tb_axis.v

AUTHORS

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DATES

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INFORMATION

Brief

Test bench for axis_fifo using axis stim and clock stim.

License MIT

tb_axis

```
module tb_axis #(
parameter
IN_FILE_NAME
  =
"in.bin",
parameter
OUT_FILE_NAME
  =
"out.bin",
parameter
FIFO_DEPTH
```

```
  =
 128,
 parameter
 RAND_READY
  =
 0
)
```

Test bench for axis_fifo. This will run a file through the system and write its output. These can then be compared to check for errors. If the files are identical, no errors. A FST file will be written.

Parameters

IN_FILE_NAME File name for input.
parameter

OUT_FILE_NAME File name for output.
parameter

FIFO_DEPTH Number of transactions to buffer.
parameter

RAND_READY 0 = no random ready. 1 = randomize ready.
parameter

INSTANTIATED MODULES

clk_stim

```
clk_stimulus #(
                                                                    .
CLOCKS(2),
                                                                    .
CLOCK_BASE(1000000),
                                                                    .
CLOCK_INC(10),
                                                                    .
RESETS(2),
                                                                    .
RESET_BASE(2000),
                                                                    .
RESET_INC(100)
) clk_stim ( .clkv({tb_dut_clk, tb_stim_clk}), .rstnv({tb_dut_rstn, tb_stim_
```

Generate a 50/50 duty cycle set of clocks and reset.

slave_axis_stim

```
slave_axis_stimulus #(
                                                                    .
BUS_WIDTH(BUS_WIDTH),
                                                                    .
USER_WIDTH(USER_WIDTH),
                                                                    .
DEST_WIDTH(DEST_WIDTH),
                                                                    .
FILE(IN_FILE_NAME)
) slave_axis_stim ( .m_axis_aclk(tb_stim_clk), .m_axis_arstn(tb_stim_rstn),
```

Device under test SLAVE stimulus module.

dut

```
axis_fifo #(
                                                                                .
FIFO_DEPTH(FIFO_DEPTH),
                                                                                .
COUNT_WIDTH(8),
                                                                                .
BUS_WIDTH(BUS_WIDTH),
                                                                                .
USER_WIDTH(USER_WIDTH),
                                                                                .
DEST_WIDTH(DEST_WIDTH),
                                                                                .
RAM_TYPE("block"),
                                                                                .
PACKET_MODE(0),
                                                                                .
COUNT_DELAY(1),
                                                                                .
COUNT_ENA(1)
) dut ( .s_axis_aclk(tb_stim_clk), .s_axis_arstn(tb_stim_rstn), .s_axis_tva
```

Device under test, axis_fifo

master_axis_stim

```
master_axis_stimulus #(
                                                                                .
BUS_WIDTH(BUS_WIDTH),
                                                                                .
USER_WIDTH(USER_WIDTH),
                                                                                .
DEST_WIDTH(DEST_WIDTH),
                                                                                .
RAND_READY(RAND_READY),
                                                                                .
FILE(OUT_FILE_NAME)
) master_axis_stim ( .s_axis_aclk(tb_dut_clk), .s_axis_arstn(tb_dut_rstn),
```

Devie under test MASTER stimulus module.