|  |  |
| --- | --- |
| **BmUsr SW Detailed Design (DD)** | |
| **Summary** | Software Detailed Design Document of the BmUsr Component |

|  |  |  |
| --- | --- | --- |
| **Author** | **Review** | **Approval** |
| Title: Andreea Suiu | See Project Master Document for the roles and Project Members List for the name of people | See Project Master Document for the roles and Project Members List for the name of people |
|  |  |  |
| **Distribution** | | |
| See Project Master Document for the roles and Project Members List for the name of people | See Project Master Document for the roles and Project Members List for the name of people | See Project Master Document for the roles and Project Members List for the name of people |

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# General Information

## Revision history \*

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Date** | **Author(s)** | **Description/comment** |
| 1.0. | 20.01.2023 | Andreea Suiu | First revision. |
|  |  |  |  |
|  |  |  |  |

*\* Template history is found in the CM tool used for templates*

## Purpose and Scope

The purpose of this document is to provide an overview of the BmsUsr SW Component operation principle, and to present the implementation choices in terms of module and function splitting.

## Referenced documents

### External documents

|  |  |  |
| --- | --- | --- |
| **Id** | **Title** | **Reference** |
|  |  |  |
|  |  |  |
|  |  |  |

### Internal Documents

|  |  |  |
| --- | --- | --- |
| **Id** | **Title** | **Reference** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

## Terminology and definitions

The generic acronyms are available in the [AEM process and method wiki](https://alvteams.alv.autoliv.int/sites/aeuaeequalityassurance/AEM%20Process%20wiki/acronyms.aspx)

|  |  |
| --- | --- |
| **Terminology** | **Meaning** |
| AAU | Atomic architectural unit |
| SW | software |
|  |  |

# SW Module Detailed Design

## Overview

The aim of this software component is to check the presence and the validity based on a pattern and jump to the bootloader component. Also, the component checks the presence and the validity and jump to the bootloader updater component/application.

## Traceability

# Features

## Services

### main

|  |  |  |  |
| --- | --- | --- | --- |
| Object | | | |
| Function used to jump to bootloader updater program or to bootloader. | | | |
| **Prototype** | | | |
| int main () | | | |
| **Parameters** | | | |
| None. | | | |
| **Input parameters** | | | |
| Name | Type | Description | Range |
| NA | NA | NA | NA |
| **Output parameters** | | | |
| Name | Type | Description | Range |
| NA | NA | NA | NA |
| **Return value** | | | |
| Type | Description | | |
| int | None. | | |
| **Dynamic aspect** | | | |
| Who(callers) | Description | | |
| \* | None. | | |
| **Static aspect** | | | |
| \* | | | |
| **Constrains** | | | |
| None. | | | |



## Variabiles

### kaucPattern

|  |  |  |
| --- | --- | --- |
| Type | Value |  |
| const uint8 | {0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0x50, 0x52, 0x4F, 0x47, 0x52, 0x41, 0x4d, 0x4d} | |
| **Description** | | |
| Bootloader pattern used to check bootloader validity. | | |
| **Definition** | | |
| LOCAL const uint8 kaucPattern[sizeof(aucPattern)] = {0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0x50, 0x52, 0x4F, 0x47, 0x52, 0x41, 0x4d, 0x4d} | | |

### pAPPL\_START\_ADDR

|  |  |  |
| --- | --- | --- |
| Type | Value |  |
| ptAPPL\_START\_ADDR | NA | |
| **Description** | | |
| Variable used for the address of the bootloader updater to jump to. | | |
| **Definition** | | |
| LOCAL ptAPPL\_START\_ADDR pAPPL\_START\_ADDR | | |

### pBTL\_START\_ADDR

|  |  |  |
| --- | --- | --- |
| Type | Value |  |
| ptAPPL\_START\_ADDR | NA | |
| **Description** | | |
| Variable used for the address of the bootloader to jump to. | | |
| **Definition** | | |
| LOCAL ptAPPL\_START\_ADDR pBTL\_START\_ADDR | | |

## Macros

### \_\_AT

|  |  |
| --- | --- |
| Name | Value |
| \_\_AT | @ |
| **Definition** | |
| #define \_\_AT @ | |
| **Description** | |
| NA | |

### B\_FALSE

|  |  |
| --- | --- |
| Name | Value |
| B\_FALSE | ((boolean)0x55) |
| **Definition** | |
| #define B\_FALSE ((boolean)0x55) | |
| **Description** | |
| NA | |

### B\_TRUE

|  |  |
| --- | --- |
| Name | Value |
| B\_TRUE | ((boolean)0xAA) |
| **Definition** | |
| #define B\_TRUE ((boolean)0xAA) | |
| **Description** | |
| NA | |

### EXPORTED

|  |  |
| --- | --- |
| Name | Value |
| EXPORTED | NA |
| **Definition** | |
| #define EXPORTED | |
| **Description** | |
| NA | |

### KB\_FALSE

|  |  |
| --- | --- |
| Name | Value |
| KB\_FALSE | ((boolean)0) |
| **Definition** | |
| #define KB\_FALSE ((boolean)0) | |
| **Description** | |
| NA | |

### KB\_TRUE

|  |  |
| --- | --- |
| Name | Value |
| KB\_TRUE | ((boolean)0x01u) |
| **Definition** | |
| #define KB\_TRUE ((boolean)0x01u) | |
| **Description** | |
| NA | |

### KB\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KB\_ZERO | ((boolean) 0) |
| **Definition** | |
| #define KB\_ZERO ((boolean) 0) | |
| **Description** | |
| !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! !! Remaining specific use cases (to be cleaned) !! !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! | |

### KPF\_NULL

|  |  |
| --- | --- |
| Name | Value |
| KPF\_NULL | ((void \*) 0) |
| **Definition** | |
| #define KPF\_NULL ((void \*) 0) | |
| **Description** | |
| NA | |

### KPU8\_NULL

|  |  |
| --- | --- |
| Name | Value |
| KPU8\_NULL | ((uint8\*) 0) |
| **Definition** | |
| #define KPU8\_NULL ((uint8\*) 0) | |
| **Description** | |
| NA | |

### KS16\_MAX

|  |  |
| --- | --- |
| Name | Value |
| KS16\_MAX | ((sint16) 32767) |
| **Definition** | |
| #define KS16\_MAX ((sint16) 32767) | |
| **Description** | |
| NA | |

### KS16\_MAX\_S8

|  |  |
| --- | --- |
| Name | Value |
| KS16\_MAX\_S8 | ((sint16) 127) /\* 0x007F \*/ |
| **Definition** | |
| #define KS16\_MAX\_S8 ((sint16) 127) /\* 0x007F \*/ | |
| **Description** | |
| NA | |

### KS16\_MIN

|  |  |
| --- | --- |
| Name | Value |
| KS16\_MIN | ((sint16) (-32767)) |
| **Definition** | |
| #define KS16\_MIN ((sint16) (-32767)) | |
| **Description** | |
| NA | |

### KS16\_MIN\_S8

|  |  |
| --- | --- |
| Name | Value |
| KS16\_MIN\_S8 | ((sint16) -128) /\* 0xFF80 \*/ |
| **Definition** | |
| #define KS16\_MIN\_S8 ((sint16) -128) /\* 0xFF80 \*/ | |
| **Description** | |
| NA | |

