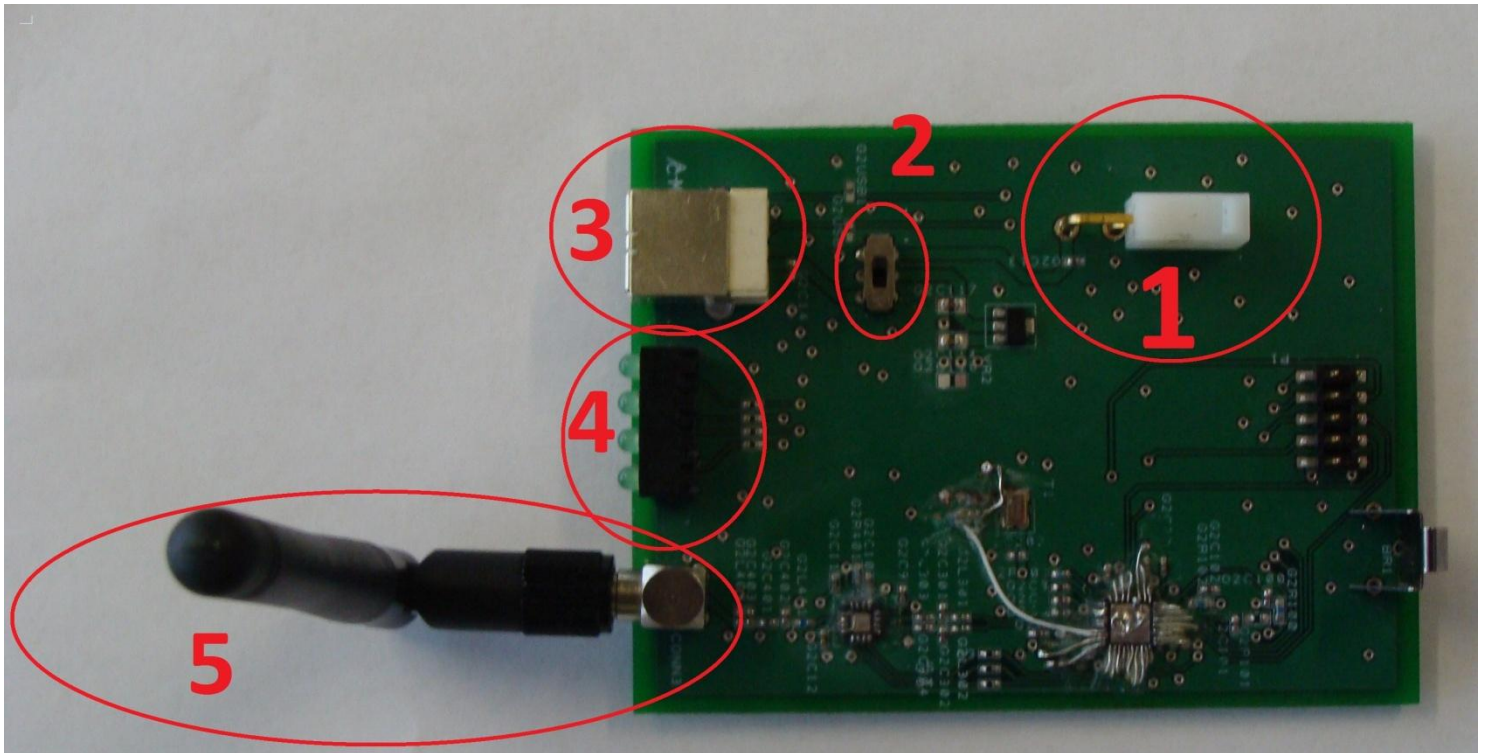


USER GUIDE – P11208 – RF Mid-Range II group

Simplicity Protocol 2.4GHz (Texas Instrument chip CC2531 +
Power Amplifier CC2591)

