

Portable Impedance Tomography

0.1

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Chapter 1

Data Structure Index

1.1 Data Structures

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Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

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Chapter 3

Data Structure Documentation

3.1 ad5933_deviceConfig Struct Reference

```
#include <ad5933.h>
```

Data Fields

- uint32_t **clockFreq**
- uint8_t **address**

3.1.1 Detailed Description

Definition at line 106 of file ad5933.h.

3.1.2 Field Documentation

3.1.2.1 uint8_t address

Definition at line 109 of file ad5933.h.

3.1.2.2 uint32_t clockFreq

Definition at line 108 of file ad5933.h.

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

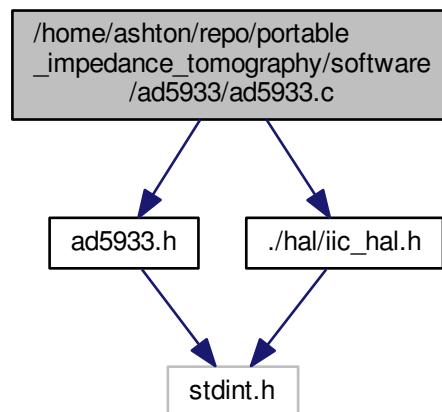
- /home/ashton/repo/portable_impedance_tomography/software/ad5933/**ad5933.h**

Chapter 4

File Documentation

4.1 /home/ashton/repo/portable_impedance_tomography/software/ad5933/ad5933.c File Reference

```
#include "ad5933.h"  
#include "../hal/iic_hal.h"  
Include dependency graph for ad5933.c:
```



Functions

- `uint8_t ad5933_PerformFrequencySweep (ad5933_deviceConfig *config, uint32_t startFreq, uint32_t incrementFreq, uint16_t numOfIncrements, uint16_t *realArray, uint16_t *imagArray)`
- `uint8_t ad5933_ConvertFreq (ad5933_deviceConfig *config, uint32_t desiredFreq, uint8_t *freqMsb, uint8_t *freqMid, uint8_t *freqLsb)`
- `uint8_t ad5933_SetStartFreq (ad5933_deviceConfig *config, uint32_t desiredFreq)`
- `uint8_t ad5933_SetIncrFreq (ad5933_deviceConfig *config, uint32_t desiredFreq)`
- `uint8_t ad5933_SetIncrCount (ad5933_deviceConfig *config, uint16_t incrNum)`

- `uint8_t ad5933_SetSettleTime (ad5933_deviceConfig *config, uint16_t cycles, uint8_t factor)`
- `uint8_t ad5933_GetStatus (ad5933_deviceConfig *config, uint8_t *result)`
- `uint8_t ad5933_WaitForValidTemp (ad5933_deviceConfig *config)`
- `uint8_t ad5933_WaitForValidImpedance (ad5933_deviceConfig *config)`
- `uint8_t ad5933_WaitForSweepComplete (ad5933_deviceConfig *config)`
- `uint8_t ad5933_ReadTempResult (ad5933_deviceConfig *config, int16_t *temp)`
- `uint8_t ad5933_ReadRealResult (ad5933_deviceConfig *config, int16_t *real)`
- `uint8_t ad5933_ReadImagResult (ad5933_deviceConfig *config, int16_t *imag)`
- `uint8_t ad5933_InitWithStartFreq (ad5933_deviceConfig *config)`
- `uint8_t ad5933_StartSweep (ad5933_deviceConfig *config)`
- `uint8_t ad5933_IncrementFreq (ad5933_deviceConfig *config)`
- `uint8_t ad5933_RepeatFreq (ad5933_deviceConfig *config)`
- `uint8_t ad5933_MeasureTemp (ad5933_deviceConfig *config)`
- `uint8_t ad5933_PowerDown (ad5933_deviceConfig *config)`
- `uint8_t ad5933_Standby (ad5933_deviceConfig *config)`
- `uint8_t ad5933_Stop (ad5933_deviceConfig *config)`
- `uint8_t ad5933_SetPGAx1 (ad5933_deviceConfig *config)`
- `uint8_t ad5933_SetPGAx5 (ad5933_deviceConfig *config)`
- `uint8_t ad5933_SetVoutRange (ad5933_deviceConfig *config, uint8_t range)`

4.1.1 Function Documentation

4.1.1.1 `uint8_t ad5933_ConvertFreq (ad5933_deviceConfig * config, uint32_t desiredFreq, uint8_t * freqMsb, uint8_t * freqMid, uint8_t * freqLsb)`

Definition at line 65 of file ad5933.c.

