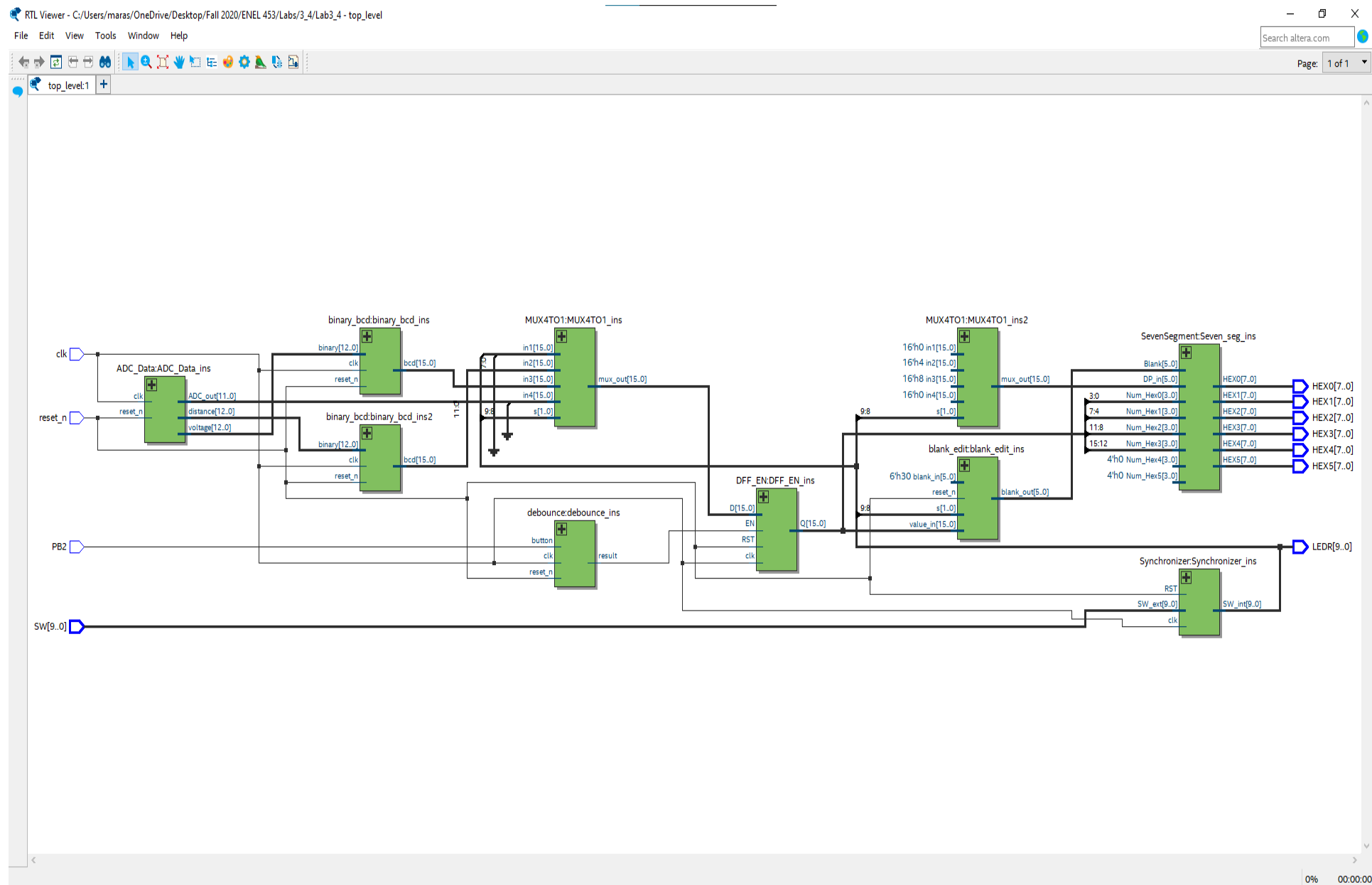


Lab 3 Design Record

Students: Maral Rasuli Arasi, Alaa Khalil, Ruha Javed

RTL Viewer:



Fmax Summary for 85C Model:

Quartus Prime Lite Edition - C:/Users/maras/OneDrive/Desktop/Fall 2020/ENEL 453/Labs/3_4/Lab3_4 - top_level

File Edit View Project Assignments Processing Tools Window Help

top_level

Project Navigator

Files

IP upgrade recommended. Launch IP Upgrade Tool...

voltage2distance_array2.vhd

tb_ADC_data.vhd

Synchronizer.vhd

MUX4TO1.vhd

LUT_pkg.vhd

int_register.vhd

OFF_EN.vhd

debounce.vhd

blank_edit.vhd

averager256.vhd

ADC_Data.vhd

ADC_Conversion.v

Tasks

Compilation

Task

Assembler (Generate programming files)

Timing Analysis

Edit Settings

View Report

Timing Analyzer

EDA Netlist Writer

Edit Settings

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Timing Analyzer

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Removal Summary

Minimum Pulse Width Summ

Metastability Summary

Compilation Report - top_level

Slow 1200mV 85C Model Fmax Summary

<<Filter>>

	Fmax	Restricted Fmax	Clock Name	Note
1	77.85 MHz	77.85 MHz	clk	
2	146.11 MHz	146.11 MHz	ADC_Data_ins ADC_ins ADC_Conversion_ins u0 altpll_sys sd1 pll7 clk[0]	

This panel reports FMAX for every clock in the design, regardless of the user-specified clock periods. FMAX is only computed for paths where the source and destination registers or ports are driven by the same clock. Paths of different clocks, including generated clocks, are ignored. For paths between a clock and its inversion, FMAX is computed as if the rising and falling

IP Catalog

Installed IP

Project Directory

No Selection Available

Library

Basic Functions

DSP

Interface Protocols

Memory Interfaces and Controllers

Processors and Peripherals

University Program

Search for Partner IP

Messages Window:

The Messages Window displays a list of 35 messages. The messages are categorized by Type (Warning, Error, Info) and ID. The messages include warnings about processor loading, missing files, and various design errors.

Type	ID	Message
Warning	18236	Number of processors has not been specified which may cause overloading on shared machines. Set the global assignment NUM_PARALLEL_PROCESSORS in your QSF to an appropriate value for best performance.
Warning	12019	Can't analyze file -- file MUX2TO1.vhd is missing
Warning	10036	Verilog HDL or VHDL warning at top_level.vhd(41): object "ADC_raw" assigned a value but never read
Warning	10036	Verilog HDL or VHDL warning at ADC_Conversion.v(97): object "cur_adc_ch" assigned a value but never read
Warning	10036	Verilog HDL or VHDL warning at ADC_Conversion.v(98): object "adc_sample_data" assigned a value but never read
Warning	10036	Verilog HDL or VHDL warning at altera_modular_adc_control_fsm.v(70): object "sync_ctrl_state_nxt" assigned a value but never read
Warning	10492	VHDL Process Statement warning at averager256.vhd(85): signal "temp2" is read inside the Process Statement but isn't in the Process Statement's sensitivity list
Warning	10492	VHDL Process Statement warning at averager256.vhd(99): signal "temp3" is read inside the Process Statement but isn't in the Process Statement's sensitivity list
Warning	14284	Synthesized away the following node(s):
Warning	12241	1 hierarchies have connectivity warnings - see the Connectivity Checks report folder
Warning	13024	Output pins are stuck at VCC or GND
Warning	18061	Ignored Power-Up Level option on the following registers
Warning	18236	Number of processors has not been specified which may cause overloading on shared machines. Set the global assignment NUM_PARALLEL_PROCESSORS in your QSF to an appropriate value for best performance.
Warning	292013	Feature LogicLock is only available with a valid subscription license. You can purchase a software subscription to gain full access to this feature.
Warning	15714	Some pins have incomplete I/O assignments. Refer to the I/O Assignment warnings report for details
Warning	332174	Ignored filter at top_level.sdc(9): ADC_CLK_10 could not be matched with a port
Warning	332049	Ignored create_clock at top_level.sdc(9): Argument <targets> is an empty collection
Warning	332174	Ignored filter at top_level.sdc(11): MAX10_CLK2_50 could not be matched with a port
Warning	332049	Ignored create_clock at top_level.sdc(11): Argument <targets> is an empty collection

