Chapter 1

Code Files

1.1   C Code

Table 1.1 lists the different C files that make up the GBT control interface module and the send/receive module. For more information about the actual functions described in the files, see appendix **??**. The files are available at https://github. com/aoe033/GBT_control_interface.

File	Description
cmds.h/cmds.c	Contain functions and definitions related to analysis, treatment and excecution of user input.
main.h	Contains global variables and structures, such as the signal structures and rs232 related variables.
main.c	Main program. There are one main.c for each module.
rs232.h/rs232.c	Contains functions related to rs232 communication (See **??**)
signals.h/signals.c	Contains the signal structure and related functions (See **??**).
timer.h/timer.c	Contains functions related to the program timer. (See **??**)

Table 1.1: List of C files used in the GBT Control Interface module and the Send/Receive module

1.2   VHDL Code

Table 1.2 lists the different VHDL files used in this thesis. For more information, see section **??**.

File	Description
baudGen.vhd	Baud generator that generates a tick signal every 16. clock cycles.
fifo_buffer_chu.vhd	Describes the fifo-buffers used in the uart unit.
uart.vhd	Combines fifo_buffer_chu.vhd, baudGen.vhd, uart_rx.vhd and uart_tx.vhd into an uart unit.
uart_decoder.vhd	Reads bytes from the uart and manipulates the gbt registers (not done).
uart_gbt_pkg.vhd	Defines constants (request-bytes and uart data bit width) and records.
uart_rx.vhd	Uart receiver.
uart_tx.vhd	Uart transmitter.
uart_top.vhd	Combines all components together into one entity.

Table 1.2: List of VHDL files used in this thesis.