

**Path Summary**

Property	Value
1 From Node	std_2s60ES:inst z_pwm_0:the_z_pwm_0 pwm_avalon_interface:z_pwm_0 pwm_task_logic:task_logic pm_divide:Div0 pm_divide_jkm:auto_generated sign_div_unsign_bnh:divider alt_u_div_aaf:divider add_sub_3_result_int[4]~8_OTERM505
2 To Node	std_2s60ES:inst z_pwm_0:the_z_pwm_0 pwm_avalon_interface:z_pwm_0 pwm_task_logic:task_logic pm_divide:Div0 pm_divide_jkm:auto_generated sign_div_unsign_bnh:divider alt_u_div_aaf:divider StageOut[318]~181_OTERM535_Duplicate_Duplicate
3 Launch Clock	inst the_cpu_pll sd1 pll7 clk[2]
4 Latch Clock	inst the_cpu_pll sd1 pll7 clk[2]
5 Data Arrival Time	47.669
6 Data Required Time	20.668
7 Slack	-27.001 (VIOLATED)

**Statistics**

Property	Value	Count	Total Delay	% of Total	Min	Max
1 Setup Relationship	20.000					
2 Clock Skew	0.326					
3 Data Delay	47.325					
4 Number of Logic Levels		165				
5 Physical Delays						
1 Arrival Path						
1 Clock						
1 IC	4		5.370	80	0.000	2.141
2 Cell	4		1.292	19	0.000	0.694
3 PLL Compensation	1		-6.318	0	-6.318	-6.318
2 Data						
1 IC	166		20.927	44	0.000	1.301
2 Cell	167		26.166	55	0.000	0.536
3 uTco	1		0.232	0	0.232	0.232
2 Required Path						
1 Clock						
1 IC	4		5.551	81	0.000	2.055
2 Cell	4		1.249	18	0.000	0.694
3 PLL Compensation	1		-6.512	0	-6.512	-6.512

