

Detailed Design of LED Driver

Team X

Contents

Introduction and functional overview:	2
Dependencies to other modules:	2
File structure:	2
Requirements traceability:	Error! Bookmark not defined.
API specification:.....	3
Imported types:	Error! Bookmark not defined.
Type definitions:	3
Function definitions:	4

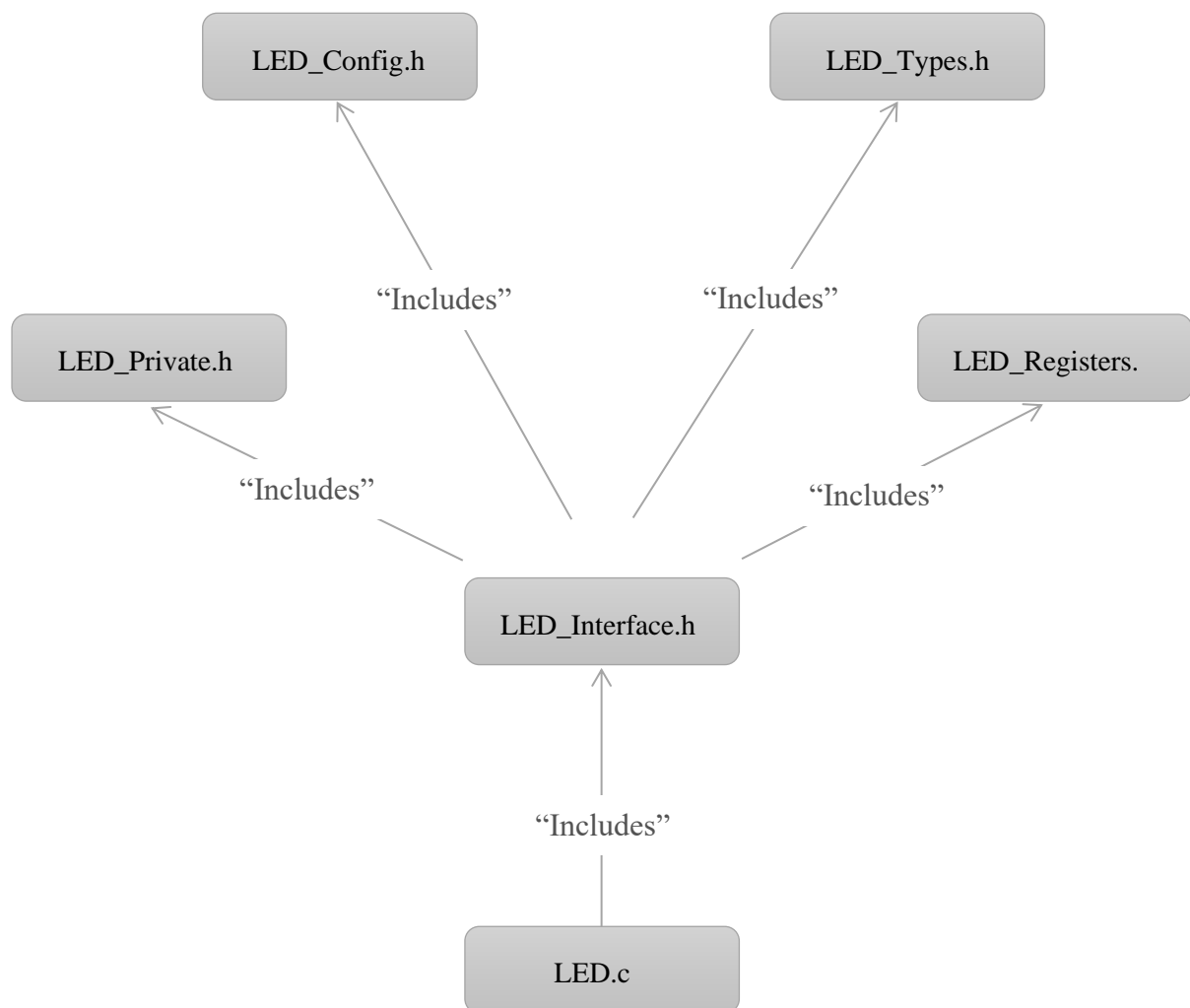
Introduction and functional overview:

This document specifies detailed design of the LED Driver.

Dependencies to other modules:

File structure:

The LED module shall comply with the following file structure:



API specification:

Type definitions:

1- [DD_LED-18330]

Name:	E_DioPort
Type	Enum
Range:	0 : 4
Description:	Number of ports included in the microcontroller
Covered requirements:	

2- [DD_LED_18331]

Name:	E_DioPin
Type	Enum
Range:	0x00 : 0x80
Description:	Number of pins specified on each port
Covered requirements:	

3- [DD_LED_18332]

Name:	S_Dio
Type	Structure
Range:	--
Description:	Structure that hold Pin number & associated pins & desired direction
Covered requirements:	=

Function definitions:**1- [DD_LED_18333]**

Service name:	LED Initialization
Syntax:	E_ErrorType_ HAL_LED_INIT(E_DioPort ledPORT, E_DioPin LEDPin)
Sync/Async:	Synchronous
Re-entrancy:	Re-entrant
Parameters (in):	Dio Structure
Parameters (out):	none
Parameters (inout):	none
Return type:	Std_type (error)
Description:	Function that initializes the Desired Structure
Covered requirements:	

2- [DD_LED_18334]

Service name:	Turn LED on
Syntax:	E_ErrorType_ HAL_LED_ON(E_DioPort port, E_DioPin pin)
Sync/Async:	Synchronous
Re-entrancy:	Re-entrant
Parameters (in):	Dio Structure
Parameters (out):	none
Parameters (inout):	none
Return type:	Std_type (error)
Description:	Function that reads the value of the desired port and pin and turns on the LED.
Covered requirements:	

3- [DD_LED_18336]

Service name:	Turn LED off
Syntax:	E_ErrorType_ HAL_LED_OFF(E_DioPort ledPORT, E_DioPin LEDPin);
Sync/Async:	Synchronous
Re-entrancy:	Re-entrant
Parameters (in):	Dio Structure
Parameters (out):	none
Parameters (inout):	none
Return type:	Std_type (error)
Description:	Function that reads the value of the desired port and pin and turns off the LED.
Covered requirements:	

4- [DD_LED_18337]

Service name:	Toggle LED
Syntax:	E_ErrorType_ HAL_LED_TOGGLE(E_DioPort ledPORT, E_DioPin LEDPin);
Sync/Async:	Synchronous
Re-entrancy:	Re-entrant
Parameters (in):	Dio Structure Port Number Port Value
Parameters (out):	none
Parameters (inout):	none
Return type:	Std_type (error)
Description:	Function that reads the value of the desired port and pin and toggles the LED with time set by the user.
Covered requirements:	