M480 ADC in PWM out

Example Code Introduction for 32-bit NuMicro® Family

Information

Application	Get ADC voltage and send it out by PWM & DAC
BSP Version	M480 Series BSP CMSIS V3.04.000
Hardware	NuMaker-ETM-M487

1 Function Description

1.1 Introduction

This example code shows how to get ADC voltage and send it out by DAC and PWM.

1.2 Principle

This example code shows how to check the input voltage data by DAC and PWM output pin.

1.3 Demo Result

After executing the program, DAC out pin and PWM output pin will output the ADC voltage.

2 Code Description

Get ADC data and send data out by PWM and DAC

```
void EPWM0P0_IRQHandler(void)
{
    GetAdcData();

    // FeedBack loop
    PWMOutput = (AdcInput / Vol);
    if(PWMOutput > (PWMCOUNTER-1)) PWMOutput = (PWMCOUNTER-1);
    else if(PWMOutput < 1) PWMOutput = 1;
    EPWM_SET_CMR(EPWM0, 0, PWMOutput);
    EPWM_SET_CMR(EPWM0, 2, PWMCOUNTER - PWMOutput);

    /* Set DAC 12-bit holding data */
    DAC_WRITE_DATA(DAC0, 0, AdcInput);

    //clear INT
    EPWM_ClearPeriodIntFlag(EPWM0, 0);
    EPWM_ClearZeroIntFlag(EPWM0, 0);
}
```

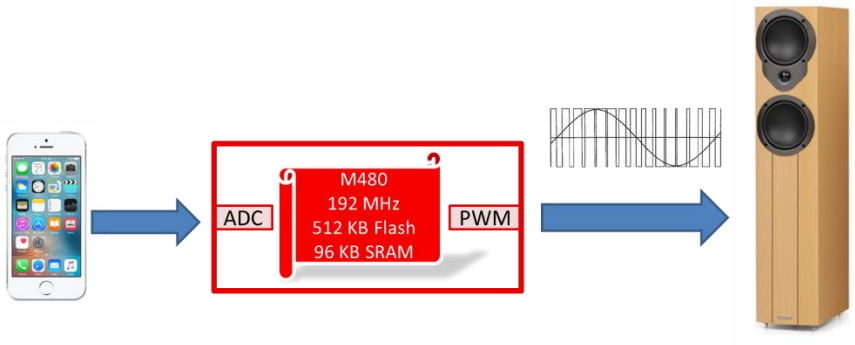
3 Hardware and Software environment

Software Environment

- BSP version
  - M480 Series BSP CMSIS V3.04.000
- IDE version
  - Keil uVersion 5.26

Hardware Environment

- Circuit components
  - NuMaker-ETM-M487
- Diagram
  -



4 Directory Information

- EC_M480_Adc_In_Pwm_Out_V1.00
  - Library — Sample code header and source files
    - CMSIS — Cortex® Microcontroller Software Interface Standard (CMSIS) by Arm® Corp.
    - Device — CMSIS compliant device header file
    - StdDriver — All peripheral driver header and source files
  - SampleCode
    - ExampleCode — Source file of example code

5 How to execute a sample code

1. Enter Keil compile mode
    a. Build
    b. Download
    c. Start/Stop debug session
2. Enter debug mode
    a. Run

6 Revision History

Date	Revision	Description
Nov 14, 2019	1.00	1. Initially issued.