ECE 424

PCB #2: ALU Design in Layout and Simulation in PSpice (100 points)

COVER SHEET

Honor Code: ___I have neither given or received, nor have I tolerated others' _____

_____use of unauthorized aid._____

Name: ___Joe Leveille____ Signature: _____Joseph Leveille_____

Honor Code: ____ I have neither given or received, nor have I tolerated others' _____

_____ I have neither given or received, nor have I tolerated others' _____

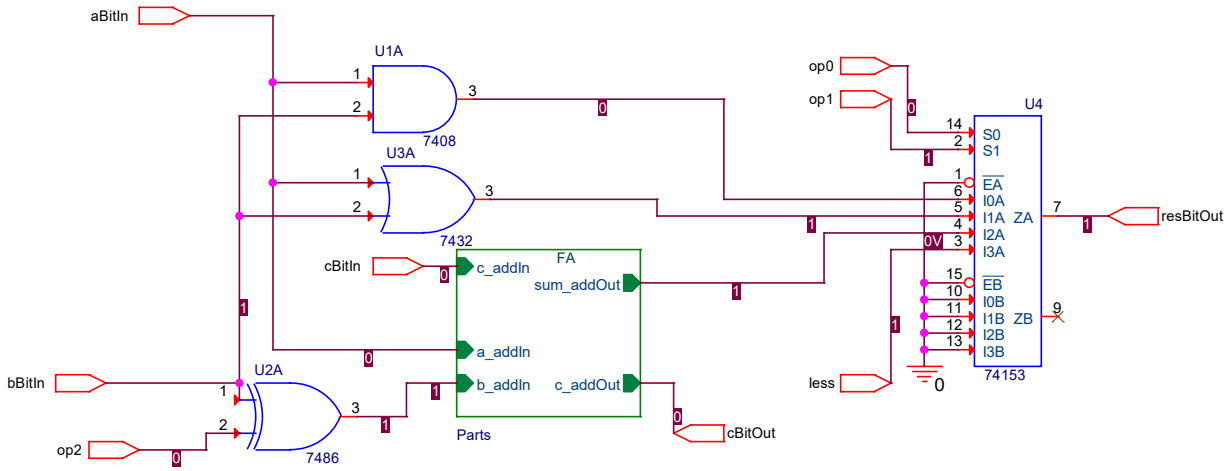
Name: ___Jon Bayert_____ Signature: _____Jonathan Bayert_____

A complete assignment will contain:

1) **The schematic for both (standard and MSB) bit slices and the ALU**
2) **PSpice output waveforms for the four 8-bit inputs. Make 4 pages, one for each input combination, each page containing the 5 operations. Show the result, carry, overflow, and zero flag results.**

Label each of these at the top of the 1st page of each part.

Have your outputs (not necessarily inputs) in HEX form… combine outputs into busses. Do not add busses in OrCad Capture, just in the Pspice simulation window. Use "Add Trace" and put your signals in braces for a bus: { r7 r6 r5 … }.



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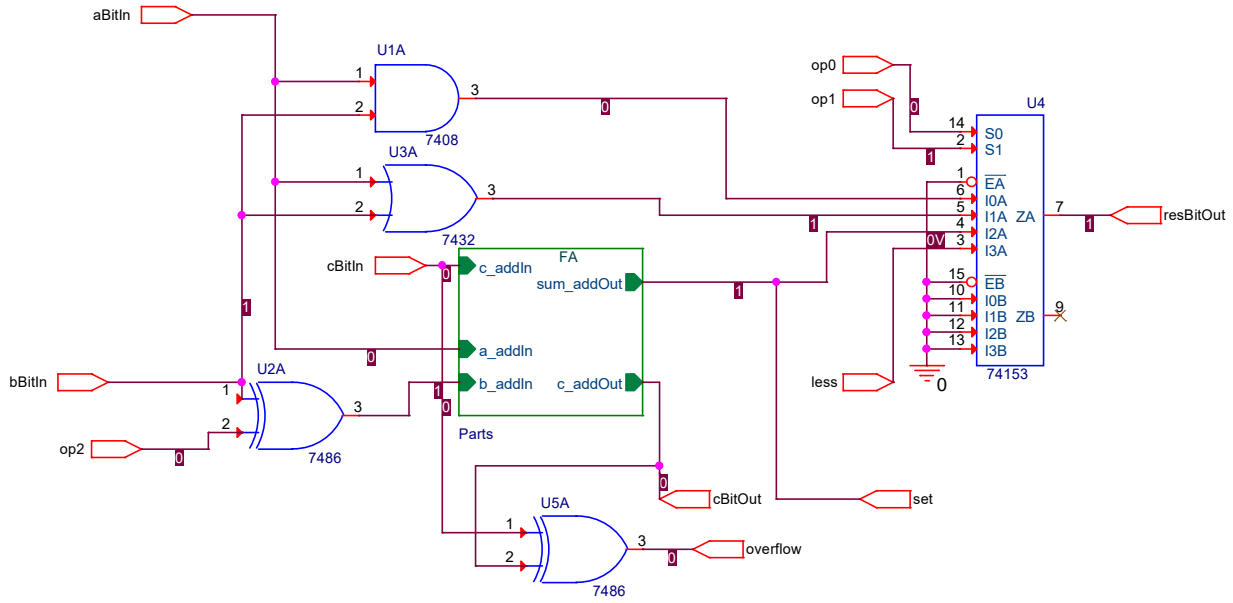
Size A	Document Number <Doc>	Rev <RevCod
Date: Thursday, September 03, 2020	Sheet 1 of 1	