System Processing (35)

Messages Window (continue):

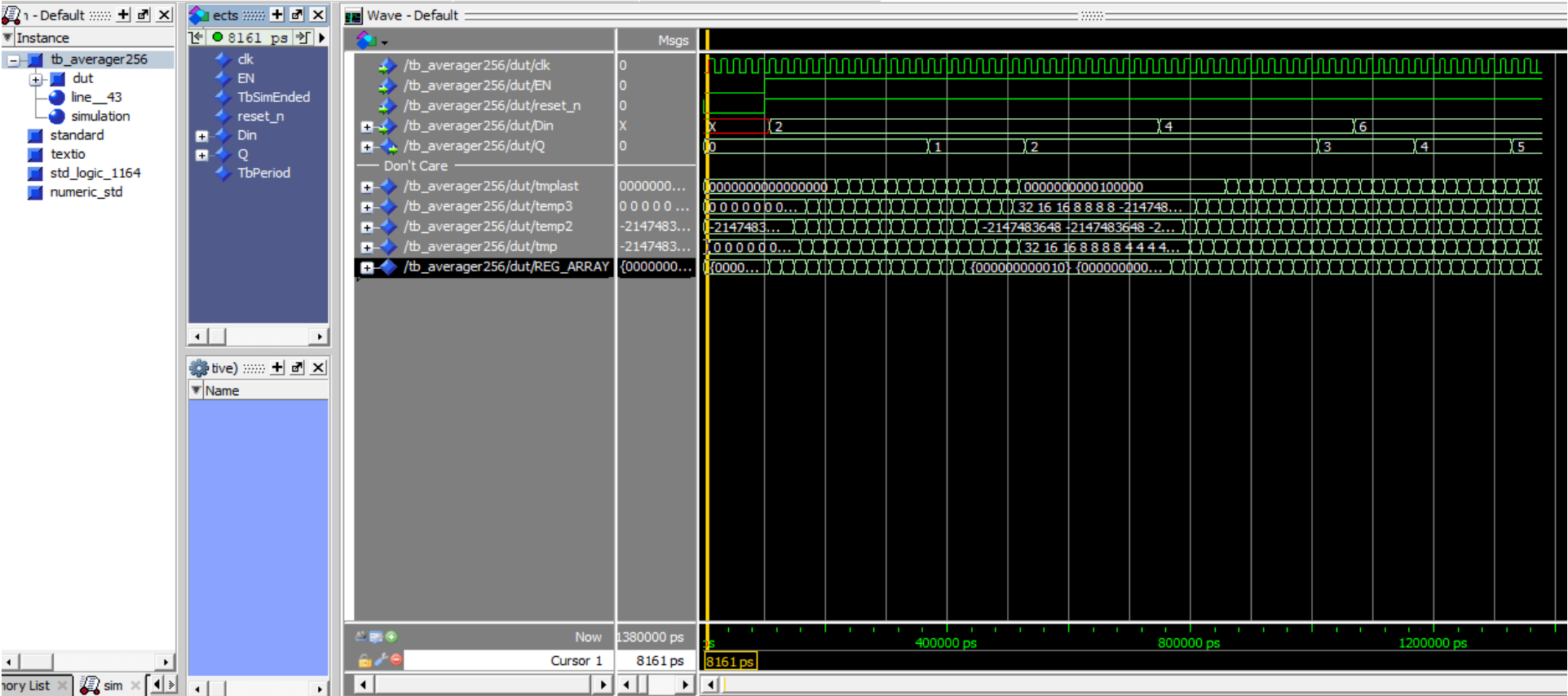
The Messages Window displays a list of 20 messages. The messages are categorized by Type (Warning, Error, Info) and ID. The messages include warnings about timing characteristics, invalid fitter assignments, and processor loading.

