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Quantitative AHB Based Dental analysis and report

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Abstract
Advaced microconrtoller basd bus architecure is used for difference Central prasessing Unites (CPUSs) for increasing efficiency of the system. There are lots of work published in different journals related to thist topic but DMA cntroller has not beed designed with the use of Advaced microconrtoller basd bus architecure. In this paper we prepared a FSM based microcontrôleurwith high efficience.

Keywords*: AHB controller, DMA module.*

I. Introduction

DMA Controller is prepared by the use of enchanced FSM technique for the incresing speed and saving time of different modules of Central procession unîtes. It is a advaced technology where more than one module can work simpultaneously and save time. So procession speed will be enhnaced and time of working of particular task by any central procession unit will be decreased for the same kind of task.

II. Technology and Methods

Development teamused the verilog technology for forntend design. Firsltly FSM modules are created than divided into 2 parts. So that both of FSM L-FSM & R-FSM can work on the same time for performing same different tasks. So that two tasks will be performed comparetively 40 % lesser time as compre to Full FSM performing because first FSM will do first taks. After completion of fist taks. It will start second one. So Full FSM methid will take more time. Now R-FST & L-FSM will work together for two kind of tasks.

Pic 1 : R-FSM & L-FSM module at 10 second

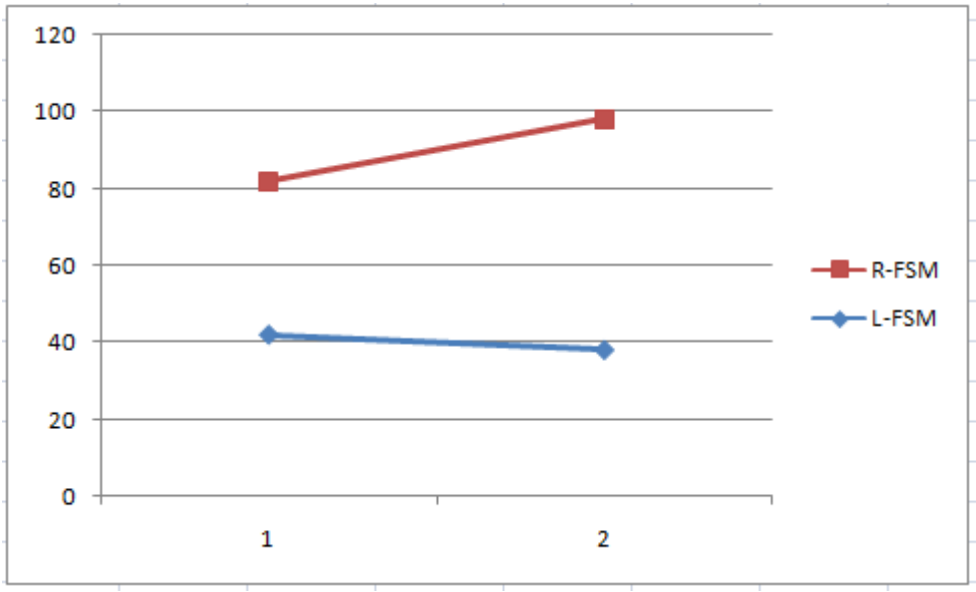


Table 1 : R-FSM & L-FSM module at 10 second

FSM Type	Task1	Task 2
L-FSM	52	10
R-FSM	40	60

Pic 2 : R-FSM & L-FSM module at 20 second

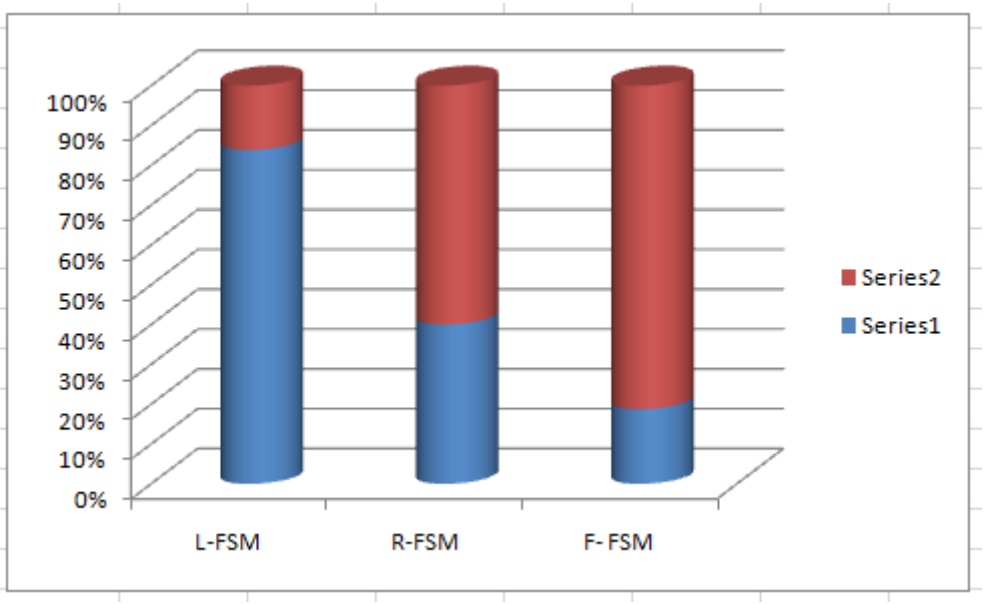


Table 2 : R-FSM & L-FSM module at 20 second

FSM type	Task1	Task2
L-FSM	52	10
R-FSM	40	60
F- FSM	12	52

Pic 3 : R-FSM & L-FSM module at 30 second

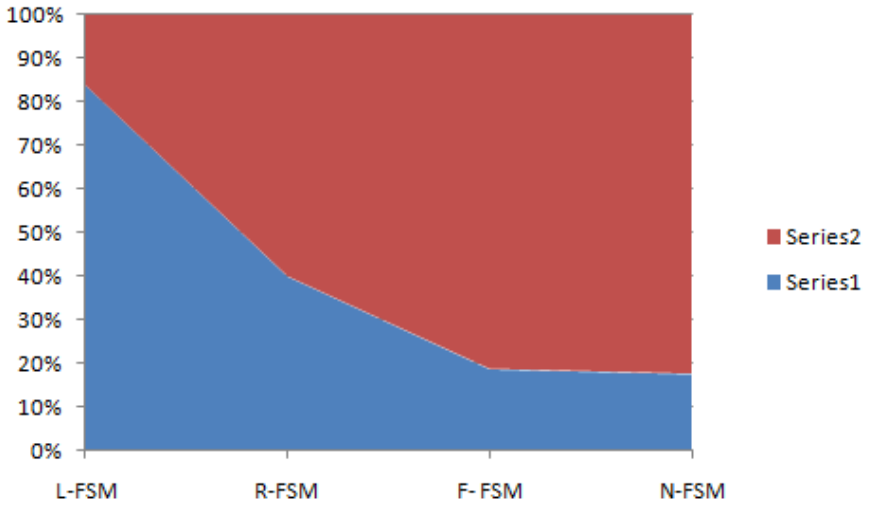


Table 3 : R-FSM & L-FSM module at 30 second

FSM type	Task 1	Task 2
L-FSM	52	10
R-FSM	40	60
F- FSM	12	52
N-FSM	12	56

Pic 3 : R-FSM & L-FSM module for 3 tasks

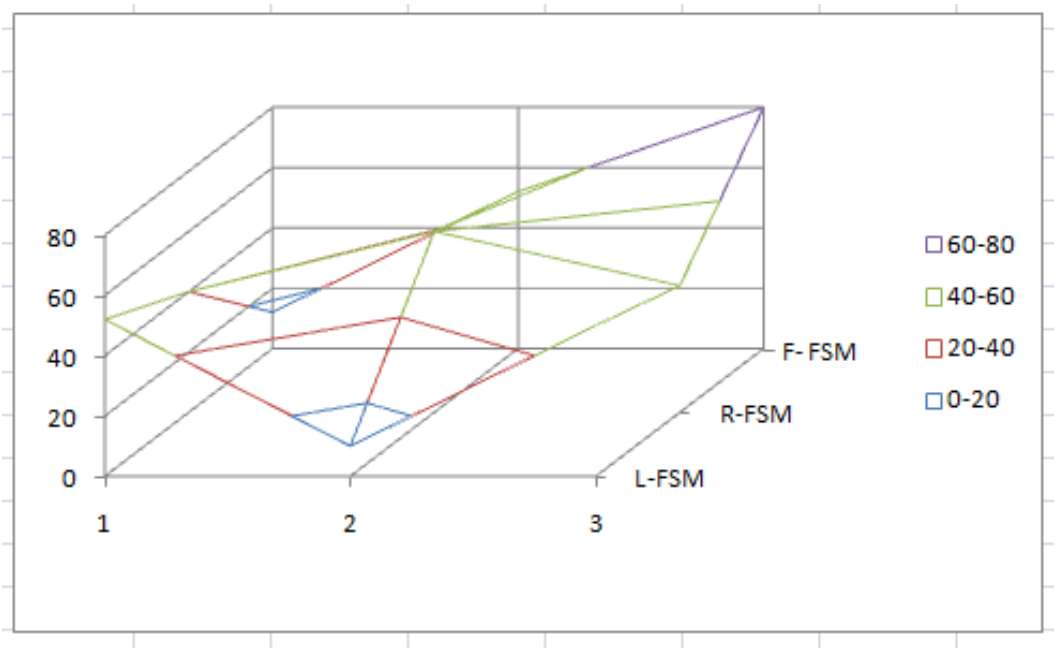


Table 3 : R-FSM & L-FSM module for 3 tasks

FSM type	Task1	Task2	Task3
L-FSM	52	10	50
R-FSM	40	60	42
F- FSM	12	52	80

Pic 4 : Four FSM module for 3 tasks

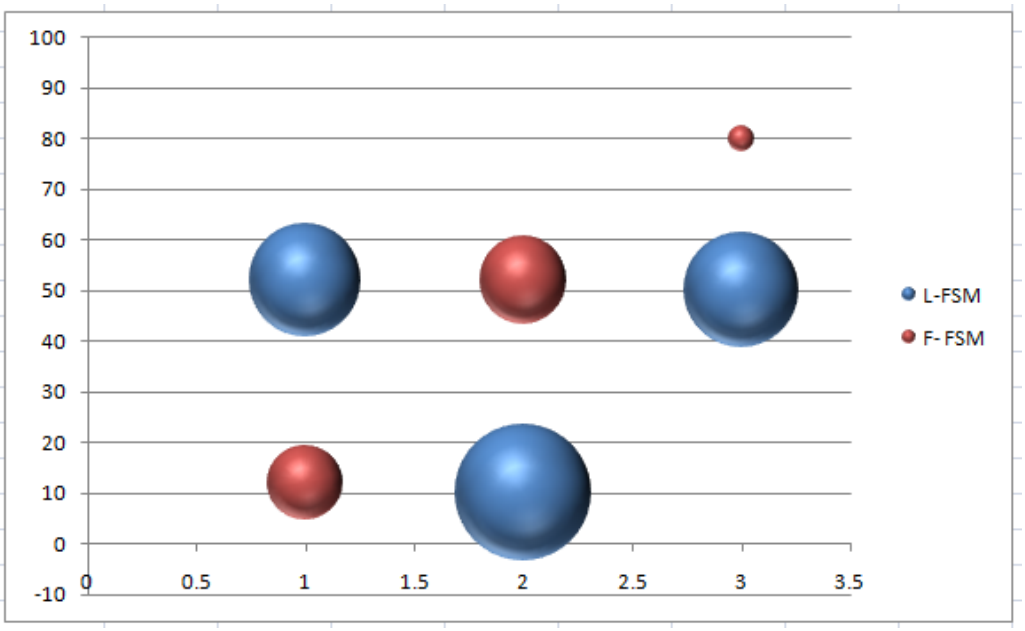


