32469I-Discovery BSP User Manual: STM32469I-Discovery BSP

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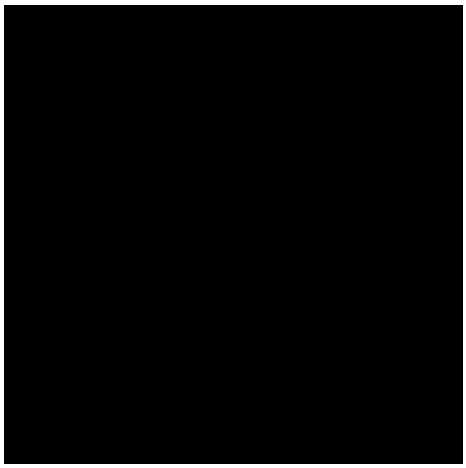
BSP Drivers User Manual

This document contains the User Manual (UM) of the STM32469I-Discovery BSP peripheral Firmware drivers.



Document tabsheets description:

- "Modules" : List the different modules.
- "Files" : List all the files and globals.
- "Directories" : Firmware Directory hierarchy.

Revision History:

Date	Revision	Author	Development Platform
01/13/2017	V1.0		STM32469I-Discovery Board

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LCD Drawing main properties. More...

```
#include <stm32469i_discovery_lcd.h>
```

Data Fields

uint32_t TextColor
uint32_t BackColor
sFONT * pFont

Detailed Description

LCD Drawing main properties.

Definition at line 247 of file stm32469i_discovery_lcd.h.

Field Documentation

uint32_t LCD_DrawPropTypeDef::BackColor
Specifies the background color below the text

Definition at line 250 of file stm32469i_discovery_lcd.h.

Referenced by BSP_LCD_ClearStringLine(), BSP_LCD_GetBackColor(), BSP_LCD_LayerDefaultInit(), and BSP_LCD_SetBackColor().

sFONT* LCD_DrawPropTypeDef::pFont
Specifies the font used for the text

Definition at line 251 of file stm32469i_discovery_lcd.h.

Referenced by BSP_LCD_DisplayChar(), BSP_LCD_DisplayStringAt(), BSP_LCD_GetFont(), BSP_LCD_LayerDefaultInit(), BSP_LCD_SetFont(), and DrawChar().

uint32_t LCD_DrawPropTypeDef::TextColor
Specifies the color of text

Definition at line 249 of file stm32469i_discovery_lcd.h.

Referenced by BSP_LCD_ClearStringLine(), BSP_LCD_GetTextColor(), BSP_LCD_LayerDefaultInit(), and BSP_LCD_SetTextColor().

The documentation for this struct was generated from the following file:

- stm32469i_discovery_lcd.h

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LCD Drawing point (pixel) geometric definition. More...

```
#include <stm32469i_discovery_lcd.h>
```

Data Fields

int16_t X
int16_t Y

Detailed Description

LCD Drawing point (pixel) geometric definition.

Definition at line 258 of file stm32469i_discovery_lcd.h.

Field Documentation

int16_t Point::X
geometric X position of drawing

Definition at line 260 of file stm32469i_discovery_lcd.h.

Referenced by BSP_LCD_DrawPolygon(), and BSP_LCD_FillPolygon().

int16_t Point::Y
geometric Y position of drawing

Definition at line 261 of file stm32469i_discovery_lcd.h.

Referenced by BSP_LCD_DrawPolygon(), and BSP_LCD_FillPolygon().

The documentation for this struct was generated from the following file:

- stm32469i_discovery_lcd.h

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  Data Fields
  QSPI_InfoTypeDef Struct Reference
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QSPI Info. More...

```
#include <stm32469i_discovery_qspi.h>
```

Data Fields

uint32_t FlashSize
uint32_t EraseSectorSize
uint32_t EraseSectorsNumber
uint32_t ProgPageSize
uint32_t ProgPagesNumber

Detailed Description

QSPI Info.

Definition at line 111 of file stm32469i_discovery_qspi.h.

Field Documentation

uint32_t QSPI_InfoTypeDef::EraseSectorSize
Size of sectors for the erase operation

Definition at line 113 of file stm32469i_discovery_qspi.h.

Referenced by BSP_QSPI_GetInfo().

uint32_t QSPI_InfoTypeDef::EraseSectorsNumber
Number of sectors for the erase operation

Definition at line 114 of file stm32469i_discovery_qspi.h.

Referenced by BSP_QSPI_GetInfo().

uint32_t QSPI_InfoTypeDef::FlashSize

Size of the flash

Definition at line 112 of file stm32469i_discovery_qspi.h.

Referenced by BSP_QSPI_GetInfo().

uint32_t QSPI_InfoTypeDef::ProgPageSize
Size of pages for the program operation

Definition at line 115 of file stm32469i_discovery_qspi.h.

Referenced by BSP_QSPI_GetInfo().

uint32_t QSPI_InfoTypeDef::ProgPagesNumber
Number of pages for the program operation

Definition at line 116 of file stm32469i_discovery_qspi.h.

Referenced by BSP_QSPI_GetInfo().

The documentation for this struct was generated from the following file:

- stm32469i_discovery_qspi.h

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  TS_StateTypeDef Struct Reference
  STM32469I Discovery TS Exported Types

TS_StateTypeDef Define TS State structure. More...

```
#include <stm32469i_discovery_ts.h>
```

Data Fields

uint8_t touchDetected
uint16_t touchX [TS_MAX_NB_TOUCH]
uint16_t touchY [TS_MAX_NB_TOUCH]

Detailed Description

TS_StateTypeDef Define TS State structure.

Definition at line 91 of file stm32469i_discovery_ts.h.

Field Documentation

uint8_t TS_StateTypeDef::touchDetected
Total number of active touches detected at last scan

Definition at line 93 of file stm32469i_discovery_ts.h.

Referenced by BSP_TS_GetState().

uint16_t TS_StateTypeDef::touchX[TS_MAX_NB_TOUCH]
Touch X[0], X[1] coordinates on 12 bits

Definition at line 94 of file stm32469i_discovery_ts.h.

Referenced by BSP_TS_GetState().

uint16_t TS_StateTypeDef::touchY[TS_MAX_NB_TOUCH]
Touch Y[0], Y[1] coordinates on 12 bits

Definition at line 95 of file stm32469i_discovery_ts.h.

Referenced by BSP_TS_GetState().

The documentation for this struct was generated from the following file:

- stm32469i_discovery_ts.h

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Here is a list of all struct and union fields with links to the structures/unions they belong to:

- BackColor : LCD_DrawPropTypeDef
- EraseSectorSize : QSPI_InfoTypeDef
- EraseSectorsNumber : QSPI_InfoTypeDef
- FlashSize : QSPI_InfoTypeDef
- pFont : LCD_DrawPropTypeDef
- ProgPageSize : QSPI_InfoTypeDef
- ProgPagesNumber : QSPI_InfoTypeDef
- TextColor : LCD_DrawPropTypeDef
- touchDetected : TS_StateTypeDef
- touchX : TS_StateTypeDef
- touchY : TS_StateTypeDef
- X : Point
- Y : Point

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&"el" href="temp0467.html#a8de9dd9da4dec950161005d49afc523a">LCD_DrawPropTypeDef
- EraseSectorSize : QSPI_InfoTypeDef
- EraseSectorsNumber : QSPI_InfoTypeDef
- FlashSize : QSPI_InfoTypeDef
- pFont : LCD_DrawPropTypeDef
- ProgPageSize : QSPI_InfoTypeDef
- ProgPagesNumber : QSPI_InfoTypeDef
- TextColor : LCD_DrawPropTypeDef
- touchDetected : TS_StateTypeDef
- touchX : TS_StateTypeDef
- touchY : TS_StateTypeDef
- X : Point
- Y : Point

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

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- __DMAx_CLK_DISABLE : stm32469i_discovery_sdram.h
- __DMAx_CLK_ENABLE : stm32469i_discovery_sdram.h
- __DMAx_TxRx_CLK_ENABLE : stm32469i_discovery_sd.h
- __STM32469I_DISCOVERY_BSP_VERSION : stm32469i_discovery.c
- __STM32469I_DISCOVERY_BSP_VERSION_MAIN : stm32469i_discovery.c
- __STM32469I_DISCOVERY_BSP_VERSION_RC : stm32469i_discovery.c
- __STM32469I_DISCOVERY_BSP_VERSION_SUB1 : stm32469i_discovery.c
- __STM32469I_DISCOVERY_BSP_VERSION_SUB2 : stm32469i_discovery.c

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- __DMAx_CLK_DISABLE : stm32469i_discovery_sdram.h
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- AUDIO_I2Sx : stm32469i_discovery_audio.h
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- AUDIO_I2Sx_DMAx_CHANNEL : stm32469i_discovery_audio.h
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- AUDIO_I2Sx_DMAx_STREAM : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_AF : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_GPIO_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_GPIO_CLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_GPIO_PORT : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_PIN : stm32469i_discovery_audio.h
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- AUDIO_I2Sx_SD_GPIO_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SD_GPIO_CLK_ENABLE : stm32469i_discovery_audio.h
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- AUDIO_I2Sx_SD_PIN : stm32469i_discovery_audio.h
- AUDIO_IN_IRQ_PREPRIO : stm32469i_discovery_audio.h
- AUDIO_INT_PIN : stm32469i_discovery.h
- AUDIO_INT_PORT : stm32469i_discovery.h
- AUDIO_INT_PORT_CLK_ENABLE : stm32469i_discovery.h

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- AUDIO_IO_Init() : stm32469i_discovery.c
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- AUDIO_RESET_DISABLE : stm32469i_discovery_audio.h
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- BSP_AUDIO_IN_ClockConfig() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_DeInit() : stm32469i_discovery_audio.h , stm32469i_discovery_audio.c
- BSP_AUDIO_IN_Error_Callback() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_HalfTransfer_CallBack() : stm32469i_discovery_audio.h , stm32469i_discovery_audio.c
- BSP_AUDIO_IN_Init() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_MspDeInit() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_MspInit() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_Pause() : stm32469i_discovery_audio.h , stm32469i_discovery_audio.c
- BSP_AUDIO_IN_PDMToPCM() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
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- BSP_AUDIO_IN_Resume() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
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- BSP_AUDIO_IN_TransferComplete_CallBack() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_ChangeAudioConfig() : stm32469i_discovery_audio.c
- BSP_AUDIO_OUT_ChangeBuffer() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h

- BSP_AUDIO_OUT_CIRCULARMODE : stm32469i_discovery_audio.h
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- BSP_AUDIO_OUT_DeInit() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_Error_CallBack() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
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- BSP_AUDIO_OUT_Init() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
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- BSP_AUDIO_OUT_MspDeInit() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_MspInit() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_NORMALMODE : stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_Pause() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_Play() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_Resume() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
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- BSP_AUDIO_OUT_SetVolume() : stm32469i_discovery_audio.h , stm32469i_discovery_audio.c
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- BSP_EEPROM_DeInit() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_Init() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_ReadBuffer() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_TIMEOUT_UserCallback() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_WaitEepromStandbyState() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
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- BSP_LCD_DisplayOn() : stm32469i_discovery_lcd.c
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- BSP_LCD_DrawBitmap() : stm32469i_discovery_lcd.c
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- BSP_LCD_DrawPixel() : stm32469i_discovery_lcd.c
- BSP_LCD_DrawPolygon() : stm32469i_discovery_lcd.c
- BSP_LCD_DrawRect() : stm32469i_discovery_lcd.c
- BSP_LCD_DrawVLine() : stm32469i_discovery_lcd.c
- BSP_LCD_DSI_IRQHandler() : stm32469i_discovery_lcd.c

- BSP_LCD_FillCircle() : stm32469i_discovery_lcd.c
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- BSP_LCD_GetBackColor() : stm32469i_discovery_lcd.c
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- BSP_LCD_Init() : stm32469i_discovery_lcd.c
- BSP_LCD_InitEx() : stm32469i_discovery_lcd.c
- BSP_LCD_LayerDefaultInit() : stm32469i_discovery_lcd.c
- BSP_LCD_LTDC_ER_IRQHandler() : stm32469i_discovery_lcd.c
- BSP_LCD_LTDC_IRQHandler() : stm32469i_discovery_lcd.c
- BSP_LCD_MspDeInit() : stm32469i_discovery_lcd.c
- BSP_LCD_MspInit() : stm32469i_discovery_lcd.c
- BSP_LCD_ReadPixel() : stm32469i_discovery_lcd.c
- BSP_LCD_Reset() : stm32469i_discovery_lcd.c
- BSP_LCD_ResetColorKeying() : stm32469i_discovery_lcd.c
- BSP_LCD_SelectLayer() : stm32469i_discovery_lcd.c
- BSP_LCD_SetBackColor() : stm32469i_discovery_lcd.c
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- BSP_LCD_SetTextColor() : stm32469i_discovery_lcd.c
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- BSP_LCD_SetXSize() : stm32469i_discovery_lcd.c
- BSP_LCD_SetYSize() : stm32469i_discovery_lcd.c
- BSP_LED_DeInit() : stm32469i_discovery.c , stm32469i_discovery.h
- BSP_LED_Init() : stm32469i_discovery.c , stm32469i_discovery.h
- BSP_LED_Off() : stm32469i_discovery.h , stm32469i_discovery.c
- BSP_LED_On() : stm32469i_discovery.c , stm32469i_discovery.h
- BSP_LED_Toggle() : stm32469i_discovery.c , stm32469i_discovery.h
- BSP_PB_DeInit() : stm32469i_discovery.c , stm32469i_discovery.h
- BSP_PB_GetState() : stm32469i_discovery.c , stm32469i_discovery.h
- BSP_PB_Init() : stm32469i_discovery.c , stm32469i_discovery.h
- BSP_QSPI_DeInit() : stm32469i_discovery_qspi.c
- BSP_QSPI_EnableMemoryMappedMode() : stm32469i_discovery_qspi.c
- BSP_QSPI_Erase_Block() : stm32469i_discovery_qspi.c
- BSP_QSPI_Erase_Chip() : stm32469i_discovery_qspi.c
- BSP_QSPI_GetInfo() : stm32469i_discovery_qspi.c
- BSP_QSPI_GetStatus() : stm32469i_discovery_qspi.c
- BSP_QSPI_Init() : stm32469i_discovery_qspi.c
- BSP_QSPI_MemoryMappedMode : stm32469i_discovery_qspi.h
- BSP_QSPI_MspDeInit() : stm32469i_discovery_qspi.c , stm32469i_discovery_qspi.h
- BSP_QSPI_MspInit() : stm32469i_discovery_qspi.c , stm32469i_discovery_qspi.h
- BSP_QSPI_Read() : stm32469i_discovery_qspi.c
- BSP_QSPI_Write() : stm32469i_discovery_qspi.c
- BSP_SD_AbortCallback() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_CardInfo : stm32469i_discovery_sd.h
- BSP_SD_DeInit() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_Detect_MspInit() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h

- BSP_SD_DMA_Rx_IRQHandler : stm32469i_discovery_sd.h
- BSP_SD_DMA_Tx_IRQHandler : stm32469i_discovery_sd.h
- BSP_SD_Erase() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_GetCardInfo() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_GetCardState() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_Init() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_IRQHandler : stm32469i_discovery_sd.h
- BSP_SD_IsDetected() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_ITConfig() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_MspDeInit() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_MspInit() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_ReadBlocks() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_ReadBlocks_DMA() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_ReadCpltCallback() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_WriteBlocks() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_WriteBlocks_DMA() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_WriteCpltCallback() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SDRAM_DeInit() : stm32469i_discovery_sdram.c
- BSP_SDRAM_DMA_IRQHandler() : stm32469i_discovery_sdram.c
- BSP_SDRAM_Init() : stm32469i_discovery_sdram.c
- BSP_SDRAM_Initialization_sequence() : stm32469i_discovery_sdram.c
- BSP_SDRAM_MspDeInit() : stm32469i_discovery_sdram.c
- BSP_SDRAM_MspInit() : stm32469i_discovery_sdram.c
- BSP_SDRAM_ReadData() : stm32469i_discovery_sdram.c
- BSP_SDRAM_ReadData_DMA() : stm32469i_discovery_sdram.c
- BSP_SDRAM_Sendcmd() : stm32469i_discovery_sdram.c
- BSP_SDRAM_WriteData() : stm32469i_discovery_sdram.c
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- BSP_TS_GetState() : stm32469i_discovery_ts.c , stm32469i_discovery_ts.h
- BSP_TS_Init() : stm32469i_discovery_ts.h , stm32469i_discovery_ts.c
- BSP_TS_INT_MspInit() : stm32469i_discovery_ts.c , stm32469i_discovery_ts.h
- BSP_TS_ITConfig() : stm32469i_discovery_ts.c , stm32469i_discovery_ts.h
- BUTTON_GPIO_CLK_ENABLE : stm32469i_discovery.h
- BUTTON_IRQn : stm32469i_discovery.c
- BUTTON_MODE_EXTI : stm32469i_discovery.h
- BUTTON_MODE_GPIO : stm32469i_discovery.h
- BUTTON_PIN : stm32469i_discovery.c
- BUTTON_PORT : stm32469i_discovery.c
- Button_TypeDef : stm32469i_discovery.h
- BUTTON_USER : stm32469i_discovery.h
- BUTTON_WAKEUP : stm32469i_discovery.h
- ButtonMode_TypeDef : stm32469i_discovery.h
- BUTTONn : stm32469i_discovery.h
- ButtonValue_TypeDef : stm32469i_discovery.h

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- C -

- CENTER_MODE : stm32469i_discovery_lcd.h
- Channel_Demux : stm32469i_discovery_audio.c
- CHANNEL_DEMUX_MASK : stm32469i_discovery_audio.h
- CODEC_AUDIOFRAME_SLOT_0123 : stm32469i_discovery_audio.h
- CODEC_AUDIOFRAME_SLOT_02 : stm32469i_discovery_audio.h
- CODEC_AUDIOFRAME_SLOT_13 : stm32469i_discovery_audio.h
- CODEC_RESET_DELAY : stm32469i_discovery_audio.h
- Command : stm32469i_discovery_sdram.c

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- d -

- DEFAULT_AUDIO_IN_BIT_RESOLUTION : stm32469i_discovery_audio.h
- DEFAULT_AUDIO_IN_CHANNEL_NBR : stm32469i_discovery_audio.h
- DEFAULT_AUDIO_IN_FREQ : stm32469i_discovery_audio.h
- DEFAULT_AUDIO_IN_VOLUME : stm32469i_discovery_audio.h
- DISCO_DMAx_CLK_ENABLE : stm32469i_discovery.h
- DISCO_ERROR : stm32469i_discovery.h
- DISCO_I2C1 : stm32469i_discovery.h
- DISCO_I2C1_CLK_ENABLE : stm32469i_discovery.h
- DISCO_I2C1_ER_IRQn : stm32469i_discovery.h
- DISCO_I2C1_EV_IRQn : stm32469i_discovery.h
- DISCO_I2C1_FORCE_RESET : stm32469i_discovery.h
- DISCO_I2C1_RELEASE_RESET : stm32469i_discovery.h
- DISCO_I2C1_SCL_PIN : stm32469i_discovery.h
- DISCO_I2C1_SCL_SDA_AF : stm32469i_discovery.h
- DISCO_I2C1_SCL_SDA_GPIO_CLK_ENABLE : stm32469i_discovery.h
- DISCO_I2C1_SCL_SDA_GPIO_PORT : stm32469i_discovery.h
- DISCO_I2C1_SDA_PIN : stm32469i_discovery.h
- DISCO_I2C2 : stm32469i_discovery.h
- DISCO_I2C2_CLK_ENABLE : stm32469i_discovery.h
- DISCO_I2C2_ER_IRQn : stm32469i_discovery.h
- DISCO_I2C2_EV_IRQn : stm32469i_discovery.h
- DISCO_I2C2_FORCE_RESET : stm32469i_discovery.h
- DISCO_I2C2_RELEASE_RESET : stm32469i_discovery.h
- DISCO_I2C2_SCL_PIN : stm32469i_discovery.h
- DISCO_I2C2_SCL_SDA_AF : stm32469i_discovery.h

