

# tb\_cocotb.v

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## AUTHORS

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## DATES

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## INFORMATION

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### Brief

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Test bench wrapper for cocotb

### License MIT

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## tb\_cocotb

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```
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

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

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### dut

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```
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),

```

Device under test, axis\_string\_to\_axis\_data