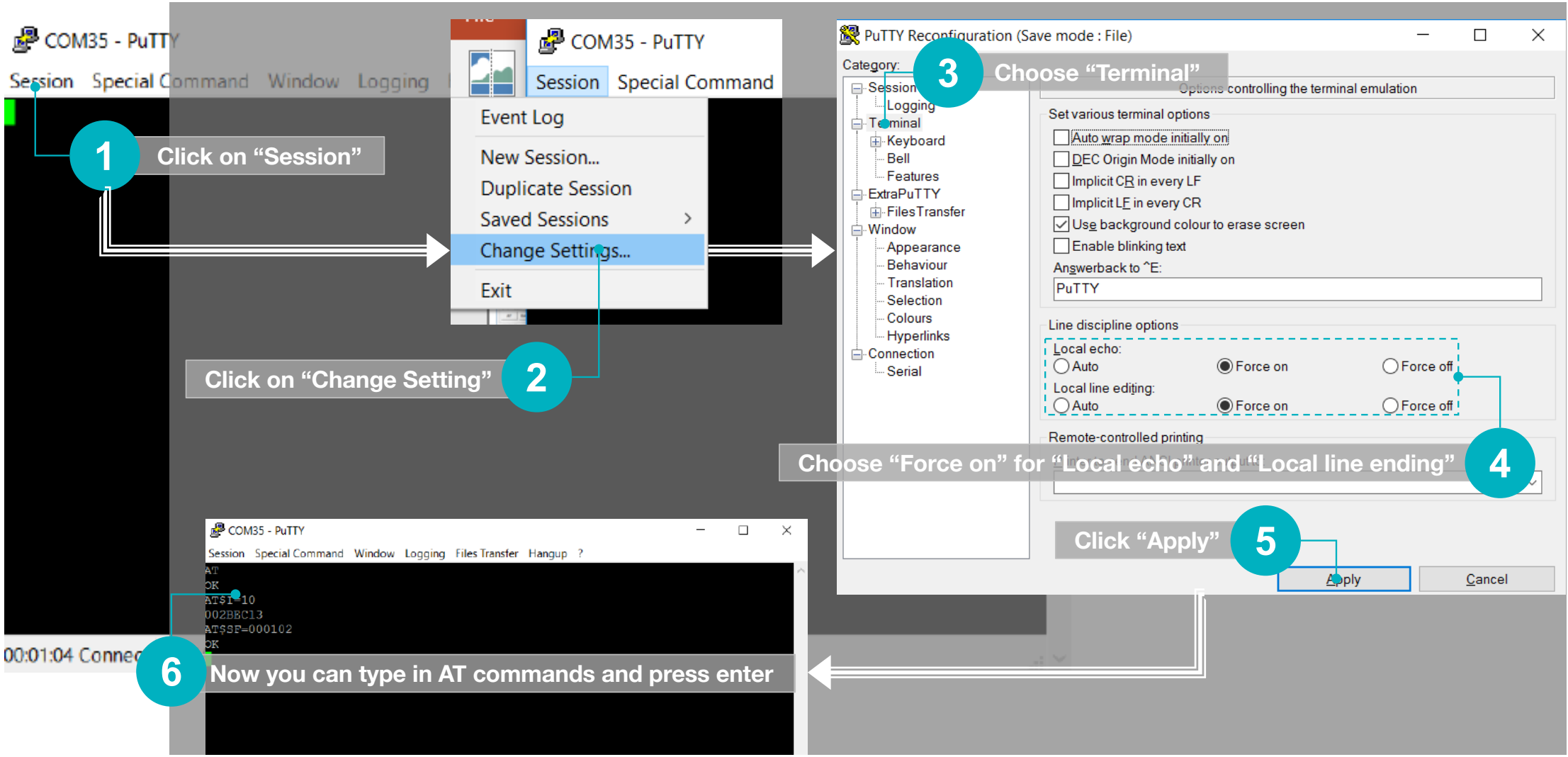
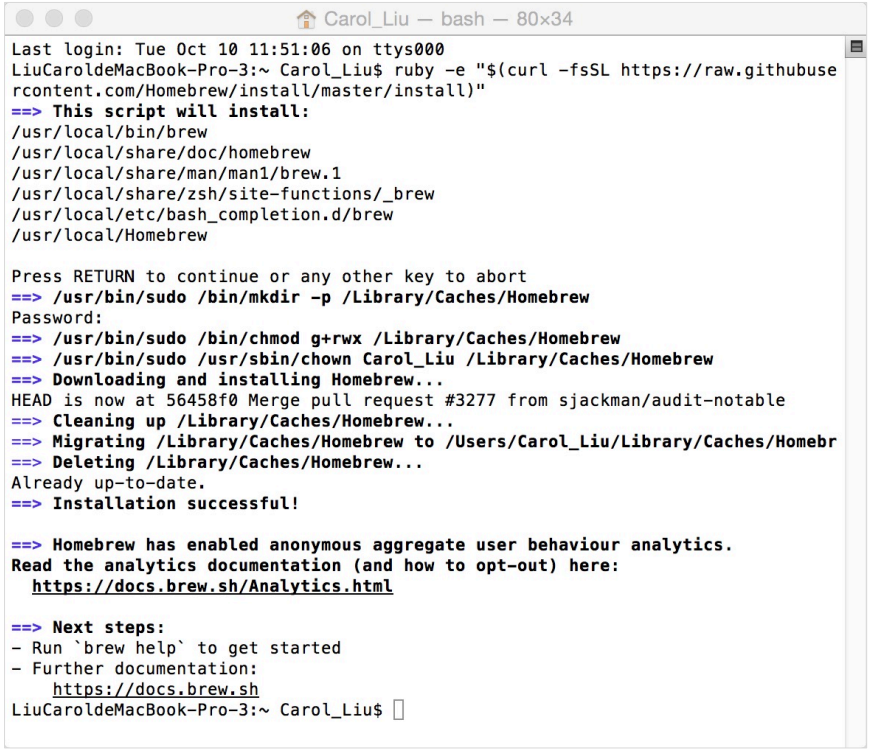