- DISCO_I2C2_SCL_SDA_GPIO_CLK_ENABLE : stm32469i_discovery.h
- DISCO_I2C2_SCL_SDA_GPIO_PORT : stm32469i_discovery.h
- DISCO_I2C2_SDA_PIN : stm32469i_discovery.h
- DISCO_OK : stm32469i_discovery.h
- DISCO_Status_TypeDef : stm32469i_discovery.h
- DMA_MAX : stm32469i_discovery_audio.h
- DMA_MAX_SZE : stm32469i_discovery_audio.h
- DrawChar() : stm32469i_discovery_lcd.c
- DrawProp : stm32469i_discovery_lcd.c
- DSI_IO_WriteCmd() : stm32469i_discovery_lcd.c

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- e -

- EEPROM_FAIL : stm32469i_discovery_eeprom.h
- EEPROM_I2C_ADDRESS_A01 : stm32469i_discovery.h
- EEPROM_I2C_ADDRESS_A02 : stm32469i_discovery.h
- EEPROM_IO_Init() : stm32469i_discovery.c , stm32469i_discovery_eeprom.h
- EEPROM_IO_IsDeviceReady() : stm32469i_discovery.c , stm32469i_discovery_eeprom.h
- EEPROM_IO_ReadData() : stm32469i_discovery.c , stm32469i_discovery_eeprom.h
- EEPROM_IO_WriteData() : stm32469i_discovery.c , stm32469i_discovery_eeprom.h
- EEPROM_MAX_SIZE : stm32469i_discovery_eeprom.h
- EEPROM_MAX_TRIALS : stm32469i_discovery_eeprom.h
- EEPROM_OK : stm32469i_discovery_eeprom.h
- EEPROM_PAGESIZE : stm32469i_discovery_eeprom.h
- EEPROM_READ_TIMEOUT : stm32469i_discovery_eeprom.h
- EEPROM_TIMEOUT : stm32469i_discovery_eeprom.h
- EEPROM_WRITE_TIMEOUT : stm32469i_discovery_eeprom.h
- EEPROMAddress : stm32469i_discovery_eeprom.c
- EEPROMDataRead : stm32469i_discovery_eeprom.c
- EEPROMDataWrite : stm32469i_discovery_eeprom.c
- EEPROMTimeout : stm32469i_discovery_eeprom.c

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- f -

- FillTriangle() : stm32469i_discovery_lcd.c
- Filter : stm32469i_discovery_audio.c

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- g -

- GEST_ID_MOVE_DOWN : stm32469i_discovery_ts.h
- GEST_ID_MOVE_LEFT : stm32469i_discovery_ts.h
- GEST_ID_MOVE_RIGHT : stm32469i_discovery_ts.h
- GEST_ID_MOVE_UP : stm32469i_discovery_ts.h
- GEST_ID_NB_MAX : stm32469i_discovery_ts.h
- GEST_ID_NO_GESTURE : stm32469i_discovery_ts.h
- GEST_ID_ZOOM_IN : stm32469i_discovery_ts.h
- GEST_ID_ZOOM_OUT : stm32469i_discovery_ts.h
- GPIO_PIN : stm32469i_discovery.c
- GPIO_PORT : stm32469i_discovery.c

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- h -

- HAL_I2S_ErrorCallback() : stm32469i_discovery_audio.c
- HAL_I2S_RxCpltCallback() : stm32469i_discovery_audio.c
- HAL_I2S_RxHalfCpltCallback() : stm32469i_discovery_audio.c
- HAL_SAI_ErrorCallback() : stm32469i_discovery_audio.c
- HAL_SAI_TxCpltCallback() : stm32469i_discovery_audio.c
- HAL_SAI_TxHalfCpltCallback() : stm32469i_discovery_audio.c
- HAL_SD_AbortCallback() : stm32469i_discovery_sd.c
- HAL_SD_RxCpltCallback() : stm32469i_discovery_sd.c
- HAL_SD_TxCpltCallback() : stm32469i_discovery_sd.c
- haudio_in_i2s : stm32469i_discovery_audio.c
- haudio_out_sai : stm32469i_discovery_audio.c
- haudio_tim : stm32469i_discovery_audio.c
- hdma2d_eval : stm32469i_discovery_lcd.c , stm32469i_discovery_lcd.h
- hdsi_eval : stm32469i_discovery_lcd.c
- hdsivideo_handle : stm32469i_discovery_lcd.c
- heval_I2c1 : stm32469i_discovery.c
- heval_I2c2 : stm32469i_discovery.c
- hltdc_eval : stm32469i_discovery_lcd.c

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- i -

- I2C1_Error() : stm32469i_discovery.c
- I2C1_Init() : stm32469i_discovery.c
- I2C1_IsDeviceReady() : stm32469i_discovery.c
- I2C1_MspInit() : stm32469i_discovery.c
- I2C1_Read() : stm32469i_discovery.c
- I2C1_ReadMultiple() : stm32469i_discovery.c
- I2C1_Write() : stm32469i_discovery.c
- I2C1_WriteMultiple() : stm32469i_discovery.c
- I2C2_Error() : stm32469i_discovery.c
- I2C2_Init() : stm32469i_discovery.c
- I2C2_MspInit() : stm32469i_discovery.c
- I2C2_ReadMultiple() : stm32469i_discovery.c
- I2C2_WriteMultiple() : stm32469i_discovery.c
- I2C_Address : stm32469i_discovery_ts.c
- I2Sx_DeInit() : stm32469i_discovery_audio.c
- I2Sx_Init() : stm32469i_discovery_audio.c
- INTERNAL_BUFF_SIZE : stm32469i_discovery_audio.h

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- l -

- LCD_COLOR_BLACK : stm32469i_discovery_lcd.h
- LCD_COLOR_BLUE : stm32469i_discovery_lcd.h
- LCD_COLOR_BROWN : stm32469i_discovery_lcd.h
- LCD_COLOR_CYAN : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKBLUE : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKCYAN : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKGRAY : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKGREEN : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKMAGENTA : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKRED : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKYELLOW : stm32469i_discovery_lcd.h
- LCD_COLOR_GRAY : stm32469i_discovery_lcd.h
- LCD_COLOR_GREEN : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTBLUE : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTCYAN : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTGRAY : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTGREEN : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTMAGENTA : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTRED : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTYELLOW : stm32469i_discovery_lcd.h
- LCD_COLOR_MAGENTA : stm32469i_discovery_lcd.h
- LCD_COLOR_ORANGE : stm32469i_discovery_lcd.h
- LCD_COLOR_RED : stm32469i_discovery_lcd.h
- LCD_COLOR_TRANSPARENT : stm32469i_discovery_lcd.h
- LCD_COLOR_WHITE : stm32469i_discovery_lcd.h
- LCD_COLOR_YELLOW : stm32469i_discovery_lcd.h
- LCD_DEFAULT_FONT : stm32469i_discovery_lcd.h
- LCD_DSI_PIXEL_DATA_FMT_RBG565 : stm32469i_discovery_lcd.h
- LCD_DSI_PIXEL_DATA_FMT_RBG888 : stm32469i_discovery_lcd.h
- LCD_ERROR : stm32469i_discovery_lcd.h
- LCD_FB_START_ADDRESS : stm32469i_discovery_lcd.h
- LCD_LayerCfgTypeDef : stm32469i_discovery_lcd.h
- LCD_OK : stm32469i_discovery_lcd.h
- LCD_ORIENTATION_INVALID : stm32469i_discovery_lcd.h
- LCD_ORIENTATION_LANDSCAPE : stm32469i_discovery_lcd.h
- LCD_ORIENTATION_PORTRAIT : stm32469i_discovery_lcd.h
- LCD_OrientationTypeDef : stm32469i_discovery_lcd.h
- LCD_OTM8009A_ID : stm32469i_discovery_lcd.h
- LCD_TIMEOUT : stm32469i_discovery_lcd.h

- lcd_x_size : stm32469i_discovery_lcd.c
- lcd_y_size : stm32469i_discovery_lcd.c
- LED1 : stm32469i_discovery.h
- LED1_GPIO_CLK_DISABLE : stm32469i_discovery.h
- LED1_GPIO_CLK_ENABLE : stm32469i_discovery.h
- LED1_GPIO_PORT : stm32469i_discovery.h
- LED1_PIN : stm32469i_discovery.h
- LED2 : stm32469i_discovery.h
- LED2_GPIO_CLK_DISABLE : stm32469i_discovery.h
- LED2_GPIO_CLK_ENABLE : stm32469i_discovery.h
- LED2_GPIO_PORT : stm32469i_discovery.h
- LED2_PIN : stm32469i_discovery.h
- LED3 : stm32469i_discovery.h
- LED3_GPIO_CLK_DISABLE : stm32469i_discovery.h
- LED3_GPIO_CLK_ENABLE : stm32469i_discovery.h
- LED3_GPIO_PORT : stm32469i_discovery.h
- LED3_PIN : stm32469i_discovery.h
- LED4 : stm32469i_discovery.h
- LED4_GPIO_CLK_DISABLE : stm32469i_discovery.h
- LED4_GPIO_CLK_ENABLE : stm32469i_discovery.h
- LED4_GPIO_PORT : stm32469i_discovery.h
- LED4_PIN : stm32469i_discovery.h
- LED_BLUE : stm32469i_discovery.h
- LED_GREEN : stm32469i_discovery.h
- LED_ORANGE : stm32469i_discovery.h
- LED_RED : stm32469i_discovery.h
- Led_TypeDef : stm32469i_discovery.h
- LEDn : stm32469i_discovery.h
- LEFT_MODE : stm32469i_discovery_lcd.h
- LL_ConvertLineToARGB8888() : stm32469i_discovery_lcd.c
- LL_FillBuffer() : stm32469i_discovery_lcd.c
- LTDC_ACTIVE_LAYER_BACKGROUND : stm32469i_discovery_lcd.h
- LTDC_ACTIVE_LAYER_FOREGROUND : stm32469i_discovery_lcd.h
- LTDC_DEFAULT_ACTIVE_LAYER : stm32469i_discovery_lcd.h
- LTDC_MAX_LAYER_NUMBER : stm32469i_discovery_lcd.h
- LTDC_NB_OF_LAYERS : stm32469i_discovery_lcd.h

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- m -

- MSD_ERROR : stm32469i_discovery_sd.h
- MSD_ERROR_SD_NOT_PRESENT : stm32469i_discovery_sd.h
- MSD_OK : stm32469i_discovery_sd.h

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- o -

- OTG_FS1_OVER_CURRENT_PIN : stm32469i_discovery.h
- OTG_FS1_OVER_CURRENT_PORT : stm32469i_discovery.h
- OTG_FS1_OVER_CURRENT_PORT_CLK_ENABLE : stm32469i_discovery.h
- OTG_FS1_POWER_SWITCH_PIN : stm32469i_discovery.h
- OTG_FS1_POWER_SWITCH_PORT : stm32469i_discovery.h
- OTG_FS1_POWER_SWITCH_PORT_CLK_ENABLE : stm32469i_discovery.h
- OTM8009A_IO_Delay() : stm32469i_discovery.c
- OUTPUT_DEVICE_HEADPHONE1 : stm32469i_discovery_audio.c
- OUTPUT_DEVICE_HEADPHONE2 : stm32469i_discovery_audio.c

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- p -

- PB_RESET : stm32469i_discovery.h
- PB_SET : stm32469i_discovery.h
- PCM_OUT_SIZE : stm32469i_discovery_audio.h
- PDMDecoder_Init() : stm32469i_discovery_audio.c
- POLY_X : stm32469i_discovery_lcd.c
- POLY_Y : stm32469i_discovery_lcd.c
- pPoint : stm32469i_discovery_lcd.h

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- q -

- QSPI_AutoPollingMemReady() : stm32469i_discovery_qspi.c
- QSPI_BUSY : stm32469i_discovery_qspi.h
- QSPI_CLK_DISABLE : stm32469i_discovery_qspi.h
- QSPI_CLK_ENABLE : stm32469i_discovery_qspi.h
- QSPI_CLK_GPIO_PORT : stm32469i_discovery_qspi.h
- QSPI_CLK_PIN : stm32469i_discovery_qspi.h
- QSPI_CS_GPIO_CLK_DISABLE : stm32469i_discovery_qspi.h
- QSPI_CS_GPIO_CLK_ENABLE : stm32469i_discovery_qspi.h
- QSPI_CS_GPIO_PORT : stm32469i_discovery_qspi.h
- QSPI_CS_PIN : stm32469i_discovery_qspi.h
- QSPI_D0_PIN : stm32469i_discovery_qspi.h
- QSPI_D1_PIN : stm32469i_discovery_qspi.h
- QSPI_D2_PIN : stm32469i_discovery_qspi.h
- QSPI_D3_PIN : stm32469i_discovery_qspi.h
- QSPI_DummyCyclesCfg() : stm32469i_discovery_qspi.c
- QSPI_DX_CLK_GPIO_CLK_DISABLE : stm32469i_discovery_qspi.h
- QSPI_DX_CLK_GPIO_CLK_ENABLE : stm32469i_discovery_qspi.h
- QSPI_DX_GPIO_PORT : stm32469i_discovery_qspi.h
- QSPI_ERROR : stm32469i_discovery_qspi.h
- QSPI_FORCE_RESET : stm32469i_discovery_qspi.h
- QSPI_NOT_SUPPORTED : stm32469i_discovery_qspi.h
- QSPI_OK : stm32469i_discovery_qspi.h
- QSPI_RELEASE_RESET : stm32469i_discovery_qspi.h
- QSPI_ResetMemory() : stm32469i_discovery_qspi.c
- QSPI_SUSPENDED : stm32469i_discovery_qspi.h
- QSPI_WriteEnable() : stm32469i_discovery_qspi.c
- QSPIHandle : stm32469i_discovery_qspi.c

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- r -

- REFRESH_COUNT : stm32469i_discovery_sdram.h
- RIGHT_MODE : stm32469i_discovery_lcd.h

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Here is a list of all functions, variables, defines, enums, and typedefs with links to the files they belong to:

- S -

- SAIClockDivider : stm32469i_discovery_audio.c
- SAIx_DeInit() : stm32469i_discovery_audio.c
- SAIx_Init() : stm32469i_discovery_audio.c
- SD_DATATIMEOUT : stm32469i_discovery_sd.h
- SD_DETECT_EXTI_IRQn : stm32469i_discovery.h
- SD_DETECT_GPIO_CLK_DISABLE : stm32469i_discovery.h
- SD_DETECT_GPIO_CLK_ENABLE : stm32469i_discovery.h
- SD_DETECT_GPIO_PORT : stm32469i_discovery.h
- SD_DETECT_PIN : stm32469i_discovery.h
- SD_DetectIRQHandler : stm32469i_discovery_sd.h
- SD_DMAx_Rx_CHANNEL : stm32469i_discovery_sd.h
- SD_DMAx_Rx_IRQn : stm32469i_discovery_sd.h
- SD_DMAx_Rx_STREAM : stm32469i_discovery_sd.h
- SD_DMAx_Tx_CHANNEL : stm32469i_discovery_sd.h
- SD_DMAx_Tx_IRQn : stm32469i_discovery_sd.h
- SD_DMAx_Tx_STREAM : stm32469i_discovery_sd.h
- SD_NOT_PRESENT : stm32469i_discovery_sd.h
- SD_PRESENT : stm32469i_discovery_sd.h
- SD_TRANSFER_BUSY : stm32469i_discovery_sd.h
- SD_TRANSFER_OK : stm32469i_discovery_sd.h
- SDCLOCK_PERIOD : stm32469i_discovery_sdram.h
- SDRAM_DEVICE_ADDR : stm32469i_discovery_sdram.h
- SDRAM_DEVICE_SIZE : stm32469i_discovery_sdram.h
- SDRAM_DMAx_CHANNEL : stm32469i_discovery_sdram.h
- SDRAM_DMAx_IRQHandler : stm32469i_discovery_sdram.h
- SDRAM_DMAx_IRQn : stm32469i_discovery_sdram.h
- SDRAM_DMAx_STREAM : stm32469i_discovery_sdram.h
- SDRAM_ERROR : stm32469i_discovery_sdram.h
- SDRAM_MEMORY_WIDTH : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_LENGTH_1 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_LENGTH_2 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_LENGTH_4 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_LENGTH_8 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_TYPE_INTERLEAVED : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_TYPE_SEQUENTIAL : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_CAS_LATENCY_2 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_CAS_LATENCY_3 : stm32469i_discovery_sdram.h

- SDRAM_MODEREG_OPERATING_MODE_STANDARD : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_WRITEBURST_MODE_PROGRAMMED : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_WRITEBURST_MODE_SINGLE : stm32469i_discovery_sdram.h
- SDRAM_OK : stm32469i_discovery_sdram.h
- SDRAM_TIMEOUT : stm32469i_discovery_sdram.h
- sdramHandle : stm32469i_discovery_sdram.c

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- t -

- Text_AlignModeTypdef : stm32469i_discovery_lcd.h
- Timing : stm32469i_discovery_sdram.c
- TIMx_DeInit() : stm32469i_discovery_audio.c
- TIMx_IC_MspDeInit() : stm32469i_discovery_audio.c
- TIMx_IC_MspInit() : stm32469i_discovery_audio.c

- TIMx_Init() : stm32469i_discovery_audio.c
- TOUCH_EVENT_CONTACT : stm32469i_discovery_ts.h
- TOUCH_EVENT_LIFT_UP : stm32469i_discovery_ts.h
- TOUCH_EVENT_NB_MAX : stm32469i_discovery_ts.h
- TOUCH_EVENT_NO_EVT : stm32469i_discovery_ts.h
- TOUCH_EVENT_PRESS_DOWN : stm32469i_discovery_ts.h
- TS_DEVICE_NOT_FOUND : stm32469i_discovery_ts.h
- ts_driver : stm32469i_discovery_ts.c
- TS_ERROR : stm32469i_discovery_ts.h
- ts_event_string_tab : stm32469i_discovery_ts.h , stm32469i_discovery_ts.c
- ts_gesture_id_string_tab : stm32469i_discovery_ts.c , stm32469i_discovery_ts.h
- TS_GestureIdTypeDef : stm32469i_discovery_ts.h
- TS_I2C_ADDRESS : stm32469i_discovery.h
- TS_I2C_ADDRESS_A02 : stm32469i_discovery.h
- TS_INT_EXTI_IRQn : stm32469i_discovery.h
- TS_INT_GPIO_CLK_DISABLE : stm32469i_discovery.h
- TS_INT_GPIO_CLK_ENABLE : stm32469i_discovery.h
- TS_INT_GPIO_PORT : stm32469i_discovery.h
- TS_INT_PIN : stm32469i_discovery.h
- TS_IO_Delay() : stm32469i_discovery.c
- TS_IO_Init() : stm32469i_discovery.c
- TS_IO_Read() : stm32469i_discovery.c
- TS_IO_ReadMultiple() : stm32469i_discovery.c
- TS_IO_Write() : stm32469i_discovery.c
- TS_IO_WriteMultiple() : stm32469i_discovery.c
- TS_IRQ_PENDING : stm32469i_discovery_ts.h
- TS_MAX_NB_TOUCH : stm32469i_discovery_ts.h
- TS_NO_IRQ_PENDING : stm32469i_discovery_ts.h
- TS_OK : stm32469i_discovery_ts.h
- ts_orientation : stm32469i_discovery_ts.c
- TS_StatusTypeDef : stm32469i_discovery_ts.h
- TS_SWAP_NONE : stm32469i_discovery_ts.h
- TS_SWAP_X : stm32469i_discovery_ts.h
- TS_SWAP_XY : stm32469i_discovery_ts.h
- TS_SWAP_Y : stm32469i_discovery_ts.h
- TS_TIMEOUT : stm32469i_discovery_ts.h
- TS_TouchEventTypeDef : stm32469i_discovery_ts.h