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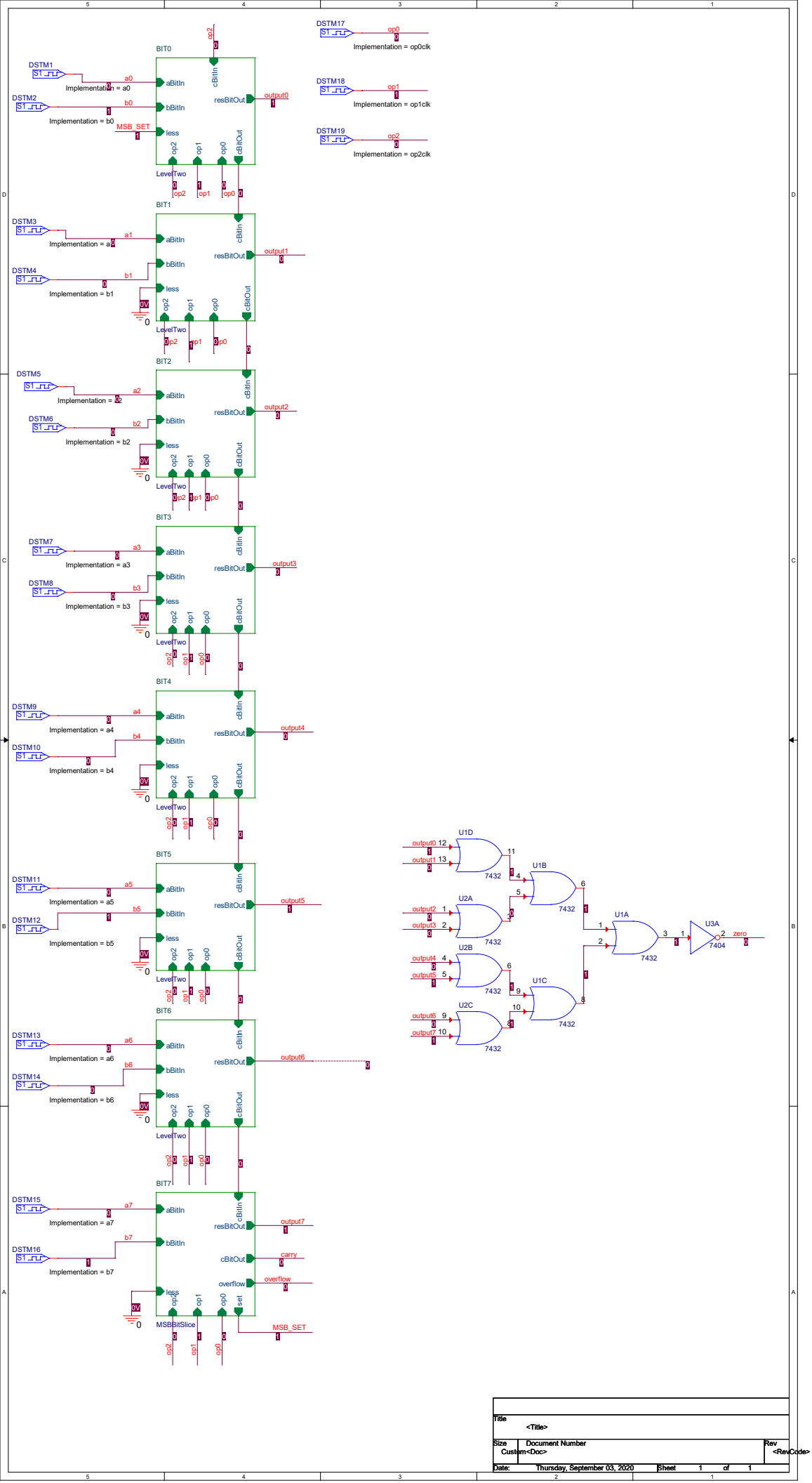
Date: Thursday, September 03, 2020	Sheet 1 of 1	



