

# tb\_axi\_lite\_cocotb.v

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## AUTHORS

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JAY CONVERTINO

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## DATES

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2024/12/10

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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
    ADDRESS_WIDTH
    =
    32,
    parameter
    BUS_WIDTH
    =
    4,
    parameter
    DEPTH
```

```

    =
    512,
    parameter
    RAM_TYPE
    =
    "block",
    parameter
    HEX_FILE
    =
    ""
) ( input aclk, input arstn, input s_axi_awvalid, input [ADDRESS_WIDTH-1:0]

```

Test bench for axi lite block ram.

## Parameters

<b>ADDRESS_WIDTH</b> parameter	Width of the axi address bus in bits.
<b>BUS_WIDTH</b> parameter	Bus width for data paths in bytes.
<b>DEPTH</b> parameter	Depth of the RAM in terms of data width words.
<b>RAM_TYPE</b> parameter	Used to set the ram_style attribute.
<b>HEX_FILE</b> parameter	Hex file to write to RAM.

## Ports

<b>aclk</b>	Clock for all devices in the core
<b>arstn</b>	Negative reset
<b>s_axi_awvalid</b>	Axi Lite aw valid
<b>s_axi_awaddr</b>	Axi Lite aw addr
<b>s_axi_awprot</b>	Axi Lite aw prot
<b>s_axi_awready</b>	Axi Lite aw ready
<b>s_axi_wvalid</b>	Axi Lite w valid
<b>s_axi_wdata</b>	Axi Lite w data
<b>s_axi_wstrb</b>	Axi Lite w strb
<b>s_axi_wready</b>	Axi Lite w ready
<b>s_axi_bvalid</b>	Axi Lite b valid
<b>s_axi_bresp</b>	Axi Lite b resp
<b>s_axi_bready</b>	Axi Lite b ready
<b>s_axi_arvalid</b>	Axi Lite ar valid
<b>s_axi_araddr</b>	Axi Lite ar addr
<b>s_axi_arprot</b>	Axi Lite ar prot
<b>s_axi_arready</b>	Axi Lite ar ready
<b>s_axi_rvalid</b>	Axi Lite r valid
<b>s_axi_rdata</b>	Axi Lite r data
<b>s_axi_rresp</b>	Axi Lite r resp
<b>s_axi_rready</b>	Axi Lite r ready

# INSTANTIATED MODULES

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## dut

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```
axi_lite_block_ram #(
    ADDRESS_WIDTH(ADDRESS_WIDTH),
    BUS_WIDTH(BUS_WIDTH),
    DEPTH(DEPTH),
    RAM_TYPE(RAM_TYPE),
    HEX_FILE(HEX_FILE)
) dut ( .aclk(aclk), .arstn(arstn), .s_axi_awvalid(s_axi_awvalid), .s_axi_av
```

Device under test, axi lite block ram