4.4.3.1 PWM Driver

This driver provides an interface to control the PWM signal generators. The driver is divided in a source _le "`b pwmdriver.c"' and a header _le "`b pwmdriver.h"', which can be found in the drivers folder.
At the moment 8 PWM controllers are realized through an IP-Core each and are supported by this driver. To con_gure the duty time of the PWM signal each IP-Core o_ers an 8-bit register, so the PWM signals have an 8-bit resolution. For more information see chapter 4.3.3.

For an easier readable and changeable code the base addresses of the signal width registers are mapped to names, so they can be easily used in the code. Also with this de_nes it is simple to modify them if the addresses of the registers are changed later on.
First an initialization method is provided by the driver. It sets all signals to the lowest signal width, which is zero. This method must be run at the start of the system to ensure no other PWM signal is generated by the controllers due to false values are in the signal width registers.
Furthermore two di_erent functions to set the duty cycle of the PWM signal exist. Both need the desired controller and the signal width as input values. The di_erence is that one works with the values from 0 to 255 and the other takes a percentage value between 0 and 100. The PWM controller can be selected with an enumeration, which is de_ned in the header _le of the driver.
For a test of the PWM controller view here HowTo.