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- u -

- uSdHandle : stm32469i_discovery_sd.c
- USER_BUTTON_EXTI_IRQn : stm32469i_discovery.h
- USER_BUTTON_GPIO_CLK_DISABLE : stm32469i_discovery.h
- USER_BUTTON_GPIO_CLK_ENABLE : stm32469i_discovery.h
- USER_BUTTON_GPIO_PORT : stm32469i_discovery.h
- USER_BUTTON_PIN : stm32469i_discovery.h

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- W -

- WAKEUP_BUTTON_EXTI_IRQn : stm32469i_discovery.h
- WAKEUP_BUTTON_GPIO_CLK_DISABLE : stm32469i_discovery.h
- WAKEUP_BUTTON_GPIO_CLK_ENABLE : stm32469i_discovery.h
- WAKEUP_BUTTON_GPIO_PORT : stm32469i_discovery.h
- WAKEUP_BUTTON_PIN : stm32469i_discovery.h

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- BSP_AUDIO_IN_Init() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_MspDeInit() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_MspInit() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_Pause() : stm32469i_discovery_audio.h , stm32469i_discovery_audio.c
- BSP_AUDIO_IN_PDMToPCM() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_Record() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_Resume() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_SetVolume() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_Stop() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_IN_TransferComplete_CallBack() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_ChangeAudioConfig() : stm32469i_discovery_audio.c
- BSP_AUDIO_OUT_ChangeBuffer() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_ClockConfig() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_DeInit() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_Error_CallBack() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_HalfTransfer_CallBack() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
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- BSP_AUDIO_OUT_Pause() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_Play() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_Resume() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_SetAudioFrameSlot() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_SetFrequency() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_SetMute() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_SetOutputMode() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_SetVolume() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_Stop() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_AUDIO_OUT_TransferComplete_CallBack() : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h
- BSP_EEPROM_DeInit() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_Init() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_ReadBuffer() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_TIMEOUT_UserCallback() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_WaitEepromStandbyState() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_WriteBuffer() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_EEPROM_WritePage() : stm32469i_discovery_eeprom.c , stm32469i_discovery_eeprom.h
- BSP_GetVersion() : stm32469i_discovery.c , stm32469i_discovery.h
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- BSP_LCD_ClearStringLine() : stm32469i_discovery_lcd.c
- BSP_LCD_DisplayChar() : stm32469i_discovery_lcd.c
- BSP_LCD_DisplayOff() : stm32469i_discovery_lcd.c
- BSP_LCD_DisplayOn() : stm32469i_discovery_lcd.c
- BSP_LCD_DisplayStringAt() : stm32469i_discovery_lcd.c
- BSP_LCD_DisplayStringAtLine() : stm32469i_discovery_lcd.c
- BSP_LCD_DMA2D_IRQHandler() : stm32469i_discovery_lcd.c
- BSP_LCD_DrawBitmap() : stm32469i_discovery_lcd.c

- BSP_LCD_DrawCircle() : stm32469i_discovery_lcd.c
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- BSP_LCD_DrawHLine() : stm32469i_discovery_lcd.c
- BSP_LCD_DrawLine() : stm32469i_discovery_lcd.c
- BSP_LCD_DrawPixel() : stm32469i_discovery_lcd.c
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- BSP_LCD_DrawRect() : stm32469i_discovery_lcd.c
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- BSP_LCD_FillRect() : stm32469i_discovery_lcd.c
- BSP_LCD_GetBackColor() : stm32469i_discovery_lcd.c
- BSP_LCD_GetFont() : stm32469i_discovery_lcd.c
- BSP_LCD_GetTextColor() : stm32469i_discovery_lcd.c
- BSP_LCD_GetXSize() : stm32469i_discovery_lcd.c
- BSP_LCD_GetYSize() : stm32469i_discovery_lcd.c
- BSP_LCD_Init() : stm32469i_discovery_lcd.c
- BSP_LCD_InitEx() : stm32469i_discovery_lcd.c
- BSP_LCD_LayerDefaultInit() : stm32469i_discovery_lcd.c
- BSP_LCD_LTDC_ER_IRQHandler() : stm32469i_discovery_lcd.c
- BSP_LCD_LTDC_IRQHandler() : stm32469i_discovery_lcd.c
- BSP_LCD_MspDeInit() : stm32469i_discovery_lcd.c
- BSP_LCD_MspInit() : stm32469i_discovery_lcd.c
- BSP_LCD_ReadPixel() : stm32469i_discovery_lcd.c
- BSP_LCD_Reset() : stm32469i_discovery_lcd.c
- BSP_LCD_ResetColorKeying() : stm32469i_discovery_lcd.c
- BSP_LCD_SelectLayer() : stm32469i_discovery_lcd.c
- BSP_LCD_SetBackColor() : stm32469i_discovery_lcd.c
- BSP_LCD_SetColorKeying() : stm32469i_discovery_lcd.c
- BSP_LCD_SetFont() : stm32469i_discovery_lcd.c
- BSP_LCD_SetLayerAddress() : stm32469i_discovery_lcd.c
- BSP_LCD_SetLayerVisible() : stm32469i_discovery_lcd.c
- BSP_LCD_SetLayerWindow() : stm32469i_discovery_lcd.c
- BSP_LCD_SetTextColor() : stm32469i_discovery_lcd.c
- BSP_LCD_SetTransparency() : stm32469i_discovery_lcd.c
- BSP_LCD_SetXSize() : stm32469i_discovery_lcd.c
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- BSP_LED_DeInit() : stm32469i_discovery.c , stm32469i_discovery.h
- BSP_LED_Init() : stm32469i_discovery.c , stm32469i_discovery.h
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- BSP_QSPI_Read() : stm32469i_discovery_qspi.c
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- BSP_SD_AbortCallback() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_DeInit() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_Detect_MspInit() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_Erase() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
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- BSP_SD_ReadBlocks() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SD_ReadBlocks_DMA() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_ReadCpltCallback() : stm32469i_discovery_sd.h , stm32469i_discovery_sd.c
- BSP_SD_WriteBlocks() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
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- BSP_SD_WriteCpltCallback() : stm32469i_discovery_sd.c , stm32469i_discovery_sd.h
- BSP_SDRAM_DeInit() : stm32469i_discovery_sdram.c
- BSP_SDRAM_DMA_IRQHandler() : stm32469i_discovery_sdram.c
- BSP_SDRAM_Init() : stm32469i_discovery_sdram.c
- BSP_SDRAM_Initialization_sequence() : stm32469i_discovery_sdram.c
- BSP_SDRAM_MspDeInit() : stm32469i_discovery_sdram.c
- BSP_SDRAM_MspInit() : stm32469i_discovery_sdram.c
- BSP_SDRAM_ReadData() : stm32469i_discovery_sdram.c
- BSP_SDRAM_ReadData_DMA() : stm32469i_discovery_sdram.c
- BSP_SDRAM_Sendcmd() : stm32469i_discovery_sdram.c
- BSP_SDRAM_WriteData() : stm32469i_discovery_sdram.c
- BSP_SDRAM_WriteData_DMA() : stm32469i_discovery_sdram.c
- BSP_TS_GetState() : stm32469i_discovery_ts.h , stm32469i_discovery_ts.c
- BSP_TS_Init() : stm32469i_discovery_ts.h , stm32469i_discovery_ts.c
- BSP_TS_INT_MspInit() : stm32469i_discovery_ts.h , stm32469i_discovery_ts.c
- BSP_TS_ITConfig() : stm32469i_discovery_ts.h , stm32469i_discovery_ts.c

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- DrawChar() : stm32469i_discovery_lcd.c
- DSI_IO_WriteCmd() : stm32469i_discovery_lcd.c

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- EEPROM_IO_Init() : stm32469i_discovery.c , stm32469i_discovery_eeprom.h
- EEPROM_IO_IsDeviceReady() : stm32469i_discovery_eeprom.h , stm32469i_discovery.c
- EEPROM_IO_ReadData() : stm32469i_discovery.c , stm32469i_discovery_eeprom.h
- EEPROM_IO_WriteData() : stm32469i_discovery_eeprom.h , stm32469i_discovery.c

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- FillTriangle() : stm32469i_discovery_lcd.c

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- HAL_I2S_ErrorCallback() : stm32469i_discovery_audio.c
- HAL_I2S_RxCpltCallback() : stm32469i_discovery_audio.c
- HAL_I2S_RxHalfCpltCallback() : stm32469i_discovery_audio.c
- HAL_SAI_ErrorCallback() : stm32469i_discovery_audio.c
- HAL_SAI_TxCpltCallback() : stm32469i_discovery_audio.c
- HAL_SAI_TxHalfCpltCallback() : stm32469i_discovery_audio.c
- HAL_SD_AbortCallback() : stm32469i_discovery_sd.c
- HAL_SD_RxCpltCallback() : stm32469i_discovery_sd.c
- HAL_SD_TxCpltCallback() : stm32469i_discovery_sd.c

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- LL_ConvertLineToARGB8888() : stm32469i_discovery_lcd.c
- LL_FillBuffer() : stm32469i_discovery_lcd.c

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- OTM8009A_IO_Delay() : stm32469i_discovery.c

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- PDMDecoder_Init() : stm32469i_discovery_audio.c

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- QSPI_AutoPollingMemReady() : stm32469i_discovery_qspi.c
- QSPI_DummyCyclesCfg() : stm32469i_discovery_qspi.c
- QSPI_ResetMemory() : stm32469i_discovery_qspi.c
- QSPI_WriteEnable() : stm32469i_discovery_qspi.c

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- SAIx_DeInit() : stm32469i_discovery_audio.c
- SAIx_Init() : stm32469i_discovery_audio.c

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- TIMx_DeInit() : stm32469i_discovery_audio.c
- TIMx_IC_MspDeInit() : stm32469i_discovery_audio.c
- TIMx_IC_MspInit() : stm32469i_discovery_audio.c
- TIMx_Init() : stm32469i_discovery_audio.c

- TS_IO_Delay() : stm32469i_discovery.c
- TS_IO_Init() : stm32469i_discovery.c
- TS_IO_Read() : stm32469i_discovery.c
- TS_IO_ReadMultiple() : stm32469i_discovery.c
- TS_IO_Write() : stm32469i_discovery.c
- TS_IO_WriteMultiple() : stm32469i_discovery.c

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- ActiveLayer : stm32469i_discovery_lcd.c
- audio_drv : stm32469i_discovery_audio.c
- AudioInVolume : stm32469i_discovery_audio.c , stm32469i_discovery_audio.h

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- BUTTON_IRQn : stm32469i_discovery.c
- BUTTON_PIN : stm32469i_discovery.c
- BUTTON_PORT : stm32469i_discovery.c

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- Channel_Demux : stm32469i_discovery_audio.c
- Command : stm32469i_discovery_sdram.c

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- DrawProp : stm32469i_discovery_lcd.c

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- EEPROMAddress : stm32469i_discovery_eeprom.c
- EEPROMDataRead : stm32469i_discovery_eeprom.c
- EEPROMDataWrite : stm32469i_discovery_eeprom.c
- EEPROMTimeout : stm32469i_discovery_eeprom.c

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- Filter : stm32469i_discovery_audio.c

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- GPIO_PIN : stm32469i_discovery.c
- GPIO_PORT : stm32469i_discovery.c

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- haudio_in_i2s : stm32469i_discovery_audio.c
- haudio_out_sai : stm32469i_discovery_audio.c
- haudio_tim : stm32469i_discovery_audio.c
- hdma2d_eval : stm32469i_discovery_lcd.c , stm32469i_discovery_lcd.h
- hdsi_eval : stm32469i_discovery_lcd.c
- hdsivideo_handle : stm32469i_discovery_lcd.c
- heval_I2c1 : stm32469i_discovery.c
- heval_I2c2 : stm32469i_discovery.c
- hltdc_eval : stm32469i_discovery_lcd.c

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- I2C_Address : stm32469i_discovery_ts.c

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- lcd_x_size : stm32469i_discovery_lcd.c
- lcd_y_size : stm32469i_discovery_lcd.c

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- QSPIHandle : stm32469i_discovery_qspi.c

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- sdramHandle : stm32469i_discovery_sdram.c

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- Timing : stm32469i_discovery_sdram.c
- ts_driver : stm32469i_discovery_ts.c
- ts_event_string_tab : stm32469i_discovery_ts.h , stm32469i_discovery_ts.c
- ts_gesture_id_string_tab : stm32469i_discovery_ts.h , stm32469i_discovery_ts.c
- ts_orientation : stm32469i_discovery_ts.c

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- uSdHandle : stm32469i_discovery_sd.c

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href="group__STM32469I-Discovery__LCD__Exported__Types.html#gac42ab7c9046e32920caa46c9fed30a18">stm32469i_

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href="group__STM32469I__Discovery__LOW__LEVEL__Exported__Types.html#ga643816dfbad5c734fc25a29ce8c

- ButtonMode_TypeDef : stm32469i_discovery.h
- ButtonValue_TypeDef : stm32469i_discovery.h
- DISCO_Status_TypeDef : stm32469i_discovery.h
- LCD_OrientationTypeDef : stm32469i_discovery_lcd.h
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- Text_AlignModeTypdef : stm32469i_discovery_lcd.h
- TS_GestureIdTypeDef : stm32469i_discovery_ts.h
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- BUTTON_MODE_EXTI : stm32469i_discovery.h
- BUTTON_MODE_GPIO : stm32469i_discovery.h
- BUTTON_WAKEUP : stm32469i_discovery.h

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- CENTER_MODE : stm32469i_discovery_lcd.h

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- DISCO_ERROR : stm32469i_discovery.h
- DISCO_OK : stm32469i_discovery.h

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- GEST_ID_MOVE_DOWN : stm32469i_discovery_ts.h
- GEST_ID_MOVE_LEFT : stm32469i_discovery_ts.h
- GEST_ID_MOVE_RIGHT : stm32469i_discovery_ts.h
- GEST_ID_MOVE_UP : stm32469i_discovery_ts.h
- GEST_ID_NB_MAX : stm32469i_discovery_ts.h
- GEST_ID_NO_GESTURE : stm32469i_discovery_ts.h
- GEST_ID_ZOOM_IN : stm32469i_discovery_ts.h
- GEST_ID_ZOOM_OUT : stm32469i_discovery_ts.h

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- LCD_ORIENTATION_INVALID : stm32469i_discovery_lcd.h
- LCD_ORIENTATION_LANDSCAPE : stm32469i_discovery_lcd.h
- LCD_ORIENTATION_PORTRAIT : stm32469i_discovery_lcd.h
- LED1 : stm32469i_discovery.h
- LED2 : stm32469i_discovery.h
- LED3 : stm32469i_discovery.h
- LED4 : stm32469i_discovery.h
- LED_BLUE : stm32469i_discovery.h
- LED_GREEN : stm32469i_discovery.h
- LED_ORANGE : stm32469i_discovery.h
- LED_RED : stm32469i_discovery.h
- LEFT_MODE : stm32469i_discovery_lcd.h

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- PB_RESET : stm32469i_discovery.h
- PB_SET : stm32469i_discovery.h

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- RIGHT_MODE : stm32469i_discovery_lcd.h

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- TOUCH_EVENT_CONTACT : stm32469i_discovery_ts.h
- TOUCH_EVENT_LIFT_UP : stm32469i_discovery_ts.h
- TOUCH_EVENT_NB_MAX : stm32469i_discovery_ts.h
- TOUCH_EVENT_NO_EVT : stm32469i_discovery_ts.h
- TOUCH_EVENT_PRESS_DOWN : stm32469i_discovery_ts.h
- TS_DEVICE_NOT_FOUND : stm32469i_discovery_ts.h
- TS_ERROR : stm32469i_discovery_ts.h
- TS_OK : stm32469i_discovery_ts.h
- TS_TIMEOUT : stm32469i_discovery_ts.h

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- __DMAx_CLK_DISABLE : stm32469i_discovery_sdram.h
- __DMAx_CLK_ENABLE : stm32469i_discovery_sdram.h
- __DMAx_TxRx_CLK_ENABLE : stm32469i_discovery_sd.h
- __STM32469I_DISCOVERY_BSP_VERSION : stm32469i_discovery.c
- __STM32469I_DISCOVERY_BSP_VERSION_MAIN : stm32469i_discovery.c
- __STM32469I_DISCOVERY_BSP_VERSION_RC : stm32469i_discovery.c
- __STM32469I_DISCOVERY_BSP_VERSION_SUB1 : stm32469i_discovery.c
- __STM32469I_DISCOVERY_BSP_VERSION_SUB2 : stm32469i_discovery.c

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- ABS : stm32469i_discovery_lcd.c
- AUDIO_ERROR : stm32469i_discovery_audio.h
- AUDIO_I2C_ADDRESS : stm32469i_discovery.h
- AUDIO_I2Sx : stm32469i_discovery_audio.h
- AUDIO_I2Sx_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_CLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_DMAx_CHANNEL : stm32469i_discovery_audio.h
- AUDIO_I2Sx_DMAx_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_DMAx_CLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_DMAx_IRQ : stm32469i_discovery_audio.h
- AUDIO_I2Sx_DMAx_IRQHandler : stm32469i_discovery_audio.h
- AUDIO_I2Sx_DMAx_MEM_DATA_SIZE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_DMAx_PERIPH_DATA_SIZE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_DMAx_STREAM : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_AF : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_GPIO_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_GPIO_CLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_GPIO_PORT : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SCK_PIN : stm32469i_discovery_audio.h

- AUDIO_I2Sx_SD_AF : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SD_GPIO_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SD_GPIO_CLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SD_GPIO_PORT : stm32469i_discovery_audio.h
- AUDIO_I2Sx_SD_PIN : stm32469i_discovery_audio.h
- AUDIO_IN_IRQ_PREPRIO : stm32469i_discovery_audio.h
- AUDIO_INT_PIN : stm32469i_discovery.h
- AUDIO_INT_PORT : stm32469i_discovery.h
- AUDIO_INT_PORT_CLK_ENABLE : stm32469i_discovery.h
- AUDIO_OK : stm32469i_discovery_audio.h
- AUDIO_OUT_IRQ_PREPRIO : stm32469i_discovery_audio.h
- AUDIO_RESET_DISABLE : stm32469i_discovery_audio.h
- AUDIO_RESET_ENABLE : stm32469i_discovery_audio.h
- AUDIO_RESET_GPIO_PORT : stm32469i_discovery_audio.h
- AUDIO_RESET_PIN : stm32469i_discovery_audio.h
- AUDIO_SAIx : stm32469i_discovery_audio.h
- AUDIO_SAIx_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_SAIx_CLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_SAIx_DMAx_CHANNEL : stm32469i_discovery_audio.h
- AUDIO_SAIx_DMAx_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_SAIx_DMAx_CLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_SAIx_DMAx_IRQ : stm32469i_discovery_audio.h
- AUDIO_SAIx_DMAx_IRQHandler : stm32469i_discovery_audio.h
- AUDIO_SAIx_DMAx_MEM_DATA_SIZE : stm32469i_discovery_audio.h
- AUDIO_SAIx_DMAx_PERIPH_DATA_SIZE : stm32469i_discovery_audio.h
- AUDIO_SAIx_DMAx_STREAM : stm32469i_discovery_audio.h
- AUDIO_SAIx_FS_PIN : stm32469i_discovery_audio.h
- AUDIO_SAIx_MCK_PIN : stm32469i_discovery_audio.h
- AUDIO_SAIx_MCLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_SAIx_MCLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_SAIx_MCLK_GPIO_PORT : stm32469i_discovery_audio.h
- AUDIO_SAIx_MCLK_SCK_SD_FS_AF : stm32469i_discovery_audio.h
- AUDIO_SAIx_PLL_DISABLE : stm32469i_discovery_audio.h
- AUDIO_SAIx_SCK_PIN : stm32469i_discovery_audio.h
- AUDIO_SAIx_SCK_SD_FS_DISABLE : stm32469i_discovery_audio.h
- AUDIO_SAIx_SCK_SD_FS_ENABLE : stm32469i_discovery_audio.h
- AUDIO_SAIx_SCK_SD_FS_GPIO_PORT : stm32469i_discovery_audio.h
- AUDIO_SAIx_SD_PIN : stm32469i_discovery_audio.h
- AUDIO_TIMEOUT : stm32469i_discovery_audio.h
- AUDIO_TIMx : stm32469i_discovery_audio.h
- AUDIO_TIMx_AF : stm32469i_discovery_audio.h
- AUDIO_TIMx_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_TIMx_CLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_TIMx_GPIO_CLK_DISABLE : stm32469i_discovery_audio.h
- AUDIO_TIMx_GPIO_CLK_ENABLE : stm32469i_discovery_audio.h
- AUDIO_TIMx_GPIO_PORT : stm32469i_discovery_audio.h
- AUDIO_TIMx_IN_CHANNEL : stm32469i_discovery_audio.h
- AUDIO_TIMx_IN_GPIO_PIN : stm32469i_discovery_audio.h
- AUDIO_TIMx_OUT_CHANNEL : stm32469i_discovery_audio.h
- AUDIO_TIMx_OUT_GPIO_PIN : stm32469i_discovery_audio.h
- AUDIODATA_SIZE : stm32469i_discovery_audio.h