**Data Path**

**Data Arrival**

Total	Incr	RF Type	Fanout	Location	Element
1 0.000	0.000				launch edge time
2 0.344	0.344				clock path
1 0.000	0.000				source latency
2 0.000	0.000		1	PIN_T2	sys_clk_in
3 0.000	0.000	RR IC	1	IOIBUF_X0_Y14_N15	sys_clk_in~input i
4 0.694	0.694	RR CELL	2	IOIBUF_X0_Y14_N15	sys_clk_in~input o
5 2.835	2.141	RR IC	1	PLL_1	inst the_cpu_pll sd1 pll7 incl[0]
6 -3.483	-6.318	RR COMP	3	PLL_1	inst the_cpu_pll sd1 pll7 observablevcoout
7 -3.483	0.000	RR CELL	1	PLL_1	inst the_cpu_pll sd1 pll7 clk[2]
8 -1.356	2.127	RR IC	1	CLKCTRL_G3	inst the_cpu_pll sd1 wire_pll7_clk[2]~clkctrl incl[0]
9 -1.356	0.000	RR CELL	7042	CLKCTRL_G3	inst the_cpu_pll sd1 wire_pll7_clk[2]~clkctrl outclk
10 -0.254	1.102	RR IC	1	FF_X32_Y12_N19	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_3_result_int[4]~8_NEW_REG504 clk
11 0.344	0.598	RR CELL	1	FF_X32_Y12_N19	std_2s60ES:inst z_pwm_0:the_z_pwm_0 pwm_avalon_interface:z_pwm_0 pwm_task_logic:task_logic pm_divide:Div0 pm_divide_jkm:auto_generated sign_div_unsign_bnh:divider alt_u_div_aaf:divider add_sub_3_result_int[4]~8_OTERM505
3 47.669	47.325				data path
1 0.576	0.232	uTco	1	FF_X32_Y12_N19	std_2s60ES:inst z_pwm_0:the_z_pwm_0 pwm_avalon_interface:z_pwm_0 pwm_task_logic:task_logic pm_divide:Div0 pm_divide_jkm:auto_generated sign_div_unsign_bnh:divider alt_u_div_aaf:divider add_sub_3_result_int[4]~8_OTERM505
2 0.576	0.000	FF CELL	3	FF_X32_Y12_N19	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_3_result_int[4]~8_NEW_REG504 q
3 0.977	0.401	FF IC	1	LCCOMB_X32_Y12_N30	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[51]~17 datab
4 1.333	0.356	FF CELL	2	LCCOMB_X32_Y12_N30	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[51]~17 combout
5 1.810	0.477	FF IC	2	LCCOMB_X31_Y12_N6	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[1]~2 dataa
6 2.308	0.498	FR CELL	1	LCCOMB_X31_Y12_N6	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[1]~2 cout
7 2.308	0.000	RR IC	2	LCCOMB_X31_Y12_N8	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[2]~4 cin
8 2.374	0.066	RF CELL	1	LCCOMB_X31_Y12_N8	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[2]~4 cout
9 2.374	0.000	FF IC	2	LCCOMB_X31_Y12_N10	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[3]~6 cin
10 2.440	0.066	FR CELL	1	LCCOMB_X31_Y12_N10	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[3]~6 cout
11 2.440	0.000	RR IC	2	LCCOMB_X31_Y12_N12	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[4]~8 cin
12 2.506	0.066	RF CELL	1	LCCOMB_X31_Y12_N12	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[4]~8 cout
13 2.506	0.000	FF IC	1	LCCOMB_X31_Y12_N14	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[5]~10 cin
14 2.910	0.404	FR CELL	6	LCCOMB_X31_Y12_N14	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_4_result_int[5]~10 combout
15 4.211	1.301	RR IC	1	LCCOMB_X30_Y5_N8	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[68]~22 datab
16 4.350	0.139	RF CELL	2	LCCOMB_X30_Y5_N8	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[68]~22 combout
17 4.629	0.279	FF IC	2	LCCOMB_X30_Y5_N18	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[1]~2 datab
18 5.138	0.509	FR CELL	1	LCCOMB_X30_Y5_N18	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[1]~2 cout
19 5.138	0.000	RR IC	2	LCCOMB_X30_Y5_N20	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[2]~4 cin
20 5.204	0.066	RF CELL	1	LCCOMB_X30_Y5_N20	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[2]~4 cout
21 5.204	0.000	FF IC	2	LCCOMB_X30_Y5_N22	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[3]~6 cin
22 5.270	0.066	FR CELL	1	LCCOMB_X30_Y5_N22	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[3]~6 cout
23 5.270	0.000	RR IC	2	LCCOMB_X30_Y5_N24	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[4]~8 cin
24 5.336	0.066	RF CELL	1	LCCOMB_X30_Y5_N24	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[4]~8 cout
25 5.336	0.000	FF IC	2	LCCOMB_X30_Y5_N26	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[5]~10 cin
26 5.402	0.066	FR CELL	1	LCCOMB_X30_Y5_N26	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[5]~10 cout
27 5.402	0.000	RR IC	1	LCCOMB_X30_Y5_N28	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[6]~12 cin
28 5.938	0.536	RR CELL	7	LCCOMB_X30_Y5_N28	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_5_result_int[6]~12 combout
29 6.225	0.287	RR IC	1	LCCOMB_X30_Y5_N0	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[86]~27 datab
30 6.380	0.155	RR CELL	2	LCCOMB_X30_Y5_N0	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[86]~27 combout
31 6.864	0.484	RR IC	2	LCCOMB_X29_Y5_N6	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[2]~4 datab
32 7.336	0.472	RR CELL	1	LCCOMB_X29_Y5_N6	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[2]~4 cout
33 7.336	0.000	RR IC	2	LCCOMB_X29_Y5_N8	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[3]~6 cin
34 7.402	0.066	RF CELL	1	LCCOMB_X29_Y5_N8	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[3]~6 cout
35 7.402	0.000	FF IC	2	LCCOMB_X29_Y5_N10	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[4]~8 cin
36 7.468	0.066	FR CELL	1	LCCOMB_X29_Y5_N10	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[4]~8 cout
37 7.468	0.000	RR IC	2	LCCOMB_X29_Y5_N12	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[5]~10 cin
38 7.534	0.066	RF CELL	1	LCCOMB_X29_Y5_N12	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[5]~10 cout
39 7.534	0.000	FF IC	2	LCCOMB_X29_Y5_N14	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[6]~12 cin
40 7.600	0.066	FR CELL	1	LCCOMB_X29_Y5_N14	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[6]~12 cout
41 7.600	0.000	RR IC	1	LCCOMB_X29_Y5_N16	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[7]~14 cin
42 8.112	0.512	RF CELL	8	LCCOMB_X29_Y5_N16	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_6_result_int[7]~14 combout
43 8.428	0.316	FF IC	1	LCCOMB_X29_Y5_N30	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[102]~35 datab
44 8.553	0.125	FF CELL	2	LCCOMB_X29_Y5_N30	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[102]~35 combout
45 9.304	0.751	FF IC	2	LCCOMB_X29_Y8_N8	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[1]~2 dataa
46 9.802	0.498	FR CELL	1	LCCOMB_X29_Y8_N8	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[1]~2 cout
47 9.802	0.000	RR IC	2	LCCOMB_X29_Y8_N10	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[2]~4 cin
48 9.868	0.066	RF CELL	1	LCCOMB_X29_Y8_N10	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[2]~4 cout
49 9.868	0.000	FF IC	2	LCCOMB_X29_Y8_N12	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[3]~6 cin
50 9.934	0.066	FR CELL	1	LCCOMB_X29_Y8_N12	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[3]~6 cout
51 9.934	0.000	RR IC	2	LCCOMB_X29_Y8_N14	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[4]~8 cin
52 10.000	0.066	RF CELL	1	LCCOMB_X29_Y8_N14	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[4]~8 cout
53 10.000	0.000	FF IC	2	LCCOMB_X29_Y8_N16	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[5]~10 cin
54 10.066	0.066	FR CELL	1	LCCOMB_X29_Y8_N16	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[5]~10 cout
55 10.066	0.000	RR IC	2	LCCOMB_X29_Y8_N18	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[6]~12 cin
56 10.132	0.066	RF CELL	1	LCCOMB_X29_Y8_N18	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[6]~12 cout
57 10.132	0.000	FF IC	2	LCCOMB_X29_Y8_N20	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[7]~14 cin
58 10.198	0.066	FR CELL	1	LCCOMB_X29_Y8_N20	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[7]~14 cout
59 10.198	0.000	RR IC	1	LCCOMB_X29_Y8_N22	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[8]~16 cin
60 10.734	0.536	RR CELL	11	LCCOMB_X29_Y8_N22	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_7_result_int[8]~16 combout
61 11.003	0.269	RR IC	1	LCCOMB_X29_Y8_N30	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[120]~42 datab
62 11.290	0.287	RR CELL	2	LCCOMB_X29_Y8_N30	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[120]~42 combout
63 12.036	0.746	RR IC	2	LCCOMB_X29_Y11_N10	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[2]~4 dataa
64 12.502	0.466	RR CELL	1	LCCOMB_X29_Y11_N10	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[2]~4 cout
65 12.502	0.000	RR IC	2	LCCOMB_X29_Y11_N12	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[3]~6 cin
66 12.568	0.066	RF CELL	1	LCCOMB_X29_Y11_N12	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[3]~6 cout
67 12.568	0.000	FF IC	2	LCCOMB_X29_Y11_N14	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[4]~8 cin
68 12.634	0.066	FR CELL	1	LCCOMB_X29_Y11_N14	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[4]~8 cout
69 12.634	0.000	RR IC	2	LCCOMB_X29_Y11_N16	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[5]~10 cin
70 12.700	0.066	RF CELL	1	LCCOMB_X29_Y11_N16	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[5]~10 cout
71 12.700	0.000	FF IC	2	LCCOMB_X29_Y11_N18	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[6]~12 cin
72 12.766	0.066	FR CELL	1	LCCOMB_X29_Y11_N18	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[6]~12 cout
73 12.766	0.000	RR IC	2	LCCOMB_X29_Y11_N20	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[7]~14 cin
74 12.832	0.066	RF CELL	1	LCCOMB_X29_Y11_N20	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[7]~14 cout
75 12.832	0.000	FF IC	2	LCCOMB_X29_Y11_N22	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[8]~16 cin
76 12.898	0.066	FR CELL	1	LCCOMB_X29_Y11_N22	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[8]~16 cout
77 12.898	0.000	RR IC	1	LCCOMB_X29_Y11_N24	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[9]~18 cin
78 13.410	0.512	RF CELL	14	LCCOMB_X29_Y11_N24	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_8_result_int[9]~18 combout
79 14.407	0.997	FF IC	1	LCCOMB_X30_Y8_N24	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[141]~47_Duplicate datab
80 14.557	0.150	FR CELL	1	LCCOMB_X30_Y8_N24	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider StageOut[141]~47_Duplicate combout
81 15.275	0.718	RR IC	2	LCCOMB_X30_Y11_N18	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_9_result_int[6]~12 datab
82 15.747	0.472	RR CELL	1	LCCOMB_X30_Y11_N18	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_9_result_int[6]~12 cout
83 15.747	0.000	RR IC	2	LCCOMB_X30_Y11_N20	inst the_z_pwm_0 z_pwm_0 task_logic Div0 auto_generated divider divider add_sub_9_result_int[7]~14 cin





	Total	Incr	RF	Type	Fanout	Location	Element
3	20.650	-0.020					clock uncertainty
4	20.668	0.018	uTsu	1	FF_X35_Y11_N9	std_2s60ES:inst z_pwm_0:the_z_pwm_0 pwm_avalon_interface:z_pwm_0 pwm_task_logic:task_logic pm_divide:Div0 pm_divide_jkm:auto_generated sign_div_unsign_bnh:divider alt_u_div_aaf:divider StageOut[318]~181_OTERM535_Duplicate_Duplicate	