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Date: Thursday, September 03, 2020	Sheet 1 of 1	

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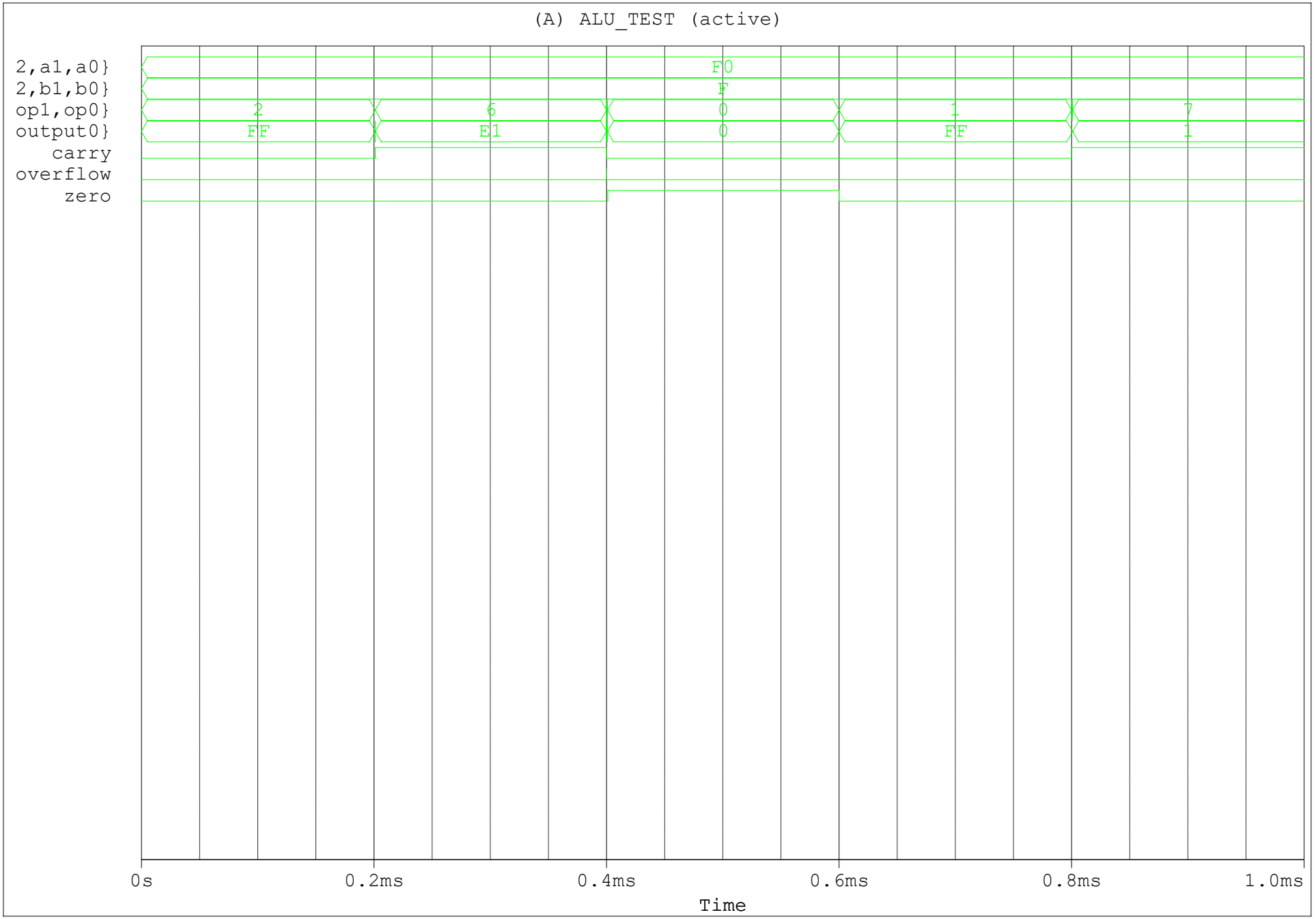