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- CHANNEL_DEMUX_MASK : stm32469i_discovery_audio.h
- CODEC_AUDIOFRAME_SLOT_0123 : stm32469i_discovery_audio.h
- CODEC_AUDIOFRAME_SLOT_02 : stm32469i_discovery_audio.h
- CODEC_AUDIOFRAME_SLOT_13 : stm32469i_discovery_audio.h
- CODEC_RESET_DELAY : stm32469i_discovery_audio.h

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- DMA_MAX : stm32469i_discovery_audio.h
- DMA_MAX_SZE : stm32469i_discovery_audio.h

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- EEPROM_FAIL : stm32469i_discovery_eeprom.h
- EEPROM_I2C_ADDRESS_A01 : stm32469i_discovery.h
- EEPROM_I2C_ADDRESS_A02 : stm32469i_discovery.h
- EEPROM_MAX_SIZE : stm32469i_discovery_eeprom.h
- EEPROM_MAX_TRIALS : stm32469i_discovery_eeprom.h
- EEPROM_OK : stm32469i_discovery_eeprom.h
- EEPROM_PAGESIZE : stm32469i_discovery_eeprom.h
- EEPROM_READ_TIMEOUT : stm32469i_discovery_eeprom.h
- EEPROM_TIMEOUT : stm32469i_discovery_eeprom.h
- EEPROM_WRITE_TIMEOUT : stm32469i_discovery_eeprom.h

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- INTERNAL_BUFF_SIZE : stm32469i_discovery_audio.h

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- LCD_COLOR_BLACK : stm32469i_discovery_lcd.h
- LCD_COLOR_BLUE : stm32469i_discovery_lcd.h
- LCD_COLOR_BROWN : stm32469i_discovery_lcd.h
- LCD_COLOR_CYAN : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKBLUE : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKCYAN : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKGRAY : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKGREEN : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKMAGENTA : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKRED : stm32469i_discovery_lcd.h
- LCD_COLOR_DARKYELLOW : stm32469i_discovery_lcd.h
- LCD_COLOR_GRAY : stm32469i_discovery_lcd.h
- LCD_COLOR_GREEN : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTBLUE : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTCYAN : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTGRAY : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTGREEN : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTMAGENTA : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTRED : stm32469i_discovery_lcd.h
- LCD_COLOR_LIGHTYELLOW : stm32469i_discovery_lcd.h
- LCD_COLOR_MAGENTA : stm32469i_discovery_lcd.h
- LCD_COLOR_ORANGE : stm32469i_discovery_lcd.h
- LCD_COLOR_RED : stm32469i_discovery_lcd.h
- LCD_COLOR_TRANSPARENT : stm32469i_discovery_lcd.h
- LCD_COLOR_WHITE : stm32469i_discovery_lcd.h
- LCD_COLOR_YELLOW : stm32469i_discovery_lcd.h

- LCD_DEFAULT_FONT : stm32469i_discovery_lcd.h
- LCD_DSI_PIXEL_DATA_FMT_RBG565 : stm32469i_discovery_lcd.h
- LCD_DSI_PIXEL_DATA_FMT_RBG888 : stm32469i_discovery_lcd.h
- LCD_ERROR : stm32469i_discovery_lcd.h
- LCD_FB_START_ADDRESS : stm32469i_discovery_lcd.h
- LCD_LayerCfgTypeDef : stm32469i_discovery_lcd.h
- LCD_OK : stm32469i_discovery_lcd.h
- LCD_OTM8009A_ID : stm32469i_discovery_lcd.h
- LCD_TIMEOUT : stm32469i_discovery_lcd.h
- LED1_GPIO_CLK_DISABLE : stm32469i_discovery.h
- LED1_GPIO_CLK_ENABLE : stm32469i_discovery.h
- LED1_GPIO_PORT : stm32469i_discovery.h
- LED1_PIN : stm32469i_discovery.h
- LED2_GPIO_CLK_DISABLE : stm32469i_discovery.h
- LED2_GPIO_CLK_ENABLE : stm32469i_discovery.h
- LED2_GPIO_PORT : stm32469i_discovery.h
- LED2_PIN : stm32469i_discovery.h
- LED3_GPIO_CLK_DISABLE : stm32469i_discovery.h
- LED3_GPIO_CLK_ENABLE : stm32469i_discovery.h
- LED3_GPIO_PORT : stm32469i_discovery.h
- LED3_PIN : stm32469i_discovery.h
- LED4_GPIO_CLK_DISABLE : stm32469i_discovery.h
- LED4_GPIO_CLK_ENABLE : stm32469i_discovery.h
- LED4_GPIO_PORT : stm32469i_discovery.h
- LED4_PIN : stm32469i_discovery.h
- LEDn : stm32469i_discovery.h
- LTDC_ACTIVE_LAYER_BACKGROUND : stm32469i_discovery_lcd.h
- LTDC_ACTIVE_LAYER_FOREGROUND : stm32469i_discovery_lcd.h
- LTDC_DEFAULT_ACTIVE_LAYER : stm32469i_discovery_lcd.h
- LTDC_MAX_LAYER_NUMBER : stm32469i_discovery_lcd.h
- LTDC_NB_OF_LAYERS : stm32469i_discovery_lcd.h

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- MSD_ERROR : stm32469i_discovery_sd.h
- MSD_ERROR_SD_NOT_PRESENT : stm32469i_discovery_sd.h
- MSD_OK : stm32469i_discovery_sd.h

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- OTG_FS1_OVER_CURRENT_PIN : stm32469i_discovery.h
- OTG_FS1_OVER_CURRENT_PORT : stm32469i_discovery.h
- OTG_FS1_OVER_CURRENT_PORT_CLK_ENABLE : stm32469i_discovery.h
- OTG_FS1_POWER_SWITCH_PIN : stm32469i_discovery.h
- OTG_FS1_POWER_SWITCH_PORT : stm32469i_discovery.h
- OTG_FS1_POWER_SWITCH_PORT_CLK_ENABLE : stm32469i_discovery.h
- OUTPUT_DEVICE_HEADPHONE1 : stm32469i_discovery_audio.c
- OUTPUT_DEVICE_HEADPHONE2 : stm32469i_discovery_audio.c

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- PCM_OUT_SIZE : stm32469i_discovery_audio.h
- POLY_X : stm32469i_discovery_lcd.c
- POLY_Y : stm32469i_discovery_lcd.c

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- QSPI_BUSY : stm32469i_discovery_qspi.h
- QSPI_CLK_DISABLE : stm32469i_discovery_qspi.h
- QSPI_CLK_ENABLE : stm32469i_discovery_qspi.h
- QSPI_CLK_GPIO_PORT : stm32469i_discovery_qspi.h
- QSPI_CLK_PIN : stm32469i_discovery_qspi.h
- QSPI_CS_GPIO_CLK_DISABLE : stm32469i_discovery_qspi.h
- QSPI_CS_GPIO_CLK_ENABLE : stm32469i_discovery_qspi.h
- QSPI_CS_GPIO_PORT : stm32469i_discovery_qspi.h

- QSPI_CS_PIN : stm32469i_discovery_qspi.h
- QSPI_D0_PIN : stm32469i_discovery_qspi.h
- QSPI_D1_PIN : stm32469i_discovery_qspi.h
- QSPI_D2_PIN : stm32469i_discovery_qspi.h
- QSPI_D3_PIN : stm32469i_discovery_qspi.h
- QSPI_DX_CLK_GPIO_CLK_DISABLE : stm32469i_discovery_qspi.h
- QSPI_DX_CLK_GPIO_CLK_ENABLE : stm32469i_discovery_qspi.h
- QSPI_DX_GPIO_PORT : stm32469i_discovery_qspi.h
- QSPI_ERROR : stm32469i_discovery_qspi.h
- QSPI_FORCE_RESET : stm32469i_discovery_qspi.h
- QSPI_NOT_SUPPORTED : stm32469i_discovery_qspi.h
- QSPI_OK : stm32469i_discovery_qspi.h
- QSPI_RELEASE_RESET : stm32469i_discovery_qspi.h
- QSPI_SUSPENDED : stm32469i_discovery_qspi.h

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- REFRESH_COUNT : stm32469i_discovery_sdram.h

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- SAIClockDivider : stm32469i_discovery_audio.c
- SD_DATATIMEOUT : stm32469i_discovery_sd.h
- SD_DETECT_EXTI_IRQn : stm32469i_discovery.h
- SD_DETECT_GPIO_CLK_DISABLE : stm32469i_discovery.h
- SD_DETECT_GPIO_CLK_ENABLE : stm32469i_discovery.h
- SD_DETECT_GPIO_PORT : stm32469i_discovery.h
- SD_DETECT_PIN : stm32469i_discovery.h
- SD_DetectIRQHandler : stm32469i_discovery_sd.h
- SD_DMAx_Rx_CHANNEL : stm32469i_discovery_sd.h
- SD_DMAx_Rx_IRQn : stm32469i_discovery_sd.h

- SD_DMAx_Rx_STREAM : stm32469i_discovery_sd.h
- SD_DMAx_Tx_CHANNEL : stm32469i_discovery_sd.h
- SD_DMAx_Tx_IRQn : stm32469i_discovery_sd.h
- SD_DMAx_Tx_STREAM : stm32469i_discovery_sd.h
- SD_NOT_PRESENT : stm32469i_discovery_sd.h
- SD_PRESENT : stm32469i_discovery_sd.h
- SD_TRANSFER_BUSY : stm32469i_discovery_sd.h
- SD_TRANSFER_OK : stm32469i_discovery_sd.h
- SDCLOCK_PERIOD : stm32469i_discovery_sdram.h
- SDRAM_DEVICE_ADDR : stm32469i_discovery_sdram.h
- SDRAM_DEVICE_SIZE : stm32469i_discovery_sdram.h
- SDRAM_DMAx_CHANNEL : stm32469i_discovery_sdram.h
- SDRAM_DMAx_IRQHandler : stm32469i_discovery_sdram.h
- SDRAM_DMAx_IRQn : stm32469i_discovery_sdram.h
- SDRAM_DMAx_STREAM : stm32469i_discovery_sdram.h
- SDRAM_ERROR : stm32469i_discovery_sdram.h
- SDRAM_MEMORY_WIDTH : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_LENGTH_1 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_LENGTH_2 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_LENGTH_4 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_LENGTH_8 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_TYPE_INTERLEAVED : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_BURST_TYPE_SEQUENTIAL : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_CAS_LATENCY_2 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_CAS_LATENCY_3 : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_OPERATING_MODE_STANDARD : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_WRITEBURST_MODE_PROGRAMMED : stm32469i_discovery_sdram.h
- SDRAM_MODEREG_WRITEBURST_MODE_SINGLE : stm32469i_discovery_sdram.h
- SDRAM_OK : stm32469i_discovery_sdram.h
- SDRAM_TIMEOUT : stm32469i_discovery_sdram.h

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- TS_I2C_ADDRESS : stm32469i_discovery.h
- TS_I2C_ADDRESS_A02 : stm32469i_discovery.h
- TS_INT_EXTI_IRQn : stm32469i_discovery.h
- TS_INT_GPIO_CLK_DISABLE : stm32469i_discovery.h
- TS_INT_GPIO_CLK_ENABLE : stm32469i_discovery.h
- TS_INT_GPIO_PORT : stm32469i_discovery.h
- TS_INT_PIN : stm32469i_discovery.h
- TS_IRQ_PENDING : stm32469i_discovery_ts.h
- TS_MAX_NB_TOUCH : stm32469i_discovery_ts.h
- TS_NO_IRQ_PENDING : stm32469i_discovery_ts.h
- TS_SWAP_NONE : stm32469i_discovery_ts.h
- TS_SWAP_X : stm32469i_discovery_ts.h
- TS_SWAP_XY : stm32469i_discovery_ts.h
- TS_SWAP_Y : stm32469i_discovery_ts.h

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- USER_BUTTON_EXTI_IRQn : stm32469i_discovery.h
- USER_BUTTON_GPIO_CLK_DISABLE : stm32469i_discovery.h
- USER_BUTTON_GPIO_CLK_ENABLE : stm32469i_discovery.h
- USER_BUTTON_GPIO_PORT : stm32469i_discovery.h
- USER_BUTTON_PIN : stm32469i_discovery.h

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- WAKEUP_BUTTON_EXTI_IRQn : stm32469i_discovery.h
- WAKEUP_BUTTON_GPIO_CLK_DISABLE : stm32469i_discovery.h
- WAKEUP_BUTTON_GPIO_CLK_ENABLE : stm32469i_discovery.h
- WAKEUP_BUTTON_GPIO_PORT : stm32469i_discovery.h
- WAKEUP_BUTTON_PIN : stm32469i_discovery.h

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Defines | Functions | Variables

stm32469i_discovery.c File Reference

This file provides a set of firmware functions to manage LEDs, push-buttons, external SDRAM, external QSPI Flash, RF EEPROM, available on STM32469I-Discovery board (MB1189) RevA/B from STMicroelectronics. More...

```
#include "stm32469i_discovery.h"
```

Go to the source code of this file.

Defines

"memItemRight"

valign="bottom">__STM32469I_DISCOVERY_BSP_VERSION_MAIN (0x02)

STM32469I Discovery BSP Drive

#define __STM32469I_DISCOVERY_BS

#define __STM32469I_DISCOVERY_BS

#define __STM32469I_DISCOVERY_BS

#define __STM32469I_DISCOVERY_BS

Functions

static void I2C1_MspInit (void)

Initializes I2C MSP.

static void I2C2_MspInit (void)

Initializes I2C MSP.

static void I2C1_Init (void)
Initializes I2C HAL.
static void I2C2_Init (void)
Initializes I2C HAL.
static HAL_StatusTypeDef I2C1_ReadMultiple (uint8_t Addr, uint16
MemAddress, uint8_t *Buffer, uint16_t L
Reads multiple data.
static HAL_StatusTypeDef I2C2_ReadMultiple (uint8_t Addr, uint16
MemAddSize, uint8_t *Buffer, uint16_t L
static HAL_StatusTypeDef I2C1_WriteMultiple (uint8_t Addr, uint16
MemAddress, uint8_t *Buffer, uint16_t L
Writes a value in a register of the device t
DMA mode.
static HAL_StatusTypeDef I2C2_WriteMultiple (uint8_t Addr, uint16
MemAddSize, uint8_t *Buffer, uint16_t L
static HAL_StatusTypeDef I2C1_IsDeviceReady (uint16_t DevAddre
Checks if target device is ready for commu
static void I2C1_Error (uint8_t Addr)
Manages error callback by re-initializing I
static void I2C2_Error (uint8_t Addr)
void AUDIO_IO_Init (void)
Initializes Audio low level.
void AUDIO_IO_DeInit (void)
DeInitializes Audio low level.
void AUDIO_IO_Write (uint8_t Addr, uint8_t
Writes a single data.
uint8_t AUDIO_IO_Read (uint8_t Addr, uint8_t
Reads a single data.
void AUDIO_IO_Delay (uint32_t Delay)
AUDIO Codec delay.
void EEPROM_IO_Init (void)
Initializes peripherals used by the I2C EE
HAL_StatusTypeDef EEPROM_IO_WriteData (uint16_t DevA
MemAddress, uint8_t *pBuffer, uint32_t
Write data to I2C EEPROM driver in usin
HAL_StatusTypeDef EEPROM_IO_ReadData (uint16_t DevAd
MemAddress, uint8_t *pBuffer, uint32_t
Read data from I2C EEPROM driver in us
HAL_StatusTypeDef EEPROM_IO_IsDeviceReady (uint16_t D
Trials)
Checks if target device is ready for commu
void TS_IO_Init (void)
Initialize I2C communication channel fro
TouchScreen (TS).
void TS_IO_Write (uint8_t Addr, uint8_t Reg,
Writes single data with I2C communicatio

to TouchScreen.

uint8_t TS_IO_Read (uint8_t Addr, uint8

Reads single data with I2C comm TouchScreen.

uint16_t TS_IO_ReadMultiple (uint8_t Ad *Buffer, uint16_t Length)

Reads multiple data with I2C com TouchScreen.

void TS_IO_WriteMultiple (uint8_t Ac *Buffer, uint16_t Length)

Writes multiple data with I2C con MCU to TouchScreen.

void TS_IO_Delay (uint32_t Delay)

Delay function used in TouchScre

void OTM8009A_IO_Delay (uint32_t

OTM8009A delay.

uint32_t BSP_GetVersion (void)

This method returns the STM3246 revision.

void BSP_LED_Init (Led_TypeDef Le

Configures LED GPIO.

void BSP_LED_DeInit (Led_TypeDef

DeInit LEDs.

void BSP_LED_On (Led_TypeDef Le

Turns selected LED On.

void BSP_LED_Off (Led_TypeDef Le

Turns selected LED Off.

void BSP_LED_Toggle (Led_TypeDe

Toggles the selected LED.

void BSP_PB_Init (Button_TypeDef B Button_Mode)

Configures button GPIO and EXT

void BSP_PB_DeInit (Button_TypeDe

Push Button DeInit.

uint32_t BSP_PB_GetState (Button_TypeI

Returns the selected button state.

static void I2C1_Write (uint8_t Addr, uint8_

Writes a single data.

static uint8_t I2C1_Read (uint8_t Addr, uint8_t

Reads a single data.

Variables

uint32_t GPIO_PIN [LEDn]

GPIO_TypeDef * GPIO_PORT [LEDn]

GPIO_TypeDef * BUTTON_PORT [BUTTONn] = {WAKEUP_BUTTON_GPIO_PO

const uint16_t BUTTON_PIN [BUTTONn] = {W

const uint16_t BUTTON_IRQn [BUTTONn] = {WAKEUP_BUTTON_EXTI_IRQn }

static I2C_HandleTypeDef heval_I2c1

static I2C_HandleTypeDef heval_I2c2

Detailed Description

This file provides a set of firmware functions to manage LEDs, push-buttons, external SDRAM, external QSPI Flash, RF EEPROM, available on STM32469I-Discovery board (MB1189) RevA/B from STMicroelectronics.

Author:
MCD Application Team

Version:
V2.0.0

Date:
31-January-2017

Attention:

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Definition in file stm32469i_discovery.c.

- Directories
- File&"temp1349.html">Globals
- Drivers
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- STM32469I-Discovery

Defines | Enumerations | Functions
stm32469i_discovery.h File Reference
This file contains definitions for STM32469I-Discovery LEDs, push-buttons hardware resources. More...

```
#include "stm32f4xx_hal.h"
```

Go to the source code of this file.

