

sarmfsw: SMFSW Toolbox (for ARM, STM32)

1.0

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1 Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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2 File Index

2.1 File List

Here is a list of all files with brief descriptions:

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[sarmfsw.h](#)

ARM common headers for projects

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3 Class Documentation

3.1 StructBitfield16 Struct Reference

Bitfield 16b.

```
#include <arm_typedefs.h>
```

Public Attributes

- [WORD b0:1](#)
Bit 0 (LSB)
- [WORD b1:1](#)
Bit 1.
- [WORD b2:1](#)
Bit 2.
- [WORD b3:1](#)
Bit 3.
- [WORD b4:1](#)
Bit 4.
- [WORD b5:1](#)
Bit 5.
- [WORD b6:1](#)
Bit 6.
- [WORD b7:1](#)
Bit 7.
- [WORD b8:1](#)
Bit 8.
- [WORD b9:1](#)
Bit 9.
- [WORD b10:1](#)
Bit 10.
- [WORD b11:1](#)
Bit 11.
- [WORD b12:1](#)
Bit 12.
- [WORD b13:1](#)
Bit 13.
- [WORD b14:1](#)
Bit 14.
- [WORD b15:1](#)
Bit 15 (MSB)

3.1.1 Detailed Description

Bitfield 16b.

3.1.2 Member Data Documentation

3.1.2.1 b0

`WORD StructBitfield16::b0`

Bit 0 (LSB)

3.1.2.2 b1

`WORD StructBitfield16::b1`

Bit 1.

3.1.2.3 b10

`WORD StructBitfield16::b10`

Bit 10.

3.1.2.4 b11

`WORD StructBitfield16::b11`

Bit 11.

3.1.2.5 b12

`WORD StructBitfield16::b12`

Bit 12.

3.1.2.6 b13

`WORD StructBitfield16::b13`

Bit 13.

3.1.2.7 b14

`WORD StructBitfield16::b14`

Bit 14.

3.1.2.8 b15

`WORD StructBitfield16::b15`

Bit 15 (MSB)

3.1.2.9 b2

`WORD StructBitfield16::b2`

Bit 2.

3.1.2.10 b3

`WORD StructBitfield16::b3`

Bit 3.

3.1.2.11 b4

`WORD StructBitfield16::b4`

Bit 4.

3.1.2.12 b5

`WORD StructBitfield16::b5`

Bit 5.

3.1.2.13 b6

`WORD StructBitfield16::b6`

Bit 6.

3.1.2.14 b7

`WORD StructBitfield16::b7`

Bit 7.

3.1.2.15 b8

`WORD StructBitfield16::b8`

Bit 8.

3.1.2.16 b9

`WORD StructBitfield16::b9`

Bit 9.

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

- [arm_typedefs.h](#)

3.2 StructBitfield32 Struct Reference

Bitfield 32b.

```
#include <arm_typedefs.h>
```

Public Attributes

- `DWORD b0:1`
Bit 0 (LSB)
- `DWORD b1:1`
Bit 1.
- `DWORD b2:1`
Bit 2.
- `DWORD b3:1`
Bit 3.
- `DWORD b4:1`
Bit 4.
- `DWORD b5:1`
Bit 5.
- `DWORD b6:1`
Bit 6.
- `DWORD b7:1`
Bit 7.
- `DWORD b8:1`

- Bit 8.*
 - [DWORD b9:1](#)
- Bit 9.*
 - [DWORD b10:1](#)
- Bit 10.*
 - [DWORD b11:1](#)
- Bit 11.*
 - [DWORD b12:1](#)
- Bit 12.*
 - [DWORD b13:1](#)
- Bit 13.*
 - [DWORD b14:1](#)
- Bit 14.*
 - [DWORD b15:1](#)
- Bit 15.*
 - [DWORD b16:1](#)
- Bit 16.*
 - [DWORD b17:1](#)
- Bit 17.*
 - [DWORD b18:1](#)
- Bit 18.*
 - [DWORD b19:1](#)
- Bit 19.*
 - [DWORD b20:1](#)
- Bit 20.*
 - [DWORD b21:1](#)
- Bit 21.*
 - [DWORD b22:1](#)
- Bit 22.*
 - [DWORD b23:1](#)
- Bit 23.*
 - [DWORD b24:1](#)
- Bit 24.*
 - [DWORD b25:1](#)
- Bit 25.*
 - [DWORD b26:1](#)
- Bit 26.*
 - [DWORD b27:1](#)
- Bit 27.*
 - [DWORD b28:1](#)
- Bit 28.*
 - [DWORD b29:1](#)
- Bit 29.*
 - [DWORD b30:1](#)
- Bit 30.*
 - [DWORD b31:1](#)
- Bit 31 (MSB)*

3.2.1 Detailed Description

Bitfield 32b.

3.2.2 Member Data Documentation

3.2.2.1 b0

`DWORD StructBitfield32::b0`

Bit 0 (LSB)

3.2.2.2 b1

`DWORD StructBitfield32::b1`

Bit 1.

3.2.2.3 b10

`DWORD StructBitfield32::b10`

Bit 10.

3.2.2.4 b11

`DWORD StructBitfield32::b11`

Bit 11.

3.2.2.5 b12

`DWORD StructBitfield32::b12`

Bit 12.

3.2.2.6 b13

`DWORD StructBitfield32::b13`

Bit 13.

3.2.2.7 b14

`DWORD StructBitfield32::b14`

Bit 14.

3.2.2.8 b15

`DWORD StructBitfield32::b15`

Bit 15.

3.2.2.9 b16

`DWORD StructBitfield32::b16`

Bit 16.

3.2.2.10 b17

`DWORD StructBitfield32::b17`

Bit 17.

3.2.2.11 b18

`DWORD StructBitfield32::b18`

Bit 18.

3.2.2.12 b19

`DWORD StructBitfield32::b19`

Bit 19.

3.2.2.13 b2

`DWORD StructBitfield32::b2`

Bit 2.

3.2.2.14 b20

`DWORD StructBitfield32::b20`

Bit 20.

3.2.2.15 b21

`DWORD StructBitfield32::b21`

Bit 21.

3.2.2.16 b22

`DWORD StructBitfield32::b22`

Bit 22.

3.2.2.17 b23

`DWORD StructBitfield32::b23`

Bit 23.

3.2.2.18 b24

`DWORD StructBitfield32::b24`

Bit 24.

3.2.2.19 b25

`DWORD StructBitfield32::b25`

Bit 25.

3.2.2.20 b26

`DWORD StructBitfield32::b26`

Bit 26.

3.2.2.21 b27

`DWORD StructBitfield32::b27`

Bit 27.

3.2.2.22 b28

`DWORD StructBitfield32::b28`

Bit 28.

3.2.2.23 b29

`DWORD StructBitfield32::b29`

Bit 29.

3.2.2.24 b3

`DWORD StructBitfield32::b3`

Bit 3.

3.2.2.25 b30

`DWORD StructBitfield32::b30`

Bit 30.

3.2.2.26 b31

`DWORD StructBitfield32::b31`

Bit 31 (MSB)

3.2.2.27 b4

`DWORD StructBitfield32::b4`

Bit 4.

3.2.2.28 b5

`DWORD StructBitfield32::b5`

Bit 5.

3.2.2.29 b6

`DWORD StructBitfield32::b6`

Bit 6.

