```
#ifndef NRF24
#define NRF24

#ifndef F_CPU
#define F_CPU 16000000UL
#endif

#include "nRF24L01_Definitions.h"
#include "Command_Handler.h"
#include <stdint.h>
#include <stdbool.h>
#include <avr/io.h>
#include <avr/delay.h>



#ifndef BIT_MANIPULATION_MACRO
#define BIT_MANIPULATION_MACRO 1
#define bit_get(p,m) ((p) & (m))
#define bit_set(p,m) ((p) |= (m))
#define bit_clear(p,m) ((p) &= ~(m))
#define bit_flip(p,m) ((p) ^= (m))
#define bit_write(c,p,m) (c ? bit_set(p,m) : bit_clear(p,m))
#define BIT(x) (0x01 << (x))
#define LONGBIT(x) ((unsigned long)0x00000001 << (x))
#endif

#define LOW 0
#define HIGH 1
#define nrf24_ADDR_LEN 5
#define nrf24_CONFIG ((1<<EN_CRC)|(0<<CRCO))
#define NRF24_TRANSMISSON_OK 0
#define NRF24_MESSAGE_LOST   1

#define CLEAR_FAULTY_RF_LED         bit_clear(PORTD, BIT(7))
#define FLIP_FAULTY_RF_LED          bit_flip(PORTD, BIT(7))


enum TransmissionMode {
    RECEIVE,
    TRANSMIT
};
typedef enum TransmissionMode TransmissionMode;

enum CommandsBoard {
    MAIN_BOARD_RF = 0,
    POWER_BOARD_RF = 1,
    MOTORIZED_BOARD_RF = 2
};
typedef enum CommandsBoard CommandsBoard;

extern void nrf24_initRF_SAFE(uint8_t boardIndex,TransmissionMode initMode);
```

```
53
54  void    nrf24_init();
55  void    nrf24_rx_address(uint8_t* adr);
56  void    nrf24_tx_address(uint8_t* adr);
57  void    nrf24_config(uint8_t channel, uint8_t pay_length);
58  bool    nrf24_checkRegister(uint8_t reg, uint8_t desiredValue, uint8_t len);
59  bool    nrf24_checkConfig();
60  bool    nrf24_checkAvailability();
61
62  void faultyRF_Alarm();
63
64  uint8_t selectedTX_ADDRESS;
65  uint8_t selectedRX_ADDRESS;
66
67  uint8_t nrf24_dataReady();
68  uint8_t nrf24_isSending();
69  uint8_t nrf24_getStatus();
70  uint8_t nrf24_rxFifoEmpty();
71
72  void    nrf24_send(uint8_t* value);
73  void    nrf24_getData(uint8_t* data);
74
75  uint8_t nrf24_payloadLength();
76
77  uint8_t nrf24_lastMessageStatus();
78  uint8_t nrf24_retransmissionCount();
79
80  uint8_t nrf24_payload_length();
81
82  void    nrf24_powerUpRx();
83  void    nrf24_powerUpTx();
84  void    nrf24_powerDown();
85
86  uint8_t spi_transfer(uint8_t tx);
87  void    nrf24_transmitSync(uint8_t* dataout,uint8_t len);
88  void    nrf24_transferSync(uint8_t* dataout,uint8_t* datain,uint8_t len);
89  void    nrf24_configRegister(uint8_t reg, uint8_t value);
90  void    nrf24_readRegister(uint8_t reg, uint8_t* value, uint8_t len);
91  void    nrf24_writeRegister(uint8_t reg, uint8_t* value, uint8_t len);
92
93  extern void nrf24_setupPins();
94
95  extern void nrf24_ce_digitalWrite(uint8_t state);
96
97  extern void nrf24_csn_digitalWrite(uint8_t state);
98
99  extern void nrf24_sck_digitalWrite(uint8_t state);
100
101 extern void nrf24_mosi_digitalWrite(uint8_t state);
102
103 extern uint8_t nrf24_miso_digitalRead();
104
```

```
105  #endif
106
```