Table 4 : Four FSM module for 3 tasks

FSM type	Task1	Task2	Task3
L-FSM	52	10	50
R-FSM	40	60	42
F- FSM	12	52	80
H-FSM	18	24	2

Explantation :

Table 1 shows R-FSM & L-FSM module at 10 second. It the table of work complétion the end of 10 seconds. It shows that how both FSMs are working simultaneously and performing tasks.

Table 2 shows R-FSM & L-FSM module at 20 second. It is the gathered data at the end of 20 second by both of machine working together.

Table 3 shows R-FSM & L-FSM module for 3 tasks. There 3 tasks are peforming at the same time. Data Experience is very exponentional while performing three tasks on the same time.

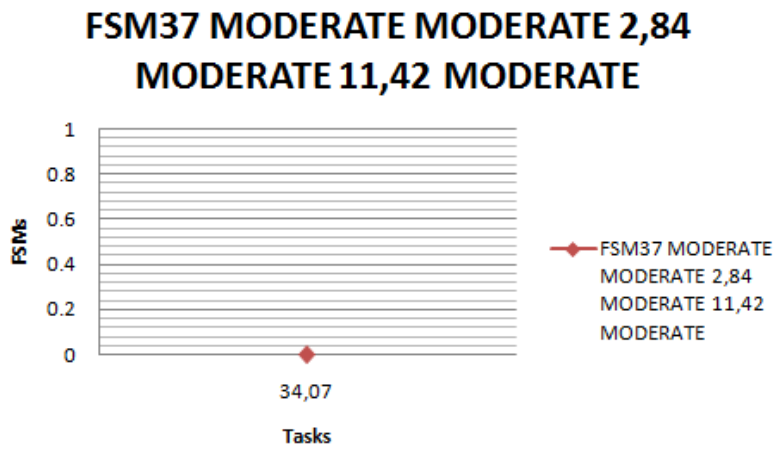
Table 4 Shows Four FSM module for 3 tasks. Performance of H-FSM is showing down as compared to other FSMs.