Defines

"memItemRight"
valign="bottom">BUTTON_USER BUTTON_WAKEUP

#define LEDn ((uint8_t)4)
#define LED1_GPIO_PORT ((GPIO_TypeDef*)GPIOG)
#define LED2_GPIO_PORT ((GPIO_TypeDef*)GPIOD)
#define LED3_GPIO_PORT ((GPIO_TypeDef*)GPIOD)
#define LED4_GPIO_PORT ((GPIO_TypeDef*)GPIOK)
#define LED1_GPIO_CLK_ENABLE() __HAL_RCC_GPIOG
#define LED1_GPIO_CLK_DISABLE() __HAL_RCC_GPIOG
#define LED2_GPIO_CLK_ENABLE() __HAL_RCC_GPIOD
#define LED2_GPIO_CLK_DISABLE() __HAL_RCC_GPIOD
#define LED3_GPIO_CLK_ENABLE() __HAL_RCC_GPIOD
#define LED3_GPIO_CLK_DISABLE() __HAL_RCC_GPIOD
#define LED4_GPIO_CLK_ENABLE() __HAL_RCC_GPIOK
#define LED4_GPIO_CLK_DISABLE() __HAL_RCC_GPIOK
#define LED1_PIN ((uint32_t)GPIO_PIN_6)
#define LED2_PIN ((uint32_t)GPIO_PIN_4)
#define LED3_PIN ((uint32_t)GPIO_PIN_5)
#define LED4_PIN ((uint32_t)GPIO_PIN_3)
#define BUTTONn ((uint8_t)1)
#define WAKEUP_BUTTON_PIN GPIO_PIN_0
Wakeup push-button.
#define WAKEUP_BUTTON_GPIO_PORT GPIOA
#define WAKEUP_BUTTON_GPIO_CLK_ENABLE() __HA
#define WAKEUP_BUTTON_GPIO_CLK_DISABLE() __HA
#define WAKEUP_BUTTON_EXTI_IRQn EXTI0_IRQn
#define USER_BUTTON_PIN WAKEUP_BUTTON_PIN
#define USER_BUTTON_GPIO_PORT WAKEUP_BUTTON
#define USER_BUTTON_GPIO_CLK_ENABLE() WAKEUP
#define USER_BUTTON_GPIO_CLK_DISABLE() WAKEUP
#define USER_BUTTON_EXTI_IRQn WAKEUP_BUTTON_

#define BUTTON_GPIO_CLK_ENABLE() __HAL_RCC_GPIOA_CL
#define AUDIO_INT_PIN GPIO_PIN_7
OTG_FS1 OVER_CURRENT and POWER_SWITCH Pins defi
#define AUDIO_INT_PORT GPIOB
#define AUDIO_INT_PORT_CLK_ENABLE() __HAL_RCC_GPIOB
#define OTG_FS1_OVER_CURRENT_PIN GPIO_PIN_7
#define OTG_FS1_OVER_CURRENT_PORT GPIOB
#define OTG_FS1_OVER_CURRENT_PORT_CLK_ENABLE() __HA
#define OTG_FS1_POWER_SWITCH_PIN GPIO_PIN_2
#define OTG_FS1_POWER_SWITCH_PORT GPIOB
#define OTG_FS1_POWER_SWITCH_PORT_CLK_ENABLE() __HA
#define SD_DETECT_PIN ((uint32_t)GPIO_PIN_2)
SD-detect signal.
#define SD_DETECT_GPIO_PORT ((GPIO_TypeDef*)GPIOG)
#define SD_DETECT_GPIO_CLK_ENABLE() __HAL_RCC_GPIOG
#define SD_DETECT_GPIO_CLK_DISABLE() __HAL_RCC_GPIOG
#define SD_DETECT_EXTI_IRQn EXTI2_IRQn
#define TS_INT_PIN ((uint32_t)GPIO_PIN_5)
TS_INT signal from TouchScreen when it is configured in interr
#define TS_INT_GPIO_PORT ((GPIO_TypeDef*)GPIOJ)
#define TS_INT_GPIO_CLK_ENABLE() __HAL_RCC_GPIOJ_CLK
#define TS_INT_GPIO_CLK_DISABLE() __HAL_RCC_GPIOJ_CLK
#define TS_INT_EXTI_IRQn EXTI9_5_IRQn
#define TS_I2C_ADDRESS ((uint16_t)0x54)
TouchScreen FT6206 Slave I2C address 1.
#define TS_I2C_ADDRESS_A02 ((uint16_t)0x70)
TouchScreen FT6336G Slave I2C address 2.
#define AUDIO_I2C_ADDRESS ((uint16_t)0x94)
Audio I2C Slave address.
#define EEPROM_I2C_ADDRESS_A01 ((uint16_t)0xA0)
EEPROM I2C Slave address 1.
#define EEPROM_I2C_ADDRESS_A02 ((uint16_t)0xA6)
EEPROM I2C Slave address 2.
#define DISCO_I2C1 I2C1
I2C clock speed configuration (in Hz) WARNING: Make sure th
in other files It can be used in parallel by other modules.
#define DISCO_I2C1_CLK_ENABLE() __HAL_RCC_I2C1_CLK_EN
#define DISCO_DMAx_CLK_ENABLE() __HAL_RCC_DMA1_CLK
#define DISCO_I2C1_SCL_SDA_GPIO_CLK_ENABLE() __HAL_R
#define DISCO_I2C1_FORCE_RESET() __HAL_RCC_I2C1_FORCE
#define DISCO_I2C1_RELEASE_RESET() __HAL_RCC_I2C1_REL
#define DISCO_I2C1_SCL_PIN GPIO_PIN_8
Definition for I2C1 Pins.
#define DISCO_I2C1_SCL_SDA_GPIO_PORT GPIOB
#define DISCO_I2C1_SCL_SDA_AF GPIO_AF4_I2C1

#define DISCO_I2C1_SDA_PIN GPIO_PIN_9
#define DISCO_I2C1_EV_IRQn I2C1_EV_IRQn
Definition of I2C interrupt requests.
#define DISCO_I2C1_ER_IRQn I2C1_ER_IRQn
#define DISCO_I2C2 I2C2
I2C2 clock speed configuration (in Hz) WARNING: Ma
declared in other files It can be used in parallel by other
#define DISCO_I2C2_CLK_ENABLE() __HAL_RCC_I2C2_
#define DISCO_I2C2_SCL_SDA_GPIO_CLK_ENABLE() __
#define DISCO_I2C2_FORCE_RESET() __HAL_RCC_I2C2_
#define DISCO_I2C2_RELEASE_RESET() __HAL_RCC_I2C
#define DISCO_I2C2_SCL_PIN GPIO_PIN_4
Definition for I2C2 Pins.
#define DISCO_I2C2_SCL_SDA_GPIO_PORT GPIOH
#define DISCO_I2C2_SCL_SDA_AF GPIO_AF4_I2C2
#define DISCO_I2C2_SDA_PIN GPIO_PIN_5
#define DISCO_I2C2_EV_IRQn I2C2_EV_IRQn
Definition of I2C2 interrupt requests.
#define DISCO_I2C2_ER_IRQn I2C2_ER_IRQn

Enumerations

enum Led_TypeDef {
LED1 = 0, LED_GREEN = LED1, LED2 = 1, LED_O
LED3 = 2, LED_RED = LED3, LED4 = 3, LED_BLU
}
Led_TypeDef STM32469I_Discovery board leds definit
enum Button_TypeDef { BUTTON_WAKEUP = 0 }
Button_TypeDef STM32469I_Discovery board Buttons
enum ButtonMode_TypeDef { BUTTON_MODE_GPIO = 0,
ButtonMode_TypeDef STM32469I_Discovery board Bu
enum ButtonValue_TypeDef { PB_SET = 0, PB_RESET = !P
enum DISCO_Status_TypeDef { DISCO_OK = 0, DISCO_ER
DISCO_Status_TypeDef STM32469I_DISCO board Sta

Functions

uint32_t BSP_GetVersion (void)
This method returns the STM32469I Discovery BSP Dri
void BSP_LED_Init (Led_TypeDef Led)
Configures LED GPIO.
void BSP_LED_DeInit (Led_TypeDef Led)
DeInit LEDs.
void BSP_LED_On (Led_TypeDef Led)
Turns selected LED On.
void BSP_LED_Off (Led_TypeDef Led)
Turns selected LED Off.
void BSP_LED_Toggle (Led_TypeDef Led)
Toggles the selected LED.

void	BSP_PB_Init (Button_TypeDef Button, ButtonMode_TypeDef M Configures button GPIO and EXTI Line.
void	BSP_PB_DeInit (Button_TypeDef Button) Push Button DeInit.
uint32_t	BSP_PB_GetState (Button_TypeDef Button) Returns the selected button state.

Detailed Description

This file contains definitions for STM32469I-Discovery LEDs, push-buttons hardware resources.

Author:
MCD Application Team

Version:
V2.0.0

Date:
31-January-2017

Attention:

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Definition in file stm32469i_discovery.h.

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- Drivers
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- STM32469I-Discovery

Defines | Functions | Variables
stm32469i_discovery_audio.c File Reference
This file provides the Audio driver for the STM32469I-Discovery board. More...

```
#include <string.h>
#include "stm32469i_discovery_audio.h"
```

Go to the source code of this file.

Defines

"memItemRight"
valign="bottom">OUTPUT_DEVICE_HEADPHONE1 OUTPUT_DEVICE_HEADPHONE
#define OUTPUT_DEVICE_
#define SAIClockDivider(__F

Functions

static uint8_t SAIx_Init (uint32_t A
Initializes the Audio C
static void SAIx_DeInit (void)
Deinitializes the Audi
static void I2Sx_Init (uint32_t A
Initializes the Audio C
static void I2Sx_DeInit (void)
Deinitializes the Audi
static void TIMx_IC_MspInit (T
Initializes the TIM IN
static void TIMx_IC_MspDeInit
Initializes the TIM IN
static void TIMx_Init (void)
Configure TIM as a c
static void TIMx_DeInit (void)
Configure TIM as a c
static void PDMDecoder_Init (ui
Initializes the PDM li
void BSP_AUDIO_OUT_
Changes the Audio O
uint8_t BSP_AUDIO_OUT_
uint32_t AudioFreq)
Configures the audio
uint8_t BSP_AUDIO_OUT_

Starts playing audio stream fr
void BSP_AUDIO_OUT_ChangeB
Sends n-Bytes on the SAI inte
uint8_t BSP_AUDIO_OUT_Pause (v
This function Pauses the audio
uint8_t BSP_AUDIO_OUT_Resume
This function Resumes the au
uint8_t BSP_AUDIO_OUT_Stop (ui
Stops audio playing and Powe
uint8_t BSP_AUDIO_OUT_SetVolu
Controls the current audio vol
uint8_t BSP_AUDIO_OUT_SetMute
Enables or disables the MUTE
uint8_t BSP_AUDIO_OUT_SetOutpu
Switch dynamically (while au
(speaker or headphone).
void BSP_AUDIO_OUT_SetFrequ
Updates the audio frequency.
void BSP_AUDIO_OUT_SetAudio
Updates the Audio frame slot
void BSP_AUDIO_OUT_DeInit (v
Deinit the audio peripherals.
void HAL_SAI_TxCpltCallback (S
Tx Transfer completed callbac
void HAL_SAI_TxHalfCpltCallba
Tx Half Transfer completed c
void HAL_SAI_ErrorCallback (SA
SAI error callbacks.
__weak void BSP_AUDIO_OUT_Transfer
Manages the DMA full Transf
__weak void BSP_AUDIO_OUT_HalfTran
Manages the DMA Half Trans
__weak void BSP_AUDIO_OUT_Error_Ca
Manages the DMA FIFO erro
__weak void BSP_AUDIO_OUT_MspInit
*Params)
Initializes BSP_AUDIO_OUT
__weak void BSP_AUDIO_OUT_MspDeIn
*Params)
Deinitializes BSP_AUDIO_O
__weak void BSP_AUDIO_OUT_ClockCo
AudioFreq, void *Params)
Clock Config.
uint8_t BSP_AUDIO_IN_Init (uint32
ChnlNbr)
Initializes wave recording.

uint8_t BSP_AUDIO_IN_Re
Starts audio recording
uint8_t BSP_AUDIO_IN_Sto
Stops audio recording
uint8_t BSP_AUDIO_IN_Pa
Pauses the audio file s
uint8_t BSP_AUDIO_IN_Re
Resumes the audio fil
uint8_t BSP_AUDIO_IN_Set
Controls the audio in
void BSP_AUDIO_IN_De
Deinit the audio IN pe
uint8_t BSP_AUDIO_IN_PD
*PCMBuf)
Converts audio forma
void HAL_I2S_RxCpltCal
Rx Transfer complete
void HAL_I2S_RxHalfCpl
Rx Half Transfer com
void HAL_I2S_ErrorCallb
I2S error callbacks.
__weak void BSP_AUDIO_IN_Clo
*Params)
Clock Config.
__weak void BSP_AUDIO_IN_Tra
User callback when re
__weak void BSP_AUDIO_IN_Ha
Manages the DMA H
__weak void BSP_AUDIO_IN_Err
Audio IN Error callba
__weak void BSP_AUDIO_IN_Ms
BSP AUDIO IN MSP
__weak void BSP_AUDIO_IN_Ms
*Params)
DeInitializes BSP_AU

Variables

AUDIO_DrvTypeDef * audio_drv
SAI_HandleTypeDef haudio_out_sai
I2S_HandleTypeDef haudio_in_i2s
TIM_HandleTypeDef haudio_tim
PDMFilter_InitStruct Filter [2]
uint8_t Channel_Demux [128
uint16_t __IO AudioInVolume = DE

Detailed Description

This file provides the Audio driver for the STM32469I-Discovery board.

Author:
MCD Application Team

Version:
V2.0.0

Date:
31-January-2017

Attention:

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Definition in file stm32469i_discovery_audio.c.

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Defines | Functions | Variables

stm32469i_discovery_audio.h File Reference

This file contains the common defines and functions prototypes for the stm32469i_discovery_audio.c driver.
More...

```
#include <stdlib.h>
#include "../Components/cs43l22/cs43l22.h"
#include "stm32469i_discovery.h"
#include "../../../Middlewares/ST/STM32_Audio/Addons/PDM/pdm_filter.h"
```

Go to the source code of this file.

Defines

"memItemRight"

DIO_OUT_CIRCULARMODE ((uint32_t)0x00000001)

/* BUFFER CIRCULAR MODE */

#define BSP_AUDIO_OUT_NORMALMODE ((uint32_t)0x00000002) /* BUFFE

#define BSP_AUDIO_OUT_STEREOMODE ((uint32_t)0x00000004) /* STEREO

#define BSP_AUDIO_OUT_MONOMODE ((uint32_t)0x00000008) /* MONO M

#define CODEC_AUDIOFRAME_SLOT_0123 SAI_SLOTACTIVE_0 | SAI_SLO
SAI_SLOTACTIVE_3

#define CODEC_AUDIOFRAME_SLOT_02 SAI_SLOTACTIVE_0 | SAI_SLOTA

#define CODEC_AUDIOFRAME_SLOT_13 SAI_SLOTACTIVE_1 | SAI_SLOTA

#define AUDIO_SAIx SAI1_Block_A

#define AUDIO_SAIx_CLK_ENABLE() __HAL_RCC_SAI1_CLK_ENABLE()

#define AUDIO_SAIx_CLK_DISABLE() __HAL_RCC_SAI1_CLK_DISABLE()

#define AUDIO_SAIx_MCLK_SCK_SD_FS_AF GPIO_AF6_SAI1

#define AUDIO_SAIx_MCLK_ENABLE() __HAL_RCC_GPIOG_CLK_ENABL

#define AUDIO_SAIx_MCLK_DISABLE() __HAL_RCC_GPIOG_CLK_DISAB

#define AUDIO_SAIx_MCK_PIN GPIO_PIN_7

#define AUDIO_SAIx_MCLK_GPIO_PORT GPIOG

#define AUDIO_SAIx_SCK_SD_FS_ENABLE() __HAL_RCC_GPIOE_CLK_EN

#define AUDIO_SAIx_SCK_SD_FS_DISABLE() __HAL_RCC_GPIOE_CLK_D

#define AUDIO_SAIx_FS_PIN GPIO_PIN_4

#define AUDIO_SAIx_SCK_PIN GPIO_PIN_5

#define AUDIO_SAIx_SD_PIN GPIO_PIN_6

#define AUDIO_SAIx_SCK_SD_FS_GPIO_PORT GPIOE

#define AUDIO_RESET_ENABLE() __HAL_RCC_GPIOE_CLK_ENABLE()

#define AUDIO_RESET_DISABLE() __HAL_RCC_GPIOE_CLK_DISABLE()

#define AUDIO_RESET_PIN GPIO_PIN_2

#define AUDIO_RESET_GPIO_PORT GPIOE

#define AUDIO_SAIx_DMAx_CLK_ENABLE() __HAL_RCC_DMA2_CLK_EN

#define AUDIO_SAIx_DMAx_CLK_DISABLE() __HAL_RCC_DMA2_CLK_D

#define AUDIO_SAIx_DMAx_STREAM DMA2_Stream3

#define AUDIO_SAIx_DMAx_CHANNEL DMA_CHANNEL_0

#define AUDIO_SAIx_DMAx_IRQ DMA2_Stream3_IRQn

#define AUDIO_SAIx_DMAx_PERIPH_DATA_SIZE DMA_PDATAALIGN_HA

#define AUDIO_SAIx_DMAx_MEM_DATA_SIZE DMA_MDATAALIGN_HAL

```
#define DMA_MAX_SZE 0xFFFF
#define AUDIO_SAIx_DMAx_IRQHandler DMA2_Stream3_IRQHandler
#define AUDIO_OUT_IRQ_PREPRIO 5 /* Select the preemption priority level(0 is the hig
#define AUDIO_SAIx_PLL_DISABLE() HAL_RCCEx_DisablePLLSAI1()
#define AUDIO_I2Sx SPI3
#define AUDIO_I2Sx_CLK_ENABLE() __HAL_RCC_SPI3_CLK_ENABLE()
#define AUDIO_I2Sx_CLK_DISABLE() __HAL_RCC_SPI3_CLK_DISABLE()
#define AUDIO_I2Sx_SCK_PIN GPIO_PIN_3
#define AUDIO_I2Sx_SCK_GPIO_PORT GPIOB
#define AUDIO_I2Sx_SCK_GPIO_CLK_ENABLE() __HAL_RCC_GPIOB_CLK_ENAB
#define AUDIO_I2Sx_SCK_GPIO_CLK_DISABLE() __HAL_RCC_GPIOB_CLK_DISA
#define AUDIO_I2Sx_SCK_AF GPIO_AF6_SPI3
#define AUDIO_I2Sx_SD_PIN GPIO_PIN_6
#define AUDIO_I2Sx_SD_GPIO_PORT GPIOD
#define AUDIO_I2Sx_SD_GPIO_CLK_ENABLE() __HAL_RCC_GPIOD_CLK_ENABL
#define AUDIO_I2Sx_SD_GPIO_CLK_DISABLE() __HAL_RCC_GPIOD_CLK_DISAB
#define AUDIO_I2Sx_SD_AF GPIO_AF5_I2S3ext
#define AUDIO_I2Sx_DMAx_CLK_ENABLE() __HAL_RCC_DMA1_CLK_ENABLE()
#define AUDIO_I2Sx_DMAx_CLK_DISABLE() __HAL_RCC_DMA1_CLK_DISABLE(
#define AUDIO_I2Sx_DMAx_STREAM DMA1_Stream2
#define AUDIO_I2Sx_DMAx_CHANNEL DMA_CHANNEL_0
#define AUDIO_I2Sx_DMAx_IRQ DMA1_Stream2_IRQn
#define AUDIO_I2Sx_DMAx_PERIPH_DATA_SIZE DMA_PDATAALIGN_HALFWOR
#define AUDIO_I2Sx_DMAx_MEM_DATA_SIZE DMA_MDATAALIGN_HALFWORD
#define AUDIO_I2Sx_DMAx_IRQHandler DMA1_Stream2_IRQHandler
#define AUDIO_IN_IRQ_PREPRIO ((uint32_t)6) /* Select the preemption priority level(0
#define AUDIO_TIMx_CLK_ENABLE() __HAL_RCC_TIM4_CLK_ENABLE()
#define AUDIO_TIMx_CLK_DISABLE() __HAL_RCC_TIM4_CLK_DISABLE()
#define AUDIO_TIMx TIM4
#define AUDIO_TIMx_IN_CHANNEL TIM_CHANNEL_1
#define AUDIO_TIMx_OUT_CHANNEL TIM_CHANNEL_2 /* Select channel 2 as outpu
#define AUDIO_TIMx_GPIO_CLK_ENABLE() __HAL_RCC_GPIOD_CLK_ENABLE()
#define AUDIO_TIMx_GPIO_CLK_DISABLE() __HAL_RCC_GPIOD_CLK_DISABLE
#define AUDIO_TIMx_GPIO_PORT GPIOD
#define AUDIO_TIMx_IN_GPIO_PIN GPIO_PIN_12
#define AUDIO_TIMx_OUT_GPIO_PIN GPIO_PIN_13
#define AUDIO_TIMx_AF GPIO_AF2_TIM4
#define AUDIODATA_SIZE 2 /* 16-bits audio data size */
#define AUDIO_OK ((uint8_t)0)
#define AUDIO_ERROR ((uint8_t)1)
#define AUDIO_TIMEOUT ((uint8_t)2)
#define DEFAULT_AUDIO_IN_FREQ I2S_AUDIOFREQ_16K
#define DEFAULT_AUDIO_IN_BIT_RESOLUTION ((uint8_t)16)
#define DEFAULT_AUDIO_IN_CHANNEL_NBR ((uint8_t)2) /* Mono = 1, Stereo = 2 */
#define DEFAULT_AUDIO_IN_VOLUME ((uint16_t)64)
```

