tb_coctb.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
ADDRESS_WIDTH
  =
16,
parameter
BUS_WIDTH
  =
4
) ( input clk, input rstn, input [ADDRESS_WIDTH-1:0] s_apb_paddr, input [0:0
```

APB3 slave to uP interface DUT

Parameters

ADDRESS_WIDTH parameter	Width of the APB3 address port in bits.
BUS_WIDTH parameter	Width of the APB3 bus data port in bytes.

Ports

clk	Clock
rstn	negative reset
s_apb_paddr	APB3 address bus, up to 32 bits wide.
s_apb_psel	APB3 select per slave (1 for this core).
s_apb_penable	APB3 enable device for multiple transfers after first.
s_apb_pready	APB3 ready is a output from the slave to indicate its able to process the request.
s_apb_pwrite	APB3 Direction signal, active high is a write access. Active low is a read access.
s_apb_pwdata	APB3 write data port.
s_apb_prdata	APB3 read data port.
s_apb_pslverror	APB3 error indicates transfer failure, not implimented.
up_rreq	uP bus read request
up_rack	uP bus read ack
up_raddr	uP bus read address
up_rdata	uP bus read data
up_wreq	uP bus write request
up_wack	uP bus write ack
up_waddr	uP bus write address
up_wdata	uP bus write data

INSTANTIATED MODULES

dut

```
up_apb3 #(
                                                                                .
ADDRESS_WIDTH(ADDRESS_WIDTH),
                                                                                .
BUS_WIDTH(BUS_WIDTH)
) dut ( .clk(clk), .rstn(rstn), .s_apb_paddr(s_apb_paddr), .s_apb_psel(s_apb
```

Device under test, up_apb3