4.1.1.2 `uint8_t ad5933_GetStatus (ad5933_deviceConfig * config, uint8_t * result)`

Definition at line 178 of file ad5933.c.

4.1.1.3 `uint8_t ad5933_IncrementFreq (ad5933_deviceConfig * config)`

Definition at line 391 of file ad5933.c.

4.1.1.4 `uint8_t ad5933_InitWithStartFreq (ad5933_deviceConfig * config)`

Definition at line 346 of file ad5933.c.

4.1.1.5 `uint8_t ad5933_MeasureTemp (ad5933_deviceConfig * config)`

Definition at line 437 of file ad5933.c.

4.1.1.6 `uint8_t ad5933_PerformFrequencySweep (ad5933_deviceConfig * config, uint32_t startFreq, uint32_t incrementFreq, uint16_t numOfIncrements, uint16_t * realArray, uint16_t * imagArray)`

Definition at line 32 of file ad5933.c.

4.1.1.7 `uint8_t ad5933_PowerDown (ad5933_deviceConfig * config)`

Definition at line 460 of file ad5933.c.

4.1.1.8 `uint8_t ad5933_ReadImagResult (ad5933_deviceConfig * config, int16_t * imag)`

Definition at line 316 of file ad5933.c.

4.1.1.9 `uint8_t ad5933_ReadRealResult (ad5933_deviceConfig * config, int16_t * real)`

Definition at line 288 of file ad5933.c.

4.1.1.10 `uint8_t ad5933_ReadTempResult (ad5933_deviceConfig * config, int16_t * temp)`

Definition at line 259 of file ad5933.c.

4.1.1.11 `uint8_t ad5933_RepeatFreq (ad5933_deviceConfig * config)`

Definition at line 414 of file ad5933.c.

4.1.1.12 `uint8_t ad5933_SetIncrCount (ad5933_deviceConfig * config, uint16_t incrNum)`

Definition at line 136 of file ad5933.c.

4.1.1.13 `uint8_t ad5933_SetIncrFreq (ad5933_deviceConfig * config, uint32_t desiredFreq)`

Definition at line 110 of file ad5933.c.

4.1.1.14 `uint8_t ad5933_SetPGAx1 (ad5933_deviceConfig * config)`

Definition at line 525 of file ad5933.c.

4.1.1.15 `uint8_t ad5933_SetPGAx5 (ad5933_deviceConfig * config)`

Definition at line 547 of file ad5933.c.

4.1.1.16 `uint8_t ad5933_SetSettleTime (ad5933_deviceConfig * config, uint16_t cycles, uint8_t factor)`

Definition at line 157 of file ad5933.c.

4.1.1.17 `uint8_t ad5933_SetStartFreq (ad5933_deviceConfig * config, uint32_t desiredFreq)`

Definition at line 83 of file ad5933.c.

4.1.1.18 `uint8_t ad5933_SetVoutRange (ad5933_deviceConfig * config, uint8_t range)`

Definition at line 569 of file ad5933.c.

4.1.1.19 `uint8_t ad5933_Standby (ad5933_deviceConfig * config)`

Definition at line 482 of file ad5933.c.

4.1.1.20 `uint8_t ad5933_StartSweep (ad5933_deviceConfig * config)`

Definition at line 369 of file ad5933.c.

4.1.1.21 `uint8_t ad5933_Stop (ad5933_deviceConfig * config)`

Definition at line 504 of file ad5933.c.

4.1.1.22 `uint8_t ad5933_WaitForSweepComplete (ad5933_deviceConfig * config)`

Definition at line 233 of file ad5933.c.

4.1.1.23 `uint8_t ad5933_WaitForValidImpedance (ad5933_deviceConfig * config)`

Definition at line 211 of file ad5933.c.

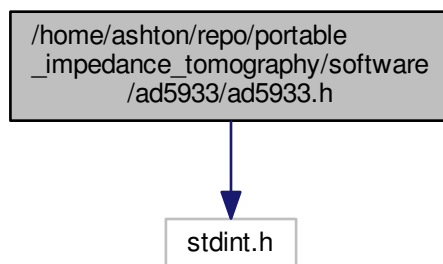
4.1.1.24 `uint8_t ad5933_WaitForValidTemp (ad5933_deviceConfig * config)`

Definition at line 189 of file ad5933.c.

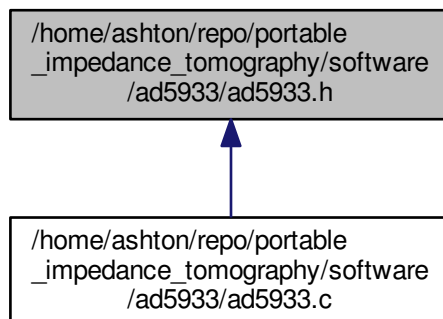
4.2 /home/ashton/repo/portable_impedance_tomography/software/ad5933/ad5933.h File Reference

```
#include "stdint.h"
```

Include dependency graph for ad5933.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct **ad5933_deviceConfig**

Macros

- #define **REG_CONTROL** 0x80
- #define **REG_CONTROL_NUM_BYTES** 2
- #define **REG_CONTROL_MSB** REG_CONTROL

- `#define REG_CONTROL_LSB 0x81`
- `#define REG_START_FREQ 0x82`
- `#define REG_START_FREQ_NUM_BYTES 3`
- `#define FREQ_MAX_SIZE 0xFFFFFFFF`
- `#define REG_FREQ_INCR 0x85`
- `#define REG_FREQ_INCR_NUM_BYTES 3`
- `#define REG_NUM_INCR 0x88`
- `#define REG_NUM_INCR_NUM_BYTES 2`
- `#define NUM_INCR_MAX 511`
- `#define REG_NUM_SETTLE_CYCLES 0x8A`
- `#define REG_NUM_SETTLE_CYCLES_NUM_BYTES 2`
- `#define NUM_SETTLE_CYCLES_MAX 511`
- `#define REG_STATUS 0x8F`
- `#define REG_STATUS_NUM_BYTES 1`
- `#define REG_TEMP 0x92`
- `#define REG_TEMP_NUM_BYTES 2`
- `#define REG_REAL 0x94`
- `#define REG_REAL_NUM_BYTES 2`
- `#define REG_REAL_MSB REG_REAL`
- `#define REG_REAL_LSB 0x95`
- `#define REG_IMAG 0x96`
- `#define REG_IMAG_NUM_BYTES 2`
- `#define REG_IMAG_MSB REG_IMAG`
- `#define REG_IMAG_LSB 0x97`
- `#define CONTROL_REG_NOP (0x00 << 4)`
- `#define CONTROL_REG_INIT_W_START_FREQ (0x01 << 4)`
- `#define CONTROL_REG_START_FREQ_SWEEP (0x02 << 4)`
- `#define CONTROL_REG_INCR_FREQ (0x03 << 4)`
- `#define CONTROL_REG_REPEAT_FREQ (0x04 << 4)`
- `#define CONTROL_REG_MEAS_TEMP (0x09 << 4)`
- `#define CONTROL_REG_PWR_DOWN (0x0A << 4)`
- `#define CONTROL_REG_STANDBY (0x0B << 4)`
- `#define CONTROL_OUT_VOLT_BITMASK 0x02`
- `#define CONTROL_OUT_VOLT_2VPP (0x00 << 1)`
- `#define CONTROL_OUT_VOLT_200MVPP (0x01 << 1)`
- `#define CONTROL_OUT_VOLT_400MVPP (0x02 << 1)`
- `#define CONTROL_OUT_VOLT_1VPP (0x03 << 1)`
- `#define CONTROL_PGA_x5 (0x0000 << 8)`
- `#define CONTROL_PGA_x1 (0x0001 << 8)`
- `#define CONTROL_RESET (0x0001 << 4)`
- `#define CONTROL_CLK_EXT (0x0001 << 3)`
- `#define CONTROL_CLK_EXT (0x0001 << 3)`
- `#define STATUS_VALID_TEMP 0x01`
- `#define STATUS_VALID_IMPEDANCE 0x02`
- `#define STATUS_SWEEP_COMPLETE 0x04`

Typedefs

- `typedef struct ad5933_deviceConfig ad5933_deviceConfig`

Functions

- `uint8_t ad5933_Init (ad5933_deviceConfig *config)`
- `uint8_t ad5933_PerformFrequencySweep (ad5933_deviceConfig *config, uint32_t startFreq, uint32_t incrementFreq, uint16_t numOfIncrements, uint16_t *realArray, uint16_t *imagArray)`
- `uint8_t ad5933_ConvertFreq (ad5933_deviceConfig *config, uint32_t desiredFreq, uint8_t *freqMsb, uint8_t *freqMid, uint8_t *freqLsb)`
- `uint8_t ad5933_SetStartFreq (ad5933_deviceConfig *config, uint32_t desiredFreq)`
- `uint8_t ad5933_SetIncrFreq (ad5933_deviceConfig *config, uint32_t desiredFreq)`
- `uint8_t ad5933_SetIncrCount (ad5933_deviceConfig *config, uint16_t incrNum)`
- `uint8_t ad5933_SetSettleTime (ad5933_deviceConfig *config, uint16_t cycles, uint8_t factor)`
- `uint8_t ad5933_GetStatus (ad5933_deviceConfig *config, uint8_t *result)`
- `uint8_t ad5933_WaitForValidTemp (ad5933_deviceConfig *config)`
- `uint8_t ad5933_WaitForValidImpedance (ad5933_deviceConfig *config)`
- `uint8_t ad5933_WaitForSweepComplete (ad5933_deviceConfig *config)`
- `uint8_t ad5933_ReadRealResult (ad5933_deviceConfig *config, int16_t *real)`
- `uint8_t ad5933_ReadImagResult (ad5933_deviceConfig *config, int16_t *imag)`
- `uint8_t ad5933_InitWithStartFreq (ad5933_deviceConfig *config)`
- `uint8_t ad5933_StartSweep (ad5933_deviceConfig *config)`
- `uint8_t ad5933_IncrementFreq (ad5933_deviceConfig *config)`
- `uint8_t ad5933_RepeatFreq (ad5933_deviceConfig *config)`
- `uint8_t ad5933_MeasureTemp (ad5933_deviceConfig *config)`
- `uint8_t ad5933_PowerDown (ad5933_deviceConfig *config)`
- `uint8_t ad5933_Standby (ad5933_deviceConfig *config)`
- `uint8_t ad5933_Stop (ad5933_deviceConfig *config)`
- `uint8_t ad5933_SetPGAx1 (ad5933_deviceConfig *config)`
- `uint8_t ad5933_SetPGAx5 (ad5933_deviceConfig *config)`
- `uint8_t ad5933_SetVoutRange (ad5933_deviceConfig *config, uint8_t range)`

4.2.1 Macro Definition Documentation

4.2.1.1 `#define CONTROL_CLK_EXT (0x0001 << 3)`

Definition at line 97 of file ad5933.h.

4.2.1.2 `#define CONTROL_CLK_EXT (0x0001 << 3)`

Definition at line 97 of file ad5933.h.

4.2.1.3 `#define CONTROL_OUT_VOLT_1VPP (0x03 << 1)`

Definition at line 89 of file ad5933.h.

4.2.1.4 `#define CONTROL_OUT_VOLT_200MVPP (0x01 << 1)`

Definition at line 87 of file ad5933.h.

4.2.1.5 `#define CONTROL_OUT_VOLT_2VPP (0x00 << 1)`

Definition at line 86 of file ad5933.h.

4.2.1.6 `#define CONTROL_OUT_VOLT_400MVPP (0x02 << 1)`

Definition at line 88 of file ad5933.h.

4.2.1.7 `#define CONTROL_OUT_VOLT_BITMASK 0x02`

Definition at line 85 of file ad5933.h.

4.2.1.8 `#define CONTROL_PGA_x1 (0x0001 << 8)`

Definition at line 92 of file ad5933.h.

4.2.1.9 `#define CONTROL_PGA_x5 (0x0000 << 8)`

Definition at line 91 of file ad5933.h.

4.2.1.10 `#define CONTROL_REG_INCR_FREQ (0x03 << 4)`

Definition at line 79 of file ad5933.h.

4.2.1.11 `#define CONTROL_REG_INIT_W_START_FREQ (0x01 << 4)`

Definition at line 77 of file ad5933.h.

4.2.1.12 `#define CONTROL_REG_MEAS_TEMP (0x09 << 4)`

Definition at line 81 of file ad5933.h.

4.2.1.13 `#define CONTROL_REG_NOP (0x00 << 4)`

Definition at line 76 of file ad5933.h.

4.2.1.14 `#define CONTROL_REG_PWR_DOWN (0x0A << 4)`

Definition at line 82 of file ad5933.h.

4.2.1.15 #define CONTROL_REG_REPEAT_FREQ (0x04 << 4)

Definition at line 80 of file ad5933.h.

4.2.1.16 #define CONTROL_REG_STANDBY (0x0B << 4)

Definition at line 83 of file ad5933.h.

4.2.1.17 #define CONTROL_REG_START_FREQ_SWEEP (0x02 << 4)

Definition at line 78 of file ad5933.h.

4.2.1.18 #define CONTROL_RESET (0x0001 << 4)

Definition at line 94 of file ad5933.h.

4.2.1.19 #define FREQ_MAX_SIZE 0xFFFFF

Definition at line 42 of file ad5933.h.

4.2.1.20 #define NUM_INCR_MAX 511

Definition at line 49 of file ad5933.h.

4.2.1.21 #define NUM_SETTLE_CYCLES_MAX 511

Definition at line 53 of file ad5933.h.

4.2.1.22 #define REG_CONTRO_NUM_BYTES 2

Definition at line 36 of file ad5933.h.

4.2.1.23 #define REG_CONTROL 0x80

Definition at line 35 of file ad5933.h.

4.2.1.24 #define REG_CONTROL_LSB 0x81

Definition at line 38 of file ad5933.h.

4.2.1.25 #define REG_CONTROL_MSB REG_CONTROL

Definition at line 37 of file ad5933.h.

4.2.1.26 #define REG_FREQ_INCR 0x85

Definition at line 44 of file ad5933.h.

4.2.1.27 #define REG_FREQ_INCR_NUM_BYTES 3

Definition at line 45 of file ad5933.h.

4.2.1.28 #define REG_IMAG 0x96

Definition at line 66 of file ad5933.h.

4.2.1.29 #define REG_IMAG_LSB 0x97

Definition at line 69 of file ad5933.h.

4.2.1.30 #define REG_IMAG_MSB REG_IMAG

Definition at line 68 of file ad5933.h.

4.2.1.31 #define REG_IMAG_NUM_BYTES 2

Definition at line 67 of file ad5933.h.

4.2.1.32 #define REG_NUM_INCR 0x88

Definition at line 47 of file ad5933.h.

4.2.1.33 #define REG_NUM_INCR_NUM_BYTES 2

Definition at line 48 of file ad5933.h.

4.2.1.34 #define REG_NUM_SETTLE_CYCLES 0x8A

Definition at line 51 of file ad5933.h.

4.2.1.35 `#define REG_NUM_SETTLE_CYCLES_NUM_BYTES 2`

Definition at line 52 of file ad5933.h.

4.2.1.36 `#define REG_REAL 0x94`

Definition at line 61 of file ad5933.h.

4.2.1.37 `#define REG_REAL_LSB 0x95`

Definition at line 64 of file ad5933.h.

4.2.1.38 `#define REG_REAL_MSB REG_REAL`

Definition at line 63 of file ad5933.h.

4.2.1.39 `#define REG_REAL_NUM_BYTES 2`

Definition at line 62 of file ad5933.h.

