# CC32xx PWM

## Overview

The general purpose timers (GPTs) support a 16-bit pulse-width modulation (PWM) mode with software-programmable output inversion of the PWM signal. As there are 4 GPTs, there are 8 possible PWM output options. Out of these, one is not available (the Timer A output of TIMERA2).

In the launchpad, the PIN's that drive the LEDs are capable of being muxed to drive the PWM output. In this example, the brightness of the LEDs are varied from Off to On by varying the duty cycle appropriately.

## Application details

The application uses the following pins to drive the PWM output:

- PIN_64 for TIMERPWM5
- PIN_01 for TIMERPWM6
- PIN_02 for TIMERPWM7

As these pins drive the LEDs on the launchpad, the brightness of the LEDs continuously changes as the duty cycle of the PWM output is varied in the timers.

The example generates a PWM output with ~0.5 ms time period. The duty cycle is continuously varied in order to change the brightness and this is done iteratively.

### Source Files briefly explained

main - Configures the timer to operate in PWM mode. Continuously changes the duty cycle in order to change the brightness of the LEDs.

pinmux - Assigns a personality to the pins at the device boundary
startup_* - Tool specific vector table implementation

## Usage

1. Run the reference application (Flashing the bin/IAR/CCS).
   - Open the Project as mentioned in the 'docs\CC3200-Getting Started Guide.pdf'
   - Build and download the application to the board
2. The brightness of the 3 LEDs (Red, Green, Yellow) incrementally changes from low (off) to high (on) simultaneously. This keeps repeating.

## Limitations/Known Issues

None.

# Article Sources and Contributors

**CC32xx PWM** *Source*: http://processors.wiki.ti.com/index.php?oldid=178064 *Contributors*: Codycooke, Jitgupta, Malokyle

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