# Synthesis Report

| | |
|---|---|
| Testbench | Pass |
| Clock Cycle | **10** (ns) |
| Cell Area | **41021.066203** (Please report **Total cell area**) |
| Total Time | **9640** for **p1** data ; **9650** for **p2** data (ns) |
| Area*Time | **395443078.2** for **p1** data ; **395853288.3** for **p2** data |

## Synthesis No-latch (screenshot)

```
=============================================================================
|     counter_reg     | Flip-flop |  10   |  Y  | N  | Y  | N  | N  | N  | N  |
=============================================================================

Inferred memory devices in process
        in routine IOTDF line 48 in file
                '/home/raid7_2/userb10/b10151/ICD2024/HW3/02_SYN/IOTDF.v'.
=============================================================================
|    Register Name    |   Type    | Width | Bus | MB | AR | AS | SR | SS | ST |
=============================================================================
| counter_delay1_reg  | Flip-flop |   4   |  Y  | N  | N  | N  | N  | N  | N  |
| counter_delay2_reg  | Flip-flop |   4   |  Y  | N  | N  | N  | N  | N  | N  |
=============================================================================

Inferred memory devices in process
        in routine IOTDF line 59 in file
                '/home/raid7_2/userb10/b10151/ICD2024/HW3/02_SYN/IOTDF.v'.
=============================================================================
|    Register Name    |   Type    | Width | Bus | MB | AR | AS | SR | SS | ST |
=============================================================================
|     wait_to_reg     | Flip-flop |  128  |  Y  | N  | N  | N  | N  | N  | N  |
|    iot_data_reg     | Flip-flop |  128  |  Y  | N  | Y  | N  | N  | N  | N  |
=============================================================================

Inferred memory devices in process
        in routine IOTDF line 135 in file
                '/home/raid7_2/userb10/b10151/ICD2024/HW3/02_SYN/IOTDF.v'.
=============================================================================
|    Register Name    |   Type    | Width | Bus | MB | AR | AS | SR | SS | ST |
=============================================================================
|      valid_reg      | Flip-flop |   1   |  N  | N  | Y  | N  | N  | N  | N  |
=============================================================================

Inferred memory devices in process
        in routine IOTDF line 162 in file
                '/home/raid7_2/userb10/b10151/ICD2024/HW3/02_SYN/IOTDF.v'.
=============================================================================
|    Register Name    |   Type    | Width | Bus | MB | AR | AS | SR | SS | ST |
=============================================================================
|     iot_out_reg     | Flip-flop |  128  |  Y  | N  | Y  | N  | N  | N  | N  |
=============================================================================
Presto compilation completed successfully.
```

## Synthesis slack (screenshot)

```
clock clk (rise edge)                          10.00      10.00
clock network delay (ideal)                     1.00      11.00
clock uncertainty                              -0.10      10.90
iot_out_reg[0]/CK (DFFRX1)                      0.00      10.90 r
library setup time                             -0.13      10.77
data required time                                        10.77
-------------------------------------------------------------
data required time                                        10.77
data arrival time                                        -10.72
-------------------------------------------------------------
slack (MET)                                               0.06
```