#define INTERNAL_BUFF_SIZE (128*DEFAULT_AUDIO_IN_FREQ/16000*D
#define PCM_OUT_SIZE (DEFAULT_AUDIO_IN_FREQ/1000*DEFAULT_AU
#define CHANNEL_DEMUX_MASK ((uint8_t)0x55)
#define CODEC_RESET_DELAY ((uint8_t)5)
#define DMA_MAX(x) (((x) <= DMA_MAX_SZE)? (x):DMA_MAX_SZE)

Functions

uint8_t BSP_AUDIO_OUT_Init (uint16_t OutputDevice, uint8_t Volume, uint32_t
Configures the audio peripherals.

uint8_t BSP_AUDIO_OUT_Play (uint16_t *pBuffer, uint32_t Size)
Starts playing audio stream from a data buffer for a determined size.

void BSP_AUDIO_OUT_ChangeBuffer (uint16_t *pData, uint16_t Size)
Sends n-Bytes on the SAI interface.

uint8_t BSP_AUDIO_OUT_Pause (void)
This function Pauses the audio file stream.

uint8_t BSP_AUDIO_OUT_Resume (void)
This function Resumes the audio file stream.

uint8_t BSP_AUDIO_OUT_Stop (uint32_t Option)
Stops audio playing and Power down the Audio Codec.

uint8_t BSP_AUDIO_OUT_SetVolume (uint8_t Volume)
Controls the current audio volume level.

void BSP_AUDIO_OUT_SetFrequency (uint32_t AudioFreq)
Updates the audio frequency.

void BSP_AUDIO_OUT_SetAudioFrameSlot (uint32_t AudioFrameSlot)
Updates the Audio frame slot configuration.

uint8_t BSP_AUDIO_OUT_SetMute (uint32_t Cmd)
Enables or disables the MUTE mode by software.

uint8_t BSP_AUDIO_OUT_SetOutputMode (uint8_t Output)
Switch dynamically (while audio file is being played) the output target (spea

void BSP_AUDIO_OUT_DeInit (void)
Deinit the audio peripherals.

void BSP_AUDIO_OUT_TransferComplete_CallBack (void)
Manages the DMA full Transfer complete event.

void BSP_AUDIO_OUT_HalfTransfer_CallBack (void)
Manages the DMA Half Transfer complete event.

void BSP_AUDIO_OUT_Error_CallBack (void)
Manages the DMA FIFO error event.

void BSP_AUDIO_OUT_ClockConfig (SAI_HandleTypeDef *hsai, uint32_t Au
Clock Config.

void BSP_AUDIO_OUT_MspInit (SAI_HandleTypeDef *hsai, void *Params)
Initializes BSP_AUDIO_OUT MSP.

void BSP_AUDIO_OUT_MspDeInit (SAI_HandleTypeDef *hsai, void *Params)
Deinitializes BSP_AUDIO_OUT MSP.

uint8_t BSP_AUDIO_IN_Init (uint32_t AudioFreq, uint32_t BitRes, uint32_t ChnlN
Initializes wave recording.

uint8_t BSP_AUDIO_IN_Record (uint16_t *pData, uint32_t Size)
Starts audio recording.

uint8_t BSP_AUDIO_IN_Stop (void)
Stops audio recording.

uint8_t BSP_AUDIO_IN_Pause (void)
Pauses the audio file stream.

uint8_t BSP_AUDIO_IN_Resume (void)
Resumes the audio file stream.

uint8_t BSP_AUDIO_IN_SetVolume (uint8_t Volume)
Controls the audio in volume level.

void BSP_AUDIO_IN_DeInit (void)
Deinit the audio IN peripherals.

uint8_t BSP_AUDIO_IN_PDMToPCM (uint16_t *PDMBuf, uint16_t *PCMBuf)
Converts audio format from PDM to PCM.

void BSP_AUDIO_IN_TransferComplete_CallBack (void)
User callback when record buffer is filled.

void BSP_AUDIO_IN_HalfTransfer_CallBack (void)
Manages the DMA Half Transfer complete event.

void BSP_AUDIO_IN_Error_Callback (void)
Audio IN Error callback function.

void BSP_AUDIO_IN_ClockConfig (I2S_HandleTypeDef *hi2s, void *Params)
Clock Config.

void BSP_AUDIO_IN_MspInit (I2S_HandleTypeDef *hi2s, void *Params)
BSP AUDIO IN MSP Init.

void BSP_AUDIO_IN_MspDeInit (I2S_HandleTypeDef *hi2s, void *Params)
DeInitializes BSP_AUDIO_IN MSP.

Variables

__IO uint16_t AudioInVolume

Detailed Description

This file contains the common defines and functions prototypes for the stm32469i_discovery_audio.c driver.

Author:
MCD Application Team

Version:
V2.0.0

Date:
31-January-2017

Attention:

Definition in file stm32469i_discovery_audio.h.

STM32469I-Discovery BSP User Manual

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- Data&"current">Files
- Directories

- File&"temp1349.html">Globals

- Drivers
- BSP
- STM32469I-Discovery

Functions | Variables

stm32469i_discovery_eeprom.c File Reference

This file provides a set of functions needed to manage an I2C M24LR64 EEPROM memory. To be able to use this driver, the switch EE_M24LR64 must be defined in your toolchain compiler preprocessor. More...

```
#include "stm32469i_discovery_eeprom.h"
```

Go to the source code of this file.

Functions

uint32_t&"memItemRight" valign="bottom">BSP_EEPROM_Init (void)

Initializes peripherals used by the I2C EEPROM driver.

uint8_t BSP_EEPROM_DeInit (void)

DeInitializes the EEPROM.

uint32_t BSP_EEPROM_ReadBuffer (uint8_t *pBuffer, uint16_t ReadAddr, uint16_t *NumByteToRead)

Reads a block of data from the EEPROM.

uint32_t BSP_EEPROM_WritePage (uint8_t *pBuffer, uint16_t WriteAddr, uint8_t *NumByteToWrite)

Writes more than one byte to the EEPROM with a single WRITE cycle.

uint32_t BSP_EEPROM_WriteBuffer (uint8_t *pBuffer, uint16_t WriteAddr, uint16_t NumByteToWrite)

Writes buffer of data to the I2C EEPROM.

uint32_t BSP_EEPROM_WaitEepromStandbyState (void)

Wait for EEPROM Standby state.

__weak void BSP_EEPROM_TIMEOUT_UserCallback (void)

Basic management of the timeout situation.

Variables

__IO uint16_t EEPROMAddress = 0

__IO uint32_t EEPROMTimeout = EEPROM_READ_TIMEOUT

__IO uint16_t EEPROMDataRead

__IO uint8_t EEPROMDataWrite

Detailed Description

This file provides a set of functions needed to manage an I2C M24LR64 EEPROM memory. To be able to use this driver, the switch EE_M24LR64 must be defined in your toolchain compiler preprocessor.

Author:

MCD Application Team

Version:

V2.0.0

Date:

31-January-2017

========== Notes:

◊ This driver is intended for STM32F4xx families devices only.

◊ The I2C EEPROM memory (M24LR64) is available on separate daughter board ANT7-M24LR-A, which is not provided with the STM32469I-Discovery board. To use this driver you have to connect the ANT7-M24LR-A to CN11 connector of STM32469I-Discovery board.

==========

It implements a high level communication layer for read and write from/to this memory. The needed STM32F4xx hardware resources (I2C and GPIO) are defined in stm32469i_discovery.h file, and the initialization is performed in EEPROM_IO_Init() function declared in stm32469i_discovery.c file. You can easily tailor this driver to any other development board, by just adapting the defines for hardware resources and EEPROM_IO_Init() function.

Note:

In this driver, basic read and write functions (BSP_EEPROM_ReadBuffer() and BSP_EEPROM_WritePage()) use DMA mode to perform the data transfer to/from EEPROM memory.
Regarding BSP_EEPROM_WritePage(), it is a optimized function to perform small write (less than 1 page) BUT The number of bytes (combined to write start address) must not cross the EEPROM page boundary. This function can only write into the boundaries of an EEPROM page. This function doesn't check on boundaries condition (in this driver the function BSP_EEPROM_WriteBuffer() which calls BSP_EEPROM_WritePage() is responsible of checking on Page boundaries).

+---+ | Pin assignment for M24LR64 EEPROM | +-------------------------------------+-----------+-------------+ | STM32F4xx I2C Pins | EEPROM | Pin | +-------------------------------------+-----------+-------------+ | . | E0(GND) | 1 (0V) | | . | AC0 | 2 | | . | AC1 | 3 | | . | VSS | 4 (0V) | | SDA | SDA | 5 | | SCL | SCL | 6 | | . | E1(GND) | 7 (0V) | | . | VDD | 8 (3.3V) | +-------------------------------------+-----------+-------------+

Attention:

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Definition in file stm32469i_discovery_eeprom.c.

Defines | Functions
stm32469i_discovery_eeprom.h File Reference
This file contains all the functions prototypes for the stm32469i_discovery_eeprom.c firmware driver. More...

```
#include "stm32469i_discovery.h"
```

Go to the source code of this file.

Defines

"memItemRight"
valign="bottom">EEPROM_PAGESIZE ((uint8_t)4)

#define EEPROM_MAX_SIZE ((uint16_t)0x2000) /* 64Kbit */
#define EEPROM_READ_TIMEOUT ((uint32_t)(1000))
#define EEPROM_WRITE_TIMEOUT ((uint32_t)(10))
#define EEPROM_MAX_TRIALS 3000
#define EEPROM_OK 0
#define EEPROM_FAIL 1
#define EEPROM_TIMEOUT 2

Functions

uint32_t BSP_EEPROM_Init (void)
Initializes peripherals used by the I2C EEPROM driver.

uint8_t BSP_EEPROM_DeInit (void)
DeInitializes the EEPROM.

uint32_t BSP_EEPROM_ReadBuffer (uint8_t *pBuffer, uint16_t ReadAddr, uint16_t *NumByteToRead)
Reads a block of data from the EEPROM.

uint32_t BSP_EEPROM_WritePage (uint8_t *pBuffer, uint16_t WriteAddr, uint8_t *NumByteToWrite)
Writes more than one byte to the EEPROM with a single WRITE cycle.

uint32_t BSP_EEPROM_WriteBuffer (uint8_t *pBuffer, uint16_t WriteAddr, uint16_t NumByteToWrite)
Writes buffer of data to the I2C EEPROM.

uint32_t BSP_EEPROM_WaitEepromStandbyState (void)
Wait for EEPROM Standby state.

void BSP_EEPROM_TIMEOUT_UserCallback (void)
Basic management of the timeout situation.

void EEPROM_IO_Init (void)
Initializes peripherals used by the I2C EEPROM driver.

HAL_StatusTypeDef EEPROM_IO_WriteData (uint16_t DevAddress, uint16_t MemAddress, uint8_t *pBuffer, uint32_t BufferSize)
Write data to I2C EEPROM driver in using DMA channel.

HAL_StatusTypeDef

	EEPROM_IO_ReadData (uint16_t DevAddress, uint16_t MemAddress, uint8_t *pBuffer, uint32_t BufferSize) Read data from I2C EEPROM driver in using DMA channel.
HAL_StatusTypeDef	EEPROM_IO_IsDeviceReady (uint16_t DevAddress, uint32_t Trials) Checks if target device is ready for communication.

Detailed Description

This file contains all the functions prototypes for the stm32469i_discovery_eeprom.c firmware driver.

Author:
MCD Application Team

Version:
V2.0.0

Date:
31-January-2017

Attention:

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Definition in file stm32469i_discovery_eeprom.h.

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- Drivers
- BSP
- STM32469I-Discovery

Defines | Functions | Variables

stm32469i_discovery_lcd.c File Reference

This file includes the driver for Liquid Crystal Display (LCD) module mounted on STM32469I-Discovery evaluation board. More...

```
#include "stm32469i_discovery_lcd.h"
#include "../../../Utilities/Fonts/fonts.h"
#include "../../../Utilities/Fonts/font24.c"
#include "../../../Utilities/Fonts/font20.c"
#include "../../../Utilities/Fonts/font16.c"
#include "../../../Utilities/Fonts/font12.c"
#include "../../../Utilities/Fonts/font8.c"
```

Go to the source code of this file.

Defines

"memItemRight" valign="bottom">ABS(X) ((X) > 0 ? (X) : -(X))

#define POLY_X(Z) ((int32_t)((Points + (Z))->X))

#define POLY_Y(Z) ((int32_t)((Points + (Z))->Y))

Functions

static void DrawChar (uint16_t Xpos, uint16_t Ypos, const uint8_t *c)

Draws a character on LCD.

static void FillTriangle (uint16_t x1, uint16_t x2, uint16_t x3, uint16_t y1, uint16_t y2, uint16_t y3)

Fills a triangle (between 3 points).

static void LL_FillBuffer (uint32_t LayerIndex, void *pDst, uint32_t xSize, uint32_t ySize, uint32_t OffLine, uint32_t ColorIndex)

Fills a buffer.

static void LL_ConvertLineToARGB8888 (void *pSrc, void *pDst, uint32_t xSize, uint32_t ColorMode)

Converts a line to an ARGB8888 pixel format.

uint8_t BSP_LCD_Init (void)

Initializes the DSI LCD.

uint8_t BSP_LCD_InitEx (LCD_OrientationTypeDef orientation)

Initializes the DSI LCD.

void BSP_LCD_Reset (void)

BSP LCD Reset Hw reset the LCD DSI activating its XRES signal (active low for some time) and desactivating it later.

uint32_t BSP_LCD_GetXSize (void)
Gets the LCD X size.

uint32_t BSP_LCD_GetYSize (void)
Gets the LCD Y size.

void BSP_LCD_SetXSize (uint32_t imageWidthPixels)
Set the LCD X size.

void BSP_LCD_SetYSize (uint32_t imageHeightPixels)
Set the LCD Y size.

void BSP_LCD_LayerDefaultInit (uint16_t LayerIndex, uint32_t FB_Address)
Initializes the LCD layers.

void BSP_LCD_SelectLayer (uint32_t LayerIndex)
Selects the LCD Layer.

void BSP_LCD_SetLayerVisible (uint32_t LayerIndex, FunctionalState State)
Sets an LCD Layer visible.

void BSP_LCD_SetTransparency (uint32_t LayerIndex, uint8_t Transparency)
Configures the transparency.

void BSP_LCD_SetLayerAddress (uint32_t LayerIndex, uint32_t Address)
Sets an LCD layer frame buffer address.

void BSP_LCD_SetLayerWindow (uint16_t LayerIndex, uint16_t Xpos, uint16_t Ypos, uint16_t Width, uint16_t Height)
Sets display window.

void BSP_LCD_SetColorKeying (uint32_t LayerIndex, uint32_t RGBValue)
Configures and sets the color keying.

void BSP_LCD_ResetColorKeying (uint32_t LayerIndex)
Disables the color keying.

void BSP_LCD_SetTextColor (uint32_t Color)
Sets the LCD text color.

uint32_t BSP_LCD_GetTextColor (void)
Gets the LCD text color.

void BSP_LCD_SetBackColor (uint32_t Color)
Sets the LCD background color.

uint32_t BSP_LCD_GetBackColor (void)
Gets the LCD background color.

void BSP_LCD_SetFont (sFONT *fonts)
Sets the LCD text font.

sFONT * BSP_LCD_GetFont (void)
Gets the LCD text font.

uint32_t BSP_LCD_ReadPixel (uint16_t Xpos, uint16_t Ypos)
Reads an LCD pixel.

void BSP_LCD_Clear (uint32_t Color)
Clears the whole currently active layer of LTDC.

void BSP_LCD_ClearStringLine (uint32_t Line)

Clears the selected line in currently active layer.

void BSP_LCD_DisplayChar (uint16_t Xpos, uint16_t Ypos, uint8_t Ascii)

Displays one character in currently active layer.

void BSP_LCD_DisplayStringAt (uint16_t Xpos, uint16_t Ypos, uint8_t *Text, Text_AlignModeTypdef Mode)

Displays characters in currently active layer.

void BSP_LCD_DisplayStringAtLine (uint16_t Line, uint8_t *ptr)

Displays a maximum of 60 characters on the LCD.

void BSP_LCD_DrawHLine (uint16_t Xpos, uint16_t Ypos, uint16_t Length)

Draws an horizontal line in currently active layer.

void BSP_LCD_DrawVLine (uint16_t Xpos, uint16_t Ypos, uint16_t Length)

Draws a vertical line in currently active layer.

void BSP_LCD_DrawLine (uint16_t x1, uint16_t y1, uint16_t x2, uint16_t y2)

Draws an uni-line (between two points) in currently active layer.

void BSP_LCD_DrawRect (uint16_t Xpos, uint16_t Ypos, uint16_t Width, uint16_t Height)

Draws a rectangle in currently active layer.

void BSP_LCD_DrawCircle (uint16_t Xpos, uint16_t Ypos, uint16_t Radius)

Draws a circle in currently active layer.

void BSP_LCD_DrawPolygon (pPoint Points, uint16_t PointCount)

Draws an poly-line (between many points) in currently active layer.

void BSP_LCD_DrawEllipse (int Xpos, int Ypos, int XRadius, int YRadius)

Draws an ellipse on LCD in currently active layer.

void BSP_LCD_DrawBitmap (uint32_t Xpos, uint32_t Ypos, uint8_t *pbmp)

Draws a bitmap picture loaded in the internal Flash (32 bpp) in currently active layer.

void BSP_LCD_FillRect (uint16_t Xpos, uint16_t Ypos, uint16_t Width, uint16_t Height)

Draws a full rectangle in currently active layer.

void BSP_LCD_FillCircle (uint16_t Xpos, uint16_t Ypos, uint16_t Radius)

Draws a full circle in currently active layer.

void BSP_LCD_FillPolygon (pPoint Points, uint16_t PointCount)

Draws a full poly-line (between many points) in currently active layer.

void BSP_LCD_FillEllipse (int Xpos, int Ypos, int XRadius, int YRadius)

Draws a full ellipse in currently active layer.

void BSP_LCD_DisplayOn (void)

Switch back on the display if was switched off by previous call of BSP_LCD_DisplayOff().

void BSP_LCD_DisplayOff (void)

Switch Off the display.

void DSI_IO_WriteCmd (uint32_t NbrParams, uint8_t *pParams)

DCS or Generic short/long write command.