4.2.1.40 `#define REG_START_FREQ 0x82`

Definition at line 40 of file ad5933.h.

4.2.1.41 `#define REG_START_FREQ_NUM_BYTES 3`

Definition at line 41 of file ad5933.h.

4.2.1.42 `#define REG_STATUS 0x8F`

Definition at line 55 of file ad5933.h.

4.2.1.43 `#define REG_STATUS_NUM_BYTES 1`

Definition at line 56 of file ad5933.h.

4.2.1.44 `#define REG_TEMP 0x92`

Definition at line 58 of file ad5933.h.

4.2.1.45 `#define REG_TEMP_NUM_BYTES 2`

Definition at line 59 of file ad5933.h.

4.2.1.46 `#define STATUS_SWEEP_COMPLETE 0x04`

Definition at line 104 of file ad5933.h.

4.2.1.47 `#define STATUS_VALID_IMPEDANCE 0x02`

Definition at line 103 of file ad5933.h.

4.2.1.48 `#define STATUS_VALID_TEMP 0x01`

Definition at line 102 of file ad5933.h.

4.2.2 Typedef Documentation

4.2.2.1 `typedef struct ad5933_deviceConfig ad5933_deviceConfig`

4.2.3 Function Documentation

4.2.3.1 `uint8_t ad5933_ConvertFreq (ad5933_deviceConfig * config, uint32_t desiredFreq, uint8_t * freqMsb, uint8_t * freqMid, uint8_t * freqLsb)`

Definition at line 65 of file ad5933.c.

4.2.3.2 `uint8_t ad5933_GetStatus (ad5933_deviceConfig * config, uint8_t * result)`

Definition at line 178 of file ad5933.c.

4.2.3.3 `uint8_t ad5933_IncrementFreq (ad5933_deviceConfig * config)`

Definition at line 391 of file ad5933.c.

4.2.3.4 `uint8_t ad5933_Init (ad5933_deviceConfig * config)`

4.2.3.5 `uint8_t ad5933_InitWithStartFreq (ad5933_deviceConfig * config)`

Definition at line 346 of file ad5933.c.

4.2.3.6 `uint8_t ad5933_MeasureTemp (ad5933_deviceConfig * config)`

Definition at line 437 of file ad5933.c.

4.2.3.7 `uint8_t ad5933_PerformFrequencySweep (ad5933_deviceConfig * config, uint32_t startFreq, uint32_t incrementFreq, uint16_t numOfIncrements, uint16_t * realArray, uint16_t * imagArray)`

Definition at line 32 of file ad5933.c.

4.2.3.8 `uint8_t ad5933_PowerDown (ad5933_deviceConfig * config)`

Definition at line 460 of file ad5933.c.

4.2.3.9 `uint8_t ad5933_ReadImagResult (ad5933_deviceConfig * config, int16_t * imag)`

Definition at line 316 of file ad5933.c.

4.2.3.10 `uint8_t ad5933_ReadRealResult (ad5933_deviceConfig * config, int16_t * real)`

Definition at line 288 of file ad5933.c.

4.2.3.11 `uint8_t ad5933_RepeatFreq (ad5933_deviceConfig * config)`

Definition at line 414 of file ad5933.c.

4.2.3.12 `uint8_t ad5933_SetIncrCount (ad5933_deviceConfig * config, uint16_t incrNum)`

Definition at line 136 of file ad5933.c.

4.2.3.13 `uint8_t ad5933_SetIncrFreq (ad5933_deviceConfig * config, uint32_t desiredFreq)`

Definition at line 110 of file ad5933.c.

4.2.3.14 `uint8_t ad5933_SetPGAx1 (ad5933_deviceConfig * config)`

Definition at line 525 of file ad5933.c.

4.2.3.15 `uint8_t ad5933_SetPGAx5 (ad5933_deviceConfig * config)`

Definition at line 547 of file ad5933.c.

4.2.3.16 `uint8_t ad5933_SetSettleTime (ad5933_deviceConfig * config, uint16_t cycles, uint8_t factor)`

Definition at line 157 of file ad5933.c.