XKIT BREAKDOWN GUIDE – MAC

STEP 1 Use the **Finder** to go to Applications > Utilities > Terminal.

STEP 2 Install **Homebrew** by typing the following line into the Terminal, then press **Enter**

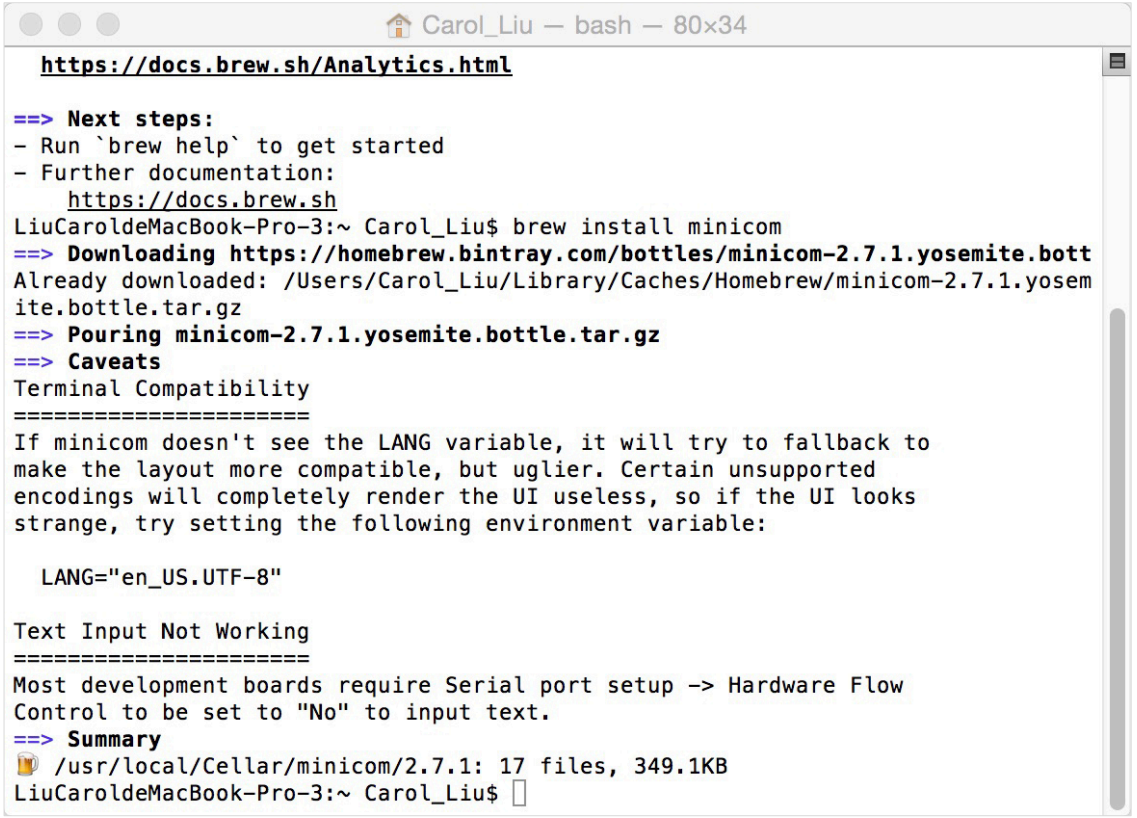
```
ruby -e “$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)”
```