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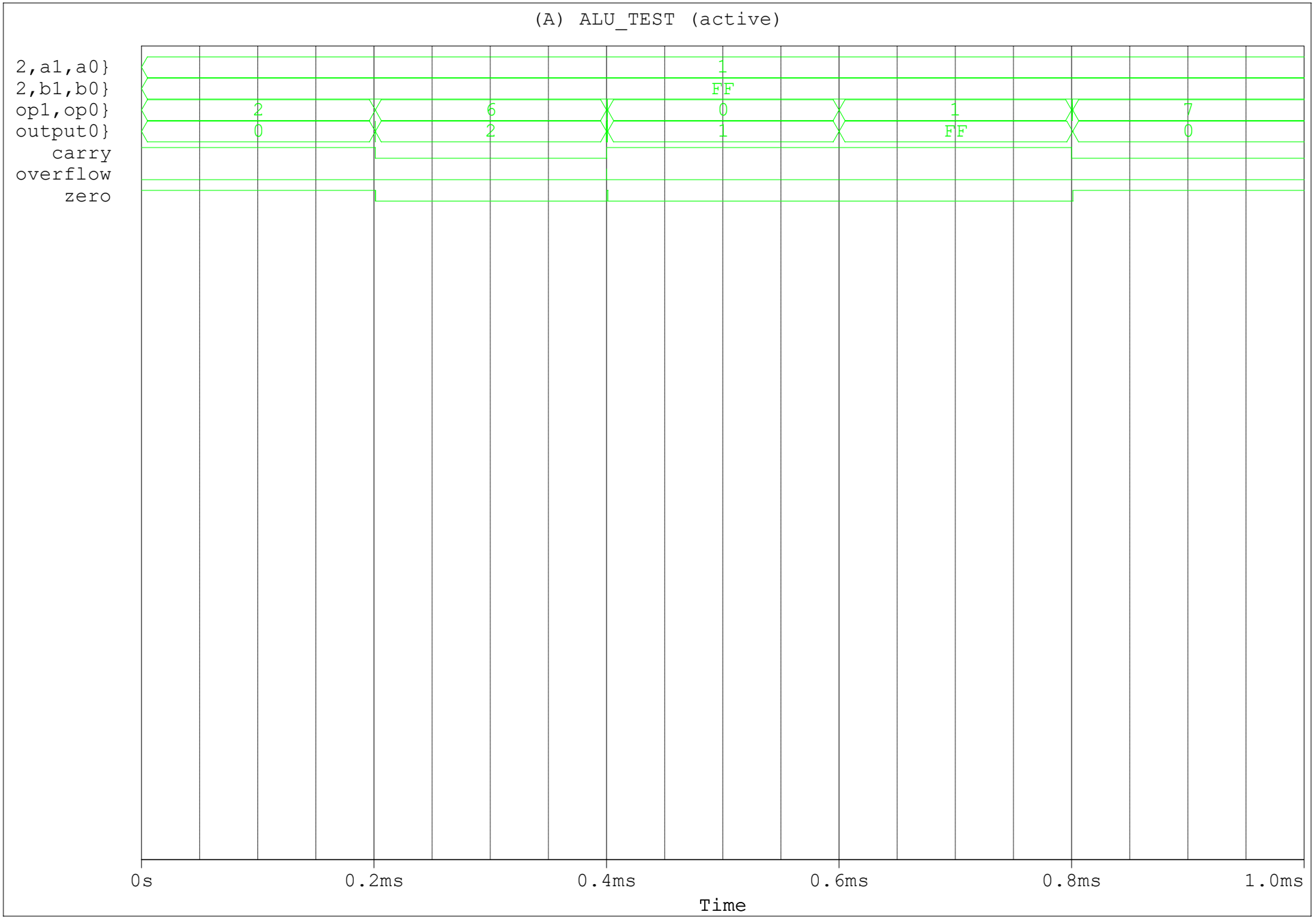