4.2.3.17 `uint8_t ad5933_SetStartFreq (ad5933_deviceConfig * config, uint32_t desiredFreq)`

Definition at line 83 of file ad5933.c.

4.2.3.18 `uint8_t ad5933_SetVoutRange (ad5933_deviceConfig * config, uint8_t range)`

Definition at line 569 of file ad5933.c.

4.2.3.19 `uint8_t ad5933_Standby (ad5933_deviceConfig * config)`

Definition at line 482 of file ad5933.c.

4.2.3.20 `uint8_t ad5933_StartSweep (ad5933_deviceConfig * config)`

Definition at line 369 of file ad5933.c.

4.2.3.21 `uint8_t ad5933_Stop (ad5933_deviceConfig * config)`

Definition at line 504 of file ad5933.c.

4.2.3.22 `uint8_t ad5933_WaitForSweepComplete (ad5933_deviceConfig * config)`

Definition at line 233 of file ad5933.c.

4.2.3.23 `uint8_t ad5933_WaitForValidImpedance (ad5933_deviceConfig * config)`

Definition at line 211 of file ad5933.c.

4.2.3.24 `uint8_t ad5933_WaitForValidTemp (ad5933_deviceConfig * config)`

Definition at line 189 of file ad5933.c.

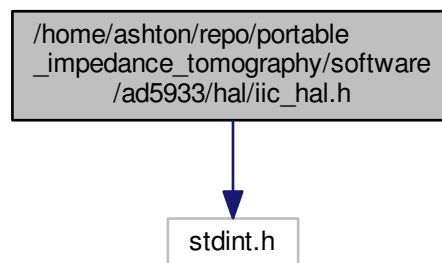
4.3 /home/ashton/repo/portable_impedance_tomography/software/ad5933/hal/arch/psoc_ble/i2c_hal.c File Reference

4.4 /home/ashton/repo/portable_impedance_tomography/software/ad5933/hal/arch/zynq_ps/i2c_hal.c File Reference

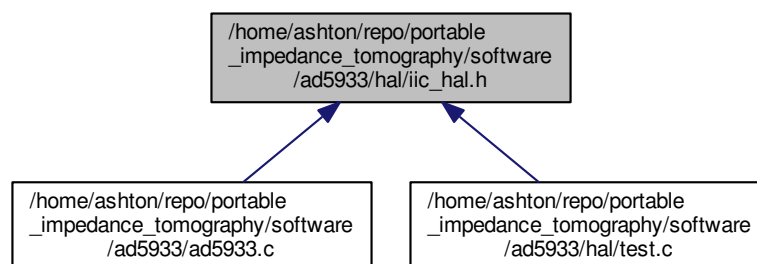
4.5 /home/ashton/repo/portable_impedance_tomography/software/ad5933/hal/iic_hal.h File Reference

```
#include "stdint.h"
```

Include dependency graph for iic_hal.h:



This graph shows which files directly or indirectly include this file:



Macros

- `#define IIC_OK 0`
- `#define IIC_ACK 0`
- `#define IIC_NACK 1`

Typedefs

- typedef void **lic_ConfigType**
- typedef void **lic_ChannelType**
- typedef uint8_t **lic_RegisterType**

Functions

- void **lic_Init** (const **lic_ConfigType** *Config)
- uint8_t **lic_RxByte** (const uint8_t addr, const uint8_t reg, uint8_t *rxValue)
- uint8_t **lic_TxByte** (const uint8_t addr, const uint8_t reg, const uint8_t txValue)
- void **lic_RegisterWrite** (**lic_RegisterType** Register, uint32_t RegisterData)
- uint32_t **lic_RegisterRead** (**lic_RegisterType** Register)

4.5.1 Macro Definition Documentation

4.5.1.1 #define IIC_ACK 0

Definition at line 35 of file iic_hal.h.

4.5.1.2 #define IIC_NACK 1

Definition at line 36 of file iic_hal.h.

4.5.1.3 #define IIC_OK 0

Definition at line 34 of file iic_hal.h.

4.5.2 Typedef Documentation

4.5.2.1 typedef void lic_ChannelType

Definition at line 39 of file iic_hal.h.

