

DESIGN, SIMULATION AND IMPLEMENTATION OF 4-BIT WALLACE TREE MULTIPLIER USING ALTERA FPGA

To design a 4-bit Wallace Tree multiplier using Verilog HDL and to perform functional simulation.

To synthesize the design and implement using Altera FPGA.

REQUIREMENTS:

EDA Tool: Altera Quartus Prime v17

Hardware: DE1-SoC board

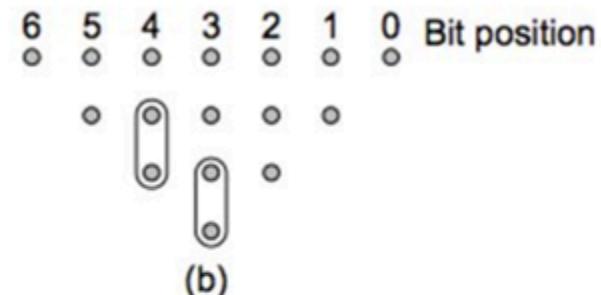
ARCHITECTURE :

Partial products

6	5	4	3	2	1	0
○	○	○	○	○	○	○
○	○	○	○	○	○	○
○	○	○	○	○	○	○
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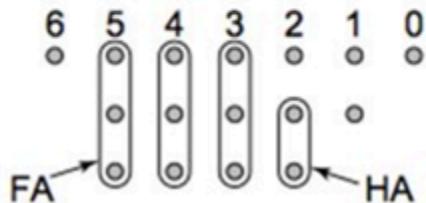
(a)

First stage



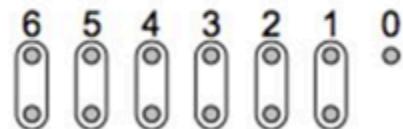
(b)

Second stage

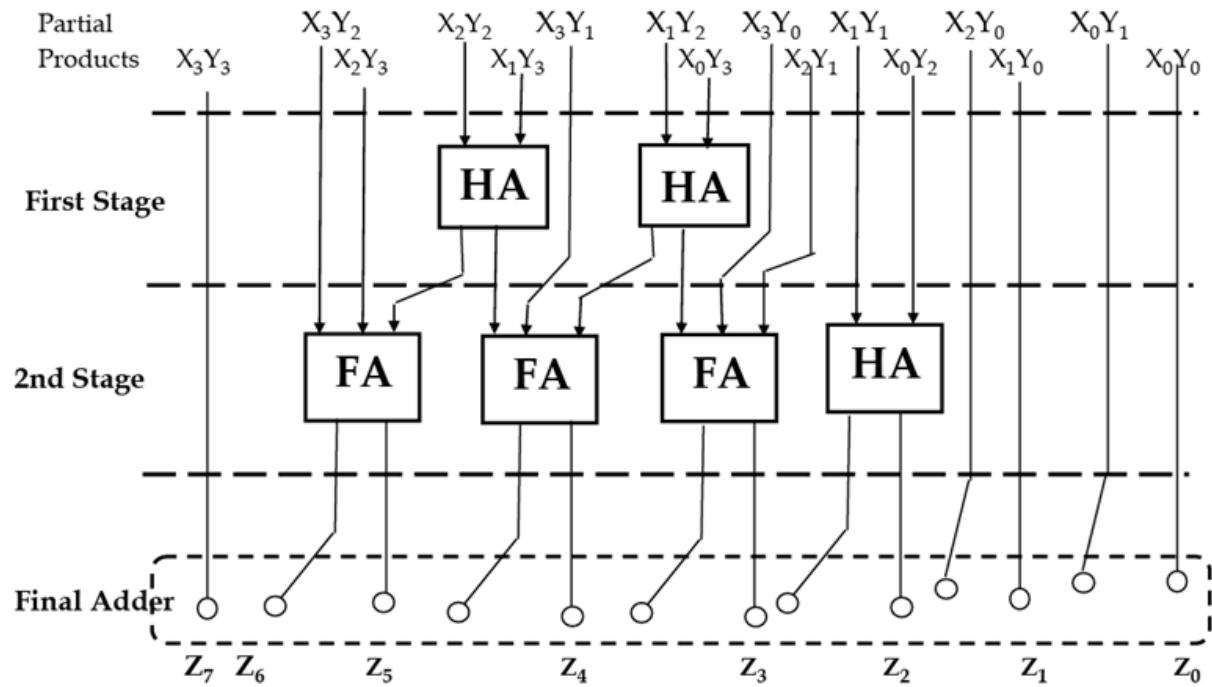


(c)

