EXAMPLE NAME: LED_LAMP_WHITE_EXAMPLE_XMC12

OVERVIEW: This example demonstrates how use the PDM_DIMMED_LED_LAMP APP to control a 4-channel LED lamp.

DESCRIPTION:

- PDM_DIMMED_LED_LAMP APP drives an LED lamp using 4 PDM_BCCU APP and a DIM_BCCU APP.
- SYSTIMER APP provides a periodic 1s interrupt for changing lamp brightness.

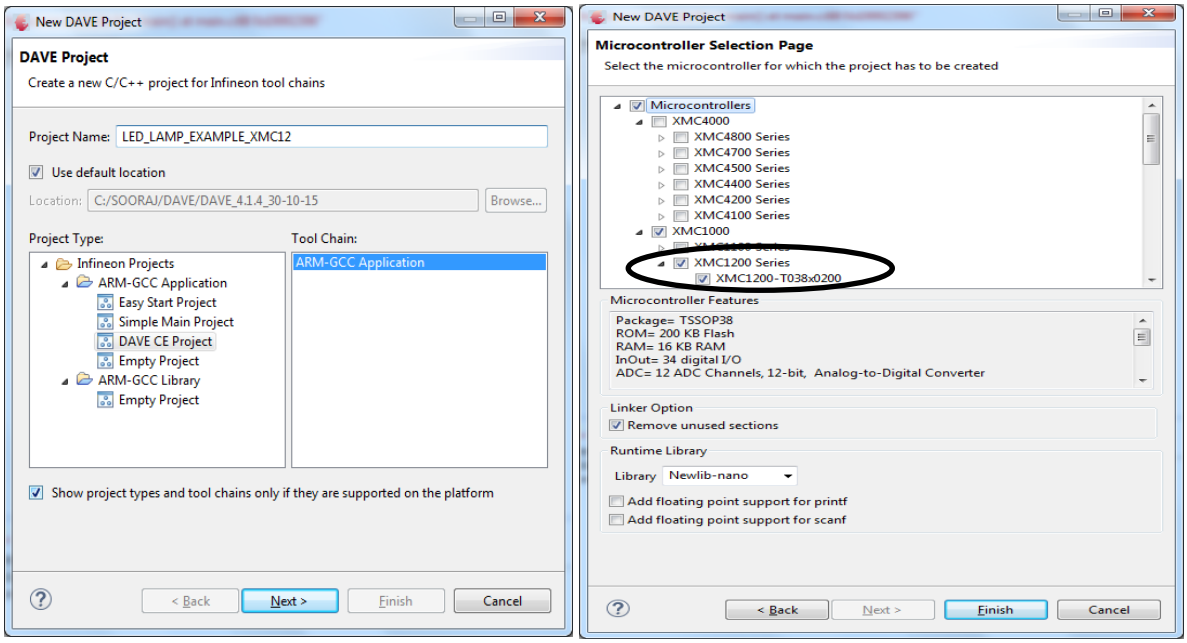
REQUIRMENTS:

Boards Required: XMC1200 CPU Board (Order Nr: KIT_XMC12_BOOT_001), White LED Card (Part of the LED

Lighting Application Kit, Order Nr: KIT_XMC1X_AK_LED_001)