Type	ID	Message
Warning	332174	Ignored filter at top_level.sdc(11): MAX10_CLK2_50 could not be matched with a port
Warning	332049	Ignored create_clock at top_level.sdc(11): Argument <targets> is an empty collection
Warning	15705	Ignored locations or region assignments to the following nodes
Warning	334000	Timing characteristics of device 10M50DAF484C6GES are preliminary
Warning	334000	Timing characteristics of device 10M50DAF484C6GES are preliminary
Warning	171167	Found invalid Fitter assignments. See the Ignored Assignments panel in the Fitter Compilation Report for more information.
Warning	169177	13 pins must meet Intel FPGA requirements for 3.3-, 3.0-, and 2.5-V interfaces. For more information, refer to AN 447: Interfacing MAX 10 Devices with 3.3/3.0/2.5-V LVTTTL/LVCMOS I/O Systems.
Warning	18236	Number of processors has not been specified which may cause overloading on shared machines. Set the global assignment NUM_PARALLEL_PROCESSORS in your QSF to an appropriate value for best performance.
Warning	12914	The file, C:/users/maras/OneDrive/Desktop/Fall 2020/ENEL 453/Labs/3_4/adc.qsys.sopcinfo, is not embedded into sof file as expected. Some tools, such as System Console, may not function fully.
Warning	18236	Number of processors has not been specified which may cause overloading on shared machines. Set the global assignment NUM_PARALLEL_PROCESSORS in your QSF to an appropriate value for best performance.
Warning	332174	Ignored filter at top_level.sdc(9): ADC_CLK_10 could not be matched with a port
Warning	332049	Ignored create_clock at top_level.sdc(9): Argument <targets> is an empty collection
Warning	332174	Ignored filter at top_level.sdc(11): MAX10_CLK2_50 could not be matched with a port
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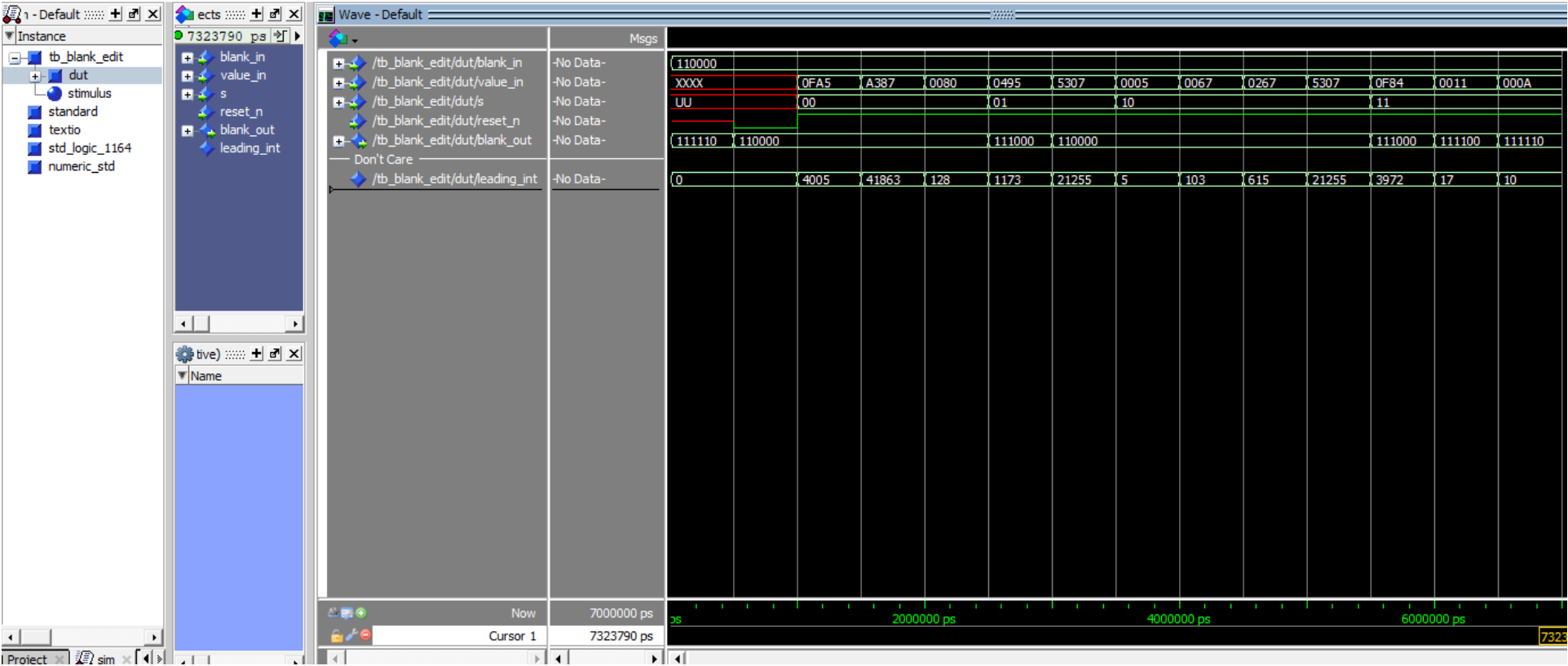
System Processing (35)

