My Project

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1.1 File List

Here is a list of all files with brief descriptions:

Chapter 2

File Documentation

2.1 ADC.c File Reference

```
#include <stdint.h>
#include <stdbool.h>
#include <user.h>
```

Functions

- void initWiFIREadc (void)
- int convertWiFIREadc (uint8_t channelNumber)
- int ReadPotentiometerWithADC (void)

2.1.1 Function Documentation

2.1.1.1 convertWiFIREadc()

```
int convertWiFIREadc (
            uint8_t channelNumber )
```

convertWiFIREadc

Parameters

channelNumber	- The PIC32 analog channel number as in the PIC32 datasheet

Returns

The converted value for that channel

Warning

If return value of zero an error may have occurred

Converts the analog signal to a digital value on the given pic32 analog channel number

2.1.1.2 initWiFIREadc()

```
void initWiFIREadc (
             void  )
```

Initialization ADC

2.1.1.3 ReadPotentiometerWithADC()

```
int ReadPotentiometerWithADC (
             void  )
```

Read value from potentiometer with ADC

Returns

Return the converted data

2.2 ADC.h File Reference

Functions

- void initWiFIREadc (void)
- int convertWiFIREadc (uint8_t channelNumber)

2.2.1 Function Documentation

2.2.1.1 convertWiFIREadc()

```
int convertWiFIREadc (
             uint8_t channelNumber )
```

convertWiFIREadc

Parameters

channelNumber	- The PIC32 analog channel number as in the PIC32 datasheet

Returns

The converted value for that channel

Warning

If return value of zero an error may have occurred

Converts the analog signal to a digital value on the given pic32 analog channel number

2.2.1.2 initWiFIREadc()

```
void initWiFIREadc (
            void  )
```

Initialization ADC

2.3 configuration_bits.c File Reference

2.4 main.c File Reference

File containing example of doxygen usage for quick reference.

```
#include <stdint.h>
#include <stdbool.h>
#include "user.h"
```

Functions

- int32_t main (void)

2.4.1 Detailed Description

File containing example of doxygen usage for quick reference.

Author

My Self

Date

07 Nov 2017

2.4.2 Function Documentation

2.4.2.1 main()

```
int32_t main (
            void )
```

2.5 user.c File Reference

```
#include <stdint.h>
#include <stdbool.h>
#include "user.h"
#include <sys/attribs.h>
#include "ADC.h"
```

Macros

- #define VER 2

Functions

- void InitTimer2AndOC5 (void)
- void AdjustLED1Brightness (void)
- void InitGPIO (void)
- void InitApp (void)

2.5.1 Macro Definition Documentation

2.5.1.1 VER

```
#define VER 2
```

2.5.2 Function Documentation

2.5.2.1 AdjustLED1Brightness()

```
void AdjustLED1Brightness (
            void )
```

2.5.2.2 InitApp()

```
void InitApp (
             void   )
```

Call functions which initialize peripherals: GPIO, ADC, Timer2, OC5

2.5.2.3 InitGPIO()

```
void InitGPIO (
             void   )
```

Initialization GPIO

2.5.2.4 InitTimer2AndOC5()

```
void InitTimer2AndOC5 (
             void   )
```

initialization Timer 2 and OC5

2.6 user.h File Reference

Macros

- #define LD1_PORT_BIT LATGbits.LATG6
- #define LD2_PORT_BIT LATDbits.LATD4
- #define LD3_PORT_BIT LATBbits.LATB11
- #define LD4_PORT_BIT LATGbits.LATG15
- #define BTN1_PORT_BIT PORTAbits.RA5
- #define BTN2_PORT_BIT PORTAbits.RA4
- #define PWM_FREQ_HZ (1000)
- #define PWM_PERIOD_COUNTS (100000000/(256∗PWM_FREQ_HZ))
- #define MAX_ADC_VALUE (4095)
- #define VR1_AN_CHAN_NUM (8)
- #define VR2_AN_CHAN_NUM (45)

Functions

- void InitApp (void)
- void AdjustLED1Brightness (void)

2.6.1 Macro Definition Documentation

2.6.1.1 BTN1_PORT_BIT

```
#define BTN1_PORT_BIT PORTAbits.RA5
```

2.6.1.2 BTN2_PORT_BIT

```
#define BTN2_PORT_BIT PORTAbits.RA4
```

2.6.1.3 LD1_PORT_BIT

```
#define LD1_PORT_BIT LATGbits.LATG6
```

#define Macros

2.6.1.4 LD2_PORT_BIT

```
#define LD2_PORT_BIT LATDbits.LATD4
```

2.6.1.5 LD3_PORT_BIT

```
#define LD3_PORT_BIT LATBbits.LATB11
```

2.6.1.6 LD4_PORT_BIT

```
#define LD4_PORT_BIT LATGbits.LATG15
```

2.6.1.7 MAX_ADC_VALUE

```
#define MAX_ADC_VALUE (4095)
```

2.6.1.8 PWM_FREQ_HZ

```
#define PWM_FREQ_HZ (1000)
```

2.6.1.9 PWM_PERIOD_COUNTS

```
#define PWM_PERIOD_COUNTS (100000000/(256*PWM_FREQ_HZ))
```

2.6.1.10 VR1_AN_CHAN_NUM

```
#define VR1_AN_CHAN_NUM (8)
```

2.6.1.11 VR2_AN_CHAN_NUM

```
#define VR2_AN_CHAN_NUM (45)
```

2.6.2 Function Documentation

2.6.2.1 AdjustLED1Brightness()

```
void AdjustLED1Brightness (
             void  )
```

2.6.2.2 InitApp()

```
void InitApp (
             void  )
```

Call functions which initialize peripherals: GPIO, ADC, Timer2, OC5

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