XKIT BREAKDOWN GUIDE – MAC

STEP 3 Install **minicom** by typing the following line into the Terminal.

```
brew install minicom
```



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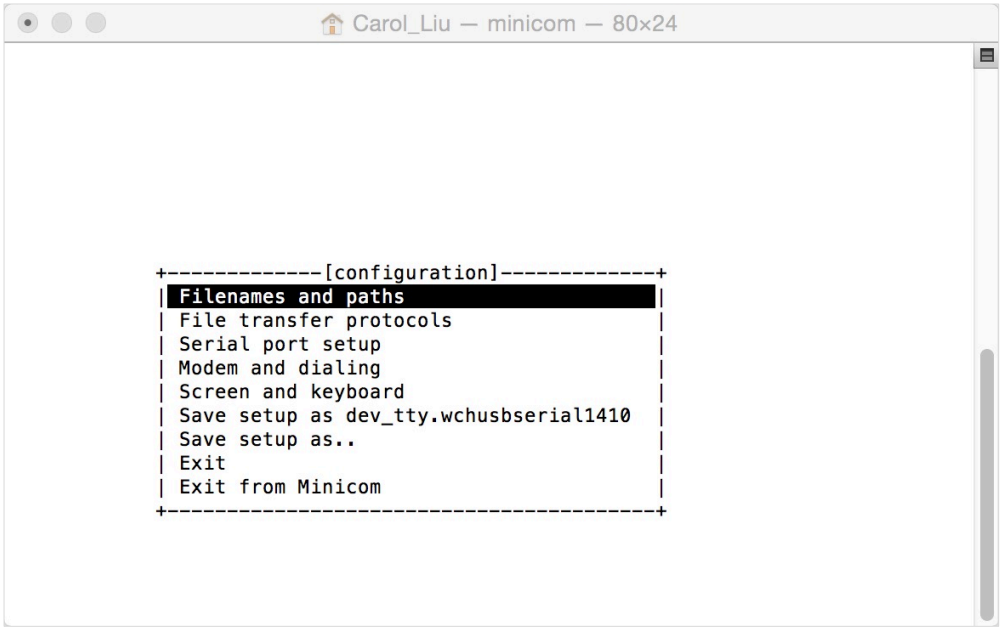
STEP 4 Remove the Xkit from your Mac then connect it to the USB port again.

STEP 5 Create a serial port by typing the following line, then it will show the screen like this:

```
minicom –s
```