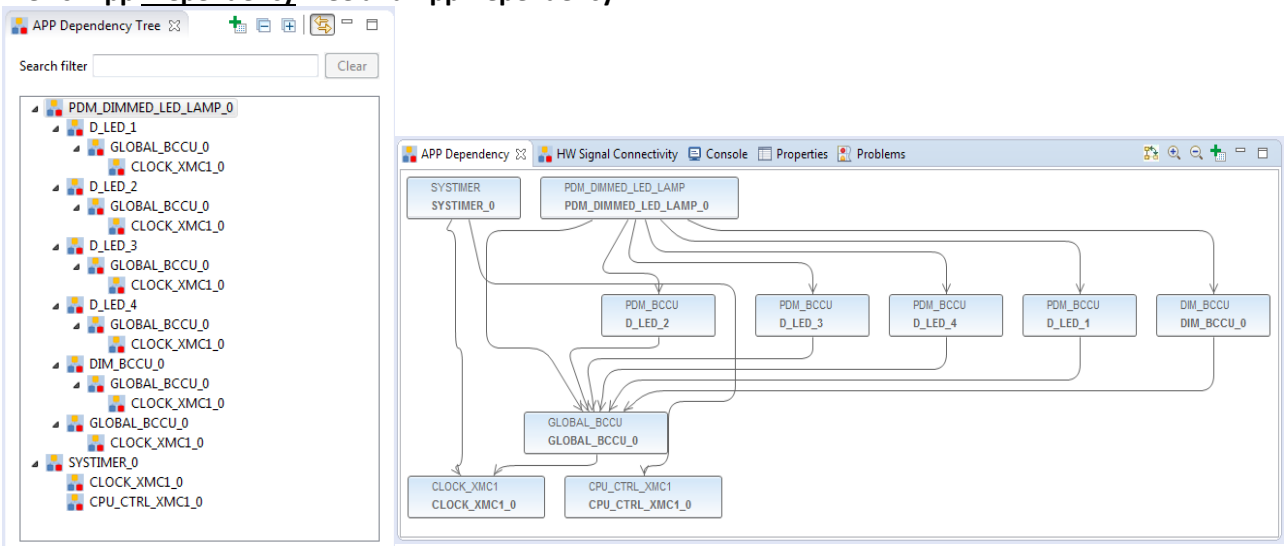
HOW TO CREATE THE PROJECT :

1. Open the DAVE CE and use “Add IDE New Project Wizard” shortcut in the toolbar to add a new DAVE Project. Select the Microcontroller XMC 1200 - T038x0200.