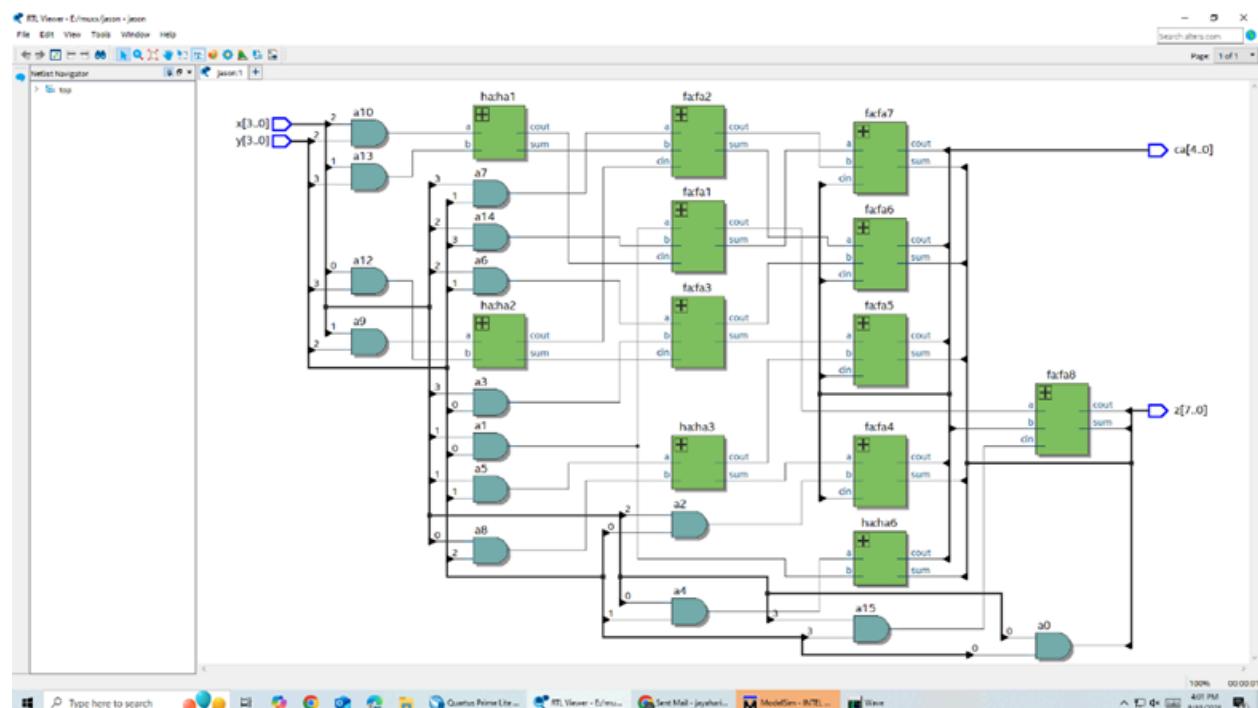
Final adder



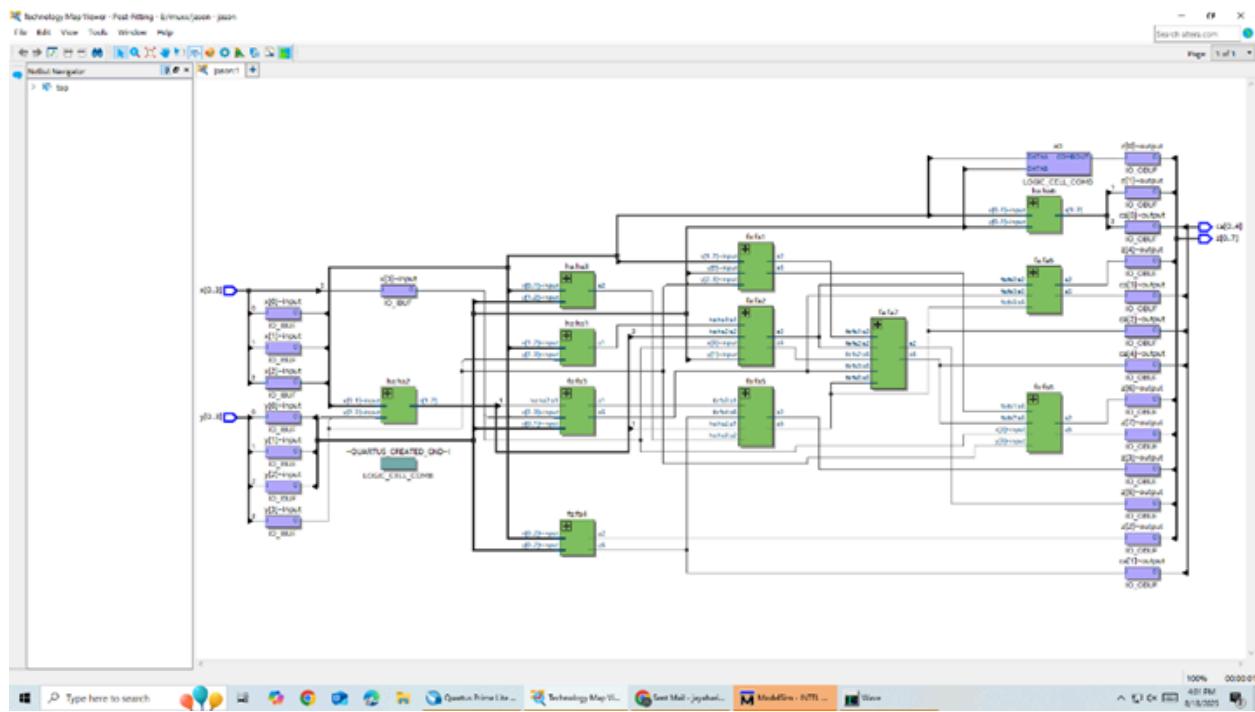
(d)