### KS16\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KS16\_ZERO | ((sint16) 0) |
| **Definition** | |
| #define KS16\_ZERO ((sint16) 0) | |
| **Description** | |
| NA | |

### KS32\_MAX

|  |  |
| --- | --- |
| Name | Value |
| KS32\_MAX | ((sint32) 2147483647) |
| **Definition** | |
| #define KS32\_MAX ((sint32) 2147483647) | |
| **Description** | |
| NA | |

### KS32\_MAX\_S16

|  |  |
| --- | --- |
| Name | Value |
| KS32\_MAX\_S16 | ((sint32) 32767) |
| **Definition** | |
| #define KS32\_MAX\_S16 ((sint32) 32767) | |
| **Description** | |
| NA | |

### KS32\_MAX\_U16

|  |  |
| --- | --- |
| Name | Value |
| KS32\_MAX\_U16 | ((sint32) 0xFFFF) |
| **Definition** | |
| #define KS32\_MAX\_U16 ((sint32) 0xFFFF) | |
| **Description** | |
| NA | |

### KS32\_MAX\_U8

|  |  |
| --- | --- |
| Name | Value |
| KS32\_MAX\_U8 | ((sint32) 0xFF) |
| **Definition** | |
| #define KS32\_MAX\_U8 ((sint32) 0xFF) | |
| **Description** | |
| NA | |

### KS32\_MIN

|  |  |
| --- | --- |
| Name | Value |
| KS32\_MIN | ((sint32) (-2147483647)) |
| **Definition** | |
| #define KS32\_MIN ((sint32) (-2147483647)) | |
| **Description** | |
| NA | |

### KS32\_MIN\_S16

|  |  |
| --- | --- |
| Name | Value |
| KS32\_MIN\_S16 | ((sint32) -32768) |
| **Definition** | |
| #define KS32\_MIN\_S16 ((sint32) -32768) | |
| **Description** | |
| NA | |

### KS32\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KS32\_ZERO | ((sint32) 0) |
| **Definition** | |
| #define KS32\_ZERO ((sint32) 0) | |
| **Description** | |
| NA | |

### KS8\_MAX

|  |  |
| --- | --- |
| Name | Value |
| KS8\_MAX | ((uint8) 127) |
| **Definition** | |
| #define KS8\_MAX ((uint8) 127) | |
| **Description** | |
| NA | |

### KS8\_MIN

|  |  |
| --- | --- |
| Name | Value |
| KS8\_MIN | ((sint8) (-127)) |
| **Definition** | |
| #define KS8\_MIN ((sint8) (-127)) | |
| **Description** | |
| NA | |

### KS8\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KS8\_ZERO | ((sint8) 0x00) |
| **Definition** | |
| #define KS8\_ZERO ((sint8) 0x00) | |
| **Description** | |
| NA | |

### KU16\_MASK\_BYTE\_HIGH

|  |  |
| --- | --- |
| Name | Value |
| KU16\_MASK\_BYTE\_HIGH | ((uint16) 0xFF00) |
| **Definition** | |
| #define KU16\_MASK\_BYTE\_HIGH ((uint16) 0xFF00) | |
| **Description** | |
| NA | |

### KU16\_MASK\_BYTE\_LOW

|  |  |
| --- | --- |
| Name | Value |
| KU16\_MASK\_BYTE\_LOW | ((uint16) 0x00FF) |
| **Definition** | |
| #define KU16\_MASK\_BYTE\_LOW ((uint16) 0x00FF) | |
| **Description** | |
| NA | |

### KU16\_MAX

|  |  |
| --- | --- |
| Name | Value |
| KU16\_MAX | ((uint16) 65535) |
| **Definition** | |
| #define KU16\_MAX ((uint16) 65535) | |
| **Description** | |
| NA | |

### KU16\_MAX\_U8

|  |  |
| --- | --- |
| Name | Value |
| KU16\_MAX\_U8 | ((uint16) 0xFF) |
| **Definition** | |
| #define KU16\_MAX\_U8 ((uint16) 0xFF) | |
| **Description** | |
| NA | |

### KU16\_MIN

|  |  |
| --- | --- |
| Name | Value |
| KU16\_MIN | ((uint16) 0) |
| **Definition** | |
| #define KU16\_MIN ((uint16) 0) | |
| **Description** | |
| NA | |

### KU16\_ONE

|  |  |
| --- | --- |
| Name | Value |
| KU16\_ONE | ((uint16) 0x0001) |
| **Definition** | |
| #define KU16\_ONE ((uint16) 0x0001) | |
| **Description** | |
| NA | |

### KU16\_THREE

|  |  |
| --- | --- |
| Name | Value |
| KU16\_THREE | ((uint16) 0x0003) |
| **Definition** | |
| #define KU16\_THREE ((uint16) 0x0003) | |
| **Description** | |
| NA | |

### KU16\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU16\_ZERO | ((uint16) 0) |
| **Definition** | |
| #define KU16\_ZERO ((uint16) 0) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_0

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_0 | ((uint32) 0x01uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_0 ((uint32) 0x01uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_1

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_1 | ((uint32) 0x02uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_1 ((uint32) 0x02uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_10

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_10 | ((uint32) 0x400uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_10 ((uint32) 0x400uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_11

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_11 | ((uint32) 0x800uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_11 ((uint32) 0x800uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_12

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_12 | ((uint32) 0x1000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_12 ((uint32) 0x1000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_13

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_13 | ((uint32) 0x2000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_13 ((uint32) 0x2000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_14

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_14 | ((uint32) 0x4000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_14 ((uint32) 0x4000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_15

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_15 | ((uint32) 0x8000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_15 ((uint32) 0x8000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_16

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_16 | ((uint32) 0x10000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_16 ((uint32) 0x10000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_17

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_17 | ((uint32) 0x20000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_17 ((uint32) 0x20000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_18

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_18 | ((uint32) 0x40000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_18 ((uint32) 0x40000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_19

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_19 | ((uint32) 0x80000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_19 ((uint32) 0x80000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_2

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_2 | ((uint32) 0x04uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_2 ((uint32) 0x04uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_20

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_20 | ((uint32) 0x100000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_20 ((uint32) 0x100000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_21

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_21 | ((uint32) 0x200000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_21 ((uint32) 0x200000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_22

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_22 | ((uint32) 0x400000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_22 ((uint32) 0x400000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_23

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_23 | ((uint32) 0x800000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_23 ((uint32) 0x800000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_24

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_24 | ((uint32) 0x1000000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_24 ((uint32) 0x1000000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_25

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_25 | ((uint32) 0x2000000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_25 ((uint32) 0x2000000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_26

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_26 | ((uint32) 0x4000000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_26 ((uint32) 0x4000000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_27

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_27 | ((uint32) 0x8000000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_27 ((uint32) 0x8000000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_28

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_28 | ((uint32) 0x10000000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_28 ((uint32) 0x10000000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_29

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_29 | ((uint32) 0x20000000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_29 ((uint32) 0x20000000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_3

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_3 | ((uint32) 0x08uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_3 ((uint32) 0x08uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_30

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_30 | ((uint32) 0x40000000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_30 ((uint32) 0x40000000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_31

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_31 | ((uint32) 0x80000000uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_31 ((uint32) 0x80000000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_4

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_4 | ((uint32) 0x10uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_4 ((uint32) 0x10uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_5

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_5 | ((uint32) 0x20uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_5 ((uint32) 0x20uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_6

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_6 | ((uint32) 0x40uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_6 ((uint32) 0x40uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_7

