

tb_cocotb.v

AUTHORS

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DATES

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INFORMATION

Brief

Test bench wrapper for cocotb

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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, output

```

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 multiple 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 parameter	dest width of master bus, only in 4 bit nibbles, and at least 4 bits.
PREFIX_LEN parameter	length of following prefix strings in bytes.
DATA_PREFIX parameter	prefix for data hex strings

DEST_PREFIX parameter	prefix for destination hex strings
USER_PREFIX parameter	prefix for user hex strings
KEYWORD_LEN parameter	length of the following keywords
SET_KEYWORD parameter	keyword to output data over tdata,tuser,tdest on master interface.
CLR_KEYWORD parameter	keyword to clear output data and buffers of master interface.

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(aclk), .arstn(arstn), .m_axis_tdata(m_axis_tdata), .m_axis_tvalid(m_axis_tvalid), .m_axis_tready(m_axis_tready), .s_axis_tdata(s_axis_tdata), .s_axis_tvalid(s_axis_tvalid), .s_axis_tready(s_axis_tready))
```

Device under test, axis_string_to_axis_data