__weak void BSP_LCD_DMA2D_IRQHandler (void)

Handles DMA2D interrupt request.

__weak void BSP_LCD_DSI_IRQHandler (void)

Handles DSI interrupt request.

__weak void BSP_LCD_LTDC_IRQHandler (void)

Handles LTDC interrupt request.

__weak void BSP_LCD_MspDeInit (void)

De-Initializes the BSP LCD Msp Application can surcharge if needed this function implementation.

__weak void BSP_LCD_MspInit (void)

Initialize the BSP LCD Msp.

__weak void BSP_LCD_LTDC_ER_IRQHandler (void)

This function handles LTDC Error interrupt Handler.

void BSP_LCD_DrawPixel (uint16_t Xpos, uint16_t Ypos, uint32_t RGB_Code)

Draws a pixel on LCD.

Variables

static DSI_VidCfgTypeDef hdsivideo_handle

DMA2D_HandleTypeDef hdma2d_eval

LTDC_HandleTypeDef hltdc_eval

DSI_HandleTypeDef hdsi_eval

uint32_t lcd_x_size = OTM8009A_800X480_WIDTH

uint32_t lcd_y_size = OTM8009A_800X480_HEIGHT

static uint32_t ActiveLayer = LTDC_ACTIVE_LAYER_BACKGROUND

Default Active LTDC Layer in which drawing is made is LTDC Layer Background.

static LCD_DrawPropTypeDef DrawProp [LTDC_MAX_LAYER_NUMBER]

Current Drawing Layer properties variable.

Detailed Description

This file includes the driver for Liquid Crystal Display (LCD) module mounted on STM32469I-Discovery evaluation board.

Author:

MCD Application Team

Version:

V2.0.0

Date:
31-January-2017

Attention:

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Definition in file stm32469i_discovery_lcd.c.

---

stm32469i_discovery_lcd.h File Reference

This file contains the common defines and functions prototypes for the stm32469i_discovery_lcd.c driver.
More...

```
#include "../Components/otm8009a/otm8009a.h"
#include "stm32469i_discovery_sdram.h"
#include "stm32469i_discovery.h"
#include "../../../Utilities/Fonts/fonts.h"
#include <string.h>
```

Go to the source code of this file.

Data Structures

struct &"memItemRight" valign="bottom">LCD_DrawPropTypeDef
LCD Drawing main properties. More...

struct Point
LCD Drawing point (pixel) geometric definition. More...

Defines

#define LCD_LayerCfgTypeDef LTDC_LayerCfgTypeDef

#define LCD_FB_START_ADDRESS ((uint32_t)0xC0000000)
LCD FB_StartAddress.

#define LTDC_MAX_LAYER_NUMBER ((uint32_t) 2)
Maximum number of LTDC layers.

#define LTDC_ACTIVE_LAYER_BACKGROUND ((uint32_t) 0)
LTDC Background layer index.

#define LTDC_ACTIVE_LAYER_FOREGROUND ((uint32_t) 1)
LTDC Foreground layer index.

#define LTDC_NB_OF_LAYERS ((uint32_t) 2)
Number of LTDC layers.

#define LTDC_DEFAULT_ACTIVE_LAYER LTDC_ACTIVE_LAYER_FOR
LTDC Default used layer index.

#define LCD_OK 0x00
LCD status structure definition.

#define LCD_ERROR 0x01

#define LCD_TIMEOUT 0x02

#define LCD_OTM8009A_ID ((uint32_t) 0)
LCD Display OTM8009A ID.

#define LCD_COLOR_BLUE ((uint32_t) 0xFF0000FF)
LCD color definitions values in ARGB8888 format.

#define LCD_COLOR_GREEN ((uint32_t) 0xFF00FF00)
Green value in ARGB8888 format.

#define LCD_COLOR_RED ((uint32_t) 0xFFFF0000)
Red value in ARGB8888 format.

#define LCD_COLOR_CYAN ((uint32_t) 0xFF00FFFF)
Cyan value in ARGB8888 format.

#define LCD_COLOR_MAGENTA ((uint32_t) 0xFFFF00FF)
Magenta value in ARGB8888 format.

#define LCD_COLOR_YELLOW ((uint32_t) 0xFFFFFF00)
Yellow value in ARGB8888 format.

#define LCD_COLOR_LIGHTBLUE ((uint32_t) 0xFF8080FF)
Light Blue value in ARGB8888 format.

#define LCD_COLOR_LIGHTGREEN ((uint32_t) 0xFF80FF80)
Light Green value in ARGB8888 format.

#define LCD_COLOR_LIGHTRED ((uint32_t) 0xFFFF8080)
Light Red value in ARGB8888 format.

#define LCD_COLOR_LIGHTCYAN ((uint32_t) 0xFF80FFFF)
Light Cyan value in ARGB8888 format.

#define LCD_COLOR_LIGHTMAGENTA ((uint32_t) 0xFFFF80FF)
Light Magenta value in ARGB8888 format.

#define LCD_COLOR_LIGHTYELLOW ((uint32_t) 0xFFFFFF80)
Light Yellow value in ARGB8888 format.

#define LCD_COLOR_DARKBLUE ((uint32_t) 0xFF000080)
Dark Blue value in ARGB8888 format.

#define LCD_COLOR_DARKGREEN ((uint32_t) 0xFF008000)
Light Dark Green value in ARGB8888 format.

#define LCD_COLOR_DARKRED ((uint32_t) 0xFF800000)
Light Dark Red value in ARGB8888 format.

#define LCD_COLOR_DARKCYAN ((uint32_t) 0xFF008080)
Dark Cyan value in ARGB8888 format.

#define LCD_COLOR_DARKMAGENTA ((uint32_t) 0xFF800080)
Dark Magenta value in ARGB8888 format.

#define LCD_COLOR_DARKYELLOW ((uint32_t) 0xFF808000)
Dark Yellow value in ARGB8888 format.

#define LCD_COLOR_WHITE ((uint32_t) 0xFFFFFFFF)
White value in ARGB8888 format.

#define LCD_COLOR_LIGHTGRAY ((uint32_t) 0xFFD3D3D3)
Light Gray value in ARGB8888 format.

#define LCD_COLOR_GRAY ((uint32_t) 0xFF808080)
Gray value in ARGB8888 format.

#define LCD_COLOR_DARKGRAY ((uint32_t) 0xFF404040)
Dark Gray value in ARGB8888 format.

#define LCD_COLOR_BLACK ((uint32_t) 0xFF000000)
Black value in ARGB8888 format.

#define LCD_COLOR_BROWN ((uint32_t) 0xFFA52A2A)
Brown value in ARGB8888 format.

#define LCD_COLOR_ORANGE ((uint32_t) 0xFFFFA500)
Orange value in ARGB8888 format.

#define LCD_COLOR_TRANSPARENT ((uint32_t) 0xFF000000)
Transparent value in ARGB8888 format.

#define LCD_DEFAULT_FONT Font24
LCD default font.

#define LCD_DSI_PIXEL_DATA_FMT_RBG888 DSI_RGB888
Possible values of pixel data format (ie color coding) transmitted on DSI Data lan
DSI packets.

#define LCD_DSI_PIXEL_DATA_FMT_RBG565 DSI_RGB565

Typedefs

typedef Point * pPoint
Pointer on LCD Drawing point (pixel) geometric definition.

Enumerations

enum Text_AlignModeTypdef { CENTER_MODE = 0x01, RIGHT_MODE = LEFT_MODE = 0x03 }

LCD drawing Line alignment mode definitions. More...

enum LCD_OrientationTypeDef { LCD_ORIENTATION_PORTRAIT = 0x00 LCD_ORIENTATION_LANDSCAPE = 0x01, LCD_ORIENTATION_I 0x02 }

LCD_OrientationTypeDef Possible values of Display Orientation. More...

Functions

__weak void BSP_LCD_DMA2D_IRQHandler (void)

Handles DMA2D interrupt request.

__weak void BSP_LCD_DSI_IRQHandler (void)

Handles DSI interrupt request.

__weak void BSP_LCD_LTDC_IRQHandler (void)

Handles LTDC interrupt request.

__weak void BSP_LCD_LTDC_ER_IRQHandler (void)

This function handles LTDC Error interrupt Handler.

uint8_t BSP_LCD_Init (void)

Initializes the DSI LCD.

uint8_t BSP_LCD_InitEx (LCD_OrientationTypeDef orientation)

Initializes the DSI LCD.

__weak void BSP_LCD_MspDeInit (void)

De-Initializes the BSP LCD Msp Application can surcharge if needed thi implementation.

__weak void BSP_LCD_MspInit (void)

Initialize the BSP LCD Msp.

void BSP_LCD_Reset (void)

BSP LCD Reset Hw reset the LCD DSI activating its XRES signal (activ some time) and desactivating it later.

uint32_t BSP_LCD_GetXSize (void)

Gets the LCD X size.

uint32_t BSP_LCD_GetYSize (void)

Gets the LCD Y size.

void BSP_LCD_SetXSize (uint32_t imageWidthPixels)

Set the LCD X size.

void BSP_LCD_SetYSize (uint32_t imageHeightPixels)

Set the LCD Y size.

void BSP_LCD_LayerDefaultInit (uint16_t LayerIndex, uint32_t FB_Address

Initializes the LCD layers.

void BSP_LCD_SetTransparency (uint32_t LayerIndex, uint8_t Transparency

Configures the transparency.

void BSP_LCD_SetLayerAddress (uint32_t LayerIndex, uint32_t Address)

Sets an LCD layer frame buffer address.

void BSP_LCD_SetColorKeying (uint32_t LayerIndex, uint32_t RGBValue)

Configures and sets the color keying.

void BSP_LCD_ResetColorKeying (uint32_t LayerIndex)
Disables the color keying.

void BSP_LCD_SetLayerWindow (uint16_t LayerIndex, uint16_t Xpos, uint16_t Ypo uint16_t Width, uint16_t Height)
Sets display window.

void BSP_LCD_SelectLayer (uint32_t LayerIndex)
Selects the LCD Layer.

void BSP_LCD_SetLayerVisible (uint32_t LayerIndex, FunctionalState State)
Sets an LCD Layer visible.

void BSP_LCD_SetTextColor (uint32_t Color)
Sets the LCD text color.

uint32_t BSP_LCD_GetTextColor (void)
Gets the LCD text color.

void BSP_LCD_SetBackColor (uint32_t Color)
Sets the LCD background color.

uint32_t BSP_LCD_GetBackColor (void)
Gets the LCD background color.

void BSP_LCD_SetFont (sFONT *fonts)
Sets the LCD text font.

sFONT * BSP_LCD_GetFont (void)
Gets the LCD text font.

uint32_t BSP_LCD_ReadPixel (uint16_t Xpos, uint16_t Ypos)
Reads an LCD pixel.

void BSP_LCD_DrawPixel (uint16_t Xpos, uint16_t Ypos, uint32_t RGB_Code)
Draws a pixel on LCD.

void BSP_LCD_Clear (uint32_t Color)
Clears the whole currently active layer of LTDC.

void BSP_LCD_ClearStringLine (uint32_t Line)
Clears the selected line in currently active layer.

void BSP_LCD_DisplayStringAtLine (uint16_t Line, uint8_t *ptr)
Displays a maximum of 60 characters on the LCD.

void BSP_LCD_DisplayStringAt (uint16_t Xpos, uint16_t Ypos, uint8_t *Text, Text_AlignModeTypdef Mode)
Displays characters in currently active layer.

void BSP_LCD_DisplayChar (uint16_t Xpos, uint16_t Ypos, uint8_t Ascii)
Displays one character in currently active layer.

void BSP_LCD_DrawHLine (uint16_t Xpos, uint16_t Ypos, uint16_t Length)
Draws an horizontal line in currently active layer.

void BSP_LCD_DrawVLine (uint16_t Xpos, uint16_t Ypos, uint16_t Length)
Draws a vertical line in currently active layer.

void BSP_LCD_DrawLine (uint16_t x1, uint16_t y1, uint16_t x2, uint16_t y2)
Draws an uni-line (between two points) in currently active layer.

void BSP_LCD_DrawRect (uint16_t Xpos, uint16_t Ypos, uint16_t Width, uint16_t Height)
Draws a rectangle in currently active layer.

void BSP_LCD_DrawCircle (uint16_t Xpos, uint16_t Ypos, uint16_t Radius)
Draws a circle in currently active layer.

void BSP_LCD_DrawPolygon (pPoint Points, uint16_t PointCount)
Draws an poly-line (between many points) in currently active layer.

void BSP_LCD_DrawEllipse (int Xpos, int Ypos, int XRadius, int YRadius)
Draws an ellipse on LCD in currently active layer.

void BSP_LCD_DrawBitmap (uint32_t Xpos, uint32_t Ypos, uint8_t *pbmp)
Draws a bitmap picture loaded in the internal Flash (32 bpp) in currently

void BSP_LCD_FillRect (uint16_t Xpos, uint16_t Ypos, uint16_t Width, uint
Draws a full rectangle in currently active layer.

void BSP_LCD_FillCircle (uint16_t Xpos, uint16_t Ypos, uint16_t Radius)
Draws a full circle in currently active layer.

void BSP_LCD_FillPolygon (pPoint Points, uint16_t PointCount)
Draws a full poly-line (between many points) in currently active layer.

void BSP_LCD_FillEllipse (int Xpos, int Ypos, int XRadius, int YRadius)
Draws a full ellipse in currently active layer.

void BSP_LCD_DisplayOff (void)
Switch Off the display.

void BSP_LCD_DisplayOn (void)
Switch back on the display if was switched off by previous call of BSP_LCD_DisplayOff().

Variables

DMA2D_HandleTypeDef hdma2d_eval

Detailed Description

This file contains the common defines and functions prototypes for the stm32469i_discovery_lcd.c driver.

Author:
MCD Application Team

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Definition in file stm32469i_discovery_lcd.h.

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- File&"temp1349.html">Globals

- Drivers
- BSP
- STM32469I-Discovery

Functions | Variables

stm32469i_discovery_qspi.c File Reference

This file includes a standard driver for the N25Q128A QSPI memory mounted on STM32469I-Discovery board. More...

```
#include "stm32469i_discovery_qspi.h"
```

Go to the source code of this file.

Functions

static uint8_t&"memItemRight" valign="bottom">QSPI_ResetMemory (QSPI_HandleTypeDef *hqspi)

This function reset the QSPI memory.

static uint8_t QSPI_DummyCyclesCfg (QSPI_HandleTypeDef *hqspi)

This function configure the dummy cycles on memory side.

static uint8_t QSPI_WriteEnable (QSPI_HandleTypeDef *hqspi)

This function send a Write Enable and wait it is effective.

static uint8_t QSPI_AutoPollingMemReady (QSPI_HandleTypeDef *hqspi, uint32_t Timeout)

This function read the SR of the memory and wait the EOP.

uint8_t BSP_QSPI_Init (void)
Initializes the QSPI interface.

uint8_t BSP_QSPI_DeInit (void)
De-Initializes the QSPI interface.

uint8_t BSP_QSPI_Read (uint8_t *pData, uint32_t ReadAddr, uint32_t Size)
Reads an amount of data from the QSPI memory.

uint8_t BSP_QSPI_Write (uint8_t *pData, uint32_t WriteAddr, uint32_t Size)
Writes an amount of data to the QSPI memory.

uint8_t BSP_QSPI_Erase_Block (uint32_t BlockAddress)
Erases the specified block of the QSPI memory.

uint8_t BSP_QSPI_Erase_Chip (void)
Erases the entire QSPI memory.

uint8_t BSP_QSPI_GetStatus (void)
Reads current status of the QSPI memory.

uint8_t BSP_QSPI_GetInfo (QSPI_InfoTypeDef *pInfo)
Reads the configuration of the memory and fills QspiInfo struct.

uint8_t BSP_QSPI_EnableMemoryMappedMode (void)
Configure the QSPI in memory-mapped mode.

__weak void BSP_QSPI_MspInit (QSPI_HandleTypeDef *hqspi, void *Params)
QSPI MSP Initialization This function configures the hardware resources used in this example:

__weak void BSP_QSPI_MspDeInit (QSPI_HandleTypeDef *hqspi, void *Params)
QSPI MSP De-Initialization This function frees the hardware resources used in this example:

Variables

QSPI_HandleTypeDef QSPIHandle

Detailed Description

This file includes a standard driver for the N25Q128A QSPI memory mounted on STM32469I-Discovery board.

Author:
MCD Application Team

Version:
V2.0.0

Date:
31-January-2017

```
==================================================================
                  ##### How to use this driver #####
==================================================================
```

```
[..]
 (#) This driver is used to drive the N25Q128A QSPI external
     memory mounted on STM32469I-Discovery board.

 (#) This driver need a specific component driver N25Q128A to be included with.

 (#) Initialization steps:
     (++) Initialize the QPSI external memory using the BSP_QSPI_Init() function. This
          function includes the MSP layer hardware resources initialization and the
          QSPI interface with the external memory.

 (#) QSPI memory operations
     (++) QSPI memory can be accessed with read/write operations once it is
          initialized.
          Read/write operation can be performed with AHB access using the functions
          BSP_QSPI_Read()/BSP_QSPI_Write().
     (++) The function BSP_QSPI_GetInfo() returns the configuration of the QSPI memory.
          (see the QSPI memory data sheet)
     (++) Perform erase block operation using the function BSP_QSPI_Erase_Block() and by
          specifying the block address. You can perform an erase operation of the whole
          chip by calling the function BSP_QSPI_Erase_Chip().
     (++) The function BSP_QSPI_GetStatus() returns the current status of the QSPI memory
          (see the QSPI memory data sheet)
```

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Definition in file stm32469i_discovery_qspi.c.

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- BSP
- STM32469I-Discovery

Data Structures | Defines | Functions
stm32469i_discovery_qspi.h File Reference
This file contains the common defines and functions prototypes for the stm32469i_discovery_qspi.c driver.
More...

```
#include "stm32f4xx_hal.h"
#include "../Components/n25q128a/n25q128a.h"
```

Go to the source code of this file.

Data Structures

struct &"memItemRight" valign="bottom">QSPI_InfoTypeDef
QSPI Info. More...