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_7 | ((uint32) 0x80uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_7 ((uint32) 0x80uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_8

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_8 | ((uint32) 0x100uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_8 ((uint32) 0x100uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BIT\_9

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BIT\_9 | ((uint32) 0x200uL) |
| **Definition** | |
| #define KU32\_MASK\_BIT\_9 ((uint32) 0x200uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BYTE\_HIGH

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BYTE\_HIGH | ((uint32) 0xFF000000uL) |
| **Definition** | |
| #define KU32\_MASK\_BYTE\_HIGH ((uint32) 0xFF000000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BYTE\_HIGH\_MIDDLE

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BYTE\_HIGH\_MIDDLE | ((uint32) 0x00FF0000uL) |
| **Definition** | |
| #define KU32\_MASK\_BYTE\_HIGH\_MIDDLE ((uint32) 0x00FF0000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BYTE\_LOW

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BYTE\_LOW | ((uint32) 0x000000FFuL) |
| **Definition** | |
| #define KU32\_MASK\_BYTE\_LOW ((uint32) 0x000000FFuL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_BYTE\_LOW\_MIDDLE

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_BYTE\_LOW\_MIDDLE | ((uint32) 0x0000FF00uL) |
| **Definition** | |
| #define KU32\_MASK\_BYTE\_LOW\_MIDDLE ((uint32) 0x0000FF00uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_WORD\_HIGH

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_WORD\_HIGH | ((uint32) 0xFFFF0000uL) |
| **Definition** | |
| #define KU32\_MASK\_WORD\_HIGH ((uint32) 0xFFFF0000uL) | |
| **Description** | |
| NA | |

### KU32\_MASK\_WORD\_LOW

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MASK\_WORD\_LOW | ((uint32) 0x0000FFFFuL) |
| **Definition** | |
| #define KU32\_MASK\_WORD\_LOW ((uint32) 0x0000FFFFuL) | |
| **Description** | |
| NA | |

### KU32\_MAX

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MAX | ((uint32) 4294967295uL) |
| **Definition** | |
| #define KU32\_MAX ((uint32) 4294967295uL) | |
| **Description** | |
| NA | |

### KU32\_MAX\_U16

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MAX\_U16 | ((uint32) 0xFFFFuL) |
| **Definition** | |
| #define KU32\_MAX\_U16 ((uint32) 0xFFFFuL) | |
| **Description** | |
| NA | |

### KU32\_MAX\_U8

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MAX\_U8 | ((uint32) 0x000000FF) |
| **Definition** | |
| #define KU32\_MAX\_U8 ((uint32) 0x000000FF) | |
| **Description** | |
| NA | |

### KU32\_MIN

|  |  |
| --- | --- |
| Name | Value |
| KU32\_MIN | ((uint32) 0) |
| **Definition** | |
| #define KU32\_MIN ((uint32) 0) | |
| **Description** | |
| NA | |

### KU32\_ONE

|  |  |
| --- | --- |
| Name | Value |
| KU32\_ONE | ((uint32) 0x00000001) |
| **Definition** | |
| #define KU32\_ONE ((uint32) 0x00000001) | |
| **Description** | |
| NA | |

### KU32\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU32\_ZERO | ((uint32) 0) |
| **Definition** | |
| #define KU32\_ZERO ((uint32) 0) | |
| **Description** | |
| NA | |

### KU8\_BIT\_0

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_0 | ((uint8) 0) |
| **Definition** | |
| #define KU8\_BIT\_0 ((uint8) 0) | |
| **Description** | |
| NA | |

### KU8\_BIT\_0\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_0\_ZERO | ((uint8) 0xFE) |
| **Definition** | |
| #define KU8\_BIT\_0\_ZERO ((uint8) 0xFE) | |
| **Description** | |
| NA | |

### KU8\_BIT\_1

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_1 | ((uint8) 1) |
| **Definition** | |
| #define KU8\_BIT\_1 ((uint8) 1) | |
| **Description** | |
| NA | |

### KU8\_BIT\_10

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_10 | ((uint8) 10) |
| **Definition** | |
| #define KU8\_BIT\_10 ((uint8) 10) | |
| **Description** | |
| NA | |

### KU8\_BIT\_11

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_11 | ((uint8) 11) |
| **Definition** | |
| #define KU8\_BIT\_11 ((uint8) 11) | |
| **Description** | |
| NA | |

### KU8\_BIT\_12

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_12 | ((uint8) 12) |
| **Definition** | |
| #define KU8\_BIT\_12 ((uint8) 12) | |
| **Description** | |
| NA | |

### KU8\_BIT\_13

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_13 | ((uint8) 13) |
| **Definition** | |
| #define KU8\_BIT\_13 ((uint8) 13) | |
| **Description** | |
| NA | |

### KU8\_BIT\_14

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_14 | ((uint8) 14) |
| **Definition** | |
| #define KU8\_BIT\_14 ((uint8) 14) | |
| **Description** | |
| NA | |

### KU8\_BIT\_15

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_15 | ((uint8) 15) |
| **Definition** | |
| #define KU8\_BIT\_15 ((uint8) 15) | |
| **Description** | |
| NA | |

### KU8\_BIT\_16

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_16 | ((uint8) 16) |
| **Definition** | |
| #define KU8\_BIT\_16 ((uint8) 16) | |
| **Description** | |
| NA | |

### KU8\_BIT\_17

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_17 | ((uint8) 17) |
| **Definition** | |
| #define KU8\_BIT\_17 ((uint8) 17) | |
| **Description** | |
| NA | |

### KU8\_BIT\_18

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_18 | ((uint8) 18) |
| **Definition** | |
| #define KU8\_BIT\_18 ((uint8) 18) | |
| **Description** | |
| NA | |

### KU8\_BIT\_19

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_19 | ((uint8) 19) |
| **Definition** | |
| #define KU8\_BIT\_19 ((uint8) 19) | |
| **Description** | |
| NA | |

### KU8\_BIT\_1\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_1\_ZERO | ((uint8) 0xFD) |
| **Definition** | |
| #define KU8\_BIT\_1\_ZERO ((uint8) 0xFD) | |
| **Description** | |
| NA | |

### KU8\_BIT\_2

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_2 | ((uint8) 2) |
| **Definition** | |
| #define KU8\_BIT\_2 ((uint8) 2) | |
| **Description** | |
| NA | |

### KU8\_BIT\_20

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_20 | ((uint8) 20) |
| **Definition** | |
| #define KU8\_BIT\_20 ((uint8) 20) | |
| **Description** | |
| NA | |

### KU8\_BIT\_21

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_21 | ((uint8) 21) |
| **Definition** | |
| #define KU8\_BIT\_21 ((uint8) 21) | |
| **Description** | |
| NA | |

### KU8\_BIT\_22

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_22 | ((uint8) 22) |
| **Definition** | |
| #define KU8\_BIT\_22 ((uint8) 22) | |
| **Description** | |
| NA | |

### KU8\_BIT\_23

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_23 | ((uint8) 23) |
| **Definition** | |
| #define KU8\_BIT\_23 ((uint8) 23) | |
| **Description** | |
| NA | |

### KU8\_BIT\_24

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_24 | ((uint8) 24) |
| **Definition** | |
| #define KU8\_BIT\_24 ((uint8) 24) | |
| **Description** | |
| NA | |

### KU8\_BIT\_25

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_25 | ((uint8) 25) |
| **Definition** | |
| #define KU8\_BIT\_25 ((uint8) 25) | |
| **Description** | |
| NA | |

### KU8\_BIT\_26

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_26 | ((uint8) 26) |
| **Definition** | |
| #define KU8\_BIT\_26 ((uint8) 26) | |
| **Description** | |
| NA | |

### KU8\_BIT\_27

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_27 | ((uint8) 27) |
| **Definition** | |
| #define KU8\_BIT\_27 ((uint8) 27) | |
| **Description** | |
| NA | |

### KU8\_BIT\_28

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_28 | ((uint8) 28) |
| **Definition** | |
| #define KU8\_BIT\_28 ((uint8) 28) | |
| **Description** | |
| NA | |

### KU8\_BIT\_29

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_29 | ((uint8) 29) |
| **Definition** | |
| #define KU8\_BIT\_29 ((uint8) 29) | |
| **Description** | |
| NA | |

### KU8\_BIT\_2\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_2\_ZERO | ((uint8) 0xFB) |
| **Definition** | |
| #define KU8\_BIT\_2\_ZERO ((uint8) 0xFB) | |
| **Description** | |
| NA | |

### KU8\_BIT\_3

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_3 | ((uint8) 3) |
| **Definition** | |
| #define KU8\_BIT\_3 ((uint8) 3) | |
| **Description** | |
| NA | |

### KU8\_BIT\_30

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_30 | ((uint8) 30) |
| **Definition** | |
| #define KU8\_BIT\_30 ((uint8) 30) | |
| **Description** | |
| NA | |

### KU8\_BIT\_31

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_31 | ((uint8) 31) |
| **Definition** | |
| #define KU8\_BIT\_31 ((uint8) 31) | |
| **Description** | |
| NA | |

### KU8\_BIT\_3\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_3\_ZERO | ((uint8) 0xF7) |
| **Definition** | |
| #define KU8\_BIT\_3\_ZERO ((uint8) 0xF7) | |
| **Description** | |
| NA | |

### KU8\_BIT\_4

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_4 | ((uint8) 4) |
| **Definition** | |
| #define KU8\_BIT\_4 ((uint8) 4) | |
| **Description** | |
| NA | |

### KU8\_BIT\_4\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_4\_ZERO | ((uint8) 0xEF) |
| **Definition** | |
| #define KU8\_BIT\_4\_ZERO ((uint8) 0xEF) | |
| **Description** | |
| NA | |

### KU8\_BIT\_5

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_5 | ((uint8) 5) |
| **Definition** | |
| #define KU8\_BIT\_5 ((uint8) 5) | |
| **Description** | |
| NA | |

### KU8\_BIT\_5\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_5\_ZERO | ((uint8) 0xDF) |
| **Definition** | |
| #define KU8\_BIT\_5\_ZERO ((uint8) 0xDF) | |
| **Description** | |
| NA | |

### KU8\_BIT\_6

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_6 | ((uint8) 6) |
| **Definition** | |
| #define KU8\_BIT\_6 ((uint8) 6) | |
| **Description** | |
| NA | |

### KU8\_BIT\_6\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_6\_ZERO | ((uint8) 0xBF) |
| **Definition** | |
| #define KU8\_BIT\_6\_ZERO ((uint8) 0xBF) | |
| **Description** | |
| NA | |

### KU8\_BIT\_7

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_7 | ((uint8) 7) |
| **Definition** | |
| #define KU8\_BIT\_7 ((uint8) 7) | |
| **Description** | |
| NA | |

### KU8\_BIT\_7\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_7\_ZERO | ((uint8) 0x7F) |
| **Definition** | |
| #define KU8\_BIT\_7\_ZERO ((uint8) 0x7F) | |
| **Description** | |
| NA | |

### KU8\_BIT\_8

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_8 | ((uint8) 8) |
| **Definition** | |
| #define KU8\_BIT\_8 ((uint8) 8) | |
| **Description** | |
| NA | |

### KU8\_BIT\_9

|  |  |
| --- | --- |
| Name | Value |
| KU8\_BIT\_9 | ((uint8) 9) |
| **Definition** | |
| #define KU8\_BIT\_9 ((uint8) 9) | |
| **Description** | |
| NA | |

### KU8\_EIGHT

|  |  |
| --- | --- |
| Name | Value |
| KU8\_EIGHT | ((uint8) 0x08) |
| **Definition** | |
| #define KU8\_EIGHT ((uint8) 0x08) | |
| **Description** | |
| NA | |

### KU8\_EIGHTEEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_EIGHTEEN | ((uint8) 0x12) |
| **Definition** | |
| #define KU8\_EIGHTEEN ((uint8) 0x12) | |
| **Description** | |
| NA | |

### KU8\_ELEVEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_ELEVEN | ((uint8) 0x0B) |
| **Definition** | |
| #define KU8\_ELEVEN ((uint8) 0x0B) | |
| **Description** | |
| NA | |

### KU8\_FALSE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_FALSE | ((boolean)0x55) |
| **Definition** | |
| #define KU8\_FALSE ((boolean)0x55) | |
| **Description** | |
| NA | |

### KU8\_FIFTEEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_FIFTEEN | ((uint8) 0x0F) |
| **Definition** | |
| #define KU8\_FIFTEEN ((uint8) 0x0F) | |
| **Description** | |
| NA | |

### KU8\_FIVE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_FIVE | ((uint8) 0x05) |
| **Definition** | |
| #define KU8\_FIVE ((uint8) 0x05) | |
| **Description** | |
| NA | |

### KU8\_FOUR

|  |  |
| --- | --- |
| Name | Value |
| KU8\_FOUR | ((uint8) 0x04) |
| **Definition** | |
| #define KU8\_FOUR ((uint8) 0x04) | |
| **Description** | |
| NA | |

### KU8\_FOURTEEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_FOURTEEN | ((uint8) 0x0E) |
| **Definition** | |
| #define KU8\_FOURTEEN ((uint8) 0x0E) | |
| **Description** | |
| NA | |

### KU8\_FOURTYSIX

|  |  |
| --- | --- |
| Name | Value |
| KU8\_FOURTYSIX | ((uint8) 0x2E) |
| **Definition** | |
| #define KU8\_FOURTYSIX ((uint8) 0x2E) | |
| **Description** | |
| NA | |

### KU8\_MASK\_BITS\_2\_7

|  |  |
| --- | --- |
| Name | Value |
| KU8\_MASK\_BITS\_2\_7 | ((uint8) 0xFC) |
| **Definition** | |
| #define KU8\_MASK\_BITS\_2\_7 ((uint8) 0xFC) | |
| **Description** | |
| NA | |

### KU8\_MASK\_HALF\_BYTE\_HIGH

|  |  |
| --- | --- |
| Name | Value |
| KU8\_MASK\_HALF\_BYTE\_HIGH | ((uint8) 0xF0) |
| **Definition** | |
| #define KU8\_MASK\_HALF\_BYTE\_HIGH ((uint8) 0xF0) | |
| **Description** | |
| NA | |

### KU8\_MASK\_HALF\_BYTE\_LOW

|  |  |
| --- | --- |
| Name | Value |
| KU8\_MASK\_HALF\_BYTE\_LOW | ((uint8) 0x0F) |
| **Definition** | |
| #define KU8\_MASK\_HALF\_BYTE\_LOW ((uint8) 0x0F) | |
| **Description** | |
| NA | |

### KU8\_MAX

|  |  |
| --- | --- |
| Name | Value |
| KU8\_MAX | ((uint8) 255) |
| **Definition** | |
| #define KU8\_MAX ((uint8) 255) | |
| **Description** | |
| NA | |

### KU8\_MIN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_MIN | ((uint8) 0) |
| **Definition** | |
| #define KU8\_MIN ((uint8) 0) | |
| **Description** | |
| NA | |

### KU8\_NINE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_NINE | ((uint8) 0x09) |
| **Definition** | |
| #define KU8\_NINE ((uint8) 0x09) | |
| **Description** | |
| NA | |

### KU8\_NINETEEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_NINETEEN | ((uint8) 0x13) |
| **Definition** | |
| #define KU8\_NINETEEN ((uint8) 0x13) | |
| **Description** | |
| NA | |

### KU8\_ONE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_ONE | ((uint8) 0x01) |
| **Definition** | |
| #define KU8\_ONE ((uint8) 0x01) | |
| **Description** | |
| NA | |

### KU8\_ONE\_HUNDRED

|  |  |
| --- | --- |
| Name | Value |
| KU8\_ONE\_HUNDRED | ((uint8) 100) |
| **Definition** | |
| #define KU8\_ONE\_HUNDRED ((uint8) 100) | |
| **Description** | |
| NA | |

### KU8\_ONE\_HUNDRED\_AND\_TWENTYEIGHT

|  |  |
| --- | --- |
| Name | Value |
| KU8\_ONE\_HUNDRED\_AND\_TWENTYEIGHT | ((uint8) 0x80) |
| **Definition** | |
| #define KU8\_ONE\_HUNDRED\_AND\_TWENTYEIGHT ((uint8) 0x80) | |
| **Description** | |
| NA | |

### KU8\_POS\_HIGH\_BYTE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_POS\_HIGH\_BYTE | ((uint8) 8) |
| **Definition** | |
| #define KU8\_POS\_HIGH\_BYTE ((uint8) 8) | |
| **Description** | |
| NA | |

### KU8\_POS\_L\_HIGH\_BYTE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_POS\_L\_HIGH\_BYTE | ((uint8) 24) |
| **Definition** | |
| #define KU8\_POS\_L\_HIGH\_BYTE ((uint8) 24) | |
| **Description** | |
| NA | |

### KU8\_POS\_L\_HIGH\_MIDDLE\_BYTE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_POS\_L\_HIGH\_MIDDLE\_BYTE | ((uint8) 16) |
| **Definition** | |
| #define KU8\_POS\_L\_HIGH\_MIDDLE\_BYTE ((uint8) 16) | |
| **Description** | |
| NA | |

### KU8\_POS\_L\_LOW\_BYTE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_POS\_L\_LOW\_BYTE | ((uint8) 0) |
| **Definition** | |
| #define KU8\_POS\_L\_LOW\_BYTE ((uint8) 0) | |
| **Description** | |
| NA | |

### KU8\_POS\_L\_LOW\_MIDDLE\_BYTE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_POS\_L\_LOW\_MIDDLE\_BYTE | ((uint8) 8) |
| **Definition** | |
| #define KU8\_POS\_L\_LOW\_MIDDLE\_BYTE ((uint8) 8) | |
| **Description** | |
| NA | |

### KU8\_POS\_LOW\_BYTE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_POS\_LOW\_BYTE | ((uint8) 0) |
| **Definition** | |
| #define KU8\_POS\_LOW\_BYTE ((uint8) 0) | |
| **Description** | |
| NA | |

### KU8\_SEVEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_SEVEN | ((uint8) 0x07) |
| **Definition** | |
| #define KU8\_SEVEN ((uint8) 0x07) | |
| **Description** | |
| NA | |

### KU8\_SEVENTEEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_SEVENTEEN | ((uint8) 0x11) |
| **Definition** | |
| #define KU8\_SEVENTEEN ((uint8) 0x11) | |
| **Description** | |
| NA | |

### KU8\_SHIFT\_FOUR\_BITS

|  |  |
| --- | --- |
| Name | Value |
| KU8\_SHIFT\_FOUR\_BITS | ((uint8) KU8\_SHIFT\_HALF\_BYTE) |
| **Definition** | |
| #define KU8\_SHIFT\_FOUR\_BITS ((uint8) KU8\_SHIFT\_HALF\_BYTE) | |
| **Description** | |
| NA | |

### KU8\_SHIFT\_HALF\_BYTE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_SHIFT\_HALF\_BYTE | ((uint8) 4) |
| **Definition** | |
| #define KU8\_SHIFT\_HALF\_BYTE ((uint8) 4) | |
| **Description** | |
| NA | |

### KU8\_SHIFT\_TWO\_BITS

|  |  |
| --- | --- |
| Name | Value |
| KU8\_SHIFT\_TWO\_BITS | ((uint8) 2) |
| **Definition** | |
| #define KU8\_SHIFT\_TWO\_BITS ((uint8) 2) | |
| **Description** | |
| NA | |

### KU8\_SIX

|  |  |
| --- | --- |
| Name | Value |
| KU8\_SIX | ((uint8) 0x06) |
| **Definition** | |
| #define KU8\_SIX ((uint8) 0x06) | |
| **Description** | |
| NA | |

### KU8\_SIXTEEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_SIXTEEN | ((uint8) 0x10) |
| **Definition** | |
| #define KU8\_SIXTEEN ((uint8) 0x10) | |
| **Description** | |
| NA | |

### KU8\_SIXTYFOUR

|  |  |
| --- | --- |
| Name | Value |
| KU8\_SIXTYFOUR | ((uint8) 0x40) |
| **Definition** | |
| #define KU8\_SIXTYFOUR ((uint8) 0x40) | |
| **Description** | |
| NA | |

### KU8\_TEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TEN | ((uint8) 0x0A) |
| **Definition** | |
| #define KU8\_TEN ((uint8) 0x0A) | |
| **Description** | |
| NA | |

### KU8\_THIRTEEN

|  |  |
| --- | --- |
| Name | Value |
| KU8\_THIRTEEN | ((uint8) 0x0D) |
| **Definition** | |
| #define KU8\_THIRTEEN ((uint8) 0x0D) | |
| **Description** | |
| NA | |

### KU8\_THIRTYSIX

|  |  |
| --- | --- |
| Name | Value |
| KU8\_THIRTYSIX | ((uint8) 0x24) |
| **Definition** | |
| #define KU8\_THIRTYSIX ((uint8) 0x24) | |
| **Description** | |
| NA | |

### KU8\_THIRTYTWO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_THIRTYTWO | ((uint8) 0x20) |
| **Definition** | |
| #define KU8\_THIRTYTWO ((uint8) 0x20) | |
| **Description** | |
| NA | |

### KU8\_THREE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_THREE | ((uint8) 0x03) |
| **Definition** | |
| #define KU8\_THREE ((uint8) 0x03) | |
| **Description** | |
| NA | |

### KU8\_TRUE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TRUE | ((boolean)0xAA) |
| **Definition** | |
| #define KU8\_TRUE ((boolean)0xAA) | |
| **Description** | |
| NA | |

### KU8\_TWELVE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TWELVE | ((uint8) 0x0C) |
| **Definition** | |
| #define KU8\_TWELVE ((uint8) 0x0C) | |
| **Description** | |
| NA | |

### KU8\_TWENTY

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TWENTY | ((uint8) 0x14) |
| **Definition** | |
| #define KU8\_TWENTY ((uint8) 0x14) | |
| **Description** | |
| NA | |

### KU8\_TWENTYFIVE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TWENTYFIVE | ((uint8) 0x19) |
| **Definition** | |
| #define KU8\_TWENTYFIVE ((uint8) 0x19) | |
| **Description** | |
| NA | |

### KU8\_TWENTYFOUR

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TWENTYFOUR | ((uint8) 0x18) |
| **Definition** | |
| #define KU8\_TWENTYFOUR ((uint8) 0x18) | |
| **Description** | |
| NA | |

### KU8\_TWENTYONE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TWENTYONE | ((uint8) 0x15) |
| **Definition** | |
| #define KU8\_TWENTYONE ((uint8) 0x15) | |
| **Description** | |
| NA | |

### KU8\_TWENTYSIX

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TWENTYSIX | ((uint8) 0x1A) |
| **Definition** | |
| #define KU8\_TWENTYSIX ((uint8) 0x1A) | |
| **Description** | |
| NA | |

### KU8\_TWENTYTHREE

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TWENTYTHREE | ((uint8) 0x17) |
| **Definition** | |
| #define KU8\_TWENTYTHREE ((uint8) 0x17) | |
| **Description** | |
| NA | |

### KU8\_TWENTYTWO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TWENTYTWO | ((uint8) 0x16) |
| **Definition** | |
| #define KU8\_TWENTYTWO ((uint8) 0x16) | |
| **Description** | |
| NA | |

### KU8\_TWO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_TWO | ((uint8) 0x02) |
| **Definition** | |
| #define KU8\_TWO ((uint8) 0x02) | |
| **Description** | |
| NA | |

### KU8\_ZERO

|  |  |
| --- | --- |
| Name | Value |
| KU8\_ZERO | ((uint8) 0x00) |
| **Definition** | |
| #define KU8\_ZERO ((uint8) 0x00) | |
| **Description** | |
| NA | |

### LOCAL

|  |  |
| --- | --- |
| Name | Value |
| LOCAL | static |
| **Definition** | |
| #define LOCAL static | |
| **Description** | |
| NA | |

### U16\_BIT\_CLEAR(reg,

|  |  |
| --- | --- |
| Name | Value |
| U16\_BIT\_CLEAR(reg, | (reg, mask) ((reg) &= ((mask)^((uint16)0xFFFF))) |
| **Definition** | |
| #define U16\_BIT\_CLEAR(reg, mask) ((reg) &= ((mask)^((uint16)0xFFFF))) | |
| **Description** | |
| NA | |

### U16\_BIT\_SET(reg,

|  |  |
| --- | --- |
| Name | Value |
| U16\_BIT\_SET(reg, | (reg, mask) ((reg) |= (mask)) |
| **Definition** | |
| #define U16\_BIT\_SET(reg, mask) ((reg) |= (mask)) | |
| **Description** | |
| NA | |

### U16\_COMPLEMENT(val)

|  |  |
| --- | --- |
| Name | Value |
| U16\_COMPLEMENT(val) | (val) ((val) ^ ((uint16)0xFFFF)) |
| **Definition** | |
| #define U16\_COMPLEMENT(val) ((val) ^ ((uint16)0xFFFF)) | |
| **Description** | |
| NA | |

### U16\_GET\_ABSOLUTE\_VALUE\_FROM\_S16(value)

|  |  |
| --- | --- |
| Name | Value |
| U16\_GET\_ABSOLUTE\_VALUE\_FROM\_S16(value) | (value) (((value)<((sint16)(0)))?((uint16)-(value)):((uint16)(value)) /\* PRQA S 3491 \*/) |
| **Definition** | |
| #define U16\_GET\_ABSOLUTE\_VALUE\_FROM\_S16(value) (((value)<((sint16)(0)))?((uint16)-(value)):((uint16)(value)) /\* PRQA S 3491 \*/) | |
| **Description** | |
| NA | |

### U16\_GET\_HIGH\_BYTE(\_word)

|  |  |
| --- | --- |
| Name | Value |
| U16\_GET\_HIGH\_BYTE(\_word) | (\_word) /\* \*/ ((uint8)(((\_word) & KU16\_MASK\_BYTE\_HIGH) >> KU8\_POS\_HIGH\_BYTE)) |
| **Definition** | |
| #define U16\_GET\_HIGH\_BYTE(\_word) /\* \*/ ((uint8)(((\_word) & KU16\_MASK\_BYTE\_HIGH) >> KU8\_POS\_HIGH\_BYTE)) | |
| **Description** | |
| NA | |

### U16\_GET\_LOW\_BYTE(\_word)

|  |  |
| --- | --- |
| Name | Value |
| U16\_GET\_LOW\_BYTE(\_word) | (\_word) ((uint8)(((\_word) & KU16\_MASK\_BYTE\_LOW ) >> KU8\_POS\_LOW\_BYTE )) |
| **Definition** | |
| #define U16\_GET\_LOW\_BYTE(\_word) ((uint8)(((\_word) & KU16\_MASK\_BYTE\_LOW ) >> KU8\_POS\_LOW\_BYTE )) | |
| **Description** | |
| NA | |

### U16\_GET\_SATURATED\_VALUE\_FROM\_U32(value)

|  |  |
| --- | --- |
| Name | Value |
| U16\_GET\_SATURATED\_VALUE\_FROM\_U32(value) | (value) (((value)>((uint32)(KU16\_MAX)))?((uint16)KU16\_MAX):((uint16)(value)) /\* PRQA S 3491 \*/) |
| **Definition** | |
| #define U16\_GET\_SATURATED\_VALUE\_FROM\_U32(value) (((value)>((uint32)(KU16\_MAX)))?((uint16)KU16\_MAX):((uint16)(value)) /\* PRQA S 3491 \*/) | |
| **Description** | |
| NA | |

### U16\_SWAP\_BYTE\_ORDER(u16ToSwap)

|  |  |
| --- | --- |
| Name | Value |
| U16\_SWAP\_BYTE\_ORDER(u16ToSwap) | (u16ToSwap) |
| **Definition** | |
| #define U16\_SWAP\_BYTE\_ORDER(u16ToSwap) | |
| **Description** | |
| NA | |

### U32\_BIT\_CLEAR(reg,

|  |  |
| --- | --- |
| Name | Value |
| U32\_BIT\_CLEAR(reg, | (reg, mask) ((reg) &= ((mask)^((uint32)0xFFFFFFFFuL))) |
| **Definition** | |
| #define U32\_BIT\_CLEAR(reg, mask) ((reg) &= ((mask)^((uint32)0xFFFFFFFFuL))) | |
| **Description** | |
| NA | |

### U32\_BIT\_SET(reg,

|  |  |
| --- | --- |
| Name | Value |
| U32\_BIT\_SET(reg, | (reg, mask) ((reg) |= (mask)) |
| **Definition** | |
| #define U32\_BIT\_SET(reg, mask) ((reg) |= (mask)) | |
| **Description** | |
| NA | |

### U32\_COMPLEMENT(val)

|  |  |
| --- | --- |
| Name | Value |
| U32\_COMPLEMENT(val) | (val) ((val)^((uint32)0xFFFFFFFFuL)) |
| **Definition** | |
| #define U32\_COMPLEMENT(val) ((val)^((uint32)0xFFFFFFFFuL)) | |
| **Description** | |
| NA | |

### U32\_GET\_ABSOLUTE\_VALUE\_FROM\_S32(value)

|  |  |
| --- | --- |
| Name | Value |
| U32\_GET\_ABSOLUTE\_VALUE\_FROM\_S32(value) | (value) (((value)<((sint32)(0)))?((uint32)-(value)):((uint32)(value)) /\* PRQA S 3491 \*/) |
| **Definition** | |
| #define U32\_GET\_ABSOLUTE\_VALUE\_FROM\_S32(value) (((value)<((sint32)(0)))?((uint32)-(value)):((uint32)(value)) /\* PRQA S 3491 \*/) | |
| **Description** | |
| NA | |

### U32\_GET\_HIGH\_BYTE(\_long)

|  |  |
| --- | --- |
| Name | Value |
| U32\_GET\_HIGH\_BYTE(\_long) | (\_long) ((uint8)(( (\_long) & KU32\_MASK\_BYTE\_HIGH) >> KU8\_POS\_L\_HIGH\_BYTE)) |
| **Definition** | |
| #define U32\_GET\_HIGH\_BYTE(\_long) ((uint8)(( (\_long) & KU32\_MASK\_BYTE\_HIGH) >> KU8\_POS\_L\_HIGH\_BYTE)) | |
| **Description** | |
| NA | |

### U32\_GET\_HIGH\_MIDDLE\_BYTE(\_long)

|  |  |
| --- | --- |
| Name | Value |
| U32\_GET\_HIGH\_MIDDLE\_BYTE(\_long) | (\_long) ((uint8)(( (\_long) & KU32\_MASK\_BYTE\_HIGH\_MIDDLE) >> KU8\_POS\_L\_HIGH\_MIDDLE\_BYTE)) |
| **Definition** | |
| #define U32\_GET\_HIGH\_MIDDLE\_BYTE(\_long) ((uint8)(( (\_long) & KU32\_MASK\_BYTE\_HIGH\_MIDDLE) >> KU8\_POS\_L\_HIGH\_MIDDLE\_BYTE)) | |
| **Description** | |
| NA | |

### U32\_GET\_LOW\_BYTE(\_long)

|  |  |
| --- | --- |
| Name | Value |
| U32\_GET\_LOW\_BYTE(\_long) | (\_long) ((uint8)( (\_long) & KU32\_MASK\_BYTE\_LOW)) |
| **Definition** | |
| #define U32\_GET\_LOW\_BYTE(\_long) ((uint8)( (\_long) & KU32\_MASK\_BYTE\_LOW)) | |
| **Description** | |
| NA | |

### U32\_GET\_LOW\_MIDDLE\_BYTE(\_long)

|  |  |
| --- | --- |
| Name | Value |
| U32\_GET\_LOW\_MIDDLE\_BYTE(\_long) | (\_long) ((uint8)(( (\_long) & KU32\_MASK\_BYTE\_LOW\_MIDDLE) >> KU8\_POS\_L\_LOW\_MIDDLE\_BYTE)) |
| **Definition** | |
| #define U32\_GET\_LOW\_MIDDLE\_BYTE(\_long) ((uint8)(( (\_long) & KU32\_MASK\_BYTE\_LOW\_MIDDLE) >> KU8\_POS\_L\_LOW\_MIDDLE\_BYTE)) | |
| **Description** | |
| NA | |

### U32\_SWAP\_BYTE\_ORDER(u32ToSwap)

|  |  |
| --- | --- |
| Name | Value |
| U32\_SWAP\_BYTE\_ORDER(u32ToSwap) | (u32ToSwap) |
| **Definition** | |
| #define U32\_SWAP\_BYTE\_ORDER(u32ToSwap) | |
| **Description** | |
| NA | |

### U8\_BIT\_CLEAR(reg,

|  |  |
| --- | --- |
| Name | Value |
| U8\_BIT\_CLEAR(reg, | (reg, mask) ((reg) &= ((mask)^((uint8)0xFF))) |
| **Definition** | |
| #define U8\_BIT\_CLEAR(reg, mask) ((reg) &= ((mask)^((uint8)0xFF))) | |
| **Description** | |
| NA | |

### U8\_BIT\_SET(reg,

|  |  |
| --- | --- |
| Name | Value |
| U8\_BIT\_SET(reg, | (reg, mask) ((reg) |= (mask)) |
| **Definition** | |
| #define U8\_BIT\_SET(reg, mask) ((reg) |= (mask)) | |
| **Description** | |
| NA | |

### U8\_GET\_ABSOLUTE\_VALUE\_FROM\_S8(value)

|  |  |
| --- | --- |
| Name | Value |
| U8\_GET\_ABSOLUTE\_VALUE\_FROM\_S8(value) | (value) (((value)<((sint8)(0)))?((uint8)-(value)):((uint8)(value)) /\* PRQA S 3491 \*/) |
| **Definition** | |
| #define U8\_GET\_ABSOLUTE\_VALUE\_FROM\_S8(value) (((value)<((sint8)(0)))?((uint8)-(value)):((uint8)(value)) /\* PRQA S 3491 \*/) | |
| **Description** | |
| NA | |

### DisableAllInterrupt()

|  |  |
| --- | --- |
| Name | Value |
| DisableAllInterrupt() | () SuspendAllInterrupts() |
| **Definition** | |
| #define DisableAllInterrupt() SuspendAllInterrupts() | |
| **Description** | |
| NA | |

### EnableAllInterrupt()

|  |  |
| --- | --- |
| Name | Value |
| EnableAllInterrupt() | () ResumeAllInterrupts() |
| **Definition** | |
| #define EnableAllInterrupt() ResumeAllInterrupts() | |
| **Description** | |
| NA | |

### MCU\_TYPE\_S32K

|  |  |
| --- | --- |
| Name | Value |
| MCU\_TYPE\_S32K | NA |
| **Definition** | |
| #define MCU\_TYPE\_S32K | |
| **Description** | |
| NA | |

### APP\_START\_ADDR

|  |  |
| --- | --- |
| Name | Value |
| APP\_START\_ADDR | ((uint8) 0x00020004) |
| **Definition** | |
| #define APP\_START\_ADDR ((uint8) 0x00020004) | |
| **Description** | |
| bootloader updater address. | |

### BOOTLOADER\_ADDR

|  |  |
| --- | --- |
| Name | Value |
| BOOTLOADER\_ADDR | ((uint8) 0x00001004) |
| **Definition** | |
| #define BOOTLOADER\_ADDR ((uint8) 0x00001004) | |
| **Description** | |
| Bootloader address. | |

### BTL\_ADDR\_FLAG

|  |  |
| --- | --- |
| Name | Value |
| BTL\_ADDR\_FLAG | ((uint8) 0x1FFF0u ) |
| **Definition** | |
| #define BTL\_ADDR\_FLAG ((uint8) 0x1FFF0u ) | |
| **Description** | |
| NA | |

### BASE\_DBG\_ENABLE

|  |  |
| --- | --- |
| Name | Value |
| BASE\_DBG\_ENABLE | STD\_OFF |
| **Definition** | |
| #define BASE\_DBG\_ENABLE STD\_OFF | |
| **Description** | |
| Bootloader flag address. | |

### CPU\_BIT\_ORDER

|  |  |
| --- | --- |
| Name | Value |
| CPU\_BIT\_ORDER | LSB\_FIRST |
| **Definition** | |
| #define CPU\_BIT\_ORDER LSB\_FIRST | |
| **Description** | |
| NA | |