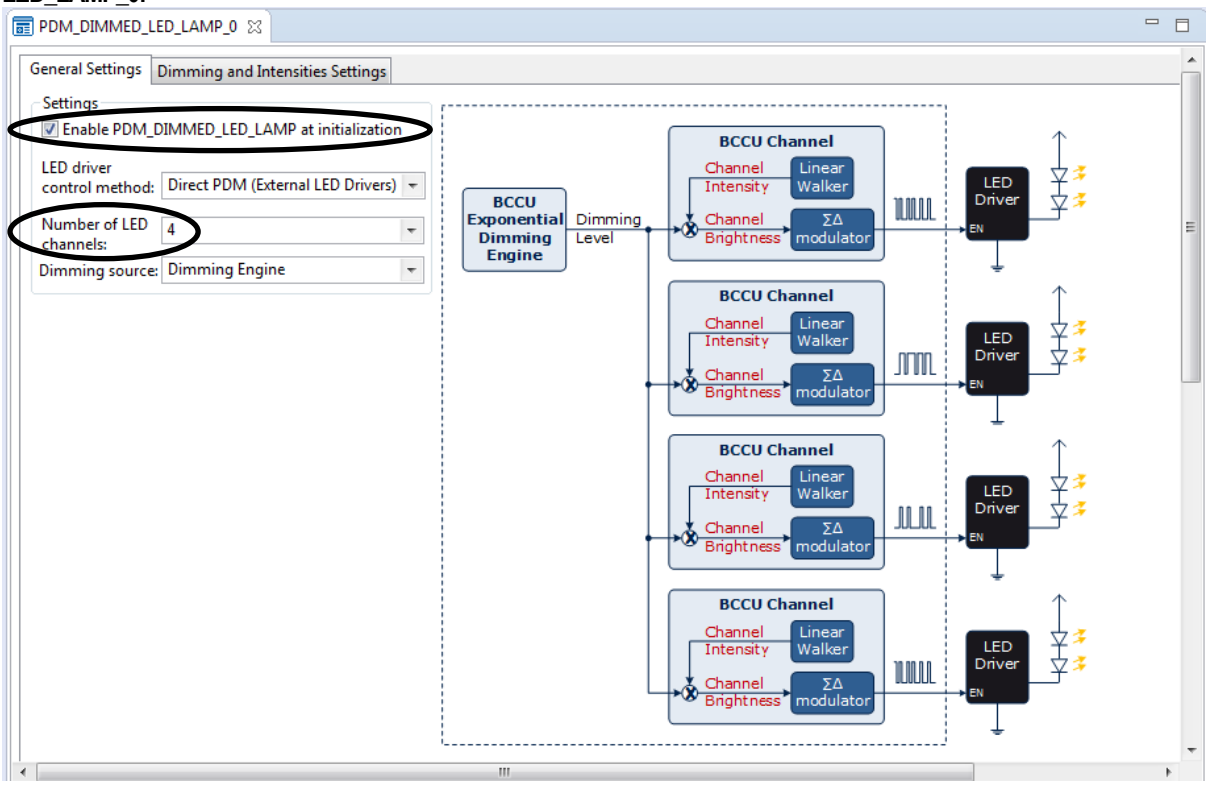


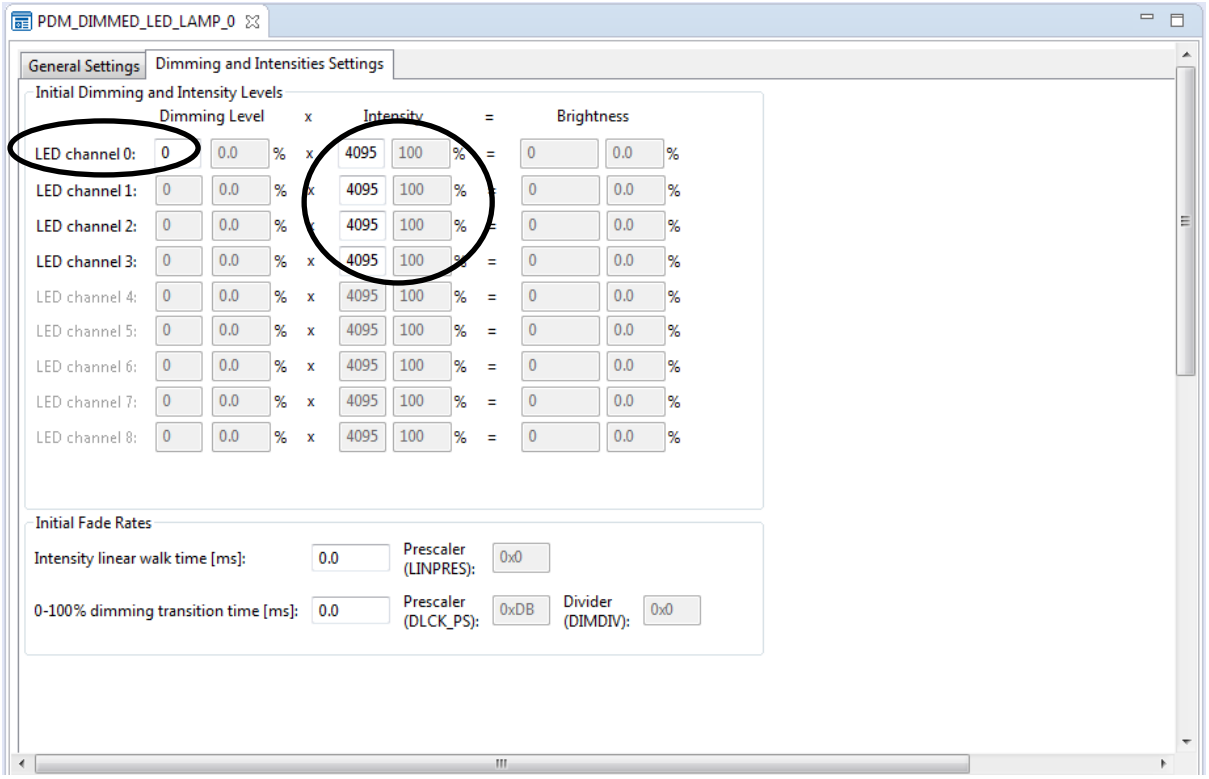
2. Use the “Add New App" shortcut in the toolbar to add 1 instance of PDM_DIMMED_LED_LAMP and 1 instance of SYSTIMER APP. Configure the App instances with the following configurations.