3.2.2.30 b7

`DWORD StructBitfield32::b7`

Bit 7.

3.2.2.31 b8

`DWORD StructBitfield32::b8`

Bit 8.

3.2.2.32 b9

`DWORD StructBitfield32::b9`

Bit 9.

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

- [arm_typedefs.h](#)

3.3 StructBitfield64 Struct Reference

Bitfield 64b.

```
#include <arm_typedefs.h>
```

Public Attributes

- [LWORD b0:1](#)
Bit 0 (LSB)
- [LWORD b1:1](#)
Bit 1.
- [LWORD b2:1](#)
Bit 2.
- [LWORD b3:1](#)
Bit 3.
- [LWORD b4:1](#)
Bit 4.
- [LWORD b5:1](#)
Bit 5.
- [LWORD b6:1](#)
Bit 6.
- [LWORD b7:1](#)
Bit 7.
- [LWORD b8:1](#)
Bit 8.
- [LWORD b9:1](#)
Bit 9.
- [LWORD b10:1](#)
Bit 10.
- [LWORD b11:1](#)
Bit 11.
- [LWORD b12:1](#)
Bit 12.
- [LWORD b13:1](#)
Bit 13.
- [LWORD b14:1](#)
Bit 14.
- [LWORD b15:1](#)
Bit 15.
- [LWORD b16:1](#)
Bit 16.
- [LWORD b17:1](#)
Bit 17.
- [LWORD b18:1](#)
Bit 18.
- [LWORD b19:1](#)
Bit 19.
- [LWORD b20:1](#)
Bit 20.
- [LWORD b21:1](#)
Bit 21.
- [LWORD b22:1](#)
Bit 22.
- [LWORD b23:1](#)
Bit 23.
- [LWORD b24:1](#)

- Bit 24.*
 - [LWORD b25:1](#)
- Bit 25.*
 - [LWORD b26:1](#)
- Bit 26.*
 - [LWORD b27:1](#)
- Bit 27.*
 - [LWORD b28:1](#)
- Bit 28.*
 - [LWORD b29:1](#)
- Bit 29.*
 - [LWORD b30:1](#)
- Bit 30.*
 - [LWORD b31:1](#)
- Bit 31.*
 - [LWORD b32:1](#)
- Bit 32.*
 - [LWORD b33:1](#)
- Bit 33.*
 - [LWORD b34:1](#)
- Bit 34.*
 - [LWORD b35:1](#)
- Bit 35.*
 - [LWORD b36:1](#)
- Bit 36.*
 - [LWORD b37:1](#)
- Bit 37.*
 - [LWORD b38:1](#)
- Bit 38.*
 - [LWORD b39:1](#)
- Bit 39.*
 - [LWORD b40:1](#)
- Bit 40.*
 - [LWORD b41:1](#)
- Bit 41.*
 - [LWORD b42:1](#)
- Bit 42.*
 - [LWORD b43:1](#)
- Bit 43.*
 - [LWORD b44:1](#)
- Bit 44.*
 - [LWORD b45:1](#)
- Bit 45.*
 - [LWORD b46:1](#)
- Bit 46.*
 - [LWORD b47:1](#)
- Bit 47.*
 - [LWORD b48:1](#)
- Bit 48.*
 - [LWORD b49:1](#)
- Bit 49.*

- **LWORD b50:1**
Bit 50.
- **LWORD b51:1**
Bit 51.
- **LWORD b52:1**
Bit 52.
- **LWORD b53:1**
Bit 53.
- **LWORD b54:1**
Bit 54.
- **LWORD b55:1**
Bit 55.
- **LWORD b56:1**
Bit 56.
- **LWORD b57:1**
Bit 57.
- **LWORD b58:1**
Bit 58.
- **LWORD b59:1**
Bit 59.
- **LWORD b60:1**
Bit 60.
- **LWORD b61:1**
Bit 61.
- **LWORD b62:1**
Bit 62.
- **LWORD b63:1**
Bit 63 (MSB)

3.3.1 Detailed Description

Bitfield 64b.

3.3.2 Member Data Documentation

3.3.2.1 b0

LWORD StructBitfield64::b0

Bit 0 (LSB)

3.3.2.2 b1

LWORD StructBitfield64::b1

Bit 1.

3.3.2.3 b10

`LWORD StructBitfield64::b10`

Bit 10.

3.3.2.4 b11

`LWORD StructBitfield64::b11`

Bit 11.

3.3.2.5 b12

`LWORD StructBitfield64::b12`

Bit 12.

3.3.2.6 b13

`LWORD StructBitfield64::b13`

Bit 13.

3.3.2.7 b14

`LWORD StructBitfield64::b14`

Bit 14.

3.3.2.8 b15

`LWORD StructBitfield64::b15`

Bit 15.

3.3.2.9 b16

`LWORD StructBitfield64::b16`

Bit 16.

3.3.2.10 b17

`LWORD StructBitfield64::b17`

Bit 17.

3.3.2.11 b18

`LWORD StructBitfield64::b18`

Bit 18.

3.3.2.12 b19

`LWORD StructBitfield64::b19`

Bit 19.

3.3.2.13 b2

`LWORD StructBitfield64::b2`

Bit 2.

3.3.2.14 b20

`LWORD StructBitfield64::b20`

Bit 20.

3.3.2.15 b21

`LWORD StructBitfield64::b21`

Bit 21.

3.3.2.16 b22

`LWORD StructBitfield64::b22`

Bit 22.

3.3.2.17 b23

`LWORD StructBitfield64::b23`

Bit 23.

3.3.2.18 b24

`LWORD StructBitfield64::b24`

Bit 24.

3.3.2.19 b25

`LWORD StructBitfield64::b25`

Bit 25.

3.3.2.20 b26

`LWORD StructBitfield64::b26`

Bit 26.

3.3.2.21 b27

`LWORD StructBitfield64::b27`

Bit 27.

3.3.2.22 b28

`LWORD StructBitfield64::b28`

Bit 28.

3.3.2.23 b29

`LWORD StructBitfield64::b29`

Bit 29.

3.3.2.24 b3

`LWORD StructBitfield64::b3`

Bit 3.

3.3.2.25 b30

`LWORD StructBitfield64::b30`

Bit 30.

3.3.2.26 b31

`LWORD StructBitfield64::b31`

Bit 31.

3.3.2.27 b32

`LWORD StructBitfield64::b32`

Bit 32.

3.3.2.28 b33

`LWORD StructBitfield64::b33`

Bit 33.

3.3.2.29 b34

`LWORD StructBitfield64::b34`

Bit 34.

3.3.2.30 b35

`LWORD StructBitfield64::b35`

Bit 35.

3.3.2.31 b36

`LWORD StructBitfield64::b36`

Bit 36.

3.3.2.32 b37

`LWORD StructBitfield64::b37`

Bit 37.

3.3.2.33 b38

`LWORD StructBitfield64::b38`

Bit 38.

3.3.2.34 b39

`LWORD StructBitfield64::b39`

Bit 39.

3.3.2.35 b4

`LWORD StructBitfield64::b4`

Bit 4.

3.3.2.36 b40

`LWORD StructBitfield64::b40`

Bit 40.

3.3.2.37 b41

`LWORD StructBitfield64::b41`

Bit 41.

3.3.2.38 b42

`LWORD StructBitfield64::b42`

Bit 42.