Defines

#define QSPI_OK ((uint8_t)0x00)
#define QSPI_ERROR ((uint8_t)0x01)
#define QSPI_BUSY ((uint8_t)0x02)
#define QSPI_NOT_SUPPORTED ((uint8_t)0x04)
#define QSPI_SUSPENDED ((uint8_t)0x08)
#define QSPI_CLK_ENABLE() __HAL_RCC_QSPI_CLK_ENABLE()
#define QSPI_CLK_DISABLE() __HAL_RCC_QSPI_CLK_DISABLE()
#define QSPI_CS_GPIO_CLK_ENABLE() __HAL_RCC_GPIOB_CLK_ENABLE()
#define QSPI_CS_GPIO_CLK_DISABLE() __HAL_RCC_GPIOB_CLK_DISABLE
#define QSPI_DX_CLK_GPIO_CLK_ENABLE() __HAL_RCC_GPIOF_CLK_ENA
#define QSPI_DX_CLK_GPIO_CLK_DISABLE() __HAL_RCC_GPIOF_CLK_DIS
#define QSPI_FORCE_RESET() __HAL_RCC_QSPI_FORCE_RESET()
#define QSPI_RELEASE_RESET() __HAL_RCC_QSPI_RELEASE_RESET()
#define QSPI_CS_PIN GPIO_PIN_6
#define QSPI_CS_GPIO_PORT GPIOB
#define QSPI_CLK_PIN GPIO_PIN_10
#define QSPI_CLK_GPIO_PORT GPIOF
#define QSPI_D0_PIN GPIO_PIN_8
#define QSPI_D1_PIN GPIO_PIN_9
#define QSPI_D2_PIN GPIO_PIN_7
#define QSPI_D3_PIN GPIO_PIN_6
#define QSPI_DX_GPIO_PORT GPIOF
#define BSP_QSPI_MemoryMappedMode BSP_QSPI_EnableMemoryMappedMode

Functions

uint8_t BSP_QSPI_Init (void)
Initializes the QSPI interface.

uint8_t BSP_QSPI_DeInit (void)
De-Initializes the QSPI interface.

uint8_t BSP_QSPI_Read (uint8_t *pData, uint32_t ReadAddr, uint32_t Size)
Reads an amount of data from the QSPI memory.

uint8_t BSP_QSPI_Write (uint8_t *pData, uint32_t WriteAddr, uint32_t Size)
Writes an amount of data to the QSPI memory.

uint8_t BSP_QSPI_Erase_Block (uint32_t BlockAddress)
Erases the specified block of the QSPI memory.

uint8_t BSP_QSPI_Erase_Chip (void)
Erases the entire QSPI memory.

uint8_t BSP_QSPI_GetStatus (void)
Reads current status of the QSPI memory.

uint8_t BSP_QSPI_GetInfo (QSPI_InfoTypeDef *pInfo)
Reads the configuration of the memory and fills QspiInfo struct.

uint8_t BSP_QSPI_EnableMemoryMappedMode (void)
Configure the QSPI in memory-mapped mode.

void BSP_QSPI_MspInit (QSPI_HandleTypeDef *hqspi, void *Params)
QSPI MSP Initialization This function configures the hardware resources used in this example:

void BSP_QSPI_MspDeInit (QSPI_HandleTypeDef *hqspi, void *Params)
QSPI MSP De-Initialization This function frees the hardware resources used in this example:

Detailed Description

This file contains the common defines and functions prototypes for the stm32469i_discovery_qspi.c driver.

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Definition in file stm32469i_discovery_qspi.h.

---

stm32469i_discovery_sd.c File Reference

This file includes the uSD card driver mounted on STM32469I-Discovery board. More...

```
#include "stm32469i_discovery_sd.h"
```

Go to the source code of this file.

Functions

uint8_t&"memItemRight" valign="bottom">BSP_SD_Init (void)

Initializes the SD card device.

uint8_t BSP_SD_DeInit (void)

DeInitializes the SD card device.

uint8_t BSP_SD_ITConfig (void)

Configures Interrupt mode for SD detection pin.

uint8_t BSP_SD_IsDetected (void)

Detects if SD card is correctly plugged in the memory slot or not.

uint8_t BSP_SD_ReadBlocks (uint32_t *pData, uint32_t ReadAddr, uint32_t NumOfBlocks, uint32_t Timeout)

Reads block(s) from a specified address in an SD card, in polling mode.

uint8_t BSP_SD_WriteBlocks (uint32_t *pData, uint32_t WriteAddr, uint32_t NumOfBlocks, uint32_t Timeout)

Writes block(s) to a specified address in an SD card, in polling mode.

uint8_t BSP_SD_ReadBlocks_DMA (uint32_t *pData, uint32_t ReadAddr, uint32_t NumOfBlocks)

Reads block(s) from a specified address in an SD card, in DMA mode.

uint8_t BSP_SD_WriteBlocks_DMA (uint32_t *pData, uint32_t WriteAddr, uint32_t NumOfBlocks)

Writes block(s) to a specified address in an SD card, in DMA mode.

uint8_t BSP_SD_Erase (uint32_t StartAddr, uint32_t EndAddr)

Erases the specified memory area of the given SD card.

__weak void BSP_SD_MspInit (SD_HandleTypeDef *hsd, void *Params)

Initializes the SD MSP.

__weak void BSP_SD_Detect_MspInit (SD_HandleTypeDef *hsd, void *Params)

Initializes the SD Detect pin MSP.

__weak void BSP_SD_MspDeInit (SD_HandleTypeDef *hsd, void *Params)

DeInitializes the SD MSP.

uint8_t BSP_SD_GetCardState (void)

Gets the current SD card data status.

void BSP_SD_GetCardInfo (HAL_SD_CardInfoTypeDef *CardInfo)

Get SD information about specific SD card.

void HAL_SD_AbortCallback (SD_HandleTypeDef *hsd)

SD Abort callbacks.

void HAL_SD_TxCpltCallback (SD_HandleTypeDef *hsd)

Tx Transfer completed callbacks.

void HAL_SD_RxCpltCallback (SD_HandleTypeDef *hsd)

Rx Transfer completed callbacks.

__weak void BSP_SD_AbortCallback (void)

BSP SD Abort callbacks.

__weak void BSP_SD_WriteCpltCallback (void)

BSP Tx Transfer completed callbacks.

__weak void BSP_SD_ReadCpltCallback (void)

BSP Rx Transfer completed callbacks.

Variables

SD_HandleTypeDef uSdHandle

Detailed Description

This file includes the uSD card driver mounted on STM32469I-Discovery board.

Author:
MCD Application Team

Version:
V2.0.0

Date:
31-January-2017

Attention:

Definition in file stm32469i_discovery_sd.c.

Defines | Functions

stm32469i_discovery_sd.h File Reference

This file contains the common defines and functions prototypes for the stm32469i_discovery_sd.c driver. More...

```
#include "stm32469i_discovery.h"
```
Go to the source code of this file.

Defines

"memItemRight"
valign="bottom">BSP_SD_CardInfo HAL_SD_CardInfoTypeDef

SD Card information structure.

#define MSD_OK ((uint8_t)0x00)

SD status structure definition.

#define MSD_ERROR ((uint8_t)0x01)

#define MSD_ERROR_SD_NOT_PRESENT ((uint8_t)0x02)

#define SD_TRANSFER_OK ((uint8_t)0x00)

SD transfer state definition.

#define SD_TRANSFER_BUSY ((uint8_t)0x01)

#define SD_PRESENT ((uint8_t)0x01)

#define SD_NOT_PRESENT ((uint8_t)0x00)

#define SD_DATATIMEOUT ((uint32_t)100000000)

#define __DMAx_TxRx_CLK_ENABLE __HAL_RCC_DMA

#define SD_DMAx_Tx_CHANNEL DMA_CHANNEL_4

#define SD_DMAx_Rx_CHANNEL DMA_CHANNEL_4

#define SD_DMAx_Tx_STREAM DMA2_Stream6

#define SD_DMAx_Rx_STREAM DMA2_Stream3

#define SD_DMAx_Tx_IRQn DMA2_Stream6_IRQn

#define SD_DMAx_Rx_IRQn DMA2_Stream3_IRQn

#define BSP_SD_IRQHandler SDIO_IRQHandler

#define BSP_SD_DMA_Tx_IRQHandler DMA2_Stream6_IRQ

#define BSP_SD_DMA_Rx_IRQHandler DMA2_Stream3_IRQ

#define SD_DetectIRQHandler() HAL_GPIO_EXTI_IRQHand

Functions

uint8_t BSP_SD_Init (void)

Initializes the SD card device.

uint8_t BSP_SD_DeInit (void)

DeInitializes the SD card device.

uint8_t BSP_SD_ITConfig (void)

Configures Interrupt mode for SD detection pin.

uint8_t BSP_SD_ReadBlocks (uint32_t *pData, uint32_t ReadA
NumOfBlocks, uint32_t Timeout)

Reads block(s) from a specified address in an SD card, in

uint8_t BSP_SD_WriteBlocks (uint32_t *pData, uint32_t Write
NumOfBlocks, uint32_t Timeout)

Writes block(s) to a specified address in an SD card, in p

uint8_t BSP_SD_ReadBlocks_DMA (uint32_t *pData, uint32_t
uint32_t NumOfBlocks)

Reads block(s) from a specified address in an SD card, in

uint8_t

Detailed Description

This file contains the common defines and functions prototypes for the stm32469i_discovery_sd.c driver.

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Definition in file stm32469i_discovery_sd.h.

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Functions | Variables

stm32469i_discovery_sdram.c File Reference

This file includes the SDRAM driver for the MT48LC4M32B2B5-7 memory device mounted on STM32469I-Discovery board. More...

```
#include "stm32469i_discovery_sdram.h"
```

Go to the source code of this file.

Functions

uint8_t&"memItemRight" valign="bottom">BSP_SDRAM_Init (void)

Initializes the SDRAM device.

uint8_t BSP_SDRAM_DeInit (void)

DeInitializes the SDRAM device.

void BSP_SDRAM_Initialization_sequence (uint32_t RefreshCount)

Programs the SDRAM device.

uint8_t BSP_SDRAM_ReadData (uint32_t uwStartAddress, uint32_t *pData, uint32_t uwDataSize)

Reads an mount of data from the SDRAM memory in polling mode.

uint8_t	BSP_SDRAM_ReadData_DMA (uint32_t uwStartAddress, uint32_t *pData, uint32_t uwDataSize) Reads an mount of data from the SDRAM memory in DMA mode.
uint8_t	BSP_SDRAM_WriteData (uint32_t uwStartAddress, uint32_t *pData, uint32_t uwDataSize) Writes an mount of data to the SDRAM memory in polling mode.
uint8_t	BSP_SDRAM_WriteData_DMA (uint32_t uwStartAddress, uint32_t *pData, uint32_t uwDataSize) Writes an mount of data to the SDRAM memory in DMA mode.
uint8_t	BSP_SDRAM_Sendcmd (FMC_SDRAM_CommandTypeDef *SdramCmd) Sends command to the SDRAM bank.
void	BSP_SDRAM_DMA_IRQHandler (void) Handles SDRAM DMA transfer interrupt request.
__weak void	BSP_SDRAM_MspInit (SDRAM_HandleTypeDef *hsdram, void *Params) Initializes SDRAM MSP.
__weak void	BSP_SDRAM_MspDeInit (SDRAM_HandleTypeDef *hsdram, void *Params) DeInitializes SDRAM MSP.

Variables

static SDRAM_HandleTypeDef	sdramHandle
static FMC_SDRAM_TimingTypeDef	Timing
static FMC_SDRAM_CommandTypeDef	Command

Detailed Description

This file includes the SDRAM driver for the MT48LC4M32B2B5-7 memory device mounted on STM32469I-Discovery board.

Author:
MCD Application Team

Version:
V2.0.0

Date:
31-January-2017

Attention:

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Definition in file stm32469i_discovery_sdram.c.

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stm32469i_discovery_sdram.h File Reference

This file contains the common defines and functions prototypes for the stm32469i_discovery_sdram.c driver. More...

```
#include "stm32f4xx_hal.h"
```

Go to the source code of this file.

Defines

"memItemRight"
valign="bottom">SDRAM_OK ((uint8_t)0x00)

SDRAM status structure definition.

#define SDRAM_ERROR ((uint8_t)0x01)

#define SDRAM_DEVICE_ADDR ((uint32_t)0xC0000000)
#define SDRAM_DEVICE_SIZE ((uint32_t)0x800000)
#define SDRAM_MEMORY_WIDTH FMC_SDRAM_MEM_BUS_WID
#define SDCLOCK_PERIOD FMC_SDRAM_CLOCK_PERIOD_2
#define REFRESH_COUNT ((uint32_t)0x0569)
#define SDRAM_TIMEOUT ((uint32_t)0xFFFF)
#define __DMAx_CLK_ENABLE __HAL_RCC_DMA2_CLK_ENABLE
#define __DMAx_CLK_DISABLE __HAL_RCC_DMA2_CLK_DISABLE
#define SDRAM_DMAx_CHANNEL DMA_CHANNEL_0
#define SDRAM_DMAx_STREAM DMA2_Stream0
#define SDRAM_DMAx_IRQn DMA2_Stream0_IRQn
#define SDRAM_DMAx_IRQHandler DMA2_Stream0_IRQHandler
#define SDRAM_MODEREG_BURST_LENGTH_1 ((uint16_t)0x0000)
FMC SDRAM Mode definition register defines.
#define SDRAM_MODEREG_BURST_LENGTH_2 ((uint16_t)0x0001)
#define SDRAM_MODEREG_BURST_LENGTH_4 ((uint16_t)0x0002)
#define SDRAM_MODEREG_BURST_LENGTH_8 ((uint16_t)0x0004)
#define SDRAM_MODEREG_BURST_TYPE_SEQUENTIAL ((uint16_
#define SDRAM_MODEREG_BURST_TYPE_INTERLEAVED ((uint16
#define SDRAM_MODEREG_CAS_LATENCY_2 ((uint16_t)0x0020)
#define SDRAM_MODEREG_CAS_LATENCY_3 ((uint16_t)0x0030)
#define SDRAM_MODEREG_OPERATING_MODE_STANDARD ((ui
#define SDRAM_MODEREG_WRITEBURST_MODE_PROGRAMMED
#define SDRAM_MODEREG_WRITEBURST_MODE_SINGLE ((uint1

Functions

uint8_t BSP_SDRAM_Init (void)
Initializes the SDRAM device.
uint8_t BSP_SDRAM_DeInit (void)
DeInitializes the SDRAM device.
void BSP_SDRAM_Initialization_sequence (uint32_t RefreshCount)
Programs the SDRAM device.
uint8_t BSP_SDRAM_ReadData (uint32_t uwStartAddress, uint32_t *pDa
uwDataSize)
Reads an mount of data from the SDRAM memory in polling mode
uint8_t BSP_SDRAM_ReadData_DMA (uint32_t uwStartAddress, uint32_
uwDataSize)
Reads an mount of data from the SDRAM memory in DMA mode.
uint8_t BSP_SDRAM_WriteData (uint32_t uwStartAddress, uint32_t *pD
uwDataSize)
Writes an mount of data to the SDRAM memory in polling mode.
uint8_t BSP_SDRAM_WriteData_DMA (uint32_t uwStartAddress, uint32
uwDataSize)
Writes an mount of data to the SDRAM memory in DMA mode.
uint8_t BSP_SDRAM_Sendcmd (FMC_SDRAM_CommandTypeDef *Sd
Sends command to the SDRAM bank.

void	BSP_SDRAM_DMA_IRQHandler (void) Handles SDRAM DMA transfer interrupt request.
__weak void	BSP_SDRAM_MspInit (SDRAM_HandleTypeDef *hsdram, void *Params Initializes SDRAM MSP.
__weak void	BSP_SDRAM_MspDeInit (SDRAM_HandleTypeDef *hsdram, void *Para DeInitializes SDRAM MSP.

Detailed Description

This file contains the common defines and functions prototypes for the stm32469i_discovery_sdram.c driver.

Author:
MCD Application Team

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Definition in file stm32469i_discovery_sdram.h.

- Data&"current">Files
- Directories

- File&"temp1349.html">Globals

- Drivers
- BSP
- STM32469I-Discovery

Functions | Variables

stm32469i_discovery_ts.c File Reference

This file provides a set of functions needed to manage the Touch Screen on STM32469I-Discovery board.
More...

```
#include "stm32469i_discovery_ts.h"
```

Go to the source code of this file.

Functions

uint8_t&"memItemRight" valign="bottom">BSP_TS_Init (uint16_t ts_SizeX, uint16_t ts_SizeY)

Initializes and configures the touch screen functionalities and configures all necessary hardware resources (GPIOs, I2C, clocks..).

uint8_t BSP_TS_ITConfig (void)

Configures and enables the touch screen interrupts both at GPIO level and in TouchScreen IC driver configuration.

uint8_t BSP_TS_GetState (TS_StateTypeDef *TS_State)

Returns status and positions of the touch screen.

__weak void BSP_TS_INT_MspInit (void)

Initializes the TS_INT pin MSP.

Variables

static TS_DrvTypeDef * ts_driver

static uint8_t ts_orientation

uint8_t I2C_Address = 0

char * ts_event_string_tab [TOUCH_EVENT_NB_MAX]

Table for touchscreen event information display on LCD : table indexed on enum TS_TouchEventTypeDef information.

char * ts_gesture_id_string_tab [GEST_ID_NB_MAX]

Table for touchscreen gesture Id information display on LCD : table indexed on enum TS_GestureIdTypeDef information.

Detailed Description

This file provides a set of functions needed to manage the Touch Screen on STM32469I-Discovery board.

Author:
MCD Application Team

Version:
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Date:
31-January-2017

Attention:

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Definition in file stm32469i_discovery_ts.c.

- Main&"modules.html">Modules
- Data&"current">Files
- Directories

- File&"temp1349.html">Globals

- Drivers
- BSP
- STM32469I-Discovery

Data Structures | Defines | Enumerations | Functions | Variables
stm32469i_discovery_ts.h File Reference
This file contains the common defines and functions prototypes for the stm32469i_discovery_ts.c driver.
More...

```
#include "stm32469i_discovery.h"
#include "stm32469i_discovery_lcd.h"
#include "../Components/ft6x06/ft6x06.h"
```

Go to the source code of this file.

Data Structures

struct &"memItemRight"
valign="bottom">TS_StateTypeDef

TS_StateTypeDef Define TS State structure. More...

Defines

#define TS_MAX_NB_TOUCH ((uint32_t) FT6206_MAX_DETECTABLE_TOUCH)

With FT6206 : maximum 2 touches detected simultaneously.

#define TS_NO_IRQ_PENDING ((uint8_t) 0)

#define TS_IRQ_PENDING ((uint8_t) 1)

#define TS_SWAP_NONE ((uint8_t) 0x01)

#define TS_SWAP_X ((uint8_t) 0x02)

#define TS_SWAP_Y ((uint8_t) 0x04)

#define TS_SWAP_XY ((uint8_t) 0x08)

Enumerations

enum TS_StatusTypeDef { TS_OK = 0x00, TS_ERROR = 0x01, TS_TIMEOUT = 0x02, TS_DEVICE_NOT_FOUND = 0x03 }

TS_StatusTypeDef Define BSP_TS_xxx() functions possible return value, when status is returned by those functions. More...

enum TS_GestureIdTypeDef { GEST_ID_NO_GESTURE = 0x00, GEST_ID_MOVE_UP = 0x01, GEST_ID_MOVE_RIGHT = 0x02, GEST_ID_MOVE_DOWN = 0x03, GEST_ID_MOVE_LEFT = 0x04, GEST_ID_ZOOM_IN = 0x05, GEST_ID_ZOOM_OUT = 0x06, GEST_ID_NB_MAX = 0x07 }

TS_GestureIdTypeDef Define Possible managed gesture identification values returned by touch screen driver. More...

enum TS_TouchEventTypeDef { TOUCH_EVENT_NO_EVT = 0x00, TOUCH_EVENT_PRESS_DOWN = 0x01, TOUCH_EVENT_LIFT_UP = 0x02, TOUCH_EVENT_CONTACT = 0x03, TOUCH_EVENT_NB_MAX = 0x04 }

TS_TouchEventTypeDef Define Possible touch events kind as returned values by touch screen IC Driver. More...

Functions

uint8_t BSP_TS_Init (uint16_t ts_SizeX, uint16_t ts_SizeY)
Initializes and configures the touch screen functionalities and configures all necessary hardware resources (GPIOs, I2C, clocks..).

uint8_t BSP_TS_GetState (TS_StateTypeDef *TS_State)
Returns status and positions of the touch screen.

uint8_t BSP_TS_ITConfig (void)
Configures and enables the touch screen interrupts both at GPIO level and in TouchScreen IC driver configuration.

void BSP_TS_INT_MspInit (void)
Initializes the TS_INT pin MSP.

Variables

char * ts_event_string_tab [TOUCH_EVENT_NB_MAX]
Table for touchscreen event information display on LCD : table indexed on enum TS_TouchEventTypeDef information.

char * ts_gesture_id_string_tab [GEST_ID_NB_MAX]
Table for touchscreen gesture Id information display on LCD : table indexed on enum TS_GestureIdTypeDef information.

Detailed Description

This file contains the common defines and functions prototypes for the stm32469i_discovery_ts.c driver.

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