tb_cocotb.v

AUTHORS

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DATES

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INFORMATION

Brief

Test bench wrapper for cocotb

License MIT

tb_cocotb

```
module tb_cocotb #(
parameter
DELIMITER
  =
";",
parameter
TERMINATION
  =
"\n",
parameter
STRING_LEN
```

```
 =
4,
parameter
MBUS_WIDTH
 =
1,
parameter
USER_WIDTH
 =
4,
parameter
DEST_WIDTH
 =
4,
parameter
PREFIX_LEN
 =
1,
parameter
DATA_PREFIX
 =
"#",
parameter
DEST_PREFIX
 =
"&",
parameter
USER_PREFIX
 =
"*",
parameter
KEYWORD_LEN
 =
3,
parameter
SET_KEYWORD
 =
"set",
parameter
CLR_KEYWORD
 =
"clr"
) ( input aclk, input arstn, output [(MBUS_WIDTH*8)-1:0] m_axis_tdata, outpu
```

Test bench for string to data converter. 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

DELIMITER parameter	break value between multple strings
TERMINATION parameter	termination value of full string from serial port, byte only. (\n = 0A \r = 0D).
STRING_LEN parameter	max lenth of string including delimiter
MBUS_WIDTH parameter	bus width of master (data) output
USER_WIDTH parameter	user width of master bus, only in 4 bit nibbles, and at least 4 bits.
DEST_WIDTH	dest width of master bus, only in 4 bit nibbles, and at least 4 bits.

parameter

PREFIX_LEN	length of following prefix strings in bytes.

parameter

DATA_PREFIX	prefix for data hex strings

parameter

DEST_PREFIX	prefix for destination hex strings

parameter

USER_PREFIX	prefix for user hex strings

parameter

KEYWORD_LEN	length of the following keywords

parameter

SET_KEYWORD	keyword to output data over tdata,tuser,tdest on master interface.

parameter

CLR_KEYWORD	keyword to clear output data and buffers of master interface.

parameter

Ports

aclk	Clock for AXIS
arstn	Negative reset for AXIS
m_axis_tdata	Output data
m_axis_tvalid	When active high the output data is valid
m_axis_tuser	Output user data
m_axis_tdest	Output destination data
m_axis_tready	When set active high the output device is ready for data.
s_axis_tdata	Input string data
s_axis_tvalid	When set active high the input data is valid
s_axis_tready	When active high the device is ready for input data.

INSTANTIATED MODULES

dut

```
axis_string_to_axis_data #(
                                                                    .
DELIMITER(DELIMITER),
                                                                    .
TERMINATION(TERMINATION),
                                                                    .
STRING_LEN(STRING_LEN),
                                                                    .
MBUS_WIDTH(MBUS_WIDTH),
                                                                    .
USER_WIDTH(USER_WIDTH),
                                                                    .
DEST_WIDTH(DEST_WIDTH),
                                                                    .
PREFIX_LEN(PREFIX_LEN),
                                                                    .
DATA_PREFIX(DATA_PREFIX),
                                                                    .
DEST_PREFIX(DEST_PREFIX),
```

```
                                                                        .
 USER_PREFIX(USER_PREFIX),                                              .
 KEYWORD_LEN(KEYWORD_LEN),                                              .
 SET_KEYWORD(SET_KEYWORD),                                              .
 CLR_KEYWORD(CLR_KEYWORD)
) dut ( .aclk(tb_dut_clk), .arstn(tb_dut_rstn), .m_axis_tdata(tb_dut_data),
```

Device under test, axis_string_to_axis_data