3.3.2.39 b43

`LWORD StructBitfield64::b43`

Bit 43.

3.3.2.40 b44

`LWORD StructBitfield64::b44`

Bit 44.

3.3.2.41 b45

`LWORD StructBitfield64::b45`

Bit 45.

3.3.2.42 b46

`LWORD StructBitfield64::b46`

Bit 46.

3.3.2.43 b47

`LWORD StructBitfield64::b47`

Bit 47.

3.3.2.44 b48

`LWORD StructBitfield64::b48`

Bit 48.

3.3.2.45 b49

`LWORD StructBitfield64::b49`

Bit 49.

3.3.2.46 b5

`LWORD StructBitfield64::b5`

Bit 5.

3.3.2.47 b50

`LWORD StructBitfield64::b50`

Bit 50.

3.3.2.48 b51

`LWORD StructBitfield64::b51`

Bit 51.

3.3.2.49 b52

`LWORD StructBitfield64::b52`

Bit 52.

3.3.2.50 b53

`LWORD StructBitfield64::b53`

Bit 53.

3.3.2.51 b54

`LWORD StructBitfield64::b54`

Bit 54.

3.3.2.52 b55

`LWORD StructBitfield64::b55`

Bit 55.

3.3.2.53 b56

`LWORD StructBitfield64::b56`

Bit 56.

3.3.2.54 b57

`LWORD StructBitfield64::b57`

Bit 57.

3.3.2.55 b58

`LWORD StructBitfield64::b58`

Bit 58.

3.3.2.56 b59

`LWORD StructBitfield64::b59`

Bit 59.

3.3.2.57 b6

`LWORD StructBitfield64::b6`

Bit 6.

3.3.2.58 b60

`LWORD StructBitfield64::b60`

Bit 60.

3.3.2.59 b61

[LWORD](#) StructBitfield64::b61

Bit 61.

3.3.2.60 b62

[LWORD](#) StructBitfield64::b62

Bit 62.

3.3.2.61 b63

[LWORD](#) StructBitfield64::b63

Bit 63 (MSB)

3.3.2.62 b7

[LWORD](#) StructBitfield64::b7

Bit 7.

3.3.2.63 b8

[LWORD](#) StructBitfield64::b8

Bit 8.

3.3.2.64 b9

[LWORD](#) StructBitfield64::b9

Bit 9.

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

- [arm_typedefs.h](#)

3.4 StructBitfield8 Struct Reference

Bitfield 8b.

```
#include <arm_typedefs.h>
```

Public Attributes

- [BYTE b0](#):1
Bit 0 (LSB)
- [BYTE b1](#):1
Bit 1.
- [BYTE b2](#):1
Bit 2.
- [BYTE b3](#):1
Bit 3.
- [BYTE b4](#):1
Bit 4.
- [BYTE b5](#):1
Bit 5.
- [BYTE b6](#):1
Bit 6.
- [BYTE b7](#):1
Bit 7 (MSB)

3.4.1 Detailed Description

Bitfield 8b.

3.4.2 Member Data Documentation

3.4.2.1 b0

[BYTE](#) `StructBitfield8::b0`

Bit 0 (LSB)

3.4.2.2 b1

[BYTE](#) `StructBitfield8::b1`

Bit 1.

3.4.2.3 b2

`BYTE StructBitfield8::b2`

Bit 2.

3.4.2.4 b3

`BYTE StructBitfield8::b3`

Bit 3.

3.4.2.5 b4

`BYTE StructBitfield8::b4`

Bit 4.

3.4.2.6 b5

`BYTE StructBitfield8::b5`

Bit 5.

3.4.2.7 b6

`BYTE StructBitfield8::b6`

Bit 6.

3.4.2.8 b7

`BYTE StructBitfield8::b7`

Bit 7 (MSB)

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

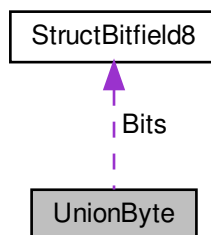
- [arm_typedefs.h](#)

3.5 UnionByte Union Reference

Union for BYTE.

```
#include <arm_typedefs.h>
```

Collaboration diagram for UnionByte:



Public Attributes

- [BYTE Byte](#)
BYTE.
- [sBitfield8 Bits](#)
Bits.

3.5.1 Detailed Description

Union for BYTE.

3.5.2 Member Data Documentation

3.5.2.1 Bits

```
sBitfield8 UnionByte::Bits
```

Bits.

3.5.2.2 Byte

```
BYTE UnionByte::Byte
```

BYTE.

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

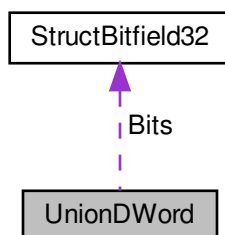
- [arm_typedefs.h](#)

3.6 UnionDWord Union Reference

Union for DWORD.

```
#include <arm_typedefs.h>
```

Collaboration diagram for UnionDWord:



Public Attributes

- [DWORD DWord](#)
32b
- [WORD Word](#) [2]
Words tab.
- [BYTE Byte](#) [4]
Bytes tab.
- struct {
 [WORD W0](#):16
 W0 LSWord.
 [WORD W1](#):16
 W1 MSWord.
} [Words](#)

- struct {
 BYTE B0:8
 B0 LSByte.
 BYTE B1:8
 B1.
 BYTE B2:8
 B2.
 BYTE B3:8
 B3 MSByte.
} Bytes
- sBitfield32 Bits
 Bits.

3.6.1 Detailed Description

Union for DWORD.

3.6.2 Member Data Documentation

3.6.2.1 B0

BYTE UnionDWord::B0

B0 LSByte.

3.6.2.2 B1

BYTE UnionDWord::B1

B1.

3.6.2.3 B2

BYTE UnionDWord::B2

B2.

3.6.2.4 B3

BYTE UnionDWord::B3

B3 MSByte.

3.6.2.5 Bits

`sBitfield32` `UnionDWord::Bits`

Bits.

3.6.2.6 Byte

`BYTE` `UnionDWord::Byte[4]`

Bytes tab.

3.6.2.7 Bytes

`struct { ... } UnionDWord::Bytes`

3.6.2.8 DWord

`DWORD` `UnionDWord::DWord`

32b

3.6.2.9 W0

`WORD` `UnionDWord::W0`

W0 LSWord.

3.6.2.10 W1

`WORD` `UnionDWord::W1`

W1 MSWord.

3.6.2.11 Word

`WORD` `UnionDWord::Word[2]`

Words tab.

3.6.2.12 Words

```
struct { ... } UnionDWord::Words
```

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

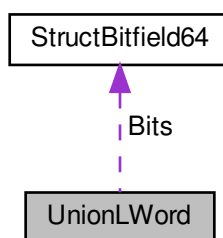
- [arm_typedefs.h](#)

3.7 UnionLWord Union Reference

Union for LWORD.

```
#include <arm_typedefs.h>
```

Collaboration diagram for UnionLWord:



Public Attributes

- [LWORD LWord](#)
64b
- [DWORD DWord](#) [2]
DWords tab.
- [WORD Word](#) [4]
Words tab.
- [BYTE Byte](#) [8]
Bytes tab.
- struct {
 [DWORD D0](#):32
 DW0 LSDWord.
 [DWORD D1](#):32
 DW1 MSDWord.
} [DWords](#)

- struct {
 - WORD W0:16
W0 LSWord.
 - WORD W1:16
W1.
 - WORD W2:16
W2.
 - WORD W3:16
W3 MSWord.
} Words
- struct {
 - BYTE B0:8
B0 LSByte.
 - BYTE B1:8
B1.
 - BYTE B2:8
B2.
 - BYTE B3:8
B3.
 - BYTE B4:8
B4.
 - BYTE B5:8
B5.
 - BYTE B6:8
B6.
 - BYTE B7:8
B7 MSByte.
} Bytes
- sBitfield64 Bits
 - Bits.