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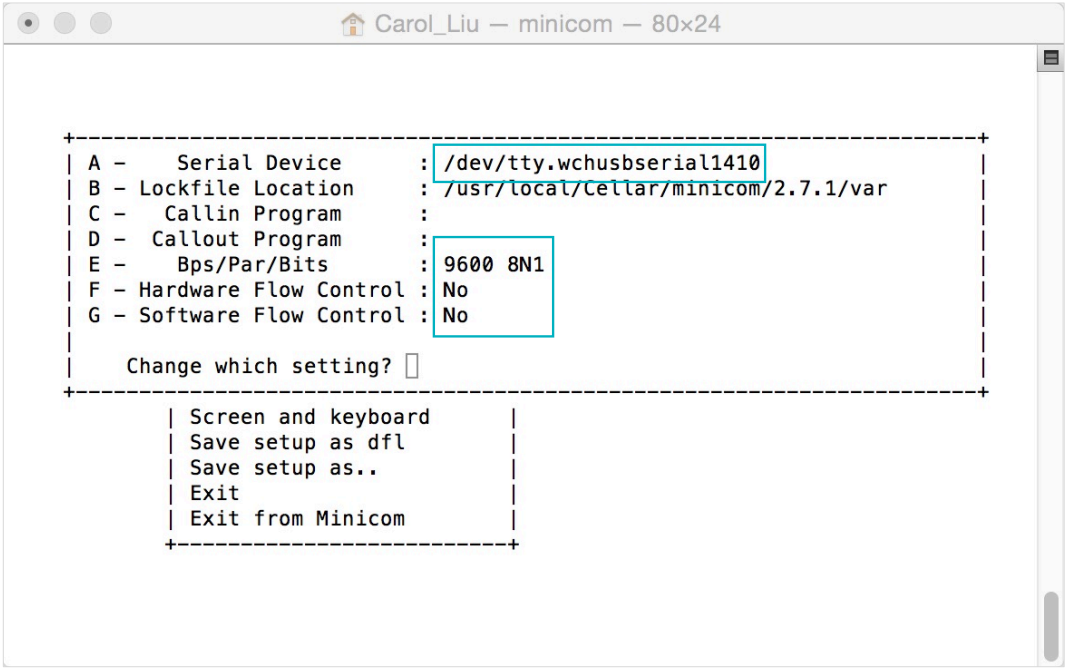
STEP 6 Go to **Serial port setup** and press **Enter** >

Change the configuration to be the same as the screenshot (press the key A, B, C … to navigate through the options) >

Press **Enter** to exit.



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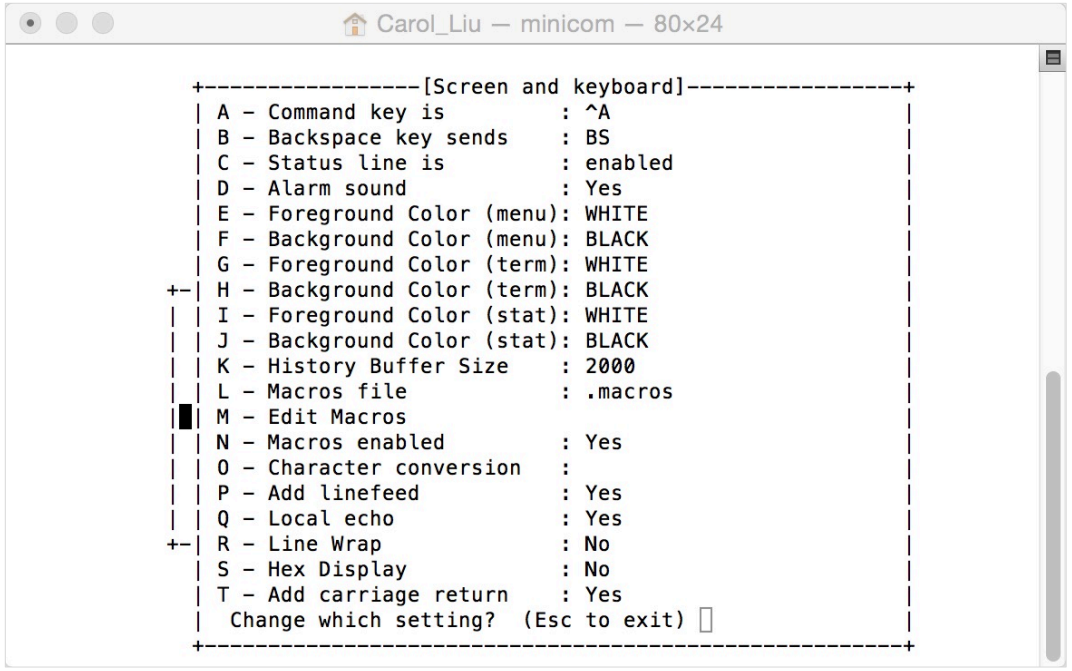
STEP 7 Go to **Screen and keyboard** and press **Enter** >

Press **P, Q, T** >

Press **Enter** to exit.



