Patterns

- Functional
  - 1,112,583 received data and 3,499,997 transmitted data
- Stuck at
  - 33 patterns (2108 test cycles)
- Transition delay
  - 40 patterns (2702 test cycles)
- Path delay
  - 9 patterns (434 test cycles)

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- Trojan Description
  - Trojan trigger is a combinational comparator whose trigger input probability is 3.55e-13. Whenever Trojan gets triggered, its payload gains control over one primary output signal and two internal signals.

- Trojan Taxonomy
  - Insertion phase: Design
  - Abstraction level: Gate-level
  - Activation mechanism: Internally conditionally triggered
  - Effects: Change functionality
  - Physical characteristics: Functional

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NAND4X1 U293(.A(n251),.B(n239),.C(n242),.D(n246),.Y(iXMIT_N_CTRL_1_));
NAND4X1 U294(.A(iXMIT_N28),.B(iXMIT_N27),.C(iXMIT_N26),.D(iXMIT_N25),.Y(iXMIT_N_CTRL_2_));
NAND4X1 U295(.A(iXMIT_N24),.B(iXMIT_xmit_ShiftRegH_7_),.C(iXMIT_xmit_ShiftRegH_6_),.D(iXMIT_xmit_ShiftRegH_5_),.Y(iXMIT_xmit_CTRL));
OR4X1   U296(.A(1'b0),.B(iXMIT_N_CTRL_1_),.C(iXMIT_N_CTRL_2_),.D(iXMIT_xmit_CTRL),.Y(iXMIT_CRTL));
NAND4X1 U297(.A(iRECEIVER_next_state_2_),.B(iRECEIVER_state_0_),.C(iRECEIVER_state_1_),.D(iRECEIVER_state_2_),.Y(iRECEIVER_state_CTRL));
NAND4X1 U298(.A(iRECEIVER_N28),.B(iRECEIVER_N27),.C(iRECEIVER_N26),.D(iRECEIVER_N23),.Y(iRECEIVER_N_CTRL_1_));
NAND4X1 U299(.A(iRECEIVER_N22),.B(iRECEIVER_N21),.C(iRECEIVER_N20),.D(iRECEIVER_N19),.Y(iRECEIVER_N_CTRL_2_));
NAND4X1 U300(.A(iRECEIVER_N18),.B(iRECEIVER_N17),.C(iRECEIVER_bitCell_cntrH_0_),.D(iRECEIVER_bitCell_cntrH_1_),.Y(iRECEIVER_bitCell_CTRL));
OR4X1   U301(.A(iRECEIVER_state_CTRL),.B(iRECEIVER_N_CTRL_1_),.C(iRECEIVER_N_CTRL_2_),.D(iRECEIVER_bitCell_CTRL),.Y(iRECEIVER_CTRL));
OR2X1   U302(.A(iXMIT_CRTL),.B(iRECEIVER_CTRL),.Y(iCTRL));
AND2X1  U303(.A(iCTRL),.B(xmit_doneH_temp),.Y(xmit_doneH));
AND2X1  U304(.A(iCTRL),.B(rec_dataH_rec_0_temp),.Y(rec_dataH_rec[0]));
AND2X1  U305(.A(iCTRL),.B(iXMIT_state_1_temp),.Y(iXMIT_state_1_));
```

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Functional

Trojan activation probability	The number of Transmitted	The number of Received	Trojan activation	Payload Change	Simulation Length (No. Clock)	Length of each Receive/Transmission
3.55e-13	3 499 997	1 112 583	0	0	168 000 000	176/150

Structural

Circuit activity in Trojan-free	Circuit activity in Trojan_inserted	Trojan inputs activity	Activity inTrojan circuit	Trojan Triggered	Payloadchanged	Stuck-at unmatched
70 667	74 603	11 219	440	0	1 120	0

Transition delay

Circuit activity in Trojan-free	Circuit activity in Trojan-inserted	Trojan inputs activity	Activity inTrojan circuit	Trojan Triggered	Payloadchanged	Transition unmatched
94 436	99 852	15 436	599	0	1 513	0

Path delay

Circuit activity in Trojan-free	Circuit activity in Trojan-inserted	Trojan inputs activity	Activity inTrojan circuit	Trojan Triggered	Payloadchanged	Transition unmatched
35 963	38 098	6 627	139	0	590	0