4.5.2.2 typedef void lic_ConfigType

Definition at line 38 of file iic_hal.h.

4.5.2.3 typedef uint8_t lic_RegisterType

Definition at line 40 of file iic_hal.h.

4.5.3 Function Documentation

4.5.3.1 void lic_Init (const lic_ConfigType * Config)

Initialize the IIC Device

Parameters

<i>Configuration</i>	data pointer which to initialize.
----------------------	-----------------------------------

Definition at line 3 of file test.c.

4.5.3.2 uint32_t lic_RegisterRead (lic_RegisterType Register)

Definition at line 37 of file test.c.

4.5.3.3 void lic_RegisterWrite (lic_RegisterType Register, uint32_t RegisterData)

Definition at line 33 of file test.c.

4.5.3.4 uint8_t lic_RxByte (const uint8_t addr, const uint8_t reg, uint8_t * rxValue)

Receive a byte from the IIC device.

Parameters

<i>7-bit</i>	device address to receive byte from
<i>8-bit</i>	register address to receive byte from

Returns

0 if receive was ACK'ed, 1 if NACK'ed

Definition at line 13 of file test.c.

4.5.3.5 uint8_t lic_TxByte (const uint8_t addr, const uint8_t reg, const uint8_t txValue)

Receive a byte from the IIC device.

Parameters

<i>7-bit</i>	device address to transmit byte to
<i>8-bit</i>	register address to transmit byte to

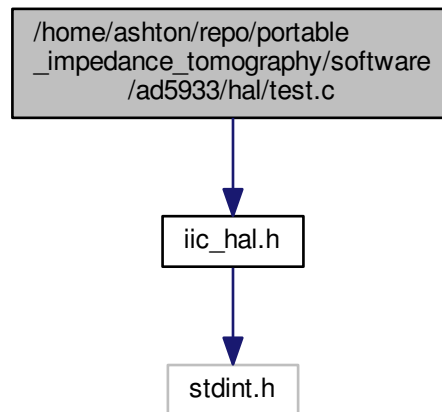
Returns

0 if receive was ACK'ed, 1 if NACK'ed

Definition at line 27 of file test.c.

4.6 /home/ashton/repo/portable_impedance_tomography/software/ad5933/hal/test.c File Reference

```
#include "iic_hal.h"
Include dependency graph for test.c:
```



Functions

- void **lic_Init** (const **lic_ConfigType** *Config)
- uint8_t **lic_RxByte** (const uint8_t addr, const uint8_t reg, uint8_t *rxValue)
- uint8_t **lic_TxByte** (const uint8_t addr, const uint8_t reg, const uint8_t txValue)
- void **lic_RegisterWrite** (**lic_RegisterType** Register, uint32_t RegisterData)
- uint32_t **lic_RegisterRead** (**lic_RegisterType** Register)

4.6.1 Function Documentation

4.6.1.1 void lic_Init (const lic_ConfigType * Config)

Initialize the IIC Device

Parameters

<i>Configuration</i>	data pointer which to initialize.
----------------------	-----------------------------------

Definition at line 3 of file test.c.

4.6.1.2 uint32_t lic_RegisterRead (lic_RegisterType Register)

Definition at line 37 of file test.c.

4.6.1.3 void lic_RegisterWrite (lic_RegisterType *Register*, uint32_t *RegisterData*)

Definition at line 33 of file test.c.

4.6.1.4 uint8_t lic_RxByte (const uint8_t *addr*, const uint8_t *reg*, uint8_t * *rxValue*)

Receive a byte from the IIC device.

Parameters

7-bit	device address to receive byte from
8-bit	register address to receive byte from

Returns

0 if receive was ACK'ed, 1 if NACK'ed

Definition at line 13 of file test.c.

4.6.1.5 uint8_t lic_TxByte (const uint8_t *addr*, const uint8_t *reg*, const uint8_t *txValue*)

Receive a byte from the IIC device.

Parameters

7-bit	device address to transmit byte to
8-bit	register address to transmit byte to

Returns

0 if receive was ACK'ed, 1 if NACK'ed

Definition at line 27 of file test.c.

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