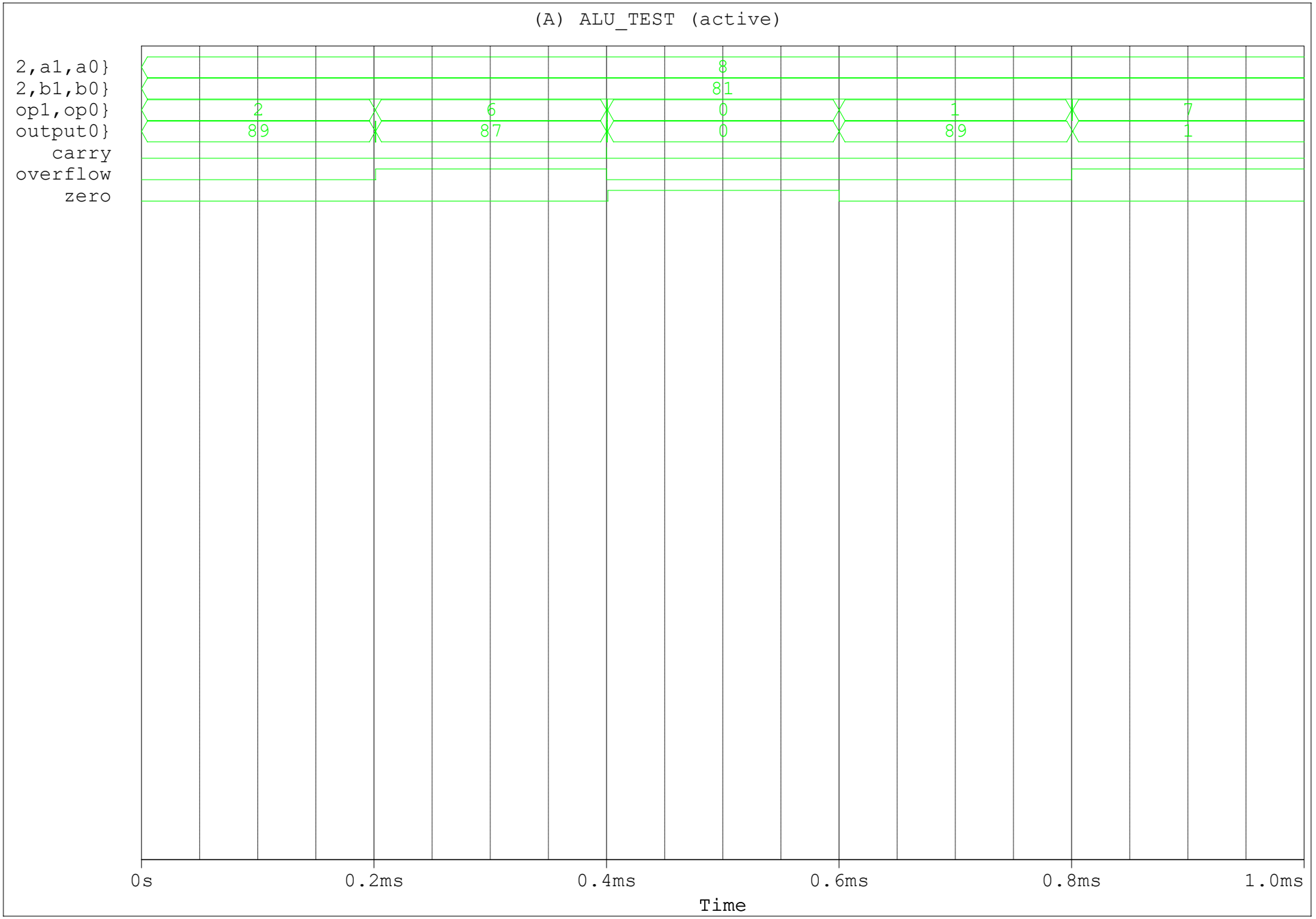
(A) ALU_TEST (active)
2,a1,a0}
2,b1,b0}
op1,op0}
output0}
carry
overflow
zero
8
81
2
6
0
1
7
89
87
0
89
1
0s
0.2ms
0.4ms
0.6ms
0.8ms
1.0ms
Time

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