

```

1 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
2 //                                                                                      //
3 // File name : missing_sop/testcase.sv                                              //
4 // Author    : G. Andres Mancera                                                  //
5 // License   : GNU Lesser General Public License                                  //
6 // Course    : Advanced Verification with SystemVerilog OOP                        //
7 //           : Testbench - UCSC Silicon Valley Extension                          //
8 //                                                                                      //
9 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
10
11 `include "../../testbench/packet.sv"
12 `include "../../testbench/driver.sv"
13 `include "../../testbench/monitor.sv"
14 `include "../../testbench/coverage.sv"
15 `include "../../testbench/scoreboard.sv"
16 `include "../../testbench/env.sv"
17
18 program testcase ( interface tcif_driver,
19                   interface tcif_monitor );
20
21 class no_sop_packet extends packet;
22     constraint C_payload_size
23     {
24         payload.size() inside {[46:256]};
25     }
26     constraint C_proper_sop_eop_marks
27     {
28         sop_mark dist { 0:=10, 1:=90 };
29         eop_mark == 1;
30     }
31 endclass : no_sop_packet
32
33 env                env0;
34 int unsigned       num_packets;
35 no_sop_packet      testcase_packet;
36
37 initial begin
38     env0                = new(tcif_driver, tcif_monitor);
39     testcase_packet = new();
40
41     // Connect packet handle from driver to testcase_packet
42     env0.drv.xge_mac_pkt = testcase_packet;
43     num_packets = $urandom_range(40,60);
44     tcif_driver.init_tb_signals();
45     tcif_driver.make_loopback_connection();
46     tcif_driver.wait_ns(2000);
47     env0.run(num_packets);
48     tcif_driver.wait_ns(100000);
49     $finish;
50 end
51
52 final begin
53     int unsigned    num_pkts;
54     int unsigned    num_errors;
55     num_pkts        = packet::get_pktid();
56     num_errors       = env0.scbd.num_of_mismatches;
57     $display("\nTESTCASE: ----- End Of Simulation -----");
58     $display("TESTCASE: Number of packets sent          : %0d", num_pkts);
59     $display("TESTCASE: Number of mismatched packets : %0d", num_errors);
60     if ( num_errors==0 )

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```
61         $display("TESTCASE: ----- PASSED -----\n");
62     else
63         $display("TESTCASE: ----- FAILED -----\n");
64     end
65
66 endprogram
67
```