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STEP 8 Go to **Save setup as…** and press **Enter** >

Type in a name (e.g., ser1) >

Press **Enter**.

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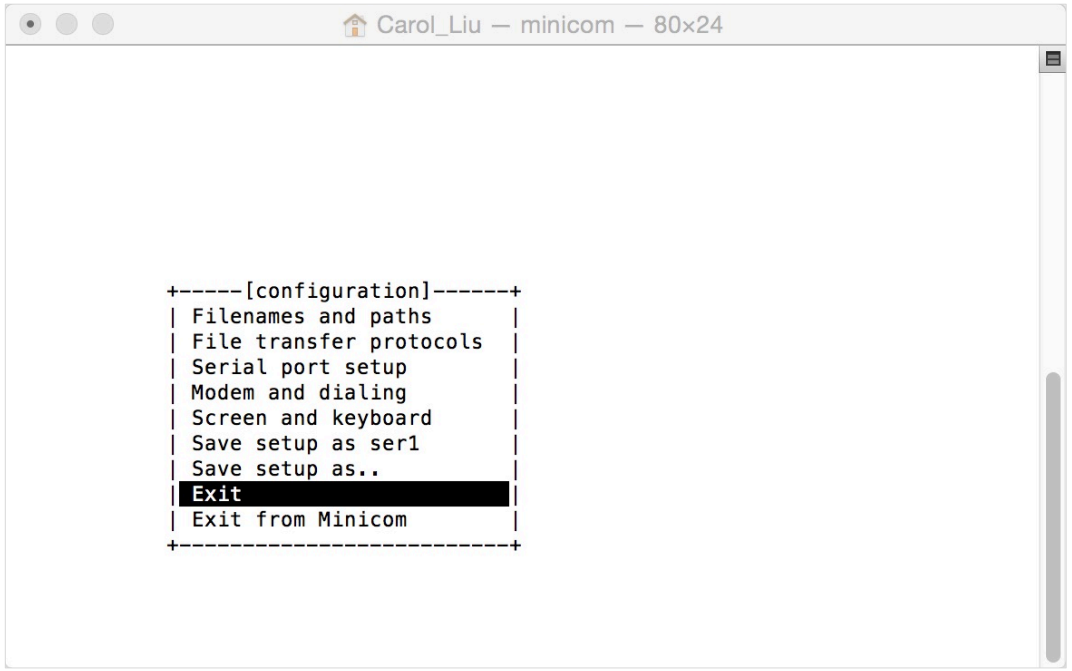
STEP 9 Go to **Exit** and press **Enter**.



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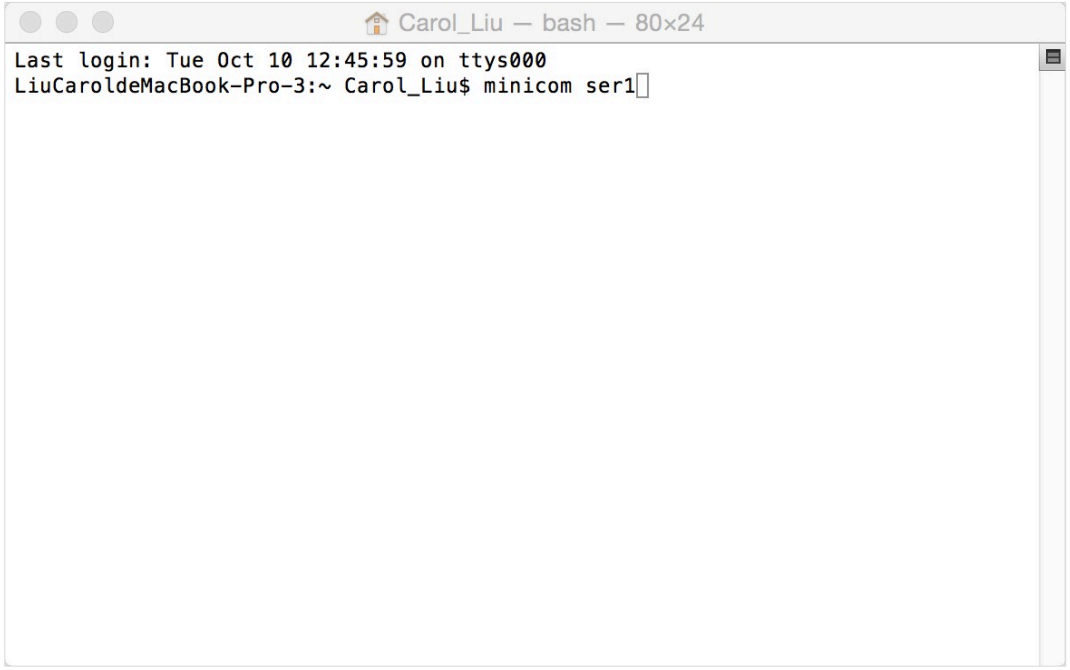
STEP 10 Type the following line into the Terminal.

```
minicom ser1
```