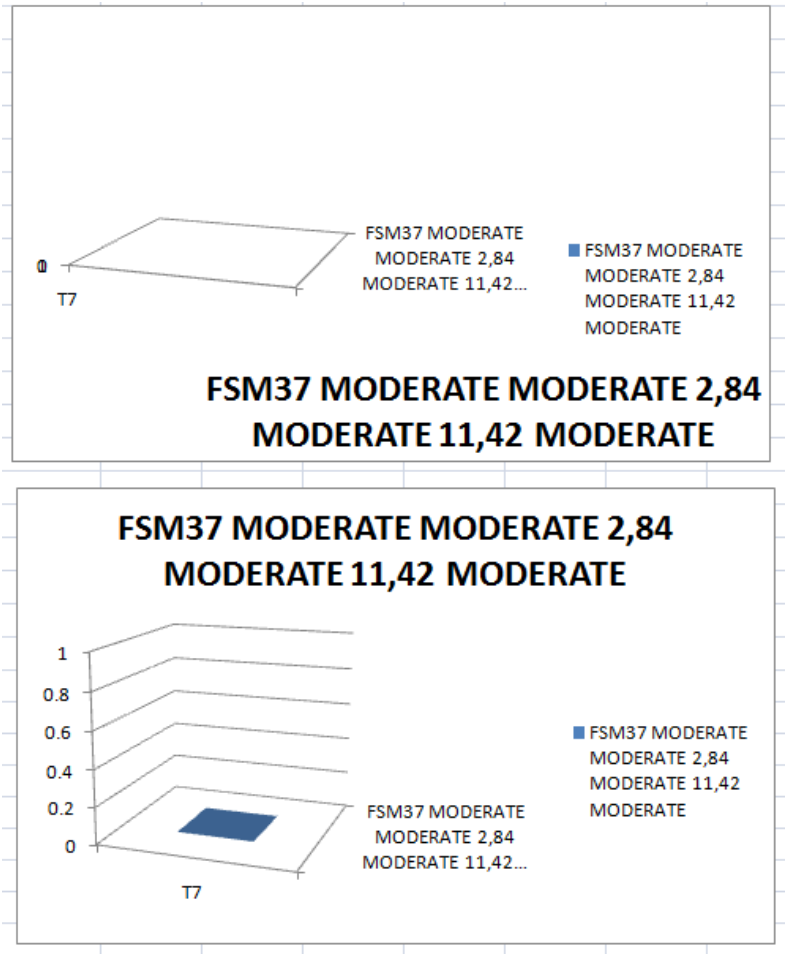
Table 5 : 37 FSM working with 7 tasks

SAMPLE	T1	T2	T3	T4	T5	T6	T7
FSM1	MODERATE	MODERATE	MODERATE	MODERATE	21,35	MODERATE	31,29
FSM2	MODERATE	MODERATE	5,14	MODERATE	29,49	MODERATE	30,33
FSM3	MODERATE	MODERATE	MODERATE	MODERATE	8,54	MODERATE	27,47
FSM4	MODERATE	MODERATE	3,26	MODERATE	10,55	MODERATE	37,2
FSM5	MODERATE	MODERATE	MODERATE	MODERATE	9,74	MODERATE	37,47
FSM6	MODERATE	MODERATE	MODERATE	MODERATE	14,57	MODERATE	35,6
FSM7	MODERATE	MODERATE	MODERATE	MODERATE	7,75	MODERATE	27,18
FSM8	MODERATE	MODERATE	2,57	MODERATE	20,5	MODERATE	30,78
FSM9	MODERATE	MODERATE	MODERATE	MODERATE	14,47	MODERATE	20,02
FSM10	MODERATE	MODERATE	4,82	MODERATE	8,18	MODERATE	35,65

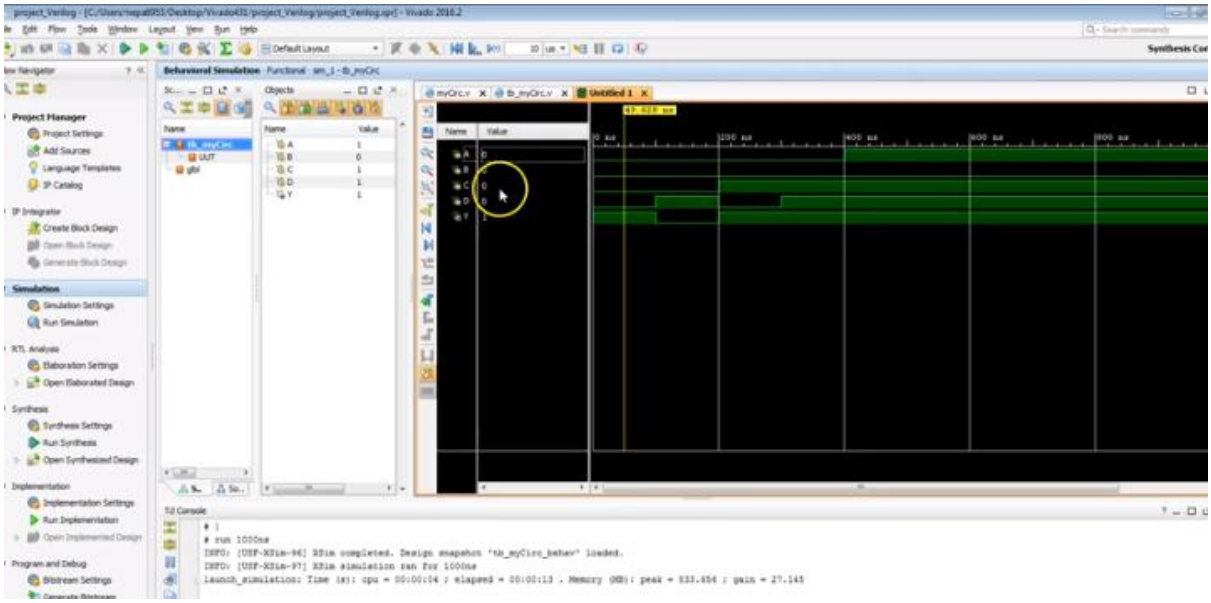
FSM11	MODERATE	MODERATE	3,79	MODERATE	10,51	MODERATE	40,05
FSM12	MODERATE	MODERATE	3,27	MODERATE	12,68	MODERATE	28,47
FSM13	MODERATE	MODERATE	3,63	MODERATE	11,01	MODERATE	37,12
FSM14	MODERATE	MODERATE	3,65	MODERATE	27,25	MODERATE	34,43
FSM15	MODERATE	MODERATE	2,83	MODERATE	13,35	MODERATE	34,6
FSM16	MODERATE	MODERATE	3,88	MODERATE	13,03	MODERATE	22,67
FSM17	MODERATE	MODERATE	MODERATE	MODERATE	12,03	MODERATE	32,06
FSM18	MODERATE	MODERATE	2,55	MODERATE	8,66	MODERATE	31,67
FSM19	MODERATE	MODERATE	2,91	MODERATE	10,93	MODERATE	33,53
FSM20	MODERATE	MODERATE	4,94	MODERATE	8,88	MODERATE	30,18
FSM21	MODERATE	MODERATE	3,35	MODERATE	9,05	MODERATE	26,08
FSM22	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE	27,4
FSM23	MODERATE	MODERATE	4,21	MODERATE	9,43	MODERATE	32,27
FSM24	MODERATE	MODERATE	MODERATE	MODERATE	13,6	MODERATE	39,2
FSM25	MODERATE	MODERATE	2,73	MODERATE	11,29	MODERATE	31,08
FSM26	MODERATE	MODERATE	2,51	MODERATE	9,14	MODERATE	36,86
FSM27	MODERATE	MODERATE	2,5	MODERATE	13,45	MODERATE	37,01
FSM28	MODERATE	MODERATE	2,78	MODERATE	10,21	MODERATE	25,19
FSM29	MODERATE	MODERATE	5,67	MODERATE	8,57	MODERATE	35,14
FSM30	MODERATE	MODERATE	3,1	MODERATE	8,67	MODERATE	28,11
FSM31	MODERATE	MODERATE	2,5	MODERATE	6,56	MODERATE	27,45
FSM32	MODERATE	MODERATE	3,13	MODERATE	21,05	MODERATE	41,9
FSM33	MODERATE	MODERATE	2,46	MODERATE	11,84	MODERATE	34,21
FSM34	MODERATE	MODERATE	4,57	MODERATE	11,93	MODERATE	34,07
FSM35	MODERATE	MODERATE	3,78	MODERATE	25,43	MODERATE	47,3
FSM36	MODERATE	MODERATE	2,79	MODERATE	9,05	MODERATE	36,74
FSM37	MODERATE	MODERATE	2,84	MODERATE	11,42	MODERATE	38,95

Pic 5 : 37 FSM working with 7 tasks





Pic 6 : 37 FSM working with 7 tasks



Conclusion :

Here a new system archiecture is developed withy veriliog simulatior. We have shown each takss performace and stuctures on every point of time. Here we developed system with 37 FSM and 3 task simultanelusly.It is new DMS controller with such highest performace with so much taks on the same time.

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