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 — break value between multple strings
parameter

TERMINATION — termination value of full string from serial port, byte only. (\n = 0A \r = 0D).
parameter

STRING_LEN — max lenth of string including delimiter
parameter

MBUS_WIDTH — bus width of master (data) output
parameter

USER_WIDTH — user width of master bus, only in 4 bit nibbles, and at least 4 bits.
parameter

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 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_tva
```

Device under test, axis_string_to_axis_data