3.7.1 Detailed Description

Union for LWORD.

3.7.2 Member Data Documentation

3.7.2.1 B0

BYTE UnionLWord::B0

B0 LSByte.

3.7.2.2 B1

BYTE UnionLWord::B1

B1.

3.7.2.3 B2

`BYTE UnionLWord::B2`

B2.

3.7.2.4 B3

`BYTE UnionLWord::B3`

B3.

3.7.2.5 B4

`BYTE UnionLWord::B4`

B4.

3.7.2.6 B5

`BYTE UnionLWord::B5`

B5.

3.7.2.7 B6

`BYTE UnionLWord::B6`

B6.

3.7.2.8 B7

`BYTE UnionLWord::B7`

B7 MSByte.

3.7.2.9 Bits

`sBitfield64 UnionLWord::Bits`

Bits.

3.7.2.10 Byte

```
BYTE UnionLWord::Byte[8]
```

Bytes tab.

3.7.2.11 Bytes

```
struct { ... } UnionLWord::Bytes
```

3.7.2.12 D0

```
DWORD UnionLWord::D0
```

DW0 LSDWord.

3.7.2.13 D1

```
DWORD UnionLWord::D1
```

DW1 MSDWord.

3.7.2.14 DWord

```
DWORD UnionLWord::DWord[2]
```

DWords tab.

3.7.2.15 DWords

```
struct { ... } UnionLWord::DWords
```

3.7.2.16 LWord

```
LWORD UnionLWord::LWord
```

64b

3.7.2.17 W0

`WORD UnionLWord::W0`

W0 LSWord.

3.7.2.18 W1

`WORD UnionLWord::W1`

W1.

3.7.2.19 W2

`WORD UnionLWord::W2`

W2.

3.7.2.20 W3

`WORD UnionLWord::W3`

W3 MSWord.

3.7.2.21 Word

`WORD UnionLWord::Word[4]`

Words tab.

3.7.2.22 Words

```
struct { ... } UnionLWord::Words
```

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

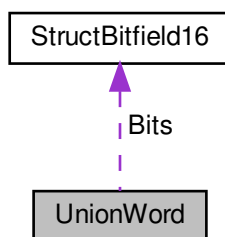
- [arm_typedefs.h](#)

3.8 UnionWord Union Reference

Union for WORD.

```
#include <arm_typedefs.h>
```

Collaboration diagram for UnionWord:



Public Attributes

- **WORD Word**
16b
- **BYTE Byte** [2]
Bytes tab.
- struct {
 BYTE B0:8
 LSByte.
 BYTE B1:8
 MSByte.
} **Bytes**
- **sBitfield16 Bits**
Bits.

3.8.1 Detailed Description

Union for WORD.

3.8.2 Member Data Documentation

3.8.2.1 B0

BYTE UnionWord::B0

LSByte.

3.8.2.2 B1

```
BYTE UnionWord::B1
```

MSByte.

3.8.2.3 Bits

```
sBitfield16 UnionWord::Bits
```

Bits.

3.8.2.4 Byte

```
BYTE UnionWord::Byte[2]
```

Bytes tab.

3.8.2.5 Bytes

```
struct { ... } UnionWord::Bytes
```

3.8.2.6 Word

```
WORD UnionWord::Word
```

16b

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

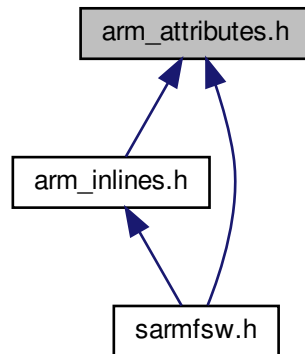
- [arm_typedefs.h](#)

4 File Documentation

4.1 arm_attributes.h File Reference

ARM common gcc attributes.

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



Macros

- #define **INLINE**__attribute__((always_inline))
***Inline** attribute for gcc*
- #define **WEAK**__attribute__((weak))
***Weak** attribute for gcc*
- #define **PACK**__attribute__((__packed__))
***Packed** attribute for gcc*

4.1.1 Detailed Description

ARM common gcc attributes.

Author

SMFSW

Date

2017

Copyright

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4.1.2 Macro Definition Documentation

4.1.2.1 INLINE__

```
#define INLINE__ __attribute__((always_inline))
```

Inline attribute for gcc

4.1.2.2 PACK__

```
#define PACK__ __attribute__((packed))
```

Packed attribute for gcc

4.1.2.3 WEAK__

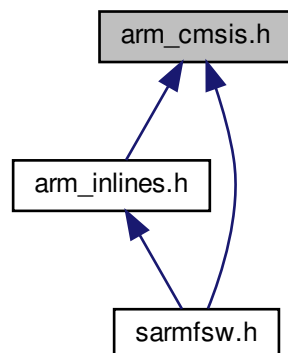
```
#define WEAK__ __attribute__((weak))
```

Weak attribute for gcc

4.2 arm_cmsis.h File Reference

ARM link with CMSIS files.

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



Macros

- `#define diInterrupts() __disable_irq()`
Disable interruptions macro.
- `#define enInterrupts() __enable_irq()`
Enable interruptions macro.

4.2.1 Detailed Description

ARM link with CMSIS files.

Author

SMFSW

Date

2017

Copyright

MIT (c) 2017, SMFSW

4.2.2 Macro Definition Documentation

4.2.2.1 diInterrupts

```
#define diInterrupts( ) __disable_irq()
```

Disable interruptions macro.

4.2.2.2 enInterrupts

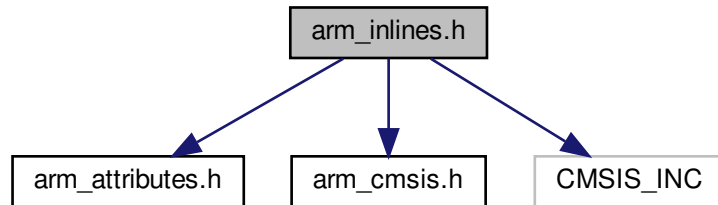
```
#define enInterrupts( ) __enable_irq()
```

Enable interruptions macro.

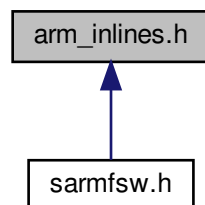
4.3 arm_inlines.h File Reference

ARM common inlines.

```
#include "arm_attributes.h"
#include "arm_cmsis.h"
#include <CMSIS_INC>
Include dependency graph for arm_inlines.h:
```



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



Functions

- bool [TPSSUP_MS](#) (uint32_t val, uint32_t time)
Tests if stored time value has reached time lapse in ms.
- bool [TPSINF_MS](#) (uint32_t val, uint32_t time)
Tests if stored time value has not reached time lapse in ms.
- uint16_t [conv8upto16Bits](#) (uint8_t val, uint8_t nb)
converts 8bits to 8+nb bits (16bits max)
- uint32_t [conv16upto32Bits](#) (uint16_t val, uint8_t nb)
converts 16bits to 16+nb bits (32bits max)
- uint16_t [SWAP_END16B](#) (uint16_t w)
Swap endians of the contents of a 16b value.
- uint32_t [SWAP_END32B](#) (uint32_t d)

Swap endians of the contents of a 32b value.

- void [SWAP_END16B_TAB](#) (uint16_t tab[], uint16_t nb)

Swap endians of a 16b tab.

- void [SWAP_END32B_TAB](#) (uint32_t tab[], uint16_t nb)

Swap endians of a 32b tab.

- bool [inTolerance](#) (int32_t val, int32_t ref, int32_t tolerance)

Checks if val given as parameter is in tolerance.

- bool [inRange](#) (int32_t val, int32_t low, int32_t high)

Checks if val given as parameter is in range.

4.3.1 Detailed Description

ARM common inlines.

Author

SMFSW

Date

2017

Copyright

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4.3.2 Function Documentation

4.3.2.1 conv16upto32Bits()

```
uint32_t conv16upto32Bits (
    uint16_t val,
    uint8_t nb ) [inline]
```

converts 16bits to 16+nb bits (32bits max)

Warning

conversion output shall not exceed 32bits (input shall strictly be unsigned 16bits)
nb shall be in range 0-16 (note that using 0 doesn't change val)

Parameters

in	<i>val</i>	- 16b value to convert
in	<i>nb</i>	- number of bits to add (16bits max)

Returns

Converted value

4.3.2.2 conv8upto16Bits()

```
uint16_t conv8upto16Bits (  
    uint8_t val,  
    uint8_t nb ) [inline]
```

converts 8bits to 8+nb bits (16bits max)

Warning

conversion output shall not exceed 16bits (input shall strictly be unsigned 8bits)
nb shall be in range 0-8 (note that using 0 doesn't change val)

Parameters

in	<i>val</i>	- 8b value to convert
in	<i>nb</i>	- number of bits to add (8bits max)

Returns

Converted value

4.3.2.3 inRange()

```
bool inRange (  
    int32_t val,  
    int32_t low,  
    int32_t high ) [inline]
```

Checks if val given as parameter is in range.

Parameters

in	<i>val</i>	- Value to check
in	<i>low</i>	- Low range boundary
in	<i>high</i>	- High range boundary

Returns

true if val is inRange

4.3.2.4 inTolerance()

```
bool inTolerance (
    int32_t val,
    int32_t ref,
    int32_t tolerance ) [inline]
```

Checks if val given as parameter is in tolerance.

Parameters

in	<i>val</i>	- Value to check
in	<i>ref</i>	- Reference value
in	<i>tolerance</i>	- Tolerance on reference value (in percent)

Returns

true if val is inTolerance

4.3.2.5 SWAP_END16B()

```
uint16_t SWAP_END16B (
    uint16_t w ) [inline]
```

Swap endians of the contents of a 16b value.

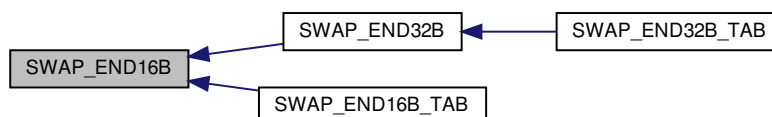
Parameters

in	<i>w</i>	- 16b value
----	----------	-------------

Returns

Swapped value

Here is the caller graph for this function:



4.3.2.6 SWAP_END16B_TAB()

```
void SWAP_END16B_TAB (
    uint16_t tab[],
    uint16_t nb ) [inline]
```

Swap endians of a 16b tab.

Parameters

in	<i>tab</i>	- tab of 16b values
in	<i>nb</i>	- nb of values in tab

Here is the call graph for this function:



4.3.2.7 SWAP_END32B()

```
uint32_t SWAP_END32B (
    uint32_t d ) [inline]
```

Swap endians of the contents of a 32b value.

Parameters

in	<i>d</i>	- 32b value
----	----------	-------------

Returns

Swapped value

Here is the call graph for this function:



Here is the caller graph for this function:



4.3.2.8 SWAP_END32B_TAB()

```
void SWAP_END32B_TAB (
    uint32_t tab[],
    uint16_t nb ) [inline]
```

Swap endians of a 32b tab.

Parameters

in	<i>tab</i>	- tab of 32b values
in	<i>nb</i>	- nb of values in tab

Here is the call graph for this function:



4.3.2.9 TPSINF_MS()

```
bool TPSINF_MS (
    uint32_t val,
    uint32_t time ) [inline]
```

Tests if stored time value has not reached time lapse in ms.

Parameters

in	<i>val</i>	- stored time value
in	<i>time</i>	- time lapse (in ms)

Returns

true if time not elapsed

4.3.2.10 TPSSUP_MS()

```
bool TPSSUP_MS (
    uint32_t val,
    uint32_t time ) [inline]
```

Tests if stored time value has reached time lapse in ms.

Parameters

in	<i>val</i>	- stored time value
in	<i>time</i>	- time lapse (in ms)

Returns

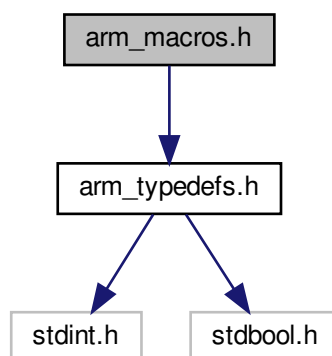
true if time elapsed

4.4 arm_macros.h File Reference

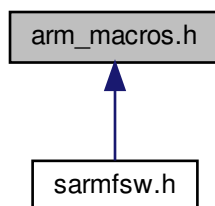
ARM common macros.

```
#include "arm_typedefs.h"
```

Include dependency graph for arm_macros.h:



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



Macros

- `#define Undefined -1`
Undefined value.
- `#define Null 0`
Null Value.
- `#define pNull (void *) 0`
Null pointer -> same as NULL in Stdlib.h.
- `#define charNUL '\0'`
Null Char.
- `#define MAKEWORD(b1, b2) (((WORD) (((BYTE) (b1)) | ((WORD) ((BYTE) (b2))) * 0x100))`
*Make WORD from **b1** and **b2** with **b1** as LSB.*
- `#define MAKELONG(w1, w2) (((DWORD) (((WORD) (w1)) | ((DWORD) ((WORD) (w2))) * 0x10000))`
*Make LONG from **w1** and **w2** with **w1** as LSB.*
- `#define LOWORD(l) ((WORD) (l))`
*Get WORD LSW from LONG **l**.*
- `#define HIWORD(l) ((WORD) ((DWORD) (l) / 0x10000))`
*Get WORD MSW from LONG **l**.*
- `#define LOBYTE(w) ((BYTE) (w))`
*Get BYTE LSB from WORD **w**.*
- `#define HIBYTE(w) ((BYTE) ((WORD) (w) / 0x100))`
*Get BYTE MSB from WORD **w**.*
- `#define BYTE_TO_PERC(b) ((BYTE) (((b) * 100) / 255))`
*Converts a BYTE **b** (0-255) to percent (0-100)*
- `#define PERC_TO_BYTE(p) ((BYTE) (((p) > 100 ? 100 : (p)) * 255 / 100))`
*Converts a BYTE **p** percentage (0-100) to BYTE (0-255) with max checking.*
- `#define OFFSET_OF(typ, mbr) ((size_t) &(((typ*)0)->mbr))`
*Computes the offset member **mbr** from struct **typ**.*
- `#define SZ_OBJ(obj, typ) (sizeof(obj) / sizeof(typ))`
*Computes the number of elements of **obj** following **typ**.*
- `#define CAT(a, b) a##b`
Preprocessor Name concatenation.
- `#define XCAT(a, b) CAT(a, b)`
Preprocessor Name concatenation (possible nesting)
- `#define STR(s) ("\" #s)`

- *Stringify an expression.*
- #define **binEval**(exp) ((exp) ? true : false)
*boolean evaluation of expression **exp***
- #define **nbinEval**(exp) (!**binEval**(exp))
*complemented boolean evaluation of expression **exp***
- #define **max**(a, b) ((a) >= (b) ? (a) : (b))
*Returns max value between **a** and **b**.*
- #define **min**(a, b) ((a) <= (b) ? (a) : (b))
*Returns min value between **a** and **b**.*
- #define **MIN3**(a, b, c) ((b) <= (c) ? ((a) <= (b) ? (a) : (b)) : ((a) <= (c) ? (a) : (c)))
*Returns max value between **a**, **b** and **c**.*
- #define **MAX3**(a, b, c) ((b) >= (c) ? ((a) >= (b) ? (a) : (b)) : ((a) >= (c) ? (a) : (c)))
*Returns min value between **a**, **b** and **c**.*
- #define **CLAMP**(v, **min**, **max**) ((v) < (**min**) ? (**min**) : ((v) > (**max**) ? (**max**) : (v)))
*Returns the value between **min** and **max** from **val**.*
- #define **OneThird** ((float) (1.0 / 3.0))
1/3 approximation
- #define **TwoThird** ((float) (2.0 / 3.0))
2/3 approximation
- #define **Pi** 3.141593f
*Approximate Pi calculation (4 * atan(1))*
- #define **RADIAN_TO_FLOAT**(r) ((float) (((r) > 2***Pi** ? 2***Pi** : (r)) / 2***Pi**))
- #define **FLOAT_TO_RADIAN**(f) ((float) (((f) > 1.0f ? 1.0f : (f)) < 0.0f ? 0.0f : (f)) * 2***Pi**)
- #define **DEGREE_TO_FLOAT**(d) ((float) (((d) > 360.0f ? 360.0f : (d)) / 360.0f))
- #define **FLOAT_TO_DEGREE**(f) ((float) (((f) > 1.0f ? 1.0f : (f)) < 0.0f ? 0.0f : (f)) * 360.0f))
- #define **SWAP_BYTE**(a, b) { **BYTE** c; c = a; a = b; b = c; }
*Swap BYTES **a** & **b**.*
- #define **SWAP_WORD**(a, b) { **WORD** c; c = a; a = b; b = c; }
*Swap WORDs **a** & **b**.*
- #define **SWAP_DWORD**(a, b) { **DWORD** c; c = a; a = b; b = c; }
*Swap DWORDs **a** & **b**.*

4.4.1 Detailed Description

ARM common macros.

Author

SMFSW

Date

2017

Copyright

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4.4.2 Macro Definition Documentation

4.4.2.1 binEval

```
#define binEval(  
    exp ) ((exp) ? true : false)
```

boolean evaluation of expression **exp**

4.4.2.2 BYTE_TO_PERC

```
#define BYTE_TO_PERC(  
    b ) ((BYTE) (((b) * 100) / 255))
```

Converts a BYTE **b** (0-255) to percent (0-100)

4.4.2.3 CAT

```
#define CAT(  
    a,  
    b ) a##b
```

Preprocessor Name concatenation.

Warning

No nesting possible, use *XCAT* in this case

4.4.2.4 charNUL

```
#define charNUL '\0'
```

Null Char.

4.4.2.5 CLAMP

```
#define CLAMP(  
    v,  
    min,  
    max ) ((v) < (min) ? (min) : ((v) > (max) ? (max) : (v)))
```

Returns the value between **min** and **max** from **val**.

4.4.2.6 DEGREE_TO_FLOAT

```
#define DEGREE_TO_FLOAT(  
    d ) ((float) (((d) > 360.0f ? 360.0f : (d)) / 360.0f))
```

4.4.2.7 FLOAT_TO_DEGREE

```
#define FLOAT_TO_DEGREE(  
    f ) ((float) (((f) > 1.0f ? 1.0f : (f)) < 0.0f ? 0.0f : (f)) * 360.0f))
```

4.4.2.8 FLOAT_TO_RADIAN

```
#define FLOAT_TO_RADIAN(  
    f ) ((float) (((f) > 1.0f ? 1.0f : (f)) < 0.0f ? 0.0f : (f)) * 2*Pi)
```

4.4.2.9 HIBYTE

```
#define HIBYTE(  
    w ) ((BYTE) ((WORD) (w) / 0x100))
```

Get BYTE MSB from WORD **w**.

4.4.2.10 HIWORD

```
#define HIWORD(  
    l ) ((WORD) ((DWORD) (l) / 0x10000))
```

Get WORD MSW from LONG **l**.

4.4.2.11 LOBYTE

```
#define LOBYTE(  
    w ) ((BYTE) (w))
```

Get BYTE LSB from WORD **w**.

4.4.2.12 LOWORD

```
#define LOWORD(  
    l ) ((WORD) (l))
```

Get WORD LSW from LONG **l**.

4.4.2.13 MAKELONG

```
#define MAKELONG(  
    w1,  
    w2 ) ((DWORD) (((WORD) (w1)) | ((DWORD) ((WORD) (w2))) * 0x10000))
```

Make LONG from **w1** and **w2** with **w1** as LSB.

4.4.2.14 MAKEWORD

```
#define MAKEWORD(  
    b1,  
    b2 ) ((WORD) (((BYTE) (b1)) | ((WORD) ((BYTE) (b2))) * 0x100))
```

Make WORD from **b1** and **b2** with **b1** as LSB.

4.4.2.15 max

```
#define max(  
    a,  
    b ) ((a) >= (b) ? (a) : (b))
```

Returns max value between **a** and **b**.

4.4.2.16 MAX3

```
#define MAX3(  
    a,  
    b,  
    c ) ((b) >= (c) ? ((a) >= (b) ? (a) : (b)) : ((a) >= (c) ? (a) : (c)))
```

Returns min value between **a**, **b** and **c**.

4.4.2.17 min

```
#define min(  
    a,  
    b ) ((a) <= (b) ? (a) : (b))
```

Returns min value between **a** and **b**.

4.4.2.18 MIN3

```
#define MIN3(  
    a,  
    b,  
    c ) ((b) <= (c) ? ((a) <= (b) ? (a) : (b)) : ((a) <= (c) ? (a) : (c)))
```

Returns max value between **a**, **b** and **c**.

4.4.2.19 nbinEval

```
#define nbinEval(  
    exp ) (!binEval(exp))
```

complemented boolean evaluation of expression **exp**

4.4.2.20 Null

```
#define Null 0
```

Null Value.

4.4.2.21 OFFSET_OF

```
#define OFFSET_OF(  
    typ,  
    mbr ) ((size_t) &(((typ*)0)->mbr))
```

Computes the offset member **mbr** from struct **typ**.

4.4.2.22 OneThird

```
#define OneThird ((float) (1.0 / 3.0))
```

1/3 approximation

4.4.2.23 PERC_TO_BYTE

```
#define PERC_TO_BYTE(  
    p ) ((BYTE) (((p) > 100 ? 100 : (p)) * 255 / 100))
```

Converts a BYTE **p** percentage (0-100) to BYTE (0-255) with max checking.

4.4.2.24 Pi

```
#define Pi 3.141593f
```

Approximate Pi calculation ($4 * \text{atan}(1)$)

4.4.2.25 pNull

```
#define pNull (void *) 0
```

Null pointer -> same as NULL in Stdlib.h.

4.4.2.26 RADIAN_TO_FLOAT

```
#define RADIAN_TO_FLOAT(  
    r ) ((float) ((r) > 2*Pi ? 2*Pi : (r)) / 2*Pi)
```

4.4.2.27 STR

```
#define STR(  
    s ) (" " #s)
```

Stringify an expression.

4.4.2.28 SWAP_BYTE

```
#define SWAP_BYTE(  
    a,  
    b ) { BYTE c; c = a; a = b; b = c; }
```

Swap BYTES **a** & **b**.

4.4.2.29 SWAP_DWORD

```
#define SWAP_DWORD(  
    a,  
    b ) { DWORD c; c = a; a = b; b = c; }
```

Swap DWORDs **a** & **b**.

4.4.2.30 SWAP_WORD

```
#define SWAP_WORD(  
    a,  
    b ) { WORD c; c = a; a = b; b = c; }
```

Swap WORDs **a** & **b**.

4.4.2.31 SZ_OBJ

```
#define SZ_OBJ(  
    obj,  
    typ ) (sizeof(obj) / sizeof(typ))
```

Computes the number of elements of **obj** following **typ**.

4.4.2.32 TwoThird

```
#define TwoThird ((float) (2.0 / 3.0))
```

2/3 approximation

4.4.2.33 Undefined

```
#define Undefined -1
```

Undefined value.

4.4.2.34 XCAT

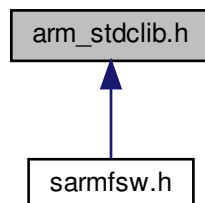
```
#define XCAT(  
    a,  
    b ) CAT(a, b)
```

Preprocessor Name concatenation (possible nesting)

4.5 arm_stdclib.h File Reference

ARM common standard c library wrapper macros.

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



Macros

- `#define printExpr(e) (printf("%s = %d\r\n", #e, (e)))`
*Print expression **e** and it's result **e** using printf.*
- `#define verblnstr(i) (printf(" " #i), (i))`
*Print instruction **e** and execute it.*
- `#define str_clr(s) (s[0] = '\0')`
*clear string **s** (fast way)*
- `#define str_clr_safe(s) (memset('\0', s, sizeof(s)))`
*clear string **s** (safe way)*
- `#define str_add_tab(s) (strcat(s, '\t'))`
Adding tab to string using strcat.
- `#define str_add_cr(s) (strcat(s, '\r\n'))`
Adding new line to string using strcat.
- `#define VerboseInc(x) (puts("Incrementing " #x), (x)++)`
Increment example using puts.
- `#define TestMalloc(x) ((x) = malloc(sizeof(*x)), assert(x))`
Asserted malloc.

4.5.1 Detailed Description

ARM common standard c library wrapper macros.

Author

SMFSW

Date

2017

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4.5.2 Macro Definition Documentation

4.5.2.1 printExpr

```
#define printExpr(  
    e ) (printf("%s = %d\r\n", #e, (e)))
```

Print expression **e** and it's result **e** using printf.

4.5.2.2 str_add_cr

```
#define str_add_cr(  
    s ) (strcat(s, '\r\n'))
```

Adding new line to string using strcat.

4.5.2.3 str_add_tab

```
#define str_add_tab(  
    s ) (strcat(s, '\t'))
```

Adding tab to string using strcat.

4.5.2.4 str_clr

```
#define str_clr(  
    s ) (s[0] = '\0')
```

clear string **s** (fast way)

4.5.2.5 str_clr_safe

```
#define str_clr_safe(  
    s ) (memset('\0', s, sizeof(s)))
```

clear string **s** (safe way)

4.5.2.6 TestMalloc

```
#define TestMalloc(  
    x ) ((x) = malloc(sizeof(*x)), assert(x))
```

Asserted malloc.

4.5.2.7 verbInstr

```
#define verbInstr(  
    i ) (printf(" " #i), (i))
```

Print instruction **e** and execute it.

4.5.2.8 VerboseInc

```
#define VerboseInc(
    x ) (puts("Incrementing " #x), (x)++)
```

Increment example using puts.

4.6 arm_stm32.h File Reference

ARM common macros for STM32.

Macros

- #define [port](#)(mnem) [XCAT](#)(mnem, _GPIO_Port)
Wrapper for PORT Alias.
- #define [pin](#)(mnem) [XCAT](#)(mnem, _Pin)
Wrapper for PIN Alias.
- #define [gpio](#)(mnem) [port](#)(mnem), [pin](#)(mnem)
Wrapper for PORT/PIN Alias (when using HAL_GPIO_ReadPin for example)
- #define [STM_HEADER](#)(f) [XCAT](#)(<stm32, [XCAT](#)(f, xx.h>))
*concatenate <stm32(f)xx.h> name following stm family **f***
- #define [STM_CONF_HEADER](#)(f) [XCAT](#)(<stm32, [XCAT](#)(f, xx_hal.h>))
*concatenate <stm32(f)xx_hal.h> name following stm family **f***
- #define [STM32_INC](#) [STM_HEADER](#)(STM_FAMILY)
Alias for STM32 include.
- #define [STM32_CFG](#) [STM_CONF_HEADER](#)(STM_FAMILY)
Alias for STM32 include.

4.6.1 Detailed Description

ARM common macros for STM32.

Author

SMFSW

Date

2017

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4.6.2 Macro Definition Documentation

4.6.2.1 gpio

```
#define gpio(  
    mnem ) port(mnem), pin(mnem)
```

Wrapper for PORT/PIN Alias (when using HAL_GPIO_ReadPin for example)

4.6.2.2 pin

```
#define pin(  
    mnem ) XCAT(mnem, _Pin)
```

Wrapper for PIN Alias.

4.6.2.3 port

```
#define port(  
    mnem ) XCAT(mnem, _GPIO_Port)
```

Wrapper for PORT Alias.

4.6.2.4 STM32_CFG

```
#define STM32_CFG STM_CONF_HEADER(STM_FAMILY)
```

Alias for STM32 include.

4.6.2.5 STM32_INC

```
#define STM32_INC STM_HEADER(STM_FAMILY)
```

Alias for STM32 include.

4.6.2.6 STM_CONF_HEADER

```
#define STM_CONF_HEADER(  
    f ) XCAT(<stm32, XCAT(f, xx_hal.h>))
```

concatenate <stm32(*f*)xx_hal.h> name following stm family *f*

4.6.2.7 STM_HEADER

```
#define STM_HEADER(  
    f ) XCAT(<stm32, XCAT(f, xx.h)>)
```

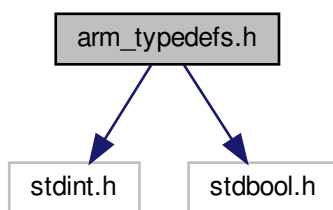
concatenate <stm32(f)xx.h> name following stm family **f**

4.7 arm_typedefs.h File Reference

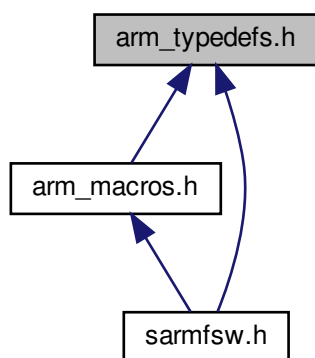
ARM common typedefs.

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

Include dependency graph for arm_typedefs.h:



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



Classes

- struct [StructBitfield8](#)
Bitfield 8b.
- struct [StructBitfield16](#)
Bitfield 16b.
- struct [StructBitfield32](#)
Bitfield 32b.
- struct [StructBitfield64](#)
Bitfield 64b.
- union [UnionByte](#)
Union for BYTE.
- union [UnionWord](#)
Union for WORD.
- union [UnionDWord](#)
Union for DWORD.
- union [UnionLWord](#)
Union for LWORD.

Typedefs

- typedef char [CHAR](#)
Char typedef (8bits)
- typedef uint8_t [BYTE](#)
Unsigned Byte typedef (8bits)
- typedef uint16_t [WORD](#)
Unsigned Word typedef (16bits)
- typedef uint32_t [DWORD](#)
Unsigned dWord typedef (32bits)
- typedef uint64_t [LWORD](#)
Unsigned lWord typedef (64bits)
- typedef int8_t [SBYTE](#)
Signed Byte typedef (8bits)
- typedef int16_t [SWORD](#)
Signed Word typedef (16bits)
- typedef int32_t [SDWORD](#)
Signed dWord typedef (32bits)
- typedef int64_t [SLWORD](#)
Signed lWord typedef (64bits)
- typedef enum [eState](#) [eState](#)
- typedef enum [eEdge](#) [eEdge](#)
- typedef struct [StructBitfield8](#) [sBitfield8](#)
- typedef struct [StructBitfield16](#) [sBitfield16](#)
- typedef struct [StructBitfield32](#) [sBitfield32](#)
- typedef struct [StructBitfield64](#) [sBitfield64](#)
- typedef union [UnionByte](#) [uByte](#)
- typedef union [UnionWord](#) [uWord](#)
- typedef union [UnionDWord](#) [uDWord](#)
- typedef union [UnionLWord](#) [uLWord](#)

Enumerations

- enum `eState` { `Off` = 0U, `On` = 1U }
Activation state On, Off.
- enum `eEdge` { `NoEdge` = 0, `Rising`, `Falling` }
Signal Edges.

4.7.1 Detailed Description

ARM common typedefs.

Author

SMFSW

Date

2017

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4.7.2 Typedef Documentation

4.7.2.1 BYTE

```
typedef uint8_t BYTE
```

Unsigned Byte typedef (8bits)

4.7.2.2 CHAR

```
typedef char CHAR
```

Char typedef (8bits)

4.7.2.3 DWORD

```
typedef uint32_t DWORD
```

Unsigned dWord typedef (32bits)

4.7.2.4 eEdge

```
typedef enum eEdge eEdge
```

4.7.2.5 eState

```
typedef enum eState eState
```

4.7.2.6 LWORD

```
typedef uint64_t LWORD
```

Unsigned lword typedef (64bits)

4.7.2.7 sBitfield16

```
typedef struct StructBitfield16 sBitfield16
```

4.7.2.8 sBitfield32

```
typedef struct StructBitfield32 sBitfield32
```

4.7.2.9 sBitfield64

```
typedef struct StructBitfield64 sBitfield64
```

4.7.2.10 sBitfield8

```
typedef struct StructBitfield8 sBitfield8
```

4.7.2.11 SBYTE

```
typedef int8_t SBYTE
```

Signed Byte typedef (8bits)

4.7.2.12 SDWORD

```
typedef int32_t SDWORD
```

Signed dWord typedef (32bits)

4.7.2.13 SLWORD

```
typedef int64_t SLWORD
```

Signed lWord typedef (64bits)

4.7.2.14 SWORD

```
typedef int16_t SWORD
```

Signed Word typedef (16bits)

4.7.2.15 uByte

```
typedef union UnionByte uByte
```

4.7.2.16 uDWord

```
typedef union UnionDWord uDWord
```

4.7.2.17 uLWord

```
typedef union UnionLWord uLWord
```

4.7.2.18 uWord

```
typedef union UnionWord uWord
```

4.7.2.19 WORD

```
typedef uint16_t WORD
```

Unsigned Word typedef (16bits)

4.7.3 Enumeration Type Documentation

4.7.3.1 eEdge

```
enum eEdge
```

Signal Edges.

Enumerator

NoEdge	No change.
Rising	Rising edge.
Falling	Falling edge.

4.7.3.2 eState

enum `eState`

Activation state On, Off.

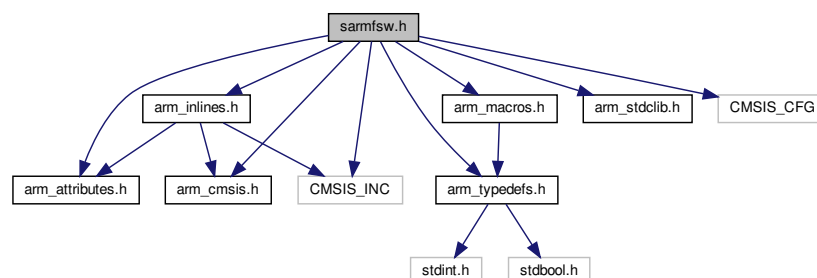
Enumerator

Off	Off / Clear.
On	On / Set.

4.8 sarmfsw.h File Reference

ARM common headers for projects.

```
#include "arm_attributes.h"
#include "arm_typedefs.h"
#include "arm_macros.h"
#include "arm_stdclib.h"
#include "arm_cmsis.h"
#include <CMSIS_INC>
#include <CMSIS_CFG>
#include "arm_inlines.h"
Include dependency graph for sarmfsw.h:
```



Typedefs

- typedef enum `FW_target` `FW_target`

Enumerations

- enum `FW_target` {
 `DefSpecialTarget` = 0, `DefDebugTarget`, `DefReleaseTarget`, `DefFUBARTarget`,
 `DefUnknownTarget` = 0xFF }
 Firmware target types.

4.8.1 Detailed Description

ARM common headers for projects.

Author

SMFSW

Date

2017

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4.8.2 Typedef Documentation

4.8.2.1 `FW_target`

```
typedef enum FW_target FW_target
```

4.8.3 Enumeration Type Documentation

4.8.3.1 `FW_target`

```
enum FW_target
```

Firmware target types.

Enumerator

<code>DefSpecialTarget</code>	Special FW target (same as debug, yet)
<code>DefDebugTarget</code>	Debug FW target (default)
<code>DefReleaseTarget</code>	Release FW target (No debug information)
<code>DefFUBARTarget</code>	FUBAR FW target (shall be used only for stress/testing purposes)
<code>DefUnknownTarget</code>	Unknown FW target (should never happen!)

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