Views: App Dependency Tree and App Dependency

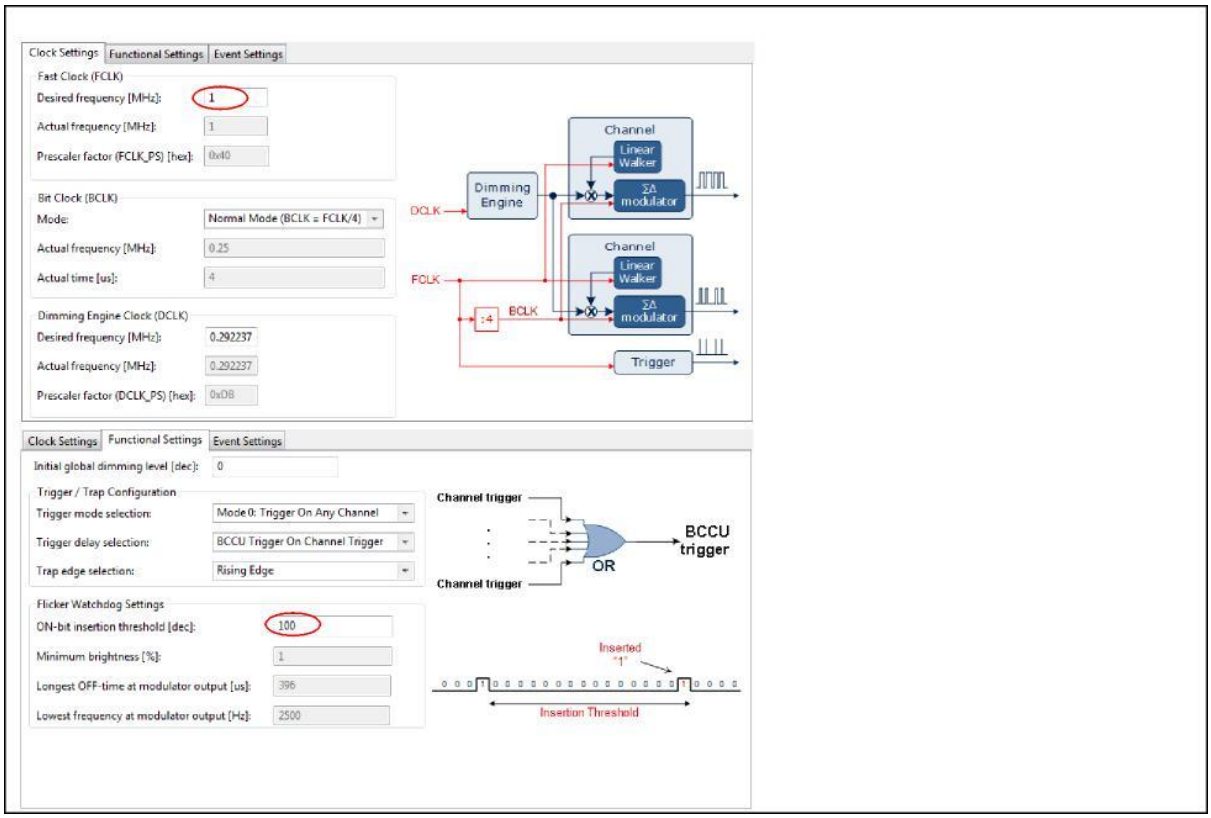


LED_LAMP_0:





GLOBAL_BCCU_0:

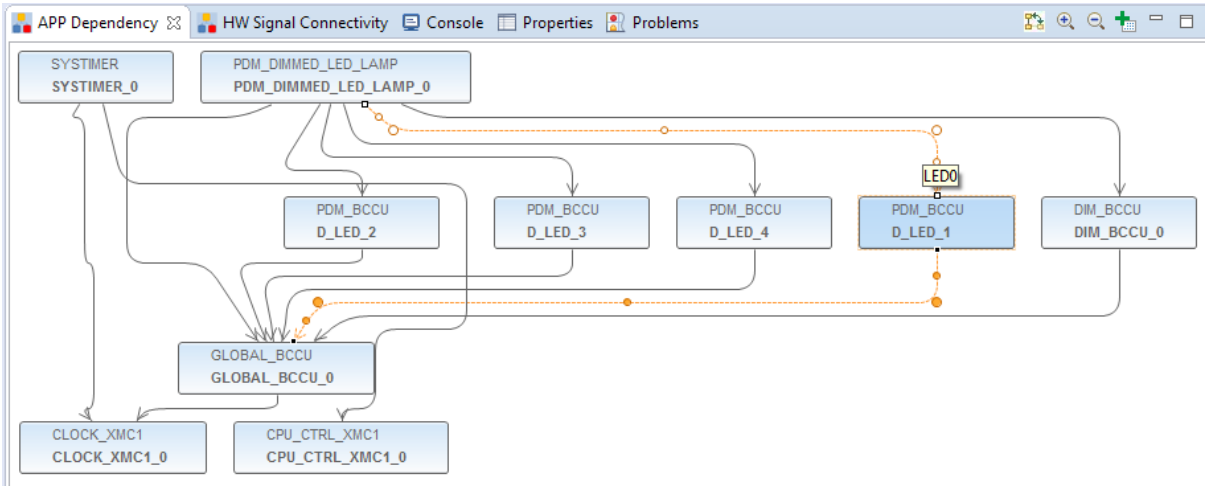


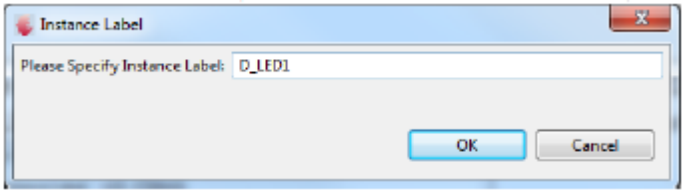
SYSTIMER_0:



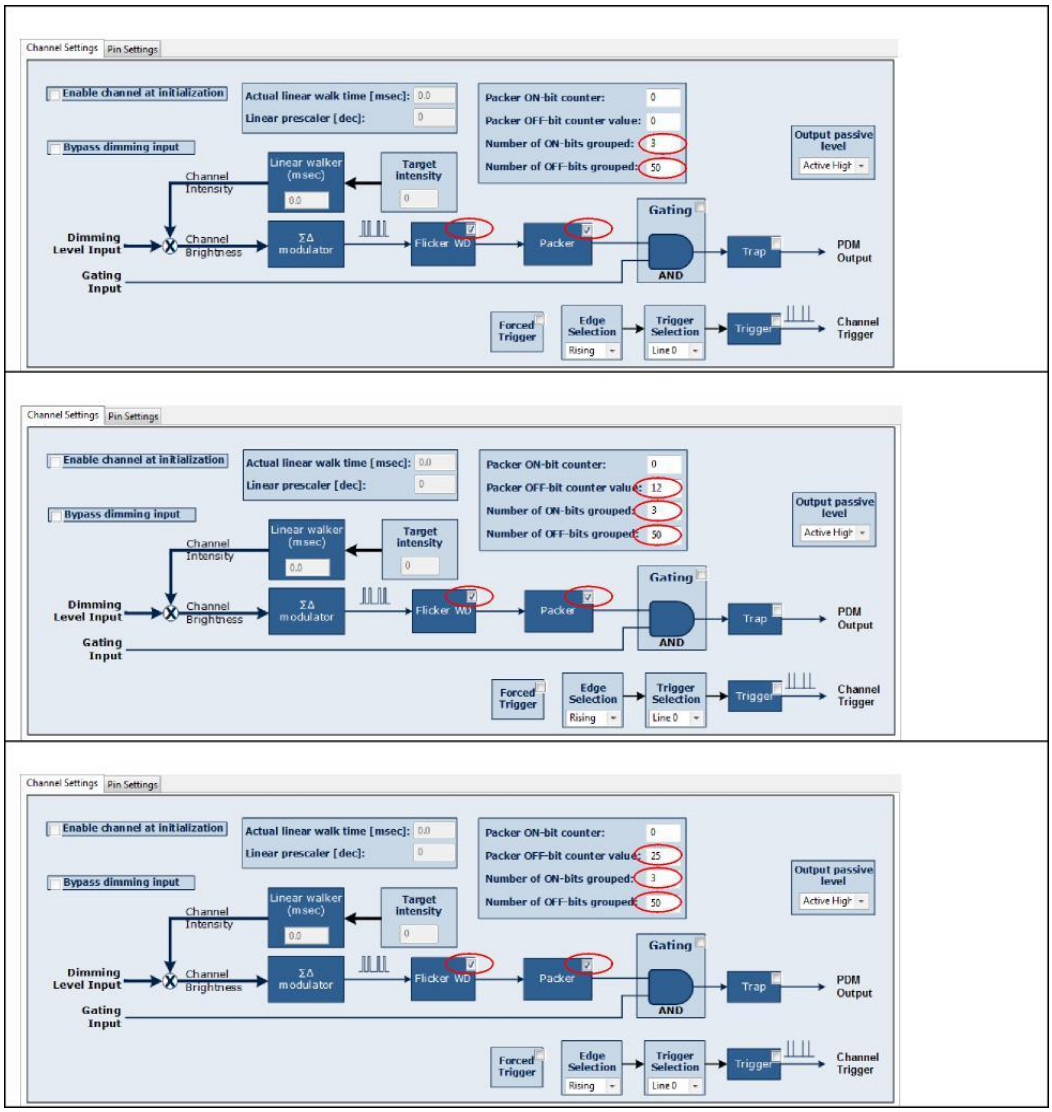
3. Rename the instance labels for PDM_BCCU APPs.

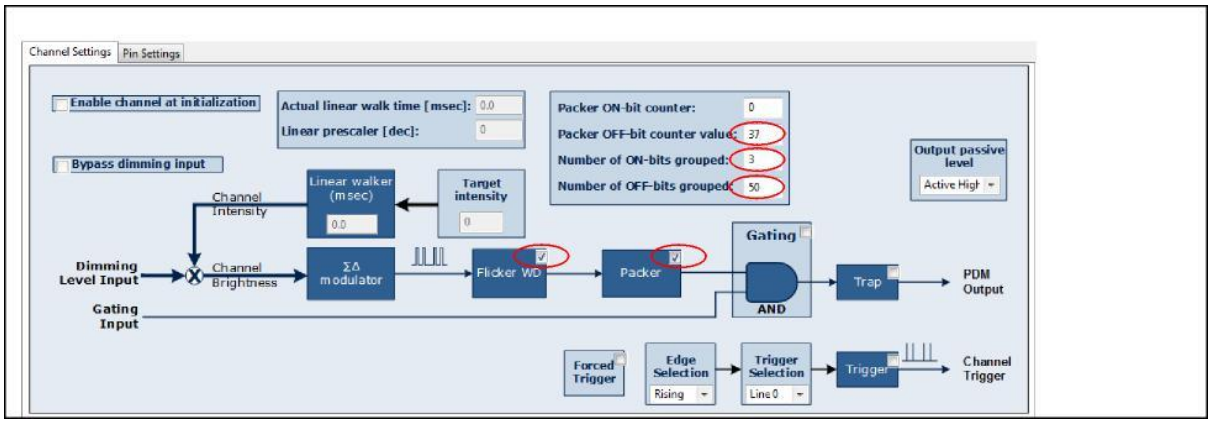
    1. Hover your mouse cursor over the connecting arrow to a PDM_BCCU APP. A label will appear momentarily e.g. LED0.
    2. Right-click the PDM_BCCU APP.
    3. Select “Rename Instance Label”.
    4. Type in new instance label. Repeat steps 1 to 4 for other PDM_BCCU APP instances. Replace “LED0” with “D_LED1”, “LED1” with “D_LED2”, “LED2” with “D_LED3” and “LED3” with “D_LED4”.