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STEP 11 Now you can use **AT command** to communicate with the Xkit.

Thinxtra Xkit pin-out configuration

Pins linked to

- **Power**
- **Sensors**
- **Module**

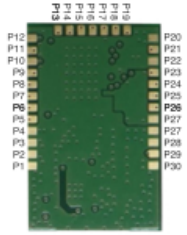
	P1
Reference voltage for I2C communication	HOST-IOREF - P2
	P3
Input voltage to Xkit. Use with STM Nucleo jumper config	HOST_3V3 - P4
Input voltage to Xkit. Use with Arduino jumper config	HOST_5V - P5
	GND - P6
	GND - P7
Output voltage from battery. Use with battery jumper config	VOUT - P8

LIGHT_SENSOR_OUTPUT - P1	
BUTTON_OUTPUT - P2	
P3	
P4	
P5	
P6	

P10 - I2C_SCL	I2C bus to communicate with temperature/pressure sensor
P9 - I2C_SDA	I2C bus to communicate with accelerometer
P8	
P7 - GND	
P6 - GPIO6	Connected to the GPIO6 of Wisol module
P5- DO NOT USE	
P4 - GPIO9	Connected to the GPIO9 of Wisol module
P3 - GPIO7	Connected to the GPIO7 of Wisol module
P2 - GPIO4	Connected to the GPIO4 of Wisol module
P1 - SF_RESET	Connected to the RST_N pin of Wisol module
P8 - LED_BLUE	Connected to TXLED of Wisol module
P7 - LED_RED	Connected to RXLED of Wisol module
P6 - MMA8451_INT2	Interrupt pin of accelerometer
P5	
P4 - REED_OUTPUT	Connected to the REED switch
P3 - MMA8451_INT1	Interrupt pin of acceleromter
P2 - SERIAL1_TX	Connected to UARTTX of Wisol module (add P9 Jumper)
P1 - SERIAL1_RX	Connected to UARTRX of Wisol module (add P9 Jumper)

The list of AT commands can be found at
https://github.com/Thinxtra/Xkit-Sample/blob/master/Document/Wisol_Comands_and_Schematics/WISOLUserManual_EVBSFM10R_Rev.7_170109_58b4a9a454c77_e.pdf.

Wisol module pin-out configuration



1	GND	9	GPIO5	17	TXLED/ DBG_CLK	25	GPIO2
2	GND	10	GPIO4	18	NC4/DBG_EN	26	GPIO3
3	GND	11	CPU_LED	19	RST_N	27	GND
4	GND	12	RADIO_LED	20	GND	28	GND
5	NC3/ SYSCLK	13	GPIO9	21	VDD_IO	29	GND
6	GPIO8	14	UARTTX	22	GND	30	RF_IO
7	GPIO7	15	UARTRX	23	GPIO0	31	GND
8	GPIO6	16	RXLED/ DBG_DATA	24	GPIO1		

Pin-map of RCZ1, RCZ2, RCZ3 and RCZ4 module is compatible (Pin to Pin)