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 init_wifire_adc (void)
- int convert_wifire_adc (uint8_t channelNumber)
- int read_potentiometer_with_adc (void)

2.1.1 Function Documentation

2.1.1.1 convert_wifire_adc()

```
int convert_wifire_adc (
            uint8_t channelNumber )
```

2.1.1.2 init_wifire_adc()

```
void init_wifire_adc (
            void  )
```

2.1.1.3 read_potentiometer_with_adc()

```
int read_potentiometer_with_adc (
            void  )
```

2.2 ADC.h File Reference

Functions

- void init_wifire_adc (void)
- int convert_wifire_adc (uint8_t channelNumber)

2.2.1 Detailed Description

Author

: Eugene Punov

2.2.2 Function Documentation

2.2.2.1 convert_wifire_adc()

```
int convert_wifire_adc (
            uint8_t channelNumber )
```

2.2.2.2 init_wifire_adc()

```
void init_wifire_adc (
            void  )
```

2.3 configuration_bits.c File Reference

2.4 main.c File Reference

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

Functions

- void main (void)

2.4.1 Function Documentation

2.4.1.1 main()

```
void main (
            void  )
```

Author

Eugene Punov

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Precondition

main file of our programm

< For uint32_t definition

< For true/false definition

< User funct/params, such as InitApp < Initialize I/O and beginiing main cycle

2.5 user.c File Reference

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

Functions

- void init_timer2_and_oc5 (void)
- void adjust_led1_brightness (void)
- void init_gpio (void)
- void init_app (void)
- void blink (void)
- void delay (uint32_t n)
- void choose_mode ()
- void __ISR (_CHANGE_NOTICE_A_VECTOR, IPL2SRS)

Variables

- uint8_t mode = 0

  Different modes of programm.

2.5.1 Function Documentation

2.5.1.1 __ISR()

```
void __ISR (
             _CHANGE_NOTICE_A_VECTOR ,
             IPL2SRS  )
```

Parameters

out	*none*	
in	*interruption*	

Returns

none

2.5.1.2 adjust_led1_brightness()

```
void adjust_led1_brightness (
             void  )
```

for control led brightness

Parameters

out	*none*	
in	*none*	

Returns

none

2.5.1.3 blink()

```
void blink (
             void  )
```

function for control blinking speed

Parameters

out	*none*	
in	*none*	

Returns

none

2.5.1.4 choose_mode()

```
void choose_mode ( )
```

choose one of two modes

Parameters

out	*none*	
in	*none*	

Returns

none

2.5.1.5 delay()

```
void delay (
            uint32_t n )
```

delay function

Parameters

out	*none*	
in	*uint32↩ _t*	n dellay in mills

Returns

none

2.5.1.6 init_app()

```
void init_app (
             void  )
```

begins program

Parameters

out	*none*	
in	*none*	

Returns

none

2.5.1.7 init_gpio()

```
void init_gpio (
             void  )
```

initialize gpio

Parameters

out	*none*	
in	*none*	

Returns

none

2.5.1.8 init_timer2_and_oc5()

```
void init_timer2_and_oc5 (
             void  )
```

Initialize Timer2

Parameters

out	*none*	
in	*none*	

Returns

none

< Select OC5

2.5.2 Variable Documentation

2.5.2.1 mode

```
uint8_t mode = 0
```

Different modes of programm.

Precondition

Main programmFor uint32_t definition

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)

Functions

- void init_app (void)
- void adjust_led1_brightness (void)
- void blink (void)
- int delay (int n)

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
```

Author

Eugene Punov

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Precondition

Configuration and description for easier ussage programmm

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)
```

2.6.2 Function Documentation

2.6.2.1 adjust_led1_brightness()

```
void adjust_led1_brightness (
            void  )
```

I/O and Peripheral Initialization

for control led brightness

Parameters

out	*none*	
in	*none*	

Returns

none

2.6.2.2 blink()

```
void blink (
             void  )
```

control led brightness

function for control blinking speed

Parameters

out	*none*	
in	*none*	

Returns

none

2.6.2.3 delay()

```
int delay (
             int n )
```

Control speed of led blinking

Parameters

in	*n*	integer value for delay v.

2.6.2.4 init_app()

```
void init_app (
             void  )
```

begins program

Parameters

out	*none*	
in	*none*	

Returns

none

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