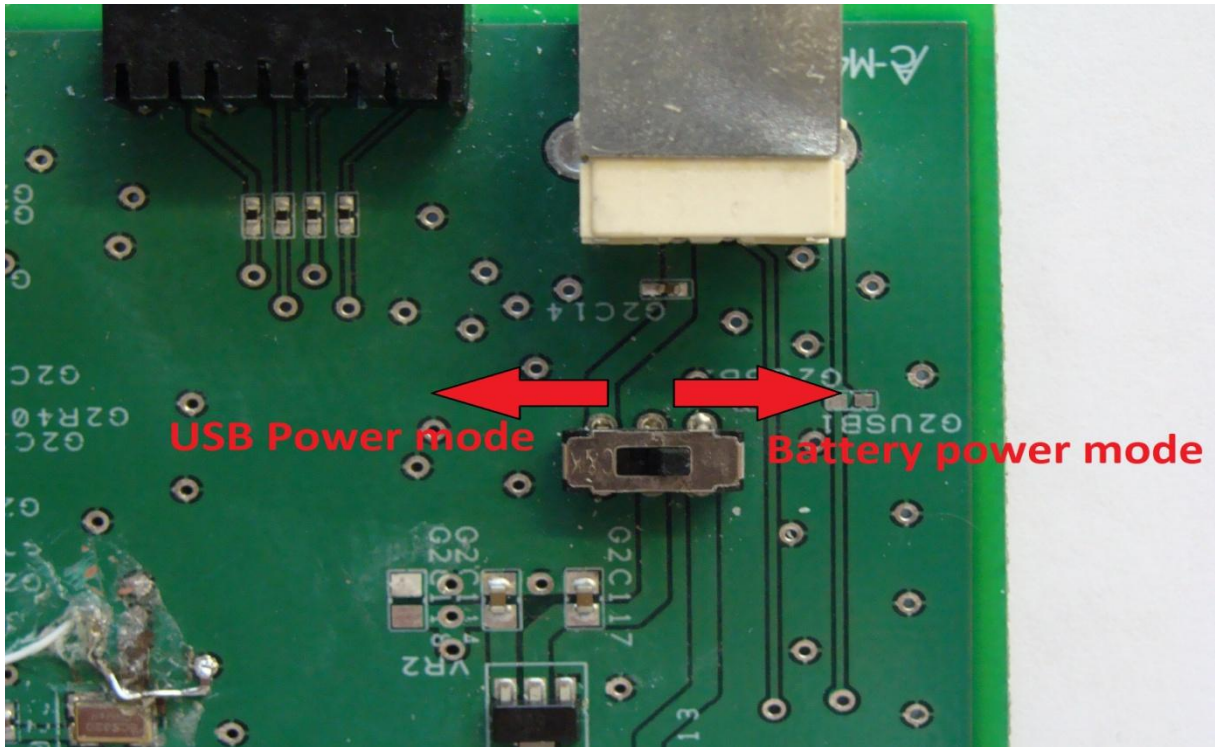
A - Board Presentation



- 1 → Power Connector
- 2 → Power Switch
- 3 → USB Connector (Type B receptacle)
- 4 → LED bank
- 5 → RF Connectors (RP-SMA Female Right-Angle type + Antenna)

B - Power Connection

As for power supply, Connect the board to either the battery with the power connector or directly to the USB connector. Use the switch button according to the schematic below to choose your power supply mode:



You can verify that the power is by looking at the most on the left LED which should be on.

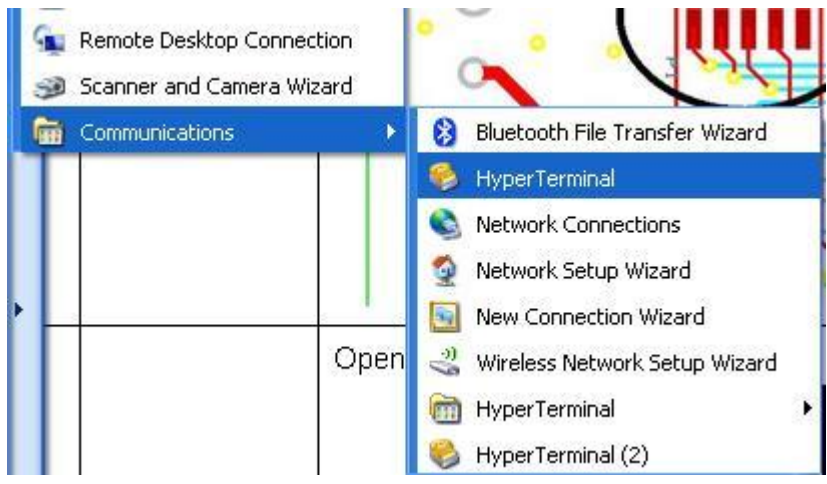
C - PC Connection

If not, connect the board to the PC via USB cable (male/female type B). Make sure you have the proper drivers ("swrc088c" package downloadable in www.ti.com on the CC2531 rubric) and application software installed (Testbench GUI application, Hyperterminal).

Please refer to the Testbench user guide concerning sending and receiving data using Testbench GUI application.

D- Hyperterminal

1	Connect the communication board to the USB port of the PC using a USB cable. Look up the port number assigned to the communication board in your control panel.
2	Open up HyperTerminal from your program menu.



3 Assign a name and click OK.



4 Select the corresponding COM channel and click OK.

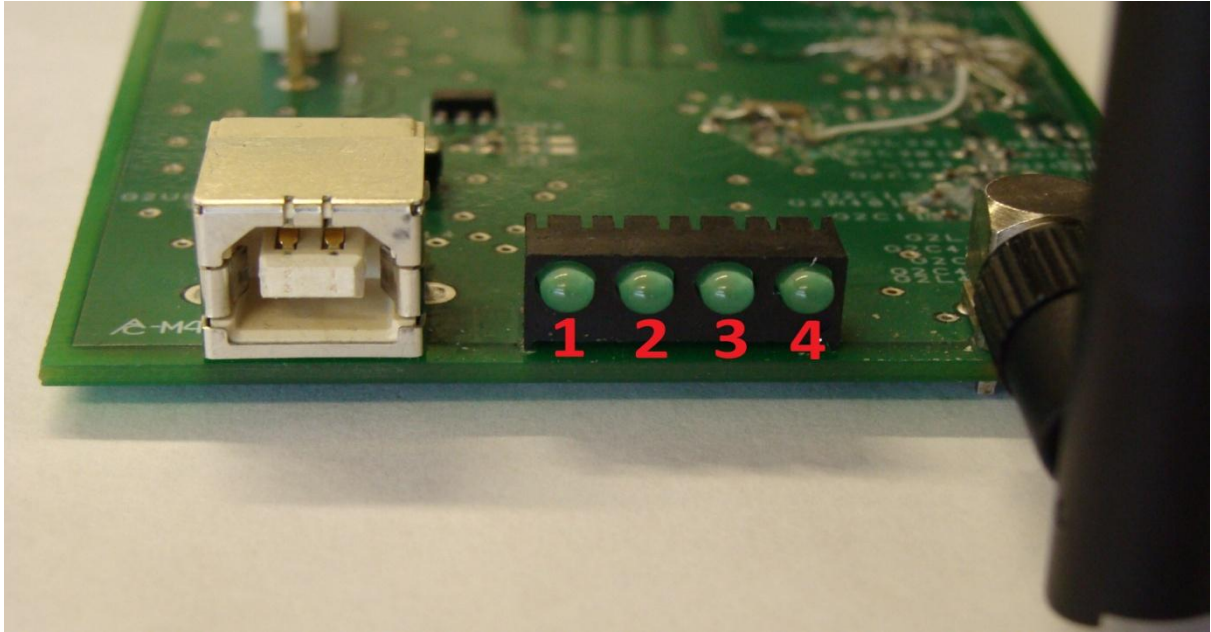


- 5 Change the data rate to 115200bps, 8 data bits, no parity, 1 stop bit, and Flow control of Hardware. Click OK.



- 6
- ⇒ To change channels : Type « aC » in the main followed by the number of the channel, The 4 LEDs flashes briefly to if the change is successful.
 - ⇒ To send data using our protocol: Type "aD" follow by two bytes of data length(2 characters followed by the data (>= 44 characters).
 - ⇒ To just send data, type the characters you want to send.
 - ⇒ You can visualize what you receive by looking at the main console of the hyperTerminal.

E - LED visualisation



- 1 → *Power LED*: on => power is on / off=>power is off
- 2 → *Transmit LED*: on => Transmitting data / off => not Transmitting data
- 3 → *Receive LED*: on => Receiving data / off => not Receiving data
- 4 → *Connectivity LED*: on => A connection between at least another board is active / off => No connection with another board

F – Complementary informations

Go on <http://edge.rit.edu/content/P11208/public/Home> for more information on the project.