Testbench:

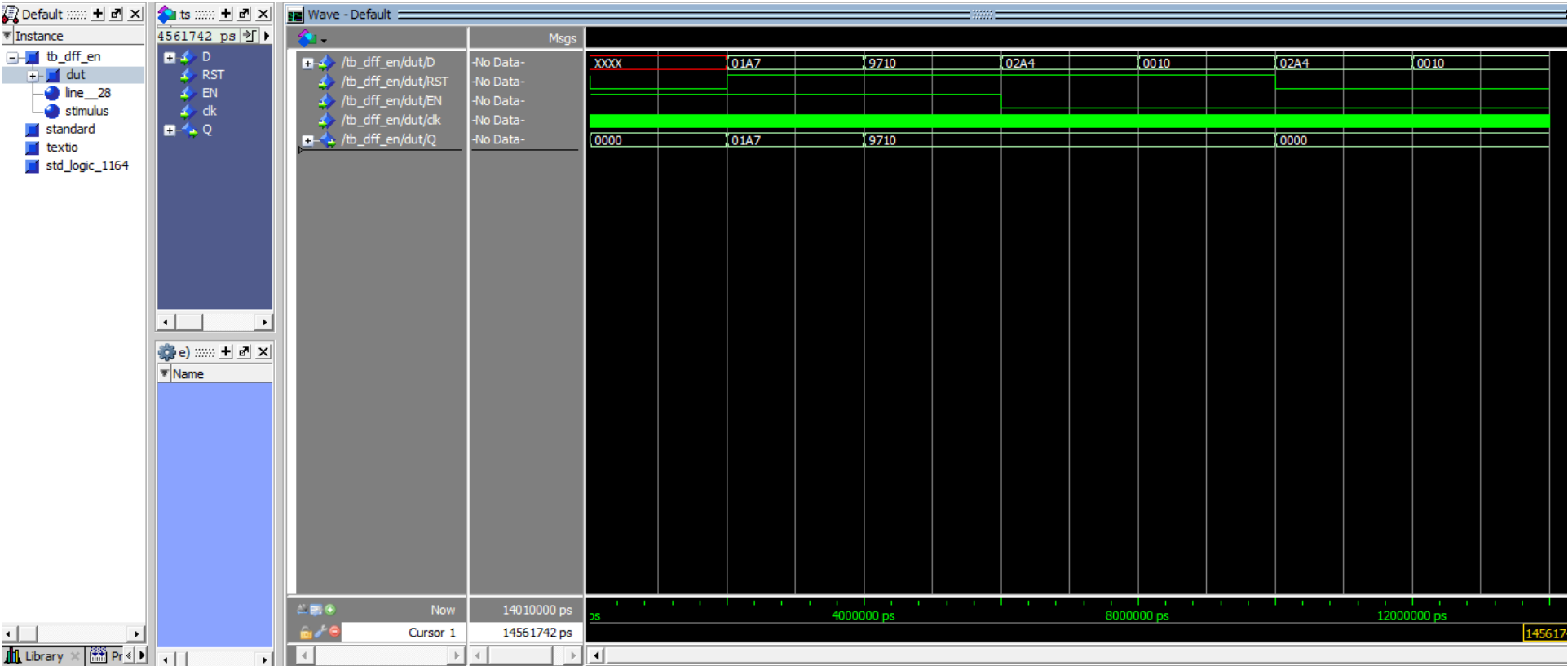
Tb_averager256:



Tb blank edit:



tb_DFF_EN:



Tb_top_level:

