

POWER DOWN 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

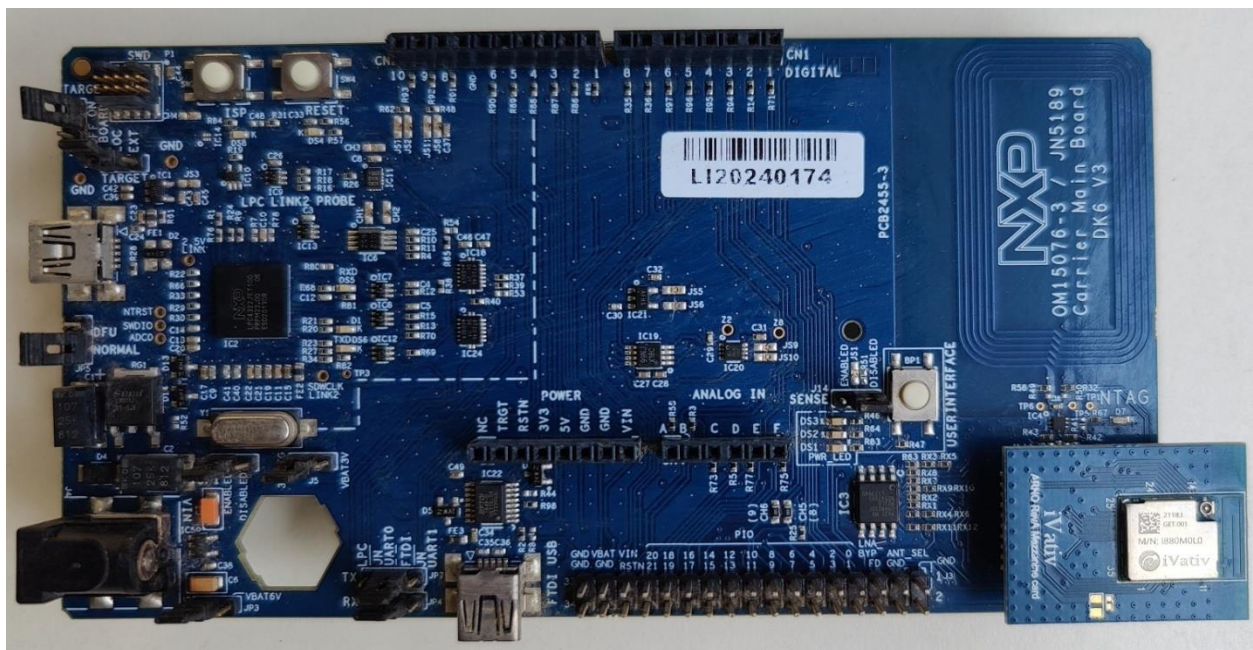
3. Software Requirements

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

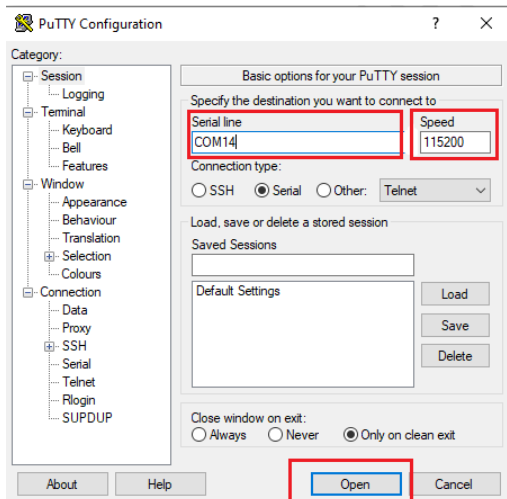
4. Procedure

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

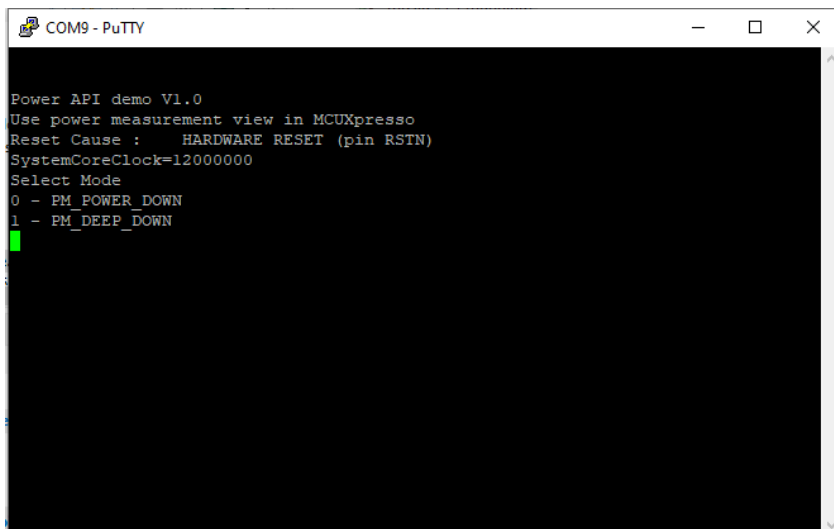
- Insert the ARNO Mezzanine Card on the Carrier board as shown in below figure



- 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



- User can select any one option(i.e. 0 or 1) and press enter to enter into particular mode

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COM9 - PuTTY

Power API demo V1.0
Use power measurement view in NCTXpresso
Reset Cause : NO RESET (CPU CONTEXT PRESERVED)
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_TIMER_0 selected
Input sleep time in seconds
10 seconds sleeping chosen
Press any key to sleep

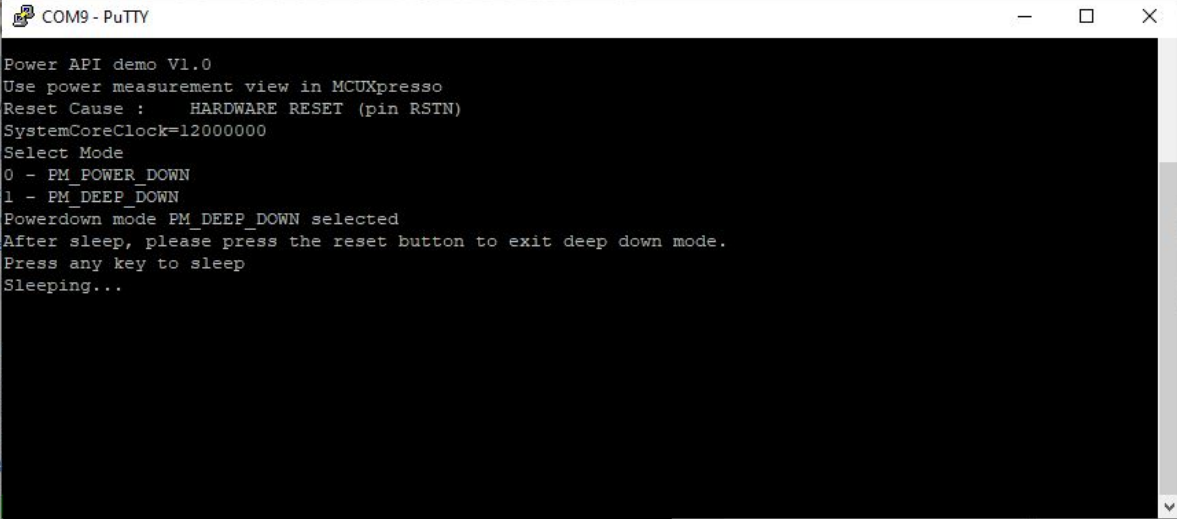
Power API demo V1.0
Use power measurement view in NCTXpresso
Reset Cause : HARDWARE RESET (pin RSTN)
SystemCoreClock=12000000
Select Mode
0 - PM_POWER_DOWN
1 - PM_DEEP_DOWN
Powerdown mode PM_POWER_DOWN selected
Select wakeup source
0 - WAKEUP_TIMER_0
1 - WAKEUP_TIMER_1
2 - WAKEUP_DIO
3 - WAKEUP_NONE
Wakeup source WAKEUP_TIMER_1 selected
Input sleep time in seconds
3 seconds sleeping chosen
Press any key to sleep

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

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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 BPl 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...
█
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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_DEEP_DOWN selected
After sleep, please press the reset button to exit deep down mode.
Press any key to sleep
Sleeping...
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