### CPU\_BYTE\_ORDER

|  |  |
| --- | --- |
| Name | Value |
| CPU\_BYTE\_ORDER | LOW\_BYTE\_FIRST |
| **Definition** | |
| #define CPU\_BYTE\_ORDER LOW\_BYTE\_FIRST | |
| **Description** | |
| NA | |

### CPU\_TYPE

|  |  |
| --- | --- |
| Name | Value |
| CPU\_TYPE | CPU\_TYPE\_32 |
| **Definition** | |
| #define CPU\_TYPE CPU\_TYPE\_32 | |
| **Description** | |
| NA | |

### CPU\_TYPE\_16

|  |  |
| --- | --- |
| Name | Value |
| CPU\_TYPE\_16 | 16U |
| **Definition** | |
| #define CPU\_TYPE\_16 16U | |
| **Description** | |
| cpu identifier for 8-bit CPUs | |

### CPU\_TYPE\_32

|  |  |
| --- | --- |
| Name | Value |
| CPU\_TYPE\_32 | 32U |
| **Definition** | |
| #define CPU\_TYPE\_32 32U | |
| **Description** | |
| cpu identifier for 32-bit CPUs | |

### CPU\_TYPE\_64

|  |  |
| --- | --- |
| Name | Value |
| CPU\_TYPE\_64 | 64U |
| **Definition** | |
| #define CPU\_TYPE\_64 64U | |
| **Description** | |
| cpu identifier for 64-bit CPUs | |

### CPU\_TYPE\_8

|  |  |
| --- | --- |
| Name | Value |
| CPU\_TYPE\_8 | 8U |
| **Definition** | |
| #define CPU\_TYPE\_8 8U | |
| **Description** | |
| cpu identifier for 8-bit CPUs | |

### FALSE

|  |  |
| --- | --- |
| Name | Value |
| FALSE | 0U |
| **Definition** | |
| #define FALSE 0U | |
| **Description** | |
| false value for boolean type | |

### HIGH\_BYTE\_FIRST

|  |  |
| --- | --- |
| Name | Value |
| HIGH\_BYTE\_FIRST | 0U |
| **Definition** | |
| #define HIGH\_BYTE\_FIRST 0U | |
| **Description** | |
| identifier for 'high byte first' | |

### LOW\_BYTE\_FIRST

|  |  |
| --- | --- |
| Name | Value |
| LOW\_BYTE\_FIRST | 1U |
| **Definition** | |
| #define LOW\_BYTE\_FIRST 1U | |
| **Description** | |
| cpu identifier for 8-bit CPUs | |

### LSB\_FIRST

|  |  |
| --- | --- |
| Name | Value |
| LSB\_FIRST | 1U |
| **Definition** | |
| #define LSB\_FIRST 1U | |
| **Description** | |
| identifier for 'little endian' | |

### MSB\_FIRST

|  |  |
| --- | --- |
| Name | Value |
| MSB\_FIRST | 0U |
| **Definition** | |
| #define MSB\_FIRST 0U | |
| **Description** | |
| identifier for 'high byte first' | |

### PLATFORM\_AR\_RELEASE\_MAJOR\_VERSION

|  |  |
| --- | --- |
| Name | Value |
| PLATFORM\_AR\_RELEASE\_MAJOR\_VERSION | 4U |
| **Definition** | |
| #define PLATFORM\_AR\_RELEASE\_MAJOR\_VERSION 4U | |
| **Description** | |
| AUTOSAR release major version. | |

### PLATFORM\_AR\_RELEASE\_MINOR\_VERSION

|  |  |
| --- | --- |
| Name | Value |
| PLATFORM\_AR\_RELEASE\_MINOR\_VERSION | 0U |
| **Definition** | |
| #define PLATFORM\_AR\_RELEASE\_MINOR\_VERSION 0U | |
| **Description** | |
| AUTOSAR release minor version. | |

### PLATFORM\_AR\_RELEASE\_REVISION\_VERSION

|  |  |
| --- | --- |
| Name | Value |
| PLATFORM\_AR\_RELEASE\_REVISION\_VERSION | 3U |
| **Definition** | |
| #define PLATFORM\_AR\_RELEASE\_REVISION\_VERSION 3U | |
| **Description** | |
| AUTOSAR release revision version. | |

### PLATFORM\_MODULE\_ID

|  |  |
| --- | --- |
| Name | Value |
| PLATFORM\_MODULE\_ID | 199U |
| **Definition** | |
| #define PLATFORM\_MODULE\_ID 199U | |
| **Description** | |
| AUTOSAR module identification. | |

### PLATFORM\_SW\_MAJOR\_VERSION

|  |  |
| --- | --- |
| Name | Value |
| PLATFORM\_SW\_MAJOR\_VERSION | 2U |
| **Definition** | |
| #define PLATFORM\_SW\_MAJOR\_VERSION 2U | |
| **Description** | |
| AUTOSAR module major version. | |

### PLATFORM\_SW\_MINOR\_VERSION

|  |  |
| --- | --- |
| Name | Value |
| PLATFORM\_SW\_MINOR\_VERSION | 5U |
| **Definition** | |
| #define PLATFORM\_SW\_MINOR\_VERSION 5U | |
| **Description** | |
| AUTOSAR module minor version. | |

### PLATFORM\_SW\_PATCH\_VERSION

|  |  |
| --- | --- |
| Name | Value |
| PLATFORM\_SW\_PATCH\_VERSION | 0U |
| **Definition** | |
| #define PLATFORM\_SW\_PATCH\_VERSION 0U | |
| **Description** | |
| AUTOSAR module patch version. | |

### PLATFORM\_VENDOR\_API\_INFIX

|  |  |
| --- | --- |
| Name | Value |
| PLATFORM\_VENDOR\_API\_INFIX | NA |
| **Definition** | |
| #define PLATFORM\_VENDOR\_API\_INFIX | |
| **Description** | |
| Vendor API infix. Left empty as this header does not belong to any module | |

### PLATFORM\_VENDOR\_ID

|  |  |
| --- | --- |
| Name | Value |
| PLATFORM\_VENDOR\_ID | 1U |
| **Definition** | |
| #define PLATFORM\_VENDOR\_ID 1U | |
| **Description** | |
| AUTOSAR vendor identification: Elektrobit Automotive GmbH. | |

### TRUE

|  |  |
| --- | --- |
| Name | Value |
| TRUE | 1U |
| **Definition** | |
| #define TRUE 1U | |
| **Description** | |
| true value for boolean type | |

### TS\_MEMCPY\_CUSTOM\_OVERRIDE

|  |  |
| --- | --- |
| Name | Value |
| TS\_MEMCPY\_CUSTOM\_OVERRIDE | STD\_OFF |
| **Definition** | |
| #define TS\_MEMCPY\_CUSTOM\_OVERRIDE STD\_OFF | |
| **Description** | |
| NA | |

### USIZE\_C(x)

|  |  |
| --- | --- |
| Name | Value |
| USIZE\_C(x) | (x) (x ## UL) |
| **Definition** | |
| #define USIZE\_C(x) (x ## UL) | |
| **Description** | |
| Macro to define a constant of platform specific type usize (generated, depending on parameter 'Cpu.Type') | |

# EEPROM

# Configuration

# Compilation Options