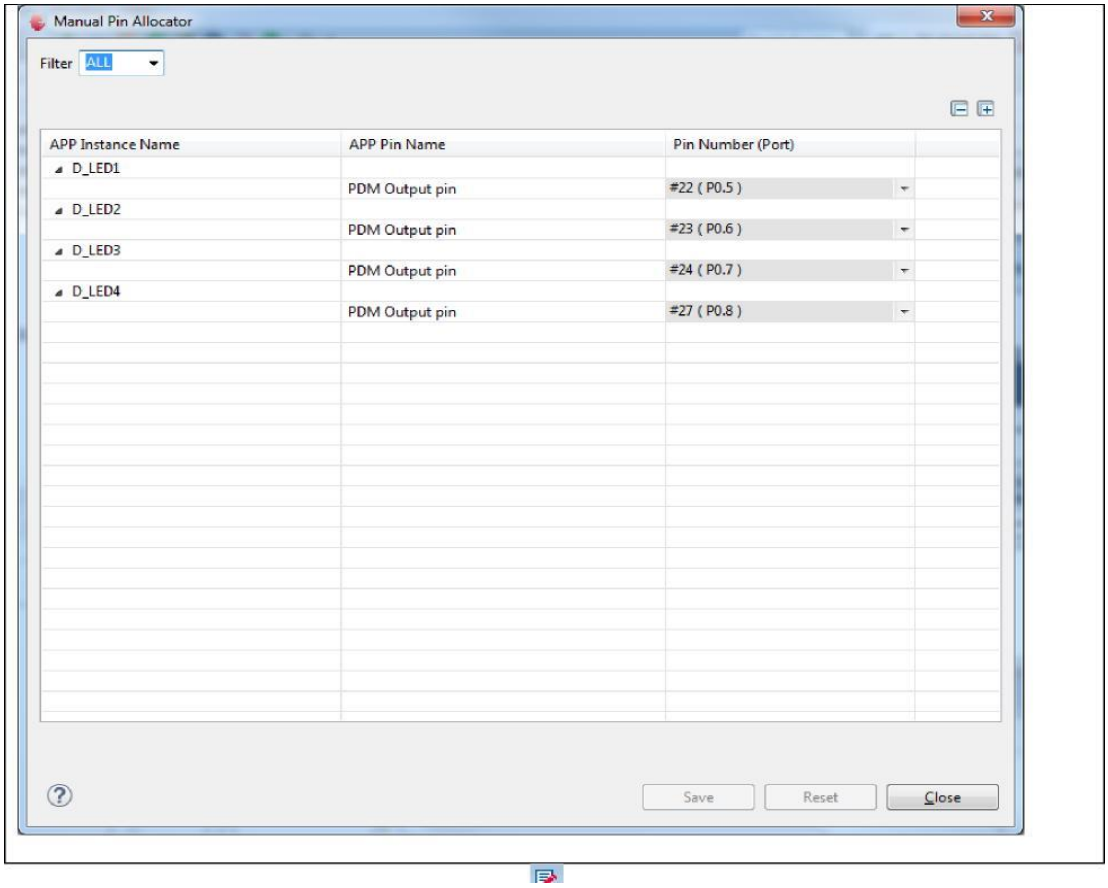


5. **Configure the PDM_BCCU APPs with the following configurations**.





6. **Use the "Manual Pin Allocator" found in the toolbar, configure the output pins for the LED strings.**



7. Generate the code for configurations made using shortcut in the toolbar.
8. Change main.c accordingly.
9. Build and download to the microcontroller using shortcut in the toolbar.HOW TO TEST:

Download and run the demo in the uC.

OBSERVATIONS:

- Lamp starts with 100% brightness.
- Lamp dims down to 10% brightness.
- Lamp dims up to 100% brightness.
- Lamp dims down to 0% brightness (off).
- Sequence repeats itself.

HINTS WHEN MIGRATING EXAMPLE TO OTHER DEVICES IN THE SAME XMC FAMILY: