

SLEEP APP NOTE

1. Overview

This Power demo application allows each of the various low mode modes to be selected, using a simple user interface via the serial port.

2. Hardware Requirements

- Carrier Main Board(JN5189)
- ARNO Mezzanine Card
- Mini USB Cable
- PC or Laptop

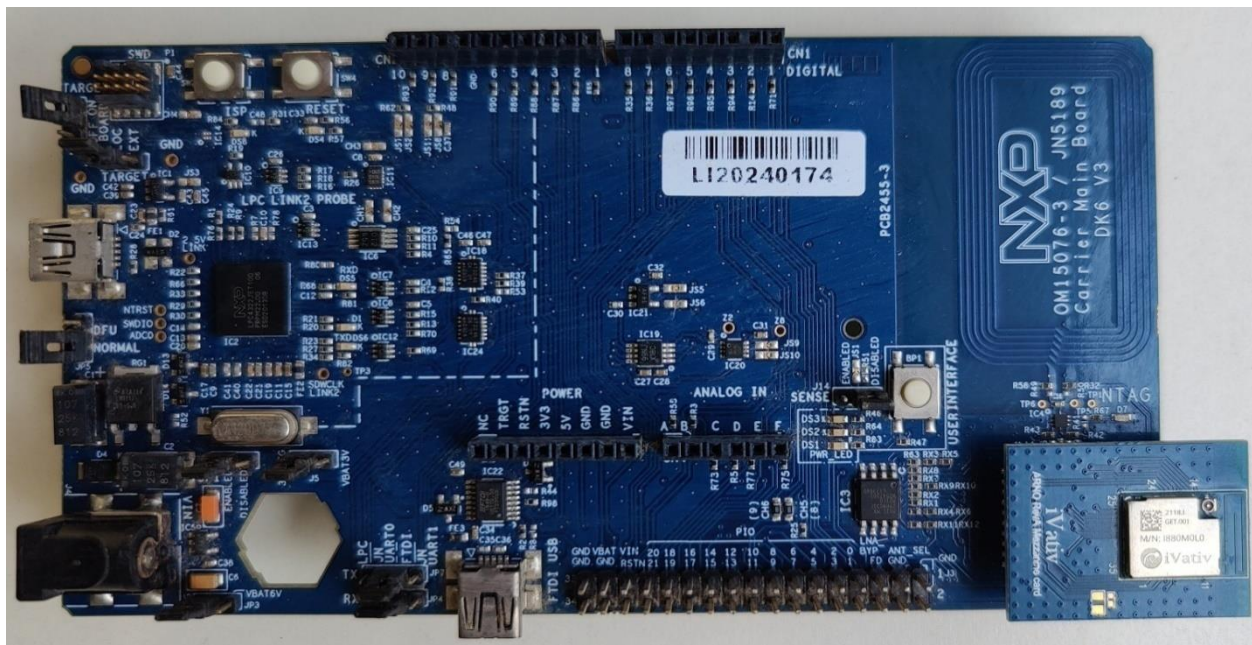
3. Software Requirements

- MCUXpresso IDE
- QN9090 SDK latest version
- Install IoT Toolbox in mobile from App Store/Google Play store

4. Procedure

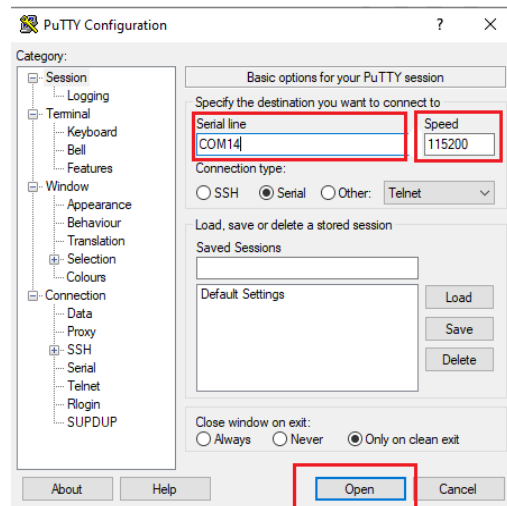
Note: To make changes in QN9090 SDK for the ARNO module refer to ARNO module working procedure in ARNO User Guide.

- Insert the ARNO Mezzanine Card on the Carrier board as shown in below figure

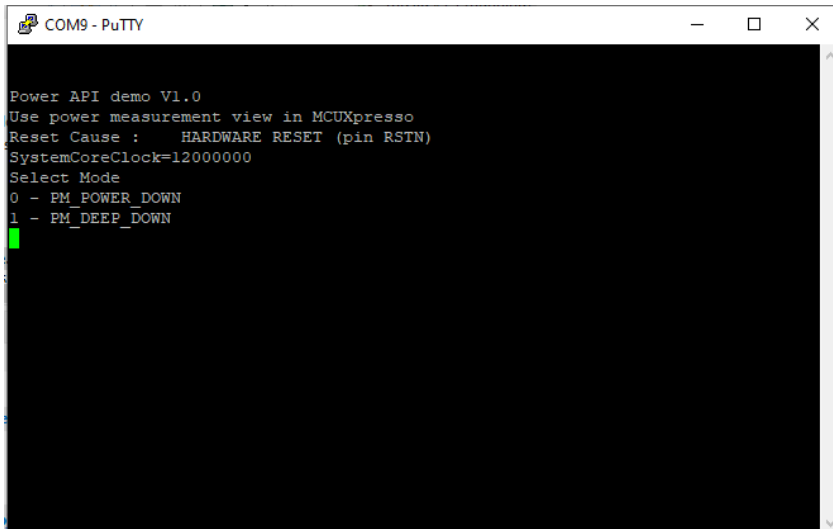


- Connect the ARNO DVK to the PC or Laptop with the mini USB cable

- Press the reset button on the DVK
- Open the device manager and check for the COM port
- Open the putty terminal in PC, change the serial line with the com port number and the speed with the 115200 and then click on open



- Compile and run the application
- Options can be observed on the serial terminal on the putty like below figure



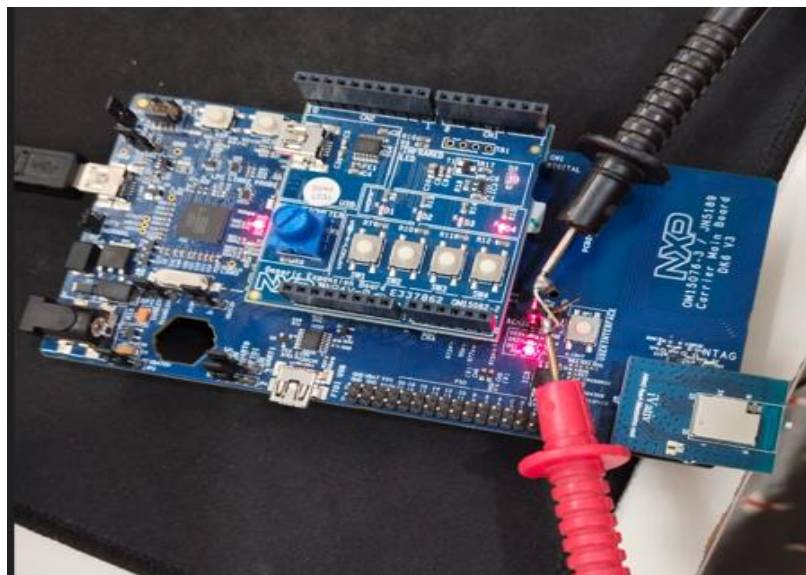
```
Power API demo V1.0
Use power measurement view in MCUXpresso
Reset Cause : HARDWARE RESET (pin RSTN)
SystemCoreClock=12000000
Select Mode
0 - PM_POWER_DOWN
1 - PM_DEEP_DOWN
```

- User must select option 0 PM_POWER_DOWN and press enter to enter into PM_POWER_DOWN mode.

```
COM9 - PuTTY
Power API demo V1.0
Use power measurement view in MCUXpresso
Reset Cause :   HARDWARE RESET (pin RSTN)
SystemCoreClock=12000000
Select Mode
0 - PM_POWER_DOWN
1 - PM_DEEP_DOWN
Powerdown mode PM_POWER_DOWN selected
Select wakeup source
0 - WAKEUP_TIMER_0
1 - WAKEUP_TIMER_1
2 - WAKEUP_DIO
3 - WAKEUP_NONE
Wakeup source WAKEUP_DIO selected
Press any key to sleep
Wake up on pin 1, please press the BPI button to wakeup.
Sleeping...

Warm Boot!!
Reset Cause :   POWER_DOWN MODE
SystemCoreClock=32000000
Select Mode
0 - PM_POWER_DOWN
1 - PM_DEEP_DOWN
Powerdown mode PM_POWER_DOWN selected
Select wakeup source
0 - WAKEUP_TIMER_0
1 - WAKEUP_TIMER_1
2 - WAKEUP_DIO
3 - WAKEUP_NONE
Wakeup source WAKEUP_NONE selected
Press any key to sleep
Sleeping...
```

- While entering into a sleep mode after power down mode selected, by selecting wakeup timer and by giving sleep time as per our requirement then by pressing any key on keyboard then the device will enter into a sleep mode as shown in above figure
- Now, we have to measure the current with multi meter by connecting positive terminal to the (J14)Jumper pin1 and negative terminal to the (J14) Jumper pin2 then we will get 1.53milliamps of current
- Multi meter connections are made as shown in below figure



- we will get 1.5304milli amps of current as sleep current as shown in below figure