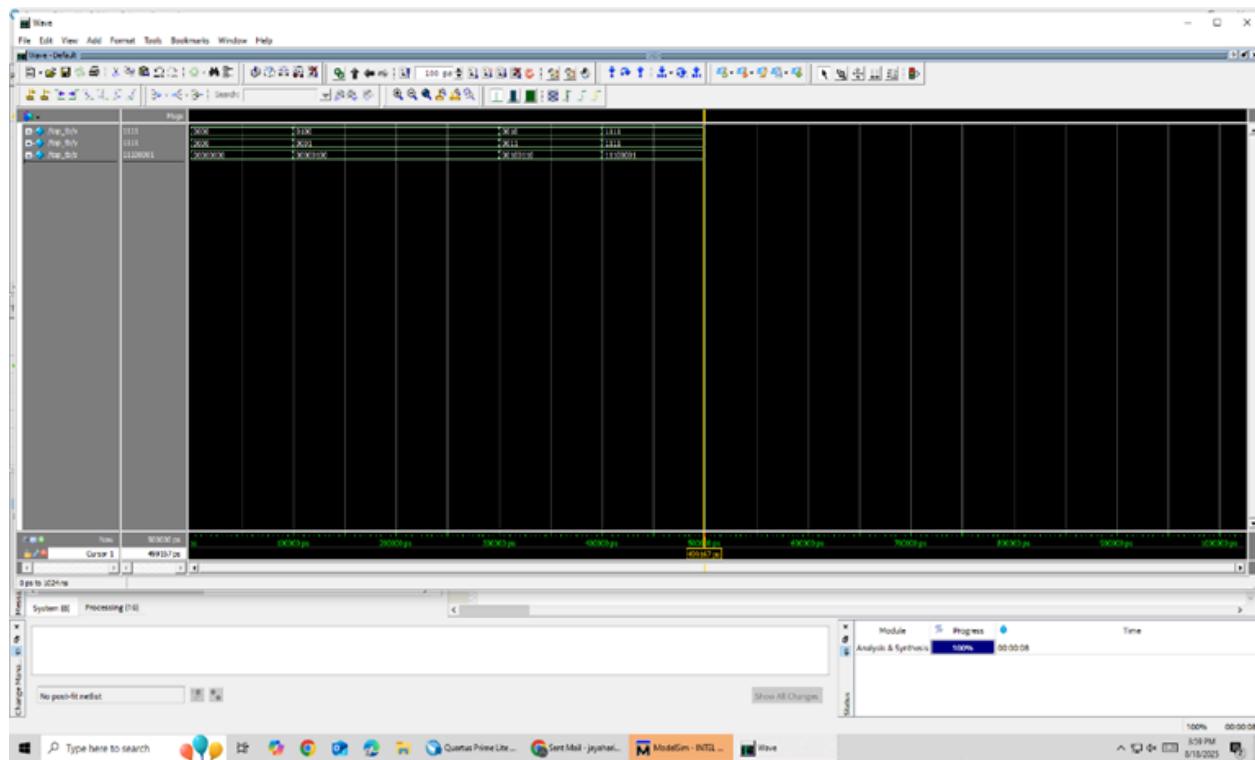
RTL SCHEMATIC:



TECHNOLOGY SCHEMATIC:



SIMULATION:



PIN CONFIGURATION & IMPLEMENTATION:

